



**Digital Enhanced Cordless Telecommunications (DECT);
Harmonised Standard for access to radio spectrum;
Part 1: DECT, DECT Evolution and DECT ULE**

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Reference

REN/DECT-00411

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ETSI

650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

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Foreword

This final draft Harmonised European Standard (EN) has been produced by ETSI Technical Committee Digital Enhanced Cordless Telecommunications (DECT), and is now submitted for the Vote phase of the ETSI Standardisation Request deliverable Approval Procedure (SRdAP).

The present document has been prepared under the Commission's standardisation request C(2015) 5376 final [i.9] to provide one voluntary means of conforming to the essential requirements of Directive 2014/53/EU on the harmonisation of the laws of the Member States relating to the making available on the market of radio equipment and repealing Directive 1999/5/EC [i.10].

Once the present document is cited in the Official Journal of the European Union under that Directive, compliance with the normative clauses of the present document given in table A.1 confers, within the limits of the scope of the present document, a presumption of conformity with the corresponding essential requirements of that Directive and associated EFTA regulations.

The present document is part 1 of a multi-part deliverable covering the access to radio spectrum of the different DECT radio interfaces:

Part 1: "DECT, DECT Evolution and DECT ULE";

Part 2: "DECT-2020 NR".

The present document covers DECT, DECT Evolution and DECT ULE as defined by the multi-part deliverable ETSI EN 300 175 (see [1] to [4] and [i.3] to [i.6]) and by the multi-part deliverable ETSI TS 102 939 (see [i.7] and [i.8]).

National transposition dates	
Date of latest announcement of this EN (doa):	3 months after ETSI publication
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	6 months after doa
Date of withdrawal of any conflicting National Standard (dow):	18 months after doa

Modal verbs terminology

In the present document "**shall**", "**shall not**", "**should**", "**should not**", "**may**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the [ETSI Drafting Rules](#) (Verbal forms for the expression of provisions).

"**must**" and "**must not**" are **NOT** allowed in ETSI deliverables except when used in direct citation.

Sample Document

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1 Scope

The present document specifies technical characteristics and methods of measurements for equipment implementing the Digital Enhanced Cordless Telecommunications (DECT) common interface, as specified in the multi-part technical specification ETSI EN 300 175 including the variants DECT Evolution and DECT ULE (see ETSI EN 300 175-1 [i.3] for an overview).

The present document applies to the following equipment types:

- a) Fixed Part (FP);
- b) Portable Part (PP);
- c) Cordless Terminal Adapter (CTA);
- d) Wireless Relay Station (WRS) (FP and PP combined);
- e) Hybrid Part (HyP) (a PP with capability to act as a FP to provide PP to PP communication).

NOTE: This release of the standard covers the WRS type CRFP, but not the WRS type REP.

These radio equipment types are capable of operating in all or any part of the frequency bands given in table 1.

Table 1: Radiocommunications service frequency bands

	Radiocommunications service frequency bands
Transmit	1 880 MHz to 1 900 MHz
Receive	1 880 MHz to 1 900 MHz

The DECT service frequency band for transmitting and receiving for all elements is 1 880 MHz to 1 900 MHz. National regulation can allow additional frequency bands.

DECT equipment covered by the present document is operated in accordance with ERC Decision (98)22 [i.20].

Details of the DECT Common Interface may be found in the multi-part deliverable ETSI EN 300 175 (see [1] to [4] and [i.3] to [i.6]). Further details of the DECT system may be found in the ETSI TR 101 178 [i.1].

DECT ULE implements, in addition to the DECT Common Interface, the multi-part ETSI TS 102 939 (see ETSI TS 102 939-1 [i.7] and ETSI TS 102 939-2 [i.8]).

The present document contains requirements to demonstrate that radio equipment both effectively uses and supports the efficient use of radio spectrum in order to avoid harmful interference.

NOTE: The relationship between the present document and essential requirements of article 3.2 of Directive 2014/53/EU [i.10] is given in annex A.

2 References

2.1 Normative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

Referenced documents which are not found to be publicly available in the expected location might be found in the [ETSI docbox](#).

NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long-term validity.

The following referenced documents are necessary for the application of the present document.

- [1] [ETSI EN 300 175-2 \(V2.9.1\) \(03-2022\)](#): "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 2: Physical layer (PHL)".
- [2] [ETSI EN 300 175-3 \(V2.9.1\) \(03-2022\)](#): "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 3: Medium Access Control (MAC) Layer".
- [3] [ETSI EN 300 175-5 \(V2.9.1\) \(03-2022\)](#): "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 5: Network (NWK) layer".
- [4] [ETSI EN 300 175-6 \(V2.9.1\) \(03-2022\)](#): "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 6: Identities and addressing".
- [5] [ETSI EN 300 700 \(V2.2.1\) \(12-2018\)](#): "Digital Enhanced Cordless Telecommunications (DECT); Wireless Relay Station (WRS)".
- [6] [Recommendation ITU-T O.153 \(1992\)](#): "Basic parameters for the measurement of error performance at bit rates below the primary rate".

2.2 Informative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long-term validity.

The following referenced documents may be useful in implementing an ETSI deliverable or add to the reader's understanding, but are not required for conformance to the present document.

- [i.1] ETSI TR 101 178 (V1.5.1): "Digital Enhanced Cordless Telecommunications (DECT); A High Level Guide to the DECT Standardization".
- [i.2] ISO/IEC 9646-1: "Information technology -- Open Systems Interconnection -- Conformance testing methodology and framework -- Part 1: General concepts".
- [i.3] ETSI EN 300 175-1 (V2.9.1): "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 1: Overview".
- [i.4] ETSI EN 300 175-4 (V2.9.1): "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 4: Data Link Control (DLC) Layer".
- [i.5] ETSI EN 300 175-7 (V2.9.1): "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 7: Security features".
- [i.6] ETSI EN 300 175-8 (V2.9.1): "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 8: Speech and audio coding and transmission".
- [i.7] ETSI TS 102 939-1 (V1.3.1): "Digital Enhanced Cordless Telecommunications (DECT); Ultra Low Energy (ULE); Machine to Machine Communications; Part 1: Home Automation Network (phase 1)".
- [i.8] ETSI TS 102 939-2 (V1.4.1): "Digital Enhanced Cordless Telecommunications (DECT); Ultra Low Energy (ULE); Machine to Machine Communications; Part 2: Home Automation Network (phase 2)".
- [i.9] [Commission Implementing Decision C\(2015\) 5376](#) final of 4.8.2015 on a standardisation request to the European Committee for Electrotechnical Standardisation and to the European Telecommunications Standards Institute as regards radio equipment in support of Directive 2014/53/EU of the European Parliament and of the Council.

- [i.10] [Directive 2014/53/EU](#) of the European Parliament and of the Council of 16 April 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of radio equipment and repealing Directive 1999/5/EC.
- [i.11] ETSI EN 300 176-1 (V2.4.1): "Digital Enhanced Cordless Telecommunications (DECT); Test Specification; Part 1: Radio".
- [i.12] ISO/IEC 9646-7: "Information technology — Open Systems Interconnection — Conformance testing methodology and framework — Part 7: Implementation Conformance Statements".
- [i.13] ETSI EG 203 336: "Guide for the selection of technical parameters for the production of Harmonised Standards covering article 3.1(b) and article 3.2 of Directive 2014/53/EU".
- [i.14] Void.
- [i.15] ETSI TR 100 028-1 (V1.4.1) (12-2001): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics; Part 1".
- [i.16] ETSI TR 100 028-2 (V1.4.1) (12-2001): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics; Part 2".
- [i.17] ETSI TR 102 273-2 (V1.2.1) (12-2001): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Improvement on Radiated Methods of Measurement (using test site) and evaluation of the corresponding measurement uncertainties; Part 2: Anechoic chamber".
- [i.18] ETSI TR 102 273-3 (V1.2.1) (12-2001): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Improvement on Radiated Methods of Measurement (using test site) and evaluation of the corresponding measurement uncertainties; Part 3: Anechoic chamber with a ground plane".
- [i.19] ETSI TR 102 273-4 (V1.2.1) (12-2001): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Improvement on Radiated Methods of Measurement (using test site) and evaluation of the corresponding measurement uncertainties; Part 4: Open area test site".
- [i.20] [ERC/DEC\(98\)22](#): "Exemption from individual licensing and free circulation and use of DECT equipment", Edition March 2024.

3 Definition of terms, symbols and abbreviations

3.1 Terms

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

antenna diversity: feature that implies that the Radio Fixed Part (RFP) is able to select for each bearer independently different antenna properties such as gain, polarization, coverage patterns, and other features that may affect the practical coverage

NOTE: A typical example is space diversity, provided by two vertically polarized antennas separated by 10 cm to 20 cm.

bearer handover: 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: Bearer handover is slot based.

cell: domain served by a single antenna system (including a leaky feeder) of one FP

NOTE: A cell may include more than one source of radiated Radio Frequency energy (i.e. more than one Radio End Point).