



April 24, 2012

S.G. Jung
BITEL CO., LTD
11F Yohyun BD 242-29,
Nonhyun-dong Gangnam-ku,
Seoul, 135-830,
Korea

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

EMV Application Kernel: BOSEMVL2_V43

Approval Number(s): 2-02279-1-1S-CEM-0412-4.3.a
2-02279-1-1OS-CEM-0412-4.3.a

The EMV Application Kernel has been tested on the following terminal

Terminal: IC3300
PinPad: n/a
Operating System: 1OS = BITEL OS (custom made) Version V43

Report ID Session 1: 2_BTL_K6030_12_001_2_CEM - CETECOM MOVON Ltd

Approved Configurations:

Config	Vendor Config ID	Terminal	Checksum
1S		22	DD 7C 85 1C 28 19 91 DA

Renewal Date: 24-Apr-2015

Dear S.G. Jung:

EMVCo, LLC ("EMVCo"), a Delaware limited liability company, has received your request for Level 2 terminal type approval for the EMV Application Kernel (hereafter referred to as Application) identified above. 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 Kernel sufficiently conform to EMV Integrated Circuit Card Specifications for Payment Systems, Version 4.3 of November 2011.

EMVCo hereby (a) grants your Application EMVCo Type Approval for Terminal Level 2, based on the requirements stated in the EMV 4.3 Specifications, and (b) agrees to include your Application Kernel in EMVCo's approved Application list.

EMVCo's grant to your Application Kernel 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 Application Kernels published on the EMVCo website (www.emvco.com).

BITEL CO., LTD

This Letter of Approval is effective on dispatch from EMVCo.

EMVCo, LLC, a Delaware limited liability company

By:

Name: Arnaud du Chéné

Title: EMVCo Terminal Type Approval

Terminal Capabilities	Value Supported
Card Data Input Capability	
Manual Key Entry	Yes
Magnetic Stripe	Yes
IC with Contacts	Yes
CVM Capability	
Plaintext PIN for ICC Verification	Yes
Enciphered PIN for online Verification	Yes
Signature (Paper)	Yes
Enciphered PIN for offline Verification	Yes
No CVM Required	Yes
Security Capability	
Static Data Authentication and Dynamic Data Authentication	Yes
Card Capture	No
Combined Dynamic Data Authentication / Application Cryptogram Generation	No
Transaction Type Capability	
Cash	Yes
Goods	Yes
Services	Yes
Cash Back	No
Inquiry	No
Transfer	No
Payment	No
Administrative	No
Cash Deposit	No
Terminal Data Input Capability	
Does terminal have keypad	Yes
Numeric Keys	Yes
Alphabetic and Special Character Keys	No
Command Keys	Yes
Function Keys	Yes
Terminal Data Output Capability	
Print, Attendant (Mandatory for terminals supporting signature)	Yes
Print, Cardholder	No
Display, Attendant (Mandatory for Attended terminals)	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

Terminal Capabilities	Value Supported
Application Selection	
Support PSE selection Method	Yes
Support Cardholder Confirmation	Yes
Does Terminal have a preferred order of displaying applications	No
Does terminal perform partial AID selection	Yes
Does the terminal have multi language support	No
Does the terminal support the EMV Language Selection method	No
Does the terminal support the Common Character Set as defined in Annex B table 20 Book 4	Yes
Selectable Kernel Configurations	
Is your Multi-Configuration Kernel capable of dynamically selecting a configuration at the time of transaction based on 'triggers' as described in SU70?	No
Data Authentication	
What is the maximum supported Certificate Authority Public Key Size (Mandatory for terminals supporting Data Authentication with minimal support for 248 bytes)	248
What exponents does the terminal support (Mandatory for terminals supporting Data Authentication, 3 and 2 ¹⁶ +1)	3 and 2 ¹⁶ +1
During data authentication does the terminal check validity for revocation of Issuer Public Key Certificate	Yes
When supporting certificate revocation, what is the Certificate Revocation List format?	RID+KeyIndex+CSN+exponent+bits+modulus
Does the terminal contain a default DDOL (Mandatory for terminals supporting DDA)	Yes
Is operator action required when loading CA Public Key fails	No
CA Public Key verified with CA Public Key Check Sum	Yes
Cardholder Verification Method	
Terminal supports bypass PIN Entry	Yes
Terminal supports Subsequent bypass PIN Entry	Yes
Terminal supports Get Data for PIN Try Counter	Yes
Terminal supports Fail CVM	Yes
Are amounts known before CVM processing	No
Terminal Risk Management	
Floor Limit Checking (Mandatory for offline only terminals and offline terminals with online capability)	Yes
Random Transaction Selection (Mandatory for offline terminals with online capability, except when cardholder controlled)	Yes
Velocity Checking (Mandatory for offline only terminals and offline terminals with online capability)	Yes
Transaction Log	Yes
Exception File	Yes
Performance of Terminal Risk Management irrespective of AIP setting (expected behavior)	Yes

Terminal Capabilities	Value Supported
Terminal Action Analysis	
Does the terminal support Terminal Action Codes	No
Can the values of the Terminal Action Codes be changed	No
Can the Terminal Action Codes be deleted or disabled? If yes what are the default TAC values supported? (according to Book 3 Section 10.7)	No
TAC Denial:	
TAC Online:	
TAC Default:	
Does Offline Only Terminal process Default Action Codes prior to First Generate AC	No
Does Offline Only Terminal process Default Action Codes after First Generate AC	No
Does Online Only Terminal skip processing TAC/IAC-Default and automatically request an AAC when unable to go online	No
Does Online Only Terminal process TAC/IAC-Default as normal when unable to go online	No
Device capable of detecting CDA failure before Terminal Action Analysis	No
Mode 1: Req. CDA on ARQC + Req. CDA on 2nd GenAC after approved Online authorization	No
Mode 2: Req. CDA on ARQC + No Req. CDA on 2nd GenAC after approved Online authorization	No
Mode 3: No Req. CDA on ARQC + No Req. CDA on 2nd GenAC after approved Online authorization	No
Mode 4: No Req. CDA on ARQC + Req. CDA on 2nd GenAC after approved Online authorization	No
Completion Processing	
Transaction Forced Online Capability	Yes
Transaction Forced Acceptance Capability	No
Does terminal Support advices	No
Does the terminal support Issuer initiated Voice Referrals	Yes
Does the terminal support Batch Data Capture	Yes
Does the terminal support Online Data Capture	No
Does the terminal support a Default TDOL	Yes
Exception Handling	
What is the POS Entry Mode value when IC cannot be read and the transaction falls back using Magstripe (Mandatory for attended terminals)	0x92
Miscellaneous	
Is the terminal equipped with a PIN Pad	Yes
Is the amount and PIN entered at the same keypad	Yes
Is the ICC/Magstripe Reader combined	No
If Combined ICC/Magstripe reader is supported, is Magstripe read first	No
Does the terminal support account type selection	No
Does the terminal support 'on fly' script processing (not recommended behavior)	No
Is the Issuer Script device limit greater than 128 bytes	No
If the Issuer Script device limit is greater than 128 bytes, what is the value supported	NA
Does the terminal support Internal Date Management	No

Attachment 1

Specific Terms and Conditions to the Letter of Approval

Restriction:

None