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**IMT cellular networks;
Harmonised Standard for access to radio spectrum;
Part 10: Base Stations (BS), Repeaters and User Equipment
(UE) for IMT-2000 Third-Generation cellular networks**

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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.....	19
4.2.3 Test cases	19
4.3 Manufacturer's declaration	19
4.4 Applicability of test suites	20
4.4.1 Introduction.....	20
4.4.2 Equipment that includes only a DECT RF receiver	20
4.4.3 Equipment that includes a radio transmitter	20
4.4.4 CTAs.....	20
4.4.5 Equipment with combined FT and PT functionality.....	20
4.4.5.1 Introduction.....	20
4.4.5.2 Wireless Relay Station	20
4.4.5.3 Direct PP to PP communication	20
4.4.5.4 Distributed communications	21
4.4.6 Equipment that is capable of using higher level modulation	21
4.5 Conformance requirements	21
4.5.1 General.....	21
4.5.2 Accuracy and stability of RF carriers	21
4.5.2.1 Definition of nominal position of RF carriers	21
4.5.2.2 Limits	21
4.5.2.3 Conformance.....	22
4.5.3 Accuracy and stability of timing parameters	22
4.5.3.0 General	22
4.5.3.1 Definitions.....	22
4.5.3.1.1 Slot structure.....	22
4.5.3.1.2 Definition of the position of p0	22
4.5.3.2 Limits	22
4.5.3.2.1 Reference timer accuracy and stability	22
4.5.3.2.2 RFP transmission jitter	22
4.5.3.2.3 PP reference timer synchronization.....	23
4.5.3.3 Conformance.....	23
4.5.4 Transmission burst.....	23
4.5.4.1 Definitions.....	23
4.5.4.1.1 Introduction	23
4.5.4.1.2 Physical packets.....	23
4.5.4.1.3 Transmitted power.....	24
4.5.4.1.4 Normal Transmitted Power (NTP)	24
4.5.4.1.5 Transmitter attack time.....	24
4.5.4.1.6 Transmitter release time	24

4.5.4.1.7	Minimum power	24
4.5.4.1.8	Maximum power	24
4.5.4.1.9	Maintenance of transmission after packet end.....	24
4.5.4.1.10	Transmitter idle power output	24
4.5.4.2	Limits	24
4.5.4.2.1	Transmitter attack time.....	24
4.5.4.2.2	Transmitter release time	24
4.5.4.2.3	Minimum power	24
4.5.4.2.4	Maximum power	24
4.5.4.2.5	Maintenance of transmission after packet end.....	25
4.5.4.2.6	Transmitter idle power output	25
4.5.4.3	Conformance.....	25
4.5.5	Transmitted power	25
4.5.5.1	Definitions.....	25
4.5.5.1.1	PP and RFP with an integral antenna	25
4.5.5.1.2	PP and RFP with external connections for all antennas	25
4.5.5.1.3	PP and RFP with both integral and external antennas	25
4.5.5.2	Limits	25
4.5.5.3	Conformance.....	25
4.5.6	RF carrier modulation.....	26
4.5.6.1	Definition	26
4.5.6.2	Limits	26
4.5.6.3	Conformance.....	26
4.5.7	Unwanted RF power radiation	26
4.5.7.1	General	26
4.5.7.2	Emissions due to modulation	26
4.5.7.2.1	Definition.....	26
4.5.7.2.2	Limits	27
4.5.7.2.3	Conformance	27
4.5.7.3	Emissions due to transmitter transients.....	27
4.5.7.3.1	Definition.....	27
4.5.7.3.2	Limits	27
4.5.7.3.3	Conformance	27
4.5.7.4	Emissions due to intermodulation.....	27
4.5.7.4.1	Definition.....	27
4.5.7.4.2	Limits	28
4.5.7.4.3	Conformance	28
4.5.7.5	Spurious emissions when allocated a transmit channel.....	28
4.5.7.5.1	Definition.....	28
4.5.7.5.2	Limits	28
4.5.7.5.3	Conformance	28
4.5.8	Radio receiver testing	28
4.5.8.0	General	28
4.5.8.1	Radio receiver sensitivity	29
4.5.8.1.1	Definition.....	29
4.5.8.1.2	Limits	29
4.5.8.1.3	Conformance	29
4.5.8.2	Radio receiver reference BER and FER.....	29
4.5.8.2.1	Definition.....	29
4.5.8.2.2	Limits	29
4.5.8.2.3	Conformance	29
4.5.8.3	Radio receiver interference performance	29
4.5.8.3.1	Definition.....	29
4.5.8.3.2	Limits	29
4.5.8.3.3	Conformance	30
4.5.8.4	Radio receiver blocking case 1: owing to signals occurring at the same time but on other frequencies	30
4.5.8.4.1	Definition.....	30
4.5.8.4.2	Limits	30
4.5.8.4.3	Conformance	30
4.5.8.5	Radio receiver blocking case 2: owing to signals occurring at a different time.....	31
4.5.8.5.1	Definition.....	31

4.5.8.5.2	Limits	31
4.5.8.5.3	Conformance	31
4.5.8.6	Receiver intermodulation performance	31
4.5.8.6.1	Definition.....	31
4.5.8.6.2	Limits	31
4.5.8.6.3	Conformance	31
4.5.8.7	Spurious emissions when the PP has no allocated transmit channel	31
4.5.8.7.1	Definition.....	31
4.5.8.7.2	Limits	31
4.5.8.7.3	Conformance	32
4.5.9	Channel access.....	32
4.5.9.1	Channel selection	32
4.5.9.2	Channel confirmation.....	32
4.5.9.2.1	For the PT.....	32
4.5.9.2.2	For the FT.....	32
4.5.9.3	Channel release	33
4.5.9.4	General.....	33
4.5.9.5	Channel selection and confirmation for DECT ULE	33
4.5.9.5.1	General	33
4.5.9.5.2	For the PT.....	33
4.5.9.5.3	For the FT.....	33
4.5.10	WRS testing.....	34
4.5.10.1	General requirements	34
4.5.10.2	Testing as a PP	34
4.5.10.3	Testing as an RFP	34
4.5.10.4	Additional requirements.....	35
4.5.10.5	Conformance.....	38
4.5.11	Requirements for PPs with direct PP to PP communication mode	38
4.5.11.1	General requirements	38
4.5.11.2	Conformance.....	38
4.5.12	Distributed communications	38
4.5.12.1	General requirements	38
4.5.12.2	Testing as a PP	39
4.5.12.3	Testing as an RFP	39
4.5.12.4	Conformance.....	39
4.5.13	Higher level modulation options.....	39
4.5.13.1	Requirements	39
4.5.13.2	Conformance.....	40
5	Testing for compliance with technical requirements.....	40
5.1	General test requirements	40
5.1.1	Test philosophy.....	40
5.1.2	Standard position	41
5.1.3	Test antenna of the LT	42
5.1.4	Substitution antenna.....	42
5.1.5	Test fixture.....	42
5.1.5.1	Description	42
5.1.5.2	Calibration of the test fixture for the measurement of transmitter characteristics.....	43
5.1.5.3	Calibration of the test fixture for the measurement of receiver characteristics	43
5.1.5.4	Mode of use.....	44
5.1.6	Equipment with a temporary or internal permanent antenna connector.....	44
5.1.6.1	General	44
5.1.6.2	Equipment with a temporary antenna connector.....	44
5.1.7	Lower Tester (LT)	44
5.1.7.1	Description	44
5.1.7.2	Connections between the EUT and the LT	45
5.1.7.3	Functions and abilities.....	45
5.1.7.4	Signal generation uncertainty.....	46
5.1.7.5	Modulated DECT-like carrier	46
5.1.7.6	CW interferers.....	46
5.1.7.7	DECT RF signal.....	46
5.1.7.8	Test modulation signals.....	46

5.1.8	Upper Tester (UT)	47
5.1.8.1	Description of the UT.....	47
5.1.8.2	The test standby mode.....	47
5.1.8.3	Test messages.....	47
5.1.8.4	Dummy setting when EUT is a RFP and it is in Test Standby Mode (TSM).....	48
5.1.9	Description of the Lower Tester FT and PT	48
5.1.10	General test methods.....	48
5.1.10.1	General	48
5.1.10.2	Sampling the RF signal	48
5.1.10.2.1	Introduction	48
5.1.10.2.2	Sampling method.....	48
5.1.10.3	Determining the reference position	48
5.1.10.3.0	General	48
5.1.10.3.1	Case 1: EUTs that cannot transmit	48
5.1.10.3.2	Case 2: EUTs that can transmit	49
5.1.10.4	Bit Error Ratio (BER) and Frame Error Ratio (FER) measurements.....	49
5.1.11	Test setup	49
5.1.11.1	General	49
5.1.11.2	Test setup 1	49
5.1.11.3	Test setup 2	49
5.1.11.4	Test setup 3	50
5.1.11.5	Test setup 4	50
5.1.12	Test arrangements for intermodulation measurements	51
5.1.12.1	PT to PT arrangement	51
5.1.12.2	FT to FT arrangement	52
5.1.12.3	FT to PT arrangement	52
5.1.13	Test conditions, power supply and ambient temperatures	52
5.1.13.1	General	52
5.1.13.2	Nominal test conditions.....	53
5.1.13.3	Extreme test conditions	53
5.1.13.4	Test power source - general requirements.....	54
5.1.13.5	Nominal test power source.....	54
5.1.13.5.1	Mains voltage.....	54
5.1.13.5.2	Regulated lead acid battery power sources.....	55
5.1.13.5.3	Nickel cadmium battery.....	55
5.1.13.5.4	Other power sources	55
5.1.13.6	Extreme test power source	55
5.1.13.6.1	Mains voltage	55
5.1.13.6.2	Regulated lead acid battery power sources.....	55
5.1.13.6.3	Nickel cadmium battery.....	55
5.1.13.6.4	Other power sources	55
5.1.14	Testing in an anechoic chamber.....	55
5.2	Interpretation of the measurement results	56
5.3	Radio test suites.....	56
5.3.1	General.....	56
5.3.2	Accuracy and stability of RF carriers	57
5.3.2.1	Test environment.....	57
5.3.2.2	Method of measurement.....	57
5.3.2.3	Verdict criteria when the EUT is a RFP	57
5.3.2.4	Verdict criteria when the EUT is a PP	58
5.3.3	Accuracy and stability of timing parameters	58
5.3.3.1	Measurement of packet timing jitter	58
5.3.3.1.1	Test environment	58
5.3.3.1.2	Method of measurement	58
5.3.3.1.3	Verdict criteria.....	59
5.3.3.2	Measurement of the reference timing accuracy of a RFP	59
5.3.3.2.1	Test environment	59
5.3.3.2.2	Method of measurement	59
5.3.3.2.3	Verdict criteria.....	59
5.3.3.3	Measurement of packet transmission accuracy of a PP.....	60
5.3.3.3.1	Test environment.....	60
5.3.3.3.2	Method of measurement	60

5.3.3.3.3	Verdict criteria.....	60
5.3.4	Transmission burst.....	61
5.3.4.1	Test environment.....	61
5.3.4.2	Method of measurement.....	61
5.3.4.3	Verdict criteria.....	61
5.3.5	Transmitted power.....	62
5.3.5.1	PP and RFP with an integral antenna.....	62
5.3.5.1.1	Test environment.....	62
5.3.5.1.2	Method of measurement.....	62
5.3.5.1.3	Verdict criteria for all EUTs.....	63
5.3.5.2	PP and RFP with external antenna connection(s).....	63
5.3.5.2.1	Test environment.....	63
5.3.5.2.2	Method of measurement.....	63
5.3.5.2.3	Verdict criteria for all EUTs.....	64
5.3.6	RF carrier modulation.....	64
5.3.6.1	Test environment.....	64
5.3.6.2	Method of measurement, parts 1 and 2.....	64
5.3.6.2.1	Introduction.....	64
5.3.6.2.2	Part 1.....	64
5.3.6.2.3	Part 2.....	65
5.3.6.3	Method of measurement, parts 3 and 4.....	65
5.3.6.3.1	General.....	65
5.3.6.3.2	Part 3.....	65
5.3.6.3.3	Part 4.....	66
5.3.6.4	Verdict criteria for part 1.....	66
5.3.6.5	Verdict criteria for part 2.....	66
5.3.6.6	Verdict criteria for part 3.....	66
5.3.6.7	Verdict criteria for part 4.....	66
5.3.7	Unwanted RF power radiation.....	68
5.3.7.1	General test conditions.....	68
5.3.7.2	Emissions due to modulation.....	68
5.3.7.2.1	Test environment.....	68
5.3.7.2.2	Method of measurement.....	68
5.3.7.2.3	Verdict criteria.....	69
5.3.7.3	Emissions due to transmitter transients.....	69
5.3.7.3.1	Test environment.....	69
5.3.7.3.2	Method of measurement.....	69
5.3.7.3.3	Verdict criteria.....	70
5.3.7.4	Emissions due to intermodulation.....	70
5.3.7.4.1	Test environment.....	70
5.3.7.4.2	Method of measurement.....	70
5.3.7.4.3	Verdict criteria.....	71
5.3.7.5	Spurious emissions when allocated a transmit channel.....	72
5.3.7.5.1	Radiated emissions.....	72
5.3.7.5.2	Conducted spurious emissions when the EUT has a permanent external antenna connector.....	73
5.3.8	Radio receiver testing.....	73
5.3.8.0	General.....	73
5.3.8.1	Radio receiver sensitivity.....	73
5.3.8.1.1	Test environment.....	73
5.3.8.1.2	Method of measurement.....	73
5.3.8.1.3	Verdict criteria.....	74
5.3.8.2	Radio receiver reference BER and FER.....	74
5.3.8.2.1	Test environment.....	74
5.3.8.2.2	Method of measurement.....	74
5.3.8.2.3	Verdict criteria.....	74
5.3.8.3	Radio receiver interference performance.....	74
5.3.8.3.1	Test environment.....	74
5.3.8.3.2	Method of measurement.....	74
5.3.8.3.3	Verdict criteria.....	75
5.3.8.4	Radio receiver blocking case 1: owing to signals occurring at the same time but on other frequencies.....	75
5.3.8.4.1	Test environment.....	75

5.3.8.4.2	Method of measurement	75
5.3.8.4.3	Verdict criteria	76
5.3.8.5	Radio receiver blocking case 2: owing to signals occurring at a different time	77
5.3.8.5.1	Test environment	77
5.3.8.5.2	Method of measurement	77
5.3.8.5.3	Verdict criteria	77
5.3.8.6	Receiver intermodulation performance	78
5.3.8.6.1	Test environment	78
5.3.8.6.2	Method of measurement	78
5.3.8.6.3	Verdict criteria	78
5.3.8.7	Spurious emissions when the PP has no allocated transmit channel	78
5.3.8.7.1	Test environment	78
5.3.8.7.2	Method of measurement	79
5.3.8.7.3	Verdict criteria (outside the DECT band)	79
5.3.8.7.4	Verdict criteria (inside the DECT band)	79
5.3.9	Channel access	79
5.3.9.1	Test Environment	79
5.3.9.2	FT Test Setup	80
5.3.9.2.1	General	80
5.3.9.2.2	FT Method of Measurement	80
5.3.9.2.3	FT Verdict Criteria	80
5.3.9.3	PT Test Setup	81
5.3.9.3.1	General	81
5.3.9.3.2	PT Method of Measurement	81
5.3.9.3.3	PT Verdict Criteria	82
5.3.9.4	Channel Release	82
5.3.9.4.1	General	82
5.3.9.4.2	Method of Measurement	82
5.3.9.4.3	Channel Release Verdict Criteria	83
5.3.10	WRS testing	83
5.3.10.1	General	83
5.3.10.2	Testing as a PP	83
5.3.10.3	Testing as an RFP	83
5.3.10.4	Additional requirements	84
5.3.11	Requirements for PPs with direct PP to PP communication mode	84
5.3.11.1	General	84
5.3.12	Distributed Communications	84
5.3.12.1	General	84
5.3.12.2	Testing as a PP	84
5.3.12.3	Testing as an RFP	85
5.3.12.4	Conformance	85
5.3.13	Higher level modulation options	85
5.3.13.1	General	85
5.3.13.2	Activation of higher level modulations when EUT is in Test Standby Mode	85
Annex A (informative):	Relationship between the present document and the essential requirements of Directive 2014/53/EU	87
Annex B (normative):	Procedures for test fixture calibration	89
B.1	Calibration of test fixture for receiver measurements	89
Annex C (normative):	Measurement of BER and FER	90
Annex D (informative):	Procedures for the measurement of synchronization loss at the EUT by the LT	91
D.1	Description	91
D.2	Method	91
Annex E (informative):	DECT carrier numbers and carrier positions in the range 1 880 MHz to 2 025 MHz	92

E.1	Introduction	92
E.2	1 880 MHz to 1 978 MHz and 2 010 MHz to 2 025 MHz RF band 00001.....	92
E.3	1 880 MHz to 1 925 MHz and 2 010 MHz to 2 025 MHz RF band 00010.....	94
Annex F (informative):	Maximum measurement uncertainty.....	95
Annex G (informative):	Additional receiver parameters identified under article 3.2 of Directive 2014/53/EU	96
Annex H (informative):	Bibliography.....	97
Annex I (informative):	Change History	98
History		99

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Foreword

This Harmonised European Standard (EN) has been produced by ETSI Technical Committee Digital Enhanced Cordless Telecommunications (DECT).
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The present document has been prepared under the Commission's standardisation request C(2015) 5376 final [i.3] 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.18].

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1 Scope

The present document applies to the following equipment types for IMT-FT. IMT-FT is the Digital Enhanced Cordless Telecommunications (DECT) system being a member of the ITU IMT-2000 family:

- a) Base Station (BS) (termed as Fixed Part (FP) throughout the present document)
- b) User Equipment (UE) (termed as Portable Part (PP) throughout the present document)
- c) Cordless Terminal Adapter (CTA) (specific type of UE)
- d) Repeater (termed as Wireless Relay Station (WRS) (FP and PP combined) throughout the present document)
- e) Hybrid Part (HyP) (a PP with capability to act as a FP to provide PP to PP communication)

These radio equipment types can operate in all or any part of the frequency bands given in table 1.

Table 1: Radiocommunications service frequency bands

	Radiocommunications service frequency bands
Transmit	1 900 MHz to 1 980 MHz
Receive	1 900 MHz to 1 980 MHz
Transmit	2 010 MHz to 2 025 MHz
Receive	2 010 MHz to 2 025 MHz

The IMT-FT (DECT) service frequency bands for transmitting and receiving for all elements are the parts of the IMT spectrum applicable for TDD operation, 1 900 MHz to 1 980 MHz and 2 010 MHz to 2 025 MHz.

NOTE 1: IMT-FT equipment may have a second mode for providing operation also in the DECT band 1 880 MHz to 1 900 MHz. Application of DECT in the band 1 880 MHz to 1 900 MHz is covered by ETSI EN 301 406 [i.7].

Details of the DECT Common Interface may be found in ETSI EN 300 175-1 [i.12], ETSI EN 300 175 parts 2 [1] to 3 [2], ETSI EN 300 175-4 [i.13], ETSI EN 300 175 parts 5 [3] to 6 [4] and ETSI EN 300 175 parts 7 [i.14] to 8 [i.15]. Further details of the DECT system may be found in ETSI TR 101 178 [i.1]. Information about ULE may be found in ETSI TS 102 939-1 [i.16] and ETSI TS 102 939-2 [i.17].

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 2: The relationship between the present document and essential requirements of article 3.2 of Directive 2014/53/EU [i.18] 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 (V2.8.1) (12-2019): "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 2: Physical layer (PHL)".
- [2] ETSI EN 300 175-3 (V2.8.1) (12-2019): "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 3: Medium Access Control (MAC) Layer".
- [3] ETSI EN 300 175-5 (V2.8.1) (12-2019): "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 5: Network (NWK) layer".
- [4] ETSI EN 300 175-6 (V2.8.1) (12-2019): "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 6: Identities and addressing".
- [5] Void.
- [6] ETSI EN 300 700 (V2.2.1) (12-2018): "Digital Enhanced Cordless Telecommunications (DECT); Wireless Relay Station (WRS)".
- [7] Recommendation ITU-T O.153 (10-1992): "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. **(standards.iteh.ai)**

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^{ETSI EN 301 908-10 V4.3.1 (2021-11)} "Digital Enhanced Cordless Telecommunications (DECT); A High Level Guide to the DECT Standardization".
<https://standards.iteh.ai/catalog/standards/sist/82ee5a9-49d5-4643-9cd1-82930892857/etsi-tr-101-178-2021-11>
- [i.2] Void.
- [i.3] 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.4] Void.
- [i.5] Void.
- [i.6] Void.
- [i.7] ETSI EN 301 406 (V2.2.2) (09-2016): "Digital Enhanced Cordless Telecommunications (DECT); Harmonised Standard covering the essential requirements of article 3.2 of the Directive 2014/53/EU".
- [i.8] Void.
- [i.9] Void.
- [i.10] ETSI TR 100 028 (all parts): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics".
- [i.11] ISO/IEC 9646-1 (1994): "Information technology; Open Systems Interconnection; Conformance testing methodology and framework; Part 1: General concepts".

- [i.12] ETSI EN 300 175-1 (V2.8.1) (12-2019): "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 1: Overview".
- [i.13] ETSI EN 300 175-4 (V2.8.1) (12-2019): "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 4: Data Link Control (DLC) Layer".
- [i.14] ETSI EN 300 175-7 (V2.8.1) (12-2019): "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 7: Security features".
- [i.15] ETSI EN 300 175-8 (V2.8.1) (12-2019): "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 8: Speech and audio coding and transmission".
- [i.16] 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.17] 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.18] 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.19] ETSI EN 301 908-1: "IMT cellular networks; Harmonised Standard for access to radio spectrum; Part 1: Introduction and common requirements".
- [i.20] 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".

iTeh STANDARD PREVIEW

3 Definition of terms, symbols and abbreviations

3.1 Terms

ETSI EN 301 908-10 V4.3.1 (2021-11)

[https://standards.iteh.ai/catalog/standards/sist/82ee5a9-49d5-4643-9cd1-](https://standards.iteh.ai/catalog/standards/sist/82ee5a9-49d5-4643-9cd1-b2b30832c377/etsi-en-301-908-10-v4-3-1-2021-11)

[b2b30832c377/etsi-en-301-908-10-v4-3-1-2021-11](https://standards.iteh.ai/catalog/standards/sist/82ee5a9-49d5-4643-9cd1-b2b30832c377/etsi-en-301-908-10-v4-3-1-2021-11)

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.

Base Station (BS): usually mains powered and in a fixed location in traditional DECT systems

NOTE: Forms a bridge between the mobile parts (traditionally known as handsets) and the network. Base stations are commonly referred to as Fixed Part (FP).

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).

Central Control Fixed Part (CCFP): physical grouping that contains the central control elements of one or several FPs

NOTE: An FP may be split in the control part (CCFP) and the Radio part (RFP). A CCFP may control one or more RFPs.

conducted measurements: measurements which are made using a direct connection to the equipment under test

Cordless Terminal Adapter (CTA): physical grouping that contains a DECT portable termination and a line interface

DECT distributed communications: communication capability of a DECT Local Network that allows a number of DECT terminals (a FP and number of PPs) to co-exist and directly communicate one with another

DECT-like carrier: modulated RF DECT carrier used for interference testing which conforms to the requirements in ETSI EN 300 175-2 [1] in terms of frequency and timing and uses a pseudo-random sequence for modulation

double slot: one 12th of a Time Division Multiple Access (TDMA) frame which is used to support one high capacity physical channel

duplex bearer: use of two simplex bearers operating in opposite directions on two physical channels

NOTE: These pairs of channels always use the same RF carrier and always use evenly spaced slots (i.e. separated by 0,5 TDMA frame).

environmental profile: range of environmental conditions under which equipment within the scope of the present document is required to comply with the provisions of the present document

Equipment Under Test (EUT): equipment submitted to the test laboratory for type examination

Fixed Part (DECT Fixed Part (FP)): physical grouping that contains all of the elements in the DECT network between the local network and the DECT air interface

NOTE: A DECT FP contains the logical elements of at least one Fixed radio Termination (FT), plus additional implementation specific elements.

fixed radio termination: logical group of functions that contains all of the DECT processes and procedures on the fixed side of the DECT air interface

NOTE: A FT only includes elements that are defined in the DECT CI standard. This includes radio transmission elements (layer 1) together with a selection of layer 2 and layer 3 elements.

full slot: one 24th of a TDMA frame which is used to support one physical channel

half slot: one 48th of a TDMA frame which is used to support one physical channel

handover: process of switching a call in progress from one physical channel to another physical channel

NOTE: These processes can be internal or external. There are two physical forms of handover: intra-cell handover and inter-cell handover. Intra-cell handover is always internal. Inter-cell handover can be internal or external.

host equipment: any equipment which has a complete user functionality when not connected to the DECT radio equipment, and to which the DECT radio equipment provides additional functionality, and to which connection is necessary for the DECT radio equipment to offer functionality

hybrid part: DECT terminal that provides FT, as well as, PT capabilities being capable of communicating directly with FT or PT

IMT-2000: International Mobile Telecommunications, Third Generation Mobile Systems

IMT-FT: International Mobile Telecommunications, FDMA/TDMA

NOTE: This is the DECT family member of IMT-2000.

inter-cell handover: switching of a call in progress from one cell to another cell

NOTE: This only defines the form of handover, it does not define a specific process.

intra-cell handover: switching of a call in progress from one physical channel of one cell to another physical channel of the same cell

NOTE: This only defines the form of handover, it does not define a specific process.