



Radiocommunication Bureau (BR)

Circular Letter
CR/405

3 June 2016

To Administrations of Member States of the ITU

Subject: **Equivalent power flux-density (EPFD) validation software (Resolution 85 (WRC-03))**

Resolution **85 (WRC-03)** requires the Radiocommunication Bureau to verify compliance of frequency assignments of non-geostationary fixed-satellite service systems with the single-entry equivalent power flux-density (EPFD) limits in Tables **22-1A**, **22-1B**, **22-1C**, **22-1D**, **22-1E**, **22-2** and **22-3** of Article 22 of the Radio Regulations and to determine the coordination requirements under Nos. **9.7A** and **9.7B**.

In order to perform this regulatory examination, the Bureau requires a validation software to calculate EPFD levels produced by non-GSO satellite systems. Due to the complexity of the algorithm as contained in Recommendation ITU-R S.1503-2 and to increase confidence in the results provided by the software tool, the Bureau contracted two software companies, which have developed tools based on two independent implementations of Recommendation ITU-R S.1503-2.

As per the *instructs the Director of the Radiocommunication Bureau* 2 and 3 of Resolution **85 (WRC-03)**, the Bureau will, once the EPFD validation software is available and released to administrations, review its findings made in accordance with Nos. **9.35** and **11.31** and the coordination requirements under Nos. **9.7A** and **9.7B** and determine if the frequency assignments to:

- a) non-GSO FSS satellite systems comply with the EPFD limits contained in Tables **22-1A**, **22-1B**, **22-1C**, **22-1D**, **22-1E**, **22-2** and **22-3** of RR Article 22;
- b) specific large earth stations (under certain conditions) require coordination under RR No. **9.7A** with respect to any existing non-GSO FSS satellite systems using the coordination triggers in RR Appendix 5; or
- c) non-GSO FSS satellite systems require coordination under RR No. **9.7B** with respect to any large earth station (under certain conditions) using the coordination triggers in RR Appendix 5.

In this regard, the Bureau is pleased to inform administrations of the availability of a beta version of the EPFD Validation Software for testing and evaluation purposes at www.itu.int/ITU-R/go/space-epfd/en.

The package includes a GIBC module used as an interface to launch the EPFD validation, two EPFD validation tools, two test cases and a user guide.

An EPFD Validation Tool Support Forum is also available at groups.itu.int/epfd/, offering a user guide, FAQs, as well as user exchanges and sharing of experience in the form of posted messages.

Administrations are invited to participate actively in the beta testing of the EPFD validation tools and to communicate to the Bureau, preferably via the specific forum created for the purpose, or at BRMail@itu.int or BRASAS@itu.int, any comments, suggestions and ideas for possible enhancements.

In accordance with *resolves 5* and *instructs the Director of the Radiocommunication Bureau 2 and 3* of Resolution **85 (WRC-03)**, the Bureau plans, in the October 2016 time-frame, to release via a Circular Letter the final version of the EPFD validation software and a description of the review process of findings made in accordance with Nos. **9.35** and **11.31** and the coordination requirements under Nos. **9.7A** and **9.7B**.

In that regard, the Bureau encourages administrations to review or prepare in advance the Appendix 4 data elements required for the EPFD validation, in particular the PFD and EIRP mask data in accordance with the detailed description of the masks in Recommendation ITU-R S.1503-2, Part B. The mask data should be submitted using XML-format, the description of which can be found at: www.itu.int/ITU-R/go/space-mask-XMLfile/en.

The Bureau remains at the disposal of your Administration via the brmail@itu.int address or the specific EPFD validation tool forum for any clarification you may require with respect to the subjects covered in this Circular Letter.



François Rancy
Director

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