

ETSI TS 122 268 V15.2.0 (2018-10)



**Digital cellular telecommunications system (Phase 2+) (GSM);
Universal Mobile Telecommunications System (UMTS);
Public Warning System (PWS) requirements
(3GPP TS 22.268 version 15.2.0 Release 15)**

Standard PREVIEW
Full standard available at: https://standards.iteh.ai/catalog/standards/sist/63542b0-7924-4fe3-bef3-db78725e6420/etsi-ts-122-268-v15-2-0-2018-10



ReferenceRTS/TSGS-0122268vf20

KeywordsGSM,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 and abbreviations.....	6
3.1 Definitions	6
3.2 Abbreviations	6
4 General PWS Requirements	6
4.1 Background	6
4.2 High level general requirements for Warning Notification delivery	6
4.3 Warning Notification Content	7
4.4 Granularity of the distribution	7
4.5 Support of Warning Notification Providers.....	7
4.6 PWS-UE Requirements	8
4.6.1 General Requirements.....	8
4.6.2 Support of non-Warning Notification capable UEs	8
4.6.3 Battery Life of PWS-UE.....	8
4.6.4 Enabling and disabling of Warning Notifications	8
4.7 Roaming Requirements	9
4.8 Security Requirements	9
4.9 Regulatory Requirements	9
5 Earthquake and Tsunami Warning System	9
5.1 Background	9
5.2 Duration of delivery time	10
5.3 Information element and volume.....	10
5.4 Priority.....	10
5.5 Roaming users	11
6 CMAS Specific Requirements	12
6.1 Introduction to CMAS	12
6.2 Additional PWS Requirements Specific to CMAS	12
7 EU-ALERT Specific Requirements	13
7.1 Introduction to EU-ALERT	13
7.2 Additional PWS Requirements Specific to EU-ALERT	13
8 Korean Public Alert System specific Requirements	14
8.1 Introduction to Korean Public Alert System	14
8.2 Additional PWS Requirements Specific to Korean Public Alert System (KPAS)	14
Annex A (informative): Change history	16
History	17

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.

PREVIEW
iTech STANDARD
(standards.iteh.ai)
Full standard:
<https://standards.iteh.ai/catalog/standards/sist/f655a3b0-7924-4fe3-bef3-db78725e6420/etsi-ts-122-268-v15.2.0-2018-10>

1 Scope

This Technical Specification defines the stage one description of the Public Warning System (PWS) Requirements. Stage one is the set of requirements seen primarily from the users' and service providers' points of view.

The scope of this TS covers the core requirements for the PWS that are sufficient to provide a complete service. This TS also covers subsystem additional requirements for the Earthquake and Tsunami Warning System (ETWS) and the Commercial Mobile Alert System (CMAS).

This TS includes information applicable to network operators, service providers, terminal and network manufacturers, in case of deployment of PWS, ETWS, and or CMAS. PWS, ETWS and CMAS deployment depends on operator decision or national regulations.

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] FCC 08-99: "Federal Communications Commission First Report and Order In the Matter of The Commercial Mobile Alert System"; April 9, 2008.
- [2] FCC 08-164: "Federal Communications Commission Second Report and Order and Further Notice of Proposed Rulemaking In the Matter of The Commercial Mobile Alert System"; July 8, 2008.
- [3] FCC 08-184: "Federal Communications Commission Third Report and Order and Further Notice of Proposed Rulemaking In the Matter of The Commercial Mobile Alert System"; August 7, 2008.
- [4] J-STD-100: "Joint ATIS/TIA-CMAS Mobile Device Behavior Specification"; January 30, 2009.
- [5] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".
- [6] ETSI TS 102 900: "European Public Warning System (EU-ALERT) using the Cell Broadcast Service".
- [7] TTA TTA.KO-06.0263: "Korean Public Alert System over LTE network".
- [8] FCC 16-127, Federal Communications Commission Report and Order and Further Notice of Proposed Rulemaking In the Matter of Wireless Emergency Alerts Amendments to Part 11 of the Commission's Rules Regarding the Emergency Alert System; September 29, 2016.
- [9] 3GPP TS 23.038; "Alphabets and language-specific information"
- [10] FCC 18-4, Federal Communications Commission Second Report and Order and Second Order on Reconsideration In the Matter of Wireless Emergency Alerts and Amendments to Part 11 of the Commission's Rules Regarding the Emergency Alert System; January 30, 2018
- [11] 3GPP TS 22.071: "Location Services (LCS); Service description; Stage 1"

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in TR 21.905 [5] 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 [5].

Commercial Mobile Alert System (aka, Wireless Emergency Alert): Public Warning System that delivers *Warning Notifications* provided by *Warning Notification Providers* to CMAS capable PWS-UEs. CMAS defines the following classes of Warning Notifications: Presidential, Imminent Threat, Public Safety, Child Abduction Emergency, and State/Local WEA Test.

Earthquake and Tsunami Warning System: Public Warning System that delivers *Warning Notifications* specific to Earthquake and Tsunami provided by *Warning Notification Providers* to the UEs which have the capability of receiving Primary and Secondary *Warning Notifications* within *Notification Areas* through the 3GPP network

Notification Area: area where *Warning Notifications* are broadcast. This is an area that closely approximates the geographical information provided by the Warning Notification Provider

PWS-UE: User Equipment (UE) which has the capability of receiving Warning Notifications within Notification Areas through the 3GPP network and conforms to the behaviour specific to the PWS service such as dedicated alerting indication and display of the Warning Notification upon reception

3.2 Abbreviations

For the purposes of the present document, the abbreviations given in TR 21.905 [5] 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 [5]

CMAS	Commercial Mobile Alert System
EOC	Emergency Operations Center
ETWS	Earthquake and Tsunami Warning System
KPAS	Korean Public Alert System
PWS	Public Warning System
WEA	Wireless Emergency Alert

4 General PWS Requirements

4.1 Background

Recently there has been an interest to ensure that the public has the capability to receive timely and accurate alerts, warnings and critical information regarding disasters and other emergencies irrespective of what communications technologies they use. As has been learned from disasters such as earthquakes, tsunamis, hurricanes and wild fires; such a capability is essential to enable the public to take appropriate action to protect their families and themselves from serious injury, or loss of life or property.

This interest to enhance the reliability, resiliency, and security of Warning Notifications to the public by providing a mechanism to distribute Warning Notifications over 3GPP systems is the impetus for this Public Warning System Technical Specification.

4.2 High level general requirements for Warning Notification delivery

The following list gives the high level general requirements for Warning Notification delivery:

- PWS shall be able to broadcast Warning Notifications to multiple users simultaneously with no acknowledgement required.
- PWS shall be able to support concurrent broadcast of multiple Warning Notifications.
- Warning Notifications shall be broadcast to a Notification Area which is based on the geographical information as specified by the Warning Notification Provider.
- PWS capable UEs (PWS-UE) in idle mode shall be capable of receiving broadcasted Warning Notifications.

Note: A bandwidth reduced low complexity UE or a UE supporting eDRX may not support all requirements for PWS, including ETWS, CMAS, EU-Alert and KPAS

- PWS shall only be required to broadcast Warning Notifications in languages as prescribed by regulatory requirements.
- Warning Notifications are processed by PWS on a first in, first out basis, subject to regulatory requirements.
- Reception and presentation of Warning Notifications to the user shall not pre-empt an active voice or data session.
- Warning Notifications shall be limited to those emergencies where life or property is at imminent risk, and some responsive action should be taken.

NOTE: This requirement does not prohibit the use of the operator's network (i.e. broadcast technology) implemented for Warning Notifications to be used for commercial services.

4.3 Warning Notification Content

PWS shall not modify or translate the Warning Notification content specified by the Warning Notification Provider.

It is expected that Warning Notifications would likely include the following five elements:

- Event Description
- Area Affected
- Recommended Action
- Expiration Time (with time zone)
- Sending Agency

Additional elements may be present, based on regulatory requirements.

There is a concern that URLs or telephone numbers in a Warning Notification could exacerbate wireless network congestion at a time when network traffic is already dramatically increasing as individuals contact police, fire, and rescue personnel, as well as their loved ones. Therefore, Warning Notifications should not contain anything that would drive immediate and debilitating traffic loads into the PLMN (i.e., URLs or dialable numbers) unless required by regional regulation.

4.4 Granularity of the distribution

Requirements for the granularity of the distribution of Warning Notifications include:

- Based on the geographical information indicated by the Warning Notification Provider, it shall be possible for the PLMN operators to define the Notification Area based on their network configuration of the area coverage such as distribution of cells, Node Bs, RNCs, etc.

4.5 Support of Warning Notification Providers

PLMN operators shall, at a minimum, be able to support the following functionalities through interaction with Warning Notification Providers:

- Activation of Warning Notification delivery

It shall be possible for multiple Warning Notifications to be activated concurrently from one or more Warning Notification Providers.

- Cancellation of Warning Notification delivery

A cancellation is a command from the Warning Notification Provider to stop dissemination of a specific Warning Notification.

- Updating of Warning Notification delivery

Warning Notification Providers update a previous Warning Notification to provide new instructions/information to the PLMN operator. When the Warning Notification Provider updates a previous Warning Notification they provide an identifier that allows the PLMN operator to associate the updated Warning Notification with the previous Warning Notification.

Additional functionality may be required based on regulatory or operator policy requirements.

4.6 PWS-UE Requirements

4.6.1 General Requirements

PWS-UEs shall only be required to receive and present Warning Notifications in languages as presented by the Warning Notification Provider. Regional/regulatory requirements may require the Warning Notifications to be broadcast in multiple languages.

There shall be no requirement for language translation in the operator's network or the UE.

It shall be possible for the Warning Notification to be displayed on the PWS-UE upon reception and without any user interaction.

It shall be possible for users to configure the behavior of a PWS-UE with regard to Warning Notification alerting and should allow at least volume adjustment.

The PWS-UE shall support a dedicated alerting indication (audio attention signal and a dedicated vibration cadence) and be distinct from any other device alerts and restricted to use for Warning Notification purposes. The User Interface shall support the ability for the user to suppress the dedicated audio attention signal and/or the dedicated vibration cadence when a Warning Notification is received.

The alerting indication for a specific Warning Notification shall continue until suppressed by users' manual operation (e.g. by pushing keys). The frequency and duration of the continued alerting indication is mobile device implementation specific. This shall not suppress the alerting indication for subsequent Warning Notifications.

The PWS-UE shall automatically suppress duplicate notifications. A duplicate is a repetition of a previous notification as determined by unique parameters.

The PWS-UE shall not support any capabilities to forward received Warning Notifications, to reply to received Warning Notifications, or to copy and paste the content of Warning Notifications.

PWS-UEs should have the ability to present previously displayed Warning Notifications if requested by the user.

- PWS-UE shall be able to support concurrent reception of multiple Warning Notifications.

4.6.2 Support of non-Warning Notification capable UEs

Support of non-Warning Notification capable UEs is subject to regulatory requirements and/or operator's policy.

4.6.3 Battery Life of PWS-UE

Battery life of the PWS-UE shall not be significantly reduced by PWS.

4.6.4 Enabling and disabling of Warning Notifications

The PWS-UE shall be configured to receive all Warning Notifications.

It shall be possible for users to disable (e.g., opt-out) presentation of some or all of the Warning Notifications, subject to regulatory requirements and/or operator policy. The user shall be able to select PWS-UE enabling/disabling options via the User Interface to disable, or later enable, the PWS-UE behavior in response to some or all Warning Notifications. Depending on the regional/regulatory requirements, the user shall be able to receive Warning Notifications in one or more selected languages.