



Radiocommunication Bureau (BR)

Circular Letter
CR/438

Geneva, 10 December 2018

To Administrations of Member States of the ITU

Subject: **Organization of a monitoring programme in the bands 405.9-406 MHz and 406.1-406.2 MHz**

Reference: **Resolution 205 (Rev.WRC-15) relating to protection of the systems operating in the mobile-satellite service in the frequency band 406-406.1 MHz**

The World Radiocommunication Conference 2015 (WRC-15) revised Resolution **205** dealing with the protection of the mobile-satellite service (MSS) in the frequency band 406-406.1 MHz exclusively used by satellite emergency position-indicating radiobeacons (EPIRBs) operating in the Cospas-Sarsat system.

The Radio Regulations afford absolute protection from harmful interference to this frequency band, as stipulated in No. **5.267** and Appendix **15**. The Bureau conducts a monitoring program in the band 406-406.1 MHz in order to identify sources of any unauthorized emissions. Based on the monitoring results, the Bureau communicates with the administrations responsible for stations of services other than MSS that transmit in the band and requests them to take necessary action to eliminate such unauthorised emissions.

WRC-15 recognized that unwanted emissions from radiocommunication services outside the frequency band 406-406.1 MHz have a potential to cause interference to MSS receivers within 406-406.1 MHz. Bearing this in mind, it decided to introduce additional protection measures for the adjacent bands 405.9-406.0 MHz and 406.1-406.2 MHz. In particular, the Conference resolved:

- to request administrations not to make new frequency assignments within the frequency bands 405.9-406.0 MHz and 406.1-406.2 MHz under the mobile and fixed services;
- that administrations take into account frequency drift characteristics of radiosondes when selecting their operating frequencies above 405 MHz to avoid transmitting in the 406-406.1 MHz frequency band and take all practical steps to avoid frequency drifting close to 406 MHz.

Furthermore, WRC-15 instructed the Director of the Radiocommunication Bureau to organize monitoring programmes on the impact of unwanted emissions from systems operating in the frequency bands 405.9-406 MHz and 406.1-406.2 MHz on MSS reception in the frequency band 406-406.1 MHz in order to assess the effectiveness of this Resolution.

In response to this WRC-15 decision, ITU-R Working Party 1C in collaboration with the Cospas-Sarsat Joint Committee and the Bureau identified possible ways of monitoring the bands 405.9-406 MHz and 406.1-406.2 MHz and completed the list of parameters to be measured. This list is

contained in Recommendation ITU-R SM.1051-4 "Priority of identifying and eliminating harmful interference in the band 406-406.1 MHz" approved at the June 2018 meeting of Study Group 1.

The purpose of this Circular Letter is to inform the Membership that the Bureau is now ready to receive and process reports of monitoring in the bands 405.9-406 MHz and 406.1-406.2 MHz. In this respect, the administrations having the capability for monitoring these adjacent bands are urged to participate in the monitoring program and regularly report the results to the Bureau.

The parameters to be monitored, periodicity and duration of measurements are specified in the Annex to this Circular Letter (quoted from Annex 3 of Recommendation ITU-R SM.1051-4). Administrations are invited to submit their monitoring reports concerning frequency bands 405.9-406 MHz and 406.1-406.2 MHz to brtpr@itu.int , preferably in Excel format.

The Bureau remains at the disposal of your Administration for any clarification you may require with respect to the subject covered in this Circular Letter. For any assistance, please contact brmail@itu.int.



François Rancy
Director

Distribution:

- Administrations of Member States of ITU
- Members of the Radio Regulations Board

Annex

List of parameters to be monitored in the frequency bands 405.9-406 MHz and 406.1-406.2 MHz and other related information

1 Information requested in case of terrestrial monitoring

- Location of the monitoring receiver (Lat, Long, country, nearest major city).
- Time start/stop, monitoring period
- Average, minimum and maximum Electrical field strength in dB μ V/m (detector linear average or average), minimum and maximum received power in dB μ W (detector log average) as received by the antenna of the monitoring device in the frequency band 405.9-406 MHz
- Average, minimum and maximum Electrical field strength in dB μ V/m (detector linear average or average), minimum and maximum received power in dB μ W (detector log average) as received by the antenna of the monitoring device in the frequency band 406.1-406.2 MHz

If a transmission is detected, the data base will contain the following parameters:

- Centre frequency for a given bandwidth of transmission (resolution bandwidth of the receiver around 100 Hz)
- Retrieved bandwidth for each observation
- Electrical field strength in dB μ V/m as received by the antenna of the monitoring device
- In case of measurements performed using directional antenna, azimuth of reception.

Additional monitoring outputs may be provided as available such as the channel occupancy.

Administrations wishing to provide data should perform monitoring campaigns on a regular basis (for example several times a year if possible). The duration of a monitoring should be optimized according to the types of observation: fixed (typically 2 days).

2 Information requested in case of monitoring using satellites

The following list of information can be provided by space agencies, institutions or international organizations having access to satellite infrastructure:

- Time start/stop, monitoring period
- Mean latitude/longitude, Location of the emission being monitored, including country and nearest major city
- Duration and time of the occurred emission
- Centre frequency for a given bandwidth of transmission
- Retrieved bandwidth for each observed emission
- Signal strength
- In case of measurements performed using directional antenna, azimuth of reception.

Additional monitoring outputs may be provided as available such as the channel occupancy.

Space agencies, institutions or international organizations wishing to provide data should perform monitoring campaigns on a regular basis (for example several times a year if possible). The duration of a monitoring should be optimized according to the types of observation: fixed (typically 2 days).