



**Digital cellular telecommunications system (Phase 2+) (GSM);
Universal Mobile Telecommunications System (UMTS);
LTE;
Customized Alerting Tones (CAT) requirements;
Stage 1
(3GPP TS 22.182 version 15.0.0 Release 15)**



Reference

RTS/TSGS-0122182vf00

Keywords

GSM,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
<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/CommiteeSupportStaff.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.

© ETSI 2018.
All rights reserved.

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 protected for the benefit of its Members.

GSM® and the GSM logo are trademarks registered and owned by the GSM Association.

Intellectual Property Rights

Essential patents

IPRs essential or potentially essential to normative deliverables 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.

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.

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	5
3.1 Definitions	5
3.2 Abbreviations	6
4 CAT Service Requirements.....	6
4.1 Basic functionality of the CAT service	6
4.1.1 CAT functionality in IMS domain.....	7
4.1.2 CAT functionality in the CS domain	7
4.2 Normal procedures with successful outcome	8
4.2.1 Provisioning and Withdrawal	8
4.2.2 Activation and Deactivation and Update	8
4.2.2.1 Activation.....	8
4.2.2.2 Deactivation	8
4.2.3 Basic scenarios.....	8
4.2.3.0 CAT to be supported in the CS domain	8
4.2.3.1 Only called party has activated the CAT service	8
4.2.3.2 Only calling party has activated the CAT service	9
4.2.3.3 Both parties have activated the CAT service	9
4.2.4 Interaction with Supplementary Services	9
4.2.4.1 Originating Identification Restriction (OIR).....	10
4.2.4.2 Terminating Identification Restriction (TIR).....	10
4.2.4.3 Communication Diversion (CDIV).....	10
4.2.4.4 Communication Waiting (CW).....	11
4.2.4.5 Explicit Communication Transfer (ECT).....	11
4.3 CAT service configuration	12
4.4 The content of CAT.....	12
4.5 Inter-working CAT.....	12
4.5.1 CAT Interworking between different PLMNs	12
4.5.2 Interworking between CS and IMS based CAT services.....	12
5 CAT Service Interoperability	13
Annex A (informative): Change history	14
History	15

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.

iTeh STANDARD PREVIEW
(standards.iteh.ai)
Full standard:
<https://standards.iteh.ai/catalog/standards/sist/bccc4be9-0bca-4874-ba16-c1260f6379a3/etsi-ts-122-182-v15.0.0-2018-07>

1 Scope

The present document specifies the requirements and technical considerations for Customized Alerting Tone (CAT) service in both CS and PS domains, especially additional features for roaming and interoperability support.

This document considers voice and multi-media CAT, so the CAT user may experience favourable songs, multi-media clips or other customized alerting tones.

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 22.173: "IP Multimedia Core Network Subsystem (IMS) Multimedia Telephony Service and supplementary services; Stage 1"
- [3] 3GPP TS 22.240: "Service requirements for 3GPP Generic User Profile (GUP); Stage 1".

3 Definitions, symbols and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions 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].

Alerting Tone: An indication that is played to the calling party during establishment of a call or during an established call session indicating one of the following:

- that the called subscriber is being alerted.
- the progress of communication request (Call Forward, Call Wait etc.)
- any alerting event during a call session

Customized Alerting Tone: An Alerting Tone that is customized by the called subscriber or the calling subscriber, and it can contain additional media types.

Customized Alerting Tone Service: A Customized Alerting Tone Service (CAT service) is an operator specific service by which an operator enables the subscriber to customize his alerting tone.

CAT Inter-action: is the interaction of the CAT service with other services, e.g. CAT Inter-action with Call Forwarding.

CAT Inter-working : Multiple Domains Inter-working is the interworking of a CAT service over different domains or subsystems (CS or IMS) as well as between PLMNs.

CAT content provider: A service provider that provides a set of Alerting Tones for use as CAT for subscribers of the CAT service. A 3GPP operator may be a CAT content provider.

3.2 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].

CAT Customized Alerting Tone

4 CAT Service Requirements

4.1 Basic functionality of the CAT service

The Customized Alerting Tone Service (CAT service) is an operator specific service by which an operator enables the subscriber to customize the alerting tone which is played to the calling party. The calling party does not need to be a CAT subscriber to experience the CAT set by called subscriber. CAT service should not negatively affect the conversation between calling and called parties, e.g. no voice/video clipping, no longer communication setup time.

- The service shall support the CAT content types of audio, video, image, graphic, text, location and electronic business card.
- CAT can contain one or several content types, and at most one element of each type.
- The calling party should be able to simultaneously experience multiple CAT contents, e.g. audio and video.
- The service user shall be able to subscribe the CAT service, activate the CAT service, update the settings, e.g. to change his active CAT.
- The calling party shall be able to experience the CAT set by the called CAT service subscriber.
- The CAT shall override the default alerting tone towards the calling party.
- The operator should have the capability to store multiple CATs per CAT service subscriber.
- The CAT subscriber should be able to configure the CAT service. The CAT service should be able to select the appropriate CAT according to the rules. The CAT subscriber profile is based on the following parameters:
 1. CAT content descriptor - Pointing to the right content or combination of contents (e.g. personal prompt plus chosen music track).
 2. CAT timing descriptor - Time of day, day of week, specific date and intervals based on each of those parameters.
 3. User (called/calling party) descriptor - user ID (or group ID of users), user presence, user location, CAT user charging mode

Note 1: As location information may be restricted in some instances, the default user location may be a generic "unknown".

Note 2: Presence information for a CS user is limited to attached or detached

- The CAT service shall be able to select the appropriate CAT according to the CAT user profile.
- The operator shall be able to verify that the party is authorised to store and update CAT content.
- The operator shall be able to set limitations on file type, file size, etc. for storing the CAT content.
- It should be possible to inform the user about status and changes in his CAT service, e.g. close expiry date for the CAT service or a particular CAT content.

Note: In the CS domain, this information may be provided by existing means such as SMS and web access.

- The operator shall be able to charge for the CAT service on event, volume or media type basis.

- The called party shall be able to pre-configure the CAT service. The preconfigured service is played upon receipt of an incoming communication notification. This may be based upon the calling party identity.
- The calling party should be able to reject the CAT service based on rules e.g. time, the identity of the called party.
- It shall be possible for a CAT subscriber to subscribe to a CAT that is provided by a third party content provider.

4.1.1 CAT functionality in IMS domain

The functions identified here are specific to communications made between users within the IMS.

- The calling party shall be able to experience the CAT set by the calling CAT service subscriber, both when the calling party is within HPLMN and when roaming.
- The calling party's operator shall be able to configure which CAT should have priority, the one set by the called or calling CAT service subscriber. The calling party's operator shall be able to take into account the calling CAT service subscriber's preferences. By default, if no preference is set, the CAT set by the calling party has priority.
- When the called party answers the communication the CAT shall stop or continue to play during the conversation, depending on operator or user preferences.
- When the called party is notified about an incoming communication, the called party shall be able to send an indication to the CAT service which CAT to play to the calling party. This CAT-B indication shall have priority over a pre-configured CAT-B.
- When the CAT is playing, the calling party shall be able to stop it, subject to service provider policy, and then he shall experience the default alerting tone for the duration of the communication establishment.

Note 1: The default alerting tone may be a CAT selected by the operator in the event of e.g. CAT STOP.

- The calling user shall have the possibility to copy the CAT of the called user as his own while the CAT is being played. The pre-requisites are that the called user has enabled CAT sharing, if applicable, for that instance of CAT and that both users are subscribers to the same HPLMN.

Note 2: A CAT might also be copied offline via e.g. web interface but that functionality does not require standardisation.

Note 3: The expression "to copy the CAT" does not necessarily mean that the CAT is actually copied. It may also mean that a purchase request is being sent to the CAT service provider.

4.1.2 CAT functionality in the CS domain

The functions identified here are specific to communications made between users within the CS domain.

- The calling party shall be able to experience the CAT set by the calling CAT service subscriber when in the HPLMN. When roaming this function may not be available.
- The calling party's operator shall be able to configure which CAT should have priority, the one set by the called or calling CAT service subscriber. By default, if no preference is set, the CAT set by the calling party has priority.
- When the called party answers the communication the CAT shall stop.
- When the CAT is playing, the calling party shall be able to stop it, subject to service provider policy, and then he shall experience the default alerting tone for the duration of the communication establishment. The pre-requisites are that both called and calling user are subscribers to the same HPLMN and the calling user is within the HPLMN.

Note 1: The default alerting tone may be a CAT selected by the operator in the event of e.g. CAT STOP.

- The calling user shall have the possibility to copy the CAT of the called user as his own while the CAT is being played. The pre-requisites are that the called user has enabled CAT sharing, if applicable, for that instance of CAT and that both users are subscribers to the same HPLMN and the calling user is within the HPLMN.

Note 2: A CAT might also be copied offline via e.g. web interface but that functionality does not require standardisation.

Note 3: The expression "to copy the CAT" does not necessarily mean that the CAT is actually copied. It may also mean that a purchase request is being sent to the CAT service provider.

- The calling party UE shall be able to start automatically downloading and streaming CAT content through PS domain during the call setup. Downloaded CAT content shall not be used for other purposes except CAT service.

4.2 Normal procedures with successful outcome

4.2.1 Provisioning and Withdrawal

The CAT Service can be provisioned and withdrawn by the operator per subscriber. Procedures for provisioning and withdrawal are out of scope of standardisation.

4.2.2 Activation and Deactivation and Update

4.2.2.1 Activation

When a subscriber activates his CAT Service he shall be able to specify which CAT a calling user should experience, or use the operator's default setting.

After a subscriber has activated his CAT Service a calling user should experience the CAT that was chosen by the subscriber.

4.2.2.2 Deactivation

After a subscriber has deactivated his CAT Service a calling user should experience the default alerting tone.

4.2.3 Basic scenarios

4.2.3.0 CAT to be supported in the CS domain

Alerting the called subscriber constitute the basic CAT service requirements, while other CATs may be considered optional

The following table summarize these cases:

Table 0: Normal Operation Scenarios

Scenarios	CAT Support
The called subscriber is being alerted	Mandatory
The progress of communication request (Call Forward, Call Wait, User busy etc.)	Mandatory
Others	Optional

4.2.3.1 Only called party has activated the CAT service

In the following scenarios, contained in table 1, it is assumed that the called party (B) has activated his CAT Service. Calling party (A) is calling B. The calling party has not subscribed and/or activated the CAT service.

The Customized Alerting Tone of B is CAT-B.