

October 19, 2015

Igor Szpirin
Transaction Systems Kft
Bajcsy-Zsilinszky u. 12
VI/605
Budapest 1051
Hungary

Re: EMVCo Letter of Approval - Contact Terminal Level 2

EMV Application Kernel: TRSYS EMV Module Version 1.1

Approval Number(s):
2-03229-1-1C-CET-1015-4.3.d
2-03229-1-2C-CET-1015-4.3.d
2-03229-1-3C-CET-1015-4.3.d
2-03229-1-1OS-CET-1015-4.3.d

The EMV Application Kernel has been tested on the following terminal

Terminal: Verifone Vx520
PinPad: n/a
Operating System: 1OS = Verix EVO Version QT520245

Renewal Date: 10-Oct-2018

Report ID Session 1: 2TRAN_1-9827-02-02-15-A_CET - CETECOM ICT Services GmbH

Kernel Checksum:

68143D08

Configurations Checksums:

Config	Vendor Config ID	Terminal	Checksum
1C	POS	22	C6F70D3E
2C	BBT	11	E8874AA3
3C	VND	25	B5738A27

Dear Igor Szpirin:

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.

Transaction Systems Kft

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: Arnaud du Chéné

Title: EMVCo Terminal Type Approval

Terminal Capabilities	1C	2C	3C							
Card Data Input Capability										
Terminal Type	22	11	25							
Manual Key Entry	Yes	Yes	Yes							
Magnetic Stripe	Yes	Yes	Yes							
IC with Contacts	Yes	Yes	Yes							
CVM Capability										
Plaintext PIN	Yes	No	Yes							
Online Enciphered PIN	Yes	Yes	Yes							
Signature (Paper)	Yes	Yes	No							
Offline Enciphered PIN	Yes	No	Yes							
No CVM	Yes	No	Yes							
Security Capability										
SDA	Yes	No	Yes							
DDA	Yes	No	Yes							
Card Capture	No	No	No							
CDA	Mode 1	No	Mode 1							
Transaction Type Capability										
Tran Type - Cash	Yes	Yes	Yes							
Tran Type - Goods	Yes	Yes	Yes							
Tran Type - Services	Yes	Yes	Yes							
Tran Type - Cash Back	Yes	Yes	Yes							
Tran Type - Inquiry	Yes	Yes	Yes							
Tran Type - Transfer	Yes	Yes	Yes							
Tran Type - Payment	Yes	Yes	Yes							
Tran Type - Admin	Yes	Yes	Yes							
Tran Type - Cash Deposit	Yes	Yes	Yes							
Terminal Data Input Capability										
Keypad	Yes	Yes	Yes							
Numeric Keys	Yes	Yes	Yes							
Alpha and Special Character Keys	Yes	Yes	Yes							
Command Keys	Yes	Yes	Yes							
Function Keys	Yes	Yes	Yes							
Terminal Data Output Capability										
Print, Attendant	Yes	Yes	No							
Print, Cardholder	No	No	Yes							
Display, Attendant	Yes	Yes	No							
Display, Cardholder	No	No	Yes							
Code Table 10	No	No	No							
Code Table 9	No	No	No							
Code Table 8	No	No	No							
Code Table 7	No	No	No							
Code Table 6	No	No	No							
Code Table 5	Yes	Yes	Yes							
Code Table 4	No	No	No							
Code Table 3	No	No	No							
Code Table 2	No	No	No							
Code Table 1	Yes	Yes	Yes							

(continued)	1C	2C	3C							
Application Selection										
PSE	Yes	Yes	Yes							
Cardholder Confirmation	Yes	Yes	Yes							
Preferred display order	Yes	Yes	Yes							
Partial AID Selection	Yes	Yes	Yes							
Multi language	Yes	Yes	Yes							
EMV Language Selection method	Yes	Yes	Yes							
Common Character Set	Yes	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	No	Yes							
Certificate Revocation List Format	RID, CAPK Index, CSN	N/A	RID, CAPK Index, CSN							
Default DDOL	Yes	No	Yes							
Manual act. when CA PK loading fails	No	No	No							
CA PK verified with check sum	Yes	No	Yes							
Cardholder Verification Method										
Bypass PIN Entry	Yes	No	No							
Subsequent Bypass PIN Entry	Yes	No	No							
Get Data for PIN Try Counter	Yes	No	Yes							
Fail CVM	Yes	Yes	Yes							
Amount known before CVM proces.	Yes	Yes	Yes							
Terminal Risk Management										
Floor Limit Checking	Yes	Yes	Yes							
Random Transaction Selection	Yes	Yes	Yes							
Velocity Checking	Yes	Yes	Yes							
Transaction Log	Yes	Yes	Yes							
Exception File	Yes	Yes	Yes							
TRM irrespective of AIP setting (expected behavior)	Yes	Yes	Yes							
Terminal Action Analysis										
Terminal Action Codes supported	Yes	Yes	Yes							
TAC can be changed	Yes	Yes	Yes							
TAC can be deleted or disabled	No	No	No							
How does offline only Terminal process Default Action Codes?	No	No	No							
How does online only terminal process TAC/IAC-Default when unable to go online?	No	Skipped	No							

(continued)	1C	2C	3C							
Completion Processing										
Forced Online	Yes	No	No							
Forced Acceptance	No	No	No							
Advices	Yes	Yes	Yes							
Issuer Referrals	Yes	Yes	No							
Batch Data Capture	Yes	Yes	Yes							
Online Data Capture	Yes	Yes	Yes							
Default TDOL	Yes	Yes	Yes							
Exception Handling										
POS Entry Mode	80	80	80							
Miscellaneous										
PIN Pad	Yes	Yes	Yes							
Amount and PIN on same keypad	Yes	Yes	Yes							
ICC/Magstripe Reader Combined	No	No	No							
If Combined, is Magstripe read first?	No	No	No							
Supports account type selection	Yes	Yes	Yes							
Supports 'on fly' script processing	No	No	No							
Issuer Script device limit > 128 bytes	No	No	No							
If limit > 128, value supported?	N/A	N/A	N/A							
Internal Date Management	Yes	Yes	Yes							

Attachment 1

Specific Terms and Conditions to the Letter of Approval

Restriction:

None