



# TETRA SwMI Interoperability Certificate

19 June 2002

## Nokia Telecommunications

Telelaboratoriet (TDC Mobil A/S) has witnessed that the Nokia infrastructure is operating in accordance with

TTR 001-02 v1.0.1 (Aug 2001), TETRA Interoperability Profile (TIP)  
version 3 Part 2: Short Data Service

for the following features:

Features	Tested(Yes/No)
• MS to MS SDS types 1-3	Yes
• MS to Group SDS types 1-3	No
• MS to MS SDS type 4 without using SDS-TL	No
• MS to Group SDS type 4 without using SDS-TL	No
• MS to MS SDS type 4 using SDS-TL	Yes
• MS to Group SDS type 4 using SDS-TL	Yes

The tests have been performed on Nokia NTS 2.1 infrastructure on the 19<sup>th</sup>-21<sup>th</sup> of March 2001 with hardware release DXT64 and software release (DXT64: W2 2.17-0 CD2, TBS400: TBCPGM 5.23-0), and the 2<sup>th</sup>-5<sup>th</sup> of October 2001 with hardware release DXT64 and software release (DXT64: W2 2.17-0 CD12, TBS400: TBCPGM 5.23-0).

The test results for the tested features can be found in table 1 and 2 of this certificate.

Authorised IOP test engineer

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Telelaboratoriet (TDC Mobil A/S) has made every effort to ensure that tests have been made correctly, and in accordance with TIP V3 Short Data Service. Telelaboratoriet (TDC Mobil A/S) has no liability for the test results, or towards the manufacturers.

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## Information about the equipment used for testing

The tests performed on 19<sup>th</sup>-21<sup>th</sup> of March 2001 were performed using the following terminals:

Manufacturer	Terminal Type	Software/Hardware Release No.
Nokia <sup>1</sup>	THR420E	SW: HY11.03-9 HW: HRU 420-02
Marconi/OTE	PUMA T1	SW: 2.1.M HW: 02.01
Teltronic	MDT 400	SW: 01.02.01 HW: 01.03
Simoco Digital Systems	SRM1000	SW: 4313-327-84844 HW: MS1TT001T20C0000

The tests performed on 2<sup>th</sup>-5<sup>th</sup> of October 2001 were performed using the following terminals:

Manufacturer	Terminal Type	Software/Hardware Release No.
Nokia	THR 850	SW: 2.16-0 HW: JL1-11
Marconi/OTE	PUMA T1	SW: 2.1.M HW: 02.01
Marconi/OTE	PUMA T2	SW: TB23817F HW: 774-0162/01.01
Simoco Digital Systems	SRM1000	SW: 4313-327-73043 HW: MS1TT001T20C0000
Simoco Digital Systems	SRP1000	SW: 4313-327-72142 HW: PS3TT001T30000B
Motorola	MTH 300	SW: 50.40.12 HW: H14QCH6TZ5AN

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<sup>1</sup> Terminals in their native system have not been targeted by IOP tests.

### Additional information about the tests performed during the period 19<sup>th</sup>-21<sup>th</sup> March 2001

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

MCC	238
MNC	2
Colour code	42
LA1 (Høje Tåstrup) carrier frequency (BS Tx)	393.6625 MHz
LA2 (Høje Tåstrup) carrier frequency (BS Tx)	393.5125 MHz
PSTN gateway	16777184
Subscriber classes	FFFF <sub>16</sub>

### Additional information about the tests performed during the period 2<sup>th</sup>-5<sup>th</sup> October 2001

The tests for the Nokia THR 850, Simoco Digital Systems SRM1000, Simoco Digital Systems SRP1000 and the Marconi/OTE PUMA T1 and PUMA T2 terminals were performed in the 380-400 MHz band. The SwMI was operating with the following configuration:

MCC	238
MNC	2
Colour code	42
LA1 (Høje Tåstrup) carrier frequency (BS Tx)	393.6625 MHz
LA2 (Høje Tåstrup) carrier frequency (BS Tx)	393.5125 MHz
PSTN gateway	16777184
Subscriber classes	FFFF <sub>16</sub>

The tests for the Motorola MTH 300 terminal were performed in the 410-430 MHz band. The SwMI was operating with the following configuration:

MCC	238
MNC	2
Colour code	42
LA3 carrier frequency (BS Tx)	421.025 MHz
LA4 carrier frequency (BS Tx)	421.125 MHz
PSTN gateway	16777184
Subscriber classes	FFFF <sub>16</sub>



## Test Results

The tables indicates whether or not tests addressing a specific requirement of the TIP specification have been performed, whether or the not the requirement is applicable for the combination of the SwMI and the terminal, and the result of the test if executed. Each entry of the table may take one of six values: -: No test performed, N/A: Not applicable, P: Pass, F: Fail, I: Inconclusive or NTA: No test case being available. NTA will only be allocated if both SwMI and terminal has indicated that they support (comply with) the corresponding feature (requirement); if either has indicated the feature (requirement) as not being supported then the entry will be N/A. In case of all entries of a row being N/A it should be assumed that this feature is not supported by the SwMI.

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 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.

**Table 1: Tests performed during the period 19<sup>th</sup>-21<sup>th</sup> March 2001**

Abbreviations:

- : Not performed.
- N/A: Not applicable
- P: Pass
- F: Fail
- I: Inconclusive
- NTA: No test case available

Nokia SwMI	Marconi/OTE PUMA T1	Teltronic MDT 400	Simoco Digital Systems SRM1000
<b>7 User defined data type 1, 2 and 3</b> (Test case Number index)			
7 Type 1	NTA	NTA	NTA
7 Type 2	NTA	NTA	NTA
7 Type 3 (5.1)	P	P	N/A
<b>8 User defined data type 4 without SDS-TL</b>			
<b>8.1 User defined data type 4 with SDS-TL</b>			
8.1.2 MS to MS, Standard Report	NTA	NTA	NTA
8.1.2 MS to MS, Standard Report with Store and Forward	NTA	NTA	NTA
8.1.3 MS to MS, Short Report	NTA	NTA	NTA
<b>8.2 Text messaging</b>			
8.2.1.4 No acknowledgement requested (5.3)	P <sup>3</sup>	P <sup>3</sup>	P <sup>1,3</sup>
8.2.2 MS to MS, Short report (5.2)	P <sup>3</sup>	(P) <sup>2,3</sup>	P <sup>1,3</sup>

**Comments:**

- 1) The MS is connected to an external device (dispatcher).
- 2) The originating MS requests delivery report with the service selection "only standard report allowed", but the destination MS sends a short report.
- 3) Time stamp is present.

**Table 2: Tests performed during the period 2<sup>th</sup>-5<sup>th</sup> October 2001**

Abbreviations:

- : Not performed.
- N/A: Not applicable
- P: Pass
- F: Fail
- I: Inconclusive
- NTA: No test case available

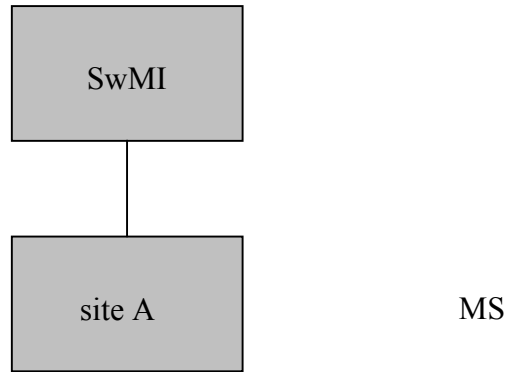
Nokia SwMI	Nokia THR 850	Marconi/OTE PUMA T1	Marconi/OTE PUMA T2	Motorola MTH 300	Simoco Digital Systems SRP1000	Simoco Digital Systems SRM1000
<b>7 User defined data type 1, 2 and 3</b> (Test case Number index)						
7 Type 1	NTA	NTA	NTA	NTA	NTA	NTA
7 Type 2	NTA	NTA	NTA	NTA	NTA	NTA
7 Type 3 (5.1)	N/A	P <sup>1</sup>	P <sup>1</sup>	N/A	N/A	N/A
<b>8 User defined data type 4 without SDS-TL</b>						
	NTA	NTA	NTA	NTA	NTA	NTA
<b>8.1 User defined data type 4 with SDS-TL</b>						
8.1.2 MS to MS, Standard Report	NTA	NTA	NTA	NTA	NTA	NTA
8.1.2 MS to MS, Standard Report with Store and Forward	NTA	NTA	NTA	NTA	NTA	NTA
8.1.3 MS to MS, Short Report	NTA	NTA	NTA	NTA	NTA	NTA
<b>8.2 Text messaging</b>						
8.2.1.4 No acknowledgement requested (5.3)	P <sup>2</sup>	P <sup>2</sup>	P <sup>2</sup>	N/A	P <sup>2</sup>	P <sup>2</sup>
8.2.2 MS to MS, Short report (5.2)	P <sup>2</sup>	P <sup>2</sup>	P <sup>2</sup>	P <sup>2</sup>	P <sup>2</sup>	P <sup>2</sup>

**Comments:**

- 1) The test is supposed to be performed with mixed terminals (manufacturers) as originating MS and destination MS, but the functionality is only supported by the Marconi/OTE terminals.
- 2) Time stamp is present.

### Test setup description

All tests except the cell re-selection test are carried out on a single site system with one carrier using standard antenna configurations.



For the cell re-selection test, an additional site is activated and the roaming MS is connected to the system via RF cables as illustrated below.

