

RECOMMENDATION ITU-R BO.1697

Power flux-density values in the band 11.7-12.7 GHz and associated calculation methodology which may be used for bilateral coordination when the power flux-density values in § 3 of Annex 1 to Appendix 30 or Annex 4 to Appendix 30 of the Radio Regulations are exceeded

(Question ITU-R 84/6)

(2005)

Scope

The Recommendation addresses power flux-density values in the band 11.7-12.7 GHz and associated calculation methodology which may be used for bilateral coordination between Administrations when the power flux-density values in § 3 of Annex 1 to Appendix 30 or Annex 4 to Appendix 30 are exceeded.

In particular, this Recommendation identifies pfd levels for particular antenna sizes, the envelope of which constitutes the pfd values in Annex 4 or § 3 of Annex 1 to Appendix 30.

It is to be noted that § 3 of Annex 1 to Appendix 30 and Annex 4 to Appendix 30 provide pfd masks corresponding to the envelope of the permissible interfering pfd into the range of BSS GSO earth station antenna sizes used in the 11.7-12.7 GHz band. These masks are used by BR to determine when coordination of proposed FSS or BSS assignments is required with previously filed BSS assignments and BSS Plan/List assignments.

The ITU Radiocommunication Assembly,

considering

- a) that systems in the fixed-satellite service (FSS) and the broadcasting-satellite service (BSS) have allocations in the band 11.7-12.7 GHz;
- b) that the use of this band by the FSS or BSS where this service is not subject to a Plan is subject to the procedure of Article 7 of Appendix 30 of the Radio Regulations (RR);
- c) that Annex 4 to Appendix 30 provides threshold values to determine if there is a need to coordinate FSS networks or BSS networks where this service is not subject to a Plan in one Region with respect to BSS networks in another Region in the band 11.7-12.7 GHz;
- d) that the use of this band by BSS where this service is subject to a Plan is subject to the procedure of Article 4 of Appendix 30;
- e) that § 3 of Annex 1 to Appendix 30 provides threshold values to determine if BSS in another Region may be affected by proposed new or modified BSS assignments,

further considering

- a) that the power flux-density (pfd) values in § 3 of Annex 1 to Appendix 30 and Annex 4 to Appendix 30 are thresholds to determine if the BSS assignment in one Region may be affected by a proposed BSS or FSS assignment in another Region;
- b) that such threshold values should necessarily be protective of BSS links with a wide range of technical characteristics;
- c) that § 3 of Annex 1 to Appendix 30 and Annex 4 to Appendix 30 also provide pfd masks which correspond to the envelope of the permissible interfering pfd into the range of BSS GSO earth station antenna sizes used in the 11.7-12.7 GHz band;
- d) that technical information is needed to address instances when the pfd values in § 3 of Annex 1 to Appendix 30 or Annex 4 to Appendix 30 are exceeded and coordination of the corresponding FSS or BSS assignments with BSS assignments is necessary,

recommends

1 that in cases where, as a result of the application of Article 7 of Appendix 30, the Annex 4 pfd values are exceeded, or as a result of the application of § 4.1.1c), 4.2.3a), 4.2.3b), or 4.2.3f) of Appendix 30, the § 3 of Annex 1 threshold values are exceeded, the pfd values given in Table 1 may be used by Administrations in their bilateral or multilateral coordination of their FSS or BSS assignments with BSS assignments, to identify levels equivalent to those in Annex 4 or § 3 of Annex 1 to Appendix 30 for particular antenna sizes (see also Notes 1 to 9 and 11);

2 that, notwithstanding *recommends* 1, the pfd value produced at the surface of the Earth within the service area of the affected BSS assignment by a FSS or a BSS network operating in another Region should, for the purposes of facilitating coordination, not exceed $-103.6 \text{ dB(W/(m}^2 \cdot 27 \text{ MHz))}$ (see Note 10).

TABLE 1

**Applicable pfd values (dB(W/(m² · 27 MHz)))
corresponding to various BSS antenna sizes**

Orbital separation between wanted and interfering space stations	45 cm⁽¹⁾	60 cm	80 cm	120 cm	240 cm	Other size
$\theta = 0^\circ$	-134.2	-136.7	-138.7	-141.4	-147.4	See Note 4
$\theta > 0^\circ$	See Table 2 and Note 3.					

⁽¹⁾ See Note 8.