

16 January 2018

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Re: Consultation on the Technical and Policy Framework for White Space Devices (SMSE-018-17)
Canada Gazette, Part 1, November 2017

Introduction

The North Queens Business Hub, a small community group in rural Nova Scotia, have been conducting TVWS trials⁽¹⁾ to determine if the technology is a viable option to the lack of broadband Internet access in the area. The trials were funded by the Canadian Internet Registry Authority.

There have been a number of TVWS trials around the world. The purpose of ours was to determine the efficacy of the technology in the terrain and vegetation of rural Nova Scotia, which is common to a large part of rural Canada. As such, the main focus of our trials has been on RF propagation.

We are pleased to comment on a two areas relating to the consultations

7. White space devices in the 600 MHz range repurposed band. Question 3, Comments are below.

9. Technical rules for white space devices. Comments are in an attached document.

Our comments apply to fixed TVWS devices operating in the UHF band

Question 3

7. White space devices in the 600 MHz range re-purposed band

Although we are generally supportive of the re-purposing of the 600 MHz band for mobile operators we would like to observe that in rural areas the main reason for lack of service is due to low population density and higher OPEX costs associated with rural operations. Lack of spectrum is not the principal barrier.

As such, it is likely that this spectrum will go largely un-occupied and wasted in rural areas such as ours if reserved solely for mobile operators.

This spectrum could be of use to TVWS operators in rural markets attempting to bridge the widening gap between rural and urban broadband services, especially if we hope to meet the broadband speeds goals set out by the CRTC in remote areas.

We also note that as TV stations transition from channels above 608Mhz there will be considerably less spectrum available below 608Mhz particularly if the present practice of protecting 9 channels

around every active DTV station continues. Of the available 22 channels, the number available for use by TVWS devices could rapidly be reduced to zero, as is now the case in many urban areas.

If Canada prohibits TVWS devices from the 600MHz band it will reduce the UHF TVWS spectrum availability to 132Mhz; which is significantly lower than the 228Mz adopted by the FCC and the 254Mhz adopted by OFCOM and possibly the lowest in the world. It is also important to note that TVWS operators are not the prime users of this spectrum and can be forced to vacate it at very short notice thus an operator needs to ensure not only that there is sufficient spectrum for his present needs but also an alternative. This adds considerable complexity and strategic financial risk for small-scale operators.

With the continued increased demand for spectrum some form of spectrum sharing is going to be necessary to keep up with demand whenever possible and we think this should be a key component of future spectrum use planning. When a band is being re-purposed for a new use as is the case now we think this is an ideal opportunity to take cautious steps in this direction.

We therefore think the approach adopted by the FCC in FCC-15-99A1(2) to maximize spectrum use would be a good starting point in Canada. In this amendment to their rules, they allow TVWS to operate in the 600Mhz service bands at up to 10W EIRP and in the duplex gap and guard channels at reduced power on a no interference and no protection basis.

We think a similar approach could work well in Canada.

Respectively Submitted Colin Mudle

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(1) North Queens TVWS Trials
<http://queenstvws.com/index.htm>

(2) FCC-15-99A1
https://apps.fcc.gov/edocs_public/attachmatch/FCC-15-99A1.pdf