



International Amateur Radio Union

Summary Meeting Report

ITU-R WP4C #26: 5 – 13 July 2021

The IARU was represented by Ole Garpstad (LA2RR – ITU Lead) and Barry Lewis (G4SJH – WRC23 AI9.1b Lead) with other IARU members present inside national delegations from Australia, Brazil, Canada, Germany, Japan and the USA.

The relevant 4C 9.1b related contributions were reviewed ahead of the meeting by correspondence in the IARU Global WRC23 AI9.1b task group. The IARU did not provide any contributions to this meeting but acted as the carrier of a liaison document from WP5A.

1. WRC23 AI 9.1 topic b (RNSS and Amateur services coexistence)

Background

As detailed in the report from WRC23 CPM-1, ITU-R WP4C is a contributing group and is responsible for developing the studies identified under *invites 2* of Resolution 774 on **WRC23 AI 9.1 topic b (RNSS and Amateur services coexistence)**.

All the contributions relating to this work were quickly referred to a Sub Group 4C3 and the items relevant to AI9.1 b were subsequently referred to a drafting group led by France which progressed the work by e-mail correspondence between the sub group sessions. Sub group 4C3 met on five days from 15:00 until 16:15 CET.

The Virtual Meeting format and the resulting limited working hours (especially for drafting activities) are making progress increasingly challenging as the working documents become more complex.

Contributions to the meeting relevant to AI 9.1b

The draft technical report [**AMATEUR_RNSS**] which had been attached as Annex 11 to the chairman's report Doc162 from the previous meeting formed the basis for the work to progress.

Doc 4C/165 – IARU – Preliminary IARU positions on the relevant WRC23 agenda items. This was noted.

Doc 4C/185 – Liaison from WP-5A containing detailed information on the amateur and amateur satellite global band plans in the 23cm band including the overlap with the RNSS services. This was developed at the last WP-5A meeting in April 2021.

Doc 4C/224 – Contribution from EU/JRC reported measurements and observations from an Amateur/RNSS interference observed in Italy. The measurements were recorded at the EU Joint Research Council (JRC) facility in Ispra and concerned emissions observed from

a nearby amateur repeater station around 1297 MHz. The document includes plots illustrating the degradation in C/No performance of RNSS receivers undergoing trials in the JRC laboratories. IARU commented on the legitimate operation of this repeater and that additional information is required in order to be useful for developing coexistence criteria as there were no indications of the margins nor how they might be reconciled with the German measurement campaign reported previously. The proponents agreed that further work would be required. The EC/JRC have reported these observations to the Italian authorities.

Doc 4C/230 – Contribution from France proposing an initial study to establish separation distances around amateur stations. This is the same study contributed to CEPT SE40 so the IARU applied the same comments and observations as those provided to SE40.

Doc 4C/235 – Contribution from Germany proposing updates and clarifications to a previous contribution to refine the RNSS protection thresholds according to the amateur application and frequency offset (from the RNSS centre frequency).

Contributions were also received addressing other deliverables that fall under the purview of WP4C relating to Recommendations containing RNSS parameters. These activities are business as usual for the WP4C although some (e.g.M.1902¹) are related to the 9.1b discussion.

IARU objectives

The IARU objectives for the meeting on the 9.1b topic were agreed in the IARU Global WRC23 AI 9.1b sub-group and included:

- Support full adoption of the material contained in the liaison from WP-5A into the [AMATEUR_RNSS] working document – **Achieved (with refinement from WP4C)**
- To reiterate the IARU comments made during previous CEPT meetings to the French study (Doc230) - **Achieved (embedded in the working document)**
- Question aspects of the interference case (Doc 224) and particularly how the observations can be used to derive coexistence criteria - **Achieved – some IARU comments were addressed and inserted into the JRC contribution in the working document.**

Meeting Activity

For 9.1b, the IARU engagement concentrated on updating the [AMATEUR_RNSS] working document. In addition (but not solely related to 9.1b) the meeting developed updates to a variety of RNSS related ITU-R Recommendations.

With respect to M.1902¹, the meeting revised Note 16 under Table 1b to define narrowband interferers for E6 RNSS signals as those under 128kHz in bandwidth. Wideband interferers are those above 1MHz bandwidth. WP4C finalised its work on this revision which will go forward to SG4 for consultation and publication.

¹ Characteristics and protection criteria for receiving earth stations in the radionavigation-satellite service (space-to-Earth) operating in the band 1 215-1 300 MHz

Summary of the meeting outputs relevant to AI 9.1b

Annex 7 to the chairman's report **4C/245**: Working document towards preliminary draft new report [**AMATEUR-RNSS**]. This working document forms the basis for ongoing contributions and work at the next meeting.

Annex 14 to the chairman's report **4C/245**: Updated work plan for AI9.1 b. This shows there are only **three** more meetings to finalise the AI9.1b topic in WP4C.

Temp Doc 83 to the 4C plenary: Elevated to Draft Revision of **ITU-R M.1902** - and it will go forward to SG4 for adoption.

RNSS receiver protection criteria

The revision to M.1902 implies that new RNSS receiver protection criteria will apply to most amateur service applications considered in the studies. However there are wider considerations that remain open and perhaps the most controversial is how to account for additional mitigation that might be derived from a frequency offset away from the RNSS system centre frequency. This is the subject of contributions from Germany. However the RNSS community have tried to downplay the importance or relevance of these given the "all encompassing" criteria adopted in the revised Recommendation.

2. WRC23 AI 1.18 (Mobile Satellite Service Spectrum)

Background

As detailed in the report from WRC23 CPM-1, ITU-R WP-4C is also the responsible working party for developing the studies identified under *invites 1,2 and 3* of **Resolution 248** on **WRC23 AI 1.18 (spectrum needs and potential new allocations to the mobile-satellite service)**. The frequency range 3 300-3 315 MHz, 3 385-3 400 MHz in Region 2 is within the scope.

The Amateur Service has a secondary allocation in this range.

Contributions to the meeting relevant to AI 1.18

Doc 4C/165 – IARU – Preliminary IARU positions on the relevant WRC23 agenda items. This was noted.

IARU objectives

None were specifically identified for this meeting but the topic was monitored.

Meeting Activity

The meeting activity focussed on estimating spectrum requirements and sharing/compatibility requirements. Two draft reports are under development [NB_MSS] relating to spectrum needs and [NB.MSS compatibility] for the compatibility studies in the various bands under the scope of the Resolution.

Summary of the meeting outputs relevant to AI 1.18

Annex 08 to the chairman's report **4C/245**: Working document on studies relating to spectrum needs and potential new allocations to the mobile-satellite service in the frequency bands 1 695-1 710 MHz, 2 010-2 025 MHz, 3 300-3 315 MHz and 3 385-3 400 MHz for future development of narrowband mobile-satellite systems.

Annex 09 to the chairman's report **4C/245**: Working document on sharing and compatibility studies for Narrowband MSS with incumbent services in the frequency bands 1 695-1 710 MHz, 2 010-2 025 MHz, 3 300-3 315 MHz and 3 385-3 400 MHz under WRC-23 agenda item 1.18

3. Next WP-4C meeting

20 – 26 October 2021