July 12, 2024

Vipin K. Paul

Verifone, Inc.

2744 North University Drive

Coral Springs 33065

UNITED STATES OF AMERICA

Re: *EMVCo Letter of Approval - Contact Terminal Level 2 - Restricted Renewal*

EMV Application Kernel: **EMV L2 Version 7.0.3r**

Approval Number(s): **2-04237-1-1C-ULVS-0818-4.3g**
2-04237-1-2C-ULVS-0818-4.3g
2-04237-1-3C-ULVS-0818-4.3g
2-04237-1-4C-ULVS-0818-4.3g
2-04237-1-5C-ULVS-0818-4.3g
2-04237-1-6C-ULVS-0818-4.3g
2-04237-2-7C-ULVS-0918-4.3g
2-04237-2-8C-ULVS-0918-4.3g
2-04237-2-9C-ULVS-0918-4.3g
2-04237-2-10C-ULVS-0918-4.3g
2-04237-2-11C-ULVS-0918-4.3g
2-04237-2-12C-ULVS-0918-4.3g
2-04237-2-13C-ULVS-0918-4.3g
2-04237-2-14C-ULVS-0918-4.3g
2-04237-2-15C-ULVS-0918-4.3g
2-04237-2-16C-ULVS-0918-4.3g
2-04237-3-17C-ULVS-0918-4.3g
2-04237-3-18C-ULVS-0918-4.3g
2-04237-4-19C-ULVS-0419-4.3g
2-04237-4-20C-ULVS-0419-4.3g
2-04237-4-21C-ULVS-0419-4.3g
2-04237-5-22C-ULVS-1119-4.3h
2-04237-6-23C-ULVS-1219-4.3h
2-04237-6-24C-ULVS-1219-4.3h
2-04237-7-25C-ULVS-0320-4.3h
2-04237-7-26C-ULVS-0320-4.3h
2-04237-8-27C-ULVS-0122-4.3j
2-04237-9-28C-ULVS-0322-4.3j
2-04237-9-29C-ULVS-0322-4.3j
2-04237-9-30C-ULVS-0322-4.3j
2-04237-10-31C-ULVS-1022-4.3k
2-04237-10-32C-ULVS-1022-4.3k
2-04237-10-33C-ULVS-1022-4.3k
2-04237-10-34C-ULVS-1022-4.3k
2-04237-10-35C-ULVS-1022-4.3k

2-05043-6-36C-FSUL-0724-4.4b

2-04237-1-1OS-ULVS-0818-4.3g

The EMV Application Kernel has been tested on the following terminal

Terminal:	**V200c Plus**
PinPad:	**n/a**
Operating System:	**1OS = Linux Version 3.14**

Expiry Date:	**29-Aug-2026**

Report ID Session 1: **2 HYPE-RP14305638JD01A-ULVS and 22-078-RA-VERI-EMVL2-10 Version 3.0 - UL VS Ltd**
Session 2: **2 HYPE-RP14305638JD01B-ULVS Version 3.0 - UL VS Ltd**
Session 3: **2 HYPE-RP14305638JD01C-ULVS Version 2.0 - UL VS Ltd**
Session 4: **2 HYPE-RP14305638JD01D-ULVS Version 2.0 - UL VS Ltd**
Session 5: **2 HYPE-RP14469406JD01A-ULVS & 22-095-RA-VERI-703r-10 Version 2.0 - UL VS Ltd**
Session 6: **2 HYPE-RP15165359JD02A-FSUL Version 2.0 - Fime Services UK Ltd.**

Kernel Checksum:

00C067C0

Configurations Checksums:

Config	Vendor Config ID	Terminal	Checksum
1C	44D1B7DF	22	96369E1F
2C	B0293275	22	0F602A4C
3C	91385E4A	22	92CC8774
4C	8F78BA6D	22	C76E6769
5C	31E41749	22	B415F3D9
6C	780C0204	11	59881906
7C	7BD3BB35	22	BEFA519B
8C	4C38D56D	22	1298B08F
9C	D6ECE58D	22	6A695602
10C	3049BE0B	22	4684B9DF
11C	C73A0F70	22	02594AB4
12C	F7AE9BF7	21	D856CB80
13C	AF19EEE6	22	1EC74C36
14C	6DC521BF	11	CDA9CD3A
15C	6740265B	22	8798CC22
16C	E858892A	22	D8158247
17C	3B674338	22	A5CC1BE8
18C	E1D505CC	25	CD05C972
19C	B39951F8	21	DD7B92E1
20C	83A483F5	21	6F933470
21C	55796038	21	0FA436BF
22C	E82CB759	25	0CBAB2E1
23C	E82CB759A	25	D196BA9D
24C	E05B3DC7	25	49D432BB
25C	9B9BC4A8	12	B012893C
26C	91219473	23	8B7FBB5B
27C	2724E9ED	12	AD45A1E9
28C	700B2503	21	8B305929
29C	0E5FDBBC	21	7624176E
30C	E82CB759	25	055FDDE8
31C	1D6EFEF4	25	ADBEBD4D
32C	E31CE165	24	FE48EA81
33C	7488ED38	24	3EB96771
34C	4524FE18	25	599008D3
35C	1D6EFEF4A	25	FBB17ACE
36C	E360A421	25	3119E1AD

Dear Vipin K. Paul:

EMVCo, LLC ("EMVCo"), a Delaware limited liability company, has received your request for Level 2 terminal type approval for the EMV Application Kernel identified above (hereafter refered to as the "Application"). In connection with your request, we have reviewed all test file number(s) listed above.

After assessing such file(s), EMVCo has found reasonable evidence that the submitted samples of the above referenced Application sufficiently conform to EMV Integrated Circuit Card Specifications for Payment Systems, Version 4.3 of November 2011.

EMVCo hereby grants your Application EMVCo Type Approval for Terminal Level 2 Restricted Renewal, based on the requirements stated in the EMV 4.3 Specifications. Please note that EMVCo may publish this letter and publicly identify your Application as an approved Application, including in EMVCo's published list of approved Applications. According to EMVCo Restricted Renewal policy the extension to the original Type Approval is granted for a period of three years. At the end of that additional validity period the Application Kernel will expire and cannot be submitted for another renewal.

EMVCo's grant to your Application is subject to and specifically incorporates (i) the General Terms and Conditions to the Letter of Approval enclosed as Exhibit A, and (ii) the Specific Terms and Conditions to the Letter of Approval attached hereto as Attachment 1. Because EMVCo's grant is subject to such limitations, including certain events of termination, you and any third parties should confirm that such approval is current and has not been terminated by referring to the list of approved Applications published on the EMVCo website (www.emvco.com).

Please note that EMVCo makes certain logos available for use in connection with an Application that has received EMVCo approval. To obtain permission to use the "EMV Approved" certification mark, please contact EMVCo to request a license agreement.

This Letter of Approval is valid while the approval number is posted on the EMVCo website.

Authorised by Frédéric Fortin
Terminal Testing Group Chair
EMVCo, LLC

Note:

The Random Number Generator is part of the EMV specifications. This Contact Level 2 Kernel utilizes a specific Hardware component in the tested terminal to generate random numbers. To be EMV compliant, this Contact Level 2 Kernel shall be used in conjunction with terminals having this specific hardware component.

Terminal Capabilities	1C	2C	3C	4C	5C	6C	7C	8C	9C	10C
Card Data Input Capability										
Terminal Type	22	22	22	22	22	11	22	22	22	22
Manual Key Entry	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Magnetic Stripe	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
IC with Contacts	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
CVM Capability										
Plaintext PIN	Yes	No	Yes	No	Yes	No	Yes	Yes	Yes	Yes
Online Enciphered PIN	Yes	No	No	No	Yes	Yes	No	Yes	Yes	No
Signature (Paper)	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Offline Enciphered PIN (RSA)	Yes	No	Yes	No	Yes	No	Yes	Yes	Yes	Yes
No CVM	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes
Offline Enciphered PIN (ECC)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Biometric	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Offline Finger	No	No	No	No	No	No	No	No	No	No
Online Finger	No	No	No	No	No	No	No	No	No	No
Offline Facial	No	No	No	No	No	No	No	No	No	No
Online Facial	No	No	No	No	No	No	No	No	No	No
Offline Palm	No	No	No	No	No	No	No	No	No	No
Online Palm	No	No	No	No	No	No	No	No	No	No
Offline Iris	No	No	No	No	No	No	No	No	No	No
Online Iris	No	No	No	No	No	No	No	No	No	No
Offline Voice	No	No	No	No	No	No	No	No	No	No
Online Voice	No	No	No	No	No	No	No	No	No	No
Security Capability										
SDA & DDA	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Card Capture	No	No	No	No	No	No	No	No	No	No
CDA	Mode 1	Mode 1	Mode 1	Mode 1	Mode 1	No	Mode 1	Mode 1	Mode 3	Mode 1
XDA	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Transaction Type Capability										
Tran Type - Cash	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Tran Type - Goods	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Tran Type - Services	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Tran Type - Cash Back	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Tran Type - Inquiry	No	No	No	No	No	No	No	No	No	No
Tran Type - Transfer	No	No	No	No	No	No	No	No	No	No
Tran Type - Payment	No	No	No	No	No	No	No	No	No	No
Tran Type - Admin	No	No	No	No	No	No	No	No	No	No
Tran Type - Cash Deposit	No	No	No	No	No	No	No	No	No	No
Terminal Data Input Capability										
Keypad	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Numeric Keys	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Alpha and Special Character Keys	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Command Keys	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Function Keys	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

(continued)	1C	2C	3C	4C	5C	6C	7C	8C	9C	10C
Terminal Data Output Capability										
Print, Attendant	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Print, Cardholder	No	No	No	No	No	No	No	No	No	No
Display, Attendant	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Display, Cardholder	No	No	No	No	No	No	No	No	No	No
Code Table 10	No	No	No	No	No	No	No	No	No	No
Code Table 9	No	No	No	No	No	No	No	No	No	No
Code Table 8	No	No	No	No	No	No	No	No	No	No
Code Table 7	No	No	No	No	No	No	No	No	No	No
Code Table 6	No	No	No	No	No	No	No	No	No	No
Code Table 5	No	No	No	No	No	No	No	No	No	No
Code Table 4	No	No	No	No	No	No	No	No	No	No
Code Table 3	No	No	No	No	No	No	No	No	No	No
Code Table 2	No	No	No	No	No	No	No	No	No	No
Code Table 1	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Application Selection										
PSE	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
Cardholder Confirmation	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Preferred display order	No	No	No	No	No	No	No	No	No	No
Partial AID Selection	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Multi language	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
EMV Language Selection method	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Common Character Set	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Data Authentication										
MAX CA Public key	248	248	248	248	248	248	248	248	248	248
Exponents	3 and $2^{16}+1$	3 and $2^{16}+1$	3 and $2^{16}+1$	3 and $2^{16}+1$	3 and $2^{16}+1$	3 and $2^{16}+1$	3 and $2^{16}+1$	3 and $2^{16}+1$	3 and $2^{16}+1$	3 and $2^{16}+1$
Revocation of Issuer PK Certificate	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Certificate Revocation List Format	RID, CAPK index and Certificate Serial Number	RID, CAPK index and Certificate Serial Number	RID, CAPK index and Certificate Serial Number	RID, CAPK index and Certificate Serial Number	RID, CAPK index and Certificate Serial Number	N/A	RID, CAPK index and Certificate Serial Number	RID, CAPK index and Certificate Serial Number	RID, CAPK index and Certificate Serial Number	RID, CAPK index and Certificate Serial Number
Default DDOL	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Cardholder Verification Method										
Bypass PIN Entry	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Subsequent Bypass PIN Entry	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Get Data for PIN Try Counter	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Fail CVM	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Amount known before CVM proces.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Terminal Risk Management										
Floor Limit Checking	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Random Transaction Selection	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Velocity Checking	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Transaction Log	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Exception File	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
TRM irrespective of AIP setting (expected behavior)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

(continued)	1C	2C	3C	4C	5C	6C	7C	8C	9C	10C
Terminal Action Analysis										
Terminal Action Codes supported	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
TAC can be deleted or disabled	No	No	No	No	No	No	No	No	No	No
How does offline only Terminal process Default Action Codes?	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
How does online only terminal process TAC/IAC-Default when unable to go online?	N/A	N/A	N/A	N/A	N/A	Normal	N/A	N/A	N/A	N/A
Completion Processing										
Forced Online	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Forced Acceptance	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes	Yes
Voice Referrals Initiated by Issuer	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Default TDOL	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Default TDOL not configured	No	No	No	No	No	No	No	No	No	No
Exception Handling										
POS Entry Mode	0x80	0x80	0x80	0x80	0x80	0x80	0x80	0x80	0x80	0x80
Miscellaneous										
Amount and PIN on same keypad	No	No	No	No	No	No	No	No	No	No
ICC/Magstripe Reader Combined	No	No	No	No	No	No	No	No	No	No
Supports account type selection	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Supports 'on fly' script processing	No	No	No	No	No	No	No	No	No	No
Issuer Script device limit > 128 bytes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
If limit > 128, value supported?	0	0	0	0	0	0	0	0	0	0
Internal Date Management	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Does the terminal support Receipt?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Terminal Capabilities	11C	12C	13C	14C	15C	16C	17C	18C	19C	20C
Card Data Input Capability										
Terminal Type	22	21	22	11	22	22	22	25	21	21
Manual Key Entry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Magnetic Stripe	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
IC with Contacts	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
CVM Capability										
Plaintext PIN	Yes	No	Yes	Yes	No	No	Yes	Yes	Yes	Yes
Online Enciphered PIN	No	No	Yes	No	No	Yes	Yes	No	Yes	Yes
Signature (Paper)	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes
Offline Enciphered PIN (RSA)	Yes	No	No	Yes	No	No	Yes	Yes	Yes	Yes
No CVM	Yes	No	No	Yes	No	Yes	Yes	Yes	Yes	Yes
Offline Enciphered PIN (ECC)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Biometric	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Offline Finger	No	No	No	No	No	No	No	No	No	No
Online Finger	No	No	No	No	No	No	No	No	No	No
Offline Facial	No	No	No	No	No	No	No	No	No	No
Online Facial	No	No	No	No	No	No	No	No	No	No
Offline Palm	No	No	No	No	No	No	No	No	No	No
Online Palm	No	No	No	No	No	No	No	No	No	No
Offline Iris	No	No	No	No	No	No	No	No	No	No
Online Iris	No	No	No	No	No	No	No	No	No	No
Offline Voice	No	No	No	No	No	No	No	No	No	No
Online Voice	No	No	No	No	No	No	No	No	No	No
Security Capability										
SDA & DDA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Card Capture	No	No	No	No	No	No	No	No	No	No
CDA	Mode 3	Mode 1	Mode 1	Mode 1	Mode 1	Mode 1	Mode 1	Mode 1	Mode 1	No
XDA	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Transaction Type Capability										
Transaction Type - Cash	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Transaction Type - Goods	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Transaction Type - Services	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Transaction Type - Cash Back	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Transaction Type - Inquiry	No	No	No	No	No	No	No	No	No	No
Transaction Type - Transfer	No	No	No	No	No	No	No	No	No	No
Transaction Type - Payment	No	No	No	No	No	No	No	No	No	No
Transaction Type - Admin	No	No	No	No	No	No	No	No	No	No
Transaction Type - Cash Deposit	No	No	No	No	No	No	No	No	No	No
Terminal Data Input Capability										
Keypad	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Numeric Keys	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Alpha and Special Character Keys	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Command Keys	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Function Keys	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

(continued)	11C	12C	13C	14C	15C	16C	17C	18C	19C	20C
Terminal Data Output Capability										
Print, Attendant	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
Print, Cardholder	No	No	No	No	No	No	No	Yes	No	No
Display, Attendant	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
Display, Cardholder	No	No	No	No	No	No	No	Yes	No	No
Code Table 10	No	No	No	No	No	No	No	No	No	No
Code Table 9	No	No	No	No	No	No	No	No	No	No
Code Table 8	No	No	No	No	No	No	No	No	No	No
Code Table 7	No	No	No	No	No	No	No	No	No	No
Code Table 6	No	No	No	No	No	No	No	No	No	No
Code Table 5	No	No	No	No	No	No	No	No	No	No
Code Table 4	No	No	No	No	No	No	No	No	No	No
Code Table 3	No	No	No	No	No	No	No	No	No	No
Code Table 2	No	No	No	Yes	No	No	No	No	No	No
Code Table 1	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Application Selection										
PSE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Cardholder Confirmation	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Preferred display order	No	No	No	No	No	No	No	No	No	No
Partial AID Selection	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Multi language	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
EMV Language Selection method	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Common Character Set	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Data Authentication										
MAX CA Public key	248	248	248	248	248	248	248	248	248	248
Exponents	3 and $2^{16}+1$	3 and $2^{16}+1$	3 and $2^{16}+1$	3 and $2^{16}+1$	3 and $2^{16}+1$	3 and $2^{16}+1$	3 and $2^{16}+1$	3 and $2^{16}+1$	3 and $2^{16}+1$	3 and $2^{16}+1$
Revocation of Issuer PK Certificate	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Certificate Revocation List Format	RID, CAPK index and Certificate Serial Number	RID, CAPK index and Certificate Serial Number	RID, CAPK index and Certificate Serial Number	RID, CAPK index and Certificate Serial Number	RID, CAPK index and Certificate Serial Number	RID, CAPK index and Certificate Serial Number	RID, CAPK index and Certificate Serial Number	RID, CAPK index and Certificate Serial Number	N/A	N/A
Default DDOL	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Cardholder Verification Method										
Bypass PIN Entry	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Subsequent Bypass PIN Entry	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Get Data for PIN Try Counter	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Fail CVM	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Amount known before CVM proces.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Terminal Risk Management										
Floor Limit Checking	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Random Transaction Selection	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Velocity Checking	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Transaction Log	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Exception File	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
TRM irrespective of AIP setting (expected behavior)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

(continued)	11C	12C	13C	14C	15C	16C	17C	18C	19C	20C
Terminal Action Analysis										
Terminal Action Codes supported	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
TAC can be deleted or disabled	No	No	No	No	No	No	No	No	No	No
How does offline only Terminal process Default Action Codes?	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
How does online only terminal process TAC/IAC-Default when unable to go online?	N/A	Normal	N/A	Normal	N/A	N/A	N/A	N/A	Normal	Normal
Completion Processing										
Forced Online	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No
Forced Acceptance	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No
Voice Referrals Initiated by Issuer	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
Default TDOL	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Default TDOL not configured	No	No	No	No	No	No	No	No	No	No
Exception Handling										
POS Entry Mode	0x80	0x80	0x80	0x80	0x80	0x80	0x80	0x80	0x80	0x80
Miscellaneous										
Amount and PIN on same keypad	No	No	No	No	No	No	No	No	No	No
ICC/Magstripe Reader Combined	No	No	No	No	No	No	No	No	No	No
Supports account type selection	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Supports 'on fly' script processing	No	No	No	No	No	No	No	No	No	No
Issuer Script device limit > 128 bytes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
If limit > 128, value supported?	0	0	0	0	0	0	0	0	0	0
Internal Date Management	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Does the terminal support Receipt?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Terminal Capabilities	21C	22C	23C	24C	25C	26C	27C	28C	29C	30C
Card Data Input Capability										
Terminal Type	21	25	25	25	12	23	12	21	21	25
Manual Key Entry	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	No
Magnetic Stripe	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
IC with Contacts	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
CVM Capability										
Plaintext PIN	Yes	Yes	Yes	No	Yes	Yes	No	No	No	Yes
Online Enciphered PIN	No	Yes	Yes	No	Yes	No	No	No	No	Yes
Signature (Paper)	Yes	No	No	No	Yes	Yes	Yes	No	Yes	No
Offline Enciphered PIN (RSA)	Yes	Yes	Yes	No	Yes	Yes	No	No	No	Yes
No CVM	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Offline Enciphered PIN (ECC)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Biometric	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Offline Finger	No	No	No	No	No	No	No	No	No	No
Online Finger	No	No	No	No	No	No	No	No	No	No
Offline Facial	No	No	No	No	No	No	No	No	No	No
Online Facial	No	No	No	No	No	No	No	No	No	No
Offline Palm	No	No	No	No	No	No	No	No	No	No
Online Palm	No	No	No	No	No	No	No	No	No	No
Offline Iris	No	No	No	No	No	No	No	No	No	No
Online Iris	No	No	No	No	No	No	No	No	No	No
Offline Voice	No	No	No	No	No	No	No	No	No	No
Online Voice	No	No	No	No	No	No	No	No	No	No
Security Capability										
SDA & DDA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Card Capture	No	No	No	No	No	No	No	No	No	No
CDA	Mode 1	Mode 1	Mode 1	Mode 1	Mode 1	Mode 1	Mode 1	Mode 1	Mode 1	Mode 1
XDA	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Transaction Type Capability										
Transaction Type - Cash	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	No
Transaction Type - Goods	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Transaction Type - Services	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Transaction Type - Cash Back	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	No
Transaction Type - Inquiry	No	No	No	No	No	No	No	No	No	No
Transaction Type - Transfer	No	No	No	No	No	No	No	No	No	No
Transaction Type - Payment	No	No	No	No	No	No	No	No	No	No
Transaction Type - Admin	No	No	No	No	No	No	No	No	No	No
Transaction Type - Cash Deposit	No	No	No	No	No	No	No	No	No	No
Terminal Data Input Capability										
Keypad	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Numeric Keys	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Alpha and Special Character Keys	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
Command Keys	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Function Keys	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

(continued)	21C	22C	23C	24C	25C	26C	27C	28C	29C	30C
Terminal Data Output Capability										
Print, Attendant	Yes	No	No	No	Yes	Yes	Yes	Yes	Yes	No
Print, Cardholder	No	Yes	Yes	Yes	No	No	No	No	No	Yes
Display, Attendant	Yes	No	No	No	Yes	Yes	Yes	Yes	Yes	No
Display, Cardholder	No	Yes	Yes	Yes	No	No	No	No	No	Yes
Code Table 10	No	No	No	No	No	No	No	No	No	No
Code Table 9	No	No	No	No	No	No	No	No	No	No
Code Table 8	No	No	No	No	No	No	No	No	No	No
Code Table 7	No	No	No	No	No	No	No	No	No	No
Code Table 6	No	No	No	No	No	No	No	No	No	No
Code Table 5	No	No	No	No	No	No	No	No	No	No
Code Table 4	No	No	No	No	No	No	No	No	No	No
Code Table 3	No	No	No	No	No	No	No	No	No	No
Code Table 2	No	No	Yes	No	No	No	No	No	No	No
Code Table 1	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Application Selection										
PSE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cardholder Confirmation	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Preferred display order	No	No	No	No	No	No	No	No	No	No
Partial AID Selection	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Multi language	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
EMV Language Selection method	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Common Character Set	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Data Authentication										
MAX CA Public key	248	248	248	248	248	248	248	248	248	248
Exponents	3 and $2^{16}+1$	3 and $2^{16}+1$	3 and $2^{16}+1$	3 and $2^{16}+1$	3 and $2^{16}+1$	3 and $2^{16}+1$	3 and $2^{16}+1$	3 and $2^{16}+1$	3 and $2^{16}+1$	3 and $2^{16}+1$
Revocation of Issuer PK Certificate	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Certificate Revocation List Format	N/A	RID, CAPK index and Certificate Serial Number	RID, CAPK index and Certificate Serial Number	RID, CAPK index and Certificate Serial Number	RID, CAPK index and Certificate Serial Number	RID, CAPK index and Certificate Serial Number	RID, CAPK index and Certificate Serial Number	RID, CAPK index and Certificate Serial Number	RID, CAPK index and Certificate Serial Number	RID, CAPK index and Certificate Serial Number
Default DDOL	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cardholder Verification Method										
Bypass PIN Entry	Yes	No	No	No	Yes	Yes	Yes	No	Yes	Yes
Subsequent Bypass PIN Entry	Yes	No	No	No	Yes	Yes	Yes	No	Yes	Yes
Get Data for PIN Try Counter	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes
Fail CVM	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Amount known before CVM proces.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Terminal Risk Management										
Floor Limit Checking	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Random Transaction Selection	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Velocity Checking	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Transaction Log	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Exception File	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
TRM irrespective of AIP setting (expected behavior)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

(continued)	21C	22C	23C	24C	25C	26C	27C	28C	29C	30C
Terminal Action Analysis										
Terminal Action Codes supported	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
TAC can be deleted or disabled	No	No	No	No	No	No	No	No	No	No
How does offline only Terminal process Default Action Codes?	N/A	N/A	N/A	N/A	N/A	Option 2	N/A	N/A	N/A	N/A
How does online only terminal process TAC/IAC-Default when unable to go online?	Normal	N/A	N/A	N/A	N/A	N/A	Normal	Normal	Normal	N/A
Completion Processing										
Forced Online	No	No	No	No	Yes	No	Yes	Yes	Yes	No
Forced Acceptance	No	No	No	No	Yes	No	Yes	Yes	No	No
Voice Referrals Initiated by Issuer	Yes	No	No	No	Yes	No	Yes	Yes	Yes	No
Default TDOL	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Default TDOL not configured	No	No	No	No	No	No	No	No	No	No
Exception Handling										
POS Entry Mode	0x80	0x80	0x80	0x80	0x80	0x80	0x80	0x80	0x80	0x80
Miscellaneous										
Amount and PIN on same keypad	No	No	No	No	No	No	No	No	No	No
ICC/Magstripe Reader Combined	No	No	No	No	No	No	No	No	No	No
Supports account type selection	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
Supports 'on fly' script processing	No	No	No	No	No	No	No	No	No	No
Issuer Script device limit > 128 bytes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
If limit > 128, value supported?	0	0	0	0	0	0	0	0	0	0
Internal Date Management	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Does the terminal support Receipt?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Terminal Capabilities	31C	32C	33C	34C	35C	36C				
Card Data Input Capability										
Terminal Type	25	24	24	25	25	25				
Manual Key Entry	No	No	No	No	Yes	No				
Magnetic Stripe	Yes	Yes	Yes	Yes	Yes	Yes				
IC with Contacts	Yes	Yes	Yes	Yes	Yes	Yes				
CVM Capability										
Plaintext PIN	Yes	Yes	Yes	Yes	Yes	No				
Online Enciphered PIN	Yes	Yes	Yes	No	Yes	Yes				
Signature (Paper)	No	No	No	No	No	No				
Offline Enciphered PIN (RSA)	Yes	Yes	Yes	Yes	Yes	Yes				
No CVM	No	Yes	No	No	No	Yes				
Offline Enciphered PIN (ECC)	n/a	n/a	n/a	n/a	n/a	No				
Biometric	Yes	Yes	Yes	Yes	Yes	Yes				
Offline Finger	No	No	No	No	No	No				
Online Finger	No	No	No	No	No	No				
Offline Facial	No	No	No	No	No	No				
Online Facial	No	No	No	No	No	No				
Offline Palm	No	No	No	No	No	No				
Online Palm	No	No	No	No	No	No				
Offline Iris	No	No	No	No	No	No				
Online Iris	No	No	No	No	No	No				
Offline Voice	No	No	No	No	No	No				
Online Voice	No	No	No	No	No	No				
Security Capability										
SDA & DDA	Yes	Yes	Yes	Yes	Yes	Yes				
Card Capture	No	No	No	No	No	No				
CDA	Mode 1	Mode 1	Mode 1	Mode 1	Mode 1	Mode 1				
XDA	n/a	n/a	n/a	n/a	n/a	No				
Transaction Type Capability										
Transaction Type - Cash	No	No	No	No	No	No				
Transaction Type - Goods	Yes	Yes	Yes	Yes	Yes	Yes				
Transaction Type - Services	Yes	Yes	Yes	Yes	Yes	Yes				
Transaction Type - Cash Back	No	No	No	No	No	No				
Transaction Type - Inquiry	No	No	No	No	No	No				
Transaction Type - Transfer	No	No	No	No	No	No				
Transaction Type - Payment	No	No	No	No	No	No				
Transaction Type - Admin	No	No	No	No	No	No				
Transaction Type - Cash Deposit	No	No	No	No	No	No				
Terminal Data Input Capability										
Keypad	Yes	Yes	Yes	Yes	Yes	Yes				
Numeric Keys	Yes	Yes	Yes	Yes	Yes	Yes				
Alpha and Special Character Keys	Yes	Yes	Yes	Yes	No	Yes				
Command Keys	Yes	Yes	Yes	Yes	Yes	Yes				
Function Keys	Yes	Yes	Yes	Yes	Yes	Yes				

(continued)	31C	32C	33C	34C	35C	36C				
Terminal Data Output Capability										
Print, Attendant	No	No	No	No	No	No				
Print, Cardholder	Yes	Yes	Yes	Yes	Yes	Yes				
Display, Attendant	No	No	No	No	No	No				
Display, Cardholder	Yes	Yes	Yes	Yes	Yes	Yes				
Code Table 10	No	No	No	No	No	No				
Code Table 9	No	No	No	No	No	No				
Code Table 8	No	No	No	No	No	No				
Code Table 7	No	No	No	No	No	No				
Code Table 6	No	No	No	No	No	No				
Code Table 5	No	No	No	No	No	No				
Code Table 4	No	No	No	No	No	No				
Code Table 3	No	No	No	No	No	No				
Code Table 2	No	No	No	No	No	No				
Code Table 1	Yes	Yes	Yes	Yes	Yes	Yes				
Application Selection										
PSE	Yes	Yes	Yes	Yes	Yes	Yes				
Cardholder Confirmation	Yes	Yes	Yes	Yes	Yes	Yes				
Preferred display order	No	No	No	No	No	No				
Partial AID Selection	Yes	Yes	Yes	Yes	Yes	Yes				
Multi language	Yes	Yes	Yes	Yes	Yes	Yes				
EMV Language Selection method	Yes	Yes	Yes	Yes	Yes	Yes				
Common Character Set	Yes	Yes	Yes	Yes	Yes	Yes				
Data Authentication										
MAX CA Public key	248	248	248	248	248	248				
Exponents	3 and $2^{16}+1$	3 and $2^{16}+1$	3 and $2^{16}+1$	3 and $2^{16}+1$	3 and $2^{16}+1$	3 and $2^{16}+1$				
Revocation of Issuer PK Certificate	Yes	Yes	Yes	Yes	Yes	Yes				
Certificate Revocation List Format	RID, CAPK index and Certificate Serial Number	RID, CAPK index and Certificate Serial Number	RID, CAPK index and Certificate Serial Number	RID, CAPK index and Certificate Serial Number	RID, CAPK index and Certificate Serial Number	RID, CAPK index and Certificate Serial Number				
Default DDOL	Yes	Yes	Yes	Yes	Yes	Yes				
Cardholder Verification Method										
Bypass PIN Entry	No	No	No	No	No	Yes				
Subsequent Bypass PIN Entry	No	No	No	No	No	Yes				
Get Data for PIN Try Counter	Yes	Yes	Yes	Yes	Yes	Yes				
Fail CVM	Yes	Yes	Yes	Yes	Yes	Yes				
Amount known before CVM proces.	Yes	Yes	Yes	Yes	Yes	Yes				
Terminal Risk Management										
Floor Limit Checking	Yes	Yes	Yes	Yes	Yes	Yes				
Random Transaction Selection	Yes	Yes	Yes	Yes	Yes	Yes				
Velocity Checking	Yes	Yes	Yes	Yes	Yes	Yes				
Transaction Log	Yes	Yes	Yes	Yes	Yes	Yes				
Exception File	Yes	Yes	Yes	Yes	No	Yes				
TRM irrespective of AIP setting (expected behavior)	Yes	Yes	Yes	Yes	Yes	Yes				

(continued)	31C	32C	33C	34C	35C	36C				
Terminal Action Analysis										
Terminal Action Codes supported	Yes	Yes	Yes	Yes	Yes	Yes				
TAC can be deleted or disabled	No	No	No	No	No	No				
How does offline only Terminal process Default Action Codes?	N/A	N/A	N/A	N/A	N/A	N/A				
How does online only terminal process TAC/IAC-Default when unable to go online?	N/A	Normal	Normal	N/A	N/A	N/A				
Completion Processing										
Forced Online	No	No	No	No	No	No				
Forced Acceptance	No	No	No	No	No	No				
Voice Referrals Initiated by Issuer	No	No	No	No	No	No				
Default TDOL	Yes	Yes	Yes	Yes	Yes	Yes				
Default TDOL not configured	No	No	No	No	No	No				
Exception Handling										
POS Entry Mode	0x80	0x80	0x80	0x80	0x80	0x80				
Miscellaneous										
Amount and PIN on same keypad	No	No	No	No	No	No				
ICC/Magstripe Reader Combined	No	No	No	No	Yes	No				
Supports account type selection	Yes	Yes	Yes	Yes	No	Yes				
Supports 'on fly' script processing	No	No	No	No	No	No				
Issuer Script device limit > 128 bytes	Yes	Yes	Yes	Yes	Yes	Yes				
If limit > 128, value supported?	0	0	0	0	0	0				
Internal Date Management	Yes	Yes	Yes	Yes	Yes	Yes				
Does the terminal support Receipt?	Yes	Yes	Yes	Yes	Yes	Yes				

Attachment 1
Specific Terms and Conditions to the Letter of Approval

Restriction:

None

Conditions:

SB272 is not supported. Kernel treats year 'YY' associated with Application Expiration and Certificate Expiration dates in the range of 50-99 as 1950-1999. Contact Vendor for more information.