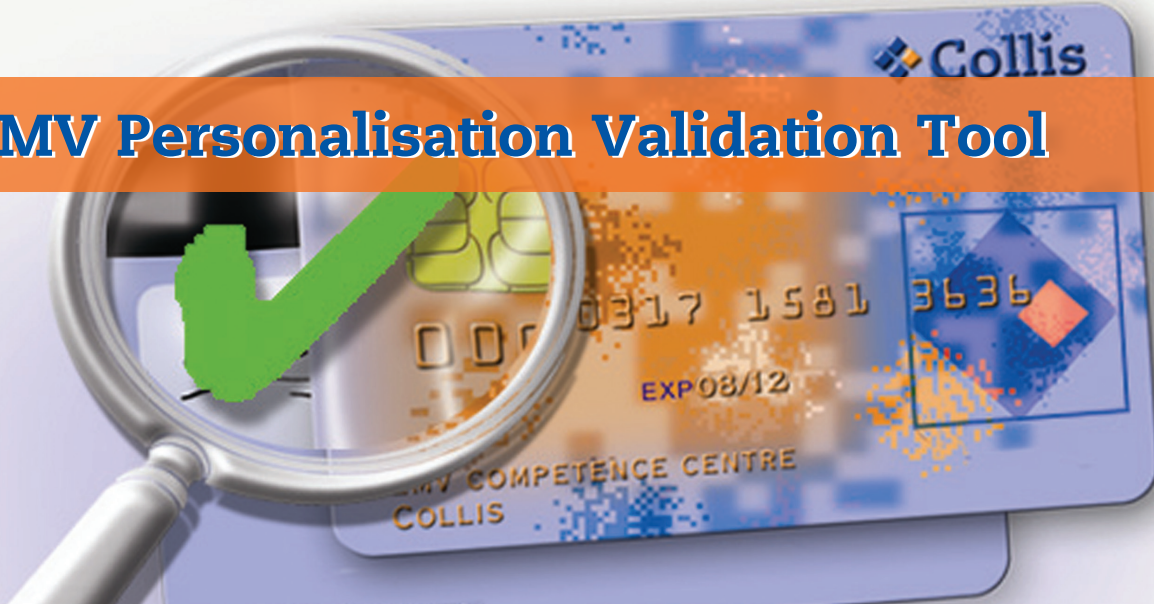


Collis EMV Personalisation Validation Tool



Collis EMV PVT is confirmed by VISA, validated by JCB and qualified by MasterCard

Card Personalisation

Millions of credit and debit cards are being issued at a global scale each year. Every card needs to undergo personalisation; a process where the manufactured cards are loaded with the appropriate information to enable the cardholder to use them. The personalisation information includes the card issuer's own authentication data and the cardholder's data.

As each cardholder is unique so too is each and every card. It is therefore extremely important that the personalisation process goes smoothly. Interoperability is a key issue with global card usage and acceptance. Replacing cards is also an expensive process so eliminating the chance of card error is vital. Effective testing of EMV cards is an essential part in the personalisation process.

EMV Perso Validation

To ensure thorough testing, UL TS has developed the Collis EMV Personalisation Validation Tool (Collis EMV PVT); a user-friendly tool designed to prove your cards are personalised correctly.

The Collis EMV PVT is the most thorough, comprehensive testing tool available in the market today. It is a powerful tool that simplifies quality control in personalisation.

The Collis EMV PVT helps you pass the mandatory card personalisation regulations from the payment associations. All Visa, MasterCard, JCB (test) specifications are covered in the Collis EMV PVT. Based on UL TS' extensive consulting experience, the Collis EMV PVT includes tests defined by UL TS over and above the mandated specifications. This helps to ensure that you have correctly personalised and interoperable cards.

Collis EMV Personalisation Validation Tool - Key Benefits

- ◆ Ensure interoperability & worldwide acceptance of your card
- ◆ Contact and contactless cards
- ◆ User-friendly (customizable user interface)
- ◆ Speed up your time-to-market
- ◆ Complies with latest specifications
- ◆ Efficient validation of EMV cards

Explore & Customise

Utilities & Cryptography

Domestic Modules

Visa

MasterCard

JCB

Collis EMV PVT

Collis EMV PVT components

Save time in:

- ◆ Application development
- ◆ Personalisation development
- ◆ Sampling of cards in production
- ◆ Creating new card profile
- ◆ Analysis of return cards
- ◆ Training purposes



Contactless cards



The Collis EMV PVT also supports contactless cards such as:

- ◆ MasterCard (PayPass™ Magstripe & M/Chip)
- ◆ Visa (qVSDC, MSD, Wave)
- ◆ JCB (J/Speedy)

What We Offer

Collis EMV PVT can be broken down into various modules depending on your needs. The Core module includes the EMV Generic Validation module, Card Explorer and Template Editor. The following Brand Validation modules are available:

- ◆ CPV for MasterCard
- ◆ Visa
- ◆ JCB
- ◆ Discovers and Diners
- ◆ American Express
- ◆ Utilities & Cryptography
- ◆ Domestic modules

EMV Card Explorer

With the Explorer all the data in an EMV card is read and presented as meaningful text in MS Word format, including the corresponding byte strings and parameter settings in the card. Use the Explorer Tool for:

- ◆ Understanding your EMV card (data) - any brand
- ◆ Training
- ◆ Troubleshooting
- ◆ Helpdesk purposes

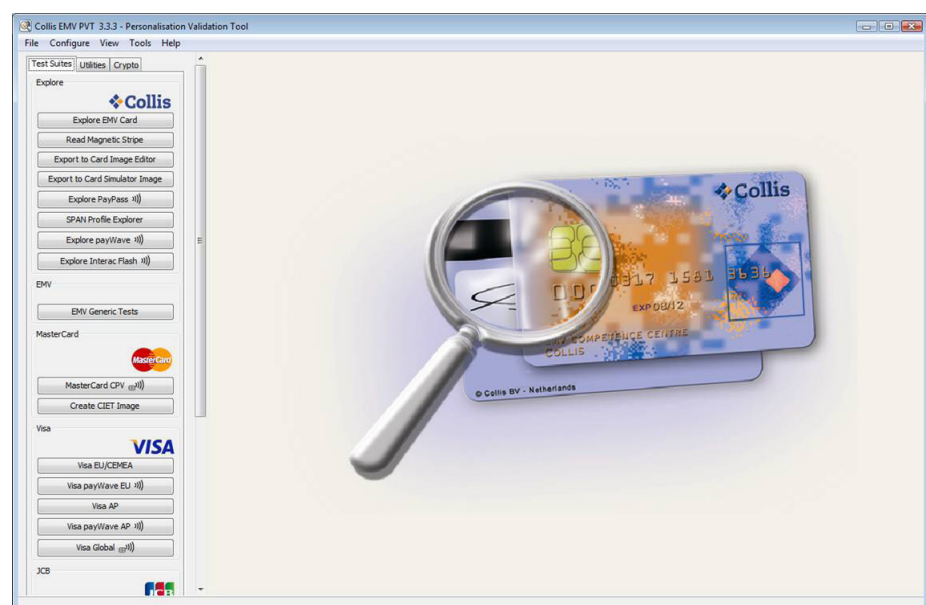
This tool enables you to simply browse through all the data elements in your EMV card.

Clear Reporting

The test reports of the Collis EMV PVT provide crystal clear feedback on the nature of the errors found. The report shows the exact location in the original EMVCo specifications which describes the error and specification expectation. This enables you to clearly follow and resolve the relationship of the errors found to the specifications. Validation results are shown in the Graphical User Interface by a passed (√) or failed (x) indicator. Reports are generated in MS Word format.

Customisation

The Collis EMV PVT can be customized for your specific requirements. For example you can remove buttons that are not relevant or modify names displayed on buttons to make it more specific for your business. You can even create one-button testing. This advanced feature allows you to edit the configuration files of the program to adapt to your own use. You can also protect your specific configuration with a password to prevent other users from changing it.



Collis EMV PVT user friendly interface

Validation & Cryptography

Validation

Thorough testing and validation of EMV cards is an absolute must. For an efficient testing process, testing should be smooth and time-efficient.

With the simple click of a button, the Collis EMV PVT starts to read all data from an EMV card and to perform checks on this data. The tool has different modules which tests the personalisation according to the latest (test) specifications from:

- ◆ EMVCo (According to EMV 4.2)
- ◆ MasterCard CPV (official test plan for all MasterCard brands and technologies including PayPass™)
- ◆ MasterCard CAP (Collis test plan designed in accordance with Chip Authentication Program Functional Architecture 2007)
- ◆ Visa Debit & Credit (VSDC) for EU, CEMEA, AP, US)
- ◆ Visa DPA (Dynamic Passcode Authentication)
- ◆ Visa VPAY (Visa Debit for EU in compliance with SEPA)
- ◆ Visa payWave (qVSDC, MSD, Wave)
- ◆ Visa Global Chip Card Personalisation Validation Requirements (GCCPVR)
- ◆ JCB J/Smart (2.0), J/Speedy
- ◆ American Express (Templates)

Template Editor

This enables you to load and change profiles pre-defined by the industry (Visa / MasterCard / JCB / UL TS). These can also be used to specify a bank/brand specific template. With the Collis EMV PVT you then can verify if your card conforms to the template you have edited. Contact, contactless, multi-application card and cards with multiple profiles (PDOL) are fully supported.

Utilities & Cryptography

Utilities

Issuer scripting is a way of controlling your card base after issuance. It is a valuable aid in fraud prevention. You can send scripts to the cards via the standard payment/branch networks to ATM / Branch terminals to block cards & applications, to change spending limits, and customer parameters in the card. EMV standards support the change of these risk parameters in the field through Issuer scripting/ EMV scripting.

The Collis EMV PVT can test a wide range of issuer scripts. By checking these scripts the card issuer can be sure that issued cards can be controlled remotely at any time during their lifecycle. The functions in the Utilities section allow you to perform many additional tests which are beyond the standard test plans.

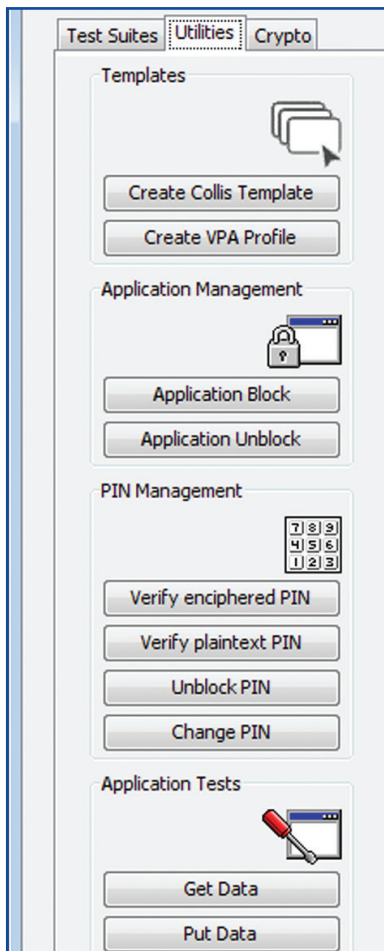
Cryptography

The Core module of the Collis EMV PVT includes the following:

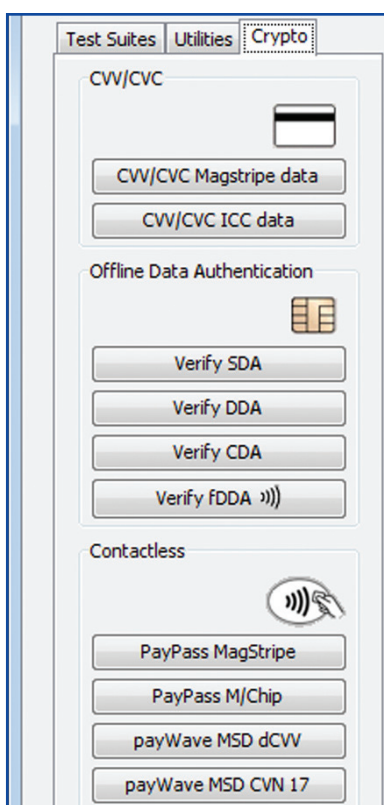
- ◆ AC, MAC, and ENC keys check using plain text test keys
- ◆ SDA / DDA and fDDA Offline Data Authentication

The additional Utilities & Cryptography module includes:

- ◆ AC, MAC, ENC keys check using HSM coupling for production keys
- ◆ CDA Offline Data Authentication (and also SDA / DDA)
- ◆ MasterCard PayPass™ / Visa payWave checksum and cryptogram checking (dCVV / CVC3)
- ◆ CVV / CVC checking



Utilities tab



Cryptography tab

Product Range

- ◆ **Collis EMV PVT**
Ref Code: C-EMVPVT-P1
- ◆ **Additional Modules for Collis EMV PVT:**
 - ◆ CPV module for MasterCard
 - ◆ VISA Validation module
 - ◆ JCB Validation module
 - ◆ Discover and Diners Validation module
 - ◆ American Express Validation Module
 - ◆ Collis Utilities & Cryptography module
 - ◆ Domestic modules: Cartes Bancaires, FISC, SPAN, Interac FLASH*Ref Code: EMVPVT-Modules-P1*

Additional Products

- ◆ **Collis Card Spy**
Ref Code: C-CSpy-P1
- ◆ **Collis EMV PVT for Production**
Ref Code: C-EMVPVTProd-P1
- ◆ **Collis Card Image Editor**
Ref Code: C-CIE-P1

Additional Services

- ◆ **Chip Certification**
- ◆ **Chip Profile Definition**
- ◆ **MasterCard TIP Formal Approval Services (FAS)**
- ◆ **EMV Training**
- ◆ **Contactless and Mobile Payment Training**

Contact

The Collis and Aspects portfolio of test tools are developed by UL Transaction Security.

For sales enquiries, please contact us at info@ul-ts.com, visit www.ul-ts.com, or contact a UL Licensed Reseller.