



Fiserv
EMV™ Test Card Set

Version 2.00

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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 - Fiserv EMV Test Card Profiles

This Test Card Set contains four cards, defined as follows:

	Test Card 01	Test Card 02	Test Card 03
Brand	Visa	Mastercard	Visa
Type	Credit	Credit	Credit
AID	A0000000031010	A0000000041010	A0000000031010
PAN	4761 7390 0101 0010	5413 3300 8901 0434	4761 7390 0101 0010
Expiry Date	12/2022	12/2025	12/2022
Service Code	201	201	201
Interface	Contact, MSR	Contact, MSR	Contact, MSR
CVM	See card definition	See card definition	See card definition
Approval Amount	\$10.00	\$120.00	\$10.00
Online / Offline	Online Only	Online Only	Online Only
Issuer Country Code	840 (USA)	124 (CAN)	124 (CAN)
Application Currency Code	840 (USD)	124 (CAD)	124 (CAD)
Language	'en' – English	'en' – English	'en' – English
Application Confirmation	No	No	No
Card Purpose	Visa Signature Card	ARPC validation fails and chip decline reversal should be generated	Visa Offline PIN Card
Card Version	v3.x	v5.x	v3.x

	Test Card 04
Brand	Interac
Type	Debit
AID	A0000002771010
PAN	4506 4450 0693 1933
Expiry Date	12/2022
Service Code	220
Interface	Contact, MSR
CVM	See card definition
Approval Amount	\$10.00
Online / Offline	Online Only
Issuer Country Code	124 (CAN)
Application Currency Code	124 (CAD)
Language	'en' – English
Application Confirmation	No
Card Purpose	Canadian Debit Card
Card Version	v3.x

1.1 Test Card 01 – Visa, Credit, English, USA, USD

A Visa 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

1.1.1 Cardholder Verification Method List – AID (A0000000031010)

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

1.1.2 Application Tag data

Tag	Element name	Data	v3.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 00 10 D2 21 22 01 11 43 87 80 01 62 9F	
5A	Application Primary Account Number (PAN)	47 61 73 90 01 01 00 10	
5F 20	Cardholder Name	54 65 73 74 2F 43 61 72 64 20 30 31 20 20 20 20 20 20 20 20 20 20 20 20 20 20 - 'Test/Card 01'	
5F 24	Application Expiration Date	22 12 31	
5F 25	Application Effective Date	xx xx xx	
5F 28	Issuer Country Code	08 40 - USA	
5F 2D	Language Preference	65 6E - 'en' (English)	
5F 30	Service Code	02 01	
5F 34	Application PAN Sequence Number	01	
82	Application Interchange Profile [VSDC]	5C 00 BYTE 1: b7 - Offline SDA supported b6 - Offline DDA NOT supported b5 - Cardholder verification supported b4 - Terminal risk mgmt to be performed b3 - Issuer authentication supported via EXTERNAL AUTH command b1 - Combined DDA / GEN AC NOT supported BYTE 2: b8 - Use for Visa NOT supported b7 - Is NOT Mobile handset	
84	Dedicated File (DF) Name	A0 00 00 00 03 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	
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 1E 03 02 03 1F 00	
8F	Certification Authority Public Key Index	92	

Tag	Element name	Data	v3.x
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	
93	Signed Static Application Data	5E 63 ED E8 D8 E6 7F 3E 27 2E 17 66 EA BB AE 9D 40 13 F7 D5 2D 31 D0 3C 70 D5 F9 9C 79 2D 24 0D 9E D7 3D DA 9F E1 73 B6 0B 74 C1 01 46 6C 9C D6 C4 E3 56 AD 37 98 B8 14 AD 29 0D FE BF 58 CC 19 3C DE 4C B5 10 08 B2 64 7B A4 C3 11 30 91 63 98 08 AB 80 F9 8A CC 8E C7 27 F0 82 E1 B5 34 20 48 56 06 EE 70 14 35 FF EC C2 4E C5 8F 0A D6 E8 20 24 8F 11 2F FE 7A 12 BD 5B 90 49 8D 41 43 9A 83 4C 9A B4 FD 33 7F 6C 87 03 4A 56 00 B4 B6 69 9C FE B3 AD C2 EF EB 31 CC CB 8D D3 54 57 8E 1B 08 6C 65 34 96 18 D0 53 19 42 03 52 17 AF AC D7 E9	
94	Application File Locator (AFL)	10 01 01 00 10 02 04 01 10 06 06 00 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	00 96	
9F 0D	Issuer Action Code - Default	F0 40 00 88 00	
9F 0E	Issuer Action Code - Denial	00 10 00 00 00	
9F 0F	Issuer Action Code - Online	F0 40 00 98 00	
9F 10	Issuer Application Data [VSDC]	xx xx 0A xx xx xx xx	
9F 11	Issuer Code Table Index	01	

Tag	Element name	Data	v3.x
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 37 35 38 39 30 30 38 39 33 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	
9F 46	ICC Public Key Certificate	1F E5 61 11 8B AC 82 68 FE 75 03 77 5C E6 FF 79 81 BA EE 15 64 B1 6E 3B D9 B6 7F D9 96 75 D0 0A 1F 66 77 9F 79 B1 32 29 C7 5B 8E 5F EA B5 3A 82 6E B9 09 77 B2 7B F4 CB 26 68 96 E0 7C A0 AD 78 93 5A D8 89 E4 C1 C9 E2 F9 48 79 D0 6E FE 62 40 B7 7A 57 01 EF 97 D1 D7 34 18 EA F4 F7 15 68 38 E8 15 19 E9 87 8C D8 74 9A E8 63 37 BC 9D F8 07 11 91 34 68 CC D5 BB 7B CB 32 ED B0 72 60 AA 24 91 4C DC 6C F6 3C 69 25 12 D1 C4 A4 ED D9 DD E5 C4 B1 60 0D 38 CA 2C EE 20 F4 EC 4D 01 4E 46 B3 BF A0 75 DE 17 B0 F1 4F 8E C2 3D 57 C2 85 19 B3	
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 51	Application Currency Code [VSDC]	08 40 - USD	
9F 52	Application Default Action [VSDC VIS 1.5]	40 00 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]	08 40 - USA	
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 68	Card Additional Processes [qVSDC VCPS 2.1]	10 00 D0 00	
9F 6D	VLP Reset Threshold [VSDC]	00 00 00 00 00 00	
9F 77	VLP Funds Limit [VSDC]	00 00 00 00 00 00	
9F 78	VLP Single Transaction Limit [VSDC]	00 00 00 00 00 00	
9F 79	VLP Available Funds [VSDC]	00 00 00 00 00 00	

Tag	Element name	Data	v3.x
BF 55	Contactless Counters Data Template	DF 61 06 00 00 00 00 00 00 DF 71 06 00 00 00 00 00 00 DF 41 06 00 00 00 00 00 00 DF 51 06 00 00 00 00 00 00 DF 11 01 00 DF 21 01 03 DF 31 01 07	
BF 56	Counters Data Template	DF 11 01 01 DF 21 01 03 DF 31 01 07	
BF 57	International Counters Data Template	DF 11 01 01 DF 21 01 03 DF 31 01 07 DF 51 01 01	
BF 58	Amounts Data Template	DF 11 06 00 00 00 00 00 00 DF 21 06 00 00 00 02 00 00 DF 31 06 00 00 00 04 00 00	
BF 5B	Application Internal Data Template	DF 01 02 00 00	

* Tag value changes with card usage

1.2 Test Card 02 – Mastercard, Credit, English, CAN, CAD

A Mastercard credit card with Issuer Country Code of 'CAN' and Application Currency Code of 'CAD' that may generate an ACC at the 2nd Gen AC.

If the host returns an Application Response Cryptogram (Tag 91), the ARPC will fail verification causing the card to return an AAC at the 2nd Gen AC. In this case the POS should decline the transaction and send a host reversal.

If the host approves the transaction and an Application Response Cryptogram (Tag 91) is not returned, the transaction should be approved.

The recommended transaction amount to generate a host approval is \$120.00.

Note: This behavior may change if the Mastercard Authorization Simulator (MAS) test cases change.

1.2.1 Cardholder Verification Method List – AID (A0000000041010)

Cardholder Verification Method List ('0100')			
CVM	Verification Method	Conditions	If unsuccessful
1	Offline Plaintext PIN	Always	Fail

1.2.2 Application Tag data

Tag	Element name	Data	v5.x
50	Application Label	4D 61 73 74 65 72 63 61 72 64 - 'Mastercard'	
57	Track 2 Equivalent Data	54 13 33 00 89 01 04 34 D2 51 22 01 11 43 87 80 89 02 9F	
5A	Application Primary Account Number (PAN)	54 13 33 00 89 01 04 34	
5F 20	Cardholder Name	54 65 73 74 2F 43 61 72 64 20 30 32 20 20 20 20 20 20 20 20 20 20 20 20 20 - 'Test/Card 02'	
5F 24	Application Expiration Date	25 12 31	
5F 25	Application Effective Date	xx xx xx	
5F 28	Issuer Country Code	01 24 - CAN	
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	v5.x
82	Application Interchange Profile [M/Chip, PayPass]	38 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 NOT supported via EXTERNAL AUTH command b2 - On device Cardholder verification NOT supported b1 - Combined DDA / GEN AC NOT supported BYTE 2: b8 - Mag Stripe profile [PayPass] ONLY 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 9F 37 04 9F 4C 08	
8E	Cardholder Verification Method (CVM) List	00 00 00 00 00 00 00 00 01 00	
8F	Certification Authority Public Key Index	EF	
90	Issuer Public Key Certificate	5B 2E 1F EF 4D 7D 2C 16 16 12 21 F7 97 2F E6 99 B7 82 44 E0 73 C8 AC 75 86 CE D1 76 EF 7B 93 AC 19 0B 05 70 40 E1 18 4F 2F 55 AC 70 D2 AA C3 94 BE 22 6A 26 50 D3 CA ED 90 60 88 C5 3A 88 B8 3C 46 1F 37 6D 89 10 B8 51 81 54 F3 08 EE ED 23 BC 15 7C FA BA 6E 51 26 9F 01 6D 59 FE 21 A6 F9 10 F2 85 13 0D EA F6 A4 78 BE 77 9D 2B AD 08 E1 2E D6 A5 93 71 5A 18 72 15 C5 63 28 1C B2 B7 2E 5B 14 05 5D 2D D8 30 4A C2 20 2E 53 96 D0 4C 5C 79 55 0B 4D E9 FA DA CB 35 F3 19 06 C5 A4 42 27 29 D6 A5 A8 F5 E1 4C B9 0D B7 05 49 4B 3D B1 0D E6 19 F3 B0 3E 64 96 FE 79 F4 6E 64 97 2A 46 34 A0 35 EF 7E 50 20 49 40 36 03 E0 BC FC 33 C3 87 BB 6D 72 CF F8 33 89 7E 81 F5 02 3F F4 D6 A9 CC 0C 89 E8 78 3F 07 B7 F0 55 3E 9D D3 59 B6 5B 62 3A F1 CE 27 8D 65 3C 37 07	
92	Issuer Public Key Remainder	14 3E 90 B8 B5 E6 2B E5 A9 0D 5A 4E F1 5C 77 40 4D 29 94 48 98 77 85 D7 E8 80 C2 CD	
94	Application File Locator (AFL)	08 02 04 01 18 01 01 00 20 01 01 00	

Tag	Element name	Data	v5.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	B8 50 84 00 00	
9F 0E	Issuer Action Code - Denial	00 00 00 00 00	
9F 0F	Issuer Action Code - Online	B8 70 B8 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	0F	
9F 1F	Track 1 Discretionary Data	20 20	
9F 23	Upper Consecutive Offline Limit	0F	
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	01 24 - CAD	
9F 44	Application Currency Exponent	02	
9F 46	ICC Public Key Certificate	83 A6 D4 85 02 37 51 38 37 26 F5 81 AD A3 A5 20 06 AA E2 2B 3D D7 4B 2F C2 8C 5A F3 EA AA E3 A1 76 0A FF CA 5D 36 35 72 40 5F 1A 4B 6C F6 5E 21 E7 AE C4 8E 7A E0 29 7D 46 6A 60 8A 1A BD 96 6F 55 A5 23 48 B3 1C EC 37 A2 75 1F 6B 81 14 69 B1 84 B6 61 2B 5E C9 44 DC 7E E0 6E FF 75 EB 3B F1 51 C9 E0 04 8E 2C 4E 85 A0 6B 8E 49 AD 54 9C 05 F2 C7 4F 37 CF 02 C5 3D 85 95 09 7C E9 09 E3 08 E3 73 FE 97 6C E2 B5 AF 4D 63 FC 36 4C B7 80 CC 8C BA D6 84 8E 3A C2 2B B3 2C A1 93 C8 6A AF 8B 75 A2 F1 8F 7F 1C 0E 42 7E 9F 30 48 76 AD DA F6 45 3A 0A BB 21 11 B0 29 01 80 A4 52 00 EC 6B 9C D6 1A 9F EB CB 22 ED 84 C1 24 22 4F 31 20 8A 77 FA 20 A5 35 64 BD A8 5C D1 B8 93 67 5D 42 DB 72 52 7D 8E 5B 26 21 DF ED 07 C5 A0 8B FE F8 43 7E	
9F 47	ICC Public Key Exponent	03	

Tag	Element name	Data	v5.x
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	C2 4C BD 59 15 6C 9F 8C B4 CE 45 95 16 3F F6 B9 B0 62 A2 21 AC 37 C2 93 51 A1 90 F2 98 51 9F B9 8B 77 CF 8F F8 E9 26 4C 93 82 D3 E2 CC F5 6D D3 49 EF C3 09 F8 54 57 B3 23 11 89 73 0D 0F 61 95 69 AA 53 19 9E A8 6C 83 3A B4 B7 33 8A B8 5B FA A1 04 81 EF C7 E7 C7 65 3D 97 AE A3 D7 D8 5F 80 B0 8F 06 27 CE C6 0D 00 4B 20 D3 4B C3 0D 27 6D 1B 5F E9 B4 E2 27 80 FD B6 79 4D 67 0C A1 FB B5 D9 8E E6 A9 B9 49 8C CE A3 49 CC 27 A0 0E BF 57 C3 A9 BC C5 73 E0 63 3F 7C 24 0A 56 8E AC 93 A9 80 78 0B 27 62 4D 79 75 28 E8 73 9F 8A AE CF E1	
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]	01 24 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]	3F FF 03	
C6	Counters [Mastercard]	00 02 00 00 00 00 00 00 00 00	
C7	CDOL1 Related Data Length [Mastercard]	2D	
C8	CRM Country Code [Mastercard]	01 24 - CAN	
C9	CRM Currency Code [M/Chip4]	01 24 - CAD	
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	
D1	Currency Conversion Table [M/Chip]	01 24 00 01 00 01 24 00 01 00 01 24 00 01 00 01 24 00 01 00 01 24 00 01 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]	C4 00	
D6	Default ARPC Response Code [M/Chip4]	00 10	
DF 02	Security Limits Status [Mastercard]	00	

* Tag value changes with card usage

1.3 Test Card 03 – Visa, Credit, English, CAN, CAD

A Visa credit card with Issuer Country Code of 'CAN' and Currency Code of 'CAD'.

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

1.3.1 Cardholder Verification Method List – AID (A0000000031010)

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

1.3.2 Application Tag data

Tag	Element name	Data	v3.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 00 10 D2 21 22 01 11 43 87 80 01 62 9F	
5A	Application Primary Account Number (PAN)	47 61 73 90 01 01 00 10	
5F 20	Cardholder Name	54 65 73 74 2F 43 61 72 64 20 30 33 20 20 20 20 20 20 20 20 20 20 20 20 20 20 - 'Test/Card 03'	
5F 24	Application Expiration Date	22 12 31	
5F 25	Application Effective Date	xx xx xx	
5F 28	Issuer Country Code	01 24 - CAN	
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 [VSDC]	5C 00 BYTE 1: b7 - Offline SDA supported b6 - Offline DDA NOT supported b5 - Cardholder verification supported b4 - Terminal risk mgmt to be performed b3 - Issuer authentication supported via EXTERNAL AUTH command b1 - Combined DDA / GEN AC NOT supported BYTE 2: b8 - Use for Visa NOT supported b7 - Is NOT Mobile handset	
84	Dedicated File (DF) Name	A0 00 00 00 03 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	
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 01 03 1E 03 1F 00	
8F	Certification Authority Public Key Index	92	

Tag	Element name	Data	v3.x
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	
93	Signed Static Application Data	83 17 C6 5C EE 41 F9 15 FC F2 D6 2B 01 11 B9 B0 7E C9 D8 0F C7 73 0B 3B F9 36 E0 EC 31 59 36 24 F5 5E BB 85 EF C5 5E 13 FF 0E 58 AD 25 40 B6 59 E6 D8 76 10 BA 9D 7E 69 79 CF A6 B1 DF E2 98 58 27 CB B6 F3 BC 3F DC ED 6E 66 45 FE DF 5E 06 F2 0B 2E FF 8E 25 83 03 F1 08 A1 32 2E AB B9 A3 E6 EA A9 ED AF AE 7A 54 57 86 71 87 A7 20 95 BD 17 73 80 BC B8 31 B6 82 FD CE CB 4A 14 32 7D 30 50 03 1B 97 A0 33 C1 90 5B 65 55 CE 66 F2 91 F4 78 87 D2 1B 8F B3 D1 BE 3A 50 5C 1A 1B 13 10 DC C9 2C 7D A0 0E CC 5F 17 3B AB 63 83 9B 58 DB 71 1E	
94	Application File Locator (AFL)	10 01 01 00 10 02 04 01 10 06 06 00 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	00 96	
9F 0D	Issuer Action Code - Default	00 00 00 00 00	
9F 0E	Issuer Action Code - Denial	00 00 80 00 00	
9F 0F	Issuer Action Code - Online	00 00 00 00 00	
9F 10	Issuer Application Data [VSDC]	xx xx 0A xx xx xx xx	
9F 11	Issuer Code Table Index	01	

Tag	Element name	Data	v3.x
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 37 35 38 39 30 30 38 39 33 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	
9F 46	ICC Public Key Certificate	05 53 4C 2E 52 D7 C9 A2 B2 75 1C 05 F3 C3 DE 45 DB D3 92 B0 8A D3 29 3D 1F 25 3D 89 B2 52 2A 24 F9 B7 22 09 5C 9E A9 0E 77 03 10 41 24 6B F7 38 40 1F E8 E1 03 94 EE CA 1A BF 8D EF 42 C7 C5 AB E1 73 5D 8F D7 BF C0 B8 AF 63 58 19 1E FF 5E C1 52 44 13 A1 91 CE D6 9E B1 C1 82 82 94 39 A3 74 89 8E A8 15 3D 5E BE AC D5 58 7E 2A 3D 9F 90 0D 1C 0F DE 03 73 19 30 92 DC 4E C8 9B 7C 40 E1 10 85 88 09 2A 3B 85 B1 BB 90 13 F5 F3 67 E0 18 F6 22 00 99 E9 9B 4A 4B D5 D3 78 42 53 AA F4 32 DE 37 9E E5 05 5C 12 13 D9 D9 86 65 40 98 44 B5 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 51	Application Currency Code [VSDC]	01 24 - CAD	
9F 52	Application Default Action [VSDC VIS 1.5]	00 00 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]	01 24 - CAN	
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 68	Card Additional Processes [qVSDC VCPS 2.1]	10 00 D0 00	
9F 6D	VLP Reset Threshold [VSDC]	00 00 00 00 00 00	
9F 77	VLP Funds Limit [VSDC]	00 00 00 00 00 00	
9F 78	VLP Single Transaction Limit [VSDC]	00 00 00 00 00 00	
9F 79	VLP Available Funds [VSDC]	00 00 00 00 00 00	

Tag	Element name	Data	v3.x
BF 55	Contactless Counters Data Template	DF 61 06 00 00 00 00 00 00 00 DF 71 06 00 00 00 00 00 00 00 DF 41 06 00 00 00 00 00 00 00 DF 51 06 00 00 00 00 00 00 00 DF 11 01 00 DF 21 01 03 DF 31 01 07	
BF 56	Counters Data Template	DF 11 01 01 DF 21 01 03 DF 31 01 07	
BF 57	International Counters Data Template	DF 11 01 01 DF 21 01 03 DF 31 01 07 DF 51 01 01	
BF 58	Amounts Data Template	DF 11 06 00 00 00 00 00 00 DF 21 06 00 00 00 02 00 00 DF 31 06 00 00 00 04 00 00	
BF 5B	Application Internal Data Template	DF 01 02 00 00	

* Tag value changes with card usage

1.4 Test Card 04 – Interac, Debit, English, CAN, CAD

An Interac (Canadian) debit card with Issuer Country Code of 'CAN' and Currency Code of 'CAD'.

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

1.4.1 Cardholder Verification Method List – AID (A0000002771010)

Cardholder Verification Method List ('0100')			
CVM	Verification Method	Conditions	If unsuccessful
1	Offline Plaintext PIN	Always	Fail

1.4.2 Application Tag data

Tag	Element name	Data	v3.x
50	Application Label	49 6E 74 65 72 61 63 - 'Interac'	
57	Track 2 Equivalent Data	45 06 44 50 06 93 19 33 D2 21 22 20 01 62 90 70 11 60 1F	
5A	Application Primary Account Number (PAN)	45 06 44 50 06 93 19 33	
5F 20	Cardholder Name	54 65 73 74 2F 43 61 72 64 20 30 34 20 20 20 20 20 20 20 20 20 20 20 20 20 20 - 'Test/Card 04'	
5F 24	Application Expiration Date	22 12 31	
5F 25	Application Effective Date	xx xx xx	
5F 28	Issuer Country Code	01 24 - CAN	
5F 2D	Language Preference	65 6E - 'en' (English)	
5F 30	Service Code	02 20	
5F 34	Application PAN Sequence Number	01	
82	Application Interchange Profile [VSDC]	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 via EXTERNAL AUTH command b1 - Combined DDA / GEN AC NOT supported BYTE 2: b8 - Use for Visa NOT supported b7 - Is NOT Mobile handset	

Tag	Element name	Data	v3.x
84	Dedicated File (DF) Name	A0 00 00 02 77 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	
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 01 00	
8F	Certification Authority Public Key Index	55	
90	Issuer Public Key Certificate	6C 16 73 99 B8 BE 0C CA 2A A9 EF 30 EC F5 14 C4 F4 F1 F0 89 85 8A 46 08 6F 12 F2 80 B6 81 FD CA 40 8C 09 51 C0 D6 BA 64 FD 05 C7 2C 5A 23 B2 66 DA 11 D6 75 BA B2 AC 74 C5 AF E0 41 A6 94 2D 84 FC 19 0D C0 6D 83 CF 17 71 F2 F9 74 B8 31 73 5A A1 30 39 4D 12 DC CF D5 74 61 D1 20 E5 58 F6 35 12 F6 DB 82 46 DD 41 00 9F A1 D9 73 1B 27 42 F9 7E FD 2B C1 16 DF B9 AF 7A 96 6A CF 12 83 A8 49 A7 A9 73 6A 0D 8A E2 63 98 36 BC A6 9B D9 EE 78	
92	Issuer Public Key Remainder	EC A4 19 2A 02 CA AC 0B 75 22 44 EC AE 9F 1A BA 46 15 E7 05 27 AD D0 D8 03 67 54 CA 9F A5 2E 7D 42 16 22 0F	
93	Signed Static Application Data	80 9F 7E 58 4A 19 F3 EA 09 10 92 DA 29 46 EA D2 E2 88 51 6F 5B 7D F3 EC 6E 54 68 F3 25 4A E0 BC 1D 07 9F D1 2C D5 DA B4 10 07 EF 4B 03 C5 B9 2F 90 F1 CE DE 67 FF 6F AC 69 9E 2B 29 FB 0D 3E 82 0A 5E 08 E4 71 EE 4E DA C1 7E 4E 22 1D 3C A3 B4 F6 74 3B 39 B1 AD 70 2B F0 D1 D1 C9 DB 37 F1 B0 6D 5A 77 A1 9F 65 0B 6E CA 1E 60 0C 78 DE 4F F2 7A AD 50 B7 C1 70 C4 8C D0 84 00 F0 41 09 30 CE 89 E0 85 E4 8D AC FF 2D CF 40 5D 20 73 09 6F 32	
94	Application File Locator (AFL)	10 01 01 00 10 02 04 01 10 06 06 00 B0 01 01 00	
9F 07	Application Usage Control	AB 00 BYTE 1: b8 - Domestic cash trans. valid b7 - Int'l cash transactions NOT valid b6 - Domestic goods valid b5 - International goods NOT valid b4 - Domestic services valid b3 - International services NOT 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 78 FC B8 00	
9F 0E	Issuer Action Code - Denial	00 10 D8 00 00	

Tag	Element name	Data	v3.x
9F 0F	Issuer Action Code - Online	FC 78 24 F8 80	
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	49 6E 74 65 72 61 63 - 'Interac'	
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 37 35 38 39 30 30 38 39 33 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	
9F 46	ICC Public Key Certificate	B6 7A 8B 6A 81 DB C9 00 D0 0D 3A 14 3B A1 76 92 DE 3B C4 50 6B F7 A7 5A 2D A7 F8 34 5E E8 96 0E E0 13 81 D4 A5 8A C1 7D 33 05 E2 B4 5A 42 FD E2 D6 06 5E B8 62 32 AD E8 ED E1 CB E3 B3 52 7F EA 2D C0 09 3D 79 FE 37 8C 42 63 FC 90 4E 65 56 A1 8B 8B B1 0F 3B 6E 29 C3 64 C4 A4 06 B2 85 E7 22 AA 78 F6 C7 5B 78 91 1A B9 A6 87 84 59 27 BC 8C CE 04 50 1B EE 44 0F 21 0B F7 1F 98 AB 39 9D BD 82 11 4B DA 14 66 80 33 B5 26 E1 54 48 58 2D 5C	
9F 47	ICC Public Key Exponent	03	
9F 48	ICC Public Key Remainder	57 06 CB 4D C3 B0 EB B7 16 3B AD 65 6C 76 B4 59 F5 EA 11 65 89 72 79 D0 BA 5D	
9F 49	Dynamic Data Authentication Data Object List (DDOL)	9F 37 04	
9F 4A	Static Data Authentication Tag List	82	
9F 51	Application Currency Code [VSDC]	01 24 - CAD	
9F 52	Application Default Action [VSDC VIS 1.5]	C3 38 00 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]	01 24 - CAN	
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]	10 00 10 00	
9F 6D	VLP Reset Threshold [VSDC]	00 00 00 00 00 00	
9F 77	VLP Funds Limit [VSDC]	00 00 00 00 00 00	

Tag	Element name	Data	v3.x
9F 78	VLP Single Transaction Limit [VSDC]	00 00 00 00 00 00	
9F 79	VLP Available Funds [VSDC]	00 00 00 00 00 00	
BF 55	Contactless Counters Data Template	DF 61 06 00 00 00 00 00 00 00 DF 71 06 00 00 00 00 00 00 00 DF 41 06 00 00 00 00 00 00 00 DF 51 06 00 00 00 00 00 00 00 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	
BF 58	Amounts Data Template	DF 11 06 00 00 00 00 00 00 00 DF 21 06 00 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

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				