

12/06/2025

TRAI Consultation paper No. 05/2025 dated 28th May 2025

Consultation Paper on Assignment of the Microwave Spectrum in 6 GHz (lower), 7 GHz, 13 Hz, 15 GHz, 18 GHz, 21 GHz Bands, E-Band, and V-Band

We thank you for giving us this opportunity to submit our comments for the TRAI Consultation Paper No. 05/2025 dated 28th May 2025.

We note that there was a similar draft for comments - document dated 27th September 2023, Consultation paper No. 22, 2023 which covered the V & E bands.

Issues for Consultation:

Q16. Considering that the Government has decided to delicense the 6 GHz (lower) band (5.925-6.425 GHz) for low power applications, whether there is any need to prescribe certain measures to provide necessary protection to incumbent users such as Fixed Microwave (backhaul) Services, Fixed Satellite Service (FSS) etc. operating in the 6 GHz (lower) band? If yes, which specific measures should be prescribed for this purpose?

Kindly provide a detailed response with justifications.

C-PRAV comments:

Firstly, we would like to thank and commend DoT for **delicensing lower 6 GHz** which was much awaited by the industry stakeholders and a huge boost towards the growth of digital India initiatives by the Govt of India. **C-PRAV is in full agreement** of these draft rules DoT has released as set out in the notification of **G.S.R. 316 (E)** dated 16th May 2025. C-PRAV has submitted our comments to this draft rules.

Currently we see the **rules of FCC part 15E (15.407 technical requirements) are adopted**. However, the European standard **EN 303687 technical requirements are slightly different**. To have consistent national regulations, **TEC's MTCTE must also adopt this G.S.R. 316 (E) in their ERs**. CABs will need to be accredited to ISO 17025 and designated by TEC for testing to this **G.S.R. 316 (E)**.

Yes, it is essential to prescribe protectional measures for specific users from any possible interference operating in 6GHz band as this might potentially impact essential communication services to primary users. This is also true in the current 5GHz RLAN bands.

The DFS and APC function must be implemented in the RLANs. Reference recent incident in New Zealand recently: by Xin Tang of New Zealand - [LinkedIn Post with case of interference](#)

Radio performance must be tested by independent ISO 17025 accredited test labs to comply with prescribed standards. All devices must undergo **type approval/certification process** and meet regulatory compliance standards before entering the market. These measures will enable efficient use of the 6 GHz band. Notwithstanding this, the product must be locally tested in India by a NABL accredited laboratory. This is to ensure that the device meets the specific requirements as per relevant

standards. Also, periodic Surveillance audits to be conducted to ensure the device meets compliance requirements. Self-Declarations without surveillance can be a risk.

Currently WPC ETA approval is a self-declaration process and no evaluation is being done on the RF test reports submitted. Check on this will certainly help.

Q29. Whether it is feasible to allow low power indoor consumer device-to-consumer device usages on a license-exempt basis in the V-band in parallel to the use of the spectrum by telecom service providers for the establishment of terrestrial networks in a part or full V-band? Kindly provide a detailed response with justification and international scenario.

C-PRAV comments:

Yes, it is technically and operationally feasible to allow low power indoor (LPI) *consumer device-to-device (D2D)* communication on a license-exempt basis in the V-band (57–64 GHz), in parallel to the use of telecom service providers, provided appropriate regulatory safeguards and coexistence frameworks are adopted.

These devices typically operate at a very low power (e.g., ≤ 20 dBm EIRP), poses minimal interference to telecom users in licensed band.

Q30. In case it is decided to allow low power indoor consumer device-to-device usages on a license-exempt basis in the V band (57-64/66 GHz), -

(a) Should it be permitted in the entire V-band or only in a portion of the V-band? If it should be permitted only in a portion of the V-band, please specify the frequency range.

(b) In case it is decided to permit low power indoor consumer device-to-device usages on a license-exempt basis in the entire V-band, whether the 57-64 GHz range, or the 57-66 GHz range should be considered for such usages?

(c) What should be the carrier size/ channel bandwidth?

(d) What should be the definition of indoor usages?

(e) What technical parameters should be prescribed, including EIRP limits for low power indoor consumer device-to-device usages?

Kindly provide a detailed response with justifications and international scenario.

C-PRAV comments:

Suggest that **low power indoor consumer device-to-device usage** on a **license-exempt basis** should be **permitted in a portion of the V-band**, specifically in the **57–64 GHz range** as most global regulators including the **FCC (USA)** and **CE (Europe)**, **Singapore (IMDA)**, **Australia (ACMA)**, **UK** permit unlicensed operation in the **57–71 GHz** range for indoor short-range applications.

This is to keep the technology consistent and in alignment with international practices and to coexist with licensed outdoor networks.

Indoor usage: Devices must be physically placed within the building and not in open air. Outdoor extensions not allowed.

Technical parameters for Carrier size, channel bandwidth, EIRP limits as specified in ETSI EN 305 550 for frequency band 57 to 64 GHz under non-specific SRD category.

Q31. Whether there is a need for permitting “outdoor” usages of V band on a license-exempt basis? Kindly provide a detailed response with justification and international scenario.

C-PRAV comments:

Yes, allowing outdoor use of the V-band without a license helps startups, businesses, and local ISPs roll out services faster and try new ideas more easily.

V-band (57-64 GHz) should be delicensed for indoor and outdoor based access applications like Wi-Fi hotspots etc.

Q32. If the response to the Q31 is in the affirmative, whether it is feasible to allow outdoor usages on a license-exempt basis in the V-band in parallel to the use of the spectrum by telecom service providers for the establishment of terrestrial networks in a part or full V-band? Kindly provide a detailed response with justification and international scenario.

C-PRAV comments:

Yes.

20 dBm EIRP Max. can be restricted to outdoor application for frequency band 57 to 64GHz as this is a very low power and directional and will not cause any interference to other devices. Restrictions for using this band in specific outdoor locations can be defined. Also, sufficient regulatory checks before approvals can help prevent any interference.

Q33. In case it is decided to allow outdoor usages on a license exempt basis in the V-band (57-64/ 66 GHz), -

(a) Should it be permitted in the entire V-band or only in a portion of the V-band? If it should be permitted only in a portion of the V-band, please specify the frequency range. _____

(b) In case it is decided to permit outdoor usages on a license-exempt basis in the entire V-band, whether the 57-64 GHz range, or the 57-66 GHz range should be considered for such usages?

(c) What should be the carrier size/ channel bandwidth?

(d) What technical parameters should be prescribed, including EIRP limits for low power indoor consumer device-to-device usages?

Kindly provide a detailed response with justifications and international scenario.

C-PRAV's Comments on V Band

Based on TRAI's earlier recommendations on the Assignment of the spectrum in E band and V band

Yes, entire band of 57-64 GHz will be required to be permitted under de-licensed category for both indoor and outdoor applications as these devices operate in a very low power (20dBm) and used in various end consumer applications without creating interference

There has been a lot of interest from the industry for 60GHz (V band) with numerous technology products ready to be exported to and sold in India.

If these bands are licensed, Manufacturers are not able to sell the products in India. These low power products are tested to European standard ETSI EN 305 550.

There is a SRD WPC Gazette (GSR 1047 E dated 18.10.2018) which lists a part of this band 61 to 61.5 GHz to comply with this ETSI EN 305 550.

15	61-61.5 GHz	100 mW e.i.r.p.			EN 305 550
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Being a low power device and allowed as a de-licensed band by most countries across the globe, this band should be under de-licensed category based on the power limits, thus creating an opportunity for the Short-Range Devices to be sold in India with ETA SD, otherwise this technology will be unusable in India.

Eg: wireless mouse, Keyboard, Radar systems (automotive, Industrial Sensors, or any SRD regardless of the application or purpose which meets the technical conditions as specified.

Q34. Any other suggestions relevant to the assignment of the spectrum in E-band (71-76/ 81-86 GHz) and V-band (57-64/ 66 GHz) may kindly be made with detailed justifications.

Q53. Any other suggestions relevant to the subject may be submitted with detailed justification.

C-PRAV's Comments on E Band

This topic has been in discussion for many years between Industry and DoT India to license or de-license the "E" band 77-81GHz. The debates by both sides of the lobby groups have left DoT in a dilemma for a few years now in making a decision. In 2022, DoT formed a committee under the leadership of the Wireless Advisor which decided to take TRAI's (Telecom Regulatory Authority of India) recommendation into consideration. Under Section 11(1)(a) of TRAI Act, 1997 (as amended) TRAI published a paper in 2023 for public/stakeholders/industry comments 'Open and De-Licensed use of Unused or Limited Used Spectrum Bands for Demand Generation for Limited Period in Tera Hertz Range'.

TRAI received several comments from various stakeholders (C-PRAV also commented) and finally submitted their Recommendation to DoT in Aug 2024.

License-exempt operations in the 77-81 GHz band for automotive radar applications was one of the main issues raised by the industry/stakeholders.

The highlights of the recommendations by TRAI in relation of the SRR in 77-81 GHz band are:

- The Frequency range 77-81GHz should be opened for authorisation and assignment-exempt operations of automotive radar systems in India.
- Technical parameters given in the Table 1 of the ITU's Recommendation ITU-R M.2057-1 (01/2018) on 'System characteristics of automotive radars operating in the frequency band 76-81 GHz for intelligent transport system applications' should be adopted for authorisation and assignment-exempt operations of automotive radar systems.
- Applications of 77-81GHz band should be used for short-range vehicular radar (SRR)

Benefits of de-licensing 77 – 81GHz frequency band in India:

De-licensing the 77–81 GHz will help the Indian automotive industry to become more competitive in the export market/ leading to the economic growth Sensors operating in this frequency band will help in achieving high resolution and range/more reliable and accurate in addition to the safety.

- TRAI has already recommended DOT on the above-mentioned points

Industry is now waiting to hear DoT's decision based on the Authority's recommendation since August 2024. We seek your comments for the use of this band for Short-Range Vehicular Radar in India as this band is already permitted for use of automotive radars in the USA, Japan, Europe and many other countries.

There is a WPC Gazette (G.S.R. 699 E dated 16 .09.2015) which lists a part of this band 76 to 77 GHz covered under de-licensed category.

TABLE
Technical characteristics

Frequency band	Maximum Effective Radiated Power Limits
(1)	(2)
76 to 77 GHz	5 W (37 dBm)

Praveen Rao CEO,

Technical Director, C-PRAV Group

C-PRAV Labs and Certifications

Annex A – RLAN Bands

Reference: by Xin Tang of New Zealand - [Linkedin Post with case of interference](#)

Last Wednesday, an Australian navy ship triggered a widespread outage of rural broadband services in New Zealand. The ship's radar emissions activated the Dynamic Frequency Selection (DFS) mechanism in local WLAN equipment, forcing devices to shut down transmissions in the 5470–5725 MHz band.

This incident exposed the fragility of New Zealand's rural broadband infrastructure, where WISPs heavily depend on 5 GHz Wi-Fi channels for outdoor coverage. The impact was not isolated to New Zealand, around the world, Wi-Fi and other WLAN technologies increasingly rely on the 5 GHz band, which is becoming over congested. Outdoor deployments face additional challenges such as DFS interruptions, EIRP limits, and elevation restrictions, all of which undermine reliability.

This event reveals the urgent need for policymakers and industry to accelerate the availability of 6 GHz spectrum for outdoor WLAN use. In North America, Standard Power WLAN is already permitted in the 6 GHz band. It supports wider channels such as 80 MHz and 160 MHz with power levels up to 4W, delivering a significant broadband performance boost. It serves as a valuable complement to fibre broadband in rural areas.

The 6 GHz device ecosystem is maturing rapidly, with over 2,000 device models already on the market today. As adoption scales, equipment costs are expected to go further down in the coming years.

Performance, reliability, and affordability are essential to rural broadband. The radar triggered outage sent a clear signal to New Zealand's spectrum regulator, it's time to act. Compared to North America, which has extensive microwave incumbents in the 6GHz band, which required huge planning work like implementing Automated Frequency Coordination (AFC), New Zealand has relatively little usage, especially in the 5925–6425 MHz range.

Radio Spectrum Management (RSM) under the [Ministry of Business, Innovation and Employment](#) is well positioned to enable outdoor 6 GHz WLAN. Existing microwave links could be migrated to the upper part of the band to free up the lower portion (5925–6425 MHz) for outdoor WLAN. This transition can proceed even before AFC systems are fully operational.

At the same time, RSM should accelerate planning for the upper 6 GHz band with AFC, to prevent future congestion in the lower portion. The time to secure resilient and future-proof spectrum for rural broadband is now.