



Canada
EMV™ Test Card Set

Version 2.10

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Powered by B2»

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Revision History

Version	Date	Updated By	Revisions
0.01	04-Aug-2009	B2PS	Initial release.
0.02	17-Mar-2010	B2PS	Update card descriptions.
0.03	01-May-2011	B2PS	Update MasterCard Profiles
0.04	11-Jun-2011	B2PS	Add note to cards 5 & 6 regarding transaction amounts
0.05	05-Nov-2013	B2PS	Logo change, cosmetic changes to tables
0.06	24-Jan-2014	B2PS	Transaction behaviour modified - Cards 5 & 6, MasterCard Host Simulator. Corrections to various EMV Tag values (all cards). e.g. expiry dates.
1.40	19-Feb-2014	B2PS	Card images updated to reflect v4.0: All cards' expiry dates set to 1218.
1.41	21-Apr-2014	B2PS	MC tests generate Tag 8A, no 91 on \$25 / \$40 transaction
1.42	22-Aug-2014	B2PS	Rename document to indicate 'International' test set; Modification to wording in chapter 1 to indicate 'EMV tags' rather than 'fields'
1.43	24-Sep-2014	B2PS	Modified wording in Test Cards 05, 06 to how transaction amounts of \$25.00 and \$40.00 proceed.
1.50	17-Nov-2014	B2PS	Renamed to "Canada EMV Test Card Set". Added table summarizing the test card details. Modified Test Card 05, 06 wording to remove dollar amounts. Used "xx xx ..." to signify tag values that change with use.
1.60	14-Oct-2015	B2PS	Improved card descriptive text, miscellaneous Tag corrections to all Visa and Interac cards
1.70	19-Oct-2015	B2PS	Tag updates to all MasterCard cards - now v4.2.
1.80	30-Aug-2016	B2PS	Transaction Values added Tag 8E (CVM) data added for each card TOC formatting adjusted for readability with new CVM data Formatting changes to improve consistency across docs Title page made consistent with other documents Layout made suitable for duplex printing Added PINBlock warning text
1.90	5-Jan-2018	B2PS	<ul style="list-style-type: none"> • TC05, TC06 - Approval Amount changed to \$120 • "MasterCard" replaced with "Mastercard" where appropriate

Version	Date	Updated By	Revisions
2.00	5-Feb-2018	B2PS	<ul style="list-style-type: none">• All cards updated: expiry date set to 22/12
2.10	9-Mar-2018	B2PS	<ul style="list-style-type: none">• Corrected expiry dates in Profile Table

Table of Contents

Chapter 1 - B2 Canada EMV Test Card Profiles	2
1.1 Test Card 01 – Visa, NO PIN, Invalid Language, Cardholder Confirmation	5
1.1.1 Cardholder Verification Method List – AID (A0000000031010)	5
1.1.2 Application Tag Data	5
1.2 Test Card 02 – Visa, NO PIN, French	8
1.2.1 Cardholder Verification Method List – AID (A0000000031010)	8
1.2.2 Application Tag Data	8
1.3 Test Card 03 – Visa, PIN=1234, English	11
1.3.1 Cardholder Verification Method List – AID (A0000000031010)	11
1.3.2 Application Tag Data	11
1.4 Test Card 04 – Visa, PIN=1234, French	14
1.4.1 Cardholder Verification Method List – AID (A0000000031010)	14
1.4.2 Application Tag Data	14
1.5 Test Card 05 – Mastercard, PIN=4315, English, Bad ARPC	17
1.5.1 Cardholder Verification Method List – AID (A0000000041010)	17
1.5.2 Application Tag Data	17
1.6 Test Card 06 – Mastercard, PIN=4315, French, Bad ARPC	20
1.6.1 Cardholder Verification Method List – AID (A0000000041010)	20
1.6.2 Application Tag Data	20
1.7 Test Card 07 – Interac, PIN=1234, English (BIN=450644).....	23
1.7.1 Cardholder Verification Method List – AID (A0000002771010)	23
1.7.2 Application Tag Data	23
1.8 Test Card 08 – Interac, PIN=1234, French (BIN=450644).....	26
1.8.1 Cardholder Verification Method List – AID (A0000002771010)	26
1.8.2 Application Tag Data	26
1.9 Test Card 09 – Interac, PIN=1234, English (BIN=450636).....	29
1.9.1 Cardholder Verification Method List – AID (A0000002771010)	29
1.9.2 Application Tag Data	29
1.10 Test Card 10 – Interac, PIN=1234, French (BIN=450636).....	32
1.10.1 Cardholder Verification Method List – AID (A0000002771010)	32
1.10.2 Application Tag Data	32
Chapter 2 - ASCII Character Conversion Chart.....	36

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 - B2 Canada EMV Test Card Profiles

The Canada EMV™ Test Card Set includes ten cards defined as follows.

	Test Card 01	Test Card 02	Test Card 03
Brand	Visa	Visa	Visa
AID	A0000000031010	A0000000031010	A0000000031010
PAN	4761 7390 0101 0010	4761 7390 0101 0010	4761 7390 0101 0010
Expiry Date	12/2022	12/2022	12/2022
Service Code	201	201	201
Interface	Contact, MSR	Contact, MSR	Contact, MSR
CVM	Signature, NO PIN See Card Definition	Signature, NO PIN See Card Definition	Offline Plaintext PIN, Signature See Card Definition
Approval Amount	\$10.00	\$10.00	\$10.00
Issuer Country Code	124 (Canada)	124 (Canada)	124 (Canada)
Currency Code	124 (CAD)	124 (CAD)	124 (CAD)
Language	'ee' – Invalidexit Language	'fr' – French	'en' – English
Application Confirmation	Yes	No	No
Card Purpose	Bad Language Appl. Confirmation NO PIN	French NO PIN	English Offline Plaintext PIN
Card Version	v5.0	v5.0	v5.0

	Test Card 04	Test Card 05	Test Card 06
Brand	Visa	Mastercard	Mastercard
AID	A0000000031010	A0000000041010	A0000000041010
PAN	4761 7390 0101 0010	5413 3300 8901 0434	5413 3300 8901 0434
Expiry Date	12/2022	12/2022	12/2022
Service Code	201	201	201
Interface	Contact, MSR	Contact, MSR	Contact, MSR
CVM	Offline Plaintext PIN, Signature See Card Definition	Offline Plaintext PIN See Card Definition	Offline Plaintext PIN See Card Definition
Approval Amount	\$10.00	\$120.00	\$120.00
Issuer Country Code	124 (Canada)	124 (Canada)	124 (Canada)
Currency Code	124 (CAD)	124 (CAD)	124 (CAD)
Language	'fr' – French	'en' – English	'fr' – French
Application Confirmation	No	No	No
Card Purpose	French Offline Plaintext PIN	English ARPC Verify Fails	French ARPC Verify Fails
Card Version	v5.0	v5.0	v5.0

	Test Card 07	Test Card 08	Test Card 09
Brand	Interac	Interac	Interac
AID	A0000002771010	A0000002771010	A0000002771010
PAN	4506 4450 0693 1933	4506 4450 0693 1933	4506 3644 0003 8106
Expiry Date	12/2022	12/2022	12/2022
Service Code	220	220	220
Interface	Contact, MSR	Contact, MSR	Contact, MSR
CVM	Offline Plaintext PIN See Card Definition	Offline Plaintext PIN See Card Definition	Offline Plaintext PIN See Card Definition
Approval Amount	\$10.00	\$10.00	\$10.00
Issuer Country Code	124 (Canada)	124 (Canada)	124 (Canada)
Currency Code	124 (CAD)	124 (CAD)	124 (CAD)
Language	'en' – English	'fr' – French	'en' – English
Application Confirmation	No	No	No
Card Purpose	English Interac Debit BIN 450644	French Interac Debit BIN 450644	English Interac Debit BIN 450636
Card Version	v5.0	v5.0	v5.0

	Test Card 10
Brand	Interac
AID	A0000002771010
PAN	4506 3644 0003 8106
Expiry Date	12/2022
Service Code	220
Interface	Contact, MSR
CVM	Offline Plaintext PIN See Card Definition
Approval Amount	\$10.00
Issuer Country Code	124 (Canada)
Currency Code	124 (CAD)
Language	'fr' – French
Application Confirmation	No
Card Purpose	French Interac Debit BIN 450636
Card Version	v5.0

1.1 Test Card 01 – Visa, NO PIN, Invalid Language, Cardholder Confirmation

Visa NO PIN CVM card. The card has an invalid language and requires cardholder confirmation.

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 value changes with card usage

Tag	Element name	Data	v5.0
50	Application Label	56 49 53 41 20 43 52 45 44 49 54 - 'VISA CREDIT'	
57	Track 2 Equivalent Data	47 61 73 90 01 01 00 10 D2 21 22 01 11 43 87 80 89 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 - 'Test/Card 01'	
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 65 - 'ee' - Invalid Language	
5F 30	Service Code	02 01	
5F 34	Application PAN Sequence Number	01	
82	Application Interchange Profile [VSDC]	5C 00	
84	Dedicated File (DF) Name	A0 00 00 00 03 10 10	
87	Application Priority Indicator	81	
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	v5.0
90	Issuer Public Key Certificate	3C 96 F7 65 8F BC 29 A2 02 F1 91 46 BD E9 21 66 B0 F6 22 1B BC CB 02 E3 26 71 0B 9E 22 9D 16 FA E9 AD 0C 87 4C 06 85 91 6E 19 F0 E3 26 93 EE 20 1B CE 23 59 50 9A 6D 65 72 F8 EC 3F C3 73 12 6B 34 3F 9C B8 15 3D 61 B7 EA B2 D4 2D E1 9D 56 08 31 85 A0 3D D1 4C 26 8D 40 DF 08 35 C5 5E AB FA 38 ED 28 BC E4 2C D0 01 3D A9 4F 80 05 18 B7 53 C2 46 EF FB A0 8F D2 02 9B AD 5D FC F0 DA F0 7B 7D 80 1C 46 5F FD 25 2C 70 B9 21 53 B3 30 D9 5D CA 2F A1 FA AE 2D 01 68 A4 EA 8B 47 5C D8 05 DC 32 AA 96 4C 17 BF CD 2C D5 D0 30 9A B0 EA 76 1B	
92	Issuer Public Key Remainder	50 DA 20 DD A8 95 3B 69 3F ED 84 36 68 31 BA 1E EA 97 F7 8F 79 2A CF 8C B9 8F DF 01 49 A7 B7 8F DA 1C 49 67	
93	Signed Static Application Data	30 07 B2 F6 BA 68 EA A0 4A C1 3C 96 78 A1 20 08 B0 A0 87 30 30 D0 A3 C1 CB 7D D1 DC AF F1 4F 92 5E B5 21 DB 73 AA 73 62 7F 6F 0B 8E 67 1D C9 EA 3C C4 2F DE DB B8 CB 8E 1A 52 41 66 1B B2 EF 51 99 45 88 A8 B8 FB 5C 25 A8 31 D1 DA F7 4E 3B 52 CA 19 06 35 2D 0C A2 90 D9 5B 11 A4 F9 62 B9 08 71 61 6B 22 E8 7A 45 00 22 DF BB 2D 04 5C 35 FD AF 43 6A 26 13 81 4C B3 BC 0B 35 C2 07 EF F2 4F 89 C3 FE 4D 25 6D 18 83 65 21 B1 AA 38 21 C2 1F 08 8D 1A EA 6F 38 AF 54 1A 7C 49 7D 57 D8 B7 E6 ED 5D C3 27 0D 78 59 7C 66 61 1D 42 73 51 A4 07	
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	
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	
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	

Tag	Element name	Data	v5.0
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	82 C3 FF DF E2 F3 A9 45 B2 A0 BE 34 60 10 57 85 75 1C 70 85 B8 54 6C 7F FD C9 90 54 DA 3A 9D A9 CA C6 72 CB 13 AE CE 6A 34 6E 9C EF AA 3A 91 70 EB 56 27 E7 7B 3C 23 3E 6D 91 9C 1E 15 6A 74 3A 31 EA 54 9D C3 B4 94 16 77 C4 35 26 EC 79 A7 2F 6E 75 65 BD 0E 63 51 44 29 52 FC CB D1 A4 86 7E D5 23 24 A5 CE 95 8D BB 1A AC F1 D9 EA 7D 35 99 DD C7 7D AA AA E8 7F DF A9 1E C0 FA 0A A4 11 85 26 01 13 A2 5C 40 71 CD 26 3D 80 84 A0 63 99 79 FF 21 21 7C 28 71 AC D2 BB 49 A1 39 A0 7A 41 4D 58 35 34 54 2E 09 F5 60 BD 32 E4 C7 FA BF 2C 31	
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]	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]	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	
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	

Tag	Element name	Data	v5.0
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 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	

1.2 Test Card 02 – Visa, NO PIN, French

French Visa NO PIN CVM card.

If French is supported by the POS, French should be auto-selected. If the POS supports only one language and it's not French, the POS language should be auto-selected. If the POS supports multiple languages but not French, the list of POS languages should be displayed for cardholder selection.

Once selected, cardholder prompts and the customer receipt should be in the selected language.

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

1.2.1 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

1.2.2 Application Tag Data

* Tag value changes with card usage

Tag	Element name	Data	v5.0
50	Application Label	56 49 53 41 20 43 52 45 44 49 54 - 'VISA CREDIT'	
57	Track 2 Equivalent Data	47 61 73 90 01 01 00 10 D2 21 22 01 11 43 87 80 89 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 32 20 20 20 20 20 20 20 20 20 20 20 20 20 20 - 'Test/Card 02'	
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	66 72 - 'fr' - French	
5F 30	Service Code	02 01	
5F 34	Application PAN Sequence Number	01	
82	Application Interchange Profile [VSDC]	5C 00	
84	Dedicated File (DF) Name	A0 00 00 00 03 10 10	
87	Application Priority Indicator	01	

Tag	Element name	Data	v5.0
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	
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 E7 8F DA 1C 49 67	
93	Signed Static Application Data	30 07 B2 F6 BA 68 EA A0 4A C1 3C 96 78 A1 20 08 B0 A0 87 30 30 D0 A3 C1 CB 7D D1 DC AF F1 4F 92 5E B5 21 DB 73 AA 73 62 7F 6F 0B 8E 67 1D C9 EA 3C C4 2F DE DB B8 CB 8E 1A 52 41 66 1B B2 EF 51 99 45 88 A8 B8 FB 5C 25 A8 31 D1 DA F7 4E 3B 52 CA 19 06 35 2D 0C A2 90 D9 5B 11 A4 F9 62 B9 08 71 61 6B 22 E8 7A 45 00 22 DF BB 2D 04 5C 35 FD AF 43 6A 26 13 81 4C B3 BC 0B 35 C2 07 EF F2 4F 89 C3 FE 4D 25 6D 18 83 65 21 B1 AA 38 21 C2 1F 08 8D 1A EA 6F 38 AF 54 1A 7C 49 7D 57 D8 B7 E6 ED 5D C3 27 0D 78 59 7C 66 61 1D 42 73 51 A4 07	
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	
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	
9F 12	Application Preferred Name	56 69 73 61 20 43 72 65 64 69 74 - 'Visa Credit'	

Tag	Element name	Data	v5.0
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	24 92 B9 51 8D F6 1E FF 39 2C 60 93 2F A8 07 39 F7 BE 49 29 23 42 7B 18 84 3C 02 F6 3E C6 F4 87 A6 9E 11 FA 4C 52 18 7C 69 8B 12 B2 A8 48 80 A6 19 49 EA C4 CE BF 2F D1 FB 33 D5 54 A7 6A 5A C7 3F 37 3D 11 81 44 CA BC A8 46 5A E7 AD A6 24 BD 80 A1 B0 E2 45 36 FE BF 5D 2C F2 45 99 95 F6 B4 DF 11 EB 6F 8A 01 A1 8A F0 52 4E 2F F2 15 C6 9E C3 18 3E FF D2 66 CA BE 72 27 AB 96 C6 64 6A E2 6B 4B 54 C6 E9 F8 C2 D9 CB FD 41 C8 12 25 D0 C4 E0 91 5E FC 85 C1 C3 C6 E7 00 C0 9D 33 58 F0 04 D9 31 8A 52 76 B7 E7 24 6E AD 60 BC 13 E0 A7 5C	
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]	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]	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	

Tag	Element name	Data	v5.0
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 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	

1.3 Test Card 03 – Visa, PIN=1234, English

English Visa Offline Plaintext PIN card.

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')			
CVM	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 value changes with card usage

Tag	Element name	Data	v5.0
50	Application Label	56 49 53 41 20 43 52 45 44 49 54 - 'VISA CREDIT'	
57	Track 2 Equivalent Data	47 61 73 90 01 01 00 10 D2 21 22 01 11 43 87 80 89 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 - '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	
84	Dedicated File (DF) Name	A0 00 00 00 03 10 10	

Tag	Element name	Data	v5.0
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	
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	A8 0C 9E FD 74 DF 77 24 B5 90 74 C8 F5 E5 6A 6A EE C6 BB D3 A1 1F 2D 16 FB BB F2 57 3B 3B A5 5B 39 97 ED 89 23 C7 92 5D BC 4F 77 AB DD 1B 73 C3 0A 36 20 92 6B 19 18 06 BE 7D C9 ED F5 B9 04 F4 FE 1F 01 9E 96 48 2E 78 FE 7B 39 C9 D5 88 6D E4 3A 8E E8 0F 49 E3 B5 3B BC 29 DF 3F A9 A8 67 71 8B 41 8F C8 4C 28 13 68 48 91 82 86 00 26 B2 74 89 18 4F C0 AA 88 9A 0F 93 66 96 9C BE C4 79 64 CE BF 99 27 64 94 AD CA C4 13 3A 8C E6 58 74 6C AC 7E 94 2E A1 DA 1B F2 00 68 57 4C 24 4D 41 3A 3D 12 09 99 94 09 B2 82 40 9D FB 74 8E 78 FE FA	
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	
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	v5.0
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	61 51 0E A1 36 EA 24 4F 62 0F 1D 48 CD E5 D3 ED E5 9D 50 EA D2 E3 A4 6F 09 6E 59 A2 DF 98 7E 5D 53 65 E0 B6 F5 97 56 12 E7 FA D6 58 25 59 E9 02 E7 9B 32 19 60 78 89 0F 95 F1 DA 98 E4 49 1C A4 A8 F6 85 A2 C6 E2 D4 93 B4 AF CA 73 AB 50 D2 0B 48 08 DD 24 84 D5 D2 89 CA 5E 1F 15 A9 C1 1E 9F 3B 0B 11 7F 35 75 3B BA A9 57 41 F3 C4 71 ED CC D9 F8 AC BB DC 0F 4D E0 2E 15 7D 94 09 82 83 C6 1E FC 25 28 97 64 7C 02 C9 43 3B 47 8D F8 63 B8 D8 02 F1 58 65 17 5B 12 CF B5 5B 2E 49 12 BE 15 A7 B7 CB 2F EB AB 61 85 05 7E 16 5F B7 10 0A E6	
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]	00	
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	

Tag	Element name	Data	v5.0
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	
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	

1.4 Test Card 04 – Visa, PIN=1234, French

French Visa Offline Plaintext PIN card.

If French is supported by the POS, French should be auto-selected. If the POS supports only one language and it's not French, the POS language should be auto-selected. If the POS supports multiple languages but not French, the list of POS languages should be displayed for cardholder selection.

Once selected, cardholder prompts and the customer receipt should be in the selected language.

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

1.4.1 Cardholder Verification Method List – AID (A0000000031010)

Cardholder Verification Method List ('0103 1E03 1F00')			
CVM	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

1.4.2 Application Tag Data

* Tag value changes with card usage

Tag	Element name	Data	v5.0
50	Application Label	56 49 53 41 20 43 52 45 44 49 54 - 'VISA CREDIT'	
57	Track 2 Equivalent Data	47 61 73 90 01 01 00 10 D2 21 22 01 11 43 87 80 89 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 34 20 20 20 20 20 20 20 20 20 20 20 20 20 20 - 'Test/Card 04'	

Tag	Element name	Data	v5.0
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	66 72 - 'fr' - French	
5F 30	Service Code	02 01	
5F 34	Application PAN Sequence Number	01	
82	Application Interchange Profile [VSDC]	5C 00	
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 01 03 1E 03 1F 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	
93	Signed Static Application Data	A8 0C 9E FD 74 DF 77 24 B5 90 74 C8 F5 E5 6A 6A EE C6 BB D3 A1 1F 2D 16 FB BB F2 57 3B 3B A5 5B 39 97 ED 89 23 C7 92 5D BC 4F 77 AB DD 1B 73 C3 0A 36 20 92 6B 19 18 06 BE 7D C9 ED F5 B9 04 F4 FE 1F 01 9E 96 48 2E 78 FE 7B 39 C9 D5 88 6D E4 3A 8E E8 0F 49 E3 B5 3B BC 29 DF 3F A9 A8 67 71 8B 41 8F C8 4C 28 13 68 48 91 82 86 00 26 B2 74 89 18 4F C0 AA 88 9A 0F 93 66 96 9C BE C4 79 64 CE BF 99 27 64 94 AD CA C4 13 3A 8C E6 58 74 6C AC 7E 94 2E A1 DA 1B F2 00 68 57 4C 24 4D 41 3A 3D 12 09 99 94 09 B2 82 40 9D FB 74 8E 78 FE FA	

Tag	Element name	Data	v5.0
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	
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	
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	77 C4 81 81 CE 73 0E 9E AB 07 5D 4D 2F 3B 18 8A 8C 58 9E 4F E1 2B 21 AD 09 58 5D 87 0A 5D 8E C1 46 1E 1F D6 BC 9B FA C7 98 59 96 BF 83 8A 35 D4 B5 B7 7B BB 3F EC 71 BE C5 EB 86 16 E9 4B DA 43 BC 53 FE 68 37 7F C5 17 0A B1 E4 89 65 B8 D3 2E 22 D3 95 27 AC 1F D0 61 FD B0 BB 36 36 56 26 E1 88 E5 AC 1E A1 98 37 0D 9C F9 E7 E8 93 BA 2F 91 39 ED ED 84 DA 07 AA 77 BB 09 05 66 BD A9 0E 4F DD C0 8A A6 BF 1A 93 93 F3 F7 69 02 E9 C1 88 7B 79 6E C3 42 10 E5 0C D7 D3 1C 49 F8 1B 0E D9 EC AF 29 CE 86 B2 44 F7 86 14 B3 F5 B2 79 14 A0 75	
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]	00	
9F 57	Issuer Country Code [VSDC]	01 24 - CAN	

Tag	Element name	Data	v5.0
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	
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	

1.5 Test Card 05 – Mastercard, PIN=4315, English, Bad ARPC

English Mastercard Offline Plaintext PIN card 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.

1.5.1 Cardholder Verification Method List – AID (A0000000041010)

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

1.5.2 Application Tag Data

* Tag value changes with card usage

Tag	Element name	Data	v5.0
50	Application Label	4D 61 73 74 65 72 43 61 72 64 - 'MasterCard'	
57	Track 2 Equivalent Data	54 13 33 00 89 01 04 34 D2 21 22 01 08 82 80 32 90 00 0F	
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 35 20 20 20 20 20 20 20 20 20 20 20 20 20 20 - 'Test/Card 05'	
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	00	
82	Application Interchange Profile [M/Chip, PayPass]	38 00	
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	FA	
90	Issuer Public Key Certificate	18 89 B9 97 E6 FC E8 4B 4A E7 AB 87 43 1C BD B3 DF 8C 1D 5A 55 A7 F6 0D 29 59 AF 3A 51 04 E7 58 83 17 ED 74 08 66 68 CF 1A 05 47 84 F7 49 3C 6D 74 7F A7 96 EC 14 D3 33 A6 8E C7 E0 08 62 95 9A 0B D0 F0 48 20 80 B7 1A C1 B7 62 5B 1B 8B 1F 35 A6 69 19 99 BA 78 F5 92 E2 3F 95 E9 96 09 D1 08 CF 1C 0E 30 8A 8B F6 4F BD E8 37 D3 CE 13 8A 50 DC 50 AF 4B 41 EE 53 D9 8A 11 B6 A8 1D DD 44 CC 43 0C 1E F3 BB 9D 1D 75 A0 2F AA 9C 81 4A FC 58	
92	Issuer Public Key Remainder	D3 52 41 07	
94	Application File Locator (AFL)	08 02 04 01 18 01 01 00 20 01 01 00	
9F 07	Application Usage Control	FF 00	
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 43 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	

Tag	Element name	Data	v5.0
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	00 67 CD 19 24 44 01 8E 51 AB D2 EA 7B 64 FF 02 93 2F B5 3E 22 43 D4 79 0F 9B DE 85 DC 57 5F 72 94 BE A1 D0 7E B9 25 16 F2 A3 A6 D8 B2 ED 26 C6 49 94 46 5B 57 A2 8E 81 CF C6 5F 67 5F 9C 8F A5 9D 64 8C D6 5C 82 FB 99 80 74 E4 37 2B C9 DE 90 13 87 22 F8 54 D7 95 E1 3C 30 1B 03 60 CA 8E EE 72 99 7A 9C B7 C0 AD F1 F7 69 EA 63 09 3C 7B D2	
9F 47	ICC Public Key Exponent	03	
9F 48	ICC Public Key Remainder	16 0A F2 EF 1E 40 15 D4 D8 E2 F1 84 32 80 E9 4D A7 5C B2 44 24 F3 6F FC C1 63 8E 9E C4 E7 11 D3 AE 29 45 00 A5 E7 ED 7F 0D F1	
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	C4 05 3F 80 C9 BA B1 B8 7B E6 25 E6 4B 8D 40 6C F8 AD C7 09 7A 21 34 9F BA 20 C3 DE E5 1D E8 9D 62 44 D1 E6 DF 99 CD 06 0E 79 59 D3 AD 50 62 FC D4 AA 24 A6 7C 13 7C 04 28 3D 54 98 27 C3 7D 27 B2 36 B5 0A 54 84 A4 EF 8F D9 8F 2C 52 5E A7 A6 FD 93 26 2B A2 06 35 C1 A0 2D 14 4B 1C E4 51 A3 E8 CC 72 F3 EC 29 E1 5E 31 35 C8 F2 C4 71 36 FA	
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 01 00 00 00 00 00 00 00 00	
C7	CDOL1 Related Data Length [Mastercard]	2D	
C8	CRM Country Code [Mastercard]	01 24 - CAN	

Tag	Element name	Data	v5.0
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	
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]	01 24 00 00 00 01 24 00 00 00 01 24 00 00 00 01 24 00 00 00 01 24 00 00 00	
D3	Additional Check Table [Mastercard]	00 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF	
D5	Application Control [M/Chip]	C4 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	

1.6 Test Card 06 – Mastercard, PIN=4315, French, Bad ARPC

French Mastercard Offline Plaintext PIN card that may generate an ACC at the 2nd Gen AC.

If French is supported by the POS, French should be auto-selected. If the POS supports only one language and it's not French, the POS language should be auto-selected. If the POS supports multiple languages but not French, the list of POS languages should be displayed for cardholder selection. Once selected, cardholder prompts and the customer receipt should be in the selected language.

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.

1.6.1 Cardholder Verification Method List – AID (A0000000041010)

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

1.6.2 Application Tag Data

* Tag value changes with card usage

Tag	Element name	Data	v5.0
50	Application Label	4D 61 73 74 65 72 43 61 72 64 - 'MasterCard'	
57	Track 2 Equivalent Data	54 13 33 00 89 01 04 34 D2 21	

Tag	Element name	Data	v5.0
		22 01 08 82 80 32 90 00 0F	
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 36 20 20 20 20 20 20 20 20 20 20 20 20 20 - 'Test/Card 06'	
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	66 72 - 'fr' - French	
5F 30	Service Code	02 01	
5F 34	Application PAN Sequence Number	00	
82	Application Interchange Profile [M/Chip, PayPass]	38 00	
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	FA	
90	Issuer Public Key Certificate	18 89 B9 97 E6 FC E8 4B 4A E7 AB 87 43 1C BD B3 DF 8C 1D 5A 55 A7 F6 0D 29 59 AF 3A 51 04 E7 58 83 17 ED 74 08 66 68 CF 1A 05 47 84 F7 49 3C 6D 74 7F A7 96 EC 14 D3 33 A6 8E C7 E0 08 62 95 9A 0B D0 F0 48 20 80 B7 1A C1 B7 62 5B 1B 8B 1F 35 A6 69 19 99 BA 78 F5 92 E2 3F 95 E9 96 09 D1 08 CF 1C 0E 30 8A 8B F6 4F BD E8 37 D3 CE 13 8A 50 DC 50 AF 4B 41 EE 53 D9 8A 11 B6 A8 1D DD 44 CC 43 0C 1E F3 BB 9D 1D 75 A0 2F AA 9C 81 4A FC 58	
92	Issuer Public Key Remainder	D3 52 41 07	
94	Application File Locator (AFL)	08 02 04 01 18 01 01 00 20 01 01 00	
9F 07	Application Usage Control	FF 00	
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 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 *	
9F 11	Issuer Code Table Index	01	
9F 12	Application Preferred Name	4D 61 73 74 65 72 43 61 72 64 - 'MasterCard'	
9F 14	Lower Consecutive Offline Limit	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	

Tag	Element name	Data	v5.0
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	1A 6A 9B 39 12 D0 AB 75 1A 86 D6 F5 7C 09 55 9C 39 4D A9 08 5A 52 CE 9F 91 91 4C CC 03 32 A5 1F D4 C7 5A FB D5 40 5B 62 2F 64 3E 47 3A DE 11 28 02 F0 E5 61 84 7E 7E 44 57 B8 F7 08 61 63 1D 86 11 3E B5 FD EA F2 D7 B6 12 CE 37 9A 4A C1 F5 0E 59 FF C3 EA 75 70 7F A0 0F 88 D5 C0 E2 40 4F C2 2A 50 96 4B 25 97 F1 09 D0 81 06 2B E3 0E E2 2D	
9F 47	ICC Public Key Exponent	03	
9F 48	ICC Public Key Remainder	98 27 F9 A1 7D 28 92 55 6F 05 84 C8 29 99 36 81 CF 2C 96 31 0B 46 89 19 57 17 69 83 92 A7 A7 C9 4A 93 82 16 B8 3C 6C E1 94 7B	
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	F5 8F 2E 0C 6A 6A 59 EA 2A 41 EA 15 86 49 55 C3 5B 6D E2 68 49 87 39 51 7F B6 02 7D 2B 38 3D 14 EC E1 87 D0 32 25 58 2B F2 EC 3B B1 4B 17 8D 50 54 4B C8 E7 B6 BF A3 8A 7D 5D 9D F9 BE 6A D4 C1 6E 69 E3 D7 AB 04 B9 AA 99 C9 DF 3B A4 02 B4 88 51 38 96 8A A6 21 43 4F F4 46 92 0B 57 DB B7 82 22 89 C4 20 03 A8 80 71 BC 86 D4 7A DA 07 FE 36	
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]	06 FF 03	
C6	Counters [Mastercard]	00 01 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	00 00 00 00 00 00	

Tag	Element name	Data	v5.0
	Amount [M/Chip]		
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]	01 24 00 00 00 01 24 00 00 00 01 24 00 00 00 01 24 00 00 00 01 24 00 00 00	
D3	Additional Check Table [Mastercard]	00 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF	
D5	Application Control [M/Chip]	C4 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	

1.7 Test Card 07 – Interac, PIN=1234, English (BIN=450644)

English Interac Offline Plaintext PIN debit card for testing with processors supporting BIN 450644.

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

1.7.1 Cardholder Verification Method List – AID (A0000002771010)

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

1.7.2 Application Tag Data

* Tag value changes with card usage

Tag	Element name	Data	v5.0
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 74 00 00 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 37 20 20 20 20 20 20 20 20 20 20 20 20 20 20 - 'Test/Card 07'	
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	
84	Dedicated File (DF) Name	A0 00 00 02 77 10 10	
87	Application Priority Indicator	01	

Tag	Element name	Data	v5.0
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	E9 57 37 0F D4 71 2E 57 9D A8 6B 2C DD C2 4C 8E B1 BA 71 8A A1 3D 8B 7C 1B 9F E5 85 A5 17 66 42 48 0F 1C 37 A7 48 49 49 78 62 86 17 DA 9A 59 59 14 F0 F5 B2 01 FF E2 BE 67 80 D5 5D 5A 4C C3 82 AA 75 5F 76 07 7E 26 16 EA 7B E5 A3 C8 04 D2 D8 5D 54 B4 CB 5C 0E EC 49 79 D2 58 C4 B2 0C 05 6C 07 1F E4 87 19 0B F4 7F F2 6B CA F2 7B B5 78 71 EA 0E AE BD 1C E3 D5 9C 6C B2 B1 E0 24 F6 DB 01 D0 7D 3B 0B CE BC 1A 38 34 79 D5 87 5F 2F 62 2D	
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	
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	
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	

Tag	Element name	Data	v5.0
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	C1 F0 BD C3 EF 89 BF 17 DA 02 D5 DF 78 79 1C FB 13 10 4E 7B 45 14 BF AA 91 F9 2E 7F B5 1A 89 69 CA B6 4C B7 B3 AF C4 61 5D 59 A9 72 7D 80 20 CC 06 B2 15 70 38 85 CF D3 9D 71 24 B8 06 6C B2 59 B6 68 06 68 25 3A B4 BE 67 45 C8 99 8A EB 4E 90 24 51 54 C9 FA 87 78 21 63 DF 34 90 6B 01 F6 E7 43 9E 42 20 85 37 04 0A C4 D9 AE 0F 1C C8 3E 2B 9B 0D 61 D4 94 8D 28 58 C9 45 9C 8F 05 CE 01 A3 E9 15 38 F6 DC 6C 80 B7 C8 44 85 36 3E EC 21 7B	
9F 47	ICC Public Key Exponent	03	
9F 48	ICC Public Key Remainder	8D E7 AD 66 FD 9D AF 94 DB 48 6C 71 FB 49 7A A2 E3 21 A9 DB 96 55 98 E5 81 3F	
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	
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	v5.0
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 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 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	

1.8 Test Card 08 – Interac, PIN=1234, French (BIN=450644)

French Interac Offline Plaintext PIN debit card for testing with processors supporting BIN 450644.

If French is supported by the POS, French should be auto-selected. If the POS supports only one language and it's not French, the POS language should be auto-selected. If the POS supports multiple languages but not French, the list of POS languages should be displayed for cardholder selection.

Once selected, cardholder prompts and the customer receipt should be in the selected language.

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

1.8.1 Cardholder Verification Method List – AID (A0000002771010)

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

1.8.2 Application Tag Data

* Tag value changes with card usage

Tag	Element name	Data	v5.0
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 74 00 00 2F	
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 38 20 20 20 20 20 20 20 20 20 20 20 20 20 20 - 'Test/Card 08'	
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	66 72 - 'fr' - French	
5F 30	Service Code	02 20	
5F 34	Application PAN Sequence Number	01	
82	Application Interchange Profile [VSDC]	1C 00	

Tag	Element name	Data	v5.0
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	E9 57 37 0F D4 71 2E 57 9D A8 6B 2C DD C2 4C 8E B1 BA 71 8A A1 3D 8B 7C 1B 9F E5 85 A5 17 66 42 48 0F 1C 37 A7 48 49 49 78 62 86 17 DA 9A 59 59 14 F0 F5 B2 01 FF E2 BE 67 80 D5 5D 5A 4C C3 82 AA 75 5F 76 07 7E 26 16 EA 7B E5 A3 C8 04 D2 D8 5D 54 B4 CB 5C 0E EC 49 79 D2 58 C4 B2 0C 05 6C 07 1F E4 87 19 0B F4 7F F2 6B CA F2 7B B5 78 71 EA 0E AE BD 1C E3 D5 9C 6C B2 B1 E0 24 F6 DB 01 D0 7D 3B 0B CE BC 1A 38 34 79 D5 87 5F 2F 62 2D	
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	
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	
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	

Tag	Element name	Data	v5.0
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	C6 76 75 79 0A 09 9B D1 71 57 29 75 63 F8 CF 64 29 5E 5C 12 F6 9C 75 42 98 2D F1 CE D1 C8 D9 DD DF 15 1E 28 A5 AD EC 4C 2B D8 5E 10 09 04 7F 29 E6 FE 9B 8A 89 C2 74 B0 F4 A2 D0 80 DF B3 59 EE CF 62 D5 AC F4 1C 62 D8 9A 3D F2 46 42 0E 45 45 B2 CB CC DF 60 BB DC 72 7B AF 5E 50 8A 1C 51 6E 1C 1F CC 1E 59 5E 5D CC 54 A7 A8 39 A7 E8 49 48 E8 B4 A6 D7 FD C7 18 E9 A8 C5 7A 8E DA 99 CE 28 AC 74 0B 02 4B 12 BE 1D 28 1C FC 6A 14 DF 25 07	
9F 47	ICC Public Key Exponent	03	
9F 48	ICC Public Key Remainder	F8 6A 6A 29 DB CC DD A3 20 D7 A0 B2 CF 74 9E BD 53 54 EF 48 EE 21 6F 88 C0 5F	
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	
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	v5.0
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 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 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	

1.9 Test Card 09 – Interac, PIN=1234, English (BIN=450636)

English Interac Offline Plaintext PIN debit card for testing with processors supporting BIN 450636.

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

1.9.1 Cardholder Verification Method List – AID (A0000002771010)

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

1.9.2 Application Tag Data

* Tag value changes with card usage

Tag	Element name	Data	v5.0
50	Application Label	49 6E 74 65 72 61 63 - 'Interac'	
57	Track 2 Equivalent Data	45 06 36 44 00 03 81 06 D2 21 22 20 01 62 90 74 00 00 1F	
5A	Application Primary Account Number (PAN)	45 06 36 44 00 03 81 06	
5F 20	Cardholder Name	54 65 73 74 2F 43 61 72 64 20 30 39 20 20 20 20 20 20 20 20 20 20 20 20 20 20 - 'Test/Card 09'	
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	
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	

Tag	Element name	Data	v5.0
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	20 3B 57 1A 05 7E C8 D8 30 C5 ED CB F2 1A 5C EE 31 A5 7B 7B EF D4 F3 B5 D3 55 80 4E DC 93 96 91 30 F7 F0 20 EC F4 89 D9 B7 59 01 DD 21 0B 5A 56 E2 34 08 09 D8 EB D3 D7 C1 95 30 C4 20 58 4A 21 15 87 2E B6 E8 5B 0E 67 52 76 31 22 DA 9D 29 D5 61 EF AA 0C 0C 9F C2 FD 82 A8 DB FD D0 21 79 F1 F4 99 3C 12 73 6F 9A 7D 70 A1 1F 7E 67 25 30 73 2A F7 67 D5 5A 34 E5 69 D5 01 B6 8F 07 B7 75 E8 DD F6 2E F3 1B 53 4B BA 8F AA 91 7C AA CA 35 18	
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	
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	
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	

Tag	Element name	Data	v5.0
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	8D C3 55 06 9E C1 B5 AA A8 28 E3 8E A3 DC 65 F3 EE 3C 40 F4 B6 98 CD 11 95 6D 51 5C CA 33 5B E1 92 8B A7 E4 DC 57 10 9B 30 43 31 AC CF 90 AB 49 1A D1 FC 52 66 F7 CF 0D 45 03 10 74 24 58 39 82 C6 09 E0 AB D6 47 66 C1 DD 07 2A 62 64 CF B7 48 89 2B B8 49 F9 7B 52 8D 71 9E B7 7A AF 8A AC CA 44 6E 8F 58 64 A1 E8 E5 8A 17 1B 12 59 E5 F1 4B D0 B2 0F A6 C4 78 C7 6E 0F F2 53 12 5E 2C 09 2F B8 47 6D C2 69 13 3E 94 07 C8 EE E4 41 07 B9 75	
9F 47	ICC Public Key Exponent	03	
9F 48	ICC Public Key Remainder	FC DD 6A 1A 1A BC 1F 16 75 3E 91 78 B2 C6 4D 84 90 1A 18 9D 04 73 C0 75 CD B3	
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	
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 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 00 DF 31 01 00	
BF 56	Counters Data Template	DF 11 01 01 DF 21 01 00 DF 31 01 00	

Tag	Element name	Data	v5.0
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 DF 21 06 00 00 00 00 00 DF 31 06 00 00 00 00 00	
BF 5B	Application Internal Data Template	DF 01 02 00 00	

1.10 Test Card 10 – Interac, PIN=1234, French (BIN=450636)

French Interac Offline Plaintext PIN debit card for testing with processors supporting BIN 450636.

If French is supported by the POS, French should be auto-selected. If the POS supports only one language and it's not French, the POS language should be auto-selected. If the POS supports multiple languages but not French, the list of POS languages should be displayed for cardholder selection.

Once selected, cardholder prompts and the customer receipt should be in the selected language.

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

1.10.1 Cardholder Verification Method List – AID (A0000002771010)

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

1.10.2 Application Tag Data

* Tag value changes with card usage

Tag	Element name	Data	v5.0
50	Application Label	49 6E 74 65 72 61 63 - 'Interac'	
57	Track 2 Equivalent Data	45 06 36 44 00 03 81 06 D2 21 22 20 01 62 90 74 00 00 2F	
5A	Application Primary Account Number (PAN)	45 06 36 44 00 03 81 06	
5F 20	Cardholder Name	54 65 73 74 2F 43 61 72 64 20 31 30 20 20 20 20 20 20 20 20 20 20 20 20 20 - 'Test/Card 10'	
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	66 72 - 'fr' - French	
5F 30	Service Code	02 20	
5F 34	Application PAN Sequence Number	01	
82	Application Interchange Profile [VSDC]	1C 00	
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	

Tag	Element name	Data	v5.0
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	20 3B 57 1A 05 7E C8 D8 30 C5 ED CB F2 1A 5C EE 31 A5 7B 7B EF D4 F3 B5 D3 55 80 4E DC 93 96 91 30 F7 F0 20 EC F4 89 D9 B7 59 01 DD 21 0B 5A 56 E2 34 08 09 D8 EB D3 D7 C1 95 30 C4 20 58 4A 21 15 87 2E B6 E8 5B 0E 67 52 76 31 22 DA 9D 29 D5 61 EF AA 0C 0C 9F C2 FD 82 A8 DB FD D0 21 79 F1 F4 99 3C 12 73 6F 9A 7D 70 A1 1F 7E 67 25 30 73 2A F7 67 D5 5A 34 E5 69 D5 01 B6 8F 07 B7 75 E8 DD F6 2E F3 1B 53 4B BA 8F AA 91 7C AA CA 35 18	
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	
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	
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	
9F 26	Application Cryptogram (AC)	xx xx xx xx xx xx xx xx	
9F 27	Cryptogram Information Data (CID)	80	

Tag	Element name	Data	v5.0
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	2D C0 95 BF C0 20 AD C5 E5 6C 9E 02 72 DB 42 29 1B C7 54 E9 34 94 49 50 B0 08 92 0B 13 69 F9 A0 0D 25 91 EC 58 9C A3 6C DA 84 68 9F D0 9E 87 5D 1D 38 40 97 45 19 3D D2 4E 12 48 45 B3 F4 78 12 A0 0A 6B E4 50 C2 44 1E 57 EF 08 BB 33 48 4A C5 FF 56 F8 62 E7 5B 98 36 19 5D DF A4 8E A3 9E 6A CA 8B 71 7D 82 FB 6C 67 16 DB 34 E7 58 98 9A 62 98 73 E4 F0 DD 55 A7 81 19 26 77 24 94 0E FB D2 44 DA A4 E1 76 6A 72 EB 48 20 3B 75 4E 8E B6 EC	
9F 47	ICC Public Key Exponent	03	
9F 48	ICC Public Key Remainder	E4 86 4A A6 24 21 AB EA 1F 12 12 E0 05 30 87 01 C2 AE F9 82 A0 E4 D2 CC 8D E5	
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	
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 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 00 DF 31 01 00	
BF 56	Counters Data Template	DF 11 01 01 DF 21 01 00 DF 31 01 00	

Tag	Element name	Data	v5.0
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 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	

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				