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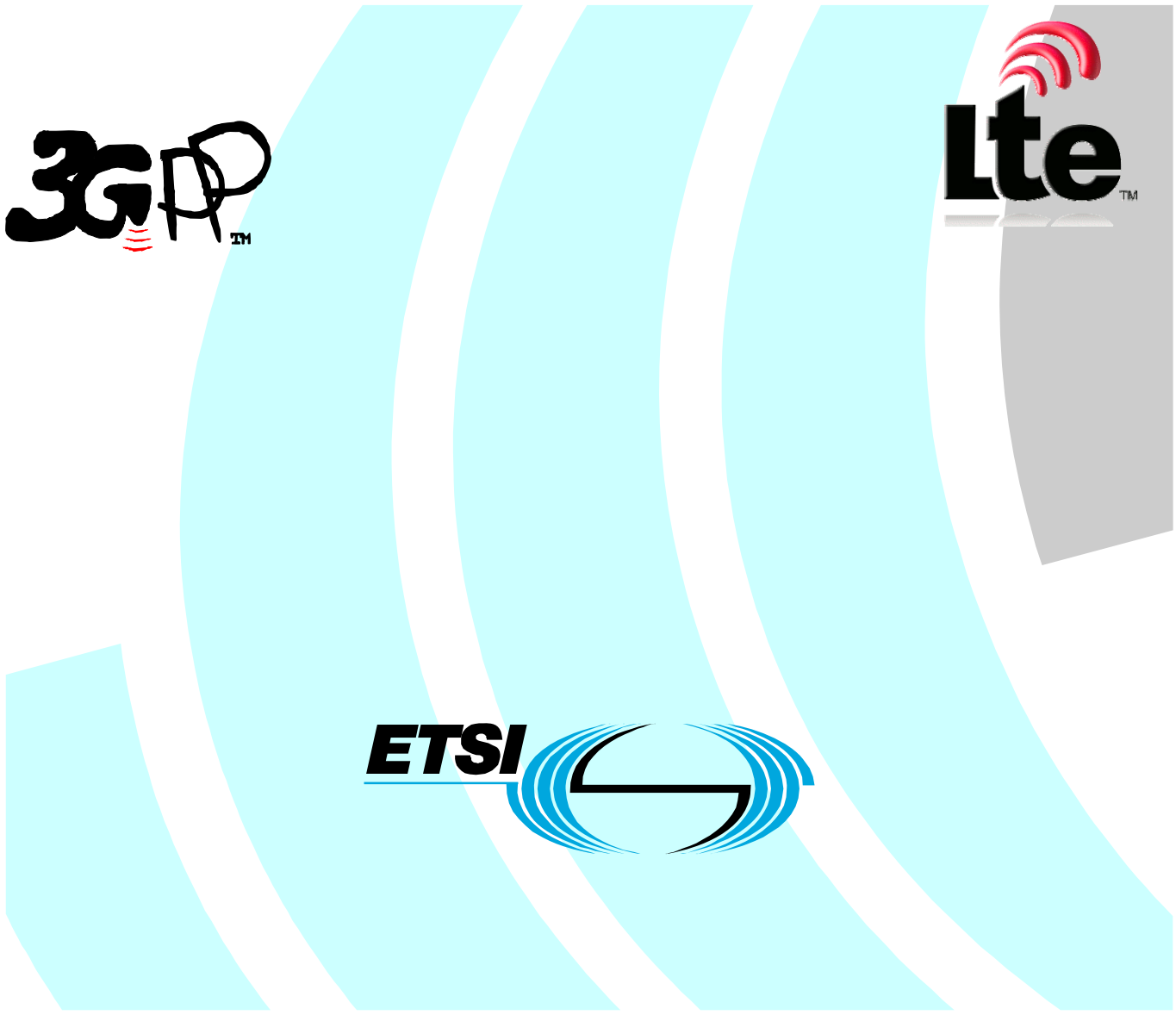
Technical Specification

Universal Mobile Telecommunications System (UMTS);
LTE;
Speech Enabled Services (SES);
Distributed Speech Recognition (DSR)
extended advanced front-end test sequences
(3GPP TS 26.177 version 8.0.0 Release 8)



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Foreword

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Contents

Foreword

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

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Version x.y.z

where:

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  - 1 presented to TSG for information;
  - 2 presented to TSG for approval;
  - 3 or greater indicates TSG approved document under change control.
- y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.
- z the third digit is incremented when editorial only changes have been incorporated in the document.

1 Scope

The present document specifies the digital test sequences for the DSR Extended Advanced Front-end speech codec. These sequences can be used to test for a bit exact implementation of the DSR Advanced Front-end codec and quantization (3GPP TS 26.243).

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] 3GPP TS 26.243: "ANSI-C code for the Fixed-Point Distributed Speech Recognition Extended Advanced Front-end".

[2] ETSI ES 202 050: "Speech Processing, Transmission and Quality Aspects (STQ); Distributed speech recognition; Advanced front-end feature extraction algorithm; Compression algorithms DSR advanced front end."

[3] ETSI ES 202 212: "Speech Processing, Transmission and Quality Aspects (STQ); Distributed speech recognition; Extended advanced front-end feature extraction algorithm; Compression algorithms; Back-end speech reconstruction algorithm".

[4] 3GPP TS 26.074: “AMR speech codec test sequences”

[5] 3GPP TS 26.174: “Adaptive Multi-Rate (AMR) Wideband speech codec test sequences”

3 Abbreviations

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

AFE	Advanced Front-end
AMR	Adaptive Multi-Rate
AMR-NB	AMR Narrowband
AMR-WB	AMR Wideband
DSR	Distributed Speech Recognition
ETSI	European Telecommunications Standards Institute
GSM	Global System for Mobile communications
SES	Speech Enabled Services
VAD	Voice Activity Detector
X-AFE	eXtended Advanced Front-end

4 General

Digital test sequences are provided to test for a bit exact implementation of the Distributed Speech Recognition Extended Advanced Front-end (3GPP TS 26.243 [1]).

The test sequences may also be used to verify installations of the ANSI C code in 3GPP TS 26.243 [1].

Clause 5 describes the format of the files, which contain the digital test sequences.

5 Test sequence format

This clause provides information on the format of the digital test sequences for the DSR Extended Advanced Front-end (TS 26.243 [1]).

5.1 File format

The test sequence files in PC (little-endian) byte order are provided in archive files (ZIP format), which accompany the present document.

Following decompression, three types of file are provided:

*.inp - Input to the speech encoder.

*.cep – Cepstral output of the encoder, input to the quantizer.

*.pitch – Pitch output of the encoder, input to the quantizer.

*.class – Class output of the encoder, input to the quantizer.

*.vad – VAD output of the encoder, input to the quantizer.

*.bs – Output of the quantizer

Two test scripts are provided for exercising the Extended Advanced Front-end and quantizer functions.

All file formats are described in 3GPP TS 26.243 [1].

6 DSR test sequences

Forty-three encoder input sequences are provided, 22 with 8kHz sampling, 23 with 16kHz sampling.

8kHz sampling:

T00.INP - T21.INP as described in the AMR test sequences document TS 26.074 [4].

16kHz sampling:

T00.INP - T22.INP as described in the AMR WB test sequences document TS 26.174 [5].

Annex A (informative): Change history

Change history							
Date	**TSG SA#**	**TSG Doc.**	**CR**	**Rev**	**Subject/Comment**	**Old**	**New**
12-2004	26	SP-040833			Approved at TSG SA#26	1.0.0	6.0.0
06-2007	36				Version for Release 7	6.0.0	7.0.0
12-2008	42				Version for Release 8	7.0.0	8.0.0

History

Document history		
V8.0.0	January 2009	Publication