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Test specifications for GSM-R MI related requirements Part 3: SIM Cards

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Evolution Sheet

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1 Object

1.1 Purpose of the document

This document contains the test cases that are necessary for the functional validation of a SIM card according to the EIRENE specifications FRS (see [1]) and SRS (see [2]). The test cases cover all the requirements that have been identified as mandatory for interoperability (MI) according to the EIRENE specification and which can be validated using functional tests. QoS and performance requirements for voice and non-safety related data communications are not in the scope of this document.

1.2 Abbreviations

EDOR	ETCS data only radio
EIRENE	European Integrated Railway Radio Enhanced Network
GSM-R	GSM-Railway, GSM train radio system
MI	Mandatory for Interoperability
SIM	Subscriber Identification Module

1.3 Reference Documents

- [1] UIC, EIRENE Functional Requirements Specification
Doc.-N°: UIC CODE 950 v 0.0.2 | version: 8.0.0
- [2] UIC, EIRENE System Requirement Specification
Doc.-N°: UIC CODE 951 v 0.0.2 | version: 16.0.0
- [3] UIC, FFFIS for GSM-R SIM Cards
Doc.-N°: P38 T 9001

2 Test Configuration

2.1 Overview

Following components of the EIRENE GSM-R system are needed to execute the tests:

- Cab Radio SIM card
- EDOR SIM card

2.2 Equipment required

- Card reader for SIM cards including SIM card reading tool

2.3 Network configuration

None.

2.4 SIM cards

The SIM cards need to be compliant to [3] and will be provided by the network operator or test lab operator.

3 Completion of the Functional tests

3.1 General

The following chapters contain a detailed description of all functional tests provided for the SIM card.

3.2 Structure of the tests

The tests are structured as follows:

- test title
- purpose of the test
- precondition for the test
- reference to specific requirement(s)
- completion of the test in individual steps

3.3 Completion of the tests

The tests are carried out with the SIM card reader tool and the SIM card.

3.4 SIM card configuration

The SIM cards need to be compliant to [3].

4 EIRENE MI Requirements for SIM card

4.1 Cab Radio SIM card

Purpose: This test is to show that the Cab radio SIM card is compliant to the clauses classified as MI in [3].

Precondition: SIM card and SIM card reading facility available.

References:

EIRENE SRS: § 4.1.5

Step	Procedure	Result / Effect
1	Insert the SIM card into the card reader unit of the SIM reading facility	SIM card is readable by the SIM reader facility
2	Check the structure and the presence of the master file (MF) and the dedicated files (DF) classified as MI are according to [3]	The structure and the presence comply to [3]
3	Check the presence of the elementary files classified as MI are according to [3]	The presence complies to [3]
4	Check the access rights of the elementary files classified as MI are according to [3]	The access rights comply to [3]
5	Check the type of the elementary files classified as MI are according to [3]	The types comply to [3]
6	Check the size of the elementary files classified as MI are according to [3]	The sizes comply to [3]
7	Check the content of the elementary files classified as MI are according to [3]	The content complies to [3]

4.2 EDOR SIM card

Purpose: This test is to show that the EDOR SIM card is compliant to the clauses classified as MI in [3].

Precondition: SIM card and SIM card reading facility available.

References:

EIRENE SRS: § 4.1.5

Step	Procedure	Result / Effect
1	Insert the SIM card into the card reader unit of the SIM reading facility	SIM card is readable by the SIM reader facility
2	Check the structure and the presence of the master file (MF) and the dedicated files (DF) classified as MI are according to [3]	The structure and the presence comply to [3]
3	Check the presence of the elementary files classified as MI are according to [3]	The presence complies to [3]
4	Check the access rights of the elementary files classified as MI are according to [3]	The access rights comply to [3]
5	Check the type of the elementary files classified as MI are according to [3]	The types comply to [3]
6	Check the size of the elementary files classified as MI are according to [3]	The sizes comply to [3]
7	Check the content of the elementary files classified as MI are according to [3]	The content complies to [3]