

November 16, 2023

Paola Araco

NCR Financial Solutions Group Limited

Discovery Centre (2nd Floor - East)

3 Fulton Road

Dundee DD2 4SW

UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN  
IRELAND

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

**EMV Application Kernel:** EMV Kernel Version 9.00

**Approval Number(s):**  
2-05234-1-1C-CETI-1123-4.4a  
2-05234-1-2C-CETI-1123-4.4a  
2-05234-1-3C-CETI-1123-4.4a  
2-05234-1-4C-CETI-1123-4.4a  
2-05234-1-5C-CETI-1123-4.4a  
2-05234-1-1P-CETI-1123-4.4a  
2-05234-1-1OS-CETI-1123-4.4a  
2-05234-1-2OS-CETI-1123-4.4a  
2-05234-1-3OS-CETI-1123-4.4a

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The EMV Application Kernel has been tested on the following terminal

**Terminal:** NCR SelfServ™ ATM

**PinPad:** 1P = 5815 EPP, CEN XFS PINPAD 3.30 - PIN pad is valid for  
configuration(s): 1C, 2C, 3C, 4C, 5C

**Operating System:** 1OS = Windows 10 Version IOT Enterprise 1607

2OS = Windows 7 Version Professional Service Pack 1

3OS = Windows XP Version Service Pack 3

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**Renewal Date:** 16-Nov-2027

**Report ID** Session 1: 2NCRF\_1-5607-1-2-22\_CETI-B Version -B - CTC advanced GmbH

**Kernel Checksum:**

E62969539DD6FDA81D6E
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**Configurations Checksums:**

Config	Vendor Config ID	Terminal	Checksum
1C	C-ITA-1	14	09C55F983485E421BA50
2C	C-STD-2	14	7C9415CE22A50AD44B36
3C	C-STD-3	14	8F0B31B4D9FFFC89D759
4C	C-GER-4	14	FBCA00EC004E5B2B74D8
5C	C-T24-5	24	BD85E27564E4E140B94C

**PIN Pads Checksums:**

PinPad	Checksum
1P	

Dear Paola Araco:

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.***

EMVCo, LLC, a Delaware limited liability company

By:

Name: Frédéric Fortin

Title: EMVCo Terminal Testing Group Chair

Terminal Capabilities	1C	2C	3C	4C	5C					
<b>Card Data Input Capability</b>										
Terminal Type	14	14	14	14	24					
Manual Key Entry	No	No	No	No	No					
Magnetic Stripe	Yes	Yes	Yes	Yes	Yes					
IC with Contacts	Yes	Yes	Yes	Yes	Yes					
<b>CVM Capability</b>										
Plaintext PIN	Yes	No	No	No	No					
Online Enciphered PIN	Yes	Yes	Yes	Yes	Yes					
Signature (Paper)	No	No	No	No	No					
Offline Enciphered PIN (RSA)	Yes	No	No	No	No					
No CVM	No	No	No	No	No					
Biometric	Yes	Yes	Yes	Yes	Yes					
Offline Finger	No	No	No	No	No					
Online Finger	No	No	No	No	No					
Offline Facial	No	No	No	No	No					
Online Facial	No	No	No	No	No					
Offline Palm	No	No	No	No	No					
Online Palm	No	No	No	No	No					
Offline Iris	No	No	No	No	No					
Online Iris	No	No	No	No	No					
Offline Voice	No	No	No	No	No					
Online Voice	No	No	No	No	No					
<b>Security Capability</b>										
SDA & DDA	Yes	No	No	No	No					
Card Capture	Yes	Yes	Yes	Yes	Yes					
CDA	Mode 1	No	No	No	No					
<b>Transaction Type Capability</b>										
Tran Type - Cash	Yes	Yes	Yes	Yes	Yes					
Tran Type - Goods	Yes	Yes	Yes	No	Yes					
Tran Type - Services	Yes	Yes	Yes	No	Yes					
Tran Type - Cash Back	No	No	No	No	No					
Tran Type - Inquiry	Yes	Yes	Yes	No	Yes					
Tran Type - Transfer	Yes	Yes	Yes	No	Yes					
Tran Type - Payment	Yes	Yes	Yes	No	Yes					
Tran Type - Admin	No	No	No	No	No					
Tran Type - Cash Deposit	Yes	Yes	Yes	No	Yes					
<b>Terminal Data Input Capability</b>										
Keypad	Yes	Yes	Yes	Yes	Yes					
Numeric Keys	Yes	Yes	Yes	Yes	Yes					
Alpha and Special Character Keys	No	No	No	No	No					
Command Keys	Yes	Yes	Yes	Yes	Yes					
Function Keys	Yes	Yes	Yes	Yes	Yes					

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

(continued)	1C	2C	3C	4C	5C					
<b>Terminal Action Analysis</b>										
Terminal Action Codes supported	Yes	Yes	Yes	Yes	Yes					
TAC can be deleted or disabled	Yes	Yes	Yes	Yes	Yes					
How does offline only Terminal process Default Action Codes?	N/A	N/A	N/A	N/A	N/A					
How does online only terminal process TAC/IAC-Default when unable to go online?	Skipped	Skipped	Skipped	Skipped	Skipped					
<b>Completion Processing</b>										
Forced Online	No	No	No	No	No					
Forced Acceptance	No	No	No	No	No					
Advices	No	No	No	No	No					
Voice Referrals Initiated by Issuer	No	No	No	No	No					
Batch Data Capture	No	No	No	No	No					
Online Data Capture	Yes	Yes	Yes	Yes	Yes					
Default TDOL	Yes	Yes	Yes	Yes	Yes					
Default TDOL not configured	Yes	Yes	Yes	Yes	Yes					
<b>Exception Handling</b>										
POS Entry Mode	NA	NA	NA	80	NA					
<b>Miscellaneous</b>										
Amount and PIN on same keypad	Yes	Yes	Yes	Yes	Yes					
ICC/Magstripe Reader Combined	Yes	Yes	Yes	Yes	Yes					
If Combined, is Magstripe read first?	Yes	Yes	Yes	Yes	Yes					
Supports account type selection	No	No	No	No	No					
Supports 'on fly' script processing	No	No	No	No	No					
Issuer Script device limit > 128 bytes	Yes	Yes	Yes	Yes	Yes					
If limit > 128, value supported?	0	0	0	0	0					
Internal Date Management	Yes	Yes	Yes	Yes	Yes					
Does the terminal support Receipt?	Yes	Yes	Yes	No	Yes					

## **Attachment 1**

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

Restriction:

**None**