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Digital cellular telecommunications system (Phase 2+);
Half rate speech;
Voice Activity Detector (VAD)
for half rate speech traffic channels
(3GPP TS 46.042 version 13.0.0 Release 13)

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Contents

Foreword

This Technical Specification has been produced by the 3rd Generation Partnership Project (3GPP).

The present document specifies the Voice Activity Detector (VAD) to be used in the Discontinuous Transmission (DTX) within the digital cellular telecommunications system. The present document is part of a series covering the half rate speech traffic channels as described below:

GSM 06.02 "Digital cellular telecommunications system (Phase 2+); Half rate speech; Half rate speech processing functions".

GSM 06.06 "Digital cellular telecommunications system (Phase 2+); Half rate speech; ANSI-C code for the GSM half rate speech codec".

GSM 06.07 "Digital cellular telecommunications system (Phase 2+); Half rate speech; Test sequences for the GSM half rate speech codec".

GSM 06.20 "Digital cellular telecommunications system (Phase 2+); Half rate speech; Half rate speech transcoding".

GSM 06.21 "Digital cellular telecommunications system (Phase 2+); Half rate speech; Substitution and muting of lost frames for half rate speech traffic channels".

GSM 06.22 "Digital cellular telecommunications system (Phase 2+); Half rate speech; Comfort noise aspects for half rate speech traffic channels".

GSM 06.41 "Digital cellular telecommunications system (Phase 2+); Half rate speech; Discontinuous Transmission (DTX) for half rate speech traffic channels".

GSM 06.42 "Digital cellular telecommunications system (Phase 2+); Half rate speech; Voice Activity Detector (VAD) for half rate speech traffic channels".

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1 Scope

The present document specifies the Voice Activity Detector (VAD) to be used in the Discontinuous Transmission (DTX) as described in GSM 06.41 [4]. It also specifies the test methods to be used to verify that a VAD implementation complies with the present document.

The requirements are mandatory on any VAD to be used either in GSM Mobile Stations (MS)s or Base Station Systems (BSS)s that utilize the half-rate GSM speech traffic channel.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] GSM 01.04: "Digital cellular telecommunications system (Phase 2+); Abbreviations and acronyms".

[2] GSM 06.20: "Digital cellular telecommunications system (Phase 2+); Half rate speech; Half rate speech transcoding".

[3] GSM 06.22: "Digital cellular telecommunications system (Phase 2+); Half rate speech; Comfort noise aspects for half rate speech traffic channels".

[4] GSM 06.41: "Digital cellular telecommunications system (Phase 2+); Half rate speech; Discontinuous Transmission (DTX) for half rate speech traffic channels".

[5] GSM 06.06: "Digital cellular telecommunications system (Phase 2+); Half rate speech; ANSI C code for the GSM half rate speech codec".

[6] GSM 06.07: "Digital cellular telecommunications system (Phase 2+); Half rate speech; Test sequences for the GSM half rate speech codec".

3 Definitions, symbols and abbreviations

3.1 Definitions

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

mobile environment: any environment in which MSs may be used.

noise: signal component resulting from acoustic environmental noise.