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Digitalne izboljšane brezvrvične telekomunikacije (DECT) - Skupni vmesnik (CI) - 2. del: Fizična plast (PHL)

Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 2: Physical Layer (PHL)

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Foreword

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

This ETS forms part 2 of a series of 9 laying down the arrangements for the Digital Enhanced Cordless Telecommunications (DECT) Common Interface (CI).

Part 1: "Overview".

Part 2 "Physical layer (PHL)".

Part 3 "Medium Access Control (MAC) layer".

Part 4 "Data Link Control (DLC) layer".

Part 5: "Network (NWK) layer".

Part 6: "Identities and addressing".

Part 7: "Security features".

Part 8: "Speech coding and transmission".

Part 9: "Public Access Profile (PAP)".

Annexes A, C and D to this ETS are normative. Annex B and E to this ETS are informative.

Further details of the DECT system may be found in ETR 015, ETR 043, and ETR 056.

Transposition dates	
Date of adoption of this ETS:	6 September 1996
Date of latest announcement of this ETS (doa):	31 December 1996
Date of latest publication of new National Standard or endorsement of this ETS (dop/e):	30 June 1997
Date of withdrawal of any conflicting National Standard (dow):	30 June 1997

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1 Scope

This second edition European Telecommunication Standard (ETS) gives an introduction and overview of the complete Digital Enhanced Cordless Telecommunications (DECT) Common Interface (CI).

This part of the DECT CI specifies the physical channel arrangements. DECT physical channels are radio communication paths between two radio end points. A radio end point is either part of the fixed infrastructure or a Portable Part (PP), typically a handset. The assignment of one or more particular physical channels to a call is the task of higher layers.

The Physical Layer (PHL) interfaces with the Medium Access Control (MAC) layer, and with the Lower Layer Management Entity (LLME). On the other side of the PHL is the radio transmission medium which has to be shared extensively with other DECT users and a wide variety of other radio services. The tasks of the PHL can be grouped into five categories:

a) to modulate and demodulate radio carriers with a bit stream of a defined rate to create a radio frequency channel;

b) to acquire and maintain bit and slot synchronization between transmitters and receivers;

c) to transmit or receive a defined number of bits at a requested time and on a particular frequency;

d) to add and remove the synchronization field and the Z-field used for rear end collision detection;

e) to observe the radio environment to report signal strengths.

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 (1996): "Radio Equipment and Systems (RES); Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 1: Overview".

[2] ETS 300 175-3 (1996): "Radio Equipment and Systems (RES); Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 3: Medium Access Control (MAC) layer".

[3] ETS 300 175-4 (1996): "Radio Equipment and Systems (RES); Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 4: Data Link Control (DLC) layer".

[4] ETS 300 175-5 (1996): "Radio Equipment and Systems (RES); Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 5: Network (NWK) layer".

[5] ETS 300 175-6 (1996): "Radio Equipment and Systems (RES); Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 6: Identities and addressing".

[6] ETS 300 175-7 (1996): "Radio Equipment and Systems (RES); Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 7: Security features".

[7] ETS 300 175-8 (1996): "Radio Equipment and Systems (RES); Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 8: Speech coding and transmission".

[8] ETS 300 175-9 (1996): "Radio Equipment and Systems (RES); Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 9: Public Access Profile (PAP)".

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

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

3 Definitions and abbreviations

3.1 Definitions

For the purposes of this ETS the following definitions apply:

antenna diversity: See ETS 300 175-1 [1].

cell: See ETS 300 175-1 [1].

Central Control Fixed Part (CCFP): See ETS 300 175-1 [1].

channel: See ETS 300 175-1 [1].

cluster: See ETS 300 175-1 [1].

Connection Oriented mode (C/O): See ETS 300 175-1 [1].

Cordless Radio Fixed Part (CRFP): See ETS 300 175-1 [1].

coverage area: See ETS 300 175-1 [1].

Dect Network (DNW): See ETS 300 175-1 [1].

double duplex bearer: See ETS 300 175-1 [1].

double simplex bearer: See ETS 300 175-1 [1].

double slot: One 12th of a TDMA frame which is used to support one high capacity physical channel.

down-link: See ETS 300 175-1 [1].

duplex bearer: See ETS 300 175-1 [1].

Fixed Part (DECT Fixed Part) (FP): See ETS 300 175-1 [1].

Fixed Radio Termination (FT): See ETS 300 175-1 [1].

frame: See ETS 300 175-1 [1].

full slot (slot): See ETS 300 175-1 [1].

guard space: See ETS 300 175-1 [1].

half slot: See ETS 300 175-1 [1].

handover: See ETS 300 175-1 [1].

intercell handover: See ETS 300 175-1 [1].

intracell handover: See ETS 300 175-1 [1].

Lower Layer Management Entity (LLME): See ETS 300 175-1 [1].

multiframe: See ETS 300 175-1 [1].

physical channel (channel): See ETS 300 175-1 [1].

Portable Part (DECT Portable Part) (PP): See ETS 300 175-1 [1].

Portable radio Termination (PT): See ETS 300 175-1 [1].

public access service: See ETS 300 175-1 [1].

radio channel: No defined meaning. See RF channel or physical channel.

radio end point: See ETS 300 175-1 [1].

Radio Fixed Part (RFP): See ETS 300 175-1 [1].

Repeater Part (REP): See ETS 300 175-1 [1].

RF carrier (carrier): See ETS 300 175-1 [1].

RF channel: See ETS 300 175-1 [1].

simplex bearer: See ETS 300 175-1 [1].

Single Radio Fixed Part (SRFP): See ETS 300 175-1 [1].

TDMA frame: See ETS 300 175-1 [1].

Wireless Relay Station (WRS): See ETS 300 175-1 [1].

3.2 Abbreviations

For the purposes of this ETS the following abbreviations apply:

ACP	Adjacent Channel Power
ACK	Acknowledgement
CCFP	Central Control Fixed Part
CI	Common Interface (standard)
CRFP	Cordless Radio Fixed Part
dBc	dB relative to the peak power of an unmodulated carrier
dBm	dB relative to 1 milliwatt
DECT	Digital Enhanced Cordless Telecommunications
DLC	Data Link Control layer
EIRP	Effective Isotropic Radiated Power
ERP	Effective Radiated Power
FP	Fixed Part
FT	Fixed radio Termination
GFSK	Gaussian Frequency Shift Keying
GMSK	Gaussian Minimum Shift Keying
LLME	Lower Layer Management Entity
MAC	Medium Access Control layer
PHL	Physical Layer
PHS	Portable HandSet
PP	Portable Part
ppm	parts per million
PT	Portable radio Termination
REP	Repeater Part
RF	Radio Frequency
RFP	Radio Fixed Part
RSSI	Radio Signal Strength Indicator