



TETRA SwMI Interoperability Certificate

3 June 2002

Motorola

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

TTR 001-5 v1.0.0 (Nov 2000), TETRA Interoperability Profile (TIP)
version 3 Part 5: Packet Data

for the following features:

| Features | Tested(Yes/No) |
|--|----------------|
| • Single PDP context | Yes |
| • Context activation and context deactivation | Yes |
| • Datagram relay from TE to SwMI and from SwMI to TE | No |
| • IP static and dynamic addressing | Yes |
| • IP user authentication | No |
| • Header compression | No |

The tests have been performed on Motorola infrastructure DIMETRA R3.1.006 during the period 15th-16th of March 2001 with Ambassador switch: Hardware BLN7022A39, software: q400, and Site Controller: Hardware 0.1.4, software: R030330.

The test results for the tested features can be found in the table 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 Packet Data. 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 15th-16th of March 2001 were performed using the following terminal:

| Manufacturer | Terminal Type | Software/Hardware Release No. |
|--------------|---------------|-------------------------------|
| Nokia | THR420E | SW: HYT1.1003 HW: HRU420 |

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 | 238 |
| MNC | 1 |
| Colour code | 41 |
| LA20 (Høje Tåstrup) carrier frequency (BS Tx) | 393.6125 MHz |
| LA24 (Høje Tåstrup) carrier frequency (BS Tx) | 393.5375 MHz |
| PSTN gateway | 43488011 |
| Subscriber classes | FFFF ₁₆ |

Test Results

The table indicates whether or not tests addressing a specific requirement of the TIP specification have been performed, whether or 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 table. 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.

**Tests performed during the period 15th-16th March 2001.**

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

| Motorola SwMI | Motorola MTM300 | Nokia THR420E |
|--|--------------------|------------------|
| 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 |
| 7.1.3 User Authentication using PAP | NTA | NTA |
| 7.1.4 User Authentication using CHAP | NTA | NTA |
| 7.1.5 Failed User Authentication | NTA | NTA |
| 7.1.6 Provision 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 |
| 7.3 PHCH 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 (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 | NTA | NTA |
| 7.5.3 Channel change | NTA | NTA |
| 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 | NTA | NTA |
| 7.6.3 SwMI initiated AL Reset | NTA | NTA |
| 7.7 Advanced Link Data Transfer | | |
| 7.7.1 Normal Downlink (5.7 and 5.9) | - | P |
| 7.7.2 Downlink, Lost Segment | NTA | NTA |
| 7.7.3 Downlink, Lost Segment and AR | NTA | NTA |
| 7.7.4 Normal Uplink (5.6 and 5.7) | - | P |
| 7.8 Advanced Link Disconnection | | |
| 7.8.1 MS initiated context deactivation (5.5) | - | I ¹ |
| 7.8.2 SwMI initiated context deactivation (5.4) | - | I ² |

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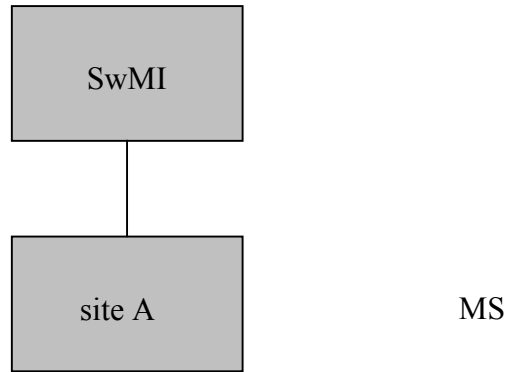
| Motorola SwMI | Motorola MTM300 | Nokia THR420E |
|--|--------------------|------------------|
| 7.9 Resource Management (Test case Number index) | | |
| 7.9.1 Granting delay on the PDCH | NTA | NTA |
| 7.9.2 MS Reservation Request | NTA | NTA |
| 7.9.3 Resource allocation - Uplink | NTA | NTA |
| 7.9.4 Resource allocation – Uplink acknowledgement | NTA | NTA |
| 7.9.5 MS Reservation Request Update | NTA | NTA |
| 7.9.6 MS Reservation Request – Missing FINAL_AR | NTA | NTA |
| 7.10 Link Reconnect | | |
| 7.10.1 BS Data | NTA | NTA |
| 7.10.2 MS Data (Roaming during Data transmission, READY state) (5.11) | - | P ³ |
| 7.10.2 MS Data (Roaming without Data transmission, READY state) (5.12) | - | P |

Comments:

- 1) The acknowledgement to AL-DISC PDU is not shown in the logs.
- 2) Advanced Link Disconnection signalling is not shown in the logs.
- 3) Advanced Link Roaming is N/A for the MS. The MS initiate the Advanced Link Setup procedure just after roaming.

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.

