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16 July 2025

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Advisor (Networks, Spectrum, and Licensing),
Telecom Regulatory Authority of India,
World Trade Centre, Nauroji Nagar,
Safdarjung Enclave, New Delhi – 110029**.**

Subject: COAI Counter Comments to the TRAI Consultation Paper on Assignment of the Microwave Spectrum in 6 GHz (lower), 7 GHz, 13 GHz, 15 GHz, 18 GHz, 21 GHz Bands, E-Band, and V-Band

Dear Sir,

This is with reference to the TRAI Consultation Paper on "Assignment of the Microwave Spectrum in 6 GHz (lower), 7 GHz, 13 GHz, 15 GHz, 18 GHz, 21 GHz Bands, E-Band, and V-Band" released on May 28, 2025.

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,

Signed on: 17-07-2025 07:46:29
Digitally Signed by:
Lt Gen Dr SP Kochhar
DG
COAI
Signature Valid From: 2025-02-22 10:45:32
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COAI Counter Comments on Assignment of the Microwave Spectrum in 6 GHz (lower), 7 GHz, 13 GHz, 15 GHz, 18 GHz, 21 GHz Bands, E-Band, and V-Band

1. We thank the Authority for providing us with the opportunity to share the Counter Comments to the Consultation paper on Assignment of the Microwave Spectrum in 6 GHz (lower), 7 GHz, 13 GHz, 15 GHz, 18 GHz, 21 GHz Bands, E-Band, and V-Band.

2. We would like to reiterate our key submissions, as below:

   a. ***Existing spectrum in the traditional microwave backhaul bands is to be made fully available to TSPs having Access Authorization.***
   b. ***Assignment of the MWA & MWB spectrum should be on an exclusive basis for the entire LSA***
   c. ***No spectrum in traditional microwave backhaul bands should be assigned directly to non-TSP (captive or non-commercial) users.***
   d. ***Spectrum in E and V band should be assigned exclusively to the TSPs having an Access Authorization.***
   e. ***No indoor or outdoor license-exempt usage should be permitted in the V-band.***

3. Further, to the above, we would like to make the following submissions with regard to the responses of the different stakeholders to the present consultation:

   a. One of the stakeholders has stated that the **microwave bands should be available for assignment to all categories of service providers, including those setting up Captive Networks (CNPNs) and Private Networks, and for meeting point-to-point connectivity requirements of Captive users**.

      COAI Counter Comments:

      i. **We do not agree with this suggestion**, and in this regard, we would like to submit that no portion of the traditional microwave backhaul spectrum bands should be earmarked or assigned directly to non-TSP (captive or non-commercial) users.
      ii. Instead, we submit that such connectivity needs to be addressed through a well-regulated spectrum leasing framework, wherein licensed TSPs are allowed to lease their spectrum to such entities.
      iii. Allowing the leasing of spectrum will open up new monetization opportunities for TSPs, and help serve these captive requirements without requiring direct spectrum allocation to the end-users. This aligns with global best practices and fosters a healthy commercial ecosystem.
      iv. We are of the firm opinion that with advancement of technologies, there is no justification whatsoever for continuation of captive (non-commercial/ non-TSP) users.
      v. The licensed Access Service Providers are fully capable of providing all customised solutions including M2M / Industrial 4.0 services in the most

competitive and economic manner and in fact providing such network configuration to private and public sector entity.

vi. Keeping in view the above, we reiterate that:

(a) In today's scenario, there is no need for separate private captive networks and same should be dispensed with the availability of state-of art telecommunication network.
(b) Private Captive Networks are detrimental to national security.
(c) The licensed Access Service Providers are fully capable of providing these services in most competitive and economic manner compared to private companies looking for such solutions.
(d) Request the Authority not to recommend to reserve or de-license any spectrum which has been identified or likely to be identified for use of Radio Backhaul/IMT. It amounts to undue advantage to private commercial entities at the cost of government exchequer.
(e) Any de-licensing/reservation of spectrum for Industrial use/establishment of private Captive networks, as demanded by few companies, would not only cause huge loss to the exchequer but will also lead fragmentation and to sub-optimal utilization of this scarce resource. Hence, such move is not only technically uncalled for but also legally untenable.

b. Some of the stakeholders recommended that **allowing low-power, indoor consumer device-to-device usage on a license-exempt basis can be considered in the V-band.**

COAI Counter Comments:

i. **We do not agree with this suggestion**. We would like to reiterate here that it is neither feasible nor advisable to allow low-power indoor device-to-device usage on a license-exempt basis in the V-band alongside licensed telecom service providers deploying access networks.

ii. Permitting outdoor license-exempt use is also unnecessary. The V-band is uniquely suited to high-capacity, low-latency 5G access, 5G backhaul and IAB deployment and smart city deployments due to its millimeter-wave characteristics, line-of-sight capabilities, and minimal interference, making it essential to reserve this band exclusively for TSPs. Device-to-device communication should instead rely on existing unlicensed bands like 2.4 and, 5, and lower 6 GHz proposed to be delicensed in future), rather than compromising this critical backhaul spectrum.

iii. Moreover, the V-band is already standardized under 3GPP Band n263 for IMT and is central to evolving 5G and future IMT-2030 technologies. Delicensing now would disrupt ecosystem development, create regulatory ambiguity, and risk irreversible loss of spectrum value. International experience shows that once delicensed,

reclaiming such bands becomes impractical, harming future telecom strategies. Introducing unlicensed use could also degrade spectrum hygiene through interference, undermining network reliability in dense urban deployments. Therefore, no indoor or outdoor license-exempt usage should be permitted in the V-band.

iv. Irreversibility of delicensing: Once a spectrum band is delicensed and the ecosystem around it is established, reversing the process can be highly challenging, disruptive and, often, impractical. Experience from international markets underscores the risk of prematurely delicensing strategic bands. In particular, countries that had initially opened the entire 6 GHz band for Wi-Fi services are now facing significant challenges in reclaiming portions of the upper 6 GHz band for IMT, as considered under WRC-23. These precedents illustrate that if V-band is delicensed now, it would be very difficult to leverage it for future use cases in the licensed space.

v. Loss to exchequer: Introducing delicensing at this stage could deprive the government of realizing the true economic value of the spectrum, which may not be in the best interests of the Indian economy.

vi. Underutilization of Legacy License-Exempt Bands: In India, DoT has proposed the lower 6 GHz band (5.925-6.425 GHz) for license-exempt applications. At the same time, legacy license-exempt (2.4/5 GHz) bands remain underutilized. Therefore, any proposal to open additional bands like the V-band for license-exempt use lacks justification and risks long-term harm to the strategic telecom roadmap.

vii. Allowing both licensed and unlicensed use of the same spectrum would create regulatory ambiguity and technical conflict. Telecom networks require clean, interference-free spectrum for high-reliability backhaul. Allowing uncontrolled and license-exempt operation of consumer devices or outdoor use may result in mushrooming of uncoordinated, high-density deployments (e.g., Wi-Fi hotspots, campus links).

viii. Such unlicensed deployments would interfere with planned and licensed telecom backhaul links, especially when multiple networks share the same infrastructure (poles, rooftops, etc.). This would lead to degraded spectrum hygiene, eventually rendering the spectrum noisy and unclean for backhaul use of licensed TSPs. This would undermine network reliability, especially in urban deployments where V-band is crucial for dense 5G small cell backhaul.

c. Some of the stakeholders recommended regarding **harmonious coexistence of terrestrial backhaul and satellite services in 18 GHz and E-Band.**

COAI Counter Comments:

i. **COAI strongly refutes the concerns**. These bands are essential for India's 5G and future 6G backhaul infrastructure, particularly in areas where fiber connectivity remains limited. COAI firmly believes that the exclusive allocation of radio backhaul spectrum to licensed telecom operators is critical, but also vital for ensuring the scalability, reliability, and security of public mobile networks across the country.

ii. In this regard, we would like to **highlight that**:

(a) Microwave backhaul spectrum should be allocated solely to support mobile services, including 4G, 5G, and future mobile generations, provided by Access Service Providers. These services are directly linked to public mobile communications and require a robust, high-capacity transport layer to deliver the quality of service expected by consumers and mandated by regulatory authorities.

(b) Permitting entities that are not licensed to provide terrestrial access services—such as public mobile networks—to utilize critical backhaul spectrum bands introduces significant risks of inefficient spectrum utilization, increased coordination burdens, and potential interference. These challenges can compromise the availability and performance of high-capacity links that are essential for meeting the quality of service (QoS), latency, and reliability standards required by nationwide 4G, 5G, and future 6G networks.

(c) The demand for exclusive access by licensed TSPs to radio backhaul spectrum is rooted in current ground realities. Over **54% of India's mobile base stations rely on wireless backhaul**, particularly in areas where fiber rollout is unviable due to geographic or economic challenges. Hence, **traditional microwave backhaul bands (6–21 GHz) and high-capacity bands (E and V) must remain prioritised for licensed TSPs**, ensuring continuity, resilience, and scalability of national mobile networks.

(d) The **E-Band (71-76 GHz/ 81-86 GHz)** has already been assigned LSA wise for Backhaul purpose to TSPs on a provisional basis, during 2022 and onwards Given the technical characteristics of the E-Band — such as its high bandwidth and line-of-sight propagation — it is ideally suited for dense urban deployments and small cell backhaul. However, a critical limitation of the E-Band is the relatively low number of carriers available, making the spectrum inherently constrained in terms of simultaneous usage by multiple stakeholders.

(e) Indian telecom operators need access to backhaul spectrum across different frequency bands because each band serves a distinct purpose in network design, just like how operators use different access spectrum bands for specific coverage and capacity needs. The 13 GHz band provides an optimal balance between range

and bandwidth and is widely used for inter-city or semi-urban links. The 15 GHz band supports higher throughput for moderate distances. The 18 GHz band is ideal for dense urban areas where high capacity is required but over shorter links. The 21 GHz band allows tight frequency reuse and is best suited for high-capacity, short-range backhaul in metros.

(f) It is pertinent to note that TSPs have made significant investments and network usage continues to grow with the rapid rollout of 4G and 5G services. The 18 GHz band provides critical mid-distance backhaul capacity where E-band may fall short due to propagation limitations, and where lower frequency bands cannot deliver adequate throughput. Any disruption to its availability would directly impair service continuity, degrade QoS, and increase costs of mobile broadband delivery, consequences that the country can ill afford at this stage of its digital transformation.

(g) Therefore, **continued and affordable access to these traditional microwave backhaul bands is critical, as it impacts millions of customers. Any denial of access would adversely affect connectivity, lead to sub-optimal user-experience deterioration in quality of service (QoS), hinder network expansion, and undermine the government's Digital India vision.**

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