Calypso
Networks Association

GUIDELINES

Calypso Card Functional Certification Process

The information contained in this document is not public.

Author & Editor

Calypso
Networks Association

Links and Contacts

CNA PAYCERT website	https://www.cna-paycert-certification.eu
CNA PAYCERT contact	info@paycert.eu

CALYPSO NETWORKS ASSOCIATION website	https://www.calypsonet.org
CALYPSO NETWORKS ASSOCIATION contact	contact@calypsonet.org

PAYCERT website	https://www.paycert.eu

Revision List

Version	Date	Modifications
5	10-10-2022	Updated **Calypso PRIME** certification process for PKI mode.
4	05-09-2022	Used “Regular mode”, “Extended mode” and “PKI mode” instead of Rev3.1, Rev3.2 and Rev3.3. Replaced “PO” or “Portable Object” by the generic “Card”. Added a new Calypso card: **Calypso basic**. Changed the document reference: “191104-CalypsoPOCertificationProcess” becomes “191104-GU-CalypsoCardFunctionalCertificationProcess”. Updated Calypso references. Updated Card Certification Documents references. Updated link and contact. Editorial improvements.
3	16-01-2020	Added a ‘Multi 20’ profile in **Calypso PRIME** list of profiles. Requested to provide both Classic and Reference structure for a **Calypso** LIGHT certification.
2	19-12-2019	Editorial improvements.
1	13-12-2019	First published version.

Table of Contents

ACRONYMS

AID	Application Identifier
CB	Certification Body
CNA	Calypso Networks Association
DF	Directory File
ICS	Implementation Conformance Statement
LID	Long File Identifier
NC	Non-conformity
SFI	Short File Identifier

TERMS AND DEFINITIONS

Card:

Any portable device having an ISO/IEC 14443 interface. Formerly called portable object. For example: a contactless smart card, a mobile phone with contactless communication (NFC), a wristwatch with an embedded contactless component.

A **Calypso card**, within any card, is a secure element containing at least one application compliant with one of the Calypso product specifications (**Calypso PRIME**, **Calypso** LIGHT or **Calypso basic**).

A card is said native when the Calypso OS is implemented in the native language of the microprocessor.

A Java card is a **Calypso** APPLET embedded in a Java Card platform.

Important note: for composite cards, where Calypso card applications are stored in an independent and possibly removable secure component (the secure element), all requirements apply to this component except requirements dealing with contactless protocols, which apply to the card (e.g. a NFC phone).

Certification Body:

Third party entity, providing written assurance that a product, service or system meets specific requirements. In this certification scheme, PAYCERT.

Certification Committee:

Committee made of:

A Certification Body representative.

A CNA representative.

Members of the Expertise Committee (not related to a vendor).

In charge of assisting the Certification Body in the analysis of the results provided by the Laboratory and the decision of allocation of waivers. It may help the Certification Body to solicit the Expertise committee for questions relating to Calypso specifications.

Certification Letter:

Document issued by the Compliance Evaluator to the Vendor when specific conditions are fulfilled (valid evaluation test report, positive technical opinion, product compliance towards specifications).

Certification Report:

Document issued by the Certification Body to the Vendor, assessing the compliance of the Product with the Standard.

Compliance Evaluator:

Representative of the Certification Body in charge of the management of the certification process.

Discrepancy:

See Non-conformity.

Evaluation (Certification Body):

Process defining the compliance level of a product or a system, based on the Laboratory test report, Laboratory technical opinion and certification requirements conformity.

Evaluation (Laboratory):

Designates the test sessions carried out by a Laboratory. Should not be confused with the Certification Body Evaluation whish designates the compliance assessment.

Expertise Committee:

CNA working group in charge of the question of card certification (TC Card) made of experts of CNA members.

This committee is in charge of examining the questions or clarifications, submitted by the Certification Body or test labs, related to Calypso specifications. The outcome of the expertise committee will be released in a document “Calypso implementation notes” **[ImpNotes].**

Functional Test Report:

Final functional report of the tests performed on the Product by the Evaluation Laboratory.

Implementation Conformance Statement (ICS):

Structured document completed by the Vendor which lists all information needed for the product identification and for the progress of the evaluation process (implementation options, configuration details …).

Non-conformity:

A gap between the expected (defined by the standards) behaviour of the product and the observed product observed behaviour. A Non-conformity may also be called a discrepancy.

Product:

Product, system or solution for which the certification of compliance with the Standard is requested.

Standards (or Specifications):

Set of defined documents detailing requirements to be met by a card to be certified.

Test Laboratory:

Entity in charge of the evaluation of the product, service or system which is candidate for certification.

Test Tool:

Test solution implementing a test plan defined by CNA.

Vendor:

Provider of the card which is candidate for certification

Waiver:

Agreement, given by CNA, that Vendors do not have to comply with a specific requirement making it optional for implementation and certification. A waiver is always limited in time.

1 OVERVIEW

1.1 CNA Mission

Calypso is the electronic ticketing standard which defines the secured dialogue between cards and terminals.

Calypso Networks Association (CNA) is a non-profit organization formed by the Calypso founders to promote, maintain and enhance the Calypso technology.

One of CNA's missions is to implement a certification policy that ensures that the elements of a Calypso system comply with the specifications.

1.2 Context

Early 2011, CNA initiated a technical working package, WP 5.3, with the objective of delivering a Calypso Card Functional Test Plan, relying on the specification of **Calypso PRIME** Revision 3.1, to ensure the compatibility at the applicative level of the **Calypso PRIME** cards in Regular mode.

In 2018, CNA upgraded the **Calypso PRIME** certification process and test plan to be based on **Calypso PRIME** Revision 3.2 specification, which added the Extended mode feature that was not present in previous versions limited to Regular mode.

Since October 2022, CNA certification based on **Calypso PRIME** Revision 3.3 Edition 2 specification is available and the test plan can check the PKI mode, which is an additional feature that was not present in previous versions.

According to the product features declared by the Vendor in its Submission Form, a **Calypso PRIME** certificate can be granted with PKI mode or Extended mode or Regular mode.

In 2016, CNA published the first version of the specification of **Calypso** LIGHT, a card application dedicated to mid-range products. Mid-2018, the Calypso Light test tool was ready for a Calypso Light certification process.

In 2019, CNA published the first version of the specification of **Calypso basic**, a card application dedicated to low-range products. Mid-2022, the Calypso basic test tool was ready for a Calypso basic certification process.

1.3 Object of the Document

This document presents the *Calypso Card Certification Scheme*, i.e. the infrastructure that is used by CNA in granting certificates for cards in compliance with either the **Calypso PRIME**, the **Calypso** LIGHT or the **Calypso basic** specifications.

1.4 Calypso References

The following documents, in whole or in part, are referenced in this document and are indispensable for its application. For dated references, only the cited edition applies. For undated references, the latest edition of the referenced document (including any amendment) applies.

The Calypso documents are available in the document repository of the Calypso Networks Association web site: https://calypsonet.org/document/.

Index	Reference	Document Title	Version
[PrimeSP]	*060708-SP-CalypsoPrime*	Calypso Specification Calypso Prime	3.3E2 Jul. 2022
[PrimeTP]	*121003-TL-CalypsoPrime-TestPlan*	Test Plan Calypso Prime Functional Test Plan	Latest version applies
[PrimePD]	*191214-TL-CalypsoPrime-ProfileDefinition*	Test Plan Calypso Prime Profiles Definition	Latest version applies
[LightSP]	*170101-CalypsoLightApplication*	Calypso Specification Light Application for Portable Objects	1.2 Sep. 2019
[LightTP]	*171108-TL-CalypsoLight-TestPlan*	Calypso Specification Calypso Light Functional Test Plan	Latest version applies
[LightPD]	*200122-TL-CalypsoLight-ProfilesDefintion*	Test Plan Calypso Light Profiles Definition	Latest version applies
[BasicSP]	*191011-CalypsoBasic*	Calypso Specification Calypso Basic	1.1 Dec. 2020
[BasicTP]	*210421-TL-CalypsoBasic-TestPlan*	Test Plan Calypso Basic Functional Test Plan	Latest version applies
[BasicPD]	*220825-TL-CalypsoBasic-ProfilesDefintion*	Test Plan Calypso Basic Profiles Definition	Latest version applies
[TN001]	*000907-TN-001-StartupInfo*	Technical Note #001 Calypso Startup Information – Specification and Management	Latest version applies

2 CARD CERTIFICATION

2.1 Scope

The card certification process results in the issuance of certificates of conformity for the following products:

- **Calypso PRIME** native product in PKI mode
- **Calypso PRIME** native product in Extended mode
- **Calypso PRIME** native product in Regular mode

- **Calypso PRIME** product on Java Card platform with **Calypso** APPLET in Regular mode
- **Calypso** LIGHT product[1]
- **Calypso basic** product[2]

2.2 Card Certification Documents

Useful documents to prepare the certification are available on the following dedicated web site: http://www.cna-paycert-certification.eu

Index	Reference	Document Title
[CBCC]	*CER/CTR/2008-001*	Paycert – Certification Contract
[CBCP]	*CER/PRO/2007-001*	Paycert – Certification Procedure
[ReqForm]	*CNA/FOR/2019-004*	Calypso Card Certification Request Form
[PrimeICS]	*CNA/ICS/2019-001*	Calypso Prime Functional Certification Implementation Conformance Statement for **Calypso PRIME**
[LightICS]	*CNA/ICS/2019-002*	Calypso Light Functional Certification Implementation Conformance Statement for **Calypso** LIGHT
[AppletICS]	*CNA/ICS/2019-003**	Calypso Prime Functional Certification Implementation Conformance Statement for **Calypso PRIME** on Java Card platform with **Calypso** APPLET
[BasicICS]	*CER/ICS/2022-001*	Calypso Basic Functional Certification Implementation Conformance Statement for **Calypso basic**
[ImpNotes]	*CER/LIS/2019-004*	Calypso Card – Implementation Notes

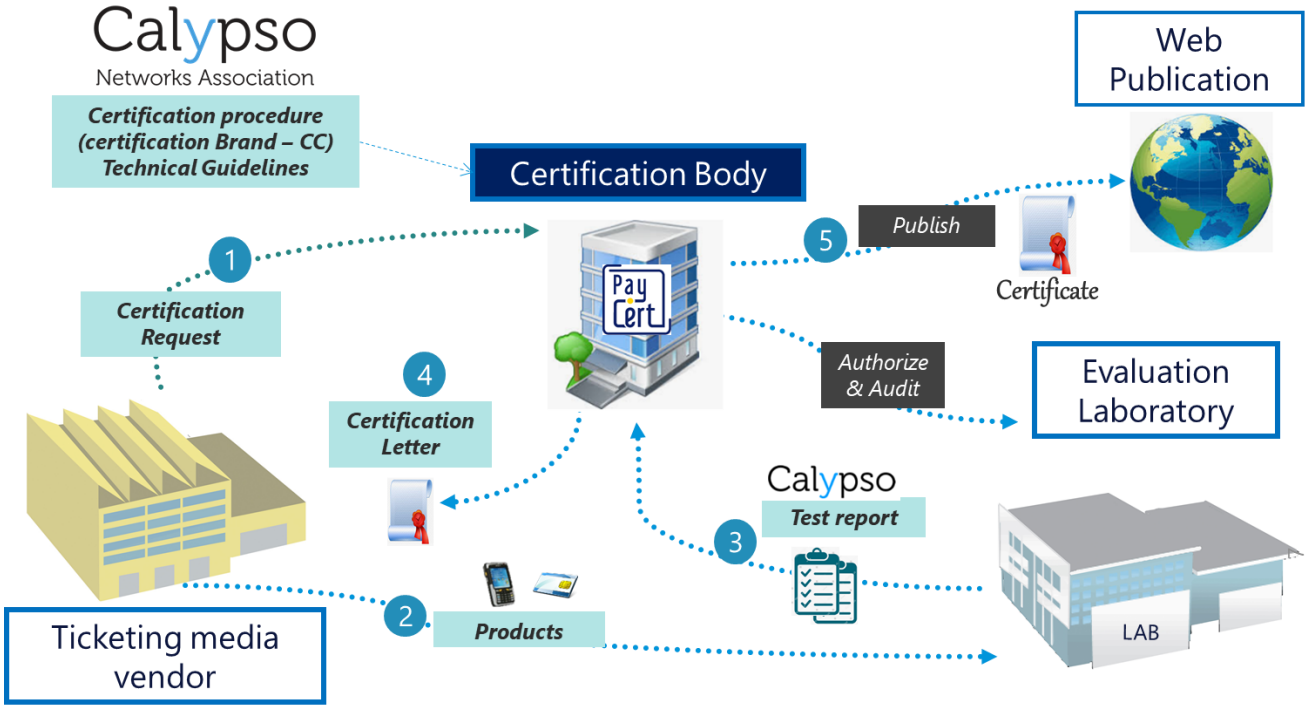
*The Implementation Conformance Statement for **Calypso** APPLET is based on the Implementation Conformance Statement for **Calypso PRIME** with many parameters already fixed.

The main document for the preparation of the certification of a product is the present guideline which references several Calypso specifications and technical notes which are useful to manufacture a Calypso card.

Documents may be updated in the future; it is recommended to visit the web site to check the latest versions available, or to register to receive updated information.

[1] **Calypso** LIGHT is available in native format only
[2] **Calypso basic** is available in native format only

2.3 Calypso Card Functional Certification Process Flowchart



CNA is the editor of the Calypso specifications and publishes the guidelines of the Calypso Card Functional Certification process. CNA defines the comprehensive list of functional and security requirements that a product must satisfy.

PAYCERT is the Certification Body that validates and controls the certification program for Calypso cards.

The Vendor provides to the Laboratory the card which is candidate for certification.

The Laboratory is accredited by PAYCERT.

CNA and PAYCERT manage all the communications relating to the Calypso Card Functional Certification.

3 GOVERNANCE OF THE FUNCTIONAL CERTIFICATION SCHEME

3.1 Vendor Registration

For any new Vendor, PAYCERT must receive both elements as pre-requisites of the Certification:

- A signed Certification contract with PAYCERT (**[CBCC]**). The entire certification process is described in PAYCERT **[CBCP]** document.
- A valid Manufacturer/Software Calypso ID[3].

[3] CNA to provide access to the list of referenced IDs (cf **[TN001]**)

PAYCERT checks the validity of the Vendor's Calypso Identifier in a list of referenced ID updated periodically by CNA. In case of absence of the Vendor's ID in the list, PAYCERT contacts CNA to obtain confirmation of the validity of the identity. If CNA raises any issue concerning the Vendor's ID, the certification process cannot proceed.

3.2 Certification Request and ICS reception

Each time a registered vendor decides to submit a product to certification, the process is initiated by PAYCERT upon reception of:

- a signed certification request form (**[ReqForm]**);
- a filled Implementation Conformance Statement (ICS) (**[PrimeICS], [AppletICS]**, **[LightICS]** or **[BasicICS]**).

When the Vendor wishes to obtain a certificate for a **Calypso PRIME** native product, whether the mode (Regular, Extended or PKI), he must use the document **[PrimeICS]**.

To certify a **Calypso PRIME** product on Java Card platform with **Calypso** APPLET, the form **[AppletICS]** must be filled.

For a **Calypso** LIGHT certificate, the Vendor must fill the form **[LightICS]**.

For a **Calypso basic** certificate, the Vendor must fill the form **[BasicICS]**.

These documents must be sent by email to: info@paycert.eu

The PAYCERT evaluator reviews the Vendor form and assigns a certification number. A copy of the validated and signed certification request is returned to the Vendor.

The ICS is reviewed by the Certification Body. If the ICS is validated, the reviewer assigns an ICS number based on the certification number. Once reviewed and validated, the Certification Body returns the signed ICS to the Vendor and copies it to the Test Laboratory.

3.3 Technical Tests Preparation

The Vendor and the Laboratory sign an agreement to set the date and conditions of the technical evaluation process such as:

- laboratory fees,
- evaluation scope (defined in the Information Conformance Statement (ICS))
- number of samples necessary to perform the test plan.

The vendor will need to provide several card samples according to the supported functionalities. Please refer to annexes where the quantities of samples needed for each scheme are indicated:

- **Calypso PRIME** native in PKI mode, Extended mode and Regular mode
- **Calypso PRIME** on Java Card platform with **Calypso** APPLET in Regular mode

- **Calypso** LIGHT
- **Calypso basic**

The definition of the profiles can be found in of the Profile Definition documents (**[PrimePD]**, **[LightPD]** and **[BasicPD]**).

3.4 Evaluation

The Laboratory must start the evaluation with a validated ICS signed by the Certification Body. After the test session is carried out by the laboratory, a formal **Laboratory Functional Test Report** is created, that contains at least the following information:

- A unique report identification;
- Identification of the Test Lab (name, location, …);
- Identification of the Test Tool and test plan version used for this session;
- Identification of the Vendor and the evaluated product, including identification of the tested samples;
- Reference of the ICS.

This report indicates the results of the test session. It is sent directly by the Vendor to the Certification Body or by the Laboratory, following validation from the Vendor.

If changes are made to the ICS after the beginning of the evaluation, a new ICS is validated by the Certification Body and transmitted to the Test Lab. The change of ICS shall be stated in the Test Report

3.5 Compliance Assessment

The compliance assessment is confirmed with the reception by the Certification Body of the **Laboratory Functional Test Report** containing the Vendor's product test results.

Upon request from the Vendor, PAYCERT may communicate the planned date of the product evaluation phase, with an estimated certification decision date.

PAYCERT proceeds to the evaluation by confronting the product data elements and the Laboratory Functional Test Report with the appropriate Calypso specifications.

If the Functional Test Report doesn't state any discrepancy (and if all additional specific data, if required in the evaluation preparation phase, are present and valid), the PAYCERT representative of the Compliance evaluation can proceed directly to the "Certification Report" redaction phase

If the Functional Test Report states one or several discrepancies, PayCert can request additional card appropriate specifications and proceeds to the discrepancies classification:

- The Compliance Evaluator considers that the discrepancy impacts neither the product interoperability nor the user experience: The Compliance Evaluator defines this non-conformity as "**minor**" or "**major**", depending of its importance.

Note that discrepancies evaluated as "**minor**" are not blocking for certification, provided that their number is limited (decision to be taken by the Certification Committee).

- A "**major**" discrepancy needs a waiver so that the certificate can be issued. This derogation is granted for a limited period with the agreement of the Certification Committee.
- The compliance evaluator considers that the discrepancy impacts either the product interoperability or the user experience: The compliance evaluator evaluates this non-conformity as "**critical**".
  Discrepancies evaluated as "**critical**" are blocking for certification.

In case of questions or clarification needed about the Calypso specifications or the test plan, a request can be submitted to the Expertise Committee by the Certification Body, eventually on behalf of the Test Laboratory.

3.6 Certification Report

PAYCERT produces a **Certification Report** that contains:

- a complete identification of the product, scope, specifications and certification conditions (resources, certification evaluation date…);
- details on the evaluation (including non-compliance analysis) on all encountered critical discrepancies that must be eliminated in order to meet the certification criteria;
- if necessary, proposition of corrections and additional tests and evaluations to plan in order to meet the certification criteria;
- conclusion of the evaluator regarding the conformity assessment of the product.

3.7 Certification Decision

After the Certification Report is issued, it is reviewed internally to take a decision regarding the certification of the product.

The decision is made by PAYCERT based on the certification report.

If the decision of certification is favourable to the candidate product, the certification evaluator creates a certification letter and updates the website. The certification letter is sent to the Vendor attached to the latest version of the certification report.

If the decision is not favourable then the latest version of the certification report will be sent to the Vendor with the notification of the discrepancies that must be eliminated in order to meet the certification requirements.

3.8 Certification Letter Issuance

The PAYCERT **Certification Letter** identifies the scope of the certification, the certified product data and the standards used as reference.

The Certification Letter issued by PAYCERT contains at least the following information:

- Date
- Certificate number
- Vendor name and address
- Commercial name or identification of the certified product
- Certified product type
- Application version
- Version of the CNA specifications against which the product or system has been certified
- References of the Test & Certification Reports
- Reference of the validated ICS
- PAYCERT representative's signature

PAYCERT sends this Certification Letter, alongside with the latest version of Certification Report, to the Vendor.

3.9 Calypso Certification Web Site

All certification letters are published as a proof for certification users. A dedicated Calypso certification webpage indicates:

- a list of all certified cards (products reference, specifications, Vendor, date of certification, certification letter)
- a list of accredited labs
- links to useful documents related to the certification process
- links to CALYPSO NETWORKS ASSOCIATION (www.calypsonet.org) and PAYCERT (www.paycert.eu) websites.

Following a positive assessment, the Certification Body updates the website accordingly. The Vendor can request for temporary non-publication by e-mail to the Certification Body (3 months maximum). To be considered this request must be sent before the certificate issuance.

4 SPECIFIC CASES

4.1 Renewal Request (no product change)

Considering that expiration dates are fixed to 10 years for Calypso certificates, Vendors may need to renew an existing certificate without having changed the product.

In that case, the Vendor shall submit a renewal request by ticking the corresponding boxes in the certification request and ICS. In addition to the usual process (cf. §3.1), during the registration phase PAYCERT reviewer checks that the content of the current certification request and ICS matches with the content of documents provided during the initial submission of the Card product:

The Calypso specification version used for the initial submission is still valid.

After the registration phase, tests may be requested on demand of the Certification Body. In this case, the Product is evaluated on a reduced scope and will obtain, in case of successful evaluation, a Certification Letter. The scope of the evaluation is determined by the Test Laboratory and approved by the Certification Body.

4.2 Product Change

This process is defined for minor change certification on the product.

The Vendor may request for a minor change on an existing product, by explaining why, in its opinion, the proposed modifications on the existing certified product will not have an impact on the functional behaviour of the Calypso card.

This certification request will be reviewed and validated by the Certification Body, with the support of the Certification Committee.

The acceptance of this request may be subject to the completion of a certain number of non-regression tests, the list of which is defined by the Certification Committee.

4.3 Discrepancy on a Certified Product

When a discrepancy is found on a certified product, CNA will asset with PAYCERT the impact of the discrepancy and may decide to maintain or suspend the certification.

In case of suspension, the Vendor will be informed and will have to pass additional tests to maintain the certification of the considered product.

ANNEX 1 - CALYPSO PRIME SET OF CARD

How to provide the requested card profiles?

This annex defines the set of cards necessary to execute the test plan according to the applicability requirements defined by the Vendor in the Implementation Conformance Statement for **Calypso PRIME**.

In order to minimize the number of card profiles, the profiles are defined by grouping the needed file characteristics and by requesting applicability constraints. Because some characteristics cannot be respected by the Vendor, this annex explains how to implement the card samples.

The following points define the rules to provide the card profiles needed to execute the test plan related to **Calypso PRIME**.

Profiles in a set

Each profile of a set shall be implemented even if some characteristics can't be respected. For example, even an applicability can be respected, a given profile will be used for others test cases which not use this applicability.

Each profile of the set should follow the implementation requested by the following table:

Profile	*Implementation*	*Profile*	*Implementation*
Multi 1	Shall be implemented	Multi 16	If AES supported (Shall be Long AES)
Multi 2	Shall be implemented	Multi 17	If AES supported (Should be Short AES)
Multi 3	Shall be implemented	Multi 18	If AES supported (Should be Short AES)
Multi 4	Shall be implemented	Multi 19	If AES supported (Should be Short AES)
Multi 5	Shall be implemented	Multi 20	If AES supported (Should be Short AES)
Multi 6	If DESX supported	Multi 21	If AES supported (Should be Short AES)
Multi 7	If DES supported	Multi 22	If PKI Mode supported
Multi 8	If MF supported	Multi 23	If PKI Mode supported
Multi 9	Shall be implemented	Multi 24	If PKI Mode supported
Multi 10	Shall be implemented	Multi 25	If PKI Mode supported
Multi 11	Shall be implemented	Multi 26	If PKI Mode supported and MF supported
Multi 12	Shall be implemented	Multi 27	If PKI Mode supported and SV supported
Multi 13	If DF_IN_DF supported	Multi 28	If PKI Mode supported
Multi 14	If DF_IN_DF and AES supported (Should be Short AES)	Multi 29	If PKI Mode supported
Multi 15	If AES supported (Shall be Short AES)		

The above card profiles are linked to the version of the test plan applicable in 2022 and are subject to change.

Profile Applicability

Each applicability shall be implemented as it is requested in the profile definition (**[PrimePD]**). If a requested applicability cannot be respected due to the product capabilities, the profile has to be implemented as much as possible and the card provider shall declare what is not respected in the profile definition.

Profile structure

Each structure characteristic (file number, file type, record number, record size, access mode, key, …) shall be implemented as it is requested in the profile definition (**[PrimePD]**). If a structure characteristic cannot be respected due to the product capabilities, the profile has to be implemented as much as possible and the Vendor shall declare what is not respected in the profile definition.

The following data shall be defined and set by the customizer:

- Platform (Startup Information Data)
- Application type (Startup Information Data)
- Application subtype (Startup Information Data)
- Software Issuer (Startup Information Data)
- Software Version (Startup Information Data)
- Software Revision (Startup Information Data)
- LID (except for the LID MF)
- SFI
- Data Ref.: the Data Ref. value is free but the defined file sharing shall be respected

Profile quantity

The Vendor shall provide at least a given number of samples for each card profile. These quantities of samples take into account:

- the card that will be destroyed after the test.
- the tests that request unused card.
- some card samples used to run again some test.
- some card samples that could be broken during the test session.

Cards and Quantities

The quantities of cards for each profile is indicated in the following points. If the card can support it (for example it has enough memory space), each sample can embed more than one profile. In this case the quantities of cards are set to the higher number between each profile implemented in the card. An example is proposed in the point "*Example of manufacturer's choice*"

If the manufacturer wants to embed several profiles on the same card, it chooses the concerned profiles according to its constraints.

Contact and contactless card

Profile	*Quantities with Transaction Counter > 200 000 & Stored Value Transaction Number ~ 0*	*Quantities with Transaction Counter ~ 30*	*Quantities with Stored Value Transaction Number ~ 65 400*
Multi 1	24	4(*)	8(*)
Multi 2	6	0	0
Multi 3	4	0	0
Multi 4	4	0	0
Multi 5	4	0	0
Multi 6	4	0	0
Multi 7	4	0	0
Multi 8	4	0	0
Multi 9	4	0	0
Multi 10	4	0	0
Multi 11	4	0	0
Multi 12	4	0	0
Multi 13	4	0	0
Multi 14	4	0	0
Multi 15	4	0	0
Multi 16	4	0	0
Multi 17	4	0	0
Multi 18	4	0	0
Multi 19	4	0	0
Multi 20	4	0	0
Multi 21	4	0	0
Multi 22	6	4(*)	0
Multi 23	26	0	0
Multi 24	4	0	0
Multi 25	4	0	0
Multi 26	4	0	0
Multi 27	4	0	0
Multi 28	4	0	0
Multi 29	4	0	0

(*) **If the manufacturer cannot personalize the profile with the specific counter value this quantity must be added to the quantity in the first column.**

The quantities of cards listed beyond are linked to the version of the test plan applicable in 2022 and are subject to change.

Contactless card only

Profile	*Quantities with Transaction Counter > 200 000 & Stored Value Transaction Number ~ 0*	*Quantities with Transaction Counter ~ 30*	*Quantities with Stored Value Transaction Number ~ 65 400*
Multi 1	16	4(*)	6(*)
Multi 2	4	0	0
Multi 3	3	0	0
Multi 4	3	0	0
Multi 5	3	0	0
Multi 6	3	0	0
Multi 7	3	0	0
Multi 8	3	0	0
Multi 9	3	0	0
Multi 10	3	0	0
Multi 11	3	0	0
Multi 12	3	0	0
Multi 13	3	0	0
Multi 14	3	0	0
Multi 15	3	0	0
Multi 16	3	0	0
Multi 17	3	0	0
Multi 18	3	0	0
Multi 19	3	0	0
Multi 20	3	0	0
Multi 21	3	0	0
Multi 22	4	4(*)	0
Multi 23	14	0	0
Multi 24	3	0	0
Multi 25	3	0	0
Multi 26	3	0	0
Multi 27	3	0	0
Multi 28	3	0	0
Multi 29	3	0	0

(*) **If the manufacturer cannot personalize the profile with the specific counter value this quantity must be added to the quantity in the first column.**

The quantities of cards listed beyond are linked to the version of the test plan applicable in 2022 and are subject to change.

Example of manufacturer's choice

The manufacturer implements card in mode Contact and Contactless as following:

- Card-01 implements Multi 1 and Multi 2
- Card-02 implements Multi 3, Multi 4 and Multi 5

- Etc …

For the quantities of each card, it refers to the line with the higher required number of samples between the concerned profiles.

- Card-01: (Use of line Multi 1)
  - 24 cards with Transaction Counter > 200 000 & Stored Value Transaction Number ~ 0
  - 4 cards with Transaction Counter ~ 30
  - 8 cards with Stored Value Transaction Number ~ 65 400
- Card-02: (Use of line Multi 3)
  - 4 cards with Transaction Counter > 200 000 & Stored Value Transaction Number ~ 0
- Etc …

Cards delivery

Each card support shall be identified with at least the following information (this information shall be printed on the card support):

- Company
- Product name or identifier
- Profile name
- Profile feature (TC Value and/or TNUM Value, refer to the previous tables)
- Issuing Date
- Card identifier (Optional)

ANNEX 2 - CALYPSO PRIME ON JAVA CARD PLATFORM WITH CALYPSO APPLET SET OF CARDS

How to provide the requested card profiles?

This annex defines the set of cards necessary to execute the test plan according to the applicability requirements defined by the Vendor in the Implementation Conformance Statement for **Calypso** APPLET.

In order to minimize the number of card profiles, the profiles are defined by grouping the needed file characteristics and by requesting applicability constraints. Because some characteristics cannot be respected by the Vendor, this annex explains how to implement the card samples.

The following points define the rules to provide the card profiles needed to execute the test plan related to **Calypso PRIME** on Java Card platform with **Calypso** APPLET.

Profiles in a set

Each profile of a set shall be implemented even if some characteristics can't be respected. For example, even an applicability can be respected, a given profile will be used for others test cases which not use this applicability.

Each profile of the set should follow the implementation requested by the following table:

Profile	*Implementation*	*Profile*	*Implementation*
Multi 1	Shall be implemented	Multi 16	Shall not be implemented
Multi 2	Shall be implemented	Multi 17	Shall not be implemented
Multi 3	Shall be implemented	Multi 18	Shall not be implemented
Multi 4	Shall be implemented	Multi 19	Shall not be implemented
Multi 5	Shall be implemented	Multi 20	Shall not be implemented
Multi 6	Shall be implemented	Multi 21	Shall not be implemented
Multi 7	Shall be implemented	Multi 22	Shall not be implemented
Multi 8	Shall not be implemented	Multi 23	Shall not be implemented
Multi 9	Shall be implemented	Multi 24	Shall not be implemented
Multi 10	Shall be implemented	Multi 25	Shall not be implemented
Multi 11	Shall be implemented	Multi 26	Shall not be implemented
Multi 12	Shall be implemented	Multi 27	Shall not be implemented
Multi 13	Shall not be implemented	Multi 28	Shall not be implemented
Multi 14	Shall not be implemented	Multi 29	Shall not be implemented
Multi 15	Shall not be implemented		

The above card profiles are linked to the version of the test plan applicable in 2022 and are subject to change.

Profile Applicability

Each applicability shall be implemented as it is requested in the profile definition (**[PrimePD]**). If a requested applicability cannot be respected due to the product capabilities, the profile has to be implemented as much as possible and the card provider shall declare what is not respected in the profile definition.

Profile structure

Each structure characteristic (file number, file type, record number, record size, access mode, key, …) shall be implemented as it is requested in the profile definition (**[PrimePD]**). If a structure characteristic cannot be respected due to the product capabilities, the profile has to be implemented as much as possible and the Vendor shall declare what is not respected in the profile definition.

The following data shall be defined and set by the customizer:

- Platform (Startup Information Data)
- Application type (Startup Information Data)
- Application subtype (Startup Information Data)
- Software Issuer (Startup Information Data)
- Software Version (Startup Information Data)
- Software Revision (Startup Information Data)
- LID (except for the LID MF)
- SFI
- Data Ref.: the Data Ref. value is free but the defined file sharing shall be respected

Profile quantity

The Vendor shall provide at least a given number of samples for each card profile. These quantities of samples take into account:

- the card that will be destroyed after the test.
- the tests that request unused card.
- some card samples used to run again some test.
- some card samples that could be broken during the test session.

Cards and Quantities

Contact and contactless card

Profile	*Quantities with Transaction Counter > 200 000 & Stored Value Transaction Number ~ 0*	*Quantities with Transaction Counter ~ 30*	*Quantities with Stored Value Transaction Number ~ 65 400*
Multi 1	24	4(*)	8(*)
Multi 2	8	0	0
Multi 3	4	0	0
Multi 4	4	0	0
Multi 5	6	0	0
Multi 6	4	0	0
Multi 7	4	0	0
Multi 9	4	0	0
Multi 10	4	0	0
Multi 11	4	0	0
Multi 12	4	0	0

(*) **If the manufacturer cannot personalize the profile with the specific counter value this quantity must be added to the quantity in the first column.**

The quantities of cards listed beyond are linked to the version of the test plan applicable in 2022 and are subject to change.

Contactless card only

Profile	*Quantities with Transaction Counter > 200 000 & Stored Value Transaction Number ~ 0*	*Quantities with Transaction Counter ~ 30*	*Quantities with Stored Value Transaction Number ~ 65 400*
Multi 1	16	4(*)	6(*)
Multi 2	4	0	0
Multi 3	3	0	0
Multi 4	3	0	0
Multi 5	4	0	0
Multi 6	3	0	0
Multi 7	3	0	0
Multi 9	3	0	0
Multi 10	3	0	0
Multi 11	3	0	0
Multi 12	3	0	0

(*) **If the manufacturer cannot personalize the profile with the specific counter value this quantity must be added to the quantity in the first column.**

The quantities of cards listed beyond are linked to the version of the test plan applicable in 2022 and are subject to change.

Cards delivery

Each card support shall be identified with at least the following information (this information shall be printed on the card support):

- Company
- Product name or identifier
- Profile name
- Profile feature (TC Value and/or TNUM Value, refer to the previous tables)
- Issuing Date
- Card identifier (Optional)

ANNEX 3 - CALYPSO LIGHT SET OF CARDS

How to provide the requested card profiles?

This annex defines the set of cards necessary to execute the test plan according to the applicability requirements defined by the Vendor in the Implementation Conformance Statement for **Calypso** LIGHT.

The following points define the rules to provide the card profiles needed to execute the test plan related to **Calypso** LIGHT.

Profiles in a set

Both the profile '*Classic File Structure'* and the profile *'Reference File Structure'* shall be implemented.

Profile structure

Each structure characteristic (file number, file type, record number, record size, access mode, key, …) shall be implemented as it is requested in the profile definition (**[LightPD]**). If a structure characteristic cannot be respected, the certification process cannot proceed.

The following data shall be defined and set by the customizer:

- Platform (Startup Information Data)
- Software Issuer (Startup Information Data)
- Software Version (Startup Information Data)
- Software Revision (Startup Information Data)
- LID

Profile quantity

The Vendor shall provide at least a given number of samples for each card profile. These quantities of samples take into account:

- the card that will be destroyed after the test.
- the tests that request unused card.
- some card samples used to run again some test.
- some card samples that could be broken during the test session.

Cards and Quantities

Contactless card[4]

Profile	*Quantities with Transaction Counter > 200 000*	*Quantities with Transaction Counter ~ 30*
Calypso LIGHT Classic	12	4(*)
Calypso LIGHT Reference	12	4(*)

(*) **If the manufacturer cannot personalize the profile with the specific counter value this quantity must be added to the quantity in the first column.**

Cards delivery

Each card support shall be identified with at least the following information (this information shall be printed on the card support):

- Company
- Product name or identifier
- Profile name
- Profile feature (TC Value, refer to the previous table)
- Issuing Date
- Card identifier (Optional)

[4] **[LightSP]** specifies that **Calypso** LIGHT is dedicated to contactless card only.

ANNEX 4 - CALYPSO BASIC SET OF CARDS

How to provide the requested card profiles?

This annex defines the set of cards necessary to execute the test plan according to the applicability requirements defined by the Vendor in the Implementation Conformance Statement for **Calypso basic**.

The following points define the rules to provide the card profiles needed to execute the test plan related to **Calypso basic**.

Profile in a set

The profile '*Basic File Structure'* shall be implemented.

Profile structure

Each structure characteristic (file number, file type, record number, record size, access mode, key, …) shall be implemented as it is requested in the profile definition (**[BasicPD]**). If a structure characteristic cannot be respected, the certification process cannot proceed.

The following data shall be defined and set by the customizer:

- AID
- Platform (Startup Information Data)
- Software Issuer (Startup Information Data)
- Software Version (Startup Information Data)
- Software Revision (Startup Information Data)

Profile quantity

The Vendor shall provide at least a given number of samples for each card profile. These quantities of samples take into account:

- the card that will be destroyed after the test.
- the tests that request unused card.
- some card samples used to run again some test.
- some card samples that could be broken during the test session.

Cards and Quantities

Contactless card[5]

Profile	*Quantities with Transaction Counter = 1 000*	*Quantities with Transaction Counter ~ 30*
Calypso basic	18	2(*)

(*) **If the manufacturer cannot personalize the profile with the specific counter value this quantity must be added to the quantity in the first column.**

Cards delivery

Each card support shall be identified with at least the following information (this information shall be printed on the card support):

- Company
- Product name or identifier
- Profile name
- Issuing Date
- Card identifier (Optional)

[5] [BasicSP] specifies that **Calypso basic** is dedicated to contactless card only.