

28 September 2017

To: Senior Director

Spectrum Licensing and Auction Operations, Innovation Science and Economic Development,  
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Re: Consultation on a Technical, Policy and Licensing Framework for Spectrum in the 600 MHz Band. Reference number SLPB-005-17, Published August 2017.

In respect of the above consultation we offer the following submission.

Regarding Section 8.3 of the consultation document (Low power apparatus and white space (WS)) “Under the SMSE-012-12, Framework for the Use of Certain Non-broadcasting Applications in the Television Broadcasting Bands Below 698 MHz, ISED allowed the use of WS devices in the 600 MHz band on a secondary basis”.

We submit that WS devices should continue to be allowed to use the 600MHz band on a secondary basis.

Specifically, we submit that ISED should follow the rationale outlined in the FCC Report & Order Released August 11<sup>th</sup>, 2015 (ET Docket 14-165, GN Docket 12-268).

The key outcomes of this order are:

- (a) If 600MHz spectrum is not used by licensees it should remain available to WS devices via the database. This will ensure spectrum is not wasted. Rural-remote areas in particular will benefit where it is unlikely a 600MHz cellular service will be deployed.
- (b) Allows 10W (40dBm) maximum EIRP per 6MHz, if the channel in the 614-698MHz band can be classified as “less congested” (less than half of channels are occupied). This will allow operation of rural broadband services.
- (c) Allows use of the duplex gap on a 1-4-6 split (page 9615 of the above referenced FCC document).

We would also submit that in remote-rural areas of Canada that even higher EIRP values should be considered for WS devices operating on unused channels in the 600MHz service band to facilitate rural broadband services. It is likely that such remote-rural areas will have neither TV signals nor cellular services. CRTC has set an objective of 50Mbps downlink and 10Mbps uplink for all Canadians. 6Harmonics has successfully demonstrated a field trial in the UK of 3x8MHz TV channels to create a 24MHz “super channel” which is equivalent to 4x6MHz TV channels in Canada. The measured throughput was 50Mbps peak and 45Mbps average for both uplink and downlink. The radios use SISO to minimise cost and power consumption as only one transmit chain is needed. The cost of such radios is the same as a single channel radio but deployment requires 4 contiguous 6MHz TV channels. The radio has 30dBm of conducted power and when combined

with high gain Yagi or panel antennas this equates to ~40dBm of EIRP. This solution has the range and throughput needed for rural broadband services if a block of 24MHz spectrum is available. Both spectrum availability and higher EIRP are needed to allow deployment. Therefore allowing operation of such devices on unused 600Mhz spectrum will be of benefit to Canadians living in rural-remote areas.

Sincerely

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