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March 25, 2023

Shri Anil Kumar Bhardwaj,
Advisor (B & CS),
Telecom Regulatory Authority of India (TRAI)
Government of India
New Delhi

Subject: ICEA's counter comments regarding proposal of mandating in-built FM Radio in Mobile Phones.

Dear Shri Anil Kumar Bhardwaj,

India Cellular & Electronics Association (ICEA) would like to express gratitude to the Telecom Authority of India (TRAI) for giving us the opportunity to provide our counter comments regarding the consultation paper on Issues related to Analog FM Radio Broadcasting (Consultation Paper No.: 4/2023).

ICEA is India's apex body empowering the IT, Communication & Electronics Hardware Sectors! We are continuously in touch with the Key Stakeholders, who are directly or indirectly affected by the changes done by the Committee.

We would like to draw attention to the fact that some of the comments submitted by stakeholders deviated from the main focus of the paper and attempted to involve the mobile industry, which is beyond the scope of the discussion.

We would like to offer our counter comments specifically on the topic of mobile phone support of FM Broadcasting in response to Q4 of the paper. We believe that mandating all mobile handsets manufactured or sold in India to have an in-built analog FM radio receiver is not necessary. It is important to note that the mobile industry and FM industry operate in separate domains, and solutions to the challenges faced by the FM industry should be tailored to their specific needs.

We strongly recommend that TRAI consider our counter comments while formulating its recommendations. We emphasize the need for a thorough examination of the issue and for recommendations to be based on a detailed analysis of the costs and benefits of mandating analog FM radio receivers in mobile handsets.

Technical and Operational Response:

- 1. No Chipset Support:** Some of the stakeholders have argued that mobile handsets should be mandated to have an in-built analog FM radio receiver. However, it should be noted that major chipset manufacturers like Qualcomm and MediaTek have excluded FM radio features from their chipsets as the world has transitioned to 4G and 5G technologies. Therefore, including FM radio feature in smartphones would require a separate chipset to be designed, along with amendments in the design of other components and circuits. This would entail a fundamental re-design of the mobile handset, which is not feasible or



practical. Therefore, mandating in-built FM radio receivers in mobile handsets is not a viable solution.

- 2. Antenna:** The small size of smartphones/mobile devices limits the amount of space available for incorporating large antennas. Mandating an FM feature would also necessitate a separate antenna to cater to the substantial differences between FM signal wavelengths and cellular signal wavelengths. One potential solution could be to use the wired headset as an antenna. However, wired headsets are becoming outdated and less popular due to consumers' clear preference for wireless headsets. Additionally, accessing this feature could pose a challenge for consumers since the wired headset would need to be connected to the smartphone or mobile device every time this feature is to be used. Over the years there has been rapid development in the design of smartphones and mobile manufacturers have dropped the 3.5mm audio jack from mobile phone equipment, allowing manufacturers to add new and innovative features such as water resistance,¹ sleeker design, more battery space, more memory, better screen, etc.²
- 3. Stifle innovation:** Mandating the inclusion of an analog FM feature in mobile phones could curtail innovation in the mobile industry. The success story of the mobile phone technology and marketplace is partly due to the fact that consumers have been allowed to choose the functions and features of their devices, leading to the development of new technologies that drive the economy and innovation. By mandating the inclusion of an FM feature, the authorities may impede the industry's focus on innovation and new technology.

Standardization & Technical Innovation:

- 4. Mobile phone is a product meeting global mobile standard:** A mobile phone is a product that adheres to global mobile standards based on 3GPP technologies. Rather than imposing regulations, it is recommended to approach standard bodies to incorporate features. India is focused on promoting mobile manufacturing, and major brands are producing and exporting phones from India. Designing and manufacturing mobile phones with one model for unique Indian requirements to support FM Broadcast and another for the global market would negatively impact the mobile manufacturing efforts. India's mobile phone export projection is approximately USD 10 billion, and the export target for the nation is approximately USD 52-58 billion. Imposing unwarranted mandates, such as FM radio, against market forces, would hinder domestic manufacturing and, most importantly exports from India.
- 5. India is working on 6G Technology:** Hon'ble Prime Minister has recently launched the Bharat 6G Vision Document, which provides a strategic roadmap for the development of 6G technology in the country. This initiative demonstrates the government's commitment to positioning India as a global leader in 6G research and development. However, the

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-DNSWHnWKEIYFHppjnaeqO.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/>)



implementation of 6G technology will require significant innovation and design changes. In light of this, the broadcasting industry should collaborate with relevant committees of global standardization bodies to participate in standards formation that align with the new technology roadmap. This collaborative effort will enable new broadcast technology to get incorporated into future mobile devices in a way that is consistent with the development of future technology.

Impact on the mobile user and market forces

- 6. Empowering consumers with choices:** There are already numerous apps available that allow mobile users to access FM programs, as well as internet radio stations from around the world with superior sound quality. This provides consumers with a wide range of options to choose from, rather than mandating a feature that may not be in demand.
- 7. Unnecessary interference with market dynamics:** Imposing a regulatory mandate to provide access to an outdated feature could disrupt market forces and limit innovation. If there is a demand for FM radio on smartphones, manufacturers will naturally include the necessary hardware to meet that demand. Imposing such requirements through regulatory mandates may negatively impact market forces and impede technological growth.
- 8. Alternatives for Disaster Management:** Department of Telecom (DOT) with the Ministry of Electronics and Information Technology (MeitY) are developing of a mobile broadcast emergency alerting system and the implementation of satellite-based navigation system NavIC in mobile devices indicate the direction in which the mobile industry is moving towards improving disaster management and relief services. Mandating FM chips in mobile devices would conflict with these efforts and be redundant given the advancements in mobile network coverage and resilience. Additionally, FM chips would provide an inferior means of providing real-time alerts compared to the upcoming mobile broadcast emergency alerting system and CB alerts. Therefore, mandating FM chips in mobile devices would not serve the purpose of improving disaster management and relief services.
- 9. Making incorrect references to Mexico and Brazil in order to gain support:** Some respondents have stated that Mexico and Brazil have mandated smartphone manufacturers to activate FM chips in mobile devices, but this is incorrect. The regulations in Mexico do not impose specific hardware requirements for FM support in all mobile devices. Instead, they stipulate that if a Mobile Terminal Equipment has the necessary components to function as an FM sound broadcasting receiver since its manufacture, it must be enabled and activated for the user without any restrictions or blocks. Hence, the activation of FM receivers in Mexico is only required if the device has the hardware capability for FM support, as there is no mandate for this hardware requirement from the manufacturer. Similarly, Mexican regulator, has provided an English translation of the regulation, which states that if the ETM has the components to offer FM broadcasting functionality since its manufacture, it must be enabled and activated for the user without any blockage or restriction.



Conclusion:

Requiring manufacturers to incorporate analog FM radio in smart phones would necessitate a complete overhaul of the product design including processor, antennas, as it was not originally developed for FM radio. To illustrate, it would be like mandating an electric car manufacturer to add a petrol engine function simply because both types of vehicles share the same road. Similarly, it would be impractical to demand that all new mobile devices include 2G support just because some individuals still use this technology. The continuous support of legacy technologies would also limit the space for new technological advancements such as 5G, 6G, satellite connectivity, and others. We respectfully urge TRAI to take into consideration the arguments presented and should not recommend mandatory FM radio inclusion in mobile devices. We believe that the decision should be left to the market forces to decide and not be enforced through regulation. This approach will ensure that the mobile industry can continue to innovate and develop new technologies while meeting the diverse needs of consumers.

With my best regards,

A handwritten signature in blue ink, appearing to read "Pankaj Mohindroo", with a stylized flourish at the end.

Pankaj Mohindroo