



SLOVENSKI STANDARD
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Radio Equipment and Systems (RES); Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI) Test Case Library (TCL); Part 4: Test Suite Structure (TSS) and Test Purposes (TP) - Data Link Control (DLC) layer

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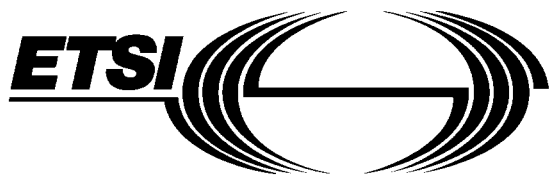
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Common Interface (CI) Test Case Library (TCL);
Part 4: Test Suite Structure (TSS) and Test Purposes (TP) -
Data Link Control (DLC) layer**

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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 adoption of this ETS:	16 August 1996
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1 Scope

This European Telecommunication Standard (ETS) contains the Test Suite Structure and Test Purposes (TSS & TP) to test the DECT DLC layer.

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.

The ISO standard for the methodology of conformance testing (ISO/IEC 9646-1 [7] and ISO/IEC 9646-2 [8]) as well as the ETSI rules for conformance testing (ETS 300 406 [10]) are used as the basis for the test methodology.

Test specifications for the Physical Layer (PHL), Medium Access Control (MAC) layer, and Network (NWK) layer are provided in other the 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 and abbreviations

Refer to ETS 300 175-1 [1] for the main listing of definitions, symbols and abbreviations.

3.1 DECT definitions

For the purposes of this ETS, the following DECT definitions apply:

bearer handover: The internal handover process provided by the Medium Access Control (MAC) layer, whereby one MAC connection can modify its underlying bearers while maintaining the service provided to the Data Link Control (DLC) layer.

NOTE 1: Bearer handover is slot based.

C-plane: The Control plane of the DECT protocol stacks, which contains all the internal DECT protocol control, but may also include some external user information.

NOTE 2: The C-plane stack always contains protocol entities up to and including the network layer.

cluster: A logical grouping of one or more cells between which bearer handover is possible. A cluster control function controls one cluster.

NOTE 3: Internal handover to a cell which is not part of the same cluster can only be done by connection handover.

connection handover: The internal handover process provided by the DLC layer, whereby one set of DLC entities (C-plane and U-plane) can reroute data from one MAC connection to a second new MAC connection, while maintaining the service provided to the network layer.

NOTE 4: Connection handover is DLC frame based.

ConnectionLess mode (C/L): A transmission mode that transfers one packet (one self contained unit) of data from one source point to one (or more) destination points in a single phase.

NOTE 5: Connectionless transmissions require the peer-to-peer associations to be pre-arranged, and the transmission is unacknowledged at that layer.

Connection Oriented mode (C/O): A transmission mode that transfers data from one source point to one or more destination points using a protocol based on three phases: "set-up", "data transfer" and "release".

NOTE 6: Connection oriented mode requires no prearranged associations between peer entities (unlike C/L mode).

DLC broadcast: A simplex "connectionless" mode of transmission from the DLC broadcast entity (Lb) of one fixed radio termination to the DLC broadcast entities (Lbs) in one or more portable radio terminations.

NOTE 7: The transmitter may disregard the presence or absence of receivers.

DLC data link (DLC link): An association between two DLC layer entities. This can either be one C-plane association or one U-plane association.

NOTE 8: This is not the same as a MAC connection.

DLC Frame: The format used to structure all messages that are exchanged between DLC layer peer entities.

NOTE 9: Different DLC frames are used in the C-plane and the U-plane, and there is more than one format of DLC frame in each plane.

Fixed radio Termination (FT): A logical group of functions that contains all the DECT processes and procedures on the fixed side of the DECT air interface.

NOTE 10: A fixed radio termination only includes elements that are defined in the ETS 300 175. This includes radio transmission elements (layer 1) together with a selection of layer 2 and layer 3 elements.

flow control: The mechanism that is used to regulate the flow of data between two peer entities.

fragment: One of the service data units that is produced by the process of fragmentation.

NOTE 11: This is not the same as a segment.

fragmentation: The process of dividing a protocol data unit into more than one service data unit for delivery to a lower layer. The reverse process is recombination.

NOTE 12: This is not the same as segmentation.

Lower Layer Management Entity (LLME): A management entity that spans a number of lower layers, and is used to describe all control activities which do not follow the rules of layering.

NOTE 13: The DECT LLME spans the network layer, the DLC layer, the MAC layer and the physical layer.