

June 09, 2025

Mr. Andrew Cullen  
Windcave Limited  
33 Wilkinson Road  
Ellerslie  
Auckland 1060  
New Zealand

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

**EMV Application Kernel:** PX ScrEmvLib Version 2.0.4

**Approval Number(s):** 2-05589-1-1C-ICTK-0625-4.4c  
2-05589-1-2C-ICTK-0625-4.4c  
2-05589-1-3C-ICTK-0625-4.4c  
2-05589-1-4C-ICTK-0625-4.4c  
2-05589-1-5C-ICTK-0625-4.4c  
2-05589-1-6C-ICTK-0625-4.4c  
2-05589-1-7C-ICTK-0625-4.4c  
2-05589-1-8C-ICTK-0625-4.4c  
2-05589-1-9C-ICTK-0625-4.4c  
2-05589-1-1P-ICTK-0625-4.4c  
2-05589-1-1OS-ICTK-0625-4.4c

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The EMV Application Kernel has been tested on the following terminal

**Terminal:** CHU200S  
**PinPad:** 1P = CHU200S, PXCHU200S V1.000 - PIN pad is valid for configuration(s):  
1C, 4C, 5C, 6C, 8C, 9C  
**Operating System:** 1OS = PXRTOS 32 bits Version 1.0

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**Renewal Date:** 29-May-2029

**Report ID** Session 1: EDT25027 Version 1.0 - ICTK Co., Ltd.

**Kernel Checksum:**

78EB9B5485B7F090EC6CC10B9EA0B39ABF77BF73

*Configurations Checksums:*

Config	Vendor Config ID	Terminal	Checksum
1C	SCR_Config1	22	BE93EB0EE7031169FF65B76B7C54ECC60C3C1F25
2C	SCR_Config2	25	68F32A75C638D1D89540FFD81152E62863F80185
3C	SCR_Config3	22	E2F1EF2218A6452116165B647CEBE927FC379A9C
4C	SCR_Config4	25	70B78BA42B389D9AF590BCC97540976A25A670F9
5C	SCR_Config5	22	84620BEA18A1FCDE9325024B5DFBDE265EDA3D18
6C	SCR_Config6	22	59CD401F03409ED4796925C45F9657BE3F3F8F53
7C	SCR_Config7	22	E4A6578A123A67D7A476C1FDB775BAAFA53DBABB
8C	SCR_Config8	25	7F428D3769C7153D66CC6ACB7E9CE7D354110686
9C	SCR_Config9	22	B87727767D18D46297F044C63D1611DB47E397D8

*PIN Pads Checksums:*

PinPad	Checksum
1P	B2F575AC81384860324C35AEF983A2749427FF3B

Dear Mr. Cullen:

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](http://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 and the Cryptographic Functions are part of the EMV specifications. This Contact Level 2 Kernel utilizes a specific Hardware component in the tested terminal to generate random numbers and/or Cryptographic Functions. To be EMV compliant, this Contact Level 2 Kernel shall be used in conjunction with terminals having this specific Hardware component.**

<b>Terminal Capabilities</b>	<b>1C</b>	<b>2C</b>	<b>3C</b>	<b>4C</b>	<b>5C</b>	<b>6C</b>	<b>7C</b>	<b>8C</b>	<b>9C</b>	
<b>Card Data Input Capability</b>										
Terminal Type	22	25	22	25	22	22	22	25	22	
Manual Key Entry	Yes	No	No	No	No	Yes	Yes	Yes	Yes	
Magnetic Stripe	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
IC with Contacts	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
<b>CVM Capability</b>										
Plaintext PIN	Yes	No	No	Yes	Yes	Yes	No	Yes	No	
Online Enciphered PIN	Yes	No	No	Yes	Yes	No	No	No	Yes	
Signature (Paper)	Yes	No	No	No	No	Yes	Yes	No	No	
Offline Enciphered PIN (RSA)	Yes	No	No	Yes	Yes	Yes	No	Yes	Yes	
No CVM	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	
Offline Enciphered PIN (ECC)	No	No	No	No	No	No	No	No	No	
Biometric	No	No	No	No	No	No	No	No	No	
Offline Finger	No	No	No	No	No	No	No	No	No	
Online Finger	No	No	No	No	No	No	No	No	No	
Offline Facial	No	No	No	No	No	No	No	No	No	
Online Facial	No	No	No	No	No	No	No	No	No	
Offline Palm	No	No	No	No	No	No	No	No	No	
Online Palm	No	No	No	No	No	No	No	No	No	
Offline Iris	No	No	No	No	No	No	No	No	No	
Online Iris	No	No	No	No	No	No	No	No	No	
Offline Voice	No	No	No	No	No	No	No	No	No	
Online Voice	No	No	No	No	No	No	No	No	No	
<b>Security Capability</b>										
SDA & DDA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Card Capture	No	No	No	No	No	No	No	No	No	
CDA	Mode 1	Mode 1	Mode 1	Mode 1	Mode 1	Mode 1	Mode 1	Mode 1	Mode 1	
XDA	No	No	No	No	No	No	No	No	No	
<b>Transaction Type Capability</b>										
Tran Type - Cash	Yes	No	No	No	Yes	Yes	Yes	No	Yes	
Tran Type - Goods	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Tran Type - Services	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Tran Type - Cash Back	Yes	No	No	No	Yes	Yes	Yes	No	Yes	
Tran Type - Inquiry	No	No	No	No	No	No	No	No	No	
Tran Type - Transfer	No	No	No	No	No	No	No	No	No	
Tran Type - Payment	No	No	No	No	No	No	No	No	No	
Tran Type - Admin	No	No	No	No	No	No	No	No	No	
Tran Type - Cash Deposit	No	No	No	No	No	No	No	No	No	
<b>Terminal Data Input Capability</b>										
Keypad	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Numeric Keys	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Alpha and Special Character Keys	No	No	No	No	No	No	No	No	No	
Command Keys	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Function Keys	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	

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

<b>(continued)</b>	<b>1C</b>	<b>2C</b>	<b>3C</b>	<b>4C</b>	<b>5C</b>	<b>6C</b>	<b>7C</b>	<b>8C</b>	<b>9C</b>	
<b>Terminal Action Analysis</b>										
Terminal Action Codes supported	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
TAC can be deleted or disabled	No	No	No	No	No	No	No	No	No	
How does offline only Terminal process Default Action Codes?	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
How does online only terminal process TAC/IAC-Default when unable to go online?	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
<b>Completion Processing</b>										
Forced Online	No	No	No	No	No	No	No	No	No	
Forced Acceptance	No	No	No	No	No	No	No	No	No	
Voice Referrals Initiated by Issuer	Yes	No	Yes	No	Yes	Yes	Yes	No	Yes	
Default TDOL	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Default TDOL not configured	No	No	No	No	No	No	No	No	No	
<b>Exception Handling</b>										
POS Entry Mode	0x80	0x80	0x80	0x80	0x80	0x80	0x80	0x80	0x80	
<b>Miscellaneous</b>										
Amount and PIN on same keypad	No	No	No	No	No	No	No	No	No	
ICC/Magstripe Reader Combined	No	No	No	No	No	No	No	No	No	
Supports account type selection	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes	
Supports 'on fly' script processing	No	No	No	No	No	No	No	No	No	
Issuer Script device limit > 128 bytes	No	No	No	No	No	No	No	No	No	
If limit > 128, value supported?										
Internal Date Management	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Does the terminal support Receipt?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	

# **Attachment 1**

## **Specific Terms and Conditions to the Letter of Approval**

Restriction:

**None**