



**Bermuda
EMV™ Test Card Set**

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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 - Global Payments Bermuda EMV Test Card Set Profiles

This Global Payments User Acceptance Testing Bermuda EMV Test Card Set contains 5 cards including samples from the following card brands.



	Test Card 01	Test Card 02	Test Card 03
Brand	Visa	Visa	Mastercard
Type	Credit	Debit	Credit
AID	A0000000031010	A0000000031010	A0000000041010
PAN	4761 7390 0101 0119	4761 7390 0101 0135	5413 3300 8960 4111
Expiry Date	12/2022	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	\$10.00	\$10.00	\$20.00
Issuer Country Code	060 – Bermuda	060 – Bermuda	060 – Bermuda
Application Currency Code	060 – BMD	060 – BMD	060 – BMD
Language(s)	'en' – English	'en' – English	'en' – English
Card Version	v2.0	v2.0	v2.0

	Test Card 04	Test Card 05
Brand	Mastercard	Amex
Type	Debit	Credit
AID	A0000000041010	A000000025010402 A0000000291010
PAN	5413 3300 8909 9130	3742 450027 71003
Expiry Date	12/2022	12/2024
Service Code	201	201
Interface	Contact, Contactless, MSR	Contact, Contactless, MSR
CVM	See card definition	See card definition
Approval Amount	\$20.00	\$68.00
Issuer Country Code	060 – Bermuda	060 – Bermuda
Application Currency Code	060 – BMD	060 – BMD
Language(s)	'en' – English	'en' – English
Card Version	v2.0	v2.0

1.1 Test Card 01 – Visa, DI, Credit, Eng/Spa/Por/Fre, Bermuda, BMD

A Dual Interface Visa credit card with Issuer Country Code of ‘Bermuda’ and Currency Code of ‘BMD’.

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

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

Cardholder Verification Method List ('0201 0204 1E04 1E05 1E03 1F02 0000')			
CVM	Verification Method	Conditions	If unsuccessful
1	Online PIN	Unattended Cashe	Fail
2	Online PIN	Manual Cash	Fail
3	Signature (paper)	Manual Cash	Fail
4	Signature (paper)	Purchase with Cashback	Fail
5	Signature (paper)	Terminal supports CVM type	Fail
6	No CVM required	Not Unattended Cash, Manual Cash or Cashback	Fail
7	Fail CVM Processing	Always	Fail

1.1.2 Application Tag data (Contact, EMV)

* Tag value changes with card usage

Tag	Element name	Data	v2.x
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 01 19 D2 21 22 01 11 43 80 44 00 00 0F	
5A	Application Primary Account Number (PAN)	47 61 73 90 01 01 01 19	
5F 20	Cardholder Name	47 50 43 20 42 45 52 4D 55 44 41 2F 54 65 73 74 20 43 61 72 64 20 30 31 20 20 - 'GPC BERMUDA/Test Card 01'	
5F 24	Application Expiration Date	22 12 31	
5F 25	Application Effective Date	xx xx xx	
5F 28	Issuer Country Code	00 60 - BMU	
5F 2D	Language Preference	65 6E 65 73 70 74 66 72 - 'en;es;pt;fr' (English, Spanish, Portuguese, French)	
5F 30	Service Code	02 01	
5F 34	Application PAN Sequence Number	01	
82	Application Interchange Profile [VSDC]	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 Authenticate command b1 - Combined DDA / GEN AC NOT supported BYTE 2: b8 - Mag-stripe mode NOT supported b7 - Is NOT Mobile phone	
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	

Tag	Element name	Data	v2.x
8E	Cardholder Verification Method (CVM) List	00 00 00 00 00 00 00 00 02 01 02 04 1E 04 1E 05 1E 03 1F 02 00 00	
8F	Certification Authority Public Key Index	92	
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 04 01 B0 01 01 00	
9F 07	Application Usage Control	FF 80 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 NOT allowed	
9F 08	Application Version Number	00 96	
9F 0D	Issuer Action Code - Default	98 68 C4 A8 00	
9F 0E	Issuer Action Code - Denial	24 10 28 00 00	
9F 0F	Issuer Action Code - Online	98 68 D4 F8 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	v2.x
9F 46	ICC Public Key Certificate	73 3B 45 67 FB 2A DA 3E 4C DE 87 A4 A1 7A AF 5E 0C 0B 8A 39 A6 97 E5 6E F5 66 61 1E C5 21 22 C7 09 3B 1F 53 D1 3B 4E D7 8A AB 1E 39 61 05 1B 27 9A B1 B5 8F AB 73 46 D6 83 E5 8B 9B FE 2E DA 70 95 4B 3C E5 06 2F 14 DD E5 F4 C1 F2 B6 69 9A 40 78 F2 A7 AC 16 E3 EE 0E 8C 9A AA 6C F3 EB 93 8A B2 AD A3 08 45 C8 62 35 01 53 2C 7C 0F E3 9A D0 1B BC 81 8B 1D C5 C4 4D B0 32 0D 54 A3 F3 6A 56 47 13 4B A4 80 C3 A7 2B DC 20 F8 CF 80 9F 56 80 7F 84 E0 A6 2A 43 AA 68 08 CF 3D 84 ED FA 64 81 BF DD 4C 1B C5 5B 2C 6B E6 EF 47 07 37 6F EE 79	
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	6E C8 47 F0 5C 50 C6 CE DA EE B1 7F 0E 50 B9 D1 C6 A7 FB 14 C4 44 B5 41 7E 60 46 EC A5 9F 3E DB 77 E5 02 85 68 D2 7C 68 B4 AF BA 1C 52 D4 83 58 6F 57 96 BC 56 4B 1C 51 25 94 A1 BF F1 42 8D A3 0A A1 28 44 D3 2E DF 54 20 14 F5 EB 49 CE AD E1 D0 D7 FE 69 BE 01 B8 73 FD 59 40 50 F7 C1 9D 2E 0B 14 FB 26 01 83 2C 93 61 55 A9 E8 94 4F 24 30 4B E8 DD BF 5E 40 B5 77 87 4A D1 F0 7E E6 CE 2E	
9F 51	Application Currency Code [VSDC]	00 60 - BMD	
9F 52	Application Default Action [VSDC VIS 1.5]	C3 38 1B 00 00 00	
9F 53	Consecutive Transaction Limit (International) [VSDC]	00	
9F 54	Cumulative Total Transaction Amount Limit [VSDC]	00 00 00 00 00 00	
9F 56	Issuer Authentication Indicator [VSDC]	80	
9F 57	Issuer Country Code [VSDC]	00 60 - BMU	
9F 58	Consecutive Transaction Counter Limit [VSDC]	00	
9F 59	Consecutive Transaction Counter Upper Limit [VSDC]	00	
9F 5C	Cumulative Total Transaction Amount Upper Limit [VSDC]	00 00 00 00 00 00	
9F 5E	Consecutive Transaction International Upper Limit [VSDC]	00	
9F 68	Card Additional Processes [qVSDC VCPS 2.1]	4D 90 10 00	
9F 72	Consecutive Transaction Limit (International-Country) [VSDC]	00	
BF 55	Contactless Counters Data Template	DF 11 01 01 DF 21 01 00 DF 31 01 00	
BF 56	Counters Data Template	DF 11 01 00 DF 21 01 00 DF 31 01 00	
BF 57	International Counters Data Template	DF 11 01 00 DF 21 01 00 DF 31 01 00 DF 51 01 00 DF 61 01 00	
BF 58	Amounts Data Template	DF 11 06 00 00 00 00 00 00 00 DF 21 06 00 00 00 00 00 00 DF 31 06 00 00 00 00 00 00	
BF 5B	Application Internal Data Template	DF 01 02 00 00	

* Tag value changes with card usage

1.1.3 Application Tag data (Contactless, online)

* Tag value changes with card usage

Tag	Element name	Data	v2.x
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 01 19 D2 21 22 01 11 43 80 44 00 00 0F	
5A	Application Primary Account Number (PAN)	47 61 73 90 01 01 01 19	
5F 24	Application Expiration Date	22 12 31	
5F 2D	Language Preference	65 6E 65 73 70 74 66 72 - 'en;es;pt;fr' (English, Spanish, Portuguese, French)	
5F 34	Application PAN Sequence Number	01	
82	Application Interchange Profile [VCPS]	20 00 BYTE 1: b7 - Offline SDA (online Auth) NOT supported b6 - Offline DDA 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	
8F	Certification Authority Public Key Index	92	
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 04 05 00	
9F 10	Issuer Application Data [VSDC]	xx xx 0A xx xx xx xx *	
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 32	Issuer Public Key Exponent	03	
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	

Tag	Element name	Data	v2.x
9F 46	ICC Public Key Certificate	A7 29 0E 35 1C BE 51 D8 B6 4F D3 A0 25 84 34 7A 5F 46 E8 F1 35 E3 81 E5 28 CB 01 74 AF 3C 3C 2E 62 37 B5 9A EF 3A F5 A8 6A A6 F1 16 C8 F3 64 04 07 A9 63 B4 4B 69 4A EF A3 F2 87 C4 32 63 98 7A F4 C0 CC 1F 6D 4A B5 18 C5 4E DB 1B 89 88 44 A0 6C 17 9C 50 B3 0B 62 D3 9B F2 8E D9 AC 68 9D E8 3D 0E E1 80 D9 A7 1D C1 A6 9C 4F 26 47 E4 7D 48 71 6C 05 04 89 1C A1 6F 25 23 53 93 9E 67 78 0D 59 8E 1C 5F 88 71 45 08 AE BC 87 6F 65 F0 B4 AB 7F C9 54 F8 C1 C4 29 F5 6B C9 4F B3 35 7D 87 34 E8 EF BB E3 B5 22 4E FD 90 FF 14 5D C8 FD A3 B7	
9F 47	ICC Public Key Exponent	03	
9F 4A	Static Data Authentication Tag List	82	
9F 4B	Signed Dynamic Application Data	B8 19 2C E9 16 B6 DF 65 60 A5 66 1F A6 1F F2 65 3F 9D 02 3A 2D 0D EC 13 87 57 23 0D 72 7A 92 54 01 4F 68 38 F4 B4 2A 25 30 F0 7D 06 90 61 BC E6 9C 3B 90 0A BA 4F D4 87 F8 53 36 90 1B 0F 4E 5A 33 49 7A B1 BA 56 19 96 97 16 5C 8C E7 A4 84 BD B9 F9 03 84 E1 41 82 C5 E6 3C 20 1E A8 E8 11 C5 FD 08 BB 59 D3 9A 97 CA CF 78 D1 53 EA 1A 43 BC 9B 51 E5 3E C9 69 A2 B5 06 3D C9 29 88 A8 5B 12	
9F 51	Application Currency Code [VSDC]	00 60 - BMD	
9F 52	Application Default Action [VSDC VIS 1.5]	C3 38 1B 00 00 00	
9F 53	Consecutive Transaction Limit (International) [VSDC]	00	
9F 54	Cumulative Total Transaction Amount Limit [VSDC]	00 00 00 00 00 00	
9F 56	Issuer Authentication Indicator [VSDC]	80	
9F 57	Issuer Country Code [VSDC]	00 60 - BMU	
9F 58	Consecutive Transaction Counter Limit [VSDC]	00	
9F 59	Consecutive Transaction Counter Upper Limit [VSDC]	00	
9F 5A	Application Program Identifier	52 00 60 00 60	
9F 5C	Cumulative Total Transaction Amount Upper Limit [VSDC]	00 00 00 00 00 00	
9F 5E	Consecutive Transaction International Upper Limit [VSDC]	00	
9F 68	Card Additional Processes [qVSDC VCPS 2.1]	4D 90 10 00	

Tag	Element name	Data	v2.x
9F 69	Card Authentication Related Data [qVSDC]	01 A8 D4 14 53 28 40 LAST TWO BYTES BYTE 1: b8 - Online PIN NOT required b7 - Signature NOT required b6 - Do 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 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 NOT performed b7 - Card does Support Issuer Update Processing at POS b2 - NOT valid at ATMs	
9F 6C	Card Transaction Qualifiers [qVSDC VCPS 2.1]	28 40	
9F 6E	Form Factor Indicator [qVSDC]	20 70 00 00	
9F 72	Consecutive Transaction Limit (International-Country) [VSDC]	00	
BF 55	Contactless Counters Data Template	DF 11 01 01 DF 21 01 00 DF 31 01 00	
BF 56	Counters Data Template	DF 11 01 00 DF 21 01 00 DF 31 01 00	
BF 57	International Counters Data Template	DF 11 01 00 DF 21 01 00 DF 31 01 00 DF 51 01 00 DF 61 01 00	
BF 58	Amounts Data Template	DF 11 06 00 00 00 00 00 00 DF 21 06 00 00 00 00 00 00 DF 31 06 00 00 00 00 00 00	
BF 5B	Application Internal Data Template	DF 01 02 00 00	

* Tag value changes with card usage

1.2 Test Card 02 – Visa, DI, Debit, Eng/Spa/Por/Fre, Bermuda, BMD

A Dual Interface Visa credit card with Issuer Country Code of 'Bermuda' and Currency Code of 'BMD'.

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

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

Cardholder Verification Method List ('0201 0204 1E04 0205 0203 1E03 1F02 0000')			
CVM	Verification Method	Conditions	If unsuccessful
1	Online PIN	Unattended Cashe	Fail
2	Online PIN	Manual Cash	Fail
3	Signature (paper)	Manual Cash	Fail
4	Online PIN	Purchase with Cashback	Fail
5	Online PIN	Terminal supports CVM type	Fail
6	Signature (paper)	Terminal supports CVM type	Fail
7	No CVM required	Not Unattended Cash, Manual Cash or Cashback	Fail
8	Fail CVM Processing	Always	Fail

1.2.2 Application Tag data (Contact, EMV)

* Tag value changes with card usage

Tag	Element name	Data	v2.x
50	Application Label	56 49 53 41 20 44 45 42 49 54 - 'VISA DEBIT'	
57	Track 2 Equivalent Data	47 61 73 90 01 01 01 35 D2 21 22 01 19 55 94 58 00 00 0F	
5A	Application Primary Account Number (PAN)	47 61 73 90 01 01 01 35	
5F 20	Cardholder Name	47 50 43 20 42 45 52 4D 55 44 41 2F 54 65 73 74 20 43 61 72 64 20 30 32 20 20 - 'GPC BERMUDA/Test Card 02'	
5F 24	Application Expiration Date	22 12 31	
5F 25	Application Effective Date	xx xx xx	
5F 28	Issuer Country Code	00 60 - BMU	
5F 2D	Language Preference	65 6E 65 73 70 74 66 72 - 'en;es;pt;fr' (English, Spanish, Portuguese, French)	
5F 30	Service Code	02 01	
5F 34	Application PAN Sequence Number	01	
82	Application Interchange Profile [VSDC]	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 Authenticate command b1 - Combined DDA / GEN AC NOT supported BYTE 2: b8 - Mag-stripe mode NOT supported b7 - Is NOT Mobile phone	
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	

Tag	Element name	Data	v2.x
8E	Cardholder Verification Method (CVM) List	00 00 00 00 00 00 00 00 02 01 02 04 1E 04 02 05 02 03 1E 03 1F 02 00 00	
8F	Certification Authority Public Key Index	92	
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 04 01 B0 01 01 00	
9F 07	Application Usage Control	FF 80 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 NOT allowed	
9F 08	Application Version Number	00 96	
9F 0D	Issuer Action Code - Default	98 68 C4 A8 00	
9F 0E	Issuer Action Code - Denial	24 10 28 00 00	
9F 0F	Issuer Action Code - Online	98 68 D4 F8 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 44 65 62 69 74 - 'Visa Debit'	
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 30 30 34 34 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	v2.x
9F 46	ICC Public Key Certificate	84 38 39 3B 59 AF CF 64 05 A8 68 96 09 8F 3F 28 A4 0B 4C 14 B9 2D 96 FB 8F F9 1C 8C 95 74 93 8D A2 99 D2 C0 2C 83 5C A6 68 D0 FF 8E 61 EA C2 30 5B 36 BF 71 6D C3 47 98 B8 88 96 F3 26 DB 0F 25 39 0F D1 19 70 BD F1 0E 35 89 EE EB 73 48 60 80 81 1F 20 AE 32 B8 31 35 D4 0F 14 5B A6 CD 82 B0 4A 70 9C 92 0E 51 76 9D 96 F5 AE 6A A0 9D 77 27 84 C1 46 A8 94 2B C5 BE 01 0A 02 F5 1A E6 09 C5 D8 DF A7 A5 B3 17 55 2E 62 55 19 F4 43 B0 C1 4D 7D AB 40 08 6B 38 72 AB 50 9C DA 45 1A 2B 1D 80 B7 D8 97 02 1D 3D 24 EF EE 67 B3 CC 66 C1 9A AF	
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	06 3D 28 AA 76 C6 80 46 22 90 FE 19 A3 49 99 59 FE C7 CB 29 05 DA 4E EE 7C FF DA 28 26 00 0D 64 60 8F 59 3F 7F F2 BB E2 AE 0B 88 25 66 0C D3 A2 07 ED 91 AF 78 00 66 14 3F 18 95 79 98 58 B7 DF F0 06 14 A9 F6 C1 0E B5 A9 1A FC 24 B5 53 E4 E6 C9 12 D3 2A 0F 8E E9 20 9A 93 8F AD 0D 24 E1 86 15 AA 46 E0 59 AC A4 B6 60 28 9A 83 F6 E3 2D 81 E3 74 3D 46 63 76 B8 90 C3 0A B9 E5 BC 49 69 FE	
9F 51	Application Currency Code [VSDC]	00 60 - BMD	
9F 52	Application Default Action [VSDC VIS 1.5]	C0 30 00 80 00 00	
9F 53	Consecutive Transaction Limit (International) [VSDC]	00	
9F 54	Cumulative Total Transaction Amount Limit [VSDC]	00 00 00 00 00 00	
9F 56	Issuer Authentication Indicator [VSDC]	00	
9F 57	Issuer Country Code [VSDC]	00 60 - BMU	
9F 58	Consecutive Transaction Counter Limit [VSDC]	00	
9F 59	Consecutive Transaction Counter Upper Limit [VSDC]	00	
9F 5C	Cumulative Total Transaction Amount Upper Limit [VSDC]	00 00 00 00 00 00	
9F 5E	Consecutive Transaction International Upper Limit [VSDC]	00	
9F 68	Card Additional Processes [qVSDC VCPS 2.1]	4D 90 D0 00	
9F 72	Consecutive Transaction Limit (International-Country) [VSDC]	00	
BF 55	Contactless Counters Data Template	DF 11 01 00 DF 21 01 00 DF 31 01 00	
BF 56	Counters Data Template	DF 11 01 01 DF 21 01 00 DF 31 01 00	
BF 57	International Counters Data Template	DF 11 01 01 DF 21 01 00 DF 31 01 00 DF 51 01 01 DF 61 01 00	
BF 58	Amounts Data Template	DF 11 06 00 00 00 00 00 00 DF 21 06 00 00 00 00 00 00 DF 31 06 00 00 00 00 00 00	
BF 5B	Application Internal Data Template	DF 01 02 00 00	

* Tag value changes with card usage

1.2.3 Application Tag data (Contactless, online)

* Tag value changes with card usage

Tag	Element name	Data	v2.x
50	Application Label	56 49 53 41 20 44 45 42 49 54 - 'VISA DEBIT'	
57	Track 2 Equivalent Data	47 61 73 90 01 01 01 35 D2 21 22 01 19 55 94 58 00 00 0F	
5A	Application Primary Account Number (PAN)	47 61 73 90 01 01 01 35	
5F 24	Application Expiration Date	22 12 31	
5F 2D	Language Preference	65 6E 65 73 70 74 66 72 - 'en;es;pt;fr' (English, Spanish, Portuguese, French)	
5F 34	Application PAN Sequence Number	01	
82	Application Interchange Profile [VCPS]	20 00 BYTE 1: b7 - Offline SDA NOT supported b6 - Offline DDA supported b5 - Cardholder verification NOT supported b4 - Terminal risk mgmt NOT to be performed b3 - Issuer authentication NOT supported using External Authenticate command b1 - Combined DDA / GEN AC NOT supported BYTE 2: b8 - Mag-stripe mode NOT supported b7 - Is NOT Mobile phone	
84	Dedicated File (DF) Name	A0 00 00 00 03 10 10	
8F	Certification Authority Public Key Index	92	
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 04 05 00	
9F 10	Issuer Application Data [VSDC]	xx xx 0A xx xx xx xx *	
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 *	
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 66 04 9F 02 06 9F 03 06 9F 1A 02 95 05 5F 2A 02 9A 03 9C 01 9F 37 04	

Tag	Element name	Data	v2.x
9F 46	ICC Public Key Certificate	36 36 F9 D7 D4 3E CB 44 3F C7 35 10 56 16 00 5B 1C C1 77 CA C6 5C 3C B7 9F C7 9F 1C 93 31 5B 28 1F 5B 4E F1 18 0F 43 14 8E 8B E5 1C 87 69 95 8B E9 3B 31 F5 47 61 EB 3E 5E 9A BC 8D 51 70 20 44 A9 B3 73 AC 72 E6 FC A6 DD 02 E6 B8 AF AE A9 4B 5A DD 6F E6 4F 5C 33 45 6A 7F 39 6E AF BE D5 D7 A0 EE 56 8C A9 F6 09 29 17 91 18 B4 CF 54 A9 82 67 88 5F E2 03 EA CA 30 31 45 9F 33 4A 6C 19 8B 98 17 E7 17 BF 0C F5 B8 55 4E 43 F0 23 6A 41 74 DC 96 81 D5 9C B3 19 51 EB C2 4B EC 9F 88 F4 C9 54 48 03 96 25 39 8C 59 E4 99 EE 4D 62 33 FE 62	
9F 47	ICC Public Key Exponent	03	
9F 4A	Static Data Authentication Tag List	82	
9F 4B	Signed Dynamic Application Data	84 5B 6B D9 0E 7D 69 28 A3 EB 78 BE 06 63 43 CC BF CD FB 6B 86 04 80 8E 7A 0B D3 AC DF 9E 7B DC 8E BA CE 9F 4C 87 8A 21 46 97 28 56 2B FA 68 8B 63 BA 08 53 68 C5 18 65 78 06 F3 07 61 AF 5C D3 20 91 43 55 CB B5 53 A7 5C 3D CC 5A FC 27 A5 9E A6 1D 4F 00 3C B2 DD EE 5A AD 33 25 38 B4 1A DB 92 B7 45 12 A8 59 F3 6F 8A 4B F9 61 0E 2B EF E3 47 A7 64 1D C8 AE D5 89 B5 7B 4D 6D 25 97 16 88	
9F 51	Application Currency Code [VSDC]	00 60 - BMD	
9F 52	Application Default Action [VSDC VIS 1.5]	C0 30 00 80 00 00	
9F 53	Consecutive Transaction Limit (International) [VSDC]	00	
9F 54	Cumulative Total Transaction Amount Limit [VSDC]	00 00 00 00 00 00	
9F 56	Issuer Authentication Indicator [VSDC]	00	
9F 57	Issuer Country Code [VSDC]	00 60 - BMU	
9F 58	Consecutive Transaction Counter Limit [VSDC]	00	
9F 59	Consecutive Transaction Counter Upper Limit [VSDC]	00	
9F 5A	Application Program Identifier	52 00 60 00 60	
9F 5C	Cumulative Total Transaction Amount Upper Limit [VSDC]	00 00 00 00 00 00	
9F 5E	Consecutive Transaction International Upper Limit [VSDC]	00	
9F 68	Card Additional Processes [qVSDC VCPS 2.1]	4D 90 D0 00	

Tag	Element name	Data	v2.x
9F 69	Card Authentication Related Data [qVSDC]	01 03 B7 F4 25 28 40 LAST TWO BYTES BYTE 1: b8 - Online PIN NOT required b7 - Signature NOT required b6 - Do 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 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 NOT performed b7 - Card does Support Issuer Update Processing at POS b2 - NOT valid at ATMs	
9F 6C	Card Transaction Qualifiers [qVSDC VCPS 2.1]	28 40	
9F 6E	Form Factor Indicator [qVSDC]	20 70 00 00	
9F 72	Consecutive Transaction Limit (International-Country) [VSDC]	00	
BF 55	Contactless Counters Data Template	DF 11 01 00 DF 21 01 00 DF 31 01 00	
BF 56	Counters Data Template	DF 11 01 00 DF 21 01 00 DF 31 01 00	
BF 57	International Counters Data Template	DF 11 01 00 DF 21 01 00 DF 31 01 00 DF 51 01 00 DF 61 01 00	
BF 58	Amounts Data Template	DF 11 06 00 00 00 00 00 00 DF 21 06 00 00 00 00 00 00 DF 31 06 00 00 00 00 00 00	
BF 5B	Application Internal Data Template	DF 01 02 00 00	

* Tag value changes with card usage

1.3 Test Card 03 – Mastercard, DI, Credit, English, Bermuda, BMD

A Dual Interface Mastercard credit card with Issuer Country Code of ‘Bermuda’ and Currency Code of ‘BMD’.

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

1.3.1 Cardholder Verification Method List (Contact) - AID A0000000041010

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

1.3.2 Application Tag data (Contact, EMV)

* Tag value changes with card usage

Tag	Element name	Data	v2.x
50	Application Label	4D 41 53 54 45 52 43 41 52 44 - 'MASTERCARD'	
57	Track 2 Equivalent Data	54 13 33 00 89 60 41 11 D2 21 22 01 01 23 40 91 72 02 9F	
5A	Application Primary Account Number (PAN)	54 13 33 00 89 60 41 11	
5F 20	Cardholder Name	47 50 43 20 42 45 52 4D 55 44 41 2F 54 65 73 74 20 43 61 72 64 20 30 33 20 20 - 'GPC BERMUDA/Test Card 03'	
5F 24	Application Expiration Date	22 12 31	
5F 25	Application Effective Date	xx xx xx	
5F 28	Issuer Country Code	00 60 - BMU	
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 [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 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	
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 44 03 41 03 5E 03 1F 03	
8F	Certification Authority Public Key Index	FA	

Tag	Element name	Data	v2.x
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	BC 50 9C 88 00	
9F 0E	Issuer Action Code - Denial	00 00 00 00 00	
9F 0F	Issuer Action Code - Online	BC 70 9C 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 63 61 72 64 - 'Mastercard'	
9F 14	Lower Consecutive Offline Limit	00	
9F 17	Personal Identification Number (PIN) Try Counter	09	
9F 1F	Track 1 Discretionary Data	30 31 32 33 34 30 39 31 37 32 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	00 60 - BMD	
9F 44	Application Currency Exponent	02	
9F 46	ICC Public Key Certificate	30 8C A8 1E E9 1D 61 6B C3 06 4D A4 21 12 24 BF 13 3A 4B B7 6A 9D 20 5E 96 E6 D9 81 0D 84 61 C3 0D 55 FE 6D CC 69 90 EB AA 9C 73 CC A3 39 BC 6F 0B BF 39 64 FD 0E 9A B8 AC 55 C7 2A 0D F7 45 AA CF 40 3C 40 8C E0 8E 28 EA 06 BD EA 46 66 95 A4 3D 7A CA 58 06 F4 29 39 AD EB 59 2E 71 E6 2D 5F A6 3B 23 98 3A 92 26 47 CC 5B 95 9B 28 56 3D E3	
9F 47	ICC Public Key Exponent	03	

Tag	Element name	Data	v2.x
9F 48	ICC Public Key Remainder	6D 7A 98 71 67 74 E4 23 26 59 0B F0 E8 5D AE 06 0D 2B 60 D3 DB 9A 8D 1F 1C DE 05 5E 6F 18 78 8F 9F 1F C2 D5 65 5D F3 C5 98 13	
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]	00 60 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 50 00	
C5	Card Issuer Action Code - Online [Mastercard]	00 FB 00	
C6	Counters [Mastercard]	00 03 00 00 00 00 00 00 00 00	
C7	CDOL1 Related Data Length [Mastercard]	2B	
C8	CRM Country Code [Mastercard]	00 60 - BMU	
C9	CRM Currency Code [M/Chip4]	00 60 - BMD	
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	
CF	Card Issuer Action Code - Denial [PayPass M/Chip]	00 00 00	
D1	Currency Conversion Table [M/Chip]	00 60 00 00 00 00 60 00 00 00 00 60 00 00 00 00 60 00 00 00 00 60 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]	CC 00	
D6	Default ARPC Response Code [M/Chip4]	00 10	
D7	Application Control [PayPass M/Chip]	40 01 40	
DF 02	Security Limits Status [Mastercard]	00	

* Tag value changes with card usage

1.3.3 Cardholder Verification Method List (CLS) - AID A000000041010

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

1.3.4 Application Tag data (Contactless, online)

* Tag value changes with card usage

Tag	Element name	Data	v2.x
50	Application Label	4D 41 53 54 45 52 43 41 52 44 - 'MASTERCARD'	
56	Track 1 Equivalent Data [Mastercard]	42 35 34 31 33 33 33 30 30 38 39 36 30 34 31 31 31 5E 20 2F 5E 32 32 31 32 32 30 31 30	
57	Track 2 Equivalent Data	54 13 33 00 89 60 41 11 D2 21 22 01 01 23 40 91 72 02 9F	
5A	Application Primary Account Number (PAN)	54 13 33 00 89 60 41 11	
5F 24	Application Expiration Date	22 12 31	
5F 25	Application Effective Date	xx xx xx	
5F 28	Issuer Country Code	00 60 - BMU	
5F 2D	Language Preference	65 6E - 'en' (English)	
5F 34	Application PAN Sequence Number	01	
82	Application Interchange Profile [M/Chip, 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 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	
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 5E 03 1F 03	
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 01 01 00 10 01 01 01 18 01 01 00 20 01 02 00	

Tag	Element name	Data	v2.x
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	BC 50 9C 88 00	
9F 0E	Issuer Action Code - Denial	00 00 00 00 00	
9F 0F	Issuer Action Code - Online	BC 70 9C 98 00	
9F 10	Issuer Application Data [M/Chip 4]	xx 11 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 - 'Mastercard'	
9F 14	Lower Consecutive Offline Limit	00	
9F 17	Personal Identification Number (PIN) Try Counter	09	
9F 23	Upper Consecutive Offline Limit	00	
9F 27	Cryptogram Information Data (CID)	80	
9F 32	Issuer Public Key Exponent	03	
9F 36	Application Transaction Counter (ATC)	xx xx *	
9F 46	ICC Public Key Certificate	0C 00 F7 C4 95 0E 73 50 2B 44 14 6D C8 DF 57 65 C6 12 C8 28 98 EE 89 FC 22 77 92 B4 08 10 3B 3F 8C 05 AF AF 2B A8 A1 AB E0 A9 FF 71 C9 F6 B1 55 83 B8 36 C0 E8 D3 A6 79 D0 0E 7D E2 46 07 4F 46 00 21 FC D4 CC 08 27 3A 87 86 01 CB C3 C3 B1 D1 F5 13 54 77 C8 E6 D6 65 DE 4D 6E 5E 53 8B 63 ED 45 6C 4E A3 FF B6 0D 46 A8 4D 02 20 FD 48 29 5B	
9F 47	ICC Public Key Exponent	03	
9F 48	ICC Public Key Remainder	6D 7A 98 71 67 74 E4 23 26 59 0B F0 E8 5D AE 06 0D 2B 60 D3 DB 9A 8D 1F 1C DE 05 5E 6F 18 78 8F 9F 1F C2 D5 65 5D F3 C5 98 13	
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]	E3 0C	
9F 61	CVC3track2 [Mastercard]	1A EB	
9F 62	Track 1 Bitmap for CVC3 (PCVC3 Track 1) [Mastercard]	00 00 00 38 00 00	
9F 63	Track 1 Bitmap for UN and ATC (PUNATC Track 1) [Mastercard]	00 00 00 00 E0 E0	
9F 64	Track 1 Number of ATC Digits (NATC Track 1) [Mastercard]	03	
9F 65	Track 2 Bitmap for CVC3 (PCVC3 Track 2) [Mastercard]	00 0E	
9F 66	Track 2 Bitmap for UN and ATC (PUNATC Track 2) [Mastercard]	0E 70	

Tag	Element name	Data	v2.x
9F 67	Track 2 Number of ATC Digits (NATC Track 2) [Mastercard]	03	
9F 6B	Track 2 Equivalent Data [Mastercard]	54 13 33 00 89 60 41 11 D2 21 22 01 00 00 40 00 00 00 0F	
9F 6C	Application Version [Mastercard]	00 01	
9F 6E	Third Party Data [Mastercard]	00 60 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 50 00	
C5	Card Issuer Action Code - Online [Mastercard]	00 FB 00	
C6	Counters [Mastercard]	00 01 00 00 00 00 00 00 00 00	
C7	CDOL1 Related Data Length [Mastercard]	2B	
C8	CRM Country Code [Mastercard]	00 60 - BMU	
C9	CRM Currency Code [M/Chip4]	00 60 - BMD	
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	
CF	Card Issuer Action Code - Denial [PayPass M/Chip]	00 00 00	
D1	Currency Conversion Table [M/Chip]	00 60 00 00 00 00 60 00 00 00 00 60 00 00 00 00 60 00 00 00 00 60 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]	CC 00	
D6	Default ARPC Response Code [M/Chip4]	00 10	
D7	Application Control [PayPass M/Chip]	40 01 40	
DF 02	Security Limits Status [Mastercard]	00	

* Tag value changes with card usage

1.4 Test Card 04 – Mastercard, DI, Debit, English, Bermuda, BMD

A Dual Interface Mastercard credit card with Issuer Country Code of ‘Bermuda’ and Currency Code of ‘BMD’.

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

1.4.1 Cardholder Verification Method List (Contact) - AID A0000000041010

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

1.4.2 Application Tag data (Contact, EMV)

* Tag value changes with card usage

Tag	Element name	Data	v2.x
50	Application Label	44 45 42 49 54 20 4D 41 53 54 45 52 43 41 52 44 - 'MASTERCARD'	
57	Track 2 Equivalent Data	54 13 33 00 89 09 91 30 D2 21 22 01 11 48 35 94 90 00 0F	
5A	Application Primary Account Number (PAN)	54 13 33 00 89 09 91 30	
5F 20	Cardholder Name	47 50 43 20 42 45 52 4D 55 44 41 2F 54 65 73 74 20 43 61 72 64 20 30 34 20 20 - 'GPC BERMUDA/Test Card 04'	
5F 24	Application Expiration Date	22 12 31	
5F 25	Application Effective Date	xx xx xx	
5F 28	Issuer Country Code	00 60 - BMU	
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 [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 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	
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 44 03 41 03 5E 03 1F 03	
8F	Certification Authority Public Key Index	FA	

Tag	Element name	Data	v2.x
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 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	BC 50 BC 80 00	
9F 0E	Issuer Action Code - Denial	00 00 00 00 00	
9F 0F	Issuer Action Code - Online	BC 70 BC 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	44 65 62 69 74 20 4D 61 73 74 65 72 63 61 72 64 - 'Debit Mastercard'	
9F 14	Lower Consecutive Offline Limit	00	
9F 17	Personal Identification Number (PIN) Try Counter	09	
9F 1F	Track 1 Discretionary Data	31 34 38 33 35 39 34 39 30 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	00 60 - BMD	
9F 44	Application Currency Exponent	02	
9F 46	ICC Public Key Certificate	3C A2 5F 44 CC 37 E5 10 35 4E 3E A6 A6 5D 52 D8 03 3F C8 E7 C1 7E A5 9A 2A C3 48 CC 54 91 0E C3 54 BD 68 AB D9 04 AB A6 7C FD 48 E2 9B 5F CD F0 8C 99 DE EE C2 90 91 DE 21 3F 5D 8C 04 9F 25 19 5F 27 37 8C 3F F9 EF D2 9A A4 05 96 80 DE FD 62 0D BD 51 1F 2E 58 FA 3C 2F A4 C8 9A 3E DD 1E F3 C6 1B 09 D6 1B DB 4A 98 E0 5F BC 2D 34 1A 46 07	
9F 47	ICC Public Key Exponent	03	

Tag	Element name	Data	v2.x
9F 48	ICC Public Key Remainder	6F 81 9C 09 CC 1D 22 A0 D5 43 C3 15 5A EC 36 4E 05 FE 59 C9 B9 F1 C3 A7 62 BE F3 55 22 F2 4A 85 D1 BF E1 9B C4 A3 39 B5 C7 3D	
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]	00 60 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]	19 50 00	
C5	Card Issuer Action Code - Online [Mastercard]	39 FB 00	
C6	Counters [Mastercard]	00 06 00 00 00 00 00 00 00 00	
C7	CDOL1 Related Data Length [Mastercard]	2B	
C8	CRM Country Code [Mastercard]	00 60 - BMU	
C9	CRM Currency Code [M/Chip4]	00 60 - BMD	
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	
CF	Card Issuer Action Code - Denial [PayPass M/Chip]	00 00 00	
D1	Currency Conversion Table [M/Chip]	00 60 00 00 00 00 60 00 00 00 00 60 00 00 00 00 60 00 00 00 00 60 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]	CC 00	
D6	Default ARPC Response Code [M/Chip4]	00 12	
D7	Application Control [PayPass M/Chip]	40 01 40	
DF 02	Security Limits Status [Mastercard]	00	

* Tag value changes with card usage

1.4.3 Cardholder Verification Method List (CLS) - AID A000000041010

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

1.4.4 Application Tag data (Contactless, online)

* Tag value changes with card usage

Tag	Element name	Data	v2.x
50	Application Label	44 45 42 49 54 20 4D 41 53 54 45 52 43 41 52 44 - 'DEBIT MASTERCARD'	
56	Track 1 Equivalent Data [Mastercard]	42 35 34 31 33 33 33 30 30 38 39 30 39 39 31 33 30 5E 20 2F 5E 32 32 31 32 32 30 31 30	
57	Track 2 Equivalent Data	54 13 33 00 89 09 91 30 D2 21 22 01 11 48 35 94 90 00 0F	
5A	Application Primary Account Number (PAN)	54 13 33 00 89 09 91 30	
5F 24	Application Expiration Date	22 12 31	
5F 25	Application Effective Date	xx xx xx	
5F 28	Issuer Country Code	00 60 - BMU	
5F 2D	Language Preference	65 6E - 'en' (English)	
5F 34	Application PAN Sequence Number	01	
82	Application Interchange Profile [M/Chip, 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 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	
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 5E 03 1F 03	
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 01 01 00 10 01 01 01 18 01 01 00 20 01 02 00	

Tag	Element name	Data	v2.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 02	
9F 0D	Issuer Action Code - Default	B4 50 80 80 00	
9F 0E	Issuer Action Code - Denial	00 00 00 00 00	
9F 0F	Issuer Action Code - Online	B4 70 80 80 00	
9F 10	Issuer Application Data [M/Chip 4]	xx 11 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	44 65 62 69 74 20 4D 61 73 74 65 72 63 61 72 64 - 'Debit Mastercard'	
9F 14	Lower Consecutive Offline Limit	00	
9F 17	Personal Identification Number (PIN) Try Counter	09	
9F 23	Upper Consecutive Offline Limit	00	
9F 27	Cryptogram Information Data (CID)	80	
9F 32	Issuer Public Key Exponent	03	
9F 36	Application Transaction Counter (ATC)	xx xx *	
9F 46	ICC Public Key Certificate	2E E8 B6 BA 0B E3 66 5C 63 9C 19 4D 55 33 D9 4C A6 8C A9 45 36 2A BB 8C 4A 4F 32 C7 7B C9 17 E1 81 00 16 FD 89 1D 27 0D A7 8F 45 B6 CF 16 70 E9 32 44 EB 6C 7E DD CD 74 22 23 4A 8A C0 7E 0A EC 3D 28 75 F7 4C 1F 8E E1 B8 26 28 96 A9 C4 78 40 67 1C D2 30 8C 09 75 BD C9 C5 3D CC 37 4B 8E DF 87 36 45 18 FD 86 11 27 3A B4 64 8A D3 F9 D3 17	
9F 47	ICC Public Key Exponent	03	
9F 48	ICC Public Key Remainder	6F 81 9C 09 CC 1D 22 A0 D5 43 C3 15 5A EC 36 4E 05 FE 59 C9 B9 F1 C3 A7 62 BE F3 55 22 F2 4A 85 D1 BF E1 9B C4 A3 39 B5 C7 3D	
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]	B1 9A	
9F 61	CVC3track2 [Mastercard]	72 1C	
9F 62	Track 1 Bitmap for CVC3 (PCVC3 Track 1) [Mastercard]	00 00 00 38 00 00	
9F 63	Track 1 Bitmap for UN and ATC (PUNATC Track 1) [Mastercard]	00 00 00 00 E0 E0	
9F 64	Track 1 Number of ATC Digits (NATC Track 1) [Mastercard]	03	
9F 65	Track 2 Bitmap for CVC3 (PCVC3 Track 2) [Mastercard]	00 0E	
9F 66	Track 2 Bitmap for UN and ATC (PUNATC Track 2) [Mastercard]	0E 70	

Tag	Element name	Data	v2.x
9F 67	Track 2 Number of ATC Digits (NATC Track 2) [Mastercard]	03	
9F 6B	Track 2 Equivalent Data [Mastercard]	54 13 33 00 89 09 91 30 D2 21 22 01 10 00 59 00 00 00 0F	
9F 6C	Application Version [Mastercard]	00 01	
9F 6E	Third Party Data [Mastercard]	00 60 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]	19 50 00	
C5	Card Issuer Action Code - Online [Mastercard]	39 FB 00	
C6	Counters [Mastercard]	00 04 00 00 00 00 00 00 00 00	
C7	CDOL1 Related Data Length [Mastercard]	2B	
C8	CRM Country Code [Mastercard]	00 60 - BMU	
C9	CRM Currency Code [M/Chip4]	00 60 - BMD	
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	
CF	Card Issuer Action Code - Denial [PayPass M/Chip]	00 00 00	
D1	Currency Conversion Table [M/Chip]	00 60 00 00 00 00 60 00 00 00 00 60 00 00 00 00 60 00 00 00 00 60 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]	CC 00	
D6	Default ARPC Response Code [M/Chip4]	00 12	
D7	Application Control [PayPass M/Chip]	40 01 40	
DF 02	Security Limits Status [Mastercard]	00	

* Tag value changes with card usage

1.5 Test Card 05 – Amex, DI, Credit, English, Bermuda, BMD

A Dual Interface Interac debit card with Issuer Country Code of 'Bermuda' and Currency Code of 'BMD'.

The recommended transaction amount to generate a host approval is \$68.

1.5.1 Cardholder Verification Method List (Contact) - AID A00000025010402

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

1.5.2 Application Tag data (Contact, EMV)

* Tag value changes with card usage

Tag	Element name	Data	v2.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 42 45 00 27 71 00 3D 24 12 20 11 50 21 23 45 00 00 0F	
5A	Application Primary Account Number (PAN)	37 42 45 00 27 71 00 3F	
5F 20	Cardholder Name	47 50 43 20 42 45 52 4D 55 44 41 2F 54 65 73 74 20 43 61 72 64 20 30 35 20 20 - 'GPC BERMUDA/Test Card 05'	
5F 24	Application Expiration Date	24 12 31	
5F 25	Application Effective Date	xx xx xx	
5F 28	Issuer Country Code	00 60 - BMU	
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 25 01 04 02	
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 41 03 5E 03 5F 03	
94	Application File Locator (AFL)	08 01 01 00 08 02 03 01	

Tag	Element name	Data	v2.x
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 FC 98 00	
9F 0E	Issuer Action Code - Denial	00 00 00 00 00	
9F 0F	Issuer Action Code - Online	B0 78 FC 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	00 60 - BMD	

* Tag value changes with card usage

1.5.3 Cardholder Verification Method List (Contact) - AID A000000291010

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

1.5.4 Application Tag data (Contact, EMV)

* Tag value changes with card usage

Tag	Element name	Data	v2.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 42 45 00 27 71 00 3D 24 12 20 11 50 21 23 45 00 00 0F	
5A	Application Primary Account Number (PAN)	37 42 45 00 27 71 00 3F	
5F 20	Cardholder Name	47 50 43 20 42 45 52 4D 55 44 41 2F 54 65 73 74 20 43 61 72 64 20 30 35 20 20 - 'GPC BERMUDA/Test Card 05'	
5F 24	Application Expiration Date	24 12 31	
5F 25	Application Effective Date	xx xx xx	
5F 28	Issuer Country Code	00 60 - BMU	

Tag	Element name	Data	v2.x
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 42 01 41 03 5E 03 5F 03	
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 FC 98 00	
9F 0E	Issuer Action Code - Denial	00 00 00 00 00	
9F 0F	Issuer Action Code - Online	B0 78 FC 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	00 60 - BMD	

* Tag value changes with card usage

1.5.5 Cardholder Verification Method List (CLS) - AID A00000025010402

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

1.5.6 Application Tag data (Contactless, EMV)

* Tag value changes with card usage

Tag	Element name	Data	v2.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 42 45 00 27 71 00 3D 24 12 70 21 50 21 23 45 00 00 0F	
5A	Application Primary Account Number (PAN)	37 42 45 00 27 71 00 3F	
5F 20	Cardholder Name	47 50 43 20 42 45 52 4D 55 44 41 2F 54 65 73 74 20 43 61 72 64 20 30 35 20 20 - 'GPC BERMUDA/Test Card 05'	
5F 24	Application Expiration Date	24 12 31	
5F 25	Application Effective Date	xx xx xx	
5F 28	Issuer Country Code	00 60 - BMU	
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 [Expresspay 2.0]	1C 80 BYTE 1: b7 - SDA NOT supported b6 - DDA NOT supported b5 - Cardholder verification supported b4 - Terminal risk mgmt to be performed b3 - Issuer authentication supported b1 - CDA NOT supported BYTE 2: b8 - EMV Contactless supported RFU NOT supported RFU NOT supported	
84	Dedicated File (DF) Name	A0 00 00 00 25 01 04 02	
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 1F 02	
94	Application File Locator (AFL)	08 01 02 00 08 03 04 02	

Tag	Element name	Data	v2.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 FC 98 00	
9F 0E	Issuer Action Code - Denial	00 00 00 00 00	
9F 0F	Issuer Action Code - Online	B0 78 FC 98 00	
9F 10	Issuer Application Data [Expresspay 2.0]	xx xx 01 xx xx xx xx *	
9F 12	Application Preferred Name	41 6D 65 72 69 63 61 6E 20 45 78 70 72 65 73 73 - 'American Express'	
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	00 60 - BMD	

* Tag value changes with card usage

Chapter 2 - 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				