

22 March 2023

USISPF Counter Comments - TRAI Consultation Paper on Issues related to FM Radio Broadcasting

The U.S. India Strategic Partnership Forum (**USISPF**) welcomes the opportunity to provide feedback on the TRAI Consultation Paper on Issues related to FM Radio Broadcasting (**Consultation Paper**). Please see below our counter comments in relation to **Q4: Is there a need to mandate that all the Mobile handset manufactured/ sold in India will require to have an in-built FM Radio receiver? Please provide detailed justification for your comments while making its valued recommendations.**

We request TRAI to reconsider any proposal to mandate an FM technology mandate on Smart Phones (by way of an in-built radio receiver in all mobile handsets manufactured/sold in India) due to the following reasons:

Deviation from global standards and impact on the growth of the digital economy: We welcome the Government of India's efforts to transform India into a global manufacturing and innovation hub. India has recently witnessed a significant increase in mobile manufacturing with several major brands producing and exporting phones from India. The export projection of mobile phones from India is approx. USD 10 billion and the export target of the nation is approx. USD 52-58 billion. Given the Government's efforts to facilitate domestic mobile manufacturing, a regulatory mandate to include in-built radio receivers in all mobile handsets manufactured/sold in India will be counterproductive.

A mobile device is designed for the global market in line with globally accepted technologies based on 3GPP standards. Therefore, a requirement to design and manufacture mobile phones with the unique Indian requirement to support FM Broadcast will adversely impact mobile manufacturing efforts. We believe such a requirement should be reconsidered as it will derail the pace of domestic manufacturing and exports for the exchequer.

Risk of stifling innovation: Mobile devices are rapidly changing with new and increased functionalities due to rapid technological developments. A mandate to include an in-built radio receiver in all mobile handsets manufactured/sold in India will hinder such progress. Instead of focusing on innovating and adding new and improved functionalities, mobile phone manufacturers will be compelled to work on adding unnecessary functionality and hardware, which does not reflect consumer demands. This will hamper the rollout of innovative products in India and raise the prices for consumers. Accordingly, we recommend that such a requirement should not be mandated under Indian law.

Interference with market forces in the absence of consumer demand: A regulatory mandate to include in-built radio receivers in all mobile handsets manufactured/sold in India is not indicative of consumer demands. If consumers demanded mobile devices to have features that would enable them to listen to the FM radio on their phones, manufacturers would have responded to such demands. Moreover, any consumer wishing to access FM programs may already do so by downloading applications from app stores that enable access to FM programs. Internet radio already offers a wide variety of choices to customers by giving them access to radio stations across the world with superior sound quality.

Therefore, in the absence of consumer demands, mandating changes in hardware design will distort market forces and impede innovation and technological growth. Such a mandate may also require mobile phone manufacturers to address issues pertaining to music royalty and intellectual property rights between the FM industry, authors and composers.

Lack of space to incorporate large antennas in smartphones/mobile devices: If smartphones / mobile devices are required to support FM Broadcasting, an in-built antenna for FM radio will need to be incorporated in these devices. Such antennas are comparatively larger due to accommodate the significant

differences between FM signal wavelengths and cellular signal wavelengths. This will be extremely difficult to incorporate as there is no space to incorporate such antennas in smartphones and mobile devices. While wired headsets may be used as antennas, such wired headsets are dated. Consumers are increasingly preferring to use wireless headsets. Accordingly, accessing the FM feature would be a challenge for consumers as wired headsets will need to be plugged into the smartphone/mobile device each time such a feature is used.

Complying with this mandate will also require a fundamental re-design of the mobile handset. All major chipset manufacturers of smartphones are excluding FM radio features from their chipsets as the world has moved to 4G & 5G technologies. The inclusion of FM radio features in smartphones will require a separate chipset which needs to be designed separately along with amendments in the design of other components and circuits.

As devices continue to evolve, chip and antenna space is considered premium real estate within the smartphone/mobile device. Requiring devices to carry an FM chip will stifle innovation by foreclosing opportunities to include other innovative functionalities for consumers. Moreover, such a mandate will adversely impact competition between mobile device makers by limiting opportunities for differentiation.

Adverse impact of using wired headsets as antennas: While wired headsets may act as antennas for in-built FM radio receivers in smartphones / mobile devices, the use of such wired headsets raises certain concerns. Adding a long wire to act as an antenna will adversely impact the electromagnetic compatibility of the mobile device (i.e. immunity, RF, ESD etc.) as the headset antenna would conduct all these signals into the heart of the device. To address this, special costly geography-specific filters will be required, which would potentially increase the cost, weight and size of the mobile device as FM services are not the same the world over.

Additionally, as noted in the Consultation Paper, a 3.5mm headphone jack will be required on smartphones to plug in the wired headset that will act as the antenna for receiving FM radio signals. However, over the years, there has been rapid development in the design of smartphones and mobile manufacturers no longer use the 3.5mm audio jack in mobile phone equipment. Instead, manufacturers are adding new features such as water resistance,¹ sleeker design, improved battery space, memory and screens.² A mandate to incorporate in-built FM radio receivers and audio jacks for wired headsets will negatively impact such products improvements and innovation.

Increase in cost of mobile handsets: Changing the hardware design of mobile phone devices (for instance, adding FM radio chips) to comply with such a regulatory mandate will incrementally increase the cost per phone, which in turn would have to be passed on to the consumer.³ Given that these changes would not be incorporated in response to consumer demands, consumers will end up paying more for a functionality that they may not desire or ever use. Moreover, addition of FM radio chips would reduce battery life of phones and make phones larger and bulky.⁴ Therefore, we request TRAI to advise against mandating such changes.

Erroneous references to regulations in Mexico and Brazil: Some respondents have cited Mexico and Brazil and examples of jurisdictions that mandate smartphone manufacturers to activate FM chips in mobiles. However, these references require certain clarification and correction.

1 Google explains why it killed 3.5 mm headphone jack on pixel 2 pixel 2 XL, Hindustan Times, October 7, 2017. (Available at <https://tech.hindustantimes.com/tech/news/google-explains-why-it-killed-3-5mm-headphone-jack-on-pixel-2-pixel-2-xl-story-DNSWHnWKEIYFHppjinaeqO.html>)

2 What Happens If Your iPhone or Other Smartphone Has No Headphone Jack? New York Times, August 25, 2016. (Available at <https://www.nytimes.com/wirecutter/blog/iphone-smartphone-no-headphone-jack/>)

3 Mandatory FM Radio: A Dumb Idea For Smart Phones, Business Insider, October 23, 2010. (Available at <https://www.businessinsider.com/a-dumb-idea-for-smart-phones-2010-10?IR=T>) ; Page no. 8, Digital Broadcast Radio in India Perspectives on the opportunity and requirements for successful implementation, ICEA-EY Report, April 2022. (Available at https://icea.org.in/blog/wp-content/uploads/2022/08/ICEA-Digital-Radio-Report_Final.pdf (2022))

4 Mandatory FM Radio: A Dumb Idea For Smart Phones, Business Insider, October 23, 2010. (Available at <https://www.businessinsider.com/a-dumb-idea-for-smart-phones-2010-10?IR=T>)

Mexico does not mandate hardware requirements for providing FM support in all mobile phone equipment. Instead, the relevant regulation states that if the mobile terminal equipment has all the components that allow it to offer the functionality of a sound broadcasting receiver in Frequency Modulation (FM) since its manufacture, then it must be enabled and activated for the user so that there is no blocking or restriction to its operation. An English translation of the regulation from the Mexican regulator IFT states “ in the event that the ETM has all the components that allow to offer the functionality of sound broadcasting receiver in Modulated Frequency (FM) from its manufacture, it must be enabled and activated for the user, so that there is no type of blockage or restriction for its operation”⁵⁶ Brazil follows a similar approach.⁷

Alternatives for Disaster Management: The inclusion of in-built radio receivers in all mobile handsets manufactured/sold in India is not essential from the perspective of disaster management. The existence of an FM chip in a mobile device does not guarantee that a consumer would be tuned to a station broadcasting an announcement about an impending danger compared to what can be received say through a CB alert. Additionally, an FM chip would provide a materially inferior means of providing real-time alerts to mobile consumers than mobile networks.

Mobile network coverage is increasingly improving in the country and mobile networks are now more resilient in terms of system and network architecture and power supply than ever before. Today, mobile core and data centres have built-in redundancy. Therefore, in disaster situations, even if some BTSs or towers are impacted, multiple other towers may still be radiating. Moreover, BTSs are deployed within a few kilometres of each other and in some cases even deployed at lower distances.

Additionally, the Government is working on various initiatives that could be leveraged for disaster management. The Department of Telecommunications’ (**DoT**) mission is to develop a robust, secure and state-of-the-art telecommunication network providing seamless coverage with a special focus on rural and remote areas for bridging the digital divide and facilitating socio-economic development. To this end, DoT has made various policy interventions through Minimum Rollout Obligations, National Broadband Mission and Universal Service Obligation Fund (**USOF**) projects. Even the PM-WANI project to provide data connectivity through wireless at the Gram panchayats can be used for disaster management.

Moreover, DoT and the Ministry of Electronics and Information Technology (**MeitY**) have also been working with the mobile industry and other stakeholders to develop a mobile broadcast emergency alerting system - **Cell Broadcast**, which will be compatible with present and future mobile air interfaces that will allow for the targeted real-time delivery of government-approved alerts. Further, DoT and MeitY are in discussion with mobile OEMs to implement India’s satellite-based navigation system, **NavIC**, to improve navigation, especially in disaster situations. The use of satellite technologies enhances relief services, which saves countless lives and reduces costs during emergencies, particularly where cellular networks cannot reach. Therefore, any hardware mandates in the FM broadcast space will conflict with DoT and TRAI’s sustained efforts to improve mobile network coverage for normal and disaster management.

⁵ <https://www.ift.org.mx/sites/default/files/industria/temasrelevantes/17429/documentos/22-09-13dof-diariooficialdelafederacion.pdf>

⁶ https://www.dof.gob.mx/nota_detalle.php?codigo=5480872&fecha=27/04/2017#gsc.tab=0

⁷ <https://informacoes.anatel.gov.br/legislacao/atos-de-certificacao-de-produtos/2021/1605-ato-1003>