

Before
INNOVATION, SCIENCE AND ECONOMIC DEVELOPMENT CANADA
Ottawa, ON K1A 0H5

In the Matter of)	
)	
Consultation on the Technical and Policy Framework for Radio Local Area Network Devices Operating in the Band 5150-5250 MHz)	Canada Gazette, Part I Jan. 28, 2017 Notice No. SMSE-002-17

COMMENTS OF NOKIA

1. Nokia respectfully submits Comments in response to the Consultation¹ from Innovation, Science and Economic Development Canada (ISED) on Radio Local Area Network (RLAN) operating in the 5150-5250 MHz frequency band.
2. Nokia supports ISED’s proposal to review the current rules to harmonize with the U.S. by allowing a new outdoor use of higher power RLAN devices (defined as higher power and outdoor RLAN devices or “HPODs”), with a maximum e.i.r.p. of 4 W.² Aligning the framework in Canada with that of the U.S. would ensure that a common equipment ecosystem can be leveraged in North America bringing benefits to consumers in both Canada and the U.S. As ISED correctly notes, harmonization leads to larger markets and lower manufacturing costs of equipment due to economies of scale, which results in reduced costs and increased availability for Canadian consumers.³ Nokia further agrees with ISED’s observation that, “spectrum harmonization with international allocations and standards ensures that Canada meets its obligations to comply with the international treaty, the International

¹ [Consultation on the Technical and Policy Framework for Radio Local Area Network Devices Operating in the Band 5150-5250 MHz](#), Jan. 28, 2017 (“Consultation”).

² Consultation ¶ 21.

³ Consultation ¶ 5.

Telecommunication Union (ITU) Radio Regulations, as amended by World Radiocommunication Conferences (WRCs) from time to time.”⁴

3. We also see benefits in ISED acting promptly to allow HPODs in the 5150-5250 MHz frequency band before the World Radio Conference 2019 (“WRC-19”), which is scheduled to take place in Q4 2019. Nokia Bell Labs consulting predicts that in North America by 2020 Wi-Fi will be 44% of total traffic and 12% will be cellular. Accommodating this explosion in use of Wi-Fi enabled devices and this projected increase in commercial broadband traffic over the next few years in Canada, require new broadband products capable of operating at higher data rates than is now possible and enabled by higher transmit power. This is also consistent with ISED’s policy objectives of “responding to changing technology and marketplace demands” and “by making spectrum available for use in a timely fashion”⁵. Moreover, the U.S. Federal Communications Commission (FCC) recently authorized the first Long Term Evolution (LTE) devices for use in unlicensed 5GHz spectrum. With that authorization, we expect to see the proliferation of 3GPP LTE technology in unlicensed 5GHz band that will introduce new network capabilities and devices for consumers and can benefit from the changes proposed.⁶

4. Nokia agrees that satellite operations in the 5150-5250 MHz band need to be protected. Nokia respectfully suggests that the FCC’s rules, based on an industry developed compromise, have amply satisfied this goal, resulting in no interference complaints in the U.S. regarding the outdoor operation of high power RLANS. Based on this track record, Nokia urges that ISED adopt the rules defined in the U.S. to protect incumbent satellite operations, namely, requiring to limit RLANS emissions above an elevation angle and

⁴ Consultation ¶ 5

⁵ Consultation ¶ 4

⁶ <https://www.fcc.gov/news-events/blog/2017/02/22/oet-authorizes-first-lte-u-devices>

requiring RLAN operators to report large-scale deployments (1000 or more) that would allow it to take corrective measures if necessary.⁷

5. Nokia does not see the justification for additional or more stringent requirements, and opposes ISED's suggested 25 km exclusion zone for the earth station located in Ottawa, Ontario. While the U.S. framework is proven to appropriately protect satellite operations, Nokia is skeptical of ISED's study that purportedly justifies the 25 km exclusion zone around for the current earth station in Ottawa⁸. Of concern is that such an exclusion zone would prohibit the use of HPODs in one of the most populated areas of Canada, depriving hundreds of thousands of citizens of the benefits of RLANs in 5150-5250 MHz band. ISED should instead consider coordination and other techniques to mitigate any potential interference to that earth station.

6. In addition, Nokia asks that ISED align its rules for indoor operations and client devices with the U.S., thereby allowing:
 - indoor access points in the band to operate at a maximum conducted output power of 1 W with a 6 dBi antenna gain; and
 - client devices to operate at a maximum conducted output power of 250 mW with a 6 dBi antenna gain respectively.

7. As discussed above, Nokia supports ISED's proposal to allow a new outdoor use of higher power RLAN devices to align with the U.S. and increase the utility of the spectrum. In addition, Nokia also advocates that ISED should consider reviewing the rules for indoor access point and client devices. In Nokia's view, expeditious action by ISED to increase the

⁷ Consultation ¶ 18.

⁸ Nokia has been unable to locate and fully vet ISED's study and therefore cannot verify with specificity the parameters of the study, nor the technical viability of the size of this proposed exclusion zone.

power limits of RLANs for indoor and outdoor use, and removing the ban on their outdoor use in the 5150-5250 MHz band is necessary to meet the projected near-term increase in data traffic in in Canada.

Respectfully submitted,

Nokia

A handwritten signature in black ink, appearing to read "R. T. Herald", is written over a solid black horizontal line.

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