

# ETSI TS 128 307 V17.0.0 (2022-04)



**Universal Mobile Telecommunications System (UMTS);  
LTE;  
5G;  
Telecommunication management;  
Quality of Experience (QoE)  
measurement collection Integration Reference Point (IRP);  
Requirements  
(3GPP TS 28.307 version 17.0.0 Release 17)**



---

**Reference**

RTS/TSGS-0528307vh00

---

**Keywords**

5G,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 - APE 7112B  
Association à but non lucratif enregistrée à la  
Sous-Préfecture de Grasse (06) N° w061004871

---

**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 prevailing version of an ETSI deliverable is the one made publicly available in PDF format at [www.etsi.org/deliver](http://www.etsi.org/deliver).

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

<https://portal.etsi.org/TB/ETSIDeliverableStatus.aspx>

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>

If you find a security vulnerability in the present document, please report it through our

Coordinated Vulnerability Disclosure Program:

<https://www.etsi.org/standards/coordinated-vulnerability-disclosure>

---

**Notice of disclaimer & limitation of liability**

The information provided in the present deliverable is directed solely to professionals who have the appropriate degree of experience to understand and interpret its content in accordance with generally accepted engineering or other professional standard and applicable regulations.

No recommendation as to products and services or vendors is made or should be implied.

No representation or warranty is made that this deliverable is technically accurate or sufficient or conforms to any law and/or governmental rule and/or regulation and further, no representation or warranty is made of merchantability or fitness for any particular purpose or against infringement of intellectual property rights.

In no event shall ETSI be held liable for loss of profits or any other incidental or consequential damages.

Any software contained in this deliverable is provided "AS IS" with no warranties, express or implied, including but not limited to, the warranties of merchantability, fitness for a particular purpose and non-infringement of intellectual property rights and ETSI shall not be held liable in any event for any damages whatsoever (including, without limitation, damages for loss of profits, business interruption, loss of information, or any other pecuniary loss) arising out of or related to the use of or inability to use the software.

---

**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.

© ETSI 2022.  
All rights reserved.

---

# Intellectual Property Rights

## Essential patents

IPRs essential or potentially essential to normative deliverables may have been declared to ETSI. The declarations pertaining to these essential IPRs, if any, are 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 Directives including the ETSI IPR Policy, no investigation regarding the essentiality of IPRs, 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.

## Trademarks

The present document may include trademarks and/or tradenames which are asserted and/or registered by their owners. ETSI claims no ownership of these except for any which are indicated as being the property of ETSI, and conveys no right to use or reproduce any trademark and/or tradename. Mention of those trademarks in the present document does not constitute an endorsement by ETSI of products, services or organizations associated with those trademarks.

**DECT™**, **PLUGTESTS™**, **UMTS™** and the ETSI logo are trademarks of ETSI registered for the benefit of its Members. **3GPP™** and **LTE™** are trademarks of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners. **oneM2M™** logo is a trademark of ETSI registered for the benefit of its Members and of the oneM2M Partners. **GSM®** and the GSM logo are trademarks registered and owned by the GSM Association.

---

## Legal Notice

(standards.iteh.ai)

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. These shall be interpreted as being references to the corresponding ETSI deliverables.

The cross reference between 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
Legal Notice .....	2
Modal verbs terminology.....	2
Foreword.....	4
Introduction .....	5
1 Scope .....	6
2 References .....	6
3 Definitions of terms, symbols and abbreviations .....	6
3.1 Terms.....	6
3.2 Symbols.....	6
3.3 Abbreviations .....	6
4 Concepts and background .....	7
5 Business Level Requirements .....	7
6 Specification level requirements .....	7
6.1 Requirements.....	7
6.2 Actor roles .....	7
6.3 Telecommunication resources.....	7
6.4 Use cases .....	8
6.4.1 Activate collection measurement job for an area in UTRAN .....	8
6.4.2 De-activate collection measurement job in UTRAN .....	9
<b>Annex A (informative): Change history .....</b>	<b>10</b>
History .....	11

[ETSI TS 128 307 V17.0.0 \(2022-04\)](https://standards.iteh.ai/catalog/standards/sist/93029402-ba2c-4a66-a512-db020b18400d/etsi-ts-128-307-v17-0-0-2022-04)  
[https://standards.iteh.ai/catalog/standards/sist/93029402-  
ba2c-4a66-a512-db020b18400d/etsi-ts-128-307-v17-0-  
0-2022-04](https://standards.iteh.ai/catalog/standards/sist/93029402-ba2c-4a66-a512-db020b18400d/etsi-ts-128-307-v17-0-0-2022-04)

## Foreword

This Technical Specification 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.

In the present document, modal verbs have the following meanings:

- shall** indicates a mandatory requirement to do something
- shall not** indicates an interdiction (prohibition) to do something

The constructions "shall" and "shall not" are confined to the context of normative provisions, and do not appear in Technical Reports.

The constructions "must" and "must not" are not used as substitutes for "shall" and "shall not". Their use is avoided insofar as possible, and they are not used in a normative context except in a direct citation from an external, referenced, non-3GPP document, or so as to maintain continuity of style when extending or modifying the provisions of such a referenced document.

- should** indicates a recommendation to do something
- should not** indicates a recommendation not to do something
- may** indicates permission to do something
- need not** indicates permission not to do something

The construction "may not" is ambiguous and is not used in normative elements. The unambiguous constructions "might not" or "shall not" are used instead, depending upon the meaning intended.

- can** indicates that something is possible
- cannot** indicates that something is impossible

The constructions "can" and "cannot" are not substitutes for "may" and "need not".

- will** indicates that something is certain or expected to happen as a result of action taken by an agency the behaviour of which is outside the scope of the present document
- will not** indicates that something is certain or expected not to happen as a result of action taken by an agency the behaviour of which is outside the scope of the present document
- might** indicates a likelihood that something will happen as a result of action taken by some agency the behaviour of which is outside the scope of the present document

**might not** indicates a likelihood that something will not happen as a result of action taken by some agency the behaviour of which is outside the scope of the present document

In addition:

**is** (or any other verb in the indicative mood) indicates a statement of fact

**is not** (or any other negative verb in the indicative mood) indicates a statement of fact

The constructions "is" and "is not" do not indicate requirements.

---

## Introduction

The present document is part of a TS-family covering the 3rd Generation Partnership Project; Technical Specification Group Services and System Aspects; Telecommunication management, as identified below:

### **TS 28.307: Management of Quality of Experience (QoE) measurement collection Integration Reference Point (IRP); Requirements**

TS 28.308: Management of Quality of Experience (QoE) measurement collection Integration Reference Point (IRP); Information Service (IS)

TS 28.309: Management of Quality of Experience (QoE) measurement collection Integration Reference Point (IRP); Solution Set (SS) definitions

One main motivation of mobile network evolution is to improve the user experience why the evaluation at the UE side is vital to network operators, especially when the operators provide some real-time services which require for example high data rate and low latency like streaming services (typically video services).

Quality of Experience (QoE) information collection provides detailed information at session level on a number of UEs.

The operator can initiate logging of QoE information of an end user service. The collected information (specified in 3GPP TS 26.247 [2]) cannot be deduced from performance measurements in the mobile network.

The QoE information is information collected by the end user application in the UE.

The QoE information is collected by the management system (e.g. an Operations System (OS) in TMN terminology) for analysis and/or KPI calculations.

---

# 1 Scope

The present document addresses Integration Reference Point (IRP) requirements for the function Quality of Experience (QoE) measurement collection in UMTS and LTE. The measurements that are collected are DASH [2] and MTSI [5] measurements.

The function includes collecting QoE information from UEs frequenting a specified area.

---

# 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 26.247: "Transparent end-to-end Packet-switched Streaming Service (PSS); Progressive Download and Dynamic Adaptive Streaming over HTTP (3GP-DASH)".
- [3] 3GPP TS 28.404: "Telecommunication management; Quality of Experience (QoE) measurement collection; Concepts, use cases and requirements".
- [4] 3GPP TS 25.331: "Radio Resource Control (RRC); Protocol specification".
- [5] 3GPP TS 26.114: "IP Multimedia Subsystem (IMS); Multimedia Telephony; Media handling and interaction".

---

# 3 Definitions of terms, symbols and abbreviations

## 3.1 Terms

For the purposes of the present document, the terms given in TR 21.905 [1] and the following apply. A term defined in the present document takes precedence over the definition of the same term, if any, in TR 21.905 [1].

## 3.2 Symbols

Void.

## 3.3 Abbreviations

For the purposes of the present document, the abbreviations given in TR 21.905 [1] and the following apply. An abbreviation defined in the present document takes precedence over the definition of the same abbreviation, if any, in TR 21.905 [1].

NRS                      Network Request Session

NOTE:    See TS 28.404 [3].

RECS                    RECording Session

NOTE: See 3GPP TS 28.404 [3].

UERS UE Request Session

NOTE: See 3GPP TS 28.404 [3].

---

## 4 Concepts and background

The collection of QoE information for a specified end user service/end user service type either from UEs in a specified area. The collected information is transported to a collection centre, where it can be analysed and/or KPIs can be calculated.

A collection can be requested by an operator technician via the management system to the traffic network. As the network do not have any knowledge which UEs have the capability to record the requested data, therefore the UEs will report whether they have this capability or not when a session set up. UEs that has this capability that match the request from the management system will be requested to start recording the requested information when the request constraints are met. The UE will make the recorded data available for management system.

---

## 5 Business Level Requirements

See business level requirements in 3GPP TS 28.404 [3].

---

## 6 Specification level requirements

### 6.1 Requirements

**REQ-EUSPC-FUN-1:** The IRPManager shall have a capability to request collection of QoE information per end user service/end user service type for a specified area.

**REQ-EUSPC-FUN-2:** The IRPManager shall have a capability to request the collection of QoE information to be stopped before the time for the NRS has expired.

**REQ-EUSPC-FUN-3:** The IRPAgent shall have a capability to notify the IRPManager when a collection of QoE information has been stopped before the time for the NRS has expired.

### 6.2 Actor roles

Please see respective use case.

### 6.3 Telecommunication resources

Please see respective use case.

## 6.4 Use cases

### 6.4.1 Activate collection measurement job for an area in UTRAN

**Table 6.4.1-1: Activate collection measurement job for an area**

Use case stage	Evolution/Specification	<<Uses>> Related use
Goal	To start collecting QoE information for an end user service type in a specified area.	
Actors and roles	IRPManager: Request the start of collection of QoE information.	
Telecom resources	The RNC and the UE	
Assumptions	There are UEs that has the capability to provide the requested information in the specified area.	
Pre-conditions	None.	
Begins when	The IRPManager requests that a NRS shall be started.	
Step 1 (M)	An IRPAgent receives the request and forwards it to the appropriate RNC(s).	
Step 2 (M)	The RNC starts a NRS for the specified area and start checking for UEs that supports QoE information collection.	
Step 3 (M)	For UEs that support QoE information collection, the RNC starts a UERS and forwards the request of collection QoE information to the UE. See ref. 3GPP TS 25.331 [4].	
Step 4 (M)	When the requested end user service is started in the UE, it starts a RECS and records the requested information.	
Step 5 (M)	The UE reports the recorded information to a collection centre via the RNC as long as the end user service session is active during the time for the NRS.	
Step 6 (M)	When the end user service session ends the UE stops the RECS and reports the collected data to a collection centre via the RNC.	
Ends when	When the time for the NRS elapses or when the IRPManager sends a request for de-activation.	
Exceptions		
Post-conditions	None	
Traceability	REQ-EUSPC-FUN-1512-db020b18400d/etsi-ts-128-307-v17-0-	
NOTE:	Steps 4, 5 and 6 are repeated in a NRS for every time a session that starts the requested end user service in the UE.	

NOTE: A similar use case is valid for LTE.

## 6.4.2 De-activate collection measurement job in UTRAN

**Table 6.4.2-1: De-activate collection measurement job**

Use case stage	Evolution/Specification	<<Uses>> Related use
Goal	To stop collecting more QoE information for an NRS before the time for the NRS has expired.	
Actors and roles	IRPManager: Request to stop the collection of QoE information.	
Telecom resources	The RAN node, HSS and the UE	
Assumptions	None.	
Pre-conditions	A NRS is started.	
Begins when	The IRPManager requests that a NRS shall be stopped.	
Step 1 (M)	An IRPAgent receives the request and forwards it to the RNC or the HSS.	
Step 2 (O)	The HSS transfers the request to the RNC via the SGSN.	
Step 3 (M)	The RNC node stops the NRS and informs the UE to not start new RECS.	
Step 4 (O)	The RNC node informs HSS, via SGSN, that the NRS is stopped.	
Step 5 (O)	The HSS stops the NRS.	
Ends when	When the IRP Manager receives the notification that the NRS is stopped.	
Exceptions	None.	
Post-conditions	None.	
Traceability	REQ-EUSPC-FUN-3 and REQ-EUSPC-FUN-4.	

NOTE: A similar use case is valid for LTE.

**ITeH STANDARD  
PREVIEW  
(standards.iteh.ai)**

[ETSI TS 128 307 V17.0.0 \(2022-04\)](https://standards.iteh.ai/catalog/standards/sist/93029402-ba2c-4a66-a512-db020b18400d/etsi-ts-128-307-v17-0-0-2022-04)  
<https://standards.iteh.ai/catalog/standards/sist/93029402-ba2c-4a66-a512-db020b18400d/etsi-ts-128-307-v17-0-0-2022-04>