

STMicroelectronics answers to TRAI consultation on E&V band spectrum assignment

Context:

STMicroelectronics is an IDM (Integrated Device Manufacturer) that designs and manufactures a range of silicon devices, including those for RF. We chose to respond to this consultation paper to express our concurrence to the comments in **Section 2 and 2.1 of Annexure 1.1** of the “**Consultation Paper No. 22/2023**”, dated 27th September 2023 by TRAI. Our response to the relevant questions below is to support this argument.

We would like to place on record our views for questions Q45 and Q46 of the above Consultation Paper addressing consumer-device-to-consumer-device data transfers based on low power, short distance (indoor and outdoor) usages of V-band on license-exempt basis.

We are developing a range of products, named ST60¹, which are silicon Integrated Circuits, implementing short-range, high data-rate, device-to-device communication using V-Band.

These chipsets allow for innovative product designs, enabling the development of rugged and waterproof devices with fast connectivity for the benefit of the end users. Contactless communication also opens the door for communication where a rotation is involved or when it takes place in vibrating conditions. Since there are no contacts, there is no wear and tear either.

STMicroelectronics views on Q45 and Q46.

Q45: Whether it is feasible to allow low powered indoor consumer device-to-consumer device usages on license-exempt basis in V-band (57-64 GHz), in parallel to use of the auction acquired spectrum by telecom service providers for establishment of terrestrial and/or satellite-based telecom networks? If yes, whether it should be permitted?

Kindly justify your response.

Answer to Q45: Yes, it is feasible to allow such low powered usages in parallel to auction acquired spectrum. Furthermore, permitting such usage would be in the greater public interest of Indian consumers who will enjoy access to those innovative products. This will also benefit the Indian companies who will be able to participate to the development of such products and be able to sell in India, the same products they may be involved in the development / manufacturing for the worldwide market. Having unrestricted access to V-band for short range usage would provide a level playing field to the manufacturing / ESDM companies in India to produce products for the entire world, without additional efforts.

Q46. In case it is decided to allow low powered indoor consumer device-to-consumer device usages on license-exempt basis in V-band (57-64 GHz),

(a) Whether it should be permitted in entire band or part of the band? Kindly provide detailed response including the frequency carriers, which should be considered for license exemption with justification.

¹ 60 GHz Contactless Products: <https://www.st.com/en/wireless-connectivity/60-ghz-contactless-products.html>, accessed 24 October 2023.

Answer to Q46 (a): The main interest of working in V-band is to allow for transmission of high data-rates, where a relatively wide band may be needed around the carrier frequency. So, the entire 57 to 64GHz band should be made exempt from license for short ranges to take benefit of this aspect. The communication may be established using a carrier frequency around the middle of the spectrum to occupy the allocated bandwidth, without interfering with communications outside of the V-Band.

(b) Whether there is a need to define such indoor use? If yes, what should be the definition for such indoor use?

Answer to Q46 (b): There is no need to distinguish between indoor and outdoor usage. The attenuation of the already low power signal due to rain and oxygen absorption guarantees that each communication will be restricted to short distances (say, few centimeters) and it will not interfere with others when these are separated by a reasonable distance.

(c) What technical parameters should be prescribed including EIRP limits? Suggestions may kindly be made with supporting justification and international scenario.

Answer to Q46(c): EIRP is the main limitation that could be imposed. A threshold of 20 dBm to 40 dBm seems to be the consensus worldwide. 20 dBm is largely sufficient for short distance device to device communications. This will ensure that devices built in accordance to FCC and ETSI regulation will also be compatible with the future Indian regulation.

Submitted on 24 October 2023 by

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