



**USA**  
**EMV™ Test Card Set**

**Version 4.00**

**April 2021**

**Powered by B2»**

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## **B2 Contact Information**

Canada  
251 Consumers Road, Suite 1200, Toronto, ON M2J 4R3  
Tel: 416.730.9827

U.S.A.  
1615 S. Congress Avenue, Suite 103, Delray Beach, FL 33445  
Tel: 470.233.7374

## Revision History

| Version | Date          | Updated By | Revisions  |
|---------|---------------|------------|--|
| 1.30    | 24-Jun-2014   | B2PS       | Card Set has 15 cards  |
| 1.40    | 25-Nov-2014   | B2PS       | <ul style="list-style-type: none"> <li>• Renamed to USA EMV Test Card Set</li> <li>• Updated USA EMV Test Card Profiles section.</li> <li>• Updated Mexican cards to have correct ISO code (484)</li> <li>• Updated card descriptive text to provide additional information</li> </ul>   |
| 1.41    | 7-May-2015    | B2PS       | <ul style="list-style-type: none"> <li>• TC09 marked as “Discontinued”</li> </ul>  |
| 1.42    | 23-Sep-2015   | B2PS       | <ul style="list-style-type: none"> <li>• Improved card descriptive text, miscellaneous Tag corrections to all Visa and Interac cards – now v3.3</li> </ul>   |
| 1.50    | 19-Oct-2015   | B2PS       | <ul style="list-style-type: none"> <li>• Tag updates to all MasterCard cards - now v3.2.</li> </ul>  |
| 1.51    | 20-Oct-2015   | B2PS       | <ul style="list-style-type: none"> <li>• Updated Card Profile tables</li> </ul>  |
| 1.60    | 13-Nov-2015   | B2PS       | <ul style="list-style-type: none"> <li>• TC09 added – Mastercard Set now contains 16 cards.</li> </ul>   |
| 1.70    | 24-Aug-2016   | B2PS       | <ul style="list-style-type: none"> <li>• Transaction Values added</li> <li>• Tag 8E (CVM) data added for each card</li> <li>• TOC formatting adjusted for readability with new CVM data</li> <li>• Title page made consistent with other documents</li> <li>• Layout made suitable for duplex printing</li> <li>• Added PINBlock warning text</li> </ul> |
| 1.80    | 5-Jan-2018    | B2PS       | <ul style="list-style-type: none"> <li>• TC10, TC11, TC12 - Approval Amount changed to \$120</li> <li>• “MasterCard” replaced with “Mastercard” where appropriate</li> </ul>   |
| 2.00    | 31-Jan-2018   | B2PS       | <ul style="list-style-type: none"> <li>• Expiry date for all cards set to 2022/12</li> </ul>   |
| 2.10    | 7-Jan-2019    | B2PS       | <ul style="list-style-type: none"> <li>• TC01 plastic corrected to indicate “Signature”. Documentation now reflects this latest (v4.1)</li> </ul>  |
| 3.00    | 26-Mar-2019   | B2PS       | <ul style="list-style-type: none"> <li>• TC06 updated tag 57 Expiry Date - now v4.0</li> </ul>   |
| 3.10    | 06-Aug-2019   | B2PS       | <ul style="list-style-type: none"> <li>• TC06 - added expiry date (chip / magstripe) note</li> </ul>   |
| 4.00    | April 7, 2021 | B2PS       | <ul style="list-style-type: none"> <li>• TC09-TC14 - change Expiry Date to 25/12</li> </ul>  |

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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 - B2 USA EMV Test Card Profiles

The USA EMV™ Test Card Set contains 16 cards, defined as follows.

|                                 | Test Card 01   | Test Card 02   | Test Card 03                                      |
|---------------------------------|--|--|---|
| <b>Brand</b>                    | Visa   | Visa   | Visa  |
| <b>AID</b>                      | A0000000031010   | A0000000031010   | A0000000031010                                    |
| <b>PAN</b>                      | 4761 7390 0101 0010  | 4761 7390 0101 0010  | 4761 7390 0101 0010                               |
| <b>Expiry Date</b>              | 12/2022  | 12/2022  | 12/2022   |
| <b>Service Code</b>             | 201  | 201  | 201   |
| <b>Interface</b>                | Contact, MSR   | Contact, MSR   | Contact, MSR                                      |
| <b>CVM</b>                      | Signature<br>Online PIN<br>No CVM<br><a href="#">See Card Definition</a> | Offline Plaintext PIN<br><a href="#">See Card Definition</a> | Online PIN<br><a href="#">See Card Definition</a> |
| <b>Approval Amount</b>          | \$10.00  | \$10.00  | \$10.00   |
| <b>Issuer Country Code</b>      | 840<br>(USA)   | 840<br>(USA)   | 840<br>(USA)                                      |
| <b>Currency Code</b>            | 840<br>(USD)   | 840<br>(USD)   | 840<br>(USD)                                      |
| <b>Language</b>                 | 'en' – English   | 'en' – English   | 'en' – English                                    |
| <b>Application Confirmation</b> | No   | No   | No  |
| <b>Card Purpose</b>             | USA<br>Signature Preferring  | USA<br>Offline Plaintext PIN<br>Only                         | USA<br>Online PIN Only                            |
| <b>Card Version</b>             | v4.x   | v4.x   | v4.x  |

|                        | Test Card 04   | Test Card 05   | Test Card 06   |
|------------------------|--|--|--|
| <b>Brand</b>           | Visa   | Visa   | Visa   |
| <b>AID</b>             | A0000000031010   | A0000000031010   | A0000000031010   |
| <b>PAN</b>             | 4761 7390 0101 0010  | 4761 7390 0101 0010  | 4761 7390 0101 0010  |
| <b>Expiry Date</b>     | 12/2022  | 12/2022  | 12/2022  |
| <b>Service Code</b>    | 201  | 201  | 201  |
| <b>Interface</b>       | Contact, MSR   | Contact, MSR   | Contact, MSR   |
| <b>CVM</b>             | Signature<br>No CVM<br><a href="#">See Card Definition</a> | Offline Plaintext PIN<br><a href="#">See Card Definition</a> | Offline Plaintext PIN<br><a href="#">See Card Definition</a> |
| <b>Approval Amount</b> | \$10.00  | \$10.00  | \$10.00  |

|                          | Test Card 04                            | Test Card 05                     | Test Card 06                     |
|--------------------------|---|----------------------------------|----------------------------------|
| Issuer Country Code      | 124<br>(Canada)                         | 484<br>(Mexico)                  | 484<br>(Mexico)                  |
| Currency Code            | 124<br>(CAD)                            | 840<br>(USD)                     | 484<br>(MXN)                     |
| Language                 | 'fr' – French                           | 'es' - Spanish                   | 'es' - Spanish                   |
| Application Confirmation | Yes                                     | No                               | No                               |
| Card Purpose             | Canadian – French<br>Appl. Confirmation | Mexico – Spanish<br>Currency USD | Mexico – Spanish<br>Currency MXN |
| Card Version             | v4.x                                    | v4.x                             | v4.x                             |

|                          | Test Card 07                     | Test Card 08           | Test Card 09   |
|--------------------------|----------------------------------|------------------------|--|
| Brand                    | Visa                             | Visa                   | Mastercard   |
| AID                      |                                  |                        | A0000000041010   |
| PAN                      | 4761 7390 0101 0010              | 4761 7390 0101 0010    | 5413 3300 8960 4111  |
| Expiry Date              | 12/2022                          | 12/2022                | 12/2025  |
| Service Code             | 201                              | 201                    | 201  |
| Interface                | Contact, MSR                     | MSR                    | Contact, MSR   |
| CVM                      | -                                | -                      | Online PIN, Signature<br><a href="#">See Card Definition</a> |
| Approval Amount          | \$10.00                          | \$10.00                | \$20.00  |
| Issuer Country Code      | -                                | -                      | 840<br>(USA)   |
| Currency Code            | -                                | -                      | 840<br>(USD)   |
| Language                 | -                                | -                      | 'en' – English   |
| Application Confirmation | -                                | -                      | No   |
| Card Purpose             | Fallback<br>Empty Candidate List | Fallback<br>Chip Error | Online PIN   |
| Card Version             | v4.x                             | v4.x                   | v5.x   |

|                     | Test Card 10                                  | Test Card 11   | Test Card 12                                      |
|---------------------|---|--|---|
| Brand               | Mastercard                                    | Mastercard   | Mastercard  |
| AID                 | A0000000041010                                | A0000000041010   | A0000000041010                                    |
| PAN                 | 5413 3300 8901 0434                           | 5413 3300 8901 0434  | 5413 3300 8901 0434                               |
| Expiry Date         | 12/2025                                       | 12/2025  | 12/2025   |
| Service Code        | 201   | 201  | 201   |
| Interface           | Contact, MSR                                  | Contact, MSR   | Contact, MSR                                      |
| CVM                 | NO CVM<br><a href="#">See Card Definition</a> | Offline Plaintext PIN<br><a href="#">See Card Definition</a> | Online PIN<br><a href="#">See Card Definition</a> |
| Approval Amount     | \$120.00                                      | \$120.00   | \$120.00  |
| Issuer Country Code | 840<br>(USA)                                  | 840<br>(USA)   | 840<br>(USA)                                      |
| Currency Code       | 840<br>(USD)                                  | 840<br>(USD)   | 840<br>(USD)                                      |
| Language            | 'en' – English                                | 'en' – English   | 'en' – English                                    |

|                          | Test Card 10                | Test Card 11                     | Test Card 12                    |
|--------------------------|-----------------------------|----------------------------------|---------------------------------|
| Application Confirmation | No                          | No                               | No                              |
| Card Purpose             | NO CVM<br>ARPC Verify Fails | Offline PIN<br>ARPC Verify Fails | Online PIN<br>ARPC Verify Fails |
| Card Version             | v5.x                        | v5.x                             | v5.x                            |

|                          | Test Card 13                     | Test Card 14           | Test Card 15   |
|--------------------------|----------------------------------|------------------------|--|
| Brand                    | Mastercard                       | Mastercard             | Interac  |
| AID                      | -                                | -                      | A0000002771010   |
| PAN                      | 5413 3300 8901 0434              | 5413 3300 8901 0434    | 4506 4450 0693 1933  |
| Expiry Date              | 12/2025                          | 12/2025                | 12/2022  |
| Service Code             | 201                              | 201                    | 220  |
| Interface                | Contact, MSR                     | MSR                    | Contact, MSR   |
| CVM                      | -                                | -                      | Offline Plaintext PIN<br><a href="#">See Card Definition</a> |
| Approval Amount          | \$20.00                          | \$20.00                | \$10.00  |
| Issuer Country Code      | -                                | -                      | 124<br>(Canada)  |
| Currency Code            | -                                | -                      | 124<br>(CAD)   |
| Language                 | -                                | -                      | 'en' – English   |
| Application Confirmation | -                                | -                      | No   |
| Card Purpose             | Fallback<br>Empty Candidate List | Fallback<br>Chip Error | English<br>Interac Debit                                     |
| Card Version             | v5.x                             | v5.x                   | v4.x   |

|                          | Test Card 16   |
|--------------------------|--|
| Brand                    | Interac  |
| AID                      | A0000002771010   |
| PAN                      | 4506 3644 0003 8106  |
| Expiry Date              | 12/2022  |
| Service Code             | 220  |
| Interface                | Contact, MSR   |
| CVM                      | Offline Plaintext PIN<br><a href="#">See Card Definition</a> |
| Approval Amount          | \$10.00  |
| Issuer Country Code      | 124<br>(Canada)  |
| Currency Code            | 124<br>(CAD)   |
| Language                 | 'fr' – French  |
| Application Confirmation | No   |
| Card Purpose             | French<br>Interac Debit                                      |
| Card Version             | v4.x   |



## 1.1 Test Card 01 – Visa, Signature Preferring, English, USD, USA

USA English Visa, Signature / Online PIN card (Currency=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  | v4.x |
|-------|---|---|------|
| 50    | Application Label                               | 56 49 53 41 20 43 52 45 44 49<br>54 - 'VISA CREDIT'   |      |
| 57    | Track 2 Equivalent Data                         | 47 61 73 90 01 01 00 10 D2 21<br>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<br>30 31 20 20 20 20 20 20 20<br>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<br>BYTE 1:<br>b7 - Offline SDA supported<br>b6 - Offline DDA NOT supported<br>b5 - Cardholder verification supported<br>b4 - Terminal risk mgmt to be performed<br>b3 - Issuer authentication supported via EXTERNAL AUTH command<br>b1 - Combined DDA / GEN AC NOT supported<br>BYTE 2:<br>b8 - Use for Visa NOT supported<br>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<br>05 5F 2A 02 9A 03 9C 01 9F 37<br>04  |      |
| 8D    | Card Risk Management Data Object List 2 (CDOL2) | 8A 02 9F 02 06 9F 03 06 9F 1A<br>02 95 05 5F 2A 02 9A 03 9C 01<br>9F 37 04  |      |
| 8E    | Cardholder Verification Method (CVM) List       | 00 00 00 00 00 00 00 00 1E 03<br>02 03 1F 00  |      |
| 8F    | Certification Authority Public Key Index        | 92  |      |

| Tag   | Element name                   | Data   | v4.x |
|-------|--------------------------------|--|------|
| 90    | Issuer Public Key Certificate  | 3C 96 F7 65 8F BC 29 A2 02 F1<br>91 46 BD E9 21 66 B0 F6 22 1B<br>BC CB 02 E3 26 71 0B 9E 22 9D<br>16 FA E9 AD 0C 87 4C 06 85 91<br>6E 19 F0 E3 26 93 EE 20 1B CE<br>23 59 50 9A 6D 65 72 F8 EC 3F<br>C3 73 12 6B 34 3F 9C B8 15 3D<br>61 B7 EA B2 D4 2D E1 9D 56 08<br>31 85 A0 3D D1 4C 26 8D 40 DF<br>08 35 C5 5E AB FA 38 ED 28 BC<br>E4 2C D0 01 3D A9 4F 80 05 18<br>B7 53 C2 46 EF FB A0 8F D2 02<br>9B AD 5D FC F0 DA F0 7B 7D 80<br>1C 46 5F FD 25 2C 70 B9 21 53<br>B3 30 D9 5D CA 2F A1 FA AE 2D<br>01 68 A4 EA 8B 47 5C D8 05 DC<br>32 AA 96 4C 17 BF CD 2C D5 D0<br>30 9A B0 EA 76 1B |      |
| 92    | Issuer Public Key Remainder    | 50 DA 20 DD A8 95 3B 69 3F ED<br>84 36 68 31 BA 1E EA 97 F7 8F<br>79 2A CF 8C B9 8F DF 01 49 A7<br>B7 8F DA 1C 49 67   |      |
| 93    | Signed Static Application Data | 8B 67 1C 1A FB 51 BC 81 B0 BA<br>20 30 07 30 07 05 5C 01 F2 16<br>86 B5 99 8C 6C 40 C4 5D 08 CD<br>E7 66 9F 6C 90 89 03 C6 89 D7<br>2A DF D1 59 B8 5D 1A AA 14 53<br>36 7B 24 08 DE E4 65 B4 D7 26<br>FD 8D 56 0E 39 E9 A6 B0 A1 23<br>02 39 19 FB D0 23 4B F7 BD B1<br>B3 98 F5 D1 96 D3 D8 BF AA 69<br>C3 91 3D 1A FE 08 79 CA 6F 56<br>0A D4 7B 39 CE 2B 5A 12 FA A7<br>D4 13 AA BA A5 0E 1B DF ED 6D<br>83 23 54 69 D7 4C 53 AB 74 DD<br>0A 05 94 F9 6A A0 52 19 8F 8A<br>DB 2F 7E C4 21 7A 22 9E FD 7E<br>DD D7 48 54 EA 6E A9 01 FA 69<br>77 29 E4 E1 D2 93 4A FC 10 A2<br>F6 0D 09 C8 27 0D |      |
| 94    | Application File Locator (AFL) | 10 01 01 00 10 02 04 01 10 06<br>06 00 B0 01 01 00   |      |
| 9F 07 | Application Usage Control      | FF 00<br>BYTE 1:<br>b8 - Domestic cash trans. valid<br>b7 - Int'l cash transactions valid<br>b6 - Domestic goods valid<br>b5 - International goods valid<br>b4 - Domestic services valid<br>b3 - International services valid<br>b2 - ATMs valid<br>b1 - non-ATM terminals valid<br>BYTE 2:<br>b8 - Domestic cashback NOT allowed<br>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   | v4.x |
|-------|--|--|------|
| 9F 12 | Application Preferred Name                                 | 56 69 73 61 20 43 72 65 64 69<br>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<br>30 30 30 30 30 30 30 30 30 30<br>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                                 | 0C E2 80 44 6E 1C 27 D5 44 6C<br>8A 02 61 D6 BF 7E 54 5B 19 AA<br>70 DF 2D 86 B2 E8 51 6D FC D6<br>7F C9 DD C7 0B 53 CD 85 EB F7<br>1E 84 9B 7C 94 71 BA 5B 2A 43<br>7F A5 C5 07 DF CA D3 31 3D C3<br>AA E9 B8 DF D4 F6 63 38 0A D4<br>71 4F F1 62 AB 68 70 30 2A 13<br>AA C3 39 AE 1B 1C 11 8B 72 8B<br>E7 12 F9 EE E0 3B 7B 79 C9 35<br>FE 5E DF 4C CD 5B 18 34 75 B9<br>EE 62 B2 71 D1 2F B8 E4 9E 48<br>B8 82 6F 8F 60 20 93 E8 9A 1F<br>08 0F D3 A8 D2 8F BF 1B 97 92<br>38 F8 2E 41 C3 BF A5 35 B7 F2<br>D1 EC 21 01 6F 39 03 51 70 8D<br>E4 75 79 18 48 57 AE 4E D7 F4<br>D4 A8 17 7C A3 16 |      |
| 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   |      |
| BF 56 | Counters Data Template                                     | DF 11 01 01 DF 21 01 03 DF 31<br>01 07   |      |

| Tag   | Element name                         | Data   | v4.x |
|-------|--------------------------------------|--|------|
| BF 57 | International Counters Data Template | DF 11 01 01 DF 21 01 03 DF 31<br>01 07 DF 51 01 00                                     |      |
| BF 58 | Amounts Data Template                | DF 11 06 00 00 00 00 00 00 DF<br>21 06 00 00 00 02 00 00 DF 31<br>06 00 00 00 04 00 00 |      |

\* Tag value changes with card usage

## 1.2 Test Card 02 – Visa, Offline PIN=1234, English, USD, USA

USA English Visa, Offline Plaintext PIN Only card (Currency=USD).

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 ('0103 0100 0000') |                       |                            |                 |
|--|-----------------------|----------------------------|-----------------|
| CVM  | Verification Method   | Conditions                 | If unsuccessful |
| 1  | Offline Plaintext PIN | Terminal supports CVM type | Fail            |
| 2  | Offline Plaintext PIN | Always                     | Fail            |
| 3  | Fail CVM Processing   | Always                     | Fail            |

### 1.2.2 Application Tag Data

| Tag   | Element name                             | Data  | v4.x |
|-------|--|---|------|
| 50    | Application Label                        | 56 49 53 41 20 43 52 45 44 49<br>54 - 'VISA CREDIT'   |      |
| 57    | Track 2 Equivalent Data                  | 47 61 73 90 01 01 00 10 D2 21<br>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<br>30 32 20 20 20 20 20 20 20 20<br>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                      | 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<br>BYTE 1:<br>b7 - Offline SDA supported<br>b6 - Offline DDA NOT supported<br>b5 - Cardholder verification supported<br>b4 - Terminal risk mgmt to be performed<br>b3 - Issuer authentication supported via<br>EXTERNAL AUTH command<br>b1 - Combined DDA / GEN AC NOT<br>supported<br>BYTE 2:<br>b8 - Use for Visa NOT supported<br>b7 - Is NOT Mobile handset |      |
| 84    | Dedicated File (DF) Name                 | A0 00 00 00 03 10 10  |      |
| 87    | Application Priority Indicator           | 01  |      |

| Tag | Element name                                    | Data   | v4.x |
|-----|---|--|------|
| 8C  | Card Risk Management Data Object List 1 (CDOL1) | 9F 02 06 9F 03 06 9F 1A 02 95<br>05 5F 2A 02 9A 03 9C 01 9F 37<br>04   |      |
| 8D  | Card Risk Management Data Object List 2 (CDOL2) | 8A 02 9F 02 06 9F 03 06 9F 1A<br>02 95 05 5F 2A 02 9A 03 9C 01<br>9F 37 04   |      |
| 8E  | Cardholder Verification Method (CVM) List       | 00 00 00 00 00 00 00 00 01 03<br>01 00 00 00   |      |
| 8F  | Certification Authority Public Key Index        | 92   |      |
| 90  | Issuer Public Key Certificate                   | 3C 96 F7 65 8F BC 29 A2 02 F1<br>91 46 BD E9 21 66 B0 F6 22 1B<br>BC CB 02 E3 26 71 0B 9E 22 9D<br>16 FA E9 AD 0C 87 4C 06 85 91<br>6E 19 F0 E3 26 93 EE 20 1B CE<br>23 59 50 9A 6D 65 72 F8 EC 3F<br>C3 73 12 6B 34 3F 9C B8 15 3D<br>61 B7 EA B2 D4 2D E1 9D 56 08<br>31 85 A0 3D D1 4C 26 8D 40 DF<br>08 35 C5 5E AB FA 38 ED 28 BC<br>E4 2C D0 01 3D A9 4F 80 05 18<br>B7 53 C2 46 EF FB A0 8F D2 02<br>9B AD 5D FC F0 DA F0 7B 7D 80<br>1C 46 5F FD 25 2C 70 B9 21 53<br>B3 30 D9 5D CA 2F A1 FA AE 2D<br>01 68 A4 EA 8B 47 5C D8 05 DC<br>32 AA 96 4C 17 BF CD 2C D5 D0<br>30 9A B0 EA 76 1B |      |
| 92  | Issuer Public Key Remainder                     | 50 DA 20 DD A8 95 3B 69 3F ED<br>84 36 68 31 BA 1E EA 97 F7 8F<br>79 2A CF 8C B9 8F DF 01 49 A7<br>B7 8F DA 1C 49 67   |      |
| 93  | Signed Static Application Data                  | 06 A4 E7 A2 93 88 36 DB 9A 86<br>21 7F B7 F7 4C 85 0F 89 DE E2<br>CF 44 54 E9 E7 83 6B B3 95 8B<br>DB BC 3C CE 40 ED DC 26 9D EB<br>DA B2 E6 30 C6 29 C9 3A 94 FC<br>A4 AD 39 D1 20 31 31 96 9D 79<br>47 1E 1F 49 C2 61 6F D8 E5 D1<br>1F 60 51 F4 84 E3 03 4A 00 DC<br>36 1F 0A 7D 59 9E 2D FD A1 F5<br>C1 20 CD A0 B2 09 AF C5 20 B6<br>8C 65 8F 23 AE AC 2B D3 A1 52<br>76 DA 24 AA 5F DA 4B E4 7C 4D<br>E5 B2 66 4A 84 15 3B EC 14 DC<br>3E 82 A4 2B 5F BD 6B 82 2A 67<br>E2 7E 24 9B 78 7E 19 B7 2F 33<br>FC EE 32 F5 A0 70 77 66 44 D2<br>F6 E9 04 80 04 2E 70 62 23 8A<br>71 09 D4 C5 AB F3 |      |
| 94  | Application File Locator (AFL)                  | 10 01 01 00 10 02 04 01 10 06<br>06 00 B0 01 01 00   |      |

| Tag   | Element name   | Data   | v4.x |
|-------|--|--|------|
| 9F 07 | Application Usage Control                                  | FF 00<br>BYTE 1:<br>b8 - Domestic cash trans. valid<br>b7 - Int'l cash transactions valid<br>b6 - Domestic goods valid<br>b5 - International goods valid<br>b4 - Domestic services valid<br>b3 - International services valid<br>b2 - ATMs valid<br>b1 - non-ATM terminals valid<br>BYTE 2:<br>b8 - Domestic cashback NOT allowed<br>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   |      |
| 9F 12 | Application Preferred Name                                 | 56 69 73 61 20 43 72 65 64 69<br>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<br>30 30 30 30 30 30 30 30 30 30<br>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                                 | 2A 25 C9 AC C0 E6 91 CE C4 86<br>E7 2C 6F 4E 7D 4B 24 BF A9 88<br>2A D3 6F E8 B8 77 E1 44 A8 4E<br>AD C7 4B 32 C6 F2 13 C9 EB E4<br>F7 BA 50 F3 A3 0C EE 6C F3 BE<br>DD 9B 3C C9 99 A2 46 76 CC 85<br>34 C6 BA 7F 0C 11 F5 56 0E CA<br>E5 86 98 16 95 CE 21 B0 1B DA<br>63 71 19 AC FF 47 DF 4A 9D 67<br>27 CD D5 43 EB 76 51 A4 71 AA<br>C2 BA 97 F3 81 05 03 10 83 84<br>7F 0E 10 C7 EE 04 73 49 7F 10<br>DE E2 BE C0 4E 46 40 9D 35 29<br>8D 6B 40 5C BD 3E CB 40 D2 58<br>23 09 47 C2 7F 1A FA 61 39 72<br>05 B1 B4 2D 14 C3 BE 3B 90 D4<br>B5 E8 90 7C 07 F7 5C 92 6E F2<br>89 D9 76 72 7A 1F |      |
| 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  |      |

| Tag   | Element name   | Data   | v4.x |
|-------|--|--|------|
| 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   |      |
| BF 56 | Counters Data Template                                   | DF 11 01 01 DF 21 01 03 DF 31<br>01 07   |      |
| BF 57 | International Counters Data Template                     | DF 11 01 01 DF 21 01 03 DF 31<br>01 07 DF 51 01 00                                     |      |
| BF 58 | Amounts Data Template                                    | DF 11 06 00 00 00 00 00 00 DF<br>21 06 00 00 00 02 00 00 DF 31<br>06 00 00 00 04 00 00 |      |

\* Tag value changes with card usage

### 1.3 Test Card 03 – Visa, Online PIN=1234, English, USD, USA

USA English Visa, Online PIN Only card (Currency=USD).

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 ('0203 0200 0000') |                     |                            |                 |
|--|---------------------|----------------------------|-----------------|
| CVM  | Verification Method | Conditions                 | If unsuccessful |
| 1  | Online PIN          | Terminal supports CVM type | Fail            |
| 2  | Online PIN          | Always                     | Fail            |
| 3  | Fail CVM Processing | Always                     | Fail            |

#### 1.3.2 Application Tag Data

| Tag   | Element name                             | Data  | v4.x |
|-------|--|---|------|
| 50    | Application Label                        | 56 49 53 41 20 43 52 45 44 49<br>54 - 'VISA CREDIT'   |      |
| 57    | Track 2 Equivalent Data                  | 47 61 73 90 01 01 00 10 D2 21<br>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<br>30 33 20 20 20 20 20 20 20<br>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                      | 08 40 - USA   |      |

| Tag   | Element name                                    | Data   | v4.x |
|-------|---|--|------|
| 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<br>BYTE 1:<br>b7 - Offline SDA supported<br>b6 - Offline DDA NOT supported<br>b5 - Cardholder verification supported<br>b4 - Terminal risk mgmt to be performed<br>b3 - Issuer authentication supported via EXTERNAL AUTH command<br>b1 - Combined DDA / GEN AC NOT supported<br>BYTE 2:<br>b8 - Use for Visa NOT supported<br>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<br>05 5F 2A 02 9A 03 9C 01 9F 37<br>04   |      |
| 8D    | Card Risk Management Data Object List 2 (CDOL2) | 8A 02 9F 02 06 9F 03 06 9F 1A<br>02 95 05 5F 2A 02 9A 03 9C 01<br>9F 37 04   |      |
| 8E    | Cardholder Verification Method (CVM) List       | 00 00 00 00 00 00 00 00 02 03<br>02 00 00 00   |      |
| 8F    | Certification Authority Public Key Index        | 92   |      |
| 90    | Issuer Public Key Certificate                   | 3C 96 F7 65 8F BC 29 A2 02 F1<br>91 46 BD E9 21 66 B0 F6 22 1B<br>BC CB 02 E3 26 71 0B 9E 22 9D<br>16 FA E9 AD 0C 87 4C 06 85 91<br>6E 19 F0 E3 26 93 EE 20 1B CE<br>23 59 50 9A 6D 65 72 F8 EC 3F<br>C3 73 12 6B 34 3F 9C B8 15 3D<br>61 B7 EA B2 D4 2D E1 9D 56 08<br>31 85 A0 3D D1 4C 26 8D 40 DF<br>08 35 C5 5E AB FA 38 ED 28 BC<br>E4 2C D0 01 3D A9 4F 80 05 18<br>B7 53 C2 46 EF FB A0 8F D2 02<br>9B AD 5D FC F0 DA F0 7B 7D 80<br>1C 46 5F FD 25 2C 70 B9 21 53<br>B3 30 D9 5D CA 2F A1 FA AE 2D<br>01 68 A4 EA 8B 47 5C D8 05 DC<br>32 AA 96 4C 17 BF CD 2C D5 D0<br>30 9A B0 EA 76 1B |      |
| 92    | Issuer Public Key Remainder                     | 50 DA 20 DD A8 95 3B 69 3F ED<br>84 36 68 31 BA 1E EA 97 F7 8F<br>79 2A CF 8C B9 8F DF 01 49 A7<br>B7 8F DA 1C 49 67   |      |



| Tag   | Element name   | Data   | v4.x |
|-------|--|--|------|
| 93    | Signed Static Application Data                             | 8D 3E 17 FB 5C C9 50 75 E0 C7<br>5B 03 3C 20 D0 9C A6 E1 1A C5<br>0A 6D 3A F6 BA 64 DE 03 F4 F6<br>55 36 03 49 9F 97 CF 35 76 55<br>38 5A 16 56 9D 84 B9 53 E4 85<br>CA 85 04 73 47 3A FC 28 47 C9<br>E5 A1 C3 4D 69 CE 5B 05 A9 19<br>B3 A5 21 EC 3A 3F BE 2E 52 70<br>FA 74 4A 75 7A 97 CE 5E D5 95<br>7F 50 BA A0 E0 C0 00 87 31 9E<br>AB 92 15 0A BD 6C FB 81 B8 CB<br>6F C5 DB E3 56 7B 07 06 84 56<br>A9 35 F3 93 D7 94 F5 0F BB E8<br>8E A0 33 D0 CF 54 79 4B 4E E1<br>98 14 92 BC B7 78 EA 05 03 1C<br>D3 1F 7F D5 60 8A 68 25 88 56<br>AB 3F F3 30 66 C6 06 FC 4E 2E<br>C5 8C 3D 71 E3 49 |      |
| 94    | Application File Locator (AFL)                             | 10 01 01 00 10 02 04 01 10 06<br>06 00 B0 01 01 00   |      |
| 9F 07 | Application Usage Control                                  | FF 00<br>BYTE 1:<br>b8 - Domestic cash trans. valid<br>b7 - Int'l cash transactions valid<br>b6 - Domestic goods valid<br>b5 - International goods valid<br>b4 - Domestic services valid<br>b3 - International services valid<br>b2 - ATMs valid<br>b1 - non-ATM terminals valid<br>BYTE 2:<br>b8 - Domestic cashback NOT allowed<br>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   |      |
| 9F 12 | Application Preferred Name                                 | 56 69 73 61 20 43 72 65 64 69<br>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<br>30 30 30 30 30 30 30 30 30 30<br>30 30 30 30  |      |
| 9F 26 | Application Cryptogram (AC)                                | xx xx xx xx xx xx xx xx  |      |
| 9F 27 | Cryptogram Information Data (CID)                          | 80   |      |
| 9F 32 | Issuer Public Key Exponent                                 | 03   |      |
| 9F 36 | Application Transaction Counter (ATC)                      | xx xx *  |      |
| 9F 44 | Application Currency Exponent                              | 02   |      |

| Tag   | Element name   | Data   | v4.x |
|-------|--|--|------|
| 9F 46 | ICC Public Key Certificate                               | 13 7D D5 64 32 17 1A 49 12 CC<br>E1 3A 1F D0 FC 83 32 D0 84 BF<br>A3 F7 41 CB 41 79 A2 44 57 D1<br>19 CB C8 39 1C C8 0E 55 61 78<br>5B 5A 36 AF 8B EA AF 51 B9 C8<br>B4 29 21 A3 ED FE BE 57 1F B7<br>98 BA C0 58 59 4B 61 26 FE B3<br>8B 46 EC 46 E3 9F 3D C6 D4 F7<br>D3 F9 56 74 6E 2A 32 A0 A6 17<br>9F 2E 1A 6B E4 88 AC 40 47 65<br>6F EF 6E AC 43 43 6A 90 8D 19<br>1E E9 73 78 7C 2C A4 81 4C 05<br>9C D2 EA 42 49 0C A1 8C 6E 6B<br>E6 83 92 99 9E F2 E6 00 03 31<br>23 27 E7 D2 20 21 07 33 CF 69<br>72 AD 10 9C 19 3D 5C 35 83 6F<br>3A D7 41 16 24 03 30 4D 7E C2<br>29 FE 12 70 40 69 |      |
| 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 - USA  |      |
| 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 - USD  |      |
| 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   |      |
| BF 56 | Counters Data Template                                   | DF 11 01 01 DF 21 01 03 DF 31<br>01 07   |      |
| BF 57 | International Counters Data Template                     | DF 11 01 01 DF 21 01 03 DF 31<br>01 07 DF 51 01 00   |      |
| BF 58 | Amounts Data Template                                    | DF 11 06 00 00 00 00 00 00 DF<br>21 06 00 00 00 02 00 00 DF 31<br>06 00 00 00 04 00 00   |      |

\* Tag value changes with card usage

## 1.4 Test Card 04 – Visa, Signature Only, French, CAD, Canada, Appl Confirm

Canadian French Visa, Signature Only card (Currency=CAD).

This card will prompt the cardholder to confirm the application (Visa Credit).

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 ('1E03 1F03 0000') |                     |                            |                 |
|--|---------------------|----------------------------|-----------------|
| CVM  | Verification Method | Conditions                 | If unsuccessful |
| 1  | Signature (Paper)   | Terminal supports CVM type | Fail            |
| 2  | No CVM Required     | Terminal supports CVM type | Fail            |
| 3  | Fail CVM Processing | Always                     | Fail            |

### 1.4.2 Application Tag Data

| Tag   | Element name                                    | Data  | v4.x |
|-------|---|---|------|
| 50    | Application Label                               | 56 49 53 41 20 43 52 45 44 49<br>54 - 'VISA CREDIT'   |      |
| 57    | Track 2 Equivalent Data                         | 47 61 73 90 01 01 00 10 D2 21<br>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<br>30 34 20 20 20 20 20 20 20<br>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                             | 66 72 - 'fr' (French)   |      |
| 5F 30 | Service Code                                    | 02 01   |      |
| 5F 34 | Application PAN Sequence Number                 | 01  |      |
| 82    | Application Interchange Profile [VSDC]          | 5C 00<br>BYTE 1:<br>b7 - Offline SDA supported<br>b6 - Offline DDA NOT supported<br>b5 - Cardholder verification supported<br>b4 - Terminal risk mgmt to be performed<br>b3 - Issuer authentication supported via<br>EXTERNAL AUTH command<br>b1 - Combined DDA / GEN AC NOT<br>supported<br>BYTE 2:<br>b8 - Use for Visa NOT supported<br>b7 - Is NOT Mobile handset |      |
| 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<br>05 5F 2A 02 9A 03 9C 01 9F 37<br>04  |      |

| Tag   | Element name                                    | Data <span style="float: right;">v4.x</span>   |
|-------|---|--|
| 8D    | Card Risk Management Data Object List 2 (CDOL2) | 8A 02 9F 02 06 9F 03 06 9F 1A<br>02 95 05 5F 2A 02 9A 03 9C 01<br>9F 37 04   |
| 8E    | Cardholder Verification Method (CVM) List       | 00 00 00 00 00 00 00 00 1E 03<br>1F 03 00 00   |
| 8F    | Certification Authority Public Key Index        | 92   |
| 90    | Issuer Public Key Certificate                   | 3C 96 F7 65 8F BC 29 A2 02 F1<br>91 46 BD E9 21 66 B0 F6 22 1B<br>BC CB 02 E3 26 71 0B 9E 22 9D<br>16 FA E9 AD 0C 87 4C 06 85 91<br>6E 19 F0 E3 26 93 EE 20 1B CE<br>23 59 50 9A 6D 65 72 F8 EC 3F<br>C3 73 12 6B 34 3F 9C B8 15 3D<br>61 B7 EA B2 D4 2D E1 9D 56 08<br>31 85 A0 3D D1 4C 26 8D 40 DF<br>08 35 C5 5E AB FA 38 ED 28 BC<br>E4 2C D0 01 3D A9 4F 80 05 18<br>B7 53 C2 46 EF FB A0 8F D2 02<br>9B AD 5D FC F0 DA F0 7B 7D 80<br>1C 46 5F FD 25 2C 70 B9 21 53<br>B3 30 D9 5D CA 2F A1 FA AE 2D<br>01 68 A4 EA 8B 47 5C D8 05 DC<br>32 AA 96 4C 17 BF CD 2C D5 D0<br>30 9A B0 EA 76 1B |
| 92    | Issuer Public Key Remainder                     | 50 DA 20 DD A8 95 3B 69 3F ED<br>84 36 68 31 BA 1E EA 97 F7 8F<br>79 2A CF 8C B9 8F DF 01 49 A7<br>B7 8F DA 1C 49 67   |
| 93    | Signed Static Application Data                  | 7E 3F 8F 6F 29 91 0B E0 78 02<br>64 76 8A 4D 86 4A F3 7E 33 A7<br>D4 A2 10 60 C6 3A E0 61 7E D5<br>EA 8D B0 76 2A DD F0 0C 80 E5<br>2C DF A6 A9 01 F5 02 D2 5F B1<br>C2 02 78 28 84 69 55 53 6D DC<br>B0 C8 E3 27 50 47 B1 9B 3F 27<br>73 98 0C 16 1D F5 DA 41 12 04<br>EB 5D E2 53 EC D8 D2 AB 8D EB<br>FE 18 CA E1 C9 1D FC AE 3D 1D<br>AE CF B3 7D 8F EB 31 8C 7B CC<br>60 67 F9 16 7F 9B 95 CF 68 F3<br>A5 40 79 22 22 8C 45 DB A5 84<br>51 C1 CA 51 19 AB 4A 40 C0 5D<br>EE F1 8E C2 C6 53 D0 B9 66 83<br>BC E7 56 C5 A1 00 6A 55 FB D4<br>BD BA 74 BB 32 DF C8 0C 2E 49<br>F4 A9 16 32 D0 B2 |
| 94    | Application File Locator (AFL)                  | 10 01 01 00 10 02 04 01 10 06<br>06 00 B0 01 01 00   |
| 9F 07 | Application Usage Control                       | FF 00<br>BYTE 1:<br>b8 - Domestic cash trans. valid<br>b7 - Int'l cash transactions valid<br>b6 - Domestic goods valid<br>b5 - International goods valid<br>b4 - Domestic services valid<br>b3 - International services valid<br>b2 - ATMs valid<br>b1 - non-ATM terminals valid<br>BYTE 2:<br>b8 - Domestic cashback NOT allowed<br>b7 - International cashback NOT allowed   |
| 9F 08 | Application Version Number                      | 00 96  |

| Tag   | Element name   | Data   | v4.x |
|-------|--|--|------|
| 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<br>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<br>30 30 30 30 30 30 30 30 30<br>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                                 | 3E C9 23 9F DA CB EA 74 9A 2E<br>01 CD F4 5D E7 A9 88 23 C8 C0<br>E1 23 46 C1 4B 52 D4 48 46 34<br>E4 3D 6C 2A 52 1F DF C8 CB BA<br>8E C2 78 4B 7F EB AC 05 C4 B0<br>88 9E A8 6A E2 04 DB 2A 41 53<br>21 E8 37 05 14 8C B3 F1 AD 8B<br>AC 0D E8 97 09 DF 6C 03 A8 C1<br>39 B7 19 06 41 7D 77 1E 59 9C<br>A1 E2 68 45 7C 75 F3 22 35 DD<br>4D FC B3 54 08 53 A6 FB AF 4A<br>86 84 89 FB B1 13 5D A3 65 D0<br>C3 F3 3F 30 7D F1 35 E8 3A F7<br>2F 3C B6 A6 AC 4C D7 D9 F7 D7<br>9C E1 8E F7 FE B6 16 C7 C0 FC<br>C0 E0 35 F5 06 5C 20 FA 0B 71<br>C2 FD 9B B9 B4 B9 B2 BB 0C 42<br>74 02 60 3D 2A F5 |      |
| 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                  | 00 00 00 04 00 00  |      |

| Tag   | Element name   | Data  | v4.x |
|-------|--|---|------|
|       | Limit [VSDC]   |   |      |
| 9F 5E | Consecutive Transaction International Upper Limit [VSDC] | 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 02                               |      |
| 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 04 00 00 |      |
| BF 5B | Application Internal Data Template                       | DF 01 02 00 00  |      |

\* Tag value changes with card usage

## 1.5 Test Card 05 – Visa, Offline PIN=1234, Spanish, USD, Mexico

Mexican Spanish Visa, Offline Plaintext PIN Only card (Currency=USD).

If Spanish is supported by the POS, Spanish should be auto-selected. If the POS supports only one language and it's not Spanish, the POS language should be auto-selected. If the POS supports multiple languages but not Spanish, 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.

### 1.5.1 Cardholder Verification Method List – AID (A0000000031010)

| Cardholder Verification Method List ('1E03 1F03 0000') |                     |                            |                 |
|--|---------------------|----------------------------|-----------------|
| CVM  | Verification Method | Conditions                 | If unsuccessful |
| 1  | Signature (Paper)   | Terminal supports CVM type | Fail            |
| 2  | No CVM Required     | Terminal supports CVM type | Fail            |
| 3  | Fail CVM Processing | Always                     | Fail            |

### 1.5.2 Application Tag Data

| Tag   | Element name                             | Data   | v4.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 35 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                      | 04 84 - MEX  |      |
| 5F 2D | Language Preference                      | 65 37 - 'es' (Spanish)   |      |
| 5F 30 | Service Code                             | 02 01  |      |
| 5F 34 | Application PAN Sequence Number          | 01   |      |
| 82    | Application Interchange Profile [VSDC]   | 5C 00<br>BYTE 1:   |      |

| Tag | Element name                                    | Data <span style="float: right;">v4.x</span>   |
|-----|---|--|
|     |   | b7 - Offline SDA supported<br>b6 - Offline DDA NOT supported<br>b5 - Cardholder verification supported<br>b4 - Terminal risk mgmt to be performed<br>b3 - Issuer authentication supported via EXTERNAL AUTH command<br>b1 - Combined DDA / GEN AC NOT supported<br>BYTE 2:<br>b8 - Use for Visa NOT supported<br>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<br>05 5F 2A 02 9A 03 9C 01 9F 37<br>04   |
| 8D  | Card Risk Management Data Object List 2 (CDOL2) | 8A 02 9F 02 06 9F 03 06 9F 1A<br>02 95 05 5F 2A 02 9A 03 9C 01<br>9F 37 04   |
| 8E  | Cardholder Verification Method (CVM) List       | 00 00 00 00 00 00 00 00 01 03<br>01 00 00 00   |
| 8F  | Certification Authority Public Key Index        | 92   |
| 90  | Issuer Public Key Certificate                   | 3C 96 F7 65 8F BC 29 A2 02 F1<br>91 46 BD E9 21 66 B0 F6 22 1B<br>BC CB 02 E3 26 71 0B 9E 22 9D<br>16 FA E9 AD 0C 87 4C 06 85 91<br>6E 19 F0 E3 26 93 EE 20 1B CE<br>23 59 50 9A 6D 65 72 F8 EC 3F<br>C3 73 12 6B 34 3F 9C B8 15 3D<br>61 B7 EA B2 D4 2D E1 9D 56 08<br>31 85 A0 3D D1 4C 26 8D 40 DF<br>08 35 C5 5E AB FA 38 ED 28 BC<br>E4 2C D0 01 3D A9 4F 80 05 18<br>B7 53 C2 46 EF FB A0 8F D2 02<br>9B AD 5D FC F0 DA F0 7B 7D 80<br>1C 46 5F FD 25 2C 70 B9 21 53<br>B3 30 D9 5D CA 2F A1 FA AE 2D<br>01 68 A4 EA 8B 47 5C D8 05 DC<br>32 AA 96 4C 17 BF CD 2C D5 D0<br>30 9A B0 EA 76 1B |
| 92  | Issuer Public Key Remainder                     | 50 DA 20 DD A8 95 3B 69 3F ED<br>84 36 68 31 BA 1E EA 97 F7 8F<br>79 2A CF 8C B9 8F DF 01 49 A7<br>B7 8F DA 1C 49 67   |
| 93  | Signed Static Application Data                  | 47 E3 C1 7B B3 20 6F 63 40 67<br>F3 BE 07 AE 58 7D 5C BA CF 2B<br>D0 1B D7 3D AB 84 48 45 91 D8<br>65 B2 6F 81 D8 3D 84 F3 78 23<br>A9 4D 57 94 D2 FB 58 13 10 40<br>76 B2 EB B9 66 FB 75 20 98 65<br>4B BE 86 16 57 F2 40 C1 83 89<br>A9 19 42 DD 22 93 49 80 1E AD<br>01 63 13 78 96 C1 FE 30 C7 D8<br>A6 E0 F8 F8 22 D1 4F 63 71 DE<br>35 60 AF F7 D4 5B EE E3 2C AF<br>2E 26 0B 2D 6D 88 99 E5 93 CB<br>83 6E 16 1E 7D BF 79 0E 1F E5<br>09 39 3B 8B 5D BF 82 B3 E9 52<br>DE EC DA AA 44 43 12 1F 7A E1<br>C0 29 24 FF 1D 0C 96 1E FE 6E<br>7D 75 EB BC 34 4D 58 D2 31 25<br>F2 64 B9 3E 24 22 |

| Tag   | Element name   | Data   | v4.x |
|-------|--|--|------|
| 94    | Application File Locator (AFL)                             | 10 01 01 00 10 02 04 01 10 06<br>06 00 B0 01 01 00   |      |
| 9F 07 | Application Usage Control                                  | FF 00<br>BYTE 1:<br>b8 - Domestic cash trans. valid<br>b7 - Int'l cash transactions valid<br>b6 - Domestic goods valid<br>b5 - International goods valid<br>b4 - Domestic services valid<br>b3 - International services valid<br>b2 - ATMs valid<br>b1 - non-ATM terminals valid<br>BYTE 2:<br>b8 - Domestic cashback NOT allowed<br>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   |      |
| 9F 12 | Application Preferred Name                                 | 56 69 73 61 20 43 72 65 64 69<br>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<br>30 30 30 30 30 30 30 30 30 30<br>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                                 | 2C 90 15 63 B5 5D DA 9E 28 88<br>D3 B4 D8 A0 34 EC 26 52 E8 F6<br>94 8C F0 27 52 25 4B 38 B9 FA<br>B9 99 2A 3F 7D F0 F8 71 7C 2A<br>87 46 1F 1C 28 5A A0 EA DD FF<br>58 DF A0 4A 3C 21 37 0C DF 7E<br>1E AE E7 09 24 C0 C4 2C 08 B1<br>23 B7 34 1B AF B4 00 96 12 45<br>22 2B 49 7A DC 3F BE 61 D8 25<br>9E 7A F4 63 B0 01 CE 52 32 47<br>03 21 28 E2 A9 74 2A 57 24 6F<br>21 0E 30 AF 5D B6 BB 73 70 3C<br>13 2B 4A 34 6B 88 F5 89 11 4F<br>0F 03 D8 14 77 AE A1 7F B9 73<br>98 F7 71 8B A0 3F 0A 11 E1 20<br>7C 45 B3 5B 48 D1 B5 5C 05 07<br>59 71 5E BA C4 11 0C 91 EB C6<br>2D 65 A7 18 50 5B |      |
| 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   |      |



| Tag   | Element name   | Data  | v4.x |
|-------|--|---|------|
| 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]                               | 04 84 - MEX   |      |
| 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  |      |
| 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 02                               |      |
| 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 04 00 00 |      |

\* Tag value changes with card usage

## 1.6 Test Card 06 – Visa, Offline PIN=1234, Spanish, MXN, Mexico

Mexican Spanish Visa, Offline Plaintext PIN Only card (Currency=MXN).

If Spanish is supported by the POS, Spanish should be auto-selected. If the POS supports only one language and it's not Spanish, the POS language should be auto-selected. If the POS supports multiple languages but not Spanish, 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 chip track 2 expiry date has expired to allow testing of an expired chip card.

**Note:** the magstripe track 2 expiry date is not expired.

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

### 1.6.1 Cardholder Verification Method List – AID (A0000000031010)

| Cardholder Verification Method List ('0103 0100 0000') |                       |                            |                 |
|--|-----------------------|----------------------------|-----------------|
| CVM  | Verification Method   | Conditions                 | If unsuccessful |
| 1  | Offline Plaintext PIN | Terminal supports CVM type | Fail            |
| 2  | Offline Plaintext PIN | Always                     | Fail            |
| 3  | Fail CVM Processing   | Always                     | Fail            |

## 1.6.2 Application Tag Data

| Tag   | Element name                                    | Data   | v4.x |
|-------|---|--|------|
| 50    | Application Label                               | 56 49 53 41 20 43 52 45 44 49<br>54 - 'VISA CREDIT'  |      |
| 57    | Track 2 Equivalent Data                         | 47 61 73 90 01 01 00 10 D1 81<br>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<br>30 36 20 20 20 20 20 20 20 20<br>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                             | 04 84 - MEX  |      |
| 5F 2D | Language Preference                             | 65 73 - 'es' (Spanish)   |      |
| 5F 30 | Service Code                                    | 02 01  |      |
| 5F 34 | Application PAN Sequence Number                 | 01   |      |
| 82    | Application Interchange Profile [VSDC]          | 5C 00<br>BYTE 1:<br>b7 - Offline SDA supported<br>b6 - Offline DDA NOT supported<br>b5 - Cardholder verification supported<br>b4 - Terminal risk mgmt to be performed<br>b3 - Issuer authentication supported via<br>EXTERNAL AUTH command<br>b1 - Combined DDA / GEN AC NOT<br>supported<br>BYTE 2:<br>b8 - Use for Visa NOT supported<br>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<br>05 5F 2A 02 9A 03 9C 01 9F 37<br>04   |      |
| 8D    | Card Risk Management Data Object List 2 (CDOL2) | 8A 02 9F 02 06 9F 03 06 9F 1A<br>02 95 05 5F 2A 02 9A 03 9C 01<br>9F 37 04   |      |
| 8E    | Cardholder Verification Method (CVM) List       | 00 00 00 00 00 00 00 00 01 03<br>01 00 00 00   |      |
| 8F    | Certification Authority Public Key Index        | 92   |      |
| 90    | Issuer Public Key Certificate                   | 3C 96 F7 65 8F BC 29 A2 02 F1<br>91 46 BD E9 21 66 B0 F6 22 1B<br>BC CB 02 E3 26 71 0B 9E 22 9D<br>16 FA E9 AD 0C 87 4C 06 85 91<br>6E 19 F0 E3 26 93 EE 20 1B CE<br>23 59 50 9A 6D 65 72 F8 EC 3F<br>C3 73 12 6B 34 3F 9C B8 15 3D<br>61 B7 EA B2 D4 2D E1 9D 56 08<br>31 85 A0 3D D1 4C 26 8D 40 DF<br>08 35 C5 5E AB FA 38 ED 28 BC<br>E4 2C D0 01 3D A9 4F 80 05 18<br>B7 53 C2 46 EF FB A0 8F D2 02<br>9B AD 5D FC F0 DA F0 7B 7D 80<br>1C 46 5F FD 25 2C 70 B9 21 53<br>B3 30 D9 5D CA 2F A1 FA AE 2D<br>01 68 A4 EA 8B 47 5C D8 05 DC<br>32 AA 96 4C 17 BF CD 2C D5 D0<br>30 9A B0 EA 76 1B |      |

| Tag   | Element name   | Data <span style="float: right;">v4.x</span>   |
|-------|--|--|
| 92    | Issuer Public Key Remainder                                | 50 DA 20 DD A8 95 3B 69 3F ED<br>84 36 68 31 BA 1E EA 97 F7 8F<br>79 2A CF 8C B9 8F DF 01 49 A7<br>B7 8F DA 1C 49 67   |
| 93    | Signed Static Application Data                             | 47 E3 C1 7B B3 20 6F 63 40 67<br>F3 BE 07 AE 58 7D 5C BA CF 2B<br>D0 1B D7 3D AB 84 48 45 91 D8<br>65 B2 6F 81 D8 3D 84 F3 78 23<br>A9 4D 57 94 D2 FB 58 13 10 40<br>76 B2 EB B9 66 FB 75 20 98 65<br>4B BE 86 16 57 F2 40 C1 83 89<br>A9 19 42 DD 22 93 49 80 1E AD<br>01 63 13 78 96 C1 FE 30 C7 D8<br>A6 E0 F8 F8 22 D1 4F 63 71 DE<br>35 60 AF F7 D4 5B EE E3 2C AF<br>2E 26 0B 2D 6D 88 99 E5 93 CB<br>83 6E 16 1E 7D BF 79 0E 1F E5<br>09 39 3B 8B 5D BF 82 B3 E9 52<br>DE EC DA AA 44 43 12 1F 7A E1<br>C0 29 24 FF 1D 0C 96 1E FE 6E<br>7D 75 EB BC 34 4D 58 D2 31 25<br>F2 64 B9 3E 24 22 |
| 94    | Application File Locator (AFL)                             | 10 01 01 00 10 02 04 01 10 06<br>06 00 B0 01 01 00   |
| 9F 07 | Application Usage Control                                  | FF 00<br>BYTE 1:<br>b8 - Domestic cash trans. valid<br>b7 - Int'l cash transactions valid<br>b6 - Domestic goods valid<br>b5 - International goods valid<br>b4 - Domestic services valid<br>b3 - International services valid<br>b2 - ATMs valid<br>b1 - non-ATM terminals valid<br>BYTE 2:<br>b8 - Domestic cashback NOT allowed<br>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   |
| 9F 12 | Application Preferred Name                                 | 56 69 73 61 20 43 72 65 64 69<br>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<br>30 30 30 30 30 30 30 30 30 30<br>30 30 30 30  |
| 9F 26 | Application Cryptogram (AC)                                | xx xx xx xx xx xx xx xx  |
| 9F 27 | Cryptogram Information Data (CID)                          | 80   |
| 9F 32 | Issuer Public Key Exponent                                 | 03   |
| 9F 36 | Application Transaction Counter (ATC)                      | xx xx *  |
| 9F 44 | Application Currency Exponent                              | 02   |

| Tag   | Element name   | Data   | v4.x |
|-------|--|--|------|
| 9F 46 | ICC Public Key Certificate                               | 30 4B 6B B4 E2 02 4C 5A 94 6F<br>3C 64 DB E3 58 57 7B 15 E1 C9<br>28 3E 60 3C 4C F0 8F 6C 66 17<br>6A 40 FF 72 53 A4 12 26 99 1B<br>AC 2A F9 7F 38 FD F4 F7 C4 D4<br>67 D1 E3 6A A1 39 AD A4 FA C6<br>1D C9 37 19 E8 AD CC 7C F4 A3<br>F2 AB CC EB F7 54 46 C9 BA 1B<br>43 26 FC B2 B3 F5 FA 8C 3D 8D<br>01 B1 86 BD 7D BE 50 68 02 D4<br>92 57 6F C1 74 33 D8 9E 54 F5<br>C5 5F 54 71 A9 C4 F0 C5 F9 3F<br>60 89 29 9B 17 2A EB 33 7D 9D<br>1C EC 64 13 C8 06 E0 AA AB CB<br>8D 99 1B BD CA B6 43 23 33 9A<br>0C 01 17 51 5D 9A 19 EF A2 5C<br>10 00 D4 09 5F 5B A3 04 9B 16<br>7D 20 F8 C1 2B 76 |      |
| 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]                         | 04 84 - MXN  |      |
| 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]                               | 04 84 - MEX  |      |
| 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   |      |
| BF 56 | Counters Data Template                                   | DF 11 01 01 DF 21 01 03 DF 31<br>01 07   |      |
| BF 57 | International Counters Data Template                     | DF 11 01 01 DF 21 01 03 DF 31<br>01 07 DF 51 01 02   |      |
| BF 58 | Amounts Data Template                                    | DF 11 06 00 00 00 00 00 00 DF<br>21 06 00 00 00 02 00 00 DF 31<br>06 00 00 00 04 00 00   |      |

\* Tag value changes with card usage

### 1.7 Test Card 07 – Visa, Empty Candidate List

Application Selection will fail due to an Empty Candidate List.

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

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

### 1.8 Test Card 08 – Visa, Chip Error

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

When inserted, a chip error will be detected.

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

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

### 1.9 Test Card 09 – Mastercard, Online PIN=4315, English, USD, USA

USA English Mastercard, Online PIN Only card (Currency=USD).

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

#### 1.9.1 Cardholder Verification Method List – AID (A0000000041010)

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

#### 1.9.2 Application Tag Data

| Tag   | Element name                             | Data  | v5.x |
|-------|--|---|------|
| 50    | Application Label                        | 4D 61 73 74 65 72 63 61 72 64 -<br>'Mastercard'   |      |
| 57    | Track 2 Equivalent Data                  | 54 13 33 00 89 60 41 11 D2 51<br>22 01 01 23 40 91 72 02 9F                                       |      |
| 5A    | Application Primary Account Number (PAN) | 54 13 33 00 89 60 41 11   |      |
| 5F 20 | Cardholder Name                          | 54 65 73 74 2F 43 61 72 64 20<br>30 39 20 20 20 20 20 20 20<br>20 20 20 20 20 20 - 'Test/Card 09' |      |
| 5F 24 | Application Expiration Date              | 25 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 [M/Chip, | 38 00   |      |

| Tag   | Element name                                    | Data <span style="float: right;">v5.x</span>  |
|-------|---|---|
|       | PayPass]  | BYTE 1:<br>b7 - Offline SDA NOT supported<br>b6 - Offline DDA supported<br>b5 - Cardholder verification supported<br>b4 - Terminal risk mgmt to be performed<br>b3 - Issuer authentication NOT supported via EXTERNAL AUTH command<br>b1 - Combined DDA / GEN AC NOT supported<br>BYTE 2:<br>b8 - EMV Contactless NOT supported   |
| 84    | Dedicated File (DF) Name                        | A0 00 00 00 04 10 10  |
| 87    | Application Priority Indicator                  | 01  |
| 8C    | Card Risk Management Data Object List 1 (CDOL1) | 9F 02 06 9F 03 06 9F 1A 02 95<br>05 5F 2A 02 9A 03 9C 01 9F 37<br>04 9F 35 01 9F 45 02 9F 4C 08<br>9F 34 03   |
| 8D    | Card Risk Management Data Object List 2 (CDOL2) | 91 0A 8A 02 95 05 9F 37 04 9F<br>4C 08  |
| 8E    | Cardholder Verification Method (CVM) List       | 00 00 00 00 00 00 00 00 42 03<br>1E 03 1F 03  |
| 8F    | Certification Authority Public Key Index        | EF  |
| 90    | Issuer Public Key Certificate                   | 5B 2E 1F EF 4D 7D 2C 16 16 12<br>21 F7 97 2F E6 99 B7 82 44 E0<br>73 C8 AC 75 86 CE D1 76 EF 7B<br>93 AC 19 0B 05 70 40 E1 18 4F<br>2F 55 AC 70 D2 AA C3 94 BE 22<br>6A 26 50 D3 CA ED 90 60 88 C5<br>3A 88 B8 3C 46 1F 37 6D 89 10<br>B8 51 81 54 F3 08 EE ED 23 BC<br>15 7C FA BA 6E 51 26 9F 01 6D<br>59 FE 21 A6 F9 10 F2 85 13 0D<br>EA F6 A4 78 BE 77 9D 2B AD 08<br>E1 2E D6 A5 93 71 5A 18 72 15<br>C5 63 28 1C B2 B7 2E 5B 14 05<br>5D 2D D8 30 4A C2 20 2E 53 96<br>D0 4C 5C 79 55 0B 4D E9 FA DA<br>CB 35 F3 19 06 C5 A4 42 27 29<br>D6 A5 A8 F5 E1 4C B9 0D B7 05<br>49 4B 3D B1 0D E6 19 F3 B0 3E<br>64 96 FE 79 F4 6E 64 97 2A 46<br>34 A0 35 EF 7E 50 20 49 40 36<br>03 E0 BC FC 33 C3 87 BB 6D 72<br>CF F8 33 89 7E 81 F5 02 3F F4<br>D6 A9 CC 0C 89 E8 78 3F 07 B7<br>F0 55 3E 9D D3 59 B6 5B 62 3A<br>F1 CE 27 8D 65 3C 37 07 |
| 92    | Issuer Public Key Remainder                     | 14 3E 90 B8 B5 E6 2B E5 A9 0D<br>5A 4E F1 5C 77 40 4D 29 94 48<br>98 77 85 D7 E8 80 C2 CD   |
| 94    | Application File Locator (AFL)                  | 08 02 04 01 18 01 01 00 20 01<br>01 00  |
| 9F 07 | Application Usage Control                       | FF 00<br>BYTE 1:<br>b8 - Domestic cash trans. valid<br>b7 - Int'l cash transactions valid<br>b6 - Domestic goods valid<br>b5 - International goods valid<br>b4 - Domestic services valid<br>b3 - International services valid<br>b2 - ATMs valid<br>b1 - non-ATM terminals valid<br>BYTE 2:   |

| Tag   | Element name  | Data v5.x  |
|-------|---|--|
|       |   | b8 - Domestic cashback NOT allowed<br>b7 - International cashback NOT allowed  |
| 9F 08 | Application Version Number                          | 00 02  |
| 9F 0D | Issuer Action Code - Default                        | B8 50 9C 80 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<br>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<br>43 72 65 64 69 74 -<br>'MastercardCredit'   |
| 9F 14 | Lower Consecutive Offline Limit                     | 00   |
| 9F 17 | Personal Identification Number (PIN) Try Counter    | 03   |
| 9F 1F | Track 1 Discretionary Data                          | 20 20 20 20 20 20 20 20 20 20<br>20 20 20 20 20 20 20 20 20 20<br>20 20 20 20  |
| 9F 23 | Upper Consecutive Offline Limit                     | 00   |
| 9F 26 | Application Cryptogram (AC)                         | xx xx xx xx xx xx xx xx *  |
| 9F 27 | Cryptogram Information Data (CID)                   | 80   |
| 9F 32 | Issuer Public Key Exponent                          | 03   |
| 9F 36 | Application Transaction Counter (ATC)               | xx xx *  |
| 9F 42 | Application Currency Code                           | 08 40 - USD  |
| 9F 44 | Application Currency Exponent                       | 02   |
| 9F 46 | ICC Public Key Certificate                          | 37 FF 07 B4 DC BD 9C 24 C7 BF<br>A3 C3 1E FF 05 F9 9D A0 D4 40<br>9A 82 DD B0 46 C6 6F 9E 82 16<br>1E 50 FC 4B 66 09 79 AC 0C AC<br>90 99 FD 77 1C D5 7C B8 7C 9A<br>B9 96 83 A0 11 1F 78 18 B5 41<br>79 35 D9 E3 06 DE E7 AB 26 31<br>CC D6 87 3F A9 3F 31 A9 8A BB<br>CF 74 6B C2 AC 67 ED 45 0C 4A<br>79 E5 91 98 26 D9 C5 1F 6F 06<br>4F 49 C8 E0 4C 4B B8 AC 41 D8<br>82 EB 49 6D 2E E8 C7 F7 B7 D4<br>49 53 E1 44 CE BD A0 24 3F C7<br>82 D3 2B DC D9 AB 24 9D B9 5C<br>A8 96 A0 F1 BA FD F9 B7 4E 80<br>F8 4B E4 FF E1 F6 B9 B6 06 A4<br>5A 68 03 D5 2C B1 F5 6F 9C 80<br>90 1F C7 68 06 1C 2E B3 8F D6<br>71 35 1E CC 03 86 31 BF 53 A8<br>A7 95 A5 C1 60 04 0B 10 9E B3<br>A7 90 AA C7 21 1A CC 64 8A D4<br>0B 4C B6 40 75 86 1D 04 C5 0E<br>B6 2D E8 F7 9D BC A3 AD E5 A4<br>10 10 59 54 75 BC 35 29 DD 4C |
| 9F 47 | ICC Public Key Exponent                             | 03   |
| 9F 49 | Dynamic Data Authentication Data Object List (DDOL) | 9F 37 04   |
| 9F 4A | Static Data Authentication Tag List                 | 82   |
| 9F 4B | Signed Dynamic Application Data                     | 43 68 31 89 C9 77 03 07 BE 5E<br>ED F1 7E 4D 38 70 C2 32 7C 38<br>C8 FA 2B 57 9F 2D F4 EC C1 95<br>88 45 7B 55 6E 4C E9 47 F9 7D<br>16 5B 10 3D 30 09 F9 89 0D FA<br>5F 51 F8 5B 45 D9 4E 62 97 F3<br>78 85 D5 2F 79 C8 60 B9 B9 E0<br>6E 2C 31 46 99 D4 A9 33 6C 2D   |

| Tag   | Element name   | Data <span style="float: right;">v5.x</span>   |
|-------|--|--|
|       |  | 97 BB 25 3B 55 9B 3E AF A6 0E<br>CB 05 67 6E DF 82 16 49 50 B3<br>C5 63 38 57 9E D3 A5 5A AB BC<br>AD D4 03 95 30 3A C1 41 95 43<br>F7 AD C1 B6 AB 5C 86 86 49 5B<br>E9 6B ED F5 4C FD 60 28 F8 44<br>75 95 DA 12 3B 24 73 35 AA 81<br>79 19 04 3F B3 F1 16 3B 70 F1<br>E2 12 17 51 C6 E4 E4 9B CA E7<br>0E 8C BC A3 D6 B9 |
| 9F 4D | Transaction Log Entry                                | 0B 0A  |
| 9F 4F | Transaction Log Format                               | 9F 27 01 9F 02 06 5F 2A 02 9A<br>03 9F 36 02 9F 52 06  |
| 9F 6E | Third Party Data [Mastercard]                        | 08 40 00 00 30 30 00 00 00 00<br>00 00 00 00 00 00 00 00 00 00<br>00 00 00 00 00 00 00 00 00 00<br>00 00   |
| 9F 7E | Application Life Cycle Data [Mastercard]             | 03 10 0C 12 00 09 00 00 FF FF<br>FF FF FF FF FF FF FF FF FF FF<br>FF FF FF FF FF FF FF FF 00 04<br>00 00 02 60 00 00 38 4A 02 11<br>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]       | 06 58 00   |
| C5    | Card Issuer Action Code - Online [Mastercard]        | 06 F8 00   |
| C6    | Counters [Mastercard]                                | 00 01 00 00 00 00 00 00 00 00  |
| C7    | CDOL1 Related Data Length [Mastercard]               | 2B   |
| C8    | CRM Country Code [Mastercard]                        | 08 40 - USA  |
| C9    | CRM Currency Code [M/Chip4]                          | 08 40 - USD  |
| CA    | Lower Cumulative Offline Transaction Amount [M/Chip] | 00 00 00 00 00 00  |
| CB    | Upper Cumulative Offline Transaction Amount [M/Chip] | 00 00 00 00 00 00  |
| D1    | Currency Conversion Table [M/Chip]                   | 08 40 00 01 00 08 40 00 01 00<br>08 40 00 01 00 08 40 00 01 00<br>08 40 00 01 00   |
| D3    | Additional Check Table [Mastercard]                  | 00 00 00 FF FF FF FF FF FF FF<br>FF FF FF FF FF FF FF FF   |
| D5    | Application Control [M/Chip]                         | C4 00  |
| D6    | Default ARPC Response Code [M/Chip4]                 | 00 12  |
| DF 02 | Security Limits Status [Mastercard]                  | 00   |

\* Tag value changes with card usage



## 1.10 Test Card 10 – Mastercard, NO CVM, English, USD, USA, Bad ARPC

USA English Mastercard, NO CVM card (Currency=USD) that may generate an ACC at the 2<sup>nd</sup> 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 2<sup>nd</sup> 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.

### 1.10.1 Cardholder Verification Method List – AID (A0000000041010)

| Cardholder Verification Method List ('1F00') |                     |            |                 |
|--|---------------------|------------|-----------------|
| CVM  | Verification Method | Conditions | If unsuccessful |
| 1  | No CVM Required     | Always     | Fail            |

### 1.10.2 Application Tag Data

| Tag   | Element name                                      | Data  | v4.x |
|-------|---|---|------|
| 50    | Application Label                                 | 4D 61 73 74 65 72 63 61 72 64 -<br>'Mastercard'   |      |
| 57    | Track 2 Equivalent Data                           | 54 13 33 00 89 01 04 34 D2 51<br>22 01 98 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<br>31 30 20 20 20 20 20 20 20 20<br>20 20 20 20 20 20 - 'Test/Card 10'  |      |
| 5F 24 | Application Expiration Date                       | 25 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                   | 00  |      |
| 82    | Application Interchange Profile [M/Chip, PayPass] | 38 00<br>BYTE 1:<br>b7 - Offline SDA NOT supported<br>b6 - Offline DDA supported<br>b5 - Cardholder verification supported<br>b4 - Terminal risk mgmt to be performed<br>b3 - Issuer authentication NOT supported<br>via EXTERNAL AUTH command<br>b1 - Combined DDA / GEN AC NOT supported<br>BYTE 2:<br>b8 - EMV Contactless NOT supported |      |
| 84    | Dedicated File (DF) Name                          | A0 00 00 00 04 10 10  |      |
| 87    | Application Priority Indicator                    | 01  |      |
| 8C    | Card Risk Management Data Object List 1 (CDOL1)   | 9F 02 06 9F 03 06 9F 1A 02 95<br>05 5F 2A 02 9A 03 9C 01 9F 37<br>04 9F 35 01 9F 45 02 9F 4C 08<br>9F 34 03 9B 02   |      |

| Tag   | Element name                                     | Data  | v4.x |
|-------|--|---|------|
| 8D    | Card Risk Management Data Object List 2 (CDOL2)  | 91 0A 8A 02 95 05 9F 37 04 9F<br>4C 08  |      |
| 8E    | Cardholder Verification Method (CVM) List        | 00 00 00 00 00 00 00 00 1F 00   |      |
| 8F    | Certification Authority Public Key Index         | EF  |      |
| 90    | Issuer Public Key Certificate                    | 5B 2E 1F EF 4D 7D 2C 16 16 12<br>21 F7 97 2F E6 99 B7 82 44 E0<br>73 C8 AC 75 86 CE D1 76 EF 7B<br>93 AC 19 0B 05 70 40 E1 18 4F<br>2F 55 AC 70 D2 AA C3 94 BE 22<br>6A 26 50 D3 CA ED 90 60 88 C5<br>3A 88 B8 3C 46 1F 37 6D 89 10<br>B8 51 81 54 F3 08 EE ED 23 BC<br>15 7C FA BA 6E 51 26 9F 01 6D<br>59 FE 21 A6 F9 10 F2 85 13 0D<br>EA F6 A4 78 BE 77 9D 2B AD 08<br>E1 2E D6 A5 93 71 5A 18 72 15<br>C5 63 28 1C B2 B7 2E 5B 14 05<br>5D 2D D8 30 4A C2 20 2E 53 96<br>D0 4C 5C 79 55 0B 4D E9 FA DA<br>CB 35 F3 19 06 C5 A4 42 27 29<br>D6 A5 A8 F5 E1 4C B9 0D B7 05<br>49 4B 3D B1 0D E6 19 F3 B0 3E<br>64 96 FE 79 F4 6E 64 97 2A 46<br>34 A0 35 EF 7E 50 20 49 40 36<br>03 E0 BC FC 33 C3 87 BB 6D 72<br>CF F8 33 89 7E 81 F5 02 3F F4<br>D6 A9 CC 0C 89 E8 78 3F 07 B7<br>F0 55 3E 9D D3 59 B6 5B 62 3A<br>F1 CE 27 8D 65 3C 37 07 |      |
| 92    | Issuer Public Key Remainder                      | 14 3E 90 B8 B5 E6 2B E5 A9 0D<br>5A 4E F1 5C 77 40 4D 29 94 48<br>98 77 85 D7 E8 80 C2 CD   |      |
| 94    | Application File Locator (AFL)                   | 08 02 04 01 18 01 01 00 20 01<br>01 00  |      |
| 9F 07 | Application Usage Control                        | FF 00<br>BYTE 1:<br>b8 - Domestic cash trans. valid<br>b7 - Int'l cash transactions valid<br>b6 - Domestic goods valid<br>b5 - International goods valid<br>b4 - Domestic services valid<br>b3 - International services valid<br>b2 - ATMs valid<br>b1 - non-ATM terminals valid<br>BYTE 2:<br>b8 - Domestic cashback NOT allowed<br>b7 - International cashback NOT allowed  |      |
| 9F 08 | Application Version Number                       | 00 02   |      |
| 9F 0D | Issuer Action Code - Default                     | B8 50 80 00 00  |      |
| 9F 0E | Issuer Action Code - Denial                      | 00 00 00 00 00  |      |
| 9F 0F | Issuer Action Code - Online                      | B8 70 80 98 00  |      |
| 9F 10 | Issuer Application Data [M/Chip 4]               | xx 10 xx xx xx xx xx xx xx xx<br>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 -<br>'Mastercard'   |      |
| 9F 14 | Lower Consecutive Offline Limit                  | 00  |      |
| 9F 17 | Personal Identification Number (PIN) Try Counter | 0F  |      |

| Tag   | Element name  | Data   | v4.x |
|-------|---|--|------|
| 9F 1F | Track 1 Discretionary Data                          | 20 20 20 20 20 20 20 20 20 20<br>20 20 20 20 20 20 20 20 20 20<br>20 20 20 20  |      |
| 9F 23 | Upper Consecutive Offline Limit                     | 00   |      |
| 9F 26 | Application Cryptogram (AC)                         | xx xx xx xx xx xx xx xx *  |      |
| 9F 27 | Cryptogram Information Data (CID)                   | 80   |      |
| 9F 32 | Issuer Public Key Exponent                          | 03   |      |
| 9F 36 | Application Transaction Counter (ATC)               | xx xx *  |      |
| 9F 42 | Application Currency Code                           | 08 40 - USD  |      |
| 9F 44 | Application Currency Exponent                       | 02   |      |
| 9F 46 | ICC Public Key Certificate                          | B9 5E 30 B2 4E 91 8E 92 10 B9<br>24 0C D3 1C 71 D4 54 DA 11 A6<br>BF AD F6 59 06 21 7C 6F F1 EB<br>0D F2 E3 C3 EA 18 3B 1D 10 32<br>F0 A8 87 FE B0 28 DB 21 66 3B<br>9B 98 89 D8 57 88 8D 25 06 7D<br>A9 5E C8 F7 F8 E0 B6 63 91 0F<br>A1 EF A2 FF 15 52 7A B7 4C 12<br>5A ED 41 E4 E4 05 B6 13 86 3B<br>BC 58 03 1B 02 8C 45 45 D2 65<br>FB D7 42 3B 0E 1D 59 30 42 A9<br>34 9C 4B FE D5 AE 66 4A 41 83<br>8D C4 DF 94 1C 31 2F AE EC F2<br>EA 48 0D 8A EF 1C 29 A2 87 60<br>E1 3B F5 7A 7B 40 24 0F A2 26<br>A6 0E 07 23 24 3E 7A 19 E1 17<br>E1 C2 A6 C1 EF 5C 8B ED 7F F7<br>21 AB 8D 92 85 11 12 AC 8D 37<br>A1 25 C3 51 02 F4 C3 22 73 BF<br>A2 5B 8E DE 0C 9B B8 33 AC 25<br>80 0D 08 F3 F1 19 00 AA 5E 18<br>7F BD D2 39 10 17 DE F2 E1 49<br>5F 66 26 0E C7 CF 25 57 59 D1<br>A7 B7 F0 57 EB 1B 2E 74 D8 BB |      |
| 9F 47 | ICC Public Key Exponent                             | 03   |      |
| 9F 49 | Dynamic Data Authentication Data Object List (DDOL) | 9F 37 04   |      |
| 9F 4A | Static Data Authentication Tag List                 | 82   |      |
| 9F 4B | Signed Dynamic Application Data                     | 85 11 CE BD C5 A5 E9 FD 2F B0<br>7E C6 03 71 56 22 16 CF 5E B1<br>59 14 D4 64 52 BC 8A 0E 8B 9B<br>94 2F CC 1E 33 E3 A5 E2 54 01<br>FD 6D 0E 6E F3 5F D1 B8 80 AA<br>7B 64 EE 5F 64 98 7B D2 04 DD<br>0B 56 10 94 12 88 5F 86 4E 28<br>4F 56 70 7A B5 E8 2F 32 A8 F0<br>55 12 BF 67 6A 60 C2 A7 1E 90<br>DB 44 9E 70 2F E9 C7 84 E2 A9<br>A9 0A 3A D9 21 C4 D6 D7 DA 73<br>C3 B5 5E 15 D5 E2 45 9F BF 7E<br>4B 61 49 87 38 B0 98 1A CF 86<br>69 60 79 9C 96 A7 B1 53 F7 76<br>25 5A F8 59 0E C8 9E 61 FB 78<br>2A 78 12 D8 5F CD C9 7B 84 5C<br>1B 25 D4 33 5C B3 6A DF B7 A1<br>64 46 55 57 B8 71   |      |
| 9F 4D | Transaction Log Entry                               | 0B 0A  |      |
| 9F 4F | Transaction Log Format                              | 9F 27 01 9F 02 06 5F 2A 02 9A<br>03 9F 36 02 9F 52 06  |      |

| Tag   | Element name   | Data  | v4.x |
|-------|--|---|------|
| 9F 6E | Third Party Data [Mastercard]                        | 08 40 00 00 30 30 00 00 00 00<br>00 00 00 00 00 00 00 00 00 00<br>00 00 00 00 00 00 00 00 00 00<br>00 00  |      |
| 9F 7E | Application Life Cycle Data [Mastercard]             | 03 10 0C 12 00 09 00 00 FF FF<br>FF FF FF FF FF FF FF FF FF FF<br>FF FF FF FF FF FF FF FF 00 04<br>00 00 02 60 00 00 38 4A 02 11<br>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]                        | 08 40 - USA   |      |
| C9    | CRM Currency Code [M/Chip4]                          | 08 40 - USD   |      |
| CA    | Lower Cumulative Offline Transaction Amount [M/Chip] | 00 00 00 00 00 00   |      |
| CB    | Upper Cumulative Offline Transaction Amount [M/Chip] | 00 00 00 00 00 00   |      |
| D1    | Currency Conversion Table [M/Chip]                   | 08 40 00 01 00 08 40 00 01 00<br>08 40 00 01 00 08 40 00 01 00<br>08 40 00 01 00  |      |
| D3    | Additional Check Table [Mastercard]                  | 00 00 00 FF FF FF FF FF FF FF<br>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

## 1.11 Test Card 11 – Mastercard, Offline PIN=4315, English, USD, USA, Bad ARPC

USA English Mastercard, Offline Plaintext PIN Only card (Currency=USD) that may generate an ACC at the 2<sup>nd</sup> 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 2<sup>nd</sup> 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.

### 1.11.1 Cardholder Verification Method List – AID (A0000000041010)

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

### 1.11.2 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<br>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<br>31 31 20 20 20 20 20 20 20<br>20 20 20 20 20 20 - 'Test/Card 11'  |      |
| 5F 24 | Application Expiration Date                       | 25 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                   | 00   |      |
| 82    | Application Interchange Profile [M/Chip, PayPass] | 38 00<br>BYTE 1:<br>b7 - Offline SDA NOT supported<br>b6 - Offline DDA supported<br>b5 - Cardholder verification supported<br>b4 - Terminal risk mgmt to be performed<br>b3 - Issuer authentication NOT supported via EXTERNAL AUTH command<br>b1 - Combined DDA / GEN AC NOT supported<br>BYTE 2:<br>b8 - EMV Contactless NOT supported |      |
| 84    | Dedicated File (DF) Name                          | A0 00 00 00 04 10 10   |      |
| 87    | Application Priority Indicator                    | 01   |      |
| 8C    | Card Risk Management Data Object List 1 (CDOL1)   | 9F 02 06 9F 03 06 9F 1A 02 95<br>05 5F 2A 02 9A 03 9C 01 9F 37<br>04 9F 35 01 9F 45 02 9F 4C 08<br>9F 34 03 9B 02  |      |

| Tag   | Element name                                     | Data  | v5.x |
|-------|--|---|------|
| 8D    | Card Risk Management Data Object List 2 (CDOL2)  | 91 0A 8A 02 95 05 9F 37 04 9F<br>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<br>21 F7 97 2F E6 99 B7 82 44 E0<br>73 C8 AC 75 86 CE D1 76 EF 7B<br>93 AC 19 0B 05 70 40 E1 18 4F<br>2F 55 AC 70 D2 AA C3 94 BE 22<br>6A 26 50 D3 CA ED 90 60 88 C5<br>3A 88 B8 3C 46 1F 37 6D 89 10<br>B8 51 81 54 F3 08 EE ED 23 BC<br>15 7C FA BA 6E 51 26 9F 01 6D<br>59 FE 21 A6 F9 10 F2 85 13 0D<br>EA F6 A4 78 BE 77 9D 2B AD 08<br>E1 2E D6 A5 93 71 5A 18 72 15<br>C5 63 28 1C B2 B7 2E 5B 14 05<br>5D 2D D8 30 4A C2 20 2E 53 96<br>D0 4C 5C 79 55 0B 4D E9 FA DA<br>CB 35 F3 19 06 C5 A4 42 27 29<br>D6 A5 A8 F5 E1 4C B9 0D B7 05<br>49 4B 3D B1 0D E6 19 F3 B0 3E<br>64 96 FE 79 F4 6E 64 97 2A 46<br>34 A0 35 EF 7E 50 20 49 40 36<br>03 E0 BC FC 33 C3 87 BB 6D 72<br>CF F8 33 89 7E 81 F5 02 3F F4<br>D6 A9 CC 0C 89 E8 78 3F 07 B7<br>F0 55 3E 9D D3 59 B6 5B 62 3A<br>F1 CE 27 8D 65 3C 37 07 |      |
| 92    | Issuer Public Key Remainder                      | 14 3E 90 B8 B5 E6 2B E5 A9 0D<br>5A 4E F1 5C 77 40 4D 29 94 48<br>98 77 85 D7 E8 80 C2 CD   |      |
| 94    | Application File Locator (AFL)                   | 08 02 04 01 18 01 01 00 20 01<br>01 00  |      |
| 9F 07 | Application Usage Control                        | FF 00<br>BYTE 1:<br>b8 - Domestic cash trans. valid<br>b7 - Int'l cash transactions valid<br>b6 - Domestic goods valid<br>b5 - International goods valid<br>b4 - Domestic services valid<br>b3 - International services valid<br>b2 - ATMs valid<br>b1 - non-ATM terminals valid<br>BYTE 2:<br>b8 - Domestic cashback NOT allowed<br>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<br>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 -<br>'Mastercard'   |      |
| 9F 14 | Lower Consecutive Offline Limit                  | 00  |      |
| 9F 17 | Personal Identification Number (PIN) Try Counter | 0F  |      |

| Tag   | Element name  | Data   | v5.x |
|-------|---|--|------|
| 9F 1F | Track 1 Discretionary Data                          | 20 20 20 20 20 20 20 20 20 20<br>20 20 20 20 20 20 20 20 20 20<br>20 20 20 20  |      |
| 9F 23 | Upper Consecutive Offline Limit                     | 00   |      |
| 9F 26 | Application Cryptogram (AC)                         | xx xx xx xx xx xx xx xx *  |      |
| 9F 27 | Cryptogram Information Data (CID)                   | 80   |      |
| 9F 32 | Issuer Public Key Exponent                          | 03   |      |
| 9F 36 | Application Transaction Counter (ATC)               | xx xx *  |      |
| 9F 42 | Application Currency Code                           | 08 40 – USD  |      |
| 9F 44 | Application Currency Exponent                       | 02   |      |
| 9F 46 | ICC Public Key Certificate                          | 49 DB FE F3 B0 43 0F AE A8 13<br>56 1B A8 48 2F 7B 5D C9 12 B3<br>BB 04 0F 33 88 29 42 EC 75 57<br>DC B3 3C D1 6A 51 E5 BB A7 E7<br>96 6C 95 62 B8 29 69 69 94 18<br>67 EF 69 C3 38 14 51 56 47 D8<br>E2 65 12 26 AE 4F EC A3 5F 89<br>03 A4 79 9E 7C 80 D6 17 D8 F7<br>1E 73 18 79 ED 99 1E EB B2 C9<br>9D 76 18 4A 5B 0C 65 13 3D 39<br>F9 FC 81 E5 5E 6B E1 77 BD EA<br>C0 7E 90 05 47 78 16 21 70 07<br>35 CF 82 9D BE 46 30 4E F5 32<br>60 91 C9 F3 05 EC 6A 39 70 86<br>2A 87 97 5C 59 44 87 B9 7B 52<br>53 24 01 74 58 CC 5D 32 3D 33<br>15 2F 78 D4 39 B3 B8 61 27 2C<br>78 C0 C8 A7 0F F4 66 29 65 F8<br>69 1F CA ED 55 27 90 CA C7 37<br>A3 EB C9 12 A9 32 28 13 54 18<br>C1 CB 55 9F F3 FE 08 A0 4F BE<br>32 EA D5 AB 90 C8 A7 94 C5 1D<br>1B A7 45 E1 3A 40 D5 C4 45 B5<br>96 F5 23 0A 7C DE 9A E4 70 81 |      |
| 9F 47 | ICC Public Key Exponent                             | 03   |      |
| 9F 49 | Dynamic Data Authentication Data Object List (DDOL) | 9F 37 04   |      |
| 9F 4A | Static Data Authentication Tag List                 | 82   |      |
| 9F 4B | Signed Dynamic Application Data                     | 7B DC 0B EA 49 21 E7 6A 9D F5<br>79 09 F5 14 81 03 7D 90 0D CE<br>72 9B 27 32 16 63 90 2C 29 2A<br>C7 B4 48 31 66 B6 7C 1D F6 C0<br>EE A6 06 BE 34 00 A3 89 F2 F7<br>5A D2 AD CA 48 15 A3 77 5F 7E<br>F9 37 AF 5C 86 0D 9A C9 C3 3E<br>FB 47 61 BD 53 50 89 0E 00 4D<br>5D 63 64 78 64 22 FA 80 33 7E<br>75 3D 73 6A 06 96 30 77 67 36<br>2D 76 ED 53 5E 1C 6B 68 99 63<br>7B 51 89 FD 7E 3A 4B 6E 69 CE<br>D2 60 60 A9 06 8F 96 04 EE E4<br>2D C5 64 30 41 46 E2 32 31 EE<br>34 E3 B7 15 84 E0 AD DE A5 AA<br>23 5D 70 8D 48 AD D0 4A FD 0E<br>8B 4C 31 5F F0 C4 42 41 5D 90<br>03 42 65 83 55 98   |      |
| 9F 4D | Transaction Log Entry                               | 0B 0A  |      |
| 9F 4F | Transaction Log Format                              | 9F 27 01 9F 02 06 5F 2A 02 9A<br>03 9F 36 02 9F 52 06  |      |

| Tag   | Element name   | Data  | v5.x |
|-------|--|---|------|
| 9F 6E | Third Party Data [Mastercard]                        | 08 40 00 00 30 30 00 00 00 00<br>00 00 00 00 00 00 00 00 00 00<br>00 00 00 00 00 00 00 00 00 00<br>00 00  |      |
| 9F 7E | Application Life Cycle Data [Mastercard]             | 03 10 0C 12 00 09 00 00 FF FF<br>FF FF FF FF FF FF FF FF FF FF<br>FF FF FF FF FF FF FF FF 00 04<br>00 00 02 60 00 00 38 4A 02 11<br>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]                        | 08 40 - USA   |      |
| C9    | CRM Currency Code [M/Chip4]                          | 08 40 - USD   |      |
| CA    | Lower Cumulative Offline Transaction Amount [M/Chip] | 00 00 00 00 00 00   |      |
| CB    | Upper Cumulative Offline Transaction Amount [M/Chip] | 00 00 00 00 00 00   |      |
| D1    | Currency Conversion Table [M/Chip]                   | 08 40 00 01 00 08 40 00 01 00<br>08 40 00 01 00 08 40 00 01 00<br>08 40 00 01 00  |      |
| D3    | Additional Check Table [Mastercard]                  | 00 00 00 FF FF FF FF FF FF FF<br>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



## 1.12 Test Card 12 – Mastercard, Online PIN=4315, English, USD, USA, Bad ARPC

USA English Mastercard, Online PIN Only card (Currency=USD) that may generate an ACC at the 2<sup>nd</sup> 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 2<sup>nd</sup> 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.

### 1.12.1 Cardholder Verification Method List – AID (A0000000041010)

| Cardholder Verification Method List ('0200') |                     |            |                 |
|--|---------------------|------------|-----------------|
| CVM  | Verification Method | Conditions | If unsuccessful |
| 1  | Online PIN          | Always     | Fail            |

### 1.12.2 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<br>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<br>31 32 20 20 20 20 20 20 20<br>20 20 20 20 20 20 - 'Test/Card 12'  |      |
| 5F 24 | Application Expiration Date                       | 25 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                   | 00   |      |
| 82    | Application Interchange Profile [M/Chip, PayPass] | 38 00<br>BYTE 1:<br>b7 - Offline SDA NOT supported<br>b6 - Offline DDA supported<br>b5 - Cardholder verification supported<br>b4 - Terminal risk mgmt to be performed<br>b3 - Issuer authentication NOT supported via EXTERNAL AUTH command<br>b1 - Combined DDA / GEN AC NOT supported<br>BYTE 2:<br>b8 - EMV Contactless NOT supported |      |
| 84    | Dedicated File (DF) Name                          | A0 00 00 00 04 10 10   |      |
| 87    | Application Priority Indicator                    | 01   |      |
| 8C    | Card Risk Management Data Object List 1 (CDOL1)   | 9F 02 06 9F 03 06 9F 1A 02 95<br>05 5F 2A 02 9A 03 9C 01 9F 37<br>04 9F 35 01 9F 45 02 9F 4C 08<br>9F 34 03 9B 02  |      |

| Tag   | Element name                                     | Data  | v5.x |
|-------|--|---|------|
| 8D    | Card Risk Management Data Object List 2 (CDOL2)  | 91 0A 8A 02 95 05 9F 37 04 9F<br>4C 08  |      |
| 8E    | Cardholder Verification Method (CVM) List        | 00 00 00 00 00 00 00 00 02 00   |      |
| 8F    | Certification Authority Public Key Index         | EF  |      |
| 90    | Issuer Public Key Certificate                    | 5B 2E 1F EF 4D 7D 2C 16 16 12<br>21 F7 97 2F E6 99 B7 82 44 E0<br>73 C8 AC 75 86 CE D1 76 EF 7B<br>93 AC 19 0B 05 70 40 E1 18 4F<br>2F 55 AC 70 D2 AA C3 94 BE 22<br>6A 26 50 D3 CA ED 90 60 88 C5<br>3A 88 B8 3C 46 1F 37 6D 89 10<br>B8 51 81 54 F3 08 EE ED 23 BC<br>15 7C FA BA 6E 51 26 9F 01 6D<br>59 FE 21 A6 F9 10 F2 85 13 0D<br>EA F6 A4 78 BE 77 9D 2B AD 08<br>E1 2E D6 A5 93 71 5A 18 72 15<br>C5 63 28 1C B2 B7 2E 5B 14 05<br>5D 2D D8 30 4A C2 20 2E 53 96<br>D0 4C 5C 79 55 0B 4D E9 FA DA<br>CB 35 F3 19 06 C5 A4 42 27 29<br>D6 A5 A8 F5 E1 4C B9 0D B7 05<br>49 4B 3D B1 0D E6 19 F3 B0 3E<br>64 96 FE 79 F4 6E 64 97 2A 46<br>34 A0 35 EF 7E 50 20 49 40 36<br>03 E0 BC FC 33 C3 87 BB 6D 72<br>CF F8 33 89 7E 81 F5 02 3F F4<br>D6 A9 CC 0C 89 E8 78 3F 07 B7<br>F0 55 3E 9D D3 59 B6 5B 62 3A<br>F1 CE 27 8D 65 3C 37 07 |      |
| 92    | Issuer Public Key Remainder                      | 14 3E 90 B8 B5 E6 2B E5 A9 0D<br>5A 4E F1 5C 77 40 4D 29 94 48<br>98 77 85 D7 E8 80 C2 CD   |      |
| 94    | Application File Locator (AFL)                   | 08 02 04 01 18 01 01 00 20 01<br>01 00  |      |
| 9F 07 | Application Usage Control                        | FF 00<br>BYTE 1:<br>b8 - Domestic cash trans. valid<br>b7 - Int'l cash transactions valid<br>b6 - Domestic goods valid<br>b5 - International goods valid<br>b4 - Domestic services valid<br>b3 - International services valid<br>b2 - ATMs valid<br>b1 - non-ATM terminals valid<br>BYTE 2:<br>b8 - Domestic cashback NOT allowed<br>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 9C 98 00  |      |
| 9F 10 | Issuer Application Data [M/Chip 4]               | xx 10 xx xx xx xx xx xx xx xx<br>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 -<br>'Mastercard'   |      |
| 9F 14 | Lower Consecutive Offline Limit                  | 00  |      |
| 9F 17 | Personal Identification Number (PIN) Try Counter | 0F  |      |

| Tag   | Element name  | Data   | v5.x |
|-------|---|--|------|
| 9F 1F | Track 1 Discretionary Data                          | 20 20 20 20 20 20 20 20 20 20<br>20 20 20 20 20 20 20 20 20 20<br>20 20 20 20  |      |
| 9F 23 | Upper Consecutive Offline Limit                     | 00   |      |
| 9F 26 | Application Cryptogram (AC)                         | xx xx xx xx xx xx xx xx *  |      |
| 9F 27 | Cryptogram Information Data (CID)                   | 80   |      |
| 9F 32 | Issuer Public Key Exponent                          | 03   |      |
| 9F 36 | Application Transaction Counter (ATC)               | xx xx *  |      |
| 9F 42 | Application Currency Code                           | 08 40 - USD  |      |
| 9F 44 | Application Currency Exponent                       | 02   |      |
| 9F 46 | ICC Public Key Certificate                          | CD 98 80 21 6E 66 77 E3 DA C0<br>D0 04 83 A1 7C 67 19 D8 35 D1<br>66 CA 2D FA 5E DF D6 C8 00 B8<br>9D D8 1F C1 E8 96 08 C2 3B B6<br>43 E3 61 D8 4F 9E 07 5F E6 7B<br>42 F0 E3 25 36 38 B8 0A 4F 0A<br>95 7F E7 BA F7 97 EB AD 79 60<br>FC 8D 45 26 58 E4 00 24 8A 81<br>D1 52 D0 33 F3 14 16 80 D4 D7<br>DF EF C5 2F 22 57 5C E8 DA 4A<br>31 CD C3 35 22 83 58 7F E7 65<br>C9 AF 77 FB 63 0E F7 FC 8F B2<br>41 92 11 74 53 E4 70 42 6A 69<br>29 05 84 E9 1C EA D7 A1 CF 59<br>05 13 79 4C 25 2F 52 1A F8 52<br>E2 D2 C0 5C 5F 96 24 AD 7C F1<br>93 78 2C 2F B9 A0 AF BD DA 14<br>66 AF 5F 85 53 6A 24 86 6A A6<br>53 7A 9F 3D DD 7E FF FC 61 C2<br>B8 E0 7B EA 93 19 05 A2 CF 0C<br>10 43 4D 26 52 AD 09 E7 99 E6<br>C3 68 DD F4 5D 77 6D 57 2F 78<br>2C 71 AA 82 C1 DE 80 B3 C1 76<br>CB AB 18 12 E7 B8 7A DF 68 C3 |      |
| 9F 47 | ICC Public Key Exponent                             | 03   |      |
| 9F 49 | Dynamic Data Authentication Data Object List (DDOL) | 9F 37 04   |      |
| 9F 4A | Static Data Authentication Tag List                 | 82   |      |
| 9F 4B | Signed Dynamic Application Data                     | 11 5B FD 01 1E AD 1D B9 75 9F<br>59 DB D2 D5 52 B0 81 F5 21 D1<br>14 A1 03 C5 67 25 89 79 57 AD<br>F3 1B AA 4C 65 23 8C 43 F1 82<br>DF A5 0A 9C 2E 73 D7 92 D1 5C<br>D8 45 5D F5 C9 D5 1B AA 0E 15<br>34 1F 56 5F 94 0C C7 6C 26 78<br>4C AD 3A 16 FD 4E 3E 81 9F EC<br>FD 12 13 3E 18 6C E7 15 16 12<br>56 A9 50 00 EA 86 6B 6A 93 E4<br>A9 18 E5 B7 01 D6 0F 99 9A 3D<br>F7 7F C6 72 29 61 6D 1C 57 8F<br>C8 12 79 7A 9A D0 EE 29  |      |
| 9F 4D | Transaction Log Entry                               | 0B 0A  |      |
| 9F 4F | Transaction Log Format                              | 9F 27 01 9F 02 06 5F 2A 02 9A<br>03 9F 36 02 9F 52 06  |      |
| 9F 6E | Third Party Data [Mastercard]                       | 08 40 00 00 30 30 00 00 00 00<br>00 00 00 00 00 00 00 00 00 00<br>00 00 00 00 00 00 00 00 00 00<br>00 00   |      |

| Tag   | Element name   | Data <span style="float: right;">v5.x</span>  |
|-------|--|---|
| 9F 7E | Application Life Cycle Data [Mastercard]             | 03 10 0C 12 00 09 00 00 FF FF<br>FF FF FF FF FF FF FF FF FF FF<br>FF FF FF FF FF FF FF FF 00 04<br>00 00 02 60 00 00 38 4A 02 11<br>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]                        | 08 40 - USA   |
| C9    | CRM Currency Code [M/Chip4]                          | 08 40 - USD   |
| CA    | Lower Cumulative Offline Transaction Amount [M/Chip] | 00 00 00 00 00 00   |
| CB    | Upper Cumulative Offline Transaction Amount [M/Chip] | 00 00 00 00 00 00   |
| D1    | Currency Conversion Table [M/Chip]                   | 08 40 00 01 00 08 40 00 01 00<br>08 40 00 01 00 08 40 00 01 00<br>08 40 00 01 00  |
| D3    | Additional Check Table [Mastercard]                  | 00 00 00 FF FF FF FF FF FF FF<br>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

### 1.13 Test Card 13 – Mastercard, Empty Candidate List

Application Selection will fail due to an Empty Candidate List.

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

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

### 1.14 Test Card 14 – Mastercard, Chip Error

This card has a chip image printed on the card but it does not contain an actual chip. When inserted a chip error will be detected.

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

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

## 1.15 Test Card 15 – Interac, Offline PIN=1234, English, CAD, Canada

Canadian English Interac, Offline Plaintext PIN Only debit card (Currency=CAD).

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

### 1.15.1 Cardholder Verification Method List – AID (A0000002771010)

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

### 1.15.2 Application Tag Data

| Tag   | Element name                                    | Data  | v4.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<br>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<br>31 35 20 20 20 20 20 20 20<br>20 20 20 20 20 20 - 'Test/Card 15'   |      |
| 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<br>BYTE 1:<br>b7 - Offline SDA NOT supported<br>b6 - Offline DDA NOT supported<br>b5 - Cardholder verification supported<br>b4 - Terminal risk mgmt to be performed<br>b3 - Issuer authentication supported via EXTERNAL AUTH command<br>b1 - Combined DDA / GEN AC NOT supported<br>BYTE 2:<br>b8 - Use for Visa NOT supported<br>b7 - Is NOT Mobile handset     |      |
| 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<br>05 5F 2A 02 9A 03 9C 01 9F 37<br>04  |      |
| 8D    | Card Risk Management Data Object List 2 (CDOL2) | 8A 02 9F 02 06 9F 03 06 9F 1A<br>02 95 05 5F 2A 02 9A 03 9C 01<br>9F 37 04  |      |
| 8E    | Cardholder Verification Method (CVM) List       | 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<br>EF 30 EC F5 14 C4 F4 F1 F0 89<br>85 8A 46 08 6F 12 F2 80 B6 81<br>FD CA 40 8C 09 51 C0 D6 BA 64<br>FD 05 C7 2C 5A 23 B2 66 DA 11<br>D6 75 BA B2 AC 74 C5 AF E0 41<br>A6 94 2D 84 FC 19 0D C0 6D 83<br>CF 17 71 F2 F9 74 B8 31 73 5A<br>A1 30 39 4D 12 DC CF D5 74 61<br>D1 20 E5 58 F6 35 12 F6 DB 82<br>46 DD 41 00 9F A1 D9 73 1B 27 |      |

| Tag   | Element name   | Data <span style="float: right;">v4.x</span>  |
|-------|--|---|
|       |  | 42 F9 7E FD 2B C1 16 DF B9 AF<br>7A 96 6A CF 12 83 A8 49 A7 A9<br>73 6A 0D 8A E2 63 98 36 BC A6<br>9B D9 EE 78  |
| 92    | Issuer Public Key Remainder                                | EC A4 19 2A 02 CA AC 0B 75 22<br>44 EC AE 9F 1A BA 46 15 E7 05<br>27 AD D0 D8 03 67 54 CA 9F A5<br>2E 7D 42 16 22 0F  |
| 93    | Signed Static Application Data                             | 14 C7 C1 C9 B0 06 C8 53 96 5A<br>21 50 DF 00 75 B4 AD D7 AA A1<br>EE AA 51 AF 24 D5 6B 8F 94 4B<br>3C E3 AC 0B 9A F8 F3 E5 F8 8F<br>EF 7C D2 A8 D8 47 06 52 87 4F<br>51 17 50 91 2F AA 2B FE ED 35<br>3F 2C 35 30 46 F6 B6 0C C1 5B<br>93 C6 95 31 67 F2 8C 1E B6 AA<br>08 89 BE 5D D2 5C D8 B0 F2 37<br>A0 22 31 5F 5E F6 F5 8F 79 BF<br>D0 97 FC 91 C9 14 A5 7C 75 BC<br>67 E4 A7 98 58 46 6A 6C B0 B1<br>A3 C2 82 EB 08 D6 56 9B 7A 26<br>31 2E 3B 63 F9 8D 4C 04 22 03<br>8A 28 D2 A3 |
| 94    | Application File Locator (AFL)                             | 10 01 01 00 10 02 04 01 10 06<br>06 00 B0 01 01 00  |
| 9F 07 | Application Usage Control                                  | FF 00<br>BYTE 1:<br>b8 - Domestic cash trans. valid<br>b7 - Int'l cash transactions valid<br>b6 - Domestic goods valid<br>b5 - International goods valid<br>b4 - Domestic services valid<br>b3 - International services valid<br>b2 - ATMs valid<br>b1 - non-ATM terminals valid<br>BYTE 2:<br>b8 - Domestic cashback NOT allowed<br>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 00 00 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<br>30 30 30 30 30 30 30 30 30 30<br>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 38 | Processing Options Data Object List (PDOL)                 | 9F 02 06 9F 1A 02   |
| 9F 44 | Application Currency Exponent                              | 02  |
| 9F 46 | ICC Public Key Certificate                                 | 3A 10 D2 49 A0 98 A9 61 83 04<br>66 A6 92 3E DC AD CE 81 13 21<br>E4 D4 EB 3C 1E D5 E8 29 4E 94   |

| Tag   | Element name   | Data   | v4.x |
|-------|--|--|------|
|       |  | 65 4C 07 D0 57 23 84 28 62 1F<br>0E E8 57 44 F5 BC D1 20 72 63<br>56 64 EF 1C B4 51 D5 72 DC 32<br>96 FE 17 56 DF 63 F6 AA 61 79<br>F8 B9 E2 C5 EE 45 94 1E D1 FC<br>B6 78 76 C5 9A 68 40 5C 62 E6<br>AB BF 8C 0D 4A E3 EC 73 C4 55<br>1C BF B1 C2 1C 41 D8 5C A1 1A<br>99 70 6F E8 1E 7F 4F 41 58 46<br>05 45 49 6F 71 70 DE 0E 3D A7<br>84 A8 97 EE F0 C3 F6 27 3F 5D<br>55 80 BE 70 |      |
| 9F 47 | ICC Public Key Exponent                                  | 03   |      |
| 9F 48 | ICC Public Key Remainder                                 | 00 76 35 66 B6 AC 65 49 0D 53<br>21 D0 2E DA D3 25 72 24 35 75<br>5B D2 BD CB 93 F1  |      |
| 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<br>71 06 00 00 00 00 00 00 DF 41<br>06 00 00 00 00 00 00 DF 51 06<br>00 00 00 00 00 00 DF 11 01 00<br>DF 21 01 00 DF 31 01 00  |      |
| BF 56 | Counters Data Template                                   | DF 11 01 01 DF 21 01 00 DF 31<br>01 00   |      |
| BF 57 | International Counters Data Template                     | DF 11 01 01 DF 21 01 00 DF 31<br>01 00 DF 51 01 00   |      |
| BF 58 | Amounts Data Template                                    | DF 11 06 00 00 00 00 00 00 DF<br>21 06 00 00 00 00 00 00 DF 31<br>06 00 00 00 00 00 00   |      |

\* Tag value changes with card usage



## 1.16 Test Card 16 – Interac, Offline PIN=1234, French, CAD, Canada

Canadian French Interac, Offline Plaintext PIN Only debit card (Currency=CAD).

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.

### 1.16.1 Cardholder Verification Method List – AID (A0000002771010)

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

### 1.16.2 Application Tag Data

| Tag   | Element name                                    | Data  | v4.x |
|-------|---|---|------|
| 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<br>22 20 01 62 90 70 21 60 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<br>31 36 20 20 20 20 20 20 20 20<br>20 20 20 20 20 20 - 'Test/Card 16'  |      |
| 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 - 'fr' (French)   |      |
| 5F 30 | Service Code                                    | 02 20   |      |
| 5F 34 | Application PAN Sequence Number                 | 01  |      |
| 82    | Application Interchange Profile [VSDC]          | 1C 00<br>BYTE 1:<br>b7 - Offline SDA NOT supported<br>b6 - Offline DDA NOT supported<br>b5 - Cardholder verification supported<br>b4 - Terminal risk mgmt to be performed<br>b3 - Issuer authentication supported via EXTERNAL AUTH command<br>b1 - Combined DDA / GEN AC NOT supported<br>BYTE 2:<br>b8 - Use for Visa NOT supported<br>b7 - Is NOT Mobile handset |      |
| 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<br>05 5F 2A 02 9A 03 9C 01 9F 37<br>04  |      |
| 8D    | Card Risk Management Data Object List 2 (CDOL2) | 8A 02 9F 02 06 9F 03 06 9F 1A<br>02 95 05 5F 2A 02 9A 03 9C 01<br>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<br>EF 30 EC F5 14 C4 F4 F1 F0 89<br>85 8A 46 08 6F 12 F2 80 B6 81   |      |



| Tag   | Element name   | Data v4.x   |
|-------|--|---|
|       |  | FD CA 40 8C 09 51 C0 D6 BA 64<br>FD 05 C7 2C 5A 23 B2 66 DA 11<br>D6 75 BA B2 AC 74 C5 AF E0 41<br>A6 94 2D 84 FC 19 0D C0 6D 83<br>CF 17 71 F2 F9 74 B8 31 73 5A<br>A1 30 39 4D 12 DC CF D5 74 61<br>D1 20 E5 58 F6 35 12 F6 DB 82<br>46 DD 41 00 9F A1 D9 73 1B 27<br>42 F9 7E FD 2B C1 16 DF B9 AF<br>7A 96 6A CF 12 83 A8 49 A7 A9<br>73 6A 0D 8A E2 63 98 36 BC A6<br>9B D9 EE 78  |
| 92    | Issuer Public Key Remainder                                | EC A4 19 2A 02 CA AC 0B 75 22<br>44 EC AE 9F 1A BA 46 15 E7 05<br>27 AD D0 D8 03 67 54 CA 9F A5<br>2E 7D 42 16 22 0F  |
| 93    | Signed Static Application Data                             | 5F 00 FC 45 F9 34 49 4C 17 B0<br>4C 9A 70 77 57 4A C6 C5 F9 9A<br>F8 90 97 5E 65 A5 A7 80 EF 8E<br>54 5A EC AA 9A 50 8B 10 DE B8<br>24 D8 D9 13 BB 66 A2 C4 BB 82<br>D5 E3 1B 65 18 E4 B2 97 70 0B<br>0A 33 B7 AD 79 8C 4E C3 DC 5B<br>2F E6 00 C4 45 2A B5 54 D7 0B<br>AB B1 8F 3F 77 51 D9 8D 36 C5<br>FC 26 44 9D 0B 5E 69 62 FC 00<br>EB 1B BA 58 1D 5C BD CC 1E 9B<br>C4 8B 9E EC 7F CE 16 74 5C FD<br>98 10 C6 A5 8B 3A 42 C6 01 AE<br>3F F4 5E DE FE 72 5A EB 09 F0<br>92 49 37 B8 |
| 94    | Application File Locator (AFL)                             | 10 01 01 00 10 02 04 01 10 06<br>06 00 B0 01 01 00  |
| 9F 07 | Application Usage Control                                  | FF 00<br>BYTE 1:<br>b8 - Domestic cash trans. valid<br>b7 - Int'l cash transactions valid<br>b6 - Domestic goods valid<br>b5 - International goods valid<br>b4 - Domestic services valid<br>b3 - International services valid<br>b2 - ATMs valid<br>b1 - non-ATM terminals valid<br>BYTE 2:<br>b8 - Domestic cashback NOT allowed<br>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 00 00 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<br>30 30 30 30 30 30 30 30 30 30<br>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  | v4.x |
|-------|--|---|------|
| 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                               | 69 1E ED ED 0F DE B8 11 31 58<br>1A 8E 86 D4 B3 59 CE 42 E8 B0<br>6C 6A C0 00 74 37 5D 90 B0 18<br>E8 B2 41 EE E8 85 B6 F3 BB E9<br>74 26 2E 7C 2F B7 6A 29 79 9B<br>7E 20 2A 67 1D EA 90 54 62 57<br>9F B7 72 70 A6 3A 76 F1 26 5C<br>F0 8F CC C9 8E 28 C9 BF 98 6B<br>5A 09 AD 89 39 E3 3A D5 87 0A<br>C4 99 2A 63 38 B1 37 4F F8 89<br>29 75 43 0A D1 1C 79 C2 60 9E<br>E4 C4 AD BA B2 52 F1 AF 41 0D<br>C2 A4 E9 AE 8C CA 44 8B 90 B9<br>DF 27 1C 4D 67 64 06 2F 87 78<br>42 28 86 EA |      |
| 9F 47 | ICC Public Key Exponent                                  | 03  |      |
| 9F 48 | ICC Public Key Remainder                                 | 4C 0D 04 B6 B3 F5 20 DB 76 DC<br>C2 87 9F 3A 51 10 A7 FE 82 2B<br>A2 2D 67 DD EE 2F   |      |
| 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<br>71 06 00 00 00 00 00 00 DF 41<br>06 00 00 00 00 00 00 DF 51 06<br>00 00 00 00 00 00 DF 11 01 00<br>DF 21 01 00 DF 31 01 00   |      |
| BF 56 | Counters Data Template                                   | DF 11 01 01 DF 21 01 00 DF 31<br>01 00  |      |
| BF 57 | International Counters Data Template                     | DF 11 01 01 DF 21 01 00 DF 31<br>01 00 DF 51 01 01  |      |
| BF 58 | Amounts Data Template                                    | DF 11 06 00 00 00 00 00 00 DF<br>21 06 00 00 00 00 00 00 DF 31<br>06 00 00 00 00 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  | <b>NUL</b>   | 44  | 00101100 | 2C  | ,        | 88  | 01011000 | 58  | <b>X</b>   |
| 01  | 00000001 | 01  | <b>SOH</b>   | 45  | 00101101 | 2D  | -        | 89  | 01011001 | 59  | <b>Y</b>   |
| 02  | 00000010 | 02  | <b>STX</b>   | 46  | 00101110 | 2E  | .        | 90  | 01011010 | 5A  | <b>Z</b>   |
| 03  | 00000011 | 03  | <b>ETX</b>   | 47  | 00101111 | 2F  | /        | 91  | 01011011 | 5B  | [          |
| 04  | 00000100 | 04  | <b>EOT</b>   | 48  | 00110000 | 30  | <b>0</b> | 92  | 01011100 | 5C  | \          |
| 05  | 00000101 | 05  | <b>ENQ</b>   | 49  | 00110001 | 31  | <b>1</b> | 93  | 01011101 | 5D  | ]          |
| 06  | 00000110 | 06  | <b>ACK</b>   | 50  | 00110010 | 32  | <b>2</b> | 94  | 01011110 | 5E  | ^          |
| 07  | 00000111 | 07  | <b>BEL</b>   | 51  | 00110011 | 33  | <b>3</b> | 95  | 01011111 | 5F  | _          |
| 08  | 00001000 | 08  | <b>BS</b>    | 52  | 00110100 | 34  | <b>4</b> | 96  | 01100000 | 60  | `          |
| 09  | 00001001 | 09  | <b>HT</b>    | 53  | 00110101 | 35  | <b>5</b> | 97  | 01100001 | 61  | <b>a</b>   |
| 10  | 00001010 | 0A  | <b>LF</b>    | 54  | 00110110 | 36  | <b>6</b> | 98  | 01100010 | 62  | <b>b</b>   |
| 11  | 00001011 | 0B  | <b>VT</b>    | 55  | 00110111 | 37  | <b>7</b> | 99  | 01100011 | 63  | <b>c</b>   |
| 12  | 00001100 | 0C  | <b>FF</b>    | 56  | 00111000 | 38  | <b>8</b> | 100 | 01100100 | 64  | <b>d</b>   |
| 13  | 00001101 | 0D  | <b>CR</b>    | 57  | 00111001 | 39  | <b>9</b> | 101 | 01100101 | 65  | <b>e</b>   |
| 14  | 00001110 | 0E  | <b>SO</b>    | 58  | 00111010 | 3A  | :        | 102 | 01100110 | 66  | <b>f</b>   |
| 15  | 00001111 | 0F  | <b>SI</b>    | 59  | 00111011 | 3B  | ;        | 103 | 01100111 | 67  | <b>g</b>   |
| 16  | 00010000 | 10  | <b>DLE</b>   | 60  | 00111100 | 3C  | <        | 104 | 01101000 | 68  | <b>h</b>   |
| 17  | 00010001 | 11  | <b>DC1</b>   | 61  | 00111101 | 3D  | =        | 105 | 01101001 | 69  | <b>i</b>   |
| 18  | 00010010 | 12  | <b>DC2</b>   | 62  | 00111110 | 3E  | >        | 106 | 01101010 | 6A  | <b>j</b>   |
| 19  | 00010011 | 13  | <b>DC3</b>   | 63  | 00111111 | 3F  | ?        | 107 | 01101011 | 6B  | <b>k</b>   |
| 20  | 00010100 | 14  | <b>DC4</b>   | 64  | 01000000 | 40  | @        | 108 | 01101100 | 6C  | <b>l</b>   |
| 21  | 00010101 | 15  | <b>NAK</b>   | 65  | 01000001 | 41  | <b>A</b> | 109 | 01101101 | 6D  | <b>m</b>   |
| 22  | 00010110 | 16  | <b>SYM</b>   | 66  | 01000010 | 42  | <b>B</b> | 110 | 01101110 | 6E  | <b>n</b>   |
| 23  | 00010111 | 17  | <b>ETB</b>   | 67  | 01000011 | 43  | <b>C</b> | 111 | 01101111 | 6F  | <b>o</b>   |
| 24  | 00011000 | 18  | <b>CAN</b>   | 68  | 01000100 | 44  | <b>D</b> | 112 | 01110000 | 70  | <b>p</b>   |
| 25  | 00011001 | 19  | <b>EM</b>    | 69  | 01000101 | 45  | <b>E</b> | 113 | 01110001 | 71  | <b>q</b>   |
| 26  | 00011010 | 1A  | <b>SUB</b>   | 70  | 01000110 | 46  | <b>F</b> | 114 | 01110010 | 72  | <b>r</b>   |
| 27  | 00011011 | 1B  | <b>ESC</b>   | 71  | 01000111 | 47  | <b>G</b> | 115 | 01110011 | 73  | <b>s</b>   |
| 28  | 00011100 | 1C  | <b>FS</b>    | 72  | 01001000 | 48  | <b>H</b> | 116 | 01110100 | 74  | <b>t</b>   |
| 29  | 00011101 | 1D  | <b>GS</b>    | 73  | 01001001 | 49  | <b>I</b> | 117 | 01110101 | 75  | <b>u</b>   |
| 30  | 00011110 | 1E  | <b>RS</b>    | 74  | 01001010 | 4A  | <b>J</b> | 118 | 01110110 | 76  | <b>v</b>   |
| 31  | 00011111 | 1F  | <b>US</b>    | 75  | 01001011 | 4B  | <b>K</b> | 119 | 01110111 | 77  | <b>w</b>   |
| 32  | 00100000 | 20  | <b>SP</b>    | 76  | 01001100 | 4C  | <b>L</b> | 120 | 01111000 | 78  | <b>x</b>   |
| 33  | 00100001 | 21  | <b>!</b>     | 77  | 01001101 | 4D  | <b>M</b> | 121 | 01111001 | 79  | <b>y</b>   |
| 34  | 00100010 | 22  | <b>"</b>     | 78  | 01001110 | 4E  | <b>N</b> | 122 | 01111010 | 7A  | <b>z</b>   |
| 35  | 00100011 | 23  | <b>#</b>     | 79  | 01001111 | 4F  | <b>O</b> | 123 | 01111011 | 7B  | <b>{</b>   |
| 36  | 00100100 | 24  | <b>\$</b>    | 80  | 01010000 | 50  | <b>P</b> | 124 | 01111100 | 7C  | <b> </b>   |
| 37  | 00100101 | 25  | <b>%</b>     | 81  | 01010001 | 51  | <b>Q</b> | 125 | 01111101 | 7D  | <b>}</b>   |
| 38  | 00100110 | 26  | <b>&amp;</b> | 82  | 01010010 | 52  | <b>R</b> | 126 | 01111110 | 7E  | <b>~</b>   |
| 39  | 00100111 | 27  | <b>'</b>     | 83  | 01010011 | 53  | <b>S</b> | 127 | 01111111 | 7F  | <b>DEL</b> |
| 40  | 00101000 | 28  | <b>(</b>     | 84  | 01010100 | 54  | <b>T</b> |     |          |     |            |
| 41  | 00101001 | 29  | <b>)</b>     | 85  | 01010101 | 55  | <b>U</b> |     |          |     |            |
| 42  | 00101010 | 2A  | <b>*</b>     | 86  | 01010110 | 56  | <b>V</b> |     |          |     |            |
| 43  | 00101011 | 2B  | <b>+</b>     | 87  | 01010111 | 57  | <b>W</b> |     |          |     |            |