

# TETRA Interoperability Certificate

**Teltronic, NEBULA, SwMI –  
Teltronic, MDT-400, Terminal**

Zaragoza, September 2012

Latest Certified SwMI SW Release:	12.20.50	Latest Certified Terminal SW Release:	v22
Latest Certified SwMI HW Release:	12.20.18.23	Latest Certified Terminal HW Release:	CCP 00.09

ISCTI (Istituto Superiore delle Comunicazioni e delle Tecnologie dell'Informazione) certifies, that the Teltronic, NEBULA, SwMI and the Teltronic, MDT-400, terminal have been subject to interoperability testing for the "certified" features listed on second page of this certificate, in accordance with the TETRA Interoperability Profiles, TIP compliance Test Plan and related TETRA interoperability requirement tables.

The table lists all the available TETRA interoperability profiles, and summarizes the main functionalities of every profile according to the TETRA interoperability requirement tables.

A feature is "Certified" when it has been successfully tested during the last test session with one of the testing method described in the TETRA process document part 1 (TPD001-01).

A breakdown into the feature details is given in the Feature Compliance Overview section of this certificate.

This certificate has been issued following a multiple test session between Teltronic and Teltronic on September 2012. Detailed test results are listed in the Test Report associated to this Certificate. Details and explanation about the procedure used to provide verdicts are in the TIC process TPD001-01.

**IOP test engineer**

  
Massimo Proietti

**Radio Office Manager**

Giuseppe Pierri  


ISCTI - V.le America 201, 00144 Rome, Italy  
Ph.: +39 06 5444 2663, Fax: +39 06 5410904  
e-mail: [tetra\\_ctc.iscom@mise.gov.it](mailto:tetra_ctc.iscom@mise.gov.it)  
Web: [www.mise.gov.it](http://www.mise.gov.it)

**Date of issue**

**4 March 2013**

**v 1**

## Certified features

<b>Tetra Association TTR001-01:Core</b>	
<b>Registration</b>	Certified
<b>Group Management</b>	Certified
<b>Group call</b>	Certified
<b>Individual call</b>	Certified
<b>Status messages</b>	Certified
<b>Pre-emptive Priority Call</b>	Certified
<b>Emergency Call</b>	Certified
<b>Cell Re-selection</b>	Certified
<b>PSTN interconnect</b>	Certified
<b>MS-ISDN Numbering</b>	-
<b>In Call Signalling</b>	Certified
<b>Subscriber Class Procedures</b>	-
<b>Common Secondary Control Channels</b>	Certified
<b>BS Fallback Operation</b>	Certified
<b>Energy Economy Mode</b>	-
<b>Transmit Inhibit</b>	Certified
<b>Mixed band operation</b>	-
<b>Tetra Association TTR001-02:SDS</b>	
<b>SDS Type 1, 2 or 3</b>	Certified
<b>SDS-TL</b>	Certified
<b>Store and Forward</b>	-

<b>Tetra Association TTR001-03:DGNA</b>	
<b>Support for individually addressed DGNA</b>	Certified
<b>Support for group addressed DGNA</b>	Certified
<b>Tolerance of unsupported DGNA functions</b>	-
<b>Tetra Association TTR001-04:Auth</b>	
<b>SwMI Initiated (non-mutual) Authentication</b>	Certified
<b>SwMI Initiated Authentication made Mutual by MS</b>	Certified
<b>TEI Query</b>	-
<b>Tetra Association TTR001-05:PD</b>	
<b>Context Management</b>	Certified
<b>Single Slot Packet Data</b>	Certified
<b>Multi Slot Packet Data</b>	Certified
<b>TEDS</b>	-
<b>Mixed band operation</b>	-
<b>Tetra Association TTR001-09:AL</b>	
<b>Ambience Listening</b>	Certified
<b>Interaction with Transmit Inhibit</b>	Certified
<b>Tetra Association TTR001-10:E2EE</b>	
<b>E2EE Voice Call</b>	Certified
<b>Tetra Association TTR001-11:AIE</b>	
<b>Security Class 2 Air Interface Encryption</b>	-
<b>Security Class 3 Air Interface Encryption</b>	Certified
<b>Security Class 3G Air Interface Encryption</b>	-
<b>Change of CMG and GSKO</b>	-
<b>Key Status demand</b>	-
<b>Change of Security Class for Fallback operation</b>	-
<b>Change of Security Class (other than for Fallback operation)</b>	-
<b>Key Management for Secure Direct Mode Operation</b>	-

<b>Tetra Association TTR001-12:SI</b>	
<b>MS initiated Service Interaction</b>	Certified
<b>SwMI initiated Service Interaction</b>	Certified
<b>Call Waiting</b>	-
<b>Tetra Association TTR001-13:ED</b>	
<b>Enable and temporary disable of an MS</b>	Certified
<b>Permanent disable of an MS</b>	Certified
<b>Tetra Association TTR001-14:TKD</b>	
<b>Delivery of Authentication Data</b>	Certified
<b>Delivery of SCK</b>	-
<b>Delivery method</b>	Certified
<b>Tetra Association TTR001-15:CAD</b>	
<b>Call Authorised by Dispatcher - Compliant</b>	Certified
<b>Call Authorised by Dispatcher - Tolerant</b>	-
<b>Tetra Association TTR001-19:LIP</b>	
<b>Location Information Protocol</b>	Certified

## Feature Compliance Overview

The first pages of this certificate provide an indication about the main interoperable TETRA features for each TIP specification (as described in the TIC-RT). The main interoperable TETRA features result depend on a set of sub-feature, the outcomes associated to each sub-feature are directly derived from the analysis of the performed test cases.

The results associated to each feature and sub-feature are shown in the "Feature compliance report" table below. The main features are indicated with grey background and the associated sub-features (or second level features) have white background.

The outcome assigned to a sub-feature as shown on page 2, is derived by the Feature compliance report tables.

Outcome	Definition
<b>Certified</b>	All required tests have been performed and passed
<b>Partial</b>	Not all the required tests have been performed but none have failed
-	Feature cannot be certified e.g. it is not supported by at least one product, no tests were performed, or some tests were performed but at least one failed

The outcome is derived from the verdict assigned to a sub feature which is the result of an analysis of the test case results listed in the Test Report. The verdict assigned to each sub-feature is derived from one or several test case results or test steps result, the TETRA Interoperability requirement tables (TIC-RTs) indicate the link between sub-features and test cases for the certified set of equipment capabilities (see Test Report).

Verdict	Definition
<b>Passed</b>	All mandated tests or steps of tests linked to this functionality (as per TIC-RT indication) are compliant with the TIP specification relevant to this feature.
<b>Incomplete</b>	Not all Mandated tests (as per TIC-RT indication) have been executed
<b>Failed</b>	At least one of mandated test or steps of tests linked to this functionality failed to match the TIP specification relevant to this feature.

The verdict associated to the feature gives also indication about the method used to test that feature. The allowed testing Methods are listed in the table below, a complete description of the procedures and constraints associated to each of them can be found in the "TPD001-01 TETRA Interoperability Certification Process Description" document.

Testing Method	Description
<b>Complete</b>	All mandated tests associated to the feature have been executed
<b>Spot</b>	Only a selection of the mandatory test cases associated to the feature has been executed during the test session. These tests are a subset of the tests performed on an equivalent software which has been "completely" tested against the same functionality on a different equipment, see manufacturer declaration in the associated Test Report
<b>Regression</b>	Only a selection of the mandatory test cases associated to the feature has been executed during the test session. These tests are a subset of the tests performed on a previous version of the same software which has been "completely" tested in a previous test session against the same functionality, see manufacturer definition in the associated Test Report
<b>Regression on spot</b>	The regression method has been applied on the verdicts based on the spot testing method
<b>Witnessed</b>	The CB has witnessed that the identified number of tests were successfully passed. Other tests have been found to be successful based on the log file evaluation.

Depending on equipment capabilities declared by the manufacturer, some features or sub features cannot be tested. The following table describes meaning of the used abbreviation:

Indication	Definition
<b>Not supported</b>	The SwMI and/or MS do not support the minimum features required to verify these items

ISCTI has made every effort to ensure that every result has been correctly evaluated in accordance with the relevant TIPs, Test Plans and TIC-RTs. ISCTI has no liability for the test results, or towards the manufacturers.

The table on the following page lists HW and SW releases of SwMI and Terminal under test in the last four test sessions and the used TIP specifications, Test Plans and TIC-RTs.

This Certificate and Certificates from previous test sessions are available on the TETRA + Critical Communications Association web site (<http://www.tandcca.com/interop/page/12476>).

The feature results are shown in the tables below.

## Information on equipment under test and document references

Test Session Date/Place	Teltronic, Zaragoza, September 2012		Teltronic, Zaragoza, March 2010		Teltronic, Zaragoza, March 2008	
SwMI Type	NEBULA		NEBULA		NEBULA	
SwMI HW Release	12.20.18.23		09.15.13.18		07.11.09.14	
SwMI SW Release	12.20.50		09.15.50		7.11	
Terminal Type	MDT-400		MDT-400		MDT-400	
Terminal HW Release	CCP 00.09		CCP 00.09		00.09.02.00	
Terminal SW Release	v22		v20		v17.01.04	
TIP Specs and TIP Compliance Test Plans						
Core	TTR001-01 v6.0.0	TTR001-01 v5.1.1	TTR001-01 v5.0.0	IOP001-01 v3.0.0	IOP001-01 v2.6.0	IOP001-01 v2.6.0
	TIC-RT001-01 v2.5.4	TIC-RT001-01 v2.4.2	TIC-RT001-01 v2.3.1			
SDS	TTR001-02 v2.1.1	TTR001-02 v2.1.0	TTR001-02 v2.0.1	IOP001-02 v2.0.0	IOP001-02 v2.0.0	IOP001-02 v2.0.0
	TIC-RT001-02 v2.1.2	TIC-RT001-02 v2.1.0	TIC-RT001-02 v2.0.2			
DGNA	TTR001-03 v2.0.0	TTR001-03 v2.0.0	TTR001-03 v2.0.0	IOP001-03 v2.0.1	IOP001-03 v2.0.1	IOP001-03 v2.0.1
	TIC-RT001-03 v2.2.1	TIC-RT001-03 v.2.16	TIC-RT001-03 v2.1.1			

Auth	TTR001-04	v3.0.0	TTR001-04	v3.0.0	TTR001-04	v3.0.0	
	IOP001-04	v2.0.0	IOP001-04	v2.0.0	IOP001-04	v2.0.0	
	TIC-RT001-04	v2.2.3	TIC-RT001-04	v2.1.9	TIC-RT001-04	v2.1.4	
PD	TTR001-05	v3.0.0	TTR001-05	v3.0.0	TTR001-05	v2.0.0	
	IOP001-05	v3.0.5	IOP001-05	v2.0.0	IOP001-05	v2.0.0	
	TIC-RT001-05	v3.0.2	TIC-RT001-05	v2.2.6	TIC-RT001-05	v2.2.3	
AL	TTR001-09	v2.0.0	TTR001-09	v2.0.0	TTR001-09	v2.0.0	
	IOP001-09	v1.1.0	IOP001-09	v1.1.0	IOP001-09	v1.1.0	
	TIC-RT001-09	v1.2.2	TIC-RT001-09	v1.1.8	TIC-RT001-09	v1.1.3	
E2EE	TTR001-10	v2.0.0	TTR001-10	v2.0.0	TTR001-10	v2.0.0	
	IOP001-10	v1.1.4	IOP001-10	v1.1.0	IOP001-10	v1.1.0	
	TIC-RT001-10	v1.2.2	TIC-RT001-10	v1.1.7	TIC-RT001-10	v1.1.2	
AIE	TTR001-11	v3.0.3	TTR001-11	v3.0.0	TTR001-11	v2.0.0	
	IOP001-11	v3.0.2	IOP001-11	v3.0.0	IOP001-11	v2.0.0	
	TIC-RT001-11	v3.2.0	TIC-RT001-11	v3015	TIC-RT001-11	v2.2.2	
SI	TTR001-12	v1.0.0	TTR001-12	v1.0.0	TTR001-12	v1.0.0	
	IOP001-12	v1.0.0	IOP001-12	v1.0.0	IOP001-12	v1.0.0	
	TIC-RT001-12	v1.2.7	TIC-RT001-12	v1.1.9	TIC-RT001-12	v1.1.3	
ED	TTR001-13	v2.0.0	TTR001-13	v2.0.0	Not tested		
	IOP001-13	v1.0.0	IOP001-13	v1.0.0			
	TIC-RT001-13	v1.4.6	TIC-RT001-13	v1.4.0			
TKD	TTR001-14	v1.0.3	Not tested	Not tested			
	IOP001-14	v1.0.0					
	TIC-RT001-14	v1.1.6					
CAD	TTR001-15	v1.0.0	Not tested	Not tested			
	IOP001-15	v1.0.0					
	TIC-RT001-15	v1.0.9					
LIP	TTR001-19	v1.0.0	Not tested	Not tested			
	IOP001-19	v1.0.0					
	TIC-RT001-19	v1.0.5					



# Feature compliance report

Test Session	Teltronic Zaragoza September 2012	Teltronic, Zaragoza, March 2010	Teltronic, Zaragoza, March 2008
<b>Core</b>			
Registration	PASSED Complete 3_pass_of_3	PASSED Complete 3_pass_of_3	PASSED Complete 3_pass_of_3
ITSI attach	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1
SwMI initiated location updating	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1
LA timer based Periodic location updating	Not Supported	Not Supported	Not supported
De-registration	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1
Group Management	PASSED Complete 6_pass_of_6	PASSED Complete 6_pass_of_6	PASSED Complete 5_pass_of_5
Single group attachment	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2
Multiple group attachment	PASSED Complete 3_pass_of_3	PASSED Complete 3_pass_of_3	PASSED Complete 3_pass_of_3
MS initiated group detachment	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	Not supported
SwMI initiated group management	Not Supported	Not Supported	Not supported
Group call	PASSED Complete 10_pass_of_10	PASSED Complete 10_pass_of_10	PASSED Complete 9_pass_of_9
Normal group call	PASSED Complete 4_pass_of_4	PASSED Complete 4_pass_of_4	PASSED Complete 4_pass_of_4
Late entry	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1
Priority Group scanning	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	PASSED Complete 1_pass_of_1
Call setup modifications	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1
Resource Queuing based on Call Priority	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2
Broadcast Call	Not Supported	Not Supported	Note 1

Limited coverage notification	Not Supported	Not Supported	Note 1	
Individual call	PASSED Complete 12_pass_of_12	PASSED Complete 12_pass_of_12	PASSED Complete 12_pass_of_12	
Simplex individual call	PASSED Complete 4_pass_of_4	PASSED Complete 4_pass_of_4	PASSED Complete 4_pass_of_4	
Duplex individual call	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	
Call setup modifications	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	
Resource Queuing based on Call Priority	PASSED Complete 4_pass_of_4	PASSED Complete 4_pass_of_4	PASSED Complete 4_pass_of_4	
Indication of imminent call disconnection	Not Supported	Not Supported	Not supported	
Status messages	PASSED Complete 4_pass_of_4	PASSED Complete 4_pass_of_4	PASSED Complete 4_pass_of_4	
Individual addressed Status transfer	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	
Group addressed Status transfer	PASSED Complete 3_pass_of_3	PASSED Complete 3_pass_of_3	PASSED Complete 3_pass_of_3	
Pre-emptive Priority Call	PASSED Complete 6_pass_of_6	PASSED Complete 6_pass_of_6	PASSED Complete 6_pass_of_6	
Pre-emption of Resources	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	
Pre-emption of Busy Users	PASSED Complete 4_pass_of_4	PASSED Complete 4_pass_of_4	PASSED Complete 4_pass_of_4	
Emergency Call	PASSED Complete 3_pass_of_3	PASSED Complete 3_pass_of_3	PASSED Complete 3_pass_of_3	
Pre-emption of Resources	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	
Pre-emption of Busy Users	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	
Call setup modifications	Not Supported	Not Supported	Not supported	
Call disconnection by non-call owner	Not Supported	N/A	N/A	
Cell Re-selection	PASSED Complete 15_pass_of_15	PASSED Complete 15_pass_of_15	PASSED Complete 15_pass_of_15	
Undeclared	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	
Unannounced	PASSED Complete 3_pass_of_3	PASSED Complete 3_pass_of_3	PASSED Complete 3_pass_of_3	
Announced - with Call Restoration	PASSED Complete 11_pass_of_11	PASSED Complete 11_pass_of_11	PASSED Complete 11_pass_of_11	
Announced - without Call Restoration	Not Supported	Not Supported	Not supported	
Expedited	Not Supported	Not Tested	Not Tested	

PSTN interconnect	PASSED Complete 5_pass_of_5	PASSED Complete 5_pass_of_5	PASSED Complete 5_pass_of_5	
TETRA Originated Call	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	PASSED Complete 3_pass_of_3	
PSTN Originated Call	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	
DTMF over-dial	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	
Emergency Telephone Calls	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	Note 1	
MS-ISDN Numbering				
MS ISDN - Voice Call	Not Supported	Not Supported	Not Supported	
MS-ISDN Status	Not Supported	Not Supported	Not Supported	
In Call Signalling	PASSED Complete 7_pass_of_7	PASSED Complete 7_pass_of_7	PASSED Complete 7_pass_of_7	
Slow Signalling on Traffic Channel (SACCH)	PASSED Complete 4_pass_of_4	PASSED Complete 4_pass_of_4	PASSED Complete 4_pass_of_4	
Fast Signalling on Traffic Channel (FACCH)	PASSED Complete 3_pass_of_3	PASSED Complete 3_pass_of_3	PASSED Complete 3_pass_of_3	
Subscriber Class Procedures				
Cell Selection based on Subscriber Class	Not Supported	Not Supported	Not Supported	
Subscriber Class Delivery during Location Update	Not Supported	Not Supported	Not Supported	
Use of Preferred Subscriber Classes	Not Supported	Not Supported	Not Supported	
Common Secondary Control Channels	PASSED Complete 7_pass_of_7	PASSED Complete 7_pass_of_7	PASSED Complete 7_pass_of_7	
One C-SCCH per cell	PASSED Complete 4_pass_of_4	PASSED Complete 4_pass_of_4	PASSED Complete 4_pass_of_4	
Two C-SCCH per cell	PASSED Complete 3_pass_of_3	PASSED Complete 3_pass_of_3	PASSED Complete 3_pass_of_3	
Three C-SCCH per cell	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	
BS Fallback Operation	PASSED Complete 9_pass_of_9	PASSED Complete 9_pass_of_9	PASSED Complete 9_pass_of_9	
Switch to/from BS Fallback Operation	Not Supported	Not Supported	Not supported	
Roaming with BS Fallback Operation	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	
Services with BS Fallback Operation	PASSED Complete 8_pass_of_8	PASSED Complete 8_pass_of_8	PASSED Complete 8_pass_of_8	
Energy Economy Mode				

Energy Economy Mode Operation	Not Supported	Not Supported	Not Supported	
Transmit Inhibit	PASSED Complete 6_pass_of_6	PASSED Complete 6_pass_of_6	PASSED Complete 10_pass_of_10	
TXI Activation & De-Activation without Status message	PASSED Complete 3_pass_of_3	PASSED Complete 1_pass_of_1	PASSED Complete 4_pass_of_4	
TXI Activation & De-Activation with Status message	PASSED Complete 2_pass_of_2	PASSED Complete 4_pass_of_4	PASSED Complete 4_pass_of_4	
Receipt of group addressed service during TXI	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	PASSED Complete 2_pass_of_2	
Mixed band operation				
Mixed band operation, inter-cell	Not Supported	N/A	N/A	
Mixed band operation, intra-cell	Not Supported	N/A	N/A	
Mixed band operation, Full	Not Supported	N/A	N/A	
<b>Short Data Service (SDS)</b>				
SDS Type 1, 2 or 3	PASSED Complete 3_pass_of_3	PASSED Complete 3_pass_of_3	PASSED Complete 3_pass_of_3	
SDS Type 1	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	
SDS Type 2	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	
SDS Type 3	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	
SDS-TL	PASSED Complete 5_pass_of_5	PASSED Complete 5_pass_of_5	PASSED Complete 5_pass_of_5	
Individually Addressed	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	
Group Addressed	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	
Using MS-ISDN dialling	Not Supported	Not Supported	Not supported	
Using UCS2 coding scheme	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	
Using 7-bit coding scheme	Not Supported	Not Supported	Note 1	
Store and Forward				
Individually Addressed	Not Supported	Not Supported	Note 1	
Group Addressed	Not Supported	Not Supported	Note 1	

Dynamic Group Number Assignment (DGNA)				
Support for individually addressed DGNA	PASSED Complete 6_pass_of_6	PASSED Complete 6_pass_of_6		
Support for individually addressed DGNA assignment without attachment	Not Supported	Not Supported	Note 1	
Support for individually addressed DGNA assignment with attachment as selected group	PASSED Complete 2_pass_of_2	PASSED Complete 3_pass_of_3	Note 1	
Support for individually addressed DGNA assignment with attachment as scanned group	PASSED Complete 3_pass_of_3	PASSED Complete 2_pass_of_2	Note 1	
Support for individually addressed DGNA assignment with rejected attachment	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	Note 1	
Support for individually addressed assignment for pre-programmed group	Not Supported	Not Supported	Note 1	
Support for group addressed DGNA	PASSED Complete 5_pass_of_5	PASSED Complete 5_pass_of_5		
Support for group addressed DGNA assignment	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	Note 1	
Management of 'group assignment lifetime'	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	Note 1	
Support for group addressed DGNA deassignment	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	Note 1	
Tolerance of unsupported DGNA functions				
MS tolerance of unsupported individual addressed DGNA signalling	Not Supported	Not Supported	Note 1	

MS tolerance of unsupported group addressed DGNA signalling	Not Supported	Not Supported	Note 1
<b>Authentication</b>			
SwMI Initiated (non-mutual) Authentication	PASSED Complete 3_pass_of_3	PASSED Complete 3_pass_of_3	PASSED Complete 3_pass_of_3
Attach with authentication	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1
Roaming with authentication	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1
SwMI rejects MS during authentication	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1
MS rejects SwMI during authentication	Not Supported	Not Supported	Not supported
SwMI Initiated Authentication made Mutual by MS	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2
Attach with authentication	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1
Roaming with authentication	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1
TEI Query			
TEI Query Operation	Not Supported	Not Supported	Not supported
<b>TETRA Packet Data</b>			
Context Management	PASSED Complete 9_pass_of_9	PASSED Complete 9_pass_of_9	PASSED Complete 9_pass_of_9
Context Activation	PASSED Complete 7_pass_of_7	PASSED Complete 7_pass_of_7	PASSED Complete 7_pass_of_7
User authentication	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2
Single Slot Packet Data	PASSED Complete 10_pass_of_10	PASSED Complete 10_pass_of_10	PASSED Complete 10_pass_of_10
Data Transfer	PASSED Complete 7_pass_of_7	PASSED Complete 7_pass_of_7	PASSED Complete 7_pass_of_7

Cell re-selection	PASSED Complete 3_pass_of_3	PASSED Complete 3_pass_of_3	PASSED Complete 3_pass_of_3	
Multi Slot Packet Data	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	
Data Transfer	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	
TEDS				
TEDS with Context Activation	Not Supported	N/A	N/A	
TEDS Data Transmission	Not Supported	N/A	N/A	
TEDS Cell Reselection	Not Supported	N/A	N/A	
Mixed band operation				
Mixed band operation, inter-cell	Not Supported	N/A	N/A	
Mixed band operation, intra-cell	Not Supported	N/A	N/A	
Mixed band operation, Full	Not Supported	N/A	N/A	
<b>TETRA Ambience Listening (SS-AL)</b>				
Ambience Listening	PASSED Complete 5_pass_of_5	PASSED Complete 5_pass_of_5	PASSED Complete 5_pass_of_5	
SS-AL Call Setup	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	
MS initiated SS-AL disconnection	PASSED Complete 3_pass_of_3	PASSED Complete 3_pass_of_3	PASSED Complete 3_pass_of_3	
No Indication to affected user	PASSED Complete 5_pass_of_5	PASSED Complete 5_pass_of_5	PASSED Complete 5_pass_of_5	
Interaction with Transmit Inhibit	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1		
AL can override TxI	Not Supported	Not Supported	Note 1	
AL cannot override TxI	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	Note 1	
<b>End to End Encryption</b>				
E2EE Voice Call	PASSED Complete 6_pass_of_6	PASSED Complete 6_pass_of_6	PASSED Complete 6_pass_of_6	
Individual (P2P) call	PASSED Complete 4_pass_of_4	PASSED Complete 4_pass_of_4	PASSED Complete 4_pass_of_4	
Group (P2MP) call	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	

Clear Voice Override (CVO): Acceptance	Not Supported	Not Supported	Not Supported	
Clear Voice Override (CVO): User Initiated	Not Supported	Not Supported	Not Supported	
Clear Voice Override (CVO): Automatic	Not Supported	Not Supported	Not Supported	
<b>Air Interface Encryption</b>				
Security Class 2 Air Interface Encryption				
Location Updating and AI Signalling Protection	Not Supported	Not Supported	Not Supported	
TM-SCK provisioning during location updating	Not Supported	Not Supported	Not Supported	
Communications between parties using encryption	Not Supported	Not Supported	Not Supported	
Communications between clear and encrypted parties	Not Supported	Not Supported	Not Supported	
Communications between encrypted parties on a channel designated to operate in clear	Not Supported	Not Supported	Not Supported	
OTAR and Change of TM-SCK	Not Supported	Not Supported	Note 1	
Packet Data with Class 2 Air Interface Encryption	Not Supported	N/A	N/A	
Security Class 3 Air Interface Encryption	PASSED Complete 21_pass_of_21	PASSED Complete 19_pass_of_19		
Location Updating and AI Signalling Protection	PASSED Complete 11_pass_of_11	PASSED Complete 11_pass_of_11	Note 1	
DCK Forwarding at MS request	PASSED Complete 6_pass_of_6	PASSED Complete 6_pass_of_6	Note 1	
DCK Forwarding by SwMI (without MS request)	Not Supported	Not Supported	Note 1	
DCK Retrieval	Not Supported	Not Supported	Note 1	
CCK provisioning during location updating	PASSED Complete 6_pass_of_6	PASSED Complete 6_pass_of_6	Note 1	



Communications between parties using encryption	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	Note 1	
Communications between clear and encrypted parties	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	Note 1	
Communications between encrypted parties on a channel designated to operate in clear	Not Supported	Not Supported	Note 1	
OTAR and Change of CCK	PASSED Complete 4_pass_of_4	PASSED Complete 4_pass_of_4	Note 1	
Packet Data with Class 3 Air Interface Encryption	PASSED Complete 2_pass_of_2	N/A	N/A	
Security Class 3G Air Interface Encryption				
GCK Key Association setting	Not Supported	Not Supported	Note 1	
Communications between parties using encryption	Not Supported	Not Supported	Note 1	
Communications between clear and encrypted parties	Not Supported	Not Supported	Note 1	
OTAR and Change of GCK	Not Supported	Not Supported	Note 1	
Change of CMG and GSKO				
OTAR and change of CMG and GSKO	Not Supported	Not Supported	Note 1	
Key Status demand				
SCK Key Status demand	Not Supported	Not Supported	Note 1	
GCK Key Status demand	Not Supported	Not Supported	Note 1	
GSKO Key Status demand	Not Supported	Not Supported	Note 1	
Change of Security Class for Fallback operation				
Seamless change to Security Class 2 for BS Fallback operation	Not Supported	Not Supported	Note 1	

Non-seamless change to Security Class 2 for BS Fallback operation	Not Supported	Not Supported	Note 1	
Provisioning of TM-SCK for fallback to Security Class 2 operation	Not Supported	Not Supported	Note 1	
Change to Security Class 1 for BS Fallback operation	Not Supported	Not Supported	Note 1	
Change of Security Class (other than for Fallback operation)				
Change between Security Class 3 and Security Class 3G	Not Supported	Not Supported	Note 1	
Change between Security Class 2 and Security Class 3	Not Supported	Not Supported	Note 1	
Change from Security Class 3G to Security Class 2	Not Supported	Not Supported	Note 1	
Key Management for Secure Direct Mode Operation				
OTAR and change of DM-SCK	Not Supported	Not Supported	Note 1	
<b>Service Interaction</b>				
MS initiated Service Interaction	PASSED Complete 5_pass_of_5	PASSED Complete 5_pass_of_5	PASSED Complete 5_pass_of_5	
MS initiated Circuit Mode Call during another Circuit Mode Call	PASSED Complete 3_pass_of_3	PASSED Complete 3_pass_of_3	PASSED Complete 3_pass_of_3	
MS initiated Circuit Mode Call during Packet Mode Transfer	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	
MS initiated Packet Mode Transfer during Circuit Mode Call	Not Supported	Not Supported	Not supported	
SwMI initiated Service Interaction	PASSED Complete 10_pass_of_10	PASSED Complete 10_pass_of_10	PASSED Complete 17_pass_of_17	
SwMI initiated Circuit Mode Call during another Circuit Mode Call	PASSED Complete 8_pass_of_8	PASSED Complete 8_pass_of_8	PASSED Complete 15_pass_of_15	
SwMI initiated Circuit Mode Call during Packet Mode Transfer	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	

SwMI initiated Packet Mode Transfer during Circuit Mode Call	Not Supported	Not Supported	Not supported	
Call Waiting				
Call Waiting in Individual Call	Not Supported	N/A	N/A	
Call Waiting in Group Call	Not Supported	N/A	N/A	
<b>Enable Disable</b>				
Enable and temporary disable of an MS	PASSED Complete 6_pass_of_6	PASSED Complete 6_pass_of_6		
Enable and temporary disable of an MS without authentication	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	Not Tested	
Enable and temporary disable of an MS with authentication	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	Not Tested	
Registration of a temporary disabled MS	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	Not Tested	
Rejection of applicable invalid enable/disable requests	Not Supported	Not Supported	Not Tested	
Removable SIMs do not affect the subscriber or equipment that has been enabled/disabled	Not Supported	Not Supported	Not Tested	
Disabling of an MS during a call or while on the PDCH	Not Supported	Not Supported	Not Tested	
Permanent disable of an MS	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2		
Permanent disable of an MS with authentication	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	Not Tested	
Permanently Disabled MS cannot send air interface signalling	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	Not Tested	
<b>Key Delivery</b>				
Delivery of Authentication Data	PASSED Complete 1_pass_of_1			
Authentication Key Delivery	PASSED Complete 1_pass_of_1	Not Tested	Not Tested	
ITSI Delivery	Not Supported	Not Tested	Not Tested	

Delivery of SCK				
SCK Delivery to SCK delivery	Not Supported	Not Tested	Not Tested	
SCK Delivery to SwMI	Not Supported	Not Tested	Not Tested	
SCK Delivery to SCK loading	Not Supported	Not Tested	Not Tested	
Delivery method	PASSED Complete 1_pass_of_1			
Plain text on physical media	PASSED Complete 1_pass_of_1	Not Tested	Not Tested	
Encrypted text on physical media	Not Supported	Not Tested	Not Tested	
Electronic transfer	Not Supported	Not Tested	Not Tested	
<b>CAD</b>				
Call Authorised by Dispatcher - Compliant	PASSED Complete 10_pass_of_10			
No voice call with dispatcher	PASSED Complete 10_pass_of_10	Not Tested	Not Tested	
Voice call with dispatcher	Not Supported	Not Tested	Not Tested	
Call Authorised by Dispatcher - Tolerant				
No voice call with dispatcher	Not Supported	Not Tested	Not Tested	
Individual voice call with dispatcher	Not Supported	Not Tested	Not Tested	
Group voice call with dispatcher	Not Supported	Not Tested	Not Tested	
<b>LIP</b>				
Location Information Protocol	PASSED Complete 12_pass_of_12			
LIP over SDS	PASSED Complete 7_pass_of_7	Not Tested	Not Tested	
LIP over Packet Data	Not Supported	Not Tested	Not Tested	
Time based reporting	PASSED Complete 3_pass_of_3	Not Tested	Not Tested	
Distance based reporting - NOT TESTABLE	Not Supported	Not Tested	Not Tested	

Reporting using Long reports	Not Supported	Not Tested	Not Tested	
Reporting Enable & Disable	PASSED Complete 2_pass_of_2	Not Tested	Not Tested	
Temporary reporting control	PASSED Complete 1_pass_of_1	Not Tested	Not Tested	
Trigger modification	Not Supported	Not Tested	Not Tested	
Immediate Location Reporting	PASSED Complete 1_pass_of_1	Not Tested	Not Tested	
Reporting Lifetimes	Not Supported	Not Tested	Not Tested	
Error Reporting	PASSED Complete 1_pass_of_1	Not Tested	Not Tested	

**Note 1** - Details of the certified items have changed.