

DMO TETRA Interoperability Certificate

Sepura, SRG3900, DM Terminal

Krakow, October 2012

Latest Certified DM Terminal SW Release:	1697 004 03577
Latest Certified DM Terminal HW Release:	MSUTW201T2C0G00

ISCTI (Istituto Superiore delle Comunicazioni e delle Tecnologie dell'Informazione) certifies that the Sepura, SRG3900, DM Terminal has been subject to interoperability testing for the features DMO Core and DMO Air Interface Encryption listed in the "Certified features" tables of this certificate with the following DM Terminals Motorola MTM800 FuG, Motorola MTP850 FuG, Sepura SRG3900, Sepura SRH3900, Sepura STP8000, in accordance with the TETRA Interoperability Profiles, TIP compliance Test Plan and related TETRA interoperability requirement tables.

The certificate features associated to each DM terminal are shown in the "Certificate features" 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.

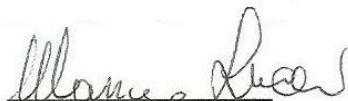
A feature is "Certified" when it has been successfully tested during the last test session with one of the testing method described in the TETRA process document part 1 (TPD001-01).

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

This certificate has been issued following a fully witnessed test session on October 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

Radio Office Manager



Massimo Lucenti

Giuseppe Pierri



Certified feature

DMO Core Test Session Krakow, October 2012 Sepura SRG3900	Sepura SRG3900	Motorola MTP850 FuG	Sepura SRH3900	Motorola MTM800 FuG	Sepura STP8000
TTR002-01 DMO Core					
Registration	Certified	Certified	Certified	Certified	Certified
Group Call	Certified	Certified	Certified	Certified	Certified
Individual Call	Certified	Certified	Certified	Certified	Certified
Status Call	Certified	Certified	Certified	Certified	Certified
SDS TL	Certified	Certified	Certified	Certified	Certified
TTR002-05 DMO AIE-Core					
DMO AIE Encryption	Certified	Certified	Certified	Certified	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
Certified	All required tests have been performed and passed.
Partial	Not all the required test cases 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 is the result of the 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
Passed	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.
Incomplete	Not all Mandated tests (as per TIC-RT indication) have been executed.
Failed	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
Complete	All mandated tests associated to the feature have been executed.
Spot	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 annex B.
Regression	Only a selection of the mandatory the test cases associated to the feature is 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
Regression on spot	The regression method has been applied on the verdicts based on the spot testing method.
Verified	The CB has verified that the identified number of tests were successfully passed based on the log file evaluation. In addition some of the tests may have been witnessed by the CB.

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

Indication	Definition
Not supported	At least one MS do not support the minimum features required to verify these items

ISCTI has made every effort to ensure that every result have 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 DM Terminals under test in the test session 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](http://www.tandcca.com) 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 Place/Date	Krakow, October 2012
DM Terminal Type	Sepura SRG3900
DM Terminal HW release	MSUTW201T2C0G00
DM Terminal SW release	1697 004 03577
DM Terminal 1 Type	Motorola MTP850 FuG
DM Terminal 1 HW release	PT912BG
DM Terminal 1 SW release	MR5.14.3
DM Terminal 2 Type	Sepura SRH3900
DM Terminal 2 HW release	PSPTW101T400G00
DM Terminal 2 SW release	1697 004 03510
DM Terminal 3 Type	Motorola MTM800 FuG
DM Terminal 3 HW release	MT953CG
DM Terminal 3 SW release	MR10.6.3
DM Terminal 4 Type	Sepura STP8000
DM Terminal 4 HW release	PSNTW201T300R00
DM Terminal 4 SW release	1697 004 02937
TIP Specs and TIP Compliance Test Plans	
DCore	TTR002-01 v211 IOP002-01 v103 TIC-RT002-01 v123
DAIE-Core	TTR002-05 v100 IOP002-05 v100 TIC-RT002-05 v106

Feature compliance report

DMO Test Session Krakow, October 2012 Sepura SRG3900	Sepura SRG3900	Motorola MTP850 FuG	Sepura SRH3900	Motorola MTM800 FuG	Sepura STP8000
TTR002-01 Core					
Registration	PASSED Regression 1_pass_of_2	PASSED Regression 1_pass_of_2	PASSED Regression 1_pass_of_2	PASSED Regression 1_pass_of_2	PASSED Regression 1_pass_of_2
Activation/Deactivation	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1
RF Carrier Selection	Regression 0_pass_of_1	Regression 0_pass_of_1	Regression 0_pass_of_1	Regression 0_pass_of_1	Regression 0_pass_of_1
Group Call	PASSED Regression 14_pass_of_43	PASSED Regression 14_pass_of_43	PASSED Regression 14_pass_of_43	PASSED Regression 14_pass_of_43	PASSED Regression 14_pass_of_43
Intra-MNI Group Calls	PASSED Complete 6_pass_of_6	PASSED Complete 6_pass_of_6	PASSED Complete 6_pass_of_6	PASSED Complete 6_pass_of_6	PASSED Complete 6_pass_of_6
Inter-MNI Group Calls	Regression 0_pass_of_4	Regression 0_pass_of_4	Regression 0_pass_of_4	Regression 0_pass_of_4	Regression 0_pass_of_4
Emergency Group Calls	PASSED Regression 4_pass_of_6	PASSED Regression 4_pass_of_6	PASSED Regression 4_pass_of_6	PASSED Regression 4_pass_of_6	PASSED Regression 4_pass_of_6
Pre-emptive priority Calls	Regression 0_pass_of_4	Regression 0_pass_of_4	Regression 0_pass_of_4	Regression 0_pass_of_4	Regression 0_pass_of_4

Group Call Maintenance	PASSED Regression 6_pass_of_19	PASSED Regression 6_pass_of_19	PASSED Regression 6_pass_of_19	PASSED Regression 6_pass_of_19	PASSED Regression 6_pass_of_19
Late Entry Group Calls	PASSED Regression 2_pass_of_4	PASSED Regression 2_pass_of_4	PASSED Regression 2_pass_of_4	PASSED Regression 2_pass_of_4	PASSED Regression 2_pass_of_4
Open Group Calls	Regression 0_pass_of_6	Regression 0_pass_of_6	Regression 0_pass_of_6	Regression 0_pass_of_6	Regression 0_pass_of_6
Individual Call	PASSED Regression 4_pass_of_20	PASSED Regression 4_pass_of_20	PASSED Regression 4_pass_of_20	PASSED Regression 4_pass_of_20	PASSED Regression 4_pass_of_20
Intra-MNI Individual Calls	Regression 0_pass_of_4	Regression 0_pass_of_4	Regression 0_pass_of_4	Regression 0_pass_of_4	Regression 0_pass_of_4
Inter-MNI Individual Calls	PASSED Regression 2_pass_of_6	PASSED Regression 2_pass_of_6	PASSED Regression 2_pass_of_6	PASSED Regression 2_pass_of_6	PASSED Regression 2_pass_of_6
Pre-emptive priority Calls	PASSED Regression 2_pass_of_6	PASSED Regression 2_pass_of_6	PASSED Regression 2_pass_of_6	PASSED Regression 2_pass_of_6	PASSED Regression 2_pass_of_6
Individual Call maintenance	Regression 0_pass_of_4	Regression 0_pass_of_4	Regression 0_pass_of_4	Regression 0_pass_of_4	Regression 0_pass_of_4
Individual Call with Presence Check	PASSED Regression 2_pass_of_8	PASSED Regression 2_pass_of_8	PASSED Regression 2_pass_of_8	PASSED Regression 2_pass_of_8	PASSED Regression 2_pass_of_8
Individual call without Presence Check	PASSED Regression 2_pass_of_8	PASSED Regression 2_pass_of_8	PASSED Regression 2_pass_of_8	PASSED Regression 2_pass_of_8	PASSED Regression 2_pass_of_8

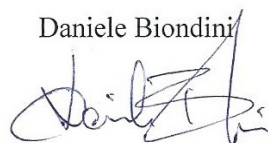
Individual Late Entry	Regression 0_pass_of_4	Regression 0_pass_of_4	Regression 0_pass_of_4	Regression 0_pass_of_4	Regression 0_pass_of_4
Status Call	PASSED Regression 2_pass_of_16	PASSED Regression 2_pass_of_12	PASSED Regression 2_pass_of_16	PASSED Regression 2_pass_of_12	PASSED Regression 2_pass_of_16
Individual Status Calls	Regression 0_pass_of_2	Regression 0_pass_of_2	Regression 0_pass_of_2	Regression 0_pass_of_2	Regression 0_pass_of_2
Group Status call	PASSED Regression 2_pass_of_12	PASSED Regression 2_pass_of_9	PASSED Regression 2_pass_of_12	PASSED Regression 2_pass_of_9	PASSED Regression 2_pass_of_12
Status sent in a Voice Call	Regression 0_pass_of_6	Regression 0_pass_of_3	Regression 0_pass_of_6	Regression 0_pass_of_3	Regression 0_pass_of_6
Status sent out of a Call	PASSED Regression 2_pass_of_8	PASSED Regression 2_pass_of_8	PASSED Regression 2_pass_of_8	PASSED Regression 2_pass_of_8	PASSED Regression 2_pass_of_8
SDS TL	PASSED Regression 2_pass_of_4	PASSED Regression 2_pass_of_4	PASSED Regression 2_pass_of_4	PASSED Complete 2_pass_of_4	PASSED Regression 2_pass_of_4
Individual SDS-TL Calls	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2
Group SDS-TL call	Regression 0_pass_of_2	Regression 0_pass_of_2	Regression 0_pass_of_2	PASSED Complete 0_pass_of_2	Regression 0_pass_of_2

TTR002-05 DMO AIE-Core					
DMO AIE Encryption	PASSED Regression 6_pass_of_20	PASSED Regression 6_pass_of_20	PASSED Regression 13_pass_of_20	PASSED Regression 6_pass_of_20	PASSED Regression 6_pass_of_20
Encrypted Group Calls	PASSED Regression 2_pass_of_8	PASSED Regression 2_pass_of_8	PASSED Regression 4_pass_of_8	PASSED Regression 2_pass_of_8	PASSED Regression 2_pass_of_8
Encrypted Individual Calls	Regression 0_pass_of_4	Regression 0_pass_of_4	PASSED Complete 4_pass_of_4	Regression 0_pass_of_4	Regression 0_pass_of_4
Encrypted Status messages	Regression 0_pass_of_2	Regression 0_pass_of_2	PASSED Regression 1_pass_of_2	Regression 0_pass_of_2	Regression 0_pass_of_2
Pre-emption of encrypted activity	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2
Handling mismatched keys	PASSED Regression 2_pass_of_4	PASSED Regression 2_pass_of_4	PASSED Regression 2_pass_of_4	PASSED Regression 2_pass_of_4	PASSED Regression 2_pass_of_4

Annex A

List of Revisions of the Certificate		
Date	Ver.	Modification
15 November 2012	1	First published version
16 November 2012	2	updating: - Added MTM800 FuG missing in page 1

IOP Test Engineer

Daniele Biondini


Radio Office Manager

Giuseppe Pierr
