**Smart Ticketing Alliance - Certification Working Group**



# STA Contactless Interface Certification for Public Transport Products Implementation Conformance Statement (ICS) for PCD

# REVISION LIST

| Version | Date | Modifications |
|---------|------|---------------|
| V1.0 | 13/12/2017 | First public version for PICC and PCD |
| V2.1 | 16/11/2018 | Separation in two different documents: one for PICC and this document for PCD<br><br>Version applicable for PCD testing according to CEN/TS 16794:2017<br><br>Version 2.1 to be consistent with the Implementation Conformance Statement (ICS) for PICC document |
| V2.2 | 12/06/2019 | The ICS data "Transaction supported when more than one PICC in the field" shall be published in the certification letter.<br><br>A new item is added: The S(PARAMETERS) support. |
| V2.3 | 16/06/2020 | Editorial update on the item [PCD3.1]<br><br>The information about a previous certification shall be published in the certification letter.<br><br>Two new items are added: PCD internal output and input buffer sizes. A note about these new fields is also added. |
| V2.4 | 12/12/2023 | Document updated to indicate precisely which hardware is provided to the Test Laboratory ([PCD1.6]) |
| V2.5 | 09/07/2024 | Document updated to indicate the operating distance for each PT reader type ([PCD2.1]) |

# Table of contents

# 1  Scope

This document contains the Implementation Conformance Statement (ICS) for PT Readers being submitted for STA Contactless Interface Certification for Public Transport Products and is intended for Vendors submitting a PT reader for certification.

**Please note that ICS data with (*) will be published in the certification letter issued by the STA Certification body.**

## 2 Certification Stakeholders

### a. Vendor

| Vendor identification | |
|---|---|
| **Company name:** | Click here to enter text. |
| Main contact | |
| **Contact name:** | Click here to enter text. |
| **Address:** | Click here to enter text. |
| **Telephone:** | Click here to enter text. |
| **Email address:** | Click here to enter text. |

### b. Test Laboratory

| Test Laboratory identification | |
|---|---|
| **Company name:** | Click here to enter text. |
| Main contact | |
| **Contact name:** | Click here to enter text. |
| **Address:** | Click here to enter text. |
| **Telephone:** | Click here to enter text. |
| **Email address:** | Click here to enter text. |

### c. Certification Body

| Certification Body identification | |
|---|---|
| **Company name:** | Click here to enter text. |
| Main contact | |
| **Contact name:** | Click here to enter text. |
| **Address:** | Click here to enter text. |
| **Telephone:** | Click here to enter text. |
| **Email address:** | Click here to enter text. |

Implementation Conformance Statement for PCD, **Version 2.5, 09/07/2024**

# 3    ICS for PT readers - PCD

This clause sets out the information that needs to be provided by the PT reader Vendor when filing a product validation request.

In addition to the ICS describing the characteristics of the PT reader to be tested, the Vendor shall also provide the test laboratory with any additional tools required to enable the tests to be executed.

This ICS references the technical characteristics for PCD defined in Clause 9.2.3 of CEN/TS 16794-1:2017.

## a.  PCD Product Description

[PCD1]   Administrative data

    [PCD1.1] (*)   Brand name: Click here to enter text.

    [PCD1.2] (*)   Trade name: Click here to enter text.

    [PCD1.3a] (*) PCD Hardware version: Click here to enter text.

    [PCD1.3b] (*) PCD Software version: Click here to enter text.

    [PCD1.4] (*)   Reference of the contactless reader or antenna module: Click here to enter text.

    [PCD1.4a] (*) Hardware version of the contactless reader or antenna module: Click here to enter text.

    [PCD1.4b] (*) Software version of the contactless reader or antenna module: Click here to enter text.

    [PCD1.5] (*)   EMVCo Contactless Approval number (if applicable): Click here to enter text.

    [PCD1.6] (*)   Hardware provided to the Test Laboratory:

        ◯ Reader module to be integrated in a final product

        ◯ Part of the final product

        ◯ Final product

    More details about the provided hardware: Click here to enter text.


The PCD is based on a STA certified PCD (*):    ◯ Yes    ◯ No

If yes STA PCD certificate number (*): Click here to enter text.

If yes rationale to justify the delta-certification (*): Click here to enter text.


Additional information concerning product description: Click here to enter text.

## b. PCD General Technical Characteristics

[PCD2]   General technical characteristics

[PCD2.1] (*)   PT reader type:

    ○ IFM reader - up to 2 cm

    ○ Common reader - up to 0,5 cm

[PCD2.2] (*)   Transaction supported when more than one PICC in the field:   ○ Yes   ○ No

[PCD2.3] (*)   Operational temperature range supported:
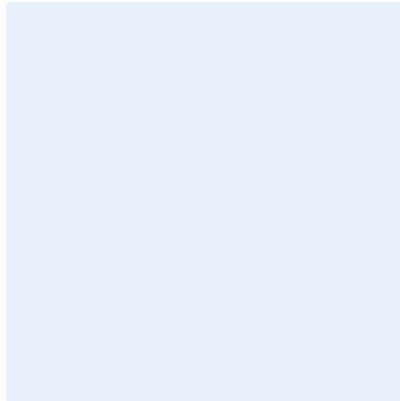
    ○ Class A (Ambient)

    ○ Class D (-25 °C to + 55 °C)

[PCD2.4]   List of supported PICC classes according to ISO/IEC 14443:

    "Class 1" ☒    "Class 2" ☒    "Class 3" ☒

[PCD2.5]   PT reader with a continuous polling cycle: ○ Yes   ○ No

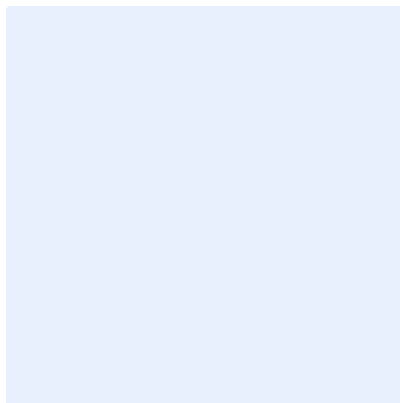    If no, precise event triggering polling cycle activation: Click here to enter text.

[PCD2.6]   Antenna diagram and position on the PT reader under test:

Click here to enter text.
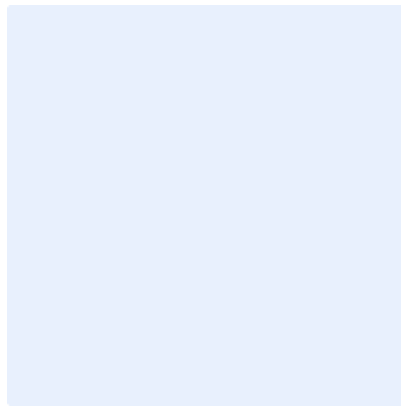
<u>Range A:</u>

[PCD2.7] (*)   Reference of the PCD Zero Point – Range A (target ID marked on sample or photo or diagram):

Click here to enter text.

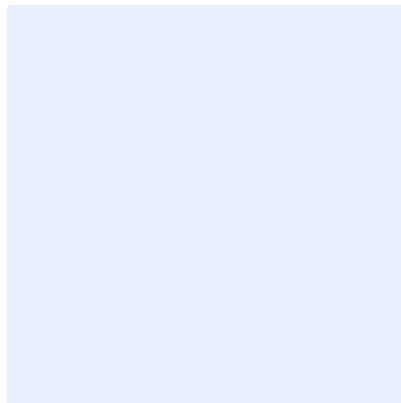[PCD2.8]    Orientation of the Z-axis – Range A (photo or diagram):

*Click here to enter text.*

[PCD2.9]    Height of the PCD Zero Point – Range A in relation to PT reader surface in the Z-axis – Range A (where applicable): *Click here to enter text.* mm
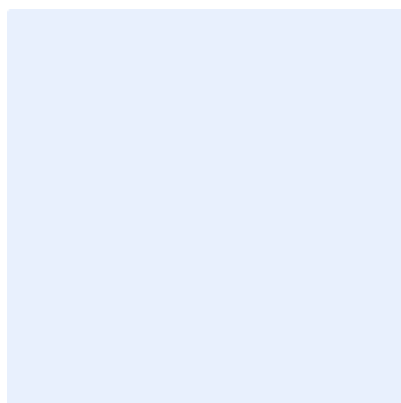
[PCD2.10]   Positions of the X-axis and Y-axis of the Reference PICC above PCD Zero Point – Range A (photo or diagram):
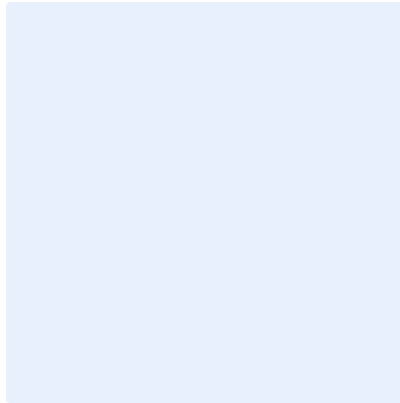
*Click here to enter text.*

Range B:

[PCD2.11] (*) Reference of the PCD Zero Point – Range B (target ID-marked on sample or photo or diagram):
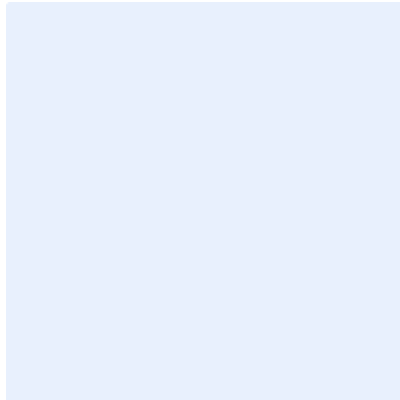
*Click here to enter text.*

[PCD2.12]    Orientation of the Z-axis – Range B (photo or diagram):

Click here to enter text.

[PCD2.13]    Height of the PCD Zero Point – Range B in relation to PT reader surface in the Z-axis – Range B (where applicable): Click here to enter text. mm

[PCD2.14]    Positions of the X-axis and Y-axis of the Reference PICC above PCD Zero Point – Range B (photo or diagram):

Click here to enter text.

Additional information concerning technical characteristics: Click here to enter text.

## c. PCD Supported Options

[PCD3]  Protocol characteristics

    [PCD3.1] (*)  Other supported communication signal interface(s) or protocol(s): Click here to enter text.

    [PCD3.2]  CID support: ○ Yes ○ No

    [PCD3.3]  NAD support: ○ Yes ○ No

[PCD4]  Type A

    [PCD4.1] (*)  PCD -> PICC bit rates supported: ◉ fc/128 (~106 kbit/s)

    Other: Click here to enter text.

    [PCD4.2] (*)  PICC -> PCD bit rates supported: ◉ fc/128 (~106 kbit/s)

    Other: Click here to enter text.

    [PCD4.3]  FSDI: Click here to enter text.

[PCD5]  Type B

    [PCD5.1] (*)  PCD -> PICC bit rates supported: ◉ fc/128 (~106 kbit/s)

    Other: Click here to enter text.

    [PCD5.2] (*)  PICC -> PCD bit rates supported: ◉ fc/128 (~106 kbit/s)

    Other: Click here to enter text.

    [PCD5.3]  Maximum Frame Size Code in ATTRIB: Click here to enter text.

    [PCD5.4]  Extended ATQB support: ○ Yes ○ No

    [PCD5.5]  "Minimum TR0" field of Param1 (2 bits) in ATTRIB: Click here to enter text.

    [PCD5.6]  "Minimum TR1" field of Param1 (2 bits) in ATTRIB: Click here to enter text.

    [PCD5.7]  "EOF/SOF" field of Param1 (2 bits) in ATTRIB: Click here to enter text.

    [PCD5.8]  S(PARAMETERS) support: ○ Yes ○ No

Additional information concerning supported options: Click here to enter text.

### d. PCD Test Parameters

[PCD6]   Test parameters

    [PCD6.1a]        UT_TEST_COMMAND1 APDU definition (hexadecimal value): Click here to enter text.

    [PCD6.1b]        UT_TEST_COMMAND1 Answer to ADPU definition (hexadecimal value): Click here to enter text.

    [PCD6.2a]        UT_TEST_COMMAND2 APDU definition (hexadecimal value): Click here to enter text.

    [PCD6.2b]        UT_TEST_COMMAND2 Answer to ADPU definition (hexadecimal value): Click here to enter text.

    [PCD6.2c] (*) PCD internal output buffer size (used for Maximum size of UT_APDU): Click here to enter text.

    [PCD6.2d] (*) PCD internal input buffer size (used for Maximum size of response UT_APDU): Click here to enter text.

NOTE        UT_TEST_COMMAND2 is set in accordance to [PCD6.2c] in order to test all the supported FSC / Maximum Frame Size values. Additionally, if loopback interface for PT reader testing is used, UT_TEST_COMMAND2 is also set in accordance to [PCD6.2d].

[PCD7]   Proprietary test parameters

    [PCD7.1]        PROPRIETARY_COMMAND APDU(s) definition(s) (hexadecimal value): Click here to enter text.

    [PCD7.2]        PROPRIETARY_COMMAND Answer to ADPU(s) definition(s) (hexadecimal value): Click here to enter text.

Additional information concerning test parameters: Click here to enter text.

NOTE        Usages of UT_TEST_COMMAND1 and UT_TEST_COMMAND2 for PCD tests are defined in ISO/IEC 10373-6.

When the support of proprietary protocol(s) initiated by ISO/IEC 14443-3 polling commands is indicated in [PCD3.1] and when the PT reader may give priority to applications using such proprietary protocol compared to applications using Type A or Type B, in order to perform the testing of [Rdr8], the Vendor shall describe:

— in [PCD7.1], the proprietary command(s) used to select an application using a proprietary protocol initiated by ISO/IEC 14443-3 polling commands:

    a)   for ISO/IEC 14443-3 fully compliant products, the command(s) following the anticollision procedure;

    b)   for ISO/IEC 14443-3 partially compliant products, the command(s) following the request command;

— in [PCD7.2], the expected response(s) to these commands:

    a)   compliant with the proprietary protocol;

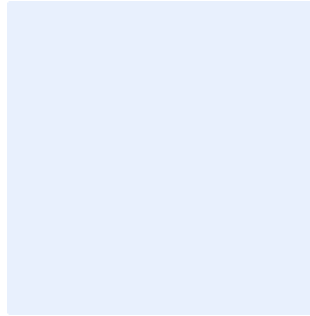    b)   indicating that no suitable application is available.

## 4   Status of the ICS

| Status: | To be validated |
|---|---|

ICS number[1]: Click here to enter text.

Date of validation by the Certification Body: Click here to select a date.

Signature of the Certification Body's representative:

-   **END OF DOCUMENT**   -

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[1] For Certification Body use

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