

May 15, 2024

Dr. Baidong Hu
Hangzhou Sunyard Technology Co.,Ltd.
3888 Jiangnan Avenue, Binjiang District
Hangzhou 310053
China

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

EMV Application Kernel: **emvkernel Version V1.0.0**

Approval Number(s): **2-05401-1-1C-BCTC-0524-4.4b**
2-05401-1-1P-BCTC-0524-4.4b
2-05401-1-1OS-BCTC-0524-4.4b

The EMV Application Kernel has been tested on the following terminal

Terminal: **S200**
PinPad: **1P = S200, SP_SYS V1.0.0 - PIN pad is valid for configuration(s): 1C**
Operating System: **1OS = SP_SYS Version V1.0.0**

Renewal Date: **29-Apr-2028**

Report ID Session 1: **TEMV241FD1T Version V1.0 - Beijing Unionpay Card Technology Co., Ltd**
(Bank Card Test Center)

Kernel Checksum:

62F6498E5D2BBACC6555B5F14D41B2647DA004F7
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Configurations Checksums:

Config	Vendor Config ID	Terminal	Checksum
1C	S200EMV1	22	E77F28FB957ECB4D354C8BEB2CE7CF31D62F9706

PIN Pads Checksums:

PinPad	Checksum
1P	62F6498E5D2BBACC6555B5F14D41B2647DA004F7

Dear Dr. Hu:

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 4.4 of October 2022.

EMVCo hereby grants your Application EMVCo Type Approval for Terminal Level 2, based on the requirements stated in the EMV 4.4 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 Testing Group 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									
Card Data Input Capability											
Terminal Type	22										
Manual Key Entry	Yes										
Magnetic Stripe	Yes										
IC with Contacts	Yes										
CVM Capability											
Plaintext PIN	Yes										
Online Enciphered PIN	Yes										
Signature (Paper)	Yes										
Offline Enciphered PIN (RSA)	Yes										
No CVM	Yes										
Offline Enciphered PIN (ECC)	No										
Biometric	No										
Offline Finger	No										
Online Finger	No										
Offline Facial	No										
Online Facial	No										
Offline Palm	No										
Online Palm	No										
Offline Iris	No										
Online Iris	No										
Offline Voice	No										
Online Voice	No										
Security Capability											
SDA & DDA	Yes										
Card Capture	No										
CDA	Mode 1										
XDA	No										
Transaction Type Capability											
Tran Type - Cash	No										
Tran Type - Goods	Yes										
Tran Type - Services	Yes										
Tran Type - Cash Back	Yes										
Tran Type - Inquiry	No										
Tran Type - Transfer	No										
Tran Type - Payment	No										
Tran Type - Admin	No										
Tran Type - Cash Deposit	No										
Terminal Data Input Capability											
Keypad	Yes										
Numeric Keys	Yes										
Alpha and Special Character Keys	Yes										
Command Keys	Yes										
Function Keys	Yes										

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

(continued)		1C									
Terminal Action Analysis											
Terminal Action Codes supported	Yes										
TAC can be deleted or disabled	No										
How does offline only Terminal process Default Action Codes?	N/A										
How does online only terminal process TAC/IAC-Default when unable to go online?	Normal										
Completion Processing											
Forced Online	No										
Forced Acceptance	No										
Voice Referrals Initiated by Issuer	Yes										
Default TDOL	Yes										
Default TDOL not configured	Yes										
Exception Handling											
POS Entry Mode	09										
Miscellaneous											
Amount and PIN on same keypad	Yes										
ICC/Magstripe Reader Combined	No										
Supports account type selection	No										
Supports 'on fly' script processing	No										
Issuer Script device limit > 128 bytes	No										
If limit > 128, value supported?											
Internal Date Management	Yes										
Does the terminal support Receipt?	Yes										

Attachment 1

Specific Terms and Conditions to the Letter of Approval

Restriction:

None

Conditions:

This product is not able to handle transaction date beyond the 19th of January 2038