

## Changes and features for different PSAM versions





<b>PSAM versions</b>	<b>Business features</b>	<b>Chip terminal changes (optional)</b>
PSAM v.9.20.11	<p>UnionPay contactless CVM modification for Credit/QuasiCredit AIDs is handled by the PSAM. This functionality is a requirement from UnionPay.</p> <p>The PSAM is now capable to receive tag #Q (Last 4 digits of PAN) from the host.</p>	<p>A new Get D/C Properties (Id = '001F') (Retrieve truncated PAN) command has been added. This command is used to obtain the following data elements for receipt printing:</p> <ul style="list-style-type: none"><li>Last 4 digits of PAN (tag #Q) from host</li><li>Last 4 digits of PAN (tag '9F25') from ICC/Mobile</li><li>Application Primary Account Number (tag '5A')/Track 2 Equivalent Data (tag '57')</li></ul>

PSAM v.9.20.01	<p>“Single message” transactions (contact EMV and contactless EMV).</p> <p>Strong Customer Authentication supported (Dankort/VisaDankort, BankAxept, Mastercard and Visa).</p> <p>Contactless PIN-retry.</p> <p>Recognise contactless Union Pay devices (kernel C-7).</p>	
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PSAM v.9.10.02	<p>"Money send" included. For contactless transactions, tag A6 (CARD_ORG_CODE) is present as well (also in captures). In case of an error during Select Application, the PSAM returns now an ASW1-ASW2 = '1100' (Startup required) to clarify the action to be taken For all contactless transaction, the PSAM will perform a limit check (Floor Limit, CVM Limit and Transaction Limit).</p>	<p>Two new Get D/C Properties commands (Id = '001D' based upon '0019' &amp; '001E' based upon '001B') are added to deliver Issuer Country Code (tag '5F28') &amp; Application Currency Code (tag '9F42') additionally in the response. Merchant Log is no longer allowed due to PCI requirements.</p>
PSAM v.9.10.01	Do not return ASW=1707 (unexpected Complete command) if Transaction Status shows that it is rejected by the terminal.	
PSAM v.9.00.04	Support for PAR. It can be used for hash values (or plaintext PAR) to the terminal for customer recognition, e.g. For loyalty schemes, parking etc.	New version of Get D/C Properties.



PSAM v.9.00.03	Application Pre-Selection now performed by the PSAM. MIF rules implemented. Support for "yellow MIF button". This is the method where a customer can override the pre-selection and get the full list of AIDs to select from.	New command (Retrieve AIDs) New command (Set Merchant Priorities) Support for "yellow MIF button". Service Pack 3: New formats.
PSAM v.9.00.02	Application Selection now performed by the PSAM.	
PSAM v.9.00.00	Split CDP, eg. possible to use different CDP Keys on different Card readers. Card Organization Reference Number. Able to handle Contactless Token.	
PSAM v.8.20.06	Do not return ASW=1707 (unexpected Complete command) if Transaction Status shows that it is rejected by the terminal. SCA, Strong Customer Authentication supported (Dankort/VisaDankort,	Merchant Log is no longer allowed due to PCI requirements.

	<p>BankAxept, Mastercard and Visa).</p> <p>ASW=10E9 (different application versions) no longer used by the PSAM. The corresponding TVR bit is still used.</p> <p>Contactless AID Entry Table now has 20 entries.</p>	
PSAM v.8.20.05	Contactless Fallback rules updated to V. 92 level.	For mode 'FF' (Return hashed PAR/PAN) in the Get DC Properties command, Id = '001B', it is checked that if PAR is not present then if PAN is a "dummy" PAN then hash is not returned.
PSAM v.8.20.04	<p>Support for proprietary BankAxept Action Codes ("G9" and "GA").</p> <p>Detection of non-card devices for BankAxept and American Express added</p> <p>Support for PAR. PAR can be received from the</p>	By setting byte 2/b8 of the Terminal Settings, the destination address for a Set D/C Properties/Get D/C Properties command response issued immediately after the Get Amount com-

	<p>card/handset, the host or the terminal.</p> <p>Do not fallback to contact transactions if the device has positively been detected as a non-card device. This function has been extended to support Amex and Visa, Mastercard, JCB, BankAxept and Interac.</p>	<p>mand can be set to Merchant Application instead of MAD-Handler.</p>
PSAM v.8.20.03	<p>Partial Approval Supported.</p> <p>Domestic floorlimit, able to handle local floor limits for Card Schemes.</p>	<p>Terminal Setting Requests Tag 3X (field 47) '30' (supported) /'31' (not supported).</p>
PSAM v.8.20.01	<p>The EMV kernel has been amended to be compliant with the EMV Specification Bulletin SB-141.</p>	
PSAM v.8.10.05 (same functionality as 7.20.05)	<p>CL Late Amount introduced.</p> <p>Retrieve Card Data 2 command introduced.</p> <p>Masking of Discretionary and other Data for Track1</p>	<p>Segmentation of the Initiate Contactless Payment command.</p> <p>Issues a Get Amount command if no amount was</p>

	<p>and Track2 except PAN 6 + 4. Duplicate Transactions Check supported for Contactless.</p>	<p>present in the Initiate Contactless Payment command. Retrieve Card Data 2 command. Masking of all Data for Track1 and Track2, except PAN 6 + 4. Change ASW=10FB (fallback to magstripe) to ASW=10FC (fallback to contact EMV) for Contactless transactions. Set up ARC (Authorization Response Code) if not present from the host (Contactless)(print on receipt). Duplicate Transactions Check supported for Contactless.</p>
<p>PSAM v.8.10.01 (same functionality as 7.20.01)</p>	<p>Terminal can now interact with or disable Accelerated Pin Entry. Possible to use Accelerated Pin Entry in DCC capable Terminals. Indication if Terminal is Contactless Capable.</p>	<p>Terminal can handle 4 byte "Terminal Setting". Terminal can handle Auto Accelerated pin entry.</p>



<p>PSAM v. 8.00.07 (same functionality as 7.10.12)</p>	<p>Handling of Secure hash to Electronic Receipts. Handling of new exchange of PED keys Adding early entry of Extended Envelope data</p>	<p>Terminal can handle Electronic Receipt. Terminal can handle exchange of PED keys. Terminal can handle early entry of Extended Envelope Data.</p>
<p>PSAM v. 8.00.06</p>	<p>Added handling of "Bank Acept Exception Rule". Added additional Field 55 data mandatory in the Finnish market. Added handling of 4 digit CVC with leading "0" (AMEX)</p>	<p>Terminal can supply Finnish terminal configuration parameters. Terminal can support the confirmation and authorisation entry for Bank Acept Exception Rule. Terminal to supply 'F' for blank digit in CVC.</p>
<p>PSAM v. 8.00.05</p>	<p>Command "Retrieve Card Data". Command "Get Random Number". New PIN block Format 1+ introduced, to comply with PTS</p>	<p>Terminal can handle "Retrieve Card Data". Terminal can handle "Get Random Number". Convert from Format 1+ to Format 2 towards ICC, for plaintext PIN.</p>
<p>PSAM v. 8.00.04 (same functionality as 7.10.11)</p>	<p>Unmasking of PAN in case of Private Label Cards. Rules for fallback to other technology for contactless cards have been changed.</p>	<p>Terminal can handle PAN.</p>

	Error correction.	
PSAM v. 8.00.03	Contactless transactions (PayWave / PayPass) using an external kernel. Error correction.	The Contactless kernel has to be located in the Terminal.
PSAM v. 8.00.02	Resynchronize with PSAM each time CDP is switched on.	
PSAM v. 7.20.01 (same functionality as 8.10.01)	Terminal can now interact with or disable Accelerated Pin Entry. Possible to use Accelerated Pin Entry in DCC capable Terminals. Indication if Terminal is Contactless Capable.	Terminal can handle 4 byte Terminal Setting. Terminal can handle Auto Accelerated pin entry.
PSAM v. 7.10.12 (same functionality as 8.00.07)	Handling of Secure hash to Electronic Receipts. Handling of new exchange of PED keys. Adding early entry of Extended Envelope data. Added handling of "Bank Acept Exception Rule". Added additional Field 55 data mandatory in the Finnish market. Added	Terminal can handle Electronic Receipt. Terminal can handle exchange of PED keys. Terminal can handle early entry of Extended Envelope Data. Terminal can supply Finnish terminal configuration parameters. Terminal can support the confirmation and authorisation entry for

	<p>handling of 4 digit CVC with leading "0" (AMEX) Command "Retrieve Card Data".</p> <p>Command "Get Random Number".</p> <p>New PIN block Format 1+ introduced, to comply with PTS.</p>	<p>Bank Acept Exception Rule. Terminal to supply 'F' for blank digit in CVC. Terminal can handle "Retrieve Card Data".</p> <p>Terminal can handle "Get Random Number".</p> <p>Convert from Format 1+ to Format 2 towards ICC, for plaintext PIN.</p>
<p>PSAM v. 7.10.11 (same functionality as 8.00.04)</p>	<p>Contactless transactions (PayWave / PayPass) using an external kernel.</p> <p>Resynchronize with PSAM each time CDP is switched on.</p> <p>Unmasking of PAN in case of Private Label Cards.</p> <p>Rules for fallback to other technology for contacless cards have been changed.</p> <p>Error correction.</p>	<p>The Contactless kernel has to be located in the Terminal.</p> <p>Terminal can handle PAN.</p>
<p>PSAM v. 7.10.10 and v. 8.00.01</p>	<p>PCI-PADSS Syslog: PSAM will return relevant log information related to:</p> <ul style="list-style-type: none"> <li>• PSAM configuration data</li> </ul>	<p>The Terminal shall collect this log information from the PSAM, and incorporate the information into the format of Terminal log.</p>

	<ul style="list-style-type: none"> <li>• PSAM Updates</li> </ul> <p>Get MSC Table Command, can now get Private Label Card PAN ranges only.</p>	<p>As the PSAM is not able to produce a time stamp (date &amp; time), the Terminal shall provide this for each log event.</p> <p>For Private Label Card PAN ranges, Terminal shall be able to handle PAN range length = 12 characters.</p>
PSAM v. 71.008	<p>CardDataProtection(CDP): All data to and from the PSAM that may potentially contain sensitive data are now enciphered.</p> <p>New PIN block format and encryption to comply with PCI.</p> <p>Additional Transaction Data (i.e. Extended Issuer Envelope). This enables the addition of a unique transaction reference and/or extra transaction data related to the use of certain private label cards.</p>	<p>To handle CDP, Terminal including Card reader, must be able to encipher/decipher data to/from the PSAM.</p> <p>Terminal must be able to handle new PIN block format and encryption. (new TAPA specification)</p> <p>To use "Additional Transaction Data", the Terminal has to send data in a format as expected by the Issuer Host, via the PSAM with the "Set D/C Properties" cmd.</p> <p>Terminal sends enciphered MSC track data to the PSAM, and if allowed (not</p>

	<p>Get MSC tracks information in deciphered form.</p> <p>CDA error handling conforming to EMV 4.2.</p>	<p>PCI card) the PSAM will return the deciphered track data to the terminal.</p>
PSAM v. 71.001	<p>EMVCo release 4.2c: Always perform Terminal Risk Management if the terminal is offline capable.</p> <p>EMVCo release 4.2c: Ignore data from the user card if the tag 'belongs' to the terminal or the issuer.</p> <p>Error correction: Get D/C Properties failed to return Service Code if present.</p> <p>Post Registration transactions implemented (both Purchase and Refund).</p>	<p>Token data is used to construct a Key Entered transaction which is then handled in the same way as if received from the terminal.</p> <p>Response to Get D/C Properties indicates if PSAM is able to make transactions with the card.</p>
PSAM v. 70.003	<p>Remote update of PSAM. Preferred offline.</p> <p>Alternative Terminal Capability.</p> <p>Local Cards.</p> <p>Extended Authorization.</p>	<p>Response to Get D/C Properties indicates if a PAN is a local/non PCI Card.</p> <p>The value returned in Submit Card Reference now the same for ICC and MSC.</p>

		Submit Card Reference 2 added to include both a primary and a secondary reference number for ICC and MSC.
PSAM v. 61.001	<p>Norwegian requirements including Track3 handling for Bax cards.</p> <p>Contactless transactions. (Prepaid)</p> <p>Statistics from terminal now included in host messages (Contactless).</p> <p>Account Type Selection.</p> <p>Ref. STAN for Capture transactions.</p> <p>Print of TVR/TSI/IAC on receipt.</p> <p>Application effective date</p> <p>Check if Cashback is allowed.</p> <p>Always perform CDA on 2nd GENERATE AC if no useful host response was received, i.e. we need to be sure that the issuer validated the ARQC</p>	<p>Fetch Ref. STAN, TVR,TSI and IAC values for printing on the receipt from PSAM.</p> <p>Handling of Track3.</p> <p>Fetch Acquirer Information from PSAM.</p> <p>Fetch Funds Available from PSAM.</p> <p>Handle Contactless transactions.</p>

PSAM v. 60.018	<p>Able to disable DAPE only and still keep APE.  APE/DAPE introduced for MSC.  Local PIN re-introduced.  Cancellation implemented.  Processing Condition Table (PCT) implemented.<sup>2</sup>  PCI compliant.<sup>3</sup></p>	<p>Processing Condition Table (PCT) implemented<sup>2</sup>  PCI compliant.<sup>3</sup></p>
PSAM v. 53.005	<p>Dedicated for business environments requiring Key Entered transactions and/or Supplementary Authorizations (Hotels etc.).  Is able to handle extended PAN prefix to distinguish between prepaid cards (Gavekort)</p>	<p>Key Entered transactions.  Supplementary Authorization.</p>
PSAM v. 52.008	<p>To support all terminal types. Will replace PSAM v. 50.036 &amp; 52.002</p>	
PSAM v. 52.002	<p>Support the signature only terminals.</p>	<p>New terminal type.</p>
PSAM v. 50.036	<p>Option of extra fast PIN entering with Dankort.<sup>1</sup></p>	



PSAM v. 50.030	Blocking of two consecutive transactions within a given timeframe. Can be cancelled.	Cancellation requires call by command. (Set Debit/Credit Properties)
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1. Dankort Accelerated PIN Entry (DAPE)  
When a Dankort or VISA Dankort is recognised, PIN entering becomes available immediately.  
(Feature can be deactivated by PBS if requested).
2. A Processing Condition Table, PCT, has been introduced to be able to convey specific parameters to a terminal. The concept is used in certain regions. The data are forwarded using the PSAM as the transport provider.
3. The PCI Security Standards Council, PCI SSC issues and maintains standards specifying relevant security requirements for systems that store, process or transmit card data and other sensitive data e.g. PINs.