IEEE P802.18  
Radio Regulatory Technical Advisory Group (RR-TAG)

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| Draft response to Canada RABC’s consultation on RSS-248, Issue 3 | | | | |
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This document drafts a proposed response to Canada RABC’s consultation on RSS-248, Issue 3 “Radio Local Area Network (RLAN) Devices Operating in the 5925-7125 MHz Band”.

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Electronic filing September 6, 2024

Re: Consultation on RSS-248, Issue 3 “Radio Local Area Network (RLAN) Devices Operating in the 5925-7125 MHz Band”

Dear Regulatory Standards Directorate,

IEEE 802 LAN/MAN Standards Committee (LMSC) thanks the Radio Advisory Board of Canada (RABC) for providing an opportunity to comment on the Innovation, Science and Economic Development (ISED)’s consultation on RSS-248, Issue 3 “Radio Local Area Network (RLAN) Devices Operating in the 5925-7125 MHz Band”.

IEEE 802 LAN/MAN Standards Committee (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 whole[[1]](#footnote-1).

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

**Supporting P2P Communication through Enablement of VLP**

IEEE 802 LMSC recognizes and applauds ISED as the first country to propose authorizing VLP operation over the entire 6 GHz band (5925 MHz to 7125 MHz). This decision enables critical growing applications relying on Peer to Peer (P2P) networks and better accommodates sharing of the frequency band and co-existence amongst various unlicensed technologies including technologies based on the family of IEEE 802 standards.

P2P communications offer means for spectral and power efficient operation that may be otherwise infeasible or inefficient specially for Real Time Applications (RTA) such as real time gaming, cloud gaming, real time video, and robotics and automation. These applications typically have stringent latency, throughput, and determinism performance requirement on the same or various traffic channels enabling the RTA use-cases[[2]](#footnote-2)

**Improving Regulatory Framework for 6 GHz P2P Communications**

While IEEE 802 LMSC believes that authorizing the VLP operation over the entire 6 GHz band is an exceptional step, P2P communications in the 6 GHz band can only be fully enabled by improving the existing regulatory framework. In particular, IEEE 802 LMSC kindly requests ISED to consider increasing the maximum e.i.r.p. spectral density from -5 dBm/MHz to 1 dBm/MHz.

This change incrementally increases performance for the VLP operation at 20 MHz and 40 MHz channel sizes and makes it possible that the maximum transmit power of the VLP devices utilizing the 20 MHz and 40 MHz channel bandwidth sizes is matched with the devices utilizing 80 MHz, 160 MHz, and 320 MHz channel bandwidth sizes to utilize the maximum e.i.r.p of 14 dBm.[[3]](#footnote-3) In addition, this change harmonizes the VLP transmit power in Canada with that in Europe[[4]](#footnote-4), countries following the ECC Decision (20)01 and, possibly the United States of America, as considered as an improvement on VLP in the Federal Communications Commission’s second further notice of proposed rulemaking on 6 GHz[[5]](#footnote-5), and hence greatly contribute to global harmonization of VLP devices.

The main improvement in P2P regulation is possible by authorizing Client to Client (C2C) communications under low power indoor (LPI) operation, where majority of applications are using/reusing the existing LPI co-existence framework. Enabling LPI C2C allows client devices to directly communicate with each other’s at the existing regulatory requirements, i.e., a maximum e.i.r.p of of 24 dBm and a maximum e.i.r.p. spectral density of -1 dBm/MHz[[6]](#footnote-6), and as a result, effectively enables and scales P2P communications without any additional risk of harmful interference to incumbents while maximally reusing regulatory framework for the LPI mode.

In LPI C2C, P2P communication range performance would be improved by extending the range from a few meters, in VLP, to a range that can support a wider set of latency sensitive applications and use cases requiring gigabit-per-second throughput in indoor spaces. Unlike the improvement in VLP, the improvement from C2C would be on all channel bandwidth sizes, including wider channel bandwidths of 80 MHz, 160 MHz, and 320MHz that are typically the target for enabling innovative P2P applications.

Direct communication of LPI client devices is already authorized by ECC and Ofcom. Technical conditions are endorsed by the Ministry of Internal Affairs and Communications in Japan[[7]](#footnote-7) and under consideration by the Federal Communications Commission in United States of Americas.

**Conclusion**

IEEE 802 LMSC thanks the RABC for the opportunity to provide this submission and kindly requests ISED to consider increasing the maximum e.i.r.p. spectral density from -5 dBm/MHz to 1 dBm/MHz as shown in Section 4.5.6 of the consultation and enabling client to client communication under low power indoor operation.

Respectfully submitted

By: /ss/.

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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. [↑](#footnote-ref-1)
2. See IEEE 802.11 Real Time Application Topic Interest Group Report, <https://mentor.ieee.org/802.11/dcn/18/11-18-2009-06-0rta-rta-report-draft.docx> [accessed: 15 August 2024]. [↑](#footnote-ref-2)
3. See item b, Section 4.5.6, of the consultation. [↑](#footnote-ref-3)
4. See Annex 1.2, ECC Decision (20)01 “On the harmonised use of the frequency band 5945-6425 MHz for Wireless Access Systems including Radio Local Area Networks (WAS/RLAN),” approved 20 November 2020, <https://docdb.cept.org/download/1447> [accessed: 15 August 2024]. [↑](#footnote-ref-4)
5. See paragraphs 105 to 108, Second Report and Order, Second Further Note of Proposed Rulemaking, and Memorandum Opinion and Order on Remand, Federal Communications Commission, United States of America, 1 November 2023, <https://docs.fcc.gov/public/attachments/FCC-23-86A1.pdf> [accessed: 15 August 2024]. [↑](#footnote-ref-5)
6. See Section 4.5.3 of the consultation. [↑](#footnote-ref-6)
7. See Ministry of Internal Affairs and Communications: Technical Conditions for the Introduction of Broadband Wireless LAN in 5925-6425 MHz Band, 12 September 2023, <https://www.soumu.go.jp/main_content/000901042.pdf> [accessed: 15 August 2024]. [↑](#footnote-ref-7)