IST doc.10 V02

TETRA Terminal Interoperability Certificate

July 2002

TELTRONIC

Manufacturer	Terminal Type	Software/Hardware Release No.	Dates of testing
Teltronic	MDT-400	SW: 02.07b00 HW: 00.03.00.04	2-18 July 2002

ISCTI (Istituto Superiore delle Comunicazioni e delle Tecnologie dell'Informazione) has witnessed that the NOKIA infrastructure is operating in accordance with:

TETRA Interoperability Profile:

TIP v2 Core - TTR 001-1 ver 2.1.1,March 2000
TIP v3 SDS - TTR 001-2 ver 1.0.1,August 2001
TIP v3 DGNA -TTR 001-3 ver 1.0.3,May 2001
TIP v3 Authentication - TTR 001-4 ver 1.0.0,November 2000
TIP v3 PD - TTR 001-5 ver 1.0.0, November 2000

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

Authorised IOP test engineer
(Ivano Luciani)

Radio Office Manager
(Ing. A. La Padula)

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

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Information about the equipment used for testing

Testing during the July 2002 IOP Test Session:

The tests were performed using the following SwMI:

Manufacturer		Infrastructure		Software/Hardware Release No.
Nokia		NTS Rel. 3.0		HW: DXT64 (Exchange) SW: w3 6.6-0 CD2 HW: TBS400 (Base Station) SW: TBC 6.38-0 SW: TBBM 3.33-0

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Additional information about the test performed

The tests were performed in the 380-400 MHz band. The SwMI were operating with the following configuration:

MCC	346
MNC	5
Colour code	30 - 35
LA1 carrier frequency (BS Tx)	395.1875 MHz
LA2 carrier frequency (BS Tx)	395.4125 MHz
PSTN gateway	16777184
Subscriber classes	$FFFF_{16}$

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/interoperability).
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 five values:

-	:	No test performed.
N/A	:	Not applicable for the SwMI
P	:	Pass
F	:	Fail
I	:	Inconclusive

No test performed (-) is also assigned either in case of no test case being available or because it is not applicable for the terminal.
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 terminal(s) indicated in the following tables. The verdicts reflect the fact that at the time of the IOP testing is was/was not possible to demonstrate a behaviour that was in accordance with the related requirement.

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Table 1: Test performed CORE TIP V2

Nokia SwMI	Teltronic MDT-400
6 Registration	
6.1 ITSI attach	-
6.2 ITSI attach including group attachment	-
6.3 Roaming location updating	-
6.4 De-registration	-
7 Individual call	
7.1 Call setup	-
7.1 Call setup(Queuing)	-
7.1.1 Hook signalling (simplex)	-
7.1.1 Hook signalling (Duplex)	-
7.1.2 Direct through-connect (Simplex)	-
7.1.2 Direct through-connect (Duplex)	-
7.1.3 Call setup Modifications	
7.1.3 (Duplex to Semi duplex)	-
7.1.3.2 Setup modification by called party	
7.1.3.2.1 Direct to hook	-
7.2 Transmission control	
7.2.1 End of transmission	-
7.2.2 Request to transmit	-
7.2.3 Request for speech item	**N/A**
7.3 Call maintenance	-
7.4 Call disconnection	-
7.5 Emergency individual call	-
7.5.1 Emergency speech item request	-
7.5.2 Emergency individual call modification	**P**
8 Group management	
8.4 MS Attachment of the selected group	-
8.4 MS Attachment of the selected group (Rejection)	-
8.4 MS Attachment of the Null group	-
8.4 MS Change of the selected group	-
8.5 Multiple group attachment	-
8.5 Multiple group attachment with reject	-
8.6 MS initiated detachment	**P**
8.7 SwMI initiated group attachment and detachment	
8.7.1 SwMI initiated detachment (5.4.1)	**P**
8.7.2 SwMI initiated attachment (5.4.1)	**P**
8.7.3 SwMI initiated group reporting	-
8.7.4 SwMI initiated registration with group report request	-

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Nokia SwMI	Teltronic MDT-400
9 Group call	
9.1 Call setup	-
9.1 Call setup (Queuing)	-
9.1.1 Call setup modifications	-
9.2.1 End of transmission	-
9.2.2 Request to transmit	-
9.2.3 Request for speech item	N/A
9.3 Call disconnection	-
9.4 Late entry	-
9.5 Emergency group call .	
9.5 Emergency group call (Setup to busy group)	-
9.5.1 Emergency speech item request	P
9.5.2 Emergency group call modification	P
10 Cell re-selection	
10.1 Undeclared cell re-selection	-
10.2.1 Unannounced cell re-selection with call restoration	
10.2.1 (Group call)	P
10.2.1 (Queuing, group call)	P
10.2.1 (individual call)	-
10.2.1 (Queuing, individual call)	-
10.2.2 Announced	
10.2.2 (Group call)	P
10.2.2 (Queuing, group call)	N/A
10.2.2 (Pre-emption, group call)	N/A
10.2.2 (individual call, traffic)	P
10.2.2 (individual call, inactivity)	P
10.2.2 (Queuing, individual call, traffic)	P
10.2.2 (Queuing, individual call, inactivity)	P
11 Short data service	
11.1 Status messages (to dispatcher)	P
11.1 Status messages (Text messaging)	-
12 Telephone call	
12.1 Gateway Addresses	-
12.2 Call Set-up	
12.2.1 MS Originated, Late Through-Connect	p
12.2.2 MS Originated, Early Through-Connect	-
12.2.3 MS Originated, Call Queued	-
12.2.4 MS Terminated	-
12.3 Call Maintenance	-
12.4 DTMF Over-dial	P
12.5 Disconnect Causes	p
12.6 Emergency telephone call	-

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Table 2: Test performed DGNA TIP V3

Nokia SwMI	Teltronic MDT-400
7 SS-DGNA not supported	
7.4 General Reject of SS-DGNA[1]	-
7.5 SS-DGNA specific functions not supported by MS (4.1)	P
7.5 SS-DGNA specific functions not supported by SwMI (4.2)	N/A
8 Supported SS-DGNA functions	
8.1 Group assignment	-
8.1.1 Assignment of a group without attachment (4.3)	N/A
8.1.2 Assignment of a group with attachment.(4.4)	N/A
8.1.2 MS NOT allowed to attach that group after ITSI-ATTACH (4.5)	F(5)
8.1.2 Assignment of a group which is already in the MS group database (pre-programmed) (4.6)	P
8.2 Group de-assignment (4.7)	P

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Table 3: Test performed PACKET DATA TIP V3

Nokia SwMI	Teltronic MDT-400
7 Information flow	
7.1 Context Activation (Test case Number index)	
7.1.1 TE IPCP Initiated, Static Address (TE supplied) (5.1)	**P**
7.1.2 TE IPCP Initiated, Dynamic Address (5.2)	**P**
7.1.6 Provisioning Reject (5.3)	**P**
7.2 Context Deactivation	
7.2.1 MS initiated deactivation (5.5)	**P**
7.2.2 SwMI initiated deactivation (5.4)	**P**

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Nokia SwMI	Teltronic MDT-400
7.3 PDCH Access	
7.3.1 MS Initiated Access on the MCCH (5.6)	**P**
7.3.1 MS Initiated Access on the MCCH (Roaming without Data transmission, STANDBY state) (5.13)	**P**
7.3.2 SwMI Initiated Access on the MCCH (5.8)	**P**
7.3.3 MS Initiated Access Reject (5.10)	**P**
7.4 SN Data transfer	
7.4 SN Data transfer (5.7 and 5.9)	**P**
7.5 End of Data	
7.5.1 Normal (5.6-5.9 and 5.13)	**P**
7.5.2 MS timer Expired	**-**
7.6 Advanced Link Set-up	
7.6.1 MS initiated AL Set-up (5.6 and 5.8)	**P**
7.6.2 MS initiated AL Reset	**-**
7.6.3 SwMI initiated AL Reset	**-**
7.7 Advanced Link Data Transfer	
7.7.1 Normal Downlink (5.8 and 5.9)	**P**
7.7.2 Downlink, Lost Segment	**-**
7.7.3 Downlink, Lost Segment and AR	**-**
7.7.4 Normal Up link (5.6 and 5.7)	**P**
7.8 Advanced Link Disconnection	**-**
7.8.1 MS initiated context deactivation (5.5)	**I(4.2)**
7.8.2 SwMI initiated context deactivation (5.4)	**I(4.2)**
7.10 Link Reconnect	
7.10.1 BS Data	**-**
7.10.2 MS Data (Roaming during Data transmission, READY state) (5.11)	**I(9)**
7.10.2 MS Data (Roaming without Data transmission, READY state) (5.12)	**P**

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Comments:

Note (4.2):SwMI doesn't send downlink AL-DISC message to the MS after received AL-DISC.
Note (5): MS accepts SwMI initiated group attachement after MS initiated group attachment is rejected by SwMI
Note (9): After SwMI responses positively to SN-RECONNECT message MS sends SN-DATA TRANSMIT REQUEST message on PDCH instead Advanced link establishment

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