

February 28, 2020



Aileen Liu

PAX Computer Technology (Shenzhen) Co., Ltd.

4/F., No.3 Building, Software Park, 2nd Central

Science-Tech Road, High-Tech Industrial Park

Guangdong

Shenzhen 518057

CHINA

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

**EMV Application Kernel:** F EMV LIB Version 653

**Approval Number(s):**

- 2-04577-1-1C-ICTK-1019-4.3h
- 2-04577-1-2C-ICTK-1019-4.3h
- 2-04577-1-3C-ICTK-1019-4.3h
- 2-04577-2-4C-BCTS-0220-4.3h
- 2-04577-2-5C-BCTS-0220-4.3h
- 2-04577-2-6C-BCTS-0220-4.3h
- 2-04577-2-7C-BCTS-0220-4.3h
- 2-04577-2-8C-BCTS-0220-4.3h
- 2-04577-1-1OS-ICTK-1019-4.3h
- 2-04577-1-2OS-ICTK-1019-4.3h

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The EMV Application Kernel has been tested on the following terminal

**Terminal:** S800  
**PinPad:** n/a  
**Operating System:** 1OS = PaxMe Version 3.0  
2OS = Prolin Version II

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**Renewal Date:** 07-Oct-2023

**Report ID** Session 1: EDT19043 Version 1.0 - ICTK Co., Ltd.  
Session 2: TEMV1976Q1T Version V2.0 - Beijing Unionpay Card Technology Co., Ltd.  
Shenzhen Branch

**Kernel Checksum:**

F7 92 3A D8
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*Configurations Checksums:*

Config	Vendor Config ID	Terminal	Checksum
1C	Cfg_All	22	D6 16 3F C7
2C	Cfg_NC	22	F7 8A 64 07
3C	Cfg_NOnIP	22	1F 18 C8 A1
4C	Cfg_NNC	22	DF C5 C5 5F
5C	Cfg_Sig	22	B6 A6 63 9E
6C	Cfg_NNCNOnIP	22	E2 BA 80 7B
7C	Cfg_NCSig	22	EF 5B 8E 1B
8C	Cfg_NoSig	22	7D EA E4 3B

Dear Aileen Liu:

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](http://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		
<b>Card Data Input Capability</b>										
Terminal Type	22	22	22	22	22	22	22	22		
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		
<b>CVM Capability</b>										
Plaintext PIN	Yes	No	Yes	Yes	No	Yes	No	Yes		
Online Enciphered PIN	Yes	No	No	Yes	No	No	No	Yes		
Signature (Paper)	Yes	No	Yes	Yes	Yes	Yes	Yes	No		
Offline Enciphered PIN	Yes	No	Yes	Yes	No	Yes	No	Yes		
No CVM	Yes	Yes	Yes	No	No	No	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		
<b>Security Capability</b>										
SDA & DDA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Card Capture	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		
<b>Transaction Type Capability</b>										
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		
<b>Terminal Data Input Capability</b>										
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		
<b>Terminal Data Output Capability</b>										
Print, Attendant	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Print, Cardholder	No	No	No	No	No	No	No	No		
Display, Attendant	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Display, Cardholder	No	No	No	No	No	No	No	No		
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		
<b>Application Selection</b>										
PSE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Cardholder Confirmation	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Preferred display order	No	No	No	No	No	No	No	No		
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	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Common Character Set	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
<b>Data Authentication</b>										
MAX CA Public key	248	248	248	248	248	248	248	248		
Exponents	3 and 2 <sup>16</sup> +1	3 and 2 <sup>16</sup> +1	3 and 2 <sup>16</sup> +1	3 and 2 <sup>16</sup> +1	3 and 2 <sup>16</sup> +1	3 and 2 <sup>16</sup> +1	3 and 2 <sup>16</sup> +1	3 and 2 <sup>16</sup> +1		
Revocation of Issuer PK Certificate	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Certificate Revocation List Format	RID+CA Public Key Index + Certificate Serial Numbe	RID+CA Public Key Index + Certificate Serial Numbe	RID+CA Public Key Index + Certificate Serial Numbe	RID+CA Public Key Index + Certificate Serial Numbe	RID+CA Public Key Index + Certificate Serial Numbe	RID+CA Public Key Index + Certificate Serial Numbe	RID+CA Public Key Index + Certificate Serial Numbe	RID+CA Public Key Index + Certificate Serial Numbe		
Default DDOL	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Manual act. when CA PK loading fails	No	No	No	No	No	No	No	No		
CA PK verified with check sum	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
<b>Cardholder Verification Method</b>										
Bypass PIN Entry	Yes	No	Yes	Yes	No	Yes	No	Yes		
Subsequent Bypass PIN Entry	Yes	No	Yes	Yes	No	Yes	No	Yes		
Get Data for PIN Try Counter	Yes	No	Yes	Yes	No	Yes	No	Yes		
Fail CVM	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Amount known before CVM proces.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
<b>Terminal Risk Management</b>										
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		
<b>Terminal Action Analysis</b>										
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?	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
<b>Completion Processing</b>										
Forced Online	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Forced Acceptance	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Advices	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Voice Referrals Initiated by Issuer	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
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		
<b>Exception Handling</b>										
POS Entry Mode	92	92	92	92	92	92	92	92		
<b>Miscellaneous</b>										
Amount and PIN on same keypad	Yes	Yes	Yes	Yes	No	Yes	No	Yes		
ICC/Magstripe Reader Combined	No	No	No	No	No	No	No	No		
If Combined, is Magstripe read first?	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
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**