



**DG/COAI/2023/593**

**December 13, 2023**

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New Delhi – 110002.

**Subject: COAI Counter Comments to the TRAI Consultation Paper on Open and De-licensed use of Unused or Limited Used Spectrum Bands for Demand Generation for Limited Period in Tera Hertz Range**

Dear Sir,

This is with reference to the TRAI Consultation Paper on “Open and De-licensed use of Unused or Limited Used Spectrum Bands for Demand Generation for Limited Period in Tera Hertz Range” released on September 27, 2023.

In this regard, please find enclosed COAI Counter Comments to some of the responses submitted by the stakeholders on the Consultation Paper.

We hope that our submission will merit your kind consideration and support.

With Regards,

Yours faithfully,

Digitally signed  
by Lt. Gen Dr. SP  
Kochhar  
Date: 2023.12.13  
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**Copy to:**

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- 2. Shri Rajiv Sinha, Pr. Advisor (NSL), TRAI, Mahanagar Door Sanchar Bhawan, Jawaharlal Nehru Marg, New Delhi – 110002.**

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## **COAI Counter Comments on Consultation Paper on Open and De-licensed use of Unused or Limited Used Spectrum Bands for Demand Generation for Limited Period in Tera Hertz Range**

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- 1) At the outset, COAI welcomes the opportunity to provide counter comments to the submissions and comments received by the Telecom Regulatory Authority of India (TRAI) from various stakeholders on the Consultation Paper on “Open and De-licensed use of Unused or Limited Used Spectrum Bands for Demand Generation for Limited Period in Tera Hertz Range.
- 2) In our response to the Consultation Paper, COAI had highlighted that:
  - a) **No part of any of the spectrum bands including the spectrum bands under discussion in this CP should be considered for delicensing.**
  - b) **The Experimental and Technology trial licenses and Demonstration licenses prescribed by DoT in 2019 are sufficient for such requirements, even for the Tera Hertz frequencies.**
  - c) **There is no need for separate experimental license for any frequency band, including THz bands.**
- 3) Further, to the above we would like to make following submissions with regard to the responses of the different stakeholders to the present consultation:
  - a) **Some of the stakeholders recommended that the frequency bands, 116-123 GHz, 174.8-182 GHz, 185-190 GHz, and 244-246 GHz may be opened for unlicensed use.**

### **COAI Counter Comments:**

- i. Availability of licensed spectrum is crucial for maintaining demands of performance pertaining to 5G, 6G and its future applications and there is no need to delicense any spectrum including the spectrum under discussion.
- ii. Before starting any discussion on further spectrum delicensing, an audit of currently delicensed spectrum bands is required to evaluate the utilization levels and impact on licensed spectrum. Post that, any discussion on the delicensing of new bands should be undertaken and this should involve thorough technical, demand and impact studies because of the multiple reasons already shared in our comments and also reproduced here.
- iii. Irreversibility of Delicensing: Once a spectrum band is delicensed and the device ecosystem is established, reversal of the same becomes extremely challenging, disruptive, and often



impractical as well as leveraging the spectrum bands becomes very difficult for future use cases such as IMT in the licensed telecom spectrum space due to the loss of regulatory oversight and control. Also, it may make extant investments and innovations obsolete. Further, reversing the decision may lead to legal and administrative challenges. **Therefore, delicensing should be avoided.**

- iv. Loss to Exchequer: Delicensing at such an early stage, when the use cases for the THz bands are still evolving, may prevent the government from realising the full economic value of the spectrum, which is not in the best interests of the Indian economy.
- v. We also understand that the proposals for license-exempt use generally emerge from the requirement to reduce spectrum costs, which can be significant for new entrants or for experimental purposes. However, when a light touch regulatory framework with nominal charges has been proposed, such requirements are already addressed. Further, by licensing the Government will be able to control the usage and devices using the spectrum efficiently, which will not be possible in case of license exempt allocation.
- vi. The 'Document 5/131-E' dated 29th June 2023 from WP5D, titled 'Framework and overall objectives of the future development of IMT 2030 and beyond' indicates the feasibility of deploying IMT in bands above 92 GHz. Additional ITU WP5D studies have shown that extreme densification in IMT systems using frequencies above 92 GHz will significantly enhance user throughput and network capacity, by utilizing ultra-high bandwidths and massive multi-beam MIMO and will be able to support advanced services like immersive communications.
- vii. According to Section 6.4.4 of the ITU draft report titled "Updates to the Draft working document towards a preliminary draft new Report ITU-R M.[IMT. Above 100 GHz] Technical feasibility of IMT in bands above 100 GHz", frequencies beyond 92 GHz offer the potential to significantly enhance user throughput and network capacity.
- viii. Many of the stakeholders supporting delicensing of the aforementioned bands, also highlighted the potential utility of these bands for wireless backhaul or fixed point-to-point applications. Since this spectrum has multiple future use cases including wireless backhaul, TRAI should not consider delicensing these bands. These bands should be treated in future on similar basis as being considered by the TRAI in another ongoing consultation.

**b) Some of the stakeholders recommend that the 77-81 GHz band may be delicensed for automotive radar applications in line with international best practices.**

**COAI Counter Comments:**

- i. The 77-81 GHz frequency band, also known as the "77 GHz band," is primarily allocated for several types of applications in the field of radio communication and radar systems. It is important to recognise that the pursuit of a license-exempt approach for one specific user group within a shared spectrum could potentially have adverse implications for the broader community of users. The spectrum is a valuable and finite resource, and efficient allocation



is crucial to ensuring equitable access and sustainable growth for all stakeholders.

- ii. With the growing demand of 5G services in India, E-band (71-76/81-86 GHz) is very critical for supporting 5G mobile infrastructure. Any adverse impact to performance of systems utilizing this band will significantly deteriorate the QoS and user experience of 5G. In a 2016 ITU study<sup>1</sup>, it was found that there are potential adverse implications of using vehicular radars in the 76-81 range in E-band in some cases. Practical scenarios were identified by this study which result in interference levels above the threshold and additional studies are recommended in order to investigate ways to optimize coexistence of both services. However, no studies have yet been conducted for an Indian scenario with the characteristics of systems potentially to be used for use cases proposed by stakeholders supporting license-exempt operations in this band.
- iii. There is no case for license exempt use of any spectrum, further, license-exempt model exclusively for one user may inadvertently create an uneven playing field, impacting the potential for growth and innovation among other users and should be avoided.
- iv. Furthermore, delicensing is an irreversible process with long-term implications. Reversal of such a decision can be complex and may inadvertently limit the opportunities for other licensed use cases, including IMT, which plays a pivotal role in the efficient utilisation of spectrum resources.
- v. **Thus, we submit that the 77-81 GHz band should not be delicensed, rather, the existing regulatory framework should be maintained for continued proper and efficient utilisation of this spectrum.**

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<sup>1</sup> [Compatibility between point-to-point applications in E-band between fixed services and automatic radar \(itu.int\)](https://www.itu.int/ITU-T/compatibility/compatibility-between-point-to-point-applications-in-e-band-between-fixed-services-and-automatic-radar)