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**PRELIMINARY VIEWS FOR WRC-19**  
**AGENDA ITEM 9.1, ISSUE 9.1.5**  
**(Item on the Agenda: 3.1 (SGT-1))**  
**(Document submitted by CITEL Member States)**

**SGT-1**

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**Agenda item 9.1, issue 9.1.5:** [Resolution 764 \(WRC-15\)](#) - *Consideration of the technical and regulatory impacts of referencing Recommendations ITU R M.1638-1 and ITU R M.1849-1 in Nos. 5.447F and 5.450A of the Radio Regulations.*

## BACKGROUND

Under agenda item 9.1, the Director of the Radiocommunication Bureau reports on the activities of the Radiocommunication Sector since the last conference. This includes specific activities or issues for which the Director is explicitly instructed, via certain Resolutions, to provide a report either to the next or future conference(s) for consideration.

Issue 9.1.5 relates to consideration of the technical and regulatory impacts of updating the references to the latest version of Recommendation ITU-R M.1638-1 “Characteristics of and protection criteria for sharing studies for radiolocation, aeronautical radionavigation and meteorological radars operating in the frequency bands between 5 250 and 5 850 MHz” and adding a reference to Recommendation ITU-R M.1849-1 “Technical and operational aspects of ground-based meteorological radars” in footnotes **5.447F** and **5.450A** of the Radio Regulations.

Footnote **5.447F** states: “In the frequency band 5 250-5 350 MHz, stations in the mobile service shall not claim protection from the radiolocation service, the Earth exploration-satellite service (active) and the space research service (active). These services shall not impose on the mobile service more stringent protection criteria, based on system characteristics and interference criteria, than those stated in Recommendations ITU-R M.1638-0 and ITU-R RS.1632-0. (WRC-15)”.

A similar footnote **5.450A** states “In the frequency band 5 470-5 725 MHz, stations in the mobile service shall not claim protection from radiodetermination services. Radiodetermination services shall not impose on the mobile service more stringent protection criteria, based on system characteristics and interference criteria, than those stated in Recommendation ITU-R M.1638-0. (WRC-15)”.

Recommendation ITU-R M.1638-0 has now been updated to M.1638-1. ITU-R WP 5A is to investigate the impact of referencing the new version of the recommendation to these services referred to in the footnotes. Furthermore, it has been suggested that there should be a new reference to Recommendation ITU-R M.1849-1 in the footnotes. The impact of which is also to be investigated.

In Canada, there is a RADARSAT Constellation Mission (RCM) that has six satellites in the constellation. The first three satellites which will be launched in 2018 will use the frequency band 5 340 – 5 480 MHz and the remaining three satellites are expected to operate in the frequency range 5 255 – 5 565 MHz (under the international primary allocation to the Earth exploration satellite service (EESS) (active)). The data provided (or to be provided) by these constellations is vital for reliable and up-to-date information on how our planet and its climate are changing and assist in planning to prevent global warming effects.

There is also a Canadian national radar network that operates in the frequency band 5 600-5 650 MHz (under the international primary allocation to the radiolocation service). These radars are in operation continuously 24 h/day and play a crucial role in the immediate meteorological and hydrological alert processes. The data from these radars is also used in scientific research to better understand the physics and model the behaviours of significant weather events, and in providing climate information regarding the occurrence of significant weather events in Canada.

Due to the growing need to off-load broadband traffic onto Wi-Fi networks, specifically in the 5 GHz band, the current and future proliferation of Wi-Fi networks and devices is also an important consideration. According to Cisco<sup>1</sup>, public and home Wi-Fi hotspots in Canada alone will grow from 0.8 million to 10.2 million between 2015 and 2020; representing a 13-fold increase.

Internationally, there is also a primary mobile allocation in the frequency bands 5 250-5 350 MHz and 5 470-5 725 MHz for the implementation of wireless access systems (WAS), including radio local area networks (RLANs). Recommendation ITU-R M.1849-1 (referenced as well in the updated Recommendation ITU-R M.1638-1) recommends that the aggregate protection criteria for ground-based meteorological radars should be an  $I/N$  of  $-10$  dB.

The underlying question being investigated by WP 5A then becomes whether an international change to the regulatory environment would still allow RLANs to operate.

## ISSUES

- Investigation of the technical and regulatory impacts on the services referred to in footnotes **5.447F** and **5.450A** of the Radio Regulations that would result from updating or including a new reference to the updated versions of Recommendation ITU-R M.1638-1 and M.1849-1.
- Ensure that no undue constraints are imposed on the services referenced in these footnotes, including, inter alia RLANs operating in the mobile service.

## DISCUSSION

- The latest working document towards draft CPM text for WRC-19 agenda item 9.1, issue 9.1.5, is contained in [Annex 12](#) to [Doc. 5A/469](#), the WP 5A Chairman's Report of the May 2017 meeting. It includes the text from the input contributions received so far.
- The working document towards draft CPM text will be progressed at the upcoming WP 5A meetings on 6-16 November 2017 and 21-31 May 2018, at which time the draft CPM text will be completed.

## PRELIMINARY VIEWS

### CAN

Canada supports and is participating in the studies on the technical and regulatory impacts as described in Resolution **764**, which are being conducted in WP 5A.

Canada is of the preliminary view that there is a need to avoid introduction of ITU-R M.1638-1 in the RR as there appears to be, based on current studies, significant impacts on RLAN DFS requirements if Recommendation ITU-R M.1638-1 were to be referred to in place of Recommendation ITU R M.1638-0. This is because some of the new radars (i.e., bistatic and frequency hopping radars) have substantially different system characteristics. Canada continues to follow the studies in WP 5A including those on the referencing of Recommendation ITU-R M.1849-1.

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<sup>1</sup> Global Wi-Fi Market — Global Forecast to 2020 Market, TC 2650, 2015