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European Standard (Telecommunications series)

**Integrated Services Digital Network (ISDN);
Digital Subscriber Signalling System No. one (DSS1)
and Signalling System No.7 protocols;
Signalling application for the mobility management service
on the alpha interface;
Part 3: Test Suite Structure and Test Purposes (TSS&TP)
specification for the user**



Reference

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Foreword

This European Standard (Telecommunications series) (EN) has been produced by ETSI Technical Committee Services and Protocol for Advanced Networks (SPAN) and is now submitted for the Public Enquiry phase of the ETSI standards Two-step Approval Procedure.

The present document is part 3 of a multi-part standard covering the Integrated Services Digital Network (ISDN) Digital Subscriber Signalling System No. one (DSS1) and Signalling System No.7 (SS7) protocols; Signalling application for the mobility management service on the alpha interface as identified below:

- Part 1: "Protocol specification";
- Part 2: "Protocol Implementation Conformance Statement (PICS) proforma specification";
- Part 3: "Test Suite Structure and Test Purposes (TSS&TP) specification for the user";**
- Part 4: "Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification for the user";
- Part 5: "Test Suite Structure and Test Purposes (TSS&TP) specification for the network";
- Part 6: "Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification for the network".

| Proposed national transposition dates | |
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| Date of latest announcement of this EN (doa): | 3 months after ETSI publication |
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| Date of withdrawal of any conflicting National Standard (dow): | 6 months after doa |

1 Scope

This third part of EN 301 144 provides the Test Suite Structure and Test Purposes (TSS&TP) for the user of the Signalling application for the mobility management service on the alpha interface.

It is applicable to all types of exchanges as defined in the reference specification.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies.
- A non-specific reference to an ETS shall also be taken to refer to later versions published as an EN with the same number.

- [1] EN 301 144-1 (V.1.1): "Integrated Services Digital Network (ISDN); Digital Subscriber Signalling No. one (DSS1) protocol and Signalling System No.7 (SS7) protocol; Signalling application for the mobility management service on the alpha interface; Part 1: Protocol specification".
- [2] EN 301 144-2 (V1.1): "Integrated Services Digital Network (ISDN); Digital Subscriber Signalling No. one (DSS1) protocol; Signalling application for the mobility management service on the alpha interface; Part 2: Protocol Implementation Conformance Statement (PICS) proforma".
- [3] ISO/IEC 9646-1: "Information Technology - OSI Conformance Testing Methodology and Framework; Part 1: General Concepts".
- [4] ISO/IEC 9646-2: "Information Technology - OSI Conformance Testing Methodology and Framework; Part 2: Abstract Test Suite Specification".
- [5] ISO/IEC 9646-3: "Information Technology - OSI Conformance Testing Methodology and Framework; Part 3: The Tree and Tabular Combined Notation".
- [6] EN 301 002-1: "Integrated Services Digital Network (ISDN); Security tools (SET) procedures; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in EN 301 144-1 [1] and the following apply:

abstract test case: refer to ISO/IEC 9646-1 [3].

Abstract Test Method (ATM): refer to ISO/IEC 9646-1 [3].

Abstract Test Suite (ATS): refer to ISO/IEC 9646-1 [3].

active test: test case where the IUT is required to send a particular message, but not in reaction to a received message. This would usually involve the use of PIXIT information to see how this message can be generated and quite often is specified in an ATS using an implicit send event.

Implementation Under Test (IUT): refer to ISO/IEC 9646-1 [3].

implicit send event: refer to ISO/IEC 9646-3 [5].

lower tester: refer to ISO/IEC 9646-1 [3].

passive test: test case where the IUT is required to respond to a protocol event (e.g. received message) with another protocol event (sends message) and which normally does not require any special operator intervention such as is associated with the implicit send event.

point of control and observation: refer to ISO/IEC 9646-1 [3].

Protocol Implementation Conformance Statement (PICS): refer to ISO/IEC 9646-1 [3].

PICS proforma: refer to ISO/IEC 9646-1 [3].

Protocol Implementation eXtra Information for Testing (PIXIT): refer to ISO/IEC 9646-1 [3].

PIXIT proforma: refer to ISO/IEC 9646-1 [3].

system under test: refer to ISO/IEC 9646-1 [3].

Test Purpose (TP): refer to ISO/IEC 9646-1 [3].

3.2 Abbreviations

For the purposes of the present document, the following abbreviations apply:

| | |
|-------|---|
| ATM | Abstract Test Method |
| ATS | Abstract Test Suite |
| CES | Connection Endpoint Suffix |
| CR | Call Reference |
| CTM | Cordless Terminal Mobility |
| DECT | Digital Enhanced Cordless Telecommunications |
| DSS1 | Digital Subscriber Signalling System No. one |
| GSM | Global System for Mobile communications |
| I | Inopportune |
| ISDN | Integrated Services Digital Network |
| IUT | Implementation Under Test |
| PICS | Protocol Implementation Conformance Statement |
| PIXIT | Protocol Implementation eXtra Information for Testing |
| S | Syntactically invalid stimulus |
| SEG | message Segmentation procedure |
| TP | Test Purpose |
| TSS | Test Suite Structure |
| V | Valid |

4 Test Suite Structure (TSS)

CTM

- Registration & deregistration (RD)
 - Subscription registration (SR)
 - Valid
 - Invalid
 - Subscription deregistration (SD)
 - Valid
 - Invalid
- Activation & deactivation (AD)
 - Location registration (LR)
 - Valid
 - Invalid
 - Location cancellation (LC)
 - Valid
 - Invalid
- Invocation & operation (IO)
 - Location registration suggest (LRS)
 - Valid
 - Invalid
 - Terminal authentication (TA)
 - Valid
 - Invalid
 - Network authentication (NA)
 - Valid
 - Invalid
 - Network initiated ciphering (NIC)
 - Valid
 - Invalid
 - Portable initiated ciphering (PIC)
 - Valid
 - Invalid
 - Key allocation (KA)
 - Valid
 - Invalid
 - Identity request (IR)
 - Valid
 - Invalid
- Embedded procedure (EMB)
 - Outgoing call (OC)
 - Incoming call (IC)

Figure 1 (sheet 1 of 2): Test suite structure

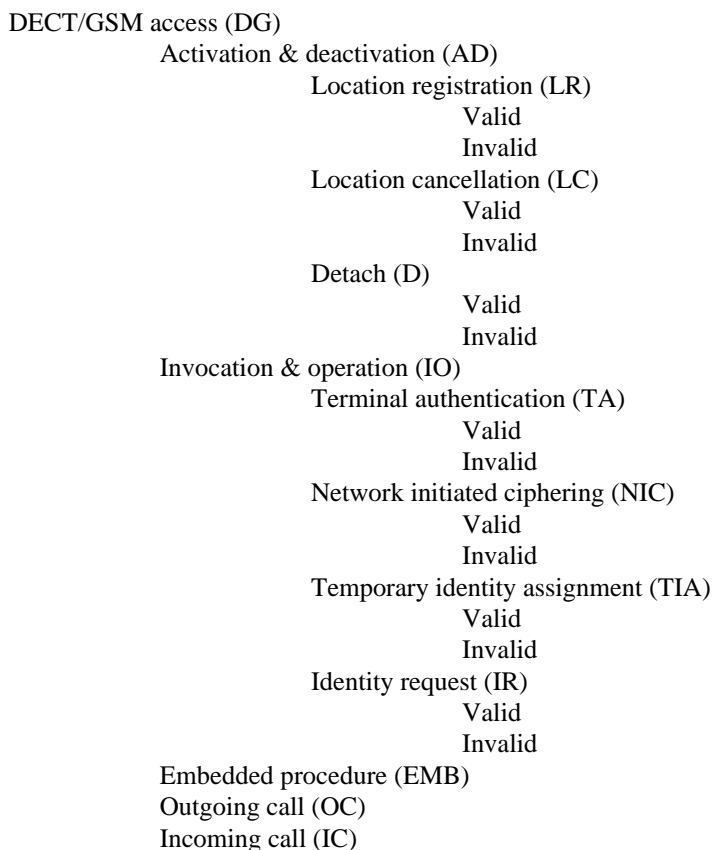


Figure 1 (sheet 2 of 2): Test suite structure

5 Test Purposes (TP)

5.1 Introduction

For each test requirement, a TP is defined.

5.1.1 TP naming convention

TPs are numbered, starting at 001, within each group. Groups are organized according to the TSS. Additional references are added to identify the actual test suite and whether it applies to the network or the user (see table 1).

Table 1: TP identifier naming convention scheme

| |
|--|
| <p>Identifier: <mode>_<groupProcedure>_<procedure>_<group>_<nnn></p> <p><mode> = mode of the IUT: "CTM" for the CTM mode or "DG" for DECT/GSM access mode</p> <p><groupProcedure> = group procedure: e.g. "IO" representing the group for the Invocation & Operation procedures</p> <p><procedure> = procedure: e.g. "SR" representing the Subscription Registration procedure</p> <p><group> = group: one character field representing the group reference according to TSS</p> <p>V: Valid stimulus</p> <p>I: Invalid stimulus</p> <p><nnn> = sequential number: (01-99)</p> |
|--|

5.1.2 Source of TP definition

The TPs are based on EN 301 144-1 [1] and EN 301 144-2 [2].

5.1.3 TP structure

Each TP has been written in a manner which is consistent with all other TPs. The intention of this is to make the TPs more readable and checkable. A particular structure has been used which is illustrated in table 2. This table should be read in conjunction with any TP, i.e. please use a TP as an example to facilitate the full comprehension of table 2.

Table 2 : Structure of a single TP

| TP part | Text | Example |
|--|--|--|
| Header | <Identifier> <i>tab</i> <subclause number in EN 301 144-1 [1]> <i>tab</i> <type of test> <i>tab</i> <condition> <i>CR</i> . | see table 1 subclause 9.3.4 Valid, Invalid Mandatory, Optional, Conditional |
| Stimulus | Ensure that the IUT in the <state> <trigger> <i>see below for information structure</i> <i>or</i> <goal> | Idle, etc. on receipt of a XXXX information (see note 2) to request a ... |
| Reaction | <action> <conditions> <i>if the action is sending</i> <i>see below for information structure</i> | sends, saves, does, etc. using en bloc sending, etc. |
| Information structure | <information type> <i>a)</i> with the <parameter> | CTMAuthentication invoke component PortableIdentity, etc. |
| NOTE 1: Text in italics will not appear in TPs and text between < > is filled in for each TP and may differ from one TP to the next. | | |
| NOTE 2: All information shall be considered as "valid and compatible" unless otherwise specified in the test purpose. | | |

5.1.4 Test strategy

As the base standard EN 301 144-1 [1] contains no explicit requirements for testing, the TPs were generated as a result of an analysis of the base standard and the PICS specification EN 301 144-2 [2]. The criteria applied included the following:

- only the requirements from the point of view of the T or coincident S and T reference point are considered;
- whether or not a test case can be build from the TP is not considered.

5.2 CTM mode

Selection: Support of user requirements. PICS R2.1
AND
Support of the CTM mode. PICS R1.1

5.2.1 Registration & deregistration

5.2.1.1 Subscription registration

Selection: Support of the subscription registration procedure for CTM. PICS MC1

CTM_RD_SR_V_01 subclause 9.1.1.1 Valid Optional

Ensure that the IUT in Idle state, to request a subscription registration,

sends a CTMAccessRightsRequest invoke component including the following parameters: cTMPortableIdentity, cTMAuthType and cTMPortableCapabilities.

CTM_RD_SR_V_02 subclause 9.1.1.1 Valid Optional

Ensure that the IUT, having requested a subscription registration, on receipt of a valid CTMAccessRightsRequest return result component containing the cTMPortable Identity, the cTMFixedIdentity parameters
accepts the provided information and sends no message.

CTM_RD_SR_V_03 subclause 9.1.1.1 Valid Optional

Ensure that the IUT, having requested a subscription registration, on receipt of a valid CTMAccessRightsRequest return result component containing the cTMPortable Identity, the cTMFixedIdentity parameters and the optional parameter cTMSERVICECLASS
accepts the provided information and sends no message.

CTM_RD_SR_I_01 subclause 9.1.1.2 Invalid Optional

Ensure that the IUT, having requested a subscription registration, on receipt of a reject component
accepts the provided information.

CTM_RD_SR_I_02 subclause 9.1.1.2 Invalid Optional

Ensure that the IUT, having requested a subscription registration, on receipt of a return error component with the portableIdentityUnknown error
accepts the provided information.

CTM_RD_SR_I_03 subclause 9.1.1.2 Invalid Optional

Ensure that the IUT, having requested a subscription registration, on receipt of a return error component with the Unspecified error
accepts the provided information.

CTM_RD_SR_I_04 subclause 9.1.1.2 Invalid Optional

Ensure that the IUT, having requested a subscription registration, on receipt of a return error component with the congestion error
accepts the provided information.

CTM_RD_SR_I_05xx subclause 9.1.1.2 Invalid Optional

Ensure that the IUT, having requested a subscription registration, on receipt of a return error component with the networkRejected error with the reject reason value detailed in table 3
accepts the provided information.

Table 3: Reject reason values for test purposes CTM_RD_SR_I_0501 to CTM_RD_SR_I_0524

| Test purpose | Reject reason value |
|------------------|--|
| CTM_RD_SR_I_0501 | TPUI unknown |
| CTM_RD_SR_I_0502 | IPUI unknown |
| CTM_RD_SR_I_0503 | IPEI not accepted |
| CTM_RD_SR_I_0504 | IPUI not accepted |
| CTM_RD_SR_I_0505 | Authentication failed |
| CTM_RD_SR_I_0506 | No authentication algorithm |
| CTM_RD_SR_I_0507 | Authentication algorithm not supported |
| CTM_RD_SR_I_0508 | Authentication key not supported |
| CTM_RD_SR_I_0509 | No cipher algorithm |
| CTM_RD_SR_I_0510 | Cipher algorithm not supported |
| CTM_RD_SR_I_0511 | Cipher key not supported |
| CTM_RD_SR_I_0512 | Incompatible service |
| CTM_RD_SR_I_0513 | False LCE reply (no corresponding service) |
| CTM_RD_SR_I_0514 | Late LCE reply (service already taken) |
| CTM_RD_SR_I_0515 | Invalid TPUI |
| CTM_RD_SR_I_0516 | TPUI assignment limits unacceptable |
| CTM_RD_SR_I_0517 | Insufficient memory |
| CTM_RD_SR_I_0518 | Overload |
| CTM_RD_SR_I_0519 | Invalid message |
| CTM_RD_SR_I_0520 | Information element error |
| CTM_RD_SR_I_0521 | Invalid information element contents |
| CTM_RD_SR_I_0522 | Timer expiry |
| CTM_RD_SR_I_0523 | Location area not allowed |
| CTM_RD_SR_I_0524 | - |

5.2.1.2 Subscription deregistration

Selection: Support of the subscription deregistration procedure for CTM. PICS MC2

CTM_RD_SD_V_01 subclause 9.1.2.1 Valid Optional

Ensure that the IUT in Idle state, having successfully registered, on receipt of a CTMAccessRightTerminate invoke component

sends back a CTMAccessRightTerminate return result component without parameter.

CTM_RD_SD_I_01subclause 9.1.2.2 Invalid Optional

Ensure that the IUT, having received the CTMAccessRightTerminate invoke component and having sent the return result component, on receipt of a reject component,

does not take any action.

CTM_RD_SD_I_02subclause 9.1.2.2 Invalid Optional

Ensure that the IUT in Idle state, having successfully registered, on receipt of a CTMAccessRightTerminate invoke component containing a wrong cTMPortableIdentity parameter,

sends back a return error component with the error value: portableIdentityUnknown.

CTM_RD_SD_I_03subclause 9.1.2.2 Invalid Optional

Ensure that the IUT, having received the CTMAccessRightTerminate invoke component, if the signalling connection on the air interface is interrupted

sends back a return error component with the error value: radioConnectionFailure.

CTM_RD_SD_I_04subclause 9.1.2.2 Invalid Optional

Ensure that the IUT, having received the CTMAccessRightTerminate invoke component, if the paging on the air interface fails

sends back a return error component with the error value: pagingFailure.

CTM_RD_SD_I_05subclause 9.1.2.2 Invalid Optional

Ensure that the IUT, having received the CTMAccessRightTerminate invoke component, on receipt of a mobility management procedure request, while the ongoing procedure has not yet been finished

sends a return error component with the error value: priorityRuleViolation.

CTM_RD_SD_I_06subclause 9.1.2.2 Invalid Optional

Ensure that the IUT, having received the CTMAccessRightTerminate invoke component, if fixed part is overloaded

sends back a return error component with the error value: congestion.

CTM_RD_SD_I_07subclause 9.1.2.2 Invalid Optional

Ensure that the IUT, having received the CTMAccessRightTerminate invoke component, if a terminalRejected return error has been received from the air interface

sends back a return error component with the error value: terminalRejected.

CTM_RD_SD_I_08subclause 9.1.2.2 Invalid Optional

Ensure that the IUT, having received the CTMAccessRightTerminate invoke component, if the supervision timer expires before a response has been received from the air interface

sends back a return error component with the error value: localTimerExpiry.

5.2.2 Activation & deactivation

5.2.2.1 Location registration

CTM_AD_LR_V_01 subclause 9.2.1.1 Valid Mandatory

Ensure that the IUT in Idle state, to request a location registration

sends a CTMLocationRegistration invoke component with the following parameters: cTMOldLocationAreaIdentity, cTMNewLocationAreaIdentity, cTMPortableCapabilities, cTMPortableIdentity.

CTM_AD_LR_V_02 subclause 9.2.1.1 Valid Mandatory

Ensure that the IUT having sent a CTMLocationRegistration invoke component, on receipt of the CTMLocationRegistration return result

does not take any action.

CTM_AD_LR_I_01 subclause 9.2.1.2 Invalid Mandatory

Ensure that the IUT having sent a CTMLocationRegistration invoke component, on receipt of a reject component does not take any action.

CTM_AD_LR_I_02 subclause 9.2.1.2 Invalid Mandatory

Ensure that the IUT having sent a CTMLocationRegistration invoke component, on receipt of a return result with the portableIdentityUnknown error accepts the provided information.

CTM_AD_LR_I_03 subclause 9.2.1.2 Invalid Mandatory

Ensure that the IUT having sent a CTMLocationRegistration invoke component, on receipt of a return result with the congestion error accepts the provided information.

CTM_AD_LR_I_04 subclause 9.2.1.2 Invalid Mandatory

Ensure that the IUT having sent a CTMLocationRegistration invoke component, on receipt of a return result with the unspecified error accepts the provided information.

CTM_AD_LR_I_05xx subclause 9.2.1.2 Invalid Mandatory

Ensure that the IUT, having requested a subscription registration, on receipt of a return error component with the networkRejected error with the reject reason value detailed in table 4 accepts the provided information.

Table 4: Reject reason values for test purposes CTM_AD_LR_I_0501 to CTM_AD_LR_I_0524

| Test purpose | Reject reason value |
|------------------|--|
| CTM_AD_LR_I_0501 | TPUI unknown |
| CTM_AD_LR_I_0502 | IPUI unknown |
| CTM_AD_LR_I_0503 | IPEI not accepted |
| CTM_AD_LR_I_0504 | IPUI not accepted |
| CTM_AD_LR_I_0505 | Authentication failed |
| CTM_AD_LR_I_0506 | No authentication algorithm |
| CTM_AD_LR_I_0507 | Authentication algorithm not supported |
| CTM_AD_LR_I_0508 | Authentication key not supported |
| CTM_AD_LR_I_0509 | No cipher algorithm |
| CTM_AD_LR_I_0510 | Cipher algorithm not supported |
| CTM_AD_LR_I_0511 | Cipher key not supported |
| CTM_AD_LR_I_0512 | Incompatible service |
| CTM_AD_LR_I_0513 | False LCE reply (no corresponding service) |
| CTM_AD_LR_I_0514 | Late LCE reply (service already taken) |
| CTM_AD_LR_I_0515 | Invalid TPUI |
| CTM_AD_LR_I_0516 | TPUI assignment limits unacceptable |
| CTM_AD_LR_I_0517 | Insufficient memory |
| CTM_AD_LR_I_0518 | Overload |
| CTM_AD_LR_I_0519 | Invalid message |
| CTM_AD_LR_I_0520 | Information element error |
| CTM_AD_LR_I_0521 | Invalid information element contents |
| CTM_AD_LR_I_0522 | Timer expiry |
| CTM_AD_LR_I_0523 | Location area not allowed |
| CTM_AD_LR_I_0524 | - |

5.2.2.2 Location cancellation

CTM_AD_LC_V_01 subclause 9.2.2.1 Valid Mandatory

Ensure that the IUT in Idle state, on receipt of a CTMLocationCancellation invoke component shall accept the provided information and shall respond to the network by sending a CTMLocationCancellation return result component without parameter.

CTM_AD_LC_I_01 subclause 9.2.2.2 Invalid Mandatory

Ensure that the IUT, having received a CTMLocationCancellation invoke component containing a wrong cTMPortableIdentity

sends a CTMLocationCancellation return error with the portableIdentityUnknown error value.

CTM_AD_LC_I_02 subclause 9.2.2.2 Invalid Mandatory

Ensure that the IUT, having received a CTMLocationCancellation invoke component and when the fixed part is overloaded and the IUT cannot process the request

sends a CTMLocationCancellation return error with the congestion error value.

CTM_AD_LC_I_03 subclause 9.2.2.2 Invalid Mandatory

Ensure that the IUT, having received a CTMLocationCancellation invoke component and having sent back the CTMLocationCancellation return result, on receipt of a reject component

does not take any action.

5.2.3 Invocation & operation

5.2.3.1 Location registration suggest

CTM_IO_LRS_V_01 subclause 9.3.1.1 Valid Mandatory

Ensure that the IUT in Idle state, on receipt of a CTMLocationRegistrationSuggest invoke component

accepts the provided information and does not respond or may initiate a location registration procedure.

CTM_IO_LRS_I_01 subclause 9.3.1.2 Invalid Mandatory

Ensure that the IUT in Idle state, on receipt of a CTMLocationRegistrationSuggest invoke component containing a wrong cTMPortableIdentity parameter,

sends a CTMLocationRegistrationSuggest return result with the portableIdentityUnknown error value.

CTM_IO_LRS_I_02 subclause 9.3.1.2 Invalid Mandatory

Ensure that the IUT in Idle state, on receipt of a CTMLocationRegistrationSuggest invoke component and when the paging on the air interface fails,

sends a CTMLocationRegistrationSuggest return result with the pagingFailure error value.

CTM_IO_LRS_I_03 subclause 9.3.1.2 Invalid Mandatory

Ensure that the IUT in Idle state, on receipt of a CTMLocationRegistrationSuggest invoke component and when the signalling connection on the air interface is interrupted,

sends a CTMLocationRegistrationSuggest return result with the radioConnectionFailure error value.

CTM_IO_LRS_I_04 subclause 9.3.1.2 Invalid Mandatory

Ensure that the IUT in Idle state, on receipt of a CTMLocationRegistrationSuggest invoke component and when the fixed part is overloaded and the IUT cannot process the request

sends a CTMLocationRegistrationSuggest return error with the congestion error value.

CTM_IO_LRS_I_05 subclause 9.3.1.2 Invalid Mandatory

Ensure that the IUT in Idle state, on receipt of a CTMLocationRegistrationSuggest invoke component and when a mobility procedure with of equal priority has been requested

sends a CTMLocationRegistrationSuggest return error with the priorityRuleViolation error value.

5.2.3.2 Terminal authentication

CTM_IO_TA_V_01 subclause 9.3.2.1 Valid Mandatory

Ensure that the IUT in Idle state, on receipt of a CTMTerminalAuthentication invoke component,

sends the CTMTerminalAuthentication return result with the cTMRes parameter and optionally the cTMServiceClass parameter.

CTM_IO_TA_I_01 subclause 9.3.2.2 Invalid Mandatory

Ensure that the IUT, on receipt of a CTMTerminalAuthentication invoke component with a wrong cTMPortableIdentity parameter

sends a CTMTerminalAuthentication return error component with the portableIdentityUnknown error value.

CTM_IO_TA_I_02 subclause 9.3.2.2 Invalid Mandatory

Ensure that the IUT, on receipt of a CTMTerminalAuthentication invoke component when the fixed part is overloaded and the IUT cannot process the request

sends a CTMTerminalAuthentication return error component with the congestion error value.

CTM_IO_TA_I_03 subclause 9.3.2.2 Invalid Mandatory

Ensure that the IUT, on receipt of a CTMTerminalAuthentication invoke component and if the paging on the air interface fails

sends a CTMTerminalAuthentication return error component with the pagingFailure error value.

CTM_IO_TA_I_04 subclause 9.3.2.2 Invalid Mandatory

Ensure that the IUT, on receipt of a CTMTerminalAuthentication invoke component and if the signalling connection on the air interface is interrupted

sends a CTMTerminalAuthentication return error component with the radioConnectionFailure error value.

CTM_IO_TA_I_05 subclause 9.3.2.2 Invalid Mandatory

Ensure that the IUT, on receipt of a CTMTerminalAuthentication invoke component and if a mobility management procedure of equal priority has been requested

sends a CTMTerminalAuthentication return error component with the priorityRuleViolation error value.

CTM_IO_TA_I_06 subclause 9.3.2.2 Invalid Mandatory

Ensure that the IUT, on receipt of a CTMTerminalAuthentication invoke component and if the supervision timer expires before a response has been received

sends a CTMTerminalAuthentication return error with the localTimerExpiry error value.

CTM_IO_TA_I_07 subclause 9.3.2.2 Invalid Mandatory

Ensure that the IUT, on receipt of a CTMTerminalAuthentication invoke component and if a reject reason is received from the air interface

sends the CTMTerminalAuthentication with the terminalRejected error value.

CTM_IO_TA_I_08 subclause 9.3.2.2 Invalid Mandatory

Ensure that the IUT, having received a CTMTerminalAuthentication invoke component and having sent a return result, on receipt of a reject component

does not take any action.

5.2.3.3 Network authentication**CTM_IO_NA_V_01 subclause 9.3.3.1 Valid Mandatory**

Ensure that the IUT in Idle state, to request a network authentication

sends the CTMNetworkAuthentication invoke component with the following parameter: cTMAAuthenticationType, cTMRand and the cTMPortableIdentity.

CTM_IO_NA_V_02 subclause 9.3.3.1 Valid Mandatory

Ensure that the IUT, having sent the CTMNetworkAuthentication invoke component and on receipt of the return result accepts the provided information.

CTM_IO_NA_I_01 subclause 9.3.3.2 Invalid Mandatory

Ensure that the IUT, having sent the CTMNetworkAuthentication invoke component and on receipt of the return error component with the portableIdentityUnknown value

accepts the provided information.

CTM_IO_NA_I_02 subclause 9.3.3.2 Invalid Mandatory

Ensure that the IUT, having sent the CTMNetworkAuthentication invoke component and on receipt of the return error component with the congestion value

accepts the provided information.

CTM_IO_NA_I_03 subclause 9.3.3.2 Invalid Mandatory

Ensure that the IUT, having sent the CTMNetworkAuthentication invoke component and on receipt of the return error component with the unspecified value

accepts the provided information.

CTM_IO_NA_I_04xx subclause 9.3.3.2 Invalid Mandatory

Ensure that the IUT, having sent the CTMNetworkAuthentication invoke component and on receipt of a return error component with the networkRejected error with the reject reason value detailed in table 5 accepts the provided information.

Table 5: Reject reason values for test purposes CTM_IO_NA_I_0401 to CTM_IO_NA_I_0424

| Test purpose | Reject reason value |
|------------------|--|
| CTM_IO_NA_I_0401 | TPUI unknown |
| CTM_IO_NA_I_0402 | IPUI unknown |
| CTM_IO_NA_I_0403 | IPEI not accepted |
| CTM_IO_NA_I_0404 | IPUI not accepted |
| CTM_IO_NA_I_0405 | Authentication failed |
| CTM_IO_NA_I_0406 | No authentication algorithm |
| CTM_IO_NA_I_0407 | Authentication algorithm not supported |
| CTM_IO_NA_I_0408 | Authentication key not supported |
| CTM_IO_NA_I_0409 | No cipher algorithm |
| CTM_IO_NA_I_0410 | Cipher algorithm not supported |
| CTM_IO_NA_I_0411 | Cipher key not supported |
| CTM_IO_NA_I_0412 | Incompatible service |
| CTM_IO_NA_I_0413 | False LCE reply (no corresponding service) |
| CTM_IO_NA_I_0414 | Late LCE reply (service already taken) |
| CTM_IO_NA_I_0415 | Invalid TPUI |
| CTM_IO_NA_I_0416 | TPUI assignment limits unacceptable |
| CTM_IO_NA_I_0417 | Insufficient memory |
| CTM_IO_NA_I_0418 | Overload |
| CTM_IO_NA_I_0419 | Invalid message |
| CTM_IO_NA_I_0420 | Information element error |
| CTM_IO_NA_I_0421 | Invalid information element contents |
| CTM_IO_NA_I_0422 | Timer expiry |
| CTM_IO_NA_I_0423 | Location area not allowed |
| CTM_IO_NA_I_0424 | - |

5.2.3.4 Network initiated ciphering**CTM_IO_NIC_V_01 subclause 9.3.4.1 Valid Mandatory**

Ensure that the IUT in Idle state, on receipt of a CTMCiphering invoke component, with valid cipher parameter enables ciphering and sends the CTMCiphering return result.

CTM_IO_NIC_I_01 subclause 9.3.4.2 Invalid Mandatory

Ensure that the IUT in Idle state, on receipt of a CTMCiphering invoke component with an invalid portable identity parameter

sends a CTMCiphering return error component with the portableIdentityUnknown error value.

CTM_IO_NIC_I_02 subclause 9.3.4.2 Invalid Mandatory

Ensure that the IUT in Idle state, on receipt of a CTMCiphering invoke component and when the fixed part is overloaded

sends a CTMCiphering return error component with the congestion error value.

CTM_IO_NIC_I_03 subclause 9.3.4.2 Invalid Mandatory

Ensure that the IUT in Idle state, on receipt of a CTMCiphering invoke component and when the supervision timer expire before a response has been received

sends a CTMCiphering return error component with the localTimerExpiry error value.

CTM_IO_NIC_I_04 subclause 9.3.4.2 Invalid Mandatory

Ensure that the IUT in Idle state, on receipt of a CTMCiphering invoke component and when the paging fails on the air interface

sends a CTMCiphering return error component with the pagingFailure error value.

CTM_IO_NIC_I_05 subclause 9.3.4.2 Invalid Mandatory

Ensure that the IUT in Idle state, on receipt of a CTMCiphering invoke component and when the signalling connection is interrupted on the air interface

sends a CTMCiphering return error component with the radioConnectionFailure error value.

CTM_IO_NIC_I_06 subclause 9.3.4.2 Invalid Mandatory

Ensure that the IUT in Idle state, on receipt of a CTMCiphering invoke component and if the ciphering has already been requested for this connection

sends a CTMCiphering return error component with the incompatibleCipheringState error value.

CTM_IO_NIC_I_07 subclause 9.3.4.2 Invalid Mandatory

Ensure that the IUT in Idle state, on receipt of a CTMCiphering invoke component and a mobility management procedure of equal priority has been requested

sends a CTMCiphering return error component with the priorityRuleViolation error value.

CTM_IO_NIC_I_08 subclause 9.3.4.2 Invalid Mandatory

Ensure that the IUT in Idle state, on receipt of a CTMCiphering invoke component and if a reject reason (detailed in table 8) is received from the air interface

sends the CTMCiphering return error component with the terminalRejected error value.

CTM_IO_NIC_I_09 subclause 9.3.4.2 Invalid Mandatory

Ensure that the IUT, having received the CTMCiphering invoke component and having sent the return result component, on receipt of a reject component

does not take any action.

5.2.3.5 Portable initiated ciphering

Selection: Support the portable initiated ciphering procedure. PICS MC3

CTM_IO_PIC_V_01 subclause 9.3.5.1 Valid Optional

Ensure that the IUT in Idle state, to request a ciphering procedure

sends a CTMCipheringSuggest invoke component with the following parameter: cTMCipherInfo and cTMPortableIdentity.

CTM_IO_PIC_V_02 subclause 9.3.5.1 Valid Optional

Ensure that the IUT having sent the CTMCipheringSuggest invoke component, on receipt of a CTMCiphering invoke component to initiate a ciphering procedure

accepts the provided information continue the ciphering procedure by sending the return result.

CTM_IO_PIC_I_01 subclause 9.3.5.2 Invalid Optional

Ensure that the IUT having sent the CTMCipheringSuggest invoke component, on receipt of a return error component with the portableIdentityUnknown error

accepts the provided information and release the transaction or proceed in the existing mode.

CTM_IO_PIC_I_02 subclause 9.3.5.2 Invalid Optional

Ensure that the IUT having sent the CTMCipheringSuggest invoke component, on receipt of a return error component with the congestion error

accepts the provided information and release the transaction or proceed in the existing mode.

CTM_IO_PIC_I_03 subclause 9.3.5.2 Invalid Optional

Ensure that the IUT having sent the CTMCipheringSuggest invoke component, on receipt of a return error component with the unspecified error

accepts the provided information and release the transaction or proceed in the existing mode.

CTM_IO_PIC_I_04 subclause 9.3.5.2 Invalid Optional

Ensure that the IUT having sent the CTMCipheringSuggest invoke component, on receipt of a reject component

accepts the provided information and release the transaction or proceed in the existing mode.

CTM_IO_PIC_I_05xx subclause 9.3.5.2 Invalid Optional

Ensure that the IUT having sent the CTMCipheringSuggest invoke component, on receipt of a return error component with the networkRejected error with the reject reason value detailed in table 6

accepts the provided information and release the transaction or proceed in the existing mode.

Table 6: Reject reason values for test purposes CTM_IO_PIC_I_0501 to CTM_IO_PIC_I_0524

| Test purpose | Reject reason value |
|-------------------|--|
| CTM_IO_PIC_I_0501 | TPUI unknown |
| CTM_IO_PIC_I_0502 | IPUI unknown |
| CTM_IO_PIC_I_0503 | IPEI not accepted |
| CTM_IO_PIC_I_0504 | IPUI not accepted |
| CTM_IO_PIC_I_0505 | Authentication failed |
| CTM_IO_PIC_I_0506 | No authentication algorithm |
| CTM_IO_PIC_I_0507 | Authentication algorithm not supported |
| CTM_IO_PIC_I_0508 | Authentication key not supported |
| CTM_IO_PIC_I_0509 | No cipher algorithm |
| CTM_IO_PIC_I_0510 | Cipher algorithm not supported |
| CTM_IO_PIC_I_0511 | Cipher key not supported |
| CTM_IO_PIC_I_0512 | Incompatible service |
| CTM_IO_PIC_I_0513 | False LCE reply (no corresponding service) |
| CTM_IO_PIC_I_0514 | Late LCE reply (service already taken) |
| CTM_IO_PIC_I_0515 | Invalid TPUI |
| CTM_IO_PIC_I_0516 | TPUI assignment limits unacceptable |
| CTM_IO_PIC_I_0517 | Insufficient memory |
| CTM_IO_PIC_I_0518 | Overload |
| CTM_IO_PIC_I_0519 | Invalid message |
| CTM_IO_PIC_I_0520 | Information element error |
| CTM_IO_PIC_I_0521 | Invalid information element contents |
| CTM_IO_PIC_I_0522 | Timer expiry |
| CTM_IO_PIC_I_0523 | Location area not allowed |
| CTM_IO_PIC_I_0524 | - |

5.2.3.6 Key allocation

CTM_IO_KA_V_01 subclause 9.3.7.1 Valid Mandatory

Ensure that the IUT on receipt of a CTMKeyAllocate invoke component initiates a network authentication procedure by sending a CTMNetworkAuthentication invoke component.

CTM_IO_KA_V_02 subclause 9.3.7.1 Valid Mandatory

Ensure that the IUT, having received a CTMKeyAllocate invoke component and having sent the CTMNetworkAuthentication invoke component accepts the CTMNetworkAuthentication return result component.

CTM_IO_KA_I_01 subclause 9.3.7.2 Invalid Mandatory

Ensure that the IUT, on receipt of a CTMKeyAllocate invoke component with an invalid portableIdentity parameter sends a CTMKeyAllocate return error component with the portableIdentityUnknown error value.

CTM_IO_KA_I_02 subclause 9.3.7.2 Invalid Mandatory

Ensure that the IUT, on receipt of a CTMKeyAllocate invoke component and when the fixed part is overloaded sends a CTMKeyAllocate return error component with the congestion error value.

CTM_IO_KA_I_03 subclause 9.3.7.2 Invalid Mandatory

Ensure that the IUT, on receipt of a CTMKeyAllocate invoke component and when the supervision timer expires before a response has been received sends a CTMKeyAllocate return error component with the localTimerExpiry error value.

CTM_IO_KA_I_04 subclause 9.3.7.2 Invalid Mandatory

Ensure that the IUT, on receipt of a CTMKeyAllocate invoke component and when the paging fails on the air interface sends a CTMKeyAllocate return error component with the pagingFailure error value.

CTM_IO_KA_I_05 subclause 9.3.7.2 Invalid Mandatory

Ensure that the IUT, on receipt of a CTMKeyAllocate invoke component and when the signalling connection is interrupted on the air interface sends a CTMKeyAllocate return error component with the radioConnectionFailure error value.

CTM_IO_KA_I_06 subclause 9.3.7.2 Invalid Mandatory

Ensure that the IUT, on receipt of a CTMKeyAllocate invoke component and a mobility management procedure of equal priority has been requested

sends a CTMKeyAllocate return error component with the priorityRuleViolation error value.

CTM_IO_KA_I_07 subclause 9.3.7.2 Invalid Mandatory

Ensure that the IUT, on receipt of a CTMKeyAllocate invoke component and if a reject reason is received from the air interface

sends the CTMKeyAllocate return error component with the terminalRejected error value.

5.2.3.7 Identity request**CTM_IO_IR_V_01 subclause 9.3.8.1 Valid Mandatory**

Ensure that the IUT, on receipt of a CTMIdentityRequest invoke component

sends a CTMIdentityRequest return result.

CTM_IO_IR_I_01 subclause 9.3.8.2 Invalid Mandatory

Ensure that the IUT, on receipt of a CTMIdentityRequest invoke component with a portable identity not available parameter

sends a CTMIdentityRequest return error component with the identityNotAvailable error value.

CTM_IO_IR_I_02 subclause 9.3.8.2 Invalid Mandatory

Ensure that the IUT, on receipt of a CTMIdentityRequest invoke component with an invalid portable identity parameter

sends a CTMIdentityRequest return error component with the portableIdentityUnknown error value.

CTM_IO_IR_I_03 subclause 9.3.8.2 Invalid Mandatory

Ensure that the IUT, on receipt of a CTMIdentityRequest invoke component and when the fixed part is overloaded

sends a CTMIdentityRequest return error component with the congestion error value.

CTM_IO_IR_I_04 subclause 9.3.8.2 Invalid Mandatory

Ensure that the IUT, on receipt of a CTMIdentityRequest invoke component and when the supervision timer expire before a response has been received

sends a CTMIdentityRequest return error component with the localTimerExpiry error value.

CTM_IO_IR_I_05 subclause 9.3.8.2 Invalid Mandatory

Ensure that the IUT, on receipt of a CTMIdentityRequest invoke component and a mobility management procedure of equal priority has been requested

sends a CTMIdentityRequest return error component with the priorityRuleViolation error value.

CTM_IO_IR_I_06 subclause 9.3.8.2 Invalid Mandatory

Ensure that the IUT, on receipt of a CTMIdentityRequest invoke component and when the paging fails on the air interface

sends a CTMIdentityRequest return error component with the pagingFailure error value.

CTM_IO_IR_I_07 subclause 9.3.8.2 Invalid Mandatory

Ensure that the IUT, on receipt of a CTMIdentityRequest invoke component and when the signalling connection is interrupted on the air interface

sends a CTMIdentityRequest return error component with the radioConnectionFailure error value.

CTM_IO_IR_I_08 subclause 9.3.8.2 Invalid Mandatory

Ensure that the IUT, having received the CTMIdentityRequest invoke component and having sent the return result, on receipt of a reject component

accepts the provided information and does not take any action.

5.2.4 Embedded procedures**CTM_EMB_V_01 subclause 9.1.1.1 - 9.3.7.1 Valid Optional**

Selection: support the subscription registration procedure for CTM. PICS MC1

Ensure that the IUT, having requested the subscription registration procedure by sending a CTMAccessRightsRequest invoke component and upon receiving a CTMKeyAllocate invoke component without cTMPortableIdentity parameter,

sends the CTMNetworkAuthentication invoke component.

CTM_EMB_V_02 subclause 9.1.1.1 - 9.3.2.1 Valid Optional

Selection: support the subscription registration procedure for CTM. PICS MC1

Ensure that the IUT, having requested the subscription registration procedure by sending a CTMAccessRightsRequest invoke component and upon receiving a CTMTerminalAuthentication invoke component without cTMPortableIdentity parameter,

sends the CTMTerminalAuthentication return result.

CTM_EMB_V_03 subclause 9.1.2.1 - 9.3.3.1 Valid Optional

Selection: support the subscription deregistration procedure for CTM. PICS MC1

AND

support the Network authentication procedure as an embedded procedure. PIXIT

Ensure that the IUT, having received the CTMAccessRightTerminate invoke component and in order to request the network authentication procedure as an embedded procedure

sends a CTMNetworkAuthentication invoke component without the cTMPortableIdentity parameter.

CTM_EMB_V_04 subclause 9.2.1.1 - 9.3.7.1 Valid Optional

Ensure that the IUT, having requested the location registration procedure by sending the CTMLocationRegistration invoke component and upon receiving a CTMKeyAllocate invoke component without cTMPortableIdentity parameter,

sends the CTMNetworkAuthentication invoke component.

CTM_EMB_V_05 subclause 9.2.1.1 - 9.3.2.1 Valid Optional

Ensure that the IUT, having requested the location registration procedure by sending the CTMLocationRegistration invoke component and upon receiving a CTMTerminalAuthentication invoke component without cTMPortableIdentity parameter,

sends the CTMTerminalAuthentication return result.

5.2.5 Outgoing call

CTM_OC_V_01 subclause 9.3.9.1 Valid Mandatory

Ensure that the IUT when initiating an outgoing call,

includes the CTMOutgoingCallMMInfo invoke component in the facility information element in the SETUP message.

CTM_OC_I_01 subclause 9.3.9.2 Invalid Mandatory

Ensure that the IUT, having sent the SETUP message with the CTMOutgoingCallMMInfo, when receiving a reject component

does not take any action.

CTM_OC_I_02 subclause 9.3.9.2 Invalid Mandatory

Ensure that the IUT, having sent the SETUP message with the CTMOutgoingCallMMInfo, on receipt of a return error component with the portableIdentityUnknown error value

does not take any action.

CTM_OC_I_03 subclause 9.3.9.2 Invalid Mandatory

Ensure that the IUT, having sent the SETUP message with the CTMOutgoingCallMMInfo, on receipt of a return error component with the congestionerror value

does not take any action.

CTM_OC_I_04 subclause 9.3.9.2 Invalid Mandatory

Ensure that the IUT, having sent the SETUP message with the CTMOutgoingCallMMInfo, on receipt of a return error component with the unspecified error value

does not take any action.

CTM_OC_I_05xx subclause 9.3.9.2 Invalid Optional

Ensure that the IUT, having sent the SETUP message with the CTMOutgoingCallMMInfo, on receipt of a return error component with the networkRejected error with the reject reason value detailed in table 7

accepts the provided information and release the transaction or proceed in the existing mode.

Table 7: Reject reason values for test purposes CTM_OC_I_0501 to CTM_OC_I_0524

| Test purpose | Reject reason value |
|---------------|--|
| CTM_OC_I_0501 | TPUI unknown |
| CTM_OC_I_0502 | IPUI unknown |
| CTM_OC_I_0503 | IPEI not accepted |
| CTM_OC_I_0504 | IPUI not accepted |
| CTM_OC_I_0505 | Authentication failed |
| CTM_OC_I_0506 | No authentication algorithm |
| CTM_OC_I_0507 | Authentication algorithm not supported |
| CTM_OC_I_0508 | Authentication key not supported |
| CTM_OC_I_0509 | No cipher algorithm |
| CTM_OC_I_0510 | Cipher algorithm not supported |
| CTM_OC_I_0511 | Cipher key not supported |
| CTM_OC_I_0512 | Incompatible service |
| CTM_OC_I_0513 | False LCE reply (no corresponding service) |
| CTM_OC_I_0514 | Late LCE reply (service already taken) |
| CTM_OC_I_0515 | Invalid TPUI |
| CTM_OC_I_0516 | TPUI assignment limits unacceptable |
| CTM_OC_I_0517 | Insufficient memory |
| CTM_OC_I_0518 | Overload |
| CTM_OC_I_0519 | Invalid message |
| CTM_OC_I_0520 | Information element error |
| CTM_OC_I_0521 | Invalid information element contents |
| CTM_OC_I_0522 | Timer expiry |
| CTM_OC_I_0523 | Location area not allowed |
| CTM_OC_I_0524 | - |

5.2.6 Incoming call

CTM_IC_V_01 subclause 9.3.10.1 Valid Mandatory

Ensure that the IUT when receiving a SETUP message including a CTMIncomingCallMMInfo invoke component, accepts the call request.

CTM_IC_I_01 subclause 9.3.10.2 Invalid Mandatory

Ensure that the IUT when receiving a SETUP message including a CTMIncomingCallMMInfo invoke component and when a RejectReason is received from the air interface, sends the CTMIncomingCallMMInfo return result with the terminalRejected error value.

CTM_IC_I_02 subclause 9.3.10.2 Invalid Mandatory

Ensure that the IUT when receiving a SETUP message including a CTMIncomingCallMMInfo invoke component with a portable Identity that is not known, sends the CTMIncomingCallMMInfo return result with the portableIdentityUnknown error value.

CTM_IC_I_03 subclause 9.3.10.2 Invalid Mandatory

Ensure that the IUT when receiving a SETUP message including a CTMIncomingCallMMInfo invoke component and when the fixed part is overloaded, sends the CTMIncomingCallMMInfo return result with the congestion error value.

CTM_IC_I_04 subclause 9.3.10.2 Invalid Mandatory

Ensure that the IUT when receiving a SETUP message including a CTMIncomingCallMMInfo invoke component and when the paging fails on the air interface, sends the CTMIncomingCallMMInfo return result with the pagingFailure error value.

CTM_IC_I_05 subclause 9.3.10.2 Invalid Mandatory

Ensure that the IUT when receiving a SETUP message including a CTMIncomingCallMMInfo invoke component and when the signalling connection on the air interface is interrupted, sends the CTMIncomingCallMMInfo return result with the pagingFailure error value.

5.3 DECT access to GSM mode

Selection: Support of user requirements. PICS R2.1

AND

Support of the DECT access to GSM mode. PICS R1.2

5.3.1 Activation & deactivation

5.3.1.1 Location registration

DG_AD_LR_V_01 subclause 9.2.1.1 Valid Mandatory

Ensure that the IUT in Idle state, to request a location registration

sends a GSMLocationRegistration invoke component with the following parameters: gSMPortableIdentity, gSMLocationRegistrationType, gSMLocationAreaIdentity identifying the old location area, gSMCipherInfo, gSMPortableCapabilities.

DG_AD_LR_V_02 subclause 9.2.1.1 Valid Mandatory

Ensure that the IUT having sent a GSMLocationRegistration invoke component, on receipt of the

GSMLocationRegistration return result including the following parameter gSMLocationAreaIdentity, indicating the new location area

does not take any action.

DG_AD_LR_I_01 subclause 9.2.1.2 Invalid Mandatory

Ensure that the IUT having sent a GSMLocationRegistration invoke component, on receipt of a reject component

does not respond to a previously received GSMLinkedAssignIdentity invoke component.

DG_AD_LR_I_02 subclause 9.2.1.2 Invalid Mandatory

Ensure that the IUT having sent a GSMLocationRegistration invoke component, on receipt of a return result with the portableIdentityUnknown error

does not respond to a previously received GSMLinkedAssignIdentity invoke component.

DG_AD_LR_I_03 subclause 9.2.1.2 Invalid Mandatory

Ensure that the IUT having sent a GSMLocationRegistration invoke component, on receipt of a return result with the congestion error

does not respond to a previously received GSMLinkedAssignIdentity invoke component.

DG_AD_LR_I_04 subclause 9.2.1.2 Invalid Mandatory

Ensure that the IUT having sent a GSMLocationRegistration invoke component, on receipt of a return result with the unspecified error

does not respond to a previously received GSMLinkedAssignIdentity invoke component.

DG_AD_LR_I_05xx subclause 9.2.1.2 Invalid Mandatory

Ensure that the IUT, having sent a GSMLocationRegistration invoke component, on receipt of a return error component with the networkRejected error with the reject reason value detailed in table 4

does not respond to a previously received GSMLinkedAssignIdentity invoke component.

Table 8: Reject reason values for test purposes DG_AD_LR_I_0501 to DG_AD_LR_I_0519

| Test purpose | Reject reason value |
|-----------------|--|
| DG_AD_LR_I_0501 | Authentication failed |
| DG_AD_LR_I_0502 | No authentication algorithm |
| DG_AD_LR_I_0503 | Authentication algorithm not supported |
| DG_AD_LR_I_0504 | Authentication key not supported |
| DG_AD_LR_I_0505 | UPI not entered |
| DG_AD_LR_I_0506 | No cipher algorithm |
| DG_AD_LR_I_0507 | Cipher algorithm not supported |
| DG_AD_LR_I_0508 | Cipher key not supported |
| DG_AD_LR_I_0509 | Incompatible service |
| DG_AD_LR_I_0510 | Insufficient memory |
| DG_AD_LR_I_0511 | Overload |
| DG_AD_LR_I_0512 | Invalid message |
| DG_AD_LR_I_0513 | Information element error |
| DG_AD_LR_I_0514 | Invalid information element contents |
| DG_AD_LR_I_0515 | Timer expiry |
| DG_AD_LR_I_0516 | PLMN not allowed |
| DG_AD_LR_I_0517 | Location area not allowed |
| DG_AD_LR_I_0518 | National roaming not allowed in this location area |
| DG_AD_LR_I_0519 | - |

5.3.1.2 Location cancellation

Selection: Support of the subscription registration procedure for CTM. PICS MC4

DG_AD_LC_V_01 subclause 9.2.2.1 Valid Optional

Ensure that the IUT in Idle state, on receipt of a GSMLocationCancellation invoke component containing a gSMPortableIdentity,

shall accept the provided information and shall not respond to the network.

DG_AD_LC_I_01 subclause 9.2.2.2 Invalid Optional

Ensure that the IUT, having received a GSMLocationCancellation invoke component and cannot process the request does not take any action.

5.3.1.3 Detach

DG_AD_D_V_01 subclause 9.2.3.1 Valid Mandatory

Ensure that the IUT in Idle state, when it is unable to receive incoming calls (e.g. the cordless terminal is switched off), sends a GSMDetach invoke component with the following parameter: gSMPortableIdentity.

DG_AD_D_I_01 subclause 9.2.3.2 Invalid Mandatory

Ensure that the IUT having sent a GSMDetach invoke component, on receipt of a reject component considers the procedure as unsuccessful..

5.3.2 Invocation & operation

5.3.2.1 Terminal authentication

DG_IO_TA_V_01 subclause 9.3.2.1 Valid Mandatory

Ensure that the IUT in Idle state, on receipt of a GSMTerminalAuthentication invoke component including correct gSMRand, gSMCipherInfo, gSMPortableIdentity parameters,

sends the GSMTerminalAuthentication return result with the gSMRes parameter.

DG_IO_TA_I_01 subclause 9.3.2.2 Invalid Mandatory

Ensure that the IUT, on receipt of a GSMTerminalAuthentication invoke component including correct gSMRand, gSMCipherInfo, gSMPortableIdentity parameters and if the identity of the cordless terminal included in the gSMPortableIdentity parameter is not known,

sends a GSMTerminalAuthentication return error component with the portableIdentityUnknown error value.

DG_IO_TA_I_02 subclause 9.3.2.2 Invalid Mandatory

Ensure that the IUT, on receipt of a GSMTerminalAuthentication invoke component including correct gSMRand, gSMCipherInfo, gSMPortableIdentity parameters when the fixed part is overloaded and the IUT cannot process the request

sends a GSMTerminalAuthentication return error component with the congestion error value.

DG_IO_TA_I_03 subclause 9.3.2.2 Invalid Mandatory

Ensure that the IUT, on receipt of a GSMTerminalAuthentication invoke component including correct gSMRand, gSMCipherInfo, gSMPortableIdentity parameters and if the paging on the air interface fails

sends a GSMTerminalAuthentication return error component with the pagingFailure error value.

DG_IO_TA_I_04 subclause 9.3.2.2 Invalid Mandatory

Ensure that the IUT, on receipt of a GSMTerminalAuthentication invoke component including correct gSMRand, gSMCipherInfo, gSMPortableIdentity parameters and if the signalling connection on the air interface is interrupted

sends a GSMTerminalAuthentication return error component with the radioConnectionFailure error value.

DG_IO_TA_I_05 subclause 9.3.2.2 Invalid Mandatory

Ensure that the IUT, on receipt of a GSMTerminalAuthentication invoke component including correct gSMRand, gSMCipherInfo, gSMPortableIdentity parameters and if a mobility management procedure of equal priority has been requested

sends a GSMTerminalAuthentication return error component with the priorityRuleViolation error value.

DG_IO_TA_I_06 subclause 9.3.2.2 Invalid Mandatory

Ensure that the IUT, on receipt of a GSMTerminalAuthentication invoke component including correct gSMRand, gSMCipherInfo, gSMPortableIdentity parameters and if the supervision timer for the requested procedure expires before a response has been received

sends a GSMTerminalAuthentication return error component with the localTimerExpiry error value.

DG_IO_TA_I_07 subclause 9.3.2.2 Invalid Mandatory

Ensure that the IUT, on receipt of a GSMTerminalAuthentication invoke component including correct gSMRand, gSMCipherInfo, gSMPortableIdentity parameters and if a reject reason is received from the air interface

sends a GSMTerminalAuthentication return error component with the terminalRejected error value.

DG_IO_TA_I_08 subclause 9.3.2.2 Invalid Mandatory

Ensure that the IUT, having received a GSMTerminalAuthentication invoke component and having sent a return result, on receipt of a GSMTerminalAuthenticationReject invoke component

does not take any action.

5.3.2.2 Network initiated ciphering**DG_IO_NIC_V_01 subclause 9.3.4.1 Valid Mandatory**

Ensure that the IUT in Idle state, on receipt of a GSMCiphering invoke component with valid gSMCipherKey, and gSMPortableIdentity parameters

enables ciphering and sends the GSMCiphering return result component.

DG_IO_NIC_I_01 subclause 9.3.4.2 Invalid Mandatory

Ensure that the IUT in Idle state, on receipt of a GSMCiphering invoke component with valid gSMCipherKey, and gSMPortableIdentity parameters and if the identity of the cordless terminal included in the gSMPortableIdentity parameter is not known,

sends a GSMCiphering return error component with the portableIdentityUnknown error value.

DG_IO_NIC_I_02 subclause 9.3.4.2 Invalid Mandatory

Ensure that the IUT in Idle state, on receipt of a GSMCiphering invoke component with valid gSMCipherKey, gSMPortableIdentity parameters and when the fixed part is overloaded

sends a GSMCiphering return error component with the congestion error value.

DG_IO_NIC_I_03 subclause 9.3.4.2 Invalid Mandatory

Ensure that the IUT in Idle state, on receipt of a GSMCiphering invoke component with valid gSMCipherKey, gSMPortableIdentity parameters and when the supervision timer for the requested procedure expires before a response has been received

sends a GSMCiphering return error component with the localTimerExpiry error value.

DG_IO_NIC_I_04 subclause 9.3.4.2 Invalid Mandatory

Ensure that the IUT in Idle state, on receipt of a GSMCIPHERING invoke component with valid gSMCIPHERKEY, gSMPORTABLEIDENTITY parameters and when the paging fails on the air interface
sends a GSMCIPHERING return error component with the pagingFailure error value.

DG_IO_NIC_I_05 subclause 9.3.4.2 Invalid Mandatory

Ensure that the IUT in Idle state, on receipt of a GSMCIPHERING invoke component with valid gSMCIPHERKEY, gSMPORTABLEIDENTITY parameters and when the signalling connection is interrupted on the air interface
sends a GSMCIPHERING return error component with the radioConnectionFailure error value.

DG_IO_NIC_I_06 subclause 9.3.4.2 Invalid Mandatory

Ensure that the IUT in Idle state, on receipt of a GSMCIPHERING invoke component with valid gSMCIPHERKEY, gSMPORTABLEIDENTITY parameters and if the ciphering has already been requested for this connection
sends a GSMCIPHERING return error component with the incompatibleCipheringState error value.

DG_IO_NIC_I_07 subclause 9.3.4.2 Invalid Mandatory

Ensure that the IUT in Idle state, on receipt of a GSMCIPHERING invoke component with valid gSMCIPHERKEY, gSMPORTABLEIDENTITY parameters and a mobility management procedure of equal priority has been requested
sends a GSMCIPHERING return error component with the priorityRuleViolation error value.

DG_IO_NIC_I_08 subclause 9.3.4.2 Invalid Mandatory

Ensure that the IUT in Idle state, on receipt of a GSMCIPHERING invoke component with valid gSMCIPHERKEY, and gSMPORTABLEIDENTITY parameters and if a reject reason is received from the air interface
sends the GSMCIPHERING return error component with the terminalRejected error value.

DG_IO_NIC_I_09 subclause 9.3.4.2 Invalid Mandatory

Ensure that the IUT, having received the GSMCIPHERING invoke component with valid gSMCIPHERKEY, and gSMPORTABLEIDENTITY parameters and having sent the return result component, on receipt of a reject component
does not take any action.

5.3.2.3 Temporary identity assignment**DG_IO_TIA_V_01 subclause 9.3.6.1.1 Valid Mandatory**

Ensure that the IUT in Idle state, on receipt of a GSMAssignIdentity invoke component with valid gSMNewTMSI, gSMLOCATIONAREAIDENTITY, gSMPORTABLEIDENTITY parameters
uses the received parameters and sends the GSMAssignIdentity return result component.

DG_IO_TIA_V_02 subclause 9.3.6.1.2 Valid Mandatory

Ensure that the IUT, having sent the GSMLocationRegistration invoke component and on receipt of a GSMLinkedAssignIdentity invoke component with valid gSMNewTMSI parameter
keeps the received parameter until reception of the GSMLocationRegistration return result component and sends the GSMLinkedAssignIdentity return result component.

DG_IO_TIA_I_01 subclause 9.3.6.2.1 Invalid Mandatory

Ensure that the IUT in Idle state, on receipt of a GSMAssignIdentity invoke component with valid gSMNewTMSI, gSMLOCATIONAREAIDENTITY, gSMPORTABLEIDENTITY parameters and if the IUT is unable to perform the assign identity procedure
does not take any action.

DG_IO_TIA_I_02 subclause 9.3.6.2.1 Invalid Mandatory

Ensure that the IUT, having received the GSMAssignIdentity invoke component with valid gSMNewTMSI, gSMLOCATIONAREAIDENTITY, gSMPORTABLEIDENTITY parameters and having sent the GSMAssignIdentity return result component, on receipt of a reject component
does not take any action.

DG_IO_TIA_I_03 subclause 9.3.6.2.2 Invalid Mandatory

Ensure that the IUT, having sent the GSMLocationRegistration invoke component, on receipt of a GSMLinkedAssignIdentity invoke component with valid gSMNewTMSI parameter and if the IUT is unable to perform the assign identity procedure
does not take any action.

DG_IO_TIA_I_04 subclause 9.3.6.2.2 Invalid Mandatory

Ensure that the IUT, having sent the GSMLocationRegistration invoke component, having received a GSMLinkedAssignIdentity invoke component with valid gSMNewTMSI parameter, and having sent the GSMLinkedAssignIdentity return result component, on receipt of a reject component does not take any action.

DG_IO_TIA_I_05 subclause 9.3.6.2.2 Invalid Mandatory

Ensure that the IUT, having sent the GSMLocationRegistration invoke component, having received a GSMLinkedAssignIdentity invoke component with valid gSMNewTMSI parameter, and if the linked GSMRegistration procedure fails
deletes the parameter received in the GSMLinkedAssignIdentity invoke component and does not respond to the network.

5.3.2.4 Identity request**DG_IO_IR_V_01 subclause 9.3.8.1 Valid Mandatory**

Ensure that the IUT, on receipt of a GSMIdentityRequest invoke component with valid gSMIdentityType indicating the identity requested, gSMPortableIdentity parameters
sends a GSMIdentityRequest return result component indicating the requested identity.

DG_IO_IR_I_01 subclause 9.3.8.2 Invalid Mandatory

Ensure that the IUT, on receipt of a GSMIdentityRequest invoke component with gSMIdentityType parameter indicating a portable identity not available and a valid gSMPortableIdentity parameter
sends a GSMIdentityRequest return error component with the identityNotAvailable error value.

DG_IO_IR_I_02 subclause 9.3.8.2 Invalid Mandatory

Ensure that the IUT, on receipt of a GSMIdentityRequest invoke component with valid gSMIdentityType parameter indicating the requested identity and a gSMPortableIdentity parameter indicating a not known cordless terminal
sends a GSMIdentityRequest return error component with the portableIdentityUnknown error value.

DG_IO_IR_I_03 subclause 9.3.8.2 Invalid Mandatory

Ensure that the IUT, on receipt of a GSMIdentityRequest invoke component with valid gSMIdentityType parameter indicating the identity requested, valid gSMPortableIdentity parameter and when the fixed part is overloaded
sends a GSMIdentityRequest return error component with the congestion error value.

DG_IO_IR_I_04 subclause 9.3.8.2 Invalid Mandatory

Ensure that the IUT, on receipt of a GSMIdentityRequest invoke component with valid gSMIdentityType parameter indicating the identity requested, valid gSMPortableIdentity parameter and when the supervision timer for the requested procedure expires before a response has been received
sends a GSMIdentityRequest return error component with the localTimerExpiry error value.

DG_IO_IR_I_05 subclause 9.3.8.2 Invalid Mandatory

Ensure that the IUT, on receipt of a GSMIdentityRequest invoke component with valid gSMIdentityType parameter indicating the identity requested, valid gSMPortableIdentity parameter and a mobility management procedure of equal priority has been requested
sends a GSMIdentityRequest return error component with the priorityRuleViolation error value.

DG_IO_IR_I_06 subclause 9.3.8.2 Invalid Mandatory

Ensure that the IUT, on receipt of a GSMIdentityRequest invoke component with valid gSMIdentityType parameter indicating the identity requested, valid gSMPortableIdentity parameter and when the paging fails on the air interface
sends a GSMIdentityRequest return error component with the pagingFailure error value.

DG_IO_IR_I_07 subclause 9.3.8.2 Invalid Mandatory

Ensure that the IUT, on receipt of a GSMIdentityRequest invoke component with valid gSMIdentityType parameter indicating the identity requested, valid gSMPortableIdentity parameter and when the signalling connection is interrupted on the air interface
sends a GSMIdentityRequest return error component with the radioConnectionFailure error value.

DG_IO_IR_I_08 subclause 9.3.8.2 Invalid Mandatory

Ensure that the IUT, having received the GSMIdentityRequest invoke component with valid gSMIdentityType parameter indicating the identity requested, valid gSMPortableIdentity parameter and having sent the GSMIdentityRequest return result component indicating the requested identity, on receipt of a reject component does not take any action.

5.3.3 Embedded procedures**DG_EMB_V_01 subclause 9.2.1.1 - 9.3.2.1 Valid Optional**

Ensure that the IUT, having requested the location registration procedure by sending the GSMLocationRegistration invoke component and upon receiving a GSMTerminalAuthentication invoke component, sends the GSMTerminalAuthentication return result with the gSMRes parameter.

DG_EMB_V_02 subclause 9.2.1.1 - 9.3.4.1 Valid Optional

Ensure that the IUT, having requested the location registration procedure by sending the GSMLocationRegistration invoke component and upon receiving a GSMCipherring invoke component, enables cipherring and sends the GSMCipherring return result component.

DG_EMB_V_03 subclause 9.2.1.1 - 9.3.6.1.1 Valid Optional

Ensure that the IUT, having requested the location registration procedure by sending the GSMLocationRegistration invoke component and upon receiving a GSMAssignIdentity invoke component, uses the received parameters and sends the GSMAssignIdentity return result component.

DG_EMB_V_04 subclause 9.2.1.1 - 9.3.8.1 Valid Optional

Ensure that the IUT, having requested the location registration procedure by sending the GSMLocationRegistration invoke component and upon receiving a GSMIdentityRequest invoke component, sends a GSMIdentityRequest return result component indicating the requested identity.

5.3.4 Outgoing call**DG_OC_V_01 subclause 9.3.9.1 Valid Mandatory**

Ensure that the IUT when initiating an outgoing call, sends a SETUP message including a GSMOutgoingCallMMInfo invoke component with valid gSMPortableIdentity parameter, and valid gSMBasicService parameter indicating a normal call-setup in a facility information element.

DG_OC_I_01 subclause 9.3.9.2 Invalid Mandatory

Ensure that the IUT, having sent the SETUP message with a GSMOutgoingCallMMInfo invoke component with valid gSMPortableIdentity parameter, and valid gSMBasicService parameter indicating a normal call-setup in a facility information element, when receiving a reject component does not take any action.

DG_OC_I_02xx subclause 9.3.9.2 Invalid Mandatory

Ensure that the IUT having sent a GSMOutgoingCallMMInfo invoke component, on receipt of a GSMOutgoingCallMMInfo return error component in a facility information element with the networkRejected error does not take any action.

Table 9: Reject reason values for test purposes DG_OC_I_0201 to DG_OC_I_0219

| Test purpose | Reject reason value |
|--------------|--|
| DG_OC_I_0201 | Authentication failed |
| DG_OC_I_0202 | No authentication algorithm |
| DG_OC_I_0203 | Authentication algorithm not supported |
| DG_OC_I_0204 | Authentication key not supported |
| DG_OC_I_0205 | UPI not entered |
| DG_OC_I_0206 | No cipher algorithm |
| DG_OC_I_0207 | Cipher algorithm not supported |
| DG_OC_I_0208 | Cipher key not supported |
| DG_OC_I_0209 | Incompatible service |
| DG_OC_I_0210 | Insufficient memory |
| DG_OC_I_0211 | Overload |
| DG_OC_I_0212 | Invalid message |
| DG_OC_I_0213 | Information element error |
| DG_OC_I_0214 | Invalid information element contents |
| DG_OC_I_0215 | Timer expiry |
| DG_OC_I_0216 | PLMN not allowed |
| DG_OC_I_0217 | Location area not allowed |
| DG_OC_I_0218 | National roaming not allowed in this location area |
| DG_OC_I_0219 | - |

DG_OC_I_03 subclause 9.3.9.2 Invalid Mandatory

Ensure that the IUT having sent a GSMOutgoingCallMMInfo invoke component, on receipt of a GSMOutgoingCallMMInfo return error component in a facility information element with the portableIdentityUnknown error

does not take any action.

DG_OC_I_04 subclause 9.3.9.2 Invalid Mandatory

Ensure that the IUT having sent a GSMOutgoingCallMMInfo invoke component, on receipt of a GSMOutgoingCallMMInfo return error component in a facility information element with the congestion error

does not take any action.

DG_OC_I_05 subclause 9.3.9.2 Invalid Mandatory

Ensure that the IUT having sent a GSMOutgoingCallMMInfo invoke component, on receipt of a GSMOutgoingCallMMInfo return error component in a facility information element with the unspecified error

does not take any action.

5.3.5 Incoming call

DG_IC_V_01 subclause 9.3.10.1 Valid Mandatory

Ensure that the IUT when receiving a SETUP message including a GSMIncomingCallMMInfo invoke component, with valid gSMPortableIdentity parameter, and valid gSMSignal parameter, in a facility information element,

accepts the call request.

DG_IC_I_01 subclause 9.3.10.2 Invalid Mandatory

Ensure that the IUT when receiving a SETUP message including a GSMIncomingCallMMInfo invoke component, with valid gSMPortableIdentity parameter, and valid gSMSignal parameter, in a facility information element and when a RejectReason is received from the air interface,

sends the GSMIncomingCallMMInfo return error component within a Facility information element with the terminalRejected error value.

DG_IC_I_02 subclause 9.3.10.2 Invalid Mandatory

Ensure that the IUT when receiving a SETUP message including a GSMIncomingCallMMInfo invoke component, with valid gSMPortableIdentity parameter, and valid gSMSignal parameter, in a facility information element and when the portableIdentity is not known,

sends the GSMIncomingCallMMInfo return error component within a Facility information element with the portableIdentityUnknown error value.

DG_IC_I_03 subclause 9.3.10.2 Invalid Mandatory

Ensure that the IUT when receiving a SETUP message including a GSMIncomingCallMMInfo invoke component, with valid gSMPortableIdentity parameter, and valid gSMSignal parameter, in a facility information element and when the fixed part is overloaded,

sends the GSMIncomingCallMMInfo return error component within a Facility information element with the congestion error value.

DG_IC_I_04 subclause 9.3.10.2 Invalid Mandatory

Ensure that the IUT when receiving a SETUP message including a GSMIncomingCallMMInfo invoke component, with valid gSMPortableIdentity parameter, and valid gSMSignal parameter, in a facility information element and when the paging fails on the air interface,

sends the GSMIncomingCallMMInfo return error component within a Facility information element with the pagingFailure error value.

DG_IC_I_05 subclause 9.3.10.2 Invalid Mandatory

Ensure that the IUT when receiving a SETUP message including a GSMIncomingCallMMInfo invoke component, with valid gSMPortableIdentity parameter, and valid gSMSignal parameter, in a facility information element and when the signalling connection on the air interface is interrupted,

sends the GSMIncomingCallMMInfo return error component within a Facility information element with the radioConnectionFailure error value.

DG_IC_I_06 subclause 9.3.10.2 Invalid Mandatory

Ensure that the IUT, having sent the SETUP message including a GSMIncomingCallMMInfo invoke component, with valid gSMPortableIdentity parameter, and valid gSMSignal parameter, in a facility information element and when receiving a reject component

does not take any action.

6 Compliance

An ATS which complies with this TSS&TP specification shall:

- a) consist of a set of test cases corresponding to the set or to a subset of the TPs specified in clause 6;
- b) use a TSS which is an appropriate subset of the whole of the TSS specified in clause 4;
- c) use the same naming conventions for the test groups and test cases;
- d) maintain the relationship specified in clause 5 between the test groups and TPs and the entries in the PICS proforma to be used for test case deselection;
- e) comply with ISO/IEC 9646-2 [4].

In the case of a) or b) above, a subset shall be used only where a particular Abstract Test Method (ATM) makes some TPs untestable. All testable TPs from clause 5 shall be included in a compliant ATS.

7 Requirements for a comprehensive testing service

As a minimum the Remote test method, as specified in ISO/IEC 9646-2 [4], shall be used by any organisation claiming to provide a comprehensive testing service for network equipment claiming conformance to EN 301 002-1 [1].

History

| Document history | | |
|-------------------------|-----------|--|
| V1.1.2 | July 1999 | Public Enquiry PE 9952: 1999-07-28 to 1999-11-26 |
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