

ETSI TS 126 177 V11.0.0 (2012-10)



**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 11.0.0 Release 11)**



Reference

RTS/TSGS-0426177vb00

Keywords

LTE,UMTS

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 - NAF 742 C
Association à but non lucratif enregistrée à la
Sous-Préfecture de Grasse (06) N° 7803/88

Important notice

Individual copies of the present document can be downloaded from:

<http://www.etsi.org>

The present document may be made available in more than one electronic version or in print. In any case of existing or perceived difference in contents between such versions, the reference version is the Portable Document Format (PDF). In case of dispute, the reference shall be the printing on ETSI printers of the PDF version kept on a specific network drive within ETSI Secretariat.

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

<http://portal.etsi.org/tb/status/status.asp>

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

http://portal.etsi.org/chaicor/ETSI_support.asp

Copyright Notification

No part may be reproduced except as authorized by written permission.
The copyright and the foregoing restriction extend to reproduction in all media.

© European Telecommunications Standards Institute 2012.
All rights reserved.

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

Intellectual Property Rights

IPRs essential or potentially essential to the present document may have been declared to ETSI. The information pertaining to these essential IPRs, if any, is 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 (<http://ipr.etsi.org>).

Pursuant to the ETSI IPR Policy, no investigation, 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.

Foreword

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

The present document may refer to technical specifications or reports using their 3GPP identities, UMTS identities or GSM identities. These should be interpreted as being references to the corresponding ETSI deliverables.

The cross reference between GSM, UMTS, 3GPP and ETSI identities can be found under <http://webapp.etsi.org/key/queryform.asp>.

Contents

Intellectual Property Rights	2
Foreword.....	2
Foreword.....	4
1 Scope	5
2 References	5
3 Abbreviations	5
4 General	6
5 Test sequence format.....	6
5.1 File format	6
6 DSR test sequences	6
Annex A (informative): Change history	7
History	8

Foreword

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

The contents of the present document are subject to continuing work within the TSG and may change following formal TSG approval. Should the TSG modify the contents of the present document, it will be re-released by the TSG with an identifying change of release date and an increase in version number as follows:

Version x.y.z

where:

- x the first digit:
 - 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
12-2009	46				Version for Release 9	8.0.0	9.0.0
03-2011	51				Version for Release 10	9.0.0	10.0.0
09-2012	57				Version for Release 11	10.0.0	11.0.0

History

Document history		
V11.0.0	October 2012	Publication