



July 14, 2023

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(Submitted by email)

**Subject: RSS-198, Draft Issue 1**

Dear Josette Gallant,

In May 2023, the Department requested that RABC review the first draft issue of Radio Standards Specifications (RSS) - 198 – *Flexible Use Broadband Equipment Operating in the Band 3900-3980 MHz*. The Board assigned the review of the standard to its Fixed Wireless Communications Committee (FWCC). Interested stakeholders from the aviation community were also invited to participate as guests in the review. At the request of the Department, RABC also posted the draft of RSS-198 Issue 1 on its website to facilitate comments from Canada's World Trade Organization (WTO) partners.

When the new standard was provided to RABC, the Department explained that the new corresponding Standard Radio Service Plan, SRSP-521, would be provided for consultation later. The new RSS is being treated as a priority ahead of the SRSP as the Department would like to publish the equipment standards in advance of the access application window for existing WBS licensees, which is part of the Non-Competitive Local Licensing Framework decision, SPB-001-23, (the NCL Decision).

During the initial FWCC meeting to review RSS-198, the Department explained that the limits in Section. 5.6.2 of RSS-198 (unwanted emission limits in 4200 MHz to 4400 MHz) should not be discussed as it is expected that the limits decided upon by the Department in the (then) ongoing consultation dealing with RSS-192 (and SRSP-520), would be adopted by the Department in RSS-198.

With this focus in mind, the FWCC held four calls to review the standard, resulting in the recommended changes described below. It is worth mentioning that the participants in the related RABC meetings included stakeholders interested in NCL including telecom equipment manufacturers, national wireless service providers, local and regional wireless services providers, and major utilities. From satellite stakeholder side, there were Telesat Canada, with C-band satellites and Department of National Defence, also operating C-band earth stations.

To support broad equipment availability, RABC members with interest in flexible use services in the band recommend that ISED use the same transmit power and unwanted emission limit requirements in RSS-198 as in RSS-192. In this way, vendors will be able to certify the same equipment for both 3450-3900 MHz and 3900-3980 MHz. Service providers (or carriers) may select equipment based on their deployment scenario and the permissible power levels, which will be defined in SRSP 521 respecting ISED’s policy decision on NCL (referring to D3 in the footnote below)<sup>1</sup>, in their area of operation.

RABC members with interest in flexible use services in the band proposed that Table 1, *Maximum power spectral density of equipment*, in draft RSS-198, be replaced with a table using the same transmitter output power in RSS-192. For reference, the transmitter output power requirements proposed in *Consultation on SRSP-520, issue 3 and RSS-192, issue 5* are as follows:

<b>Equipment Type</b>	<b>Maximum Power</b>
Non-AAS: base station (outdoor), fixed P-P station, P-MP hub station	68 dBm e.i.r.p./5 MHz
AAS: base station (outdoor), P-MP hub station	47 dBm TRP/5MHz
Indoor base station	39 dBm TRP/channel bandwidth
Fixed subscriber equipment	39 dBm e.i.r.p./channel bandwidth
Subscriber equipment other than fixed subscriber equipment:	30 dBm e.i.r.p./channel bandwidth

RABC members with interest in flexible use services in the band justify their proposal as follows:

- It was noted that with the power limits proposed in Table 1 of the draft RSS-198 consultation, a massive MiMo (mMiMo) solution cannot meet the specified outdoor base

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<sup>1</sup> D3: Specific values of the maximum permissible power levels for NCL licensing will be established through the development of relevant technical rules on a band-by-band basis. In general, maximum permissible power limits for NCL licensing will be lower than typical values allowed for other licensing frameworks (e.g. auctioned commercial mobile bands), unless otherwise specified. In general, in rural and remote areas, ISED will permit higher maximum permissible power limits for NCL licensed operations than what would be permitted for NCL licensed operations in urban areas, unless otherwise specified.

station EIRP due to the antenna and beamforming gains embedded with the radio solution, preventing NCL licensees from benefitting from a radio solution which would enable more efficient usage of the spectrum. If higher power levels are permitted in low congestion areas, users may have the option to use mMIMO systems.

- If certification is not aligned across the bands covered by RSS-192 and RSS-198, then the equipment certification requirements for 3900-3980 MHz will result in unique Canadian requirements which will not be fully aligned with the global equipment ecosystem. This will possibly result in a loss of economy of scale and consequently a higher cost for Canadian users and for NCL licensees (or carriers), and potentially even a lack of equipment for Canadian users and NCL licensees (or carriers). Aligning certification across RSS-198 and RSS-192 would enable the NCL licensees to leverage a wider base station ecosystem in areas where ISED would permit medium-power (MP) operations (i.e., in rural and remote Tier 5 service areas as defined in the NCL Decision<sup>2</sup>). Harmonization of RSS-198 and RSS-192 could allow WBS-band licensees to take advantage of the NCL policy.
- Finally, for the band 3940-3980 MHz, the problem of different certification requirements, in RSS-198 from RSS-192, and potentially more expensive equipment, is exacerbated as it would only be available to NCL licensees, which may be small operators constituting a small market segment including operators with less than 100,000 subscribers.

RABC members with interest in FSS services expressed the following concerns and views with the proposal by members with interest in flexible use services in the NCL band:

- The proposed higher power levels in Table 1 are as much as 100 times greater than the power levels specified in the Department's initial draft RSS 198.
- Higher power limits will make it more difficult to control unwanted emissions.
- The proposal to modify the maximum equipment output powers in Table 1 and aligning levels with those in RSS-192 have the potential to impact other services operating in NCL band as well as in the adjacent band (FSS earth stations, radio altimeters, fixed services).
- They would like to keep the power defined in Table 1 as initially proposed by ISED as they believe that was the intent of paragraph 85 and Decision 3 of the NCL Decision. If ISED decides to increase the in-band power in Table 1 of RSS-198, it is recommended that the NCL licensees should continue to ensure protection to the other services operating in-band and in the adjacent band (non-transitioned FSS earth stations, transitioned FSS earth stations, radio altimeters, fixed services).

While this letter does not propose any changes to the unwanted emission limits in the band 4200-4400 MHz, RABC members are looking forward to reviewing and commenting on the proposed

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<sup>2</sup> See paragraph 350 of SPB-001-23.

rules in SRSP-521 to satisfy themselves that, among other things, the protection of FSS Earth Stations and Radio Altimeters is ensured. In developing the rules, it is important to take into account there is only a 20 MHz gap between the NCL band and the FSS earth station operating in the 4000-4200 MHz band.

Finally, RABC did not receive any comments via the WTO portal on the Board's website.

The Board has now completed its review. We appreciate having had the opportunity to review the updated standard.

Sincerely,



J. David Farnes  
General Manager