

**CPG19-9****Ankara, Turkey, 26<sup>th</sup> - 30<sup>th</sup> August 2019****Date issued: 12<sup>th</sup> August 2019****Source: France, Lithuania, Malta, Slovenia, The Netherlands****Subject: Agenda item 10 of WRC-19: Protection of RNSS from amateur emissions in the band 1240-1300 MHz**

Group membership required to read? (Y/N)

 N**Summary:**

A WRC-23 agenda item is necessary to address the question of RNSS protection from amateur emissions in the band 1240-1300 MHz in a global perspective.

This issue has been the matter of discussions at previous CPG and PTA (doc. [PTA\(19\)078](#)) meetings. This contribution proposes a revised version for corresponding draft WRC resolution, which underlines the importance of the band 1240-1300 MHz for the amateur community and excludes explicitly the possibility to remove existing allocations as part of proposed agenda item.

**Proposal:**

CPG19-9 to consider the following inputs for inclusion in the draft ECP on Agenda Item 10 of WRC-19

- Annex 1: Draft Template for AI10 proposals
- Annex 2 : Draft WRC-19 Resolution

**Background:**

Galileo is close to full operational capability and its E6 signals in the band 1260-1300 MHz will support new services such as the free-to-use Galileo High Accuracy Service, and also robust authentication, expected to be used by a variety of applications including autonomous vehicles and the Internet of Things (IoT).

Several cases of interference to Galileo E6 receivers from amateur service emissions have occurred in the recent past, sometimes at significant distance, and have taken several hours or even days to be eliminated. There is therefore a serious concern that as Galileo E6 receivers are deployed and used more widely, cases of interference from amateur stations will rapidly grow in number.

A WRC-23 agenda item is necessary to address this issue because:

- 1- Unregulated use of the band 1240-1300 MHz by the amateur service is a serious source of harmful interference to RNSS receivers. This is demonstrated by experience.
- 2- The number of Galileo receivers in 1260-1300 MHz will increase dramatically, and interference cases will multiply if not addressed timely.
- 3- Galileo and other RNSS systems will deploy at global scale, and interference scenario between amateur emissions and RNSS receivers include cross-border cases. The issue is therefore of international nature and is to be addressed in the ITU framework.
- 4- Galileo is a major European asset, and a decision at WRC-23 is essential to be compatible with the roadmap of deployment of Galileo receivers in this band.

## RESOLUTION [AS-RNSS] (WRC-19)

### **Review of the amateur service and the amateur-satellite service allocations to ensure the protection of the radionavigation-satellite service (space-to-Earth) in the frequency band 1 240-1 300 MHz**

The World Radiocommunication Conference (Sharm el-Sheik Egypt, 2019),

*considering*

- a) that the frequency band 1 240-1 300 MHz is allocated worldwide to the amateur service on a secondary basis;
- b) that the amateur-satellite service (Earth-to-space) may operate in the band 1 260-1 270 MHz under No. **5.282** of the Radio Regulations;
- c) that the frequency band 1 240-1 300 MHz is important for the amateur community and has been used for many years for a range of applications;
- ed) that the frequency band 1 240-1 300 MHz is also allocated worldwide to the radionavigation-satellite service (RNSS) in the space-to-Earth direction on a primary basis;
- de) that RNSS systems using the band 1 240-1 300 MHz are operational, or becoming operational, in various parts of the world, with the aim of supporting a wide range of new satellite positioning services, for example enhanced accuracy and position authentication;

*noting*

- a) that Recommendation ITU-R M.1732 contains the characteristics of systems operating in the amateur and amateur-satellite services for use in sharing studies;
- b) that Recommendation ITU-R M.1044 should be used as a guide in studies of the compatibility between systems operating in the amateur and amateur-satellite services and systems operating in other services;
- c) that Recommendation ITU-R M.1787 contains the description of RNSS systems and the technical characteristics of space stations operating in the frequency band 1 240-1 300 MHz;
- d) that Recommendation ITU-R M.1902 contains the characteristics and protection criteria for RNSS (space-to-Earth) receivers operating in the frequency band 1 240-1 300 MHz;

*recognizing*

- a) that some cases of harmful interference caused by emissions in the amateur service into RNSS (space-to-Earth) receivers have occurred, and resulted in investigations and in instructions to the operator of the interfering station to cease transmissions;

b) that the number of RNSS receivers in the band 1 240-1 300 MHz is currently limited in certain regions, but will increase dramatically in the near future with the ubiquitous deployment of receivers used in mass-market applications;

c) that according to No. **5.29** of the Radio Regulations, stations of a secondary service shall not cause harmful interference to stations of primary services to which frequencies are already assigned or to which frequencies may be assigned at a later date;

d) that administrations may-will benefit from the availability of studies and guidelines about the protection of the RNSS (space-to-Earth) by the amateur and amateur-satellite services in the frequency band 1 240-1 300 MHz;

e) that some RNSS receivers in the band 1 240-1 300 MHz may be equipped with pulse-blanking, which may facilitate sharing with certain amateur service applications;

f) that the amateur service in the band 1 240-1 300 MHz is currently used for amateur voice, data and image transmission in several countries in Europe and around the globe and may transmit a variety of emission types including wideband, continuous and/or high EIRP transmissions;

*resolves to invite the 2023 World Radiocommunication Conference*

to consider the results of the studies below and take appropriate actions,

*invites ITU-R*

1 to perform the detailed review of the different systems and applications used in the amateur service and amateur-satellite service allocations within the band 1 240-1 300 MHz;

2 taking into account the results of the above review, to conduct, in time for WRC-23, the necessary studies leading to technical, regulatory and operational recommendations to the Conference, enabling ~~that the~~ Conference to decide on effective measures to ensure the protection ~~without undue constraints~~ of RNSS (space-to-Earth) receivers by from the amateur and amateur-satellite services within the band 1 240-1 300 MHz, without considering the removal of these amateur and amateur-satellite services allocations.

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## ANNEX 2 TO RESOLUTION 804 (REV.WRC-12)

### Template for the submission of proposals for agenda items

**Subject:** *Proposal for WRC-23 Agenda Item to review the amateur service secondary allocation in the 1 240-1 300 MHz frequency band to ensure the protection of RNSS*

**Origin:** *France*

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**Proposal:**

*to review the amateur service secondary allocation in the 1 240-1 300 MHz frequency band to determine if additional measures are required to ensure the protection of the radionavigation-satellite (space-to-Earth) service operating in the same band.*

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**Background/reason:**

*In the Radio Regulations, the amateur service is currently allocated as a secondary user in the band 1 240-1 300 MHz (known as the '23 cm band' by the amateur community) and it is currently used for amateur voice, data and image transmission in several countries in Europe and around the globe. The band is also allocated on a primary basis to the Earth exploration-satellite service, the radiolocation service, the radionavigation-satellite service (RNSS) and the space research service.*

*RNSS systems using the band 1 240-1 300 MHz are operational, or becoming operational, in various parts of the world with the aim of supporting wide range of new satellite positioning services, for example enhanced accuracy and position authentication. Administrations wishing to support the development of these new services within their territory should consider if additional national measures are required in order to prevent potential harmful interference to specific RNSS systems, and taking into account the ubiquitous nature of the deployment of RNSS receivers. Those measures may also need to be considered between neighbouring administrations.*

*In addition, the case of the secondary allocation to the Amateur service calls for a particular attention since cases of harmful interference have already been met, although RNSS users can claim protection from interference caused by the radio amateur transmissions and individual transmitting stations have been shut down when required. The difficulty is that there are many radio amateurs using this band in unspecified locations and therefore identifying and resolving each individual interference case will be a burden on regulators, RNSS service providers and users as the number of deployed RNSS receivers grows. The gradual increase in the use of the 1 240-1 300 MHz band by RNSS systems, including the E6 signals of the EU's Galileo system, and the fact that RNSS receivers are not, most of the time, in a fixed location, makes the sharing situation very challenging.*

*RNSS and Amateur service allocations are global, and the potential interference from secondary Amateur service to primary RNSS can be of an international nature. It is therefore appropriate that a WRC agenda item addresses this issue at global level. For these reasons it is proposed to review the amateur service secondary allocation in the band 1 240-1 300 MHz to ensure the protection of the radionavigation-satellite (space-to-Earth) service.*

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***Radiocommunication services concerned:***

*Amateur, amateur-satellite, radiolocation, aeronautical radionavigation, radionavigation-satellite (Earth-to-space), services adjacent to the band 1 240-1 300 MHz.*

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***Indication of possible difficulties:***

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***Previous/ongoing studies on the issue:***

*Study by the Joint Research Centre (JRC) of the European Union, performed in 2015*

*German study presented at April 2019 PTA meeting*

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***Studies to be carried out by:***

*ITU-R WP4C*

***with the participation of:***

*ITU-R WP5A*

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***ITU-R Study Groups concerned:***

*SG4, SG5*

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***ITU resource implications, including financial implications (refer to CVI26):***

*None*

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***Common regional proposal:*** Yes/No

***Multicountry proposal:*** Yes/No

***Number of countries:***

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***Remarks***