Technical Reference Guide – Open Terminal Test Specification vers. 3.3.1.1 2012-03-13

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PBS

1. Table of Contents

1.1 List of Sections

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2. Revision Log

Version	Date	Last PageAffects	Brief Description of Change
3.0.0.1	2008-09-01	General	Start on version based on OTRS 3.0.x
3.0.0.1	2008-09-01	Chapter 4.20	Added Test cases for Processing Condition Tables.
3.2.0.x	2010-09-30	General	Major update to reference new structure of OTRS document. Updated to be compatible with OTRS 3.2.0
3.2.0.x	2010-09-30	Chapter 4.21	Add Norwegian Terminals, the handling of Bank Axept cards.
3.2.0.0	2011-01-31	Chapter 3.6.2	Update card table list to follow new Visa card names. Add language test card.
3.2.0.1	2011-01-31	Chapter 4.23	Add one Prepaid ICC.
3.2.0.1	2011-01-31	Chapter 4.24Add	Test cases for Release 2010-01 based functions.
3.2.0.2	2011-06-08	Several chapters	Update a number of scripts taking into account that the MC test hosts requires special amounts to respond correctly.
3.2.0.2	2011-06-14	Chapter 4.4	Update Test Case 4.7 to take into account that card reader may be disabled.
3.2.0.2	2011-06-16	Chapter 4.13	Change use of ICC009 to use of ICC021 (Amount other in PDOL). This makes ICC009 obsolete. Test case 13.09 and 13.30.
3.2.0.2	2011-09-26	Chapter 4.2	Change Test Case 2.13 and 2.14 to reflect that 'normal' Reversal Advice is moved from File 1 to File 3.
3.2.0.2	2011-09-26	Chapter 4.16	Change Test Case 16.15 to perform additional verification (conversion calculation, offline work and correct transfer to the host.
3.2.0.2	2011-09-29	Chapter 3.6.2	Add new card, ICC031

3.2.0.2	2011-09-29	Chapter 4.19	Change Test Case 19.18 to use new ICC031
3.2.0.2	2011-09-29	Chapter 4.13	Update test cases 13.17 to 13.20 to reflect that test only can be performed in FTD environment.
3.2.0.2	2011-09-29	Several chapters	Take into account the the next generation VisaDankort / Dankort will **not** accept forced Signature.
3.3.0.1	2011-11-01	Several chapters	Update Test Cases based on feedback from Terminal vendors.
3.3.0.1	2011-11-01	Chapter 25	Add Test Cases for PSAM Release 2011-02
3.3.1.1	2012-03-02	Chapter 26	Add Test cases for PSAM Release 2012-01

PBS

3. Introduction

This is the Open Terminal Test Specification, OTTS, test suite. It is to be used when testing Payment Terminal.

The tests specified in the current document verify requirements in OTRS version 3.2.0 on a sample basis. Sections of this document that are new or changed, are marked with a "change bar" in the margin. Underlining of the text may some time be used to identify the specific parts of a section that has been changed updated. Crossed out text is used to emphasize text that is no longer relevant.

This document is the base information for the Terminal Test performed by Nets Denmark A/S. The document is at the same time a guidance for a suitable test for the terminal supplier to perform, prior to the formal test at PBS.

The three first digits of the version number of this document reflects the version of the OTRS that is referenced. The fourth digit refers to local sub-version.

3.1 Document status

This is a public release of the document. Further versions of the document will contain new sections, as new functionality is added in the OTRS.

Information about detailed status of the document can be found in chapter 2 of this document.

3.2 Target audience

The intended readers of this document are testers, that are going to test OTRS compliant terminals. This may be testers at terminal manufacturers as well as testers internal to Nets Denmark A/S. These testers are expected to have a general knowledge about the OTRS as well as the TAPA specification. Concepts explained in these documents are not further explained here.

3.3 Referenced and related documents

This document reference a number of external documents. More information about can be found

on part of the PBS home page "http://www.pb-s.dk". <u>From the main page select "Certification", "Technical reference" and then "Requirement specification" or "Test Specification".</u>

A list of the referenced documents follows below. The acronym inside `[ ]' at the beginning of each entry specifies the way the document is referenced in the remainder of the document. The following documents are referenced:

- [OTRS] TRG-OTRS 3.2.0.x, Technical Requirement Guide - Open Terminal Requirement Specification, version 3.2 updated October 2010. The Nets Denmark A/S requirement specification for Chip Payment Terminals.
- [OTTS] TRG-OTTS 3.2.0.x, Technical Requirement Guide - Open Terminal Test Specification, version 3.2.0.x, the current document.
- [OTITS] TRG-OTITS 1.0, Technical Reference Guide - Open Terminal Integrators Test Specification, March 2007
- [TAPA] Terminal Architecture for PSAM Applications, (TAPA) Application Architecture Specification, Version 2.1, February 2001
- [Detail Spec] Detailspecifikation, Open Terminal Detail Specification, The current version can be found on the PBS home page. The version of the Detail specification was 2.6, March 2007 at the release of this version of the OTTS.
- [ISO 9646] ISO/IEC 9646-1, Conformance testing methodology and framework - Part 1: General concepts.
- [FTD Manual] User Instruction for Flex Test Driver. The reference guide for the Flex Test Driver test tool, the intended test tool for this test specification.

3.4 Detail Specification

The Detail Spec. for a terminal states the capabilities of the terminal to be tested. It shall be submitted to PBS prior to execution of the terminal test performed by PBS. The data from the Detail Spec. selects the test cases applicable to the terminal. The most recent version shall always be used.

3.5 Test environment

Many of the tests verify the performance of the terminal during non-standard conditions. This makes it advantageous to use a special test environment when performing the tests. This test environment consists of a test host, a test PSAM, a number of test cards, and optionally a monitor tool.

The test host is the Flex Test Driver, or FTD, test tool, configured as a server. The FTD makes it possible to monitor the requests sent to the host and to configure the responses sent from the host. The setup and use of the FTD is explained more in detail in a subsequent section of this document.

Many of the test cases requires a non-standard behavior of the PSAM to verify special behavior in the terminal, like exception handling. This is achieved by using a special test PSAM. It is possible to configure this PSAM to have a standard as well as a non-standard behavior. The configuration and use of this test PSAM is explained more in detail in a subsequent section of this document.

A number of test card are used in the test cases in this test suite. These are ICC's as well as MSC's. A list of the different test cards to be used are listed in a subsequent section.

Some of the test cases requires that the data flow between the PSAM and the Terminal is monitored. Many terminals have internal logging capabilities that can be used for this purpose, but these tools are manufacturer specific. As the MasterCard test tool, denoted "SmartSpy", is extensively available, the use of this tool is referenced in the different test cases. An brief explanation on the setup of the tool is given in a subsequent section.

3.6 Test Cards

The full test requires a number of test PSAMs and test user cards. The different types of test cards are typed listed in the subsections below. The naming of the different test cards is consistent with the naming of test cards used in the OTITS, Open Terminal Integrators Test Specification.

The test cards necessary for a terminal test can be obtained from Nets Denmark A/S. More information about the different possibilities can be found on part of the Nets home page "http://nets.eu". Go to the Danish site. There select "Verifikation af betalingsløsninger" under the header "Service & Support". Select "Testmiljø of testkort".

3.6.1 Test PSAM's

Below is a list of the PSAM types available. The type of PSAM to use depends on the Host type to interact with and whether or not the PSAM shall support special test capabilities. The naming of PSAMs here is consistent with the naming used in the OTITS.

Only the PSAM002 test-PSAM should be necessary during a Terminal test, unless there is a need for special test setups. The current test specification is at the presently mostly based on tests performed against the FTD test hosts. Some of these may however be executed against the KOPI as well.

Many of the test cases, not using special capabilities on a test PSAM, can be executed using PSAM002.

Name	Description
PSAM001	PSAM set up to interact with the KOPI test environment.
PSAM002	PSAM set up to interact with the FTD / IFS test environments.
PSAM003	Obsolete (identical to PSAM 002).
PSAM004	Special Test PSAM set up to interact with the FTD test environment. It is possible to configure the this PSAM to act in special ways. The behaviour of PSAM004 is, in general, the same as PSAM002 as long as no special data has been loaded. **Only** to be used in conjunction with the OTTS/FTD testing

3.6.2 Test chip cards

Below is a list of the ICC's to be used in a Terminal test. There is for each of them a short description including a reference to the more generic name of the card, if available. This is followed by any special information for each card, like the CVM list and the AID table for the card. More information about how to interpret the CVM data can be found in "EMV 4.x, Book 3, Annex C".

The different types of test chip cards are listed below; The scripts to be used for the ICC Solutions cards are submitted as a part of the Test Scripts supplied together with the FTD.

Only selected information, used in the test cases, is supplied in the tables.

Test card entries greyed out, are not applicable at the present.

Name	Type	Description
ICC001	P	Test ICC (VISA/Dankort) with online PIN as preferred CVM, example of individual card. Expiry date 12/12.
		AID: A0 00 00 00 03 10 10
		CVM List:: 0000 0000 0000 0000 4203 1E03 1F00
		PIN: Individual, example 8802
		PAN / CV2: Individual, example 4571 9940 0003 8039 / 066
ICC002	P	Test ICC (MasterCard REQ05), Signature preferred CVM. Accepts offline transactions below floor limit (DKK100,00 on the FTD and DKK 10,00 on KOPI), Expiry Date: 07/12. The card requires that special amount values are used
		Note: The card requires that special amount values are used to get a proper response from the MC test host. The values are 2xx / 4xx and 6xx.
		AID: A0 00 00 00 04 10 10
		CVM List:: 0000 0000 0000 0000 **5E03** 4203 1F03
		PIN: 4315
		PAN / CV2: 5413 3300 8901 0053 / 123
ICC003	P	Test ICC, (MasterCard REQ01 MAP) with multiple applications
		AID1: A0 00 00 00 04 10 10 (MasterCard)
		CVM List:: 0000 0000 0000 0000 **4103** 5E03 4203 1F03
		PIN: 4315
		AID2: A0 00 00 00 04 30 60 (Maestro)
		CVM List:: 0000 0000 0000 0000 **4103** 4203 1E03
		PIN: 4315
		PAN (MSC)/ CV2: 5413 3300 8901 0202 / 123
ICC004	P	Test MSC (magstripe configured as an ICC). To test handling of faulty ICC, fallback
		Track 2: 5413 3390 0000 1612 D 0312 **201** 019150440

Name	Type	Description
ICC005 (FTD only)	I	Test ICC (ICC Solutions) that perform offline transactions if amount is below floor limit (DKK 100,00 in FTD).
		AID: A0 00 00 00 03 10 10
		CVM List:: 0000 0000 0000 0000 **4103** 4203 5E03 4303 1F00
		PIN: Any (not verified in FTD)
ICC006 (FTD only)	I	Test ICC (ICC Solutions) that contains one blocked application (Dankort) and one active application (Visa). Mandatory data are missing in the Visa application.
		AID: A0 00 00 00 03 10 10
		CVM List: 0000 0000 0000 0000 **4103** 4203 5E03 4303 1F00
		PIN: Any (not verified in FTD)
ICC007	P	Test ICC (Dankort) with online PIN as CVM. Expiry date 12/14
		AID: A0 00 00 01 21 10 10
		CVM List:: 0000 0000 0000 0000 **4203** 1E03 1F00
		PIN: Individual, example 8938
		PAN / **CV2:** 5019 9940 0008 7165 / 164
ICC008 (FTD only)	I	Test ICC (ICC Solutions) performing plaintext offline PIN. All three PIN attempts are declined.
		AID: A0 00 00 00 03 10 10
		CVM List:: 0000 0000 0000 0000 **0100**
		PIN: Any (not verified in FTD)
ICC009 (FTD only)	I	**>>> Obsolete, Use ICC021 <<<<**
ICC010 (FTD only)	I	Test ICC (ICCSolutions). Final Select: Mandatory data (DF Name) is missing in the FCI. Fallback to be initiated.
		AID: A0 00 00 00 03 10 10
		PIN: Any (not verified in FTD)
ICC011 (FTD only)	I	Test ICC (ICCSolutions Final Select: Syntax error (FCI length changed from '32' to '12'. Fallback to be initiated.
		AID: A0 00 00 00 03 10 10
		PIN: Any (not verified in FTD)
ICC012 (FTD only)	I	Test ICC (ICCSolutions) Final Select: Unknown SW1–SW2 ('6300'). Fallback to be initiated.
		AID: A0 00 00 00 03 10 10
		PIN: Any (not verified in FTD)
ICC013		**Obsolete**

Name	Type	Description
ICC014		ICC (Danmønt) Rechargeable card. No matching applications. No magnetic stripe
		AID: A0 00 00 00 01 60 10
ICC015 (FTD only)	I	Test ICC (ICCSolutions).Test card where the IAC–default is set to zero. This makes it possible to perform a successfully offline transaction if the terminal goes online and no host response is received.
		AID: A0 00 00 00 03 10 10
		CVM List:: 0000 0000 0000 0000 0100
		PIN: Any (not verified in FTD)
ICC016		**Obsolete**
ICC017 (FTD only)	I	Test ICC Will initially detect as JCB FT–1, Expiry Date: 49/12. Will be rejected at a real host. Invalid MSC.
		AID: A0 00 00 00 65 10 10
		CVM List:: 00 00 00 00 00 00 00 00 01 03 02 03 1E 03 1F 00
		PIN: 1234
ICC018	I	Test ICC (VISA ADVT 6.0 TC 01), spec. PAN Issuer Auth, Expiry Date: 12/15
		AID: A0 00 00 00 03 10 10
		CVM List:: 0000 0000 0000 0000 1E03 0203 1F00
		PIN: 1234
		PAN / **CV2:** 4761 7390 0101 0119 / 123
ICC019	I	Test ICC **Obsolete** Expiry Date: 12/15
		AID: A0 00 00 00 03 20 10
		CVM List:: 00 00 00 00 00 00 00 00 1E 03 02 03 1F 00
		PIN: 1234
		PAN / **CV2:** 4761 7390 0101 0010 / 123
ICC020 same as ICC125	I	Test ICC (VISA ADVT 6.0 TC 23) Offline PIN&Signature Expiry Date: 12/15
		AID: A0 00 00 00 03 10 10
		CVM List:: 0000 0000 0000 0000 0303 0201 0103 0203 1E03 1F00
		PIN: 1234
		PAN / **CV2:** 4761 7390 0101 0010 / 123

Name	Type	Description
ICC021	I	Test ICC (VISA ADVT 6.0 TC14), Request long PDOL with amount, Expiry Date: 12/15
		AID: A0 00 00 00 03 10 10
		CVM List: 0000 0000 0000 0000 1E03 0203 1F00
		PIN: 1234
		PAN/CV2: 4761 7390 0101 0010 / 123
ICC022 (FTD only)	I	Test ICC(VISA ADVT 4.0 TC16) 6 digit PIN, special PAN range, **Expired!!** Expiry Date: 12/10
		AID: A0 00 00 00 03 10 10
		CVM List: 0000 0000 0000 0000 0103 1E03 0203 1F00
		PIN: 123412
		PAN/CV2: 4107 4990 0101 0014 / 123
ICC023	I	Test ICC (VISA ADVT 6.0 TC02) 19 digit PAN, special PAN range, Expiry Date: 12/15
		AID: A0 00 00 00 03 10 10
		CVM List: 0000 0000 0000 0000 1E03 0203 1F00
		PIN: 1234
		PAN/CV2: 44 27 80 80 01 11 22 23 33 7 / 123
ICC024	P	Test ICC (Bank Axept ICC), Co–branded with Visa (MSC) 18 digit PAN, special PAN range, Expiry Date: 07/11, **PAN may vary!**
		AID: D5 78 00 00 02 10 10
		CVM List: 0000 0000 0000 0000 0200
		PIN: 1234
		PAN: 9578 5286 0105 6796 55
ICC025	I	Test ICC (VISA ADVT 6.0 TC26) PSN =11, Expiry Date: 12/15.
		AID: A0 00 00 00 03 10 10
		CVM List: 0000 0000 0000 0000 1E03 0203 1F00
		PIN: 1234
		PAN: 4761 7390 0101 0440
ICC026	I	Test ICC (Based on VISA ADVT 6.0 Baseline) Lang = sv no en, Expiry Date: 12/15.
		AID: A0 00 00 00 03 10 10
		CVM List: 0000 0000 0000 0000 1E03 0203 1F00
		PIN: 1234
		PAN: 4761 7390 0101 0010

Name	Type	Description
ICC027	I	Test ICC (Based on VISA ADVT 6.0 Baseline) Lang = no da en, Expiry Date: 12/15.
		AID: A0 00 00 00 03 10 10
		CVM List: 0000 0000 0000 0000 1E03 0203 1F00
		PIN: 1234
		PAN: 4761 7390 0101 0010
ICC028	I	Test ICC (Based on VISA ADVT 6.0 Baseline) Lang = de da en, Expiry Date: 12/15.
		AID: A0 00 00 00 03 10 10
		CVM List: 0000 0000 0000 0000 1E03 0203 1F00
		PIN: 1234
		PAN: 4761 7390 0101 0010
ICC029	I	Test ICC (Based on VISA ADVT 6.0 Baseline) Lang = po de en, Expiry Date: 12/15.
		AID: A0 00 00 00 03 10 10
		CVM List: 0000 0000 0000 0000 1E03 0203 1F00
		PIN: 1234
		PAN: 4761 7390 0101 0010
ICC030	I	Test ICC, Visa ADVT 6.0 based, Offline plaintext PIN and Offline, Expiry Date: 12/15.
		AID: A0 00 00 00 03 10 10
		CVM List: 0000 0000 0000 0000 0303 0201 0103 0203 1E03 1F00
		PIN: 1234
		PAN: 4761 7390 0101 0010
ICC031	I	Test ICC, Visa ADVT 6.0 based, Country =0752 Online PIN, Signature and No CVM, lang. = sv no en
		AID: A0 00 00 00 03 10 10
		CVM List: 0000 0000 0000 0000 0203 1E03 1F00
		PIN: 1234
		PAN: 4761 7390 0101 0010

Name	Type	Description
ICC125 (same as ICC 20)	I	Test ICC (VISA ADVT 6.0 TC 23) Offline PIN&Signature Expiry Date: 12/15
		AID: A0 00 00 00 03 10 10
		CVM List:: 0000 0000 0000 0000 0303 0201 0103 0203 1E03 1F00
		PIN: 1234
		PAN / **CV2:** 4761 7390 0101 0010 / 123

Legend:

P = Physical card, I = ICC Solutions card (loadable)

CVM List:
01/41 = Plaintext offline PIN,
02/42 = Online PIN,
03/43 = Plaintext offline PIN & Signature,
04/44 = Enciphered offline PIN,
05/45 = Enciphered offline PIN & Signature,
1E/5E = Signature
   1F = No CVM required

3.6.3 Test magnetic stripe cards

Below is a list of the MSC's to be used in a terminal test. The different types of test cards are typed listed below. Greyed out entries in the table are at the present not available.

Name	Description
MSC001	Test MSC (MasterCard 1612) using PIN
	Track2: 5413 3390 0000 1612 D 1412 1010 1915 0440
MSC002	Obsolete
MSC003	Test MSC, incorrect start sentinel, <u>new card</u> PBS card set 1, item xx
	Track2: ;5019 9940 0008 5466 D141 2601 3924 3679 2050 0?*
MSC004	Test MSC, incorrect end sentinel, PBS card set 1, item 8,
MSC005	Obsolete
MSC006	Test MSC, more than 40 characters, PBS card set 1, item 7.
	Track2: 5019 5226 0778 1532 D041 2501 0166 3121 1050 0
MSC007	Test MSC, Unknown card, PAN outside normal range, PBS card set 1, item 4 (PBS card set 1, item 3 may be used as well)
	Track2: 2000 0012 3456 7893 D041 2501 0000 0000 0000 0

Name	Description
MSC008	Test MSC, incorrect mod 10 (Luhn) check digit, Dankort, PBS card set 1, item 9.
	Track2: 5019 5226 0778 1536 D041 2501 0166 3121 1050 0
MSC009	Test MSC (MasterCard) too long PAN
	Track2: 5413 3390 0000 1617 119D 1212 1011 2344 567
MSC010	Test MSC, (JCB test magstripe image)
	Track2: 3540 8299 994 2101 2D49 1220 1000 0000 0000 00
MSC011	Test MSC (Maestro MSC, Maestro 1)
	Track2: 6799 9901 0000 0000 019D 0712 1010 4512 0844
MSC012	Test MSC (Maestro MSC, Maestro 9)
	Track2: 6799 9901 0000 0000 092D 0712 1010 9566 0551
MSC013	Test MSC (PBS Prepaid Test Card 999) Prepaid card (gavekort), Violet series. There is a **preloaded amount** on the card
	PAN: 9208 6075 9990 000n nnx, where nnn= 001–599
MSC014	Test MSC (PBS Prepaid Test Card 999) Prepaid card gavekort). Violet series. The amount on the card is expired (load 01/02/2007), but not the card.
	PAN: 9208 6075 9990 000n nnx, where nnn= 601–799
MSC015	Test MSC (PBS Prepaid Test Card 999) Prepaid card gavekort). Violet series. The card is expired 02/07.
	PAN: 9208 6075 9990 000n nnx, where nnn= 801–998
MSC016	Test MSC (PBS Prepaid Test Card 99**8**) Prepaid card gavekort). Gray series. The card is from an alternate chain.
	PAN: 9208 6075 99**8**0 000n nnx, where nnn= 001–599
MSC017	Test MSC (PBS Prepaid Test Card 999) Prepaid card (gavekort), Violet serie. The card is **empty**.
	PAN: 9208 6075 9990 000n nnx, where nnn= 001–599
MSC018	Test MSC (**OLD** PBS Prepaid Test Card 999) Prepaid card (gavekort), Violet series. The card is **not initialized** at the provider. This is a **selected card**!! from this series!!
	PAN: 9208 6075 99**9 999**n nnx, where nnn= 001–599

Name	Description
MSC019	Test MSC (BBS Bank Axept/ Visa Test Card) Co–branded card.
	PAN(Bax): 904510=4995 0100 019 SVC=501 PSN=1 **PAN (Visa):** 4925 5600 1234 5671
MSC020	Test MSC (BBS Bank Axept Test Card) Track 2 only
	PAN: 4925 0541 0099 0069 Exp. 1212 SVC= 101
MSC021	Test MSC (BBS Bank Axept Test Card) Track 3 only
	PAN: 904516=4996 4100 011 SVC = 523 PSN = ?

If the terminal supports loyalty cards, and this is to be tested, then the terminal supplier must supply the test cards to be used in the test.

3.7 Test cases

The following section contains information related to the test cases. This is, the pass criteria used, the way the test cases are numbered, the structure of the form used and the condition for the execution of the test cases.

The OTTS does at the present, for reference use, contain some out outdated test scripts. These tests are marked with the text

   "**>>>>>> This test is obsolete <<<<<<**"

The title of the test script is greyed out as well. These test cases are **not** applicable anymore.

3.7.1 Pass criteria

The possible status of the execution of a test case is listed below. The corresponding values in the Test Report are shown in ( ). The results may be one of the following;
- Case OK, test passed (Passed)
- Case failed, test failed (Failed)
- Not Applicable, the test is not applicable to the current Payment Terminal configuration (Not supported)

The status of the execution of a test case, in an overall test, may in addition to this, have the following status;
- (Pending), The test is in progress, but it has not yet been possible to finalize the result. For instance, the analysis of log data may be outstanding.

- (Not testable) It may for technical, physical or economical reasons not be possible to perform the test.
- (Not supported) The capability to be assessed in the test is not supported by the Terminal. This could be the case with optional capabilities.
- (Skipped) The test is applicable to the Terminal, but it has been decided not to execute the test case in this overall test. This may be the case, when it has been decided that, as a part of a retest, only a subset of the test cases are to be executed.
- (OTRS Waiver) The test is applicable to the terminal, the terminal did not/will not pass the test, but it is proposed / granted that the this requirement may be waived for this configuration/terminal.

In order to pass the overall test, none of the test cases may have the result `Failed' or `Pending'.

The overall test shall be passed as a part of the approval of a Payment Terminal solution.

There may be a introduction in the start of each section.

3.7.2 Numbering

The test cases in this test suite, are developed in a iterative way based on a risk analysis, i.e. the test cases deemed most important has been implemented first. The number of a test may thus change from issue to issue of the OTTS. In addition to the number, the test case has a name. The name consists of a group name and number. This name will not change when the document is updated. When new test cases are added to the test suite, they will be added at the end of a group.

The order of the test cases in this document is **not** a recommended order of execution, unless specifically stated . See a specific section on this issue at the end of this section for more information.

3.7.3 Form structure

This section contains a short description of the structure of the Test Case form, used in all of the Test Cases. The form is structured as to be used as test log scheme as well. It thus contains fields for manual entry of log information like `Test Date', `Init(ials)', a.s.o.

Some of the test cases listed are obsolete as of version 3.x and forward. The are marked with a `greyed out' header, and a comment in the header stating ">>>>>Obsolete<<<<<". They have been kept for reference and to avoid to changes in the test case numbering.

It is recommended, that the full text of a Test Case is read before commencing the execution of a test, to avoid timeout of the transactions during the test.

An excerpt of the form is listed below. Explanatory information has been added to the individual fields of the form as text in italics.

The section below is to be used, when a hard copy test log is generated. It is not used when the Excel based Test log is used.

Test date: *For the test log*	**Init:** *Test operator*
Problem Report (if any): *Problem Report No.*	**Test case result:** *The overall result*
Comments: After cardholder has activated "accept" a receipt is required. *Supplementary information recorded during the test.*	

The section below contain generic information about the test.

Test group: User Interface *Indicates to which test group the test case belongs, in this case "User Interface"*	**Conditions:** *A number of conditions that shall be fulfilled before the test case is applicable. See the subsection below for detailed information.*
Requirements tested: 6.6.1.1 Receipt shall be printed according to Attachment G. G.2.7.2 Receipt for cancelled transaction G.2.2.2 Receipt for declined transaction *A list of (some of) the requirements that the test cases verifies. The numbers refers to OTRS*	
Purpose: To verify that the receipts for cancelled and declined PIN transactions has the specified content.	
Prerequisites: *A list of conditions that must be fulfilled prior to the execution of the test case. This includes; the script to execute on the test Host (the FTD) an a list of cards and PSAM's to use as well.* *The following naming convention is used w.r.t. script names; When the test case specifies a script name like ReceiptPrinting_05, then the actual name of the script will be **Script**ReceiptPrinting_05.txt. The text N.A. indicates"Not Applicable", i.e. that no script is used*	
FTD script: Normal ReceiptPrinting_05 *Card(s):*ICC001 *PSAM:* PSAM004	
Test environment:	

FTD Host: X	*IFS:*	*Kopi:*

General pass criteria:
The layout of the receipt printed shall follow the guidelines laid out in Annex G 5.1.
A more `loose' or generic explanation of the overall purpose of the test.

Comments: This test is a supplement to the ReceiptPrinting_01 test. *Comment to the test in general, as a support to the tester.*

The section below contains the specific test steps to be executed. The columns are ; Step, Action and assessment, Result and Verdict. The steps are incremented, and all test cases ends with a `-' step.

Each test step may consist of zero or more actions, followed by zero or more a assessments of the result of the actions. The assessments are indented and all starts with the symbol'☞.

If a step contains more than one assessment, than all of the assessments shall have the verdict `true' or `yes' in order to generated the result `Yes' for the step.

The column Result controls the flow of the test case.

The column Verdict is included for the use of a hard copy log.

Step	Actions and assessment	Result	Verdict
1.	*A number of actions to perform* (2) Select FTD script **Normal**. *Name of the FTP script to use,in* **bold,** *remember that for the file name 'Script' is added in front of the script name and the file type is .txt, like 'ScriptNormal.txt'* Mark `PSAM personalization' as `No' on the FTD.	*Unconditional flow, as no assessment is performed* Step 2	
2.	*A number of actions to perform (4)* If necessary, select a purchase transaction Insert **ICC001** in ICCR. *Card to use, name in* **bold** Enter PIN Select/Enter amount Cancel transaction *A number of assessment to perform(2), each one indented and starting with a ☞The overall result is the logical* **AND** *of all of the assessments.* ☞ Is the transaction terminated? ☞ Is a receipt printed?	*This field may contain two different verdicts, `Yes' or `No'.* *The result of the verdict may be;* *- Another step,* *- Case Failed,* *- Case OK or* *- Not Applicable Case OK, Case Failed or Not Applicable ends execution of the case* Yes: Step 3 No: Case failed	
-	End of test case *Indicates the end of the test case*		

A supplementary comment section may follow below

3.7.4 Conditions

In some of the tests, a number of conditions shall be fulfilled before the test is applicable. In order to distinguish between the different conditions, a specific notation is defined.

A conditions field with the abbreviation N/A (Not Applicable) or an empty conditions field indicates that no conditions are imposed on the test case, i.e. the test case is applicable to **all** types of terminals.

The different conditions and the logical operators used are listed below:

Example: NOT [Signature]

Logical operators	Remarks
AND	
NOT	
OR	

Conditions	Remarks
[18CharPrinter]	Narrow receipt (18 character)
[AccountType]	Terminal is able to insert different values in Account Type
[Advice Enclosing]	Advice Enclosing supported
[Advice Forwarding]	Advice Forwarding supported
[SUT]	Single Unit Terminal, A terminal where the Cardholder and the Merchant shares the User Interface. The keyboard is used for the amount ad well as for PIN entry.
[APE]	Accelerated PIN Entry
[Attended]	Attended terminal
[Baseline]	No service packs supported
[Baseline&SPx]	The terminal support at least Service Pack 2 **and** is able to negotiate to lower Service Pack levels (Baseline), if needed by the PSAM.
[Cash]	Applicable for cash terminals
[CashBack]	Cashback supported
[UPT2]	Applicable for UPT2 also named CAT2
[UPT3]	Applicable for UPT 3 also named CAT3
[CombinedReader]	Combined ICC and MSC reader
[DAPE]	Dankort Accelerated PIN Entry
[DCC]	Dynamic Currency Conversion
[ElectronicLog]	Electronic log supported
[EstimatedAmount]	Estimated amount supported for the *Get Amount 3* command
[IssuerEnvelopeData]	Issuer Envelope Data supported
[LateAmountEntry]	Late amount entry possible
[Late Tips]	Tips may be added after the customer has signed the receipt.
[LimitDisplay]	Terminal *not* able to display 4 lines of 20 characters

Conditions	Remarks
[LocalPIN]	Local PIN supported
[Lock]	Card reader able to lock the card
[LoyaltyCard]	The Terminal support Loyalty Cards
[ManualPSAMUpdate]	
[NewDataAvailableAlways]	Terminal always issue *Get Supported AIDs*, *Get MSC Table* and *Get D/C Properties* commands at Start–up
[MI]	Merchant Initiative related
[Motor]	Card reader motorized
[MultiPSAMs]	Terminal is able to handle several PSAMs
[MultiUser]	
[OnlineOnly]	Online only terminal, i.e. cannot perform offline transactions.
[Offline]	Offline capable terminal
[OfflineOnly]	Offline only terminal, i.e. cannot perform online transactions
[OtherLang]	Other language than Danish is supported
[PIN]	PIN supported
[PrepaidICC]	Support of Prepaid ICCs (may also include contactless)
[PrepaidMSC]	Support of Prepaid MSCs (gavekort)
[PSAM ≥ x.y]	Support only for a PSAM version greater than vers. x.y
[Refund]	Refund supported
[RetainCard]	Terminal is able to retain card
[Signature]	Applicable for terminals supporting signature
[SP1]	Service Pack 1 supported
[SP2]	Service Pack 2 supported
[Sweden]	Support of regional Swedish capabilities.
[Tips]	The terminal supports transactions with entry of tips by Card-holder.
[Token]	Terminal able to handle token
[TechnicianLock]	Technician lock supported
[TerminalVendor]	It is up to the terminal vendor to claim whether the requirements are fulfilled or not.
[Unattended]	Unattended terminal

3.7.5 Display and receipt texts

The width of the display on the terminal and the width of the receipt printer may vary, so may the language used as well.

The language used in the test cases for display text (messages) is by default English, and the text is the version for 20 character displays. The references and texts for 16 character displays can be found in section 1-11.2 of the OTRS.

The texts to be used with other languages can be found in the different regional subsections of section 1-15 of the OTRS.

Any reference to receipt text is by default in English, and using 24 characters per line, as used in section 1-12 the OTRS. The text using other languages can be found in the different regional subsections of section 1-15 of the OTRS.

3.8 Tools for Monitoring the PSAM Interface

Many terminals have internal logging capabilities that can be used for this purpose, but these tools are manufacturer specific. As the MasterCard test tool, denoted "SmartSpy", is extensively available, the use of this tool is used as the reference in the different test cases. An brief explanation on the setup of the tool is given in the section below.

3.8.1 SmartSpy

There is an extensive distribution of the MasterCard test tool, denoted "SmartSpy". This this tool is selected as the default tool to use to monitor the PSAM interface although the tool has some limitations.

As this tool has been developed to monitor the card interface rather than the PSAM interface, this tool requires some "adjustments" to be used at the PSAM interface.

These adjustments and the procedure for saving the data passing the PSAM interface is described below.
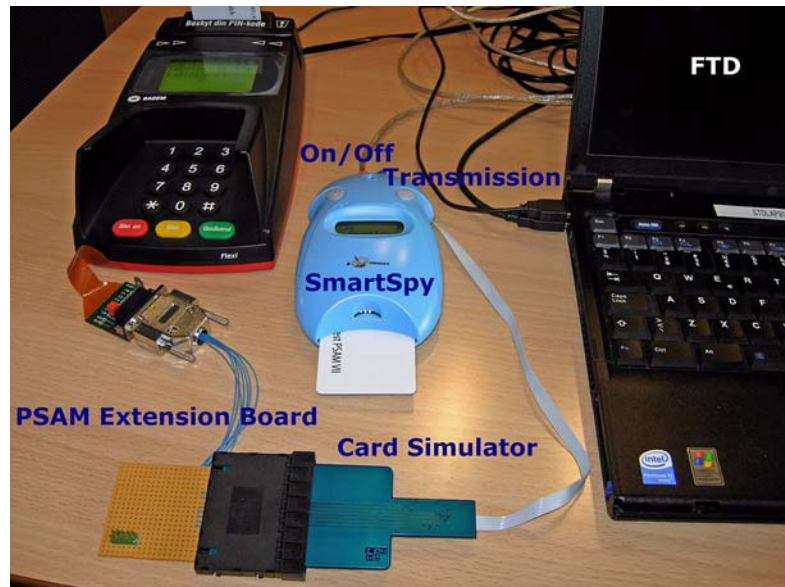
Figure 3.1 - Test Setup - SmartSpy

Guidelines for using the SmartSpy at the PSAM Interface

When setting up the SmartSpy to monitor the PSAM / terminal interface, the sequence listed below shall be followed:

1. Connect the test setup as shown in the figure 3.1.

2. If the test requires updates of the PSAM i.e. a PSAM specific file exists, perform an Advice Transfer.

3. Remove the card simulator and insert it again.

4. Press the transmission button on the SmartSpy. The display shows "Ready for XX transaction", where XX indicates the acquisition number. This number is going to be used when reading the memory of the SmartSpy.

5. Turn off the power to the terminal (and close Merchant Simulator if used).

6. Turn on the power again (and start the Merchant Simulator if used).

7. The SmartSpy is now able to monitor the transmission at the PSAM interface. Transmission during the Start-up is captured at this moment.

8. Perform the requested action.

9. Remove the card simulator in order to make the SmartSpy save the transmission. The display shows "Transaction finished" -> "Saved in memory".

10. Start the SmartSpy program on the laptop and choose **Trace** -> **Import** and a window showing "Enter acquisition number". Here shall the previously given XX be entered. When pressing the OK button, the memory of the SmartSpy will displayed.

NOTE: The memory of the SmartSpy can be reset by using a narrow object e.g. a pencil on reset button placed above the on/off and transmission buttons.

3.9 Flex Test Driver (FTD)

The Flex Test Driver , or FTD, is a PC and Windows NT /2000/ XP based test tool for the PSAM. It can be operated as a terminal as well as a host. The FTD is used as a terminal when testing the PSAM functionality. The FTD is used as a host system when testing terminals. Only the use as a host is used here. The setup, and basic execution as a host is explained in the following section. More detailed information about the FTD can be found in the FTD manual.

3.9.1 Prerequisites

In order to be able to operate a Flex Test driver, the following shall be available:
- A suitable directory structure
- The Flex Test driver executable and installation files
- The necessary test scripts.

Directories and files

The FTD expects a directory structure with a top level folder named `CERTIFICATION' on the system disk `C:\'. This directory shall at least contain the following sub directories;
- 'FlexTestDriver'
- 'Default'
- 'OTTS'

The FTD software shall reside in the `FlextestDriver' sub folder. It consists of the following files;
- 'FlexTestDriver.exe', the executable

- 'FlexTestDriver.ini', setup file as a terminal
- FlexTerminal.swf', data file used in terminal mode.

The `OTTS' folder contains a number of files and folders. There is one folder for each test case named `<TestCaseName>'. There are as well a number of files with load patterns for configurable test scripts. These scripts, named ICCnnn.txt are **not** used in the current configuration.

The FTD requires a number of scripts in order of to run a test. The scripts consists of default scripts, and (test case) specific scripts.

Default scripts are all stored in the sub folder `Default'. They contain the majority of the setup of the FTD prior to the execution of a test. All specific scripts are stored in test case specific folders below the `OTTS' folder, one folder for each test case.

Special setup information is stored in the 'TermMasterDef.txt' file. in the 'Default' folder. This file makes it possible to set specific conditions for a test, by overriding the normal setting for the FTD. An example of this could be to specify Terminal Type or to enable / disable the use of 'Accelerated PIN Entry' / 'APE'. See the comment fields in the TermMasterDef.txt file for further information.

The test case specific folders will contain one or more scripts. This file will be named `ScriptNormal.txt' if it uses the default normal setup. The file will be named; `Script<TestCaseName>.txt if it contains specific setup information. The folder may contain both files, if a script is needed to restore the terminal after the execution of the test. For a few test cases, the FTD will never be activated. For these test cases there is **no** `Script' file in the folder. Instead a file named `NoScript.txt' is stored there to show that this is intentional, that there is no script for this test.

The FTD will, once a test is being executed, generate a set of log files. The log files will be stored in sub folders below the test case specific folder. These sub folders are auto-generated. The folder will be named `<TestCaseName>.nnn' where `nnn' is a number starting with `000' and incremented for each new execution of the test case.

Host Server Setup

When the Flex Test Driver has been started, the FTP shall be activated as a server by following se-

quence; **File** -> **New** -> **FTD Host Server** -> **OK**. The FTD is now in Host Server Mode.

The program will now display three fields within the window, the log field, the guest book field field and the host field. The log field will show a running log of the transfer of data between the FTD (host) and the terminal. The guest book contains information on terminals that has connected to the hosts. This information is not used in these tests. The host field contains information about the setup of the server. It has five sub fields, explained below.

- The `Server IP address' is generated automatically when the program is started, and cannot be exchanged.
- The `Port number' selects the port number that the server listens to. It shall correspond to the value set in the terminal, and is normally set to 20 000.
- The `Host Script' makes it possible to select the script to execute. Pushing the button will activate a standard Windows `Select'-window. See below on how to run a script.
- The `PSAM personalisation' selects how the FTD will supply updates to the PSAM. Some test cases requires a special setting. See the FTD manual for further details.
- The `Log view selection' makes it possible to select between different log files. See below on the content of the different log files.

PSAM Setup

It is possible to initialize the PSAM to a well known state prior to running a test case. Setting the PSAM is a two step process. Initially a host script shall be loaded. This shall be followed by an Advice Transfer on the terminal to transfer the information from the host to the PSAM.

The PSAM can always be initialized to a well known state by loading the `ScriptNormal' from the folder `Normal' At the same time `PSAM personalisation' shall be set to `Yes'. After execution of this script and execution of an advice transfer, the terminal/PSAM is reset to standard settings and is ready for transactions.

Running a script

Select the script to run from the `Host Script' sub field. Be aware of the naming convention for directories and file names;

- If the name of the Test case is `AdviceTransfer_07', then the scripts shall be found in the directory "C:\Certification\OTTS\Advice-Transfer_07".
- If the Test case specifies the script files "AdviceTransfer_07" and "Normal", then the name of the actual script files will be "**Script**AdviceTransfer_07.txt" and "**Script-**Normal.txt".

Set the PSAM personalisation, if so specified in the test case. Once the script is selected and loaded, run it by pushing the `Lightning' button in the top bar. The server will be running now, ready to accept request from the terminal, and the name of the script will be shown in the top bar. The server can be stopped by pushing the `Red dot' button.

Initialising a terminal

A terminal may fail a test. The terminal may then be in an uninitialised state. To get the terminal and the test system back into a well known state the following should be performed.

- The Data store in the terminal shall be emptied
- The settings of the PSAM shall be set to default values.

This can be achieved in the following way;

- Set the FTD to use the script 'Normal' and set Updates to 'Auto'
- Perform an initial Advice Transfer on the terminal. (The FTD will in state 'Auto' return full set of updates the first time a script is used).
- Perform an additional Advice Transfer on the terminal. (The FTD will in state 'Auto' not return any updates after the first time the script has been used.

The Terminal should now be in an initialised state.

Logging of data

Data from the host interface are logged during the execution of the test case. The data are stored in log files and displayed online as well. Data are store in three types of log files, a detailed log, a setup log and a real time log. The detailed log file contains all the data in the order they are **generated**. The setup log only gives an overview of parameters to be updated and brief information about each transfer. The real time log gives a summary of the events in in the order they are **sent**.

The real time log is especially useful, when some of the data are deliberately delayed as part of a special test sequence. The "Log View" selection makes it possible to select between the two modes 'normal' and 'setup' on the display. In normal mode, the name of the file is the IP address of the host.

3.10 Order of execution

Most of the test cases may be executed independently.

There is at the present no recommended flow of the test cases in a full test suite.

PBS

4. Test Cases

4.1 Basic Interconnect Test (BIT)

Test Case 1.1 - Basic Interconnect 01: Terminal Report

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Basic Interconnect Test	Conditions: [Attended]
Requirements tested: 1-14.2.1.1 Mandatory data elements for the Terminal Report on paper. 1-14.2.1.2 Optional display of the data elements in 1-14.2.1.1 1-14.2.1.3 Mandatory data elements for the Terminal Report on paper. 1-14.2.1.4 Optional display of the data elements in 1-14.2.1.3	
Purpose: To verify that the terminal is able to present terminal and PSAM related configuration data elements in a Terminal Report on paper and optionally also in the display.	
Prerequisites: The terminal is powered-off before starting this test case. *FTD script:* BasicInterconnect_01. *Card(s):* N/A *PSAM:* PSAM002	
Test environment: *FTD Host:* X *IFS:* *Kopi:* (X)	
General pass criteria: It is validated that: ◊ A Terminal Report with mandatory data elements can be printed ◊ Optional data elements may be included in the printed Terminal Report ◊ Data elements from the Terminal Report may optionally be displayed at startup	

Comments: UPT's may transfer this information to a log, neither displaying or printing the information. This is allowed but will require a waiver.	
Comments: This test may as well be performed in the KOPI test environment	

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **BasicInterconnect_01**. Make sure that updates are disabled, i.e PSAM Personalization = No.	Step 2	
2.	Apply power to the terminal.	Step 3	
3.	Make notes of data elements that may be displayed during startup.	Step 4	
4.	Initiate the printing of a Terminal Report. ☞ Is the Terminal Report printed on paper?	Yes: Step 5 No: Case failed.	

Step	Actions and assessment	Result	Verdict
5.	Check the Terminal Report for mandatory data elements: ♦ PSAM ID ♦ MAD-Handler ID ♦ Terminal Software version no. (Build date) ♦ EMV Checksum ♦ PSAM Code Checksum ♦ PSAM Config Checksum ☞ Are all mandatory data elements present and do they all have the correct format and correct values?	Yes: Step 6 No: Case failed.	
6.	Check the Terminal Report for optional data elements: ♦ PED info ♦ PSAM version ♦ PSAM subversion ♦ Service Pack info ♦ Host interface info ☞ If the optional data elements are present, do they have have the correct format and correct values?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 1.2 - Basic Interconnect 02: Clock Synchronization (FTD)

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Basic Interconnect Test	**Conditions:** N/A

Requirements tested: N/A (Clock Synchronization with the Terminal Operator's host is out of scope of the OTRS)
Purpose: Although the way to make the terminal's real-time clock in synchronization with the Terminal Operator's clock is out of scope, most terminals have a method for synchronizing the clocks by use of the APACS message "Clock Synchronization". By successful use of this command it is demonstrated that the terminal can establish a communication channel with the host (simulator) and exchange messages.
Prerequisites: *FTD script:* BasicInterconnect_02   *Card(s):* N/A   *PSAM:* PSAM002
Test environment: *FTD Host:* X   *IFS:*   *Kopi:*
General pass criteria: It is validated that: ● Communication can be established with the host (simulator) ● The real-time clock can be adjusted if needed

Comments: ● This test case is only applicable if the terminal uses the 'Clock Sync' capability **and** the FTD host is used. ● This test case is mutually exclusive with the test case Basic Interconnect Test 03.

Step	Actions and assessment	Result	Verdict
1.	☞ Does the terminal use the clock Sync capability?	Yes: Step 2 No: Not Applic.	
2.	Select the FTD host script **BasicInterconnect_02**. Make sure that updates are disabled, i.e PSAM Personalization = No. Initiate a Clock Synchronization with the host (consult supplier for information).	Step 3	
3.	Analyse the detailed log file on the FTD. ☞ Does the file contain a Clock Synchronization message? (A NetworkManagementRequest.Command where Field24 (Function-Code) is = 0852 (Clock Sync.)	Yes: Step 4 No: Case failed	
4.	☞ Does the terminal report any errors?	Yes: Case failed No: Case OK	
-	End of test case		

Test Case 1.3 - Basic Interconnect 03: Clock Synchronization (KOPI)

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Basic Interconnect Test	**Conditions:** N/A
Requirements tested: N/A (Clock Synchronization with the Terminal Operator's host is out of scope of the OTRS)	
Purpose: Although the way to make the terminal's real-time clock in synchronization with the Terminal Operator's clock is out of scope, most terminals have a method for synchronizing the clocks by use of the APACS message "Clock Synchronization". By successful use of this command it is demonstrated that the terminal can establish a communication channel with the host (simulator) and exchange messages.	

Prerequisites:		
FTD script: N.A.	*Card(s):* N/A	*PSAM:* PSAM001

Test environment:		
FTD Host:	*IFS:*	*Kopi:* X

General pass criteria:
It is validated that:

- Communication can be established with the host
- The real-time clock can be adjusted if needed

Comments:

- This test case is only applicable if the terminal uses the 'Clock Sync' capability **and** the KOPI host is used.
- This test case is mutually exclusive with the test case Basic Interconnect Test 02.

Step	Actions and assessment	Result	Verdict
1.	Initiate a Clock Synchronization with the host (consult supplier for information). ☞ Does the terminal support clock syncronisation with PBS?	Yes: Step 2 No: Not Applic.	
2.	☞ Does the KOPI host receive a Clock Synchronization message? (Search the APACS log file for a NetworkManagementRequest.-Command where Field24 (FunctionCode) is = 0852 (Clock Sync.)	Yes: Step 3 No: Case failed	
3.	☞ Does the terminal report any errors?	Yes: Case failed No: Case OK	
-	End of test case		

Test Case 1.4 - Basic Interconnect 04: Purchase with "No CVM"

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Basic Interconnect Test	**Conditions:** [UPT2] OR [UPT3]
Requirements tested: No specific.	
Purpose: Verify the basic transaction handling for chip cards on a UPT without PIN.	
Prerequisites: *FTD script:* BasicInterconnect_04 *Card(s):* ICC001 *PSAM:* PSAM002	
Test environment: *FTD Host:* X *IFS:* *Kopi:*	
General pass criteria: It is validated that: ⬧ The terminal can perform a Purchase transaction with a chip card ⬧ Basic user interface to the cardholder is checked for obvious errors	

Comments: UPT's may have a behavior where the pure insertion of the card is interpreted as 'Transaction accepted'. This is acceptable but will require a waiver.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **BasicInterconnect_04** Make sure that updates are disabled, i.e PSAM Personalization = No.	Step 2	
2.	Initiate a Purchase transaction using **ICC001**(VI/DK)	Step 3	
3.	☞ Is it possible to follow the cardholder dialog, like;. ⬧ The Cardholder is requested to insert the key. ⬧ The terminal is showing the flow of the transaction. ⬧ The cardholder is promted to accept the transaction. ⬧ The cardholder is prompted to remove the card after the transaction.	Yes: Step 4 No: Case failed	
4.	☞ Is the transaction completed successfully using "no CVM"?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 1.5 - Basic Interconnect 05: Plain purchase

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Basic Interconnect Test	**Conditions:**

Requirements tested:
2-4.8.1.3 Ready for new customer
2-4.8.1.9 Opportunity to select receipt (UPT)
2-4.8.1.14 Display "Remove Card"

Purpose:
The purpose of this test is to check basic transaction handling for an ICC.

Prerequisites:

FTD script: BasicInterconnect_05 *Card(s):* ICC001 *PSAM:* PSAM002

Test environment:

FTD Host: X *IFS:* *Kopi:*

General pass criteria:
It is validated that:
- The terminal can perform a Purchase transaction with a chip card

Comments: A UPT may have a behavior where the pure insertion of the card is interpreted as 'Transaction accepted'. This will is allowed but require a waiver.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **BasicInterconnect_05** Make sure that updates are disabled, i.e PSAM Personalization = No.	Step 2	
2.	Observe the user Interface of the terminal. ☞ Does the User interface display "Terminal ready" and / or "Insert Card"	Yes: Step 3 No: Case Failed	
3.	If the Terminal isn't a token based solution, perform a purchase / Select goods / Enter amount. Record amount. If the terminal is a token based solution, perform a pre-authorisation. When requested, insert **ICC001**(VI/DK) into the terminal. If the terminal is a UPT, and the selections of a receipt is displayed now, select to have a receipt printed when asked whether or not to get a receipt. ☞ If the terminal isn't a token based solution, does the User Interface display "Buy", the amount and the currency code (as text)?	Yes: Step 4 No: Case failed	
4.	If the Terminal requires PIN as CVM, enter the PIN when so requested. ☞ If PIN has to be entered and the text "Buy" is displayed, does the text "Buy", the amount and the currency code remain on the display during PIN entry?	Yes: Step 5 No: Case failed	

Step	Actions and assessment	Result	Verdict
5.	☞ If PIN is used as CVM, does the User Interface on the terminal display"Accept" when the PIN has been entered? ☞ If the terminal isn't token based terminal, does the terminal display the amount and the currency code?	Yes: Step 6 No: Case failed	
6.	Select to accept the purchase. If the terminal is a token based UPT, let the goods be delivered and record the amount displayed. If the terminal is a UPT, and the selections of a receipt is displayed now, select to have a receipt printed when asked whether or not to get a receipt. **Note:** For a terminal where the receipt is the goods,(like a parking ticket) the printing may be unconditional. ☞ If the terminal is a UPT, has the terminal allowed the Cardholder to select whether or not to have a receipt is to be printed? ☞ Is the transaction performed successfully? ☞ Does the User Interface display "Remove card" ☞ Is a receipt printed?	Yes: Step 7 No: Case OK	
7.	Remove the card. Analyse the receipt printed. ☞ If the terminal isn't token based, does the receipt contain the same amount and the same currency code as during step 2 and step 4? ☞ If the terminal is a token token based UPT, is the amount the same as displayed during the delivery of the goods (step 6).	Yes: Case OK No: Case failed	
-	End of test case		

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4.2 Advice Transfer

Test Case 2.1 - Advice Transfer 01: Advice Window Size = 000

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: Advice Transfer	Conditions: NOT [UPT3]
Requirements tested: 2-5.15.5.3 (Step 2) Advice Window Size = 000. 2-5.15.5.3 (Step 2) Default Advice Window size = 001	
Purpose: To verify that the terminal stops sending advices, if it receives a response with Advice Window Size = 000 during an Advice Transfer.	
Prerequisites: It shall be possible to manually control the activation of an Advice Transfer. *FTD script:* AdviceTransfer_01 *Card(s):*ICC005 *PSAM:* PSAM002	
Test environment: *FTD Host:* X *IFS:* *Kopi:*	
General pass criteria: It is demonstrated that if the terminal receives an Advice Window Size = 000 in the second response during an Advice Transfer, the transfer of advices stops immediately.	

Comments: A Terminal shall, whenever at new communications session is initiated, set the default Window size to 001.
Comments: It may be difficult to perform this test on a Unattended Payment Terminal (UPT).

Step	Actions and assessment	Result	Verdict
1.	Does the Terminal support manual activation of an Advice Transfer?	No: Not Applic. Yes: Step 2	
2.	Select FTD script **AdviceTransfer_01**. Make sure that updates are disabled i.e. PSAM Personalization = **No** Perform an Advice Transfer to clear the Data Store. Generate an Advices in the Data Store of the terminal. This may be achieved in a number of ways; ⧫ If the terminal support off-line transactions, perform an off-line transaction using **ICC005** and an amount below floor limit.(This will generate a Financial Advice in the Data Store) ⧫ If the terminal supports PIN or requires confirmation of the amount, start a transaction using **ICC005** and cancel the transaction when the PIN is requested / the amount shall be confirmed. (This will generate an Authorization Advice in the Data Store). ⧫ If the terminal is a UPT2, insert **ICC005** in the card reader, and remove it again after approximately 3 seconds. (This will generate an Authorization Advice in the Data Store). Repeat the activity 3 times, to generate in all 3 advices in the data store.	Step 3	
3.	Make the terminal perform an Advice Transfer (The response to the second Advice contains an Advice Window Size = 000). Inspect the setup.log file on the FTD ☞ Does the file only contain <u>two</u> Authorization / FinanAdvice.Cmd entries?(Only <u>two</u> of the Advices shall have been transmitted to the host).	Yes: Step 4 No: Case failed	
4.	Perform an Advice Transfer to clear the Data Store.	Case OK	
-	End of test case		

Test Case 2.2 - Advice Transfer 02: Check Value Computation

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Advice Transfer	**Conditions:** [Offline]

Requirements tested:

2-5.15.4.2	Check Value computation.
2-5.15.4.3	SHA-1 used for Check Value computation.
2-5.15.8.7	Terminal must issue warning at Advice Transfer failure.
2-5.15.8.13	Only one failing Advice Transfer in File-5 for normal operation
2-5.15.8.14	Enter 'error state' if more than one Advice Transfer Failure.
2-5.15.8.15	Special procedure when proceeding with multiple Advice Transfer failures

Purpose:

To verify that the terminal:

- correctly re-computes the Check Value,
- does not delete an Advice unless the correct Check Value can be computed,
- generates a warning in case more Advice Transfer fails, and
- does not allow for further normal transactions until the problem has been solved.

Prerequisites:

The Data Store must be empty when starting this test case.

FTD script: AdviceTransfer_02,   *Card(s):* ICC005   *PSAM:* PSAM002
     Normal

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:

The terminal must detect an error when recomputing the Check Value based on a wrong Random Number is received in the Financial Advice Response.

The terminal must generate a warning, if more than one Advice Transfer error has occurred.

New payment transactions must in 'error state' only be initiated in a special mode.

Comments: The terminal shall fail and generate a warning on the fact that there is an error in the SHA-1 calculation but not due to and error in communication. The terminal shall detect an error if an advice has been transmitted 3 times without a sucessfull confirmation.

Comments: In case the Terminal goes into an 'error state', consult the Terminal supplier on information on how to 'unlock' the terminal and how to retreive the 'lost' advices from the data store.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **Normal**. Make sure that updates are disabled, i.e. PSAM Personalization = No Perform an Advice Transfer to clear the Data Store. (Consult the terminal supplier on how to do this.) Select the FTD host script **AdviceTransfer _02**	Step 2	
2.	Use **ICC005** to perform a transaction with an Amount below the Floor Limit in order to generate a Financial Advice in the Data Store. ☞ Is the transaction successful?	Yes: Step 3 No: Case failed	
3.	Perform an Advice Transfer, consult the terminal supplier on how to do this. (The Financial Advice Response contains a modified, "wrong" Random Number in field 61. The number is '11 22 33 44 55 66 77 88'). ☞ Is the Financial Advice conveyed to the host? ☞ Does the terminal report a warning? (Consult the terminal supplier on how to observe this)	Yes: Step 6 No: Step 4	
4.	Insert **ICC005** in the card reader. If needed, initiate a transaction from the Merchant Application with an Amount below floor limit. ☞ Is a new transaction initiated?	Yes: Step 5 No: Case failed	
5.	Perform an Advice Transfer, consult the terminal supplier on how to do this. (The Financial Advice Response contains a modified, "wrong" Random Number in field 61. The number is '11 22 33 44 55 66 77 88'). ☞ Are the Financial Advices conveyed to the host? ☞ Does the terminal report a warning? (Consult the terminal supplier on how to observe this)	Yes: Step 6 No: Case failed	
6.	Insert **ICC005** in the card reader. Try to initiate a new transaction. ☞ Is the transaction inhibited, until the terminal is re-opened?	Yes: Step 7 No: Case failed	
7.	Re-open the terminal. Consult the terminal supplier on how to do this. ☞ If the terminal is an attended terminal, does the terminal display a message that technical support is required (at least while the terminal is idle)?	Yes: Case failed No: Step 8	

Step	Actions and assessment	Result	Verdict
8.	Select the FTD host script **Normal**		
	Make sure that updates are not enabled, i.e. PSAM Personalization = No		
	Perform an Advice Transfer.		
	(The terminal may not initiate further debit/credit transactions, but it shall still be available for administrative action.)		
	(The Financial Advice Response to the Advice Transfer will now contain the correct Random Number in field 61).		
	☞ Are the Financial Advices conveyed to the host?		
	☞ Does the terminal report ready in the display?	Yes: Step 9 No: Case failed	
9.	Analyse the setup.log file from the FTD.		
	Record the STAN in the (last) Financial Advice.		
	Perform an Advice Transfer.		
	Analyse the setup.log file from the FTD again.		
	☞ Has the (previous) Financial Advice been transferred to the host again, i.e. is there one more Financial Advice in the setup.log file with the same STAN?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 2.3 - Advice Transfer 03: Deletion of Advices

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: Advice Transfer	Conditions: [Attended] [Offline]
Requirements tested: 2-5.15.4.4 Condition to be fulfilled for deletion.	
Purpose: To verify that the terminal checks both condition before deleting an advice: ♦ check value computed by the PSAM and previously stored in the Data Store matches the check value computed by the MAD-Handler (tested in AdviceTransfer_02), ♦ The Action Code is in the range 8000 - 8005 (Accepted).	
Prerequisites: The Data Store must be empty when starting this test case. *FTD script:* AdviceTransfer_03, *Card(s):* ICC005, *PSAM:* PSAM002	
Test environment: *FTD Host:* X *IFS:* *Kopi:*	
General pass criteria: The terminal must detect the that the Action Code is in the right range before deleting the advice. The FTD host returns an Action Code = 8020 (Rejected) i.e. that the advice shall not be deleted.	

Comments: When a Financial Advice is sent a second time to the Host (repeated), the MTI will change from '0226' to '0227'. The value shown in hexadecimal is '30323236' and '30323237'	
Comments: The expected behavior of the terminal has changed since version 2.5 of the OTRS. The terminal may no more 'locks up' during this test.	

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **AdviceTransfer _03** Make sure that updates are disabled i.e. PSAM Personalization = No Use **ICC005** to perform one successful transaction offline (amount < 100,00 DKK) in order to generate a Financial Advice in the Data Store. Record the STAN of the transaction from the receceipt generated.	Step 2	
2.	Perform an Advice Transfer. (The Financial Advice Response from the host contains an Action Code = 8020 (Rejected)). Check the detailed log file on the FTD. From the FinanAdvice entry in the log record the value of the MTI and the STAN. (ApacsHeader.C1 Mti.Value and ApacsHeader.C4.Stan.Value). ☞ Does the MTI have the value '30323236'?	Yes: Step 3 No: Case failed	

Step	Actions and assessment	Result	Verdict
3.	If the terminal don't perform 'Advice dripping', try to perform an Advice Transfer. (The terminal shall still be available for administrative actions.) else skip to step 4. Was it possible to performe the Advice Transfer?	Yes: Step 4 No: Case failed	
4.	Check the detailed log file on the FTD. From the new FinanAdvice entry in the log record the value of the MTI and the STAN. (ApacsHeader.C1.Mti.Value and ApacsHeader.C4.Stan.Value). ☞ Does the MTI have the value '3032323**7**'? ☞ Is the value of the STAN, the same as in the previous transfer?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 2.4 - Advice Transfer 04: Advice Enclosing

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Advice Transfer	**Conditions:** NOT[OfflineOnly] AND [Advice En-closing]

Requirements tested:

2-5.15.8.3   Shall resend advices two times to the host before moving to the next.
2-5.15.8.4   After retries in three comm. sessions, the terminal shall move the ad-vice to File-5
2-5.15.8.7.   When an advice has been moved to File-5, a warning shall be issued.

Purpose:
To verify that the terminal handles retries of transfer of advices in the proper way.

Prerequisites:

FTD script: AdviceTransfer_04   *Card(s):* ICC001,   *PSAM:* PSAM002
    Normal,

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
It is verified that if the terminal performs an online transaction where an enclosed advice is not accepted after two retries, the terminal shall move on to the succeed-ing transactions, and that the advice is moved to File-5, if the advice has not been accepted after three successive transfers.

Comments: The handling of retries has changed from version 2.x of the OTTS.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **Normal**. Make sure that updates are disabled, i.e. PSAM Personal-ization = No. Perform an Advice Transfer Perform a transaction using **ICC001**. (This will ensure, that there is an Financial Advice in the Data store) ☞ Is the transaction performed successfully?	Yes: Step 2 No: Case failed	
2.	Stop the FTD Select the FTD host script **AdviceTransfer_04**. Make sure that updates are disabled, i.e. PSAM Personalization = No. (This script will cause the host to reject Financial Advices with response code = 8020).	Step 3	
3.	Perform a new online transaction with the **ICC001**. Record the STAN (from the receipt) ☞ Is the transaction performed successfully.	Yes: Step 4 No: Case failed	
4.	Perform a new online transaction with the **ICC001**. Record the STAN (from the receipt) ☞ Is the transaction performed successfully.	Yes: Step 5 No: Case failed	

Step	Actions and assessment	Result	Verdict
5.	Perform a new online transaction with the **ICC001**. Record the STAN (from the receipt) ☞ Is the transaction performed successfully. ☞ Does the terminal generate a warning.	Yes: Step 6 No: Case failed	
6.	Try to perform a new online transaction with **ICC001**. ☞ Is it impossible to perform a transaction?	Yes: Step 7 No: Case failed	
7.	Inspect the detailed log file on the FTD, look-ing for FinanAdvice entries. ☞ Does the file contain 4 entries of Financial Advices.	Yes: Step 8 No: Case failed	
8.	Continue inspecting the detailed log file on the FTD, looking at the FinanAdvice entries from the first transaction. ☞ Does the file contain 3 entries of the first Financial Advice. ☞ Does all of the entries have the same STAN as recorded in step 3. ☞ Is the MTI of the first Financial Advice = 0226, (hex 30323236) ☞ Is the MTI of the two following Financial Advice = 0227 (hex 30323237)?	Yes: Step 9 No: Case failed	
9.	Select the FTD host script **Normal**. (This script will cause the host to accept Financial Advices again) Make sure that updates are disabled, i.e. PSAM Personalization = No Perform an Advice Transfer (to restore the Ter-minal)	Case OK	
-	End of test case		

Test Case 2.5 - Advice Transfer 05: Check Advice Window Size - Auth. Request

Test date:	Init:
Problem Report (if any):	Test case result:
Comments: >>>>>> This test is obsolete <<<<<<	

Test group: Advice Transfer	Conditions: [NOT[Offline only] AND [AdviceEnclosing] AND [AdviceWindow]

Requirements tested:

2-5.15.5.1	Control number of outstanding Advices....
6.16.3.12	Handling of at least one outstanding Advice....
2-5.15.5.2	Initial Advice Window Size = 1
6.16.3.14	Advice Window Size not greater than set in APACS header
6.16.3.15	If the Advice Window Size given in the APACS header is greater than the size in the Terminal Advice Windows Size, the MAD-Handler may alter the Terminal Advice Window Size to a size not greater than the one given in the APACS header.
6.16.3.18	When number of outstanding advices reaches the Advice Window Size....
6.16.4.7	Carry on sending Advices as indicated in the Terminal Advice Window Size....
6.16.5.1	Immediately after a request the MAD handler shall sent the number of Advices....
6.16.5.2	The MAD handler shall carry on sending Advices after Advice Responses received....
6.16.5.3	Communication line maintained after response to request received....

Purpose:
To verify that the terminal:

- Terminal starts sending Advices immediately after the Authorization Request has been sent.
- Terminal can handle at least one outstanding Advice.
- Terminal can control having at least 5 outstanding Advices.
- Terminal can handle if Advice Window Size changes during sending of Advices.
- Terminal can handle if the Advice responses order has been interleaved.
- Terminal can handle if Auth. Request response is received before last Advice response.

Prerequisites:
The Data Store shall be empty.

FTD script: AdviceTransfer_05 Normal   *Card(s):* ICC005   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
The terminal shall be able to handle at least 5 outstanding Advices and be able to adapt to the Advice Window Size "on the fly" and be able to accept that the request response is received before the responses to all outstanding Advices are received. The terminal shall also accept that the responses to the outstanding advices are received in a mixed order.

Comments: The "Terminal Window Size" is the number of transaction the terminal can have outstanding. Once the number of outstanding (non replied) transactions reaches the limit, the terminals will cease to send new packet. It may instead start to retransmitting outstanding packets.

Step	Actions and assessment	Result	Verdict
1.	☞ Does the terminal support and 'Terminal Window Size' > = '12'?	Yes: Step 2 No: Not Applicable	
2.	Start FTD script "**Normal**" with PSAM personalization set to "**No**". (To empty data store). Perform an Advice Transfer Start FTD script "**AdviceTransfer_05**" with PSAM personalization set to "**No**". Generate Advices in the Data Store of the terminal. This may be achieved in a number of ways; ♦ If the terminal support off-line transactions, perform an off-line transaction using **ICC005** and an amount below floor limit.(This will generate a Financial Advice in the Data Store) ♦ If the terminal supports PIN or requires confirmation of the amount, start a transaction using **ICC005** and cancel the transaction when the PIN is requested / the amount shall be confirmed. (This will generate an Authorization Advice in the Data Store). ♦ If the terminal is a UPT2, insert **ICC005** in the card reader, and remove it again after approximately 3 seconds. (This will generate an Authorization Advice in the Data Store). Repeat the activity 11 times, to generate the 11 advices in the data store.	Step 3	
3.	Use **ICC005** to perform an Online request (Authorization request, amount > 100,00 DKK). ☞ Is the Authorization request conveyed to the host? ☞ Is one and only one Advice conveyed to the host before the host sends the Advice response no. 1?	Yes: Step 4 No: Case failed	
4.	☞ Is one and only one Advice conveyed to the host before the host sends the Advice response no. 2?	Yes: Step 5 No: Case failed	
5.	☞ Are 4 Advices conveyed to the host before the host sends Advice response no. 3 (delayed response no. **2**)?	Yes: Step 6 No: Case failed	
6.	☞ Are 2 Advices conveyed to the host before the host sends Advice response no. 4,5,7,6 (delayed response no. **3,4,6,5**)?	Yes: Step 7 No: Case failed	
7.	☞ Is one and only one Advice conveyed to the host before the host sends the Advice response no. 8 (delayed response no. **7**)?	Yes: Step 8 No: Case failed	
8.	☞ Are 2 Advices conveyed to the host before the host sends the Authorization request response (delayed response no. **1**)?	Yes: Step 9 No: Case failed	
9.	☞ Does the terminal hold the communication line until the Advice response no. 9, 10, 11 (delayed response no. **8,9,10**) has been received?	Yes: Step 10 No: Case failed	

Step	Actions and assessment	Result	Verdict
10.	Perform an Advice Transfer using the "**Normal**" FTD script with PSAM personalization set to "**No**". ☞ Does the terminal contain one and only one Financial Advice (the one which was the result of the Authorization request, and containing the reference STAN)?	Yes: Case OK No: Case failed	
-	End of test case		
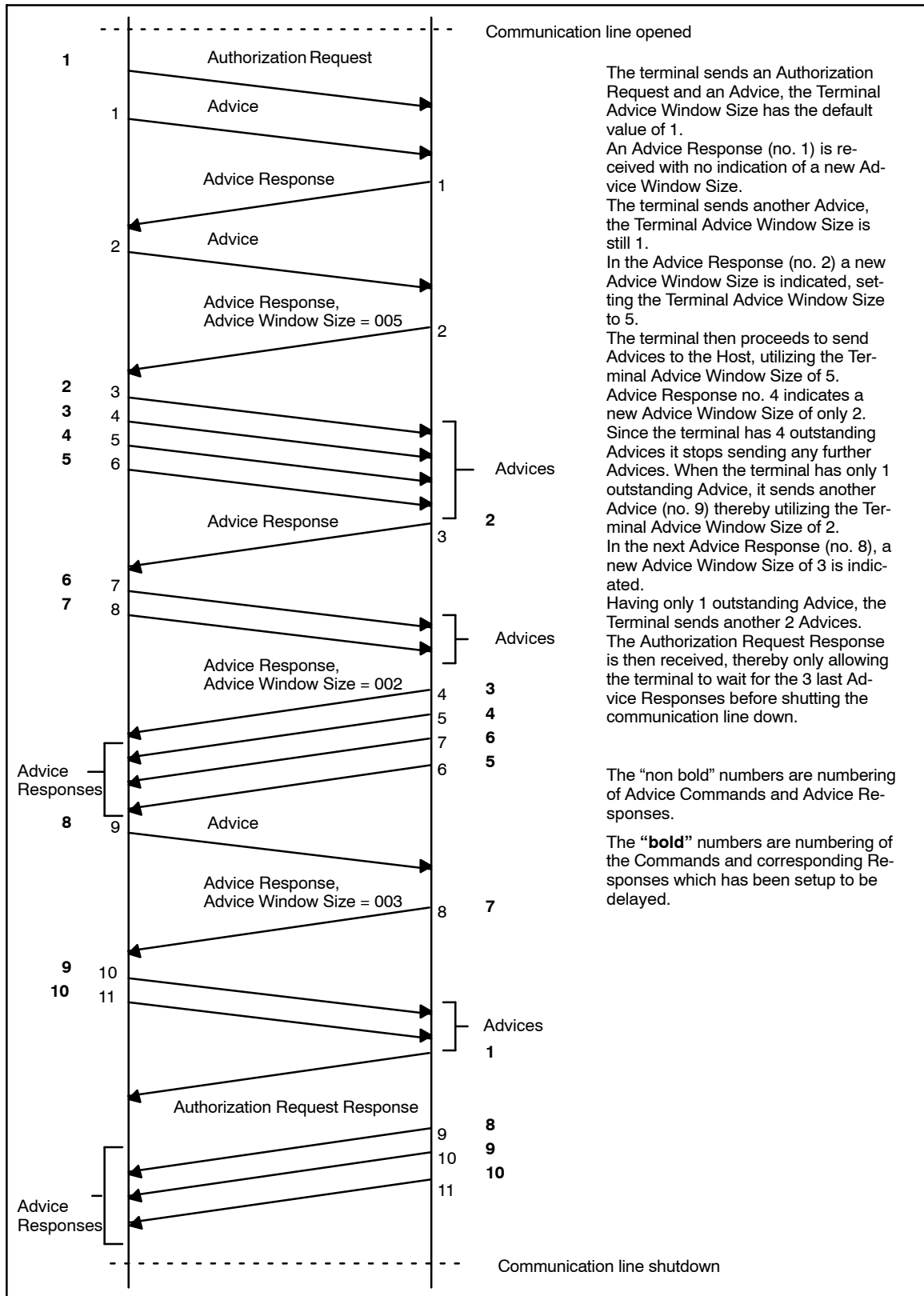
Figure 4.1 - Communication flow for test case

```
** Filename :C:\CERTIFICATION\OTTS\AdviceTransfer_05a\AdviceTransfer_05a.001\127_0_0_1.log ** Test−session: C:\CERTIFICATION\OTTS\Ad-
viceTransfer_05a\ScriptAdviceTransfer_05a.txt ** FTD−Version: Version 6.637
*2006−11−30−16.09.51.042000  Connection accepted
*2006−11−30−16.09.51.042000  Receiving...
*2006−11−30−16.09.51.052000  Start of A60 header recognized
*2006−11−30−16.09.51.082000  First time this PSAM Id is seen in this session!
*2006−11−30−16.09.51.092000  Keys will be tried read from PSAMKEYS!
*2006−11−30−16.09.51.092000  PsamId: A00000012081110020000021C

2006−11−30−16.09.51.112000  AuthRequest.Command            :
                .ApacsHeader.C0 Apacs length.Value: 0130
                .ApacsHeader.C1 Mti.Value        : 30313036
                .ApacsHeader.C2 Func Code.Value   : 0100
                .ApacsHeader.C3 PsamId.Value      : A00000012081110020000021C
                .ApacsHeader.C4 STAN.Value        : 000775
                .ApacsHeader.C5 KEKdata.Value     : 02
                .ApacsHeader.C6 KSESdata.Value    : 14A0D6ED305D418F99123DE13B913169
                .ApacsHeader
                .C7 Apacs MacKey Version.Value    : 02
                .ApacsHeader
                .CC MadHandler Id.Value           : 3030343030303430
                .ApacsHeader.CD Terminal Id.Value : 3030303030303430
                .ApacsHeader
                .CB Network ConnType.Value        : 01

2006−11−30−16.09.51.142000  AuthRequest.Response           :
                .ApacsHeader.C0 Apacs length.Value: 00B6
                .ApacsHeader.C1 Mti.Value        : 30313136
                .ApacsHeader.C3 PsamId.Value      : A00000012081110020000021C
                .ApacsHeader.C4 STAN.Value        : 000775
                .ApacsHeader
                .CC MadHandler Id.Value           : 3030343030303430
                .ApacsHeader.CD Terminal Id.Value : 3030303030303430
*2006−11−30−16.09.51.152000  Delayed response no. 01 will be sent as no. 07

2006−11−30−16.09.51.162000  FinanAdvice.Command            :
                .ApacsHeader.C0 Apacs length.Value: 0120
                .ApacsHeader.C1 Mti.Value        : 30323236
                .ApacsHeader.C2 Func Code.Value   : 0200
                .ApacsHeader.C3 PsamId.Value      : A00000012081110020000021C
                .ApacsHeader.C4 STAN.Value        : 000764
                .ApacsHeader.C5 KEKdata.Value     : 02
                .ApacsHeader.C6 KSESdata.Value    : F0293C10029E3F40901A70A28825B159
                .ApacsHeader
                .C7 Apacs MacKey Version.Value    : 02
                .ApacsHeader
                .CC MadHandler Id.Value           : 3030343030303430
                .ApacsHeader.CD Terminal Id.Value : 3030303030303430
                .ApacsHeader
                .D1 Reference STAN.Value          : 000764
                .ApacsHeader.D2 Original MTI.Value: 30323236
                .ApacsHeader
                .CB Network ConnType.Value        : 01

2006−11−30−16.09.51.222000  FinanAdvice.Response           :
                .ApacsHeader.C0 Apacs length.Value: 00B0
                .ApacsHeader.C1 Mti.Value        : 30323336
                .ApacsHeader.C3 PsamId.Value      : A00000012081110020000021C
                .ApacsHeader.C4 STAN.Value        : 000764
                .ApacsHeader
                .C8 Advice Window size.Value      : 0001
                .ApacsHeader
                .CC MadHandler Id.Value           : 3030343030303430
                .ApacsHeader.CD Terminal Id.Value : 3030303030303430
*2006−11−30−16.09.51.253000  236 bytes sent for this Apacs message

2006−11−30−16.09.51.263000  FinanAdvice.Command            :
                .ApacsHeader.C0 Apacs length.Value: 0118
                .ApacsHeader.C1 Mti.Value        : 30323236
                .ApacsHeader.C2 Func Code.Value   : 0200
                .ApacsHeader.C3 PsamId.Value      : A00000012081110020000021C
                .ApacsHeader.C4 STAN.Value        : 000765
                .ApacsHeader.C5 KEKdata.Value     : 02
                .ApacsHeader.C6 KSESdata.Value    : B3A180F78584B322A41B5688FA973E2F
                .ApacsHeader
                .C7 Apacs MacKey Version.Value    : 02
                .ApacsHeader
                .CC MadHandler Id.Value           : 3030343030303430
                .ApacsHeader.CD Terminal Id.Value : 3030303030303430
                .ApacsHeader
                .D1 Reference STAN.Value          : 000765
                .ApacsHeader.D2 Original MTI.Value: 30323236
                .ApacsHeader
                .CB Network ConnType.Value        : 01

2006−11−30−16.09.51.343000  FinanAdvice.Response           :
                .ApacsHeader.C0 Apacs length.Value: 00AA
                .ApacsHeader.C1 Mti.Value        : 30323336
                .ApacsHeader.C3 PsamId.Value      : A00000012081110020000021C
                .ApacsHeader.C4 STAN.Value        : 000765
                .ApacsHeader
                .C8 Advice Window size.Value      : 0005
                .ApacsHeader
                .CC MadHandler Id.Value           : 3030343030303430
                .ApacsHeader.CD Terminal Id.Value : 3030303030303430
*2006−11−30−16.09.51.383000  230 bytes sent for this Apacs message
```

Figure 4.2 - Example - Reduced FTD Log

```
2006-11-30-16.09.51.403000  FinanAdvice.Command              :
                .ApacsHeader.C0 Apacs length.Value: 0118
                .ApacsHeader.C1 Mti.Value        : 30323236
                .ApacsHeader.C2 Func Code.Value   : 0200
                .ApacsHeader.C3 PsamId.Value      : A0000000120811100020000021C
                .ApacsHeader.C4 STAN.Value        : 000766
                .ApacsHeader.C5 KEKdata.Value     : 02
                .ApacsHeader.C6 KSESdata.Value    : DD3C334943F69F856B971BC552BFD83E
                .ApacsHeader
                .C7 Apacs MacKey Version.Value    : 02
                .ApacsHeader
                .CC MadHandler Id.Value           : 3030343030303430
                .ApacsHeader.CD Terminal Id.Value : 3030303030303430
                .ApacsHeader
                .D1 Reference STAN.Value          : 000766
                .ApacsHeader.D2 Original MTI.Value: 30323236
                .ApacsHeader
                .CB Network ConnType.Value        : 01

2006-11-30-16.09.51.493000  FinanAdvice.Response             :
                .ApacsHeader.C0 Apacs length.Value: 00AA
                .ApacsHeader.C1 Mti.Value        : 30323336
                .ApacsHeader.C3 PsamId.Value      : A0000000120811100020000021C
                .ApacsHeader.C4 STAN.Value        : 000766
                .ApacsHeader
                .C8 Advice Window size.Value      : 0005
                .ApacsHeader
                .CC MadHandler Id.Value           : 3030343030303430
                .ApacsHeader.CD Terminal Id.Value : 3030303030303430
*2006-11-30-16.09.51.523000  Delayed response no. 02 will be sent as no. 01

2006-11-30-16.09.51.533000  FinanAdvice.Command              :
                .ApacsHeader.C0 Apacs length.Value: 0118
                .ApacsHeader.C1 Mti.Value        : 30323236
                .ApacsHeader.C2 Func Code.Value   : 0200
                .ApacsHeader.C3 PsamId.Value      : A0000000120811100020000021C
                .ApacsHeader.C4 STAN.Value        : 000767
                .ApacsHeader.C5 KEKdata.Value     : 02
                .ApacsHeader.C6 KSESdata.Value    : 9C84226EF7488AEC24C527BC602D4E5E
                .ApacsHeader
                .C7 Apacs MacKey Version.Value    : 02
                .ApacsHeader
                .CC MadHandler Id.Value           : 3030343030303430
                .ApacsHeader.CD Terminal Id.Value : 3030303030303430
                .ApacsHeader
                .D1 Reference STAN.Value          : 000767
                .ApacsHeader.D2 Original MTI.Value: 30323236
                .ApacsHeader
                .CB Network ConnType.Value        : 01

2006-11-30-16.09.51.623000  FinanAdvice.Response             :
                .ApacsHeader.C0 Apacs length.Value: 00AA
                .ApacsHeader.C1 Mti.Value        : 30323336
                .ApacsHeader.C3 PsamId.Value      : A0000000120811100020000021C
                .ApacsHeader.C4 STAN.Value        : 000767
                .ApacsHeader
                .C8 Advice Window size.Value      : 0002
                .ApacsHeader
                .CC MadHandler Id.Value           : 3030343030303430
                .ApacsHeader.CD Terminal Id.Value : 3030303030303430
*2006-11-30-16.09.51.653000  Delayed response no. 03 will be sent as no. 02

2006-11-30-16.09.51.663000  FinanAdvice.Command              :
                .ApacsHeader.C0 Apacs length.Value: 0118
                .ApacsHeader.C1 Mti.Value        : 30323236
                .ApacsHeader.C2 Func Code.Value   : 0200
                .ApacsHeader.C3 PsamId.Value      : A0000000120811100020000021C
                .ApacsHeader.C4 STAN.Value        : 000768
                .ApacsHeader.C5 KEKdata.Value     : 02
                .ApacsHeader.C6 KSESdata.Value    : 50C3130483E925A2395DA70A24D3BA79
                .ApacsHeader
                .C7 Apacs MacKey Version.Value    : 02
                .ApacsHeader
                .CC MadHandler Id.Value           : 3030343030303430
                .ApacsHeader.CD Terminal Id.Value : 3030303030303430
                .ApacsHeader
                .D1 Reference STAN.Value          : 000768
                .ApacsHeader.D2 Original MTI.Value: 30323236
                .ApacsHeader
                .CB Network ConnType.Value        : 01

2006-11-30-16.09.51.753000  FinanAdvice.Response             :
                .ApacsHeader.C0 Apacs length.Value: 00AA
                .ApacsHeader.C1 Mti.Value        : 30323336
                .ApacsHeader.C3 PsamId.Value      : A0000000120811100020000021C
                .ApacsHeader.C4 STAN.Value        : 000768
                .ApacsHeader
                .C8 Advice Window size.Value      : 0002
                .ApacsHeader
                .CC MadHandler Id.Value           : 3030343030303430
                .ApacsHeader.CD Terminal Id.Value : 3030303030303430
*2006-11-30-16.09.51.783000  Delayed response no. 04 will be sent as no. 03
```

Figure 4.2 - Example - Reduced FTD Log *(continued)*

```
2006-11-30-16.09.51.793000  FinanAdvice.Command          :
                .ApacsHeader.C0 Apacs length.Value: 0118
                .ApacsHeader.C1 Mti.Value      : 30323236
                .ApacsHeader.C2 Func Code.Value   : 0200
                .ApacsHeader.C3 PsamId.Value      : A0000000120811100020000021C
                .ApacsHeader.C4 STAN.Value      : 000769
                .ApacsHeader.C5 KEKdata.Value    : 02
                .ApacsHeader.C6 KSESdata.Value   : 5C10926DD976F62ABC98AB3FC49184B1
                .ApacsHeader
                .C7 Apacs MacKey Version.Value   : 02
                .ApacsHeader
                .CC MadHandler Id.Value          : 3030343030303430
                .ApacsHeader.CD Terminal Id.Value : 3030303030303430
                .ApacsHeader
                .D1 Reference STAN.Value         : 000769
                .ApacsHeader.D2 Original MTI.Value: 30323236
                .ApacsHeader
                .CB Network ConnType.Value        : 01

2006-11-30-16.09.51.883000  FinanAdvice.Response         :
                .ApacsHeader.C0 Apacs length.Value: 00AA
                .ApacsHeader.C1 Mti.Value      : 30323336
                .ApacsHeader.C3 PsamId.Value      : A0000000120811100020000021C
                .ApacsHeader.C4 STAN.Value      : 000769
                .ApacsHeader
                .C8 Advice Window size.Value     : 0002
                .ApacsHeader
                .CC MadHandler Id.Value          : 3030343030303430
                .ApacsHeader.CD Terminal Id.Value : 3030303030303430
*2006-11-30-16.09.51.924000  Delayed response no. 05 will be sent as no. 05
*2006-11-30-16.09.51.924000  Sending delayed response no. 01
*2006-11-30-16.09.51.934000  230 bytes sent for this Apacs message

2006-11-30-16.09.51.944000  FinanAdvice.Command          :
                .ApacsHeader.C0 Apacs length.Value: 0118
                .ApacsHeader.C1 Mti.Value      : 30323236
                .ApacsHeader.C2 Func Code.Value   : 0200
                .ApacsHeader.C3 PsamId.Value      : A0000000120811100020000021C
                .ApacsHeader.C4 STAN.Value      : 000770
                .ApacsHeader.C5 KEKdata.Value    : 02
                .ApacsHeader.C6 KSESdata.Value   : 4F13950D7E834E9572DCB6330EA6CDE5
                .ApacsHeader
                .C7 Apacs MacKey Version.Value   : 02
                .ApacsHeader
                .CC MadHandler Id.Value          : 3030343030303430
                .ApacsHeader.CD Terminal Id.Value : 3030303030303430
                .ApacsHeader
                .D1 Reference STAN.Value         : 000770
                .ApacsHeader.D2 Original MTI.Value: 30323236
                .ApacsHeader
                .CB Network ConnType.Value        : 01

2006-11-30-16.09.52.044000  FinanAdvice.Response         :
                .ApacsHeader.C0 Apacs length.Value: 00AA
                .ApacsHeader.C1 Mti.Value      : 30323336
                .ApacsHeader.C3 PsamId.Value      : A0000000120811100020000021C
                .ApacsHeader.C4 STAN.Value      : 000770
                .ApacsHeader
                .C8 Advice Window size.Value     : 0002
                .ApacsHeader
                .CC MadHandler Id.Value          : 3030343030303430
                .ApacsHeader.CD Terminal Id.Value : 3030303030303430
*2006-11-30-16.09.52.074000  Delayed response no. 06 will be sent as no. 04

2006-11-30-16.09.52.084000  FinanAdvice.Command          :
                .ApacsHeader.C0 Apacs length.Value: 0118
                .ApacsHeader.C1 Mti.Value      : 30323236
                .ApacsHeader.C2 Func Code.Value   : 0200
                .ApacsHeader.C3 PsamId.Value      : A0000000120811100020000021C
                .ApacsHeader.C4 STAN.Value      : 000771
                .ApacsHeader.C5 KEKdata.Value    : 02
                .ApacsHeader.C6 KSESdata.Value   : 36A336687E852AB8131F78DF40EE4BB8
                .ApacsHeader
                .C7 Apacs MacKey Version.Value   : 02
                .ApacsHeader
                .CC MadHandler Id.Value          : 3030343030303430
                .ApacsHeader.CD Terminal Id.Value : 3030303030303430
                .ApacsHeader
                .D1 Reference STAN.Value         : 000771
                .ApacsHeader.D2 Original MTI.Value: 30323236
                .ApacsHeader
                .CB Network ConnType.Value        : 01
```

Figure 4.2 - Example - Reduced FTD Log *(continued)*

```
2006−11−30−16.09.52.174000  FinanAdvice.Response          :
                .ApacsHeader.C0 Apacs length.Value: 00AA
                .ApacsHeader.C1 Mti.Value       : 30323336
                .ApacsHeader.C3 PsamId.Value     : A0000001208111000020000021C
                .ApacsHeader.C4 STAN.Value       : 000771
                .ApacsHeader
                .C8 Advice Window size.Value     : 0003
                .ApacsHeader
                .CC MadHandler Id.Value          : 3030343030303430
                .ApacsHeader.CD Terminal Id.Value : 3030303030303430
*2006−11−30−16.09.52.204000  Delayed response no. 07 will be sent as no. 06
*2006−11−30−16.09.52.214000  Sending delayed response no. 02
*2006−11−30−16.09.52.214000  230 bytes sent for this Apacs message
*2006−11−30−16.09.52.224000  Sending delayed response no. 03
*2006−11−30−16.09.52.234000  230 bytes sent for this Apacs message
*2006−11−30−16.09.52.234000  Sending delayed response no. 04
*2006−11−30−16.09.52.244000  230 bytes sent for this Apacs message
*2006−11−30−16.09.52.254000  Sending delayed response no. 05
*2006−11−30−16.09.52.254000  230 bytes sent for this Apacs message

2006−11−30−16.09.52.264000  FinanAdvice.Command          :
                .ApacsHeader.C0 Apacs length.Value: 0118
                .ApacsHeader.C1 Mti.Value       : 30323236
                .ApacsHeader.C2 Func Code.Value   : 0200
                .ApacsHeader.C3 PsamId.Value     : A0000001208111000020000021C
                .ApacsHeader.C4 STAN.Value       : 000772
                .ApacsHeader.C5 KEKdata.Value    : 02
                .ApacsHeader.C6 KSESdata.Value   : 3B28E54DDE4DC172FB354B555A73DC30
                .ApacsHeader
                .C7 Apacs MacKey Version.Value   : 02
                .ApacsHeader
                .CC MadHandler Id.Value          : 3030343030303430
                .ApacsHeader.CD Terminal Id.Value : 3030303030303430
                .ApacsHeader
                .D1 Reference STAN.Value         : 000772
                .ApacsHeader.D2 Original MTI.Value: 30323236
                .ApacsHeader
                .CB Network ConnType.Value       : 01

2006−11−30−16.09.52.364000  FinanAdvice.Response          :
                .ApacsHeader.C0 Apacs length.Value: 00AA
                .ApacsHeader.C1 Mti.Value       : 30323336
                .ApacsHeader.C3 PsamId.Value     : A0000001208111000020000021C
                .ApacsHeader.C4 STAN.Value       : 000772
                .ApacsHeader
                .C8 Advice Window size.Value     : 0003
                .ApacsHeader
                .CC MadHandler Id.Value          : 3030343030303430
                .ApacsHeader.CD Terminal Id.Value : 3030303030303430
*2006−11−30−16.09.52.394000  Delayed response no. 08 will be sent as no. 08
*2006−11−30−16.09.52.394000  Sending delayed response no. 06
*2006−11−30−16.09.52.404000  230 bytes sent for this Apacs message

2006−11−30−16.09.52.414000  FinanAdvice.Command          :
                .ApacsHeader.C0 Apacs length.Value: 0118
                .ApacsHeader.C1 Mti.Value       : 30323236
                .ApacsHeader.C2 Func Code.Value   : 0200
                .ApacsHeader.C3 PsamId.Value     : A0000001208111000020000021C
                .ApacsHeader.C4 STAN.Value       : 000773
                .ApacsHeader.C5 KEKdata.Value    : 02
                .ApacsHeader.C6 KSESdata.Value   : 7D617D88498556766EDC74F314B8E26F
                .ApacsHeader
                .C7 Apacs MacKey Version.Value   : 02
                .ApacsHeader
                .CC MadHandler Id.Value          : 3030343030303430
                .ApacsHeader.CD Terminal Id.Value : 3030303030303430
                .ApacsHeader
                .D1 Reference STAN.Value         : 000773
                .ApacsHeader.D2 Original MTI.Value: 30323236
                .ApacsHeader
                .CB Network ConnType.Value       : 01

2006−11−30−16.09.52.514000  FinanAdvice.Response          :
                .ApacsHeader.C0 Apacs length.Value: 00AA
                .ApacsHeader.C1 Mti.Value       : 30323336
                .ApacsHeader.C3 PsamId.Value     : A0000001208111000020000021C
                .ApacsHeader.C4 STAN.Value       : 000773
                .ApacsHeader
                .C8 Advice Window size.Value     : 0003
                .ApacsHeader
                .CC MadHandler Id.Value          : 3030343030303430
                .ApacsHeader.CD Terminal Id.Value : 3030303030303430
*2006−11−30−16.09.52.544000  Delayed response no. 09 will be sent as no. 09
```

Figure 4.2 - Example - Reduced FTD Log *(continued)*

```
2006−11−30−16.09.52.554000  FinanAdvice.Command         :
                   .ApacsHeader.C0 Apacs length.Value: 0118
                   .ApacsHeader.C1 Mti.Value      : 30323236
                   .ApacsHeader.C2 Func Code.Value  : 0200
                   .ApacsHeader.C3 PsamId.Value     : A0000001208111000200000021C
                   .ApacsHeader.C4 STAN.Value      : 000774
                   .ApacsHeader.C5 KEKdata.Value   : 02
                   .ApacsHeader.C6 KSESdata.Value   : 791E74DF79AA06651EBED78081D6ED01
                   .ApacsHeader
                   .C7 Apacs MacKey Version.Value   : 02
                   .ApacsHeader
                   .CC MadHandler Id.Value       : 3030343030303430
                   .ApacsHeader.CD Terminal Id.Value : 3030303030303430
                   .ApacsHeader
                   .D1 Reference STAN.Value       : 000774
                   .ApacsHeader.D2 Original MTI.Value: 30323236
                   .ApacsHeader
                   .CB Network ConnType.Value      : 01

2006−11−30−16.09.52.645000  FinanAdvice.Response        :
                   .ApacsHeader.C0 Apacs length.Value: 00AA
                   .ApacsHeader.C1 Mti.Value      : 30323336
                   .ApacsHeader.C3 PsamId.Value     : A0000001208111000200000021C
                   .ApacsHeader.C4 STAN.Value      : 000774
                   .ApacsHeader
                   .C8 Advice Window size.Value     : 0003
                   .ApacsHeader
                   .CC MadHandler Id.Value       : 3030343030303430
                   .ApacsHeader.CD Terminal Id.Value : 3030303030303430
*2006−11−30−16.09.52.675000  Delayed response no. 0A will be sent as no. 0A
*2006−11−30−16.09.52.685000  Sending delayed response no. 07
*2006−11−30−16.09.52.685000  238 bytes sent for this Apacs message
*2006−11−30−16.09.52.695000  Sending delayed response no. 08
*2006−11−30−16.09.52.715000  230 bytes sent for this Apacs message
*2006−11−30−16.09.52.715000  Sending delayed response no. 09
*2006−11−30−16.09.52.725000  230 bytes sent for this Apacs message
*2006−11−30−16.09.52.725000  Sending delayed response no. 0A
*2006−11−30−16.09.52.735000  230 bytes sent for this Apacs message
```

Figure 4.2 - Example - Reduced FTD Log *(concluded)*

Test Case 2.6 - Advice Transfer 06: Check Advice Window Size - Financial Request

Test date:	Init:
Problem Report (if any):	Test case result:
Comments: >>>>>> This test is obsolete <<<<<<	

Test group: Advice Transfer	Conditions: NOT[Offline only] AND [AdviceEnclosing] AND [AdviceWindow] AND NOT [UPT 3]

Requirements tested:

6.16.3.11	Control number of outstanding Advices....
6.16.3.12	Handling of at least one outstanding Advice....
6.16.3.13	Initial Advice Window Size = 1
6.16.3.15	If the Advice Window Size given in the APACS header is greater than the size in the Terminal Advice Windows Size, the MAD-Handler may alter the Terminal Advice Window Size to a size not greater than the one given in the APACS header.
6.16.3.14	Advice Window Size not greater than set in APACS header
6.16.3.18	When number of outstanding advices reaches the Advice Window Size....
6.16.4.7	Carry on sending Advices as indicated in the Terminal Advice Window Size....
6.16.5.1	Immedeately after a request the MAD handler shall sent the number of Advices....
6.16.5.2	The MAD handler shall carry on sending Advices after Advice Responses received....
6.16.5.3	Communication line maintained after response to request received....

Purpose:
To verify that the terminal:

⬥ Terminal starts sending Advices immedeately after the Financial Request has been sent.

⬥ Terminal can handle at least one outstanding Advice.

⬥ Terminal can control having at least 5 outstanding Advices.

⬥ Terminal can handle if Advice Window Size changes during sending of Advices.

⬥ Terminal can handle if the Advice responses order has been interleaved.

⬥ Terminal can handle if Finan. Request response is received before last Advice response.

Prerequisites:
The Data Store shall be empty (e.g. advice transfer using the "**Normal**" FTD script with PSAM personalization set to "**YES**").

FTD script: AdviceTransfer_05 Normal   *Card(s):* ICC005 MSC001   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
The terminal shall be able to handle at least 5 outstanding Advices and be able to adapt to the Advice Window Size "on the fly" and be able to accept that the request response is received before the responses to all outstanding Advices are received. The terminal shall also accept that the responses to the outstanding advices are received in a mixed order.

Step	Actions and assessment	Result	Verdict
1.	☞ Does the terminal only support 'Advice Window Size' = '1' **or** is the Terminal Window size < 12 ?	Yes: Not Applicable No: Step 2	
2.	Start FTD script "**AdviceTransfer_06**" with PSAM personalization set to "**No**". Generate Advices in the Data Store of the terminal. This may be achieved in a number of ways; ♦ If the terminal supports off-line transactions, perform an off-line transaction using **ICC005** and an amount below floor limit.(This will generate a Financial Advice in the Data Store) ♦ If the terminal don't support offline transactions, **but** supports PIN or requires confirmation of the amount, start a transaction using **ICC005** and cancel the transaction when the PIN is requested / the amount shall be confirmed. (This will generate an Authorization Advice in the Data Store). ♦ If the terminal is a UPT2 that doesn't support offline transactions, insert **ICC005** in the card reader, and remove it again after approximately 3 seconds. (This will generate an Authorization Advice in the Data Store). **Don't** mix the three type of data generation due to constraints in the test system. Repeat the activity 11 times, to generate the 11 Advices in the data store.	Step 3	
3.	Use **MSC001** to perform an Online request (Financial request, amount > 100,00 DKK). ☞ Is the Financial request conveyed to the host? ☞ Is one and only one Advice conveyed to the host before the host sends the Advice response no. 1?	Yes: Step 4 No: Case failed	
4.	☞ Is one and only one Advice conveyed to the host before the host sends the Advice response no. 2?	Yes: Step 5 No: Case failed	
5.	☞ Are 4 Advices conveyed to the host before the host sends Advice response no. 3 (delayed response no. **2**)?	Yes: Step 6 No: Case failed	
6.	☞ Are 2 Advices conveyed to the host before the host sends Advice response no. 4,5,7,6 (delayed response no. **3,4,6,5**)?	Yes: Step 7 No: Case failed	
7.	☞ Is one and only one Advice conveyed to the host before the host sends the Advice response no. 8 (delayed response no. **7**)?	Yes: Step 8 No: Case failed	
8.	☞ Are 2 Advices conveyed to the host before the host sends the Financial request response (delayed response no. **1**)?	Yes: Step 9 No: Case failed	
9.	☞ Does the terminal hold the communication line until the Advice response no. 9, 10, 11 (delayed response no. **8,9,10**) has been received?	Yes: Step 10 No: Case failed	

Step	Actions and assessment	Result	Verdict
10.	Perform an Advice Transfer using the "**Normal**" FTD script with PSAM personalization set to "**No**". ☞ Is the terminal "empty" (contains no advices)?	Yes: Case OK No: Case failed	
-	End of test case		

Figure 4.3 - Communication flow for test case

Test Case 2.7 - Advice Transfer 07: Check Advice Window Size - Advice Transfer Req.

Test date:	Init:
Problem Report (if any):	Test case result:
Comments: >>>>>> This test is obsolete <<<<<<	

Test group: Advice Transfer	Conditions: Terminal shall be able to handle at least 5 out-standing advices.

Requirements tested:

6.16.3.11	Control number of outstanding Advices....
6.16.3.12	Handling of at least one outstanding Advice....
6.16.3.13	Initial Advice Window Size = 1
6.16.3.14	Advice Window Size not greater than set in APACS header
6.16.3.18	When number of outstanding advices reaches the Advice Window Size....
6.16.4.7	Carry on sending Advices as indicated in the Terminal Advice Window Size....
6.16.5.1	Immedeately after a request the MAD handler shall sent the number of Advices....
6.16.5.2	The MAD handler shall carry on sending Advices after Advice Responses received....

Purpose:
To verify that the terminal:

- ◆ Terminal can handle at least one outstanding Advice.
- ◆ Terminal can control having at least 5 outstanding Advices.
- ◆ Terminal can handle if Advice Window Size changes during sending of Advices.
- ◆ Terminal can handle if the Advice responses order has been interleaved.

Prerequisites:
The Data Store shall be empty (e.g. advice transfer using the "**Normal**" FTD script with PSAM personalization set to "**YES**").

FTD script: AdviceTransfer_07   *Card(s):* ICC005   *PSAM:* PSAM002
      Normal

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
The terminal shall be able to handle at least 5 outstanding Advices and be able to adapt to the Advice Window Size "on the fly" and be able to accept that the request response is received before the responses to all outstanding Advices are received. The terminal shall also accept that the responses to the outstanding advices are received in a mixed order.

Step	Actions and assessment	Result	Verdict
1.	☞ Does the terminal only support 'Advice Window Size' = '1'?	Yes: Not Applicable No: Step 2	
2.	Start FTD script "**AdviceTransfer_07**" with PSAM personalization set to "**No**". Use **ICC005** to perform 11 successful transaction offline (amount < 100,00 DKK) in order to generate 11 Financial Advices in the Data Store.	Step 3	

Step	Actions and assessment	Result	Verdict
3.	Perform an **Advice Transfer**. ☞ Is the Advice transfer request conveyed to the host? ☞ Is one and only one Advice conveyed to the host before the host sends the Advice response no. 1?	Yes: Step 4 No: Case failed	
4.	☞ Is one and only one Advice conveyed to the host before the host sends the Advice response no. 2?	Yes: Step 5 No: Case failed	
5.	☞ Are 4 Advices conveyed to the host before the host sends Advice response no. 3 (delayed response no. **1**)?	Yes: Step 6 No: Case failed	
6.	☞ Are 2 Advices conveyed to the host before the host sends Advice response no. 4,5,7,6 (delayed response no. **2,3,5,4**)?	Yes: Step 7 No: Case failed	
7.	☞ Is one and only one Advice conveyed to the host before the host sends the Advice response no. 8 (delayed response no. **6**)?	Yes: Step 8 No: Case failed	
8.	☞ Are 2 Advices conveyed to the host and does the terminal hold the communication line until the Advice response no. 9,10,11 (delayed response no. **7,8,9**) has been received?	Yes: Step 9 No: Case failed	
9.	Perform yet an **Advice Transfer** using the "**Normal**" FTD script with PSAM personalization set to "**No**". ☞ Is the terminal "empty" (contains no advices)?	Yes: Case OK No: Case failed	
-	End of test case		
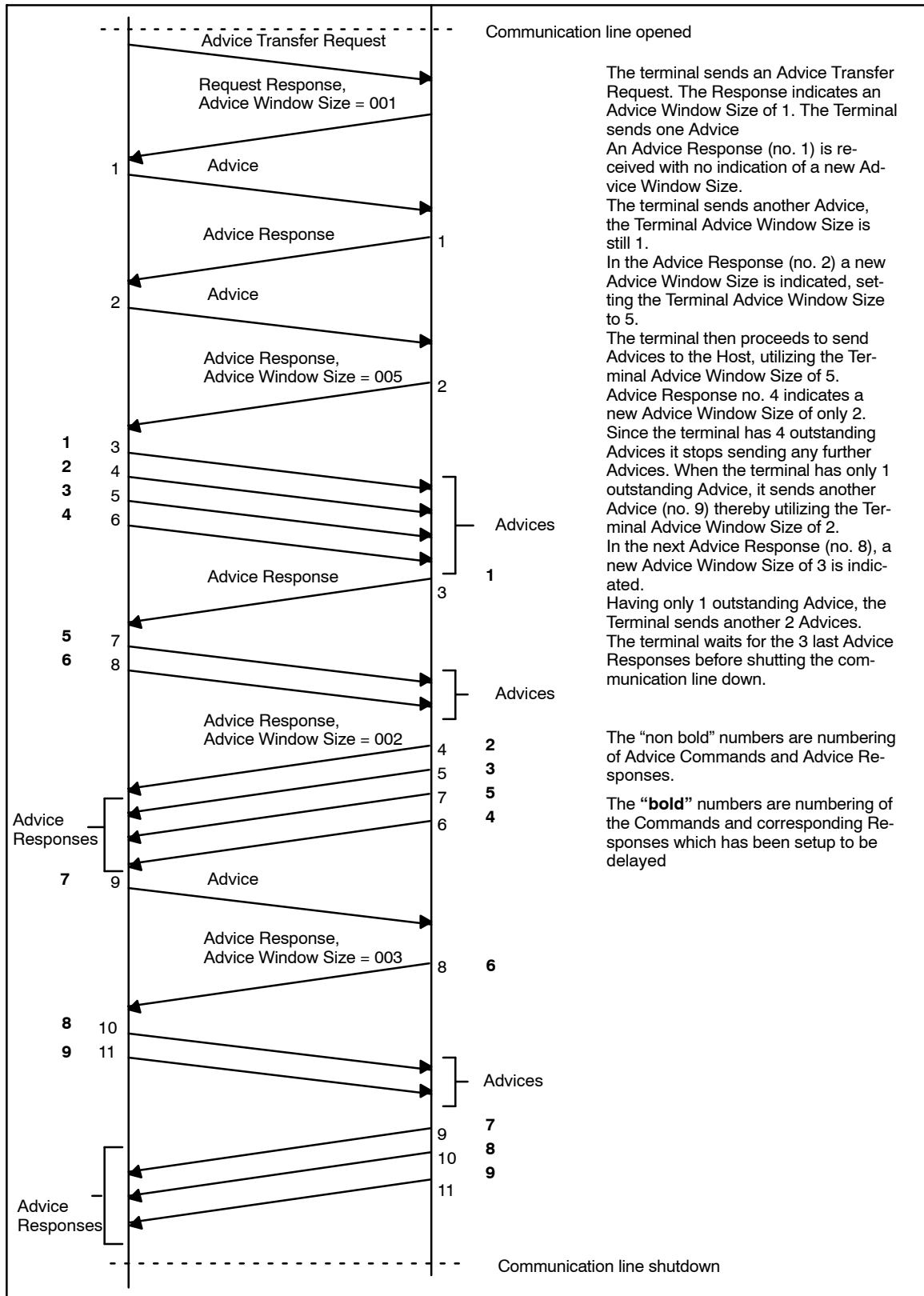
Figure 4.4 - Communication flow for test case

Test Case 2.8 - Advice Transfer 08: PSAM Update and Action Code = "8421"

Test date:		Init:	
Problem Report (if any):		Test case result:	
Comments:			

Test group: Advice Transfer	Conditions:

Requirements tested:

2-5.13.3.7   If the Action Code "8421"is indicated in the PSAM Update Response, the terminal shall initiate new Update again later.

Purpose:
To verify that the terminal can perform an new PSAM Update later if it receives an Action Code = "8421" during a PSAM Update.

Prerequisites:

FTD script: AdviceTransfer_08   *Card(s):*N/A   *PSAM:* PSAM002
    Normal

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
It is demonstrated that if the terminal during an PSAM Update receives an Action Code = "8421" during the PSAM Update response, the terminal initiate a new PSAM Update later. (either manually or automatically).

Comments: This test case handles the response to Action Code 8421 during PSAM update. This is complementary to the test of handling of Action Code 8421 during Advice Transfer.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **Normal**. Make sure that updates are disabled, i.e. PSAM Personalization = No. Perform an Advice Transfer. Consult terminal supplier on how to perform it. (This will clear the data store).	Step 2	
2.	Select the FTD host script **AdviceTransfer_08** Make sure that updates are disabled, i.e. PSAM Personalization = No	Step 3	
3.	Perform an Advice Transfer. (The host will now respond "8421" to the PSAM Update request). ☞ Is the Terminal a UPT?	Yes: Step 4 No: Step 6	
4.	☞ Does the terminal automatically initiate a PSAM update request later? (Consult terminal supplier for information).	Yes: Step 8 No: Step 5	
5.	☞ Does the terminal support other means to indicate that PSAM updates are to be performed?	Yes: Step 8 No: Case failed	
6.	☞ If the terminal has a Merchant display, is it indicated that the update failed and a new update should be initiated at a later time?	Yes: Step 8 No: Step 7	
7.	☞ Does the terminal support other means to indicate that PSAM updates are to be performed?	Yes: Step 8 No: Case failed	

Step	Actions and assessment	Result	Verdict
8.	Select the FTD host script **Normal** in the folder Normal. Make sure that updates are disabled, i.e. PSAM Personalization = No	Case OK	
-	End of test case		

Test Case 2.9 - Advice Transfer 09: PSAM Advice Transfer and Action Code = "8421"

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Advice Transfer	Conditions: NOT [UPT3]
Requirements tested: 2-5.15.3.6 Action Code = "8421" (Rejected, try later)	
Purpose: To verify that the terminal performs a new Advice Transfer later if it receives an Action Code = "8421" during an Advice Transfer.	
Prerequisites: *FTD script:* AdviceTransfer_09 *Card(s):*ICC005 *PSAM:* PSAM002 Normal	
Test environment: *FTD Host:* X *IFS:* *Kopi:*	
General pass criteria: It is demonstrated that if the terminal receives an Action Code = "8421" during an Advice Transfer, the terminal initiates a new Advice Transfer later (automatically).	

Comments: This test case handles the response to Action Code "8421" during Advice transfer. This is complementary to the test of handling of Action Code "8421" during PSAM Update.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **Normal** Make sure that updates are disabled, i.e. PSAM Personalization = No Perform an Advice Transfer (this will clear the data store).	Step 2	
2.	Select the FTD host script **AdviceTransfer_09** Make sure that updates are disabled, i.e. PSAM Personalization = No	Step 3	
3.	Generate Advices in the Data Store of the terminal. This may be achieved in a number of ways; ⬥ If the terminal support off-line transactions, perform an off-line transaction using **ICC005** and an amount below floor limit.(This will generate a Financial Advice in the Data Store) ⬥ If the terminal supports PIN or requires confirmation of the amount, start a transaction using **ICC005** and cancel the transaction when the PIN is requested / the amount shall be confirmed. (This will generate an Authorisation Advice in the Data Store). ⬥ If the terminal is a UPT2, insert **ICC005** in the card reader, and remove it again after approximately 3 seconds. (This will generate an Authorisation Advice in the Data Store).	Step 4	

Step	Actions and assessment	Result	Verdict
4.	Perform an Advice Transfer. (The host will respond "8421" to the Advice Transfer request.) ☞ Is the Terminal a UPT?	Yes: Step 5 No: Step 7	
5.	☞ Does the terminal automatically initiate an Advice Transfer later? (Consult terminal supplier for information).	Yes: Step 9 No: Step 6	
6.	☞ Does the terminal support other means to indicate that an Advice Transfer is to be performed?	Yes: Step 9 No: Case failed	
7.	☞ If the terminal has a Merchant display, is it indicated that the advice transfer failed and a new advice should be initiated at a later time?	Yes: Step 9 No: Step 8	
8.	☞ Does the terminal support other means to indicate that an Advice Transfer is to be performed?	Yes: Step 9 No: Case failed	
9.	Select the FTD host script **Normal** in the folder **Normal.** Make sure that updates are disabled, i.e. PSAM Personalization = No Perform an AdviceTransfer Analyse the setup.log file on the FTD. ☞ Does it contain one and only one **Financial** or **Authorisation Advice** conveyed to the host?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 2.10 - Advice Transfer 10: PSAM Update after successful Advice Transfer.

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments: The requirement has changed state from mandatory to optional.	

Test group: Advice Transfer	**Conditions:** N/A
Requirements tested: 2-5.15.3.8 A successful Advice Transfer ~~shall~~ <u>may</u> be followed by a PSAM Update transaction.	
Purpose: To verify that the PSAM receives a PSAM Update after a successful Advice Transfer.	
Prerequisites: *FTD script:* AdviceTransfer_10 *Card(s):* ICC001 *PSAM:* PSAM002 Normal	
Test environment: *FTD Host:* X *IFS:* *Kopi:*	
General pass criteria: It is demonstrated that after a successful Transaction, the PSAM receives a PSAM Update. (The PSAM Update sets all tables to zero, and forcing the terminal to attempt fallback.)	

Step	Actions and assessment	Result	Verdict
1.	☞ Does the terminal support automatic PSAM updates after Advice Transfer?	Yes: Step 2 No: Not Applicable	
2.	Select the FTD host script **AdviceTransfer_10** Make sure that updates are enabled, i.e. PSAM Personalization = **Yes** Perform an Advice Transfer. ☞ Was the Advice Transfer successful?	Yes: Step 3 No: Case failed	
3.	Try to perform a normal transaction using **ICC001**. ☞ Does the transaction go for fallback? (Due to the PSAM Updates, the tables/parameters in the PSAM has all been filled with zeros.)?	Yes: Step 4 No: Case failed	
4.	Select the FTD host script **Normal** in the folder **Normal.** Make sure that updates are enabled, i.e. PSAM Personalization = **Yes** Perform an Advice Transfer. ☞ Was the Advice Transfer successful?	Yes: Step 5 No: Case failed	
5.	Try to perform a normal transaction using **ICC001**. ☞ Is the transaction successful? (due to the PSAM Updates having restored all PSAM tables/parameters)?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 2.11 - Advice Transfer 11: Advice Enclosing/Forwarding

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments: The test case has been updated to take (Cancellation) delay into account.	

Test group: Advice Transfer	**Conditions:** NOT [Offline only]
Requirements tested:	
2-5.15.2.8　　 Except for MTI =`0226' send advices as soon possible.	
2-5.15.2.9　　 For MTI = `0226' send advices after timeout of X minutes.	

Purpose:
To verify that the terminal supports either Advice Enclosing or Advice Forwarding if the terminal is capable of performing online requests.

Prerequisites:
Knowledge of how to perform an Advice Transfer.
Knowledge of the value of the timeout for Financial Advices (X minutes)
FTD script: Normal　　　　　　　*Card(s):*ICC001　　　　*PSAM:* PSAM002

Test environment:
FTD Host: X　　　　　　　　　*IFS:*　　　　　　　　*Kopi:*

General pass criteria:
It is demonstrated that the terminal either supports Advice Enclosing and Advice Forwarding (after timeout).

Comments: The test is based on the assumption that any UPT tested uses the access to the Reference STAN, as supported from PSAM 61.x and onwards, i.e. the STAN printed on the receipt is always the initial STAN (from the request).

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **Normal**. Make sure that updates are disabled i.e. PSAM Personalization = No Perform an Advice Transfer. (to empty the Data Store) ☞ Is the transfer successful?	Yes: Step 2 No: Case failed.	
2.	If the terminal is a UPT, select that a receipt is to be printed. Perform an online **purchase** transaction using **ICC001**. Record the **STAN** of the transaction from the receipt,in subsequent test referred to as **Z**. ☞ Is the transaction successful?	Yes: Step 3 No: Case failed.	
3.	Examine the setup.log on the FTD. ☞ Does the log contain an Authorization Request? ☞ Is the STAN of the Authorizations Request the STAN recorded in step 3, i.e. **STAN** = **Z**?	Yes: Step 4 No: Case failed.	

Step	Actions and assessment	Result	Verdict
4.	Wait for the specified timeout of X minutes. Examine the log file on the FTD (The terminal shall have forwarded the Advice after the timeout) ☞ Does the log contain a Financial Advice? ☞ Is the STAN of the Financial Advice, **STAN** = **Z+1** (one higher than the STAN recorded in step 3),	Yes:Step 5 No: Case failed	
5.	If the terminal is a UPT, select that a receipt is to be printed. Perform an online **purchase** transaction using **ICC001**. Record the STAN of the transaction from the receipt, **STAN** = **Y**. ☞ Is the transaction successful?	Yes: Step 6 No: Case failed	
6.	If the terminal is a UPT, select that a receipt is to be printed. Perform an online **purchase** transaction using **ICC001**. ☞ Is the transaction successful?	Yes: Step 7 No: Case failed	
7.	Examine the setup.log on the FTD. (before timeout occurs) ☞ Does the log contain a Financial Advice? ☞ Is the STAN of the Financial Advice one higher than the STAN recorded in step 5, **STAN** = **Y+1**	Yes: Step 8 No: Case failed.	
8.	Perform an Advice Transfer (to clear the Data Store). Examine the setup.log file on the FTD. ☞ Does the log contain a **new** Financial Advice?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 2.12 - Advice Transfer 12: Advice Transfer depending of the Action Code

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: Advice Transfer	Conditions: NOT [OnlineOnly]
Requirements tested: 2-5.15.3.5 Advice Transfer depending of the Action Code.	
Purpose: To verify that when the terminal has received an Advice Transfer Request Response, the continuation of the Advice Transfer depends on the Action Code.	
Prerequisites: *FTD script:* AdviceTransfer_12a *Card(s):* ICC005 *PSAM:* PSAM002 AdviceTransfer_12b	
Test environment: *FTD Host:* X *IFS:* *Kopi:*	
General pass criteria: It is demonstrated that the terminal holds the Advice Transfer if the Advice Transfer Request Response contains an Action Code that *isn't* in the range 8000 - 8005 (AdviceTransfer_12a). Furthermore, it is verified that when the Action Code is in the range 8000 - 8005, the Advice Transfer continues (AdviceTransfer_12b).	

Step	Actions and assessment	Result	Verdict
1.	Select the FTD script denoted **AdviceTransfer_12a** (Action Code *not* in the range 8000 - 8005). Make sure that updates are disabled, i.e. PSAM Personalization = No Generate Advices in the Data Store of the terminal. This may be achieved in a number of ways; ♦ If the terminal support off-line transactions, perform an off-line transaction using **ICC005** and an amount below floor limit.(This will generate a Financial Advice in the Data Store) ♦ If the terminal supports PIN or requires confirmation of the amount, start a transaction using **ICC005** and cancel the transaction when the PIN is requested / the amount shall be confirmed. (This will generate an Authorization Advice in the Data Store). ♦ If the terminal is a UPT2, insert the **ICC005** in the card reader, and remove it again after approximately 3 seconds. (This will generate an Authorization Advice in the Data Store). Repeat the activity 3 times, to generate the 3 advices in the data store. Perform an Advice Transfer Examine the setup.log file on the FTD. ☞ Has the host received any Advices during the Advice Transfer?	Yes: Case failed No: Step 2	
2.	☞ If the terminal supports manual Advice Transfer request, does the terminal indicate that the Advice Transfer failed?	Yes: Step 3 No: Case failed.	
3.	Select the FTD script denoted **AdviceTransfer_12b** (Action Code in the range 8000 - 8005). Make sure PSAM personalization=**No**, i.e. no updates to the PSAM.	Step 4	
4.	☞ Does the terminal support automatic Advice Transfer retry?	Yes: Step 6 No: Step 5.	
5.	☞ Does the terminal support manual Advice Transfer retry?	Yes: Step 7 No: Case failed.	
6.	Activate / wait for the system to perform an automatic Advice Transfer retry. Examine the setup.log on the FTD. ☞ Does the log file contain 3 advices received during the Advice Transfer?	Yes: Case OK No: Case failed.	
7.	Activate a manual Advice Transfer retry. Examine the setup.log on the FTD. ☞ Does the log file contain 3 advices received during the Advice Transfer?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 2.13 - Advice Transfer 13: Check priority for sending Advices

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: Advice Transfer	Conditions: NOT [OnlineOnly] AND NOT [Off-lineOnly]
Requirements tested: 2-5.16.2.5 The terminal shall send advices in specified sequence.	
Purpose: To verify that the terminal: ⬥ Terminal can send advices in the specified prioritized sequence.	
Prerequisites: The Data Store shall be empty. *FTD script:* AdviceTransfer_13 Normal *Card(s):*ICC005 *PSAM:* PSAM002	
Test environment: *FTD Host:* X *IFS:* *Kopi:*	
General pass criteria: The terminal shall be able to send advices in the following prioritized order: ⬥ File 1 (some Reversal Advices (0426), Cancellation) ⬥ File 2 (Financial Advices (0226)) ⬥ File 3 (Authorization/Reversal Advices (0126/0426, no host response)) ⬥ File 4 file (Administrative Advices (0624))	

Comments: The test is based on the assumption that any UPT tested uses the access to the Reference STAN, as supported from PSAM 61.x and onwards, i.e. the STAN printed in line TR6 on the receipt is the initial STAN (from the request).

Comments: The floor limit of the ICC005 is DKK 100,00. The card will allow for off-line transactions if the amount is below the floor limit, but will go online, if the amount is above the floor limit.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **Normal** in the folder **Normal** with updates disabled i.e. PSAM Personalization = No. Perform an Advice Transfer. (to empty the Data Store)	Step 2.	
2.	Select the FTD script **AdviceTransfer_13** with updates disabled i.e. PSAM Personalization = No. (This will set the Advice Window size = 0000 and Action Code = Rejected).	Step 3	
3.	Perform a transaction using **ICC005** and amount < floor limit, as an offline transaction. (This will generate a Financial Advice in the Data Store). If the terminal is a UPT, select that a receipt is to be printed. Record the **STAN** from the transaction, taken from the receipt. Record the value of the **STAN**, in subsequent test steps, referred to as **X**.	Step 4	

Step	Actions and assessment	Result	Verdict
4.	Generate an Authorization Advice in the Data Store. Insert the card in the card reader and remove it after approximately 3 seconds.	Step 5	
5.	Use **ICC005** with an amount > floor limit, and perform a transaction. (This will cause the terminal to go online. The host will reject the transaction. This will generate a Reversal Advice in the Data Store.)	Step 6	
6.	Repeat **Step 3 through 5** but and write down of the **STAN'**s. (This will generate a set more of data)	Step 7	
7.	Select the FTD script **Normal** with PSAM personalization set to "**No**". Perform an Advice Transfer.	Step 8	
8.	Analyze the setup.log file on the FTD. Look at the **Advices** sent to the FTD host. ☞ Is the 1'st Advice conveyed to the host a **Financial Advice** from the first run of Step 3? ☞ Is the 2'nd Advice conveyed to the host a **Financial Advice** from the rerun of Step 3 (Step 6)? ☞ Is the 3'rd Advice conveyed to the host an **Authorization Advice** from the first run of Step 4? ☞ Is the 4'th Advice conveyed to the host a **Reversal Advice** from the first run of Step 3? ☞ Is the 5'th Advice conveyed to the host an **Authorization Advice** from the rerun of Step 4 (step 6)? ☞ Is the 6'th Advice conveyed to the host a **Reversal Advice** from the rerun of Step4 (Step 6)? ☞ Are any following Advices in the log **Administrative Advices** (Service records) with **STAN**'s < **X**? (the STAN of the Advices is lower than the value X)	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 2.14 - Advice Transfer 14: Check priority for sending Advices - Extended

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Advice Transfer	**Conditions:** NOT [OnlineOnly] AND NOT [Off-lineOnly]

Requirements tested:

2-5.16.2.5	The terminal shall send advices in specified sequence.
2.5.15.3.1	The terminal shall "mark" an advice as a repeat.
2-5.16.8.3	Resend two times before moving on.
2-5-16.8.7	If moved to File-5 a warning shall be issued.

Purpose:
To verify that the terminal:

⬥ does send advices in the specified prioritized sequence,

⬥ reacts correctly if Advices are not accepted by the host,

⬥ "mark" an Advice as repeat if not accepted by host.

⬥ warns if advices are moved to File-5.

Prerequisites:
The Data Store shall be empty

FTD script: AdviceTransfer_14a　　　*Card(s):*ICC005　　　*PSAM:* PSAM002
　　　　AdviceTransfer_14b

Test environment:

FTD Host: X　　　　　　　*IFS:*　　　　　　*Kopi:*

General pass criteria:
The terminal shall be able to send advices in the following prioritized order:

⬥ Priority 1 file (Reversal Advices (0426), only at Cancellation)

⬥ Priority 2 file (Financial Advices (0226))

⬥ Priority 3 file (Authorization/Reversal Advices (0126/0426))

⬥ Priority 4 file (Administrative Advices (0624))

Comments: The test is based on the terminals uses the access to the Reference STAN, as supported from PSAM 61.x and onwards, i.e. the STAN printed on line TR6 on the receipt is always the initial STAN (from the request).

Comments: The floor limit of the ICC005 is DKK 100,00 on the FTD. The card will allow for offline transactions if the amount is below the floor limit, but will go on-line, if the amount is above the floor limit.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **Normal** in the folder **Normal** with updates disabled i.e. PSAM Personalization = No**.** Perform an Advice Transfer (to empty the Data Store).	 Step 2	
2.	Select the FTD script **AdviceTransfer_14a** with "PSAM personalization=No". (This will set the Advice Window size = 0000 and Action Code = Rejected).	 Step 3	

Step	Actions and assessment	Result	Verdict
3.	If the terminal is a UPT, select that a receipt is to be printed. Perform a transaction using **ICC005** and amount < floor limit as an offline transaction. (This will generate a transaction in the Data Store). Record the **STAN** from the transaction, taken from the receipt. It is in subsequent tests steps, referred to as **X**.	Step 4	
4.	Generate an Authorization Advice in the Data Store. Use **ICC005** and an amount < floor limit. **Either** cancel the transaction before entering the PIN, **or** insert the card in the card reader and re-move it after approximately 3 seconds.(This will generate an Authorization Advice).	Step 5	
5.	Generate a a Reversal Advice in the Data Store. Use **ICC005** with an amount > floor limit, to per-form a transaction. (This will cause the terminal to go online, and the host will reject the transac-tion).	Step 6	
6.	Repeat **Step 3 through 5** but ignore the writ-ing down of the **STAN**. (This will generate a set more of data)	Step 7	
7.	Select the FTD script **AdviceTransfer_14b** with PSAM personalization set to "**No**". (This script will cause the FTD host to reject the 2'nd and following Financial Advices). Perform an Advice Transfer.	Step 8	
8.	Look at the **Advices** sent to the FTD host. ✍ Is the 1'st Advice conveyed to the host a **Financial Advice** with **STAN** = **X**? ✍ Is the 2'nd Advice conveyed to the host a **Financial Advice** with **STAN** = **X** + 4? ✍ Are the 3'rd And 4'th Advice conveyed to the host **Financial Advice** with **STAN** = **X+**4? ✍ Is the 5'th Advice conveyed to the host a **Authorization Advice** with **STAN** = **X** + 5? ✍ Is the 6'th. Advice conveyed to the host a **Reversal Advice** with **STAN** = **X** + 7? ✍ Are any following Advices in the log **Admin-istrative Advices** (Service records) with **STAN**'s < **X**? (the STAN of the Advices is lower than the value X) ✍ Look at the **Financial Advices** in the de-tailed log. Are the **Financial Advices** (ad-vice no. 2,3 and 4 marked as **repeats** (**MTI** = **30 32 32 37**)?	Yes: Step 4 No: Case failed	
9.	✍ If the terminal is an attended version, does the terminal issue a warning, that data has been moved to File-5?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 2.15 - Advice Transfer 15: PSAM Updates

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: Advice Transfer	Conditions:

Requirements tested:

2-5.13.3.13   After PSAM Updates, the terminal shall send *Create Service Record*.
2-5.16.4.2   If the ASW1-ASW2 indicates `PSAM busy', the terminal shall resend the updates.

Purpose:
To verify that the terminal resend the updates if ASW1-ASW2 = `1151' or `115A'.
In all other cases the updates shall be discarded/deleted.

Prerequisites:
Access to a line monitor on the PSAM interface
The **special test PSAM** is installed in the terminal

FTD script: AdviceTransfer_15a   *Card(s):* N/A   *PSAM:* PSAM004
          AdviceTransfer_15b
          AdviceTransfer_15c
          Normal

Test environment:

Line monitor is to be used in order to monitor the PSAM interface.

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
It is demonstrated that the terminal re-sends the updates when the ASW1-ASW2 value are either `1151' (PSAM busy - Try later) or `115A' (PSAM busy - Active threads). All other values of the ASW1-ASW2 (e.g. `1121') shall result in a discarding of the updates. The host sends only one PSAM Update (update of the date):

[Update Tag 0024]
*   PSAM date
Tag = 0024
YY = 11
MM = 01
DD = 01

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **AdviceTransfer_15a**. (ASW1-ASW2 = `1151' is returned by the PSAM when trying to update the PSAM. Perform an Advice Transfer) make sure that updates are enabled, PSAM Personalization = **Yes**). Engage the Line monitor. Restart/open the terminal ☞ Does the terminal resend the PSAM Update (.. ..B4 48.. ..)?	Yes: Step 2 No: Case failed.	
2.	☞ Does the terminal send a *Create Service Record* command (.. ..B0 76.. ..)?	Yes: Step 3 No: Case failed.	

Step	Actions and assessment	Result	Verdict
3.	Select the FTD host script denoted **AdviceTransfer_15b**. ASW1-ASW2 = `115A' is returned by the PSAM when trying to update the PSAM. Perform an Advice Transfer (make sure that updates are enabled, PSAM Personalization = Yes). Engage the Line monitor. Restart/open the terminal ☞ Does the terminal resend the PSAM Update (.. ..B4 48.. ..)?	Yes: Step 4 No: Case failed.	
4.	☞ Does the terminal send a *Create Service Record* command (.. ..B0 76.. ..)?	Yes: Step 5 No: Case failed.	
5.	Select the FTD host script denoted **AdviceTransfer_15c**. ASW1-ASW2 = `1121' is returned by the PSAM when trying to update the PSAM. Perform an Advice Transfer (make sure that updates are enabled, PSAM Personalization = Yes). Engage the Line monitor. Restart/open the terminal ☞ Does the terminal resend the PSAM Update (.. ..B4 48.. ..)?	Yes: Case failed No: Step 6.	
6.	☞ Does the terminal send a *Create Service Record* command (.. ..B0 76.. ..)?	Yes: Step 7 No: Case failed.	
7.	Select the FTD host script **Normal** and make sure updates are enabled (PSAM personalisation = Yes) Perform an Advice Transfer in order to re-initialize the PSAM	Case OK	
-	End of test case		

Example (Step 1 & 2):

B4 48 indicates a *PSAM Update* (plaintext) command.

00 24 indicates tag 00 24 (update of the date)

11 51 (ASW1-ASW2 = PSAM busy - Try later)

It is shown that the same PSAM Update command is send twice.

An *Create Service Record* command (.. B0 76 ..) is issued after the PSAM Updates.

....

Terminal −−> PSAM (PSAM Update)
*00 00 16 **B4 48** 81 11 10 04 11 **00 24** 03 05 02 14*
BD 4C 53 AE D6 4D 85 21 00 78

PSAM −−> Terminal
*00 00 0C 01 00 00 01 FF 04 00 04 **11 51** 90 00 23*

Terminal −−> PSAM (PSAM Update)
*00 40 16 **B4 48** 81 11 10 04 11 **00 24** 03 05 02 14*
BD 4C 53 AE D6 4D 85 21 00 38

PSAM −−> Terminal
*00 40 0C 01 00 00 01 FF 04 00 04 **00 00** 90 00 23*

....

Terminal −−> PSAM (Create Service Record)
*00 00 07 **B0 76** 81 11 01 04 00 54*

PSAM −−> Terminal
00 00 F1 05 00 00 01 92 04 00 E7 00 04 00 00 E2
41 36 30 31 E0 44 C0 02 00 90 C1 04 30 36 32 34
(continues).......

Test Case 2.16 - Advice Transfer_16: Aborted Advice transfer

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments: >>>>>> **This test is obsolete** <<<<<<	

Test group: Advice Transfer	**Conditions:** NOT [OnlineOnly]

Requirements tested:

6.16.3.10   MAD-handler shall calculate the check value on the fly by using the Random number....

Purpose:
To verify that the terminal is able to on the fly to delete Advices in the Data Store during en Advice Transfer and handle the reversal of the order of the responses from the Host.

Prerequisites: .

FTD script: AdviceTransfer_16a   *Card(s):* ICC005   *PSAM:* PSAM002
     AdviceTransfer_16b

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
It is demonstrated that if an **Advice Transfer** is aborted the terminal will not re-send the **Advices** which was already confirmed by the host. The terminal shall on the fly delete **Advices** in the Data store when it receives the Advice response from the host. The important issue is, that no transactions are lost during the transfer.

Comments: Consult the terminal supplier on how to 'unlock' the terminal and how to 'recover' from the Data Store. Se Attachment L of the OTRS for further details. Faulty terminals may lock up during this test.

Comments: Consult the terminal supplier on the 'Transmit Window Size' of the terminal. i,e, how many transactions the terminal will send, before halting, waiting for the acknowledge of the first transaction. Record the window size (n).

Step	Actions and assessment	Result	Verdict
1.	Does the terminal have a Transmit Window Size > 1?	Yes: Step 2 No: Not Applicable	
2.	Start FTD script "**AdviceTransfer_16a**" with PSAM personalization set to "**No**". Perform an Advice Transfer (to empty the Data Store) Stop and start the FTD to flush the log file. Generate Advices in the Data Store of the terminal. This may be achieved in a number of ways; ♦ If the terminal support off-line transactions, perform an off-line transaction using **ICC005** and an amount below floor limit. (This will generate a Financial Advice in the Data Store) ♦ If the terminal supports PIN or requires confirmation of the amount, start a transaction and cancel the transaction when the PIN is requested / the amount shall be confirmed. (This will generate an Authorisation Advice in the Data Store). ♦ If the terminal is a UPT2, insert the ICC in the card reader, and remove it again after approximately 3 seconds. (This will generate an Authorisation Advice in the Data Store). Repeat the activity **n** times, to generate the n advices in the data store. If **n** >10 limit the repeats to 10.	Step 3	
3.	Perform an **Advice Transfer** and switch to the FTD **Setup** log. Wait until the **Advice Transfer** is completed (fails). ☞ Has up to **n Financial** or **Authorisation Advices** been received by the FTD? (only 5 has got a response but up to **n** should have been received. The Terminal may send repeats of some of the advices.)?	Yes: Step 4 No: Case failed.	
4.	Start FTD script "**AdviceTransfer_16b**" with PSAM personalization set to "**No**". Perform an **Advice Transfer** and switch to the FTD **Setup** log. ☞ Has the last **Authorisation** or **Financial Advices** all been received as the **only** Advices (There may be repeats of some of the transfers)? ☞ Does the two consecutive Advice Transfer actions ensure that **all** of the advices are transmitted to the Host, either in the first, or in the second transfer?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 2.17 - Advice Transfer 17: Updates sent in correct order

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Advice Transfer	**Conditions:** NOT [OfflineOnly]

Requirements tested:

2-5.13.3.8   The terminal must forward each available command APDU to the PSAM(s) in the order they were received regardless of the response received to any of the preceding update commands.

2-5.3.13.3.9 Each command APDU must be forwarded to the PSAM Handler in an "ICC Command"

Purpose:
To verify that the terminal is able to send updates to the PSAM in the order they are received.

Prerequisites:

FTD script: AdviceTransfer_17   *Card(s):* ICC001   *PSAM:* PSAM002
    Normal

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
It is demonstrated that the terminal sends all updates to the PSAM in exact same order as they are received and that any response (ASW) from the PSAM on preceding update commands does not change this order.

Comments: If a **pop-up windows** occurs on FTD host showing "Error in Service Record" be ready to **press OK** (if not done quickly it can cause the FTD host to crash as the input buffer will be exceeded).

Step	Actions and assessment	Result	Verdict
1.	Start FTD script **AdviceTransfer_17** with updates enabled i.e. PSAM Personalization = Yes**.** Perform an **Advice Transfer**. Use **ICC001** to perform an ICC transaction. Use an amount < floor-limit (e.g. 10.00 DKK in KOPI / 100.00 DKK in FTD). (If the terminal has forwarded the updates to the PSAM in correct order, the transaction shall be rejected as the terminal does not support any CVM.) If a **pop-up windows** occurs on FTD host showing "Error in Service Record" be ready to **press OK** (if not done quickly it can cause the FTD host to crash as the input buffer will be exceeded). Three Service Records returning ASW1-ASW2 = `1155' (Entry number out of range) are to be expected. ☞ Is the transaction rejected?	Yes: Step 2 No: Case failed	

Step	Actions and assessment	Result	Verdict
2.	Use **ICC001** to perform a MSC transaction (if a combined reader put a piece of tape on the ICC contacts). Use an amount < floor-limit (e.g. 10.00 DKK in KOPI / 100.00 DKK in FTD). If the terminal has sent the updates to the PSAM in correct order the transaction will be approved/rejected as no check on Service Code will be performed. If a **pop-up windows** occurs on FTD host showing "Error in Service Record" be ready to **press OK** (if not done quickly it can cause the FTD host to crash as the input buffer will be exceeded). Three Service Records returning ASW1-ASW2 = `1155' (Entry number out of range) are to be expected.    ☞ <u>For terminals supporting "No CVM":</u> Is the transaction approved as a normal MSC transaction?    ☞ <u>For terminals **not** supporting "No CVM" (e.g. Cash & Quasi-Cash):</u> Is the MSC transaction rejected (ASW1-ASW2 = `1205' (Service not supported))?	Yes: Step 3 No: Case failed	
3.	☞ Is a receipt printed?	Yes: Step 4 No: Step 5.	
4.	☞ Is the Transaction Condition Code (TCC) on the receipt indicating "Dxx" (Magnetic stripe Track2) and **not** "Exx" (Magnetic stripe Track2 as fallback for ICC)?	Yes: Step 5 No: Case failed	
5.	For terminals supporting "No CVM": Analyze the log file on the FTD. ☞ Is the position 3 in POS entry mode, field 22, in the Financial Request "xx2xx" and **not** "xx7xx" (It shall not be marked as a fallback transaction)? For terminals **not** supporting "No CVM" (e.g. Cash & Quasi-Cash): Perform an Advice Transfer in order to retrieve the Authorization Advice. Analyze the log file on the FTD ☞ Is the position 3 in POS entry mode, field 22, in the Authorization Advice "xx2xx" and **not** "xx7xx" (It shall not be marked as a fallback transaction)?	Yes: Case OK No: Case failed	
6.	Select the FTD host script **Normal** in the folder **Normal** and make sure updates are enabled (PSAM personalization = Yes). Perform an Advice Transfer in order to re-initialize the PSAM	Case OK	
-	End of test case		

Test Case 2.18 - Advice Transfer 18: Advice Forwarding

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments: >>>>>> This test is obsolete <<<<<<	

Test group: Advice Transfer	**Conditions:** NOT [OfflineOnly] AND NOT [OnlineOnly] AND [AdviceForwarding]

Requirements tested:

6.16.3.3	If the terminal is capable of performing online requests, either Advice Enclosing or Advice Forwarding shall be supported.
6.16.6.1	In case of Advice Forwarding, the Advice Transfer Request (Message Type Identifier = 0804) shall be omitted.
6.16.6.2	Advice Forwarding shall be performed as a `background job' not delaying, disturbing or preventing any transactions.
6.16.6.3	If the terminal receives any message including the data element Advice Window Size with the value 001 or greater, the terminal shall set the Terminal Advice Window Size to 001.
6.16.6.4	If an Advice Forwarding procedure fails, the terminal shall wait at least 15 minutes before initiating a new Advice Forwarding procedure.

Purpose:
To verify that if the terminal supports Advice Forwarding, the terminal is handling the Advice Forwarding correct.

Prerequisites:
The terminal vendor shall explain how the Advice Forwarding is initiated.

FTD script: AdviceTransfer_18   *Card(s):*ICC005   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
It is demonstrated that Advice Forwarding is handled correct. When initiating the Advice Forwarding, the following applies:

- Three Authorisation / Financial Advices are present in the Data Store.

- **First Advice Forwarding:** The Advice Window Size = 10 in the first Advice response (check that only *one* Advice is forwarded).

- **Second Advice Forwarding:** Advice Forwarding fails (AC = 8020). Check that a new Advice Forwarding is *not* initiated within the next 15 minuttes.

Step	Actions and assessment	Result	Ver-dict
1.	Select FTD script **AdviceTransfer_18**. Make sure that updates are disabled i.e. PSAM Personalization = No. Generate Advices in the Data Store of the terminal. This may be achieved in a number of ways; ♦ If the terminal support off-line transactions, perform an off-line transaction using **ICC005** and an amount below floor limit.(This will generate a Financial Advice in the Data Store) ♦ If the terminal supports PIN or requires confirmation of the amount, start a transaction using **ICC005** and cancel the transaction when the PIN is requested / the amount shall be confirmed. (This will generate an Authorisation Advice in the Data Store). ♦ If the terminal is a CAT2, insert **ICC005** in the card reader, and remove it again after approximately 3 seconds. (This will generate an Authorisation Advice in the Data Store). Repeat the activity 3 times, to generate the 3 advices in the data store. Initiate Advice Forwarding in the Terminal according to the guidelines given by the terminal supplier. Examine the setup.log file on the FTD. ☞ Is only *one* Advice forwarded to the host?	Yes: Step 2 No: Case failed.	
2.	Initiate Advice Forwarding according to the guidelines given by the terminal supplier. ☞ Does the terminal initiate a new Advice Forwarding immediately after the first? **Note:** It shall at least wait 15 minuttes according to requirement 6.16.6.4.	Yes: Case failed No: Case OK.	
-	End of test case		

Test Case 2.19 - Advice Transfer 19: Check Advice Window Size - Few
data

Test date:	Init:
Problem Report (if any):	Test case result:
Comments: >>>>>> This test is obsolete <<<<<<	

Test group: Advice Transfer	Conditions: [NOT[Offline only] AND [AdviceEn-closing] AND [AdviceWindow]

Requirements tested:

6.16.3.11	Control number of outstanding Advices....
6.16.3.12	Handling of at least one outstanding Advice....
6.16.3.13	Initial Advice Window Size = 1
6.16.3.14	Advice Window Size not greater than set in APACS header
6.16.3.15	If the Advice Window Size given in the APACS header is greater than the size in the Terminal Advice Windows Size, the MAD-Handler may alter the Terminal Advice Window Size to a size not greater than the one given in the APACS header.
6.16.3.18	When number of outstanding advices reaches the Advice Window Size....
6.16.4.7	Carry on sending Advices as indicated in the Terminal Advice Window Size....
6.16.5.1	Immediately after a request the MAD handler shall sent the number of Advices....
6.16.5.2	The MAD handler shall carry on sending Advices after Advice Responses received....
6.16.5.3	Communication line maintained after response to request received....

Purpose:
To verify that the terminal:

- ♦ Terminal starts sending Advices immediately after the Authorization Request has been sent.
- ♦ Terminal can handle at least one outstanding Advice.
- ♦ Terminal can control having at least 2 outstanding Advices.
- ♦ Terminal can handle if Advice Window Size changes during sending of Advices.
- ♦ Terminal can handle if the Advice responses order has been interleaved.
- ♦ Terminal can handle if Auth. Request response is received before last Advice re-sponse.

Prerequisites:
The Data Store shall be empty.

FTD script: AdviceTransfer_19 Normal	*Card(s):* ICC005	*PSAM:* PSAM002

Test environment:

FTD Host: X	*IFS:*	*Kopi:*

General pass criteria:
The terminal shall be able to handle at least 5 outstanding Advices and be able to adapt to the Advice Window Size "on the fly" and be able to accept that the request response is received before the responses to all outstanding Advices are received. The terminal shall also accept that the responses to the outstanding advices are re-ceived in a mixed order.

> **Comments:** The "Terminal Window Size" is the number of transaction the terminal can have outstanding. Once the number of outstanding (non replied) transactions reaches the limit, the terminals will cease to send new packet. It may instead start to retransmitting outstanding packets.
>
> **Comments:** This test is performed on a subset of Advice Transfer 05, but with less data, verifying Terminal with a smaller "Terminal Window Size"

Step	Actions and assessment	Result	Verdict
1.	☜ Does the terminal support a 'Terminal Window Size' > = '5'?	Yes: Step 2 No: Not Applicable	
2.	Start FTD script "**Normal**" with PSAM personalization set to "**No**". (To empty data store). Perform an Advice Transfer Start FTD script "**AdviceTransfer_19**" with PSAM personalization set to "**No**". Generate Advices in the Data Store of the terminal. This may be achieved in a number of ways; ♦ If the terminal support off-line transactions, perform an off-line transaction using **ICC005** and an amount below floor limit.(This will generate a Financial Advice in the Data Store) ♦ If the terminal supports PIN or requires confirmation of the amount, start a transaction using **ICC005** and cancel the transaction when the PIN is requested / the amount shall be confirmed. (This will generate an Authorisation Advice in the Data Store). ♦ If the terminal is a UPT2, insert **ICC005** in the card reader, and remove it again after approximately 3 seconds. (This will generate an Authorisation Advice in the Data Store). Repeat the activity 5 times, to generate the 5 advices in the data store.	Step 3	
3.	Use **ICC005** to perform an Online request (Authorization request, amount > 100,00 DKK). ☜ Is the transaction successful?	Yes: Step 4 No: Case failed	
4.	Start to analyze the log file from the FTD. Letters in '[' ']' refer to the figure below. ☜ Is the first transfer the Authorization Request [A]? ☜ Is one and only one Advice [B] transferred to the host before the host sends the first Advice Response [C]?	Yes: Step 5 No: Case failed	
5.	☜ Is one and only one Advice [D] transferred to the host before the host sends the second Advice Response [E]?	Yes: Step 6 No: Case failed	
6.	☜ Are at most two Advices [F], [H] transferred to the host before the host sends the third Advice Response [G] (delayed response no. **2**)?	Yes: Step 7 No: Case failed	
7.	☜ Are the remaining Advices [H] or [H] and [J] transferred to the host before the host sends fourth Advice Response [K] (delayed response no. **4**)?	Yes: Step 8 No: Case failed	

Step	Actions and assessment	Result	Verdict
8.	☞ Is one and only one Advice conveyed to the host before the host sends the Advice response no. 8 (delayed response no. **7**)?	Yes: Step 9 No: Case failed	
9.	☞ Are 2 Advices conveyed to the host before the host sends the Authorization request response ?	Yes: Step 10 No: Case failed	
10.	☞ Does the terminal hold the communication line until the Authorisation Request Response (delayed response no. **1**) and the fifth Advice Response [M] (delayed response no. **3**) has been received?	Yes: Step 11 No: Case failed	
11.	Perform an Advice Transfer using the "**Normal**" FTD script with PSAM personalization set to "**No**". ☞ Does the log from the terminal contain one and only one Financial Advice (the one which was the result of the Authorization request, and containing the reference STAN)?	Yes: Case OK No: Case failed	
-	End of test case		
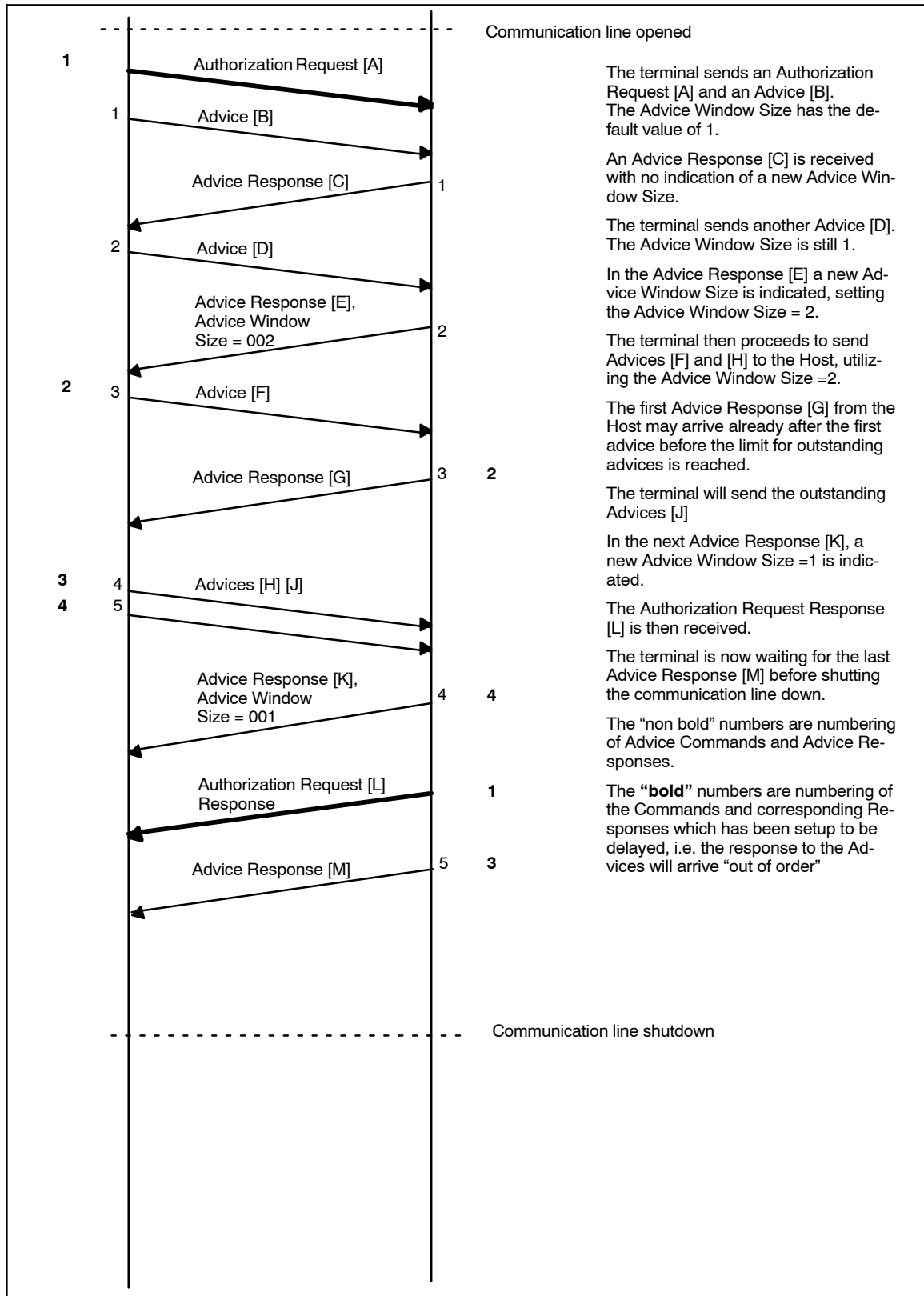
Figure 4.5 - Communication flow for test case 2.19

Test Case 2.20 - Advice Transfer 20: Handle Transaction Interleaving

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments: >>>>>> This test is obsolete <<<<<<	

Test group: Advice Transfer	**Conditions:** [NOT[Offline only] AND [AdviceEn-closing]

Requirements tested:

6.16.3.11   Control number of outstanding Advices....
6.16.3.12   Handling of at least one outstanding Advice....
6.16.3.13   Initial Advice Window Size = 1
6.16.5.3   Communication line maintained after response to advice request re-ceived....

Purpose:
To verify that the terminal:

⬥ Terminal starts sending Advices immedeately after the Authorization Request has been sent.

⬥ Terminal can handle at least one outstanding Advice.

⬥ Terminal can handle if Auth. Request response is received before last Advice re-sponse.

Prerequisites:
The Data Store shall be empty.

FTD script: AdviceTransfer_20   *Card(s):*ICC005   *PSAM:* PSAM002
   Normal

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
The terminal shall be to accept that the response to the Financial Advice is received before the response to the Authorisation request.

Comments: The "Terminal Window Size" is the number of transaction responses the terminal can have outstanding. Once the number of outstanding (non replied) transactions reaches the limit, the terminals will cease to send new packet. It may instead start to retransmitting packets hasn't received responses to.

Step	Actions and assessment	Result	Verdict
1.	☝ Does the terminal support a 'Terminal Win-dow Size' > = '2'?	Yes: Step 2 No: Not Applic-able	
2.	Start FTD script "**Normal**" with PSAM personal-ization set to "**No**". (To empty data store). Perform an Advice Transfer Start FTD script "**AdviceTransfer_20**" with PSAM personalization set to "**No**".	Step 3	
3.	Use **ICC005** to perform an Online Purchase Transaction (Amount > 100,00 DKK). ☝ Is the Transaction successfull?	Yes: Step 4 No: Case failed	
4.	Start to analyse the log file on the FTD. ☝ Is the terminal holding the line until the re-sponse to the Authorisation Request has been received?	Yes: Step 5 No: Case failed	

Step	Actions and assessment	Result	Verdict
5.	Perform an Advice Transfer using the "**Normal**" FTD script with PSAM personalization set to "**No**". Perform an Advice Transfer	Case OK	
-	End of test case		

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4.3 Fallback

Test Case 3.1 - Fallback 01: Application Blocked - Fallback not allowed

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group:	Conditions:
Requirements tested: 1-14.3.5.14　(Step 2) Name of application to be displayed. 2-4.15.2.3　　Initialize fallback after three failed attempts of reading the chip. 2-4.15.2.4　　(Step 5) Figure 2-4.5 - Any matching D/C applications blocked -> No fallback.	
Purpose: To verify that if any of the mutual supported applications are blocked, succeeding fallback is not allowed.	
Prerequisites: Card containing one blocked application (Dankort) and one non-blocked application (Visa), both supported by the terminal/PSAM. Mandatory data is missing in the Visa application).	
FTD script: N/A　　　　　　　*Card(s):*ICC006　　　*PSAM:* PSAM002	
Test environment:	
FTD Host: X　　　　　　　　*IFS:*　　　　　　　*Kopi:*	
General pass criteria: It is demonstrated that the terminal detects that one of the mutual supported applications is blocked (Dankort). Furthermore, when a transaction (using the Visa application) fails, the terminal shall *not* initiate a fallback transaction.	

Comments: This test case shall never reach a state where transfer of information to the host is activated. There is thus no need to activate an FTD (host simulator) script.

Step	Actions and assessment	Result	Verdict
1.	Insert the **ICC006** ☞ Is the blocked application (Dankort) displayed/selected?	Yes: Case failed No: Step 2	
2.	☞ Is the "active" application (Visa) displayed at the cardholder display?	Yes: Step 3 No: Case failed	
3.	☞ Is the transaction terminated displaying message `0F' "Processing Error"?	Yes: Step 4 No: Case failed	
4.	☞ Is the ASW1-ASW2 value (if present) equal to `1169' (Mandatory Data missing 2)?	Yes: Step 5 No: Case failed	
5.	☞ Does the terminal initiate a fallback transaction?	Yes: Case failed No: Case OK	
-	End of test case		

Test Case 3.2 - Fallback 02: Cancellation before Complete - Fallback not allowed

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: Fallback	Conditions:

Requirements tested:
2-4.15.2.5　　(Step 4) Not initiate fallback if the transaction is cancelled before completion.
2-4.8.1.17　　(Step 3) Display message interrupted.

Purpose: To verify that if the cardholder (or merchant) cancel the transaction before completion, succeeding fallback is not allowed. Furthermore, the cardholder display shall display Message Code `E7' ("Purchase interrupted").

Prerequisites:

FTD script: Fallback_02　　　　　　*Card(s):*ICC001　　　*PSAM:* PSAM002

Test environment:

FTD Host: X　　　　　　　　　　*IFS:*　　　　　　　　*Kopi:*

General pass criteria: It is demonstrated that the terminal does not initiate fallback when the cardholder cancel the transaction before or after PIN entry. It is also tested that a correct display text is displayed at both displays.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **Fallback_02**. with updates enabled i.e. "PSAM Personalization = No"	Step 2.	
2.	Insert the **ICC001** Enter amount	Step 3	
3.	If the terminal supports PIN, Enter the PIN Press the "Cancel" key. ✍ Does the terminal display "Purchase interrupted" (on the Cardholder display and, if the terminal is n0t an UPT, on the Merchant display as well)?	Yes: Step 4 No: Case failed	
4.	✍ Is fallback initiated (i.e. the message "Use MSC" displayed)?	Yes: Case failed No: Case OK	
-	End of test case		

Test Case 3.3 - Fallback 03: Fallback - General

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Fallback	**Conditions:** NOT[UPT] AND NOT [Combined reader]

Requirements tested:
2-4.15.2.9   (step 4) POS Entry Mode, position 3 ="7".
2-4.15.2.6   (step 2) Physical confirmation.
2-4.15.3.1   (step 4) ASW1-ASW2 = `1222'.

Purpose: To verify that the terminal handles the fallback procedure correct concerning merchant information, POS Entry Mode setting and ASW value.

Prerequisites:
FTD script: Fallback_03   *Card(s):*ICC011   *PSAM:* PSAM002

Test environment:
FTD Host: X   *IFS:*   *Kopi:*

General pass criteria: To verify that the terminal:
⬥ When applicable, will prompt the merchant physically to confirm that the ICC is inserted correctly.
⬥ Shall indicate in the POS Entry Mode (position 3 = 7) if a fallback transaction is initiated,
⬥ Will initiate a fallback transaction if ASW1-ASW2 = `1222' (Service Code; ICC to be used) is returned in response to the Initiate MSC Payment command and the ICC reader has already been tried.

Comments: The behavior of the terminal may deviate from the expected, if the terminal supports the new enhanced card error scheme with 3 retries for user handling errors.

Comments: The test card used generates a valid 'Answer To Reset'. The terminal has thus detected that the card is correctly inserted.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD script **Fallback_03** with PSAM personalization set to "**No**". Perform an Advice Transfer.	Step 2	
2.	Insert the **ICC011** ☞ If the Terminal **is** a SUT or a UPT, is the display requesting/querying to use MSC? ☞ If the Terminal **isn't** a SUT or UPT , is the merchant display requesting/querying to use MSC? Accept to perform fallback. Note that a receipt is *not* printed!	Yes: Step 3 No: Case failed	
3.	☞ Is the terminal an Offline only terminal?	Yes: Case OK No: Step 4	

Step	Actions and assessment	Result	Verdict
4.	Perform the fallback magstripe transaction with the <u>same</u> card. Examine the Financial Request in the FTD log, check that the STAN match the receipt. ☞ Is field 22 (POS Entry Mode) = XX7XXX, where position 3 = 7 indicates that the transaction is fallback?	Yes: Step 5 No: Case failed	
5.	Perform an Advice Transfer and examine the Authorization Advice, field 46, Tag TK (ASW) captured by FTD host: ☞ Is the value equal to `1222'?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 3.4 - Fallback 04: Fallback - Service Code 2xx or 6xx

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Fallback	**Conditions:** NOT [CombinedReader]

Requirements tested:
2-4.15.2.1   (step 1) Always attempt to perform the transaction first with the ICC.
2-4.15.2.2   (step 1) Instruct to use ICC if Service Code 2xx or 6xx.

Purpose: To verify that the terminal prompt the cardholder to use the ICC first when the magstripe contains a Service Code = 2xx or 6xx.

Prerequisites:		
FTD script: N.A.	*Card(s):*ICC001	*PSAM:* PSAM002

Test environment:		
FTD Host: X	*IFS:*	*Kopi:*

General pass criteria: It is demonstrated that if the magstripe card of the contains a Service Code of 201 is swiped, the terminal prom ts the cardholder to use the ICC first.

Step	Actions and assessment	Result	Verdict
1.	Swipe the **ICC001** in the MSC reader ☞ Does the terminal prompt the Cardholder to use the ICC?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 3.5 - Fallback 05: Fallback - ASW `10FC'

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments: This test case uses the special Test PSAM !!	

Test group: Fallback	**Conditions:** [UPT] AND [Combined Reader]
Requirements tested: 2-4.15.3.3 ASW1-ASW2 = `10FB', `10FC' and `10FD' shall all mean Fallback.	
Purpose: To verify that the terminal handles all 3 defined ASWs for fallback identically.	
Prerequisites: *FTD script:* Fallback_05 *Card(s):*ICC004 *PSAM:* PSAM004 Normal	
Test environment: *FTD Host:* X *IFS:* *Kopi:*	
General pass criteria: To verify that the terminal: ♦ initiates a fallback transaction if ASW1-ASW2 = `1222' (Service Code; ICC to be used) is returned in response to the Initiate MSC Payment command and the ICC reader has already been tried. ♦ indicates in the POS Entry Mode (position 3 = 7) if a fallback transaction is initiated,	

Comments: It is expected that the Card Reader on an UPT will be a combined reader to limit cardholder handling problems.
Comments: The behavior of the terminal may deviate from the expected, if the terminal supports the new enhanced card error scheme with 3 retries for user handling errors.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **Fallback_05** (make sure that updates **are** enabled i.e. PSAM Personalization = **Yes**). Perform an Advice Transfer to update PSAM parameters.	Step 2	
2.	Insert the **ICC004** If the Card Reader read the magstripe when the card is inserted, skip to next step. ☞ If the card reader reads the magnetic stripe when removing the card, does the display show "Please remove card"?	Yes: Step 3 No: Case failed	
3.	Complete the transaction by accepting the transaction amount. Check the Financial Request in the following way: ☞ Is field 22 (POS Entry Mode) = XX7XXX, where position 3 = 7 indicates that the transaction is fallback?	Yes: Step 4 No: Case failed	
4.	Perform an Advice Transfer and examine the Authorization Advice, field 46, Tag TK (ASW) captured by FTD host: ☞ Is the value equal to `1222'?	Yes: Step 5 No: Case failed	

Step	Actions and assessment	Result	Verdict
5.	Select the FTD host script **Normal** in the folder **Normal** and make sure updates are enabled (PSAM personalisation = **Yes**) Perform an Advice Transfer in order to re-initialize the PSAM	Case OK	
-	End of test case		

Test Case 3.6 - Fallback 06: Fallback - Confirm at Combined Reader

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Fallback	**Conditions:** [Attended] AND [CombinedReader]

Requirements tested:
2-4.15.2.13   Merchant shall confirm fallback at combined reader.

Purpose: To verify that the terminal will request the Merchant to confirm that fallback may be initiated.

Prerequisites:

FTD script: Fallback_06	Card(s):ICC004	PSAM: PSAM002

Test environment:

FTD Host: X	IFS:	Kopi:

General pass criteria: Fallback must not take place on an attended terminal without confirmation from the Merchant.

Comments: The behavior of the terminal may deviate from the expected, if the terminal supports the new enhanced card error scheme with 3 retries for user handling errors.

Step	Actions and assessment	Result	Verdict
1.	Select FTD script **Fallback_06**. Make sure that updates are disabled, i.e PSAM Personalization = "No".		
2.	Start a 'Purchase' transaction Insert **ICC004** ☞ Does the Terminal prompt the Merchant to confirm the use of fallback with a message like "Continue using magstripe?" / "Fortsæt med magnetstribe?"?	Yes: Step 3 No: Case failed	
3.	Confirm the use of fallback Complete the transaction ☞ Is the transaction completed successfully?	Yes: Step 4 No: Case failed	
4.	Analyze the POS entry mode code of the transaction. Retrieve the log file from the FTD. Find the Authorization Request in the detailed log file Select Field22 of the request. and analyze it. ☞ Is the field '107xxx?, i.e. Does the POS entry mode code show, that this is a fallback transaction?	Yes: Case OK No: Case failed	
-	End of test case		

4.4 Card Reader

Test Case 4.1 - Card Reader 01: Processor Card Reader - General

Test date:		Init:	
Problem Report (if any):		**Test case result:**	
Comments:			

Test group: Card Reader	**Conditions:** NOT [CombinedReader] AND NOT [CAP] NOT [SUT]

Requirements tested:
2-4.7.4.1　　　(step 1 & 2) Processor card present or not.
2-4.7.4.2　　　Implicit.
1-14.5.6.1　　　Transaction step, Merchant Application & CAD.
1-14.6.1.1　　　(step 2 & 4) Manipulation & fallback.

Purpose: To verify that the processor card reader detects whether the processor card is present or not.

Prerequisites:

FTD script: CardReader_01　　　　*Card(s):* ICC001　　　*PSAM:* PSAM002

Test environment:

FTD Host: X　　　　　　　　　*IFS:*　　　　　　　*Kopi:*

General pass criteria: To verify that the merchant and cardholder parts still are synchronized when an ICC is inserted incorrect, removed and inserted correct.

Comments: It is expected that the Card Reader on a CAP will be a combined reader to limit cardholder handling problems.

Comments: The behaviors of the terminal may deviate from the expected, if the terminal supports the new enhanced card error scheme with 3 retries for user handling errors.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD script **CardReader_01** with PSAM personalization set to "**No**". Perform an Advice Transfer. Start a transaction and enter amount .	Step 2	
2.	Insert the **ICC001** incorrectly (i.e. IC not to be read) and wait until the text "Card inserted correct?" appears. Then remove the **ICC001** immediately. ☞ Is the removal of the ICC detected by the terminal (i.e. the text "Card inserted correct?" is not present anymore)?	Yes: Step 4 No: Step 3	
3.	Insert the **ICC001** correct. Press "Yes" to the text "Card inserted correct?" ☞ Does the terminal offer fallback?	Yes: Case failed No: Step 4	
4.	If the **ICC001** is inserted correctly, remove and re-insert the **ICC001** incorrectly. Wait until the text "Card inserted correct?" appear. Then remove the ICC immediately. ☞ Is the removal of the ICC detected by the terminal (i.e. the text "Card inserted correct?" is not present anymore)?	Yes: Case OK No: Step 5	

Step	Actions and assessment	Result	Verdict
5.	Insert the **ICC001** correct. Press "Yes" to the text "Card inserted correct?" ✎ Does the terminal offer fallback?	Yes: Case failed No: Case OK	
-	End of test case		

Test Case 4.2 - Card Reader 02: Two Card Technologies Simultaneously

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Card Reader	**Conditions:** NOT [CombinedReader] AND NOT [SUT]
Requirements tested: 2-4.7.4.1 (step 1) Processor card present or not. 2-4.7.4.2 Implicit	
Purpose: To verify that the processor card reader detects whether the processor card is present or not. Furthermore, check that two card technologies cannot be mixed during a transaction.	
Prerequisites: *FTD script:* *Card(s):*MSC001 & *PSAM:*PSAM002 ICC001	
Test environment: *FTD Host:* X *IFS:* *Kopi:*	
General pass criteria: It is demonstrated that the terminal terminates the transaction if a magstripe card has been swiped and an ICC is inserted immediately after.	

Step	Actions and assessment	Result	Verdict
1.	Swipe the **MSC001** and insert the **ICC001** im-mediately after. ☞ Does the terminal offer the choice to select either the magstripe or the IC application?	Yes: Case failed No: Step 2	
2.	☞ Is the transaction terminated?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 4.3 - Card Reader 03: Sequence of use of Technology

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Card Reader	**Conditions:** [CombinedReader]

Requirements tested: 2-4.7.1.3　　ICC must be used before MSC

Purpose: To verify that a terminal with a combined card reader always attempts to use the ICC before probably using the MSC. This requirement must be fulfilled even if the magnetic stripe is physically read when inserting the card.

Prerequisites:		
FTD script: CardReader_03	*Card(s):* ICC002	*PSAM:* PSAM002

Test environment:		
FTD Host: X	*IFS:*	*Kopi:*

General pass criteria: The transaction must be performed with chip.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD script **CardReader_03** with PSAM personalization set to "**No**".	Step 2	
2.	If the terminal is a UPT, select that a receipt is to be printed. If possible use an amount of 20,-, 200,- or 2000,-. Insert the **ICC002** in the (combined) card reader. Perform a transaction. ☞ Is the transaction successful or declined? ☞ Is a receipt printed?	Yes: Step 3 No: Case failed	
3.	Analyze the Transaction Condition Code in line TR8 of the receipt. ☞ Is the first character on the line 'I' (upper case i) ? ☞ Is the Status, line TR12 = 0000?	Yes: Case OK No: Case failed	
-	End of test case		

Comments: This test could be improved by using a chip card where the Service Code (e.g. 101) in the magnetic stripe does not indicate chip. It will then be demonstrated that the Service Code does not affect the decision that ICC must be used first (for card readers reading the magnetic stripe when inserting the card).

Test Case 4.4 - Card Reader 04: Error conditions on MSC

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Card Reader	Conditions:

Requirements tested:
2-4.7.2.2   MSC, use odd parity
2-4.7.2.3   MSC, first char start sentinel
2-4.7.2.4   MSC, second last character is end sentinel
2-4.7.2.5   MSC, last character is LRC
2-4.7.2.6   MSC, max. 40 characters
2-4.7.2.9   MSCR, indicate successful read.
2-4.7.2.10   MSCR, post error event
2-4.8.1.10   Display, Show MSC error

Purpose:
To verify that the MSCR will detect errors when reading a MSC and forward error information to be displayed on the terminal.

Prerequisites:

FTD script: CardReader_04   *Card(s):*(MSC002),   *PSAM:* PSAM002
                                                MSC003,
                                                MSC004,
                                                (MSC005),
                                                MSC006,
                                                MSC001

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
The terminal shall detect MSC errors.

Comments:
Display codes used `E3'=”Error reading card”, `09'=”Enter PIN”, `EE' =”Insert card again”. See OTRS v. 3.2.x table 1-11.1 for further information.

Comments:
Some of the test cards (MSC002, MSC005) are not always available. If the test card isn't available, then skip that test step.

Comments: Some terminals may terminate the transaction after a a number of card reader errors. This is allowed. If this occurs, then continue by starting a new transaction.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD script **CardReader_04** with PSAM personalization set to "**No**". Perform an Advice Transfer on the terminal. ☞ Is the transfer completed successfully?	Yes: Step 2 No: Case failed	
2.	If the card is available, then swipe the **MSC002** card (parity error) else skip the test step. ☞ Does the terminal display a message "Error reading Card" and "Insert card again"?	Yes: Step 3 No: Case failed	
3.	Swipe the **MSC003** card (start sentinel error). ☞ Does the terminal display a message "Error reading Card" and "Insert card again"?	Yes: Step 4 No: Case failed	

Step	Actions and assessment	Result	Verdict
4.	Swipe the **MSC004** card (end sentinel error). ☞ Does the terminal display a message "Error reading Card" and "Insert card again"?	Yes: Step 5 No: Case failed	
5.	If the card is available, then swipe the **MSC005** card (LRC error), else skip this test step. ☞ Does the terminal display a message "Error reading Card" and "Insert card again"?	Yes: Step 6 No: Case failed	
6.	Swipe the **MSC006** card (more than 40 characters). ☞ Does the terminal display a message "Error reading Card" and "Insert card again"?	Yes: Step 7 No: Case failed	
7.	Swipe the **MSC001** card (no error). Select a purchase transaction ☞ If the terminal supports PIN, does the terminal display a message "Enter PIN" ? ☞ Does the terminal request the user to accept the purchase?	Yes: Step 8 No: Case failed	
8.	Finalise the purchase transaction. ☞ Does the transaction complete successfully?	Yes: Step 9 No: Case failed	
9.	Perform an Advice Transfer on the terminal. ☞ Does the Advice Transfer generate a report with a single transaction (Financial Request)? ☞ Is the amount the same as used in step 7 above ?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 4.5 - Card Reader 05: Release card at Cancel

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Card Reader	Conditions: [Motor] OR [Lock]
Requirements tested: 2-4.7.2.12 Release card at "Cancel"	
Purpose: To verify that the card reader will return the card when the Cancel is pressed.	
Prerequisites: *FTD script:* CardReader_05 *Card(s):*ICC001 *PSAM:* PSAM002	
Test environment: *FTD Host:* X *IFS:* *Kopi:*	
General pass criteria: The card shall be released at Cancel.	

Comments: The "Enter" key will be green, the "Cancel" key will be red and the "Clear" key will be yellow.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD script **CardReader_05** with PSAM personalization set to "**No**". Perform an Advice Transfer.	Step 2	
2.	Insert **ICC001** into the Terminal. Activate the "Cancel" (Slet alt) key. ☞ Is the the card returned / released from the card reader?	Yes: Step 3 No: Case failed	
3.	Wait for the terminal to be ready for a new transaction. (An action from the merchant may be required before the terminal returns to idle.) ☞ Is the terminal ready for a new transaction?	Yes: Step 4 No: Case failed	
4.	Insert **ICC001** into the Terminal. If possible, select purchase and enter amount. If possible, enter all PIN digits, but **don't** activate "Godkend" (Enter). Activate the "Cancel" (Slet alt) key. ☞ Is the the card returned / released from the card reader?	Yes: Step 5 No: Case failed	
5.	Wait for the terminal to be ready for a new transaction. (An action from the merchant may be required before the terminal returns to idle.) ☞ Is the terminal ready for a new transaction?	Yes: Step 6 No: Case failed	

Step	Actions and assessment	Result	Verdict
6.	Insert **ICC001** into the Terminal. If possible, enter all PIN digits, but **don't** activate "Enter" (Godkend). Select purchase and enter amount. Activate the "Slet alt" (Cancel) key. ☞ Is the the card returned / released from the card reader?	Yes: Step 7 No: Case failed	
7.	Wait for the terminal to be ready for a new transaction. (An action from the merchant may be required before the terminal returns to idle.) ☞ Is the terminal ready for a new transaction?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 4.6 - Card Reader 06: Return card at power failure

Test date:		Init:	
Problem Report (if any):		**Test case result:**	
Comments:			

Test group: Card Reader	**Conditions:** [Motor] OR [Lock]

Requirements tested:
1-14.5.3.3   Release card at power failure.

Purpose:
To verify that the card reader will return/release the card at a power failure condition.

Prerequisites:

FTD script: CardReader_06a   *Card(s):* ICC001,   *PSAM:* PSAM002
      CardReader_06b   MSC001

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
The card shall be returned/released in case of terminal failure conditions.

Step	Actions and assessment	Result	Verdict
1.	☞ Is the the card reader motorized or locking?	Yes: Step 2 No: Not Applicable.	
2.	Select the FTD host script **CardReader_06a**. Make sure that updates are disabled i.e. that "PSAM personalization = "No". Wait for the terminal to be ready for a new transaction. ☞ Is the terminal ready for a new transaction?	Yes: Step 3 No: Case failed	
3.	Insert **ICC001** into the Terminal. If possible, select purchase and enter an amount. If the terminal support PIN, enter all PIN digits, but **don't** activate "Enter" (Godkend). Switch off power to the terminal. ☞ Is the the card returned / released from the card reader?	Yes: Step 4 No: Case failed	
4.	Switch on power to the terminal again. Wait for the terminal to be ready for a new transaction. (An action from the merchant may be required before the terminal returns to idle) ☞ Is the terminal ready for a new transaction?	Yes: Step 5 No: Case failed	
5.	Insert **MSC001** into the Terminal. If the terminal support PIN, enter all PIN digits, but **don't** activate "Enter" (Godkend). Switch off power to the terminal. ☞ Is the the card returned / released from the card reader?	Yes: Step 6 No: Case failed	
6.	Is the terminal an Offline only Terminal?	Yes: Case OK No: Step 7	

Step	Actions and assessment	Result	Verdict
7.	Switch on power to the terminal again. Wait for the terminal to be ready for a new transaction. (An action from the merchant may be required before the terminal returns to idle.) Select the FTD host script **CardReader_06b**. Make sure that updates are disabled i.e. that "PSAM personalization = "No". (this script will hold back the host response). ☞ Is the terminal ready for a new transaction?	Yes: Step 8 No: Case failed	
8.	Insert **ICC001** into the Terminal. If possible, select purchase and enter an amount. If the terminal support PIN, enter all PIN digits, Activate "Enter" (Godkend). Switch off power to the terminal. ☞ Is the the card returned / released from the card reader?	Yes: Step 9 No: Case failed	
9.	Switch on power to the terminal again. Wait for the terminal to be ready for a new transaction. (An action from the merchant may be required before the terminal returns to idle) ☞ Is the terminal ready for a new transaction?	Yes: Step 10 No: Case failed	
10.	Insert **MSC001** into the Terminal. If the terminal support PIN, enter all PIN digits. Activate "Enter" (Godkend). Switch off power to the terminal. ☞ Is the the card returned / released from the card reader?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 4.7 - Card Reader 07: Swiping MSC during a transaction

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Card Reader	Conditions: NOT [CombinedReader]

Requirements tested:

2-4.7.2.11   If a Card is swiped through the reader while a transaction is in prog-ress, the terminal shall either not react on swiping the card or cancel the current transaction as long as the cardholder has not yet pressed the "ENTER" key.

Purpose: To verify that swiping a MSC once a transaction is started will either not affect the transaction or terminate a the transaction and start a new.

Prerequisites:

FTD script: CardReader_07   *Card(s):* MSC001 &   *PSAM:* PSAM002
                                                ICC001
                                                ICC004

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria: It is demonstrated that it is not possible to unintentionally introduce information from another card into an existing transaction.

Step	Actions and assessment	Result	Verdict
1.	Does the Terminal use a motorized or locking reader? (The reader doesn't allow the use of another card before the current transaction is over)	Yes: Not Applic-able No: Step 2	
2.	Select the FTD script **CardReader_07** with PSAM personalization set to "**No**". Perform an Advice Transfer.	 Step 3	
3.	☞ Does the terminal support APE or DAPE?	Yes: Step 4 No: Step 6	
4.	Start a purchase transaction by inserting **ICC001**. Don't enter amount or PIN. Swipe **MSC001**. ☞ Is the MSC reader disabled, i.e the terminal doesn't react to the reader?	 Yes: Step 9 No: Step 5	
5.	☞ Does the terminal cancel the current trans-action? ☞ Is the Cardholder prompted to remove the card?	 Yes: Step 6 No: Case failed	
6.	If **ICC001** is inserted, remove the card. Start a purchase transaction again by inserting **ICC001**. Enter amount and PIN, but **don't** push "Enter". Swipe **MSC001**. ☞ Is the MSC reader disabled, i.e the terminal doesn't react to the reader?	 Yes: Step 8 No: Step 7	

Step	Actions and assessment	Result	Verdict
7.	☞ Does the terminal cancel the current transaction? ☞ Is the Cardholder prompted to remove the card?		
8.	Remove **ICC001**. Start a purchase transaction again by inserting **ICC001**. Enter amount and PIN, and push "Enter". <u>Immediately</u> after swipe **MSC001**. ☞ Is the transaction completed successfully? ☞ Is the MSC reader disabled, i.e. the terminal doesn't react to the reader? ☞ Is the Cardholder prompted to remove the card?	Yes: Step 9 No: Case failed	
9.	Remove **ICC001**. Start a purchase transaction by swiping **MSC001**. Enter PIN but **don't** push "Enter". Swipe **ICC004** (as a MSC) ☞ Is the MSC reader disabled, i.e. is the transaction unaffected of the swiping?	Yes: Case OK No: Step 10	
10.	☞ Does the terminal cancel the current transaction? ☞ Is the terminal ready for a new transaction?	Yes: Step 11 No: Case failed	
11.	Start a purchase transaction by swiping **MSC001**. Enter amount and PIN, and push "Enter". Immediately swipe **ICC004**. ☞ Is the transaction unaffected of the swiping? ☞ Is the transaction completed successfully?	Yes: Case OK No: Case failed	
-	End of test case		

4.5 Selection Table

Test Case 5.1 - Selection Table 01: Deletion of records (MSC & AID)

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Selection Table	Conditions: N/A

Requirements tested:
1-14.3.2.6   Deletion of records in MSC Table.
1-14.3.3.11   Deletion of records in AID Table.

Purpose:
To verify that the terminal actively deletes old entries before requesting new ones.

Prerequisites:
The Data Store must be empty when starting this test case.

FTD script: SelectionTable_01a   *Card(s):* ICC007,   *PSAM:* PSAM002
       SelectionTable_01b   MSC001
       Normal

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
It is demonstrated that an ICC and a MSC transaction can be perform successfully. Then the respective AID and MSC Table records in the PSAM are deleted. The same ICC and MSC are to be used again and both transaction must be rejected. The records in question will be placed at the end. See figure 2-4.3 on page 2-4-28.

Comments: The FTD will verify the Service Record received from the PSAM on-the-fly. Errors in the service records returned will cause a Pop-up window on the FTD screen. Confirm the pop-up windows to avoid overrun in the FTD!

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **SelectionTable_01a** (make sure that updates are enabled, PSAM Personalization = Yes) Perform an Advice Transfer in order to update the PSAM.	Step 2	
2.	Insert **ICC007** to perform a successful EMV transaction. ☞ Is the transaction successful?	Yes: Step 3 No: Case failed	
3.	Swipe **MSC001** to perform a successful magstripe transaction ☞ Is the transaction successful?	Yes: Step 4 No: Case failed	
4.	Select the FTD host script **SelectionTable_01b** (make sure that updates are enabled, PSAM Personalization = Yes). Records for MasterCard MSC Table and Dankort AID Table are deleted. Perform an Advice Transfer in order to update the PSAM.	Step 5	
5.	Insert **ICC007** to perform an EMV transaction. ☞ Is the transaction successful?	Yes: Case failed No: Step 6	

Step	Actions and assessment	Result	Verdict
6.	☞ If the terminal has a combined reader, where the MSC is read after the ICC, is the cardholder requested to remove the card, followed by a rejection of the transaction? ☞ If the terminal has a combined reader, where the MSC is read before the ICC, is the transaction rejected? ☞ If the terminal hasn't a combined reader is the transaction rejected and fallback offered on the display? If fallback is offered, decline the fallback transaction in order to speed-up the test case.	Yes: Step 7 No: Case failed	
7.	Swipe **MSC001** to perform a magstripe transaction ☞ Is the transaction successful?	Yes: Case failed No: Step 8	
8.	Perform an Advice Transfer. Analyze the FTD log. ☞ Are any any Authorization Advices transferred to the FTD? (as neither the AID nor the PAN range is recognized, no transaction at all shall be started)?	Yes: Case failed No: Step 9	
9.	Select the FTD host script **Normal** in the folder **Normal** (make sure that updates are enabled, PSAM Personalization = Yes). (Re-initialize the PSAM) Perform an Advice Transfer in order to update the PSAM.	Case OK	
-	End of test case		

Test Case 5.2 - Selection Table 02: Records for each AID

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Selection Table	**Conditions:** N/A

Requirements tested:
1-14.3.3.3   The MAD handler stores a record for each AID.

Purpose:
To verify that only ICC's with AID from the PSAM shall be accepted.

Prerequisites:
The Data Store must be empty when starting this test case.

FTD script: SelectionTable_02a   *Card(s):*ICC001,   *PSAM:* PSAM002
    (no AID's)   ICC003,
    SelectionTable_02b (2   ICC007
    AID's)
    Normal

Test environment:
FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
It is demonstrated that an ICC transaction can be performed successfully when and only when the AID is loaded into the PSAM.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **SelectionTable_02a** (make sure that updates are enabled, PSAM Personalization = Yes.) (Records for Dankort, VisaDankort and MasterCard AID Table are deleted). Perform an Advice Transfer in order to update the PSAM.	Step 2	
2.	Try to perform a transaction using **ICC001**(VisaDankort). ☞ Is the transaction rejected or is fallback requested.?	Yes:Step 3 No: Case failed.	
3.	Select the FTD host script **SelectionTable_02b** (make sure that updates are enabled, PSAM Personalization = Yes. Records for Dankort and VisaDankort AID tables are added). Perform an Advice Transfer in order to update the PSAM.	Step 4	
4.	Try to perform a transaction using **ICC001**(VisaDankort). ☞ Is the transaction accepted?	Yes:Step 5 No: Case failed.	
5.	Try to perform a transaction using **ICC007**(Dankort). ☞ Is the transaction accepted?	Yes:Step 6 No: Case failed.	

Step	Actions and assessment	Result	Verdict
6.	Try to perform a transaction using **ICC003** (Master Card). ☞ If the terminal is an Offline only terminal, is the transaction rejected? ☞ If the terminal has a combined reader where the MSC is read after the ICC, is the cardholder requested to remove the card, followed by a rejection of the transaction? ☞ If the terminal has a combined reader where the MSC is read before the ICC, is the transaction rejected? ☞ If the terminal hasn't a combined reader and isn't an Offline only terminal, is the transaction rejected and fallback offered on the display?	Yes: Step 7 No: Case failed.	
7.	If the terminal offers fallback, reject fallback. Perform an Advice Transfer. Analyze the setup.log on the FTD. ☞ Does the setup.log file contain any Authorization Advices (as the AID isn't recognized, no transaction at all shall be started) ?	Yes: Case failed. No: Step 8	
8.	Select the FTD host script **Normal** in the folder **Normal** (make sure that updates are enabled, PSAM Personalization = Yes). Default AID tables are added). Perform an Advice Transfer in order to update the PSAM. ☞ Is the Advice Transfer performed successfully?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 5.3 - Selection Table 03: PAN ranges

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Selection Table	**Conditions:** [MultiPSAMs] AND NOT [Sweden]

Requirements tested:

1-14.3.4.4　　　Smallest Bin range width takes priority.

Purpose:
To verify that if a PAN is included in more MSC Selection Tables with different PAN ranges, the terminal shall select the record with smallest PAN range width.

Prerequisites:

FTD script: SelectionTable_03　　　　*Card(s):* MSC001　　　　*PSAM:* PSAM004
　　　Normal

Test environment:

FTD Host: X　　　　　　　　　　*IFS:*　　　　　　　　*Kopi:*

General pass criteria:
The response to *Initiate MSC Payment* command is rejected (due to a PSAM test feature). Therefore the terminal is not able to obtain the Card Name from the response. The terminal has to issue a *Get Debit/Credit Properties* command (with Identifier `0001') to obtain the Card Name. If Mastercard1 is printed on the receipt, the terminal has not performed sort of the PAN ranges. Mastercard3 indicates that the terminal fulfill the requirement.
Note: It has been agreed that PAN ranges given in the updates will be sorted correctly by PBS. This test case is applicable when the terminal is able to handle several PSAMs or other payment applications.

Comments: The test is not applicable to terminals using a Processing Condition Table (Sweden), as the entry from the table shall override the information from the host.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **SelectionTable_03** (make sure that updates are enabled i.e. PSAM Personalization = Yes). Perform an Advice Transfer. (Three MSC records are delivered by the PSAM): **PAN range**　　　　　　**Card Name** 51000000 – 55999999　　MasterCard1 Slot 00 52555555 – 55555555　　MasterCard2 slot 01 54111111 – 54888888　　MasterCard3 slot 03	Step 2	
2.	Swipe **MSC001** and perform a transaction. ☞ Is the Card Name shown on the receipt "Mastercard**1**"?	Yes: Step 3 No:　Step 4.	
3.	It is verified that the terminal does not sort the MSC records given by the PSAM. The MSC Table is stored in the same sequence as received from the PSAM.	Step 5.	

Step	Actions and assessment	Result	Verdict
4.	It is verified that the terminal does sort the MSC records given by the PSAM. The MSC Table is *not* stored in the same sequence as received from the PSAM. ☞ Is the Card Name shown on the receipt "Mastercard**3**"?	Yes: Step 5 No: Case failed.	
5.	Select the FTD host script **Normal** in the folder **Normal** and make sure updates are enabled (PSAM personalization = Yes). Perform an Advice Transfer in order to re-initialize the PSAM	Case OK	
-	End of test case		

Test Case 5.4 - Selection Table 04: Continuation Indicator

Test date:		Init:	
Problem Report (if any):		**Test case result:**	
Comments:			

Test group: Selection Table	**Conditions:** N/A

Requirements tested:

2-5.1.5.5   If the "Continuation Indicator" is present in the response to the *Get MSC Table*, the command shall be re-issued until every MSC Table entry has been retrieved.

2-14.4.3.1   The *Get MSC Table* command shall conform to the format defined in table 2-14.7 and 2-14.8.

Purpose:
To verify that the the terminal is able to interpret the Continuation Indicator cor-rect. (If the PSAM contains more than 30 MSC records, then the terminal detect continuation indicator and re-issue the *Get MSC Table* command with "Start Loca-tion" set to '01').

Prerequisites:

FTD script: SelectionTableDK_04   *Card(s):*ICC007   *PSAM:* PSAM002
    SelectionTableNoDK_04
    Normal

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
The PSAM is updated with 40 MSC records, which will force the terminal to re-issue the *Get MSC Table* command, as the "Continuation Indicator" will be set by the PSAM. The PAN range for ICC007 in not included in the 1st test. This shall cause the terminal to reject the magstripe of the ICC when it is swiped. In the 2nd test the the PAN range for ICC007 is in the last slot and will only be known to the ter-minal if the *Get MSC Table* command is re-issued. Then the terminal shall be able to recognize the ICC007.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **SelectionTable-NoDK_04** (make sure that updates are en-abled, PSAM Personalization = Yes). Perform an Advice Transfer (40 PAN ranges are loaded).	Step 2	
2.	If the terminal don't support APE/DAPE, start a transaction and enter an amount. Swipe **ICC007** and look at the display (**in case of combined reader put a piece of tape on the ICC contacts**). ☞ Does the terminal recognize the card (The card name, "Dankort", is written in the dis-play if the terminal supports this and the terminal request the cardholder to use the chip.)?	Yes: Case failed No: Step 3.	
3.	Cancel the transaction. Select the FTD host script **SelectionTable-DK_04** (make sure that updates are enabled, PSAM Personalization = Yes). Perform an Advice Transfer (40 PAN ranges are loaded).	Step 4	

Step	Actions and assessment	Result	Verdict
4.	If the terminal don't support APE/DAPE, start a transaction and enter an amount. Swipe **ICC007** and look at the display (**in case of combined reader put a piece of tape on the ICC contacts**). 👉 Does the terminal recognize the card (The card name = "Dankort" written in the display ig the terminal supports this, and the terminal request the cardholder to use the chip)?	Yes: Step 5 No: Case failed.	
5.	Cancel the transaction. Perform a new transaction using **ICC007**. It shall be performed as a chip transaction as the Service Code indicates chip on the card. (**In case of combined reader remember to remove the tape on the ICC contacts**). 👉 Is the transaction approved?	Yes: Step 6 No: Case failed.	
6.	Select the FTD host script **Normal** in the folder **Normal** (make sure that updates are enabled, PSAM Personalization = Yes). (Re-initialize the PSAM) Perform an Advice Transfer in order to update the PSAM.	Case OK	
-	End of test case		

Test Case 5.5 - Selection Table 05: Single MSC Selection Record

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Selection Table	**Conditions:** N/A

Requirements tested:
1-14.3.4.2:   Single MSC Selection Record
1-14.3.4.5:   MSC PAN not included in table

Purpose:
To verify that MSC selection is successful even when only a single selection record exists.

Prerequisites:

FTD script: SelectionTable_05   *Card(s):* MSC001   *PSAM:* PSAM002
    Normal   MSC007

Test environment:
FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
The PSAM is updated to contain only a single MSC record and the Terminal is re-quested to select a card within that range and reject a card outside this range.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **SelectionTable_05** (make sure that updates are enabled, i.e. PSAM Personalization = **Yes**). Perform an Advice Transfer on the Terminal (The MSC selection table is reduced to a single entry).	Step 2	
2.	Swipe **MSC001** and perform a transaction. ☞ Is the transaction performed successfully?	Yes: Step3 No: Case failed.	
3.	Swipe **MSC007** and perform a transaction. (This card is outside the MSC range enabled) ☞ Is the transaction rejected? ☞ Is the message "Not Accepted" displayed on the Cardholders display. ☞ Is the rejection prior to the Host communication (i.e. no log from the FTD due to this transaction)?	Yes: Step 4 No: Case failed.	
4.	Select the FTD host script **Normal** in the folder **Normal** (make sure that updates are enabled, i.e. PSAM Personalization = Yes). Perform an Advice Transfer on the Terminal (The MSC selection table is restored to default values).	Case OK	
-	End of test case		

Test Case 5.6 - Selection Table 06: Don't perform additional MSC validation

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments: The requirement for **not** performing Luhn's check has been removed.	

Test group: Selection Table	**Conditions:** N/A	
Requirements tested:		
1-14.3.4.6 Only the first 8 digits of the PAN shall decide whether the PSAM supports the actual PAN. Additional validations e.g. PAN length ~~or modulus 10 check~~ shall not be performed by the terminal.		
Purpose: To verify that the Terminal will not perform additional validation like modulus 10/Luhn check digit and PAN length.		
Prerequisites:		
FTD script: SelectionTable_06	*Card(s):* MSC009 ~~MSC008~~	*PSAM:* PSAM002
Test environment:		
FTD Host: X	*IFS:*	*Kopi:*
General pass criteria: The PSAM is updated to contain a MSC record specified with less PAN digits than normal. This shall not cause the terminal to detect an error, but leave this to the PSAM.		

Comments: There are no specific requirements to the format of the messages and to the user dialog.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **SelectionTable_06** (make sure that updates are disabled, i.e. PSAM Personalization = No).	Step 2	
2.	Swipe **MSC009** (too long PAN) and try to perform a transaction. ☞ Is the transaction successful?	Yes: Case OK No: Case failed.	
3.	~~Swipe **MSC008** (modulus 10/Luhn check digit error) and try to perform a transaction.~~ ☞ ~~Is the transaction successful?~~	~~Yes: Case OK~~ ~~No: Case failed.~~	
-	End of test case		

Test Case 5.7 - Selection Table 07: AID selection 1

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Selection Table	**Conditions:** N/A

Requirements tested:

1-14.3.5.6 The AIDs supported by the ICC shall be checked against all the AID Selection Records to find all possible matches.

1-14.3.5.7 If a match is identified between an AID supported by the ICC and more than one AID Selection Records, then........

1-14.3.5.8 If a match is identified between an AID supported by the ICC and more AID Selection Records........

Purpose: To verify that if there are match on more AID's then the terminal choose the one with the largest number of digits.

Prerequisites:

FTD script: SelectionTable_07 Normal   *Card(s):* ICC007   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria: The terminal shall be able to select an application and make a successful transaction if the AID in the ICC has more than one match. The Application selection shall be according to the EMV rules.

Comments: This is the simple test. It just verifies that the terminal is able to handle multiple matches. The actual selection is performed later by the PSAM. A more detailed test is performed in Selection Table 08.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **SelectionTable_07** (make sure that updates are enabled, i.e. PSAM Personalization = Yes). Perform an Advice Transfer on the Terminal.	Step 2	
2.	Perform a transaction using **ICC007**. ☜ Is the transaction approved?	Yes: Step 3 No: Case failed.	
3.	Select the FTD host script **Normal** in the folder **Normal** (make sure that updates are enabled, i.e. PSAM Personalization = Yes). Perform an Advice Transfer on the Terminal (The AID table is restored to default values).	Case OK	
-	End of test case		

Test Case 5.8 - Selection Table 08: AID selection 2

Test date:		Init:	
Problem Report (if any):		**Test case result:**	
Comments:			

Test group: Selection Table	Conditions: N/A
Requirements tested:	

Requirements tested:

1-14.3.3.6   For each AID received in the response to the *Get Supported AIDs* command, the MAD-Handler shall assign the value for the corresponding ASI (Application Selection Indicator).

Purpose: To verify that the terminal uses the ASI for a given AID to determine whether partial or full match shall be performed.

Prerequisites:

FTD script: SelectionTable_08a   *Card(s):* ICC002   *PSAM:* PSAM002
SelectionTable_08b
    Normal

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria: The terminal shall not find any matching application if the AID in the terminal has partial match and the ASI is set to full match. If only the ASI is changed to allow for partial match then the terminal shall find match on the application that was previous not accepted as a matching application.

Comments: The ASI is specified as a part of the EMV settings in the AID selection table.

Step	Actions and assessment	Result	Verdict
1.	Select FTD host script **SelectionTable_08a** (Set PSAM Personalization = 'Yes'). Perform an **Advice Transfer**.	Step 2	
2.	Start a transaction Insert **ICC002**(MasterCard REQ05) in the ICC reader. ☞ Is the Application recognized (MasterCard is written in Display)? Fallback will be initiated if the terminal has on-line capability! Cancel the transaction.	Yes: Case failed No: Step 3	
3.	Select FTD host script **SelectionTable_08b** (Set PSAM Personalization = 'Yes'). Perform an **Advice Transfer**.	Step 4	
4.	Insert **ICC002** in the ICC reader. ☞ Is the Application recognized (MasterCard is written in Display)? Cancel the transaction.	Yes: Step 5 No: Case failed	
5.	Select the FTD host script **Normal** in the folder **Normal** (make sure that updates are enabled, i.e. PSAM Personalization = Yes). Perform an Advice Transfer on the Terminal (The PSAM is restored to default values).	Case OK	
-	End of test case		

4.6 Transaction State

Test Case 6.1 - Transaction State01: Power failure during transaction
MSC 1

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: Transaction State	Conditions:
Requirements tested: 1-14.5.2.7 MAD handler shall detect power failure during a transaction.	
Purpose: To verify that the Terminal will detect a power failure condition independent of when it occurs, and handle the condition in a graceful way.	
Prerequisites: A FTD script that won't generate a host response *FTD script:* TransactionState_01A *Card(s):*MSC001 *PSAM:* PSAM002 TransactionState_01B	
Test environment: *FTD Host:* X *IFS:* *Kopi:*	
General pass criteria: The terminal recovers gracefully after a power failure condition.	

Comments: It may not be possible to generate a sudden power failure condition in for instance battery operated equipment, with an integrated battery. The FTD shall be set NOT to perform PSAM personalization, unless directly specified to do so.

Step	Actions and assessment	Result	Verdict
1.	☞ Is it possible to generate a sudden power failure of the terminal, like pulling the power cord?	Yes: Step 2 No: Not Applicable	
2.	☞ Does the terminal support PIN?	Yes: Step 3 No: Step 11	
3.	☞ Does the terminal support entry of PIN before amount?	Yes: Step 4 No: Step 7	
4.	Select the host script **TransactionState_01A**. Make sure that updates are disabled, i.e. PSAM Personalization = No. Swipe the **MSC001** card. Switch off the terminal. Power up the terminal again. ☞ Is the terminal able to start a new transaction?	 Yes: Step 5 No: Case failed	
5.	Swipe the **MSC001** card. Enter some of the PIN digits Switch off the terminal. Power up the terminal again. ☞ Is the terminal able to start a new transaction?	 Yes: Step 6 No: Case failed	

Step	Actions and assessment	Result	Verdict
6.	Swipe the **MSC001** card. Enter PIN When awaiting amount, switch off the terminal. Power up the terminal again. ☞ Is the terminal able to start a new transaction?	Yes: Step 7 No: Case failed	
7.	Enter/select amount. Swipe the **MSC001** card. Enter PIN Before entering accept, switch off the terminal. Power up the terminal again. ☞ Is the terminal able to start a new transaction?	Yes: Step 8 No: Case failed	
8.	☞ Is the terminal an Offline only terminal (the next step is only applicable for online capable terminals)?	Yes: Case OK No: Step 9	
9.	Select the script **TransactionState_01B** (No response from host). Make sure that updates are disabled, i.e. PSAM Personalization = No. Enter/select amount. Record amount. Swipe the **MSC001** card. If the terminal supports PIN, enter PIN Accept transaction. While host transfer occurs, switch off the terminal. Power up the terminal again. ☞ Is the terminal able to start a new transaction?	Yes: Step 10 No: Case failed	
10.	Stop the FTD. Restart the FTD running host script **Normal**. Make sure that updates are disabled, i.e. PSAM Personalization = No. Perform an Advice Transfer on the terminal. Analyze the setup.log file on the FTD. ☞ Does the log contain a reversal? ☞ Is the amount in equal to the amount entered / selected in step 9?	Yes: Case OK No: Case failed	
11.	_For terminals not supporting PIN:_ Select the host script **TransactionState_01A**. Make sure that updates are disabled, i.e. PSAM Personalization = No. Enter/Select amount Swipe the **MSC001** card. Switch off the terminal. Power up the terminal again. ☞ Is the terminal able to start a new transaction?	Yes: Step 12 No: Case failed	

Step	Actions and assessment	Result	Verdict
12.	Enter amount. Swipe the **MSC001** card. Switch off the terminal. Power up the terminal again. ☞ Is the terminal able to start a new transaction?	Yes: Step 13 No: Case failed	
13.	☞ Is the terminal an Offline only terminal (the next step is only applicable for online capable terminals)?	Yes: Case OK No: Step 14	
14.	Select the script **TransactionState_01B** (No response from host). Make sure that updates are disabled, i.e. PSAM Personalization = No. Enter/select amount. Swipe the **MSC001** card. Accept transaction. While host transfer occurs, switch off the terminal. Power up the terminal again. ☞ Is the terminal able to start a new transaction?	Yes: Step 15 No: Case failed	
15.	Stop the FTD. Restart the FTD running host script **Normal**. Make sure that updates are disabled, i.e. PSAM Personalization = No. Perform an Advice Transfer on the terminal. Analyse the realtime.log file on the FTD. ☞ Does the log contain a reversal? ☞ Is the amount in equal to the amount entered / selected in step 14?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 6.2 - Transaction State 02: Power failure during transaction MSC 2

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Transaction State	**Conditions:**
Requirements tested: 1-14.5.2.7 MAD handler shall detect power failure during a transaction.	
Purpose: To verify that the Terminal will detect a power failure condition independent of when it occurs, and handle the condition in a graceful way.	
Prerequisites: *FTD script:* TransactionState_02 *Card(s):* MSC001 *PSAM:* PSAM002	
Test environment: *FTD Host:* X *IFS:* *Kopi:*	
General pass criteria: The terminal recovers gracefully after a power failure condition.	

Comments: It may not be possible to generate a forced power failure condition in for instance battery operated equipment, with an integrated battery.

Step	Actions and assessment	Result	Verdict
1.	☞ Is it possible to generate a sudden power failure of the terminal, like pulling the power cord?	Yes: Step 2 No: Not Applicable	
2.	Select the host script **TransactionState_02** (Make sure that updates are disabled, i.e. PSAM Personalization = No) Perform an Advice Transfer on the terminal. ☞ Is the transfer completed successfully?	Yes: Step 3 No: Case failed	
3.	Enter/select amount. Swipe the **MSC001** card. If the terminal supports PIN, enter PIN. If the terminal is a UPT, select that a receipt is to be printed. Accept the transaction. If the terminal supports online transactions, let the host transfer occur. Try to switch off the terminal just before / during receipt printing. **Note:** The switch off may have to be performed during the terminal to ECR data transfer, if the terminal is connected to and ECR. Power up the terminal again. ☞ Is the Cardholder able to get a (new) receipt? (This may be a copy receipt) ☞ Is the terminal able to start a new transaction?	Yes: Step 4 No: Case failed	

Step	Actions and assessment	Result	Verdict
4.	Perform an Advice Transfer on the terminal. ☞ Is the transfer completed successfully?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 6.3 - Transaction State 03: Power failure during transaction ICC 1

Test date:		Init:	
Problem Report (if any):		**Test case result:**	
Comments:			

Test group: Transaction State	**Conditions:**

Requirements tested:

1-14.5.2.7   MAD handler shall detect power failure during a transaction.

Purpose: To verify that the Terminal will detect a power failure condition independent of when it occurs, and handle the condition in a graceful way.

Prerequisites: A FTD script that won't generate a host response

FTD script: TransactionState_03A   *Card(s):* ICC001   *PSAM:* PSAM002
    TransactionState_03B

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria: The terminal recovers gracefully after a power failure condition.

Comments: It may not be possible to generate a forced power failure condition in for instance battery operated equipment, with an integrated battery.

Step	Actions and assessment	Result	Verdict
1.	☞ Is it possible to generate a sudden power failure of the terminal, like pulling the power cord?	Yes: Step 2 No: Not Applicable	
2.	☞ Does the terminal support PIN?	Yes: Step 3 No: Step 12	
3.	☞ Does the terminal support entry of PIN before amount?	Yes: Step 4 No: Step 8	
4.	Select the host script **TransactionState_03A** (Make sure that updates are disabled, i.e. PSAM Personalization = No). Perform an Advice Transfer on the terminal. ☞ Is the transfer completed successfully?	Yes: Step 5 No: Case failed	
5.	Insert the **ICC001** card. Switch off the terminal. Remove the ICC Power up the terminal again. ☞ Is the terminal able to start a new transaction?	Yes: Step 6 No: Case failed	
6.	Insert the **ICC001** card. Enter some of the PIN digits Switch off the terminal. Remove the ICC Power up the terminal again. ☞ Is the terminal able to start a new transaction?	Yes: Step 7 No: Case failed	

Step	Actions and assessment	Result	Verdict
7.	Insert the **ICC001** card. Select a purchase transaction. Enter all PIN digits When awaiting amount, switch off the terminal. Remove the ICC Power up the terminal again. ☞ Is the terminal able to start a new transaction?	Yes: Step 8 No: Case Failed	
8.	Enter/select amount. Insert the **ICC001** card. If the terminal supports PIN, enter PIN Before entering accept, switch off the terminal. Remove the ICC Power up the terminal again. ☞ Is the terminal able to start a new transaction?	Yes: Step 9 No: Case failed	
9.	☞ Is the terminal an Offline Only terminal (the next steps are only applicable to online capable terminals)?	Yes: Case OK No: Step 10	
10.	Stop the FTD. Restart the FTD running host script **TransactionState_03B** (No response from host). Make sure that updates are disabled, i.e. PSAM Personalization = No. Enter/select amount. Insert the **ICC001** card. If the terminal supports PIN, enter PIN Accept transaction. While host transfer occurs, switch off the terminal. Remove the ICC Power up the terminal again. ☞ Is the terminal able to start a new transaction?	Yes: Step 11 No: Case failed	
11.	Stop the FTD. Restart the FTD running host script **TransactionState_03A**. Make sure that updates are disabled, i.e. PSAM Personalization = No. Perform an Advice Transfer on the terminal. Analyse the realtime.log file on the FTD. ☞ Does the log file contain a reversal? ☞ Is the amount in the reversal equal to the amount entered / selected in step 11?	Yes: Case OK No: Case failed	

Step	Actions and assessment	Result	Verdict
12.	*For terminals not supporting PIN:* Select the host script **TransactionState_03A**. Make sure that updates are disabled, i.e. PSAM Personalization = No. Insert the **ICC001** card. Switch off the terminal. Remove the card. Power up the terminal again. ☞ Is the terminal able to start a new transaction?	Yes: Step 13 No: Case failed	
13.	Insert the **ICC001** card. Enter amount. Switch off the terminal. Power up the terminal again. ☞ Is the terminal able to start a new transaction?	Yes: Step 14 No: Case failed	
14.	☞ Is the terminal an Offline only terminal (the next step is only applicable for online capable terminals)?	Yes: Case OK No: Step 15	
15.	Select the script **TransactionState_03B** (No response from host). Make sure that updates are disabled, i.e. PSAM Personalization = No. Insert the **ICC001** card. Enter/select amount. Accept transaction. While host transfer occurs, switch off the terminal. Power up the terminal again. ☞ Is the terminal able to start a new transaction?	Yes: Step 16 No: Case failed	
16.	Stop the FTD. Restart the FTD running host script **Normal**. Make sure that updates are disabled, i.e. PSAM Personalization = No. Perform an Advice Transfer on the terminal. Analyze the realtime.log file on the FTD. ☞ Does the log contain a reversal? ☞ Is the amount in equal to the amount entered / selected in step 15?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 6.4 - Transaction State 04: Power failure during transaction ICC 2

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Transaction State	Conditions:
Requirements tested: 1-14.5.2.7 MAD handler shall detect power failure during a transaction.	
Purpose: To verify that the Terminal will detect a power failure condition independent of when it occurs, and handle the condition in a graceful way.	
Prerequisites: *FTD script:* TransactionState_04 *Card(s):* ICC001 *PSAM:* PSAM002	
Test environment: *FTD Host:* X *IFS:* *Kopi:*	
General pass criteria: The terminal recovers gracefully after a power failure condition.	

Comments: It may not be possible to generate a forced power failure condition in for instance battery operated equipment, with an integrated battery.

Step	Actions and assessment	Result	Verdict
1.	☞ Is it possible to generate an sudden power failure of the terminal, like pulling the power cord?	Yes: Step 2 No: Not Applicable	
2.	Select the host script **TransactionState_04** (Make sure that updates are disabled, i.e. PSAM Personalization = No) Perform an Advice Transfer on the terminal. ☞ Is the transfer completed successfully?	Yes: Step 3 No: Case failed	
3.	☞ Does the terminal support PIN?	Yes: Step 4 No: Step 5	
4.	Enter/select amount. Insert the **ICC001** card. Enter PIN If the terminal is a UPT, select that a receipt is to be printed. Accept transaction. If the terminal accepts online transactions, let the host transfer occur. Try to switch off the terminal just before / during receipt printing. Remove the ICC. Power up the terminal again. ☞ Is the Cardholder able to get a (new) receipt? ☞ Is the terminal able to start a new transaction?	Yes: Step 6 No: Case Failed	

Step	Actions and assessment	Result	Verdict
5.	Enter/select amount. Insert the **ICC001** card. If the terminal is a UPT, select that a receipt is to be printed. Accept transaction. If the terminal accepts online transactions, let the host transfer occur. Try to switch off the terminal just before / during receipt printing. Remove the ICC Power up the terminal again. ☞ Is the Cardholder able to get a (new) receipt? ☞ Is the terminal able to start a new transaction?	 Yes: Step 6 No: Case Failed	
6.	Perform an Advice Transfer on the terminal. ☞ Is the transfer completed successfully?	Yes: Case OK No: Case failed	
-	End of test case		

4.7 Online Transaction

Test Case 7.1 - Online Transaction 01: Repeats

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: OnlineTransaction	Conditions: N/A

Requirements tested:
2-5.15.3.1 (step 1 - 4) Marking of a repeat transactions. 2-5.16.8.3 (step 6) Marking of an advice as repeat when read from Data Store. (step 5) Advices not accepted shall be resend twice

Purpose:
To verify that the terminal marks the messages as repeats if no host response is received.

Prerequisites:

FTD script: Normal   *Card(s):* ICC005   *PSAM:* PSAM002
    OnlineTransaction_01a,   ICC001,
    OnlineTransaction_01b   MSC001
    OnlineTransaction_01c

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
It is verified that the terminal is able to mark the following messages as repeats:

- Authorization Request (0106 -> 0107)
- Financial Request (0206 -> 0207)
- Network Management Request (0804 -> 0805)
- Financial Advice (0226 -> 0227)
- Reversal Advice (0426 -> 0427)

Comments: Floor limit for offline transaction on ICC005 is DKK 100,00.

Comments: Script "Online Transaction_01" replaced "Normal".

Step	Actions and assessment	Result	Verdict
1.	Select the host script **Normal** Make sure that updates are disabled, i.e. PSAM Personalization = "No" Perform an Advice Transfer on the terminal. ☞ Is the transfer completed successfully?	Yes: Step 2 No: Case failed	
2.	If the terminal supports offline transactions, perform an transaction using **ICC005**, else skip to next step. Use an amount less than floor limit to make it offline ☞ Was the transaction successful? ☞ Observe the FTD log. Was it an offline transaction, i.e. without transfer of information to the Host? Data Store Status: File 2 - 1 Financial Advice.	Yes: Step 3 No: Case failed	

Step	Actions and assessment	Result	Verdict
3.	Select the host script **OnlineTransaction_01a**. (The host will not respond, neither to an Authorization Request nor to a Financial Request) Make sure that updates are disabled, i.e. PSAM Personalization = "No" Insert **ICC001** and try to perform an online transaction. If the terminal automatically goes offline, make the terminal go online again. Analyze the detailed log from the attempted transaction on the FTD. ☞ Does the terminal send as well as resend the Authorization Request, i.e. is the MTI initially 106 and then resent marked as a repeat, ApacsHeader.C1.MTI.Value = 30313037 (MTI = 0107)? Data Store Status: File 3 - 1 Reversal Advice.	Yes: Step 4 No: Case failed	
4.	Swipe the **MSC001** and try to perform a online transaction. (The host will not respond to the Financial Request). If the terminal automatically goes offline, make the terminal go online again. Analyze the detailed log from the attempted transaction on the FTD. ☞ Does the terminal send, as well as resend, the Financial Request, i.e. is the MTI initially 0206 and then resent marked as a repeat, ApacsHeader.C1.MTI.Value = 30323037 (MTI = 0207)? Data Store Status: File 3 - 1 Reversal Advice.	Yes: Step 5 No: Case failed	
5.	Perform an Advice Transfer. (The host will not respond to the Network Management Request). Analyze the detailed log on the FTD. ☞ Does the terminal resend the Network Management Request marked as a repeat, ApacsHeader.C1.MTI.Value = 30383035 (MTI = 0805)? ☞ Does the terminal inhibit further Debit/ Credit transactions? Data Store Status: File 3 - 1 Reversal Advice.	Yes: Step 6 No: Case failed	
6.	Select host script **OnlineTransaction_01b**. (The host will not respond to the Reversal Advice.) Make sure that updates are disabled, i.e. PSAM Personalization = "No" Perform an Advice Transfer. Analyze the detailed log on the FTD. ☞ Does the terminal send the Reversal Advice marked as a repeat, ApacsHeader.C1.MTI.Value = 30343237 (MTI = 0427)? Data Store Status: File 3 - 1 Reversal Advice.	Yes: Step 7 No: Case failed	

Step	Actions and assessment	Result	Verdict
7.	Select host script **Normal**. Make sure that up-dates are disabled, i.e. PSAM Personalization = "No" Perform an Advice Transfer. ☞ Advice Transfer successful? Data Store Status: Empty	Yes: Step 8 No: Case failed	
8.	If the terminal supports offline transactions, perform an transaction using **ICC005**, else skip to step 10. Use an amount less than floor limit to make it offline ☞ Was the transaction successful? ☞ Was it an offline transaction, i.e. without transfer of information to the host. Data Store Status: File 2 - 1 Financial Advice.	Yes: Step 9 No: Case failed	
9.	Select host script **OnlineTransaction_01c**. (The host will not respond to the Financial Ad-vice.) Make sure that updates are disabled, i.e. PSAM Personalization = "No" Perform an Advice Transfer. Analyze the detailed log on the FTD. ☞ Does the terminal send the Financial Advice marked as a repeat, ApacsHeader.C1.MTI.Value = 30323237 (MTI = 0227)? Data Store Status: File 2 - 1 Financial Advice.	Yes: Step 10 No: Case failed	
10.	Turn off the power of the terminal. Power-on the terminal again. Select host script **Normal**. Make sure that up-dates are disabled, i.e. PSAM Personalization = "No". Perform an Advice Transfer. Analyze the the detailed log in the FTD. ☞ Does the terminal send the Financial Advice marked as a repeat(s) ApacsHeader.C1.MTI.Value = 30323237 (MTI = 0227)? Data Store Status: Empty.	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 7.2 - Online Transaction 02: PSAM Update Flag

Test date:	**Init:**
Problem Report (if any):	**Test case result:**
Comments:	

Test group: OnlineTransaction	**Conditions:** NOT [OfflineOnly] AND [Attended]
Requirements tested: 2-5.15.1.1 (Step 1 - 4) PSAM Update Flag - Merchant indication	
Purpose: To verify that the terminal indicates to the Merchant that PSAM updates is requested, when an PSAM Update Flag is received in the APACS Header.	
Prerequisites: *FTD script:* OnlineTransaction_02 *Card(s):*ICC001 *PSAM:* PSAM002 OnlineTransaction_02a	
Test environment: *FTD Host:* X *IFS:* *Kopi:*	
General pass criteria:	

Comments: The 'Merchant display' and the 'Cardholder display' will be merged in a Single Unit Terminal (SUT).

Comments: The "PSAM Update Flag" was previously denoted "Advice Request Flag". The request to "lock" at update request is removed.

Step	Actions and assessment	Result	Verdict
1.	Select the host script **OnlineTransaction_02**. Make sure that updates are disabled, i.e. PSAM Personalization = No Perform a transaction using **ICC001**. ☞ Is the transaction successful? ☞ Does the the terminal, if it doesn't have an automated activation, display the PSAM Update Request on the Merchant display?	Yes: Step 2 No: Case failed	
2.	Select host script **OnlineTransaction_02a**. Make sure that updates are disabled, i.e. PSAM Personalization = No Perform a transaction using **ICC001**. ☞ Is the transaction successful?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 7.3 - Online Transaction 03: Communications access

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: OnlineTransaction	**Conditions:** NOT [OfflineOnly]
Requirements tested: 2-5.15.5.1 At least two access points. 2-5.15.5.2 Initiate connection to other access point at error. 2-5.15.5.3 Even distribution to access points.	
Purpose: To verify that the terminal will access multiple access points, perform load sharing and switch access point if interrupted.	
Prerequisites: *FTD script:* OnlineTransaction_03a *Card(s):* ICC001 *PSAM:* PSAM002 OnlineTransaction_03b	
Test environment: *FTD Host:* X *IFS:* *Kopi:*	
General pass criteria: That the Terminal will handle access to multiple access points in a suitable way	

Comments: The special FTD script suppress the response from the access point (FTDHost). This is used instead of just stopping the FTD to be able to observe that the terminal tries to access the (dead) access point before switching to another access point.

Comments: Terminals using a GSM/GPRS connection may not have dual interfaces.

Step	Actions and assessment	Result	Verdict
1.	Start up two instances of the FTD, either on separate PC's or on the same PC, using different ports. Start up both FTD's using the **OnlineTransaction_03a** script. (When starting the FTD scripts, make sure that updates are disabled, i.e. "PSAM Personalization = No"). Set up the terminal to use the two access points prepared above. ☞ Is it possible to specify at least two different access point in the terminal setup?	Yes: Step 2 No: Case failed.	
2.	Perform 10 transactions using **ICC001**. Remember to use different amounts. ☞ Are the transactions completed successfully?	Yes: Step 3 No: Case failed.	
3.	Analyze the setup.log files on the two FTD's. ☞ Are the transactions distributed evenly between the two access points (at least 2 access to the least used access point) ?	Yes: Step 3 No: Case failed.	

Step	Actions and assessment	Result	Verdict
4.	Start up the one FTD (A) using the host script **OnlineTransaction_03b**. (Generating a timeout on the host request) Perform transactions using **ICC001**, observing the setup.log screens for both FTD's, until the terminal is attempting to send a request to FTD (A). ☞ Is the terminal redirecting the transaction to the other host (FTD (B) after an unsuccessful request to FTD (A)? ☞ Is the transaction to FTD (B) indicating that the frame is a repeat (The value in Auth.Request ApacsHeader.C1 MTI.Value is incremented.)?	Yes: Step 4 No: Case failed	
5.	Start up the one FTD (A) using the host script **OnlineTransaction_03a** Start up the other FTD (B) using the host script **OnlineTransaction_03b**. (Generating a timeout on the host request). Perform a transaction. ☞ Is the terminal redirecting the transaction to the other host, FTD (A)?	Yes: Step 6 No: Case failed	
6.	Stop and close the 'extra' FTD. Reconfigure the terminal to use a single access point.	Case OK	
-	End of test case		

Test Case 7.4 - Online Transaction 04: Ignore unknown data

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: OnlineTransaction	**Conditions:** NOT [OfflineOnly]

Requirements tested:
2-13.5.2.10   Data object unknown to the CAD shall be ignored.

Purpose:
To verify that the terminal will ignore unknown data objects in the APACS header.

Prerequisites:

FTD script: OnlineTransaction_04   *Card(s):* ICC001   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria: That the Terminal shall ignore unknown data objects, and not reject the APACS header or limit further transactions due to this.

Comments: The special FTD script will introduce an unknown tag in the APACS header.	

Step	Actions and assessment	Result	Verdict
1.	Select the host script **OnlineTransaction_04**. Make sure that updates are disabled, i.e. PSAM Personalization = No	Step 2	
2.	Perform a transaction using **ICC001**. ☞ Is the transactions completed successfully?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 7.5 - Online Transaction 05: Segmentation of Validate Data

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Online Transaction	**Conditions:** NOT [OfflineOnly]

Requirements tested:

2-13.6.3.2   If the Lc field exceeds 248 bytes the MAD-Handler shall deliver the data in two command APDU's (segments).

2-13-6.3.3   In such a command the MAD-Handler shall send first Lc=248 bytes of data in the first APDU.

Purpose:

To verify that the MAD-Handler can split the Validate Data command into two commands if the Lc field exceeds 248 bytes.

Prerequisites:

FTD script: OnlineTransactions_05	*Card(s):* ICC005	*PSAM:* PSAM002

Test environment:

FTD Host: X	*IFS:*	*Kopi:*

General pass criteria:

Comments: Pre Service Pack 2 terminal are no more supported

Step	Actions and assessment	Result	Verdict
1.	Select the host script **OnlineTransaction_05**. Make sure that updates are disabled, i.e. PSAM Personalization = No	Yes: Step 2 No: Case failed	
2.	Perform an **online** transaction using **ICC005**. Use an amount above floor limit (Amount = DKK 101,00) to be sure the transaction goes online. ☞ Is the transactions completed successfully?	Yes: Step 3 No: Case failed.	
3.	Perform an Advice Transfer. Analyze the FTD detailed setup.log file. ☞ Does field 55 in the Financial Advice for the transaction just performed contain "D0.Issuer script results"?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 7.6 - Online Transaction 06: PSAM Update Request

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Online Transaction	**Conditions:** NOT [OfflineOnly] AND NOT UPT

Requirements tested:
2-13.7.10.2   Interpretation of Tag 'C9' in host messages.
2-13-7.10.3   Message to the Merchant about PSAM Update.

Purpose:
To verify that the terminal will detect the PSAM Update request and handle it.

Prerequisites:
FTD script: OnlineTransaction_06   *Card(s):* ICC001   *PSAM:* PSAM002

Test environment:
FTD Host: X   *IFS:*   *Kopi:*

General pass criteria: That the Terminal shall generate an Advice Transfer when so requested.

Comments: The Advice Transfer Request flag has been renamed to PSAM Update flag to reflect actual use.

Comments: The special FTD script will introduce an PSAM Update flag in the APACS header.
Comments: The 'Merchant display' and the 'Cardholder display' will be merged in a Single Unit Terminal (SUT)

Step	Actions and assessment	Result	Verdict
1.	Select FTD host script **OnlineTransaction_06**. Make sure that updates aren't enabled, i.e. "PSAM personalization = No".	Step 2	
2.	Perform a transaction using **ICC001**. ☝ Does the terminal perform automated Advice Transfer / PSAM update sequences?	Yes: Step 5 No: Step 3.	
3.	☝ If the terminal has a Merchant Display, is a message displayed, informing that an PSAM Update Request has been received? ☝ If the terminal has a Merchant Display, is the message displayed for at least 6 seconds, or until the Merchant manually confirms the message? ☝ Is the transactions completed successfully?	Yes: Step 4 No: Case failed.	
4.	Perform an Advice Transfer. Analyze the detailed log from FTD. ☝ Does the log contain a Network Management Request with the Function Code 'PSAM Update' (Search for the pattern "0884 = PSAM Update" in the file)?	Yes: Case OK No: Case Failed	

Step	Actions and assessment	Result	Verdict
5.	If not already activated, bring the terminal to the state, where it will perform an automated Advice Transfer (consult terminal supplier for information). Analyze the detailed log from the FTD. ☞ Does the log contain a Network Management Request with the Function Code 'PSAM Update' (Search for the pattern "0884 = PSAM Update" in the log file)?	Yes: Case OK No: Case Failed	
-	End of test case		

Test Case 7.7 - Online Transaction 07: Abnormal Host Replies

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: Online Transaction	**Conditions:** NOT [OfflineOnly] AND NOT [OnlineOnly]

Requirements tested:

2-5.16.5.1   The MAD-Handler shall be able to control the number of outstanding Advices

2-5.15.4.11   If there are outstanding responses and no activity on the Communication Session for 30 seconds, the terminal shall terminate the communication at once.

2-5.15.4.12   When a time-out is detected the terminal shall interrupt the actual Communication Session.

Purpose: To test the terminals robustness when either the host or network:

♦ becomes mute (no responses) and later on

♦ returns all responses (several times and in a different sequence than received)

Prerequisites:

FTD script: OnlineTransaction_07   *Card(s):* ICC005   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
The terminal shall be able to handle the communication flow shown in Figure 2-5.43 i.e. that the transaction is successful and the correct advice is deleted in Data Store.

Step	Actions and assessment	Result	Verdict
1.	✍ Does the terminal only support 'Advice Window Size' = '1'?	Yes: Not Applicable No: Step 2	
2.	Select FTD script **OnlineTransaction_07**. ✍ Does the terminal support offline transactions?	Yes: Step 3 No: Step 6.	
3.	Perform *two* offline transactions using **ICC005** (amount < 100,00 DKK) in order to add two advices to Data Store (with STAN X and STAN X + 1).	Step 4	
4.	Perform an online transaction using **ICC005** (amount > 100,00 DKK). The host will not reply, neither on the Authorization Request (STAN X + 2) nor on the (conditional) Financial Advice (STAN X). ✍ Does the terminal sends repeats for (both) messages? Check the FTD log: ♦ Authorization Request (STAN X + 2), ApacsHeader.C1.Mti.Value = 30313037 (MTI = 0107) ♦ Financial Advice (STAN X), ApacsHeader.C1.Mti.Value = 30323237 (MTI = 0227) if the terminal support offline transactions.	Yes: Step 5 No: Case Failed	

Step	Actions and assessment	Result	Verdict
5.	The host replies on all the outstanding messages. Furthermore, the *responses* to the Financial Advices are repeated twice (see Figure 4.6). ☞ Is the transaction successful?	Yes: Step 7 No: Case failed	
6.	Perform an online transaction using **ICC005** (amount > 100,00 DKK). The host will not reply, neither on the Authorization Request (STAN X + 2). ☞ Does the terminal send repeats for the message? Check the FTD log: ♦ Authorization Request (STAN X + 2), ApacsHeader.C1.Mti.Value = 30313037 (MTI = 0107)	Yes: Step 7 No: Case Failed	
7.	Select FTD script **Normal**. Perform an Advice Transfer. ☞ Are two Financial Advices (with STAN X+1 and STAN X+3) delivered to the host?	Yes: Case OK No: Case failed	
-	End of test case		

Figure 4.6 - Communication flow for test case 7.7

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4.8 Receipt Printing

Test Case 8.1 - Receipt Printing 01: PIN or No CVM receipt

Test date:		Init:	
Problem Report (if any):		**Test case result:**	
Comments:			

Test group: Receipt Printing	**Conditions:** N/A

Requirements tested:

1-12.2.5.3	Merchant name on the receipt
1-12.2.5.4	Merchant address on the receipt
1-12.2.5.5	Merchant zip / city on the receipt
1-12.2.6.10	Date and time on the receipt
1-12.2.7.4	Amount on the receipt
1-12.2.7.5	Currency code on the receipt
1-12.2.7.6	Amount shall be final amount
1-12-2.7.10	Amount emphasized
1-12.2.8.5	Card name on the receipt
1-12.2.8.6	PSN (PAN Sequence Number) on the receipt
1-12.2.8.12	PAN truncated
1-12.2.8.13	Truncation for all receipts
1-12.2.8.16	Terminal Identification and STAN on the receipt
1-12.2.8.20	Transaction condition on the receipt
1-12.2.8.22	Me. No. on the receipt
1-12.2.8.25	ATC on the receipt
1-12.2.8.26	AED on the receipt
1-12.2.8.27	AID on the receipt
1-12.2.8.29	PSAM identification on the receipt
1-12.2.8.31	ARC on the receipt
1-12-2-8.32	Status on the receipt
1-12.2.8.33	Approval code on the receipt
1-12.2.8.35	Reference (STAN) on the receipt
1-12.2.8.36	Authorization result on the receipt

Purpose:
To verify that the receipts printed for a `default' transaction has the specified content.

Prerequisites:
- Access to section 1-12 of the OTRS as reference for receipt printouts,
- Access to section 1-15.x.3 of the OTRS as reference for texts in other languages,
- The terminal is able to / configured to print receipts.

FTD script: ReceiptPrinting_01   *Card(s):*ICC001,   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
The layout of the receipt printed shall follow the requirements laid out in section 1-12 of the OTRS.

Comments: This test may form a part of the `Basic Interconnect Test'. A representative receipt can be found in table 1-12.17

Comments: The header on the receipt may deviate slightly from the required format, if similar information is already present/printed on the paper.

Comments: The localized texts for the receipts can be found in subsection 1-15.x.3 for the different languages

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script denoted **Receipt-Printing_01.** Make sure that updates are disabled, i.e. PSAM Personalization = No.	Step 2	
2.	If the terminal is unattended then select that a receipt is to be printed. Perform a Purchase using **ICC001** ☞ Is the transaction successful? ☞ Is a receipt printed?	Yes: Step 3 No: Case failed	
3.	Inspect the receipt printed; ☞ If not already pre-printed on the receipt, is there a header on the receipt containing Merchant Identification information, in accordance with line MI1 - MI5 of figure 1-12.3 of the OTRS?	Yes: Step 4 No: Case failed.	
4.	Inspect the receipt printed; ☞ Does the receipt contain a Date and Time field in accordance with line HI10 of figure 1-12.4 of the OTRS? ☞ Is the Date and Time information correct? (Compare to Date and Time on the "hosts" i.e. the FTD)	Yes: Step 5 No: Case failed.	
5.	Inspect the receipt printed. ☞ Does the receipt contain an amount field in accordance with line AM2 in fig. 1-12.5 of the OTRS? ☞ Is the amount formatted correctly? ☞ Is the currency code presented correctly? ☞ Is the amount emphasized?	Yes: Step 6 No: Case failed.	
6.	Inspect the receipt printed. ☞ Does the receipt contain a card name field in accordance with line TR2 of figure 1-12.6 of the OTRS? ☞ Is the card name "VISA DANKORT"? ☞ Is the PSN field printed?	Yes: Step 7 No: Case failed.	
7.	Inspect the receipt printed. ☞ Does the receipt contain PAN field in accordance with line TR5 of figure 1-12-6 of the OTRS? ☞ Is the PAN printed in blocks of 4 digits? ☞ Is all but the last four digits of the PAN truncated (masked) according to table 1-12.4 in the OTRS?	Yes: Step 8 No: Case failed.	
8.	Inspect the receipt printed. ☞ Does the receipt contain a line in accordance with line TR6 of figure 1-12.6 of the OTRS? ☞ Is the Terminal Identification an 8 character alphanumeric field? ☞ Is it followed by and `-' and a 6 digit STAN field?	Yes: Step 9 No: Case failed.	

Step	Actions and assessment	Result	Verdict
9.	Inspect the receipt printed. ☞ Does the receipt contain a line in accordance with line TR8 of figure 1-12.6 of the OTRS? ☞ Is the first part of the line a 3 character transaction condition code; ♦ TCC = `IA1' for a PIN attended transaction  ♦ TCC = `I@5' for a signature transaction ♦ TCC = `IC1' for a UPT2 terminal (no CVM)  ♦ TCC = `IC5' for a UPT3 terminal ☞ Is the `ME NO:' a 10 digit field?	Yes: Step 10 No: Case failed.	
10.	Inspect the receipt printed. ☞ Does the receipt contain a line in accordance with line TR9 of figure 1-12.7 of the OTRS? ☞ Is the text `ATC:' followed by a 5 digit field?  ☞ If present, is this followed by the text `AED:' and a 6 digit field?	Yes: Step 11 No: Case failed.	
11.	Inspect the receipt printed. ☞ Does the receipt contain an Application Identifier field in accordance with line TR10 of figure 1-12.7 of the OTRS? ☞ Is the text `AID:' followed by up to 32 hexadecimal characters. (The field may be split across two lines)?	Yes: Step 12 No: Case failed.	
12.	Inspect the receipt printed. ☞ Does the receipt contain a PSAM field in accordance with line TR11 of figure 1-12.7 of the OTRS? ☞ Is the text `PSAM:' followed by a 7 digit field concatenated with a 10 digit field using `-'?	Yes: Step 13 No: Case failed.	
13.	Inspect the receipt printed. ☞ Does the receipt contain a line in accordance with line TR12 of figure 1-12.7 of the OTRS? ☞ Is there at the left side of the receipt the text `ARC:' followed by 2 alphanumeric characters?  ☞ Is there, at the right side of the receipt, the text `STATUS:' followed by a 4 digit value? ☞ Is the status value `0000'?	Yes: Step 14 No: Case failed.	
14.	Inspect the receipt printed. ☞ Does the receipt contain an approval code field in accordance with line TR13 of figure 1-12.7 of the OTRS? ☞ Is the field text 'AUT CODE:' followed by a 6 character alphanumeric field?	Yes: Step 15 No: Case failed.	

Step	Actions and assessment	Result	Verdict
15.	Inspect the receipt printed. ☞ Does the receipt contain a STAN field in accordance with line TR14 of figure 1-12.7 of the OTRS? ☞ Does the field start with the text `REF:' followed by a 6 digit field?  ☞ Is it followed by the text `AUTHORIZED'?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 8.2 - Receipt Printing 02: Signature receipt

Test date:		Init:	
Problem Report (if any):		**Test case result:**	
Comments:			

Test group: Receipt Printing	**Conditions:** [Signature] AND [Attended]

Requirements tested:
1-12.1.1.3   Copies of receipts, to Cardholder as well as Merchant
1-12.1.1.5   signature validation before cardholders receipt printed
1-12.2.6.2   Copies of receipts
1-12.2.8.13   Truncation of PAN on all receipts and copies to Cardholder
1-12.2.10.15   Different Recipient Indicator on Merchant and Cardholder receipt
2-4.8.4.2   Receipt shall be printed according to section 1-12.

Purpose:
To verify that the receipts printed for a signature based transaction has the specified content and that copies of receipts can be printed.

Prerequisites:
 - The terminal and the PSAM shall be configured to request confirmation of signature from the Merchant
 - Access to section 1-12 of the OTRS as reference for verification.

FTD script: ReceiptPrinting_02   *Card(s):* ICC018,   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
The layout of the receipt printed shall follow the requirements in section 1-12 of the OTRS.

Comments: This test is a supplement to the ReceiptPrinting_01 test. The detailed verification is dependent on whether or not dual layer receipts are printed.

Comments: It shall not be necessary to force the terminal to Signature, the CVM list in the card should ensure that Signature is used, if enabled.

Comments: An exemplary receipt for a Signature transaction can be found in table 1-12.20. Be aware that this receipt does **not** take regional requirements into account.

Comments: Dual layer receipts are **no longer** supported.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **ReceiptPrinting_02** Make sure that updates are disabled, i.e. PSAM Personalization = No.	Step 2	
2.	If necessary, enable signature transactions on the terminal. Start a purchase using **ICC018** (ADVT 6.0 TC01). If using the FTD make the amount **below** floor limit (FTD DKK 100,-). If so requested, confirm the amount on the Cardholders display. ☞ Is the transaction initiated? ☞ Is the Merchants receipt printed before the Cardholders receipt?	Yes: Step 3 No: Case failed	

Step	Actions and assessment	Result	Verdict
3.	Inspect the Merchants receipt printed. ☞ Does the receipts contain a line in accordance with line TR8 of figure 1-12.6 of the OTRS? ☞ Is the first part of the line a 3 character transaction condition, with the value of 'I@3' for offline transactions and 'I@1' for online transactions?	Yes: Step 5 No: Case failed.	
4.	Inspect the Merchant receipt printed; ☞ Does the receipt contain a signature panel in accordance with at least lines SI26 - SI28 in of figure 1-12.8 of the OTRS? ☞ Does line SI26 contain the text `CARDHOLDER'S SIGNATURE'? ☞ Does line SI27 - SI28 contain an area for writing the signature and is line SI28 a dotted line.	Yes: Step 6 No: Case failed.	
5.	Inspect Merchant receipt printed; ☞ Does the receipt contain a line in accordance with line FI8 of figure 1-12.10 of the OTRS? ☞ Does it contain the text 'MERCHANT'S RECEIPT'?	Yes: Step 7 No: Case failed.	
6.	☞ Is the Cardholder receipt printed, before the Merchant has confirmed the signature, when auto confirmation is **not** enabled?	Yes: Case failed No: Step 8	
7.	If the terminal requests verification of the Cardholders signature, respond affirmative. ☞ Is the transaction completed successfully? Inspect the Cardholder receipt printed; ☞ Is the signature panel removed accordance with figure 1-12.21 of the OTRS?	Yes: Step 9 No: Case failed.	
8.	Inspect the Cardholder receipt printed; ☞ Is the PAN, line TR5, on the Cardholders receipt truncated according to Table 1-12.4 of the OTRS? ☞ Does the receipt contain a line in accordance with line FI8 of figure 1-12.10 of the OTRS? ☞ Does it contain the text `CARDHOLDER'S RECEIPT'?	Yes: Step 13 No: Case failed.	
9.	Request a copy of the receipts; ☞ Are the receipt copies printed? ☞ Does the terminal print the Merchants as well as a Cardholder receipt? ☞ Does both receipts contain the line HI2 of figure 1-12.4. ☞ Is the PAN, line TR5, on the Cardholder receipt truncated according to Table 1-12.4 of the OTRS? ☞ Do both of the receipts contain a field in accordance with line HI2 of figure 1-12.4 of the OTRS? ☞ Is the field emphasized according to section 1-12.2.2 and figure 1-12.1?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 8.3 - Receipt Printing 03: Refund receipt

Test date:		Init:	
Problem Report (if any):		**Test case result:**	
Comments:			

Test group: Receipt Printing	**Conditions:** [Attended] AND [Refund]

Requirements tested:
1-12.2.6.8   Transaction indicator text
1-12.2.7.4   Business Call text
1-12.2.7.7   Final amount to cardholder
1-12.2.9.16   Signatory identifier
1-12.2.10.15 Recipient Indicator

Purpose:
To verify that the receipts printed for a refund transaction has the specified content.

Prerequisites:
- Access to section 1-12 of the OTRS as reference for receipt printouts,
- Access to section 1-15.x.3 of the OTRS as reference for texts in other languages.

FTD script: ReceiptPrinting_03   *Card(s):* ICC001,   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
The layout of the receipt printed shall follow the requirements in Section 1-12 of the OTRS.

Comments: This test is a supplement to the ReceiptPrinting_01 test. An example of a full refund receipt can be found in section 1-12-4.7 of the OTRS.

Comments: The texts specified are in the reference language, see the regional sections of the OTRS for the specific languages.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **ReceiptPrinting_03** Make sure that updates are disabled, i.e. PSAM Personalization = No.	Step 2	
2.	If necessary, enable refund transactions on the terminal. Start a refund transaction using **ICC001** ☞ Is the transaction initiated?	Yes: Step 3 No: Case failed	
3.	☞ If only one receipt is printed, is the cardholders receipt printed? ☞ If only one receipt is printed, is the corresponding information stored in the Merchant Application as well?	Yes: Step 4 No: Case failed	

Step	Actions and assessment	Result	Verdict
4.	Inspect the cardholders receipt printed. ✍ Does it have a line HI7 with the text "RE-FUND" as specified in table 1-12.1 of the OTRS? ✍ Is the first part of line TR8 a 3 character transaction condition, with the value of 'I@5'? ✍ Does the receipt contain a signature panel in accordance with lines SI26 - SI28? ✍ Is the text in line SI26 "MERCHANTS'S SIG-NATURE"? ✍ If a receipt pair is printed, does the cardholders receipt have a line FI8 with the text "CARDHOLDER'S RECEIPT"	Yes: Step 5 No: Case failed.	
5.	✍ Is a merchants receipt printed?	Yes: Step 6 No: Case OK	
6.	Inspect the merchants receipt; ✍ Is the content of lines MI1 - TR8 identical to the cardholders receipt? ✍ Is the signature panel, lines SI26 - SI28 removed? ✍ Does it have a line FI8 with the text "MER-CHANT'S RECEIPT"?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 8.4 - Receipt Printing 04: Authorization and reversal

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Receipt Printing	**Conditions:** [Attended] AND [Token] AND NOT [OfflineOnly]

Requirements tested:
1-12.2.6.8   Transaction indicator text
1-12.2.7.4   Business Call text
1-12.2.7.7   Final amount to cardholder
1-12.2.9.16   Signatory identifier
1-12.2.10.15   Recipient Indicator

Purpose:
To verify that the receipts printed for attended token transactions has the specified content.

Prerequisites:

FTD script: ReceiptPrinting_04   *Card(s):* ICC001,   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
The layout of the receipt printed shall follow the requirements in Section 1-12 of the OTRS.

Comments: This test is a supplement to the ReceiptPrinting_01 test. An example of an authorization receipt can be found in section 1-12-4.10 of the OTRS. An example of a reversal receipt can be found in section 1-12-4.12 of the OTRS.

Comments: The texts specified are in the reference language, see the regional sections of the OTRS for the specific languages.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **ReceiptPrinting_04** Make sure that updates are disabled, i.e. PSAM Personalization = No.	Step 2	
2.	Perform an original authorization transaction using **ICC001** ☞ Is the transaction successful?	Yes: Step 3 No: Case failed	
3.	☞ Is a receipt printed?	Yes: Step 4 No: Case failed	

Step	Actions and assessment	Result	Verdict
4.	Inspect the receipt printed. ☞ Does the receipt have a line HI7 that is emphasized? ☞ Is the TEXT ACCORDING TO TABLE 1-12.1, "AUTHORISATION ONLY"? ☞ Does the receipt have a line AM2, and is the header text i accordance to to table 1-12.2 "AMOUNT"? ☞ If the amount authorized isn't relevant to the cardholder, is the amount then omitted in line AM2 (**Note:** this requirement may be waived)? ☞ Is the first part of line TR8 a 3 character transaction condition, with the value of 'IA1'?	Yes: Step 5 No: Case failed.	
5.	Perform a transaction reversing the token. ☞ Is the transaction successful? ☞ Is a receipt printed?	Yes: Step 6 No: Case failed.	
6.	Inspect the receipt printed; ☞ Does the receipt have a line HI7 that is emphasized? ☞ Is the TEXT ACCORDING TO TABLE 1-12.1, "REVERSAL (AUTH.)"? ☞ Does the receipt have a line AM2, and is the header text i accordance to to table 1-12.2 "AMOUNT"?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 8.5 - Receipt Printing 05: <u>Interrupted</u> and declined PIN transaction.

Test date:	**Init:**
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Receipt Printing	**Conditions:** PIN

Requirements tested:
1-12.2.10.2   Receipt information footer block if not completed successfully.
1-12-2.10.4   Receipt information footer text according to table 1-12.7 of the OTRS.
1-12.2.10.11 Receipt for declined transaction
1-12.2.10.13 A receipt shall, for some regions, have "TVR/TSI" information.

Purpose:
To verify that the receipts for interrupted and declined PIN transactions has the specified content.

Prerequisites:
- Access to section 1-12 of the OTRS as reference for receipt printouts,
- Access to section 1-15.x.3 of the OTRS as reference for texts in other languages.

FTD script: ReceiptPrinting_05a   *Card(s):*ICC001   *PSAM:* PSAM002
        ReceiptPrinting_05b

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
The layout of the receipt printed shall follow the requirements in 1-12 of the OTRS.

Comments: This test is a supplement to the ReceiptPrinting_01 test.

Comments: The header on the receipt may deviate slightly from the required format, if similar information is already present/printed on the paper.

Comments: Examples of receipts for interrupted and declined transactions can be found in section 1-12.4.18 and 1-12.4.19 of the OTRS.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **ReceiptPrinting_05a** Make sure that updates are disabled, i.e. PSAM Personalization = No.	Step 2	
2.	If necessary, select a purchase transaction Insert **ICC001** Select/Enter amount Enter PIN, but **don't** confirm Make the Cardholder cancel transaction ☜ Is the transaction interrupted?	Yes: Step 3 No: Case failed	
3.	☜ Is a receipt printed?	Yes: Step 4 No: Step 5.	

Step	Actions and assessment	Result	Verdict
4.	Examine the receipt. Does the receipt contain a footer information block? Does the receipt hold a line FI2, and is the content according to table 1-12.7 of the OTRS ("INTERRUPTED-CANCEL")? Does the receipt hold a line FI5? If TVR/TSI is required for the expected region, does the receipt hold a FI6 line? (**not** required in all regions).	Yes: Step 5 No: Case failed.	
5.	Select the FTD script **ReceiptPrinting_05b** Make sure that updates are disabled, i.e. PSAM Personalization = No. (the host will decline the transaction)	Yes: Step 6 No: Case failed.	
6.	If necessary, select a purchase transaction Insert **ICC001** Select/Enter amount Enter PIN and confirm Confirm amount Is the transaction declined? Is a receipt printed?	Yes: Step 7 No: Case failed	
7.	Inspect the receipt printed. Does the receipt contain lines MI1 to TR11? in accordance with figure 1-12.34 of the OTRS? Does the receipt contain a line FI2 with the text according to table 1-12.7 of the OTRS ("DECLINED")? Does the receipt contain hold a line FI5 with an ASW? If TVR/TSI is required for the expected region, does the receipt hold a FI6 line? (**not** required in all regions).	Yes: Step 8 No: Case failed.	
8.	Analyze the detailed log file from the FTD. Find the Action Code, i.e. AuthRequestRespond. Field39. Inspect the receipt printed. If status in line TR12 of the receipt isn't blank is the number printed identical to the Action Code from the host response?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 8.6 - Receipt Printing 06: Rejected signature receipt

Test date:		Init:	
Problem Report (if any):		**Test case result:**	
Comments:			

Test group: Receipt Printing	**Conditions:** [Signature]

Requirements tested:
1-12.2.6.2 "Copy indicator" on a receipt, if it is a copy.
1-12.2.10.8 Indication on the final receipt of whether the signature was accepted or not.

Purpose:
To verify that the receipts printed for a rejected signature based transaction has the specified content.

Prerequisites:
- The terminal and the PSAM shall be configured to allow signature transactions and request confirmation of signature from the Merchant
- Access to section 1-12 of the OTRS as reference for receipt printouts,
- Access to section 1-15.x.3 of the OTRS as reference for texts in other languages,

FTD script: ReceiptPrinting_06   *Card(s):*ICC018,   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
The layout of the receipt printed shall follow the requirements in section 1-12 of the OTRS.

Comments: This test is a supplement to the ReceiptPrinting_01 test.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **ReceiptPrinting_06** Make sure that updates are disabled, i.e. PSAM Personalization = No.	Step 2	
2.	If necessary, **enable** signature transactions and merchant confirmation on the terminal. Start a purchase using **ICC018** (ADVT 6.0 TC01). Use an amount **below** floor limit. (FTD DKK 100,-). ☞ Is the transaction initiated? ☞ Is a Merchant's receipts printed? **Note:** The terminal should not print a Cardholders receipt, before the signature has been confirmed.	Yes: Step 3 No: Case failed	
3.	☞ Does the terminal prompt for Signature confirmation?	Yes: Step 4 No: Case failed.	
4.	Respond to the terminal, that the signature is **rejected**. ☞ Is the transaction completed as declined? ☞ Is a cardholders receipt generated? ☞ Does the Cardholders receipt hold a Footer Information block with a line FI2 according to table 1-12.7 ("SIGNATURE DECLINED")? ☞ Is the Cardholders receipt without a Signature Information block?	Yes: Step 5 No: Case failed.	

Step	Actions and assessment	Result	Verdict
5.	Request a copy of the receipt(s); ☞ Are the receipt copy/copies printed? ☞ Does the terminal print the Cardholders (declined) receipt and a Merchants receipt? ☞ Does the receipts contain an emphasized line HI2 with a copy indicator ("COPY"). ☞ Are the copies, with the exception of the Header Information, identical to the original receipts printed?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 8.7 - Receipt Printing 07: Declined and Failed Transaction receipts

Test date:	**Init:**	
Problem Report (if any):	**Test case result:**	
Comments:		

Test group: Receipt Printing	**Conditions:** NOT [OfflineOnly]

Requirements tested:

1-12.2.8.31   ARC value is printed if different from '0000'
1-12.2.8.33   Auth. code blank if no data available.
1-12.2.10.2   Receipt information footer block if not completed successfully.
1-12.2.10.4   Receipt information footer text according to table 1-12.8
1-12.2.10.9   If transaction fails the receipt shall indicate this

Purpose:
To verify that the receipts printed for a declined and a failed transaction has the specified content.

Prerequisites:
- Access to section 1-12 of the OTRS as reference for receipt printouts,
- Access to section 1-15.x.3 of the OTRS as reference for texts in other languages.

FTD script: ReceiptPrinting_07a   *Card(s):* ICC001,   *PSAM:* PSAM002
        (declined)
        ReceiptPrinting_07b (no re-
        sponse)

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
The layout of the receipt printed shall follow the requirements in 1-12.

Comments: This test is a supplement to the ReceiptPrinting_05 test.
Comments: The header on the receipt may deviate slightly from the required format, if similar information is already present/printed on the paper.
Comments: Examples of receipts for failed and declined transactions can be found in the OTRS in section 1-12.4.17 (failed) and 1-12.4.19 (declined).

Step	Actions and assessment	Result	Verdict
1.	Select FTD script **ReceiptPrinting_07a**. Make sure that updates are disabled, i.e. PSAM Personalization = No. (will reply expired card, declined)	Yes: Step 2 No: Case failed	
2.	If the terminal is a UPT, request that a receipt is to be printed. Initiate a purchase transaction using **ICC001** If PIN is requested, enter an illegal PIN (if the test is run on the FTD, then the PIN entered does not matter). ☞ Is the transaction declined? ☞ Is a receipt generated? (The actual printout of the receipt may be deferred until the transaction is over)	Yes: Step 3 No: Case failed	

Step	Actions and assessment	Result	Verdict
3.	Inspect the receipt printed. ☞ Are the lines TR13 and TR14 either not printed or empty? ☞ Does the receipt contain a Footer Information block? ☞ Does the receipt contain a line FI2 with the text according to table 1-12.7 in the OTRS ("DECLINED")? ☞ Does the receipt contain hold a line FI5 with an ASW of 1221? ☞ If the receipt contains a line FI4 is the content "INCORRECT PIN" (**Note:** The requirement for FI4 may be waived) ?	Yes: Step 4 No: Case failed.	
4.	Select FTD script **ReceiptPrinting_07b**.(The host will not reply). Make sure that updates are disabled, i.e. PSAM Personalization = No.	Step 5	
5.	If the terminal is a UPT, request that a receipt is to be printed. Initiate a purchase transaction using **ICC001**. If PIN is requested enter PIN. ☞ Does the transaction fail ? ☞ Is a receipt generated? (The actual printout of the receipt may be deferred until the transaction is over)	Yes: Step 6 No: Case failed	
6.	Inspect the receipt printed. ☞ Are the lines TR13 and TR14 either not printed or empty? ☞ Does the receipt contain a Footer Information block? ☞ Does the receipt contain a line FI2 with the text according to table 1-12.7 in the OTRS ("INTERRUPTED - ERROR")? ☞ Does the receipt contain hold a line FI5 with an ASW of 1618? ☞ If the receipt contains a line FI4 is the content "NO HOST RESPONSE RECEIVED" (**Note:** The requirement for FI4 may be waived) ? ☞ If TVR/TSI is required for the expected region, does the receipt hold a FI6 line? (**not** required in all regions).	Yes: Step 7 No: Case failed.	
7.	If the timeout from the host has brought the terminal offline, return the terminal to online state. (Consult manufacturer on how to do this).	Case OK	
-	End of test case		

Test Case 8.8 - Receipt Printing 08: Receipt printer malfunction

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Receipt Printing	**Conditions:** [Unattended]

Requirements tested:
1-12.1.2.4   Unattended, informed if no receipt can be printed.
1-12.1.2.5   Opportunity to proceed, when no receipt can be printed

Purpose:
To verify that the unattended terminal shows an error message on the Cardholder Display indicating that a receipt cannot be printed <u>and allows the Cardholder to proceed.</u>

Prerequisites:

FTD script: N/A   *Card(s):*ICC001   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria: It is verified that if the paper is removed from the receipt printer in an unattended terminal, the terminal shows in the Cardholder Display the Message Code `E1' ("No receipt").

Step	Actions and assessment	Result	Verdict
1.	Remove the paper from the receipt printer, optionally turn-off the power and turn the power on again. ☞ Is the Cardholder Display showing the error message "No receipt"?	Yes: Step 2 No: Case failed.	
2.	Try to perform a transaction. If necessary, acknowledge that no receipt will be generated. ☞ Is it possible to perform the transaction?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 8.9 - Receipt Printing 09: ASW to be printed/logged

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Receipt Printing	**Conditions:** NOT [OfflineOnly]

Requirements tested:
2-4.9.1.10 If error, ASW shall be printed/logged.

Purpose:
To verify that the terminal print the value of the ASW1-ASW2 on the receipt and log the value in the log as well.

Prerequisites:
The Data Store must be empty when starting this test case.

FTD script: ReceiptPrinting_09 *Card(s):* ICC001 *PSAM:* PSAM002

Test environment:

FTD Host: X *IFS:* *Kopi:*

General pass criteria: It is verified that if the host decline the transaction (Action Code = 1017 (PIN incorrect)), the terminal prints the value of the ASW1-ASW2 = 1221 (incorrect PIN) on the receipt and it is logged in the log.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD script **ReceiptPrinting_09** Make sure that updates are disabled, i.e. PSAM Personalization = No. If the terminal is a UPT, select that a receipt is to be printed. Insert **ICC001** and perform a transaction. ☞ Is the value of the ASW1-ASW2 = 1221 (incorrect PIN) printed on the receipt?	Yes: Step 2 No: Case failed.	
2.	☞ Is the value of the ASW1-ASW2 = 1221 (incorrect PIN) logged in the terminal log? (consult terminal supplier on how to access)	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 8.10 - Receipt Printing 10: Attended, display if receipt cannot be printed

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: Receipt Printing	Conditions: [Attended]
Requirements tested: 1-12.1.1.2 Conditions for allowing not to generate a receipt.	
Purpose: To verify that the terminal, if attended, will display the message code "No receipt" when a receipt cannot be printed.	
Prerequisites: *FTD script:* N.A. *Card(s):* ICC001 *PSAM:* PSAM002	
Test environment: *FTD Host:* X *IFS:* *Kopi:*	
General pass criteria: The Cardholder is informed prior to a transaction if a receipt cannot be printed.	

Comments: The message codes to be observed are '0B' "("Insert Card"), 'E0' ("Terminal Ready") and 'E1' ("No receipt").
Comments: For a SUT, the 'Cardholders display' shall be interpreted as the common display.

Step	Actions and assessment	Result	Verdict
1.	Bring the Terminal into a state where a receipt cannot be printed, like removing the paper from the printer.	Step 2	
2.	Observe the Cardholders display ☞ Is the message ("No receipt"), or a similar message, displayed on the Cardholders display, ? ☞ Is this displayed together with the messages ("Terminal Ready") or ("Insert Card")?	Yes: Step 3 No: Case failed.	
3.	Restore the Terminal to the state where a receipt again can be printed.	Case OK	
-	End of test case		

Test Case 8.11 - Receipt Printing 11: Unattended, dialog if receipt cannot be printed

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Receipt Printing	**Conditions:** [Unattended]

Requirements tested:

1-12.1.2.4   Information about no receipt.
1-12.1.2.5   Opportunity to proceed with no receipt.

Purpose:
To verify that the terminal will display a dialog, that allows the Cardholder to proceed, even when a receipt cannot be printed.

Prerequisites:

FTD script: ReceiptPrinting_11   *Card(s):*ICC001   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria: The Cardholder is informed if a receipt cannot be printed, **prior** to the transaction is started.

Comments: There are no specific requirements to the format the messages and to the user dialog.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **ReceiptPrinting_11** Make sure that updates are disabled, i.e. PSAM Personalization = No.	Step 2	
2.	Bring the Terminal into a state where a receipt cannot be printed, like removing the paper from the printer. (contact the Terminal supplier for information).	Step 3	
3.	Observe the Cardholders display ☞ Does the display show a message/dialog, that no receipt can be printed?	Yes: Step 9 No: Step 4.	
4.	Start a transaction. When requested/enabled ask for a receipt to be printed. ☞ Does the Terminal allow the Cardholder to request that a receipt can be printed?	Yes: Step 5 No: Case failed.	
5.	Start a transaction. ☞ Does the Terminal inform that a receipt cannot be printed?	Yes: Step 9 No: Step 10.	

6.	Proceed until either;
	  -the Cardholders display shows a dialog/message that no receipt can be printed,
	or until
	  -the Terminal request the Cardholder to confirm the transaction.
	
	☞ Does the display request the Cardholder to confirm the transaction?
		Yes: Step 7
		No: Step 8.	

Step	Actions and assessment	Result	Verdict
7.	Confirm the transaction and proceed. When the transaction is over, request that a receipt shall be printed ☞ Does the terminal inform the Cardholder, that a receipt cannot be printed?	Yes: Step 12 No: Case failed.	
8.	Select to proceed with the transaction, even if the receipt cannot be printed. ☞ Is it possible to proceed? ☞ Is the transaction successful? ☞ Is the terminal ready for a new transaction?	Yes: Step 12 No: Case failed.	
9.	Select to proceed with the transaction, even if a receipt cannot be printed. ☞ Is it possible to proceed? ☞ Is the transaction successful? ☞ Is the terminal ready for a new transaction?	Yes: Step 12 No: Case failed.	
10.	☞ Does the message on the display allow the Cardholder to select between proceeding or not?	Yes: Step 11 No: Case failed.	
11.	Select to proceed with the transaction. ☞ Is the transaction performed successfully? ☞ Is the terminal ready for a new transaction?	Yes: Step 12 No: Case failed.	
12.	Restore the Terminal to the state where a receipt again can be printed.	Case OK	
-	End of test case		

Test Case 8.12 - Receipt Printing 12: Unattended, dialog whether receipt is desired

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Receipt Printing	**Conditions:** [Unattended]
Requirements tested: 1-12.1.2.1　　Display a dialog about whether or not the receipt is to be printed. 1-12.1.2.2　　Default shall be not to print the receipt	
Purpose: To verify that the terminal will display a dialog, that allows the Cardholder to select whether or not a receipt is to be printed.	
Prerequisites: *FTD script:* ReceiptPrinting_12　　　*Card(s):* ICC001　　　*PSAM:* PSAM002	
Test environment: *FTD Host:* X　　　　　　　*IFS:*　　　　　　　*Kopi:*	
General pass criteria: The Cardholder may during the transaction decide whether or not a receipt is to be printed, the default action shall be not to print a receipt.	

Comments: There are no specific requirements to the format of the messages and to the user dialog.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **ReceiptPrinting_12** Make sure that updates are disabled, i.e. PSAM Personalization = No.	Step 2	
2.	Ensure that the Terminal into a state where a receipt can be printed (contact the Terminal supplier for information).	Step 3	
3.	Start a purchase transaction using **ICC001**. Proceed with the transaction until either the Cardholders display shows a dialog/message on whether or not a receipt is to be printed, or until the transaction is over. ☞ Does the display show a message/dialog before the transaction is over?	Yes: Step 4 No: Case failed.	
4.	☞ Does the message/dialog on the display allow the Cardholder to select whether a receipt is to be printed? ☞ Is the default selection, **not** to print a receipt?	Yes: Step 5 No: Case failed.	
5.	Select not to print a receipt. ☞ Is the transaction completed without a receipt? ☞ Is the terminal ready for a new transaction?	Yes: Step 6 No: Case failed.	

Step	Actions and assessment	Result	Verdict
6.	Start a purchase transaction again using **ICC001**. Proceed with the transaction until the Cardholders display shows a dialog/message on whether or not a receipt is to be printed, or until the transaction is over. ✍ Does the display show a message/dialog before the transaction is over? ✍ Does the message/dialog on the display allow the Cardholder to select whether a receipt is to be printed?	Yes: Step 7 No: Case failed.	
7.	Select to generate a receipt. PRoceed with the transaction ✍ Is a receipt printed? ✍ Is the terminal ready for a new transaction?	Yes: Step 8 No: Case failed.	
8.	Start a purchase transaction again using **ICC001**. Proceed with the transaction until the Cardholders display shows a dialog/message on whether or not a receipt is to be printed.	Yes: Step 9 No: Case failed.	
9.	**Don't** make any active selection, but proceed with the default action of the terminal. ✍ Is the transaction completed without a receipt being printed? ✍ Is the terminal ready for a new transaction?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 8.13 - Receipt Printing 13: Unattended, multi user receipt printing

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: ReceiptPrinting	Conditions: [Unattended] AND [MultiUser]

Requirements tested:
1-12.1.3.3   Multi-user, dialog during pre-authorization
1-12.1.3.4   Multi-user, selection of printout after delivery

Purpose:
To verify that the terminal will handle the printing of receipt from unattended terminals in a suitable way, in multi-user configurations.

Prerequisites:
 - Access to a multi-user configuration.

FTD script: ReceiptPrinting_13	*Card(s):* ICC001 ICC007	*PSAM:* PSAM002

Test environment:

FTD Host: X	*IFS:*	*Kopi:*

General pass criteria: The Cardholder shall be able to select whether or not he wants a printed receipt. Users in a multi-user environment shall be able to select the proper receipt, and the printing of previous cardholders receipt should not be possible. It shall not be possible to print out previous users receipts.

Comments: For test of terminals to be used outside the Danish region, ICC002 can be used instead of ICC007.

Comments: There are no specific requirements to the format of the messages, to the user dialog or to the way to select the receipt to get printed.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **ReceiptPrinting_13** Make sure that updates are disabled, i.e. PSAM Personalization = No. Start purchase transaction no. 1 using **ICC001**. Proceed with the transaction **either** until the Cardholders display shows a dialog/message on whether or not a receipt is to be printed, **or** until the transaction is over. ☞ Does the display show a message/dialog before the transaction is over or is it possible to get a receipt anyway?	Yes: Step 2 No: Case failed	
2.	If necessary, select to get the receipt printed. Proceed with the transaction until the delivery of goods / services. Record the amount used for the transaction. ☞ Are the goods / services delivered? ☞ Is the terminal ready for a new transaction?	Yes: Step 3 No: Case failed.	

Step	Actions and assessment	Result	Verdict
3.	Start purchase transaction no. 2 using **ICC007** or equiv. Proceed with the transaction **either** until the Cardholders display shows a dialog/message on whether or not a receipt is to be printed, **or** until the transaction is over. ☞ Does the display show a message/dialog on getting a receipt before the transaction is over, or is possible to get a receipt anyway?	Yes: Step 4 No: Case failed.	
4.	If necessary select to get the receipt printed. Proceed with the transaction until delivery of goods / services. Record the amount used for the transaction. ☞ Are the goods / services delivered? ☞ Is the terminal ready for a new transaction?	Yes: Step 5 No: Case failed.	
5.	Try to select the printout of the receipt for transaction no. 2. (Consult terminal supplier on how to select) ☞ Is it possible to get the receipt? ☞ Is the amount on the receipt correct?	Yes: Step 6 No: Case failed.	
6.	Record the 'STAN' from the receipt for transaction no. 2 If it is possible to get a copy receipt for a limited time, wait for this time and a little more. (Consult terminal supplier for this information) Try to get a second printout of the receipt for transaction no. 2. ☞ Is the selection not possible or is the printout declined?	Yes: Step 7 No: Case failed.	
7.	Start purchase transaction no. 3 using **ICC001**. Proceed with the transaction **either** until the Cardholders display shows a dialog/message on whether or not a receipt is to be printed, **or** until the transaction is over. ☞ Does the display show a message/dialog before the transaction is over, or is it possible to to get a receipt anyway?	Yes: Step 8 No: Case failed.	
8.	Do not make any selection on whether or not to get the receipt printed, i.e. use default behavior (no receipt). Proceed with the transaction until the delivery of goods / services. Record the amount used for the transaction. ☞ Are the goods / services delivered? ☞ Is the terminal ready for a new transaction? ☞ Is a receipt not printed automatically?	Yes: Step 9 No: Case failed.	
9.	Try to get a printout of the receipt for transaction no. 3. ☞ If printing of the receipt should be activated early, is it impossible not to get a printout?	Yes: Step 10 No: Case failed.	
10.	Try to get a printout of the receipt for transaction no. 2. ☞ Is the selection not possible or is the printout declined?	Yes: Step 11 No: Case failed.	

Step	Actions and assessment	Result	Verdict
11.	Try to select the printout of the receipt for transaction no. 1. (Consult terminal supplier on how to select) ☞ Is it possible to get the receipt? ☞ Is the amount on the receipt correct?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 8.14 - Receipt Printing 14: Receipt at Cancellation

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Receipt Printing	**Conditions:** [Attended] AND [Cancellation]

Requirements tested:
1-12.2.6.6   Header information for Cancellation
1-12.2.6.8   Transaction type for cancellation

Purpose:
To verify that the receipt printed at a cancellation has the specified content.

Prerequisites:
- Access to section 1-12 of the OTRS as reference for receipt printouts,
- Access to section 1-15.x.3 of the OTRS as reference for texts in other languages,
- The terminal is able to / configured to print receipts.

FTD script: ReceiptPrinting_01   *Card(s):* ICC001,   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
The layout of the receipt printed shall follow the requirements laid out in section 1-12.4.4 of the OTRS.

Comments: The header on the receipt may deviate slightly from the required format, if similar information is already present/printed on the paper.

Comments: The localized texts for the receipts can be found in subsection 1-15.x.3 for the different languages

Comments: Cancellation is only applicable to purchase transactions.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script denoted **Receipt-Printing_14.** Make sure that updates are disabled, i.e. PSAM Personalization = No.	Step 2	
2.	Perform a Purchase using **ICC001** ☞ Is the transaction successful? ☞ Is a receipt printed?	Yes: Step 3 No: Case failed	
3.	Perform a Cancellation ☞ Is a new receipt printed?	Yes: Step 4 No: Case failed.	
4.	Inspect the Cancellation receipt printed; ☞ Does the receipt contain a line HI4 with the content "Cancellation" (or the equivalent in the local language)?	Yes: Step 5 No: Case failed.	
5.	Compare the receipts printed. ☞ Are the two receipts identical, with the exception of the line HI4.	Yes: Case OK No: Case Failed	
-	End of test case		

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4.9 User Interface

Test Case 9.1 - User Interface 01: Cardholder Display

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: User Interface	Conditions: [PIN]

Requirements tested:
2-4.8.1.2:   (step 2-8) Amount and Currency shall be displayed until the result is known
1-11.5.1.1:   (step 5 & 6) PIN tries left
1-11.5.1.2:   (step 5 & 6) PIN tries left (incorrect PIN)
1-11.5.1.3:   (step 2, 4 & 6) Enter PIN
1-11.5.1.4:   (step 1) Accept key inactive
1-11.5.1.5:   (step 2 - 8) Amount & Currency Code
1-11.5.1.6:   (step 3) Enter PIN -> Enter PIN and Accept
1-11.5.1.7:   (step 4) Please wait
1-11.5.1.8:   (step 4, 6 & 8) Alternation of text

Purpose:
To verify that the terminal, when performing an offline PIN, fulfill the requirements concerning the cardholder display stated in section 2-4.8.1.

Prerequisites:

FTD script: UserInterface_01   *Card(s):*ICC008   *PSAM:* PSAM002

Test environment:
FTD Host: X   *IFS:*   *Kopi:*

General pass criteria: The ICC used performs only offline plaintext PIN and returns **incorrect** PIN **every** time. This makes it possible to examine the Cardholder Display according to section 2-4.8.1.

Comments: A terminal performing a token transaction will not always display an amount.
Comments: In order to contain all the information on the display, the Message Codes `0A' ("Incorrect PIN") and `09' ("Enter PIN") may alternate until the first PIN digit has been entered.
Comments: On a SUT, the `Cardholders display' is the common display.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **UserInterface_01** Make sure that updates are disabled, i.e. PSAM Personalization = No If the terminal does **not** support APE/DAPE (PIN before amount is known) skip to step 2. Insert **ICC008** without entering the Amount Press the Enter key. ☞ Is the Enter key active?	Yes: Case failed No: Step 2.	

2.	Start a **purchase** transaction.
	
	<u>If neccesary to proceed</u>, enter the Amount.
	
	Proceed to the point where the Cardholder shall enter the PIN.
	
	Enter first digit of the (incorrect) PIN.
	
	☞ Does the Cardholder Display show:
	    ☞ "Buy:"
	    ☞ "Amount" (Not always at authorizations)
	    ☞ "Currency Code"
	    ☞ **"Enter PIN",**
	    ☞ "PIN:" and
	    ☞ "*" for first PIN digit entered?
		Yes: Step 3
		No: Case failed.	

3.	Enter the remaining (incorrect) PIN digits.
	
	☞ Does the Cardholder Display show:
	    ☞ "Buy:"
	    ☞ "Amount" (Not always at authorizations)
	    ☞ "Currency Code"
	    ☞ **"Enter PIN and Accept",**
	    ☞ "PIN:" and
	    ☞ "*" for each PIN digit entered?
		Yes: Step 4
		No: Case failed.	

4.	Press ~~Accept~~ Enter
	
	☞ Does the Cardholder Display show:
	    ☞ "Buy:"
	    ☞ "Amount" (Not always at authorizations)
	    ☞ "Currency Code"
	    ☞ "Incorrect PIN",
	    ☞ **"Please wait"** and
	    after the PIN has been evaluated?
	
	☞ Does the Cardholder Display **not** show number of PIN tries left?
		Yes: Step 5
		No: Case failed.	

5.	Start entering (incorrect) PIN.
	
	☞ Does the Cardholder Display show:
	    ☞ "Buy:"
	    ☞ "Amount" (Not always at authorizations)
	    ☞ "Currency Code"
	    ☞ "Enter PIN",
	    ☞ "PIN:" and
	    ☞ "*" for each PIN digit entered?
		Yes: Step 6
		No: Case failed.	

6.	Press ~~Accept~~ Enter
	
	☞ Does the Cardholder Display show:
	    ☞ "Buy:"
	    ☞ "Amount" (Not always at authorizations)
	    ☞ "Currency Code"
	    ☞ "Incorrect PIN",
	    ☞ "Enter PIN" and
	    ☞ "PIN:"
	    ☞ **"1 PIN try left"**
	    after the PIN has been evaluated?
		Yes: Step 7
		No: Case failed.	

Step	Actions and assessment	Result	Verdict
7.	Enter (incorrect) PIN. ☞ Does the Cardholder Display shows: ☛ "Buy:" ☛ "Amount" (Not always at authorizations) ☛ "Currency Code" ☛ "Incorrect PIN" ☛ "Enter PIN", ☛ "PIN:" and ☛ "*" for each PIN digit entered?	Yes: Step 8 No: Case failed.	
8.	Press ~~Accept~~ <u>Enter</u> ☞ Does the Cardholder Display show: ☛ "Declined" or "Terminated" after the PIN has been evaluated? ☞ Is the transaction declined or terminated?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 9.2 - User Interface_02: MSC PIN retry

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: User Interface	Conditions: [PIN]
Requirements tested: 2-5.15.2.2 (step 1 - 3) New *Validate Data 2* command 1-12.2.10.4 (step 4 - 5) Receipt footer information printed.	
Purpose: To verify that the terminal issues a new *Validate Data 2* command in case of MSC PIN retry.	
Prerequisites: Access to section 1-12 of OTRS *FTD script:* UserInterface_02 *Card(s):* MSC001 *PSAM:* PSAM002	
Test environment: *FTD Host:* X *IFS:* *Kopi:*	
General pass criteria: The host respond with Action Code 1017 (Incorrect PIN), 1117 (Incorrect PIN) and 0000 (Successful). If the transaction is performed successfully, it is verified that the terminal issues two extra *Validate Data 2* commands.	

Comments: The FTD is set up such that the two first attempts will be declined with PIN error independent of the actual PIN used. It is not possible to perform test in KOPI environment.
Comments: The terminal shall, for UPT's print the real reference STAN.

Comments: The *Validate Data 2* command is the successor to the *Validate Data* command. Only *Validate Data 2* is used now.

Step	Actions and assessment	Result	Verdict
1.	Select FTD host script **UserInterface_02**. Make sure that updates are disabled, i.e. PSAM Personalization = No If the Terminal is unattended, select to get a receipt printed. Swipe **MSC001** and perform a **purchase** transaction. When the terminal rejects the PIN, reenter the PIN. (the FTD is set to <u>unconditionally</u> reject the PIN twice) ☞ Is the cardholder prompted to reenter the PIN twice?	Yes: Step 2 No: Case failed.	
2.	☞ Is the transaction successful at the third attempt?	Yes: Step 3 No: Case failed.	

Step	Actions and assessment	Result	Verdict
3.	Examine the FTD setup.log file. ✍ If the terminal **does not** perform authorization before the purchase (as on an attended terminal), has three Financial Requests been sent (all with MTI = 0206 but each with a unique STAN)? ✍ If the terminal does perform an authorization before the the purchase (like an Automated Fuel Dispenser) has three Authorization Requests been sent (all with MTI = 0106 but each with a unique STAN)	Yes: Step 4 No: Case failed.	
4.	Examine the receipts; ✍ Does the terminal provide three receipts in all? ✍ Does the two initial receipts indicate declined / "Declined" in line FI2? ✍ Does the last receipt indicate approved?	Yes: Step 5 No: Case failed.	
5.	Verify the STAN's. ✍ If the terminal **does not** perform an authorization before the purchase, does the STAN's in the Financial Requests from the FTD log match the STAN's printed on line TR14 on the 3 receipts? ✍ If the terminal **does** perform an authorization before the purchase, does the STAN's in the Authorization Requests from the FTD log match the STAN's printed on line TR14 on the 3 receipts?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 9.3 - User Interface 03: ASW1-ASW2 Handling

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: User Interface	Conditions: N/A

Requirements tested:
2-4.9.1.10   ASW1-ASW2 Value shall be printed/saved as part of the log.
2-4.8.1.13   ASW1-ASW2 based value to be displayed.

Purpose:
To verify that the terminal displays the final transaction result on the cardholder display and in case of an erroneous transaction, the value of ASW1-ASW2 is printed/saved in the terminal log.

Prerequisites:
Information from the terminal supplier on how to access the log in the terminal. The special test PSAM, PSAM004, is installed in the terminal.

FTD script: UserInterface_03a   *Card(s):* ICC001   *PSAM:* PSAM004
    UserInterface_03b
    Normal

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
It is verified that the terminal displays the correct display text as the final transaction result for the following four main commands:

- The *Initiate EMV Payment* command response: ASW1-ASW2 = `112F' (LC error) ⌁ "Processing error", message code `0F'.
- The *EMV Payment* command response: ASW1-ASW2 = `120E' (Declined by ICC) ⌁ "Declined", message code `07'.
- The *Validate Data 2* command response: ASW1-ASW2 = `1651' (Fatal error) ⌁ "System error, retry", message code `40'.
- The *Complete Payment* command response: ASW1-ASW2 = `1703' (Transaction declined by merchant/cardholder/terminal) ⌁ "Purchase interrupted", message code `E7'.

Comments: The analysis of the log in the terminal may be postponed to the end of the test, if it is possible to establish a correlation between the activity and the data in the log (for instance by looking at a time stamp).

Comments: The execution of this test case is based on the condition that the (test) PSAM is powered uninterrupted during the total duration of the test case. Step 3 - 6 are not applicable if the PSAM is powered down during the execution of the test case.

Step	Actions and assessment	Result	Verdict
1.	Select FTD host script **UserInterface_03a**. Make sure that updates are enabled, i.e. PSAM Personalization = Yes Perform an Advice Transfer. (To update the PSAM) Insert **ICC001** and try to perform a transaction. ☞ Does the cardholder display show "Processing error", message code `0F'?	Yes: Step 2 No: Case failed.	
2.	☞ Does the terminal log/save the ASW1-ASW2 value (`112F') in the terminal log?	Yes: Step 3 No: Case failed.	
3.	Insert **ICC001** and try to perform a transaction. ☞ Does the cardholder display show "Declined", message code `07'?	Yes: Step 4 No: Case failed.	
4.	☞ Does the terminal log/save the ASW1-ASW2 value (`120E') in the terminal log?	Yes: Step 5 No: Case failed.	
5.	Insert **ICC001** and try to perform a transaction. ☞ Does the cardholder display show "System error, retry", message code `40'?	Yes: Step 6 No: Case failed.	
6.	☞ Does the terminal log/save the ASW1-ASW2 value (`1651') in the terminal log?	Yes: Step 7 No: Case failed.	
7.	Select FTD host script **UserInterface_03b**. Make sure that updates are enabled, i.e. PSAM Personalization = Yes. Perform an Advice Transfer. (To update the PSAM) Insert **ICC001** and try to perform a transaction. ☞ Does the cardholder display show "Purchase interrupted", message code `E7'?	Yes: Step 8 No: Case failed.	
8.	☞ Does the terminal log/save the ASW1-ASW2 value (`1703') in the terminal log?	Yes: Step 9 No: Case failed.	
9.	Select the FTD host script **Normal** in the folder **Normal** Make sure that updates are enabled, i.e. PSAM Personalization = Yes. Perform an Advice Transfer in order to re-initialize the PSAM	Case OK	
-	End of test case		

Test Case 9.4 - User Interface 04: Terminal out of order

Test date:		Init:	
Problem Report (if any):		**Test case result:**	
Comments:			

Test group: User Interface	Conditions: N/A
Requirements tested: 2-4.8.1.5 Out of order handling	
Purpose: To verify that the terminal will displays the out of order message and disallow any transaction.	
Prerequisites: *FTD script:* UserInterface_04 *Card(s):*ICC001 *PSAM:* PSAM002	
Test environment: *FTD Host:* X *IFS:* *Kopi:*	
General pass criteria: The Terminal shall inhibit transactions and inform the Cardholder when the terminal is out of order.	

Comments: The message code to be observed is 'EA' (”Out of order”).

Step	Actions and assessment	Result	Verdict
1.	☞ Is it possible to bring the Terminal into a state where it is out of order (contact the Terminal supplier for information)?	Yes: Step 2 No: Not Applic-able.	
2.	Select the FTD host script **UserInterface_04** Make sure that updates are disabled, i.e PSAM Personalization = **No**.	Step 3	
3.	Bring the Terminal into an 'out-of-order' state.	Step 4	
4.	Insert **ICC001** in the card reader. ☞ Is it possible to initiate a transaction ?	Yes: Step 6 No: Step 5.	
5.	Restore the terminal to a non-“Out of order” state.	Case OK	
6.	Try to initiate a new transaction. ☞ Is it **im**possible to initiate the transaction? ☞ Does the terminal display “Out of order”, message code `EA' on the Cardholders dis-play?	Yes: Step 7 No: Case failed	
7.	Restore the terminal to a non-“Out of order” state.	Case OK	
-	End of test case		

Test Case 9.5 - User Interface 05: Log out of order

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: User Interface	**Conditions:** N/A

Requirements tested:
2-4.8.1.6　　　　Log out of order handling

Purpose:
To verify that the terminal, at a log error, will displays the terminal failure message and disallow any transaction.

Prerequisites:
FTD script: UserInterface_05　　　　　*Card(s):*ICC001　　　　　*PSAM:* PSAM002

Test environment:
FTD Host: X　　　　　　　　　*IFS:*　　　　　　　　　*Kopi:*

General pass criteria:
The Terminal shall inhibit transactions and inform the Cardholder when the log facility is out of order.

Comments:　The message code to be observed is 'E8' ("Terminal failure").

Step	Actions and assessment	Result	Verdict
1.	☞ Is it possible to force the Terminal into a state where the log is out of order, without the overall terminal being out of order (contact the Terminal supplier for information)?	Yes:　Step 2 No: Not Applicable.	
2.	Select the FTD host script **UserInterface_05** Make sure that updates are disabled, i.e. PSAM Personalization = No.	Step 3	
3.	Bring the log on the Terminal into an "Log out of order" state. ☞ Does the terminal display "Terminal failure", message code `E8', on the Cardholders display?	Yes:　Step 4 No: Case failed.	
4.	Insert **ICC001** in the card reader. ☞ Is it possible to initiate a transaction ?	Yes:　Case failed No: Step 5.	
5.	Restore the log of the Terminal into a non-"Log out of order" state.	Case OK	
-	End of test case		

Test Case 9.6 - User Interface 06: Message Codes displayed on Merchant Display

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: User Interface	Conditions: [Attended] AND NOT [SUT]

Requirements tested:
2-5.17.13.1　Display of message codes for rejected transactions on Merchant Interface.

Purpose:
To verify that the terminal, at rejected transactions, will display appropriate texts on the Merchant Display.

Prerequisites:
The test PSAM is installed.

FTD script: UserInterface_06a	*Card(s):* ICC001	*PSAM:* PSAM004
UserInterface_06b		
UserInterface_06c		
UserInterface_06d		
Normal		

Test environment:

FTD Host: X	*IFS:*	*Kopi:*

General pass criteria:
The Terminal shall display appropriate Message Codes on Merchant Interface in case of rejected transactions.

Comments: A list of Message Codes and corresponding texts is listed in section 2-13.9.1 of the OTRS. The section includes the Danish versions of the text as well. A specially configured PSAM is used. The ASW's returned by the PSAM are;
　　　a) during initial *Initiate EMV Payment* - '1240'
　　　b) during initial *EMV payment* - '1299'
　　　c) during initial *Validate Data* - '130F'
　　　d) during initial *Complete Payment* - '1703'
An Advice Transfer shall be performed every time a new FTD script is selected in order to load the new setup into the PSAM.

Comments: The specification requires that texts are displayed on the Merchants display. The merged Cardholder and Merchant display on a SUT makes the requirements fuzzy here.

Comments: The test case uses 4 **different** setups of the FTD, to verify that the terminal can display the different message codes on the (Merchant) display.

Step	Actions and assessment	Result	Verdict
1.	Select FTD script **UserInterface_06a**. Make sure that updates are enabled, i.e. PSAM Personalization = Yes. Perform an Advice Transfer (to update the PSAM). ☞ Was the Advice Transfer successful?	Yes: Step 2 No: Case Failed	
2.	Execute a **purchase** transaction using **ICC001**. ☞ Is the transaction rejected (due to ASW1-ASW2 = `1240' in the *Initiate EMV Payment* response)? ☞ Does the terminal display message code "43", "Expired Card" on the Merchant display?	Yes: Step 3 No: Case failed	
3.	Select FTD script **UserInterface_06b**. Make sure that updates are enabled, i.e. PSAM Personalization = Yes. Perform an Advice Transfer (to update the PSAM). ☞ Was the Advice Transfer successful?	Yes: Step 4 No: Case Failed	
4.	Execute a **purchase** transaction using **ICC001**. ☞ Is the transaction rejected (due to ASW1-ASW2 = `1299' in the *EMV Payment* response)? ☞ Does the terminal display message code "F5", "Limit reached" on the Merchant display?	Yes: Step 5 No: Case failed	
5.	Select FTD script **UserInterface_06c**. Make sure that updates are enabled, i.e. PSAM Personalization = Yes. Perform an Advice Transfer (to update the PSAM). ☞ Was the Advice Transfer successful?	Yes: Step 6 No: Case Failed	
6.	Execute a purchase transaction using **ICC001**. ☞ Is the transaction rejected (due to ASW1-ASW2 = `130F' in the *Validate Data* response)? ☞ Does the terminal display message code "FD", "Identical purchase" on the Merchant display?	Yes: Step 7 No: Case failed	
7.	Select FTD script **UserInterface_06d**. Make sure that updates are enabled, i.e. PSAM Personalization = Yes. Perform an Advice Transfer (to update the PSAM). ☞ Was the Advice Transfer successful?	Yes: Step 8 No: Case Failed	
8.	Execute a purchase transaction using **ICC001**. ☞ Is the transaction rejected (due to ASW1-ASW2 = `1703' in the *Complete Payment* response)? ☞ Does the terminal display message code "E7", "Purchase interrupted" on the Merchant display?	Yes: Step 9 No: Case failed	

Step	Actions and assessment	Result	Verdict
9.	Select FTD script **Normal** in the folder **Normal**. Make sure that updates are enabled, i.e. PSAM Personalization = Yes. Perform an Advice Transfer on the terminal (to restore the PSAM to normal conditions). ☞ Was the Advice Transfer successful?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 9.7 - User Interface 07: Use of 'Cancel' key

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: User Interface	Conditions: ~~[PIN]~~
Requirements tested:	

Requirements tested:

2-4.7.2.12   Unlock / return card at 'Cancel'
2-6.2.9.2   'Cancel' key implemented (implicit)
2-4.8.1.17   Cancel shall generate text "Purchase interrupted"
2-5.17.10.1   Cancel key active until amount confirmed
2-5.17.10.2   Cancel key forces return to idle

Purpose:
To verify that the terminal, will terminate a transaction if the 'Cancel' key is activated prior to confirmation of a transaction.

Prerequisites:

FTD script: UserInterface_07   *Card(s):* ICC001   *PSAM:* PSAM002
                                                    MSC001

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
The Terminal shall react properly whenever the 'Cancel' key is activated.

Comments: The term 'Cancel' key refers to the cancel key on the Cardholders keypad, or on a common keypad (SUT).

Comments: The default list of the display texts related to the different message codes can be found in section 1-11.2 of the OTRS. The lists for display texts in regional languages can be found in the corresponding sections in section 1.15.x.4 in the OTRS.

Step	Actions and assessment	Result	Verdict
1.	Select FTD script **UserInterface_07**. Make sure that updates are disabled, i.e. PSAM Personalization = No Perform an Advice Transfer. (To flush data store) ☞ Was the Advice Transfer successful?	Yes: Step 2 No: Case Failed	
2.	☞ Is it possible to initiate a transaction by inserting /swiping a card before the amount is known?	Yes: Step 3 No: Step 9	
3.	Insert **ICC001** Immediately activate the 'Cancel' key ☞ Does the Cardholder display show "Transaction interrupted"?	Yes: Step 4 No: Case failed.	
4.	☞ Does the terminal use PIN entry?	Yes: Step 5 No: Step 9	

Step	Actions and assessment	Result	Verdict
5.	Remove the card Wait until the terminal is ready for a new transaction. Insert **ICC001** If it is an PIN transaction, wait for the terminal to be ready for PIN entry. Activate the 'Cancel' key. ☞ Does the Cardholder display show "Transaction interrupted"? ☞ Does the terminal, if it uses a motorized / locking card reader, return / unlock the card?	Yes: Step 6 No: Case failed.	
6.	Remove the card Wait until the terminal is ready for a new transaction. Insert **ICC001.** If the terminal supports PIN, wait for the terminal to be ready for PIN entry and enter two PIN digits. Activate the 'Cancel' key. ☞ Does the Cardholder display display show "Transaction interrupted"?	Yes: Step 7 No: Case failed.	
7.	Remove the card Wait until the terminal is ready for a new transaction. Insert **ICC001.** If the terminal supports PIN, wait for the terminal to be ready for PIN entry and enter all PIN digits. Activate the 'Cancel' key. ☞ Does the Cardholder display show "Transaction interrupted"? ☞ Does the terminal, if it uses a motorized / locking card reader, return / unlock the card?	Yes: Step 8 No: Case failed.	
8.	Remove the card Wait until the terminal is ready for a new transaction. Insert **ICC001.** If the terminal supports PIN, wait for the terminal to be ready for PIN entry and enter all PIN digits. If possible enter / select amount, but don't enter 'Accept' Activate the 'Cancel' key. ☞ Does the Cardholder display show "Transaction interrupted"? ☞ Does the terminal, if it uses a motorized / locking card reader, return / unlock the card?	Yes: Step 9 No: Case failed.	

Step	Actions and assessment	Result	Verdict
9.	If inserted eject/remove the card Wait until the terminal is ready for a new transaction. Enter / select amount Insert **ICC001.** Activate the 'Cancel' key. ☞ Does the Cardholder display show "Transaction interrupted"? ☞ Does the terminal, if it uses a motorized / locking card reader, return / unlock the card?	Yes: Step 10 No: Case failed.	
10.	Remove the card Wait until the terminal is ready for a new transaction. Enter / select amount and enter 'Accept' Insert **ICC001.** If the terminal uses PIN as CVM, wait for the terminal to be ready for PIN entry and enter all PIN digits. **Immediately** activate the 'Cancel' key. ☞ Does the Cardholder display show "Transaction interrupted"?	Yes: Case failed No: Step 11.	
11.	Remove/eject the card Wait until the terminal is ready for a new transaction. Repeat steps 2 through 10 using **MSC001** instead. ☞ Are all the steps passed?	Yes: Case OK No: Case Failed.	
-	End of test case		

Test Case 9.8 - User Interface 08: No PIN before amount on SUT

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: User Interface	Conditions: [SUT] AND [Attended] AND [PIN]
Requirements tested: 1-14.5.4.23 Amount validated before PIN on Single Unit Terminal	
Purpose: To verify that, on a Single Unit Terminal, it is not possible to enter the PIN before confirming the amount.	
Prerequisites: *FTD script:* Normal *Card(s):*ICC001 *PSAM:* PSAM002	
Test environment: *FTD Host:* X *IFS:* *Kopi:*	
General pass criteria: Entry of PIN and confirmation of a purchase must not be mixed with the entry of other information from the keypad.	

Step	Actions and assessment	Result	Verdict
1.	Select FTD script **Normal**. Make sure that updates are disabled, i.e. PSAM Personalization = No	Yes: Step 2 No: Case Failed	
2.	Start a 'Purchase' transaction Insert **ICC001** ✍ Is the insertion of the card detected? ✍ Is the cardholder requested to enter PIN on the keypad?	Yes: Case failed No: Step 3.	
3.	Enter amount without confirming the amount. ✍ Is the cardholder requested to enter PIN on the keypad? ✍ Is it possible to enter the PIN on the keypad?	Yes: Case failed No: Step 4.	
4.	Push the "Clear" (SLET) key. ✍ Is the cardholder requested to enter PIN on the keypad? ✍ Is it possible to enter the PIN on the keypad?	Yes: Case failed No: Step 5.	
5.	Try to (re)select a 'Purchase' transaction. ✍ Is the cardholder requested to enter PIN on the keypad? ✍ Is it possible to enter the PIN on the keypad?	Yes: Case failed No: Step 6.	
6.	Push the "Cancel" (SLET ALT) key. Try to (re)select a 'Purchase' transaction. ✍ Is the cardholder requested to enter PIN on the keypad? ✍ Is it possible to enter the PIN on the keypad?	Yes: Case failed No: Step 7.	

Step	Actions and assessment	Result	Verdict
7.	Push the "Cancel" (SLET ALT) key. Remove **ICC001**. Insert **ICC001**. ☞ Is the cardholder requested to enter PIN on the keypad? ☞ Is it possible to enter the PIN on the keypad?	Yes: Case failed No: Step 8.	
8.	Push the "Cancel" (SLET ALT) key. Remove **ICC001**.	Case OK	
-	End of test case		

Test Case 9.9 - User Interface 09: Tag `CA' - Display line

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: User Interface	**Conditions:** [Attended]

Requirements tested:
2-12.7.11.2   Interpret Tag 'CA' data as a text string
2-12.7.11.3   Text to be displayed at Merchant Interface

Purpose:
To verify that the terminal, in case a tag object `CA' is received in a response, interprets the data as a text string for display purposes.

Prerequisites:

FTD script: UserInterface_09	*Card(s):* ICC001	*PSAM:* PSAM002

Test environment:

FTD Host: X	*IFS:*	*Kopi:*

General pass criteria: It is demonstrated that the terminal correctly interprets tag `CA', a pure text message from the PBS Host to the Merchant, and correctly displays the text string on the Merchant display.

Comments:
- This is a test case inherited from the OTITS.
- The "Merchants display" is for a SUA the common display.
- The host message is "(*ISSUER HOST TEST*)".

Step	Actions and assessment	Result	Verdict
1.	Select FTD script **UserInterface_09**. Make sure that updates aren't enabled, i.e. PSAM Personalization = No. Perform an Advice Transfer. ☞ Was the Advice Transfer successful?	Yes: Step 2 No: Case Failed	
2.	Execute a purchase transaction using **ICC001**. ☞ Is the transaction accepted? ☞ Is the special host message displayed on the Merchants display?	Yes: Step 3 No: Case failed.	
3.	☞ Is the host text string displayed for at least 6 seconds, or until the Merchant confirms the message? (whichever comes first)	Yes: Case OK No: Case failed.	
-	End of test case		

4.10 Transaction

Test Case 10.1 - Transaction 01: Batch numbering

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Transactions	**Conditions:**

Requirements tested:
2-5.3.4.1　　　Batch number in EMV/MSC/Key Entered/Token based Payment

Purpose:
To verify that the terminal will generate a batch number, and use a individual batch numbers for each currency.

Prerequisites:		
FTD script: Transaction_01	*Card(s):* ICC001, MSC001	*PSAM:* PSAM002

Test environment:		
FTD Host: X	*IFS:*	*Kopi:*

General pass criteria:
Individual batch numbers are used for different currencies when transferred to the host.

Comments: If the terminal is token based, perform an authorization as well as a capture for each transaction (this may be performed automatically in a UPT).

Step	Actions and assessment	Result	Verdict
1.	☞ Does the terminal support multiple curren-cies?	Yes: Step 2 No:　Not Applic-able.	
2.	Select the FTD host script **Transaction_01.** Make sure that updates are disabled, i.e. PSAM Personalization = No. Perform an Advice Transfer (to clear Data Store)	Step 3	
3.	Perform a purchase transaction, using the de-fault currency and **ICC001**. ☞ Is the transaction performed successfully? ☞ Is a receipt generated	Yes: Step 4 No:　Case failed	
4.	Record the following data from the receipt: ♦ The amount used ♦ The currency used ♦ The STAN of the transaction.	Step 5	
5.	☞ Does the terminal support two currencies or more?	Yes: Step 6 No:　Step 14	
6.	Perform a second purchase transaction, using another currency and **ICC001**. ☞ Is the transaction performed successfully? ☞ Is a receipt generated	Yes: Step 7 No:　Case failed	

Step	Actions and assessment	Result	Verdict
7.	Record the following data from the receipt: ♦ The amount used ♦ The currency used ♦ The STAN of the transaction.	Yes: Step 8	
8.	Perform a third purchase transaction, using the default currency again but instead using **MSC001**. ☞ Is the transaction performed successfully? ☞ Is a receipt generated?	Yes: Step 9 No: Case failed	
9.	Record the following data from the receipt: ♦ The amount used ♦ The currency used ♦ The STAN of the transaction.	Yes: Step 10	
10.	☞ Does the terminal support more that two currencies?	Yes: Step 11 No: Step 14	
11.	Perform a fourth purchase transaction, using a third currency and **MSC001**. ☞ Is the transaction performed successfully? ☞ Is a receipt printed	Yes: Step 12 No: Case failed	
12.	Record the following data from the receipt: ♦ The amount used ♦ The currency used ♦ The STAN of the transaction.	Yes: Step 13	
13.	Perform a last purchase transaction, using **ICC001**. ☞ Is the transaction performed successfully?	Yes: Step 14 No: Case failed	
14.	Perform an Advice Transfer Analyze the detailed log from the FTD. If the Terminal is token based, find for each of the purchases the 'Financial Advice' transactions. If the Terminal isn't token based, and the card was ICC001, find for each of the purchases the 'Auth. Request'. If the Terminal isn't token based, and the card was MSC001, find for each of the purchases the 'Financial Request'. In the selected transaction(s) find the following data elements; ♦ Field D1, STAN ♦ Field4, Amount ♦ Field37, Retrieval ref number Compare the value from the log with the values from the receipts. ☞ Are the STAN and amount values correct? ☞ Is Field37 different for the different currencies?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 10.2 - Transaction 02: Rounding of amount

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Transaction	**Conditions:**	
Requirements tested: "Møntloven §5" on rounding of an amount when using electronic transfer.		
Purpose: To verify the way the terminal will round the amount whether or not cash-back/"byttepenge" is used.		
Prerequisites:		
FTD script: Transaction_02	*Card(s):* ICC001	*PSAM:* PSAM002
Test environment:		
FTD Host: X	*IFS:*	*Kopi:*
General pass criteria: Rounding of the amount shall in general not be performed, but may be performed, when cashback is used.		

Comments: The requirement is national Danish legislation and not a part of the OTRS. It states that rounding of the amount, when using electronic transfer, shall not be performed unless agreed between the involved parties.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **Transaction_02.** Make sure that updates are disabled, i.e. PSAM Personalization = No. ☜ Is the terminal to be used in Denmark, or another region where rounding of the amount is'nt default for electronic transactions?	Yes: Step 1 No: Not Applicble	
2.	Perform a purchase transaction, using DKK and **ICC001**. Use a total amount that, including fee's etc., **isn't** equal to a rounded amount (i.e. a total amount where the 'øre' amount is different from 0 or 50) ☜ Is it possible to select such an amount?	Yes: Step 3 No: Not Applicable.	
3.	☜ Is the transaction performed successfully? ☜ Is a receipt generated? ☜ Is the total amount on the receipt equal to the amount selected (i.e. **no** rounding has been performed)?	Yes: Step 4 No: Case failed	
4.	☜ Does the terminal support cashback?	Yes: Step 5 No: Case OK	

Step	Actions and assessment	Result	Verdict
5.	Perform a purchase transaction with cashback, using DKK and **ICC001**. Use an amount that isn't equal to a rounded amount (i.e. an amount where the 'øre' amount is different from 0 or 50). Record the amount. Use a cashback of a multiple of DKK 100,00 ☞ Is the transaction performed successfully? ☞ Is a receipt generated	Yes: Step 6 No: Case failed	
6.	Analyse the amount on the receipt: ☞ Is the total amount on the receipt equal to the sum of the amount and the cashback (i.e. **no** rounding has been performed)?	Yes: Step 7 No: Case failed	
7.	Perform a purchase transaction with cashback, using DKK and **ICC001**. Use an amount that isn't equal to a rounded amount (i.e. an amount where the 'øre' amount is different from 0, or 50). Record the amount. Select a cashback value, such that the total amount, including cashback, is equal to a multiplum of DKK 100,00. (This corresponds to the Cardholder requesting "round to the nearest 100 kr". This will cause a cashback that isn't a rounded amount). ☞ Is the transaction performed successfully? ☞ Is a receipt generated?	Yes: Step 8 No: Case failed	
8.	Analyse the total amount on the receipt: ☞ Is the total amount charged **either** a multiplum of DKK 100,00? (rounding agreed between the parties) ☞ **or** is the total amount charged the sum of the amount and the cashback? (rounding **not** agreed between the parties)	Yes: Case OK No: Case failed	
-	End of test case		

Comments: Test data to use in the above mentioned test steps could be something like;
Step 2;   Total amount DKK 23,45 (rounds to DKK 23,50)
Step 5;   Amount of DKK 67,89 cashback of DKK 200,00 (rounds to 268,00)
Step 8,   Amount of DKK 123,45,"sum" of DKK 200,00, cashback of DKK 76,55, "real"cashback of DKK 76,50, total amount of either DKK 199,95 or DKK 200,00.

Test Case 10.3 - Transaction 03: MAD-Handler Encountered Error.

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Transaction	**Conditions:**

Requirements tested:

2-5.15.1.1   If the PSAM respond with an ASW1-ASW2 indicating an unsuccessful operation to a command or the MAD-Handler encounter an error, the MAD-Handler shall send a Complete Payment command to the PSAM in order to make the PSAM "clean-up" all processes related to this ID-$_{THREAD}$ and return to idle. At the same time the Transaction Completed command shall be sent to the Merchant Application indicating that the transaction failed.

Purpose:
To verify the way the terminal handles a MAD-Handler encountered error.

Prerequisites:

FTD script: Transaction_03   *Card(s):*ICC001   *PSAM:* PSAM004
    Normal

Test environment:

SmartSpy (or similar tool) is to be used in order to monitor the PSAM interface.

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
The MAD-Handler shall send a Complete Payment Command to the PSAM in order to make the PSAM "clean-up" all processes related to this ID$_{THREAD}$ and return to idle. Use a logging tool like "Smart Spy" to verify the commands sent.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **Transaction_03** Make sure that updates are enabled, i.e. PSAM Personalization = Yes. Perform an Advice Transfer to initiate special parameters in the PSAM. (PSAM will return the ASW1-ASW2 = `13 21' (Application Cryptogram error) data in response to the *Initiate EMV Payment* command) Set up the monitor tool in order to monitor the PSAM interface.	Step 2	
2.	Perform a purchase transaction, using **ICC001**. Examine the log: ☞ Does the terminal issue the *Initiate EMV Payment* Command (.. `B0 80' ..). ☞ Does PSAM return a response to the *Initiate EMV Payment* command with ASW1-ASW2 = `1321'? ☞ Does Terminal/MAD-Handler send *Complete Payment* command to the PSAM (.. `B0 8E' ..)? ☞ Does the PSAM send *Add File Record* command to the Data store (.. `92' ..)? **See Example below!**	Yes: Step 3 No: Case failed	

Step	Actions and assessment	Result	Verdict
3.	Select the FTD host script **Normal** in the folder **Normal**.		
	Make sure that updates are enabled, i.e. PSAM Personalization = Yes.		
	Perform an Advice Transfer to restore the parameters in the PSAM.	Case OK	
-	End of test case		

Example (Step 2):

....
Terminal --> PSAM (Initiate EMV Payment)
*00 40 51 **B0 80** 81 11 4B 00 00 07 A0 00 00 00 03*
10 10 06 12 22 13 09 00 00 30 30 30 30 30 30 34
30 10 50 00 00 1F 6F 1D 84 07 A0 00 00 00 03 10
10 A5 12 50 0B 56 69 73 61 44 61 6E 6B 6F 72 74
5F 2D 02 64 61 05 54 46 00 01 18 07 00 00 04 65
02 08 02 00 E6

....

PSAM --> Terminal (Response to Initiate EMV Payment)
*00 40 0C 01 00 00 01 FF 00 00 04 **13 21** 90 00 15*

Terminal --> PSAM (Complete Payment)
*00 00 08 **B0 8E** 81 11 02 00 80 00 24*

PSAM --> Terminal (Add File Record)
*00 00 FF **05 00 00 01 92** 00 01 61 00 03 00 01 5C*
41 36 30 31 E0 4E C0 02 01 00 C1 04 30 31 32 36
C2 02 01 00 C3 0D A0 00 00 01 20 81 11 00 02 00
00 02 1C C4 03 00 04 51 C5 01 02 C6 10 4F AC 0C
7A D5 B4 50 59 C8 F3 72 1F 56 BE 2F 3C C7 01 02
CC 08 30 30 34 30 30 30 34 30 CD 08 30 30 30 30
30 30 34 30 8B 5F BC A5 D0 5C FF 36 06 01 3E 1B
8B 96 EB 6F 70 C0 B7 97 AD EA 87 BE 6E E1 6E D3
7D F1 88 E8 76 C9 79 41 E2 4B C1 DB 5B 1E 1D 91
DF 71 25 E1 58 A7 A7 AB 1B 55 46 E4 DF 3B F4 A3
C5 B5 24 0F F4 93 26 80 D8 15 22 A3 8F 0B 08 ED
00 09 1D AC 96 B7 C6 5E 20 A4 D6 C5 E8 77 01 1E
0D 2C E2 5D 6F 21 E7 6B DC BE 2C 23 86 ED 7A 6A
B7 92 41 81 F8 A3 47 FE D4 0F 80 D4 F0 6B D0 78
D0 DF 76 5E 1C A6 E0 74 5D A8 85 E9 00 67 D0 D5
38 8A 72 27 F0 1C BF C5 88 C3 A3 6A 59 90 68 96
01 C3

....

Destination Address: 0500 (Data Store Handler)
Source Address: 000x (PSAM Handler, where x is socket used SIM card)
Message Type: 92

Test Case 10.4 - Transaction 04: POS Entry mode, ICC online.

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Transaction	**Conditions:**

Requirements tested:
2-5.4.3.2   Coding of POS entry mode shall be coded according to section 2-13.9.5 of the OTRS.

Purpose:
To verify the POS entry mode is correctly encoded.

Prerequisites:		
FTD script: Transaction_04	*Card(s):* ICC001	*PSAM:* PSAM002

Test environment:		
FTD Host: X	*IFS:*	*Kopi:*

General pass criteria:
POS entry mode, as shall be correctly encoded.

Comments: The coding of POS entry mode depends on the type of Terminal.

Step	Actions and assessment	Result	Verdict
1.	Select FTD script **Transaction_04**. Mark 'PSAM personalization' as 'No' on the FTD. Perform an Advice Transfer (to clear the Data Store)	Step 2	
2.	Perform a purchase transaction using **ICC001**. Record the STAN from the receipt. ✍ Is the transaction performed successfully?	Yes: Step 3 No: Case failed.	
3.	Perform an Advice Transfer (to retrieve all data from the terminal) Retrieve the detailed log file from the FTD. Find the Authorization Request in the file Select Field22 of the request and analyze it. ✍ If the Terminal is a UPT level 1 (PIN - on-line), is the field '20 50 0X'? ✍ If the Terminal is a UPT level 2 (no PIN - online), is the field '80 50 0X'? ✍ If the Terminal is attended and using PIN, is the field '10 51 0X'? ✍ If the Terminal is attended and using Signature, is the field '10 55 0X'?	Yes: Step 4 No: Case failed	

Step	Actions and assessment	Result	Verdict
4.	Find the Financial Advice in the FTD log file Verify that the STAN of the Advice is one larger that the STAN recorded in step 1. Select Field22 of the advice and analyse it. ☞ If the Terminal is a UPT level 1 (PIN - online), is the field '20 51 5X'? ☞ If the Terminal is a UPT level 2 (no PIN - online), is the field '80 50 0X'? ☞ If the Terminal is attended and using PIN, is the field '10 51 5X'? ☞ If the terminal is attended and using Signature, is the field '10 55 4X'?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 10.5 - Transaction 05: POS Entry mode, MSC and signature.

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Transaction	Conditions: [Signature]

Requirements tested:
2-5.4.3.2   Coding of POS entry mode shall be coded according to section 2-13.9.5 of the OTRS.

Purpose:
To verify the POS entry mode is correctly encoded.

Prerequisites:		
FTD script: Transaction_05	*Card(s):* MSC001	*PSAM:* PSAM002

Test environment:		
FTD Host: X	*IFS:*	*Kopi:*

General pass criteria:
POS entry mode shall be correctly encoded.

Comments: The coding of POS entry mode depends on the type of Terminal. The FTD log may contain a Financial Advice from a previous ICC transaction. This is not of interest to the current test. This test is not applicable to UPT's as it uses signature.

Step	Actions and assessment	Result	Verdict
1.	Select FTD script **Transaction_05**. Mark 'PSAM personalization' as 'No' on the FTD. Perform an Advice Transfer	Step 2	
2.	Select forced signature Perform a purchase transaction using **MSC001**, accepting the signature. ☞ Is the transaction performed successfully?	Yes: Step 3 No: Case failed.	
3.	Perform an Advice Transfer (to retrieve data from offline terminals as well). Retrieve the detailed log file from the FTD. Find the Financial Request in the file. Select Field22 of the request and analyze it. ☞ Is the field '10 25 0X'?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 10.6 - Transaction 06: POS Entry mode, ICC declined.

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Transaction	**Conditions:** NOT [OfflineOnly]

Requirements tested:

2-5.4.3.2　　Coding of POS entry mode shall be coded according to section 2-13.9.5 of the OTRS.

Purpose:
To verify the POS entry mode is correctly encoded.

Prerequisites:

FTD script: Transaction_06　　　　*Card(s):*ICC001　　　　*PSAM:* PSAM002

Test environment:

FTD Host: X　　　　　　　*IFS:*　　　　　　　*Kopi:*

General pass criteria:
POS entry mode shall be correctly encoded.

Comments: The host will return an action code causing a rejection of the transaction. This transaction will cause an Authorization Request followed by a Reversal Advice.

Step	Actions and assessment	Result	Verdict
1.	Select FTD script **Transaction_06**. Mark 'PSAM personalization' as '**No**' on the FTD. Perform an Advice Transfer on the terminal. ☞ Was the Advice Transfer successful?	Yes: Step 2 No: Case Failed	
2.	Stop and restart the FTP to clear the log. Execute a purchase transaction using **ICC001**. Record the STAN(**=X**) from the Receipt ☞ Is the transaction rejected?	Yes: Step 3 No: Case failed.	
3.	Perform an Advice Transfer Retrieve the log file from the FTD. Find the Authorization Request in the detailed log file Select Field22 of the request. and analyze it. ☞ If the Terminal is a UPT level 2 (no PIN - online), is the field '80 50 0X'? ☞ If the Terminal is a UPT level 1 (PIN - on-line), is the field '20 51 0X'? ☞ If the Terminal is attended, is the field '10510X'?	Yes: Step 4 No: Case failed	

Step	Actions and assessment	Result	Verdict
4.	Find the Reversal Advice in the FTD detailed log file. Verify that the STAN, Field11 of the reversal, is = **X+1**. Select Field22 of the advice and analyze it. ☞ If the Terminal is a UPT level 2 (no PIN - online), is the field '80 50 XX'? ☞ If the Terminal is a UPT level 1(PIN - on-line), is the field '20 51 XX'? ☞ If the Terminal is attended, is the the field '10 51 XX'?	Yes: Step 6 No: Case failed	
-	End of test case		

Test Case 10.7 - Transaction 07: POS Entry mode, ICC fallback.

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Transaction	Conditions: NOT [OfflineOnly]

Requirements tested:
2-5.4.3.2   Coding of POS entry mode shall be coded according to section 2-13.9.5 of the OTRS.

Purpose:
To verify the POS entry mode is correctly encoded.

Prerequisites:		
FTD script: Transaction_07	*Card(s):* ICC004	*PSAM:* PSAM002

Test environment:		
FTD Host: X	*IFS:*	*Kopi:*

General pass criteria:
POS entry mode shall be correctly encoded in the Host messages

Comments: Fallback will cause special POS entry mode. Seen from the Host, there will be a Financial Request followed by an Authorization Advice.

Step	Actions and assessment	Result	Verdict
1.	☞ Does the terminal (type) support Fallback transactions?	Yes: Step 2 No: Case not Applicable	
2.	Select FTD script **Transaction_07**. Mark "PSAM personalization = No" on the FTD. Perform an Advice Transfer (to clear the data store).	Step 3	
3.	Insert **ICC004** in the ICCR, if necessary pause and retry until the Terminal starts a fallback. If necessary, accept fallback on the Merchant interface. If necessary, follow the instructions on the Terminal on how to use the Magstripe on the card. If the Terminal is a UPT, request that a receipt is to be printed. (The terminal will at this point generate an ASW = 1222 from the PSAM to the terminal and an Authorization Advice in the Data store as part of the fallback flow) Execute a purchase transaction. Record the STAN from the receipt. ☞ Was the transaction successful?	Yes: Step 4 No: Case Failed	

Step	Actions and assessment	Result	Verdict
4.	Retrieve the detailed log file from the FTD. Find the Financial Request in the file. The STAN is the same as on the receipt in step 2. Select Field22, the POS entry mode, of the request and analyse it. ☞ If the Terminal is a UPT level 1 (PIN - on-line), is it '20 71 0X' ☞ If the Terminal is a UPT level 2 (no PIN - online), is it '80 70 0X'? ☞ If the Terminal is attended, is it '10 71 0X'?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 10.8 - Transaction 08: Abnormal Host Replies

Test date:		Init:	
Problem Report (if any):		**Test case result:**	
Comments:			

Test group: Transaction		**Conditions:** NOT[OfflineOnly] AND NOT[OnlineOnly]

Requirements tested:

2-5.15.4.11   If there still are outstanding responses and no further activity on the Communication Session for 30 seconds, the Terminal shall terminate the Communication at once.

Note: The host systems are not going to interrupt an open session, if the host systems are informed of any outstanding responses to the terminal.

2-5.15.4.12   When a time-out is detected the terminal shall interrupt the actual Communication Session.

Note: If other responses are outstanding the terminal shall await all responses or time-outs before closing the session.

Purpose: To test the terminals robustness when either the host or network:

- becomes mute (no reply) and later on.
- returns all responses (in a different sequence than received).
- duplication of responses.

Prerequisites:

FTD script: Transaction_08   *Card(s):* ICC005   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
The terminal shall be able to handle the transaction flow shown in figure 4.7.

Step	Actions and assessment	Result	Verdict
1.	Select FTD script **Transaction_08**. Perform *two* offline transactions using **ICC005** (amount < 100,00 DKK) in order to add two advices to Data Store (with STAN X and STAN X + 1).	Step 2	
2.	Perform an online transaction using **ICC005** (amount > 100,00 DKK). The host will not reply on either the Authorization Request (STAN X + 2) or Financial Advice (STAN X). ☞ Does the terminal repeat the two messages (STAN X + 2, STAN X)? Check the FTD log	Yes: Step 3 No: Case Failed	
3.	Retrieve the detailed log file from the FTD. ☞ Does the transaction flow conform to the flow shown in Figure 4.7? ☞ Is the transaction completed successfully?	Yes: Case OK No: Case failed	
-	End of test case		
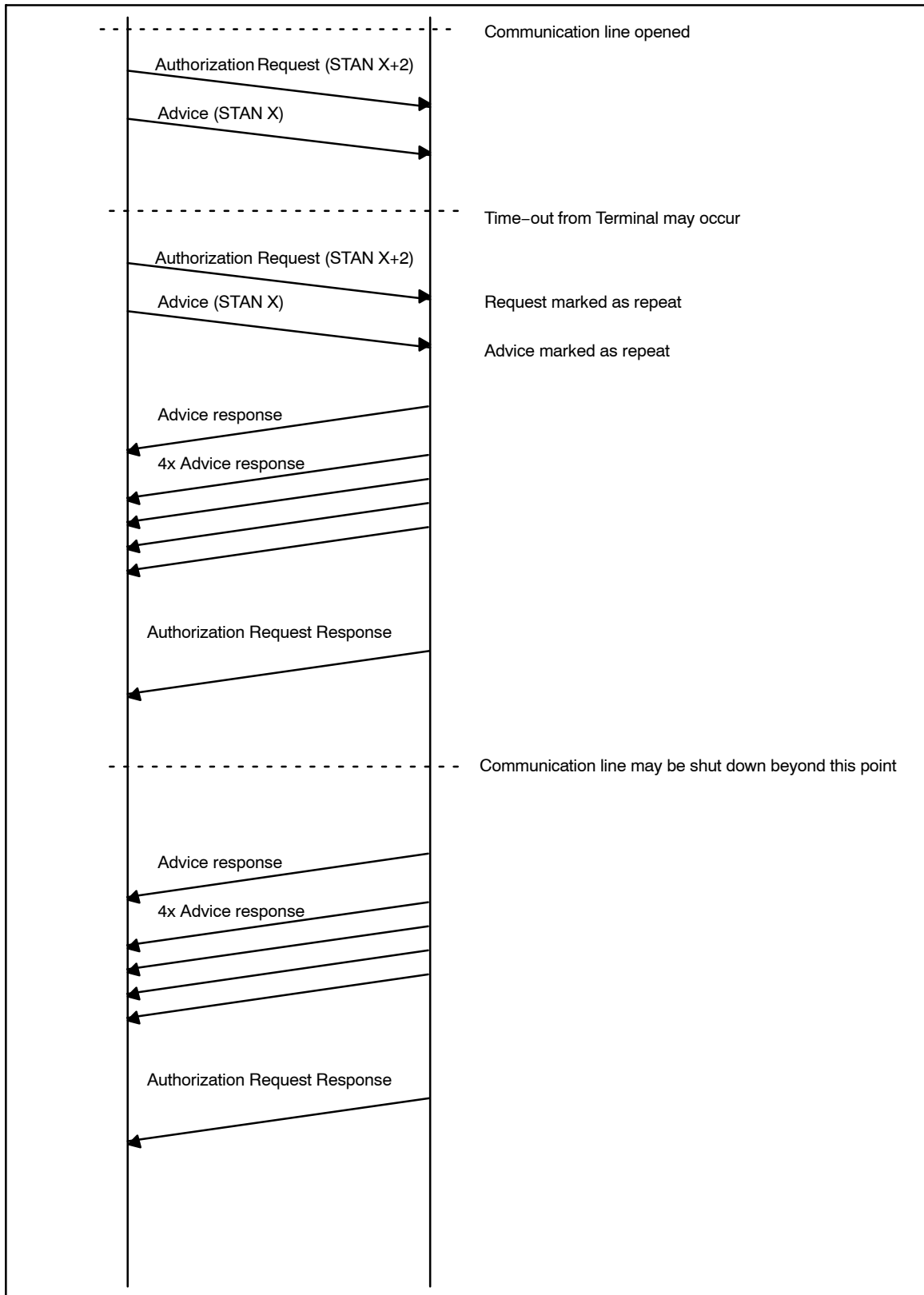
Figure 4.7 - Communication flow for test case 10.8

Test Case 10.9 - Transaction 09: Force offline/Approval Code

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Transaction	**Conditions:** [Attended] AND [Offline] AND NOT[OnlineOnly]

Requirements tested:

2-5.4.4.4. When "Forced offline" is set in Merchant Initiative (MI), the Merchant Application shall request the Merchant to make an Voice Authorization.

2-5.4.4.5 The result of a Voice Authorization request shall be conveyed in the response to the *Check Stop List* command.

Purpose:

To verify that the terminal is able to "Force offline" and manual entry of Approval Code is possible.

Prerequisites:

FTD script: Transaction_09 *Card(s):*ICC001 *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:

Signature shall be requested and Approval Code (Field 38) in Financial Advice shall match the manual entered Approval Code. Transaction shall be performed offline.

Comments: An offline-only terminal, will by default, use forced offline set.

Step	Actions and assessment	Result	Verdict
1.	☞ Does the terminal support the entry of approval code?	Yes: Step 2 No: Not Applicable	
2.	Select FTD script **Transaction_09** and set PSAM Personalization = 'No'.	Step 3	
3.	Set the terminal to **Forced offline** and Perform a chip based transaction using **ICC001**. ☞ Does the terminal ask for manual entry of the **Approval Code**?	Yes: Step 4 No: Case failed	
4.	Use **123456** as **Approval Code**. If the terminal ask the merchant to accept the signature then "Accept" the signature. ☞ Is the transaction approved?	Yes: Step 5 No: Case failed	
5.	Perform an **Advice transfer** in order to fetch the **Financial Advice**. Look at the **Financial Advice** in the detailed log. ☞ Is the **MI** (field 62) = 'E0' or '60'? ☞ Is the **Authorization Code** (field 55,Tag '8A') = "Y3"? ☞ Is the **Approval Code** (field 38) = 123456 ('313233343536')?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 10.10 - Transaction 10: Force offline/Approval Code

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Transaction	**Conditions:** [Attended] AND [Offline] AND NOT [OnlineOnly]

Requirements tested:

2- 5.4.4.6   When no Approval Code/Authorization Code has been entered, the field "Approval Code" in the response to the *Check Stop List* command shall be filled with spaces.

Purpose:
To verify that the terminal is able to "Force offline" and if manual entry of the Approval Code is left empty the terminal uses 6 ASCII spaces (0x20) as Approval Code.

Prerequisites:

FTD script: Transaction_10   *Card(s):* ICC001   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
Signature shall be requested and Approval Code (Field 38) in Financial Advice shall not be present. The transaction shall be performed offline.

Comments: The approval code should, when not used, be filled with 0x20. It may, under some circumstances be either 0x00 or 0xFF (at a token transaction) as well.

Comments: An Offline-only terminal will by default be set to forced offline.

Step	Actions and assessment	Result	Verdict
1.	Does the terminal support entry of Approval Code?	Yes: Step 2 No: Not Applicable	
2.	Select FTD script **Transaction_10** and set PSAM Personalization = 'No'.	Step 3	
3.	Set the terminal to **Forced offline** and perform a chip based transaction using **ICC001**. ✍ Does the terminal ask for manual entry of the **Approval Code**?	Yes: Step 4 No: Case failed	
4.	Leave the **Approval Code** input empty. If the terminal ask the merchant to accept the signature then "Accept" the signature. ✍ Is the transaction approved?	Yes: Step 5 No: Case failed	
5.	Analyze the receipt generated. ✍ Is the TCC, line TR8 "Ix5"	Yes: Step 6 No: Case failed	

Step	Actions and assessment	Result	Verdict
6.	Perform an **Advice transfer** in order to fetch the **Financial Advice**. Look at the **Financial Advice** in the detailed log. ☞ Is the **MI** (field 62) = 'E0' or '60'? ☞ Is the **Authorization Code** (field 55,Tag '8A') = "Y3"? ☞ Is the **Approval Code** (field 38) **not present**?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 10.11 - Transaction 11: Forced signature/Signature Verification - Approved

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: Transaction	Conditions: [Attended] AND [Signature]

Requirements tested:

2-4.4.2.1   If the Signature Verification function is required by the PSAM, the MAD-Handler shall request the merchant to decide the validity of the signature.

2-4.4.2.3   If the Signature Verification function is enabled, the transaction shall only be completed successfully if the merchant responds positively.

Purpose:
To verify that the terminal is able request the merchant to decide whether the cardholder's signature on the receipt compares to the reference signature on the Card.

Prerequisites:

FTD script: Transaction_11   *Card(s):* ICC018   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
Signature shall be requested and merchant shall be asked to accept the cardholder's signature. Transaction shall be approved.

Step	Actions and assessment	Result	Verdict
1.	Select FTD script **Transaction_11** and set PSAM Personalization = '**Yes**'. Perform an Advice Transfer. Stop the FTD host. Set PSAM Personalization = '**No**'. Start the FTD host.	Step 2	
2.	Set the terminal to **Forced Signature** and Perform a chip based transaction using **ICC018** (ADVT V6.0 TC1). ☞ Does the terminal ask the merchant to decide whether the cardholder's signature compares to the reference signature on the card?	Yes: Step 3 No: Case failed	
3.	Accept the signature. ☞ Is the transaction **approved**?	Yes: Step 4 No: Case failed	
4.	Stop the FTD host and set PSAM Personalization = 'No'. Start the FTD host and perform an **Advice Transfer**. Look at the **Financial Advice** in the detailed log. ☞ Is the **MI** (field 62) = '82'?	Yes: Step 5 No: Case failed	
5.	Select the FTD host script **Normal** in the folder **Normal**. Make sure that updates are enabled, i.e. PSAM Personalization = Yes. Perform an Advice Transfer to restore the parameters in the PSAM.	Case OK	
-	End of test case		

Test Case 10.12 - Transaction 12: Forced signature/Signature Verification - Rejected

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: Transaction	Conditions: [Attended] AND [Signature]

Requirements tested:

2-4.4.2.1   If the Signature Verification function is required by the PSAM, the MAD-Handler shall request the merchant to decide the validity of the signature.

2-4.4.2.4   If the Signature Verification function is enabled, but the merchant does not respond positively, the transaction shall be voided.

Purpose:
To verify that the terminal is able request the merchant to decide whether the cardholder's signature on the receipt compares to the reference signature on the Card.

Prerequisites:

FTD script: Transaction_12   *Card(s):*ICC018   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
Signature shall be requested and merchant shall be asked to accept the cardholder's signature. Transaction shall be rejected.

Step	Actions and assessment	Result	Verdict
1.	Select FTD script **Transaction_12** and set PSAM Personalization = 'Yes'. Perform an Advice Transfer.	Step 2	
2.	Set the terminal to **Forced Signature** and Perform a chip based transaction using **ICC018** (ADVT v6.0 TC01). ☞ Does the terminal ask the merchant to decide whether the cardholder's signature compares to the reference signature on the card?	Yes: Step 3 No: Case failed	
3.	Reject the signature. ☞ Is the transaction **rejected**?	Yes: Step 4 No: Case failed	
4.	Perform an **Advice Transfer**. Look for the **Reversal Advice** in the detailed log. (Note the Reversal Advice may have been transferred to the FTD **before** the Advice Transfer, if the terminal supports 'Advice Forwarding', but it is still in the log file). ☞ Is the **MI** (field 62) = '82'?	Yes: Step 5 No: Case failed	
5.	Select the FTD host script **Normal** in the folder **Normal**. Make sure that updates are enabled, i.e. PSAM Personalization = Yes. Perform an Advice Transfer to restore the parameters in the PSAM.	Case OK	
-	End of test case		

Test Case 10.13 - Transaction 13: Cashback Amount

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Transaction	Conditions: [Attended] and [Cashback]

Requirements tested:

2-5.4.3.3   In cases where cashback is allowed, this amount (Amount, Other) shall be indicated separately in the *Initiate EMV/MSC/ Key Entered Payment* command.

Purpose:
To verify that the terminal is able to pass the cashback amount correctly to the *Initiate xxx command*.

Prerequisites:

FTD script: Transaction_13   *Card(s):*ICC001   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
Field 8 (Cashback amount) in host message (Financial Request) shall indicate the correct cashback amount.

Comments: The PBS host does now support Cashback. The test is applicable to ensure that the terminals support 'Cashback' as this is rolled out .

Comments: Cashback is not allowed on DCC transactions. Normal setup requires that cashback transactions goes online.

Step	Actions and assessment	Result	Verdict
1.	Select FTD script **Transaction_13** and set PSAM Personalization = 'No'.	Step 2	
2.	Select DKK 1.25 as purchase amount and DKK 0.29 as cashback amount and perform a transaction using **ICC001**. Look at the **Authorization Request** in the detailed FTD host log. ☞ Does Field 3 (Processing code) indicate '09'? ☞ Does Field 8 (Cashback amount) contain DKK 0.29?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 10.14 - Transaction 14: Token transaction

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Transaction	**Conditions:** [Attended] AND [Token]

Requirements tested:

1-10.10.2.1.　Token shall be used only for a single transaction
1-10.10.2.5　Cashback shall not be allowed
1-10.10.2.6　It shall not be possible to utilize MI … on an existing token
1-10.10.2.7　The terminal shall manage the maintenance of the token. When a Capture has been performed, the Token used shall be deleted.

Purpose:
To verify that the terminal is able to generate tokens, retrieve tokens and remove token once used.

Prerequisites:

FTD script: Transaction_14	*Card(s):* ICC001 MSC001	*PSAM:* PSAM002

Test environment:

FTD Host: X	*IFS:*	*Kopi:*

General pass criteria:
To verify that the terminal is able to handle token transactions.

Comments: This test is intended in an environment where the authorization and the capture isn't directly correlated. (This includes areas like hotels and car rental). The transaction type shall be selected before the card is inserted, to avoid that the terminal auto-selects purchase.

Step	Actions and assessment	Result	Verdict
1.	Select FTD script **Transaction_14** and set PSAM Personalization = 'No'. Perform an Advice Transfer (to remove any pending advices).	Step 2	
2.	Select an Original Authorization transaction. Use **ICC001** and record the amount specified. ☞ Is the transaction successful? ☞ Is a token generated (consult terminal supplier on how to observe this)? ☞ Is the receipt in accordance with Figure 1-12.26 of the OTRS.	Yes: Step 3 No: Case failed	
3.	Perform another Original Authorization still using **ICC001**, but with another amount. Record the amount specified. ☞ Is the transaction successful? ☞ Is a token generated (consult terminal supplier on how to observe this)?	Yes: Step4 No: Case failed	
4.	Perform a third Original Authorization using **MSC001**, but with another amount. Record the amount specified. ☞ Is the transaction successful? ☞ Is a token generated (consult terminal supplier on how to observe this)?	Yes: Step 5 No: Case failed	

Step	Actions and assessment	Result	Verdict
5.	Perform a capture, selecting the token generated in step 3. Use an amount less that the amount specified in the Original Authorization. Record the STAN from the receipt. ☞ Was it possible to select the correct token? ☞ Is the token removed, once used? ☞ Is the transaction successful? ☞ If the terminal isn't a SUT, is the only text displayed on the Cardholders terminal 'Please Wait'?(This may be for a very short period).	Yes: Step 6 No: Case failed	
6.	Power off the terminal (and the system where the token is stored), and power it on again. ☞ Are the tokens still available? ☞ Are any previously used tokens not re-appearing?	Yes: Step 7 No: Case failed	
7.	Perform a (token) reversal, using the token from step 2. Record the STAN. ☞ If the terminal isn't a SUT, is the only text displayed on the Cardholders terminal 'Please Wait'?(This may be for a very short period). ☞ Is it possible to select the token? ☞ Is the token removed once used? ☞ Is the receipt in accordance with the figure 1-12.24 in section 1-12.4.12.	Yes: Step 8 No: Case failed	
8.	Try to perform a capture with cashback, using the token from step 4. ☞ Is capture with cashback rejected?	Yes: Step 9 No: Case failed	
9.	Perform an Advice Transfer Analyze the full log from the FTD. Search for the Financial and Reversal Advices from the token transactions. ☞ Is the STAN of the Reversal Advice the same as the STAN recorded in step 7? ☞ Is the STAN from the Financial Advice the same as the STAN recorded in step 5? ☞ Is the MI, Field 62, of the advices equal to '00'?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 10.15 - Transaction 15: CVM and offline/online in 'MI'

Test date:		Init:	
Problem Report (if any):		**Test case result:**	
Comments:			

Test group: Transaction	**Conditions:** [Attended] AND NOT [Online only] AND [PIN] AND NOT [Offline only]
Requirements tested: 2-5.4.3.1　　　CVM and offline/online indicated in "MI"	
Purpose: To verify that the terminal indicates CVM and offline/online in the "MI"	
Prerequisites: *FTD script:* Transaction_15.txt　　　*Card(s):* ICC001　　　*PSAM:* PSAM002 　　　　　　　　　　　　　　　　　　　　ICC002 　　　　　　　　　　　　　　　　　　　　ICC005 　　　　　　　　　　　　　　　　　　　　ICC018	
Test environment: *FTD Host:* X　　　　　　　*IFS:*　　　　　　　*Kopi:*	
General pass criteria: To verify that the terminal handles / reports the entries in Merchant Initiative correctly.	

Comments: The default behavior of the different cards is: ICC001 = Online, PIN; ICC002 = Signature; ICC018=Signature and ICC005 = Offline PIN when below floor limit;

Comments: Select the transaction type before inserting/swiping the card to avoid that CVM and online/offline is selected too early by the card/terminal. The STAN reference, is the one from line TR6 on the receipt.

Comments: For card ICC001, the card will not allow forced Signature anymore. For card ICC002, the transaction may be rejected by the host, if the amount deviates from 2xx,- / 4xx,- or 6xx,-. A value of 2,- 20,- or 200,- is preferred.

Step	Actions and assessment	Result	Verdict
1.	Select FTD script **Transaction_15** and set PSAM Personalization = '**No**'. Perform an Advice Transfer (to remove any pending advices in Data Store).	Step 2	
2.	☞ Is the terminal an Online only terminal?	Yes: Step 5 No:　Step 3	
3.	Configure the terminal to use **forced offline** (Consult terminal supplier on how to do it. This may include activating the purchase on the Merchant part). Initiate a purchase using **ICC001**. Record the STAN from the receipt. The STAN will later be referenced as STAN = **(V)** Complete the transaction. ☞ Is the transaction successful? ☞ Is the transaction a signature transaction? ☞ Is the 'TCC', in line 17 of the receipt, "I@5"	Yes: Step 4 No:　Case failed	

Step	Actions and assessment	Result	Verdict
4.	Configure the terminal to use **forced offline** (Consult terminal supplier on how to do it. This may include activating the purchase on the Merchant part). Initiate a purchase using **ICC005**. Use an amount below floor limit (DKK 100,00). Record the STAN from the receipt. The STAN will later be referenced as STAN = **(W)** Complete the transaction. ☞ Is the transaction successful? ☞ Is the transaction a PIN transaction ☞ Is the 'TCC', in line 17 of the receipt "IB5"or "IB3"?	Yes: Step 5 No: Case failed	
5.	Configure the terminal to use **forced signature** and not forced online/offline. (Consult terminal supplier on how to do it This may include activating the purchase on the Merchant part). Initiate a purchase using **ICC018**.(ADVT v.6.0 TC1). Record the STAN from the receipt. The STAN will later be referenced as STAN = **(X)** Complete the transaction. ☞ Is the 'TCC', in line 17 of the receipt, "I@1"	Yes: Step 6 No: Case failed	
6.	Configure the terminal to use **forced PIN** and not forced signature. (Consult terminal supplier on how to do it. This may include activating the purchase on the Merchant part). Initiate a purchase using **ICC002** (MasterCard Req05). Use an amount above floor limit. ☞ If the test is performed towards the FTD, is the transaction declined? **or** ☞ If the transaction is performed towards the KOPI environment is the transaction completed? The transaction may be accepted **or** declined.	Yes: Step 7 No: Case failed	
7.	Record the STAN from the receipt. The STAN will later be referenced as STAN = **(Y)** ☞ If the transaction is performed against the FTD, is it declined with an ASW = 120E? (Card declines) **or** ☞ If the transaction is performed against the KOPI environment, is the 'TCC', in line 17 of the receipt, "IA1" or "1W1"	Yes: Step 8 No: Case failed	
8.	Is the terminal an Online only terminal?	Yes: Step 9 No: Step 10	

Step	Actions and assessment	Result	Verdict
9.	Configure the terminal to use **forced online** and no forced CVM (Consult terminal supplier on how to do it. This may include activating the purchase on the Merchant part). Initiate a purchase using **ICC005**, using an amount below floor limit (DKK 100,00). Record the STAN from the receipt. The STAN will later be referenced as STAN = **(Z)** Complete the transaction. (**Note:** the transaction may fail!) ☞ Is the 'TCC', in line 17 of the receipt, "IA1" or "IB1"?	Yes: Step 10 No: Case failed	
10.	Perform an Advice Transfer Analyze the full log from the FTD. Search for the Financial (and Reversal) Advice Commands from the transactions. For each of the Advices, analyze the STAN (APACS header.C4) and Merchant Initiative (Field 62) ☞ If the terminal isn't an online only terminal, is MI = 0x60 in the Advice from step 3, with STAN = **(V)**? ☞ If the terminal isn't an online only terminal, is MI = 0x60 in the Advice from step 4 with STAN = **(W)**? ☞ In the Advice from step 5 with STAN = **(X)**, is the MI = 0x82? ☞ In the Advice from step 6 with STAN = **(Y)**, is the MI = H'81? ☞ If the terminal isn't an offline only terminal, is MI = 0x50 in the Advice from step 9 with STAN = **(Z)**?	Yes: Case OK No: Case failed	
-	End of test case		

4.11 Miscellaneous

Test Case 11.1 - Miscellaneous 01: Grace Period after Complete Payment response

Test date:		Init:	
Problem Report (if any):		**Test case result:**	
Comments:			

Test group: Miscellaneous	Conditions:
Requirements tested:	
2-4.6.1.4 No command must be issued within 500 ms from the response to Complete Payment.	
Purpose: To verify that the terminal does not issue any commands before 500 ms have elapsed since the PSAM transmitted the last byte of the response to Complete Payment. During this time the PSAM may perform internal clean-up and does not necessarily listen for incoming commands. This has been implemented to speed up transactions.	
Prerequisites: Access to test equipment, that can measure the timing on the interface, like oscilloscope & probe	
FTD script: Miscellaneous_01 *Card(s):* ICC001, ICC004 *PSAM:* PSAM002	
Test environment:	
FTD Host: X *IFS:* *Kopi:*	
General pass criteria: The terminal will respect the guard time of the PSAM	

Comments:
This test requires the use of a line monitor with facilities to create time stamps for the data logged.
Comments: The terminal manufacturer may know of a different scenario where it is more likely that the terminal will issue a command soon after receiving the response to Complete Payment.

Step	Actions and assessment	Result	Verdict
1.	Select FTD script **Miscellaneous_01** and set PSAM Personalization = '**No**'.	Step 2	
2.	Prepare for monitoring data transmitted on the terminal - to - PSAM interface. Preferred equipment: Thales logger from Integri).	Step 3	
3.	Perform a chip-read transaction with **ICC001**. ☞ Is the difference in time between the last byte of the response to Complete Payment and the first byte of any command sent to the PSAM larger than 500 ms? If no new commands are sent by the terminal, the requirement is also fulfilled.	Yes: Step 4 No: Case failed	
-	End of test case		

Step	Actions and assessment	Result	Verdict
4.	Insert **ICC004** (no working chip). Proceed with swiping the magnetic stripe for making a fall-back transaction. The terminal will start by initiating a normal MSC transaction. This is rejected by the PSAM (ASW=1222) and the terminal will then initiate the transaction again, marked as a fallback transaction. ☞ Is the difference in time between the last byte of the response to the Complete Payment for the rejected MSC transaction and the first byte of any command sent to the PSAM larger than 500 ms?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 11.2 - Miscellaneous 02: Protection of Equipment

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Miscellaneous	Conditions: [Unattended]

Requirements tested:

2-7.4.1.3	detect open/closed
2-7.4.1.5	message shall be recorded in the log
2-7.4.2.1	shall be disabled when open
2-7.4.2.2	remain disabled until re-enabled
2-7.4.2.3	Not read cards when disabled
2-7.4.2.5	record in log when re-enabling

Purpose:
To verify that the terminal disables operation when the terminal is opened, that this is displayed to the Cardholder, that closing the terminal does not activate the terminal before it is re-enabled.

Prerequisites: Access to the actual physical terminal

FTD script: Miscellaneous_02   *Card(s):* ICC001   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
The terminal shall be disabled when opened, and not enabled again before it is closed as well as actively re-enabled.

Step	Actions and assessment	Result	Verdict
1.	Select FTD script **Miscellaneous_02** and set PSAM Personalization = '**No**'.	Step 2	
2.	Perform a normal transaction using **ICC001**. ☝ Does the transaction complete successfully?	Yes: Step 3 No: Case failed	
3.	Record time setting in terminal, and record actual time.	Step 4.	
4.	Open the terminal and record time of the action. ☝ Does the display on the terminal indicate, that the terminal is inoperable now.	Yes: Step 5. No: Case failed	
5.	☝ Is there a motorized or locking reader.	Yes: Step 6 No: Step 7.	
6.	Insert **ICC001** in the reader. ☝ Does the reader, if it is motorized, immediately reversed, when the card is inserted? ☝ Does the reader, if it is locking, NOT lock the card, if a card is inserted.	Yes: Step 7 No: Case failed.	
7.	Attempt to perform a transaction using card **ICC001** ☝ Does the terminal start the transaction?	Yes: Case failed No: Step 8	
8.	Attempt to re-enable the terminal. ☝ Is the re-enabling successful?	Yes: Case failed No: Step 9	

Step	Actions and assessment	Result	Verdict
9.	Close the terminal. Record the time of the action. ☞ Does the display on the terminal still indicate, that the terminal is inoperable now.	Yes: Step 10 No: Case failed	
10.	Attempt to perform a transaction using card **ICC001** ☞ Does the terminal start the transaction?	Yes: Case failed No: Step 11	
11.	Re-enable the terminal. Record time of action. If available, record User-ID of operator.	Step 12	
12.	Perform a transaction using card **ICC001** ☞ Does the transaction completed successfully?	Yes: Step 13 No: Case failed.	
13.	Access the log of the terminal ☞ Is opening of the terminal logged, with the correct time stamp? ☞ If the terminal support it, is closing of the the terminal logged, with the correct time stamp? ☞ Is the re-enabling of the terminal logged, with the correct time stamp. ☞ If the terminal supports it, is the used-ID of the operator re-enabling the terminal recorded correctly?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 11.3 - Miscellaneous 03: Display messages.

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: Miscellaneous	Conditions: [PIN] AND [DAPE] AND [Signature] AND NOT [Cash]

Requirements tested:

2-4.8.1.x   The display messages shall guide the cardholder through the operational steps of the transaction, using display messages according to EMV version 4.2

Purpose:
To verify that the terminal is able to display guiding messages according to the specification.

Prerequisites:

FTD script: Miscellaneous_03a   *Card(s):* ICC001   *PSAM:* PSAM002
     Miscellaneous_03b   ICC018
               MSC001

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
The terminal shall display guiding messages for all types of transactions. If the result is "No" in any step, it has to be considered if the different display message make sense.

Comments: The regional versions of the display texts can be found in section 1-15.x.2 of the OTRS.

Step	Actions and assessment	Result	Verdict
1.	Select FTD script **Miscellaneous_03a** and set PSAM Personalization = `No'. Insert **ICC001** in the terminal. ☞ Does the Terminal display "Wait" ?	Yes: Step 2 No: Case failed	
2.	☞ Does the Terminal display "Enter PIN"? Enter PIN on the Terminal.	Yes: Step 3 No: Case failed	
3.	Send amount to terminal. ☞ Does the Terminal display "Enter PIN and approve"?	Yes: Step 4 No: Case failed	
4.	Approve transaction. ☞ Does the Terminal display "Approved"?	Yes: Step 5 No: Case failed	
5.	Perform a normal Signature transaction using **ICC018** Approved (amount approval). ☞ Does the Terminal display indicate that the terminal is ready for transactions before inserting the card?	Yes: Step 6 No: Case failed	
6.	Insert card in the Terminal. ☞ Does the Terminal display "Wait" ?	Yes: Step 7 No: Case failed	
7.	☞ Does the Terminal display "Approved"?	Yes: Step 8 No: Case failed	

Step	Actions and assessment	Result	Verdict
8.	Perform a normal Signatur transaction using **ICC001 -** Approved (amount approval.) Force the terminal to use signature. ☞ Does the terminal display indicate that the terminal is ready before inserting the card?	Yes: Step 9 No: Case failed	
9.	Insert card in the terminal. ☞ Does the Terminal display "Wait" ?	Yes: Step 10 No: Case failed	
10.	Send amount to terminal. ☞ Does the terminal display "Approve amount" ?	Yes: Step 11 No: Case failed	
11.	Approve the transaction. ☞ Does the terminal display "Approved"?	Yes: Step 12 No: Case failed.	
12.	Terminal able to perform Refund transactions?	Yes: Step 13 No: Step 16	
13.	Perform a Refund transaction using **ICC001**. ☞ Does the Terminal display indicate that the terminal is ready before inserting the card?	Yes: Step 14 No: Case failed	
14.	Initiate a Refund transaction and Insert card in the Terminal. ☞ Does the Terminal display "Approve Amount" ?	Yes: Step 15 No: Case failed	
15.	Approve the amount. ☞ Does the Terminal display "Approved"?	Yes: Step 16 No: Case failed	
16.	Select FTD script **Miscellaneous_03b** and set PSAM Personalization = `No'. (will reply de-clined PIN) Perform a PIN transaction using **MSC001** - PIN error and PIN retry. ☞ Does the terminal display indicate that the terminal is ready before inserting the card?	Yes: Step 17 No: Case failed	
17.	Swipe the card in the terminal. ☞ Does the terminal display "Wait" ?	Yes: Step 18 No: Case failed	
18.	☞ Does the terminal display "Enter PIN" ? Enter an incorrect PIN on the terminal (host will return PIN error independent of the PIN value)	Yes: Step 19 No: Case failed	
19.	Send amount to terminal. ☞ Does the terminal display "Enter PIN and Approve"?	Yes: Step 20 No: Case failed	
20.	Approve the transaction. ☞ Does the Terminal display "Declined, wrong PIN"?	Yes: Step 21 No: Case failed	
21.	☞ Does the Terminal display "PIN"? ☞ Does the Terminal display "Wrong PIN"? ☞ Does the Terminal display "Enter PIN and Approve"?	Yes: Step 22 No: Case failed	

Step	Actions and assessment	Result	Verdict
22.	Enter a correct PIN on the Terminal. Does the Terminal display "PIN"? Does the Terminal display "X PIN tries left"? Does the Terminal display "Enter PIN and Approve"?	Yes: Step 23 No: Case failed	
23.	Approve the transaction. Does the Terminal display "Approved"?	Yes: Step 24 No: Case failed	
24.	Select FTD script **Miscellaneous_03b** and set PSAM Personalization = `No'. Does the Terminal display indicate that the terminal is ready for transactions before inserting the card?	Yes: Step25 No: Case failed	
25.	Insert **ICC001** in the Terminal. Does the Terminal display "Wait" ?	Yes: Step 26 No: Case failed	
26.	Does the Terminal display "Enter PIN" ? Enter an incorrect PIN on the terminal (host will return PIN error independent of the PIN value)	Yes: Step 27 No: Case failed	
27.	Send amount to terminal. Does the Terminal display "Enter PIN and Approve"?	Yes: Step 28 No: Case failed	
28.	Approve the transaction. Does the Terminal display "Rejected, wrong PIN"?	Yes: OK No: Case failed	
-	End of test case		

Test Case 11.4 - Miscellaneous 04: Component failure.

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Miscellaneous	Conditions:

Requirements tested:

1-14.5.2.2   Detect failure of components

Purpose:
To verify that the terminal will detect error in components and end normal operation

Prerequisites:

FTD script: Miscellaneous_04	*Card(s):*ICC001	*PSAM:* PSAM002

Test environment:

FTD Host: X	*IFS:*	*Kopi:*

General pass criteria:
The terminal shall at a failure inhibit transactions and if possible display an error message

Step	Actions and assessment	Result	Verdict
1.	☜ Does the Terminal contain capability of detecting failure of some of the components (like printer or network disconnected. Consult supplier for information)?	Yes: Step 2 No: Not Applicable	
2.	Select the FTD host script **Miscellaneous_04** Make sure that updates are disabled, i.e. PSAM Personalization = No.	Step 3	
3.	Impose a failure in one of the components (consult supplier for information). ☜ Does the terminal end normal operation?	Yes: Step 4 No: Case failed	
4.	Try to perform a transaction using **ICC001**. ☜ Does the transaction proceed ?	Yes: Case failed No: Step 5	
5.	☜ If the terminal should be able to display an error message, is this message displayed? ☜ Is the error message correct, i.e. is the error indicated in the message the actual error in the terminal?	Yes: Step 6. No: Case failed	
6.	☜ Is it possible to impose a failure of another component in the terminal?	Yes: Step 7. No: Case OK	
7.	Impose a failure in another of the components (consult supplier for information). ☜ Does the terminal end normal operation?	Yes: Step 8 No: Case failed	
8.	Try to perform a transaction using **ICC001**. ☜ Does the transaction proceed ?	Yes: Case failed No: Step 9	
9.	☜ If the terminal should be able to display an error message, is this message displayed? ☜ Is the error message correct, i.e. is the error indicated in the message the actual error in the terminal?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 11.5 - Miscellaneous 05: Component out of operation.

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Miscellaneous	Conditions:
Requirements tested: 1-14.5.2.3 Detect component taken out of operation.	
Purpose: To verify that the terminal will detect components taken out of operation and end normal operation	
Prerequisites: *FTD script:* Miscellaneous_05 *Card(s):*ICC001 *PSAM:* PSAM002	
Test environment: *FTD Host:* X *IFS:* *Kopi:*	
General pass criteria: The terminal shall inhibit transactions when detecting that a component out of operation.	

Step	Actions and assessment	Result	Verdict
1.	☞ Is the design of the terminal based on components, and is it possible to disable, switch off or disconnect any of the components. (Consult the supplier for information)?	Yes: Step 2 No: Not Applicable	
2.	Repeat step 3 through 7 for **each** component;	Step 3	
3.	If it is possible disable the component. ☞ Was it possible to disable the component ?	Yes: Step 4 No: Step 5	
4.	☞ Does the terminal indicate, that it is inoperable? ☞ Is it impossible to start and complete a transaction using **ICC001**?	Yes: Step 5 No: Case failed	
5.	Enable the component again, but switch it off instead ☞ Was it possible to switch off the component?	Yes: Step 6 No: Step 7	
6.	☞ Does the terminal indicate, that it is inoperable? ☞ Is it impossible to start and complete a transaction using **ICC001**?	Yes: Step 7 No: Case failed	
7.	Switch on the component again. Start a transaction using **ICC001** and disable, disconnect or switch off the component **during** a transaction (like disconnecting the communication line during host access). ☞ Is the transaction terminated? ☞ Does the terminal indicate that it is inoperable	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 11.6 - Miscellaneous 06: PSAM identification

Test date:		Init:	
Problem Report (if any):		**Test case result:**	
Comments:			

Test group: Miscellaneous	**Conditions:**	
Requirements tested: 2-5.1.3.2 Retaining PSAM identification.		
Purpose: To verify that the MAD handler terminal will retain the PSAM identification		
Prerequisites: *FTD script:* Miscellaneous_06 *Card(s):* ICC001 *PSAM:* PSAM002		
Test environment: *FTD Host:* X *IFS:* *Kopi:*		
General pass criteria: The terminal shall retain information about the PSAM after restart.		

Comments: Retaining of the sub-address of the PSAM after restart is verified indirectly. The terminal must know the sub-address of the PSAM (in the TAPA architecture) in order to be able to address the PSAM again, and perform a transaction.

Step	Actions and assessment	Result	Verdict
1.	Obtain the PSAM ID from other sources than the terminal. (This can be a number printed on the physical PSAM , the readout from another system or something else). Print a Terminal report (consult the terminal supplier for information on how to generate and access it). Find the PSAM ID on the terminal report and record the value. ☞ Was it possible to find the PSAM ID?	Yes: Step 2 No: Case failed	
2.	Perform a purchase transaction using **ICC001**. ☞ Was the transaction successful?	Yes: Step 3 No: Case failed	
3.	Analyze the receipt, line TR11. See figure 1-12.7 in the OTRS for detailed format. Identify the PSAM ID, as the first 7 digits of the field. ☞ Is the PSAM ID on the receipt identical to PSAM ID from the terminal report? ☞ Is the PSAM ID on the receipt identical to the PSAM ID obtained from other sources.	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 11.7 - Miscellaneous 07: Sequence of events

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: Miscellaneous	Conditions: [Attended] AND NOT [SUT]
Requirements tested: 2-5.4.2.1 shall accept any order of events	
Purpose: To verify that the terminal is able to handle any sequence of events for input to initiate a transaction, i.e. the sequence of initiating the Business Call, entering the Amount and reading the Card.	
Prerequisites: FTD script: Miscellaneous_07 Card(s):ICC001, MSC001 PSAM: PSAM002	
Test environment: FTD Host: X IFS: Kopi:	
General pass criteria: It is demonstrated which sequence of events that initiates a transaction and that no combination brings the terminal in a `locked' or error state. The test shall be performed for MSC's as well as for ICC's.	

Comments:
♦ Not all combinations of sequences may be possible for a specific terminal. Combinations (test steps) not possible shall be marked as 'Not Applicable'.
♦ This is a test case inherited from the OTITS.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **Miscellaneous_07**. Make sure that updates are disabled, i.e. PSAM Personalization = No.	Step 2	
2.	If possible, initiate a transaction using **MSC001** by starting as: ♦ Initiating transaction on the Merchant Application, ♦ then swiping the card ♦ at last entering the amount ☞ Does it result in an illegal operation, e.g. the terminal ending in lockup or in a loop?	Yes: Case failed No: Step 3.	
3.	If possible, initiate a transaction using **MSC001** by starting as: ♦ Initiating transaction on the Merchant Application, ♦ then entering amount ♦ at last swiping the card. ☞ Does it result in an illegal operation, e.g. the terminal ending in lockup or in a loop?	Yes: Case failed No: Step 4	

Step	Actions and assessment	Result	Verdict
4.	If possible, initiate a transaction using **MSC001** by starting as: ⬥ Entering the amount, ⬥ then swiping the card, ⬥ at last initiating transaction on the Merchant Application. ☞ Does it result in an illegal operation, e.g. the terminal ending in lockup or in a loop?	Yes: Case failed No: Step 5	
5.	If possible, initiate a transaction using **MSC001** by starting as: ⬥ Entering the amount, ⬥ then initiating transaction on the Merchant Application, ⬥ at last swiping the card. ☞ Does it result in an illegal operation, e.g. the terminal ending in lockup or in a loop ?	Yes: Case failed No: Step 6	
6.	If possible, initiate a transaction using **MSC001** by starting as: ⬥ Swiping the card, ⬥ then entering the amount, ⬥ at last initiating transaction on the Merchant Application. ☞ Does it result in an illegal operation, e.g. the terminal ending in lockup or in a loop?	Yes: Case failed. No: Step 7	
7.	If possible, initiate a transaction using **MSC001** by starting as: ⬥ Swiping the card, ⬥ then initiating transaction on the Merchant Application ⬥ at last entering the amount ☞ Does it result in an illegal operation, e.g. the terminal ending in lockup or in a loop ?	Yes: Step 8 No: Case failed.	
8.	Repeat steps 2 through 7, but using **ICC001** instead of MSC001 (i.e. inserting the ICC into the reader instead of swiping the MSC). Record the combinations combinations that are possible. ☞ Does any of the combination result in an illegal operation, e.g. the terminal ending in lockup or in a loop ?	Yes: Case failed No: Case OK.	
-	End of test case		

Test Case 11.8 - Miscellaneous 08: Simultaneous Activation

Test date:		Init:	
Problem Report (if any):		**Test case result:**	
Comments:			

Test group: MisceAbnormal Use	**Conditions:** [Attended] AND NOT [SUT]

Requirements tested:
2-5.3.6.3   Cardholder shall be informed of the result of the transaction
Purpose:
To verify that the terminal always reacts in a stringent way when the merchant cancels a transaction at the same time as the cardholder accepts the transaction.

Prerequisites:		
FTD script: N.A.	*Card(s):* ICC001, MSC001	*PSAM:* PSAM002

Test environment:		
FTD Host: X	*IFS:*	*Kopi:*

General pass criteria:
It is demonstrated that if the merchant activates cancel at the same time as the cardholder activates accept, the terminal always reacts in a stringent way. The information on the cardholders display, the merchant display and the receipt printer shall be consistent.

Comments:
◆ It is not allowed that the payment solution to runs into a deadlock situation and / or ends up requiring a reboot.
◆ This is a test case inherited from the OTITS.

Step	Actions and assessment	Result	Verdict
1.	☞ Is a 'Cancel' function implemented on the Merchant part of the terminal?	Yes: Step 2 No: Not Applicable.	
2.	Initiate a `Purchase' using **MSC001**. Swipe the card and enter PIN. Perform the following actions coordinated / simultaneous: ◆ Activate Cancel on the Merchant handler ◆ Activate Accept on the cardholder keyboard Observe what happens, then bring the terminal to `idle' state. If the terminal terminates the transaction, delay the activation of 'Cancel' on the Merchant keyboard slightly. If the terminal accepts the transaction, delay the activation of 'Accept' on the Cardholders keyboard slightly. Do this at least 5 times. ☞ Does the terminal always react in a stringent way, i.e. either completes or cancels the transaction? ☞ Is the information on the Merchant display, on the Cardholders display and on the receipt printer consistent?	Yes Step 3 No Case failed.	

Step	Actions and assessment	Result	Verdict
3.	Repeat step 2 but using use **ICC001** instead of MSC001. ☞ Is the behaviour of the terminal still stringent? ☞ Is the information displayed still consistent?	Yes: Case OK No: Case failed.	
-	End of test case		

4.12 StartUp

4.12 StartUp

ASW1-ASW2:
`0000': Successful
`1000': Configuration required
`1001': Installation required
`1002': Restart required
`1003': New data available

Figure 4.8 - Initialization Sequence - Normal Flow

Notes:

1) Get Debit/Credit Properties with Identifier = `0003' requesting Service Packs supported. Terminal Approval Number given in the Exchange Debit/Credit Static Information comand, depends of this response. An additional Get Debit/Credit Properties command with Identifier = `0007' will be required in order to obtain the checksums

2) Get Debit/Credit Properties with Identifier `0001' requesting Card Name and ASI.

3) All PSAM Updates shall be sent to the PSAM before initiating a subsequent Start-up PSAM command.

4) If a PSAM has been removed and later inserted again (without being used in another terminal), the terminal may initiate an *Install* command at this point.

Test Case 12.1 - StartUp 01: Exchange D/C Static Information - New Application Data

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: StartUp	Conditions: NOT[NewDataAvailableAlways]

Requirements tested:
2-5.1.5.1   New Application Data shall initiate the commands mentioned below.
2-5.1.3.16   Response to *Exchange Debit/Credit Static Information* command.

Purpose: To verify that the terminal the sends the following commands after the *Exchange Debit/Credit Static Information* response:

⬧ *Get Supported AIDs*
⬧ *Get Debit/Credit Properties*
⬧ *Get MSC Table*

Prerequisites:

FTD script: StartUp_01a   *Card(s):* N/A   *PSAM:* PSAM004
    StartUp_01b
    Normal

Test environment:
SmartSpy (or similar tool) is to be used in order to monitor the PSAM interface.

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria: It is demonstrated that if the terminal gets an update of e.g. an AID (AID = A0 00 00 00 03 10 11), the PSAM will by setting the value of ASW1-ASW2 = `1003' (New data available) indicate that the terminal shall issue the following commands after the *Exchange Debit/Credit Static Information* command (`.. B0 3C ..'*)*:

⬧ ***Get Supported AIDs*** (`.. B0 08 ..')
⬧ ***Get Debit/Credit Properties*** (`.. B0 A0 ..') for each AID*
⬧ ***Get MSC Table*** (`.. B0 30 ..')
⬧ *Synchronize PSAM/PIN Pad* (`.. B0 C2 ..')

Note: The commands marked with an asterisk (*) may be send in a different order.

Step	Actions and assessment	Result	Verdict
1.	*This step is only applicable if the terminal does not issue the three commands mentioned above each time the terminal start up. If it does, go directly to step 2.* Select the FTD host script denoted **Start-Up_01a.** (Make sure that updates are enabled i.e. PSAM Personalization = Yes) (ASW1-ASW2 = `0000' in the *Exchange Debit/Credit Static Information* command response) Perform an Advice Transfer (no updates will be transferred). Set up the monitor tool in order to monitor the PSAM interface. Restart/open the terminal ☞ Are the commands issued by the terminal in the following sequence? Use the line monitor to verify. ☞ *Exchange Debit/Credit Static Information* (.. 'B0 3C' ..) ☞ *Synchronize PSAM/PIN Pad* (.. 'B0 C2' ..)	Yes: Case failed No: Step 2	
2.	Select the FTD host script denoted **Start-Up_01b** (Make sure that updates are enabled i.e. PSAM Personalization = Yes) (ASW1-ASW2 = `1003' in the *Exchange Debit/Credit Static Information* command response) Perform an Advice Transfer (make sure that updates are enabled, PSAM Personalization = Yes) Set up the monitor tool in order to monitor the PSAM interface. Restart/open the terminal ☞ Are the commands issued by the terminal in the following sequence? Use the line monitor to verify. ☞ *Get Supported AIDs* (.. 'B0 08'..) ☞ *Get Debit/Credit Properties* (.. 'B0 A0' ..) for each AID ☞ *Get MSC Table* (.. 'B0 30' ..) ☞ *Synchronize PSAM/PIN Pad* (.. 'B0 C2' ..) **See Example below!**	Yes: Step 3 No: Case failed	
3.	Select the FTD host script **Normal** in the folder **Normal**. (Make sure that updates are enabled i.e. PSAM Personalization = Yes) This script is used to "reset" the parameters of the PSAM. Perform an Advice Transfer.	Case OK	
-	End of test case		

Example (Step 2):

....

Terminal --> PSAM (Get Supported AIDs)
00 00 07 B0 08 81 11 01 01 00 2F

PSAM --> Terminal
00 00 86 01 00 00 01 FF 01 00 7E 0D 07 A0 00 00
00 03 10 10 00 07 A0 00 00 00 99 90 90 03 07 A0
00 00 00 04 10 10 01 07 A0 00 00 00 04 30 60 01
07 A0 00 00 01 21 10 10 04 06 A0 00 00 99 99 01
03 08 A0 00 00 00 03 10 10 03 00 08 A0 00 00 00
03 10 10 04 00 08 A0 00 00 00 03 10 10 05 00 08
A0 00 00 00 03 10 10 06 00 08 A0 00 00 00 03 10
10 07 00 07 A0 00 00 00 65 10 10 02 07 A0 00 00
00 03 20 10 00 00 00 90 00 89

Terminal --> PSAM (Get Debit/Credit Properties)
00 40 11 B0 A0 81 11 0B 01 00 01 07 A0 00 00 00
03 10 10 00 7E

PSAM --> Terminal
00 40 1F 01 00 00 01 FF 01 00 17 00 11 56 49 53
41 20 20 20 20 20 20 20 20 20 20 20 00 00 00
90 00 3A

....

Terminal --> PSAM (Get MSC Table)
00 00 08 B0 30 81 11 02 01 00 00 1B

PSAM --> Terminal
00 00 6F 01 00 00 01 FF 01 00 67 00 0C 50 19 00
00 50 19 99 99 45 71 00 00 45 71 99 99 51 00 00
00 55 99 99 99 35 28 00 00 35 89 99 99 40 00 00
00 49 99 99 99 30 40 00 00 30 59 99 99 36 00 00
00 36 99 99 99 38 00 00 00 38 99 99 99 34 00 00
00 34 99 99 99 37 00 00 00 37 99 99 99 50 38 85
00 50 38 85 99 60 07 22 00 60 07 22 99 00 00 00
90 00 DF

Terminal --> PSAM (Synchronize PSAM/PIN Pad)
00 40 07 B0 C2 81 11 01 01 00 A5

PSAM --> Terminal
00 40 1D 03 01 00 01 65 01 00 13 A0 00 00 01 20
81 11 00 02 00 00 02 1C 01 04 6F 47 83 EB 90 00
F1

(continues).......

Test Case 12.2 - StartUp 02: Exchange D/C Static Information - Configuration Required

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: StartUp	Conditions: N/A

Requirements tested:

2-5.1.6.1   If Configuration is required the terminal shall issue the commands as specified in the OTRS.

2-5.1.3.16   *Response to Exchange Debit/Credit Static Information* command.

Purpose: To verify that the terminal sends the following commands after the *Get MSC Table* response:

♦ *Get/Debit/Credit File Characteristics*

♦ *Create File* (cannot be seen at the PSAM interface!)

♦ *Configure PSAM Application*

Prerequisites:

FTD script: StartUp_02   *Card(s):*N/A   *PSAM:* PSAM004
     Normal

Test environment:

SmartSpy (or similar tool) is to be used in order to monitor the PSAM interface.

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria: It is demonstrated that if the PSAM returns the value of ASW1-ASW2 = `1000' (Configuration required), the terminal issues the following commands after the *Exchange Debit/Credit Static Information* command (`B0 3C .. ..'):

♦ *Get Supported AIDs* (`.. B0 08 ..'*)

♦ *Get Debit/Credit Properties*(`.. B0 A0 ..') for each AID*

♦ *Get MSC Table* (`.. B0 30 ..')

♦ ***Get/Debit/Credit File Characteristics*** (`.. B0 32 ..')

♦ ***Configure PSAM Application*** (`.. B0 3E ..')

♦ *Synchronize PSAM/PIN Pad* (`.. B0 C2 ..')

♦ ....

Note: The commands marked with an asterisk (*) may be send in a different order.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script denoted **Start-Up_02**		
	Perform an Advice Transfer (make sure that updates are enabled, PSAM Personalization = Yes).		
	Set up the monitor tool in order to monitor the PSAM interface.		
	Restart/open the terminal		
	☞ Are the commands issued by the terminal in the following sequence? Use the line monitor to verify.		
	☞ *Get Supported AIDs* ('.. B0 08 ..')		
	☞ *Get Debit/Credit Properties* ('.. B0 A0 ..') for each AID		
	☞ *Get MSC Table* ('.. B0 30 ..')		
	☞ *Get/Debit/Credit File Characteristics* ('.. B0 32 ..')		
	☞ *Configure PSAM Application* ('.. B0 3E ..')		
	☞ *Synchronize PSAM/PIN Pad* ('.. B0 C2 ..')	Yes: Step2	
	See example below!	No: Case failed	
2.	Select the FTD host script **Normal** in the folder **Normal**. This script is used to "reset" the parameters of the PSAM.		
	Perform an Advice Transfer (make sure that updates are enabled, PSAM Personalization = Yes).	Case OK	
-	End of test case		

Example (Step 1):

```
....
Terminal --> PSAM (Get Supported AIDs)
00 00 07 B0 08 81 11 01 01 00 2F

PSAM --> Terminal
00 00 86 01 00 00 01 FF 01 00 7E 0D 07 A0 00 00
00 03 10 10 00 07 A0 00 00 00 99 90 90 03 07 A0
00 00 00 04 10 10 01 07 A0 00 00 00 04 30 60 01
07 A0 00 00 01 21 10 10 04 06 A0 00 00 99 99 01
03 08 A0 00 00 00 03 10 10 03 00 08 A0 00 00 00
03 10 10 04 00 08 A0 00 00 00 03 10 10 05 00 08
A0 00 00 00 03 10 10 06 00 08 A0 00 00 00 03 10
10 07 00 07 A0 00 00 00 65 10 10 02 07 A0 00 00
00 03 20 10 00 00 00 90 00 89

Terminal --> PSAM (Get Debit/Credit Properties)
00 40 11 B0 A0 81 11 0B 01 00 01 07 A0 00 00 00
03 10 10 00 7E

PSAM --> Terminal
00 40 1F 01 00 00 01 FF 01 00 17 00 11 56 49 53
41 20 20 20 20 20 20 20 20 20 20 20 20 00 00 00
90 00 3A

........
Terminal --> PSAM (Get MSC Table)
00 00 08 B0 30 81 11 02 01 00 00 1B

PSAM --> Terminal
00 00 6F 01 00 00 01 FF 01 00 67 00 0C 50 19 00
00 50 19 99 99 45 71 00 00 45 71 99 99 51 00 00
00 55 99 99 99 35 28 00 00 35 89 99 99 40 00 00
00 49 99 99 99 30 40 00 00 30 59 99 99 36 00 00
00 36 99 99 99 38 00 00 00 38 99 99 99 34 00 00
00 34 99 99 99 37 00 00 00 37 99 99 99 50 38 85
00 50 38 85 99 60 07 22 00 60 07 22 99 00 00 00
90 00 DF

Terminal --> PSAM (Get/D/C File Characteristics)
00 40 07 B0 32 81 11 01 01 00 55

PSAM --> Terminal
00 40 20 01 00 00 01 FF 01 00 18 00 00 00 00 01
00 01 F4 01 00 01 F4 01 00 01 F4 01 00 01 2C 00
00 90 00 CE

Terminal --> PSAM (Configure PSAM Application)
00 00 11 B0 3E 81 11 0B 01 00 00 00 01 00 02 00
03 00 04 00 01

PSAM --> Terminal
00 00 0C 01 00 00 01 FF 01 00 04 00 00 90 00 66

Terminal --> PSAM (Synchronize PSAM/PIN Pad)
00 40 07 B0 C2 81 11 01 01 00 A5

PSAM --> Terminal
00 40 1D 03 01 00 01 65 01 00 13 A0 00 00 01 20
81 11 00 02 00 00 02 1C 01 04 D2 E8 58 23 90 00
F0

(continues).......
```

Test Case 12.3 - StartUp 03: Exchange D/C Static Information

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: StartUp	Conditions:

Requirements tested:

2-5.1.3.17   Based on the ASW1-ASW2 received in the *Exchange Debit/Credit Static Information* response, the MAD-Handler shall determine whether:

- ♦ The Restart sequence is completed (ASW1-ASW2 = `0000')
- ♦ The New Application Data and Configuration sequence shall succeed (ASW1-ASW2 = `1000')
- ♦ The Installation sequence shall be initiated (ASW1-ASW2 = `1001')
- ♦ The Restart sequence shall be re-initiated (ASW1-ASW2 = `1002')
- ♦ The New Application Data sequence shall succeed (ASW1-ASW2 = `1003')

2-5.14.3.12   (step 3) In the response to any of the PSAM Update commands, the PSAM may use the ASW1-ASW2 to request that the terminal perform some actions. After processing *all* available PSAM Updates, the terminal must take action prior to initiating any new D/C transactions.

Purpose: To verify that the terminal sends the correct commands in response to the *Exchange Debit/Credit Static Information* command.

Prerequisites:

FTD script: StartUp_03a StartUp_03b StartUp_03c Normal	*Card(s):* N/A	*PSAM:* PSAM004

Test environment:

SmartSpy (or similar tool) is to be used in order to monitor the PSAM interface.

FTD Host: X	*IFS:*	*Kopi:*

General pass criteria: It is demonstrated that if the PSAM returns the value of ASW1-ASW2 = `0000', `1001' or `1002' in the *Exchange Debit/Credit Static Information* response, the terminal issues the correct sequence of commands afterwards.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script denoted **Start-Up_03a**. PSAM returns ASW1-ASW2 = `0000' in the *Exchange Debit/Credit Static Information* command response.		
	Perform an Advice Transfer (make sure that updates are enabled, PSAM Personalization = Yes).		
	Set up the monitor tool in order to monitor the PSAM interface.		
	Restart/open the terminal		
	☞ Is the next command after the *Exchange Debit/Credit Static Information* response the *Synchronize PSAM/PIN Pad* (.. `B0 C2' ..) command? Use the line monitor to verify.		
	Note: The *Get Debit/Credit Properties* command can be issued independently of the PSAM state and may appear in the list above.	Yes: Step 2 No: Case failed	
2.	Select the FTD host script denoted **Start-Up_03b**. PSAM returns ASW1-ASW2 = `1001' in the *Exchange Debit/Credit Static Information* command response.		
	Perform an Advice Transfer (make sure that updates are enabled, PSAM Personalization = Yes).		
	Set up the monitor tool in order to monitor the PSAM interface.		
	Restart/open the terminal		
	☞ Are the next commands after the response to the *Exchange Debit/Credit Static Information* (`B0 3C .. ..') command in this sequence (use the monitor to verify):		
	☞ *Install* ('.. B0 70 ..') command		
	☞ *Validate Install* (.. 'B0 7A' ..) command		
	☞ *PSAM Updates* (.. 'B0 4C' ..) command		
	☞ *PSAM Updates* (.. 'B4 4C' ..) command		
	☞ *PSAM Updates* (.. 'B4 4C' ..) command		
	☞ *Start–up PSAM* (.. 'B0 02' ..) command………		
	Note: The *Get Debit/Credit Properties* command can be issued independently of the PSAM state and may appear in the list above.		
	See example below!	Yes: Step 3 No: Case failed	

Step	Actions and assessment	Result	Verdict
3.	Select the FTD host script denoted **Start-Up_03c**. PSAM returns ASW1-ASW2 = `1002' in the *Exchange Debit/Credit Static Information* command response.		
	Perform an Advice Transfer.		
	Set up the monitor tool in order to monitor the PSAM interface.		
	Restart/open the terminal		
	☞ Are the next commands after the *Exchange Debit/Credit Static Information* response in this sequence (use the line monitor to verify):		
	☞ *Start–up PSAM* (.. 'B0 02' ..) command		
	☞ *Get Debit/Credit Properties* (.. 'B0 A0' ..) command		
	☞ *Exchange Debit/Credit Static Information* (.. 'B0 3C' ..) command	Yes: Step 5 No: Case failed	
4.	Select the FTD host script **Normal** in the folder **Normal**. This script is used to "reset" the parameters of the PSAM.		
	Perform an Advice Transfer (make sure that updates are enabled, PSAM Personalization = Yes).	Case OK	
-	End of test case		

Example (Step 2):

```
....
Terminal −−> PSAM (Exchange D/C Static Information)
00 40 25 B0 3C 81 11 1F 01 60 F8 C8 60 00 B0 B0
01 02 26 00 00 3F F0 30 30 34 30 30 30 34 30 22
35 31 32 33 34 43 02 00 EF

PSAM −−> Terminal
00 40 79 01 00 00 01 FF 01 00 71 FF 01 07 60 11
00 01 50 42 53 20 50 53 41 4D 2D 31 34 36 20 20
20 C6 D8 C5 42 41 4C 4C 45 52 55 50 20 20 20 20
20 20 20 20 4C 41 55 54 52 55 50 42 4A 45 52 47
20 31 30 20 20 20 20 20 20 20 20 44 4B 2D 32
37 35 30 20 28 2B 34 35 29 34 34 20 36 38 20
34 34 20 36 38 20 20 20 20 20 20 31 32 33 34
35 36 37 38 20 20 20 20 10 01 90 00 27

Terminal −−> PSAM (Install)
00 00 25 B0 70 81 11 1F 01 60 F8 C8 60 00 B0 B0
01 02 26 00 00 3F F0 30 30 34 30 30 30 34 30 22
35 31 32 33 34 43 02 00 E3

PSAM −−> Terminal
00 00 A6 01 00 00 01 FF 01 00 9E 00 98 41 36 30
31 E0 2A C0 02 00 68 C1 04 30 38 30 34 C2 02 08
continues...

Terminal −−> PSAM (Validate Install Data)
00 40 72 B0 7A 81 11 6C 01 00 69 30 38 31 34 00
1A 00 00 02 04 00 11 14 36 26 10 20 04 08 00 00
3D 54 34 00 03 60 F8 C8 54 35 00 05 60 00 B0 B0
continus....

PSAM −−> Terminal
00 40 0C 01 00 00 01 FF 01 00 04 10 02 90 00 34

Terminal −−> PSAM (PSAM Update)
00 00 3B B4 4C 81 11 35 01 11 00 17 21 63 63 78
C0 51 DC D7 87 FC 6B F0 FD 2E 68 12 CD 67 41 23
05 2A 86 07 B6 40 59 D3 90 C9 52 59 55 AA 50 60
4B 66 52 02 B8 6D 99 BD E9 47 49 84 70 00 F3

PSAM −−> Terminal
00 00 0C 01 00 00 01 FF 01 00 04 11 C1 90 00 B6

Terminal −−> PSAM (PSAM Update)
00 40 23 B4 4C 81 11 1D 01 11 00 02 0E 41 A0 EF
7C AB F5 ED 00 C7 DB F0 3A 13 61 D1 46 DE C9 77
FE FC 73 2B 2A 00 E8

PSAM −−> Terminal
00 40 0C 01 00 00 01 FF 01 00 04 10 03 90 00 35

Terminal −−> PSAM (PSAM Update)
00 00 33 B4 4C 81 11 2D 01 11 00 01 1C F7 E7 23
22 06 E4 FB 17 19 D0 EF 6F DA 7A 6E A4 50 53 BA
40 8C 87 0D C7 52 3F C0 8C 38 C7 9F 54 C0 87 92
4C 5C 9B 36 9A 00 98
.....
```

Example (Step 3):

```
....

Terminal --> PSAM (Validate Install Data)
00 40 72 B0 7A 81 11 6C 01 00 69 30 38 31 34 00
1A 00 00 02 04 00 11 14 18 47 10 27 04 08 00 00
3D 54 34 00 03 60 F8 C8 54 35 00 05 60 00 B0 B0
01 54 36 00 02 02 26 54 37 00 02 00 00 54 33 00
08 30 30 34 30 30 30 34 30 54 39 00 02 3F F0 54
41 00 01 22 54 42 00 01 02 54 50 00 01 34 0D A0
00 00 01 20 81 11 00 02 00 00 02 1C A3 18 F8 30
EC 73 FA 4B 00 B2

PSAM --> Terminal
00 40 0C 01 00 00 01 FF 01 00 04 10 02 90 00 34

Terminal --> PSAM (PSAM Update)
00 00 3B B4 4C 81 11 35 01 11 00 17 21 63 63 78
C0 51 DC D7 87 FC 6B F0 FD 2E 68 12 CD 67 41 23
05 2A 86 07 B6 40 59 D3 90 C9 52 59 55 AA 50 60
4B 66 52 02 B8 6D 99 BD E9 47 49 84 70 00 F3

PSAM --> Terminal
00 00 0C 01 00 00 01 FF 01 00 04 11 C1 90 00 B6

Terminal --> PSAM (PSAM Update)
00 40 23 B4 4C 81 11 1D 01 11 00 02 0E 41 A0 EF
7C AB F5 ED 00 C7 DB F0 3A 13 61 D1 46 DE C9 77
FE FC 73 2B 2A 00 E8

PSAM --> Terminal
00 40 0C 01 00 00 01 FF 01 00 04 10 03 90 00 35

Terminal --> PSAM (PSAM Update)
00 00 33 B4 4C 81 11 2D 01 11 00 01 1C F7 E7 23
22 06 E4 FB 17 19 D0 EF 6F DA 7A 6E A4 50 53 BA
40 8C 87 0D C7 52 3F C0 8C 38 C7 9F 54 C0 87 92
4C 5C 9B 36 9A 00 98

PSAM --> Terminal
00 00 0C 01 00 00 01 FF 01 00 04 10 03 90 00 75

Terminal --> PSAM (Create Service Record)
00 40 07 B0 76 81 11 01 01 00 11

PSAM --> Terminal
00 40 0C 01 00 00 01 FF 01 00 04 11 21 90 00 16

Terminal --> PSAM (Start-up PSAM)
00 00 08 B0 02 81 11 02 01 01 00 28

PSAM --> Terminal
00 00 19 01 00 00 01 FF 01 00 11 A0 00 00 01 20
81 11 00 02 00 00 02 1C 10 00 90 00 7B

.....
```

Test Case 12.4 - StartUp 04: Start-up PSAM - Configuration Required

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: StartUp	**Conditions:**

Requirements tested:

2-5.1.3.6　　　If ASW1-ASW2 has the value `1000' (Configuration required), reading PSAM data *and* performing file configuration are mandatory.

Purpose: To verify that the terminal issues the following commands, if ASW1-ASW2 = `1000' is returned in the *Start-up PSAM* command response:

- ⬥ *Get Debit/Credit Properties* command (Service Pack)*.
- ⬥ *Get Debit/Credit Properties* command (Checksum calculation)*.
- ⬥ *Exchange Debit/Credit Static Information* command
- ⬥ *Get Supported AIDs* command
- ⬥ A number of *Get Debit/Credit Properties* command (to retain Card Name etc.)*
- ⬥ *Get MSC Table* command
- ⬥ *Get Debit/Credit File Characteristics* command
- ⬥ *Configure PSAM Application* command

Note: The commands marked with an asterisk (*) may be send in a different order.

Prerequisites:

FTD script: StartUp_04　　　　*Card(s):* N/A　　　　*PSAM:* PSAM004
　　　Normal

Test environment:

SmartSpy (or similar tool) is to be used in order to monitor the PSAM interface.

FTD Host: X　　　　　　　　*IFS:*　　　　　　　　*Kopi:*

General pass criteria: It is demonstrated that the terminal sends the commands accordingly.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script denoted **Start-Up_04** *(ASW1-ASW2 = `1000' in the Start-up PSAM and Exchange Debit/Credit Static Information command responses)* Perform an Advice Transfer (make sure that updates are enabled, PSAM Personalization = Yes). Set up the monitor tool in order to monitor the PSAM interface. Restart the terminal ☞ Are the commands issued by the terminal in the following sequence? Use the line monitor to verify. ✍ *Get Debit/Credit Properties****** command (.. 'B0 A0' ..) Service Pack. ✍ *Get Debit/Credit Properties****** command (.. 'B0 A0' ..) Checksum calculation. ✍ *Exchange Debit/Credit Static Information* (.. 'B0 3C' ..) ✍ *Get Supported AIDs* command (.. 'B0 08' ..) ✍ A number of *Get Debit/Credit Properties****** command (to retain Card Name etc.) (.. 'B0 A0' ..) ✍ *Get MSC Table* command (.. 'B0 30' ..) ✍ *Get Debit/Credit File Characteristics* command (.. 'B0 32' ..) ✍ *Configure PSAM Application* command (.. 'B0 3E' ..) Note: The fields **not** marked with an '*****' **shall** occur in the above specified order. **See example below!**	Yes: Step 2 No: Case failed	
2.	Select the FTD host script **Normal** in the folder **Normal**. This script is used to "reset" the parameters of the PSAM. Perform an Advice Transfer (make sure that updates are enabled, PSAM Personalization = Yes).	Case OK	
-	End of test case		

Example (Step 1):

```
....
Terminal --> PSAM (Start-up PSAM)
00 40 08 B0 02 81 11 02 01 01 00 68

PSAM --> Terminal
00 40 19 01 00 00 01 FF 01 00 11 A0 00 00 01 20
81 11 00 02 00 00 02 1C 10 00 90 00 2B

Terminal --> PSAM (Get Debit/Credit Properties)
00 00 0A B0 A0 81 11 04 01 00 03 00 00 8C

PSAM --> Terminal
00 00 20 01 00 00 01 FF 01 00 18 00 12 A0 00 00
01 20 81 11 00 02 00 00 02 1C 34 14 1C 03 00 00
00 90 00 76

Terminal --> PSAM (Get Debit/Credit Properties)
00 00 1F B0 A0 81 11 19 00 00 07 15 14 10 F0 3E
EE 93 91 12 44 C4 5F 6A 1D 16 C4 4A 24 7A C6 67
92 00 FD

PSAM --> Terminal
00 00 26 01 00 00 01 FF 00 00 1E 00 18 95 87 7E
58 98 C3 62 2D 61 63 66 90 13 EC B5 DC 86 E4 43
7E 09 FD B9 D5 00 00 90 00 CA

Terminal --> PSAM (Exchange D/C Static Information)
00 40 25 B0 3C 81 11 1F 01 60 F8 C8 60 00 B0 B0
01 02 26 00 00 3F F0 30 30 34 30 30 30 34 30 22
35 31 32 33 34 43 02 00 EF

00 40 79 01 00 00 01 FF 01 00 71 FF 01 07 60 11
00 01 50 42 53 20 50 53 41 4D 2D 31 34 36 20 20
20 C6 D8 C5 42 41 4C 4C 45 52 55 50 20 20 20 20
20 20 20 20 4C 41 55 54 52 55 50 42 4A 45 52 47
20 31 30 20 20 20 20 20 20 20 20 20 44 4B 2D 32
37 35 30 20 28 2B 34 35 29 20 34 34 20 36 38 20
34 34 20 36 38 20 20 20 20 20 20 31 32 33 34
35 36 37 38 20 20 20 20 10 00 90 00 36

Terminal --> PSAM (Get Supported AIDs)
00 00 07 B0 08 81 11 01 01 00 2F

PSAM --> Terminal
00 00 86 01 00 00 01 FF 01 00 7E 0D 07 A0 00 00
00 03 10 10 00 07 A0 00 00 00 99 90 90 03 07 A0
00 00 00 04 10 10 01 07 A0 00 00 00 04 30 60 01

Terminal --> PSAM (Get MSC Table)
00 00 08 B0 30 81 11 02 01 00 00 1B

PSAM --> Terminal
00 00 6F 01 00 00 01 FF 01 00 67 00 0C 50 19 00
00 50 19 99 99 45 71 00 00 45 71 99 99 51 00 00
00 55 99 99 99 35 28 00 00 35 89 99 99 40 00 00
00 49 99 99 99 30 40 00 00 30 59 99 99 36 00 00
00 36 99 99 99 38 00 00 00 38 99 99 99 34 00 00
00 34 99 99 99 37 00 00 00 37 99 99 99 50 38 85
00 50 38 85 99 60 07 22 00 60 07 22 99 00 00 00
90 00 DF

Terminal --> PSAM (Get Debit/Credit File Characteristics)
00 40 07 B0 32 81 11 01 01 00 55

PSAM --> Terminal
00 40 20 01 00 00 01 FF 01 00 18 00 00 00 00 00 01
00 01 F4 01 00 01 F4 01 00 01 F4 01 00 01 2C 00
00 90 00 CE

Terminal --> PSAM (Configure PSAM Application)
00 00 11 B0 3E 81 11 0B 01 00 00 00 01 00 02 00
03 00 04 00 01

PSAM --> Terminal
00 00 0C 01 00 00 01 FF 01 00 04 00 00 90 00 66

(continues).......
```

Test Case 12.5 - StartUp 05: Start-up PSAM - Installation Required

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: StartUp	**Conditions:**

Requirements tested:

2-5.1.3.7 If ASW1-ASW2 has the value `1001' (Install transaction required), an installation transaction shall be performed before further initialization can be performed.

Purpose: To verify that the terminal issues the following commands, if ASW1-ASW2 = `1001' is returned in the *Start-up PSAM* command response:

- *Install command*
- *Validate Install Data* command
- *PSAM Updates* command(s)
- *Start-up PSAM* command

Prerequisites:

FTD script: StartUp_05 Normal	*Card(s):* N/A	*PSAM:* PSAM004

Test environment:

SmartSpy (or similar tool) is to be used in order to monitor the PSAM interface.

FTD Host: X	*IFS:*	*Kopi:*

General pass criteria: It is demonstrated that the terminal sends the commands accordingly.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script denoted **Start-Up_05** *(ASW1-ASW2 = `1001' in the Start-up PSAM* command response and one PSAM Update (date)). Perform an Advice Transfer (make sure that updates are enabled, PSAM Personalization = Yes). Set up the monitor tool in order to monitor the PSAM interface. Restart the terminal ☞ Are the commands issued by the terminal in the following sequence? Use the line monitor to verify. ☞ *Install command* (.. 'B0 70' ..) ☞ *Validate Install Data* command (.. 'B0 7A' ..) ☞ *PSAM Updates* command(s) (.. 'B4 48/4C' ..) ☞ *Start–up PSAM* command (.. 'B0 02' ..) **See example below!**	Yes: Step 2 No: Case failed	
2.	Select the FTD host script **Normal** in the folder **Normal**. This script is used to "reset" the parameters of the PSAM. Perform an Advice Transfer (make sure that updates are enabled, PSAM Personalization = Yes).	Case OK	
-	End of test case		

Example (Step 1):

```
....
Terminal ––> PSAM (Start–up PSAM)
00 40 08 B0 02 81 11 02 01 01 00 68

PSAM ––> Terminal
00 40 19 01 00 00 01 FF 01 00 11 A0 00 00 01 20
81 11 00 02 00 00 02 1C 10 01 90 00 3A

Terminal ––> PSAM (Install)
00 00 25 B0 70 81 11 1F 01 60 F8 C8 60 00 B0 B0
01 02 26 00 00 3F F0 30 30 34 30 30 30 34 30 22
35 31 32 33 34 43 02 00 E3

PSAM ––> Terminal
00 00 A6 01 00 00 01 FF 01 00 9E 00 98 41 36 30
31 E0 2A C0 02 00 68 C1 04 30 38 30 34 C2 02 08
80 C3 0D A0 00 00 01 20 81 11 00 02 00 00 02 1C
C7 01 02 CC 08 30 30 34 30 30 30 34 30 30 38 30
34 00 00 09 00 00 04 00 11 35 31 32 33 34 43 08
80 3D 54 34 00 03 60 F8 C8 54 35 00 05 60 00 B0
B0 01 54 36 00 02 02 26 54 37 00 02 00 00 54 33
00 08 30 30 34 30 30 30 34 30 54 39 00 02 3F F0
54 41 00 01 22 54 42 00 01 02 54 50 00 01 34 0D
A0 00 00 01 20 81 11 00 02 00 00 02 1C B1 5E 68
19 F6 B9 5C 5F 00 00 90 00 51

Terminal ––> PSAM (Validate Install Data)
00 40 72 B0 7A 81 11 6C 01 00 69 30 38 31 34 00
1A 00 00 02 04 00 11 15 05 09 10 25 04 08 00 00
3D 54 34 00 03 60 F8 C8 54 35 00 05 60 00 B0 B0
01 54 36 00 02 02 26 54 37 00 02 00 00 54 33 00
08 30 30 34 30 30 30 34 30 54 39 00 02 3F F0 54
41 00 01 22 54 42 00 01 02 54 50 00 01 34 0D A0
00 00 01 20 81 11 00 02 00 00 02 1C 63 05 33 C6
BB 55 E8 37 00 1D

PSAM ––> Terminal
00 40 0C 01 00 00 01 FF 01 00 04 10 02 90 00 34

Terminal ––> PSAM (PSAM Update)
00 00 33 B4 4C 81 11 2D 01 11 00 17 1C EF D0 AE
B7 B4 C8 42 A4 C9 1D 60 F8 7F 48 47 05 C1 2D 4A
29 04 91 71 6D 65 51 C3 AF 38 3C E7 F8 D4 3F 08
69 E4 D9 16 76 00 7A

PSAM ––> Terminal
00 00 0C 01 00 00 01 FF 01 00 04 00 00 90 00 66

Terminal ––> PSAM (PSAM Update)
00 40 16 B4 48 81 11 10 01 11 00 24 03 05 02 14
BD 4C 53 AE D6 4D 85 21 00 3D

PSAM ––> Terminal
00 40 0C 01 00 00 01 FF 01 00 04 00 00 90 00 26

Terminal ––> PSAM (Start–up PSAM)
00 40 08 B0 02 81 11 02 01 01 00 68

PSAM ––> Terminal
00 40 19 01 00 00 01 FF 01 00 11 A0 00 00 01 20

(continues).......
```

Test Case 12.6 - StartUp 06: Start-up PSAM - Restart Required

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: StartUp	**Conditions:**

Requirements tested:

2-5.1.3.8   If ASW1-ASW2 has the value `1002' (Restart required), the *Start-up PSAM* command shall be resend.

Purpose: To verify that the terminal resend the *Start-up PSAM* commands, if ASW1-ASW2 = `1002' is returned in the *Start-up PSAM* command response.

Prerequisites:

FTD script: StartUp_06 Normal   *Card(s):* N/A   *PSAM:* PSAM004

Test environment:

SmartSpy (or similar tool) is to be used in order to monitor the PSAM interface.

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria: It is demonstrated that the terminal resends the *Start-up PSAM* command accordingly.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script denoted **Start-Up_06** *(ASW1-ASW2 = `1002' in the *Start-up PSAM* command response)*. Perform an Advice Transfer (make sure that updates are enabled, PSAM Personalization = Yes). Set up the monitor tool in order to monitor the PSAM interface. Restart the terminal ☞ Are the commands issued by the terminal in the following sequence? Use the line monitor to verify. ☞ *Start–up PSAM* (..'B0 02' ..) ☞ *Start–up PSAM* (..'B0 02' ..) **See example below!**	Yes: Step 2 No: Case failed	
2.	Select the FTD host script **Normal** in the folder **Normal**. This script is used to "reset" the parameters of the PSAM. Perform an Advice Transfer (make sure that updates are enabled, PSAM Personalization = Yes).	Case OK	
-	End of test case		

Example (Step 1):

....

Terminal ––> PSAM (Start–up PSAM)
00 40 08 B0 02 81 11 02 01 01 00 68

PSAM ––> Terminal
00 40 19 01 00 00 01 FF 01 00 11 A0 00 00 01 20
81 11 00 02 00 00 02 1C 10 02 90 00 39

Terminal ––> PSAM (Start–up PSAM)
00 40 08 B0 02 81 11 02 01 01 00 68

PSAM ––> Terminal
00 40 19 01 00 00 01 FF 01 00 11 A0 00 00 01 20
81 11 00 02 00 00 02 1C 00 00 90 00 39

(continues).......

Test Case 12.7 - StartUp 07: Start-up PSAM - New Data Available

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: StartUp	Conditions:

Requirements tested:

2-5.1.3.9   IIf ASW1-ASW2 has the value `1003' (New data available), reading PSAM data is mandatory and performing file configuration shall <u>not</u> be performed.

Purpose: To verify that the terminal sends the following commands if ASW1-ASW2 = `1003' is returned in the *Start-up PSAM* command:

- *Get Debit/Credit Properties* command (Service Pack)*
- *Get Debit/Credit Properties* command (Checksum calculation)*
- *Exchange Debit/Credit Static Information* command
- *Get Supported AIDs* command
- *Get Debit/Credit Properties* command (To obtain Card Name etc.)*
- *Synchronize PSAM/PIN Pad* command

Note: The commands marked with an asterisk (*) may be send in a different order.

Prerequisites:

FTD script: StartUp_07 Normal	*Card(s):* N/A	*PSAM:* PSAM004

Test environment:
SmartSpy (or similar tool) is to be used in order to monitor the PSAM interface.

FTD Host: X	*IFS:*	*Kopi:*

General pass criteria: It is demonstrated that the terminal sends the command accordingly.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script denoted **Start-Up_07** *(ASW1-ASW2 = `1003' in the Start-up PSAM command response).*		
	Perform an Advice Transfer (make sure that updates are enabled, PSAM Personalization = Yes).		
	Set up the monitor tool in order to monitor the PSAM interface.		
	Restart the terminal		
	☞ Are the commands issued by the terminal in the following sequence? Use the line monitor to verify.		
	☞ *Get Debit/Credit Properties* command (..'B0 A0' ..) Service Pack.		
	☞ *Get Debit/Credit Properties* command (..'B0 A0' ..) Checksum calculation.		
	☞ *Exchange Debit/Credit Static Information* (.. 'B0 3C' ..)		
	☞ *Get Supported AIDs* command (..'B0 08' ..)		
	☞ A number of *Get Debit/Credit Properties* command (to retain Card Name etc.) (..'B0 A0' ..)		
	☞ *Get MSC Table* command (..'B0 30' ..)		
	☞ *Synchronize PSAM/PIN Pad* (..'B0 C2' ..)	Yes: Step 2	
	See example below!	No: Case failed	
2.	Select the FTD host script **Normal** in the folder **Normal**. This script is used to "reset" the parameters of the PSAM.		
	Perform an Advice Transfer (make sure that updates are enabled, PSAM Personalization = Yes).	Case OK	
-	End of test case		

Example (Step 1):

....

Terminal −−> PSAM (Start−up PSAM)
00 40 08 B0 02 81 11 02 01 01 00 68

PSAM −−> Terminal
00 40 19 01 00 00 01 FF 01 00 11 A0 00 00 01 20
81 11 00 02 00 00 02 1C 10 03 90 00 38

Terminal −−> PSAM (Get Debit/Credit Properties)
00 00 0A B0 A0 81 11 04 01 00 03 00 00 8C

PSAM −−> Terminal
00 00 20 01 00 00 01 FF 01 00 18 00 12 A0 00 00
01 20 81 11 00 02 00 00 02 1C 34 13 1C 03 00 00
00 90 00 71

.....

Terminal −−> PSAM (Exchange D/C Static Information)
00 40 25 B0 3C 81 11 1F 01 60 F8 C8 60 00 B0 B0
01 02 26 00 00 3F F0 30 30 34 30 30 30 34 30 22
35 31 32 33 34 43 02 00 EF

PSAM −−> Terminal
00 40 79 01 00 00 01 FF 01 00 71 FF 01 07 60 11
00 01 50 42 53 20 50 53 41 4D 2D 31 34 36 20 20
(continues)

Terminal −−> PSAM (Get Supported AIDs)
00 00 07 B0 08 81 11 01 01 00 2F

PSAM −−> Terminal
00 00 86 01 00 00 01 FF 01 00 7E 0D 07 A0 00 00
00 03 10 10 00 07 A0 00 00 00 99 90 90 03 07 A0

....

Terminal −−> PSAM (Get MSC Table)
00 00 08 B0 30 81 11 02 01 00 00 1B

PSAM −−> Terminal
00 00 6F 01 00 00 01 FF 01 00 67 00 0C 50 19 00
00 50 19 99 99 45 71 00 00 45 71 99 99 51 00 00
00 55 99 99 99 35 28 00 00 35 89 99 99 40 00 00
00 49 99 99 99 30 40 00 00 30 59 99 99 36 00 00
00 36 99 99 99 38 00 00 00 38 99 99 99 34 00 00
00 34 99 99 99 37 00 00 00 37 99 99 99 50 38 85
00 50 38 85 99 60 07 22 00 60 07 22 99 00 00 00
90 00 DF

Terminal −−> PSAM (Synchronize PSAM/PIN Pad)
00 40 07 B0 C2 81 11 01 01 00 A5

PSAM −−> Terminal
00 40 1D 03 01 00 01 65 01 00 13 A0 00 00 01 20
81 11 00 02 00 00 02 1C 01 04 C7 DB 10 BF 90 00
02
(continues)

Test Case 12.8 - StartUp 08: Get D/C File Characteristics - Restart Required

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: StartUp	**Conditions:**
Requirements tested: 2-5.1.1.2 Initialization of the debit/credit application shall be established as defined in figure 2-5.1 and described in the following requirements.	
Purpose: To verify that the terminal sends the *Start-up PSAM* command if ASW1-ASW2 = `1002' (Restart required) is returned in the *Get Debit/Credit File Characteristics* command response. **Note:** The commands marked with an asterisk (*) may be send in a different order.	
Prerequisites:	
FTD script: StartUp_08 Normal *Card(s):* N/A *PSAM:* PSAM004	
Test environment: SmartSpy (or similar tool) is to be used in order to monitor the PSAM interface. *FTD Host:* X *IFS:* *Kopi:*	
General pass criteria: It is demonstrated that the terminal sends the commands accordingly.	

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script denoted **Start-Up_08** *(ASW1-ASW2 = `1000' in the Exchange Debit/Credit Static Information command response and `1002' in the Get Debit/Credit File Characteristics command response)*		
	Perform an Advice Transfer (make sure that updates are enabled, PSAM Personalization = Yes).		
	Set up the monitor tool in order to monitor the PSAM interface.		
	Restart the terminal		
	☞ Are the commands issued by the terminal in the following sequence? Use the line monitor to verify.		
	☞ *Start–up PSAM* command (.. '80 02' ..)		
	☞ *Get Debit/Credit Properties* command (.. '80 A0' ..) Service Pack.		
	☞ *Get Debit/Credit Properties* command (.. '80 A0' ..) Checksum calculation.		
	☞ *Exchange Debit/Credit Static Information* (.. '80 3C' ..)		
	☞ *Get Supported AIDs* command (.. '80 08' ..)		
	☞ A number of *Get Debit/Credit Properties* command (to retain Card Name etc.) (.. '80 A0' ..)		
	☞ *Get MSC Table* command (.. '80 30' ..)		
	☞ *Get Debit/Credit File Characteristics* command (.. '80 32' ..)		
	☞ *Start–up PSAM* command (.. '80 02' ..)	Yes: Step 2	
	See example below!	No: Case failed	
2.	Select the FTD host script **Normal** in the folder **Normal**. This script is used to "reset" the parameters of the PSAM.		
	Perform an Advice Transfer (make sure that updates are enabled, PSAM Personalization = Yes).	Case OK	
-	End of test case		

Example (Step 1):

```
....
Terminal −−> PSAM (Start−up PSAM)
00 40 08 B0 02 81 11 02 01 01 00 68

PSAM −−> Terminal
00 40 19 01 00 00 01 FF 01 00 11 A0 00 00 01 20
81 11 00 02 00 00 02 1C 00 00 90 00 2B

Terminal −−> PSAM (Get Debit/Credit Properties)
00 00 0A B0 A0 81 11 04 01 00 03 00 00 8C

PSAM −−> Terminal
00 00 20 01 00 00 01 FF 01 00 18 00 12 A0 00 00
01 20 81 11 00 02 00 00 02 1C 34 13 1C 03 00 00
00 90 00 71

Terminal −−> PSAM (Get Debit/Credit Properties)
00 00 1F B0 A0 81 11 19 00 00 07 15 14 10 F0 3E
EE 93 91 12 44 C4 5F 6A 1D 16 C4 4A 24 7A C6 67
92 00 FD

PSAM −−> Terminal
00 00 26 01 00 00 01 FF 00 00 1E 00 18 95 87 7E
58 98 C3 62 2D 61 63 66 90 13 EC B5 DC 86 E4 43
7E 09 FD B9 D5 00 00 90 00 CA

Terminal −−> PSAM (Exchange D/C Static Information)
00 40 25 B0 3C 81 11 1F 01 60 F8 C8 60 00 B0 B0
01 02 26 00 00 3F F0 30 30 34 30 30 30 34 30 22
35 31 32 33 34 43 02 00 EF

PSAM −−> Terminal
00 40 79 01 00 00 01 FF 01 00 71 FF 01 07 60 11
......
35 36 37 38 20 20 20 20 10 00 90 00 25

Terminal −−> PSAM (Get Supported AIDs)
00 00 07 B0 08 81 11 01 01 00 2F

PSAM −−> Terminal
00 00 86 01 00 00 01 FF 01 00 7E 0D 07 A0 00 00
00 03 10 10 00 07 A0 00 00 00 99 90 90 03 07 A0
(continues)

Terminal −−> PSAM (Get Debit/Credit Properties)
00 40 11 B0 A0 81 11 0B 01 00 01 07 A0 00 00 00
03 10 10 00 7E

PSAM −−> Terminal
00 40 1F 01 00 00 01 FF 01 00 17 00 11 56 49 53
41 20 20 20 20 20 20 20 20 20 20 20 20 00 00 00
90 00 3A

Terminal −−> PSAM (Get MSC Table)
00 00 08 B0 30 81 11 02 01 00 00 1B

PSAM −−> Terminal
00 00 6F 01 00 00 01 FF 01 00 67 00 0C 50 19 00
00 50 19 99 99 45 71 00 00 45 71 99 99 51 00 00
(continues)

Terminal −−> PSAM (Get Debit/Credit File Characteristics)
00 40 07 B0 32 81 11 01 01 00 55

PSAM −−> Terminal
00 40 20 01 00 00 01 FF 01 00 18 00 00 00 00 00 01
00 01 F4 01 00 01 F4 01 00 01 F4 01 00 01 2C 10
02 90 00 DC

Terminal −−> PSAM (Start−up PSAM)
00 40 08 B0 02 81 11 02 01 01 00 68

PSAM −−> Terminal
00 40 19 01 00 00 01 FF 01 00 11 A0 00 00 01 20
81 11 00 02 00 00 02 1C 00 00 90 00 2B
(continues).......
```

4.13 Service Packs

Conditions and Assumptions

The 3 most significant bits of the data element Terminal Approval Number indicates whether a Service Pack No. is requested or not.

As of OTRS 3.x and forward, all terminals shall at least support Service Pack 2. This makes a large number of tests obsolete. See the header of each test case further information.

The values to be used are defined in the table below.

Service Pack No.	Terminal Approval Number Range
Baseline	'0000' ◻ Terminal Approval No. ◻ '1FFF'
1	'2000' ◻ Terminal Approval No. ◻ '3FFF'
2	'4000' ◻ Terminal Approval No. ◻ '5FFF'

Test Case 13.1 - Service Packs 01: Selection of Service Packs (Baseline)

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: ServicePacks	Conditions: NOT[Baseline] AND [PIN]

Requirements tested:

2-5.1.3.10	*Get Debit/Credit Properties (0003)* command to be send after the *Start-Up PSAM*.
2-5.1.3.11	MAD-Handler shall support <u>at least Service Pack No 2</u>.
2-5.1.3.12	MAD-Handler shall support highest mutual Service Pack
2-5.1.3.14	If no match the terminal shall interrupt the start up procedure.
2-5.1.3.15	The Terminal Approval No. (3 MSB) shall be adjusted according to the Service Pack selected.

Purpose: To verify that the terminal sends a *Get Debit/Credit Properties* command after *Start-Up PSAM* command. Furthermore, it is verified that highest mutual Service Pack No is selected.

Prerequisites:
Line monitor is to be used in order to monitor the PSAM interface.

FTD script: ServicePacks_01   *Card(s):* MSC001   *PSAM:* PSAM004
    Normal

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria: It is demonstrated that if the terminal supports Service Packs and the
PSAM only supports the baseline, then the terminal shall either refuse to initiate any transactions
or downgrade to baseline capabilities.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script denoted **Service-Packs_01**. (The PSAM returns Service Packs Supported = `00' in the response to *Get Debit/ Credit Properties* command, i.e. no Service Packs supported (baseline)). Make sure that updates are enabled, PSAM Personalization = Yes. Perform an Advice Transfer. Monitor the PSAM interface and record data. Restart/open the terminal ☝ Are the next commands after the response to the *Start_up PSAM* command (`B0 02 .. ..') two *Get Debit/Credit Properties* command: ☞ '.. .. **B0 A0** 81 11 04 01 **00 03** 00 00.. ..' (The terminal will ask the PSAM for Service Pack Check) and ☞ '.. .. **B0 A0** 81 11 19 00 **00 07** .. ..' (and will continue after this, i.e. request checksum computation)?	Yes: Step 2 No: Case failed	
2.	☝ Does the start-up procedure terminate after the commands listed above?(PSAM and terminal cannot find a common service pack level) **Note:** It is allowed for the terminal <u>not</u> to be backward compatible.	Yes: Case OK No: Step 3	
3.	Check the Terminal Approval Number send in the succeeding *Exchange Debit/Credit Static Information* command. (The terminal will re-configure itself and reply with a service pack level = '0' i.e. baseline) ☝ Terminal Approval Number = B' 000X XXXX XXXX XXXX (baseline)?	Yes: Step 4 No: Case OK	
4.	Initiate a MSC transaction using the **MSC001**. The FTD host will reply with an Action Code = 1017 (Incorrect PIN) ☝ Is PIN-retry initiated?(PIN retry shall not be activated, as this isn't a baseline capability)	Yes: Case failed No: Step 5	
5.	Select the host script **Normal** in the folder **Normal** (Make sure that updates are enabled, i.e. PSAM Personalization = Yes) Perform an Advice Transfer on the terminal, to restore the PSAM.	Case OK	
-	End of test case		

Example (Step 1 & 3):

See next page

....
Terminal --> PSAM (Start_up PSAM)
*00 40 08 **B0 02** 81 11 02 01 01 00 68*

PSAM --> Terminal
00 40 19 01 00 00 01 FF 01 00 11 A0 00 00 01 20
81 11 00 02 00 00 02 1C 00 00 90 00 2B

Terminal --> PSAM (Get Debit/Credit Properties, SP)
*00 00 0A **B0 A0** 81 11 04 01 **00 03** 00 00 8C*

PSAM --> Terminal (Get Debit/Credit Properties)
00 00 20 01 00 00 01 FF 01 00 18 00 12 A0 00 00
*01 20 81 11 00 02 00 00 02 1C 34 12 1C **00** 00 00*
00 90 00 70

Terminal --> PSAM (Get Debit/Credit Properties)
*00 00 1F **B0 A0** 81 11 19 00 **00 07** 15 14 10 F0 3E*
EE 93 91 12 44 C4 5F 6A 1D 16 C4 4A 24 7A C6 67
92 00 FD

PSAM --> Terminal
00 00 26 01 00 00 01 FF 00 00 1E 00 18 F4 1E 44
27 D1 3D C3 AE B5 2D 56 B1 F1 81 17 AD B2 A4 74
02 A0 C9 36 DE 00 00 90 00 13

....

Terminal --> PSAM (Exchange D/C Static Information
*00 40 25 B0 **3C 81** 11 1F 01 60 F8 C8 60 00 B0 B0*
*01 02 26 00 00 **3F F0** 30 30 34 30 30 30 34 30 22*
35 31 32 33 34 43 02 00 EF

PSAM --> Terminal
00 40 79 01 00 00 01 FF 01 00 71 FF 01 07 60 11
00 01 50 42 53 20 50 53 41 4D 2D 31 34 36 20 20
20 C6 D8 C5 42 41 4C 4C 45 52 55 50 20 20 20 20
20 20 20 20 4C 41 55 54 52 55 50 42 4A 45 52 47
20 31 30 20 20 20 20 20 20 20 20 20 44 4B 2D 32
37 35 30 20 28 2B 34 35 29 20 34 34 20 36 38 20
34 34 20 36 38 20 20 20 20 20 20 31 32 33 34
35 36 37 38 20 20 20 20 00 00 90 00 36

(continues)

Service Packs Supported (`00' = Baseline)

Test Case 13.2 - Service Packs 02: Selection of Service Packs (Baseline)

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: ServicePacks	Conditions: NOT[Baseline] AND [PIN]

Requirements tested:

2-5.1.3.10   *Get Debit/Credit Properties* command to be send after the *Start-Up PSAM*.

2-5.1.3.11   MAD-Handler shall support at least Service Pack No 2.

2-5.1.3.12   MAD-Handler shall support highest mutual Service Pack

2-5.1.3.13   ASW1-ASW2 = `1122' or `10ED' shall be interpreted as "no Service Packs".

Purpose: To verify that the terminal interprets the ASW1-ASW2 = `1122' returned

Prerequisites:

FTD script: ServicePacks_02   *Card(s):*MSC001   *PSAM:* PSAM004
      Normal

Test environment:

Line monitor is to be used in order to monitor the PSAM interface.

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria: It is demonstrated that if the terminal receive an ASW1-ASW2 = `1122' when issuing *Get Debit/Credit Properties* command, the terminal shall either refuse to initiate any transactions or downgrade to baseline.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script denoted **Service-Packs_02**. PSAM returns ASW1-ASW2 = `1122' (INS not supported) on the *Get Debit/ Credit Properties* command. Perform an Advice Transfer (make sure that updates are enabled, PSAM Personalization = Yes). Set up the monitor tool in order to monitor the PSAM interface. Restart/open the terminal ✍ Are the next commands after the response to the *Start_up PSAM* command (`B0 02 .. ..') two *Get Debit/Credit Properties* command: ☞ '.. .. B0 A0 81 11 04 01 **00 03** 00 00.. ..' (Service Pack Check, the PSAM will respond "instruction not supported") and ☞ '.. .. B0 A0 81 11 19 00 **00 07** .. ..' (Terminal will continue with next query, checksum computation)?	Yes: Step 2 No: Case failed	
2.	✍ Does the start-up procedure terminate after the commands listed above? **Note:** It is allowed for the terminal <u>not</u> to be backward compatible.	Yes: Case OK No: Step 3	

Step	Actions and assessment	Result	Verdict
3.	Check the Terminal Approval Number send in the succeeding *Exchange Debit/Credit Static Information* command. ☞ Terminal Approval Number = B' 000X XXXX XXXX XXXX (Terminal to report baseline capability)?	Yes: Step 4 No: OK	
4.	Initiate a MSC transaction using the **MSC001**. The FTD host will reply with an Action Code = 1017 (Incorrect PIN) ☞ Is PIN-retry initiated?	Yes: Case failed No: Step 5	
5.	Select the host script **Normal** in the folder **Normal** (Make sure that updates are enabled, i.e. PSAM Personalization = Yes) Perform an Advice Transfer on the terminal, to restore the PSAM.	Case OK	
-	End of test case		

Example (Step 1 & 3):

> *....*
> *Terminal --> PSAM (Start_up PSAM)*
> *00 40 08 **B0 02** 81 11 02 01 01 00 68*
>
> *PSAM --> Terminal*
> *00 40 19 01 00 00 01 FF 01 00 11 A0 00 00 01 20*
> *81 11 00 02 00 00 02 1C 00 00 90 00 2B*
>
> *Sender Reader --> Card (Get Debit/Credit Proper-*
> *ties)*
> *00 00 0A **B0 A0** 81 11 04 01 **00 03** 00 00 8C*
>
> *PSAM --> Terminal*
> *00 00 0C 01 00 00 01 FF 01 00 04 **11 22** 90 00 55*
>
> *Terminal --> PSAM (Get Debit/Credit Properties)*
> *00 00 1F **B0 A0** 81 11 19 00 00 07 15 14 10 F0 3E*
> *EE 93 91 12 44 C4 5F 6A 1D 16 C4 4A 24 7A C6 67*
> *92 00 FD*
>
> *PSAM --> Terminal*
> *00 00 26 01 00 00 01 FF 00 00 1E 00 18 F4 1E 44*
> *27 D1 3D C3 AE B5 2D 56 B1 F1 81 17 AD B2 A4 74*
> *02 A0 C9 36 DE 00 00 90 00 13*
>
> *End of acquisition*

Test Case 13.3 - Service Packs 03: Selection of Service Packs No. 1

Test date:	Init:
Problem Report (if any):	Test case result:
Comments: >>>>>> This test is obsolete <<<<<	

Test group: ServicePacks	Conditions: [SP1] AND [NOT SP2]
Requirements tested:	
6.1.3.9 *Get Debit/Credit Properties* command to be send after the *Start-Up PSAM*. 6.1.3.10 MAD-Handler shall choose the highest mutual supported Service Pack No.	
Purpose: To verify that the terminal is able to select and report Service Pack No. 1.	
Prerequisites: *FTD script:* ServicePacks_03 *Card(s):*ICC001 *PSAM:* PSAM002	
Test environment: *FTD Host:* X *IFS:* *Kopi:*	
General pass criteria: It is demonstrated that the terminal supporting Service Pack No. 1 is able to work with a PSAM supporting: ◆ Baseline ◆ Service Pack No. 1 ◆ Service Pack No. 2	

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script denoted **Service-Packs_03** (Make sure that updates are disabled, i.e. PSAM Personalization = **No**). The PSAM returns Service Packs Supported = `03' in the response to *Get Debit/Credit Properties* command, i.e. Baseline, Service Packs No. 1 & Service Packs No. 2 are supported. Perform an Advice Transfer. Restart/open the terminal ☞ Terminal indicates "Ready, Insert card"?	Yes: Step 2 No: Case failed	
2.	Perform a transaction with **ICC001.** analyse the FTD log, check the Terminal Approval Number in the Authorization Request command message (field 46, tag T9) **Hint**: Edit -> Find... -> Enter: "Aut_req" in order to find the Authorization Request. ☞ Terminal Approval Number = B' 001X XXXX XXXX XXXX (The terminal response that it is supporting Service Pack No. 1)? **Note:** this corresponds to a Terminal Approval number of '2nnn' or '3nnn'	Yes: Step 3 No: Case failed	
3.	☞ Transaction completed successfully?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 13.4 - Service Packs 04: Get Amount 2, Purchase, MSC and PIN

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments: This test is only relevant if the terminal is able to send *Initiate Payment* command to PSAM before the amount is available.	
Comments: >>>>>> **This test is obsolete** <<<<<	

Test group: ServicePacks	Conditions: [SP1] AND [LateAmountEntry] AND NOT [SUT] AND [PIN]
Requirements tested: 8.6.24.1 Format of the *Get Amount 2* command	
Purpose: Verifies that the terminal is able to handle *Get Amount 2* command correctly, if the transaction is based on: ⬧ Purchase transaction ⬧ Magstripe Card ⬧ PIN used as CVM	
Prerequisites:	
FTD script: ServicePacks_04 *Card(s):* MSC001 *PSAM:* PSAM002	
Test environment: *FTD Host:* X *IFS:* *Kopi:*	
General pass criteria: It is demonstrated that the terminal is able to handle the *Get Amount 2* command in case of Purchase, MSC and online PIN.	

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script denoted **Service-Packs_04** (Make sure that updates are disabled, i.e. PSAM Personalization = No). Initiate a transaction (Purchase) using **MSC001** and PIN as CVM. Amount shall not be entered at this step. ☞ Terminal requests PIN entry?	Yes: Step 2 No: Case failed	
2.	Enter the PIN code ☞ Terminal awaiting amount from the Merchant Interface?	Yes: Step 3 No: Case failed	
3.	Release the amount from the Merchant Interface. ☞ The terminal displays the amount?	Yes: Step 4 No: Case failed	
4.	Accept the amount, and the processing shall continue. ☞ Transaction completed successfully and receipt printed?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 13.5 - Service Packs 05: Get Amount 2, Refund, MSC and Signature

Test date:	Init:
Problem Report (if any):	Test case result:
Comments: This test is only relevant if the terminal is able to send *Initiate Payment* command to PSAM, during a Refund-transaction, before the amount is available.	
Comments: **>>>>>> This test is obsolete <<<<<<**	

Test group: ServicePacks	Conditions: [SP1] AND [LateAmountEntry] AND [Attended] AND NOT [SUT]
Requirements tested: x-x Format of the *Get Amount 2* command	
Purpose: Verifies that the terminal is able to handle *Get Amount 2* command correctly, if the transaction is based on: ⬥ Refund transaction ⬥ Magstripe Card ⬥ Signature used as CVM (mandatory)	
Prerequisites: *FTD script:* ServicePacks_05 *Card(s):* MSC001 *PSAM:* PSAM002	
Test environment: *FTD Host:* X *IFS:* *Kopi:*	
General pass criteria: It is demonstrated that the terminal is able to handle the Get Amount 2 command in case of Refund, MSC and signature.	

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script denoted **ServicePacks_05** (Make sure that updates are disabled, i.e PSAM Personalization = No). Initiate a transaction (Refund) using signature as CVM. (select transaction type before swiping card) Perform the transaction using **MSC001** Amount shall *not* be entered at this step. ☞ Transaction processing temporarily stopped, and terminal awaiting amount from the Merchant Interface?	Yes: Step 2 No: Case failed	
2.	Release the amount from the Merchant Interface. ☞ The terminal displays the amount?	Yes: Step 3 No: Case failed	
3.	Accept the amount, and the processing shall continue. ☞ Transaction completed successfully and receipt for Refund printed?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 13.6 - Service Packs 06: Get Amount 2, Purchase, ICC and PIN/Signature

Test date:	Init:
Problem Report (if any):	**Test case result:**

Comments: This test is only relevant if the terminal is able to send Initiate Payment command to PSAM before the amount is available.
If the amount is not available the transaction processing stops when the amount is awaited. If the function for "Accelerated PIN Entry" is enabled the transaction processing stops after PIN entry, but before amount acceptance. Otherwise the processing stops before PIN entry.

Comments:	**>>>>>> This test is obsolete <<<<<<**

Test group: ServicePacks	**Conditions:** [SP1] AND [LateAmountEntry] AND NOT [SUT]

Requirements tested:
8.6.24.1 Format of the *Get Amount 2* command.

Purpose: Verifies that the terminal is able to handle *Get Amount 2* command correctly, if the transaction is based on:

⬥ Purchase transaction
⬥ ICC Card
⬥ PIN or Signature used as CVM (may depend on ICC card)

Prerequisites:

FTD script: ServicePacks_06   *Card(s):* ICC001   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria: It is demonstrated that the terminal is able to handle the Get Amount 2 command in case of Purchase, ICC and PIN/signature.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script denoted **Service-Packs_06**. Initiate a transaction (Purchase) using **ICC001**. Amount shall not be entered at this step. ✍ Terminal requests PIN entry?	Yes: Step 2 No: Case failed	
2.	Enter the PIN code ✍ Terminal awaiting amount from the Merchant Interface?	Yes: Step 3 No: Case failed	
3.	Release the amount from the Merchant Interface. ✍ The terminal displays the amount?	Yes: Step 4 No: Case failed	
4.	Accept the amount, and the processing shall continue. ✍ Transaction completed successfully and receipt printed according to the CVM selected?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 13.7 - Service Packs 07: Get Amount 2, Orig. Auth, ICC and PIN/Signature

Test date:	**Init:**
Problem Report (if any):	**Test case result:**
Comments: This test is only relevant if the terminal is able to send Initiate Payment command to PSAM, during an Original Authorization transaction, before the amount is available. If the amount is not available the transaction processing stops when the amount is awaited. If the function for "Accelerated PIN Entry" is enabled the transaction processing stops after PIN entry, but before amount acceptance. Otherwise the processing stops before PIN entry.	
Comments: **>>>>>> This test is obsolete <<<<<<**	

Test group: ServicePacks	**Conditions:** [SP1] AND [LateAmountEntry] AND [PIN] AND NOT [SUT] AND [Token]
Requirements tested: 8.6.24.1 Format of the *Get Amount 2* command.	
Purpose: Verifies that the terminal is able to handle *Get Amount 2* command correctly, if the transaction is based on: ⬥ Original Authorization transaction ⬥ ICC Card ⬥ PIN or Signature used as CVM (may depend on ICC card)	
Prerequisites: *FTD script:* ServicePacks_07 *Card(s):* ICC001 *PSAM:* PSAM002	
Test environment: *FTD Host:* X *IFS:* *Kopi:*	
General pass criteria: It is demonstrated that the terminal is able to handle the Get Amount 2 command in case of Original Authorization, ICC and PIN.	

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script denoted **Service-Packs_07** (Make sure that updates are disabled, i.e. PSAM Personalization = No). Initiate a transaction (Original Authorization) using **ICC001**. Amount shall _not_ be entered at this step. ☞ Terminal requests PIN entry?	Yes: Step 2 No: Case failed	
2.	Enter the PIN code ☞ Terminal awaiting amount from the Merchant Interface?	Yes: Step 3 No: Case failed	
3.	Release the amount from the Merchant Interface. ☞ Does the terminal displays the amount?	Yes: Step 4 No: Case failed	
4.	Accept the amount, and the processing shall continue. ☞ Transaction completed successfully?	Yes: Step 5 No: Case failed	

Step	Actions and assessment	Result	Verdict
5.	Whether a receipt is printed or not may depend on the actual implementation. **Note:** General rule, if amount has been presented to and accepted by the cardholder, a receipt is required. ☞ Receipt expected?	Yes: Step 6 No: Case OK	
6.	☞ Receipt printed according to the CVM selected?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 13.8 - Service Packs 08: Get Amount 2, Amount, Other (CashBack)

Test date:	Init:
Problem Report (if any):	Test case result:

Comments: This test is only relevant if the data element Amount, Other is supported, and the terminal is able to send Initiate Payment command to PSAM before the amount is available.

If the amount is not available the transaction processing stops when the amount is awaited. If the function for "Accelerated PIN Entry" is enabled the transaction processing stops after PIN entry, but before amount acceptance. Otherwise the processing stops before PIN entry.

Comments: **>>>>>> This test is obsolete <<<<<<**

Test group: ServicePacks	Conditions: [SP1] AND [LateAmountEntry] AND [Cashback]

Requirements tested:
8.6.24.1   Format of the *Get Amount 2* command.
G.2.11.1   Receipt requirements
G.2.11.2   Receipt requirements
G.2.11.3   Receipt requirements
G.2.11.4   Receipt requirements
G.2.11.5   Receipt requirements

Purpose: Verifies that the terminal is able to handle *Get Amount 2* command correctly, if the response includes a value for the data element:

♦ Amount, Other

Prerequisites:

FTD script: ServicePacks_08   *Card(s):* ICC001   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria: It is demonstrated that the terminal is able to handle the *Get Amount 2* command in case of Purchase, ICC, PIN and Amount, Other.

Comments: The PBS host does at the present not support Cashback. The test is 'Not Applicable' until 'Cashback' is supported on the host.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script denoted **Service-Packs_08** (Make sure that updates are disabled, i.e. PSAM Personalization = No). Initiate a transaction (Purchase) using **ICC001**. Amount shall *not* be entered at this step. ☞ Terminal requests PIN entry?	Yes: Step 2 No: Case failed	
2.	Release the amount from the Merchant Interface. Observe the values for ☞ Transaction Amount ☞ Amount, Other If PIN code requested, but not entered, then enter PIN code and accept. ☞ Terminal continues processing?	Yes: Step 3 No: Case failed	

Step	Actions and assessment	Result	Verdict
3.	☞ Transaction completed successfully and re-ceipt printed according to the CVM se-lected?	Yes: Step 4 No: Case failed	
4.	☞ "Transaction Amount" appears unambigu-ous on the receipt ?	Yes: Step 5 No: Case failed	
5.	☞ "Amount, Other" appears on the receipt?	Yes: Step 6 No: Step 7	
6.	☞ Correct value for "Amount, Other" printed?	Yes: Step 7 No: Case failed	
7.	Check the amount values received in the host systems. ☞ Amount values indicated correctly in both Authorization Request and Financial Advice (FTD log, field 4)?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 13.9 - Service Packs 09: Get Amount 2, Dual Issue of Get Amount 2

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments: This test is only relevant if the terminal is able to send *Initiate Payment* command to PSAM before the amount is available. If the amount is not available the transaction processing stops when the amount is awaited. If the function for "Accelerated PIN Entry" is enabled the transaction processing stops after PIN entry, but before amount acceptance. Otherwise the processing stops before PIN entry.	
Comments: **>>>>>> This test is obsolete <<<<<<**	

Test group: ServicePacks	**Conditions:** [Attended] AND [SP1] AND [LateAmountEntry] AND [PIN] AND NOT [SUT]
Requirements tested: 8.6.24.1 Format of the *Get Amount 2* command. 11.4.2.1 Receipt requirements	
Purpose: Verifies that the terminal is able to handle *Get Amount 2* command correctly, if the transaction is based on: ⬥ Purchase transaction ⬥ ICC Card ⬥ PIN ⬥ The *Get Amount 2* command is issued twice The ICC009 requests (by the PDOL) the amount to be transferred before the PAN is known.	
Prerequisites: *FTD script:* ServicePacks_09 *Card(s):* ICC021 *PSAM:* PSAM002	
Test environment: *FTD Host:* X *IFS:* *Kopi:*	
General pass criteria: It is demonstrated that the terminal is able to handle the *Get Amount 2* command in case of Purchase, ICC, PIN and *Get Amount 2* issued twice.	

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script denoted **ServicePacks_09** (Make sure that updates are disabled, i.e. PSAM Personalization = No). Initiate a transaction (Purchase) using **ICC021**. Amount shall <u>not</u> be entered at this step. ☞ Terminal requests PIN entry?	Yes: Step 2 No: Case failed	
2.	Release the amount from the Merchant Interface. If PIN code requested, but not entered, then enter PIN code and accept. ☞ Terminal continues processing?	Yes: Step 3 No: Case failed	
3.	☞ Transaction completed successfully and receipt printed according to PIN as the CVM selected?	Yes: Step 4 No: Case failed	
-	End of test case		

Test Case 13.10 - Service Packs 10: Validate Data 2 not supp, Purchase and MSC

Test date:	Init:
Problem Report (if any):	Test case result:
Comments: This test is only relevant if the terminal is able to handle a PSAM supporting only the original set of messages (and not supporting Service Pack No. 1)	
Comments: >>>>>> This test is obsolete <<<<<<	

Test group: ServicePacks	Conditions: [Baseline&SPx] AND [PIN]
Requirements tested: Format of the *Validate Data 2* command. 8.6.4.1 The *Validate Data* command shall have the format shown in table 8.44.	
Purpose: Verifies the transaction handling and receipt printing, if the Validate Data 2 command is not activated. A number of data elements for the receipts may be fetched from the response to *Validate Data 2* command. If this response is not accessible, the content of the the receipt shall be correct anyhow.	
Prerequisites: *FTD script:* ServicePacks_10 *Card(s):* MSC001 *PSAM:* PSAM004 Normal	
Test environment: *FTD Host:* X *IFS:* *Kopi:*	
General pass criteria: It is demonstrated that the terminal is able to print a correct receipt even if the terminal must fall back to baseline, as PSAM does not support the *Validate Data 2* command.	

Step	Actions and assessment	Result	Verdict
1.	☞ Does the terminal support fallback to Baseline capability (no Service Packs supported)?	Yes: Step 2 No: Not Applicable	
2.	Select the FTD host script denoted **Service-Packs_10** (Make sure that updates are enabled, PSAM Personalization = **Yes**). The PSAM returns Service Packs Supported = `00' in the response to *Get Debit/Credit Properties* command, i.e. no Service Packs supported (baseline). Perform an Advice Transfer. Initiate a transaction (Purchase) using **MSC001**. ☞ PIN entry requested?	Yes: Step 3 No: Case failed	
3.	Enter PIN and accept the amount. ☞ Transaction completed successfully?	Yes: Step 4 No: Case failed	
4.	Check receipt printed, specially the following data elements shall be inspected: ♦ Action Code "Status: xxxx" ♦ Approval Code "Auth Code: xxxxxx" ♦ Auth. Response Code "ARC: <empty>" ♦ Transaction Condition Code "DA1" ☞ Is the contents of receipts correct?	Yes: Step 5 No: Case failed	

Step	Actions and assessment	Result	Verdict
5.	Select the host script **Normal** (Make sure that updates are enabled, i.e. PSAM Personalization = **Yes**) Perform an Advice Transfer on the terminal, to restore the PSAM.	Case OK	
-	End of test case		

Test Case 13.11 - Service Packs 11: Validate Data 2 not supp, No Auth. Resp.

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments: This test is only relevant if the terminal is able to handle a PSAM supporting only the original set of messages (and not supporting Service Pack No. 1).	
Comments: >>>>>> **This test is obsolete** <<<<<	

Test group: ServicePacks	**Conditions:** [Baseline&SPx] AND [PIN]
Requirements tested: Format of the *Validate Data 2* command. 8.6.4.1 The *Validate Data* command shall have the format shown in table 8.44.	
Purpose: Verifies the transaction handling and receipt printing, if the *Validate Data 2* command is not active and no Authorization response received. If no authorization response is available, the transaction may be approved as an offline transaction anyhow. In this situation the value of the data element CVM Status will differ in the responses to Payment and *Validate Data 2* command. The Transaction Condition Codes printed on the receipt shall reflect the last data received. Since *Validate Data 2* command is not active, only the preliminary data value can be included. A number of data elements for the receipts may be fetched from the response to *Validate Data 2* command. If this response is not accessible, the content of the the receipt shall be correct anyhow.	
Prerequisites: *FTD script:* ServicePacks_11 Normal *Card(s):* ICC015 *PSAM:* PSAM004	
Test environment: *FTD Host:* X *IFS:* *Kopi:*	
General pass criteria: It is demonstrated that the terminal is able to print a correct receipt even if the PSAM does not support the *Validate Data 2* command.	

Comments: The Tansaction Condition Code will be "incorrect" due to limitations in terminals using only Baseline capability.

Step	Actions and assessment	Result	Verdict
1.	✍ Does the terminal support fallback to Baseline capability (no Service Packs supported)?	Yes: Step 2 No: Not Applicable	
2.	Select the FTD host script denoted **ServicePacks_11** (Make sure that updates are enabled, PSAM Personalization = Yes). The PSAM returns Service Packs Supported = `00' in the response to *Get Debit/Credit Properties* command, i.e. no Service Packs supported (baseline). Perform an Advice Transfer. Initiate a transaction (Purchase) using **ICC015**. Enter amount. Enter PIN and confirm amount. ✍ Transaction completed successfully?	Yes: Step 3 No: Case failed	

Step	Actions and assessment	Result	Verdict
3.	Check receipts printed, specially the following data elements shall be inspected: ♦ Action Code "Status: xxxx" ♦ Approval Code "Auth Code: xxxxxx" ♦ Auth. Response Code "ARC: <empty>" ♦ Transaction Condition Code "IB1" (ICC, offline PIN & online auth.) (Ought to be "- - 3") ☞ Contents of receipts correct?	Yes: Step 4 No: Case failed	
4.	Select the host script **Normal** (Make sure that updates are enabled, i.e. PSAM Personalization = Yes) Perform an Advice Transfer on the terminal, to restore the PSAM.	Case OK	
-	End of test case		

Test Case 13.12 - Service Packs 12: Validate Data 2 not supp., Orig. Auth. and Capture

Test date:	**Init:**
Problem Report (if any):	**Test case result:**
Comments: This test is only relevant if the terminal is able to handle a PSAM supporting only the original set of messages (and not supporting Service Pack No. 1).	
Comments: >>>>>> **This test is obsolete** <<<<<<	

Test group: ServicePacks	**Conditions:** [Baseline&SPx] AND [Token] AND [PIN] AND [Attended]
Requirements tested: Format of the *Validate Data 2* command. 8.6.4.1 The *Validate Data* command shall have the format shown in table 8.44.	
Purpose: Verifies the transaction handling and receipt printing for Token based transaction, if the *Validate Data 2* command is not active. A number of data elements for the receipts may be fetched from the response to *Validate Data 2* command. If this response is not accessible, the content of the the receipt shall be correct anyhow. If a Token based transaction is completed, the terminal is not able to print the Approval Code on the receipt, and the printing of the first digit in Transaction Condition Code shall be based on data from the Token Header.	
Prerequisites: *FTD script:* ServicePacks_12 *Card(s):* ICC001 *PSAM:* PSAM004	
Test environment: *FTD Host:* X *IFS:* *Kopi:*	
General pass criteria: It is demonstrated that the terminal is able to print a correct receipt even if the PSAM does not support the *Validate Data 2* command.	

Step	Actions and assessment	Result	Verdict
1.	☞ Does the terminal supports original message set too?	Yes: Step 2 No: Case OK	
2.	Select the FTD host script denoted **Service-Packs_12**. (The PSAM returns Service Packs Supported = `00' in the response to *Get Debit/ Credit Properties* command, i.e. no Service Packs supported (baseline)). Make sure that updates are enabled, PSAM Personalization = Yes. Perform an Advice Transfer. Initiate a transaction (Original Authorization) using **ICC001**. Enter amount. Enter PIN and confirm amount. ☞ Transaction completed successfully?	Yes: Step 3 No: Case failed	
3.	Use the Token made in Step 2 and initiate a Capture. ☞ Transaction completed successfully?	Yes: Step 4 No: Case failed	

Step	Actions and assessment	Result	Verdict
4.	Check receipts printed, specially the following data elements shall be inspected: ⧫ Action Code "Status: <empty>" ⧫ Approval Code "Auth code: <empty>" ⧫ Auth. Response Code "ARC: <empty>" ⧫ Transaction Condition Code "IA-" or "IB-" (last digit undefined) ☞ Contents of receipts correct?	Yes: Step 5 No: Case failed	
5.	Select the host script **Normal** (Make sure that updates are enabled, i.e. PSAM Personalization = Yes) Perform an Advice Transfer on the terminal, to restore the PSAM.	Case OK	
-	End of test case		

Test Case 13.13 - Service Packs 13: Validate Data 2, Purchase and MSC

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: ServicePacks	**Conditions:** [[SP1] OR [SP2]] AND [PIN]
Requirements tested: Format of the *Validate Data 2* command. 2-14.6.3.1 The *Validate Data 2* command shall have the format shown in table 2-14.47.	
Purpose: Verifies the transaction handling and receipt printing for Purchase transactions, when *Validate Data 2* command is active.	
Prerequisites:	
FTD script: ServicePacks_13 *Card(s):* MSC001 *PSAM:* PSAM002	
Test environment: *FTD Host:* X *IFS:* *Kopi:*	
General pass criteria: A number of data elements for the receipts shall be fetched from the response to *Validate Data 2* command.	

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script denoted **Service-Packs_13** (Make sure that updates are disabled, i.e. PSAM Personalization = No). Initiate a transaction (Purchase) using a **MSC001** and use PIN as CVM. ☞ PIN entry requested?	Yes: Step 2 No: Case failed	
2.	Enter PIN and accept the amount. ☞ Transaction completed successfully?	Yes: Step 3 No: Case failed	
3.	Check receipts printed, specially the following data elements shall be inspected: ⬧ Action Code "Status: xxxx" ⬧ Approval Code "Auth Code: xxxxxx" ⬧ Auth. Response Code "ARC: <empty>" ⬧ Transaction Condition Code "DA1" ☞ Is the contents of receipts correct?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 13.14 - Service Packs 14: Validate Data 2, No Auth. Resp.

Test date:		Init:	
Problem Report (if any):		**Test case result:**	
Comments:			

Test group: ServicePacks	**Conditions:** NOT [Online only]

Requirements tested: Format of the *Validate Data 2* command.

2-14.6.3.1 The *Validate Data 2* command shall have the format shown in table 2-14.47.

Purpose: Verifies the transaction handling and receipt printing if no authorization response is received (and Validate Data 2 is active).

A number of data elements for the receipts may be fetched from the response to *Validate Data 2* command.

Prerequisites:

FTD script: ServicePacks_14	*Card(s):* ICC018	*PSAM:* PSAM002

Test environment:

FTD Host: X	*IFS:*	*Kopi:*

General pass criteria: If no authorization response is available, the transaction may be approved as an offline transaction anyhow. In this situation the value of the data element CVM Status will differ in the responses to Payment and *Validate Data 2* command. The Transaction Condition Codes printed on the receipt shall reflect this final data.

Comments: Only one receipt, the Cardholders, is required. The Merchants receipt is optional. The card used, does in the current version no longer allow forcing of PIN.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script denoted **Service-Packs_14** (Make sure that updates are dis-abled, i.e. PSAM Personalization = No). Initiate a transaction (Purchase) using **ICC018**. Use an amount below floor limit. If PIN is requested, enter PIN. If signature is to be confirmed, do it. ☞ Is transaction completed successfully?	Yes: Step 2 No: Case failed	
2.	Check receipt(s) printed, specially the following data elements shall be inspected: ♦ Action Code "Status: xxxx" ♦ Approval Code "Auth Code: <blank>" ♦ Auth. Response Code "ARC: Y1" or "ARC: Y3" ☞ Is the contents of receipt(s) correct? ☞ If the transaction type was Signature is the TCC "I@3"? ☞ If the transaction was an offline PIN, is the Transaction Condition Code "IB3"? ☞ If the transaction was an offline NoCVM, is the Transaction Condition Code "IC3"	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 13.15 - Service Packs 15: Validate Data 2, Orig. Auth. and Capt, MSC and PIN

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: ServicePacks	Conditions: [[SP1] OR [SP2]] AND [Token] AND [PIN] AND [Attended]

Requirements tested: Format of the *Validate Data 2* command.
2-14.6.3.1 The *Validate Data 2* command shall have the format shown in table 2-14.47.

Purpose: Verifies the transaction handling and receipt printing for Token based transactions with PIN, when Validate Data 2 is active.

Prerequisites:
FTD script: ServicePacks_15   *Card(s):* MSC001   *PSAM:* PSAM002

Test environment:
FTD Host: X   *IFS:*   *Kopi:*

General pass criteria: A number of data elements for the receipts may be fetched from the response to Validate Data 2.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script denoted **Service-Packs_15**. Initiate a transaction (Original Authorization) using an **MSC001** and PIN as CVM. ☞ PIN entry requested?	Yes: Step 2 No: Case failed	
2.	Enter PIN and accept the amount. ☞ Transaction completed successfully and a Token has been issued?	Yes: Step 3 No: Case failed	
3.	Use the Token made in Step 2 and initiate a Capture. ☞ Transaction completed successfully?	Yes: Step 4 No: Case failed	
4.	Check receipts printed, specially the following data elements shall be inspected: ⬥ Action Code "Status: xxxx" ⬥ Approval Code "Auth Code: xxxxxx" ⬥ Auth. Response Code "ARC: xx" ⬥ Transaction Condition Code "DA1" ☞ Contents of receipts correct?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 13.16 - Service Packs 16: Validate Data 2, Orig. Auth. and Capture, ICC

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: ServicePacks	Conditions: [[SP1] OR [SP2]] AND [Token] AND [PIN] AND [Attended]

Requirements tested: Format of the *Validate Data 2* command.

2-14.6.3.1 The *Validate Data 2* command shall have the format shown in table 2-14.47.

Purpose: Verifies the transaction handling and receipt printing for Token based transactions with PIN, when *Validate Data 2* command is active.

Prerequisites:

FTD script: ServicePacks_16   *Card(s):* ICC001   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria: A number of data elements for the receipts may be fetched from the response to *Validate Data 2* command.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script denoted **Service-Packs_16** (Make sure that updates are disabled, i.e. PSAM Personalization = No). Initiate a transaction (Original Authorization) using an **ICC001** and PIN as CVM. ☞ PIN entry requested?	Yes: Step 2 No: Case failed	
2.	Enter PIN and accept the amount. ☞ Transaction completed successfully and a Token has been issued?	Yes: Step 3 No: Case failed	
3.	Use the Token made in Step 2 and initiate a Capture. ☞ Transaction completed successfully?	Yes: Step 4 No: Case failed	
4.	Check receipts printed, specially the following data elements shall be inspected: ♦ Action Code "Status: xxxx" ♦ Approval Code "Auth Code: xxxxxx" ♦ Auth. Response Code "ARC: xx" ♦ Transaction Condition Code "IA1" ☞ Contents of receipts correct?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 13.17 - Service Packs 17: PIN Retry, Dual PIN entry

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: ServicePacks	**Conditions:** [PIN]

Requirements tested: Format of the *Validate Data 2* command.

2-5.17.5.1　　Whenever the response to the *Validate Data 2* command contains a length field $LEN_{STAN+HREQ}$ different from `0000', the terminal shall send the entire host request.

2-5.17.5.2　　If a new host request is generated, the terminal shall initiate a re-newed *Validate Data 2* command when the response to the host request is received according to the example given in figure 2-5.50.

1-12.2.10.4　　A transaction that is not completed successfully shall have the lines FI1 - FI3.

1-12.2.10.11　A transaction that is not completed successfully shall have the line FI4.

Purpose: Verifies that the terminal is able to handle dual PIN entry correctly.

❧ First PIN entry: Wrong PIN

❧ Second PIN entry: Correct PIN

NOTE: Whether wrong or correct PIN is requested, the FTD will (automatically) return the predetermined response independent of the PIN entered.

Prerequisites:

FTD script: ServicePacks_17　　　　　*Card(s):* MSC001　　　　*PSAM:* PSAM002

Test environment:

FTD Host: X　　　　　　　　*IFS:*　　　　　　　　*Kopi:*

General pass criteria:

Comments: It is **not** possible to perform test in KOPI environment.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script denoted **Service-Packs_17** (Make sure that updates are disabled, i.e. PSAM Personalization = No). Initiate a transaction (Purchase) using a **MSC001** and using PIN as CVM. Enter wrong PIN (1) and accept the amount. ☞ Transaction rejected due to wrong PIN entered?	Yes: Step 2 No: Case failed	
2.	☞ Terminal ready for re-entry of PIN (without reading the card again)?	Yes: Step 3 No: Case failed	
3.	Enter *correct* PIN (2) and accept. ☞ Transaction completed successfully?	Yes: Step 4 No: Case failed	
4.	☞ Two receipts printed (one for each PIN entry) and information on receipts correct?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 13.18 - Service Pack 18: PIN Retry, Triple PIN entry (and Cancel)

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: ServicePacks	**Conditions:** [PIN]

Requirements tested:

2-5.17.5.1   Whenever the response to the *Validate 2 Data* command contains a length field $LEN_{STAN+HREQ}$ different from `0000', the terminal shall send the entire host request.

2-5.17.5.2   If a new host request is generated, the terminal shall initiate a renewed *Validate 2 Data* command when the response to the host request is received according to the example given in figure 2-5.50.

1-12.2.10.4   A transaction that is not completed successfully shall have the lines FI1 - FI3.

1-12.2.10.11 A transaction that is not completed successfully shall have the line FI4.

Purpose: Verifies that the terminal is able to handle triple PIN entry correctly, even if the transaction is concluded by cancellation.

♦ First PIN entry: Wrong PIN

♦ Second PIN entry: Wrong PIN

♦ Third PIN entry: Wrong PIN

NOTE: Whether wrong or correct PIN is entered, the FTD will (automatically) return the predetermined response independent of the PIN entered.

Prerequisites:

FTD script: ServicePacks_18   *Card(s):* MSC001   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:

Comments: It is **not** possible to perform test in KOPI environment.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script denoted **Service-Packs_18** (Make sure that updates are disabled, i.e PSAM Personalization = No). Initiate a transaction (Purchase) using a **MSC001** and using PIN as CVM. Enter an incorrect PIN (1, handled by FTD script) and accept the amount/transaction. ☞ Is the transaction declined due to incorrect PIN?	Yes: Step 2 No: Case failed	
2.	☞ Is the terminal ready for re-entry of PIN (without reading the card again)?	Yes: Step 3 No: Case failed	
3.	Re-enter incorrect PIN (2) and accept. ☞ Is the transaction declined again due to incorrect PIN?	Yes: Step 4 No: Case failed	
4.	☞ Is the terminal ready for re-entry of PIN (without reading the card again)?	Yes: Step 5 No: Case failed	

Step	Actions and assessment	Result	Verdict
5.	Re-enter incorrect PIN (3) and accept. ☞ Is the transaction declined again due to in-correct PIN entered?	Yes: Step 6 No: Case failed	
6.	Interrupt the transaction by activating the Cancel key on the User Interface. ☞ Is the transaction interrupted?	Yes: Step 7 No: Case failed	
7.	☞ Are three declined receipts printed (one for each PIN entry) and is the information on receipts correct?	Yes: Case OK No: Case failed	
8.	Select the host script **Normal** (Make sure that updates are enabled, i.e. PSAM Personalization = Yes) Perform an Advice Transfer on the terminal, to restore the PSAM.	Case OK	
-	End of test case		

Test Case 13.19 - Service Packs 19: PIN Retry, Triple PIN entry (and Failed)

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: ServicePacks	**Conditions:** [[SP1] OR [SP2]] AND [PIN]

Requirements tested:

2-5.17.5.1   Whenever the response to the *Validate Data 2* command contains a length field $LEN_{STAN+HREQ}$ different from `0000', the terminal shall send the entire host request.

2-5.17.5.2   If a new host request is generated, the terminal shall initiate a renewed *Validate Data 2* command when the response to the host request is received according to the example given in figure 2-5.50.

1-12.2.10.4   A transaction that is not completed successfully shall have the lines FI1 - FI3.

1-12.2.10.11 A transaction that is not completed successfully shall have the line FI4.

Purpose: Verifies that the terminal is able to handle triple PIN entry correctly, even if the transaction is concluded by rejection.

⬥ First PIN entry: Wrong PIN

⬥ Second PIN entry: Wrong PIN

⬥ Third PIN entry: Correct PIN (but no host response!)

NOTE: Whether wrong or correct PIN is requested, the FTD will (automatically) return the predetermined response independent of the PIN entered.

Prerequisites:

FTD script: ServicePacks_19   *Card(s):* MSC001   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:

Comments: It is **not** possible to perform test in KOPI environment.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script denoted **Service-Packs_19** (Make sure that updates are disabled, i.e. PSAM Personalization = No). Initiate a transaction (Purchase) using a **MSC001** and using PIN as CVM. Enter wrong PIN (1) and accept the amount. ✐ Transaction declined due to wrong PIN entered?	Yes: Step 2 No: Case failed	
2.	✐ Terminal ready for re-entry of PIN (without reading the card again)?	Yes: Step 3 No: Case failed	
3.	Enter wrong PIN (2) and accept. ✐ Transaction declined due to wrong PIN entered?	Yes: Step 4 No: Case failed	
4.	✐ Terminal ready for re-entry of PIN (without reading the card again)?	Yes: Step 5 No: Case failed	

Step	Actions and assessment	Result	Verdict
5.	Enter wrong PIN (3) and accept. No host response. ☞ Transaction failed (and completed) due to no host response?	Yes: Step 6 No: Case failed	
6.	☞ Three receipts printed (one for each PIN entry)? ☞ Do the first two receipts show declined transactions? ☞ Does the last receipt show a failed transaction?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 13.20 - Service Packs 20: PIN Retry, Multiple PIN entries

Test date:		Init:	
Problem Report (if any):		**Test case result:**	
Comments:			

Test group: ServicePacks	**Conditions:** [[SP1] OR [SP2]] AND [PIN]

Requirements tested:

2-5.17.5.1   Whenever the response to the *Validate 2 Data* command contains a length field LEN$_{STAN+HREQ}$ different from `0000', the terminal shall send the entire host request.

2-5.17.5.2   If a new host request is generated, the terminal shall initiate a renewed *Validate 2 Data* command when the response to the host request is received according to the example given in figure 2-5.50.

1-12.2.10.4   A transaction that is not completed successfully shall have the lines FI1 - FI3.

1-12.2.10.11 A transaction that is not completed successfully shall have the line FI4.

Purpose: Verifies that the terminal is able to handle multiple PIN entry correctly (more than 3 PIN entries).

- First PIN entry: Wrong PIN
- Second PIN entry: Wrong PIN
- Third PIN entry: Wrong PIN
- Fourth PIN entry: Wrong PIN
- Fifth PIN entry: Correct PIN

NOTE: Whether wrong or correct PIN is requested, the FTD will (automatically) return the predetermined response independent of the PIN entered.

Prerequisites:

FTD script: ServicePacks_20a   *Card(s):* MSC001   *PSAM:* PSAM002
ServicePacks_20b

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:

Comments: Generating 3 or more wrong PIN's against KOPI will de-activate the card. The card must the be re-activated before it can be used again. This affects other test users as well!

Comments: This test shall **NOT** be run against Kopi!

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script denoted **Service-Packs_20a** (Make sure that updates are disabled, i.e. PSAM Personalization = No). Initiate a transaction (Purchase) using a **MSC001** and using PIN as CVM. Enter wrong PIN (1) and accept the amount. ☞ Transaction declined due to wrong PIN entered?	Yes: Step 2 No: Case failed	
2.	☞ Terminal ready for re-entry of PIN (without reading the card again)?	Yes: Step 3 No: Case failed	
3.	Enter wrong PIN (2) and accept. ☞ Transaction declined due to wrong PIN entered?	Yes: Step 4 No: Case failed	

Step	Actions and assessment	Result	Verdict
4.	☞ Terminal ready for re-entry of PIN (without reading the card again)?	Yes: Step 5 No: Case failed	
5.	Enter wrong PIN (3) and accept. ☞ Transaction declined due to wrong PIN entered?	Yes: Step 6 No: Case failed	
6.	☞ Terminal ready for re-entry of PIN (without reading the card again)?	Yes: Step 7 No: Case failed	
7.	Enter wrong PIN (4) and accept. ☞ Transaction declined due to wrong PIN entered?	Yes: Step 8 No: Case failed	
8.	☞ Terminal ready for re-entry of PIN (without reading the card again)?	Yes: Step 9 No: Case failed	
9.	Select the FTD host script denoted **Service-Packs_20b** (Make sure that updates are disabled, i.e. PSAM Personalization = No). Enter correct PIN (5) and accept. ☞ Transaction completed successfully?	Yes: Step 10 No: Case failed	
10.	☞ Five receipts printed (one for each PIN entry) and information on receipts correct?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 13.21 - Service Packs 21: PIN-retry

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: ServicePacks	**Conditions:** [[SP1] OR [SP2]] AND [PIN]

Requirements tested:

2-5.15.5.2   Whenever the response to the *Validate Data 2* command contains a length field $LEN_{STAN+HREQ}$ different from `0000', the terminal shall send the entire host request.

2-5.15.5.3   If a new host request is generated, the terminal shall initiate a renewed *Validate Data 2* command when the response to the host request is received according to the example given in figure 2-5.50.

1-12.2.10.4   A transaction that is not completed successfully shall have the lines FI1 - FI3.

1-12.2.10.11 A transaction that is not completed successfully shall have the line FI4.

Purpose: Verifies that the terminal is able to handle PIN retry.

⬥ First PIN entry: Wrong PIN

⬥ Second PIN entry: Correct PIN

NOTE: Whether wrong or correct PIN is requested, the FTD will (automatically) return the predetermined response independent of the PIN entered.

Prerequisites:

FTD script: ServicePacks_21   *Card(s):* MSC001   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script denoted **Service-Packs_21** (Make sure that updates are disabled, i.e PSAM Personalization = **No**). Initiate a transaction (Purchase) using a **MSC001** and using PIN as CVM. Enter wrong PIN (1) and accept the amount. ☞ Transaction rejected due to wrong PIN entered?	Yes: Step 2 No: Case failed	
2.	☞ Terminal ready for re-entry of PIN (without reading the card again)?	Yes: Step 3 No: Case failed	
3.	Enter correct PIN (2) and accept. ☞ Transaction completed succesfully?	Yes: Step 4 No: Case failed	
4.	☞ Two receipts printed (one for each PIN entry) and information on receipts correct?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 13.22 - Service Packs 22: Abnormal response to Validate Data 2

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments: !! Test Script Obsolete !!	
Comments: >>>>>> **This test is obsolete** <<<<<<	

Test group: ServicePacks	Conditions: [[SP1] OR [SP2]] AND [PIN]
Requirements tested:	

Requirements tested:
6.18.6.1   Whenever the response to the *Validate Data* command contains a length field LEN$_{STAN+HREQ}$ different from `0000', the terminal shall send the entire host request.
6.18.6.2   If a new host request is generated, the terminal shall initiate a re-newed *Validate Data* command when the response to the host request is received according to the example given in figure 6.32.
6.18.6.3   Receipts shall be printed according to Attachment G.

Purpose: Verifies that the terminal is able to handle a specific and abnormal error situation, initiated by an unexpected short response from the PSAM to the *Validate Data 2* command.
Test sequence:
⬧ Wrong PIN entered (1)
⬧ PIN re-entry (2)
NOTE: Whether wrong or correct PIN is requested, the FTD will (automatically) re-turn the predetermined response independent of the actual PIN entered.

Prerequisites:		
FTD script: ServicePacks_22	*Card(s):* MSC001	*PSAM:* PSAM004

Test environment:		
FTD Host: X	*IFS:*	*Kopi:*

General pass criteria:
If the PSAM (during the PIN retry sequence) returns an abnormal and unexpected response to Validate Data 2 command, containing only:
⬧ ASW1 ASW2 = `0000' and
⬧ RC = `0000'
the terminal shall be able to complete the transaction indicating "failed/rejected".

Step	Actions and assessment	Result	Verdict
1.	Test case obsolete, skip test case	Not Applicable	
2.	Select the FTD host script denoted **Service-Packs_22** (Make sure that updates are en-abled, i.e. PSAM Personalization = **Yes**). Initiate a transaction (Purchase) using a **MSC001** and using PIN as CVM. Enter wrong PIN (1) and accept the amount. ☞ Transaction rejected due to wrong PIN en-tered?	Yes: Step 2 No: Case failed	
3.	☞ Terminal ready for re-entry of PIN (without reading the card again)?	Yes: Step 3 No: Case failed	

Step	Actions and assessment	Result	Verdict
4.	Enter correct PIN (2) and accept. ☞ Is the transaction completed as failed due to technical problems?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 13.23 - Service Packs 23: Selection of Service Pack No. 2

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	
Comments: >>>>>> This test is obsolete <<<<<<	

Test group: ServicePacks	Conditions: [SP2] AND [Baseline&SPx]

Requirements tested:

2-5.1.3.9	*Get Debit/Credit Properties* command to be send after the *Start-Up PSAM*.
2-5.1.3.10	The terminal shall at least support Service Pack 2.
2-5.1.3.13	If no match the terminal shall interrupt the start up procedure.
2-5.1.3.14	The Terminal Approval No. (3 MSB) shall be adjusted according to the Service Pack selected.

Purpose: Verifies that a PSAM only supporting Service Pack 1 is handled correctly.

Prerequisites:

FTD script: ServicePacks_23   *Card(s):* MSC001   *PSAM:* PSAM004
      Normal

Test environment:

Line monitor is to be used in order to monitor the PSAM interface.

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria: It is demonstrated that if the terminal supports Service Pack No. 2 and the PSAM only supports the baseline and Service Pack No. 1, then the terminal shall either refuse to initiate any transactions or downgrade to Service Pack 1.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script denoted **Service-Packs_23** (Make sure that updates are enabled, i.e. PSAM Personalization = **Yes**). The PSAM returns Service Packs Supported = `01' in the response to *Get Debit/Credit Properties* command, i.e. Service Packs No. 1 is supported.    Perform an Advice Transfer.    Monitor the PSAM interface and record data.    Restart/open the terminal    ✍ Are the next commands after the response to the *Start_up PSAM* command (`B0 02 .. ..') two *Get Debit/Credit Properties* command: ☞ '.. .. B0 A0 81 11 04 01 **00 03** 00 00.. ..' (The terminal will perform a Service Pack Check) and ☞ '.. .. B0 A0 81 11 19 00 **00 07** .. ..' (The terminal will continue with a checksum computation)?	Yes: Step 2 No: Case failed	
2.	✍ Does the start-up procedure terminate after the commands listed above? (If no common level of service packs is found) **Note:** It is allowed for the terminal *not* to be backward compatible.	Yes: Case OK No: Step 3	

Step	Actions and assessment	Result	Verdict
3.	Check the Terminal Approval Number send in the succeeding *Exchange Debit/Credit Static Information* command. ☞ Terminal Approval Number = B' 001X XXXX XXXX XXXX (Service Pack 1 negotiated)? **Note:** This corresponds to a Terminal Approval number of 2yyy or 3yyy)	Yes: Step 4 No: Case OK	
4.	Initiate a transaction using a **MSC001**. (The FTD will reply with 'Incorrect PIN') ☞ Does the terminal start a PIN retry sequence?	Yes: Step 5 No: Case Failed	
5.	Cancel the transaction Select the host script **Normal** (Make sure that updates are enabled, i.e. PSAM Personalization = **Yes**) Perform an Advice Transfer on the terminal, to restore the PSAM.	Case OK	
-	End of test case		

Example (Step 1 & 3):

```
....
Terminal --> PSAM (Start_up PSAM)
00 40 08 B0 02 81 11 02 01 01 00 68

PSAM --> Terminal
00 40 19 01 00 00 01 FF 01 00 11 A0 00 00 01 20
81 11 00 02 00 00 02 1C 00 00 90 00 2B

Sender Reader --> Card (Get Debit/Credit Proper-
ties)
00 00 0A B0 A0 81 11 04 01 00 03 00 00 8C

PSAM --> Terminal
00 00 0C 01 00 00 01 FF 01 00 04 11 22 90 00 55

Terminal --> PSAM (Get Debit/Credit Properties)
00 00 1F B0 A0 81 11 19 00 00 07 15 14 10 F0 3E
EE 93 91 12 44 C4 5F 6A 1D 16 C4 4A 24 7A C6 67
92 00 FD

PSAM --> Terminal
00 00 26 01 00 00 01 FF 00 00 1E 00 18 F4 1E 44
27 D1 3D C3 AE B5 2D 56 B1 F1 81 17 AD B2 A4 74
02 A0 C9 36 DE 00 00 90 00 13

End of acquisition
```

Test Case 13.24 - Service Packs 24: Selection of Service Pack No. 2

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: ServicePacks	**Conditions:** [SP2]

Requirements tested:

2-5.1.3.10	*Get Debit/Credit Properties* command to be send after the *Start-Up PSAM*.
2-5.1.3.11	The terminal shall at least support Service Pack 2.
2-5.1.3.12	MAD-Handler shall choose the highest mutual supported Service Pack No.

Purpose: Verifies that the Terminal is able to select Service Pack No. 2 when the PSAM supports Service Pack 2.

Prerequisites:

FTD script: ServicePacks_24   *Card(s):*MSC001   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria: It is demonstrated that if the terminal and PSAM supports Service Packs No. 2, a transaction can be be performed successfully

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script denoted **Service-Packs_24** (Make sure that updates are disabled, PSAM Personalization = No). The PSAM returns Service Packs Supported = `03' in the response to *Get Debit/Credit Properties* command, i.e. Baseline, Service Packs No. 1 & Service Packs No. 2 are supported. ☞ Does the terminal indicates "Ready, Insert card"?	Yes: Step 2 No: Case failed	

2.	Perform a transaction with **MSC001**.
	
	Analyse the detailed FTD log file:
	
	Check the Terminal Approval Number in the Financial Request command message (field 46, tag T9)
	
	Hint: Edit -> Find... -> Enter: "Fin_req" in order to find the Authorization Request.
	
	☞ Is the value of the Terminal Approval Number =
	    B' 01XX XXXX XXXX XXXX XXXX (supporting Service Pack No. 2)?
	    Note: This corresponds to a Terminal Approval number of 4yyy to 7yyy)
		Yes: Step 3
		No: Case failed	

3.	☞ Is the transaction completed successfully?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 13.25 - Service Packs 25: Get Amount 3, Purchase, MSC and PIN

Test date:		Init:	
Problem Report (if any):		**Test case result:**	
Comments: This test is only relevant if the terminal is able to send *Initiate Payment* command to PSAM before the amount is available.			
Comments: >>>>>> **This test is obsolete** <<<<<<			

Test group: ServicePacks	**Conditions:** [LateAmountEntry] AND [PIN] AND NOT [SUT]
Requirements tested: 2-13.6.24.1 A *successful* response to the *Get Amount 3* command shall have the format shown in table 2-13.98.	
Purpose: Verifies that the terminal is able to handle *Get Amount 3* command correctly, if the transaction is based on: ❖ Purchase transaction ❖ Magstripe Card ❖ PIN used as CVM	
Prerequisites: *FTD script:* ServicePacks_25 *Card(s):* MSC001 *PSAM:* PSAM002	
Test environment: *FTD Host:* X *IFS:* *Kopi:*	
General pass criteria: It is demonstrated that the terminal is able to handle the *Get Amount 3* command in case of Purchase, MSC and online PIN.	

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script denoted **Service-Packs_25** (Make sure that updates are disabled, PSAM Personalization = No). Initiate a transaction (Purchase) using **MSC001** and PIN as CVM. Amount shall not be entered at this step. ☞ Terminal requests PIN entry?	Yes: Step 2 No: Case failed	
2.	Enter the PIN ☞ Terminal awaiting amount from the Merchant Interface?	Yes: Step 3 No: Case failed	
3.	Release the amount from the Merchant Interface. ☞ The terminal displays the amount?	Yes: Step 4 No: Case failed	
4.	Accept the amount, and the processing shall continue. ☞ Transaction completed successfully and receipt printed?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 13.26 - Service Packs 26: Get Amount 3, Refund, MSC and Signature

Test date:	Init:
Problem Report (if any):	**Test case result:**

Comments: This test is only relevant if the terminal is able to send *Initiate Payment* command to PSAM, during a Refund-transaction, before the amount is available.

Test group: ServicePacks	**Conditions:** [SP2] AND [LateAmountEntry] AND [Refund] AND [Attended]

Requirements tested:
2-14.6.24.1 A *successful* response to the *Get Amount 3* command shall have the format shown in table 2-14.98.

Purpose: Verifies that the terminal is able to handle *Get Amount 3* command correctly, if the transaction is based on:
⬥ Refund transaction
⬥ Magstripe Card
⬥ Signature used as CVM (mandatory)

Prerequisites:
FTD script: ServicePacks_26   *Card(s):* MSC001   *PSAM:* PSAM002

Test environment:
FTD Host: X   *IFS:*   *Kopi:*

General pass criteria: It is demonstrated that the terminal is able to handle the *Get Amount 3* command in case of Refund, MSC and Signature.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script denoted **Service-Packs_26** (Make sure that updates are disabled, PSAM Personalization = No). Initiate a transaction (Refund) using **MSC001** and Signature as CVM. Amount shall not be entered at this step. ☞ Transaction processing temporarily stopped, and terminal awaiting amount from the Merchant (Interface)?	Yes: Step 2 No: Case failed	
2.	Release the amount from the Merchant Interface. ☞ The terminal displays the amount?	Yes: Step 3 No: Case failed	
3.	Accept the amount, and the processing shall continue. ☞ Transaction completed successfully and receipt printed?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 13.27 - Service Packs 27: Get Amount 3, Purchase, ICC and PIN/Signature

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments: This test is only relevant if the terminal is able to send *Initiate Payment* command to PSAM before the amount is available. If the amount is not available the transaction processing stops when the amount is awaited. If the function for "Accelerated PIN Entry" is enabled, the transaction processing stops after PIN entry, but before amount acceptance. Otherwise the processing stops before PIN entry.	

Test group: ServicePacks	**Conditions:** [SP2] AND [LateAmountEntry] AND [PIN] AND NOT [SUT]
Requirements tested: 2-14.6.24.1 A *successful* response to the *Get Amount 3* command shall have the format shown in table 2-14.98.	
Purpose: Verifies that the terminal is able to handle *Get Amount 3* command correctly, if the transaction is based on: ⬥ Purchase transaction ⬥ ICC Card ⬥ PIN used as CVM	
Prerequisites: *FTD script:* ServicePacks_27 *Card(s):*ICC001 *PSAM:* PSAM002	
Test environment: *FTD Host:* X *IFS:* *Kopi:*	
General pass criteria: It is demonstrated that the terminal is able to handle the *Get Amount 3* command in case of Purchase, ICC and online PIN.	

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script denoted **Service-Packs_27** (Make sure that updates are disabled, PSAM Personalization = No). Initiate a transaction (Purchase) using **ICC001** and PIN as CVM. Amount shall not be entered at this step. ☞ Terminal requests PIN entry?	Yes: Step 2 No: Case failed	
2.	Enter the PIN ☞ Terminal awaiting amount from the Merchant Interface?	Yes: Step 3 No: Case failed	
3.	Release the amount from the Merchant Interface. ☞ The terminal displays the amount?	Yes: Step 4 No: Case failed	
4.	Accept the amount, and the processing shall continue. ☞ Transaction completed successfully and receipt printed?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 13.28 - Service Packs 28: Get Amount 3, Orig. Auth, ICC and PIN/No CVM

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments: This test is only relevant if the terminal is able to send *Initiate Payment* command to PSAM, during an Original Authorization transaction, before the amount is available. If the amount is not available the transaction processing stops when the amount is awaited. If the function for "Accelerated PIN Entry" is enabled, the transaction processing stops after PIN entry, but before amount acceptance. Otherwise the processing stops before PIN entry.	

Test group: ServicePacks	**Conditions:** [SP2] AND [LateAmountEntry] AND [PIN] AND NOT [SUT] AND [Token]
Requirements tested: 2-14.6.24.1 A *successful* response to the *Get Amount 3* command shall have the format shown in table 2-14.98.	
Purpose: Verifies that the terminal is able to handle *Get Amount 3* command correctly, if the transaction is based on: ⧫ Original Authorization transaction ⧫ ICC Card ⧫ PIN used as CVM	
Prerequisites: *FTD script:* ServicePacks_28 *Card(s):* ICC001 *PSAM:* PSAM002	
Test environment: *FTD Host:* X *IFS:* *Kopi:*	
General pass criteria: It is demonstrated that the terminal is able to handle the *Get Amount 3* command in case of Original Authorization, ICC and online PIN.	

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script denoted **Service-Packs_28**. Initiate a transaction (Original) using **ICC001** and PIN as CVM. Amount shall not be entered at this step. ✍ Terminal requests PIN entry?	Yes: Step 2 No: Case failed	
2.	Enter the PIN ✍ Terminal awaiting amount from the Merchant Interface?	Yes: Step 3 No: Case failed	
3.	Release the amount from the Merchant Interface. ✍ The terminal displays the amount?	Yes: Step 4 No: Case failed	
4.	Accept the amount, and the processing shall continue. ✍ Transaction completed successfully?	Yes: Step 5 No: Case failed	
5.	Whether a receipt is printed or not may depend on the actual implementation. ✍ Receipt expected?	Yes: Step 6 No: OK	

Step	Actions and assessment	Result	Verdict
6.	☞ Receipt printed according to the CVM se-lected?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 13.29 - Service Packs 29: Get Amount 3, Amount, Other (CashBack)

Test date:	Init:
Problem Report (if any):	**Test case result:**

Comments: This test is only relevant if the data element Amount, Other is supported, and the terminal is able to send *Initiate Payment* command to PSAM before the amount is available.

If the amount is not available the transaction processing stops when the amount is awaited. If the function for "Accelerated PIN Entry" is enabled, the transaction processing stops after PIN entry, but before amount acceptance. Otherwise the processing stops before PIN entry.

Test group: ServicePacks	**Conditions:** [SP2] AND [LateAmountEntry]

Requirements tested:

2.-14.6.24.1   A *successful* response to the *Get Amount 3* command shall have the format shown in table 2-14.98.

Purpose: Verifies that the terminal is able to handle *Get Amount 3* command correctly, if the response includes a value for the data element:

⬧ Amount, Other

Prerequisites:

FTD script: ServicePacks_29   *Card(s):* ICC001   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria: It is demonstrated that the terminal is able to handle the *Get Amount 3* command in case of Amount, Other.

Comments: The PBS host does at the present not support Cashback. The test is 'Not Applicable' until 'Cashback' is supported on the host.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script denoted **Service-Packs_29** (Make sure that updates are disabled, PSAM Personalization = No). Initiate a transaction (Purchase) using **ICC001** and PIN as CVM. Amount shall not be entered at this step. ✍ Terminal requests PIN entry?	Yes: Step 2 No: Case failed	
2.	Enter the PIN ✍ Terminal awaiting amount from the Merchant Interface?	Yes: Step 3 No: Case failed	
3.	Release the amount from the Merchant Interface. ✍ The terminal displays the amount?	Yes: Step 4 No: Case failed	
4.	Accept the amount, and the processing shall continue. ✍ Transaction completed successfully and receipt printed according to the CVM selected?	Yes: Step 5 No: Case failed	
5.	✍ "Transaction Amount" appears unambiguous on the receipt?	Yes: Step 6 No: OK	

Step	Actions and assessment	Result	Verdict
6.	☞ "Amount, Other" appears on the receipt?	Yes: Step 7 No: Step 8	
7.	☞ Correct value for "Amount, Other" printed?	Yes: Step 8 No: Case failed	
8.	Check the amount values received in the host systems. "Transaction Amount" to be found in field 4 and "Amount, Other" (Cashback) in field 8 of the Authorization Request and Financial Advice respectively. ☞ Amount values indicated correctly in both Authorization Request and Financial Advice?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 13.30 - Service Packs 30: Get Amount 3, Dual Issue of Get Amount 3

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments: This test is only relevant if the terminal is able to send *Initiate Payment* command to PSAM before the amount is available. If the amount is not available the transaction processing stops when the amount is awaited. If the function for "Accelerated PIN Entry" is enabled, the transaction processing stops after PIN entry, but before amount acceptance. Otherwise the processing stops before PIN entry.	

Test group: ServicePacks	**Conditions:** [SP2] AND [LateAmountEntry] AND [PIN] AND NOT [SUT]
Requirements tested: 2-14.6.24.1 A *successful* response to the *Get Amount 3* command shall have the format shown in table 2-14.98.	
Purpose: Verifies that the terminal is able to handle *Get Amount 3* command correctly, if the transaction is based on: ◆ Purchase transaction ◆ ICC Card ◆ PIN ◆ The *Get Amount 3* command is issued twice I.e. the ICC card used requests (by the PDOL) the amount to be transferred before the PAN is known.	
Prerequisites: *FTD script:* ServicePacks_30 *Card(s):* ICC021 *PSAM:* PSAM002	
Test environment: *FTD Host:* X *IFS:* *Kopi:*	
General pass criteria: It is demonstrated that the terminal is able to handle the *Get Amount 3* command in case of Purchase, ICC, PIN and the *Get Amount 3* command issued twice.	

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script denoted **ServicePacks_30** (Make sure that updates are disabled, PSAM Personalization = No). Initiate a transaction (Purchase) using **ICC021** and PIN as CVM. Amount shall not be entered at this step. ☜ Terminal requests PIN entry?	Yes: Step 2 No: Case failed	
2.	Enter the PIN ☜ Terminal awaiting amount from the Merchant Interface?	Yes: Step 3 No: Case failed	
3.	Release the amount from the Merchant Interface. ☜ The terminal displays the amount?	Yes: Step 4 No: Case failed	

Step	Actions and assessment	Result	Verdict
4.	Accept the amount, and the processing shall continue. ☞ Transaction completed successfully and receipt printed according to the CVM selected?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 13.31 - Service Packs 31: Initiate MSC Payment 2 command - Account Type

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: ServicePacks	Conditions: [SP2]

Requirements tested:
2-14.6.5.1   The *Initiate MSC Payment 2* command shall have the format shown in table 2-14.53.

Purpose: Verifies that the terminal is able to handle the *Initiate MSC Payment 2* command and especially the data element Account Type. The following equipment is necessary:

⧫ A probe (e.g. SmartSpy) that can monitor the *Initiate MSC Payment 2* command sent from the terminal to the PSAM.

Prerequisites:
Line monitor is to be used in order to monitor the PSAM interface.

FTD script: ServicePacks_31   *Card(s):* MSC001   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria: It is demonstrated that if the terminal supports Service Pack No. 2, the data element Account Type is included in the Initiate *MSC Payment 2* command.

Comments: This test is only relevant once the Terminal is able to perform a real 'Account Type Selection. The result is visible in host data ,field 3, pos 3 and 4.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script denoted **Service-Packs_31** (Make sure that updates are dis-abled, PSAM Personalization = No).		
	Monitor the PSAM interface and record data.		
	Start terminal.		
	Perform a MSC transaction using **MSC001**.		
	Analyze the data from the line monitor. Verify that the data element Account Type is part of the *Initiate MSC Payment 2* command.		
	☞ Is the Account Type given as indicated in table 3.1 below ?	Yes: Case OK No: Case failed	
-	End of test case		

Table 3.1 - Command message of the *Initiate MSC Payment 2* command

Field	Value	Length (bytes)
Destination Address	`00pp' where pp is the sub-address assigned to the PSAM	2
Source Address	`0100' for the MAD-Handler	2
Message Type	`42'	1
ID$_{THREAD}$	Thread Identifier assigned by the MAD-Handler	1
L$_{DATA}$	Variable	2
CLA	`B0'	1
INS	`80'	1
P1, P2	ID$_{PSAMAPP}$ = `8111'	2
L$_c$	Variable	1
ID$_{THREAD}$	Thread Identifier assigned by the MAD-Handler	1
Card Data Source	`00' = EMV, `01' = MSC, `02' = Key entered, `03' = Token `04' - `FF' = Reserved for future use	1
DTHR	Date and time of the transaction	5
TR	Transaction Request	1
MI	Merchant Initiative. Parameter(s) forced by the merchant	1
Terminal Id-ent.	Terminal Identification (according to ref.: "EMV, version 4.x")	8
POS Entry Mode	Source of cardholder account data	3
TT	Transaction Type (according to ref. "EMV, version 4.x")	1
LEN$_{TRACK2}$	Length of track2	1
TRACK2 DATA	Card data according to POS Entry Mode	Up to 19
LEN$_{STAT}$	Length of statistics (`00' if absent)	1
Statistics	Statistics of the behavior of the terminal	Variable
LEN$_{AMOUNTS}$	Length of amount related fields (`00' if absent)	1
Amount	Amount authorized	4
Amount, Other	Indicates cashback	4
CURRC	Currency Code	2
CURRE	Currency Exponent	1
Account Type	Account Type	1

L_e	`00'	1

Test Case 13.32 - Service Packs 32: Initiate EMV Payment 2 command - Account Type

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: ServicePacks	Conditions: [SP2]

Requirements tested:
2-14.6.1.2 The *Initiate EMV Payment 2* command shall have the format shown in table 2-14.43.

Purpose: Verifies that the terminal is able to handle the *Initiate EMV Payment 2* command and especially the data element Account Type. The following equipment is necessary:
⬧ A probe (e.g. SmartSpy) that can monitor the *Initiate EMV Payment 2* command sent from the terminal to the PSAM.

Prerequisites:
Line monitor is to be used in order to monitor the PSAM interface.
FTD script: ServicePacks_32 *Card(s):*ICC001 *PSAM:* PSAM002

Test environment:
FTD Host: X *IFS:* *Kopi:*

General pass criteria: It is demonstrated that if the terminal supports Service Pack No. 2, the data element Account Type is included in the *Initiate EMV Payment 2* command.

Comments: This test is only relevant once the Terminal is able to perform a real 'Account Type Selection. The result is visible in host data ,field 3, pos 3 and 4.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script denoted **Service-Packs_32** (Make sure that updates are disabled, PSAM Personalization = No). Monitor the PSAM interface and record data. Start terminal. Perform a ICC transaction using **ICC001**. Verify that the data element Account Type is part of the *Initiate EMV Payment 2* command. ☞ Is the Account Type given as indicated table 3.2 below?	Yes: Case OK No: Case failed	
-	End of test case		

Table 3.2 - Command message of the *Initiate EMV Payment 2* command

Field	Value	Length (bytes)
Destination Address	`00pp' where pp is the sub-address assigned to the PSAM	2
Source Address	`0100' for the MAD-Handler	2
Message Type	`42'	1
ID_{THREAD}	Thread Identifier assigned by the MAD-Handler	1
L_{DATA}	Variable	2
CLA	`B0'	1
INS	`80'	1
P1, P2	$ID_{PSAMAPP}$ = `8111'	2
L_c	Variable	1
ID_{THREAD}	Thread Identifier assigned by the MAD-Handler	1
Card Data Source	`00' = EMV, `01' = MSC, `02' = Key entered, `03' = Token `04' - `FF' = Reserved for future use	1
LEN_{AID}	Length of AID	1
AID_{EMV}	AID of the selected application	5 - 16
DTHR	Date and time of the transaction	5
TR	Transaction Request	1
MI	Merchant Initiative. Parameter(s) forced by the merchant	1
Terminal Id-ent.	Terminal Identification (according to ref. "EMV, version 4.x")	8
POS Entry Mode	Source of cardholder account data	3
TT	Transaction Type (according to ref. "EMV, version 4.x")	1
LEN_{FCI}	Length of FCI (starting with `6F' (FCI template))	1
FCI	File Control Information conveyed in the Select response	Variable
LEN_{STAT}	Length of statistics (`00' if absent)	1
Statistics	Statistics of the behavior of the terminal	Variable
$LEN_{AMOUNTS}$	Length of amount related fields (`00' if absent)	1
Amount	Amount authorized	4
Amount, Other	Indicates cashback	4

CURRC	Currency Code	2
CURRE	Currency Exponent	1
Account Type	Account Type	1
L_e	`00'	1

Test Case 13.33 - Service Packs 33: Initiate Token Based Payment 2 command - Acc Type

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: ServicePacks	Conditions: [SP2] AND [Token]

Requirements tested:
2-14.6.11.1   The *Initiate Token Based Payment 2* command shall have the format shown in table 2-14-65.

Purpose: Verifies that the terminal is able to handle the *Initiate Token Based Payment 2* command and especially the data element Account Type. The following equipment is necessary:

♦ A probe (e.g. SmartSpy) that can monitor the *Initiate Token Based Payment 2* command sent from the terminal to the PSAM.

Prerequisites:
Line monitor is to be used in order to monitor the PSAM interface.

FTD script: ServicePacks_33   *Card(s):* ICC001   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria: It is demonstrated that if the terminal supports Service Pack No. 2, the data element Account Type is included in the *Initiate Token Based Payment 2* command.

Comments: This test is only relevant once the Terminal is able to perform a real 'Account Type Selection. The result is visible in host data ,field 3, pos 3 and 4.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script denoted **Service-Packs_33** (Make sure that updates are disabled, PSAM Personalization = No). Monitor the PSAM interface and record data. Start terminal. Perform an Original Authorization (token based transaction) transaction using **ICC001**. Verify that the data element Account Type is part of the *Initiate Based Payment 2* command. ☞ Is the Account Type given as indicated below?	Yes: Case OK No: Case failed	
-	End of test case		

Table 3.3 - Command message of the *Initiate Token Based Payment 2* command

Field	Value	Length (bytes)
Destination Address	`00pp' where pp is the sub-address assigned to the PSAM	2
Source Address	`0100' for the MAD-Handler	2
Message Type	`42'	1
ID_{THREAD}	Thread Identifier assigned by the MAD-Handler	1
L_{DATA}	Variable	2
CLA	`B0'	1
INS	`80'	1
P1, P2	$ID_{PSAMAPP}$ = `8111'	2
L_c	Variable	1
ID_{THREAD}	Thread Identifier assigned by the MAD-Handler	1
Card Data Source	`00' = EMV, `01' = MSC, `02' = Key entered, `03' = Token `04' - `FF' = Reserved for future use	1
DTHR	Date and time of the transaction	5
TR	Transaction Request	1
MI	Merchant Initiative. Parameter(s) forced by the merchant	1
Terminal Id-ent.	Terminal Identification (according to ref. "EMV, version 4.x")	8
POS Entry Mode	Source of cardholder account data	3
TT	Transaction Type (according to ref. "EMV, version 4.x")	1
LEN_{STAT}	Length of statistics (`00' if absent)	1
Statistics	Statistics of the behavior of the terminal	Variable
$LEN_{AMOUNTS}$	Length of amount related fields (`00' if absent)	1
Amount	Amount authorized	4
Amount, Other	Indicates cashback	4
CURRC	Currency Code	2
CURRE	Currency Exponent	1
Account Type	Account Type	1
L_e	`00'	1

4.14 Static Test

Test Case 14.1 - StaticTest 01: Data Store

Test date:	Init:
Problem Report (if any):	**Static test result:**
Comments:	

Test group: Static test	**Conditions:** [TerminalVendor]

Requirements tested:

2-4.11.1.2	When writing to the Data Store, the Data Store Handler shall ensure that the data written actually are stored in the Data Store before responding successfully.
1-14.5.7.1	The Data Store defined for storing transactions shall be non-volatile i.e. it shall be able to maintain its contents, even if the terminal is disconnected from the mains power, for a period of 12 months.
2-4.11.1.3	The Data Store Handler shall contain an error detection feature in order to discover unintended alteration in data during storage. If alteration has occurred, an Advice Transfer shall be initiated according to the requirements given in section 2-5.15.3.
2-4-.11.1.1	The Data Store Handler may contain an error correction feature in order to recover unintended alteration in data during storage.

Purpose: These static tests shall assure that the Data Store of the terminals fulfil the requirements concerning functionality and quality.

General pass criteria: Is is up to the terminal vendor to claim whether the requirements are fulfilled or not as physical tests are not feasible.

Step	Actions and assessment	Result	Verdict
1.	☞ When writing to the Data Store, does the Data Store Handler ensure that the data written actually are stored in the Data Store before responding successfully?	Yes: Step 2 No: Case failed	
2.	☞ Is the Data Store defined for storing transactions non-volatile i.e. it shall be able to maintain its contents, even if the terminal is disconnected from the mains power, for a period of 12 months?	Yes: Step 3 No: Case failed	
3.	☞ Does the Data Store Handler contain an error detection feature in order to discover unintended alteration in data during storage?	Yes: Step 4 No: Case failed	
4.	☞ If alteration has occurred, does the terminal initiate an Advice Transfer according to the requirements given in section 2-5.15.3 of the OTRS?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 14.2 - Static Test 02: Physical Access - Unattended Terminals

Test date:		Init:	
Problem Report (if any):		**Static test result:**	
Comments:			

Test group: Static test	**Conditions:** [Unattended]

Requirements tested:

2-7.4.1.1   The access to the interior of an unattended terminal shall be protected by a `lock', and the `key' shall only be issued to Authorized Persons.

NOTE: The `interior of an Unattended terminal' is defined as the area where the Card Reader or Card Data is available, and the area where the mounting of the PIN Entry Device is accessible.

NOTE: The `lock' and `key' may be implemented using technologies other than a physical lock and key. Other implementations which ensure a similar level of security may be accepted.

2-7.4.1.3   A switch or similar equipment shall be installed to detect when the Unattended terminal is opened and closed.

NOTE: The switch shall detect when access to the area with the Card Reader, Card Data and the PIN Entry Device is possible.

2-7-4.1.4   The switch (or similar equipment) installed to detect whether the Unattended terminal is open or closed, shall also be able to detect when an unauthorized entry to the interior of the terminal has been forced, e.g. by breaking the lock.

Purpose: These static tests shall assure that an unattended terminal is protected for unauthorized access either by a physical or logical lock/key.

General pass criteria: The requirements above are verified either by visual inspection or if not visible, by statements given by the terminal vendor.

Step	Actions and assessment	Result	Verdict
1.	☞ Is the unattended terminal equipped with physical lock to prevent unauthorized access to the "interior of the terminal"? **Note:** See definition of `interior of an Unattended terminal' above.	Yes: Step 3 No: Step 2	
2.	☞ Is the unattended terminal equipped with logical `lock' to prevent unauthorized access to the "interior of the terminal"?  Examples of logical `locks' are: ♦ Firewall ♦ Passwords	Yes: Step 3 No: Case failed	
3.	☞ Is there a switch (or similar equipment) installed to detect whether the unattended terminal is open or closed?	Yes: Step 4 No: Case failed	
4.	Open the terminal. ☞ Is it detected that the terminal is open?	Yes: Step 5 No: Case failed	
5.	☞ Is this switch also able to detect when an unauthorized entry to the interior of the terminal has been forced, e.g. by breaking the lock?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 14.3 - StaticTest 03: Physical Access - Technician Lock

Test date:	Init:
Problem Report (if any):	**Static test result:**
Comments:	

Test group: Static test	**Conditions:** [TechnicianLock] AND [Terminal-Vendor]

Requirements tested:

1-14.8.2.1   Critical functions only allowed to be initiated by the Terminal Supplier, shall be protected by a Technician lock function. Implementation of the `Technician lock' function is manufacturer specific and may be based on a physical lock, password/PIN and/or special cards.

1-14.8.2.2   The `Technician lock' function shall be managed by the Terminal Supplier and the `Technician lock' function shall allow only the Terminal Supplier's authorized personnel to initiate the protected functions.

1-14.8.2.3   If the `key' to the `Technician lock' is common for terminals installed at several Merchants, only the Terminal Supplier shall be able to produce `copies' of the `key'.

1-14.8.2.4   If the 'key' to the 'Technician lock' is based on a password or PIN, the 'key' shall be dynamically assigned (i.e. a new password each day), and it shall not be possible to predict the value of a 'key' based on the knowledge of a previous 'key'.

Purpose: These static tests shall assure that critical functions are protected by a Technician lock function.

General pass criteria: The requirements above are verified either by (visual) inspection or if not visible, by statements given by the terminal vendor.

Step	Actions and assessment	Result	Verdict
1.	Is it possible for the merchant (or other entity than the Terminal Supplier) to produce `copies' of the `key'?	No: Step 2 Yes: Case failed	
2.	Is the `Technician lock' function managed by the Terminal Supplier?	Yes: Step 3 No: Case failed	
3.	Does the `Technician lock' function allow only the Terminal Supplier's authorized personnel to initiate the protected functions?	Yes: Step 4 No: Case OK	
4.	If the 'Technician lock' 'key' is based on a password / PIN is the 'key' dynamically assigned (i.e. a new password each day)? Is it impossible to predict the value of a 'key' based on the knowledge of a previous 'key'?	Yes: Step 5 No: Case OK	
5.	Is it possible for the merchant (or other entities than the Terminal Supplier) to produce `copies' of the `key'?	Yes: Case failed No: Case OK	
-	End of test case		

Test Case 14.4 - StaticTest 04: Privacy Shield on PIN Entry Devices

Test date:	Init:
Problem Report (if any):	**Static test result:**
Comments:	

Test group: Static test	**Conditions:** [PIN]

Requirements tested:

2-7.2.1.1   In a circle segment of at least 270 degrees, with the opening towards the cardholder, a privacy shield shall be placed. The center of the circle segment shall be the center of the `5'-key. (See figure 2-7.5.1 in the OTRS).

NOTE: The privacy shield does not need to be designed as a circle segment, but the shield shall cover the PIN Entry Device as if the shield was shaped as a circle segment.

NOTE: The shield may be omitted on parts of the circle segment if the design of the terminal guarantees the same level of privacy within the specified circle segment of 270 degrees.

2-7.2.1.2   Within the specified circle segment of 270 degrees seven `reference directions' are defined. The seven `reference directions' are named a, b, c, d, e, f and g. The angles between the `reference directions' shall be 45 degrees as defined in figure 2-7.5.2 of the OTRS.

The height of the privacy shield in the `reference directions' b, d and f shall guarantee that the angle between the level of the key-tops and the top of the shielding shall be 45 degrees at least.

The height of the privacy shield in the `reference directions' a, c, e and g shall guarantee that the angle between the level of the key-tops and the top of the shielding shall be 35 degrees at least. The height of the privacy shielding between the `reference directions' shall not be lower than the height defined by a straight line between the `reference points' (see figure 2-7.5.3 in the OTRS).

NOTE: The angle defining the height of the shielding shall be measured from the center of the surface on the `5'-key to the top of the shield.

NOTE: If the design of the terminal guarantees the same level of privacy, e.g. due to construction of the housing of the terminal, no dedicated privacy shield will be required on the actual parts of the circle segment.

2-7.2.1.3   The shielding shall be built in a non-transparent material.

2-7.2.1.4   It shall not be easy to remove the privacy shield around the PIN Entry Device, and if the shield is removed due to vandalism, the shielding shall be easy to reestablish by the supplier of the terminals or by a service agent.

Purpose: These static tests shall assure that the privacy shield on the PIN Entry Device is compliant with the requirements.

General pass criteria: The requirements above are verified by (visual) inspection. It is recommended to contact JSH for more information concerning the measuring tool.

Step	Actions and assessment	Result	Verdict
1.	☞ Are the measurements according to requirement 2-7.2.1.1 and figure 2-7.5.1 in the OTRS?	Yes: Step 2 No: Case failed	
2.	☞ Are the measurements according to requirement 2-7.2.1.2 and figure 2-7.5.2 and 2-7.5.3 in the OTRS?	Yes: Step 3 No: Case failed	
3.	☞ Is the shielding made of a non-transparent material?	Yes: Step 4 No: Case failed	
-	End of test case		

Step	Actions and assessment	Result	Verdict
4.	☞ Is it easy to remove the privacy shield?	Yes: Case failed No: Step 5	
5.	☞ Is it reasonable easy to replace the privacy shield in case of e.g. vandalism?	Yes: Case OK No: Case failed	
-	End of test case		

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4.15 Card Insertion

The Card Insertion group requires that the terminal vendor comply to the requirements concerning a fallback handling as described in figure 2-4.1 to 2-4.5.7. This is changed since version OTTS 2.5.x

Test Case 15.1 - Card Insertion 01: Card Error - Mandatory Data Missing

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: CardInsertion	Conditions: N/A

Requirements tested:

2-4.15.2.4   If the transaction is cancelled before completion, either by the merchant or the cardholder, chip technology keeps priority and fallback to magnetic stripe shall not be initiated.

The figures 2-4.1 to 2-4.3 show the procedures for handling of fallback from ICC technology to magnetic stripe technology for separate readers.

The figures 2-4.5 and 2-4.6 show the procedures for handling of fallback from ICC technology to magnetic stripe technology for a combined reader with "MSC read before ICC".....

Purpose: To verify that the terminal indicates that the application is not usable and therefore initiate fallback to magstripe.

Prerequisites:

FTD script: CardInsertion_01   *Card(s):* ICC010   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria: In the Final Select, the card respond with an File Control Information (FCI) where mandatory data (DF Name) is missing. Fallback to be initiated.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script denoted **CardInsertion_01**. (Make sure that updates aren't enabled, i.e. PSAM Personalization = **No**) If necessary to activate card reader, start a transaction and enter amount. Insert **ICC010** in the card reader. ☞ Does the terminal displays "Not accepted" in the Cardholder Display?	Yes: Step 2 No: Case failed	
2.	☞ Does the terminal initiate fallback to magstripe displaying "Use MAG stripe" in the Cardholder Display?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 15.2 - Card Insertion 02: Card Error - Syntax Error

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: CardInsertion	Conditions: N/A

Requirements tested:

1-14.6.1.1.   If the transaction is aborted due to incorrect handling (e.g. the card has been withdrawn from the card reader before completion of the transaction), chip technology keeps priority and fallback to magnetic stripe shall not be initiated..

The figure 2-4.1 shows the procedures for handling of fallback from ICC technology to magnetic stripe technology for separate readers.

The figure 2-4.2 shows the procedures for handling of fallback from ICC technology to magnetic stripe technology for a combined reader with "MSC read before ICC".....

Purpose: To verify that the terminal indicates that the application is not usable and therefore initiate fallback to magstripe.

Prerequisites:

FTD script: CardInsertion_02   *Card(s):*ICC011   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria: In the Final Select, the card respond with syntax error (FCI length changed from `32' to `12'). Fallback to be initiated.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script denoted **CardInsertion_02**. (Make sure that updates aren't enabled, i.e. PSAM Personalization = **No**) If necessary to activate card reader, start a transaction and enter amount. Insert **ICC011** in the card reader. ☞ Does the terminal displays "Not accepted" in the Cardholder Display?	Yes: Step 2 No: Case failed	
2.	☞ Does the terminal initiate fallback to mag-stripe displaying "Use MAG stripe" in the Cardholder Display?	Yes: Case OK No: Case failed	
-	End of test case		

Example (Card Interface):

.
Sender Reader --> Card
A0 00 00 00 03 10 10

Sender Card --> Reader
61 34

Sender Reader --> Card
00 C0 00 00 34

Sender Card --> Reader
*C0 6F **12** 84 07 A0 00 00 00 03 10 10 A5 27 87 01*
01 9F 38 12 9F 1A 02 9F 33 03 9F 40 05 9F 1B 04
9F 09 02 9F 35 01 5F 2D 08 65 73 65 6E 66 72 64
65 9F 11 01 01 90 00

End of acquisition

Test Case 15.3 - Card Insertion 03: Card Error - Unknown SW1-SW2

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: CardInsertion	Conditions:

Requirements tested:

1-14.6.1.1   If the transaction is aborted due to incorrect handling (e.g. the card has been withdrawn from the card reader before completion of the transaction), chip technology keeps priority and fallback to magnetic stripe shall not be initiated.

Purpose: To verify that the terminal indicates that the application is not usable and therefore initiate fallback to magstripe.

Prerequisites:

FTD script: CardInsertion_03   *Card(s):*ICC012   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria: In the Final Select, the card respond with an unknown SW1-SW2 (`6300'). Fallback to be initiated.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script denoted **CardInsertion_03**. (Make sure that updates aren't enabled, i.e PSAM Personalization = **No**) If necessary to activate card reader, start a transaction and enter amount. Insert **ICC012** in the card reader. If the terminal has a combined reader, skip to Step2. ☞ If the terminal has separate readers, does the terminal displays "Not accepted" in the Cardholder Display?	Yes: Step 3 No: Case failed	
2.	☞ If the terminal has a combined reader, does the terminal request the cardholder to withdraw the card (to read the MSC)?	Yes: Case OK No: Case failed	
3.	☞ Does the terminal initiate fallback to magstripe displaying "Use MAG stripe" in the Cardholder Display?	Yes: Case OK No: Case failed	
-	End of test case		

Example (Card Interface):

Sender Reader --> Card
A0 00 00 00 03 10 10

Sender Card --> Reader
61 34

Sender Reader --> Card
00 C0 00 00 34

Sender Card --> Reader
C0 6F 32 84 07 A0 00 00 00 03 10 10 A5 27 87 01
01 9F 38 12 9F 1A 02 9F 33 03 9F 40 05 9F 1B 04
9F 09 02 9F 35 01 5F 2D 08 65 73 65 6E 66 72 64
65 9F 11 01 01 **63 00**

Test Case 15.4 - Card Insertion 04: Card Error - Multi-App. - Mandatory Data Missing

Test date:	Init:
Problem Report (if any):	Test case result:
Comments: >>>> Test Script Obsolete <<<<	

Test group: CardInsertion	Conditions: NOT [Combined Reader]

Requirements tested:

1-14.6.1.1.   If the transaction is aborted due to incorrect handling (e.g. the card has been withdrawn from the card reader before completion of the transaction), chip technology keeps priority and fallback to magnetic stripe shall not be initiated..

The figure 2-4.1 shows the procedures for handling of fallback from ICC technology to magnetic stripe technology for separate readers.

The figure 2-4.2 shows the procedures for handling of fallback from ICC technology to magnetic stripe technology for a combined reader with "MSC read before ICC".....

Note: Applicable for terminal complying to EMV version 4.1 and later versions.

Purpose: To verify that the terminal indicates that the selected application is not usable and removes the application from the Candidate List. The remaining application shall be available.

Prerequisites:

FTD script: CardInsertion_04   *Card(s):* ICC013   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria: The card contains two applications MasterCard and Visa. Visa application shall be selected, PSAM returns ASW-ASW2 = `1169' (Mandatory data missing). The terminal shall remove the Visa application from the Candidate List. The MasterCard Application shall be selectable.

Note: Applicable for terminal complying to EMV version 4.1 and later versions.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script denoted **CardInsertion_04**. (Make sure that updates aren't enabled, i.e. PSAM Personalization = **No**) If necessary to activate card reader, start a transaction and enter amount. Insert **ICC013** in the card reader and select the Visa application. ☞ Does the terminal displays "Not accepted"/ in the Cardholder Display? **Note:** Applicable for terminal complying to EMV version 4.1 and later versions.	Yes: Step 2 No: Case failed	
2.	☞ Is the Visa application removed from the Candidate List?	Yes: Step 3 No: Case failed	
3.	☞ Does the terminal initiate fallback to mag-stripe displaying "Use MAG stripe"/ in the Cardholder Display?	Yes: Case OK No: Case failed	
-	End of test case		

Example (Card Interface):

```
.
Sender Reader --> Card
A0 00 00 00 03 10 10

Sender Card --> Reader
61 34

Sender Reader --> Card
00 C0 00 00 34

Sender Card --> Reader
C0 6F 12 84 07 A0 00 00 00 03 10 10 A5 27 87 01
01 9F 38 12 9F 1A 02 9F 33 03 9F 40 05 9F 1B 04
9F 09 02 9F 35 01 5F 2D 08 65 73 65 6E 66 72 64
65 9F 11 01 01 90 00

End of acquisition
```

Test Case 15.5 - Card Insertion 05: Card Error - Multi-App. - Blocked

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: CardInsertion	**Conditions:** NOT [CombinedReader]

Requirements tested:
1-14.6.1.1. If the transaction is aborted due to incorrect handling (e.g. the card has been withdrawn from the card reader before completion of the transaction), chip technology keeps priority and fallback to magnetic stripe shall not be initiated.. The figure 2-4.1 shows the procedures for handling of fallback from ICC technology to magnetic stripe technology for separate readers. The figure 2-4.2 shows the procedures for handling of fallback from ICC technology to magnetic stripe technology for a combined reader with "MSC read before ICC".....

Purpose: To verify that the terminal do not initiate fallback to magstripe if one of the applications in a multi-application card is blocked.

Prerequisites:
FTD script: CardInsertion_05　　　*Card(s):*ICC006　　　*PSAM:* PSAM002

Test environment:
FTD Host: X　　　　　　　　　*IFS:*　　　　　　　*Kopi:*

General pass criteria: To verify that a multi-application card containing one blocked application (Dankort) and one active application (Visa), where mandatory data are missing, will not initiate fallback to magstripe.

Comments: The test is not applicable on a terminal using a combined card reader as the magnetic stripe isn't available on the test card.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script denoted **CardInsertion_05**. (Make sure that updates aren't enabled, i.e. PSAM Personalization = **No**) If necessary to activate card reader, start a transaction and enter an amount. Insert **ICC006** in the card reader and select the Visa application. ☞ Does the terminal displays "Not accepted" in the Cardholder Display?	Yes: Step 2 No: Case failed	
2.	☞ Is the Visa application removed from the Candidate List, i.e. is the transaction terminated?	Yes: Step 3 No: Case failed	
3.	☞ Does the terminal initiate fallback to magstripe displaying "Use MAG stripe" in the Cardholder Display?	No: Case OK Yes: Case failed	
-	End of test case		

Test Case 15.6 - Card Insertion 06: No Matching Applications

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: CardInsertion	**Conditions:** NOT [CombinedReader]

Requirements tested:

1-14.6.1.1.　　If the transaction is aborted due to incorrect handling (e.g. the card has been withdrawn from the card reader before completion of the transaction), chip technology keeps priority and fallback to magnetic stripe shall not be initiated..

The figure 2-4.1 shows the procedures for handling of fallback from ICC technology to magnetic stripe technology for separate readers.

The figure 2-4.2 shows the procedures for handling of fallback from ICC technology to magnetic stripe technology for a combined reader with "MSC read before ICC".....

Purpose: To verify that the terminal initiate a magstripe transaction if no matching application exists on the card.

Prerequisites:

FTD script: CardInsertion_06　　　　*Card(s):*ICC014　　　*PSAM:* PSAM002
　　　　　　　　　　　　　　　　　　　　　　　MSC001

Test environment:

FTD Host: X　　　　　　　　　　*IFS:*　　　　　　　　*Kopi:*

General pass criteria: Using a Danmønt Rechargeable card assuring no matching applications, the terminal shall fallback to magstripe.

Comments: On an SUT, the common display represents, the cardholders display as well as the merchants display. On a UPT, or portable terminal with Merchant display on reverse side, skip the test steps concerning the Merchants display.

Comments: The test is not applicable on a terminal using a combined card reader as the magnetic stripe is not available on the test card.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script denoted **CardInsertion_06**. (Make sure that updates aren't enabled, i.e. PSAM Personalization = **No**) If the terminal supports card insertion before amount available (late amount), insert **ICC014** correct in the card reader, else skip to step 6 ☞ Does the terminal displays "Not Accepted" in the Cardholder Display?	Yes: Step 2 No: Case failed	
2.	☞ If there is an independent Merchant Display, does the terminal displays "Not Accepted" in the Merchant Display? Remove the card. **Note:** There is no requirement concerning the display text in the Merchant Display!	Yes: Step 3 No: Case failed	
3.	☞ Does the terminal displays "Use MAG stripe" in the Cardholder Display?	Yes: Step 4 No: Case failed	

Step	Actions and assessment	Result	Verdict
4.	Swipe **MSC001** ☞ Is it possible to initiate a fallback transaction?	Yes: Step 5 No: Case failed	
5.	Terminate the transaction.	Step 6	
6.	Start a transaction. Enter an arbitrary amount at the merchant part and Insert **ICC014** correct in the card reader. ☞ Does the terminal displays "Not Accepted" in the Cardholder Display?	Yes: Step 7 No: Case failed	
7.	☞ Does the terminal displays "Not Accepted" in the Merchant Display? Remove the card. **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 8 No: Case failed	
8.	☞ Does the terminal displays "Use MAG stripe" in the Cardholder Display?	Yes: Step 9 No: Case failed	
9.	Swipe **MSC001** ☞ Is it possible to perform a fallback transaction?	Yes: Step 10 No: Case failed	
10.	Terminate the transaction.	Case OK	
-	End of test case		

Test Case 15.7 - Card Insertion 07: Cardholder behavior 1

Test date:		Init:	
Problem Report (if any):		**Test case result:**	
Comments:			

Test group: CardInsertion	**Conditions:** N/A

Requirements tested:

1-14.6.1.1. If the transaction is aborted due to incorrect handling (e.g. the card has been withdrawn from the card reader before completion of the transaction), chip technology keeps priority and fallback to magnetic stripe shall not be initiated..

The figure 2-4.1 shows the procedures for handling of fallback from ICC technology to magnetic stripe technology for separate readers.

The figure 2-4.2 shows the procedures for handling of fallback from ICC technology to magnetic stripe technology for a combined reader with "MSC read before ICC".....

Purpose: To verify that the terminal handles cardholder behavior as specified.

Prerequisites:

FTD script: CardInsertion_07   *Card(s):*ICC001   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:

The following steps are performed for both cardholder initiated transactions (card inserted) and merchant initiated transactions (Amount entered).

Steps:

⬧ Card inserted and removed immediately.

Comments: On an SUT, the common display represents, the cardholders display as well as the merchants display. On an UPT and a terminal with the merchant display on the rear side, skip the test steps concerning the Merchants display.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script denoted **CardInsertion_07**. (Make sure that updates aren't enabled, i.e. PSAM Personalization = **No**) If the terminal does not support card insertion before amount (late amount) skip to step 3. Insert **ICC001** in the card reader and remove it immediately. ☞ Does the terminal displays "Insert card again" in the Cardholder Display?	Yes: Step 2 No: Case failed	
2.	☞ Does the terminal displays "Insert card again" in the Merchant Display? **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 3 No: Case failed	
3.	Enter an arbitrary amount on the merchant part and Insert **ICC001** in the card reader and remove it immediately. ☞ Does the terminal displays "Insert card again" in the Cardholder Display?	Yes: Step 4 No: Case failed	

Step	Actions and assessment	Result	Verdict
4.	☞ Does the terminal displays "Insert card again" in the Merchant Display? **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 15.8 - Card Insertion 08: Cardholder behavior 2

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: CardInsertion	**Conditions:** N/A

Requirements tested:

1-14.6.1.1.   If the transaction is aborted due to incorrect handling (e.g. the card has been withdrawn from the card reader before completion of the transaction), chip technology keeps priority and fallback to magnetic stripe shall not be initiated..

The figure 2-4.1 shows the procedures for handling of fallback from ICC technology to magnetic stripe technology for separate readers.

The figure 2-4.2 shows the procedures for handling of fallback from ICC technology to magnetic stripe technology for a combined reader with "MSC read before ICC".....

Purpose: To verify that the terminal handles cardholder behavior as specified.

Prerequisites:

FTD script: CardInsertion_08   *Card(s):* ICC001   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:

The following steps are performed for both cardholder initiated transactions (card inserted) and merchant initiated transactions (Amount entered).

Steps:
- Card inserted and removed immediately.
- Card inserted correct

Normal transaction.

Comments: On an SUT, the common display represents, the cardholders display as well as the merchants display. On a UPT or a portable terminal with the display on the rear side skip the test steps concerning the Merchants display.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script denoted **CardInsertion_08**. (Make sure that updates aren't enabled, i.e PSAM Personalization = **No**) If the terminals does not support card insertion before amount is entered, skip to step 4. Insert **ICC001** correct in the card reader and remove it immediately. ✍ Does the terminal displays "Insert card again" in the Cardholder Display?	Yes: Step 2 No: Case failed	
2.	✍ Does the terminal displays "Insert card again" in the Merchant Display?	Yes: Step 3 No: Case failed	
3.	Insert **ICC001** correct in the card reader again and perform a successful transaction. ✍ Is the transaction successful?	Yes: Step 4 No: Case failed	

Step	Actions and assessment	Result	Verdict
4.	Enter an arbitrary amount at the merchant part and Insert **ICC001** correct in the card reader and remove it immediately. ☞ Does the terminal displays "Insert card again" in the Cardholder Display?	Yes: Step 4 No: Case failed	
5.	☞ Does the terminal displays "Insert card again" in the Merchant Display?	Yes: Step 6 No: Case failed	
6.	Enter an arbitrary amount at the merchant part and insert **ICC001** correct in the card reader again and perform a successful transaction. ☞ Is the transaction successful?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 15.9 - Card Insertion 09: Cardholder behavior 3

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: CardInsertion	**Conditions:** NOT [Combined Reader]

Requirements tested:
1-14.6.1.1.   If the transaction is aborted due to incorrect handling (e.g. the card has been withdrawn from the card reader before completion of the transaction), chip technology keeps priority and fallback to magnetic stripe shall not be initiated..   The figure 2-4.1 shows the procedures for handling of fallback from ICC technology to magnetic stripe technology for separate readers.   The figure 2-4.2 shows the procedures for handling of fallback from ICC technology to magnetic stripe technology for a combined reader with "MSC read before ICC".....

Purpose: To verify that the terminal handles cardholder behavior as specified.

Prerequisites:
FTD script: CardInsertion_09   *Card(s):* ICC005   *PSAM:* PSAM002

Test environment:
FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
The following steps are performed for both cardholder initiated transactions (card inserted) and merchant initiated transactions (Amount entered).
Steps:
⬥ Card with no ATR or card inserted incorrect
⬥ Card inserted correct
Normal transaction.

Comments: On an SUT, the common display represents, the cardholders display as well as the merchants display. On an UPT or a portable terminal with the Merchant display on the rear, skip the test steps concerning the Merchants display.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script denoted **CardInsertion_09**. (Make sure that updates aren't enabled, i.e. PSAM Personalization = **No**) If the terminal does not support card insertion before amount is known, skip to step 4. Insert **ICC005** *incorrectly* in the card reader. ☞ Does the terminal displays "Insert card again" in the Cardholder Display?	Yes: Step 2 No: Case failed	
2.	☞ Does the terminal displays "Insert card again" in the Merchant Display? Remove the card. **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 3 No: Case failed	

Step	Actions and assessment	Result	Verdict
3.	Insert **ICC005** correct in the card reader again and perform a successful transaction. ☞ Is the transaction successful?	Yes: Step 4 No: Case failed	
4.	Enter an arbitrary amount at the merchant part and Insert **ICC005** *incorrect* in the card reader. ☞ Does the terminal displays "Insert card again" in the Cardholder Display?	Yes: Step 5 No: Case failed	
5.	☞ Does the terminal displays "Insert card again" in the Merchant Display? Remove the card. **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 6 No: Case failed	
6.	Insert **ICC005** correct in the card reader again and perform a successful transaction. ☞ Is the transaction successful?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 15.10 - Card Insertion 10: Cardholder behavior 4

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: CardInsertion	**Conditions:** NOT [Combined Reader]

Requirements tested:

1-14.6.1.1.   If the transaction is aborted due to incorrect handling (e.g. the card has been withdrawn from the card reader before completion of the transaction), chip technology keeps priority and fallback to magnetic stripe shall not be initiated.

The figure 2-4.1 shows the procedures for handling of fallback from ICC technology to magnetic stripe technology for separate readers.

The figure 2-4.2 shows the procedures for handling of fallback from ICC technology to magnetic stripe technology for a combined reader with "MSC read before ICC".....

Purpose: To verify that the terminal handles cardholder behavior as specified.

Prerequisites:

FTD script: CardInsertion_10   *Card(s):* ICC005   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:

The following steps are performed for both cardholder initiated transactions (card inserted) and merchant initiated transactions (Amount entered).

Steps:

♦ Card inserted and removed immediately

♦ Card with no ATR or card inserted incorrect

♦ Card inserted correct

Normal transaction

Comments: On an SUT, the common display represents, the cardholders display as well as the merchants display. On an UPT, skip the test steps concerning the Merchants display.

Step	Actions and assessment	Result	Verdict
1.	☞ Does the terminal support card insertion before the amount is known?	Yes: Step 2 No: Not Applicable	
2.	Select the FTD host script denoted **CardInsertion_10**. (Make sure that updates aren't enabled, i.e. PSAM Personalization = **No**) Insert **ICC005** correct in the card reader and remove it immediately. ☞ Does the terminal displays "Insert card again" in the Cardholder Display?	Yes: Step 3 No: Case failed	
3.	☞ Does the terminal displays "Insert card again" in the Merchant Display? **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 4 No: Case failed	

Step	Actions and assessment	Result	Verdict
4.	Insert **ICC005** *incorrectly* in the card reader. ☞ Does the terminal displays "Insert card again" in the Cardholder Display?	Yes: Step 5 No: Case failed	
5.	☞ Does the terminal displays "Insert card again" in the Merchant Display? Remove the card. **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 6 No: Case failed	
6.	Insert **ICC005** correct in the card reader and perform a successful transaction ☞ Is the transaction successful?	Yes: Step 7 No: Case failed	
7.	Enter an arbitrary amount at the merchant part and insert **ICC005** correct in the card reader and remove it immediately. ☞ Is the transaction successful?	Yes: Step 8 No: Case failed	
8.	☞ Does the terminal displays "Insert card again" in the Merchant Display? **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 9 No: Case failed	
9.	Insert **ICC005** *incorrectly* in the card reader. ☞ Does the terminal displays "Insert card again" in the Cardholder Display?	Yes: Step 10 No: Case failed	
10.	☞ Does the terminal displays "Insert card again" in the Merchant Display? Remove the card.	Yes: Step 11 No: Case failed	
11.	Insert **ICC005** correct in the card reader and perform a successful transaction ☞ Is the transaction successful?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 15.11 - Card Insertion 11: Cardholder behavior 5

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: CardInsertion	**Conditions:** NOT [Combined Reader]

Requirements tested:

1-14.6.1.1. If the transaction is aborted due to incorrect handling (e.g. the card has been withdrawn from the card reader before completion of the transaction), chip technology keeps priority and fallback to magnetic stripe shall not be initiated..

The figure 2-4.1 shows the procedures for handling of fallback from ICC technology to magnetic stripe technology for separate readers.

The figure 2-4.2 shows the procedures for handling of fallback from ICC technology to magnetic stripe technology for a combined reader with "MSC read before ICC".....

Purpose: To verify that the terminal reacts if the card is inserted incorrect. Furthermore, it is demonstrated that a transaction can be performed successfully afterwards.

Prerequisites:

FTD script: CardInsertion_11   *Card(s):*ICC005   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:

The following steps are performed for both cardholder initiated transactions (card inserted) and merchant initiated transactions (Amount entered).

Steps:

⬥ Card with no ATR or card inserted incorrect

⬥ Card with no ATR or card inserted incorrect

⬥ Card with no ATR or card inserted incorrect

Fallback to be initiated.

Comments: On an SUT, the common display represents, the cardholders display as well as the merchants display. On an UPT, skip the test steps concerning the Merchants display.

Step	Actions and assessment	Result	Verdict
1.	Does the terminal support insertion of the card before amount is known?	Yes:Step 2 No: Not Applicable	
2.	Select the FTD host script denoted **CardInsertion_11**. (Make sure that updates aren't enabled, i.e. PSAM Personalization = **No**) Insert **ICC005** *incorrect* in the card reader. ☞ Does the terminal displays "Insert card again" in the Cardholder Display?	 Yes: Step 3 No: Case failed	

Step	Actions and assessment	Result	Verdict
3.	✍ Does the terminal displays "Insert card again" in the Merchant Display? Remove the card. **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 4 No: Case failed	
4.	Insert **ICC005** *incorrect* in the card reader. ✍ Does the terminal displays "Insert card again" in the Cardholder Display?	Yes: Step 5 No: Case failed	
5.	✍ Does the terminal displays "Insert card again" in the Merchant Display? Remove the card. **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 6 No: Case failed	
6.	Insert **ICC005** *incorrect* in the card reader. ✍ Does the terminal displays "Await clerk" in the Cardholder Display or similar? **Note:** There are no requirements concerning the display text in the Cardholder Display!	Yes: Step 7 No: Case failed	
7.	✍ Does the terminal displays "Card inserted correctly" in the Merchant Display? Press the "Yes" button. Remove the card.	Yes: Step 8 No: Case failed	
8.	✍ Does the terminal displays "Use MAG stripe" in the Cardholder Display?	Yes: Step 9 No: Case failed	
9.	✍ Is it possible to perform a fallback transaction?	Yes: Step 10 No: Case failed	
10.	Enter an arbitrary amount at the merchant part and insert **ICC005** *incorrect* in the card reader. ✍ Does the terminal displays "Insert card again" in the Cardholder Display?	Yes: Step 11 No: Case failed	
11.	✍ Does the terminal displays "Insert card again" in the Merchant Display? **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 12 No: Case failed	
12.	Insert **ICC005** *incorrect* in the card reader. ✍ Does the terminal displays "Insert card again" in the Cardholder Display?	Yes: Step 13 No: Case failed	
13.	✍ Does the terminal displays "Insert card again" in the Merchant Display? Remove the card. **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 14 No: Case failed	
14.	Insert **ICC005** *incorrect* in the card reader ✍ Does the terminal displays "Await clerk" in the Cardholder Display or similar?	Yes: Step 15 No: Case failed	
15.	✍ Does the terminal displays "Card inserted correctly" in the Merchant Display? Press the "Yes" button. Remove the card.	Yes: Step 16 No: Case failed	
16.	✍ Does the terminal displays "Use MAG stripe" in the Cardholder Display?	Yes: Step 17 No: Case failed	

Step	Actions and assessment	Result	Verdict
17.	☜ Is it possible to perform a fallback transaction?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 15.12 - Card Insertion 12: Cardholder behavior 6

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: CardInsertion	Conditions: NOT [Combined Reader]

Requirements tested:

1-14.6.1.1.   If the transaction is aborted due to incorrect handling (e.g. the card has been withdrawn from the card reader before completion of the transaction), chip technology keeps priority and fallback to magnetic stripe shall not be initiated..

The figure 2-4.1 shows the procedures for handling of fallback from ICC technology to magnetic stripe technology for separate readers.

The figure 2-4.2 shows the procedures for handling of fallback from ICC technology to magnetic stripe technology for a combined reader with "MSC read before ICC".....

Purpose: To verify that the terminal handles cardholder behavior as specified.

Prerequisites:

FTD script: CardInsertion_12   *Card(s):* ICC005   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:

The following steps are performed for both cardholder initiated transactions (card inserted) and merchant initiated transactions (Amount entered).

Steps:

⬧ Card with no ATR or card inserted incorrect

⬧ Card with no ATR or card inserted incorrect

⬧ Card removed and inserted immediately

Fallback is *not* to be initiated.

Comments: On an SUT, the common display represents, the cardholders display as well as the merchants display. On an UPT, skip the test steps concerning the Merchants display.

Step	Actions and assessment	Result	Verdict
1.	Does the terminal support card insertion before the amount is known?	Yes: Step 2 No: Step 9	
2.	Select the FTD host script denoted **CardInsertion_12**. (Make sure that updates aren't enabled, i.e. PSAM Personalization = **No**) Insert **ICC005** *incorrect* in the card reader. ☞ Does the terminal displays "Insert card again" in the Cardholder Display?	Yes: Step 3 No: Case failed	
3.	☞ Does the terminal displays "Insert card again" in the Merchant Display? Remove the card. **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 4 No: Case failed	

Step	Actions and assessment	Result	Verdict
4.	Insert **ICC005** *incorrect* in the card reader. Does the terminal displays "Insert card again" in the Cardholder Display?	Yes: Step 4 No: Case failed	
5.	Does the terminal displays "Insert card again" in the Merchant Display? Remove the card. **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 6 No: Case failed	
6.	Insert **ICC005** correct in the card reader, but remove it immediately. Does the terminal displays "Technical fail-ure" in the Cardholder Display or similar? **Note:** There are no requirements concerning the display text in the Cardholder Display!	Yes: Step 7 No: Case failed	
7.	Does the terminal displays "Technical fail-ure" in the Merchant Display?	Yes: Step 8 No: Case failed	
8.	Is fallback offered?	Yes: Case failed No: Step 9	
9.	Enter an arbitrary amount at the merchant part and insert **ICC005** *incorrect* in the card reader. Does the terminal displays "Insert card again" in the Cardholder Display?	Yes: Step 10 No: Case failed	
10.	Does the terminal displays "Insert card again" in the Merchant Display? **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 11 No: Case failed	
11.	Insert **ICC005** *incorrect* in the card reader. Does the terminal displays "Insert card again" in the Cardholder Display?	Yes: Step 12 No: Case failed	
12.	Does the terminal displays "Insert card again" in the Merchant Display? Remove the card. **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 13 No: Case failed	
13.	Insert **ICC005** correct in the card reader, but remove it immediately. Does the terminal displays "Technical fail-ure" in the Cardholder Display or similar?	Yes: Step 14 No: Case failed	
14.	Does the terminal displays "Technical fail-ure" in the Merchant Display? **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 15 No: Case failed	
15.	Is fallback offered?	Yes: Case failed No: Case OK	
-	End of test case		

Test Case 15.13 - Card Insertion_13: Cardholder behavior 7

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: CardInsertion	**Conditions:** NOT [Combined Reader]

Requirements tested:

1-14.6.1.1. If the transaction is aborted due to incorrect handling (e.g. the card has been withdrawn from the card reader before completion of the transaction), chip technology keeps priority and fallback to magnetic stripe shall not be initiated..

The figure 2-4.1 shows the procedures for handling of fallback from ICC technology to magnetic stripe technology for separate readers.

The figure 2-4.2 shows the procedures for handling of fallback from ICC technology to magnetic stripe technology for a combined reader with "MSC read before ICC".....

Purpose: To verify that the terminal handles cardholder behavior as specified.

Prerequisites:

FTD script: CardInsertion_13   *Card(s):* ICC005   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:

The following steps are performed for both cardholder initiated transactions (card inserted) and merchant initiated transactions (Amount entered).

Steps:

- Card with no ATR or card inserted incorrect
- Card with no ATR or card inserted incorrect
- Card inserted correctly

Normal transaction.

Comments: On an SUT, the common display represents, the cardholders display as well as the merchants display. On an UPT, skip the test steps concerning the Merchants display.

Step	Actions and assessment	Result	Verdict
1.	☞ Does the terminal support card insertion before the amount is known?	Yes: Step 2 No: Step 7	
2.	Select the FTD host script denoted **CardInsertion_13**. (Make sure that updates aren't enabled, i.e. PSAM Personalization = **No**) Insert **ICC005** *incorrect* in the card reader. ☞ Does the terminal displays "Insert card again" in the Cardholder Display?	 Yes: Step 3 No: Case failed	
3.	☞ Does the terminal displays "Insert card again" in the Merchant Display? Remove the card. **Note:** There are no requirements concerning the display text in the Merchant Display!	 Yes: Step 4 No: Case failed	

Step	Actions and assessment	Result	Verdict
4.	Insert **ICC005** *incorrect* in the card reader. ☞ Does the terminal displays "Insert card again" in the Cardholder Display?	Yes: Step 5 No: Case failed	
5.	☞ Does the terminal displays "Insert card again" in the Merchant Display? Remove the card. **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 6 No: Case failed	
6.	Insert **ICC005** correctly in the card reader. ☞ Is it possible to perform a successful transaction?	Yes: Step 7 No: Case failed	
7.	Enter an arbitrary amount at the merchant part and insert **ICC005** *incorrect* in the card reader. ☞ Does the terminal displays "Insert card again" in the Cardholder Display?	Yes: Step 8 No: Case failed	
8.	☞ Does the terminal displays "Insert card again" in the Merchant Display? **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 9 No: Case failed	
9.	Insert **ICC005** *incorrect* in the card reader. ☞ Does the terminal displays "Insert card again" in the Cardholder Display?	Yes: Step 10 No: Case failed	
10.	☞ Does the terminal displays "Insert card again" in the Merchant Display? Remove the card. **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 11 No: Case failed	
11.	Insert **ICC005** correctly in the card reader. ☞ Is it possible to perform a successful transaction?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 15.14 - Card Insertion 14: Cardholder behavior 8

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: CardInsertion	Conditions: NOT [Combined Reader]

Requirements tested:

1-14.6.1.1.   If the transaction is aborted due to incorrect handling (e.g. the card has been withdrawn from the card reader before completion of the transaction), chip technology keeps priority and fallback to magnetic stripe shall not be initiated..

The figure 2-4.1 shows the procedures for handling of fallback from ICC technology to magnetic stripe technology for separate readers.

The figure 2-4.2 shows the procedures for handling of fallback from ICC technology to magnetic stripe technology for a combined reader with "MSC read before ICC".....

Purpose: To verify that the terminal handles cardholder behavior as specified.

Prerequisites:

FTD script: CardInsertion_14   *Card(s):* ICC005   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:

The following steps are performed for both cardholder initiated transactions (card inserted) and merchant initiated transactions (Amount entered).

Steps:

⬥ Swipe a chip card with magstripe (Service Code indicates ICC)

⬥ Card with no ATR or card inserted incorrect

⬥ Card with no ATR or card inserted incorrect

⬥ Card with no ATR or card inserted incorrect

Fallback to be initiated.

Comments: On an SUT, the common display represents, the cardholders display as well as the merchants display. On an UPT, skip the test steps concerning the Merchants display.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script denoted **CardInsertion_14**. (Make sure that updates aren't enabled, i.e. PSAM Personalization = **No**) Does the terminal support card handling before the amount is known?	Yes: Step 2 No: Step 10	
2.	Swipe the **ICC005**. ☞ Does the terminal prompt the cardholder to use the ICC in the Cardholder Display? Insert **ICC005** *incorrect* in the card reader. ☞ Does the terminal displays "Insert card again" in the Cardholder Display?	Yes: Step 3 No: Case failed	

Step	Actions and assessment	Result	Verdict
3.	✑ Does the terminal displays "Insert card again" in the Merchant Display? Remove the card. **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 4 No: Case failed	
4.	Insert **ICC005** *incorrect* in the card reader. ✑ Does the terminal displays "Insert card again" in the Cardholder Display?	Yes: Step 5 No: Case failed	
5.	✑ Does the terminal displays "Insert card again" in the Merchant Display? Remove the card. **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 6 No: Case failed	
6.	Insert **ICC005** *incorrect* in the card reader. ✑ Does the terminal displays "Await clerk" in the Cardholder Display or similar? **Note:** There are no requirements concerning the display text in the Cardholder Display!	Yes: Step 7 No: Case failed	
7.	✑ Does the terminal displays "Card inserted correctly" in the Merchant Display? Press the "Yes" button. Remove the card.	Yes: Step 8 No: Case failed	
8.	✑ Does the terminal displays "Use MAG stripe" in the Cardholder Display?	Yes: Step 9 No: Case failed	
9.	✑ Is it possible to perform a fallback transaction?	Yes: Step 10 No: Case failed	
10.	Enter an arbitrary amount at the merchant part and *swipe* the **ICC005**. ✑ Does the terminal prompt the cardholder to use the ICC in the Cardholder Display?	Yes: Step 11 No: Case failed	
11.	Enter an arbitrary amount at the merchant part and insert **ICC005** *incorrect* in the card reader. ✑ Does the terminal displays "Insert card again" in the Cardholder Display?	Yes: Step 12 No: Case failed	
12.	✑ Does the terminal displays "Insert card again" in the Merchant Display? **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 13 No: Case failed	
13.	Insert **ICC005** *incorrect* in the card reader. ✑ Does the terminal displays "Insert card again" in the Cardholder Display?	Yes: Step 14 No: Case failed	
14.	✑ Does the terminal displays "Insert card again" in the Merchant Display? Remove the card. **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 15 No: Case failed	
15.	Insert **ICC005** *incorrect* in the card reader. ✑ Does the terminal displays "Await clerk" in the Cardholder Display or similar? **Note:** There are no requirements concerning the display text in the Cardholder Display!	Yes: Step 16 No: Case failed	

Step	Actions and assessment	Result	Verdict
16.	☞ Does the terminal displays "Card inserted correctly" in the Merchant Display? Press the "Yes" button. Remove the card.	Yes: Step 17 No: Case failed	
17.	☞ Does the terminal displays "Use MAG stripe" in the Cardholder Display?	Yes: Step 18 No: Case failed	
18.	☞ Is it possible to perform a fallback transaction?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 15.15 - Card Insertion 15: Cardholder behavior 9

Test date:		Init:	
Problem Report (if any):		**Test case result:**	
Comments:			

Test group: CardInsertion	Conditions: NOT [Combined Reader]
Requirements tested:	

1-14.6.1.1.   If the transaction is aborted due to incorrect handling (e.g. the card has been withdrawn from the card reader before completion of the transaction), chip technology keeps priority and fallback to magnetic stripe shall not be initiated..

The figure 2-4.1 shows the procedures for handling of fallback from ICC technology to magnetic stripe technology for separate readers.

The figure 2-4.2 shows the procedures for handling of fallback from ICC technology to magnetic stripe technology for a combined reader with "MSC read before ICC".....

Purpose: To verify that the terminal handles cardholder behavior as specified.

Prerequisites:

FTD script: CardInsertion_15   *Card(s):* ICC005   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:

The following steps are performed for both cardholder initiated transactions (card inserted) and merchant initiated transactions (Amount entered).

Steps:

♦ Card with no ATR or card inserted incorrect

♦ Card with no ATR or card inserted incorrect

♦ Wait for 15+ sec.

♦ Card with no ATR or card inserted incorrect

♦ Card with no ATR or card inserted incorrect

♦ Card with no ATR or card inserted incorrect

Fallback to be initiated.

Comments: On an SUT, the common display represents, the cardholders display as well as the merchants display. On an UPT, skip the test steps concerning the Merchants display.

Comments: Entry of amount is on a UPT not performed on the merchants part, but on the vending machine.

Step	Actions and assessment	Result	Verdict
1.	☞ Does the terminal support card insertion before amount?	Yes: Step 2 No: Step 14	
2.	Select the FTD host script denoted **CardInsertion_15**. (Make sure that updates aren't enabled, i.e. PSAM Personalization = **No**) Insert **ICC005** *incorrect* in the card reader. ☞ Does the terminal displays "Insert card again" in the Cardholder Display?	 Yes: Step 3 No: Case failed	

Step	Actions and assessment	Result	Verdict
3.	☞ Does the terminal displays "Insert card again" in the Merchant Display? Remove the card. **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 4 No: Case failed	
4.	Insert **ICC005** *incorrect* in the card reader. Wait for about 15+ sec (exceed the time-out value). ☞ Does the terminal displays "Remove card" in the Cardholder Display?	Yes: Step 5 No: Case failed	
5.	☞ Does the terminal displays "Remove card" in the Merchant Display? Remove the card. **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 5 No: Case failed	
6.	Insert **ICC005** *incorrect* in the card reader. ☞ Does the terminal displays "Insert card again" in the Cardholder Display?	Yes: Step 7 No: Case failed	
7.	☞ Does the terminal displays "Insert card again" in the Merchant Display? Remove the card. **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 8 No: Case failed	
8.	Insert **ICC005** *incorrect* in the card reader. ☞ Does the terminal displays "Insert card again" in the Cardholder Display?	Yes: Step 9 No: Case failed	
9.	☞ Does the terminal displays "Insert card again" in the Merchant Display? Remove the card. **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 10 No: Case failed	
10.	Insert **ICC005** *incorrect* in the card reader. ☞ Does the terminal displays "Await clerk" in the Cardholder Display or similar? **Note:** There are no requirements concerning the display text in the Cardholder Display!	Yes: Step 11 No: Case failed	
11.	☞ Does the terminal displays "Card inserted correctly" in the Merchant Display? Press the "Yes" button. Remove the card.	Yes: Step 12 No: Case failed	
12.	☞ Does the terminal displays "Use MAG stripe" in the Cardholder Display?	Yes: Step 13 No: Case failed	
13.	☞ Is it possible to perform a fallback transaction?	Yes: Step 14 No: Case failed	
14.	Enter an arbitrary amount (at the merchant part and insert **ICC005** *incorrect* in the card reader. ☞ Does the terminal displays "Insert card again" in the Cardholder Display?	Yes: Step 15 No: Case failed	
15.	☞ Does the terminal displays "Insert card again" in the Merchant Display? **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 16 No: Case failed	

Step	Actions and assessment	Result	Verdict
16.	Insert **ICC005** *incorrect* in the card reader. Wait for about 15+ sec (exceed the time-out value). ☞ Does the terminal displays "Remove card" in the Cardholder Display?	Yes: Step 17 No: Case failed	
17.	☞ Does the terminal displays "Remove card" in the Merchant Display? Remove the card. **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 18 No: Case failed	
18.	Insert **ICC005** *incorrect* in the card reader. ☞ Does the terminal displays "Insert card again" in the Cardholder Display?	Yes: Step 19 No: Case failed	
19.	☞ Does the terminal displays "Insert card again" in the Merchant Display? Remove the card. **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 20 No: Case failed	
20.	Insert **ICC005** *incorrect* in the card reader. ☞ Does the terminal displays "Insert card again" in the Cardholder Display?	Yes: Step 21 No: Case failed	
21.	☞ Does the terminal displays "Insert card again" in the Merchant Display? Remove the card. **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 22 No: Case failed	
22.	Insert **ICC005** *incorrect* in the card reader. ☞ Does the terminal displays "Await clerk" in the Cardholder Display or similar? **Note:** There are no requirements concerning the display text in the Cardholder Display!	Yes: Step 23 No: Case failed	
23.	☞ Does the terminal displays "Card inserted correctly" in the Merchant Display? Press the "Yes" button. Remove the card.	Yes: Step 24 No: Case failed	
24.	☞ Does the terminal displays "Use MAG stripe" in the Cardholder Display?	Yes: Step 25 No: Case failed	
25.	☞ Is it possible to perform a fallback transaction?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 15.16 - Card Insertion 16: Cardholder behavior 10

Test date:		Init:	
Problem Report (if any):		**Test case result:**	
Comments:			

Test group: CardInsertion	Conditions: NOT [Combined Reader]

Requirements tested:

1-14.6.1.1.　If the transaction is aborted due to incorrect handling (e.g. the card has been withdrawn from the card reader before completion of the transaction), chip technology keeps priority and fallback to magnetic stripe shall not be initiated..

The figure 2-4.1 shows the procedures for handling of fallback from ICC technology to magnetic stripe technology for separate readers.

The figure 2-4.2 shows the procedures for handling of fallback from ICC technology to magnetic stripe technology for a combined reader with "MSC read before ICC".....

Purpose: To verify that the terminal handles cardholder behavior as specified.

Prerequisites:

FTD script: CardInsertion_16　　　*Card(s):* ICC005　　　*PSAM:* PSAM002

Test environment:

FTD Host: X　　　　　　*IFS:*　　　　　　*Kopi:*

General pass criteria:

The following steps are performed for both cardholder initiated transactions (card inserted) and merchant initiated transactions (Amount entered).

Steps:

- Card with no ATR or card inserted incorrect
- Card with no ATR or card inserted incorrect
- Wait for 15+ sec.
- Card with no ATR or card inserted incorrect
- Card with no ATR or card inserted incorrect
- Card removed and inserted immediately

Fallback *not* to be initiated.

Comments: On an SUT, the common display represents, the cardholders display as well as the merchants display. On an UPT, skip the test steps concerning the Merchants display.

Comments: Entry of amount is on a UPT not performed on the merchants part, but on the vending machine.

Step	Actions and assessment	Result	Verdict
1.	☞ Does the terminal support card insertion before amount available?	Yes: Step 2 No:　Step 13	
2.	Select the FTD host script denoted **CardInsertion_16**. (Make sure that updates aren't enabled, i.e. PSAM Personalization = **No**) Insert **ICC005** *incorrect* in the card reader. ☞ Does the terminal displays "Insert card again" in the Cardholder Display?	 Yes: Step 3 No: Case failed	

Step	Actions and assessment	Result	Verdict
3.	☞ Does the terminal displays "Insert card again" in the Merchant Display? Remove the card. **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 4 No: Case failed	
4.	Insert **ICC005** *incorrect* in the card reader. Wait for about 15+ sec (exceed the time-out value). ☞ Does the terminal displays "Remove card" in the Cardholder Display?	Yes: Step 5 No: Case failed	
5.	☞ Does the terminal displays "Remove card" in the Merchant Display? Remove the card. **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 6 No: Case failed	
6.	Insert **ICC005** *incorrect* in the card reader. ☞ Does the terminal displays "Insert card again" in the Cardholder Display?	Yes: Step 7 No: Case failed	
7.	☞ Does the terminal displays "Insert card again" in the Merchant Display? Remove the card. **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 8 No: Case failed	
8.	Insert **ICC005** *incorrect* in the card reader. ☞ Does the terminal displays "Insert card again" in the Cardholder Display?	Yes: Step 9 No: Case failed	
9.	☞ Does the terminal displays "Insert card again" in the Merchant Display? Remove the card. **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 10 No: Case failed	
10.	Insert **ICC005** correct in the card reader, but remove it immediately. ☞ Does the terminal displays "Technical failure" in the Cardholder Display or similar? **Note:** There are no requirements concerning the display text in the Cardholder Display!	Yes: Step 11 No: Case failed	
11.	☞ Does the terminal displays "Technical failure" in the Merchant Display?	Yes: Step 12 No: Case failed	
12.	☞ Is fallback offered?	Yes: Case failed No: Step 13	
13.	Enter an arbitrary amount at the merchant part and insert **ICC005** *incorrect* in the card reader. ☞ Does the terminal displays "Insert card again" in the Cardholder Display?	Yes: Step 14 No: Case failed	
14.	☞ Does the terminal displays "Insert card again" in the Merchant Display? **Note:** There is no requirement concerning the display text in the Merchant Display!	Yes: Step 15 No: Case failed	

Step	Actions and assessment	Result	Verdict
15.	Insert **ICC005** *incorrect* in the card reader. Wait for about 15+ sec (exceed the time-out value). ☞ Does the terminal displays "Remove card" in the Cardholder Display?	Yes: Step 16 No: Case failed	
16.	☞ Does the terminal displays "Remove card" in the Merchant Display? Remove the card. **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 17 No: Case failed	
17.	Insert **ICC005** *incorrect* in the card reader. ☞ Does the terminal displays "Insert card again" in the Cardholder Display?	Yes: Step 18 No: Case failed	
18.	☞ Does the terminal displays "Insert card again" in the Merchant Display? Remove the card. **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 19 No: Case failed	
19.	Insert **ICC005** *incorrect* in the card reader. ☞ Does the terminal displays "Insert card again" in the Cardholder Display?	Yes: Step 20 No: Case failed	
20.	☞ Does the terminal displays "Insert card again" in the Merchant Display? Remove the card. **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 21 No: Case failed	
21.	Insert **ICC005** correct in the card reader, but remove it immediately. ☞ Does the terminal displays "Technical failure" in the Cardholder Display or similar? **Note:** There are no requirements concerning the display text in the Cardholder Display!	Yes: Step 22 No: Case failed	
22.	☞ Does the terminal displays "Technical failure" in the Merchant Display?	Yes: Step 23 No: Case failed	
23.	☞ Is fallback offered?	Yes: Case failed No: Case OK	
-	End of test case		

Test Case 15.17 - Card Insertion 17: Cardholder behavior 11

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: CardInsertion	**Conditions:** NOT [Combined Reader]

Requirements tested:

1-14.6.1.1.   If the transaction is aborted due to incorrect handling (e.g. the card has been withdrawn from the card reader before completion of the transaction), chip technology keeps priority and fallback to magnetic stripe shall not be initiated..

The figure 2-4.1 shows the procedures for handling of fallback from ICC technology to magnetic stripe technology for separate readers.

The figure 2-4.2 shows the procedures for handling of fallback from ICC technology to magnetic stripe technology for a combined reader with "MSC read before ICC".....

Purpose: To verify that the terminal handles cardholder behavior as specified.

Prerequisites:

FTD script: CardInsertion_17   *Card(s):* ICC005   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:

The following steps are performed for both cardholder initiated transactions (card inserted) and merchant initiated transactions (Amount entered).

Steps:

- Magstripe is swiped (Service Code indicates ICC)
- Card with no ATR or card inserted incorrect
- Card with no ATR or card inserted incorrect
- Wait for 15+ sec.
- Card with no ATR or card inserted incorrect
- Card with no ATR or card inserted incorrect
- Card removed and inserted immediately

Fallback *not* to be initiated.

Comments: On an SUT, the common display represents, the cardholders display as well as the merchants display. On an UPT, skip the test steps concerning the Merchants display.

Step	Actions and assessment	Result	Verdict
1.	☞ Does the terminal support card insertion before entry of amount?	Yes: Step 2 No: Step 13	
2.	Select the FTD host script denoted **CardInsertion_17**. (Make sure that updates aren't enabled, i.e. PSAM Personalization = **No**) Swipe the **ICC005**. ☞ Does the terminal prompt the cardholder to use the ICC in the Cardholder Display?	Yes: Step 3 No: Case failed	

Step	Actions and assessment	Result	Verdict
3.	☜ Does the terminal displays "Insert card again" in the Merchant Display? Remove the card. **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 4 No: Case failed	
4.	Insert **ICC005** *incorrect* in the card reader. Wait for about 15+ sec (exceed the time-out value). ☜ Does the terminal displays "Remove card" in the Cardholder Display?	Yes: Step 5 No: Case failed	
5.	☜ Does the terminal displays "Remove card" in the Merchant Display? Remove the card. **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 6 No: Case failed	
6.	Insert **ICC005** *incorrect* in the card reader. ☜ Does the terminal displays "Insert card again" in the Cardholder Display?	Yes: Step 7 No: Case failed	
7.	☜ Does the terminal displays "Insert card again" in the Merchant Display? Remove the card. **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 8 No: Case failed	
8.	Insert **ICC005** *incorrect* in the card reader. ☜ Does the terminal displays "Insert card again" in the Cardholder Display?	Yes: Step 9 No: Case failed	
9.	☜ Does the terminal displays "Insert card again" in the Merchant Display? Remove the card. **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 10 No: Case failed	
10.	Insert **ICC005** correct in the card reader, but remove it immediately. ☜ Does the terminal displays "Technical failure" in the Cardholder Display or similar? **Note:** There are no requirements concerning the display text in the Cardholder Display!	Yes: Step 11 No: Case failed	
11.	☜ Does the terminal displays "Technical failure" in the Merchant Display?	Yes: Step 12 No: Case failed	
12.	☜ Is fallback offered?	Yes: Case failed No: Step 13	
13.	Enter an arbitrary amount at the merchant part and *swipe* the **ICC005**. ☜ Does the terminal prompt the cardholder to use the ICC in the Cardholder Display?	Yes: Step14 No: Case failed	
14.	☜ Does the terminal displays "Insert card again" in the Merchant Display? **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 15 No: Case failed	

Step	Actions and assessment	Result	Verdict
15.	Insert **ICC005** *incorrect* in the card reader. Wait for about 15+ sec (exceed the time-out value). ☞ Does the terminal displays "Remove card" in the Cardholder Display?	Yes: Step 16 No: Case failed	
16.	☞ Does the terminal displays "Remove card" in the Merchant Display? Remove the card. **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 17 No: Case failed	
17.	Insert **ICC005** *incorrect* in the card reader. ☞ Does the terminal displays "Insert card again" in the Cardholder Display?	Yes: Step 18 No: Case failed	
18.	☞ Does the terminal displays "Insert card again" in the Merchant Display? Remove the card. **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 19 No: Case failed	
19.	Insert **ICC005** *incorrect* in the card reader. ☞ Does the terminal displays "Insert card again" in the Cardholder Display?	Yes: Step 20 No: Case failed	
20.	☞ Does the terminal displays "Insert card again" in the Merchant Display? Remove the card. **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 21 No: Case failed	
21.	Insert **ICC005** correct in the card reader, but remove it immediately. ☞ Does the terminal displays "Technical failure" in the Cardholder Display or similar? **Note:** There are no requirements concerning the display text in the Cardholder Display!	Yes: Step 22 No: Case failed	
22.	☞ Does the terminal displays "Technical failure" in the Merchant Display?	Yes: Step 23 No: Case failed	
23.	☞ Is fallback offered?	Yes: Case failed No: Case OK	
-	End of test case		

Test Case 15.18 - Card Insertion 18: Cardholder behavior 12

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: CardInsertion	**Conditions:** NOT [Combined Reader]

Requirements tested:

1-14.6.1.1.   If the transaction is aborted due to incorrect handling (e.g. the card has been withdrawn from the card reader before completion of the transaction), chip technology keeps priority and fallback to magnetic stripe shall not be initiated..

The figure 2-4.1 shows the procedures for handling of fallback from ICC technology to magnetic stripe technology for separate readers.

The figure 2-4.2 shows the procedures for handling of fallback from ICC technology to magnetic stripe technology for a combined reader with "MSC read before ICC".....

Purpose: To verify that the terminal handles cardholder behavior as specified.

Prerequisites:

FTD script: CardInsertion_18   *Card(s):*ICC005   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:

The following steps are performed for both cardholder initiated transactions (card inserted) and merchant initiated transactions (Amount entered).

Steps:

⬦ Magstripe is swiped (Service Code indicates ICC)

⬦ Card with no ATR or card inserted incorrect

⬦ Card with no ATR or card inserted incorrect

⬦ Wait for 15+ sec.

⬦ Card with no ATR or card inserted incorrect

⬦ Card with no ATR or card inserted incorrect

⬦ Card inserted correctly

Normal transaction.

Comments: On an SUT, the common display represents, the cardholders display as well as the merchants display. On an UPT, skip the test steps concerning the Merchants display.

Comments: Entry of amount is on a UPT not performed on the merchants part, but on the vending machine.

Step	Actions and assessment	Result	Verdict
1.	☞ Does the terminal support insertion of the card before the amount is known?	Yes: Step 2 No: Step 11	
2.	Select the FTD host script denoted **CardInsertion_18**. (Make sure that updates aren't enabled, i.e. PSAM Personalization = **No**) Swipe the **ICC005**. ☞ Does the terminal prompt the cardholder to use the ICC in the Cardholder Display?	Yes: Step 3 No: Case failed	

Step	Actions and assessment	Result	Verdict
3.	Insert **ICC005** *incorrect* in the card reader. ☞ Does the terminal displays "Insert card again" in the Merchant Display? Remove the card. **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 4 No: Case failed	
4.	Insert **ICC005** *incorrect* in the card reader. Wait for about 15+ sec (exceed the time-out value). ☞ Does the terminal displays "Remove card" in the Cardholder Display?	Yes: Step 5 No: Case failed	
5.	☞ Does the terminal displays "Remove card" in the Merchant Display? Remove the card. **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 6 No: Case failed	
6.	Insert **ICC005** *incorrect* in the card reader. ☞ Does the terminal displays "Insert card again" in the Cardholder Display?	Yes: Step 7 No: Case failed	
7.	☞ Does the terminal displays "Insert card again" in the Merchant Display? Remove the card. **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 8 No: Case failed	
8.	Insert **ICC005** *incorrect* in the card reader. ☞ Does the terminal displays "Insert card again" in the Cardholder Display?	Yes: Step 9 No: Case failed	
9.	☞ Does the terminal displays "Insert card again" in the Merchant Display? Remove the card. **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 10 No: Case failed	
10.	Insert **ICC005** correct in the card reader again and perform a successful transaction. ☞ Is the transaction successful?	Yes: Step 11 No: Case failed	
11.	Enter an arbitrary amount at the merchant part and *swipe* the **ICC005**. ☞ Does the terminal prompt the cardholder to use the ICC in the Cardholder Display?	Yes: Step 12 No: Case failed	
12.	☞ Does the terminal displays "Insert card again" in the Merchant Display? **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 13 No: Case failed	
13.	Insert **ICC005** *incorrect* in the card reader. Wait for about 15+ sec (exceed the time-out value). ☞ Does the terminal displays "Remove card" in the Cardholder Display?	Yes: Step 14 No: Case failed	
14.	☞ Does the terminal displays "Remove card" in the Merchant Display? Remove the card. **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 15 No: Case failed	

Step	Actions and assessment	Result	Verdict
15.	Insert **ICC005** *incorrect* in the card reader. ☞ Does the terminal displays "Insert card again" in the Cardholder Display?	Yes: Step 16 No: Case failed	
16.	☞ Does the terminal displays "Insert card again" in the Merchant Display? Remove the card. **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 17 No: Case failed	
17.	Insert **ICC005** *incorrect* in the card reader. ☞ Does the terminal displays "Insert card again" in the Cardholder Display?	Yes: Step 18 No: Case failed	
18.	☞ Does the terminal displays "Insert card again" in the Merchant Display? Remove the card. **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 19 No: Case failed	
19.	Insert **ICC005** correct in the card reader again and perform a successful transaction. ☞ Is the transaction successful?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 15.19 - Card Insertion 19: Cardholder behavior 13

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: CardInsertion	Conditions: N/A

Requirements tested:

1-14.6.1.1. If the transaction is aborted due to incorrect handling (e.g. the card has been withdrawn from the card reader before completion of the transaction), chip technology keeps priority and fallback to magnetic stripe shall not be initiated..

The figure 2-4.1 shows the procedures for handling of fallback from ICC technology to magnetic stripe technology for separate readers.

The figure 2-4.2 shows the procedures for handling of fallback from ICC technology to magnetic stripe technology for a combined reader with "MSC read before ICC".....

Purpose: To verify that the terminal handles cardholder behavior as specified.

Prerequisites:

FTD script: CardInsertion_19   *Card(s):* ICC001   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:

The following steps are performed for both cardholder initiated transactions (card inserted) and merchant initiated transactions (Amount entered).

Steps:

- Card inserted and redrawn just about 1-2 mm immediately after
- Card inserted correct

Normal transaction.

Comments: On an SUT, the common display represents, the cardholders display as well as the merchants display. On an UPT, skip the test steps concerning the Merchants display.

Comments: Entry of amount is on a UPT not performed on the merchants part, but on the vending machine.

Step	Actions and assessment	Result	Verdict
1.	☞ Does the terminal support insertion of the card before the amount is known?	Yes: Step 2 No: Step 5	
2.	Select the FTD host script denoted **CardInsertion_19**. (Make sure that updates aren't enabled, i.e. PSAM Personalization = **No**) Insert **ICC001** correct in the card reader and redraw it just about 1-2 mm immediately after. ☞ Does the terminal displays "Insert card again" in the Cardholder Display?	 Yes: Step 3 No: Case failed	

Step	Actions and assessment	Result	Verdict
3.	☞ Does the terminal displays "Insert card again" in the Merchant Display? Remove the card. **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 4 No: Case failed	
4.	Insert **ICC001** correct in the card reader again and perform a successful transaction. ☞ Is the transaction successful?	Yes: Step 5 No: Case failed	
5.	Enter an arbitrary amount at the merchant part and Insert **ICC001** correct in the card reader and redraw it just about 1-2 mm immediately after. ☞ Does the terminal displays "Insert card again" in the Cardholder Display?	Yes: Step 6 No: Case failed	
6.	☞ Does the terminal displays "Insert card again" in the Merchant Display? Remove the card. **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 7 No: Case failed	
7.	Insert **ICC001** correct in the card reader again and perform a successful transaction. ☞ Is the transaction successful?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 15.20 - Card Insertion 20: Cardholder behavior 14

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: CardInsertion	**Conditions:** NOT [Combined Reader]

Requirements tested:

1-14.6.1.1.	If the transaction is aborted due to incorrect handling (e.g. the card has been withdrawn from the card reader before completion of the transaction), chip technology keeps priority and fallback to magnetic stripe shall not be initiated..
	The figure 2-4.1 shows the procedures for handling of fallback from ICC technology to magnetic stripe technology for separate readers.
	The figure 2-4.2 shows the procedures for handling of fallback from ICC technology to magnetic stripe technology for a combined reader with "MSC read before ICC".....

Purpose: To verify that the terminal handles cardholder behavior as specified.

Prerequisites:

FTD script: CardInsertion_20　　　*Card(s):* ICC005　　　*PSAM:* PSAM002
　　　　　　　　　　　　　　　　　　　　　　MSC001

Test environment:

FTD Host: X　　　　　　　　*IFS:*　　　　　　　　*Kopi:*

General pass criteria:

The following steps are performed for both cardholder initiated transactions (card inserted) and merchant initiated transactions (Amount entered).

Steps:

- Card with no ATR/or card inserted incorrect
- Card with no ATR/or card inserted incorrect
- Card with no ATR/or card inserted incorrect
- Press the Cancel button
- Remove card
- Swipe a magstripe card

The magstripe reader shall be active.

Comments: On an SUT, the common display represents, the cardholders display as well as the merchants display. On an UPT, skip the test steps concerning the Merchants display.

Comments: Entry of amount is on a UPT not performed on the merchants part, but on the vending machine.

Step	Actions and assessment	Result	Verdict
1.	☜ Does the terminal support insertion of the card before the amount is known?	Yes: Step 2 No: Step 8	
2.	Select the FTD host script denoted **CardInsertion_20**. (Make sure that updates aren't enabled, i.e. PSAM Personalization = **No**) Insert **ICC005** *incorrect* in the card reader. ☜ Does the terminal displays "Insert card again" in the Cardholder Display?	Yes: Step 3 No: Case failed	
3.	☜ Does the terminal displays "Insert card again" in the Merchant Display? Remove the card. **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 4 No: Case failed	
4.	Insert **ICC005** *incorrect* in the card reader. ☜ Does the terminal displays "Insert card again" in the Cardholder Display?	Yes: Step 5 No: Case failed	
5.	☜ Does the terminal displays "Insert card again" in the Merchant Display? Remove the card. **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 6 No: Case failed	
6.	Insert **ICC005** *incorrect* in the card reader. Press the Cancel button. ☜ Does the terminal displays "Remove card" in the Cardholder Display?	Yes: Step 7 No: Case failed	
7.	Swipe the magstripe card **MSC001**. ☜ Is it possible to perform a magstripe transaction?	Yes: Step 8 No: Case failed	
8.	Enter an arbitrary amount at the merchant part and insert **ICC005** *incorrect* in the card reader. ☜ Is the transaction successful?	Yes: Step 9 No: Case failed	
9.	☜ Does the terminal displays "Insert card again" in the Merchant Display? **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 10 No: Case failed	
10.	Insert **ICC005** *incorrect* in the card reader. ☜ Does the terminal displays "Insert card again" in the Cardholder Display?	Yes: Step 11 No: Case failed	
11.	☜ Does the terminal displays "Insert card again" in the Merchant Display? Remove the card. **Note:** There are no requirements concerning the display text in the Merchant Display!	Yes: Step 12 No: Case failed	
12.	Insert **ICC005** *incorrect* in the card reader. Press the Cancel button. ☜ Does the terminal displays "Remove card" in the Cardholder Display?	Yes: Step 13 No: Case failed	
13.	Swipe the magstripe card **MSC001**. ☜ Is it possible to perform a magstripe transaction?	Yes: Case OK No: Case failed	
-	End of test case		

4.16 DCC

Requirements covered

The Test cases in this section are only applicable to terminals implementing Dynamic Currency Conversion, DCC, capabilities. The first tests verifies the basic behavior of a terminal in a Point-Of-Sale environment performing single-phase transactions. The capability of performing dual-phase transactions using tokens, is covered by test cases later in the specification. There is a major rework of the section since the initial version.

In order to avoid collision between the dialogue concerning DCC and any PIN entry during EMV transactions, the Accelerated PIN Entry (APE) and Dankort Accelerated PIN Entry (DAPE) functions **shall be disabled**. This to allow the terminal to handle a DCC dialogue, before the terminal requests PIN entry.

Fintrax, the DCC provider, shall be informed when a test is started. They shall have information on PSAM number, terminal supplier and terminal type.

The test may be executed towards the FTD host simulator, if the terminal is able to collect conversion rates at the same time. This set-up has however **not** been tested, and **no** special scripts has been prepared for this purpose.

Test Case 16.1 - DCC 01: Basic DCC transaction

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: DCC	Conditions: [Attended] AND [DCC]
Requirements tested:	

1-10.13.1.2	DCC only available for Purchase, Original/Extended Authorization and refund.
1-10.13.1.3	The DCC decision shall be taken after the card has been inserted/ swiped.
1-10.13.1.5	The pre-receipt shall show the amount in both the merchant and cardholders currency.
1-10.13.7.1-2	The cardholder shall decide whether or not DCC shall be used.
1-12.3.2.4	DCC pre-receipt shall not contain lines HI1-HI2, but shall contain lines HI3 - HI6.
1-12.3.3.15	DCC pre-receipt shall contain two amount information blocks.

Purpose:
To verify that the terminal is able to let the Cardholder perform a DCC transaction.

<table>
<tr><td>Prerequisites:
The terminal is set up to support DCC transactions.
The standard Fintrax CRT table is loaded into the terminal.
Updated information about currency rates is available.
Access to section 1-10.13 and 1-12.3 of the OTRS as reference.

<i>FTD script:</i> None   <i>Card(s):</i> ICC018   <i>PSAM:</i> PSAM001</td></tr>
<tr><td>Test environment:
<i>FTD Host:</i>   <i>IFS:</i>   <i>Kopi:</i> X</td></tr>
<tr><td>General pass criteria:
It is demonstrated that a basic DCC transaction can be performed.</td></tr>
</table>

<table>
<tr><td>Comments: The test is not based on the FTD but the KOPI. The test case shall be repeated if the terminal handles a display as well as a 'paper-based' cardholder DCC dialog.

Comments: If it is important to save time, then the Test Case DCC_15 should be the first test case executed. This test case requires a un-initialized / too old currency table.</td></tr>
</table>

Step	Actions and assessment	Result	Verdict
1.	Start a purchase transaction and enter amount	Step 2	
2.	Is the terminal set to use a display based DCC selection?	Yes: Step 3 No: Step 5	
3.	Insert **ICC018** (Visa TC01) to continue the transaction. ☞ Is a pre-receipt generated? (see receipt CA (figure 1-12.56)? ☞ Is the format as specified in receipt CA? ☞ Is it marked as non-receipt, line HI4 / HI5? ☞ Does it display the amount in two currencies? ☞ Is the initial currency the Merchants currency? ☞ Is the second currency the Cardholders currency? ☞ Does the pre-receipt state that the selection is final , line DC17 - DC20? ☞ Is it stated that it is a guaranteed exchange rate, line DC22? ☞ In the source of the exchange rate stated, line DC23? ☞ Is the exchange rate inclusive mark up stated, line DC24-DC25?	 Yes: Step 4 No: Case failed.	
4.	Let the Merchant select to perform a DCC transaction and confirm the transaction.	Step 7	

Step	Actions and assessment	Result	Verdict
5.	Insert **ICC018** (Visa TC01) to continue the transaction. ✍ Does the terminal enable DCC entry on Cardholders display? ✍ Does the display show the amount in the Merchants as well as in the Cardholders currency? ✍ Is it possible to select between the currencies? ✍ Is the default selection, the Merchants currency? ✍ Does the display show the exchange rate used? ✍ Is the exchange rate including mark-up?	Yes: Step 6 No: Case failed	
6.	Let the Cardholder select to perform a DCC transaction and confirm the transaction.	Step 7	
7.	✍ Is a Cardholders receipts generated? ✍ Is the Cardholder receipt format as specified in receipt CK, on page 1-12-102? ✍ Is a Merchants receipt, or corresponding log information generated? ✍ Is the Merchant receipt format as specified in receipt CJ on page 1-12-100? ✍ Is the initial amount, initial lines AM2 - AM9 in the Merchants currency? ✍ Is this followed by exchange rate information. Is the source and time stamp of the exchange rate in line DC5 and DC6? ✍ Is the exchange rate, excluding mark-up and mark up, shown in line DC7 - DC9? ✍ Is the service provider shown in line DC12? ✍ Is this followed by the text "Transaction Currency", line DC14? ✍ Is this followed by the amount in the Cardholders billing currency, line AM2 - AM14? ✍ Is there an acceptance statement in lines DC26 -DC34 ? ✍ Is there a footer on the receipt, line FI8, stating "Cardholder's Receipt"?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 16.2 - DCC 02: DCC setup and default behavior

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: DCC	Conditions: [Attended] AND [DCC]

Requirements tested:
1-10.13.7.1-2 The cardholder shall decide whether or not DCC shall be used.
1-10.13.7.10 Pre-receipt shall include the amount, surcharge and total amount.
1-12.3.1.1   A terminal shall use English as the default language

Purpose:
To verify that the terminal will record information about DCC rates in the terminal report, and that the default behavior of the terminal is correct.

Prerequisites:
The terminal is set up to support DCC transactions.
The standard Fintrax CRT table is loaded into the terminal.
Updated information about currency rates is available.
Access to section 1-10.13 and 1-12.3 of the OTRS as reference.

FTD script: None   *Card(s):* ICC018,   *PSAM:* PSAM001

Test environment:

FTD Host: *IFS:*   *Kopi:* X

General pass criteria:
That the currency rates display used are displayed in the terminal report.

Comments: The test is not based on the FTD but the KOPI. The test case does, as of now, only handle a 'paper-based' cardholder DCC dialog.
The default behavior of the terminal is not to perform a DCC transaction.

Step	Actions and assessment	Result	Verdict
1.	☞ Does the terminal support listing of exchange rates?	Yes: Step 2 No: Not Applicable	
2.	Request the terminal to print a list of exchange rates used. (Consult terminal supplier on how to do this) ☞ Does the report contain a list of exchange rates?	Yes: Step 3 No: Case failed	
3.	Start a purchase transaction. Insert **ICC018** (Visa TC01) and continue the transaction until the pre-receipt is generated or the exchange rate is displayed on the Cardholder display. Find the proposed exchange rate and record it. If available, compare the exchange rate from the list of exchange rates to the exchange rate on the pre-receipt. ☞ Is the exchange rate on the display/pre-receipt equal to exchange rate from the list? ☞ Perform a manual re-calculation using the conversion rate. Is the converted amount calculated correctly? ☞ Are the amounts rounded correctly?	Yes: Step 4 No: Case failed.	

Step	Actions and assessment	Result	Verdict
4.	If possible, do not make any selection on the terminal (use default behavior), and proceed with the transaction. ☞ Is the non-DCC behavior selected? ☞ Is the currency used the Merchants currency (normally DKK). ☞ Is the text on the receipt English?	Yes: Step 5 No: Case failed.	
5.	Proceed with the transaction. If necessary accept the cardholders signature. ☞ Is the transaction performed successfully? ☞ Is a (set of) **non**-DCC receipt(s) generated (see figure 1-12.17 or 1-12.21)? (i.e. without information about currency rates and without conversion related surcharges)?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 16.3 - DCC 03: No DCC using national cards

Test date:		Init:	
Problem Report (if any):		**Test case result:**	
Comments:			

Test group: DCC	**Conditions:** [Attended] AND [DCC]

Requirements tested:
Inherent   Not DCC transaction on national card.

Purpose:
To verify that the terminal will not perform DCC transactions on national cards

Prerequisites:
The terminal is set up to support DCC transactions.
The standard Danish Fintrax CRT table is loaded into the terminal.
The terminal and PSAM is set to a DK environment.
Updated information about currency rates is available.
Access to section 1-12.3 of the OTRS as reference for receipt printouts.
Access to section 1-10.13 of the OTRS as reference.

FTD script: None	*Card(s):* ICC001, (ICC016) (MSC010) ICC007	*PSAM:* PSAM001

Test environment:

FTD Host: [X]	*IFS:*	*Kopi:* X

General pass criteria:
It is demonstrated that the terminal can detect and reject DCC on national cards, and perform an ordinary transaction.

Comments: The test is not based on the FTD but the KOPI.
Comments: The detection/rejection of national cards is based on the Fintrax tables. These tables does not support all types of test cards.

Step	Actions and assessment	Result	Verdict
1.	Start a Purchase transaction and Enter amount.	Step 2	
2.	Insert **ICC001** (VisaDankort) and continue the transaction. ☞ A DCC selection display shown or is a pre-receipt generated?	Yes: Case failed No: Step 3.	
3.	Cancel the transaction and remove the card. Start a purchase transaction and enter amount. Insert **ICC007** (Dankort) and continue the transaction. ☞ Is a DCC selection display shown, or is a pre-receipt generated?	Yes: Case failed No: Step 7	
4.	Continue the transaction. ☞ Is the customer requested to confirm the transaction, by entering the PIN? ☞ Is the transaction performed successfully? ☞ Is the receipt a **non**-DCC receipt(see figure 1-12.17 or 1-12-22? (i.e. without information about currency rates and without conversion related surcharges)?	Yes: Step 8 No: Case failed	

Step	Actions and assessment	Result	Verdict
5.	Start a refund transaction. Enter amount. Insert **ICC001** (VisaDankort) and continue the transaction. ☞ Is a pre-receipt generated?	Yes: Case failed No: Step 9.	
6.	Continue with the transaction. ☞ Is the receipt a non-DCC receipt(see receipt type G, figure 1-12.23)?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 16.4 - DCC 04: Purchase, pre-receipt verification

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: DCC	Conditions: [Attended] AND [DCC]

Requirements tested:

1-10.11.7.10   The receipt shall include the amount, surcharge and a total amount.
1-12.3.2.3   A DCC pre-receipt shall contain the same information in the HI-block as a non-DCC transaction.
1-12.3.2.4   A DCC pre-receipt shall contain lines HI3,HI4, HI5 and HI6.
1-12.3.2.6   Text that shall for purchase…. Read.
1-12.3.2.8   Alphabetic currency codes on receipt.
1-12.3.2.9   A DCC pre-receipt shall contain two amounts information blocks.
1-12.3.2.11   Thee shall be the text "OR" between the amounts blocks.
1-12.3.2.12   There shall be a sentence of selection of currency and a sentence on exchange rate.
1-12.3.2.13   The text of a selection currency for a cardholder's pre-receipt.
1-12.3.2.15   The text on exchange rate that shall be on pre-receipt.

Purpose:
To verify the detailed formats of pre-receipts for a DCC transaction.

Prerequisites:
The terminal is set up to support DCC transactions.
Gratuity/extra's is enabled, if this is supported by the terminal.
The standard Fintrax CRT table is loaded into the terminal.
Surcharges is enabled, if this is supported by the terminal.
Updated information about currency rates is available.
Access to section 1-12 of the OTRS as reference for receipt printouts.
Access to section 1-10.13 of the OTRS as reference.

FTD script: None   *Card(s):*ICC003,   *PSAM:* PSAM001

Test environment:

FTD Host: *IFS:*   *Kopi:* X

General pass criteria:
DCC pre - receipts are in the required formats.

Comments: The test is not based on the FTD but the KOPI. The test case does, as of now, only handle a 'paper-based' cardholder DCC dialog.
Comments: The information from this test case is, to some extent used in test case DCC_05. The verification of the actual purchase transaction is performed in DCC_05

Step	Actions and assessment	Result	Verdict
1.	Does the terminal support Verify that gratuity/extras and surcharge is enabled, if this is supported by the terminal (See supplier information on how to do this). Start a purchase transaction and enter amount Insert card **ICC003** (MasterCard multi-application) ☞ Does the terminal support pre-receipt based selection of DCC?	Yes: Step 2. No: Not Applicable	
2.	If necessary, activate pre-receipt based selection of DCC. Verify that gratuity/extras and surcharge is enabled, if this is supported by the terminal (See supplier information on how to do this). Start a purchase transaction and enter amount Insert card **ICC003** (MasterCard multi-application) ☞ Does the terminal allow the Cardholder to to select application on the card?	Yes: Step 3. No: Case failed.	
3.	Select the MasterCard application on the card. Proceed with the transaction. ☞ Is a pre-receipt generated (see figure 1-12.47)?	Yes: Step 4. No: Case failed.	
4.	Cancel the transaction Analyze the pre-receipt ☞ Does the pre-receipt contain a Merchant information (see figure 1-12.47 lines MI1-MI5)? ☞ Does the header information on the receipt contain lines HI3,HI4,HI5 and HI6 (see figure 1-12.47)?	Yes: Step 5. No: Case failed.	
5.	☞ Is this followed by a text stating that the customer have the choice of selecting between two currencies(see figure 1-12.47 lines DC1 - DC3)? ☞ Are the alphabetic currency codes offered the Merchants currency code (normally DKK) and the Billing currency code of the Cardholder?	Yes: Step 6. No: Case failed.	
6.	☞ Is the initial amount stated, the amount in the Merchant currency(see figure 1-12.47 line AM2)? ☞ Is the alphabetic currency code displayed correct? ☞ If there is a surcharge, is the surcharge as well as the total (amount + surcharge) stated on the pre-receipt(see figure 1-12.47 lines AM5,AM8-AM10). ☞ If gratuity / extra can be added, is this followed by lines for Extra and Total (see lines AM11-AM14, these lines may be blank) ☞ Is this entry followed by the text "OR"(see figure 1-12.47 line DC15) emphasized?	Yes: Step 7. No: Case failed.	

Step	Actions and assessment	Result	Verdict
7.	☞ Is the amount on the second part of the pre-receipt, in the billing currency of the cardholder? ☞ Is the alphabetic currency code correct? ☞ Does it contain the same entries as the previous part.	Yes: Step 8. No: Case failed	
8.	☞ Is this followed by a text field specifying that the Cardholder shall make a choice (see figure 1-12.47 lines DC17-DC21)? ☞ Is it stated that this choice is final?	Yes: Step 9. No: Case failed	
9.	☞ Is this followed by a statement of the reference exchange rate and the source of the exchange rate (see figure 1-12.47 lines DC22-DC25)? ☞ Is the reference exchange rate including the mark up? ☞ Is the exchange rate marked as "reference"?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 16.5 - DCC 05: Purchase, receipt verification

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: DCC	**Conditions:** [Attended] AND [DCC]

Requirements tested:

1-12.3.3.19   First block on local currency.
1-12.3.3.20   Second block in Cardholder billing currency.
1-12.3.3.30   Extended exchange rate information.
1-12.3.3.31   Information on conversion provider.
1-12.3.3.32   Header Transaction currency

Purpose:
To verify the detailed formats of the specific fields on the receipts for a DCC trans-
action.

Prerequisites:
The terminal is set up to support DCC transactions.
The standard Fintrax CRT table is loaded into the terminal.
Gratuity/extra's is enabled, if supported by the terminal.
Surcharges is enabled, if this is supported by the terminal.
Updated information about currency rates is available.
Access to section 1-12 of the OTRS as reference for receipt printouts.
Access to section 1-10.13 of the OTRS as reference.

FTD script: None   *Card(s):* ICC018,   *PSAM:* PSAM001

Test environment:

FTD Host: *IFS:*   *Kopi:* X

General pass criteria:
DCC receipts are in the required formats as specified section 1-12.

Comments: The test is not based on the FTD but the KOPI. The test case does, as
of now, only handle a 'paper-based' cardholder DCC dialog.

Step	Actions and assessment	Result	Verdict
1.	Verify that gratuity/extras and surcharges are enabled, if this is supported by the terminal (See supplier information on how to do this). Start a purchase transaction and enter amount. If it is possible to add gratuity, add it as early as possible (This may be in an later stage). Add less than 15% and less than DKK 1000,- Insert card **ICC018** (Visa ADVT 6.0 TC 01)	Step 2.	
2.	Proceed with the transaction. ☞ Is it possible to select currency?	Yes: Step 3. No: Case failed.	
3.	Select to perform a DCC transaction. Continue the transaction, and if necessary en-ter PIN. ☞ Is a receipt generated(see figure 1-12.65)?	Yes: Step 4. No: Case failed.	

Step	Actions and assessment	Result	Verdict
4.	Start to analyze the receipts ; ☞ Does the receipt contain a Merchant Infor-mation(see figure 1-12.65 lines MI1-MI5)? ☞ Does the receipt contain a Header Informa-tion(see figure 1-12.65 line HI10)? ☞ Is this followed by the total amount in the Merchants local currency, line AM2?	Yes: Step 5. No: Case failed.	
5.	Analyze the exchange rate information; ☞ Does it contain a text stating; ♦ the source of the exchange rate, line DC5 ♦ the reference date of the exchange rate, DC6 ♦ the reference exchange rate and DC7, ♦ the mark-up on the exchange rate DC9 ? ☞ Is the exchange rate expressed with at least 4 significant digits? ☞ Is the mark-up expressed with the same decimal position and same number of digits as the rate? ☞ Is it stated that the service provider is 'PBS International' DC12?	Yes: Step 6 No: Case failed.	
6.	Analyze the actual billing information. ☞ Does it start with the text "Transaction Cur-rency", DC14? ☞ Is it followed by line AM2 followed by amount, incl. surcharges, if any (this shall be the amount + surcharges from pre-re-ceipt)? ☞ Does it optionally contain the label 'EXTRA' and any extras / gratuity? ☞ Is it followed by the label 'TOTAL' in line AM7 followed by the sum of the above two amounts. ☞ Is the above line emphasized ☞ Is the currency code used for the billing in-formation the billing currency code of the Cardholder?	Yes: Step 7. No: Case failed.	
7.	Analyze the initial transaction information ☞ Does the four lines follow the format as specified for lines TR2 through TR6 and TR8 of the OTRS?	Yes: Step 8. No: Case failed	
8.	Analyze the Cardholder confirmation field ☞ Does it contain a text stating the accep-tance of DCC, lines DC26 to DC 34? ☞ Is the Merchant name, as listed in DC27, the same as in MI1 of the receipt? ☞ Does it state the same currency in DC 34 as in the transaction currency, second amount block.	Yes: Step 9. No: Case failed	
9.	☞ If this is a signature transaction, is this in-formation followed by a field for the signa-ture of the cardholder SI25 to SI28?	Yes: Step 10. No: Case failed	
10.	☞ Is this followed by transaction information with a format as specified in lines TR9 through TR14?	Yes: Step 11. No: Case failed	

Step	Actions and assessment	Result	Verdict
11.	☞ If the transaction is a signature transaction, is the last line FI8, on the first receipt printed, 'MERCHANTS RECEIPT'? ☞ If the transaction is a signature transaction, is the last line FI8, on the second receipt printed, 'CARDHOLDERS RECEIPT'?	Yes: Step 12. No: Case failed	
12.	Request a (set of) copies of the receipts. ☞ Is the header on the receipt(s) followed by a field, HI1 through HI3 with the text 'COPY' in the format as specified in Figure 1-12-17 of the OTRS?(It is only mandatory that the Cardholders receipt can be copied).	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 16.6 - DCC 06: Refund, (pre)receipt verification

Test date:		Init:	
Problem Report (if any):		**Test case result:**	
Comments:			

Test group: DCC	Conditions: [Attended] AND [DCC]
Requirements tested: 1-10.13.7.8 Currency of original transaction 1-10.13.7.13 The Merchant selects currency for a refund transaction. 1-10.13.7.14 A merchants pre-receipt is generated 1-12.3.2.7 Currency as in original transaction 1-12.3.2.14 Notify Cardholder of amount and currency.	
Purpose: To verify that the set up for a refund transaction, using DCC, can performed.	
Prerequisites: The terminal is set up to support DCC transactions. The standard Fintrax CRT table is loaded into the terminal. Gratuity/extra's is enabled, if this is supported by the terminal. Surcharges is enabled, if this is supported by the terminal. Updated information about currency rates is available. Section 1-10.13 and 1-12.3 of OTRS are available as reference. *FTD script:* None *Card(s):* ICC003, *PSAM:* PSAM001	
Test environment: *FTD Host:* *IFS:* *Kopi:* X	
General pass criteria: Is is demonstrated, that a basic DCC refund transaction can be performed.	

Comments: The test is not based on the FTD but the KOPI.

Step	Actions and assessment	Result	Verdict
1.	Start a refund transaction. Enter amount. Insert card **ICC003** (MasterCard REQ01 M.A.P) ☞ Does the terminal allow the Cardholder **or** Merchant to select an application on the card?	Yes: Step 2. No: Case failed	
2.	Select the MasterCard application on the card. Proceed with the transaction. ☞ Is the Merchant able to select DCC (i.e. to select between using the Merchants currency and the Cardholders billing currency)?	Yes: Step 3. No: Case failed.	
3.	Select to perform the transaction as DCC (using the Cardholders billing currency) ☞ Is the DCC handling "paper-based"?	Yes: Step 4. No: Step 10.	

Step	Actions and assessment	Result	Verdict
4.	Make the terminal generate the pre-receipt. Analyze the header of the merchants pre-receipt; ☞ Does the pre-receipt have the layout as specified for receipt CC on page 1-12-91 in the OTRS? ☞ Are the lines HI4/HI5 with the text "PRE-LIMINARY/THIS IS NOT A RECEIPT" present? ☞ Is this text emphasized? ☞ Is this followed by line HI7 with the text 'REFUND' ☞ Is it followed by line DC1 / DC2 stating to use the same currency as in the original transaction?	Yes: Step 5. No: Case failed.	
5.	Analyze the body of the pre-receipt (only intended for the Merchant); ☞ Is the amount initially stated in the Merchants local currency (normally DKK) in line AM2? ☞ If there is a surcharge, is the surcharge as well as the total (amount + surcharge) stated on the receipt. ☞ Is this entry followed by the text 'OR', line DC15 ?	Yes: Step 6. No: Case failed.	
6.	☞ Is the amount on the second amount block of the pre-receipt, line AM2, in the Cardholder billing currency? ☞ Are the number of fields the same for the for the two amount blocks, lines AM2 -AM14?	Yes: Step 7. No: Case failed	
7.	☞ Is this followed by lines DC17 - DC18 a statement to notify the Cardholder of the amount and the currency?	Yes: Step 8. No: Case failed	
8.	☞ Is there at the bottom of the pre-receipt a statement of the guaranteed exchange rate and the source of the exchange rate, lines DC22 - DC25?	Yes: Step 9. No: Case failed	
9.	Select to perform the transaction in the cardholder billing currency (using DCC). ☞ Is the transaction successful? ☞ Is a set of receipts generated?	Yes: Step 12. No: Case failed.	
10.	☞ Does the terminal show a display prompting the Merchant to select currency? ☞ Does the display show the amount in the Merchants as well as the Cardholders billing currency? ☞ Does the the display show the Reference Exchange Rate? ☞ Is the Merchants currency, the default selection?	Yes: Step 11. No: Case failed	
11.	Select to perform the transaction in the cardholder billing currency (using DCC). ☞ Is the transaction successful? ☞ Is a set of receipts generated?	Yes: Step 12. No: Case failed.	

Step	Actions and assessment	Result	Verdict
12.	Start to analyze the Cardholders receipt, see receipt G and Receipt CJ (there are no specific example of a DCC refund receipt in the OTRS) ☞ Is there a line HI7 with the text "REFUND"? ☞ Are there two blocks of amount information? ☞ Is the currency for the first block the Merchant local currency? ☞ Is the lead in text on line AM2 'REFUND'? ☞ Is this followed by lines DC4 - DC12? ☞ Is this followed by a line DC14 stating "TRANSACTION CURRENCY"? ☞ Is this followed by an amount block in the Cardholders billing currency? ☞ Is the lead-in text in line AM2 "REFUND" ☞ Is there a block SI26 - SI28 with space for the Merchant signature? ☞ Is the block DC26 - DC34 **not** present on the receipt? ☞ Is there a line FI8 stating "Cardholders receipt"?	Yes: Step 13. No: Case failed.	
13.	☞ Does the terminal generate a merchants receipt?	Yes: Step 14. No: Case OK	
14.	Analyze the Merchants receipt. ☞ Is the receipt identical to the cardholders receipt except for; ◆ the signature field, line SI26 - SI28 is omitted (step13)? ◆ the text in the footer line FI8 is 'Merchants receipt'?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 16.7 - DCC 07: Purchase, rejected signature

Test date:		Init:	
Problem Report (if any):		**Test case result:**	
Comments:			

Test group: DCC	**Conditions:** [Attended]
Requirements tested:	

Requirements tested:

1-12.2.10.4   Transaction that is not completed successfully shall have the lines FI1 - FI3

1-12.2.10.8   Receipt shall indicate if the signature was rejected

Purpose:
To verify the behavior of the terminal when a transaction is declined due to a rejected signature.

Prerequisites:
The terminal is set up to support DCC transactions.
Terminal set not to perform auto-confirm on signature.
The standard Fintrax CRT table is loaded into the terminal.
Updated information about currency rates is available.
Access to section 1-10.13 of the OTRS.
Access to section 1-12.2 and 1-12-4 of the OTRS.

FTD script: None   *Card(s):* ICC018,   *PSAM:* PSAM001

Test environment:

FTD Host: *IFS:*   *Kopi:* X

General pass criteria:
DCC receipts are in the required formats.

Comments: The test is not based on the FTD but the KOPI.

Step	Actions and assessment	Result	Verdict
1.	Start a signature purchase transaction and enter amount. Insert card **ICC018** (Visa ADVT 6.0 TC 01) ☞ Is the use of DCC offered?	Yes: Step 2. No: Case failed	
2.	Select to use DCC, and proceed with the transaction. ☞ Is a Merchant receipt printed ? ☞ Is the Merchant requested to confirm the signature?	Yes: Step 3. No: Case failed.	
3.	Reject the signature ☞ Is the transaction declined? ☞ Is a Cardholders receipt printed, with a declined status? ☞ Does the receipt contain all of the lines of receipt T, figure 1-12.36? ☞ Does the receipt not contain a Signature field? ☞ Does line FI2 state "Signature declined"?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 16.8 - DCC 08: Purchase, too large gratuity

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: DCC	**Conditions:** [Attended]

Requirements tested:

(Inherent)   Terminal shall perform normal limit handling on gratuity in DCC mo-
de.

Purpose:
To verify that the terminal in a DCC transaction, will have a correct behavior when
a purchase transaction is declined due to a too large gratuity.

Prerequisites:
The terminal is set up to support DCC transactions.
The standard Fintrax CRT table is loaded into the terminal.
Gratuity/extra's is enabled, if supported by the terminal.
Updated information about currency rates is available.
Access to section 1-10.13 of the OTRS as reference
Access to section 1-12 of the OTRS as reference for receipt printouts.

FTD script: None   *Card(s):* ICC002,   *PSAM:* PSAM001
                                                                ICC018

Test environment:

FTD Host: *IFS:*   *Kopi:* X

General pass criteria:
The terminal will detect the limits for gratuity, even when performing DCC transac-
tions. This limit only applies when the CVM is Signature and the gratuity has been
added **after** the Cardholder has signed the receipt(OTRS section 1-10.14.5, Method
4).

Comments: The test is not based on the FTD but the KOPI.

Comments: The cards selected for the test do both have Signature as preferred
CVM.

Comments: The currently active limits for gratuity are 15%, max. DKK 1000,-.
This limit comes from "Dankort regler" DK 6.2.14. This limit is **not** necessarily man-
datory if the Cardholder is confirming the amount, after the gratuity has been add-
ed.

Comments: The active limits of 15%, max. DKK 1000,- is **not** of the amount used
for purchase, but the sum of the purchase amount and any surcharges, i.e. the
amount printed on the receipt that the cardholder signs.

Step	Actions and assessment	Result	Verdict
1.	☞ Does the terminal support gratuity? ☞ Does the terminal support limits for gratu- ity?	Yes: Step 2. No: Not Applica- ble	
2.	☞ Is gratuity added **before** the customer con- firms amount (by entering PIN or signing a receipt)? ☞ Is it impossible to perform a signature transaction?	Yes: Not Applica- ble No: Step 3	

Step	Actions and assessment	Result	Verdict
3.	Select that the transaction is performed as Mode 4 Tips, (see OTRS 3.2, section 1-10.14.5). Start a purchase transaction. Enter an amount above DKK 100,- Insert **ICC002** (MasterCard) ☞ Is DCC offered?	Yes: Step 4 No: Case failed.	
4.	Select to perform the transaction as DCC . Perform the initial part of the transaction (authorization). Enter an authorization code, if requested. ☞ Is the receipt printed with space for tips entry, line AM10 through AM14? ☞ Is the receipt printed with fields for signature, line SI25 - SI28?	Yes: Step 5 No: Case failed	
5.	Proceed with the 2'nd part of the transaction. Add gratuity of 20% to the amount. ☞ Is the transaction either declined (gratuity too high in %), **or** is an offer for correction of amount available? ☞ If the transaction is declined, is a declined receipt printed? ☞ If it is possible to correct the amount, is it possible to carry through the transaction successfully with a gratuity of 14%? (The terminal should set the limit based on the **sum** of the amount and any surcharges and **not** the amount alone).	Yes: Step 6 No: Case failed.	
6.	Select that the transaction is performed as Mode 4 Tips, (see OTRS 3.2, section 1-10.14.5). Start a purchase transaction. Enter an amount above DKK 8.000,- and below DKK 10.000,-. Insert **ICC018** (Visa) ☞ Is DCC offered?	Yes: Step 7 No: Case failed.	
7.	Select to perform a DCC transaction. Perform the initial part of the transaction (authorization). Enter an authorization code, if requested. ☞ Is the receipt printed with space for tips entry, line AM10 through AM14? ☞ Is the receipt printed with fields for signature, line SI25 - SI28?	Yes: Case OK No: Case failed.	

Step	Actions and assessment	Result	Verdict
8.	Proceed with the 2'nd part of the transaction (capture). Add a gratuity of 14% (amount shall be above absolute limit). ☞ Is the transaction transaction either declined (gratuity too high absolute), **or** is an offer for correction of the amount available? ☞ If the transaction is declined, is a declined receipt printed? ☞ If it is possible to correct the amount, is it possible to carry through the transaction successfully with a gratuity of DKK 990.-?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 16.9 - DCC 09: Purchase, declined

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: DCC	Conditions: [Attended]

Requirements tested:
(Inherent)   Terminal shall perform normal handling for declined transactions.

Purpose:
To verify the that the terminal, in a DCC transaction, will have a normal behavior when a transaction is declined due to a rejected online PIN.

Prerequisites:
The terminal is set up to support DCC transactions.
The standard Fintrax CRT table is loaded into the terminal.
Updated information about currency rates is available.
Access to section 1-10.13 of the OTRS as reference
Access to section 1-12 of the OTRS as reference for receipt printouts.

FTD script: None   *Card(s):*ICC002,   *PSAM:* PSAM001

Test environment:

FTD Host: *IFS:*   *Kopi:* X

General pass criteria:
DCC receipts are in the required formats.

Comments: The test is not based on the FTD but the KOPI.

Step	Actions and assessment	Result	Verdict
1.	Set up the terminal to use forced PIN (consult terminal supplier on how to do it). Start a purchase transaction and enter amount. Insert card **ICC002** (MasterCard, REQ 05) ☞ Is the use of DCC offered?	Yes: Step 2 No: Case failed	
2.	Select to use DCC. Proceed with the transaction. When requested to enter the PIN, enter an **in-correct** PIN. ☞ Is the transaction declined? ☞ Is a declined receipt printed? ☞ Does the receipt hold all of the lines for a non-DCC receipt, see receipt Q, Figure 1-12.33 of the OTRS? ☞ If the receipt holds initial DCC information, are all of the lines DC4 - DC14 present. ☞ If the receipt holds secondary DCC information, are all of the lines DC26 through DC34 present? ☞ Are lines FI1 - FI5 printed on the receipt? ☞ Is line FI8 printed on the receipt?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 16.10 - DCC_10: Purchase, Merchants currency

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: DCC	**Conditions:** [Attended]

Requirements tested:
(Inherent)　　The terminal shall behave normally, when DCC is not selected.

Purpose:
To verify that the 'normal' format of the receipt(s) is used when DCC is not selected.

Prerequisites:
The terminal is set up to support DCC transactions.
The standard Fintrax CRT table is loaded into the terminal.
Gratuity/extra's is enabled, if this is supported by the terminal.
Updated information about currency rates is available.
Section 1-10.13 and 1-12.3 of OTRS are available as reference.

FTD script: None	*Card(s):* ICC018,	*PSAM:* PSAM001

Test environment:

FTD Host:	*IFS:*	*Kopi:* X

General pass criteria:
Non-DCC receipts is in the normal format.

Comments: The test is not based on the FTD but the KOPI

Step	Actions and assessment	Result	Verdict
1.	Start a purchase transaction and enter an amount above floor limit (DKK 5,00). Insert card **ICC018** (Visa TC01) Is DCC offered ?	Yes: Step 2. No: Case failed	
2.	Select **not** to perform a DCC transaction. (use Merchants currency) If possible add gratuity, less than 15 % and less than DKK 1000,- ☞ Is a (merchants) receipt generated?	Yes: Step 3. No: Case failed.	
3.	If necessary, confirm that the Cardholders signature is OK. Start to analyze the merchants receipt; ☞ Is a (merchants) receipt like receipt E in figure 1-12.21 printed? ☞ Does the receipt have the line AM2? ☞ If gratuity has been added, does it have a line AM7 and AM9? ☞ Does the Merchants receipt have a line FI8, as shown in Fig. 1-12-21?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 16.11 - DCC_11: No DCC, when exchange rate is missing

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: DCC	**Conditions:** [Attended]

Requirements tested:
1-10.13.1.1. DCC not offered if table is outdated.

Purpose:
To verify that the terminal will perform a normal transaction when no updated exchange rate is available.

Prerequisites:
The terminal is set up to support DCC transactions.
The standard Fintrax CRT table is loaded into the terminal.
No updated information about currency rates has been available for a prolonged time.
It is **not** possible to fetch updated currency information.

FTD script: None　　　　　　　*Card(s):* ICC002,　　　*PSAM:* PSAM001

Test environment:

FTD Host:　　　　　　　*IFS:*　　　　　　*Kopi:* X

General pass criteria:
Terminal shall not offer DCC unless a valid currency rate is available.

Comments: The test is not based on the FTD but the KOPI.

Comments: This Test Case shall be executed as a stand-alone test or as the first Test Case in a test suite, as it requires that the exchange rate tables are unloaded/expired.

Comments: Disconnect the terminal from the network while setting up the terminal, to ensure that it doesn't collect new table 'behind the back'. Set up the terminal to link to an non-functional rate-collection address for the collection of updated exchange rate tables.

Step	Actions and assessment	Result	Verdict
1.	Ensure that exchange rates tables are expired. (contact terminal supplier on how to achieve this) If necessary power up the terminal. ☞ Is it possible to start a purchase transaction? ☞ Is it possible to enter an amount.	Yes Step 2 No: Case failed	
2.	Insert **ICC002** (MasterCard) and continue the transaction. ☞ Is a possible to select a DCC-transaction?	Yes: Case failed No: Step 3.	
3.	Decline the transaction.	Case OK.	
-	End of test case		

Test Case 16.12 - DCC_12: Refund, Merchants currency

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: DCC	Conditions: [Attended] AND NOT [Cash]

Requirements tested:
1-10.13.8.2   If DCC is an option for the actual card, the terminal shall ask the merchant whether DCC shall be selected or not.

Purpose:
To verify that the 'normal' format of the receipt(s) is used when DCC isn't used in a Refund transaction.

Prerequisites:
The terminal is set up to support DCC transactions.
The standard Fintrax CRT table is loaded into the terminal.
Updated information about currency rates is available.
Access to section 1-12 of the OTRS as reference for receipt printouts.
Access to section 1-10.13 of the OTRS as reference.
FTD script: None   *Card(s):*ICC002,   *PSAM:* PSAM001

Test environment:
FTD Host: *IFS:*   *Kopi:* X

General pass criteria:
The format for non-DCC receipts shall be followed.

Comments: The test is not based on the FTD but the KOPI. The test case does, as of now, only handle a 'paper-based' cardholder DCC dialog.

Comments: The amount used must be 2,- 20,- or 200,- to make the Host return normal data. Amount of 4xx,- or 6xx,- may as well be used.

Step	Actions and assessment	Result	Verdict
1.	Start a refund transaction and enter amount Insert card **ICC002** (MasterCard ordinary) Proceed with the transaction. ☞ Is The cardholder **not** prompted to select DCC? ☞ Is the Merchant able to select DCC (i.e. to select between using the Merchants currency and the Cardholders billing currency)?	Yes: Step 2 No: Case Failed	
2.	Select to perform the transaction as non DCC (using Merchants currency)	Yes: Step 3 No: Case failed.	
3.	Proceed with the transaction. ☞ Is the transaction successful? ☞ Is a at least a Cardholders receipts generated?	Yes: Step 4 No: Case failed.	

Step	Actions and assessment	Result	Verdict
4.	Start to analyze the receipts; ☞ Does the Cardholders receipt follow the format as specified in Figure 1-12.23 of the OTRS? ☞ Is the currency of the transaction the Merchant's local currency? ☞ Are DCC specific lines omitted from the receipt? ☞ If a Merchants receipt is printed, does it follow the format as specified in Figure 1-12-23 except that lines SI16 - SI28 may be omitted and that line FI8 reads "Merchants receipt"?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 16.13 - DCC 13: DCC transaction and early amount

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: DCC	**Conditions:** [Attended]

Requirements tested:

Figure 1-10.16   Handling of request for amount in PDOL

Purpose:
To verify that the terminal will re-initialize the transaction, when an early amount is requested in PDOL.

Prerequisites:
The terminal is set up to support DCC transactions.
The standard Fintrax CRT table is loaded into the terminal.
Surcharges is enabled, if this is supported by the terminal.
Updated information about currency rates is available.
Access to section 1-12 of the OTRS as reference for receipt printouts.
Access to section 1-10.13 of the OTRS as reference.

FTD script: None   *Card(s):* ICC007   *PSAM:* PSAM001
                                             ICC021

Test environment:

FTD Host: *IFS:*   *Kopi:* X

General pass criteria:
It is demonstrated that the transaction is restarted, if an early amount is requested.

Comments: The test is not based on the FTD but the KOPI.

Comments: The expected behavior of the terminal is verified indirectly by analyzing the receipts. A more detailed analysis will require the use of the FTD as host simulator.

Comments: A default 'floor limit' of '0' in the terminal, will cause it to go online, even when offline PIN is supported by the card as well as the terminal.

Step	Actions and assessment	Result	Verdict
1.	Start a **purchase** transaction using **ICC007** (Dankort). Enter the correct PIN, when so requested. ☞ Is the transaction successful?	Yes: Step 2 No: Case failed	
2.	Retrieve the receipt, and record the STAN from the receipt from line TR14, "REF:" The value will be used in a later verification. ☞ Is the receipt an ordinary non-DCC receipt?	Yes: Step 3 No: Case failed.	
3.	Perform a new **purchase** transaction using **ICC021** (VISA ADVT 6.0 TC 14). ☞ Is DCC offered?	Yes: Step 4 No: Case failed.	
4.	Select to perform the transaction using the Cardholders billing currency. If so requested, enter PIN and continue the transaction. ☞ Was it possible to select the Cardholders billing currency?	Yes: Step 5 No: Case failed.	

Step	Actions and assessment	Result	Verdict
5.	If the transaction becomes a Signature transaction, accept the Cardholders signature. ☞ Is the transaction successful?	Yes: Step 6 No: Case failed.	
6.	Retrieve the Cardholders receipt and record the STAN from line TR14. (The value will be used in a later verification). ☞ Is a Cardholders receipt available? ☞ Is the format of the receipt in accordance with Receipt CK in figure 1-12.66?	Yes: Step 7 No: Case failed	
7.	Start a **purchase** transaction using **ICC007** (Dankort). Enter the correct PIN, when so requested. ☞ Is the transaction successful?	Yes: Step 8 No: Case failed	
8.	Retrieve the receipt, and record the STAN, line TR14 from the receipt. (The value will be used in a later verification). ☞ Is the receipt an ordinary non-DCC receipt?	Yes: Step 9 No: Case failed.	
9.	Compare the STAN's on the receipts of the three transactions performed. The STAN's were recorded in steps 2, 6 and 8. Assume that the STAN from the receipt in step 2 is **X.** ☞ Is the STAN from the receipt in step 6 **X+3**? ☞ Is the STAN from the receipt in step 8 **X+5**?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 16.14 - DCC 14: DCC test of currency codes 1

Test date:		Init:	
Problem Report (if any):		**Test case result:**	
Comments:			

Test group: DCC	Conditions: [Attended]
Requirements tested: .(Fintrax) Terminal shall select currency as specified by DCC software.	
Purpose: To verify that the terminal is able to handle all of the supported currencies.	
Prerequisites: Fintrax **test table 01** has been loaded into the terminal. Updated information about currency rates is available. Access to section 1-12 of the OTRS as reference for receipt printouts. Access to section 1-10.13 of the OTRS as reference.	

FTD script: None	*Card(s):* ICC018 ICC022 ICC023 MSC001 MSC011	*PSAM:* PSAM001

Test environment:		
FTD Host:	*IFS:*	*Kopi:* X

General pass criteria: It is demonstrated that the terminal will select the correct currency.

Comments: The test is not based on the FTD but the KOPI.
Comments: It may be necessary to have the terminal supplier to load the DCC test currency table into the terminal. In this case, either two test terminal shall be available, or it shall be possible to load new table into the terminal 'on-the fly'.
Comments: This test case will test for 4 different currencies, the subsequent test, 16.15, DCC - 15 will test for the 3 remaining currencies.

Comments: Card **ICC022** is expired, and may be declined.

Step	Actions and assessment	Result	Verdict
1.	Verify that the correct test currency table is loaded into the current terminal. If necessary consult manufacturer on how to do this. ☞ Is the correct currency table loaded?	Yes: Step 2 No: Case failed	
2.	Start a **purchase** transaction using **ICC018** (VISA ADVT 6.0 TC 01). ☞ Is the terminal offering DCC?	Yes: Step 3 No: Case failed.	
3.	Select to perform the transaction using the Cardholders billing currency. If so requested, enter PIN and continue the transaction. If necessary, accept the cardholders signature. **Note:** the transaction may be declined by the Host. ☞ Was it possible to select the Cardholders billing currency? ☞ Is the currency of the receipt (GBP) correct?	Yes: Step 4 No: Case failed.	

Step	Actions and assessment	Result	Verdict
4.	Start a **purchase** transaction using **ICC022** (VISA old ADVT-16). ☞ Is the terminal offering DCC?	Yes: Step 5 No: Case failed.	
5.	Select to perform the transaction using the Cardholders billing currency. If so requested, enter PIN and continue the transaction. If necessary, accept the cardholders signature. If the transaction becomes a Signature transaction, skip over the Merchants receipt. **Note:** the transaction may be declined by the Host. ☞ Was it possible to select the Cardholders billing currency? ☞ Is the currency of the receipt (GBP) correct?	Yes: Step 6 No: Case failed.	
6.	Start a **purchase** transaction using **ICC023** (VISA ADVT 6.0 TC 02). ☞ Is the terminal offering DCC?	Yes: Step 7 No: Case failed.	
7.	Select to perform the transaction using the Cardholders billing currency. If so requested, enter PIN and continue the transaction. If necessary, accept the cardholders signature. **Note:** the transaction may be declined by the Host. ☞ Was it possible to select the Cardholders billing currency? ☞ Is the currency of the receipt (NOK) correct?	Yes: Step 8 No: Case failed.	
8.	Start a **purchase** transaction using **MSC001** (Master Card magstripe). ☞ Is the terminal offering DCC?	Yes: Step 9 No: Case failed.	
9.	Select to perform the transaction using the Cardholders billing currency. If so requested, enter PIN and continue the transaction. If necessary, accept the cardholders signature. **Note:** the transaction may be declined by the Host. ☞ Was it possible to select the Cardholders billing currency? ☞ Is the currency of the receipt (EUR) correct? ☞ Is the format of the receipts correct?	Yes: Step 10 No: Case failed.	
10.	Start a **purchase** transaction using **MSC011** (Maestro 9). ☞ Is the terminal offering DCC?	Yes: Step 11 No: Case failed.	

Step	Actions and assessment	Result	Verdict
11.	Select to perform the transaction using the Cardholders billing currency.		
	If so requested, enter PIN and continue the transaction. If necessary, accept the cardholders signature.		
	Note: the transaction may be declined by the Host.		
	☞ Was it possible to select the Cardholders billing currency?		
	☞ Is the currency of the receipt (SEK) correct?	Yes: Case OK	
	☞ Is the format of the receipts correct?	No: Case failed.	
-	End of test case		

Test Case 16.15 - DCC 20: DCC test of currency codes 2

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: DCC	**Conditions:** [Attended]
Requirements tested: (Fintrax) Terminal shall select currency as specified by DCC software.	
Purpose: To verify that the terminal is able to handle all of the supported currencies.	
Prerequisites: Fintrax **test table 02** shall be loaded into the terminal. Updated information about currency rates is available. Access to section 1-12 of the OTRS as reference for receipt printouts. Access to section 1-10.13 of the OTRS as reference. *FTD script:* None *Card(s):* ICC020 *PSAM:* PSAM001 ICC022 ICC023 MSC001 MSC011	
Test environment: *FTD Host:* *IFS:* *Kopi:* X	
General pass criteria: It is demonstrated that the terminal will select the correct currency.	

Comments: The test is not based on the FTD but the KOPI.
Comments: It may be necessary to have the terminal supplier to load the DCC test currency table into the terminal. In this case, either two test terminal shall be available, or it shall be possible to load new table into the terminal 'on-the fly'.
Comments: This test case will test for 3 different currencies, the previous test, 16.14 DCC - 14 will test for the 4 initial currencies.
Comments: This test verifies the calculations. The exchange rate provided from Fintrax is **including** the mark-up. This shall be reflected in the calculations.

Comments: Card **ICC022** is expired, and may be declined.

Step	Actions and assessment	Result	Verdict
1.	Verify that the correct test currency table is loaded into the current terminal. If necessary consult manufacturer on how to do this. ☞ Is the currency table loaded correct?	Yes: Step 2 No: Case failed	
2.	Get a listing of the conversion rates loaded, to be able to make a check calculation of exchange rate used. Are the exchange rates available?	Yes: Step 3 No: Case failed	
3.	Start a **purchase** transaction using **ICC018.** (VISA ADVT 6.0 TC 01).Use an amount **below** floor limit to generate an offline transaction. ☞ Is the terminal offering DCC?	Yes: Step 4 No: Case failed.	

Step	Actions and assessment	Result	Verdict
4.	Select to perform the transaction using the Cardholders billing currency. If so requested, enter PIN and continue the transaction. If necessary, accept the cardholders signature. **Note:** the transaction may be declined by the Host. ☞ Was it possible to select the Cardholders billing currency? ☞ Is the currency of the receipt (CHF) correct? ☞ Is the calculated amount correct? (The total amount in cardholders currency is reached by multiplying with the conversion rate, **without** adding any mark-up!)	Yes: Step 5 No: Case failed.	
5.	Start a **purchase** transaction using **ICC022** (VISA **old** ADVT-16). ☞ Is the terminal offering DCC?	Yes: Step 6 No: Case failed.	
6.	Select to perform the transaction using the Cardholders billing currency. If so requested, enter PIN and continue the transaction. If necessary, accept the cardholders signature. **Note:** The transaction may be declined by the Host. **Note:** The currency, JPY, is **special** as there is **no minor currency unit**! ☞ Was it possible to select the Cardholders billing currency? ☞ Is the currency of the receipt (JPY) correct? ☞ Is the format of the receipts correct? ☞ Does the terminal handle the decimal correct? ☞ Are all of the currency fields formatted correctly?	Yes: Step 6 No: Case failed.	
7.	Start a **purchase** transaction using **ICC023** (VISA ADVT 6.0 TC 02). ☞ Is the terminal offering DCC?	Yes: Step 8 No: Case failed.	
8.	Select to perform the transaction using the Cardholders billing currency. If so requested, enter PIN and continue the transaction. If necessary, accept the cardholders signature. **Note:** the transaction may be declined by the Host. ☞ Was it possible to select the Cardholders billing currency? ☞ Is the currency of the receipt (USD) correct? ☞ Is the format of the receipts correct?	Yes: Step 9 No: Case failed.	
9.	Start a **purchase** transaction using **MSC011** (Maestro 9). ☞ Is the terminal **not** offering DCC? (i.e. a normal purchase transaction)?	Yes: Step 10 No: Case failed.	

Step	Actions and assessment	Result	Verdict
10.	If so requested, enter PIN and continue the transaction. If necessary, accept the cardhold-ers signature. **Note:** the transaction may be declined by the Host. ☞ Is the transaction in the Merchants curren-cy? ☞ Is the format of the receipts correct (non-DCC)?	Yes: Step 11 No: Case failed.	
11.	Perform an Advice Transfer (to transfer all of the information to the host). ☞ Are the sent amounts at the host identical to the values on the receipts?	Yes: Case OK No Case failed	
-	End of test case		

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4.17 Prepaid MSC

The test in this section of the OTTS are only applicable if the MSC based prepaid card functionality is implemented in the terminal. This is an optional function. The use of Contactless ICC prepaid cards is handled in other section.

Test Case 17.1 - Prepaid MSC 01: Online load of Prepaid MSC

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: Prepaid MSC	Conditions: [Attended] AND [PrepaidMSC]
Requirements tested: 1-10.9.1.10 Load of a Prepaid MSC	
Purpose: To verify that the terminal is able to perform an online load of a MSC prepaid card.	
Prerequisites: The terminal is set up to support Prepaid MSC. A cash register, if necessary, as a part of the test setup An `empty' MSC prepaid card. Access to the test host at the Issuer Processor. *FTD script:* None *Card(s):* MSC013 *PSAM:* PSAM001	
Test environment: *FTD Host:* *IFS:* *Kopi:* X	
General pass criteria: It is demonstrated that a basic MSC prepaid card load transaction can be performed.	

Comments: The test is not based on the FTD but the KOPI. The test case does, as of now, only handle verification on the PBS side of the transaction.

Comments: The receipt(s) generated shall be stored. They will, if Host side verification is to be performed, be used in Test Case PrepaidMSC_12

Comments: Certain card schemes, does at the present not allow for the load on non-empty prepaid cards (incremental load).

Step	Actions and assessment	Result	Verdict
1.	Request the balance of a prepaid card. Swipe or scan **MSC013**. ☞ Is the balance on the card "0"?	Yes: Step 3 No: Step 2	
2.	Start a purchase using MSC prepaid card **MSC013** with the amount same as balance of the card returned in step 1(empty the card). Complete the transaction. Request the balance of the prepaid card. Swipe or scan **MSC013.** ☞ Is the balance on the card "0"?	Yes: Step 3 No: Case failed	

Step	Actions and assessment	Result	Verdict
3.	Select "Sale of prepaid cards" on the Cash register. Swipe or scan **MSC013**. Enter the 'new' balance on the card and record the amount. ☜ Was it possible to perform the load? ☜ Is a load receipt printed?	Yes: Step 4 No: Case failed	
4.	Inspect the receipt printed, see OTRS fig. 1-12.37 ☜ Is the amount (Refund), field "AM2" on the receipt the same as recorded during step 2? ☜ Is the Card type printed on the receipt, field "TR2", the name of the actual MSC prepaid card scheme like "XYZ card" ☜ Is the Balance, field "PC3" and Expiry date, field "PC4", printed at the bottom of the receipt? ☜ Is the Balance the expected value? ☜ Is the Expiry date the expected value?	Yes: Step 5 No: Case failed.	
5.	Request the balance of a MSC prepaid card. Swipe or scan **MSC013**. ☜ Is a balance receipt printed?	Yes: Step 6 No: Case failed.	
6.	Inspect the balance receipt. ☜ Is the format of the receipt as specified in fig. 1-12.38 of the OTRS i.e.; ☜ Does the receipt contain an empty Amount field "AM2"? ☜ Does the receipt contain the header "HI7" "Authorization only" ☜ Is the Card type printed on the receipt, field "TR2" the name of the actual prepaid card scheme like "XYZ card" ☜ Is the Balance and the Expiry date printed at the bottom of the receipt? ☜ Are the values the same as in step 3.	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 17.2 - Prepaid MSC 02: Purchase using Prepaid MSC

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: MSC Prepaid	**Conditions:** [Attended] AND [PrepaidMSC]

Requirements tested:
1-10.9.1.1.   Pay with a Prepaid MSC
1-10.9.1.2   Balance Inquiry on a Prepaid MSC
1-10.9.1.5   Balance Inquiry generate an Authorization Request
1-10.9.1.8   Payment with a Prepaid MSC shall generate a Purchase Business call.
1-12.2.14.4-5 Receipt format for "Balance amount" and "Expiry Date"

Purpose:
To verify that the terminal is able to let the Cardholder perform a Purchase and a Balance Inquiry using a MSC based prepaid card.

Prerequisites:
The terminal is set up to support Prepaid MSCs.
A cash register, if necessary, as a part of the test setup
A prepaid card with a reasonable known balance.
Access to the test host at the Issuer Processor.
FTD script: None   *Card(s):* MSC013   *PSAM:* PSAM001

Test environment:
FTD Host: *IFS:*   *Kopi:* X

General pass criteria:
It is demonstrated that the basic Prepaid MSC transaction, Balance Inquiry and Pay, can be performed.

Comments: The test is not based on the FTD but the KOPI. The test case does, as of now, only handle verification on the PBS side of the transaction.
Comments: The receipt(s) generated shall be stored. They will, if host side verification is to be performed, be used in Test Case MscPrepaid_11

Step	Actions and assessment	Result	Verdict
1.	Request the **balance** of a Prepaid MSC. Swipe or scan **MSC013**. ☞ Is a balance greater then zero?	Yes: Step 2 No: Load the card	
2.	Select some goods to be purchased, with a total amount less than the balance on the card in step 1. Start a **purchase** and record the amount. Request that the purchase shall be performed using the Prepaid MSC. ☞ Is it possible to start a MSC prepaid transaction?	Yes: Step 3 No: Case failed	
3.	Swipe or scan **MSC013** (Prepaid MSC) to continue the transaction. ☞ Does the Merchant display show a text that the "Purchase is concluded"? ☞ Is a receipt printed?	Yes: Step 4 No: Case failed.	

Step	Actions and assessment	Result	Verdict
4.	Inspect the receipt. ☞ Is the amount (Purchase) on the receipt the same as recorded during step 1? ☞ Is the Card type printed in field "TR2" on the receipt the name of the actual Prepaid MSC scheme like "XYZ card"? ☞ Is the Balance, field "PC3", and Expiry date , field "PC4", printed at the bottom of the receipt (see figure 1-12.45 of the OTRS)? ☞ Is the balance the expected value?	Yes: Step 5 No: Case failed.	
5.	Request the **balance** of a Prepaid MSC. Swipe or scan **MSC013**. ☞ Is a balance receipt printed?	Yes: Step 6 No: Case failed.	
6.	Inspect the balance receipt. ☞ Is the format of the receipt as specified in fig. 1-12.47 of the OTRS i.e.; ☞ Does the receipt contain an empty amount field "AM2"? ☞ Is the Card type printed on the receipt the name of the actual prepaid card scheme like "XYZ card"? ☞ Is the Balance, field "PC3" and the Expiry date,field "PC4", printed at the bottom of the receipt (see figure 1-12.45 of the OTRS)? ☞ Is the balance the same as in step 3.	Yes: Case OK No: Case failed.	
–	End of test case		

Test Case 17.3 - Prepaid MSC 03: Amount in foreign currency

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: MSC Prepaid	Conditions: [Attended] AND [PrepaidMSC]
Requirements tested: 1-10.9.5.1 Process transaction as any other MSC transaction	
Purpose: To verify that the terminal will pass on a Prepaid MSC transaction in a foreign currency, to let it be rejected by the host, and **not** reject it locally.	
Prerequisites: The terminal is set up to support Prepaid MSCs and at least one foreign currency. A cash register, if necessary, as a part of the test setup A prepaid card with a reasonable known balance. Access to the test host at the Issuer Processor. *FTD script:* None *Card(s):* MSC013 *PSAM:* PSAM001	
Test environment: *FTD Host:* *IFS:* *Kopi:* X	
General pass criteria: It is demonstrated that a Prepaid MSC cannot be used for payments in a foreign currency.	

Comments: The test is not based on the FTD but the KOPI. The test case does, as of now, only handle verification on the PBS side of the transaction.
Comments: The receipt(s) generated shall be stored. They will, if Host side verification is to be performed, be used in Test Case MscPrepaid_11

Step	Actions and assessment	Result	Verdict
1.	☞ Does the Terminal and Cash register support payment in one or more foreign currencies?	Yes: Step 2 No: Not Applicable	
2.	Select that the payment is to be made in a foreign currency. Start a **purchase** and record the amount. Select or request that the purchase shall be performed using a Prepaid MSC. Is initiation of the transaction accepted (terminal must not reject the transaction, the issuer processor shall) ?	Yes: Step 3 No: Case failed	
3.	Swipe or scan **MSC013** (Prepaid MSC) to continue the transaction. ☞ Is the transaction declined by the host, and **not** locally by the terminal? ☞ Does the Terminal generate a declined receipt?(There shall be a field TR12 on the receipt with a non-blank and non-zero "STATUS").	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 17.4 - Prepaid MSC 04: Split payment, using credit card

Test date:		Init:	
Problem Report (if any):		**Test case result:**	
Comments:			

Test group: MSC Prepaid	Conditions: [Attended] AND [PrepaidMSC]
Requirements tested:	

Purpose:
To verify that the terminal / cash register integration can handle a payment is split between a Prepaid MSC and an ordinary payment card.

Prerequisites:
The terminal is set up to support Prepaid MSCs.
A cash register, if necessary, as a part of the test setup.
A prepaid card with a known reasonable balance.
Access to the test host at the Issuer Processor.

FTD script: None	*Card(s):* MSC013 ICC001	*PSAM:* PSAM001

Test environment:

FTD Host:	*IFS:*	*Kopi:* X

General pass criteria:
It is demonstrated that split payment, using a Prepaid MSC and a credit card, can be handled.

Comments: The test is not based on the FTD but the KOPI. The test case does, as of now, only handle verification on the PBS side of the transaction.

Comments: The receipt(s) generated shall be stored. They will, if Host side verification is to be performed, be used in Test Case MscPrepaid_11

Step	Actions and assessment	Result	Verdict
1.	☞ Does the terminal system support split payment? (Only a part of the payment is performed with the prepaid card)	Yes: Step 2 No: Not Applicable	
2.	Request the **balance** of a Prepaid MSC. Swipe or scan **MSC013**. ☞ Is the balance information returned?	Yes: Step 3 No: Case failed.	
3.	Select some goods to be purchased, with a total amount **larger** than the balance on the Prepaid MSC, **MSC013**. Make a purchase and record the amount. Request that (a part of) the purchase shall be performed using a Prepaid MSC.	Step 4	
4.	Swipe or scan **MSC013** (Prepaid MSC) to continue the transaction. ☞ Does the Cash register generate a partial transaction using all the available funds on the card? ☞ Is a receipt for the partial payment generated? Is the balance on this receipt "0,00"? ☞ Does the Cash register display a request that the remainder of the amount shall be paid using another source? ☞ Is the remainder calculated correctly?	Yes: Step 5 No: Case failed.	

Step	Actions and assessment	Result	Verdict
5.	Accept that the remainder is handled using another card. Insert **ICC001** (Visa/Dankort). When requested enter specific PIN and <Accept> ☞ Is the transaction successful? ☞ Is the amount correct? (The difference between the value of the purchase and the amount on the prepaid card) ☞ Is a receipt for the remaining amount generated?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 17.5 - Prepaid MSC 05: Amount exceeds balance on card

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: MSC Prepaid	**Conditions:** [Attended] AND [PrepaidMSC]

Requirements tested:

1-10.9.4.1   Declined transaction
1-10.9.4.2   Append supplementary information to receipt
1-10.9.2.1   Analyze the host response

Purpose:
To verify that the terminal will perform an exception handling when the amount is above balance on card.

Prerequisites:
The terminal is set up to support Prepaid MSC.
A cash register, if necessary, as a part of the test setup
A prepaid card with a known reasonable balance.
Access to the test host at the Issuer Processor.

FTD script: None   *Card(s):* MSC013   *PSAM:* PSAM001

Test environment:

FTD Host: *IFS:*   *Kopi:* X

General pass criteria:
It is demonstrated that exception handling is activated, when amount isn't suffi-cient.

Comments: The test is not based on the FTD but the KOPI. The test case does, as of now, only handle verification on the PBS side of the transaction.

Comments: The receipt(s) generated shall be stored. They will, if Host side verifi-cation is to be performed, be used in Test Case MscPrepaid_12

Step	Actions and assessment	Result	Verdict
1.	Request the balance of the MSC prepaid card.Swipe or scan **MSC013**. ✍ Is a receipt printed?	Yes: Step 2 No: Case failed.	
2.	Select some goods to be purchased, with a to-tal amount **larger** than the balance on the MSC prepaid card (MSC013) in Step 1. Start a purchase and record the amount. Request that the purchase shall be performed using a prepaid card. ✍ Does the terminal system support split pay-ment? (Only a part of the payment is per-formed with the MSC prepaid card)	Yes: Step 3 No: Step 5	
3.	Swipe or scan **MSC013** (MSC prepaid card) to continue the transaction. ✍ Does the Cash register generate a partial transaction using all the available funds on the card? ✍ Does the Cash register display a request that the remainder of the amount shall be paid using another source? ✍ Is the remainder calculated correctly?	Yes: Step 4 No: Case failed.	

Step	Actions and assessment	Result	Verdict
4.	Accept that the remainder is handled as cash. ☞ Does the Cash register generate transaction using all the available funds on the MSC prepaid card? ☞ Is this transaction successful. ☞ Does the Cash register generate a receipt covering the full amount (MSC prepaid card + cash)?	Yes: Step 5 No: Case failed.	
5.	Request the **balance** of the MSC prepaid card. Swipe or scan **MSC013**. ☞ Is the balance information returned? ☞ Is the balance on the card zero?	Yes: Case OK No: Case failed.	
6.	Swipe or scan **MSC013** (MSC Prepaid card) to continue the transaction. ☞ Does the Cash register decline the transaction? ☞ Does the ASW show, in FI5 that there is not enough funding (ASW = 12B7)? ☞ Is a receipt generated and does it contain the Balance, field "PC3" and Expiry date, field "PC4", of the amount on the card(see figure 1-12.34 and 1-12.11)?	Yes: Step 6 No: Case failed.	
7.	Request the **balance** of a MSC prepaid card. Swipe or scan **MSC013**. ☞ Is balance information returned? ☞ Is the balance the same as in step 1? (See figure 1-12.38 of the OTRS)	Yes: Case OK No: Case failed.	
–	End of test case		

Test Case 17.6 - Prepaid MSC 06: Alternative card, online

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: MSC Prepaid	**Conditions:** [Attended] AND [PrepaidMSC]

Requirements tested:
1-10.9.5.2   Shall process the transaction as any other transaction.

Purpose:
To verify that the terminal will decline a transaction when the card is a valid Prepaid MSC, but from an issuer / card scheme not supported in the current terminal.

Prerequisites:
The terminal is set up to support Prepaid MSCs.
A cash register, if necessary, as a part of the test setup
Access to a Prepaid MSC from an alternative issuer.
Access to the test host at the Issuer Processor.

FTD script: None	*Card(s):* MSC016	*PSAM:* PSAM001

Test environment:

FTD Host:	*IFS:*	*Kopi:* X

General pass criteria:
It is demonstrated that the terminal will reject the external Prepaid MSCs when being online.

Comments: The test is not based on the FTD but the KOPI. The test case does, as of now, only handle verification on the PBS side of the transaction.

Comments: The receipt(s) generated shall be stored. They will, if Host side verification is to be performed, be used in Test Case MscPrepaid_12

Step	Actions and assessment	Result	Verdict
1.	Start a purchase with an amount within the balance of the Prepaid MSC, **MSC016**. Select or request that the purchase shall be performed using a Prepaid MSC. ☞ Is it possible to initiate the transaction? (The terminal shall not reject the transaction, the issuer processor shall)	Yes: Step 2 No: Case failed	
2.	Swipe or scan **MSC016** (Prepaid MSC, alternate issuer) to continue the transaction. ☞ Does the Terminal reject the card immediately? (prior to host access) ☞ Is the text displayed "Not Accepted"?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 17.7 - Prepaid MSC 07: Offline load of prepaid cards

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: MSC Prepaid	**Conditions:** [Attended] AND [PrepaidMSC]
Requirements tested: 1-10.9.1.12 Offline load a Prepaid MSC.	
Purpose: To verify that the terminal is able to perform an offline load of a Prepaid MSC.	
Prerequisites: The terminal is set up to support Prepaid MSCs. A cash register, if necessary, as a part of the test setup An `empty' prepaid card. Access to the test host at the Issuer Processor.	
FTD script: None *Card(s):* MSC017 *PSAM:* PSAM001 ICC001	
Test environment:	
FTD Host: *IFS:* *Kopi:* X	
General pass criteria: It is demonstrated that a basic Prepaid MSC load transaction can be performed.	

Comments: The test is not based on the FTD but the KOPI. The test case does, as of now, only handle verification on the PBS side of the transaction.

Comments: The receipt(s) generated shall be stored. They will, if Host side verification is to be performed, be used in Test Case Prepaid_13

Comments: Certain card schemes, does at the present not allow for the load on non-empty prepaid cards (incremental load).

Step	Actions and assessment	Result	Verdict
1.	Does the terminal support offline Prepaid MSC loading?	Yes: Step 2 No: Not Applicable.	
2.	Request the balance of a Prepaid MSC. Swipe or scan **MSC017**. (empty card) ✎ Is the balance on the card "0"?	Yes: Step 3 No: Not Applicable.	
3.	Set up the terminal to perform **offline** transactions. (consult terminal supplier on how to do this). ✎ Was it possible to set the terminal to offline state?	Yes: Step 4 No: Not Applicable	
4.	Select "Sale of MSC prepaid cards" on the Terminal /Cash register. Enter a `new' balance on the card and record the amount. ✎ Was it possible to perform the load? ✎ Is a load receipt printed?	Yes: Step 5 No: Case failed	

Step	Actions and assessment	Result	Verdict
5.	Inspect the receipt printed. See OTRS fig. 1-12.46 as reference. ☞ Is the amount on the receipt , in field "AM2" the same as recorded during step 2? ☞ Is the Card type printed on the receipt , field "TR2" the name of the actual prepaid card scheme like "XYZ Prepaid Card" ☞ Are the fields "PC3" Balance and "PC4" Expiry date printed at the bottom of the receipt? ☞ Are the Balance and the Expiry date data blank?	Yes: Step 6 No: Case failed.	
6.	Set up the terminal to perform **online** transactions. (consult terminal supplier on how to do this). ☞ Was it possible to bring the terminal to on-line state?	Yes: Step 6 No: Case failed	
7.	Perform an ordinary purchase using **ICC001**. (The execution of this transaction should cause the the terminal to forward the pending advices to the host.) ☞ Is the transaction successful?	Yes: Step 7 No: Case failed.	
8.	Request the balance of a Prepaid MSC. Swipe or scan **MSC017**. ☞ Is a balance receipt printed?	Yes: Step 8 No: Case failed.	
9.	Inspect the balance receipt ☞ Is the format of the receipt as specified in fig. 1-12.47 of the OTRS i.e; ☞ Does the receipt contain an empty amount-field "AM2"? ☞ Does the receipt contain the header text, "HI7" "Authorization only", ☞ Is the Card type printed on the receipt, field "TR2" the name of the actual prepaid card scheme like "XYZ Prepaid card". ☞ Is the Balance "PC3" and the Expiry date "PC4" printed at the bottom of the receipt (see figure 1-12.47 of the OTRS)? ☞ Is the value of the balance the same as in step 4? ☞ Is the Expiry date, the correct date according to the rules of the card scheme?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 17.8 - Prepaid MSC 08: Offline purchase, prepaid cards

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: MSC Prepaid	Conditions: [Attended] AND [PrepaidMSC]

Requirements tested:
1-10.9.1.11   Offline Pay with a Prepaid MSC

Purpose:
To verify that the terminal is able perform an offline purchase using a Prepaid MSC.

Prerequisites:
The terminal is set up to support Prepaid MSCs.
A cash register, if necessary, as a part of the test setup
A Prepaid MSC with a known reasonable balance.
Access to the test host at the Issuer Processor.

FTD script: None   *Card(s):* MSC013   *PSAM:* PSAM001

Test environment:

FTD Host: *IFS:*   *Kopi:* X

General pass criteria:
It is demonstrated that a basic Prepaid MSC offline transaction can be performed, including the subsequent update of the account at the Issuer Processor.

Comments: The test is not based on the FTD but the KOPI. The test case does, as of now, only handle verification on the PBS side of the transaction.

Comments: The receipt(s) generated shall be stored. They will, if Host side verification is to be performed, be used in Test Case Prepaid_13

Step	Actions and assessment	Result	Verdict
1.	Perform an advice transfer on the terminal (Consult the terminal supplier on how to do this) (This will transfer any pending transactions to the host). Set up the terminal to perform **offline** transactions. (consult terminal supplier on how to do this). ☞ Does the terminal support offline Prepaid MSC handling? ☞ Was it possible to set the terminal to offline state?	Yes: Step 2 No: Not Applicable	
2.	Request the balance of a Prepaid MSC. Swipe or scan **MSC013**. ☞ Is a balance returned?	Yes: Step 3 No: Case failed	
3.	Select some goods to be purchased, with a total amount less than the balance on **MSC013** (Prepaid MSC) in step 2. Make a purchase and record the amount. Request that the purchase shall be performed using the Prepaid MSC. **Note:** The terminal/cash register may request that the total amount of the card is used. ☞ Is it possible to start a MSC prepaid transaction?	Yes: Step 4 No: Case failed	

Step	Actions and assessment	Result	Verdict
4.	Swipe or scan **MSC013** (Prepaid MSC) to continue the transaction. If necessary, set up the terminal to perform **offline** transactions. (consult terminal supplier on how to do this). If the terminal request an authorization code, enter any value. ☞ Does the Merchant display show the text "Purchase concluded"? ☞ Is a receipt printed?	Yes: Step 5 No: Case failed.	
5.	Inspect the receipt printed, see figure 1-12.48 in the OTRS. ☞ Is the Amount on the receipt, field "AM2" the same value as recorded in step 1? ☞ Is the Card type printed on the receipt, field "TR2" the name of the actual prepaid card scheme like "XYZ card"? ☞ Does the receipt, in field "TR8" indicate a Transaction Condition Code of "DC5"? ☞ Are the fields balance "PC3" and expiry date "PC4" blank?	Yes: Step 6 No: Case failed.	
6.	If neccesary, set up the terminal to perform **offline** transactions. (consult terminal supplier on how to do this). Request the balance of a Prepaid MSC. Swipe or scan **MSC013**. ☞ Is a failed transaction receipt printed, see fig. 1-12.33 in the OTRS?	Yes: Step 7 No: Case failed.	
7.	Set up the terminal to perform **online** transactions. (consult terminal supplier on how to do this). Perform an advice transfer on the terminal (consult the terminal supplier on how to do this) (This will transfer any pending transactions to the host) ☞ Was it possible to set the terminal to online state?	Yes: Step 8 No: Not Applicable	
8.	Request the balance of a Prepaid MSC. Swipe or scan **MSC013**. ☞ Is a balance receipt printed?	Yes: Step 9 No: Case failed.	
9.	Inspect the balance receipt. ☞ Is the format of the receipt as specified in fig. 1-12-47 of the OTRS i.e; ☞ Is the Balance "PC3" and the Expiry date "PC4" printed at the bottom of the receipt? ☞ Is the Balance for the card equal to the balance returned in step 2 minus the amount specified in step 3.	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 17.9 - Prepaid MSC 09: Perform Cancellation

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: MSC Prepaid	**Conditions:** [Attended] AND [PrepaidMSC]

Requirements tested:
The terminal shall support cancellation, see section 1-10.2.8.

Purpose:
To verify that the terminal will perform a cancellation with a Prepaid MSC.

Prerequisites:
Access to version section 1-12 of the OTRS.
The terminal is set up to support Prepaid MSCs.
A cash register, if necessary, as a part of the test setup.
A prepaid card with a known reasonable balance.
Access to the test host at the Issuer Processor.

FTD script: None   *Card(s):* MSC013   *PSAM:* PSAM001

Test environment:

FTD Host: *IFS:*   *Kopi:* X

General pass criteria:
It is demonstrated that a transaction using an Prepaid MSC can be cancelled.

Comments: The test is not based on the FTD but the KOPI. The test case does, as of now, only handle verification on the PBS side of the transaction.

Step	Actions and assessment	Result	Verdict
1.	Does the terminal support cancellation transaction?	Yes: Step 2 No: Not Applicable.	
2.	Request the balance of the Prepaid MSC. Swipe or scan **MSC013**. ☞ Is a receipt printed?	Yes: Step 3 No: Case failed.	
3.	Select some goods to be purchased, with a total amount **less** than the balance on the Prepaid MSC (MSC013) in Step 2. Swipe or scan **MSC013** (Prepaid MSC) to continue the transaction ☞ Is the transaction successful?	Yes: Step 4 No: Case failed	
4.	Select to perform a **Cancellation** of the most recent transaction. Confirm the Cancellation. ☞ Is it possible to start the transaction? ☞ Is a (set of) receipt(s) printed?	Yes: Step 5 No: Case failed.	

Step	Actions and assessment	Result	Verdict
5.	Analyze the last (the Cancellation) **Cardholders** receipt printed. (The line numbers listed below are the line numbers from chapter 1-12 of OTRS) ☞ Is there a line HI4 with the text "Cancellation/Annullering"? ☞ Are the two receipts, aside from this, **identical**? ☞ Are the reference numbers on the two receipts, line TR14, the same? ☞ Is this transaction successful.	Yes: Step 6 No: Case failed.	
6.	Request the balance of the Prepaid MSC. Swipe or scan **MSC013**. ☞ Is the balance of the card the same as in step 2?	Yes: Case OK No: Case failed.	
–	End of test case		

Test Case 17.10 - Prepaid MSC 10: Refund to prepaid cards

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: MSC prepaid	**Conditions:** [Attended] AND [PrepaidMSC]

Requirements tested:
1-10.9.1.10   A "Load of a Prepaid MSC" shall generate a Refund.

Purpose:
To verify that the terminal is able to perform a refund to a Prepaid MSC.

Prerequisites:
The terminal is set up to support Prepaid MSCs.
A cash register, if necessary, as a part of the test setup
A Prepaid MSC with a known amount.
Access to the test host at the Issuer Processor.

FTD script: None   *Card(s):* MSC013   *PSAM:* PSAM001

Test environment:

FTD Host: *IFS:*   *Kopi:* X

General pass criteria:
It is demonstrated that a basic Prepaid MSC load transaction can be performed.

Comments: The test is not based on the FTD but the KOPI. The test case does, as of now, only handle verification on the PBS side of the transaction.

Comments: The receipt(s) generated shall be stored. They will, if Host side verification is to be performed, be used in Test Case PrepaidMSC_13

Comments: Certain card schemes, may at the present not allow for refund to non-empty prepaid cards (incremental load).

Step	Actions and assessment	Result	Verdict
1.	Does the card scheme support the load to a non-empty Prepaid MSC?	Yes: Step 2 No: Not Applicable	
2.	Request the **balance** of a Prepaid MSC. Swipe or scan **MSC013**. ☞ Is a balance information returned?	Yes: Step 3 No: Case failed	
3.	Select some goods to be purchased, with a total amount less than the balance on the card in step 2. Start a purchase and record the amount. Request that the purchase shall be performed using the Prepaid MSC. ☞ Is it possible to start a prepaid transaction?	Yes: Step 4 No: Case failed	
4.	Swipe or scan **MSC013** (Prepaid MSC) to continue the transaction. ☞ Does the Merchant display show the text "Purchase concluded"? ☞ Is a receipt printed?	Yes: Step 5 No: Case failed.	

Step	Actions and assessment	Result	Verdict
5.	Select "Refund" on the Cash register. Select an refund amount less than or equal to the amount specified in step 3. Swipe or scan **MSC013** (Prepaid MSC) to continue the transaction. ✍ Was it possible to perform the refund? ✍ Is a refund receipt printed?	Yes: Step 6 No: Case failed	
6.	Inspect the receipt printed, see OTRS fig. 1-12.22 and 1-12.37 ✍ Is the Amount (Refund), field "AM2" on the receipt, the same as recorded during step 2? ✍ Is the Card type printed on the receipt, field "TR2", the name of the actual prepaid card scheme like "XXX card"? ✍ Is there, optionally, a signature field, "SI26" with the text "Merchants signature" ? ✍ Is there, optionally, a Balance "PC3" and an Expiry date "PC4" printed at the bottom of the receipt? (There shall **be either** the signature field, **or** the balance information, **or** both). ✍ Is the balance the expected value?	Yes: Step 7 No: Case failed.	
7.	Request the balance of a prepaid card. Swipe or scan **MSC013**. ✍ Is a balance receipt printed?	Yes: Step 8 No: Case failed.	
8.	Inspect the balance receipt. See OTRS fig. 1-12.47. ✍ Does the receipt contain an empty Amount field "AM2"? ✍ Does the receipt contain the header text "HI7" "Authorization only" ✍ Is the Card type printed, field "TR2" on the receipt the name of the actual prepaid card scheme like "XXX card"? ✍ Is the Balance "PC3" and the Expiry date "PC4" printed at the bottom of the receipt? ✍ Are the values the same as in step 5.	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 17.11 - Prepaid MSC 11: Host transfer verification 1 - 5

Test date:	Init:
Problem Report (if any):	Test case result:
Comments: This test case shall only be executed, if host side verification is possible / to be performed.	

Test group: MSC Prepaid	Conditions: [Attended] AND [PrepaidMSC]
Requirements tested: System level test, beyond OTRS and Prepaid MSC specific requirements.	
Purpose: To verify that the expected host transfers has been performed during a number of the previous tests in this test group.	
Prerequisites: Access to information from the Host test environment at PBS (KOPI). The receipts from the previous test cases in this test group.	
FTD script: None *Card(s):* N.A. *PSAM:* PSAM001	
Test environment:	
FTD Host: *IFS:* *Kopi:* X	
General pass criteria: It is demonstrated that the host side of the transactions is correct.	

Comments: The test is not based on the FTD but the KOPI. The test case does, as of now, only handle verification on the PBS side of the transaction.
Comments: This test cannot be performed unless there is an access to the Host. Equivalent data may be retrieved by monitoring the data transferred from the Terminal/Cash register.

Step	Actions and assessment	Result	Verdict
1.	Access the host (see other documents on how to do this) Select transactions from the actual terminal, based on the PSAM -ID recorded in receipt (s) from Test case PrepaidMSC_02. Select transactions from the test period. ☞ Is it possible to access the data on the host?	Yes: Step 2 No: Not Applicable	
2.	If test case 'PrepaidMSC_02' has been executed, compare the receipts against the host data; ☞ Does the test case generate a MTI = 1200 to the host ? ☞ Is the response to the terminal a MTI=1210? ☞ Is this followed by a MTI=1100 from the terminal, with an amount of '0'. ☞ Is the response from the host a MTI=1110?	Yes: Step 3 No: Case failed.	

Step	Actions and assessment	Result	Verdict
3.	If test case 'Prepaid_05' has been executed, compare the receipts against the host data; ☞ Does the test case generate a MTI=1200? ☞ If the terminal doesn't support a split payment, is the amount the full amount. ☞ If the terminal supports split payment, is the amount the amount on the prepaid card. ☞ If the terminal doesn't supports split payment, is the response to the terminal a MTI=1210 and a AC=116? ☞ If the terminal does supports split payment, is the response to the terminal a MTI=1210 and a AC=0? ☞ Is this followed by a MTI=1100 from the terminal, with an amount of '0'. ☞ Is the response from the host a MTI=1110?	Yes: Step 4 No: Case failed.	
4.	If test case 'Prepaid_03' has been executed, compare the receipts against the host data; ☞ Does test case generate a MTI=1200? ☞ Is the response to the terminal a MTI=1210and a rejected AC (=116?)?	Yes: Step 5 No: Case failed.	
5.	If test case 'Prepaid_04' has been executed, compare the receipts against the host data; ☞ Does the test case generate a MTI=1200? ☞ If the terminal does supports split payment, is the response to the terminal a MTI=1210 and an AC=0? ☞ Is this followed by a MTI=1200 from the terminal, with an amount of equal to the 'remainder'. ☞ Is the response from the host a MTI=1210? and an AC=0?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 17.12 - Prepaid MSC 12: Host transfer verification 6 - 10

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments: This test case shall only be executed, if host side verification is to be performed.	

Test group: MSC Prepaid	Conditions: [Attended] AND [PrepaidMSC]
Requirements tested: System level test, beyond OTRS and Prepaid MSC specific requirements.	
Purpose: To verify that the expected host transfers has been performed during the a number of tests in this test group.	
Prerequisites: Access to information from the Host test environment at PBS (KOPI). The receipts from the previous test cases in this test group.	
FTD script: None *Card(s):* N.A. *PSAM:* PSAM001	
Test environment:	
FTD Host: *IFS:* *Kopi:* X	
General pass criteria: It is demonstrated that the host side of the transactions is correct.	

Comments: The test is not based on the FTD but the KOPI. The test case does, as of now, only handle verification on the PBS side of the transaction.
Comments: This test cannot be performed unless there is an access to the Host. Equivalent data may be retrieved by monitoring the data transferred from the Terminal/Cash register.

Step	Actions and assessment	Result	Verdict
1.	Access the host (see other documents on how to do this) Select transactions from the actual terminal, based on the Terminal-ID recorded in test case PrepaidMSC_02 step 3. Select transactions from the test period. ☞ Is it possible to access the data on the host?	Yes: Step 2 No: Not Applicable	
2.	If test case 'PrepaidMSC_08' has been executed, compare the receipts against the host data; ☞ Does the test case generate a MTI = 1220 to the host ? ☞ Is the response to the terminal a MTI=1230? ☞ Is this followed by a MTI=1120 from the terminal? ☞ Is the response from the host a MTI=1130? ☞ Is this followed by a MTI=1100 from the terminal? ☞ Is the response from the host a MTI=1120?	Yes: Step 3 No: Case failed.	

Step	Actions and assessment	Result	Verdict
3.	If test case 'Prepaid_01' has been executed, compare the receipts against the host data; ☞ Does the test case generate a MTI=1200? ☞ Is the amount, the amount loaded onto the prepaid card. ☞ Is the response to the terminal a MTI=1210 and a AC=0? ☞ Is this followed by a MTI=1100 from the terminal, with an amount of '0'. ☞ Is the response from the host a MTI=1110?	Yes: Step 4 No: Case failed.	
4.	If test case 'Prepaid_07' has been executed, compare the receipts against the host data; ☞ Does the test case generate a MTI = 1220 to the host ? ☞ Is the response to the terminal a MTI=1230? ☞ Is this followed by a MTI=1200 from the terminal? ☞ Is the response from the host a MTI=1210? ☞ Is this followed by a MTI=1100 from the terminal? ☞ Is the response from the host a MTI=1120?	Yes: Step 5 No: Case failed.	
5.	If test case 'MSC Prepaid_10' has been executed, compare the receipts against the host data; ☞ Does the test case generate a MTI=1200? ☞ Is the response to the terminal a MTI=1210 and an AC=0? ☞ Is this followed by a MTI=1200 from the terminal, with an amount of equal to the 'refund+remainder'. ☞ Is the response from the host a MTI=1210? and an AC=0? ☞ Is this followed by a MTI=1100 from the terminal? ☞ Is the response from the host a MTI=1120?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 17.13 - Prepaid MSC 13: Transfer timeout, host

Test date:	Init:
Problem Report (if any):	Test case result:
Comments: This test case is **complementary** to Prepaid MSC 14	

Test group: MSC Prepaid	Conditions: [Attended] AND [PrepaidMSC]
Requirements tested:	
2-5.14.2.16 - 23	Transferring Advices, terminals supporting prepaid cards
1-12.2.11.4 - 5	Receipt format for "Balance amount" and "Expiry Date"

Purpose:
To verify that the terminal, after the failure in the transfer of the Financial Request as part of a Purchase business call, will repeat the request and then send an Reversal Request before performing another Purchase.

Prerequisites:
Access to information from the Host test environment at PBS (KOPI).
Possibility of breaking the connection to PBS without loosing the link.
Access to the test host at the Issuer Processor.

FTD script: None   *Card(s):* MSC013   *PSAM:* PSAM001

Test environment:

FTD Host: *IFS:*   *Kopi:* X

General pass criteria:
It is demonstrated that the terminal will ensure that a reversal from a previous failed transaction is sent before a new transaction is performed.

Comments: The test is not based on the FTD but the KOPI.
Comments: This test cannot be performed unless there is an access to the Host.

Step	Actions and assessment	Result	Verdict
1.	☞ Is it possible to access the log files on the Host?	Yes: Step 2 No: Not Applicable	
2.	Request the **balance** of a Prepaid MSC. Swipe or scan **MSC013**. ☞ Is a balance greater then zero?	Yes: Step 2 No: Load the card	
3.	Select some goods to be purchased, with a total amount less than the balance on the card. Start a purchase and record the amount. Request that the purchase shall be performed using a Prepaid MSC. Swipe or scan **MSC013** (Prepaid MSC) to continue the transaction. ☞ Does the transaction pass, with the Merchant display showing successful transaction? ☞ Is a receipt printed? (Record the Terminal ID and time of execution for use when retrieving data. Keep the receipt for later references).	Yes: Step 3 No: Case failed	

Step	Actions and assessment	Result	Verdict
4.	**Disable** the connection from the Host to the Terminal. (This could be probably achieved by breaking the link from the Host in direction towards the Terminal after the first network node.) Start a purchase using the Prepaid MSC **MSC013** (Prepaid MSC) and record the amount. ☞ Does the transaction fail, with the Merchant display showing an error message? ☞ Is a receipt printed? (Record the time of execution for use when retrieving data. Keep the receipt for later references).	Yes: Step 4 No: Case failed.	
5.	**Enable** the connection from the Host the Terminal again. Swipe or scan **MSC013** (Prepaid MSC) to perform a purchase transaction. ☞ Is the transaction successful, with the Merchant display showing "Purchase concluded"? ☞ Is a receipt printed? (Keep the receipt for later references).	Yes: Step 5 No: Case failed.	
6.	Access the Host (see other documents on how to do this) Select transactions from the actual terminal and test case, based on the Terminal-ID recorded in step 3 of the Test Case and time of transaction. Select transactions from the test period. ☞ Is it possible to access the data on the host?	Yes: Step 6 No: Not applicable	
7.	Analyze the Host data from the first transaction (step2). ☞ Does the transaction from step2 generate a message with an MTI=1200 (and response with MTI=1210)? ☞ Is the time stamp the same, as the time stamp on the receipt from step 1?	Yes: Step 7 No: Case failed.	
8.	Analyze the next set host data (Note, if the cable has been fully unplugged, as part of this step, **skip this step**). ☞ Does the transaction from step 3 generate a message with an MTI=1200, followed by a message with a MTI=1201 and subsequent a message with a MTI = 1420 followed by a repeat message with a MTI= 1421? ☞ Is the time stamp in the repeat the same, as the time stamp on the receipt from step 3?	Yes: Step 8 No: Case failed.	

Step	Actions and assessment	Result	Verdict
9.	Analyze the Host data from the last transaction (step4). ☞ Does the transaction from step 4 generate a message with an MTI=1200 (and response with MTI=1210)? ☞ Is the time stamp the same, as the time stamp on the receipt from step 4? ☞ Is the message followed by a message with a MTI=1421? (The reversal from the message in step3)	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 17.14 - Prepaid MSC 14: Transfer timeout, FTD

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments: This test case is **complementary** to Prepaid MSC 13	

Test group: MSC Prepaid	**Conditions:** [Attended] AND [PrepaidMSC]

Requirements tested:
2-5.14.2.16 - 23 Transferring Advices, terminals supporting prepaid cards 1-10.7.4.1   Terminal shall print the Balance and Expiry Data on the receipt 1-12.2.11.4 - 5   Receipt format for "Balance amount" and "Expiry Date"
Purpose: To verify that the terminal, when no response is received, will generate a reversal and (try to) transmit it to the host before any new (Prepaid MSC) transaction may take place.

Prerequisites:
The terminal is set up to support Prepaid MSCs.
A cash register, if necessary, as a part of the test setup
A Prepaid MSC with a reasonable known balance.
 	
FTD script: Prepaid_14a   *Card(s):*MSC013   *PSAM:* PSAM002
            Prepaid_14b   ICC001
            Prepaid_14c

Test environment: *FTD Host:* X   *IFS:*   *Kopi:*
General pass criteria: It is demonstrated that the correct handling of failed transactions is performed.

Comments: The test is, as the only one in this section, based on the FTD.
Comments: This test case is complementary to Prepaid MSCs 14

Step	Actions and assessment	Result	Verdict
1.	Select FTD script **Prepaid_14a**. Make sure that updates are disabled, i.e. PSAM Personalization = No. (The FTD will reply to the Authorization Request and Financial Advice with MSC Prepaid information) Perform an Advice Transfer. (To flush the PSAM) ☞ Was the Advice Transfer successful?	Yes: Step 2 No: Case Failed	
2.	Select some goods to be purchased. Start a **Purchase** and record the amount. Request that the purchase shall be performed using the prepaid card. ☞ Is it possible to start a prepaid transaction?	Yes: Step 3 No: Case failed	

Step	Actions and assessment	Result	Verdict
3.	Swipe or scan **MSC013** (Prepaid MSC) to continue the transaction. ☞ Is the transaction successful? ☞ Does the Merchant display show the text "Purchase concluded" or equivalent? ☞ Is a receipt printed, and is it in accordance with Figure 1-12.45 of the OTRS? ☞ Is the 'Balance'/'Saldo' on the receipt DKK 234,56 ? ☞ Is the 'Expiry Date'/'Udløbsdato' on the receipt 2009-04 ?	Yes: Step 4 No: Case failed	
4.	Select FTD script **Prepaid_14b**. Make sure that updates are disabled, i.e. PSAM Personalization = No (The FTD will now **not** reply to the Financial Request and the Reversal Advice). Perform an Advice Transfer. (To flush the PSAM) ☞ Was the Advice Transfer successful?	Yes: Step 5 No: Case Failed	
5.	Select some goods to be purchased using the Prepaid MSC, with a total amount less than the balance on the card. Make a **Purchase** and record the amount. Request that the purchase shall be performed using the Prepaid MSC. ☞ Is it possible to start a MSC prepaid transaction?	Yes: Step 6 No: Case failed	
6.	Swipe or scan **MSC013** (Prepaid MSC) to continue the transaction. ☞ Does the transaction fail? ☞ Is a receipt printed, according to fig. 1-12.33 of the OTRS? ☞ Does the terminal generate a time-out, and gets ready for a new transaction?	Yes: Step 7 No: Case failed	
7.	Select FTD script **Prepaid_14c**. Make sure that updates are disabled, i.e. PSAM Personalization = No. (this will restore the response from the host). Perform an **ordinary** purchase, using **ICC001**. Record the STAN from the receipt. ☞ Is the transaction successful?	Yes: Step 8 No: Case failed	
8.	Perform an Advice Transfer. Check the first detailed log file on the FTD. Find the Financial Request (MTI=0206) related to the transaction in step 3. ☞ Is the STAN the same as recorded in Step 3?	Yes: Step 9 No: Case failed	

Step	Actions and assessment	Result	Verdict
9.	Continue to check the log files on the FTD.(there will be multiple files, as the FTD has been started multiple times) Find the next transaction in the log files. ☞ Is the transaction a Financial Request (MTI=0206)? ☞ Is the STAN one higher than the STAN from step 8? ☞ Is the Financial Request followed by a Financial Request Repeat (MTI=0207)? ☞ Is the STAN in the Financial Request Repeat the same as the STAN in the Financial Request?	Yes: Step 10 No: Case failed	
10.	Continue the check of the log file(s); ☞ Is the Financial Request / Request Repeat pair followed by a Reversal Advice (MTI = 0426)? ☞ Is this again followed by an Reversal Advice Repeat (MTI=0427)?	Yes: Step 11 No: Case failed	
11.	Continue the check of the log file(s); ☞ Is the initial Reversal Advice Repeat (MTI=0427) followed by an Authorization Request (MTI = 0106) and Authorization Request Response (MTI = 0107) with the STAN from step 7? ☞ Is the Authorization Request/Response pair followed by a Reversal Advice Repeat (MTI = 0427) identical to the transfer in step10? ☞ Is this followed by an Advice Transfer Request / Response pair (MTI = 0804/0814) (from step 8)?	Yes: Case OK No: Case failed.	
12.	Continue the check of the log file. ☞ Is this followed by a Financial Advice (MTI=0226), with a STAN as recorded in step 7?	Yes: Case OK No: Case failed	
-	End of test case		

4.18 Token and DCC

The test in this section are applicable to terminals implementing dual-phase (token) and optionally Dynamic Currency Conversion, DCC, capability. Verification of single phase transaction DCC transactions is performed by the test cases in section 4.16 DCC.

In order to avoid collision between the dialogue concerning DCC and any PIN entry during an EMV transactions, the Accelerated PIN Entry (APE) and Dankort Accelerated PIN Entry (DAPE) functions shall be disabled in terminals supporting DCC. This to allow the terminal to handle the DCC dialogue, before the terminal requests PIN entry.

Most of the test cases in this section can be executed against the KOPI test environment as well. The depth of verification will however be limited if there isn't access to verification of the messages sent to the hosts.

Test Case 18.1 - Token and DCC 01: Booking, Intl. card

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: Token and DCC	Conditions: [Attended]AND [Token] AND [KeyEntered]
Requirements tested:	
1-10.12.1.1 When a booking or reservation is initiated, the hotel may validate the authenticity of the card data received from the customer. 1-10.12.1.2 To validate the card data received, the hotel shall perform an AUTHORIZE with a amount of 1 major unit of the local currency (like 1,00 DKK). The card data is key entered. 1-10.12.1.3 The result of the AUTHORIZE (i.e. the Token received from the PSAM) shall not be stored. How to skip the storage may depend on the actual implementation.	
Purpose: To verify that the terminal is able to generate a booking, using key entered information.	
Prerequisites: The terminal is set up to support key entered card data. Access to the OTRS Access to card data for key entry (OTTS section 3.6.3)	
FTD script: DCC2_01	*Card(s):* MSC001 *PSAM:* PSAM002
Test environment:	
FTD Host: X	*IFS:* *Kopi:* (X)
General pass criteria: It is demonstrated that a basic card validation can be performed.	

> **Comments:** This test may be performed against the KOPI test environment as well, verifying the information on the host, instead of verifying information in the FTD log. The PSAM shall then be changed to PSAM001. The detailed test steps for such a setup are not included.
>
> **Comments:** A booking is a transaction that checks for the validity of the card without reserving an amount on the card.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **DCC2_01**. Make sure that updates are disabled, i.e. PSAM Personalization = No. Start a booking transaction. Enter Card data using Key entered information for **MSC001** (Int. Master card). Note: The terminal should not offer DCC as the amount is to small. This is a recommendation, not a requirement. ☞ Is the booking transaction successful?	Yes: Step 2 No: Case failed	
2.	If possible, retrieve the information about tokens stored on the terminal (Ask terminal supplier how to do this) else skip to step 3. ☞ Has the booking transaction generated a token?	Yes: Case failed No: Step 3	
3.	Inspect the detailed log file on the FTD, looking for an Authorization Request. ☞ Does the file contain an Authorization Request? ☞ Is the MTI of the Auth Req. = 0106, (hex 30313036) ☞ Is Field 2 of the message the PAN, encoded in LVAR format? ☞ Is Field 4 of the message the amount, encoded as BCD, and with a value of 100? ☞ Is Field 21 (POS capability code) position 1 = `5'?    ☞ Is Field 49, the currency code, the merchants currency code, like `0208' (for Denmark)?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 18.2 - Token and DCC 02: Reservation, Natl. card

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Token and DCC	**Conditions:** [Attended] AND [Token] AND [KeyEntered]

Requirements tested:

1-10.12.1.4　To obtain a guarantee the hotel shall perform an AUTHORIZE with an estimated amount. The card data are key entered.

Purpose:
To verify that the terminal is able to handle a reservation, using a non-DCC card.

Prerequisites:
The terminal is set up to support DCC transactions.
Access to card data for key entry (OTTS section 3.6.3).

FTD script: DCC2_02　　　　　　*Card(s):*ICC007,　　　*PSAM:*PSAM002

Test environment:

FTD Host: X　　　　　　　　*IFS:*　　　　　　*Kopi:* (X)

General pass criteria:
That a reservation can be performed.

Comments:

⬦ The test may be performed against the KOPI test environment as well, verifying the information on the host, instead of verifying information in the FTD log. The PSAM shall then be changed to PSAM001. The detailed test steps for such a set-up are not included.

⬦ The token generated here, may be used in test case DCC2 05 Reservation, No-show payment

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **DCC2_02**. Make sure that updates are disabled, i.e. PSAM Personalization = No. Start a reservation transaction. Enter Card data using Key entered information for **ICC007** (Dankort). ☞ Is DCC (selection of currency) not offered? ☞ Is the reservation transaction successful?	Yes: Step 2 No: Case failed	
2.	If possible, retrieve the information about tokens stored on the terminal (Ask terminal supplier how to do this). ☞ Has the reservation transaction generated a token?	Yes: Step 3 No: Case failed	

Step	Actions and assessment	Result	Verdict
3.	Inspect the detailed log file on the FTD, looking for an Authorization Request.		
	☞ Does the file contain an Authorization Request?		
	☞ Is the MTI of the Auth Req. = 0106, (hex 30313036)		
	☞ Is Field 2 of the message the PAN, encoded in LVAR format?		
	☞ Is Field 4 of the message the amount, encoded as BCD?		
	☞ Is the value equal to the value (pre)set for reservations?		
	☞ Is Field 21 (POS capability code) position 1 =`5'?		
	☞ Is Field 22 (POS entry mode) position 3 = `6'?		
	☞ Is Field 47 with a tag "TX" **not** present i the data?		
	☞ Is Field 49, the currency code, the Merchants local currency code, like `0208' for Denmark?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 18.3 - Token and DCC 03: Reservation, International Card, billing Currency

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Token and DCC	**Conditions:** [Attended] AND [Token] AND [KeyEntered]
Requirements tested:	
1-10.12.1.4 To obtain a guarantee the hotel shall perform an AUTHORIZE with an estimated amount. The card data are key entered.	
Purpose:	
To verify that the terminal, if it is implemented, is able to handle DCC at a reservation, when using an international card.	
Prerequisites:	
The terminal is set up to support DCC transactions. Updated information about currency rates is available. Access to the OTRS Access to card data for Key Entry (OTTS section 3.6.3).	
FTD script: DCC2_03 *Card(s):* ICC002, *PSAM:* PSAM002	
Test environment:	
FTD Host: X *IFS:* *Kopi:* (X)	
General pass criteria:	
A reservation can be performed using DCC.	

Comments:
◆ The test may be performed against the KOPI test environment as well, verifying the information on the host, instead of verifying information in the FTD log. The PSAM shall the be changed to PSAM001. The detailed test steps for such a setup are **not** included.
◆ A terminal offering DCC may offer DCC for reservations as well, but this is no requirement
◆ The token generated here may be used as input to Test Case DCC2 04, Cancellation of reservation.

Step	Actions and assessment	Result	Verdict
1.	☞ Does the terminal support DCC during reservations?	Yes: Step 2 No: Not Applicable	
2.	Select the FTD host script **DCC2_03**. Make sure that updates are disabled, i.e. PSAM Personalization = No. Start a reservation transaction. Enter Card data using key entered information for **ICC002** (MasterCard REQ05). ☞ Is DCC offered?	Yes: Step 3 No: Case failed	
3.	Select to use the customers billing currency. ☞ Is information about amount now stated in the customers billing currency? ☞ Is the reservation transaction successful?	Yes: Step 4 No: Case failed	

Step	Actions and assessment	Result	Verdict
4.	Keep information about amount, currency and token reference from the transaction, for use in later test cases. Retrieve the information about tokens stored on the terminal (Ask terminal supplier on how to do this) ☞ Has the booking transaction generated a token?	Yes: Step 5 No: Case failed	
5.	Inspect the detailed log file on the FTD, looking for an Authorisation Request. ☞ Does the file contain a Authorisation Request? ☞ Is the MTI of the Auth Req. = 0106, (hex 30313036) ☞ Is Field 2 of the message the PAN, encoded in LVAR format?	Yes: Step 6 No: Case failed.	
6.	Continue the inspection of the detailed log file on the FTD. ☞ Is Field 4 of the message the amount in the customers billing currency, encoded as BCD? ☞ Is the value equal to the value (pre)set for reservations? ☞ Is Field 21 (POS capability code) position1 =`5'? ☞ Is Field 21 (POS capability code) position 2=`1'? ☞ Is Field 22 (POS entry mode) position 3=`6'? ☞ Is Field 47 Tag "TX" a part of the message? ☞ Is Field `49', the currency code, the Cardholder billing currency and **not** the Merchant local currency?	Yes: Step 7 No: Case failed.	
7.	Continue the inspection of Field 47 Tag "TX" in the detailed log file on the FTD, see table 1-10.12 in the OTRS. ☞ Is the Additional info tag "ZW"? ☞ Is the DCC indicator by default `0001'? ☞ Are the amounts in the Merchant local currency? ☞ Is the DCC CURR the currency code and exponent of the Merchant Local currency?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 18.4 - Token and DCC 04: Reservation, Cancellation of Reservation

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: DCC and Token	Conditions: [Attended] AND [Token] AND [KeyEntered]
Requirements tested: 1-10.12.1.10 If an invalid Authorization is available, the sales assistant shall instead be guided to perform a RELEASE followed by a MAKE PURCHASE.. 1-10.12.1.11 If the amount covered by the Authorization is not sufficient compared to the invoice amount, an ADD AUTHORIZATION may automatically or manually be initiated as part of the FINALIZE function..	
Purpose: To verify that the terminal is able to cancel a reservation, when using an international card.	
Prerequisites: The terminal is set up to support DCC transactions. Access to the OTRS Updated information about currency rates is available. *FTD script:* DCC2_04 *Card(s):*ICC002, *PSAM:* PSAM002	
Test environment: *FTD Host:* X *IFS:* *Kopi:* (X)	
General pass criteria: That reservations can be cancelled and the corresponding token is deleted.	

Comments:
⬦ The test may be performed against the KOPI test environment as well, verifying the information on the host, instead of verifying information in the FTD log. The PSAM shall then be changed to PSAM001. The detailed test steps for such a set-up are **not** included.
⬦ The token needed here may be available from the previous test case DCC2 03, Reservation, international card, billing currency.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **DCC2_04**. Make sure that updates are disabled, i.e. PSAM Personalization = No. ☞ Is a token available from a previous reservation (Test case DCC2, 03)?	Yes: Step 4 No: Step 2	
2.	Start a reservation transaction. Enter Card data using key entered information for **ICC002** (MasterCard REQ05). If DCC is offered, select the customers billing currency. ☞ Is the reservation transaction successful?	Yes: Step 3 No: Case failed	

Step	Actions and assessment	Result	Verdict
3.	Inspect the detailed log file on the FTD, looking for an Authorization Request Response. ☞ Does the file contain 1 Authorization Request Response? ☞ Is the MTI of the Auth Req. Resp.= 0116, (hex 30313136)? ☞ Is there a Field 38 with an Approval Code (Record the Approval code for later use)?	Yes: Step 4 No: Case failed	
4.	Generate a cancellation of the reservation. ☞ Does the cancellation require an identification of the token to remove? ☞ Is the cancellation successful?	Yes: Step 5 No: Case failed	
5.	Perform an Advice transfer (to get the data from the terminal). Inspect the detailed log file on the FTD, looking for an Reversal Advice. ☞ Does the log file contain one Reversal Advice? ☞ Is the MTI of the Rev. Adv. = 0426, (hex 30343236) ☞ Is Field 4 of the message the Amount? ☞ Is the Amount recorded here the same as in (i.e. identical to) the corresponding Auth.Req.?	Yes: Step 6 No: Case failed	
6.	Continue the inspection of the detailed log file on the FTD, ☞ Is there a Field 38, Approval code? ☞ Is the value of the Approval code, the same as recorded from the Authorization Request Response? ☞ Is Field 21 (POS capability code) position1 = `5'? ☞ If Field 49, the currency code, the same as used during the Authorization Request?	Yes: Step 7 No: Case failed.	
7.	Inspect the token storage of the terminal(consult the supplier on how to do this). ☞ Is the token no longer available for Capture?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 18.5 - Token and DCC 05: No-show Payment

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: Token and DCC	Conditions: [Attended] AND [Token] AND [KeyEntered]

Requirements tested:

1-10.12.1.10 If an invalid Authorization is available, the sales assistant shall instead be guided to perform a RELEASE followed by a MAKE PUR-CHASE.

1-10.12.1.12 If no Authorization is available, the sales assistant should be guided to perform a MAKE PURCHASE.

Purpose:
To verify that the terminal is able to generate a no-show payment .

Prerequisites:
A reservation has been made, and a token generated.
Access to the OTRS
Access to card data for key entry (OTTS section 3.6.3)

FTD script: DCC2_05	*Card(s):* ICC007	*PSAM:* PSAM002

Test environment:

FTD Host: X	*IFS:*	*Kopi:* (X)

General pass criteria:
That no-show payments, without token can be performed.

Comments:

♦ The test may be performed against the KOPI test environment as well, verifying the information on the host, instead of verifying information in the FTD log. The PSAM shall then be changed to PSAM001. The detailed test steps for such a set-up are **not** included.

♦ The transaction shall be a Key Entered purchase transaction.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **DCC2_05**. Make sure that updates are disabled, i.e. PSAM Personalization = No.	Step 2	
2.	Start a No-show transaction. If needed, select that no token data are available. Enter Card data using key entered information for **ICC007** (Dankort). ☞ Is the No-show transaction successful?	Yes: Step 3 No: Case failed	
3.	Inspect the detailed log file on the FTD, looking for a Financial Request. ☞ Does the log file contain 1 Financial Request? ☞ Is the MTI of the Financial Request = 0206 (hex 30323036) ☞ Is Field 4 of the message the Amount expected?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 18.6 - Token and DCC 06: Check-in, Intl. card, ICC, Sign, Check-out

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Token and DCC	**Conditions:** [Attended] AND [Token]

Requirements tested:

1-10.12.1.5　If any Authorization has been completed before the guest arrives, this Authorization shall be released, either automatically as part of the AUTHORIZE flow or by selecting RELEASE

1-10.12.1.10　If an invalid Authorization is available, the sales assistant shall instead be guided to perform a RELEASE followed by a MAKE PUR-CHASE.

1-10.12.1.11　If the amount covered by the Authorization is not sufficient compared to the invoice amount, an ADD AUTHORIZATION may automatically or manually be initiated as part of the FINALIZE function.

Purpose:
To verify that the terminal is able to handle the flow; check-in and check-out.

Prerequisites:
none

FTD script: DCC2_06	*Card(s):* ICC002,	*PSAM:* PSAM002

Test environment:

FTD Host: X	*IFS:*	*Kopi:* (X)

General pass criteria:
That a full token transaction flow can be handled.

Comments:

◆ The test may be performed against the KOPI test environment as well, verifying the information on the host, instead of verifying information in the FTD log. The PSAM shall then be changed to PSAM001. The detailed test steps for such a set-up are **not** included.

◆ Use an amount **below** floor limit (DKK 100,-) when running against the FTD. This to avoid to generate the special MasterCard cryptogram on the host to the card.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **DCC2_06**. Make sure that updates are disabled, i.e. PSAM Personalization = No. ☞ Does the terminal support DCC?	Yes: Step 2 No: Step 4	
2.	Perform a Check-in, using **ICC002** in the normal way, inserting the card in the reader. Use an amount **below** the floor limit. ☞ Is it possible to initiate the transaction? ☞ If the terminal supports receipt based DCC selection is an authorisation pre-receipt generated, offering the customer DCC (according to DCC Receipt CB figure 1-12.57)? ☞ If the terminal supports display based DCC selection, is a currency selection menu displayed on the Cardholders display? ☞ Are the proper currencies offered?	Yes: Step 3 No: Case failed	

Step	Actions and assessment	Result	Verdict
3.	Select that the transaction shall be performed in the cardholders billing currency. ☞ Is the transaction successful? ☞ Is a cardholder authorisation receipt generated (according to DCC-receipt CF, figure 1-12.61)? ☞ Does the TCC on the receipt show that this is a ICC and Signature transaction. ☞ Is it offering the correct currency? ☞ If a merchant authorisation receipt is generated? ☞ Is it according to DCC-receipt CE, figure 1-12.60?	Yes: Step 5 No: Case failed	
4.	Perform a Check-in, using **ICC002** in the normal way, inserting the card in the reader. Use an amount **below** the floor limit. ☞ Is it possible to initiate the transaction? ☞ Is the transaction in the Merchants Local currency? ☞ Is, as it is a signature transaction, a merchant receipt generated? ☞ Is the format of the receipt according to receipt E, figure 1-12.21? ☞ Is a cardholder authorisation receipt generated according to receipt J, figure 1-12.26?	Yes: Step 3 No: Case failed	
5.	Inspect the token storage of the terminal. ☞ Has a new token been generated for the check-in / authorisation (Consult terminal supplier on how to do this)?	Yes: Step 6 No: Case failed	
6.	☞ Does the terminal support DCC?	Yes: Step 7 No: Step 8	
7.	Perform a Check-out, using the previously generated token information (from step3 / step4). ☞ Is it possible to perform the check-out transaction? ☞ Is a merchants receipt generated (according to DCC-receipt CH, figure 1-12.63)? ☞ Is a cardholders receipt generated (according to DCC-receipt CI, figure 1-12.64)?	Yes: Step 9 No: Case failed	
8.	Perform a Check-out, using the previously generated token information (from step3 / step4). ☞ Is it possible to perform the check-out transaction? ☞ Is a cardholders receipt generated (like receipt B or F, figure 1-12.18 or 1-12.22)?	Yes: Step 9 No: Case failed	
9.	Inspect the token storage of the terminal. ☞ Has the token used been removed?	Yes: Step 10 No: Case failed	

Step	Actions and assessment	Result	Verdict
10.	Perform an Advice Transfer (to get the data from the terminal). Inspect the detailed log file on the FTD, looking for the transactions. ☞ Does the log file contain the following in transaction? ◆ A Financial Advice	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 18.7 - Token and DCC 08: Reservation, Check-in (No Card), Check-out

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: Token and DCC	Conditions: [Attended] AND [Token] AND [KeyEntered]

Requirements tested:

1-10.12.1.6   If any Authorization has been completed before the guest arrives, this Authorization may still be valid. The sales assistant should be guided to perform an ADD AUTHORIZATION instead, if the Authorization is still valid, but the amount shall be increased.

1-10.12.1.7   If an invalid Authorization already exists, this Authorization shall be released, either automatically as part of the AUTHORIZE flow or by selecting RELEASE.

Purpose:
To verify that the terminal is able to handle the flow; reservation, check-in and check-out, using key entered data. This includes that the token from the reservation is cancelled when check-in is performed.

Prerequisites:
The terminal is set up to support key entered card data.
Access to OTRS
Access to card data for key entry (OTTS section 3.6.3)

FTD script: DCC2_08   *Card(s):* ICC002,   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:* (X)

General pass criteria:
That the full token transaction flow can be handled, even with key entered check-in.

Comments:

- ♦ A terminal offering DCC may offer DCC for reservations as well, but this is no requirement.
- ♦ A terminal may be able to handle a key entered check-in, but this is no requirement.
- ♦ The test may be performed against the KOPI test environment as well, verifying the information on the host, instead of verifying information in the FTD log. The PSAM shall the be changed to PSAM001. The detailed test steps for such a setup are **not** included.

Step	Actions and assessment	Result	Verdict
1.	☞ Does the terminal support key entered check-in?	Yes: Step 2 No: Not Applicable	
2.	Select the FTD host script **DCC2_08**. Make sure that updates are disabled, i.e. PSAM Personalization = No. Start a Guaranteed Reservation transaction. Enter Card data using key entered information for **ICC002** (Master Card International) If DCC is offered, use default currency, i.e. merchant currency. ☞ Is the reservation transaction successful? ☞ Is a token generated and stored accessible to the terminal?	Yes: Step 3 No: Case failed	
3.	Perform a Check-in, using key entered information from **ICC002**. ☞ Is it possible to perform the transaction? ☞ If the terminal generates a receipt for the cancellation of the previous authorization (reservation), is the receipt then according to receipt L, figure 1-12.28? ☞ Is an authorizations receipt, according to receipt I, figure 1-12.25, generated? ☞ Is the TCC in the receipt, line TR8 showing that this is a key entered transaction (TCx)	Yes: Step 4 No: Case failed	
4.	Inspect the token storage of the terminal. ☞ Has the token from the reservation been removed? ☞ Has a new token been generated for the check-in / authorization?	Yes: Step 5 No: Case failed	
5.	Perform a Check-out, using the previously generated token information (from step 3). ☞ Is it possible to perform the check-out transaction? ☞ Is a merchants receipt generated according to receipt M, figure 1-12.29? ☞ Does the receipt state the same TCC as used in the authorization? ☞ Is a cardholders receipt generated according to receipt N, figure 1-12.30?	Yes: Step 6 No: Case failed	
6.	Inspect the token storage of the terminal. ☞ Has the token used been removed?	Yes: Step 7 No: Case failed	

Step	Actions and assessment	Result	Verdict
7.	Perform an Advice transfer (to get the data from the terminal). Inspect the detailed log file on the FTD, looking the transactions. ☞ Does the log file contain the following in transactions, in order? ♦ An Authorization Request (a) ♦ A Reversal Advice (b) ♦ Another Authorization Request (c) ♦ A Financial Advice (d) ☞ Is the Approval code, Field 38, in the Reversal Advice (b) the same as the Approval code returned in the response to the initial Authorization Request (a)? ☞ Is the Approval code, Field 38, of the Financial Advice (d) the same as the Approval code returned in the response to the second Authorization Request (c)?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 18.8 - Token and DCC 09: Reservation, Check-in, Oth.card, ICC, Sign, Check-out

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: Token and DCC	Conditions: [Attended]AND [Token] AND [KeyEntered]

Requirements tested:

1-10.12.1.5   If any Authorization has been completed before the guest arrives, this Authorization shall be released, either automatically as part of the AUTHORIZE flow or by selecting RELEASE.

1-10.12.1.9   If an Authorization has been completed, but it appears that other means of payment is going to be used, the hotel shall release the Authorization by performing a RELEASE.

Purpose:

To verify that the terminal is able to handle the flow; guaranteed reservation, check-in and check-out. This includes that the token from the reservation is cancelled when check-in is performed and that the the Terminal / Cash register system can handle the change of exchange rate between check-in and check-out.

Prerequisites:

A currently loaded exchange rate.
Access to the OTRS
Access to card data for key entry (OTTS section 3.6.3)

FTD script: DCC2_08   *Card(s):* MSC001   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:* (X)

General pass criteria:

That the full token transaction flow can be handled, even when the exchange rate varies.

Comments:

- ♦ A terminal offering DCC may offer DCC for reservations as well, but this is no requirement.
- ♦ The test may be performed against the KOPI test environment as well, verifying the information on the host, instead of verifying information in the FTD log. The PSAM shall then be changed to PSAM001. The detailed test steps for such a set-up are **not** included.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **DCC2_09**. Make sure that updates are disabled, i.e. PSAM Personalization = No. Start a Guaranteed Reservation transaction. Enter Card data using key entered information for **MSC001** (Master Card Intl) If DCC is offered, select to use cardholders billing currency. ☞ Is the reservation transaction successful? ☞ Is a token generated and stored accessible to the terminal?	Yes: Step 2 No: Case failed	
2.	Perform a Check-in,as the same customer, using **MSC001** (Master Card Intl.) and, if necessary confirming signature. ☞ Is it possible to perform the transaction? ☞ If the terminal generates a receipt for the cancellation of the authorization (reservation), is the receipt then according to receipt CG, figure 1-12.62 or receipt L, figure 1-12.28? ☞ If it is a pre-receipt based DCC transaction, Is an authorization pre-receipt generated, according to receipt CB, table 1-12.57? ☞ Does the pre-receipt offer the proper currencies?	Yes: Step 3 No: Case failed	
3.	If it is a DCC transaction, select that the transaction is performed in the cardholders billing currency. ☞ Is the transaction successful? ☞ If it is a DCC transaction, is a cardholder authorization receipt according to receipt CF, figure 1-12.61 and a Merchants receipt CE, figure 1-12.60 generated? Is the correct currencies offered? ☞ If it is a non-DCC transaction is a cardholder authorization receipt according to receipt J, figure 1-12.26 generated?	Yes: Step 4 No: Case failed	
4.	Inspect the token storage of the terminal. ☞ Has the token from the reservation been removed? ☞ Has a new token been generated for the check-in / authorization?	Yes: Step 5 No: Case failed	
5.	If possible, delay the further processing of this transaction to next day or later, to get a change in the exchange rate.	Step 6	

Step	Actions and assessment	Result	Verdict
6.	Perform a Check-out, using the previously generated token information (from step 3).		
	☞ Is it possible to perform the check-out transaction?		
	☞ If it is a non-DCC transaction, is a merchants receipt according to receipt M, figure 1-12.29 generated?		
	☞ If it is a non-DCC transaction, is a cardholders receipt according to receipt N, figure 1-12.30 generated?		
	☞ If it is a DCC transaction, is a merchants receipt according to receipt CH, figure 1-12.63 generated?		
	☞ If it is a DCC transaction, is a cardholders receipt according to receipt CI, figure 1-12.64 generated?		
	☞ If it is a DCC transaction, has the amount been adjusted, relative to the authorizations, to take into account variations in exchange rate?	Yes: Step 7 No: Case failed	
7.	Inspect the token storage of the terminal.	Yes: Step 8 No: Case failed	
	☞ Has the token used been removed?		
8.	Perform an Advice transfer (to get the data from the terminal).		
	Inspect the detailed log file on the FTD, looking the transactions.		
	☞ Does the log file contain the following in transactions, in order?		
	♦ An Authorization Request (a)		
	♦ A Reversal Advice (b)		
	♦ Another Authorization Request (c)		
	♦ A Financial Advice (d)		
	☞ Is the Approval code, Field 38, in the Reversal Advice (b) the same as the Approval code returned in the response to the initial Authorization Request (a)?		
	☞ Is the Approval code, Field 38, of the Financial Advice (d) the same as the Approval code returned in the response to the second Authorization Request (c)?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 18.9 - Token and DCC 10: Check-in, Nat.card, ICC, PIN, Suppl.auth, Check-out

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Token and DCC	**Conditions:** [Attended] AND [Token]

Requirements tested:

1-10.12.1.8   If the guest's consumption exceeds the estimated amount, and the hotel want to increase the amount authorized, an ADD AUTHORI-ZATION shall be performed.

Purpose:
To verify that the terminal is able to handle the flow; Check-in, Supplementary Authorization and Check-out, using ICC and PIN.

Prerequisites:
The terminal shall be configured for use in Denmark
Access to the OTRS

FTD script: DCC2_10	*Card(s):* ICC001	*PSAM:* PSAM002

Test environment:

FTD Host: X	*IFS:*	*Kopi:* (X)

General pass criteria:
That a token transaction flow, including Supplementary Authorization can be handled.

Comments:
- ♠ The test may be performed against the KOPI test environment as well, verifying the information on the host, instead of verifying information in the FTD log. The PSAM shall the be changed to PSAM001. The detailed test steps for such a setup are **not** included.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **DCC2_10**. Make sure that updates are disabled, i.e. PSAM Personalization = No. Perform a Check-in using **ICC001** (VisaDankort) and PIN. ☞ Is it possible to initiate the transaction?	Yes: Step 2 No: Case failed	
2.	☞ Is DCC offered to the customer, either on display or on a DCC pre-receipt?	Yes: Case failed No: Step 3	
3.	☞ Is the transaction successful? ☞ Is a cardholder authorization receipt generated according to receipt J, Figure 1-12.26? ☞ Is it offering the local currency? ☞ Is the language the national language? ☞ If a merchant authorization receipt is generated, is it according to receipt J, Figure 1-12.26?	Yes: Step 4 No: Case failed	
4.	If possible, inspect the token storage of the terminal else skip to the next step. ☞ Has a token been generated for the check-in / authorization?	Yes: Step 5 No: Case failed	

Step	Actions and assessment	Result	Verdict
5.	Perform a Supplementary Authorization on the previously generated token. ☞ Is it possible to perform the transaction? ☞ If a merchant Supplementary Authorization receipt is generated, is it according to receipt K, Figure 1-12.27? ☞ Is the amount shown, only the supplementary amount, and not the total amount? ☞ Is the TCC in line TR8 of the receipt "IA1"?	Yes: Step 6 No: Case failed	
6.	Start to perform a Check-out, using previously generated token information. Use an amount equal to the sum of the amounts authorized. ☞ Is it possible use the supplementary token alone as reference for the capture?	Yes: Case failed No: Step 8	
7.	Select the token from the Original Authorization generated in steps 1 through 4. ☞ Is it possible to finalize the check-out transaction? ☞ Is a cardholders receipt generated in merchants local currency? ☞ Is it according to receipt N, Figure 1-12.30? ☞ Is the TCC on the receipt 'IA1'? ☞ Is the transaction successful.	Yes: Step 9 No: Case failed	
8.	Inspect the token storage of the terminal. ☞ Has the original token been removed? ☞ Has the supplementary token used been removed?	Yes: Step 10 No: Case failed	
9.	Perform an Advice Transfer (to get the data from the terminal). Start the inspection of the detailed log file on the FTD, looking at the transactions. ☞ Does the log file contain the following three transactions, and corresponding responses, in order? ♦ An (Original) Authorization Request (a) ♦ A (Supplementary) Authorization Request (b) ♦ A Financial Advice (c)	Yes: Step 11 No: Case failed	
10.	Continue the inspection of the detailed log file on the FTD, looking at the transactions. ☞ Is field 56 in the **first** (Original) Authorization Request (a) not present? ☞ Is field 30 of the **first** (Original) Authorization Request (a) either '0' or not present?	Yes: Step 12 No: Case failed	

Step	Actions and assessment	Result	Verdict
11.	Continue the inspection of the detailed log file on the FTD, looking at the transactions. ☞ Is field 30 of the **second** (Supplementary) Authorization Request (b) identical to field 4 of the the **first** (Original) Authorization Request (a)? ☞ Is field 49 in the **second** (Supplementary) Authorization Request (b) identical to field 49 in the **first** (Original) Authorization Request (a)? ☞ Is the STAN, Date and Time of field 56 in the **second** (Supplementary) Authorization Request (b) **identical to** field 11, field 12 and field 13 of the in the **first** (Original) Authorization Request (a)? ☞ Is the STAN, Date and Time of field 56 in the **second** (Supplementary) Authorization Request (b) **different from** field 11, field 12 and field 13 of the same message?	Yes: Step 13 No: Case failed	
12.	Finalise the inspection of the detailed log file on the FTD, looking at the transactions. ☞ Is field 30 in the Financial Advice (c) identical to field 4 in the **first** (Original) Authorization Request (a)? ☞ Is field 38 in the Financial Advice (c) identical to field 38 in the response to the first (Original) Authorization Request (a)? ☞ Is field 49 in the Financial Advice (c) identical to field 49 in the response to the first (Original) Authorization Request (a)? ☞ Is the STAN, Date and Time of field 56 in the Financial Advice (c) **identical to** field 11, field 12 and field 13 of the in the **first** (Original) Authorization Request (a)?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 18.10 - Token and DCC 11: Check-in, Intl.card, ICC, Sign, Sup.auths, Check-out

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: Token and DCC	Conditions: [Attended] AND [Token]
Requirements tested: (inherent, complex flow)	

Purpose:
- ⬦ To verify that the terminal is able to handle the flow; Check-in, Supplementary Authorization and Check-out, using DCC, ICC and Signature.
- ⬦ If implemented, that the terminal is able to add tips at Check-out.

Prerequisites:

FTD script: DCC2_11   *Card(s):*ICC018   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:* (X)

General pass criteria:
That a token transaction flow, including multiple Supplementary Authorization can be handled.

Comments:
- ⬦ The test may be performed against the KOPI test environment as well, verifying the information on the host, instead of verifying information in the FTD log. The PSAM shall the be changed to PSAM001. The detailed test steps for such a setup are **not** included.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **DCC2_11**. Make sure that updates are disabled, i.e. PSAM Personalization = No. If necessary, set up the terminal to request signature. (Consult the supplier on how to do it). Perform a Check-in using **ICC018** (Visa TC01) and Signature. The amount shall be **below** floor limit. ☞ Is it possible to initiate the transaction?	Yes: Step 2 No: Case failed	
2.	☞ Does the terminal support DCC	Yes: Step 3 No: Step 5	
3.	☞ Is the customer offered DCC, either on the display, or through a DCC Authorization Pre-receipt?	Yes: Step 4 No: Case failed	

Step	Actions and assessment	Result	Verdict
4.	Request to perform the transaction in the Customers Billing currency. ☞ Is the transaction successful? ☞ Is a cardholder authorization receipt generated according to receipt CD, Figure 1-12.59? ☞ Is the receipt using the cardholders billing currency? ☞ Is the language used English? ☞ Is the TCC on the receipt showing ICC, signature and online, i.e. `I@3'	Yes: Step 5 No: Case failed	
5.	Inspect the token storage of the terminal. ☞ Has a token been generated for the check-in / authorization?	Yes: Step 6 No: Case failed	
6.	Perform a Supplementary Authorization on the previously generated token. ☞ Is it possible to initiate the transaction? ☞ If it is a non-DCC terminal and a merchant Supplementary Authorization receipt is generated, is it according to receipt K, Figure 1-12.27? ☞ If it is a DCC terminal and a merchant Supplementary Authorization receipt is generated, is it according to receipt CE, Figure 1-12.60? ☞ Is the amount shown, only the supplementary amount, and not the total amount? ☞ Is the TCC in line TR8 of the receipt "I@3"? ☞ Is the transaction successful?	Yes: Step 7 No: Case failed	
7.	☞ Is a cardholder authorization receipt generated?	Yes: Case failed No: Step 8	
8.	Perform another Supplementary Authorization on the previously generated token. If it is a DCC terminal, try to make the Supplementary Authorization in the Merchant Local currency. ☞ Is it possible to initiate the transaction? ☞ If it is a DCC transaction is it either impossible to use the Merchant local currency, or is the amount converted to the Cardholders billing currency? ☞ If it is a non-DCC terminal and a merchant Supplementary Authorization receipt is generated, is it according to receipt K, Figure 1-12.27? ☞ If it is a DCC terminal and a merchant Supplementary Authorization receipt is generated, is it according to receipt CE, Figure 1-12.60? ☞ Is a cardholder authorization receipt generated?	Yes: Case failed No: Step 9	

Step	Actions and assessment	Result	Verdict
9.	Perform another Supplementary Authorization on the previously generated token. ☞ Is it possible to initiate the transaction? ☞ If it is a non-DCC terminal and a merchant Supplementary Authorization receipt is generated, is it according to receipt K, Figure 1-12.27? ☞ If it is a DCC terminal and a merchant Supplementary Authorization receipt is generated, is it according to receipt CE, Figure 1-12.60? ☞ Is the amount shown, only the supplementary amount, and not the total amount? ☞ Is the TCC in line TR8 of the receipt "I@3"? ☞ Is the transaction successful?	Yes: Step 101 No: Case failed	
10.	☞ Is a cardholder authorization receipt generated?	Yes: Case failed No: Step 11	
11.	Start to perform a Check-out, using previously generated token information. If possible, select to generate a TIP's pre-receipt. Use an amount larger than the amount initially authorized. ☞ Is it possible use one of the supplementary tokens as reference for the capture?	Yes: Case failed No: Step 12	
12.	☞ Is it a DCC terminal and is possible to generate a DCC TIP's pre-receipt?	Yes: Step 13 No: Step 14	
13.	☞ Is the pre-receipt generated according to receipt CD, figure 1-12.59?	Yes: Step 14 No: Case failed	
14.	Select the token from the Original Authorization generated in steps 1 through 4. If possible, add Tips to the total amount. ☞ Is it possible to finalize the Check-out transaction? ☞ If the terminal supports DCC and if a Merchant receipt is generated, is it according to receipt CH, Figure 1-12.63? ☞ If the terminal supports DCC is the cardholders receipt generated in the cardholders billing currency according to receipt CI, Figure 1-12.64? ☞ If the terminal supports TIP's is the extra's amount registered on the receipt. ☞ Is the transaction successful.	Yes: Step 15 No: Case failed	
15.	Inspect the token storage of the terminal. ☞ Has the original token been removed? ☞ Has the both supplementary tokens used been removed?	Yes: Step 16 No: Case failed	

Step	Actions and assessment	Result	Verdict
16.	Perform an Advice transfer (to get the data from the terminal). Start the inspection of the detailed log file on the FTD, looking at the transactions. ☞ Does the log file contain the following three transactions, and corresponding responses, in order? ♦ An (Original) Authorization Request (a) ♦ A (Supplementary) Authorization Request (b) ♦ A (Supplementary) Authorization Request (c) ♦ A Financial Advice (d)	Yes: Step 17 No: Case failed	
17.	Continue the inspection of the detailed log file on the FTD, looking at the transactions. ☞ Is field 49 in the **first** (Original) Authorization Request (a) the code of cardholders billing currency?	Yes: Step 18 No: Case failed	
18.	Continue the inspection of the detailed log file on the FTD, looking at the transactions. ☞ Is field 30 of the **second and third** (Supplementary) Authorization Request (b+c) identical to field 4 of the the **first** (Original) Authorization Request (a)? ☞ Is field 49 in the **second and third** (Supplementary) Authorization Request (b+c) identical to field 49 in the **first** (Original) Authorization Request (a)? ☞ Is the STAN, Date and Time of field 56 in the **second and third** (Supplementary) Authorization Request (b+c) **identical to** field 11, field 12 and field 13 of the in the **first** (Original) Authorization Request (a)? ☞ Is the STAN, Date and Time of field 56 in the **second and third** (Supplementary) Authorization Request (b) **different from** field 11, field 12 and field 13 of the same messages?	Yes: Step 19 No: Case failed	
19.	Finalise the inspection of the detailed log file on the FTD, looking at the transactions. ☞ Is field 30 in the Financial Advice (d) identical to field 4 in the **first** (Original) Authorization Request (a)? ☞ Is field 38 in the Financial Advice (d) identical to field 38 in the response to the first (Original) Authorization Request (a)? ☞ Is field 49 in the Financial Advice (d) identical to field 49 in the response to the first (Original) Authorization Request (a)? ☞ Is the STAN, Date and Time of field 56 in the Financial Advice (d) **identical to** field 11, field 12 and field 13 of the in the **first** (Original) Authorization Request (a)?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 18.11 - Token and DCC 13: Check-in, Intl.card, ICC, Sign,Offline. No suppl.auth

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: Token and DCC	Conditions: [Attended] AND [Token]
Requirements tested: (complex valid but uncommon flow)	
Purpose: To verify that the terminal will reject a Supplementary Authorizations if the original Authorization was generated offline.	
Prerequisites: Access to the OTRS The terminal shall be able to perform offline transactions. *FTD script:* DCC2_13 *Card(s):*ICC002 *PSAM:* PSAM002	
Test environment: *FTD Host:* X *IFS:* *Kopi:* (X)	
General pass criteria: That the conditions for rejecting supplementary transactions are supported.	

Comments:
♦ The test may be performed against the KOPI test environment as well, verifying the information on the host, instead of verifying information in the FTD log. The PSAM shall the be changed to PSAM001. The detailed test steps for such a setup are **not** included.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **DCC2_13**. Make sure that updates are disabled, i.e. PSAM Personalization = No. Set up the terminal to be forced **offline** (consult the Terminal supplier on how to do this). Perform a Check-in using **ICC002** (Master Card REQ 05) and Signature. If it is a DCC terminal, request to perform the transaction in the merchants local currency. If necessary, confirm that the CArdholders signature is OK ☞ Is it possible to initiate the transaction? ☞ Is the transaction successful?	Yes: Step 2 No: Case failed	
2.	☞ Is a Cardholder Authorization receipt generated? ☞ Is a Merchants Authorization receipt generated (as it is a signature transaction)? ☞ Is the TCC in line TR8 on the receipt showing ICC, signature and offline, i.e. 'I@5'?	Yes: Step 3 No: Case failed	
3.	Inspect the token storage of the terminal. ☞ Has a token been generated for the check-in / authorization?	Yes: Step 4 No: Case failed	

Step	Actions and assessment	Result	Verdict
4.	Set up the terminal to be **online** (consult the Terminal supplier on how to do this). Try to perform a Supplementary Authorization on the previously generated token. ☞ Is it possible to initiate the transaction? ☞ Is the transaction declined? ☞ Is, optionally, a declined merchant authorization receipt generated?	Yes: Step 5 No: Case failed	
5.	Start to perform a Check-out, using the previously generated token information. Use an amount equal to the amount initially authorized. ☞ Is it possible to initialize the Check-out transaction? ☞ Is it possible to finalize the Check-out transaction? ☞ Is a cardholders receipt generated in merchants currency? ☞ Is the transaction successful.	Yes: Step 6 No: Case failed	
6.	Inspect the token storage of the terminal. ☞ Has the original token been removed?	Yes: Step 7 No: Case failed	
7.	Perform an Advice transfer (to get the data from the terminal). Start the inspection of the detailed log file on the FTD, looking at the transactions. ☞ Does the log file contain the following transactions, and corresponding responses, in order? ♦ An Authorization Advice from the Original Authorization Request (a) ♦ An Authorization Advice from the Supplementary Authorization Request (b) ♦ A Financial Advice from the Capture (c)	Yes: Step 8 No: Case failed	
8.	Continue the inspection of the detailed log file on the FTD, looking at the transactions. ☞ Is field 49 in the **first** (Original) Authorization Auth. Advice (a) the code of Merchants Local currency? ☞ Is field 11 of the **second** (Supplementary) Authorization Advice (b) one higher than field 11 of the the **first** (Original) Authorization Advice (a)? ☞ Is field 11 of the Financial Advice (c) two higher than field 11 of the the **first** (Original) Authorization Advice (a)?	Yes: Step 9 No: Case failed.	
9.	Finalise the inspection of the detailed log file on the FTD, looking at the transactions. ☞ Is field 30 in the Financial Advice (c) identical to field 4 in the **first** (Original) Authorization Advice (a)? ☞ Is the STAN, Date and Time of field 56 in the Financial Advice (c) **identical to** field 11, field 12 and field 13 of the in the **first** (Original) Authorization Advice (a)?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 18.12 - Token and DCC 14: Check-in, Intl. card, ICC, Sign, Release

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Token and DCC	**Conditions:** [Attended] AND [Token]

Requirements tested:

1-10.12.1.9   If an Authorization has been completed, but it appears that other means of payment is going to be used, the hotel shall release the Authorization by performing a RELEASE.

Purpose:
To verify that the terminal is able to handle the flow; check-in and subsequent cancellation.

Prerequisites:
none

FTD script: DCC2_14   *Card(s):* ICC002,   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:* (X)

General pass criteria:
That a full token transaction flow can be released (and reversed).

Comments:

◆ The test may be performed against the KOPI test environment as well, verifying the information on the host, instead of verifying information in the FTD log. The PSAM shall then be changed to PSAM001. The detailed test steps for such a set-up are **not** included.

◆ This is a scenario where the cardholder want's to pay by other means or to change the currency, when checking out. The way to handle this is by re lasing the first authorization, and performing a subsequent purchase. This test case only includes the release of the authorization.

◆ The release of an Authorization (token) was previously named cancellation.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **DCC2_14**. Make sure that updates are disabled, i.e. PSAM Personalization = No. Perform a Check-in, using **ICC002** in the normal way, inserting the card in the reader. Use an amount **below** floor limit. ☞ Is it possible to initiate the transaction?	Yes: Step 2 No: Case failed	
2.	If the terminal supports DCC, select to perform the transaction in the Cardholders Billing Currency. ☞ If it is a DCC terminal, is DCC offered to the customer, either on display or on a DCC pre-receipt, and is it offering the right currency? ☞ Is a cardholder authorization receipt generated according to receipt J, Figure 1-12.26? ☞ Is the merchant authorization receipt generated, according to receipt J, Figure 1-12.26? ☞ Does the TCC on the receipt show that this is an ICC and Signature transaction.	Yes: Step 3 No: Case failed	

Step	Actions and assessment	Result	Verdict
3.	If possible, inspect the token storage of the terminal else skip to next step (ask terminal supplier on how to do this). ☞ Has a new token been generated for the check-in / authorization?	Yes: Step 4 No: Case failed	
4.	Perform a release of a previous authorization, using the previously generated token information (from step 3). ☞ Is it possible to perform the release (reversal of authorization) transaction? ☞ If it is a DCC terminal, is a receipt generated according to receipt CG, figure 1-12.62? ☞ If it is a non-DCC terminal, is a receipt generated according to receipt L, figure 1-12.28? ☞ Is the amount and currency on the receipt correct?	Yes: Step 5 No: Case failed	
5.	Inspect the token storage of the terminal. ☞ Has the token used been removed?	Yes: Step 6 No: Case failed	
6.	Perform an Advice Transfer (to get the data from the terminal). Inspect the detailed log file on the FTD, looking for the transactions. ☞ Does the log file contain the following in transactions, in order? ♦ An Authorization Request (a) ♦ A Reversal Advice (b) ☞ Is the Approval code, Field 38, of the Financial Advice (b) the same as the Approval code returned in the response to the Authorization Request (a)? ☞ Is the STAN, Date and Time of field 56 in the Reversal Advice (b) **identical to** field 11, field 12 and field 13 of the in the Authorization Request (a)?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 18.13 - Token and DCC 15: Check-in, Intl. card, ICC, Sign, No DCC

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Token and DCC	**Conditions:** [Attended]AND [Token]
Requirements tested: A DCC transaction shall not be performed, if the BIN range is not in one of the ranges supported.(This is a Fintrax requirement).	
Purpose: To verify that the terminal will **not** offer DCC to international card schemes **not** supporting DCC.	
Prerequisites: none	
FTD script: DCC2_15	*Card(s):*ICC017 *PSAM:* PSAM002
Test environment:	
FTD Host: X	*IFS:* *Kopi:* (X)
General pass criteria: That DCC isn't offered, if it isn't supported by the card scheme.	

Comments:
◆ The test may be performed against the KOPI test environment as well, verifying the information on the host, instead of verifying information in the FTD log. The PSAM shall then be changed to PSAM001. The detailed test steps for such a set-up are **not** included.
◆ The test card used, ICC017, contains a partial image of a JCB FT-1 card. The real JCB card does contains a Cirrus application as well, for use in ATM's.
◆ The selection of DCC is based on the information provided in the Fintrax files.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **DCC2_15**. Make sure that updates are disabled, i.e. PSAM Personalization = No.	Yes: Step 2 No: Case failed	
2.	☞ Does the terminal support DCC?	Yes: Step 3 No: Not Applicable	
3.	☞ Is the test performed using an actual JCB FT-1 Card?	Yes: Step 4 No: Step 11	
4.	Try to perform a Check-in, using **JCB FT-1** in the normal way, inserting the card in the reader. ☞ Does the terminal request the cardholder to select application?	Yes: Case failed No: Step 5	
5.	Continue the transaction. ☞ Is the customer offered to use DCC ?	Yes: Case failed No: Step 6	
6.	☞ Is the transaction successful? ☞ Is a Cardholder authorization receipt generated according to receipt J, figure 1-12.26? ☞ Is it offering the national currency?	Yes: Step 7 No: Case failed.	

Step	Actions and assessment	Result	Verdict
7.	Inspect the token storage of the terminal. ☞ Has a new token been generated for the check-in / authorization?	Yes: Step 8 No: Case failed	
8.	Perform a release of the previous authorizations, using the previously generated token information (from step 3). ☞ Is it possible to perform a release of the token (authorization reversal)?	Yes: Step 9 No: Case failed	
9.	Inspect the token storage of the terminal. ☞ Has the token used been removed?	Yes: Step 10 No: Case failed	
10.	Perform an Advice Transfer (to get the data from the terminal). Inspect the detailed log file on the FTD, looking for the transactions. ☞ Does the log file contain the following in transactions, in order? ♦ An Authorization Request (a) ♦ A Reversal Advice (b) ☞ Is the Approval code, Field 38, of the Financial Advice (b) the same as the Approval code returned in the response to the Authorization Request (a)? ☞ Is the Currency code, field 49 in both of transactions the national currency code (for Denmark 0208) ☞ Is the STAN, Date and Time of field 56 in the Reversal Advice (b) **identical to** field 11, field 12 and field 13 of the in the Authorization Request (a)?	Yes: Case OK No: Case failed	
11.	Try to perform a Check-in, using **ICC017** in the normal way, inserting the card in the reader. Continue the transaction. ☞ Is the customer offered DCC?	Yes: Case failed No: Case OK	
-	End of test case		

Test Case 18.14 - Token and DCC 16: Check-in, Intl. card, No DCC, Fallback, PIN, Release

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: Token and DCC	Conditions: [Attended] AND [Token] NOT [Combined]
Requirements tested: Selection of DCC shall not depend on whether the card is magstripe or chip read.(Activation of DCC is a part of Fintrax requirement and not a part of the OTRS).	
Purpose: To verify that the terminal will **not** offer DCC to international card schemes **not** supporting DCC, neither when fallback is generated.	
Prerequisites: none	

FTD script: DCC2_16	Card(s): ICC004 MSC010,	PSAM: PSAM002

Test environment:		
FTD Host: X	IFS:	Kopi: (X)

General pass criteria: That DCC is not offered, if not supported by the card scheme, neither initially nor when fallback is used.

Comments:

- ♦ The test may be performed against the KOPI test environment as well, verifying the information on the host, instead of verifying information in the FTD log. The PSAM shall then be changed to PSAM001. The detailed test steps for such a set-up are **not** included.

- ♦ The one test card, ICC004, is used to force the terminal into fallback mode. Once fallback is activated, the **magstripe** of the other card, MSC010 is used. MSC010 holds the magstripe of an international non-DCC card.

- ♦ Detection of whether or not DCC is allowed is fully based on the DCC tables in the terminal. If DCC is accepted in fallback, then the selection tables shall be analyzed.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **DCC2_16**. Make sure that updates are disabled, i.e. PSAM Personalization = No.	Yes: Step 2 No: Case failed	
2.	Start a Check-in transaction, using **ICC004** in the normal way, inserting the card in the reader. Continue to try use the card, until fallback is activated. ☞ Does the terminal go into fallback mode?	Yes: Step 3 No: Case failed	
3.	When the cardholder is requested to use the magstripe, use **MSC010**. Continue the transaction. ☞ Is DCC offered to the Cardholder?	Yes: Case failed No: Step 4	

Step	Actions and assessment	Result	Verdict
4.	☞ Is the transaction successful? ☞ Is a cardholder authorization receipt generated comparable to receipt J, figure 1-12.26 ☞ Is it offering the Merchant local currency?	Yes: Step 5 No: Case failed.	
5.	Inspect the token storage of the terminal. ☞ Has a new token been generated for the Check-in / authorization?	Yes: Step 6 No: Case failed	
6.	Perform a reversal of the previous authorization, using the previously generated token information (from step 3). ☞ Is it possible to perform the reversal transaction? ☞ Is a receipt generated according to receipt L, figure 1-12.28? ☞ Is the amount and currency on the receipt correct?	Yes: Step 7 No: Case failed	
7.	Inspect the token storage of the terminal. ☞ Has the token used been removed?	Yes: Step 8 No: Case failed	
8.	Perform an Advice transfer (to get the data from the terminal). Inspect the detailed log file on the FTD, looking for the transactions. ☞ Does the log file contain the following in transactions, in order? ♦ An Authorization Request (a) ♦ A Reversal Advice (b) ☞ Does the POS entry mode, Field 22, of the Authorization Request (a) show that this is a fallback operation (10700x) ☞ Is the Approval code, Field 38, of the Reversal Advice (b) the same as the Approval code returned in the response to the Authorization Request (a)? ☞ Is the Currency code, field 49 in both of transactions the Merchants local currency code, like Denmark 0208? ☞ Is the STAN, Date and Time of field 56 in the Reversal Advice (b) **identical to** field 11, field 12 and field 13 of the in the Authorization Request (a)?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 18.15 - Token and DCC 17: Purchase, Intl. card, Tips, DCC, ICC, Sign

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: DCC and Token	**Conditions:** [Attended]

Requirements tested:
1-10.14.5.1　　The structure of a pre-receipt shall be as specified in section 1-12.2.14 "Pre-receipt".

Purpose:
To verify that the terminal is able to handle a purchase with DCC pre-receipt and tips.

Prerequisites:
APE / DAPE is disabled
The terminal supports DCC with pre-receipt and tips.
FTD script: DCC2_17　　　　　*Card(s):* ICC002,　　*PSAM:* PSAM002

Test environment:
FTD Host: X　　　　　　　*IFS:*　　　　　*Kopi:* (X)

General pass criteria:
That a purchase transaction can be handled.

Comments:
♦ The test may be performed against the KOPI test environment as well, verifying the information on the host, instead of verifying information in the FTD log. The PSAM shall then be changed to PSAM001. The detailed test steps for such a set-up are **not** included.

Step	Actions and assessment	Result	Verdict
1.	☞ Does the terminal support "Method 2, Tips on pre-receipt"?	Yes: Step 2 No: Not Applicable	
2.	Select the FTD host script **DCC2_17**. Make sure that updates are disabled, i.e. PSAM Personalization = No. If necessary, set up the terminal to support gratuity/tips/extra on the pre-receipt (consult the terminal supplier on how to do this).	Step 3	
3.	Perform a purchase, using **ICC002** in the normal way, inserting the card in the reader. Use an amount **below** floor limit. ☞ Is it possible to start the purchase transaction? ☞ Is a pre-receipt generated, offering the customer DCC well as the possibility of adding gratuity (extra) according to generic DCC pre-receipt, figure 1-12.13?	Yes: Step 4 No: Case failed	
4.	Analyze the pre-receipt generated. ☞ Is the pre-receipt using English as the language? ☞ Does the pre-receipt offer the proper currencies? ☞ Are all the fields present on the pre-receipt?	Yes: Step 5 No: Case failed	

Step	Actions and assessment	Result	Verdict
5.	Select that the transaction shall be performed in the Cardholders billing currency. Enter either the extra amount, or the total amount. The increment shall be larger than 15% of amount and surcharges. ☞ Is it possible to enter the amount into the terminal? ☞ Is the purchase transaction successful? ☞ Is a merchants receipt generated?	Yes: Step 6 No: Case failed	
6.	Analyze the content of the Merchants final receipt. ☞ Is the content of the receipt in accordance with the generic DCC-receipt, figure 1-12.15? ☞ Does the amount printed on the receipt include the surcharges? ☞ Is the selected currency used? ☞ Does the TCC on the receipt show that this is a ICC and Signature transaction. ☞ Does the receipt contain a field for the cardholders signature? ☞ Is the total amount correct? ☞ Is a cardholders receipt generated?	Yes: Step 7 No: Case failed	
7.	Perform an Advice transfer (to get all the data from the terminal). Inspect the detailed log file on the FTD, looking for the transactions. ☞ Does the log file only contain the following in transaction? ♦ A Financial Advice (a) ☞ Is the amount, field 4, of the Financial Advice (b) equal to the total amount including surcharges and extra's as stated on the `final' receipt. ☞ Is the currency code, field 47, the currency code of the cardholders billing currency?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 18.16 - Token and DCC 18: Purchase, Nat.card, ICC, Sign, Tips

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: DCC and Token	**Conditions:** [Attended] AND [Token]

Requirements tested:

1-10.14.5.4   A Token Macro Function "AUTHORIZE FOR TIPS" specified in section 1-10.11.7 shall be initiated when both the amount to pay for goods and services, and the actual payment card are available.

1-10.14.5.5   When the cardholder has signed the receipt, and maybe added any tips/gratuity, the merchant shall complete the payment sequence by the Token Macro Function "FINALIZE WITH TIPS" specified in section 1-10.11.7.

Purpose:
To verify that the terminal is able to handle purchase with receipt-based Tips without DCC.

Prerequisites:
Access to the OTRS.
The Terminal is set for use in Denmark in DCC as well as Terminal Country Code.
The terminal is set to force a Signature transaction.

FTD script: DCC2_18	*Card(s):* ICC001,	*PSAM:* PSAM002

Test environment:

FTD Host: X	*IFS:*	*Kopi:* (X)

General pass criteria:
That a full receipt based purchase w. tips transaction flow, without DCC can be handled.

Comments:

♦ The test may be performed against the KOPI test environment as well, verifying the information on the host, instead of verifying information in the FTD log. The PSAM shall then be changed to PSAM001. The detailed test steps for such a set-up are **not** included.

Comments:

♦ This test will be obsolete when the new generation VISA/Dankort are issued, as they will reject forced signature.

Step	Actions and assessment	Result	Verdict
1.	☞ Does the Terminal support receipt-based transactions w. tips?	Yes: Step 2 No : Not Applic.	
2.	Select the FTD host script **DCC2_18**. Make sure that updates are disabled, i.e. PSAM Personalization = No. Set the terminal to forced Signature Perform a purchase,"AUTHORIZE FOR TIPS" using **ICC001** in the normal way, inserting the card in the reader. ☞ Is it possible to start the transaction? ☞ Is a Merchants receipt generated, offering the customer to add tips / extra. or to specify a total? ☞ Is a Cardholders receipt generated as well?	Yes: Step 4 No: Case failed	

Step	Actions and assessment	Result	Verdict
3.	Analyze the Merchants receipt generated. Use the full generic receipt, figure 1-12.17 as template. ☞ Does the receipt have the lines AM11 through AM14? ☞ Was the authorization successful?	Yes: Step 4 No: Case failed	
4.	☞ Was PIN entry requested?	Yes: Case failed. No: Step 5	
5.	Continue with the "FINALIZE WITH TIPS". Try to enter an amount so that the total amount is increased with **more** than what is allowed (in Denmark 15 %). ☞ Was the entry successful?	Yes: Case failed. No: Step 6	
6.	Try to enter an amount so that the total amount is increased with **less** than the allowed limit (in Denmark 15 %). ☞ Was the entry successful? ☞ Was a new Cardholders receipt generated?	Yes: Step 7 No: Case failed	
7.	Finalize the transaction. ☞ Was PIN requested?	Yes: Case failed No: Step 8	
8.	Analyze the content of the receipt generated. ☞ Is the receipt a Cardholders receipt? ☞ Are there fields on the receipt showing the gratuity/extra and total amounts? ☞ Does the TCC on the receipt show that this is a ICC and Signature transaction.	Yes: Step 9 No: Case failed	
9.	Perform an Advice Transfer (to get the data from the terminal). Inspect the detailed log file on the FTD, looking for the transactions. ☞ Does the log file contain the following transactions, in order? ♦ An Authorization Request (a) ♦ A Financial Advice (b) ☞ Is the amount, field 4 of the Authorization Request (a) equal to the total amount, including surcharges but excluding extras added after the initial receipt was printed? ☞ Is the Approval code, Field 38, of the Financial Advice (b) the same as the Approval code returned in the response to the Authorization Request (a)?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 18.17 - Token and DCC 19: Purchase, Intl. card, ICC, Sign, Tips

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: DCC and Token	**Conditions:** [Attended] AND [Token]

Requirements tested:

1-10.14.5.4	A Token Macro Function "AUTHORIZE FOR TIPS" specified in section 1-10.11.7 shall be initiated when both the amount to pay for goods and services, and the actual payment card are available.
1-10.14.5.5	When the cardholder has signed the receipt, and maybe added any tips/gratuity, the merchant shall complete the payment sequence by the Token Macro Function "FINALIZE WITH TIPS" specified in section 1-10.11.7.

Purpose:
To verify that the terminal is able to handle purchase with receipt-based Tips with DCC.

Prerequisites:
Access to OTRS version 3.2 or later
The terminal is set to force a Signature transaction

FTD script: DCC2_18	*Card(s):* ICC018,	*PSAM:* PSAM002

Test environment:

FTD Host: X	*IFS:*	*Kopi:* (X)

General pass criteria:
That a full receipt based purchase w. tips transaction flow, without DCC can be handled.

Comments:

♦ The test may be performed against the KOPI test environment as well, verifying the information on the host, instead of verifying information in the FTD log. The PSAM shall then be changed to PSAM001. The detailed test steps for such a set-up are **not** included.

Step	Actions and assessment	Result	Verdict
1.	☞ Does the Terminal support receipt-based transactions w. tips? ☞ Does the terminal set up to support DCC?	Yes: Step 2 No : Not Applic.	
2.	Select the FTD host script **DCC2_19**. Make sure that updates are disabled, i.e. PSAM Personalization = No. Set the terminal to use forced Signature Perform a purchase, using **ICC018** (ADVT v.6.0 TC 01) in the normal way, inserting the card in the reader. Use an amount Above floor limit. When DCC is offered, select Merchant Local currency. ☞ Is it possible to start the "AUTHORIZE FOR TIPS" transaction? ☞ Is DCC offered? ☞ Is a Merchants receipt generated, offering the customer to add tips / extra. or to specify a total? ☞ Is a Cardholders receipt generated as well?	Yes: Step 4 No: Case failed	

Step	Actions and assessment	Result	Verdict
3.	Analyze the Merchants receipt generated. Use the full generic receipt, figure 1-12-17 as template. ☞ Was the Authorization successful? ☞ Does the receipt have the lines AM11 through AM14?	Yes: Step 4 No: Case failed	
4.	Continue with the "FINALIZE WITH TIPS". Try to enter an amount so that the total amount is increased with **more** than what is allowed (in Denmark15 %). ☞ Was the entry successful?	Yes: Case failed. No: Step 5	
5.	Try to enter an amount so that the total amount is increased with **less** than the allowed limit (in Denmark 15 %). ☞ Was the entry successful? ☞ Was a new Cardholders receipt generated?	Yes: Step 6 No: Case failed	
6.	Finalize the transaction. ☞ Was a PIN requested during this?	Yes: Case failed No: Step 7	
7.	Analyze the content of the receipt generated. ☞ Is the receipt a Cardholders receipt? ☞ Are there fields on the receipt showing the gratuity/extra and total amounts? ☞ Does the TCC on the receipt show that this is a ICC and Signature transaction.	Yes: Step 8 No: Case failed	
8.	Perform an Advice Transfer (to get the data from the terminal). Inspect the detailed log file on the FTD, looking for the transactions. ☞ Does the log file contain the following transactions, in order? ♦ An Authorization Request (a) ♦ A Financial Advice (b) ☞ Is the amount, field 4 of the Authorization Request (a) equal to the total amount, including surcharges but excluding extras added after the initial receipt was printed? ☞ Is the Approval code, Field 38, of the Financial Advice (b) the same as the Approval code returned in the response to the Authorization Request (a)?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 18.18 - Token and DCC 20: Refund, International Card, ICC, DCC

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: DCC and Token	**Conditions:** [Attended]

Requirements tested:	
1-10.13.8.1	If the original purchase transaction was a DCC transaction, the Refund shall be initiated as a DCC transaction too, i.e. the DCC-Transaction-Information shall be filled in for the Refund transaction too.
1-10.13.8.2	If DCC is an option for the actual card, the terminal shall ask the merchant whether DCC shall be selected or not.

Purpose:
To verify that the terminal is able to handle the flow; refund using DCC.

Prerequisites:
none

FTD script: DCC2_20   *Card(s):* ICC018   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:* (X)

General pass criteria:
That a full refund transaction with DCC can be handled.

Comments:
- ⚅ The test may be performed against the KOPI test environment as well, verifying the information on the host, instead of verifying information in the FTD log. The PSAM shall then be changed to PSAM001. The detailed test steps for such a set-up are **not** included.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **DCC2_20**. Make sure that updates are disabled, i.e. PSAM Personalization = No. ⚅ Does the terminal support DCC?	Yes: Step 2 No: Not Applic.	
2.	Initiate a Refund transaction. Use **ICC018** (ADVT v. 6.0 TC 01) in the normal way, inserting the card in the reader. ⚅ Is it possible to initiate the transaction? ⚅ Is it possible to select DCC? ⚅ If display based DCC-selection is used, is the merchant requested to select currency? ⚅ If receipt based DCC-selection is used, is a pre-receipt type CC, figure 1-12.58 generated? ⚅ If it is a receipt based DCC-selection, does the pre-receipt offer the correct currencies?	Yes: Step 3 No: Case failed	

Step	Actions and assessment	Result	Verdict
3.	Select that the transaction shall be performed in the cardholders billing currency. ☞ In the Merchant requested to select currency? ☞ Is the transaction successful? ☞ Is a cardholder receipt generated according to receipt CJ, figure 1-12.65? ☞ Does the TCC on the receipt show that this is an ICC and Refund transaction? ☞ Is it in the correct currency? ☞ Are the correct exchange rate and exchange rate mark-up used? ☞ Is the amount in the merchants currency calculated correctly? (see the DCC specification for details)	Yes: Step 4 No: Case failed	
4.	Perform an Advice transfer (to get the data from the terminal). Inspect the detailed log file on the FTD, looking for the transactions. ☞ Does the log file contain the following in transactions, in order? ♦ An Authorization Request (a) ♦ A Financial Advice (b) ☞ Is the Processing code, Field 3, of the Authorization Request (a) and the Financial Advice (b), equal to "20 00 00"? ☞ Is the Amount transaction, Field 4, of the Authorization Request (a) and the Financial Advice (b), the same as the amount entered in step 1 of the test case? ☞ Is the Currency code, transaction, Field 49, of the Authorization Request (a) and the Financial Advice (b), the same as the amount entered in step 2 of the test case? ☞ Is the Approval code, Field 38, of the Financial Advice (b) the same as the Approval code returned in the response to the Authorization Request (a)?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 18.19 - Token and DCC 21: Refund, National Card, ICC

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: DCC and Token	**Conditions:** [Attended]

Requirements tested:

1-10.13.8.1   If the original purchase transaction was a DCC transaction, the Refund shall be initiated as a DCC transaction too, i.e. the DCC-Transaction-Information shall be filled in for the Refund transaction too.

1-10.13.8.2   If DCC is an option for the actual card, the terminal shall ask the merchant whether DCC shall be selected or not.

Purpose:
To verify that the terminal is able to handle the flow; refund not using DCC.

Prerequisites:
none

FTD script: DCC2_21	*Card(s):* ICC001	*PSAM:* PSAM002

Test environment:

FTD Host: X	*IFS:*	*Kopi:* (X)

General pass criteria:
That a full refund transaction without DCC can be handled.

Comments:

⬥ The test may be performed against the KOPI test environment as well, verifying the information on the host, instead of verifying information in the FTD log. The PSAM shall then be changed to PSAM001. The detailed test steps for such a set-up are **not** included.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **DCC2_21**. Make sure that updates are disabled, i.e. PSAM Personalization = No.	Step 2	
2.	Initiate a Refund transaction. Use **ICC001** in the normal way, inserting the card in the reader. ☞ Is the cardholder requested to enter the PIN? ☞ Is the Merchant requested to select currency? ☞ Is the Cardholder requested to select currency?	Yes: Case failed No: Step 3	
3.	Enter the amount (in the merchants currency). ☞ Was it possible to initiate the refund transaction?	Yes: Step 4 No: Case failed	

Step	Actions and assessment	Result	Verdict
4.	Enter amount. ☞ Is the transaction successful? ☞ Is a cardholder receipt generated according to receipt G, figure 1-12.23? ☞ If there are no surcharges and gratuity, is only a single line with the title 'REFUND' (or the equivalent in other languages) printed? ☞ If there are multiple amounts on the receipt, is the total refund amount, the amount emphasized. ☞ Does the TCC on the receipt show that this is an ICC and Refund transaction.	Yes: Step 5 No: Case failed	
5.	Perform an Advice transfer (to get the data from the terminal). Inspect the detailed log file on the FTD, looking for the transactions. ☞ Does the log file contain the following in transactions, in order? ♦ An Authorization Request (a) ♦ A Financial Advice (b) ☞ Is the Processing code, Field 3, of the Authorization Request (a) and the Financial Advice (b), equal to "20 00 00"? ☞ Is the Amount transaction, Field 4, of the Authorization Request (a) and the Financial Advice (b), the same as the amount entered in step 3 of the test case? ☞ Is the Amount transaction, Field 4, of the Authorization Request (a) and the Financial Advice (b), the same as the total refund amount printed on the receipts? ☞ Is the Currency code, transaction, Field 49, of the Authorization Request (a) and the Financial Advice (b), the merchants currency (DKK=0208)? ☞ Is the Approval code, Field 38, of the Financial Advice (b) the same as the Approval code returned in the response to the Authorization Request (a)?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 18.20 - Token and DCC 22: Check-in, Intl.card, Sup.auth's, 2.nd decl, Check-out

Test date:		Init:	
Problem Report (if any):		**Test case result:**	
Comments:			

Test group: DCC and Token	**Conditions:** [Attended]AND [Token]

Requirements tested:

1-10.10.6.1	If PIN is selected, the PIN shall be entered and be verified when performing the Original/Extended Authorization (e.g. for a fuel dispenser).
1-10.10.6.2	As the exact amount is not known when performing the Original/Extended Authorization, PIN entry shall not be combined with confirmation of the amount as for a "normal" Purchase.
1-10.10.6.3	If signature is selected, the cardholder shall not sign the receipt until the Capture, where the exact amount is present.
1-10.10.7.4	If the amount authorized has been increased by performing a Supplementary Authorization, the original Token shall be replaced by the new Token received from the PSAM

Purpose:
To verify that the terminal is able to handle the flow; Check-in, a first Supplementary Authorization that's accepted, a second Supplementary Authorization that is **declined** and Check-out, using DCC, ICC and Signature.

Prerequisites:
- The terminal shall be set to forced signature
-

FTD script: DCC2_22a   *Card(s):*ICC018   *PSAM:* PSAM002
                DCC2_22b

Test environment:

FTD Host: X	*IFS:*	*Kopi:* (X)

General pass criteria:
That a token transaction flow, including multiple Supplementary Authorization and declined result can be handled. That is is possible to perform a Capture despite a supplementary authorization has been declined.

Comments:

⧫ The test **can not** be performed against the KOPI test environment at the present, as it requires a special behavior from the test host . The host shall decline the second Supplementary Authorization.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **DCC2_22a**. Make sure that updates are disabled, i.e. PSAM Personalization = No. If necessary, set up the terminal to request signature. (Consult the Terminal supplier on how to do it). Perform a Check-in using **ICC018** (ADVT 6.0 TC01) and Signature. The amount shall be **above** floor limit. ☞ Is it possible to initiate the transaction?	Yes: Step 2 No: Case failed	
2.	☞ Does the terminal support DCC	Yes: Step 3 No: Step 5	

Step	Actions and assessment	Result	Verdict
3.	☞ Is the customer offered DCC, either on the display, or through a DCC Authorization Pre-receipt?	Yes: Step 4 No: Case failed	
4.	Request to perform the transaction in the Customers Billing currency. ☞ Is the transaction successful? ☞ Is a cardholder authorization receipt generated according to receipt CD, Figure 1-12.59? ☞ Is the receipt using the Cardholders billing currency? ☞ Is the language used English? ☞ Is the TCC on the receipt showing ICC, signature and online, i.e. `I@3'`	Yes: Step 5 No: Case failed	
5.	Inspect the token storage of the terminal. ☞ Has a token been generated for the check-in / authorization?	Yes: Step 6 No: Case failed	
6.	Perform the first Supplementary Authorization on the previously generated token. ☞ Is a merchants Authorization's receipt generated? ☞ If the transaction is a DCC transaction, is the actual amount authorized in Cardholders billing currency? ☞ If the transaction is not a DCC transaction, is the amount authorized in the Merchants Local currency? ☞ Is the transaction successful?	Yes: Step 7 No: Case failed	
7.	Select the FTD host script **DCC2_22b** (this will decline the Suppl. Auth.). Make sure that updates are disabled, i.e. PSAM Personalization = No. Try to perform the second Supplementary Authorization on the previously generated token. ☞ Is the transaction declined? ☞ Is a merchant declined receipt generated according to receipt S, figure 1-12.35?	Yes: Step 8 No: Case failed	
8.	☞ Is a cardholder authorization receipt generated?	Yes: Case failed No: Step 9	
9.	Inspect the token storage of the terminal. ☞ Is the original token, including the the first supplementary token available available?	Yes: Step 10 No: Case failed	

Step	Actions and assessment	Result	Verdict
10.	Start to perform a Check-out, using existing token information. Use an amount larger than the Original authorization but less than the sum of the (valid) authorizations. ☞ Is it possible to finalize the Check-out transaction? ☞ If it is a DCC transaction, is a merchants receipt generated in the cardholders billing currency? ☞ If it is a non-DCC transaction, is a cardholders receipt generated in the Merchants Local currency, is the receipt according to receipt M, figure 1-12.29? ☞ Is the transaction successful.	Yes: Case failed No: Step 11	
11.	Inspect the token storage of the terminal. ☞ Has the token been removed?	Yes: Step 12 No: Case failed	
12.	Perform an Advice Transfer (to get all the data from the terminal). Start the inspection of the detailed log file on the FTD, looking at the transactions. ☞ Does the log file contain the following four transactions, and corresponding responses, in order? ◆ An (Original) Authorization Request (a) ◆ A (Supplementary) Authorization Request (b) ◆ An Authorization Advice (c) ◆ A Financial Advice (d)	Yes: Step 13 No: Case failed	
13.	Continue the inspection of the detailed log file on the FTD, looking at the transactions. ☞ Is field 49 in the **first** (Original) Authorization Request (a) the code of cardholders billing currency?	Yes: Step 14 No: Case failed	
14.	Continue the inspection of the detailed log file on the FTD, looking at the transactions. ☞ Is field 30 of the **second** (Supplementary) Authorization Request (b) identical to field 4 of the the **first** (Original) Authorization Request (a)? ☞ Is field 49 in the **second** (Supplementary) Authorization Request (b) identical to field 49 in the **first** (Original) Authorization Request (a)? ☞ Is the STAN, Date and Time of field 56 in the **second** (Supplementary) Authorization Request (b) **identical to** field 11, field 12 and field 13 of the in the **first** (Original) Authorization Request (a)? ☞ Is the STAN, Date and Time of field 56 in the **second** (Supplementary) Authorization Request (b) **different from** field 11, field 12 and field 13 of the same message?	Yes: Step 15 No: Case failed	

Step	Actions and assessment	Result	Verdict
15.	Finalise the inspection of the detailed log file on the FTD, looking at the transactions. ☞ Is field 30 in the Financial Advice (d) identical to field 4 in the **first** (Original) Authorization Request (a)? ☞ Is field 38 in the Financial Advice (d) identical to field 38 in the response to the first (Original) Authorization Request (a)? ☞ Is field 49 in the Financial Advice (d) identical to field 49 in the response to the first (Original) Authorization Request (a)? ☞ Is the STAN, Date and Time of field 56 in the Financial Advice (d) **identical to** field 11, field 12 and field 13 of the in the **first** (Original) Authorization Request (a)?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 18.21 - Token and DCC 23: Check-in, Intl.card, Sign, Natl.Sup.auth, Check-out

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: DCC and Token	**Conditions:** [Attended] AND [Token]
Requirements tested:	
Purpose: To verify that the terminal is able to handle the flow; check-in using DCC, rejecting a supplementary non-DCC authorization and check-out (using DCC).	
Prerequisites: DCC is activated in the terminal	
FTD script: DCC2_23 *Card(s):*ICC018 *PSAM:* PSAM002	
Test environment:	
FTD Host: X *IFS:* *Kopi:* (X)	
General pass criteria: That a token transaction flow, will reject a Supplementary Authorization or Capture, if the currency used isn't the same as in the Original Authorization.	

Comments:
⬧ The test may be performed against the KOPI test environment as well, verifying the information on the host, instead of verifying information in the FTD log. The PSAM shall the be changed to PSAM001. The detailed test steps for such a setup are **not** included.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **DCC2_23**. Make sure that updates are disabled, i.e. PSAM Personalization = No. If necessary, set up the terminal to request signature. (Consult the Terminal supplier on how to do it). Perform a Check-in using **ICC018** (ADVT 6.0 TC 01) and Signature. The amount shall be **above** floor limit. ☞ does the Terminal have DCC capability, and is DCC activated?	Yes: Step 2 No: Not Applic.	
2.	☞ Is it possible to initiate the transaction? ☞ Is the Cardholder offered to select currency?	Yes: Step 3 No: Case failed	
3.	Request to perform the transaction in the Customers Billing currency. ☞ Is the transaction successful? ☞ Is a Cardholder Authorization receipt generated according receipt CF, Figure 1-12.61? ☞ Is it in the Cardholder Billing currency? ☞ Is the language used English?	Yes: Step 4 No: Case failed	

Step	Actions and assessment	Result	Verdict
4.	Try to perform a Supplementary Authorization on the previously generated token using the **Merchants** Local currency. Record the amount to use. ☞ Is it possible to initiate the transaction? ☞ Is the transaction either inhibited **or** declined **or** converted to the cardholders billing currency)? ☞ If the amount is converted, is the amount calculated correctly? ☞ If the amount is converted, is a merchant authorization receipt generated according to receipt CE, figure 1-12.60? ☞ If the transaction declined, is a declined receipt according to receipt S, figure 1-12.35 generated?	Yes: Step 5 No: Case failed	
5.	Start to perform a Check-out, using previously generated token information. Use an amount larger than the amount initially authorized. ☞ Is it possible to finalize the Check-out transaction? ☞ Is a merchants receipt generated in the Cardholders Billing currency? ☞ Is a cardholders receipt generated in Cardholders Billing currency? ☞ Is the transaction successful.	Yes: Case failed No: Step 6	
6.	Inspect the token storage of the terminal. ☞ Has the original token been removed? ☞ Has the any supplementary token(s) used been removed?	Yes: Step 7 No: Case failed	
7.	Perform an Advice Transfer (to get all the data from the terminal). Start the inspection of the detailed log file on the FTD, looking at the transactions. ☞ Does the log file contain the following four transactions, and corresponding responses, in order? ♦ An (Original) Authorization Request (a) ♦ Optionally a (Supplementary) Authorization Request (b) ♦ A Financial Advice (c)	Yes: Step 8 No: Case failed	
8.	Continue the inspection of the detailed log file on the FTD, looking at the transactions. ☞ Is the value of field 49, currency code, in the (Original) Authorization Request (a) the code of cardholders billing currency? ☞ If available, is the value of field 4 of the (Supplementary) Authorization Request (b) the amount in Cardholders Billing currency? ☞ Is the value of field 49, currency code, in the Financial Advice (d) in the Cardholders Billing currency?	Yes: Case OK No: Case failed	
-	End of test case		

4.19 Swedish terminals

This section reflects the receipt structure as specified in the current version of the OTRS, section 1-15.3.

The tests in this section of the OTTS are only applicable to OTRS terminals to be used in Sweden. This is an optional function. The tests in this sections covers only the capabilities specific to installations in Sweden. All normal requirements for the OTRS terminal still apply.

The PCT functionality of the terminal should be verified before running the tests for Swedish terminals.

The PSAM in the terminal, shall when using the FTD as the test environment, initially be loaded for Swedish environment. This shall be followed by initializing the PCT table and loading a special Swedish default PCT table.

The steps are as follows;

- Execute the script "OTTS-32\SwedTerm \SwedNormal\ScriptSwedNormal.txt" (and perform two Advice Transfers). This will activate a 'PSAM default' file with a Swedish setup.
- Execute the script "OTTS-32\SwedTerm\ SwedTerm_Init\InitPct_00\ScriptSwedTerm_ Init.txt" (and perform an Advice Transfer). This will clear the PCT, reset the version number and disable APE/DAPE to make Account Type Selection (by Cardholder) possible.
- Execute the script "OTTS-32\SwedTerm\ SwedTerm_01\ScriptSwedTerm_01.txt" (and perform an Advice Transfer). This will start the handling of transactions with PCT in the terminal.

Test Case 19.1 - Swedish terminals 01: Plain purchase PIN, online

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: SwedTerm	Conditions: [[PIN] OR [NoCVM]] AND [Sweden]
Requirements tested:	

Requirements tested:

1-15.3.1.1	Shall support Cancellation
1-15.3.1.10	Display texts shall be as defined in table 1-15.9.
1-15.3.2.1	Shall contain mandatory lines from generic receipt (sect. 1-12).
1-15.3.2.2	Receipt texts shall be as defined in table 1-15.10.

Purpose:
To verify that the terminal is able to perform a simple purchase transaction and generate receipt.

Prerequisites:
Access to chapter 1-12 and 1-15.3 of the OTRS
The terminal is set up to support the Swedish market.
The test Processing Condition. Table, PCT, has been loaded into the terminal.
The entry of Payment Condition (Betalkod) in **not** enabled
The setup for the selected PAN range does **not** support Account Type Selection
The setup for the selected PAN range does **not** support Cashback
FTD script: SwedTerm_01   *Card(s):* ICC001   *PSAM:* PSAM002

Test environment:
FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
It is demonstrated that a transaction in the Swedish environment can be performed, and that a Cancellation cannot be performed after an Advice Transfer.

Comments: The test is based on the FTD. It should be possible to perform a similar test in the KOPI environment as well.
Comments: If the Terminal supports "Preferred Languages" then select a card that will show the texts in Swedish, i.e. either a Swedish card or a card that requests an unsupported language.
Comments: <u>Receipt</u> line numbers in the test cases refers to the line number structure used in the OTRS.

Step	Actions and assessment	Result	Verdict
1.	Select to perform a **purchase** transaction. Wait for amount entered before inserting **ICC001** in the card reader. Do **not** enter any amount extra / gratuity. If so requested, enter PIN and confirm. ☞ Is it possible to start a transaction? ☞ Is the entry of `Betalkod' (Payment Condition) **not** activated? ☞ Is the selection of Account Type not activated? ☞ <u>If the preferred language of the card used is Swedish, or an unsupported language,</u> are all the display <u>and receipt</u> texts texts in Swedish? ☞ Are the texts displayed as specified in section 1-11 and 1-15.3.4 of the OTRS? ☞ Is a (set of) receipt(s) printed?	Yes: Step 2 No: Case failed	
2.	Analyze the **Cardholders** receipt printed. See OTRS section 1-12.4.1 ☞ Is purchase line AM2a named "KÖP" ☞ Is VAT printed either on the bill or on the receipt? ☞ If the terminal supports VAT on the receipt, is the text, line AM4, "VARAV MOMS:" and is the VAT calculated correctly? ☞ Is the entry "EXTRA" line AM7 either empty, zero or absent. ☞ If line AM9 is present, is header "TOTALT" and the value the same as in AM2? ☞ If it is a PIN transaction, is the text "PERSONLIG KOD" in line TR1? ☞ Is the card type line TR2, the value returned from the ICC? ☞ Are lines TR3 and TR4 **not** present on the receipt? ☞ Is the PAN, line TR5, **truncated** to 4 digits?	Yes: Step 3 No: Case failed.	
3.	Continue analyzing the **Cardholders** receipt printed. ☞ Does the receipt contain a line TR7, and is the content "SØGÅRD SPAREKASSE 012" ☞ Is the Transaction condition code, line TR8, TCC = "IA1" (ICC001)? ☞ Is the header for Merchant No. in line TR8 "BUTIKSNR:"? ☞ Is the header of Approval code, line TR13, "AUT KOD"? ☞ Is the Approval status, line TR14, "Autoriserat"? ☞ Is the text at the bottom of the receipt, lines FI7 and FI8 "SPARA KVITTOT" and "KUNDENS EX"?	Yes: Step 4 No: Case failed.	

Step	Actions and assessment	Result	Verdict
4.	If a Merchants receipt is printed, analyze the **Merchants** receipt printed. ☞ Is the PAN line TR5, the **truncated** PAN, i.e. all but 4 digits masked out? (recommended but **not** mandatory). ☞ Is the text at the bottom of the receipt, line FI7, "SPARA KVITTOT"?	Yes: Step 5 No: Case failed.	
5.	Perform an Advice Transfer to transfer the Financial Advice to the `Host'. ☞ Is the Advice Transfer successful?	Yes: Step 6 No: Case failed.	
6.	Try to perform a Cancellation of the previous transaction ☞ Is the function **either** not available on the terminal; ☞ **or** does the function generate a an error message?	Yes: Step 7 No: Case failed	
7.	Analyze the Financial Advice in general, in the log file on the FTD. ☞ Is the Amount, field 4, correct? ☞ Is The Amount Other, field 8, absent? ☞ Is the Currency code, field 49, `0752'	Yes: Step 8 No: Case failed.	
8.	Analyze field 47 of the Financial Advice (the `envelope').  ☞ Does it contain a tag `TX' (`5458') followed by the total length of the `envelope' data'? ☞ Is the first element in the envelope a tag `TZ' (`545A') indicating an inner envelope of Swedish data followed by the length of the Swedish data? ☞ Is the element tag `Z6' (`5A36') in the `inner' envelope, Account type, either **not** present **or** present and followed by a length field of `0001' and a value of `00' (default)?  ☞ Is the element in the `inner' envelope tag `Z7' (`5A37') **not** present? ☞ Is an element with tag `Z8' (`5A38'), SE Processing code, **not** present? ☞ Is an element with tag `Z9' (`5A39'), Se Cancellation, **not** present? ☞ Is the next element in the `inner' envelope tag `ZA' (`5A41'), SE VAT Amount, followed by a length field of `0005' and 5 additional characters? ☞ Does it contain the VAT amount (see the receipt) as BCD digits in the minor unit of the currency? ☞ Is an element with tag `Z2' (`5A32'), Bonus info, **not** present? ☞ Is an element with tag `Z3' (`5A33'), Merchant info, **not** present? ☞ Is an element with tag `Z4' (`5A34'), Miscellaneous, **not** present?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 19.2 - Swedish terminals 02: Purchase with Cashback

Test date:		Init:	
Problem Report (if any):		**Test case result:**	
Comments:			

Test group: SwedTerm	**Conditions:** [PIN] AND [Sweden] AND [Cashback]
Requirements tested: 1-15.3.1.8 A Swedish terminal shall support Account Type Selection. 1-15.3.1.13 An attended Swedish terminal shall implement Cashback. 1-15.3.2.8 Line AM5 shall be_present in the restaurant environment	
Purpose: To verify that the terminal is able to perform transaction with cashback	
Prerequisites: Access to chapter (1-12) of the OTRS. The terminal is set up to support the Swedish market. The test Proc. Cond. Table, PCT, has been loaded into the terminal. The Payment Condition entry is, if implemented, enabled The setup for the selected PAN range **does not** support Account Type Selection The setup for the selected PAN range **does** support Cashback. *FTD script:* SwedTerm_02 *Card(s):* MSC001 *PSAM:* PSAM002	
Test environment: *FTD Host:* X *IFS:* *Kopi:*	
General pass criteria: It is demonstrated that a transaction with cashback can be performed in the Swedish environment and that a Cancellation cannot be performed, once a new transaction is started (card swiped)	

Comments: The test is based on the FTD. It should be possible to perform a similar test in the KOPI environment as well.

Step	Actions and assessment	Result	Verdict
1.	Select to perform a purchase transaction with cashback. If possible, swipe the **MSC001** card before the amount is known. Enter Amount as well as Amount other / Cashback /'Kontant' If implemented, enter `SE Payment condition'/Betalkod. ☞ Is it possible to start the transaction? ☞ Are all the display texts in Swedish? ☞ If implemented, is the selection of cashback enabled? ☞ Is the selection between a credit and a debit (Account type) **not** enabled? ☞ Is a (set of) receipt(s) printed?	Yes: Step 2 No: Case failed	

Step	Actions and assessment	Result	Verdict
2.	Analyze the **Cardholders** receipt printed. The line numbers listed below are the line numbers from chapter 1-12 of the OTRS. ☞ Is purchase, line AM2, named "KÖP:" ☞ Is VAT printed, either on the bill or on the receipt? ☞ If the terminal supports VAT on the receipt, is the text on line AM4 "VARAV MOMS:" and is the VAT calculated correctly? ☞ If the terminal supports Cashback, Is the line AM6 "KONTANT" printed, and is the amount correct? ☞ Is line AM7 either absent or with the text "EXTRA" and either a blank or a zero value. ☞ Is the "TOTALT" line AM9 present and calculated correctly? ☞ If PIN was used, is the line TR1, "PERSONLIG KOD" present on the receipt? ☞ Is the card type line TR2, the value from the host response (field 44)? ☞ If Payment Condirtion is available, is the header of line TR3 "BETALKOD" and the value the same as entered during step 1? ☞ Is the line TR5 the PAN printed with **truncated** digits?	Yes: Step 3 No: Case failed.	
3.	Continue to analyze the **Cardholders** receipt printed. ☞ Is line TR7 present and does it contain the text "TEST MASTERCARD612" ☞ Is the Transaction condition code line TR8, TCC = `DA1'? ☞ Is the header for Merchant ID line TR8 'BUTIKSNR:'? ☞ Is the header of Approval code line TR13 "AUT KOD"? ☞ Is the Approval status line TR14 "AUTORISERAD" ? ☞ Is the text at the bottom of the receipt, line FI7 and FI8 "SPARA KVITTOT / KUNDENS EX"?	Yes: Step 4 No: Case failed.	
4.	If a **Merchants** receipt is printed start to analyze the receipt printed. else skip to step 6. ☞ Is the receipt identical to the Cardholders receipt, except for; - The line TR5 may contain a PAN that is **not** truncated - The line FI 8 "KUNDENS EX" is **not** present.	Yes: Step 5 No: Case failed.	
5.	Swipe the **MSC001** Try to perform a Cancellation of the previous transaction. ☞ Is the function **either** not available on the terminal; ☞ **or** does the function generate a an error message?	Yes: Step 7 No: Case failed	

Step	Actions and assessment	Result	Verdict
6.	Perform an Advice Transfer. Analyze the Financial Request in general, in the log file on the FTD. ☞ If the terminal is from phase 3 or later, is the processing code, field3 = 09xx00? ☞ Is the Amount, field 4, correct? ☞ Is The Amount Other, field 8, present and correct? ☞ Is the Currency code, field 49, `0752' (SEK)?	Yes: Step 7 No: Case failed.	
7.	Analyze field 47 of the Financial Advice (the `envelope').  ☞ Does it contain a tag `TX' (`5458') followed by the total length of the `envelope' data'? ☞ Is the envelope a tag `TZ' (`545A') indicating an inner envelope of Swedish data followed by the length of the Swedish data? ☞ If Payment Condition is implemented, is an element in the `inner' envelope tag `Z7' (`5A37') followed by a length field of `0006' and 6 additional characters identical to text of `Betalkod' on receipt?  ☞ If Payment Condition isn't implemented, is an element with tag `Z7' (`5A37') **not** present?  ☞ Is an element with tag `Z8' (`5A38') **not** present?  ☞ Is an element with tag `Z9' (`5A39') **not** present?  ☞ Is the next element in the `inner' envelope tag `ZA' (`5A41') followed by a length field of `0005' and 5 additional characters?  ☞ Does it contain the VAT amount (see the receipt) as BCD digits in the minor unit of the currency?  ☞ Is an element with tag `Z2' (`5A32') **not** present?  ☞ Is an element with tag `Z3' (`5A33') **not** present?  ☞ Is an element with tag `Z4' (`5A34') **not** present?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 19.3 - Swedish Terminals 03: Signature Transaction - Debit

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: SwedTerm	**Conditions:** [Signature] AND [Sweden]

Requirements tested:
1-15.3.2.14   Swedish receipt Signature Information block.
1-15.3.2.1   Shall contain mandatory lines from generic receipt

Purpose:
To verify that the terminal is able to perform signature transaction and handle Account Type selection.

Prerequisites:
Access to version 3.x.x of the receipt chapter (2-6) of the OTRS
The terminal is set up to support the Swedish market.
The test Proc. Cond. table has been loaded into the terminal.
The selected PAN range **does** support Account Type Selection.

FTD script: SwedTerm_03   *Card(s):* ICC018   *PSAM:* PSAM002
                                            ICC026

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
It is demonstrated that a Signature transaction can be performed in the Swedish environment and that a Cancellation cannot be performed after a timeout period.

Comments: If the Terminal supports "Preferred Languages" then select a card that will show the texts in Swedish, i.e. either a Swedish card (ICC026) or a card that requests an unsupported language.

Comments: The test is based on the FTD.

Step	Actions and assessment	Result	Verdict
1.	Select to perform a purchase transaction. If Payment Condition is supported, when so requested, enter the `Payment Condition'/Betalkod. Insert the **ICC018** (ADVT-1) in the card reader. Do **not** activate amount other. Use amount > floorlimit (e.g. SEK 101,00). ☞ Is it possible to start the transaction? ☞ If the preferred language of the card used is Swedish, or an unsupported language, are all the display and receipt texts texts in Swedish?? ☞ If supported, is the selection of account type enabled?	Yes: Step 2 No: Case failed	
2.	If the terminal supports Account Type selection, when requested, select a **Kontant** Account Type. ☞ Was it possible to select between a credit and a debit (kontant) transaction? ☞ Is a set of receipts printed?	Yes: Step 2 No: Case failed	

Step	Actions and assessment	Result	Verdict
3.	Analyze the **Merchants** receipt printed. The line numbers listed below are the line numbers from chapter 1-12 of OTRS vers. 3.x.x ✍ Is purchase, line AM2, named "KÖP:" ✍ Are all of the amount in the selected currency? ✍ IS VAT printed, either on the bill or on the receipt? ✍ If the terminal supports VAT on the receipt, is a line AM4 printed? ✍ Is the text on the line "VARAV MOMS:" and is the VAT calculated correctly? ✍ Is the entry "EXTRA" line AM7 either empty or absent? ✍ Is the line TR1 "PERSONLIG KOD" **not** present on the receipt? ✍ Is the card name on the receipt line TR2, the name from the ICC (Tag 50)? ✍ If Account Type Selection is supported, is information about selected type (credit/debit) line TR4 present on the receipt and is the text "BELASTAT BANKKONTO"? ✍ Is the PAN, line TR5 printed with **truncated** digits (recommended, but not a requirement)?	Yes: Step 3 No: Case failed.	
4.	Continue to analyze the **Merchants** receipt printed. ✍ Is the Transaction Condition Code line TR8, TCC = `I@1' (ICC - Signature based - Online authorization)? ✍ Is the header for Merchant number on line TR8 "BUTIKSNR:"? ✍ If it is possible to add tips, i.e. lines AM9 through AM12 are present, is there a "Tips information message' lines SI2 - SI5? ✍ Is there an "Approval message" line SI6 - SI7"? ✍ Is there an "ID source entry" field SI9 - SI12 ✍ Is there a "Signature header line" SI26? Does the line read "KUNDENS SIGNATUR"? ✍ Is the Approval status, line TR14, "AUTORISERAT"? ✍ Is the text at the bottom of the receipt, line FI7, SPARA KVITTOT"? ✍ Is a Cardholders receipt is printed as well?	Yes: Step 5 No: Case failed.	
5.	Wait for the timeout of the Cancellation window. It is by default 10 minutes. After the Time-out, try to perform a Cancellation. ✍ Is the function **either** not available on the terminal; ✍ **or** does the function generate an error message?	Yes: Step 6 No: Case failed.	

Step	Actions and assessment	Result	Verdict
6.	Perform an Advice Transfer. Analyze the Financial Advice in general, in the log file on the FTD. ☞ If the terminal is from phase 3 or later, is the processing code, field3 = 002000? ☞ Is the Amount, field 4, correct? ☞ Is the Amount Other, field 8, absent? ☞ Is the Currency code, field 49, 0752 (SEK)?	Yes: Step 7 No: Case failed.	
7.	Analyze field 47 of the Financial Advice (the `envelope').  ☞ Does it contain a tag "TX" (`5458') followed by the total length of the `envelope' data'?  ☞ Is the first element in the envelope a tag "TZ" (`545A') indicating an inner envelope of Swedish data followed by the length of the Swedish data? ☞ If the terminal is from **before** phase 3, is the element in the `inner' envelope tag "Z6" present? Is it (`5A36') followed by a length field of `0001' and a value of `20' (Debit)? ☞ If the terminal is from phase 3 or later, is the element "Z6" in the `inner' envelope tag **not** present?  ☞ If Payment Condition is implemented, is an element in the `inner' envelope tag `Z7' (`5A37') present followed by a length field of `0006' and 6 additional characters identical to text of `Betalkod' on receipt? ☞ If Payment Condition isn't implemented, is an element with tag `Z7' (`5A37') **not** present? ☞ Is an element with tag "Z8" (`5A38') **not** present?  ☞ Is an element with tag "Z9" (`5A39') **not** present? ☞ Is the next element in the `inner' envelope tag "ZA" (`5A41') followed by a length field of `0005' and 5 additional characters?  ☞ Does it contain the VAT amount (see the receipt) as BCD digit in the minor unit of the currency?  ☞ Is an element with tag "Z2" (`5A32') **not** present? ☞ Is an element with tag "Z3" (`5A33') **not** present?  ☞ Is an element with tag "Z4" (`5A34') **not** present?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 19.4 - ~~Swedish terminals 04: Purchase with dual delimiter MSC~~

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments: *** PLACEHOLDER, Only active once a test card is available, PLACE-HOLDER ***	

Test group: SwedTerm	**Conditions:** [Sweden]
Requirements tested: X.x.x.x . X.x.x.x .	
Purpose: To verify that the terminal is able to handle a MSC card with dual delimiter.	
Prerequisites: Access to version 3.0.x of the receipt chapter (2-6) of the OTRS The terminal is set up to support the Swedish market. The PAN range for the selected card doers **not** support Account Type selection. The test Processing Condition table has been loaded into the terminal. *FTD script:* SwedTerm04 *Card(s):* MSC**01x???** *PSAM:* PSAM002	
Test environment: *FTD Host:* X *IFS:* *Kopi:*	
General pass criteria: It is demonstrated that a the terminal can handle MSC cards with dual delimiter track 2 data.	

Comments: The test is based on the FTD but it should be possible to perform it in the KOPI environment as well.

Comments: The script awaits the availability of a test card.

Step	Actions and assessment	Result	Verdict
1.	Select to perform a **Purchase** transaction. Swipe the **MSC01x** in the card reader. ☞ Is it possible to start the transaction? ☞ Are all the display texts in Swedish?	Yes: Step 2 No: Case failed	
2.	If so requested, select to perform a debit transaction. ☞ Is it possible to select between a credit and a debit transaction? ☞ Is a (set of) receipt(s) printed?	Yes: Step 2 No: Case failed	
3.	Analyze the Financial Request in general, in the log file on the FTD. ☞ Is the Processing Code, field 3 = 000000? ☞ Is the Amount, field 4, correct? ☞ Is The Amount Other, field 8, absent? ☞ Is the Currency code, field 49, 'SEK'	Yes: Step 4 No: Case failed.	

Step	Actions and assessment	Result	Verdict
4.	Analyze field 47 of the Financial Advice (the 'envelope').		
	☞ Does it contain a tag 'TX' followed by the total length of the 'envelope' data'?		
	☞ Is the first element in the envelope a tag 'TZ' indicating an inner envelope of Swedish data followed by the length of the Swedish data?		
	☞ Is the element tag 'Z6' in the 'inner' envelope **not** present?		
	☞ If the terminal supports "Betalkod", is the element 'Z7' present in the 'inner' envelope? is it followed by a length field of '0006' and 6 additional characters identical to text of 'Betalkod' on receipt?		
	☞ Is an element with tag 'Z8' **not** present?		
	☞ Is an element with tag 'Z9' **not** present?		
	☞ Is the next element in the 'inner' envelope tag 'ZA' followed by a length field of '0005' and 5 additional characters?		
	☞ Does it contain the VAT amount (see the receipt) as BCD digit in the minor unit of the currency?		
	☞ Is an element with tag 'Z2' **not** present?		
	☞ Is an element with tag 'Z3' **not** present?	Yes: Case OK	
	☞ Is an element with tag 'Z4' **not** present?	No: Case failed.	
-	End of test case		

Test Case 19.5 - Swedish terminals 05: Refund transaction

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: SwedTerm	**Conditions:** [Sweden] AND [Attended]

Requirements tested:
1-15.3.2.15   Refund transaction and Clerk ID.
1-15.3.2.16   .A regional Swedish receipt shall,if it is a refund transaction, have the lines SI17 and SI18 (Clerk ID) in the Signature Information block on the cardholders receipt.

Purpose:
To verify that the terminal is able to perform Refund transaction and corresponding receipts.

Prerequisites:
The terminal is set up to support the Swedish market.
Access to the receipt chapter 1-12 of the OTRS.
The PAN range for the card does **not** enable Account Type selection.
The PAN range for the card does **not** enable the selection of cashback
The test Processing Condition table has been loaded into the terminal.
The terminal is set to support Refund transactions

FTD script: SwedTerm_05   *Card(s):* ICC001   *PSAM:* PSAM002
                                               (ICC017)

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
It is demonstrated that a Refund can be performed in the Swedish environment, and that it isn't possible to perform a Cancellation of this transaction.

Comments: The test is based on the FTD. It should be possible to perform the test in the KOPI environment as well.

Comments: If the Terminal supports "Preferred Languages" then select a card that will show the texts in Swedish, i.e. either a Swedish card (ICC028) or a card that requests an unsupported language (ICC017).

Comments: There is a regional requirement for a Cardholders, as well as a Merchants receipt (the latter to be signed by the cardholder).

Comments: The test is only applicable if the terminal supports ordinary Refund.

Step	Actions and assessment	Result	Verdict
1.	Select to perform a **Refund** transaction. Insert the **ICC001 / (ICC017)** in the card reader. ✎ Is it possible to start the transaction? ✎ Are all the display texts in Swedish? ✎ Is the cardholder **not** requested to enter a PIN?	Yes: Step 2 No: Case failed	
2.	If so requested, enter a payment condition / betalkod. ✎ Is addition of cashback disabled? ✎ Is selection between a credit and a debit transaction disabled? ✎ Is a (set of) receipt(s) printed?	Yes: Step 2 No: Case failed	
3.	Analyze the **Cardholders** receipt printed. The line numbers listed below are the line numbers from chapter 1-12 the OTRS. ✎ Is there a header, line HI7 of "<u>RETUR</u>" ✎ Is the transaction type, line AM2, named "RETUR:" ✎ Is the correct currency printed? ✎ If the terminal supports VAT on the receipt, is the VAT, line AM4 printed? ✎ Are the lines AM6 and AM7 either empty or absent? ✎ If there is a line AM9, is the header text "TOTAL" and is the amount the same as on line AM2? ✎ Is the line TR1 "PERSONLIG KOD" **not** present on the receipt? ✎ Is the card type line TR2, the value from the ICC? ✎ Is the the PAN , line TR5 truncated?	Yes: Step 4 No: Case failed.	
4.	Continue to analyze the **Cardholders** receipt printed. ✎ Is the line TR7 present and is it either "SØGÅRD SPAREKASSE 012"(ICC001) or blank (ICC017). ✎ Is the Transaction condition code line TR8, "TCC" = "I@5"? ✎ Is the header for Merchant No. line TR8, "BUTIKSNR:"? ✎ Are the Signature entry fields for the Merchant, lines SI6 -SI7, SI17 - SI18 and SI26 - SI28 as specified in the OTRS? ✎ Is the text in lines SI6 - SI7 "GODKÄNNES F. KREDITERING AV MIN KONTO ENLIGT OVAN"? ✎ Is the text in the line SI18 "KASSÖR"? ✎ Is the text in line SI26 "KASSÖRENS SIGNATUR"? ✎ Is the Approval status lineTR14 "AUTORISERAT"? ✎ Is the text lines FI7 - FI8 at the bottom of the receipt "SPARA KVITTOT" / "KUNDENS EX"?	Yes: Step 5 No: Case failed.	

Step	Actions and assessment	Result	Verdict
5.	If available, analyze the **Merchants** receipt printed. The line numbers listed below are the line numbers from chapter 1-12 of the OTRS. Is it identical to the Cardholders receipt **except** for the following; ☞ The PAN line TR5 may be non-truncated. ☞ Are the lines SI6 - SI7, S9 - SI10 and SI13 - SI14 **not** present. ☞ Is the text line FI7 at the bottom of the "SPARA KVITTOT" without the line FI8.	Yes: Step 6 No: Case failed.	
6.	<u>If supported</u>, try to perform a Cancellation of the previous transaction, <u>else skip this step.</u> ☞ Is the function **either** not available on the terminal; ☞ **or** does the function generate a an error message?	Yes: Step 7 No: Case failed	
7.	Perform an Advice Transfer to transfer the Financial Advice to the `Host'. ☞ Is the Advice Transfer successful?	Yes: Step 8 No: Case failed.	
8.	Analyze the Financial Request in general, in the log file on the FTD. ☞ Is the transaction a refund transaction, i.e. is the processing code, field 3 '200000'? ☞ Is the Amount, field 4, correct? ☞ Is The Amount Other, field 8, absent? ☞ Is the Currency code, field 49, "<u>0752</u>"?	Yes: Step 9 No: Case failed.	

Step	Actions and assessment	Result	Verdict
9.	Analyze field 47 of the Financial Advice (the `envelope').		
	☞ Does it contain a tag `TX' (`5458') followed by the total length of the `envelope' data'?		
	☞ Is the first element in the envelope a tag `TZ' (`545A') indicating an inner envelope of Swedish data followed by the length of the Swedish data?		
	☞ Is the element tag 'Z6' (`5A36') in the `inner' envelope **absent**?		
	☞ If a betalkod was entered, is the element tag 'Z7' (`5A37')SE Payment Condition in the `inner' envelope either present and followed by a length field of `0006' and 6 additional characters identical to text of `Betalkod' on receipt?		
	☞ If a betalkod was not entered is the element 'Z7' **not** present?		
	☞ Is an element with tag `Z8' (`5A38') **not** present?		
	☞ Is an element with tag `Z9' (`5A39') **not** present?		
	☞ Is the third element in the `inner' envelope tag `ZA' (`5A41') followed by a length field of `0005' and 5 additional characters?		
	☞ Does it contain the VAT amount (see the receipt) as BCD digit in the minor unit of the currency?		
	☞ Is an element with tag `Z2' (`5A32') **not** present?		
	☞ Is an element with tag `Z3' (`5A33') **not** present?		
	☞ Is an element with tag `Z4' (`5A34') **not** present?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 19.6 - Swedish terminals 06: Purchase, ICC, before Cancellation

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: SwedTerm	Conditions: [PIN] AND [Sweden] AND [Cancellation] AND [AccountType]

Requirements tested:
1-15.3.1.1   Attended shall support Cancellation
1-15.3.1.11 Text for Account type shall be"Bankkonto" and "Kortkredit".

Purpose:
To preform a simple PIN based Purchase as preparation of a following Cancellation transaction.

Prerequisites:
Access to the receipt chapter (1-12) of the OTRS.
The terminal is set up to support the Swedish market.
The test Processing Condition table has been loaded into the terminal.
The PAN range of the selected PAN card **does** support Account Type Selection.
The PAN range of the selected PAN card **does** support Cashback / Amount Other

FTD script: SwedTerm_06   *Card(s):* ICC022   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
It is demonstrated that it is possible to perform a simple PIN based Purchase transaction.

Comments: The test is based on the FTD. It should be possible to perform a similar test in the KOPI environment as well.

Comments: The test must be executed **immediately before** test case "Swedish terminals 07".

Comments: The card ICC022 is expired and BIN range obsolete. The transaction may be declined due to this

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **SwedTerm_06**. Perform a purchase transaction. If the terminal supports Payment Condition, when requested, enter the 'Payment condition'/Betalkod. Insert the **ICC022** (ADVT-16) in the card reader. Use amount > floorlimit (e.g. SEK 101,00). Add a cashback amount. ☝ Is it possible to start the transaction? ☝ Are all the display texts in Swedish or in the Cardholders language? ☝ Is the selection of Account Type enabled?	Yes: Step 2 No: Case failed	
2.	When requested, select to use a **credit** Account Type. ☝ Was it possible to select Account Type? ☝ Is a (set of) receipt(s) printed?	Yes: Step 2 No: Case failed	

Step	Actions and assessment	Result	Verdict
3.	Perform the cancellation test, test case "Swedish Terminal 07" before further analysis, to avoid timeout of the cancellation capability. Once that transaction is over, revert back to this test case. Analyze the **Cardholders** receipt printed. The line numbers listed below are the line numbers from chapter 1-12 of OTRS. ✍ Is transaction line AM2 named "KÔP:"? ✍ If the terminal supports VAT on the receipt, is a line AM4 printed? ✍ If the terminal supports cashback, is the line AM6 present? Is the header text "KONTANT:"? Is the amount the same as the cashback amount entered in step1? ✍ If the line AM7 is present does it have the header test "EXTRA" and is the amount either absent (blank) or zero? ✍ Is the line AM9 present? Is the text "TOTALT:"? Is the sum the correct value? ✍ Is the line TR1 "PERSONLIG KOD" present on the receipt? ✍ Is the card name in line TR2, the value from the ICC, **or** if the card doesn't hold name information, the value from the hosts? ✍ Is the Account Type selection, line TR4, the text "BELASTAT KORTKREDIT"? ✍ Is the PAN, line TR5, printed with **truncated** digits?	Yes: Step 3 No: Case failed.	
4.	Continue to analyze the **Cardholders** receipt printed. ✍ Is there a line TR7, and does it hold the AcquirerName string from the PCT, "TEST VISA ADVT-16"? ✍ Is the Transaction condition code, line TR8, TCC = 'IB1' ? ✍ Is the header for Merchant No, line TR8, "BUTIKSNR:"? ✍ Is the header of Approval code, line TR13, "AUT KOD" ?	Yes: Step 4 No: Case failed.	
-	End of test case		

Test Case 19.7 - Swedish terminals 07: Cancellation of Purchase, ICC

Test date:		Init:	
Problem Report (if any):		**Test case result:**	
Comments:			

Test group: SwedTerm	**Conditions:** [PIN] AND [Sweden]AND [Attended] AND [Cancellation]
Requirements tested: 1-15.3.1.1 Attended Terminals shall support Cancellation.	
Purpose: To perform the Cancellation of the previous Purchase transaction.	
Prerequisites: The terminal is set up to support the Swedish market. The terminal supports Cancellation (Makulerat) The test RECON table has been loaded into the terminal. The selected PAN range does support Account Type Selection. *FTD script:* (SwedTerm_06) *Card(s):* ICC022 *PSAM:* PSAM002	
Test environment: *FTD Host:* X *IFS:* *Kopi:*	
General pass criteria: It is demonstrated that it is possible perform a Cancellation of a previous Purchase transaction.	

Comments: The test is based on the FTD. The card shall never be used. It should be possible to perform a similar test in the KOPI environment.
Comments: The test must be executed **immediately after** test case "Swedish terminals 06". They have common log files.
Comments: The test shall be executed before the end of the Cancellation "Timeout window".

Step	Actions and assessment	Result	Verdict
1.	Perform a **Cancellation** / Makulerat transaction. ☞ Does the terminal request that the card is inserted? ☞ Does the terminal request that amount is to be entered? ☞ Does the terminal request that Account Type shall be selected? ☞ Does the terminal request that PIN is entered?	 Yes: Case failed No: Step 2	
2.	☞ Does the terminal request the the Merchant confirms the cancellation? ☞ Is the Cancellation accepted? ☞ Is a (set of) receipt(s) printed?	 Yes: Step 3 No: Case failed	

Step	Actions and assessment	Result	Verdict
3.	Analyze the **Cardholders** receipt printed. The line numbers listed below are the line numbers from chapter 1-12 of the OTRS. ☞ It the receipt **identical** to the Cardholders receipt from the previous test case **except for** the that there is a line HI4 with the text "MAKULERAT"? ☞ Is the time stamp, line HI 10, **not** updated? ☞ Is the STAN, line TR6 and TR14 **not** updated? ☞ Is the Transaction condition code ,line TR8, **equal to** the TCC from the previous transaction?	Yes: Step 4 No: Case failed.	
4.	Perform an Advice Transfer to get data to the host. analyze the data. ☞ Has a Financial Advice **not** been sent to the host? ☞ Has a Reversal Advice been sent to the host? Analyze the Reversal Advice, in the log file on the FTD. ☞ Is field 2, the PAN, **not** present (as field 35 is present)? ☞ If the terminal is from phase 3 or later, is field 3, the processing code = 093000? ☞ If the terminal is from before phase 3, is field 3, the processing code 000000? ☞ Is field 4, the Amount, the total amount from the receipt? ☞ Is field8, Amount Other, the cashback amount from the receipt? ☞ Is field 14,Date expiration, **not** present (as field 35 is present)? ☞ Id field 25, Message Reason Code = 4005? ☞ Has field35 data been masked to hide additional data beyond Service Code and Expiry date?	Yes: Step 4 No: Case failed.	

Step	Actions and assessment	Result	Verdict
5.	Analyze field 47, (the `envelope') of the Reversal Advice .		
	☞ Does it contain a tag "TX" (`5458') followed by the total length of the `envelope' data'?		
	☞ Is the first element in the envelope a tag "TZ" (`545A') indicating an inner envelope of Swedish data followed by the length of the Swedish data?		
	☞ Is an element with tag "Z9" (`5A39') **not** present (This was an interim v. 2.5x solution).		
	☞ Is an element with tag "Z6" (`5A36') **not** present.		
	☞ Is an element with tag "Z8" (`5A38') **not** present?		
	☞ Does an element in the `inner' envelope tag "ZA" (`5A41') exist followed by a length field of `0005' and 5 additional characters?		
	☞ Does it contain the VAT amount (see the receipt) as BCD digit in the minor unit of the currency?		
	☞ Is an element with tag "Z2" (`5A32') **not** present?		
	☞ Is an element with tag "Z3" (`5A33') **not** present?		
	☞ Is an element with tag "Z4" (`5A34') **not** present?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 19.8 - Swedish terminals 08: Key entered transaction

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: SwedTerm	**Conditions:** [Sweden] AND [KeyEnter]

Requirements tested:
1-15.3.1.14 An attended Swedish terminal shall implement Key Entered transactions and enable it based on the PCT.

Purpose:
To verify that the terminal is able to handle a (real) Key Entered transaction.

Prerequisites:
Access to the receipt chapter 1-12 of the OTRS.
The terminal is set up to support the Swedish market.
The test Processing Condition Table has been loaded into the terminal.
The PAN used shall support Key Entered in the Processing Condition table.
FTD script: SwedTerm_08 *Card(s):*(MSC010) *PSAM:* PSAM002 (ICC001)

Test environment:
FTD Host: X *IFS:* *Kopi:*

General pass criteria:
It is demonstrated that the terminal can perform a Key entered transaction.

Comments: The test is based on the FTD but it should be possible to perform a similar test in the KOPI environment as well.
Comments: The physical cards are never used, only the PAN and Expiry date information.
Comments: This is a test of Key Entered transactions, like booking a hotel. This is not a test of Post registration (Efterregistrering). Such a test is performed in another test case.

Step	Actions and assessment	Result	Verdict
1.	Perform a Key Entered **purchase** transaction **without** tips and with an amount above floor limit (SEK 100,00). ☞ Is it possible to select a key entered transaction? ☞ Are all the display texts in Swedish?	Yes: Step 2 No: Case failed	
2.	Continue the transaction and enter the PAN <u>(3540 8299 994 2101 2)</u> and expiry date<u>(12/49)</u>. If the terminal requests CV2 skip it (enter dummy value) ☞ Is it possible to enter PAN and Expiry Date for **MSC010** (JCB FT-1)? ☞ Does the terminal **not** request reading the card? ☞ Does the terminal **not** requesting entering the PIN? ☞ Does the terminal go online? ☞ Is a (set of) receipt(s) generated?	Yes: Step 3 No: Case failed	

Step	Actions and assessment	Result	Verdict
3.	If necessary, confirm the signature. Analyze the (initial) **merchants** receipt generated. ☞ Is the amount, line AM2 in SEK? ☞ Is the card name on the receipt, line TR2, the card name from the host ("Dankort")? ☞ Is Transaction Condition Code, line TR7 = 'T@1'? ☞ ~~Is it a signature receipt, i.e. does it contain the lines SI6 - SI7, SI9 - SI12 and SI26 - SI28?~~	Yes: Step 4 No: Case failed.	
4.	Analyze the **cardholders** receipt ☞ Is the Currency code, line AM2, 'SEK' ☞ Is the PAN, TR5 on the receipt truncated? ☞ Is it **without** signature entry fields, i.e. the lines SI6 - SI7, SI9 - SI12 ans SI26 - SI28?	Yes: Step 5 No: Case failed.	
5.	Perform another Key Entered **purchase** transaction **without** tips and with an amount above floor limit (SEK 100,00). Enter the PAN and Expiry date of **ICC001** (Visa/Dankort). ☞ Is the transaction <u>either not allowed or </u> declined?	Yes: Step 6 No: Case failed.	
6.	Perform an Advice Transfer Analyze the Financial Request generated. ☞ Is field 2, PAN, present, and is it identical to the value entered in step 2. ☞ Is field 14, Expiry Date, present, and equal to the value entered. ☞ Is field 22, POS Entry Mode, equal to '<u>1065XX</u>'? ☞ If a CV2 has been entered, does field 47 contain a tag 'V5' holding a 4 digit value? Is it the CV2 value entered earlier, right justified, and padded with '0's? ☞ Does field 47 contain a tag 'TX' followed by the total length of the 'envelope' data'? ☞ Does it contain the VAT amount (see the receipt) as BCD digit in the minor unit of the currency?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 19.9 - Swedish Terminals 09: Invalid Cards

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: SwedTerm	**Conditions:** [Sweden] AND NOT [CombinedReader]
Requirements tested:	
1-14.3.4.6 Only the first 8 digits of the PAN shall decide whether the PSAM supports the actual PAN.	
1-14.3.5.15 If none of the AIDs supported by the ICC are supported by any of the PSAMs, the message code 12' ("Use MAG Stripe") shall be displayed on the Cardholder Display in order to initiate a MSC transaction.	
Purpose: To verify that the terminal is able to handle invalid cards correctly.	
Prerequisites: Access to the receipt chapter 1-12 of the OTRS. The terminal is set up to support the Swedish market. The test Processing Condition table has been loaded into the terminal.	
FTD script: SwedTerm_09 *Card(s):* MSC009 ICC007 *PSAM:* PSAM002	
Test environment:	
FTD Host: X *IFS:* *Kopi:*	
General pass criteria: It is demonstrated that an ICC (Dankort) with an AID that is neither supported in the Processing Conditions Table nor by the PSAM will not be locally accepted.	
Step 1: The Dankort AID is not supported by the AID Table. According to requirement 1-14.3.5.15, the terminal shall initiate a magstripe transaction.	
Step 2: The terminal should not perform any additional checks as e.g. length of PAN, but leave it to the PSAM/host. The PSAM will due to the length error go online. The host will in this test case return a successful response.	

Comments: The test is based on the FTD. The test cannot be performed in KOPI Environment.	

Step	Actions and assessment	Result	Verdict
1.	Select to perform a purchase transaction. Insert the **ICC007** in the card reader. ☞ Is the terminal displaying "Använd magnetläsare" alternatively "Använd mag.läsare"?	Yes: Step 2 No: Case failed	
2.	Swipe the **MSC009** in the card reader. ☞ Is the transaction performed successfully? ☞ Are all the display texts in Swedish?	Yes: Case OK No: Case failed	
3.	Analyze the receipts printed. ☞ Is the transaction condition code = "DA1" i.e. **not** fallback?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 19.10 - Swedish terminals 10: Declined transaction

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: SwedTerm	**Conditions:** [Sweden] ~~AND [Attended]~~

Requirements tested:
1-15.3.2.2   The regional Swedish receipt texts shall be as defined in ...

Purpose:
To verify that the terminal display the correct texts at declined transactions.

Prerequisites:
Access to the receipt chapter (2-6) of the OTRS.
The terminal is set up to support the Swedish market.
The terminal is not set for auto-complete of signature transactions.
The test Processing Condition table has been loaded into the terminal.

FTD script: SwedTerm_10   *Card(s):* ICC002   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
It is demonstrated that a the terminal can perform late declined transaction, declined by the card.

Comments: The test is based on the FTD and is **not** possible to perform it in the KOPI environment as well.

Comments: The card will, due to the encryption algorithm used, reject the transaction after receiving a successful response from the FTD host. This will not occur on the KOPI host.

Step	Actions and assessment	Result	Verdict
1.	Perform a **Purchase** transaction with an amount above floor limit (SEK 100,00). Insert **ICC002** (ETEC MC REQ 05) in the card reader. ☜ Is the card recognized as a MasterCard? ☜ If the terminal is an attended terminal, is the transaction processed as a signature transaction? ☜ Are the display texts in Swedish and correct?	Yes: Step 2 No: Case failed	

Step	Actions and assessment	Result	Verdict
2.	If needed confirm the Cardholders signature. ☞ Is the transaction declined before the receipt is printed, i.e. is a declined receipt printed? ☞ Is all the normal amount field line AM2, printed? ☞ Is the normal transaction information in lines TR2 - TR12 printed? ☞ If it is an attended terminal, is the TCC, line TR8 = "I@1", else is it "IA1" ☞ Is there **not** an 'authorized' message on line TR14? ☞ Does the receipt contain the lines FI1 - FI3? ☞ Is the message in line FI2 = "MEDGES EJ"? ☞ Is the ASW in line FI5 = "12 0E"? ☞ Is line FI6 printed, holding TVR and TSI? ☞ Are the texts on display and receipt correct?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 19.11 - Swedish terminals 11: Stopped/Cancelled transaction

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: SwedTerm	**Conditions:** [PIN] AND [Sweden]

Requirements tested:
1-15.3.2.1   shall contain mandatory lines from generic receipt
1-15.3.2.2   Swedish texts shall be as defined in

Purpose:
To verify that the terminal will print the correct texts at a stopped/cancelled trans-
action, and that one cannot cancel a cancelled transaction.

Prerequisites:
Access to the receipt chapter 1-12 of the OTRS.
The terminal is set up to support the Swedish market.
The terminal shall, if attended, support Cashback.
The test Processing Conditions table has been loaded into the terminal.
The setup for the selected PAN range **does not** support Account Type Selection.
The setup for the selected PAN range **does** support Cashback.

FTD script: SwedTerm_11   *Card(s):* MSC001   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
It is demonstrated that a stopped/cancelled transaction can be performed in the
Swedish environment, and that one cannot perform a Cancellation of this transac-
tion

Comments: The test is based on the FTD. It is **not** possible to perform a similar
test in the KOPI environment as the host does not support this response.

Step	Actions and assessment	Result	Verdict
1.	Select to perform a **purchase** transaction (supporting cashback) and enter amount. Swipe the **MSC001** card. If needed skip the entry of `Payment condition'/Betalkod or enter any value. ☞ Is it possible to start the transaction? ☞ Are all the display texts in Swedish? ☞ If the terminal is attended, and the terminal supports cashback, was the selection of cashback enabled? ☞ Is the selection between a credit and debit not enabled? ☞ Is the cardholder requested to enter a PIN?	Yes: Step 2 No: Case failed	

Step	Actions and assessment	Result	Verdict
2.	Don't enter any cashback amount. Enter an incorrect PIN on the terminal. (To ensure that the test case will perform correctly in the FTD as well as in the KOPI environment). The terminal **may** generate a declined PIN receipt now, or defer the printing of the receipt until the transaction is over. ☞ Is the PIN declined? ☞ Is the user requested to re-enter the PIN? ☞ Are the display texts on the terminal correct?	Yes: Step 3 No: Case failed.	
3.	When so requested, re-enter the four digits of the PIN, but then **cancel** the transaction **before** confirm. ☞ Is the overall transaction cancelled? ☞ Is the first receipt generated a declined PIN receipt? ☞ On the first receipt, is the line FI2 "MEDGES EJ" ☞ On the first receipt, is the error code in line FI5 ="1221" ☞ Is a second Cancelled transaction receipt printed as well? ☞ Is the line FI2 on this receipt "ANNULERING AVBRUTEN - TEKNISK FEL" ☞ Is the error code in line FI5 = "1275"	Yes: Case OK No: Case failed.	
4.	Analyze the (first) Financial Request, in the log file on the FTD. ☞ Is the Amount, field 4, correct? ☞ Is The Amount Other, field 8, absent?	Yes: Step 5 No: Case failed.	
5.	If the terminal supports Cancellation, try to perform a Cancellation of the previous transaction ☞ Is the function **either** not available on the terminal; ☞ **or** does the function generate an error message?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 19.12 - Swedish terminals 12: Declined Signature transaction

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: SwedTerm	Conditions: [Sweden] AND [Attended] AND [Signature]

Requirements tested:
1-15.3.2.1   shall contain mandatory lines from generic receipt
1-15.3.2.2   receipt texts shall be as defined in 1-15.3.5.
1-12.2.10.8   shall indicate signature rejected.

Purpose:
To verify that the terminal performs correct at declined signature transactions.

Prerequisites:
The terminal is set up to support the Swedish market.
The terminal is **not** set for auto-complete of signature transactions.
The test Processing Condition table has been loaded into the terminal.

FTD script: SwedTerm_12   *Card(s):* ICC018   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
It is demonstrated that a the terminal can perform a declined signature transaction, declined by the merchant.

Comments: The test requires that the merchant is able to decline the signature of the cardholder.

Step	Actions and assessment	Result	Verdict
1.	Perform a **Purchase** transaction with an amount above floor limit (SEK 100,00). Insert **ICC018** (VISA ADVT 6.0 TC 01) in the card reader. ☞ Is the card recognized as a Credito de Visa? ☞ Is the transaction processed as a signature transaction? ☞ Are the display texts in Swedish and correct?	Yes: Step 2 No: Case failed	
2.	If requested, enter any Betalkod/Payment Condition If requested, select "Bankkonto" as Account Type. ☞ Is Merchants receipt, with a Signature area printed? ☞ Is a Cardholders receipt printed?	Yes: Case OK No: Case failed	
3.	When the terminal requests the merchant to confirm the signature, reject the signature. ☞ Is a declined cardholders receipt printed? ☞ Is the message in line FI2 = "SIGNATUR - MEDGES EJ"? ☞ Is the ASW on line FI5 = "17 04"?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 19.13 - Swedish terminals 13: Fallback transaction.

Test date:	**Init:**
Problem Report (if any):	**Test case result:**
Comments:	

Test group: SwedTerm	**Conditions:** [PIN] AND [Sweden] AND [Attended]

Requirements tested:
1-15.3.2.1   ..shall contain mandatory lines from generic receipt
1-15.3.2.2   ..receipt texts shall be as defined in 1-15.3.5.
2-4.15.2.5.   ..shall indicate ... a fallback transaction.

Purpose:
To verify that the terminal will display and print the correct texts on the display and the receipts at fallback transactions.

Prerequisites:
The terminal is set up to support the Swedish market.
The test Processing Conditions table has been loaded into the terminal.

FTD script: SwedTerm_13   *Card(s):* ICC004   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
It is demonstrated that a fallback transaction can be performed in the Swedish environment.

Comments: The test is based on the FTD. It should be possible to perform a similar test in the KOPI environment as well.

Step	Actions and assessment	Result	Verdict
1.	On a terminal with a combined reader, skip to step 2. Perform a **purchase** transaction and enter amount. Swipe the **ICC004** card. ☝ Is the cardholder requested to use the chip (reader) instead? ☝ Are all the display texts in Swedish?	Yes: Step 2 No: Case failed	
2.	Insert the **ICC004** card in the reader. If requested then re-insert the card in the ICC reader. ☝ Is the merchant requested to confirm, that fallback is to be activated. ☝ If the reader isn't a combined reader, is the cardholder and / or the merchant requested to swipe the card as MSC? ☝ If the reader is a combined reader, is the cardholder optionally requested to remove the card? ☝ Are all the display texts in Swedish?	Yes: Step 3 No: Case failed	

Step	Actions and assessment	Result	Verdict
3.	If necessary, re-activate the **ICC004** as a MSC card (swipe in the MSC reader). When so requested, enter the PIN. ☞ Is the transaction successful? ☞ Is a (set of) receipt(s) printed? ☞ Does the Transaction Condition Code on the receipt, line TR8 show that this is a fallback transaction, i.e. TCC= "EA1"?	Yes: Step 4 No: Case failed	
4.	Analyze the FTD log ☞ Has a Financial Request, and only a Financial Request been generated? ☞ Is field 22 position 3 = 7, indicating that this is a fallback transaction.	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 19.14 - Swedish terminals 14: Key entered transaction, declined

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: SwedTerm	**Conditions:** [Sweden] AND [KeyEnter] AND [Attended]
Requirements tested: 1-15.3.1.14　Shall implement Key Entered transactions and enable it based on the PCT.	
Purpose: To verify that the terminal will decline Key Entered transaction when this is not enabled in the Processing Condition table.	
Prerequisites: Access to the receipt chapter 1-12 of the OTRS. The terminal is set up to support the Swedish market. The test Processing Conditions table has been loaded into the terminal. The Processing Conditions table does **not** support Key Entered transactions for the card type used. *FTD script:* SwedTerm_14　　　　*Card(s):* ICC001　　　*PSAM:* PSAM002	
Test environment: *FTD Host:* X　　　　　　　*IFS:*　　　　　　　*Kopi:*	
General pass criteria: It is demonstrated that the terminal will detect that a Key Entered transaction isn't allowed.	

Comments: The test is based on the FTD but it should be possible to perform a similar test in the KOPI environment as well.	
Comments: The transaction cannot be declined before the PAN is known to the terminal. PAN and expiry date are either embossed on the card (Visa Dankort) or listed in the start of the OTTS.	
Comments: This is a normal key entered transaction **not** a post registration.	

Step	Actions and assessment	Result	Verdict
1.	Start a Key entered **purchase** transaction with an amount above floor limit (SEK 100,00). <u>Enter the PAN and expiry date of the selected card **ICC001**</u>. ☞ Is it possible to select a key entered transaction? ☞ Are all the display texts in Swedish?	Yes: Step 2 No: Case failed	

Step	Actions and assessment	Result	Verdict
2.	~~Continue the transaction and enter the PAN and expiry date of the selected card~~ **ICC001**. ☞ Was it possible to enter PAN and Expiry Date? ☞ Does the terminal terminate the transaction (this may be performed by the ECR in an integrated system)? ☞ Does the terminal provide a message indicating that a key entered transaction cannot be performed? ☞ Is the transaction terminated without a receipt being generated?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 19.15 - Swedish terminals 15: Purchase MSC, before cancellation

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: SwedTerm	**Conditions:** [PIN] AND [Sweden] AND [Attended] <u>AND [Cancellation]</u>
Requirements tested: 1-15.3.1.1 Attended shall support Cancellation 1-15.3.1.11 Text for Account type shall be...	
Purpose: To verify that the terminal is able to handle a Cancellation of a MSC transaction	
Prerequisites: Access to the receipt chapter 1-12 of the OTRS. The terminal is set up to support the Swedish market. The test Processing Conditions table has been loaded into the terminal. The setup for the selected PAN range does support Cashback. *FTD script:* SwedTerm_15 *Card(s):* MSC001 *PSAM:* PSAM002	
Test environment: *FTD Host:* X *IFS:* *Kopi:*	
General pass criteria: It is demonstrated that 'Makulering' of a MSC transaction can be performed in the Swedish environment.	

Comments: The test is based on the FTD. It should be possible to perform a similar test in the KOPI environment as well.
Comments: This test is the **setup** for test case "Swedish Terminals 16", Cancellation of a MSC purchase. This test case is not relevant if a Cancellation cannot be performed, i.e. if it is not possible to run the next Test Case.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **SwedTerm_15**. Perform a **purchase** transaction, with the possibility of cashback. If possible, swipe the **MSC001** card before the amount is known. Enter Amount as well as Cashback /"Kontant" If requested enter `Payment condition'/Betalkod. Enter PIN if so requested. ☞ Is it possible to start the transaction? ☞ Was the selection of cashback enabled? ☞ Is a (set of) receipt(s) printed?	Yes: Step 2 No: Case failed	
2.	Proceed immediately to the next Test Case "Swedish Terminals 16" to avoid a time-out condition.	Yes: Step 3 No: Case failed.	
-	End of test case		

Test Case 19.16 - Swedish terminals 16: Cancellation of Purchase, MSC

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: SwedTerm	**Conditions:** [PIN] AND [Sweden] AND [Attended]
Requirements tested: 1-15.3.1.1 Attended terminals shall support Cancellation	
Purpose: To perform a Cancellation of a previous MSC based Purchase transaction.	
Prerequisites: Access to the receipt chapter 1-12 of the OTRS. The terminal is set up to support the Swedish market. The test Processing Conditions Table has been loaded into the terminal. The setup for the selected PAN range does support Cashback. Test case "Swedish Terminal 15" has been executed **immediately** prior to the current test case. *FTD script:* (SwedTerm_15) *Card(s):*(MSC001) *PSAM:* PSAM002	
Test environment: *FTD Host:* X *IFS:* *Kopi:*	
General pass criteria: It is possible perform a Cancellation of a previous MSC Purchase transaction.	

Comments: The test must be executed immediately after test case "Swedish terminals 15". Do **not** perform an Advice Transfer as part of the start up.
Comments: The test is based on the FTD. It should be possible to perform a similar test in the KOPI environment as well.
Comments: The test card shall never be used. The log files in the FTD are common to SwedTerm_15.

Step	Actions and assessment	Result	Verdict
1.	Perform a **Cancellation** transaction. ☞ Is it possible to start the transaction? ☞ Is the Cardholder **not** requested to swipe the card? ☞ Is the merchant **not** requested to enter an amount? ☞ Is the cardholder **not** requested to select an Account Type? ☞ Is the merchant **not** requested to enter a 'Betalkod'? ☞ Is the Cardholder **not** requested to enter a PIN. ☞ Are all the display texts in Swedish? ☞ Is a (set) of receipt(s) printed?	Yes: Step 2 No: Case failed	

Step	Actions and assessment	Result	Verdict
2.	Analyze the Cardholders receipt printed. The line numbers listed below are the line numbers from chapter 1-12 of OTRS vers. 3.0. ☞ Is there a line HI4 with the text "MAKULER-AT"? ☞ Is the text emphasized? ☞ Is the remainder of the receipt **identical** to the Cardholders purchase receipt from the previous transaction, especially? ☞ Is the line TR1 "PERSONLIG KOD" **still** present on the receipt? ☞ Is the time stamp, line HI10 **not** updated? ☞ Is the STAN, line TR6 and line TR14 **not** updated? ☞ Is the Transaction condition code, line TR7, still TCC = `DA1' ?	Yes: Step 3 No: Case failed.	
3.	Try to perform an additional Cancellation ☞ Is this Cancellation denied?	Yes: Step 4 No: Case failed	
4.	Perform an Advice Transfer Analyze the Reversal Advice in the log file on the FTD. ☞ Is field 2, the PAN **not** present? ☞ Is field 4, the Amount, the same as field 4 of the foregoing Financial Request? ☞ Is field 3, the Processing Code = 000000 ? ☞ Is field 8, Amount other, not present? ☞ Is field 25, Message Reason Code = 4005? ☞ Is field 35 present, and has data been masked to hide additional data beyond Service Code and Expiry date? ☞ Is field 38, Approval Code, present and the same as in the foregoing Financial Request. ☞ Is the Currency code, field 49, "0752" (SEK)?	Yes: Step 5 No: Case failed.	
5.	Analyze field 47 of the Reversal Advice (the `envelope').   ☞ Does it contain a tag "TX" (`5458') followed by the total length of the `envelope' data'?   ☞ Is the the element in the envelope a tag "TZ" (`545A') indicating an inner envelope of Swedish data followed by the length of the Swedish data? ☞ Is an element with tag "Z6" (`5A36') **not** present.   ☞ Is an element with tag "Z8" (`5A38') **not** present? ☞ Does an element in the `inner' envelope tag "ZA" (`5A41') exist followed by a length field of `0005' and 5 additional characters? ☞ Does the tag contain the VAT amount (see the receipt) as BCD digit in the minor unit of the currency?(This may **not** be requirement).	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 19.17 - ~~Swedish terminals 17: Key entered Post-registration.~~

Test date:	Init:
Problem Report (if any):	Test case result:
Comments: >>>** This test is at the present **not** Applicable **<<<	

Test group: SwedTerm	Conditions: [Sweden] AND [KeyEnter]
Requirements tested: 1-15.3.1.18 A swedish terminal shall implement Post Registration.	
Purpose: To verify that the terminal is able to handle a Post Registration transactions.	
Prerequisites: Access to version 3.0 of the receipt chapter 1-12 of the OTRS The terminal is set up to support the Swedish market. The test Processing Conditions table has been loaded into the terminal. *FTD script:* SwedTerm_17 *Card(s):*ICC001 *PSAM:* PSAM002	
Test environment: *FTD Host:* X *IFS:* *Kopi:*	
General pass criteria: It is demonstrated that a the terminal can handle post registration data entry.	

Comments: The test is based on the FTD but it should be possible to perform a similar test in the KOPI environment as well.
Comments: The transaction shall, at the present, be handled as a forced offline transaction, to make it possible to enter the authorization code requested while the terminal wasn't available.
Comments: The entry of data for a Post Registration shall not be controlled by the 'Key Enter' flag in the Processing Condition table, i.e. it shall be possible to enter data, even if this flag isn't set for the card type.

Step	Actions and assessment	Result	Verdict
1.	Perform a Key entered **Post registration** "Efterregistrering" transaction type. This may include setting the terminal to **forced offline** condition. ☞ Is it possible to select this type of transaction?	Yes: Step 2 No: Not Applicable	
2.	Continue the transaction and enter the PAN and expiry date. ☞ Is it possible to enter PAN and Expiry Date? ☞ Does the terminal **not** request reading the card? ☞ Does the terminal **not** request PIN or CV2? ☞ Does the terminal request the entry of an authorization code? ☞ Is a (set of) receipt(s) generated? ☞ Is the transaction successful?	Yes: Step 3 No: Case failed	

Step	Actions and assessment	Result	Verdict
3.	Analyze the (merchants) receipt generated. ⌨ Does the receipt contain an Amount field, AM2 and is the header text "KÖP"? ⌨ Does the receipt contain a line AM14 with the text "EFTERREGISTRERING"? ⌨ Is the PAN, line TR5, printed on the receipt? **Note:** The PAN may be the full PAN, as it is a offline transaction. ⌨ Is Transaction Condition Code, line TR7, 'T@5'? ⌨ Is there an "Approval message" line SI6 - SI7"? ⌨ Is there an "ID source entry" field SI9 - SI12 ⌨ Is there a "Signature line" SI28? Does the line read "KUNDENS SIGNATUR"? ⌨ Is the authorization code from step 2 printed as the 'AUT CODE' in in line TR12?	Yes: Step 4 No: Case failed.	
4.	If necessary perform an Advice Transfer, to get the data. Analyze the Financial Advice generated. ⌨ Is field 2 PAN present; ⌨ Is field 14, Date Expiration present; ⌨ Is field 22, POS Entry Mode, equal to '70654x'? ⌨ Is field 35 **not** present? ⌨ Is field 38, Approval Code, present and having the same value as the text on the receipt (line TR12). ⌨ Does field 47 contain a tag 'TX' followed by the total length of the 'envelope' data'? ⌨ Is the first element in the envelope a tag 'TZ' indicating an inner envelope of Swedish data followed by the length of the Swedish data? ⌨ Is an element in the 'inner' envelope with tag 'Z6' **not** present in the envelope? ⌨ Is an element with tag 'Z8' **not** present? ⌨ Is an element with tag 'Z9' **not** present? ⌨ Is an element in the 'inner' envelope tag 'ZA' followed by a length field of '0005' and 5 additional characters? ⌨ Does it contain the VAT amount (see the receipt) as BCD digit in the minor unit of the currency? ⌨ Is an element with tag 'Z2' **not** present? ⌨ Is an element with tag 'Z3' **not** present? ⌨ Is an element with tag 'Z4' **not** present?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 19.18 - Swedish terminals 18: Declined PIN transaction, ICC

Test date:		**Init:**	
Problem Report (if any):		**Test case result:**	
Comments:			

Test group: SwedTerm	**Conditions:** [PIN] AND [Sweden]

Requirements tested:
1-15.3.2.1   Shall contain mandatory lines from generic receipt (sect. 1-12)
1-15.3.1.10   Display texts shall be as defined in table 1-15.5.
1-15.3.2.2   Receipt texts shall be as defined in section 1-15.3.5

Purpose:
To verify that the terminal will handle and print the correct receipt texts at a declined PIN transaction.

Prerequisites:
Access to the receipt chapter 1-12 of the OTRS.
The terminal is set up to support the Swedish market.
The test Processing Conditions Table has been loaded into the terminal.

FTD script: SwedTerm_18   *Card(s):* ICC031   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
It is demonstrated that a declined PIN transaction using an ICC can be performed in the Swedish environment.

Comments: The test is based on the FTD. It is **not** possible to perform the test in the KOPI environment, as the available test Host cannot be set up to reject the PIN..

Comments: The ICC031 card is specific for this test. It is modified to be a national Swedish card and to request Online PIN that can be declined.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **SwedTerm_18**. Perform a **purchase** transaction and enter amount above floor limit (SEK 100,00) Insert the **ICC031** card. ☞ Are all of the texts displayed in Swedish?	Yes: Step 2 No: Case failed	
2.	☞ Is it possible to start the transaction? ☞ Are all of the display texts in Swedish? ☞ Is the cardholder requested to enter a PIN?	Yes: Step 3 No: Case failed	
3.	Don't enter any cashback amount. Enter an **incorrect** PIN on the terminal. (To ensure that the test case will perform correctly in FTD as well as in any other test environment). ☞ Is the PIN declined?	Yes: Step 4 No: Case failed.	

Step	Actions and assessment	Result	Verdict
4.	☞ Is the PIN declined? ☞ Is the transaction terminated? ☞ Is a cardholders receipt printed? ☞ Is it a declined transaction receipt, i.e. is line FI2 = "MEDGES EJ"? ☞ Is the transaction not authorized, i.e. is line TR14 blank? ☞ Is the ASW on line FI5 = "1221"	Yes: Step 5 No: Case failed	
5.	Perform a new transaction When so requested, enter the **correct** four digit PIN. ☞ Is the transaction accepted? ☞ Is an approved transaction cardholder receipt printed? ☞ ~~Is the reference number, line TR14 (STAN) on the receipt 2 higher than the reference number from line TR6 on the first receipt?~~ ☞ Are the texts on the display correct?	Yes: Step 6 No: Case failed.	
6.	Perform an Advice Transfer. Analyze the log on the FTD. ☞ Has the test generated the following transactions~~, in order~~? - an Authorization Request? - an Reversal Advice? - an Authorization Request? and - a Financial Advice?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 19.19 - Swedish terminals 19: Declined PIN transaction, MSC

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: SwedTerm	**Conditions:** [PIN] AND [Sweden]

Requirements tested:
1-15.3.2.1   Shall contain mandatory lines from generic receipt (sect. 1-12)
1-15.3.1.10 Display texts shall be as defined in table 1-15.5.
1-15.3.2.2   Receipt texts shall be as defined in section 1-15.3.5

Purpose:
To verify that the terminal will handle a declined MSC and PIN transaction.

Prerequisites:
Access to the receipt chapter 1-12 of the OTRS.
The terminal is set up to support the Swedish market.
The test Processing Conditions table has been loaded into the terminal.

FTD script: SwedTerm_19   *Card(s):* MSCC011   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
It is demonstrated that a declined PIN transaction, with PIN error and using a MSC, can be performed in the Swedish environment.

Comments: The test is based on the FTD. It is **not** possible to perform a similar test in the KOPI environment due to host restrictions.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **SwedTerm_19**. Select to perform a **purchase** transaction and enter amount. Swipe the **MSC011** card. ☞ Is it possible to start the transaction? ☞ Are all of the display texts in Swedish? ☞ Is the cardholder requested to enter a PIN?	Yes: Step 2 No: Case failed	
2.	Enter an **incorrect** PIN on the terminal. (To ensure that the test case will perform correctly in FTP as well as in the KOPI environment). [The terminal **may** generate a declined PIN receipt now, or defer the printing of the receipt until the transaction is over.] ☞ Is the PIN declined? ☞ Is the user requested to reenter the PIN **without** re-swiping the card? ☞ Are the display texts on the terminal correct?	Yes: Step 3 No: Case failed.	

Step	Actions and assessment	Result	Verdict
3.	When so requested, re-enter the **correct** four digit PIN. ☞ Is the overall transaction accepted? ☞ Are, in all, two cardholders receipts printed? ☞ Is a declined PIN cardholder receipt, the first generated? ☞ Is a approved transaction cardholder receipt, the second receipt generated? ☞ Is the STAN, line TR6 on the last receipt **one** higher than the STAN, line TR6 on the first receipt? ☞ Are the texts on the display correct? ☞ Are the texts on the receipts correct?	Yes: Step 4 No: Case failed.	
4.	Analyze the log on the FTD. ☞ Has the test generated the following transactions~~, in order~~? - two Financial Request's?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 19.20 - Swedish terminals 20: Auto switch from online to offline.

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: SwedTerm	Conditions: [Attended] AND [Sweden] AND NOT [Online-only]

Requirements tested:
1-15.3.2.1   Shall contain mandatory lines from generic receipt (sect. 1-12)
1-15.3.1.10   Display texts shall be as defined in table 1-15.5.
1-15.3.2.2   Receipt texts shall be as defined in section 1-15.3.5

Purpose:
To verify the behavior of the terminal when the line goes down.

Prerequisites:
Access to the receipt chapter 1-12 of the OTRS.
The terminal is set up to support the Swedish market.
The test Processing Conditions table has been loaded into the terminal.
The terminal is **not** set to auto-confirm the cardholder signature.

FTD script: SwedTerm_20   *Card(s):* ICC001   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
It is demonstrated that the terminal will behave in a suitable way, when the connection to the host / acquirer is lost.

Comments: The test is based on the FTD. It should be possible to perform a similar test in the KOPI environment as well.

Comments: This script is complementary to SwedTerm_21, that script test manually activated offline mode.

Step	Actions and assessment	Result	Verdict
1.	☞ Does the terminal support automatic switchover from online to offline state?	Yes: Step 2 No: Not Applicable	
2.	Select the FTD host script **SwedTerm_20**. Set up the terminal to support automatic switch over to offline. Select to perform a **purchase** transaction and enter an amount above floor limit (SEK 100,-). Insert the **ICC001** card. ☞ Is it possible to start the transaction? ☞ If the terminal don't support Danish, are all of the display texts in Swedish? ☞ Is the cardholder requested to enter a PIN?	Yes: Step 3 No: Case failed	

Step	Actions and assessment	Result	Verdict
3.	Enter an **correct** PIN on the terminal. (To ensure that the test case will perform correctly in FTP as well as in the KOPI environment). ☞ Does the transaction fail? ☞ Is the merchant informed about the failure? ☞ Is the merchant informed that a new transaction must be started to proceed offline? ☞ Does the Terminal generate a failed transaction Cardholder receipt?	Yes: Step 4 No: Case failed.	
4.	Start a new **purchase** transaction. **Note:** If necessary, force the terminal offline ☞ Is the merchant informed, that the transaction will be offline (**not** a requirement, but recommended)? ☞ Is the merchant requested to perform an (phone) authorization? ☞ Does the terminal display the PAN and the expiry date to the merchant (**not** a requirement, but a recommendation)? ☞ Is the merchant requested to enter an authorization code (**not** a requirement, but recommended)? ☞ Is the transaction processed as a signature transaction? ☞ Are the texts on the display correct? ☞ Is a merchants receipt printed [The receipt is allowed to contain a full PAN]? ☞ Is the merchant requested to verify the signature?	Yes: Step 5 No: Case failed.	
5.	Confirm that the signature is OK. ☞ Is a Cardholders receipt printed? ☞ Is the Transaction Condition Code, line TR8 on the receipt 'I@5' ☞ Is the PAN on the receipt truncated? ☞ Is the terminal ready for a new transaction?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 19.21 - Swedish terminals 21: Manual offline activation.

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: SwedTerm	Conditions: [Attended] AND [Sweden] AND NOT [Online-only]
Requirements tested: 1-15.3.2.1 Shall contain mandatory lines from generic receipt (sect. 1-12) 1-15.3.1.10 Display texts shall be as defined in table 1-15.5. 1-15.3.2.2 Receipt texts shall be as defined in section 1-15.3.5	
Purpose: To verify the behavior of the terminal when manually activating offline mode.	
Prerequisites: Access to the receipt chapter 1-12 of the OTRS. The terminal is set up to support the Swedish market. The test Processing Conditions table has been loaded into the terminal. *FTD script:* <none> *Card(s):*ICC001 *PSAM:* PSAM002	
Test environment: *FTD Host:* X *IFS:* *Kopi:*	
General pass criteria: It is demonstrated that the terminal can be set to offline mode, when the connection to the host / acquirer is lost.	

Comments: The test is based on the FTD. It should be possible to perform a similar test in the KOPI environment as well.
Comments: This script is complementary to SwedTerm_20. That former script tests automatically activated offline mode.

Step	Actions and assessment	Result	Verdict
1.	☞ Does the terminal support manual offline state activation?	Yes: Step 2 No: Not Applicable	
2.	Manually switch the terminal to offline mode. Do **not** force the CVM at the same time. Perform a **purchase** transaction and enter amount. Insert the **ICC001** card. ☞ Is it possible to start the transaction? ☞ Is the merchant informed about, that the transaction will be offline (**Not** a requirement, but recommended)? ☞ Is the merchant requested to perform an (phone) authorization? (**Not** a requirement, but recommended)? ☞ Does the terminal display the PAN and the expiry date to the merchant. (**Not** a requirement, but a recommendation)? ☞ Is the merchant requested to enter an authorization code?(**Not** a requirement, but a recommendation)?	 Yes: Step 3 No: Case failed	

Step	Actions and assessment	Result	Verdict
3.	Enter an authorization code. ☞ Is the transaction processed as a signature transaction? ☞ Are the texts on the display correct? ☞ Is a merchants receipt printed?[The receipt is, for an offline transaction, allowed to contain a non-truncated PAN] ☞ Is the Transaction Condition Code, line TR8, on the receipt 'I@5'? ☞ Is the authorization code on the receipt equal to the code entered previously? ☞ Is the merchant requested to verify the signature?(**Not** a requirement, but a recommendation)?		
4.	Confirm that the signature is OK. ☞ Is a Cardholders receipt printed? ☞ Is the PAN on the receipt, line TR8, truncated? ☞ Is the terminal ready for a new transaction?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 19.22 - Swedish terminals 22: Offline local PIN and Cancellation

Test date:	**Init:**
Problem Report (if any):	**Test case result:**
Comments:	

Test group: SwedTerm	**Conditions:** [Attended] AND [Sweden] AND NOT [Offline-only]

Requirements tested:
1-15.3.1.1   Shall support the Cancellation business call.
1-15.3.2.1   Shall contain the mandatory lines from the generic receipt.
1-15.3.2.2   Receipt texts shall be as defined in 1-15.3.5

Purpose:
To verify the behavior of the terminal when manually activating offline mode.

Prerequisites:
Access to version 3.x.x of the receipt chapter 1-12 of the OTRS
The terminal is set up to support the Swedish market.
The test Processing Conditions table has been loaded into the terminal.

FTD script: SwedTerm_22   *Card(s):* ICC021   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
It is demonstrated that the terminal can perform an offline PIN transaction, when the connection to the host / acquirer is lost and that a Cancellation while offline will remove the Financial Advice from the Data Store and generate a Reversal Advice.

Comments: The test is based on the FTD. It should be possible to perform a similar test in the KOPI environment as well.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **SwedTerm_22**. Manually switch the terminal to **forced** offline mode. Perform a **purchase** transaction and enter amount below offline ceiling (to make the transaction successful). ☞ Is it possible to start the transaction? ☞ Is the merchant informed, that the transaction will be offline (**Not** a requirement, but recommended)?	Yes: Step 2 No: Case failed	
2.	Insert the **ICC021** card (ADVT-18). ☞ Is the customer requested to enter the a PIN?	Yes: Step 3 No: Case failed	

Step	Actions and assessment	Result	Verdict
3.	☞ Is the transaction processed as PIN transaction? ☞ Are the texts on the display correct? ☞ Is the transaction successful? ☞ Is a Cardholders receipt printed? ☞ Is the Acquirer Name, line TR7, present on the receipt? ☞ Is the Transaction Condition Code (line TR8) on the receipt 'IB5' ☞ Is the PAN on the Cardholders receipt truncated? [If a Merchants receipt is printed, then the PAN on the receipt may be the full PAN, a possibility for offline transactions]	Yes: Step 4 No: Case failed	
4.	<u>If the terminal supports Cancellation,</u> try to perform a Cancellation of the previous transaction<u> else skip this step.</u> ☞ Is it possible to perform Cancellation?	Yes: Step 5 No: Case failed	
5.	If necessary switch the terminal back to normal (not forced offline) mode. Perform an Advice Transfer, and analyze the log file. ☞ Was the Advice Transfer successful? ☞ Did the terminal transfer a Reversal Advice and **not** a Financial Advice?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 19.23 - ~~Swedish terminals 23: Debit card, declined offline, MSC.~~

Test date:	Init:
Problem Report (if any):	Test case result:
Comments: ******* NOT ACTIVE ****** Available Cards does not flag online only in service code ******	

Test group: SwedTerm	Conditions: [Attended] AND [Sweden] AND NOT [Online-only]

Requirements tested:
X.x.x.x   .
X.x.x.x   .

Purpose:
To verify that the terminal will reject offline transaction for debit MSC cards.

Prerequisites:
Access to the receipt chapter (2-6) of the OTRS.
The terminal is set up to support the Swedish market.
The test Processing Condition table has been loaded into the terminal.
The terminal is in forced offline mode, either manually or automatically.

FTD script: <none>   *Card(s):* MSC011 *PSAM:* PSAM002

Test environment:

FTD Host: (X)   *IFS:*   *Kopi:*

General pass criteria:
It is demonstrated that the terminal will reject debit only MSC cards when the connection to the host / acquirer is lost. The condition for rejecting the transaction is coming from the card (Service Code)!!

Comments: The test is based on the FTD. It should be possible to a similar test in the KOPI environment as well.

Comments: No host script is used as there is no connection between the terminal and the Flex Test Driver.

Step	Actions and assessment	Result	Verdict
1.	Verify, that the terminal is forced offline. Perform a **purchase** transaction and enter amount below floor limit to avoid that the terminal tries to go on-line. ☞ Is it possible to start the transaction? ☞ Is the merchant informed about, that the transaction will be offline (**not** a requirement, but recommended)?	Yes: Step 2 No: Case failed	
2.	Insert the **MSC011** card (Maestro -01). ☞ Does the terminal display that the transaction is declined? ☞ Is a declined receipt printed?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 19.24 - Swedish terminals 24: Debit card, declined offline, ICC.

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: SwedTerm	Conditions: [Attended] AND [Sweden] AND NOT [Online-only]
Requirements tested: X.x.x.x . X.x.x.x .	
Purpose: To verify that the terminal will reject offline transaction for ICC debit cards.	
Prerequisites: Access to the receipt chapter 1-12 of the OTRS. The terminal is set up to support the Swedish market. The test Processing condition table has been loaded into the terminal. The terminal is in offline mode, either manually or automatically. *FTD script:* SwedTerm_24 *Card(s):* ICC019 *PSAM:* PSAM002	
Test environment: *FTD Host:* (X) *IFS:* *Kopi:*	
General pass criteria: It is demonstrated that the terminal will reject debit cards when the connection to the host / acquirer is unavailable.	

Comments: The test is based on the FTD. It should be possible to perform a similar test in the KOPI environment as well.
Comments: The information for declining an offline transaction is in the ICC.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **SwedTerm_24**. Verify, that the terminal is forced offline. Perform a **purchase** transaction and enter amount below floor limit (to ensure that the terminal stays offline). 👌 Is it possible to start the transaction? 👌 Is the merchant informed about, that the transaction will be offline (**not** a requirement, but recommended)?	Yes: Step 2 No: Case failed	
2.	Insert the **ICC019** card (ADVT-20). 👌 Does the terminal display that the transaction is declined? 👌 Is a (set of) declined receipt(s) printed?	Yes: Step 3 No: Case failed	

Step	Actions and assessment	Result	Verdict
3.	Set the terminal online again. Perform an Advice Transfer to get the data to the FTD. Analise the data. ☞ Has the transaction generated an Authorizations Advice? ☞ Is the STAN on the receipt, line TR6, the same as field 'C4' in the APACS message?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 19.25 - Swedish terminals 25: Cancellation of Key Ent. purch.

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: SwedTerm	**Conditions:** [Key Entered] AND [Sweden] AND [Attended] AND [Cancellation]
Requirements tested: 1-15.3.1.1 Attended terminals shall support Cancellation	
Purpose: To verify that the terminal is able to handle Cancellation of a Key Entered transaction	
Prerequisites: Access to version 3.x.x of the receipt chapter 1-12 of the OTRS The terminal is set up to support the Swedish market. The test Processing Conditions Table has been loaded into the terminal. *FTD script:* SwedTerm_25 *Card(s):* ICC017 *PSAM:* PSAM002	
Test environment: *FTD Host:* X *IFS:* *Kopi:*	
General pass criteria: It is demonstrated that Cancellation of a Key Entered transaction can be performed in the Swedish environment.	

Comments: The test is based on the FTD. It should be possible to perform the test in the KOPI environment as well.	
Comments: The test case does not use the physical test card, only the key entered information (data to be taken from section 3.6 of the OTTS).	

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **SwedTerm_25**. Perform a key entered **purchase** transaction. Enter Amount above floor limit. Enter the PAN of the card used. Enter the expiry date. ☞ Is it possible to enter PAN and Expiry Date? ☞ Does the terminal **not** request reading the card? ☞ Does the terminal **not** request PIN or CV2? ☞ If the terminal is offline, does the terminal request the entry of an authorization code? ☞ Is a (set of) receipt(s) generated?	Yes: Step 2 No: Case failed	
2.	If requested enter `Payment condition'/Betal-kod. ☞ Is it possible to start the transaction? ☞ Is a (set of) receipt(s) printed?	Yes: Step 3 No: Case failed.	

Step	Actions and assessment	Result	Verdict
3.	Perform a **Cancellation**. ☞ Is it possible to start the cancellation? ☞ Is the Cardholder **not** requested to swipe the card? ☞ Is the merchant **not** requested to enter an amount? ☞ Is the cardholder **not** requested to select an Account Type? ☞ Is the merchant **not** requested to enter a 'Betalkod'? ☞ Is the Cardholder **not** requested to enter a PIN. ☞ Are all the display texts in Swedish? ☞ Is a (set) of receipt(s) printed?	Yes: Step 4 No: Case failed	
4.	Analyze the Cardholders receipt printed. The line numbers listed below are the line numbers from chapter 1-12 of OTRS vers. 3.0. ☞ Is there a line HI4 with the text "MAKULER-AT"? ☞ Is the text emphasized? ☞ Is the remainder of the receipt **identical** to the Cardholders purchase receipt from the previous transaction, especially? ☞ Is the time stamp, line HI10 **not** updated? ☞ Is the STAN, line TR6 and line TR14 **not** updated? ☞ Is the Transaction condition code, line TR8, still TCC = `T@1'?	Yes: Step 5 No: Case failed.	
5.	Perform an Advice Transfer Is there a a Reversal advice in the file, but **no** Financial Advice?	Yes: Step 6 No: Case failed.	
6.	Analyze the Reversal Advice in the log file on the FTD. ☞ Is field 2, the PAN present? ☞ Is field 4, the Amount, the same as the amount on the receipt? ☞ Is field 3, the Processing Code = 000000 ? ☞ Is field 8, Amount other, not present? ☞ Is field 14, Expiry date, present, and the value entered? ☞ Is field 25, Message Reason Code = 4005? ☞ Is field 35 **not** present? ☞ Is field 38, Approval Code, present. ☞ Is the Currency code, field 49, "0752" (SEK)?	Yes: Step 7 No: Case failed.	

Step	Actions and assessment	Result	Verdict
7.	Analyze field 47 of the Reversal Advice (the `envelope').    ☞ Does it contain a tag "TX" (`5458') followed by the total length of the `envelope' data'?    ☞ Is the the element in the envelope a tag "TZ" (`545A') indicating an inner envelope of Swedish data followed by the length of the Swedish data? ☞ Is an element with tag "Z6" (`5A36') **not** present.    ☞ Is an element with tag "Z8" (`5A38') **not** present? ☞ Does an element in the `inner' envelope tag "ZA" (`5A41') exist followed by a length field of `0005' and 5 additional characters? ☞ Does it contain the VAT amount (see the receipt) as BCD digit in the minor unit of the currency?(This may **not** be requirement).	Yes: Step 8 No: Case failed.	
8.	Try to perform another **Cancellation**. ☞ Is the function **either** not available, **or**; ☞ Does the function generate an error message?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 19.26 - Swedish terminals 26: Declined Cancellations

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: SwedTerm	**Conditions:** [PIN] AND [Sweden] AND [Token] AND [Cancellation]
Requirements tested: 1-15.3.1.1 Attended terminals shall support Cancellation 1-10.2.8.3 only enable Cancellation ... if previous Purchase	
Purpose: To verify that it only is possible to perform a Cancellation after a Purchase transaction.	
Prerequisites: Access to the receipt chapter 1-12 of the OTRS. The terminal is set up to support the Swedish market. *FTD script:* SwedTerm_26 *Card(s):* MSC001 *PSAM:* PSAM002	
Test environment: *FTD Host:* X *IFS:* *Kopi:*	
General pass criteria: It is demonstrated that Cancellation cannot be performed after Authorization, Authorization Reversal and Capture transactions.	

Comments: The test is based on the FTD. It should be possible to perform a similar test in the KOPI environment as well.

Step	Actions and assessment	Result	Verdict
1.	Select to perform an **Authorization** transaction. Swipe the **MSC001** card. If necessary enter PIN and confirm ☞ Is the transaction successful?	Yes: Step 2 No: Case failed	
2.	Try to perform a Cancellation of the previous transaction (the Authorization). ☞ Is the function **either** not available on the terminal; ☞ **or** does the function generate an error message?	Yes: Step 3 No: Case failed.	
3.	Select to perform a Capture on the token from Step 1. ☞ Is the transaction successful?	Yes: Step 4 No: Case failed.	
4.	Try to perform a Cancellation of the previous transaction (the Capture). ☞ Is the function **either** not available on the terminal; ☞ **or** does the function generate an error message?	Yes: Step 5 No: Case failed.	

Step	Actions and assessment	Result	Verdict
5.	Select to perform a new **Authorization** trans-action. Swipe the **MSC001** card. If necessary enter PIN and confirm ☞ Is the transaction successful?	Yes: Step 6 No: Case failed	
6.	Select to perform an **Authorization Reversal** on the token from Step 5. ☞ Is the transaction successful?	Yes: Step 7 No: Case failed.	
7.	Try to perform a Cancellation of the previous transaction (the Authorization Reversal). ☞ Is the function **either** not available on the terminal; ☞ **or** does the function generate a an error message?	Yes: Case OK No: Case failed	
-	End of test case		

4.20 Processing Condition Tables

This section reflects the use of the Processing Conditions Table, PCT, structure as specified from OTRS 3.0 and forward and as supported by PSAM version 60.x and forward.

The tests in this section of the OTTS are only applicable to PSAM based terminals supporting PCT. One of these terminal types is the Swedish PSAM based terminals. The tests in this sections so far only covers the capabilities specific to installations in Sweden. All normal requirements for the OTRS terminal still apply. The tests require the access to a special set of test Processing Condition Tables. This is only possible on the FTD.

The PSAM in the terminal, shall when using the FTD as the test environment, be loaded for PCT test . This may be achieved by initially running the (region specific) "Normal script" like "OTTS-32 \ SwedTerm \SwedNormal\ScriptSwedNormal.txt". This shall be followed by the executing a simple transaction using the script "OTTS-32\ProcCondTbl\ProcCondTbl_Init\ScriptProcCondTbl_Init.txt". This will activate a special "PSAM default" file. This will initiate the Processing Condition Table version to "0.0" <u>and disable APE/DAPE to allow Acc. Type Sel. to be performed.</u>

The test cases should, in general, be executed in the order specified, as there is a constraint in the PSAM with respect to PCT version information. The PSAM will not accept a PCT with a version and sub-version number less than the version already loaded.

Some of the Test Cases requires that specific capabilities are available in the terminal.

A Phase 3 terminal, as mentioned in some of the test cases, is a terminal supporting the capabilities of a PSAM 61.x and forward.

Test Case 20.1 - Processing Condition 01: Display initial config. info.

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: ProcCond	Conditions: [PCT] AND [Sweden]

Requirements tested:

1-10.5.2.1	Use initial entry found..
1-10.5.2.2	Decode PCT data..
1-10.5.4.13	Present "Acquirer Name"..
1-10.5.5.3	Once DOL is available, decode data..
1-10.5.5.4	Present PCT version information..

Purpose:
To verify that the terminal is able present configuration information about active Processing Condition Table.

Prerequisites:
Access to the OTRS.
The terminal is set up to support PCT.
Information on how to access PCT configuration in the terminal.

FTD script: ProcCondTbl_01	*Card(s):* ICC001	*PSAM:* PSAM002

Test environment:

FTD Host: X	*IFS:*	*Kopi:*

General pass criteria:
It is demonstrated that the terminal can load a Processing Conditions Table and display information about the version.

Comments: This test case should as well be executed to initialize the PCT in the terminal to a well known version. The PCT will enable Cashback for Visa/Dankort

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Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **ProcCondTbl_01**. Make sure that updates are enabled, i.e. PSAM personalization = Auto. Perform an Advice Transfer to make the terminal read the new information from the PSAM. ☞ Is the terminal ready?	Yes: Step 2 No: Case failed	
2.	Make the terminal present (display) the version information for the Processing Conditions Table. ☞ Was it possible to get the PCT information? ☞ Is the version of the PCT "1"? ☞ Is the subversion of the PCT "0" ☞ Is the date "080915"? ☞ Is the number of records "17"	Yes: Step 3 No: Case failed.	
3.	Start a **purchase** transaction using **ICC001**. Enter "Amount" and if the terminal supports cashback enter "Amount other" (Cashback). Proceed with the transaction. If so requested, enter PIN and confirm. ☞ Is it possible to start the transaction? ☞ If the terminal supports cashback, was it possible to add cashback? ☞ If the terminal supports "Acquirer Name", is the name on the receipt, line TR7, "SØGÅRD SPAREKASSE"? ☞ Is the transaction successful?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 20.2 - Processing Condition 02: Do not use partial tables.

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: ProcCond	Conditions: [PCT] AND [Sweden] AND [Cash-back]

Requirements tested:
1-10.5.2.4　　Not update before complete…
1-10.5.3.1　　Issue commands following New Data Available…
1-10.5.3.3　　Start reading header…
1-10.5.3.4　　Continue until all records read…
1-10.5.3.5　　Stop reading PCT at '10 21'

Purpose:
To verify that the terminal will not load a incomplete Processing Conditions Table but continue using the old Processing Condition Table until a new is complete.

Prerequisites:
Access to the OTRS.
The terminal is set up to support Processing Condition Table.

FTD script: ProcCondTbl_02　　　　*Card(s):*ICC001　　　　*PSAM:* PSAM002

Test environment:

FTD Host: X　　　　　　　　*IFS:*　　　　　　　*Kopi:*

General pass criteria:
It is demonstrated that a the terminal will not update the active Processing Condition Table before a complete update has been received, i.e. the version information should **not** be updated before the full table has been received.
The terminal shall not block during the update but continue handling the transactions based on the old PCT.
The complete updated PCT will disable cashback for Visa/Dankort.

Comments: The test is based on the FTD. Test case ProcCond_01 should be executed prior to this test.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **ProcCondTbl_02a**. (this will update the header of the PCT) Make sure that updates are enabled, i.e. PSAM personalization = Auto. Perform an Advice Transfer to make the terminal read the new information from the PSAM. ☞ Is the terminal ready?	Yes: Step 2 No: Case failed	
2.	Make the terminal present (display) the version information for the Processing Conditions Table. ☞ Was it possible to get the PCT information? ☞ Is the version of the PCT "1"? ☞ Is the subversion of the PCT "0" ☞ Is the date "080915"? ☞ Is the number of records "17"	Yes: Step 3 No: Case failed.	

Step	Actions and assessment	Result	Verdict
3.	Select the FTD host script **ProcCondTbl_02b**. (this will update the first part of the body of the PCT) Make sure that updates are enabled, i.e. PSAM personalization = Auto. Perform an Advice Transfer to make the terminal read the new information from the PSAM. ☞ Is the terminal ready?	Yes: Step 4 No: Case OK	
4.	Make the terminal present (display) the version information for the Processing Conditions Table. ☞ Was it possible to get the PCT information? ☞ Is the version of the PCT still "1"? ☞ Is the subversion of the PCT still "0" ☞ Is the date "080915"? ☞ Is the number of records "17"	Yes: Step 5 No: Case failed.	
5.	☞ Does the terminal support Cashback?	Yes: Step 6 No: Step 7	
6.	Start a **purchase** transaction using **ICC001**. Enter "Amount" and "Amount other" (Cashback). Proceed with the transaction. If so requested, enter PIN and confirm. ☞ Is it possible to start the transaction? ☞ Was it possible to add cashback? ☞ Is the transaction successful?	Yes: Step 7 No: Case failed.	
7.	Select the FTD host script **ProcCondTbl_02c**. (this will update the first part of the body of the PCT) Make sure that updates are enabled, i.e. PSAM personalization = Auto. Perform an Advice Transfer to make the terminal read the new information from the PSAM. ☞ Is the terminal ready?	Yes: Step 6 No: Case OK	
8.	Make the terminal present (display) the version information for the Processing Conditions Table. ☞ Was it possible to get the PCT information? ☞ Is the version of the PCT "1"? ☞ Is the subversion of the PCT "1" ☞ Is the date "080916"? ☞ Is the number of records "17"	Yes: Step 9 No: Case failed.	
9.	☞ Does the terminal support Cashback?	Yes: Step 10 No: Case OK	
10.	If possible, enter "Amount" and "Amount other" (Cashback) before inserting the card. ☞ Was it possible to enter the amount before the card was inserted?	Yes: Step 11 No: Case OK.	

Step	Actions and assessment	Result	Verdict
11.	If possible, enter "Amount" and "Amount other" (Cashback) before inserting the card. Start a **purchase** transaction using **ICC001**. Proceed with the transaction. If so requested, enter PIN and confirm. ☞ Is it possible to start the transaction? ☞ Is the transaction declined? ☞ If PIN was entered and confirmed, is a declined receipt generated. ☞ If a receipt was generated an the terminal supports "Acquirer Name", is the name on the receipt, line TR7, "SØGÅRD SPARE-KASSE"?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 20.3 - Processing Condition 03: Accept subversion change.

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: ProcCond	Conditions: [PCT] AND [Sweden]

Requirements tested:
1-10.5.3.1   Issue commands following New Data Available..
1-10.5.3.3   Start reading header..
1-10.5.3.4   Continue until all records read.

Purpose:
To verify that the terminal will accept the load of minor changes in the Processing Conditions Table.

Prerequisites:
Access to the OTRS.
The terminal is set up to support Processing Condition Table.

FTD script: ProcCondTbl_03   *Card(s):* MSC001   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
It is demonstrated that a the terminal will update the active Processing Condition Table even when a subset of the table is updated (subversion incremented). The update will activate Account Type Selection for the selected card.

Comments: The test is based on the FTD. Test case ProcCond_02 should be executed prior to this test.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **ProcCondTbl_03** (this will update the header and a single record in the body of the PCT) Make sure that updates are enabled, i.e. PSAM personalization = Auto. Perform an Advice Transfer to make the terminal read the new information from the PSAM. ☞ Is the terminal ready?	Yes: Step 2 No: Case failed	
2.	Make the terminal present (display) the version information for the Processing Conditions Table. ☞ Was it possible to get the PCT information? ☞ Is the version of the PCT "1"? ☞ Is the subversion of the PCT "2"? ☞ Is the date "080917"? ☞ Is the number of records "17"?	Yes: Step 3 No: Case failed.	
3.	☞ Does the terminal support selection of Account Type?	Yes: Step 4 No: Case OK.	
4.	Start a **purchase** transaction using **MSC001**. ☞ Is the cardholder requested to select Account Type? ☞ Is it possible to select between Credit and Debit?	Yes: Step 5 No: Case failed.	

Step	Actions and assessment	Result	Verdict
5.	Enter Amount. Proceed with the transaction. If so requested, enter PIN and confirm. ☞ Is it possible to start the transaction? ☞ Is the transaction successful? ☞ Is the account type displayed on the receipt. ☞ If the terminal supports "Acquirer Name", is the name on the receipt, line TR7, "TEST MASTERCARDMSC" ?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 20.4 - Processing Condition 04: Change of order of objects.

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: ProcCond	**Conditions:** [PCT] AND [Sweden]

Requirements tested:
1-10.5.5.1   Decode TLV encoded elements
1-10.5.5.3   Once DOL is available, decode elements from table

Purpose:
To verify that the terminal will accept the that the order of the data objects is changed in the DOL and the body of the PCT.

Prerequisites:
Access to the OTRS.
The terminal is set up to support Processing Condition Table.
The terminal shall be set up to support Account Type Selection

FTD script: ProcCondTbl_04   *Card(s):* ICC019   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
It is demonstrated that a the terminal will update the Processing Condition Table based on the actual order of the data in the DOL of the header block.

Comments: The test is based on the FTD. Test case ProcCond_03 should be executed prior to this test.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **ProcCondTbl_04** (this will update the header and a single record in the body of the PCT) Make sure that updates are enabled, i.e. PSAM personalization = Auto. Perform an Advice Transfer to make the terminal read the new information from the PSAM. ✍ Is the terminal ready?	Yes: Step 2 No: Case failed	
2.	Make the terminal present (display) the version information for the Processing Conditions Table. ✍ Was it possible to get the PCT information? ✍ Is the version of the PCT "2"? ✍ Is the subversion of the PCT "0" ✍ Is the date "080917"? ✍ Is the number of records "17"	Yes: Step 3 No: Case failed.	
3.	✍ Does the Terminal support Account Type selection?	Yes: Step 4 No: Case OK	
4.	Start a **purchase** transaction using **ICC018** (ADVT 6.0 TC 01). If possible, select Account Type. ✍ Was the cardholder requested to select Account Type? ✍ Was it possible to select between Credit and Debit?	Yes: Step 4 No: Case failed.	

Step	Actions and assessment	Result	Verdict
5.	Enter Amount.		
	Proceed with the transaction.		
	If so requested, enter PIN and confirm.		
	☞ Is it possible to start the transaction?		
	☞ Is the transaction successful?		
	☞ Is the account type displayed on the receipt, and the same type as selected in step 3?		
	☞ If the terminal is a phase 2 terminal, is the Account Type Selection data present in the Envelope, and is the account type the same as selected in step 4?		
	☞ If the terminal is a phase 3 terminal, is the Account Type Selection information present in Data Element 3 and is the account type the same as selected in step 4?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 20.5 - Processing Condition 05: Handling of large tables.

Test date:		Init:	
Problem Report (if any):		**Test case result:**	
Comments:			

Test group: ProcCond	**Conditions:** [PSAM ≥6.0] AND [PCT] AND [Cashback] AND [Sweden]
Requirements tested: 1-10.5.2.3 Handle body of up to 512 entries of 64 bytes..	
Purpose: To verify that the terminal will accept a large PCT.	
Prerequisites: Access to the OTRS. The terminal is set up to support Processing Condition Table. *FTD script:* ProcCondTbl_05 *Card(s):* MSC011 *PSAM:* PSAM002	
Test environment: *FTD Host:* X *IFS:* *Kopi:*	
General pass criteria: It is demonstrated that a the terminal will read and update a large Processing Condition Table.	

Comments: The test is based on the FTD. The initialization of the test will take some time, as a large number of records are transferred in the PCT.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **ProcCondTbl_05** (this will update the header and the body of the PCT entering a large table.) Make sure that updates are enabled, i.e. PSAM personalization = Auto. Perform an Advice Transfer to make the terminal read the new information from the PSAM. ☞ Is the terminal ready?	Yes: Step 2 No: Case failed	
2.	Make the terminal present (display) the version information for the Processing Conditions Table. ☞ Was it possible to get the PCT information? ☞ Is the version of the PCT "3"? ☞ Is the subversion of the PCT "1" ☞ Is the date "080918"? ☞ Is the number of records "320"	Yes: Step 3 No: Case failed.	
3.	Start a **purchase** transaction using **MSC011**. (Maestro 9, an entry at the end of the PCT). Perform a transaction, if possible using **cashback**. ☞ If activated, is it possible to enter cashback? ☞ Is the transaction completed successfully? ☞ If the terminal supports "Acquirer Name", is the name on the receipt, line TR7, "031", <u>left</u> ~~right~~ justified ?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 20.6 - Processing Condition 06: Removal of old entries.

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: ProcCond	Conditions: [PCT] AND [Cashback] AND [Sweden]
Requirements tested: 1-10.5.3.1　　Read new table if New Data Available	
Purpose: To verify that the terminal will update the table when going from a large table to a small one, and that it will handle default behavior (at no table entry) correct.	
Prerequisites: Access to the OTRS The terminal is set up to support Processing Condition Table. Test case Processing Condition 05 has been executed **immediately** before this test case. *FTD script:* ProcCondTbl_06　　　*Card(s):*MSC011　　　*PSAM:* PSAM002	
Test environment: *FTD Host:* X　　　　　　*IFS:*　　　　　　*Kopi:*	
General pass criteria: It is demonstrated that the terminal will not 'remember' any entries in the old PCT when updating the PCT.	

Comments: The test is based on the FTD.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **ProcCondTbl_06** (this will update the header and the body of the PCT entering a small table.) Make sure that updates are enabled, i.e. PSAM personalization = Auto. Perform an Advice Transfer to make the terminal read the new information from the PSAM. ☞ Is the terminal ready?	Yes:　Step 2 No:　Case failed	
2.	Make the terminal present (display) the version information for the Processing Conditions Table. ☞ Was it possible to get the PCT information? ☞ Is the version of the PCT "4"? ☞ Is the subversion of the PCT "0" ☞ Is the date "080919"? ☞ Is the number of records "17"	Yes:　Step 3 No:　Case failed.	
3.	Start a **purchase** transaction using **MSC011**. (Maestro 9, not in the PCT). Try to perform a transaction using **cashback**. ☞ Is it either **not** possible to enter cashback 　**or** ☞ is the transaction declined?	Yes:　Case OK No:　Case failed.	
-	End of test case		

Test Case 20.7 - Processing Condition 07: Unknown objects.

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: ProcCond	**Conditions:** [PCT] AND [Cashback] AND [Sweden]
Requirements tested: 1-10.5.2.5 discard not specified.. 1-15.3.1.7 discard objects not defined..	
Purpose: To verify that the terminal will accept a PCT with extra data elements in the DOL and in the body of the PCT.	
Prerequisites: Access to the OTRS. The terminal is set up to support Processing Condition Table. *FTD script:* ProcCondTbl_07 *Card(s):* ICC018 *PSAM:* PSAM002	
Test environment: *FTD Host:* X *IFS:* *Kopi:*	
General pass criteria: It is demonstrated that the terminal will read and update a Processing Condition Table with extra 'unknown' data elements. This is to take into account that the terminal will be able to handle future 'extended' DOL's.	

Comments: The test is based on the FTD.	

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **ProcCondTbl_07** (this will update the header and the body of the PCT with a table with new elements.) Make sure that updates are enabled, i.e. PSAM personalization = Auto. Perform an Advice Transfer to make the terminal read the new information from the PSAM. ☞ Is the terminal ready?	Yes: Step 2 No: Case failed	
2.	Make the terminal present (display) the version information for the Processing Conditions Table. ☞ Was it possible to get the PCT information? ☞ Is the version of the PCT "5"? ☞ Is the subversion of the PCT "0" ☞ Is the date "080920"? ☞ Is the number of records "17"	Yes: Step 3 No: Case failed.	
3.	Start a **purchase** transaction using **ICC018**. (ADVT 6.0 TC 01). When entering amount use **cashback**. ☞ Is the cardholder **not** requested to select Account Type? ☞ Is it possible to enter cashback?	Yes: Step 4 No: Case failed.	

Step	Actions and assessment	Result	Verdict
4.	Proceed with the transaction. If so requested, enter PIN and confirm. ☞ Is it possible to start the transaction? ☞ Is the transaction successful? ☞ Is the account type **not** displayed on the receipt.	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 20.8 - Processing Condition 08: Verify Key Entered condition.

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: ProcCond	**Conditions:** [PCT] AND [Key Entered] AND [Sweden]

Requirements tested:
1-10.5.3.7   condition not allowed, send Complete immediately
1-10.5.3.8   transaction shall be configured accordingly
1-10.5.4.5   enable Key enter, not limit
1-10.5.4.6   disable Key enter, decline, no receipt
1-10.5.4.7   default (no PCT entry) not enable Key Enter, decline

Purpose:
To verify that the terminal will interpret the data regarding Key Entered conditions from the PCT correctly. That the terminal will not let PCT settings affect post registration conditions.

Prerequisites:
Access to the OTRS.
The terminal is set up to support Processing Condition Table.
The other conditions set up in the terminal shall enable key entered data.
The terminal shall enable Post registration for ICC002.

FTD script: ProcCondTbl_08   *Card(s):*(ICC018)   *PSAM:* PSAM002
                                                (ICC002)
                                                (ICC007)

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
It is demonstrated that the terminal will interpret data read from the Processing Condition Table correctly.

Comments: The test is based on the FTD. Card numbers (PAN) are key entered. The physical cards are **not** used.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **ProcCondTbl_08** (this will update the header and the body of the PCT with a table with new elements.) Make sure that updates are enabled, i.e. PSAM personalization = Auto. Perform an Advice Transfer to make the terminal read the new information from the PSAM. ☞ Is the terminal ready?	Yes: Step 2 No: Case failed	
2.	Make the terminal present (display) the version information for the Processing Conditions Table. ☞ Was it possible to get the PCT information? ☞ Is the version of the PCT "5"? ☞ Is the subversion of the PCT "1" ☞ Is the date "080921"? ☞ Is the number of records "17"	Yes: Step 3 No: Case failed.	

Step	Actions and assessment	Result	Verdict
3.	Start a **purchase** transaction. Select to perform a **key entered** transaction. Use the PAN information from **ICC018**. (ADVT-1). ☞ Is it possible to start the transaction? ☞ Is the transaction successful?	Yes: Step 4 No: Case failed.	
4.	Start another **purchase** transaction. Select to perform a **key entered** transaction. Use the PAN information from **ICC002**. (ETEC MC 005). ☞ Is it possible to start the transaction? ☞ Is the transaction <u>terminated</u> ~~declined~~?	Yes: Step 5 No: Case failed.	
5.	Start a **refund** transaction. Select to perform a **key entered** transaction. Use the PAN information from **ICC018**. (ADVT-1). ☞ Is it possible to start the transaction? ☞ Is the transaction successful?	Yes: Step 6 No: Case failed.	
6.	Start another **refund** transaction. Select to perform a **key entered** transaction. Use the PAN information from **ICC002**. (ETEC MC 005). ☞ Is it possible to start the transaction? ☞ Is the transaction <u>terminated</u> ~~declined~~?	Yes: Step 7 No: Case failed.	
7.	Start an **authorization** transaction. Select to perform a **key entered** transaction. Use the PAN information from **ICC018**. (ADVT-1). ☞ Is it possible to start the transaction? ☞ Is the transaction successful?	Yes: Step 8 No: Case failed.	
8.	Start an **authorization** transaction. Select to perform a **key entered** transaction. Use the PAN information from **ICC002**. (ETEC MC 005). ☞ Is it possible to start the transaction? ☞ Is the transaction <u>terminated</u> ~~declined~~?	Yes: Step 9 No: Case failed.	
9.	Start a **purchase** transaction. Select to perform a **key entered** transaction. Use the PAN information from **ICC007**. (Dan-kort). ☞ Is it possible to start the transaction? ☞ Is the transaction declined? ☞ If the terminal supports "Acquirer Name", is the name on the receipt, line TR7, absent or blank?	Yes: Step 10 No: Case failed.	
10.	☞ Does the terminal support **post registration**?	Yes: Step 11 No: Case OK.	

Step	Actions and assessment	Result	Verdict
11.	Start a transaction Perform a **post registration**. Use the PAN information from **ICC002**. (ETEC MC 005). ☞ Was it possible to start the transaction? ☞ Is the transaction successful? ☞ Does the data sent to the host show, that the card was present? ☞ Does the data sent to the host show, that a signature has been verified?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 20.9 - Processing Condition 09: Verify Cashback condition.

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: ProcCond	Conditions: [PCT] AND [Sweden] AND [Cash-back]
Requirements tested:	
1-10.5.3.7　　condition not allowed, send Complete immediately 1-10.5.3.8　　transaction shall be configured accordingly 1-10.5.4.2　　enable, not limit cashback 1-10.5.4.3　　disable, decline if using cashback 1-10.5.4.4　　default, not in PCT disable /decline if cashback used	

Purpose:
To verify that the terminal will interpret the data regarding Cashback conditions from the PCT correctly. As well to verify that terminal will handle partial update.
Prerequisites: Access to the OTRS   The terminal is set up to support Processing Condition Table.   The transaction performed shall **not** be a DCC transaction.   *FTD script:* ProcCondTbl_09　　　　*Card(s):* MSC011　　　*PSAM:* PSAM002 　　　　　　　　　　　　　　　　　　　　　　　MSC001
Test environment: *FTD Host:* X　　　　　　　　　*IFS:*　　　　　　　　*Kopi:*
General pass criteria: It is demonstrated that a the terminal will interpret data read from the Processing Condition Table correctly.

Comments: The test is based on the FTD.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **ProcCondTbl_09** (this will update the header and one block of the body of the PCT with a table with new elements.) Make sure that updates are enabled, i.e. PSAM personalization = Auto. Perform an Advice Transfer to make the terminal read the new information from the PSAM. ☜ Is the terminal ready?	Yes: Step 2 No: Case failed	
2.	Make the terminal present (display) the version information for the Processing Conditions Table. ☜ Was it possible to get the PCT information? ☜ Is the version of the PCT "5"? ☜ Is the subversion of the PCT "3" ☜ Is the date "080922"? ☜ Is the number of records "17"	Yes: Step 3 No: Case failed.	

Step	Actions and assessment	Result	Verdict
3.	Start a **purchase** transaction. Select to perform a transaction with **cashback**. Enter purchase as well as cashback amount. Use **MSC011**. (Maestro09). ☞ Is it possible to start the transaction? ☞ Is the transaction successful?	Yes: Step 4 No: Case failed.	
4.	Analyze the data sent to the host. ☞ Is the cashback amount present in Field 8? ☞ Does the Processing Code, field 3 show, that Cashback was used?	Yes: Step 5 No: Case failed.	
5.	Start another **purchase** transaction. If possible, select to perform a transaction with **cashback**. Use **MSC001**. (Master Card 1612). ☞ Is it either impossible to add cashback or ☞ Is the transaction declined?	Yes: Step 6 No: Case failed.	
6.	Start a **purchase** transaction. Select to perform a transaction with **cashback**. Use **ICC007**. (Dankort). ☞ Is it either impossible to add cashback or ☞ Is the transaction declined?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 20.10 - Processing Condition 10: Verify Account Type condition.

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: ProcCond	Conditions: [PCT] AND [Sweden] AND [Account Type]

Requirements tested:

1-10.5.3.7	condition not allowed, send Complete immediately
1-10.5.3.8	transaction shall be configured accordingly
1-10.5.4.8	enabled, activate possibility of ATS
1-10.5.4.9	disable, not activate possibility of ATS
1-10.5.4.10	default, i.e. PAN not in PCT, disable ATS
1-10.5.4.11	enable cardholder to perform selection

Purpose:
To verify that the terminal will interpret the data regarding Account Type Selection conditions from the PCT correctly, and that partial updates of the PCT is handled correctly.

Prerequisites:
Access to the OTRS.
The terminal is set up to support Processing Condition Table.

FTD script: ProcCondTbl_10	*Card(s):* ICC022 ICC023 ICC007	*PSAM:* PSAM002

Test environment:

FTD Host: X	*IFS:*	*Kopi:*

General pass criteria:
It is demonstrated that the terminal will interpret data read from the Processing Condition Table correctly. It is as well verified that account type selection isn't applicable to refund transactions.

Comments: The test is based on the FTD.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **ProcCondTbl_10** (this will update the header and **some** of the body of the PCT with a table with new elements.) Make sure that updates are enabled, i.e. PSAM personalization = Auto. Perform an Advice Transfer to make the terminal read the new information from the PSAM. ☞ Is the terminal ready?	Yes: Step 2 No: Case failed	
2.	Make the terminal present (display) the version information for the Processing Conditions Table. ☞ Was it possible to get the PCT information? ☞ Is the version of the PCT "5"? ☞ Is the subversion of the PCT "4" ☞ Is the date "080923"? ☞ Is the number of records "17"	Yes: Step 3 No: Case failed.	

Step	Actions and assessment	Result	Verdict
3.	Start a **purchase** transaction using **ICC022**. ☞ Is the cardholder requested to select Account Type? ☞ Is it possible to select between Credit and Debit?	Yes: Step 4 No: Case failed.	
4.	Enter Amount. Proceed with the transaction. If so requested, enter PIN and confirm. ☞ Is it possible to start the transaction? ☞ Is the transaction successful? ☞ Is the account type displayed on the receipt.	Yes: Step 5 No: Case failed.	
5.	Start a **purchase** transaction using **ICC023**. ☞ Is the cardholder **not** requested to select Account Type? ☞ If the terminal supports cashback, is it it possible to select cashback and enter cashback amount?	Yes: Step 6 No: Case failed.	
6.	Enter amount and, if possible cashback amount. Proceed with the transaction. If so requested, enter PIN and confirm. ☞ Is it possible to start the transaction? ☞ Is the transaction successful? ☞ Is the account type **not** displayed on the receipt.	Yes: Step 7 No: Case failed.	
7.	Start a **refund** transaction using **ICC022**. ☞ Is the cardholder **not** requested to select Account Type?	Yes: Step 8 No: Case failed.	
8.	Enter Amount. Proceed with the transaction. ☞ Is it possible to start the transaction? ☞ Is the cardholder **not** requested to enter PIN? ☞ Is the transaction successful? ☞ Is the account type **not** displayed on the receipt.	Yes: Step 9 No: Case failed.	
9.	Start a **purchase** transaction (without cashback) using **ICC007**. **NOTE:** The transaction will be a fallback transaction. ☞ Is the cardholder **not** requested to select Account Type? ☞ Is the transaction successful?	Yes: Step 10 No: Case failed.	

Step	Actions and assessment	Result	Verdict
10.	Perform an Advice Transfer to get the data to the host. ☞ If the terminal is a phase 3 terminal, is information about Account Type Selection present in Field 3 for the first transaction? ☞ If the terminal is pre-phase 3 terminal, is information about Account Type Selection present in the envelope for the first transaction? ☞ Is the information about Account Type Selection **not** present in the data from the last three transactions?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 20.11 - Processing Condition 11: Large number of objects.

Test date:		Init:	
Problem Report (if any):		**Test case result:**	
Comments:			

Test group: ProcCond	**Conditions:** [PCT] AND [Sweden]

Requirements tested:
1-10.5.2.3.   Process header holding up to 32 elements
1-10.5.2.5   decode TLV and discard not specified
1-10.5.4.15   default all space Acquirer ID

Purpose:
To verify that the terminal will handle PCT data correct, including a PCT with a large number of objects, where a number of objects are irrelevant to the actual configuration.

Prerequisites:
Access to version 3.x of the OTRS
The terminal is set up to support Processing Condition Table.

FTD script: ProcCondTbl_11   *Card(s):* MSC001   *PSAM:* PSAM002
                                            ICC007

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
It is demonstrated that the terminal will interpret data read from the Processing Condition Table correctly, i.e. discarding irrelevant data and decode the remainder correctly.

Comments: The test is based on the FTD.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **ProcCondTbl_11** (this will update the header and the body of the PCT with a table with new elements.) Make sure that updates are enabled, i.e. PSAM personalization = Auto. Perform an Advice Transfer to make the terminal read the new information from the PSAM. ☞ Is the terminal ready?	Yes: Step 2 No: Case failed	
2.	Make the terminal present (display) the version information for the Processing Conditions Table. ☞ Was it possible to get the PCT information? ☞ Is the version of the PCT "6"? ☞ Is the subversion of the PCT "1" ☞ Is the date "080925"? ☞ Is the number of records "3"	Yes: Step 3 No: Case failed.	
3.	Start a **purchase** transaction using **MSC001**. ☞ If the terminal supports Account Type Selection, is the cardholder requested to select Account Type? ☞ If selection is supported, is it possible to select between Credit and Debit?	Yes: Step 4 No: Case failed.	

Step	Actions and assessment	Result	Verdict
4.	Enter Amount. Proceed with the transaction. If so requested, enter PIN and confirm. ☞ Is it possible to start the transaction? ☞ Is the transaction successful? ☞ If the terminal supports Account Type Selection, is the account type printed on the receipt.	Yes: Step 5 No: Case failed.	
5.	Start a **purchase** transaction using **MSC001**. ☞ If the terminal supports Cashback, is it possible to enter Amount other / Cashback?	Yes: Step 6 No: Case failed.	
6.	Enter Amount, and if supported Cashback amount. Proceed with the transaction. If so requested, enter PIN and confirm. ☞ Is it possible to start the transaction? ☞ Is the transaction successful?	Yes: Step 7 No: Case failed.	
7.	Start a **purchase** transaction using **ICC007**. Do not enter amount other. **NOTE:** The transaction will be a fallback transaction. ☞ Is it possible to enter Amount?	Yes: Step 8 No: Case failed.	
8.	Enter Amount. Proceed with the transaction. If so requested, enter PIN and confirm. ☞ Is it possible to start the transaction? ☞ Is the transaction successful? ☞ Is the "Acquirer ID" on the receipt blank?	Yes: Step 9 No: Case failed.	
9.	Perform an Advice Transfer to get the data to the host. ☞ If the terminal **is** a phase 3 terminal and supports Account Type Selection, is the information about Account Type Selection present in position 3-4 of Field 3 for the first transaction? ☞ If the terminal supports Account Type Selection but **is not** a phase 3 terminal, is the information about Account Type Selection present in tag "Z6" of the Issuer Information Envelope? ☞ If the terminal is a phase 3 terminal and supports cashback, is information about cashback present in position 1-2 of Field 3 for the second transaction? ☞ If the terminal supports cashback, is information about Amount other present in Field 8 for the second transaction?	Yes: Case OK No: Case failed.	
-	End of test case		

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4.21 Norwegian terminals

The tests in this section of the OTTS are only applicable to OTRS terminals to be used in the Norway region. This is an optional function. The tests in this sections only covers the capabilities specific to installations in Norway. All normal requirements for the OTRS terminal still apply.

The PSAM in the terminal, shall when using the FTD as the test environment, initially be loaded for Norwegian environment.

The terminal shall, if running against KOPI test environment, have a PSAM configured for a Norwegian merchant, and the PSAM shall be installed here before executing the test.

In the FTD, the steps are as follows;

- Execute the script "OTTS-32\NorwTerm\NorwNormal\ScriptNorwNormal.txt" (and perform an Advice Transfer twice). The first Advice transfer will activate a 'PSAM default' file with Norwegian setup, the second will transfer the confirmations from the PSAM to the host.

Test Case 21.1 - Norwegian Terminals 01; BAX, ICC, PIN purchase

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: NorwTerm	Conditions: [PIN] AND [Norway]
Requirements tested: 1-15.4.1.5 Shall select Bax application 1-15.4.2.1 Display texts shall be as defined in table 1-15.7 1-15.4.1.10 Shall show Acquirer Information on receipt. 1-15.4.2.1 Shall contain mandatory lines from generic receipt (sect. 1-12) 1-15.4.2.2 Receipt texts shall be as defined in section 1-15.3.5	
Purpose: To verify that the terminal is able to perform a simple purchase transaction and generate receipt.	
Prerequisites: Access to chapter 1-12 and 1-15.4 of the OTRS. The terminal is set up to support a Norwegian environment. *FTD script:* NorwTerm_01 *Card(s):*ICC024 *PSAM:* PSAM002	
Test environment: *FTD Host: X* *IFS:* *Kopi:*	
General pass criteria: It is demonstrated that a transaction in the Norwegian environment can be performed.	

Comments: The test is based on the FTD. It should be possible to perform a similar test in the KOPI environment as well.
Comments: If the Terminal supports "Preferred Languages" then select a card that will show the texts in Norwegian, i.e. either a Norwegian card or a card that requests an unsupported language.
Comments: The receipt line numbers in the test cases refers to the line number structure used in OTRS.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **NorwTerm01**. Make sure that updates are disabled, i.e. PSAM Personalization = No. Perform an Advice Transfer. Consult terminal supplier on how to perform it. (This will clear the data store).	Step 2	
2.	Select to perform a **purchase** transaction. Enter amount **before** inserting card. Even if supported, do **not** enter any amount extra/cashback or gratuity. Insert **ICC024**(Bax ICC) in the card reader. Enter PIN and confirm. ☜ Is it possible to start a transaction? ☜ Are all the display texts in Norwegian? ☜ Is the currency on the display NOK? ☜ Does the terminal request PIN? ☜ Are the texts displayed as specified in section 1-11 and 1-15.4.2 of the OTRS? ☜ Is a (set of) receipt(s) printed?	Yes: Step 3 No: Case failed	
3.	Analyze the **Cardholders** receipt printed. See OTRS section 1-12.4.1 ☜ Is purchase line AM2 named "KJØP"? ☜ Is the currency "NOK"? ☜ Is the entry "EXTRA" line AM7 either empty, zero or absent? ☜ If line AM9 is present, is header "TOTAL" and the value the same as in AM2? ☜ As it is a PIN transaction, is the text "PIN benyttet" in line TR1? ☜ Is the card name in line TR2, the value returned from the ICC (bankaxept)? Is the PSN printer on the receipt as well? ☜ Are lines TR3 and TR4 **not** present on the receipt? ☜ Is the PAN, line TR5,16 digits in all but **truncated** to 4 digits visible?	Yes: Step 4 No: Case failed.	

Step	Actions and assessment	Result	Verdict
4.	Continue analyzing the **Cardholders** receipt printed. ☞ Does the receipt contain a double line TR7, and is the content of the first line "FLÅKLY-PA_INDLØSNING äö :" ☞ Is the content of the second line of TR7, "_01_345678!"#$%&'()*+,-./"? ☞ Is the TCC, in line TR8, "IA1"? ☞ Is the header for Merchant No. in line TR8 "PBS nr:"? ☞ Is the header of Approval code, line TR13, "AUT KODE:"? ☞ Is the Approval status, line TR14, "Autoris-ert"? ☞ Is the text at the bottom of the receipt, lines FI8 "KORTHOLDERS KOPI"?	Yes: Step 5 No: Case failed.	
5.	If a Merchants receipt is printed, analyze the **Merchants** receipt printed. ☞ Is the PAN line TR5, the **truncated** PAN, i.e. all but 4 digits masked out? (recommended but **not** mandatory).	Yes: Step 6 No: Case failed.	
6.	Perform an Advice Transfer to transfer the Financial Advice to the `Host'. ☞ Is the Advice Transfer successful?	Yes: Step 7 No: Case failed.	
7.	Analyze the Authorization Request in general, in the log file on the FTD. ☞ Is the Amount, field 4, correct? ☞ Is The Amount Other, field 8, absent? ☞ Is the Currency code, field 49, `0578'  ☞ Is the Merchant Initiative, field 62 `00'?	Yes: Step 8 No: Case failed.	
8.	Analyze the Financial Advice in general, in the log file on the FTD. ☞ Is the Amount, field 4, correct? ☞ Is The Amount Other, field 8, absent? ☞ Is the Currency code, field 49, `0578'	Yes: Step 9 No: Case failed.	
9.	Analyze field 47 of the Financial Advice (Additional data - National). ☞ Is the tag "BE" either absent or with a value of "0"? ☞ Is the tag "BF" **not** present?	Yes: Step 10 No: Case failed.	
10.	Analyze field 55 of the Financial Advice (ICC data). ☞ Is the element with tag `4F' present, and is the content equal to the AID of the BAX card?  ☞ Is the element with tag `5F24' present, and does it correspond to the expiry date printed on the card? ☞ Is the element with tag `9F1A' present and is the value `0578'? ☞ Is the element with tag `9F03' **not** present?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 21.2 - Norwegian terminals 02: BAX, Track 3 card

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: NorwTerm	**Conditions:** [PIN] AND [Norway]

Requirements tested:
1-15.4.1.2   A Norwegian terminal shall read track 2 and track 3 1-15.4.1.3   Use of track 3 shall take priority to track 2

Purpose: To verify that the terminal is able to perform transaction with a track 3 card

Prerequisites: Access to version 3.1.x of the OTRS The terminal is set up to support the Norwegian market. *FTD script:* NorwTerm_02   *Card(s):* MSC019   *PSAM:* PSAM002   (ICC024)

Test environment:
FTD Host: X   *IFS:*   *Kopi:*

General pass criteria: It is demonstrated that a transaction using track 3 of the magstripe can be per- formed in a Norwegian environment.

Comments: The test may be performed with a MSC having track2 and track3 (BAX) magstripe co-branded.

Comments: The test is based on the FTD. It should be possible to perform a simi- lar test in the KOPI environment as well.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **NorwTerm02**. Make sure that updates are disabled, i.e. PSAM Personalization = No. Perform an Advice Transfer. Consult terminal supplier on how to perform it. (This will clear the data store).	Step 2	
2.	Select to perform a **purchase** transaction. If a track3 MSC is available, swipe **MSC019** (Bax co-brand). If no pure track3 MSC is available, make the terminal go into fallback mode and swipe the **ICC024** card. Enter Amount but **not** any Amount other / Cashback. ☞ Is it possible to start the transaction? ☞ Are all the display texts in Norwegian? ☞ Does the terminal request PIN? ☞ Is the card type on the display "Bank Axept" ☞ Is the currency displayed "NOK" ☞ Is a (set of) receipt(s) printed?	Yes: Step 3 No: Case failed	

Step	Actions and assessment	Result	Verdict
3.	Analyze the **Cardholders** receipt printed. (The line numbers listed below are the line numbers from chapter 1-12 of OTRS vers. 3.1.x) ☞ Is purchase, line AM2, named "KJØP:" ☞ Is the "Totalt" line AM9 present and calculated correctly? ☞ Is the line TR1, "PIN benyttet" present on the receipt?(as this is an online PIN card) ☞ Is the card name in line TR2 "Bank Axept"? ☞ Is the PSN present in TR2, and equal to the value on the magstripe? ☞ Is the line TR5 the PAN printed with **11** digits and **truncated** to 4 last digits?	Yes: Step 4 No: Case failed.	
4.	Continue to analyze the **Cardholders** receipt printed. ☞ Does the receipt contain a double line TR7, and is the content of the first line "FLÅKLY-PA_INDLØSNING äö :" ☞ Is the content of the second line of TR7, "_02_45678!"#$%&'()*+,-./"? ☞ If an ICC in fallback has been used, is the Transaction condition code line TR8, TCC = "EA1"? ☞ If an MSC has been used, is the Transaction condition code line TR8, TCC = "DA1"? ☞ Is the header for Merchant ID line TR8 "PBS nr:"?	Yes: Step 5 No: Case failed.	
5.	If a **Merchants** receipt has been printed start to analyze the receipt printed. else skip to step 5. ☞ Is the receipt identical to the Cardholders receipt, except for; - The line TR5 may contain a PAN that is **not** truncated - If line FI 8 is present is it "Brukerstedets kopi"?	Yes: Step 6 No: Case failed.	
6.	Analyze the Financial Request in general, in the log file on the FTD. ☞ If Amount Other is supported, is the Amount Other, field 8, **not** present? ☞ Is the Currency code, field 49, "0578" (NOK)? ☞ Is field 35, track2 **not** present? ☞ Is field 36, track 3 present?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 21.3 - Norwegian terminals 03: BAX, Declined transactions

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: NorwTerm	**Conditions:** [Signature] AND [Norway]

Requirements tested:

<external>   Signature is not allowed for BAX card (PSAM setup)
<external>   Refund is not allowed for BAX card (PSAM setup)
<externa>   Offline is not allowed for BAX card, but "reserveløsning" is.

Purpose:
To verify that the terminal will decline signature, refund and offline for BAX cards.

Prerequisites:
Access to the OTRS.
The terminal is set up to support the Norwegian market.

FTD script: NorwTerm_03   *Card(s):* ICC024   *PSAM:* PSAM002
                                                              MSC021

Test environment:
FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
It is demonstrated that the terminal will decline a refund transaction, a forced signature transaction and a forced offline transaction using MSC and ICC BAX cards.

Comments: The PSAM, does as of version 71.000 **not** support the PIN bypass method, to be used.

Comments: The test is based on the FTD. It should be possible to perform a similar test in the KOPI environment as well.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **NorwTerm03**. Make sure that updates are disabled, i.e. PSAM Personalization = No. Perform an Advice Transfer. Consult terminal supplier on how to perform it. (This will clear the data store).	Step 2	
2.	**Force** the terminal to use **signature** as CVM. Select to perform a **Purchase** transaction. If possible enter Amount (before the card is read). Insert **ICC024** (BAX ICC) card. If requested, enter Amount ☞ Was it possible to start the transaction? ☞ Are all the display texts in Norwegian? ☞ Is the card type on the display "Bank Axept"	Yes: Step 3 No: Case failed	
3.	☞ Does the terminal **not** request PIN? ☞ Does the terminal decline the transaction?	Yes: Step 4 No: Case Failed	

Step	Actions and assessment	Result	Verdict
4.	Select to perform a **Refund** transaction. If possible enter Amount (before the card is read). Swipe **MSC021** (BAX Track 3) card. If requested, enter Amount 🖝 Was it possible to start the transaction? 🖝 Are all the display texts in Norwegian? 🖝 Is the card type on the display "Bank Axept" 🖝 Does the terminal decline the transaction?	Yes: Step 5 No: Case failed	
5.	**Force** the terminal to do an **offline** transaction. Select to perform a **Purchase** transaction. If possible enter Amount (before the card is read). Insert **ICC024** card. If requested, enter Amount 🖝 Was it possible to start the transaction? 🖝 Are all the display texts in Norwegian? 🖝 Is the card type on the display "Bank Axept" 🖝 Does the terminal decline the transaction?	Yes: Step 6 No: Case failed	
6.	Perform an Advice Transfer. Analyze the log file on the FTD. 🖝 Does the log file contain three Authorizations Advices?	Yes: Step 7 No: Case failed.	
7.	Analyze the Authorization Advices, in the log file on the FTD. 🖝 Is field 39, present in the Advices? 🖝 Does field 39 indicate "Transaction not permitted .." i.e. "1019" or "1020" 🖝 Is field 46, tag "TK" (ASW) present? 🖝 Does the ASW indicate the "Transaction not permitted .." i.e. `1310' or `1311'.	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 21.4 - Norwegian terminals 04 : BAX, Cashback, MSC and IC-C

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: NorwTerm	Conditions: [PIN] AND [Norway] AND [At-tended] AND [Cashback]

Requirements tested:
1-15.4.1.1 The terminal shall be able to use Cashback

Purpose:
To verify that the terminal is able to handle a Purchase with cashback

Prerequisites:
Access to the OTRS.
The terminal is set up to support the Norwegian market.
Cashback shall be enabled on the terminal.

FTD script: NorwTerm_04   *Card(s):* MSC019   *PSAM:* PSAM002
    ICC024

Test environment:
FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
It is demonstrated that a transaction with cashback, using ICC or track 3 of the magstripe, can be performed in a Norwegian environment.

Comments: The test may be performed with an ICC having track2 and track3 magstripe, and generating a fallback transaction.

Comments: The test is based on the FTD. It should be possible to perform a similar test in the KOPI environment as well.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **NorwTerm04**. Make sure that updates are disabled, i.e. PSAM Personalization = No. Perform an Advice Transfer. Consult terminal supplier on how to perform it. (This will clear the data store).	Step 2	

Step	Actions and assessment	Result	Verdict
2.	Select to perform a **Purchase w. cashback** transaction, and if possible enter a **non-zero** Amount as well as **non-zero** Amount other / Cashback		
	If a track3 MSC is available, swipe **MSC0019**.(BAX track 3 Co-brand)		
	If no pure track3 MSC is available, make the terminal go into fallback mode and swipe the **ICC024** (BAX ICC) card.		
	Enter a **non-zero** Amount and **non-zero** Amount other/Cashback, if not already entered.		
	☞ Is it possible to enter both amounts?		
	☞ Are all the display texts in Norwegian?		
	☞ Is the currency displayed "NOK"		
	☞ Is a (set of) receipt(s) printed?	Yes: Step 3	
	☞ Is the transaction successful?	No: Case failed	
3.	Analyze the **Cardholders** receipt printed. (The line numbers listed below are the line numbers from chapter 1-12 of OTRS vers. 3.1.x)		
	☞ Is purchase, line AM2, named "KJØP:"		
	☞ Is the line AM6 "Kontantuttak" printed, and is the amount correct?		
	☞ Is the "Totalt" line AM9 present and calculated correctly?		
	☞ Is the line TR1, "PIN benyttet" present on the receipt?(as this is an online PIN card)		
	☞ Is the card name in line TR2 "Bank Axept"?		
	☞ Is the PSN present in TR2, and equal to the value on the magstripe?		
	☞ Is the line TR5 the PAN printed with **11** digits and **truncated** to 4 last digits?	Yes: Step 4 No: Case failed.	
4.	Continue to analyze the **Cardholders** receipt printed.		
	☞ Does the receipt contain a double line TR7, and is the content of the first line "FLÅKLY-PA_INDLØSNING äö :"		
	☞ Is the content of the second line of TR7, "_04_45678!"#$%&'()*+,-./"?		
	☞ If an ICC in fallback has been used, is the Transaction condition code line TR8, TCC = "EA1"?		
	☞ If an MSC has been used, is the Transaction condition code line TR8, TCC = "DA1"?		
	☞ Is the header for Merchant ID line TR8 "PBS nr:"?	Yes: Step 5 No: Case failed.	
5.	Analyze the Financial Request in the log file on the FTD.		
	☞ Is the content of field 3, Processing code `09X000'		
	☞ Is field 8, present, and is the value the same as printed on the receipt, line AM6?		
	☞ Is the Currency code, field 49, "0578" (NOK)?		
	☞ Is field 35, track2 **not** present?	Yes: Step 6	
	☞ Is field 36, track 3 present?	No: Case failed.	

Step	Actions and assessment	Result	Verdict
6.	Select to perform a **Purchase w. cashback** transaction. If possible to enter Amount, enter a **non-zero** Amount and Amount Other / Cashback Insert **ICC024** card. If not previously possible, enter a **non-zero** Amount and Amount other/Cashback, if not already entered. ☞ Is it possible to start the transaction? ☞ Is it possible to enter both amounts? ☞ Are all the display texts in Norwegian? ☞ Does the terminal request a PIN? ☞ Is the card type on the display "Bank Axept" ☞ Is the currency displayed "NOK" ☞ Is a (set of) receipt(s) printed? ☞ Is the transaction successful?	Yes: Step 7 No: Case failed	
7.	Analyze the **Cardholders** receipt printed. (The line numbers listed below are the line numbers from chapter 1-12 of OTRS vers. 3.1.x) ☞ Is purchase, line AM2, named "KJØP:" ☞ Is the line AM6 "Kontantuttak" printed, and is the amount correct? ☞ Is the "Totalt" line AM9 present and calculated correctly? ☞ Is the line TR1, "PIN benyttet" present on the receipt?(as this is an online PIN card) ☞ Is the card name in line TR2 "Bank Axept"? ☞ Is the line TR5 the PAN printed with **16** digits and **truncated** to 4 last digits?	Yes: Step 8 No: Case failed.	
8.	Continue to analyze the **Cardholders** receipt printed. ☞ Does the receipt contain a double line TR7, and is the content of the first line "FLÅKLYPA_INDLØSNING äö :" ☞ Is the content of the second line of TR7, "_04_45678!"#$%&'()*+,-./"? ☞ Is the Transaction condition code line TR8, TCC = "IA1"? ☞ Is the header for Merchant ID line TR8 "PBS nr:"?	Yes: Step 9 No: Case failed.	
9.	Perform an Advice Transfer Analyze the Financial Advice in the log file on the FTD. ☞ Is the content of field 3, Processing code `09X000' ☞ Is field 8, present, and is the value the same as printed on the receipt, line AM6? ☞ Is the Currency code, field 49, "0578" (NOK)? ☞ Is field 35, track2 present? ☞ Is field 36, track 3 **not** present?	Yes: Step 10 No: Case failed.	

Step	Actions and assessment	Result	Verdict
10.	Select to perform a **Purchase w. cashback** transaction. If possible to enter Amount, enter a **non-zero** Amount and a **zero** Amount Other / Cashback Insert **ICC024** card. If not previously possible, enter a **non-zero** Amount and **zero** Amount other/Cashback, if not already entered. ☞ Is it possible to enter both amounts? ☞ Does the terminal request a PIN? ☞ Is the card type on the display "Bank Axept" ☞ Is the currency displayed "NOK" ☞ Is a (set of) receipt(s) printed? ☞ Is the transaction successful?	Yes: Step 11 No: Case failed	
11.	Analyze the **Cardholders** receipt printed. (The line numbers listed below are the line numbers from chapter 1-12 of OTRS vers. 3.1.x) ☞ Is purchase, line AM2, named "KJØP:" ☞ If the line AM6 "Kontantuttak" is printed, is the amount "0"? ☞ If line AM6 is present, is the "Totalt" line AM9 present and calculated correctly?	Yes: Step 12 No: Case failed.	
12.	Perform an Advice Transfer Analyze the Financial Advice in the log file on the FTD. ☞ Is the content of field 3, Processing code `00X000' (the Processing code shall be adjusted when cashback = 0) ☞ Is field 8, **not** present? ☞ Is the Currency code, field 49, "0578" (NOK)? ☞ Is field 35, track2 present? ☞ Is field 36, track 3 **not** present?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 21.5 - Norwegian terminals 05: BAX, ICC on AFD

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: NorwTerm	**Conditions:** [PIN] AND [Norway] AND [Unattended]
Requirements tested: Shall return Token flag in Financial Advice Shall return Amount available to application. Shall limit purchase to amount returned. 1-12.2.8.35 Shall print STAN from Authorization on receipt	
Purpose: To verify that the terminal, in a Norwegian environment using a Bank Axept card, is able to perform a purchase transaction in an Automated Fuel Dispenser, AFD using an ICC and generate receipt.	
Prerequisites: Access to chapter 1-12 and 1-15.4 of the OTRS. The terminal is set up to support a Norwegian environment. Access to default authorization amount. Terminal set **not** to allow Fallback. *FTD script:* NorwTerm_05 *Card(s):*ICC024 *PSAM:*PSAM002	
Test environment: *FTD Host: X* *IFS:* *Kopi:*	
General pass criteria: It is demonstrated that a transaction for an Automated Fuel Dispenser, AFD, can be performed using a BAX card. AFD is the only type of terminals that, for BAX cards, are allowed to use authorisation.	

Comments: The test is based on the FTD. It should be possible to perform a similar test in the KOPI environment as well.
Comments: The receipt line numbers in the test cases refers to the line number structure used in OTRS 3.x

Comments: This test is only applicable to AFD's but it may be possible to simulate the test on an attended terminal using an Authorisation followed by a Capture.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **NorwTerm05**. Make sure that updates are disabled, i.e. PSAM Personalization = No. Perform an Advice Transfer. Consult terminal supplier on how to perform it. (This will clear the data store).	Step 2	
2.	If using real AFD, when appropriate, select to have a receipt printed. Select to perform a transaction. If requested to specify an amount, use a value above NOK 120,- and below NOK 400,-. Insert **ICC024**(Bax ICC) in the card reader. Enter PIN and confirm. ☞ Is it possible to start the transaction? ☞ Are all the display texts in Norwegian? ☞ Is the currency on the display NOK? ☞ Does the terminal request PIN?	Yes: Step 3 No: Case failed	
3.	If using a real AFD, perform the "fueling". ☞ If using a real AFD, is the transaction limited to NOK 117,11 or less?	Yes: Step 4 No: Case failed.	
4.	If using a real AFD, request the receipt to be printed. Analyze the receipt. ☞ Is purchase line AM2 named "KJØP"? ☞ Is the currency "NOK"? ☞ Are the lines AM5 - AM7 **not** present on the receipt? ☞ As it is a PIN transaction, is the text "PIN benyttet" in line TR1? ☞ Is the card name in line TR2, the value returned from the ICC (Bank Axept)? Is the PSN printer on the receipt as well? ☞ Are lines TR3 and TR4 **not** present on the receipt? ☞ Is the PAN, line TR5,16 digits in all but **truncated** to 4 digits visible?	Yes: Step 5 No: Case failed.	
5.	Continue analyzing the receipt printed. ☞ Does the receipt contain a double line TR7, and is the content of the first line "FLÅKLY-PA_INDLØSNING äö :" ☞ Is the content of the second line of TR7, "_05_45678!"#$%&'()*+,-./"? ☞ Is the TCC, in line TR8, "IA1"? ☞ Is the header for Merchant No. in line TR8 "PBS nr:"? ☞ Is the header of Approval code, line TR13, "AUT KODE:"? ☞ Is the Approval status, line TR14, "Autorisert"?	Yes: Step 6 No: Case failed.	
6.	Record the "Reference no.", line TR14 for later use. Make the terminal perform an Advice Transfer to transfer the Financial Advice to the `Host'. ☞ Is the Advice Transfer successful?	Yes: Step 6 No: Case failed.	

Step	Actions and assessment	Result	Verdict
7.	Analyze the Authorization Request in the log file on the FTD. ☞ Is the Amount, field 4, equal to the amount set up entered **prior** to the transaction? ☞ Is The Amount Other, field 8, absent? ☞ Is the Currency code, field 49, `0578' ☞ Is the Merchant Initiative, field 62 `00'?	Yes: Step 7 No: Case failed.	
8.	Analyze the Financial Advice in the log file on the FTD. ☞ Is the Amount, field 4, the same as on the receipt? ☞ Is The Amount Other, field 8, absent? ☞ Is the Currency code, field 49, `0578'	Yes: Step 8 No: Case failed.	
9.	Analyze field 47 of the Financial Advice (Additional data - National). ☞ Is the tag "BE" present with a value of "1"? ☞ Is the tag "BF" **not** present?	Yes: Step 9 No: Case failed.	
10.	Analyze field 56 of the Financial Advice (Original data elements). Find characters 5 through 7, and decode them as a 6 digit(BCD) STAN. ☞ Is the "Reference STAN" line TR14 from the receipt in step 6. equal to the STAN above?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 21.6 - Norwegian terminals 06: BAX, MSC on AFD

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: NorwTerm	Conditions: [PIN] AND [Norway] AND [Unattended]

Requirements tested:
            Shall return Token flag in Financial Advice
            Shall return Amount available to application.
            Shall limit purchase to amount returned.
1-12.2.8.35 Shall print STAN from Authorization on receipt	

Purpose: To verify that the terminal is able to perform a purchase transaction in an Automated Fuel Dispenser, AFD using a MSC, and generate receipt.	
Prerequisites: Access to chapter 1-12 and 1-15.4 of the OTRS. The terminal is set up to support a Norwegian environment. Access to default authorization amount. Terminal set **not** to allow Fallback. Access to a MSC "Bank Axept" card *FTD script:* NorwTerm_06 *Card(s):* MSC021 *PSAM:* PSAM002	
Test environment: *FTD Host: X* *IFS:* *Kopi:*	
General pass criteria: It is demonstrated that a transaction for an Automated Fuel Dispenser, AFD, can be performed using a BAX card. AFD is the only type of terminals that, for BAX cards, are allowed to use authorization (converted to a funds available command).	

Comments: The test is based on the FTD. It should be possible to perform a similar test in the KOPI environment as well.
Comments: The receipt line numbers in the test cases refers to the line number structure used in the OTRS.

Comments: This test is only applicable to AFD's but it may be possible to simulate the test on an attended terminal using an Authorization followed by a Capture.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **NorwTerm06**. Make sure that updates are disabled, i.e. PSAM Personalization = No. Perform an Advice Transfer. Consult terminal supplier on how to perform it. (This will clear the data store).	Step 2	
2.	If using real AFD, when appropriate, select to have a receipt printed. Select to perform a transaction. If requested to specify an amount, use a value above NOK 120,- and below NOK 400,-. Swipe (Insert and remove) **MSC021**(Bax MSC track 3) in the card reader. Enter PIN and confirm. ☞ Is it possible to start the transaction? ☞ Are all the display texts in Norwegian? ☞ Is the currency on the display NOK? ☞ Does the terminal request PIN?	Yes: Step 3 No: Case failed	
3.	If using a real AFD, perform the "fueling". ☞ If using a real AFD, is the transaction limit-ed to NOK 117,11 or less ?	Yes: Step 4 No: Case failed.	
4.	If using a real AFD, request the receipt to be printed. Analyze the receipt. ☞ Is purchase line AM2 named "KJØP"? ☞ Is the currency "NOK"? ☞ Are the lines AM5 - AM7 **not** present on the receipt? ☞ As it is a PIN transaction, is the text "PIN benyttet" in line TR1? ☞ Is Pan Sequence Number, PSN, printed in TR2? ☞ Are lines TR3 and TR4 **not** present on the receipt? ☞ Is the PAN, line TR5 **11 digits** and **trun-cated** to 4 digits visible?	Yes: Step 5 No: Case failed.	
5.	Continue analyzing the receipt printed. ☞ Is the TCC, in line TR8, "DA1"? ☞ Is the header for Merchant No. in line TR8 "PBS nr:"? ☞ Is the header of Approval code, line TR13, "AUT KODE:"? ☞ Is the Approval status, line TR14, "Autoris-ert"?	Yes: Step 6 No: Case failed.	
6.	Record the "Reference no.", line TR14 for later use. Make the terminal perform an Advice Transfer to transfer the Financial Advice to the `Host'. ☞ Is the Advice Transfer successful?	Yes: Step 7 No: Case failed.	

Step	Actions and assessment	Result	Verdict
7.	Analyze the Authorization Request in the log file on the FTD. ☞ Is the Amount, field 4, equal to the amount set up prior to transaction? ☞ Is The Amount Other, field 8, absent? ☞ Is the Currency code, field 49, `0578'  ☞ Is the Merchant Initiative, field 62 `00'?	Yes: Step 8 No: Case failed.	
8.	Analyze the Financial Advice in the log file on the FTD. ☞ Is the Amount, field 4, the same as on the receipt? ☞ Is The Amount Other, field 8, absent? ☞ Is the Currency code, field 49, `0578'	Yes: Step 9 No: Case failed.	
9.	Analyze field 47 of the Financial Advice (Additional data - National). ☞ Is the tag "BE" present with a value of "1"? ☞ Is the tag "BF" **not** present?	Yes: Step 10 No: Case failed.	
10.	Analyze field 56 of the Financial Advice (Original data elements). Find characters 5 through 7, and decode them as a 6 digit(BCD) STAN. ☞ Is the "Reference STAN" line TR14 from the receipt in step 6. equal to the STAN above?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 21.7 - Norwegian terminals 07: BAX, Fallback on AFD

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: NorwTerm	**Conditions:** [PIN] AND [Norway] AND [Unattended]

Requirements tested:
Shall decline fallback in Unattended Payment Terminals.

Purpose:
To verify that the terminal will decline a Fallback transactions in an automated Fuel Dispenser.

Prerequisites:
Access to chapter 1-12 and 1-15.4 of the OTRS.
The terminal is set up to support a Norwegian environment.
Terminal (merchant profile) set **not** to allow Fallback.

FTD script: NorwTerm_07	*Card(s):* ICC024	*PSAM:* PSAM002

Test environment:

FTD Host: X	*IFS:*	*Kopi:*

General pass criteria:
It is demonstrated that a fallback transaction is denied for an User activated Payment Terminal.

Comments: The test is based on the FTD. It should be possible to perform a similar test in the KOPI environment as well.

Comments: The receipt line numbers in the test cases refers to the line number structure used in OTRS.

Comments: If the test **fails**, then the setup of the PSAM **shall** be restored as specified in step 4. before leaving the test.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **NorwTerm07**. Make sure that updates are **enabled**, i.e. PSAM Personalization = **Yes**. (The default business rules shall be modified) Perform an Advice Transfer. Consult terminal supplier on how to perform it. (This will update the Psam setting).	Step 2	
2.	Cover the chip on the card with tape. Select to perform a transaction. If requested to specify an amount, use a value above NOK 120,- and below NOK 400,-. Insert **ICC024** (Bax ICC) in the card reader. If the terminal request a retry, do this. ☞ Does the terminal request entry of PIN?	Yes: Case failed No: Step 3	
3.	☞ Does the terminal decline to use the card?	Yes: Step 4 No: Case failed.	

Step	Actions and assessment	Result	Verdict
4.	Select the FTD host script **NorwNormal**. Make sure that updates are **enabled**, i.e. PSAM Personalization = Yes. (The default business rules shall be restored) Perform an Advice Transfer. Consult terminal supplier on how to perform it.(This will restore the PSAM).	Step 2	
-	End of test case		

Test Case 21.8 - Norwegian terminals 08 : BAX, Cancellation ICC

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: NorwTerm	Conditions: [PIN] AND [Norway] AND [Attended]
Requirements tested: The terminal shall support Cancellation	
Purpose: To verify that the terminal is able to perform a cancellation of a transaction with a BAX ICC card.	
Prerequisites: Access to the OTRS. The terminal is set up to support the Norwegian market. The terminal shall in business rules be set to **accept** fallback. *FTD script:* NorwTerm_08　　　*Card(s):*ICC024　　　*PSAM:* PSAM002	
Test environment: *FTD Host:* X　　　　　　*IFS:*　　　　　　*Kopi:*	
General pass criteria: It is demonstrated that a transaction using an ICC can be cancelled in a Norwegian environment.	

Comments: The test is based on the FTD. It should be possible to perform a similar test in the KOPI environment as well.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **NorwTerm08**. Make sure that updates are disabled, i.e. PSAM Personalization = No. Perform an Advice Transfer. Consult terminal supplier on how to perform it. (This will clear the data store).	Step 2	
2.	Select to perform a **Purchase** transaction. Enter Amount but **not** any Amount other / Cashback Insert **ICC024** (BAX ICC) card. Perform the transaction. ☞ Is it possible to start the transaction? ☞ Is a (set of) receipt(s) printed?	Yes: Step 3 No: Case failed	
3.	Select to perform a **Cancellation** of the most recent transaction. Confirm the Cancellation. ☞ Is it possible to start the transaction? ☞ Is a (set of) receipt(s) printed?	Yes: Step 4 No: Case failed	

Step	Actions and assessment	Result	Verdict
4.	Analyze the last (the Cancellation) **Cardholders** receipt printed. (The line numbers listed below are the line numbers from chapter 1-12 of OTRS vers. 3.1.x) ☞ is there a line HI4 with the text "Annullering"? ☞ Are the two receipts, aside from this, **identical**? ☞ Are the reference numbers on the two receipts, line TR14, the same?	Yes: Step 5 No: Case failed.	
5.	Perform an Advice Transfer, to get any outstanding transactions from the Terminal. Analyse the log file on the FTD. ☞ Does it initially contain an Authorization Request. ☞ Is this followed by a Reversal Advice? ☞ Is there a field 56 in the Reversal Advice? ☞ Is the STAN (byte 5 -7) in field 56 in the Advice **one higher** than the STAN (field 11) of the Authorizations Request? ☞ Is there **not** a Financial Advice in the log?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 21.9 - Norwegian terminals 09 : BAX, Cancellation MSC

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: NorwTerm	Conditions: [PIN] AND [Norway] AND [Attended]
Requirements tested: The terminal shall support Cancellation	
Purpose: To verify that the terminal is able to perform a fallback and a cancellation of a transaction with a BAX card.	
Prerequisites: Access to the OTRS. The terminal is set up to support the Norwegian market. *FTD script:* NorwTerm_09　　*Card(s):* ICC024　　*PSAM:* PSAM002	
Test environment: *FTD Host:* X　　*IFS:*　　*Kopi:*	
General pass criteria: It is demonstrated that a transaction generating fallback from ICC to MSC can be cancelled in a Norwegian environment.	

Comments: The test is based on the FTD. It should be possible to perform a similar test in the KOPI environment as well.

Comments: The test is based on using a ICC in fallback mode, to verify the handling of fallback as well.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **NorwTerm09**. Make sure that updates are disabled, i.e. PSAM Personalization = No. Perform an Advice Transfer. Consult terminal supplier on how to perform it. (This will clear the data store).	Step 2	
2.	Select to perform a **purchase** transaction. Enter Amount but **not** any Amount other / Cashback Force the terminal into fallback mode and swipe **ICC024**(BAX ICC) card. Perform the transaction. ☞ Is it possible to start the transaction? ☞ Is a (set of) receipt(s) printed?	Yes: Step 3 No: Case failed	
3.	Analyze the Cardholder receipt printed ☞ Does the TCC (line TR8) indicate fallback, i.e. "EA1"? ☞ Is the PAN, line TR5 11 digits? ☞ Is the PAN truncated to 4 digits? ☞ Is the PSN, line TR2 printed?	Yes: Step 4 No: Case failed	

Step	Actions and assessment	Result	Verdict
4.	Select to perform a **Cancellation** of the most recent transaction. Confirm the Cancellation. ☞ Is it possible to start the transaction? ☞ Is a (set of) receipt(s) printed?	Yes: Step 5 No: Case failed	
5.	Analyze the last (the Cancellation) **Cardholders** receipt printed. (The line numbers listed below are the line numbers from chapter 1-12 of OTRS) ☞ is there a line HI4 with the text "Annullering"? ☞ Are the two receipts, aside from this, **identical**? ☞ Are the reference numbers on the two receipts, line TR14, the same?	Yes: Step 6 No: Case failed.	
6.	Perform an Advice Transfer, to get any outstanding transactions from the Terminal. Analyse the log file on the FTD. ☞ Does it initially contain an Financial Request. ☞ Is this followed by a Reversal Advice? ☞ Is there a field 56 in the Reversal Advice? ☞ Is the STAN (byte 5 -7) in field 56 in the Advice **the same** as the STAN (field 11) of the Financial Request?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 21.10 - Norwegian terminals 10: BAX, Track 2 card

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: NorwTerm	**Conditions:** [PIN] AND [Norway]

Requirements tested:
1-15.4.1.2   A Norwegian terminal shall read track 2 and track 3
1-15.4.1.3   Use of track 3 shall take priority to track 2

Purpose:
To verify that the terminal is able to perform transaction with a pure track 2 card

Prerequisites:
Access to the OTRS
The terminal is set up to support the Norwegian market.
FTD script: NorwTerm_10   *Card(s):*MSC020   *PSAM:* PSAM002

Test environment:
FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
It is demonstrated that a Bank Axept transaction using track 2 of the magstripe can be performed in a Norwegian environment.

Comments: The test is based on the FTD. It should be possible to perform a similar test in the KOPI environment as well.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **NorwTerm10**. Make sure that updates are disabled, i.e. PSAM Personalization = No. Perform an Advice Transfer. Consult terminal supplier on how to perform it. (This will clear the data store).	Step 2	
2.	Select to perform a **purchase** transaction. Swipe **MSC020** (BAx track 2). Enter Amount but **not** any Amount other / Cashback. ☞ Is it possible to start the transaction? ☞ Are all the display texts in Norwegian? ☞ Does the terminal request PIN? ☞ Is the card type on the display "Bank Axept" ☞ Is the currency displayed "NOK" ☞ Is a (set of) receipt(s) printed?	Yes: Step 3 No: Case failed	

Step	Actions and assessment	Result	Verdict
3.	Analyze the **Cardholders** receipt printed. (The line numbers listed below are the line numbers from chapter 1-12 of OTRS vers. 3.1.x) ✍ Is purchase, line AM2, named "KJØP:" ✍ Is the "Totalt" line AM9 present and calculated correctly? ✍ Is the line TR1, "PIN benyttet" present on the receipt?(as this is an online PIN card) ✍ Is the card name in line TR2 "Bank Axept"? ✍ Is the PSN **not** present in TR2? ✍ Is the line TR5 the PAN printed with **16** digits and truncated to 4 last digits?	Yes: Step 4 No: Case failed.	
4.	Continue to analyze the **Cardholders** receipt printed. ✍ Does the receipt contain a double line TR7, and is the content of the first line "FLÅKLY-PA_INDLØSNING äö :" ✍ Is the content of the second line of TR7, "_10_45678!"#$%&'()*+,-./"? ✍ If an MSC has been used, is the Transaction condition code line TR8, TCC = "DA1"? ✍ Is the header for Merchant ID line TR8 "PBS nr:"?	Yes: Step 5 No: Case failed.	
5.	If a **Merchants** receipt has been printed start to analyze the receipt printed. else skip to step 5. ✍ Is the receipt identical to the Cardholders receipt, except for; - The line TR5 may contain a PAN that is **not** truncated - If line FI 8 is present is it "Brukerstedets kopi"?	Yes: Step 6 No: Case failed.	
6.	Analyze the Financial Request in general, in the log file on the FTD. ✍ If Amount Other is supported, is the Amount Other, field 8, **not** present? ✍ Is the Currency code, field 49, "0578" (NOK)? ✍ Is field 35, track2 present? ✍ Is field 36, track 3 **not** present?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 21.11 - Norwegian terminals 11: BAX, MSC track 2 on AFD

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: NorwTerm	**Conditions:** [PIN] AND [Norway] AND [Unattended]

Requirements tested:

         Shall return Token flag in Financial Advice
         Shall return Amount available to application.
         Shall limit purchase to amount returned.
1-12.2.8.35   Shall print STAN from Authorization on receipt

Purpose:
To verify that the terminal, in a Norwegian environment using a track 2 Bank Axept card, is able to perform a purchase transaction in an Automated Fuel Dispenser, AFD and generate receipt.

Prerequisites:
Access to version 3.1.x of the chapter 1-12 and 1-15.4 of the OTRS
The terminal is set up to support a Norwegian environment.
Access to default authorization amount.

FTD script: NorwTerm_11   *Card(s):* MSC020   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
It is demonstrated that a transaction for an Automated Fuel Dispenser, AFD, can be performed using a BAX card. AFD is the only type of terminals that, for BAX cards, are allowed to use authorization.

Comments: The test is based on the FTD. It should be possible to perform a similar test in the KOPI environment as well.

Comments: The receipt line numbers in the test cases refers to the line number structure used in OTRS 3.x

Comments: This test is only applicable to AFD's but it may be possible to simulate the test on an attended terminal using an Authorization followed by a Capture.

Step	Actions and assessment	Result	Verdict
1.	Select the FTD host script **NorwTerm11**. Make sure that updates are disabled, i.e. PSAM Personalization = No. Perform an Advice Transfer. Consult terminal supplier on how to perform it.	Step 2	
2.	If using real AFD, when appropriate, select to have a receipt printed. Select to perform a transaction. If requested to specify an amount, use a value above NOK 120,- and below NOK 400,-. Insert **ICC024**(Bax ICC) in the card reader. Enter PIN and confirm. ✍ Is it possible to start the transaction? ✍ Are all the display texts in Norwegian? ✍ Is the currency on the display NOK? ✍ Does the terminal request PIN?	Yes: Step 3 No: Case failed	

Step	Actions and assessment	Result	Verdict
3.	If using a real AFD, perform the "fueling".		
	☞ If using a real AFD, is the transaction limited to NOK 117,11 or less?	Yes: Step 4 No: Case failed.	
4.	If using a real AFD, request the receipt to be printed.		
	Analyze the receipt.		
	☞ Is purchase line AM2 named "KJØP"?		
	☞ Is the currency "NOK"?		
	☞ Are the lines AM5 - AM7 **not** present on the receipt?		
	☞ As it is a PIN transaction, is the text "PIN benyttet" in line TR1?		
	☞ Is the card name in line TR2, "Bank Axept"?		
	☞ Is a PSN **not** printed in line TR2?		
	☞ Are lines TR3 and TR4 **not** present on the receipt?		
	☞ Is the PAN, line TR5, **16** digits in all but **truncated** to 4 digits visible?	Yes: Step 5 No: Case failed.	
5.	Continue analyzing the receipt printed.		
	☞ Does the receipt contain a double line TR7, and is the content of the first line "FLÅKLY-PA_INDLØSNING äö :"		
	☞ Is the content of the second line of TR7, "_11_45678!"#$%&'()*+,-./"?		
	☞ Is the TCC, in line TR8, "DA1"?		
	☞ Is the header for Merchant No. in line TR8 "PBS nr:"?		
	☞ Is the header of Approval code, line TR13, "AUT KODE:"?		
	☞ Is the Approval status, line TR14, "Autorisert"?	Yes: Step 6 No: Case failed.	
6.	Record the "Reference no.", line TR14 for later use.		
	Make the terminal perform an Advice Transfer to transfer the Financial Advice to the `Host'.		
	☞ Is the Advice Transfer successful?	Yes: Step 6 No: Case failed.	
7.	Analyze the Authorization Request in the log file on the FTD.		
	☞ Is the Amount, field 4, equal to the amount set up entered **prior** to the transaction?		
	☞ Is The Amount Other, field 8, absent?		
	☞ Is field 35 present?		
	☞ Is field 36 **not** present?		
	☞ Is the Currency code, field 49, `0578'		
	☞ Is the Merchant Initiative, field 62 `00'?	Yes: Step 7 No: Case failed.	
8.	Analyze the Financial Advice in the log file on the FTD.		
	☞ Is the Amount, field 4, the same as on the receipt?		
	☞ Is The Amount Other, field 8, absent?		
	☞ Is the Currency code, field 49, `0578'	Yes: Step 8 No: Case failed.	

Step	Actions and assessment	Result	Verdict
9.	Analyze field 47 of the Financial Advice (Additional data - National). ☞ Is the tag "BE" present with a value of "1"? ☞ Is the tag "BF" **not** present?	Yes: Step 9 No: Case failed.	
10.	Analyze field 56 of the Financial Advice (Original data elements). Find characters 5 through 7, and decode them as a 6 digit(BCD) STAN. ☞ Is the "Reference STAN" line TR14 from the receipt in step 6. equal to the STAN above?	Yes: Case OK No: Case failed.	
-	End of test case		

Test Case 21.12 - Norwegian terminals 12: BAX, ICC backup mode

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments: **!!!!Dette afventer specifikation af "reserveløsning".!!!!"**	

Test group: NorwTerm	**Conditions:** [Attended] AND [Norway]

Requirements tested:
1-15.4.1.5   Shall select BAx application
1-15.4.2.1   Display texts shall be as defined in table 1-15.7
1-15.4.1.10   Shall not show Acquirer Information on receipt.
1-15.4.2.1   Shall contain mandatory lines from generic receipt (sect. 1-12)
1-15.4.2.2   Receipt texts shall be as defined in section 1-15.3.5

Purpose:
To verify that the terminal is able to perform a Bank Axept purchase transaction using "reserveløsning" and generates a Signature receipt.

Prerequisites:
Access to version 3.1.x of the chapter 1-12 and 1-15.4 of the OTRS
The terminal is set up to support a Norwegian environment.
Reserveløsning set to allowed for Bank Axept.
The network connection to the terminal is disconnected.

FTD script: NorwTerm_01   *Card(s):* ICC024   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
It is demonstrated that a transaction in the Norwegian environment, using "Reserveløsning" for Bank Axept can be performed.

Comments: The test is based on the FTD. It should be possible to perform a similar test in the KOPI environment as well.
Comments: A "reserveløsning" is so far based on the concept "Transaction Forced Acceptance" EMV 4.2 Book 4, section 6.5.4.

Comments: **OBS, der mangler specifikation af, en "Reserveløsning".**

Step	Actions and assessment	Result	Verdict
1.	Ensure that the connection from the terminal to the Host is disabled. Select to perform a **purchase** transaction and enter amount. Perform a **forced** acceptance when so requested. Insert **ICC024**(Bax ICC) in the card reader. ☜ Is it possible to start the transaction? ☜ Does the terminal request PIN? ☜ Are the texts displayed as specified in section 1-11 and 1-15.4.2 of the OTRS? ☜ Is a merchants receipt printed?	Yes: Step 2 No: Case failed	
2.	Analyze the **Merchants** receipt. See OTRS section 1-12.4.1 ☜ Is it a signature receipt? ☜ As it is a "Reserveløsning" transaction, is the text "PIN benyttet" **not** om line TR1? ☜ Is the card name in line TR2, the value returned from the ICC (bankaxept)? Is the PSN printed on the receipt as well? ☜ Is the PAN, line TR5,16 digits in all but **truncated** to 4 digits visible?	Yes: Step 3 No: Case failed.	
3.	Continue analyzing the **Merchants** receipt. ☜ Is the double line TR7, either empty **or** not present.? ☜ Is the TCC, in line TR8, "I@5"? ☜ Is the header of Approval code, line TR13, "AUT KODE:"? ☜ Is there a line SI9 with the text "Identifikasjon"? ☜ Is there a line set SI10 - SI12 with a dotted line for the cardholder ID? ☜ Is there a line SI26 with the text "Kortholders signatur"? ☜ Is there a line set SI 27 -28 with a dotted line for the Cardholders signature? ☜ Is there a line TR13 with the text "Aut kode." but **no** authorization number? ☜ Is the Approval status, line TR14, "Autorisert"?**!!!???!!!** ☜ Is the text at the bottom of the receipt, lines FI8 "BRUKERSTEDETS KOPI"?	Yes: Step 4 No: Case failed.	
4.	Analyze the **Cardholders** receipt printed. ☜ Is the PAN line TR5, the **truncated** PAN, i.e. all but 4 digits masked out?. ☜ Is the TCC and Reference number the same as on the Merchant's receipt?	Yes: Step 5 No: Case failed.	
5.	Establish the connection to the Host. Perform an Advice Transfer to transfer the Financial Advice to the `Host'. ☜ Is the Advice Transfer successful?	Yes: Step 6 No: Case failed.	

Step	Actions and assessment	Result	Verdict
6.	Analyze the Authorization Request in general, in the log file on the FTD. ☞ Is the Amount, field 4, correct? ☞ Is The Amount Other, field 8, absent? ☞ Is the Currency code, field 49, `0578' ☞ Is the Merchant Initiative, field 62 `00'?	Yes: Step 7 No: Case failed.	
7.	Analyze the Financial Advice in general, in the log file on the FTD. ☞ Is the Amount, field 4, correct? ☞ Is The Amount Other, field 8, absent? ☞ Is the Currency code, field 49, `0578'	Yes: Step 7 No: Case failed.	
8.	Analyze field 47 of the Financial Advice (Additional data - National). ☞ Is the tag "BE" either absent or with a value of "0"? ☞ Is the tag "BF" **not** present?	Yes: Step 8 No: Case failed.	
9.	Analyze field 55 of the Financial Advice (ICC data). ☞ Is the element with tag `4F' present, and is the content equal to the AID of the BAx card? ☞ Is the element with tag `5F24' present, and does it correspond to the expiry date printed on the card? ☞ Is the element with tag `9F1A' present and is the value `0578'? ☞ Is the element with tag `9F03' **not** present?	Yes: Case OK No: Case failed.	
-	End of test case		

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4.22 Finnish terminals

The tests in this section of the OTTS are only applicable to OTRS terminals to be used in the Finnish region. This is an optional function. The tests in this sections only covers the capabilities specific to installations in Finland. All normal requirements for the OTRS terminal still apply.

The PSAM in the terminal, shall when using the FTD as the test environment, initially be loaded for Finnish environment.

The terminal shall, if running against KOPI test environment, have a PSAM configured for a Finnish merchant, and the PSAM shall be installed here before executing the test.

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4.23 ICC Prepaid cards

The test in this section of the OTTS are only applicable if the ICC based prepaid card functionality is implemented in the terminal. This is an optional function.

Test Case 23.1 - TopUp 01: Top Up using prepaid card

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: ICC Prepaid	Conditions: [Attended] AND [PrepaidICC]
Requirements tested: 1-10.7.1.1. Pay with a MSC prepaid card 1-10.7.1.2 Balance Inquiry on a MSC prepaid card	
Purpose: To verify that the terminal is able to let the Cardholder perform a Purchase and a Balance Inquiry using a MSC based prepaid card.	
Prerequisites: The terminal is set up to support MSC prepaid cards. A cash register, if necessary, as a part of the test setup A prepaid card with a reasonable known balance. Access to the test host at the Issuer Processor. *FTD script:* None *Card(s):* MSC013 *PSAM:* PSAM001	
Test environment: *FTD Host:* *IFS:* *Kopi:* X	
General pass criteria: It is demonstrated that the basic MSC prepaid card transaction, Balance Inquiry and Pay, can be performed.	

Comments: The test is based on the FTD. The test case does, as of now, only handle verification on the PBS side of the transaction.

Comments: The receipt(s) generated shall be stored. They will, if host side verification is to be performed, be used in Test Case MscPrepaid_12

Step	Actions and assessment	Result	Verdict
1.	Select some goods to be purchased, with a total amount less than the balance on the card. Start a **purchase** and record the amount. Request that the purchase shall be performed using the MSC prepaid card. ☞ Is it possible to start a prepaid transaction?	Yes: Step 2 No: Case failed	
2.	Swipe or scan **MSC013** (MSC Prepaid card) to continue the transaction. ☞ Does the Merchant display show a text that the "Purchase is concluded"? ☞ Is a receipt printed?	Yes: Step 3 No: Case failed.	

Step	Actions and assessment	Result	Verdict
3.	Inspect the receipt. ☞ Is the amount (Purchase) on the receipt the same as recorded during step 1? ☞ Is the Card type printed in field "TR2" on the receipt the name of the actual prepaid card scheme like "XYZ card"? ☞ Is the Balance, field "PC3", and Expiry date , field "PC4", printed at the bottom of the receipt (see figure 1-12.36 of the OTRS)? ☞ Is the balance the expected value?	Yes: Step 3 No: Case failed.	
4.	Request the **balance** of a MSC prepaid card. Swipe or scan **MSC013**. ☞ Is a balance receipt printed?	Yes: Step 4 No: Case failed.	
5.	Inspect the balance receipt. ☞ Is the format of the receipt as specified in fig. 1-12.38 of the OTRS i.e.; ☞ Does the receipt contain an empty amount field "AM2"? ☞ Is the Card type printed on the receipt the name of the actual prepaid card scheme like "XYZ card"? ☞ Is the Balance, field "PC3" and the Expiry date,field "PC4", printed at the bottom of the receipt (see figure 1-12.36 of the OTRS)? ☞ Is the balance the same as in step 3.	Yes: Case OK No: Case failed.	
-	End of test case		

4.24 Release 2010-01

This section covers the test of new functionalities added in PSAM Release 2010-01.

Test Case 24.1 - Release 2010-01 01: Proprietary Card Scheme

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Release 2010-01	**Conditions:** [Attended]

Requirements tested:

1-10.4.1.1   Shall only enable proprietary processing if bit 8 = "1" in the Card Service info field.

Purpose:
To verify that the terminal only will enable proprietary handling of a BIN range if it is enabled from the PSAM.

Prerequisites:
A "Normal" script is the last configuration that has been loaded into the PSAM.
The terminal has been set to perform special processing when detecting a Proprietary card scheme (BIN 3540 82).

FTD script: Rel2010-01_01a   *Card(s):* MSC010   *PSAM:* PSAM002
                  Rel2010-01_01b   MSC001

Test environment:

FTD Host: X   *IFS:*   *Kopi:* (X)

General pass criteria:
It is validated that the terminal will enable the special handling of a proprietary card scheme when, and only when this bit is set in the configuration data from the PSAM:

Comments: The actual behavior of the terminal is manufacturer and application dependent. If the terminal has an internal table for proprietary card scheme processing then enable alternate processing for BIN 35 40 82., the BIN used by the test card.

Comments: The terminal may be able to perform PSAM based transactions using a card from a Proprietary Card Scheme. The behavior depends on the settings (in the PSAM) for the product.

Step	Actions and assessment	Result	Verdict
1.	☞ Does the Terminal support processing of " Proprietary Card Schemes"?	Yes: Step 2 No: Not Applicable	
2.	Read (swipe/insert) **MSC010** (JCB PAN). ☞ Is the card recognized as JCB? ☞ Is it possible to start a normal purchase transaction? ☞ Is the handling of proprietary data **not** enabled (consult terminal manufacturer on how to identify)?	 Yes: Step 3 No: Case failed	

Step	Actions and assessment	Result	Verdict
3.	Cancel the transaction. Select the host script **Rel2010-01_01a** (will load proprietary card scheme info for one BIN range). Make sure that updates are enabled, i.e PSAM Personalization = Yes. Perform an Advice Transfer to transfer the information. ☞ Was the Advice Transfer Successful?	Yes: Step 4 No: Case failed	
4.	If necessary, enable processing of the proprietary card scheme. Read (swipe/insert) **MSC010** (JCB PAN). ☞ Is the proprietary scheme activity of the terminal activated (consult manufacturer for action)? ☞ Is it possible to start a normal purchase transaction using the card?	Yes: Step 5 No: Case failed.	
5.	Cancel the previous transaction. Read (swipe/insert) **MSC001** (MC 1614). ☞ Is the card recognized as MasterCard? ☞ Is the proprietary scheme activity of the terminal **not** activated (consult manufacturer for action)? ☞ Is it possible to start a normal transaction using the card?	Yes: Step 6 No: Case failed.	
6.	Cancel the transaction. Select the host script R**el2010-01_01b** (will remove proprietary card scheme info for the one BIN range). Make sure that updates are enabled, i.e PSAM Personalization = No. Perform an Advice Transfer to transfer the information. ☞ Was the Advice Transfer successful?	Yes: Step 7 No: Case failed	
7.	Read (swipe/insert) **MSC010** (JCB PAN). ☞ Is the card recognized as JCB? ☞ Is the proprietary scheme activity of the terminal **not** activated (consult manufacturer for action)? ☞ Is it possible to start a normal transaction using the card?	Yes: Step8 No: Case failed	
8.	Cancel the transaction. Perform an Advice Transfer to transfer the information. ☞ Was the Advice Transfer successful?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 24.2 - Release 2010-01 02: Alt. Term. Cap. MSC NoCVM

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Release 2010-01	**Conditions:** N/A

Requirements tested:
1-10.5.8.1　　　If alternate terminal capability is to be used, load data into the PSAM.
1-10.5.8.4　　　The terminal shall set MI to use alternative terminal capability.

Purpose:
To verify that the terminal perform Alternate processing in general (Normal Path)

Prerequisites:

FTD script: Rel2010-01_02	*Card(s):* MSC001	*PSAM:* PSAM002

Test environment:

FTD Host: X	*IFS:*	*Kopi:*

General pass criteria:
It is that the validated that:

⧫ The terminal will process the card as a No CVM transaction.

Step	Actions and assessment	Result	Verdict
1.	☞ Does the terminal support "Alternative Terminal Capabilities"?	Yes: Step 2 No: Not Applic.	
2.	Select the host script **Rel2010-01_02** (will create new log file). Make sure that updates are enabled, i.e PSAM Personalization = No. Perform an Advice Transfer to transfer the information. Set the terminal to perform "Alternative Terminal Capability" Start a transaction, and if necessary specify amount. Enter/Swipe the card **MSC001** (MC 1614) ☞ Is the transaction successful? ☞ Does the TCC on the receipt indicate NoCVM?	Yes: Case failed No: Case OK	
3.	Analyze the host log file; ☞ Is a Financial Request generated? ☞ Does Field 21 position 6 in the Financial Request show no PIN capability "0"? ☞ Does Field 22 position 4 and 5 in the Financial Request show "0"?	Yes: Case OK No: Case Failed	
-	End of test case		

Test Case 24.3 - Release 2010-01 03: Alt. Term. Capability MSC host reject

Test date:		Init:	
Problem Report (if any):		**Test case result:**	
Comments:			

Test group: Release 2010-01	**Conditions:** N/A

Requirements tested:
1-10.5.8.1   If alternate terminal capability … to be used .. load into the PSAM.
1-10.5.8.4   The terminal shall .. set MI to .. to use alternative terminal capability
1-10.5.8.7   if transaction is declined .. not display "Declined" or "Not Accepted"

Purpose:
To verify that the terminal returns from Alternate processing to Normal processing and retries the transaction if the initial authorization is rejected by the host. Here when processing a MSC.

Prerequisites:

FTD script: Rel2010-01_03   *Card(s):* MSC001   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
It is that the validated that:

♦ the terminal initially process the card as a No CVM transaction

♦ the terminal switches to Normal capabilities and a PIN transaction

♦ it appears as a single transaction from the Cardholders point.

Comments:

♦ The special condition in this test is, that the Host declines the initial transaction. The cause is, that the issuer requires PIN.

Step	Actions and assessment	Result	Verdict
1.	☞ Does the terminal support "Alternative Terminal Capabilities"?	Yes: Step 2 No: Not Applic.	
2.	Select the host script **Rel2010-01_03** (will cause Host to decline). Make sure that updates are enabled, i.e PSAM Personalization = Yes. Perform an Advice Transfer to transfer the information. Set the terminal to perform "Alternative Terminal Capability" Start a purchase transaction, and if necessary specify amount. Enter/Swipe the card **MSC001** (MC 1614) ☞ Is the transaction successful? ☞ Is the cardholder requested to enter a PIN? ☞ Does it appear as a single transaction to the cardholder? ☞ Does the Terminal **not** display the text " Declined" on the display at any point? ☞ Is only a single receipt generated? ☞ Does the TCC on the receipt indicate online PIN?	Yes: Case failed No: Case OK	

Step	Actions and assessment	Result	Verdict
3.	Analyze the host log file; ☝ Are two Financial Request s generated? ☝ In the second transaction, does Field 21 position 2 show PIN capability "1" ? ☝ In the second transaction, does Field 21 position 6 show PIN capture "C" ? ☝ In the second transaction, does Field 22 position 4 show "1"?	Yes: Case OK No: Case Failed	
-	End of test case		

Test Case 24.4 - Release 2010-01 04: Alt. Term. Cap. ICC host reject

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: Release 2010-01	Conditions: N/A

Requirements tested:
-10.5.8.1   If alternate terminal capability is to be used, load data into the PSAM.1-10.5.8.   If alternate terminal capability .. to be used .. load into the PSAM.
-10.5.8.4   The terminal shall set MI to use alternative terminal capabil-ty.1-10.5.8.6 The terminal shall .. set MI to .. to use alternative terminal capability

Purpose:
To verify that the terminal return from Alternate processing to Normal processing and retries the transaction if the initial authorization is rejected by the host.

Prerequisites:

FTD script: Rel2010-01_04	*Card(s):* ICC001	*PSAM:* PSAM002

Test environment:

FTD Host: X	*IFS:*	*Kopi:*

General pass criteria:
It is that the validated that:

▌ The terminal initially process the card as a No CVM transaction.

▌ TThat the Terminal switches to Normal capabilities, PIN transaction.

▌ That is, seen from the Cardholders point, is a single transactionIt appears as a single transaction from the cardholders point of view.

Comments:
⬧ The special condition in this test is, that the Host declines the initial transaction. The cause is, that the issuer requires PIN. This is a ICC transaction.

Step	Actions and assessment	Result	Verdict
1.	☞ Does the terminal support "Alternative Terminal Capabilities"?	Yes: Step 2 No: Not Applic.	
2.	Select the host script **Rel2010-01_04** (will make Host decline). Make sure that updates are enabled, i.e PSAM Personalization = No. Perform an Advice Transfer to transfer the information. Verify that profile for "Alternative Terminal Capability" is loaded. Set the terminal to perform "Alternative Terminal Capability" Start a transaction, and if necessary specify amount. Enter **ICC001** (Visa/Dankort) ☞ Is the transaction successful? ☞ Is the Cardholder only requested to insert card once? ☞ Is the cardholder requested to enter a PIN? ☞ Does it appear as a single transaction to the cardholder? ☞ Does the Terminal **not** display the text "Declined" on the display? ☞ Does the TCC on the receipt indicate online PIN?	Yes:Case failed No: Case OK	
3.	Perform an Advice Transfer to get the Advice(s). Analyze the host file; ☞ Are the following messages sent to the Host; ♦ An Authorization Request, ♦ An Authorization Request, ♦ A Financial Advice? ☞ In the initial Authorization Request, does Field 21 position ☞ In the Financial Advice does Field 21 position 2 show PIN capability "1" ? ☞ In the Financial Advice does Field 21 position 6 show PIN capture "C" ? ☞ In the Financial Advice does Field 22 position 4 show "1"?	Yes:Case OK No: Case Failed	
-	End of test case		

Test Case 24.5 - Release 2010-01 05: Alt. Term. Cap. MSC PSAM reject

Test date:		Init:	
Problem Report (if any):		**Test case result:**	

Test group: Release 2010-01	**Conditions:** N/A

Requirements tested:
1-10.5.8.1.   If alternate terminal capability … to be used .. load into the PSAM.
1-10.5.8.4   The terminal shall .. set MI to .. to use alternative terminal capability
1-10.5.8.7   if transaction is declined .. not display "Declined" or "Not Accepted"

Purpose:
To verify that the terminal return from Alternate processing to Normal processing and retries the transaction if the initial request is rejected by the PSAM before going online. Here when processing a MSC.

Prerequisites:

FTD script: Release2010-01_05   *Card(s):* MSC021   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
It is that the validated that:

- ⬧ the terminal initially process the card as a No CVM transaction
- ⬧ the PSAM detects that card Service Code requires online and PIN
- ⬧ the Terminal switches to Normal capabilities, PIN transaction
- ⬧ it appears as a single transaction from the Cardholders point of view.

Comments:

- ⬧ The special condition in this test is, that the PSAM declines the transaction before going online. The cause is, that the MSC requires PIN in Service Code.

Step	Actions and assessment	Result	Verdict
1.	☜ Does the terminal support "Alternative Terminal Capabilities"?	Yes: Step 2 No: Not Applic.	
2.	Select the host script **Release2010-01_05** (will just create new log file). Make sure that updates are enabled, i.e. PSAM Personalization = Yes. Perform an Advice Transfer to transfer the information. Verify that profile for "Alternative Terminal Capability" is loaded. Set the terminal to perform "Alternative Terminal Capability" Start a purchase transaction, and if necessary specify amount. Enter/Swipe the card **MSC021** (BAX 09) ☜ Is the transaction successful? ☜ Is the cardholder requested to enter a PIN? ☜ Does it appear as a single transaction to the cardholder? ☜ Does the Terminal **not** display the text "Declined" on the display? ☜ Does the TCC on the receipt indicate online PIN?	 Yes: Case failed No: Case OK	

Step	Actions and assessment	Result	Verdict
3.	Perform an Advice Transfer to get Advices. Analyze the host log file; ☞ Are there the following transactions; ⬥ A Financial Request? ⬥ An Authorization Advice? ☞ In the Financial Request, does Field 21 show "51x34C" ? ☞ In the Financial Request does Field 22 show "x0210x"?	Yes: Case OK No: Case Failed	
-	End of test case		

Test Case 24.6 - Release 2010-01 06: Alt. Term. Cap. ICC PSAM reject

Test date:	Init:
Problem Report (if any):	Test case result:

Test group: Release 2010-01	Conditions:

Requirements tested:
1-10.5.8.1   If alternate terminal capability .. to be used .. load into the PSAM.
1-10.5.8.4   The terminal shall .. set MI to .. to use alternative terminal capability
1-10.5.8.7   if transaction is declined .. not display "Declined" or "Not Accepted"

Purpose:
To verify that the terminal return from Alternate processing to Normal processing and retries the transaction if the initial authorization is rejected before online.

Prerequisites:

FTD script: Rel2010-01_06   *Card(s):* ICC024   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
It is that the validated that:

⬥ terminal initially process the card as a No CVM transaction

⬥ the Terminal switches to a Normal capabilities, PIN transaction

⬥ It appears as a single transaction seen from the Cardholders point.

Comments:

⬥ The special condition in this test is, that the PSAM initially declines the transaction before going online. The cause being, that the ICC requires Online PIN in CVM list.

Step	Actions and assessment	Result	Verdict
1.	☞ Does the terminal support "Alternative Terminal Capabilities"?	Yes: Step 2 No: Not Applic.	
2.	Select the host script **Rel2010-01_06** (will just create new log file). Make sure that updates are enabled, i.e PSAM Personalization = Yes. Perform an Advice Transfer to transfer the information. Verify that profile for "Alternative Terminal Capability" is loaded and set the terminal to perform "Alternative Terminal Capability" (Ask terminal supplier on how to do it). Perform a purchase transaction, and if necessary specify amount. Enter **ICC024** (BAX ICC) ☞ Is the transaction successful? ☞ Is the Cardholder only requested to insert card once? ☞ Is the cardholder requested to enter a PIN once? ☞ Does it appear as a single transaction to the cardholder? ☞ Does the Terminal **not** show the text "Declined" on the display? ☞ Does the TCC on the receipt indicate online PIN?	 Yes: Case failed No: Case OK	

Step	Actions and assessment	Result	Verdict
3.	Perform an Advice Transfer to get the Advice(s). Analyze the host log file; ☞ Are the following messages sent to the Host; ♦ An Authorization Request, ♦ An Authorization Advice, ♦ A Financial Advice? ☞ In the Authorization Advice, does Field 21 position 2 show no PIN capability "0"? ☞ In the Financial Advice does Field 21 position 2 show PIN capability "1" ? ☞ In the Financial Advice does Field 21 position 6 show PIN capture "C" ? ☞ In the Financial Advice does Field 22 position 4 show "1"?	Yes: Case OK No: Case Failed	
-	End of test case		

Test Case 24.7 - Release 2010-01 07: Preferred Offline MSC performed

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Release 2010-01	**Conditions:**

Requirements tested:
1-10.5.9.1   The terminal shall set MI .. if it wants to perform Preferred Offline .

Purpose:
To verify that the terminal can support a preferred offline transaction using MSC.

Prerequisites:
The terminal is supporting preferred offline.

FTD script: Rel2010-01_07   *Card(s):* MSC001   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
- ⬥ The transaction is approved offline
- ⬥ The transaction is marked as offline

Step	Actions and assessment	Result	Verdict
1.	☞ Does the terminal support "Preferred Off-line processing"?	Yes: Step 2 No: Not Applic.	
2.	Select the host script **Rel2010-01_07** (will change CVM list for card).		
	Make sure that updates are enabled, i.e PSAM Personalization = Yes. Perform an Advice Transfer to transfer the updates to the PSAM.		
	Set the terminal to perform "Preferred Offline processing" (consult manufacturers on how)		
	Perform a purchase transaction, and if necessary specify amount. Amount shall be above floor limit.		
	Enter/Swipe the card **MSC001** (MC 1614)		
	☞ Is the transaction successful?		
	☞ Is the cardholder **not** requested to enter a PIN?		
	☞ If the terminal supports Signature, is the transaction performed as a Signature transaction?		
	☞ If the terminal does not supports Signature, is the transaction performed as a No CVM transaction?		
	☞ Does the TCC on the receipt indicate MSC and offline?	Yes: Step 3 No: Case failed	

Step	Actions and assessment	Result	Verdict
3.	Perform an Advice Transfer to transfer the information. Analyze the host log file. ☞ Was the Advice Transfer successful? ☞ Was one Financial Advice generated? ☞ In the Financial Advice, does Field 22 position 4 show "0"(no auth.) or "5"(signature)?	Yes: Case OK No: Case Failed	
-	End of test case		

Test Case 24.8 - Release 2010-01 08: Preferred Offline MSC refused

Test date:		Init:	
Problem Report (if any):		**Test case result:**	
Comments:			

Test group: Release 2010-01	**Conditions:**

Requirements tested:
1-10.5.9.1   The terminal shall set MI .. if it wants to perform Preferred Offline .

Purpose:
To verify that the terminal will reject a preferred offline transaction if not supported by MSC and go online.

Prerequisites:
The terminal is supporting Preferred offline.

FTD script: Rel2010-01_08   *Card(s):*MSC021   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
- The transaction is approved online
- The transaction is marked as online

Comments:
The card has service code = 523 i.e. National, Issuer Authorization and PIN.

Step	Actions and assessment	Result	Verdict
1.	☞ Does the terminal support "Preferred Off-line processing"?	Yes: Step 2 No: Not Applic.	
2.	Select the host script **Rel2010-01_08**. Make sure that updates are enabled, i.e PSAM Personalization = Yes. Set the terminal to perform "Preferred Offline processing" Start a transaction, and if necessary specify amount. Amount shall be above floor limit. Start a transaction, and if necessary specify amount. Amount shall be above floor limit. Insert/Swipe the card **MSC021** (BAX 09) ☞ Is the transaction successful? ☞ Is the cardholder requested to enter a PIN? ☞ Does the TCC on the receipt indicate Online and PIN?	Yes:Case failed No: Case OK	
3.	Perform an Advice Transfer to transfer the in-formation. Analyze the host file. ☞ Is only one Financial Request generated? ☞ In the transaction, does Field 22 position 4 show "1" (PIN)?	Yes:Case OK No: Case Failed	
-	End of test case		

Test Case 24.9 - Release 2010-01 09: Preferred Offline ICC performed

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Release 2010-01	**Conditions:** [PIN]

Requirements tested:
1-10.5.9.1   The terminal shall set MI .. if it wants to perform Preferred Offline .

Purpose:
To verify that the terminal can support a preferred offline transaction using ICC.

Prerequisites:
The terminal is using Alternate Terminal Capabilities when performing the transaction.

FTD script: Rel2010-01_09   *Card(s):* ICC005   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
- The transaction is approved offline
- The transaction is marked as offline

Comments:

Step	Actions and assessment	Result	Verdict
1.	☞ Does the terminal support "Preferred Offline processing"?	Yes: Step 2 No: Not Applic.	
2.	Select the host script **Rel2010-01_09** (will only create a log file). Make sure that updates are not enabled, i.e PSAM Personalization = No. Set the terminal to perform "Preferred Offline processing" Start a transaction, and if necessary specify amount. Amount shall be above floor limit. Enter the card **ICC005** (Offline PIN) ☞ Is the transaction successful? ☞ Is the cardholder requested to enter a PIN? ☞ Does the TCC on the receipt indicate PIN, chip and offline?	Yes: Step 3 No: Case failed	
3.	Perform an Advice Transfer. Analyze the host file. ☞ Is one Financial Advice generated? ☞ In the transaction, does Field 22 position 4 show "1"(PIN)?	Yes: Case OK No: Case Failed	
-	End of test case		

Test Case 24.10 - Release 2010-01 10: Preferred Offline ICC refused

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: Release 2010-01	Conditions: [PIN]

Requirements tested:
1-10.5.9.1   The terminal shall set MI .. if it wants to perform Preferred Offline .

Purpose:
To verify that the terminal will switch to online, if requested by the ICC.

Prerequisites:
The card used shall have an online CVM as preferred method.

FTD script: Rel2010-01_10   *Card(s):* ICC024   *PSAM:* PSAM002
                                                                                ICC001

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
- The transaction is approved online
- The transaction is marked as online

Step	Actions and assessment	Result	Verdict
1.	☞ Does the terminal support "Preferred Off-line processing"? ☞ Does the terminal support PIN entry?	Yes: Step 2 No: Not Applic.	
2.	Select the host script **Rel2020-01_10** (will only change the log file). Make sure that updates are not enabled, i.e PSAM Personalization = No. Set the terminal to perform "Preferred Offline processing" Start a transaction, and if necessary specify amount. Amount shall be above floor limit. Insert **ICC024** (BAX Online PIN only) ☞ Is the transaction successful? ☞ Is the cardholder requested to enter a PIN? ☞ Does the TCC on the receipt indicate PIN, chip and online?	Yes: Step 3 No: Case failed	
3.	Start a transaction, and if necessary specify amount. Amount shall be above floor limit. Insert **ICC001** (VisaDankort) ☞ Is the transaction successful? ☞ Is the cardholder requested to enter a PIN? ☞ Does the TCC on the receipt indicate PIN, chip and online?	Yes: Step 4 No: Case failed	
4.	Perform an Advice Transfer. Analyze the host file. ☞ Are two Authorization Request and two Financial Advice generated?	Yes: Case OK No: Case Failed	
-	End of test case		

Test Case 24.11 - Release 2010-01 11: Load Software Update

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Release 2010-01	**Conditions:**

Requirements tested:
Inherent;   The terminal shall be able to handle the (large amount of) data
transferred from the Host to the PSAM when a software update is
performed.

Purpose:
To verify that the terminal will pass this very large update through.

Prerequisites:
The PSAM is at version 70.003 at the start of the test.

FTD script: Rel2010-01_11   *Card(s):*ICC001   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
 The terminal is able to transfer a (large) code update to the PSAM.

Comments: The update will cause the PSAM to perform a roll-back to baseline
(version 70.001). This is followed by (re)loading the PSAM with new software.

Step	Actions and assessment	Result	Verdict
1.	Select the host script **Rel2010-01_11**. Make sure that updates **are** enabled, i.e PSAM Personalization = Yes. Perform an Advice Transfer (This may take quite a time, as a large amount of updates shall be transferred.) Start a transaction, and if necessary specify amount. Amount shall be above floor limit. Insert card **ICC001** (VisaDankort) Is the transaction successful?	Yes: Step 2 No: Case failed	
2.	Perform an Advice Transfer (This returns status from the PSAM. This may take quite a long time, as there are a lot of records to transfer). Is the Advice Transfer successful?	Yes: Step 4 No: Case failed	

Step	Actions and assessment	Result	Verdict
3.	Start a transaction, and if necessary specify amount. It shall be above floor limit. Enter the card **ICC001** (VisaDankort). If necessary Is the transaction successful Perform an Advice Transfer. Analyze the host file. ☞ Has the following transactions been transferred (in addition to the service records); ♦ An Authorization Request ♦ A Financial Advice ? ☞ Does the Field 46, tag TP holds the current version for the PSAM?	Yes: Case OK No: Case Failed	
-	End of test case		

Test Case 24.12 - Release 2010-01 12: Ext. Auth.(2), ICC and MSC

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: Release 2010-01	Conditions: [Token] AND NOT [BAX]

Requirements tested:
1-10.2.3.3   The terminal shall store all valid card references
1-10.2.3.4   The terminal shall, when searching for a card reference, if a primary value exists, start by using the primary value
1-10.2.3.5   The terminal shall, if a match is not found in the first search, repeat the search using the secondary value.

Purpose:
To verify that a Terminal using Extended Authorization, is able to handle comparison between ICC and fallback to MSC.

Prerequisites:

FTD script: Rel2010-01_12   *Card(s):* ICC001   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
That the terminal can match tokens between ICC and fallback to MSC.

Comments:
- Fallback to MSC is not allowed for all card types.
- The concept "Check-in" is used for making an authorization and generating a card reference.
- The concept "Check-out" is used for making a capture at a later time, and automatically selecting the authorization previously generated by the same card.

Step	Actions and assessment	Result	Verdict
1.	☞ Does the terminal support the use of ""Extended Authorization 2"	Yes: Step 2 No: Not Applic.	
2.	Select the host script **Rel2010-01_12** (will only create a new log file). Make sure that updates are not enabled, i.e PSAM Personalization = No. Perform an Advice Transfer. Start an Check-In using Extended Authorization 2. If necessary specify amount and PIN. Use card **ICC001** (VisaDankort) as ICC. If necessary enter PIN. ☞ Is the transaction successful?	Yes: Case failed No: Step 3	
3.	Start an Check-Out using Extended Authorization 2. If necessary specify amount and PIN. Make terminal go into fallback mode, and use **ICC001** read as MSC. ☞ Is the terminal able to match the token from Check-In? ☞ Is the transaction successful?	Yes: Case failed No: Case OK	
-	End of test case		

Test Case 24.13 - Release 2010-01 13: Ext. Auth.(2), MSC and ICC

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Release 2010-01	**Conditions:** [Token] AND NOT [BAX]

Requirements tested:
1-10.2.3.3   The terminal shall store all valid card references
1-10.2.3.4   The terminal shall, when searching for a card reference, if a primary value exists, start by using the primary value
1-10.2.3.5   The terminal shall, if a match is not found in the first search, repeat the search using the secondary value.

Purpose:
To verify that a Terminal using Extended Authorization, is able to handle comparison between fallback to MSC and ICC.

Prerequisites:

FTD script: Rel2010-01_13   *Card(s):*ICC001   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
That the terminal can match tokens between fallback to MSC and ICC.

Comments:
♠ Fallback to MSC is not allowed for all card types.

Step	Actions and assessment	Result	Verdict
1.	☞ Does the terminal support the use of "Extended Authorization 2"	Yes: Step 2 No: Not Applic.	
2.	Select the host script **Rel2010-01_13** (will only change the log file). Make sure that updates are not enabled, i.e PSAM Personalization = No. Perform an Advice Transfer. Start an Check-In using Extended Authorization 2. If necessary specify amount and PIN. Force the terminal into a state where it accepts fallback to MSC. Use card **ICC001** (VisaDankort) as fallback to MSC. If necessary enter PIN. ☞ Is the transaction successful?	Yes: Case failed No: Step 3	
3.	Start an Check-Out using Extended Authorization 2. If necessary specify amount and PIN. Enter **ICC001** read as ICC (no fallback). ☞ Is the terminal able to match the token from Check-In? ☞ Is the transaction successful?	Yes: Case failed No: Step 3	
-	End of test case		

Test Case 24.14 - Release 2010-01 14: Ext. Auth.(2), MSC and MSC

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Release 2010-01	**Conditions:** [Token] AND NOT [BAX]

Requirements tested:
1-10.2.3.3   The terminal shall store all valid card references
1-10.2.3.4   The terminal shall, when searching for a card reference, if a primary value exists, start by using the primary value
1-10.2.3.5   The terminal shall, if a match is not found in the first search, repeat the search using the secondary value.

Purpose:
To verify that a Terminal using Extended Authorization (2), is able to handle comparison between MSC and MSC.

Prerequisites:

FTD script: Rel2010-01_14   *Card(s):* MSC001   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
That the terminal can match tokens between with MSC on entry and exit.

Comments:

- ◆ Test covers Extended Authorization and as well Extended Authorization 2.
- ◆ The concept "Check-in" is used for making an authorization and generating a card reference.
- ◆ The concept "Check-out" is used for making a capture at a later time, and automatically selecting the authorization previously generated by the same card.

Step	Actions and assessment	Result	Verdict
1.	☞ Does the terminal support the use of "Extended Authorization 2" or "Extended Authorization".	Yes: Step 2 No: Not Applic.	
2.	Select the host script **Rel2010-01_14** (will only create a new log file). Make sure that updates are not enabled, i.e PSAM Personalization = No. Perform an Advice Transfer. Start an "Check-In". If necessary specify amount and PIN. Swipe/Enter card **MSC001** (MC1612). If necessary enter PIN. ☞ Is the transaction successful?	Yes: Case failed No: Step 3	
3.	Start an "Check-Out". If necessary specify amount and PIN. Swipe/Enter card **MSC001** ☞ Is the terminal able to match the token from Check-In? ☞ Is the transaction successful?	Yes: Case failed No: Case OK	
-	End of test case		

Test Case 24.15 - Release 2010-01 15: Ext. Auth.(2), ICC and ICC

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Release 2010-01	**Conditions:** [Token] AND NOT [BAX]

Requirements tested:
1-10.2.3.3   The terminal shall store all valid card references
1-10.2.3.4   The terminal shall, when searching for a card reference, if a primary value exists, start by using the primary value
1-10.2.3.5   The terminal shall, if a match is not found in the first search, repeat the search using the secondary value.

Purpose:
To verify that a Terminal using Extended Authorization (2), is able to handle comparison between ICC and ICC.

Prerequisites:

FTD script: Rel2010-01_15   *Card(s):* ICC001   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
That the terminal can match tokens between with MSC on entry and exit.

Comments:
⬥ Test covers Extended Authorization and as well Extended Authorization 2.

Step	Actions and assessment	Result	Verdict
1.	☞ Does the terminal support the use of ""Extended Authorization (2)".	Yes: Step 2 No: Not Applic.	
2.	Select the host script **Rel2010-01_15** (will only change the log file). Make sure that updates are not enabled, i.e PSAM Personalization = No. Perform an Advice Transfer. Start an "Check-In" using Extended Authorization 2. If necessary specify amount and PIN. Insert card **ICC001** (VisaDankort). If necessary enter PIN. ☞ Is the transaction successful?	Yes: Case failed No: Step 3	
3.	Start an "Check-Out" using Extended Authorization 2. If necessary specify amount and PIN. Insert card **ICC001** ☞ Is the terminal able to match the token from Check-In? ☞ Is the transaction successful?	Yes: Case failed No: Case OK	
-	End of test case		

Test Case 24.16 - Release 2010-01 16: Ext. Auth.2, PSN deviates

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Release 2010-01	**Conditions:** [Token]

Requirements tested:
1-10.2.3.3   The terminal shall store all valid card references
1-10.2.3.4   The terminal shall, when searching for a card reference, if a primary value exists, start by using the primary value
1-10.2.3.5   The terminal shall, if a match is not found in the first search, repeat the search using the secondary value
1-10-2.3.6   The terminal shall, if a match on the secondary value is found on the repeated search, reject the search, if the primary values exists but are different.

Purpose:
To verify that a Terminal using Extended Authorization 2, will decline matching between two cards with same PAN but different PSN. (ICC and ICC)

Prerequisites:

FTD script: Rel2010-01_16   *Card(s):* ICC005   *PSAM:* PSAM002
                                                 ICC025

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
That the terminal shall refuse match, if PAN's are equal but extended information differs (for ICC cards only).

Comments:
- Test is only applicable to Extended Authorization 2.
- The one test card ICC025 is a new card.
- The terminal will make an online transaction due to SDA error in card CA025
- The test cannot be performed in KOPI environment.

Step	Actions and assessment	Result	Verdict
1.	☞ Does the terminal support the use of ""Extended Authorization 2".	Yes: Step 2 No: Not Applic.	
2.	Select the host script **Rel2010-01_16** Make sure that updates are enabled, i.e PSAM Personalization = Yes. Perform an Advice Transfer. Start an "Check-In" using Extended Authorization 2. If necessary specify amount and PIN. Insert card **ICC005** (EMV CA025). If necessary enter PIN. ☞ Is the transaction successful?	Yes: Case failed No: Step 3	
3.	Start an "Check-Out" using Extended Authorization 2. If necessary specify amount and PIN. Insert card **ICC025** (As ICC005 except PSN) ☞ Does the terminal refuse to match the token from "Check-In"?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 24.17 - Release 2010-01 17: Post Registration Purchase Online

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Release 2010-01	**Conditions:** [Token] and [Post Registration]

Requirements tested:
1-10.5.6.1　　　When Post registration is supported, the Token shall be kept after the Capture has been performed. When the business with customer is finished (and no more Post Registrations are expected), the Token shall be deleted.
2-5.12.2.2　　　When performing the Business Call Post Purchase, the Transaction Request (TR) shall be set to '0A'.

Purpose:
To verify that a Terminal handling Post Registration will perform an online Purchase transaction.

Prerequisites:

FTD script: Rel2010-01_17　　　　*Card(s):*ICC001　　　*PSAM:* PSAM002

Test environment:

FTD Host: X　　　　　　　　　*IFS:*　　　　　　　*Kopi:*

General pass criteria:
That the terminal can perform a Post Registration Purchase, identified as Key Entered transaction.

Comments:
- ⬧ Test is only applicable to terminals supporting Post Registration.
- ⬧ The test is not applicable to the Kopi environment. (The special setup of the PSAM is at the present not available).

Step	Actions and assessment	Result	Verdict
1.	☞ Does the terminal support the use of "Post Registration".	Yes: Step 2 No: Not Applic.	
2.	Select the host script **Rel2010-01_17** Make sure that updates are enabled, i.e PSAM Personalization = Yes. Perform an Advice Transfer. Transfer OK? Start an "Original Authorization". If necessary specify amount and PIN. Insert card **ICC001** (VisaDankort). If necessary enter PIN. ☞ Is the authorization successful?	Yes: Step 3 No: Case failed	
3.	Start a Capture transaction. Use the token from step 2 as source. ☞ Is the transaction successful?	Yes: Step 4 No: Case failed	
4.	Try to start one more Capture, using the same token as input. ☞ Does the terminal refuse start the Capture?	Yes: Step 5 No: Case failed	

Step	Actions and assessment	Result	Verdict
5.	Start a "Purchase Post Registration". Use the token from step2 as input. ☞ Is it possible to start the transaction? ☞ Is the transaction performed successfully? ☞ Is there **not** a request for Signature ? ☞ Is there **not** a request for PIN.	Yes: Step 6 No: Case failed	
6.	Perform an Advice Transfer. If a receipt is generated, record the STAN (line TR6) and verify the receipt. ☞ Is the TCC on the receipt (line TR8) "TC1"? ☞ Is the amount the value entered? ☞ Is it a purchase transaction?	Yes: Step 7 No: Case failed	
7.	Access the host data generated. Start to analyze the data generated. ☞ Has the transaction generated a Financial Request? ☞ Ifs field 2, PAN the same as in previous transaction? ☞ Is Field 3, Processing Code "000000"? ☞ Is Field 22, POS entry mode "11600X"? ☞ Is Field 24 equal to "200"? ☞ Is Field 47 tag V5 (CV-2) the value 'FFFF' (not available)? ☞ Is Field 47 tag BE '01' (Token based transaction flag)?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 24.18 - Release 2010-01 18: Post Registration Refund Offline

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Release 2010-01	**Conditions:** [Token] and [Post Registration]

Requirements tested:
1-10.5.6.1   When Post registration is supported, the Token shall be kept after the Capture has been performed.
2-5.12.2.2   When performing the Business Call Post Refund, the Transaction Request (TR) shall be set to '0B'.

Purpose:
To verify that a Terminal handling Post Registration will perform an offline Refund transaction.

Prerequisites:

FTD script: Rel2010-01_18   *Card(s):* ICC001   *PSAM:* PSAM002

Test environment:

FTD Host: X   *IFS:*   *Kopi:*

General pass criteria:
That the terminal can perform an Offline Post Registration Refund, identified as Key Entered transaction

Comments:
- Test is only applicable to terminals supporting Post Registration.
- The test is not applicable to the Kopi environment.(The special setup of the PSAM is at the present not available).

Step	Actions and assessment	Result	Verdict
1.	☞ Does the terminal support the use of "Post Registration".	Yes: Step 2 No: Not Applic.	
2.	Select the host script **Rel2010-01_18** Make sure that updates are enabled, i.e PSAM Personalization = Yes. Perform an Advice Transfer. Transfer OK? Start an "Original Authorization". If necessary specify amount and PIN. Insert card **ICC018** (Visa ADVT TC 01). If necessary enter PIN. ☞ Is the authorization successful?	Yes: Step 3 No: Case failed	
3.	Start a Capture transaction. Use the token from step 2 as source. ☞ Is the transaction successful?	Yes: Step 4 No: Case failed	
4.	Set the terminal to be offline Start a "Refund Post Registration". Use the token from step2 as input. ☞ Is it possible to start the transaction? ☞ Is the transaction performed successfully? ☞ Is there **not** a request for Signature ? ☞ Is there **not** a request for PIN.	Yes: Step 5 No: Case failed	

Step	Actions and assessment	Result	Verdict
5.	Try to start a "Purchase Post Registration", using the token from step2 as input. ☞ Is the attempt declined?	Yes: Step 6 No: Case failed	
6.	Perform an Advice Transfer. If a receipt is generated, record the STAN (line TR6) and verify the receipt. ☞ Is the TCC on the receipt (line TR8) "TC5"? ☞ Is the amount the value entered? ☞ Is it a refund transaction?	Yes: Step 7 No: Case failed	
7.	Access the host data. Start to analyze the data generated. ☞ Has the transaction generated a Financial Advice? ☞ Is Field 3, Processing Code "200000"? ☞ Is Field 22, POS entry mode "71600X"? ☞ Is Field 24 equal to "200"? ☞ Is Field 47 tag V5 the value 'FFFF'? ☞ Is Field 47 tag BE '01'?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 24.19 - Release 2010-01 19: Post Registration, Exceptions

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Release 2010-01	**Conditions:** [Token] and [Post Registration]

Requirements tested:
1-10.5.6.1　　　When Post registration is supported, the Token shall be kept after the Capture has been performed.

Purpose:
To verify that a Terminal handling Post Registration will not accept forced PIN or Signature.

Prerequisites:

FTD script: Rel2010-01_19　　　　*Card(s):*ICC018　　　*PSAM:* PSAM002

Test environment:

FTD Host: X　　　　　　　　*IFS:*　　　　　　　*Kopi:*

General pass criteria:
That the terminal will reject a Post Registration when signature (or PIN) is forced, or remove the forced condition prior to the transaction.

Comments:
- ⬥ Test is only applicable to terminals supporting Post Registration.
- ⬥ The test is not applicable to the Kopi environment. (The special setup of the PSAM is at the present not available).

Step	Actions and assessment	Result	Verdict
1.	✍ Does the terminal support the use of "Post Registration".	Yes: Step 2 No: Not Applic.	
2.	Select the host script **Rel2010-01_19** Make sure that updates are enabled, i.e PSAM Personalization = Yes. Perform an Advice Transfer. Transfer OK? Start an "Original Authorization". If necessary specify amount and PIN. Insert card **ICC018** (Visa ADVT 6.0 TC01). If necessary enter PIN. ✍ Is the authorization successful?	Yes: Step 3 No: Case failed	
3.	Start a Capture transaction. Use the token from step 2 as source. ✍ Is the transaction successful?	Yes: Step 4 No: Case failed	
4.	Set the terminal to force signature. Try to start a "Purchase Post Registration", using the token from step2 as input. ✍ Is it possible to start the transaction?	Yes: Step 5 No: Case OK	
5.	If the transaction can be started; ✍ Is the transaction declined	Yes: Step 6 No: Case failed	

Step	Actions and assessment	Result	Verdict
6.	If a receipt is generated, verify the receipt. ☞ Is it a declined receipt? ☞ Is the TCC on the receipt, if printed, (line TR8) "TCx"?	Yes: Step 7 No: Case failed	
-	End of test case		

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4.25 Release 2011-02

This section covers the test of new functionalities added in PSAM Release 2011-02.

Test Case 25.1 - Release 2011-02 01: Private Label Card processing

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: Release 2011-02	Conditions: [PrivateLabel]

Requirements tested:

1-10.4.1.1 Shall only enable proprietary processing if bit 8 = "1" in the Card Service info field.

1-10.4.1.3 Shall not let the PSAM process the card if bit 7 = "1" in the Card Service info field.

Purpose:
To verify that the terminal will enable private label handling of a BIN range if it is enabled from the PSAM and as well let the PSAM generate a transaction.

Prerequisites:
A "Normal" script is the last configuration that has been loaded into the PSAM.
The terminal has been set to perform special processing when detecting a Private Label card scheme (BIN 9208 6075 998). The setting is **as well** to perform a normal PSAM transaction, using this information.

FTD script: Rel2011-02_01a	*Card(s):* MSC016	*PSAM:* PSAM002
Rel2011-02_01b	MSC001	

Test environment:

FTD Host: X	*IFS:*	*Kopi:* (X)

General pass criteria:
It is validated that the terminal will enable the special handling of a private label card scheme when, and only when the corresponding bit is set in the configuration data from the PSAM:

Comments: The actual behavior of the terminal is manufacturer and application dependent. If the terminal has an internal table for Private Label card scheme processing then enable alternate processing for BIN 92 08 60 75 99 8, the BIN used by the test card.

Comments: The terminal may be able to perform PSAM based transactions using a card from a Private Label card scheme. The behavior depends on the settings (in the PSAM) for the product.

Step	Actions and assessment	Result	Verdict
1.	☞ Does the Terminal support processing of "Private Label Card Schemes" **and** processing by the PSAM as well?	Yes: Step 2 No: Not Applicable	
2.	If necessary, activate processing of Private Label cards in Terminal Read (swipe/insert) **MSC016** (Test GK 998). ☞ Is the card not recognized? ☞ Is the handling of Private Label data **not** activated (consult terminal manufacturer on how to identify)?	Yes: Step 3 No: Case failed	

Step	Actions and assessment	Result	Verdict
3.	Cancel the transaction. Select the host script **Rel2011-02_01a** (will load private label card scheme info for the one BIN range). Make sure that updates are enabled, i.e PSAM Personalization = Yes. Perform an Advice Transfer to transfer the information. ✍ Was the Advice Transfer Successful?	Yes: Step 4 No: Case failed	
4.	If necessary, enable processing of the proprietary card scheme in the terminal. Read (swipe/insert) **MSC016** (Test GK 998). ✍ Is the private label scheme activity of the terminal activated (consult manufacturer for action)? ✍ If the terminal uses PSAM processing by the terminal, is the PSAM activated?	Yes: Step 5 No: Case failed.	
5.	If activated as PSAM transaction, cancel the previous transaction. Read (swipe/insert) **MSC001** (MC 1614). ✍ Is the card recognized as MasterCard? ✍ Is the private label scheme activity of the terminal **not** activated (consult manufacturer for action)?	Yes: Step 6 No: Case failed.	
6.	Cancel the transaction. Select the host script **Rel2011-02_01b** (will remove private label card scheme info for the one BIN range). Make sure that updates are enabled, i.e PSAM Personalization = Yes. Perform an Advice Transfer to transfer the information. ✍ Was the Advice Transfer successful?	Yes: Step 7 No: Case failed	
7.	Read (swipe/insert) **MSC016** (Test GK 998). ✍ Is the card not recognized? ✍ Is the proprietary scheme activity of the terminal **not** activated (consult manufacturer for action)? ✍ Is it impossible to start a normal transaction using the card?	Yes: Step8 No: Case failed	
8.	Cancel the transaction. Perform an Advice Transfer to transfer the information. ✍ Was the Advice Transfer successful?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 25.2 - Release 2011-02 02: Private Label Card no processing

Test date:		Init:	
Problem Report (if any):		**Test case result:**	
Comments:			

Test group: Release 2011-02	**Conditions:** [Private Label]

Requirements tested:

1-10.4.1.1   Shall only enable proprietary processing if bit 8 = "1" in the Card Service info field.

1-10.4.1.3   Shall not let the PSAM process the card if bit 7 = "1" in the Card Service info field.

Purpose:
To verify that the terminal will process a Private Label BIN range and provide information to the Cash Register, if this is enabled from the PSAM, but **not** at the same time let the terminal perform a PSAM based transaction using the card.

Prerequisites:
A "Normal" script is the last configuration that has been loaded into the PSAM.
The terminal has been set to perform special processing when detecting a Private Label card scheme (BIN 9208 6075 998) but **not** allow transaction processing by the PSAM.

FTD script: Rel2011-02_02a	*Card(s):* MSC016	*PSAM:* PSAM002
Rel2011-02_02b	MSC001	

Test environment:

FTD Host: X	*IFS:*	*Kopi:* (X)

General pass criteria:
It is validated that the terminal will enable special handling of a card scheme when, this bit is set in the configuration data from the PSAM but **not** let the PSAM generate a transaction on these data.

Comments: The actual behavior of the terminal is manufacturer and application dependent. If the terminal has an internal table for Private Label card scheme processing then enable proprietary processing for BIN 92 08 60 75 99 8, the BIN used by the test card.

Comments: The terminal shall **not** be able to perform PSAM based transactions using a card from a Private Label card scheme. The behavior is controlled by the settings (in the PSAM) for the product.

Step	Actions and assessment	Result	Verdict
1.	☞ Does the Terminal support processing of "Private Label Card Schemes"?	Yes: Step 2 No: Not Applicable	
2.	Read (swipe/insert) **MSC016** (Test GK 998). ☞ Is the card not recognized? ☞ Is it impossible to start a normal purchase transaction? ☞ Is the handling of Private Label data **not** enabled (consult terminal manufacturer on how to identify)?	Yes: Step 3 No: Case failed	

Step	Actions and assessment	Result	Verdict
3.	Cancel the transaction. Select the host script **Rel2011-02_02a** (will load Private Label card scheme info for the one BIN range). Make sure that updates are enabled, i.e. PSAM Personalization = Yes. Perform an Advice Transfer to transfer the information. ☞ Was the Advice Transfer Successful?	Yes: Step 4 No: Case failed	
4.	If necessary, enable processing of the Private Label card scheme. Read (swipe/insert) **MSC016** (Test GK 998). ☞ Is the Private Label scheme activity of the terminal activated (consult manufacturer for action)? ☞ Is it **not** possible to start a normal purchase transaction using the card?	Yes: Step 5 No: Case failed.	
5.	Cancel the previous transaction. Read (swipe/insert) **MSC001** (MC 1614). ☞ Is the card recognized as MasterCard? ☞ Is the proprietary scheme activity of the terminal **not** activated (consult manufacturer for action)? ☞ Is it possible to start a normal transaction using the card?	Yes: Step 6 No: Case failed.	
6.	Cancel the transaction. Select the host script R**el2010-01_02b** (will remove private label card scheme info for the one BIN range). Make sure that updates are enabled, i.e. PSAM Personalization = Yes. Perform an Advice Transfer to transfer the information. ☞ Was the Advice Transfer successful?	Yes: Step 7 No: Case failed	
7.	Read (swipe/insert) **MSC016** (Test GK 998). ☞ Is the card not recognized? ☞ Is the proprietary scheme activity of the terminal **not** activated (consult manufacturer for action)? ☞ Is it impossible to start a normal transaction using the card?	Yes: Step8 No: Case failed	
8.	Cancel the transaction. Perform an Advice Transfer to transfer the information. ☞ Was the Advice Transfer successful?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 25.3 - Release 2011-02 03: Cross Border handling Dankort

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Release 2011-02	Conditions: [Cross Border]
Requirements tested: 1-	
Purpose: To verify that the terminal will process a Dankort across border, but only in DKK.	
Prerequisites: A "Normal" script is the last configuration that has been loaded into the PSAM. The terminal / Cash register is set to process Dankort in DKK only. The PSAM is set to enable the border processing for Dankort and VisaDankort. The terminal is set to Terminal Country Code = Sweden. *FTD script:* Rel2011-02_03 *Card(s):*ICC007 *PSAM:* PSAM002	
Test environment: *FTD Host:* X *IFS:* *Kopi:* (X)	
General pass criteria: It is validated that the terminal will enable the special border handling of a Dankort card scheme and allow for transactions in DKK.	

Comments: The actual behavior of the terminal is manufacturer and application dependent.

Step	Actions and assessment	Result	Verdict
1.	☞ Does the Terminal support processing of " cross border transactions"?	Yes: Step 2 No: Not Applic-able	
2.	If necessary, enable cross border transactions. Generate a transaction in DKK. Insert **ICC007** (Dankort). ☞ Is the card recognized as Dankort? ☞ Is it the transaction declined.?	Yes: Step 3 No: Case failed	
3.	Select the host script **Rel2011-02_03** (will load cross border setting for Dankort). Make sure that updates are enabled, i.e PSAM Personalization = Yes. Perform an Advice Transfer to transfer the information. ☞ Was the Advice Transfer Successful?	Yes: Step 4 No: Case failed	
4.	If necessary, activate cross border handling in the Terminal/Cash register. Generate a transaction in DKK. Insert **ICC007** (Dankort). ☞ Is it possible to start a normal purchase transaction using the card? ☞ Is the transaction authorized? ☞ Is the Amount on the receipt in DKK?	Yes: Step 5 No: Case failed.	

Step	Actions and assessment	Result	Verdict
5.	Try to generate a cross border transaction in SEK. ☞ Does the Terminal/Cash register decline to start the transaction?	Yes: Step 6 No: Step 7.	
6.	Start the purchase transaction. Insert **ICC007** (Dankort). ☞ Is the card recognized as Dankort? ☞ Is the use of the card declined?	Yes: Step 7 No: Case failed.	
7.	If possible, start a Refund transaction in DKK. Insert **ICC007** (Dankort). ☞ Is the card recognized as Dankort? ☞ Is the transaction authorized? ☞ Is the amount on the receipt in DKK.	Yes: Step8 No: Case failed	
8.	Perform an Advice Transfer to transfer the information. ☞ Was the Advice Transfer successful?	Yes: Step 9 No: Case failed	
9.	Analyze the Advices transferred to the host. ☞ Is the currency for all of the authorized transaction in DKK?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 25.4 - Release 2011-02 04: Cross Border handling VIDK

Test date:		Init:	
Problem Report (if any):		**Test case result:**	
Comments:			

Test group: Release 2011-02	Conditions: [CrossBorder]
Requirements tested: 1	
Purpose: To verify that the terminal will process a VIDK as a cross border transaction, but in DKK only.	
Prerequisites:	
FTD script: Rel2011-02_04　　　　　　*Card(s):*ICC001　　　　　*PSAM:* PSAM002	
Test environment:	
FTD Host: X　　　　　　　　　　*IFS:*　　　　　　　　　*Kopi:*	
General pass criteria: It is that the validated that:	

- The terminal will process the card as a DKK / Dankort transaction transaction.
- The terminal will reject attempts to perform non-DKK transactions on the card.

Step	Actions and assessment	Result	Verdict
1.	☞ Does the Terminal support processing of "cross border transactions"?	Yes: Step 2 No:　Not Applic-able	
2.	If necessary, enable cross border transactions. Generate a transaction in DKK. Insert **ICC001** (VisaDankort). ☞ Is the card recognized as Visa? ☞ Is it the transaction authorized.?	Yes: Step 3 No:　Case failed	
3.	Select the host script **Rel2011-02_04** (will load cross border setting for VisaDankort). Make sure that updates are enabled, i.e PSAM Personalization = Yes. Perform an Advice Transfer to transfer the in-formation. ☞ Was the Advice Transfer Successful?	Yes:Step 4 No: Case failed	
4.	If necessary, activate cross border handling in the Terminal/Cash register. Generate a trans-action in DKK. Insert **ICC001** (VisaDankort). ☞ Is it possible to start a normal purchase transaction using the card? ☞ Is the transaction authorized? ☞ Is the Amount on the receipt in DKK?	Yes:Step 5 No: Case failed.	
5.	Try to generate a cross border transaction in SEK. ☞ Does the Terminal/Cash register decline to start the transaction?	Yes:Step 6 No: Step 7.	

Step	Actions and assessment	Result	Verdict
6.	Start the purchase transaction. Insert **ICC001** (VisaDankort). ☞ Is the card recognized as VisaDankort? ☞ Is the use of the card declined?	Yes: Step 7 No: Case failed.	
7.	If possible, start a Refund transaction in DKK. Insert **ICC001** (VisaDankort). ☞ Is the card recognized as VisaDankort? ☞ Is the transaction authorized? ☞ Is the amount on the receipt in DKK.	Yes: Step8 No: Case failed	
8.	Perform an Advice Transfer to transfer the information. ☞ Was the Advice Transfer successful?	Yes: Step 9 No: Case failed	
9.	Analyze the Advices transferred to the host. ☞ Is the currency for all of the authorized transaction in DKK?	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 25.5 - Release 2011-02 05: Extended Envelope, Ref.no.

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Release 2011-02	**Conditions:** [Extended2]

Requirements tested:
1-10. If

Purpose:
To verify that the Terminal/Cash Register is able to include Customer Reference Number and Receipt Number information to the transaction.

Prerequisites: A 'Normal' condition is in the Terminal.

FTD script: Rel2011-02_05	*Card(s):* ICC020 MSC001	*PSAM:* PSAM002

Test environment:

FTD Host: X	*IFS:*	*Kopi:*

General pass criteria:
It is that the validated that:

⬧ The Terminal/Cash Register is able to insert Extended Issuer Envelope Data.

Comments: The amount for MC cards is 20*,- to make the MC test host return valid data.

Comments: Customer Reference Number and Receipt Number may not both be available in a transaction.

Step	Actions and assessment	Result	Verdict
1.	☝ Does the Terminal/Cash Register support insertion of Customer Reference Number / Receipt Number?	Yes: Step 2 No: Not Applic.	
2.	If necessary activate the use of Receipt / Reference number (See Terminal suppliers manual on how to do it). Start a purchase transaction, Insert "Customer Reference Number." and "Receipt Number" data, as applicable (will be generated by Terminal). Use an amount of 200,- Swipe **MSC001** and enter PIN if necessary. ☝ Is the Transaction authorized?	Yes: Step 3 No: Case OK	
3.	Start a new purchase transaction, Insert "Customer Reference Number" and "Receipt Number" data, as applicable. Use an amount of 200,- Insert **ICC001** and enter PIN if necessary. ☝ Is the Transaction authorized?	Yes: Step 4 No: Case OK	

Step	Actions and assessment	Result	Verdict
4.	Perform an Advice Transfer (to get information to the host) Analyze the host log file, Field 59; ☞ Are the "Customer Reference Number" (Tag "4N") and "Receipt Number"("Tag 4O") available data in the Financial Request and the Financial Advice (as applicable)?	Yes: Case OK No: Case Failed	
-	End of test case		

Test Case 25.6 - Release 2011-02 06: Extended Envelope, IFSF data 1

Test date:	Init:
Problem Report (if any):	**Test case result:**
Comments:	

Test group: Release 2011-02	**Conditions:** [Envelope2] AND [IFSF]
Requirements tested: 1-10.5.8.1 If	
Purpose: To verify that the terminal supporting IFSF data transfer, is able to transfer the data to the Extended Issuer Envelope, performing a simple purchase transaction.	
Prerequisites: The Cash register se up to support IFSF transfer on the BIN range used. *FTD script:* Rel2011-02_06 *Card(s):*MSC0?? *PSAM:* PSAM002	
Test environment: *FTD Host:* X *IFS:* *Kopi:*	
General pass criteria: It is that the validated that: ♦ The Cash Register / Terminal will insert the data in the Extended Envelope	

Comments: ♦ The card used shall, in the cash register, support insertion of IFSF data into the transaction data stream. ♦ The IFSF data to be inserted are ♦ The card shall be an enabled Private Label card.

Step	Actions and assessment	Result	Verdict
1.	👉 Does the Terminal / Cash Register support generation of IFSF data?	Yes: Step 2 No: Not Applic.	
2.	Select the host script **Rel2011-02_06**. If necessary, enable the handling of IFSF data. Start a purchase transaction. Let the Cash Register/ Terminal generate the data. Swipe **MSC001** and enter PIN if necessary. 👉 Is the Transaction authorized?	Yes: Step 3 No: Case Failed	
3.	Check the response from the host. 👉 If applicable, is the IFSF response from the Host forwarded correctly to the Terminal/ Cash register?	Yes: Step 4 No: Case Failed	
4.	Analyze the host log file, Field 59; 👉 Was a Authorization/Financial Request generated? 👉 Are the initial IFSF data available in the Authorization/Financial Request (as applicable)?	Yes: Step 5 No: Case Failed	
5.	👉 Does the setup support an Authorization/ Capture flow?	Yes: Step 6 No: Step 7	

Step	Actions and assessment	Result	Verdict
6.	Perform an Advice Transfer to get the data waiting in the Terminal. Analyze the host log file again. ☞ Are the supplementary IFSF data available in the Financial Advice?	Yes: Step 7 No: Case OK	
7.	Disable the access to the host. Start a new transaction using **MSC001** (with no host response. This shall generate a technical reversal).	Yes: Step 8 No: Case OK	
8.	☞ Does the setup support Cancellation?	Yes: Step 9 No: Case OK	
9.	Enable the access to the host again. Perform a transaction again, using **MSC001**. Cancel the transaction (after it was completed). Perform an Advice Transfer to forward the advices to the host (simulator). Analyze the data received. ☞ Is a reversal returned for the latest transaction? ☞ Is a reversal returned for the previous transaction?	Yes: Case OK No: Case Failed	
-	End of test case		

Test Case 25.7 - Release 2011-02 07: Extended Envelope, IFSF data 2

Test date:		Init:	
Problem Report (if any):		**Test case result:**	
Comments:			

Test group: Release 2011-02		**Conditions:** [Envelope2] AND [IFSF]	
Requirements tested: 1-10.5.8.1 If			
Purpose: To verify that the terminal supporting two phase IFSF data transfer, is able to transfer the data to the Extended Issuer Envelope, performing a to phase purchase transaction can receive data in the response and insert additional data in the Advice.			
Prerequisites: The Cash register set up to support two phase IFSF transfer on the BIN range used.			
FTD script: Rel2011-02_07	*Card(s):* MSC0??		*PSAM:* PSAM002
Test environment:			
FTD Host: X	*IFS:*		*Kopi:*
General pass criteria: It is that the validated that:			

- ♦ The Cash Register / Terminal will insert the data in the Extended Envelope in request.
- ♦ The Cash Register / Terminal will retrieve the data from The Extended Envelope in the request response.
- ♦ The Cash Register / Terminal will insert additional data in the Advice

Comments:

- ♦ The card used shall, in the cash register, support insertion of IFSF data into the transaction data stream.
- ♦ The card shall be an enabled Private Label card.

Step	Actions and assessment	Result	Verdict
1.	✍ Does the Terminal / Cash Register support generation of IFSF data?	Yes: Step 2 No: Not Applic.	
2.	Select the host script **Rel2011-02_06**. If necessary, enable the handling of IFSF data. Start a purchase transaction. Let the Cash Register/ Terminal generate the data. Swipe **MSC001** and enter PIN if necessary. ✍ Is the Transaction authorized?	Yes: Step 3 No: Case Failed	
3.	Check the response from the host. ✍ If applicable, is the response from the Host forwarded correctly?	Yes: Step 4 No: Case Failed	
4.	Analyze the host log file, Field 59; ✍ Was a Financial Request generated? ✍ Are the different IFSF data available in the Financial Request (as applicable)?	Yes: Case OK No: Case Failed	
5.	Perform a transaction that is declined in the response.		

Step	Actions and assessment	Result	Verdict
6.	Perform a transaction and cancel it.		
-	End of test case		

4.26 Release 2012-01

This section covers the test of new functionalities added in PSAM Release 2012-01.

Test Case 26.1 - Release 2012-01 01: Generating status log

Test date:	Init:
Problem Report (if any):	Test case result:
Comments:	

Test group: Release 2012-01	Conditions: [PCI]

Requirements tested:
1-7.1.2.1   Shall enable centralized merchant logging.
1-7.1.2.2   Shall enable encryption from Card Reader.
1-7.1.2.3   Shall log the status of the PSAM.

Purpose:
To verify that the terminal will activate logging, card reader encryption and merchant logging.

Prerequisites:
A "Normal" script is the last configuration that has been loaded into the PSAM.
The terminal has been set up to use CDP and to set and log.
A log server has been set up and the log from the terminal has been directed to the log server.
Extended Issuer Envelope, APE and Post Processing are enabled.

FTD script:	*Card(s):*	*PSAM:* PSAM002

Test environment:

FTD Host: X	*IFS:*	*Kopi:* (X)

General pass criteria:
It is validated that the terminal activates protection and logging.

Comments: The detailed behavior of the terminal is manufacturer dependent.

Step	Actions and assessment	Result	Verdict
1.	☜ Does the Terminal support PCI processing?	Yes: Step 2 No: Not Applic.	
2.	If necessary, activate logging and encrypted transfer in the terminal. If necessary, set up the log server and direct the terminal to use the log server. Check the file on the log server. Start up the terminal. Inspect the file on the log server. Has the following been added: ☜ Has an entry been added in the syslog file? ☜ Does the entry contain the elements: ♦ The PSAM ID, "PSAM:nnnnnnnnnn"? ♦ The PSAM Version, "VER:07.1x.xx"? ♦ Are the flags for LOG, CDP, PIN and TA4 set? ♦ Are the flags for EIE, APE, CSH, PPU, PRE and DOM present? ☜ Is the PSAM ID for the actual PSAM? ☜ Is the version correct (at least 07.10.09).	Yes: Case OK No: Case failed	
-	End of test case		

Test Case 26.2 - Release 2012-01 02: Detect "Fleet" BIN range

Test date:		Init:	
Problem Report (if any):		**Test case result:**	
Comments:			

Test group: Release 2012-01	Conditions: [PCI] AND [Private Label]

Requirements tested:
1-7.1.2.4   Shall retrieve BIN's for non-PCI cards when new data available.
1-7.1.2.5   Shall log private label BIN's to the syslog.
1-7.1.2.7   Shall retrieve update response information
1-7.1.2.8   Shall log updata type information to the syslog

Purpose:
To verify that the terminal will detect the load of Private Label BIN ranges and log it in the syslog file.

Prerequisites:
A "Normal" script is the last configuration that has been loaded into the PSAM.
The terminal has been set up to use CDP
The terminal has been set and log.
A log server has been set up.
The log from the terminal has been directed to the server.
The terminal has been set to perform special processing when detecting a Private Label card scheme (BIN 9208 6075 998) but **not** allow transaction processing by the PSAM.

FTD script: Rel2011-02_02a   *Card(s):* MSC016   *PSAM:* PSAM002
             Rel2011-02_02b

Test environment:

FTD Host: X   *IFS:*   *Kopi:* (X)

General pass criteria:
It is validated that the terminal will log when a Private Label BIN is loaded.

Comments: The actual behavior of the terminal is manufacturer and application dependent. If the terminal has an internal table for Private Label card scheme processing then enable proprietary processing for BIN 92 08 60 75 99 8, the BIN used by the test card.

Comments: The terminal shall **not** be able to perform PSAM based transactions using a card from a Private Label card scheme. The behavior is controlled by the settings (in the PSAM) for the product.

Step	Actions and assessment	Result	Verdict
1.	☞ Does the Terminal support PCI security processing?	Yes: Step 2 No: Not Applicable	
2.	Inspect the syslog file at the syslog server. Record current content. Select the host script **Rel2012-01_02a** (will load BIN for Private Label card. Make sure that updates are enabled, i.e PSAM Personalization = Yes. Perform an Advice Transfer to transfer the information. ☞ Was the Advice Transfer Successful?	Yes: Step 3 No: Case failed	

Step	Actions and assessment	Result	Verdict
3.	Inspect the syslog file on the syslog server. ☞ Has the following entries been added to the syslog; ♦ An update indication for TAG 0002? ♦ An update indication for TAG 0021? ☞ Is the header "UPD:"? ☞ Is this followed by Tag, slot and MAC?	Yes: Step4 No: Case Failed	
4.	Continue to inspect the file on the syslog server. ☞ Has, at least, the following data been added the syslog: ♦ A header of: "BIN" ♦ A set of data of "920860759998 - 920860759998" The syslog may additionally support printing a list of the PCI BIN's supported.	Yes: Step 5 No: Case Failed	
5.	Does the terminal support handling of non-PCI cards without the PSAM:	Yes: Step 6 No: Step 7	
6.	Read (swipe/insert) **MSC016** (Test GK 998). ☞ Is the card recognized? ☞ Is it possible to start a normal purchase transaction? Cancel the transaction	Yes: Step 8 No: Case failed	
7.	Read (swipe/insert) **MSC016** (Test GK 998). ☞ Is the card **not** recognized? ☞ Is it impossible to start a normal purchase transaction?	Yes: Step 8 No: Case failed	
8.	Select the host script **Rel2012-01_02b** (will remove Private Label card scheme info for the one BIN range). Make sure that updates are enabled, i.e. PSAM Personalization = Yes. Perform an Advice Transfer to transfer the information. ☞ Was the Advice Transfer Successful?	Yes: Step 5 No: Case failed.	
9.	Inspect the syslog file on the syslog server. ☞ Has the following entry been added to the syslog; ♦ An update indication for TAG 0002? ☞ Is the header "UPD:"? ☞ Is this followed by Tag, slot and MAC? ☞ Is this the only "UPD:" entry added?	Yes: Step4 No: Case Failed	
10.	Continue to inspect the file on the syslog server. ☞ Is the following entry **not** added the syslog: ♦ A header of: "BIN" ♦ A set of data of "920860759998 - 920860759998" The syslog may support printing a list of the PCI BIN's supported as well.	Yes: Case OK No: Case Failed	
-	End of test case		

Test Case 26.3 - Release 2012-01 03: Log of illegal commands

Test date:		Init:	
Problem Report (if any):		**Test case result:**	
Comments:			

Test group: Release 2012-01	Conditions: [PCI]
Requirements tested: 1-7.1.2.9 Shall retreive illegal command responses and forward to syslog.	
Purpose: To verify that the terminal will log when the PSAM detects illegal commands.	
Prerequisites: A "Normal" script is the last configuration that has been loaded into the PSAM. The terminal has been set up to use CDP and to set and log. A log server has been set up and the log from the terminal has been directed to the log server.	
FTD script: Rel2012-01_03 *Card(s):* ICC032 *PSAM:* PSAM002	
Test environment:	
FTD Host: X *IFS:* *Kopi:* (X)	
General pass criteria: It is validated that the terminal will detect the PSAM response to illegal commands.	

Comments: The actual behavior of the terminal may be manufacturer and application dependent.

Step	Actions and assessment	Result	Verdict
1.	☞ Does the Terminal support PCI processing?	Yes: Step 2 No: Not Applic.	
2.	If necessary, activate logging and encrypted transfer in the terminal. If necessary, set up the log server and direct the terminal to use the log server. Check the file on the log server. Start up the terminal. Inspect the file on the log server and record content.	Step 3	
3.	Start a purchase transaction, using **ICC032** (Declining 2 Gen AC). ☞ Is the transaction declined?	Yes: Step 4 No: Case failed.	
4.	Inspect the syslog file on the syslog server. ☞ Has the following entries been added to the syslog, indicating an error; ☞ Is the header "ASW:"? ☞ Is this followed ASW, 4 hex digits? ☞ Is the value '69 85'	Yes: Case OK No: Case Failed	
-	End of test case		