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Via email: [ic.spectrumengineering-genieduspectre.ic@canada.ca](mailto:ic.spectrumengineering-genieduspectre.ic@canada.ca)

Senior Director  
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**Re: Canada Gazette 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**

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Please find attached the comments of Rogers Communications Canada Inc. (Rogers) in response to *Canada Gazette*, Part I, January 2017, *Consultation on the Technical and Policy Framework for Radio Local Area Network Devices Operating in the Band 5150-5250 MHz* (SMSE-002-17).

Rogers thanks the Department for the opportunity to provide input on this important issue.

Yours very truly,



Howard Slawner  
Vice President – Regulatory Telecom  
HS/pg

Attach.

Consultation on the Technical and Policy Framework  
for Radio Local Area Network Devices  
Operating in the 5150-5250 MHz  
Frequency Band  
SMSE-002-17

Comments of  
Rogers Communications Canada Inc.  
March 29, 2017



## Introduction

1. Rogers Communications Canada Inc. (Rogers) is pleased to provide Innovation, Science and Economic Development Canada (the Department) with the following comments in response to *SMSE-002-17: Consultation on the Technical and Policy Framework for Radio Local Area Network Devices Operating in the 5150-5250 MHz Frequency Band*<sup>1</sup> (the Consultation), published in the *Canada Gazette*, Part I, January 28, 2017.
2. The Department should look to maximize the use of Radio Local Area Network (RLAN) technologies using a technologically-neutral approach while ensuring reasonable protection of incumbent services in order to enable greater spectrum utilization and allow Canadian consumers to benefit from wireless innovations. Increasing and enhancing spectrum availability is vital to supporting the advanced network speeds and capacity that Canadians have come to enjoy and demand. As such, Rogers recommends the Department harmonize rules with the U.S. on allowing use of both outdoor and indoor devices with increased transmitting power in the 5150-5250 MHz band.
3. Effective technical spectrum policy frameworks will help Canadian network operators meet the increasing demand for data. Canadians use their mobile devices far more than users in most other countries. Canada's mobile data traffic grew 41% in 2016, and is expected to grow 5-fold from 2015 to 2020, a compound annual growth rate of 36%.<sup>2</sup> While usage is rapidly growing on cellular networks, offloading of traffic to Wi-Fi networks is an important and growing compliment. The ability to augment cellular service with Wi-Fi will become even more valuable as Canadians continue to connect more and more devices to their home Internet networks. In fact, of all Internet traffic (fixed and mobile) in 2016, 42% was Wi-Fi and its proportion of traffic is expected to increase to 55% in 2021.<sup>3</sup> Wi-Fi technology is augmenting the world-class, facilities-based wireline and wireless networks that Canadian network operators continue to build.
4. In order to address the dramatic growth in demand for mobile data services, Rogers has already made significant investments to deploy LTE mobile broadband technology to approximately 95% of the Canadian population.<sup>4</sup> On the fixed Internet side, over 45% of Rogers' residential Internet base is on speeds of 100 Mbps or

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<sup>1</sup> ISED, *SMSE-002-17: Consultation on the Technical and Policy Framework for Radio Local Area Network Devices Operating in the 5150-5250 MHz Frequency Band* (Consultation); <http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf11246.html>.

<sup>2</sup> Cisco, *VNI Mobile Forecast Highlights, 2016-2021*.

[http://www.cisco.com/c/dam/assets/sol/sp/vni/forecast\\_highlights\\_mobile/index.html#~Country](http://www.cisco.com/c/dam/assets/sol/sp/vni/forecast_highlights_mobile/index.html#~Country)

<sup>3</sup> Ibid.

<sup>4</sup> Rogers, *Rogers Communications Reports Fourth Quarter 2016 Results*, January 2017.

higher and Ignite Gigabit Internet service capable of delivering 1Gbps speeds is now available to our entire footprint of over four million homes.<sup>5</sup>

5. As a large wireless and fixed Internet operator that is focused on the provision of advanced new broadband services, including capacity-hungry video services such as NHL GameCentre LIVE and 4K programming, Rogers knows that operators require additional capacity to keep pace with Canadians' demand for data services. Rogers continues to deliver innovative broadband services, such as being the first provider in Canada to launch LTE-Advanced technology and the first to offer gigabit speed fixed Internet to its entire service area, providing consumers with outstanding network experiences while maximizing the efficient use of current licensed holdings and unlicensed spectrum.
6. Yet, for network operators to continue providing Canadians with the most advanced and innovative connectivity technology solutions, spectrum policy must keep pace. Rogers has been a consistent proponent of the importance of generally making additional spectrum available to support innovation, while ensuring incumbent users are still protected. Rogers believes harmonizing the 5150-5250 MHz RLAN technical and policy framework with the U.S., allowing use of both outdoor and indoor devices with increased transmitting power, can be done in such a way as to satisfy all service operators and end-users.
7. Rogers' view of the Consultation is also that the Department must maintain its technology-neutral, facilities-based policies and that any changes that may benefit one wireless technology should be applicable to others. For example, the Federal Communications Commission (FCC) has recently approved the operation of LTE-U base stations that operate in unlicensed channels in the U-NII-1 (5150-5250 MHz) and the U-NII-3 (5725-5825 MHz) bands.<sup>6</sup> Any changes to the RLAN policy that may benefit technologies such as Wi-Fi should also apply to LTE-U/LTE-LAA, as well as other wireless technologies that meet all relevant radio regulations.
8. The remainder of Rogers' comments will respond to the specific issues raised in the Consultation Paper.

A. the demand for and benefit, if any, of allowing HPODs in the 5150-5250 MHz frequency band before WRC-19.

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<sup>5</sup> Ibid.

<sup>6</sup> For example see: FCC, *Grant of Equipment Authorization*, [https://apps.fcc.gov/oetcf/tcb/reports/Tcb731GrantForm.cfm?mode=COPY&RequestTimeout=500&tcb\\_code=&application\\_id=NvOgdtHmEJsZmr34OrclMA%3D%3D&fcc\\_id=TA8AKRD90106083](https://apps.fcc.gov/oetcf/tcb/reports/Tcb731GrantForm.cfm?mode=COPY&RequestTimeout=500&tcb_code=&application_id=NvOgdtHmEJsZmr34OrclMA%3D%3D&fcc_id=TA8AKRD90106083)

9. As noted above, Canadian consumers continue to demand access to more and more data services and operators are responding. The Canadian Radio-television and Telecommunications Commission (CRTC) has stated, “Over the past few years, the numbers of connected devices and applications used in a household have grown significantly, and these numbers will likely continue to grow. Consequently, the need for bandwidth is also growing.”<sup>7</sup> According to recent survey data from the Canadian Internet Registration Authority, “Nine per cent [SIC] of Canadians report having 10 or more Internet-connected devices in their household, a number that is likely only to rise with the proliferation of smart-home technology and applications.”<sup>8</sup>
10. These findings align with statements in the Consultation by the Department itself, which notes that the fast growing number of consumer Wi-Fi-enabled devices is putting pressure on the current capacity of RLAN bands and that service providers are deploying hot-spots to off-load traffic from their commercial broadband networks.<sup>9</sup> Both these trends are expected to continue over the next few years.
11. Facilities-based providers like Rogers continue to invest billions of dollars to provide connectivity to Canadians. According to the CRTC, telecommunications investments made in both wireless and wireline networks was \$13.3 billion in 2015 for plant and equipment, including expenditures to acquire licensed spectrum.<sup>10</sup> However, in order to enhance consumer experiences and meet evolving usage demands, Canadian spectrum policy must also continue to evolve. Allowing HPODs, including increased power indoor devices, in the 5150-5250 MHz band before WRC-19 is one such way the Department can make more efficient use of spectrum for the services that Canadians are demanding.
12. Harmonizing rules with the U.S. for higher power devices, both indoor and outdoor, will enable service providers to provide a wide array of advanced connectivity services to Canadians, from the latest Wi-Fi standard (802.11ac, designed for gigabit speed that providers like Rogers are offering) to emerging mobile standards like LTE-U and LTE-LAA. Further, it will provide additional spectrum that can be used as a backhaul medium to transport the increasing amounts of bandwidth that both fixed and mobile Internet users need.
13. The Department should move ahead quickly on its decision, prior to WRC-19, in order for Canadians to take advantage of the benefits of enhanced indoor and outdoor wireless connectivity. Such a policy framework will align with the federal

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<sup>7</sup> CRTC, *Telecom Regulatory Policy CRTC 2016-496*, <http://www.crtc.gc.ca/eng/archive/2016/2016-496.htm>.

<sup>8</sup> CIRA, *CIRA Internet Factbook 2016 – Internet use in Canada*, <https://cira.ca/factbook/domain-industry-data-and-canadian-internet-trends/internet-use-canada>.

<sup>9</sup> ISED, *Consultation*, para 20.

<sup>10</sup> CRTC, *Communications Monitoring Report 2016*, <http://www.crtc.gc.ca/eng/publications/reports/policymonitoring/2016/cmr5.htm#a5vi>.

government's broader innovation agenda and can contribute to productivity increases, support connected city initiatives, and the ongoing development of the Internet of Things.

14. Rogers believes that the Department should approve both outdoor and increased power indoor devices quickly. However, if the Department is uncertain on how quickly it can proceed with outdoor-specific HPODs, Rogers suggests that the Department approves increased power indoor devices in an expedited manner and moves forward with revision of RSS-247 prior to WRC-19. 5GHz Wi-Fi modems that align with the U.S. rules and allow consumers to take greater advantage of higher Internet speeds are now available. Harmonizing with the U.S. rules will permit these devices to be used in Canada and allow Canadian consumers, both residential and business, to access faster in-building wireless speeds and benefit from the lower costs achieved through economies-of-scale. Such a decision will help Canada to remain competitive with its largest trading partner in terms of the wireless capabilities that are essential to succeed in the global innovation race.

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 e.i.r.p. of 4 W. Requirements for an elevation mask towards satellites and an exclusion zone of 25 km around receiving earth stations to protect all satellite systems would likely also apply.

15. Rogers believes that the Department must strike the right balance between protecting incumbent users from interference while ensuring that any measures taken do not become overly restrictive and prevent new and innovative uses within the band. It is Rogers' understanding that since the change in FCC rules in 2014, there have been over 1,000 devices certified in the U.S. to take advantage of the new rules.<sup>11</sup> Rogers is not aware of any interference-related complaints to the FCC regarding the operation of increased power indoor or high powered outdoor devices in the 5150-5250 MHz frequency range.
16. Rogers believes that this means the FCC's rules have to date proven to be effective in protecting earth stations using the 5150-5250 MHz band for uplink operations. Through our participation in the Radio Advisory Board of Canada working group established to respond to the Consultation, Rogers understands that there is only one earth station located in Canada that could be adversely affected by RLANS

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<sup>11</sup> Office of Engineering and Technology (FCC), *Equipment Authorization Search*; <https://apps.fcc.gov/oetcf/eas/reports/GenericSearch.cfm>.

operating under similar technical requirements to the FCC's. Rogers supports the Department's efforts to ensure this single location would be protected and believes that no further exclusion zones would be required.

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? Also, indicate any and all considerations that should be given to equipment standards, technical requirements, eligibility criteria and/or conditions of licence depending on the relevant approach.

17. Rogers believes that the Department should move ahead as quickly as possible with a licence-exempt regime for HPODs, including development of specific equipment standards and technical requirements that would apply to HPODs (including increased power indoor devices) in this band. This would maximize the use of RLAN technologies including existing technologies such as Wi-Fi and backhaul, while also supporting new and emerging technologies such as LTE-U/LTE-LAA. The Department should not wait until WRC-19 to implement changes but should review any Canadian technical and policy frameworks of the 5150-5250 MHz band following WRC-19.
18. Taking this action now will allow Canadians to benefit from enhanced connectivity services in the near term and will ensure Canadians are able to continue accessing the most innovative technologies in the future. Implementing the same technical requirements and equipment standards as the U.S. will ensure protection of incumbent services. It will also allow wireline and wireless facilities-based service providers to maximize their network investments in order to meet the increasing demands for data services in a timely manner.

## **Conclusion**

19. Rogers supports the Department harmonizing its rules with the U.S. on allowing use of both outdoor and indoor devices with increased transmitting power in the 5150-5250 MHz band. The Department should work quickly towards a permanent, licence-exempt regime that incorporates any changes resulting from WRC-19, while adopting a temporary regime that allows for immediate deployment of outdoor and increased power indoor devices.

20. Such measures would allow operators to deploy new and enhanced services to consumers and in their networks, provide an additional layer of protection for incumbent services, and allow Canada to maintain its international obligations. It would be a win-win-win situation for consumers, operators, and the federal government. Continuing to enhance technical and policy spectrum frameworks in this way is vital to ensuring that network operators can satisfy Canadians' growing demand for connectivity services in Canada and would promote the telecommunications objectives and *Innovation Agenda* of the Department.
21. Rogers thanks the Department for the opportunity to share its views and participate in this process.