IST doc.10 rev.1

TETRA Terminal Interoperability Certificate

December 2004

TELTRONIC

Manufacturer	Type	Software/Hardware Release No.	Period of testing
Teltronic	**MDT-400**	**SW: v10 HW: 00.05**	**30/11-01/12/2004**

ISCTI (Istituto Superiore delle Comunicazioni e delle Tecnologie dell'Informazione) has witnessed that the Teltronic MDT-400 Terminal is operating in accordance with:

TETRA Interoperability Profile:

TETRA MoU, TTR001-01, Core, Ver. 3.0.13, June 2001
TETRA MoU, TTR001-02, SDS, Ver. 1.0.1, August 2001
TETRA MoU, TTR001-03, DGNA, Ver. 1.0.3, May 2001
TETRA MoU, TTR001-04, Authentication, Ver. 1.0.0, November 2000
TETRA MoU, TTR001-11, Air Interface Encryption, Ver. 1.0.0, December 2001

The test results for the tested features can be found in the tables of this certificate.

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Information on the equipments used for testing in the December 2004 IOP Test Session

The tests were performed using the following SwMI:

Manufacturer	Type	Software/Hardware Release No.
R&S BICK Mobilfunk	ACCESSNET-T	SW: PV 4.02 HW: PV 4.02

Additional information about the test performed

The tests were performed in the LA1 and LA2 sites. The SwMI was operating with the following configuration:

MCC	242
MNC	1
Colour code	1 (LA1) and 2 (LA2)
LA1 carrier frequency (BS Tx)	390,7875 MHz
LA2 carrier frequency (BS Tx)	395,8125 MHz
PSTN gateway ISSI	16777184
Subscriber classes	$FFFF_{16}$

Note: TIP compliance testing focuses on functionality on the OSI model layers two, three and higher and therefore is frequency band independent.

IOP Test Plans used for testing

The following Test Plans were used in the Test Session:
TETRA MoU, IOP001-01, Core, Ver. 1.1.0
TETRA MoU, IOP001-02, SDS, Ver. 1.1.0
TETRA MoU, IOP001-03, DGNA, Ver. 1.1.0
TETRA MoU, IOP001-04, Authentication, Ver. 1.1.0
TETRA MoU, IOP001-11, Air Interface Encryption, Ver. 1.1.0

Test Results

The test results are shown in the tables below.
Test results and the certificates from previous IOP test session are available on TETRA MoU web site (http://www.tetramou.com).
Tables indicate whether or not tests addressing a specific requirement of the TIP specification have been performed, whether or not the requirement is applicable for the SwMI, and the result of the test if executed. Each entry of the table may take one of seven values:

-	No test performed.
N/A	Not applicable for the SwMI
No	Not supported by Terminal
NTPA	No Test Plan/case Available
P	Pass
F	Fail
I	Inconclusive

The test results have been derived from examining the behaviour of a live system. The verdicts indicated are based on the log evaluation of the information exchange between the SwMI and the terminals indicated in the following tables. The verdicts reflect the fact that at the time of the IOP testing it was/was not possible to demonstrate a behaviour that was in accordance with the related requirement.

ISCTI has made every effort to ensure that tests are in accordance with the relevant TIPs. ISCTI has no liability for the test results, or towards the manufacturers.

Rohde&Schwarz SwMI			Teltronic MDT-400
TTR001-01	**CORE**	IOP001-01	
TTR001-01 6	**Registration**	IOP001-01	
TTR001-01 6. 1	**ITSI attach** ITSI attach without group attachment – 1.1	IOP001-01 1. 1	P
TTR001-01 6. 2	**ITSI attach including group attachment** ITSI attach including group attachment – 1.2	IOP001-01 1. 2	No
TTR001-01 6. 2	**ITSI attach including group attachment** MS initiated Multiple group attachment during MS registration – 2.2.1	IOP001-01 2. 2. 1	No
TTR001-01 6. 3	**Roaming & periodic location updating** Cell re-selection without communication activity – 7.1.1	IOP001-01 7. 1. 1	P
TTR001-01 6. 4	**SwMI initiated location updating** SwMI initiated location updating without group reporting – 1.3.1	IOP001-01 1. 3. 1	P
TTR001-01 6. 4	**SwMI initiated location updating** SwMI initiated location updating with group reporting – 1.3.2	IOP001-01 1. 3. 2	P
TTR001-01 6. 5	**De-registration** De-registration – 1.4	IOP001-01 1. 4	P
TTR001-01 7	**Individual call**	IOP001-01	
TTR001-01 7. 1	**Call set-up**	IOP001-01	
TTR001-01 7. 1. 1	**Hook signalling** Individual hook call set-up – 4.1.1	IOP001-01 4. 1. 1	P
TTR001-01 7. 1. 1	**Hook signalling** Individual call set-up, resource queuing – 4.1.3	IOP001-01 4. 1. 3	P
TTR001-01 7. 1. 1	**Hook signalling** Duplex call set-up – 4.2.1	IOP001-01 4. 2. 1	P
TTR001-01 7. 1. 1	**Hook signalling** Duplex call set-up, resource queuing – 4.2.2	IOP001-01 4. 2. 2	P
TTR001-01 7. 1. 1	**Hook signalling** MS-ISDN Individual call – 9.1	IOP001-01 9. 1	P
TTR001-01 7. 1. 2	**Direct through-connect** Individual direct call set-up – 4.1.2	IOP001-01 4. 1. 2	P
TTR001-01 7. 1. 2	**Direct through-connect** Individual call set-up, resource queuing – 4.1.3	IOP001-01 4. 1. 3	P
TTR001-01 7. 1. 2	**Direct through-connect** MS-ISDN Individual call – 9.1	IOP001-01 9. 1	P
TTR001-01 7. 1. 3	**Call set-up Modifications**	IOP001-01	
TTR001-01 7. 1. 3. 1. 4	**Point to point' to 'point to multipoint'** Emergency call set-up, P2P to P2MP call modification – 6.2.2	IOP001-01 6. 2. 2	P
TTR001-01 7. 1. 3. 2. 1	**Direct to hook** Call set-up Modification by Called Party, Direct to Hook, Calling Party signalling – 4.3.1.1	IOP001-01 4. 3. 1. 1	P
TTR001-01 7. 1. 3. 2. 1	**Direct to hook** Call set-up Modification by Called Party, Direct to Hook, Called Party signalling – 4.3.1.2	IOP001-01 4. 3. 1. 2	P
TTR001-01 7. 1. 3. 2. 3	**Duplex to simplex** Call set-up Modification by Called Party, duplex to semi-duplex, Calling Party signalling – 4.3.2.1	IOP001-01 4. 3. 2. 1	No
TTR001-01 7. 1. 3. 2. 3	**Duplex to simplex** Call set-up Modification by Called Party, duplex to semi-duplex, Called Party signalling – 4.3.2.2	IOP001-01 4. 3. 2. 2	No
TTR001-01 7. 2	**Transmission control**	IOP001-01	
TTR001-01 7. 2. 1	**End of transmission** Individual hook call set-up – 4.1.1	IOP001-01 4. 1. 1	P
TTR001-01 7. 2. 1	**End of transmission** Individual direct call set-up – 4.1.2	IOP001-01 4. 1. 2	P
TTR001-01 7. 2. 2	**Request to transmit** Individual hook call set-up – 4.1.1	IOP001-01 4. 1. 1	P
TTR001-01 7. 2. 2	**Request to transmit** Individual direct call set-up – 4.1.2	IOP001-01 4. 1. 2	P
TTR001-01 7. 2. 2	**Request to transmit** MS-ISDN Individual call – 9.1	IOP001-01 9. 1	-

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TTR001-01 7. 2. 3	**Request to transmit (in the presence of an active talker)** Pre-emptive speech item request, non pre-emptive transmission request queuing – 4.1.4	IOP001-01 4. 1. 4	N/A
TTR001-01 7. 2. 3	**Request to transmit (in the presence of an active talker)** Pre-emptive speech item request, non pre-emptive transmission request rejection – 4.1.5	IOP001-01 4. 1. 5	P
TTR001-01 7. 2. 3	**Request to transmit (in the presence of the an active talker)** MS-ISDN Individual call – 9.1	IOP001-01 9. 1	-
TTR001-01 7. 3	**Call Maintenance** Queuing during Individual call restoration, Transmitting – 7.3.4.1	IOP001-01 7. 3. 4. 1	P
TTR001-01 7. 3	**Call Maintenance** Queuing during Individual call restoration, Receiving. (Announced Type 3) – 7.3.4.2	IOP001-01 7. 3. 4. 2	P
TTR001-01 7. 3	**Call Maintenance** Queuing during Individual call restoration, Receiving (Unannounced) – 7.3.4.3	IOP001-01 7. 3. 4. 3	No
TTR001-01 7. 3	**Call Maintenance** Queuing during Individual call restoration, Communication inactivity. (Announced Type 3) – 7.3.5.1	IOP001-01 7. 3. 5. 1	P
TTR001-01 7. 3	**Call Maintenance** Queuing during Individual call restoration, Communication inactivity (Unannounced) – 7.3.5.2	IOP001-01 7. 3. 5. 2	No
TTR001-01 7. 3	**Call Maintenance** Queuing during Duplex call restoration (Announced type 3) – 7.4.2	IOP001-01 7. 4. 2	P
TTR001-01 7. 4	**Call disconnection** Individual hook call set-up – 4.1.1	IOP001-01 4. 1. 1	P
TTR001-01 7. 4	**Call disconnection** Individual direct call set-up – 4.1.2	IOP001-01 4. 1. 2	P
TTR001-01 7. 4	**Call disconnection** Duplex call set-up – 4.2.1	IOP001-01 4. 2. 1	P
TTR001-01 7. 5	**Emergency individual call** Emergency individual call. Resource pre emption – 6.2.1	IOP001-01 6. 2. 1	P
TTR001-01 7. 5. 1	**Emergency speech item request** Emergency individual call. Resource pre-emption – 6.2.1	IOP001-01 6. 2. 1	P
TTR001-01 7. 5. 2	**Emergency individual call modification** Emergency call set-up, P2P to P2MP call modification – 6.2.2	IOP001-01 6. 2. 2	P
TTR001-01 7. 6	**Pre-emptive Priority Individual Call** Pre-emptive priority individual call, resource pre-emption – 4.1.6	IOP001-01 4. 1. 6	P
TTR001-01 7. 6	**Pre-emptive Priority Individual Call** Pre-emptive priority individual call to user in individual call – accepted by MS – 4.1.7	IOP001-01 4. 1. 7	P
TTR001-01 8	**Group management**	IOP001-01	
TTR001-01 8. 1	**General Requirements** Status to scanned group – 5.1.2.3	IOP001-01 5. 1. 2. 3	P
TTR001-01 8. 2. 5	**Class of usage values 101_2, 011_2, 010_2, High, normal, low priority scanned** Status to scanned group – 5.1.2.3	IOP001-01 5. 1. 2. 3	P
TTR001-01 8. 2. 7	**Selected group and SwMI initiated attachment/detachments** SwMI initiated Temporary 1 group detachment and re-attachment of selected group – 2.4.2	IOP001-01 2. 4. 2	P
TTR001-01 8. 2. 7	**Selected group and SwMI initiated attachment/detachments** SwMI initiated Temporary 1 group detachment and re-attachment of the non-selected group – 2.4.3	IOP001-01 2. 4. 3	P
TTR001-01 8. 4	**Attachment of the selected group** MS initiated single group attachment of the selected group by an MS, which can operate without a selected group, attachment accepted – 2.1.1	IOP001-01 2. 1. 1	P
TTR001-01 8. 4	**Attachment of the selected group** MS initiated single group attachment of the selected group, by an MS, which can operate without a selected group, rejection – 2.1.3	IOP001-01 2. 1. 3	P
TTR001-01 8. 4	**Attachment of the selected group** Null group attachment as the selected group – 2.1.5	IOP001-01 2. 1. 5	P
TTR001-01 8. 4	**Attachment of the selected group** Change of selected group – 2.1.6	IOP001-01 2. 1. 6	P
TTR001-01 8. 5	**Multiple group attachment** MS initiated single group attachment of other than selected group, attachment accepted – 2.1.2	IOP001-01 2. 1. 2	No

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TTR001-01 8. 5	**Multiple group attachment** MS initiated single group attachment of other than selected group, rejection – 2.1.4	IOP001-01 2. 1. 4	No
TTR001-01 8. 5	**Multiple group attachment** MS initiated Multiple group attachment during MS registration – 2.2.1	IOP001-01 2. 2. 1	P
TTR001-01 8. 5	**Multiple group attachment** MS initiated Multiple group attachment with attachment to selected group – 2.2.2	IOP001-01 2. 2. 2	P
TTR001-01 8. 5	**Multiple group attachment** MS initiated Multiple group attachment with no selected group – 2.2.3	IOP001-01 2. 2. 3	P
TTR001-01 8. 5	**Multiple group attachment** MS initiated Multiple group attachment, only the attachment of the selected group is accepted – 2.2.4	IOP001-01 2. 2. 4	P
TTR001-01 8. 5	**Multiple group attachment** MS initiated Multiple group attachment, rejection of some of the attached groups – 2.2.5	IOP001-01 2. 2. 5	P
TTR001-01 8. 6	**MS initiated detachment** MS initiated group detachment of the selected group – 2.3.1	IOP001-01 2. 3. 1	No
TTR001-01 8. 6	**MS initiated detachment** MS initiated group detachment of the selected group and an attached group – 2.3.2	IOP001-01 2. 3. 2	No
TTR001-01 8. 7	**SwMI initiated group attachment and detachment**	IOP001-01	
TTR001-01 8. 7. 1	**SwMI initiated detachment** SwMI initiated group detachment with another value than Temporary 1 detachment and attachment – 2.4.1	IOP001-01 2. 4. 1	N/A
TTR001-01 8. 7. 1	**SwMI initiated detachment** SwMI initiated Temporary 1 group detachment and re-attachment of selected group – 2.4.2	IOP001-01 2. 4. 2	P
TTR001-01 8. 7. 1	**SwMI initiated detachment** SwMI initiated Temporary 1 group detachment and re-attachment of the non-selected group – 2.4.3	IOP001-01 2. 4. 3	P
TTR001-01 8. 7. 2	**SwMI initiated attachment** SwMI initiated group detachment with another value than Temporary 1 detachment and attachment – 2.4.1	IOP001-01 2. 4. 1	N/A
TTR001-01 8. 7. 2	**SwMI initiated attachment** SwMI initiated Temporary 1 group detachment and re-attachment of selected group – 2.4.2	IOP001-01 2. 4. 2	P
TTR001-01 8. 7. 2	**SwMI initiated attachment** SwMI initiated Temporary 1 group detachment and re-attachment of the non-selected group – 2.4.3	IOP001-01 2. 4. 3	P
TTR001-01 8. 7. 4	**SwMI initiated location updating with group report request** SwMI initiated location updating with group reporting – 1.3.2	IOP001-01 1. 3. 2	P
TTR001-01 8. 7. 5	**SwMI initiated registration without group report request** SwMI initiated location updating without group reporting – 1.3.1	IOP001-01 1. 3. 1	P
TTR001-01 9	**Group call**	IOP001-01	
TTR001-01 9. 1	**Call set-up** Normal Group call – 3.1	IOP001-01 3. 1	P
TTR001-01 9. 1	**Call set-up** Group Call set-up, resource queuing – 3.3	IOP001-01 3. 3	P
TTR001-01 9. 1	**Call set-up** Group scanning – 3.8	IOP001-01 3. 8	P
TTR001-01 9. 1	**Call set-up** MS-ISDN group call – 9.2	IOP001-01 9. 2	N/A
TTR001-01 9. 1. 2	**Call set-up modifications** Group call-SwMI changes requested call priority – 3.7	IOP001-01 3. 7	P
TTR001-01 9. 2. 1	**End of transmission** Normal Group call – 3.1	IOP001-01 3. 1	P
TTR001-01 9. 2. 1	**End of transmission** Group scanning – 3.8	IOP001-01 3. 8	P
TTR001-01 9. 2. 2	**Request to transmit** Normal Group call – 3.1	IOP001-01 3. 1	P
TTR001-01 9. 2. 2	**Request to transmit** Pre-emptive speech item request, non pre-emptive transmission request queuing – 3.4	IOP001-01 3. 4	N/A
TTR001-01 9. 2. 2	**Request to transmit** Pre-emptive speech item request, non pre-emptive transmission request rejection – 3.5	IOP001-01 3. 5	P
TTR001-01 9. 2. 2	**Request to transmit** Group scanning – 3.8	IOP001-01 3. 8	P
TTR001-01 9. 2. 2	**Request to transmit** MS-ISDN group call – 9.2	IOP001-01 9. 2	N/A
TTR001-01 9. 3	**Call disconnection** Normal Group call – 3.1	IOP001-01 3. 1	P

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TTR001-01 9. 3	**Call disconnection** Group call disconnection by call owner MS – 3.6	IOP001-01 3. 6	P
TTR001-01 9. 4	**Late entry** Late entry **–** 3.2	IOP001-01 3. 2	P
TTR001-01 9. 5	**Emergency group call**	IOP001-01	
TTR001-01 9. 5	**Emergency group call** Emergency call set-up to busy group, speech item interruption – 6.1.1	IOP001-01 6. 1. 1	P
TTR001-01 9. 5	**Emergency group call** Emergency group call resource pre-emption – 6.1.2	IOP001-01 6. 1. 2	P
TTR001-01 9. 5	**Emergency group call** Pre-emption during group call restoration. Transmitting (Announced Type 3) – 7.2.5	IOP001-01 7. 2. 5	P
TTR001-01 9. 5. 1	**Emergency speech item request** Emergency call set-up to busy group speech item interruption – 6.1.1	IOP001-01 6. 1. 1	P
TTR001-01 9. 5. 2	**Emergency group call modification** Emergency call set-up, P2MP to P2P call modification – 6.1.3	IOP001-01 6. 1. 3	P
TTR001-01 9. 7	**Pre-emptive Priority Group Call** Group Call, pre-emptive priority, resource pre-emption – 3.9	IOP001-01 3. 9	P
TTR001-01 9. 7	**Pre-emptive Priority Group Call** Pre-emption of busy user in an individual call, accepted – 3.10	IOP001-01 3.10	N/A
TTR001-01 9. 7	**Pre-emptive Priority Group Call** Pre-emption of busy user in group call, accepted – 3.11	IOP001-01 3.11	N/A
TTR001-01 9. 7	**Pre-emptive Priority Group Call** Pre-emption on busy user, rejected – 3.12	IOP001-01 3.12	N/A
TTR001-01 10	**Cell re-selection**	IOP001-01	
TTR001-01 10. 1	**Undeclared cell re-selection** Cell re-selection without communication activity – 7.1.1	IOP001-01 7. 1. 1	P
TTR001-01 10. 2	**Cell re-selection with call restoration**	IOP001-01	
TTR001-01 10. 2. 1	**Unannounced cell re-selection** Group call restoration, Receiving (Unannounced) – 7.2.2	IOP001-01 7. 2. 2	P
TTR001-01 10. 2. 1	**Unannounced cell re-selection** Queuing during Group call restoration, Receiving (Unannounced) – 7.2.4	IOP001-01 7. 2. 4	N/A
TTR001-01 10. 2. 1	**Unannounced cell re-selection** Individual call restoration, Receiving (Unannounced) – 7.3.2.2	IOP001-01 7. 3. 2. 2	No
TTR001-01 10. 2. 1	**Unannounced cell re-selection** Individual call restoration, Communication inactivity (Unannounced) – 7.3.3.2	IOP001-01 7. 3. 3. 2	No
TTR001-01 10. 2. 1	**Unannounced cell re-selection** Queuing during Individual call restoration, Receiving (Unannounced) – 7.3.4.3	IOP001-01 7. 3. 4. 3	No
TTR001-01 10. 2. 1	**Unannounced cell re-selection** Queuing during individual call restoration, Communication inactivity (Unannounced) – 7.3.5.2	IOP001-01 7. 3. 5. 2	No
TTR001-01 10. 2. 2	**Announced cell re-selection Type without Preferred Neighbour Selected** Group call restoration, Transmitting. (Announced Type 3) – 7.2.1	IOP001-01 7. 2. 1	P
TTR001-01 10. 2. 2	**Announced cell re-selection Type without Preferred Neighbour Selected** Queuing during group call restoration, Transmitting (Announced type 3) – 7.2.3	IOP001-01 7. 2. 3	P
TTR001-01 10. 2. 2	**Announced cell re-selection Type without Preferred Neighbour Selected** Pre-emption during group call restoration. Transmitting. (Announced type 3) – 7.2.5	IOP001-01 7. 2. 5	P
TTR001-01 10. 2. 2	**Announced cell re-selection Type without Preferred Neighbour Selected** Individual call restoration, Transmitting party (Announced type 3) – 7.3.1.1	IOP001-01 7. 3. 1. 1	P
TTR001-01 10. 2. 2	**Announced cell re-selection Type without Preferred Neighbour Selected** Individual call restoration, Transmitting party (Radio link failure) – 7.3.1.2	IOP001-01 7. 3. 1. 2	P1
TTR001-01 10. 2. 2	**Announced cell re-selection Type without Preferred Neighbour Selected** Individual call restoration. Receiving (Announced Type 3) – 7.3.2.1	IOP001-01 7. 3. 2. 1	P

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TTR001-01 10. 2. 2	**Announced cell re-selection Type without Preferred Neighbour Selected** Individual call restoration, Communication inactivity (Announced Type 3) – 7.3.3.1	IOP001-01 7. 3. 3. 1	P
TTR001-01 10. 2. 2	**Announced cell re-selection Type without Preferred Neighbour Selected** Queuing during individual call restoration, Transmitting – 7.3.4.1	IOP001-01 7. 3. 4. 1	P
TTR001-01 10. 2. 2	**Announced cell re-selection Type without Preferred Neighbour Selected** Queuing during Individual call restoration, Receiving (Announced Type 3) – 7.3.4.2	IOP001-01 7. 3. 4. 2	P
TTR001-01 10. 2. 2	**Announced cell re-selection Type without Preferred Neighbour Selected** Queuing during Individual call restoration, Communication inactivity. (Announced Type 3) – 7.3.5.1	IOP001-01 7. 3. 5. 1	P
TTR001-01 10. 2. 2	**Announced cell re-selection Type without Preferred Neighbour Selected** Duplex call restoration (Announced Type 3) – 7.4.1	IOP001-01 7. 4. 1	P
TTR001-01 10. 2. 2	**Announced cell re-selection Type without Preferred Neighbour Selected** Queuing during Duplex call restoration (Announced Type 3) – 7.4.2	IOP001-01 7. 4. 2	P
TTR001-01 10. 2. 3	**Announced cell re-selection Type with Preferred Neighbour Selected** Group call announced cell-reselection with preferred neighbour selected and with call restoration, Transmitting – 7.2.7	IOP001-01 7. 2. 7	N/A
TTR001-01 10. 2. 3	**Announced cell re-selection Type with Preferred Neighbour Selected** Individual call, Announced cell re-reselection with Preferred Neighbour Selected and with Call Restoration Transmitting – 7.3.6	IOP001-01 7. 3. 6	N/A
TTR001-01 10. 3	**Cell re-selection without call restoration**	IOP001-01	
TTR001-01 10. 3. 1	**Announced Type with Preferred Neighbour Selected and without Forward Registration** Group call, Announced cell re-selection without Call Restoration, (Seamless Hand-over) without Forward Registration Transmitting – 7.2.6	IOP001-01 7. 2. 6	N/A
TTR001-01 10. 3. 1	**Announced Type with Preferred Neighbour Selected and without Forward Registration** Duplex call, Announced cell-re-selection without Call Restoration (Seamless Handover), without Forward Registration – 7.4.3	IOP001-01 7. 4. 3	N/A
TTR001-01 10. 3. 2	**Announced Type with Preferred Neighbour Selected and with Forward Registration** Group call, Announced cell re-selection without Call Restoration with Forward Registration, Transmitting – 7.2.8	IOP001-01 7. 2. 8	N/A
TTR001-01 10. 3. 2	**Announced Type with Preferred Neighbour Selected and with Forward Registration** Individual call, Announced cell re-selection without Call Restoration with Forward Registration, Transmitting – 7.3.7	IOP001-01 7. 3. 7	N/A
TTR001-01 11	**Short data service**	IOP001-01	
TTR001-01 11. 1. 1	**Service Overview** MS-ISDN addressed individual Status message – 9.3	IOP001-01 9. 3	No
TTR001-01 11. 1. 1	**Service Overview** MS-ISDN addressed group Status message – 9.4	IOP001-01 9. 4	-
TTR001-01 11. 1. 3. 1	**MS to Wireline Dispatcher with Status Acknowledge** Status transfer to Dispatcher – 5.1.2.2	IOP001-01 5. 1. 2. 2	P
TTR001-01 11. 1. 3. 2	**MS to MS/Group with General Status Acknowledge** Individual addressed status transfer – 5.1.1	IOP001-01 5. 1. 1	P
TTR001-01 11. 1. 3. 2	**MS to MS/Group with General Status Acknowledge** Status transfer to group – 5.1.2.1	IOP001-01 5. 1. 2. 1	P
TTR001-01 11. 1. 3. 2	**MS to MS/Group with General Status Acknowledge** Status to scanned group - 5.1.2.3	IOP001-01 5. 1. 2. 3	P
TTR001-01 11. 1. 3. 2	**MS to MS/Group with General Status Acknowledge** MS-ISDN addressed individual Status message – 9.3	IOP001-01 9. 3	No

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TTR001-01 11. 1. 3. 2	**MS to MS/Group with General Status Acknowledge** MS-ISDN addressed group Status message – 9.4	IOP001-01 9. 4	-
TTR001-01 12	**Telephone call**	IOP001-01	
TTR001-01 12. 1	**Gateway addresses** TETRA-originated call set-up – 8.1	IOP001-01 8. 1	P
TTR001-01 12. 2	**Call Set-up**	IOP001-01	
TTR001-01 12. 2. 1	**MS Originated, Late Through-Connect** TETRA-originated call set-up – 8.1	IOP001-01 8. 1	P
TTR001-01 12. 2. 2	**MS Originated, Early Through-Connect** TETRA-originated call set-up – 8.1	IOP001-01 8. 1	-
TTR001-01 12. 2. 3	**MS Originated, Call Queued** TETRA-originated call set-up queuing – 8.2	IOP001-01 8. 2	P
TTR001-01 12. 2. 4	**MS terminated** PSTN originated call – 8.3	IOP001-01 8. 3	P
TTR001-01 12. 4	**DTMF Over dial** TETRA-originated successful DTMF over-dial – 8.4	IOP001-01 8. 4	P
TTR001-01 12. 4	**DTMF Over dial** TETRA-originated unsuccessful DTMF over-dial – 8.5	IOP001-01 8. 5	N/A
TTR001-01 12. 5	**Disconnect Causes** TETRA-originated call set-up – 8.1	IOP001-01 8. 1	P
TTR001-01 12. 5	**Disconnect Causes** TETRA-originated call set-up queuing – 8.2	IOP001-01 8. 2	P
TTR001-01 12. 5	**Disconnect Cause** PSTN originated call – 8.3	IOP001-01 8. 3	P
TTR001-01 12. 6	**Emergency telephone call** Emergency call to emergency number – 6.3.1	IOP001-01 6. 3. 1	P
TTR001-01 14	**Layer 2 operation**	IOP001-01	
TTR001-01 14. 1. 1. 2	**Traffic channel (TCH)** Usage of SACCH during group call – 10.2	IOP001-01 10. 2	N/A
TTR001-01 14. 1. 1. 2	**Traffic channel (TCH)** Usage of SACCH during individual call – 10.4	IOP001-01 10. 4	N/A
TTR001-01 14. 1. 1. 2	**Traffic channel (TCH)** Usage of downlink SACCH, receiving group call – 10.6	IOP001-01 10. 6	N/A
TTR001-01 14. 1. 1. 2	**Traffic channel (TCH)** Usage of downlink SACCH, receiving individual call – 10.8	IOP001-01 10. 8	P
TTR001-01 14. 1. 1. 3	**Fast Associated Control Channel (FACCH)** Usage of downlink FACCH, group call inactivity – 10.5	IOP001-01 10. 5	P
TTR001-01 14. 1. 1. 4	**Up-link FACCH and down-link TCH** Usage of FACCH during group call – 10.1	IOP001-01 10. 1	P
TTR001-01 14. 1. 1. 4	**Up-link FACCH and down-link TCH** Usage of FACCH during individual call – 10.3	IOP001-01 10. 3	P
TTR001-01 14. 1. 1. 5	**Downlink FACCH and uplink TCH** Usage of downlink FACCH, transmitting individual call – 10.7	IOP001-01 10. 7	P
TTR001-02	**SDS**	IOP001-02	
TTR001-02 6	**Service Overview**	IOP001-02	
TTR001-02 6. 1	**Addressing** MS-ISDN addressed individual SDS-TL message – 9.5 Core	IOP001-01 9. 5	P
TTR001-02 6. 1	**Addressing** MS-ISDN addressed group SDS-TL message – 9.6 Core	IOP001-01 9. 6	-

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TTR001-027	**User defined data Type 1, 2 and 3**	IOP001-02	
TTR001-027	**User defined data Type 1, 2 and 3** Individual addressed SDS Type 1 transfer – 1.1.1	IOP001-02 1. 1. 1	P
TTR001-027	**User defined data Type 1, 2 and 3** Individual addressed SDS Type 2 transfer – 1.2.1	IOP001-02 1. 2. 1	P
TTR001-027	**User defined data Type 1, 2 and 3** Individual addressed SDS Type 3 transfer – 1.3.1	IOP001-02 1. 3. 1	P
TTR001-028	**User defined data Type 4**	IOP001-02	
TTR001-028. 1	**User defined data Type 4** SDS-TL message to scanned group (without acknowledgement) – 1.4.3	IOP001-02 1. 4. 3	P
TTR001-028. 1. 2	**MS to MS, Standard report** MS-ISDN addressed individual SDS-TL message – 9.5 Core	IOP001-01 9. 5	-
TTR001-028. 1. 2	**MS to MS, Standard report** MS-ISDN addressed group SDS-TL message – 9.6 Core	IOP001-01 9. 6	-
TTR001-028. 1. 2	**MS to MS, Standard report** Usage of FACCH during group call – 10.1 Core	IOP001-01 10. 1	P
TTR001-028. 1. 2	**MS to MS, Standard report** Usage of SACCH during group call – 10.2 Core	IOP001-01 10. 2	N/A
TTR001-028. 1. 2	**MS to MS, Standard report** Usage of FACCH during individual call – 10.3 Core	IOP001-01 10. 3	P
TTR001-028. 1. 2	**MS to MS, Standard report** Usage of SACCH during individual call – 10.4 Core	IOP001-01 10. 4	N/A
TTR001-028. 1. 2	**MS to MS, Standard Report** Individual addressed text messaging using SDS-TL, (with acknowledgement) – 1.4.1	IOP001-02 1. 4. 1	P
TTR001-028. 1. 2	**MS to MS, Standard Report** Group addressed text messaging using SDS-TL, (without acknowledgement) – 1.4.2	IOP001-02 1. 4. 2	P
TTR001-028. 1. 3	**MS to MS, Short report** MS-ISDN addressed individual SDS-TL message – 9.5 Core	IOP001-01 9. 5	P
TTR001-028. 1. 3	**MS to MS, Short report** Usage of FACCH during individual call – 10.3 Core	IOP001-01 10. 3	-
TTR001-028. 1. 3	**MS to MS, Short report** Usage of SACCH during individual call – 10.4 Core	IOP001-01 10. 4	N/A
TTR001-028. 1. 3	**MS to MS, Short Report** Individual addressed text messaging using SDS-TL, (with acknowledgement) – 1.4.1	IOP001-02 1. 4. 1	P
TTR001-028. 2	**Text messaging**	IOP001-02	
TTR001-028. 2. 1. 2	**Text Length** MS-ISDN addressed individual SDS-TL message – 9.5 Core	IOP001-01 9. 5	P
TTR001-028. 2. 1. 2	**Text Length** MS-ISDN addressed group SDS-TL message – 9.6 Core	IOP001-01 9. 6	-
TTR001-028. 2. 1. 3	**Data Coding Scheme** MS-ISDN addressed individual SDS-TL message – 9.5 Core	IOP001-01 9. 5	P
TTR001-028. 2. 1. 3	**Data Coding Scheme** MS-ISDN addressed group SDS-TL message – 9.6 Core	IOP001-01 9. 6	-
TTR001-028. 2. 1. 4	**PDU Contents** MS-ISDN addressed individual SDS-TL message – 9.5 Core	IOP001-01 9. 5	P
TTR001-028. 2. 1. 4	**PDU Contents** MS-ISDN addressed group SDS-TL message – 9.6 Core	IOP001-01 9. 6	-
TTR001-028. 2. 1. 4	**PDU Contents** Usage of FACCH during group call – 10.1 Core	IOP001-01 10. 1	P
TTR001-028. 2. 1. 4	**PDU Contents** Usage of SACCH during group call – 10.2 Core	IOP001-01 10. 2	N/A

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TTR001-02 8. 2. 1. 4	**PDU contents** Group addressed text messaging using SDS-TL, (without acknowledgement) – 1.4.2	IOP001-02 1. 4. 2	P
TTR001-02 8. 2. 1. 4	**PDU contents** SDS-TL message to scanned group (without acknowledgement) – 1.4.3	IOP001-02 1. 4. 3	P
TTR001-03	**DGNA**	IOP001-03	
TTR001-03 7	**SS-DGNA not supported**	IOP001-03	
TTR001-03 7. 5	**SS-DGNA specific functions not supported** SS-DGNA specific function not supported by MS – 1.1.1	IOP001-03 1. 1. 1	-
TTR001-03 7. 5	**SS-DGNA specific functions not supported** SS-DGNA specific function not supported by SwMI – 1.1.2	IOP001-03 1. 1. 2	-
TTR001-03 8	**Supported SS-DGNA functions**	IOP001-03	
TTR001-03 8. 1	**Group assignment**	IOP001-03	
TTR001-03 8. 1	**Group assignment** DGNA assignment without attachment – 1.2.1	IOP001-03 1. 2. 1	P
TTR001-03 8. 1	**Group assignment** DGNA assign with attachment as selected group, MS has no selected group – 1.3.1	IOP001-03 1. 3. 1	P
TTR001-03 8. 1	**Group assignment** DGNA assign with attachment as selected group, MS has selected group – 1.3.2	IOP001-03 1. 3. 2	P
TTR001-03 8. 1	**Group assignment** DGNA assign with attachment, attachment not allowed at next ITSI attach – 1.4.1	IOP001-03 1. 4. 1	P
TTR001-03 8. 1	**Group assignment** DGNA assign with attachment, attachment required at next ITSI attach – 1.4.2	IOP001-03 1. 4. 2	P
TTR001-03 8. 1	**Group assignment** DGNA assign with attachment, pre programmed group – 1.4.3	IOP001-03 1. 4. 3	P
TTR001-03 8. 1	**Group assignment** DGNA assign with attachment as scanned group, MS has selected group – 1.5.1	IOP001-03 1. 5. 1	P
TTR001-03 8. 1	**Group assignment** DGNA assign, with embedded attachment rejected by MS – 1.6.1	IOP001-03 1. 6. 1	P
TTR001-03 8. 1. 1	**Assignment of a group without attachment** DGNA assignment without attachment – 1.2.1	IOP001-03 1. 2. 1	P
TTR001-03 8. 1. 2	**Assignment of a group with attachment** DGNA assign with attachment as selected group, MS has no selected group – 1.3.1	IOP001-03 1. 3. 1	P
TTR001-03 8. 1. 2	**Assignment of a group with attachment** DGNA assign with attachment as selected group, MS has selected group – 1.3.2	IOP001-03 1. 3. 2	P
TTR001-03 8. 1. 2	**Assignment of a group with attachment** DGNA assign with attachment, attachment not allowed at next ITSI attach – 1.4.1	IOP001-03 1. 4. 1	F1
TTR001-03 8. 1. 2	**Assignment of a group with attachment** DGNA assign with attachment, attachment required at next ITSI attach – 1.4.2	IOP001-03 1. 4. 2	P
TTR001-03 8. 1. 2	**Assignment of a group with attachment** DGNA assign with attachment as scanned group, MS has selected group – 1.5.1	IOP001-03 1. 5. 1	P
TTR001-03 8. 1. 2	**Assignment of a group with attachment** DGNA assign, with embedded attachment rejected by MS – 1.6.1	IOP001-03 1. 6. 1	P
TTR001-03 8. 2	**Group de–assignment**	IOP001-03	
TTR001-03 8. 2	**Group de – assignment** Removing radio subscriber from selected DGNA group – 1.7.1	IOP001-03 1. 7. 1	P
TTR001-03 8. 2	**Group de – assignment** De-assignment of MS from pre-programmed selected group – 1.7.2	IOP001-03 1. 7. 2	No
TTR001-03 8. 2	**Group de–assignment** De-assignment of MS from pre-programmed scanned group – 1.7.3	IOP001-03 1. 7. 3	No
TTR001-04	**AUTHENTICATION**	IOP001-04	
TTR001-04 7	**Authentication functions**	IOP001-04	
TTR001-04 7. 1	**SwMI initiated authentication** Successful ITSI attach with authentication – 1.1.1	IOP001-04 1. 1. 1	P

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TTR001-04 7. 1	**SwMI initiated authentication** Rejected registration, authentication failure – 1.1.2	IOP001-04 1. 1. 2	P
TTR001-04 7. 1	**SwMI initiated authentication** Successful roaming location update with authentication – 1.1.3	IOP001-04 1. 1. 3	P
TTR001-11	**AIE**	IOP001-11	
TTR001-11 2. 3. 5	**DCK Retrieval supported by SwMI**	IOP001-11	
TTR001-11 2. 3. 6	**Security Class 2, Location update**	IOP001-11	
TTR001-11 2. 3. 6	**Security Class 2** Registration with encryption applied. Authentication not required by SwMI – 1.1.1	IOP001-11 1. 1. 1	No
TTR001-11 2. 3. 6	**Security Class 2** Registration with encryption applied. Authentication required by SwMI – 1.1.2	IOP001-11 1. 1. 2	No
TTR001-11 2. 3. 6	**Security Class 2** Registration without encryption applied. Authentication not required by SwMI – 1.1.3	IOP001-11 1. 1. 3	P
TTR001-11 2. 3. 6	**Security Class 2** Registration without encryption applied. Authentication required by SwMI – 1.1.4	IOP001-11 1. 1. 4	P
TTR001-11 2. 3. 6	**Security Class 2** Undeclared cell re-selection – 1.2.1	IOP001-11 1. 2. 1	P
TTR001-11 2. 3. 6	**Security Class 2** Unannounced cell re-selection – 1.2.2	IOP001-11 1. 2. 2	P
TTR001-11 2. 3. 7	**Security Class 3, Location update**	IOP001-11	
TTR001-11 2. 3. 8	**DCK Forwarding using announced type 1 cell re-selection**	IOP001-11	
TTR001-11 2. 3. 9	**DCK Forwarding using announced type 2 cell re-selection**	IOP001-11	
TTR001-11 2. 3.10	**DCK forwarding using OTAR PREPARE and OTAR NEW CELL**	IOP001-11	
TTR001-11 2. 3.11	**Change of Security Class or Cipher Key on the serving cell**	IOP001-11	
TTR001-11 2. 3.16	**Call Related Signalling**	IOP001-11	
TTR001-11 2. 3.16	**Call Related Signalling** Call from Class 2 MS to Class 2 MS 1.3.1.1	IOP001-11 1. 3. 1. 1	P
TTR001-11 2. 3.16	**Call Related Signalling** Call from Class 2 MS to Class 1 MS – 1.3.1.2	IOP001-11 1. 3. 1. 2	P
TTR001-11 2. 3.16	**Call Related Signalling** Call from Class 1 MS to Class 2 MS – 1.3.1.3	IOP001-11 1. 3. 1. 3	P
TTR001-11 2. 3.16	**Call Related Signalling** Call from Class 2 MS to Class 2 Group – 1.3.2.1	IOP001-11 1. 3. 2. 1	P
TTR001-11 2. 3.16	**Call Related Signalling** Call from Class 2 MS to Class 1 Group – 1.3.2.2	IOP001-11 1. 3. 2. 2	P
TTR001-11 2. 3.17	**Call Unrelated Signalling**	IOP001-11	
TTR001-11 2. 3.17	**Call Unrelated Signalling** Status from Class 2 MS in Class 1 Group call to idle Class 2 MS – 1.4.1	IOP001-11 1. 4. 1	P
TTR001-11 2. 3.17	**Call Unrelated Signalling** Status from idle Class 2 MS to Class 2 MS in Class 1 group call – 1.4.2	IOP001-11 1. 4. 2	P
TTR001-11 2. 3.20	**AI Signalling Protection**	IOP001-11	
TTR001-11 2. 3.20	**AI Signalling Protection** Registration with encryption applied. Authentication not required by SwMI – 1.1.1	IOP001-11 1. 1. 1	No
TTR001-11 2. 3.20	**AI Signalling Protection** Registration with encryption applied. Authentication required by SwMI – 1.1.2	IOP001-11 1. 1. 2	No
TTR001-11 2. 3.20	**AI Signalling Protection** Registration without encryption applied. Authentication not required by SwMI – 1.1.3	IOP001-11 1. 1. 3	P
TTR001-11 2. 3.20	**AI Signalling Protection** Registration without encryption applied. Authentication required by SwMI – 1.1.4	IOP001-11 1. 1. 4	P
TTR001-11 2. 3.20	**AI Signalling Protection** Undeclared cell re-selection – 1.2.1	IOP001-11 1. 2. 1	P
TTR001-11 2. 3.20	**AI Signalling Protection** Unannounced cell re-selection – 1.2.2	IOP001-11 1. 2. 2	P

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TTR001-11 2. 6	**Signalling Scenarios**	IOP001-11	
TTR001-11 2. 6. 2	**MS-initiated location updating with SCK ciphering, no SCK request, no authentication** Registration with encryption applied. Authentication not required by SwMI – 1.1.1	IOP001-11 1. 1. 1	No
TTR001-11 2. 6. 2	**MS-initiated location updating with SCK ciphering, no SCK request, no authentication** Registration without encryption applied. Authentication not required by SwMI – 1.1.3	IOP001-11 1. 1. 3	P
TTR001-11 2. 6. 3	**MS-initiated location updating with SCK ciphering, and authentication** Registration with encryption applied. Authentication required by SwMI – 1.1.2	IOP001-11 1. 1. 2	No
TTR001-11 2. 6. 3	**MS-initiated location updating with SCK ciphering, and authentication** Registration without encryption applied. Authentication required by SwMI – 1.1.4	IOP001-11 1. 1. 4	P

Comments

General notes
Rohde&Schwarz does not support operation with class 3 encryption applied.

P1 The test case implies radio link failure, therefore the MS cannot send U-PREPARE. Unannounced cell-reselection was performed according with TIP clause 10.2.1. (Error in test case.)

F1 After power on, DGNA Group C has been attached by Teltronic MS instead of by SwMI.