PersevalPro Issuer
Card Validation

Introduction

Issuers who want to introduce a new product or change an existing product, are required to go through the Personalization Validation process. This process is mandated by the authorities like MasterCard and Visa to obtain a personalization compliance report. The main purpose of this process is to ensure that the new product is correctly personalized, and that it will be compatible with terminals in the field according to different authority requirements.

With more than a decade of experience in providing Personalization Validation services for authorities like MasterCard, FIME has been the first to identify the issues related to this field. By building on this unique experience, FIME partnered with Barnes to develop a comprehensive Personalization Validation Tool: PersevalPRO.

PersevalPRO Pre-Validation test tool description

PersevalPRO test tool allows the issuers to pre-validate the personalization of their cards according to MasterCard and Visa requirements. Once the card personalization is pre-validated, issuers can submit their sample cards to the service providers and receive Letter of Approval (LoA) without additional costly iterations.

The tool validates PSE, PPSE, selection of application personalized data, EMV data, Visa, MasterCard, verify cryptographic keys, symmetric keys, as well as the proprietary data.

PersevalPRO supports contact, contactless and magnetic stripe cards. Both the contact chip and the magnetic stripe are read together in a single operation, confirming correct data match and valid data content according to the issuer profile. The card account number and issue/expiry dates are displayed for visual verification of the card embossing or indent print. The contactless option is able to test contactless cards and ensure that dual interface cards deliver consistent information over both interfaces.

Why choose PersevalPRO?

PersevalPRO tests the personalization of cards based on the latest authority requirements. The tool additionally includes the test cases (FIME-CPV) that are based on the suggestions of the authorities during the certification process. As a service provider, FIME identified a number of interoperability and technical tests that are used only during the laboratory services and not yet included in the authorities specifications. Testing the card personalization against the FIME-CPV helps the issuers to avoid unnecessary iterations and extensively delays for card production.

FIME®

How it works

First the user must select a scenario that corresponds to its business needs and then insert the card into appropriate reader to run the validation test.
An Instant Result Summary shows: PASS or in the case of FAIL, the error or observation codes are shown as well as the comments explaining what has caused the failure.
The detailed results tree and engineering log enable analysis and clear guidance for all levels of user.
A summary of the ICS information and lists of test performed is also provided, showing what has passed and identified as the errors. More in depth detailed analysis on the errors and observations is also provided.

Optional modules included

GPR module (Visa)
The Visa GPR module provides rigorous and totally comprehensive Card Validation prior to submission of cards to Visa for certification. The Visa GPR module has been confirmed by Visa Inc. as compliant to test the latest Visa GPR v 2.0.1 specifications from May 2011.

CPV module (MasterCard)
The CPV module specifications are administered by MasterCard Worldwide and are qualified by MasterCard to test the latest version of the CPV 5.5 specifications.

FIME CPV module
The FIME CPV module specifications are administered by FIME and are qualified by MasterCard as part of the PersevalPRO test tool. FIME has developed these specifications based on a decade of experience as a service provider for MasterCard. These specifications are focused on the failures that are observed on the field yet not included in the MasterCard specifications as part of the official CPV 5.5 specifications.

> The FIME CPV module is used by FIME laboratories during the CPV services.

Host Simulation
Host simulation is only possible on test cards where the master derivation keys are known and are available to be loaded onto a PC. When Host Simulation is activated the test script verifies the application cryptogram(s) and allows the test transaction to simulate an online situation at the terminal by returning a valid ARC from a simulated host and optionally performing issuer script processing.

- Allows cards' secret DES keys to be checked by performing verification of the cryptograms, and the calculation of an ARC and issuer script processing commands
- Can also be used to check CVV / iCVV / dCVV / CVC1 / CVC2 / CVC3 and PVV, etc.

> The host simulation module is used by FIME laboratories during the CPV services.

Supported specifications

Specifications	*References*
EMV	EMV Integrated Circuit Card Specification version 4.3
CPA	EMV Integrated Circuit Card Specifications for Payment Applications – Common Payment Application Specification Version 1.0 December 2005
M/Chip 2 **M/Chip 4**	M/Chip Personalization Data Specifications and Profiles for Debit and Credit May 2008 (inclusive of M/Chip 2.2, M/Chip Lite 2.1, M/Chip Select 2.05 and M/Chip 4 v 1.0 and v 1.1)
MasterCard CAP	Chip Authentication Program – Functional Architecture – APACS UK Minimum Implementation of CAP v1.1 (MasterCard UK)
MasterCard *PayPass*™	*PayPass* M/Chip 4 v 1.3.1 *PayPass* Mag Stripe v3.3, M/Chip Flex Tech Spec v 1.1 Card Personalization Validation Guide
M/Chip Advance	M/Chip Advance, 1.0 Nov 2009/Mar 2010
MasterCard CPV	MasterCard Personalization Validation test cases v5.5
MasterCard Mobile	Partial implementation (no official tool qualification specs yet)
Visa Integrated Circuit Card Specifications (VIS)	Visa Integrated Circuit Card Specifications (VIS) Version 1.4.2 Visa Integrated Circuit Card Specification (VIS) Version 1.5
Visa Contactless Payment Specification (VCPS)	Visa Contactless Payment Specification v2.0.2 Visa Contactless Payment Specification v2.1
VIS and VCPS personalization specifications	VSDC Personalization Specification (for VIS 1.5 and VCPS 2.1) v2.0 September 2009 VSDC Personalization Specification (for VIS 1.4.1 and VCPS 2.0.2) v1.0 March 2009
Visa AP Card Scenarios	VSDC templates (Visa AP)
Visa Global Chip Card Personalization Valida-tion Requirements/GPR	Visa Global Chip Card Perso Validation Requirements version 1.1 Visa Global Personalization Requirements GPR v 2.0.1 specifications, May 2011
Visa DPA	Dynamic Passcode Authentication-reader requirements & card implementation Functional requirements (Visa Europe)
Visa Fleet Chip	Card Personalization Guide version 1.0, July 2012

File formats supported

Name	Extension
MasterCard card image files	xml
MasterCard CPV results files	xml
Visa VPA data output files	xml, csv
Visa VPAY	xml

Key features

- Contact and Contactless
- Visa and MasterCard pre-validation
- ICS selection
- Host Simulation
- Correlate chip, magstripe and embossing data
- Develop custom test scripts
- Comprehensive reporting structure with hyperlinks up to test cases
- Possibility to review the failed test cases as well as the decrypted certificates
- Card image comparison

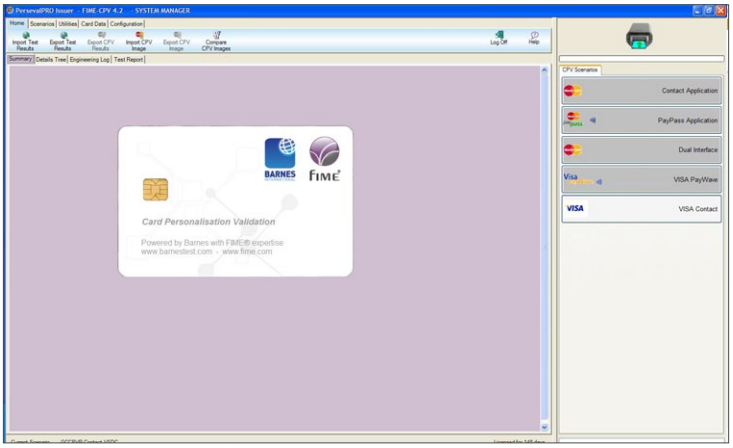
Supported products

MasterCard products

- MasterCard Credit and Electronic
- Maestro and Debit MasterCard
- Cirrus
- *PayPass*™ M/Chip
- MasterCard *PayPass* Mag Stripe

Visa products

- Visa Debit/Credit
- Electron
- DPA
- Plus
- VPAY



PersevalPro Issuer

Validate card personalisation for payment brand certification!

Are you an issuing bank looking for payment brand certification of your card personalisation, based on the latest requirements available? FIME and Barnes International have combined their expertise to provide you with a powerful and comprehensive test tool. Thanks to FIME's extensive knowledge of card personalisation validation services and Barnes' long experience working with payment brands on card personalisation testing, PersevalPro™ meets all your personalisation testing needs. PersevalPro includes the latest test requirements by MasterCard Worldwide, Visa, eftpos and NETS, as well as FIME test tool requirements to help you pass the certification faster. By applying these tests prior to submission of your card personalisation to payment brands, PersevalPro allows you to detect errors and correct them in house, significantly reducing delays and expenses associated with certification failures.

Why choose PersevalPro Issuer?

Effective

The tool decreases time-to-market by ensuring that you can pass the required certification sessions quickly. The tool is easy to use and suitable for both expert and non-expert users.

Economic

By checking the correct personalisation and worldwide interoperability of your cards from the start you can eliminate costly and time consuming certification rejections.

Qualified

PersevalPro Issuer was the first tool to achieve official qualification to the latest test tool requirements of MasterCard, Visa, eftpos and NETS payment brands.

Reliable

PersevalPro is the test tool used by FIME during its laboratory card personalisation testing when delivering card personalisation certification services to customers.

For more information contact us at www.fime.com or, depending on your region:

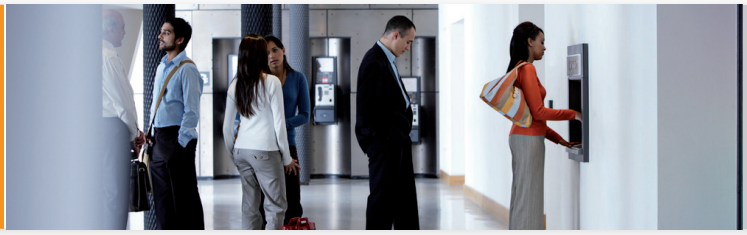
for Europe and the Middle East	test_tools@fime.com	for Asia and the Pacific	test_toolsAP@fime.com
for Latin America/Caribbean	test_toolsLAC@fime.com	for North America	test_toolsNA@fime.com
for the Indian Subcontinent	test_toolsIN@fime.com	for Korea	test_toolsKR@fime.com

About FIME

FIME advances end-to-end transaction solutions and mobile services, enabling market security and interoperability. As an independent worldwide leader in consulting and testing services, FIME ensures the compliance of mobile devices and chip-based applications to industry standards. Its international team works with manufacturers, banks and authorities within the EMV payments, mobile near field communication (NFC), telecom, transport and e-identity sectors.

FIME

PersevalPro Issuer



About PersevalPro Issuer

PersevalPro is the first and most comprehensive test solution on the market that helps you prepare for the formal card personalization validation service required by your payment brand. The tool is built by Barnes according to the latest payment brands and FIME test tool requirements, based on a flexible architecture which allows test scenarios to be easily updated whenever needed.

The tool validates card data according to the latest requirements, confirms chip and embossing consistency and identifies incorrect data. Hyperlinks integrated into the tool provide links between the payment brand application errors and brand specification references. Once the errors are corrected, test results are produced automatically by PersevalPro in the right formats defined by payment brands.

Functionalities

- Combined magstripe, contact and contactless card reader, additional PC/SC reader support
- Testing support for contact card, contactless card and mobile device
- Multi-application test capability
- Magstripe/Chip personalisation data correlation validation
- EMV SDA, DDA/CDA
- Offline plain or encrypted PIN verification
- RSA PKI functions for data authentication and security tests
- Facility to compare two CPV image files
- Report with test summary and individual fail
- Hyper-linking between Pass/Fail references, report, interpreted results tree
- Print capability for results, profiles and test logs
- Card database and user profile management
- PCI/DSS and PA-DSS data security, PIN and cardholder ID security requirements
- User password controls

PersevalPro test suites

MasterCard

- MasterCard Personalization Validation Tool Requirements (CPV)
- M/Chip Requirements
- M/Chip Personalization Data Specifications and Profiles
- M/Chip Card Personalization Standard Profiles
- M/Chip Card Personalization U.S. Market Standard Profiles
- *PayPass* M/Chip Requirements
- *PayPass* M/Chip Personalization Data Specifications
- Interoperability Issues

Visa

- Visa Global Personalization Requirements (GPR)
- Visa Integrated Circuit Card Specification (VIS)
- Visa Contactless Payment Specification (VCPS)
- Visa Mobile Contactless Payment Specification (VMCPS)

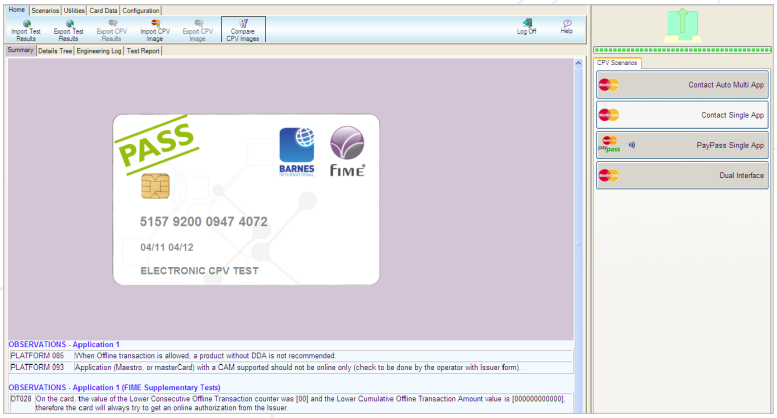
eftpos

- eftpos Card Personalisation Certification (CPC) Contact-only ACe
- eftpos Card Personalisation Certification (CPC) Dual-interface ACe

NETS

- NETS Only Card Personalization Specifications
- SAM Card Personalization Specifications
- NETS Personalization Validation Test (PVT)

The validation of other certification schemes is available on request.



The PersevalPro Issuer tool environment

Multiple reader options available

BARNES INTERNATIONAL

FIME