REFERENCE O-3001-5 version 1.0.0	
Company / Organization	**UIC ERTMS/GSM-R** **Operators and Functional Group**

Test specifications for GSM-R MI related requirements
Part 5: Cross Reference Table

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Document Data Sheet

Title of the document	**Test specifications for GSM-R MI related requirements; Part 5: Cross Reference Table**
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Evolution Sheet

Revision	Date	Contributor	Object of revision
0.0.1	01/03/2024	Boris Gombač	First draft
0.0.2	22.05.2024	OFG#20	Structure of the document and all chapters updated
0.0.3	23.05.2024	Boris Gombač	Cross reference table for FRS added
0.0.4	25.05.2024	Boris Gombač	Missing FRS MI requirements added.
0.0.5	26.11.2024	OFG#21	Cross-checking MI requirements from FRS specifications and associated test procedures in documents O-3001- x
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0.1.0	23.05.2025	Boris Gombač	Stable draft approved by UIC
1.0.0	**04.07.2025**	**UIC**	**Final version**

Contents

1 Object

1.1 Purpose of the document

This document defines a cross reference between the requirements listed in EIRENE FRS and EIRENE SRS [1] and the test cases listed in the set of O-3001-x test documents and the document O-2875 [6].

It is a guide for the tests to be used to prove a majority of requirements marked as Mandatory for Interoperability (MI) in the EIRENE specification, during the Notified Body process of certification of the GSM-R network elements.

1.2 Cross-Reference of test cases in EIRENE FRS, SRS and O-2875

Validating a specific requirement requires one or several test cases respectively.

The results of a specific test case are used to validate one or several requirements. The cross-reference tables included in this document provides an easy overview about the relation between tests cases and requirements.

The cross-reference covers both EIRENE FRS and EIRENE SRS [1] requirements in separate tables and includes the Clause number, Requirement text, Requirement categorization, test case document reference and a list of test cases to be performed to validate the requirement.

The test cases are grouped per (MI) requirements. Traceability of FRS and SRS requirements they can be found in the set of test cases O-3001-x and O-2875.

1.2.1 Table structure:

Table is divided in two parts. The first part presenting the **Cross reference to EIRENE FRS [1] requirements**, the second part presenting the **Cross reference to EIRENE SRS [1] requirements.**

1.2.2 Table columns

- **Clause:**
  Presenting the requirement number from EIRENE FRS/SRS specification.

- **Requirement text:**
  Requirement text copied from EIRENE FRS/SRS specification.

- **Cat.:**
  Presenting the requirement classification according EIRENE FRS/SRS specification. In some cases, requirements classified as Mandatory (M) are also included in the table.

- **Test case document/Test case ID:**
  Document number and Test case ID where the test case is covered.
  For some sections with MI requirements, there are test case IDs presented, which start with **'NoCov**'. The meaning is that there is no test case allocated for this requirement.

- **Remark:**
  The column 'Remark' provides a justification of why there are no test cases allocated.

1.3 Reference Documents

[1] EIRENE FRS Version 8.1.0 and EIRENE SRS Version16.1.0

[2] O-3001-1 Test specifications for GSM-R MI related requirements: Part 1: Cab Radio

[3] O-3001-2 Test specifications for GSM-R MI related requirements: Part 2: EDOR

[4] O-3001-3 Test specifications for GSM-R MI related requirements: Part 3: SIM Cards

[5] O-3001-4 Test specifications for GSM-R MI related requirements: Part 4: Network

[6] O-2875 ERTMS/GSM-R Quality of Service Test Specification for EIRENE QoS requirements

2 Cross-reference tables – EIRENE FRS

Clause	Requirement Text	Cat.	Test case document	Test case ID	Remark
2.2.2	All voice call services shall be able to operate between any combination of fixed and mobile equipment users (excluding specific data terminal equipment).	(MI)	O-3001-4	RINF_GSM_4	Supplementary Service CLIP – MMC with Call Forwarding Unconditional
				RINF_GSM_5	Supplementary Service MPTY
				RINF_GSM_6	Establishment of several PTP calls with different priorities
				RINF_VGCS_1	SS originates VGCS call
				RINF_VGCS_2	Controller originates VGCS call and takes it down with the kill Sequence
				RINF_VGCS_3	SS originates VGCS call, leaves, re-joins and ends it.
				RINF_VGCS_4	SS enters into VGCS broadcast area with ongoing VGCS call and is notified of it
				RINF_VGCS_5	Controller joins ongoing VGCS call
				RINF_VGCS_6	Parallel group calls are possible in the same cell.
				RINF_VGCS_7	GID delivered correctly to terminating SS in SS originated VGCS call
				RINF_OTDI_1	SS originates VGCS call, terminating Controller receives the OTDI
				RINF_OTDI_2	SS originates VGCS Immediate Setup 2 call, terminating Controller receives the OTDI
2.2.3	The system shall support point-to-point voice calls between any two call parties.	(MI)	O-3001-4	RINF_GSM_4	Supplementary Service CLIP – MMC with Call Forwarding Unconditional
				RINF_GSM_5	Supplementary Service MPTY
				RINF_GSM_6	Establishment of several PTP calls with different priorities
				RINF_HO_1	Inter BTS handover of a point-to-point voice call
				RINF_FA_7	FA Call - Successful Call
				RINF_AM_1	National call: AM allows call
2.2.4	Such point-to-point calls shall allow both parties to talk simultaneously.	(MI)	O-3001-4	RINF_GSM_4	Supplementary Service CLIP – MMC with Call Forwarding Unconditional
				RINF_GSM_5	Supplementary Service MPTY
				RINF_GSM_6	Establishment of several PTP calls with different priorities

Clause	Requirement Text	Cat.	Test case document	Test case ID	Remark
				RINF_HO_1	Inter BTS handover of a point-to-point voice call
				RINF_FA_7	FA Call - Successful Call
				RINF_AM_1	National call: AM allows call
2.2.7	The system shall support broadcast voice calls.	(MI)	O-3001-1	4.11	See note on chapter 4.11 Broadcast calls
2.2.9	The composition of call groups shall be able to be modified within the network. A single user shall be able to be a member of one or more call groups.	(MI)	O-3001-1	4.11	See note on chapter 4.11 Broadcast calls
2.2.11	It shall only be possible for the user who initiated the call to talk, other users can only listen. (MI)	(MI)	O-3001-1	4.11	See note on chapter 4.11 Broadcast calls
2.2.12	The system shall support group voice calls.	(MI)	O-3001-4	RINF_VGCS_1	SS originates VGCS call
				RINF_VGCS_2	Controller originates VGCS call and takes it down with the kill Sequence
				RINF_VGCS_3	SS originates VGCS call, leaves, re-joins and ends it.
				RINF_VGCS_4	SS enters into VGCS broadcast area with ongoing VGCS call and is notified of it
				RINF_VGCS_5	Controller joins ongoing VGCS call
				RINF_VGCS_6	Parallel group calls are possible in the same cell.
				RINF_VGCS_7	GID delivered correctly to terminating SS in SS originated VGCS call
2.2.14	The composition of call groups shall be able to be modified within the network. A single user shall be able to be a member of one or more call groups.	(MI)	O-3001-4	RINF_eMLPP_6	MS in VGCS call having the UL of the GCH, pre-emption on MS by higher priority VGCS call (REC)
2.2.16	It is acceptable that only one mobile user involved in the group call may talk at any time. In this case: • It shall be possible for controllers to speak at any time during the call. • A mechanism shall be provided by the system to arbitrate between those users wishing to speak within the group call.	(MI)	O-3001-4	RINF_VGCS_1	SS originates VGCS call
				RINF_VGCS_2	Controller originates VGCS call and takes it down with the kill Sequence
				RINF_VGCS_3	SS originates VGCS call, leaves, re-joins and ends it.
				RINF_VGCS_4	SS enters into VGCS broadcast area with ongoing VGCS call and is notified of it
				RINF_VGCS_5	Controller joins ongoing VGCS call
				RINF_VGCS_6	Parallel group calls are possible in the same cell.
				RINF_VGCS_7	GID delivered correctly to terminating SS in SS originated VGCS call
2.2.17	The system shall support multi-party voice communications between up to six different parties.	(MI)	O-3001-4	RINF_GSM_5	Supplementary Service MPTY

Clause	Requirement Text	Cat.	Test case document	Test case ID	Remark
2.2.18	Any of the parties involved in a multi-party voice call shall be able to talk simultaneously.	(MI)		RINF_GSM_5	Supplementary Service MPTY
2.3.4	If the text message facility is implemented, it shall not interfere with the ability of users to make or receive calls with a higher priority.	(MI)		RINF_GSM_8	Short and long SMS
2.3.12	Where fax functionality is provided, it shall be possible to interrupt the fax to make or receive calls with a higher priority.	(MI)		NoCov_1	Test case is not needed. Fax is not installed anywhere. FAX is Optional. This requirement is conditionally MI.
2.3.13	Where ERTMS/ETCS level 2 or 3 is implemented, the network shall be capable of supporting data communications for that train control system with the required quality of service.	(MI)	O-3001-4	RINF_eMLPP_8	MS in PtP call, pre-emption on Air IF by higher prio data call (4800 baud, transparent)
2.4.2	It shall be possible to display the identity of the called or calling party in the form of a standard telephone number.	(MI)	O-3001-4	RINF_GSM_1	Successful Location Update after MS Power On
				RINF_GSM_2	Supplementary Service Call Hold
				RINF_GSM_3	Supplementary Service Call Waiting
				RINF_GSM_4	Supplementary Service CLIP – MMC with Call Forwarding Unconditional
				RINF_GSM_5	Supplementary Service MPTY
				RINF_GSM_6	Establishment of several PTP calls with different priorities
				RINF_GSM_7	Public Emergency Call – With SIM
				RINF_FA_9	Verification of Functional Numbers previously registered in HPLMN (CT2/3/4)
				RINF_FA_10	Deregistration of CT2 numbers while roaming
2.4.3	It shall be possible to display the identity of the called or calling party as a textual description of their function.	(MI)	O-3001-4	RINF_FA_1	Registration of an FN Number
2.4.5	The network shall provide a mechanism whereby calls may be assigned one of a number of different priority levels.	(MI)	O-3001-4	RINF_GSM_4	Supplementary Service CLIP – MMC with Call Forwarding Unconditional
				RINF_eMLPP_1	MS in VGCS call on DCH, pre-emption on Air IF by higher prio PtP call
				RINF_eMLPP_2	MS in VBS call as listener, pre-emption on Air IF by higher prio VBS call.
				RINF_eMLPP_3	MS in VGCS call having the UL of the GCH, pre-emption on Air IF by higher prio VBS call.
				RINF_eMLPP_4	MS in PtP call, pre-emption on MS by higher prio VGCS call (REC)

Clause	Requirement Text	Cat.	Test case document	Test case ID	Remark
				RINF_eMLPP_5	MS in VBS call as originator, pre-emption on Air IF by higher prio VGCS call (REC)
				RINF_eMLPP_7	MS in data call, pre-emption on Air IF by higher prio VGCS call (REC)
				RINF_eMLPP_8	MS in PtP call, pre-emption on Air IF by higher prio data call (4800 baud, transparent)
				RINF_LE_2	Orig. SS active in a VBS (P4) call move in a cell with ongoing REC call
				RINF_LE_3	Orig. SS active in a VGCS (P4) call on GCH (talker) move in a cell with ongoing REC call
2.4.6	This mechanism shall allow calls with a higher assigned priority to override (pre-empt) existing calls of a lower priority.	(MI)	O-3001-4	RINF_eMLPP_1	MS in VGCS call on DCH, pre-emption on Air IF by higher prio PtP call
				RINF_eMLPP_2	MS in VBS call as listener, pre-emption on Air IF by higher prio VBS call.
				RINF_eMLPP_3	MS in VGCS call having the UL of the GCH, pre-emption on Air IF by higher prio VBS call.
				RINF_eMLPP_4	MS in PtP call, pre-emption on MS by higher prio VGCS call (REC)
				RINF_eMLPP_5	MS in VBS call as originator, pre-emption on Air IF by higher prio VGCS call (REC)
				RINF_eMLPP_7	MS in data call, pre-emption on Air IF by higher prio VGCS call (REC)
				RINF_eMLPP_8	MS in PtP call, pre-emption on Air IF by higher prio data call (4800 baud, transparent)
				RINF_LE_2	Orig. SS active in a VBS (P4) call move in a cell with ongoing REC call
				RINF_LE_3	Orig. SS active in a VGCS (P4) call on GCH (talker) move in a cell with ongoing REC call
2.4.7	Pre-empted calls will be discontinued and the new call of a higher priority shall be connected instead.	(MI)	O-3001-4	RINF_eMLPP_1	MS in VGCS call on DCH, pre-emption on Air IF by higher prio PtP call
				RINF_eMLPP_2	MS in VBS call as listener, pre-emption on Air IF by higher prio VBS call.
				RINF_eMLPP_3	MS in VGCS call having the UL of the GCH, pre-

Clause	Requirement Text	Cat.	Test case document	Test case ID	Remark
					emption on Air IF by higher prio VBS call.
				RINF_eMLPP_4	MS in PtP call, pre-emption on MS by higher prio VGCS call (REC)
				RINF_eMLPP_5	MS in VBS call as originator, pre-emption on Air IF by higher prio VGCS call (REC)
				RINF_eMLPP_7	MS in data call, pre-emption on Air IF by higher prio VGCS call (REC)
				RINF_eMLPP_8	MS in PtP call, pre-emption on Air IF by higher prio data call (4800 baud, transparent)
				RINF_LE_2	Orig. SS active in a VBS (P4) call move in a cell with ongoing REC call
				RINF_LE_3	Orig. SS active in a VGCS (P4) call on GCH (talker) move in a cell with ongoing REC call
2.4.13	The network shall allow the user to temporarily exit from an existing call by putting the call on hold.	(MI)	O-3001-4	RINF_GSM_2	Supplementary Service Call Hold
2.4.14	It shall be possible for the user to re-join the call which is on hold at any time.	(MI)	O-3001-4	RINF_GSM_2	Supplementary Service Call Hold
2.4.15	The network shall provide the ability to inform a user, who is involved in an existing call, of attempts by other users to contact them.	(MI)	O-3001-4	RINF_GSM_3	Supplementary Service Call Waiting
2.5.1	The EIRENE network shall also provide support for the following railway specific services:	(MI)	O-3001-4	RINF_FA_1	Registration of an FN Number
	• functional addressing including registration/deregistration (see section 11);	(MI)		RINF_FA_2	Registration of an unknown FN fails
	• location dependent addressing (see section 11);	(MI)		RINF_FA_3	Deregistration of an FN Number
	• Railway emergency calls (see section 13).	(MI)		RINF_FA_4	Deregistration of an FN fails
				RINF_FA_5	Interrogation of an FA Number
2.6.2.1	A High Priority call shall be associated with an internationally harmonised value (such as Short Dialling Code, Group Identity or Functional Number).	(MI)	O-3001-1	4.8.8	See note on chapter 4.8.8 Outgoing PtP calls - controller
3.2.4	The land-based part of the system shall provide communications for mobiles when stationary and when travelling at speeds up to the maximum allowable line speed or 500 km/h, whichever is the lower.	(MI)		NoCov_2	In-house test procedure in the scope of accreditation of Funkwerk Laboratories
3.4.2	The required call set-up times shall be achieved in 95% of cases.	(MI)	O-2875	3.1, 3.2, 3.3, 3.4	EIRENE reference already included in version 2.0.0 of O-2875
3.4.3	Call set-up times for 99% of cases shall not be more than 1.5 times the required call set-up time.	(MI)	O-2875	3.1, 3.2, 3.3, 3.4	EIRENE reference already included in version 2.0.0 of O-2875
3.4.4	Set-up times shall include the time required for any translation of functional numbers internal to the EIRENE network.	(MI)	O-2875	3.1, 3.2, 3.3, 3.4	EIRENE reference already included in version 2.0.0 of O-2875

Clause	Requirement Text	Cat.	Test case document	Test case ID	Remark
3.5.2	The group or broadcast call area used will have the effect of determining which mobiles can participate in the call (ie those currently within the area defined). It shall be possible to determine the area over which the call takes place by one, or a combination, of the following: - the location of the call initiator (if mobile-originated); - the identity of the group being called (eg all users, all trains, etc); - a prefix to the group identity specifying the call area (if fixed network-initiated).	(MI)	O-3001-4	RINF_VGCS_1	SS originates VGCS call
				RINF_VGCS_2	Controller originates VGCS call and takes it down with the kill Sequence
				RINF_VGCS_3	SS originates VGCS call, leaves, re-joins and ends it.
				RINF_VGCS_4	SS enters into VGCS broadcast area with ongoing VGCS call and is notified of it
				RINF_VGCS_5	Controller joins ongoing VGCS call
				RINF_VGCS_6	Parallel group calls are possible in the same cell.
				RINF_VGCS_7	GID delivered correctly to terminating SS in SS originated VGCS call
				RINF_VBS_1	SS originates VBS call
				RINF_VBS_2	SS originates prio0 VBS call
				RINF_VBS_3	Controller originates VBS call and takes down the call by disconnecting
				RINF_VBS_4	Controller originates VBS call and takes down the call with the kill sequence
				RINF_VBS_5	Controller joins ongoing VBS call
				RINF_VBS_6	SS enters into VBS broadcast area with ongoing VBS call and is notified of it, SS joins the VBS call
3.5.3	Any group or broadcast calls initiated in a given location shall be broadcast over an associated area based on the location of the call originator, and also to any fixed network numbers associated with the originating location.	(MI)	O-3001-4	RINF_VGCS_1	SS originates VGCS call
				RINF_VGCS_2	Controller originates VGCS call and takes it down with the kill Sequence
				RINF_VGCS_3	SS originates VGCS call, leaves, re-joins and ends it.
				RINF_VGCS_4	SS enters into VGCS broadcast area with

Clause	Requirement Text	Cat.	Test case document	Test case ID	Remark
					ongoing VGCS call and is notified of it
				RINF_VGCS_5	Controller joins ongoing VGCS call
				RINF_VGCS_6	Parallel group calls are possible in the same cell.
				RINF_VGCS_7	GID delivered correctly to terminating SS in SS originated VGCS call
				RINF_VBS_1	SS originates VBS call
				RINF_VBS_2	SS originates prio0 VBS call
				RINF_VBS_3	Controller originates VBS call and takes down the call by disconnecting
				RINF_VBS_4	Controller originates VBS call and takes down the call with the kill sequence
				RINF_VBS_5	Controller joins ongoing VBS call
				RINF_VBS_6	SS enters into VBS broadcast area with ongoing VBS call and is notified of it, SS joins the VBS call
3.5.6	Mobiles configured for reception of railway emergency calls entering into a call area where a railway emergency call is ongoing shall automatically join this call.	(MI)	O-3001-1	4.13.5	
4.1.3i	It shall be possible to operate all EIRENE mobiles in the basic frequency band allocated for use by EIRENE Networks.	(MI)	O-3001-1	4.4.7	
4.1.4	Mobile equipment operated in frequency band listed in clause 4.1.3i, 4.1.3ii and 4.1.3iii shall function as specified when travelling at speeds from 0 km/h to 500 km/h.	(MI)	O-3001-1	4.4.7	
4.2.1	The following voice telephony services, identified in section 2, shall/should be supported for each type of mobile radio:	(MI)	O-3001-1		
	Cab radio | Point-to-point voice calls			4.8	
	Cab radio | Broadcast voice calls			4.11	
	Cab radio |Group voice calls			4.9	
	Cab radio |Multi-party voice calls			4.10	
4.2.2	The following data applications, identified in section 2, shall/should be supported for each type of mobile radio:				
	Cab radio | Text message service	(MI)	O-3001-1	4.7	
	EDOR | ETCS train control application	(MI)	O-3001-2	6.2.7	
4.2.3	The following call related services shall/should be supported for each type of mobile radio:	(MI)	O-3001-1		
	Cab radio | Display of calling user identity			4.8.1, 4.8.4, 4.8.14	
	Cab radio | Display of called user identity			4.8.15	
	Cab radio | Call hold			4.10.2, 4.10.3, 4.10.4	
	Cab radio | Call waiting			4.10.2, 4.10.3, 4.10.4	
	Cab radio | Call barring				
	Cab radio | Auto answer service			4.8.4	
	Cab radio | Call proceeding indications			4.8.8	

Clause	Requirement Text	Cat.	Test case document	Test case ID	Remark
	ETCS data only radio | Display of called user identity				
4.2.4	The following EIRENE features shall/should be supported for each type of mobile radio:		O-3001-1		
	Cab radio | Functional addressing	(MI)	O-3001-1	4.6	
	Cab radio |Location dependent addressing	(MI)	O-3001-1	4.4.6	
	Cab radio | Shunting mode	(MI)	O-3001-1	4.14	
	Cab radio | multiple driver communications within the same train	(MI)	O-3001-1	4.10	
	Cab radio | Railway emergency calls	(MI)	O-3001-1	4.13	
5.2.2i	Once a call has been established the connected parties shall be able to communicate.	(MI)	O-3001-1	4.8.1, 4.8.8,	
5.2.2ii	Picking up the handset shall transfer the communication to the handset and reduce the loudspeaker volume to its minimum level.	(MI)	O-3001-1	4.8.1, 4.8.8	
5.2.2iii	Replacing the handset either: - cancels the call; or - transfers the call to the loudspeaker at the initial volume.	(MI)	O-3001-1	4.8.5, 4.8.8, 4.8.13, 4.9.2, 4.10.3, 4.13.1, 4.13.2	
5.2.2iv	A Push-To-Talk function shall be provided for use during group calls.	(MI)	O-3001-1	4.9.2, 4.9.5	
5.2.2.1	It shall be possible for the driver to initiate a call to any of the following types of controller with a minimum of driver action being required (e.g. a single keystroke): (MI) - primary controller; - secondary controller; - power supply controller.	(MI)	O-3001-1	4.8.8, 4.8.9,	
5.2.2.3	Once an appropriate destination has been obtained, the radio shall attempt to establish a call to this destination. The functional identity shall be displayed to the controller.	(MI)	O-3001-1	4.8.8,	FA Call - Successful Call
			O-3001-4	RINF_FA_7	
				RINF_LDA_1	Successful LDA Call - Verify the cell format is correct
				RINF_LDA_2	Unsuccessful LDA Call - Call to invalid Short Code
				RINF_OTDI_1	SS originates VGCS call, terminating Controller receives the OTDI
				RINF_OTDI_2	SS originates VGCS Immediate Setup 2 call, terminating Controller receives the OTDI
5.2.2.3i	The functional identity includes the following: - the train number, if available; - the engine number, if no train number is available;	(MI)	O-3001-1	4.8.8, 4.8.12	
			O-3001-4	RINF_FA_7	FA Call - Successful Call
				RINF_LDA_1	Successful LDA Call - Verify the cell format is correct
				RINF_LDA_2	Unsuccessful LDA Call - Call to invalid Short Code

Clause	Requirement Text	Cat.	Test case document	Test case ID	Remark
				RINF_OTDI_2	SS originates VGCS Immediate Setup 2 call, terminating Controller receives the OTDI
5.2.2.4	An audible and visual indication shall be provided to the driver that the call is proceeding.	(MI)	O-3001-1	4.8.8	
			O-3001-4	RINF_FA_7	FA Call - Successful Call
				RINF_LDA_1	Successful LDA Call - Verify the cell format is correct
				RINF_LDA_2	Unsuccessful LDA Call - Call to invalid Short Code
				RINF_OTDI_1	SS originates VGCS call, terminating Controller receives the OTDI
				RINF_OTDI_2	SS originates VGCS Immediate Setup 2 call, terminating Controller receives the OTDI
5.2.2.5	When the call is connected to the controller, an audible and visual indication is to be provided to the driver. The call shall be connected to the loudspeaker at the pre-set value. (MI)	(MI)	O-3001-1	4.8.8	
5.2.2.6	The functional identity of the connected party, if available, shall be displayed to the driver.	(MI)	O-3001-1	4.8.8	Refer also to O-3001-1-Cab radio
			O-3001-4	RINF_FA_7	FA Call - Successful Call
				RINF_LDA_1	Successful LDA Call - Verify the cell format is correct
				RINF_LDA_2	Unsuccessful LDA Call - Call to invalid Short Code
				RINF_OTDI_1	SS originates VGCS call, terminating Controller receives the OTDI
				RINF_OTDI_2	SS originates VGCS Immediate Setup 2 call, terminating Controller receives the OTDI
5.2.2.7	If the functional identity of the connected party contains an alphanumeric description, this shall also be displayed.	(MI)	O-3001-1	4.8.8	
			O-3001-4	RINF_FA_7	FA Call - Successful Call
				RINF_LDA_1	Successful LDA Call - Verify the cell format is correct
				RINF_LDA_2	Unsuccessful LDA Call - Call to invalid Short Code
				RINF_OTDI_1	SS originates VGCS call, terminating Controller receives the OTDI
				RINF_OTDI_2	SS originates VGCS Immediate Setup 2 call, terminating Controller receives the OTDI
5.2.2.8	If the system is not able to connect the call, an audible and visual indication shall be provided	(MI)	O-3001-1	4.8.9	

Clause	Requirement Text	Cat.	Test case document	Test case ID	Remark
	to the driver that the call was not received by the controller. This shall also indicate if the called party was busy or if the network could not connect the call. (MI)				
5.2.2.9	It shall be possible for a driver to initiate and participate in group voice calls between drivers in a pre-defined geographical area.	(MI)	O-3001-1	4.9.5, 4.14.11	
			O-3001-4	RINF_eMLPP_1	MS in VGCS call on DCH, pre-emption on Air IF by higher prio PtP call
				RINF_eMLPP_3	MS in VGCS call having the UL of the GCH, pre-emption on Air IF by higher prio VBS call.
				RINF_eMLPP_4	MS in PtP call, pre-emption on MS by higher prio VGCS call (REC)
				RINF_VGCS_1	SS originates VGCS call
				RINF_VGCS_3	SS originates VGCS call, leaves, re-joins and ends it.
				RINF_VGCS_4	SS enters into VGCS broadcast area with ongoing VGCS call and is notified of it
				RINF_VGCS_7	GID delivered correctly to terminating SS in SS originated VGCS call
				RINF_REC_3	SS accepts an incoming REC
				RINF_REC_4	Controller originates a REC
				RINF_LE_1	SS active in a PTOP (P4) call move in a cell with ongoing REC call
				RINF_LE_3	Orig. SS active in a VGCS (P4) call on GCH (talker) move in a cell with ongoing REC call
5.2.2.11	The group identity shall be displayed on the Cab radios of the participating drivers. (MI)	(MI)	O-3001-1	4.9.2, 4.9.5	
5.2.2.12	An audible and visual indication shall be provided to the driver that the call is proceeding. (MI)	(MI)	O-3001-1	4.9.5	
5.2.2.13	Once connected, the driver shall be able to communicate with other driver(s) by using the Push-To-Talk button on the handset. An indication shall be provided to the driver as a reminder of the need to use the Push-To-Talk button on the handset if he wants to talk. (MI)	(MI)	O-3001-1	4.9.5	
5.2.2.14	The call shall be connected to the loudspeaker until the driver picks up the handset. (MI)	(MI)	O-3001-1	4.9.5	
5.2.2.15	The call shall continue until terminated by the calling driver, an authorised controller or the network.	(MI)	O-3001-1	4.9.5, 4.9.8	

Clause	Requirement Text	Cat.	Test case document	Test case ID	Remark
			O-3001-4	RINF_eMLPP_1	MS in VGCS call on DCH, pre-emption on Air IF by higher prio PtP call
				RINF_eMLPP_3	MS in VGCS call having the UL of the GCH, pre-emption on Air IF by higher prio VBS call.
				RINF_eMLPP_4	MS in PtP call, pre-emption on MS by higher prio VGCS call (REC)
				RINF_VGCS_1	SS originates VGCS call
				RINF_VGCS_3	SS originates VGCS call, leaves, re-joins and ends it.
				RINF_VGCS_4	SS enters into VGCS broadcast area with ongoing VGCS call and is notified of it
				RINF_VGCS_7	GID delivered correctly to terminating SS in SS originated VGCS call
				RINF_REC_3	SS accepts an incoming REC
				RINF_REC_4	Controller originates a REC
				RINF_LE_1	SS active in a PTOP (P4) call move in a cell with ongoing REC call
				RINF_LE_3	Orig. SS active in a VGCS (P4) call on GCH (talker) move in a cell with ongoing REC call
5.2.2.16	If the train moves out of the group call area whilst the call is in progress, an audible and visual indication of the loss of call shall be provided to the driver. (MI)	(MI)	O-3001-1	4.9.9, 4.11.4	
5.2.2.17	If the system is not able to connect the call, an audible and visual indication shall be provided to the driver. (MI)	(MI)	O-3001-1	4.9.6	
5.2.2.18	It shall be possible for a driver to initiate Railway emergency calls (see section 13).	(MI)	O-3001-1	4.13.2	
			O-3001-4	RINF_REC_1	SS originates a REC
				RINF_REC_2	Subscriber initiated REC (no talker change, normal clear down of call)
				RINF_REC_4	Controller originates a REC
				RINF_REC_6	REC in a GCA with a locked cell
5.2.2.20	A continuous visual and short audible indication (from 0 to 20 seconds, for trials: 5 seconds) that the emergency function has been activated shall be provided in the cab. (Note that when the handset is off-hook, the audible indication shall be sounded from the loudspeaker at a low volume, but shall not be sounded from the handset.) (MI)	(MI)	O-3001-1	4.13.2	

Clause	Requirement Text	Cat.	Test case document	Test case ID	Remark
5.2.2.21	Once the Railway emergency call is connected and the audible indication is finished, an indication shall be provided to the driver as a reminder of the need to use the Push-To-Talk button on the handset if he wants to speak. (MI)	(MI)	O-3001-1	4.13.2	
5.2.2.22	The call shall be connected to the loudspeaker until the driver picks up the handset. (MI)	(MI)	O-3001-1	4.13.2	
5.2.2.23	If the train moves out of the call area whilst the call is in progress, it will leave the call and an audible and visual indication of the loss of call shall be provided to the driver. (MI)	(MI)	O-3001-1	4.13.4	
5.2.2.24	Once the call is terminated, the continuous visual alarm indication in the cab shall cease. (MI)	(MI)	O-3001-1	4.13.2	
5.2.2.25	If the system is not able to connect the call, an audible and visual indication shall be provided to the driver. (MI)	(MI)	O-3001-1	4.13.6	
5.2.2.26	Many trains employ multiple active traction vehicles. Where these vehicles are not connected by on-train wire connections, it shall be possible for the lead driver to establish a permanent radio connection between each of the active cabs.	(MI)	O-3001-1	4.10.2	
			O-3001-4	RINF_GSM_5	Supplementary Service MPTY
5.2.2.28	Whilst on-going, a 'multi-drivers' indication shall be displayed permanently at all Cab radios. (MI)	(MI)	O-3001-1	4.10.2, 4.10.3	
5.2.2.29	The lead driver shall be notified if a member of the group has placed the call on hold, although this shall not affect communications between the remaining members of the group.	(MI)	O-3001-1	4.10.2	
			O-3001-4	RINF_GSM_5	Supplementary Service MPTY
5.2.2.30	At any time during the call, the lead driver shall be able to remove a member of the group.	(MI)	O-3001-1	4.10.2 4.10.3	
			O-3001-4	RINF_GSM_5	Supplementary Service MPTY
5.2.2.31	The lead driver shall be able to terminate the entire call.	(MI)	O-3001-1	4.10.2	
			O-3001-4	RINF_GSM_5	Supplementary Service MPTY
5.2.2.32	If a driver is disconnected from the multi-driver call, a clear indication shall be given.	(MI)	O-3001-1	4.10.2	
			O-3001-4	RINF_GSM_5	Supplementary Service MPTY
5.2.2.33	The setting up and closing down of a multi-driver call shall be simplified using automation or guidance through the steps required. (MI)	(MI)	O-3001-1	4.10.2	

Clause	Requirement Text	Cat.	Test case document	Test case ID	Remark
5.2.2.34	In each cab, the call shall be connected to the loudspeaker whilst the handset is on-hook. (MI)	(MI)	O-3001-1	4.8.5, 4.8.13, 4.10.3	
5.2.2.35	If any part of the call fails, an audible and visual indication shall be provided in the appropriate cab. (MI)	(MI)	O-3001-1	4.10.3	
5.2.2.37	For calls between a controller and the lead cab, it shall be possible to add the controller to the multi-driver call. Either the lead driver calls the controller or the controller calls the lead driver. In the latter case, the controller is automatically added into the multi-driver call. Functional identity of the controller shall be displayed in the leading cab.	(MI)	O-3001-1	4.10.4	
			O-3001-4	RINF_GSM_5	Supplementary Service MPTY
5.2.2.38	It shall be possible for the driver to contact members of on-board train staff using a point-to-point voice call.	(MI)	O-3001-1	4.8.10	
			O-3001-4	RINF_GSM_5	Supplementary Service MPTY
5.2.2.39	Upon activation of this function, the Cab radio shall provide the driver with a list of 'generic' staff, e.g.: (MI) - chief conductor; - conductor 1; - conductor 2; - catering staff 1.	(MI)	O-3001-1	4.8.10	
5.2.2.40	The driver shall then be prompted to select the train staff with which he wishes to communicate. (MI)	(MI)	O-3001-1	4.8.10	
5.2.2.42	The Cab radio shall be capable of being used as a standard telephone, such that the driver is able to call any valid number subject to pre-defined call restrictions. The call may be initiated by: - selection from a pre-defined list (up to 99 entries); - direct dialling a subscriber number; - calling a functional number.	(MI)	O-3001-1	4.8.6, 4.8.7, 4.8.11	
			O-3001-4	RINF_GSM_5	Supplementary Service MPTY
5.2.2.43	An audible and visual indication of an incoming call shall be provided.	(MI)	O-3001-1	4.8.1	
			O-3001-4	RINF_VGCS_1	SS originates VGCS call
				RINF_VGCS_2	Controller originates VGCS call and takes it down with the kill Sequence
				RINF_VGCS_3	SS originates VGCS call, leaves, re-joins and ends it.
				RINF_VGCS_4	SS enters into VGCS broadcast area with

Clause	Requirement Text	Cat.	Test case document	Test case ID	Remark
					ongoing VGCS call and is notified of it
				RINF_VGCS_5	Controller joins ongoing VGCS call
				RINF_VGCS_6	Parallel group calls are possible in the same cell.
				RINF_VGCS_7	GID delivered correctly to terminating SS in SS originated VGCS call
				RINF_VBS_1	SS originates VBS call
				RINF_VBS_2	SS originates prio0 VBS call
				RINF_VBS_3	Controller originates VBS call and takes down the call by disconnecting
				RINF_VBS_4	Controller originates VBS call and takes down the call with the kill sequence
				RINF_VBS_5	Controller joins ongoing VBS call
				RINF_VBS_6	SS enters into VBS broadcast area with ongoing VBS call and is notified of it, SS joins the VBS call
5.2.2.44	The functional identity (which may contain an alphanumeric description) of the calling party, when available, shall be displayed. (MI)	(MI)	O-3001-1	4.8.2	
5.2.2.45	Point-to-point calls that are not automatically answered (see table 10-1) shall only be answered once the driver accepts the call. (MI)	(MI)	O-3001-1	4.8.1	
5.2.2.46	Once the driver has accepted the standard point-to-point call, it shall be connected appropriately, e.g. if the driver has accepted the call by lifting the handset, then the call shall be routed to the handset. (MI)	(MI)	O-3001-1	4.8.1	
5.2.2.47	An audible and visual indication of the incoming call shall be provided when a Cab radio receives a group or broadcast call.	(MI)	O-3001-1	4.9.1, 4.9.2	
			O-3001-4	RINF_VGCS_1	SS originates VGCS call
				RINF_VGCS_2	Controller originates VGCS call and takes it down with the kill Sequence
				RINF_VGCS_3	SS originates VGCS call, leaves, re-joins and ends it.
				RINF_VGCS_4	SS enters into VGCS broadcast area with ongoing VGCS call and is notified of it
				RINF_VGCS_5	Controller joins ongoing VGCS call
				RINF_VGCS_6	Parallel group calls are possible in the same cell.

Clause	Requirement Text	Cat.	Test case document	Test case ID	Remark
				RINF_VGCS_7	GID delivered correctly to terminating SS in SS originated VGCS call
				RINF_VBS_1	SS originates VBS call
				RINF_VBS_2	SS originates prio0 VBS call
				RINF_VBS_3	Controller originates VBS call and takes down the call by disconnecting
				RINF_VBS_4	Controller originates VBS call and takes down the call with the kill sequence
				RINF_VBS_5	Controller joins ongoing VBS call
				RINF_VBS_6	SS enters into VBS broadcast area with ongoing VBS call and is notified of it, SS joins the VBS call
5.2.2.48	The group identity of the voice group call (VBS or VGCS) shall be displayed. (MI)	(MI)	O-3001-1	4.9.1, 4.9.2, 4.9.5	
5.2.2.49	Group or broadcast calls shall automatically be connected to the loudspeaker if the handset is not in use, or to the handset if the handset is off hook. (MI)	(MI)	O-3001-1	4.9.1, 4.9.2, 4.11.1	
5.2.2.50	The driver shall be informed if a broadcast call is ongoing by a visual indication displayed on the MMI. (MI)	(MI)	O-3001-1	4.11.1	
5.2.2.51	If the call is a group call, the driver shall be required to request permission before being able to speak as part of the call by lifting the handset and pushing the Push-To-Talk (PTT) button. (MI)	(MI)	O-3001-1	4.9.1, 4.9.2	
5.2.2.52	During a group call, a visual indication shall be displayed on the driver's MMI to remind the driver of the need to use the PTT button. (MI)	(MI)	O-3001-1	4.9.1, 4.9.2	
5.2.2.54	In a group call, an audible and visual indication of whether the request to talk was successful shall be provided. The driver shall then be able to speak as part of the call whilst the PTT button is pressed. (MI)	(MI)	O-3001-1	4.9.1, 4.9.2, 4.9.5	
5.2.2.55	If the train moves out of the group or broadcast call area whilst the call is in progress, an audible and visual indication of the loss of call shall be provided to the driver. (MI)	(MI)	O-3001-1	4.9.9, 4.11.4, 4.14.7	
5.2.2.56	Reception of this call proceeds as for a standard group or broadcast call, except that a distinctive audible and visual indication shall be provided in the cab. (MI)	(MI)	O-3001-1	4.13.1	
5.2.2.58	An automatic confirmation shall be generated by the Cab radio at the end of the Railway emergency call as detailed in section 13. (MI)	(MI)	O-3001-1	4.15.1	

Clause	Requirement Text	Cat.	Test case document	Test case ID	Remark
5.2.2.60	The Cab radio shall provide a means for the driver to terminate calls which he is authorised to terminate (i.e. all calls except Railway emergency calls not initiated by the driver and shunting group calls). (MI)	(MI)	O-3001-1	4.8.5, 4.8.13, 4.9.5, 4.13.1, 4.13.2, 4.14.11	
5.2.2.61	For group calls, a means to leave the call without terminating the call shall be provided. (MI)	(MI)	O-3001-1	4.9.1 4.9.2 4.9.7 4.9.8	
5.2.2.61i	For broadcast calls, a means for a listener to leave the call without terminating the call shall be provided. (MI)	(MI)	O-3001-1	4.11.2	
5.2.2.62	The Cab radio system shall be able to receive incoming text messages (see section 12 for details). (MI)	(MI)	O-3001-1	4.7.2 4.7.3 4.7.4	
5.2.2.63	The Cab radio shall support a 'shunting mode' of operation that provides a link assurance tone to reassure users of the integrity of the communication link (see section 14). (MI)	(MI)	O-3001-1	4.14.12	
5.2.2.64	A means to enter and leave shunting mode shall be provided. (MI)	(MI)	O-3001-1	4.14.8	
5.2.2.65	The functionality to enter and leave shunting mode shall not be available when there are on-going calls involving the Cab radio. (MI)	(MI)	O-3001-1	4.14.1 4.14.9	
5.2.2.66	The link assurance tone shall be provided via the loudspeaker. (MI)	(MI)	O-3001-1	4.14.12	
5.2.2.71	Not all communications using the Cab radio will involve the driver. Where these calls involve the Cab radio, the driver shall be provided with an indication that the Cab radio is busy. (MI)	(MI)	O-3001-1	5.1.1 5.2.1	
5.2.2.73	For voice communications, if the driver picks up the handset, the radio shall allow him to join the communication. (MI)	(MI)	O-3001-1	5.1.1 5.2.1	
5.2.2.74	The driver shall be able to terminate communications (voice or data) by selecting another call. (MI)	(MI)	O-3001-1	5.1.1 5.2.1	
5.2.3.1	Powering up the Cab radio shall/should initiate the following: • automatic self-testing; (MI) • automatic selection of the pre-set loudspeaker volume; (MI) • connection of the Cab radio to an authorised mobile network. This shall be the network to which the mobile was last registered (where available); (MI) • if connection is successful, the name of the network shall be displayed on the MMI and an audible indication of	(MI)	O-3001-1	4.1.1 4.1.2 4.1.4 4.1.5	

Clause	Requirement Text	Cat.	Test case document	Test case ID	Remark
	successful connection shall be given; (MI) • if connection is not successful, an audible and visual indication shall be provided. (MI)				
5.2.3.3	Powering down the Cab radio shall cause the disconnection of the Cab radio from the mobile network. (MI)	(MI)	O-3001-1	4.1.5	
5.2.3.4	When switched off, the radio shall retain any numbers which are stored (including FNs) at the time the radio is switched off. (MI)	(MI)	O-3001-1	4.1.6	
5.2.3.5	The MMI on/off control shall be designed to prevent accidental activation/ deactivation. (MI)	(MI)	O-3001-1	4.2.2	
5.2.3.6	Switching the MMI on shall cause the following: (MI) - self test of MMI (e.g. transitory lighting of the display and of all the controls and indicator lights of the MMI); - determination of the status of the Cab radio, providing a display of radio status on the MMI.	(MI)	O-3001-1	4.2.1	
5.2.3.7	When the MMI is switched on, the configuration shall be determined by the time elapsed since the MMI was last switched off: - less than t minutes – the MMI shall power up with the same configuration as when it was last powered down; - greater than t minutes – the MMI shall power up with default settings.	(MI)	O-3001-1	4.2.1	
5.2.3.9	Switch off shall be “soft” so that the Cab radio completes the following housekeeping functions before actually switching off: (MI) - controlled termination of a current call; - deregister train number (where applicable); - store required data; - confirmation of Railway emergency calls (see section 13).	(MI)	O-3001-1	4.2.2	
5.2.3.12	It shall be possible to present radio related prompts and information in a number of different languages. (MI)	(MI)	O-3001-1	4.2.3	
5.2.3.13	By default, prompts and information shall be displayed in the language selected by the train owner (as stored within the system). (MI)	(MI)	O-3001-1	4.1.1	
5.2.3.14	It shall be possible for the user to display a list of available languages and select the language in which radio related prompts and information are displayed both at turn on and during a journey (e.g. where a change of drivers may occur). (MI)	(MI)	O-3001-1	4.2.3	
5.2.3.16	The radio shall support at least ten different languages. (MI)	(MI)	O-3001-1	4.2.3	

Clause	Requirement Text	Cat.	Test case document	Test case ID	Remark
5.2.3.17	By default, the loudspeaker volume shall be set to a pre-determined level suitable for the operating environment (as stored within the system). (MI)	(MI)	O-3001-1	4.1.3	
5.2.3.18	It shall be possible for the driver to increase and decrease the loudspeaker volume within the adjustment range selected. (MI)	(MI)	O-3001-1	4.5.2	
5.2.3.19	When the handset is picked up, the loudspeaker shall continue to operate, but at a reduced volume level. (MI)	(MI)	O-3001-1	4.8.1	
5.2.3.23	Using a simple MMI action, it shall be possible for the driver to view a prioritised list of all authorised mobile radio networks (see section 10.5). (MI)	(MI)	O-3001-1	4.4.1	
5.2.3.23i	When presented with this list, it shall be possible for the driver (using simple MMI actions) to select the required mobile radio network manually, whereupon the Cab radio shall attempt to attach to this selected network. (MI)	(MI)	O-3001-1	4.4.1	
5.2.3.24	The manual network selection function shall not be available when there are on-going voice calls involving the Cab radio. (MI)	(MI)	O-3001-1	4.4.2	
5.2.3.25	A visual confirmation of the new network identity shall be given to the driver when a manually initiated network change has been completed successfully. (MI)	(MI)	O-3001-1	4.4.1	
5.2.3.26	It shall be possible for the driver to register and deregister a train number in the following ways: 1) enter train number; (MI)	(MI)	O-3001-1	4.6.1	
5.2.3.27	Where the driver is required to enter the train number information, the information entered shall be shown on the display and require confirmation by the driver before further actions are possible. (MI)	(MI)	O-3001-1	4.6.1	
5.2.3.29	The driver shall be warned (by audible and visual indications) if a train with the same train number is already registered on the same network. (MI)	(MI)	O-3001-1	4.6.2, 4.6.8	
5.2.3.30	A means to override the currently registered train number shall be provided to the “newly registering” driver. (MI)	(MI)	O-3001-1	4.6.2, 4.6.8	
5.2.3.31	The driver of the previously registered train shall be informed (by audible and visual indications) that his train number has been overridden by another driver. (MI)	(MI)	O-3001-1	4.6.8	
5.2.3.31i	The visual indication that the train number has been overridden by another driver should be presented to the driver for manual acknowledgement. (O)	(O)	O-3001-1	4.6.8	

Clause	Requirement Text	Cat.	Test case document	Test case ID	Remark
5.2.3.32	Where a change of train number is required during the course of a train's journey, it shall be possible for the driver to initiate the change or override the automatic change. This shall be carried out by entering the train number (option 1 in 5.2.3.26).	(MI)	O-3001-1	4.6.2	
5.2.3.33	Non leading drivers shall be able to indicate to the system their location in the train during the registration procedure (2nd driver, 3rd driver etc.).	(MI)	O-3001-1	4.6.4	
5.2.3.34	The driver's functional number shall be automatically registered/deregistered when the train number is registered/deregistered.	(MI)	O-3001-1	4.6.1, 4.6.4, 4.6.6	
5.2.3.39	The Cab radio shall have a reconfigurable list of stored numbers that may be used to perform abbreviated dialling to named user identities.	(MI)	O-3001-1	4.5.3, 4.8.10, 4.8.11, 4.9.4	
5.2.3.40	It shall be possible for the driver to find and display stored numbers and their information.	(MI)	O-3001-1	4.5.3, 4.8.10, 4.8.11	
5.2.3.42	General MMI functions are required to support the following call functions: • put a call on hold; (MI) • display incoming call details whilst in an on-going call; (MI) • temporarily exit an existing call to answer another incoming call; (MI) • multi-driver call service. (MI)	(MI)	O-3001-1	4.8.14, 4.8.15, 4.10.2	
5.2.3.44	It shall be possible to initiate tests of the radio to provide the driver with a reasonable level of certainty that the radio and MMI are working. (MI)	(MI)	O-3001-1	4.3.1, 4.3.2	
5.2.3.45	Such tests shall not prevent calls. (MI)	(MI)	O-3001-1	4.3.2	
5.2.4.4.	The Cab radio may be required to set up calls from a number of different sources. Therefore, the radio shall provide a priority function for calls from different sources in order to handle contention for the radio. (MI)	(MI)	O-3001-1	4.12.1, 4.12.2, 4.12.3, 4.12.4, 4.12.5, 4.12.6, 4.12.7, 4.12.8, 4.12.9, 4.12.10, 4.12.11, 4.12.12, 4.12.13, 4.12.14, 4.12.15., 4.12.16	
5.2.4.5	In order to meet other call priorities, established calls shall be able to be either put on hold or cleared down (pre-empted). (MI)	(MI)	O-3001-1	4.12.1, 4.12.2, 4.12.3, 4.12.4, 4.12.5, 4.12.6, 4.12.7, 4.12.8, 4.12.9, 4.12.10, 4.12.11, 4.12.12, 4.12.13, 4.12.14, 4.12.15., 4.12.16	
5.2.4.6	The Cab radio shall be capable of handling contention between calls of differing priorities. (MI)	(MI)	O-3001-1	4.12.1, 4.12.2, 4.12.3, 4.12.4, 4.12.5, 4.12.6,	

Clause	Requirement Text	Cat.	Test case document	Test case ID	Remark
				4.12.7, 4.12.8, 4.12.9, 4.12.10, 4.12.11, 4.12.12, 4.12.13, 4.12.14, 4.12.15., 4.12.16	
5.2.4.7	An outgoing call request of higher priority than an established call shall take precedence over the established call. (MI)	(MI)	O-3001-1	4.12.1, 4.12.2, 4.12.3, 4.12.4, 4.12.5, 4.12.6, 4.12.7, 4.12.8, 4.12.9, 4.12.10, 4.12.11, 4.12.12, 4.12.13, 4.12.14, 4.12.15., 4.12.16	
5.2.4.9	Priority call handling facilities shall be provided such that the performance requirements defined in sections 3.4 and 10.2 can be met. (MI)	(MI)	O-3001-1	4.9.5, 4.13.2	
5.4.1	The driver man-machine interface shall comprise the following components: (MI) - display; - control panel; - loudspeaker; - handset with Push-To-Talk button.	(MI)	O-3001-1	4.5.1	
5.4.3	All call related functions except talking shall be possible with the handset on or off the hook. (MI)	(MI)	O-3001-1	4.8.8, 4.8.14, 4.8.15	
5.4.16	If contact with the mobile radio network is lost, then the Cab radio shall give an audible and visual indication.	(MI)	O-3001-1	4.4.3	
9.2.1.1	The EIRENE system shall enable users to originate and receive calls by functional number.	(MI)	O-3001-1	4.4.5	
			O-3001-4	RINF_FA_1	Registration of an FN Number
				RINF_FA_2	Registration of an unknown FN fails
				RINF_FA_3	Deregistration of an FN Number
				RINF_FA_4	Deregistration of an FN fails
				RINF_FA_5	Interrogation of an FA Number
				RINF_FA_6	Interrogation of an FN fails
				RINF_FA_7	FA Call - Successful Call
				RINF_FA_8	FA Call – Call is not completed
				RINF_FA_9	Verification of Functional Numbers previously registered in HPLMN (CT2/3/4)
				RINF_FA_10	Deregistration of CT2 numbers while roaming
				RINF_FA_11	Forced Deregistration
				RINF_FA_14	Registration of an FN fails - remote party already registered

Clause	Requirement Text	Cat.	Test case document	Test case ID	Remark
9.2.1.2	Each mobile shall be identified by a unique telephone number.	(MI)	O-3001-1	4.4.5	
9.2.2.2	Every on-train function shall be identified by a unique standard number.	(MI)	O-3001-1	4.4.5	
			O-3001-4	RINF_FA_1	Registration of an FN Number
				RINF_FA_2	Registration of an unknown FN fails
				RINF_FA_3	Deregistration of an FN Number
				RINF_FA_4	Deregistration of an FN fails
				RINF_FA_11	Forced Deregistration
				RINF_FA_14	Registration of an FN fails - remote party already registered
9.2.3.2	Every on-engine/coach function shall be identified by a unique standard number.	(MI)	O-3001-1	4.4.5	
			O-3001-4	RINF_FA_1	Registration of an FN Number
				RINF_FA_2	Registration of an unknown FN fails
				RINF_FA_3	Deregistration of an FN Number
				RINF_FA_4	Deregistration of an FN fails
				RINF_FA_11	Forced Deregistration
				RINF_FA_14	Registration of an FN fails - remote party already registered
9.2.4.1	Every shunting team number shall be based on an association of: - service area identifier; - shunting team identifier.	(MI)	O-3001-1	4.4.5	
			O-3001-4	RINF_FA_1	Registration of an FN Number
				RINF_FA_2	Registration of an unknown FN fails
				RINF_FA_3	Deregistration of an FN Number
				RINF_FA_4	Deregistration of an FN fails
				RINF_FA_5	Interrogation of an FA Number
				RINF_FA_6	Interrogation of an FN fails
				RINF_FA_7	FA Call - Successful Call
				RINF_FA_8	FA Call – Call is not completed
				RINF_FA_9	Verification of Functional Numbers previously registered in HPLMN (CT2/3/4)
				RINF_FA_10	Deregistration of CT2 numbers while roaming
				RINF_FA_11	Forced Deregistration
				RINF_FA_14	Registration of an FN fails - remote party already registered
9.2.4.2	Every maintenance team number shall be based on an association of: - service area identifier;	(MI)	O-3001-1	4.14.3	

Clause	Requirement Text	Cat.	Test case document	Test case ID	Remark
	- type of maintenance team (speciality code); - maintenance team identifier				
			O-3001-4	RINF_FA_1	Registration of an FN Number
				RINF_FA_2	Registration of an unknown FN fails
				RINF_FA_3	Deregistration of an FN Number
				RINF_FA_4	Deregistration of an FN fails
				RINF_FA_5	Interrogation of an FA Number
				RINF_FA_6	Interrogation of an FN fails
				RINF_FA_7	FA Call - Successful Call
				RINF_FA_8	FA Call – Call is not completed
				RINF_FA_9	Verification of Functional Numbers previously registered in HPLMN (CT2/3/4)
				RINF_FA_10	Deregistration of CT2 numbers while roaming
				RINF_FA_11	Forced Deregistration
				RINF_FA_14	Registration of an FN fails - remote party already registered
9.2.4.3	Every controller number shall be based on an association of: - controller location; - controller identifier.	(MI)	O-3001-4	RINF_FA_1	Registration of an FN Number
				RINF_FA_2	Registration of an unknown FN fails
				RINF_FA_3	Deregistration of an FN Number
				RINF_FA_4	Deregistration of an FN fails
				RINF_FA_5	Interrogation of an FA Number
				RINF_FA_6	Interrogation of an FN fails
				RINF_FA_7	FA Call - Successful Call
				RINF_FA_8	FA Call – Call is not completed
				RINF_FA_9	Verification of Functional Numbers previously registered in HPLMN (CT2/3/4)
				RINF_FA_10	Deregistration of CT2 numbers while roaming
				RINF_FA_11	Forced Deregistration
				RINF_FA_14	Registration of an FN fails - remote party already registered
9.2.4.4	The numbering for other teams shall be treated in the same way as maintenance teams in 9.2.4.2.	(MI)	O-3001-4	RINF_FA_1	Registration of an FN Number
				RINF_FA_2	Registration of an unknown FN fails
				RINF_FA_3	Deregistration of an FN Number

Clause	Requirement Text	Cat.	Test case document	Test case ID	Remark
				RINF_FA_4	Deregistration of an FN fails
				RINF_FA_5	Interrogation of an FA Number
				RINF_FA_6	Interrogation of an FN fails
				RINF_FA_7	FA Call - Successful Call
				RINF_FA_8	FA Call – Call is not completed
				RINF_FA_9	Verification of Functional Numbers previously registered in HPLMN (CT2/3/4)
				RINF_FA_10	Deregistration of CT2 numbers while roaming
				RINF_FA_11	Forced Deregistration
				RINF_FA_14	Registration of an FN fails - remote party already registered
9.3.1	Telephone numbers can be defined on a national basis, but codes for certain functions shall be used on an international basis in order to allow interoperability.	(MI)	O-3001-1	4.4.5	Network Configuration Topic + RINF_FA_15
9.3.2	For certain functions, standardised telephone numbers shall be implemented. These functions are:		O-3001-1	4.4.5, 4.8.8 4.13.2	
	•		O-3001-4	RINF_GSM_7	Public Emergency Call – With SIM
	• Route call to most appropriate ERTMS/ETCS RBC;	(MI)		RINF_LDA_1	Successful LDA Call - Verify the cell format is correct
	• Railway emergency call;	(MI)		RINF_LDA_2	Unsuccessful LDA Call - Call to invalid Short Code
	• Route call to primary controller;	(MI)		RINF_REC_1	SS originates a REC
	• Route call to secondary controller;	(MI)		RINF_REC_2	Subscriber initiated REC (no talker change, normal clear down of call)
	• Route call to power supply controller;	(MI)		RINF_REC_4	Controller originates a REC
	• Public emergency call.	(M)		RINF_REC_6	REC in a GCA with a locked cell
9.5.1	Authorised users within the EIRENE network shall be able to receive calls from calling parties outside the EIRENE network.	(MI)	O-3001-4	RINF_AM_1	National call: AM allows call
10.2.1	A number of levels of priority shall be required in order to offer different grades of service to different users and calls. Five levels of priority shall be defined: - Railway emergency; - control-command (safety); - public emergency and high priority calls; - railway operation; - all others calls	(MI)	O-3001-1	4.8.6, 4.8.8, 4.9.5, 4.13.2,	
			O-3001-2	6.2.1,	
			O-3001-4	RINF_REC_1	SS originates a REC
				RINF_REC_2	Subscriber initiated REC (no talker change, normal clear down of call)

Clause	Requirement Text	Cat.	Test case document	Test case ID	Remark
				RINF_REC_4	Controller originates a REC
				RINF_REC_6	REC in a GCA with a locked cell
10.2.2	In order to provide interoperability, priorities shall be allocated consistently across all EIRENE networks, as shown in the following table.	(MI)	O-3001-1	4.8.6, 4.8.8, 4.9.5, 4.13.2,	
			O-3001-2	6.2.1	
			O-3001-4	RINF_HO_2	Ongoing point to point voice call in the destination cell preempted by a inter BTS handover inwards of a point to point voice call
				RINF_eMLPP_1	MS in VGCS call on DCH, pre-emption on Air IF by higher prio PtP call
				RINF_eMLPP_2	MS in VBS call as listener, pre-emption on Air IF by higher prio VBS call.
				RINF_eMLPP_3	MS in VGCS call having the UL of the GCH, pre-emption on Air IF by higher prio VBS call.
				RINF_eMLPP_4	MS in PtP call, pre-emption on MS by higher prio VGCS call (REC)
				RINF_eMLPP_5	MS in VBS call as originator, pre-emption on Air IF by higher prio VGCS call (REC)
				RINF_eMLPP_7	MS in data call, pre-emption on Air IF by higher prio VGCS call (REC)
				RINF_eMLPP_8	MS in PtP call, pre-emption on Air IF by higher prio data call (4800 baud, transparent)
				RINF_REC_1	SS originates a REC
				RINF_REC_2	Subscriber initiated REC (no talker change, normal clear down of call)
				RINF_REC_4	Controller originates a REC
				RINF_REC_6	REC in a GCA with a locked cell
				RINF_LE_2	Orig. SS active in a VBS (P4) call move in a cell with ongoing REC call
				RINF_LE_3	Orig. SS active in a VGCS (P4) call on GCH (talker) move in a cell with ongoing REC call

Clause	Requirement Text	Cat.	Test case document	Test case ID	Remark
10.2.3	The lowest priority ongoing call shall be pre-empted before that of a higher priority.	(MI)	O-3001-4	RINF_eMLPP_1	MS in VGCS call on DCH, pre-emption on Air IF by higher prio PtP call
				RINF_eMLPP_2	MS in VBS call as listener, pre-emption on Air IF by higher prio VBS call.
				RINF_eMLPP_3	MS in VGCS call having the UL of the GCH, pre-emption on Air IF by higher prio VBS call.
				RINF_eMLPP_4	MS in PtP call, pre-emption on MS by higher prio VGCS call (REC)
				RINF_eMLPP_5	MS in VBS call as originator, pre-emption on Air IF by higher prio VGCS call (REC)
				RINF_eMLPP_7	MS in data call, pre-emption on Air IF by higher prio VGCS call (REC)
				RINF_eMLPP_8	MS in PtP call, pre-emption on Air IF by higher prio data call (4800 baud, transparent)
				RINF_LE_2	Orig. SS active in a VBS (P4) call move in a cell with ongoing REC call
				RINF_LE_3	Orig. SS active in a VGCS (P4) call on GCH (talker) move in a cell with ongoing REC call
10.3.2	Any implementation of such call restrictions shall not affect international interoperability.	(MI)	O-3001-4	RINF_AM_1	National call: AM allows call
				RINF_AM_2	National call: AM denies call
10.4.1	A mobile may be a member of a number of groups. It shall be possible to 'activate' or 'deactivate' the mobile's subscription to these groups.	(MI)	O-3001-1	4.9.3	
			O-3001-4	RINF_eMLPP_5	MS in VBS call as originator, pre-emption on Air IF by higher prio VGCS call (REC)
10.4.2	Activating a group on the mobile shall allow a user to receive a call from that group.	(MI)	O-3001-1	4.9.3	
10.4.3	Deactivating a group on the mobile shall prevent a user receiving calls from that group.	(MI)	O-3001-1	4.9.3	
10.4.4	In order to provide interoperability, Cab radios shall/should be members of a number of standard groups:		O-3001-1	4.4.5	
	• Railway emergency call;	(MI)			
	• High priority group call between drivers in the same area;	(MI)			
	• Shunting group call;	(MI)			
	• Operational group call to drivers in the same area.	(MI)			
10.4.5	All mobiles with Railway emergency group call subscription(s) shall be prevented from deactivating the emergency group(s) whilst operational.	(MI)	O-3001-1	4.9.3 4.13.1	

Clause	Requirement Text	Cat.	Test case document	Test case ID	Remark
10.5.1	Authorised networks shall be listed in the following order: - home EIRENE network; - 'foreign' EIRENE networks; - public networks.	(MI)	O-3001-1	4.4.1	
10.5.2	Where EIRENE facilities are not available within the currently selected network, the user shall be given a visible indication.	(MI)	O-3001-1	.4.4	
10.6.2	Yes indicates that the network shall allow a call from the stated initiating party to the stated receiving party. "Yes*" indicates that the call shall be allowed at least for users on the same train. "Open" indicates that permissions for calls of this type are to be assigned by the implementing railway according to their specific communication requirements. Shaded cells on the access matrix mean that this call is outside the scope of the EIRENE specifications. The access matrix is shown in table 10-2.	(MI)	O-3001-4	RINF_AM_1	National call: AM allows call
				RINF_AM_2	National call: AM denies call
11.2.1.1	An addressing scheme shall be provided which permits users to be identified by numbers corresponding to their functional roles rather than by numbers tied to the terminal equipment that they are using.	(MI)	O-3001-1	4.4.5	
			O-3001-4	RINF_FA_1	Registration of an FN Number
				RINF_FA_2	Registration of an unknown FN fails
				RINF_FA_3	Deregistration of an FN Number
				RINF_FA_4	Deregistration of an FN fails
				RINF_FA_5	Interrogation of an FA Number
				RINF_FA_6	Interrogation of an FN fails
				RINF_FA_7	FA Call - Successful Call
				RINF_FA_8	FA Call – Call is not completed
				RINF_FA_9	Verification of Functional Numbers previously registered in HPLMN (CT2/3/4)
				RINF_FA_10	Deregistration of CT2 numbers while roaming
				RINF_FA_11	Forced Deregistration
				RINF_FA_14	Registration of an FN fails - remote party already registered
11.2.1.4	It shall be possible to assign up to a minimum of 3 functional numbers to an EIRENE user at any one time.	(MI)	O-3001-4	RINF_FA_13	Register 3 function numbers to one user (non-roaming case)
11.2.1.5	Only one EIRENE user shall be assigned to a given functional number at any one time.	(MI)	O-3001-4	RINF_FA_2	Registration of an unknown FN fails
11.2.1.7	A user shall be able to set up a functional number on one network, and cancel the number from another network.	(MI)	O-3001-1	4.6.3	
11.2.1.8	The functional number shall remain valid as a user roams from one network to another.	(MI)	O-3001-1	4.6.3	
11.2.1.9	The functional addressing scheme shall be independent of specific configurations of	(MI)		NoCov_3	NW Configuration + RINF_FA_15

Clause	Requirement Text	Cat.	Test case document	Test case ID	Remark
	mobile and terminal equipment. For example, the functional number of a conductor on board a particular train shall be the same irrespective of whether the conductor accesses the network through the Cab radio or has a separate dedicated EIRENE mobile.				
11.2.1.10	It shall be possible to call EIRENE users by functional numbers from a wide range of terminals (EIRENE and non-EIRENE). Examples include EIRENE mobiles, controller terminals, railway fixed network telephones and public telephones. (All such calls will be subject to any access restrictions - see section 10.3.)	(MI)		NoCov_4	NW Configuration + RINF_FA_15
11.2.2.1	Functional numbers must be unique within the domain of operation. Since the number must be independent of networks, each number must be unique across all networks (including implementation of EIRENE facilities on public networks).	(MI)	O-3001-4	RINF_FA_2	Registration of an unknown FN fails
11.2.2.2	The functional number shall consist of numeric characters only.	(MI)	O-3001-1	4.6.1	
11.2.3.1	The functional identity of the called user shall be presented to the user initiating a call and the functional identity of the initiator shall be presented to the user receiving a call.	(MI)	O-3001-1	4.8.2, 4.8.7	
11.2.3.2	For broadcast and group voice communications, the functional identity provided shall be that of the broadcast or group identity.	(MI)	O-3001-1	4.9.1, 4.9.4, 4.11.1	
			O-3001-4	RINF_VGCS_2	Controller originates VGCS call and takes it down with the kill Sequence
				RINF_VGCS_3	SS originates VGCS call, leaves, re-joins and ends it.
				RINF_VGCS_4	SS enters into VGCS broadcast area with ongoing VGCS call and is notified of it
				RINF_VGCS_5	Controller joins ongoing VGCS call
				RINF_VGCS_6	Parallel group calls are possible in the same cell.
				RINF_VGCS_7	GID delivered correctly to terminating SS in SS originated VGCS call
				RINF_VBS_1	SS originates VBS call
				RINF_VBS_2	SS originates prio0 VBS call
				RINF_VBS_3	Controller originates VBS call and takes down the call by disconnecting
				RINF_VBS_4	Controller originates VBS call and takes down the call with the kill sequence
				RINF_VBS_5	Controller joins ongoing VBS call
				RINF_VBS_6	SS enters into VBS broadcast area with ongoing VBS call and is

Clause	Requirement Text	Cat.	Test case document	Test case ID	Remark
					notified of it, SS joins the VBS call
11.2.3.3	If the user initiating the call has more than one functional identity, the user shall be able to select, prior to call establishment, which functional identity is presented to the receiving user.	(MI)		NoCov_5	
11.2.3.4	In the case of Cab radio, when a train number is assigned as a functional identity, this shall take priority over other Cab radio functional identities, and shall be the functional identity for the Cab radio to be displayed to other users.	(MI)	O-3001-1	4.8.12	
11.2.3.5	The functional identity shall be presented to the user in a form which can be readily understood (eg 'driver of train abcd' rather than 'abcd01' or 'xyz shunting team 3' rather than 'xyz03').	(MI)	O-3001-1	4.8.2	
11.3.2.1	The functional addressing scheme shall be supported by a straightforward procedure for registration of functional numbers. This procedure shall be carried out by the user on commencement of the functional role.	(MI)	O-3001-1	4.6.1	
11.3.2.2	The functional number registration facility shall be supported by all EIRENE user equipment.	(MI)	O-3001-1	4.6.1	
11.3.2.3	It shall be possible to register up to five functional numbers to items of equipment physically connected to the Cab radio within 30 seconds.	(MI)	O_2875	3.5	
			O-3001-4	RINF_FA_1	Registration of an FN Number
				RINF_FA_2	Registration of an unknown FN fails
				RINF_FA_3	Deregistration of an FN Number
				RINF_FA_4	Deregistration of an FN fails
				RINF_FA_5	Interrogation of an FA Number
				RINF_FA_6	Interrogation of an FN fails
				RINF_FA_7	FA Call - Successful Call
				RINF_FA_8	FA Call – Call is not completed
				RINF_FA_9	Verification of Functional Numbers previously registered in HPLMN (CT2/3/4)
				RINF_FA_10	Deregistration of CT2 numbers while roaming
				RINF_FA_11	Forced Deregistration
				RINF_FA_14	Registration of an FN fails - remote party already registered
11.3.2.4i	In the event of a failure during the registration of functional numbers, an indication shall be provided.	(MI)	O-3001-1	4.14.4	
11.3.2.5	Duplicate functional numbers (eg two trains with the same train number) shall be prevented.	(MI)	O-3001-4	RINF_FA_12	Unsuccessful registration with Lead driver number (CT2 FC 01) because of wrong CoR (CT2 FC10 works)

Clause	Requirement Text	Cat.	Test case document	Test case ID	Remark
11.3.2.6	The system shall provide a means to recover consistent data sets following a system failure during which functional addressing facilities are lost. During this recovery period, the system shall not permit the use of unverified functional numbers.	(MI)		NoCov_6	Backup/Restore Procedures for FN-Node to check. Test process depends of local configuration
11.3.3.1	The functional addressing scheme shall be supported by a straightforward procedure for deregistration of functional numbers. This procedure shall be carried out by the user at the end of the functional role.	(MI)	O-3001-1	4.6.6	
			O-3001-4	RINF_FA_1	Registration of an FN Number
				RINF_FA_2	Registration of an unknown FN fails
				RINF_FA_3	Deregistration of an FN Number
				RINF_FA_4	Deregistration of an FN fails
				RINF_FA_5	Interrogation of an FA Number
				RINF_FA_6	Interrogation of an FN fails
				RINF_FA_7	FA Call - Successful Call
				RINF_FA_8	FA Call – Call is not completed
				RINF_FA_9	Verification of Functional Numbers previously registered in HPLMN (CT2/3/4)
				RINF_FA_10	Deregistration of CT2 numbers while roaming
				RINF_FA_11	Forced Deregistration
				RINF_FA_14	Registration of an FN fails - remote party already registered
11.3.3.2	The functional number deregistration facility shall be supported by all EIRENE user equipment.	(MI)	O-3001-1	4.6.6	
11.3.3.3	It shall be possible to deregister up to five functional numbers to items of equipment physically connected to the Cab radio within 30 seconds.	(MI)	O-2875	3.6	
			O-3001-4	RINF_FA_1	Registration of an FN Number
				RINF_FA_2	Registration of an unknown FN fails
				RINF_FA_3	Deregistration of an FN Number
				RINF_FA_4	Deregistration of an FN fails
				RINF_FA_5	Interrogation of an FA Number
				RINF_FA_6	Interrogation of an FN fails
				RINF_FA_7	FA Call - Successful Call
				RINF_FA_8	FA Call – Call is not completed
				RINF_FA_9	Verification of Functional Numbers previously registered in HPLMN (CT2/3/4)

Clause	Requirement Text	Cat.	Test case document	Test case ID	Remark
				RINF_FA_10	Deregistration of CT2 numbers while roaming
				RINF_FA_11	Forced Deregistration
				RINF_FA_14	Registration of an FN fails - remote party already registered
11.3.3.4	In addition, a given set of users shall also be allowed to: - deregister a functional number which is no longer valid but which has not been deregistered by the user; - deregister, by overriding, another user of the same type (eg a driver can deregister a train number that another driver has forgotten to deregister); - deregister, with one action, all functional numbers associated with the same mobile (eg the driver deregisters all functions at the end of the journey).	(MI)	O-3001-1	4.6.6, 4.6.8, 4.6.9	
			O-3001-4	RINF_FA_3	Deregistration of an FN Number
				RINF_FA_4	Deregistration of an FN fails
				RINF_FA_11	Forced Deregistration
11.3.3.5	An EIRENE mobile shall remove the displayed functional number and provide an indication to the user that deregistration has taken place.	(MI)	O-3001-1	4.6.6, 4.6.8,	
			O-3001-4	RINF_FA_1	Registration of an FN Number
				RINF_FA_2	Registration of an unknown FN fails
				RINF_FA_3	Deregistration of an FN Number
				RINF_FA_4	Deregistration of an FN fails
				RINF_FA_5	Interrogation of an FA Number
				RINF_FA_6	Interrogation of an FN fails
				RINF_FA_7	FA Call - Successful Call
				RINF_FA_8	FA Call – Call is not completed
				RINF_FA_9	Verification of Functional Numbers previously registered in HPLMN (CT2/3/4)
				RINF_FA_10	Deregistration of CT2 numbers while roaming
				RINF_FA_11	Forced Deregistration
				RINF_FA_14	Registration of an FN fails - remote party already registered
11.3.4.1	To allow roaming between EIRENE networks, the system shall support a procedure for the re-registration of functional numbers after selection of a new network.	(MI)	O-3001-1	4.4.1, 4.6.3	
11.3.4.2	This procedure initiated by the Cab Radio shall be carried out without manual intervention.	(MI)	O-3001-1	4.4.1, 4.6.3	
11.3.4.3	After automatic re-registration is performed, the new registration details shall be displayed to the user.	(MI)	O-3001-1	4.4.1, 4.6.3	

Clause	Requirement Text	Cat.	Test case document	Test case ID	Remark
11.4.1	Location dependent addressing shall be provided to route calls for a given function to a destination number that is dependent upon the user's location.	(MI)	O-3001-4	RINF_LDA_1	Successful LDA Call – Verify the cell format is correct
				RINF_LDA_2	Unsuccessful LDA Call – Call to invalid Short Code
11.4.2	The functions to which calls shall be routed based upon the location of the mobile shall include: - Primary controller; - Secondary controller; - Power supply controller; - Train management centre (eg RBC, CTS).	(MI)	O-3001-1	4.8.8	
11.4.4	When operating with location dependent addressing, no manual action shall be required to update the system when a mobile moves between locations except at border crossing.	(MI)	O-3001-1	4.4.1, 4.4.6	
			O-3001-4	RINF_LDA_1	Successful LDA Call - Verify the cell format is correct
				RINF_LDA_2	Unsuccessful LDA Call - Call to invalid Short Code
11.4.5	The location dependent addressing scheme shall be available to all mobiles.	(MI)	O-3001-1	4.8.8	
			O-3001-4	RINF_LDA_1	Successful LDA Call - Verify the cell format is correct
				RINF_LDA_2	Unsuccessful LDA Call - Call to invalid Short Code
12.2.2	In order to ensure interoperability, the service is optional for the ground and mandatory for the Cab radio.	(MI)	O-3001-1	4.7.1, 4.7.2, 4.7.3, 4.7.4	
12.3.3	The text message facility shall not interfere with the ability of users to use the radio.	(MI)	O-3001-1	4.7.4	
13.1.4	The type of call initiated shall be determined automatically, based upon the mode of operation of the radio.	(MI)	O-3001-1	4.13.2	
13.1.5	If the mobile is in shunting mode, the emergency call button shall initiate a shunting emergency call, otherwise the call shall be a Train emergency call.	(MI)	O-3001-1	4.13.2	
13.1.6	The Train emergency call shall be sent to all drivers and controller(s) within an area, which is pre-defined to meet operational requirements. The predefined areas for emergency calls shall include, where necessary, parts of one or more network(s).	(MI)	O-3001-4	RINF_REC_1	SS originates a REC
				RINF_REC_2	Subscriber initiated REC (no talker change, normal clear down of call)
				RINF_REC_4	Controller originates a REC
				RINF_REC_6	REC in a GCA with a locked cell
13.1.7	The Shunting emergency call shall be sent to all users involved in shunting operations in the shunting area.	(MI)		NoCov_7	Network Configuration + RINF_VGCS_1

Clause	Requirement Text	Cat.	Test case document	Test case ID	Remark
13.1.8	The Shunting emergency call shall automatically take priority over the link assurance signal.	(MI)	O-3001-1	4.14.12	
13.1.9	The predefined areas for emergency calls shall include, where necessary, parts of one or more network(s).	(MI)		NoCov_8	Network Configuration + RINF_VGCS_1
13.2.2.1	A Railway emergency call shall be able to be initiated by using a simple MMI action (eg a single MMI action for the Cab and Operational radios).	(MI)	O-3001-1	4.13.2	
13.2.2.2	A connection of Railway emergency priority (see section 10.2) shall be established to a pre-determined set of receiving mobiles and controller(s).	(MI)	O-3001-4	RINF_REC_1	SS originates a REC
				RINF_REC_2	Subscriber initiated REC (no talker change, normal clear down of call)
				RINF_REC_4	Controller originates a REC
				RINF_REC_6	REC in a GCA with a locked cell
13.2.2.3	If the system is not able to connect the call, the originating terminal shall automatically keep trying to connect the call for 30 seconds.	(MI)	O-3001-1	4.13.6	
			O-3001-4	RINF_REC_1	SS originates a REC
				RINF_REC_2	Subscriber initiated REC (no talker change, normal clear down of call)
				RINF_REC_4	Controller originates a REC
				RINF_REC_6	REC in a GCA with a locked cell
13.2.2.3i	During this period the user shall be provided with an audible and visual indication that the system is trying to connect the call.	(MI)	O-3001-1	4.13.6	
13.2.2.3ii	After the 30 second period, if the connection was unsuccessful, the originating terminal shall provide another audible and visual indication that it was unable to connect the call.	(MI)	O-3001-1	4.13.6	
13.2.2.4	An audible indication of 5 seconds shall be provided to originating and receiving users that the emergency function has been activated.	(MI)	O-3001-1	4.13.2	
13.2.2.6	A continuous visual indication that the emergency function has been activated shall be provided at the originating and all receiving terminals.	(MI)	O-3001-1	4.13.1, 4.13.2	
13.2.2.7	In the event that a train enters the affected area after the warning stage is complete, the same audible and visual indications shall be provided.	(MI)	O-3001-1	4.13.5, 4.14.6	
			O-3001-4	RINF_LE_1	SS active in a PTOP (P4) call move in a cell with ongoing REC call
				RINF_LE_2	Orig. SS active in a VBS (P4) call move in a cell with ongoing REC call
				RINF_LE_3	Orig. SS active in a VGCS (P4) call on GCH (talker)

Clause	Requirement Text	Cat.	Test case document	Test case ID	Remark
					move in a cell with ongoing REC call
13.2.3.1	A speech connection shall be established immediately following the warning tone, to allow the originator of the emergency call, to give information concerning the nature of the emergency.	(MI)	O-3001-1	4.13.2	
			O-3001-4	RINF_REC_1	SS originates a REC
				RINF_REC_2	Subscriber initiated REC (no talker change, normal clear down of call)
				RINF_REC_4	Controller originates a REC
				RINF_REC_6	REC in a GCA with a locked cell
				RINF_LE_1	SS active in a PTOP (P4) call move in a cell with ongoing REC call
				RINF_LE_2	Orig. SS active in a VBS (P4) call move in a cell with ongoing REC call
				RINF_LE_3	Orig. SS active in a VGCS (P4) call on GCH (talker) move in a cell with ongoing REC call
13.2.3.3	The information shall be received by the same set of users who received the warning tone.	(MI)	O-3001-4	RINF_REC_1	SS originates a REC
				RINF_REC_2	Subscriber initiated REC (no talker change, normal clear down of call)
				RINF_REC_4	Controller originates a REC
				RINF_REC_6	REC in a GCA with a locked cell
				RINF_LE_1	SS active in a PTOP (P4) call move in a cell with ongoing REC call
				RINF_LE_2	Orig. SS active in a VBS (P4) call move in a cell with ongoing REC call
				RINF_LE_3	Orig. SS active in a VGCS (P4) call on GCH (talker) move in a cell with ongoing REC call
13.2.4.1	A Railway emergency call may only be terminated by: - the originator of the call; - a controller participating in the call; - the network following a (nationally determined) period of no speech.	(MI)	O-3001-1	4.8.13, 4.13.1, 4.13.2	
			O-3001-4	RINF_REC_1	SS originates a REC
				RINF_REC_2	Subscriber initiated REC (no talker change, normal clear down of call)
				RINF_REC_4	Controller originates a REC
				RINF_REC_6	REC in a GCA with a locked cell

Clause	Requirement Text	Cat.	Test case document	Test case ID	Remark
13.2.4.2	If the radio moves out of the area whilst the emergency call is in progress, an audible and visual indication of the loss of the call shall be provided to the user.	(MI)	O-3001-1	4.13.4	
13.3.1	Authorised EIRENE mobiles shall be able to receive a Railway emergency call at any time while the mobile is powered up.	(MI)	O-3001-1	4.13.1, 4.13.2	
			O-3001-4	RINF_REC_1	SS originates a REC
				RINF_REC_2	Subscriber initiated REC (no talker change, normal clear down of call)
				RINF_REC_4	Controller originates a REC
				RINF_REC_6	REC in a GCA with a locked cell
13.3.2	For Railway emergency calls initiated by a mobile, the controller's display will indicate: - the functional identity of the originating mobile, which includes the following:		O-3001-1	4.13.2	
	• the train number, if allocated;	(MI)	O-3001-4	RINF_OTDI_1	SS originates VGCS call, terminating Controller receives the OTDI
	• the engine number, if no train number is available;	(MI)		RINF_OTDI_2	SS originates VGCS Immediate Setup 2 call, terminating Controller receives the OTDI
13.4.2	The confirmation shall be generated automatically without input from the user.	(MI)	O-3001-1	4.15.1	
13.4.3	The confirmation message shall commence at the end of the call or if the radio moves out of the call area.	(MI)	O-3001-1	4.15.1, 4.15.2	
13.4.4	If the radio loses contact with the network, the mechanism shall commence as soon as possible on regaining communications, for up to a maximum of 5 minutes without achieving contact.	(MI)	O-3001-1	4.15.3	
13.4.5	For Railway emergency calls initiated by a mobile, the automatic confirmation message of the initiating mobile shall contain: - the time at call establishment; - the time at clear down; - the functional number of the call originator; - the train number and engine number of the call originator, if a train.	(MI)	O-3001-1	4.15.1	
			O-3001-4	RINF_REC_1	SS originates a REC
				RINF_REC_2	Subscriber initiated REC (no talker change, normal clear down of call)
				RINF_OTDI_2	SS originates VGCS Immediate Setup 2 call, terminating Controller receives the OTDI
13.4.6	For Railway emergency calls received by a mobile, the automatic confirmation message of the receiving mobile shall contain: - the time at which the call was first received;	(MI)	O-3001-1	4.15.1	

Clause	Requirement Text	Cat.	Test case document	Test case ID	Remark
	- the time at which the call was lost (or terminated); - the group identity of the sender; - the functional number of the recipient; - the train number and engine number of the recipient, if a train				
	.		O-3001-4	RINF_eMLPP_4	MS in PtP call, pre-emption on MS by higher prio VGCS call (REC)
				RINF_eMLPP_5	MS in VBS call as originator, pre-emption on Air IF by higher prio VGCS call (REC)
				RINF_eMLPP_7	MS in data call, pre-emption on Air IF by higher prio VGCS call (REC)
				RINF_REC_2	Subscriber initiated REC (no talker change, normal clear down of call)
				RINF_REC_4	Controller originates a REC
				RINF_REC_6	REC in a GCA with a locked cell
				RINF_OTDI_2	SS originates VGCS Immediate Setup 2 call, terminating Controller receives the OTDI
				RINF_LE_1	SS active in a PTOP (P4) call move in a cell with ongoing REC call
				RINF_LE_2	Orig. SS active in a VBS (P4) call move in a cell with ongoing REC call
				RINF_LE_3	Orig. SS active in a VGCS (P4) call on GCH (talker) move in a cell with ongoing REC call
13.4.9	The data used for confirmation of Railway emergency calls shall be protected from modification by the user.	(MI)	O-3001-1	4.15.1	Check Documentation of Equipment and Installation
14.2.1	Shunting calls shall have 'Railway operation' priority (see section 10.2). (MI)	(MI)		NoCov_9	
14.2.2	Cab radios in shunting mode shall support the following call type: • Group calls (MI)	(MI)	O-3001-1	4.14.2	
14.2.4	It shall be possible for all mobile members of the shunting group (except the driver) to transmit a link assurance signal. (MI)	(MI)		NoCov_10	
14.2.5	Within the shunting group, it shall be possible for only one member of the group to transmit the link assurance signal at any time. (MI)	(MI)		NoCov_11	
14.2.9	The link assurance signal shall be used to provide an audible indication to all group members. For the driver, this indicates that the radio link is operational. (MI)	(MI)	O-3001-1	4.14.12	

Clause	Requirement Text	Cat.	Test case document	Test case ID	Remark
14.2.11	It shall be possible for any member of the shunting group (including a driver) to transmit a shunting emergency call to all shunting groups in the area. (MI)	(MI)	O-3001-1	4.15.1	
14.2.12	It shall be possible for all shunting drivers and shunting group members to receive a shunting emergency call from any equipment capable of taking part in shunting communications. The shunting emergency call shall cause the audible link assurance signal to be interrupted. (MI)	(MI)	O-3001-1	4.14.12	
14.3.1	In addition to the above shunting group members: - the shunting leader(s); - the shunting driver(s), who may remain fixed (i.e. in a shunting area) or may change one or more times during a working period (i.e. passenger or freight stations); - the shunting team members.	(MI)	O-3001-1	4.14.3	
14.3.2	In addition to the above shunting group members: • a controller shall be able to be associated permanently or temporarily with the shunting group; (MI)	(MI)		NoCov_12	In general a configuration issue in the network because cab radio has no influence to the bound SGC controller but can add a dedicated via CT1 or CT7
14.4.2	The link assurance signal shall consist of an intermittent audio tone. (MI)	(MI)		NoCov_13	
14.4.5	The link assurance signal shall be deactivated upon receipt of a shunting emergency call. (MI)	(MI)	O-3001-1	4.14.12	
14.4.6	The initiator of the link assurance signal shall be able to speak during the transmission of the link assurance signal. (MI)	(MI)		NoCov_14	
14.4.7	All members of the shunting group shall be able to initiate a shunting emergency call at any time. (MI)	(MI)		NoCov_15	
16.2.1.3	The following functions shall be provided: • select mobile radio network; (MI) • call handling. (MI)	(MI)	O-3001-2	6.2.1, 6.2.2, 6.2.5, 6.2.6, 6.2.7, 6.2.9	
16.2.2.1	The ETCS data only radio shall select the mobile radio network as directed by the ETCS application. (MI)	(MI)	O-3001-2	6.2.6	
16.2.3.1	The ETCS data only radio shall handle calls as directed by the ETCS application. (MI)	(MI)	O-3001-2	6.2.1, 6.2.2, 6.2.7, 6.2.9	
16.6.1	The ETCS data only radio shall provide a standardised interface to the ETCS train-borne system. (MI)	(MI)	O-3001-2	6.1.1	

3 Cross-reference tables – EIRENE SRS

Clause	Requirement Text	Status	Test case document	Testcase ID	Remark
2.2.1	The GSM teleservices [EN 301 515, Index [24]] to be supported are indicated in table 2-1. - 11 Telephony - 91 Voice Group Call Service (VGCS)	(MI)	O-3001-4	RINF_GSM_1	Successful Location Update after MS Power On
				RINF_GSM_2	Supplementary Service Call Hold
				RINF_GSM_3	Supplementary Service Call Waiting
				RINF_GSM_4	Supplementary Service CLIP – MMC with Call Forwarding Unconditional
				RINF_GSM_5	Supplementary Service MPTY
				RINF_GSM_6	Establishment of several PTP calls with different priorities
				RINF_GSM_7	Public Emergency Call – With SIM
				RINF_VGCS_1	SS originates VGCS call
				RINF_VGCS_2	Controller originates VGCS call and takes it down with the kill Sequence
				RINF_VGCS_3	SS originates VGCS call, leaves, rejoins and ends it.
				RINF_VGCS_4	SS enters into VGCS broadcast area with ongoing VGCS call and is notified of it
				RINF_OTDI_1	SS originates VGCS call, terminating Controller receives the OTDI
				RINF_OTDI_2	SS originates VGCS Immediate Setup 2 call, terminating Controller receives the OTDI
2.3.1	The bearer services [EN 301 515, Index [23]] to be supported are listed in table 2-2. - 25. Asynchronous 4.8 kbps T	(MI)	O-3001-4	RINF_eMLPP_7	MS in data call, pre-emption on Air IF by higher prio VGCS call (REC)
				RINF_eMLPP_8	MS in PtP call, pre-emption on Air IF by higher prio data call (4800 baud, transparent)
2.4.1	The GSM supplementary services [EN 301 515] and [SUPP SERVICES] to be supported and their applicability are listed in table 2-3.		O-3001-4	RINF_GSM_2	Supplementary Service Call Hold
	- Calling Line Identification Presentation (CLIP)	(MI)	O-3001-4	RINF_GSM_3	Supplementary Service Call Waiting
				RINF_GSM_4	Supplementary Service CLIP – MMC with Call Forwarding Unconditional
	- Connected Line Identification Presentation (CoLP)			RINF_GSM_5	Supplementary Service MPTY
	- Call waiting (CW)	(MI)		RINF_FA_3	Deregistration of an FN Number
	- Call hold (HOLD)	(MI)		RINF_FA_4	Deregistration of an FN fails
	- Multi Party Service (MPTY)	(MI)		RINF_FA_5	Interrogation of an FA Number
	- Unstructured Supplementary Service Data (USSD)	(MI)		RINF_FA_6	Interrogation of an FN fails

Clause	Requirement Text	Status	Test case document	Testcase ID	Remark
	- Follow me	(MI)		RINF_FA_7	FA Call - Successful Call
	- Sub-addressing*	(MI)		RINF_FA_8	FA Call – Call is not completed
	- Enhanced Multi-Level Precedence and Pre-emption (eMLPP)	(MI)		RINF_FA_9	Verification of Functional Numbers previously registered in HPLMN (CT2/3/4)
	- User-to-User Signalling 1 (UUS1)	(MI)		RINF_FA_10	Deregistration of CT2 numbers while roaming
				RINF_FA_13	Register 3 function numbers to one user (non-roaming case)
				RINF_eMLPP_1	MS in VGCS call on DCH, pre-emption on Air IF by higher prio PtP call
				RINF_eMLPP_2	MS in VBS call as listener, pre-emption on Air IF by higher prio VBS call.
				RINF_eMLPP_3	MS in VGCS call having the UL of the GCH, pre-emption on Air IF by higher prio VBS call.
				RINF_eMLPP_4	MS in PtP call, pre-emption on MS by higher prio VGCS call (REC)
				RINF_eMLPP_5	MS in VBS call as originator, pre-emption on Air IF by higher prio VGCS call (REC)
				RINF_eMLPP_7	MS in data call, pre-emption on Air IF by higher prio VGCS call (REC)
				RINF_eMLPP_8	MS in PtP call, pre-emption on Air IF by higher prio data call (4800 baud, transparent)
				RINF_eMLPP_9	eMLPP priority is preserved during CFU (Call Forwarding Unconditionally)
				RINF_eMLPP_10	eMLPP prio. is preserved during CFB (Call Forwarding Busy)
				RINF_REC_1	SS originates a REC
				RINF_REC_3	SS accepts an incoming REC
				RINF_REC_4	Controller originates a REC
				RINF_OTDI_2	SS originates VGCS Immediate Setup 2 call, terminating Controller receives the OTDI
2.5.1	The railway specific services to be supported are listed in table 2-4.		O-3001-4	RINF_GSM_5	Supplementary Service MPTY
	- Functional addressing (section 11)	(MI)		RINF_GSM_6	Establishment of several PTP calls with different priorities
	- Location dependent addressing (section 11)	(MI)		RINF_FA_1	Registration of an FN Number
	- Shunting mode (section 14)	(MI)		RINF_FA_14	Registration of an FN fails - remote party already registered
	- Multiple driver communications (section 5)	(MI)		RINF_LDA_1	Successful LDA Call - Verify the cell format is correct
	- Emergency calls (section 13)	(MI)		RINF_LDA_2	Unsuccessful LDA Call - Call to invalid Short Code
				RINF_VGCS_1	SS originates VGCS call

Clause	Requirement Text	Status	Test case document	Testcase ID	Remark
				RINF_VGCS_2	Controller originates VGCS call and takes it down with the kill Sequence
				RINF_VGCS_3	SS originates VGCS call, leaves, rejoins and ends it.
				RINF_VGCS_4	SS enters into VGCS broadcast area with ongoing VGCS call and is notified of it
				RINF_REC_1	SS originates a REC
				RINF_REC_3	SS accepts an incoming REC
				RINF_REC_4	Controller originates a REC
				RINF_OTDI_1	SS originates VGCS call, terminating Controller receives the OTDI
				RINF_OTDI_2	SS originates VGCS Immediate Setup 2 call, terminating Controller receives the OTDI
2.7.3	"Uplink Reply" and "Notification Response" procedures shall not be applied in an EIRENE network for any function required for interoperability (e.g. REC and call to drivers in the area).	(MI)	O-3001-4	RINF_URNR_1 (*)	SS active in a VGCS call moves in empty cell
				RINF_URNR_2 (*)	SS active in a VBS call moves in empty cell
				RINF_GSM_5 (*)	SS active in a REC call moves in empty cell
2.11.2	Where ERTMS/ETCS level 2 or 3 is implemented, the Interface requirements as specified in document [MORANE EURO FFFIS] are applicable.	(MI)		NoCov_1	Mobile/Cab requirement for ERTMS
2.11.3	Where ERTMS/ETCS level 2 or 3 is operated in PS-mode using GPRS/EGPRS bearer services, the network shall comply with ETSI specification [ETSI TS 103 328].	(MI)	O-3001-4	RINF_GPRS_3 (*)	QOS and priority test between ETCS and Background traffic
3.2.2	The following minimum values shall apply: - coverage probability of 95% based on a coverage level of 38.5 dBµV/m (-98 dBm) for voice and non-safety critical data; - coverage probability of 95% based on a coverage level of 41.5 dBµV/m (-95 dBm) on lines with ETCS levels 2/3 for speeds lower than or equal to 220km/h.	(MI)		NoCov_2	Check Results from Measurement Campaign
3.2.3	The following minimum values shall apply: - coverage probability of 95% based on a coverage level of 44.5 dBµV/m (-92 dBm) on lines with ETCS levels 2/3 for speeds above 280km/h; - coverage probability of 95% based on a coverage level between 41.5 dBµV/m and 44.5 dBµV/m (-95 dBm and -92 dBm) on lines with ETCS levels 2/3 for speeds above 220km/h and lower than or equal to 280km/h.	(MI)		NoCov_3	Check Results from Measurement Campaign
3.2.4	The EIRENE mobile installation shall be designed to operate in a network meeting the criteria in 3.2.2 and 3.2.3.	(MI)		NoCov_4	Check Results from Measurement Campaign
3.4.2	Call setup times as defined in the EIRENE FRS shall be achieved with authentication and ciphering procedures enabled.	(MI)	O-2875	3.1, 3.2, 3.3, 3.4,	

Clause	Requirement Text	Status	Test case document	Testcase ID	Remark
3.4.5	The requirements for Railway Emergency Call and 'All drivers in area' set-up performance are indicated in table 3-0 according to the measurement method defined in [QoS VOICE TEST SPEC]. - Cab radio | <750ms | < 1 s	(MI)	O-2875	3.1, 3.2, 3.3, 3.4,	
3.5.1	For applications of EIRENE Systems which are relevant to interoperability of the rail system within the European Community, in particular according to the Directive(EU) 2016/797, the network shall operate in a sub-band, or combination of sub-bands, of the R-GSM band as defined in [EN 301 515, Index [35]] according to the table 3-A below: - UIC frequency band | 876-880 / 921-925	(MI)		NoCov_5	
3.5.5	For applications of EIRENE Systems which are relevant to interoperability of the rail system within the European Community, in particular according to the Directive(EU) 2016/797, the System Information in the BCCH shall be broadcast in the UIC frequency band to enable EIRENE mobiles not supporting the ER-GSM band the access to the GSM-R network.	(MI)	O-3001-4	RINF_ER-GSM (*)	Establishment of a PTP call in a ER-GSM network
4.1.3.1	GSM-MT air interface is mandatory for interoperability and shall conform with GSM specifications;	(MI)	O-3001-1	4.5.1	
4.1.3.7	Bearer services are mandatory for CS-mode and PS-mode of ETCS data only radio operation.	(MI)	O-3001-2	6.2.7 6.3.1 6.3.2 6.3.9	
4.1.5	All SIM cards used in EIRENE mobiles shall comply with the requirements of the MORANE FFFIS for GSM-R SIM Cards [MORANE SIM].	(MI)	O-3001-3	4.1	
4.2.1	For applications of EIRENE Systems which are relevant to interoperability of the rail system within the European Community, in particular according to the Directive(EU) 2016/797, all mobiles, except ETCS data only radio for which 16.3.5 and 16.3.6 apply, shall be capable of operation in any sub-band, or combination of sub-bands, of the ER-GSM band which includes the frequency bands listed in Table 4-1 - UIC frequency band | 876-880 / 921-925	(MI)	O-3001-1	4.4.7	
4.2.2	The mobile radio antenna installation on vehicles shall be designed so as to ensure that mobiles operate correctly in networks which conform to the design criteria defined in section 3.	(MI)		NoCov_6	
4.2.2ii	The mobile radio referred as Cab radio and EDOR within Chapter 5 and 16 shall be capable of receiving a GSM-R wanted signal together with interfering signals according to the conditions specified in [TS 102 933] (MI).	(MI)		NoCov_7	This is a part of environmental test cases, which are not part of set of O-3001 documents. This is documentary check.

Clause	Requirement Text	Status	Test case document	Testcase ID	Remark
4.2.3	For frequency bands listed in Table 4-1, mobile radios shall be of the following power classes: - | Cab radio | 2 | 8 | - | EDOR | 2 | 8 |	(MI)		NoCov_8	This is documentary check.
4.3.1	The following GSM teleservices, identified in section 2, are to be supported for each type of mobile radio:		O-3001-1	4.7.1. 4.7.2, 4.7.3, 4.7.4, 4.7.5, 4.8.1, 4.9.1, 4.9.2, 4.9.5, 4.11.1, 4.11.3, 4.13.1,	
	Cab radio				
			O-3001-4	RINF_eMLPP_1	MS in VGCS call on DCH, pre-emption on Air IF by higher prio PtP call.
	11 Telephony	(MI)		RINF_eMLPP_2	MS in VBS call as listener, pre-emption on Air IF by higher prio VBS call.
	21 Short message MT/PP	(MI)		RINF_eMLPP_3	MS in VGCS call having the UL of the GCH, pre-emption on Air IF by higher prio VBS call.
	22 Short message MO/PP	(MI)		RINF_eMLPP_4	MS in PtP call, pre-emption on MS by higher prio VGCS call (REC)
	23 Short message cell broadcast	(MI)		RINF_eMLPP_5	MS in VBS call as originator, pre-emption on Air IF by higher prio VGCS call (REC)
	91 Voice Group Call Service (VGCS)	(MI)		RINF_eMLPP_7	MS in data call, pre-emption on Air IF by higher prio VGCS call (REC)
	92 Voice Broadcast Service (VBS)	(MI)		RINF_eMLPP_8	MS in PtP call, pre-emption on Air IF by higher prio data call (4800 baud, transparent)
				RINF_VGCS_1	SS originates VGCS call
				RINF_VGCS_2	Controller originates VGCS call and takes it down with the kill Sequence
				RINF_VGCS_3	SS originates VGCS call, leaves, rejoins and ends it.
				RINF_VGCS_4	SS enters into VGCS broadcast area with ongoing VGCS call and is notified of it
				RINF_VGCS_5	Controller joins ongoing VGCS call
				RINF_VGCS_6	Parallel group calls are possible in the same cell.
				RINF_VGCS_7	GID delivered correctly to terminating SS in SS originated VGCS call
				RINF_VBS_1	SS originates VBS call
				RINF_VBS_2	SS originates prio0 VBS call
				RINF_VBS_3	Controller originates VBS call and takes down the call by disconnecting
				RINF_VBS_4	Controller originates VBS call and takes down the call with the kill sequence
				RINF_VBS_5	Controller joins ongoing VBS call

Clause	Requirement Text	Status	Test case document	Testcase ID	Remark
				RINF_VBS_6	SS enters into VBS broadcast area with ongoing VBS call and is notified of it, SS joins the VBS call
				RINF_LE_2	Orig. SS active in a VBS (P4) call move in a cell with ongoing REC call
				RINF_LE_3	Orig. SS active in a VGCS (P4) call on GCH (talker) move in a cell with ongoing REC call
4.3.2	The following bearer services, identified in section 2, are to be supported for each type of mobile radio: **ETCS data only radio** 25. Asynchronous 4.8 kbps T 70. GPRS 71.EGPRS	 (MI) (MI) (MI)	O-3001-2	6.2.7 6.3.5	
4.3.3	The following supplementary services, identified in section 2, are to be supported for each type of mobile radio: **Cab radio** Calling Line Identification Presentation (CLIP) Connected Line Identification Presentation (CoLP) Call waiting (CW) Call hold (HOLD) Multi Party Service (MPTY) Unstructured Supplementary Service Data (USSD) Follow me Sub-addressing* Enhanced Multi-Level Precedence and Pre-emption (eMLPP) User-to-User Signalling 1 (UUS1) **ETCS data only radio** Enhanced Multi-Level Precedence and Pre-emption (eMLPP)	 (MI) (MI) (MI) (MI) (MI) (MI) (MI) (MI) (MI) (MI)	 O-3001-1 O-3001-2	 4.4.5, 4.6.1, 4.6.4, 4.6.6, 4.6.9 4.8.1, 4.8.4, 4.8.6, 4.8.7 4.8.12, 4.8.14, 4.8.15, 4.8.16, 4.10.1, 4.10.2 6.2.1	
4.3.4	The following EIRENE features are to be supported for each type of mobile radio: **Cab radio** Functional addressing (section 11) Shunting mode (section 14) Multiple driver communications (section 5) Railway Emergency calls (section 13)	 (MI) (MI) (MI) (MI)		 4.4.5, 4.6.1, 4.6.4, 4.6.6, 4.8.2, 4.10.2, 4.13.1, 4.13.2, 4.13.7, 4.14.2	Covered in O-3001-1 – Cab radio
4.3.5	If a Railway emergency call set up from an EIRENE radio is unsuccessful, the radio shall automatically re-attempt the call setup until the call setup is successful, a retry timer expires (duration 30 seconds, as specified in the [EIRENE FRS]) or the user abandons the call.	(MI)	O-3001-1	4.13.6	
4.3.6	In compliance with the related layer 3 procedures, the EIRENE radio shall	(MI)	O-3001-1	4.13.6	

Clause	Requirement Text	Status	Test case document	Testcase ID	Remark
	automatically repeat setup requests to the layer 3 GCC or BCC entity as soon as an indication is given from the layer 3 GCC or BCC entity on an abort of the establishment procedure without the service being explicitly rejected by the network.				
4.4.1	A service availability indication shall be provided to radio users, as defined in [EN 301 515, Index [26]].	(MI)	O-3001-1	4.1.1 4.4.3	
4.4.3	If the attempt to establish a Railway emergency call is not successful after 2 seconds, an indication shall be provided to the user of the status of the establishment request procedure.	(MI)	O-3001-1	4.13.2 4.13.6	
4.8.1	When operating outside the home country, national functions that use non-internationally harmonised national values shall be disabled.	(MI)		NoCov_9	
5.2.2.1	GSM-MT air interface is mandatory for interoperability and conformant to GSM specifications.	(MI)	O-3001-1	4.5.1	
5.3.1	Upon an appropriate MMI action, the radio shall initiate a call to the appropriate controller with 'Railway operation' priority (see section 10.2). (MI)	(MI)	O-3001-1	4.8.8	
5.3.2	The calling driver's functional number shall be passed to the network using UUS1.	(MI)	O—3001-1	4.8.8	
5.3.3	On receipt of a 'Call other drivers in area' request, the radio shall initiate a group call using the High priority group call in the context of group calls between drivers in the same area group identification (see section 9) priority (see section 10.2).	(MI)	O-3001-1	4.9.5	
5.3.4	The calling driver's functional number shall be passed to the network using UUS1.	(MI)	O-3001-1	4.8.7 4.9.5	
5.3.5	Activation of the 'Railway emergency call' function shall cause the radio to initiate a Railway emergency call as defined in section 13.	(MI)	O-3001-1	4.13.2	
5.3.6	The calling driver's functional number shall be passed to the network using UUS1.	(MI)	O-3001-1	4.13.2	
5.3.8	Where there is more than one active cab, the radio connection shall be provided using the GSM Multi-Party service.	(MI)	O-3001-1	4.10.2	
5.3.9	The call will be established from the active cab of the lead traction vehicle. Each of the other cabs on the train will be contacted using its functional number (registered by the other drivers prior to the establishment of the call). The procedure for setting up a multi-party call is outlined in figure 5-2. The multi-party call shall have 'Railway operation' priority (see section 10.2) and whilst on-going a 'multi-	(MI)	O-3001-1	4.10.2	

Clause	Requirement Text	Status	Test case document	Testcase ID	Remark
	drivers' indication shall be displayed permanently at all Cab radios.				
5.3.10	Upon activation of the function 'Call train staff', the radio shall determine the appropriate functional number based on the staff member selected and the train number (see section 9). A GSM point-to-point voice call at 'Railway operation' priority (see section 10.2) shall then be initiated.	(MI)	O-3001-1	4.8.10	
5.3.11	The Cab radio shall be capable of being used as a standard GSM telephone, such that the driver is able to call any valid number subject to closed user group, call barring or other restrictions.	(MI)	O-3001-1	4.8.6	
5.3.12	The Cab radio shall be able to receive, display and store incoming short (SMS) text messages (see section 12).	(MI)	O-3001-1	4.7.2 4.7.3 4.7.4	
5.3.13	The Cab radio shall support shunting mode communications as defined in section 14.	(MI)	O-3001-1	4.14.2	
5.4.1	When switched on, the radio shall initiate automatic self-testing using the GSM IMSI attach procedure.	(MI)	O-3001-1	4.1.1. 4.1.2	
5.4.1i	When switched on, the radio shall initiate automatic selection of the default setting of the loudspeaker volume (see table 5-1).	(MI)	O-3001-1	4.1.3	
5.4.2	Upon switch on, the Cab radio shall be registered with a mobile network (see section 10.5).	(MI)	O-3001-1	4.1.1	
5.4.3	If registration is not successful an audible and visual indication shall be provided.	(MI)	O-3001-1	4.1.4	
5.4.4	Upon registration, the mobile shall be accessible by calling the MSISDN or the Engine or Coach number with which it is associated. This shall require the home network database to maintain this correlation.	(MI)	O-3001-4 O-3001-1	RINF_GSM_6 RINF_FA_7 4.8.1 4.8.3	Establishment of several PTP calls with different priorities FA Call - Successful Call
5.4.7	Upon activation of the registration function, a USSD message (see section 11) shall be sent by the Cab radio.	(MI)	O-3001-1	4.6.9	
5.4.8	Upon activation of the deregistration function, a USSD message (see section 11) shall be sent by the Cab radio.	(MI)	O-3001-1	4.6.9	
5.4.9	Upon detection (automatically or based on a list stored in the Cab radio) of the additional on-train functions for equipment physically connected to the Cab radio, a USSD message (see section 11) shall be sent by the Cab radio after activation of the registration or deregistration function.	(MI)	O-3001-1	4.6.9	

Clause	Requirement Text	Status	Test case document	Testcase ID	Remark
5.4.10	This procedure shall take place at the installation of the Cab radio. It shall be initiated by an external device or by a member of a maintenance team.	(MI)	O-3001-1	4.6.5	
5.4.11	On-train functions for equipment physically connected to the Cab radio shall be registered or deregistered automatically based on a USSD message (see section 11) sent by the Cab radio.	(MI)	O-3001-1	4.6.9	
5.5.1	The sequence of actions required for a mobile originated call to another user shall be as follows: - Initiating a call: - Indication: - Call arbitration: - Conversation: - Call termination:	(MI)	O-3001-1	4.8.8	
5.5.2	The sequence of actions for a mobile terminated call to a driver shall be as follows: - Call arbitration: - Indication: - Answering the call: - Indication: - Conversation: - Call termination:	(MI)	O-3001-1	4.8.2 4.8.4	
5.5.3	The Cab radio system shall provide a means for the driver to terminate established calls which he is authorised to terminate.	(MI)	O-3001-1	4.8.2 4.8.5 4.8.13	
5.5.4	It shall be possible to initiate outgoing voice calls in one of four ways depending on the intended recipient(s) of the call: - Emergency access: - Priority access - Stored number: - Dial access:	(MI)	O-3001-1	4.8.6 4.8.7 4.8.8 4.8.10 4.8.11 4.9.4 4.13.1 4.13.2	
5.5.5	Emergency access shall be provided to initiate the following call: - *Table 5-2: Call types requiring MMI emergency access*	(MI)	O-3001-1	4.13.2	
5.5.6	Priority access shall be provided to initiate the following: - *Table 5-3-1: Call types requiring MMI priority access*	(MI)	O-3001-1	4.8.8 4.8.10 4.9.5 4.10.2	
5.5.7	On activation of the “call other drivers on the same train” function, the MMI shall provide additional guidance to the user in the establishment and management of a Multi-Party call.	(MI)	O-3001-1	4.10.2	
5.5.9	The driver shall be able to initiate a call by selecting a name/number from stored number information in the radio.	(MI)	O-3001-1	4.8.10 4.8.11	
5.5.11	Stored number access shall be provided to initiate the following calls:	(MI)	O-3001-1	4.8.11	

Clause	Requirement Text	Status	Test case document	Testcase ID	Remark
	- *Table 5-4: Call types requiring MMI stored number access*				
5.5.12	Unless otherwise indicated at time of entry, calls from the stored numbers list shall be initiated as voice calls.	(MI)	O-3001-1	4.8.11	
5.5.13	By default, calls will have a priority of railway information calls (eMLPP priority designation 4). It shall be possible to store a priority in association with a stored number.	(MI)	O-3001-1	4.8.11	
5.5.14	The driver shall be able to initiate a call by dialling any valid telephone number or functional number.	(MI)	O-3001-1	4.8.6 4.8.7 4.9.4 4.11.3	
5.5.15	Dial access shall be provided to initiate the following calls: - *Table 5-5: Call types requiring MMI dial access*	(MI)	O-3001-1	4.8.6 4.8.7 4.9.4 4.11.3	
5.5.16	Abbreviated dialling facilities shall be supported.	(MI)	O-3001-1	4.5.3. 4.8.10	
5.5.17	Dialled calls from the MMI shall be point-to-point voice calls unless otherwise entered from the MMI at the time of initiation.	(MI)	O-3001-1	4.8.6	
5.5.18	By default, dialled calls shall have a priority of railway information calls (eMLPP priority designation 4).	(MI)	O-3001-1	4.8.6	
5.5.19	It shall be possible to receive and manage the following incoming calls: - emergency calls; - group calls; - point-to-point calls; - multi-party calls; - Broadcast calls	(MI)	O-3001-1	4.8.1 4.9.1 4.9.2 4.10.3 4.11.1 4.11.2 4.13.1	
5.5.21	The Cab radio shall apply the arbitration rules outlined in Table 5A-1 in Appendix 5A.	(MI)	O-3001-1	4.12.1, 4.12.2 4.12.3, 4.12.4 4.12.5, 4.12.6 4.12.7, 4.12.8 4.12.9, 4.12.10 4.12.11, 4.12.12 4.12.13, 4.12.14 4.12.15, 4.12.16 5.1.2, 5.1.3 5.2.2, 5.2.3	
5.5.22	Once a call has been established the connected parties shall be able to communicate.	(MI)	O-3001-1	4.8.1	
5.5.23	Replacing the handset shall result in the outcomes listed in Tables 5A-2 and 5A-3.	(MI)	O-3001-1	4.8.5 4.8.13	
5.5.24	Calls shall be able to be terminated by either party subject to the requirements shown in tables 5A-2 and 5A-3.	(MI)	O-3001-1	4.8.5 4.8.13 4.9.8	

Clause	Requirement Text	Status	Test case document	Testcase ID	Remark
5.5.25	Table 5A-2 in Appendix 5A shows the effect of replacing the handset or initiating the 'Call clear' procedure for the different types of outgoing calls.	(MI)	O-3001-1	4.8.13	
5.5.26	Table 5A-3 in Appendix 5A shows the effect of putting down the handset or initiating the 'Call clear' procedure for the different types of incoming calls.	(MI)	O-3001-1	4.8.2	
5.5.28	The call setup delay caused by the Mobile Station, originating or terminating a railway emergency call, shall be less than 750 ms, measured according [QoS VOICE TEST SPEC].	(MI)	O-2875	3.1	
5.5.29	The call setup delay caused by the Mobile Station, originating or terminating an 'All drivers in area' call, shall be less than 1s, measured according [QoS VOICE TEST SPEC].	(MI)	O-2875	3.4	
5.6.1	Incoming calls to the Cab radio shall be routed to the on-train user or device identified by the sub-addressing field.	(MI)	O-3001-1	5.1.1 5.2.1	
5.6.1i	Using the GSM "Manual" network selection procedure, the Cab radio application shall allow the driver to access a prioritised list of authorised networks (to be displayed as stated in section 10.5) and shall allow the driver to select a desired network from this list. This function shall not be available if there is an ongoing voice call involving the Cab radio.	(MI)	O-3001-1	4.4.1 4.4.2	
5.6.5iii	Whilst automatic network selection is enabled, the MMI shall display an indication.	(MI)	O-3001-1	5.4.	
5.6.6	In idle mode, if the GSM Service Indicator (see [EN 301 515, Index [26]]) is lost, the mobile shall give an audible and visual indication.	(MI)	O-3001-1	4.4.3	
5.10.2	If ERTMS/ETCS communications are required, an interface as defined in the FFFIS for EURORADIO [MORANE EURO FFFIS] shall be implemented.	(MI)		NoCov10	
5A.1.1	Call arbitration table for incoming new calls	(MI)	O-3001-1	4.12.1, 4.12.2 4.12.3, 4.12.4 4.12.5, 4.12.6 4.12.7, 4.12.8 4.12.9, 4.12.10 4.12.11, 4.12.12 4.12.13, 4.12.14 4.12.15, 4.12.16 5.1.2, 5.1.3 5.2.2, 5.2.3	
5A.1.2	Call arbitration table for outgoing new calls	(MI)	O-3001-1	4.12.1, 4.12.2 4.12.3, 4.12.4 4.12.5, 4.12.6 4.12.7, 4.12.8 4.12.9, 4.12.10 4.12.11, 4.12.12	

Clause	Requirement Text	Status	Test case document	Testcase ID	Remark
				4.12.13, 4.12.14 4.12.15, 4.12.16 5.1.2, 5.1.3 5.2.2, 5.2.3	
5A.2	Call termination of outgoing calls table	(MI)	O-3001-1	4.8.13	
5A.3	Call termination of incoming calls table	(MI)	O-3001-1	4.8.5 4.11.2	
9.2.2	Every On-Train Function shall be identified by a standard code and shall conform to the list of functions given in Appendix 9A of this section.	(MI)	O-3001-4 O-3001-1	RINF_FA_15 4.4.5	FA Call - Successful Call
9.2.3	All Train Function Numbers and their associated MSISDN numbers shall be stored in the same routing database, which is the database of the GSM-R network in which the train is currently operating.	(MI)	O-3001-4	RINF_FA_15	FA Call - Successful Call
9.2.4	Every On-Engine Function shall be identified by a standard code and shall conform to the list of functions given in Appendix 9A of this section.	(MI)	O-3001-4 O-3001-1	RINF_FA_15 4.4.5	FA Call - Successful Call
9.2.5	The Engine Function Number(s) and associated MSISDN numbers shall at any time be stored as an entry in the routing database of the home GSM-R network4 of the engine	(MI)	O-3001-4	RINF_FA_15	FA Call - Successful Call
9.2.6	The Coach Function Number(s) and associated MSISDN number(s) shall at any time be stored as an entry in the routing database of the home GSM-R network of the coach.	(MI)	O-3001-4	RINF_FA_15	FA Call - Successful Call
9.2.7	Every Function shall be identified by a standard code and shall conform to the list of functions given in Appendix 9A of this section.	(MI)	O-3001-4 O-3001-1	RINF_FA_15 4.4.5	FA Call - Successful Call
9.2.8	The functional numbers of the Shunting Team Members, Maintenance Team Members and Train Controller (and any associated MSISDN numbers) shall be stored as entries in the routing database of the home GSM-R network.	(MI)	O-3001-4	RINF_FA_15	FA Call - Successful Call
9.2.9	Implementation of the EIRENE numbering plan shall not prohibit any authorised caller from using the MSISDN number where known, thus enabling mobiles to be assigned to particular personnel where this is appropriate.	(MI)	O-3001-4 O-3001-1	RINF_FA_15 4.4.5	FA Call - Successful Call
9.2.10	Service areas shall be defined within each railway network.	(MI)	O-3001-4	RINF_FA_15	FA Call - Successful Call
9.2.11	The numbering of Service Areas for group calls and broadcast calls shall be made in accordance with GSM Technical Specifications [EN 301 515, Index [21] & [4]] and [EN 301 515, Index [22] & [5]] respectively.	(MI)	O-3001-4	RINF_FA_15	FA Call - Successful Call
9.4.1	Within the GSM-R network, the user shall be able to dial the following types of numbers: - National EIRENE Number (NEN): this number is used to route a call from the	(MI)	O-3001-1	4.4.5, 4.8.8	

Clause	Requirement Text	Status	Test case document	Testcase ID	Remark
	calling party to a called party registered within the same GSM-R network; - International EIRENE Number (IEN): this number is used to route a call from the calling party to a called party registered within another GSM-R network; - MSISDN numbers: the number used by a subscriber of a public fixed (or mobile) network for calling a mobile station of a GSM PLMN; - Short Dialling Code (SDC): this number is used to allow 'speed dialling' functionality.		O-3001-4		Network Configuration Topic + RINF_GSM_6, RINF_FA_15, RINF_LDA_1
9.4.2	In addition, Breakout Codes (BCs) shall be used to allow users within the GSM-R network to access external numbers.	(MI)	O-3001-1 O-3001-4	5.5	Network Configuration Topic + RINF_GSM_6, RINF_FA_15, RINF_LDA_1
9.4.3	Access from the GSM-R network to external networks shall be as detailed in section 9.10.	(MI)	O-3001-1	5.5	
9.5.2	Every railway network shall consider a number as a National EIRENE Number (NEN) unless the number is preceded by an International Code, identifying another GSM-R network.	(MI)	O-3001-4	RINF_FA_7	FA Call - Successful Call
9.5.3	The National EIRENE Number shall consist of three distinct parts, as shown in figure 9-1: 2) User Identifier Number: The User Identifier Number (UIN) shall be one of the following numbers (as identified by the CT): - Train Number (TN): - Engine Number (EN): - Coach Number (CN): - Shunting Team Location Number (STLN) - Maintenance Team Location Number (MTLN) - Train Controller Location Number (TCLN) - Group Location Number (GLN) - Mobile Subscriber Number (MSN)	(MI) (MI)	O-3001-4 O-3001-1	RINF_FA_7 4.4.5	FA Call - Successful Call
9.5.4	The contents of the fields of a National EIRENE Number shall be as defined below: 1) Call Type (CT) 2) 2)User Number (UN)	(MI)	O-3001-4	RINF_FA_7	FA Call - Successful Call
9.6.2	GSM-R networks shall recognise International EIRENE Numbers starting with the IC of the GSM-R network in which the calling party is currently operating as National EIRENE Numbers.	(MI)		NoCov_11	Network Configuration Topic + RINF_GSM_6, RINF_GSM_4
9.6.3	The International EIRENE Number shall consist of three distinct parts, as shown in figure 9-2: - International Code (IC), which shall be used to route calls to the appropriate GSM R network; - National EIRENE Number (NEN), which consists of the combination of Call Type	(MI)	O-3001-1 O-3001-4	4.4.5	Network Configuration Topic + RINF_FA_15

Clause	Requirement Text	Status	Test case document	Testcase ID	Remark
	and User Number and which is used to identify the called party.				
9.6.4	The fields of an International Functional Number shall be defined as follows: 1) International Code (IC) 2) National EIRENE Number (NEN)	(MI)	O-3001-1 O-3001-4	4.4.5 	 Network Configuration Topic + RINF_FA_15
9.7.1	At least one MSISDN number shall be allocated to each mobile station.	(MI)	O-3001-1 O-3001-2 O-3001-4	4.4.5 6.2.4 RINF_GSM_6	 Establishment of several PTP calls with different priorities
9.7.2	The structure of the MSISDN numbers shall comply with GSM Technical Specification [GSM NUMBERING].	(MI)	O-3001-4	RINF_GSM_6	Establishment of several PTP calls with different priorities
9.7.3	Within each GSM-R network, the following relationships between the MSISDN Subscriber Number and the National EIRENE Number shall be identified:	(MI)		NoCov_12	
9.7.3.1	The MSISDN Subscriber Number shall be equal to the National EIRENE Number for Call Type = 8.	(MI)	O-3001-4	NoCov_13	Network Configuration Topic + RINF_GSM_4 with properly selected A Party
9.7.4	It shall be possible for authorised subscribers of fixed and mobile networks to call mobiles using the appropriate MSISDN number.	(MI)	O-3001-1 O-3001-2 O-3001-4	4.8.1. 6.2.4 RINF_GSM_9	 Mobile subscriber receives a call from Subscriber on other Network
9.8.1	For certain functions, standardised short codes shall be implemented for mobile originated calls.	(MI)	O-3001-1	4.8.8	
9.8.2	Each short dialling code shall consist of four digits.	(MI)	O-3001-1 O-3001-4	4.8.8 RINF_LDA_1	 Successful LDA Call - Verify the cell format is correct
9.8.3	Short dialling codes shall start with the first digit equal to 1 (ie CT=1).	(MI)	O-3001-1 O-3001-4	4.8.8 RINF_LDA_1	 Successful LDA Call - Verify the cell format is correct
9.8.4	The short dialling codes can be defined on a national basis, but it is essential that certain codes be used on an international basis in order to achieve interoperability. These codes, when used, shall be as given in table 9-10.	(MI)	O-3001-1 O-3001-4	4.8.8 RINF_LDA_1 RINF_LDA_2	 Successful LDA Call - Verify the cell format is correct Unsuccessful LDA Call - Call to invalid Short Code
9.9.1	Standardisation of UIC group addresses is required to provide interoperability between the fixed railway networks within the GSM-R network.	(MI)	O-3001-4	NoCov_14	Network Configuration + RINF_VGCS_1
9.9.2	The group address consists of a Service Area (5 digits) and a Function Code (3 digits) and has a Call Type 5 (see table 9-1).	(MI)	O-3001-1	4.4.5 5.5	

Clause	Requirement Text	Status	Test case document	Testcase ID	Remark
			O-3001-4		Network Configuration + RINF_VGCS_1
9.9.3	The Service Area shall be defined on a national basis.	(MI)	O-3001-4	NoCov_15	Network Configuration + RINF_VGCS_1
9.9.4	In network boundary areas, the Service Area shall be allocated on a bilateral basis.	(MI)	O-3001-4	NoCov_16	Network Configuration + 2 NW + RINF_VGCS_1
9.9.5	Function Codes shall be defined within the framework given in table 9-8 on an international basis.	(MI)	O-3001-4	NoCov_17	Network Configuration Topic + RINF_FA_15
9.10.1	Access to other GSM-R networks shall be possible by using a Breakout Code (BC) as part of the dialled number.	(MI)	O-3001-1 O-3001-4	5.5	Network Configuration Topic + RINF_FA_15
9.10.1ii	The BC for access to other GSM-R networks is defined in table 9-12a, and is followed by the full international EIRENE number of the called party.	(MI)	O-3001-1 O-3001-4	5.5 RINF_FA_12	Unsuccessful registration with Lead driver number (CT2 FC 01) because of wrong CoR (CT2 FC10 works)
9.10.1v	Access to private networks shall be performed by using a BC, defined in table 9-12c.	(MI)	O-3001-1 O-3001-4	5.5	Network Configuration Topic + RINF_FA_15
9.13.3	The APN structure to be used for the dedicated operation of ETCS in PS-mode shall be of the format {<network id>.<operator id>.gprs} where: - network id = “etcs” - operator id = “mncXXX.mccYYY” whereas: XXX=MNC Mobile Network Code 3 digits* YYY=MCC Mobile Country Code 3 digits.	(MI)	O-3001-2 O-3001-4	6.3.3 RINF_GPRS_1 (*)	GPRS Connection Setup
9.13.4	The APN used for the operation of ETCS in PS-mode shall be linked to the QoS-Profile “ETCS application” according to chapter 10.8.5.2.	(MI)	O-3001-2 O-3001-4	6.3.1, 6.3.3 RINF_GPRS_1 (*)	GPRS Connection Setup
9.13.8	The subscription of the APN used for ETCS shall grant access to the GGSN of the Home-EIRENE network and/or to the Visited-EIRENE network (VPLMN=Yes).	(MI)		NoCov_18	Border Crossing (ENIR)
9.13.9	The APN structure to be used for the dedicated operation of online key management in PS-mode shall be of the format {<network id>.<operator id>.gprs} where: - network id = “kms” - operator id = “mncXXX.mccYYY” whereas: XXX=MNC Mobile Network Code 3 digits* YYY=MCC Mobile Country Code 3 digits	(MI)	O-3001-2 O-3001-4	6.3.4 RINF_GPRS_1 (*)	GPRS Connection Setup

Clause	Requirement Text	Status	Test case document	Testcase ID	Remark
9.13.10	The APN used for the operation of online key management in PS-mode shall be linked to QoS-Profile “non-ETCS application” according to chapter 10.8.5.1.	(MI)	O-3001-2 O-3001-4	6.3.2 6.3.4 RINF_GPRS_1 (*)	 GPRS Connection Setup
9.13.12	The subscription of the APN used for online key management shall grant access to the GGSN of the Home-EIRENE network (VPLMN=No).	(MI)	O-3001-4	RINF_GPRS_1 (*)	GPRS Connection Setup
9.13.13	The APN structure to be used for the dedicated operation of ATO in PS-mode shall be of the format {<network id>.<operator id>.gprs}. “network id” is only required to establish data connectivity (PDP context).	(MI)	O-3001-2	6.3.9 6.3.10	
9.13.14	The APN used for the operation of ATO in PS-mode shall be linked to the QoS-Profile “ATO application” according to chapter 10.8.5.3 (MI	(MI)	O-3001-2	6.3.9 6.3.10	
9.13.16	The subscription of the APN used for ATO shall grant access to the GGSN of the Home-EIRENE network and/or to the Visited-EIRENE network (VPLMN=yes).	(MI)		NoCov_19	
9.14.3	The top level domain “etcs” shall only be used for the operation of following ERTMS applications: - ETCS - KMC as part of KMS	(MI)	O-3001-4	RINF_GPRS_1 (*)	GPRS Connection Setup
9.14.3.i	The top level domain “ertms” shall be used for ATO application. (MI)	(MI)		NoCov_20	
9.14.4	The FQDN, used to identify RBC (ETCS trackside) equipment, shall comply with the following format: - “id<ETCS-ID>.ty<ETCS-ID Type>.etcs” - ETCS ID shall be according to [Subset-037] - ETCS ID Type shall be according to [Subset-037]	(MI)	O-3001-4	RINF_GPRS_1 (*)	GPRS Connection Setup
9.14.5	The FQDN, used to identify the online key management centre, shall comply with the following format: - “id<ETCS-ID>.ty<ETCS-ID Type>.etcs” - ETCS ID shall be according to [Subset-037] - ETCS ID Type shall be according to [Subset-037]	(MI)	O-3001-4	RINF_GPRS_2 (*)	Contact an RBC in the ETCS domain
9.14.7	The FQDN, used to identify the ATO Trackside, shall comply with the format given in Subset-148. (MI)	(MI)		NoCov_21	
9.15.4	IPv4 address space according to [RFC 791] shall be used to allocate IP addresses.	(MI)	O-3001-2 O-3001-4	6.3.1 6.3.2 6.3.9 RINF_GPRS_1 (*)	 GPRS Connection Setup
9.15.5	The allocation of the On-Board entity IP address shall be temporary during the active communication session associated with the primary PDP context.	(MI)	O-3001-2 O-3001-4	6.3.1 6.3.2 6.3.9 RINF_GPRS_1 (*)	 GPRS Connection Setup

Clause	Requirement Text	Status	Test case document	Testcase ID	Remark
9A.2	The Function Codes used in association with the Train Function Number (CT=2), Engine Function Number (CT=3) and Coach Function Number (CT=4) shall conform to table 9A-1.	(MI)	O-3001-1 O-3001-4	4.4.5	 Network Configuration Topic + RINF_FA_15
9A.3	The Function Codes used in association with Maintenance and Shunting Services Team Numbers (CT=6) shall conform to table 9A-2.	(MI)	O-3001-1 O-3001-4	4.4.5	 Network Configuration Topic + RINF_FA_15
10.2.1	In order to provide a consistent international service, it is necessary to ensure that priorities are allocated consistently across all railways. The following allocation of UIC priority levels to eMLPP priority codes is mandatory:	(MI)	O-3001-1 O-3001-4	4.8.4, 4.8.6, 4.9.5, 4.132 RINF_GSM_6	 Establishment of several PTP calls with different priorities
				RINF_GSM_7	Public Emergency Call – With SIM
				RINF_FA_7	FA Call - Successful Call
				RINF_eMLPP_1	MS in VGCS call on DCH, pre-emption on Air IF by higher prio PtP call
				RINF_eMLPP_2	MS in VBS call as listener, pre-emption on Air IF by higher prio VBS call.
				RINF_eMLPP_3	MS in VGCS call having the UL of the GCH, pre-emption on Air IF by higher prio VBS call.
				RINF_eMLPP_4	MS in PtP call, pre-emption on MS by higher prio VGCS call (REC)
				RINF_eMLPP_5	MS in VBS call as originator, pre-emption on Air IF by higher prio VGCS call (REC)
				RINF_eMLPP_7	MS in data call, pre-emption on Air IF by higher prio VGCS call (REC)
				RINF_eMLPP_8	MS in PtP call, pre-emption on Air IF by higher prio data call (4800 baud, transparent)
				RINF_VGCS_2	Controller originates VGCS call and takes it down with the kill Sequence
				RINF_VGCS_5	Controller joins ongoing VGCS call
				RINF_REC_1	SS originates a REC
				RINF_REC_3	SS accepts an incoming REC
				RINF_REC_4	Controller originates a REC
				RINF_OTDI_2 RINF_LE_2	SS originates VGCS Immediate Setup 2 call, terminating Controller receives the OTDI Orig. SS active in a VBS (P4) call move in a cell with ongoing REC call
				RINF_LE_3	Orig. SS active in a VGCS (P4) call on GCH (talker) move in a cell with ongoing REC call
10.5.1	SIM cards shall contain a list of authorised networks so that networks shall be displayed (or automatically selected if automatic network selection has been enabled) in the	(MI)	O-3001-1 O-3001-4	4.4.1 RINF_GSM_1	

Clause	Requirement Text	Status	Test case document	Testcase ID	Remark
	following order of priority (see [MORANE SIM] for more details): - home EIRENE network; - 'foreign' EIRENE networks; - non-EIRENE networks (with order of priority predetermined by virtue of international subscriptions and roaming agreements).				Successful Location Update after MS Power On
				RINF_GSM_2	Supplementary Service Call Hold
				RINF_GSM_3	Supplementary Service Call Waiting
				RINF_GSM_4	Supplementary Service CLIP – MMC with Call Forwarding Unconditional
				RINF_GSM_5	Supplementary Service MPTY
				RINF_GSM_6	Establishment of several PTP calls with different priorities
				RINF_GSM_7	Public Emergency Call – With SIM
10.5.1i	In order to shorten the duration of the network selection procedure, Mobile Stations designed for use in EIRENE networks shall give preference to the GSM frequency band allocated for railway use (see 3.5.2).	(MI)	O-3001-2	6.2.6	
10.7.1i	In case of encryption, ciphering/deciphering algorithms referenced in [EN 301 515, Index [3]] shall be used.	(MI)		NoCov_22	
11.2.3	The numbering plan to be used with functional addressing shall be in accordance with the numbering plan given in section 9.	(MI)	O-3001-1 O-3001-4	4.4.5 	 Network Configuration Topic + RINF_FA_15
11.3.2	Mobile access to the functional numbering scheme for registration, deregistration and re-registration shall apply the USSD messages and protocols over the air interface as specified in the GSM Follow-me service.	(MI)	O-3001-1 O-3001-4	4.6.9 RINF_FA_1	 Registration of an FN Number
				RINF_FA_2	Registration of an unknown FN fails
				RINF_FA_3	Deregistration of an FN Number
				RINF_FA_4	Deregistration of an FN fails
				RINF_FA_5	Interrogation of an FA Number
				RINF_FA_6	Interrogation of an FN fails
				RINF_FA_7	FA Call - Successful Call
				RINF_FA_8	FA Call – Call is not completed
				RINF_FA_9	Verification of Functional Numbers previously registered in HPLMN (CT2/3/4)
				RINF_FA_10	Deregistration of CT2 numbers while roaming
				RINF_FA_11	Forced Deregistration
				RINF_FA_13	Register 3 function numbers to one user (non-roaming case)
				RINF_FA_14	Registration of an FN fails - remote party already registered

Clause	Requirement Text	Status	Test case document	Testcase ID	Remark
11.3.5	Functional number management For communication over the (Um) air interface, the USSD messages and protocols as specified in the GSM Follow-me service shall be used to manage the following types of functional numbers: - Train number; - Engine number; - Coach number; - Shunting team number; - Maintenance team number.	(MI)	O-3001-1	4.6.1, 4.6.5, 4.14.3	
			O-3001-4	RINF_FA_1 RINF_FA_2	Registration of an FN Number Registration of an unknown FN fails
				RINF_FA_3	Deregistration of an FN Number
				RINF_FA_4	Deregistration of an FN fails
				RINF_FA_5	Interrogation of an FA Number
				RINF_FA_6	Interrogation of an FN fails
				RINF_FA_7	FA Call - Successful Call
				RINF_FA_8	FA Call – Call is not completed
				RINF_FA_9	Verification of Functional Numbers previously registered in HPLMN (CT2/3/4)
				RINF_FA_10	Deregistration of CT2 numbers while roaming
				RINF_FA_11	Forced Deregistration
				RINF_FA_14	Registration of an FN fails - remote party already registered
11.3.6	It shall be possible to limit user access to functional number registration and deregistration facilities based on each of the types of functional number identified in 11.3.5.	(MI)	O-3001-4	RINF_FA_12	Unsuccessful registration with Lead driver number (CT2 FC 01) because of wrong CoR (CT2 FC10 works)
				RINF_AM_1	National call: AM allows call
				RINF_AM_2	National call: AM denies call
11.3.7	Mobile stations shall use the following sequences for the control of the functional number management: Where SI Supplementary Information represents the International Functional Number (also called the International EIRENE Number), as defined in section 9.6.3.	(MI)	O-3001-1 O-3001-4	4.6.9 RINF_FA_1	 Registration of an FN Number
				RINF_FA_2	Registration of an unknown FN fails
				RINF_FA_3	Deregistration of an FN Number
				RINF_FA_4	Deregistration of an FN fails
				RINF_FA_5	Interrogation of an FA Number
				RINF_FA_6	Interrogation of an FN fails
				RINF_FA_7	FA Call - Successful Call
				RINF_FA_8	FA Call – Call is not completed
				RINF_FA_11	Forced Deregistration
				RINF_FA_14	Registration of an FN fails - remote party already registered

Clause	Requirement Text	Status	Test case document	Testcase ID	Remark
11.3.7i	The Sub-System Number (SSN) to be used and set for Follow-Me Functional Number management shall be SSN=6.	(MI)	O-3001-4	NoCov_23	Network Setup documentation + RINF_FA_15
11.3.9	The result of the registration procedure shall be sent back to the mobile. In the event of a failure, an indication of the cause shall be provided. Information on the outcome shall be provided to the mobile according to [EN 301 515, Index [17]] and [EN 301 515, Index [34]].	(MI)	O-3001-4	RINF_FA_1	Registration of an FN Number
				RINF_FA_2	Registration of an unknown FN fails
				RINF_FA_3	Deregistration of an FN Number
				RINF_FA_4	Deregistration of an FN fails
				RINF_FA_5	Interrogation of an FA Number
				RINF_FA_6	Interrogation of an FN fails
				RINF_FA_7	FA Call - Successful Call
				RINF_FA_8	FA Call – Call is not completed
				RINF_FA_9	Verification of Functional Numbers previously registered in HPLMN (CT2/3/4)
				RINF_FA_10	Deregistration of CT2 numbers while roaming
				RINF_FA_11	Forced Deregistration
				RINF_FA_14	Registration of an FN fails - remote party already registered
11.3.9i	In the event of a registration procedure failing owing to the functional number already being registered to another mobile, the Cab radio shall be capable of providing the user with the ability to perform automatically the forced de registration of the previously registered mobile and the registration of this functional number to the user's mobile. This shall result in the following sequence of actions being performed by the user's Cab radio (see 11.3.7 for details of message structure): 1. Send interrogation message (from mobile to network). 2. Receive MSISDN (from network to mobile). 3. Send a forced de-registration message (from mobile to network). 4. Receive the answer (from network to mobile). 5. Send a registration message (from mobile to network). 6. Receive the answer (from network to mobile). 7. Inform the user whether the registration of the functional number to the user's mobile was successful (performed by the mobile).	(MI)	O-3001-1 O-3001-4	4.6.8 RINF_FA_1 RINF_FA_2 RINF_FA_9 RINF_FA_10 RINF_FA_14	 Registration of an FN Number Registration of an unknown FN fails Verification of Functional Numbers previously registered in HPLMN (CT2/3/4) Deregistration of CT2 numbers while roaming Registration of an FN fails - remote party already registered
11.3.10	Deregistration shall only be performed by the subscription identified by the MSISDN number which is associated with the functional number.	(MI)	O-3001-1	4.6.6	

Clause	Requirement Text	Status	Test case document	Testcase ID	Remark
			O-3001-4	RINF_FA_3 RINF_FA_4	Deregistration of an FN Number Deregistration of an FN fails
				RINF_FA_9	Verification of Functional Numbers previously registered in HPLMN (CT2/3/4)
				RINF_FA_10	Deregistration of CT2 numbers while roaming
				RINF_FA_11	Forced Deregistration
11.3.12	The result of the deregistration procedure shall be sent back to the mobile. In the event of a failure, an indication of the cause shall be provided. Information on the outcome shall be provided to the mobile according to [EN 301 515, Index [17]] and [EN 301 515, Index [34]].	(MI)	O-3001-1 O-3001-4	4.6.2, 4.6.6 4.6.7 RINF_FA_3	 Deregistration of an FN Number
				RINF_FA_4	Deregistration of an FN fails
				RINF_FA_9	Verification of Functional Numbers previously registered in HPLMN (CT2/3/4)
				RINF_FA_10	Deregistration of CT2 numbers while roaming
				RINF_FA_11	Forced Deregistration
11.3.14	Re-registration of on-train functional numbers based on the train number shall be performed every time a train leaves one EIRENE network and enters into another EIRENE network.	(MI)	O-3001-1 O-3001-4	4.4.1, 4.6.3 4.6.9	 Mobile/Cab requirement + RINF_FA_1, RINF_FA_3
11.3.15	Deregistration of a functional number shall not be carried out until registration of the functional number has been carried out and confirmed as being successful.	(MI)			Mobile/Cab requirement + RINF_FA_1, RINF_FA_3
11.5.1	The called party functional identity shall be presented to the user initiating a call and the calling party functional identity shall be presented to the user receiving a call.	(MI)	O-3001-1 O-3001-4	4.8.2 4.8.7	 NW Configuration + RINF_FA_15
11.5.2	The calling party functional number shall be passed to the receiving mobile using the User to User Signalling supplementary service (UUS1) during call setup.	(MI)	O-3001-1 O-3001-4	4.8.7	 NW Configuration + RINF_FA_15
11.5.3	If the calling party functional number is not available or if the calling party is not registered then the CLI of the calling party shall be displayed on the receiving mobile's display.	(MI)	O-3001-1 O-3001-4	4.8.1	 NW Configuration + RINF_FA_15
11.5.4	The user-to-user information element in the SETUP, ALERT or CONNECT messages, as defined in [EN 301 515, Index [16]], shall be used to transfer the functional number of the calling party to the called party.	(MI)	O-3001-1 O-3001-4	4.8.7	 NW Configuration + RINF_FA_15
11.5.5	The user-to-user information element shall use the following format:	(MI)	O-3001-1	4.8.7	
			O-3001-4		NW Configuration + RINF_FA_15

Clause	Requirement Text	Status	Test case document	Testcase ID	Remark
11.5.6	If no valid functional number is available, a fixed length User-to-User Information Element shall be used with the following format:	(MI)	O-3001-1 O-3001-4	4.8.6	 NW Configuration + RINF_GSM_6
11.7.2	As a minimum, call routing using location dependent addressing shall be based on the use of short codes in conjunction with cell dependent routing.	(MI)	O-3001-1	4.4.6	
			O-3001-4	RINF_LDA_1 RINF_LDA_2	Successful LDA Call - Verify the cell format is correct Unsuccessful LDA Call - Call to invalid Short Code
11.8.1	Facilities shall be provided to prevent unauthorised calls to mobiles either by functional number or MSISDN number from outside the EIRENE network.	(MI)	O-3001-4	RINF_AM_2	National call: AM denies call
12.2.1	Where text messaging is implemented in the network, the Short Message Service (SMS) shall be used.	(MI)	O-3001-1 O-3001-4	4.7.1 4.7.2 4.7.4 RINF_GSM_8	 Short and long SMS
12.2.2	The maximum length of an un-concatenated message segment shall be 160 characters. A message can include several segments, in which case the maximum limit is 153 characters per segment (*7).	(MI)	O-3001-1 O-3001-4	4.7.1 4.7.3 4.7.4 RINF_GSM_8	
13.2.2	All Railway emergency calls shall be implemented and shall be considered established as specified in GSM VGCS (Specifications [EN 301 515, Index [21] & [4]]).	(MI)	O-3001-1 O-3001-4	4.13.2 RINF_REC_1	 SS originates a REC
				RINF_REC_2	Subscriber initiated REC (no talker change, normal clear down of call)
				RINF_REC_4	Controller originates a REC
				RINF_REC_6	REC in a GCA with a locked cell
13.3.1	A Railway emergency call shall be initiated by using the appropriate function code for the required type of Railway emergency call (see Table 9-8).	(MI)	O-3001-1 O-3001-4	4.13.2 RINF_REC_1	 SS originates a REC
				RINF_REC_2	Subscriber initiated REC (no talker change, normal clear down of call)
				RINF_REC_4	Controller originates a REC
				RINF_REC_6	REC in a GCA with a locked cell
13.3.3	The Railway emergency group IDs required for interoperability are defined in section 9.5. The composition of each group is a matter for national implementation, although all areas shall have a group defined for all mandated Group IDs.	(MI)	O-3001-4	RINF_REC_1	SS originates a REC
				RINF_REC_2	Subscriber initiated REC (no talker change, normal clear down of call)
				RINF_REC_4	Controller originates a REC

Clause	Requirement Text	Status	Test case document	Testcase ID	Remark
				RINF_REC_6	REC in a GCA with a locked cell
13.4.1	Each mobile shall store a list of emergency Group IDs in the SIM appropriate to its function (the Cab radio will store Group ID 299 and 599 - see table 9-8).	(MI)	O-3001-1	4.13.1	
13.4.2	All Railway emergency group IDs required for interoperability and appropriate to the operation of the mobile shall maintain active status whilst the mobile is powered up.	(MI)	O-3001-1	4.13.1	
13.4.7	If the GSM Release 99 capability and the Immediate Setup 2 feature defined in [EN 301 515, Index [6], Release 4] are supported by the network, the network shall set the MSC Release bit in the "Control Channel Description" information element to "1". Otherwise, the MSC Release bit in the "Control Channel Description" information element shall be set to "0" (zero) [EN 301 515, Index [41]].	(MI)	O-3001-4	RINF_REC_1	SS originates a REC
				RINF_REC_2	Subscriber initiated REC (no talker change, normal clear down of call)
				RINF_REC_4	Controller originates a REC
				RINF_REC_6	REC in a GCA with a locked cell
				RINF_OTDI_1	SS originates VGCS call, terminating Controller receives the OTDI
				RINF_OTDI_2	SS originates VGCS Immediate Setup 2 call, terminating Controller receives the OTDI
13.5.2	The application shall be able to deduce that a confirmation is necessary from the call priority, as all calls of 'Railway emergency' priority must be confirmed.	(MI)	O-3001-1	4.15.1	
13.5.3	Confirmation of Railway emergency calls shall be implemented using the User to User Signalling supplementary service (UUS1).	(MI)	O-3001-1 O-3001-4	4.15.1 RINF_REC_5	 SS originates Acknowledgement Call
13.5.4	After clear down of the Railway Emergency call, the mobile application shall start the confirmation process by automatically originating a call. In order to avoid network congestion the call set up shall be delayed by a random offset.	(MI)	O-3001-1	4.15.1	
13.5.5	Railway Emergency call confirmation messages shall be of eMLPP priority 4 - "Railway information and all other calls" (see section 10.2).	(MI)	O-3001-1	4.15.1	
13.5.6	The user information contained in the confirmation message shall be: - Cab radio: the engine number or train number (if registered); - other mobiles: the user's functional number (if registered).	(MI)	O-3001-1	4.15.1	
13.5.7	Confirmation messages shall be sent to a confirmation centre using a defined short code (see table 9-10), which shall be associated with the GSM network.	(MI)	O-3001-1 O-3001-4	4.15.1 RINF_REC_5	 SS originates Acknowledgement Call
13.5.8	In the case of Cab radio, details of the confirmation shall be passed to the train	(MI)	O-3001-1	5.3	

Clause	Requirement Text	Status	Test case document	Testcase ID	Remark
	borne recorder if a train borne recorder is connected to the Cab radio.				
13.5.9	The user-to-user information elements in the following messages, as defined in [EN 301 515, Index [16]], shall be used for the confirmation of Railway Emergency calls: - SETUP: transfer of confirmation message to confirmation centre; - RELEASE COMPLETE: acknowledgement of the confirmation message. -	(MI)	O-3001-1	4.15.1	
13.5.10	The SETUP and RELEASE COMPLETE user-to-user information element shall be as specified in the [TS 102 610].	(MI)	O-3001-1	4.15.1	
13.5.10i	Confirmation centres shall be capable of decoding messages in either format A or B.	(MI)	O-3001-4	RINF_REC_5	SS originates Acknowledgement Call
13A.2.1	An eREC capable network shall be able to simultaneously provide service to eREC and non-eREC capable mobiles.	(MI)	O-3001-4	RINF_eREC_1 (*)	eREC call with correct SID – eREC MS with same SID are joining, eREC MS with different SID will not be alerted
				RINF_eREC_2 (*)	eREC call which involve with eREC capable and non eREC capable terminals
13A.2.2	An eREC capable mobile shall be able to operate in either eREC or non-eREC capable network.	(MI)	O-3001-1 O-3001-4	4.13.7 RINF_eREC_1 (*)	 eREC call with correct SID – eREC MS with same SID are joining, eREC MS with different SID will not be alerted
				RINF_eREC_2 (*)	eREC call which involve with eREC capable and non eREC capable terminals
14.4.1	On entering shunting mode, the radio shall perform the following steps: - De-activate all active group-ID's on the SIM card except 299, e.g. 200 (if available on the SIM card), etc. (MI) - Activate group-ID 599 on the SIM card and assign emergency button to shunting emergency. (MI) - De-activate group-ID 299 on the SIM card (MI)	(MI)	O-3001-1	4.14.2	
14.4.1i	If there is an ongoing call involving the Cab radio, entering shunting mode shall not be possible.	(MI)	O-3001-1	4.14.1	
14.4.6	During shunting mode, the radio shall or should provide the following choices, when the shunting registration procedure (CT6) is used: - Change group-ID (including de-registration/registration of the functional identity and de-activation/activation of the group-ID and join an ongoing group call) - Change area (including de-registration/registration of the functional identity)	(MI)	O-3001-1	4.14.3	

Clause	Requirement Text	Status	Test case document	Testcase ID	Remark
	- Change role (including de-registration/registration of the functional identity)				
14.4.7	If registration is unsuccessful, this shall be indicated to the user.	(MI)	O-3001-1	4.14.4	
14.4.9	During shunting operation, besides the emergency group-ID 599, only one group-ID shall be active at the time on the radio.	(MI)	O-3001-1	4.14.5	
14.4.11	The shunting data (group-ID, area code and function code) shall be stored in non-volatile memory to be used for the start-up procedure.	(MI)	O-3001-1	4.14.10	
14.4.14	If there is an ongoing call involving the Cab radio leaving shunting mode, shall not be possible.	(MI)	O-3001-1	4.14.9	
14.4.15	On leaving shunting mode, the radio shall perform the steps described in requirements 14.4.16 – 14.4.22 in the following order:	(MI)	O-3001-1	4.14.8	
14.4.16	The radio shall de-activate all active group-ID's on the SIM card except 599 (e.g. 500, etc.).	(MI)	O-3001-1	4.14.8	
14.4.18	The radio shall activate group-ID 299 on the SIM card, and assign emergency button to train emergency.	(MI)	O-3001-1	4.14.8	
14.4.19	The radio shall de-activate group-ID 599 on the SIM card.	(MI)	O-3001-1	4.14.8	
14.5.2	Valid group IDs shall be as defined in table 14-9.	(MI)	O-3001-1	4.14.2	
14.7.10	The link assurance signal shall consist of an intermittent audio tone (820 Hz +/- 5 Hz). The tone shall be of X second duration, followed by an interval of Y seconds with no tone (silent interval).	(MI)	O-3001-1	4.14.12	Reference stated in test case precondition
14.7.16	The link assurance signal shall be deactivated upon receipt of a shunting emergency call.	(MI)	O-3001-1	4.14.12	
14.7.17	The link assurance service shall not prohibit the use of the shunting emergency service.	(MI)	O-3001-1	4.14.12	
16.2.2	The architecture shall comprise a number of interfaces between the different EIRENE-MS elements. These are:	(MI)	O-3001-2	6.1.1	
16.3.2	The ETCS data only radio shall be capable to be operated in CS-mode as well as in PS-mode.	(MI)	O-3001-2	6.2.1 6.2.7 6.2.9 6.3.7 6.3.8	
16.3.3	The ETCS data only radio shall be capable to handle at least two simultaneous ETCS	(MI)	O-3001-2	6.2.9 6.3.7 6.3.8	

Clause	Requirement Text	Status	Test case document	Testcase ID	Remark
	connections, regardless of whether these connections are established in CS or PS mode.				
16.3.3i	The GSM-R PS-mode shall comprise the support of GPRS and EGPRS bearer services including all available (Modulation) Coding Schemes.	(MI)	O-3001-2	6.3.5	
16.3.3ii	For the operation of GPRS/EGPRS service Mobile Class B shall be used.	(MI)	O-3001-2	6.3.6	
16.3.3iii	GPRS/EGPRS capable Mobiles shall support the processing of IPv4.	(MI)	O-3001-2	6.3.1 6.3.2 6.3.3 6.3.4 6.3.9 6.3.10	
16.3.3vii	The ETCS data only radio in PS-mode shall support the parameters of the QoS profile “ETCS application” according [FFFIS for EuroRadio].	(MI)	O-3001-2	6.3.1	
16.3.4	All GSM-MT of the ETCS data only radio shall be initialised and controlled by the ETCS train-borne system according to FFFIS for EURORADIO specification [MORANE EURO FFFIS].	(MI)	O-3001-2	6.1.3 6.1.4 6.1.5 6.1.6 6.1.7 6.1.8	
16.3.5	The ETCS data only radio shall be capable to be used within the band 876-880 MHz (uplink) and 921-925 MHz (downlink).	(MI)	O-3001-2	6.2.6	
16.3.8	The VGCS/VBS capability shall be prohibited for ETCS subscribers, by configuration in the network as well as in the EIRENE Mobile including the SIM card.	(MI)		NoCov_24	
16.3.9	The Mobile Termination shall configure the “notification part” of the Mobile Station Classmark 2 Information Element according to [ETSI TS 124 008]: - “no VGCS capability and no notification wanted” - “no VBS capability and no notification wanted”	(MI)	O-3001-2	6.1.2	
17.1.1	To enable interoperable international train traffic, the respective EIRENE networks shall be interconnected.	(MI)		NoCov_25	Border Crossing (ENIR)
17.2.1	To enable interoperable international train traffic, the respective EIRENE networks shall support Roaming.	(MI)		NoCov_26	Border Crossing (ENIR
17.3.1	To enable interoperable international train traffic, the respective EIRENE networks shall be configured to support Border Crossing	(MI)		NoCov_27	Border Crossing (ENIR)

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