PayCert
48 rue Montmartre
75002 Paris
France

Paris, 14 May 2024

TGS Card Solutions SA de CV
Filiberto Gomez 15, Tlalnepantla
Mexico 54030

CEN TS 16794 Compliance Certificate - PICC

A Smart Ticketting Alliance certification program

Certificate Number: CNAPC/PIC-00051

Product/System name: TGS Calypso CD21 (commercial identification)

Compliant with :   CEN/TS 16794-1:2017

Operational temp. range :   Class I (-10°C to +50°C)

ISO 14443 antenna class :   Class 1

Protocol supported :   type B

Dear Customer,

The Certification Body PayCert has received a request, submitted by TGS Card Solutions SA de CV, your company, for the Certification of the PICC product TGS Calypso CD21 Rev3.2 (IC: CD21NS02DALC54; Software:ST23ZR02-QQL; Application type: Calypso V3; Antenna: ME-TR6229; Card body: PVC; Contactless card), hereafter referred to as the Product and identified above as "TGS Calypso CD21 Rev3.2".

In connection with your request, we have received your Implementation Conformance Statement (ICS), referred to as PAY.TGS.PIC.CEN16794.2017.2024-006 dated 29/04/2024 and we have assessed your Test Report(s) (ref. IC.E.RE.2404.013_v1.0 (Type B - Analog), IC.E.RE.2404.014_v1.0 (Type B - Digital)), which were generated by ICUBE TESTING CENTER, following the Test Plan "CEN/TS 16794-2:2017".

Based on these elements, as indicated in PayCert's Certification Report (ref. CER/EVR/PIC/2024-081 v1.0.0) the Certification Body has found reasonable evidence that the submitted samples of the Product complies to the CEN/TS 16794-1:2017.

The Certification Body hereby grants the Product Certification of compliance with the requirements stated by the CEN/TS 16794-1:2017 standard and will include your Product in the certified products list, published on PayCert website (http://cna-paycert-certification.com).

PayCert is a certification body owned by ELITT SAS, 8 rue Leopold Sedar-Senghor, 14460 Colombelles, France, with share capital of 1 059 150 € registered under number 501 255 54 RCS Caen.   *CER/FOR/PCD/2023-005 v2.0.0*

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Please note that the present Certification is subject to the following terms and conditions as listed hereafter :

   i) The present Certification is granted on the basis of the Smart Ticketing Alliance Certification Policy and therefore is valid as of today and will expire on the 13 May 2031.

   ii) If the Product is changed, TGS Card Solutions SA de CV must notify the Certification Body of this fact in writing. Any change in the Product that may generate a different behaviour with respect to the CEN/TS 16794-1:2017 standard or a difference in the Product Implementation Conformance Statement will be considered a major modification subject to a new evaluation in order to maintain the present Certification.

   iii) The present Certification granted to TGS Card Solutions SA de CV for the above referenced Product is non-transferable to any other vendor.

The Certification Body has the right to terminate or revoke the Certification should any of the aformentionned terms and conditions be not respected.

Name: Laurence MASSON

Title: Chief Operating Officer

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a. PICC Product Description

[PICC1] Administrative data

[PICC1.1] (*) Brand name: TGS Calypso CD21 Rev3.2

[PICC1.2] (*) Trade name: TGS Calypso CD21

[PICC1.3a] (*) Hardware version: CD21 Rev32

[PICC1.3b] (*) Software version: ST23ZR02-QQL

[PICC1.4] (*) PICC features ISO/IEC 7816 contact interface (dual): No

[PICC1.5] (*) IC manufacturer: ST Microelectronics

[PICC1.6] (*) IC reference / size: CD21NS02DALC54
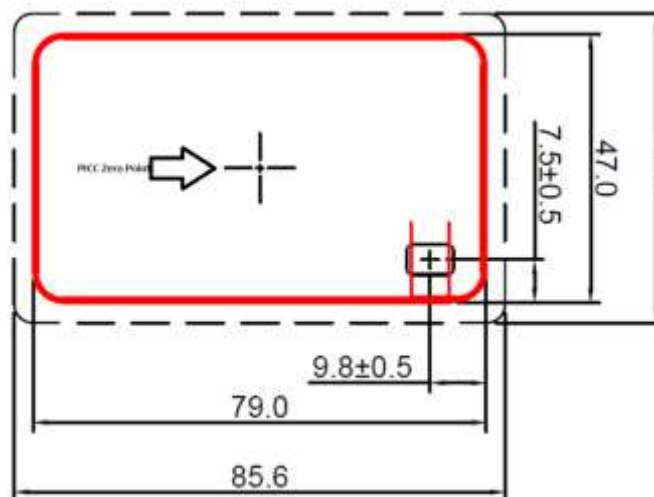
[PICC1.9] (*) Type of card body structure: PVC

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

If yes STA PCD certificate number (*): -

If yes rationale to justify the delta-certification (*): -

b. PICC General Technical Characteristics

[PICC2.2] (*) Reference of PICC Zero Point (target ID-marked on sample or photo or diagram):

[PICC2.3] (*) Operational temperature range supported: Class I (-10 °C to + 50 °C)

[PICC2.4] (*) Antenna class according to ISO/IEC 14443: Class 1

c. PICC Supported Options

[PICC3] Protocol characteristics

[PICC3.1] (*) Supported communication signal interface(s) and protocol(s): Type B

[PICC5] Type B (where applicable)

[PICC5.1] (*) PCD -> PICC bit rates supported: fc/128 (~106 kbit/s)

[PICC5.2] (*) PICC -> PCD bit rates supported: fc/128 (~106 kbit/s)

[PICC5.3] (*) Only symmetrical bit rates supported: No

[PICC5.4] (*) PUPI value: Fixed number

[PICC5.9] (*) Extended ATQB support: No

[PICC5.10] (*) S(PARAMETERS) support: No

[PICC5.11] (*) All AFIs are supported: No

If not, indicate all supported AFI(s): All except 0x0B. The applicant declares that tested samples are configured to support Type B and Innovatron protocol. AFI value 0x0B value is used by Calypso reader supporting both protocols to indicate to the PICC that the reader wants to switch to Innovatron protocol to perform the transaction. Consequently, The PICC does not turn into IDLE state on reception of REQB/WUPB with unmatched AFI (0x0B) when expected. This behaviour is not compliant with **[R1]** but conforms with Calypso specification revision 1.

[PICC5.12] (*) REQB/WUPB with N > 1 support: Yes