

## DMO TETRA Interoperability Certificate

### Motorola, MTM800 FuG, Gateway

Helsinki, November 2013

Latest Certified MTM800 FuG SW Release:	MR10.6.9
Latest Certified MTM800 FuG HW Release:	MT953CG

ISCTI (Istituto Superiore delle Comunicazioni e delle Tecnologie dell'Informazione) certifies that the Motorola MTM800 FuG Gateway has been subject to interoperability testing for the "certified" features listed on second page of this certificate with the following DM Terminals Motorola, MTM800 FuG, MTP850 FuG, and the Cassidian, Tetra System Rel.6.0 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 Cassidian and Motorola on November 2013. 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:**  
**18 December 2013**  
**V1**

## Certified features

Test Session Helsinki, November 2013 Motorola MTM800 FuG	Cassidian Tetra System Rel.6.0	Motorola MTM800 FuG	Motorola MTP850 FuG
Hardware	M98F (DXTip)	MT953CG	PT912BG
Software	Rel6.0 SCD3.0	MR10.6.9	MR5.14.9
<b>Feature TTR002-02 Gateway</b>			
Registration	Certified	Certified	Certified
Presence Signal	Certified	Certified	Certified
Usage Restriction Types	Certified	Certified	Certified
Individual Call	-	-	-
Group Call	Certified	Certified	Certified
Status	-	-	-
SDS-TL	-	-	-
Pre-emption	Certified	Certified	Certified
<b>Feature TTR002-05 AIE Gateway</b>			
DMO AIE Encryption	Partial	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 grey background and the associated sub-features (or second level features) have white background.

The outcome assigned to a sub-feature as showed 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 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 (ran out of time)
<b>Failed</b>	At least one of the required test cases has failed.
<b>No_Equipment</b>	At least one of the required test cases has not been executed due to unavailability of a needed equipment.
	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 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.
<b>Regression</b>	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 complete tested in a previous test session against the same functionality, see manufacturer declaration in annex B.
<b>Regression on spot</b>	The regression method has been applied on the verdicts based on the spot testing method.
<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 MS and/or GW-nr 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 Gateway 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	Cassidian, Helsinki, November 2013
<b>SwMI Type</b>	Tetra System Rel.6.0
<b>SwMI HW Release</b>	M98F (DXTip)
<b>SwMI SW Release</b>	Rel6.0 SCD3.0
<b>DM GW Type</b>	Motorola MTM800 FuG
<b>DM GW HW release</b>	MT953CG
<b>DM GW SW release</b>	MR10.6.9
<b>DM Terminal 1 Type</b>	Motorola MTM800 FuG
<b>DM Terminal 1 HW release</b>	MT953CG
<b>DM Terminal 1 SW release</b>	MR10.6.9
<b>DM Terminal 2 Type</b>	Motorola MTP850 FuG
<b>DM Terminal 2 HW release</b>	PT912BG
<b>DM Terminal 2 SW release</b>	MR5.14.9
<b>TIP Specs and TIP Compliance Test Plans</b>	
<b>Gateway</b>	TTR002-02 v110 IOP002-02 v100 TIC-RT002-02 v109
<b>AIE Gateway</b>	TTR005-02 v100 IOP002-05 v100 TIC-RT002-05 v005

## Feature compliance report

Test Session Cassidian, November 2013 Motorola MTM800 FuG	CassidianTetra System Rel.6.0	Motorola MTM800 FuG	Motorola MTP850 FuG
<b>Feature TTR002-02 Gateway</b>			
Registration	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2
Registration	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2
Presence Signal	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
Usage Restriction Types	PASSED Complete 4_pass_of_4	PASSED Complete 4_pass_of_4	PASSED Complete 4_pass_of_4
Single Address	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1
Two Addresses	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1
Three addresses	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1
Single MNI	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1
Complying with URT Validity Time	Not Supported	Not Supported	Not Supported
Individual Call			
DMO to TMO individual call	Not Supported	Not Supported	Not Supported
TMO to DMO individual call	Not Supported	Not Supported	Not Supported

Group Call	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
TMO to DMO group call	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
Status			
Group addressed Status	Not Supported	Not Supported	Not Supported
Individually addressed Status	Not Supported	Not Supported	Not Supported
SDS-TL			
Group Addressed SDS-TL	Not Supported	Not Supported	Not Supported
Individually Addressed SDS-TL	Not Supported	Not Supported	Not Supported
Pre-emption	PASSED Complete 5_pass_of_5	PASSED Complete 5_pass_of_5	PASSED Complete 5_pass_of_5
Pre-emption of DMO terminal	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2
Pre-emption of Gateway	PASSED Complete 3_pass_of_3	PASSED Complete 3_pass_of_3	PASSED Complete 3_pass_of_3

Feature TTR002-05 AIE Gateway			
DMO AIE Encryption	Missing Results 4_pass_of_5	Missing Results 4_pass_of_5	Missing Results 4_pass_of_5
Encrypted Group Calls	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2
Encrypted Individual Calls	Not Supported	Not Supported	Not Supported
Encrypted Status messages	Not Supported	Not Supported	Not Supported
Pre-emption of encrypted activity	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1
Handling mismatched keys	Incomplete 1_pass_of_2	Incomplete 1_pass_of_2	Incomplete 1_pass_of_2