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Digital Enhanced Cordless Telecommunications (DECT);
New Generation DECT;
Part 5: Additional feature set nr. 1
for extended wideband speech services

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Foreword

This Technical Specification (TS) has been produced by ETSI Technical Committee Digital Enhanced Cordless Telecommunications (DECT).

The present document is based on EN 300 175 parts 1 to 8 ([1], [2], [3], [4], [5], [6], [7] and [8]) and EN 300 444 [11]. General attachment requirements and speech attachment requirements are based on EN 301 406 [10] (replacing TBR 006 [i.2]) and EN 300 176-2 [9] (previously covered by TBR 010 [i.3]). Further details of the DECT system may be found in TR 101 178 [i.1].

The present document has been developed in accordance to the rules of documenting a profile specification as described in ISO/IEC 9646-6 [i.12].

The information in the present document is believed to be correct at the time of publication. However, DECT standardization is a rapidly changing area, and it is possible that some of the information contained in the present document may become outdated or incomplete within relatively short time-scales.

The present document is part 5 of a multi-part deliverable covering the New Generation DECT as identified below:

Part 1: "Wideband speech" [17];

Part 2: "Support of transparent IP packet data" [i.4];

Part 3: "Extended wideband speech services" [18];

Part 4: "Light Data Services: Software Update Over The Air (SUOTA), content downloading and HTTP based applications" [i.5];

Part 5: "Additional feature set nr. 1 for extended wideband speech services".

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1 Scope

The present document specifies a set of functionalities of the New Generation DECT.

The New Generation DECT provides the following basic new functionalities:

- Wideband speech service (part 1).
- Packet-mode data service supporting Internet Protocol with efficient spectrum usage and high data rates (part 2).
- Extended wideband speech services (part 3).
- Light Data Services: Software Update Over The Air (SUOTA), Content Downloading and HTTP based applications (part 4).
- Additional feature set nr. 1 for extended wideband speech services (part 5).

All New Generation DECT devices will offer at least one or several of these services.

The present document describes the part 5: Additional feature set nr. 1 for extended wideband speech services.

- For the description of the wideband speech service, see TS 102 527-1 [17].
- For the description of the support of transparent IP packet data, see TS 102 527-2 [i.4].
- For the description of the Extended wideband speech services, see TS 102 527-3 [18].
- For the description of the Light Data Services: Software Update Over The Air (SUOTA), Content Downloading and HTTP based applications, see TS 102 527-4 [i.5].

Part 5 ("Additional feature set nr. 1 for extended wideband speech services") is defined as an extension of part 3 ("Extended wideband speech services" [18]) which is itself an extension of part 1 ("Wideband speech service" [17]). Consequently, this means that all devices compliant to the present document will also implement at least all mandatory features and may implement the optional features defined in part 3 and part 1. In addition to that, the present document defines additional mandatory or optional features.

Part 1, and therefore also part 3 and part 5, are defined as extensions of the "Generic Access Profile (GAP)" [11]. All DECT devices offering Wideband speech services (part 1, or part 1 plus part 3, or part 1 plus part 3 plus part 5) are also compliant with the "Generic Access Profile (GAP)" [11], and offer the DECT standard 32 kbit/s voice service according to GAP [11].

All DECT devices claiming to be compliant with this Application Profile will offer at least the basic services defined as mandatory. In addition to that, optional features can be implemented to offer additional DECT services.

The aim of the present document is to guarantee a sufficient level of interoperability and to provide an easy route for development of DECT wideband speech applications, with the features of the present document being a common fall-back option available in all compliant to this profile equipment.

The present document is defined as an extension of TS 102 527-3 [18] so the numbering and order of figures and tables in the present document is aligned with the corresponding numbering and order of figures and tables in TS 102 527-3 [18].

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2 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 http://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.

2.1 Normative references

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

[1] ETSI EN 300 175-1: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 1: Overview".

[2] ETSI EN 300 175-2: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 2: Physical layer (PHL)".

[3] ETSI EN 300 175-3: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 3: Medium Access Control (MAC) layer".

[4] ETSI EN 300 175-4: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 4: Data Link Control (DLC) layer".

[5] ETSI EN 300 175-5: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 5: Network (NWK) layer".

[6] ETSI EN 300 175-6: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 6: Identities and addressing".

[7] ETSI EN 300 175-7: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 7: Security features".

[8] ETSI EN 300 175-8: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 8: Speech and audio coding and transmission".

[9] ETSI EN 300 176-2: "Digital Enhanced Cordless Telecommunications (DECT); Test specification; Part 2: Audio and speech".

[10] ETSI EN 301 406: "Digital Enhanced Cordless Telecommunications (DECT); Harmonized EN for Digital Enhanced Cordless Telecommunications (DECT) covering the essential requirements under article 3.2 of the R&TTE Directive; Generic radio".

[11] ETSI EN 300 444: "Digital Enhanced Cordless Telecommunications (DECT); Generic Access Profile (GAP)".

[12] Recommendation ITU-T G.726 (1990): "40, 32, 24, 16 kbit/s Adaptive Differential Pulse Code Modulation (ADPCM) ".

[13] Recommendation ITU-T G.711 (1988): "Pulse code modulation (PCM) of voice frequencies".

[14] Recommendation ITU-T G.722 (1988): "7 kHz audio-coding within 64 kbit/s".

[15] Recommendation ITU-T G.729.1 (2006): "G.729-based Embedded Variable bit-rate coder: An 8-32 kbit/s scalable wideband coder bitstream interoperable with G.729".

[16] ISO/IEC JTC1/SC29/WG11 (MPEG): International Standard ISO/IEC 14496-3:2005: "Information Technology - Coding of audio-visual objects - Part 3: Audio".

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https://standards.iteh.ai/catalog/standards/sist/532c4ee-94cc-40cf-9f2-8bbd1c1edb6/etsi-ts-102-527-5-v1.1.1-2013-04

[17] ETSI TS 102 527-1: "Digital Enhanced Cordless Telecommunications (DECT); New Generation DECT; Part 1: Wideband Speech".

[18] ETSI TS 102 527-3: "Digital Enhanced Cordless Telecommunications (DECT); New Generation DECT; Part 3: Extended Wideband Speech Services".

[19] ETSI TS 123 038 (V11.0.0) (2012-10):"Digital cellular telecommunications system (Phase 2+);Universal Mobile Telecommunications System (UMTS); LTE;Alphabets and language-specific information (3GPP TS 23.038 version 11.0.0 Release 11)".

2.2 Informative references

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] ETSI TBR 006: "Digital Enhanced Cordless Telecommunications (DECT); General terminal attachment requirements".

[i.3] ETSI TBR 010: "Digital Enhanced Cordless Telecommunications (DECT); General terminal attachment requirements: Telephony applications".

[i.4] ETSI TS 102 527-2: "Digital Enhanced Cordless Telecommunications (DECT); New Generation DECT; Part 2: Support of transparent IP packet data".

[i.5] ETSI TS 102 527-4: "Digital Enhanced Cordless Telecommunications (DECT); New Generation DECT; Part 4: Light Data Services; Software Update Over The Air (SUOTA), content downloading and HTTP based applications".

[i.6] Recommendation ITU-T P.311 (2005): "Transmission characteristics for wideband (150-7000 Hz) digital handset telephones".

[i.7] Recommendation ITU-T G.729: "Coding of speech at 8 kbit/s using conjugate structure algebraic-code-excited linear prediction (CS-ACELP)".

[i.8] Recommendation ITU-T Q.23 (1988): "Technical features of push-button telephone sets".

[i.9] Recommendation ITU-T Q.24 (1988): " Multifrequency push-button signal reception".

[i.10] Recommendation ITU-T E.180: "Technical characteristics of tones for the telephone service".

[i.11] Recommendation ITU-T E.180- Supplement 2 (1994): "Various tones used in national networks".

[i.12] ISO/IEC 9646-6: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 6: Protocol profile test specification".

[i.13] ISO/IEC 9646-7: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 7: Implementation Conformance Statements".

[i.14] ETSI TS 123 040 (V11.3.0) (2012-10): "Digital cellular telecommunications system (Phase 2+);Universal Mobile Telecommunications System (UMTS);Technical realization of the Short Message Service (SMS) (3GPP TS 23.040 version 11.3.0 Release 11)".

[i.15] ETSI ES 201 912 (V1.2.1) (2004-08): "Access and Terminals (AT);Short Message Service (SMS) for PSTN/ISDN; Short Message Communication between a fixed network Short Message Terminal Equipment and a Short Message Service Centre".

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https://standards.iteh.ai/catalog/standards/sist/552c4ee9-9438-40ec-b028-8d74d4c0b6/etsi-ts-102-527-5-v1.1.1-2013-04

3 Definitions, symbols and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in EN 300 444 [11] and the following apply:

attached to a line: PP is "attached to a line" if its associated bit is set in the "Handset bitmap" in the "Attached handsets" field of the "Line Settings List" entry for that line

NOTE: A PP that is attached to a line can send and receive calls on that line.

call status: part of the call information sent from FP to PP about the FP call state toward the peer party

double call with in-band signalling (line): legacy line on which second calls -incoming or outgoing- are handled using signalling "in-band"

FP-managed line selection: mode for an outgoing external call, in which the PP does not indicate the line to be used to the FP and the FP chooses the line where the call is placed

Headset PP (HPP): headset PP is a wireless headset telephone using the DECT air interface

NOTE: A HPP usually has only one speaker and one microphone combined with a limited set of keys (e.g. call button, volume plus, and volume minus). Headsets provide the equivalent functionality of a PP with hands-free operation.

late release: sending of a "CS idle" call status by the FP for a call that has been released a long time before in the network.

NOTE: See clause 7.4.3.10.3.1.

line: logical channel, separately accessible from the external world through a dedicated external directory entry (e.g. telephone number, uri, etc.)

NOTE: These lines may be of various types, for example: PSTN, VoIP or ISDN lines.

multiple call line: line supporting several simultaneous (external) calls

NOTE: An example of multiple call line is a VoIP line used with the SIP protocol.

multiple-call mode: configuration mode of a multiple call line from a DECT system point of view, enabling several simultaneous incoming or outgoing calls on different PPs (i.e. this possibility is not disabled by configuration)

new generation DECT: further development of the DECT standard introducing wideband speech, improved data services, new slot types and other technical enhancements

none: a special line identifier value (called "None") is defined in clause 7.7.56 of EN 300 175-5 [5] and is used to indicate that the line id for the external call is not yet known

NOTE: It is used for FP managed line selection (clauses 7.4.3.5.1 and 7.4.5.2.4) and, as a special case, for call intrusion (clause 7.4.3.8).

off-hook CLIP: ability of a network to send CLIP information for a waiting call (also known as "CLIP on call waiting" or "CLIP phase II")

single-call mode: configuration mode of a multiple call line from a DECT system point of view, in which the possibility of making several fully parallel call is (temporarily) disabled

NOTE: This mode may be useful for a user alone in the home. This mode does not prevent several simultaneous calls on the same PP. A line which is not "multiple call" (for instance a PSTN line only enabling double calls) is also said to be in "single call" mode.

super-wideband speech: voice service with enhanced quality compared to ADPCM G.726 and allowing the transmission of a maximum vocal frequency of at least 14 kHz

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