

52nd ECC Plenary Meeting

Tallinn, Estonia, 3 – 6 March 2020

Date issued: 24/02/2020

Source: CRAF

Subject: Iridium interference to the RAS band 1610.6 - 1613.8 MHz

Group membership required to read? (Y/N) N

Summary:

Referring to the WGSE liaison statement (input document ECC(20)011), CRAF expresses its deep concern considering the recent developments summarized in the report:

- Iridium acknowledged that the RAS protection mode has been disabled since July 2019 in order to stabilize its service.
- Iridium acknowledged this has been unilaterally decided without seeking any permission or even notifying the RAS observatories in Europe beforehand.
- Iridium acknowledged that this action has caused significant increase to the OoB emission interference to the RAS band, as indicated in the most recent measurements generated by the Leehiem observatory on November 2019.
- Iridium didn't specify a deadline for when it's expected to fully resolve the issue of interference to the RAS band.
- Iridium stated that its expected software developments should return the OoB emission levels to the level reported in May 2019 or better, without any reference to the RAS protection limits defined in the footnote 5.372 decided by WRC19.
- It's not in the purview of WGSE to set deadlines for resolving the issue.

Hence, CRAF is anticipating that we are now going through another round in the endless loop that is ongoing since 22 years. CRAF invites ECC and national administrations to adopt the proposed actions in order to put an end to this issue.

Proposal:

Invites ECC to

- set a specific deadline not exceeding 6 months from the date of the ECC meeting for Iridium to fully comply with the thresholds defined in the footnote 5.372 decided by WRC19.
- In accordance with ECC decision (09)02, review the licensing of Iridium in Europe and link its renewal to complying with the RAS protection thresholds by the given deadline.
- Introduce the necessary permission and notification procedures to ensure that any changes in the Iridium system configuration that might have an impact on the RAS observations must not be unilaterally decided in the future.
- On a related matter, support the continuation of the SatMoU monitoring services for what it represents as a main source of information on the interference levels to the RAS observatories

Background:

The Radio Astronomy Service (RAS), similar to public services, is publicly funded by tax payers in Europe for the major scientific, societal and economical values it adds through its cutting edge technological developments.

The band 1610.6 – 1613.8 MHz is of particular importance to RAS and is heavily used by the RAS observatories in Europe. The band that allows observations of the hydroxyl radical OH spectral lines has led to a wide range of discoveries in astrophysics and astrochemistry. Such achievements have been the main drive behind promoting the band to a primary status worldwide by WARC-92.

Since the start of its operations in 1998, Iridium satellite constellation has caused severe interference to the band that made it hardly usable by the RAS observatories. Despite all the technical and regulatory discussions made between RAS and Iridium along 22 years, the RAS protection thresholds were never met. Moreover, Iridium has always prioritized the benefits of their customers through unilateral changes to the system configuration without any notification to the RAS side. This sudden changes have normally caused disruption to any scientific plans or ongoing observations.

It's needless to mention that any interference to the RAS bands corresponds to an economical loss and a significant waste of resources.

