



TETRA Terminal Interoperability Certificate

September 2003

THALES

| Manufacturer | Type | Software/Hardware Release No. | Period of testing |
|---------------|---------------|--|----------------------|
| Thales | Vector | HW: Ver. 1 SW: Control Target (OT): (TMO) Ver 4.2.3 (Build 18/09/03) Control Boot:(Dbg)Ver 2.0.0(Build 29/08/02) TAA: (Dbg) Ver 3.12.1 (Build 30/01/03) Control FPGA (UBGA): (Rel) Ver 3.14.0 (Build 17/02/03) Transceiver FPGA 1W :Ver 1.07 TSM Main103:(Dbg) Ver 4.2.0(Build 29/07/03) AlgPkgTea2: (Rel) Ver 4.2.3 (Build 18/09/03) Black DSP: (Rel) Ver 4.2.3 (Build 18/09/03) Red DSP: (Rel) Ver 4.2.0 (Build 28/07/03) | 22-23/09/2003 |

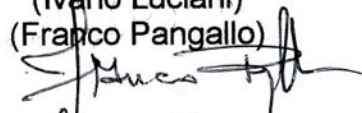

ISCTI (Istituto Superiore delle Comunicazioni e delle Tecnologie dell'Informazione) has witnessed that the THALES Vector is operating in accordance with:

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, TTR001-04, Authentication, Ver. 1.0.0, November 2000
 TETRA MoU, TTR001-09, Ambience Listening, Ver. 1.0.3, January 2002
 TETRA MoU, TTR001-10, E2EE with CVO, Ver. 1.0.1, December 2001
 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.

Authorised IOP test engineer

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Radio Office Manager

(Ing. A. La Padula)




Information on the equipments used for testing in the September 2003 IOP Test Session

The tests were performed using the following SwMI:

| Manufacturer | Type | Software/Hardware Release No. |
|--------------|---------|--|
| Nokia SwMI | NTS 3.0 | Exchange: HW: DXT256 SW: W3 6.7-3 Base Station: HW: TBS400 TBC SW: 6.57-0 (Base Station controller) TBBM SW: 3.51-0 (Transceiver unit) |

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 | 346 |
| MNC | 5 |
| Colour code | 1 (LA1) and 2 (LA2) |
| LA1 carrier frequency (BS Tx) | 395,1875 MHz |
| LA2 carrier frequency (BS Tx) | 395,4125 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, IOP001-04, Authentication, Ver. 1.1.0

TETRA MoU, IOP001-09, Ambience Listening, Ver. 1.1.0

TETRA MoU, IOP001-10, E2EE, 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/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 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.



| NOKIA SwMI | | Thales Vector |
|-----------------------|--|--------------------------|
| CORE TTR001-01 | | |
| 6 | Registration | |
| 6.1 | ITSI attach ITSI attach without group attachment – 1.1 | - |
| 6.2 | ITSI attach including group attachment ITSI attach including group attachment – 1.2 | - |
| 6.2 | ITSI attach including group attachment MS initiated Multiple group attachment during MS registration – 2.2.1 | - |
| 6.3 | Roaming & periodic location updating Cell re-selection without communication activity – 7.1.1 | - |
| 6.4 | SwMI initiated location updating SwMI initiated location updating without group reporting – 1.3.1 | - |
| 6.4 | SwMI initiated location updating SwMI initiated location updating with group reporting – 1.3.2 | N/A |
| 6.5 | De-registration De-registration – 1.4 | - |
| 7 | Individual call | |
| 7.1 | Call set-up | |
| 7.1.1 | Hook signalling Individual hook call set-up – 4.1.1 | - |
| 7.1.1 | Hook signalling Individual call set-up, resource queuing – 4.1.3 | Pr |
| 7.1.1 | Hook signalling Duplex call set-up – 4.2.1 | - |
| 7.1.1 | Hook signalling Duplex call set-up, resource queuing – 4.2.2 | Pr |
| 7.1.1 | Hook signalling MS-ISDN Individual call – 9.1 | No |
| 7.1.2 | Direct through-connect MS-ISDN Individual call – 9.1 | No |
| 7.1.2 | Direct through-connect Individual direct call set-up – 4.1.2 | - |
| 7.1.2 | Direct through-connect Individual call set-up, resource queuing – 4.1.3 | - |
| 7.1.3 | Call set-up Modifications | |
| 7.1.3.1.4 | Point to point' to 'point to multipoint' Emergency call set-up, P2P to P2MP call modification – 6.2.2 | - |
| 7.1.3.2.1 | Direct to hook Call set-up Modification by called party, Direct to hook – 4.3.1 | - |
| 7.1.3.2.3 | Duplex to simplex Call set-up modification by Called Party, duplex to semiduplex – 4.3.2 | Pr |
| 7.2 | Transmission control | |
| 7.2.1 | End of transmission Individual hook call set-up – 4.1.1 | - |
| 7.2.1 | End of transmission Individual direct call set-up – 4.1.2 | - |
| 7.2.2 | Request to transmit Individual hook call set-up – 4.1.1 | - |
| 7.2.2 | Request to transmit MS-ISDN Individual call – 9.1 | No |
| 7.2.2 | Request to transmit Individual direct call set-up – 4.1.2 | - |
| 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 | N/A |
| 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 | N/A |
| 7.2.3 | Request to transmit (in the presence of the an active talker) MS-ISDN Individual call – 9.1 | No |



| NOKIA SwMI | | Thales Vector |
|------------|--|------------------|
| 7.3 | Call Maintenance Queuing during Individual call restoration, Transmitting – 7.3.4.1 | Pr |
| 7.3 | Call Maintenance Queuing during Individual call restoration, Receiving. (Announced Type 3) – 7.3.4.2 | - |
| 7.3 | Call Maintenance Queuing during Individual call restoration, Receiving (Unannounced) – 7.3.4.3 | No |
| 7.3 | Call Maintenance Queuing during Individual call restoration, Communication inactivity. (Announced Type 3) – 7.3.5.1 | - |
| 7.3 | Call Maintenance Queuing during Individual call restoration, Communication inactivity (Unannounced) – 7.3.5.2 | No |
| 7.3 | Call Maintenance Queuing during Duplex call restoration (Announced type 3) – 7.4.2 | - |
| 7.4 | Call disconnection Individual hook call set-up – 4.1.1 | - |
| 7.4 | Call disconnection Individual direct call set-up – 4.1.2 | - |
| 7.4 | Call disconnection Duplex call set-up – 4.2.1 | - |
| 7.5 | Emergency individual call Emergency individual call. Resource pre-emption – 6.2.1 | Pr |
| 7.5.1 | Emergency speech item request Emergency individual call. Resource pre-emption – 6.2.1 | Pr |
| 7.5.2 | Emergency individual call modification Emergency call set-up, P2P to P2MP call modification – 6.2.2 | - |
| 8 | Group management | |
| 8.2.5 | Class of usage values 1012, 0112, 0102, High, normal, low priority scanned Status to scanned group – 5.1.2.3 | P |
| 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 | - |
| 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 | P |
| 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 | - |
| 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 | - |
| 8.4 | Attachment of the selected group Null group attachment as the selected group – 2.1.5 | P |
| 8.4 | Attachment of the selected group Change of selected group – 2.1.6 | - |
| 8.5 | Multiple group attachment MS initiated single group attachment of other than selected group, attachment accepted – 2.1.2 | No |
| 8.5 | Multiple group attachment MS initiated single group attachment of other than selected group, rejection – 2.1.4 | No |



| NOKIA SwMI | | Thales Vector |
|------------|--|------------------|
| 8.5 | Multiple group attachment MS initiated Multiple group attachment, rejection of some of the attached groups – 2.2.5 | P |
| 8.5 | Multiple group attachment MS initiated Multiple group attachment with attachment to selected group – 2.2.2 | No |
| 8.5 | Multiple group attachment MS initiated Multiple group attachment during MS registration – 2.2.1 | P |
| 8.5 | Multiple group attachment Ms initiated Multiple group attachment with no selected group – 2.2.3 | - |
| 8.5 | Multiple group attachment MS initiated Multiple group attachment, only the attachment of the selected group is accepted – 2.2.4 | - |
| 8.6 | MS initiated detachment MS initiated group detachment of the selected group – 2.3.1 | - |
| 8.6 | MS initiated detachment MS initiated group detachment of the selected group and an attached group – 2.3.2 | No |
| 8.7 | SwMI initiated group attachment and detachment | |
| 8.7.1 | SwMI initiated detachment SwMI initiated group detachment with another value than Temporary 1 detachment and attachment – 2.4.1 | N/A |
| 8.7.1 | SwMI initiated detachment SwMI initiated Temporary 1 group detachment and re-attachment of selected group – 2.4.2 | - |
| 8.7.1 | SwMI initiated detachment SwMI initiated Temporary 1 group detachment and re-attachment of the non-selected group – 2.4.3 | P |
| 8.7.2 | SwMI initiated attachment SwMI initiated group detachment with another value than Temporary 1 detachment and attachment – 2.4.1 | N/A |
| 8.7.2 | SwMI initiated attachment SwMI initiated Temporary 1 group detachment and re-attachment of the non-selected group – 2.4.3 | P |
| 8.7.2 | SwMI initiated attachment SwMI initiated Temporary 1 group detachment and re-attachment of selected group – 2.4.2 | - |
| 8.7.4 | SwMI initiated location updating with group report request SwMI initiated location updating with group reporting – 1.3.2 | N/A |
| 8.7.5 | SwMI initiated registration without group report request SwMI initiated location updating without group reporting – 1.3.1 | - |
| 9 | Group call | |
| 9.1 | Call set-up Normal Group call – 3.1 | - |
| 9.1 | Call set-up Group Call set-up, resource queuing – 3.3 | - |
| 9.1 | Call set-up MS-ISDN group call – 9.2 | No |
| 9.1 | Call set-up Group scanning – 3.8 | P |
| 9.1.2 | Call set-up modifications Group call-SwMI changes requested call priority – 3.7 | N/A |
| 9.2.1 | End of transmission Normal Group call – 3.1 | - |
| 9.2.1 | End of transmission Group scanning – 3.8 | P |
| 9.2.2 | Request to transmit Normal Group call – 3.1 | - |
| 9.2.2 | Request to transmit MS-ISDN group call – 9.2 | No |
| 9.2.2 | Request to transmit Pre-emptive speech item request, non pre-emptive transmission request queuing – 3.4 | N/A |



| NOKIA SwMI | | Thales Vector |
|------------|--|------------------|
| 9.2.2 | Request to transmit Group scanning – 3.8 | P |
| 9.2.2 | Request to transmit Pre-emptive speech item request, non pre-emptive transmission request rejection –3.5 | N/A |
| 9.3 | Call disconnection Normal Group call – 3.1 | - |
| 9.3 | Call disconnection Group call disconnection by call owner MS – 3.6 | N/A |
| 9.4 | Late entry Late entry– 3.2 | - |
| 9.5 | Emergency group call | |
| 9.5 | Emergency group call Emergency call set-up to busy group, speech item interruption – 6.1.1 | Pr |
| 9.5 | Emergency group call Emergency group call resource pre-emption – 6.1.2 | Pr |
| 9.5 | Emergency group call Pre-emption during group call restoration. Transmitting (Announced Type 3) – 7.2.5 | N/A |
| 9.5.1 | Emergency speech item request Emergency call set-up to busy group speech item interruption – 6.1.1 | Pr |
| 9.5.2 | Emergency group call modification Emergency call set-up, P2MP to P2P call modification – 6.1.3 | - |
| 10 | Cell re-selection | |
| 10.1 | Undeclared cell re-selection Cell re-selection without communication activity – 7.1.1 | - |
| 10.2 | Cell re-selection with call restoration | |
| 10.2.1 | Unannounced cell re-selection Group call restoration, Receiving (Unannounced) – 7.2.2 | - |
| 10.2.1 | Unannounced cell re-selection Queuing during Group call restoration, Receiving (Unannounced) – 7.2.4 | Pr |
| 10.2.1 | Unannounced cell re-selection Queuing during Individual call restoration, Receiving (Unannounced) – 7.3.4.3 | No |
| 10.2.1 | Unannounced cell re-selection Queuing during individual call restoration, Communication inactivity (Unannounced) – 7.3.5.2 | No |
| 10.2.1 | Unannounced cell re-selection Individual call restoration, Receiving (Unannounced) – 7.3.2.2 | No |
| 10.2.1 | Unannounced cell re-selection Individual call restoration, Communication inactivity (Unannounced) - 7.3.3.2 | No |
| 10.2.2 | Announced cell re-selection Type without Preferred Neighbour Selected Group call restoration, Transmitting. (Announced Type 3) – 7.2.1 | Pr |
| 10.2.2 | Announced cell re-selection without Preferred Neighbour Selected Queuing during group call restoration, Transmitting (Announced type 3) – 7.2.3 | Pr |
| 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 | N/A |
| 10.2.2 | Announced cell re-selection Type without Preferred Neighbour Selected Individual call restoration, Transmitting party – 7.3.1 | - |
| 10.2.2 | Announced cell re-selection Type without Preferred Neighbour Selected Individual call restoration. Receiving (Announced Type 3) – 7.3.2.1 | - |

| NOKIA SwMI | | Thales Vector |
|------------|---|------------------|
| 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 | - |
| 10.2.2 | Announced cell re-selection Type without Preferred Neighbour Selected Queuing during individual call restoration, Transmitting – 7.3.4.1 | Pr |
| 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 | - |
| 10.2.2 | Announced cell re-selection Type without Preferred Neighbour Selected Individual call restoration, Communication inactivity (Announced Type 3) – 7.3.3.1 | - |
| 10.2.2 | Announced cell re-selection Duplex call restoration (Announced Type 3) – 7.4.1 | - |
| 10.2.2 | Announced cell re-selection Queuing during Duplex call restoration (Announced Type 3) – 7.4.2 | - |
| 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 | - |
| 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 | N/A |
| 10.3 | Cell re-selection without call restoration | |
| 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 | N/A |
| 10.3.1 | Announced Type with Preferred Neighbour Selected and without Forward Registration Duplex call, Announced cell-reselection without Call Restoration (Seamless Handover), without Forward Registration – 7.4.3 | N/A |
| 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 | N/A |
| 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 | N/A |
| 11 | Short data service | |
| 11.1.1 | Service Overview MS-ISDN addressed individual Status message – 9.3 | No |
| 11.1.1 | Service Overview MS-ISDN addressed group Status message – 9.4 | No |
| 11.1.3.1 | MS to Wireline Dispatcher with Status Acknowledge Status transfer to Dispatcher – 5.1.2.2 | - |
| 11.1.3.2 | MS to MS/Group with General Status Acknowledge Status transfer to group – 5.1.2.1 | - |



| NOKIA SwMI | | Thales Vector |
|-----------------------|---|------------------|
| 11.1.3.2 | MS to MS/Group with General Status Acknowledge Individual addressed status transfer – 5.1.1 | - |
| 11.1.3.2 | MS to MS/Group with General Status Acknowledge Status to scanned group - 5.1.2.3 | P |
| 11.1.3.2 | MS to MS/Group with General Status Acknowledge MS- ISDN addressed group Status message – 9.4 | No |
| 11.1.3.2 | MS to MS/Group with General Status Acknowledge MS- ISDN addressed individual Status message – 9.3 | No |
| 12 | Telephone call | |
| 12.2 | Call Set-up | |
| 12.1 | Gateway addresses TETRA-originated call set-up – 8.1 | Pr |
| 12.2.1 | MS Originated, Late Through-Connect TETRA-originated call set-up – 8.1 | Pr |
| 12.2.2 | MS Originated, Early Through-Connect TETRA-originated call set-up – 8.1 | - |
| 12.2.3 | MS Originated, Call Queued TETRA-originated call set-up queuing – 8.2 | - |
| 12.2.4 | MS terminated PSTN originated call – 8.3 | Pr |
| 12.4 | DTMF Over dial TETRA-originated successful DTMF over-dial – 8.4 | - |
| 12.4 | DTMF Over dial TETRA-originated unsuccessful DTMF over- dial – 8.5 | N/A |
| 12.5 | Disconnect Causes TETRA-originated call set-up – 8.1 | Pr |
| 12.5 | Disconnect Causes TETRA-originated call set-up queuing – 8.2 | - |
| 12.5 | Disconnect Cause PSTN originated call – 8.3 | Pr |
| 12.6 | Emergency telephone call Emergency call to emergency number – 6.3.1 | - |
| 14 | Layer 2 operation | |
| 14.1.1.2 | Traffic channel (TCH) Usage of SACCH during group call – 10.2 | No |
| 14.1.1.2 | Traffic channel (TCH) Usage of SACCH during individual call – 10.4 | No |
| 14.1.1.4 | Up-link FACCH and down-link TCH Usage of FACCH during group call – 10.1 | No |
| 14.1.1.4 | Up-link FACCH and down-link TCH Usage of FACCH during individual call – 10.3 | No |
| SDS TTR 001-02 | | |
| 6 | Service Overview | |
| 6.1 | Addressing MS-ISDN addressed individual SDS-TL message – 9.5 Core | No |
| 6.1 | Addressing MS-ISDN addressed group SDS-TL message – 9.6 Core | No |
| 7 | User defined data Type 1, 2 and 3 | |
| 7 | User defined data Type 1, 2 and 3 Individual addressed SDS Type 1 transfer – 1.1.1 | Pr |
| 7 | User defined data Type 1, 2 and 3 Individual addressed SDS Type 2 transfer – 1.2.1 | Pr |



| NOKIA SwMI | | Thales Vector |
|--|---|------------------|
| 7 | User defined data Type 1, 2 and 3 Individual addressed SDS Type 3 transfer – 1.3.1 | Pr |
| 8 User defined data Type 4 | | |
| 8.1 | User defined data Type 4 SDS-TL message to scanned group (without acknowledgement) – 1.4.3 | No |
| 8.1.2 | MS to MS, Standard Report Individual addressed text messaging using SDS-TL, (with acknowledgement) – 1.4.1 | No |
| 8.1.2 | MS to MS, Standard Report Group addressed text messaging using SDS-TL, (without acknowledgement) – 1.4.2 | No |
| 8.1.2 | MS to MS, Standard report MS-ISDN addressed individual SDS-TL message – 9.5 Core | No |
| 8.1.2 | MS to MS, Standard report MS-ISDN addressed group SDS-TL message – 9.6 Core | No |
| 8.1.2 | MS to MS, Standard report Usage of FACCH during group call – 10.1 Core | No |
| 8.1.2 | MS to MS, Standard report Usage of SACCH during group call – 10.2 Core | No |
| 8.1.2 | MS to MS, Standard report Usage of FACCH during individual call – 10.3 Core | No |
| 8.1.2 | MS to MS, Standard report Usage of SACCH during individual call – 10.4 Core | No |
| 8.1.3 | MS to MS, Short Report Individual addressed text messaging using SDS-TL, (with acknowledgement) – 1.4.1 | No |
| 8.1.3 | MS to MS, Short Report Group addressed text messaging using SDS-TL, (without acknowledgement) – 1.4.2 | - |
| 8.1.3 | MS to MS, Short report MS-ISDN addressed individual SDS-TL message – 9.5 Core | No |
| 8.1.3 | MS to MS, Short report Usage of FACCH during individual call – 10.3 Core | No |
| 8.1.3 | MS to MS, Short report Usage of SACCH during individual call – 10.4 Core | No |
| 8.2 Text messaging | | |
| 8.2.1.2 | Text Length MS-ISDN addressed individual SDS-TL message – 9.5 Core | No |
| 8.2.1.2 | Text Length MS-ISDN addressed group SDS-TL message – 9.6 Core | No |
| 8.2.1.3 | Data Coding Scheme MS-ISDN addressed individual SDS-TL message – 9.5 Core | No |
| 8.2.1.3 | Data Coding Scheme MS-ISDN addressed group SDS-TL message – 9.6 Core | No |
| 8.2.1.4 | PDU Contents Usage of FACCH during group call – 10.1 Core | No |
| 8.2.1.4 | PDU Contents Usage of SACCH during group call – 10.2 Core | No |
| 8.2.1.4 | PDU Contents MS-ISDN addressed individual SDS-TL message – 9.5 Core | No |
| 8.2.1.4 | PDU Contents MS-ISDN addressed group SDS-TL message – 9.6 Core | No |
| 8.2.1.4 | PDU contents Report Group addressed text messaging using SDS-TL, (without acknowledgement) – 1.4.2 | No |
| 8.2.1.4 | PDU contents SDS-TL message to scanned group (without acknowledgement) – 1.4.3 | No |



| NOKIA SwMI | | Thales Vector |
|------------------------|--|--------------------------|
| DGNA TTR 001-03 | | |
| 7 | SS-DGNA not supported | |
| 7.5 | SS-DGNA specific functions not supported SS-DGNA specific function not supported by MS – 1.1.1 | No |
| 7.5 | SS-DGNA specific functions not supported SS-DGNA specific function not supported by SwMI – 1.1.2 | N/A |
| 8 | Supported SS-DGNA functions | |
| 8.1 | Group assignment | |
| 8.1 | Group assignment DGNA assignment without attachment – 1.2.1 | N/A |
| 8.1 | Group assignment DGNA assign with attachment as selected group, MS has no selected group – 1.3.1 | N/A |
| 8.1 | Group assignment DGNA assign with attachment as selected group, MS has selected group – 1.3.2 | N/A |
| 8.1 | Group assignment DGNA assign with attachment, attachment not allowed at next ITSI attach – 1.4.1 | No |
| 8.1 | Group assignment DGNA assign with attachment, attachment required at next ITSI attach – 1.4.2 | No |
| 8.1 | Group assignment DGNA assign with attachment, pre programmed group – 1.4.3 | No |
| 8.1 | Group assignment DGNA assign with attachment as scanned group, MS has selected group – 1.5.1 | No |
| 8.1 | Group assignment DGNA assign, with embedded attachment rejected by MS – 1.6.1 | No |
| 8.1.1 | Assignment of a group without attachment DGNA assignment without attachment – 1.2.1 | N/A |
| 8.1.2 | Assignment of a group with attachment DGNA assign with attachment as selected group, MS has no selected group – 1.3.1 | N/A |
| 8.1.2 | Assignment of a group with attachment DGNA assign with attachment as scanned group, MS has selected group – 1.5.1 | No |
| 8.1.2 | Assignment of a group with attachment DGNA assign with attachment as selected group, MS has selected group – 1.3.2 | N/A |
| 8.1.2 | Assignment of a group with attachment DGNA assign with attachment, attachment not allowed at next ITSI attach – 1.4.1 | No |
| 8.1.2 | Assignment of a group with attachment DGNA assign with attachment, attachment required at next ITSI attach – 1.4.2 | No |
| 8.1.2 | Assignment of a group with attachment DGNA assign, with embedded attachment rejected by MS – 1.6.1 | No |
| 8.2 | Group de-assignment | |
| 8.2 | Group de-assignment Removing radio subscriber from selected DGNA group – 1.7.1 | No |
| 8.2 | Group de-assignment De-assignment of MS from pre-programmed selected group - 1.7.2 | No |
| 8.2 | Group de-assignment De-assignment of MS from pre-programmed scanned group – 1.7.3 | No |



| NOKIA SwMI | | Thales Vector |
|----------------------------------|--|--------------------------|
| AUTHENTICATION TTR 001-04 | | |
| 7 | Authentication functions | |
| 7.1 | SwMI initiated authentication Successful ITSI attach with authentication – 1.1.1 | P |
| 7.1 | SwMI initiated authentication Rejected registration, authentication failure – 1.1.2 | P1 |
| 7.1 | SwMI initiated authentication Successful roaming location update with authentication – 1.1.3 | P |
| PACKET DATA TTR 001-05 | | |
| 7 | Packet Data functions | |
| 7.1 | Context Activation | |
| 7.1.1 | TE IPCP Initiated, Static Address (TE supplied) Packet Data context activation, static IP address – 1.1.1 | No |
| 7.1.2 | TE IPCP Initiated, Dynamic Address Packet Data context activation, dynamic IP address – 1.1.2 | No |
| 7.1.3 | User Authentication using PAP Packet Data context activation with PAP user authentication – 1.1.3 | No |
| 7.1.3 | User Authentication using PAP Packet Data context activation APN index selected – 1.1.5 | No |
| 7.1.4 | User Authentication using CHAP Packet Data context activation, with CHAP user authentication – 1.1.4 | No |
| 7.1.5 | Failed user authentication Packet Data context activation rejected, PAP user authentication – 1.1.7 | No |
| 7.1.5 | Failed user authentication Packet Data context activation rejected, CHAP user authentication – 1.1.8 | No |
| 7.1.6 | Provisioning Reject Packet Data context activation, activation rejected – 1.1.6 | No |
| 7.1.6 | Provisioning Reject Packet Data context activation rejected, invalid APN index selected – 1.1.9 | No |
| 7.2 | Context Deactivation | |
| 7.2.1 | MS initiated deactivation Packet Data context deactivation, MS initiated, AL established – 1.2.4 | No |
| 7.2.1 | MS initiated deactivation Packet Data context deactivation, MS initiated, AL not established – 1.2.3 | No |
| 7.2.1.1 | Explicit on SwMI PDCH access Data transmission, SwMI initiated PDCH access, MS reject – 1.3.7 | No |
| 7.2.2 | SwMI initiated deactivation Packet Data context deactivation, SwMI initiated, AL not established – 1.2.1 | No |
| 7.2.2 | SwMI initiated deactivation Packet Data context deactivation, SwMI initiated, AL established – 1.2.2 | No |
| 7.3 | PDCH Access | |
| 7.3.1 | MS Initiated access on the MCCH Data transmission, MS initiated PDCH access, AL not established, no AL QoS re-negotiation – 1.3.1 | No |
| 7.3.1 | MS Initiated access on the MCCH Data transmission, MS initiated PDCH access, AL established – 1.3.3 | No |
| 7.3.1 | MS Initiated access on the MCCH Data transmission, MS initiated PDCH access, AL not established, AL QoS re-negotiation - 1.3.2 | No |



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| 7.3.2 | SwMI initiated access on the MCCH Data transmission, SwMI initiated PDCH access, AL not established – 1.3.4 | No |
| 7.3.3 | MS Initiated Access Reject Data transmission, MS initiated PDCH access, SwMI reject – 1.3.6 | No |
| 7.4 | SN Data transfer | |
| 7.4 | SN-DATA transfer Data transmission, MS initiated PDCH access, AL not established, no AL QoS re-negotiation – 1.3.1 | No |
| 7.4 | SN-DATA transfer PDCH Access, Data transmission, MS initiated PDCH access, AL not established, AL QoS re-negotiation- 1.3.2 | No |
| 7.4 | SN-DATA transfer Data transmission, MS initiated PDCH access, AL established – 1.3.3 | No |
| 7.4 | SN-DATA transfer Data transmission, SwMI initiated PDCH access, AL established – 1.3.5 | No |
| 7.4 | SN-DATA transfer Data transmission, SwMI initiated PDCH access, AL not established – 1.3.4 | No |
| 7.5 | End of Data | |
| 7.5.1 | Normal Data transmission, MS initiated PDCH access, AL not established, no AL QoS re-negotiation – 1.3.1 | No |
| 7.5.1 | Normal Data transmission, MS initiated PDCH access, AL not established, AL QoS re-negotiation 1.3.2 | No |
| 7.5.1 | Normal Data transmission, MS initiated PDCH access, AL established – 1.3.3 | No |
| 7.5.1 | Normal Data transmission, SwMI initiated PDCH access, AL not established – 1.3.4 | No |
| 7.5.1 | Normal Data transmission, SwMI initiated PDCH access, AL established – 1.3.5 | No |
| 7.5.1 | Normal Cell re-selection during data transmission – 1.4.1 | No |
| 7.5.1 | Normal Cell re-selection without data transmission at MS side, READY state – 1.4.2 | No |
| 7.5.1 | Normal Cell re-selection without data transmission, STANDBY state – 1.4.3 | No |
| 7.6 | Advanced Link Set-up | |
| 7.6.1 | MS Initiated AL Set-up Data transmission, MS initiated PDCH access, AL not established, AL QoS re-negotiation – 1.3.2 | No |
| 7.6.1 | MS initiated AL Set-up Data transmission, SwMI initiated PDCH access, AL not established – 1.3.4 | No |
| 7.6.1 | MS initiated AL Set-up Data transmission, MS initiated PDCH access, AL not established, no AL QoS re-negotiation – 1.3.1 | No |
| 7.6.2 | MS Initiated AL Reset Cell re-selection during data transmission – 1.4.1 | No |
| 7.7 | Advanced Link Data Transfer | |
| 7.7.1 | Normal Down-link Data transmission, SwMI initiated PDCH access, AL not established – 1.3.4 | No |
| 7.7.1 | Normal Down-link Data transmission, SwMI initiated PDCH access, AL established – 1.3.5 | No |
| 7.7.4 | Normal Up-link Data transmission, MS initiated PDCH access, AL not established, no AL QoS re-negotiation – 1.3.1 | No |
| 7.7.4 | Normal Up-link Data transmission, MS initiated PDCH access, AL established – 1.3.3 | No |

| NOKIA SwMI | | Thales Vector |
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| 7.7.4 | Normal Up-link Data transmission, MS initiated PDCH access, AL not established, AL QoS re-negotiation – 1.3.2 | No |
| 7.7.4 | Normal Up-link Cell re-selection without data transmission, STANDBY state – 1.4.3 | No |
| 7.8 | Advanced Link Disconnection | |
| 7.8.1 | MS initiated Context Deactivation Packet Data context deactivation, MS initiated, AL established – 1.2.4 | No |
| 7.8.2 | SwMI initiated Context Deactivation Packet Data context deactivation, SwMI initiated, AL established – 1.2.2 | No |
| 7.10 | Link Reconnect | |
| 7.10.1 | BS Data Cell re-selection without data transmission at MS side, READY state – 1.4.2 | No |
| 7.10.2 | MS Data Cell re-selection during data transmission – 1.4.1 | No |
| FSSN TTR 001-07 | | |
| 2.6 | Signalling examples | |
| 2.6.1 | Individual call using FSSN Individual intra FSSN call within a fleet - 1.1 | No |
| 2.6.1 | Individual call using FSSN Individual intra FSSN call between two fleet - 1.2 | No |
| 2.6.2 | Group call within single FSSN domain using FSSN for CPI/TPI Group call within single FSSN domain - 1.3 | No |
| 2.6.3 | Group call maintenance using FSSN for TPI Group call within single FSSN domain - 1.3 | No |
| 2.6.4 | Individually and group addressed status messages Individually addressed FSSN status messages - 1.4 | No |
| 2.6.4 | Individually and group addressed status messages FSSN as a CPI in group addressed status message - 1.5 | No |
| 2.6.5 | Individually and group addressed SDS text status messages Individually addressed FSSN SDS-TL messages - 1.6 | No |
| 2.6.5 | Individually and group addressed SDS text status messages Group addressed FSSN SDS-TL messages - 1.7 | No |
| AMBIENCE LISTENING TTR 001-09 | | |
| 2.5 | SS-AL Signalling | |
| 2.5.1 | SS-AL Call set-up Ambience listening call set-up – 1.1 | P2 |
| 2.5.2 | SwMI initiated disconnection of SS-AL call Ambience listening call set-up – 1.1 | P2 |
| 2.5.2 | SwMI initiated disconnection of SS-AL call Ambience Listening Call set-up to MS that has an active PDP context – 1.5 | No |
| 2.5.4 | Affected user MS receives a new call request from the SwMI during SS-AL call Ms makes a new individual call during Ambience Listening call – 1.2 | P3 |

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|--|--|--------------------------|
| 2.5.5.1 | PDP context activation during SS-AL call MS activates PDP context during Ambience Listening call – 1.3 | No |
| 2.5.5.2 | MS attempts to start a packet data instance during SS-AL call MS starts Packet Data transfer during Ambience Listening call – 1.4 | No |
| 2.5.5.4 | SS-AL call set-up to MS that has an active PDP context Ambience Listening Call set-up to MS that has an active PDP context – 1.5 | No |
| E2EE with Clear Voice Override TTR 001-10 | | |
| 2.2.5 | Requirements of the terminals that support E2EE or CVO Individual E2E encrypted call restoration. Transmitting party (Announced type 3) - 1.7 | Pr |
| 2.3 | E2E Signalling | |
| 2.3.1 | Call setup E2E encrypted Individual call - 1.1 | Pr |
| 2.3.1 | Call setup E2E encrypted group call - 1.4 | Pr |
| 2.3.1 | Call setup E2E encrypted group call, late entry - 1.5 | - |
| 2.3.1 | Call setup E2E encrypted group call with CVO, incorrect encryption key - 1.6 | - |
| 2.3.2 | Transmit request E2E encrypted group call - 1.4 | Pr |
| 2.3.2 | Transmit request E2E encrypted Individual call - 1.1 | Pr |
| 2.3.2 | Transmit request E2E encrypted group call, late entry - 1.5 | - |
| 2.3.2 | Transmit request E2E encrypted group call with CVO, incorrect encryption key - 1.6 | P |
| 2.3.3 | Late entry E2E encrypted group call, late entry - 1.5 | - |
| 2.4 | Rejected E2E signalling cases | |
| 2.4.1 | Unacceptable encryption mode in call set-up Rejection of E2E encrypted Individual call - 1.2 | Pr |
| 2.4.1 | Unacceptable encryption mode in call set-up Rejection of individual clear voice call, MS require encryption - 1.3 | Pr1 |
| AIE TTR 001-11 | | |
| 2.3.5 | DCK Retrieval supported by SwMI | |
| 2.3.5 | DCK retrieval supported by SwMI Undeclared cell re-selection (without DCK forwarding request) with clear location updating, including request for CCK – 2.2.1.1 | N/A |
| 2.3.5 | DCK retrieval supported by SwMI Undeclared cell re-selection (without DCK forwarding request) with clear location updating, without request for CCK – 2.2.1.2 | N/A |
| 2.3.5 | DCK retrieval supported by SwMI Undeclared cell re-selection with DCK forwarding followed by encrypted location update, including request for CCK – 2.2.1.3 | N/A |
| 2.3.5 | DCK retrieval supported by SwMI Undeclared cell re-selection with DCK forwarding followed by encrypted location update, without request for CCK – 2.2.1.4 | N/A |
| 2.3.5 | DCK retrieval supported by SwMI Undeclared cell re-selection, encrypted location update using DCK retrieval, including request for CCK – 2.2.1.5 | N/A |



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|------------|--|------------------|
| 2.3.5 | DCK retrieval supported by SwMI Undeclared cell re-selection encrypted location update using DCK retrieval, without request for CCK – 2.2.1.6 | N/A |
| 2.3.5 | DCK retrieval supported by SwMI Unannounced cell re-selection (without DCK forwarding request) with clear location updating, including request for CCK – 2.2.2.1 | N/A |
| 2.3.5 | DCK retrieval supported by SwMI Unannounced cell re-selection (without DCK forwarding request) with clear location updating, without request for CCK – 2.2.2.2 | N/A |
| 2.3.5 | DCK retrieval supported by SwMI Unannounced cell re-selection with DCK forwarding followed by encrypted location update, including request for CCK – 2.2.2.3 | N/A |
| 2.3.5 | DCK retrieval supported by SwMI Unannounced cell re-selection with DCK forwarding followed by encrypted location update, without request for CCK – 2.2.2.4 | N/A |
| 2.3.5 | DCK retrieval supported by SwMI Unannounced cell re-selection, encrypted location update using DCK retrieval, including request for CCK – 2.2.2.5 | N/A |
| 2.3.5 | DCK retrieval supported by SwMI Unannounced cell re-selection, encrypted location update using DCK retrieval, without request for CCK – 2.2.2.6 | N/A |
| 2.3.5 | DCK retrieval supported by SwMI Announced type 3 cell re-selection (without DCK forwarding request) with clear location updating, including request for CCK – 2.2.3.1 | N/A |
| 2.3.5 | DCK retrieval supported by SwMI Announced type 3 cell re-selection (without DCK forwarding request) with clear location updating, without request for CCK – 2.2.3.2 | N/A |
| 2.3.5 | DCK retrieval supported by SwMI Announced type 3 cell re-selection with DCK forwarding followed by encrypted location update, including request for CCK – 2.2.3.3 | N/A |
| 2.3.5 | DCK retrieval supported by SwMI Announced type 3 cell re-selection with DCK forwarding followed by encrypted location update, without request for CCK – 2.2.3.4 | N/A |
| 2.3.5 | DCK retrieval supported by SwMI Announced type 3 cell re-selection, encrypted location update using DCK retrieval, including request for CCK – 2.2.3.5 | N/A |
| 2.3.5 | DCK retrieval supported by SwMI Announced type 3 cell re-selection, encrypted location update using DCK retrieval, without request for CCK – 2.2.3.6 | N/A |
| 2.3.6 | Security Class 2, Location update | |
| 2.3.6 | Security Class 2 Registration with encryption applied. Authentication not required by SwMI – 1.1.1 | N/A |
| 2.3.6 | Security Class 2 Registration with encryption applied. Authentication required by SwMI – 1.1.2 | N/A |
| 2.3.6 | Security Class 2 Registration without encryption applied. Authentication not required by SwMI – 1.1.3 | N/A |
| 2.3.6 | Security Class 2 Registration without encryption applied. Authentication required by SwMI – 1.1.4 | N/A |
| 2.3.6 | Security Class 2 Undeclared cell re-selection – 1.2.1 | N/A |



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|------------|---|------------------|
| 2.3.6 | Security Class 2 Unannounced cell re-selection – 1.2.2 | N/A |
| 2.3.7 | Security Class 3, Location update | |
| 2.3.7 | Security Class 3 Class 3 MS Registration with Class 3 ciphering and CCK request, without encryption applied – 2.1.1 | P |
| 2.3.7 | Security Class 3 Undeclared cell re-selection (without DCK forwarding request) with clear location updating, including request for CCK – 2.2.1.1 | P |
| 2.3.7 | Security Class 3 Undeclared cell re-selection (without DCK forwarding request) with clear location updating, without request for CCK – 2.2.1.2 | N/A |
| 2.3.7 | Security Class 3 Undeclared cell re-selection with DCK forwarding followed by encrypted location update, including request for CCK – 2.2.1.3 | F1 |
| 2.3.7 | Security Class 3 Undeclared cell re-selection with DCK forwarding followed by encrypted location update, without request for CCK – 2.2.1.4 | F1 |
| 2.3.7 | Security Class 3 Undeclared cell re-selection, encrypted location update, using DCK retrieval, including request for CCK 2.2.1.5 | N/A |
| 2.3.7 | Security Class 3 Undeclared cell re-selection, encrypted location update using DCK retrieval, without request for CCK – 2.2.1.6 | N/A |
| 2.3.7 | Security Class 3 Unannounced cell re-selection (without DCK forwarding request) with clear location updating, including request for CCK – 2.2.2.1 | F2 |
| 2.3.7 | Security Class 3 Unannounced cell re-selection (without DCK forwarding request) with clear location updating, without request for CCK – 2.2.2.2 | - |
| 2.3.7 | Security Class 3 Unannounced cell re-selection with DCK forwarding followed by encrypted location update, including request for CCK – 2.2.2.3 | P |
| 2.3.7 | Security Class 3 Unannounced cell re-selection with DCK forwarding followed by encrypted location update, without request for CCK – 2.2.2.4 | P |
| 2.3.7 | Security Class 3 Unannounced cell re-selection, encrypted location update using DCK retrieval, including request for CCK – 2.2.2.5 | N/A |
| 2.3.7 | Security Class 3 Unannounced cell re-selection, encrypted location update using DCK retrieval, without request for CCK – 2.2.2.6 | N/A |
| 2.3.7 | Security Class 3 Announced type 3 cell re-selection (without DCK forwarding request) with clear location updating, including request for CCK – 2.2.3.1 | - |
| 2.3.7 | Security Class 3 Announced type 3 cell re-selection (without DCK forwarding request) with clear location updating, without request for CCK – 2.2.3.2 | - |
| 2.3.7 | Security Class 3 Announced type 3 cell re-selection with DCK forwarding followed by encrypted location update, including request for CCK – 2.2.3.3 | P |
| 2.3.7 | Security Class 3 Announced type 3 cell re-selection with DCK forwarding followed by encrypted location update, without request for CCK – 2.2.3.4 | P |
| 2.3.7 | Security Class 3 Announced type 3 cell re-selection, encrypted location update using DCK retrieval, including request for CCK – 2.2.3.5 | N/A |

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| 2.3.7 | Security Class 3 Announced type 3 cell re-selection, encrypted location update using DCK retrieval, without request for CCK – 2.2.3.6 | N/A |
| 2.3.7 | Security Class 3 Announced cell re-selection with Preferred Neighbour Selected and with Call Restoration, Transmitting encrypted group call, with OTAR of CCK – 2.2.4.1 | No |
| 2.3.7 | Security Class 3 Announced cell re-selection with Preferred Neighbour Selected and with Call Restoration, Transmitting encrypted group call, without OTAR of CCK – 2.2.4.2 | No |
| 2.3.7 | Security Class 3 SwMI initiated change of CCK on the serving Cell before group call - Future CCK known to MS – 2.5.3 | - |
| 2.3.8 | DCK Forwarding using announced type 1 cell re-selection | |
| 2.3.8 | DCK Forwarding using announced type 1 cell re-selection SwMI initiated change of CCK on the serving Cell before group call - Future CCK known to MS – 2.5.3 | N/A |
| 2.3.9 | DCK Forwarding using announced type 2 cell re-selection | |
| 2.3.9 | DCK Forwarding using announced type 2 cell re-selection Announced cell re-selection with Preferred Neighbour Selected and with Call Restoration, Transmitting encrypted group call, with OTAR of CCK – 2.2.4.1 | N/A |
| 2.3.9 | DCK Forwarding using announced type 2 cell re-selection Announced cell re-selection with Preferred Neighbour Selected and with Call Restoration, Transmitting encrypted group call, without OTAR of CCK – 2.2.4.2 | N/A |
| 2.3.9 | DCK Forwarding using announced type 2 cell re-selection SwMI initiated change of CCK on the serving Cell before group call - Future CCK known to MS – 2.5.3 | N/A |
| 2.3.10 | DCK forwarding using OTAR PREPARE and OTAR NEW CELL | |
| 2.3.10 | DCK forwarding using OTAR PREPARE and OTAR NEW CELL Undeclared cell re-selection with DCK forwarding followed by encrypted location update, including request for CCK – 2.2.1.3 | F1 |
| 2.3.10 | DCK forwarding using OTAR PREPARE and OTAR NEW CELL Undeclared cell re-selection with DCK forwarding followed by encrypted location update, without request for CCK – 2.2.1.4 | F1 |
| 2.3.10 | DCK forwarding using OTAR PREPARE and OTAR NEW CELL Unannounced cell re-selection with DCK forwarding followed by encrypted location update, including request for CCK – 2.2.2.3 | P |
| 2.3.10 | DCK forwarding using OTAR PREPARE and OTAR NEW CELL Unannounced cell re-selection with DCK forwarding followed by encrypted location update, without request for CCK – 2.2.2.4 | P |
| 2.3.10 | DCK forwarding using OTAR PREPARE and OTAR NEW CELL Announced type 3 cell re-selection with DCK forwarding followed by encrypted location update, including request for CCK – 2.2.3.3 | P |



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| 2.3.10 | DCK forwarding using OTAR PREPARE and OTAR NEW CELL Announced type 3 cell re-selection with DCK forwarding followed by encrypted location update, without request for CCK 2.2.3.4 | P |
| 2.3.10 | DCK forwarding using OTAR PREPARE and OTAR NEW CELL SwMI initiated change of CCK on the serving Cell before group call - Future CCK known to MS – 2.5.3 | P |
| 2.3.11 | Change of Security Class or Cipher Key on the serving cell | |
| 2.3.11 | Change of Security Class or Cipher Key on the serving cell SwMI initiated change of CCK on the serving cell before group call - Future CCK unknown to MS – 2.5.1 | - |
| 2.3.11 | Change of Security Class or Cipher Key on the serving Cell SwMI initiated change of CCK on the serving Cell during group call - Future CCK unknown to MS – 2.5.2 | - |
| 2.3.11 | Change of Security Class or Cipher Key on the serving cell SwMI initiated change of CCK on the serving Cell before group call - Future CCK known to MS – 2.5.3 | P |
| 2.3.11.4 | D-CK CHANGE DEMAND (Change of Cipher Key – Absolute IV) SwMI initiated change of CCK on the serving cell before group call - Future CCK unknown to MS – 2.5.1 | - |
| 2.3.11.4 | D-CK CHANGE DEMAND (Change of Cipher Key – Absolute IV) SwMI initiated change of CCK on the serving Cell during group call - Future CCK unknown to MS – 2.5.2 | - |
| 2.3.11.4 | D-CK CHANGE DEMAND (Change of Cipher Key – Absolute IV) SwMI initiated change of CCK on the serving Cell before group call - Future CCK known to MS – 2.5.3 | P |
| 2.3.11.5 | D-CK CHANGE DEMAND (Change of Cipher Key – Immediate) SwMI initiated change of CCK on the serving cell before group call - Future CCK unknown to MS – 2.5.1 | N/A |
| 2.3.11.5 | D-CK CHANGE DEMAND (Change of Cipher Key – Immediate) SwMI initiated change of CCK on the serving Cell during group call - Future CCK unknown to MS – 2.5.2 | N/A |
| 2.3.11.5 | D-CK CHANGE DEMAND (Change of Cipher Key – Immediate) SwMI initiated change of CCK on the serving Cell before group call - Future CCK known to MS – 2.5.3 | N/A |
| 2.3.15.1 | MS CCK Management SwMI initiated change of CCK on the serving Cell during group call - Future CCK unknown to MS – 2.5.2 | - |
| 2.3.16 | Call Related Signalling | |
| 2.3.16 | Call Related Signalling Call from class 2 MS to Class 2 MS 1.3.1.1 | N/A |
| 2.3.16 | Call Related Signalling Call from class 2 MS to Class 1 MS – 1.3.1.2 | N/A |
| 2.3.16 | Call Related Signalling Call from class 1 MS to Class 2 MS – 1.3.1.3 | N/A |
| 2.3.16 | Call Related Signalling Call from Class 2 MS to Class 2 Group – 1.3.2.1 | N/A |



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| 2.3.16 | Call Related Signalling Call from class 2 MS to Class 1 – 1.3.2.2 | N/A |
| 2.3.16 | Call Related Signalling Unannounced cell re-selection (without DCK forwarding request) with clear location updating, including request for CCK – 2.2.2.1 | F2 |
| 2.3.16 | Call Related Signalling Unannounced cell re-selection (without DCK forwarding request) with clear location updating, without request for CCK – 2.2.2.2 | - |
| 2.3.16 | Call Related Signalling Unannounced cell re-selection with DCK forwarding followed by encrypted location update, including request for CCK – 2.2.2.3 | P |
| 2.3.16 | Call Related Signalling Unannounced cell re-selection with DCK forwarding followed by encrypted location update, without request for CCK – 2.2.2.4 | P |
| 2.3.16 | Call Related Signalling Unannounced cell re-selection, encrypted location update using DCK retrieval, including request for CCK – 2.2.2.5 | N/A |
| 2.3.16 | Call Related Signalling Unannounced cell re-selection, encrypted location update using DCK retrieval, without request for CCK – 2.2.2.6 | N/A |
| 2.3.16 | Call Related Signalling Encrypted individual call from Class 3 MS to Class 3 MS – 2.3.1.1 | P |
| 2.3.16 | Call Related Signalling Individual call from Class 3 MS to Class 1 MS – 2.3.1.2 | P |
| 2.3.16 | Call Related Signalling Individual call from Class 1 MS to Class 3 MS – 2.3.1.3 | P |
| 2.3.16 | Call Related Signalling Encrypted group call from Class 3 MS to Class 3 Group – 2.3.2.1 | P |
| 2.3.16 | Call Related Signalling Group call from Class 3 MS to Class 1 Group – 2.3.2.2 | P |
| 2.3.17 | Call Unrelated Signalling | |
| 2.3.17 | Call Unrelated Signalling Status from Class 2 MS in Class 1 Group call to idle Class 2 MS – 1.4.1 | N/A |
| 2.3.17 | Call Unrelated Signalling Status from idle Class 2 MS to Class 2 MS in Class 1 group call – 1.4.2 | N/A |
| 2.3.17 | Call Unrelated Signalling Status from Class 3 MS in Class 1 Group call to Class 3 MS – 2.4.1 | P |
| 2.3.17 | Call Unrelated Signalling Status from Class 3 MS to Class 3 MS in Class 1 Group call – 2.4.2 | P |
| 2.3.20 | AI Signalling Protection | |
| 2.3.20 | AI Signalling Protection Registration with encryption applied. Authentication not required by SwMI – 1.1.1 | N/A |
| 2.3.20 | AI Signalling Protection Registration with encryption applied. Authentication required by SwMI – 1.1.2 | N/A |
| 2.3.20 | AI Signalling Protection Registration without encryption applied. Authentication not required by SwMI – 1.1.3 | N/A |
| 2.3.20 | AI Signalling Protection Registration without encryption applied. Authentication required by SwMI – 1.1.4 | N/A |
| 2.3.20 | AI Signalling Protection Undeclared cell re-selection – 1.2.1 | N/A |
| 2.3.20 | AI Signalling Protection Unannounced cell re-selection – 1.2.2 | N/A |
| 2.3.20 | AI Signalling Protection Class 3 MS Registration with Class 3 ciphering and CCK request, without encryption applied – 2.1.1 | P |



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| 2.3.20 | AI Signalling Protection Undeclared cell re-selection (without DCK forwarding request) with clear location updating, including request for CCK - 2.2.1.1 | P |
| 2.3.20 | AI Signalling Protection Undeclared cell re-selection (without DCK forwarding request) with clear location updating, without request for CCK – 2.2.1.2 | N/A |
| 2.3.20 | AI Signalling Protection Undeclared cell re-selection with DCK forwarding followed by encrypted location update, including request for CCK – 2.2.1.3 | F1 |
| 2.3.20 | AI Signalling Protection Undeclared cell re-selection with DCK forwarding followed by encrypted location update, without request for CCK – 2.2.1.4 | F1 |
| 2.3.20 | AI Signalling Protection Undeclared cell re-selection, encrypted location update using retrieval, including request for CCK – 2.2.1.5 | N/A |
| 2.3.20 | AI Signalling Protection Undeclared cell re-selection, encrypted location update using DCK retrieval, without request for CCK – 2.2.1.6 | N/A |
| 2.3.20 | AI Signalling Protection Unannounced cell re-selection (without DCK forwarding request) with clear location updating, including request for CCK – 2.2.2.1 | F2 |
| 2.3.20 | AI Signalling Protection Unannounced cell re-selection (without DCK forwarding request) with clear location updating, without request for CCK – 2.2.2.2 | - |
| 2.3.20 | AI Signalling Protection Unannounced cell re-selection with DCK forwarding followed by encrypted location update, including request for CCK – 2.2.2.3 | P |
| 2.3.20 | AI Signalling Protection Unannounced cell re-selection with DCK forwarding followed by encrypted location update, without request for CCK – 2.2.2.4 | P |
| 2.3.20 | AI Signalling Protection Unannounced cell re-selection, encrypted location update using DCK retrieval, including request for CCK – 2.2.2.5 | N/A |
| 2.3.20 | AI Signalling Protection Unannounced cell re-selection, encrypted location update using DCK retrieval, without request for CCK – 2.2.2.6 | N/A |
| 2.3.20 | AI Signalling Protection Announced type 3 cell re-selection (without DCK forwarding request) with clear location updating, including request for CCK – 2.2.3.1 | - |
| 2.3.20 | AI Signalling Protection Announced type 3 cell re-selection (without DCK forwarding request) with clear location updating, without request for CCK – 2.2.3.2 | - |
| 2.3.20 | AI Signalling Protection Announced type 3 cell re-selection with DCK forwarding followed by encrypted location update, including request for CCK – 2.2.3.3 | P |
| 2.3.20 | AI Signalling Protection Announced type 3 cell re-selection with DCK forwarding followed by encrypted location update, without request for CCK – 2.2.3.4 | P |
| 2.3.20 | AI Signalling Protection Announced type 3 cell re-selection, encrypted location update using DCK retrieval, including request for CCK – 2.2.3.5 | N/A |
| 2.3.20 | AI Signalling Protection Announced type 3 cell re-selection, encrypted location update using DCK retrieval, without request for CCK – 2.2.3.6 | N/A |



| NOKIA SwMI | | Thales Vector |
|------------|---|------------------|
| 2.3.20 | AI Signalling Protection Announced cell re-selection with Preferred Neighbour Selected and with Call Restoration, Transmitting encrypted group call, with OTAR of CCK – 2.2.4.1 | No |
| 2.3.20 | AI Signalling Protection Announced cell re-selection with Preferred Neighbour Selected and with Call Restoration, Transmitting encrypted group call, without OTAR of CCK – 2.2.4.2 | No |
| 2.6 | Signalling Scenarios | |
| 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 | N/A |
| 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 | N/A |
| 2.6.3 | MS-initiated location updating with SCK ciphering, and authentication Registration with encryption applied. Authentication required by SwMI – 1.1.2 | N/A |
| 2.6.3 | MS-initiated location updating with SCK ciphering, and authentication Registration without encryption applied. Authentication required by SwMI – 1.1.4 | N/A |
| 2.6.6 | MS-initiated location updating with DCK ciphering, CCK request and authentication Class 3 MS Registration with Class 3 ciphering and CCK request, without encryption applied 2.1.1 | P4 |
| 2.6.6 | MS-initiated location updating with DCK ciphering, CCK request and authentication Undeclared cell re-selection (without DCK forwarding request) with clear location updating, including request for CCK - 2.2.1.1 | P |
| 2.6.6 | MS-initiated location updating with DCK ciphering, CCK request and authentication Undeclared cell re-selection with DCK forwarding followed by encrypted location update, including request for CCK – 2.2.1.3 | N/A |
| 2.6.6 | MS-initiated location updating with DCK ciphering, CCK request and authentication Undeclared cell re-selection, encrypted location update using DCK retrieval, including request for CCK – 2.2.1.5 | N/A |
| 2.6.6 | MS-initiated location updating with DCK ciphering, CCK request and authentication Unannounced cell re-selection (without DCK forwarding request) with clear location updating, including request for CCK – 2.2.2.1 | N/A |
| 2.6.6 | MS-initiated location updating with DCK ciphering, CCK request and authentication Unannounced cell re-selection with DCK forwarding followed by encrypted location update, including request for CCK – 2.2.2.3 | N/A |



| NOKIA SwMI | | Thales Vector |
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| 2.6.6 | MS-initiated location updating with DCK ciphering, CCK request and authentication Unannounced cell re-selection, encrypted location update using DCK retrieval, including request for CCK – 2.2.2.5 | N/A |
| 2.6.6 | MS-initiated location updating with DCK ciphering, CCK request and authentication Announced type 3 cell re-selection (without DCK forwarding request) with clear location updating, including request for CCK – 2.2.3.1 | N/A |
| 2.6.6 | MS-initiated location updating with DCK ciphering, CCK request and authentication Announced type 3 cell re-selection with DCK forwarding followed by encrypted location update, including request for CCK – 2.2.3.3 | N/A |
| 2.6.6 | MS-initiated location updating with DCK ciphering, CCK request and authentication Announced type 3 cell re-selection encrypted location update using DCK retrieval, including request for CCK – 2.2.3.5 | N/A |
| 2.6.6 | MS-initiated location updating with DCK ciphering, CCK request and authentication Announced cell re-selection with Preferred Neighbour Selected and with Call Restoration, Transmitting encrypted group call, without OTAR of CCK – 2.2.4.2 | No |
| 2.6.7 | MS-initiated location updating with DCK ciphering (no CCK request, no authentication) Undeclared cell re-selection (without DCK forwarding request) with clear location updating, without request for CCK – 2.2.1.2 | N/A |
| 2.6.7 | MS-initiated location updating with DCK ciphering (no CCK request, no authentication) Undeclared cell re-selection with DCK forwarding followed by encrypted location update, without request for CCK – 2.2.1.4 | F1 |
| 2.6.7 | MS-initiated location updating with DCK ciphering (no CCK request, no authentication) Undeclared cell re-selection, encrypted location update using DCK retrieval, without request for CCK – 2.2.1.6 | N/A |
| 2.6.7 | MS-initiated location updating with DCK ciphering (no CCK request, no authentication) Unannounced cell re-selection (without DCK forwarding request) with clear location updating, without request for CCK – 2.2.2.2 | - |
| 2.6.7 | MS-initiated location updating with DCK ciphering (no CCK request, no authentication) Unannounced cell re-selection with DCK forwarding followed by encrypted location update, without request for CCK – 2.2.2.4 | P |
| 2.6.7 | MS-initiated location updating with DCK ciphering (no CCK request, no authentication) Unannounced cell re-selection, encrypted location update using DCK retrieval, without request for CCK – 2.2.2.6 | N/A |



| NOKIA SwMI | | Thales Vector |
|------------|---|------------------|
| 2.6.7 | MS-initiated location updating with DCK ciphering (no CCK request, no authentication) Announced type 3 cell re-selection (without DCK forwarding request) with clear location updating, without request for CCK – 2.2.3.2 | - |
| 2.6.7 | MS-initiated location updating with DCK ciphering (no CCK request, no authentication) Announced type 3 cell re-selection with DCK forwarding followed by encrypted location update, without request for CCK – 2.2.3.4 | P |
| 2.6.7 | MS-initiated location updating with DCK ciphering (no CCK request, no authentication) Announced type 3 cell re-selection, encrypted location update using DCK retrieval, without request for CCK– 2.2.3.6 | N/A |
| 2.6.7 | MS-initiated location updating with DCK ciphering (no CCK request, no authentication) Announced cell re-selection with Preferred Neighbour Selected and with Call Restoration, Transmitting encrypted group call, with OTAR of CCK – 2.2.4.1 | No |
| 2.6.8 | MS-initiated location updating with DCK ciphering and authentication Undeclared cell re-selection (without DCK forwarding request) with clear location updating, without request for CCK – 2.2.1.2 | N/A |
| 2.6.8 | MS-initiated location updating with DCK ciphering and authentication Undeclared cell re-selection with DCK forwarding followed by encrypted location update, without request for CCK – 2.2.1.4 | N/A |
| 2.6.8 | MS-initiated location updating with DCK ciphering and authentication Undeclared cell re-selection, encrypted location update using DCK retrieval, without request for CCK – 2.2.1.6 | N/A |
| 2.6.8 | MS-initiated location updating with DCK ciphering and authentication Unannounced cell re-selection (without DCK forwarding request) with clear location updating, without request for CCK – 2.2.2.2 | N/A |
| 2.6.8 | MS-initiated location updating with DCK ciphering and authentication Unannounced cell re-selection with DCK forwarding followed by encrypted location update, without request for CCK – 2.2.2.4 | N/A |
| 2.6.8 | MS-initiated location updating with DCK ciphering and authentication Unannounced cell re-selection, encrypted location update using DCK retrieval, without request for CCK – 2.2.2.6 | N/A |
| 2.6.8 | MS-initiated location updating with DCK ciphering and authentication Announced type 3 cell re-selection (without DCK forwarding request) with clear location updating, without request for CCK – 2.2.3.2 | N/A |
| 2.6.8 | MS-initiated location updating with DCK ciphering and authentication Announced type 3 cell re-selection with DCK forwarding followed by encrypted location update, without request for CCK – 2.2.3.4 | N/A |
| 2.6.8 | MS-initiated location updating with DCK ciphering and authentication Announced type 3 cell re-selection, encrypted location update using DCK retrieval, without request for CCK– 2.2.3.6 | N/A |



| NOKIA SwMI | | Thales Vector |
|------------|--|------------------|
| 2.6.8 | MS-initiated location updating with DCK ciphering and authentication Announced cell re-selection with Preferred Neighbour Selected and with Call Restoration, Transmitting encrypted group call, with OTAR of CCK – 2.2.4.1 | No |
| 2.6.9 | MS-initiated location updating with DCK ciphering and CCK request Undeclared cell re-selection (without DCK forwarding request) with clear location updating, including request for CCK – 2.2.1.1 | N/A |
| 2.6.9 | MS-initiated location updating with DCK ciphering and CCK request Undeclared cell re-selection, encrypted location update using DCK retrieval, including request for CCK – 2.2.1.5 | N/A |
| 2.6.9 | MS-initiated location updating with DCK ciphering and CCK request Unannounced cell re-selection (without DCK forwarding request) with clear location updating, including request for CCK – 2.2.2.1 | F2 |
| 2.6.9 | MS-initiated location updating with DCK ciphering and CCK request Unannounced cell re-selection with DCK forwarding followed by encrypted location update, including request for CCK – 2.2.2.3 | P |
| 2.6.9 | MS-initiated location updating with DCK ciphering and CCK request Unannounced cell re-selection, encrypted location update using DCK retrieval, including request for CCK – 2.2.2.5 | N/A |
| 2.6.9 | MS-initiated location updating with DCK ciphering and CCK request Undeclared cell re-selection with DCK forwarding followed by encrypted location update, including request for CCK – 2.2.1.3 | F1 |
| 2.6.9 | MS-initiated location updating with DCK ciphering and CCK request Announced type 3 cell re-selection (without DCK forwarding request) with clear location updating, including request for CCK – 2.2.3.1 | - |
| 2.6.9 | MS-initiated location updating with DCK ciphering and CCK request Announced type 3 cell re-selection with DCK forwarding followed by encrypted location update, including request for CCK – 2.2.3.3 | P |
| 2.6.9 | MS-initiated location updating with DCK ciphering and CCK request Announced type 3 cell re-selection, encrypted location update using DCK retrieval, including request for CCK – 2.2.3.5 | N/A |
| 2.6.9 | MS-initiated location updating with DCK ciphering and CCK request Announced cell re-selection with Preferred Neighbour Selected and with Call Restoration, Transmitting encrypted group call, without OTAR of CCK – 2.2.4.2 | No |



COMMENTS:

THALES VECTOR

- Pr** Regression test
- Pr1** MS does not reject automatically clear call. Instead user can manually reject the call. U-DISCONNECT contains the correct disconnection cause.
- P1** MS ignores the D-LOCATION UPDATE REJECT 'authentication failure' and keep on sending U-LOCATION UPDATE DEMANDs.
- P2** The TCH is opened but in the dispatcher the voice isn't understandable because is too low. Beep tone can be heard by the MS during the Ambient Listening because call is not E2E encrypted. MS should accept only E2E AL calls if MS indicates clear AL call with beep.
- P3** Beep tone can be heard by the MS during the Ambient Listening.
- P4** MS sends 3 times U-LOCATION UPDATE DEMANDs with ciphering control off and without request for CCK, the 4th U-LUD is with ciphering on and CCK requested. SwMI authenticates MS and provides CCK.
- F1** MS performs clear roaming location update after successful OTAR.
- F2** MS does not perform call restoration at new cell.