



evertec®

**ATH Prima  
EMV™ Test Card Set**

**Version 1.00**

**May 2019**

**Powered by B2»**

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## Revision History

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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 \*\*\***

## Chapter 1 - ATH Prima EMV Test Card Set Profiles

This Evertec ATH Prima EMV Test Card Set contains 10 cards with at least one card from each of the following card brands.



	Test Card 01	Test Card 02	Test Card 03
<b>Brand</b>	Visa	Visa	Mastercard
<b>Type</b>	Credit	Credit	Credit
<b>AID(s)</b>	A0000000031010	A0000000031010	-
<b>PAN</b>	4761 7390 0101 0036	4761 7390 0101 0010	5413 3300 8902 0029
<b>Expiry Date</b>	12/2022	12/2022	12/2025
<b>Service Code</b>	201	201	-
<b>Interface</b>	Contact, MSR	Contact, MSR	MSR
<b>CVM</b>	<a href="#">See card definition</a>	<a href="#">See card definition</a>	<a href="#">See card definition</a>
<b>Approval Amount</b>	\$10.00	\$10.00	\$20.00
<b>Issuer Country Code</b>	630 – Puerto Rico	630 – Puerto Rico	-
<b>Application Currency Code</b>	840 – USD	840 – USD	-
<b>Language(s)</b>	'enes' – English, Spanish	'enes' – English, Spanish	'enes' – English, Spanish
<b>Card Version</b>	v2.0	v2.0	v2.0

	Test Card 04	Test Card 05	Test Card 06
Brand	Mastercard	Maestro	Mastercard
Type	Credit	Credit	Credit
AID(s)	A000000004101001 A000000004101002	A0000000043060	A0000000041010
PAN	5457 2100 8902 0012 5457 2100 8902 0045	67999 98900 00020 0044	5413 3300 8902 0010
Expiry Date	12/2025	12/2025	12/2025
Service Code	201	220	601
Interface	Contact, MSR	Contact, MSR	Contact, MSR
CVM	<a href="#">See card definition</a>	<a href="#">See card definition</a>	<a href="#">See card definition</a>
Approval Amount	\$20.00	\$20.00	\$20.00
Issuer Country Code	630 – Puerto Rico	630 – Puerto Rico	630 – Puerto Rico
Application Currency Code	840 – USD	840 – USD	840 – USD
Language(s)	'enes' – English, Spanish	'enes' – English, Spanish	'enes' – English, Spanish
Card Version	v2.0	v2.0	v2.0

	Test Card 07	Test Card 08	Test Card 09
Brand	American Express	American Express	Diners
Type	Credit	Credit	Credit
AID(s)	A000000025010801 A000000000291010	A000000025010801 A000000000291010	A00000015230100 00000000000000001 A00000015230100 00000000000000002
PAN	3411 115972 42513	3742 450017 51006	6510 0000 0000 0224
Expiry Date	01/2024	01/2024	12/2023
Service Code	201	201	201
Interface	Contact, MSR	Contact, MSR	Contact, Contactless, MSR
CVM	<a href="#">See card definition</a>	<a href="#">See card definition</a>	<a href="#">See card definition</a>
Approval Amount	\$1.03	\$1.03	\$79.00
Issuer Country Code	630 – Puerto Rico	630 – Puerto Rico	840 - USA
Application Currency Code	840 – USD	840 – USD	840 – USD
Language(s)	'enes' – English	'enes' – English	'enesfr' – English, Spanish, French
Card Version	v2.0	v2.0	v2.0

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	Test Card 10
Brand	Discover
Type	Credit
AID(s)	A0000001523010
PAN	6510 0000 0000 0208
Expiry Date	12/2023
Service Code	201
Interface	Contact, Contactless, MSR
CVM	<a href="#">See card definition</a>
Approval Amount	\$79.00
Issuer Country Code	630 – Puerto Rico
Application Currency Code	840 – USD
Language(s)	'en' – English
Card Version	v2.0



## 1.1 Test Card 01 – Visa, CO, Eng/Spa, PRO, USD

A Contact-only credit card with Issuer Country Code of 'Puerto Rico' and Currency Code of 'USD'.

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

### 1.1.1 Cardholder Verification Method List (Contact) - AID A0000000031010

Cardholder Verification Method List ('0403 0103 1E03 0203 1F00')			
CVM	Verification Method	Conditions	If unsuccessful
1	Offline PIN	Terminal supports CVM type	Fail
2	Offline Plaintext PIN	Terminal supports CVM type	Fail
3	Signature (paper)	Terminal supports CVM type	Fail
4	Online PIN	Terminal supports CVM type	Fail
5	No CVM required	Always	Fail

### 1.1.2 Application Tag data (Contact)

\* Tag value changes with card usage

Tag	Element name	Data	Card v2.0
50	Application Label	56 49 53 41 20 43 52 45 44 49 54 - 'VISA CREDIT'	
57	Track 2 Equivalent Data	47 61 73 90 01 01 00 36 D2 21 22 01 11 43 80 44 00 00 0F	
5A	Application Primary Account Number (PAN)	47 61 73 90 01 01 00 36	
5F 20	Cardholder Name	41 54 48 20 50 52 49 4D 41 2F 54 65 73 74 20 43 61 72 64 20 30 31 20 20 20 - 'ATH PRIMA/Test Card 01'	
5F 24	Application Expiration Date	22 12 31	
5F 25	Application Effective Date	xx xx xx *	
5F 28	Issuer Country Code	06 30 - PRO	
5F 2D	Language Preference	65 6E 65 73 - 'enes' (English,Spanish)	
5F 30	Service Code	02 01	
5F 34	Application PAN Sequence Number	01	
82	Application Interchange Profile [VIS]	3C 00 BYTE 1: b7 - Offline SDA NOT supported b6 - Offline DDA supported b5 - Cardholder verification supported b4 - Terminal risk mgmt to be performed b3 - Issuer authentication supported using External Auth command b1 - Combined DDA / GEN AC NOT supported BYTE 2: b8 - Mag-stripe mode NOT supported b7 - Is NOT Mobile handset	
84	Dedicated File (DF) Name	A0 00 00 00 03 10 10	
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	
8D	Card Risk Management Data Object List 2 (CDOL2)	8A 02 9F 02 06 9F 03 06 9F 1A 02 95 05 5F 2A 02 9A 03 9C 01 9F 37 04	
8E	Cardholder Verification Method (CVM) List	00 00 00 00 00 00 00 00 04 03 01 03 1E 03 02 03 1F 00	
8F	Certification Authority Public Key Index	92	

Tag	Element name	Data	Card v2.0
90	Issuer Public Key Certificate	3C 96 F7 65 8F BC 29 A2 02 F1 91 46 BD E9 21 66 B0 F6 22 1B BC CB 02 E3 26 71 0B 9E 22 9D 16 FA E9 AD 0C 87 4C 06 85 91 6E 19 F0 E3 26 93 EE 20 1B CE 23 59 50 9A 6D 65 72 F8 EC 3F C3 73 12 6B 34 3F 9C B8 15 3D 61 B7 EA B2 D4 2D E1 9D 56 08 31 85 A0 3D D1 4C 26 8D 40 DF 08 35 C5 5E AB FA 38 ED 28 BC E4 2C D0 01 3D A9 4F 80 05 18 B7 53 C2 46 EF FB A0 8F D2 02 9B AD 5D FC F0 DA F0 7B 7D 80 1C 46 5F FD 25 2C 70 B9 21 53 B3 30 D9 5D CA 2F A1 FA AE 2D 01 68 A4 EA 8B 47 5C D8 05 DC 32 AA 96 4C 17 BF CD 2C D5 D0 30 9A B0 EA 76 1B	
92	Issuer Public Key Remainder	50 DA 20 DD A8 95 3B 69 3F ED 84 36 68 31 BA 1E EA 97 F7 8F 79 2A CF 8C B9 8F DF 01 49 A7 B7 8F DA 1C 49 67	
94	Application File Locator (AFL)	10 01 01 00 10 02 05 01 B0 01 01 00	
9F 07	Application Usage Control	FF 00 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 NOT allowed b7 - International cashback NOT allowed	
9F 08	Application Version Number [VIS]	00 96	
9F 0D	Issuer Action Code - Default	B8 50 AC 88 00	
9F 0E	Issuer Action Code - Denial	00 00 00 00 00	
9F 0F	Issuer Action Code - Online	B8 70 BC 98 00	
9F 10	Issuer Application Data [VSDC]	xx xx 0A xx xx xx xx *	
9F 11	Issuer Code Table Index	01	
9F 12	Application Preferred Name	56 69 73 61 20 43 72 65 64 69 74 - 'Visa Credit'	
9F 13	Last Online Application Transaction Counter (ATC) Register	00 00	
9F 17	Personal Identification Number (PIN) Try Counter	09	
9F 1F	Track 1 Discretionary Data	31 31 34 33 38 30 34 34 30 30 30 30 30 30 30 30 30 30 30 30 30 30 30 30	
9F 26	Application Cryptogram (AC)	xx xx xx xx xx xx xx xx *	
9F 27	Cryptogram Information Data (CID)	80	
9F 32	Issuer Public Key Exponent	03	
9F 36	Application Transaction Counter (ATC)	xx xx *	
9F 44	Application Currency Exponent	02	

Tag	Element name	Data	Card v2.0
9F 46	ICC Public Key Certificate	43 23 79 68 F4 D2 26 71 12 2C 04 1B 7A 6D 08 05 B0 C7 76 2C B0 A0 B0 E6 C6 59 C5 07 8C 6B 83 00 FB D9 EF FE BD 6C 1A 91 63 76 A5 75 2E F1 94 BC 12 F0 E6 29 78 34 FB A1 39 FC 29 3D CC 19 40 77 40 D2 5A 4F 76 07 9A ED 74 85 29 E6 84 CE 07 11 AF 38 D8 FA A3 3E C8 AC 99 FA 47 38 BD 15 81 4E 22 F4 CF 96 37 0D 9C C0 F4 FD 75 91 46 01 AE EB 5D 2B 27 59 34 6C 35 93 7E 36 EC 2E 2A 78 02 21 DC F1 6E 0F 88 93 B5 61 41 30 2C A7 77 CE 4A F2 87 6D E9 26 B1 0C 0F 02 DA 20 B7 7A CB 0C E2 7D 10 18 8E 5F EE FF 09 EA B9 86 53 9A 0D 88 70 53	
9F 47	ICC Public Key Exponent	03	
9F 49	Dynamic Data Authentication Data Object List (DDOL)	9F 37 04	
9F 4A	Static Data Authentication Tag List	82	
9F 4B	Signed Dynamic Application Data	31 D8 8C 38 BD 96 20 80 5F E5 0C 0D A2 BD 6D 04 F6 05 22 9E 53 6E D0 BE 0F 23 5B 15 F0 4C 4E 3A FB AB 72 18 9E 74 EC CD 07 67 5C A4 21 10 24 2A 5F 10 A1 F5 62 E6 AC E5 F5 50 A3 A9 4F 51 93 04 54 44 BE 1B 58 1E AC 17 6A D2 95 02 D9 4B DE 93 33 B6 BC 7B E2 05 4B 19 70 1E 26 D5 51 F8 FD EF D1 0C 77 6D 49 01 08 C5 09 E5 BC 7A 79 E4 0D 34 C1 B8 37 86 09 0C E3 65 E2 B3 9D 09 2C B8 48 8A	
9F 51	Application Currency Code [VSDC]	08 40	
9F 52	Application Default Action [VSDC VIS 1.5]	C0 30 00 00 00 00	
9F 53	Consecutive Transaction Limit (International) [VSDC]	03	
9F 54	Cumulative Total Transaction Amount Limit [VSDC]	00 00 00 02 00 00	
9F 56	Issuer Authentication Indicator [VSDC]	80	
9F 57	Issuer Country Code [VSDC]	06 30 - PRO	
9F 58	Consecutive Transaction Counter Limit [VSDC]	03	
9F 59	Consecutive Transaction Counter Upper Limit [VSDC]	07	
9F 5C	Cumulative Total Transaction Amount Upper Limit [VSDC]	00 00 00 04 00 00	
9F 5E	Consecutive Transaction International Upper Limit [VSDC]	07	
9F 72	Consecutive Transaction Limit (International-Country) [VSDC]	03	
BF 56	Counters Data Template	DF 11 01 02 DF 21 01 03 DF 31 01 07	
BF 57	International Counters Data Template	DF 11 01 00 DF 21 01 03 DF 31 01 07 DF 51 01 05 DF 61 01 03	
BF 58	Amounts Data Template	DF 11 06 00 00 00 00 00 00 00 DF 21 06 00 00 00 02 00 00 DF 31 06 00 00 00 04 00 00	

## 1.2 Test Card 02 – Visa, CO, Eng/Spa, PRO, USD

A Contact-only Visa credit card with Issuer Country Code of 'Puerto Rico' and Currency Code of 'USD'.

The recommended transaction amount to generate a host approval is \$10.

### 1.2.1 Cardholder Verification Method List (Contact) - AID A0000000031010

Cardholder Verification Method List ('0303 0201 0103 0203 1E03 1F00')			
CVM	Verification Method	Conditions	If unsuccessful
1	Offline Plaintext PIN & Signature	Terminal supports CVM type	Fail
2	Online PIN	Unattended Cash	Fail
3	Offline Plaintext PIN	Terminal supports CVM type	Fail
4	Online PIN	Terminal supports CVM type	Fail
5	Signature (paper)	Terminal supports CVM type	Fail
6	No CVM required	Always	Always

### 1.2.2 Application Tag data (Contact)

\* Tag value changes with card usage

Tag	Element name	Data	Card v2.0
50	Application Label	56 49 53 41 20 43 52 45 44 49 54 -	'VISA CREDIT'
57	Track 2 Equivalent Data	47 61 73 90 01 01 00 10 D2 21 22 01	11 43 80 44 00 00 0F
5A	Application Primary Account Number (PAN)	47 61 73 90 01 01 00 10	
5F 20	Cardholder Name	41 54 48 20 50 52 49 4D 41 2F 54 65	73 74 20 43 61 72 64 20 30 32 20 20 20 - 'ATH PRIMA/Test Card 02'
5F 24	Application Expiration Date	22 12 31	
5F 25	Application Effective Date	xx xx xx *	
5F 28	Issuer Country Code	06 30 - PRO	
5F 2D	Language Preference	65 6E 65 73 - 'enes' (English,Spanish)	
5F 30	Service Code	02 01	
5F 34	Application PAN Sequence Number	01	
82	Application Interchange Profile [VIS]	3C 00	BYTE 1: b7 - Offline SDA NOT supported b6 - Offline DDA supported b5 - Cardholder verification supported b4 - Terminal risk mgmt to be performed b3 - Issuer authentication supported using External Auth command b1 - Combined DDA / GEN AC NOT supported BYTE 2: b8 - Mag-stripe mode NOT supported b7 - Is NOT Mobile handset
84	Dedicated File (DF) Name	A0 00 00 00 03 10 10	
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
8D	Card Risk Management Data Object List 2 (CDOL2)	8A 02 9F 02 06 9F 03 06 9F 1A 02 95	05 5F 2A 02 9A 03 9C 01 9F 37 04
8E	Cardholder Verification Method (CVM) List	00 00 00 00 00 00 00 00 03 03 02 01	01 03 02 03 1E 03 1F 00
8F	Certification Authority Public Key Index	92	

Tag	Element name	Data	Card v2.0
90	Issuer Public Key Certificate	3C 96 F7 65 8F BC 29 A2 02 F1 91 46 BD E9 21 66 B0 F6 22 1B BC CB 02 E3 26 71 0B 9E 22 9D 16 FA E9 AD 0C 87 4C 06 85 91 6E 19 F0 E3 26 93 EE 20 1B CE 23 59 50 9A 6D 65 72 F8 EC 3F C3 73 12 6B 34 3F 9C B8 15 3D 61 B7 EA B2 D4 2D E1 9D 56 08 31 85 A0 3D D1 4C 26 8D 40 DF 08 35 C5 5E AB FA 38 ED 28 BC E4 2C D0 01 3D A9 4F 80 05 18 B7 53 C2 46 EF FB A0 8F D2 02 9B AD 5D FC F0 DA F0 7B 7D 80 1C 46 5F FD 25 2C 70 B9 21 53 B3 30 D9 5D CA 2F A1 FA AE 2D 01 68 A4 EA 8B 47 5C D8 05 DC 32 AA 96 4C 17 BF CD 2C D5 D0 30 9A B0 EA 76 1B	
92	Issuer Public Key Remainder	50 DA 20 DD A8 95 3B 69 3F ED 84 36 68 31 BA 1E EA 97 F7 8F 79 2A CF 8C B9 8F DF 01 49 A7 B7 8F DA 1C 49 67	
94	Application File Locator (AFL)	10 01 01 00 10 02 05 01 B0 01 01 00	
9F 07	Application Usage Control	FF 00 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 NOT allowed b7 - International cashback NOT allowed	
9F 08	Application Version Number [VIS]	00 96	
9F 0D	Issuer Action Code - Default	B8 50 AC 88 00	
9F 0E	Issuer Action Code - Denial	00 00 00 00 00	
9F 0F	Issuer Action Code - Online	B8 70 BC 98 00	
9F 10	Issuer Application Data [VSDC]	xx xx 0A xx xx xx xx *	
9F 11	Issuer Code Table Index	01	
9F 12	Application Preferred Name	56 69 73 61 20 43 72 65 64 69 74 - 'Visa Credit'	
9F 13	Last Online Application Transaction Counter (ATC) Register	xx xx *	
9F 17	Personal Identification Number (PIN) Try Counter	09	
9F 1F	Track 1 Discretionary Data	31 31 34 33 38 30 34 34 30 30 30 30 30 30 30 30 30 30 30 30 30 30 30 30	
9F 26	Application Cryptogram (AC)	xx xx xx xx xx xx xx xx *	
9F 27	Cryptogram Information Data (CID)	80	
9F 32	Issuer Public Key Exponent	03	
9F 36	Application Transaction Counter (ATC)	xx xx *	
9F 44	Application Currency Exponent	02	

Tag	Element name	Data	Card v2.0
9F 46	ICC Public Key Certificate	3B 7C 7C 3B A9 87 11 6F 97 6B C9 9D 6F E7 65 41 39 D1 31 84 4D 3F 42 04 32 BE B1 88 0F C6 CE 99 B9 31 5E B6 FF 58 84 3F 8E 48 CF 95 96 51 FE 7F B6 DD 72 65 EE DA D4 17 4A FB BE 3C 92 59 29 B7 F6 19 AB 08 D5 E6 0D 4D 4D 9D 8E 01 A6 FF 40 5A 83 C6 E0 E5 5A E8 A2 34 91 18 B3 E6 B1 F6 9F 0D 9E 1F 72 9C 29 E7 01 9C 2B F7 40 67 BD 88 A1 F1 87 A8 1F D7 91 A3 49 B5 52 81 4E 2E B7 07 8A 5C 71 5A 8F C1 9C 69 DF 20 BA E7 33 A7 B4 63 15 B1 9D 64 9E 48 C3 60 E1 FD C1 4C 0B 8E 48 79 3C 47 19 04 53 7B 29 43 04 71 6B E0 E8 EF 7D 77 D0 18	
9F 47	ICC Public Key Exponent	03	
9F 49	Dynamic Data Authentication Data Object List (DDOL)	9F 37 04	
9F 4A	Static Data Authentication Tag List	82	
9F 4B	Signed Dynamic Application Data	7B 8E AC BC 68 7C 4C 93 1F B3 15 F1 7E 9A EE 1B E3 E0 39 85 48 CE 2F 54 1E 07 89 BA 67 B5 00 C7 3E FF F7 FA 17 59 41 03 F0 A9 EC 1F 6A 33 3B 8E 87 59 99 3F 83 B3 18 09 B7 DC 18 FF 04 43 BE D0 F0 BB FF FF 9E F7 B8 EA 3C 97 B6 17 35 D3 1F 0B BC E1 89 34 1F C0 B6 7F 10 75 85 17 98 CC 26 CC C3 C4 7C 67 2E 77 29 F0 9D 64 A7 F5 2E E5 EF DE 07 10 47 EC EE BF 6C E7 3C D5 36 FC 48 58 59 63	
9F 51	Application Currency Code [VSDC]	08 40	
9F 52	Application Default Action [VSDC VIS 1.5]	C0 30 00 00 00 00	
9F 53	Consecutive Transaction Limit (International) [VSDC]	03	
9F 54	Cumulative Total Transaction Amount Limit [VSDC]	00 00 00 02 00 00	
9F 56	Issuer Authentication Indicator [VSDC]	80	
9F 57	Issuer Country Code [VSDC]	06 30 - PRO	
9F 58	Consecutive Transaction Counter Limit [VSDC]	03	
9F 59	Consecutive Transaction Counter Upper Limit [VSDC]	07	
9F 5C	Cumulative Total Transaction Amount Upper Limit [VSDC]	00 00 00 04 00 00	
9F 5E	Consecutive Transaction International Upper Limit [VSDC]	07	
9F 72	Consecutive Transaction Limit (International-Country) [VSDC]	03	
BF 56	Counters Data Template	DF 11 01 02 DF 21 01 03 DF 31 01 07	
BF 57	International Counters Data Template	DF 11 01 00 DF 21 01 03 DF 31 01 07 DF 51 01 05 DF 61 01 03	
BF 58	Amounts Data Template	DF 11 06 00 00 00 00 00 00 00 DF 21 06 00 00 00 02 00 00 DF 31 06 00 00 00 04 00 00	

### 1.3 Test Card 03 - Mastercard, Technical Fallback Card

This card has a chip image printed on the card but it does not contain an actual chip.

When inserted, a chip error will be detected.

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

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

### 1.4 Test Card 04 – Mastercard, CO, 2-AID, Eng/Spa, PRO, USD

A Contact-only Mastercard credit card with 2 AIDs, with Issuer Country Code of 'Puerto Rico' and Currency Code of 'USD'.

The recommended transaction amount to generate a host approval is \$20.

#### 1.4.1 Cardholder Verification Method List (Contact) - AID A000000004101001

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

#### 1.4.2 Application Tag data (Contact)

\* Tag value changes with card usage

Tag	Element name	Data	Card v2.0
42	Issuer Identification Number (IIN)	54 57 21	
50	Application Label	4D 41 53 54 45 52 43 41 52 44 20 44 45 42 49 54 - 'MASTERCARD DEBIT'	
57	Track 2 Equivalent Data	54 57 21 00 89 02 00 12 D2 51 22 01 14 83 59 49 00 0F	
5A	Application Primary Account Number (PAN)	54 57 21 00 89 02 00 12	
5F 20	Cardholder Name	41 54 48 20 50 52 49 4D 41 2F 54 65 73 74 20 43 61 72 64 20 30 34 20 20 20 20 - 'ATH PRIMA/Test Card 04'	
5F 24	Application Expiration Date	25 12 31	
5F 25	Application Effective Date	xx xx xx *	
5F 28	Issuer Country Code	06 30 - PRO	
5F 2D	Language Preference	65 6E 65 73 - 'enes' (English,Spanish)	
5F 34	Application PAN Sequence Number	03	
5F 55	Issuer Country Code (alpha2 format)	50 52 - 'PR'	

Tag	Element name	Data	Card v2.0
82	Application Interchange Profile	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 b2 - On device Cardholder verification NOT supported b1 - Combined DDA / GEN AC NOT supported BYTE 2: b8 - EMV mode NOT supported	
84	Dedicated File (DF) Name	A0 00 00 00 04 10 10 01	
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 21 03 9F 7C 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 41 03 42 03 1E 03 1F 00 00 00	
94	Application File Locator (AFL)	08 01 01 00 08 03 03 00	
94	Application File Locator (AFL)	08 01 01 00 08 03 03 00	
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	FC 50 A0 00 00	
9F 0E	Issuer Action Code - Denial	00 00 00 00 00	
9F 0F	Issuer Action Code - Online	F8 70 A4 98 00	
9F 10	Issuer Application Data [M/Chip Advance]	xx 10 xx xx xx xx xx xx xx xx xx xx xx xx xx xx xx xx *	
9F 11	Issuer Code Table Index	01	
9F 12	Application Preferred Name	4D 61 73 74 65 72 63 61 72 64 20 44 65 62 69 74 - 'Mastercard Debit'	
9F 14	Counter 1 Lower Limit [Mastercard]	00	
9F 17	Personal Identification Number (PIN) Try Counter	09	
9F 23	Counter 1 Upper Limit [Mastercard]	00	
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 42	Application Currency Code	08 40 - USD	
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 DF 3E 01 9F 21 03 9F 7C 14	



Tag	Element name	Data	Card v2.0
9F 6E	Third Party Data [Mastercard]	06 30 00 00 30 30 00	
9F 7E	Application Life Cycle Data [Mastercard]	04 10 0B 14 00 01 00 00 50 17 79 00 A0 00 00 00 04 10 10 00 00 00 00 00 00 00 00 00 00 96 00 97 02 00 5A 5A 00 00 00 00 00 00 00 00 00 00 00 00	
C3	Card Issuer Action Code (Contact) - Decline [M/Chip Advance]	00 00 00	
C4	Card Issuer Action Code (Contact) - Default [M/Chip Advance]	00 00 00	
C5	Card Issuer Action Code (Contact) - Online [M/Chip Advance]	00 00 00	
C6	PIN Try Limit [M/Chip Advance]	09	
C7	CDOL1 Related Data Length [Mastercard]	42	
C8	CRM Country Code [Mastercard]	06 30 - PRO	
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	
CD	Card Issuer Action Code (Contactless) - Default [M/Chip Advance]	00 00 00	
CE	Card Issuer Action Code (Contactless) - Online [M/Chip Advance]	00 00 00	
CF	Card Issuer Action Code (Contactless) - Decline [M/Chip Advance]	00 00 00	
D1	Accumulator 1 Currency Conversion Table [Mastercard]	08 40 00 00 00 08 40 00 00 00 08 40 00 00 00 08 40 00 00 00 08 40 00 00 00	
D3	Additional Check Table [Mastercard]	00 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF	
D5	Application Control [M/Chip Advance]	84 00 80 00 C6 02	
D6	Default ARPC Response Code [M/Chip Advance]	00 10	
D7	Application Control [M/Chip Advance]	00 00 00 00 00 00	
D9	Application File Locator (Contactless)		
DE	Log Data Table [M/Chip Advance]	00 00 00 00 00 00 00 00 00	
DF 02	Security Limits Status (Contact) [M/Chip Advance]	00	
DF 11	Accumulator 1 Control (Contact) [M/Chip Advance]	C1	
DF 12	Accumulator 1 Control (Contactless) [M/Chip Advance]	00	
DF 14	Accumulator 2 Control (Contact) [M/Chip Advance]	00	
DF 15	Accumulator 2 Control (Contactless) [M/Chip Advance]	00	
DF 16	Accumulator 2 Currency Code [Mastercard]	08 40 - USD	
DF 17	Accumulator 2 Currency Conversion Table [Mastercard]	08 40 00 00 00 08 40 00 00 00 08 40 00 00 00 08 40 00 00 00 08 40 00 00 00	
DF 18	Accumulator 2 Lower Limit [Mastercard]	00 00 00 00 00 00	
DF 19	Accumulator 2 Upper Limit [Mastercard]	00 00 00 00 00 00	
DF 1A	Counter 1 Control (Contact) [M/Chip Advance]	C1	
DF 1B	Counter 1 Control (Contactless) [M/Chip Advance]	00	

Tag	Element name	Data	Card v2.0
DF 1D	Counter 2 Control (Contact) [M/Chip Advance]	00	
DF 1E	Counter 2 Control (Contactless) [M/Chip Advance]	00	
DF 1F	Counter 2 Lower Limit [Mastercard]	00	
DF 21	Counter 2 Upper Limit [Mastercard]	00	
DF 22	MTA CVM (Contact) [M/Chip Advance]	00 00 00 00 00 00	
DF 23	MTA CVM (Contactless) [M/Chip Advance]	00 00 00 00 00 00	
DF 24	MTA Currency Code [M/Chip Advance]	08 40 - USD	
DF 25	MTA NoCVM (Contact) [M/Chip Advance]	00 00 00 00 00 00	
DF 26	MTA NoCVM (Contactless) [M/Chip Advance]	00 00 00 00 00 00	
DF 27	Number Of Days Offline Limit [M/Chip Advance]	00 00	
DF 28	Accumulator 1 CVR Dependency Data (Contact) [M/Chip Advance]	00 00 00	
DF 29	Accumulator 1 CVR Dependency Data (Contactless) [M/Chip Advance]	00 00 00	
DF 2A	Accumulator 2 CVR Dependency Data (Contact) [M/Chip Advance]	00 00 00	
DF 2B	Accumulator 2 CVR Dependency Data (Contactless) [M/Chip Advance]	00 00 00	
DF 2C	Counter 1 CVR Dependency Data (Contact) [M/Chip Advance]	00 00 00	
DF 2D	Counter 1 CVR Dependency Data (Contactless) [M/Chip Advance]	00 00 00	
DF 2E	Counter 2 CVR Dependency Data (Contact) [M/Chip Advance]	00 00 00	
DF 2F	Counter 2 CVR Dependency Data (Contactless) [M/Chip Advance]	00 00 00	
DF 30	Interface Enabling Switch [M/Chip Advance]	01	
DF 35	Security Limits Status (Contactless) [M/Chip Advance]	00	
DF 37	Security Limits Status Common [M/Chip Advance]	00	
DF 3C	CVR Issuer Discretionary Data (Contact) [M/Chip Advance]	00	
DF 3D	CVR Issuer Discretionary Data (Contactless) [M/Chip Advance]	00	
DF 3F	Read Record Filter (Contact) [M/Chip Advance]	00	
DF 40	Read Record Filter (Contactless) [M/Chip Advance]		
DF 41	DS Management Control [M/Chip Advance]	20	

1.4.3 Cardholder Verification Method List (Contact) - AID A000000004101002

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

1.4.4 Application Tag data (Contact)

\* Tag value changes with card usage

Tag	Element name	Data	Card v2.0
50	Application Label	4D 41 53 54 45 52 43 41 52 44 20 20 20 20 20 20 - 'MASTERCARD'	
57	Track 2 Equivalent Data	54 13 33 00 89 02 00 45 D2 51 22 01 14 83 59 49 00 0F	
5A	Application Primary Account Number (PAN)	54 13 33 00 89 02 00 45	
5F 20	Cardholder Name	41 54 48 20 50 52 49 4D 41 2F 54 65 73 74 20 43 61 72 64 20 30 34 20 20 20 20 - 'ATH PRIMA/Test Card 04'	
5F 24	Application Expiration Date	25 12 31	
5F 25	Application Effective Date	xx xx xx *	
5F 28	Issuer Country Code	06 30 - PRO	
5F 2D	Language Preference	65 6E 65 73 - 'enes' (English,Spanish)	
5F 30	Service Code	02 01	
5F 34	Application PAN Sequence Number	03	
82	Application Interchange Profile	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 b2 - On device Cardholder verification NOT supported b1 - Combined DDA / GEN AC NOT supported BYTE 2: b8 - EMV mode NOT supported	
84	Dedicated File (DF) Name	A0 00 00 00 04 10 10 02	
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 21 03 9F 7C 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 41 03 42 03 1E 03 1F 00 00 00	
94	Application File Locator (AFL)	08 01 01 00 10 01 02 00	
94	Application File Locator (AFL)	08 01 01 00 10 01 02 00	

Tag	Element name	Data	Card v2.0
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	FC 50 A0 00 00	
9F 0E	Issuer Action Code - Denial	00 00 00 00 00	
9F 0F	Issuer Action Code - Online	F8 70 A4 98 00	
9F 10	Issuer Application Data [M/Chip Advance]	xx 10 xx xx xx xx xx xx xx xx xx xx xx xx xx xx xx xx *	
9F 11	Issuer Code Table Index	01	
9F 12	Application Preferred Name	4D 61 73 74 65 72 63 61 72 64 20 20 20 20 20 20 - 'Mastercard'	
9F 14	Counter 1 Lower Limit [Mastercard]	00	
9F 17	Personal Identification Number (PIN) Try Counter	09	
9F 23	Counter 1 Upper Limit [Mastercard]	00	
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 42	Application Currency Code	08 40 - USD	
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 DF 3E 01 9F 21 03 9F 7C 14	
9F 7E	Application Life Cycle Data [Mastercard]	04 10 0B 14 00 01 00 00 50 17 79 00 A0 00 00 00 04 10 10 17 05 23 00 00 00 00 00 00 00 96 00 97 02 00 5A 5A 00 00 00 00 00 00 00 00 00 00 00	
C3	Card Issuer Action Code (Contact) - Decline [M/Chip Advance]	00 00 00	
C4	Card Issuer Action Code (Contact) - Default [M/Chip Advance]	00 00 00	
C5	Card Issuer Action Code (Contact) - Online [M/Chip Advance]	00 00 00	
C6	PIN Try Limit [M/Chip Advance]	09	
C7	CDOL1 Related Data Length [Mastercard]	42	
C8	CRM Country Code [Mastercard]	06 30 - PRO	
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	
CD	Card Issuer Action Code (Contactless) - Default [M/Chip Advance]	00 00 00	
CE	Card Issuer Action Code (Contactless) - Online [M/Chip Advance]	00 00 00	
CF	Card Issuer Action Code (Contactless) - Decline [M/Chip Advance]	00 00 00	

Tag	Element name	Data	Card v2.0
D1	Accumulator 1 Currency Conversion Table [Mastercard]	08 40 00 00 00 08 40 00 00 00 08 40 00 00 00 08 40 00 00 00 08 40 00 00 00	
D3	Additional Check Table [Mastercard]	00 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF	
D5	Application Control [M/Chip Advance]	84 00 80 00 C6 02	
D6	Default ARPC Response Code [M/Chip Advance]	00 10	
D7	Application Control [M/Chip Advance]	00 00 00 00 00 00	
D9	Application File Locator (Contactless)		
DE	Log Data Table [M/Chip Advance]	00 00 00 00 00 00 00 00 00 00	
DF 02	Security Limits Status (Contact) [M/Chip Advance]	00	
DF 11	Accumulator 1 Control (Contact) [M/Chip Advance]	C1	
DF 12	Accumulator 1 Control (Contactless) [M/Chip Advance]	00	
DF 14	Accumulator 2 Control (Contact) [M/Chip Advance]	00	
DF 15	Accumulator 2 Control (Contactless) [M/Chip Advance]	00	
DF 16	Accumulator 2 Currency Code [Mastercard]	08 40 - USD	
DF 17	Accumulator 2 Currency Conversion Table [Mastercard]	08 40 00 00 00 08 40 00 00 00 08 40 00 00 00 08 40 00 00 00 08 40 00 00 00	
DF 18	Accumulator 2 Lower Limit [Mastercard]	00 00 00 00 00 00	
DF 19	Accumulator 2 Upper Limit [Mastercard]	00 00 00 00 00 00	
DF 1A	Counter 1 Control (Contact) [M/Chip Advance]	C1	
DF 1B	Counter 1 Control (Contactless) [M/Chip Advance]	00	
DF 1D	Counter 2 Control (Contact) [M/Chip Advance]	00	
DF 1E	Counter 2 Control (Contactless) [M/Chip Advance]	00	
DF 1F	Counter 2 Lower Limit [Mastercard]	00	
DF 21	Counter 2 Upper Limit [Mastercard]	00	
DF 22	MTA CVM (Contact) [M/Chip Advance]	00 00 00 00 00 00	
DF 23	MTA CVM (Contactless) [M/Chip Advance]	00 00 00 00 00 00	
DF 24	MTA Currency Code [M/Chip Advance]	08 40 - USD	
DF 25	MTA NoCVM (Contact) [M/Chip Advance]	00 00 00 00 00 00	
DF 26	MTA NoCVM (Contactless) [M/Chip Advance]	00 00 00 00 00 00	
DF 27	Number Of Days Offline Limit [M/Chip Advance]	00 00	
DF 28	Accumulator 1 CVR Dependency Data (Contact) [M/Chip Advance]	00 00 00	
DF 29	Accumulator 1 CVR Dependency Data (Contactless) [M/Chip Advance]	00 00 00	
DF 2A	Accumulator 2 CVR Dependency Data (Contact) [M/Chip Advance]	00 00 00	
DF 2B	Accumulator 2 CVR Dependency Data (Contactless) [M/Chip Advance]	00 00 00	

Tag	Element name	Data	Card v2.0
DF 2C	Counter 1 CVR Dependency Data (Contact) [M/Chip Advance]	00 00 00	
DF 2D	Counter 1 CVR Dependency Data (Contactless) [M/Chip Advance]	00 00 00	
DF 2E	Counter 2 CVR Dependency Data (Contact) [M/Chip Advance]	00 00 00	
DF 2F	Counter 2 CVR Dependency Data (Contactless) [M/Chip Advance]	00 00 00	
DF 30	Interface Enabling Switch [M/Chip Advance]	01	
DF 35	Security Limits Status (Contactless) [M/Chip Advance]	00	
DF 37	Security Limits Status Common [M/Chip Advance]	00	
DF 3C	CVR Issuer Discretionary Data (Contact) [M/Chip Advance]	00	
DF 3D	CVR Issuer Discretionary Data (Contactless) [M/Chip Advance]	00	
DF 3F	Read Record Filter (Contact) [M/Chip Advance]	00	
DF 40	Read Record Filter (Contactless) [M/Chip Advance]		
DF 41	DS Management Control [M/Chip Advance]	20	

## 1.5 Test Card 05 – Maestro, CO, Eng/Spa, PRO, USD

A Contact-only Maestro credit card with Issuer Country Code of 'Puerto Rico' and Currency Code of 'USD'.

The recommended transaction amount to generate a host approval is \$20.

### 1.5.1 Cardholder Verification Method List (Contact) - AID A0000000043060

Cardholder Verification Method List ('4103 4203')			
CVM	Verification Method	Conditions	If unsuccessful
1	Offline Plaintext PIN	Terminal supports CVM type	Next CVM
2	Online PIN	Terminal supports CVM type	Next CVM

### 1.5.2 Application Tag data (Contact)

\* Tag value changes with card usage

Tag	Element name	Data	Card v2.0
50	Application Label	4D 41 45 53 54 52 4F - 'MAESTRO'	
57	Track 2 Equivalent Data	67 99 99 89 00 00 02 00 04 4D 25 12 22 00 83 55 06 06 0F	
5A	Application Primary Account Number (PAN)	67 99 99 89 00 00 02 00 04 4F	
5F 20	Cardholder Name	41 54 48 20 50 52 49 4D 41 2F 54 65 73 74 20 43 61 72 64 20 30 35 20 20 20 - 'ATH PRIMA/Test Card 05'	
5F 24	Application Expiration Date	25 12 31	
5F 25	Application Effective Date	xx xx xx *	
5F 28	Issuer Country Code	06 30 - PRO	

Tag	Element name	Data	Card v2.0
5F 2D	Language Preference	65 6E 65 73	
5F 30	Service Code	02 20	
5F 34	Application PAN Sequence Number	01	
82	Application Interchange Profile [M/Chip, PayPass]	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 b2 - On device Cardholder verification NOT supported b1 - Combined DDA / GEN AC NOT supported BYTE 2: b8 - EMV mode NOT supported	
84	Dedicated File (DF) Name	A0 00 00 00 04 30 60	
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	
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 41 03 42 03	
8F	Certification Authority Public Key Index	FA	
90	Issuer Public Key Certificate	8B ED 68 CB 5E 81 B7 6E F8 A9 F6 FF 38 16 8D 72 8F 11 A1 60 F7 8A 48 56 2F 54 4D 0B A4 28 26 C3 59 89 B4 33 3F AC 96 FF 7E FB 34 F3 4F D3 F8 15 A2 BC 0B 2B 8B AF D8 4F D9 9B 26 C9 6B 7B 35 E2 B0 80 F1 66 4A 48 1B 98 0F B6 C4 14 05 79 6A 0B 9D 5C 9C DE 2E F3 66 8E BD 05 57 D7 28 DB 3A 0A BC 4F 87 80 3C F2 81 80 79 5C E3 3A 37 7E 39 7A A8 A7 12 51 D8 8E 2B 09 2E 28 7B B7 80 86 5C 6A B9 FA 89 1F 85 B2 68 D2 15 A4 3C 2A 77 C3 C1 D9	
92	Issuer Public Key Remainder	D3 52 41 07	
94	Application File Locator (AFL)	08 02 04 01 18 01 01 00 20 01 01 00	
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	FC 50 A0 00 00	
9F 0E	Issuer Action Code - Denial	FF FF FF FF FF	
9F 0F	Issuer Action Code - Online	F8 70 A4 98 00	
9F 10	Issuer Application Data [M/Chip 4]	xx 10 xx xx xx xx xx xx xx xx xx xx xx xx xx xx xx xx *	
9F 11	Issuer Code Table Index	01	
9F 12	Application Preferred Name	4D 61 65 73 74 72 6F - 'Maestro'	



Tag	Element name	Data	Card v2.0
9F 14	Lower Consecutive Offline Limit	00	
9F 17	Personal Identification Number (PIN) Try Counter	09	
9F 1F	Track 1 Discretionary Data	30 38 33 35 35 30 36 30 36 30 30 30 30 30 30 30 30 30 30 30 30 30 30 30	
9F 23	Upper Consecutive Offline Limit	00	
9F 26	Application Cryptogram (AC)	xx xx xx xx xx xx xx xx *	
9F 27	Cryptogram Information Data (CID)	00	
9F 32	Issuer Public Key Exponent	03	
9F 36	Application Transaction Counter (ATC)	xx xx *	
9F 42	Application Currency Code	08 40 - USD	
9F 44	Application Currency Exponent	02	
9F 46	ICC Public Key Certificate	09 61 D8 22 27 68 BB CC 70 6B 72 B6 E6 17 66 19 95 95 D7 D1 A8 DD DF 31 D8 45 45 59 2B 93 1F CA 83 E8 2D 8D 16 B9 9B A2 69 38 88 1D 0F 62 F6 6D 0D 22 88 20 BC C2 18 C1 15 35 22 B3 32 11 04 75 97 0C F3 82 68 E6 B3 88 66 D3 16 FB 50 60 ED 96 89 F0 F1 4C 80 7D 44 6F 30 CF 56 0E 37 21 55 44 C7 C9 20 D8 04 60 1D 3C 23 F7 23 2A E4 52 32 7D	
9F 47	ICC Public Key Exponent	03	
9F 48	ICC Public Key Remainder	39 8F 4A 2F 53 5E D8 07 BD B7 5F 4A D1 48 4A CD 2B BD 1F 38 B2 18 F1 59 3F 97 F0 16 D9 34 02 3D 02 FF E8 AD 78 2C D0 B9 7C 73	
9F 49	Dynamic Data Authentication Data Object List (DDOL)	9F 37 04	
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 6E	Third Party Data [Mastercard]	06 30 00 00 30 30 00	
9F 7E	Application Life Cycle Data [Mastercard]	03 10 0C 12 00 09 00 00 FF 00 04 00 00 02 60 00 00 38 4A 02 11 50 35 43 44 30 37 32 20	
C3	Card Issuer Action Code - Decline [Mastercard]	00 00 00	
C4	Card Issuer Action Code - Default [Mastercard]	00 00 00	
C5	Card Issuer Action Code - Online [Mastercard]	00 00 00	
C6	Counters [Mastercard]	00 02 00 00 00 00 00 00 00 00 00	
C7	CDOL1 Related Data Length [Mastercard]	2B	
C8	CRM Country Code [Mastercard]	06 30 - PRO	
C9	CRM Currency Code [M/Chip4]	08 40 - USD	
CA	Lower Cumulative Offline Transaction Amount [M/Chip]	00 00 00 00 00 00	
CB	Upper Cumulative Offline Transaction Amount [M/Chip]	00 00 00 00 00 00	
CD	Card Issuer Action Code - Default [PayPass M/Chip]	00 58 00	
CE	Card Issuer Action Code - Online [PayPass M/Chip]	00 F8 00	



Tag	Element name	Data	Card v2.0
CF	Card Issuer Action Code - Denial [PayPass M/Chip]	00 00 00	
D1	Currency Conversion Table [M/Chip]	08 40 00 00 00 08 40 00 00 00 08 40 00 00 00 08 40 00 00 00 08 40 00 00 00	
D3	Additional Check Table [Mastercard]	00 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF	
D5	Application Control [M/Chip]	CC 00	
D6	Default ARPC Response Code [M/Chip4]	00 12	
D7	Application Control [PayPass M/Chip]	40 00 40	
DF 02	Security Limits Status [Mastercard]	00	

### 1.6 Test Card 06 – Mastercard, CO, Eng/Spa, PRO, USD

A Contact-only Mastercard credit card with Issuer Country Code of ‘Puerto Rico’ and Currency Code of ‘USD’.

The recommended transaction amount to generate a host approval is \$20.

#### 1.6.1 Cardholder Verification Method List (Contact) - AID A0000000041010

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

#### 1.6.2 Application Tag data (Contact)

\* Tag value changes with card usage

Tag	Element name	Data	Card v2.0
50	Application Label	4D 41 53 54 45 52 43 41 52 44 - 'MASTERCARD'	
57	Track 2 Equivalent Data	54 13 33 00 89 02 00 11 D2 51 26 01 07 93 60 80 50 00 0F	
5A	Application Primary Account Number (PAN)	54 13 33 00 89 02 00 11	
5F 20	Cardholder Name	41 54 48 20 50 52 49 4D 41 2F 54 65 73 74 20 43 61 72 64 20 30 36 20 20 20 20 - 'ATH PRIMA/Test Card 06'	
5F 24	Application Expiration Date	25 12 31	
5F 25	Application Effective Date	xx xx xx *	
5F 28	Issuer Country Code	06 30 - PRO	
5F 2D	Language Preference	65 6E 65 73 - 'enes' (English,Spanish)	
5F 30	Service Code	06 01	
5F 34	Application PAN Sequence Number	03	

Tag	Element name	Data	Card v2.0
82	Application Interchange Profile [M/Chip, PayPass]	30 00 BYTE 1: b7 - Offline SDA NOT supported b6 - Offline DDA supported b5 - Cardholder verification supported b4 - Terminal risk mgmt NOT to be performed b3 - Issuer authentication NOT supported using External Auth command b2 - On device Cardholder verification NOT supported b1 - Combined DDA / GEN AC NOT supported BYTE 2: b8 - EMV mode NOT 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 9B 02	
8D	Card Risk Management Data Object List 2 (CDOL2)	91 0A 8A 02 95 05 9B 02	
8E	Cardholder Verification Method (CVM) List	00 00 00 00 00 00 00 00 41 03 42 03 1E 03 1F 00	
8F	Certification Authority Public Key Index	FA	
90	Issuer Public Key Certificate	18 89 B9 97 E6 FC E8 4B 4A E7 AB 87 43 1C BD B3 DF 8C 1D 5A 55 A7 F6 0D 29 59 AF 3A 51 04 E7 58 83 17 ED 74 08 66 68 CF 1A 05 47 84 F7 49 3C 6D 74 7F A7 96 EC 14 D3 33 A6 8E C7 E0 08 62 95 9A 0B D0 F0 48 20 80 B7 1A C1 B7 62 5B 1B 8B 1F 35 A6 69 19 99 BA 78 F5 92 E2 3F 95 E9 96 09 D1 08 CF 1C 0E 30 8A 8B F6 4F BD E8 37 D3 CE 13 8A 50 DC 50 AF 4B 41 EE 53 D9 8A 11 B6 A8 1D DD 44 CC 43 0C 1E F3 BB 9D 1D 75 A0 2F AA 9C 81 4A FC 58	
92	Issuer Public Key Remainder	D3 52 41 07	
94	Application File Locator (AFL)	08 02 04 01 18 01 01 00 20 01 01 00	
9F 07	Application Usage Control	FF 00 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 NOT allowed b7 - International cashback NOT allowed	
9F 08	Application Version Number	00 02	
9F 0D	Issuer Action Code - Default	FC 50 A0 00 00	
9F 0E	Issuer Action Code - Denial	00 00 00 00 00	
9F 0F	Issuer Action Code - Online	F8 70 A4 98 00	
9F 10	Issuer Application Data [M/Chip 4]	xx 10 xx xx xx xx xx xx xx xx xx xx xx xx xx xx xx xx *	
9F 11	Issuer Code Table Index	01	
9F 12	Application Preferred Name	4D 61 73 74 65 72 43 61 72 64 - 'Mastercard'	
9F 14	Lower Consecutive Offline Limit	FF	

Tag	Element name	Data	Card v2.0
9F 17	Personal Identification Number (PIN) Try Counter	09	
9F 1F	Track 1 Discretionary Data	30 37 39 33 36 30 38 30 35 30 30 30 30 30 30 30 30 30 30 30 30 30 30 30	
9F 23	Upper Consecutive Offline Limit	00	
9F 26	Application Cryptogram (AC)	xx xx xx xx xx xx xx xx *	
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	
9F 44	Application Currency Exponent	02	
9F 46	ICC Public Key Certificate	4B E8 FD 7D 6F A4 AB 17 52 4B 0A 1E 20 45 B5 30 AF 12 ED E2 B9 A3 10 B9 91 C4 8C 62 F7 24 F6 E5 D4 DD B7 4F 1E 53 6B 78 40 12 E3 0D EF BA B1 37 E6 9E A5 BC 64 00 63 38 2E F6 0D A4 07 29 FC 0A 00 6B 6D 4C C3 A8 88 32 56 23 9A A4 21 A3 7E C1 4C 2F 50 4E B6 20 DA 52 E8 96 B4 48 EB 01 FA E5 7D FE 30 73 BF D5 86 79 A4 7B A2 DE 8D E1 8C 5B	
9F 47	ICC Public Key Exponent	03	
9F 48	ICC Public Key Remainder	88 91 4A 2C 71 1B 14 A3 9C E7 A5 F5 A9 31 5A 80 D5 86 AE 98 67 49 3D D9 5C 58 F2 FE 6B A5 92 71 21 C6 A6 2A 31 6B B4 C2 CC 39	
9F 49	Dynamic Data Authentication Data Object List (DDOL)	9F 37 04	
9F 4A	Static Data Authentication Tag List	82	
9F 4B	Signed Dynamic Application Data	0A EB 46 17 DD 1A 8B 82 D2 67 B0 37 10 86 36 45 94 08 B3 15 6F 90 23 F4 28 12 AD 6B 1D C3 E5 90 AB 00 32 0E CB B4 FD E6 F4 12 F5 F3 1A 1D 34 A4 A4 04 D7 92 40 94 DA E3 2E 18 46 83 AF F9 6D 24 05 E4 A2 78 A7 98 BF 58 CE CB B9 58 26 A0 04 D2 C1 13 94 0A 02 36 1D F1 B7 18 E4 7D 2C 83 7E 40 67 DA 78 FD B1 78 02 84 66 F9 35 D8 36 45 2A A1	
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 6E	Third Party Data [Mastercard]	06 30 00 00 30 30 00	
9F 7E	Application Life Cycle Data [Mastercard]	03 10 0C 12 00 09 00 00 FF 00 04 00 00 02 60 00 00 38 4A 02 11 50 35 43 44 30 37 32 20	
C3	Card Issuer Action Code - Decline [Mastercard]	00 00 00	
C4	Card Issuer Action Code - Default [Mastercard]	00 00 00	
C5	Card Issuer Action Code - Online [Mastercard]	00 00 00	
C6	Counters [Mastercard]	00 03 00 00 00 00 00 00 00 00	
C7	CDOL1 Related Data Length [Mastercard]	2D	
C8	CRM Country Code [Mastercard]	06 30 - PRO	
C9	CRM Currency Code [M/Chip4]	08 40 - USD	

Tag	Element name	Data	Card v2.0
CA	Lower Cumulative Offline Transaction Amount [M/Chip]	99 99 99 99 99 99	
CB	Upper Cumulative Offline Transaction Amount [M/Chip]	99 99 99 99 99 99	
CD	Card Issuer Action Code - Default [PayPass M/Chip]	00 58 00	
CE	Card Issuer Action Code - Online [PayPass M/Chip]	00 F8 00	
CF	Card Issuer Action Code - Denial [PayPass M/Chip]	00 00 00	
D1	Currency Conversion Table [M/Chip]	08 40 00 00 00 08 40 00 00 00 08 40 00 00 00 08 40 00 00 00 08 40 00 00 00	
D3	Additional Check Table [Mastercard]	00 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF	
D5	Application Control [M/Chip]	C4 00	
D6	Default ARPC Response Code [M/Chip4]	00 00	
D7	Application Control [PayPass M/Chip]	40 01 40	
DF 02	Security Limits Status [Mastercard]	00	

### 1.7 Test Card 07 – Amex, CO, 2-AID, Eng, PRO, USD

A Contact-only Amex credit card with Issuer Country Code of 'USA' and Currency Code of 'USD'.

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

#### 1.7.1 Cardholder Verification Method List (Contact)- AID A000000025010801

Cardholder Verification Method List ('4201 5E03 5F03 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	Terminal supports CVM type	Next CVM
4	Fail CVM Processing	Always	Fail

#### 1.7.2 Application Tag data (Contact)

\* Tag value changes with card usage

Tag	Element name	Data	Card v2.0
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	34 11 11 59 72 42 51 3D 24 01 20 11 50 21 23 45 00 00 0F	
5A	Application Primary Account Number (PAN)	34 11 11 59 72 42 51 3F	
5F 20	Cardholder Name	41 54 48 20 50 52 49 4D 41 2F 54 65 73 74 20 43 61 72 64 20 30 37 20 20 20 20 - 'ATH PRIMA/Test Card 07'	
5F 24	Application Expiration Date	24 01 31	
5F 25	Application Effective Date	xx xx xx *	
5F 28	Issuer Country Code	06 30 - PRO	
5F 2D	Language Preference	65 6E - 'en' (English)	

Tag	Element name	Data	Card v2.0
5F 30	Service Code	02 01	
5F 34	Application PAN Sequence Number	00	
82	Application Interchange Profile	1C 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 supported b1 - Combined DDA / GEN AC NOT supported BYTE 2: b8 - EMV Contactless NOT supported	
84	Dedicated File (DF) Name	A0 00 00 00 25 01 08 01	
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	
8D	Card Risk Management Data Object List 2 (CDOL2)	8A 02 9F 02 06 9F 03 06 9F 1A 02 95 05 5F 2A 02 9A 03 9C 01 9F 37 04	
8E	Cardholder Verification Method (CVM) List	00 00 00 00 00 00 00 00 42 01 5E 03 5F 03 00 00	
94	Application File Locator (AFL)	08 01 01 00 08 02 03 01	
9F 07	Application Usage Control	FF 00 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 NOT allowed b7 - International cashback NOT allowed	
9F 08	Application Version Number	00 01	
9F 0D	Issuer Action Code - Default	B0 50 DC 98 00	
9F 0E	Issuer Action Code - Denial	00 00 00 00 00	
9F 0F	Issuer Action Code - Online	B0 78 DC 98 00	
9F 10	Issuer Application Data [AEIPS 4.2]	xx xx 01 xx xx xx xx *	
9F 11	Issuer Code Table Index	01	
9F 12	Application Preferred Name	41 6D 65 72 69 63 61 6E 20 45 78 70 72 65 73 73 - 'American Express'	
9F 13	Last Online Application Transaction Counter (ATC) Register	xx xx *	
9F 17	Personal Identification Number (PIN) Try Counter	09	
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	

## 1.7.3 Cardholder Verification Method List (Contact)- AID A00000000291010

Cardholder Verification Method List ('4201 5E03 5F03 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	Terminal supports CVM type	Next CVM
4	Fail CVM Processing	Always	Fail

## 1.7.4 Application Tag data (Contact)

\* Tag value changes with card usage

Tag	Element name	Data	Card v2.0
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	34 11 11 59 72 42 51 3D 24 01 20 11 50 21 23 45 00 00 0F	
5A	Application Primary Account Number (PAN)	34 11 11 59 72 42 51 3F	
5F 20	Cardholder Name	41 54 48 20 50 52 49 4D 41 2F 54 65 73 74 20 43 61 72 64 20 30 37 20 20 20 20 - 'ATH PRIMA/Test Card 07'	
5F 24	Application Expiration Date	24 01 31	
5F 25	Application Effective Date	xx xx xx *	
5F 28	Issuer Country Code	06 30 - PRO	
5F 2D	Language Preference	65 6E - 'en' (English)	
5F 30	Service Code	02 01	
5F 34	Application PAN Sequence Number	00	
82	Application Interchange Profile	1C 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 supported b1 - Combined DDA / GEN AC NOT supported BYTE 2: b8 - EMV Contactless NOT supported	
84	Dedicated File (DF) Name	A0 00 00 00 29 10 10	
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	
8D	Card Risk Management Data Object List 2 (CDOL2)	8A 02 9F 02 06 9F 03 06 9F 1A 02 95 05 5F 2A 02 9A 03 9C 01 9F 37 04	
8E	Cardholder Verification Method (CVM) List	00 00 00 00 00 00 00 00 00 42 01 5E 03 5F 03 00 00	
94	Application File Locator (AFL)	08 01 01 00 08 02 03 01	
9F 07	Application Usage Control	FF 00 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 NOT allowed b7 - International cashback NOT allowed	

Tag	Element name	Data	Card v2.0
9F 08	Application Version Number	00 01	
9F 0D	Issuer Action Code - Default	B0 50 DC 98 00	
9F 0E	Issuer Action Code - Denial	00 00 00 00 00	
9F 0F	Issuer Action Code - Online	B0 78 DC 98 00	
9F 10	Issuer Application Data [AEIPS 4.2]	xx xx 01 xx xx xx xx *	
9F 11	Issuer Code Table Index	01	
9F 12	Application Preferred Name	41 6D 65 72 69 63 61 6E 20 45 78 70 72 65 73 73 - 'American Express'	
9F 13	Last Online Application Transaction Counter (ATC) Register	xx xx *	
9F 17	Personal Identification Number (PIN) Try Counter	09	
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	

## 1.8 Test Card 08 – Amex, CO, 2-AID, Eng, PRO, USD

A Contact-only Amex credit card with Issuer Country Code of 'USA' and Currency Code of 'USD'.

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

### 1.8.1 Cardholder Verification Method List (Contact)- AID A00000025010801

Cardholder Verification Method List ('4201 4203 5F03 0000')			
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	Next CVM
4	Fail CVM Processing	Always	Fail

### 1.8.2 Application Tag data (Contact)

\* Tag value changes with card usage

Tag	Element name	Data	Card v2.0
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 42 45 00 17 51 00 6D 24 01 20 11 50 21 23 45 00 00 0F	
5A	Application Primary Account Number (PAN)	37 42 45 00 17 51 00 6F	
5F 20	Cardholder Name	41 54 48 20 50 52 49 4D 41 2F 54 65 73 74 20 43 61 72 64 20 30 38 20 20 20 20 - 'ATH PRIMA/Test Card 08'	
5F 24	Application Expiration Date	24 01 31	
5F 25	Application Effective Date	xx xx xx *	
5F 28	Issuer Country Code	06 30 - PRO	
5F 2D	Language Preference	65 6E - 'en' (English)	
5F 30	Service Code	02 01	
5F 34	Application PAN Sequence Number	00	



Tag	Element name	Data	Card v2.0
82	Application Interchange Profile	1C 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 supported b1 - Combined DDA / GEN AC NOT supported BYTE 2: b8 - EMV Contactless NOT supported	
84	Dedicated File (DF) Name	A0 00 00 00 25 01 08 01	
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	
8D	Card Risk Management Data Object List 2 (CDOL2)	8A 02 9F 02 06 9F 03 06 9F 1A 02 95 05 5F 2A 02 9A 03 9C 01 9F 37 04	
8E	Cardholder Verification Method (CVM) List	00 00 00 00 00 00 00 00 42 01 42 03 5F 03 00 00	
94	Application File Locator (AFL)	08 01 01 00 08 02 03 01	
9F 07	Application Usage Control	FF 00 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 NOT allowed b7 - International cashback NOT allowed	
9F 08	Application Version Number	00 01	
9F 0D	Issuer Action Code - Default	B0 50 DC 98 00	
9F 0E	Issuer Action Code - Denial	00 00 00 00 00	
9F 0F	Issuer Action Code - Online	B0 78 DC 98 00	
9F 10	Issuer Application Data [AEIPS 4.2]	xx xx 01 xx xx xx xx *	
9F 11	Issuer Code Table Index	01	
9F 12	Application Preferred Name	41 6D 65 72 69 63 61 6E 20 45 78 70 72 65 73 73 - 'American Express'	
9F 13	Last Online Application Transaction Counter (ATC) Register	xx xx *	
9F 17	Personal Identification Number (PIN) Try Counter	09	
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	



### 1.8.3 Cardholder Verification Method List (Contact)- AID A00000000291010

Cardholder Verification Method List ('4201 5E03 5F03 0000')			
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	Next CVM
4	Fail CVM Processing	Always	Fail

### 1.8.4 Application Tag data (Contact)

\* Tag value changes with card usage

Tag	Element name	Data	Card v2.0
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 42 45 00 17 51 00 6D 24 01 20 11 50 21 23 45 00 00 0F	
5A	Application Primary Account Number (PAN)	37 42 45 00 17 51 00 6F	
5F 20	Cardholder Name	41 54 48 20 50 52 49 4D 41 2F 54 65 73 74 20 43 61 72 64 20 30 38 20 20 20 20 - 'ATH PRIMA/Test Card 08'	
5F 24	Application Expiration Date	24 01 31	
5F 25	Application Effective Date	xx xx xx *	
5F 28	Issuer Country Code	06 30 - PRO	
5F 2D	Language Preference	65 6E - 'en' (English)	
5F 30	Service Code	02 01	
5F 34	Application PAN Sequence Number	00	
82	Application Interchange Profile	1C 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 supported b1 - Combined DDA / GEN AC NOT supported BYTE 2: b8 - EMV Contactless NOT supported	
84	Dedicated File (DF) Name	A0 00 00 00 29 10 10	
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	
8D	Card Risk Management Data Object List 2 (CDOL2)	8A 02 9F 02 06 9F 03 06 9F 1A 02 95 05 5F 2A 02 9A 03 9C 01 9F 37 04	
8E	Cardholder Verification Method (CVM) List	00 00 00 00 00 00 00 00 00 42 01 42 03 5F 03 00 00	
94	Application File Locator (AFL)	08 01 01 00 08 02 03 01	
9F 07	Application Usage Control	FF 00 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 NOT allowed b7 - International cashback NOT allowed	

Tag	Element name	Data	Card v2.0
9F 08	Application Version Number	00 01	
9F 0D	Issuer Action Code - Default	B0 50 DC 98 00	
9F 0E	Issuer Action Code - Denial	00 00 00 00 00	
9F 0F	Issuer Action Code - Online	B0 78 DC 98 00	
9F 10	Issuer Application Data [AEIPS 4.2]	xx xx 01 xx xx xx xx *	
9F 11	Issuer Code Table Index	01	
9F 12	Application Preferred Name	41 6D 65 72 69 63 61 6E 20 45 78 70 72 65 73 73 - 'American Express'	
9F 13	Last Online Application Transaction Counter (ATC) Register	xx xx *	
9F 17	Personal Identification Number (PIN) Try Counter	09	
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	

### 1.9 Test Card 09 – Diners, DI, 2-AID, Eng/Spa/Fre, USA, USD

A Dual Interface Discover credit card with Issuer Country Code of 'Puerto Rico' and Currency Code of 'USD'.

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

#### 1.9.1 Cardholder Verification Method List (Contact) - AID A00000015230100 000000000000000001

Cardholder Verification Method List ('4201 4203 5E03 1F03')			
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	Fail

#### 1.9.2 Application Tag data (Contact)

\* Tag value changes with card usage

Tag	Element name	Data	Card v2.0
50	Application Label	44 49 53 43 4F 56 45 52 31 20 20 20 20 20 20 20 - 'DISCOVER1'	
57	Track 2 Data [Discover]	65 10 00 00 00 00 02 24 D2 31 22 01 10 00 07 49 0F	
5A	Application Primary Account Number (PAN)	65 10 00 00 00 00 02 24	
5F 20	Cardholder Name	41 54 48 20 50 52 49 4D 41 2F 54 65 73 74 20 43 61 72 64 20 30 39 - 'ATH PRIMA/Test Card 09'	
5F 24	Application Expiration Date	23 12 31	
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)	

Tag	Element name	Data	Card v2.0
5F 30	Service Code	02 01	
5F 34	Application PAN Sequence Number	01	
82	Application Interchange Profile	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 b1 - Combined DDA / GEN AC NOT supported BYTE 2: b8 - EMV Contactless NOT supported	
84	Dedicated File (DF) Name	A0 00 00 01 52 30 10 00 00 00 00 00 00 00 00 01	
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 34 03	
8D	Card Risk Management Data Object List 2 (CDOL2)	91 0A 8A 02 95 05 9F 37 04	
8E	Cardholder Verification Method (CVM) List	00 00 00 00 00 00 00 00 42 01 42 03 5E 03 1F 03	
94	Application File Locator (AFL)	08 01 02 00	
9F 07	Application Usage Control	FF 00 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 NOT allowed b7 - International cashback NOT allowed	
9F 08	Application Version Number	00 01	
9F 0D	Issuer Action Code - Default	F0 40 C4 28 00	
9F 0E	Issuer Action Code - Denial	00 10 00 00 00	
9F 0F	Issuer Action Code - Online	F0 68 DC F8 00	
9F 10	Issuer Application Data [DPAS]	xx 05 xx xx xx xx xx xx *	
9F 11	Issuer Code Table Index	01	
9F 12	Application Preferred Name	44 69 6E 65 72 73 20 43 6C 75 62 20 31 20 20 20 - 'Diners Club 1'	
9F 17	Personal Identification Number (PIN) Try Counter	03	
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 4D	Transaction Log Entry	0B 0A	
9F 4F	Transaction Log Format	9F 02 06 5F 2A 02 9A 03 9F 36 02 9F 34 03 9F 52 06 9F 1A 02 95 05 9C 01 8A 02 9F 37 04 9F 03 06 9F 53 08 9F 66 04 9F 71 02 9F 6C 02	
9F 78	Application State [D-PAS]	00	
C1	Application Configuration Options [DPAS]	05 80	

Tag	Element name	Data	Card v2.0	
C2	Issuer Life Cycle Data (ILCD) [DPAS]	00 00		
C3	Currency Conversion Codes 1 [DPAS]	08 40 00 00 02		
C4	Currency Conversion Codes 2 [DPAS]	08 40 00 00 02		
C5	Card Action Code - Denial [DPAS]	01 00		
C6	Card Action Code - Default [DPAS]	03 6B		
C7	Card Action Code - Online [DPAS]	B2 7F		
D0	Issuer Application Data ObjectList (IADOL) [DPAS]			
D2	CRM Country Code [DPAS]	08 40 - USA		
D3	CRM Currency Code [DPAS]	08 40 - USD		
DF 20	Transaction Profile Objects(TPO0) [DPAS]	00 18 00 08 01 02 00 01 00 B2 7F 03 6B 00		

**1.9.3 Cardholder Verification Method List (Contact) - AID A00000015230100  
0000000000000000**

Cardholder Verification Method List ('4201 4203 5E03 1F03')			
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	Fail

**1.9.4 Application Tag data (CL)**

\* Tag value changes with card usage

Tag	Element name	Data	Card v2.0
50	Application Label	44 49 53 43 4F 56 45 52 32 20 20 20 20 20 20 20 - 'DISCOVER2'	
57	Track 2 Data [Discover]	65 10 00 00 00 00 02 24 D2 31 22 01 10 00 07 49 0F	
5A	Application Primary Account Number (PAN)	65 10 00 00 00 00 02 24	
5F 20	Cardholder Name	41 54 48 20 50 52 49 4D 41 2F 54 65 73 74 20 43 61 72 64 20 30 39 - 'ATH PRIMA/Test Card 09'	
5F 24	Application Expiration Date	23 12 31	
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 30	Service Code	02 01	
5F 34	Application PAN Sequence Number	01	

Tag	Element name	Data	Card v2.0
82	Application Interchange Profile	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 b1 - Combined DDA / GEN AC NOT supported BYTE 2: b8 - EMV Contactless NOT supported	
84	Dedicated File (DF) Name	A0 00 00 01 52 30 10 00 00 00 00 00 00 00 00 02	
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 34 03	
8D	Card Risk Management Data Object List 2 (CDOL2)	91 0A 8A 02 95 05 9F 37 04	
8E	Cardholder Verification Method (CVM) List	00 00 00 00 00 00 00 00 42 01 42 03 5E 03 1F 03	
94	Application File Locator (AFL)	08 01 02 00	
9F 07	Application Usage Control	FF 00 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 NOT allowed b7 - International cashback NOT allowed	
9F 08	Application Version Number	00 01	
9F 0D	Issuer Action Code - Default	F0 40 C4 28 00	
9F 0E	Issuer Action Code - Denial	00 10 00 00 00	
9F 0F	Issuer Action Code - Online	F0 68 DC F8 00	
9F 10	Issuer Application Data [DPAS]	xx 05 xx xx xx xx xx xx *	
9F 11	Issuer Code Table Index	01	
9F 12	Application Preferred Name	44 69 6E 65 72 73 20 43 6C 75 62 20 32 20 20 20 - 'Diners Club 2'	
9F 17	Personal Identification Number (PIN) Try Counter	03	
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 4D	Transaction Log Entry	0B 0A	
9F 4F	Transaction Log Format	9F 02 06 5F 2A 02 9A 03 9F 36 02 9F 34 03 9F 52 06 9F 1A 02 95 05 9C 01 8A 02 9F 37 04 9F 03 06 9F 53 08 9F 66 04 9F 71 02 9F 6C 02	
9F 78	Application State [D-PAS]	00	
C1	Application Configuration Options [DPAS]	05 80	
C2	Issuer Life Cycle Data (ILCD) [DPAS]	00 00	
C3	Currency Conversion Codes 1 [DPAS]	08 40 00 00 02	

Tag	Element name	Data	Card v2.0
C4	Currency Conversion Codes 2 [DPAS]	08 40 00 00 02	
C5	Card Action Code - Denial [DPAS]	01 00	
C6	Card Action Code - Default [DPAS]	03 6B	
C7	Card Action Code - Online [DPAS]	B2 7F	
D0	Issuer Application Data ObjectList (IADOL) [DPAS]		
D2	CRM Country Code [DPAS]	08 40 - USA	
D3	CRM Currency Code [DPAS]	08 40 - USD	
DF 20	Transaction Profile Objects(TPO0) [DPAS]	00 18 00 08 01 02 00 01 00 B2 7F 03 6B 00	

### 1.10 Test Card 10 – Discover, DI, Eng, PRO, USD

A Dual Interface Discover credit card with Issuer Country Code of 'Puerto Rico' and Currency Code of 'USD'.

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

#### 1.10.1 Cardholder Verification Method List (Contact)- AID A0000001523010

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

#### 1.10.2 Application Tag data (Contact)

\* Tag value changes with card usage

Tag	Element name	Data	Card v2.0
50	Application Label	44 49 53 43 4F 56 45 52 - 'DISCOVER'	
57	Track 2 Data [Discover]	65 10 00 00 00 00 02 08 D2 31 22 01 10 00 07 49 00 00 0F	
5A	Application Primary Account Number (PAN)	65 10 00 00 00 00 02 08	
5F 20	Cardholder Name	41 54 48 20 50 52 49 4D 41 2F 54 65 73 74 20 43 61 72 64 20 31 30 20 20 20 20 - 'ATH PRIMA/Test Card 10'	
5F 24	Application Expiration Date	23 12 31	
5F 25	Application Effective Date	xx xx xx *	
5F 28	Issuer Country Code	06 30 - PRO	
5F 2D	Language Preference	65 6E - 'en' (English)	
5F 30	Service Code	02 01	
5F 34	Application PAN Sequence Number	01	

Tag	Element name	Data	Card v2.0
82	Application Interchange Profile	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 b1 - Combined DDA / GEN AC NOT supported BYTE 2: b8 - EMV Contactless NOT supported	
84	Dedicated File (DF) Name	A0 00 00 01 52 30 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 34 03	
8D	Card Risk Management Data Object List 2 (CDOL2)	91 0A 8A 02 95 05 9F 37 04	
8E	Cardholder Verification Method (CVM) List	00 00 00 00 00 00 00 00 42 03 5E 03 1F 03	
94	Application File Locator (AFL)	08 01 01 00 18 01 02 01	
9F 07	Application Usage Control	FF 00 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 NOT allowed b7 - International cashback NOT allowed	
9F 08	Application Version Number	00 01	
9F 0D	Issuer Action Code - Default	30 40 E4 28 00	
9F 0E	Issuer Action Code - Denial	00 10 00 00 40	
9F 0F	Issuer Action Code - Online	30 68 C4 F8 00	
9F 10	Issuer Application Data [DPAS]	xx 06 xx xx xx xx xx xx *	
9F 11	Issuer Code Table Index	01	
9F 12	Application Preferred Name	44 69 73 63 6F 76 65 72 - 'Discover'	
9F 17	Personal Identification Number (PIN) Try Counter	03	
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 4D	Transaction Log Entry	0B 0A	
9F 4F	Transaction Log Format	9F 02 06 5F 2A 02 9A 03 9F 36 02 9F 34 03 9F 52 06 9F 1A 02 95 05 9C 01 8A 02 9F 37 04 9F 03 06 9F 53 08 9F 66 04 9F 71 02 9F 6C 02	
9F 78	Application State [D-PAS]	01	
C1	Application Configuration Options [DPAS]	15 60	
C2	Issuer Life Cycle Data (ILCD) [DPAS]	00 00	
C3	Currency Conversion Codes 1 [DPAS]	08 40 00 00 02	
C4	Currency Conversion Codes 2 [DPAS]	08 40 00 00 02	
C5	Card Action Code - Denial [DPAS]	01 00	



Tag	Element name	Data	Card v2.0	
C6	Card Action Code - Default [DPAS]	22 4B		
C7	Card Action Code - Online [DPAS]	F6 7F		
D0	Issuer Application Data ObjectList (IADOL) [DPAS]			
D2	CRM Country Code [DPAS]	06 30 - PRO		
D3	CRM Currency Code [DPAS]	08 40 - USD		
DF 20	Transaction Profile Objects(TPO0) [DPAS]	00 18 00 08 01 01 00 18 01 02 01 00 01 00 F6 7F 22 4B 00		

1.10.3 Cardholder Verification Method List (CL online EMV mode) - AID A0000001523010

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

1.10.4 Application Tag data (CL online EMV mode)

\* Tag value changes with card usage

Tag	Element name	Data	Card v2.0
50	Application Label	44 49 53 43 4F 56 45 52 20 43 4C - 'DISCOVER CL'	
57	Track 2 Data [Discover]	65 10 00 00 00 00 02 08 D2 31 22 01 10 00 07 49 00 00 0F	
5A	Application Primary Account Number (PAN)	65 10 00 00 00 00 02 08	
5F 20	Cardholder Name	41 54 48 20 50 52 49 4D 41 2F 54 65 73 74 20 43 61 72 64 20 31 30 20 20 20 20 - 'ATH PRIMA/Test Card 10'	
5F 24	Application Expiration Date	23 12 31	
5F 25	Application Effective Date	xx xx xx *	
5F 28	Issuer Country Code	06 30 - PRO	
5F 2D	Language Preference	65 6E - 'en' (English)	
5F 30	Service Code	02 01	
5F 34	Application PAN Sequence Number	01	
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 b1 - Combined DDA / GEN AC NOT supported BYTE 2: b8 - EMV Contactless NOT supported	
84	Dedicated File (DF) Name	A0 00 00 01 52 30 10	
87	Application Priority Indicator	01	
8E	Cardholder Verification Method (CVM) List	00 00 00 00 00 00 00 00 00 00 42 03 5E 03 1F 03	
94	Application File Locator (AFL)	08 02 02 00 18 03 04 01	



Tag	Element name	Data	Card v2.0
9F 07	Application Usage Control	FF 00 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 NOT allowed b7 - International cashback NOT allowed	
9F 08	Application Version Number	00 01	
9F 0D	Issuer Action Code - Default	00 00 00 00 00	
9F 0E	Issuer Action Code - Denial	00 00 00 00 00	
9F 0F	Issuer Action Code - Online	00 00 00 00 00	
9F 10	Issuer Application Data [DPAS CL]	xx 15 xx xx xx xx xx xx xx xx *	
9F 11	Issuer Code Table Index	01	
9F 12	Application Preferred Name	20 20 20 20 20 20 20 20 20 - "	
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 4F	Transaction Log Format	9F 02 06 5F 2A 02 9A 03 9F 36 02 9F 34 03 9F 52 06 9F 1A 02 95 05 9C 01 8A 02 9F 37 04 9F 03 06 9F 53 08 9F 66 04 9F 71 02 9F 6C 02	
9F 6C	Card Transaction Qualifiers [DPAS]	00 00	
9F 71	Card Processing Requirements [DPAS]	00 0F	
9F 71	Card Processing Requirements [DPAS]	00 0F	
9F 78	Application State [D-PAS]	01	
BF 51	Contactless D-PAS MS and ZIP Default Profile	82 02 00 00 94 04 08 01 01 00	
C0	Contactless Application Configuration Options (CL-ACO)	00 80	
C2	Issuer Life Cycle Data (ILCD) [DPAS]	00 00	
C3	Currency Conversion Codes 1 [DPAS]	08 40 00 00 02	
C4	Currency Conversion Codes 2 [DPAS]	08 40 00 00 02	
C8	Lower Consecutive Offline Amount (LCOA) Limit [DPAS]	00 00 00 00 00 00	
C9	Upper Consecutive Offline Amount Limit (UCOA) [DPAS]	00 00 00 00 00 00	
CA	Single Transaction Amount (STA) Limit [DPAS]	00 00 00 00 00 00	
CB	Lower Consecutive Offline Limit (LCOL) [DPAS]	00	
CC	Upper Consecutive Offline Transaction Limit (UCOL) [DPAS]	00	
CD	Number of Consecutive Offline Transactions (NCOT) [DPAS]	00	
CE	Cumulative Offline Amount [DPAS]	00 00 00 00 00 00	
D0	Issuer Application Data ObjectList (IADOL) [DPAS]		
D1	Offline Balance [DPAS]	00 00 00 00 00 00	

Tag	Element name	Data	Card v2.0
D2	CRM Country Code [DPAS]	06 30 - PRO	
D3	CRM Currency Code [DPAS]	08 40 - USD	
D4	CVM-Accumulator [DPAS]	00 00 00 00 00 00	
D5	CVM-Cum limit 1	00 00 00 00 00 00	
D6	CVM-Cum limit 2	00 00 00 00 00 00	
D7	CVM-STA limit 1	00 00 00 00 00 00	
D8	CVM-STA limit 2	00 00 00 00 00 00	
D9	CVM-Counter	00	
DA	CVM-Cons limit 1	00	
DB	CVM-Cons limit 2	00	
DE	Counter and Accumulator Control Options (CACO) [D-PAS]	C1 01 21 01 01 00	
DF 30	CRM-CAC Switch Interface [D-PAS]	00 00 00	
DF 31	CRM-CAC Denial [D-PAS]	00 00 00	
DF 32	CRM-CAC Online [D-PAS]	C8 FE FF	
DF 33	CRM-CAC Default [D-PAS]	98 FE EB	
DF 34	CVM Card Action Codes - Online	40 80	
DF 35	CVM Card Action Codes - Signature	00 80	
DF 40	CL-Accumulator	00 00 00 00 00 00	
DF 41	CL-Cum Limit	00 00 00 00 00 00	
DF 42	CL-STA	00 00 00 00 00 00	
DF 43	CL-Counter	00	
DF 44	CL-Cons Limit	00	

#### 1.10.5 Cardholder Verification Method List (CL offline EMV mode) - AID A000001523010

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

#### 1.10.6 Application Tag data (CL offline EMV mode)

\* Tag value changes with card usage

Tag	Element name	Data	Card v2.0
50	Application Label	44 49 53 43 4F 56 45 52 20 43 4C - 'DISCOVER CL'	
57	Track 2 Data [Discover]	65 10 00 00 00 00 02 08 D2 31 22 01 10 00 07 49 00 00 0F	
5A	Application Primary Account Number (PAN)	65 10 00 00 00 00 02 08	
5F 20	Cardholder Name	41 54 48 20 50 52 49 4D 41 2F 54 65 73 74 20 43 61 72 64 20 31 30 20 20 20 20 - 'ATH PRIMA/Test Card 10'	
5F 24	Application Expiration Date	23 12 31	
5F 25	Application Effective Date	xx xx xx *	
5F 28	Issuer Country Code	06 30 - PRO	
5F 2D	Language Preference	65 6E - 'en' (English)	
5F 30	Service Code	02 01	
5F 34	Application PAN Sequence Number	01	

Tag	Element name	Data	Card v2.0
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 b1 - Combined DDA / GEN AC NOT supported BYTE 2: b8 - EMV Contactless NOT supported	
84	Dedicated File (DF) Name	A0 00 00 01 52 30 10	
87	Application Priority Indicator	01	
8E	Cardholder Verification Method (CVM) List	00 00 00 00 00 00 00 00 42 03 5E 03 1F 03	
94	Application File Locator (AFL)	08 02 02 00 18 03 04 01	
9F 07	Application Usage Control	FF 00 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 NOT allowed b7 - International cashback NOT allowed	
9F 08	Application Version Number	00 01	
9F 0D	Issuer Action Code - Default	00 00 00 00 00	
9F 0E	Issuer Action Code - Denial	00 00 00 00 00	
9F 0F	Issuer Action Code - Online	00 00 00 00 00	
9F 10	Issuer Application Data [DPAS CL]	xx 15 xx xx xx xx xx xx xx xx *	
9F 11	Issuer Code Table Index	01	
9F 12	Application Preferred Name	20 20 20 20 20 20 20 20 20 - "	
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 4F	Transaction Log Format	9F 02 06 5F 2A 02 9A 03 9F 36 02 9F 34 03 9F 52 06 9F 1A 02 95 05 9C 01 8A 02 9F 37 04 9F 03 06 9F 53 08 9F 66 04 9F 71 02 9F 6C 02	
9F 6C	Card Transaction Qualifiers [DPAS]	00 00	
9F 71	Card Processing Requirements [DPAS]	00 0F	
9F 71	Card Processing Requirements [DPAS]	00 0F	
9F 78	Application State [D-PAS]	01	
BF 51	Contactless D-PAS MS and ZIP Default Profile	82 02 00 00 94 04 08 01 01 00	
C0	Contactless Application Configuration Options (CL-ACO)	00 80	
C2	Issuer Life Cycle Data (ILCD) [DPAS]	00 00	
C3	Currency Conversion Codes 1 [DPAS]	08 40 00 00 02	
C4	Currency Conversion Codes 2 [DPAS]	08 40 00 00 02	
C8	Lower Consecutive Offline Amount (LCOA) Limit [DPAS]	00 00 00 00 00 00	

Tag	Element name	Data	Card v2.0
C9	Upper Consecutive Offline Amount Limit (UCOA) [DPAS]	00 00 00 00 00 00	
CA	Single Transaction Amount (STA) Limit [DPAS]	00 00 00 00 00 00	
CB	Lower Consecutive Offline Limit (LCOL) [DPAS]	00	
CC	Upper Consecutive Offline Transaction Limit (UCOL) [DPAS]	00	
CD	Number of Consecutive Offline Transactions (NCOT) [DPAS]	00	
CE	Cumulative Offline Amount [DPAS]	00 00 00 00 00 00	
D0	Issuer Application Data ObjectList (IADOL) [DPAS]		
D1	Offline Balance [DPAS]	00 00 00 00 00 00	
D2	CRM Country Code [DPAS]	06 30 - PRO	
D3	CRM Currency Code [DPAS]	08 40 - USD	
D4	CVM-Accumulator [DPAS]	00 00 00 00 00 00	
D5	CVM-Cum limit 1	00 00 00 00 00 00	
D6	CVM-Cum limit 2	00 00 00 00 00 00	
D7	CVM-STA limit 1	00 00 00 00 00 00	
D8	CVM-STA limit 2	00 00 00 00 00 00	
D9	CVM-Counter	00	
DA	CVM-Cons limit 1	00	
DB	CVM-Cons limit 2	00	
DE	Counter and Accumulator Control Options (CACO) [D-PAS]	C1 01 21 01 01 00	
DF 30	CRM-CAC Switch Interface [D-PAS]	00 00 00	
DF 31	CRM-CAC Denial [D-PAS]	00 00 00	
DF 32	CRM-CAC Online [D-PAS]	C8 FE FF	
DF 33	CRM-CAC Default [D-PAS]	98 FE EB	
DF 34	CVM Card Action Codes - Online	40 80	
DF 35	CVM Card Action Codes - Signature	00 80	
DF 40	CL-Accumulator	00 00 00 00 00 00	
DF 41	CL-Cum Limit	00 00 00 00 00 00	
DF 42	CL-STA	00 00 00 00 00 00	
DF 43	CL-Counter	00	
DF 44	CL-Cons Limit	00	

1.10.7 Application Tag data (CL MS mode)

\* Tag value changes with card usage

Tag	Element name	Data	Card v2.0
50	Application Label	44 49 53 43 4F 56 45 52 20 43 4C -	
56	Track 1 Data [Discover]	42 36 35 31 30 30 30 30 30 30 30 30 30 30 30 30 32 30 38 5E 41 54 48 20 50 52 49 4D 41 2F 54 65 73 74 20 43 61 72 64 20 31 30 20 20 20 20 5E 32 33 31 32 32 30 31 31 30 30 30 30 37 34 39 30 30 30 30 30 00 00 00 00 00 00 00 00	
57	Track 2 Data [Discover]	65 10 00 00 00 00 02 08 D2 31 22 01 10 00 07 49 00 00 0F	
5F 2D	Language Preference	65 6E - 'en' (English)	

Tag	Element name	Data	Card v2.0
82	Application Interchange Profile [DPAS CL]	00 00 BYTE 1: b7 - Offline SDA NOT supported b6 - Offline DDA NOT supported b5 - Cardholder verification NOT supported b4 - Terminal risk mgmt NOT 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	
87	Application Priority Indicator	01	
94	Application File Locator (AFL)	08 01 01 00	
9F 11	Issuer Code Table Index	01	
9F 12	Application Preferred Name	20 20 20 20 20 20 20 20 20 -"	
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	
BF 51	Contactless D-PAS MS and ZIP Default Profile	82 02 00 00 94 04 08 01 01 00	

## Chapter 2 - ASCII Character Conversion Chart

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