



Radiocommunication Bureau (BR)

Administrative Circular
CACE/780

21 July 2016

**To Administrations of Member States of the ITU, Radiocommunication Sector Members,
ITU-R Associates participating in the work of Radiocommunication Study Group 3
and ITU Academia**

Subject: **Radiocommunication Study Group 3 (Radiowave propagation)**

- **Proposed adoption of 11 draft revised ITU-R Recommendations and their simultaneous approval by correspondence in accordance with § A2.6.2.4 of Resolution ITU-R 1-7 (Procedure for the simultaneous adoption and approval by correspondence)**

At the meeting of Radiocommunication Study Group 3, held on 30 June 2016, the Study Group decided to seek adoption of 11 draft revised ITU-R Recommendations by correspondence (§ A2.6.2 of Resolution ITU-R 1-7) and further decided to apply the procedure for simultaneous adoption and approval by correspondence (PSAA), (§ A2.6.2.4 of Resolution ITU-R 1-7). The titles and summaries of the draft revised Recommendations are given in the Annex to this letter. Any Member State who objects to the adoption of a draft revised Recommendation is requested to inform the Director and the Chairman of the Study Group of the reasons for the objection.

The consideration period shall extend for 2 months ending on 21 September 2016. If within this period no objections are received from Member States, the draft revised Recommendations shall be considered to be adopted by Study Group 3. Furthermore, since the PSAA procedure has been followed, the draft revised Recommendations shall also be considered as approved.

After the above-mentioned deadline, the results of the above procedures will be announced in an Administrative Circular and the approved revised Recommendations will be published as soon as practicable (see <http://www.itu.int/pub/R-REC>).

Any ITU member organization aware of a patent held by itself or others which may fully or partly cover elements of the draft revised Recommendations 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/en/ITU-T/ipr/Pages/policy.aspx>.


for/ François Rancy
Director

Annex: Titles and summaries of the draft revised Recommendations

Documents: Documents [3/13](#), [3/14](#), [3/16](#), [3/17](#), [3/7 \(Rev.1\)](#), [3/8 \(Rev.1\)](#), [3/10 \(Rev.1\)](#), [3/20 \(Rev.1\)](#), [3/24 \(Rev.1\)](#), [3/32 \(Rev.1\)](#), [3/34 \(Rev.1\)](#).

These documents are available in electronic format at: <http://www.itu.int/md/R15-SG03-C/en>

Distribution:

- Administrations of Member States of the ITU and Radiocommunication Sector Members participating in the work of Radiocommunication Study Group 3
- ITU-R Associates participating in the work of Radiocommunication Study Group 3
- ITU Academia
- Chairmen and Vice-Chairmen of Radiocommunication Study Groups
- Chairman and Vice-Chairmen of the Conference Preparatory Meeting
- Members of the Radio Regulations Board
- Secretary-General of the ITU, Director of the Telecommunication Standardization Bureau, Director of the Telecommunication Development Bureau

Annex

Titles and summaries of the draft revised Recommendations

Draft revision of Recommendation ITU-R P.531-12

Doc. 3/13

Ionospheric propagation data and prediction methods required for the design of satellite services and systems

This document provides the changes based on the draft revision of Recommendation ITU-R P.531-12 that affects the text in section 4.1 of this recommendation.

Draft revision of Recommendation ITU-R P.372-12

Doc. 3/14

Radio Noise

This proposed revision seeks to clarify the use of reference antennas in the estimation of radio noise.

Draft revision of Recommendation ITU-R P.684-6

Doc. 3/16

Revision of numerical method for calculating resultant field strength and phase

Section 2.3 and 2.4 of Recommendation ITU-R P.684-6 describes the numerical predictions of the field strengths based on the wave-hop propagation theory. This draft revision unifies the description for short distance (< 4 000 km) written in section 2.3 and that for long distance in section 2.4. Other than this change, it also proposes the following items.

- Correction of several typographical errors.
- Revise the description of equations using formula editors.
- Unify the symbols with the other sections.
- Change the solar activity index from SSN to F10.7, following Rec. ITU-R P.1239.
- Not to use the effective Earth radius $4/3$ because the effective Earth radius is less than 1.2 in the frequency range treated in Recommendation ITU-R P.684.
- Add units.

Attenuation in vegetation

The objectives of this draft revision of Recommendation [ITU-R P.833-8](#) are to:

- a) Add further experimental data to the method for propagation through woodland.
- b) Extend the method for slant paths by adding a quasi-optical model for frequencies above 30 GHz.

Conversion of annual statistics to worst-month statistics

It is proposed to introduce a scope and editorial changes in the *considerings* and *recommends* sections, to revise section 6 and to modify the first entry in Table 1, which contains the coefficients to convert annual into worst month statistics of tropospheric scatter for the global case and to make some editorial corrections.

The concept of transmission loss for radio links

This draft revision makes the following changes to Recommendation [ITU-R P.341](#):

- 1) Provides clarification to note (2) of Table 1 making it applicable to both cases where the reference antenna is on a perfectly conducting ground.
- 2) Add an equation to define Δr .
- 3) Simplify Annex 2 and to only include information about a short vertical monopole when located on a perfectly conducting plane ground.

The radio refractive index: its formula and refractivity data

This draft revision makes the following changes to Recommendation [ITU-R P.453-11](#):

- 1) Correction of a formula used in the calculation of saturation vapour pressure.
- 2) Editorial changes to ensure consistent terminology with regards to total atmospheric pressure.
- 3) It is noted that the value of dry atmospheric pressure is a suitable proxy for total atmospheric pressure with insignificant loss in prediction accuracy.

Attenuation by atmospheric gases

The objective of the proposed revision of Recommendation [ITU-R P.676-10](#) is to:

- a) add an introductory section as a guide to the recommendation;
- b) revise the coefficients in Table 2 of Annex 1 that define the spectroscopic data for water vapour attenuation in the line-by-line calculation of gaseous attenuation;
- c) delete the conditional summation in Annex 1 regarding the summation of oxygen lines for frequencies above the 118.750 343 GHz oxygen line;
- d) revise the approximation to the oxygen specific attenuation in Annex 2 to be the specific attenuation in Annex 1 based on a full summation of spectroscopic lines;
- e) revise the approximation to the water vapour specific attenuation in Annex 2 to be the specific attenuation in Annex 1 based on a limited summation of spectroscopic lines;
- f) define the calculation of surface pressure in Annex 1 and Annex 2;
- g) revise the zenith path total water vapour attenuation based on the integrated water vapour content; and
- h) make other clarifying editorial changes.

Effects of tropospheric refraction on radiowave propagation

This draft revision corrects two errors contained in Recommendation [ITU-R P.834-7](#).

The first correction resolves an ambiguity in the method described in section 6 of Annex 1.

The second revision correctly plots the minimum trapping frequency for both elevated ducts as well as surface ducts.

**Acquisition, presentation and analysis of data in studies
of radiowave propagation**

Proposed changes if this draft revision include:

- Chapter 4 dealing with testing criteria for comparing prediction methods is suppressed.
- A new table for measurements of interfade duration for Earth-space paths is introduced.
- A scope is added at the beginning of the text.

**Propagation data required for the design of Earth-space land mobile
telecommunication systems**

This draft revision includes some corrections in the narrowband model for mixed propagation conditions in section 6 of the Rec. ITU-R P.681-8.

It is proposed to replace section 6 of Rec. ITU-R P.681-8 with new sections.
