



July 15, 2020

Samuel Parr
MagTek, Inc.
1710 Apollo Court

Seal Beach CA 90740
UNITED STATES OF AMERICA

Re: EMVCo Letter of Approval - Contact Terminal Level 2

EMV Application Kernel: LibContact Version V1.0.0

Approval Number(s):
2-04710-1-1C-BCTC-0720-4.3i
2-04710-1-2C-BCTC-0720-4.3i
2-04710-1-3C-BCTC-0720-4.3i
2-04710-1-4C-BCTC-0720-4.3i
2-04710-1-5C-BCTC-0720-4.3i
2-04710-1-6C-BCTC-0720-4.3i
2-04710-1-7C-BCTC-0720-4.3i
2-04710-1-8C-BCTC-0720-4.3i
2-04710-1-10S-BCTC-0720-4.3i

The EMV Application Kernel has been tested on the following terminal

Terminal: DynaGlass
PinPad: n/a
Operating System: IOS = IMC_OS_MINI Version V1.0.0

Renewal Date: 01-Jul-2024

Report ID Session 1: **TEMV202MD1T Version V1.0 - Beijing Unionpay Card Technology Co., Ltd (Bank Card Test Center)**

Kernel Checksum:

D9F50E1F

Configurations Checksums:

Config	Vendor Config ID	Terminal	Checksum
1C	C5	21	05D013BD
2C	C6	24	9D70BB85
3C	C7	21	C64390B5
4C	C8	24	60A09C46
5C	C9	11	507BB659
6C	C10	14	F655A9AF
7C	C11	11	C42AB93B
8C	C12	14	2A0D1259

Dear Samuel Parr:

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 referred 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, 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.

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.

EMVCo, LLC, a Delaware limited liability company

By:

Name: Frédéric Fortin

Title: EMVCo Terminal Type Approval Chair

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		
Card Data Input Capability										
Terminal Type	21	24	21	24	11	14	11	14		
Manual Key Entry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Magnetic Stripe	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
IC with Contacts	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
CVM Capability										
Plaintext PIN	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Online Enciphered PIN	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Signature (Paper)	Yes	No	Yes	No	Yes	No	Yes	No		
Offline Enciphered PIN	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
No CVM	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
SB185	No	No	No	No	No	No	No	No		
Offline Finger	No	No	No	No	No	No	No	No		
Online Finger	No	No	No	No	No	No	No	No		
Offline Facial	No	No	No	No	No	No	No	No		
Online Facial	No	No	No	No	No	No	No	No		
Offline Palm	No	No	No	No	No	No	No	No		
Online Palm	No	No	No	No	No	No	No	No		
Offline Iris	No	No	No	No	No	No	No	No		
Online Iris	No	No	No	No	No	No	No	No		
Offline Voice	No	No	No	No	No	No	No	No		
Online Voice	No	No	No	No	No	No	No	No		
Security Capability										
SDA & DDA	Yes	Yes	No	No	Yes	Yes	No	No		
Card Capture	No	No	No	No	No	No	No	No		
CDA	Mode 1	Mode 1	No	No	Mode 1	Mode 1	No	No		
Transaction Type Capability										
Tran Type - Cash	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Tran Type - Goods	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Tran Type - Services	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Tran Type - Cash Back	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Tran Type - Inquiry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Tran Type - Transfer	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Tran Type - Payment	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Tran Type - Admin	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Tran Type - Cash Deposit	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Terminal Data Input Capability										
Keypad	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Numeric Keys	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Alpha and Special Character Keys	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Command Keys	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Function Keys	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		

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

(continued)	1C	2C	3C	4C	5C	6C	7C	8C		
Terminal Action Analysis										
Terminal Action Codes supported	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
TAC can be deleted or disabled	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
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		
How does online only terminal process TAC/IAC-Default when unable to go online?	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal		
Completion Processing										
Forced Online	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Forced Acceptance	No	No	No	No	No	No	No	No		
Advices	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Voice Referrals Initiated by Issuer	Yes	No	Yes	No	Yes	No	Yes	No		
Batch Data Capture	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Online Data Capture	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Default TDOL	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Exception Handling										
POS Entry Mode	80	80	80	80	80	80	80	80		
Miscellaneous										
Amount and PIN on same keypad	No	No	No	No	No	No	No	No		
ICC/Magstripe Reader Combined	No	No	No	No	No	No	No	No		
If Combined, is Magstripe read first?	No	No	No	No	No	No	No	No		
Supports account type selection	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Supports 'on fly' script processing	No	No	No	No	No	No	No	No		
Issuer Script device limit > 128 bytes	No	No	No	No	No	No	No	No		
If limit > 128, value supported?										
Internal Date Management	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Does the terminal support Receipt?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		

Attachment 1

Specific Terms and Conditions to the Letter of Approval

Restriction:

None