



Security Target Template for IoT eUICC

Version 1.0

20 September 2024

Security Classification: Non-Confidential

Access to and distribution of this document is restricted to the persons permitted by the security classification. This document is subject to copyright protection. This document is to be used only for the purposes for which it has been supplied and information contained in it must not be disclosed or in any other way made available, in whole or in part, to persons other than those permitted under the security classification without the prior written approval of the Association.

Copyright Notice

Copyright © 2024 GSM Association

Disclaimer

The GSMA makes no representation, warranty or undertaking (express or implied) with respect to and does not accept any responsibility for, and hereby disclaims liability for the accuracy or completeness or timeliness of the information contained in this document. The information contained in this document may be subject to change without prior notice.

Compliance Notice

The information contain herein is in full compliance with the GSMA Antitrust Compliance Policy.

This Permanent Reference Document is classified by GSMA as an Industry Specification, as such it has been developed and is maintained by GSMA in accordance with the provisions set out GSMA AA.35 - Procedures for Industry Specifications.

Table of Contents

1	Introduction	4
1.1	Scope	4
1.2	Definitions	4
1.3	Abbreviations	4
1.4	References	4
2	Security Target Introduction	6
2.1	Security Target reference	7
2.2	TOE reference	7
2.3	References	7
3	TOE overview	7
3.1	TOE description	8
3.2	TOE type and usage	8
3.3	TOE life cycle	8
3.3.1	Non-TOE HW/SW/FW available to the TOE	8
3.4	TOE scope	9
3.4.1	Physical scope	9
3.4.2	Logical scope	9
4	Conformance Claim	10
4.1	Common Criteria version and conformance with CC part 2 and 3	10
4.2	CC Part 5 [22].Assurance package	10
4.3	Protection Profile (PP) conformance claim	10
4.4	Conformance claim rationale	10
4.4.1	Conformity of the TOE Type	11
4.4.2	SPD Consistency	11
4.4.3	Security Objectives Consistency	15
4.4.4	Conformity of the Requirement (SFR/SAR)	18
5	Security Problem definition	22
5.1	Assets	22
5.2	Users and Subjects	22
5.3	Threats	22
5.4	Organizational Security Policies	23
6	Security Objectives	24
6.1	Security Objectives for the TOE	24
6.2	Security Objectives for the Operational Environment	25
6.3	Security Objectives Rationale	25
6.3.1	Threats	25
6.3.2	Organizational Security Policies	29
6.3.3	Assumptions	29
6.3.4	Rationale Tables	29
7	Extended Components Definition	35
8	Security Functional requirements	36
8.1	eUICC Security Functional Requirements	37

8.1.1	Identification and authentication	37
8.1.2	Communication	39
8.1.3	Security Domains	41
8.1.4	Platform Services	43
8.1.5	Security management	45
8.1.6	Mobile Network authentication	48
8.2	Runtime Environment Security Requirements	49
8.2.1	CoreLG Security Functional requirements	49
8.2.2	INSTG Security Functional requirements	54
8.2.3	ADELG Security Functional Requirements	56
8.2.4	RMIG Security Functional Requirements	57
8.2.5	ODELG Security Functional Requirements	57
8.2.6	CARG Security Functional Requirements	57
8.2.7	Card Content Management Security Functional requirements	59
8.2.8	Underlying platform IC Security Functional Requirements	70
8.3	Security Functional Requirements Rationale	71
8.3.1	SFRs for eUICC rationale	71
8.3.2	SFRs for Runtime Environment rationale	71
8.3.3	SFRs for Underlying platform IC rationale	73
8.3.4	SFRs dependency rationale	74
9	Security Assurance Requirements	79
9.1	SARs dependency rationale	79
10	TOE Summary Specification	79
10.1	eUICC security functions	80
10.2	Runtime Environment security functions	80
10.3	TSS Rationale	80
10.3.1	eUICC SFRs coverage	80
10.3.2	Runtime Environment SFRs coverage	81
Annex A	Document Management	83
A.1	Document History	83
A.2	Other Information	83

1 Introduction

1.1 Scope

This document defines a template for a IoT eUICC Security Target. The scope of this template is to help the EUM to develop the IoT eUICC Security Target in order to achieve the certification against the [PP-eUICC] (no PP-configuration).

This template can be used to develop a Security Target in which the objectives of the environment (i.e. IC OS and RE) are either fulfilled by a previous certificate (scenario 1) or a combination between the use of a previous certificate and a translation into SFRs (scenario 3). The case in which the objectives for the environment are all translated into SFRs in the Security Target (scenario 2) is not covered by this template.

The use of this template is not mandatory for the EUM to achieve the eUICC certification and its content is informative.

1.2 Definitions

Term	Description

1.3 Abbreviations

Term	Description
CC	Common Criteria
O.ENV	Objective for the environment
O.TOE	Objective for the TOE

1.4 References

Ref	DocNumber	Title	Version
[1]	CC1v2022[CC-1]	Common Criteria for Information Technology Security Evaluation, Part 1: Introduction and general model, version CC:2022 Revision 1, November 2022.Common Criteria for Information Technology Security Evaluation Part 1: Introduction and general model	CC1v2022Version 3.1 Revision 5
[2]	CC2v2022[CC-2]	Common Criteria for Information Technology Security Evaluation, Part 2: Security functional components, version CC:2022 Revision 1, November 2022.Common Criteria for Information Technology Security Evaluation Part 2: Security functional components	CC2v2022Version 3.1 Revision 5
[3]	CC3v2022[CC-3]	Common Criteria for Information Technology Security Evaluation, Part 3: Security assurance components, version CC:2022 Revision 1, November 2022.Common Criteria for Information Technology Security Evaluation Part Part 3: Security assurance components	CC3v2022Version 3.1 Revision 5

Ref	DocNumber	Title	Version
[4]	[PP-eUICC]	eUICC for Consumer and IoT Devices Protection Profile	Version 2.0
[5]	[PP-JCS]	Java Card System – Open Configuration Protection Profile	Version 3.1
[6]	[PP-GP]	Global Platform – Secure Element Protection Profile	Version 1.0
[7]	[JCRE3]	Java Card Platform version 2.2.2, Runtime Environment Specification	March 2006
[8]	[JCVM3]	Java Card Platform - Classic Edition, Virtual Machine (Java Card VM) Specification.	Version 3.0 to 3.0.5
[9]	[JCAPI3]	Java Card Platform - Classic Edition, Application Programming Interface.	Versions 3.0 up to 3.0.5,
[10]	[JCRE3]	Java Card Platform - Classic Edition, Runtime Environment (Java Card RE) Specification.	Versions 3.0 up to 3.0.5,
[11]	[JCRE]	Java Card Platform- Runtime Environment Specification	Versions 2.2 through 3.1
[12]	[JCAPI]	Java Card Platform- Application Programming Interface	Versions 2.2 through 3.1
[13]	[JCVM]	Java Card Platform- Virtual Machine Specification	Versions 2.2 through 3.1
[14]	[PP-84]	Security IC Platform Protection Profile with Augmentation Packages	Version 1.0
[15]	[PP-117]	Secure Sub-System in System-on-Chip (3S in SoC) Protection Profile	Version 1.5
[16]	[GPCS]	GlobalPlatform Technology Card Specification March 2018	Version 2.3.1
[17]	[GP-BASIC]	Security Guidelines for Basic Applications	Version 2.0 November 2014
[18]	[3GPP-MIL]	3GPP TS 35.205, 3GPP TS 35.206, 3GPP TS 35.207, 3GPP TS 35.208, 3GPP TR 35.909: "3rd Generation Partnership Project; Technical Specification Group Services and System Aspects; 3G Security; Specification of the MILENAGE Algorithm Set: An example algorithm set for the 3GPP authentication and key generation functions f1, f1*, f2, f3, f4, f5 and f5*; <ul style="list-style-type: none"> • Document 1: General; • Document 2: Algorithm Specification; • Document 3: Implementers Test Data; • Document 4: Design Conformance Test Data; • Document 5: Summary and results of design and evaluation. 	Release 11

Ref	DocNumber	Title	Version
[19]	[3GPP-TUAK]	3GPP TS 35.231, 3GPP TS 35.232, 3GPP TS 35.233 <ul style="list-style-type: none"> Document 1: Algorithm specification; Document 2: Implementers' test data; Document 3: Design conformance test data. 	Release 12, December 2014
[20]	[PP-USIM]	(U)SIM Java Card Platform Protection Profile Basic and SCWS Configurations	Version 2.0.2, July 2010, ANSSI-CC-PP-2010/05.
[21]	[CC-COMP]	Composite product evaluation for Smart Cards and similar devices	Version 1.5.1 May 2018
[22]	CC5v2022[CC-1]	Common Criteria for Information Technology Security Evaluation, Part 5: Pre-defined packages of security requirements, version CC:2022 Revision 1, November 2022.Common Criteria for Information Technology Security Evaluation Part 1: Introduction and general model	CC5v2022Version 3.1 Revision 5

2 Security Target Introduction

[

Guideline to be deleted by ST writer

This paragraph provides guidelines on how to complete the different parts of the ST Template.

Each part where the Developer SHALL provide details is delimited by the following:

[To be defined by the ST writer]

Before completing the text, the Developer SHALL delete the text between square brackets (i.e. [this text to be deleted]) including the square brackets.

In this document, the "ST writer" is used to refer to the "Developer".

]

[

Guideline to be deleted by ST writer

In this section, the ST writer will complete the table.

The ST writer is allowed to add additional information (ie. author, date, developer name, product name if different of the TOE, ...) for the ST reader.

]

2.1 Security Target reference

Name	[ST name]
Version	[ST version]
Reference	[ST reference]

2.2 TOE reference

Name	[TOE name]
Version	[TOE version]
Reference	[TOE reference]

2.3 References

[

Guideline to be deleted by ST writer

In this section, the ST writer will complete/update references dedicated to the eUICC developed.

]

3 TOE overview

[

Guideline to be deleted by ST writer

In this section, the ST writer will complete the subsections dedicated to the eUICC developed from [PP-eUICC].

]

3.1 TOE description

3.2 TOE type and usage

3.3 TOE life cycle

3.3.1 Non-TOE HW/SW/FW available to the TOE

Note: RMI functions are supposed not to be implemented by the TOE. Additionally, this ST template proposal only takes into account an eUICC architecture with IPAd.

Non-TOE is same than the ones mentioned in the [PP-EUICC] , except for Integrated Circuit (IC) or Chip, Embedded software (ES) and the Runtime Environment, which are part of the TOE.

Figure 1 shows the TOE interfaces covered by the current ST:

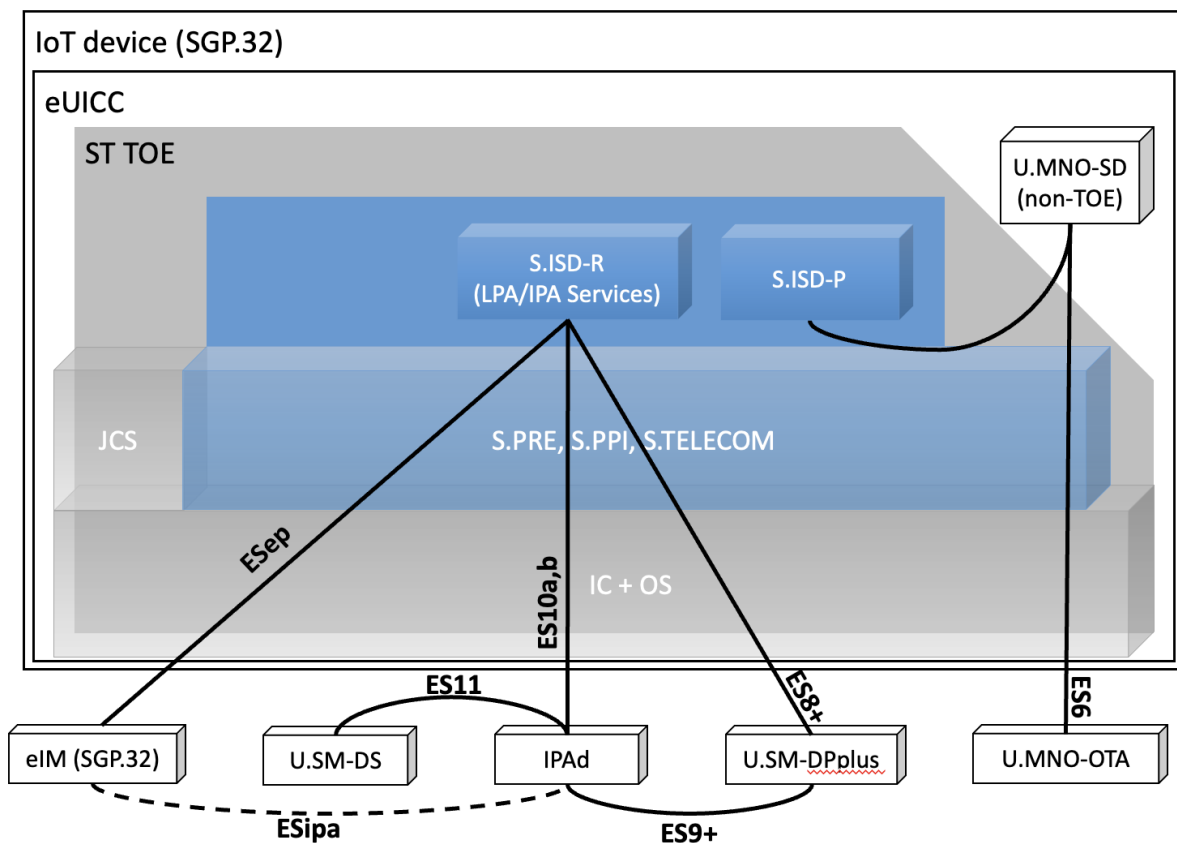


Figure 1 TOE Interfaces-IPAd

3.4 TOE scope

3.4.1 Physical scope

[

Guideline to be deleted by ST writer

Here an example of the table completion for a discrete eUICC.

Category	Component	Version	Delivery form
HW	Chip name	AA	Diced wafer
FW	Crypto lib name	1.0	Binary in memory
SW	OS name	1.0	Binary in memory
DOC	Operative guidance	1.0	Pdf file
DOC	Preparative guidance	1.0	Pdf file
DOC	Security guidance	1.0	Pdf file

The ST writer is allowed to add additional information to support the understanding for the ST reader.

]

Category	Component	Version	Delivery form
HW	[name]	[version]	[form]
FW	[name]	[version]	[form]
SW	[name]	[version]	[form]
DOC	Operative guidance	[version]	[form]
DOC	Preparative guidance	[version]	[form]
DOC	Security guidance	[version]	[form]

3.4.2 Logical scope

[

Guideline to be deleted by ST writer

In this section, the ST writer will complete the logical scope of the TOE from the [PP-eUICC].

The ST writer is allowed to add additional information to support the understanding for the ST reader.

]

4 Conformance Claim

[

Guideline to be deleted by ST writer

In this section, no action of the ST writer is required cause it is already prefilled.

]

4.1 Common Criteria version and conformance with CC part 2 and 3

This Security Target conforms to Common Criteria 2022 release 1:

- CC Part 1 [1],
- CC Part 2 [2] (conformant),
- CC Part 3 [3] (conformant),

4.2 CC Part 5 [22].Assurance package

Guideline to be deleted by ST writer

The ST writer can decide whether to include ALC_FLR.2 by either choosing one of the following cases

]

[Case: without ALC_FLR.2] This Security target conforms to the assurance package EAL4 augmented with ALC_DVS.2 and AVA_VAN.5.

[Case: with ALC_FLR.2] This Security target conforms to the assurance package EAL4 augmented with ALC_DVS.2, ALC_FLR.2 and AVA_VAN.5.

ADV_ARC is refined to add a particular set of verifications on top of the existing requirement.

4.3 Protection Profile (PP) conformance claim

This Security Target claims demonstrable conformance to the [PP-eUICC] protection profile (IPAd).

4.4 Conformance claim rationale

Conformance rationale of the ST against [PP-eUICC] is mapped below. The conformance rationale focuses on assets, threats, OSPs, assumptions, security objectives, and SFRs and the notation used is detailed below:

- Equivalent (E): The element in the ST is the same as in [PP-eUICC].

- Refinement (R): The element in the ST refines the corresponding [PP-eUICC] element. New names are given between brackets and added to the list of elements.
- Addition (A): The element is newly defined in the ST; it is not present in [PP-eUICC] and does not affect it.
- Deletion (D): The elements is deleted from [PP-eUICC].
- X: The element is present in [PP-eUICC].

4.4.1 Conformity of the TOE Type

The TOE type for this ST is the same as defined in the [PP-eUICC].

[

Guideline to be deleted by ST writer

The ST writer has to keep (between scenario 1 and 3) the scenario adapted to the developed eUICC and remove the non selected one.

]

[Case: Scenario 1] The TOE follows the first scenario from the definition in [PP-eUICC], with the IC, OS and JCS already certified, and the embedded eUICC certified on top of them. The ST refers to the IC, OS and JCS Security Target(s) to fulfil the corresponding security objectives.

[Case: Scenario 3] The TOE follows the third scenario from the definition in [PP-eUICC] when the embedded eUICC is embedded in a certified IC, but the OS and JCS features have not been certified. The ST additionally fulfils the IC objectives and introduces SFRs in order to meet the objectives for the OS and JCS. This is a composite evaluation of the system composed of the eUICC software, JCS and OS on top of a certified IC.

4.4.2 SPD Consistency

[

Guideline to be deleted by ST writer

In this section, no action of the ST writer is required cause the list is already prefilled. It is expected that additional assets, users, subjects, SFR, threats, OSPs, or assumptions will also be added by the ST writer.

]

4.4.2.1 Assets consistency

Not all assets defined in [PP-eUICC] are relevant for the TOE of this Security Target. The table below indicates the assets' consistency and the additions from [PP-JCS].

Some assets are described in terms of LPAd or IPAd in [PP-eUICC]. Only the definitions in terms of IPAd and SGP.32 are taken here (i.e., other terms classified as LPAd or SGP.22 are discarded), but they are still classified with (E) if they are not further refined.

Assets	PP-eUICC	Security Target
D.MNO_KEYS	X	(E)
D.PROFILE_NAA_PARAMS	X	(E)
D.PROFILE_IDENTITY	X	(E)
D.PROFILE_RULES	X	(E)
D.PROFILE_USER_CODES (SGP.22)	X	(D) Deleted as it does not concern IoT architecture.
D.PROFILE_CODE	X	(E)
D.TSF_CODE	X	(E)
D.PLATFORM_DATA	X	(E)
D.DEVICE_INFO	X	(E)
D.PLATFORM_RAT	X	(E)
D.SK.EUICC.ECDSA	X	(E)
D.CERT.EUICC.ECDSA	X	(E)
D.PK.CI.ECDSA	X	(E)
D.PK.EIM.ECDSA (SGP.32)	X	(E)
D.EID	X	(E)
D.SECRETS	X	(E)
D.CERT.EUM.ECDSA	X	(E)
D.CRLs	X	(E)
D.APP_CODE		(A): Added from [PP-JCS].
D.APP_C_DATA		(A): Added from [PP-JCS].
D.APP_I_DATA		(A): Added from [PP-JCS].
D.APP_KEYs		(A): Added from [PP-JCS].
D.PIN		(A): Added from [PP-JCS].
D.API_DATA		(A): Added from [PP-JCS].

D.CRYPTO		(A): Added from [PP-JCS].
D.JCS_CODE		(A): Added from [PP-JCS].
D.JCS_DATA		(A): Added from [PP-JCS].
D.SEC_DATA		(A): Added from [PP-JCS].

Table 1 Assets Consistency table

4.4.2.2 Users and Subjects consistency

All Users defined in [PP-eUICC] are relevant for the TOE of this Security Target. The table below indicates the Users' consistency.

[

Guideline to be deleted by ST writer

The Users of the TOE are different when the IC is according to PP0084 or PP0117. For that reason, the ST writer shall mark U.3S-DEV as "(D)" when the IC is conformant to PP0084, and mark it as "(E)" if the IC is conformant to PP-0117.

]

User	PP-eUICC	Security Target
U.SM-DPplus	X	(E)
U.SM-DS	X	(E)
U.MNO-OTA	X	(E)
U.MNO-SD	X	(E)
U.3S-DEV	X	[Case: IC conformant to PP0084] (D) The IC is not conformant to PP0117. [Case: IC conformant to PP0117] (E)
U.eIM	X	(E)

Table 2 User consistency table

All Subjects defined in [PP-eUICC] are relevant for the TOE of this Security Target.

Some subjects are described in terms of LPAd or IPAd in [PP-eUICC]. Only the definitions in terms of IPAd and SGP.32 are taken here (i.e., other terms classified as LPAd or SGP.22 are discarded), but they are still classified with (E) if they are not further refined.

The table below indicates the Subjects' consistency and the additions from [PP-JCS].

Subjects	PP-eUICC	Security Target
S.ISD-R	X	(E)
S.ISD-P	X	(E)
S.ECASD	X	(E)
S.PPI	X	(E)
S.PRE	X	(E)
S.TELECOM	X	(E)
S.ADEL		(A): Added from [PP-JCS].
S.APPLLET		(A): Added from [PP-JCS].
S.BCV		(A): Added from [PP-JCS].
S.CAD		(A): Added from [PP-JCS].
S.INSTALLER		(A): Added from [PP-JCS].
S.JCRE		(A): Added from [PP-JCS].
S.JCVM		(A): Added from [PP-JCS].
S.LOCAL		(A): Added from [PP-JCS].
S.MEMBER		(A): Added from [PP-JCS].
S.CAP_FILE		(A): Added from [PP-JCS].

Table 3 Subjects Consistency table

4.4.2.3 Threats consistency

All Threats defined in [PP-eUICC] are relevant for the TOE of this Security Target.

Some threats are described in terms of LPAd or IPAd in [PP-eUICC]. Only the definitions in terms of IPAd and SGP.32 are taken here (i.e., other terms classified as LPAd or SGP.22 are discarded), but they are still classified with (E) if they are not further refined.

The table below indicates the Threats' consistency.

Threats	PP-eUICC	Security Target
T.UNAUTHORIZED-PROFILE-MNG	X	(R): Assets added from [PP-JCS] are mapped as threatened assets.
T.UNAUTHORIZED-PLATFORM-MNG	X	(R): Assets added from [PP-JCS] are mapped as threatened assets.
T.PROFILE-MNG-INTERCEPTION	X	(R): Assets added from [PP-JCS] are mapped as threatened assets.
T.PROFILE-MNG-ELIGIBILITY	X	(R): Assets added from [PP-JCS] are mapped as threatened assets.
T.UNAUTHORIZED-IDENTITY-MNG	X	(R): Assets added from [PP-JCS] are mapped as threatened assets.
T.IDENTITY-INTERCEPTION	X	(R): Assets added from [PP-JCS] are mapped as threatened assets.

T.UNAUTHORIZED-eUICC	X	(E)
T.LPAd-INTERFACE-EXPLOIT	X	(E)
T.UNAUTHORIZED-MOBILE-ACCESS	X	(E)
T.LOGICAL-ATTACK	X	(R): Assets added from [PP-JCS] are mapped as threatened assets.
T.PHYSICAL-ATTACK	X	(E)

Table 4 Threats Consistency table

Note that T.LPAd-INTERFACE-EXPLOIT is named after LPAd, but it still considers IPAd.

4.4.2.4 Organizational Security Policies consistency

All Organizational Security Policies defined in [PP-eUICC] are relevant for the TOE of this Security Target. The table below indicates the Organizational Security Policies' consistency.

OSPs	PP-eUICC	Security Target
OSP.LIFE-CYCLE	X	(E)

Table 5 Organizational Security Policies Consistency table

4.4.2.5 Assumptions consistency

All Assumptions defined in [PP-eUICC] are relevant for the TOE of this Security Target. The table below indicates the Assumptions consistency.

Assumptions	PP-eUICC	Security Target
A.TRUSTED-PATHS-LPAd-IPAd	X	(E)
A.ACTORS	X	(E)
A.APPLICATIONS	X	(E)
A.CAP_FILE		(A): Added from [PP-JCS]

Table 6 Assumptions Consistency table

4.4.3 Security Objectives Consistency

[

Guideline to be deleted by ST writer

In this section, no action of the ST writer is required cause the list is already prefilled. It is expected that additional objectives will also be added by the ST writer.

The ST writer has to keep (between scenario 1 and 3) the scenario adapted to the eUICC developed and remove the non selected one.

]

4.4.3.1 Objective for the TOE consistency

All Security Objectives defined in [PP-eUICC] are relevant for the TOE of this Security Target. The table below indicates the Security Objectives' consistency.

[

Guideline to be deleted by ST writer

The ST writer has to keep (between scenario 1 and 3) the scenario adapted to the developed eUICC and remove the non selected one.

The translation of objectives for the environment OE.RE.* and OE.IC.* to the security objectives for the TOE are only applicable to the scenario 3. For the scenario 1, these are applicable.

The current SFRs proposal include optional SFRs from [PP-GP] for assistance; but the ST writer can decide to use another selection of SFRs to cover the Security objectives of the TOE.

]

[Case: Scenario 1] Note that OE.RE* and OE.IC* from [PP-eUICC] become security objectives from the TOE in the present security target. However, a product certified against the [PP-JCS] already meets the security objectives OE.RE*.

[Case: Scenario 3] Note that OE.RE* and OE.IC* from [PP-eUICC] become security objectives from the TOE in the present security target. The [PP-eUICC] already provides the conversion of OE.RE* to objectives from the [PP-JCS] protection profile.

O.TOE	PP-eUICC	Security Target
O.PPE-PPI	X	(E)
O.eUICC-DOMAIN-RIGHTS	X	(E)
O.SECURE-CHANNELS	X	(E)
O.INTERNAL-SECURE-CHANNELS	X	(E)
O.PROOF_OF_IDENTITY	X	(E)
O.OPERATE	X	(E)
O.API	X	(E)
O.DATA-CONFIDENTIALITY	X	(E)
O.DATA-INTEGRITY	X	(E)
O.ALGORITHMS	X	(E)
O.IC.PROOF_OF_IDENTITY		(A): Added as Security Objective for the TOE instead of Security Objective for the Operational Environment

O.IC.SUPPORT		(A): Added as Security Objective for the TOE instead of Security Objective for the Operational Environment
O.IC.RECOVERY		(A): Added as Security Objective for the TOE instead of Security Objective for the Operational Environment
O.RE.PRE-PPI		(A): Added as Security Objective for the TOE instead of Security Objective for the Operational Environment
O.RE.SECURE-COMM		(A): Added as Security Objective for the TOE instead of Security Objective for the Operational Environment
O.RE.API		(A): Added as Security Objective for the TOE instead of Security Objective for the Operational Environment
O.RE.DATA-CONFIDENTIALITY		(A): Added as Security Objective for the TOE instead of Security Objective for the Operational Environment
O.RE.DATA-INTEGRITY		(A): Added as Security Objective for the TOE instead of Security Objective for the Operational Environment
O.RE.IDENTITY		(A): Added as Security Objective for the TOE instead of Security Objective for the Operational Environment
O.RE.CODE-EXE		(A): Added as Security Objective for the TOE instead of Security Objective for the Operational Environment

Table 7 Security objectives for the TOE consistency table

4.4.3.2 Objective for Environment consistency

O.ENV	PP-eUICC	Security Target
OE.CI	X	(E)
OE.SM-DPplus	X	(E)
OE.MNO	X	(E)
OE.TRUSTED-PATHS-LPAd	X	(E)
OE.APPLICATIONS	X	(E)
OE.CODE-EVIDENCE		(A): Added from [PP-JCS].
OE.MNO-SD	X	(E)
OE.IC.PROOF_OF_IDENTITY	X	Removed and replaced by O.IC.PROOF_OF IDENTITY.
OE.IC.SUPPORT	X	Removed and replaced by O.IC.SUPPORT.

OE.IC.RECOVERY	X	Removed and replaced by O.IC.RECOVERY.
OE.RE.PPE-PPI	X	Removed and replaced by O.RE.PPE-PPI.
OE.RE.SECURE-COMM	X	Removed and replaced by O.RE.SECURE-COMM.
OE.RE.API	X	Removed and replaced by O.RE.API.
OE.RE.DATA-CONFIDENTIALITY	X	Removed and replaced by O.RE.DATA-CONFIDENTIALITY.
OE.RE.DATA-INTEGRITY	X	Removed and replaced by O.RE.DATA-INTEGRITY
OE.RE.IDENTITY	X	Removed and replaced by O.RE.IDENTITY
OE.RE.CODE-EXE	X	Removed and replaced by O.RE.CODE-EXE

Table 8 Security objectives for the Operational Environment consistency table

4.4.4 Conformity of the Requirement (SFR/SAR)

4.4.4.1 SFR consistency

SFR	PP-eUICC	Security Target
FIA_UID.1/EXT	X	(E)
FIA_UAU.1/EXT	X	(E)
FIA_USB.1/EXT	X	(E)
FIA_UAU.4/EXT	X	(E)
FIA_UID.1/MNO-SD	X	(E)
FIA_USB.1/MNO-SD	X	(E)
FIA_ATD.1	X	(E)
FIA_API.1	X	(E)
FDP_IFC.1/SCP	X	(E)
FDP_IFF.1/SCP	X	(E)
FTP_ITC.1/SCP	X	(E)
FDP_ITC.2/SCP	X	(E)
FPT_TDC.1/SCP	X	(E)
FDP_UCT.1/SCP	X	(E)
FDP_UIT.1/SCP	X	(E)
FCS_CKM.1/SCP-SM	X	(E)
FCS_CKM.2/SCP-MNO	X	(E)
FCS_CKM.4/SCP-SM	X	(E)

<u>FCS_CKM.4/SCP-MNO</u>	X	(E)
<u>FDP_ACC.1/ISDR</u>	X	(E)
<u>FDP_ACF.1/ISDR</u>	X	(E)
<u>FDP_ACC.1/ECASD</u>	X	(E)
<u>FDP_ACF.1/ECASD</u>	X	(E)
<u>FDP_IFC.1/Platform services</u>	X	(E)
<u>FDP_IFF.1/Platform services</u>	X	(E)
<u>FPT_FLS.1/Platform services</u>	X	(E)
<u>FCS_RNG.1</u>	X	(E)
<u>FPT_EMS.1</u>	X	(E)
<u>FDP_SDI.1</u>	X	(E)
<u>FDP_RIP.1</u>	X	(E)
<u>FPT_FLS.1</u>	X	(E)
<u>FMT_MSA.1/PLATFORM DATA</u>	X	(E)
<u>FMT_MSA.1/PPR</u>	X	(E)
<u>FMT_MSA.1/CERT KEYS</u>	X	(E)
<u>FMT_SMF.1</u>	X	(E)
<u>FMT_SMR.1</u>	X	(E)
<u>FMT_MSA.1/RAT</u>	X	(E)
<u>FMT_MSA.3</u>	X	(E)
<u>FCS_COP.1/Mobile network</u>	X	(E)
<u>FCS_CKM.2/Mobile network</u>	X	(E)
<u>FCS_CKM.4/Mobile network</u>	X	(E)
<u>FDP_ACC.2/FIREWALL</u>		(A): Added from [PP-JCS].
<u>FDP_ACF.1/FIREWALL</u>		(A): Added from [PP-JCS].
<u>FDP_IFC.1/JCVM</u>		(A): Added from [PP-JCS].
<u>FDP_IFF.1/JCVM</u>		(A): Added from [PP-JCS].
<u>FDP_RIP.1/OBJECTS</u>		(A): Added from [PP-JCS].
<u>FMT_MSA.1/JCRE</u>		(A): Added from [PP-JCS].
<u>FMT_MSA.1/JCVM</u>		(A): Added from [PP-JCS].
<u>FMT_MSA.2/FIREWALL_JCVM</u>		(A): Added from [PP-JCS].
<u>FMT_MSA.3/FIREWALL</u>		(A): Added from [PP-JCS].
<u>FMT_MSA.3/JCVM</u>		(A): Added from [PP-JCS].
<u>FMT_SMF.1/JC</u>		(A): Added from [PP-JCS]. Refined with iteration.
<u>FMT_SMR.1/JC</u>		(A): Added from [PP-JCS]. Refined with iteration.

FCS_CKM.1		(A): Added from [PP-JCS].
FCS_CKM.4		(A): Added from [PP-JCS].
FCS_COP.1		(A): Added from [PP-JCS].
FDP_RIP.1/ABORT		(A): Added from [PP-JCS].
FDP_RIP.1/APDU		(A): Added from [PP-JCS].
FDP_RIP.1/bArray		(A): Added from [PP-JCS].
FDP_RIP.1/GlobalArray		(A): Added from [PP-JCS].
FDP_RIP.1/KEYS		(A): Added from [PP-JCS].
FDP_RIP.1/TRANSIENT		(A): Added from [PP-JCS].
FDP_ROL.1/FIREWALL		(A): Added from [PP-JCS].
FAU_ARP.1		(A): Added from [PP-JCS].
FDP_SDI.2/DATA		(A): Added from [PP-JCS].
FPR_UNO.1		(A): Added from [PP-JCS].
FPT_FLS.1/JC		(A): Added from [PP-JCS]. Refined with iteration.
FPT_TDC.1		(A): Added from [PP-JCS].
FIA_ATD.1/AID		(A): Added from [PP-JCS].
FIA_UID.2/AID		(A): Added from [PP-JCS].
FIA_USB.1/AID		(A): Added from [PP-JCS].
FMT_MTD.1/JCRE		(A): Added from [PP-JCS].
FMT_MTD.3/JCRE		(A): Added from [PP-JCS].
FDP_ITC.2/GP-ELF		(A): Added from [PP-JCS].
FPT_FLS.1/GP		(A): Added from [PP-GP].
FPT_RCV.3/GP		(A): Added from [PP-GP].
FDP_ACC.2/ADEL		(A): Added from [PP-JCS].
FDP_ACF.1/ADEL		(A): Added from [PP-JCS].
FDP_RIP.1/ADEL		(A): Added from [PP-JCS].
FMT_MSA.1/ADEL		(A): Added from [PP-JCS].
FMT_MSA.3/ADEL		(A): Added from [PP-JCS].
FMT_SMF.1/ADEL		(A): Added from [PP-JCS].
FMT_SMR.1/ADEL		(A): Added from [PP-JCS].
FPT_FLS.1/ADEL		(A): Added from [PP-JCS].
FDP_RIP.1/ODEL		(A): Added from [PP-JCS].
FPT_FLS.1/ODEL		(A): Added from [PP-JCS].
FCO_NRO.2/GP		(A): Added from [PP-GP].
FDP_IFC.2/GP-ELF		(A): Added from [PP-GP].

FDP_IFF.1/GP-ELF		(A): Added from [PP-GP].
FDP_UIT.1/GP		(A): Added from [PP-GP].
FIA_UID.1/GP		(A): Added from [PP-GP].
FMT_MSA.1/GP		(A): Added from [PP-GP].
FMT_MSA.3/GP		(A): Added from [PP-GP].
FMT_SMF.1/GP		(A): Added from [PP-GP].
FDP_ROL.1/GP		(A): Added from [PP-GP].
FTP_ITC.1/GP		(A): Added from [PP-GP].
FIA_AFL.1/GP		(A): Added from [PP-GP].
FIA_UAU.1/GP		(A): Added from [PP-GP].
FIA_UAU.4/GP		(A): Added from [PP-GP].
FDP_UCT.1/GP		(A): Added from [PP-GP].
FPR_UNO.1/GP		(A): Added from [PP-GP].
FDP_IFC.2/GP-KL		(A): Added from [PP-GP].
FMT_SMR.1/GP		(A): Added from [PP-GP].
FDP_ITC.2/GP-KL		(A): Added from [PP-GP].
FTP_ITC.1/GP		(A): Added from [PP-GP].
FDP_IFF.1/GP-KL		(A): Added from [PP-GP].
FPT_TDC.1/GP		(A): Added from [PP-GP].
FAU_SAS.1		(A): Added to cover O.IC.PROOF_OF_IDENTITY.
FPT_RCV.3/OS		(A): Added to cover O.IC.RECOVERY.
FPT_RCV.4/OS		(A): Added to cover O.IC.SUPPORT.

Table 9 Security Functional Requirement consistency table

4.4.4.2 SAR consistency

This ST claims the same evaluation assurance level as [PP-eUICC], i.e., EAL4 augmented with ALC_DVS.2 and AVA_VAN.5.

5 Security Problem definition

[

Guideline to be deleted by ST writer

In this section, no action of the ST writer is required. It is expected that additional assets, users, subjects, SFR, threats, OSPs, or assumptions will also be added by the ST writer.

]

This chapter introduces the security problem addressed by the TOE and its operational environment. The security problem consists of the threats the TOE may face in the field, the assumptions on its operational environment, and the organizational policies that must be implemented by the TOE or within the operational environment.

5.1 Assets

The definition of the assets from [PP-eUICC] and [PP-JCS] is not repeated here. See section 4.4.2.1 for complete list of assets.

5.2 Users and Subjects

The definition of users and subjects from [PP-eUICC] and [PP-JCS] is not repeated here. See section 4.4.2.2 for complete list of users and subjects.

5.3 Threats

The definition of threats from [PP-eUICC] where no refinements are made is not repeated here. See section 4.4.2.3 for complete list of threats.

Refined threats description is detailed below:

Threat	Refined description
T.UNAUTHORIZED-PROFILE-MNG	<p>The definition of this threat is present in [PP-eUICC]. The mapping against assets has been refined as detailed below.</p> <p>Directly threatens the assets: D.ISDP_KEYS, D.MNO_KEYS, D.TSF_CODE (ISD-P), D.PROFILE_*, D.APP_C_DATA, D.APP_I_DATA, D.PIN, D.APP_KEYS and D.APP_CODE.</p>
T.UNAUTHORIZED-PLATFORM-MNG	<p>The definition of this threat is present in [PP-eUICC]. The mapping against assets has been refined as detailed below.</p> <p>Directly threatened assets are D.TSF_CODE, D.PLATFORM_DATA, D.PLATFORM_RAT. By altering the behaviour of ISD-R or PPE, the attacker indirectly threatens the provisioning status of the</p>

	eUICC, thus also threatens the same assets as T.UNAUTHORIZED-PROFILE-MNG.
T.PROFILE-MNG-INTERCEPTION	<p>The definition of this threat is present in [PP-eUICC]. The mapping against assets has been refined as detailed below.</p> <p>Directly threatens the assets: D.MNO_KEYS, D.TSF_CODE (ISD-P), D.PROFILE_*, D.APP_C_DATA, D.PIN and D.APP_KEYS.</p>
T.PROFILE-MNG-ELIGIBILITY	<p>The definition of this threat is present in [PP-eUICC]. The mapping against assets has been refined as detailed below.</p> <p>Directly threatens the assets: D.TSF_CODE, D.DEVICE_INFO, D.EID, D.APP_C_DATA, D.PIN, D.APP_KEYS, D.APP_CODE and D.APP_I_DATA.</p>
T.UNAUTHORIZED-IDENTITY-MNG	<p>The definition of this threat is present in [PP-eUICC]. The mapping against assets has been refined as detailed below.</p> <p>Directly threatens the assets: D.TSF_CODE, D.SK.EUICC.ECDSA, D.SECRETS, D.CERT.EUICC.ECDSA, D.PK.CI.ECDSA, D.EID, D.CERT.EUM.ECDSA, D.CRLs, D.APP_CODE, D.APP_I_DATA, D.PIN, D.APP_KEYS, D.APP_C_DATA and D.SEC_DATA.</p>
T.IDENTITY-INTERCEPTION	<p>The definition of this threat is present in [PP-eUICC]. The mapping against assets has been refined as detailed below.</p> <p>Directly threatens the assets: D.SECRETS, D.EID, D.APP_C_DATA, D.PIN and D.APP_KEYS.</p>
T.LOGICAL-ATTACK	<p>The definition of this threat is present in [PP-eUICC]. The mapping against assets has been refined as detailed below.</p> <p>Directly threatens the assets: D.TSF_CODE, D.PROFILE_NAA_PARAMS, D.PROFILE_POLICY_RULES, D.PLATFORM_DATA, D.PLATFORM_RAT, D.JCS_CODE, D.API_DATA, D.SEC_DATA, D.JCS_DATA, D.CRYPTO, D.APP_CODE, D.APP_I_DATA, D.PIN, D.APP_KEYS and D.APP_C_DATA.</p>

5.4 Organizational Security Policies

The definition of organizational security policies from [PP-eUICC] and [PP-JCS] is not repeated here. See section 4.4.2.4 for complete list of organizational security policies.

6 Security Objectives

[

Guideline to be deleted by ST writer

In this section, no action of the ST writer is required. It is expected that additional objectives will also be added by the ST writer.

]

This section introduces the security objectives for the TOE.

6.1 Security Objectives for the TOE

The list and definitions of the Security Objectives for the TOE from [PP-eUICC] are not repeated here. See section 4.4.3 for complete list is Security Objectives for the TOE.

Some objectives from the environment have been converted to objectives of the TOE, specifically the ones from [PP-eUICC] related to OE.RE* and OE.IC*. The replaced objectives from 4.4.3.2 and their description are listed next:

Sec. Objectives for the TOE	Description
O.IC.PROOF_OF_IDENTITY	The underlying IC used by the TOE is uniquely identified.
O.IC.SUPPORT	<p>The IC embedded software shall support the following functionalities:</p> <p>(1) It does not allow the TSFs to be bypassed or altered and does not allow access to low-level functions other than those made available by the packages of the API. That includes the protection of its private data and code (against disclosure or modification).</p> <p>(2) It provides secure low-level cryptographic processing to Profile Rules Enforcer, Profile Package Interpreter, and Telecom Framework (S.PRE, S.PPI, and S.TELECOM).</p> <p>(3) It allows the S.PRE, S.PPI, and S.TELECOM to store data in “persistent technology memory” or in volatile memory, depending on its needs (for instance, transient objects must not be stored in non-volatile memory). The memory model is structured and allows for low-level control accesses (segmentation fault detection).</p> <p>(4) It provides a means to perform memory operations atomically for S.PRE, S.PPI, and S.TELECOM.</p>
O.IC.RECOVERY	If there is a loss of power while an operation is in progress, the underlying IC must allow the TOE to eventually complete the interrupted operation

	successfully, or recover to a consistent and secure state.
O.RE.PRE-PPI	The Runtime Environment shall provide secure means for card management activities, including: <ul style="list-style-type: none"> ○ load of a package file, ○ installation of a package file, ○ extradition of a package file or an application, ○ personalization of an application or a Security Domain, ○ deletion of a package file or an application, ○ privileges update of an application or a Security Domain. ○
O.RE.SECURE-COMM	The Runtime Environment shall provide means to protect the confidentiality and integrity of applications communication.
O.RE.API	The Runtime Environment shall ensure that native code can be invoked only via an API.
O.RE.DATA-CONFIDENTIALITY	The Runtime Environment shall provide a means to protect at all times the confidentiality of the TOE sensitive data it processes.
O.RE.DATA-INTEGRITY	The Runtime Environment shall provide a means to protect at all times the integrity of the TOE sensitive data it processes.
O.RE.IDENTITY	The Runtime Environment shall ensure the secure identification of the applications it executes.
O.RE.CODE-EXE	The Runtime Environment shall prevent unauthorized code execution by applications.

Table 11: Security Objectives for the TOE

6.2 Security Objectives for the Operational Environment

The list and definitions of the Security Objectives for the TOE from [PP-eUICC] are not repeated here. See section 4.4.3.2 for complete list is Security Objectives for the Operational Environment.

6.3 Security Objectives Rationale

6.3.1 Threats

6.3.1.1 Unauthorized profile and platform management

T.UNAUTHORIZED-PROFILE-MNG

This threat is covered by requiring authentication and authorization from the legitimate actors:

- O.PRE-PPI and O.eUICC-DOMAIN-RIGHTS ensure that only authorized and authenticated actors (SM-DP+ and MNO OTA Platform) will access the Security Domains functions and content;

- OE.SM-DPplus and OE.MNO protect the corresponding credentials when used offcard. The on-card access control policy relies upon the underlying Runtime Environment, which ensures confidentiality and integrity of application data (O.RE.DATA-CONFIDENTIALITY and O.RE.DATA-INTEGRITY). The authentication is supported by corresponding secure channels:
- O.SECURE-CHANNELS and O.INTERNAL-SECURE-CHANNELS provide a secure channel for communication with SM-DP+ and a secure channel for communication with MNO OTA Platform. These secure channels rely upon the underlying Runtime Environment, which protects the applications communications (O.RE.SECURE-COMM).

Since the MNO-SD Security Domain is not part of the TOE, the operational environment has to guarantee that it will use securely the SCP80/81 secure channel provided by the TOE (OE.MNO-SD). In order to ensure the secure operation of the Application Firewall, the following objectives for the operational environment are also required:

- compliance to security guidelines for applications (OE.APPLICATIONS and OE.CODE-EVIDENCE).

T.UNAUTHORIZED-PLATFORM-MNG

This threat is covered by requiring authentication and authorization from the legitimate actors:

- O.PRE-PPI and O.eUICC-DOMAIN-RIGHTS ensure that only authorized and authenticated actors will access the Security Domains functions and content.

The on-card access control policy relies upon the underlying Runtime Environment, which ensures confidentiality and integrity of application data (O.RE.DATA-CONFIDENTIALITY and O.RE.DATA-INTEGRITY).

In order to ensure the secure operation of the Application Firewall, the following objectives for the operational environment are also required: o compliance to security guidelines for applications (OE.APPLICATIONS and OE.CODE-EVIDENCE).

T.PROFILE-MNG-INTERCEPTION

Commands and profiles are transmitted by the SM-DP+ to its on-card representative (ISD-P), while profile data (including meta-data such as PPRs) is also transmitted by the MNO OTA Platform to its on-card representative (MNO-SD). to its on-card representative (MNO-SD) by means of RPM requests from Profile owner to ISD-R (UpdateMetadataRequest), or by means of PSMO commands from eIM to ISD-R (SGP.32).

Consequently, the TSF ensures:

- Security of the transmission to the Security Domain (O.SECURE-CHANNELS and O.INTERNAL-SECURE-CHANNELS) by requiring authentication from SM-DP+ and MNO OTA Platforms, and protecting the transmission from unauthorized disclosure, modification and replay. These secure channels rely upon the underlying Runtime Environment, which protects the applications communications (O.RE.SECURE-COMM).

Since the MNO-SD Security Domain is not part of the TOE, the operational environment has to guarantee that it will securely use the SCP80/81 secure channel provided by the TOE (OE.MNO-SD).

OE.SM-DPplus, OE.MNO and OE.EIM (SGP.32) ensure that the credentials related to the secure channels will not be disclosed when used by off-card actors.

T.PROFILE-MNG-ELIGIBILITY

Device Info and eUICCInfo2, transmitted by the eUICC to the SM-DP+, are used by the SM-DP+ to perform the Eligibility Check prior to allowing profile download onto the eUICC.

Consequently, the TSF ensures:

- Security of the transmission to the Security Domain (O.SECURE-CHANNELS and O.INTERNAL-SECURE-CHANNELS) by requiring authentication from SM-DP+, and protecting the transmission from unauthorized disclosure, modification and replay. These secure channels rely upon the underlying Runtime Environment, which protects the applications communications (O.RE.SECURE-COMM).

OE.SM-DPplus ensures that the credentials related to the secure channels will not be disclosed when used by off-card actors. O.DATA-INTEGRITY and O.RE.DATA-INTEGRITY ensure that the integrity of Device Info and eUICCInfo2 is protected at the eUICC level.

6.3.1.2 Identity Tampering

T.UNAUTHORIZED-IDENTITY-MNG

O.PRE-PPI and O.eUICC-DOMAIN-RIGHTS covers this threat by providing an access control policy for ECASD content and functionality.

The on-card access control policy relies upon the underlying Runtime Environment, which ensures confidentiality and integrity of application data (O.RE.DATA-CONFIDENTIALITY and O.RE.DATA-INTEGRITY).

O.RE.IDENTITY ensures that at the Java Card level, the applications cannot impersonate other actors or modify their privileges.

T.IDENTITY-INTERCEPTION

O.INTERNAL-SECURE-CHANNELS ensures the secure transmission of the shared secrets from the ECASD to ISD-R and ISD-P. These secure channels rely upon the underlying Runtime Environment, which protects the applications communications (O.RE.SECURE-COMM).

OE.CI ensures that the eSIM CA will manage securely its credentials off-card.

6.3.1.3 eUICC cloning

T.UNAUTHORIZED-eUICC

O.PROOF_OF_IDENTITY guarantees that the off-card actor can be provided with a cryptographic proof of identity based on an EID.

O.PROOF_OF_IDENTITY guarantees this EID uniqueness by basing it on the eUICC hardware identification (which is unique due to O.IC.PROOF_OF_IDENTITY).

6.3.1.4 LPAd impersonation

T.LPAd-INTERFACE-EXPLOIT

OE.TRUSTED-PATHS-LPAd-IPAd ensures that the interfaces ES10a and ES10b are trusted paths to the IPA.

6.3.1.5 Unauthorized access to the mobile network

T.UNAUTHORIZED-MOBILE-ACCESS

The objective O.ALGORITHMS ensures that a profile may only access the mobile network using a secure authentication method, which prevents impersonation by an attacker.

6.3.1.6 Second Level Threats

T.LOGICAL-ATTACK

This threat is covered by controlling the information flow between Security Domains and the PRE, PPI, the Telecom Framework or any native/OS part of the TOE. As such it is covered:

- by the APIs provided by the Runtime Environment (O.RE.API);
- by the APIs of the TSF (O.API); the APIs of Telecom Framework, PRE and PPI shall ensure atomic transactions (O.IC.SUPPORT).

Whenever sensitive data of the TOE are processed by applications, confidentiality and integrity must be protected at all times by the Runtime Environment (O.RE.DATACONFIDENTIALITY, O.RE.DATA-INTEGRITY). However these sensitive data are also processed by the PRE, PPI and the Telecom Framework, which are not protected by these mechanisms. Consequently,

- the TOE itself must ensure the correct operation of PRE, PPI and Telecom Framework (O.OPERATE), and
- PRE, PPI and Telecom Framework must protect the confidentiality and integrity of the sensitive data they process, while applications must use the protection mechanisms provided by the Runtime Environment (O.DATA-CONFIDENTIALITY, O.DATA-INTEGRITY).

This threat is covered by prevention of unauthorized code execution by applications (O.RE.CODE-EXE),

The following objectives for the operational environment are also required:

- compliance to security guidelines for applications (OE.APPLICATIONS and OE.CODE-EVIDENCE).

T.PHYSICAL-ATTACK

This threat is countered mainly by physical protections which rely on the underlying Platform and are therefore an environmental issue.

The security objectives O.IC.SUPPORT and O.IC.RECOVERY protect sensitive assets of the Platform against loss of integrity and confidentiality and especially ensure the TSFs cannot be bypassed or altered.

In particular, the security objective O.IC.SUPPORT provides functionality to ensure atomicity of sensitive operations, secure low level access control and protection against bypassing of the security features of the TOE. In particular, it explicitly ensures the independent protection in integrity of the Platform data.

Since the TOE cannot only rely on the IC protection measures, the TOE shall enforce any necessary mechanism to ensure resistance against side channels (O.DATACONFIDENTIALITY). For the same reason, the Java Card Platform security architecture must cover side channels (O.RE.DATA-CONFIDENTIALITY).

6.3.2 Organizational Security Policies

The OSP defined is OSP.LIFE-CYCLE as in [PP-eUICC] section 4.3.2.

6.3.3 Assumptions

The assumptions A.TRUSTED-PATHS-LPAd-IPAd, A.ACTORS and A.APPLICATIONS are defined as in [PP-eUICC]. A.CAP_FILE is defined as in [PP-JCS] section 5.4.

6.3.4 Rationale Tables

6.3.4.1 Threats Rationale

Threats	Security Objectives	Rationale
T.UNAUTHORIZEDPROFILE-MNG	O.eUICC-DOMAIN-RIGHTS, OE.SM-DPplus, OE.MNO, O.PRE-PPI, O.SECURE-CHANNELS, OE.APPLICATIONS, and OE.CODE-EVIDENCE, O.INTERNAL-SECURECHANNELS, O.RE.SECURE-COMM, O.RE.DATACONFIDENTIALITY, O.RE.DATA-INTEGRITY, OE.MNO-SD	Section 6.3.1.1

T.UNAUTHORIZEDPLATFORM-MNG	O.eUICC-DOMAIN-RIGHTS, O.PRE-PPI, OE.APPLICATIONS, and OE.CODE-EVIDENCE, O.RE.DATA-CONFIDENTIALITY, O.RE.DATA-INTEGRITY, OE.EIM (SGP.32)	Section 6.3.1.1
T.PROFILE-MNG-INTERCEPTION	OE.SM-DPplus, OE.MNO, O.SECURE-CHANNELS, O.INTERNAL-SECURE-CHANNELS, O.RE.SECURE-COMM, OE.MNO-SD, OE.EIM (SGP.32)	Section 6.3.1.1
T.PROFILE-MNG-ELIGIBILITY	OE.SM-DPplus, OE.RE.SECURE-COMM, O.SECURE-CHANNELS, O.INTERNAL-SECURE-CHANNELS, O.RE.DATA-INTEGRITY, O.DATA-INTEGRITY	Section 6.3.1.1
T.UNAUTHORIZED-IDENTITY-MNG	O.eUICC-DOMAIN-RIGHTS, O.PRE-PPI, O.RE.DATA-CONFIDENTIALITY, O.RE.DATA-INTEGRITY, O.RE.IDENTITY	Section 6.3.1.2
T.IDENTITY-INTERCEPTION	OE.CI, O.INTERNAL-SECURE-CHANNELS, O.RE.SECURE-COMM	Section 6.3.1.2
T.UNAUTHORIZED-eUICC	O.PROOF_OF_IDENTITY, O.IC.PROOF_OF_IDENTITY	Section 6.3.1.3
T.LPAd-INTERFACE-EXPLOIT	OE.TRUSTED-PATHS-LPAd-IPAd	Section 6.3.1.4
T.UNAUTHORIZED-MOBILE-ACCESS	O.ALGORITHMS	Section 6.3.1.5
T.LOGICAL-ATTACK	O.DATA-CONFIDENTIALITY, O.DATA-INTEGRITY, O.API, OE.APPLICATIONS, and OE.CODE-EVIDENCE, O.OPERATE, O.RE.API, O.RE.CODE-EXE, O.IC.SUPPORT, O.RE.DATA-CONFIDENTIALITY, O.RE.DATA-INTEGRITY	Section 6.3.1.6
T.PHYSICAL-ATTACK	O.IC.SUPPORT, O.IC.RECOVERY, O.DATA-CONFIDENTIALITY, O.RE.DATA-CONFIDENTIALITY	Section 6.3.1.6

Table 10 Threats and Security Objectives- Coverage

Security Objectives	Threats
O.PRE-PPI	T.UNAUTHORIZED-PROFILE-MNG, T.UNAUTHORIZED-PLATFORM-MNG, T.UNAUTHORIZED-IDENTITY-MNG
O.eUICC-DOMAIN-RIGHTS	T.UNAUTHORIZED-PROFILE-MNG, T.UNAUTHORIZED-PLATFORM-MNG, T.UNAUTHORIZED-IDENTITY-MNG

O.SECURE-CHANNELS	T.UNAUTHORIZED-PROFILE-MNG, T.PROFILE-MNG-INTERCEPTION, T.PROFILE-MNG-ELIGIBILITY
O.INTERNAL-SECURE-CHANNELS	T.UNAUTHORIZED-PROFILE-MNG, T.PROFILE-MNG-INTERCEPTION, T.PROFILE-MNG-ELIGIBILITY, T.IDENTITY-INTERCEPTION
O.PROOF_OF_IDENTITY	T.UNAUTHORIZED-eUICC
O.OPERATE	T.LOGICAL-ATTACK
O.API	T.LOGICAL-ATTACK
O.DATA-CONFIDENTIALITY	T.LOGICAL-ATTACK, T.PHYSICAL-ATTACK
O.DATA-INTEGRITY	T.PROFILE-MNG-ELIGIBILITY, T.LOGICAL-ATTACK
O.ALGORITHMS	T.UNAUTHORIZED-MOBILE-ACCESS
OE.CI	T.IDENTITY-INTERCEPTION
OE.SM-DPplus	T.UNAUTHORIZED-PROFILE-MNG, T.PROFILE-MNG-INTERCEPTION, T.PROFILE-MNG-ELIGIBILITY
OE.MNO	T.UNAUTHORIZED-PROFILE-MNG, T.PROFILE-MNG-INTERCEPTION
OE.EIM (SGP.32)	T.UNAUTHORIZED-PLATFORM-MNG, T.PROFILE-MNG-INTERCEPTION,
O.IC.PROOF_OF_IDENTITY	T.UNAUTHORIZED-eUICC
O.IC.SUPPORT	T.LOGICAL-ATTACK, T.PHYSICAL-ATTACK
O.IC.RECOVERY	T.PHYSICAL-ATTACK
O.RE.PRE-PPI	
O.RE.SECURE-COMM	T.UNAUTHORIZED-PROFILE-MNG, T.PROFILE-MNG-INTERCEPTION, T.PROFILE-MNG-ELIGIBILITY, T.IDENTITY-INTERCEPTION
O.RE.API	T.LOGICAL-ATTACK
O.RE.DATA-CONFIDENTIALITY	T.UNAUTHORIZED-PROFILE-MNG, T.UNAUTHORIZED-PLATFORM-MNG, T.UNAUTHORIZED-IDENTITY-MNG, T.LOGICAL-ATTACK, T.PHYSICAL-ATTACK
O.RE.DATA-INTEGRITY	T.UNAUTHORIZED-PROFILE-MNG, T.UNAUTHORIZED-PLATFORM-MNG, T.PROFILE-MNG-ELIGIBILITY, T.UNAUTHORIZED-IDENTITY-MNG, T.LOGICAL-ATTACK
O.RE.IDENTITY	T.UNAUTHORIZED-IDENTITY-MNG
O.RE.CODE-EXE	T.LOGICAL-ATTACK
OE.TRUSTED-PATHS-LPAd-IPAd	T.LPAd-INTERFACE-EXPLOIT
OE.APPLICATIONS	T.UNAUTHORIZED-PROFILE-MNG, T.UNAUTHORIZED-PLATFORM-MNG, T.LOGICAL-ATTACK

OE.CODE-EVIDENCE	T.UNAUTHORIZED-PROFILE-MNG, T.UNAUTHORIZED-PLATFORM-MNG, T.LOGICAL-ATTACK
OE.MNO-SD	T.UNAUTHORIZED-PROFILE-MNG, T.PROFILE-MNG-INTERCEPTION

Table 11 Security Objectives and threats

6.3.4.2 Organizational Security Policies Rationale

Organizational Policies	Security	Security Objectives	Rationale
OSP.LIFE-CYCLE		O.PRE-PPI, O.RE.PRE-PPI, O.OPERATE	Section 6.3.2

Table 12 Organizational Security Policies and Security Objectives- Coverage

Security Objectives	Organizational Security Policies
O.PRE-PPI	OSP.LIFE-CYCLE
O.eUICC-DOMAIN-RIGHTS	
O.SECURE-CHANNELS	
O.INTERNAL-SECURE-CHANNELS	
O.PROOF_OF_IDENTITY	
O.OPERATE	OSP.LIFE-CYCLE
O.API	
O.DATA-CONFIDENTIALITY	
O.DATA-INTEGRITY	
O.ALGORITHMS	
OE.CI	
OE.SM-DPplus	
OE.MNO	
OE.EIM (SGP.32)	
O.IC.PROOF_OF_IDENTITY	
O.IC.SUPPORT	
O.IC.RECOVERY	
O.RE.PRE-PPI	OSP.LIFE-CYCLE
O.RE.SECURE-COMM	

O.RE.API	
O.RE.DATA-CONFIDENTIALITY	
O.RE.DATA-INTEGRITY	
O.RE.IDENTITY	
O.RE.CODE-EXE	
OE.TRUSTED-PATHS-LPAd-IPAd	
OE.APPLICATIONS	
OE.CODE-EVIDENCE	
OE.MNO-SD	
OE.SM-DS	
OE.CAP_FILE	

Table 13 Security Objectives and Organizational Security Policies

6.3.4.3 Assumptions Rationale

Assumptions	Security Objectives for the Operational Environment	Rationale
A.TRUSTED-PATHS-LPAd-IPAd	OE.TRUSTED-PATHS-LPAd-IPAd	Section 6.3.3
A.ACTORS	OE.CI, OE.SM-DPplus, OE.MNO, OE.EIM (SGP.32)	Section 6.3.3
A.APPLICATIONS	OE.APPLICATIONS, OE.CODE-EVIDENCE	Section 6.3.3
A.CAP_FILE	OE.CAP_FILE	Section 6.3.3

Table 14 Assumptions and Security Objectives for the Operational Environment-Coverage

Security Objectives for the Operational Environment	Assumptions
OE.CI	A.ACTORS
OE.SM-DPplus	A.ACTORS
OE.MNO	A.ACTORS
OE.EIM (SGP.32)	A.ACTORS
OE.TRUSTED-PATHS-LPAd-IPAd	A.TRUSTED-PATHS-LPAd-IPAd
OE.APPLICATIONS	A.APPLICATIONS
OE.CODE-EVIDENCE	A.APPLICATIONS
OE.MNO-SD	
OE.CAP_FILE	A.CAP_FILE

Table 15 Assumptions and Security Objectives for the Operational Environment

7 Extended Components Definition

[

Guideline to be deleted by ST writer

In this section, no action of the ST writer is required. It is expected that additional extended components definition will also be added by the ST writer.

]

The following extended components are defined in the current Security Target:

- Extended Family FAU_SAS – Audit Data Storage

The extended components definition (FAU_SAS) from [PP-84] or [PP-117], section 5.3 have been taken with no modification.

8 Security Functional requirements

[

Guideline to be deleted by ST writer

The following subsections contains the list of applicable functional security requirements following [PP-eUICC].

Some requirements require the ST writer to complete the definition of the requirement by filling in the pending operations.

The requirements with pending operations are identified by:

- assignment: the ST writer should choose a specific operation which can be “*none*”
- selection: the ST writer must choose the applicable option from the ones listed and remove the others.

From Common Criteria, two additional operations can be defined:

- iterations: the ST writer must iterate a specific requirement when two different SFR implementations apply (e.g. FCS_COP.1/TDES and FCS_COP.1/AES).
- refinement: the ST writer can change the definition of a SFR to be more precise if it does not reduce the level of security required. In these cases, refinements must be marked with *italic font*.

For each requirement where an action is required, there is a specific Application Note that can be checked in [PP-eUICC] to support the understanding of the requirements. An example is provided for the first requirement.

The ST writer is allowed to additional Application Note after each SFR to support the understand of the SFR for the ST reader.

Application Notes should be identified as:

Application Note <number>: [text]

Details of the requirement are described in Application Note 24 from [PP-eUICC]. An example of how to fill the operation is shown below and marked with *italic font*.

FIA_UID.1.1/EXT The TSF shall allow

- **application selection**
- **requesting data that identifies the eUICC**
- **[assignment: *none*].**

on behalf of the user to be performed before the user is identified.

Application Note 1: The TOE does not allow additional operations than the ones defined by [PP-eUICC].

or

FIA_UID.1.1/EXT The TSF shall allow

- **application selection**
- **requesting data that identifies the eUICC**
- **[assignment: *requesting data that identifies the card or the Card Issuer*].**

on behalf of the user to be performed before the user is identified.

]

8.1 eUICC Security Functional Requirements

The introduction and security attributes definition are present in [PP-eUICC] section 6.1 and are not repeated here.

8.1.1 Identification and authentication

FIA_UID.1/EXT Timing of identification

FIA_UID.1.1/EXT The TSF shall allow

- **application selection**
- **requesting data that identifies the eUICC**
- **[assignment: *list of additional TSF mediated actions*].**

on behalf of the user to be performed before the user is identified.

FIA_UID.1.2/EXT The TSF shall require each user to be successfully identified before allowing any other TSF-mediated actions on behalf of that user.

FIA_UAU.1/EXT Timing of authentication

FIA_UAU.1.1/EXT The TSF shall allow

- **application selection**
- **requesting data that identifies the eUICC**
- **user identification**
- **[assignment: *list of additional TSF mediated actions*]**

on behalf of the user to be performed before the user is authenticated.

FIA_UAU.1.2/EXT The TSF shall require each user to be successfully authenticated before allowing any other TSF-mediated actions on behalf of that user.

FIA_USB.1/EXT User-subject binding

The definition of this SFR is present in [PP-eUICC] and it is unchanged within this ST.

FIA_UAU.4/EXT Single-use authentication mechanisms

FIA_UAU.4.1/EXT The TSF shall prevent reuse of authentication data related to **the authentication mechanism used to open a secure communication channel between the eUICC and**

- o U.SM-DPplus
- o U.MNO-OTA
- o [U.EIM]

FIA_UID.1/MNO-SD Timing of identification

FIA_UID.1.1/MNO-SD The TSF shall allow

[assignment: list of TSF-mediated actions] on behalf of the user to be performed before the user is identified.

FIA_UID.1.2/MNO-SD The TSF shall require each user to be successfully identified before allowing any other TSF-mediated actions on behalf of that user.

FIA_USB.1/MNO-SD User-subject binding

The definition of this SFR is present in [PP-eUICC] and it is unchanged within this ST.

FIA_ATD.1 User attribute definition

The definition of this SFR is present in [PP-eUICC] and it is unchanged within this ST.

FIA_API.1 Authentication Proof of Identity

The definition of this SFR is present in [PP-eUICC] and it is unchanged within this ST.

8.1.2 Communication

FDP_IFC.1/SCP Subset information flow control

The definition of this SFR is present in [PP-eUICC] and it is unchanged within this ST.

FDP_IFF.1/SCP Simple security attributes

FDP_IFF.1.1/SCP The TSF shall enforce the **Secure Channel Protocol information flow control SFP** based on the following types of subject and information security attributes:

- **users/subjects:**
 - **U.SM-DPplus and S.ISD-R, with security attribute D.SECRETS**
 - **U.MNO-OTA and U.MNO-SD, with security attribute D.MNO_KEYS**
- **information: transmission of commands.**

FDP_IFF.1.2/SCP The TSF shall permit an information flow between a controlled subject and controlled information via a controlled operation if the following rules hold:

- **The TOE shall permit communication between U.MNO-OTA and U.MNOSD in a SCP80 or SCP81 secure channel.**

FDP_IFF.1.3/SCP The TSF shall enforce the [*assignment: additional information flow control SFP rules*].

FDP_IFF.1.4/SCP The TSF shall explicitly authorise an information flow based on the following rules: [*assignment: rules, based on security attributes, that explicitly authorise information flows*].

FDP_IFF.1.5/SCP The TSF shall explicitly deny an information flow based on the following rules:

The TOE shall reject communication between U.SM-DPplus and S.ISD-R if it is not performed in a SCP-SGP22 secure channel.

FTP_ITC.1/SCP Inter-TSF trusted channel

FTP_ITC.1.1/SCP The TSF shall provide a communication channel between itself and another trusted IT product that is logically distinct from other communication channels and provides assured identification of its end points and protection of the channel data from modification or disclosure.

FTP_ITC.1.2/SCP The TSF shall permit another trusted IT product to initiate communication via the trusted channel.

FTP_ITC.1.3/SCP The TSF shall initiate communication via the trusted channel for [*assignment: list of functions for which a trusted channel is required*].

FDP_ITC.2/SCP Import of user data with security attributes

FDP_ITC.2.1/SCP The TSF shall enforce the **Secure Channel Protocol information flow control SFP** when importing user data, controlled under the SFP, from outside of the TOE.

FDP_ITC.2.2/SCP The TSF shall use the security attributes associated with the imported user data.

FDP_ITC.2.3/SCP The TSF shall ensure that the protocol used provides for the unambiguous association between the security attributes and the user data received.

FDP_ITC.2.4/SCP The TSF shall ensure that interpretation of the security attributes of the imported user data is as intended by the source of the user data.

FDP_ITC.2.5/SCP The TSF shall enforce the following rules when importing user data controlled under the SFP from outside the TOE: [*assignment: additional importation control rules*].

FPT_TDC.1/SCP Inter-TSF basic TSF data consistency

The definition of this SFR is present in [PP-eUICC] and it is unchanged within this ST.

FDP_UCT.1/SCP Basic data exchange confidentiality

The definition of this SFR is present in [PP-eUICC] and it is unchanged within this ST.

FDP_UIT.1/SCP Data exchange integrity

The definition of this SFR is present in [PP-eUICC] and it is unchanged within this ST.

[

Guideline to be deleted by ST writer.

The assignment will be correct in FCS_CKM.1/SCP-SM if the ST writer chooses a curve from SGP.32.

]

FCS_CKM.1/SCP-SM Cryptographic key generation

FCS_CKM.1.1/SCP-SM The TSF shall generate cryptographic keys in accordance with a specified cryptographic key generation algorithm **Elliptic Curves Key agreement (ECKA)** and specified cryptographic key sizes **256** that meet the following:

[assignment: *at least one elliptic curve referenced in SGP.22 [24] or SGP.32 [36]*]

FCS_CKM.2/SCP-MNO Cryptographic key distribution

FCS_CKM.2.1/SCP-MNO The TSF shall distribute cryptographic keys in accordance with a specified cryptographic key distribution method [assignment: *cryptographic key distribution method*] that meets the following: [assignment: *list of standards*].

FCS_CKM.6/SCP-SM Cryptographic key destruction

FCS_CKM.6.1/SCP-SM The TSF shall destroy [assignment: *list of cryptographic keys (including keying material)*] when [selection: *no longer needed, [assignment: other circumstances for key or keying material destruction]*].

FCS_CKM.6.2/SCP-SM The TSF shall destroy cryptographic keys and keying material specified by FCS_CKM.6.1/SCP-SM in accordance with a specified cryptographic key destruction method [assignment: *cryptographic key destruction method*] that meets the following: [assignment: *list of standards*].

FCS_CKM.6/SCP-MNO Cryptographic key destruction

FCS_CKM.6.1/SCP-MNO The TSF shall destroy [assignment: *list of cryptographic keys (including keying material)*] when [selection: *no longer needed, [assignment: other circumstances for key or keying material destruction]*].

FCS_CKM.6.2/SCP-MNO The TSF shall destroy cryptographic keys and keying material specified by FCS_CKM.6.1/SCP-MNO in accordance with a specified cryptographic key destruction method [assignment: *cryptographic key destruction method*] that meets the following: [assignment: *list of standards*].

8.1.3 Security Domains

FDP_ACC.1/ISDR Subset access control

The definition of this SFR is present in [PP-eUICC] and it is unchanged within this ST.

FDP_ACF.1/ISDR Security attribute based access control

FDP_ACF.1.1/ISDR The TSF shall enforce the **ISD-R access control SFP** to objects based on the following:

- o **subjects: S.ISD-R**

- o **objects:**
 - **S.ISD-P with security attributes “state” “PPR”, and [no additional attributes]**
- o **operations:**
 - **Create and configure profile**
 - **Store profile metadata**
 - **Enable profile**
 - **Disable profile**
 - **Delete profile**
 - **Perform a Memory reset.**

FDP_ACF.1.2/ISDR The TSF shall enforce the following rules to determine if an operation among controlled subjects and controlled objects is allowed: **Authorized states:**

- o **Enabling a S.ISD-P is authorized only if**
 - **the corresponding S.ISD-P is in the state “DISABLED” and**
 - **in case a currently enabled S.ISD-P has to be disabled, the PPR data of this S.ISD-P allows its disabling, and**
 - **[no additional conditions].**
- o **Disabling a S.ISD-P is authorized only if**
 - **the corresponding S.ISD-P is in the state “ENABLED” and**
 - **the corresponding S.ISD-P’s PPR data allows its disabling.**
- o **Deleting a S.ISD-P is authorized only if**
 - **the corresponding S.ISD-P is not in the state “ENABLED” and**
 - **the corresponding S.ISD-P’s PPR data allows its deletion.**
- o **Performing a S.ISD-P Memory reset is authorized regardless of the involved S.ISD-P’s state or PPR attribute.**

FDP_ACF.1.3/ISDR The TSF shall explicitly authorise access of subjects to objects based on the following additional rules: *[assignment: rules, based on security attributes, that explicitly authorise access of subjects to objects].*

FDP_ACF.1.4/ISDR The TSF shall explicitly deny access of subjects to objects based on the following additional rules: *[assignment: rules, based on security attributes, that explicitly deny access of subjects to objects].*

FDP_ACC.1/ECASD Subset access control

FDP_ACC.1.1/ECASD The TSF shall enforce the **ECASD access control SFP** on

- **subjects: S.ISD-R,**
- 1. **objects: S.ECASD,**
- 2. **operations:**
 - o **execution of a ECASD function**
 - o **access to output data of these functions,**
- **[assignment: additional list of subjects, objects, and operations between subjects and objects covered by the SFP].**

FDP_ACF.1/ECASD Security attribute based access control

FDP_ACF.1.1/ECASD The TSF shall enforce the **ECASD access control SFP** to objects based on the following:

- o **subjects: S.ISD-R, with security attribute “AID”**
- o **objects: S.ECASD**
- o **operations:**
 - **execution of a ECASD function**
 - **Verification of the off-card entities Certificates (SM-DP+, SM-DS), provided by an ISD-R, with the eSIM CA public key (PK.CI.ECDSA)**
 - **Creation of an eUICC signature on material provided by an ISD-R**
 - **access to output data of these functions.**
- o **[assignment: additional list of subjects and objects controlled under the indicated SFP, and for each, the SFP-relevant security attributes, or named groups of SFP-relevant security attributes].**

FDP_ACF.1.2/ECASD The TSF shall enforce the following rules to determine if an operation among controlled subjects and controlled objects is allowed:

- o **Authorized users: only S.ISD-R, identified by its AID, shall be authorized to execute the following S.ECASD functions:**
 - **Verification of a certificate CERT.Dpauth.ECDSA, CERT.DPpb.ECDSA, CERT.DP.TLS, CERT.Dsauth.ECDSA, or CERT.DS.TLS, provided by an ISD-R, with the eSIM CA public key (PK.CI.ECDSA)**
 - **Creation of an eUICC signature, using D.SK.EUICC.ECDSA, on material provided by an ISD-R.**
- o **[assignment: additional rules governing access among controlled subjects and controlled objects using controlled operations on controlled objects].**

FDP_ACF.1.3/ECASD The TSF shall explicitly authorise access of subjects to objects based on the following additional rules: *[assignment: rules, based on security attributes, that explicitly authorise access of subjects to objects].*

FDP_ACF.1.4/ECASD The TSF shall explicitly deny access of subjects to objects based on the following additional rules: *[assignment: rules, based on security attributes, that explicitly deny access of subjects to objects].*

8.1.4 Platform Services

FDP_IFC.1/Platform_services Subset information flow control

FDP_IFC.1.1/Platform_services

The TSF shall enforce the **Platform services information flow control SFP** on

- o **users/subjects:**
 - **S.ISD-R, S.ISD-P, U.MNO-SD**
 - **Platform code (S.PRE, S.PPI, S.TELECOM)**
- o **information:**
 - **D.PROFILE_NAA_PARAMS**
 - **D.PROFILE_RULES**
 - **D.PLATFORM_RAT**
- o **operations:**
 - **installation of a profile**
 - **PPR and RAT enforcement**
 - **network authentication.**

[no additional operations]

FDP_IFF.1/Platform_services Simple security attributes

FDP_IFF.1.1/Platform_services The TSF shall enforce the **Platform services information flow control SFP** based on the following types of subject and information security attributes:

users/subjects:

- o **S.ISD-R, S.ISD-P, U.MNO-SD, with security attribute "application identifier (AID)"**

information:

- o **D.PROFILE_NAA_PARAMS**
- o **D.PROFILE_RULES**
- o **D.PLATFORM_RAT**
- o

operations:

- o **installation of a profile**
- o **PPR and RAT enforcement**
- o **network authentication.**
- o **[no additional operations]**

FDP_IFF.1.2/Platform_services The TSF shall permit an information flow between a controlled subject and controlled information via a controlled operation if the following rules hold:

- o **D.PROFILE_NAA_PARAMS shall be transmitted only:**
 - **by U.MNO-SD to S.TELECOM in order to execute the network authentication function**
 - **by S.ISD-R to S.PPI using the profile installation function**
- o **D.PROFILE_RULES shall be transmitted only**
 - **by S.ISD-R to S.PRE in order to execute the PPR enforcement function**

- **[no additional information flows]**
- **D.PLATFORM_RAT shall be transmitted only**
 - **by S.ISD-R to S.PRE in order to execute the RAT enforcement function.**

FDP_IFF.1.3/Platform_services The TSF shall enforce the [assignment: additional information flow control SFP rules].

FDP_IFF.1.4/Platform_services The TSF shall explicitly authorise an information flow based on the following rules: [assignment: rules, based on security attributes, that explicitly authorise information flows].

FDP_IFF.1.5/Platform_services The TSF shall explicitly deny an information flow based on the following rules: [assignment: rules, based on security attributes, that explicitly deny information flows].

FPT_FLS.1/Platform_services Failure with preservation of secure state

FPT_FLS.1.1/Platform_services The TSF shall preserve a secure state when the following types of failures occur:

- **failure that lead to a potential security violation during the processing of a S.PRE, S.PPI or S.TELECOM API specific functions:**
 - **Installation of a profile**
 - **PPR and RAT enforcement**
 - **Network authentication**
 - **[no additional functions]**
- **[assignment: other type of failure].**

8.1.5 Security management

FCS_RNG.1 Random number generation

FCS_RNG.1.1 The TSF shall provide a [selection: *deterministic, hybrid deterministic, physical, hybrid physical*] random number generator [selection: *DRG.2, DRG.3, DRG.4, PTG.2, PTG.3*] that implements:[assignment: *list of security capabilities of the selected RNG class*].

FCS_RNG.1.2 The TSF shall provide [selection: bits, octets of bits, numbers [assignment: format of the numbers]] that meet [assignment: *a defined quality metric of the selected RNG class*].

FPT_EMS.1 TOE Emanation

FPT_EMS.1.1 The TSF shall ensure that the TOE does not emit emissions over its attack surface in such amount that these emissions enable access to TSF data and user data as specified in <table>

ID	Emission	Attack surface	TSF data	User data

1	[assignment: <i>types of emissions</i>]	Any	-	<ul style="list-style-type: none"> o D.SECRETS; o D.SK.EUICC.ECDSA <p>and the secret keys which are part of the following keysets:</p> <ul style="list-style-type: none"> o D.MNO_KEYS, o D.PROFILE_NAA_PARAMS.
---	--	-----	---	---

FDP_SDI.1 Stored data integrity monitoring

FDP_SDI.1.1 The TSF shall monitor user data stored in containers controlled by the TSF for **integrity errors** on all objects, based on the following attributes: **integrity-sensitive data**.

Refinement:

The notion of integrity-sensitive data covers the following assets of the TOE:

- o D.MNO_KEYS
- o Profile data
 - D.PROFILE_NAA_PARAMS
 - D.PROFILE_IDENTITY
 - D.PROFILE_RULES
- o Management data
 - D.PLATFORM_DATA
 - D.DEVICE_INFO
 - D.PLATFORM_RAT
- o Identity management data
 - D.SK.EUICC.ECDSA
 - D.CERT.EUICC.ECDSA
 - D.PK.CI.ECDSA
 - D.PK.EIM.ECDSA (SGP.32)
 - D.EID
 - D.SECRETS
 - D.CERT.EUM.ECDSA
 - D.CRLs if existing

FDP_RIP.1 Subset residual information protection

The definition of this SFR is present in [PP-eUICC] and it is unchanged within this ST.

FPT_FLS.1 Failure with preservation of secure state

The definition of this SFR is present in [PP-eUICC] and it is unchanged within this ST.

FMT_MSA.1/PLATFORM_DATA Management of security attributes

The definition of this SFR is present in [PP-eUICC] and it is unchanged within this ST.

FMT_MSA.1/RULES Management of security attributes

FMT_MSA.1.1/RULES The TSF shall enforce the **Security Channel protocol information flow SFP, ISD-P content access control SFP and ISD-R access control SFP** to restrict the ability to change default, query, modify and delete the security attributes

- o **D.PROFILE_RULES**

to

- o **S.ISD-R to change_default, via function “ES8+.ConfigureISDP”**
- o **S.ISD-R to query**
- o **S.ISD-P to modify, via function “ES6.UpdateMetadata”**
- o **[S.ISD-R to delete, via function “ESep.Delete”]**

FMT_MSA.1/CERT_KEYS Management of security attributes

FMT_MSA.1.1/CERT_KEYS The TSF shall enforce the **Security Channel protocol information flow SFP, ISD-R access control SFP and ECASD access control SFP** to restrict the ability to query and delete the security attributes

- o **D.CERT.EUICC.ECDSA**
- o **D.PK.CI.ECDSA**
- o **D.CERT.EUM.ECDSA**
- o **D.MNO_KEYS**

to

- o **S.ISD-R for:**
 - **query D.PK.CI.ECDSA**
 - **delete D.MNO_KEYS, via function [“ESep.Delete”]**
- o **no actor for other operations.**

FMT_SMF.1 Specification of Management Functions

FMT_SMF.1.1 The TSF shall be capable of performing the following management functions:
[assignment: list of management functions to be provided by the TSF].

FMT_SMR.1 Security roles

The definition of this SFR is present in [PP-eUICC] and it is unchanged within this ST.

FMT_MSA.1/RAT Management of security attributes

The definition of this SFR is present in [PP-eUICC] and it is unchanged within this ST.

FMT_MSA.3 Static attribute initialisation

The definition of this SFR is present in [PP-eUICC] and it is unchanged within this ST.

8.1.6 Mobile Network authentication

FCS_COP.1/Mobile_network Cryptographic operation

FCS_COP.1.1/Mobile_network The TSF shall perform **Network authentication** in accordance with a specified cryptographic algorithm **MILENAGE, Tuak, [selection: other algorithm, no other algorithm]** and cryptographic key sizes according to the corresponding standard that meet the following:

- **MILENAGE according to standard [3GPP-MIL] with the following restrictions:**
 - Only use 128-bit AES as the kernel function? do not support other choices
 - Allow any value for the constant OP
 - Allow any value for the constants C1-C5 and R1-R5, subject to the rules and recommendations in section 5.3 of the standard [3GPP-MIL]
- **Tuak according to [3GPP-TUAK] with the following restrictions:**
 - Allow any value of TOP
 - Allow multiple iterations of Keccak
 - Support 256-bit K as well as 128-bit
 - To restrict supported sizes for RES, MAC, CK and IK to those currently supported in 3GPP standards.

FCS_CKM.2/Mobile_network Cryptographic key distribution

FCS_CKM.2.1/Mobile_network The TSF shall distribute cryptographic keys in accordance with a specified cryptographic key distribution method [*assignment: cryptographic key distribution method*] that meets the following: [*assignment: list of standards*].

FCS_CKM.6/ Mobile_network Cryptographic key destruction

FCS_CKM.6.1/Mobile_network The TSF shall destroy [*assignment: list of cryptographic keys (including keying material)*] when [*selection: no longer needed, [assignment: other circumstances for key or keying material destruction]*].

FCS_CKM.6.2/Mobile_network The TSF shall destroy cryptographic keys and keying material specified by FCS_CKM.6.1/Mobile_network in accordance with a specified cryptographic key destruction method [assignment: *cryptographic key destruction method*] that meets the following: [assignment: *list of standards*].

8.2 Runtime Environment Security Requirements

The Subjects (prefixed with an "S"), the Objects (prefixed with an "O"), Information (prefixed with an "I") are defined and described in [PP-JCS] section 7.1. Security attributes linked to these subjects, objects and information are also defined in [PP-JCS] section 7.1. Finally, Operations (prefixed with "OP") definition and description are present in [PP-JCS] section 7.1.

8.2.1 CoreLG Security Functional requirements

8.2.1.1 Firewall Policy

FDP_ACC.2/FIREWALL Complete access control

The definition of this SFR is present in [PP-JCS] and it is unchanged within this ST.

FDP_ACF.1/FIREWALL Security attribute based access control

The definition of this SFR is present in [PP-JCS] and it is unchanged within this ST.

FDP_IFC.1/JCVM Subset information flow control

The definition of this SFR is present in [PP-JCS] and it is unchanged within this ST.

FDP_IFF.1/JCVM Simple security attributes

FDP_IFF.1.1/JCVM The TSF shall enforce the **JCVM information flow control SFP** based on the following types of subject and information security attributes:

Subjects	Security attributes
S.JCVM	Currently Active Context

FDP_IFF.1.2/JCVM The TSF shall permit an information flow between a controlled subject and controlled information via a controlled operation if the following rules hold:

- **An operation OP.PUT(S1, S.MEMBER, I.DATA) is allowed if and only if the Currently Active Context is "Java Card RE";**
- **other OP.PUT operations are allowed regardless of the Currently Active Context's value.**

FDP_IFF.1.3/JCVM The TSF shall enforce the [assignment: additional information flow control SFP rules].

FDP_IFF.1.4/JCVM The TSF shall explicitly authorise an information flow based on the following rules: [assignment: rules, based on security attributes, that explicitly authorise information flows].

FDP_IFF.1.5/JCVM The TSF shall explicitly deny an information flow based on the following rules: [assignment: rules, based on security attributes, that explicitly deny information flows].

FDP_RIP.1/OBJECTS Subset residual information protection

The definition of this SFR is present in [PP-JCS] and it is unchanged within this ST.

FMT_MSA.1/JCRE Management of security attributes

The definition of this SFR is present in [PP-JCS] and it is unchanged within this ST.

FMT_MSA.1/JCVM Management of security attributes

The definition of this SFR is present in [PP-JCS] and it is unchanged within this ST.

FMT_MSA.2/FIREWALL_JCVM Secure security attributes

The definition of this SFR is present in [PP-JCS] and it is unchanged within this ST.

FMT_MSA.3/FIREWALL Static attribute initialisation

The definition of this SFR is present in [PP-JCS] and it is unchanged within this ST.

FMT_MSA.3/JCVM Static attribute initialisation

The definition of this SFR is present in [PP-JCS] and it is unchanged within this ST.

FMT_SMF.1/JC Specification of Management Functions

The definition of this SFR is present in [PP-JCS] and it is unchanged within this ST.

FMT_SMR.1/JC Security roles

The definition of this SFR is present in [PP-JCS] and it is unchanged within this ST.

8.2.1.2 Application Programming Interface

FCS_CKM.1 Cryptographic key generation

FCS_CKM.1.1 The TSF shall generate cryptographic keys in accordance with a specified cryptographic key generation algorithm [**assignment: cryptographic key generation algorithm**] and specified cryptographic key sizes [**assignment: cryptographic key sizes**] that meet the following: [**assignment: list of standards**].

FCS_CKM.6 Cryptographic key destruction

FCS_CKM.6.1 The TSF shall destroy [*assignment: list of cryptographic keys (including keying material)*] when [*selection: no longer needed, [assignment: other circumstances for key or keying material destruction]*].

FCS_CKM.6.2 The TSF shall destroy cryptographic keys and keying material specified by FCS_CKM.6.1 in accordance with a specified cryptographic key destruction method [*assignment: cryptographic key destruction method*] that meets the following: [*assignment: list of standards*].

FCS_COP.1 Cryptographic operation

FCS_COP.1.1 The TSF shall perform [**assignment: list of cryptographic operations**] in accordance with a specified cryptographic algorithm [**assignment: cryptographic algorithm**] and cryptographic key sizes [**assignment: cryptographic key sizes**] that meet the following: [**assignment: list of standards**].

FDP_RIP.1/ABORT Subset residual information protection

The definition of this SFR is present in [PP-JCS] and it is unchanged within this ST.

FDP_RIP.1/APDU Subset residual information protection

The definition of this SFR is present in [PP-JCS] and it is unchanged within this ST.

FDP_RIP.1/bArray Subset residual information protection

The definition of this SFR is present in [PP-JCS] and it is unchanged within this ST.

FDP_RIP.1/GlobalArray Subset residual information protection

The definition of this SFR is present in [PP-JCS] and it is unchanged within this ST.

FDP_RIP.1/KEYS Subset residual information protection

The definition of this SFR is present in [PP-JCS] and it is unchanged within this ST.

FDP_RIP.1/TRANSIENT Subset residual information protection

The definition of this SFR is present in [PP-JCS] and it is unchanged within this ST.

FDP_ROL.1/FIREWALL Basic rollback

The definition of this SFR is present in [PP-JCS] and it is unchanged within this ST.

8.2.1.3 Card Security Management

FAU_ARP.1 Security alarms

FAU_ARP.1.1 The TSF shall take **one of the following actions:**

- **throw an exception,**

- **lock the card session,**
- **reinitialize the Java Card System and its data,**
- **[assignment: list of other actions]** upon detection of a potential security violation.

Refinement:

The "potential security violation" stands for one of the following events:

- CAP file inconsistency,
- typing error in the operands of a bytecode,
- applet life cycle inconsistency,
- card tearing (unexpected removal of the Card out of the CAD) and power failure, abort of a transaction in an unexpected context, (see abortTransaction(), [JCAPI3] and ([JCRE3], §7.6.2)
- violation of the Firewall or JCVM SFPs,
- unavailability of resources,
- array overflow **[assignment: list of other runtime errors]**.

FDP_SDI.2 Stored data integrity monitoring and action

FDP_SDI.2.1 The TSF shall monitor user data stored in containers controlled by the TSF for **[assignment: integrity errors]** on all objects, based on the following attributes: **[assignment: user data attributes]**.

FDP_SDI.2.2 Upon detection of a data integrity error, the TSF shall **[assignment: action to be taken]**.

FPR_UNO.1 Unobservability

FPR_UNO.1.1 The TSF shall ensure that **[assignment: list of users and/or subjects]** are unable to observe the operation **[assignment: list of operations]** on **[assignment: list of objects]** by **[assignment: list of protected users and/or subjects]**.

FPT_FLS.1 Failure with preservation of secure state

The definition of this SFR is present in [PP-JCS] and it is unchanged within this ST.

FPT_TDC.1 Inter-TSF basic TSF data consistency

FPT_TDC.1.1 The TSF shall provide the capability to consistently interpret **the CAP files, the bytecode and its data arguments** when shared between the TSF and another trusted IT product.

FPT_TDC.1.2 The TSF shall use

- **the rules defined in [JCVM3] specification,**
- **the API tokens defined in the export files of reference implementation,**
- **[assignment: list of interpretation rules to be applied by the TSF]** when interpreting the TSF data from another trusted IT product.

8.2.1.4 AID Management

FIA_ATD.1/AID User attribute definition

The definition of this SFR is present in [PP-JCS] and it is unchanged within this ST.

FIA_UID.2/AID User identification before any action

The definition of this SFR is present in [PP-JCS] and it is unchanged within this ST.

FIA_USB.1/AID User-subject binding

FIA_USB.1.1/AID The TSF shall associate the following user security attributes with subjects acting on the behalf of that user: **Package AID**.

FIA_USB.1.2/AID The TSF shall enforce the following rules on the initial association of user security attributes with subjects acting on the behalf of users: **[assignment: rules for the initial association of attributes]**.

FIA_USB.1.3/AID The TSF shall enforce the following rules governing changes to the user security attributes associated with subjects acting on the behalf of users: **[assignment: rules for the changing of attributes]**.

FMT_MTD.1/JCRE Management of TSF data

The definition of this SFR is present in [PP-JCS] and it is unchanged within this ST.

FMT_MTD.3/JCRE Secure TSF data

The definition of this SFR is present in [PP-JCS] and it is unchanged within this ST.

8.2.2 INSTG Security Functional requirements

This group consists of the SFRs related to the installation of the applets, which addresses security aspects outside the runtime. The installation of applets is a critical phase, which lies partially out of the boundaries of the firewall, and therefore requires specific treatment. In this PP, loading a package or installing an applet modeled as importation of user data (that is, user application's data) with its security attributes (such as the parameters of the applet used in the firewall rules).

FDP_ITC.2/GP_ELF Import of user data with security attributes

FDP_ITC.2.1/GP-ELF The TSF shall enforce the **ELF Loading information flow control SFP** when importing user data, controlled under the SFP, from outside of the TOE.

FDP_ITC.2.2/GP-ELF The TSF shall use the security attributes associated with the imported user data.

FDP_ITC.2.3/GP-ELF The TSF shall ensure that the protocol used provides for the unambiguous association between the security attributes and the user data received.

FDP_ITC.2.4/GP-ELF The TSF shall ensure that interpretation of the security attributes of the imported user data is as intended by the source of the user data.

FDP_ITC.2.5/GP-ELF The TSF shall enforce the following rules when importing user data controlled under the SFP from outside the TOE:

- **Referring to Java Card rules defined in [JCVM] and [JCRE]: ELF loading is allowed only if, for each dependent ELF, its AID attribute is equal to a resident ELF AID attribute, and the major (minor) Version attribute associated with the dependent ELF is less than or equal to the major (minor) Version attribute associated with the resident ELF**

[assignment: additional importation control rules].

FPT_FLS.1/GP Failure with preservation of secure state

FPT_FLS.1.1/GP The TSF shall preserve a secure state when the following types of failures occur:

- **S.OPEN fails to load/install an Executable Load File / Application instance.**
- **S.SD fails to load SD/Application data and keys.**
- **S.OPEN fails to verify/change the Card Life Cycle, Application and SD Life Cycle states.**
- **S.OPEN fails to verify the privileges belonging to an SD or an Application.**
- **S.SD fails to verify the security level applied to protect APDU commands.**
- **[assignment: list of additional types of failures].**

FPR_UNO.1/GP Unobservability

FPR_UNO.1.1/GP The TSF shall ensure that **SDs and Applications** are unable to observe the operation: **keys or data import (PUT KEY or STORE DATA), encryption, decryption, signature generation and verification, [assignment: list of operations]** on **keys and data** by the **OPEN** or any other **SD or Application**.

8.2.3 ADELG Security Functional Requirements

This group consists of the SFRs related to the deletion of applets and/or packages, enforcing the applet deletion manager (ADEL) policy on security aspects outside the runtime. Deletion is a critical operation and therefore requires specific treatment. This policy is better thought as a frame to be filled by ST implementers.

FDP_ACC.2/ADEL Complete access control

The definition of this SFR is present in [PP-JCS] and it is unchanged within this ST.

FDP_ACF.1/ADEL Security attribute based access control

The definition of this SFR is present in [PP-JCS] and it is unchanged within this ST.

FDP_RIP.1/ADEL Subset residual information protection

The definition of this SFR is present in [PP-JCS] and it is unchanged within this ST.

FMT_MSA.1/ADEL Management of security attributes

The definition of this SFR is present in [PP-JCS] and it is unchanged within this ST.

FMT_MSA.3/ADEL Static attribute initialisation

The definition of this SFR is present in [PP-JCS] and it is unchanged within this ST.

FMT_SMF.1/ADEL Specification of Management Functions

The definition of this SFR is present in [PP-JCS] and it is unchanged within this ST.

FMT_SMR.1/ADEL Security roles

The definition of this SFR is present in [PP-JCS] and it is unchanged within this ST.

FPT_FLS.1/ADEL Failure with preservation of secure state

The definition of this SFR is present in [PP-JCS] and it is unchanged within this ST.

8.2.4 RMIG Security Functional Requirements

It is assumed the product does not support RMI features. If the product was supporting RMI functionality, the ST writer should include the SFRs from [PP-JCS].

8.2.5 ODELG Security Functional Requirements

The following requirements concern the object deletion mechanism. This mechanism is triggered by the applet that owns the deleted objects by invoking a specific API method.

FDP_RIP.1/ODEL Subset residual information protection

The definition of this SFR is present in [PP-JCS] and it is unchanged within this ST.

FPT_FLS.1/ODEL Failure with preservation of secure state

The definition of this SFR is present in [PP-JCS] and it is unchanged within this ST.

8.2.6 CARG Security Functional Requirements

FDP_ROL.1/GP Basic rollback

The definition of this SFR is present in [PP-GP] and it is unchanged within this ST.

FCO_NRO.2/GP Enforced proof of origin

FCO_NRO.2.1/GP The TSF shall enforce the generation of evidence of origin for transmitted **assignment: list of information type**] at all times.

Refinement

The TSF shall be able to generate an evidence of origin at all times for ‘Executable Load Files, SD/Application data and keys’ received from the off-card entity (originator of transmitted data) that communicates with the card

FCO_NRO.2.2/GP The TSF shall be able to relate the **[assignment: list of attributes]** of the originator of the information, and the **[assignment: list of information fields]** in the information to which the evidence applies.

Refinement

The TSF shall be able to load ‘Executable Load Files, SD/Application data and keys’ to the card with associated security attributes (the identity of the originator, the destination) such that the evidence of origin can be verified.

FCO_NRO.2.3/GP The TSF shall provide a capability to verify the evidence of origin of information to **the off-card entity (recipient of the evidence of origin) who requested that verification** given **[assignment: limitations on the evidence of origin]**.

8.2.7 Card Content Management Security Functional requirements

[
Guideline to be deleted by ST writer
]

The ST writer can decide to use another selection of these SFRs to cover the Security objectives of the TOE.

]

FIA_AFL.1/GP Authentication failure handling

FIA_AFL.1.1/GP The TSF shall detect when [selection: [assignment: positive integer number], an administrator configurable positive integer within [assignment: range of acceptable values]] unsuccessful authentication attempts occur related to the authentication of the origin of a card management operation command.

FIA_AFL.1.2/GP When the defined number of unsuccessful authentication attempts has been met or surpassed, the TSF shall close the Secure Channel.

FIA_UAU.1/GP Timing of authentication

The definition of this SFR is present in [PP-GP] and it is unchanged within this ST.

FIA_UAU.4/GP Single-use authentication mechanisms

The definition of this SFR is present in [PP-GP] and it is unchanged within this ST.

FDP_UIT.1/GP Basic data exchange integrity

FDP_UIT.1.1/GP The TSF shall enforce the **ELF Loading information flow control SFP and Data & Key Loading information flow control SFP** to [selection: transmit, receive] user data in a manner protected from **modification, deletion, insertion, replay** errors.

FDP_UIT.1.2/GP The TSF shall be able to determine on receipt of user data, whether **modification, deletion, insertion, replay** has occurred.

FDP_UCT.1/GP Basic data exchange confidentiality

FDP_UCT.1.1/GP The TSF shall enforce the **ELF Loading information flow control SFP and Data & Key Loading information flow control SFP** to [selection: transmit, receive] user data in a manner protected from unauthorised disclosure.

FDP_IFC.2/GP-ELF Complete information flow control

FDP_IFC.2.1/GP-ELF The TSF shall enforce the **ELF Loading information flow control SFP** on

- **Subjects: S.SD, S.CAD, S.OPEN**
- **Information: APDU commands INSTALL and LOAD, GlobalPlatform APIs for loading and installing ELF**

and all operations that cause that information to flow to and from subjects covered by the SFP.

FDP_IFC.2.2/GP-ELF The TSF shall ensure that all operations that cause any information in the TOE to flow to and from any subject in the TOE are covered by an information flow control SFP.

FDP_IFF.1/GP-ELF Complete information flow control

FDP_IFF.1.1/GP-ELF The TSF shall enforce the **ELF Loading information flow control SFP** based on the following types of subject and information security attributes: [assignment: list of subjects and information controlled under the indicated SFP, and for each, the security attributes].

FDP_IFF.1.2/GP-ELF The TSF shall permit an information flow between a controlled subject and controlled information via a controlled operation if the following rules hold:

- **S.SD implements one or more Secure Channel Protocols, namely [selection: SCP02, SCP03, SCP10, SCP11, SCP21, SCP22, SCP80, SCP81], each with a complete Secure Channel Key Set.**
- **S.SD has all of the cryptographic keys required by its privileges (e.g. CLFDB, DAP, DM).**
- **On receipt of INSTALL or LOAD commands, S.OPEN checks that the card Life Cycle State is not CARD_LOCKED or TERMINATED.**
- **S.OPEN accepts an ELF only if its integrity and authenticity has been verified.**
- **[assignment: for each operation, the security attribute-based relationship that must hold between subject and information security attributes].**

FDP_IFF.1.3/GP-ELF The TSF shall enforce the [assignment: additional information flow control SFP rules].

FDP_IFF.1.4/GP-ELF The TSF shall explicitly authorise an information flow based on the following rules: [assignment: rules, based on security attributes, that explicitly authorise information flows].

FDP_IFF.1.5/GP-ELF The TSF shall explicitly deny an information flow based on the following rules:

- **S.OPEN fails to verify the integrity and request verification of the authenticity for ELFs**
- **S.OPEN fails to verify the Card Life Cycle state**
- **S.OPEN fails to verify the SD privileges.**
- **S.SD fails to verify the security level applied to protect INSTALL or LOAD commands.**
- **S.SD fails to set the security level (integrity and/or confidentiality), to apply to the next incoming command and/or next outgoing response.**
- **S.SD fails to unwrap INSTALL or LOAD commands.**
- **[assignment: rules, based on security attributes, that explicitly deny information flows].**

FDP_IFC.2/GP-KL Complete information flow control

FDP_IFC.2.1/GP-KL The TSF shall enforce the **Data & Key Loading information flow control SFP** on

- **Subjects: S.SD, S.CAD, S.OPEN, Application**
- **Information: GlobalPlatform APDU commands STORE DATA and PUT KEY, GlobalPlatform APIs for loading and storing data and keys and all operations that cause that information to flow to and from subjects covered by the SFP.**

FDP_IFC.2.2/GP-KL The TSF shall ensure that all operations that cause any information in the TOE to flow to and from any subject in the TOE are covered by an information flow control SFP.

FMT_MSA.3/GP Security attribute initialization

FMT_MSA.3.1/GP The TSF shall enforce the **ELF Loading information flow control SFP and Data & Key Loading information flow control SFP** to provide **restrictive** default values for security attributes that are used to enforce the SFP.

FMT_MSA.3.2/GP The TSF shall allow the **[assignment: authorised identified roles]** to specify alternative initial values to override the default values when an object or information is created.

[

Guideline to be deleted by ST writer

The ST writer shall keep only the tables related to FMT_MSA.1/GP that are applicable to their TOE.

]

FMT_MSA.1/GP Management of security attributes

FMT_MSA.1.1/GP The TSF shall enforce the **ELF Loading information flow control SFP and Data & Key Loading information flow control SFP** to restrict the ability to [selection: change_default, query, modify, delete, [assignment: other operations]] the security attributes [assignment: list of security attributes] to [assignment: the authorised identified roles].

Operations (APDUs or APIs)	Security Attributes: Card Life Cycle State	Authorised Identified Roles with Privileges
DELETE Executable Load File	OP_READY, INITIALIZED, or SECURED	ISD, AM SD, DM SD
DELETE Executable Load File and related Application(s)	OP_READY, INITIALIZED, or SECURED	ISD, AM SD, DM SD
DELETE Application	OP_READY, INITIALIZED, or SECURED	ISD, AM SD, DM SD
DELETE Key	OP_READY, INITIALIZED, or SECURED	ISD, AM SD, DM SD, SD
INSTALL	OP_READY, INITIALIZED, or SECURED	ISD, AM SD, DM SD
INSTALL [for personalisation]	OP_READY, INITIALIZED, or SECURED	ISD, AM SD, DM SD, SD
LOAD	OP_READY, INITIALIZED, or SECURED	ISD, AM SD, DM SD
PUT KEY	OP_READY, INITIALIZED, or SECURED	ISD, AM SD, DM SD, SD
SELECT	OP_READY, INITIALIZED, SECURED, or CARD_LOCKED (If an SD does have the Final Application privilege)	ISD, AM SD, DM SD, SD with Final Application privilege
SET STATUS	OP_READY, INITIALIZED, SECURED, or CARD_LOCKED	ISD, AM SD, DM SD, SD
STORE DATA	OP_READY, INITIALIZED, or SECURED	ISD, AM SD, DM SD, SD
GET DATA	OP_READY, INITIALIZED, SECURED, CARD_LOCKED, or TERMINATED	ISD, AM SD, DM SD, SD

GET STATUS	OP_READY, INITIALIZED, SECURED, or CARD_LOCKED	ISD, AM SD, DM SD, SD
------------	---	--------------------------

Table 16 Table 1 GlobalPlatform Common Operations, Security Attributes, and Roles

Operations: SCP02 Commands	Security Attributes: Card Life Cycle State	Security Attributes: Minimum Security Level	Authorised Identified Roles with Privileges
INITIALIZE UPDATE	OP_READY, INITIALIZED, SECURED, or CARD_LOCKED	None	ISD, AM SD, DM SD, SD
EXTERNAL AUTHENTICATE		C-MAC	

Table 2 SCP02 Operations, Security Attributes, and Roles

Operations: SCP10 Commands	Security Attributes: Card Life Cycle State	Security Attributes: Minimum Security Level	Authorised Identified Roles with Privileges
EXTERNAL AUTHENTICATE	OP_READY, INITIALIZED, SECURED, or CARD_LOCKED	[GPCS] Table F-14	ISD, AM SD, DM SD, SD
GET CHALLENGE			
GET DATA [certificate]			
INTERNAL AUTHENTICATE			
MANAGE SECURITY ENVIRONMENT			
PERFORM SECURITY OPERATION [decipher]			
PERFORM SECURITY OPERATION [verify certificate]			

Table 3 SCP10 Operations, Security Attributes, and Roles

Operations: SCP11 Commands	Used by	Security Attributes: Card Life Cycle State	Security Attributes: Minimum Security Level	Authorised Identified Roles with Privileges
GET DATA (ECKA Certificate)	SCP11a and b	OP_READY, INITIALIZED, SECURED, or CARD_LOCKED	None	ISD, AM SD, DM SD, SD
PERFORM SECURITY OPERATION	SCP11a		None	
MUTUAL AUTHENTICATE	SCP11a		AUTHENTICATED or ANY_AUTHENTICATED	
INTERNAL AUTHENTICATE	SCP11b		AUTHENTICATED or ANY_AUTHENTICATED	
STORE DATA (ECKA Certificate)	SCP11a and b		None	
STORE DATA (Whitelist)	SCP11a		None	
VERIFY PIN	SCP11b		None	

Table 4 SCP11 Operations, Security Attributes, and Roles

Operations: SCP21 Command	Security Attributes: Card Life Cycle State	Security Attributes: Minimum Security Level	Authorised Identified Roles with Privileges
PACE	Defined in [ICAO 9303] and [419 212] part 1 section 9 (see [PP-GP] references)		ISD, AM SD, DM SD, SD
EAC V1	Defined in [419 212] part 1 section 8.8 (see [PP-GP] references)		
PACE + EAC V2	Defined in [419 212] part 1 sections 8.8 and 9 (see [PP-GP] references)		

Table 5 SCP21 Operations, Security Attributes, and Roles

Operations: SCP22 Command	Security Attributes: Card Life Cycle State	Security Attributes: Minimum Security Level	Authorised Identified Roles with Privileges
SELECT MF	OP_READY, INITIALIZED, SECURED, or CARD_LOCKED	None	ISD, AM SD, DM SD, SD
SELECT FILE [by FID] (other than SELECT MF)	OP_READY, INITIALIZED, SECURED	None	ISD, AM SD, DM SD, SD
READ BINARY	OP_READY, INITIALIZED, SECURED	None	ISD, AM SD, DM SD, SD
READ RECORD	OP_READY, INITIALIZED, SECURED	None	ISD, AM SD, DM SD, SD
Operations: SCP22 Command	Security Attributes: Card Life Cycle State	Security Attributes: Minimum Security Level	Authorised Identified Roles with Privileges
GENERAL AUTHENTICATE	OP_READY, INITIALIZED, SECURED	AUTHENTICATED or ANY_AUTHENTICATED	ISD, AM SD, DM SD, SD

Table 6 SCP22 Operations, Security Attributes, and Roles

Operations: SCP80 Command	Security Attributes: Card Life Cycle State	Security Attributes: Minimum Security Level	Authorised Identified Roles with Privileges
--------------------------------------	---	--	--

<p>Remote File Management Commands</p> <p>SELECT</p> <p>UPDATE BINARY</p> <p>UPDATE RECORD</p> <p>SEARCH RECORD</p> <p>INCREASE</p> <p>VERIFY PIN</p> <p>CHANGE PIN</p> <p>DISABLE PIN</p> <p>ENABLE PIN</p> <p>UNBLOCK PIN</p> <p>DEACTIVATE FILE</p> <p>ACTIVATE FILE</p> <p>READ BINARY</p> <p>READ RECORD</p> <p>CREATE FILE</p> <p>DELETE FILE</p> <p>RESIZE FILE</p> <p>SET DATA</p> <p>RETRIEVE DATA</p>	<p>See [TS 102 225] and [TS 102 226]</p>	<p>See [TS 102 225] and [TS 102 226]</p>	<p>See [TS 102 225] and [TS 102 226]</p>
<p>Remote Applet Management Commands</p> <p>DELETE</p> <p>SET STATUS</p> <p>INSTALL</p> <p>LOAD</p> <p>PUT KEY</p> <p>GET STATUS</p> <p>GET DATA</p> <p>STORE DATA</p>	<p>See [TS 102 225] and [TS 102 226]</p>	<p>See [TS 102 225] and [TS 102 226]</p>	<p>See [TS 102 225] and [TS 102 226]</p>

Table 7 SCP80 Operations, Security Attributes, and Roles

Operations: SCP81 Command	Security Attributes: Card Life Cycle State	Security Attributes: Minimum Security Level	Authorised Identified Roles with Privileges
PUT KEY	OP_READY, INITIALIZED, SECURED	None	ISD, AM SD, DM SD, SD
STORE DATA	OP_READY, INITIALIZED, SECURED	None	ISD, AM SD, DM SD, SD
GET DATA	OP_READY, INITIALIZED, SECURED, CARD_LOCKED, or TERMINATED ISD, AM SD, DM SD, SD	None	ISD, AM SD, DM SD, SD

Table 8 SCP81 Operations, Security Attributes, and Roles

Legend:

ISD: Issuer Security Domain

AM SD: Security Domain with Authorised Management privilege

DM SD: Security Domain with Delegated Management privilege

SD: Other Security Domain

FMT_SMR.1/GP Security roles

FMT_SMR.1.1/GP The TSF shall maintain the roles:

- **On-card: S.OPEN, S.SD (e.g. ISD, APSD, CASD), Application**
- **Off-card: Issuer, Users (e.g. VA, AP, CA) owning SDs.**

FMT_SMR.1.2/GP The TSF shall be able to associate users with roles.

FDP_ITC.2/GP-KL Import of user data with security attributes

FDP_ITC.2.1/GP-KL The TSF shall enforce the **Data & Key Loading information flow control SFP** when importing user data, controlled under the SFP, from outside of the TOE.

FDP_ITC.2.2/GP-KL The TSF shall use the security attributes associated with the imported user data.

FDP_ITC.2.3/GP-KL The TSF shall ensure that the protocol used provides for the unambiguous association between the security attributes and the user data received.

FDP_ITC.2.4/GP-KL The TSF shall ensure that interpretation of the security attributes of the imported user data is as intended by the source of the user data.

FDP_ITC.2.5/GP-KL The TSF shall enforce the following rules when importing user data controlled under the SFP from outside the TOE:

- **The algorithms and key sizes of the imported keys shall be supported by the SE**
- **[assignment: additional importation control rules].**

FTP_ITC.1/GP Inter-TSF trusted channel

FTP_ITC.1.1/GP The TSF shall provide a communication channel between itself and another trusted IT product that is logically distinct from other communication channels and provides assured identification of its end points and protection of the channel data from modification or disclosure.

FTP_ITC.1.2/GP The TSF shall permit **another trusted IT product** to initiate communication via the trusted channel.

FTP_ITC.1.3/GP The TSF shall initiate communication via the trusted channel for:

- **APDU commands sent to the card within a Secure Channel Session**
- **When loading/installing a new ELF on the card**
- **When transmitting and loading sensitive data to the card using STORE DATA or PUT KEY commands**
 - **When deleting ELFs, Applications, or Keys**
 - **[assignment: list of functions for which a trusted channel is required].**

FDP_IFF.1/GP-KL Complete information flow control

FDP_IFF.1.1/GP-KL The TSF shall enforce the **Data & Key Loading information flow control SFP** based on the following types of subject and information security attributes: **[assignment: list of subjects and information controlled under the indicated SFP, and for each, the security attributes].**

FDP_IFF.1.2/GP-KL The TSF shall permit an information flow between a controlled subject and controlled information via a controlled operation if the following rules hold:

- **S.SD implements one or more Secure Channel Protocols, namely [selection: SCP02, SCP03, SCP10, SCP11, SCP21, SCP22, SCP80, SCP81], each equipped with a complete Secure Channel Key Set.**
- **S.SD has all of the cryptographic keys required by its privileges (e.g. CLFDB, DAP, DM).**
- **An Application accepts a message only if it comes from the S.SD it belongs to.**

- On receipt of a request to forward STORE DATA or PUT KEY commands to an Application,
S.OPEN checks that the card Life Cycle State is not **CARD_LOCKED** or **TERMINATED**.
- On receipt of a request to forward STORE DATA or PUT KEY commands to an Application, the
S.OPEN checks that the requesting S.SD has no restrictions for personalisation.
- S.SD unwraps STORE DATA or PUT KEY according to the Current Security Level of the current Secure Channel Session and prior to the command forwarding to the targeted Application or SD.
- [assignment: for each operation, the security attribute-based relationship that must hold between subject and information security attributes].

FDP_IFF.1.3/GP-KL The TSF shall enforce the [assignment: additional information flow control SFP rules].

FDP_IFF.1.4/GP-KL The TSF shall explicitly authorise an information flow based on the following rules: [assignment: rules, based on security attributes, that explicitly authorise information flows].

FDP_IFF.1.5/GP-KL The TSF shall explicitly deny an information flow based on the following rules:

- S.OPEN fails to verify the Card Life Cycle, Application and SD Life Cycle states.
- S.OPEN fails to verify the privileges belonging to an SD or an Application.
- S.SD fails to unwrap STORE DATA or PUT KEY.
- S.SD fails to verify the security level applied to protect APDU commands.
- S.SD fails to set the security level (integrity and/or confidentiality), to apply to the next incoming command and/or next outgoing response.
- [assignment: rules, based on security attributes, that explicitly deny information flows].

FMT_SMF.1/GP Specification of Management Functions

FMT_SMF.1.1/GP The TSF shall be capable of performing the following management functions specified in [GPCS]:

- Card and Application Security Management as defined in [GPCS]: Life Cycle, Privileges, Application/SD Locking and Unlocking, Card Locking and Unlocking, Card Termination, Application Status interrogation, Card Status Interrogation, command dispatch, Operational Velocity Checking, and Tracing and Event Logging.
- Management functions (Secure Channel Initiation/Operation/Termination) related to SCPs as defined in [GPCS].

FIA_UID.1/GP Timing of identification

FIA_UID.1.1/GP The TSF shall allow **[assignment: list of TSF-mediated actions]** on behalf of the user to be performed before the user is identified.

FIA_UID.1.2/GP The TSF shall require each user to be successfully identified before allowing any other TSF-mediated actions on behalf of that user.

FPT_TDC.1/GP Inter-TSF basic TSF data consistency

FPT_TDC.1.1/GP The TSF shall provide the capability to consistently interpret **ELFs, SD/Application data and keys, data used to implement a Secure Channel, [assignment: list of TSF data types]** when shared between the TSF and another trusted IT product.

FPT_TDC.1.2/GP The TSF shall use **the list of interpretation rules to be applied by the TSF when processing the INSTALL, LOAD, PUT KEY, and STORE DATA commands sent to the card, [assignment: list of interpretation rules to be applied by the TSF]** when interpreting the TSF data from another trusted IT product.

FPT_RCV.3/GP Automated recovery without undue loss

FPT_RCV.3.1/GP When automated recovery from **[assignment: list of failures/service discontinuities during card content management operations]** is not possible, the TSF shall enter a maintenance mode where the ability to return to a secure state is provided.

FPT_RCV.3.2/GP For **[assignment: list of failures/service discontinuities during card content management operations]** the TSF shall ensure the return of the TOE to a secure state using automated procedures.

FPT_RCV.3.3/GP The functions provided by the TSF to recover from failure or service discontinuity shall ensure that the secure initial state is restored without exceeding **[assignment: quantification]** for loss of TSF data or objects under the control of the TSF.

FPT_RCV.3.4/GP The TSF shall provide the capability to determine the objects that were or were not capable of being recovered.

8.2.8 Underlying platform IC Security Functional Requirements

FAU_SAS.1 Audit Storage

FAU_SAS.1.1 The TSF shall provide the test process before TOE Delivery with the capability to store **[selection: the Initialisation Data, Pre-personalisation Data, [assignment: other data]]** in the **[assignment: type of persistent memory]**.

FPT_RCV.3/OS Automated recovery without undue loss

FPT_RCV.3.1/OS When automated recovery from **none**, is not possible, the TSF shall enter a maintenance mode where the ability to return to a secure state is provided.

FPT_RCV.3.2/OS For **execution access to a memory zone reserved for TSF data, writing access to a memory zone reserved for TSF's code, and any segmentation fault performed by a Java Card applet** the TSF shall ensure the return of the TOE to a secure state using automated procedures.

FPT_RCV.3.3/OS The functions provided by the TSF to recover from failure or service discontinuity shall ensure that the secure initial state is restored without exceeding

- **the contents of Java Card static fields, instance fields, and array positions that fall under the scope of an open transaction;**
- **the Java Card objects that were allocated into the scope of an open transaction;**
- **the contents of Java Card transient objects;**
- **any possible Executable Load File being loaded when the failure occurred**

for loss of TSF data or objects under the control of the TSF.

FPT_RCV.3.4/OS The TSF shall provide the capability to determine the objects that were or were not capable of being recovered.

Application Note: there is no maintenance mode implemented within the TOE. Recovery is always enforced automatically as stated in FPT_RCV.3.2/OS.

FPT_RCV.4/OS Function recovery

FPT_RCV.4.1/OS The TSF shall ensure that **reading from and writing to static and objects' fields interrupted by power loss** have the property that the function either completes successfully, or for the indicated failure scenarios, recovers to a consistent and secure state.

8.3 Security Functional Requirements Rationale

8.3.1 SFRs for eUICC rationale

The security functional requirements rationale is the same than the ones present in section 6.3 from [PP-eUICC].

8.3.2 SFRs for Runtime Environment rationale

[

Guideline to be deleted by ST writer

The security functional requirements rationale for objectives O.RE* can be extracted from [PP-JCS] and adapted depending on the implementation and the included SFRs and its iterations.

]

The next table shows the objectives related to [PP-eUICC] runtime environment and its translation according to [PP-eUICC] application notes for OE.RE* objectives. The security functional requirements rationale of O.RE* will be the same than the rationale for the objectives translated from JavaCard PP [PP-JCS] and are not repeated here. In case of O.CARD-MANAGEMENT, the Security Functional Requirements rationale should be extracted from [PP-GP].

RE objectives	Translation from JavaCard PP
O.RE.PRE-PPI	O.INSTALL, O.DELETION, O.LOAD, O.CARD-MANAGEMENT
O.RE.SECURE-COMM	O.SCP.RECOVERY, OE.SCP.SUPPORT, O.CARD-MANAGEMENT, O.SID, O.OPERATE, O.FIREWALL, O.GLOBAL_ARRAYS_CONFID, O.GLOBAL_ARRAYS_INTEG, O.ALARM, O.TRANSACTION, O.CIPHER, O.RNG, O.PIN-MNGT, O.KEY-MNGT, O.REALLOCATION, O.ARRAY_VIEWS_CONFID, OE.VERIFICATION, O.ARRAY_VIEWS_INTEG, OE.CODE_EVIDENCE
O.RE.API	O.CARD-MANAGEMENT, O.NATIVE, OE.SCP.RECOVERY, OE.SCP.SUPPORT, O.SID, O.OPERATE, O.FIREWALL, O.ALARM, OE.VERIFICATION, OE.CODE_EVIDENCE
O.RE.DATA-CONFIDENTIALITY	OE.SCP.RECOVERY, OE.SCP.SUPPORT, O.CARD-MANAGEMENT, O.SID, O.OPERATE, O.FIREWALL, O.GLOBAL_ARRAYS_CONFID, O.ALARM, O.TRANSACTION, O.CIPHER, O.RNG, O.PIN-MNGT, O.KEY-MNGT, O.REALLOCATION, O.ARRAY_VIEWS_CONFID, OE.VERIFICATION, Note: ADV_ARC "non-bypassability" refinement is applicable.
O.RE.DATA-INTEGRITY	OE.SCP.RECOVERY, OE.SCP.SUPPORT, O.CARD-MANAGEMENT, O.SID, O.OPERATE, O.FIREWALL, O.GLOBAL_ARRAYS_INTEG, O.ALARM, O.TRANSACTION, O.CIPHER, O.RNG, O.PIN-MNGT, O.KEY-MNGT, O.REALLOCATION, O.LOAD, O.NATIVE, O.ARRAY_VIEWS_INTEG, OE.CODE-EVIDENCE, OE.VERIFICATION
O.RE.IDENTITY	OE.SCP.RECOVERY and OE.SCP.SUPPORT, O.FIREWALL, O.SID, O.INSTALL, O.OPERATE, O.GLOBAL_ARRAYS_CONFID, O.GLOBAL_ARRAYS_INTEG, O.CARD-MANAGEMENT
O.RE.CODE-EXE	O.FIREWALL, O.REMOTE, O.NATIVE, OE.VERIFICATION

Table 17 Runtime environment objectives conversion for SFR rationale.

Note that OE.SCP.RECOVERY and OE.SCP.SUPPORT from [PP-JCS] are equivalent to OE.IC.RECOVERY and OE.IC.SUPPORT from [PP-eUICC] converted to O.IC.RECOVERY and O.IC.SUPPORT in current Security Target. See next section for the rationale.

8.3.3 SFRs for Underlying platform IC rationale

O.IC.PROOF_OF_IDENTITY coverage: the IC is a part of the TOE supporting TSFs of the upper layer of the TOE, especially for identification data storage as dealt with FAU_SAS.1.

O.IC.RECOVERY coverage: the IC is a part of the TOE supporting TSFs of the upper layer of the TOE, especially for recovery operations as dealt with in FPT_RCV.3/OS.

O.IC.SUPPORT the IC is a part of the TOE supporting TSFs of the upper layer of the TOE, especially for secure low-level cryptographic processing as in FCS_CKM.1, FCS_CKM.4 and FCS_COP.1.

8.3.4 SFRs dependency rationale

SFR	CC Dependencies	Satisfied dependencies
FIA_UID.1/EXT	No dependencies	
FIA_UAU.1/EXT	(FIA_UID.1)	FIA_UID.1/EXT
FIA_USB.1/EXT	(FIA_ATD.1)	FIA_ATD.1
FIA_UAU.4/EXT	No Dependencies	
FIA_UID.1/MNO-SD	No Dependencies	
FIA_USB.1/MNO-SD	(FIA_ATD.1)	FIA_ATD.1
FIA_ATD.1	No Dependencies	
FIA_API.1	No Dependencies	
FDP_IFC.1/SCP	(FDP_IFF.1)	FDP_IFF.1/SCP
FDP_IFF.1/SCP	(FDP_IFC.1) and (FMT_MSA.3)	FDP_IFC.1/SCP , FMT_MSA.3
FTP_ITC.1/SCP	No Dependencies	
FDP_ITC.2/SCP	(FDP_ACC.1 or FDP_IFC.1) and (FPT_TDC.1) and (FTP_ITC.1 or FTP_TRP.1)	FDP_IFC.1/SCP , FTP_ITC.1/SCP , FPT_TDC.1/SCP
FPT_TDC.1/SCP	No Dependencies	
FDP_UCT.1/SCP	(FDP_ACC.1 or FDP_IFC.1) and (FTP_ITC.1 or FTP_TRP.1)	FDP_IFC.1/SCP , FTP_ITC.1/SCP
FDP_UIT.1/SCP	(FDP_ACC.1 or FDP_IFC.1) and (FTP_ITC.1 or FTP_TRP.1)	FDP_IFC.1/SCP , FTP_ITC.1/SCP
FCS_CKM.1/SCP-SM	(FCS_CKM.2 or FCS_CKM.5 or FCS_COP.1) and (FCS_CKM.3) and (FCS_RBG.1 or FCS_RNG.1) and (FCS_CKM.6)	FCS_COP.1 FCS_CKM.6/SCP-SM FCS_RNG.1
FCS_CKM.2/SCP-MNO	(FDP_ITC.1 or FDP_ITC.2 or FCS_CKM.1 or FCS_CKM.5) and (FCS_CKM.3)	FDP_ITC.2/SCP , {Discarded – No Key Access Interface exists}

FCS_CKM.6/SCP-SM	(FCS_CKM.1 or FDP_ITC.1 or FDP_ITC.2)	FDP_ITC.2/SCP
FCS_CKM.6/SCP-MNO	(FCS_CKM.1 or FDP_ITC.1 or FDP_ITC.2)	FDP_ITC.2/SCP
FDP_ACC.1/ISDR	(FDP_ACF.1)	FDP_ACF.1/ISDR
FDP_ACF.1/ISDR	(FDP_ACC.1) and (FMT_MSA.3)	FDP_ACC.1/ISDR, FMT_MSA.3
FDP_ACC.1/ECASD	(FDP_ACF.1)	FDP_ACF.1/ECASD
FDP_ACF.1/ECASD	(FDP_ACC.1) and (FMT_MSA.3)	FDP_ACC.1/ECASD, FMT_MSA.3
FDP_IFC.1/Platform_services	(FDP_IFF.1)	FDP_IFF.1/Platform_services
FDP_IFF.1/Platform_services	(FDP_IFC.1) and (FMT_MSA.3)	FDP_IFC.1/Platform_services, FMT_MSA.3
FPT_FLS.1/Platform_services	No Dependencies	
FCS_RNG.1	No Dependencies	
FPT_EMS.1	No Dependencies	
FDP_SDI.1	No Dependencies	
FDP_RIP.1	No Dependencies	
FPT_FLS.1	No Dependencies	
FMT_MSA.1/PLATFORM_DATA	(FDP_ACC.1 or FDP_IFC.1) and (FMT_SMF.1) and (FMT_SMR.1)	FDP_ACC.1/ISDR, FMT_SMF.1, FMT_SMR.1
FMT_MSA.1/RULES	(FDP_ACC.1 or FDP_IFC.1) and (FMT_SMF.1) and (FMT_SMR.1)	FDP_ACC.1/ISDR, FMT_SMF.1, FMT_SMR.1
FMT_MSA.1/CERT_KEYS	(FDP_ACC.1 or FDP_IFC.1) and (FMT_SMF.1) and (FMT_SMR.1)	FDP_ACC.1/ISDR, FMT_SMF.1, FMT_SMR.1
FMT_SMF.1	No Dependencies	
FMT_SMR.1	(FIA_UID.1)	FIA_UID.1/EXT, FIA_UID.1/MNO-SD
FMT_MSA.1/RAT	(FDP_ACC.1 or FDP_IFC.1) and (FMT_SMF.1) and (FMT_SMR.1)	FDP_ACC.1/ISDR, FMT_SMF.1, FMT_SMR.1
FMT_MSA.3	(FMT_MSA.1) and (FMT_SMR.1)	FMT_MSA.1/PLATFORM_DATA,

		FMT_MSA.1/RULES, FMT_MSA.1/CERT_KEYS, FMT_SMR.1, FMT_MSA.1/RAT
<u>FCS_COP.1/Mobile_network</u>	(FDP_ITC.1 or FDP_ITC.2 or FCS_CKM.1 or FCS_CKM.5) and FCS_CKM.3	FDP_ITC.2/SCP, FCS_CKM.4/Mobile_network
<u>FCS_CKM.2/Mobile_network</u>	(FDP_ITC.1 or FDP_ITC.2 or FCS_CKM.1) or (FCS_CKM.5) and (FCS_CKM.3)	FDP_ITC.2/SCP, { <i>Discarded – No Key Access Interface exists</i> }
<u>FCS_CKM.6/Mobile_network</u>	(FCS_CKM.1 or FDP_ITC.1 or FDP_ITC.2)	FDP_ITC.2/SCP
FDP_ACC.2/FIREWALL	(FDP_ACF.1)	FDP_ACF.1/FIREWALL
FDP_ACF.1/FIREWALL	(FDP_ACC.1) and (FMT_MSA.3)	FDP_ACC.2/FIREWALL, FMT_MSA.3/FIREWALL
FDP_IFC.1/JCVM	(FDP_IFF.1)	FDP_IFF.1/JCVM
FDP_IFF.1/JCVM	(FDP_IFC.1) and (FMT_MSA.3)	FDP_IFC.1/JCVM, FMT_MSA.3/JCVM
FDP_RIP.1/OBJECTS	No Dependencies	
FMT_MSA.1/JCRE	(FDP_ACC.1 or FDP_IFC.1) and (FMT_SMF.1) and (FMT_SMR.1)	FDP_ACC.2/FIREWALL, FMT_SMR.1
FMT_MSA.1/JCVM	(FDP_ACC.1 or FDP_IFC.1) and (FMT_SMF.1) and (FMT_SMR.1)	FDP_ACC.2/FIREWALL, FDP_IFC.1/JCVM, FMT_SMF.1, FMT_SMR.1
FMT_MSA.2/FIREWALL_JCVM	(FDP_ACC.1 or FDP_IFC.1) and (FMT_MSA.1) and (FMT_SMR.1)	FDP_IFC.1/JCVM, FMT_MSA.1/JCRE, FMT_MSA.1/JCVM, FMT_SMR.1
FMT_MSA.3/FIREWALL	(FMT_MSA.1) and (FMT_SMR.1)	(FMT_MSA.1/JCRE, FMT_MSA.1/JCVM, FMT_SMR.1
FMT_MSA.3/JCVM	FMT_MSA.1) and (FMT_SMR.1)	FMT_MSA.1/JCVM, FMT_SMR.1
FMT_SMF.1/JC	No Dependencies	
FMT_SMR.1/JC	(FIA_UID.1)	FIA_UID.2/AID
FCS_CKM.1	(FCS_CKM.2 or FCS_COP.1) and (FCS_CKM.4)	FCS_COP.1, FCS_CKM.4

FCS_CKM.4	(FCS_CKM.1 or FDP_ITC.1 or FDP_ITC.2)	FCS_CKM.1
FCS_COP.1	(FCS_CKM.1 or FDP_ITC.1 or FDP_ITC.2) and (FCS_CKM.4)	FCS_CKM.1, FCS_CKM.4
FDP_RIP.1/ABORT	No Dependencies	
FDP_RIP.1/APDU	No Dependencies	
FDP_RIP.1/bArray	No Dependencies	
FDP_RIP.1/GlobalArray	No Dependencies	
FDP_RIP.1/KEYS	No Dependencies	
FDP_RIP.1/TRANSIENT	No Dependencies	
FDP_ROL.1/FIREWALL	(FDP_ACC.1 or FDP_IFC.1)	FDP_ACC.2/FIREWALL, FDP_IFC.1/JCVM
FAU_ARP.1	(FAU_SAA.1)	
FDP_SDI.2/DATA	No Dependencies	
FPR_UNO.1	No Dependencies	
FPT_FLS.1	No Dependencies	
FPT_TDC.1	No Dependencies	
FIA_ATD.1/AID	No Dependencies	
FIA_UID.2/AID	No Dependencies	
FIA_USB.1/AID	(FIA_ATD.1)	FIA_ATD.1/AID
FMT_MTD.1/JCRE	(FMT_SMF.1) and (FMT_SMR.1)	FMT_SMF.1, FMT_SMR.1
FMT_MTD.3/JCRE	(FMT_MTD.1)	FMT_MTD.1/JCRE
FDP_ITC.2/GP-ELF	(FDP_ACC.1 or FDP_IFC.1) and (FPT_TDC.1) and (FTP_ITC.1 or FTP_TRP.1)	FDP_IFC.2/GP-ELF, FTP_ITC.1/GP, FPT_TDC.1/GP
FPT_FLS.1/GP	No Dependencies	
FPT_RCV.3/GP	(AGD_OPE.1)	AGD_OPE.1
FDP_ACC.2/ADEL	(FDP_ACF.1)	FDP_ACF.1/ADEL
FDP_ACF.1/ADEL	(FDP_ACC.1) and (FMT_MSA.3)	FDP_ACC.2/ADEL, FMT_MSA.3/ADEL
FDP_RIP.1/ADEL	No Dependencies	
FMT_MSA.1/ADEL	(FDP_ACC.1 or FDP_IFC.1) and (FMT_SMF.1) and (FMT_SMR.1)	FDP_ACC.2/ADEL, FMT_SMF.1/ADEL, FMT_SMR.1/ADEL

FMT_MSA.3/ADEL	(FMT_MSA.1) and (FMT_SMR.1)	FMT_MSA.1/ADEL, FMT_SMR.1/ADEL
FMT_SMF.1/ADEL	No Dependencies	
FMT_SMR.1/ADEL	(FIA_UID.1)	
FPT_FLS.1/ADEL	No Dependencies	
FDP_RIP.1/ODEL	No Dependencies	
FPT_FLS.1/ODEL	No Dependencies	
FCO_NRO.2/GP	(FIA_UID.1)	FIA_UID.1/GP
FIA_AFL.1/GP	(FIA_UAU)	FIA_UAU.1/GP
FIA_UAU.1/GP	(FIA_UID.1)	FIA_UID.1/GP
FIA_UAU.4/GP	No Dependencies	
FDP_UIT.1/GP	(FDP_ACC.1, or FDP_IFC.1) (FTP_ITC.1, or FTP_TRP.1)	FDP_IFC.2/GP-ELF FDP_IFC.2/GP-KL FTP_ITC.1/GP
FDP_UCT.1/GP	(FTP_ITC.1, or FTP_TRP) (FDP_ACC.1)	FDP_IFC.2/GP-ELF FDP_IFC.2/GP-KL FTP_ITC.1/GP
FDP_IFC.2/GP-ELF	(FDP_IFF.1)	FDP_IFF.1/GP-ELF
FDP_IFF.1/GP-ELF	(FDP_IFC.1) and (FMT_MSA.3)	FDP_IFC.2/GP-ELF FMT_MSA.3/GP
FDP_IFC.2/GP-KL	FDP_IFF.1	FDP_IFF.1/GP-KL
FMT_MSA.3/GP	(FMT_MSA.1) and (FMT_SMR.1)	FMT_MSA.1/GP FMT_SMR.1/GP
FMT_MSA.1/GP	(FDP_ACC.1 or FDP_IFC.1) and (FMT_SMF.1) and (FMT_SMR.1)	FDP_IFC.2/GP-ELF FDP_IFC.2/GP-KL FMT_SMR.1/GP FMT_SMF.1/GP
FMT_SMR.1/GP	(FIA_UID.1)	FIA_UID.1/GP
FDP_ITC.2/GP-KL	(FDP_ACC.1 or FDP_IFC.1) and (FPT_TDC.1) and (FTP_ITC.1 or FTP_TRP.1)	FDP_IFC.2/GP-KL FPT_TDC.1/GP FTP_ITC.1/GP
FTP_ITC.1/GP	No Dependencies	
FDP_IFF.1/GP-ELF	(FDP_IFC.1 and FMT_MSA.3/GP)	FDP_IFC.2/GP-ELF FMT_MSA.3/GP
FDP_IFF.1/GP-KL	(FDP_IFC.1 and FMT_MSA.3)	FDP_IFC.2/GP-KL FMT_MSA.3/GP
FMT_SMF.1/GP	No Dependencies	
FIA_UID.1/GP	No Dependencies	
FPT_TDC.1/GP	No Dependencies	

FAU_SAS.1	No Dependencies	
FPT_RCV.3/OS	No Dependencies	
FPT_RCV.4/OS	No Dependencies	
FDP_ROL.1/GP	(FDP_ACC.1 or FDP_IFC.1)	FDP_IFC.2/GP-ELF FDP_IFC.2/GP-KL
FPR_UNO.1/GP	No Dependencies	

The rationale for exclusion of dependencies is present in [PP-JCS] section 7.4.3.1.

9 Security Assurance Requirements

The Security Assurance Requirements are the same than in [PP-eUICC], section 6.2. The same refinement for ADV_ARC applies.

9.1 SARs dependency rationale

The Security Assurance Requirements dependency rationale is the same than in [PP-eUICC], section 6.3.3.2.

10 TOE Summary Specification

[

Guideline to be deleted by ST writer

In this section, the ST writer will map SFR defined in previous section into TOE features and provide rationale of how SFR are covered in the TOE. The TOE features are the high-level architecture definition of the eUICC product as described in TOE overview (TOE description and/or TOE logical scope).

This template has prefilled the list of SFR into tables however, it is expected that additional SFR added by the ST writer will also be added into this section (i.e., SFR that has been iterated for example FCS_COP.1 or FCS_CKM.1)

]

The TOE implements the SFRs in accordance to the GSMA specifications, sufficiently hardened to counter attackers at AVA_VAN.5 level.

The TOE is equipped with following Security Features to meet the security functional requirements.

10.1 eUICC security functions

10.2 Runtime Environment security functions

10.3 TSS Rationale

The justification and overview of the mapping between security functional requirements (SFR) and the TOE's security functionality (SF) is given in section above.

10.3.1 eUICC SFRs coverage

Security Functional Requirement	Coverage by TSS Security Function(s)
FIA_UID.1/EXT	
FIA_UAU.1/EXT	
FIA_USB.1/EXT	
FIA_UAU.4/EXT	
FIA_UID.1/MNO-SD	
FIA_USB.1/MNO-SD	
FIA_ATD.1	
FIA_API.1.1	
FDP_IFC.1/SCP	
FDP_IFF.1/SCP	
FTP_ITC.1/SCP	
FDP_ITC.2/SCP	
FPT_TDC.1/SCP	
FDP_UCT.1/SCP	
FDP_UIT.1/SCP	
FCS_CKM.1/SCP-SM	
FCS_CKM.2/SCP-MNO	
FCS_CKM.6/SCP-SM	
FCS_CKM.6/SCP-MNO	
FDP_ACC.1/ISDR	
FDP_ACF.1/ISDR	
FDP_ACC.1/ECASD	
FDP_ACF.1/ECASD	
FDP_IFC.1/Platform_services	
FDP_IFF.1/Platform_services	
FPT_FLS.1/Platform_services	
FCS_RNG.1	

Security Functional Requirement	Coverage by TSS Security Function(s)
FPT_EMS.1	
FDP_SDI.1	
FDP_RIP.1	
FPT_FLS.1	
FMT_MSA.1/PLATFORM_DATA	
FMT_MSA.1/RULES	
FMT_MSA.1/CERT_KEYS	
FMT_SMF.1	
FMT_SMR.1	
FMT_MSA.1/RAT	
FMT_MSA.3	
FCS_COP.1/Mobile_network	
FCS_CKM.2/Mobile_network	
FCS_CKM.6/Mobile_network	

10.3.2 Runtime Environment SFRs coverage

Security Functional Requirement	Coverage by TSS Security Function(s)
FDP_ACC.2/FIREWALL	
FDP_ACF.1/FIREWALL	
FDP_IFC.1/JCVM	
FDP_IFF.1/JCVM	
FDP_RIP.1/OBJECTS	
FMT_MSA.1/JCRE	
FMT_MSA.1/JCVM	
FMT_MSA.2/FIREWALL_JCVM	
FMT_MSA.3/FIREWALL	
FMT_MSA.3/JCVM	
FMT_SMF.1/JC	
FMT_SMR.1/JC	
FCS_CKM.1	
FCS_CKM.4	
FCS_COP.1	
FDP_RIP.1/ABORT	
FDP_RIP.1/APDU	
FDP_RIP.1/bArray	

FDP_RIP.1/GlobalArray	
FDP_RIP.1/KEYS	
FDP_RIP.1/TRANSIENT	
FDP_ROL.1/FIREWALL	
FAU_ARP.1	
FDP_SDI.2/DATA	
FPR_UNO.1	
FPT_FLS.1	
FPT_TDC.1	
FIA_ATD.1/AID	
FIA_UID.2/AID	
FIA_USB.1/AID	
FMT_MTD.1/JCRE	
FMT_MTD.3/JCRE	
FDP_ITC.2/GP-ELF	
FPT_FLS.1/Installer	
FPT_RCV.3.1/Installer	
FDP_ACC.2/ADEL	
FDP_ACF.1/ADEL	
FDP_RIP.1/ADEL	
FMT_MSA.1/ADEL	
FMT_MSA.3/ADEL	
FMT_SMF.1/ADEL	
FMT_SMR.1/ADEL	
FPT_FLS.1/ADEL	
FDP_RIP.1/ODEL	
FPT_FLS.1/ODEL	
FCO_NRO.2/GP	
FIA_AFL.1/GP	
FIA_UAU.1/GP	
FIA_UAU.4/GP	
FDP_UIT.1/GP	
FDP_UCT.1/GP	
FDP_IFC.2/GP-ELF	
FDP_IFF.1/GP-ELF	
FDP_IFC.2/GP-KL	

FMT_MSA.3/GP	
FMT_MSA.1/GP	
FMT_SMR.1/GP	
FDP_ITC.2/GP-KL	
FTP_ITC.1/GP	
FDP_IFF.1/GP-ELF	
FDP_IFF.1/GP-KL	
FMT_SMF.1/GP	
FIA_UID.1/GP	
FPT_TDC.1/GP	
FAU_SAS.1	
FPT_RCV.3/OS	
FPT_RCV.4/OS	
FDP_ROL.1/GP	
FPT_FLS.1/GP	
FPR_UNO.1/GP	
FPT_RCV.3/GP	

Annex A Document Management

A.1 Document History

Version	Date	Brief Description of Change	Approval Authority	Editor / Company
SGP.17-3 V1.0	20/09/2024	CR0001R02 - Adapt SGP.17-3 skeleton to SGP.25 v2.1 for IPAd CR0002R00 - Adapt SGP.17-3 to SFRs in SGP.25 v2.1 (part 1) CR0003R00 - Adapt SGP.17-3 to SFRs in SGP.25 v2.1 (part 2) CR0004R00 - Adapt SFR dependencies to CC2022 and SGP.25 v2.1 CR0005R00 - Update of SFRs from JC-PP to GP-PP as per OE.CARD-MANAGEMENT CR0006R01 - Updates to SGP.25 v2.1 Draft13_CLEAN	ISAG	Gloria Trujillo, GSMA

A.2 Other Information

Type	Description
-------------	--------------------

Document Owner	eSIMG
Editor / Company	Gloria Trujillo, GSMA

It is our intention to provide a quality product for your use. If you find any errors or omissions, please contact us with your comments. You may notify us at prd@gsm.org. Your comments or suggestions & questions are always welcome.