

TRAI's Epoch-Making Recommendations on License-Exempt Tera Hertz (THz) Spectrum sets the Stage for India's 6G R & D Aspirations: BIF

Through its 'Recommendations on the Tera Hertz Spectrum' issued on 21 August 2024, the Telecommunications Regulatory Authority of India (TRAI) has demonstrated its forward-looking vision towards positioning India as a Global Research & Development Hub for 6G technologies, in tune with the nation's aspirations to become a source of incubating new technologies and products instead of merely being a consumer of technology as in the past. As is generally known, 6G is going to be heavily based on THz spectrum.

License-Exempt Spectrum Usage: The key highlight of the TRAI Recommendations is that it has unambiguously recommended that all the proposed bands in the THz range should be assigned on a license-exempt basis to any eligible Indian entity, including academic institutions, research labs, government bodies, public sector units, technology parks, telecom service providers (TSPs), incubators, and original equipment manufacturers (OEMs). These entities can use the THz bands for experimental purposes, including R&D, indoor and outdoor testing, technology trials, and demonstrations, for a very nominal fee of Rs. 1000 for a five-year period.

These pathbreaking recommendations, coming on the back of its earlier recommendations of 12 April 2024 on 'Encouraging Innovative Technologies, Services, Use Cases and Business Models through Regulatory Sandbox in Digital Communication Sector', clearly demonstrate the Regulator's intent to encourage entrepreneurs, innovators and academia to develop innovative new technologies & services and would help experimenters to evaluate the performance of products in the conception, design and development stages, which would pave the way to ascertain the technical viability of technology and services built on the THz spectrum. This has the potential to significantly improve the fidelity of emerging technologies, supporting applications that are infeasible today as also applications that cannot be visualised at this stage.

Spectrum for Road Safety: Apart from looking at the THz spectrum, the Authority has, keeping in view that the short-range vehicular radar (SRR) applications can significantly enhance the safety of drivers and other road users, recommended the authorisation and assignment-exempt operations of the 77-81 GHz band (which lies closely below the THz band) for automotive radars in India. This is again a trail-blazing initiative of the Authority to enhance road safety.

BIF's President - TV Ramachandran stated, "We most heartily laud the Authority's visionary blueprint in these futuristic recommendations and believe that these will motivate entrepreneurs, innovators, academia & research communities to explore new path breaking technologies and services for 6G which is scheduled to appear in 5 years' time. TRAI is laying the groundwork for India to become a global powerhouse in testing as well as in research and development so that we are fully geared to produce cutting-edge technologies and services in the near future."

About Broadband India Forum: Broadband India Forum (BIF) is an independent policy forum and knowledge-based think-tank that works for the development and enhancement of the entire broadband & broadcasting ecosystem in a holistic, technology- neutral and service-neutral manner. BIF has established itself as a thought leader and a credible and effective voice, to help propel the nation to achieve the country's ambitious vision of creating a Digital India. To achieve this, BIF works to promote the rapid development of policies, so as to facilitate affordable and high-speed ubiquitous broadband throughout the country.