March 06, 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):   **2-04639-1-1C-BCTS-0320-4.3h**
2-04639-1-2C-BCTS-0320-4.3h
2-04639-1-3C-BCTS-0320-4.3h
2-04639-1-4C-BCTS-0320-4.3h
2-04639-1-5C-BCTS-0320-4.3h
2-04639-1-6C-BCTS-0320-4.3h
2-04639-1-7C-BCTS-0320-4.3h
2-04639-1-1OS-BCTS-0320-4.3h

The EMV Application Kernel has been tested on the following terminal
Terminal: **A920**
PinPad: **n/a**
Operating System: **1OS = PayDroid Version II**

Renewal Date: **24-Feb-2024**

Report ID   Session 1: **TEMV1976H2T Version V1.0 - Beijing Unionpay Card Technology Co., Ltd. Shenzhen Branch**

Kernel Checksum:

F7 92 3A D8

Configurations Checksums:

Config	Vendor Config ID	Terminal	Checksum
1C	Cfg_All	22	D6 16 3F C7
2C	Cfg_Sig	22	B6 A6 63 9E
3C	Cfg_NOnlP	22	1F 18 C8 A1
4C	Cfg_NCSig	22	EF 5B 8E 1B
5C	Cfg_NC	22	F7 8A 64 07
6C	uAttNoSig	25	13 54 B5 43
7C	uAttNC	25	7C 4E C3 7F

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 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, 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			
Card Data Input Capability										
Terminal Type	22	22	22	22	22	25	25			
Manual Key Entry	Yes	Yes	Yes	Yes	Yes	No	No			
Magnetic Stripe	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
IC with Contacts	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
CVM Capability										
Plaintext PIN	Yes	No	Yes	No	No	Yes	No			
Online Enciphered PIN	Yes	No	No	No	No	Yes	No			
Signature (Paper)	Yes	Yes	Yes	Yes	No	No	No			
Offline Enciphered PIN	Yes	No	Yes	No	No	Yes	No			
No CVM	Yes	No	Yes	Yes	Yes	Yes	Yes			
SB185	No	No	No	No	No	No	No			
Offline Finger	No	No	No	No	No	No	No			
Online Finger	No	No	No	No	No	No	No			
Offline Facial	No	No	No	No	No	No	No			
Online Facial	No	No	No	No	No	No	No			
Offline Palm	No	No	No	No	No	No	No			
Online Palm	No	No	No	No	No	No	No			
Offline Iris	No	No	No	No	No	No	No			
Online Iris	No	No	No	No	No	No	No			
Offline Voice	No	No	No	No	No	No	No			
Online Voice	No	No	No	No	No	No	No			
Security Capability										
SDA & DDA	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
Card Capture	No	No	No	No	No	No	No			
CDA	Mode 1	Mode 1	Mode 1	Mode 1	Mode 1	Mode 1	Mode 1			
Transaction Type Capability										
Tran Type - Cash	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
Tran Type - Goods	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
Tran Type - Services	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
Tran Type - Cash Back	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
Tran Type - Inquiry	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
Tran Type - Transfer	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
Tran Type - Payment	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
Tran Type - Admin	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
Tran Type - Cash Deposit	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
Terminal Data Input Capability										
Keypad	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
Numeric Keys	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
Alpha and Special Character Keys	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
Command Keys	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
Function Keys	Yes	Yes	Yes	Yes	Yes	Yes	Yes			

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

(continued)	1C	2C	3C	4C	5C	6C	7C			
Terminal Action Analysis										
Terminal Action Codes supported	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
TAC can be deleted or disabled	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			
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			
Completion Processing										
Forced Online	Yes	Yes	Yes	Yes	Yes	No	No			
Forced Acceptance	Yes	Yes	Yes	Yes	Yes	No	No			
Advices	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
Voice Referrals Initiated by Issuer	Yes	Yes	Yes	Yes	Yes	No	No			
Batch Data Capture	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
Online Data Capture	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
Default TDOL	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
Exception Handling										
POS Entry Mode	92	92	92	92	92	92	92			
Miscellaneous										
Amount and PIN on same keypad	Yes	No	Yes	No	No	Yes	No			
ICC/Magstripe Reader Combined	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			
Supports account type selection	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
Supports 'on fly' script processing	No	No	No	No	No	No	No			
Issuer Script device limit > 128 bytes	No	No	No	No	No	No	No			
If limit > 128, value supported?										
Internal Date Management	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
Does the terminal support Receipt?	Yes	Yes	Yes	Yes	Yes	Yes	Yes			

Attachment 1
Specific Terms and Conditions to the Letter of Approval

Restriction:

None