



B2 Touchless Test Suite Technical Guide

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Powered by B2»

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Chapter 1 - B2 Touchless Test Suite Summary

1.1 B2 Mobile Test Suite (MTS)

The B2 Mobile Test Suite includes two smartphones – an Apple iPhone and a Samsung Galaxy phone. Each is pre-loaded with static device test accounts – including American Express, Discover, Mastercard and Visa.

This allows organizations to test various forms of mobile payments that consumers may use when making purchases.

The Apple® iPhone® is configured with an Apple Wallet™ containing eight card definitions, two from each of the following card brands: American Express; Discover; Mastercard; Visa.

Both the MTS Technical Guide and MTS User Guide can be found at: [B2 MTS Documents](#)

1.2 B2 Touchless Dual Interface Test Card Collection

This collection contains 10 of our most popular dual interface test cards, allowing organizations to test EMV contact and contactless credit and debit card transactions for all major payment brands accepted in the U.S.

A summary of the cards is provided in [Chapter 3](#) and a copy of the full technical document can be found on our website at:

[B2 EMV Test Cards](#)

Combining the card definitions in the Mobile Test Suite and the physical contactless cards from B2's Touchless Dual Interface Test Card Collection, the following card payment brands are represented:



1.3 B2 University eLearning Courses

These industry-leading online training courses help educate anyone who is involved in the EMV and contactless payments ecosystem – from beginners to seasoned experts. The courses are taken remotely, at the user's own pace and convenience, providing the ability to grow expertise on critically important aspects of the payment ecosystem.

Purchase of the B2 TTS entitles a student access to two pre-selected online courses.

- Introduction - Payments & EMV
- Contactless Payments

Upon receipt of the student's eMail ID, B2 will enroll them and provide access for 6-months.

Details of all the online courses, including the two included with TTS can be found at:

[B2 Online Training - eLearning and virtual training](#)

Chapter 2 - Apple Wallet™ Card Definitions - Profiles

2.1 Phones - Contactless Terminology:

When you tap using a device such as a phone, a device PAN (DPAN) is shared with the merchant instead of your actual Personal Account Number (PAN). This helps keep the PAN information safe as it passes to the card reader.

- “DAN” or “DPAN” – Device Account Number or Device Primary Account Number. This number is unique to the device (phone). Generated by the Payment Network or ‘card’ issuer, it acts as a ‘token’ in place of the actual account number assigned by the card issuer. Amongst others in the payment ecosystem, it is known to and is used by the issuing bank to identify the account to which the transaction should be applied.
- “FPAN” – Funding Primary Account Number” – the number of the issuer’s actual Personal Account Number and equates to the long-existing “PAN”.

	American Express 1	American Express 2
DPAN	370295 75716 0955	3702 959001 00684
FPAN	3499 562866 52212	3499 567268 99159
AID	A000000025010901	A000000025010901
Expiry Date (DPAN)	07/2020	02/2021
Expiry Date (FPAN) ¹	11/2022	11/2022
CID	1111	1111
Interface	Contactless (NFC)	Contactless (NFC)
Transaction Type(s)	Magstripe	Magstripe
CVM	See Card Definition	See Card Definition
Issuer Country	840 - USA	840 - USA
Language(s)	English	English

	Discover 1 – Debit	Discover 2 – Debit
DPAN	6504 8402 4170 4177	6504 8402 4043 1855
FPAN	6011 0009 9606 5037	6011 0009 9631 8741
AID	A000000152301001 A0000003241010 (ZIP) A000000152301001000000006 A0000001524010	A0000001523010 A0000003241010 (ZIP) A000000152301001000000007 A0000001524010
Expiry Date (DPAN)	01/2021	01/2021
Expiry Date (FPAN) ¹	11/2022	11/2022
CID	111	111
Interface	Contactless (NFC)	Contactless (NFC)
Transaction Type(s)	Magstripe (ZIP), EMV	Magstripe (ZIP), EMV
CVM	See Card Definition	See Card Definition
Issuer Country	840 - USA	840 - USA
Language(s)	English, Spanish, French	English, Spanish, French

	Mastercard 1 - Debit – U.S. Maestro	Mastercard 2
DPAN FPAN	5204 2427 5008 6937 5204 2477 5000 1471	5204 2402 5037 2716 5204 2452 5000 1488
AID	A0000000042203	A0000000041010
Expiry Date (DPAN) Expiry Date (FPAN) ¹	09/2022 11/2022	09/2022 11/2022
CVC	111	111
Interface	Contactless (NFC)	Contactless (NFC)
Transaction Type(s)	EMV	Magstripe, EMV
CVM	See Card Definition	See Card Definition
Issuer Country	840 - USA	840 - USA
Language(s)	English	English

	Visa 1 Debit – Visa Electron	Visa 2
DPAN FPAN	4817 4991 3029 0595 4761 1200 1000 0492	4818 5288 4005 3031 4123 4000 7332 0224
AID	A0000000032010	A0000000031010
Expiry Date (DPAN) Expiry Date (FPAN) ¹	12/2023 11/2022	12/2023 11/2022
CVC	533	989
Interface	Contactless (NFC)	Contactless (NFC)
Transaction Type(s)	EMV	EMV
CVM	See Card Definition	See Card Definition
Issuer Country	076 - Brazil	158 - TWN
Language(s)	English	English

Notes:

- 1) FPAN and DPAN expiration dates do not need to match.
- 2) American Express test cards can only support device regions that are set to the United States.

2.2 Apple Wallet™: American Express 1 – English

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

2.2.1 Cardholder Verification Method – A00000025010901, EMV

Cardholder Verification Method List ('5E03 1F00')			
CVM	Verification Method	Conditions	If unsuccessful
1	Signature (paper)	Terminal Supports CVM type	Next CVM
2	No CVM required	Always	Fail

2.2.2 Application Tag Data - Online

Tag	Element name	Data	v1.x
50	Application Label	41 4D 45 52 49 43 41 4E 20 45 58 50 52 45 53 53 - 'AMERICAN EXPRESS'	
57	Track 2 Equivalent Data	37 02 95 75 71 60 95 5D 20 07 72 10 00 00 00 00 00 00 0F	
5A	Application Primary Account Number (PAN)	37 02 95 75 71 60 95 5F	
5F 20	Cardholder Name	56 41 4C 55 45 44 20 43 55 53 54 4F 4D 45 52 20 20 20 20 20 20 20 20 20 20 - 'VALUED CUSTOMER'	
5F 24	Application Expiration Date	20 07 31	
5F 25	Application Effective Date	xx xx xx	
5F 28	Issuer Country Code	08 40 - USA	
5F 2D	Language Preference	65 6E - 'en' (English)	
5F 30	Service Code	07 21	
5F 34	Application PAN Sequence Number	00	
82	Application Interchange Profile [Expresspay 2.0]	18 00 BYTE 1: b7 - SDA NOT supported b6 - DDA NOT supported b5 - Cardholder verification supported b4 - Terminal risk mgmt to be performed b3 - Issuer authentication NOT supported b1 - CDA NOT supported BYTE 2: b8 - EMV Contactless NOT supported	
84	Dedicated File (DF) Name	A0 00 00 00 25 01 09 01	
87	Application Priority Indicator	01	
8C	Card Risk Management Data Object List 1 (CDOL1)	9F 37 04	
8D	Card Risk Management Data Object List 2 (CDOL2)	8A 02 9F 37 04	
8E	Cardholder Verification Method (CVM) List	00 00 00 00 00 00 00 00 5E 03 1F 00 00 00 00 00 00 00 00 00 00 00 00 00	
94	Application File Locator (AFL)	08 01 01 00 08 03 03 00	

Tag	Element name	Data	v1.x
9F 07	Application Usage Control	3D 00 BYTE 1: b8 - Domestic cash trans. NOT valid b7 - Int'l cash transactions NOT valid b6 - Domestic goods valid b5 - International goods valid b4 - Domestic services valid b3 - International services valid b2 - ATMs NOT valid b1 - non-ATM terminals valid BYTE 2: b8 - Domestic cashback NOT allowed b7 - International cashback NOT allowed	
9F 08	Application Version Number	00 01	
9F 0D	Issuer Action Code - Default	B0 50 C0 80 00	
9F 0E	Issuer Action Code - Denial	00 00 00 00 00	
9F 0F	Issuer Action Code - Online	B0 F8 C0 80 00	
9F 36	Application Transaction Counter (ATC)	xx xx *	
9F 38	Processing Options Data Object List (PDOL)	9F 35 01	
9F 42	Application Currency Code	08 40 - USD	
9F 4A	Static Data Authentication Tag List	82	

* Tag value changes with card usage

2.2.3 Cardholder Verification Method – A00000025010901, Magstripe

Cardholder Verification Method List ('5E03 1F00')			
CVM	Verification Method	Conditions	If unsuccessful
1	Signature (paper)	Terminal Supports CVM type	Next CVM
2	No CVM required	Always	Fail

2.2.4 Application Tag Data - Online

Tag	Element name	Data	v1.x
50	Application Label	41 4D 45 52 49 43 41 4E 20 45 58 50 52 45 53 53 - 'AMERICAN EXPRESS'	
57	Track 2 Equivalent Data	37 02 95 75 71 60 95 5D 20 07 72 70 00 00 00 00 00 00 0F	
5A	Application Primary Account Number (PAN)	37 02 95 75 71 60 95 5F	
5F 20	Cardholder Name	56 41 4C 55 45 44 20 43 55 53 54 4F 4D 45 52 20 20 20 20 20 20 20 20 20 20 - 'VALUED CUSTOMER'	
5F 24	Application Expiration Date	20 07 31	
5F 25	Application Effective Date	xx xx xx	
5F 28	Issuer Country Code	08 40 - USA	
5F 2D	Language Preference	65 6E - 'en' (English)	
5F 30	Service Code	07 27	
5F 34	Application PAN Sequence Number	00	

Tag	Element name	Data	v1.x
82	Application Interchange Profile [Expresspay 2.0]	18 00 BYTE 1: b7 - SDA NOT supported b6 - DDA NOT supported b5 - Cardholder verification supported b4 - Terminal risk mgmt to be performed b3 - Issuer authentication NOT supported b1 - CDA NOT supported BYTE 2: b8 - EMV Contactless NOT supported	
84	Dedicated File (DF) Name	A0 00 00 00 25 01 09 01	
87	Application Priority Indicator	01	
8C	Card Risk Management Data Object List 1 (CDOL1)	9F 37 04	
8D	Card Risk Management Data Object List 2 (CDOL2)	8A 02 9F 37 04	
8E	Cardholder Verification Method (CVM) List	00 00 00 00 00 00 00 00 5E 03 1F 00 00 00 00 00 00 00 00 00 00 00 00 00	
94	Application File Locator (AFL)	08 01 01 00 08 03 03 00	
9F 07	Application Usage Control	3D 00 BYTE 1: b8 - Domestic cash trans. NOT valid b7 - Int'l cash transactions NOT valid b6 - Domestic goods valid b5 - International goods valid b4 - Domestic services valid b3 - International services valid b2 - ATMs NOT valid b1 - non-ATM terminals valid BYTE 2: b8 - Domestic cashback NOT allowed b7 - International cashback NOT allowed	
9F 08	Application Version Number	00 01	
9F 0D	Issuer Action Code - Default	B0 50 C0 80 00	
9F 0E	Issuer Action Code - Denial	00 00 00 00 00	
9F 0F	Issuer Action Code - Online	B0 F8 C0 80 00	
9F 10	Issuer Application Data [Expresspay 2.0]	xx xx 02 xx xx xx xx *	
9F 26	Application Cryptogram (AC)	xx xx xx xx xx xx xx xx *	
9F 27	Cryptogram Information Data (CID)	80	
9F 36	Application Transaction Counter (ATC)	xx xx *	
9F 38	Processing Options Data Object List (PDOL)	9F 35 01	
9F 42	Application Currency Code	08 40 - USD	
9F 4A	Static Data Authentication Tag List	82	

* Tag value changes with card usage

2.3 Apple Wallet™: American Express 2 – English

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

2.3.1 Cardholder Verification Method – A00000025010901, EMV

Cardholder Verification Method List ('5E03 1F00')			
CVM	Verification Method	Conditions	If unsuccessful
1	Signature (paper)	Terminal Supports CVM type	Next CVM

2	No CVM required	Always	Fail
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2.3.2 Application Tag Data - Online

Tag	Element name	Data	v1.x
50	Application Label	41 4D 45 52 49 43 41 4E 20 45 58 50 52 45 53 53 - 'AMERICAN EXPRESS'	
57	Track 2 Equivalent Data	37 02 95 90 01 00 68 4D 21 02 72 10 00 00 00 00 00 00 0F	
5A	Application Primary Account Number (PAN)	37 02 95 90 01 00 68 4F	
5F 20	Cardholder Name	56 41 4C 55 45 44 20 43 55 53 54 4F 4D 45 52 20 20 20 20 20 20 20 20 20 20 - 'VALUED CUSTOMER'	
5F 24	Application Expiration Date	21 02 28	
5F 25	Application Effective Date	xx xx xx	
5F 28	Issuer Country Code	08 40 - USA	
5F 2D	Language Preference	65 6E - 'en' (English)	
5F 30	Service Code	07 21	
5F 34	Application PAN Sequence Number	00	
82	Application Interchange Profile [Expresspay 2.0]	18 00 BYTE 1: b7 - SDA NOT supported b6 - DDA NOT supported b5 - Cardholder verification supported b4 - Terminal risk mgmt to be performed b3 - Issuer authentication NOT supported b1 - CDA NOT supported BYTE 2: b8 - EMV Contactless NOT supported	
84	Dedicated File (DF) Name	A0 00 00 00 25 01 09 01	
87	Application Priority Indicator	01	
8C	Card Risk Management Data Object List 1 (CDOL1)	9F 37 04	
8D	Card Risk Management Data Object List 2 (CDOL2)	8A 02 9F 37 04	
8E	Cardholder Verification Method (CVM) List	00 00 00 00 00 00 00 00 5E 03 1F 00 00 00 00 00 00 00 00 00 00 00 00 00	
94	Application File Locator (AFL)	08 01 01 00 08 03 03 00	
9F 07	Application Usage Control	3D 00 BYTE 1: b8 - Domestic cash trans. NOT valid b7 - Int'l cash transactions NOT valid b6 - Domestic goods valid b5 - International goods valid b4 - Domestic services valid b3 - International services valid b2 - ATMs NOT valid b1 - non-ATM terminals valid BYTE 2: b8 - Domestic cashback NOT allowed b7 - International cashback NOT allowed	
9F 08	Application Version Number	00 01	
9F 0D	Issuer Action Code - Default	B0 50 C0 80 00	
9F 0E	Issuer Action Code - Denial	00 00 00 00 00	
9F 0F	Issuer Action Code - Online	B0 F8 C0 80 00	

Tag	Element name	Data	v1.x
9F 36	Application Transaction Counter (ATC)	xx xx *	
9F 38	Processing Options Data Object List (PDOL)	9F 35 01	
9F 42	Application Currency Code	08 40 - USD	
9F 4A	Static Data Authentication Tag List	82	

* Tag value changes with card usage

2.3.3 Cardholder Verification Method – A00000025010901, Magstripe

Cardholder Verification Method List ('5E03 1F00')			
CVM	Verification Method	Conditions	If unsuccessful
1	Signature (paper)	Terminal Supports CVM type	Next CVM
2	No CVM required	Always	Fail

2.3.4 Application Tag Data - Online

Tag	Element name	Data	v1.x
50	Application Label	41 4D 45 52 49 43 41 4E 20 45 58 50 52 45 53 53 - 'AMERICAN EXPRESS'	
57	Track 2 Equivalent Data	37 02 95 90 01 00 68 4D 21 02 72 70 00 00 00 00 00 00 0F	
5A	Application Primary Account Number (PAN)	37 02 95 90 01 00 68 4F	
5F 20	Cardholder Name	56 41 4C 55 45 44 20 43 55 53 54 4F 4D 45 52 20 20 20 20 20 20 20 20 20 20 20 - 'VALUED CUSTOMER'	
5F 24	Application Expiration Date	21 02 28	
5F 25	Application Effective Date	xx xx xx	
5F 28	Issuer Country Code	08 40 - USA	
5F 2D	Language Preference	65 6E - 'en' (English)	
5F 30	Service Code	07 27	
5F 34	Application PAN Sequence Number	00	
82	Application Interchange Profile [Expresspay 2.0]	18 00 BYTE 1: b7 - SDA NOT supported b6 - DDA NOT supported b5 - Cardholder verification supported b4 - Terminal risk mgmt to be performed b3 - Issuer authentication NOT supported b1 - CDA NOT supported BYTE 2: b8 - EMV Contactless NOT supported	
84	Dedicated File (DF) Name	A0 00 00 00 25 01 09 01	
87	Application Priority Indicator	01	
8C	Card Risk Management Data Object List 1 (CDOL1)	9F 37 04	
8D	Card Risk Management Data Object List 2 (CDOL2)	8A 02 9F 37 04	
8E	Cardholder Verification Method (CVM) List	00 00 00 00 00 00 00 00 5E 03 1F 00 00 00 00 00 00 00 00 00 00 00 00 00	
94	Application File Locator (AFL)	08 01 01 00 08 03 03 00	

Tag	Element name	Data	v1.x
9F 07	Application Usage Control	3D 00 BYTE 1: b8 - Domestic cash trans. NOT valid b7 - Int'l cash transactions NOT valid b6 - Domestic goods valid b5 - International goods valid b4 - Domestic services valid b3 - International services valid b2 - ATMs NOT valid b1 - non-ATM terminals valid BYTE 2: b8 - Domestic cashback NOT allowed b7 - International cashback NOT allowed	
9F 08	Application Version Number	00 01	
9F 0D	Issuer Action Code - Default	B0 50 C0 80 00	
9F 0E	Issuer Action Code - Denial	00 00 00 00 00	
9F 0F	Issuer Action Code - Online	B0 F8 C0 80 00	
9F 10	Issuer Application Data [Expresspay 2.0]	xx xx 02 xx xx xx xx *	
9F 26	Application Cryptogram (AC)	xx xx xx xx xx xx xx xx *	
9F 27	Cryptogram Information Data (CID)	80	
9F 36	Application Transaction Counter (ATC)	xx xx *	
9F 38	Processing Options Data Object List (PDOL)	9F 35 01	
9F 42	Application Currency Code	08 40 - USD	
9F 4A	Static Data Authentication Tag List	82	

* Tag value changes with card usage

2.4 Apple Wallet™: Discover 1 – Debit; English, Spanish, French

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

2.4.1 Application Tag Data – A0000015230100100000006, EMV, Offline

Tag	Element name	Data	v1.x
42	Issuer Identification Number (IIN)	65 75 59	
50	Application Label	44 49 53 43 4F 56 45 52 - 'DISCOVER'	
57	Track 2 Data [Discover]	65 04 84 02 41 70 41 77 D2 10 12 91 00 10 19 21 00 00 0F	
5F 25	Application Effective Date	xx xx xx	
5F 28	Issuer Country Code	08 40 - USA	
5F 2D	Language Preference	65 6E 65 73 66 72 - 'enesfr' (English, Spanish, French)	
5F 34	Application PAN Sequence Number	01	
5F 55	Issuer Country Code (alpha2 format)	55 53 - US	
82	Application Interchange Profile [DPAS CL]	18 00 BYTE 1: b7 - Offline SDA NOT supported b6 - Offline DDA NOT supported b5 - Cardholder verification supported b4 - Terminal risk mgmt to be performed b3 - Issuer authentication NOT supported using External Auth command b1 - Combined DDA / GEN AC NOT supported	
84	Dedicated File (DF) Name	A0 00 00 01 52 30 10 01 00 00 00 06	
87	Application Priority Indicator	02	
9F 07	Application Usage Control	FF C0 BYTE 1: b8 - Domestic cash trans. valid b7 - Int'l cash transactions valid b6 - Domestic goods valid b5 - International goods valid b4 - Domestic services valid b3 - International services valid b2 - ATMs valid b1 - non-ATM terminals valid BYTE 2: b8 - Domestic cashback allowed b7 - International cashback allowed	
9F 08	Application Version Number	00 01	
9F 10	Issuer Application Data [DPAS CL]	xx 15 xx xx xx xx xx xx xx xx *	
9F 26	Application Cryptogram (AC)	xx xx xx xx xx xx xx xx *	
9F 27	Cryptogram Information Data (CID)	00	
9F 36	Application Transaction Counter (ATC)	xx xx *	
9F 38	Processing Options Data Object List (PDOL)	9F 66 04 9F 02 06 9F 03 06 9F 1A 02 5F 2A 02 9A 03 9C 01 9F 37 04 9F 35 01 DF 70 01 9F 15 02 DF 71 02 DF 72 02 9F 4E 14	
9F 4D	Transaction Log Entry	0B 04	

Tag	Element name	Data	v1.x
9F 71	Card Processing Requirements [DPAS]	10 49 BYTE 1 (Transient Data): b8 - Online PIN NOT required b7 - Signature NOT required b6 - PID Limit NOT reached b5 - Consumer Device CVM performed BYTE 2 (Permanent Data): b8 - Do NOT switch to other interface if unable to process online b7 - Do process online if CDA failed b6 - Do NOT decline/switch other interface if CDA failed b5 - Issuer Update Processing NOT supported b4 - Do process online if card expired b3 - Do NOT decline if card expired b2 - CVM Fallback to Signature NOT allowed b1 - CVM Fallback to 'No CVM' allowed	

* Tag value changes with card usage

2.4.2 Application Tag Data – A0000015230100100000006, EMV, Online

Tag	Element name	Data	v1.x
42	Issuer Identification Number (IIN)	65 75 59	
50	Application Label	44 49 53 43 4F 56 45 52 - 'DISCOVER'	
57	Track 2 Data [Discover]	65 04 84 02 41 70 41 77 D2 10 12 91 00 10 19 21 00 00 0F	
5F 25	Application Effective Date	xx xx xx	
5F 28	Issuer Country Code	08 40 - USA	
5F 2D	Language Preference	65 6E 65 73 66 72 - 'enesfr' (English, Spanish, French)	
5F 34	Application PAN Sequence Number	01	
5F 55	Issuer Country Code (alpha2 format)	55 53 - US	
82	Application Interchange Profile [DPAS CL]	18 00 BYTE 1: b7 - Offline SDA NOT supported b6 - Offline DDA NOT supported b5 - Cardholder verification supported b4 - Terminal risk mgmt to be performed b3 - Issuer authentication NOT supported using External Auth command b1 - Combined DDA / GEN AC NOT supported	
84	Dedicated File (DF) Name	A0 00 00 01 52 30 10 01 00 00 00 06	
87	Application Priority Indicator	02	
9F 07	Application Usage Control	FF C0 BYTE 1: b8 - Domestic cash trans. valid b7 - Int'l cash transactions valid b6 - Domestic goods valid b5 - International goods valid b4 - Domestic services valid b3 - International services valid b2 - ATMs valid b1 - non-ATM terminals valid BYTE 2: b8 - Domestic cashback allowed b7 - International cashback allowed	
9F 08	Application Version Number	00 01	
9F 10	Issuer Application Data [DPAS CL]	xx 15 xx xx xx xx xx xx xx xx *	

Tag	Element name	Data	v1.x
9F 26	Application Cryptogram (AC)	xx xx xx xx xx xx xx xx *	
9F 27	Cryptogram Information Data (CID)	80	
9F 36	Application Transaction Counter (ATC)	xx xx *	
9F 38	Processing Options Data Object List (PDOL)	9F 66 04 9F 02 06 9F 03 06 9F 1A 02 5F 2A 02 9A 03 9C 01 9F 37 04 9F 35 01 DF 70 01 9F 15 02 DF 71 02 DF 72 02 9F 4E 14	
9F 4D	Transaction Log Entry	0B 04	
9F 71	Card Processing Requirements [DPAS]	10 49 BYTE 1 (Transient Data): b8 - Online PIN NOT required b7 - Signature NOT required b6 - PID Limit NOT reached b5 - Consumer Device CVM performed BYTE 2 (Permanent Data): b8 - Do NOT switch to other interface if unable to process online b7 - Do process online if CDA failed b6 - Do NOT decline/switch other interface if CDA failed b5 - Issuer Update Processing NOT supported b4 - Do process online if card expired b3 - Do NOT decline if card expired b2 - CVM Fallback to Signature NOT allowed b1 - CVM Fallback to 'No CVM' allowed	

* Tag value changes with card usage

2.4.3 Application Tag Data - A0000015230100100000006, Magstripe

Tag	Element name	Data	v1.x
42	Issuer Identification Number (IIN)	65 75 59	
50	Application Label	44 49 53 43 4F 56 45 52 - 'DISCOVER'	
56	Track 1 Data [Discover]	42 36 35 31 30 30 30 30 30 30 30 30 30 30 30 31 38 5E 44 6F 6E 61 6C 64 20 45 20 41 76 65 72 69 6C 6C 20 20 20 20 20 20 20 20 20 20 5E 32 31 30 31 32 39 31 30 31 30 30 31 31 31 31 30 30 35 30 32	
57	Track 2 Data [Discover]	65 04 84 02 41 70 41 77 D2 10 12 91 01 00 11 11 00 50 2F	
5F 2D	Language Preference	65 6E 65 73 66 72 - 'enesfr' (English, Spanish, French)	
5F 55	Issuer Country Code (alpha2 format)	55 53 - US	
82	Application Interchange Profile [DPAS CL]	00 00 BYTE 1: b7 - SDA NOT supported b6 - DDA NOT supported b5 - Cardholder verification NOT supported b4 - Terminal risk mgmt NOT to be performed b3 - Issuer authentication NOT supported b1 - CDA NOT supported	
84	Dedicated File (DF) Name	A0 00 00 01 52 30 10 01 00 00 00 06	
87	Application Priority Indicator	02	
94	Application File Locator (AFL)	08 01 01 00	

Tag	Element name	Data	v1.x
9F 38	Processing Options Data Object List (PDOL)	9F 66 04 9F 02 06 9F 03 06 9F 1A 02 5F 2A 02 9A 03 9C 01 9F 37 04 9F 35 01 DF 70 01 9F 15 02 DF 71 02 DF 72 02 9F 4E 14	
9F 4D	Transaction Log Entry	0B 04	
9F 7E	DCVV [Discover]	01 01 01	

* Tag value changes with card usage

2.4.4 Application Tag Data - A000003241010, Magstripe [ZIP]

Tag	Element name	Data	v1.x
50	Application Label	44 49 53 43 4F 56 45 52 - 'DISCOVER'	
56	Track 1 Data [Discover]	42 36 35 31 30 30 30 30 30 30 30 30 30 30 31 38 5E 44 6F 6E 61 6C 64 20 45 20 41 76 65 72 69 6C 6C 20 20 20 20 20 20 20 20 20 5E 32 31 30 31 32 39 31 30 31 30 30 31 33 34 34 30 30 36 30 35	
57	Track 2 Data [Discover]	65 04 84 02 41 70 41 77 D2 10 12 91 01 00 13 44 00 60 5F	
5F 2D	Language Preference	65 6E 65 73 66 72 - 'enesfr' (English, Spanish, French)	
82	Application Interchange Profile [DPAS CL]	00 00 BYTE 1: b7 - SDA NOT supported b6 - DDA NOT supported b5 - Cardholder verification NOT supported b4 - Terminal risk mgmt NOT to be performed b3 - Issuer authentication NOT supported b1 - CDA NOT supported	
84	Dedicated File (DF) Name	A0 00 00 03 24 10 10	
87	Application Priority Indicator	03	
94	Application File Locator (AFL)	08 01 01 00	
9F 38	Processing Options Data Object List (PDOL)	9F 37 01	
9F 7E	DCVV [Discover]	03 04 04	

* Tag value changes with card usage

2.4.5 Application Tag Data – A0000015230100100000006, EMV, Offline

Tag	Element name	Data	v1.x
42	Issuer Identification Number (IIN)	65 75 59	
50	Application Label	44 49 53 43 4F 56 45 52 - 'DISCOVER'	
57	Track 2 Data [Discover]	65 04 84 02 41 70 41 77 D2 10 12 91 00 10 19 21 00 00 0F	
5F 25	Application Effective Date	xx xx xx	
5F 28	Issuer Country Code	08 40 - USA	
5F 2D	Language Preference	65 6E 65 73 66 72 - 'enesfr' (English, Spanish, French)	
5F 34	Application PAN Sequence Number	01	
5F 55	Issuer Country Code (alpha2 format)	55 53 - US	

Tag	Element name	Data	v1.x
82	Application Interchange Profile [DPAS CL]	18 00 BYTE 1: b7 - Offline SDA NOT supported b6 - Offline DDA NOT supported b5 - Cardholder verification supported b4 - Terminal risk mgmt to be performed b3 - Issuer authentication NOT supported using External Auth command b1 - Combined DDA / GEN AC NOT supported	
84	Dedicated File (DF) Name	A0 00 00 01 52 30 10 01 00 00 00 06	
87	Application Priority Indicator	02	
9F 07	Application Usage Control	FF C0 BYTE 1: b8 - Domestic cash trans. valid b7 - Int'l cash transactions valid b6 - Domestic goods valid b5 - International goods valid b4 - Domestic services valid b3 - International services valid b2 - ATMs valid b1 - non-ATM terminals valid BYTE 2: b8 - Domestic cashback allowed b7 - International cashback allowed	
9F 08	Application Version Number	00 01	
9F 10	Issuer Application Data [DPAS CL]	xx 15 xx xx xx xx xx xx xx *	
9F 26	Application Cryptogram (AC)	xx xx xx xx xx xx xx *	
9F 27	Cryptogram Information Data (CID)	00	
9F 36	Application Transaction Counter (ATC)	xx xx *	
9F 38	Processing Options Data Object List (PDOL)	9F 66 04 9F 02 06 9F 03 06 9F 1A 02 5F 2A 02 9A 03 9C 01 9F 37 04 9F 35 01 DF 70 01 9F 15 02 DF 71 02 DF 72 02 9F 4E 14	
9F 4D	Transaction Log Entry	0B 04	
9F 71	Card Processing Requirements [DPAS]	10 49 BYTE 1 (Transient Data): b8 - Online PIN NOT required b7 - Signature NOT required b6 - PID Limit NOT reached b5 - Consumer Device CVM performed BYTE 2 (Permanent Data): b8 - Do NOT switch to other interface if unable to process online b7 - Do process online if CDA failed b6 - Do NOT decline/switch other interface if CDA failed b5 - Issuer Update Processing NOT supported b4 - Do process online if card expired b3 - Do NOT decline if card expired b2 - CVM Fallback to Signature NOT allowed b1 - CVM Fallback to 'No CVM' allowed	

* Tag value changes with card usage

2.4.6 Application Tag Data – A0000015230100100000006, EMV, Online

Tag	Element name	Data	v1.x
42	Issuer Identification Number (IIN)	65 75 59	
50	Application Label	44 49 53 43 4F 56 45 52 - 'DISCOVER'	
57	Track 2 Data [Discover]	65 04 84 02 41 70 41 77 D2 10 12 91 00 10 19 21 00 00 0F	
5F 25	Application Effective Date	xx xx xx	
5F 28	Issuer Country Code	08 40 - USA	
5F 2D	Language Preference	65 6E 65 73 66 72 - 'enesfr' (English, Spanish, French)	
5F 34	Application PAN Sequence Number	01	
5F 55	Issuer Country Code (alpha2 format)	55 53 - US	
82	Application Interchange Profile [DPAS CL]	18 00 BYTE 1: b7 - Offline SDA NOT supported b6 - Offline DDA NOT supported b5 - Cardholder verification supported b4 - Terminal risk mgmt to be performed b3 - Issuer authentication NOT supported using External Auth command b1 - Combined DDA / GEN AC NOT supported	
84	Dedicated File (DF) Name	A0 00 00 01 52 30 10 01 00 00 00 06	
87	Application Priority Indicator	02	
9F 07	Application Usage Control	FF C0 BYTE 1: b8 - Domestic cash trans. valid b7 - Int'l cash transactions valid b6 - Domestic goods valid b5 - International goods valid b4 - Domestic services valid b3 - International services valid b2 - ATMs valid b1 - non-ATM terminals valid BYTE 2: b8 - Domestic cashback allowed b7 - International cashback allowed	
9F 08	Application Version Number	00 01	
9F 10	Issuer Application Data [DPAS CL]	xx 15 xx xx xx xx xx xx xx xx *	
9F 26	Application Cryptogram (AC)	xx xx xx xx xx xx xx xx *	
9F 27	Cryptogram Information Data (CID)	80	
9F 36	Application Transaction Counter (ATC)	xx xx *	
9F 38	Processing Options Data Object List (PDOL)	9F 66 04 9F 02 06 9F 03 06 9F 1A 02 5F 2A 02 9A 03 9C 01 9F 37 04 9F 35 01 DF 70 01 9F 15 02 DF 71 02 DF 72 02 9F 4E 14	
9F 4D	Transaction Log Entry	0B 04	

Tag	Element name	Data	v1.x
9F 71	Card Processing Requirements [DPAS]	10 49 BYTE 1 (Transient Data): b8 - Online PIN NOT required b7 - Signature NOT required b6 - PID Limit NOT reached b5 - Consumer Device CVM performed BYTE 2 (Permanent Data): b8 - Do NOT switch to other interface if unable to process online b7 - Do process online if CDA failed b6 - Do NOT decline/switch other interface if CDA failed b5 - Issuer Update Processing NOT supported b4 - Do process online if card expired b3 - Do NOT decline if card expired b2 - CVM Fallback to Signature NOT allowed b1 - CVM Fallback to 'No CVM' allowed	

* Tag value changes with card usage

2.4.7 Application Tag Data - A0000015230100100000006, Magstripe

Tag	Element name	Data	v1.x
42	Issuer Identification Number (IIN)	65 75 59	
50	Application Label	44 49 53 43 4F 56 45 52 - 'DISCOVER'	
56	Track 1 Data [Discover]	42 36 35 31 30 30 30 30 30 30 30 30 30 30 31 38 5E 44 6F 6E 61 6C 64 20 45 20 41 76 65 72 69 6C 6C 20 20 20 20 20 20 20 20 20 5E 32 31 30 31 32 39 31 30 31 30 30 31 30 30 36 30 30 39 30 32	
57	Track 2 Data [Discover]	65 04 84 02 41 70 41 77 D2 10 12 91 01 00 10 06 00 90 2F	
5F 2D	Language Preference	65 6E 65 73 66 72 - 'enesfr' (English, Spanish, French)	
5F 55	Issuer Country Code (alpha2 format)	55 53 - US	
82	Application Interchange Profile [DPAS CL]	00 00 BYTE 1: b7 - SDA NOT supported b6 - DDA NOT supported b5 - Cardholder verification NOT supported b4 - Terminal risk mgmt NOT to be performed b3 - Issuer authentication NOT supported b1 - CDA NOT supported	
84	Dedicated File (DF) Name	A0 00 00 01 52 30 10 01 00 00 00 06	
87	Application Priority Indicator	02	
94	Application File Locator (AFL)	08 01 01 00	
9F 38	Processing Options Data Object List (PDOL)	9F 66 04 9F 02 06 9F 03 06 9F 1A 02 5F 2A 02 9A 03 9C 01 9F 37 04 9F 35 01 DF 70 01 9F 15 02 DF 71 02 DF 72 02 9F 4E 14	
9F 4D	Transaction Log Entry	0B 04	
9F 7E	DCVV [Discover]	00 00 06	

* Tag value changes with card usage

2.4.8 Application Tag Data – A000001524010, EMV, Offline

Tag	Element name	Data	v1.x
42	Issuer Identification Number (IIN)	65 75 59	
50	Application Label	44 49 53 43 4F 56 45 52 - 'DISCOVER'	
57	Track 2 Data [Discover]	65 04 84 02 41 70 41 77 D2 10 12 91 00 10 19 21 00 00 0F	
5F 25	Application Effective Date	xx xx xx	
5F 28	Issuer Country Code	08 40 - USA	
5F 2D	Language Preference	65 6E 65 73 66 72 - 'enesfr' (English, Spanish, French)	
5F 34	Application PAN Sequence Number	01	
5F 55	Issuer Country Code (alpha2 format)	55 53 - US	
82	Application Interchange Profile [DPAS CL]	18 00 BYTE 1: b7 - Offline SDA NOT supported b6 - Offline DDA NOT supported b5 - Cardholder verification supported b4 - Terminal risk mgmt to be performed b3 - Issuer authentication NOT supported using External Auth command b1 - Combined DDA / GEN AC NOT supported	
84	Dedicated File (DF) Name	A0 00 00 01 52 40 10	
87	Application Priority Indicator	01	
9F 07	Application Usage Control	FF C0 BYTE 1: b8 - Domestic cash trans. valid b7 - Int'l cash transactions valid b6 - Domestic goods valid b5 - International goods valid b4 - Domestic services valid b3 - International services valid b2 - ATMs valid b1 - non-ATM terminals valid BYTE 2: b8 - Domestic cashback allowed b7 - International cashback allowed	
9F 08	Application Version Number	00 01	
9F 10	Issuer Application Data [DPAS CL]	xx 15 xx xx xx xx xx xx xx xx *	
9F 26	Application Cryptogram (AC)	xx xx xx xx xx xx xx xx *	
9F 27	Cryptogram Information Data (CID)	00	
9F 36	Application Transaction Counter (ATC)	xx xx *	
9F 38	Processing Options Data Object List (PDOL)	9F 66 04 9F 02 06 9F 03 06 9F 1A 02 5F 2A 02 9A 03 9C 01 9F 37 04 9F 35 01 DF 70 01 9F 15 02 DF 71 02 DF 72 02 9F 4E 14	
9F 4D	Transaction Log Entry	0B 03	

Tag	Element name	Data	v1.x
9F 71	Card Processing Requirements [DPAS]	10 49 BYTE 1 (Transient Data): b8 - Online PIN NOT required b7 - Signature NOT required b6 - PID Limit NOT reached b5 - Consumer Device CVM performed BYTE 2 (Permanent Data): b8 - Do NOT switch to other interface if unable to process online b7 - Do process online if CDA failed b6 - Do NOT decline/switch other interface if CDA failed b5 - Issuer Update Processing NOT supported b4 - Do process online if card expired b3 - Do NOT decline if card expired b2 - CVM Fallback to Signature NOT allowed b1 - CVM Fallback to 'No CVM' allowed	

* Tag value changes with card usage

2.4.9 Application Tag Data – A000001524010, EMV, Online

Tag	Element name	Data	v1.x
42	Issuer Identification Number (IIN)	65 75 59	
50	Application Label	44 49 53 43 4F 56 45 52 - 'DISCOVER'	
57	Track 2 Data [Discover]	65 04 84 02 41 70 41 77 D2 10 12 91 00 10 19 21 00 00 0F	
5F 25	Application Effective Date	xx xx xx	
5F 28	Issuer Country Code	08 40 - USA	
5F 2D	Language Preference	65 6E 65 73 66 72 - 'enesfr' (English, Spanish, French)	
5F 34	Application PAN Sequence Number	01	
5F 55	Issuer Country Code (alpha2 format)	55 53 - US	
82	Application Interchange Profile [DPAS CL]	18 00 BYTE 1: b7 - Offline SDA NOT supported b6 - Offline DDA NOT supported b5 - Cardholder verification supported b4 - Terminal risk mgmt to be performed b3 - Issuer authentication NOT supported using External Auth command b1 - Combined DDA / GEN AC NOT supported	
84	Dedicated File (DF) Name	A0 00 00 01 52 40 10	
87	Application Priority Indicator	01	
9F 07	Application Usage Control	FF C0 BYTE 1: b8 - Domestic cash trans. valid b7 - Int'l cash transactions valid b6 - Domestic goods valid b5 - International goods valid b4 - Domestic services valid b3 - International services valid b2 - ATMs valid b1 - non-ATM terminals valid BYTE 2: b8 - Domestic cashback allowed b7 - International cashback allowed	
9F 08	Application Version Number	00 01	
9F 10	Issuer Application Data [DPAS CL]	xx 15 xx xx xx xx xx xx xx xx *	

Tag	Element name	Data	v1.x
9F 26	Application Cryptogram (AC)	xx xx xx xx xx xx xx xx *	
9F 27	Cryptogram Information Data (CID)	80	
9F 36	Application Transaction Counter (ATC)	xx xx *	
9F 38	Processing Options Data Object List (PDOL)	9F 66 04 9F 02 06 9F 03 06 9F 1A 02 5F 2A 02 9A 03 9C 01 9F 37 04 9F 35 01 DF 70 01 9F 15 02 DF 71 02 DF 72 02 9F 4E 14	
9F 4D	Transaction Log Entry	0B 03	
9F 71	Card Processing Requirements [DPAS]	10 49 BYTE 1 (Transient Data): b8 - Online PIN NOT required b7 - Signature NOT required b6 - PID Limit NOT reached b5 - Consumer Device CVM performed BYTE 2 (Permanent Data): b8 - Do NOT switch to other interface if unable to process online b7 - Do process online if CDA failed b6 - Do NOT decline/switch other interface if CDA failed b5 - Issuer Update Processing NOT supported b4 - Do process online if card expired b3 - Do NOT decline if card expired b2 - CVM Fallback to Signature NOT allowed b1 - CVM Fallback to 'No CVM' allowed	

* Tag value changes with card usage

2.4.10 Application Tag Data - A000001524010, Magstripe

Tag	Element name	Data	v1.x
42	Issuer Identification Number (IIN)	65 75 59	
50	Application Label	44 49 53 43 4F 56 45 52 - 'DISCOVER'	
56	Track 1 Data [Discover]	42 36 35 31 30 30 30 30 30 30 30 30 30 30 30 31 38 5E 44 6F 6E 61 6C 64 20 45 20 41 76 65 72 69 6C 6C 20 20 20 20 20 20 20 20 20 20 5E 32 31 30 31 32 39 31 30 31 30 30 31 35 39 35 30 31 32 30 32	
57	Track 2 Data [Discover]	65 04 84 02 41 70 41 77 D2 10 12 91 01 00 15 95 01 20 2F	
5F 2D	Language Preference	65 6E 65 73 66 72 - 'enesfr' (English, Spanish, French)	
5F 55	Issuer Country Code (alpha2 format)	55 53 - US	
82	Application Interchange Profile [DPAS CL]	00 00 BYTE 1: b7 - SDA NOT supported b6 - DDA NOT supported b5 - Cardholder verification NOT supported b4 - Terminal risk mgmt NOT to be performed b3 - Issuer authentication NOT supported b1 - CDA NOT supported	
84	Dedicated File (DF) Name	A0 00 00 01 52 40 10	
87	Application Priority Indicator	01	
94	Application File Locator (AFL)	08 01 01 00	

Tag	Element name	Data	v1.x
9F 38	Processing Options Data Object List (PDOL)	9F 66 04 9F 02 06 9F 03 06 9F 1A 02 5F 2A 02 9A 03 9C 01 9F 37 04 9F 35 01 DF 70 01 9F 15 02 DF 71 02 DF 72 02 9F 4E 14	
9F 4D	Transaction Log Entry	0B 03	
9F 7E	DCVV [Discover]	05 09 05	

* Tag value changes with card usage

2.5 Apple Wallet™: Discover 2 – Debit; English, Spanish, French

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

2.5.1 Application Tag Data – A0000015230100100000007, EMV, Offline

Tag	Element name	Data	v1.x
42	Issuer Identification Number (IIN)	65 75 59	
50	Application Label	44 49 53 43 4F 56 45 52 - 'DISCOVER'	
57	Track 2 Data [Discover]	65 04 84 02 40 43 18 55 D2 10 12 91 00 10 19 21 00 00 0F	
5F 25	Application Effective Date	xx xx xx	
5F 28	Issuer Country Code	08 40 - USA	
5F 2D	Language Preference	65 6E 65 73 66 72 - 'enesfr' (English, Spanish, French)	
5F 34	Application PAN Sequence Number	01	
5F 55	Issuer Country Code (alpha2 format)	55 53 - US	
82	Application Interchange Profile [DPAS CL]	18 00 BYTE 1: b7 - Offline SDA NOT supported b6 - Offline DDA NOT supported b5 - Cardholder verification supported b4 - Terminal risk mgmt to be performed b3 - Issuer authentication NOT supported using External Auth command b1 - Combined DDA / GEN AC NOT supported	
84	Dedicated File (DF) Name	A0 00 00 01 52 30 10 01 00 00 00 07	
87	Application Priority Indicator	02	
9F 07	Application Usage Control	FF C0 BYTE 1: b8 - Domestic cash trans. valid b7 - Int'l cash transactions valid b6 - Domestic goods valid b5 - International goods valid b4 - Domestic services valid b3 - International services valid b2 - ATMs valid b1 - non-ATM terminals valid BYTE 2: b8 - Domestic cashback allowed b7 - International cashback allowed	
9F 08	Application Version Number	00 01	
9F 10	Issuer Application Data [DPAS CL]	xx 15 xx xx xx xx xx xx xx xx *	
9F 26	Application Cryptogram (AC)	xx xx xx xx xx xx xx xx *	
9F 27	Cryptogram Information Data (CID)	00	
9F 36	Application Transaction Counter (ATC)	xx xx *	

Tag	Element name	Data	v1.x
9F 38	Processing Options Data Object List (PDOL)	9F 66 04 9F 02 06 9F 03 06 9F 1A 02 5F 2A 02 9A 03 9C 01 9F 37 04 9F 35 01 DF 70 01 9F 15 02 DF 71 02 DF 72 02 9F 4E 14	
9F 4D	Transaction Log Entry	0B 04	
9F 71	Card Processing Requirements [DPAS]	10 49 BYTE 1 (Transient Data): b8 - Online PIN NOT required b7 - Signature NOT required b6 - PID Limit NOT reached b5 - Consumer Device CVM performed BYTE 2 (Permanent Data): b8 - Do NOT switch to other interface if unable to process online b7 - Do process online if CDA failed b6 - Do NOT decline/switch other interface if CDA failed b5 - Issuer Update Processing NOT supported b4 - Do process online if card expired b3 - Do NOT decline if card expired b2 - CVM Fallback to Signature NOT allowed b1 - CVM Fallback to 'No CVM' allowed	

* Tag value changes with card usage

2.5.2 Application Tag Data – A0000015230100100000007, EMV, Online

Tag	Element name	Data	v1.x
42	Issuer Identification Number (IIN)	65 75 59	
50	Application Label	44 49 53 43 4F 56 45 52 - 'DISCOVER'	
57	Track 2 Data [Discover]	65 04 84 02 40 43 18 55 D2 10 12 91 00 10 19 21 00 00 0F	
5F 25	Application Effective Date	xx xx xx	
5F 28	Issuer Country Code	08 40 - USA	
5F 2D	Language Preference	65 6E 65 73 66 72 - 'enesfr' (English, Spanish, French)	
5F 34	Application PAN Sequence Number	01	
5F 55	Issuer Country Code (alpha2 format)	55 53 - US	
82	Application Interchange Profile [DPAS CL]	18 00 BYTE 1: b7 - Offline SDA NOT supported b6 - Offline DDA NOT supported b5 - Cardholder verification supported b4 - Terminal risk mgmt to be performed b3 - Issuer authentication NOT supported using External Auth command b1 - Combined DDA / GEN AC NOT supported	
84	Dedicated File (DF) Name	A0 00 00 01 52 30 10 01 00 00 00 07	
87	Application Priority Indicator	02	

Tag	Element name	Data	v1.x
9F 07	Application Usage Control	FF C0 BYTE 1: b8 - Domestic cash trans. valid b7 - Int'l cash transactions valid b6 - Domestic goods valid b5 - International goods valid b4 - Domestic services valid b3 - International services valid b2 - ATMs valid b1 - non-ATM terminals valid BYTE 2: b8 - Domestic cashback allowed b7 - International cashback allowed	
9F 08	Application Version Number	00 01	
9F 10	Issuer Application Data [DPAS CL]	xx 15 xx xx xx xx xx xx xx *	
9F 26	Application Cryptogram (AC)	xx xx xx xx xx xx xx *	
9F 27	Cryptogram Information Data (CID)	80	
9F 36	Application Transaction Counter (ATC)	xx xx *	
9F 38	Processing Options Data Object List (PDOL)	9F 66 04 9F 02 06 9F 03 06 9F 1A 02 5F 2A 02 9A 03 9C 01 9F 37 04 9F 35 01 DF 70 01 9F 15 02 DF 71 02 DF 72 02 9F 4E 14	
9F 4D	Transaction Log Entry	0B 04	
9F 71	Card Processing Requirements [DPAS]	10 49 BYTE 1 (Transient Data): b8 - Online PIN NOT required b7 - Signature NOT required b6 - PID Limit NOT reached b5 - Consumer Device CVM performed BYTE 2 (Permanent Data): b8 - Do NOT switch to other interface if unable to process online b7 - Do process online if CDA failed b6 - Do NOT decline/switch other interface if CDA failed b5 - Issuer Update Processing NOT supported b4 - Do process online if card expired b3 - Do NOT decline if card expired b2 - CVM Fallback to Signature NOT allowed b1 - CVM Fallback to 'No CVM' allowed	

* Tag value changes with card usage

2.5.3 Application Tag Data - A0000015230100100000007, Magstripe

Tag	Element name	Data	v1.x
42	Issuer Identification Number (IIN)	65 75 59	
50	Application Label	44 49 53 43 4F 56 45 52 - 'DISCOVER'	
56	Track 1 Data [Discover]	42 36 35 31 30 30 30 30 30 30 30 30 30 30 30 31 38 5E 44 6F 6E 61 6C 64 20 45 20 41 76 65 72 69 6C 6C 20 20 20 20 20 20 20 20 20 20 5E 32 31 30 31 32 39 31 30 31 30 30 31 31 31 31 30 30 35 30 32	
57	Track 2 Data [Discover]	65 04 84 02 40 43 18 55 D2 10 12 91 01 00 11 11 00 50 2F	
5F 2D	Language Preference	65 6E 65 73 66 72 - 'enesfr' (English, Spanish, French)	
5F 55	Issuer Country Code (alpha2 format)	55 53 - US	

Tag	Element name	Data	v1.x
82	Application Interchange Profile [DPAS CL]	00 00 BYTE 1: b7 - SDA NOT supported b6 - DDA NOT supported b5 - Cardholder verification NOT supported b4 - Terminal risk mgmt NOT to be performed b3 - Issuer authentication NOT supported b1 - CDA NOT supported	
84	Dedicated File (DF) Name	A0 00 00 01 52 30 10 01 00 00 00 07	
87	Application Priority Indicator	02	
94	Application File Locator (AFL)	08 01 01 00	
9F 38	Processing Options Data Object List (PDOL)	9F 66 04 9F 02 06 9F 03 06 9F 1A 02 5F 2A 02 9A 03 9C 01 9F 37 04 9F 35 01 DF 70 01 9F 15 02 DF 71 02 DF 72 02 9F 4E 14	
9F 4D	Transaction Log Entry	0B 04	
9F 7E	DCVV [Discover]	01 01 01	

* Tag value changes with card usage

2.5.4 Application Tag Data - A000003241010, Magstripe [ZIP]

Tag	Element name	Data	v1.x
50	Application Label	44 49 53 43 4F 56 45 52 - 'DISCOVER'	
56	Track 1 Data [Discover]	42 36 35 31 30 30 30 30 30 30 30 30 30 30 30 31 38 5E 44 6F 6E 61 6C 64 20 45 20 41 76 65 72 69 6C 6C 20 20 20 20 20 20 20 20 20 20 5E 32 31 30 31 32 39 31 30 31 30 30 31 33 34 34 30 30 36 30 35	
57	Track 2 Data [Discover]	65 04 84 02 40 43 18 55 D2 10 12 91 01 00 13 44 00 60 5F	
5F 2D	Language Preference	65 6E 65 73 66 72 - 'enesfr' (English, Spanish, French)	
82	Application Interchange Profile [DPAS CL]	00 00 BYTE 1: b7 - SDA NOT supported b6 - DDA NOT supported b5 - Cardholder verification NOT supported b4 - Terminal risk mgmt NOT to be performed b3 - Issuer authentication NOT supported b1 - CDA NOT supported	
84	Dedicated File (DF) Name	A0 00 00 03 24 10 10	
87	Application Priority Indicator	03	
94	Application File Locator (AFL)	08 01 01 00	
9F 38	Processing Options Data Object List (PDOL)	9F 37 01	
9F 7E	DCVV [Discover]	03 04 04	

* Tag value changes with card usage

2.5.5 Application Tag Data – A0000015230100100000007, EMV, Offline

Tag	Element name	Data	v1.x
42	Issuer Identification Number (IIN)	65 75 59	
50	Application Label	44 49 53 43 4F 56 45 52 - 'DISCOVER'	
57	Track 2 Data [Discover]	65 04 84 02 40 43 18 55 D2 10 12 91 00 10 19 21 00 00 0F	

Tag	Element name	Data	v1.x
5F 25	Application Effective Date	xx xx xx	
5F 28	Issuer Country Code	08 40 - USA	
5F 2D	Language Preference	65 6E 65 73 66 72 - 'enesfr' (English, Spanish, French)	
5F 34	Application PAN Sequence Number	01	
5F 55	Issuer Country Code (alpha2 format)	55 53 - US	
82	Application Interchange Profile [DPAS CL]	18 00 BYTE 1: b7 - Offline SDA NOT supported b6 - Offline DDA NOT supported b5 - Cardholder verification supported b4 - Terminal risk mgmt to be performed b3 - Issuer authentication NOT supported using External Auth command b1 - Combined DDA / GEN AC NOT supported	
84	Dedicated File (DF) Name	A0 00 00 01 52 30 10 01 00 00 00 07	
87	Application Priority Indicator	02	
9F 07	Application Usage Control	FF C0 BYTE 1: b8 - Domestic cash trans. valid b7 - Int'l cash transactions valid b6 - Domestic goods valid b5 - International goods valid b4 - Domestic services valid b3 - International services valid b2 - ATMs valid b1 - non-ATM terminals valid BYTE 2: b8 - Domestic cashback allowed b7 - International cashback allowed	
9F 08	Application Version Number	00 01	
9F 10	Issuer Application Data [DPAS CL]	xx 15 xx xx xx xx xx xx xx *	
9F 26	Application Cryptogram (AC)	xx xx xx xx xx xx xx xx *	
9F 27	Cryptogram Information Data (CID)	00	
9F 36	Application Transaction Counter (ATC)	xx xx *	
9F 38	Processing Options Data Object List (PDOL)	9F 66 04 9F 02 06 9F 03 06 9F 1A 02 5F 2A 02 9A 03 9C 01 9F 37 04 9F 35 01 DF 70 01 9F 15 02 DF 71 02 DF 72 02 9F 4E 14	
9F 4D	Transaction Log Entry	0B 04	
9F 71	Card Processing Requirements [DPAS]	10 49 BYTE 1 (Transient Data): b8 - Online PIN NOT required b7 - Signature NOT required b6 - PID Limit NOT reached b5 - Consumer Device CVM performed BYTE 2 (Permanent Data): b8 - Do NOT switch to other interface if unable to process online b7 - Do process online if CDA failed b6 - Do NOT decline/switch other interface if CDA failed b5 - Issuer Update Processing NOT supported b4 - Do process online if card expired b3 - Do NOT decline if card expired b2 - CVM Fallback to Signature NOT allowed b1 - CVM Fallback to 'No CVM' allowed	

* Tag value changes with card usage

2.5.6 Application Tag Data – A0000015230100100000007, EMV, Online

Tag	Element name	Data	v1.x
42	Issuer Identification Number (IIN)	65 75 59	
50	Application Label	44 49 53 43 4F 56 45 52 - 'DISCOVER'	
57	Track 2 Data [Discover]	65 04 84 02 40 43 18 55 D2 10 12 91 00 10 19 21 00 00 0F	
5F 25	Application Effective Date	xx xx xx	
5F 28	Issuer Country Code	08 40 - USA	
5F 2D	Language Preference	65 6E 65 73 66 72 - 'enesfr' (English, Spanish, French)	
5F 34	Application PAN Sequence Number	01	
5F 55	Issuer Country Code (alpha2 format)	55 53 - US	
82	Application Interchange Profile [DPAS CL]	18 00 BYTE 1: b7 - Offline SDA NOT supported b6 - Offline DDA NOT supported b5 - Cardholder verification supported b4 - Terminal risk mgmt to be performed b3 - Issuer authentication NOT supported using External Auth command b1 - Combined DDA / GEN AC NOT supported	
84	Dedicated File (DF) Name	A0 00 00 01 52 30 10 01 00 00 00 07	
87	Application Priority Indicator	02	
9F 07	Application Usage Control	FF C0 BYTE 1: b8 - Domestic cash trans. valid b7 - Int'l cash transactions valid b6 - Domestic goods valid b5 - International goods valid b4 - Domestic services valid b3 - International services valid b2 - ATMs valid b1 - non-ATM terminals valid BYTE 2: b8 - Domestic cashback allowed b7 - International cashback allowed	
9F 08	Application Version Number	00 01	
9F 10	Issuer Application Data [DPAS CL]	xx 15 xx xx xx xx xx xx xx xx *	
9F 26	Application Cryptogram (AC)	xx xx xx xx xx xx xx xx *	
9F 27	Cryptogram Information Data (CID)	80	
9F 36	Application Transaction Counter (ATC)	xx xx *	
9F 38	Processing Options Data Object List (PDOL)	9F 66 04 9F 02 06 9F 03 06 9F 1A 02 5F 2A 02 9A 03 9C 01 9F 37 04 9F 35 01 DF 70 01 9F 15 02 DF 71 02 DF 72 02 9F 4E 14	
9F 4D	Transaction Log Entry	0B 04	

Tag	Element name	Data	v1.x
9F 71	Card Processing Requirements [DPAS]	10 49 BYTE 1 (Transient Data): b8 - Online PIN NOT required b7 - Signature NOT required b6 - PID Limit NOT reached b5 - Consumer Device CVM performed BYTE 2 (Permanent Data): b8 - Do NOT switch to other interface if unable to process online b7 - Do process online if CDA failed b6 - Do NOT decline/switch other interface if CDA failed b5 - Issuer Update Processing NOT supported b4 - Do process online if card expired b3 - Do NOT decline if card expired b2 - CVM Fallback to Signature NOT allowed b1 - CVM Fallback to 'No CVM' allowed	

* Tag value changes with card usage

2.5.7 Application Tag Data - A0000015230100100000007, Magstripe

Tag	Element name	Data	v1.x
42	Issuer Identification Number (IIN)	65 75 59	
50	Application Label	44 49 53 43 4F 56 45 52 - 'DISCOVER'	
56	Track 1 Data [Discover]	42 36 35 31 30 30 30 30 30 30 30 30 30 30 30 31 38 5E 44 6F 6E 61 6C 64 20 45 20 41 76 65 72 69 6C 6C 20 20 20 20 20 20 20 20 20 20 5E 32 31 30 31 32 39 31 30 31 30 30 31 30 30 36 30 30 39 30 32	
57	Track 2 Data [Discover]	65 04 84 02 40 43 18 55 D2 10 12 91 01 00 10 06 00 90 2F	
5F 2D	Language Preference	65 6E 65 73 66 72 - 'enesfr' (English, Spanish, French)	
5F 55	Issuer Country Code (alpha2 format)	55 53 - US	
82	Application Interchange Profile [DPAS CL]	00 00 BYTE 1: b7 - SDA NOT supported b6 - DDA NOT supported b5 - Cardholder verification NOT supported b4 - Terminal risk mgmt NOT to be performed b3 - Issuer authentication NOT supported b1 - CDA NOT supported	
84	Dedicated File (DF) Name	A0 00 00 01 52 30 10 01 00 00 00 07	
87	Application Priority Indicator	02	
94	Application File Locator (AFL)	08 01 01 00	
9F 38	Processing Options Data Object List (PDOL)	9F 66 04 9F 02 06 9F 03 06 9F 1A 02 5F 2A 02 9A 03 9C 01 9F 37 04 9F 35 01 DF 70 01 9F 15 02 DF 71 02 DF 72 02 9F 4E 14	
9F 4D	Transaction Log Entry	0B 04	
9F 7E	DCVV [Discover]	00 00 06	

* Tag value changes with card usage

2.5.8 Application Tag Data – A000001524010, EMV, Offline

Tag	Element name	Data	v1.x
42	Issuer Identification Number (IIN)	65 75 59	
50	Application Label	44 49 53 43 4F 56 45 52 - 'DISCOVER'	
57	Track 2 Data [Discover]	65 04 84 02 40 43 18 55 D2 10 12 91 00 10 19 21 00 00 0F	
5F 25	Application Effective Date	xx xx xx	
5F 28	Issuer Country Code	08 40 - USA	
5F 2D	Language Preference	65 6E 65 73 66 72 - 'enesfr' (English, Spanish, French)	
5F 34	Application PAN Sequence Number	01	
5F 55	Issuer Country Code (alpha2 format)	55 53 - US	
82	Application Interchange Profile [DPAS CL]	18 00 BYTE 1: b7 - Offline SDA NOT supported b6 - Offline DDA NOT supported b5 - Cardholder verification supported b4 - Terminal risk mgmt to be performed b3 - Issuer authentication NOT supported using External Auth command b1 - Combined DDA / GEN AC NOT supported	
84	Dedicated File (DF) Name	A0 00 00 01 52 40 10	
87	Application Priority Indicator	01	
9F 07	Application Usage Control	FF C0 BYTE 1: b8 - Domestic cash trans. valid b7 - Int'l cash transactions valid b6 - Domestic goods valid b5 - International goods valid b4 - Domestic services valid b3 - International services valid b2 - ATMs valid b1 - non-ATM terminals valid BYTE 2: b8 - Domestic cashback allowed b7 - International cashback allowed	
9F 08	Application Version Number	00 01	
9F 10	Issuer Application Data [DPAS CL]	xx 15 xx xx xx xx xx xx xx xx *	
9F 26	Application Cryptogram (AC)	xx xx xx xx xx xx xx xx *	
9F 27	Cryptogram Information Data (CID)	00	
9F 36	Application Transaction Counter (ATC)	xx xx *	
9F 38	Processing Options Data Object List (PDOL)	9F 66 04 9F 02 06 9F 03 06 9F 1A 02 5F 2A 02 9A 03 9C 01 9F 37 04 9F 35 01 DF 70 01 9F 15 02 DF 71 02 DF 72 02 9F 4E 14	
9F 4D	Transaction Log Entry	0B 03	

Tag	Element name	Data	v1.x
9F 71	Card Processing Requirements [DPAS]	10 49 BYTE 1 (Transient Data): b8 - Online PIN NOT required b7 - Signature NOT required b6 - PID Limit NOT reached b5 - Consumer Device CVM performed BYTE 2 (Permanent Data): b8 - Do NOT switch to other interface if unable to process online b7 - Do process online if CDA failed b6 - Do NOT decline/switch other interface if CDA failed b5 - Issuer Update Processing NOT supported b4 - Do process online if card expired b3 - Do NOT decline if card expired b2 - CVM Fallback to Signature NOT allowed b1 - CVM Fallback to 'No CVM' allowed	

* Tag value changes with card usage

2.5.9 Application Tag Data – A000001524010, EMV, Online

Tag	Element name	Data	v1.x
42	Issuer Identification Number (IIN)	65 75 59	
50	Application Label	44 49 53 43 4F 56 45 52 - 'DISCOVER'	
57	Track 2 Data [Discover]	65 04 84 02 40 43 18 55 D2 10 12 91 00 10 19 21 00 00 0F	
5F 25	Application Effective Date	xx xx xx	
5F 28	Issuer Country Code	08 40 - USA	
5F 2D	Language Preference	65 6E 65 73 66 72 - 'enesfr' (English, Spanish, French)	
5F 34	Application PAN Sequence Number	01	
5F 55	Issuer Country Code (alpha2 format)	55 53 - US	
82	Application Interchange Profile [DPAS CL]	18 00 BYTE 1: b7 - Offline SDA NOT supported b6 - Offline DDA NOT supported b5 - Cardholder verification supported b4 - Terminal risk mgmt to be performed b3 - Issuer authentication NOT supported using External Auth command b1 - Combined DDA / GEN AC NOT supported	
84	Dedicated File (DF) Name	A0 00 00 01 52 40 10	
87	Application Priority Indicator	01	
9F 07	Application Usage Control	FF C0 BYTE 1: b8 - Domestic cash trans. valid b7 - Int'l cash transactions valid b6 - Domestic goods valid b5 - International goods valid b4 - Domestic services valid b3 - International services valid b2 - ATMs valid b1 - non-ATM terminals valid BYTE 2: b8 - Domestic cashback allowed b7 - International cashback allowed	
9F 08	Application Version Number	00 01	
9F 10	Issuer Application Data [DPAS CL]	xx 15 xx xx xx xx xx xx xx xx *	

Tag	Element name	Data	v1.x
9F 26	Application Cryptogram (AC)	xx xx xx xx xx xx xx xx *	
9F 27	Cryptogram Information Data (CID)	80	
9F 36	Application Transaction Counter (ATC)	xx xx *	
9F 38	Processing Options Data Object List (PDOL)	9F 66 04 9F 02 06 9F 03 06 9F 1A 02 5F 2A 02 9A 03 9C 01 9F 37 04 9F 35 01 DF 70 01 9F 15 02 DF 71 02 DF 72 02 9F 4E 14	
9F 4D	Transaction Log Entry	0B 03	
9F 71	Card Processing Requirements [DPAS]	10 49 BYTE 1 (Transient Data): b8 - Online PIN NOT required b7 - Signature NOT required b6 - PID Limit NOT reached b5 - Consumer Device CVM performed BYTE 2 (Permanent Data): b8 - Do NOT switch to other interface if unable to process online b7 - Do process online if CDA failed b6 - Do NOT decline/switch other interface if CDA failed b5 - Issuer Update Processing NOT supported b4 - Do process online if card expired b3 - Do NOT decline if card expired b2 - CVM Fallback to Signature NOT allowed b1 - CVM Fallback to 'No CVM' allowed	

* Tag value changes with card usage

2.5.10 Application Tag Data - A000001524010, Magstripe

Tag	Element name	Data	v1.x
42	Issuer Identification Number (IIN)	65 75 59	
50	Application Label	44 49 53 43 4F 56 45 52 - 'DISCOVER'	
56	Track 1 Data [Discover]	42 36 35 31 30 30 30 30 30 30 30 30 30 30 30 31 38 5E 44 6F 6E 61 6C 64 20 45 20 41 76 65 72 69 6C 6C 20 20 20 20 20 20 20 20 20 20 5E 32 31 30 31 32 39 31 30 31 30 30 31 35 39 35 30 31 32 30 32	
57	Track 2 Data [Discover]	65 04 84 02 40 43 18 55 D2 10 12 91 01 00 15 95 01 20 2F	
5F 2D	Language Preference	65 6E 65 73 66 72 - 'enesfr' (English, Spanish, French)	
5F 55	Issuer Country Code (alpha2 format)	55 53 - US	
82	Application Interchange Profile [DPAS CL]	00 00 BYTE 1: b7 - SDA NOT supported b6 - DDA NOT supported b5 - Cardholder verification NOT supported b4 - Terminal risk mgmt NOT to be performed b3 - Issuer authentication NOT supported b1 - CDA NOT supported	
84	Dedicated File (DF) Name	A0 00 00 01 52 40 10	
87	Application Priority Indicator	01	
94	Application File Locator (AFL)	08 01 01 00	

Tag	Element name	Data	v1.x
9F 38	Processing Options Data Object List (PDOL)	9F 66 04 9F 02 06 9F 03 06 9F 1A 02 5F 2A 02 9A 03 9C 01 9F 37 04 9F 35 01 DF 70 01 9F 15 02 DF 71 02 DF 72 02 9F 4E 14	
9F 4D	Transaction Log Entry	0B 03	
9F 7E	DCVV [Discover]	05 09 05	

* Tag value changes with card usage

2.6 Apple Wallet™: Mastercard 1 – Debit (U.S. Maestro); English

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

2.6.1 Cardholder Verification Method – A000000042203, EMV

Cardholder Verification Method List ('0203 1F03')			
CVM	Verification Method	Conditions	If unsuccessful
1	Online PIN	Terminal Supports CVM type	Fail
2	No CVM required	Terminal Supports CVM type	Fail

2.6.2 Application Tag Data - Online

Tag	Element name	Data	v1.x
42	Issuer Identification Number (IIN)	52 04 24	
50	Application Label	44 45 42 49 54 - 'DEBIT'	
57	Track 2 Equivalent Data	52 04 24 27 50 08 69 37 D2 20 92 01 00 00 00 00 00 00 0F	
5A	Application Primary Account Number (PAN)	52 04 24 27 50 08 69 37	
5F 24	Application Expiration Date	22 09 30	
5F 25	Application Effective Date	xx xx xx	
5F 28	Issuer Country Code	08 40 - USA	
5F 2D	Language Preference	65 6E - 'en' (English)	
5F 34	Application PAN Sequence Number	00	
5F 55	Issuer Country Code (alpha2 format)	55 53 - US	
82	Application Interchange Profile [Mobile PayPass]	19 80 BYTE 1: b7 - Offline SDA NOT supported b6 - Offline DDA NOT supported b5 - Cardholder verification supported b4 - Terminal risk mgmt to be performed b3 - Issuer authentication NOT supported using External Auth command b2 - On device Cardholder verification NOT supported b1 - Combined DDA / GEN AC supported BYTE 2: b8 - M/Chip supported	
84	Dedicated File (DF) Name	A0 00 00 00 04 22 03	
87	Application Priority Indicator	02	
8C	Card Risk Management Data Object List 1 (CDOL1)	9F 02 06 9F 03 06 9F 1A 02 95 05 5F 2A 02 9A 03 9C 01 9F 37 04 9F 35 01 9F 45 02 9F 4C 08 9F 34 03 9F 1D 08 9F 15 02 9F 4E 14	
8D	Card Risk Management Data Object List 2 (CDOL2)	91 0A 8A 02 95 05 9F 37 04 9F 4C 08	

Tag	Element name	Data	v1.x
8E	Cardholder Verification Method (CVM) List	00 00 00 00 00 00 00 00 02 03 1F 03	
8F	Certification Authority Public Key Index	F1	
90	Issuer Public Key Certificate	41 D1 76 62 C2 04 2C A6 BA 1E 4C 64 64 E2 A0 EB BB 22 E8 7B 56 E5 86 B0 53 5F 16 6D 1F 76 A2 DA 3C 75 0E 3C FA 3D 48 B1 61 34 9D EA 85 7F FE E9 08 B9 E4 C6 17 24 68 CB E1 B8 60 15 1E 64 80 FA 67 B7 3D 2F 39 10 EF 8C 0D 08 A6 02 96 8F B3 88 07 34 42 D0 44 7F 18 7A ED 18 55 6D 21 DD B3 8E 66 66 C1 98 1D 9B BB F1 D4 0B 58 E5 AA 2F 41 C0 46 9E 0E 2F E3 13 BA 8A E6 4C 77 AD 55 B2 F6 A6 54 B0 75 FF C5 4D 84 2D 1B CA 11 DC 33 BE 30 8F 25 0D 11 81 2E F0 F5 99 1D 88 4B 25 15 F4 6D C9 15 C5 B7 B9 FC 90 3E 75 88 8A E1 EE 45 82 F0 0B	
92	Issuer Public Key Remainder	85 B8 19 0E 32 8A C6 30 E6 24 74 AF 80 7F 06 E6 B7 C0 6C B9 40 EA ED F8 78 30 35 64 38 43 89 30 74 83 5D CB	
94	Application File Locator (AFL)	18 01 01 00 20 01 02 01	
9F 07	Application Usage Control	FF C0 BYTE 1: b8 - Domestic cash trans. valid b7 - Int'l cash transactions valid b6 - Domestic goods valid b5 - International goods valid b4 - Domestic services valid b3 - International services valid b2 - ATMs valid b1 - non-ATM terminals valid BYTE 2: b8 - Domestic cashback allowed b7 - International cashback allowed	
9F 08	Application Version Number	00 02	
9F 0D	Issuer Action Code - Default	B4 50 84 00 00	
9F 0E	Issuer Action Code - Denial	00 00 00 00 00	
9F 0F	Issuer Action Code - Online	B4 70 84 80 00	
9F 10	Issuer Application Data [Mobile PayPass]	xx 14 xx xx xx xx xx xx xx xx xx xx xx xx xx xx xx xx *	
9F 14	Counter 1 Lower Limit [Mastercard]	00	
9F 17	Personal Identification Number (PIN) Try Counter	03	
9F 23	Counter 1 Upper Limit [Mastercard]	00	
9F 27	Cryptogram Information Data (CID)	80	
9F 32	Issuer Public Key Exponent	03	
9F 36	Application Transaction Counter (ATC)	xx xx *	
9F 42	Application Currency Code	08 40 - USD	

Tag	Element name	Data	v1.x
9F 46	ICC Public Key Certificate	05 6D B9 22 92 BC 35 6C BD 0B 49 06 99 9C 16 0A AC 8B 98 4F 02 65 00 EB F2 D9 40 88 DB 9A 8C C3 97 36 76 D4 0D 31 3F D7 11 3C 56 E0 DA 27 F9 A5 1B 01 A3 EB DE 29 78 EF B1 F8 27 8B 37 79 F9 50 DF 3A 3A FF CB 79 AB 05 52 AF EC B6 D8 F6 3A 6D 40 6E 43 D7 07 6F 50 38 47 E3 25 A2 FB 8C BF C1 71 98 BB CC 66 BA 49 F7 30 ED DF 57 23 91 37 50 0C 9D C8 40 AA EA 5B C1 CA 66 7B 07 19 BD F0 63 3A 52 F1 75 04 E0 97 64 FB 6C 49 42 6F 71 99 97 5E E9 A0 58 1E 81 8E B2 AA 2A BF 31 B9 68 E8 83 41 0C 88 66 C7 DC 02 D9 EC 82 31 99 75 8C 78 71	
9F 47	ICC Public Key Exponent	03	
9F 48	ICC Public Key Remainder		
9F 4A	Static Data Authentication Tag List	82	
9F 4D	Transaction Log Entry	0B 0A	
9F 4F	Transaction Log Format	9F 27 01 9F 02 06 5F 2A 02 9A 03 9F 36 02 9F 52 06	
9F 7E	Application Life Cycle Data / Mobile Support Indicator [Mobile PayPass]	00 00	
C6	Counters [Mastercard]	00 01 00 00 00 00 00 00 00 00	
C7	CDOL1 Related Data Length [Mastercard]	49	
C8	CRM Country Code [Mastercard]	08 40 – USA	
C9	Accumulator 1 Currency Code [Mastercard]	08 40 - USD	
CA	Accumulator 1 Lower Limit [Mastercard]	00 00 00 00 00 00	
CB	Accumulator 1 Upper Limit [Mastercard]	00 00 00 00 00 00	
D1	Accumulator 1 Currency Conversion Table [Mastercard]	08 40 00 01 00 08 40 00 01 00 08 40 00 01 00 08 40 00 01 00 08 40 00 01 00	
D3	Additional Check Table [Mastercard]	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00	
D5	Application Control (Management) [Mobile PayPass]	06 18 42 00	
D7	Application Control (Payment) [Mobile PayPass]	02 00 40 00	
DF 02	Security Limits Status [Mastercard]	00	

* Tag value changes with card usage

2.7 Apple Wallet™: Mastercard 2 – English

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

2.7.1 Cardholder Verification Method – A000000041010, EMV & Magstripe

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

2.7.2 Application Tag Data - Online

Tag	Element name	Data	v1.x
50	Application Label	4D 41 53 54 45 52 43 41 52 44 - 'MASTERCARD'	
56	Track 1 Equivalent Data [Mastercard]	42 35 32 30 34 32 34 30 32 35 30 33 37 32 37 31 36 5E 20 2F 5E 32 32 30 39 32 30 31 30	
57	Track 2 Equivalent Data	52 04 24 02 50 37 27 16 D2 20 92 01 00 00 00 00 00 00 0F	
5A	Application Primary Account Number (PAN)	52 04 24 02 50 37 27 16	
5F 24	Application Expiration Date	22 09 30	
5F 25	Application Effective Date	xx xx xx	
5F 28	Issuer Country Code	08 40 - USA	
5F 2D	Language Preference	65 6E - 'en' (English)	
5F 34	Application PAN Sequence Number	00	
82	Application Interchange Profile [Mobile PayPass]	1B 80 BYTE 1: b7 - Offline SDA NOT supported b6 - Offline DDA NOT supported b5 - Cardholder verification supported b4 - Terminal risk mgmt to be performed b3 - Issuer authentication NOT supported using External Auth command b2 - On device Cardholder verification supported b1 - Combined DDA / GEN AC supported BYTE 2: b8 - M/Chip supported	
84	Dedicated File (DF) Name	A0 00 00 00 04 10 10	
87	Application Priority Indicator	01	
8C	Card Risk Management Data Object List 1 (CDOL1)	9F 02 06 9F 03 06 9F 1A 02 95 05 5F 2A 02 9A 03 9C 01 9F 37 04 9F 35 01 9F 45 02 9F 4C 08 9F 34 03 9F 1D 08 9F 15 02 9F 4E 14	
8D	Card Risk Management Data Object List 2 (CDOL2)	91 0A 8A 02 95 05 9F 37 04 9F 4C 08	
8E	Cardholder Verification Method (CVM) List	00 00 00 00 00 00 00 00 42 01 1E 03 1F 03	
8F	Certification Authority Public Key Index	F1	

Tag	Element name	Data	v1.x	
90	Issuer Public Key Certificate	51 5E FB BB 28 AF 98 CB 32 D5 AB 7F E3 EB 35 51 38 5F 1E E8 58 D9 D7 77 8E A9 DE 2D 1C 25 03 9B DD A8 9B 4F 57 E2 23 4A 9A 76 C6 CA 8F 46 55 32 09 16 9C 38 77 B5 63 D7 8D 94 50 96 28 A6 E3 62 E0 64 BE C1 16 74 AD 4F C9 11 2C 7A DA 77 5F 8D 7F D1 C2 19 5B 1C 0F 55 BD 47 D5 CB 57 50 8F 3E 0E 74 40 33 BA A0 F6 25 73 8D BB 6F CC BB 12 EC 36 95 AA 34 69 8C 27 D0 D8 3D 8E DE A5 C1 24 6B EC 77 47 C3 73 7D 9B E0 93 29 36 E4 D5 37 7B 45 59 AD 09 2D FB 43 5D B9 74 DB 83 25 25 02 EA AF 04 59 65 40 A2 17 73 E9 DB AB EC FE 26 7C 62 63		
92	Issuer Public Key Remainder	40 F4 7E 61 18 0B 79 56 B4 5F 9A 6E F0 29 E7 80 05 53 D9 23 9C 69 6E 41 AF 01 3A E2 A0 A8 BA 71 23 68 73 B3		
94	Application File Locator (AFL)	08 01 01 00 10 01 03 01		
9F 07	Application Usage Control	3F 00 BYTE 1: b8 - Domestic cash trans. NOT valid b7 - Int'l cash transactions NOT valid b6 - Domestic goods valid b5 - International goods valid b4 - Domestic services valid b3 - International services valid b2 - ATMs valid b1 - non-ATM terminals valid BYTE 2: b8 - Domestic cashback NOT allowed b7 - International cashback NOT allowed		
9F 08	Application Version Number	00 02		
9F 0D	Issuer Action Code - Default	B4 50 84 00 00		
9F 0E	Issuer Action Code - Denial	00 00 00 00 00		
9F 0F	Issuer Action Code - Online	B4 70 84 80 00		
9F 10	Issuer Application Data [Mobile PayPass]	xx 14 xx xx xx xx xx xx xx xx xx xx xx xx xx xx xx xx *		
9F 14	Counter 1 Lower Limit [Mastercard]	00		
9F 17	Personal Identification Number (PIN) Try Counter	03		
9F 23	Counter 1 Upper Limit [Mastercard]	00		
9F 27	Cryptogram Information Data (CID)	80		
9F 32	Issuer Public Key Exponent	03		
9F 36	Application Transaction Counter (ATC)	xx xx *		
9F 38	Processing Options Data Object List (PDOL)	9F 1D 08 9F 1A 02		
9F 42	Application Currency Code	08 40 - USD		

Tag	Element name	Data	v1.x
9F 46	ICC Public Key Certificate	CB C4 4D 3D 7D 9A 9F C1 F5 29 2A 02 34 74 31 08 0C 33 89 5A 34 30 5C E1 CA F7 F7 90 D4 44 F3 E1 BE 82 95 4A 3B 68 43 5B 88 3B BD DC F5 BD D2 38 78 95 F9 A0 DE D7 F9 2C 37 42 27 08 2C D3 A9 55 7D E3 3B 35 36 5C 93 85 79 9D 3C 08 B5 2A 2A 31 68 A0 39 DA C9 99 5F 6E B8 2C 1E F8 76 DD AC C6 58 F7 05 C2 C6 9B 5D EB F4 4A 68 1A C5 EE 53 F8 F1 7D A3 80 FD A4 D4 33 6D 80 7B 43 12 D9 1A CE 2C F8 5A DC 21 B8 07 07 F2 14 B1 1B 34 69 22 8E BA C8 4D F5 BF 50 D5 59 AF 51 BB 20 A5 07 DC 69 15 A1 5A 7B E4 D0 EC C7 76 4B C8 E4 6D 81 2E C5	
9F 47	ICC Public Key Exponent	03	
9F 48	ICC Public Key Remainder		
9F 4A	Static Data Authentication Tag List	82	
9F 4D	Transaction Log Entry	0B 0A	
9F 4F	Transaction Log Format	9F 27 01 9F 02 06 5F 2A 02 9A 03 9F 36 02 9F 52 06	
9F 60	CVC3track1 [Mastercard]	B2 9B	
9F 61	CVC3track2 [Mastercard]	F4 7E	
9F 62	Track 1 Bitmap for CVC3 (PCVC3 Track 1) [Mastercard]	00 00 00 07 00 00	
9F 63	Track 1 Bitmap for UN and ATC (PUNATC Track 1) [Mastercard]	00 00 00 78 F0 00	
9F 64	Track 1 Number of ATC Digits (NATC Track 1) [Mastercard]	04	
9F 65	Track 2 Bitmap for CVC3 (PCVC3 Track 2) [Mastercard]	00 E0	
9F 66	Track 2 Bitmap for UN and ATC (PUNATC Track 2) [Mastercard]	0F 1E	
9F 67	Track 2 Number of ATC Digits (NATC Track 2) [Mastercard]	04	
9F 69	UDOL [PayPass]	9F 6A 04 9F 7E 01 9F 02 06 5F 2A 02 9F 1A 02	
9F 6B	Track 2 Equivalent Data [Mastercard]	52 04 24 02 50 37 27 16 D2 20 92 01 00 00 00 00 00 00 0F	
9F 6C	Application Version [Mastercard]	00 01	
9F 7E	Application Life Cycle Data / Mobile Support Indicator [Mobile PayPass]	00 00	
C6	Counters [Mastercard]	00 02 00 00 00 00 00 00 00 00	
C7	CDOL1 Related Data Length [Mastercard]	49	
C8	CRM Country Code [Mastercard]	08 40 – USA	
C9	Accumulator 1 Currency Code [Mastercard]	08 40 - USD	
CA	Accumulator 1 Lower Limit [Mastercard]	00 00 00 00 00 00	
CB	Accumulator 1 Upper Limit [Mastercard]	00 00 00 00 00 00	

Tag	Element name	Data	v1.x
D1	Accumulator 1 Currency Conversion Table [Mastercard]	08 40 00 01 00 08 40 00 01 00 08 40 00 01 00 08 40 00 01 00 08 40 00 01 00	
D3	Additional Check Table [Mastercard]	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00	
D5	Application Control (Management) [Mobile PayPass]	06 18 42 00	
D7	Application Control (Payment) [Mobile PayPass]	02 00 60 00	
DF 02	Security Limits Status [Mastercard]	00	
DF 4B	POS Cardholder Interaction Information [Mobile PayPass]	00 10 00	

* Tag value changes with card usage

2.8 Apple Wallet™: Visa 1 – Debit (Visa Electron), Brazil

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

2.8.1 Application Tag Data – A0000000032010, EMV, Online

Tag	Element name	Data	v1.x
50	Application Label	56 49 53 41 20 44 45 42 49 54 4F - 'VISA DEBITO'	
57	Track 2 Equivalent Data	48 17 49 91 30 29 05 95 D2 31 22 26 00 00 03 14 99 99 3F	
5F 28	Issuer Country Code	00 76 - BRA	
5F 34	Application PAN Sequence Number	00	
82	Application Interchange Profile [VCPS]	00 40 BYTE 1: b7 - Offline SDA (online Auth) NOT supported b6 - Offline DDA NOT supported BYTE 2: b8 - MSD NOT supported b7 - Is Mobile handset b6 - Is Contactless transaction	
84	Dedicated File (DF) Name	A0 00 00 00 03 20 10	
94	Application File Locator (AFL)	18 01 01 00	
9F 07	Application Usage Control [VCPS]	C0 80 BYTE 1: b8 - Domestic cash trans. valid b7 - Int'l cash transactions valid b6 - Domestic goods NOT valid b5 - International goods NOT valid b4 - Domestic services NOT valid b3 - International services NOT valid b2 - ATMs NOT valid b1 - non-ATM terminals NOT valid BYTE 2: b8 - Domestic cashback allowed b7 - International cashback NOT allowed	
9F 10	Issuer Application Data [VCPS 2.2]	xx xx 02 xx *	
9F 19	Token Requester ID (TRID)	04 00 10 03 02 73	
9F 24	Payment Account Reference (PAR)	56 30 30 31 30 30 31 33 30 31 36 31 37 33 31 30 36 36 39 33 30 33 37 34 38 39 33 30 33	

Tag	Element name	Data	v1.x
9F 26	Application Cryptogram (AC)	xx xx xx xx xx xx xx xx *	
9F 27	Cryptogram Information Data (CID)	00	
9F 36	Application Transaction Counter (ATC)	xx xx *	
9F 38	Processing Options Data Object List (PDOL)	9F 66 04 9F 02 06 9F 03 06 9F 1A 02 95 05 5F 2A 02 9A 03 9C 01 9F 37 04 9F 4E 14	
9F 5A	Application Program Identifier	52 09 86 00 76 20	
9F 6C	Card Transaction Qualifiers [qVSDC VCPS 2.2]	00 80 BYTE 1: b8 - Online PIN NOT required b7 - Signature NOT required b6 - Do NOT go online if Offline Data Authentication fails and Reader is online capable b5 - Do NOT switch interface if Offline Data Authentication fails and Reader supports contact chip b4 - Do NOT go Online if Application Expired b3 - Do NOT switch interface for Cash Transactions b2 - Do NOT switch interface for Cashback Transactions b1 - Is valid for contactless ATM transactions BYTE 2: b8 - Consumer Device CVM performed b7 - Card does NOT Support Issuer Update Processing at POS	
9F 6E	Form Factor Indicator [qVSDC]	23 8A 00 00	

* Tag value changes with card usage

2.9 Apple Wallet™: Visa 2 – Taiwan

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

2.9.1 Application Tag Data – A000000031010, EMV, Online

Tag	Element name	Data	v1.x
57	Track 2 Equivalent Data	48 18 52 88 40 05 30 31 D2 31 22 01 00 00 03 54 99 99 3F	
5F 28	Issuer Country Code	01 58 - TWN	
5F 34	Application PAN Sequence Number	00	
82	Application Interchange Profile [VCPS]	00 40 BYTE 1: b7 - Offline SDA (online Auth) NOT supported b6 - Offline DDA NOT supported BYTE 2: b8 - MSD NOT supported b7 - Is Mobile handset b6 - Is Contactless transaction	
84	Dedicated File (DF) Name	A0 00 00 00 03 10 10	
94	Application File Locator (AFL)	18 01 01 00	

Tag	Element name	Data	v1.x
9F 07	Application Usage Control [VCPS]	c0 00 BYTE 1: b8 - Domestic cash trans. valid b7 - Int'l cash transactions valid b6 - Domestic goods NOT valid b5 - International goods NOT valid b4 - Domestic services NOT valid b3 - International services NOT valid b2 - ATMs NOT valid b1 - non-ATM terminals NOT valid BYTE 2: b8 - Domestic cashback NOT allowed b7 - International cashback NOT allowed	
9F 10	Issuer Application Data [VCPS 2.2]	xx xx 02 xx *	
9F 19	Token Requester ID (TRID)	04 00 10 03 02 73	
9F 24	Payment Account Reference (PAR)	56 30 30 31 30 30 31 33 30 31 36 31 37 33 31 30 32 33 39 37 39 36 35 39 35 37 33 35 35	
9F 26	Application Cryptogram (AC)	xx xx xx xx xx xx xx xx *	
9F 27	Cryptogram Information Data (CID)	00	
9F 36	Application Transaction Counter (ATC)	xx xx *	
9F 38	Processing Options Data Object List (PDOL)	9F 66 04 9F 02 06 9F 03 06 9F 1A 02 95 05 5F 2A 02 9A 03 9C 01 9F 37 04 9F 4E 14	
9F 5A	Application Program Identifier	40 09 01 01 58	
9F 6C	Card Transaction Qualifiers [qVSDC VCPS 2.2]	00 80 BYTE 1: b8 - Online PIN NOT required b7 - Signature NOT required b6 - Do NOT go online if Offline Data Authentication fails and Reader is online capable b5 - Do NOT switch interface if Offline Data Authentication fails and Reader supports contact chip b4 - Do NOT go Online if Application Expired b3 - Do NOT switch interface for Cash Transactions b2 - Do NOT switch interface for Cashback Transactions b1 - Is valid for contactless ATM transactions BYTE 2: b8 - Consumer Device CVM performed b7 - Card does NOT Support Issuer Update Processing at POS	
9F 6E	Form Factor Indicator [qVSDC]	23 88 00 00	

* Tag value changes with card usage

Chapter 3 - Touchless DI Test Card Collection - Profiles

This collection of cards contains 10 of our most popular dual interface test cards, allowing organizations to test EMV contact and contactless credit and debit card transactions for all major payment brands accepted in the U.S.



Each of the cards is a duplicate of another found in a different set from B2.

The B2 sets from which these cards are collected are: UAT USA EMV™ Test Card Set; USA Debit EMV™ Test Card Set; UAT Flash EMV™ Test Card Set, JCB Dual Interface EMV™ Test Card Set; UnionPay QuickPass Test Card Set *.

* UnionPay deemed the QPC1 test card (found in this Collection) was no longer required for certification. It does remain a valid test card for the UnionPay brand.

	Test Card 01	Test Card 06	Test Card 12
Original Card Set	UAT-USA	UAT-USA	UAT-USA
Brand	Visa	Mastercard	American Express
Type	Credit	Credit	Credit
AID	A0000000031010	A0000000041010	A000000025010402
PAN	4761 7390 0101 0119	5413 3300 8960 4111	3742 450017 51006
Expiry Date	12/2022	12/2022	12/2024
Service Code	201	201	201
Interface	Contact, Contactless, MSR	Contact, Contactless, MSR	Contact, Contactless, MSR
CVM	See card definition	See card definition	See card definition
Approval Amount	\$10.00	\$20.00	\$68.00
Issuer Country Code	840 - USA	840 - USA	840 - USA
Application Currency Code	840 - USD	840 - USD	840 - USD
Language	'en' - English	'en' - English	'en' - English
Card Version	v6.x	v7.x	v7.x

	Test Card 15	Test Card 01	Test Card 05
Original Card Set	UAT-USA	USA-Debit	USA-Debit
Brand	Discover	Visa	Mastercard
Type	Credit	Global / U.S. Common	Global / Common
AID	A0000001523010	A0000000031010 A0000000980840	A0000000041010 A0000000042203
PAN	6510 0000 0000 0133	4761 7390 0101 0135	5413 3300 8909 9130
Expiry Date	12/2023	12/2022	12/2022
Service Code	201	201	201
Interface	Contact, Contactless, MSR	Contact, Contactless, MSR	Contact, Contactless, MSR
CVM	See card definition	See card definition	See card definition
Approval Amount	\$79.00	\$10.00	\$20.00
Issuer Country Code	840 - USA	840 - USA	840 - USA
Application Currency Code	840 - USD	840 - USD	840 - USD
Language	'en' - English	'en' - English	'en' - English
Card Version	v9.x	v4.x	v4.x

	Test Card 12	Test Card 01
Original Card Set	USA-Debit	UAT-Flash
Brand	Discover	Interac
AID	A0000001524010 A0000001523010	A0000002771010
PAN	6011 9737 0000 0005	1967 3028 3901 8644
Expiry Date	12/2023	12/2022
Service Code	201	220
Interface	Contactless, Contact, MSR	Contactless, Contact, MSR
CVM	See card definition	See card definition
Approval Amount	\$79.00	\$10.00
Issuer Country Code	840 - USA	124 - CAN
Application Currency Code	840 - USD	124 -CAD
Language	'enesfr' (English, Spanish, French)	'enfr' - English, French
Card Version	v5.x	v3.x

	Test Card A	Test Card QPC1
Original Card Set	JCB-Dual Interface	UnionPay-QP
Brand	JCB	UICS Credit
AID	A0000000651010	A000000333010102
PAN	3569 9900 1008 2211	6210 9468 88053
Expiry Date	12/2021	10/2030
Service Code	-	201
Interface	Contact, Contactless, MSR	Contact, Contactless, MSR
CVM	See card definition	See card definition
Approval Amount	\$10.00	\$10.00
Issuer Country Code	392 - JPN	156 - CHN
Application Currency Code	392 - JPY	840 - USD
Language	'jaen' - Japanese, English	'zh' - Chinese
Card Version	v1.x	v1.x

3.1 UAT-USA Test Card 01 - Visa, DI, Credit, English, USA, USD

3.1.1 Cardholder Verification Method List

Cardholder Verification Method List ('4203 5E03 1F00')			
CVM	Verification Method	Conditions	If unsuccessful
1	Online PIN	Terminal supports CVM type	Next CVM
2	Signature (paper)	Terminal supports CVM type	Next CVM
3	No CVM required	Always	Fail

3.2 UAT-USA Test Card 06 - Mastercard, DI, Credit, English, USA, USD

3.2.1 Cardholder Verification Method List

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

3.2.2 Cardholder Verification Method List (CL)

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

3.3 UAT-USA Test Card 12 - American Express, DI, Credit, English, USA, USD**3.3.1 Cardholder Verification Method List**

Cardholder Verification Method List ('4201 4203 5E03 5F03')			
CVM	Verification Method	Conditions	If unsuccessful
1	Online PIN	Unattended Cash	Next CVM
2	Online PIN	Terminal supports CVM type	Next CVM
3	Signature (paper)	Terminal supports CVM type	Next CVM
4	No CVM required	Terminal supports CVM type	Next CVM

3.3.2 Cardholder Verification Method List (CL)

Cardholder Verification Method List ('4201 5E03 1F02')			
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	Not Unattended Cash, Manual Cash or Cashback	Fail

3.4 UAT-USA Test Card 15 - Discover, Credit, English, USA, USD**3.4.1 Cardholder Verification Method List**

Cardholder Verification Method List ('4203 5E03 1F03')			
CVM	Verification Method	Conditions	If unsuccessful
1	Online PIN	Terminal supports CVM type	Next CVM
2	Signature (paper)	Terminal supports CVM type	Next CVM
3	No CVM required	Terminal supports CVM type	Fail

3.4.2 Cardholder Verification Method List (CL)

Cardholder Verification Method List ('4203 5E03 1F03')			
CVM	Verification Method	Conditions	If unsuccessful
1	Online PIN	Terminal supports CVM type	Next CVM
2	Signature (paper)	Terminal supports CVM type	Next CVM
3	No CVM required	Terminal supports CVM type	Fail

3.5 USA-Debit Test Card 01 - Visa, DI, 2-AID (Visa Debit+US Debit), English, USA, USD

3.5.1 Contact: CVM List - Visa Debit, AID A000000031010

Cardholder Verification Method List ('0201 4204 1E04 0205 5E00 4200 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	Online PIN	Purchase with Cashback	Fail
5	Signature (paper)	Always	Next CVM
6	Online PIN	Always	Next CVM
7	No CVM required	Always	Fail
8	Fail CVM Processing	Always	Fail

3.5.2 Contact: CVM List - U.S. Debit, AID A0000000980840

Cardholder Verification Method List ('0201 0205 4200 1F00 0000')			
CVM	Verification Method	Conditions	If unsuccessful
1	Online PIN	Unattended Cash	Fail
2	Online PIN	Purchase with Cashback	Fail
3	Online PIN	Always	Next CVM
4	No CVM required	Always	Fail
5	Fail CVM Processing	Always	Fail

3.6 USA Debit Test Card 05 - Mastercard, DI, 2-AID (Mastercard Debit+US Debit), English, USA, USD

3.6.1 Contact: CVM List - Mastercard debit, AID A000000041010

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	Next CVM
4	Online PIN	Terminal supports CVM type	Next CVM
5	No CVM required	Always	Fail

3.6.2 Contact: CVM List - U.S. Maestro, AID A000000042203

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

3.6.3 Contactless: CVM List - Mastercard debit, AID A000000041010

Cardholder Verification Method List ('0205 5E03 0203 1F03 0000')			
--	--	--	--

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

3.6.4 Contactless: CVM List - U.S. Maestro, AID A000000042203

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

3.7 USA-Debit Test Card 12 - Discover, DI, 2-AID (U.S. Debit, Discover), English/Spanish/French, USA, USD

3.7.1 Contact: CVM List - Discover U.S. Debit, AID A0000001524010

Cardholder Verification Method List ('0203 1F03')			
CVM	Verification Method	Conditions	If unsuccessful
1	Online PIN	Terminal supports CVM Type	Fail
2	No CVM required	Terminal supports CVM Type	Fail

3.7.2 Contact: CVM List - Discover Debit, AID A0000001523010

Cardholder Verification Method List ('0201 0203 1E03 1F03')			
CVM	Verification Method	Conditions	If unsuccessful
1	Online PIN	Unattended Cash	Next CVM
2	Online PIN	Terminal supports CVM type	Fail
3	Signature (paper)	Terminal supports CVM type	Fail
4	No CVM required	Terminal supports CVM type	Fail

3.7.3 Contactless: CVM List - Discover U.S. Debit, AID A0000001524010

Cardholder Verification Method List ('0203 1F03')			
CVM	Verification Method	Conditions	If unsuccessful
1	Online PIN	Terminal supports CVM type	Fail
2	No CVM required	Terminal supports CVM type	Fail

3.8 UAT-Flash Test Card 01 - Interac, DI, 1-AID(Interac), English/French, CAN, CAD

3.8.1 Contact Interface: CVM List - Interac, AID A0000002771010

Cardholder Verification Method List ('0103 0203')			
CVM	Verification Method	Conditions	If unsuccessful
1	Offline Plaintext PIN	Terminal supports CVM type	Fail
2	Online PIN	Terminal supports CVM type	Fail

3.8.2 Contactless Interface: CVM List - Interac Flash, AID A0000002771010

Cardholder Verification Method List ('0203 1F03')			
CVM	Verification Method	Conditions	If unsuccessful
1	Online PIN	Terminal supports CVM type	Fail
2	No CVM required	Terminal supports CVM type	Fail

3.9 JCB-DI Test Card A - JCB, DI, Japanese/English, JPN, JPY, CTLS EMV

3.9.1 Contact Interface: CVM List - AID A0000000651010

Cardholder Verification Method List ('4403 4103 1E03 0203 1F00')			
CVM	Verification Method	Conditions	If unsuccessful
1	Offline PIN	Terminal supports CVM type	Next CVM
2	Offline Plaintext PIN	Terminal supports CVM type	Next CVM
3	Signature (paper)	Terminal supports CVM type	Fail
4	Online PIN	Terminal supports CVM type	Fail
5	No CVM required	Always	Fail

3.9.2 Contactless Interface: CVM List - AID A0000000651010

Cardholder Verification Method List ('1E03 0203 1F00')			
CVM	Verification Method	Conditions	If unsuccessful
1	Signature (paper)	Terminal supports CVM type	Fail
2	Online PIN	Terminal supports CVM type	Fail
3	No CVM required	Always	Fail

3.10 UnionPay-QP Test Card QPC1 - DI, Credit, 1-AID, Chinese, CHN, USD**3.10.1 Contact: CVM List - AID A00000333010102, EMV, 1st GAC ARQC**

Cardholder Verification Method List ('4203 1E03 1F00')			
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	Always	Fail

3.10.2 Contact: CVM List - AID A00000333010102, Low-Value

Cardholder Verification Method List ('4203 1E03 1F00')			
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	Always	Fail

3.10.3 Contact: CVM List - AID A00000333010102, Dual-Currency, Low Value

Cardholder Verification Method List ('4203 1E03 1F00')			
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	Always	Fail

3.10.4 Contactless: CVM List - AID A00000333010102, Debit/Credit

Cardholder Verification Method List ('4203 1E03 1F00')			
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	Always	Fail

Chapter 4 - ASCII Character Conversion Chart

Dec	Bin	Hex	Char	Dec	Bin	Hex	Char	Dec	Bin	Hex	Char
00	00000000	00	NUL	44	00101100	2C	,	88	01011000	58	X
01	00000001	01	SOH	45	00101101	2D	-	89	01011001	59	Y
02	00000010	02	STX	46	00101110	2E	.	90	01011010	5A	Z
03	00000011	03	ETX	47	00101111	2F	/	91	01011011	5B	[
04	00000100	04	EOT	48	00110000	30	0	92	01011100	5C	\
05	00000101	05	ENQ	49	00110001	31	1	93	01011101	5D]
06	00000110	06	ACK	50	00110010	32	2	94	01011110	5E	^
07	00000111	07	BEL	51	00110011	33	3	95	01011111	5F	_
08	00001000	08	BS	52	00110100	34	4	96	01100000	60	`
09	00001001	09	HT	53	00110101	35	5	97	01100001	61	a
10	00001010	0A	LF	54	00110110	36	6	98	01100010	62	b
11	00001011	0B	VT	55	00110111	37	7	99	01100011	63	c
12	00001100	0C	FF	56	00111000	38	8	100	01100100	64	d
13	00001101	0D	CR	57	00111001	39	9	101	01100101	65	e
14	00001110	0E	SO	58	00111010	3A	:	102	01100110	66	f
15	00001111	0F	SI	59	00111011	3B	;	103	01100111	67	g
16	00010000	10	DLE	60	00111100	3C	<	104	01101000	68	h
17	00010001	11	DC1	61	00111101	3D	=	105	01101001	69	i
18	00010010	12	DC2	62	00111110	3E	>	106	01101010	6A	j
19	00010011	13	DC3	63	00111111	3F	?	107	01101011	6B	k
20	00010100	14	DC4	64	01000000	40	@	108	01101100	6C	l
21	00010101	15	NAK	65	01000001	41	A	109	01101101	6D	m
22	00010110	16	SYM	66	01000010	42	B	110	01101110	6E	n
23	00010111	17	ETB	67	01000011	43	C	111	01101111	6F	o
24	00011000	18	CAN	68	01000100	44	D	112	01110000	70	p
25	00011001	19	EM	69	01000101	45	E	113	01110001	71	q
26	00011010	1A	SUB	70	01000110	46	F	114	01110010	72	r
27	00011011	1B	ESC	71	01000111	47	G	115	01110011	73	s
28	00011100	1C	FS	72	01001000	48	H	116	01110100	74	t
29	00011101	1D	GS	73	01001001	49	I	117	01110101	75	u
30	00011110	1E	RS	74	01001010	4A	J	118	01110110	76	v
31	00011111	1F	US	75	01001011	4B	K	119	01110111	77	w
32	00100000	20	SP	76	01001100	4C	L	120	01111000	78	x
33	00100001	21	!	77	01001101	4D	M	121	01111001	79	y
34	00100010	22	"	78	01001110	4E	N	122	01111010	7A	z
35	00100011	23	#	79	01001111	4F	O	123	01111011	7B	{
36	00100100	24	\$	80	01010000	50	P	124	01111100	7C	
37	00100101	25	%	81	01010001	51	Q	125	01111101	7D	}
38	00100110	26	&	82	01010010	52	R	126	01111110	7E	~
39	00100111	27	'	83	01010011	53	S	127	01111111	7F	DEL
40	00101000	28	(84	01010100	54	T				
41	00101001	29)	85	01010101	55	U				
42	00101010	2A	*	86	01010110	56	V				
43	00101011	2B	+	87	01010111	57	W				