



ATIS-0700043

ATIS Standard on -

**Wireless Emergency Alert (WEA) 3.0 via 5G Public Warning
System Specification**



As a leading technology and solutions development organization, the Alliance for Telecommunications Industry Solutions (ATIS) brings together the top global ICT companies to advance the industry's most pressing business priorities. ATIS' nearly 200 member companies are currently working to address the All-IP transition, 5G, network functions virtualization, big data analytics, cloud services, device solutions, emergency services, M2M, cyber security, network evolution, quality of service, billing support, operations, and much more. These priorities follow a fast-track development lifecycle — from design and innovation through standards, specifications, requirements, business use cases, software toolkits, open source solutions, and interoperability testing.

ATIS is accredited by the American National Standards Institute (ANSI). The organization is the North American Organizational Partner for the 3rd Generation Partnership Project (3GPP), a founding Partner of the oneM2M global initiative, a member of the International Telecommunication Union (ITU), as well as a member of the Inter-American Telecommunication Commission (CITEL). For more information, visit www.atis.org.

Notice of Disclaimer & Limitation of Liability

The information provided in this document is directed solely to professionals who have the appropriate degree of experience to understand and interpret its contents in accordance with generally accepted engineering or other professional standards and applicable regulations. No recommendation as to products or vendors is made or should be implied.

NO REPRESENTATION OR WARRANTY IS MADE THAT THE INFORMATION IS TECHNICALLY ACCURATE OR SUFFICIENT OR CONFORMS TO ANY STATUTE, GOVERNMENTAL RULE 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. ATIS SHALL NOT BE LIABLE, BEYOND THE AMOUNT OF ANY SUM RECEIVED IN SETTLEMENT BY ATIS FOR THIS DOCUMENT, AND IN NO EVENT SHALL ATIS BE LIABLE FOR LOST PROFITS OR OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGES. ATIS EXPRESSLY ADVISES THAT ANY AND ALL USE OF OR RELIANCE UPON THE INFORMATION PROVIDED IN THIS DOCUMENT IS AT THE RISK OF THE USER.

NOTE - The user's attention is called to the possibility that compliance with this standard may require use of an invention covered by patent rights. By publication of this standard, no position is taken with respect to whether use of an invention covered by patent rights will be required, and if any such use is required no position is taken regarding the validity of this claim or any patent rights in connection therewith. Please refer to [<http://www.atis.org/legal/patentinfo.asp>] to determine if any statement has been filed by a patent holder indicating a willingness to grant a license either without compensation or on reasonable and non-discriminatory terms and conditions to applicants desiring to obtain a license.

Published by

Alliance for Telecommunications Industry Solutions
1200 G Street, NW, Suite 500
Washington, DC 20005

Copyright © 2020 by Alliance for Telecommunications Industry Solutions
All rights reserved.

No part of this publication may be reproduced in any form, in an electronic retrieval system or otherwise, without the prior written permission of the publisher. For information contact ATIS at 202.628.6380. ATIS is online at < <http://www.atis.org> >.

Wireless Emergency Alert (WEA) 3.0 via 5G Public Warning System Specification

Alliance for Telecommunications Industry Solutions

Approved June 26, 2023

Abstract

This Standard describes the use of the 5G System (5GS) Public Warning System (PWS) for the broadcast of Wireless Emergency Alert (WEA) 3.0 messages and includes the mapping of WEA 3.0 application level messages to the Cell Broadcast Center function (CBCF) message structure as used within the 5GS.

Foreword

The Alliance for Telecommunication Industry Solutions (ATIS) serves the public through improved understanding between carriers, customers, and manufacturers. The Wireless Technologies and Systems Committee (WTSC) develops and recommends standards and technical reports related to wireless and/or mobile services and systems, including service descriptions and wireless technologies. WTSC develops and recommends positions on related subjects under consideration in other North American, regional, and international standards bodies.

The mandatory requirements are designated by the word shall and recommendations by the word should. Where both a mandatory requirement and a recommendation are specified for the same criterion, the recommendation represents a goal currently identifiable as having distinct compatibility or performance advantages. The word may denotes an optional capability that could augment the standard. The standard is fully functional without the incorporation of this optional capability.

Suggestions for improvement of this document are welcome. They should be sent to the Alliance for Telecommunications Industry Solutions, WTSC 1200 G Street NW, Suite 500, Washington, DC 20005.

At the time of consensus on this document, WTSC, which was responsible for its development, had the following leadership:

- D. Zelmer, WTSC Chair (AT&T)
- M. Younge, WTSC Vice Chair (T-Mobile)
- P. Musgrove, WTSC SN Chair (AT&T)
- G. Schumacher, WTSC SN Vice Chair (Sprint)
- P. Sanders, Technical Editor (one2many)

The WTSC Systems & Networks (SN) Subcommittee was responsible for the development of this document.

Table of Contents

1	Scope, Purpose, & Application	1
1.1	Scope.....	1
1.2	Purpose	1
1.3	Application	1
2	Normative References	1
3	Definitions, Acronyms, & Abbreviations	2
3.1	Definitions	2
3.2	Acronyms & Abbreviations.....	3
4	Requirements	3
4.1	General WEA Requirements	3
4.2	Cell Broadcast Center Function (CBCF) Requirements	3
4.3	CMSP Gateway Requirements	4
4.4	UE Requirements	4
4.5	CBCF to AMF Requirements	4
4.6	Lawful Interception Requirements	4
5	Functional Architecture and Interfaces	4
6	WEA Call Flows	6
7	Warning Message Delivery for WEA Application	6
7.1	WEA Interfaces.....	6
7.2	Warning Message Delivery Service & WEA	6
7.3	Overview of WEA Element Mapping.....	7
7.4	Mapping of CBEM Elements from CMAC Elements.....	Error! Bookmark not defined.
7.5	Mapping of WEA Message and WHAM to WRITE-REPLACE-WARNING- REQUEST-NG-RAN Message	7
7.6	Mapping of WEA Message and WHAM to STOP-WARNING-REQUEST-NG-RAN Message	7

Table of Figures

Figure 5.1:	5GS Warning System Architecture for WEA.....	5
Figure 5.2:	WEA Reference Diagram for 5GS Public Warning System	5
Figure 7.1:	WEA Message Relationship	6

Table of Tables

Table 7.1:	Mapping CBEM Elements to WRITE-REPLACE-WARNING-REQUEST-NG-RAN Parameters	7
Table 7.2:	Mapping of CBEM Elements to STOP WARNING REQUEST NG-RAN Message Parameters	8