

Re: Consultation on radio interfaces related to devices using the ultra wideband technology (UWB)

Dear Respected Officer,

IEEE 802 LAN/MAN Standards Committee (LMSC) thanks Belgian Institute for Postal Services and Telecommunications (BIPT) for providing an opportunity to comment on the public consultation “Consultation on radio interfaces related to devices using the ultra wideband technology (UWB)”.

IEEE 802 LMSC is a leading consensus-based open standards development committee for networking standards that are used by industry globally. It produces standards for networking devices, including wired and wireless local area networks (“LANs” and “WLANs”), wireless specialty networks (“WSNs”), wireless metropolitan area networks (“Wireless MANs”), and wireless regional area networks (“WRANs”). Technologies produced by implementers of our standards are a critical element for all networked applications today.

IEEE 802 LMSC is a committee of the IEEE Standards Association and of Technical Activities, two of the Major Organizational Units of the IEEE. IEEE has about 400,000 members in over 160 countries and its core purpose is to foster technological innovation and excellence for the benefit of humanity. IEEE is also a major accredited standards development organization whose standards are recognized worldwide. In submitting this document, IEEE 802 LMSC acknowledges and respects that other components of IEEE Organizational Units may have perspectives that differ from, or compete with, those of IEEE 802 LMSC. Therefore, this submission should not be construed as representing the views of IEEE as a whole¹.

Please find below the responses of IEEE 802 LMSC to this consultation.

Ultra-Wide Band (UWB) devices, as specified in IEEE 802.15 standards, are being used worldwide for a wide range of applications in communication, measurement, location, imaging, surveillance, and medical systems², often in conjunction with other short range device technologies. UWB enhances the operation of such technologies and is an efficient means to share spectrum.

The next generation of UWB technology, being developed under IEEE P802.15.4ab³, builds on IEEE Std 802.15.4z-2020⁴. Future developments supported by this project include:

- Improved link budget and reduced air-time
- Enhanced sensing capabilities for presence detection and environment mapping
- Improved accuracy, precision, and reliability for high-integrity ranging

¹ This document solely represents the views of IEEE 802 LMSC and does not necessarily represent a position of either the IEEE or the IEEE Standards Association or the IEEE Technical Activities.

² See FiRa Consortium: Unleashing the Potential of UWB: Regulatory considerations, August 2022, <https://www.firaconsortium.org/sites/default/files/2022-08/Unleashing-the-Potential-of-UWB-Regulatory-Considerations.pdf> [accessed: 25 October 2024]. The introduction of IEEE 802.15 UWB-enabled devices in smartphones and laptops puts forecasts at more than 1 billion devices shipped annually worldwide by 2025.

³ See IEEE P802.15.4ab, <https://www.ieee802.org/15/pub/TG4ab.html> [accessed: 25 October 2024].

⁴ “IEEE Standard for Low-Rate Wireless Networks--Amendment 1: Enhanced Ultra Wideband (UWB) Physical Layers (PHYs) and Associated Ranging Techniques,” in IEEE Std 802.15.4z-2020 (Amendment to IEEE Std 802.15.4-2020), vol., no., pp.1-174, 25 Aug. 2020, doi: 10.1109/IEEESTD.2020.9179124.

- The use of interference mitigation techniques to support greater device density and higher traffic use cases
- Improved coexistence with other services
- Reduced complexity and power consumption
- Enhanced support for ultra-low power, low latency streaming
- Support for emerging applications such as high-definition audio

IEEE 802 LMSC commends BIPT for recognizing the rapidly growing value of UWB. Use of extremely low power UWB devices in accordance with ECC Decision (06)04 and the ETSI EN 302 065 series of standards harmonizes with worldwide regions, creates further economies of scale, and supports a robust equipment market, benefitting Belgium's businesses, consumers, as well as providing significant societal benefits.

Conclusion

IEEE 802 LMSC thanks BIPT for the opportunity to provide this submission and supports the BIPT's proposal on the updated technical conditions on UWB.

Respectfully submitted,

By: /s/.

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