



5G Broadcast Emergency Alerts

5G
MAG

REFERENCE
< TOOLS />



UNIVERSITAT
POLITÈCNICA
DE VALÈNCIA

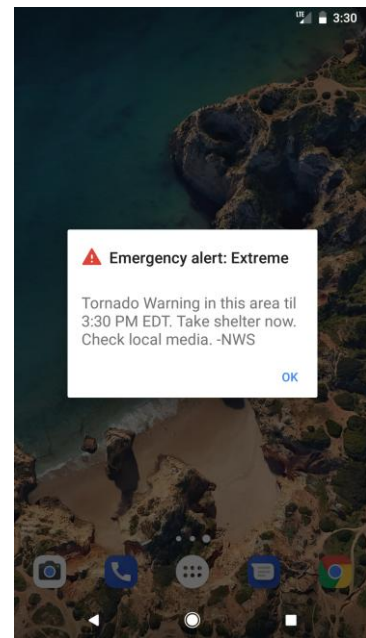




5G Broadcast: Emergency Alerts

Reference Tools, what is being implemented?

- Public warning capabilities from 3GPP integrated in 5G Broadcast
- Cell Broadcast Service (CBS) does not require authentication with a PLMN.
- A Receive-only Mode network is compatible with CBS by default.
- CMAS (commercial mobile alert system) is available in current commercial devices.
- Devices monitor periodically a low-duty cycle paging channel (low power)
- Additional capabilities of CMAS:
 - Geofencing (send notification to users within a given area)
 - Possibility of sending URL linking to emergency media



EMERGENCY ALERT NOTIFICATION

Emergency Notification

Emergency Media Service

Broadcast

Cell Broadcast System Components

Public Warning Agency

WHERE TO LOOK AT?

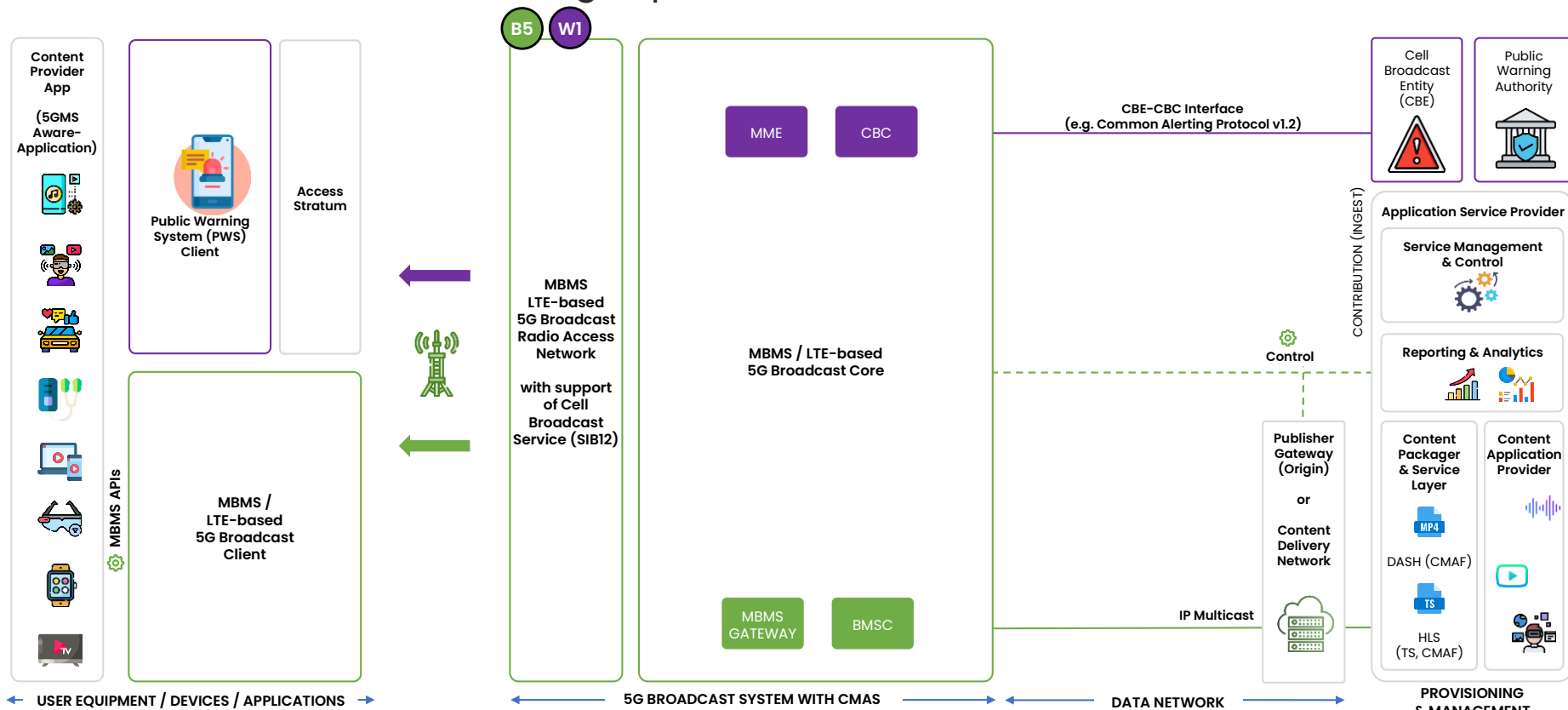
All the [Technical Resources](#)
Information on [Standards](#)
Reference Tools available:

- [Project: Emergency Alerts over 5G Broadcast](#)



5G Broadcast: Emergency Alerts

Reference Tools, what is being implemented?



B

MBMS / LTE-based 5G Terrestrial Broadcast

W

Cell Broadcast Service



5G Broadcast: Emergency Alerts

Reference Tools, what is being implemented?

W1



rt-mbms-tx-for-qrd-and-crd/emergency-alerts
(5G Broadcast TX for QRD & CRD with branch for PWS)



AGPLv3.0



srsenb
srsepc
srsmbms



Operating System:
(Linux, Windows, Android)



Packages:
(APK, Docker)



Cloud Installation
Support



API Tool
Support



Web Interface
Support



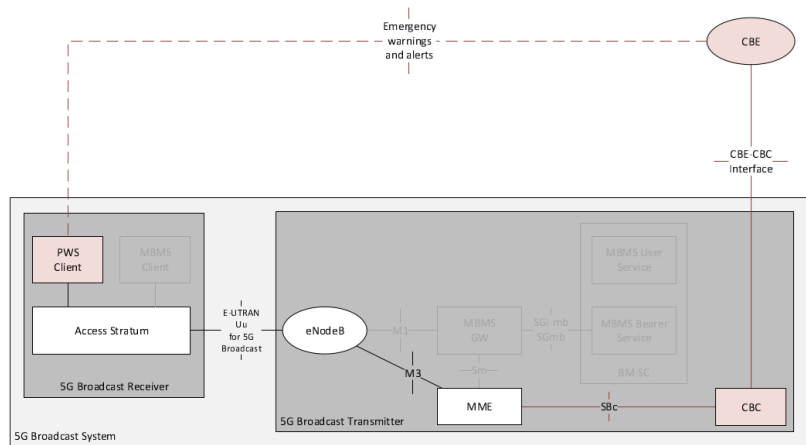


5G Broadcast: Emergency Alerts

Reference Tools, what is being implemented?

Basic implementation of SIB 12 delivery over SDR Transmitter for QRD/CRD

- Implementation of **Cell Broadcast Service** functions:
 - Cell Broadcast Entity (CBE)**
 - Cell Broadcast Center (CBC)**
- Implementation of **interface CBE-CBC** with Common Alerting Protocol v1.2 (**CAP v1.2**)
- Implementation of **interface SBc** between **CBC** and **MME**
- Currently supported**
 - SIB12 delivery over eNodeB
- Not implemented and welcome...**
 - Development of MME with interface to CBC
 - Development of CBC and interface to MME
 - Development of CBE generating CAPv1.2 to CBC
 - Mapping of CAPv1.2 to SIB12





5G Broadcast: Emergency Alerts

Reference Tools, what is being implemented?

Check our Tutorials and join the Developer Community

How to use the tools? [Check the GitHub Tutorials](#)

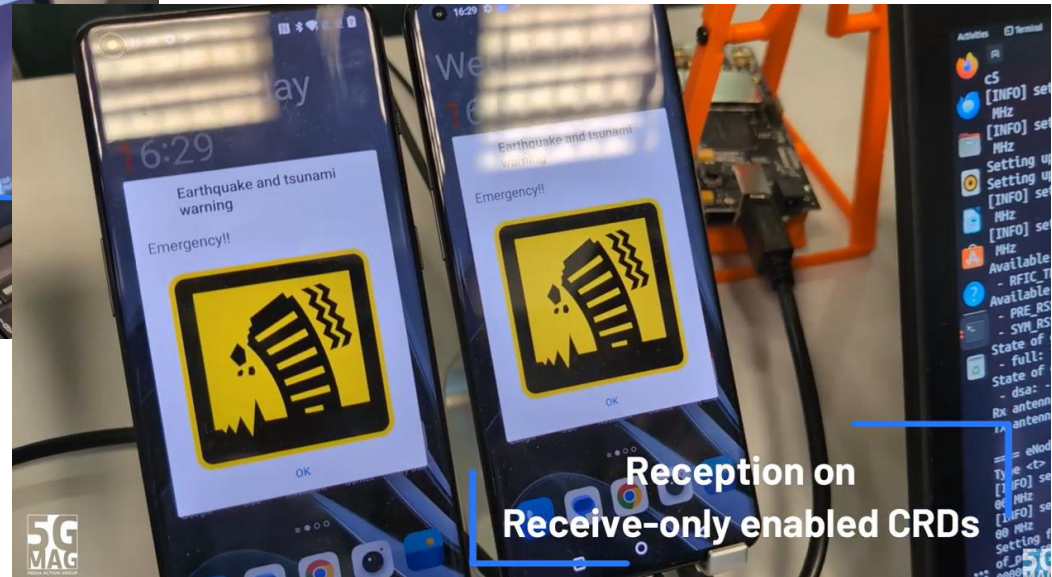
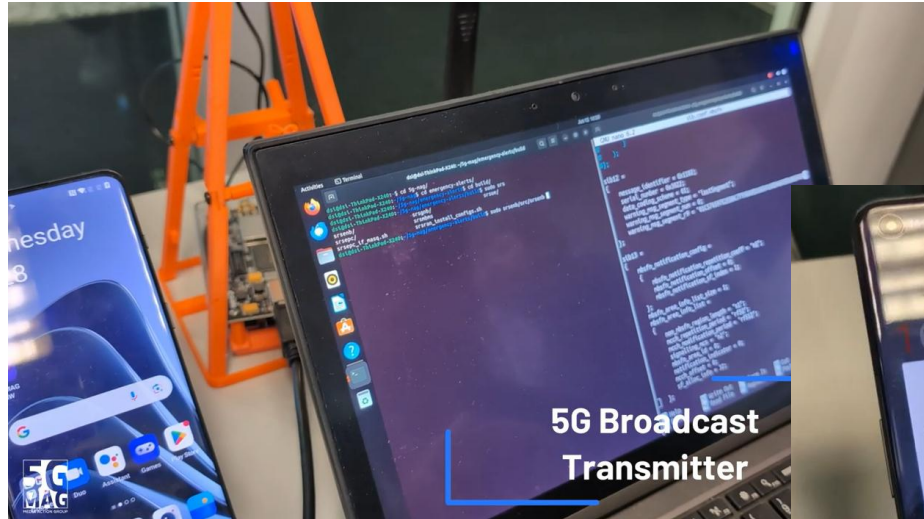


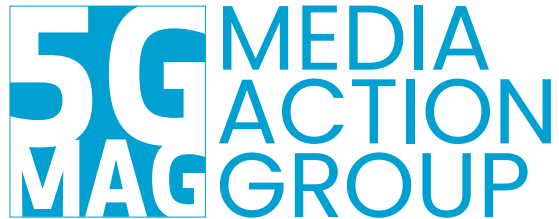


5G Broadcast: Emergency Alerts

Reference Tools, what is being implemented?

5G-MAG Reference Tools in action





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