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Reference: Report [ITU-R BT.2299](#)

## North American Broadcasters Association

### PROPOSED NEW OPINION OF STUDY GROUP 6

#### The activation of radio receivers in smart phones

The North American Broadcasters Association<sup>1</sup>, (NABA, [www.nabanet.com](http://www.nabanet.com)) is an association of broadcasters within ITU-R Region 2 countries Canada, Mexico and the United States. The NABA Technical Committee is its standing technical body.

NABA is a Sector Member of ITU-R and a long-time participant in ITU-R Study Groups, Working Parties, Task Groups, Rapporteur Groups, etc. NABA numbers among its members Chairmen, Vice-Chairmen and members of the above groups. NABA also participates widely in the ITU work on radio, television and multimedia services.

NABA notes that that Report ITU-R BT.2299, entitled “Broadcasting for public warning, disaster mitigation and relief”, provides a compilation of supporting evidence that terrestrial broadcasting plays a critically important role in disseminating information to the public in times of emergencies. Furthermore, the overall robustness of broadcast services is enhanced by the geographical diversity of multiple radio and television services within a given region. If one or a few radio and television broadcasters are not able to remain in service, or have an outage, other broadcast signals are usually available. Also radio receivers are nearly always reliable, regardless of almost any disorder or disruption taking place in the affected disaster area.

NABA also notes that the majority of smart phones contain hardware that consists of a multitude of connectivity capabilities including, among other things, *Bluetooth* and similar technologies. Regardless of the chipset manufacturer selected by the smart phone maker, FM receivers have a nearly 100 percent inclusion in this set of connectivity chips.

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<sup>1</sup> NABA members include: Ad-ID LLC; Bell Media, CBC/Radio-Canada; CBS Broadcasting, Inc.; Corus Entertainment; DIRECTV, Inc.; Disney/ABC Television Group; Dolby Laboratories, Inc.; Emmis Communications; Ericsson Television Inc.; Eutelsat America Corp.; Evertz Microsystems Ltd.; Fox Entertainment Group, Inc.; Grupo Televisa S.A.; Harmonic, Inc.; HD Radio™ – a DTS Solution; HERE; Imagine Communications; Inmarsat; Intelsat; Level 3; National Association of Broadcasters (NAB); NPR; NBC Universal; Nautel; Pearl TV; Public Broadcasting Service (PBS); SES; Sinclair Broadcast Group (SBG); Time Warner, Inc.; TV Azteca S.A. de C.V.; and Univision Communications Inc.

NABA requests that Working Party 6A consider the Proposed New Opinion in Attachment 1 for submission and approval by Study Group 6. The Opinion requests that associations of manufacturers of mobile telephones and tablets as well as service providers be contacted and encouraged to include and activate the radio functionality in their products along with the appropriate applications to facilitate broadcast reception.

NABA proposes in Attachment 2 a revision to Report ITU-R BT.2299 which includes additional evidence of the importance of radio broadcasting in times of emergencies.

Attachment 3 provides a summary of the availability of FM receivers in smart phones in North America.

Attachment 4 describes how the European Broadcasting Union (EBU) promotes the installation of appropriate reception devices in mobile devices, with a benefit being enhanced safety in times of crisis.

## ATTACHMENT 1

### PROPOSED NEW OPINION OF STUDY GROUP 6\*

#### **The activation of radio receivers in smart phones**

Study Group 6,

*considering*

- a) that Report ITU-R BT.2299 provides a compilation of supporting evidence that terrestrial broadcasting plays a critically important role in disseminating information to the public in times of emergencies;
- b) that the overall robustness of broadcast services is enhanced by the geographical diversity of multiple radio and television services within a given region. If one or a few radio and television broadcasters are not able to remain in service, or have an outage, other broadcast signals are usually available;
- c) that radio receivers are nearly always reliable, regardless of almost any disorder or disruption taking place in the affected disaster area;
- d) that according to information provided to Study Group 6, the majority of smart phones contain hardware that consists of a multitude of connectivity capabilities including, among other things, *Bluetooth* and similar technologies. Regardless of the chipset manufacturer selected by the smart phone maker, FM receivers have a nearly 100 percent inclusion in this set of connectivity chips,

*is of the opinion*

that associations of manufacturers of mobile telephones and tablets as well as service providers should be encouraged to include and activate a radio functionality in their products along with the appropriate applications to facilitate the radio.

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\* This Opinion should be brought to the attention of the IEC TC 100, CTA, and CTIA.

## ATTACHMENT 2

### PRELIMINARY DRAFT REVISION TO REPORT ITU-R BT.2299-1

Three specific changes to Report ITU-R-BT.2299-1, Broadcasting for public warning, disaster mitigation and relief, are proposed:

- 1) Section 5, Broadcasting techniques and systems for use in emergency communications: add the following sentence at the end of Paragraph 10:  
*In addition, many mobile phones incorporate FM radio capability and offer citizens access to important radio programming information during times of emergencies when they otherwise do not have a nearby radio available. More information on the subject of FM radios in mobile phones is found in Annex 5M.*
- 2) End of Section 5 – include this description of Annex 5M:
  - Annex 5M: FM Radio in Mobile Phones. This Annex describes the advantages of FM radio functionality in mobile phones for expanded citizen access to emergency information.
- 3) Include new Annex 5M (provided in its entirety following this page)

## ANNEX 5M

### FM Radio in Mobile Phones

#### 1 Introduction

Many mobile phones incorporate FM radio capability and offer citizens access to important radio programming information during times of emergencies when they otherwise do not have a nearby radio available.

#### 2 Technical summary

Smart phones contain hardware that consists of a multitude of connectivity capabilities including, among other things, *Bluetooth* and similar technologies. Regardless of the chipset manufacturer elected by the smart phone maker, FM receivers have a nearly 100% inclusion in this set of connectivity chips. As an example, Table 1 identifies the current market conditions for FM in smart phones in the U.S.

TABLE 1

FM Radio Capability in U.S. Smart phones (% of total sold), CY 2014

FM Radio Activated and Available*	19%
FM Radio Installed but Easily Activated**	8%
FM Radio Installed but not Activated***	69%
FM Radio Information Unavailable	4%

\* FM radio activated by at least one major U.S. carrier using these phones.

\*\* Some international versions of these phones have activated FM radios which are software disabled. Activating FM in U.S. versions would likely not involve changes to hardware.

\*\*\* Of these installed but not activated phones, 73% are Apple iPhones

In order for smart phone Original Equipment Manufacturers (OEM's) to activate FM radio, they need to:

- ensure the FM hardware is active;
- ensure FM Radio software libraries are implemented and available to app providers;
- allow earbud cables to act as the FM analogue antenna;
- confirm the audio path for FM is fully capable on the device.

U.S.-based FM radio broadcasters have recognized that consumer interests are motivated by content. Therefore, broadcasters supporting FM Radio enabled smart phones need to:

- provide a common app for consumer FM radio use;
- distribute synchronous visual content to an FM smart phone via an FM radio app;
- provide a minimum of market-wide station branding (i.e. logos) with particular focus on unique content.

### 3 Value in Emergency Situations

FM radio-enabled smart phones are a more efficient method for receiving local radio content compared to streaming, thereby better serving the public. The value of efficiency is more noticeable in times of emergency.

- Local radio stations are typically the best source of information in a disaster. From an interview with Craig Fugate, US Federal Emergency Management Agency (FEMA) Administrator,:
  - “We always tell you: All disasters are local and the most important information is going to come from those local broadcasters that are plugged into local officials telling you what’s going on the ground.” (See also [www.freeradioonmyphone.org](http://www.freeradioonmyphone.org))
- FEMA and the US Federal Communications Commission (FCC) recommend having a portable radio during an emergency. (“FCC and FEMA: How to Communicate Before, During and After a Major Disaster,” Craig Fugate and Julius Genachowski - September 21, 2011)
- During emergencies, cellular communication networks often cease to function or are overloaded.
  - In both Hurricanes Irene (2011) and Sandy (2012), the East Coast Earthquake (2011), and the Boston Marathon Bombings (2013), cellular networks were overloaded leaving people unable to gather life-saving information.
  - The situation is unlikely to change because it is not cost effective to design a cellular network to withstand the peak traffic that occurs during an emergency. (“Why Cell Phone Networks Fail in Emergencies,” Bloomberg Business, April 16, 2013)
- Activating the FM receiver in smart phones will give citizens access to vital information in the event of a disaster.
  - Virtually all smart phones already have an integrated FM receiver as part of a WIFI/Bluetooth chip set, with four out of every five sold in the U.S. with the FM receiver deactivated. (“FM Radio in Smart phones,” NAB Labs 2015, <http://nabpilot.org/work/projects/fm-radio-in-smartphones/>)
  - Approximately 65% of all U.S. adults have smart phones. (The Digital Consumer, Nielsen, February 2014) <http://www.nielsen.com/content/dam/corporate/us/en/reports-downloads/2014%20Reports/the-digital-consumer-report-feb-2014.pdf>
- Activating the FM receiver in smart phones would provide additional benefits to consumers:
  - Listening to FM radio on smart phones provides as much as a six-fold battery life extension over listening to online streaming audio services. (Sprint/NextRadio study, July 2013)
  - FM radio listening on smart phones has no impact on users’ data plans, whereas streaming 2 hours of online radio services per day can use over 3.5 gigabytes (GB) of data each month. (Verizon Data Calculator, <http://www.verizonwireless.com/b2c/splash/dataShareCalculator.jsp>)

## **4 Measured use of FM radio in smart phones during emergency situations**

The NextRadio app is an Android app available to consumers throughout North America that combines local FM radio using a smart phone's built-in tuner with enhanced content via the Internet to show listeners album art, station logos, and song & program details in an engaging display. This app has been installed in millions of smart phones, and usage of the app can be measured as real time listening on a second by second basis gathered by lat/lon location of the listener along with station call signs and other first party data about their FM local radio station consumption.

In 2015, NextRadio app usage was measured during a number of severe weather events in the U.S. and the listening during these events was compared to listening at a similar time but *not* during a severe weather event. These results, shown below, demonstrate the value of having an FM radio activated in a smart phone during emergency situation.

### **Various towns in Northern Illinois**

#### **Spring 2015**

Event: Tornadoes

Stations: All radio stations in a 30 mile radius of locations

Results:

54% increase in FM smartphone Listeners

151% increase in FM smartphone Listening Sessions (Tune Ins)

#### **Brainerd, MN**

##### **Summer 2015**

Event: Straight Line Weather Disaster

Stations: All radio stations in a 30 mile radius of location

Results:

260% increase in FM smartphone Listeners

615% increase in FM smartphone Listening Sessions (Tune Ins)

#### **Oklahoma City, OK**

##### **Summer 2015**

Event: Tornadoes & Flash Floods

Stations: All radio stations in a 30 mile radius of location

Results:

146% increase in FM smartphone Listeners

254% increase in FM smartphone Listening Sessions (Tune Ins)

## ATTACHMENT 3

### FM smart phone receivers in North America and their potential for enhanced services

#### Technical Summary

Smart phones contain hardware that consists of a multitude of connectivity capabilities including, among other things, *Bluetooth* and similar technologies. Regardless of the chipset manufacturer elected by the smart phone maker, FM receivers have 100% inclusion in this set of connectivity chips. Due to the high attach rates for FM, Table 1 identifies the current market conditions for FM in smart phones.

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  - "We always tell you: All disasters are local and the most important information is going to come from those local broadcasters that are plugged into local

officials telling you what's going on the ground.” (Interview with Craig Fugate, FEMA Administrator, [www.freeradioonmyphone.org](http://www.freeradioonmyphone.org))

- FEMA and the FCC recommend having a portable radio during an emergency. (“FCC and FEMA: How to Communicate Before, During and After a Major Disaster,” Craig Fugate and Julius Genachowski - September 21, 2011)
- During emergencies, cellular communication networks often cease to function or are overloaded.
  - In both Hurricanes Irene (2011) and Sandy (2012), the East Coast Earthquake (2011), and the Boston Marathon Bombings (2013), cellular networks were overloaded leaving people unable to gather life-saving information.
  - The situation is unlikely to change because it is not cost effective to design a cellular network to withstand the peak traffic that occurs during an emergency. (“Why Cell Phone Networks Fail in Emergencies,” Bloomberg Business, April 16, 2013)
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  - Virtually all smart phones already have an integrated FM receiver as part of a WIFI/Bluetooth chip set, with four out of every five sold in the U.S. with the FM receiver deactivated. (“FM Radio in Smart phones,” NAB Labs 2015, <http://nabpilot.org/work/projects/fm-radio-in-smartphones/>)
  - Approximately 65% of all U.S. adults have smart phones. (The Digital Consumer, Nielsen, February 2014) <http://www.nielsen.com/content/dam/corporate/us/en/reports-downloads/2014%20Reports/the-digital-consumer-report-feb-2014.pdf>
- Activating the FM receiver in smart phones would provide additional benefits to consumers:
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  - FM radio listening on smart phones has no impact on users' data plans, whereas streaming 2 hours of online radio services per day can use over 3.5 gigabytes (GB) of data each month. (Verizon Data Calculator, <http://www.verizonwireless.com/b2c/splash/dataShareCalculator.jsp>)

## ATTACHMENT 4

### **European activities on Digital and Hybrid Radio**

#### **European Broadcasting Union (EBU)**

EBU's policy is to promote digital radio as the future broadcast platform for radio services, with hybrid radio providing the techniques essential to facilitating the transition to digital radio.

To achieve these aims, the EBU intends to improve the popularity, access to and experience of radio through the launch and promotion of free-to-air analogue and digital radio services in various devices through coordinated actions.

With today's media convergence, audiences, and youth in particular, expect to listen to radio on their mobile telephones and tablets. The existence of hundreds of media apps underlines this desire. While radio-only receivers are increasingly being replaced by more sophisticated devices, radio as a medium continues to meet a strong consumer demand and will remain hugely popular as long as it is available on the devices used by audiences today and in the future.

The EBU works to promote hybrid digital radio services and their availability in:

- domestic radio sets;
- smart phone handsets;
- automotive multimedia entertainment receivers;
- tablet computers.

#### **Benefits of Radio**

##### *Cost-free listening for consumers*

The EBU promotes the installation of appropriate reception devices in all radio sets and mobile devices (smart phones, tablets) rendering it possible for audiences to receive broadcast services everywhere at no incremental cost. Consumers will not need to pay for the bandwidth required for the reception of free-to-air radio services delivered to a suitably equipped smartphone.

##### *An internal market-friendly initiative for audiences*

Future-proof and interoperable, the EBU promotes reception of radio services by audiences anywhere regardless of delivery technologies and detailed technical solutions in different devices.

##### *Efficient use of media delivery networks*

By using broadcast technology, the EBU aims to reduce pressure on mobile broadband networks while making full use of spectrum allocations and investments made in the transmission infrastructure for digital and analogue radio.

##### *Huge potential for combined media delivery channels*

Offering a seamless listening experience to audiences, hybrid radio services will foster new business models for the digital economy and generate creative opportunities and new ways of involving audiences in interactive programs while using the broadband backchannel.

### *Enhanced safety*

With the use of features such as TPEG<sup>2</sup> from TISA, digital radio promises to boost road safety by simplifying the delivery of real-time, language-independent and more precise traffic information about local and cross-border conditions. Free-to-air radio ensures also in times of crisis, when mobile networks are commonly overloaded, to reach mobile users because of the robust terrestrial broadcasting technology.

### **European Digital Radio Alliance (EDRA)**

The European Broadcasting Union (EBU) and 12 broadcasters from across Europe have formed the European Digital Radio Alliance (EDRA) during the annual Radiodays Europe conference in Paris on 15 March 2016.

The objective of this group, for which the EBU has agreed to provide support, is to make digital radio the standard and the preferred choice for listeners across Europe. The twelve founding members represent over 300 public service and commercial radio stations. EDRA's strategy is to promote a hybrid DAB/FM solution that will support all broadcasters and consumers in Europe and allow individual countries to go digital at their own speed.

### **Members**

ARD  
Bauer  
Belgian commercial radio  
BBC  
Czech Radio  
DAB Italia  
Deutschlandradio  
Die Neue Welle  
FunRadio  
Global  
MTG/P4  
Nostalgie (Belgium)  
NPO  
NRK  
P4 Norway  
Radio Arabella  
RTBF  
RTL (Belgium)  
SRG SSR  
Vereniging van Commerciële Radio  
VCR (Netherlands)

The EBU activities on Digital and Hybrid Radio are supported by:

- Open Mobile Radio Interface – OMRI (A consortium of broadcasting companies and organizations that have joined forces to develop an open and universal interface to ease the implementation of digital radio on smartphones and other connected devices.)

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<sup>2</sup> The Transport Protocol Experts Group (TPEG) is a data protocol suite for traffic and travel related information. TPEG can be carried over different transmission media (bearers), such as digital broadcast. TPEG applications include, among others, information on road conditions, weather, fuel prices, parking or delays of public transport.

- IDAG (A non-profit organization seeking to promote, facilitate and coordinate DMB initiatives around the world.)
  - WorldDAB (The global forum for digital radio, facilitating the adoption and implementation of digital broadcast radio based on DAB, DAB+)
  - RadioDNS (the not-for-profit membership organisation that promotes hybrid radio globally, and creates open technical standards for using IP [Internet Protocol] technology alongside broadcast radio [FM, DAB, HD]).
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