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European Standard (Telecommunications series)

**Digital Enhanced Cordless Telecommunications (DECT);
Common Interface (CI) Test Case Library (TCL);
Part 1: Test Suite Structure and Test Purposes (TSS&TP) for
Medium Access Control (MAC) layer**



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Foreword

This European Standard (Telecommunications series) has been produced by ETSI Project Digital Enhanced Cordless Telecommunications (DECT), and is now submitted for the Public Enquiry phase of the ETSI standards Two-step Approval Procedure.

The present document is part 1 of a multi-part EN covering the Common Interface (CI) Test Case Library (TCL), as identified below:

- Part 1: "Test Suite Structure (TSS) and Test Purposes (TP) for Medium Access Control (MAC) layer";**
- Part 2: "Abstract Test Suite (ATS) for Medium Access Control (MAC) layer - Portable radio Termination (PT)";
- Part 3: "Abstract Test Suite (ATS) for Medium Access Control (MAC) layer - Fixed radio Termination (FT)";
- Part 4: "Test Suite Structure (TSS) and Test Purposes (TP) - Data Link Control (DLC) layer";
- Part 5: "Abstract Test Suite (ATS) - Data Link Control (DLC) layer";
- Part 6: "Test Suite Structure (TSS) and Test Purposes (TP) - Network (NWK) layer - Portable radio Termination (PT)";
- Part 7: "Abstract Test Suite (ATS) for Network (NWK) layer - Portable radio Termination (PT)";
- Part 8: "Test Suite Structure (TSS) and Test Purposes (TP) - Network (NWK) layer - Fixed radio Termination (FT)";
- Part 9: "Abstract Test Suite (ATS) for Network (NWK) layer - Fixed radio Termination (FT)".

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1 Scope

The present document contains the Test Suite Structure (TSS) and Test Purposes (TP) to test the Digital Enhanced Cordless Telecommunications (DECT) Medium Access Control (MAC) layer.

The objective of this test specification is to provide a basis for conformance tests for DECT equipment giving a high probability of air interface inter-operability between different manufacturer's DECT equipment.

The ISO standard for the methodology of conformance testing (ISO/IEC 9646-1 [10] and ISO/IEC 9646-2 [11]) as well as the ETSI rules for conformance testing (ETS 300 406 [9]) are used as a basis for the test methodology.

2 References

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

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

- [1] EN 300 175-1: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 1: Overview".
- [2] EN 300 175-2: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 2: Physical Layer (PHL)".
- [3] EN 300 175-3: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 3: Medium Access Control (MAC) layer".
- [4] EN 300 175-4: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 4: Data Link Control (DLC) layer".
- [5] EN 300 175-5: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 5: Network (NWK) layer".
- [6] EN 300 175-6: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 6: Identities and addressing".
- [7] EN 300 175-7: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 7: Security features".
- [8] EN 300 175-8: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 8: Speech coding and transmission".
- [9] ETS 300 406: "Methods for Testing and Specification (MTS); Protocol and profile conformance testing specifications; Standardization methodology".
- [10] ISO/IEC 9646-1: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 1: General concepts".
- [11] ISO/IEC 9646-2: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 2: Abstract Test Suite Specification".
- [12] ISO 7498: "Information Processing Systems - Open Systems Interconnection - Basic Reference model".

- [13] Directive 98/13/EC of the European Parliament and of the Council of 12 February 1998 relating to telecommunications terminal equipment and satellite earth station equipment, including the mutual recognition of their conformity.
- [14] TBR 6: "Digital Enhanced Cordless Telecommunications (DECT); General terminal attachment requirements".
- [15] TBR 10: "Digital Enhanced Cordless Telecommunications (DECT); General terminal attachment requirements; Telephony applications".
- [16] EN 300 824: "Digital Enhanced Cordless Telecommunications (DECT); Cordless Terminal Mobility (CTM); CTM Access Profile (CAP)".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in EN 300 175-1 [1] and the following apply:

Implementation Under Test (IUT): See ISO/IEC 9646-1 [10].

Physical Layer (PHL): See ISO 7498 [12].

Protocol Implementation Conformance Statement (PICS): See ISO/IEC 9646-1 [11].

PICS proforma: See ISO/IEC 9646-1 [10].

3.2 Abbreviations

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

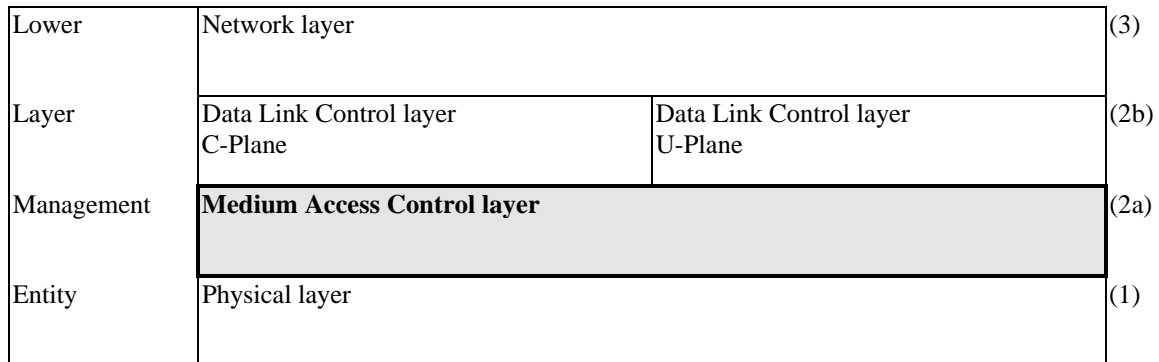
ARQ	Automatic Repeat Request
BI	Invalid Behaviour
BV	Valid Behaviour
C-Plane	Control plane
CA	Capability tests
C/O	Connection Oriented
CI	Common Interface
CSF	Cell Site Function
DECT	Digital Enhanced Cordless Telecommunications
DLC	Data Link Control
FP	Fixed Part
FT	Fixed radio Termination
I _N	higher layer Information channel (unprotected)
IUT	Implementation Under Test
LLME	Lower Layer Management Entity
MAC	Medium Access Control
N _T	identities channel
PDU	Protocol Data Unit
PHL	Physical Layer
PICS	Protocol Implementation Conformance Statement
PP	Portable Part
P _T	Paging channel
PT	Portable radio Termination
Q _T	system information channel
RF	Radio Frequency
RFP	Radio Fixed Part
TSS	Test Suite Structure

TP Test Purposes
U-Plane User Plane

4 Test suite structure

4.1 Overview

MAC layer is layer 2a of the DECT protocol stack.



C-Plane: Control Plane
U-Plane: User Plane

Figure 1: DECT protocol stack

MAC layer specifies three groups of services:

- the broadcast message control service;
- the connectionless message control service; and
- the multi-bearer control service.

The MAC layer also specifies the logical channels that are used by the above mentioned services, and how they are multiplexed and mapped into the service data units that are exchanged with the physical layer.

Figure 2 shows the MAC Test Suite Structure (TSS) including its subgroups defined for the conformance testing.

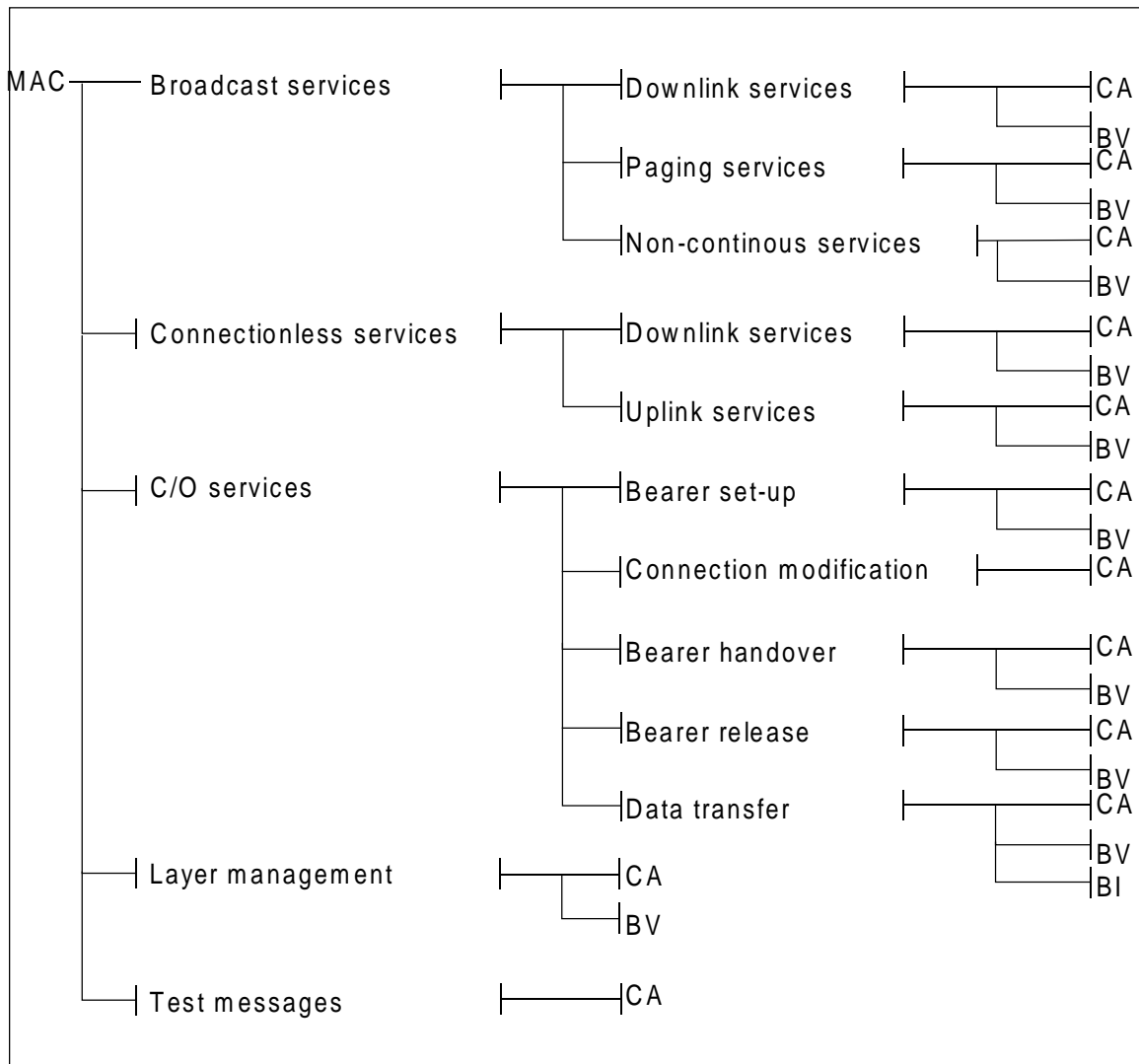


Figure 2: TSS for DECT MAC layer (layer 2a of DECT protocol stack)

4.2 Test suite structure (TSS)

The test suite is structured as a tree with a first level defined as MAC representing the protocol group "MAC for PP and FP".

4.3 Test groups

The test groups are organized in three levels. The first level creates five protocol groups representing the protocol services and the standard ISO main group BI. The second level, if the third level exists, separates the protocol services in functional modules. The last level in each branch contains the standard ISO subgroups CA, BV and BI.

4.3.1 Protocol groups

The protocol groups identifies the DECT MAC services: broadcast services, connectionless services, connection oriented services, layer management procedures, test messages procedures, as defined in EN 300 175, Parts 1 to 8 [1] to [8].

4.3.1.1 Broadcast services

The broadcast services protocol group is divided in three functional modules. The first functional module identifies the downlink broadcast services. The second functional module identifies the paging services. The last functional module identifies the non-continuous broadcast services.

4.3.1.2 Connectionless services

The connectionless services protocol group is divided in two functional modules. The first functional module identifies the downlink connectionless services. The last functional module identifies the uplink connectionless services.

4.3.1.3 Connection oriented services

The connection oriented services protocol group is divided in five functional modules. The first functional module distinguishes the bearer setup subgroup. The second functional module distinguishes the connection modification subgroup. The third functional module distinguishes the bearer handover subgroup. The fourth functional module distinguishes the bearer release subgroup. The last functional module distinguishes the data transfer subgroup.

4.3.1.4 Layer management procedures

The layer management procedures protocol group contains directly the main test groups.

4.3.1.5 Test messages procedures

The test messages procedures protocol group contains directly the main test group CA.

4.3.2 Main test groups

The main test groups are the capability group, the valid behaviour group and the invalid behaviour group.

4.3.2.1 Capability (CA) tests

This test sub group shall provide limited testing of the major IUT capabilities aiming to insure that the claimed capabilities are correctly supported, according to the PICS.

4.3.2.2 Valid Behaviour (BV) tests

This test sub group shall verify that the IUT reacts in conformity with the EN, after receipt or exchange of a valid Protocol Data Units (PDUs). Valid PDUs means that the exchange of messages and the content of the exchanged messages are considered as valid.

4.3.2.3 Invalid Behaviour (BI) tests

This test sub group shall verify that the IUT reacts in conformity with the EN, after receipt of a syntactically invalid PDU.

5 Test Purposes (TP)

5.1 Introduction

5.1.1 TP definition conventions

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

Table 1: TP definition rules

TP Id according to the TP naming conventions	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 TP naming conventions

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

Table 2: TP naming convention

Identifier:	TP/<fm>/<x>-<nn>		
	<fm> = functional module	DB	Downlink Broadcast
		PG	Paging services
		NB	Non Continuous Broadcast
		DC	Downlink Connectionless
		UC	Uplink Connectionless
		BS	Bearer setup
		CM	Connection modification
		BH	Bearer handover
		BR	Bearer release
		DT	Data transfer
		LM	Layer Management
		TM	Test Messages
	x = Type of testing	CA	Capability Tests
		BV	Valid Behaviour Tests
		BI	Invalid Behaviour Tests
	<nn> = sequential number	(00-99)	Test Purpose Number

5.1.3 Sources of TP definitions

All TPs are specified according to EN 300 175-3 [3].

5.2 Broadcast services

5.2.1 Downlink broadcast

Test subgroup objective:

- verify the correct implementation of the downlink broadcast services.

5.2.1.1 CA test purposes

Test subgroup objective:

- limited testing that the observable capabilities of the IUT concerning the downlink broadcast service are in accordance with the static conformance requirements.

Test purposes:

TP/DB/CA-00	EN 300 175-3 [3], subclause 6.2.2.1 For FT only. Initial state: Active_idle. Check that the IUT transmits constantly at least in frame 14 of each multiframe, the correct N_T message.
TP/DB/CA-01	EN 300 175-3 [3], subclause 6.2.2.1 to subclause 9.1.3.1 For FT only. Initial state: Active_idle. Check that the IUT transmits constantly at least once every T205 seconds in frame 0, the correct N_T message.
TP/DB/CA-02	EN 300 175-3 [3], subclause 6.2.2.1 to subclause 7.2.3 For FT only. Initial state: Active_idle. Check that the IUT transmits constantly one correct Q_T message in frame 8 of each multiframe.
TP/DB/CA-03	EN 300 175-3 [3], subclause 6.2.2.1 to subclause 7.2.3.2 For FT only. Initial state: Active_idle. Check that the IUT transmits constantly at least one static system information Q_T message in each interval of 8 multiframe and that all such messages are correct.
TP/DB/CA-04	EN 300 175-3 [3], subclause 6.2.2.1 to subclause 7.2.3.4 For FT only. Initial state: Active_idle. Check that the IUT transmits constantly at least one fixed part capabilities Q_T message in each interval of 8 multiframe and that all such messages are correct.
TP/DB/CA-05	EN 300 175-3 [3], subclause 6.2.2.1 to subclause 7.2.3 Only for FT supporting encryption. Initial state: Active_idle. Check that the IUT transmits constantly at least one multiframe number Q_T message in each interval of 8 multiframe and that all such messages are correct.
TP/DB/CA-06	EN 300 175-3 [3], subclause 6.2.2.1 to subclause 7.2.3.6 Only for FT supporting SARI. Initial state: Active_idle. Check that the IUT transmits constantly at least one SARI list content Q_T message in each interval of 4 multiframe and that all such messages are correct.
TP/DB/CA-07	EN 300 175-3 [3], subclause 6.2.2.1 to subclause 7.2.3.3 Only for FT supporting extended RF. Initial state: Active_idle. Check that the IUT transmits the correct "Extended RF carrier information" Q_T message in the multi-frame following the "Static system information" Q_T message with the Extended RF carrier bit set.
TP/DB/CA-50 CAP/FT/MAC/01 DECT/T (98) 17 p. 16	CAP feature M.1 EN 300 824 [16], subclause 11.3 Only for FT supporting TARI. Initial state: Active_idle. Check that the IUT indicates correctly TARI support and successfully performs the non-continuous broadcast procedure when asked for a TARI which it does support.

TP/DB/CA-51 CAP/FT/MAC/02 DECT/T (98) 17 p. 16	CAP feature M.2 EN 300 824 [16], subclause 11.4 Only for FT supporting RFP status. Initial state: Active_idle. Check that the IUT broadcasts the RFP status message at least once every 10 seconds.
TP/DB/CA-52 CAP/FT/MAC/03 DECT/T (98) 17 p. 16	CAP feature M.3 EN 300 824 [16], subclause 11.5 to subclause 14.8 Only for FT supporting extended fixed part capabilities. Initial state: Active_idle. Check that the IUT broadcasts the extended fixed part capabilities message at least once in every 8 multi frames.
TP/DB/CA-53 CAP/FT/MAC/03b DECT/T (98) 17 p. 16	CAP feature M.3 EN 300 824 [16], subclause 11.5 to subclause 14.8 Only for FTs that support Emergency call. Initial state: Active_idle. Check that the IUT broadcasts the extended fixed part capabilities message with bit a40 set to 1.

5.2.1.2 BV test purposes

Test subgroup objective:

- to tests the behaviour of the IUT in relation to syntactically and contextual correct behaviour of the test system.

Test purposes:

TP/DB/BV-00	EN 300 175-3 [3], subclause 11.3.2 For PT only. Initial state: Active_unlocked. Check that the IUT can receive constantly from FT system information Q _T message and identity N _T message and to enter idle locked state.
TP/DB/BV-01	EN 300 175-3 [3], subclause 7.2.3.3 For PT only. Initial state: Idle_locked. Check that the IUT is able to establish a bearer after reception of the extended RF carrier information Q _T message.
TP/DB/BV-02 Existing TCL test DECT/T (98) 17 p.12	GAP/CAP feature M.1 EN 300 175-3 [3], subclause 11.3.2 EN 300 175-6 [6], subclause 5.6 For PT only. Initial state: Active_unlocked. Check that the IUT enters the idle locked state after receiving the Q _T SARI list contents message containing ARI matching the IUT PARK (the LT PARI does not match the IUT PARK).
TP/DB/BV-03	EN 300 175-3 [3], subclause 6.2.2.1 to subclause 7.2.2; EN 300 175-6 [6], subclause 7.1 For FT only. Initial state: Inactive. Check that once a SARI is introduced into the FT, the E-bit within the N _T message is indicating SARI list available.
TP/DB/BV-50 CAP/PT/MAC/01 DECT/T (98) 17 p.11	CAP feature M.1 EN 300 175-6 [6], subclause 5 EN 300 824 [16], subclause 11.3 Only for PT supporting TARI. Initial state: Active_idle. Check that the IUT successfully performs the non-continuous broadcast procedure and locks to an FT which supports a TARI matching one of the IUT's PARKs (the FT PARI and SARI do not match any of the IUT's PARKs).
TP/DB/BV-51 CAP/PT/MAC/02 DECT/T (98) 17 p.11	CAP feature M.2 EN 300 824 [16], subclause 11.4 For PT only. Initial state: Active_idle. Check that the IUT does not attempt to send an access request to an RFP which is broadcasting "RFP busy" in the RFP status message after reception of this status message at the IUT. Verify that the IUT tries to access another RFP instead.

<p>TP/DB/BV-52 CAP/PT/MAC/03 DECT/T (98) 17 p.11</p>	<p>CAP feature M.2 EN 300 824 [16], subclause 11.4 For PT only. Initial state: Active_idle. Check that the IUT does not attempt to send an access request to an FP which is broadcasting "system busy" in the RFP status message after reception of this status message at the IUT.</p>
<p>TP/DB/BV-53 CAP/PT/MAC/05 DECT/T (98) 17 p.12</p>	<p>CAP feature N.2 EN 300 824 [16], subclause 9.2 to subclause 14.7 For PT only. Initial state: Active_unlocked The LT shall transmit the extended higher layer capabilities bit a40 set to 1 prior to IUT locking. Verify the IUT successfully completes the bearer setup procedure using the emergency PMID when making an emergency call.</p>
<p>TP/DB/BV-54 CAP/PT/MAC/06 DECT/T (98) 17 p.12</p>	<p>CAP feature M.1 EN 300 175-3 [3], subclause 11.3.2 EN 300 175-6 [6], subclause 5.6 For PT only. Initial state: Active_unlocked. Check that the IUT does not enter the idle locked state after receiving the Q_T SARI list contents message containing BLACK ARI equal to the IUT PARK (the LT PARI does not match the IUT PARK).</p>
<p>TP/DB/BV-55 CAP/PT/MAC/07 DECT/T (98) 17 p.12</p>	<p>CAP feature M.1 EN 300 175-3 [3], subclause 11.3.2 EN 300 175-6 [6], subclause 5.6 For PT only. Initial state: Active_unlocked. Check that the IUT does not enter the idle locked state after receiving the Q_T SARI list contents message containing BLACK ARI mask that includes the IUT PARK (the LT PARI does not match the IUT PARK).</p>

5.2.2 Paging services

Test subgroup objective:

- verify the correct implementation of the paging services.

5.2.2.1 CA test purposes

Test subgroup objective:

- limited testing that the observable capabilities of the IUT concerning the paging services are in accordance with the static conformance requirements.

Test purposes:

<p>TP/PG/CA-00</p>	<p>EN 300 175-3 [3], subclause 9.1.3 Always for PT and FT. Initial state: Idle_locked (PT) / Active_idle (FT). Check that the IUT can receive (PT part normal idle locked mode) or transmit (FT part normal paging mode) a short page message.</p>
<p>TP/PG/CA-01</p>	<p>EN 300 175-3 [3], subclause 9.1.3 For PT only. Initial state: Idle_locked. Check that the PT can receive a correct zero length page message. Only for FT that has blind slots or moving dummy bearer or does not support bearer handover within the whole FT. Initial state: Active_idle. Check that the FT can transmit a correct zero length page message.</p>

5.2.2.2 BV test purposes

Test subgroup objective:

- to tests the behaviour of the IUT in relation to syntactically and contextual correct behaviour of the test system.

Test purposes:

TP/PG/BV-00	EN 300 175-3 [3], subclause 9.1.3 Initial state: Idle_locked (PT) / Active_idle (FT). Check that the IUT manages correctly the paging Extended Flag when it transmits or receives paging messages.
TP/PG/BV-01	EN 300 175-3 [3], subclause 11.8 Only for FT that shall transmit blind slot information. Initial state: Active_idle. Check that the IUT periodically announces (at least every 10s) its blind slots.
TP/PG/BV-02	EN 300 175-3 [3], subclause 7.2.4.3 For PT only. Initial state: Idle_locked. Check that the PT does not setup a bearer on a slot announced to be blind, after reception of a P _T blind full slot information message.
TP/PG/BV-03	EN 300 175-3 [3], subclause 7.2.4.3 For PT only. Initial state: Idle_locked. Check that the PT stays locked to a FT, based on reception of other bearer and dummy or CL-bearer position zero length P _T messages.

5.2.3 Non-continuous broadcast services

5.2.3.1 CA test purposes

No TPs are defined for non-continuous broadcast services CA tests in the present document.

5.2.3.2 BV test purposes

No TPs are defined for non-continuous broadcast services BV tests in the present document.

5.3 Connectionless services

5.3.1 Downlink connectionless services

5.3.1.1 CA test purposes

No TPs are defined for downlink connectionless services CA tests in the present document.

5.3.1.2 BV test purposes

No TPs are defined for downlink connectionless services BV tests in the present document.

5.3.2 Uplink connectionless services

5.3.2.1 CA test purposes

No TPs are defined for uplink connectionless services CA tests in the present document.

5.3.2.2 BV test purposes

No TPs are defined for uplink connectionless services BV tests in the present document.

5.4 Connection oriented services

5.4.1 Bearer setup

Test subgroup objective:

- verify the correct implementation of connection oriented bearer setup procedures.

5.4.1.1 CA test purposes

Test subgroup objective:

- limited testing that the observable capabilities of the IUT concerning the connection oriented bearer setup procedures are in accordance with the static conformance requirements.

Test purposes:

TP/BS/CA-00	EN 300 175-3 [3], subclause 10.5.1.1 For PT only. Initial state: Idle_locked. Check that the IUT manages rightly the PT initiated (single) basic bearer setup procedure without wait messages. For FT only. Initial state: Active_idle. Check that the IUT manages rightly the PT initiated (single) basic bearer setup procedure.
TP/BS/CA-01	EN 300 175-3 [3], subclause 10.5.1.1 For PT only. Initial state: Idle_locked. Check that the IUT manages rightly the PT initiated (single) basic bearer setup procedure with wait messages.
TP/BS/CA-50 CAP/FT/MAC/04 DECT/T (98) 17 p.16	CAP feature M.3 EN 300 824 [16], subclause 11.5 to subclause 14.8 Only for FT supporting extended fixed part capabilities. Initial state: Active_idle. Verify the IUT is capable of performing a bearer setup for emergency call using the emergency PMID.

5.4.1.2 BV test purposes

Test subgroup objective:

- to test the behaviour of the IUT in relation to syntactically and contextual correct behaviour of the test system.

Test purposes:

TP/BS/BV-00	EN 300 175-3 [3], subclause 10.5.1.1 to subclause 11.5.1 Initial state: Active_locked (PT) / Active_traffic or Active_traffic_and_idle (FT). Check that the IUT releases a duplex bearer in case the timer T201 expires during the time a basic bearer exists.
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5.4.2 Connection modification

5.4.2A CA test purposes

No TPs are defined for connection modification CA tests in the present document.

5.4.3 Bearer handover

Test subgroup objective:

- verify the correct implementation of connection oriented bearer handover procedures.

5.4.3.1 CA test purposes

Test subgroup objective:

- limited testing that the observable capabilities of the IUT concerning the connection oriented bearer handover procedures are in accordance with the static conformance requirements.

Test purposes:

TP/BH/CA-00	EN 300 175-3 [3], subclause 10.6 For PT only. Initial state: Active_locked. Check that the IUT, for a duplex bearer, correctly initiates and completes an intracell bearer handover procedure using basic set-up. Only for FT supporting intracell bearer handover. Initial state: Active_traffic or Active_traffic_and_idle. Check that the IUT responds rightly to a PT initiated intracell bearer handover procedure.
TP/BH/CA-01	EN 300 175-3 [3], subclause 10.6 For PT only. Initial state: Active_locked. Check that the IUT, for a duplex bearer, correctly initiates and completes an intercell bearer handover procedure using basic set-up. Only for FT supporting intercell bearer handover. Initial state: Active_traffic or Active_traffic_and_idle. Check that the IUT responds rightly to a PT initiated intercell bearer handover procedure.

5.4.3.2 BV test purposes

No TPs are defined for bearer handover BV tests in the present document.

5.4.4 Bearer release

Test subgroup objective:

- verify the correct implementation of connection oriented bearer release procedures.

5.4.4.1 CA test purposes

Test subgroup objective:

- limited testing that the observable capabilities of the IUT concerning the connection oriented bearer release procedures are in accordance with the static conformance requirements.

Test purposes:

TP/BR/CA-00	EN 300 175-3 [3], subclause 10.7.2.1 Initial state: Active_locked (PT) / Active_traffic or Active_traffic_and_idle (FT). Check that the IUT manages rightly a release of a basic duplex bearer with an unacknowledged release procedure when receiving a release message.
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5.4.4.2 BV test purposes

No TPs are defined for bearer release BV tests in the present document.

5.4.5 Data transfer

Test subgroup objective:

- verify the correct implementation of connection oriented data transfer procedures.

5.4.5.1 CA test purposes

Test subgroup objective:

- limited testing that the observable capabilities of the IUT concerning the connection oriented data transfer procedures are in accordance with the static conformance requirements.

Test purposes:

TP/DT/CA-00	EN 300 175-3 [3], subclause 10.8.1.1 Initial state: Active_locked (PT) / Active_traffic or Active_traffic_and_idle (FT). Check that the IUT re-transmits C_s segment until it receives an acknowledgement in the same Automatic Repeat Request (ARQ) window.
TP/DT/CA-01	EN 300 175-3 [3], subclause 10.8.1.1 Initial state: Active_locked (PT) / Active_traffic or Active_traffic_and_idle (FT). Check that the IUT does not transmit another C_s segment until the successful transmission of the current segment.
TP/DT/CA-02	EN 300 175-3 [3], subclause 10.8.1.1 Initial state: Active_locked (PT) / Active_traffic or Active_traffic_and_idle (FT). Check that the IUT manages correctly the one bit numbering of the C_s segments.

5.4.5.2 BV test purposes

No TPs are defined for data transfer BV tests in the present document.

5.4.5.3 BI test purposes

Test subgroup objective:

- to check the behaviour of the of the IUT in response to invalid messages.

Test purposes:

TP/DT/BI-00	EN 300 175-3 [3], subclause 10.8.1.3 Initial state: Active_locked (PT) / Active_traffic or Active_traffic_and_idle (FT). Check that the IUT, when receiving I_N minimum delay data, is capable to detect A-field R-CRC error and to respond with the correct Q2 bit setting ($Q2 = 0$).
TP/DT/BI-01	EN 300 175-3 [3], subclause 10.8.1.3 For FT only. Initial state: Active_traffic or Active_traffic_and_idle. Check that the IUT sets the Q1 and Q2 bits correctly when it receives data with Z-field error during I_N minimum delay transfer.

5.5 Layer management procedures

Test subgroup objective:

- verify the correct implementation of the LLME MAC layer management procedures.

5.5.1 CA test purposes

Test subgroup objective:

- limited testing that the observable capabilities of the IUT concerning the LLME MAC layer management procedures are in accordance with the static conformance requirements.

Test purposes:

TP/LM/CA-00	EN 300 175-3 [3], subclause 10.2 For PT only. Initial state: Idle_locked (PT). Check that the IUT manages rightly the protocol constant N200.
TP/LM/CA-01	EN 300 175-3 [3], subclause 10.2 For PT only. Initial state: Idle_locked (PT). Check that the IUT manages rightly the protocol timer T200.
TP/LM/CA-02	EN 300 175-3 [3], subclause 11.3 and subclauses For PT only. Initial state: Idle_locked. Check that the IUT manages rightly the protocol timer T207.
TP/LM/CA-03	EN 300 175-3 [3], subclause 11.3 For PT only. Initial state: Idle_locked. Check that the IUT manages rightly the protocol timer T208.
TP/LM/CA-04	EN 300 175-3 [3], subclause 10.6.2 For PT only. Initial state: Active_locked. Check that the IUT makes at most N201 bearer setup re-attempts for bearer handover of one particular bearer and within a time window of T202 seconds.
TP/LM/CA-05	EN 300 175-3 [3], subclause 10.6.2 For FT only. Initial state: Active_traffic or Active_traffic_and_idle. Check that the IUT, after the establishment of a new bearer during bearer handover, releases one of the two bearers within a time interval of T203 seconds.

5.5.2 BV test purposes

No TPs are defined for layer management procedures BV tests in the present document.

5.6 Test messages procedures

5.6A CA test purposes

No TPs are defined for test messages procedures CA tests in the present document.

Bibliography

The following material, though not specifically referenced in the body of the present document, gives supporting information.

- TBR 22 including Amendment 2: "Digital Enhanced Cordless Telecommunications (DECT); Attachment requirements for terminal equipment for DECT Generic Access Profile (GAP) applications".
- EWOS/ETSI Project Team No 5: "Project Report and Technical Report. OSI Conformance Testing Methodology and Procedures in Europe".
- ETR 022: "Advanced Testing Methods (ATM); Vocabulary of terms used in communications protocols conformance testing".
- ETR 141: "Methods for Testing and Specification (MTS); Protocol and profile conformance testing specifications; The Tree and Tabular Combined Notation (TTCN) style guide".
- CEPT Recommendation T/SGT SF2 (89) 6/0: "Draft Recommendation T/SF Services and Facilities of Digital Enhanced Cordless Telecommunications".
- ETR 015: "Digital Enhanced Cordless Telecommunications (DECT); Reference document".
- ETR 041: "Transmission and Multiplexing (TM); Digital Enhanced Cordless Telecommunications (DECT); Transmission aspects 3,1 kHz telephony Interworking with other networks".
- ETR 042: "Digital European Cordless Telecommunications (DECT); A Guide to DECT features that influence the traffic capacity and the maintenance of high radio link transmission quality, including the results of simulations".
- ETR 043: "Digital European Cordless Telecommunications (DECT); Common interface (CI); Services and facilities requirements specification".
- ETR 056: "Digital European Cordless Telecommunications (DECT); System description document".

History

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