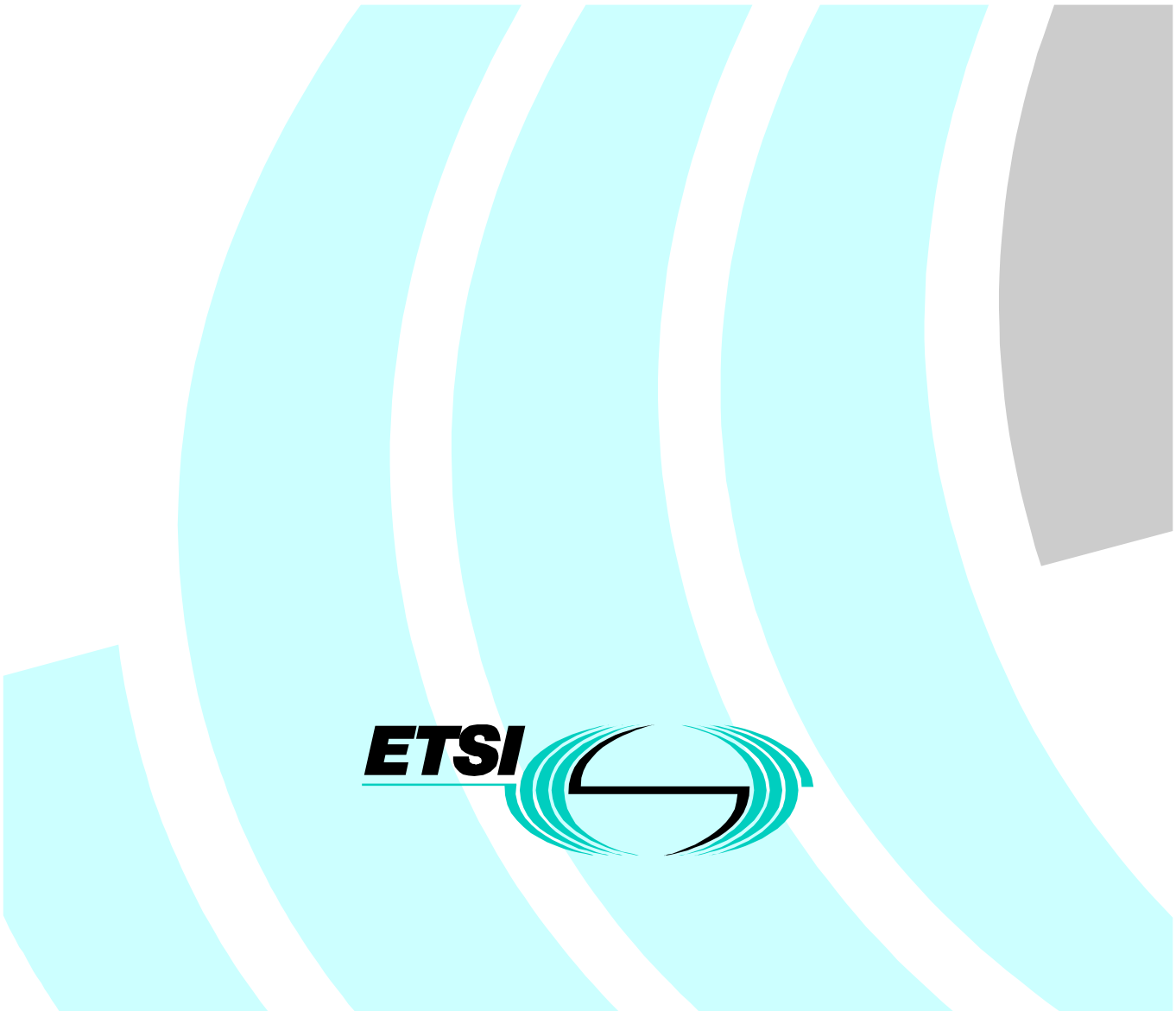
ETSI EN 301 144-5 V1.1.5 (2000-05)

European Standard (Telecommunications series)

**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;
Part 5: Test Suite Structure and Test Purposes (TSS&TP)
specification for the network**



Reference
DEN/SPS-05121-5

Keywords
ISDN, DSS1, user, CTM, SS7, TSS&TP

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Sous-Préfecture de Grasse (06) N° 7803/88

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Foreword

This European Standard (Telecommunications series) has been produced by ETSI Technical Committee Services and Protocols for Advanced Networks (SPAN).

The present document is part 5 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".

National transposition dates	
Date of adoption of this EN:	5 May 2000
Date of latest announcement of this EN (doa):	31 August 2000
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	28 February 2001
Date of withdrawal of any conflicting National Standard (dow):	28 February 2001

1 Scope

The present document provides the Test Suite Structure and Test Purposes (TSS&TP) for the network 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] ETSI EN 301 144-1 (V1.1): "Integrated Services Digital Network (ISDN); Digital Subscriber Signalling System No. one (DSS1) and Signalling System No.7 (SS7); Signalling application for the mobility management service on the alpha interface; Part 1: Protocol specification".

[2] ETSI EN 301 144-2 (V1.1): "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 2: Protocol Implementation Conformance Statement (PICS) proforma specification".

[3] ISO/IEC 9646-1: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 1: General concepts ".

[4] ISO/IEC 9646-2: "Information Technology - Open Systems Interconnection - Conformance Testing Methodology and Framework; Part 2: Abstract Test Suite Specification".

[5] ISO/IEC 9646-3: "Information Technology - Open Systems Interconnection - Conformance Testing Methodology and Framework; Part 3: The Tree and Tabular Combined Notation".

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 Implementation Under Test (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
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	Invalid
ISDN	Integrated Services Digital Network
IUT	Implementation Under Test
PICS	Protocol Implementation Conformance Statement
PIXIT	Protocol Implementation eXtra Information for Testing
TP	Test Purpose
TSS	Test Suite Structure
V	Valid

4 Test Suite Structure (TSS)

- CTM
  - Registration and deregistration (RD)
    - Subscription registration (SR)
      - Valid
      - Invalid
    - Subscription deregistration (SD)
      - Valid
      - Invalid
  - Activation and deactivation (AD)
    - Location registration (LR)
      - Valid
      - Invalid
    - Location cancellation (LC)
      - Valid
      - Invalid
  - Invocation and 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

DECT/GSM access (DG)
- Activation and deactivation (AD)
  - Location registration (LR)
    - Valid
    - Invalid
  - Location cancellation (LC)
    - Valid
    - Invalid
  - Detach (D)
    - Valid
    - Invalid
- Invocation and operation (IO)
  - Terminal authentication (TA)
    - Valid
    - Invalid
  - Network initiated ciphering (NIC)
    - Valid
    - Invalid
  - Temporary identity assignment (TIA)
    - Valid
    - Invalid
  - Identity request (IR)
    - Valid
    - Invalid
- Embedded procedure (EMB)
- Outgoing call (OC)
- Incoming call (IC)

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 01, 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

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

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. the reader should 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> *tab* <subclause number in EN 301 144-1 [1]> *tab* <type of test> *tab* <condition> *CR.*	see table 1 subclause 9.3.4 Valid, Invalid Mandatory, Optional, Conditional
Stimulus	Ensure that the IUT in the <state> <trigger> *see below for information structure* *or* <goal>	 Idle, etc. on receipt of a XXXX information (see note 2) to request a...
Reaction	<action> <conditions> *if the action is sending* *see below for information structure*	sends, saves, does, etc. using en bloc sending, etc.
Information structure	<information type> *a)* 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 built from the TP is not considered.

5.2 CTM mode

Selection: Support of network requirements. PICS R2.2
AND
Support of the CTM mode. PICS R1.1

5.2.1 Registration and deregistration

5.2.1.1 Subscription registration

Selection: Support of the subscription registration procedure. PICS MC5

CTM_RD_SR_V_01 subclause 9.1.1.1
Ensure that the IUT in Idle state, on receipt of a CTMAccessRightsRequest invoke component
sends back a valid CTMAccessRightsRequest return result component containing the cTMPortable Identity, the cTMFixedIdentity parameters and optionally containing the cTMServiceClass parameter.

CTM_RD_SR_I_01 subclause 9.1.1.2
Ensure that the IUT, having received a CTMAccessRightsRequest invoke component and having sent back a valid CTMAccessRightsRequest return result component, on receipt of a reject component
does not take any action.

CTM_RD_SR_I_02 subclause 9.1.1.2
Ensure that the IUT, having received a CTMAccessRightsRequest invoke component containing a wrong cTMPortableIdentity
sends back a CTMAccessRightsRequest return error component with the portableIdentityUnknown error value.

CTM_RD_SR_I_03 subclause 9.1.1.2
Ensure that the IUT, having received a CTMAccessRightsRequest invoke component and when the network is overloaded
sends back a CTMAccessRightsRequest return error component with the congestion error value.

CTM_RD_SR_I_04 subclause 9.1.1.2
Ensure that the IUT, having received a CTMAccessRightsRequest invoke component and when the requested procedure fails for unspecified reason different from congestion and portable identity unknown
sends back a CTMAccessRightsRequest return error component with the Unspecified error value.

CTM_RD_SR_I_05 subclause 9.1.1.2
Ensure that the IUT, having received a CTMAccessRightsRequest invoke component and when the network rejects the requested procedure
sends back a CTMAccessRightsRequest return error component with the networkRejected error value.

5.2.1.2 Subscription deregistration

Selection: Support of the subscription deregistration procedure. PICS MC6

CTM_RD_SD_V_01 subclause 9.1.2.1
Ensure that the IUT in Idle state, to request a location de-registration
sends a CTMAccessRightTerminate invoke component with the following parameters: cTMPortableIdentity,.and cTMFixedIdentity.

CTM_RD_SD_V_02 subclause 9.1.2.1
Ensure that the IUT having sent a CTMAccessRightTerminate invoke component, on receipt of the CTMAccessRightsTerminate return result
considers the subscription de-registration procedure as completed and stops timer T-MM.

CTM_RD_SD_I_01 subclause 9.1.2.2
Ensure that the IUT having sent a CTMAccessRightTerminate invoke component, on receipt of a reject component
stops timer T-MM.

CTM_RD_SD_I_02 subclause 9.1.2.2
Ensure that the IUT having sent a CTMAccessRightTerminate invoke component containing a wrong cTMPortableIdentity parameter, on receipt of the CTMAccessRightsTerminate return error component with the error value: portableIdentityUnknown
stops timer T-MM.

CTM_RD_SD_I_03 subclause 9.1.2.2
Ensure that the IUT having sent a CTMAccessRightTerminate invoke component, and if the signalling connection on the air interface is interrupted, on receipt of the CTMAccessRightsTerminate return error component with the error value: radioConnectionFailure
stops timer T-MM.

CTM_RD_SD_I_04 subclause 9.1.2.2
Ensure that the IUT having sent a CTMAccessRightTerminate invoke component, and if the paging on the air interface fails, on receipt of the CTMAccessRightsTerminate return error component with the error value: pagingFailure
stops timer T-MM.

CTM_RD_SD_I_05 subclause 9.1.2.2
Ensure that the IUT having sent a CTMAccessRightTerminate invoke component, and having sent a mobility management procedure of equal priority, on receipt of the CTMAccessRightsTerminate return error component with the error value: priorityRuleViolation
stops timer T-MM.

CTM_RD_SD_I_06 subclause 9.1.2.2
Ensure that the IUT having sent a CTMAccessRightTerminate invoke component, and if fixed part is overloaded, on receipt of the CTMAccessRightsTerminate return error component with the error value: congestion
stops timer T-MM.

CTM_RD_SD_I_07xx subclause 9.1.2.2
Ensure that the IUT having sent a CTMAccessRightTerminate invoke component, and if a terminalRejected return error has been received from the air interface, on receipt of the CTMAccessRightsTerminate return error component with the error value: terminalRejected with the reject reason value detailed in table 3
stops timer T-MM.

Table 3: Reject reason values for test purposes CTM_RD_SD_I_0701 to CTM_RD_SD_I_0724

Test purpose	Reject reason value
CTM_RD_SD_I_0701	TPUI unknown
CTM_RD_SD_I_0702	IPUI unknown
CTM_RD_SD_I_0703	IPEI not accepted
CTM_RD_SD_I_0704	IPUI not accepted
CTM_RD_SD_I_0705	Authentication failed
CTM_RD_SD_I_0706	No authentication algorithm
CTM_RD_SD_I_0707	Authentication algorithm not supported
CTM_RD_SD_I_0708	Authentication key not supported
CTM_RD_SD_I_0709	No cipher algorithm
CTM_RD_SD_I_0710	Cipher algorithm not supported
CTM_RD_SD_I_0711	Cipher key not supported
CTM_RD_SD_I_0712	Incompatible service
CTM_RD_SD_I_0713	False LCE reply (no corresponding service)
CTM_RD_SD_I_0714	Late LCE reply (service already taken)
CTM_RD_SD_I_0715	Invalid TPUI
CTM_RD_SD_I_0716	TPUI assignment limits unacceptable
CTM_RD_SD_I_0717	Insufficient memory
CTM_RD_SD_I_0718	Overload
CTM_RD_SD_I_0719	Invalid message
CTM_RD_SD_I_0720	Information element error
CTM_RD_SD_I_0721	Invalid information element contents
CTM_RD_SD_I_0722	Timer expiry
CTM_RD_SD_I_0723	Location area not allowed
CTM_RD_SD_I_0724	-

CTM_RD_SD_I_08 subclause 9.1.2.2
Ensure that the IUT having sent a CTMAccessRightTerminate invoke component, and if the supervision timer expires before a response has been received from the air interface, on receipt of the CTMAccessRightsTerminate return error component with the error value: localTimerExpiry
stops timer T-MM.

CTM_RD_SD_I_09 subclause 9.1.2.2
Ensure that the IUT having sent a CTMAccessRightTerminate invoke component, and if the procedure fails for any unspecified reason, on receipt of the CTMAccessRightsTerminate return error component with the error value: Unspecified
stops timer T-MM.

CTM_RD_SD_I_10 subclause 9.1.2.2
Ensure that the IUT having sent a CTMAccessRightTerminate invoke component, and if timer T-MM expires before reception of a CTMAccessRightsTerminate return error component or reception of a CTMAccessRightsTerminate return result component or reception of a reject component
considers the subscription deregistration procedure as unsuccessful.

5.2.2 Activation and deactivation

5.2.2.1 Location registration

CTM_AD_LR_V_01 subclause 9.2.1.1
Ensure that the IUT in Idle state, on receipt of a CTMLocationRegistration invoke component
sends back a valid CTMLocationRegistration return result component without any parameters.

CTM_AD_LR_I_01 subclause 9.2.1.2
Ensure that the IUT, having received a CTMLocationRegistration invoke component, and having sent back a valid CTMLocationRegistration return result component, on receipt of a reject component
does not take any action.

CTM_AD_LR_I_02 subclause 9.2.1.2
Ensure that the IUT, having received a CTMLocationRegistration invoke component, and if the identity of the cordless terminal, for which the request has been initiated, is not known
sends back a valid CTMLocationRegistration return error component with the portableIdentityUnknown error value.

CTM_AD_LR_I_03 subclause 9.2.1.2
Ensure that the IUT, having received a CTMLocationRegistration invoke component, and if the network is overloaded and cannot process the request
sends back a valid CTMLocationRegistration return error component with the congestion error value.

CTM_AD_LR_I_04 subclause 9.2.1.2
Ensure that the IUT, having received a CTMLocationRegistration invoke component, and if the requested procedure fails for any unspecified reason
sends back a valid CTMLocationRegistration return error component with the Unspecified error value.

CTM_AD_LR_I_05 subclause 9.2.1.2
Ensure that the IUT, having received a CTMLocationRegistration invoke component, and if the network rejects the requested procedure
sends back a valid CTMLocationRegistration return error component with the networkRejected error value and indicating the reject reason value provided by the network.

5.2.2.2 Location cancellation

CTM_AD_LC_V_01 subclause 9.2.2.1
Ensure that the IUT in Idle state, to request a location cancellation
sends a CTMLocationCancellation invoke component including the cTMPortableIdentity parameter.

CTM_AD_LC_V_02 subclause 9.2.2.1
Ensure that the IUT having sent a CTMLocationCancellation invoke component, on receipt of the CTMLocationCancellation return result component
stops timer T-MM.

CTM_AD_LC_I_01 subclause 9.2.2.2
Ensure that the IUT having sent a CTMLocationCancellation invoke component, on receipt of a reject component
stops timer T-MM.

CTM_AD_LC_I_02 subclause 9.2.2.2
Ensure that the IUT having sent a CTMLocationCancellation invoke component containing a wrong cTMPortableIdentity parameter, on receipt of the CTMLocationCancellation return error component with the error value: portableIdentityUnknown
stops timer T-MM.

CTM_AD_LC_I_03 subclause 9.2.2.2
Ensure that the IUT having sent a CTMLocationCancellation invoke component and when the fixed part is overloaded, on receipt of the CTMLocationCancellation return error component with the error value: congestion
stops timer T-MM.

CTM_AD_LC_I_04 subclause 9.2.2.2
Ensure that the IUT having sent a CTMLocationCancellation invoke component and if the requested procedure fails for any unspecified reason, on receipt of the CTMLocationCancellation return error component with the error value: Unspecified
stops timer T-MM.

CTM_AD_LC_I_05 subclause 9.2.2.2
Ensure that the IUT having sent a CTMLocationCancellation invoke component, and if timer T-MM expires before reception of a CTMLocationCancellation return error component or reception of a CTMLocationCancellation return result component or reception of a reject component
considers the subscription location cancellation procedure as unsuccessful.

5.2.3 Invocation and operation

5.2.3.1 Location registration suggest

Selection: Support of the location registration suggest procedure. PICS MC9

CTM_IO_LRS_V_01 subclause 9.3.1.1
Ensure that the IUT in Idle state, to request a location registration suggest
sends a CTMLocationRegistrationSuggest invoke component including the cTMPortableIdentity parameter.

CTM_IO_LRS_I_01 subclause 9.3.1.2
Ensure that the IUT having sent a CTMLocationRegistrationSuggest invoke component, on receipt of a reject component
does not take any action.

CTM_IO_LRS_I_02 subclause 9.3.1.2
Ensure that the IUT having sent a CTMLocationRegistrationSuggest invoke component containing a wrong cTMPortableIdentity parameter, on receipt of the CTMLocationRegistrationSuggest return error component with the error value: portableIdentityUnknown
does not take any action.

CTM_IO_LRS_I_03 subclause 9.3.1.2
Ensure that the IUT having sent a CTMLocationRegistrationSuggest invoke component, and if the paging on the air interface fails for any reason, on receipt of the CTMLocationRegistrationSuggest return error component with the error value: pagingFailure
does not take any action.

CTM_IO_LRS_I_04 subclause 9.3.1.2
Ensure that the IUT having sent a CTMLocationRegistrationSuggest invoke component, and if the signalling connection on the air interface is interrupted for any reason, on receipt of the CTMLocationRegistrationSuggest return error component with the error value: radioConnectionFailure
does not take any action.

CTM_IO_LRS_I_05 subclause 9.3.1.2
Ensure that the IUT having sent a CTMLocationRegistrationSuggest invoke component, and if the fixed part is overloaded, on receipt of the CTMLocationRegistrationSuggest return error component with the error value: congestion
does not take any action.

CTM_IO_LRS_I_06 subclause 9.3.1.2
Ensure that the IUT having sent a CTMLocationRegistrationSuggest invoke component, and having sent a mobility management procedure of equal priority, on receipt of the CTMLocationRegistrationSuggest return error component with the error value: priorityRuleViolation
does not take any action.

CTM_IO_LRS_I_07 subclause 9.3.1.2
Ensure that the IUT having sent a CTMLocationRegistrationSuggest invoke component, and if the requested procedure fails for any unspecified reason, on receipt of the CTMLocationRegistrationSuggest return error component with the error value: Unspecified
does not take any action.

5.2.3.2 Terminal authentication

CTM_IO_TA_V_01 subclause 9.3.2.1
Ensure that the IUT in Idle state, to request a terminal authentication
sends a CTMTerminalAuthentication invoke component with the following parameters: cTMAuthType, cTMRand, cTMRs, and cTMPortableIdentity.

CTM_IO_TA_V_02 subclause 9.3.2.1
Ensure that the IUT having sent a CTMTerminalAuthentication invoke component, on receipt of a valid CTMTerminalAuthentication return result component
considers the terminal authentication procedure as completed and stops timer T-MM.

CTM_IO_TA_I_01 subclause 9.3.2.2
Ensure that the IUT having sent a CTMTerminalAuthentication invoke component, on receipt of a reject component
considers the terminal authentication procedure as unsuccessful and stops timer T-MM.

CTM_IO_TA_I_02xx subclause 9.3.2.2
Ensure that the IUT having sent a CTMTerminalAuthentication invoke component and if a rejectReason has been received from the air interface, on receipt of the CTMTerminalAuthentication return error component with the error value: terminalRejected with the reject reason value detailed in table 4
considers the terminal authentication procedure as unsuccessful and stops timer T-MM.

Table 4: Reject reason values for test purposes CTM_IO_TA_I_0201 to CTM_IO_TA_I_0224

Test purpose	Reject reason value
CTM_IO_TA_I_0201	TPUI unknown
CTM_IO_TA_I_0202	IPUI unknown
CTM_IO_TA_I_0203	IPEI not accepted
CTM_IO_TA_I_0204	IPUI not accepted
CTM_IO_TA_I_0205	Authentication failed
CTM_IO_TA_I_0206	No authentication algorithm
CTM_IO_TA_I_0207	Authentication algorithm not supported
CTM_IO_TA_I_0208	Authentication key not supported
CTM_IO_TA_I_0209	No cipher algorithm
CTM_IO_TA_I_0210	Cipher algorithm not supported
CTM_IO_TA_I_0211	Cipher key not supported
CTM_IO_TA_I_0212	Incompatible service
CTM_IO_TA_I_0213	False LCE reply (no corresponding service)
CTM_IO_TA_I_0214	Late LCE reply (service already taken)
CTM_IO_TA_I_0215	Invalid TPUI
CTM_IO_TA_I_0216	TPUI assignment limits unacceptable
CTM_IO_TA_I_0217	Insufficient memory
CTM_IO_TA_I_0218	Overload
CTM_IO_TA_I_0219	Invalid message
CTM_IO_TA_I_0220	Information element error
CTM_IO_TA_I_0221	Invalid information element contents
CTM_IO_TA_I_0222	Timer expiry
CTM_IO_TA_I_0223	Location area not allowed
CTM_IO_TA_I_0224	-

CTM_IO_TA_I_03 subclause 9.3.2.2
Ensure that the IUT having sent a CTMTerminalAuthentication invoke component containing a wrong cTMPortableIdentity parameter, on receipt of the CTMTerminalAuthentication return error component with the error value: portableIdentityUnknown
considers the terminal authentication procedure as unsuccessful and stops timer T-MM.

CTM_IO_TA_I_04 subclause 9.3.2.2
Ensure that the IUT having sent a CTMTerminalAuthentication invoke component when the fixed part is overloaded, on receipt of the CTMTerminalAuthentication return error component with the error value: congestion
considers the terminal authentication procedure as unsuccessful and stops timer T-MM.

CTM_IO_TA_I_05 subclause 9.3.2.2
Ensure that the IUT having sent a CTMTerminalAuthentication invoke component and if the supervision timer for the requested procedure expires, on receipt of the CTMTerminalAuthentication return error component with the error value: localTimerExpiry
considers the terminal authentication procedure as unsuccessful and stops timer T-MM.

CTM_IO_TA_I_06 subclause 9.3.2.2
Ensure that the IUT having sent a CTMTerminalAuthentication invoke component and if the paging on the air interface fails for any reason, on receipt of the CTMTerminalAuthentication return error component with the error value: pagingFailure
considers the terminal authentication procedure as unsuccessful and stops timer T-MM.

CTM_IO_TA_I_07 subclause 9.3.2.2
Ensure that the IUT having sent a CTMTerminalAuthentication invoke component and if the signalling connection on the air interface is interrupted for any reason, on receipt of the CTMTerminalAuthentication return error component with the error value: radioConnectionFailure
considers the terminal authentication procedure as unsuccessful and stops timer T-MM.

CTM_IO_TA_I_08 subclause 9.3.2.2
Ensure that the IUT having sent a CTMTerminalAuthentication invoke component and having sent a mobility management procedure of equal priority, on receipt of the CTMTerminalAuthentication return error component with the error value: priorityRuleViolation
considers the terminal authentication procedure as unsuccessful and stops timer T-MM.

CTM_IO_TA_I_09 subclause 9.3.2.2
Ensure that the IUT having sent a CTMTerminalAuthentication invoke component and if the requested procedure fails for any unspecified reason, on receipt of the CTMTerminalAuthentication return error component with the error value: Unspecified
considers the terminal authentication procedure as unsuccessful and stops timer T-MM.

CTM_IO_TA_I_10 subclause 9.3.2.2
Ensure that the IUT having sent a CTMTerminalAuthentication invoke component, on receipt of a CTMTerminalAuthentication return result component with a parameter not acceptable by the network (e.g. incorrect cTMRes)
considers the terminal authentication procedure as unsuccessful and stops timer T-MM.

CTM_IO_TA_I_11 subclause 9.3.2.2
Ensure that the IUT having sent a CTMTerminalAuthentication invoke component, and if timer T-MM expires before reception of a CTMTerminalAuthentication return error component or reception of a CTMTerminalAuthentication return result component or reception of a reject component
considers the terminal authentication procedure as unsuccessful.

5.2.3.3 Network authentication

CTM_IO_NA_V_01 subclause 9.3.3.1
Ensure that the IUT in Idle state, on receipt of a CTMNetworkAuthentication invoke component
sends back a valid CTMNetworkAuthentication return result component with the following parameters: cTMRes and cTMRs.

CTM_IO_NA_I_01 subclause 9.3.3.2
Ensure that the IUT, having received a CTMNetworkAuthentication invoke component, and having sent back a valid CTMNetworkAuthentication return result component, on receipt of a reject component
does not take any action.

CTM_IO_NA_I_02 subclause 9.3.3.2
Ensure that the IUT, having received a CTMNetworkAuthentication invoke component, and if the network rejects the requested procedure
sends back a valid CTMNetworkAuthentication return error component with the networkRejected error value and indicating the reject reason value provided by the network.

CTM_IO_NA_I_03 subclause 9.3.3.2
Ensure that the IUT, having received a CTMNetworkAuthentication invoke component, and if the identity of the cordless terminal, for which the request has been initiated, is not known
sends back a CTMNetworkAuthentication return error component with the portableIdentityUnknown error value.

CTM_IO_NA_I_04 subclause 9.3.3.2
Ensure that the IUT, having received a CTMNetworkAuthentication invoke component, and if the network is overloaded and cannot process the request
sends back a CTMNetworkAuthentication return error component with the congestion error value.

CTM_IO_NA_I_05 subclause 9.3.3.2
Ensure that the IUT, having received a CTMNetworkAuthentication invoke component, and if the requested procedure fails for any unspecified reason
sends back a valid CTMNetworkAuthentication return error component with the Unspecified error value.

5.2.3.4 Network initiated ciphering

CTM_IO_NIC_V_01 subclause 9.3.4.1
Ensure that the IUT in Idle state, to request a network initiated ciphering procedure
sends a CTMCiphering invoke component with the following parameters: cTMCipherInfo, cTMCipherKey, and cTMPortableIdentity.

CTM_IO_NIC_V_02 subclause 9.3.4.1
Ensure that the IUT having sent a CTMCiphering invoke component, on receipt of a valid CTMCiphering return result component
considers the network initiated ciphering procedure as completed and stops timer T-MM.

CTM_IO_NIC_I_01 subclause 9.3.4.2
Ensure that the IUT having sent a CTMCiphering invoke component, on receipt of a reject component
considers the network initiated ciphering procedure as unsuccessful and stops timer T-MM.

CTM_IO_NIC_I_02xx subclause 9.3.4.2
Ensure that the IUT having sent a CTMCiphering invoke component and if a rejectReason has been received from the air interface, on receipt of the CTMCiphering return error component with the error value: terminalRejected and with the reject reason value detailed in table 5
considers the network initiated ciphering procedure as unsuccessful and stops timer T-MM.

Table 5: Reject reason values for test purposes CTM_IO_NIC_I_0201 to CTM_IO_NIC_I_0224

Test purpose	Reject reason value
CTM_IO_NIC_I_0201	TPUI unknown
CTM_IO_NIC_I_0202	IPUI unknown
CTM_IO_NIC_I_0203	IPEI not accepted
CTM_IO_NIC_I_0204	IPUI not accepted
CTM_IO_NIC_I_0205	Authentication failed
CTM_IO_NIC_I_0206	No authentication algorithm
CTM_IO_NIC_I_0207	Authentication algorithm not supported
CTM_IO_NIC_I_0208	Authentication key not supported
CTM_IO_NIC_I_0209	No cipher algorithm
CTM_IO_NIC_I_0210	Cipher algorithm not supported
CTM_IO_NIC_I_0211	Cipher key not supported
CTM_IO_NIC_I_0212	Incompatible service
CTM_IO_NIC_I_0213	False LCE reply (no corresponding service)
CTM_IO_NIC_I_0214	Late LCE reply (service already taken)
CTM_IO_NIC_I_0215	Invalid TPUI
CTM_IO_NIC_I_0216	TPUI assignment limits unacceptable
CTM_IO_NIC_I_0217	Insufficient memory
CTM_IO_NIC_I_0218	Overload
CTM_IO_NIC_I_0219	Invalid message
CTM_IO_NIC_I_0220	Information element error
CTM_IO_NIC_I_0221	Invalid information element contents
CTM_IO_NIC_I_0222	Timer expiry
CTM_IO_NIC_I_0223	Location area not allowed
CTM_IO_NIC_I_0224	-

CTM_IO_NIC_I_03 subclause 9.3.4.2
Ensure that the IUT having sent a CTMCiphering invoke component containing a wrong cTMPortableIdentity parameter, on receipt of the CTMCiphering return error component with the error value: portableIdentityUnknown
considers the network initiated ciphering procedure as unsuccessful and stops timer T-MM.

CTM_IO_NIC_I_04 subclause 9.3.4.2
Ensure that the IUT having sent a CTMCiphering invoke component when the fixed part is overloaded, on receipt of the CTMCiphering return error component with the error value: congestion
considers the network initiated ciphering procedure as unsuccessful and stops timer T-MM.

CTM_IO_NIC_I_05 subclause 9.3.4.2
Ensure that the IUT having sent a CTMCiphering invoke component and if the supervision timer for the requested procedure expires, on receipt of the CTMCiphering return error component with the error value: localTimerExpiry
considers the network initiated ciphering procedure as unsuccessful and stops timer T-MM.

CTM_IO_NIC_I_06 subclause 9.3.4.2
Ensure that the IUT having sent a CTMCiphering invoke component and if the paging on the air interface fails for any reason, on receipt of the CTMCiphering return error component with the error value: pagingFailure
considers the network initiated ciphering procedure as unsuccessful and stops timer T-MM.

CTM_IO_NIC_I_07 subclause 9.3.4.2
Ensure that the IUT having sent a CTMCiphering invoke component and if the signalling connection on the air interface is interrupted for any reason, on receipt of the CTMCiphering return error component with the error value: radioConnectionFailure
considers the network initiated ciphering procedure as unsuccessful and stops timer T-MM.

CTM_IO_NIC_I_08 subclause 9.3.4.2
Ensure that the IUT having sent a CTMCiphering invoke component and having sent a mobility management procedure of equal priority, on receipt of the CTMCiphering return error component with the error value: priorityRuleViolation
considers the network initiated ciphering procedure as unsuccessful and stops timer T-MM.

CTM_IO_NIC_I_09 subclause 9.3.4.2
Ensure that the IUT having sent a CTMCiphering invoke component and if the requested procedure fails for any unspecified reason, on receipt of the CTMCiphering return error component with the error value: Unspecified
considers the network initiated ciphering procedure as unsuccessful and stops timer T-MM.

CTM_IO_NIC_I_10 subclause 9.3.4.2
Ensure that the IUT having sent a CTMCiphering invoke component, and if ciphering is requested for an already ciphered connection, on receipt of a CTMCiphering return error component with the error value: incompatibleCipheringState
considers the network initiated ciphering procedure as unsuccessful and stops timer T-MM.

CTM_IO_NIC_I_11 subclause 9.3.4.2
Ensure that the IUT having sent a CTMCiphering invoke component, and if timer T-MM expires before reception of a CTMCiphering return error component or reception of a CTMCiphering return result component or reception of a reject component
considers the network initiated ciphering procedure as unsuccessful.

5.2.3.5 Portable initiated ciphering

Selection: Support of the portable initiated ciphering procedure. PICS MC8.

CTM_IO_PIC_V_01 subclause 9.3.5.1
Ensure that the IUT in Idle state, on receipt of a correct encoded CTMCipheringSuggest invoke component
initiates the network initiated ciphering procedure.

CTM_IO_PIC_I_01 subclause 9.3.5.2
Ensure that the IUT, having received a CTMCipheringSuggest invoke component, and having initiated the network initiated ciphering procedure by sending a CTMCiphering invoke component, on receipt of a reject component
does not take any action.

CTM_IO_PIC_I_02 subclause 9.3.5.2
Ensure that the IUT, having received a CTMCipheringSuggest invoke component, and if the network rejects the requested procedure
sends back a valid CTMCipheringSuggest return error component with the networkRejected error value and indicating the reject reason value provided by the network.

CTM_IO_PIC_I_03 subclause 9.3.5.2
Ensure that the IUT, having received a CTMCipheringSuggest invoke component, and if the identity of the cordless terminal, for which the request has been initiated, is not known
sends back a CTMCipheringSuggest return error component with the portableIdentityUnknown error value.

CTM_IO_PIC_I_04 subclause 9.3.5.2
Ensure that the IUT, having received a CTMCipheringSuggest invoke component, and if the network is overloaded and cannot process the request
sends back a CTMCipheringSuggest return error component with the congestion error value.

CTM_IO_PIC_I_05 subclause 9.3.5.2
Ensure that the IUT, having received a CTMCipheringSuggest invoke component, and if the requested procedure fails for any unspecified reason
sends back a valid CTMCipheringSuggest return error component with the Unspecified error value.

5.2.3.6 Key allocation

CTM_IO_KA_V_01 subclause 9.3.7.1
Ensure that the IUT in Idle state, to request a key allocation procedure
sends a CTMKeyAllocate invoke component with the following parameters: cTMAllocType, cTMRand, cTMRs, and cTMPortableIdentity.

CTM_IO_KA_V_02 subclause 9.3.7.1
Ensure that the IUT, having sent a CTMKeyAllocate invoke component, having received first the CTMNetworkAuthentication invoke component, having received after the CTMKeyAllocate return result component with the cTMRes parameter,
performs the network authentication procedure by sending back a valid CTMNetworkAuthentication return result component, and stops timer T-MM.

CTM_IO_KA_I_01 subclause 9.3.7.2
Ensure that the IUT having sent a CTMKeyAllocate invoke component, on receipt of a reject component
considers the key allocation procedure as unsuccessful and stops timer T-MM.

CTM_IO_KA_I_02xx subclause 9.3.7.2
Ensure that the IUT having sent a CTMKeyAllocate invoke component and if a rejectReason has been received from the air interface, on receipt of the CTMKeyAllocate return error component with the error value: terminalRejected and with the reject reason value detailed in table 6
considers the key allocation procedure as unsuccessful and stops timer T-MM.

Table 6: Reject reason values for test purposes CTM_IO_KA_I_0201 to CTM_IO_KA_I_0224

Test purpose	Reject reason value
CTM_IO_KA_I_0201	TPUI unknown
CTM_IO_KA_I_0202	IPUI unknown
CTM_IO_KA_I_0203	IPEI not accepted
CTM_IO_KA_I_0204	IPUI not accepted
CTM_IO_KA_I_0205	Authentication failed
CTM_IO_KA_I_0206	No authentication algorithm
CTM_IO_KA_I_0207	Authentication algorithm not supported
CTM_IO_KA_I_0208	Authentication key not supported
CTM_IO_KA_I_0209	No cipher algorithm
CTM_IO_KA_I_0210	Cipher algorithm not supported
CTM_IO_KA_I_0211	Cipher key not supported
CTM_IO_KA_I_0212	Incompatible service
CTM_IO_KA_I_0213	False LCE reply (no corresponding service)
CTM_IO_KA_I_0214	Late LCE reply (service already taken)
CTM_IO_KA_I_0215	Invalid TPUI
CTM_IO_KA_I_0216	TPUI assignment limits unacceptable
CTM_IO_KA_I_0217	Insufficient memory
CTM_IO_KA_I_0218	Overload
CTM_IO_KA_I_0219	Invalid message
CTM_IO_KA_I_0220	Information element error
CTM_IO_KA_I_0221	Invalid information element contents
CTM_IO_KA_I_0222	Timer expiry
CTM_IO_KA_I_0223	Location area not allowed
CTM_IO_KA_I_0224	-

CTM_IO_KA_I_03 subclause 9.3.7.2
Ensure that the IUT having sent a CTMKeyAllocate invoke component containing a wrong cTMPortableIdentity parameter, on receipt of the CTMKeyAllocate error component with the error value: portableIdentityUnknown
considers the key allocation procedure as unsuccessful and stops timer T-MM.

CTM_IO_KA_I_04 subclause 9.3.7.2
Ensure that the IUT having sent a CTMKeyAllocate invoke component when the fixed part is overloaded, on receipt of the CTMKeyAllocate return error component with the error value: congestion
considers the key allocation procedure as unsuccessful and stops timer T-MM.

CTM_IO_KA_I_05 subclause 9.3.7.2
Ensure that the IUT having sent a CTMKeyAllocate invoke component and if the supervision timer for the requested procedure expires, on receipt of the CTMKeyAllocate return error component with the error value: localTimerExpiry
considers the key allocation procedure as unsuccessful and stops timer T-MM.

CTM_IO_KA_I_06 subclause 9.3.7.2
Ensure that the IUT having sent a CTMKeyAllocate invoke component and if the paging on the air interface fails for any reason, on receipt of the CTMKeyAllocate return error component with the error value: pagingFailure
considers the key allocation procedure as unsuccessful and stops timer T-MM.

CTM_IO_KA_I_07 subclause 9.3.7.2
Ensure that the IUT having sent a CTMKeyAllocate invoke component and if the signalling connection on the air interface is interrupted for any reason, on receipt of the CTMKeyAllocate return error component with the error value: radioConnectionFailure
considers the key allocation procedure as unsuccessful and stops timer T-MM.

CTM_IO_KA_I_08 subclause 9.3.7.2
Ensure that the IUT having sent a CTMKeyAllocate invoke component and having sent a mobility management procedure of equal priority, on receipt of the CTMKeyAllocate return error component with the error value: priorityRuleViolation
considers the key allocation procedure as unsuccessful and stops timer T-MM.

CTM_IO_KA_I_09 subclause 9.3.7.2
Ensure that the IUT having sent a CTMKeyAllocate invoke component and if the requested procedure fails for any unspecified reason, on receipt of the CTMKeyAllocate return error component with the error value: Unspecified
considers the key allocation procedure as unsuccessful and stops timer T-MM.

CTM_IO_KA_I_10 subclause 9.3.7.2
Ensure that the IUT, having sent a CTMKeyAllocate invoke component, having received first the CTMNetworkAuthentication invoke component, having received after the CTMKeyAllocate return result component, and if the authentication of the user fails,
considers the key allocation procedure as unsuccessful, stops timer T-MM, and sends back a CTMNetworkAuthentication return error, including the networkRejected error value.

CTM_IO_KA_I_11 subclause 9.3.7.2
Ensure that the IUT, having sent a CTMKeyAllocate invoke component, having received the CTMKeyAllocate return result component without having received first the CTMNetworkAuthentication invoke component,
considers the key allocation procedure as unsuccessful and stops timer T-MM.

CTM_IO_KA_I_12 subclause 9.3.7.2
Ensure that the IUT having sent a CTMKeyAllocate invoke component, and if timer T-MM expires before reception of a CTMKeyAllocate return error component or reception of a CTMNetworkAuthentication invoke component or reception of a reject component
considers the key allocation procedure as unsuccessful.

5.2.3.7 Identity request

Selection: Support of the identity request procedure. PICS MC7

CTM_IO_IR_V_01 subclause 9.3.8.1
Ensure that the IUT in Idle state, to request an identity request procedure
sends a CTMIdentityRequest invoke component with the following parameters: cTMIdentityType, and cTMPortableIdentity.

CTM_IO_IR_V_02 subclause 9.3.8.1
Ensure that the IUT having sent a CTMIdentityRequest invoke component, on receipt of a valid CTMIdentityRequest return result component
considers the identity request procedure as completed and stops timer T-MM.

CTM_IO_IR_I_01 subclause 9.3.8.2
Ensure that the IUT having sent a CTMIdentityRequest invoke component, on receipt of a reject component
considers the identity request procedure as unsuccessful and stops timer T-MM.

CTM_IO_IR_I_02 subclause 9.3.8.2
Ensure that the IUT having sent a CTMIdentityRequest invoke component and if the requested identity is not available, on receipt of the CTMIdentityRequest return error component with the error value: identityNotAvailable
considers the identity request procedure as unsuccessful and stops timer T-MM.

CTM_IO_IR_I_03 subclause 9.3.8.2
Ensure that the IUT having sent a CTMIdentityRequest invoke component containing a wrong cTMPortableIdentity parameter, on receipt of the CTMIdentityRequest error component with the error value: portableIdentityUnknown
considers the identity request procedure as unsuccessful and stops timer T-MM.

CTM_IO_IR_I_04 subclause 9.3.8.2
Ensure that the IUT having sent a CTMIdentityRequest invoke component when the fixed part is overloaded, on receipt of the CTMIdentityRequest return error component with the error value: congestion
considers the identity request procedure as unsuccessful and stops timer T-MM.

CTM_IO_IR_I_05 subclause 9.3.8.2
Ensure that the IUT having sent a CTMIdentityRequest invoke component and if the supervision timer for the requested procedure expires, on receipt of the CTMIdentityRequest return error component with the error value: localTimerExpiry
considers the identity request procedure as unsuccessful and stops timer T-MM.

CTM_IO_IR_I_06 subclause 9.3.8.2
Ensure that the IUT having sent a CTMIdentityRequest invoke component and if the paging on the air interface fails for any reason, on receipt of the CTMIdentityRequest return error component with the error value: pagingFailure
considers the identity request procedure as unsuccessful and stops timer T-MM.

CTM_IO_IR_I_07 subclause 9.3.8.2
Ensure that the IUT having sent a CTMIdentityRequest invoke component and if the signalling connection on the air interface is interrupted for any reason, on receipt of the CTMIdentityRequest return error component with the error value: radioConnectionFailure
considers the identity request procedure as unsuccessful and stops timer T-MM.

CTM_IO_IR_I_08 subclause 9.3.8.2
Ensure that the IUT having sent a CTMIdentityRequest invoke component and having sent a mobility management procedure of equal priority, on receipt of the CTMIdentityRequest return error component with the error value: priorityRuleViolation
considers the identity request procedure as unsuccessful and stops timer T-MM.

CTM_IO_IR_I_09 subclause 9.3.8.2
Ensure that the IUT having sent a CTMIdentityRequest invoke component and if the requested procedure fails for any unspecified reason, on receipt of the CTMIdentityRequest return error component with the error value: Unspecified
considers the identity request procedure as unsuccessful and stops timer T-MM.

CTM_IO_IR_I_10 subclause 9.3.8.2
Ensure that the IUT having sent a CTMIdentityRequest invoke component, and if timer T-MM expires before reception of a CTMIdentityRequest return error component or reception of a CTMIdentityRequest return result component or reception of a reject component
considers the identity request procedure as unsuccessful.

5.2.4 Embedded procedures

CTM_EMB_V_01 subclauses 9.1.1.1 - 9.3.7.1
Selection: support of the subscription registration procedure. PICS MC5
AND
use of the key allocation procedure as an embedded procedure. PIXIT
Ensure that the IUT, having received a CTMAccessRightsRequest invoke component and having requested the key allocation procedure by sending a CTMKeyAllocate invoke component without cTMPortableIdentity parameter, on receipt of a valid CTMKeyAllocate return result component,
sends back a valid CTMAccessRightsRequest return result component.

CTM_EMB_V_02 subclauses 9.1.1.1 - 9.3.2.1
Selection: support of the subscription registration procedure. PICS MC5
AND
use of the terminal authentication procedure as an embedded procedure. PIXIT
Ensure that the IUT, having received a CTMAccessRightsRequest invoke component and having requested the terminal authentication procedure by sending a CTMTerminalAuthentication invoke component without cTMPortableIdentity parameter, on receipt of a valid CTMTerminalAuthentication return result component,
sends back a valid CTMAccessRightsRequest return result component.

CTM_EMB_V_03 subclauses 9.1.2.1 - 9.3.3.1
Selection: support of the subscription deregistration procedure. PICS MC6
Ensure that the IUT, having requested the subscription deregistration procedure by sending a CTMAccessRightTerminate invoke component, and on receipt of a valid CTMNetworkAuthentication invoke component without cTMPortableIdentity parameter,
sends back a valid CTMNetworkAuthentication return result component.

CTM_EMB_V_04 subclauses 9.2.1.1 - 9.3.7.1

Selection: use of the CTM key allocation procedure as an embedded procedure of the CTM location registration procedure. PIXIT

Ensure that the IUT, having received a CTMLocationRegistration invoke component and having requested the key allocation procedure by sending a CTMKeyAllocate invoke component without cTMPortableIdentity parameter, on receipt of a valid CTMKeyAllocate return result component,

sends back a valid CTMLocationRegistration return result component.

CTM_EMB_V_05 subclauses 9.2.1.1 - 9.3.2.1

Selection: use of the CTM terminal authentication procedure as an embedded procedure of the CTM location registration procedure. PIXIT

Ensure that the IUT, having received a CTMLocationRegistration invoke component and having requested the terminal authentication procedure by sending a CTMTerminalAuthentication invoke component without cTMPortableIdentity parameter, on receipt of a valid CTMTerminalAuthentication return result component,

sends back a valid CTMLocationRegistration return result component.

5.2.5 Outgoing call

CTM_OC_V_01 subclause 9.3.9.1

Ensure that the IUT when receiving a SETUP message including a CTMOutgoingCallMMInfo invoke component,

accepts the call request.

CTM_OC_I_01 subclause 9.3.9.2

Ensure that the IUT, having received a SETUP message including a CTMOutgoingCallMMInfo invoke component and having sent the CTMOutgoingCallMMInfo return error component, when receiving a reject component

does not take any action.

CTM_OC_I_02 subclause 9.3.9.2

Ensure that the IUT when receiving a SETUP message including a CTMOutgoingCallMMInfo invoke component and when a RejectReason is received from the network,

sends the CTMOutgoingCallMMInfo return error component with the networkRejected error value in a facility information element and releases the call with cause #31, "normal unspecified".

CTM_OC_I_03 subclause 9.3.9.2

Ensure that the IUT when receiving a SETUP message including a CTMOutgoingCallMMInfo invoke component with a portable Identity that is not known,

sends the CTMOutgoingCallMMInfo return error component with the portableIdentityUnknown error value in a facility information element and releases the call with cause #31, "normal unspecified".

CTM_OC_I_04 subclause 9.3.9.2

Ensure that the IUT when receiving a SETUP message including a CTMOutgoingCallMMInfo invoke component and when the network is overloaded,

sends the CTMOutgoingCallMMInfo return error component with the congestion error value in a facility information element and releases the call with cause #31, "normal unspecified".

CTM_OC_I_05 subclause 9.3.9.2

Ensure that the IUT when receiving a SETUP message including a CTMOutgoingCallMMInfo invoke component and if the requested procedure fails for any unspecified reason,

sends the CTMOutgoingCallMMInfo return error component with the Unspecified error value in a facility information element and releases the call with cause #31, "normal unspecified".

5.2.6 Incoming call

CTM_IC_V_01 subclause 9.3.10.1

Ensure that the IUT when initiating an incoming call,

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

CTM_IC_I_01xx subclause 9.3.10.2

Ensure that the IUT having sent a SETUP message including a CTMIncomingCallMMInfo invoke component and when a RejectReason is received from the air interface, on receipt of the CTMIncomingCallMMInfo return error component in a facility information element with the error value: terminalRejected and with the reject reason value detailed in table 7

releases the call with cause #31, "normal unspecified".

Table 7: Reject reason values for test purposes CTM_IC_I_0201 to CTM_IC_I_0224

Test purpose	Reject reason value
CTM_IC_I_0101	TPUI unknown
CTM_IC_I_0102	IPUI unknown
CTM_IC_I_0103	IPEI not accepted
CTM_IC_I_0104	IPUI not accepted
CTM_IC_I_0105	Authentication failed
CTM_IC_I_0106	No authentication algorithm
CTM_IC_I_0107	Authentication algorithm not supported
CTM_IC_I_0108	Authentication key not supported
CTM_IC_I_0109	No cipher algorithm
CTM_IC_I_0110	Cipher algorithm not supported
CTM_IC_I_0111	Cipher key not supported
CTM_IC_I_0112	Incompatible service
CTM_IC_I_0113	False LCE reply (no corresponding service)
CTM_IC_I_0114	Late LCE reply (service already taken)
CTM_IC_I_0115	Invalid TPUI
CTM_IC_I_0116	TPUI assignment limits unacceptable
CTM_IC_I_0117	Insufficient memory
CTM_IC_I_0118	Overload
CTM_IC_I_0119	Invalid message
CTM_IC_I_0120	Information element error
CTM_IC_I_0121	Invalid information element contents
CTM_IC_I_0122	Timer expiry
CTM_IC_I_0123	Location area not allowed
CTM_IC_I_0124	-

CTM_IC_I_02 subclause 9.3.10.2

Ensure that the IUT having sent a SETUP message including a CTMIncomingCallMMInfo invoke component with a portable Identity that is not known, on receipt of the CTMIncomingCallMMInfo return error component in a facility information element with the error value: portableIdentityUnknown

releases the call with cause #31, "normal unspecified".

CTM_IC_I_03 subclause 9.3.10.2

Ensure that the IUT having sent a SETUP message including a CTMIncomingCallMMInfo invoke component and when the fixed part is overloaded, on receipt of the CTMIncomingCallMMInfo return error component in a facility information element with the error value: congestion

releases the call with cause #31, "normal unspecified".

CTM_IC_I_04 subclause 9.3.10.2

Ensure that the IUT having sent a SETUP message including a CTMIncomingCallMMInfo invoke component and when the paging fails on the air interface, on receipt of the CTMIncomingCallMMInfo return error component in a facility information element with the error value: pagingFailure

releases the call with cause #31, "normal unspecified".

CTM_IC_I_05 subclause 9.3.10.2

Ensure that the IUT having sent a SETUP message including a CTMIncomingCallMMInfo invoke component and when the signalling connection on the air interface is interrupted, on receipt of the CTMIncomingCallMMInfo return error component in a facility information element with the error value: radioConnectionFailure

releases the call with cause #31, "normal unspecified".

CTM_IC_I_06 **subclause 9.3.10.2**
Ensure that the IUT having sent a SETUP message including a CTMIncomingCallMMInfo invoke component and if the requested procedure fails for any other unspecified reason, on receipt of the CTMIncomingCallMMInfo return error component in a facility information element with the error value: Unspecified
releases the call with cause #31, "normal unspecified".

CTM_IC_I_07 **subclause 9.3.10.2**
Ensure that the IUT having sent a SETUP message including a CTMIncomingCallMMInfo invoke component, on receipt of a reject component in a facility information element
releases the call with cause #31, "normal unspecified".

5.3 DECT access to GSM mode

Selection: Support of network requirements. PICS R2.2
AND
Support of the DECT access to GSM mode. PICS R1.2

5.3.1 Activation and deactivation

5.3.1.1 Location registration

DG_AD_LR_V_01 **subclause 9.2.1.1**
Ensure that the IUT in Idle state, having received a valid GSMLocationRegistration invoke component, and having successfully performed the location registration,
sends a GSMLocationRegistration return result including the gSMLocationAreaIdentity parameter, indicating the new location area.

DG_AD_LR_I_01 **subclause 9.2.1.2**
Ensure that the IUT, having received a valid GSMLocationRegistration invoke component and having sent the GSMLocationRegistration return result component, when receiving a reject component
does not take any action.

DG_AD_LR_I_02 **subclause 9.2.1.2**
Ensure that the IUT in Idle state, having received a valid GSMLocationRegistration invoke component, when a RejectReason is received from the network,
sends a GSMLocationRegistration return error component including with the networkRejected error value.

DG_AD_LR_I_03 **subclause 9.2.1.2**
Ensure that the IUT in Idle state, having received a valid GSMLocationRegistration invoke component with a portable Identity that is not known,
sends a GSMLocationRegistration return error component including with the portableIdentityUnknown error value.

DG_AD_LR_I_04 **subclause 9.2.1.2**
Ensure that the IUT in Idle state, having received a valid GSMLocationRegistration invoke component, and when the network is overloaded,
sends a GSMLocationRegistration return error component including with the congestion error value.

DG_AD_LR_I_05 **subclause 9.2.1.2**
Ensure that the IUT in Idle state, having received a valid GSMLocationRegistration invoke component, and if the requested procedure fails for any unspecified reason,
sends a GSMLocationRegistration return error component including with the Unspecified error value.

5.3.1.2 Location cancellation

Selection: Support of the location cancellation procedure. PICS MC10

DG_AD_LC_V_01 subclause 9.2.2.1
Ensure that the IUT in Idle state, to request a location cancellation procedure
sends a valid GSMLocationCancellation invoke component containing a gSMPortableIdentity parameter.

DG _AD_LC_I_01 subclause 9.2.2.2
Ensure that the IUT, having sent a GSMLocationCancellation invoke component, and on receipt of a reject component,
does not take any action.

5.3.1.3 Detach

DG_AD_D_V_01 subclause 9.2.3.1
Ensure that the IUT in Idle state, on receipt of a valid GSMDetach invoke component,
accepts the received information and considers the terminal as not reachable.

DG_AD_D_I_01 subclause 9.2.3.2
Ensure that the IUT, having received a GSMDetach invoke component, and being unable to act accordingly,
does not take any action.

5.3.2 Invocation and operation

5.3.2.1 Terminal authentication

DG_IO_TA_V_01 subclause 9.3.2.1
Ensure that the IUT in Idle state, to request a terminal authentication,
sends a GSMTerminalAuthentication invoke component including correct gSMRand, gSMCipherInfo, and gSMPortableIdentity parameters.

DG_IO_TA_V_02 subclause 9.3.2.1
Ensure that the IUT, having sent a GSMTerminalAuthentication invoke component, and having received a valid GSMTerminalAuthentication return result component containing a valid gSMRes parameter,
considers the terminal authentication procedure as completed and stops timer T-MM.

DG_IO_TA_I_01 subclause 9.3.2.2
Ensure that the IUT having sent a GSMTerminalAuthentication invoke component, on receipt of a reject component
considers the terminal authentication procedure as unsuccessful and stops timer T-MM.

DG_IO_TA_I_02xx subclause 9.3.2.2
Ensure that the IUT having sent a GSMTerminalAuthentication invoke component and if a rejectReason has been received from the air interface, on receipt of the GSMTerminalAuthentication return error component with the error value: terminalRejected and with the reject reason value detailed in table 8
considers the terminal authentication procedure as unsuccessful and stops timer T-MM.

Table 8: Reject reason values for test purposes DG_IO_TA_I_0201 to DG_IO_TA_I_0219

Test purpose	Reject reason value
DG_IO_TA _I_0201	Authentication failed
DG_IO_TA _I_0202	No authentication algorithm
DG_IO_TA _I_0203	Authentication algorithm not supported
DG_IO_TA _I_0204	Authentication key not supported
DG_IO_TA _I_0205	UPI not entered
DG_IO_TA _I_0206	No cipher algorithm
DG_IO_TA _I_0207	Cipher algorithm not supported
DG_IO_TA _I_0208	Cipher key not supported
DG_IO_TA _I_0209	Incompatible service
DG_IO_TA _I_0210	Insufficient memory
DG_IO_TA _I_0211	Overload
DG_IO_TA _I_0212	Invalid message
DG_IO_TA _I_0213	Information element error
DG_IO_TA _I_0214	Invalid information element contents
DG_IO_TA _I_0215	Timer expiry
DG_IO_TA _I_0216	PLMN not allowed
DG_IO_TA _I_0217	Location area not allowed
DG_IO_TA _I_0218	National roaming not allowed in this location area
DG_IO_TA _I_0219	-

DG_IO_TA_I_03 **subclause 9.3.2.2**
Ensure that the IUT having sent a GSMTerminalAuthentication invoke component containing a wrong gSMPortableIdentity parameter, on receipt of the GSMTerminalAuthentication return error component with the error value: portableIdentityUnknown
considers the terminal authentication procedure as unsuccessful and stops timer T-MM.

DG_IO_TA_I_04 **subclause 9.3.2.2**
Ensure that the IUT having sent a GSMTerminalAuthentication invoke component when the fixed part is overloaded, on receipt of the GSMTerminalAuthentication return error component with the error value: congestion
considers the terminal authentication procedure as unsuccessful and stops timer T-MM.

DG_IO_TA_I_05 **subclause 9.3.2.2**
Ensure that the IUT having sent a GSMTerminalAuthentication invoke component and if the supervision timer for the requested procedure expires, on receipt of the GSMTerminalAuthentication return error component with the error value: localTimerExpiry
considers the terminal authentication procedure as unsuccessful and stops timer T-MM.

DG_IO_TA_I_06 **subclause 9.3.2.2**
Ensure that the IUT having sent a GSMTerminalAuthentication invoke component and if the paging on the air interface fails for any reason, on receipt of the GSMTerminalAuthentication return error component with the error value: pagingFailure
considers the terminal authentication procedure as unsuccessful and stops timer T-MM.

DG_IO_TA_I_07 **subclause 9.3.2.2**
Ensure that the IUT having sent a GSMTerminalAuthentication invoke component and if the signalling connection on the air interface is interrupted for any reason, on receipt of the GSMTerminalAuthentication return error component with the error value: radioConnectionFailure
considers the terminal authentication procedure as unsuccessful and stops timer T-MM.

DG_IO_TA_I_08 **subclause 9.3.2.2**
Ensure that the IUT having sent a GSMTerminalAuthentication invoke component and having sent a mobility management procedure of equal priority, on receipt of the GSMTerminalAuthentication return error component with the error value: priorityRuleViolation
considers the terminal authentication procedure as unsuccessful and stops timer T-MM.

DG_IO_TA_I_09 **subclause 9.3.2.2**
Ensure that the IUT having sent a GSMTerminalAuthentication invoke component and if the requested procedure fails for any unspecified reason, on receipt of the GSMTerminalAuthentication return error component with the error value: Unspecified
considers the terminal authentication procedure as unsuccessful and stops timer T-MM.

DG_IO_TA_I_10 subclause 9.3.2.2
Ensure that the IUT having sent a GSMTerminalAuthentication invoke component, on receipt of a GSMTerminalAuthentication return result component with an incorrect parameter,
considers the terminal authentication procedure as unsuccessful, stops timer T-MM and may send a GSMTerminalAuthenticationReject invoke component.

DG_IO_TA_I_11 subclause 9.3.2.2
Ensure that the IUT having sent a GSMTerminalAuthentication invoke component, and if timer T-MM expires before reception of a GSMTerminalAuthentication return error component or reception of a GSMTerminalAuthentication return result component or reception of a reject component
considers the terminal authentication procedure as unsuccessful.

5.3.2.2 Network initiated ciphering

DG_IO_NIC_V_01 subclause 9.3.4.1
Ensure that the IUT in Idle state, to request a network initiated ciphering procedure
sends a GSMCiphering invoke component with the following parameters: gSMCipherKey, and gSMPortableIdentity.

DG_IO_NIC_V_02 subclause 9.3.4.1
Ensure that the IUT having sent a GSMCiphering invoke component, on receipt of a valid GSMCiphering return result component
considers the network initiated ciphering procedure as completed and stops timer T-MM.

DG_IO_NIC_I_01 subclause 9.3.4.2
Ensure that the IUT having sent a GSMCiphering invoke component, on receipt of a reject component
considers the network initiated ciphering procedure as unsuccessful and stops timer T-MM.

DG_IO_NIC_I_02xx subclause 9.3.4.2
Ensure that the IUT having sent a GSMCiphering invoke component and if a rejectReason has been received from the air interface, on receipt of the GSMCiphering return error component with the error value: terminalRejected and with the reject reason value detailed in table 9
considers the network initiated ciphering procedure as unsuccessful and stops timer T-MM.

Table 9: Reject reason values for test purposes DG_IO_NIC_I_0201 to DG_IO_NIC_I_0219

Test purpose	Reject reason value
DG_IO_NIC _I_0201	Authentication failed
DG_IO_NIC _I_0202	No authentication algorithm
DG_IO_NIC _I_0203	Authentication algorithm not supported
DG_IO_NIC _I_0204	Authentication key not supported
DG_IO_NIC _I_0205	UPI not entered
DG_IO_NIC _I_0206	No cipher algorithm
DG_IO_NIC _I_0207	Cipher algorithm not supported
DG_IO_NIC _I_0208	Cipher key not supported
DG_IO_NIC _I_0209	Incompatible service
DG_IO_NIC _I_0210	Insufficient memory
DG_IO_NIC _I_0211	Overload
DG_IO_NIC _I_0212	Invalid message
DG_IO_NIC _I_0213	Information element error
DG_IO_NIC _I_0214	Invalid information element contents
DG_IO_NIC _I_0215	Timer expiry
DG_IO_NIC _I_0216	PLMN not allowed
DG_IO_NIC _I_0217	Location area not allowed
DG_IO_NIC _I_0218	National roaming not allowed in this location area
DG_IO_NIC _I_0219	-

DG_IO_NIC_I_03 subclause 9.3.4.2
Ensure that the IUT having sent a GSMCiphering invoke component containing a wrong gSMPortableIdentity parameter, on receipt of the GSMCiphering return error component with the error value: portableIdentityUnknown
considers the network initiated ciphering procedure as unsuccessful and stops timer T-MM.

DG_IO_NIC_I_04 subclause 9.3.4.2
Ensure that the IUT having sent a GSMCiphering invoke component when the fixed part is overloaded, on receipt of the GSMCiphering return error component with the error value: congestion
considers the network initiated ciphering procedure as unsuccessful and stops timer T-MM.

DG_IO_NIC_I_05 subclause 9.3.4.2
Ensure that the IUT having sent a GSMCiphering invoke component and if the supervision timer for the requested procedure expires, on receipt of the GSMCiphering return error component with the error value: localTimerExpiry
considers the network initiated ciphering procedure as unsuccessful and stops timer T-MM.

DG_IO_NIC_I_06 subclause 9.3.4.2
Ensure that the IUT having sent a GSMCiphering invoke component and if the paging on the air interface fails for any reason, on receipt of the GSMCiphering return error component with the error value: pagingFailure
considers the network initiated ciphering procedure as unsuccessful and stops timer T-MM.

DG_IO_NIC_I_07 subclause 9.3.4.2
Ensure that the IUT having sent a GSMCiphering invoke component and if the signalling connection on the air interface is interrupted for any reason, on receipt of the GSMCiphering return error component with the error value: radioConnectionFailure
considers the network initiated ciphering procedure as unsuccessful and stops timer T-MM.

DG_IO_NIC_I_08 subclause 9.3.4.2
Ensure that the IUT having sent a GSMCiphering invoke component and having sent a mobility management procedure of equal priority, on receipt of the GSMCiphering return error component with the error value: priorityRuleViolation
considers the network initiated ciphering procedure as unsuccessful and stops timer T-MM.

DG_IO_NIC_I_09 subclause 9.3.4.2 Ensure that the IUT having sent a GSMCiphering invoke component and if the requested procedure fails for any unspecified reason, on receipt of the GSMCiphering return error component with the error value: Unspecified
considers the network initiated ciphering procedure as unsuccessful and stops timer T-MM.

DG_IO_NIC_I_10 subclause 9.3.4.2
Ensure that the IUT having sent a GSMCiphering invoke component, and if ciphering is requested for an already ciphered connection, on receipt of a GSMCiphering return error component with the error value: incompatibleCipheringState
considers the network initiated ciphering procedure as unsuccessful and stops timer T-MM.

DG_IO_NIC_I_11 subclause 9.3.4.2
Ensure that the IUT having sent a GSMCiphering invoke component, and if timer T-MM expires before reception of a GSMCiphering return error component or reception of a GSMCiphering return result component or reception of a reject component
considers the network initiated ciphering procedure as unsuccessful.

5.3.2.3 Temporary identity assignment

DG_IO_TIA_V_01 subclause 9.3.6.1.1
Ensure that the IUT in Idle state, to request an assign identity procedure
sends a GSMAssignIdentity invoke component with the following parameters: gSMNewTMSI, gSMLocationAreaIdentity, and gSMPortableIdentity.

DG_IO_TIA_V_02 subclause 9.3.6.1.1
Ensure that the IUT having sent a GSMAssignIdentity invoke component, on receipt of a valid GSMAssignIdentity return result component without any parameters,
considers the assign identity procedure as completed and stops timer T-MM.

DG_IO_TIA_V_03 subclause 9.3.6.1.2
Selection: support of the linked temporary identity assignment procedure. PICS MC11
Ensure that the IUT, having received the GSMLocationRegistration invoke component and to request a linked temporary identity assignment procedure
sends first a GSMLinkedAssignIdentity invoke component with the following parameter: gSMNewTMSI and sends susequently a the GSMLocationRegistration return result component.

DG_IO_TIA_V_04 subclause 9.3.6.1.2
Selection: support of the linked temporary identity assignment procedure. PICS MC11
Ensure that the IUT, having received the GSMLocationRegistration invoke component, having sent first a GSMLinkedAssignIdentity invoke component, having sent susequently a the GSMLocationRegistration return result component, and on receipt of GSMLinkedAssignIdentity return result component,
considers the linked temporary identity assignment procedure as completed and stops timer T-MM.

DG_IO_TIA_I_01 subclause 9.3.6.2.1
Ensure that the IUT having sent a GSMAssignIdentity invoke component, on receipt of a reject component,
considers the assign identity procedure as unsuccessful and stops timer T-MM.

DG_IO_TIA_I_03 subclause 9.3.6.2.2
Selection: support of the linked temporary identity assignment procedure. PICS MC11
Ensure that the IUT, having received the GSMLocationRegistration invoke component, having sent first a GSMLinkedAssignIdentity invoke component, having sent susequently a the GSMLocationRegistration return result component, and on receipt of a reject component,
considers the linked temporary identity assignment procedure as unsuccessful and stops timer T-MM.

5.3.2.4 Identity request

DG_IO_IR_V_01 subclause 9.3.8.1
Ensure that the IUT in Idle state, to request an identity request procedure
sends a GSMIdentityRequest invoke component with the following parameters: gSMIdentityType, and gSMPortableIdentity.

DG_IO_IR_V_02 subclause 9.3.8.1
Ensure that the IUT having sent a GSMIdentityRequest invoke component, on receipt of a valid GSMIdentityRequest return result component
considers the identity request procedure as completed and stops timer T-MM.

DG_IO_IR_I_01 subclause 9.3.8.2
Ensure that the IUT having sent a GSMIdentityRequest invoke component, on receipt of a reject component
considers the identity request procedure as unsuccessful and stops timer T-MM.

DG_IO_IR_I_02 subclause 9.3.8.2
Ensure that the IUT having sent a GSMIdentityRequest invoke component and if the requested identity is not available, on receipt of the GSMIdentityRequest return error component with the error value: identityNotAvailable
considers the identity request procedure as unsuccessful and stops timer T-MM.

DG_IO_IR_I_03 subclause 9.3.8.2
Ensure that the IUT having sent a GSMIdentityRequest invoke component containing a wrong gSMPortableIdentity parameter, on receipt of the GSMIdentityRequest error component with the error value: portableIdentityUnknown
considers the identity request procedure as unsuccessful and stops timer T-MM.

DG_IO_IR_I_04 subclause 9.3.8.2
Ensure that the IUT having sent a GSMIdentityRequest invoke component when the fixed part is overloaded, on receipt of the GSMIdentityRequest return error component with the error value: congestion
considers the identity request procedure as unsuccessful and stops timer T-MM.

DG_IO_IR_I_05 subclause 9.3.8.2
Ensure that the IUT having sent a GSMIdentityRequest invoke component and if the supervision timer for the requested procedure expires, on receipt of the GSMIdentityRequest return error component with the error value: localTimerExpiry
considers the identity request procedure as unsuccessful and stops timer T-MM.

DG_IO_IR_I_06 subclause 9.3.8.2
Ensure that the IUT having sent a GSMIdentityRequest invoke component and if the paging on the air interface fails for any reason, on receipt of the GSMIdentityRequest return error component with the error value: pagingFailure
considers the identity request procedure as unsuccessful and stops timer T-MM.

DG_IO_IR_I_07 subclause 9.3.8.2
Ensure that the IUT having sent a GSMIdentityRequest invoke component and if the signalling connection on the air interface is interrupted for any reason, on receipt of the GSMIdentityRequest return error component with the error value: radioConnectionFailure
considers the identity request procedure as unsuccessful and stops timer T-MM.

DG_IO_IR_I_08 subclause 9.3.8.2
Ensure that the IUT having sent a GSMIdentityRequest invoke component and having sent a mobility management procedure of equal priority, on receipt of the GSMIdentityRequest return error component with the error value: priorityRuleViolation
considers the identity request procedure as unsuccessful and stops timer T-MM.

DG_IO_IR_I_09 subclause 9.3.8.2
Ensure that the IUT having sent a GSMIdentityRequest invoke component and if the requested procedure fails for any unspecified reason, on receipt of the GSMIdentityRequest return error component with the error value: Unspecified
considers the identity request procedure as unsuccessful and stops timer T-MM.

DG_IO_IR_I_10 subclause 9.3.8.2
Ensure that the IUT having sent a GSMIdentityRequest invoke component, and if timer T-MM expires before reception of a GSMIdentityRequest return error component or reception of a GSMIdentityRequest return result component or reception of a reject component
considers the identity request procedure as unsuccessful.

5.3.3 Embedded procedures

DG_EMB_V_01 subclause 9.2.1.1 - 9.3.2.1
Selection: use of the GSM terminal authentication procedure as an embedded procedure of the GSM location registration procedure. PIXIT
Ensure that the IUT, having received a GSMLocationRegistration invoke component and having requested the terminal authentication procedure by sending a GSMTerminalAuthentication invoke component, on receipt of a valid GSMTerminalAuthentication return result component with gSMRes parameter,
sends back a valid GSMLocationRegistration return result component.

DG_EMB_V_02 subclause 9.2.1.1 - 9.3.4.1
Selection: use of the GSM Network initiated ciphering procedure as an embedded procedure of the GSM location registration procedure. PIXIT
Ensure that the IUT, having received a GSMLocationRegistration invoke component and having requested the Network initiated ciphering procedure by sending a GSMCiphering invoke component, on receipt of a valid GSMCiphering return result component,
sends back a valid GSMLocationRegistration return result component.

DG_EMB_V_03 subclause 9.2.1.1 - 9.3.8.1
Selection: use of the GSM identity request procedure as an embedded procedure of the GSM location registration procedure. PIXIT
Ensure that the IUT, having received a GSMLocationRegistration invoke component and having requested the identity request procedure by sending a GSMIdentityRequest invoke component, on receipt of a valid GSMIdentityRequest return result component,
sends back a valid GSMLocationRegistration return result component.

5.3.4 Outgoing call

DG_OC_V_01 subclause 9.3.9.1
Ensure that the IUT when receiving a SETUP message including a valid GSMOutgoingCallMMInfo invoke component,
accepts the call request.

DG_OC_I_01 subclause 9.3.9.2
Ensure that the IUT, having received a SETUP message including a GSMOutgoingCallMMInfo invoke component and having sent the GSMOutgoingCallMMInfo return error component, when receiving a reject component
does not take any action.

DG_OC_I_02 subclause 9.3.9.2
Ensure that the IUT when receiving a SETUP message including a GSMOutgoingCallMMInfo invoke component and when a RejectReason is received from the network,
sends the GSMOutgoingCallMMInfo return error component with the networkRejected error value in a facility information element and releases the call with cause #31, "normal unspecified".

DG_OC_I_03 subclause 9.3.9.2
Ensure that the IUT when receiving a SETUP message including a GSMOutgoingCallMMInfo invoke component with a portable Identity that is not known,
sends the GSMOutgoingCallMMInfo error component with the portableIdentityUnknown error value in a facility information element and releases the call with cause #31, "normal unspecified".

DG_OC_I_04 subclause 9.3.9.2
Ensure that the IUT when receiving a SETUP message including a GSMOutgoingCallMMInfo invoke component and when the network is overloaded,
sends the GSMOutgoingCallMMInfo return error component with the congestion error value in a facility information element and releases the call with cause #31, "normal unspecified".

DG_OC_I_05 subclause 9.3.9.2
Ensure that the IUT when receiving a SETUP message including a GSMOutgoingCallMMInfo invoke component and if the requested procedure fails for any unspecified reason,
sends the GSMOutgoingCallMMInfo return error component with the Unspecified error value in a facility information element and releases the call with cause #31, "normal unspecified".

5.3.5 Incoming call

DG_IC_V_01 subclause 9.3.10.1
Ensure that the IUT when initiating an incoming call,
includes the GSMIncomingCallMMInfo invoke component in the facility information element in the SETUP message.

DG_IC_I_01xx subclause 9.3.10.2
Ensure that the IUT having sent a SETUP message including a GSMIncomingCallMMInfo invoke component and when a RejectReason is received from the air interface, on receipt of the GSMIncomingCallMMInfo return error component in a facility information element with the error value: terminalRejected and with the reject reason value detailed in table 10
releases the call with cause #31, "normal unspecified".

Table 10: Reject reason values for test purposes DG_IC_I_0101 to DG_IC_I_0119

Test purpose	Reject reason value
DG_IC_I_0101	Authentication failed
DG_IC_I_0102	No authentication algorithm
DG_IC_I_0103	Authentication algorithm not supported
DG_IC_I_0104	Authentication key not supported
DG_IC_I_0105	UPI not entered
DG_IC_I_0106	No cipher algorithm
DG_IC_I_0107	Cipher algorithm not supported
DG_IC_I_0108	Cipher key not supported
DG_IC_I_0109	Incompatible service
DG_IC_I_0110	Insufficient memory
DG_IC_I_0111	Overload
DG_IC_I_0112	Invalid message
DG_IC_I_0113	Information element error
DG_IC_I_0114	Invalid information element contents
DG_IC_I_0115	Timer expiry
DG_IC_I_0116	PLMN not allowed
DG_IC_I_0117	Location area not allowed
DG_IC_I_0118	National roaming not allowed in this location area
DG_IC_I_0119	-

DG_IC_I_02 subclause 9.3.10.2
Ensure that the IUT having sent a SETUP message including a GSMIncomingCallMMInfo invoke component with a portable Identity that is not known, on receipt of the GSMIncomingCallMMInfo return error component in a facility information element with the error value: portableIdentityUnknown
releases the call with cause #31, "normal unspecified".

DG_IC_I_03 subclause 9.3.10.2
Ensure that the IUT having sent a SETUP message including a GSMIncomingCallMMInfo invoke component and when the fixed part is overloaded, on receipt of the GSMIncomingCallMMInfo return error component in a facility information element with the error value: congestion
releases the call with cause #31, "normal unspecified".

DG_IC_I_04 subclause 9.3.10.2
Ensure that the IUT having sent a SETUP message including a GSMIncomingCallMMInfo invoke component and when the paging fails on the air interface, on receipt of the GSMIncomingCallMMInfo return error component in a facility information element with the error value: pagingFailure
releases the call with cause #31, "normal unspecified".

DG_IC_I_05 subclause 9.3.10.2
Ensure that the IUT having sent a SETUP message including a GSMIncomingCallMMInfo invoke component and when the signalling connection on the air interface is interrupted, on receipt of the GSMIncomingCallMMInfo return error component in a facility information element with the error value: radioConnectionFailure
releases the call with cause #31, "normal unspecified".

DG_IC_I_06 subclause 9.3.10.2
Ensure that the IUT having sent a SETUP message including a GSMIncomingCallMMInfo invoke component and if the requested procedure fails for any other unspecified reason, on receipt of the GSMIncomingCallMMInfo return error component in a facility information element with the error value: Unspecified
releases the call with cause #31, "normal unspecified".

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 de-selection;

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 organization claiming to provide a comprehensive testing service for network equipment claiming conformance to EN 301 144-1 [1].

History

Document history				
V1.1.4	July 1999	Public Enquiry	PE 9952:	1999-07-28 to 1999-11-26
V1.1.5	March 2000	Vote	V 20000505:	2000-03-06 to 2000-05-05
V1.1.5	May 2000	Publication		