User Acceptance Test (UAT) ATM
EMV™ Test Card Set

Version 10.00

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Powered by B2

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Revision History

Version	Date	Updated By	Revisions
5.50	October 5, 2016	B2PS	Initial document release
5.60	December 19, 2016	B2PS	• TC 02 Service code corrected in profile table. Card content unchanged but card plastic also corrected so card version changed.
6.00	March 22, 2017	B2PS	• TC 10 - Tag 5A corrected in card, so card version changed.
7.00	January 5, 2018	B2PS	• TC06 - New version v6.0: Discretionary data updated (CVV) • Modified masking of some tags throughout
8.00	October 12, 2018	B2PS	• All cards - Tags 82, 9F07, 9F69 expanded & interpreted • Visa card TC03 - CVM change, Expiry date changed to 22/12 • Amex cards (TC13, TC14) - Expiry date changed to 24/12 • Discover cards (TC15, TC16) - Expiry date changed to 23/12 • DNA card TC17 - PAN changed, Expiry date changed to 25/12
8.01	June 7, 2019	B2PS	• Set renamed to “UAT ATM EMV Test Card Set”. No change to cards themselves.
9.00	September 15, 2020	B2PS	• TC07-TC09, TC11 – updated cardstock support, where applicable “MasterCard” > ”Mastercard”
10.00	May 7, 2021	B2PS	• TC010-TC12 – change Expiry Date to 25/12

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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 - User Acceptance Test ATM Test Card Set Profiles

This User Acceptance Test (UAT) ATM Test Card Set contains 19 cards with at least one card from each of the following card brands.

	Test Card 01	Test Card 02	Test Card 03
Brand	Visa	Visa	Visa
Type	ATM	ATM	Debit
Description	Online Only, Visa Plus	Online Only, Visa Interlink	Visa Debit: • U.S. Common Debit • Global Debit
IIN	-	-	476173
AID	A0000000038010	A0000000033010	A0000000980840 A0000000031010
PAN	4761 7390 0101 0671	4761 7390 0101 0671	4761 7390 0101 0135
Expiry Date	12/2022	12/2022	12/2022
Service Code	221	221	201
Interface	Contact, MSR	Contact, MSR	Contact, MSR
CVM	See card definition	See card definition	See card definition
Approval Amount	$20.00	$20.00	$20.00
Issuer Country Code	840 - USA	840 - USA	840 - USA
Application Currency Code	840 - USD	840 - USD	840 - USD
Language	'en' – English	'en' – English	'en' – English
Card Version	v5.x	v5.x	v6.x

	Test Card 04	Test Card 05	Test Card 06
Brand	Visa	Visa	Visa
Type	ATM	Credit	Credit
Description	Dual AID: • Visa Plus • Visa Interlink	Visa Credit	Fallback
IIN	-	-	-
AID	A0000000038010 A0000000033010	A0000000031010	-
PAN	4761 7390 0101 0671	4761 7390 0101 0119	4761 7390 0101 0267
Expiry Date	12/2022	12/2022	12/2022
Service Code	201	201	201
Interface	Contact, MSR	Contact, MSR	MSR
CVM	See card definition	See card definition	See card definition
Approval Amount	$20.00	$10.00	$20.00
Issuer Country Code	840 - USA	840 - USA	-
Application Currency Code	840 - USD	840 - USD	-
Language	'en' – English	'en' – English	-
Card Version	v5.x	v5.x	v6.x

	Test Card 07	Test Card 08	Test Card 09
Brand	Mastercard	Mastercard	Mastercard
Type	ATM	Debit	Debit
Description	Cirrus Card	International Maestro	Mastercard Maestro
IIN	-	-	541333
AID	A0000000046000	A0000000043060	A0000000042203
PAN	67999 78900 00002-0024	67999 9890 0000 2010	5413 3300 8909 9023
Expiry Date	12/2025	12/2025	12/2025
Service Code	201	220	620
Interface	Contact, MSR	Contact, MSR	Contact, MSR
CVM	See card definition	See card definition	See card definition
Approval Amount	$20.00	$20.00	$20.00
Issuer Country Code	840 - USA	840 - USA	840 - USA
Application Currency Code	840 - USD	840 - USD	840 - USD
Language	'en' – English	'en' – English	'en' – English
Card Version	v6.x	v6.x	v6.x

	Test Card 10	Test Card 11	Test Card 12
Brand	Mastercard	Mastercard	Mastercard
Type	Debit	ATM	Credit
Description	Mastercard Debit: • U.S. Common Debit • Global Debit	Cirrus Card	Fallback
IIN	541333	-	-
AID	A0000000042203 A0000000041010	A0000000041010	-
PAN	5413 3300 8909 9130	5413 3300 8960 4111	5413 3300 8902 0029
Expiry Date	12/2025	12/2025	12/2025
Service Code	201	201	201
Interface	Contact, MSR	Contact, MSR	MSR
CVM	See card definition	See card definition	See card definition
Approval Amount	$20.00	$20.00	$20.00
Issuer Country Code	840 - USA	840 - USA	
Application Currency Code	840 - USD	840 - USD	
Language	'en' – English	'en' – English	
Card Version	v6.x	v7.x	v6.x

	Test Card 13	Test Card 14	Test Card 15
Brand	American Express	American Express	Discover
Type	Credit	Credit	Credit
Description	Amex Credit	Fallback	Discover Credit
IIN	-	-	-
AID	A0000000002501	-	A0000001523010
PAN	3742 450017 51006	3742 450037 31006	6510 0000 0000 0216
Expiry Date	12/2024	12/2024	12/2023
Service Code	201	201	201
Interface	Contact, MSR	MSR	Contact, MSR
CVM	See card definition	See card definition	See card definition
Approval Amount	$68.00	$36.00	$160.00
Issuer Country Code	840 - USA		840 - USA
Application Currency Code	840 - USD		840 - USD
Language	'en' – English		'en' – English
Card Version	v6.x	v6.x	v6.x

	Test Card 16	Test Card 17	Test Card 18
Brand	Discover	DNA	Interac
Type	Credit	Debit	Debit
Description.	Fallback	Debit Network Alliance Debit	Canadian Debit
IIN	-		
AID	-	A0000006200620	A0000002771010
PAN	6510 0000 0000 0331	4000 0000 0000 0028	4506 4450 0693 1933
Expiry Date	12/2023	12/2025	12/2022
Service Code	201	201	220
Interface	MSR	Contact, MSR	Contact, MSR
CVM	See card definition	See card definition	See card definition
Approval Amount	$26.00	$20.00	$20.00
Issuer Country Code		840 - USA	124 - CAN
Application Currency Code		840 - USD	124 – CAD
Language		'en' – English	'en' – English
Card Version	v6.x	v6.x	v5.x

	Test Card 19
Brand	Interac
Type	Debit
Description.	Canadian Debit
IIN	
AID	A0000002771010
PAN	4506 4450 0693 1933
Expiry Date	12/2022
Service Code	220
Interface	Contact, MSR
CVM	See card definition
Approval Amount	$20.00
Issuer Country Code	124 – CAN
Application Currency Code	124 - CAD
Language	'fr' – French
Card Version	v5.x

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

A Visa Plus card with Issuer Country Code of 'USA' and Currency Code of 'USD'.

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

1.1.1 Cardholder Verification Method List

Cardholder Verification Method List ('4201 4204 5E03 1F00')			
CVM	**Verification Method**	**Conditions**	**If unsuccessful**
1	Online PIN	Unattended Cash	Next CVM
2	Online PIN	Manual Cash	Next CVM
3	Signature (paper)	Terminal supports CVM type	Next CVM
4	No CVM required	Always	Fail

1.1.2 Application Tag data

Tag	Element name	Data Card v5.x
50	Application Label	**56 49 53 41 20 50 4C 55 53** - 'VISA PLUS'
57	Track 2 Equivalent Data	**47 61 73 90 01 01 06 71 D2 21 22 21 13 50 61 46 89 00 0F**
5A	Application Primary Account Number (PAN)	**47 61 73 90 01 01 06 71**
5F 20	Cardholder Name	**55 41 54 20 41 54 4D 2F 54 65 73 74 20 43 61 72 64 20 30 31 20 20 20 20 20 20** - 'UAT ATM/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 21**
5F 34	Application PAN Sequence Number	**01**
82	Application Interchange Profile [VSDC]	**1C 00** BYTE 1: b7 - Offline SDA NOT supported b6 - Offline DDA NOT supported b5 - Cardholder verification supported b4 - Terminal risk mgmt to be performed b3 - Issuer authentication supported using External Auth command b1 - Combined DDA / GEN AC NOT supported BYTE 2: b8 - Use for Visa NOT supported b7 - Is NOT Mobile handset
84	Dedicated File (DF) Name	**A0 00 00 00 03 80 10**
87	Application Priority Indicator	**01**
8C	Card Risk Management Data Object List 1 (CDOL1)	**9F 02 06 9F 03 06 9F 1A 02 95 05 5F 2A 02 9A 03 9C 01 9F 37 04**
8D	Card Risk Management Data Object List 2 (CDOL2)	**8A 02 9F 02 06 9F 03 06 9F 1A 02 95 05 5F 2A 02 9A 03 9C 01 9F 37 04**
8E	Cardholder Verification Method (CVM) List	**00 00 00 00 00 00 00 00 42 01 42 04 5E 03 1F 00**
8F	Certification Authority Public Key Index	**92**

Tag	Element name	Data Card v5.x
90	Issuer Public Key Certificate	3C 96 F7 65 8F BC 29 A2 02 F1 91 46 BD E9 21 66 B0 F6 22 1B BC CB 02 E3 26 71 0B 9E 22 9D 16 FA E9 AD 0C 87 4C 06 85 91 6E 19 F0 E3 26 93 EE 20 1B CE 23 59 50 9A 6D 65 72 F8 EC 3F C3 73 12 6B 34 3F 9C B8 15 3D 61 B7 EA B2 D4 2D E1 9D 56 08 31 85 A0 3D D1 4C 26 8D 40 DF 08 35 C5 5E AB FA 38 ED 28 BC E4 2C D0 01 3D A9 4F 80 05 18 B7 53 C2 46 EF FB A0 8F D2 02 9B AD 5D FC F0 DA F0 7B 7D 80 1C 46 5F FD 25 2C 70 B9 21 53 B3 30 D9 5D CA 2F A1 FA AE 2D 01 68 A4 EA 8B 47 5C D8 05 DC 32 AA 96 4C 17 BF CD 2C D5 D0 30 9A B0 EA 76 1B
92	Issuer Public Key Remainder	50 DA 20 DD A8 95 3B 69 3F ED 84 36 68 31 BA 1E EA 97 F7 8F 79 2A CF 8C B9 8F DF 01 49 A7 B7 8F DA 1C 49 67
93	Signed Static Application Data	85 CE 1E 26 DF 48 66 91 37 41 28 59 B9 4C 9A A9 FC B7 87 D4 9A 16 31 12 5E 05 14 90 A1 29 F0 26 21 67 F2 A1 40 17 05 2D B8 9F 91 33 42 A5 CB 29 1C 5B DE AF 0E A8 A5 8C B7 F8 BD EC B3 34 6B 3B 01 72 9F 6F 3D 4D E2 8D DF 46 C6 CC 04 53 6E 79 25 8B 72 BB 7E B3 31 F1 33 F9 C7 15 28 4A 5D 72 FC F4 53 AD B6 A9 AF B5 E7 F4 27 00 42 23 19 73 76 72 46 F3 C0 BC D0 DF 4B 1B E9 6A 8D 15 C1 BB E6 31 83 72 A5 B3 DA D3 90 06 BB 77 F6 AE BB 0B 6C BE 22 43 E1 3E D1 89 9D 12 73 C4 0E 20 B2 30 1C 58 F9 68 07 AF AB AF 9F 94 3C 4F 05 01 1B 44
94	Application File Locator (AFL)	10 01 01 00 10 02 04 01 10 06 06 00 B0 01 01 00
9F 07	Application Usage Control	FF 00 BYTE 1: b8 - Domestic cash trans. valid b7 - Int'l cash transactions valid b6 - Domestic goods valid b5 - International goods valid b4 - Domestic services valid b3 - International services valid b2 - ATMs valid b1 - non-ATM terminals valid BYTE 2: b8 - Domestic cashback NOT allowed b7 - International cashback NOT allowed
9F 08	Application Version Number	00 96
9F 0D	Issuer Action Code - Default	B0 50 80 88 00
9F 0E	Issuer Action Code - Denial	00 00 00 00 00
9F 0F	Issuer Action Code - Online	B0 50 80 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 50 6C 75 73 - 'Visa Plus'

Tag	Element name	Data Card v5.x
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 33 35 30 36 30 30 31 34 36 30 30 30 30 30 30 30 30 30 30 30 30 30 30
9F 26	Application Cryptogram (AC)	xx xx xx xx xx xx xx xx *
9F 27	Cryptogram Information Data (CID)	80
9F 32	Issuer Public Key Exponent	03
9F 36	Application Transaction Counter (ATC)	xx xx *
9F 44	Application Currency Exponent	02
9F 46	ICC Public Key Certificate	6C BC B1 D5 03 4F 41 F1 A7 47 C4 77 80 3D FD 4E A8 A4 9B 2E 72 ED 32 78 3A DA AD 32 92 0B D4 00 22 1E 4C F9 87 8A 16 E9 A8 4E 60 8F 6E 65 9C FE 04 8B 8C 8E C4 4D 13 A1 8F D4 C2 32 64 97 CF 1F 1B 5A 22 65 74 8E 4C AB 94 87 09 51 23 EB 83 EB 2C 9D 93 54 E2 2F 5E 84 07 45 CF E8 3A 13 5A 7C 0D 0F AF 8A 78 C3 1F 91 5C B5 2D C1 B9 87 CB 6D A6 74 16 D0 3F 86 03 ED B9 D7 D3 0D CD 01 38 41 FF 1F 29 B8 A3 CB 9F BF F6 2E 54 EC 0D 10 2C BD 15 37 4B FD 3D 61 48 14 97 33 5C 75 20 FB 81 30 80 5C 9E 81 45 2D 21 50 59 32 19 63 AC D9 73 68
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]	C0 00 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]	08 40 - USA
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 D0 00
9F 6D	VLP Reset Threshold [VSDC]	00 00 00 00 00 00
9F 77	VLP Funds Limit [VSDC]	00 00 00 00 00 00
9F 78	VLP Single Transaction Limit [VSDC]	00 00 00 00 00 00
9F 79	VLP Available Funds [VSDC]	00 00 00 00 00 00

Tag	Element name	Data Card v5.x
BF 55	Contactless Counters Data Template	DF 61 06 00 00 00 00 00 00 DF 71 06 00 00 00 00 00 00 DF 41 06 00 00 00 00 00 00 DF 51 06 00 00 00 00 00 00 DF 11 01 00 DF 21 01 00 DF 31 01 00
BF 56	Counters Data Template	DF 11 01 03 DF 21 01 00 DF 31 01 00
BF 57	International Counters Data Template	DF 11 01 03 DF 21 01 00 DF 31 01 00 DF 51 01 03
BF 58	Amounts Data Template	DF 11 06 00 00 00 00 00 00 DF 21 06 00 00 00 00 00 00 DF 31 06 00 00 00 00 00 00
BF 5B	Application Internal Data Template	DF 01 02 00 00

* Tag value changes with card usage

1.2 Test Card 02 – Visa Interlink, Credit, English, USA, USD

A Visa Interlink card with Issuer Country Code of 'USA' and Currency Code of 'USD'.

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

1.2.1 Cardholder Verification Method List

Cardholder Verification Method List ('4201 4204 5E03 1F00')			
CVM	**Verification Method**	**Conditions**	**If unsuccessful**
1	Online PIN	Unattended Cash	Next CVM
2	Online PIN	Manual Cash	Next CVM
3	Signature (paper)	Terminal supports CVM type	Next CVM
4	No CVM required	Always	Fail

1.2.2 Application Tag data

Tag	Element name	Data Card v5.x
50	Application Label	56 49 53 41 20 49 4E 54 45 52 4C 49 4E 4B - 'VISA INTERLINK'
57	Track 2 Equivalent Data	47 61 73 90 01 01 06 71 D2 21 22 21 13 50 61 46 89 00 0F
5A	Application Primary Account Number (PAN)	47 61 73 90 01 01 06 71
5F 20	Cardholder Name	55 41 54 20 41 54 4D 2F 54 65 73 74 20 43 61 72 64 20 30 32 20 20 20 20 20 20 - 'UAT ATM/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 21
5F 34	Application PAN Sequence Number	01

Tag	Element name	Data Card v5.x
82	Application Interchange Profile [VSDC]	1C 00 BYTE 1: b7 - Offline SDA NOT supported b6 - Offline DDA NOT supported b5 - Cardholder verification supported b4 - Terminal risk mgmt to be performed b3 - Issuer authentication supported using External Auth command b1 - Combined DDA / GEN AC NOT supported BYTE 2: b8 - Use for Visa NOT supported b7 - Is NOT Mobile handset
84	Dedicated File (DF) Name	A0 00 00 00 03 30 10
87	Application Priority Indicator	01
8C	Card Risk Management Data Object List 1 (CDOL1)	9F 02 06 9F 03 06 9F 1A 02 95 05 5F 2A 02 9A 03 9C 01 9F 37 04
8D	Card Risk Management Data Object List 2 (CDOL2)	8A 02 9F 02 06 9F 03 06 9F 1A 02 95 05 5F 2A 02 9A 03 9C 01 9F 37 04
8E	Cardholder Verification Method (CVM) List	00 00 00 00 00 00 00 00 42 01 42 04 5E 03 1F 00
8F	Certification Authority Public Key Index	92
90	Issuer Public Key Certificate	3C 96 F7 65 8F BC 29 A2 02 F1 91 46 BD E9 21 66 B0 F6 22 1B BC CB 02 E3 26 71 0B 9E 22 9D 16 FA E9 AD 0C 87 4C 06 85 91 6E 19 F0 E3 26 93 EE 20 1B CE 23 59 50 9A 6D 65 72 F8 EC 3F C3 73 12 6B 34 3F 9C B8 15 3D 61 B7 EA B2 D4 2D E1 9D 56 08 31 85 A0 3D D1 4C 26 8D 40 DF 08 35 C5 5E AB FA 38 ED 28 BC E4 2C D0 01 3D A9 4F 80 05 18 B7 53 C2 46 EF FB A0 8F D2 02 9B AD 5D FC F0 DA F0 7B 7D 80 1C 46 5F FD 25 2C 70 B9 21 53 B3 30 D9 5D CA 2F A1 FA AE 2D 01 68 A4 EA 8B 47 5C D8 05 DC 32 AA 96 4C 17 BF CD 2C D5 D0 30 9A B0 EA 76 1B
92	Issuer Public Key Remainder	50 DA 20 DD A8 95 3B 69 3F ED 84 36 68 31 BA 1E EA 97 F7 8F 79 2A CF 8C B9 8F DF 01 49 A7 B7 8F DA 1C 49 67
93	Signed Static Application Data	85 CE 1E 26 DF 48 66 91 37 41 28 59 B9 4C 9A A9 FC B7 87 D4 9A 16 31 12 5E 05 14 90 A1 29 F0 26 21 67 F2 A1 40 17 05 2D B8 9F 91 33 42 A5 CB 29 1C 5B DE AF 0E A8 A5 8C B7 F8 BD EC B3 34 6B 3B 01 72 9F 6F 3D 4D E2 8D DF 46 C6 CC 04 53 6E 79 25 8B 72 BB 7E B3 31 F1 33 F9 C7 15 28 4A 5D 72 FC F4 53 AD B6 A9 AF B5 E7 F4 27 00 42 23 19 73 76 72 46 F3 C0 BC D0 DF 4B 1B E9 6A 8D 15 C1 BB E6 31 83 72 A5 B3 DA D3 90 06 BB 77 F6 AE BB 0B 6C BE 22 43 E1 3E D1 89 9D 12 73 C4 0E 20 B2 30 1C 58 F9 68 07 AF AB AF 9F 94 3C 4F 05 01 1B 44

Tag	Element name	Data Card v5.x
94	Application File Locator (AFL)	10 01 01 00 10 02 04 01 10 06 06 00 B0 01 01 00
9F 07	Application Usage Control	FF 00 BYTE 1: b8 - Domestic cash trans. valid b7 - Int'l cash transactions valid b6 - Domestic goods valid b5 - International goods valid b4 - Domestic services valid b3 - International services valid b2 - ATMs valid b1 - non-ATM terminals valid BYTE 2: b8 - Domestic cashback NOT allowed b7 - International cashback NOT allowed
9F 08	Application Version Number	00 96
9F 0D	Issuer Action Code - Default	B0 50 80 88 00
9F 0E	Issuer Action Code - Denial	00 00 00 00 00
9F 0F	Issuer Action Code - Online	B0 50 80 98 00
9F 10	Issuer Application Data [VSDC]	xx xx 0A xx xx xx *
9F 11	Issuer Code Table Index	01
9F 12	Application Preferred Name	56 69 73 61 20 49 6E 74 65 72 6C 69 6E 6B - 'Visa Interlink'
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 33 35 30 36 30 30 31 34 36 30 30 30 30 30 30 30 30 30 30 30 30 30
9F 26	Application Cryptogram (AC)	xx xx xx xx xx xx xx xx *
9F 27	Cryptogram Information Data (CID)	80
9F 32	Issuer Public Key Exponent	03
9F 36	Application Transaction Counter (ATC)	xx xx *
9F 44	Application Currency Exponent	02
9F 46	ICC Public Key Certificate	26 5C 98 E7 E3 9F 8E AE 75 06 18 7F 98 9E 4F D6 13 29 B5 4E 4C DB B1 0B C7 CB D8 C5 7E 89 09 0C 69 56 74 05 96 A1 49 7D 83 71 B2 B0 98 9A 62 B8 85 23 D3 C3 03 FB 37 BF 15 99 74 C7 6D B4 C9 13 15 A6 01 89 9E A6 A2 E1 1E B4 C0 E9 4E 01 4A E8 54 38 00 C2 05 72 9A 74 7D 9F A1 51 69 8A 31 D4 4C 9B 96 D4 90 D3 AD 75 CC 31 70 C2 4B 73 0A DE B0 31 83 DA E4 84 EB 22 CC AB A2 06 75 9D 7C FC F1 79 A4 C1 F0 E8 7D 91 EE B3 8E B4 63 4C 95 F5 D2 0E 0F EB D2 8A A1 9E F7 CA 32 A8 9F EF A8 67 62 6D 9A 45 86 6C 69 89 54 8F 70 CF 57 5F CC 8D
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]	C0 00 00 00 00 00
9F 53	Consecutive Transaction Limit (International) [VSDC]	00

Tag	Element name	Data Card v5.x
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]	08 40 - USA
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 D0 00
9F 6D	VLP Reset Threshold [VSDC]	00 00 00 00 00 00
9F 77	VLP Funds Limit [VSDC]	00 00 00 00 00 00
9F 78	VLP Single Transaction Limit [VSDC]	00 00 00 00 00 00
9F 79	VLP Available Funds [VSDC]	00 00 00 00 00 00
BF 55	Contactless Counters Data Template	DF 61 06 00 00 00 00 00 00 DF 71 06 00 00 00 00 00 00 DF 41 06 00 00 00 00 00 00 DF 51 06 00 00 00 00 00 00 DF 11 01 00 DF 21 01 00 DF 31 01 00
BF 56	Counters Data Template	DF 11 01 03 DF 21 01 00 DF 31 01 00
BF 57	International Counters Data Template	DF 11 01 03 DF 21 01 00 DF 31 01 00 DF 51 01 03
BF 58	Amounts Data Template	DF 11 06 00 00 00 00 00 00 DF 21 06 00 00 00 00 00 00 DF 31 06 00 00 00 00 00 00
BF 5B	Application Internal Data Template	DF 01 02 00 00

* Tag value changes with card usage

1.3 Test Card 03 – Visa, Dual AID, Debit, English, USA, USD

A Visa debit card with two AIDs, Issuer Country Code of 'USA' and Currency Code of 'USD'.

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

1.3.1 Cardholder Verification Method List – AID (A0000000980840)

Cardholder Verification Method List ('0201 0205 4200 1F00')			
CVM	**Verification Method**	**Conditions**	**If unsuccessful**
1	Online PIN	Unattended Cash	Fail
2	Online PIN	Purchase with Cashback	Fail
3	Online PIN	Always	Next CVM
4	No CVM required	Always	Fail

1.3.2 Application Tag data – AID (A0000000980840)

Tag	Element name	Data Card v6.x
42	Issuer Identification Number (IIN)	47 61 73
50	Application Label	55 53 20 44 45 42 49 54 20 20 20 20 20 20 20 20 - 'US DEBIT'
57	Track 2 Equivalent Data	47 61 73 90 01 01 01 35 D2 21 22 01 19 55 94 58 00 00 0F

Tag	Element name	Data Card v6.x
5A	Application Primary Account Number (PAN)	**47 61 73 90 01 01 01 35**
5F 20	Cardholder Name	**55 53 41 20 41 54 4D 2F 54 65 73 74 20 43 61 72 64 20 30 33 20 20 20 20 20 20** - 'UAT ATM/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
5F 2D	Language Preference	**65 6E** - 'en' (English)
5F 30	Service Code	**02 01**
5F 34	Application PAN Sequence Number	**01**
5F 55	Issuer Country Code (alpha2 format)	**55 53** - 'US'
82	Application Interchange Profile [VIS]	**18 00** BYTE 1: b7 - Offline SDA NOT supported b6 - Offline DDA NOT supported b5 - Cardholder verification supported b4 - Terminal risk mgmt to be performed b3 - Issuer authentication NOT supported using External Auth command b1 - Combined DDA / GEN AC NOT supported BYTE 2: b8 - Use for Visa NOT supported b7 - Is NOT Mobile handset
84	Dedicated File (DF) Name	**A0 00 00 00 98 08 40**
87	Application Priority Indicator	**02**
8C	Card Risk Management Data Object List 1 (CDOL1)	**9F 02 06 9F 03 06 9F 1A 02 95 05 5F 2A 02 9A 03 9C 01 9F 37 04**
8D	Card Risk Management Data Object List 2 (CDOL2)	**8A 02 9F 02 06 9F 03 06 9F 1A 02 95 05 5F 2A 02 9A 03 9C 01 9F 37 04 91 0A**
8E	Cardholder Verification Method (CVM) List	**00 00 00 00 00 00 00 00 02 01 02 05 42 00 1F 00 00 00 00 00**
94	Application File Locator (AFL)	**08 01 02 00**
9F 07	Application Usage Control	**AB 80** BYTE 1: b8 - Domestic cash trans. valid b7 - Int'l cash transactions NOT valid b6 - Domestic goods valid b5 - International goods NOT valid b4 - Domestic services valid b3 - International services NOT valid b2 - ATMs NOT valid b1 - non-ATM terminals valid BYTE 2: b8 - Domestic cashback allowed b7 - International cashback NOT allowed
9F 08	Application Version Number [VIS]	**00 96**
9F 0D	Issuer Action Code - Default	**FC 50 AC 88 00**
9F 0E	Issuer Action Code - Denial	**00 00 00 00 00**
9F 0F	Issuer Action Code - Online	**FC 70 BC 98 00**
9F 10	Issuer Application Data [VIS 1.6]	**xx xx 0A xx xx xx xx ***
9F 11	Issuer Code Table Index	**01**
9F 12	Application Preferred Name	**55 53 20 44 65 62 69 74 20 20 20 20 20 20 20 20**
9F 13	Last Online Application Transaction Counter (ATC) Register	**xx xx ***
9F 17	Personal Identification Number (PIN) Try Counter	**01**

Tag	Element name	Data Card v6.x
9F 26	Application Cryptogram (AC)	xx xx xx xx xx xx xx xx *
9F 27	Cryptogram Information Data (CID)	80
9F 36	Application Transaction Counter (ATC)	xx xx *
9F 38	Processing Options Data Object List (PDOL)	9F 06 05
9F 42	Application Currency Code	08 40 - USD
9F 44	Application Currency Exponent	02
9F 4F	Transaction Log Format	9F 02 06 5F 2A 02 9A 03 9F 36 02 9F 1A 02 95 05 9C 01 9F 27 01
9F 51	Application Currency Code [VSDC]	08 40 - USD
9F 52	Application Default Action [VSDC VIS 1.6]	00 00 00 00 00 00
9F 56	Issuer Authentication Indicator [VSDC]	80
9F 57	Issuer Country Code [VSDC]	08 40 - USA
9F 5D	Available Offline Spending Amount [VSDC]	00 00 00 00 00 00
9F 68	Card Additional Processes [qVSDC VCPS 2.2]	10 00 80 00
BF 55	Contactless Counters Data Template	
BF 56	Counters Data Template	
BF 57	International Counters Data Template	
BF 58	Amounts Data Template	
BF 59	Profile Controls Template	
BF 5A	AIP/AFL Entries Template	
BF 5B	Application Internal Data Template	DF 01 02 00 00

* Tag value changes with card usage

1.3.3 Cardholder Verification Method List – AID (A0000000031010)

Cardholder Verification Method List ('0201 4204 1E04 0205 5E00 4200 1F00')			
CVM	**Verification Method**	**Conditions**	**If unsuccessful**
1	Online PIN	Unattended Cash	Fail
2	Online PIN	Manual Cash	Next CVM
3	Signature (paper)	Manual Cash	Fail
4	Online PIN	Purchase with Cashback	Fail
5	Signature (paper)	Always	Next CVM
6	Online PIN	Always	Next CVM
7	No CVM required	Always	Fail

1.3.4 Application Tag data – AID (A0000000031010)

Tag	Element name	Data Card v6.x
42	Issuer Identification Number (IIN)	47 61 73
50	Application Label	56 49 53 41 20 44 45 42 49 54 20 20 20 20 20 20 - 'VISA DEBIT'
57	Track 2 Equivalent Data	47 61 73 90 01 01 01 35 D2 21 22 01 19 55 94 58 00 00 0F
5A	Application Primary Account Number (PAN)	47 61 73 90 01 01 01 35
5F 20	Cardholder Name	55 53 41 20 41 54 4D 2F 54 65 73 74 20 43 61 72 64 20 30 33 20 20 20 20 20 20 - 'UAT ATM/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
5F 2D	Language Preference	65 6E - 'en' (English)
5F 30	Service Code	02 01

Tag	Element name	Data Card v6.x
5F 34	Application PAN Sequence Number	01
5F 55	Issuer Country Code (alpha2 format)	55 53 - 'en'
82	Application Interchange Profile [VIS]	18 00 BYTE 1: b7 - Offline SDA NOT supported b6 - Offline DDA NOT supported b5 - Cardholder verification supported b4 - Terminal risk mgmt to be performed b3 - Issuer authentication NOT supported using External Auth command b1 - Combined DDA / GEN AC NOT supported BYTE 2: b8 - Use for Visa NOT supported b7 - Is NOT Mobile handset
84	Dedicated File (DF) Name	A0 00 00 00 03 10 10
87	Application Priority Indicator	01
8C	Card Risk Management Data Object List 1 (CDOL1)	9F 02 06 9F 03 06 9F 1A 02 95 05 5F 2A 02 9A 03 9C 01 9F 37 04
8D	Card Risk Management Data Object List 2 (CDOL2)	8A 02 9F 02 06 9F 03 06 9F 1A 02 95 05 5F 2A 02 9A 03 9C 01 9F 37 04 91 0A
8E	Cardholder Verification Method (CVM) List	00 00 00 00 00 00 00 00 02 01 42 04 1E 04 02 05 5E 00 42 00 1F 00
94	Application File Locator (AFL)	08 01 02 00
9F 07	Application Usage Control	FF 80 BYTE 1: b8 - Domestic cash trans. valid b7 - Int'l cash transactions valid b6 - Domestic goods valid b5 - International goods valid b4 - Domestic services valid b3 - International services valid b2 - ATMs valid b1 - non-ATM terminals valid BYTE 2: b8 - Domestic cashback allowed b7 - International cashback NOT allowed
9F 08	Application Version Number [VIS]	00 96
9F 0D	Issuer Action Code - Default	FC 50 AC 88 00
9F 0E	Issuer Action Code - Denial	00 00 00 00 00
9F 0F	Issuer Action Code - Online	FC 70 BC 98 00
9F 10	Issuer Application Data [VIS 1.6]	xx xx 0A xx xx xx xx *
9F 11	Issuer Code Table Index	01
9F 12	Application Preferred Name	56 69 73 61 20 44 65 62 69 74 20 20 20 20 20 20
9F 13	Last Online Application Transaction Counter (ATC) Register	xx xx *
9F 17	Personal Identification Number (PIN) Try Counter	01
9F 26	Application Cryptogram (AC)	xx xx xx xx xx xx xx xx *
9F 27	Cryptogram Information Data (CID)	80
9F 36	Application Transaction Counter (ATC)	xx xx *
9F 42	Application Currency Code	08 40 - USD
9F 44	Application Currency Exponent	02
9F 4F	Transaction Log Format	9F 02 06 5F 2A 02 9A 03 9F 36 02 9F 1A 02 95 05 9C 01 9F 27 01
9F 51	Application Currency Code [VSDC]	08 40 - USD

Tag	Element name	Data Card v6.x
9F 52	Application Default Action [VSDC VIS 1.6]	00 00 00 00 00 00
9F 56	Issuer Authentication Indicator [VSDC]	80
9F 57	Issuer Country Code [VSDC]	08 40 - USA
9F 5D	Available Offline Spending Amount [VSDC]	00 00 00 00 00 00
9F 68	Card Additional Processes [qVSDC VCPS 2.2]	10 00 10 00
BF 55	Contactless Counters Data Template	
BF 56	Counters Data Template	
BF 57	International Counters Data Template	
BF 58	Amounts Data Template	
BF 59	Profile Controls Template	
BF 5A	AIP/AFL Entries Template	
BF 5B	Application Internal Data Template	DF 01 02 00 00

* Tag value changes with card usage

1.4 Test Card 04 – Visa, Dual AID, ATM, English, USA, USD

A Visa ATM (Plus/Interlink) card with two AIDs, Issuer Country Code of 'USA' and Currency Code of 'USD'.

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

1.4.1 Cardholder Verification Method List – AID (A0000000038010)

Cardholder Verification Method List ('4201 4204 5E03 1F00')			
CVM	**Verification Method**	**Conditions**	**If unsuccessful**
1	Online PIN	Unattended Cash	Next CVM
2	Online PIN	Manual Cash	Next CVM
3	Signature (paper)	Terminal supports CVM type	Next CVM
4	No CVM required	Always	Fail

1.4.2 Application Tag data – AID (A0000000038010)

Tag	Element name	Data Card v5.x
42	Issuer Identification Number (IIN)	47 61 73
50	Application Label	50 4C 55 53 - 'PLUS'
57	Track 2 Equivalent Data	47 61 73 90 01 01 06 71 D2 21 22 21 13 50 61 46 89 00 0F
5A	Application Primary Account Number (PAN)	47 61 73 90 01 01 06 71
5F 20	Cardholder Name	55 41 54 20 41 54 4D 2F 54 65 73 74 20 43 61 72 64 20 30 34 20 20 20 20 20 20 - 'UAT ATM/Test Card 04'
5F 24	Application Expiration Date	22 12 31
5F 28	Issuer Country Code	08 40 - USA
5F 2D	Language Preference	65 6E - 'en' (English)
5F 30	Service Code	02 21
5F 34	Application PAN Sequence Number	01
5F 55	Issuer Country Code (alpha2 format)	55 53

Tag	Element name	Data Card v5.x
82	Application Interchange Profile [VSDC]	1C 00 BYTE 1: b7 - Offline SDA NOT supported b6 - Offline DDA NOT supported b5 - Cardholder verification supported b4 - Terminal risk mgmt to be performed b3 - Issuer authentication supported using External Auth command b1 - Combined DDA / GEN AC NOT supported BYTE 2: b8 - Use for Visa NOT supported b7 - Is NOT Mobile handset
84	Dedicated File (DF) Name	A0 00 00 00 03 80 10
87	Application Priority Indicator	01
8C	Card Risk Management Data Object List 1 (CDOL1)	9F 02 06 9F 03 06 9F 1A 02 95 05 5F 2A 02 9A 03 9C 01 9F 37 04
8D	Card Risk Management Data Object List 2 (CDOL2)	8A 02 9F 02 06 9F 03 06 9F 1A 02 95 05 5F 2A 02 9A 03 9C 01 9F 37 04 91 0A
8E	Cardholder Verification Method (CVM) List	00 00 00 00 00 00 00 00 42 01 42 04 5E 03 1F 00
94	Application File Locator (AFL)	08 02 02 00 08 03 04 02
9F 07	Application Usage Control	C3 00 BYTE 1: b8 - Domestic cash trans. valid b7 - Int'l cash transactions valid b6 - Domestic goods NOT valid b5 - International goods NOT valid b4 - Domestic services NOT valid b3 - International services NOT valid b2 - ATMs NOT valid b1 - non-ATM terminals valid BYTE 2: b8 - Domestic cashback NOT allowed b7 - International cashback NOT allowed
9F 08	Application Version Number	00 96
9F 0D	Issuer Action Code - Default	FC 50 AC 88 00
9F 0E	Issuer Action Code - Denial	00 00 00 00 00
9F 0F	Issuer Action Code - Online	FC 70 BC 98 00
9F 10	Issuer Application Data [VSDC]	xx xx 0A xx xx xx xx *
9F 11	Issuer Code Table Index	01
9F 12	Application Preferred Name	50 4C 55 53 - 'PLUS'
9F 13	Last Online Application Transaction Counter (ATC) Register	xx xx *
9F 26	Application Cryptogram (AC)	xx xx xx xx xx xx xx xx *
9F 27	Cryptogram Information Data (CID)	80
9F 36	Application Transaction Counter (ATC)	xx xx *
9F 38	Processing Options Data Object List (PDOL)	9F 06 06
9F 44	Application Currency Exponent	02
9F 4A	Static Data Authentication Tag List	82
9F 4F	Transaction Log Format	9F 02 06 5F 2A 02 9A 03 9F 36 02 9F 1A 02 95 05 9C 01 9F 27 01
9F 51	Application Currency Code [VSDC]	08 40 - USD
9F 52	Application Default Action [VSDC VIS 1.5]	00 00 00 00 00 00
9F 56	Issuer Authentication Indicator [VSDC]	00
9F 57	Issuer Country Code [VSDC]	08 40 - USA
BF 55	Contactless Counters Data Template	

Tag	Element name	Data Card v5.x
BF 56	Counters Data Template	
BF 57	International Counters Data Template	
BF 58	Amounts Data Template	
BF 59	Profile Controls Template	DF 11 0B 10 00 00 00 00 00 00 00 00 00 00 DF 12 0B 20 00 00 00 00 00 00 00 00 00 00
BF 5A	AIP/AFL Entries Template	DF 11 0B 1C 00 08 08 02 02 00 08 03 04 02 DF 12 0F 1C 00 0C 08 02 02 00 08 03 03 01 08 05 05 01
BF 5B	Application Internal Data Template	DF 01 02 C0 00 DF 02 01 F1

* Tag value changes with card usage

1.4.3 Cardholder Verification Method List – AID (A0000000033010)

Cardholder Verification Method List ('0201 0004 0205 4200 1F00')			
CVM	**Verification Method**	**Conditions**	**If unsuccessful**
1	Online PIN	Unattended Cash	Fail
2	Fail CVM Processing	Manual Cash	Fail
3	Online PIN	Purchase with Cashback	Fail
4	Online PIN	Always	Next CVM
5	No CVM required	Always	Fail

1.4.4 Application Tag data – AID (A0000000033010)

Tag	Element name	Data Card v5.x
42	Issuer Identification Number (IIN)	47 61 73
50	Application Label	49 4E 54 45 52 4C 49 4E 4B - 'INTERLINK'
57	Track 2 Equivalent Data	47 61 73 90 01 01 06 71 D2 21 22 21 13 50 61 46 89 00 0F
5A	Application Primary Account Number (PAN)	47 61 73 90 01 01 06 71
5F 20	Cardholder Name	55 41 54 20 41 54 4D 2F 54 65 73 74 20 43 61 72 64 20 30 34 20 20 20 20 20 20 - 'UAT ATM/Test Card 04'
5F 24	Application Expiration Date	22 12 31
5F 28	Issuer Country Code	08 40 - USA
5F 2D	Language Preference	65 6E - 'en' (English)
5F 30	Service Code	02 21
5F 34	Application PAN Sequence Number	01
5F 55	Issuer Country Code (alpha2 format)	55 53
82	Application Interchange Profile [VSDC]	1C 00 BYTE 1: b7 - Offline SDA NOT supported b6 - Offline DDA NOT supported b5 - Cardholder verification supported b4 - Terminal risk mgmt to be performed b3 - Issuer authentication supported using External Auth command b1 - Combined DDA / GEN AC NOT supported BYTE 2: b8 - Use for Visa NOT supported b7 - Is NOT Mobile handset
84	Dedicated File (DF) Name	A0 00 00 00 03 30 10
87	Application Priority Indicator	02

Tag	Element name	Data Card v5.x
8C	Card Risk Management Data Object List 1 (CDOL1)	9F 02 06 9F 03 06 9F 1A 02 95 05 5F 2A 02 9A 03 9C 01 9F 37 04
8D	Card Risk Management Data Object List 2 (CDOL2)	8A 02 9F 02 06 9F 03 06 9F 1A 02 95 05 5F 2A 02 9A 03 9C 01 9F 37 04 91 0A
8E	Cardholder Verification Method (CVM) List	00 00 00 00 00 00 00 00 02 01 00 04 02 05 42 00 1F 00
94	Application File Locator (AFL)	08 02 02 00 08 03 03 01 08 05 05 01
9F 07	Application Usage Control	29 80 BYTE 1: b8 - Domestic cash trans. NOT valid b7 - Int'l cash transactions NOT valid b6 - Domestic goods valid b5 - International goods NOT valid b4 - Domestic services valid b3 - International services NOT valid b2 - ATMs NOT valid b1 - non-ATM terminals valid BYTE 2: b8 - Domestic cashback allowed b7 - International cashback NOT allowed
9F 08	Application Version Number	00 96
9F 0D	Issuer Action Code - Default	FC 50 AC 88 00
9F 0E	Issuer Action Code - Denial	00 00 00 00 00
9F 0F	Issuer Action Code - Online	FC 70 BC 98 00
9F 10	Issuer Application Data [VSDC]	xx xx 0A xx xx xx xx
9F 11	Issuer Code Table Index	01
9F 12	Application Preferred Name	49 4E 54 45 52 4C 49 4E 4B - 'INTERLINK'
9F 13	Last Online Application Transaction Counter (ATC) Register	xx xx *
9F 26	Application Cryptogram (AC)	xx xx xx xx xx xx xx xx *
9F 27	Cryptogram Information Data (CID)	80
9F 36	Application Transaction Counter (ATC)	xx xx *
9F 38	Processing Options Data Object List (PDOL)	9F 06 06
9F 44	Application Currency Exponent	02
9F 4A	Static Data Authentication Tag List	82
9F 4F	Transaction Log Format	9F 02 06 5F 2A 02 9A 03 9F 36 02 9F 1A 02 95 05 9C 01 9F 27 01
9F 51	Application Currency Code [VSDC]	08 40 - USD
9F 52	Application Default Action [VSDC VIS 1.5]	00 00 00 00 00 00
9F 56	Issuer Authentication Indicator [VSDC]	00
9F 57	Issuer Country Code [VSDC]	08 40 - USA
BF 55	Contactless Counters Data Template	
BF 56	Counters Data Template	
BF 57	International Counters Data Template	
BF 58	Amounts Data Template	
BF 59	Profile Controls Template	DF 11 0B 10 00 00 00 00 00 00 00 00 00 00 DF 12 0B 20 00 00 00 00 00 00 00 00 00 00 00
BF 5A	AIP/AFL Entries Template	DF 11 0B 1C 00 08 08 02 02 00 08 03 04 02 DF 12 0F 1C 00 0C 08 02 02 00 08 03 03 01 08 05 05 01
BF 5B	Application Internal Data Template	DF 01 02 C0 00 DF 02 01 F1

* Tag value changes with card usage

1.5 Test Card 05 – Visa, Credit, English, USA, USD

A Visa credit card with Issuer Country Code of 'USA' and Currency Code of 'USD'.

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

1.5.1 Cardholder Verification Method List

Cardholder Verification Method List ('4201 4204 5E03 1F00')			
CVM	**Verification Method**	**Conditions**	**If unsuccessful**
1	Online PIN	Unattended Cash	Next CVM
2	Online PIN	Manual Cash	Next CVM
3	Signature (paper)	Terminal supports CVM type	Next CVM
4	No CVM required	Always	Fail

1.5.2 Application Tag data

Tag	Element name	Data Card v5.x
50	Application Label	**56 49 53 41 20 43 52 45 44 49 54** - 'VISA CREDIT'
57	Track 2 Equivalent Data	**47 61 73 90 01 01 01 19 D2 21 22 01 11 43 80 44 00 00 0F**
5A	Application Primary Account Number (PAN)	**47 61 73 90 01 01 01 19**
5F 20	Cardholder Name	**55 41 54 20 41 54 4D 2F 54 65 73 74 20 43 61 72 64 20 30 35 20 20 20 20 20 20** - 'UAT ATM/Test Card 05'
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]	**1C 00** BYTE 1: b7 - Offline SDA NOT supported b6 - Offline DDA NOT supported b5 - Cardholder verification supported b4 - Terminal risk mgmt to be performed b3 - Issuer authentication supported using External Auth command b1 - Combined DDA / GEN AC NOT supported BYTE 2: b8 - Use for Visa NOT supported b7 - Is NOT Mobile handset
84	Dedicated File (DF) Name	**A0 00 00 00 03 10 10**
87	Application Priority Indicator	**01**
8C	Card Risk Management Data Object List 1 (CDOL1)	**9F 02 06 9F 03 06 9F 1A 02 95 05 5F 2A 02 9A 03 9C 01 9F 37 04**
8D	Card Risk Management Data Object List 2 (CDOL2)	**8A 02 9F 02 06 9F 03 06 9F 1A 02 95 05 5F 2A 02 9A 03 9C 01 9F 37 04**
8E	Cardholder Verification Method (CVM) List	**00 00 00 00 00 00 00 00 42 01 42 04 5E 03 1F 00**
8F	Certification Authority Public Key Index	**92**

Tag	Element name	Data Card v5.x
90	Issuer Public Key Certificate	3C 96 F7 65 8F BC 29 A2 02 F1 91 46 BD E9 21 66 B0 F6 22 1B BC CB 02 E3 26 71 0B 9E 22 9D 16 FA E9 AD 0C 87 4C 06 85 91 6E 19 F0 E3 26 93 EE 20 1B CE 23 59 50 9A 6D 65 72 F8 EC 3F C3 73 12 6B 34 3F 9C B8 15 3D 61 B7 EA B2 D4 2D E1 9D 56 08 31 85 A0 3D D1 4C 26 8D 40 DF 08 35 C5 5E AB FA 38 ED 28 BC E4 2C D0 01 3D A9 4F 80 05 18 B7 53 C2 46 EF FB A0 8F D2 02 9B AD 5D FC F0 DA F0 7B 7D 80 1C 46 5F FD 25 2C 70 B9 21 53 B3 30 D9 5D CA 2F A1 FA AE 2D 01 68 A4 EA 8B 47 5C D8 05 DC 32 AA 96 4C 17 BF CD 2C D5 D0 30 9A B0 EA 76 1B
92	Issuer Public Key Remainder	50 DA 20 DD A8 95 3B 69 3F ED 84 36 68 31 BA 1E EA 97 F7 8F 79 2A CF 8C B9 8F DF 01 49 A7 B7 8F DA 1C 49 67
93	Signed Static Application Data	6A 8D 68 62 11 99 DD 0F 8E 41 F2 EC 49 AA 0F D5 81 A9 34 AD 7D CF B3 59 EE A3 7B 24 C1 DA FF 5D F8 2B 30 16 AE C9 30 8F 36 B3 C7 93 63 69 03 6A F3 A6 BB 6A F5 D0 F5 3B B2 EC D2 43 37 A0 6C 24 12 09 A4 9E B5 40 B2 67 4F 88 C1 F0 4C 73 37 DA 4F 67 E1 66 42 0F EA 6A 57 72 E7 3D 5C 00 C7 5D AF E4 4D A8 DA 4A 88 15 FD 5D B3 1A A9 64 E2 75 BF FF 33 C0 C4 3D CD 40 A8 B9 38 77 D4 45 C0 3D 4F 5C 30 B3 B9 EA A3 76 A5 05 22 90 EF 05 31 0A 72 11 61 94 D4 FA 99 3B 44 22 76 5D 26 D3 3D CA 05 4B AC BC C7 84 22 43 14 49 05 CD 8C F8 69 B9
94	Application File Locator (AFL)	10 01 01 00 10 02 04 01 10 06 06 00 B0 01 01 00
9F 07	Application Usage Control	FF 00 BYTE 1: b8 - Domestic cash trans. valid b7 - Int'l cash transactions valid b6 - Domestic goods valid b5 - International goods valid b4 - Domestic services valid b3 - International services valid b2 - ATMs valid b1 - non-ATM terminals valid BYTE 2: b8 - Domestic cashback NOT allowed b7 - International cashback NOT allowed
9F 08	Application Version Number	00 96
9F 0D	Issuer Action Code - Default	B0 50 80 88 00
9F 0E	Issuer Action Code - Denial	00 00 00 00 00
9F 0F	Issuer Action Code - Online	B0 50 80 98 00
9F 10	Issuer Application Data [VSDC]	xx xx 0A xx xx xx xx *
9F 11	Issuer Code Table Index	01
9F 12	Application Preferred Name	56 69 73 61 20 43 72 65 64 69 74 - 'Visa Credit'

Tag	Element name	Data Card v5.x
9F 13	Last Online Application Transaction Counter (ATC) Register	xx xx *
9F 17	Personal Identification Number (PIN) Try Counter	09
9F 1F	Track 1 Discretionary Data	31 31 34 33 38 30 34 34 30 30 30 30 30 30 30 30 30 30 30 30 30 30
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	94 53 B8 33 93 F9 15 51 7D 55 C3 16 5D 11 EB 8C E9 B9 04 1D 8F C3 6A BA 37 76 75 C7 85 94 74 72 57 A7 89 E9 F9 6E F1 74 3C 7E 19 13 DC 88 C0 66 64 22 BD 40 6C C9 06 83 03 78 E8 8D 18 95 DA 03 8C 71 C3 E2 8E C9 89 19 7B B4 81 CF AA 11 6C 16 3F C8 83 68 13 0B A5 AC 38 CB 23 AB 7B 20 C8 4B 75 ED 8B 68 08 5C B9 16 70 EE 48 E0 3B 24 06 3F 51 04 27 0D 6E 7B 59 1F 33 F4 E1 AE 6D F7 9C CF D5 07 64 3B 9D A0 45 77 01 D0 DE 89 5E CA A9 D6 49 BD 0E 39 86 EF F7 3C 2B 28 66 FC F9 23 55 55 1E 1A CF 68 FB A4 E7 BB A1 BD E4 13 8C DB 14 6D
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]	C0 00 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]	08 40 - USA
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 D0 00
9F 6D	VLP Reset Threshold [VSDC]	00 00 00 00 00 00
9F 77	VLP Funds Limit [VSDC]	00 00 00 00 00 00
9F 78	VLP Single Transaction Limit [VSDC]	00 00 00 00 00 00
9F 79	VLP Available Funds [VSDC]	00 00 00 00 00 00

Tag	Element name	Data Card v5.x
BF 55	Contactless Counters Data Template	DF 61 06 00 00 00 00 00 00 DF 71 06 00 00 00 00 00 00 DF 41 06 00 00 00 00 00 00 DF 51 06 00 00 00 00 00 00 DF 11 01 00 DF 21 01 00 DF 31 01 00
BF 56	Counters Data Template	DF 11 01 02 DF 21 01 00 DF 31 01 00
BF 57	International Counters Data Template	DF 11 01 02 DF 21 01 00 DF 31 01 00 DF 51 01 02
BF 58	Amounts Data Template	DF 11 06 00 00 00 00 00 00 DF 21 06 00 00 00 00 00 00 DF 31 06 00 00 00 00 00 00
BF 5B	Application Internal Data Template	DF 01 02 00 00

* Tag value changes with card usage

1.6 Test Card 06 – Visa, Technical Fallback Card

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

When inserted, a chip error will be detected.

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

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

Note: The test host may Approve / Decline based on its configuration with respect to CVV processing.

1.7 Test Card 07 – Mastercard, Credit, English, USA, USD

A Mastercard Cirrus credit card with Issuer Country Code of ‘USA’ and Currency Code of ‘USD’.

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

1.7.1 Cardholder Verification Method List

Cardholder Verification Method List (‘4201 5E03 1F03’)			
CVM	**Verification Method**	**Conditions**	**If unsuccessful**
1	Online PIN	Unattended Cash	Next CVM
2	Signature (paper)	Terminal supports CVM type	Next CVM
3	No CVM required	Terminal supports CVM type	Fail

1.7.2 Application Tag data

Tag	Element name	Data Card v6.x
50	Application Label	4D 43 20 43 49 52 52 55 53 - ‘MC CIRRUS’
57	Track 2 Equivalent Data	67 99 97 89 00 00 00 20 02 4D 25 12 20 10 84 46 07 00 0F
5A	Application Primary Account Number (PAN)	67 99 97 89 00 00 00 20 02 4F
5F 20	Cardholder Name	55 41 54 20 41 54 4D 2F 54 65 73 74 20 43 61 72 64 20 30 37 20 20 20 - ‘UAT ATM/Test Card 07’
5F 24	Application Expiration Date	25 12 31

Tag	Element name	Data Card v6.x
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	**03**
82	Application Interchange Profile [M/Chip, PayPass]	**18 00** BYTE 1: b7 - Offline SDA NOT supported b6 - Offline DDA NOT supported b5 - Cardholder verification supported b4 - Terminal risk mgmt to be performed b3 - Issuer authentication NOT supported using External Auth command b1 - Combined DDA / GEN AC NOT supported BYTE 2: b8 - EMV Contactless NOT supported
84	Dedicated File (DF) Name	**A0 00 00 00 04 60 00**
87	Application Priority Indicator	**01**
8C	Card Risk Management Data Object List 1 (CDOL1)	**9F 02 06 9F 03 06 9F 1A 02 95 05 5F 2A 02 9A 03 9C 01 9F 37 04 9F 35 01 9F 45 02 9F 4C 08 9F 34 03**
8D	Card Risk Management Data Object List 2 (CDOL2)	**91 0A 8A 02 95 05 9F 37 04 9F 4C 08**
8E	Cardholder Verification Method (CVM) List	**00 00 00 00 00 00 00 00 42 01 5E 03 1F 03**
8F	Certification Authority Public Key Index	**FA**
90	Issuer Public Key Certificate	**18 89 B9 97 E6 FC E8 4B 4A E7 AB 87 43 1C BD B3 DF 8C 1D 5A 55 A7 F6 0D 29 59 AF 3A 51 04 E7 58 83 17 ED 74 08 66 68 CF 1A 05 47 84 F7 49 3C 6D 74 7F A7 96 EC 14 D3 33 A6 8E C7 E0 08 62 95 9A 0B D0 F0 48 20 80 B7 1A C1 B7 62 5B 1B 8B 1F 35 A6 69 19 99 BA 78 F5 92 E2 3F 95 E9 96 09 D1 08 CF 1C 0E 30 8A 8B F6 4F BD E8 37 D3 CE 13 8A 50 DC 50 AF 4B 41 EE 53 D9 8A 11 B6 A8 1D DD 44 CC 43 0C 1E F3 BB 9D 1D 75 A0 2F AA 9C 81 4A FC 58**
92	Issuer Public Key Remainder	**D3 52 41 07**
94	Application File Locator (AFL)	**08 02 04 01 18 01 01 00 20 01 01 00**
9F 07	Application Usage Control	**FF 00** BYTE 1: b8 - Domestic cash trans. valid b7 - Int'l cash transactions valid b6 - Domestic goods valid b5 - International goods valid b4 - Domestic services valid b3 - International services valid b2 - ATMs valid b1 - non-ATM terminals valid BYTE 2: b8 - Domestic cashback NOT allowed b7 - International cashback NOT allowed
9F 08	Application Version Number	**00 02**
9F 0D	Issuer Action Code - Default	**B0 50 9C 80 00**
9F 0E	Issuer Action Code - Denial	**00 00 00 00 00**

Tag	Element name	Data Card v6.x
9F 0F	Issuer Action Code - Online	B0 70 9C 98 00
9F 10	Issuer Application Data [M/Chip 4]	xx 10 xx xx xx xx xx xx xx xx xx xx xx xx xx xx xx xx *
9F 11	Issuer Code Table Index	01
9F 12	Application Preferred Name	4D 43 20 43 69 72 72 75 73
9F 14	Lower Consecutive Offline Limit	00
9F 17	Personal Identification Number (PIN) Try Counter	03
9F 1F	Track 1 Discretionary Data	30 38 34 34 36 30 37 30 30 30 30 30 30 30 30 30 30 30 30 30 30 30
9F 23	Upper Consecutive Offline Limit	00
9F 26	Application Cryptogram (AC)	xx xx xx xx xx xx xx xx *
9F 27	Cryptogram Information Data (CID)	80
9F 32	Issuer Public Key Exponent	03
9F 36	Application Transaction Counter (ATC)	xx xx *
9F 42	Application Currency Code	08 40 - USD
9F 44	Application Currency Exponent	02
9F 46	ICC Public Key Certificate	8A A9 86 35 18 8A 06 C2 E7 2E 7A 69 4A F8 F8 33 4A 38 1E C0 EC 85 0E 09 0A 4A D1 04 2B DA E0 BF A0 32 09 2A D4 9E 20 A8 73 50 59 16 53 20 17 ED 53 C0 27 73 D6 7E 1F A5 A4 0B C0 58 07 B2 42 69 02 01 FF 3A 66 EC 94 9C 2A E3 4C CF 6C DF E6 64 8C 88 32 B5 54 AF 85 48 8F A7 53 B1 3D 83 8D 28 AE 64 FC D1 09 37 0C E8 8F 64 D0 B5 96 46 5D 91
9F 47	ICC Public Key Exponent	03
9F 48	ICC Public Key Remainder	02 44 DA 96 08 07 24 72 CE 85 4F 34 03 0E D2 E6 1F 24 74 82 23 E5 B5 65 E8 DE 1E 88 8A 69 AA 7E CA 42 BF 95 C0 60 2C D2 BE EF
9F 49	Dynamic Data Authentication Data Object List (DDOL)	9F 37 04
9F 4A	Static Data Authentication Tag List	82
9F 4D	Transaction Log Entry	0B 0A
9F 4F	Transaction Log Format	9F 27 01 9F 02 06 5F 2A 02 9A 03 9F 36 02 9F 52 06
9F 6E	Third Party Data [Mastercard]	08 40 00 00 30 30 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
9F 7E	Application Life Cycle Data [Mastercard]	03 10 0C 12 00 09 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 04 00 00 02 60 00 00 38 4A 02 11 50 35 43 44 30 37 32 20
C3	Card Issuer Action Code - Decline [Mastercard]	00 00 00
C4	Card Issuer Action Code - Default [Mastercard]	46 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

Tag	Element name	Data Card v6.x
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 08 40 00 01 00 08 40 00 01 00 08 40 00 01 00
D3	Additional Check Table [Mastercard]	00 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
D5	Application Control [M/Chip]	C4 00
D6	Default ARPC Response Code [M/Chip4]	00 12
DF 02	Security Limits Status [Mastercard]	00

* Tag value changes with card usage

1.8 Test Card 08 – Mastercard Int'l Maestro, Debit, English, USA, USD

A Mastercard International Maestro debit card with Issuer Country Code of 'USA' and Currency Code of 'USD'.

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

1.8.1 Cardholder Verification Method List

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

1.8.2 Application Tag data

Tag	Element name	Data Card v6.x
50	Application Label	4D 41 45 53 54 52 4F - 'MAESTRO'
57	Track 2 Equivalent Data	67 99 99 89 00 00 02 01 0D 25 12 22 00 83 55 06 06 00 0F
5A	Application Primary Account Number (PAN)	67 99 99 89 00 00 02 01 0F
5F 20	Cardholder Name	55 41 54 20 41 54 4D 2F 54 65 73 74 20 43 61 72 64 20 30 38 20 20 20 20 20 - 'UAT ATM/Test Card 08'
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 20
5F 34	Application PAN Sequence Number	31

Tag	Element name	Data Card v6.x
82	Application Interchange Profile [M/Chip, PayPass]	18 00 BYTE 1: b7 - Offline SDA NOT supported b6 - Offline DDA NOT supported b5 - Cardholder verification supported b4 - Terminal risk mgmt to be performed b3 - Issuer authentication NOT supported using External Auth command b1 - Combined DDA / GEN AC NOT supported BYTE 2: b8 - EMV Contactless NOT supported
84	Dedicated File (DF) Name	A0 00 00 00 04 30 60
87	Application Priority Indicator	01
8C	Card Risk Management Data Object List 1 (CDOL1)	9F 02 06 9F 03 06 9F 1A 02 95 05 5F 2A 02 9A 03 9C 01 9F 37 04 9F 35 01 9F 45 02 9F 4C 08 9F 34 03
8D	Card Risk Management Data Object List 2 (CDOL2)	91 0A 8A 02 95 05 9F 37 04 9F 4C 08
8E	Cardholder Verification Method (CVM) List	00 00 00 00 00 00 00 00 42 01 5E 03 1F 03
8F	Certification Authority Public Key Index	FA
90	Issuer Public Key Certificate	18 89 B9 97 E6 FC E8 4B 4A E7 AB 87 43 1C BD B3 DF 8C 1D 5A 55 A7 F6 0D 29 59 AF 3A 51 04 E7 58 83 17 ED 74 08 66 68 CF 1A 05 47 84 F7 49 3C 6D 74 7F A7 96 EC 14 D3 33 A6 8E C7 E0 08 62 95 9A 0B D0 F0 48 20 80 B7 1A C1 B7 62 5B 1B 8B 1F 35 A6 69 19 99 BA 78 F5 92 E2 3F 95 E9 96 09 D1 08 CF 1C 0E 30 8A 8B F6 4F BD E8 37 D3 CE 13 8A 50 DC 50 AF 4B 41 EE 53 D9 8A 11 B6 A8 1D DD 44 CC 43 0C 1E F3 BB 9D 1D 75 A0 2F AA 9C 81 4A FC 58
92	Issuer Public Key Remainder	D3 52 41 07
94	Application File Locator (AFL)	08 02 04 01 18 01 01 00 20 01 01 00
9F 07	Application Usage Control	FF 00 BYTE 1: b8 - Domestic cash trans. valid b7 - Int'l cash transactions valid b6 - Domestic goods valid b5 - International goods valid b4 - Domestic services valid b3 - International services valid b2 - ATMs valid b1 - non-ATM terminals valid BYTE 2: b8 - Domestic cashback NOT allowed b7 - International cashback NOT allowed
9F 08	Application Version Number	00 02
9F 0D	Issuer Action Code - Default	B0 50 9C 80 00
9F 0E	Issuer Action Code - Denial	00 00 00 00 00
9F 0F	Issuer Action Code - Online	B0 70 9C 98 00
9F 10	Issuer Application Data [M/Chip 4]	xx 10 xx xx xx xx xx xx xx xx xx xx xx xx xx xx xx xx *
9F 11	Issuer Code Table Index	01
9F 12	Application Preferred Name	4D 61 65 73 74 72 6F

Tag	Element name	Data Card v6.x
9F 14	Lower Consecutive Offline Limit	00
9F 17	Personal Identification Number (PIN) Try Counter	03
9F 1F	Track 1 Discretionary Data	30 38 33 35 35 30 36 30 36 30 30 30 30 30 30 30 30 30 30 30 30 30 30
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	5D 66 96 83 C2 89 7F AA AC F8 36 4D 72 95 02 B9 67 21 92 8D 2F 1B D7 0E 24 4D 53 2E CD 3B C7 D2 BE 77 02 89 3E A7 B3 05 31 1D 32 9E 33 74 FA CE FC 33 33 09 20 56 3F 34 B7 24 63 AD 87 E6 D5 04 DA FB C4 E0 07 11 86 A4 98 5B C0 83 64 D2 61 1F 10 5F 64 E5 5C AD 7C 48 D7 8F 75 96 AD 09 D8 E3 90 53 97 EB AE FF CC 5E 24 99 CA 40 3B 66 FC F1
9F 47	ICC Public Key Exponent	03
9F 48	ICC Public Key Remainder	68 2A 7E 31 CE B1 3C 21 3D BB A6 62 47 BC A8 0E 2D 4A D0 38 41 27 FA 03 01 C2 FF 0F 5A 4A FF 99 0D DD F0 BB 18 8D DB CC 33 03
9F 49	Dynamic Data Authentication Data Object List (DDOL)	9F 37 04
9F 4A	Static Data Authentication Tag List	82
9F 4D	Transaction Log Entry	0B 0A
9F 4F	Transaction Log Format	9F 27 01 9F 02 06 5F 2A 02 9A 03 9F 36 02 9F 52 06
9F 6E	Third Party Data [Mastercard]	08 40 00 00 30 30 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
9F 7E	Application Life Cycle Data [Mastercard]	03 10 0C 12 00 09 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 04 00 00 02 60 00 00 38 4A 02 11 50 35 43 44 30 37 32 20
C3	Card Issuer Action Code - Decline [Mastercard]	00 00 00
C4	Card Issuer Action Code - Default [Mastercard]	46 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

Tag	Element name	Data Card v6.x
D1	Currency Conversion Table [M/Chip]	08 40 00 01 00 08 40 00 01 00 08 40 00 01 00 08 40 00 01 00 08 40 00 01 00
D3	Additional Check Table [Mastercard]	00 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF
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

1.9 Test Card 09 – Mastercard US Maestro, Debit, English, USA, USD

A Mastercard US Maestro debit card with Issuer Country Code of 'USA' and Currency Code of 'USD'.

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

1.9.1 Cardholder Verification Method List

Cardholder Verification Method List ('0205 4203 1F03')			
CVM	**Verification Method**	**Conditions**	**If unsuccessful**
1	Online PIN	Purchase with Cashback	Fail
2	Online PIN	Terminal supports CVM type	Next CVM
3	No CVM required	Always	Fail

1.9.2 Application Tag data

Tag	Element name	Data Card v6.x
42	Issuer Identification Number (IIN)	54 13 33
50	Application Label	55 53 20 44 45 42 49 54 - 'US DEBIT'
57	Track 2 Equivalent Data	54 13 33 00 89 09 90 23 D2 51 26 20 06 29 30 42 30 00 0F
5A	Application Primary Account Number (PAN)	54 13 33 00 89 09 90 23
5F 20	Cardholder Name	55 41 54 20 41 54 4D 2F 54 65 73 74 20 43 61 72 64 20 30 39 20 20 20 20 20 20 - 'UAT ATM/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	06 20
5F 34	Application PAN Sequence Number	13
5F 55	Issuer Country Code (alpha2 format)	55 53 - US
82	Application Interchange Profile [M/Chip, PayPass]	18 00 BYTE 1: b7 - Offline SDA NOT supported b6 - Offline DDA NOT supported b5 - Cardholder verification supported b4 - Terminal risk mgmt to be performed b3 - Issuer authentication NOT supported using External Auth command b1 - Combined DDA / GEN AC NOT supported BYTE 2: b8 - EMV Contactless NOT supported

Tag	Element name	Data Card v6.x
84	Dedicated File (DF) Name	A0 00 00 00 04 22 03
87	Application Priority Indicator	01
8C	Card Risk Management Data Object List 1 (CDOL1)	9F 02 06 9F 03 06 9F 1A 02 95 05 5F 2A 02 9A 03 9C 01 9F 37 04 9F 35 01 9F 45 02 9F 4C 08 9F 34 03
8D	Card Risk Management Data Object List 2 (CDOL2)	91 0A 8A 02 95 05 9F 37 04 9F 4C 08
8E	Cardholder Verification Method (CVM) List	00 00 00 00 00 00 00 00 02 05 42 03 1F 03
8F	Certification Authority Public Key Index	FA
90	Issuer Public Key Certificate	18 89 B9 97 E6 FC E8 4B 4A E7 AB 87 43 1C BD B3 DF 8C 1D 5A 55 A7 F6 0D 29 59 AF 3A 51 04 E7 58 83 17 ED 74 08 66 68 CF 1A 05 47 84 F7 49 3C 6D 74 7F A7 96 EC 14 D3 33 A6 8E C7 E0 08 62 95 9A 0B D0 F0 48 20 80 B7 1A C1 B7 62 5B 1B 8B 1F 35 A6 69 19 99 BA 78 F5 92 E2 3F 95 E9 96 09 D1 08 CF 1C 0E 30 8A 8B F6 4F BD E8 37 D3 CE 13 8A 50 DC 50 AF 4B 41 EE 53 D9 8A 11 B6 A8 1D DD 44 CC 43 0C 1E F3 BB 9D 1D 75 A0 2F AA 9C 81 4A FC 58
92	Issuer Public Key Remainder	D3 52 41 07
94	Application File Locator (AFL)	08 02 04 01 18 01 01 00 20 01 01 00
9F 07	Application Usage Control	FF C0 BYTE 1: b8 - Domestic cash trans. valid b7 - Int'l cash transactions valid b6 - Domestic goods valid b5 - International goods valid b4 - Domestic services valid b3 - International services valid b2 - ATMs valid b1 - non-ATM terminals valid BYTE 2: b8 - Domestic cashback allowed b7 - International cashback allowed
9F 08	Application Version Number	00 02
9F 0D	Issuer Action Code - Default	B0 50 9C 88 00
9F 0E	Issuer Action Code - Denial	00 00 00 00 00
9F 0F	Issuer Action Code - Online	B0 70 9C 98 00
9F 10	Issuer Application Data [M/Chip 4]	xx 14 xx xx xx xx xx xx xx xx xx xx xx xx xx xx xx xx *
9F 11	Issuer Code Table Index	01
9F 12	Application Preferred Name	55 53 20 44 45 42 49 54
9F 14	Lower Consecutive Offline Limit	00
9F 17	Personal Identification Number (PIN) Try Counter	01
9F 1F	Track 1 Discretionary Data	30 36 32 39 33 30 34 32 33 30 30 30 30 30 30 30 30 30 30 30 30 30 30 30
9F 23	Upper Consecutive Offline Limit	00
9F 26	Application Cryptogram (AC)	xx xx xx xx xx xx xx xx *
9F 27	Cryptogram Information Data (CID)	80
9F 32	Issuer Public Key Exponent	03
9F 36	Application Transaction Counter (ATC)	xx xx *

Tag	Element name	Data Card v6.x
9F 42	Application Currency Code	08 40 - USD
9F 44	Application Currency Exponent	02
9F 46	ICC Public Key Certificate	43 6F 31 A3 B3 8A 00 0C BF 90 D1 B9 C1 C2 95 AD 3B B6 D4 99 EA 2B 6C B7 2B DC 6C AF 9D 34 B2 AE BD 1F DD DE 25 F1 F7 9A EF 1C 4D C9 6A ED 76 21 2E F5 68 FE 1B 2F 92 A4 28 38 C3 F2 65 A7 62 FC 4E 8D EA 77 CE 0E DA 11 47 05 3F 6C A1 F8 1A DA 50 40 B7 12 EB FC AF F6 C8 07 34 02 11 FE 58 50 BA 88 F3 D2 42 A4 DC 68 4F 6D 13 7E 3A FF DB 4B
9F 47	ICC Public Key Exponent	03
9F 48	ICC Public Key Remainder	51 A1 F0 FE 72 94 E1 A4 72 5A BD 72 EA 4D B6 A5 DB 69 A7 F2 9A E0 43 0F 9F 6B 33 1A 45 42 A1 E0 CE 2C F4 96 00 07 D7 E2 2A 8D
9F 49	Dynamic Data Authentication Data Object List (DDOL)	9F 37 04
9F 4A	Static Data Authentication Tag List	82
9F 4D	Transaction Log Entry	0B 0A
9F 4F	Transaction Log Format	9F 27 01 9F 02 06 5F 2A 02 9A 03 9F 36 02 9F 52 06
9F 6E	Third Party Data [Mastercard]	08 40 00 00 30 30 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
9F 7E	Application Life Cycle Data [Mastercard]	03 10 0C 12 00 09 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 04 00 00 02 60 00 00 38 4A 02 11 50 35 43 44 30 37 32 20
C3	Card Issuer Action Code - Decline [Mastercard]	00 00 00
C4	Card Issuer Action Code - Default [Mastercard]	06 50 00
C5	Card Issuer Action Code - Online [Mastercard]	06 FB 00
C6	Counters [Mastercard]	00 01 00 00 00 00 00 00 00 00
C7	CDOL1 Related Data Length [Mastercard]	2B
C8	CRM Country Code [Mastercard]	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 08 40 00 01 00 08 40 00 01 00 08 40 00 01 00
D3	Additional Check Table [Mastercard]	00 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
D5	Application Control [M/Chip]	82 00
D6	Default ARPC Response Code [M/Chip4]	00 10
DF 02	Security Limits Status [Mastercard]	00

* Tag value changes with card usage

1.10 Test Card 10 – Mastercard, Dual AID, Debit, English, USA, USD

A Mastercard debit card with two AIDs, Issuer Country Code of 'USA' and Currency Code of 'USD'.

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

1.10.1 Cardholder Verification Method List – AID (A0000000041010)

Cardholder Verification Method List ('4201 1E03 4203 1F03')			
CVM	**Verification Method**	**Conditions**	**If unsuccessful**
1	Online PIN	Unattended Cash	Next CVM
2	Signature (paper)	Terminal supports CVM type	Fail
3	Online PIN	Terminal supports CVM type	Next CVM
4	No CVM required	Terminal supports CVM type	Fail

1.10.2 Application Tag data - AID (A0000000041010)

Tag	Element name	Data Card v6.x
42	Issuer Identification Number (IIN)	54 13 33
50	Application Label	44 45 42 49 54 20 4D 41 53 54 45 52 43 41 52 44 - 'DEBIT MASTERCARD'
57	Track 2 Equivalent Data	54 13 33 00 89 09 91 30 D2 51 22 01 14 83 59 49 00 00 0F
5A	Application Primary Account Number (PAN)	54 13 33 00 89 09 91 30
5F 20	Cardholder Name	55 41 54 20 41 54 4D 2F 54 65 73 74 20 43 61 72 64 20 31 30 20 20 20 20 20 20
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
5F 55	Issuer Country Code (alpha2 format)	55 53 - 'US'
82	Application Interchange Profile	18 00 BYTE 1: b7 - Offline SDA NOT supported b6 - Offline DDA NOT supported b5 - Cardholder verification supported b4 - Terminal risk mgmt to be performed b3 - Issuer authentication NOT supported using External Auth command b1 - Combined DDA / GEN AC NOT supported BYTE 2: 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 05 5F 2A 02 9A 03 9C 01 9F 37 04 9F 35 01 9F 45 02 9F 4C 08 9F 34 03 9F 21 03 9F 7C 14
8D	Card Risk Management Data Object List 2 (CDOL2)	91 0A 8A 02 95 05 9F 37 04 9F 4C 08
8E	Cardholder Verification Method (CVM) List	00 00 00 00 00 00 00 00 42 01 1E 03 42 03 1F 03
94	Application File Locator (AFL)	08 01 01 00 10 01 02 02
94	Application File Locator (AFL)	08 01 01 00 10 01 02 02

Tag	Element name	Data Card v6.x
9F 07	Application Usage Control	**FF C0** BYTE 1: b8 - Domestic cash trans. valid b7 - Int'l cash transactions valid b6 - Domestic goods valid b5 - International goods valid b4 - Domestic services valid b3 - International services valid b2 - ATMs valid b1 - non-ATM terminals valid BYTE 2: b8 - Domestic cashback allowed b7 - International cashback allowed
9F 08	Application Version Number	**00 02**
9F 0D	Issuer Action Code - Default	**B0 50 9C 88 00**
9F 0E	Issuer Action Code - Denial	**00 00 00 00 00**
9F 0F	Issuer Action Code - Online	**B0 70 9C 98 00**
9F 10	Issuer Application Data [M/Chip Advance]	**xx 10 xx xx xx xx xx xx xx xx xx xx xx xx xx xx xx xx xx ***
9F 11	Issuer Code Table Index	**01**
9F 12	Application Preferred Name	**44 65 62 69 74 20 4D 61 73 74 65 72 43 61 72 64** - 'Debit Mastercard'
9F 14	Counter 1 Lower Limit [Mastercard]	**00**
9F 17	Personal Identification Number (PIN) Try Counter	**01**
9F 23	Counter 1 Upper Limit [Mastercard]	**00**
9F 26	Application Cryptogram (AC)	**xx xx xx xx xx xx xx xx ***
9F 27	Cryptogram Information Data (CID)	**80**
9F 36	Application Transaction Counter (ATC)	**xx xx ***
9F 42	Application Currency Code	**08 40** - USD
9F 4D	Transaction Log Entry	**0B 0A**
9F 4F	Transaction Log Format	**9F 27 01 9F 02 06 5F 2A 02 9A 03 9F 36 02 9F 52 06 DF 3E 01 9F 21 03 9F 7C 14**
9F 7E	Application Life Cycle Data [Mastercard]	**04 10 0B 14 00 01 00 00 50 17 79 00 A0 00 00 00 04 10 10 00 00 00 00 00 00 00 00 00 00 80 00 88 01 06 A5 5A 00 00 00 00 00 00 00 00 00 00 00 00**
C3	Card Issuer Action Code (Contact) - Decline [M/Chip Advance]	**00 00 00**
C4	Card Issuer Action Code (Contact) - Default [M/Chip Advance]	**06 50 00**
C5	Card Issuer Action Code (Contact) - Online [M/Chip Advance]	**06 FB 00**
C6	PIN Try Limit [M/Chip Advance]	**01**
C7	CDOL1 Related Data Length [Mastercard]	**42**
C8	CRM Country Code [Mastercard]	**08 40** - USA
C9	Accumulator 1 Currency Code [Mastercard]	**08 40** - USD
CA	Accumulator 1 Lower Limit [Mastercard]	**00 00 00 00 00 00**
CB	Accumulator 1 Upper Limit [Mastercard]	**00 00 00 00 00 00**
CD	Card Issuer Action Code (Contactless) - Default [M/Chip Advance]	**06 50 00**
CE	Card Issuer Action Code (Contactless) - Online [M/Chip Advance]	**06 FB 00**
CF	Card Issuer Action Code (Contactless) - Decline [M/Chip Advance]	**00 00 00**

Tag	Element name	Data Card v6.x
D1	Accumulator 1 Currency Conversion Table [Mastercard]	08 40 00 01 00 08 40 00 01 00 08 40 00 01 00 08 40 00 01 00 08 40 00 01 00
D3	Additional Check Table [Mastercard]	00 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
D5	Application Control [M/Chip Advance]	80 00 80 00 C6 00
D6	Default ARPC Response Code [M/Chip Advance]	00 10
D7	Application Control [M/Chip Advance]	80 00 80 00 C6 00
D9	Application File Locator (Contactless)	08 01 01 00 10 01 01 01 10 03 03 01
DE	Log Data Table [M/Chip Advance]	00 00 00 00 00 00 00 00 00
DF 02	Security Limits Status (Contact) [M/Chip Advance]	00
DF 11	Accumulator 1 Control (Contact) [M/Chip Advance]	C1
DF 12	Accumulator 1 Control (Contactless) [M/Chip Advance]	C1
DF 14	Accumulator 2 Control (Contact) [M/Chip Advance]	00
DF 15	Accumulator 2 Control (Contactless) [M/Chip Advance]	00
DF 16	Accumulator 2 Currency Code [Mastercard]	09 99
DF 17	Accumulator 2 Currency Conversion Table [Mastercard]	09 99 00 00 00 09 99 00 00 00 09 99 00 00 00 09 99 00 00 00 09 99 00 00 00
DF 18	Accumulator 2 Lower Limit [Mastercard]	00 00 00 00 00 00
DF 19	Accumulator 2 Upper Limit [Mastercard]	00 00 00 00 00 00
DF 1A	Counter 1 Control (Contact) [M/Chip Advance]	C1
DF 1B	Counter 1 Control (Contactless) [M/Chip Advance]	C1
DF 1D	Counter 2 Control (Contact) [M/Chip Advance]	00
DF 1E	Counter 2 Control (Contactless) [M/Chip Advance]	00
DF 1F	Counter 2 Lower Limit [Mastercard]	00
DF 21	Counter 2 Upper Limit [Mastercard]	00
DF 22	MTA CVM (Contact) [M/Chip Advance]	00 00 00 00 00 00
DF 23	MTA CVM (Contactless) [M/Chip Advance]	00 00 00 00 00 00
DF 24	MTA Currency Code [M/Chip Advance]	09 99
DF 25	MTA NoCVM (Contact) [M/Chip Advance]	00 00 00 00 00 00
DF 26	MTA NoCVM (Contactless) [M/Chip Advance]	00 00 00 00 00 00
DF 27	Number Of Days Offline Limit [M/Chip Advance]	00 00
DF 28	Accumulator 1 CVR Dependency Data (Contact) [M/Chip Advance]	00 00 00
DF 29	Accumulator 1 CVR Dependency Data (Contactless) [M/Chip Advance]	00 00 00
DF 2A	Accumulator 2 CVR Dependency Data (Contact) [M/Chip Advance]	00 00 00
DF 2B	Accumulator 2 CVR Dependency Data (Contactless) [M/Chip Advance]	00 00 00
DF 2C	Counter 1 CVR Dependency Data (Contact) [M/Chip Advance]	00 00 00

Tag	Element name	Data Card v6.x
DF 2D	Counter 1 CVR Dependency Data (Contactless) [M/Chip Advance]	00 00 00
DF 2E	Counter 2 CVR Dependency Data (Contact) [M/Chip Advance]	00 00 00
DF 2F	Counter 2 CVR Dependency Data (Contactless) [M/Chip Advance]	00 00 00
DF 30	Interface Enabling Switch [M/Chip Advance]	01
DF 35	Security Limits Status (Contactless) [M/Chip Advance]	00
DF 37	Security Limits Status Common [M/Chip Advance]	00
DF 3C	CVR Issuer Discretionary Data (Contact) [M/Chip Advance]	00
DF 3D	CVR Issuer Discretionary Data (Contactless) [M/Chip Advance]	00
DF 3F	Read Record Filter (Contact) [M/Chip Advance]	00
DF 40	Read Record Filter (Contactless) [M/Chip Advance]	00
DF 41	DS Management Control [M/Chip Advance]	20

* Tag value changes with card usage

1.10.3 Cardholder Verification Method List – AID (A0000000042203)

Cardholder Verification Method List ('0205 4203 1F03')			
CVM	**Verification Method**	**Conditions**	**If unsuccessful**
1	Online PIN	Purchase with Cashback	Fail
2	Online PIN	Terminal supports CVM type	Next CVM
3	No CVM required	Terminal supports CVM type	Fail

1.10.4 Application Tag data - AID (A0000000042203)

Tag	Element name	Data Card v6.x
42	Issuer Identification Number (IIN)	54 13 33
50	Application Label	55 53 20 44 45 42 49 54 - 'US DEBIT'
57	Track 2 Equivalent Data	54 13 33 00 89 09 91 30 D2 51 22 01 14 83 59 49 00 00 0F
5A	Application Primary Account Number (PAN)	54 13 33 00 89 09 91 30
5F 20	Cardholder Name	55 41 54 20 41 54 4D 2F 54 65 73 74 20 43 61 72 64 20 31 30 20 20 20 20 20 20 - 'UAT ATM/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	01
5F 55	Issuer Country Code (alpha2 format)	55 53 - 'US'

Tag	Element name	Data Card v6.x
82	Application Interchange Profile	**18 00** BYTE 1: b7 - Offline SDA NOT supported b6 - Offline DDA NOT supported b5 - Cardholder verification supported b4 - Terminal risk mgmt to be performed b3 - Issuer authentication NOT supported using External Auth command b1 - Combined DDA / GEN AC NOT supported BYTE 2: b8 - EMV Contactless NOT supported
84	Dedicated File (DF) Name	**A0 00 00 00 04 22 03**
87	Application Priority Indicator	**02**
8C	Card Risk Management Data Object List 1 (CDOL1)	**9F 02 06 9F 03 06 9F 1A 02 95 05 5F 2A 02 9A 03 9C 01 9F 37 04 9F 35 01 9F 45 02 9F 4C 08 9F 34 03 9F 21 03 9F 7C 14**
8D	Card Risk Management Data Object List 2 (CDOL2)	**91 0A 8A 02 95 05 9F 37 04 9F 4C 08**
8E	Cardholder Verification Method (CVM) List	**00 00 00 00 00 00 00 00 02 05 42 03 1F 03**
94	Application File Locator (AFL)	**08 01 01 00 10 01 01 01 10 03 03 01**
94	Application File Locator (AFL)	**08 01 01 00 10 01 01 01 10 03 03 01**
9F 07	Application Usage Control	**FF C0** BYTE 1: b8 - Domestic cash trans. valid b7 - Int'l cash transactions valid b6 - Domestic goods valid b5 - International goods valid b4 - Domestic services valid b3 - International services valid b2 - ATMs valid b1 - non-ATM terminals valid BYTE 2: b8 - Domestic cashback allowed b7 - International cashback allowed
9F 08	Application Version Number	**00 02**
9F 0D	Issuer Action Code - Default	**B0 50 9C 88 00**
9F 0E	Issuer Action Code - Denial	**00 00 00 00 00**
9F 0F	Issuer Action Code - Online	**B0 70 9C 98 00**
9F 10	Issuer Application Data [M/Chip Advance]	**xx 10 xx xx xx xx xx xx xx xx xx xx xx xx xx xx xx xx ***
9F 11	Issuer Code Table Index	**01**
9F 12	Application Preferred Name	**55 53 20 44 65 62 69 74** - 'US Debit'
9F 14	Counter 1 Lower Limit [Mastercard]	**00**
9F 17	Personal Identification Number (PIN) Try Counter	**01**
9F 23	Counter 1 Upper Limit [Mastercard]	**00**
9F 26	Application Cryptogram (AC)	**xx xx xx xx xx xx xx xx ***
9F 27	Cryptogram Information Data (CID)	**80**
9F 36	Application Transaction Counter (ATC)	**xx xx ***
9F 42	Application Currency Code	**08 40** - USD
9F 4D	Transaction Log Entry	**0B 0A**
9F 4F	Transaction Log Format	**9F 27 01 9F 02 06 5F 2A 02 9A 03 9F 36 02 9F 52 06 DF 3E 01 9F 21 03 9F 7C 14**

Tag	Element name	Data Card v6.x
9F 7E	Application Life Cycle Data [Mastercard]	04 10 0B 14 00 01 00 00 50 17 79 00 A0 00 00 00 04 10 10 00 00 00 00 00 00 00 00 00 00 80 00 88 01 06 A5 5A 00 00 00 00 00 00 00 00 00 00 00 00
C3	Card Issuer Action Code (Contact) - Decline [M/Chip Advance]	00 00 00
C4	Card Issuer Action Code (Contact) - Default [M/Chip Advance]	06 50 00
C5	Card Issuer Action Code (Contact) - Online [M/Chip Advance]	06 FB 00
C6	PIN Try Limit [M/Chip Advance]	01
C7	CDOL1 Related Data Length [Mastercard]	42
C8	CRM Country Code [Mastercard]	08 40 - USA
C9	Accumulator 1 Currency Code [Mastercard]	08 40 - USD
CA	Accumulator 1 Lower Limit [Mastercard]	00 00 00 00 00 00
CB	Accumulator 1 Upper Limit [Mastercard]	00 00 00 00 00 00
CD	Card Issuer Action Code (Contactless) - Default [M/Chip Advance]	06 50 00
CE	Card Issuer Action Code (Contactless) - Online [M/Chip Advance]	06 FB 00
CF	Card Issuer Action Code (Contactless) - Decline [M/Chip Advance]	00 00 00
D1	Accumulator 1 Currency Conversion Table [Mastercard]	08 40 00 01 00 08 40 00 01 00 08 40 00 01 00 08 40 00 01 00 08 40 00 01 00
D3	Additional Check Table [Mastercard]	00 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF
D5	Application Control [M/Chip Advance]	80 00 80 00 C6 00
D6	Default ARPC Response Code [M/Chip Advance]	00 10
D7	Application Control [M/Chip Advance]	80 00 80 00 C6 00
D9	Application File Locator (Contactless)	08 01 01 00 10 01 01 01 10 03 03 01
DE	Log Data Table [M/Chip Advance]	00 00 00 00 00 00 00 00 00
DF 02	Security Limits Status (Contact) [M/Chip Advance]	00
DF 11	Accumulator 1 Control (Contact) [M/Chip Advance]	C1
DF 12	Accumulator 1 Control (Contactless) [M/Chip Advance]	C1
DF 14	Accumulator 2 Control (Contact) [M/Chip Advance]	00
DF 15	Accumulator 2 Control (Contactless) [M/Chip Advance]	00
DF 16	Accumulator 2 Currency Code [Mastercard]	09 99
DF 17	Accumulator 2 Currency Conversion Table [Mastercard]	09 99 00 00 00 09 99 00 00 00 09 99 00 00 00 09 99 00 00 00 09 99 00 00 00
DF 18	Accumulator 2 Lower Limit [Mastercard]	00 00 00 00 00 00
DF 19	Accumulator 2 Upper Limit [Mastercard]	00 00 00 00 00 00
DF 1A	Counter 1 Control (Contact) [M/Chip Advance]	C1
DF 1B	Counter 1 Control (Contactless) [M/Chip Advance]	C1
DF 1D	Counter 2 Control (Contact) [M/Chip Advance]	00

Tag	Element name	Data Card v6.x
DF 1E	Counter 2 Control (Contactless) [M/Chip Advance]	00
DF 1F	Counter 2 Lower Limit [Mastercard]	00
DF 21	Counter 2 Upper Limit [Mastercard]	00
DF 22	MTA CVM (Contact) [M/Chip Advance]	00 00 00 00 00 00
DF 23	MTA CVM (Contactless) [M/Chip Advance]	00 00 00 00 00 00
DF 24	MTA Currency Code [M/Chip Advance]	09 99
DF 25	MTA NoCVM (Contact) [M/Chip Advance]	00 00 00 00 00 00
DF 26	MTA NoCVM (Contactless) [M/Chip Advance]	00 00 00 00 00 00
DF 27	Number Of Days Offline Limit [M/Chip Advance]	00 00
DF 28	Accumulator 1 CVR Dependency Data (Contact) [M/Chip Advance]	00 00 00
DF 29	Accumulator 1 CVR Dependency Data (Contactless) [M/Chip Advance]	00 00 00
DF 2A	Accumulator 2 CVR Dependency Data (Contact) [M/Chip Advance]	00 00 00
DF 2B	Accumulator 2 CVR Dependency Data (Contactless) [M/Chip Advance]	00 00 00
DF 2C	Counter 1 CVR Dependency Data (Contact) [M/Chip Advance]	00 00 00
DF 2D	Counter 1 CVR Dependency Data (Contactless) [M/Chip Advance]	00 00 00
DF 2E	Counter 2 CVR Dependency Data (Contact) [M/Chip Advance]	00 00 00
DF 2F	Counter 2 CVR Dependency Data (Contactless) [M/Chip Advance]	00 00 00
DF 30	Interface Enabling Switch [M/Chip Advance]	01
DF 35	Security Limits Status (Contactless) [M/Chip Advance]	00
DF 37	Security Limits Status Common [M/Chip Advance]	00
DF 3C	CVR Issuer Discretionary Data (Contact) [M/Chip Advance]	00
DF 3D	CVR Issuer Discretionary Data (Contactless) [M/Chip Advance]	00
DF 3F	Read Record Filter (Contact) [M/Chip Advance]	00
DF 40	Read Record Filter (Contactless) [M/Chip Advance]	00
DF 41	DS Management Control [M/Chip Advance]	20

* Tag value changes with card usage

1.11 Test Card 11 – Mastercard, Credit, English, USA, USD

A Mastercard credit card with Issuer Country Code of 'USA' and Currency Code of 'USD'.

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

1.11.1 Cardholder Verification Method List

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

1.11.2 Application Tag data

Tag	Element name	Data Card v7.x
50	Application Label	**4D 41 53 54 45 52 43 41 52 44**
57	Track 2 Equivalent Data	**54 13 33 00 89 60 41 11 D2 51 22 01 01 23 40 91 72 00 0F**
5A	Application Primary Account Number (PAN)	**54 13 33 00 89 60 41 11**
5F 20	Cardholder Name	**55 41 54 20 41 54 4D 2F 54 65 73 74 20 43 61 72 64 20 31 31 20 20 20 20 20 20** - 'UAT ATM/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	**01**
82	Application Interchange Profile [M/Chip, PayPass]	**39 00** BYTE 1: b7 - Offline SDA NOT supported b6 - Offline DDA supported b5 - Cardholder verification supported b4 - Terminal risk mgmt to be performed b3 - Issuer authentication NOT supported using External Auth command b1 - Combined DDA / GEN AC supported BYTE 2: 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 05 5F 2A 02 9A 03 9C 01 9F 37 04 9F 35 01 9F 45 02 9F 4C 08 9F 34 03**
8D	Card Risk Management Data Object List 2 (CDOL2)	**91 0A 8A 02 95 05 9F 37 04 9F 4C 08**
8E	Cardholder Verification Method (CVM) List	**00 00 00 00 00 00 00 00 42 01 44 03 41 03 5E 03 1F 03**
8F	Certification Authority Public Key Index	**EF**

Tag	Element name	Data Card v7.x
90	Issuer Public Key Certificate	5B 2E 1F EF 4D 7D 2C 16 16 12 21 F7 97 2F E6 99 B7 82 44 E0 73 C8 AC 75 86 CE D1 76 EF 7B 93 AC 19 0B 05 70 40 E1 18 4F 2F 55 AC 70 D2 AA C3 94 BE 22 6A 26 50 D3 CA ED 90 60 88 C5 3A 88 B8 3C 46 1F 37 6D 89 10 B8 51 81 54 F3 08 EE ED 23 BC 15 7C FA BA 6E 51 26 9F 01 6D 59 FE 21 A6 F9 10 F2 85 13 0D EA F6 A4 78 BE 77 9D 2B AD 08 E1 2E D6 A5 93 71 5A 18 72 15 C5 63 28 1C B2 B7 2E 5B 14 05 5D 2D D8 30 4A C2 20 2E 53 96 D0 4C 5C 79 55 0B 4D E9 FA DA CB 35 F3 19 06 C5 A4 42 27 29 D6 A5 A8 F5 E1 4C B9 0D B7 05 49 4B 3D B1 0D E6 19 F3 B0 3E 64 96 FE 79 F4 6E 64 97 2A 46 34 A0 35 EF 7E 50 20 49 40 36 03 E0 BC FC 33 C3 87 BB 6D 72 CF F8 33 89 7E 81 F5 02 3F F4 D6 A9 CC 0C 89 E8 78 3F 07 B7 F0 55 3E 9D D3 59 B6 5B 62 3A F1 CE 27 8D 65 3C 37 07
92	Issuer Public Key Remainder	14 3E 90 B8 B5 E6 2B E5 A9 0D 5A 4E F1 5C 77 40 4D 29 94 48 98 77 85 D7 E8 80 C2 CD
94	Application File Locator (AFL)	08 02 04 01 18 01 01 00 20 01 01 00
9F 07	Application Usage Control	FF 00 BYTE 1: b8 - Domestic cash trans. valid b7 - Int'l cash transactions valid b6 - Domestic goods valid b5 - International goods valid b4 - Domestic services valid b3 - International services valid b2 - ATMs valid b1 - non-ATM terminals valid BYTE 2: b8 - Domestic cashback NOT allowed b7 - International cashback NOT allowed
9F 08	Application Version Number	00 02
9F 0D	Issuer Action Code - Default	BC 50 BC 80 00
9F 0E	Issuer Action Code - Denial	00 00 00 00 00
9F 0F	Issuer Action Code - Online	BC 70 BC 98 00
9F 10	Issuer Application Data [M/Chip 4]	xx 10 xx xx xx xx xx xx xx xx xx xx xx xx xx xx xx xx *
9F 11	Issuer Code Table Index	01
9F 12	Application Preferred Name	4D 61 73 74 65 72 63 61 72 64 - 'Mastercard'
9F 14	Lower Consecutive Offline Limit	03
9F 17	Personal Identification Number (PIN) Try Counter	09
9F 1F	Track 1 Discretionary Data	30 31 32 33 34 30 39 31 37 32 30 30 30 30 30 30 30 30 30 30 30 30 30 30
9F 23	Upper Consecutive Offline Limit	07
9F 27	Cryptogram Information Data (CID)	80
9F 32	Issuer Public Key Exponent	03
9F 36	Application Transaction Counter (ATC)	xx xx *

Tag	Element name	Data Card v7.x
9F 42	Application Currency Code	08 40 - USD
9F 44	Application Currency Exponent	02
9F 46	ICC Public Key Certificate	8D F9 34 09 13 00 AA 46 F5 45 0A F7 03 5B 87 92 2F E8 B9 9E C1 AC 86 27 D8 D8 14 28 E8 E3 26 1E 87 71 30 3B B7 FB 51 43 EA 72 D9 BD 8C 68 77 59 BD 6F AB F3 C1 97 14 08 86 A7 5D 62 9E 2B BA 47 94 F9 20 52 50 D5 BB 7F A2 C3 F7 3D 09 64 77 65 CA BA DF 61 56 59 01 16 07 23 DC 1B 16 87 8F 66 EB 0D B9 C6 20 A0 69 41 CF 65 A5 CF FF 01 96 19 05 A8 E6 75 08 E4 A4 A9 2C 2D 04 A3 22 6E 76 F5 58 A3 D5 5F FA E7 F4 B9 18 B5 21 DE DC 06 69 2B 10 39 C5 60 D0 2C 4F 46 09 EB 65 A3 81 8E 71 C2 29 0C 04 09 AC 7B 5B E3 3D 23 11 32 59 62 59 B4 4E 6A 55 56 4F DB E3 26 42 35 5B 41 67 B4 2A C2 B5 61 1B 26 67 06 81 45 C6 C5 C9 4D A4 85 F8 77 D9 C8 B1 19 69 A3 56 1A 07 4D 2D 31 B9 BC BE 5C EB C4 27 F7 3B 7E F0 82 7B 18 DE CB 91 61 51 A3
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	FA 14 E9 C6 7C 97 9C E2 CC E9 10 95 9A 7C 28 B8 80 29 BA F5 5D AD 07 45 9A 4B 11 86 5F 95 A1 AF AB 60 DE 9F E8 D4 94 87 62 72 3A E8 3F 5B 1B 12 65 60 2F 2D 6A 46 08 29 2D 2E 40 48 AB 6E 03 2F 0A EE 2A E9 9F 90 6D 48 FE 25 3A 24 4C 72 B1 35 68 04 D0 B5 9E 46 7D 27 BC ED 47 A7 A6 7D F1 03 9A ED 89 4F 19 B5 E1 29 58 49 CA 47 04 CC B9 50 22 E9 DB 76 1B 38 BD CF DA ED D1 1A A7 E5 26 F9 A0 0B BE 7C D4 3F 19 F0 57 B8 8F 9B A8 E0 3D F8 F1 F7 4E 6F 9A B3 D3 78 D9 60 2A 2F 3F 8B AF EA 71 7A 47 E6 A9 61 55 2D 8B E8 5C 84 92 F9 8C AD
9F 4D	Transaction Log Entry	0B 0A
9F 4F	Transaction Log Format	9F 27 01 9F 02 06 5F 2A 02 9A 03 9F 36 02 9F 52 06
9F 6E	Third Party Data [Mastercard]	08 40 00 00 30 30 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
9F 7E	Application Life Cycle Data [Mastercard]	03 10 0C 12 00 09 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 00 04 00 00 02 60 00 00 38 4A 02 11 50 35 43 44 30 37 32 20
C3	Card Issuer Action Code - Decline [Mastercard]	00 00 00

Tag	Element name	Data Card v7.x
C4	Card Issuer Action Code - Default [Mastercard]	19 50 00
C5	Card Issuer Action Code - Online [Mastercard]	39 FB 00
C6	Counters [Mastercard]	00 01 00 00 00 00 00 00 00 00
C7	CDOL1 Related Data Length [Mastercard]	2B
C8	CRM Country Code [Mastercard]	08 40 - USA
C9	CRM Currency Code [M/Chip4]	08 40 - USD
CA	Lower Cumulative Offline Transaction Amount [M/Chip]	00 00 00 02 00 00
CB	Upper Cumulative Offline Transaction Amount [M/Chip]	00 00 00 04 00 00
D1	Currency Conversion Table [M/Chip]	08 40 00 01 00 08 40 00 01 00 08 40 00 01 00 08 40 00 01 00 08 40 00 01 00
D3	Additional Check Table [Mastercard]	00 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
D5	Application Control [M/Chip]	CC 00
D6	Default ARPC Response Code [M/Chip4]	00 12
DF 02	Security Limits Status [Mastercard]	00

* Tag value changes with card usage

1.12 Test Card 12 – Mastercard, Technical Fallback Card

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

When inserted, a chip error will be detected.

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

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

1.13 Test Card 13 – American Express, Credit, English, USA, USD

An American Express credit card with Issuer Country Code of ‘USA’ and Currency Code of ‘USD’.

The recommended transaction amount to generate a host approval is $68.00.

1.13.1 Cardholder Verification Method List

Cardholder Verification Method List (‘4201 4203 5E03 5F03’)			
CVM	**Verification Method**	**Conditions**	**If unsuccessful**
1	Online PIN	Unattended Cash	Next CVM
2	Online PIN	Terminal supports CVM type	Next CVM
3	Signature (paper)	Terminal supports CVM type	Next CVM
4	No CVM required	Terminal supports CVM type	Next CVM

1.13.2 Application Tag data

Tag	Element name	Data Card v6.x
50	Application Label	41 4D 45 52 49 43 41 4E 20 45 58 50 52 45 53 53 - 'AMERICAN EXPRESS'
57	Track 2 Equivalent Data	37 42 45 00 17 51 00 6D 24 12 20 10 11 02 12 34 50 00 0F
5A	Application Primary Account Number (PAN)	37 42 45 00 17 51 00 6F
5F 20	Cardholder Name	55 41 54 20 41 54 4D 2F 54 65 73 74 20 43 61 72 64 20 31 33 20 20 20 20 20 20 - 'UAT ATM/Test Card 13'
5F 24	Application Expiration Date	24 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	1C 00 BYTE 1: b7 - Offline SDA NOT supported b6 - Offline DDA supported b5 - Cardholder verification supported b4 - Terminal risk mgmt to be performed b3 - Issuer authentication NOT supported b1 - Combined DDA / GEN AC supported BYTE 2: b8 - EMV Contactless NOT supported
84	Dedicated File (DF) Name	A0 00 00 00 25 01 04 02
87	Application Priority Indicator	01
8C	Card Risk Management Data Object List 1 (CDOL1)	9F 02 06 9F 03 06 9F 1A 02 95 05 5F 2A 02 9A 03 9C 01 9F 37 04
8D	Card Risk Management Data Object List 2 (CDOL2)	8A 02 9F 02 06 9F 03 06 9F 1A 02 95 05 5F 2A 02 9A 03 9C 01 9F 37 04
8E	Cardholder Verification Method (CVM) List	00 00 00 00 00 00 00 00 42 01 42 03 5E 03 5F 03
94	Application File Locator (AFL)	08 01 01 00 08 02 03 01
9F 07	Application Usage Control	FF 00 BYTE 1: b8 - Domestic cash trans. valid b7 - Int'l cash transactions valid b6 - Domestic goods valid b5 - International goods valid b4 - Domestic services valid b3 - International services valid b2 - ATMs valid b1 - non-ATM terminals valid BYTE 2: b8 - Domestic cashback NOT allowed b7 - International cashback NOT allowed
9F 08	Application Version Number	00 01
9F 0D	Issuer Action Code - Default	BC 50 EC A8 00
9F 0E	Issuer Action Code - Denial	00 00 00 00 00
9F 0F	Issuer Action Code - Online	BC 78 FC F8 00
9F 10	Issuer Application Data [American Express]	xx xx 01 xx xx xx xx *
9F 11	Issuer Code Table Index	01
9F 12	Application Preferred Name	41 6D 65 72 69 63 61 6E 20 45 78 70 72 65 73 73 - 'American Express'

Tag	Element name	Data Card v6.x
9F 13	Last Online Application Transaction Counter (ATC) Register	xx xx *
9F 17	Personal Identification Number (PIN) Try Counter	03
9F 26	Application Cryptogram (AC)	xx xx xx xx xx xx xx xx *
9F 27	Cryptogram Information Data (CID)	80
9F 36	Application Transaction Counter (ATC)	xx xx *
9F 38	Processing Options Data Object List (PDOL)	9F 35 01
9F 42	Application Currency Code	08 40 - USD

* Tag value changes with card usage

1.14 Test Card 14 – American Express, Technical Fallback Card

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

When inserted, a chip error will be detected.

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

The recommended transaction amount to generate a host approval is $36.00.

1.15 Test Card 15 – Discover, Credit, English, USA, USD

A Discover credit card with Issuer Country Code of 'USA' and Currency Code of 'USD'.

The recommended transaction amount to generate a host approval is $160.00.

1.15.1 Cardholder Verification Method List

Cardholder Verification Method List ('4203 5E03 1F03')			
CVM	**Verification Method**	**Conditions**	**If unsuccessful**
1	Online PIN	Terminal supports CVM type	Next CVM
2	Signature (paper)	Terminal supports CVM type	Next CVM
3	No CVM required	Terminal supports CVM type	Fail

1.15.2 Application Tag data

Tag	Element name	Data Card v6.x
50	Application Label	44 49 53 43 4F 56 45 52 - 'DISCOVER'
57	Track 2 Data [Discover]	65 10 00 00 00 00 02 16 D2 31 22 01 10 00 07 49 00 00 0F
5A	Application Primary Account Number (PAN)	65 10 00 00 00 00 02 16
5F 20	Cardholder Name	55 41 54 20 41 54 4D 2F 54 65 73 74 20 43 61 72 64 20 31 35 20 20 20 20 20 20 - 'UAT ATM/Test Card 15'
5F 24	Application Expiration Date	23 12 31
5F 25	Application Effective Date	xx xx xx
5F 28	Issuer Country Code	08 40 - USA
5F 2D	Language Preference	65 6E - 'en' (English)
5F 30	Service Code	02 01

Tag	Element name	Data Card v6.x
5F 34	Application PAN Sequence Number	01
82	Application Interchange Profile	18 00 BYTE 1: b7 - Offline SDA NOT supported b6 - Offline DDA NOT supported b5 - Cardholder verification supported b4 - Terminal risk mgmt to be performed b3 - Issuer authentication NOT supported b1 - Combined DDA / GEN AC NOT supported BYTE 2: b8 - EMV Contactless NOT supported
84	Dedicated File (DF) Name	A0 00 00 01 52 30 10
87	Application Priority Indicator	01
8C	Card Risk Management Data Object List 1 (CDOL1)	9F 02 06 9F 03 06 9F 1A 02 95 05 5F 2A 02 9A 03 9C 01 9F 37 04 9F 35 01 9F 34 03
8D	Card Risk Management Data Object List 2 (CDOL2)	91 0A 8A 02 95 05 9F 37 04
8E	Cardholder Verification Method (CVM) List	00 00 00 00 00 00 00 00 42 01 5E 03 1F 03
94	Application File Locator (AFL)	08 01 01 00 18 01 02 01
94	Application File Locator (AFL)	08 01 01 00 18 01 02 01
9F 07	Application Usage Control	FF 00 BYTE 1: b8 - Domestic cash trans. valid b7 - Int'l cash transactions valid b6 - Domestic goods valid b5 - International goods valid b4 - Domestic services valid b3 - International services valid b2 - ATMs valid b1 - non-ATM terminals valid BYTE 2: b8 - Domestic cashback NOT allowed b7 - International cashback NOT allowed
9F 08	Application Version Number	00 01
9F 0D	Issuer Action Code - Default	30 40 C4 28 00
9F 0E	Issuer Action Code - Denial	00 10 00 00 40
9F 0F	Issuer Action Code - Online	30 68 C4 F8 00
9F 10	Issuer Application Data [DPAS]	xx 06 xx xx xx xx xx xx *
9F 11	Issuer Code Table Index	01
9F 12	Application Preferred Name	43 72 65 64 69 74 - 'Credit'
9F 17	Personal Identification Number (PIN) Try Counter	03
9F 26	Application Cryptogram (AC)	xx xx xx xx xx xx xx xx *
9F 27	Cryptogram Information Data (CID)	80
9F 36	Application Transaction Counter (ATC)	xx xx *
9F 4D	Transaction Log Entry	0B 0A
9F 4F	Transaction Log Format	9F 02 06 5F 2A 02 9A 03 9F 36 02 9F 34 03 9F 52 06 9F 1A 02 95 05 9C 01 8A 02 9F 37 04 9F 03 06 9F 53 08 9F 66 04 9F 71 02 9F 6C 02
C1	Application Configuration Options [DPAS]	15 60
C2	Issuer Life Cycle Data (ILCD) [DPAS]	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
C3	Currency Conversion Codes 1 [DPAS]	08 40 00 00 02

Tag	Element name	Data Card v6.x
C4	Currency Conversion Codes 2 [DPAS]	08 40 00 00 02
C5	Card Action Code - Denial [DPAS]	01 00
C6	Card Action Code - Default [DPAS]	22 0B
C7	Card Action Code - Online [DPAS]	F6 1F
D0	Issuer Application Data ObjectList (IADOL) [DPAS]	
D2	CRM Country Code [DPAS]	08 40 - USA
D3	CRM Currency Code [DPAS]	08 40 - USD
DF 20	Transaction Profile Objects(TPO0) [DPAS]	00 18 00 08 01 01 00 18 01 02 01 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 01 00 F6 1F 22 0B 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

* Tag value changes with card usage

1.16 Test Card 16 – Discover, Technical Fallback Card

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

When inserted, a chip error will be detected.

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

The recommended transaction amount to generate a host approval is $26.00.

1.17 Test Card 17 – DNA, Debit, English, USA, USD

A Debit Network Alliance debit card with Issuer Country Code of ‘USA’ and Currency Code of ‘USD’.

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

1.17.1 Cardholder Verification Method List

Cardholder Verification Method List (‘0201 0205 0204 1F00’)			
CVM	**Verification Method**	**Conditions**	**If unsuccessful**
1	Online PIN	Unattended Cash	Fail
2	Online PIN	Purchase with Cashback	Fail
3	Online PIN	Manual Cash	Fail
4	No CVM required	Always	Fail

1.17.2 Application Tag data

Tag	Element name	Data Card v6.x
50	Application Label	44 4E 41 - ‘DNA’
57	Track 2 Data [Discover]	40 00 00 00 00 00 00 02 D2 51 22 01 10 00 07 49 00 00 0F
5A	Application Primary Account Number (PAN)	40 00 00 00 00 00 00 02
5F 20	Cardholder Name	55 41 54 20 55 53 41 2F 54 45 53 54 20 43 41 52 44 20 31 38

		20 20 20 20 20 20 - 'UAT ATM/Test Card 17'
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	**18 00** BYTE 1: b7 - Offline SDA NOT supported b6 - Offline DDA NOT supported b5 - Cardholder verification supported b4 - Terminal risk mgmt to be performed b3 - Issuer authentication NOT supported b1 - Combined DDA / GEN AC NOT supported BYTE 2: b8 - EMV Contactless NOT supported
84	Dedicated File (DF) Name	**A0 00 00 06 20 06 20**
87	Application Priority Indicator	**01**
8C	Card Risk Management Data Object List 1 (CDOL1)	**9F 02 06 9F 03 06 9F 1A 02 95 05 5F 2A 02 9A 03 9C 01 9F 37 04 9F 35 01 9F 34 03**
8D	Card Risk Management Data Object List 2 (CDOL2)	**91 0A 8A 02 95 05 9F 37 04**
8E	Cardholder Verification Method (CVM) List	**00 00 00 00 00 00 00 00 02 01 02 05 02 04 1F 00**
94	Application File Locator (AFL)	**08 01 01 00 18 01 02 01**
9F 07	Application Usage Control	**FF 00** BYTE 1: b8 - Domestic cash trans. valid b7 - Int'l cash transactions valid b6 - Domestic goods valid b5 - International goods valid b4 - Domestic services valid b3 - International services valid b2 - ATMs valid b1 - non-ATM terminals valid BYTE 2: b8 - Domestic cashback NOT allowed b7 - International cashback NOT allowed
9F 08	Application Version Number	**00 01**
9F 0D	Issuer Action Code - Default	**F0 40 E4 28 00**
9F 0E	Issuer Action Code - Denial	**00 10 00 00 40**
9F 0F	Issuer Action Code - Online	**F0 68 FC F8 00**
9F 10	Issuer Application Data [DPAS]	**xx 06 xx xx xx xx xx xx ***
9F 11	Issuer Code Table Index	**01**
9F 12	Application Preferred Name	**44 65 62 69 74** - 'Debit'
9F 17	Personal Identification Number (PIN) Try Counter	**03**
9F 26	Application Cryptogram (AC)	**xx xx xx xx xx xx xx xx ***
9F 27	Cryptogram Information Data (CID)	**80**
9F 36	Application Transaction Counter (ATC)	**xx xx ***
9F 4D	Transaction Log Entry	**0B 0A**
9F 4F	Transaction Log Format	**9F 02 06 5F 2A 02 9A 03 9F 36 02 9F 34 03 9F 52 06 9F 1A 02 95 05 9C 01 8A 02 9F 37 04 9F 03 06 9F 53 08 9F 66 04 9F 71 02 9F 6C 02**
C1	Application Configuration Options [DPAS]	**15 60**

C2	Issuer Life Cycle Data (ILCD) [DPAS]	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
C3	Currency Conversion Codes 1 [DPAS]	08 40 00 00 02
C4	Currency Conversion Codes 2 [DPAS]	08 40 00 00 02
D0	Issuer Application Data ObjectList (IADOL) [DPAS]	
D2	CRM Country Code [DPAS]	08 40 - USA
D3	CRM Currency Code [DPAS]	08 40 - USD
DF 20	Transaction Profile Objects(TPO0) [DPAS]	00 18 00 08 01 01 00 18 01 02 01 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 01 00 F6 1F 22 0B 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

* Tag value changes with card usage

1.18 Test Card 18 – Interac, Debit, English, CAN, CAD

An Interac Canadian debit card with Issuer Country Code of 'Canada' and Currency Code of 'CAD'.

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

1.18.1 Cardholder Verification Method List

Cardholder Verification Method List('4103 0203')			
CVM	**Verification Method**	**Conditions**	**If unsuccessful**
1	Offline Plaintext PIN	Terminal Supports CVM type	Next CVM
2	Online PIN	Terminal Supports CVM type	Fail

1.18.2 Application Tag data

Tag	Element name	Data Card v5.x
50	Application Label	49 4E 54 45 52 41 43 - 'INTERAC'
57	Track 2 Equivalent Data	45 06 44 50 06 93 19 33 D2 21 22 20 01 62 90 74 00 00 1F
5A	Application Primary Account Number (PAN)	45 06 44 50 06 93 19 33
5F 20	Cardholder Name	55 41 54 20 41 54 4D 2F 54 65 73 74 20 43 61 72 64 20 31 38 20 20 20 20 20 20 - 'UAT ATM/Test Card 18'
5F 24	Application Expiration Date	22 12 31
5F 25	Application Effective Date	xx xx xx
5F 28	Issuer Country Code	01 24 - Canada
5F 2D	Language Preference	65 6E - 'en' (English)
5F 30	Service Code	02 20
5F 34	Application PAN Sequence Number	01
82	Application Interchange Profile [VSDC]	1C 00 BYTE 1: b7 - Offline SDA NOT supported b6 - Offline DDA NOT supported b5 - Cardholder verification supported b4 - Terminal risk mgmt to be performed b3 - Issuer authentication supported

Tag	Element name	Data Card v5.x
		b1 - Combined DDA / GEN AC NOT supported BYTE 2: b8 - EMV Contactless NOT supported
84	Dedicated File (DF) Name	A0 00 00 02 77 10 10
87	Application Priority Indicator	01
8C	Card Risk Management Data Object List 1 (CDOL1)	9F 02 06 9F 03 06 9F 1A 02 95 05 5F 2A 02 9A 03 9C 01 9F 37 04
8D	Card Risk Management Data Object List 2 (CDOL2)	8A 02 9F 02 06 9F 03 06 9F 1A 02 95 05 5F 2A 02 9A 03 9C 01 9F 37 04
8E	Cardholder Verification Method (CVM) List	00 00 00 00 00 00 00 00 41 03 02 03
8F	Certification Authority Public Key Index	55
90	Issuer Public Key Certificate	6C 16 73 99 B8 BE 0C CA 2A A9 EF 30 EC F5 14 C4 F4 F1 F0 89 85 8A 46 08 6F 12 F2 80 B6 81 FD CA 40 8C 09 51 C0 D6 BA 64 FD 05 C7 2C 5A 23 B2 66 DA 11 D6 75 BA B2 AC 74 C5 AF E0 41 A6 94 2D 84 FC 19 0D C0 6D 83 CF 17 71 F2 F9 74 B8 31 73 5A A1 30 39 4D 12 DC CF D5 74 61 D1 20 E5 58 F6 35 12 F6 DB 82 46 DD 41 00 9F A1 D9 73 1B 27 42 F9 7E FD 2B C1 16 DF B9 AF 7A 96 6A CF 12 83 A8 49 A7 A9 73 6A 0D 8A E2 63 98 36 BC A6 9B D9 EE 78
92	Issuer Public Key Remainder	EC A4 19 2A 02 CA AC 0B 75 22 44 EC AE 9F 1A BA 46 15 E7 05 27 AD D0 D8 03 67 54 CA 9F A5 2E 7D 42 16 22 0F
93	Signed Static Application Data	3B 9C 99 3B 62 F4 F0 10 A6 10 9B 95 68 9C A8 4E 43 F4 66 C5 33 8B 22 49 14 2B C5 7C 56 55 5D 76 9B 19 AD FB 0A 8F F1 CF 81 17 A9 C5 A8 E2 59 E1 28 44 44 49 0F 15 66 5F 62 F9 91 AC 1C EC 57 38 E7 51 5C DB 26 40 D7 0D 5E BE 6B 22 A9 1B E0 05 E2 76 95 C0 99 B8 6F E1 14 08 CB 66 F7 0E DE 5E 7C 10 1B F5 50 C5 D0 2E 4E 86 6A 00 EC 2E 85 76 BD DD 39 E5 FA 24 03 E8 A8 89 C0 5C D8 30 01 12 59 46 11 AD 84 FB 1C 29 42 4E EE C2 95 AB B9 61
94	Application File Locator (AFL)	10 01 01 00 10 02 04 01 10 06 06 00 B0 01 01 00
9F 07	Application Usage Control	AB 00 BYTE 1: b8 - Domestic cash trans. valid b7 - Int'l cash transactions NOT valid b6 - Domestic goods valid b5 - International goods NOT valid b4 - Domestic services valid b3 - International services NOT valid b2 - ATMs NOT valid b1 - non-ATM terminals valid BYTE 2: b8 - Domestic cashback NOT allowed b7 - International cashback NOT allowed

Tag	Element name	Data Card v5.x
9F 08	Application Version Number	00 01
9F 0D	Issuer Action Code - Default	B0 70 BC 80 00
9F 0E	Issuer Action Code - Denial	00 00 00 00 00
9F 0F	Issuer Action Code - Online	B0 70 BC 98 00
9F 10	Issuer Application Data [VSDC]	xx xx 0A xx xx xx xx *
9F 11	Issuer Code Table Index	01
9F 12	Application Preferred Name	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 36 32 39 30 37 34 30 30 30 30 31 30 30 30 30 30 30 30 30 30 30 30 30
9F 26	Application Cryptogram (AC)	xx xx xx xx xx xx xx xx *
9F 27	Cryptogram Information Data (CID)	80
9F 32	Issuer Public Key Exponent	03
9F 36	Application Transaction Counter (ATC)	xx xx *
9F 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	9F 81 F3 E3 91 21 41 E7 CA 18 6B 29 B6 5E 5C 9F DE B8 DB 12 DA 06 CF D5 8A 9A 15 78 7B 58 D8 0E F9 E8 B7 0B A4 77 42 56 D7 54 4B 4D 52 7D 60 3A C0 EF E2 AD 77 1C CF 0D CB F2 54 2D 11 45 D5 57 48 D6 12 86 FF 3B 7A 9C 6D 7B 02 49 11 18 0C 83 C2 22 A8 85 14 80 8D 03 27 80 4F 9A 19 19 35 8D BF B9 BE C1 FC BA E6 8B E6 55 86 24 1A 4B 48 80 23 E1 3C BF 55 94 C1 2D 3F B9 F1 49 9B 81 2F 02 69 58 B9 B5 30 40 EE 06 84 34 6E 88 8C F1 DA 7D
9F 47	ICC Public Key Exponent	03
9F 48	ICC Public Key Remainder	27 0F 44 DB 86 49 6F B0 40 B4 2F 65 4E D2 A8 0F 9F C2 AE 71 2E 3A B2 2F C8 79
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]	C0 38 00 00 00 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 - Canada
9F 5C	Cumulative Total Transaction Amount Upper Limit [VSDC]	00 00 00 00 00 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

* Tag value changes with card usage

1.19 Test Card 19 – Interac, Debit, French, CAN, CAD

An Interac Canadian debit card with Issuer Country Code of 'Canada' and Currency Code of 'CAD'.

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

1.19.1 Cardholder Verification Method List

Cardholder Verification Method List ('4103 0203')			
CVM	**Verification Method**	**Conditions**	**If unsuccessful**
1	Offline Plaintext PIN	Terminal Supports CVM type	Next CVM
2	Online PIN	Terminal Supports CVM type	Fail

1.19.2 Application Tag data

Tag	Element name	Data Card v5.x
50	Application Label	49 4E 54 45 52 41 43 - 'INTERAC'
57	Track 2 Equivalent Data	45 06 44 50 06 93 19 33 D2 21 22 20 01 62 90 74 00 00 2F
5A	Application Primary Account Number (PAN)	45 06 44 50 06 93 19 33
5F 20	Cardholder Name	55 41 54 20 41 54 4D 2F 54 65 73 74 20 43 61 72 64 20 31 39 20 20 20 20 20 20 - 'UAT ATM/Test Card 19'
5F 24	Application Expiration Date	22 12 31
5F 25	Application Effective Date	xx xx xx
5F 28	Issuer Country Code	01 24 - Canada
5F 2D	Language Preference	65 6E - 'en' (English)
5F 30	Service Code	02 20
5F 34	Application PAN Sequence Number	01
82	Application Interchange Profile [VSDC]	1C 00 BYTE 1: b7 - Offline SDA NOT supported b6 - Offline DDA NOT supported b5 - Cardholder verification supported b4 - Terminal risk mgmt to be performed b3 - Issuer authentication supported b1 - Combined DDA / GEN AC NOT supported BYTE 2: b8 - EMV Contactless NOT supported
84	Dedicated File (DF) Name	A0 00 00 02 77 10 10
87	Application Priority Indicator	01
8C	Card Risk Management Data Object List 1 (CDOL1)	9F 02 06 9F 03 06 9F 1A 02 95 05 5F 2A 02 9A 03 9C 01 9F 37 04
8D	Card Risk Management Data Object List 2 (CDOL2)	8A 02 9F 02 06 9F 03 06 9F 1A 02 95 05 5F 2A 02 9A 03 9C 01 9F 37 04
8E	Cardholder Verification Method (CVM) List	00 00 00 00 00 00 00 00 41 03 02 03
8F	Certification Authority Public Key Index	55
90	Issuer Public Key Certificate	6C 16 73 99 B8 BE 0C CA 2A A9 EF 30 EC F5 14 C4 F4 F1 F0 89 85 8A 46 08 6F 12 F2 80 B6 81 FD CA 40 8C 09 51 C0 D6 BA 64 FD 05 C7 2C 5A 23 B2 66 DA 11 D6 75 BA B2 AC 74 C5 AF E0 41 A6 94 2D 84 FC 19 0D C0 6D 83 CF 17 71 F2 F9 74 B8 31 73 5A

Tag	Element name	Data Card v5.x
		A1 30 39 4D 12 DC CF D5 74 61 D1 20 E5 58 F6 35 12 F6 DB 82 46 DD 41 00 9F A1 D9 73 1B 27 42 F9 7E FD 2B C1 16 DF B9 AF 7A 96 6A CF 12 83 A8 49 A7 A9 73 6A 0D 8A E2 63 98 36 BC A6 9B D9 EE 78
92	Issuer Public Key Remainder	EC A4 19 2A 02 CA AC 0B 75 22 44 EC AE 9F 1A BA 46 15 E7 05 27 AD D0 D8 03 67 54 CA 9F A5 2E 7D 42 16 22 0F
93	Signed Static Application Data	3B 9C 99 3B 62 F4 F0 10 A6 10 9B 95 68 9C A8 4E 43 F4 66 C5 33 8B 22 49 14 2B C5 7C 56 55 5D 76 9B 19 AD FB 0A 8F F1 CF 81 17 A9 C5 A8 E2 59 E1 28 44 44 49 0F 15 66 5F 62 F9 91 AC 1C EC 57 38 E7 51 5C DB 26 40 D7 0D 5E BE 6B 22 A9 1B E0 05 E2 76 95 C0 99 B8 6F E1 14 08 CB 66 F7 0E DE 5E 7C 10 1B F5 50 C5 D0 2E 4E 86 6A 00 EC 2E 85 76 BD DD 39 E5 FA 24 03 E8 A8 89 C0 5C D8 30 01 12 59 46 11 AD 84 FB 1C 29 42 4E EE C2 95 AB B9 61
94	Application File Locator (AFL)	10 01 01 00 10 02 04 01 10 06 06 00 B0 01 01 00
9F 07	Application Usage Control	AB 00 BYTE 1: b8 - Domestic cash trans. valid b7 - Int'l cash transactions NOT valid b6 - Domestic goods valid b5 - International goods NOT valid b4 - Domestic services valid b3 - International services NOT valid b2 - ATMs NOT valid b1 - non-ATM terminals valid BYTE 2: b8 - Domestic cashback NOT allowed b7 - International cashback NOT allowed
9F 08	Application Version Number	00 01
9F 0D	Issuer Action Code - Default	B0 70 BC 80 00
9F 0E	Issuer Action Code - Denial	00 00 00 00 00
9F 0F	Issuer Action Code - Online	B0 70 BC 98 00
9F 10	Issuer Application Data [VSDC]	xx xx 0A xx xx xx xx *
9F 11	Issuer Code Table Index	01
9F 12	Application Preferred Name	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 36 32 39 30 37 34 30 30 30 30 32 30 30 30 30 30 30 30 30 30 30 30
9F 26	Application Cryptogram (AC)	xx xx xx xx xx xx xx xx *
9F 27	Cryptogram Information Data (CID)	80
9F 32	Issuer Public Key Exponent	03
9F 36	Application Transaction Counter (ATC)	xx xx *
9F 38	Processing Options Data Object List (PDOL)	9F 02 06 9F 1A 02
9F 44	Application Currency Exponent	02

Tag	Element name	Data Card v5.x
9F 46	ICC Public Key Certificate	5F 0C 41 1B 0D 46 EA 8E 1D B3 6A E6 7E 4D 1F AF AA D3 98 69 22 77 E3 66 04 67 4D F1 B2 10 0F F3 40 57 6B D2 C8 28 80 28 79 34 42 73 1C B0 38 FB 90 FB F3 FC 31 97 8D CC 87 E9 AB C2 53 B9 64 A4 3C 29 BB 28 6A E1 34 37 15 6A CE F9 A3 23 1A 16 44 35 38 D6 69 23 A5 92 03 04 19 A6 4D 70 75 12 DB F3 8F 58 7D EB 3E E1 AF 29 3C 3B 46 65 6E B5 4C FB 6B 7D 92 5B F5 FF 25 A7 2B 22 68 B7 0B 47 16 9A 05 1F 55 AC FD 81 47 B6 CC D8 F7 2B 01 84
9F 47	ICC Public Key Exponent	03
9F 48	ICC Public Key Remainder	FB C4 EE C0 CF 37 34 A1 0E F3 2D F1 D5 71 0B BA 1C 6B 3A 0E DF 55 E2 9E 1B 4B
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]	C0 38 00 00 00 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 - Canada
9F 5C	Cumulative Total Transaction Amount Upper Limit [VSDC]	00 00 00 00 00 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

* Tag value changes with card usage

Chapter 2 - ASCII Character Conversion Chart

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