DMO TETRA Interoperability Certificate

Motorola, MTM5400, Gateway

Zaragoza, September 2012

Latest Certified MTM5400 SW Release:	MR10.6.3
Latest Certified MTM5400 HW Release:	MT953C

ISCTI (Istituto Superiore delle Comunicazioni e delle Tecnologie dell'Informazione) certifies that the Motorola MTM5400 Gateway has been subject to interoperability testing for the "certified" features listed on second page of this certificate with the following DM Terminals Teltronic, MDT-400, HTT-500 , Motorola, MTM5400, MTP850 S, MTP3100, MTP3200, MTP3250 and the Teltronic, NEBULA 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 multi test session between Teltronic and Motorola 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.

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Date of issue:
7 March 2013
v2

Certified features

Test Session Zaragoza, September 2012 Motorola MTM5400	Teltronic NEBULA	Teltronic MDT-400	Teltronic HTT-500	Motorola MTM5400	Motorola MTP850 S	Motorola MTP3100	Motorola MTP3200	Motorola MTP3250
Hardware	12.20.18.23	CCP 00.03	CCP 00.09	MT953C	PT911BS	PT912OF	PT912OFE	PT912OHE
Software	12.20.50	v09	v22	MR10.6.3	MR5.14.3	MR10.5	MR10.5	MR10.5
Feature TTR002-02 Gateway								
Registration	Certified	Certified	Certified	Certified	Certified	Certified	Certified	Certified
Presence Signal	Certified	Certified	Certified	Certified	Certified	Certified	Certified	Certified
Usage Restriction Types	Certified	Certified	Certified	Certified	Certified	Certified	Certified	Certified
Individual Call	-	-	-	-	-	-	-	-
Group Call	Certified	Certified	Certified	Certified	Certified	Certified	Certified	Certified
Status	-	-	-	-	-	-	-	-
SDS-TL	-	-	-	-	-	-	-	-
Pre-emption	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 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
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 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 (ran out of time)
Failed	At least one of the required test cases has failed.
No_Equipment	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
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 complete tested in a previous test session against the same functionality, see manufacturer declaration in annex B.

Regression on spot	The regression method has been applied on the verdicts based on the spot testing method.
Witnessed	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-feature cannot be tested. The following table describes meaning of the used abbreviation:

Indication	Definition
Not supported	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	Teltronic, Zaragoza, September 2012
SwMI Type	NEBULA
SwMI HW Release	12.20.18.23
SwMI SW Release	12.20.50
DM MTM5400 Type	Motorola MTM5400
DM MTM5400 HW release	MT953C
DM MTM5400 SW release	MR10.6.3
DM Terminal 1 Type	Teltronic MDT-400
DM Terminal 1 HW release	CCP 00.03
DM Terminal 1 SW release	v09
DM Terminal 2 Type	Teltronic HTT-500
DM Terminal 2 HW release	CCP 00.09
DM Terminal 2 SW release	v22
DM Terminal 3 Type	Motorola MTM5400
DM Terminal 3 HW release	MT953C
DM Terminal 3 SW release	MR10.6.3
DM Terminal 4 Type	Motorola MTP850 S
DM Terminal 4 HW release	PT911BS
DM Terminal 4 SW release	MR5.14.3
DM Terminal 5 Type	Motorola MTP3100
DM Terminal 5 HW release	PT912OF
DM Terminal 5 SW release	MR10.5
DM Terminal 6 Type	Motorola MTP3200
DM Terminal 6 HW release	PT912OFE
DM Terminal 6 SW release	MR10.5
DM Terminal 7 Type	Motorola MTP3250
DM Terminal 7 HW release	PT912OHE
DM Terminal 7 SW release	MR10.5
TIP Specs and TIP Compliance Test Plans	
Gateway	TTR002-02 v110 IOP002-02 v100 TIC-RT002-02 v109

Feature compliance report

Test Session Teltronic, September 2012 Motorola MTM5400	Teltronic NEBULA	Teltronic MDT-400	Teltronic HTT-500	Motorola MTM5400	Motorola MTP850 S	Motorola MTP3100	Motorola MTP3200	Motorola MTP3250
Feature TTR002-02 Gateway								
Registration	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	PASSED Spot 1_pass_of_2	PASSED Spot 1_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	PASSED Complete 2_pass_of_2	PASSED Complete 2_pass_of_2	PASSED Spot 1_pass_of_2	PASSED Spot 1_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	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	Spot 0_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	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	Spot 0_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	PASSED Complete 4_pass_of_4	PASSED Complete 4_pass_of_4	PASSED Spot 1_pass_of_4	PASSED Spot 1_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	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	Spot 0_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	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	Spot 0_pass_of_1	Spot 0_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	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	Spot 0_pass_of_1	Spot 0_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	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	Spot 0_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	Not Supported	Not Supported	Not Supported	Not Supported	Not Supported

Test Session Teltronic, September 2012 Motorola MTM5400	Teltronic NEBULA	Teltronic MDT-400	Teltronic HTT-500	Motorola MTM5400	Motorola MTP850 S	Motorola MTP3100	Motorola MTP3200	Motorola MTP3250
Individual Call								
DMO to TMO individual call	Not Supported	Not Supported	Not Supported	Not Supported	Not Supported	Not Supported	Not Supported	Not Supported
TMO to DMO individual call	Not Supported	Not Supported	Not Supported	Not Supported	Not Supported	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	PASSED Complete 16_pass_of_16	PASSED Complete 16_pass_of_16	PASSED Spot 3_pass_of_16	PASSED Spot 3_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	PASSED Complete 6_pass_of_6	PASSED Spot 2_pass_of_6	PASSED Spot 2_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	PASSED Complete 3_pass_of_3	PASSED Spot 1_pass_of_3	PASSED Spot 1_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	PASSED Complete 7_pass_of_7	Spot 0_pass_of_7	Spot 0_pass_of_7	PASSED Complete 7_pass_of_7
Status								
Group addressed Status	Not Supported	Not Supported	Not Supported	Not Supported	Not Supported	Not Supported	Not Supported	Not Supported
Individually addressed Status	Not Supported	Not Supported	Not Supported	Not Supported	Not Supported	Not Supported	Not Supported	Not Supported
SDS-TL								
Group Addressed SDS-TL	Not Supported	Not Supported	Not Supported	Not Supported	Not Supported	Not Supported	Not Supported	Not Supported
Individually Addressed SDS-TL	Not Supported	Not Supported	Not Supported	Not Supported	Not Supported	Not Supported	Not Supported	Not Supported

Test Session Teltronic, September 2012 Motorola MTM5400	Teltronic NEBULA	Teltronic MDT-400	Teltronic HTT-500	Motorola MTM5400	Motorola MTP850 S	Motorola MTP3100	Motorola MTP3200	Motorola MTP3250
Pre-emption	PASSED Complete 2_pass_of_2	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	FAILED Complete 3_pass_of_5	FAILED Complete 4_pass_of_5	FAILED Spot 0_pass_of_5	FAILED Spot 0_pass_of_5	FAILED Complete 3_pass_of_5
Pre-emption of DMO terminal	PASSED Complete 2_pass_of_2	PASSED Complete 1_pass_of_1	PASSED Complete 1_pass_of_1	FAILED Complete 1_pass_of_2	PASSED Complete 2_pass_of_2	FAILED Spot 0_pass_of_2	FAILED Spot 0_pass_of_2	FAILED Complete 1_pass_of_2
Pre-emption of Gateway		Not Supported	Not Supported	FAILED Complete 2_pass_of_3	FAILED Complete 2_pass_of_3	FAILED Spot 0_pass_of_3	FAILED Spot 0_pass_of_3	FAILED Complete 2_pass_of_3

Annex A

List of Revisions of the Certificate		
Date	**Ver.**	**Modification**
4 March 2013	1	First published version
7 March 2013	2	updating: - editorial changes due to PDF conversion errors

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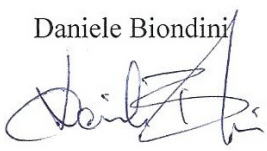

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