

## RESOLUTION 659 (WRC-15)

**Studies to accommodate requirements in the space operation service for non-geostationary satellites with short duration missions**

The World Radiocommunication Conference (Geneva, 2015),

*considering*

- a) that the term “short duration mission” used in this Resolution refers to a mission having a limited period of validity of not more than typically three years;
- b) that examples of such satellites are given in Report ITU-R SA.2312, which provides technical characteristics;
- c) that Report ITU-R SA.2348 provides an overview of the current practice and procedures for notifying space networks currently applicable to these satellites;
- d) that, since the number of these satellites is growing, the demand for suitable allocations to the space operation service may increase;
- e) that it is important to ensure that any satellite radio-frequency operation avoids harmful interference to other systems and services;
- f) that the frequency bands below 1 GHz are used for a wide variety of terrestrial and space applications, that some of these frequency bands are heavily used and new allocations to the space operation service in these frequency bands should not put undue constraints on incumbent services;
- g) that some non-amateur satellites have used frequencies for telemetry, tracking and command in the frequency bands 144-146 MHz and 435-438 MHz which are allocated to the amateur-satellite service, and that such use is not in accordance with Nos. **1.56** and **1.57**;
- h) that, according to No. **1.23**, telemetry, tracking and command functions for satellites will normally be provided within the service in which the space station is operating;
- i) that these satellites are constrained in terms of low on-board power and low antenna gain as described in Report ITU-R SA.2312;
- j) that the bandwidth currently used by these satellites for telemetry, tracking and command in frequency bands below 1 GHz, as described in Report ITU-R SA.2312, is generally 0.1 MHz or less,

*further considering*

- a) that these satellites may provide an affordable means to access orbital resources (spectrum and orbit) for new entrants in space;
- b) that the mass and dimensions of these satellites have been some of the major contributing factors to their success among new spacefaring nations;
- c) that the reliable control and tracking of satellites is important for the management of space debris,

*recognizing*

- a) that the existing allocations to the space operation service below 1 GHz, where No. **9.21** applies, are not suitable for the satellites referred to in *considering a) and b)*;
- b) that there are other frequency bands already allocated to the space operation service below 1 GHz where No. **9.21** does not apply;
- c) the provisions contained in No. **5.266** and No. **5.267** and Resolution **205 (Rev.WRC-15)**,

*resolves to invite the 2019 World Radiocommunication Conference*

to consider the results of ITU-R studies and take necessary action, as appropriate, provided that the results of the studies referred to in *invites ITU-R* below are complete and agreed by ITU-R study groups,

*invites ITU-R*

- 1 to study the spectrum requirements for telemetry, tracking and command in the space operation service for the growing number of non-GSO satellites with short duration missions, taking into account No. **1.23**;
- 2 to assess the suitability of existing allocations to the space operation service in the frequency range below 1 GHz, taking into account *recognizing a)* and current use;
- 3 if studies of the current allocations to the space operations service indicate that requirements cannot be met under *invites ITU-R* 1 and 2, to conduct sharing and compatibility studies, and study mitigation techniques to protect the incumbent services, both in-band as well as in adjacent bands, in order to consider possible new allocations or an upgrade of the existing allocations to the space operation service within the frequency ranges 150.05-174 MHz and 400.15-420 MHz,

*invites Member States and ITU-R Sector Members, Associates and Academia*

to participate in studies by submitting contributions to ITU-R.