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Foreword

This European Telecommunication Standard (ETS) has been produced by the Radio Equipment and Systems (RES) Technical Committee of the European Telecommunications Standards Institute (ETSI).

The DECT Test Specification multipart ETS comprises nine parts, as follows:

Part 1: "Part 1: Test Suite Structure (TSS) and Test Purposes (TP) for Medium Access Control (MAC) layer".

Part 2: "Part 2: Abstract Test Suite (ATS) for Medium Access Control (MAC) layer - Portable radio Termination (PT)".

Part 3: "Part 3: Abstract Test Suite (ATS) for Medium Access Control (MAC) layer - Fixed radio Termination (FT)".

Part 4: "Part 4: Test Suite Structure (TSS) and Test Purposes (TP) - Data Link Control (DLC) layer".

Part 5: "Part 5: Abstract Test Suite (ATS) - Data Link Control (DLC) layer".

Part 6: "Part 6: Test Suite Structure (TSS) and Test Purposes (TP) - Network (NWK) layer - Portable radio Termination (PT)".

Part 7: "Part 7: Abstract Test Suite (ATS) for Network (NWK) layer - Portable radio Termination (PT)".

Part 8: "Part 8: Test Suite Structure (TSS) and Test Purposes (TP) - Network (NWK) layer - Fixed radio Termination (FT)".

Part 9: "Part 9: Abstract Test Suite (ATS) for Network (NWK) layer - Fixed radio Termination (FT)".

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Date of withdrawal of any conflicting National Standard (dow):	31 May 1997

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1 Scope

This European Telecommunication Standard (ETS) contains the test specification for the Digital Enhanced Cordless Telecommunications (DECT) (ETS 300 175 [1] to [8]).

The objective of this test specification is to provide a basis for approval tests for DECT equipment giving a high probability of air interface inter-operability between different manufacturer's DECT equipment. This test specification defines the Test Suite Structure (TSS) and Test Purposes (TP) for testing of the Network (NWK) layer at the Fixed radio Termination (FT).

The ISO standard for the methodology of conformance testing (ISO/IEC 9646-1 [21]) as well as the ETSI rules for conformance testing (ETS 300 406 [29]) are used as a basis for the test methodology.

Test specifications for the Physical Layer (PHL) are provided in other DECT standards.

2 Normative references

This ETS incorporates, by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this ETS only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

[1] ETS 300 175-1 (1992): "Radio Equipment and Systems (RES); Digital European Cordless Telecommunications (DECT); Common interface; Part 1: Overview".

[2] ETS 300 175-2 (1992): "Radio Equipment and Systems (RES); Digital European Cordless Telecommunications (DECT); Common interface; Part 2: Physical layer".

[3] ETS 300 175-3 (1992): "Radio Equipment and Systems (RES); Digital European Cordless Telecommunications (DECT); Common interface; Part 3: Medium access control layer".

[4] ETS 300 175-4 (1992): "Radio Equipment and Systems (RES); Digital European Cordless Telecommunications (DECT); Common interface; Part 4: Data link control layer".

[5] ETS 300 175-5 (1992): "Radio Equipment and Systems (RES); Digital European Cordless Telecommunications (DECT); Common interface; Part 5: Network layer".

[6] ETS 300 175-6 (1992): "Radio Equipment and Systems (RES); Digital European Cordless Telecommunications (DECT); Common interface; Part 6: Identities and addressing".

[7] ETS 300 175-7 (1992): "Radio Equipment and Systems (RES); Digital European Cordless Telecommunications (DECT); Common interface; Part 7: Security features".

[8] ETS 300 175-8 (1992): "Radio Equipment and Systems (RES); Digital European Cordless Telecommunications (DECT); Common interface; Part 8: Speech coding and transmission".

[9] ETS 300 175-9 (1992): "Radio Equipment and Systems (RES); Digital European Cordless Telecommunications (DECT); Common interface; Part 9: Public access profile".

[10] ETS 300 444: "Radio Equipment and Systems (RES); Digital European Cordless Telecommunications (DECT); Generic Access Profile (GAP)".

[11] ETS 300 370: "Radio Equipment and Systems (RES); Digital European Cordless Telecommunications/Global System for Mobile communications (DECT/GSM) inter-working profile; Access and mapping (Protocol/procedure description for 3,1 kHz speech service)".

[12] ETS 300 434: "Radio Equipment and Systems (RES); Digital European Cordless Telecommunications (DECT) and Integrated Services Digital Network (ISDN) inter-working for end system configuration".

[13] ETS 300 331: "Radio Equipment and Systems (RES); Digital European Cordless Telecommunications (DECT); DECT Authentication Module (DAM)".

[14] CCITT Recommendation G.726 (1991): "40, 32, 24, 16 kbit/s adaptive differential pulse code modulation (ADPCM)".

[15..20] Reserved values.

[21] ISO/IEC 9646-1 (1991): "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 1: General concepts". (See also CCITT Recommendation X.290 (1991)).

[22] ISO/IEC 9646-2 (1991): "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 2: Abstract test suite specification". (See also CCITT Recommendation X.291 (1991)).

[23] ISO/IEC 9646-3 (1991): "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 3: The tree and tabular combined notation". (See also CCITT Recommendation X.292 (1992)).

[24] ISO/IEC 9646-4 (1991): "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 4: Test realisation". (See also CCITT Recommendation X.292 (1992)).

[25] ISO/IEC 9646-5 (1991): "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 5: Requirements on test laboratories and clients for the conformance assessment process". (See also CCITT Recommendation X.292 (1992)).

[26] ISO/IEC 9646-6 (1991): "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 6: Protocol profile test specification".

[27] ISO/IEC 9646-7 (1991): "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 7: Implementation conformance statement".

[28] ISO 7498: "Information Processing Systems - Open Systems Interconnection - Basic Reference model".

[29] ETS 300 406 (1995): "Methods for Testing and Specification (MTS); Protocol and profile conformance testing specifications; Standardization methodology".

[30] 91/263/EEC: "Council Directive of 29 April 1991 on the approximation of the laws of the Member states concerning telecommunications terminal equipment, including the mutual recognition of their conformity. (Terminal Directive)".

[31..40] Reserved values.

[41] I-ETS 300 176: "Radio Equipment and Systems (RES); Digital European Cordless Telecommunications (DECT); Approval test specification".

[42] TBR 6: "Radio Equipment and Systems (RES); Digital European Cordless Telecommunications (DECT); General terminal attachment requirements".

[43] TBR 10: "Radio Equipment and Systems (RES); Digital European Cordless Telecommunications (DECT); General terminal attachment requirements: Telephony applications".

[44] TBR 11 (1992): "Radio Equipment and Systems (RES); Attachment requirements for terminal equipment for Digital European Cordless Telecommunications (DECT) Public Access Profile (PAP) applications".

[45] ETS 300 323 (1994): "Radio Equipment and Systems (RES); Digital European Cordless Telecommunications (DECT); Public Access Profile (PAP) test specification".

[46] ETS 300 476: "Radio Equipment and Systems (RES); Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Protocol Implementation Conformance Statement (PICS) proforma".

[47] ETS 300 497: "Radio Equipment and Systems (RES); Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI) Test Case Library (TCL)".

[48] ETS 300 474: "Radio Equipment and Systems (RES); Digital Enhanced Cordless Telecommunications (DECT); Generic Access Profile (GAP); Profile requirement list and profile specific Implementation Conformance Statement (ICS) proforma".

[49] ETS 300 494: "Radio Equipment and Systems (RES); Digital Enhanced Cordless Telecommunications (DECT); Generic Access Profile (GAP); Profile Test Specification (PTS)".

[50] TBR 22: "Radio Equipment and Systems (RES); Attachment requirements for terminal equipment for Digital Enhanced Cordless Telecommunications (DECT) Generic Access Profile (GAP) applications".

3 Definitions, symbols and abbreviations

3.1 DECT definitions

For the purposes of this ETS, the definitions given in ISO/IEC 9646-1 [21], ISO/IEC 9646-2 [22], ETS 300 175-1 [1], ETS 300 175-5 [5], ETS 300 175-6 [6] and ETS 300 175-7 [7] apply.

3.2 DECT abbreviations

For the purposes of this ETS, the NWK layer abbreviations defined in ETS 300 175-5 [5] and the following abbreviations apply:

AC	Authentication Code
AR	Access Rights
AU	Authentication
CA	Capability
CC	Call Control
CCSM	Call Control State Machine
CI	Call Information
CP	Ciphering
CR	Call Release
CTS	Conformance Testing Services
DECT	Digital Enhanced Cordless Telecommunication
DLC	Data Link Control layer
ETSI	European Telecommunications Standards Institute
FT	Fixed radio termination
GAP	Generic Access Profile
IC	Incoming Call
ID	Identification
IPUI	International Portable User Identity
IPEI	International Portable Equipment Identity
KA	Key Allocation
LC	Link Control entity
LE	Connection oriented Link Establishment
LL	ConnectionLess Link control
LO	Location
LR	Connection oriented Link Release
LS	Connection oriented Link Suspend and resume
MAC	Medium Access Control layer
ME	Management Entity
ML	Connectionless Message Services
MM	Mobility Management
MO	Connection Oriented Message Services
NWK	Network layer
OC	Outgoing Call
PAP	Public Access Profile
PARK	Portable Access Rights Key
PM	Packet Mode
PR	Parameter Retrieval
PT	Portable radio termination
RPN	Radio Fixed Part Number
RS	Call Related Supplementary Services
SC	Service Change
UAK	User Authentication Key

3.3 ISO 9646 definitions

For the purposes of this ETS, the following ISO 9646 definitions apply:

Implementation Under Test (IUT)
System Under Test (SUT)
Abstract Test Suite (ATS)
Point of Control and Observation (PCO)
Protocol Implementation Conformance Statement (PICS)
Protocol Implementation eXtra Information for Testing (PIXIT)
Lower Tester (LT)
Upper Tester (UT)

3.4 ISO 9646 abbreviations

For the purposes of this ETS, the following ISO 9649 abbreviations apply:

ATS	Abstract Test Suite
ASP	Abstract Service Primitive
BI	Invalid Behaviour
BO	InOpportune Behaviour
BV	Valid Behaviour
CA	Capability tests
ETS	European Telecommunication Standard
ISO	International Organisation for Standardisation
IUT	Implementation Under Test
IWU	InterWorking Unit
LT	Lower Tester
PDU	Protocol Data Unit
PHL	Physical Layer
PICS	Protocol Implementation Conformance Statements
PIXIT	Protocol Implementation eXtra Information for Testing
SUT	System Under Test
TP	Test Purpose
TSS	Test Suite Structure
TTCN	Tree and Tabular Combined Notation
UT	Upper Tester

4 Test Suite Structure (TSS)

4.1 TSS overview

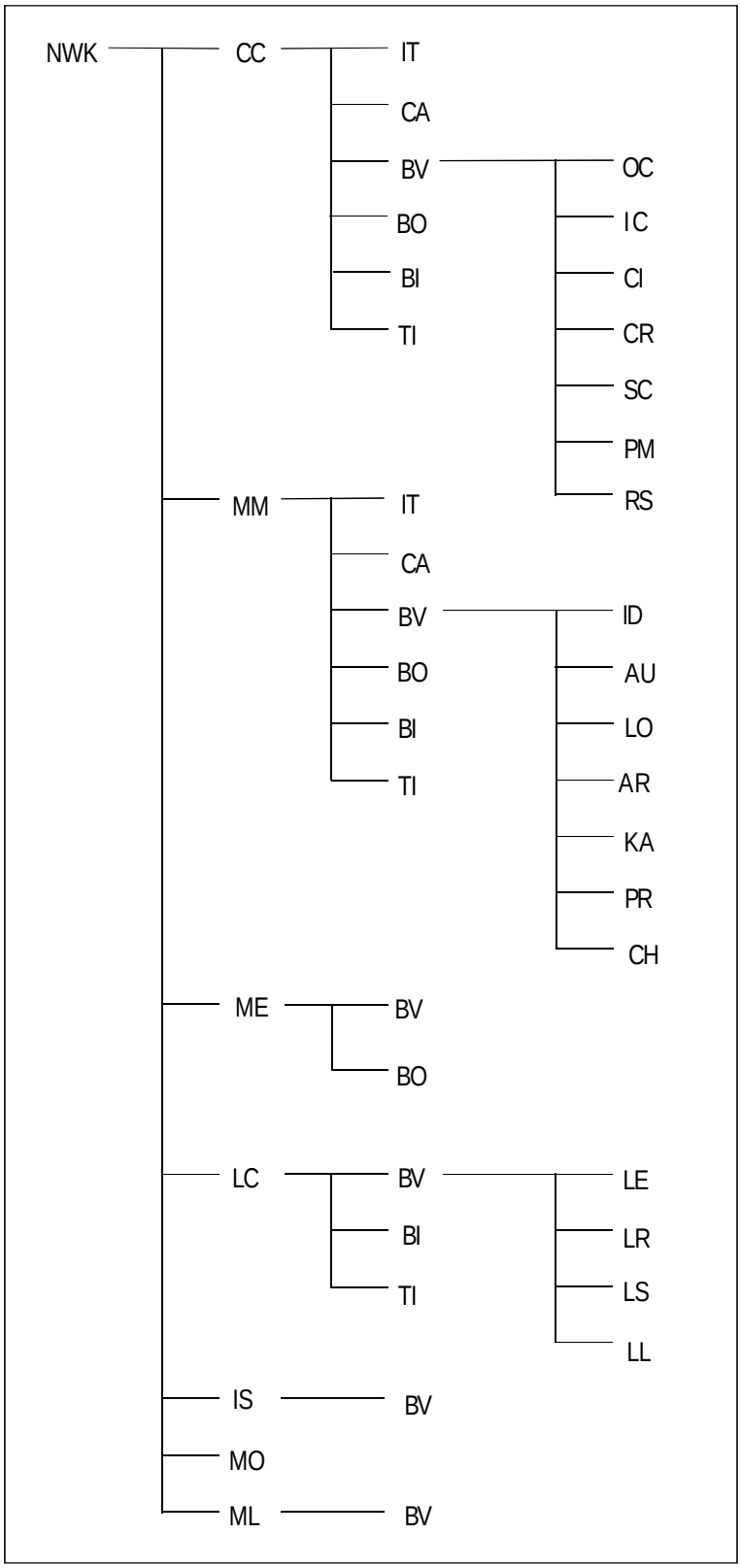

Figure 1: TSS

4.2 Test groups

4.2.1 Protocol groups

4.2.1.1 Call Control (CC)

Ref.: ETS 300 175-5 [5], subclause 5.2 and clause 9

4.2.1.2 Mobility Management (MM)

Ref.: ETS 300 175-5 [5], subclause 5.6 and clause 13.

4.2.1.3 Lower Layer Management Entity (LLME)

Ref.: ETS 300 175-5 [5], clause 15.

4.2.1.4 Link Control (LC)

Ref.: ETS 300 175-5 [5], subclause 5.7 and clause 14.

4.2.1.5 Call Independent Supplementary Services (CISS)

Ref.: ETS 300 175-5 [5], subclauses 5.3 and 10.4.2.2.

4.2.1.6 Connection Oriented Message Services (COMS)

Ref.: ETS 300 175-5 [5], subclause 5.4 and clause 11.

4.2.1.7 Connectionless Message Services (CLMS)

Ref.: ETS 300 175-5 [5], subclause 5.5 and clause 12.

4.2.2 Main test groups

4.2.2.1 Basic InTerconnection tests (IT)

IT tests provide limited testing of an IUT in order to establish that there is sufficient conformance for possible interconnection without trying to perform thorough testing. In particular, only those test cases will be executed which will assure the sufficient interconnection between the IUT of the NWK layer and the test system exists, so that the rest of the test cases can then be put into execution.

4.2.2.2 CApability tests (CA)

CA tests provide limited testing that the observable capabilities of the IUT are in accordance with the static conformance requirements and the additional capabilities claimed in the PICS/PIXIT. In particular, this test group can be regarded as a set of spot checks for all the capabilities of the IUT stated in the PICS/PIXIT. Scope of the test group is the observable capabilities of the IUT with respect to NWK layer connection, call control, and the mobility management.

4.2.2.3 Valid Behaviour tests (BV)

BV group tests an IUT in response to valid behaviour of the test system. "Valid" means that a test event is syntactically and contextually correct. All test cases in the valid behaviour group are intended to verify as thoroughly as possible the various functions of the protocol.

4.2.2.4 Invalid Behaviour tests (BI)

BI group is intended to verify that the IUT is able to react properly in case an invalid protocol data unit (message) occurring. Invalid PDU here means syntactically or semantically invalid test events generated by the test system. A syntactically or semantically invalid test event regardless of the current state is not allowed.

4.2.2.5 InOpportune Behaviour tests (BO)

BO test group is intended to verify that the IUT is able to react properly in case an inopportune test event occurring. Such an event is syntactically correct, but occurs when it is not allowed.

4.2.2.6 TImer expiry and counter mismatch tests (TI)

Different timers and counters are defined to supervise the various state transitions. This test subgroup is intended to verify that the IUT is reacting properly to an expiry of one of the timers or counters mismatch.

5 Test Purposes (TPs)

Each test case is allocated directly under a defined TP.

5.1 Introduction

5.1.1 TP definition conventions

The TPs are defined following particular rules as shown in the table 1.

Table 1: TP definition rules

TP Id according to the TP naming conventions Source reference	Reference Initial condition Stimulus Expected behaviour
TP Id:	the TP Id is a unique identifier it shall be specified according to the TP naming conventions defined in the subclause below.
Reference:	the reference should contain the references of the subject to be validated by the actual TP (specification reference, clause, paragraph).
Condition:	the condition defines in which initial state the IUT has to be to apply the actual TP.
Stimulus:	the stimulus defines the test event to which the TP is related.
Expected behaviour:	definition of the events that are expected from the IUT to conform to the base specification.

5.1.2 References

This subclause defines the use of references given in the TPs. The structure provides the interrelationship with:

- the source ETS giving the clause/subclause reference;
- the profile ETS giving the clause/subclause reference; and
- the cross reference to the output of the CTS 5 project (see bibliography).

5.1.3 TP naming conventions

The identifier of the TP is built according to table 2:

Figure 2: TP naming convention

TP/<rt>/<fm>/<x>/<s>/<nn>		
<rt> = type of radio termination	**PT**	Portable radio Termination
<fm> = functional module	**CC**	**Call Control**
	MM	**Mobility Management**
	ME	**Lower Layer Management Entity**
	LC	**Link Control Entity**
	IS	**Call Independent Supplementary Services**
	MO	**Connection Oriented Message Service**
	ML	**Connectionless Message Service**
x = Type of testing	**IT**	**Basic Interconnection Tests**
	CA	**Capability Tests**
	BV	**Valid Behaviour Tests**
	BO	**Inopportune Behaviour Tests**
	BI	**Invalid Behaviour Tests**
	TI	**Timer expiry and counter mismatch tests**
s = test subgroup	**OC**	**Outgoing Call establishment**
	IC	**Incoming Call establishment**
	CI	**Call Information**
	CR	**Call Release**
	SC	**Service Change**
	PM	**Packet Mode**
	RS	**Call Related Supplementary services**
	ID	**Identification**
	AU	**Authentication**
	LO	**Location**
	AR	**Access Rights**
	KA	**Key Allocation**
	PR	**Parameter Retrieval**
	CH	**Ciphering**
	LE	**Connection oriented Link Establishment**
	LR	**Connection oriented Link Release**
	LS	**Connection oriented Link Suspend and resume**
	LL	**ConnectionLess Link Control**
<nn> = sequential number	**(01-99)**	**Test Purpose Number**

5.2 CC

Test group objectives:

To check the behaviour of the CC module of the IUT.

Subgroups:

- IT;
- CA;
- BV;
- BO;
- BI;
- TI.

5.2.1 CC/IT

- TP/PT/CC/BV/OC-01.

5.2.2 CC/CA

- TP/PT/CC/BV/OC-01;
- TP/PT/CC/BV/IC-01.

5.2.3 CC/BV

Subgroups:

- OC;
- IC;
- CI;
- CR;
- SC;
- PM;
- RS.

5.2.3.1 CC/BV/OC

Test subgroup objectives:

To check the IUT's behaviours to setup an outgoing call.

Test purposes:

TP/FT/CC/BV/OC-01 N_602	Reference: ETS 300 175-5 [5], subclauses 9.3.1.4 and 9.3.1.6, **ETS 300 444 [10], subclause 8.1, figure 1,** ETS 300 323-1[44], subclause 6.3.1.1. Initial state: F-00 Verify that the IUT is able to perform a CC-state transition from state F-00 to state F-10 for an outgoing normal call, using the piece-wise method to transfer dialling information.
TP/FT/CC/BV/OC-02 N_602, N_2069	Reference: ETS 300 175-5 [5], subclauses 9.3.1.4 and 9.3.1.6, ETS 300 323-1[44], subclause 6.3.1.1, DEL. 2 Part 7.1 (see annex A), subclause 5.2.1.1, Initial state: F-00 Verify that the IUT is able to perform a CC-state transition from state F-00 to state F-10 for an outgoing normal call set-up with en-block dialling in {CC-SETUP} message.
TP/FT/CC/BV/OC-03 N_633	Reference: ETS 300 175-5 [5], subclauses 9.3.1, ETS 300 323-1[44], subclause 6.3.1.8. Initial state: F-00 Verify that the IUT is able, prior to subscription, to perform a CC-state transition from state F-00 to state F-10 for an outgoing emergency call set-up with en-block dialling in {CC-SETUP} message.
TP/FT/CC/BV/OC-04 N_634, N_2047	Reference: ETS 300 175-5 [5], subclauses 9.3.1, ETS 300 323-1[44], subclause 6.3.1.8, DEL. 2 Part 7.1 (see annex A), subclause 5.2.1.1. Initial state: F-00 Verify that the IUT is able, when it has a subscription record for the requesting PT, to perform a CC-state transition from the F-00 state to F-10 state for an outgoing emergency call set-up with en-block dialling in {CC-SETUP} message.
TP/FT/CC/BV/OC-05 N_2047	Reference: ETS 300 175-5 [5], subclauses 9.3.1, DEL. 2 Part 7.1 (see annex A), subclause 5.2.1.1. Initial state: F-00 Verify that the IUT is able, prior to subscription, to perform a CC-state transition from state F-00 to state F-10 for an outgoing emergency call set-up with piece-wise dialling.
TP/FT/CC/BV/OC-06 New	Reference: ETS 300 175-5 [5], subclauses 9.3.1.5, **ETS 300 444 [10], subclause 8.10, table 20.** Initial state: F-00 Verify that the IUT is able to perform a normal outgoing **internal** call, using the <<BASIC_SERVICE>> information element to specify the call class "internal call" **NOT TESTABLE**

5.2.3.2 CC/BV/IC

Test subgroup objectives:

To check the IUT's behaviours to setup an incoming call.

Test purposes:

TP/FT/CC/BV/IC-01 N_604, N_2091	Reference: ETS 300 175-5 [5], subclause 9.3.2, **ETS 300 444 [10], subclause 8.11, figure 28,** ETS 300 323-1[44], subclause 6.3.1.2, DEL. 2 Part 7.1 (see annex A), subclause 5.2.1.2. Initial state: F-00 Verify that the IUT is able to perform an incoming call via the states F-06 and F-07 to the state F-10.
TP/FT/CC/BV/IC-02 N_120	Reference: ETS 300 175-5 [5], subclause 9.3.2. Initial state: F-00 Verify that the IUT is able to perform an incoming call via state F-06 directly to the state F-10.

5.2.3.3 CC/BV/CI

Test subgroup objectives:

To check the IUT's behaviours for information transfer.

Test purposes:

TP/FT/CC/BV/CI-01 N_660	Reference: ETS 300 175-5 [5], subclause 9.3.1, **ETS 300 444 [10], subclause 8.14,** ETS 300 323-1[44], subclause 6.3.1.7. Initial state: F-00 Verify that the IUT is able to send the <<SIGNAL>> information element in case of incoming call to the PT. This information element can either be in the {CC-SETUP} or in successive {CC-INFO} message.
TP/FT/CC/BV/CI-02 N_651	Reference: ETS 300 175-5 [5], subclause 9.3.1.5, **ETS 300 444 [10], subclause 8.10, table 20,** ETS 300 323-1[44], subclause 6.3.1.7. Initial state: F-02 Verify that when the IUT receives a {CC-INFO} message with a <<MULTI-KEYPAD>> information element containing keypad-info "12"H (goto pulse), the IUT from that moment on transfers dialling information to the network simulator, using pulse (decadic) dialling (feature N.23 in ETS 300 444 [10]).
TP/FT/CC/BV/CI-04 N_657	Reference: ETS 300 175-5 [5], subclause 9.3.1.5, **ETS 300 444 [10], subclause 8.10, table 20,** ETS 300 323-1[44], subclause 6.3.1.7. Initial state: F-02 Verify that when the IUT receives a {CC-INFO} message with a <<MULTI-KEYPAD>> information element containing keypad-info "05H" (dialling pause), it sends a dialling pause to the network simulator (feature N.7 in ETS 300 444 [10]).
TP/FT/CC/BV/CI-05 N_658	Reference: ETS 300 175-5 [5], subclause 9.3.1.5, **ETS 300 444 [10], subclause 8.10, table 20,** ETS 300 323-1[44], subclause 6.3.1.7. Initial state: F-10 Verify that when the IUT receives a {CC-INFO} message with a <<MULTI-KEYPAD>> information element containing keypad-info "05H" (dialling pause), it sends a dialling pause to the network simulator (feature N.7 in ETS 300 444 [10]).

(continued)

(concluded)

TP/FT/CC/BV/CI-06 N_643	Reference: ETS 300 175-5 [5], subclause 9.3.1.5, **ETS 300 444 [10], subclause 8.10, table 20,** ETS 300 323-1[44], subclause 6.3.1.7. Initial state: F-02 Verify that when the IUT receives a {CC-INFO} message with a <<MULTI-KEYPAD>> information element containing keypad-info "14H" (goto DTMF, defined tone length), the IUT from that moment on transfers dialling information to the network simulator, using DTMF with defined tone length (feature N.6 in ETS 300 444 [10]).
TP/FT/CC/BV/CI-07 N_644	Reference: ETS 300 175-5 [5], subclause 9.3.1.5, **ETS 300 444 [10], subclause 8.10, table 20,** ETS 300 323-1[44], subclause 6.3.1.7. Initial state: F-10 Verify that when the IUT receives a {CC-INFO} message with a <<MULTI-KEYPAD>> information element containing keypad-info "14H" (goto DTMF, defined tone length), the IUT from that moment on transfers dialling information to the network simulator, using DTMF with defined tone length (feature N.6 in ETS 300 444 [10]).
TP/FT/CC/BV/CI-08 N_646	Reference: ETS 300 175-5 [5], subclause 9.3.1.5, **ETS 300 444 [10], subclause 8.10, table 20,** ETS 300 323-1[44], subclause 6.3.1.7. Initial state: F-02 Verify that when the IUT receives a {CC-INFO} message with a <<MULTI-KEYPAD>> information element containing keypad-info "16H" (goto DTMF, infinite tone length), the IUT from that moment on transfers dialling information to the network simulator, using DTMF with infinite tone length (feature N.22 in ETS 300 444 [10]).
TP/FT/CC/BV/CI-09 N_647	Reference: ETS 300 175-5 [5], subclause 9.3.1.5, **ETS 300 444 [10], subclause 8.10, table 20,** ETS 300 323-1[44], subclause 6.3.1.7. Initial state: F-10 Verify that when the IUT receives a {CC-INFO} message with a <<MULTI-KEYPAD>> information element containing keypad-info "16H" (goto DTMF, infinite tone length), the IUT from that moment on transfers dialling information to the network simulator, using DTMF with infinite tone length (feature N.22 in ETS 300 444 [10]).
TP/FT/CC/BV/CI-10 N_653 (see N_662)	Reference: ETS 300 175-5 [5], subclause 9.3.1.5 **ETS 300 444 [10], subclause 8.10, table 20** ETS 300 323-1[44], subclause 6.3.1.7 Initial state: F-10 Verify that when the IUT receives a {CC-INFO} message with a <<MULTI-KEYPAD>> information element containing the basic digits (0-9, star, hash mark), it transfers this information correctly to the network simulator (feature N.4 in ETS 300 444 [10]).
TP/FT/CC/BV/CI-11 New	Reference: ETS 300 175-5 [5], subclause 9.3.1.5 **ETS 300 444 [10], subclause 8.14, table 23** Verify that the IUT, after invocation, is able to perform an internal call, using the <<MULTI-KEYPAD>> information element in the {CC-INFO} message to specify the call class **NOT TESTABLE**
TP/FT/CC/BV/CI-12 N_616	Reference: ETS 300 175-5 [5], subclause 9.3.1.5, **ETS 300 444 [10], subclause 8.17,** ETS 300 323-1 [44], subclause 6.3.1.7. Verify that the IUT is able to handle terminal capability. **NOT TESTABLE**

5.2.3.4 CC/BV/CR

Test subgroup objectives:

To check the IUT's behaviours to release an outgoing and incoming call.

Test purposes:

TP/FT/CC/BV/CR-01 N_613	Reference: ETS 300 175-5 [5], subclause 9.5.1, **ETS 300 444 [10], subclause 8.7,** ETS 300 323 [44], subclause 6.3.1.3. Initial state: F-02 Verify that the IUT is able to perform an IUT initiated normal release.
TP/FT/CC/BV/CR-02 N_615	Reference: ETS 300 175-5 [5], subclause 9.5.1, **ETS 300 444 [10],subclause 8.7,** ETS 300 323 [44], subclause 6.3.1.3. Initial state: F-10 Verify that the IUT is able to perform an IUT initiated normal release.
TP/FT/CC/BV/CR-03 N_617	Reference: ETS 300 175-5 [5], subclause 9.5.1, **ETS 300 444 [10], subclause 8.7,** ETS 300 323 [44], subclause 6.3.1.3. Initial state: F-07 Verify that the IUT is able to perform an IUT initiated normal release.
TP/FT/CC/BV/CR-04 N_619, but changed	Reference: ETS 300 175-5 [5], subclause 9.5.1, **ETS 300 444 [10], subclause 8.7,** ETS 300 323 [44], subclause 6.3.1.3. Initial state: F-02 Verify that the IUT, after part of dialling information is sent, is able to perform a PT initiated normal release.
TP/FT/CC/BV/CR-05 N_623	Reference: ETS 300 175-5 [5], subclause 9.5.1, **ETS 300 444 [10], subclause 8.7,** ETS 300 323 [44], subclause 6.3.1.3. Initial state: F-10 Verify that the IUT is able to perform a PT initiated normal release.
TP/FT/CC/BV/CR-06 N_624	Reference: ETS 300 175-5 [5], subclause 9.5.1, **ETS 300 444 [10], subclause 8.7,** ETS 300 323 [44], subclause 6.3.1.3. Initial state: F-07 Verify that the IUT is able to perform a PT initiated normal release.
TP/FT/CC/BV/CR-07 N_607	Reference: ETS 300 175-5 [5], subclause 9.5.1, **ETS 300 444 [10], subclause 8.8, figure 24,** ETS 300 323 [44], subclause 6.3.1.4. Initial state: F-07 Verify that the IUT is able to perform a PT initiated abnormal release.
TP/FT/CC/BV/CR-08 N_606	Reference: ETS 300 175-5 [5], subclause 9.5.1, **ETS 300 444 [10], subclause 8.8, figure 24,** ETS 300 323 [44], subclause 6.3.1.4. Initial state: F-10 Verify that the IUT is able to perform a PT initiated abnormal release.
TP/FT/CC/BV/CR-09 N_610	Reference: ETS 300 175-5 [5], subclause 9.5.1, **ETS 300 444 [10], subclause 8.8, figure 24,** ETS 300 323 [44], subclause 6.3.1.4. Initial state: F-06 Verify that the IUT is able to perform a PT initiated abnormal release.
TP/FT/CC/BV/CR-10 N_630	Reference: ETS 300 175-5 [5], subclause 14.2.7, **ETS 300 444 [10], subclause 8.9,** ETS 300 323 [44], subclause 6.3.1.5. Initial state: F-10 Verify that the IUT is able to perform a PT initiated partial release.

(continued)

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TP/FT/CC/BV/CR-11 New	Reference: ETS 300 175-5 [5], subclause 14.2.7, **ETS 300 444 [10], subclause 8.9.** Initial state: F-10 Verify that the IUT is able to perform a FT initiated partial release.
TP/FT/CC/BV/CR-12 N_1180	Reference: ETS 300 175-5 [5], subclause 14.2.7, DEL. 2 Part 6.1 [40], subclause 5.2.1.5. Initial state: F-19 Verify that the IUT, when a normal release has been started, is able to handle a {CC-INFO} message sent by PT.

5.2.3.5 CC/BV/SC

There are no test purposes defined for this group in this ETS.

5.2.3.6 CC/BV/PM

There are no test purposes defined for this group in this ETS.

5.2.3.7 CC/BV/RS

Test subgroup objectives:

To check the IUT's behaviour during any call related procedures.

Test purposes:

TP/FT/CC/BV/RS-01 N_806	Reference: ETS 300 175-5 [5], subclause 10.3, **ETS 300 444 [10], subclause 8.10, table 20,** ETS 300 323-1 [44], subclause 6.3.3.3. Initial state: F-10 Verify that the IUT's behaviour on the receipt of a {CC-INFO} indicating "Register Recall" is correct. **NOT TESTABLE**
TP/FT/CC/BV/RS-02 N_809, N_2118	Reference: ETS 300 175-5 [5], subclause 10.3, ETS 300 323-1[44], subclause 6.3.3.3, DEL. 2 Part 7.1 (see annex A), subclause 5.2.1.3. Initial state: F-10 To verify the IUT's behaviour of operating the basic feature key management protocol. The exact feature key element that is to be tested shall be stated in the PIXIT.
TP/FT/CC/BV/RS-03 N_807, N_2130, N-2132	Reference: ETS 300 175-5 [5], subclause 10.3, ETS 300 323-1[44], subclause 6.3.3.3, DEL. 2 Part 7.1 (see annex A), subclause 5.2.1.4. Initial state: F-10 To verify the IUT's behaviour of operating the feature key management protocol used for Queue management.
TP/FT/CC/BV/RS-04 N_813, N_2139	Reference: ETS 300 175-5 [5], subclause 10.3, ETS 300 323-1[44], subclause 6.3.3.3, DEL. 2 Part 7.1 (see annex A), subclause 5.2.1.4. Initial state: F-10 To verify the IUT's behaviour of operating the feature key management protocol used for Cost information.
TP/FT/CC/BV/RS-05 N_814,	Reference: ETS 300 175-5 [5], subclause 10.3, ETS 300 323-1[44], subclause 6.3.3.4. Initial state: F-10 To verify the IUT's behaviour of operating the basic functional protocol by sending a <<facility>> information element.

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TP/FT/CC/BV/RS-06 N_815, N_2118	Reference: ETS 300 175-5 [5], subclause 10.3, ETS 300 323-1[44], subclause 6.3.3.4, DEL. 2 Part 7.1 (see annex A), subclause 5.2.1.3. Initial state: F-10 To verify the IUT's behaviour of operating the basic functional protocol by receiving a <<facility>> information element.
TP/FT/CC/BV/RS-07 New	Reference: ETS 300 175-5 [5], subclause 10.3, ETS 300 323-1[44], subclause 6.3.3.4, **ETS 300 444 [10], subclause 8.10, table 20.** Initial state: F-10 To verify the IUT is able to transmit the <<calling party number>> information element in the {{CC-SETUP} message providing the PP with the calling party number information before accepting the call (feature N.30)

5.2.4 CC/BO

Test group objectives:

To check the CC of the IUT in response to the messages that are syntactically correct but not allowed to occur in some states of the CC procedures.

Test purposes:

TP/FT/CC/BO-01 New	Reference: ETS 300 175-5 [5], subclause 17.4.1, **ETS 300 444 [10], subclause 6.9.4.** Initial state: F-02 Verify that the IUT ignores the unexpected message {CC-SETUP}
TP/FT/CC/BO-02 New	Reference: ETS 300 175-5 [5], subclause 9.5.3, **ETS 300 444 [10], subclause 8.7.2.1, figure 21.** Initial state: F-19 Verify that the IUT is able to react correctly on a release collision, in the sense that upon reception of a {CC-RELEASE} message in state F-19, no {CC-RELEASE-COM} message is sent back, and the call is cleared.

5.2.5 CC/Invalid Behaviour tests (BI)

Test group objectives:

To check the Call Control module of the IUT in response to invalid messages.

Test purposes:

TP/FT/CC/BI-01 N_2811	Reference: ETS 300 175-5 [5], subclause 17.6.1, **ETS 300 444 [10], subclause 6.9.4,** DEL. 2 Part 7.1 (see annex A), subclause 5.3.1. Initial state: F-00 Verify that the IUT sends a {CC-RELEASE-COM} message on receipt of a {CC-SETUP} message without a mandatory information element
TP/FT/CC/BI-02 N_2818	Reference: ETS 300 175-5 [5], subclause 17.6.2, **ETS 300 444 [10], subclause 6.9.4,** DEL. 2 Part 7.1 (see annex A), subclause 5.3.1. Initial state: F-00 Verify that the IUT sends a {CC-RELEASE-COM} message on receipt of a {CC-SETUP} message containing a mandatory information element with invalid contents
TP/FT/CC/BI-03 New	Reference: ETS 300 175-5 [5], subclause 17.4.1, **ETS 300 444 [10], subclause 6.9.4.** Initial state: F-00 Verify that the IUT ignores an unrecognised message, constructed and a {CC-SETUP} but with one bit different in the <message type>
TP/FT/CC/BI-04 N_2801	Reference: ETS 300 175-5 [5], subclause 17.2, **ETS 300 444 [10], subclause 6.9.4,** DEL. 2 Part 7.1 (see annex A), subclause 5.3.1. Initial state: F-00 Verify that the IUT ignores a message that is too short to contain a complete message type info element.

5.2.6 CC/TI

Test group objectives:

To verify that the IUT is reacting properly to an expiry of one of the timers or counters mismatch.

Test purposes:

This test subgroup is intended to TP/FT/CC/TI-01 N_635	Reference: ETS 300 175-5 [5], subclause 9.3.1.5, **ETS 300 444 [10], subclause 8.3.2.3,** ETS 300 323-1 [44], subclause 6.3.1.6. Initial state: F-02 Verify that the IUT, after having started timer F-<CC.01>, sends a {CC-RELEASE} message when the timer expires after the defined time. The {CC-RELEASE} message should arrive within the allowed margin time of ± 5%
TP/FT/CC/TI-02 N_636	Reference: ETS 300 175-5 [5], subclause 9.3.1.5, **ETS 300 444 [10], subclause 8.3.2.3, figure 12,** ETS 300 323-1 [44], subclause 6.3.1.6. Initial state: F-02 Verify that the IUT is able to restart the timer F-<CC.01>, on receipt of a {CC-INFO} message
TP/FT/CC/TI-03 N_639	Reference: ETS 300 175-5 [5], subclause 9.5.1, **ETS 300 444 [10], subclause 8.7.1.2,** ETS 300 323-1 [44], subclause 6.3.1.6. Initial state: F-19 Verify that the IUT, after having started timer F-<CC.02>, sends a {CC-RELEASE-COM} message when the timer expires after the defined time. The {CC-RELEASE-COM} message should arrive within the allowed margin time of ± 5%
TP/FT/CC/TI-04 N_640	Reference: ETS 300 175-5 [5], subclause 9.3.2, **ETS 300 444 [10], subclause 8.12.1.1,** ETS 300 323-1 [44], subclause 6.3.1.6. Initial state: F-06 Verify that the IUT, after having started timer F-<CC.03>, sends a {CC-RELEASE-COM} message when the timer expires after the defined time. The {CC-RELEASE-COM} message should arrive within the allowed margin time of ± 5%

5.3 MM

Test group objectives:

To check the behaviour of the MM module of the IUT. Most test cases in this group are testing the MM while the CC is in null state or active state.

Subgroups:

- IT;
- CA;
- BV;
- BO;
- BI;
- TI.

5.3.1 MM/IT

None.

5.3.2 MM/CA

- TP/PT/MM/BV/ID-01;
- TP/PT/MM/BV/AR-02;
- TP/PT/MM/BV/KA-01.

5.3.3 MM/BV

Subgroups:

- ID;
- AU;
- LO;
- AR;
- KA;
- PR;
- CH.

5.3.3.1 MM/BV/ID

Test subgroup objectives:

To check the IUT's valid behaviour of identity request procedure.

Test purposes:

TP/FT/MM/BV/ID-01 N_700	Reference: ETS 300 175-5 [5], subclause 13.2.1, **ETS 300 444 [10], subclause 8.19,** ETS 300 323-1 [44], subclause 6.3.2.1. Verify that when the basic IUT initiated identity request procedure is invoked on the IUT, the IUT is able to perform this procedure correctly.
TP/FT/MM/BV/ID-02 N_701 N_2305	Reference: ETS 300 175-5 [5], subclause 13.2.2, ETS 300 323-1 [44], subclause 6.3.2.2, DEL. 2 Part 7.1 (see annex A), subclause 5.2.2.1. Verify that when the basic IUT initiated temporary identity assign procedure is invoked on the IUT, the IUT is able to perform this procedure correctly.
TP/FT/MM/BV/ID-03 N_2308	Reference: ETS 300 175-5 [5], subclause 13.2.2, DEL. 2 Part 7.1 (see annex A), subclause 5.2.2.1. Verify that the IUT, when the temporary identity assign request is rejected by the PT, the IUT will not change the TPUI, when addressing the PT.
TP/FT/MM/BV/ID-04 N_2309	Reference: ETS 300 175-5 [5], subclause 13.2.2, DEL. 2 Part 7.1 (see annex A), subclause 5.2.2.1. Verify that when the basic IUT initiated temporary identity assign procedure assigning a NWK assigned identity procedure is invoked on the IUT, the IUT is able to perform this procedure correctly.

5.3.3.2 MM/BV/AU

Test subgroup objectives:

To check the IUT's valid behaviour of the authentication procedure.

Test purposes:

TP/FT/MM/BV/AU-01 N_717	Reference: ETS 300 175-5 [5], subclause 13.3.1, **ETS 300 444 [10], subclause 8.21,** ETS 300 323-1 [44], subclause 6.3.2.3. Verify that the IUT, after invocation, is able to perform the basic operation of the authentication of PT procedure (PT has not stored ZAP value and service class information).
TP/FT/MM/BV/AU-02 N_732	Reference: ETS 300 175-5 [5], subclause 13.3.1, **ETS 300 444 [10], subclause 8.23, figure 49,** ETS 300 323-1 [44], subclause 6.3.2.3. Verify that the IUT, after invocation, is able to perform the basic operation of the procedure incrementing the ZAP value, during the authentication of PT procedure (PT has stored ZAP value and service class information). PT will authenticate IUT before answering.
TP/FT/MM/BV/AU-03 N_704	Reference: ETS 300 175-5 [5], subclause 13.3.2, **ETS 300 444 [10], subclause 8.22,** ETS 300 323-1 [44], subclause 6.3.2.4. Verify that the IUT, after invocation, is able to perform the basic operation of the authentication of user procedure (PT has not stored ZAP value and service class information).
TP/FT/MM/BV/AU-04 N_719	Reference: ETS 300 175-5 [5], subclause 13.3.3, **ETS 300 444 [10], subclause 8.20,** ETS 300 323-1 [44], subclause 6.3.2.5. Verify that the IUT is able to perform the basic operation of the authentication of FT procedure.
TP/FT/MM/BV/AU-05 New	Reference: ETS 300 175-5 [5], subclause 13.3.3, **ETS 300 444 [10], subclause 8.20.2.1, figure 45.** Verify that the IUT rejects authentication of FT procedure if an authentication key is specified which is not supported by the FT.
TP/FT/MM/BV/AU-06 New	Reference: ETS 300 175-5 [5], subclause 13.3.3, **ETS 300 444 [10], subclause 8.20.2.1, figure 45.** Verify that the IUT is capable to request storage of the DCK and successively use the stored DCK value for ciphering, when it is accepted by the PT.(PT has not stored ZAP value and service class information).

5.3.3.3 MM/BV/LO

Test subgroup objectives:

To check the IUT's valid behaviour of the location procedure.

Test purposes:

TP/FT/MM/BV/LO-01 N_705 N_2360	Reference: ETS 300 175-5 [5], subclause 13.4.1, **ETS 300 444 [10], subclause 8.25, figure 50,** ETS 300 323-1 [44], subclause 6.3.2.6, DEL. 2 Part 7.1 (see annex A), subclause 5.2.2.3. Verify that the IUT is able to perform the basic operation of the location registration procedure, requested with an IPUI , when broadcast attributes bit a38 was set to 1, and still is 1
TP/FT/MM/BV/LO-02 New	Reference: ETS 300 175-5 [5], subclause 13.4.1, **ETS 300 444 [10], subclause 8.25.2.1, figure 51.** Verify that the IUT sends back a {LOCATE_REJECT} message, after receiving a {LOCATE_REQUEST} message containing a portable identity on which it does not have a subscription record (IPUI is unknown), when broadcast attributes bit a38 was set to 1, and still is 1.
TP/FT/MM/BV/LO-03 N_734	Reference: ETS 300 175-5 [5], subclause 13.4.1, **ETS 300 444 [10], subclause 8.25, figure 50,** ETS 300 323 [44], subclause 6.3.2.6. Verify that the IUT is able to perform the basic operation of the location registration procedure, requested with an IPUI, while the IUT performs a TPUI assignment in the {LOCATE_ACCEPT} message, when broadcast attributes bit a38 = was set to 1, and still is 1
TP/FT/MM/BV/LO-04	Reference: ETS 300 175-5 [5], subclause 13.4.1, ETS 300 323-1 [44], subclause 6.3.2.6, DEL. 2 Part 7.1 (see annex A), subclause 5.2.2.3. Verify that the IUT is able to perform the basic operation of the location registration procedure, requested with a default TPUI , when broadcast attributes bit a38 was set to 1, and still is 1
TP/FT/MM/BV/LO-05	Reference: ETS 300 175-5 [5], subclause 13.7, **ETS 300 444 [10], subclause 8.26,** ETS 300 323 [44], subclause 6.3.2.14. Verify that the IUT, after invocation, is able to perform the basic operation of the FT initiated parameter retrieval procedure as part of the location update procedure, when broadcast attributes bit a38 was set to 1, and still is 1. The portable id will contain an IPUI
TP/FT/MM/BV/LO-06	Reference: ETS 300 175-5 [5], subclause 13.7, **ETS 300 444 [10], subclause 8.26,** ETS 300 323 [44], subclause 6.3.2.14. Verify that the IUT is able to perform the basic operation of the location registration procedure, requested with an IPUI , when broadcast attributes bit a38 was set to 1 during the locking of the IUT, and when it was changed to 0 afterward.

NOTE: The phrase "bit a38 was set to 1" means: The bit a38 had the value of 1 during the time the PT locked to the IUT.

5.3.3.4 MM/BV/AR

Test subgroup objectives:

To check the IUT's valid behaviour of the obtain access rights procedure.

Test purposes:

TP/FT/MM/BV/AR-01 N_707 N_2390	Reference: ETS 300 175-5 [5], subclause 13.5.1, **ETS 300 444 [10], subclause 8.27,** ETS 300 323-1 [44], subclause 6.3.2.9, DEL. 2 Part 7.1 (see annex A), subclause 5.2.2.4. Verify that the IUT is able to perform the basic operation of the obtain access rights procedure, when the LT sends in the <<AUTH_TYPE>> information element the auth_key_type "AC", and the IUT uses AC for authentication. The IUT shall include the whole PARK.
TP/FT/MM/BV/AR-02 N_733	Reference: ETS 300 175-5 [5], subclause 13.5.1, **ETS 300 444 [10], subclause 8.27, table 46,** ETS 300 323-1 [44], subclause 6.3.2.9. Verify that the IUT is able to assign service class information as part of the basic obtaining access rights procedure.
TP/FT/MM/BV/AR-03 N_709 N_2393	Reference: ETS 300 175-5 [5], 13.5.2, **ETS 300 444 [10], subclause 8.28,** ETS 300 323-1 [44], subclause 6.3.2.11, DEL. 2 Part 7.1 (see annex A), subclause 5.2.2.4. Verify that the IUT, after invocation, is able to perform the basic operation of the FT initiated terminate access rights procedure, when the LT successfully authenticates the IUT
TP/FT/MM/BV/AR-04 N_708 N_2395	Reference: ETS 300 175-5 [5], 13.5.2, ETS 300 323-1 [44], subclause 6.3.2.10, DEL. 2 Part 7.1 (see annex A), subclause 5.2.2.4. Verify that the IUT is able to perform the basic operation of the PT initiated terminate access rights procedure.
TP/FT/MM/BV/AR-05 N_2397	Reference: ETS 300 175-5 [5], 13.5.2, DEL. 2 Part 7.1 (see annex A), subclause 5.2.2.4. To verify that the IUT rejects the PT initiated terminate access rights request in case of authentication of PT failure
TP/FT/MM/BV/AR-06 N_707 N_2390	Reference: ETS 300 175-5 [5], subclause 13.5.1, **ETS 300 444 [10], subclause 8.27,** ETS 300 323-1 [44], subclause 6.3.2.9, DEL. 2 Part 7.1 (see annex A), subclause 5.2.2.4. Verify that the IUT is able to perform the basic operation of the obtain access rights procedure, when the LT sends in the <<AUTH_TYPE>> information element the auth_key_type "UAK", and the IUT uses UAK for authentication. The IUT shall include the whole PARK.
TP/FT/MM/BV/AR-07 N_733	Reference: ETS 300 175-5 [5], subclause 13.5.1, **ETS 300 444 [10], subclause 8.27, table 46,** ETS 300 323-1 [44], subclause 6.3.2.9. Verify that the IUT is able to assign zap field as part of the basic obtaining access rights procedure.

5.3.3.5 MM/BV/KA

Test subgroup objectives:

To check the IUT's valid behaviour of the key allocation procedure.

Test purposes:

TP/FT/MM/BV/KA-01 N_710 N_2420	Reference: ETS 300 175-5 [5], subclause 13.6, **ETS 300 444 [10], subclause 8.29,** ETS 300 323 [44], subclause 6.3.2.12, DEL. 2 Part 7.1 (see annex A), subclause 5.2.2.5. Verify that the IUT, after invocation, is able to perform the basic operation of the key allocation procedure.
TP/FT/MM/BV/KA-02 New	Reference: ETS 300 175-5 [5], subclause 13.6, **ETS 300 444 [10], subclause 8.29.2.4, figure 59.** Verify that the IUT, after invocation of the key allocation procedure, if the authentication of PT as part of this procedure fails, returns an {AUTH-REJECT} message.
TP/FT/MM/BV/KA-03 New	Reference: ETS 300 175-5 [5], subclause 13.6, **ETS 300 444 [10], subclause 8.29.2.3, figure 58.** Verify that the IUT retains the AC, if the PT rejects the key allocation procedure. A successive PT initiated FT authentication based on the AC, shall then succeed.

5.3.3.6 MM/BV/PR

Test subgroup objectives:

To check the IUT's valid behaviour of the parameter retrieval procedure.

Test purpose:

TP/FT/MM/BV/PR-01 N_712, N_2442	Reference: ETS 300 175-5 [5], subclause 13.7, ETS 300 323-1 [44], subclause 6.3.2.13, DEL. 2 Part 7.1 (see annex A), subclause 5.2.2.6. To check that IUT is able to operate the basic operation of the PT initiated parameter retrieval procedure.

5.3.3.7 MM/BV/CH

Test subgroup objectives:

To check the IUT's valid behaviours of the ciphering procedure.

Test purposes:

TP/FT/MM/BV/CH-01 N_714 N_2461	Reference: ETS 300 175-5 [5], subclause 13.8, **ETS 300 444 [10], subclause 8.31,** ETS 300 323-1 [44], subclause 6.3.2.15, DEL. 2 Part 7.1 (see annex A), subclause 5.2.2.7. Verify that the IUT is able to correctly perform the basic cipher switching procedure after the PT initiated cipher switching procedure requesting "cipher-on", while no ciphering is active.
TP/FT/MM/BV/CH-02 N_714 (doubled in PAP) N_2462	Reference: ETS 300 175-5 [5], subclause 13.8, **ETS 300 444 [10], subclause 8.31,** ETS 300 323-1 [44], subclause 6.3.2.15, DEL. 2 Part 7.1 (see annex A), subclause 5.2.2.7. Verify that the IUT is able to correctly perform the basic cipher request procedure after the PT initiated cipher switching procedure requesting "cipher-off", while ciphering is active..
TP/FT/MM/BV/CH-03 N_713 N_2464	Reference: ETS 300 175-5 [5], subclause 13.8, **ETS 300 444 [10], subclause 8.30,** ETS 300 323-1 [44], subclause 6.3.2.16, DEL. 2 Part 7.1 (see annex A), subclause 5.2.2.7. Verify that the IUT, after invocation, is able to perform the basic operation of FT initiated cipher switching procedure requesting "cipher-on", while no ciphering is active.
TP/FT/MM/BV/CH-04 N_713 (see TTCN) N_2464 (see TTCN)	Reference: ETS 300 175-5 [5], subclause 13.8, **ETS 300 444 [10], subclause 8.30,** ETS 300 323-1 [44], subclause 6.3.2.16, DEL. 2 Part 7.1 (see annex A), subclause 5.2.2.7. Verify that the IUT, after invocation, is able to perform the basic operation of FT initiated cipher switching procedure requesting "cipher-off", while ciphering is active.
TP/FT/MM/BV/CH-05 N_2468	Reference: ETS 300 175-5 [5], subclause 13.8, **ETS 300 444 [10], subclause 8.31.2.1, figure 64,** DEL. 2 Part 7.1 (see annex A), subclause 5.2.2.7. Verify that the IUT rejects a cipher switching request from the PT when a {CIPHER-SUGGEST} message has been received, containing a not supported cipher key.

5.3.4 MM/BO

Test group objectives:

To check the MM of the IUT in response to the messages that are syntactically correct but not allowed to occur in some phase of The MM procedures.

Test purpose:

TP/FT/MM/BO-01 N_2970	Reference: ETS 300 175-5 [5], subclause 17.4.4, **ETS 300 444 [10], subclause 13.1,** DEL. 2 Part 7.1 (see annex A), subclause 5.4.2. Verify that the IUT ignores the unexpected message {IDENTITY-REPLY} as an answer to the FT initiated {CIPHER-REQUEST}

5.3.5 MM/BI

Test group objectives:

To check the MM module of the IUT in response to invalid messages.

Test purposes:

TP/FT/MM/BI-01 N_2878	Reference: ETS 300 175-5 [5], subclause 17.4.4, **ETS 300 444 [10], subclause 6.9.4,** DEL. 2 Part 7.1 (see annex A), subclause 5.3.2.1. Verify that the IUT ignores a message with an unrecognized message type, if the message was received during an FT initiated authentication of PT procedure.
TP/FT/MM/BI-02 N_2880	Reference: ETS 300 175-5 [5], subclause 17.6.4, **ETS 300 444 [10], subclause 6.9.4,** DEL. 2 Part 7.1 (see annex A), subclause 5.3.2.1. Verify that the IUT, during the obtain access rights procedure, returns an {ACCESS-RIGHTS-REJECT} message, on receipt of an {ACCESS-RIGHTS-REQUEST} message missing the information element <<AUTH-TYPE>>.
TP/FT/MM/BI-03 N_2881	Reference: ETS 300 175-5 [5], subclause 17.6.4, **ETS 300 444 [10], subclause 6.9.4,** DEL. 2 Part 7.1 (see annex A), subclause 5.3.2.1. Verify that the IUT, during the obtain access rights procedure, returns an {ACCESS-RIGHTS-REJECT} message, on receipt of an {ACCESS-RIGHTS-REQUEST} message containing the information element <<AUTH-TYPE>> with a length exceeding the maximum allowed length.

5.3.6 MM/TI

Test group objectives:

This test subgroup is intended to verify that the IUT is reacting properly to an expiry of one of the timers or counters mismatch.

Test purposes:

TP/FT/MM/TI-01 N_736	Reference: ETS 300 175-5 [5], subclause 13.2.1, **ETS 300 444 [10], subclause 8.19.2.2,** ETS 300 323 [44], subclause 6.3.2.1. Verify that the IUT is capable of completing the Identification of PT procedure at a point in time 10% before expiry of the timer F-<MM_ident.2>.
TP/FT/MM/TI-02 N_738	Reference: ETS 300 175-5 [5], subclause 13.3.1, **ETS 300 444 [10], subclause 8.21.2.2,** ETS 300 323 [44], subclause 6.3.2.3. Verify that the IUT is capable of completing the Authentication of PT procedure at a point in time 10% before expiry of the timer F-<MM_auth.1>.
TP/FT/MM/TI-03 New	Reference: ETS 300 175-5 [5], subclause 13.3.2, **ETS 300 444 [10], subclause 8.22.2.2.** Verify that the IUT is capable of completing the Authentication of User procedure at a point in time 10% before expiry of the timer F-<MM_auth.2>.
TP/FT/MM/TI-04 N_739	Reference: ETS 300 175-5 [5], subclause 13.5.2, **ETS 300 444 [10], subclause 8.28.2.2,** ETS 300 323 [44], subclause 6.3.2.11. Verify that the IUT is capable of completing the FT Termination of access rights procedure at a point in time 10% before expiry of the timer F-<MM_access.2>.
TP/FT/MM/TI-05 N_740	Reference: ETS 300 175-5 [5], subclause 13.6, **ETS 300 444 [10], subclause 8.29.2.1,** ETS 300 323 [44], subclause 6.3.2.12. Verify that the IUT is capable of completing the FT Key allocation procedure at a point in time 10% before expiry of the timer F-<MM_key.1>.
TP/FT/MM/TI-06 N_741	Reference: ETS 300 175-5 [5], subclause 13.8, **ETS 300 444 [10], subclause 8.30.2.1,** ETS 300 323 [44], subclause 6.3.2.16. Verify that the IUT is capable of completing the FT initiated cipher-switching procedure at a point in time 10% before expiry of the timer F-<MM_cipher.1>.
TP/FT/MM/TI-07 N_737	Reference: ETS 300 175-5 [5], subclause 13.2.2, **ETS 300 444 [10], subclause 8.25,** ETS 300 323-1 [44], subclause 6.3.2.2. Verify that the IUT, when during the location registration procedure with TPUI assignment, the timer F-<MM_ident.1> expires after the defined time, aborts the procedure, and thus allows a new location registration procedure to proceed.
TP/FT/MM/TI-08 N_737	Reference: ETS 300 175-5 [5], subclause 13.2.2, ETS 300 323-1 [44], subclause 6.3.2.2. Verify that the IUT is capable of completing the FT temporary identity assignment procedure at a point in time 10% before expiry of the timer F-<MM_ident.1>.

5.4 ME

Subgroups:

- BV;
- BO.

5.4.1 ME/BV

Test group objective:

To check interleaving operation of MM entity and CC entity of the IUT.

Test purposes:

TP/FT/ME/BV-01 New	Reference: ETS 300 175-5 [5], subclause 15.2.1, **ETS 300 444 [10], subclause 6.9.6.** Verify that the IUT is able to handle the authentication of FT request in parallel with an incoming call establishment.
TP/FT/ME/BV-02 New	Reference: ETS 300 175-5 [5], subclause 15.5, **ETS 300 444 [10], subclause 6.9.6.** Verify that the IUT is able to handle an authentication of FT request, when it interrupts a user authentication procedure.
TP/FT/ME/BV-03 New	Reference: ETS 300 175-5 [5], subclause 15.5, **ETS 300 444 [10], subclause 6.9.6.** Verify that the IUT is able to handle an locate request , during an active CC call (state F-10)

5.4.2 ME/BO

Test group objective:

To check the inopportune behaviour of the interleaving operation of MM entity and CC entity of the IUT.

Test purpose:

TP/FT/ME/BO-01 N_2970	Reference: ETS 300 175-5 [5], subclause 17.4.4, **ETS 300 444 [10], subclause 13.1,** DEL. 2 Part 7.1 (see annex A), subclause 5.4.2. Verify that the IUT ignores an MM message with a lower priority (a {LOCATE_REQUEST} message) after the IUT (after invocation) has initiated the authentication of PT procedure.

5.5 LC

Test group objectives:

To verify the behaviour of the LC entity of the IUT.

Subgroups:

- BV;
- BI;
- TI.

5.5.1 LC/BV

Subgroups:

- LE;
- LR;
- LS;
- LL.

5.5.1.1 LC/BV/LE

Test group objective:

To check the IUT's valid behaviour of establishing connection oriented link procedure.

Test purposes:

TP/FT/LC/BV/LE-01 N_2750	Reference: ETS 300 175-5 [5], subclause 14.2.1 and 14.2.3, **ETS 300 444 [10], subclause 8.32, figure 65,** DEL. 2 Part 7.1 (see annex A), subclause 5.2.6. Initial state: F-00 Verify that the IUT is able to initiate the indirect (paged) FT-initiated link establishment procedure.
TP/FT/LC/BV/LE-02 N_2751	Reference: ETS 300 175-5 [5], subclause 14.2.1 and 14.2.3, **ETS 300 444 [10], subclause 8.32.2.1, figure 66,** DEL. 2 Part 7.1 (see annex A), subclause 5.2.6. Initial state: F-00 Verify that the IUT rejects the {LCE-PAGE-RESPONSE} with mismatching IPUI during indirect (paged) FT-initiated link establishment and releases the link.
TP/FT/LC/BV/LE-03 N_2751	Reference: ETS 300 175-5 [5], subclause 14.2.1 and 14.2.3, **ETS 300 444 [10], subclause 8.32.2.1, figure 66,** DEL. 2 Part 7.1 (see annex A), subclause 5.2.6. Initial state: F-00 Verify that the IUT is able to handle a PT initiated link establishment.

5.5.1.2 LC/BV/LR

Test group objective:

To check the IUT's valid behaviour of the connection oriented link release procedure.

Test purposes:

TP/FT/LC/BV/LR-01 New	Reference: ETS 300 175-5 [5], subclause 14.2.7, **ETS 300 444 [10], subclause 8.34.** Verify that the IUT is able to perform a normal PT initiated link release.
TP/FT/LC/BV/LR-02 New	Reference: ETS 300 175-5 [5], subclause 14.2.5, **ETS 300 444 [10], subclause 8.36.** Verify that the IUT is able to maintain the link for a specified time, before releasing it, after the termination of an MM procedure. No other entities are using the link
TP/FT/LC/BV/LR-03 New	Reference: ETS 300 175-5 [5], subclause 14.2.5, **ETS 300 444 [10], subclause 8.36.** Verify that the IUT is able to start the link release after the termination of a call.
TP/FT/LC/BV/LR-04 New	Reference: ETS 300 175-5 [5], subclause 14.2.5, **ETS 300 444 [10], subclause 8.36.** Verify that the IUT is able to maintain the link for a specified time, before releasing it, after a CC requested partial release has been agreed on, and no other entities are using the link

NOTE: In some cases a lower layer may be responsible for a link release

5.5.1.3 LC/BV/LS

Test subgroup objectives:

To check the IUT's valid behaviour of connection oriented link suspend and resume procedures.

Test purposes:

There are no test purposes defined for this group in this ETS.

5.5.1.4 LC/BV/CL

Test subgroup objectives:

To check the IUT's valid behaviour of connectionless link control procedures.

Test purposes:

There are no test purposes defined for this group in this ETS.

5.5.2 LC/BI

Test group objectives:

To check the LC entity of the IUT in response to invalid messages.

Test purposes:

TP/FT/LC/BI-01 N_2830	Reference: ETS 300 175-5 [5], subclause 17.1, **ETS 300 444 [10], subclause 6.9.4,** DEL. 2 Part 7.1 (see annex A), subclause 5.3.1. Initial state: F-00 Verify that the IUT ignores a message containing a protocol discriminator value that indicates a service that is not supported by the IUT.
TP/FT/LC/BI-03 N_2842	Reference: ETS 300 175-5 [5], subclause 17.3.2.1, **ETS 300 444 [10], subclause 6.9.4,** DEL. 2 Part 7.1 (see annex A), subclause 5.3.1. Initial state: F-02 Verify that the IUT on receipt of a {CC-INFO} message containing unrelated transaction identifier sends back a {CC-RELEASE-COM} message, using the same transaction identifier as in the {CC-INFO} message.
TP/FT/LC/BI-04 N_2870	Reference: ETS 300 175-5 [5], subclause 17.3.1, **ETS 300 444 [10], subclause 6.9.4,** DEL. 2 Part 7.1 (see annex A), subclause 5.3.2.1. Verify that the IUT ignores an {AUTH-REQUEST} message containing an illegal transaction identifier.
TP/FT/LC/BI-05 N_2877	Reference: ETS 300 175-5 [5], subclause 17.3.2.5 **ETS 300 444 [10], subclause 6.9.4** DEL. 2 Part 7.1 (see annex A), subclause 5.3.2.1 Verify that the IUT ignores an {IDENTITY-REPLY} message with a Transaction Identifier flag set illegally to "0", if the message was received during a FT-initiated identification of PT procedure.
TP/FT/LC/BI-06 New	Reference: ETS 300 175-5 [5], subclause 14.2.1 and 14.2.3, **ETS 300 444 [10], subclause 8.32.2.1, figure 66.** Initial state: F-00 Verify that the IUT will reject the link, if it receives an unrecognized message instead of the {LCE-PAGE-RESPONSE} message, after an indirect link establishment has been invoked.
TP/FT/LC/BI-07 New	Reference: ETS 300 175-5 [5], subclause 17.9, **ETS 300 444 [10], subclause 8.35.** Initial state: F-10 Verify that the IUT, when the link fails during an active call, clears the call.

5.5.3 LC/TI

This test subgroup is intended to verify that the IUT is reacting properly to an expiry of one of the timers or counters mismatch.

TP/FT/LC/TI-01 New	Reference: ETS 300 175-5 [5], subclause 14.2.7, **ETS 300 444 [10], subclause 8.34.1.1.** Verify that the IUT handles the expiry of timer <LCE.01>. correctly. **NOT TESTABLE**
TP/FT/LC/TI-02 N_663	Reference: ETS 300 175-5 [5], subclause 14.2.7, **ETS 300 444 [10], subclause 8.36.1.1,** ETS 300 323-1 [44], subclause 6.3.1.6. Initial state: F-00 Verify that the IUT, after termination of an MM procedure, maintains the link for a period of <LCE.02>. +- 5%.
TP/FT/LC/TI-03 New	Reference: ETS 300 175-5 [5], subclause 14.2.3, **ETS 300 444 [10], subclause 8.32.1.1.** Initial state: F-00 Verify that the IUT during indirect link establishment, re-transmits the {LCE_PAGE_REQUEST} message after a period of <LCE.03> +- 5%

5.6 IS

Subgroups:

- BV.

5.6.1 IS/BV

Test group objective:

To verify the behaviour of the IS entity of the IUT.

Test purposes:

TP/FT/IS/BV-01 N-816 N_2505	Reference: ETS 300 175-5 [5], subclause 10.3, ETS 300 323-1 [44], subclause 6.3.6.3, DEL. 2 Part 7.1 (see annex A), subclause 5.2.3. Initial state: F-00 To verify that the IUT sends back a <<Feature Indicate>>, upon reception of a set-up of a CISS procedure containing a <<Feature Activate>> information element.
TP/FT/IS/BV-02 N_817 N_2502, N_2503	Reference: ETS 300 175-5 [5], subclause 10.3, ETS 300 323-1 [44], subclause 6.3.6.3, DEL. 2 Part 7.1 (see annex A), subclause 5.2.3. Initial state: F-00 To verify that the IUT sends back a <<Facility>> information element, upon reception of a set-up of a CISS procedure containing a <<Facility>> information element.
TP/FT/IS/BV-03 N_817 N_2500, N_2501	Reference: ETS 300 175-5 [5], subclause 10.3, ETS 300 323-1 [44], subclause 6.3.6.3, DEL. 2 Part 7.1 (see annex A), subclause 5.2.3. Initial state: F-00 To verify that the IUT, after invocation, can set-up a CISS procedure <<Facility>> information element.

5.7 MO

There are no test purposes defined for this group in this ETS.

5.8 CL

Subgroups:

- BV.

5.8.1 CL/BV

Test group objectives:

To verify the behaviour of the CL entity of the IUT.

Test purposes:

TP/FT/CL/BV-01 N_850, N_2708,9	Reference: ETS 300 175-5 [5], subclause 12.3.1, ETS 300 323-1 [44], subclause 6.3.5.1, DEL. 2 Part 7.1 (see annex A), subclause 5.2.6. Initial state: F-00 To verify that the IUT, after invocation, is able to send a CLMS-FIXED message.
TP/FT/CL/BV-02 N_851, N_2700-5	Reference: ETS 300 175-5 [5], subclause 14.2.1 and 14.2.3, ETS 300 323-1 [44], subclause 6.3.5.2, DEL. 2 Part 7.1 (see annex A), subclause 5.2.5. Initial state: F-00 To verify that the IUT, after invocation, is able to send a CLMS-VARIABLE. message
TP/FT/CL/BV-03 N_852, N_2706,7	Reference: ETS 300 175-5 [5], subclause 14.2.1 and 14.2.3, ETS 300 323-1 [44], subclause 6.3.5.2, DEL. 2 Part 7.1 (see annex A), subclause 5.2.5. Initial state: F-00 To verify that the IUT is able to receive a CLMS-VARIABLE message .

Annex A (informative): Bibliography

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