



20th October 2022

Shanghai Xiangcheng Communication Technology Co.,Ltd.
Attn: Liu Shaoxin
6th Floor, Building 10,
No. 3000 Longdong Avenue,
Pudong New District, Shanghai
201203 China

Approval Number: 41.BCTC.SXCT.P10.20221020-B

RE: Expresspay 4.1 Reader Certification
Product Name: P10
Firmware Version: Amex Kernel V1.2.3

Dear Liu,

We are pleased to inform you that American Express has certified the **P10** for Expresspay 4.1 using Firmware Version **Amex Kernel V1.2.3**. This Expresspay 4.1 certification is valid for three years from the date of issuance.

The certification process addresses the acceptance of American Express Proximity Device capabilities.

Because the certification process cannot possibly test for every scenario, the discovery of any subsequent bugs or issues may require the correction and recertification of your software, firmware, and/or hardware.

Sincerely,

Maguire Gillen

Maguire Gillen
Network and Acquirers Solutions
American Express

If you have questions or for additional certification requests, please send an email to axp.contactless.terminal.support@aexp.com

**Expresspay 4.1.0 Contactless Reader
Implementation Conformance Statement**

Confidential and Trade Secret Materials

This document contains sensitive, confidential and trade secret information and may not be disclosed to third parties without the prior written consent of American Express Travel Related Services Company, Inc.

The policies, procedures, and rules in this manual are subject to change from time to time by American Express Global Network Services.

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Summary of Changes

Date	Version	Modification
June 2021	1.0.0	Baseline document – Expresspay 4.1.0

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1.0 Using this document

1.1. Purpose of the Document

The purpose of this document is to capture the implementer specific options for contactless readers submitted for Expresspay contactless reader functional type approval. Readers are submitted for type approval to prove compliance with the functional requirements as defined in [SPEC].

1.2. Out of Scope

The following are considered out of scope of this document:

- Details of functional and technical requirements as specified in [SPEC].
- Details of the certification process as specified in [PROC].

1.3. Audience

The document is intended to be used by:

- American Express;
- Terminal vendors;
- Reader application developers;
- Test tool vendors;
- Expresspay accredited testing laboratories.

1.4. Reference Documents

The following references are cited by this document:

Reference	Document
[PROC]	Expresspay Terminal Level 2 Approval Process
[SPEC]	Expresspay Terminal Specification (Expresspay 4.0.x)

1.5. Organization of Document

This document is organised in three sections as follows:

- Certification Information – asks about the product to be certified, previous certification of the kernel and contactless components and details of the vendor;
- Product Information – asks general questions about the product to be certified and the architecture employed;
- Implementation Information – asks detailed questions about the implementation of the Expresspay kernel within the product and support for optional features;
- Declaration.

1.6. Terminology and Conventions

In this document, the use of the words “shall” and “must” indicate mandatory requirements. Use of the words “should” or “advised” indicate recommendations and best practice guidelines.

2.0 Implementation Conformance Statement

2.1. Certification Information

Certification Request	
Product name	P10
Product version <i>If applicable.</i>	V1.2
Certification type	<input checked="" type="radio"/> New Kernel Certification <input type="radio"/> Kernel Update (modification of previously certified kernel) <input type="radio"/> Device Update (using unmodified previously certified kernel)
If this is a kernel or device update, please provide the existing Expresspay Level 2 certification number for this product.	Must provide Baseline # _____
If this is a device update, please provide details as to which components are different than those in the originally certified product	

Vendor information					
Company legal name	Shanghai Xiangcheng Communication Technology Co.,Ltd.				
DBA <i>If different from legal name.</i>					
Company address	6th Floor, Building 10, No.3000 Longdong Avenue, Pudong New District, Shanghai				
Postcode	201203	City	Shanghai	State/province	Shanghai
Country	China				
Primary contact's details (This will be used for all Expresspay contactless reader type approval communication)					
First name	Liu	Last name	Shaixin		
Title	Certification Engineer				
Email address	kevin.liu@xchengtech.com				
Telephone	+86-21-60757988	Fax	+86-21-60757988		
Company address	6th Floor, Building 10, No.3000 Longdong Avenue, Pudong New District, Shanghai				

EMVCo Level 1 Certification details	
Version of EMV Contactless Protocol supported	3.1a
Level 1 Approval number	180290922 31031a 31a BCTS
Date EMV Contactless Protocol certification received <i>If the reader has not yet received EMV Contactless Protocol certification, please provide the certification start date.</i>	September 12, 2022

2.2. Product Information

Product details	
Reader type	<input checked="" type="radio"/> Integrated reader <input type="radio"/> Intelligent reader <input type="radio"/> Transparent Reader
Operating System name and version	XC OS 2.0
Reader architecture	<input type="radio"/> Modular <input checked="" type="radio"/> Non-Modular
mPOS Architecture (Please choose 'Not applicable' if reader is not mPOS)	<input checked="" type="radio"/> Not applicable <input type="radio"/> Accessory (mPOS-A) <input type="radio"/> Accessory with PIN entered on the COTS Device (mPOS-ASP) <input type="radio"/> Contactless Payment on COTS Device (mPOS-C) <input type="radio"/> Contactless Payment and PIN entered on COTS Device (mPOS-CSP) <input type="radio"/> Other - Please provide details in the next box
mPOS Architecture description (Please complete if 'Other' is selected in the previous box)	
Is the reader a Transit Access Terminal only? (For informational only. This is not applicable to mPOS)	<input type="radio"/> Yes <input checked="" type="radio"/> No
Version number of the Expresspay kernel application to be certified	Amex Kernel V1.2.3

Version number of any test application required for certification	
Modular architecture details¹ (To be completed if the reader employs a modular architecture.)	
Terminal Architecture Name/ Identifier	
Modular Approval Number	
Checksum function output value for the Expresspay kernel, and any referenced libraries, to be certified <i>Instructions for how to trigger the checksum function must be included with the completed ICS form.</i>	

Proximity Coupling Device details (This is not applicable to mPOS-C or mPOS-CSP)	
PCD ID <i>A unique ID which identifies the PCD embedded in the product.</i>	P10-PCD V1.0
PCD hardware name or model number	P10-PCD-HW
PCD software name	P10-PCD-SW
Software version	V1.0

PIN Entry Device information (also applicable to mPOS-A)	
Is PIN entry supported?	<input checked="" type="radio"/> Yes <input type="radio"/> No
PED Details (Please complete if the reader supports PIN entry device. This is not applicable to mPOS-C or mPOS-CSP)	
PED Model name	P10-PED
PED software version	V1.0

¹ Please note that filling in this section is not a request for Modular Label approval. A separate approval request form needs to be completed. Kindly contact your American Express representative for further information.

PED architecture	<input type="radio"/> Standalone <input type="radio"/> Integrated with reader <input checked="" type="radio"/> Integrated with terminal
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Test device details
(Additional information should be provided, if necessary, in the space provided at the end of this form.)

Reader serial numbers	
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2.3. Implementation Information

Where the reader is hard-coded to support, or not support, particular functionality, please check ‘Yes’ or ‘No’ as appropriate in answer to the questions below. Where the reader can be configured (without modification to the Expresspay kernel or any referenced libraries) to support, or not support, particular functionality, please check ‘Configurable’. Readers which support such configuration are known as multi-configuration kernel readers. The inclusion of any ‘Configurable’ answers will identify your reader as being able to be configured to support a variety of implementation requirements from your customers. Your reader will be tested using a variety of configurations to ensure that it is certified for implementation in any of the potential configurations that result from its capabilities. This provides the greatest flexibility for you and your clients whilst providing American Express with the necessary confidence in the product.

Pre-Kernel processing	
<p>Can the reader operate in Expresspay EMV Mode only?</p> <p>Please choose ‘Yes’ if the reader is mPOS-C or mPOS-CSP or ‘Configurable’ for ALL other readers.</p> <p>‘Yes’ indicates that the reader is hardcoded to operate in EMV mode only. This will be the only supported transaction mode.</p> <p>‘Configurable’ means that the reader can be configured to operate in either EMV mode only or EMV and Magstripe Mode.</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Configurable
<p>Does the reader check it has an online connection during pre-processing before activating the kernel?</p> <p>Please choose ‘Yes’ if the reader is mPOS-C or mPOS-CSP or ‘No’ for ALL other readers.</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>Does the reader detect it will be unable to go online during pre-PDOL processing before starting a transaction?</p>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Configurable
<p>Configurable unpredictable range for Expresspay Magstripe mode transactions</p> <p><i>Default UN range is 0 to 60.</i></p> <p>Please complete only if the reader supports Expresspay Magstripe mode; otherwise, please check the “Not applicable” box.</p>	0 to <u>60</u> <input checked="" type="checkbox"/> Not applicable

Contactless transaction types supported	
<p>Are “Cash” transactions supported?</p>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Configurable <p>If the above answer is “Yes” or “Configurable”, then which type of “Cash” transactions are supported:</p> <input checked="" type="checkbox"/> Domestic <input checked="" type="checkbox"/> International

<p>Are “Cashback” transactions supported?</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Configurable</p> <p>If the above answer is “Yes” or “Configurable”, then which type of “Cashback” transactions are supported:</p> <p><input checked="" type="checkbox"/> Domestic <input checked="" type="checkbox"/> International</p>
<p>Are “Goods and Services” transactions supported?</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Configurable</p> <p>If the above answer is “Yes” or “Configurable”, then which type of “Goods and Services” transactions are supported:</p> <p><input checked="" type="checkbox"/> Domestic <input checked="" type="checkbox"/> International</p>
<p>Are “ATM” transactions supported? Please choose ‘No’ for ALL mPOS readers.</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Configurable</p> <p>If the above answer is “Yes” or “Configurable”, then which type of “ATM” transactions are supported:</p> <p><input type="checkbox"/> Domestic <input type="checkbox"/> International</p>
<p>What type of operational control is supported by the Terminal?</p>	<p>Operational Control:</p> <p><input type="checkbox"/> Financial Institution <input checked="" type="checkbox"/> Merchant <input type="checkbox"/> Cardholder</p>
<p>Please specify the environment in which the Terminal will operate: Please choose ‘Attended’ for ALL mPOS readers.</p>	<p>Environment:</p> <p><input checked="" type="checkbox"/> Attended <input type="checkbox"/> Unattended</p>
<p>Is the Terminal type “Offline only”? Note: If the terminal type is “Offline with online capability”, then the only valid options are either “No” or “Configurable” Please choose ‘No’ if the reader is mPOS-C or mPOS-CSP.</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Configurable</p>

<p>Is the Terminal type “Online only”?</p> <p>Note: If the terminal type is “Offline with online capability”, then the only valid options are either “No” or “Configurable”</p> <p>Please choose ‘Yes’ if the reader is mPOS-C or mPOS-CSP.</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Configurable
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Other Interfaces supported	
<p>Does the reader support the AEIPS contact interface?</p> <p>Please choose ‘No’ if the reader is mPOS-C or mPOS-CSP.</p>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Configurable

Transaction Processing Capability	
<p>Is the reader capable of processing transactions with Delayed Authorization?</p> <p>Please choose ‘No’ if the reader is mPOS-C or mPOS-CSP.</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Configurable
<p>Is the reader capable of displaying, printing or communicating the TVR to the test tool after the GENAC1 command is completed during a Magstripe Mode transaction?</p> <p>Please choose ‘No’ for mPOS-C or mPOS-CSP readers.</p>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Offline data authentication	
<p>Expresspay requires that all Terminals must support SDA. The enablement of SDA support must be configurable for deployment.</p> <p>Please confirm that this is the case by checking the ‘Configurable’ checkbox.</p>	<input checked="" type="checkbox"/> Configurable
<p>Expresspay requires that all Terminals must support CDA. The enablement of CDA support must be configurable for deployment.</p> <p>Please confirm that this is the case by checking the ‘Configurable’ checkbox.</p>	<input checked="" type="checkbox"/> Configurable
<p>What is the maximum length of CA public key supported by the reader?</p>	<p><u>1984</u> bits</p>
<p>Does the reader support revocation of an installed CA public key without the key’s removal?</p>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Configurable
<p>Does the reader detect CDA failure during Issuer or ICC public key recovery prior to the First Terminal Action Analysis?</p>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Configurable

Processing Restrictions	
<p>Is Dynamic Reader Limits functionality implemented and configurable for use?</p> <p>Please choose 'No' if the reader is mPOS-C or mPOS-CSP or 'Yes' for all other readers.</p>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<p>Is exception list processing supported?</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Configurable

Cardholder verification	
<p>Does the reader support Online PIN as a CV method?</p> <p>If supported, the enablement of Online PIN capability must be configurable at deployment.</p> <p>Please choose 'No' if the reader is mPOS-C and 'Configurable' for all the other readers.</p>	<input type="checkbox"/> No <input checked="" type="checkbox"/> Configurable
<p>The reader must be able to support Signature CVM as a CV method. The enablement of Signature CVM capability must be configurable at deployment.</p> <p>Please confirm that this is the case by checking the 'Configurable' checkbox.</p>	<input checked="" type="checkbox"/> Configurable
<p>The reader must be able to support Mobile CVM as a CV method. The enablement of Mobile CVM capability must be configurable at deployment.</p> <p>Please confirm that this is the case by checking the 'Configurable' checkbox.</p>	<input checked="" type="checkbox"/> Configurable
<p>The reader must support a configurable deactivation timer for when restarting transactions due to Mobile CVM failure. The default value of this timer shall be 1.5 seconds.</p> <p>Please choose 'Not applicable' for mPOS-C or mPOS-CSP or choose 'Yes' for all other readers.</p>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Not applicable
<p>Is the reader exempt from No CVM checks?</p> <p>Please choose 'No' if the reader is mPOS-C or mPOS-CSP.</p>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Configurable

Printing or emailing receipts	
<p>Is the reader connected to a terminal with a printing capability or, in the case of mPOS terminals, can provide electronic receipts via email or an alternative method?</p> <p><i>Note: This is mandatory for an integrated reader.</i></p>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<p>Is the printing or displaying/emailing of Terminal Verification Results supported?</p>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Is the printing or displaying/emailing of Authorisation Response Codes supported?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Does the reader support Cardmember display messages?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Membership-Related Data Processing	
Does the reader support membership-related data processing?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Configurable

3.0 Declaration

I confirm that all of the information I have provided, in answer to the questions on this form, is correct and complete.	
Please confirm that the terminal does not support random transaction selection or velocity checking for Expresspay transactions.	<input checked="" type="checkbox"/> Confirmed <input type="checkbox"/> Not Confirmed
Please confirm that all terminal data elements and all card public data elements can be retrieved from the kernel.	<input checked="" type="checkbox"/> Confirmed <input type="checkbox"/> Not Confirmed
Please confirm that any data elements that can be retrieved from the kernel are not filtered.	<input checked="" type="checkbox"/> Confirmed <input type="checkbox"/> Not Confirmed
Name	Sha oxin Liu
Title	Certification Manager
Signature	LiUShaoxin
Date	2022.08.25
Modular Architecture Declaration ² (To be completed if the reader employs a modular architecture)	
Please confirm that the terminal architecture identified above is structured using self-contained modules that can be updated independently.	<input type="checkbox"/> Confirmed <input type="checkbox"/> Not Confirmed
Please confirm that the terminal architecture identified above is capable of calculating a unique checksum value over the Expresspay kernel and any external libraries utilised in the processing of Expresspay transactions.	<input type="checkbox"/> Confirmed <input type="checkbox"/> Not Confirmed
Please confirm that the configuration of a terminal implementing the architecture identified above can be modified without the need for re-compilation of the Expresspay kernel or any external libraries utilised in the processing of Expresspay transactions.	<input type="checkbox"/> Confirmed <input type="checkbox"/> Not Confirmed
Please confirm that you have supplied design documentation in a companion with this form which correctly and completely describes the structure and interfaces of the terminal architecture identified above.	<input type="checkbox"/> Confirmed <input type="checkbox"/> Not Confirmed
Please confirm that all products listed above implement the same terminal architecture as described in the accompanying design documentation.	<input type="checkbox"/> Confirmed <input type="checkbox"/> Not Confirmed

² Please note that filling in this section is not a request for Modular Label approval. A separate approval request form needs to be completed. Kindly contact your American Express representative for further information.

3.1. Additional Information



~ End of Document ~