February 20, 2025

Mr. Liu Shulin

Shenzhen Horizon Technology Limited

1110,No.22 Jia'annan Road,Bao'an,Shenzhen,Guangdong

Shenzhen 518100

China

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

EMV Application Kernel:	**S60_EMV_KERNEL Version V1.00**
Approval Number(s):	**2-05569-1-1C-BCTC-0225-4.3k**
	2-05569-1-2C-BCTC-0225-4.3k
	2-05569-1-1OS-BCTC-0225-4.3k

The EMV Application Kernel has been tested on the following terminal

Terminal:	**MF960**
PinPad:	**n/a**
Operating System:	**1OS = Linux Version V1.00**

Renewal Date:	**28-Nov-2026**

Report ID	Session 1:	**TEMV225RV1T Version V1.0 - Beijing Unionpay Card Technology Co., Ltd (Bank Card Test Center)**

Kernel Checksum:

5C7783E06C

Configurations Checksums:

Config	Vendor Config ID	Terminal	Checksum
1C	config1	22	E7D6E6EBA6
2C	config2	22	5FB2CAC6ED

Dear Mr. Shulin:

       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.

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

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

(continued)	1C	2C								
Terminal Action Analysis										
Terminal Action Codes supported	Yes	Yes								
TAC can be deleted or disabled	No	No								
How does offline only Terminal process Default Action Codes?	N/A	N/A								
How does online only terminal process TAC/IAC-Default when unable to go online?	Normal	Normal								
Completion Processing										
Forced Online	Yes	No								
Forced Acceptance	Yes	No								
Advices	Yes	Yes								
Voice Referrals Initiated by Issuer	Yes	Yes								
Batch Data Capture	Yes	Yes								
Online Data Capture	Yes	Yes								
Default TDOL	Yes	Yes								
Default TDOL not configured	Yes	Yes								
Exception Handling										
POS Entry Mode	04	04								
Miscellaneous										
Amount and PIN on same keypad	Yes	Yes								
ICC/Magstripe Reader Combined	No	No								
If Combined, is Magstripe read first?	n/a	n/a								
Supports account type selection	Yes	Yes								
Supports 'on fly' script processing	No	No								
Issuer Script device limit > 128 bytes	Yes	No								
If limit > 128, value supported?	256									
Internal Date Management	Yes	Yes								
Does the terminal support Receipt?	Yes	Yes								

Attachment 1
Specific Terms and Conditions to the Letter of Approval

Restriction:

None