



**User Acceptance Test Mastercard BIN '2'  
EMV™ Test Card Set**

**Version 2.51**

**June, 2019**

**Powered by B2»**

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## Revision History

Version	Date	Updated By	Revisions
2.50	October 18, 2016	B2PS	Initial document release - card set has 1 card
2.51	June 10, 2019	B2PS	Set renamed to "UAT Mastercard BIN '2' EMV Test Card Set". No change to cards themselves.

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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 - UAT USA Mastercard BIN '2' Test Card Set Profiles

This User Acceptance Test (UAT) USA Mastercard BIN '2' Test Card Set contains a single card of the following card brand:



	Test Card 21
Brand	MasterCard
Type	Credit
Description.	222360 BIN
IIN	-
AID	A0000000041010
PAN	2223 6000 8902 0329
Expiry Date	01/2022
Service Code	201
Interface	Contact, MSR
CVM	<a href="#">See card definition</a>
Approval Amount	\$20
Issuer Country Code	840 - USA
Application Currency Code	840 - USD
Language	'en' - English
Card Version	v5.0

### 1.1 Test Card 21 - Mastercard, BIN '2', Credit, English, USA, USD

A Mastercard ('2' BIN) credit card with BIN range '222360', 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 ('4201440341035E031F03')			
CVM	Verification Method	Conditions	If unsuccessful
1	Online PIN	Unattended Cash	Next CVM
2	Offline PIN	Terminal supports CVM type	Next CVM
3	Offline Plaintext PIN	Terminal supports CVM type	Next CVM
4	Signature (paper)	Terminal supports CVM type	Next CVM
5	No CVM required	Terminal supports CVM type	Fail

#### 1.1.2 Application Tag data

\* Tag value changes with card usage

Tag	Element name	Data	v5.x
50	Application Label	4D 41 53 54 45 52 43 41 52 44 - 'MASTERCARD'	
57	Track 2 Equivalent Data	22 23 60 00 89 02 03 29 D2 21 22 01 01 23 40 91 72 02 9F	
5A	Application Primary Account Number (PAN)	22 23 60 00 89 02 03 29	
5F 20	Cardholder Name	55 41 54 20 55 53 41 2F 54 65 73 74 20 43 61 72 64 20 32 31 20 20 20 20 20 20 - 'UAT USA/Test Card 21'	
5F 24	Application Expiration Date	22 12 31	
5F 25	Application Effective Date	16 04 01	
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	
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	F1	
90	Issuer Public Key Certificate	91 61 44 FF F4 9B 6F BA E7 6F A4 C2 81 74 CB B9 E4 C3 13 1C 55 F6 1D 58 58 26 11 60 DC 0B F3 D6 80 D2 F9 16 FB D3 72 5C E5 B4 6B AA D0 CE 0B C9 7F 6E 1F 46 55 0E A0 E6 BE 3A F3 98 36 E1 4F 07 13 A1 EA 0A 3C 97 2C 08 50 74 FE EF F3 03 B3 64 13 D3 0B D2 CE 5B B8 1B 7A BF 3D 74 7D 1B 93 9A 9F 38 81 D5	

Tag	Element name	Data	v5.x
		29 22 0F 28 43 50 D1 C0 F5 F1 B1 36 6B FB 46 7E 8B 35 BD 74 0B A8 06 E2 18 C8 58 A4 7D AE 27 23 32 A8 1E 65 FD 60 2E 6B AC 48 F6 C9 37 44 C4 28 43 6C 5A DF 30 A8 FF 28 4A 4C 1E 01 D4 5E E6 C5 6D AD 30 C1 E7 91 15 61 B4 44 00 42	
94	Application File Locator (AFL)	08 02 04 01 18 01 01 00 20 01 01 00	
9F 07	Application Usage Control	FF 00	
9F 08	Application Version Number	00 02	
9F 0D	Issuer Action Code - Default	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 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	4D 61 73 74 65 72 43 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 *	
9F 42	Application Currency Code	08 40 - USD	
9F 44	Application Currency Exponent	02	
9F 46	ICC Public Key Certificate	45 0D 9C 97 1F 7C A4 68 22 5F 32 4F 9E AC BC EC A5 32 58 44 E1 AE 34 A9 F6 8B 60 7E CC F5 A6 19 B2 E9 DB F4 8F B2 72 8C E9 6D 0A ED CD 1D DC 3A 11 DC 9C 49 2A 27 D9 6A 83 A5 53 26 A3 35 B8 A3 DF 0D 7B 05 C8 DC 64 D9 58 E8 BE 79 65 EE 94 7B 35 FA 61 37 B2 D7 F0 35 E2 77 D8 07 CD 25 40 1D FF 7D A0 AD 99 A1 C9 A5 1E 3D 49 7E 55 D5 B8 1E 2D 68 42 17 C0 8D BA 4F 9A 14 7C 75 C9 94 10 93	
9F 47	ICC Public Key Exponent	03	
9F 48	ICC Public Key Remainder	22 E4 11 72 D2 CF 04 0E 2B 23 5C 6A 4E 5C 2D 94 40 45 CC 89 C0 DE E3 44 02 FF	
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	17 94 6F DF D2 FB 35 65 E1 8E 98 B6 7D 41 A4 D1 6A 42 36 F9 62 C9 43 2F 58 73 FE 2B 9E CE 90 2C 63 E3 39 77 7D 27 7B 66 4D 88 CD 5A 80 F9 74 6D FC 1E 1E 73 36 EA 39 45 64 69 18 0E 12 B9 E0 E5 B0 C3 E9 16 D3 B2 F5 26 97 31 AC B1 1B D9 A0 A3 1A 22 D8 EE DB 39 DD DA 00 8A	

Tag	Element name	Data	v5.x
		71 79 A6 1E E6 D3 D0 21 52 1C CA BA 03 AB BC 54 B7 A1 CC D6 E5 F8	
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	
9F 7E	Application Life Cycle Data [MasterCard]	03 10 0C 12 00 09 00 00 FF 00 04 00 00 02 60 00 00 38 4A 02 11 50 35 43 44 30 37 32 20	
C3	Card Issuer Action Code - Decline [MasterCard]	00 00 00	
C4	Card Issuer Action Code - Default [MasterCard]	19 50 00	
C5	Card Issuer Action Code - Online [MasterCard]	39 FB 00	
C6	Counters [MasterCard]	00 02 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	
CD	Card Issuer Action Code - Default [PayPass M/Chip]	00 58 00	
CE	Card Issuer Action Code - Online [PayPass M/Chip]	00 F8 00	
CF	Card Issuer Action Code - Denial [PayPass M/Chip]	00 00 00	
D1	Currency Conversion Table [M/Chip]	08 40 00 00 00 08 40 00 00 00 08 40 00 00 00 08 40 00 00 00 08 40 00 00 00	
D3	Additional Check Table [MasterCard]	00 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF	
D5	Application Control [M/Chip]	CC 00	
D6	Default ARPC Response Code [M/Chip4]	00 12	
D7	Application Control [PayPass M/Chip]	40 01 40	
DF 02	Security Limits Status [MasterCard]	00	



## Chapter 2 - ASCII Character Conversion Chart

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