

# TETRA Interoperability Certificate

## Trunked Mode Operation

**Teltronic, NEBULA, SwMI –  
Sepura, STP9000, Terminal**

Zaragoza, January 2019

|                                      |               |  |                 |
|--------------------------------------|---------------|--|-----------------|
| Latest Certified SwMI<br>SW Release: | v17.28.50     | Latest Certified Terminal<br>SW Release: | 1760 006 02937  |
| Latest Certified SwMI<br>HW Release: | 1.17.28.26.31 | Latest Certified Terminal<br>HW Release: | PSYTW201T30WN00 |

ISCTI (Istituto Superiore delle Comunicazioni e delle Tecnologie dell'Informazione) certifies, that the Teltronic, NEBULA, SwMI and the Sepura, STP9000, terminal have been subject to interoperability testing for the “certified” features listed on second page of this certificate, in accordance with the TETRA Interoperability Profiles, TIP compliance Test Plan and related TETRA interoperability requirement tables.

The table lists all the available TETRA interoperability profiles, and summarizes the main functionalities of every profile according to the TETRA interoperability requirement tables.

A feature is “Certified” when it has been successfully tested during the last test session with one of the testing method described in the TETRA process document part 1 (TPD001-01).

A breakdown into the feature details is given in the Feature Compliance Overview section of this certificate.

This certificate has been issued following a fully witnessed multiple test session between Teltronic and Sepura on January 2019. Detailed test results are listed in the Test Report associated to this Certificate. Details and explanation about the procedure used to provide verdicts are in the TIC process TPD001-01.

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**v2**

# Certified features

| Tetra Association TTR001-01:Core        |           |
|---|-----------|
| Registration                            | Certified |
| Group Management                        | Certified |
| Group call                              | Certified |
| Individual call                         | Certified |
| Status messages                         | Certified |
| Pre-emptive Priority Call               | Certified |
| Emergency Call                          | Certified |
| Cell Re-selection                       | Certified |
| PSTN interconnect                       | Certified |
| MS-ISDN Numbering                       | -         |
| In Call Signalling                      | Certified |
| Subscriber Class Procedures             | -         |
| Common Secondary Control Channels       | Certified |
| BS Fallback Operation                   | Certified |
| Energy Economy Mode                     | -         |
| Transmit Inhibit                        | Certified |
| Mixed band operation                    | Certified |
| Tetra Association TTR001-02:SDS         |           |
| SDS Type 1, 2 or 3                      | -         |
| SDS-TL                                  | Certified |
| Store and Forward                       | -         |
| Multipart SDS                           | -         |
| Tetra Association TTR001-03:DGNA        |           |
| Support for individually addressed DGNA | Certified |

|  |           |
|--|-----------|
| Support for group addressed DGNA                             | Certified |
| Tolerance of unsupported DGNA functions                      | -         |
| <b>Tetra Association TTR001-04:Auth</b>                      |           |
| SwMI Initiated (non-mutual) Authentication                   | Certified |
| SwMI Initiated Authentication made Mutual by MS              | Certified |
| TEI Query  | -         |
| <b>Tetra Association TTR001-05:PD</b>                        |           |
| Context Management   | Certified |
| Single Slot Packet Data                                      | Certified |
| Multi Slot Packet Data                                       | Certified |
| TEDS   | -         |
| Mixed band operation   | Certified |
| <b>Tetra Association TTR001-09:AL</b>                        |           |
| Ambience Listening   | Certified |
| Interaction with Transmit Inhibit                            | Certified |
| <b>Tetra Association TTR001-10:E2EE</b>                      |           |
| E2EE Voice Call  | Certified |
| E2EE Short Data  | Certified |
| <b>Tetra Association TTR001-11:AIE</b>                       |           |
| Security Class 2 Air Interface Encryption                    | -         |
| Security Class 3 Air Interface Encryption                    | Certified |
| Security Class 3G Air Interface Encryption                   | -         |
| Management of CMG and GSKO                                   | -         |
| Key Status demand  | -         |
| Change of Security Class for Fallback operation              | -         |
| Change of Security Class (other than for Fallback operation) | -         |
| Key Management for Secure Direct Mode Operation              | -         |
| <b>Tetra Association TTR001-12:SI</b>                        |           |
| MS initiated Service Interaction                             | Certified |
| SwMI initiated Service Interaction                           | Certified |
| Call Waiting   | -         |

|  |           |
|--|-----------|
| <b>Tetra Association TTR001-13:ED</b>            |           |
| <b>Enable and temporary disable of an MS</b>     | Certified |
| <b>Permanent disable of an MS</b>                | Certified |
| <b>Tetra Association TTR001-14:TKD</b>           |           |
| <b>Delivery of Authentication Data</b>           | Certified |
| <b>Delivery of SCK</b>                           | -         |
| <b>Delivery method</b>                           | Certified |
| <b>Tetra Association TTR001-15:CAD</b>           |           |
| <b>Call Authorised by Dispatcher - Compliant</b> | -         |
| <b>Call Authorised by Dispatcher - Tolerant</b>  | Certified |
| <b>Tetra Association TTR001-19:LIP</b>           |           |
| <b>Location Information Protocol</b>             | Certified |

## Feature Compliance Overview

The first pages of this certificate provide an indication about the main interoperable TETRA features for each TIP specification (as described in the TIC-RT). The main interoperable TETRA features' results depend on a set of sub-features, the verdicts associated to each sub-feature are directly derived from the analysis of the performed test cases.

The results associated to each feature and sub-feature are shown in the "Feature Compliance Report" table below. The main features are indicated with blue background and the associated sub-features (or second level features) have a white background.

The outcome assigned to a feature as shown on page 2, is derived by the Feature Compliance Report tables.

| Outcome          | Definition  |
|------------------|---|
| <b>Certified</b> | All required tests have been performed and passed   |
| <b>Partial</b>   | Not all the required tests have been performed but none have failed   |
| -                | Feature cannot be certified e.g. it is not supported by at least one product, no tests were performed, or some tests were performed but at least one failed |

The outcome is derived from the verdict assigned to a sub feature which is the result of an analysis of the test case results listed in the Test Report. The verdict assigned to each sub-feature is derived from one or several test case results or test steps result, the TETRA Interoperability requirement tables (TIC-RTs) indicate the link between sub-features and test cases for the certified set of equipment capabilities (see Test Report).

| Verdict           | Definition  |
|-------------------|---|
| <b>Passed</b>     | All mandated tests or steps of tests linked to this functionality (as per TIC-RT indication) are compliant with the TIP specification relevant to this feature or sub-feature |
| <b>Incomplete</b> | Not all Mandated tests (as per TIC-RT indication) have been executed  |
| <b>Failed</b>     | At least one of mandated test or steps of tests linked to this functionality failed to match the TIP specification relevant to this feature or sub-feature                    |

The verdict associated to the feature or sub-feature gives also indication about the method used to

test that feature or sub-feature. The allowed testing Methods are listed in the table below, a complete description of the procedures and constraints associated to each of them can be found in the "TPD001-01 TETRA Interoperability Certification Process Description" document.

| Testing Method            | Description  |
|---------------------------|--|
| <b>Complete</b>           | All mandated tests associated to the feature or sub-feature have been executed   |
| <b>Spot</b>               | Only a selection of the mandatory test cases associated to the feature or sub-feature has been executed during the test session. These tests are a subset of the tests performed on an equivalent software which has been "completely" tested against the same functionality on a different equipment, see manufacturer declaration in the associated Test Report  |
| <b>Regression</b>         | Only a selection of the mandatory test cases associated to the feature or sub-feature has been executed during the test session. These tests are a subset of the tests performed on a previous version of the same software which has been "completely" tested in a previous test session against the same functionality, see manufacturer definition in the associated Test Report  |
| <b>Regression on spot</b> | The regression method (see the previous item) has been applied at this session on the verdicts from the referenced (previous) session where the spot testing method (see above) had been applied.  |
| <b>Witnessed</b>          | The TIP heading lines in the Feature Compliance Report indicate whether each TIP is partially or fully witnessed by the Certification Body.<br>Additionally, for a partially-witnessed TIP, the number of witnessed test cases that passed is shown for each the feature and sub-feature. There may have been some un-witnessed passed tests and they will have been found to be successful based on the log file evaluation |

Depending on equipment capabilities declared by the manufacturer, some features or sub features cannot be tested. The following table describes meaning of the used abbreviation:

| Indication           | Definition  |
|----------------------|---|
| <b>Not supported</b> | The SwMI and/or MS do not support the minimum features required to verify these items |

ISCTI has made every effort to ensure that every result has been correctly evaluated in accordance

with the relevant TIPs, Test Plans and TIC-RTs. ISCTI has no liability for the test results, or towards the manufacturers.

The table on the following page lists HW and SW releases of SwMI and Terminal under test in the last four test sessions and the used TIP specifications, Test Plans and TIC-RTs.

This Certificate and Certificates from previous test sessions are available on the TCCA web site (<https://tandcca.com/interoperability/interoperability-certificates-and-test-reports/>).

The feature results are shown in the tables below.

### Information on equipment under test and document references

|   |   |  |  |  |
|---|---|--|--|--|
| Test Session Date/Place                 | Teltronic, Zaragoza, January 2019                           |  |  |  |
| SwMI Type                               | NEBULA  |  |  |  |
| SwMI HW Release                         | 1.17.28.26.31   |  |  |  |
| SwMI SW Release                         | v17.28.50   |  |  |  |
| Terminal Type                           | STP9000   |  |  |  |
| Terminal HW Release                     | PSYTW201T30WN00   |  |  |  |
| Terminal SW Release                     | 1760 006 02937  |  |  |  |
| TIP Specs and TIP Compliance Test Plans |   |  |  |  |
| Core                                    | TTR001-01 v6.3.0<br>IOP001-01 v3.2.1<br>TIC-RT001-01 v2.7.3 |  |  |  |
| SDS                                     | TTR001-02 v2.1.3<br>IOP001-02 v2.2.0<br>TIC-RT001-02 v2.2.2 |  |  |  |

|      |   |  |  |  |
|------|---|--|--|--|
| DGNA | TTR001-03 v2.0.0<br>IOP001-03 v2.0.1<br>TIC-RT001-03 v2.2.8 |  |  |  |
| Auth | TTR001-04 v3.0.0<br>IOP001-04 v2.0.0<br>TIC-RT001-04 v2.3.0 |  |  |  |
| PD   | TTR001-05 v4.1.0<br>IOP001-05 v4.1.0<br>TIC-RT001-05 v4.0.5 |  |  |  |
| AL   | TTR001-09 v2.1.0<br>IOP001-09 v1.2.0<br>TIC-RT001-09 v1.2.9 |  |  |  |
| E2EE | TTR001-10 v2.1.0<br>IOP001-10 v1.2.0<br>TIC-RT001-10 v1.2.9 |  |  |  |
| AIE  | TTR001-11 v3.1.0<br>IOP001-11 v3.1.0<br>TIC-RT001-11 v3.3.2 |  |  |  |
| SI   | TTR001-12 v1.1.0<br>IOP001-12 v1.0.0<br>TIC-RT001-12 v1.3.3 |  |  |  |
| ED   | TTR001-13 v2.1.0<br>IOP001-13 v1.0.0<br>TIC-RT001-13 v1.5.1 |  |  |  |
| TKD  | TTR001-14 v1.0.3<br>IOP001-14 v1.2.0<br>TIC-RT001-14 v1.2.3 |  |  |  |
| CAD  | TTR001-15 v1.1.0<br>IOP001-15 v1.0.0<br>TIC-RT001-15 v1.1.6 |  |  |  |
| LIP  | TTR001-19 v1.1.0<br>IOP001-19 v1.2.0<br>TIC-RT001-19 v1.1.4 |  |  |  |





# Feature compliance report

| Test Session                              | Teltronic<br>Zaragoza<br>January 2019 |  |  |  |
|---|---------------------------------------|--|--|--|
| <b>Core - Fully Witnessed Testing</b>     |                                       |  |  |  |
| Registration                              | PASSED Spot 3_pass_of_4               |  |  |  |
| Initial registration                      | PASSED Complete<br>2_pass_of_2        |  |  |  |
| SwMI initiated location updating          | Spot 0_pass_of_1                      |  |  |  |
| LA timer based Periodic location updating | Not Supported                         |  |  |  |
| De-registration                           | PASSED Complete<br>1_pass_of_1        |  |  |  |
| <b>Group Management</b>                   | <b>PASSED Spot 2_pass_of_12</b>       |  |  |  |
| Single group attachment                   | PASSED Spot 2_pass_of_7               |  |  |  |
| Multiple group attachment                 | Spot 0_pass_of_6                      |  |  |  |
| MS initiated group detachment             | Spot 0_pass_of_1                      |  |  |  |
| SwMI initiated group detachment           | Not Supported                         |  |  |  |
| SwMI initiated group attachment           | Not Supported                         |  |  |  |
| <b>Group call</b>                         | <b>PASSED Spot 3_pass_of_14</b>       |  |  |  |
| Normal group call                         | PASSED Spot 1_pass_of_4               |  |  |  |
| Late entry                                | Spot 0_pass_of_1                      |  |  |  |
| Priority Group scanning                   | PASSED Spot 1_pass_of_3               |  |  |  |
| Call setup modifications                  | Spot 0_pass_of_1                      |  |  |  |
| Resource Queuing based on Call Priority   | Spot 0_pass_of_2                      |  |  |  |
| Broadcast Call                            | PASSED Spot 1_pass_of_3               |  |  |  |
| Limited coverage notification             | Not Supported                         |  |  |  |
| <b>Individual call</b>                    | <b>PASSED Spot 1_pass_of_11</b>       |  |  |  |
| Simplex individual call                   | Spot 0_pass_of_4                      |  |  |  |
| Duplex individual call                    | Spot 0_pass_of_2                      |  |  |  |
| Call setup modifications                  | Spot 0_pass_of_1                      |  |  |  |

|  |                             |  |  |  |
|--|-----------------------------|--|--|--|
| Resource Queuing based on Call Priority    | PASSED Spot 1_pass_of_4     |  |  |  |
| Indication of imminent call disconnection  | Not Supported               |  |  |  |
| Status messages                            | PASSED Spot 1_pass_of_4     |  |  |  |
| Individual addressed Status transfer       | PASSED Complete 1_pass_of_1 |  |  |  |
| Group addressed Status transfer            | Spot 0_pass_of_3            |  |  |  |
| Pre-emptive Priority Call                  | Spot 0_pass_of_7            |  |  |  |
| Pre-emption of Resources                   | Spot 0_pass_of_2            |  |  |  |
| Pre-emption of Busy Users                  | Spot 0_pass_of_5            |  |  |  |
| Emergency Call                             | PASSED Spot 1_pass_of_3     |  |  |  |
| Pre-emption of Resources                   | PASSED Spot 1_pass_of_2     |  |  |  |
| Pre-emption of Busy Users                  | Spot 0_pass_of_1            |  |  |  |
| Call setup modifications                   | Not Supported               |  |  |  |
| Call disconnection by non-call owner       | Not Supported               |  |  |  |
| Cell Re-selection                          | PASSED Spot 3_pass_of_15    |  |  |  |
| Undeclared                                 | Spot 0_pass_of_1            |  |  |  |
| Unannounced                                | PASSED Spot 1_pass_of_3     |  |  |  |
| Announced - with Call Restoration          | PASSED Spot 2_pass_of_11    |  |  |  |
| Announced - without Call Restoration       | Not Supported               |  |  |  |
| Expedited                                  | Not Supported               |  |  |  |
| Graceful Service Degradation Mode (GSDM)   | Not Supported               |  |  |  |
| PSTN interconnect                          | PASSED Spot 1_pass_of_5     |  |  |  |
| TETRA Originated Call                      | PASSED Spot 1_pass_of_2     |  |  |  |
| PSTN Originated Call                       | Spot 0_pass_of_1            |  |  |  |
| DTMF over-dial                             | Spot 0_pass_of_1            |  |  |  |
| Emergency Telephone Calls                  | Spot 0_pass_of_1            |  |  |  |
| MS-ISDN Numbering                          |                             |  |  |  |
| MS ISDN - Voice Call                       | Not Supported               |  |  |  |
| MS-ISDN Status                             | Not Supported               |  |  |  |
| In Call Signalling                         | PASSED Spot 1_pass_of_7     |  |  |  |
| Slow Signalling on Traffic Channel (SACCH) | Spot 0_pass_of_4            |  |  |  |

|  |                             |  |  |  |
|--|-----------------------------|--|--|--|
| Fast Signalling on Traffic Channel (FACCH)                                 | PASSED Spot 1_pass_of_3     |  |  |  |
| Subscriber Class Procedures  |                             |  |  |  |
| Cell Selection based on Subscriber Class                                   | Not Supported               |  |  |  |
| Subscriber Class Delivery during Location Update                           | Not Supported               |  |  |  |
| Use of Subscriber Class Preference Levels                                  | Not Supported               |  |  |  |
| Common Secondary Control Channels  | PASSED Spot 1_pass_of_7     |  |  |  |
| One C-SCCH per cell  | PASSED Spot 1_pass_of_5     |  |  |  |
| Two C-SCCH per cell  | Spot 0_pass_of_2            |  |  |  |
| Three C-SCCH per cell  | Spot 0_pass_of_2            |  |  |  |
| BS Fallback Operation  | PASSED Spot 1_pass_of_10    |  |  |  |
| Switch to/from BS Fallback Operation                                       | Not Supported               |  |  |  |
| Roaming to avoid a cell in BS Fallback Operation                           | PASSED Complete 1_pass_of_1 |  |  |  |
| Services with BS Fallback Operation  | Spot 0_pass_of_8            |  |  |  |
| Ignore a cell in Fallback Operation  | Spot 0_pass_of_1            |  |  |  |
| User selectable Fallback behaviour   | Not Supported               |  |  |  |
| Energy Economy Mode  |                             |  |  |  |
| Energy Economy Mode Operation  | Not Supported               |  |  |  |
| Transmit Inhibit   | PASSED Spot 4_pass_of_9     |  |  |  |
| TXI Activation & De-Activation   | PASSED Spot 2_pass_of_4     |  |  |  |
| TXI Activation & De-Activation with TxI Status available to the Dispatcher | PASSED Spot 2_pass_of_4     |  |  |  |
| Receipt of group addressed service during TXI                              | Spot 0_pass_of_1            |  |  |  |
| Mixed band operation   | Spot 0_pass_of_4            |  |  |  |
| Mixed band operation, inter-cell   | Spot 0_pass_of_4            |  |  |  |
| Mixed band operation, intra-cell   | Spot 0_pass_of_3            |  |  |  |
| Mixed band operation, Full   | Spot 0_pass_of_3            |  |  |  |
| <b>SDS - Fully Witnessed Testing</b>                                       |                             |  |  |  |
| SDS Type 1, 2 or 3   |                             |  |  |  |
| SDS Type 1   | Not Supported               |  |  |  |

|  |                                |  |  |  |
|--|--------------------------------|--|--|--|
| SDS Type 2   | Not Supported                  |  |  |  |
| SDS Type 3   | Not Supported                  |  |  |  |
| SDS-TL   | PASSED Spot 4_pass_of_15       |  |  |  |
| Individually Addressed   | PASSED Complete<br>2_pass_of_2 |  |  |  |
| Group Addressed  | Spot 0_pass_of_3               |  |  |  |
| Using MS-ISDN dialling   | Not Supported                  |  |  |  |
| SDS Reception  | PASSED Spot 2_pass_of_8        |  |  |  |
| Using UCS2 coding scheme   | Spot 0_pass_of_2               |  |  |  |
| Using 7-bit coding scheme  | Spot 0_pass_of_2               |  |  |  |
| Using 8-bit Latin 1 coding scheme  | PASSED Complete<br>2_pass_of_2 |  |  |  |
| Using 8-bit Latin/Cyrillic coding scheme   | Spot 0_pass_of_2               |  |  |  |
| Using 8-bit Latin 9 coding scheme  | Spot 0_pass_of_2               |  |  |  |
| Store and Forward  |                                |  |  |  |
| Individually Addressed   | Not Supported                  |  |  |  |
| Group Addressed  | Not Supported                  |  |  |  |
| Multipart SDS  |                                |  |  |  |
| Multipart SDS  | Not Supported                  |  |  |  |
| <b>DGNA - Fully Witnessed Testing</b>  |                                |  |  |  |
| Support for individually addressed DGNA  | PASSED Spot 3_pass_of_8        |  |  |  |
| Support for individually addressed DGNA assignment without attachment                | Not Supported                  |  |  |  |
| Support for individually addressed DGNA assignment with attachment as selected group | PASSED Spot 2_pass_of_3        |  |  |  |
| Support for individually addressed DGNA assignment with attachment as scanned group  | PASSED Spot 1_pass_of_3        |  |  |  |
| Support for individually addressed DGNA assignment with rejected attachment          | Not Supported                  |  |  |  |
| Support for individually addressed assignment for pre-programmed group               | Spot 0_pass_of_3               |  |  |  |

|  |                                |  |  |  |
|--|--------------------------------|--|--|--|
| Support for group addressed DGNA                                 | Spot 0_pass_of_5               |  |  |  |
| Support for group addressed DGNA assignment                      | Spot 0_pass_of_2               |  |  |  |
| Management of 'group assignment lifetime'                        | Spot 0_pass_of_2               |  |  |  |
| Support for group addressed DGNA deassignment                    | Spot 0_pass_of_1               |  |  |  |
| Tolerance of unsupported DGNA functions                          |                                |  |  |  |
| MS tolerance of unsupported individual addressed DGNA signalling | Not Supported                  |  |  |  |
| MS tolerance of unsupported group addressed DGNA signalling      | Not Supported                  |  |  |  |
| <b>Auth - Fully Witnessed Testing</b>                            |                                |  |  |  |
| SwMI Initiated (non-mutual) Authentication                       | PASSED Spot 1_pass_of_3        |  |  |  |
| Attach with authentication                                       | PASSED Complete<br>1_pass_of_1 |  |  |  |
| Roaming with authentication                                      | Spot 0_pass_of_1               |  |  |  |
| SwMI rejects MS during authentication                            | Spot 0_pass_of_1               |  |  |  |
| MS rejects SwMI during authentication                            | Not Supported                  |  |  |  |
| SwMI Initiated Authentication made Mutual by MS                  | Spot 0_pass_of_2               |  |  |  |
| Attach with authentication                                       | Spot 0_pass_of_1               |  |  |  |
| Roaming with authentication                                      | Spot 0_pass_of_1               |  |  |  |
| TEI Query  |                                |  |  |  |
| TEI Query Operation  | Not Supported                  |  |  |  |
| <b>PD - Fully Witnessed Testing</b>                              |                                |  |  |  |
| Context Management   | PASSED Spot 2_pass_of_9        |  |  |  |
| Context Activation   | PASSED Spot 2_pass_of_7        |  |  |  |
| User authentication  | Spot 0_pass_of_2               |  |  |  |
| Single Slot Packet Data  | PASSED Spot 2_pass_of_9        |  |  |  |
| Data Transfer  | PASSED Spot 2_pass_of_6        |  |  |  |
| Cell re-selection  | Spot 0_pass_of_3               |  |  |  |
| Packet Data Channel sharing                                      | Not Supported                  |  |  |  |

|  |                         |  |  |  |
|--|-------------------------|--|--|--|
| Multi Slot Packet Data                         | Spot 0_pass_of_2        |  |  |  |
| Data Transfer                                  | Spot 0_pass_of_2        |  |  |  |
| TEDS   |                         |  |  |  |
| TEDS with Context Activation                   | Not Supported           |  |  |  |
| TEDS Data Transmission, using LLC Optimisation | Not Supported           |  |  |  |
| TEDS Cell Reselection, using LLC Optimisation  | Not Supported           |  |  |  |
| Mixed band operation                           | Spot 0_pass_of_2        |  |  |  |
| Mixed band operation, inter-cell               | Spot 0_pass_of_2        |  |  |  |
| Mixed band operation, intra-cell               | Spot 0_pass_of_2        |  |  |  |
| Mixed band operation, Full                     | Spot 0_pass_of_2        |  |  |  |
| <b>AL - Fully Witnessed Testing</b>            |                         |  |  |  |
| Ambience Listening                             | PASSED Spot 1_pass_of_5 |  |  |  |
| SS-AL Call Setup                               | Spot 0_pass_of_2        |  |  |  |
| MS initiated SS-AL disconnection               | PASSED Spot 1_pass_of_3 |  |  |  |
| No Indication to affected user                 | PASSED Spot 1_pass_of_5 |  |  |  |
| Interaction with Transmit Inhibit              | Spot 0_pass_of_2        |  |  |  |
| AL can override TxI                            | Spot 0_pass_of_1        |  |  |  |
| AL cannot override TxI                         | Spot 0_pass_of_1        |  |  |  |
| <b>E2EE - Fully Witnessed Testing</b>          |                         |  |  |  |
| E2EE Voice Call                                | PASSED Spot 1_pass_of_6 |  |  |  |
| Individual (P2P) call                          | PASSED Spot 1_pass_of_4 |  |  |  |
| Group (P2MP) call                              | Spot 0_pass_of_2        |  |  |  |
| Clear Voice Override (CVO): Acceptance         | Not Supported           |  |  |  |
| Clear Voice Override (CVO): User Initiated     | Not Supported           |  |  |  |
| Clear Voice Override (CVO): Automatic          | Not Supported           |  |  |  |
| E2EE Short Data                                | PASSED Spot 3_pass_of_5 |  |  |  |
| Short Data                                     | PASSED Spot 3_pass_of_5 |  |  |  |
| Multipart Short Data                           | Not Supported           |  |  |  |
| Short Data Reception                           | PASSED Spot 1_pass_of_2 |  |  |  |
| Multipart Short Data Reception                 | Not Supported           |  |  |  |
| <b>AIE - Fully Witnessed Testing</b>           |                         |  |  |  |

|  |                          |  |  |  |
|--|--------------------------|--|--|--|
| Security Class 2 Air Interface Encryption  |                          |  |  |  |
| Location Updating and AI Signalling Protection                                       | Not Supported            |  |  |  |
| TM-SCK provisioning during location updating   | Not Supported            |  |  |  |
| Communications between parties using encryption                                      | Not Supported            |  |  |  |
| Communications between clear and encrypted parties                                   | Not Supported            |  |  |  |
| Communications between encrypted parties on a channel designated to operate in clear | Not Supported            |  |  |  |
| OTAR of TM-SCK   | Not Supported            |  |  |  |
| Change of TM-SCK   | Not Supported            |  |  |  |
| Packet Data with Class 2 Air Interface Encryption                                    | Not Supported            |  |  |  |
| Tolerance of SwMI not supporting SCK-OTAR  | Not Supported            |  |  |  |
| Security Class 3 Air Interface Encryption  | PASSED Spot 4_pass_of_19 |  |  |  |
| Clear Location Updating and AI Signalling Protection                                 | PASSED Spot 1_pass_of_3  |  |  |  |
| Encrypted Location Updating and AI Signalling Protection                             | PASSED Spot 1_pass_of_6  |  |  |  |
| DCK Forwarding at MS request   | PASSED Spot 1_pass_of_6  |  |  |  |
| DCK Forwarding by SwMI (without MS request)  | Not Supported            |  |  |  |
| DCK Retrieval  | Not Supported            |  |  |  |
| CCK provisioning during location updating  | PASSED Spot 1_pass_of_6  |  |  |  |
| Communications between parties using encryption                                      | PASSED Spot 1_pass_of_2  |  |  |  |
| Communications between clear and encrypted parties                                   | Spot 0_pass_of_2         |  |  |  |
| Communications between encrypted parties on a channel designated to operate in clear | Not Supported            |  |  |  |
| OTAR of CCK  | PASSED Spot 1_pass_of_3  |  |  |  |
| Change of CCK  | PASSED Spot 1_pass_of_4  |  |  |  |
| Packet Data with Class 3 Air Interface Encryption                                    | Spot 0_pass_of_2         |  |  |  |

|   |                         |  |  |  |
|---|-------------------------|--|--|--|
| Security Class 3G Air Interface Encryption                        |                         |  |  |  |
| GCK Key Association setting                                       | Not Supported           |  |  |  |
| Communications between parties using encryption                   | Not Supported           |  |  |  |
| Communications between clear and encrypted parties                | Not Supported           |  |  |  |
| OTAR of GCK   | Not Supported           |  |  |  |
| Change of GCK   | Not Supported           |  |  |  |
| Management of CMG and GSKO  |                         |  |  |  |
| OTAR and change of CMG and GSKO                                   | Not Supported           |  |  |  |
| Key Status demand   |                         |  |  |  |
| SCK Key Status demand   | Not Supported           |  |  |  |
| GCK Key Status demand   | Not Supported           |  |  |  |
| GSKO Key Status demand  | Not Supported           |  |  |  |
| Change of Security Class for Fallback operation                   |                         |  |  |  |
| Seamless change to Security Class 2 for BS Fallback operation     | Not Supported           |  |  |  |
| Non-seamless change to Security Class 2 for BS Fallback operation | Not Supported           |  |  |  |
| Provisioning of TM-SCK for fallback to Security Class 2 operation | Not Supported           |  |  |  |
| Change to Security Class 1 for BS Fallback operation              | Not Supported           |  |  |  |
| Change of Security Class (other than for Fallback operation)      |                         |  |  |  |
| Change between Security Class 3 and Security Class 3G             | Not Supported           |  |  |  |
| Change between Security Class 2 and Security Class 3              | Not Supported           |  |  |  |
| Change from Security Class 3G to Security Class 2                 | Not Supported           |  |  |  |
| Key Management for Secure Direct Mode Operation                   |                         |  |  |  |
| OTAR of DM-SCK  | Not Supported           |  |  |  |
| Change of DM-SCK  | Not Supported           |  |  |  |
| <b>SI - Fully Witnessed Testing</b>                               |                         |  |  |  |
| MS initiated Service Interaction                                  | PASSED Spot 2_pass_of_7 |  |  |  |



|   |                             |  |  |  |
|---|-----------------------------|--|--|--|
| MS initiated Circuit Mode Call during another Circuit Mode Call                         | PASSED Spot 2_pass_of_5     |  |  |  |
| MS initiated Circuit Mode Call during Packet Mode Transfer                              | Spot 0_pass_of_2            |  |  |  |
| MS initiated Packet Mode Transfer during Circuit Mode Call                              | Not Supported               |  |  |  |
| SwMI initiated Service Interaction  | PASSED Spot 2_pass_of_10    |  |  |  |
| SwMI initiated Circuit Mode Call during another Circuit Mode Call                       | PASSED Spot 2_pass_of_8     |  |  |  |
| SwMI initiated Circuit Mode Call during Packet Mode Transfer                            | Spot 0_pass_of_2            |  |  |  |
| SwMI initiated Packet Mode Transfer during Circuit Mode Call                            | Not Supported               |  |  |  |
| Call Waiting  |                             |  |  |  |
| Call Waiting in Individual Call   | Not Supported               |  |  |  |
| Call Waiting in Group Call  | Not Supported               |  |  |  |
| <b>ED - Fully Witnessed Testing</b>   |                             |  |  |  |
| Enable and temporary disable of an MS   | PASSED Spot 3_pass_of_9     |  |  |  |
| Enable and temporary disable of an MS without authentication                            | PASSED Complete 2_pass_of_2 |  |  |  |
| Enable and temporary disable of an MS with authentication                               | Spot 0_pass_of_2            |  |  |  |
| Registration of a temporary disabled MS   | PASSED Spot 1_pass_of_2     |  |  |  |
| Rejection of applicable invalid enable/disable requests                                 | Spot 0_pass_of_3            |  |  |  |
| Removable SIMs do not affect the subscriber or equipment that has been enabled/disabled | Not Supported               |  |  |  |
| Disabling of an MS during a call or while on the PDCH                                   | Not Supported               |  |  |  |
| Permanent disable of an MS  | Spot 0_pass_of_2            |  |  |  |
| Permanent disable of an MS with authentication  | Spot 0_pass_of_1            |  |  |  |
| Permanently Disabled MS cannot send air interface signalling                            | Spot 0_pass_of_1            |  |  |  |
| <b>TKD - Fully Witnessed Testing</b>  |                             |  |  |  |

|   |                                |  |  |  |
|---|--------------------------------|--|--|--|
| Delivery of Authentication Data           | PASSED Complete<br>2_pass_of_2 |  |  |  |
| Authentication Key Delivery               | PASSED Complete<br>1_pass_of_1 |  |  |  |
| ITSI Delivery                             | PASSED Complete<br>1_pass_of_1 |  |  |  |
| Delivery of SCK                           |                                |  |  |  |
| SCK Delivery to SCK delivery              | Not Supported                  |  |  |  |
| SCK Delivery to SwMI                      | Not Supported                  |  |  |  |
| SCK Delivery to SCK loading               | Not Supported                  |  |  |  |
| Delivery method                           | PASSED Complete<br>2_pass_of_2 |  |  |  |
| Plain text on physical media              | PASSED Complete<br>2_pass_of_2 |  |  |  |
| Encrypted text on physical media          | Not Supported                  |  |  |  |
| Electronic transfer                       | Not Supported                  |  |  |  |
| <b>CAD - Fully Witnessed Testing</b>      |                                |  |  |  |
| Call Authorised by Dispatcher - Compliant |                                |  |  |  |
| No voice call with dispatcher             | Not Supported                  |  |  |  |
| Voice call with dispatcher                | Not Supported                  |  |  |  |
| Call Authorised by Dispatcher - Tolerant  | PASSED Spot 2_pass_of_10       |  |  |  |
| No voice call with dispatcher             | PASSED Spot 2_pass_of_10       |  |  |  |
| Individual voice call with dispatcher     | Not Supported                  |  |  |  |
| Group voice call with dispatcher          | Not Supported                  |  |  |  |
| <b>LIP - Fully Witnessed Testing</b>      |                                |  |  |  |
| Location Information Protocol             | PASSED Spot 5_pass_of_20       |  |  |  |
| LIP over SDS                              | PASSED Spot 3_pass_of_10       |  |  |  |
| LIP over Packet Data                      | Not Supported                  |  |  |  |
| Time based reporting                      | PASSED Spot 1_pass_of_4        |  |  |  |
| Distance based reporting - NOT TESTABLE   | Not Supported                  |  |  |  |
| Reporting using Short reports             | PASSED Spot 1_pass_of_2        |  |  |  |
| Reporting using Long reports              | PASSED Spot 1_pass_of_2        |  |  |  |

|                                      |                                |  |  |  |
|--------------------------------------|--------------------------------|--|--|--|
| Reporting Enable & Disable           | Spot 0_pass_of_2               |  |  |  |
| User control of Reporting            | Spot 0_pass_of_1               |  |  |  |
| Temporary reporting control          | Spot 0_pass_of_1               |  |  |  |
| Trigger modification                 | Spot 0_pass_of_1               |  |  |  |
| Control of Basic Location Parameters | PASSED Complete<br>1_pass_of_1 |  |  |  |
| Immediate Location Reporting         | Spot 0_pass_of_1               |  |  |  |
| Reporting Lifetimes                  | Not Supported                  |  |  |  |
| Error Reporting using Long Reports   | Spot 0_pass_of_1               |  |  |  |
| Error Reporting using Short Reports  | Spot 0_pass_of_1               |  |  |  |
| Positioning on Individual Call Setup | Not Supported                  |  |  |  |

## Annex A

| List of Revisions of Certificate |      |   |
|----------------------------------|------|---|
| Date                             | Ver. | Modification  |
| 03 May 2019                      | 1    | First published version   |
| 18 July 2019                     | 2    | updating:<br>Changed certification AIE from 'Security Class 3G Air Interface Encryption' to 'Security Class 3 Air Interface Encryption' on 'Certified Features' table pag.3 |

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