

UL EMV Personalization Validation Tool

Overview of UL EMV Personalization Validation Tool

UL EMV Personalization Validation Tool (UL EMV PVT) provides the most thorough and comprehensive test tool for issuers, card personalization bureaus and card manufacturers looking to validate the personalization of their payment cards and mobile payment applications.

Benefits

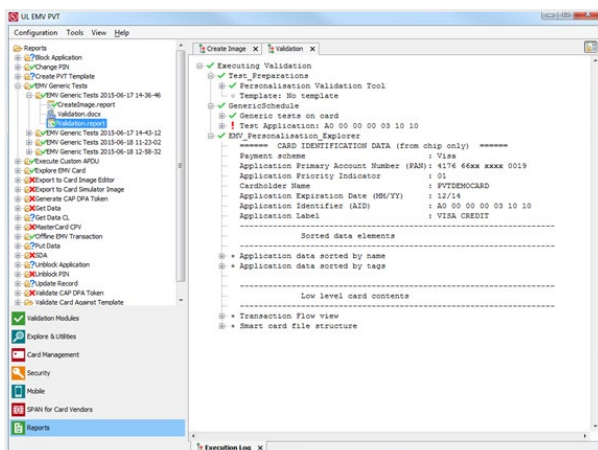
Millions of credit and debit cards are issued globally each year. Every card needs to undergo personalization, and the personalization process needs to go smoothly.

UL EMV PVT helps you test your EMV payment products according to mandatory card personalization regulations from the major payment associations.

Features

UL EMV PVT includes tests that UL has defined over and above the mandated specifications, allowing you to easily check the correctness of any EMV card application's personalization according to the latest test specifications from EMVCo, Mastercard, Visa, JCB, Discover, UnionPay and others.

With UL EMV PVT, you can easily store, validate, retrieve and examine all personalization data from EMV smart card applications such as chips, magnetic stripes, embossing data, asymmetric keys and PINs.



Key benefits

- Covers relevant payment test specifications
- User guidance in easy-to-follow wizard support
- Supports Mastercard CPV, Visa payWave, JCB J/Smart, Discover, Diners, UnionPay and more
- Browse through all EMV data elements with explanations
- Utilities to check mobile payment parameters for Secure Element and cloud-based payment products
- Simplify quality control in personalization



Specifications

Validation modules

- Mastercard validation module (CPV including Maestro, Cirrus, PayPass and CAP)
- VISA validation module (including credit, debit, DPA, VPAY, payWave for EU and Visa Global Test Specification for other regions)
- JCB validation module (including J/Smart, J/Speedy)
- Discover and Diners validation module
- American Express validation module
- UnionPay validation module
- CPA validation module
- Other validation modules — DNA, eftpos, Interac Flash, Cabal, MEPS, SPAN/Mada, Exchange, NAPAS/VCCS, EDU, WEX

UL EMV PVT supports validating card profiles generated using Mastercard's M/Chip Advance Profile Generator.

Explore and utilities

- EMV payment application explorer
- EMV generic and template checking

Card management module (optional)

- Issuer script commands, e.g., Unblock PIN, Put Data
- Offline and online transaction execution

Security module (optional)

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

Mobile module (optional)

- Cryptogram check for cloud-based payments
- Secure element application analysis:
 - Contactless Registry Status utilities
 - PPSE utilities

Test specifications supported

UL EMV PVT covers the following modules:

- **UL – Generic UL-specified tests**
EMV Generic Test Specification, based on EMV Integrated Circuit Card Specifications for Payment Systems
- **CPA – UL-specified tests**
Based on EMV Common Payment Application Specification
- **Mastercard**
Mastercard CPV — Personalization Validation Tool Requirements
- **Visa**
 - Visa U.S. — U.S. Personalization Validation Requirements
 - Visa Europe — Visa Europe Global Personalization Requirements
 - Visa Global — Visa Global Personalization Requirements
- **JCB**
 - JCB J/Smart — JCB J/Smart Test Cases for Contact
 - JCB J/Smart Test Cases for Contactless
- **Discover**
 - D-PAS Chip Card Personalization Validation Rules
 - Contact D-PAS — U.S. Debit Personalization Profiles Guide
 - Contact and Contactless D-PAS — Personalization Profiles Guide
 - Contactless D-PAS — Card Application Personalization Validation Rules
- **American Express – UL-specified tests**
 - Contact — AEIPS Chip Card Specification
 - Contactless — ExpressPay Card Specification
- **UnionPay – UL-specified tests**
UnionPay personalization data validation test plan

For more information, visit [UL.com/emvpvt](https://ul.com/emvpvt).



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