

BEFORE INDUSTRY CANADA

IN THE MATTER OF

**CANADA GAZETTE, PART 1, IN THE MATTER OF NOTICE NO. SMSE-002-17
CONSULTATION ON THE TECHNICAL AND POLICY FRAMEWORK FOR RADIO
LOCAL AREA NETWORK DEVICES OPERATING IN THE BAND 5150-5250 MHZ**

**COMMENTS OF IEEE 802
LAN/MAN STANDARDS COMMITTEE**

MARCH 2017

1.0 INTRODUCTION AND BACKGROUND

1.1 IEEE 802, as a leading consensus-based industry standards body, produces standards for wireless networking devices, including wireless local area networks (“WLANs”), wireless personal area networks (“WPANs”), wireless metropolitan area networks (“Wireless MANs”), and wireless regional area networks (“WRANS”). Included in our standards development activity is an emphasis on coexistence, which is the focus of our Wireless Coexistence working group. We appreciate the opportunity to provide these comments to the ISED.

1.2 First and foremost, we would like to commend ISED for considering modification to the current technical and policy framework for radio local area network (RLAN) devices operating in the 5150-5250 MHz frequency band. We share the opinion of ISED that harmonizing spectrum use with international allocations and standards is key to larger markets and lower manufacturing costs of equipment due to economies of scale. Toward that objective, IEEE 802’s view is that early harmonization of regulations with that of U.S. FCC and removing restrictions by allowing both the current indoor and a new outdoor use of higher power RLAN devices as expressed by the Canadian stakeholders is the best course of action.

2.0 QUESTION A: THE DEMAND FOR AND BENEFIT, IF ANY, OF ALLOWING HPODS IN THE 5150-5250 MHZ FREQUENCY BAND BEFORE WRC-19.

2.1 As ISED acknowledged there is considerable demand for Wi-Fi devices, IEEE 802 believes that there is sufficient benefit and demand to justify aligning to the current FCC rules in the 5150-5250 MHz band in Canada prior to WRC-19.

2.2 As it is elaborated in ISED consultation Paragraphs 20 and 21, the demand for unlicensed spectrum capacity is increasing very fast due to explosive increase in the number of devices and services. IEEE 802.11ac [1] and 802.11ax [2] are developed with the premise of enabling multi-Gbps services through enablement of 80M Hz and 160 MHz channels. HPOD operation, aligned with FCC rules, in the 5150-5250 MHz makes the expansion of Wi-Fi capability possible via availability of two 80 MHz channels or one 160 MHz channel when the spectrum is combined with the adjacent 5250-5350 MHz band.

2.3 Note that a large number of unlicensed devices, including the IEEE 802.11ac enabled devices, are already certified and available to support operation in the 5150-5250 MHz band, as well as the 5725-5850 MHz band. IEEE 802.11ax enabled products are also expected to come to the market soon. Around 50,000 HPODs have already been certified by the US FCC. Moreover, considering similar regulatory requirements in Canada as those in US, ensures that devices and access points can be quickly adapted for authorization and operation in the 5150-5250 MHz band in Canada well in advance of WRC-19.

3.0 QUESTION B: THE POTENTIAL IMPACTS ON DOMESTIC AND FOREIGN SATELLITE SYSTEMS IN THE 5150-5250 MHZ FREQUENCY BAND OF AUTHORIZING HPODS USE PRIOR TO WRC 19 ON THE BASIS OF A MAXIMUM EIRP OF 4W.

3.1 With similar satellite uplink systems in the US, the FCC studied the possible impact of Wi-Fi devices as they developed the revised rules. Following a thorough consultation with industry, they issued the current rules in a 2013 Report and Order. As such, we believe it is prudent for ISED to adopt the current FCC rules for the 5150-5250 MHz band, which should prove sufficient to protect both the US and Canada uplink satellite systems from

harmful interference. It was also mentioned that the Globalstar receivers can monitor noise levels, providing the ability to inform the FCC and ISED of possible interference events.

3.2 However, Canada also has a downlink satellite system with an earth station in Ottawa that is entitled to protection. With this in mind, and given devices have been successfully operating in the band in the US since the report and order, we recommend ISED issue rules aligned to the FCC for the band, and if needed, implement further restrictions, such as an exclusion zone to protect the earth station in Ottawa. In doing so, this exclusion zone and any future earth station exclusion zones should consider minimizing the covered population impact consistent with antennas operations and characteristic. As we understand, currently the operation of non-HPOD Wi-Fi networks are allowed everywhere, including any areas considered as the proposed exclusion zone, and will remain that way. For the one Earth station and future installations, the restriction on HPODs should be minimized as much as possible to maximize the benefit of Wi-Fi operation for the Canadian people, without compromising operation of the primary system.

4.0 QUESTION C: SHOULD THE DEPARTMENT PROCEED TO AUTHORIZE HPODS USE PRIOR TO WRC 19, WHAT REGULATORY APPROACH WOULD BEST ENSURE A BALANCE OF TIMELY DEPLOYMENT AND THE PROTECTION OF OTHER EXISTING AND FUTURE SERVICES IN THE 5150-5250 MHZ FREQUENCY BAND?

4.1 IEEE 802 recommends ISED to follow the regulatory approach of the US FCC with regard to operation in the 5150-5250 MHz band, allowing both indoor and outdoor use at up to 4W EIRP, a limitation of 125 mW EIRP at elevation above 30 degrees, and notification of deployments consisting of over 1000 access points. In addition, due to downlink facility in Ottawa (and any future downlink facilities), limited exclusion zone can be considered based on detailed study of relevant antennas operations and characteristic to minimize the impact on Wi-Fi coverage.

5.0 CONCLUSION

5.1 IEEE 802 supports ISED's efforts in modification to the current technical and policy framework for radio local area network (RLAN) devices operating in the 5150-5250 MHz frequency band to relax restriction on the band. As detailed out on the responses above, we believe that early harmonization of regulations with that of U.S. FCC and removing restrictions by allowing both the current indoor and a new outdoor use of higher power RLAN devices is the best course of action.

References:

- [1] [IEEE 802.11ac Reference]
- [2] [IEEE 802.11ax Draft or PAR]

Respectfully submitted,

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