



**SLOVENSKI STANDARD**  
**oSIST prEN 301 406-1 V2.3.0:2022**  
**01-oktober-2022**

---

**Digitalne izboljšane brezvrvične telekomunikacije (DECT) - Harmonizirani standard za dostop do radijskega spektra - 1. del: DECT, razvoj DECT in DECT ULE**

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

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

<https://standards.iteh.ai/catalog/standards/sist/301-406-1-v2-3-0-2022>

**Ta slovenski standard je istoveten z: ETSI EN 301 406-1 V2.3.0 (2022-07)**

---

**ICS:**

33.070.30	Digitalne izboljšane brezvrvične telekomunikacije (DECT)	Digital Enhanced Cordless Telecommunications (DECT)
-----------	--	---

**oSIST prEN 301 406-1 V2.3.0:2022**      **en**



Draft **ETSI EN 301 406-1** V2.3.0 (2022-07)



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

[oSIST prEN 301 406-1 V2.3.0:2022](https://standards.iteh.ai/catalog/standards/sist/d8664bde-d492-4860-aac9-1efa613d5daa/osist-pren-301-406-1-v2-3-0-2022)

<https://standards.iteh.ai/catalog/standards/sist/d8664bde-d492-4860-aac9-1efa613d5daa/osist-pren-301-406-1-v2-3-0-2022>

---

**Reference**

REN/DECT-00359-1

---

**Keywords**

DECT, digital, generic, radio, regulation, testing

**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

Siret N° 348 623 562 00017 - APE 7112B  
Association à but non lucratif enregistrée à la  
Sous-Préfecture de Grasse (06) N° w061004871

---

**Important notice**

The present document can be downloaded from:

<http://www.etsi.org/standards-search>

The present document may be made available in electronic versions and/or in print. The content of any electronic and/or print versions of the present document shall not be modified without the prior written authorization of ETSI. In case of any existing or perceived difference in contents between such versions and/or in print, the prevailing version of an ETSI deliverable is the one made publicly available in PDF format at [www.etsi.org/deliver](http://www.etsi.org/deliver).

Users of the present document should be aware that the document may be subject to revision or change of status.

Information on the current status of this and other ETSI documents is available at

<https://portal.etsi.org/TB/ETSIDeliverableStatus.aspx>

If you find errors in the present document, please send your comment to one of the following services:

<https://standards.etsi.org/People/CommitteeSupportStaff.aspx>

If you find a security vulnerability in the present document, please report it through our  
Coordinated Vulnerability Disclosure Program:

<https://www.etsi.org/standards/coordinated-vulnerability-disclosure>

---

**Notice of disclaimer & limitation of liability**

The information provided in the present deliverable is directed solely to professionals who have the appropriate degree of experience to understand and interpret its content in accordance with generally accepted engineering or other professional standard and applicable regulations.

No recommendation as to products and services or vendors is made or should be implied.

In no event shall ETSI be held liable for loss of profits or any other incidental or consequential damages.

Any software contained in this deliverable is provided "AS IS" with no warranties, express or implied, including but not limited to, the warranties of merchantability, fitness for a particular purpose and non-infringement of intellectual property rights and ETSI shall not be held liable in any event for any damages whatsoever (including, without limitation, damages for loss of profits, business interruption, loss of information, or any other pecuniary loss) arising out of or related to the use of or inability to use the software.

---

**Copyright Notification**

No part may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm except as authorized by written permission of ETSI.

The content of the PDF version shall not be modified without the written authorization of ETSI.

The copyright and the foregoing restriction extend to reproduction in all media.

© ETSI 2022.

All rights reserved.

# Contents

Intellectual Property Rights .....	10
Foreword.....	10
Modal verbs terminology.....	11
1 Scope .....	12
2 References .....	12
2.1 Normative references .....	12
2.2 Informative references.....	13
3 Definition of terms, symbols and abbreviations.....	14
3.1 Terms.....	14
3.2 Symbols.....	17
3.3 Abbreviations .....	17
4 Technical requirements specifications .....	18
4.1 Environmental profile.....	18
4.2 Overview .....	18
4.2.0 General.....	18
4.2.1 Test suites .....	18
4.2.2 Test groups.....	18
4.2.3 Test cases.....	19
4.3 Product information for testing .....	19
4.3.1 Information on capabilities and options implemented .....	19
4.3.2 Additional information on implementation for testing .....	20
4.4 Applicability of tests .....	20
4.4.0 Introduction.....	20
4.4.1 Equipment that includes only a DECT RF receiver.....	20
4.4.2 Equipment that includes a radio transmitter .....	20
4.4.3 CTAs.....	20
4.4.4 Equipment with combined FT and PT functionality.....	20
4.4.4.0 General .....	20
4.4.4.1 Wireless Relay Station .....	21
4.4.4.2 Direct PP to PP communication .....	21
4.4.4.3 Distributed Communications.....	21
4.4.5 Equipment that is capable of using higher level modulation .....	21
4.4.6 Equipment supporting additional carriers .....	21
4.5 Conformance requirements .....	21
4.5.1 Accuracy and stability of RF carriers .....	21
4.5.1.1 Definition .....	21
4.5.1.2 Limits .....	22
4.5.1.3 Conformance.....	22
4.5.2 Accuracy and stability of timing parameters .....	22
4.5.2.0 General .....	22
4.5.2.1 Definitions.....	22
4.5.2.1.1 Slot structure.....	22
4.5.2.1.2 Definition of the position of p0 .....	23
4.5.2.2 Limits .....	23
4.5.2.2.1 Reference timer accuracy and stability.....	23
4.5.2.2.2 RFP transmission jitter .....	23
4.5.2.2.3 PP reference timer synchronization .....	23
4.5.2.3 Conformance.....	24
4.5.3 Transmission burst.....	24
4.5.3.1 Definitions.....	24
4.5.3.1.0 Introduction .....	24
4.5.3.1.1 Physical packets.....	24
4.5.3.1.2 Transmitted power.....	24

4.5.3.1.3	Normal Transmitted Power (NTP) .....	24
4.5.3.1.4	Transmitter attack time .....	24
4.5.3.1.5	Transmitter release time .....	25
4.5.3.1.6	Minimum power .....	25
4.5.3.1.7	Maximum power .....	25
4.5.3.1.8	Maintenance of transmission after packet end.....	25
4.5.3.1.9	Transmitter idle power output .....	25
4.5.3.2	Limits .....	25
4.5.3.2.1	Transmitter attack time.....	25
4.5.3.2.2	Transmitter release time .....	25
4.5.3.2.3	Minimum power .....	25
4.5.3.2.4	Maximum power .....	25
4.5.3.2.5	Maintenance of transmission after packet end.....	25
4.5.3.2.6	Transmitter idle power output .....	26
4.5.3.3	Conformance.....	26
4.5.4	Transmitted power .....	26
4.5.4.1	Definitions.....	26
4.5.4.1.0	Transceiver and $P_{NTP}$ definitions.....	26
4.5.4.1.1	PP and RFP with an integral antenna .....	26
4.5.4.1.2	PP and RFP with external connections for all antennas .....	26
4.5.4.1.3	PP and RFP with both integral and external antennas .....	26
4.5.4.2	Limits .....	27
4.5.4.3	Conformance.....	27
4.5.4.4	Multi-transceiver systems .....	27
4.5.5	RF carrier modulation.....	27
4.5.5.1	Definition .....	27
4.5.5.2	Limits .....	27
4.5.5.3	Conformance.....	28
4.5.6	Unwanted RF power radiation .....	28
4.5.6.1	General .....	28
4.5.6.2	Emissions due to modulation .....	28
4.5.6.2.1	Definition.....	28
4.5.6.2.2	Limits .....	28
4.5.6.2.3	Conformance .....	28
4.5.6.3	Emissions due to transmitter transients.....	28
4.5.6.3.1	Definition.....	28
4.5.6.3.2	Limits .....	28
4.5.6.3.3	Conformance .....	29
4.5.6.4	Emissions due to intermodulation .....	29
4.5.6.4.1	Definition.....	29
4.5.6.4.2	Limits .....	29
4.5.6.4.3	Conformance .....	29
4.5.6.5	Spurious emissions when allocated a transmit channel.....	29
4.5.6.5.1	Definition.....	29
4.5.6.5.2	Limits .....	29
4.5.6.5.3	Conformance .....	30
4.5.7	Radio receiver testing .....	30
4.5.7.0	General .....	30
4.5.7.1	Radio receiver sensitivity .....	30
4.5.7.1.1	Definition.....	30
4.5.7.1.2	Limits .....	30
4.5.7.1.3	Conformance .....	30
4.5.7.2	Radio receiver reference BER and FER.....	30
4.5.7.2.1	Definition.....	30
4.5.7.2.2	Limits .....	31
4.5.7.2.3	Conformance .....	31
4.5.7.3	Radio receiver interference performance .....	31
4.5.7.3.1	Definition.....	31
4.5.7.3.2	Limits .....	31
4.5.7.3.3	Conformance .....	31

4.5.7.4	Radio receiver blocking case 1: owing to signals occurring at the same time but on other frequencies .....	31
4.5.7.4.1	Definition.....	31
4.5.7.4.2	Limits .....	31
4.5.7.4.3	Conformance .....	32
4.5.7.5	Radio receiver blocking case 2: owing to signals occurring at a different time .....	32
4.5.7.5.1	Definition.....	32
4.5.7.5.2	Limits .....	32
4.5.7.5.3	Conformance .....	32
4.5.7.6	Receiver intermodulation performance .....	32
4.5.7.6.1	Definition.....	32
4.5.7.6.2	Limits .....	32
4.5.7.6.3	Conformance .....	32
4.5.7.7	Spurious emissions when the PP has no allocated transmit channel .....	32
4.5.7.7.1	Definition.....	32
4.5.7.7.2	Limits .....	33
4.5.7.7.3	Conformance .....	33
4.5.8	Channel access .....	33
4.5.8.1	Channel selection .....	33
4.5.8.2	Channel confirmation.....	33
4.5.8.2.1	For the PT.....	33
4.5.8.2.2	For the FT.....	33
4.5.8.3	Channel release .....	34
4.5.8.4	General .....	34
4.5.8.5	Channel selection and confirmation for DECT ULE .....	34
4.5.8.5.1	General .....	34
4.5.8.5.2	For the PT.....	34
4.5.8.5.3	For the FT.....	35
4.5.9	WRS testing .....	35
4.5.9.0	General requirements .....	35
4.5.9.1	Testing as a PP .....	35
4.5.9.2	Testing as an RFP .....	35
4.5.9.3	Additional requirements .....	36
4.5.9.4	Conformance .....	39
4.5.10	Requirements for PPs with direct PP to PP communication mode .....	39
4.5.10.1	General requirements .....	39
4.5.10.2	Conformance .....	39
4.5.11	Direct Communication.....	39
4.5.11.0	General requirements .....	39
4.5.11.1	Testing as a PP .....	40
4.5.11.2	Testing as an RFP .....	40
4.5.11.3	Conformance.....	40
4.5.12	Higher level modulation options.....	40
4.5.12.0	Requirements .....	40
4.5.12.1	Conformance.....	41
5	Testing for compliance with technical requirements.....	41
5.1	General test requirements .....	41
5.1.1	Test philosophy.....	41
5.1.2	Test site.....	43
5.1.2.1	Open air test site.....	43
5.1.2.1.1	Description .....	43
5.1.2.1.2	Calibration.....	43
5.1.2.2	Anechoic chamber.....	44
5.1.2.2.1	General .....	44
5.1.2.2.2	Description .....	44
5.1.2.2.3	Influence of parasitic reflections .....	47
5.1.2.2.4	Calibration and mode of use.....	47
5.1.2.3	Stripline coupler.....	47
5.1.2.3.0	General .....	47
5.1.2.3.1	Description .....	47
5.1.2.3.2	Calibration .....	47

5.1.2.3.3	Mode of use .....	47
5.1.3	Standard position .....	48
5.1.4	Test antenna of the LT .....	48
5.1.5	Substitution antenna .....	48
5.1.6	Test fixture .....	48
5.1.6.1	Description .....	48
5.1.6.2	Calibration of the test fixture for the measurement of transmitter characteristics .....	49
5.1.6.3	Calibration of the test fixture for the measurement of receiver characteristics .....	49
5.1.6.4	Mode of use .....	50
5.1.7	Equipment with a temporary or internal permanent antenna connector .....	50
5.1.7.1	General .....	50
5.1.7.2	Equipment with a temporary antenna connector .....	50
5.1.8	Indoor test site .....	51
5.1.8.0	General .....	51
5.1.8.1	Description .....	51
5.1.8.2	Test for parasitic reflections .....	51
5.1.8.3	Calibration and mode of use .....	52
5.1.9	Lower Tester (LT) .....	52
5.1.9.1	Description .....	52
5.1.9.2	Connections between the EUT and the LT .....	53
5.1.9.3	Functions and abilities .....	53
5.1.9.4	Signal generation uncertainty .....	54
5.1.9.5	Modulated DECT-like carrier .....	54
5.1.9.6	CW interferers .....	54
5.1.9.7	DECT RF signal .....	54
5.1.9.8	Test modulation signals .....	54
5.1.10	Upper Tester (UT) .....	54
5.1.10.1	Description of the UT .....	54
5.1.10.2	The Test Standby Mode (TSM) .....	55
5.1.10.3	Test messages .....	55
5.1.10.4	Dummy setting when EUT is an RFP and is in Test Standby Mode (TSM) .....	55
5.1.11	Description of the lower tester FT and PT .....	56
5.1.12	General test methods .....	56
5.1.12.1	General .....	56
5.1.12.2	Sampling the RF signal .....	56
5.1.12.2.1	Introduction .....	56
5.1.12.2.2	Sampling method .....	56
5.1.12.3	Determining the reference position .....	56
5.1.12.3.0	General .....	56
5.1.12.3.1	Case 1: EUTs that cannot transmit .....	56
5.1.12.3.2	Case 2: EUTs that can transmit .....	56
5.1.12.4	Bit Error Ratio (BER) and Frame Error Ratio (FER) measurements .....	57
5.1.13	Test setup .....	57
5.1.13.1	General .....	57
5.1.13.2	Test setup 1 .....	57
5.1.13.3	Test setup 2 .....	57
5.1.13.4	Test setup 3 .....	58
5.1.13.5	Test setup 4 .....	58
5.1.14	Test arrangements for intermodulation measurements .....	59
5.1.14.1	PT to PT arrangement .....	59
5.1.14.2	FT to FT arrangement .....	59
5.1.14.3	FT to PT arrangement .....	60
5.1.15	Test conditions, power supply and ambient temperatures .....	60
5.1.15.1	General .....	60
5.1.15.2	Nominal test conditions .....	60
5.1.15.3	Extreme test conditions .....	61
5.1.15.4	Test power source - general requirements .....	62
5.1.15.5	Nominal test power source .....	62
5.1.15.5.1	Mains voltage .....	62
5.1.15.5.2	Regulated lead acid battery power sources .....	62
5.1.15.5.3	Nickel cadmium or nickel metal hydride battery .....	62
5.1.15.5.4	Other power sources .....	62



5.1.15.6	Extreme test power source .....	62
5.1.15.6.1	Mains voltage .....	62
5.1.15.6.2	Regulated lead acid battery power sources .....	62
5.1.15.6.3	Nickel cadmium or nickel metal hydride battery .....	62
5.1.15.6.4	Other power sources .....	63
5.2	Interpretation of the measurement results .....	63
5.3	Radio test suites .....	63
5.3.1	Accuracy and stability of RF carriers .....	63
5.3.1.1	Test environment .....	63
5.3.1.2	Method of measurement .....	63
5.3.1.3	Verdict criteria when the EUT is a RFP .....	64
5.3.1.4	Verdict criteria when the EUT is a PP .....	64
5.3.2	Accuracy and stability of timing parameters .....	64
5.3.2.1	Measurement of packet timing jitter .....	64
5.3.2.1.1	Test environment .....	64
5.3.2.1.2	Method of measurement .....	64
5.3.2.1.3	Verdict criteria .....	65
5.3.2.2	Measurement of the reference timing accuracy of a RFP .....	65
5.3.2.2.1	Test environment .....	65
5.3.2.2.2	Method of measurement .....	65
5.3.2.2.3	Verdict criteria .....	65
5.3.2.3	Measurement of packet transmission accuracy of a PP .....	66
5.3.2.3.1	Test environment .....	66
5.3.2.3.2	Method of measurement .....	66
5.3.2.3.3	Verdict criteria .....	67
5.3.3	Transmission burst .....	67
5.3.3.1	Test environment .....	67
5.3.3.2	Method of measurement .....	67
5.3.3.3	Verdict criteria .....	67
5.3.4	Transmitted power .....	68
5.3.4.1	PP and RFP with an integral antenna .....	68
5.3.4.1.1	Test environment .....	68
5.3.4.1.2	Method of measurement .....	68
5.3.4.1.3	Verdict criteria for all EUTs .....	69
5.3.4.2	PP and RFP with external antenna connection(s) .....	69
5.3.4.2.1	Test environment .....	69
5.3.4.2.2	Method of measurement .....	70
5.3.4.2.3	Verdict criteria for all EUTs .....	70
5.3.5	RF carrier modulation .....	70
5.3.5.1	Test environment .....	70
5.3.5.2	Method of measurement, parts 1 and 2 .....	70
5.3.5.2.1	Introduction .....	70
5.3.5.2.2	Part 1 .....	71
5.3.5.2.3	Part 2 .....	71
5.3.5.3	Method of measurement, parts 3 and 4 .....	71
5.3.5.3.0	General .....	71
5.3.5.3.1	Part 3 .....	72
5.3.5.3.2	Part 4 .....	72
5.3.5.4	Verdict criteria for part 1 .....	72
5.3.5.5	Verdict criteria for part 2 .....	72
5.3.5.6	Verdict criteria for part 3 .....	72
5.3.5.7	Verdict criteria for part 4 .....	73
5.3.6	Unwanted RF power radiation .....	74
5.3.6.1	General test conditions .....	74
5.3.6.2	Emissions due to modulation .....	74
5.3.6.2.1	Test environment .....	74
5.3.6.2.2	Method of measurement .....	74
5.3.6.2.3	Verdict criteria .....	75
5.3.6.3	Emissions due to transmitter transients .....	75
5.3.6.3.1	Test environment .....	75
5.3.6.3.2	Method of measurement .....	76
5.3.6.3.3	Verdict criteria .....	76

5.3.6.4	Emissions due to intermodulation .....	76
5.3.6.4.1	Test environment .....	76
5.3.6.4.2	Method of measurement .....	77
5.3.6.4.3	Verdict criteria .....	77
5.3.6.5	Spurious emissions when allocated a transmit channel .....	78
5.3.6.5.1	Radiated emissions .....	78
5.3.6.5.2	Conducted spurious emissions when the EUT has a permanent external antenna connector .....	79
5.3.7	Radio receiver testing .....	79
5.3.7.0	General .....	79
5.3.7.1	Radio receiver sensitivity .....	79
5.3.7.1.1	Test environment .....	79
5.3.7.1.2	Method of measurement .....	79
5.3.7.1.3	Verdict criteria .....	80
5.3.7.2	Radio receiver reference BER and FER .....	80
5.3.7.2.1	Test environment .....	80
5.3.7.2.2	Method of measurement .....	80
5.3.7.2.3	Verdict criteria .....	80
5.3.7.3	Radio receiver interference performance .....	80
5.3.7.3.1	Test environment .....	80
5.3.7.3.2	Method of measurement .....	80
5.3.7.3.3	Verdict criteria .....	81
5.3.7.4	Radio receiver blocking case 1: owing to signals occurring at the same time but on other frequencies .....	81
5.3.7.4.1	Test environment .....	81
5.3.7.4.2	Method of measurement .....	81
5.3.7.4.3	Verdict criteria .....	82
5.3.7.5	Radio receiver blocking case 2: owing to signals occurring at a different time .....	83
5.3.7.5.1	Test environment .....	83
5.3.7.5.2	Method of measurement .....	83
5.3.7.5.3	Verdict criteria .....	83
5.3.7.6	Receiver intermodulation performance .....	83
5.3.7.6.1	Test environment .....	83
5.3.7.6.2	Method of measurement .....	84
5.3.7.6.3	Verdict criteria .....	84
5.3.7.7	Spurious emissions when the PP has no allocated transmit channel .....	84
5.3.7.7.1	Test environment .....	84
5.3.7.7.2	Method of measurement .....	84
5.3.7.7.3	Verdict criteria (outside the DECT band) .....	85
5.3.7.7.4	Verdict criteria (inside the DECT band) .....	85
5.3.8	Channel access .....	85
5.3.8.1	Test Environment .....	85
5.3.8.2	FT Test Setup .....	85
5.3.8.2.1	General .....	85
5.3.8.2.2	FT Method of Measurement .....	86
5.3.8.2.3	FT Verdict Criteria .....	86
5.3.8.3	PT Test Setup .....	86
5.3.8.3.1	General .....	86
5.3.8.3.2	PT Method of Measurement .....	87
5.3.8.3.3	PT Verdict Criteria .....	87
5.3.8.4	Channel Release .....	87
5.3.8.4.1	General .....	87
5.3.8.4.2	Method of Measurement .....	88
5.3.8.4.3	Channel Release Verdict Criteria .....	88
5.3.9	WRS testing .....	88
5.3.9.0	General .....	88
5.3.9.1	Testing as a PP .....	89
5.3.9.2	Testing as an RFP .....	89
5.3.9.3	Additional requirements .....	89
5.3.10	Requirements for PPs with direct PP to PP communication mode .....	90
5.3.10.0	General .....	90
5.3.11	Distributed Communications .....	90
5.3.11.0	General .....	90

5.3.11.1	Testing as a PP .....	90
5.3.11.2	Testing as an RFP .....	90
5.3.11.3	Conformance.....	91
5.3.12	Higher level modulation options.....	91
5.3.12.1	General .....	91
5.3.12.2	Activation of higher level modulations when EUT is in Test Standby Mode.....	91
<b>Annex A (informative):</b>	<b>Relationship between the present document and the essential requirements of Directive 2014/53/EU .....</b>	<b>92</b>
<b>Annex B (informative):</b>	<b>Procedures for test fixture calibration and for measurement of radiated spurious emissions .....</b>	<b>94</b>
B.1	Calibration of test fixture for receiver measurements .....	94
B.1.0	Procedure.....	94
B.1.1	Method of measurement .....	94
B.2	Radiated measurements.....	95
B.2.1	General .....	95
B.2.2	Radiated spurious emissions.....	96
B.2.2.1	Definition.....	96
B.2.2.2	Method of measurement .....	96
B.2.3	Cabinet radiation .....	98
B.2.3.1	Definition.....	98
B.2.3.2	Method of measurement .....	98
<b>Annex C (informative):</b>	<b>Procedure for measurement of conducted spurious emissions .....</b>	<b>99</b>
C.1	Conducted spurious emissions .....	99
C.1.1	Definition .....	99
C.1.2	Method of measurement .....	99
<b>Annex D (normative):</b>	<b>Measurement of BER and FER.....</b>	<b>101</b>
<b>Annex E (informative):</b>	<b>Procedures for the measurement of synchronization loss at the EUT by the LT .....</b>	<b>102</b>
E.1	Description .....	102
E.2	Method .....	102
<b>Annex F (informative):</b>	<b>Maximum measurement uncertainty.....</b>	<b>103</b>
<b>Annex G (informative):</b>	<b>Additional receiver parameters identified under article 3.2 of Directive 2014/53/EU .....</b>	<b>104</b>
<b>Annex H (informative):</b>	<b>Bibliography.....</b>	<b>105</b>
<b>Annex I (informative):</b>	<b>Change History .....</b>	<b>106</b>
History .....		107

---

# Intellectual Property Rights

## Essential patents

IPRs essential or potentially essential to normative deliverables may have been declared to ETSI. The declarations pertaining to these essential IPRs, if any, are publicly available for **ETSI members and non-members**, and can be found in ETSI SR 000 314: "*Intellectual Property Rights (IPRs); Essential, or potentially Essential, IPRs notified to ETSI in respect of ETSI standards*", which is available from the ETSI Secretariat. Latest updates are available on the ETSI Web server (<https://ipr.etsi.org/>).

Pursuant to the ETSI Directives including the ETSI IPR Policy, no investigation regarding the essentiality of IPRs, including IPR searches, has been carried out by ETSI. No guarantee can be given as to the existence of other IPRs not referenced in ETSI SR 000 314 (or the updates on the ETSI Web server) which are, or may be, or may become, essential to the present document.

## Trademarks

The present document may include trademarks and/or tradenames which are asserted and/or registered by their owners. ETSI claims no ownership of these except for any which are indicated as being the property of ETSI, and conveys no right to use or reproduce any trademark and/or tradename. Mention of those trademarks in the present document does not constitute an endorsement by ETSI of products, services or organizations associated with those trademarks.

**DECT™**, **PLUGTESTS™**, **UMTS™** and the ETSI logo are trademarks of ETSI registered for the benefit of its Members. **3GPP™** and **LTE™** are trademarks of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners. **oneM2M™** logo is a trademark of ETSI registered for the benefit of its Members and of the oneM2M Partners. **GSM®** and the GSM logo are trademarks registered and owned by the GSM Association.

---

# Foreword

This draft Harmonised European Standard (EN) has been produced by ETSI Technical Committee Digital Enhanced Cordless Telecommunications (DECT), and is now submitted for the combined Public Enquiry and Vote phase of the ETSI standards EN Approval Procedure.

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 ETSI TS 102 939 (see [i.7] and [i.8]).

<b>Proposed national transposition dates</b>	
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.

**iTeh STANDARD PREVIEW**  
(standards.iteh.ai)

[oSIST prEN 301 406-1 V2.3.0:2022](#)

<https://standards.iteh.ai/catalog/standards/sist/d8664bde-d492-4860-aac9-1efa613d5daa/osist-pren-301-406-1-v2-3-0-2022>

# 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 by 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).

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.

Details of the DECT Common Interface may be found in ETSI EN 300 175-1 [i.3], ETSI EN 300 175 parts 2 [1] to 3 [2], ETSI EN 300 175-4 [i.4], ETSI EN 300 175 parts 5 [3] to 6 [4], and ETSI EN 300 175 parts 7 [i.5] to 8 [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 at <https://docbox.etsi.org/Reference/>.

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 are NOT necessary for the application of the present document but they assist the user with regard to a particular subject area.

- [i.1] ETSI TR 101 178: "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". <http://www.iso.org/iso/9646-1.html>
- [i.3] ETSI EN 300 175-1: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 1: Overview".
- [i.4] ETSI EN 300 175-4: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 4: Data Link Control (DLC) Layer".
- [i.5] ETSI EN 300 175-7: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 7: Security features".
- [i.6] ETSI EN 300 175-8: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 8: Speech and audio coding and transmission".
- [i.7] ETSI TS 102 939-1: "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: "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: "Digital Enhanced Cordless Telecommunications (DECT); Test Specification; Part 1: Radio".