October 30, 2026

Mr. Woo Chan Kim
NEWNS Co.,LTD
#502 Fottu B/D, 66 Gunpocheomdansaneop 2-ro

Gunpo-si 15880
KOREA, REPUBLIC OF

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

EMV Application Kernel: **NEWNS EMV L2 Version v44c**

Approval Number(s): **2-05891-1-1S-1026-4.4c**
2-05891-1-1OS-1026-4.4c

The EMV Application Kernel has been tested on the following terminal

Terminal: **AI PLUS**
PinPad: **n/a**
Operating System: **1OS = FreeRTOS (32bit) Version v10.0.1**

Expiry Date: **30-Jun-2030**

Report ID Session 1: **EDT26051 Version 1.0 - Bureau Veritas ICTK Co., Ltd.**

Kernel Checksum:

a9ed1f48

Configuration Checksum:

Config	Vendor Config ID	Terminal	Checksum
1S		21	0c94bf37

Dear Mr. Kim:

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 4.4 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.

Authorised by Frédéric Fortin
Terminal Testing Group Chair
EMVCo, LLC

Terminal Capabilities	Value Supported
Card Data Input Capability	
Manual Key Entry	No
Magnetic Stripe	Yes
IC with Contacts	Yes
CVM Capability	
Plaintext PIN for ICC Verification	No
Enciphered PIN for online Verification	No
Signature (Paper)	Yes
Enciphered PIN for offline Verification (RSA ODE)	No
No CVM Required	Yes
Enciphered PIN for offline Verification (ECC ODE)	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	
Static Data Authentication and Dynamic Data Authentication	No
Card Capture	No
Combined Dynamic Data Authentication / Application Cryptogram Generation	No
Extended Data Authentication (XDA)	No
Transaction Type Capability	
Cash	No
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 and/or Cardholder	Yes
Display, Attendant and/or Cardholder	Yes

Terminal Capabilities	Value Supported
Terminal Data Output Capability	
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	
Support PSE selection Method	Yes
Support Cardholder Selection & Confirmation	No
Does Terminal have a preferred order of displaying applications	No
Does terminal perfom 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	No
Data Authentication	
During data authentication does the terminal check validity for revocation of Issuer Public Key Certificate	No
When supporting certificate revocation, what is the Certificate Revocation List format?	
Does the terminal contain a default DDOL (Mandatory for terminals supporting DDA)	No
Cardholder Verification Method	
Terminal supports bypass PIN Entry	No
Terminal supports Subsequent bypass PIN Entry	No
Terminal supports Get Data for PIN Try Counter	No
Terminal supports Fail CVM	Yes
Are amounts known before CVM processing	Yes
Terminal Risk Management	
Floor Limit Checking (Mandatory for offline only terminals and offline terminals with online capability)	No
Random Transaction Selection (Mandatory for offline terminals with online capability, except when cardholder controlled)	No
Velocity Checking (Mandatory for offline only terminals and offline terminals with online capability)	No
Transaction Log	No
Exception File	No
Terminal Risk Management performed irrespective of AIP setting (expected behavior)	Yes

Terminal Capabilities	Value Supported
Terminal Action Analysis	
Does the terminal support Terminal Action Codes	Yes
Can the Terminal Action Codes be deleted or disabled? If yes, the default TAC values of the TAC-Online, TAC-default and TAC-denial shall be set to zeroes	Yes
If Offline Only is supported, which option of the Offline Only Terminal processing is implemented? (according to Book3, section 10.7)	N/A
How does online only terminal process TAC/IAC-Default when unable to go online?	Skipped
Completion Processing	
Transaction Forced Online Capability	No
Transaction Forced Acceptance Capability	No
Does the terminal support Issuer initiated Voice Referrals	Yes
Does the terminal support a Default TDOL	Yes
If a Default TDOL is supported, can this default TDOL be not configured (or not loaded) in the terminal	No
Default TDOL TVR bit set before or after the 1st Generate AC Terminal Action Analysis	Before
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)	02
Miscellaneous	
Is the terminal equipped with a PIN Pad	No
Is the amount and PIN entered at the same keypad	No
Is the ICC/Magstripe Reader combined	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	Yes
If the Issuer Script device limit is greater than 128 bytes, what is the value supported	256
Does the terminal support Internal Date Management	No
Is the Level 2 Contact Kernel Random Generator using the algorithm described in Book2, section 11.3	No
If the Level 2 Contact Kernel Random Generator is not using the algorithm described in Book2, section 11.3, is this function PCI approved	No
If the Level 2 Contact Kernel Random Generator is not using the algorithm described in Book2, section 11.3, describe the function (such as algorithm used, etc)	This is the initialization routine for the random number generator RANMAR(). The random number sequences created by these two seeds are of sufficient length to complete an entire calculation with void ranmar(float rvec[],int len); This is the random number generator to produce an array of pseudorandom numbers. This algorithm is a combination of a Fibonacci sequence and an 'arithmetic sequence'.
Is the Random Generator function of the Level 2 Contact Kernel Software dependent on the Terminal Hardware?	No
If answer to previous question is Yes, describe the function and the Hardware	
Are the Cryptographic functions (RSA, Hash, etc) of the Level 2 Contact Kernel Software dependent on the Terminal Hardware	No
If answer to previous question is Yes, describe the Hardware	
Is any other functions of the Level 2 Contact Kernel Software dependent on the Terminal Hardware	No
If answer to previous question is Yes, describe the functions and the Hardware	

Terminal Capabilities	Value Supported
Miscellaneous	
Does the terminal support Receipt (by printing or any electronic means)?	Yes
List the Currency Codes supported as for ISO 4217 (one currency shall be declared at a minimum, and up to 10 if multiple currencies are supported with at least one per currency exponent supported)	840
Does the terminal support the Application Selection Registered Proprietary Data (ASRPD)?	No
List the Language(s) supported as for ISO 639 (minimum one shall be declared, and up to 10 if Multiple Languages are supported)	ENG
Can the Kernel be configured so the data object 'Terminal Risk Management Data' '9F1D' is absent or configured with no value (00 is a value)?	No
Can the Transaction Sequence Counter (TSC) be personalized to any value?	No
If answer to previous question is Yes, what is the Maximum Value of the Transaction Sequence Counter?	
Checksum	
Does the product comply with the Checksum rules as defined in Contact Terminal Level 2 administrative process	Yes
This is an Initial submission or Subsequent submission or renewal of the original approved product prior to the effective date of checksum rules (cf Terminal Type Approval Bulletin No. 134)	n/a
Configuration Checksum (Static Kernel only)	0c94bf37

Attachment 1
Specific Terms and Conditions to the Letter of Approval

Restriction:

None