



Radiocommunication Bureau
(Direct Fax N°. +41 22 730 57 85)

Administrative Circular
CAR/284

23 October 2009

To Administrations of Member States of the ITU

Subject: Radiocommunication Study Group 4

- **Proposed adoption of 4 draft new Recommendations and 3 draft revised Recommendations and their simultaneous approval by correspondence in accordance with § 10.3 of Resolution ITU-R 1-5 (Procedure for the simultaneous adoption and approval by correspondence)**
- **Proposed suppression of 1 Recommendation**

At the meeting of Radiocommunication Study Group 4, held on 21 and 22 September 2009, the Study Group decided to seek adoption of 4 draft new Recommendations and 3 draft revised Recommendations by correspondence (§ 10.2.3 of Resolution ITU-R 1-5) and further decided to apply the procedure for simultaneous adoption and approval by correspondence (PSAA), (§ 10.3 of Resolution ITU-R 1-5). The titles and summaries of the draft Recommendations are given in Annex 1. Furthermore, the Study Group proposed the suppression of 1 Recommendation which is listed in Annex 2.

The consideration period shall extend for 3 months ending on 23 January 2010. If within this period no objections are received from Member States, the draft Recommendations shall be considered to be adopted by Study Group 4. Furthermore, since the PSAA procedure has been followed, the draft Recommendations shall also be considered as approved. However, if any objection is received from a Member State during the consideration period, the procedures given in § 10.2.1.2 of Resolution ITU-R 1-5 shall apply.

After the above-mentioned deadline, the results of the PSAA procedure shall be announced in an Administrative Circular (CACE) and the approved Recommendations published as soon as practicable.

Any ITU member organization aware of a patent held by itself or others which may fully or partly cover elements of the draft Recommendation(s) mentioned in this letter is requested to disclose such information to the Secretariat as soon as possible. The Common Patent Policy for ITU-T/ITU-R/ISO/IEC is available at <http://www.itu.int/ITU-T/dbase/patent/patent-policy.html>.

Valery Timofeev
Director, Radiocommunication Bureau

Annex 1: Titles and summaries of the draft Recommendations

Annex 2: Recommendation proposed for suppression

Documents attached: Documents 4/94(Rev.1), 4/102(Rev.1), 4/105(Rev.2), 4/107(Rev.1), 4/101(Rev.1), 4/104(Rev.1) and 4/109(Rev.1) on CD-ROM

Distribution:

- Administrations of Member States of the ITU
- Radiocommunication Sector Members participating in the work of Radiocommunication Study Group 4
- ITU-R Associates participating in the work of Radiocommunication Study Group 4

Annex 1

Titles and summaries of the draft Recommendations

Draft new Recommendation ITU-R M.[MOBDIS]

Doc. 4/94(Rev.1)

Use of mobile-satellite service (MSS) in disaster response and relief

This draft new Recommendation provides the guidelines on the use of mobile-satellite networks to provide radiocommunication services in the event of natural disasters and similar emergencies. It provides information about applications that are suitable for early warning, contacting the public and disaster relief telecommunications in accordance with Resolutions ITU-R **53 (RA-07)**, ITU-R **55 (RA-07)** and **644 (Rev.WRC-07)**, **646 (WRC-03)** and **647 (WRC-07)**.

Draft new Recommendation ITU-R S.[CSREF-PATT]

Doc. 4/102(Rev.1)

Alternative reference radiation pattern for earth-station antennas used with satellites in the geostationary-satellite orbit for use in coordination and/or interference assessment in the frequency range from 2 to 31 GHz

Draft new Recommendation ITU-R S.[CSREF-PATT] provides reference radiation patterns for both circular and non-circular earth-station antennas used with satellites in the geostationary-satellite orbit that, in the absence of particular information concerning the radiation pattern, should be used for coordination and/or interference assessment between earth stations in the fixed-satellite service and stations of other services sharing the same frequency band as well as coordination and/or interference assessment between systems in the fixed-satellite service.

The qualifier “alternative” is an important distinguishing characteristic of the draft new Recommendation ITU-R S.[CSREF-PATT]. The antenna pattern offers some improvement over that of Recommendation ITU-R S.465-5 at geostationary separations in or very near the geostationary plane. At orbital geostationary separations within the coordination arc of the applicable frequency band, the improvement in the pattern may permit closer satellite spacings or an increase in the operating margins available to links making use of such antennas in the fixed-satellite service. In addition, unlike Recommendation ITU-R S.465 which assumes rotationally symmetric antenna patterns, this draft new Recommendation (DNR) makes no such assumption and, therefore, other antenna shapes (i.e. rectangular, elliptical, etc.) are also now addressed.

As regards the feasibility of implementing this DNR into the Bureau's antenna pattern library, it should be noted that the pattern for rotationally symmetric antennas (where a value for the parameter D_{GSO} is not supplied) could be easily implemented within the Bureau's antenna pattern library. Regarding the non-rotationally symmetric pattern, a new parameter D_{GSO} (diameter along the geostationary orbit) would need to be added to the database. In addition, this parameter does not currently exist in Appendix 4 of the Radio Regulations and only a future conference could make that data field "optional". Nevertheless, the pattern would still be useful in bilateral coordination should administrations agree to apply it.

Document 4/50(Rev.1), containing the final version of the draft new Recommendation ITU-R S.[CSREF-PATT], was circulated for adoption by correspondence in Circular Letter 4/LCCE/97 of 18 December 2008. Further to that, an objection, with technical reasons presented, was received from an administration within the specified two months consideration period.

At the September 2009 meeting of WP 4A, the following revisions, including revisions to satisfy the objections of the administration were made to the DNR as it appeared in Document 4/50(Rev.1):

- A change to the title and its associated footnote to improve understanding of the purpose of the Recommendation. The term "closely spaced" has been suppressed and replaced with "alternative".
- Revision to *noting b)* to make it more general.
- Revised and improved Figure 1 with a new Note explaining the parameters in the figure.
- Editorial improvement to the bottom of page footnote 3.
- Revision to Note 6 making the applicability of the calculation of the cross-sectional dimension D in Annex 1 specific to circular and elliptical antennas.
- To facilitate coordination of FSS networks using smaller receiving earth station antennas with circular and elliptical apertures for operation with closely spaced satellites in the geostationary-satellite orbit it was proposed to include in DNR ITU-R S.[CSREF-PATT] a new Note 7 to ensure that such antennas use the envelope conforming with *recommends 2.2*.
- Improvements were made to the first paragraph of text in Annex 1 to facilitate an improved understanding of applying the recommends in the Bureau's *Antenna Pattern Library*. The reasons for supplying or not supplying a value for the parameter D_{GSO} were clarified.

Draft new Recommendation ITU-R S.[IMT-PFD]

Doc. 4/105(Rev.2)

Methodologies for determining whether an IMT station at a given location operating in the band 3 400-3 600 MHz would transmit without exceeding the power flux-density limits in Nos. 5.430A, 5.432A, 5.432B and 5.433A of the Radio Regulations

This proposed draft new Recommendation contains three methodologies that may be used by the concerned administrations, during their bilateral and/or multilateral discussions, in order to determine whether an IMT base or mobile station proposed to operate in the 3 400-3 600 MHz band would meet the pfd limit in Nos. 5.430A, 5.432A, 5.432B and 5.433A of the Radio Regulations.

Draft new Recommendation ITU-R S.[VEHICLE_E/S]

Doc. 4/107(Rev.1)

Methodologies to estimate the off-axis e.i.r.p. density levels and to assess the interference towards adjacent satellites resulting from pointing errors of vehicle-mounted earth stations in the 14 GHz frequency band

The proposed draft new Recommendation describes the antenna pointing error characteristics of vehicle-mounted earth stations and provides a statistical approach to assess the potential interference towards adjacent satellites operating in the geostationary-satellite orbit fixed-satellite service systems. The methodologies presented in this Recommendation were developed for vehicle-mounted earth stations with directional reflector antennas having equivalent diameters ranging from 0.3 to 1.0 metre; mechanical or electronic tracking systems, and support vehicle speeds up to 100 km/h.

Draft revision of Recommendation ITU-R S.1521

Doc. 4/101(Rev.1)

Allowable error performance for a hypothetical reference digital path based on synchronous digital hierarchy

In this version, numbers were provided for all equations in Annex 2. Further, Section 3 of Annex 2 was modified to provide information on the parameter α , the number of bits in an error burst, as a function of the forward error correction (FEC) scheme used on the satellite link. Information is included for the primary types of error correction schemes in use on satellite links. Finally, a list of acronyms and abbreviations used in the Recommendation was included.

Reference earth-station radiation pattern for use in coordination and interference assessment in the frequency range 2 to about 30 GHz

Document 4/52(Rev.1), containing the final version of the draft revision of Recommendation ITU-R S.465-5, was circulated for adoption and approval by correspondence in Administrative Circular CAR/266 of 18 November 2008. Further to that, an objection, with technical reasons presented, was received from an administration within the specified three month consideration period.

The proposed revisions that were circulated for adoption and approval remain and are the following:

- a) proposal to increase the upper frequency boundary of Recommendation ITU-R S.465-5 from 30 GHz to 31 GHz which would be applicable to earth stations in the 30-31 GHz band, for which the fixed-satellite service (Earth-to-space) has a primary allocation in all three ITU Regions;
- b) proposal to calculate the provisional value of the minimum angle “ x ” in original Note 5 by inserting its proposed definition in *recommends 2* resulting in a consequential suppression of that part of original Note 5;
- c) proposal to modify Note 1 in order to clarify the sentence by stating that the reference radiation pattern is assumed to be rotationally symmetric about the boresight axis.
- d) deletion of text in Note 2 to make cautionary note about spill-over general to all antenna sizes.

At its September 2009 meeting, Working Party 4A further proposed the following revisions, including revisions to satisfy the concerns of the administration were made to the draft revision of Recommendation ITU-R S.465-5:

- e) proposal to introduce a new calculation method in *recommends 2* for small antennas ($D/\lambda < 50$) that more accurately calculates the angle φ_{min} than the existing calculation for φ_{min} (1° or $100 \lambda/D$ whichever is the greater) which was previously used for all sizes of antenna;
- f) revision of Note 5 to ensure that the $32-25\log\varphi$ side-lobe reference is used for receiving earth station antennas when the calculated value of φ_{min} is greater than 2.5° .

Use of systems in the fixed-satellite service in the event of natural disasters and similar emergencies for warning and relief operations

In this revision of Recommendation ITU-R S.1001-1, the Annex 1 was removed and inserted in Report ITU-R S.2151. In addition, references to relevant Resolutions were included, i.e. Resolutions ITU-R **53 (RA-07)**, ITU-R **55 (RA-07)** and **644 (Rev.WRC-07)**, **646 (WRC-03)** and **647 (WRC-07)**. Finally, a new table containing global and/or regional frequency bands/ranges for emergency and disaster relief was added to facilitate implementation of Resolution **647 (WRC-07)**.

Annex 2

(Source: Document 4/103)

Recommendation proposed for suppression

Recommendation ITU-R	Title
S.727-2	Cross-polarization isolation from very small aperture terminals (VSATs)
