B2

B2 Interop
EMV™ Test Card Set
Summary

Version 1.01

June 2020

Powered by B2

Disclaimer

Information provided in this document describes capabilities available at the time of developing and delivering this document and the associated test cards and information available from industry sources. This document is intended to be used as a guideline only and B2 Payment Solutions, Inc. and/or its affiliates accept no liability for any errors or omissions in this document and/or for any results of client's reliance thereon.

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B2 Contact Information

251 Consumers Road, Suite 1200 Toronto, ON   M2J 4R3
555 Northpoint Center, Suite 400, Alpharetta, GA 30022
Tel: 855.730.9827   www.b2ps.com

Revision History

Version	Date	Updated by	Revisions
1.00	October 23, 2019	B2PS	• Initial release
1.01	June 18, 2020	B2PS	• Masked all PANs in profile table

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                                    CAUTION

        Multiple consecutive incorrect PIN entry attempts may result in the card being blocked.
                         This is known as being 'PIN Blocked'.
                   If this occurs, it will no longer be possible to enter an Offline PIN
                       which will cause all future transactions to be declined.

              *** It is not possible to unblock a 'PIN Blocked' card ***
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Chapter 1 -   B2 Interop EMV™ Test Card Profiles

The B2 Interop EMV Test Card Set contains 17 cards and includes cards from each of the
following card brands:

All cards in this set share the following attributes*:

Currency Code	840 (USD)
Issuer Country Code	840 (USA)
Language	'en' – English

* except Test Card 15 which is specially designed to have an invalid language.

The B2 Interop EMV Test Card Set is designed to help developers and merchants validate that
their POS solution can handle troublesome test scenarios. It helps customers test specific,
unique and error scenarios that can occur in payment acceptance POS solutions.
Look for "Card Purpose / Attribute" for each card in the tables below.

	Test Card 01	Test Card 02	Test Card 03
Brand	Visa	Visa	Mastercard, Maestro
Card Purpose / Attribute	Fast Clock - ATR 96	Fast Clock - ATR 97	Contactless Type B card
AID	A0000000031010	A0000000031010	A0000000041010, A0000000042203
PAN	476173 ****** 0135	476173 ****** 0135	541333 ****** 4111
Expiry Date	12/2022	12/2022	12/2022
Service Code	201	201	201
Interface	Contact, MSR	Contact, MSR	Contact, Contactless, MSR
CVM	See Card Definition	See Card Definition	See Card Definition
Approval Amount	$10.00	$10.00	$20.00
Card Version	v1.0	v1.0	v1.0

	Test Card 04	**Test Card 05**	**Test Card 06**
Brand	Visa	Visa	Mastercard
Card Purpose / Attribute	Mismatched Expiry Dates	Future Application Effective Date	Empty Candidate List
AID	A0000000031010	A0000000031010	-
PAN	476173 ****** 0119	476173 ****** 0119	541333 ****** 0434
Expiry Date	12/2022	12/2022	12/2022
Service Code	201	201	201
Interface	Contact, MSR	Contact, MSR	Contact, MSR
CVM	See Card Definition	See Card Definition	See Card Definition
Approval Amount	$10.00	$10.00	$20.00
Card Version	v1.0	v1.0	v1.0

	Test Card 07	**Test Card 08**	**Test Card 09**
Brand	Visa	Visa	Visa
Card Purpose / Attribute	Fallback, trigger GPO response	Dual CVM (Offline Plaintext PIN + Signature)	Application Blocked
AID	A0000000031010	A0000000031010	A0000000031010
PAN	476173 ****** 0119	476173 ****** 0119	476173 ****** 0119
Expiry Date	12/2022	12/2022	12/2022
Service Code	201	201	201
Interface	Contact, MSR	Contact, MSR	Contact, MSR
CVM	See Card Definition	See Card Definition	See Card Definition
Approval Amount	$10.00	$10.00	$20.00
Card Version	v1.0	v1.0	v1.0

	Test Card 10	**Test Card 11**	**Test Card 12**
Brand	Visa	Mastercard, Maestro	Mastercard
Card Purpose / Attribute	Contactless Switch Interface response	Four AIDs	6-digit offline PIN
AID	A0000000031010	A0000000041010 A000000004220301 A000000004220302 A0000000043060	A0000000041010
PAN	476173 ****** 0119	541333 ****** 0060	541333 ****** 4111
Expiry Date	12/2022	12/2022	12/2022
Service Code	201	201	201
Interface	Contact, Contactless, MSR	Contact, MSR	Contact, Contactless, MSR
CVM	See Card Definition	See Card Definition	See Card Definition
Approval Amount	$10.00	$20.00	$20.00
Card Version	v1.0	v1.0	v1.0

	Test Card 13	Test Card 14	Test Card 15
Brand	**Maestro**	**Visa**	**Visa**
Card Purpose / Attribute	19-digit PAN	Contactless MSD	Invalid card language
AID	A0000000043060	A0000000031010	A0000000031010
PAN	679999 ********* 0051	476173 ****** 0027	476173 ****** 0119
Expiry Date	12/2022	12/2022	12/2022
Service Code	220	201	201
Interface	Contact, MSR	Contact, Contactless, MSR	Contact, MSR
CVM	See Card Definition	See Card Definition	See Card Definition
Approval Amount	$20.00	$10.00	$10.00
Card Version	v1.0	v1.0	v1.0

	Test Card 16	Test Card 17
Brand	**Visa**	**Mastercard**
Card Purpose / Attribute	No PSE	Long Issuer Certificate
AID	A0000000031010	A0000000041010
PAN	476173 ****** 0119	541333 ****** 4111
Expiry Date	12/2022	12/2022
Service Code	201	201
Interface	Contact, MSR	Contact, MSR
CVM	See Card Definition	See Card Definition
Approval Amount	$10.00	$20.00
Card Version	v1.0	v1.0

1.1 Test Card 01 – Visa, ATR Clock Increase 96

The card has a specific ATR (Answer to Reset) indicating a negotiable clock speed of 224,000bps. This allows testing of the card acceptance device's support for high-speed communication with the card.

The recommended transaction amount to generate a host approval is $10.00.

1.1.1 Cardholder Verification Method (Contact) – A0000000031010

Cardholder Verification Method List ('4201 5E03 1F00 0000')			
CVM	Verification Method	Conditions	If unsuccessful
1	Online PIN	Unattended Cash	Next CVM
2	Signature (paper)	Terminal supports CVM type	Next CVM
3	No CVM required	Always	Fail
4	Fail CVM Processing	Always	Fail

1.2 Test Card 02 – Visa, ATR Clock Increase 97

The card has a specific ATR (Answer to Reset) indicating a negotiable clock speed of 447,000bps. This allows testing of the card acceptance device's support for high-speed communication with the card.

The recommended transaction amount to generate a host approval is $10.00.

1.2.1 Cardholder Verification Method – A0000000031010

Cardholder Verification Method List ('4201 5E03 1F00 0000')			
CVM	Verification Method	Conditions	If unsuccessful
1	Online PIN	Unattended Cash	Next CVM
2	Signature (paper)	Terminal supports CVM type	Next CVM
3	No CVM required	Always	Fail
4	Online PIN	Unattended Cash	Next CVM

1.3 Test Card 03 – Mastercard, DI, Contactless Type B

The card has a specific ATS (Answer to Select) that tests the card acceptance device's support for Type B contactless cards.

The recommended transaction amount to generate a host approval is $10.00.

1.3.1 Cardholder Verification Method (Contact) – A0000000041010

Cardholder Verification Method List ('4201 0205 5E03 4203 1F00')			
CVM	Verification Method	Conditions	If unsuccessful
1	Online PIN	Unattended Cash	Next CVM
2	Online PIN	Purchase with Cashback	Fail
3	Signature (paper)	Terminal supports CVM type	Fail
4	Online PIN	Terminal supports CVM type	Next CVM
5	No CVM required	Always	Fail

1.3.2   Cardholder Verification Method (Contact) – A0000000042203

	Cardholder Verification Method List ('4205 4203 1F03 0000')		
CVM	**Verification Method**	**Conditions**	**If unsuccessful**
1	Online PIN	Purchase with Cashback	Next CVM
2	Online PIN	Terminal supports CVM type	Next CVM
3	No CVM required	Terminal supports CVM type	Fail
4	Fail CVM Processing	Always	Fail

1.3.3   Cardholder Verification Method (CLS) – AID0000000041010

	Cardholder Verification Method List ('1E03 4203 1F03 0000')		
CVM	**Verification Method**	**Conditions**	**If unsuccessful**
1	Signature (paper)	Terminal supports CVM type	Fail
2	Online PIN	Terminal supports CVM type	Next CVM
3	No CVM required	Terminal supports CVM type	Fail
4	Fail CVM Processing	Always	Fail

1.3.4   Cardholder Verification Method (CLS) – A0000000042203

	Cardholder Verification Method List ('0205 4203 1F03 0000')		
CVM	**Verification Method**	**Conditions**	**If unsuccessful**
1	Online PIN	Purchase with Cashback	Fail
2	Online PIN	Terminal supports CVM type	Next CVM
3	No CVM required	Terminal supports CVM type	Fail
4	Fail CVM Processing	Always	Fail

1.4   Test Card 04 – Visa, Mismatched Expiry Dates

This card contains mis-matching Expiry Dates - the magstripe (Tag '57') contains '22/12' but Application Expiration Date (EMV Tag '5F 24') in the chip contains '22/11'. The device should detect this mismatch and terminate the transaction.

The recommended transaction amount is $10.00.

1.4.1   Cardholder Verification Method – A0000000031010

	Cardholder Verification Method List ('4201 4204 5E03 1F00')		
CVM	**Verification Method**	**Conditions**	**If unsuccessful**
1	Online PIN	Unattended Cash	Next CVM
2	Online PIN	Manual Cash	Next CVM
3	Signature (paper)	Terminal supports CVM type	Next CVM
4	NO CVM required	Always	Fail

1.5 Test Card 05 – Visa, Application Effective Date in the future

This card contains an Application Effective Date (EMV Tag '5F 25') which is in the future. The POS should only find this card to be acceptable in the last two days of 2022, just as the card is expiring.

The recommended transaction amount to generate a host approval is $10.00.

1.5.1 Cardholder Verification Method – A0000000031010

Cardholder Verification Method List ('4201 4204 5E03 1F00')			
CVM	Verification Method	Conditions	If unsuccessful
1	Online PIN	Unattended Cash	Next CVM
2	Online PIN	Manual Cash	Next CVM
3	Signature (paper)	Terminal supports CVM type	Next CVM
4	NO CVM required	Always	Fail

1.6 Test Card 06 – Visa, Empty Candidate List

Application Selection will fail due to an Empty Candidate List.

This should trigger MSR Fallback processing and the transaction should continue as a magstripe transaction.

The recommended transaction amount to generate a host approval is $10.00.

1.7 Test Card 07 – Visa, Fallback triggered by GPO response

In response to the application's GPO (Get Processing Options) command, the card will respond with a response code of SW1SW2 = '6F00' which should trigger Fallback.

The recommended transaction amount to generate a host approval is $10.00.

1.8 Test Card 08 – Visa, Dual CVM (Offline Plaintext PIN + Signature)

See CVM list below.

The recommended transaction amount to generate a host approval is $20.00.

1.8.1 Cardholder Verification Method – A0000000031010

Cardholder Verification Method List ('4303 1F00')			
CVM	Verification Method	Conditions	If unsuccessful
1	Offline Plaintext PIN & Signature	Terminal supports CVM type	Next CVM
2	No CVM required	Always	Fail

1.9 Test Card 09 – Visa, Application blocked

This card has the application blocked. The card will respond to the Select command with a response code of SW1SW2 = '6A83' indicating the application is blocked.

The recommended transaction amount is $10.00.

1.9.1 Cardholder Verification Method – A0000000031010

Cardholder Verification Method List ('4203 1E03 1F03')			
CVM	Verification Method	Conditions	If unsuccessful
1	Online PIN	Terminal supports CVM type	Next CVM
2	Signature (Paper)	Terminal supports CVM type	Fail
3	No CVM required	Terminal supports CVM type	Fail

1.10 Test Card 10 – Visa, DI, Contactless Switch Interface response

When a contactless transaction is attempted using this card the card will respond to the GPO command with a response code of SW1SW2 = '6984' indicating that the device should switch to another interface, i.e. use the contact interface.

1.10.1 Cardholder Verification Method (Contact) – A0000000031010

Cardholder Verification Method List ('4201 4103 5E03 1F03')			
CVM	Verification Method	Conditions	If unsuccessful
1	Online PIN	Unattended Cash	Next CVM
2	Offline Plaintext PIN	Terminal supports CVM type	Next CVM
3	Signature (paper)	Terminal supports CVM type	Next CVM
4	NO CVM required	Terminal supports CVM type	Fail

1.11 Test Card 11 – Mastercard, Four AIDs

A contact-only, 4-AID Mastercard debit card with a pair of multi-funding accounts (Mastercard-U.S. Maestro / Maestro-U.S. Maestro).

1.11.1 Cardholder Verification Method – A0000000041010

Cardholder Verification Method List ('0205 4103 4203 5E03 1F00 0000')			
CVM	Verification Method	Conditions	If unsuccessful
1	Online PIN	Purchase with Cashback	Fail
2	Offline Plaintext PIN	Terminal supports CVM type	Next CVM
3	Online PIN	Terminal supports CVM type	Next CVM
4	Signature (paper)	Terminal supports CVM type	Next CVM
5	No CVM required	Always	Fail
6	Fail CVM Processing	Always	Fail

1.11.2 Cardholder Verification Method – A000000004220301

Cardholder Verification Method List ('0205 4203 1F03 0000')			
CVM	Verification Method	Conditions	If unsuccessful
1	Online PIN	Purchase with Cashback	Fail
2	Online PIN	Terminal supports CVM type	Next CVM
3	No CVM required	Terminal supports CVM type	Fail
4	Fail CVM processing	Always	Fail

1.11.3 Cardholder Verification Method – A000000004220302

Cardholder Verification Method List ('0205 4203 1F03 0000')			
CVM	Verification Method	Conditions	If unsuccessful
1	Online PIN	Purchase with Cashback	Fail
2	Online PIN	Terminal supports CVM type	Next CVM
3	No CVM required	Terminal supports CVM type	Fail
4	Fail CVM Processing	Always	Fail

1.11.4 Cardholder Verification Method – A0000000043060

Cardholder Verification Method List ('0205 4103 0203 0000')			
CVM	Verification Method	Conditions	If unsuccessful
1	Online PIN	Purchase with Cashback	Fail
2	Offline Plaintext PIN	Terminal supports CVM type	Next CVM
3	No CVM required	Terminal supports CVM type	Next CVM
4	Fail CVM Processing	Always	Fail

1.12 Test Card 12 – Mastercard, DI, 6-digit Offline PIN

This card has a 6-digit offline PIN - "431555".

1.12.1 Cardholder Verification Method (Contact) – A0000000041010

Cardholder Verification Method List ('4201 4403 4103 5E03 1F03')			
CVM	Verification Method	Conditions	If unsuccessful
1	Online PIN	Unattended Cash	Next CVM
2	Offline PIN	Terminal supports CVM type	Next CVM
3	Offline Plaintext PIN	Terminal supports CVM type	Next CVM
4	Signature (paper)	Terminal supports CVM type	Next CVM
5	No CVM required	Terminal supports CVM type	Fail

1.12.2 Cardholder Verification Method (CLS) – A0000000041010

Cardholder Verification Method List ('5E03 1F03')			
CVM	Verification Method	Conditions	If unsuccessful
1	Signature (paper)	Terminal supports CVM type	Next CVM
2	No CVM required	Terminal supports CVM type	Fail

1.13 Test Card 13 – Maestro, 19-digit PAN

This Maestro card has a 19-digit PAN. Devices should be able to process account numbers up to 19 digits.

1.13.1 Cardholder Verification Method – A0000000043060

Cardholder Verification Method List ('4201 4203 1F03')			
CVM	**Verification Method**	**Conditions**	**If unsuccessful**
1	Online PIN	Unattended Cash	Next CVM
2	Online PIN	Terminal supports CVM type	Next CVM
3	No CVM required	Terminal supports CVM type	Fail

1.14 Test Card 14 – Visa, DI, Contactless MSD

This card support Visa MSD contactless and can be used to validate the device has disabled MSD contactless and only supports qVSDC (EMV grade) contactless. When tapped the device should indicate that the card is not supported.

1.14.1 Cardholder Verification Method (Contact) – A0000000031010

Cardholder Verification Method List ('0201 4204 1E04 0005 5E00 1F00')			
CVM	**Verification Method**	**Conditions**	**If unsuccessful**
1	Online PIN	Unattended Cash	Fail
2	Online PIN	Manual Cash	Next CVM
3	Signature (paper)	Manual Cash	Fail
4	Fail CVM Processing	Purchase with Cashback	Fail
5	Signature (paper)	Always	Next CVM
6	No CVM required	Always	Fail

1.15 Test Card 15 – Visa, Invalid Language code

This card contains "zz" in the Language Preference (EMV Tag '5F 2D') value in the chip. This is not a valid language code and the device should prompt for a preferred language or use the device's default language.

The recommended transaction amount to generate a host approval is $10.00.

1.15.1 Cardholder Verification Method – A0000000031010

Cardholder Verification Method List ('4201 4204 5E03 1F00')			
CVM	**Verification Method**	**Conditions**	**If unsuccessful**
1	Online PIN	Unattended Cash	Next CVM
2	Online PIN	Manual Cash	Next CVM
3	Signature (paper)	Terminal supports CVM type	Next CVM
4	NO CVM required	Always	Fail

1.16   Test Card 16 – Visa, No Payment System Environment (PSE)

This card does not have a PSE and the device should successfully use Explicit Selection to select the Visa AID.

The recommended transaction amount to generate a host approval is $10.00.

1.16.1   Cardholder Verification Method – A0000000031010

Cardholder Verification Method List ('0201 1E04 0005 5E00 1F00 0000')			
CVM	**Verification Method**	**Conditions**	**If unsuccessful**
1	Online PIN	Unattended Cash	Fail
2	Signature (paper)	Manual Cash	Fail
3	Fail CVM Processing	Purchase with Cashback	Fail
4	Signature (paper)	Always	Next CVM
5	No CVM required	Always	Fail
6	Fail CVM Processing	Always	Fail

1.17   Test Card 17 – Mastercard, long Issuer Certificate

This card has a long (1920 bit) issuer certificate and can be used to validate that the device can process a card with a long certificate.

The recommended transaction amount to generate a host approval is $10.00.

1.17.1   Cardholder Verification Method – A0000000041010

Cardholder Verification Method List ('4201 5E03 1F03')			
CVM	**Verification Method**	**Conditions**	**If unsuccessful**
1	Online PIN	Unattended Cash	Next CVM
2	Signature (paper)	Terminal supports CVM type	Next CVM
3	No CVM required	Terminal supports CVM type	Fail