

## DMO TETRA Interoperability Certificate

### Sepura, SRG3900, Gateway

Berlin, January 2017

Latest Certified SRG3900 SW Release:	1738 001 03577
Latest Certified SRG3900 HW Release:	MSUTW201T2COG00

ISCTI (Istituto Superiore delle Comunicazioni e delle Tecnologie dell'Informazione) certifies that the Sepura SRG3900 Gateway has been subject to interoperability testing for the "certified" features listed on second page of this certificate with the following DM Terminals Sepura SRG3900, Sepura STP9000, Sepura SC2020, and the Airbus D&S Tetra System Rel6.0 SwMI 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).

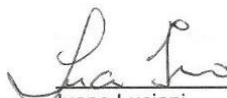
A breakdown into the feature details is given in the Feature Compliance Overview section of this certificate.

This certificate has been issued following a fully witnessed single test session between Airbus D&S and Sepura on January 2017. 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.

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Date of issue:  
**17 February 2017**

v 1

## Certified features

Test Session Berlin, January 2017 Sepura SRG3900	Airbus D&S Tetra System Rel6.0	Sepura SRG3900	Sepura STP9000	Sepura SC2020
<b>Hardware</b>	M98F(DXTip)	MSUTW201T2C0G0	PSYTW201T30WNO	TP01STW
<b>Software</b>	6.0	1738 001 03577	1738 001 02937	1738 001 08522
<b>Feature TTR002-02 Gateway</b>				
Registration	Certified	Certified	Partial	Partial
Presence Signal	Certified	Certified	Certified	Certified
Usage Restriction Types	Certified	Certified	Certified	Certified
Individual Call	Certified	Certified	Certified	Certified
Group Call	Certified	Certified	Certified	Certified
Status	Partial	Partial	Partial	Partial
SDS-TL	Partial	Partial	Partial	Partial
Pre-emption	Certified	Certified	Certified	Certified
<b>Feature TTR002-05 AIE Gateway</b>				
DMO AIE Encryption	Certified	Certified	Partial	Partial

## 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' results depend on a set of sub-feature, the verdicts 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 blue background and the associated sub-features (or second level features) have white background.

The verdict assigned to a sub-feature as showed on Page 2, is derived by the Feature compliance report tables.

Verdict	Definition
<b>Certified</b>	All required tests have been performed and passed.
<b>Partial</b>	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 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
<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 or sub-feature
	The Result is not relevant (or needed) to verify the SwMI and/or Gateway features

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 or sub-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 or sub-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 (see the previous item) has been applied at this session on the verdicts from the referenced (previous) session where the spot testing method (see above) had been applied.
<b>Witnessed</b>	The TIP heading lines in the Feature Compliance Report indicate whether each TIP is partially or fully witnessed by the Certification Body. Additionally, for a partially-witnessed TIP, the number of witnessed test cases that passed is shown for each the feature and sub-feature. There may have been some un-witnessed passed tests and they will have been found to be successful based on the log file evaluation

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
<b>Not supported</b>	The SwMI and/or DMO Terminal and/or Gateway 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 the SwMI, the SRG3900 and the 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** website (<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	BDBOS-ZPL, Berlin, January 2017
SwMI Type	Airbus D&S TETRA System Rel 6
SwMI HW Release	M98F(DXTip)
SwMI SW Release	6.0
SRG3900 Type	Sepura SRG3900
SRG3900 HW release	MSUTW201T2C0G00
SRG3900 SW release	1738 001 03577
DM Terminal 1 Type	Sepura SRG3900
DM Terminal 1 HW release	MSUTW201T2C0G00
DM Terminal 1 SW release	1738 001 03577
DM Terminal 2 Type	Sepura STP9000
DM Terminal 2 HW release	PSYTW201T30WN00
DM Terminal 2 SW release	1738 001 02937
DM Terminal 3 Type	Sepura SC2020
DM Terminal 3 HW release	TP01STW
DM Terminal 3 SW release	1738 001 08522
<b>TIP Specs and TIP Compliance Test Plans</b>	
Gateway	TTR002-02 v110 IOP002-02 v110 TIC-RT002-02 v114
AIE Gateway	TTR005-02 v100 IOP002-05 v100 TIC-RT002-05-2 v104

## Feature compliance report

Test Session BDBOS-ZPL, January 2017 Sepura SRG3900	Airbus D&S Tetra System Rel6.0	Sepura SRG3900	Sepura STP9000	Sepura SC2020
<b>Feature TTR002-02 Gateway – fully witnessed testing</b>				
Registration	PASSED Complete 3_pass_of_3	PASSED Complete 3_pass_of_3	Incomplete 0_pass_of_3	Incomplete 0_pass_of_3
Registration	PASSED Complete 3_pass_of_3	PASSED Complete 3_pass_of_3	Incomplete 0_pass_of_3	Incomplete 0_pass_of_3
Presence Signal	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1
Presence Signal	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1
Usage Restriction Types	PASSED Complete 3_pass_of_3	PASSED Complete 3_pass_of_3	PASSED Complete 3_pass_of_3	PASSED Complete 3_pass_of_3
Single Address	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1
Two Addresses	Not Supported	Not Supported	Not Supported	Not Supported
Three addresses	Not Supported	Not Supported	Not Supported	Not Supported
Single MNI	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1
Complying with URT Validity Time	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1
Individual Call	PASSED Complete 7_pass_of_7	PASSED Complete 7_pass_of_7	PASSED Complete 7_pass_of_7	PASSED Complete 7_pass_of_7
DMO to TMO individual call	PASSED Complete 3_pass_of_3	PASSED Complete 3_pass_of_3	PASSED Complete 3_pass_of_3	PASSED Complete 3_pass_of_3
TMO to DMO individual call	PASSED Complete 4_pass_of_4	PASSED Complete 4_pass_of_4	PASSED Complete 4_pass_of_4	PASSED Complete 4_pass_of_4

Group Call	PASSED Complete 16_pass_of_16	PASSED Complete 16_pass_of_16	PASSED Complete 16_pass_of_16	PASSED Complete 16_pass_of_16
DMO to TMO group call	PASSED Complete 6_pass_of_6	PASSED Complete 6_pass_of_6	PASSED Complete 6_pass_of_6	PASSED Complete 6_pass_of_6
TMO to DMO group call	PASSED Complete 3_pass_of_3	PASSED Complete 3_pass_of_3	PASSED Complete 3_pass_of_3	PASSED Complete 3_pass_of_3
Call Maintenance (including Changeover)	PASSED Complete 7_pass_of_7	PASSED Complete 7_pass_of_7	PASSED Complete 7_pass_of_7	PASSED Complete 7_pass_of_7
Status	Incomplete 8_pass_of_10	Incomplete 8_pass_of_10	Incomplete 8_pass_of_10	Incomplete 8_pass_of_10
Group addressed Status	Incomplete 6_pass_of_8	Incomplete 6_pass_of_8	Incomplete 6_pass_of_8	Incomplete 6_pass_of_8
Individually addressed Status	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2
SDS-TL	Incomplete 3_pass_of_5	Incomplete 3_pass_of_5	Incomplete 3_pass_of_5	Incomplete 3_pass_of_5
Group Addressed SDS-TL	Incomplete 2_pass_of_4	Incomplete 2_pass_of_4	Incomplete 2_pass_of_4	Incomplete 2_pass_of_4
Individually Addressed SDS-TL	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1
Pre-emption	PASSED Complete 6_pass_of_6	PASSED Complete 6_pass_of_6	PASSED Complete 6_pass_of_6	PASSED Complete 6_pass_of_6
Pre-emption of DMO terminal	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2
Pre-emption of Gateway	PASSED Complete 4_pass_of_4	PASSED Complete 4_pass_of_4	PASSED Complete 4_pass_of_4	PASSED Complete 4_pass_of_4
<b>Feature TTR002-05 AIE Gateway – fully witnessed testing</b>				
DMO AIE Encryption	PASSED Complete 7_pass_of_7	PASSED Complete 7_pass_of_7	Incomplete 5_pass_of_7	Incomplete 5_pass_of_7
Encrypted Group 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
Encrypted Individual Calls	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1

Encrypted Status messages	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1
Pre-emption of encrypted activity	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1
Handling mismatched keys	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	Incomplete 0_pass_of_2	Incomplete 0_pass_of_2