



Brazil (Federative Republic of)

PROPOSALS FOR THE WORK OF THE CONFERENCE

WRC-2000 agenda item 1.2 - to finalize remaining issues in the review of Appendix S3 to the Radio Regulations with respect to spurious emissions for space services, taking into account Recommendation 66 (Rev.WRC-97) and the decisions of WRC-97 on adoption of new values, due to take effect at a future time, of spurious emissions for space services

Introduction

Recommendation 66 (Rev.WRC-97) directs ITU-R to submit a report to WRC-2000 with a view to finalizing the space services spurious emissions limits in Appendix S3 of the Radio Regulations. Appendix S3 contains tables of maximum permitted spurious emission power levels. Table I contains the values applicable to transmitters installed on or before 1 January 2003 (valid until 1 January 2012), while Table II applies to the transmitters installed after 1 January 2003 and to all transmitters after 1 January 2012. Note 14 of Table II identifies the spurious emissions limits for space services as “design objectives” until after WRC-2000.

ITU-R concluded that there is no further need for the “design objectives” qualification for space services limits and that at this time, they believe that no changes to the attenuation values or the reference bandwidth for space services are applicable. This reflects its view to transform these “design objectives” into a regulatory limit.

The Brazilian Administration proposes text that would remove the “design objectives” designation from the space services spurious emissions limits and make related appropriate modifications applicable to deep-space systems. Also the Brazilian Administration proposes to correct an oversight in Appendix S3 regarding limits for the radiodetermination service, and specify that spurious emission levels for radar systems be determined from radiated emissions.

APPENDIX S3

Section I – Spurious emission limits for transmitters installed on or before 1 January 2003 (valid until 1 January 2012)

MOD B/35/3

6 ~~Radar systems are exempt from spurious emission limits under this section. The measurement methods for radar systems should be guided by Recommendation ITU-R M.1177. For those radar systems for which acceptable methods of measurement do not exist, the lowest practicable power of spurious emission should be achieved.~~

Section II – Spurious emission limits for transmitters installed after 1 January 2003 and for all transmitters after 1 January 2012

Application of these limits

MOD B/35/4

8 Guidance regarding the methods of measuring spurious emissions is given in the most recent version of Recommendation ITU-R SM.329. The e.i.r.p. method specified in that Recommendation should be used when it is not possible to measure the power supplied to the antenna transmission line, or for specific applications, such as radars, where the antenna is designed to provide significant attenuation at the spurious frequencies. Additionally, the e.i.r.p. method may need some modification for special cases, e.g. beam-forming radars.

MOD B/35/5

TABLE II

Attenuation values used to calculate maximum permitted spurious emission power levels for use with radio equipment

Service category in accordance with Article S1, or equipment type ¹⁵	Attenuation (dB) below the power supplied to the antenna transmission line
Space services (earth stations) ^{10,14}	43 + 10 log (P), or 60 dBc, whichever is less stringent
Space services (space stations) ^{10,14}	43 + 10 log (P), or 60 dBc, whichever is less stringent
Radiodetermination ¹⁴	43 + 10 log (PEP), or 60 dB, whichever is less stringent
Amateur services operating below 30 MHz (including with SSB) ^{12, 16}	43 + 10 log (PEP), or 50 dB, whichever is less stringent

Notes to Table II

MOD B/35/6

¹⁴ ~~These values are “design objectives”. This note will not be applicable after WRC-99. Radiodetermination (Radar) system spurious emission (dB) attenuation shall be determined for radiated emission levels, not at the antenna transmission line. The measurement methods for determining the radiated spurious emission levels from the radar systems should be guided by Recommendation ITU-R M.1177.~~

Reasons: Clarify the exemption of radar systems from the Section I limits, in order to correct an oversight in Appendix S3 regarding limits for the radiodetermination service that may lead incorrectly to the application of the Section I limits to radars. Clarify the application of the e.i.r.p. measurement method to radars particularly, but also to other systems where antenna line measurements may not be appropriate. Confirm the values in Table II and “clean up” the table by removing the “design objectives” designation from the space services spurious emissions limits.
