



**Universal Mobile Telecommunications System (UMTS);  
LTE;  
Universal Terrestrial Radio Access (UTRA)  
and Evolved Universal Terrestrial Radio Access (E-UTRA);  
Radio measurement collection  
for Minimization of Drive Tests (MDT);  
Overall description;  
Stage 2  
(3GPP TS 37.320 version 13.1.0 Release 13)**



---

Reference

RTS/TSGR-0237320vd10

---

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**

The present document can be downloaded from:

<http://www.etsi.org/standards-search>

The present document may be made available in electronic versions and/or in print. The content of any electronic and/or print versions of the present document shall not be modified without the prior written authorization of ETSI. In case of any existing or perceived difference in contents between such versions and/or in print, the only prevailing document is the print of the Portable Document Format (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:

<https://portal.etsi.org/People/CommitteeSupportStaff.aspx>

---

**Copyright Notification**

No part may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm except as authorized by written permission of ETSI.

The content of the PDF version shall not be modified without the written authorization of ETSI.

The copyright and the foregoing restriction extend to reproduction in all media.

© European Telecommunications Standards Institute 2016.

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 (<https://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>.

---

## Modal verbs terminology

In the present document "**shall**", "**shall not**", "**should**", "**should not**", "**may**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the [ETSI Drafting Rules](#) (Verbal forms for the expression of provisions).

"**must**" and "**must not**" are **NOT** allowed in ETSI deliverables except when used in direct citation.

# Contents

Intellectual Property Rights .....	2
Foreword.....	2
Modal verbs terminology.....	2
Foreword.....	4
1 Scope .....	5
2 References .....	5
3 Definitions, symbols and abbreviations .....	6
3.1 Definitions .....	6
3.2 Symbols.....	6
3.3 Abbreviations .....	6
4 Main concept and requirements .....	8
4.1 General .....	8
5 Functions and procedures.....	9
5.1 General procedures.....	9
5.1.1 Logged MDT procedures.....	9
5.1.1.1 Measurement configuration.....	9
5.1.1.1.1 Configuration parameters .....	9
5.1.1.1.2 Configuration effectiveness.....	10
5.1.1.2 Measurement collection .....	11
5.1.1.3 Measurement reporting .....	12
5.1.1.3.1 Availability Indicator.....	12
5.1.1.3.2 Report retrieval.....	12
5.1.1.3.3 Reporting parameters.....	12
5.1.1.4 MDT context handling during handover .....	14
5.1.2 Immediate MDT procedures .....	14
5.1.2.1 Measurement configuration .....	14
5.1.2.2 Measurement reporting .....	14
5.1.2.3 MDT context handling during handover .....	14
5.1.3 MDT Initiation.....	15
5.1.4 UE capabilities.....	15
5.1.5 Void .....	15
5.1.6 Accessibility measurements.....	15
5.2 E-UTRAN solutions.....	16
5.2.1 RRC_CONNECTED .....	16
5.2.1.1 Measurements and reporting triggers for Immediate MDT.....	16
5.2.1.2 Enhancement to Radio Link Failure report .....	17
5.2.1.3 Detailed Location Information .....	18
5.2.2 RRC_IDLE .....	18
5.3 UTRAN solutions.....	18
5.3.1 UTRA RRC Connected .....	18
5.3.1.1 Measurements and reporting events for Immediate MDT.....	18
5.3.1.2 Detailed Location Information .....	19
5.3.2 UTRA Idle .....	19
<b>Annex A (informative): Coverage use cases .....</b>	<b>21</b>
<b>Annex B (informative): QoS verification use cases .....</b>	<b>22</b>
<b>Annex C (informative): Measurements .....</b>	<b>23</b>
<b>Annex D (informative): MBSFN use cases .....</b>	<b>24</b>
<b>Annex E (informative): Change history .....</b>	<b>25</b>
History .....	27

---

# Foreword

This Technical Specification has been produced by the 3<sup>rd</sup> 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 provides an overview and overall description of the minimization of drive tests functionality.

The document describes functions and procedures to support collection of UE-specific measurements for MDT using Control Plane architecture, for both UTRAN and E-UTRAN.

Details of the signalling procedures for single-RAT operation are specified in the appropriate radio interface protocol specification. Network operation and overall control of MDT is described in OAM specifications.

NOTE: The focus is on conventional macro cellular network deployments. In the current release no specific support is provided for H(e)NB deployments.

---

# 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 TR 21.905: "Vocabulary for 3GPP Specifications".
- [2] 3GPP TS 25.133: "Requirements for support of radio resource management (FDD)".
- [3] 3GPP TS 36.133: "Requirements for support of radio resource management (FDD)".
- [4] 3GPP TS 25.331: "Radio Resource Control (RRC); Protocol specification".
- [5] 3GPP TS 36.331: "Evolved Universal Terrestrial Radio Access (E-UTRA); Radio Resource Control (RRC); Protocol specification".
- [6] 3GPP TS 32.422: "Subscriber and equipment trace; Trace control and configuration management".
- [7] 3GPP TS 25.215: "Physical Layer; Measurements (FDD)".
- [8] 3GPP TS 25.225: "Physical Layer; Measurements (TDD)".
- [9] 3GPP TS 36.214: "Evolved Universal Terrestrial Radio Access (E-UTRA); Physical Layer; Measurements".
- [10] 3GPP TS 36.321: "Evolved Universal Terrestrial Radio Access (E-UTRA); Medium Access Control (MAC); Protocol Specification".
- [11] 3GPP TS 36.213: "Evolved Universal Terrestrial Radio Access (E-UTRA); Physical layer procedures".
- [12] 3GPP TS 36.300: "Evolved Universal Terrestrial Radio Access (E-UTRA) and Evolved Universal Terrestrial Radio Access (E-UTRAN); Overall description; Stage 2".
- [13] 3GPP TS 36.314: "Evolved Universal Terrestrial Radio Access (E-UTRA); Layer 2 – Measurements".
- [14] 3GPP TS 25.321: "Medium Access Control (MAC) Protocol Specification".