INTERNATIONAL TELECOMMUNICATION UNION

Radiocommunication Bureau
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Administrative Circular
CAR/280

20 July 2009

To Administrations of Member States of the ITU

Subject: **Radiocommunication Study Group 3**

– **Proposed adoption of 1 draft new Recommendation and 22 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)**

At the meeting of Radiocommunication Study Group 3, held on 11 and 12 June 2009, the Study Group decided to seek adoption of 1 draft new Recommendation and 22 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.

The consideration period shall extend for 3 months ending on 20 October 2009. If within this period no objections are received from Member States, the draft Recommendations shall be considered to be adopted by Study Group 3. 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.

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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
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Annex: Titles and summaries of the draft Recommendations

Documents attached: Documents 3/33(Rev.1), 3/8(Rev.1), 3/10(Rev.1), 3/11(Rev.1), 3/12(Rev.1), 3/13(Rev.1), 3/14(Rev.1), 3/15(Rev.1), 3/17(Rev.1), 3/18(Rev.1), 3/20(Rev.1), 3/23(Rev.1), 3/24(Rev.1), 3/28(Rev.1), 3/31(Rev.1), 3/32(Rev.1), 3/34(Rev.1), 3/40(Rev.1), 3/41(Rev.1), 3/44(Rev.1), 3/45(Rev.1), 3/46(Rev.1) and 3/47(Rev.1) on CD-ROM

Distribution:

- Administrations of Member States of the ITU
- Radiommunication Sector Members participating in the work of Radiocommunication Study Group 3
- ITU-R Associates participating in the work of Radiocommunication Study Group 3

Annex 1

Titles and summaries of the draft Recommendations

Draft new Recommendation ITU-R P.[Doc. 3/33] Doc. 3/33(Rev.1)

Tropospheric attenuation time series synthesis

This new Recommendation provides methods to synthesize rain attenuation and scintillation time series for terrestrial and Earth-space paths.

Draft revision of Recommendation ITU-R P.1407-3 Doc. 3/8(Rev.1)

Multipath propagation and parameterization of its characteristics

The terminology and characterization of power delay profiles and angle of arrival power profiles are clarified and a new *recommends* **2** is added for specific reference to Annex 2. Other minor editorials are corrected, and § 2 and 3 are reorganized to improve the presentation.

Draft revision of Recommendation ITU-R P.676-7 Doc. 3/10(Rev.1)

Attenuation by atmospheric gases

This proposed revision incorporates results of the studies carried out to improve prediction accuracy for a dry atmosphere.

Draft revision of Recommendation ITU-R P.836-3 Doc. 3/11(Rev.1)

Water vapour: surface density and total columnar content

This draft revision:

– incorporates new digital maps of surface water vapour density and total columnar water vapour content from ERA-40;
– incorporates new example maps;
– inserts a scope; and
– makes minor editorial changes to existing text.

Draft revision of Recommendation ITU-R P.526-10 Doc. 3/12(Rev.1)

Propagation by diffraction

The revisions are confined to the numerical methods for evaluating smooth sphere diffraction in Annex 1, § 3. These revisions give the user more information about the limits of applicability of the numerical methods, correct certain errors in the formulas and provide a more robust method applicable to all path distances at 10 MHz and above.

Draft revision of Recommendation ITU-R P.1812 Doc. 3/13(Rev.1)

A path-specific propagation prediction method for point-to-area terrestrial services in the VHF and UHF bands

Comparison with measured data and with results obtained from Recommendation ITU-R P.1546 has shown that Recommendation ITU-R P.1812 tends to under predict path loss at frequencies below approximately 500 MHz for small percentage times. The discrepancy is particularly noticeable for long sea paths with low terminal antennas.

This revision resolves this discrepancy by introducing an empirically-derived correction factor to account for increased losses in ducted propagation at lower frequencies. The revised Recommendation has been tested against the extensive measurement database assembled by WP 3K, and the overall prediction accuracy has been shown to be improved.

Draft revision of Recommendation ITU-R P.1238-5 Doc. 3/14(Rev.1)

Propagation data and prediction methods for the planning of indoor radiocommunication systems and radio local area networks in the frequency range 900 MHz to 100 GHz

This draft revision proposes reconstructing § 5 and the addition of new materials concerning cross-polarization discrimination ratio. It also proposes an addition of the simple formula for the (real part of) relative permittivity and the conductivity in § 7. A new § 10 concerning a statistical model in static usage is proposed.

Draft revision of Recommendation ITU-R P.1411-4 Doc. 3/15(Rev.1)

Propagation data and prediction methods for the planning of short-range outdoor radiocommunication systems and radio local area networks in the frequency range 300 MHz to 100 GHz

This draft revision proposes four modifications:

1) Addition of the new parameters of existing Table 9 in § 6.
2) Clarification of the LoS Models in § 4.2.4 to avoid inconsistency.
3) Revision of formulas in § 4.2.2 to remove frequency discontinuity.
4) Addition of propagation loss formulas of median values for UHF and SHF in § 4.1.

Draft revision of Recommendation ITU-R P.1546-3 Doc. 3/17(Rev.1)

Method for point-to-area predictions for terrestrial services in the frequency range 30 MHz to 3 000 MHz

This draft revision clarifies that only the material in Annexes 1-7 should be considered normative and provide guidance to users on potentially non-monotonic behaviour for short-distance paths when using terrain databases to define the effective transmitter/base height, h_1.

Draft revision of Recommendation ITU-R P.533-9 Doc. 3/18(Rev.1)

Method for the prediction of the performance of HF circuits

The minor revisions correct errors in the presentation of 2 equations and make small changes to Part 3 of the Recommendation so as to improve the clarity of the text dealing with the prediction of circuit performance when scatter is taken into account. This procedure is of relevance for predictions for HF digital systems.

Draft revision of Recommendation ITU-R P.372-9 Doc. 3/20(Rev.1)

Radio noise

This minor revision makes a very small correction to one term in an equation and adds some text relating to galactic noise as observed at HF and VHF.

Draft revision of Recommendation ITU-R P.1239-1 Doc. 3/23(Rev.1)

ITU-R reference ionospheric characteristics

This draft revision gives an alternative presentation of the maps of foF2 and M(3000)F2 is provided as grid point arrays in a form consistent with other digital maps within Study Group 3 texts. It is anticipated that in some cases these alternative maps will prove to be more convenient for prediction purposes.

Draft revision of Recommendation ITU-R P.531-9 Doc. 3/24(Rev.1)

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

This draft revision, including a critical revision of existing text according to recent advances and applications, based on input Document 3L/47. The main focus was given to § 4 of Annex 1 of the Recommendation in the area of ionospheric scintillations. The revisions consists of editorial corrections, removal of background information not required by the user of the Recommendation, where the science behind may not be fully developed and where the information may be confusing for the reader, and clarifications related to the following topics: ionospheric scintillation level regimes, frequency dependence, spectrum behaviour, characterisation of ionospheric phase scintillations, depolarisation effects, zenith angle dependence and local time dependence.

Draft revision of Recommendation ITU-R P.452-13 Doc. 3/28(Rev.1)

Prediction procedure for the evaluation of interference between stations on the surface of the Earth at frequencies above about 0.1 GHz

Document 3M/52 § 2 i) gives as a high priority that this Recommendation should cover the same frequency response of Recommendation ITU-R P.620, which covers 100 MHz to 105 GHz.
At present, information is not available for a detailed method above the oxygen absorption band at 60 GHz. However, it is thought to be realistic to extend the lower frequency limit down to 0.1 GHz.

This requires a low-frequency correction to the ducting/layer reflection model. Document 3M/66 proposes the same correction for Recommendation ITU-R P.1812. Since the same ducting model appears in both Recommendations ITU-R P.1812 and ITU-R P.452, this is equally applicable in this case.

Document 3M/83 proposes an additional clutter category for Table 4 and this has also been included.

Draft revision of Recommendation ITU-R P.618-9 Doc. 3/31(Rev.1)

Propagation data and prediction methods required for the design of Earth-space telecommunication systems

This draft revision:

– incorporates editorial corrections to § 2.2.4.1 “Prediction of outage probability due to rain attenuation with site diversity”;

– incorporates editorial corrections to § 2.4.2 “Calculation of the deep fading part of the scintillation/multipath fading distribution of elevation angles less than 5°” and § 2.4.3 “Calculation of the shallow fading part of the scintillation/multipath fading distribution at elevation angles less than 5°”; and

– extends the frequency range of the cross-polarization discrimination prediction method in § 4.1 “Calculation of long-term statistics of hydrometeor-induced cross-polarization from between 8 and 35 GHz to between 6 and 55 GHz”.

Draft revision of Recommendation ITU-R P.530-12 Doc. 3/32(Rev.1)

Propagation data and prediction methods required for the design of terrestrial line-of-sight systems

This draft includes a revision in the prediction method for the worst-month multipath fading distribution. The main change is to revise the frequency term. It is equations (4), (5), (7), and (8) in § 2.3.1 “Method for small percentages of time” that are modified.

Draft revision of Recommendation ITU-R P.1815 Doc. 3/34(Rev.1)

Differential rain attenuation

This draft revision incorporates editorial corrections to § 2.2.4.1 “Prediction of outage probability due to rain attenuation with site diversity”.

Draft revision of Recommendation ITU-R P.684-4 Doc. 3/40(Rev.1)

Prediction of field strength at frequencies below about 150 kHz

The current version of this Recommendation can only be used for distances of up to about 4 000 km. The proposed revision would extend the distance range to 16 000 km.

Draft revision of Recommendation ITU-R P.311-12 Doc. 3/41(Rev.1)

Acquisition, presentation and analysis of data in studies of tropospheric propagation

Several new data tables have been defined and are added in § 5 of this Recommendation.

Draft revision of Recommendation ITU-R P.1321-2 Doc. 3/44(Rev.1)

Propagation factors affecting systems using digital modulation techniques at LF and MF

This draft revision adds information concerning the statistics of fading of LF and MF skywave signals.

Draft revision of Recommendation ITU-R P.681-6 Doc. 3/45(Rev.1)

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

This draft revision modifies some terminology in § 6, moves existing § 7 to § 8, adds in § 7 a description of a wideband LMSS model based on input Document 3M/52 Annexes 4 and 9, and input Documents 3M/70, 3M/85 and 3M/89, updates figures, equations and tables of § 7 and § 8 accordingly.

Draft revision of Recommendation ITU-R P.1144-4 Doc. 3/46(Rev.1)

Guide to the application of the propagation methods of Radiocommunication Study Group 3

This draft revision includes:

– Table 1 has been updated to amend the frequency range of Recommendation ITU-R P.452, the distance range of Recommendation ITU-R P.684 and to add Recommendations ITU-R P.1812 and ITU-R P.1814;

– updates the grid resolution and file names in Table 2 “ITU-R digital maps of geophysical parameters” to be consistent with the revised digital maps in Recommendations ITU-R P.836 and ITU-R P.840 based on ERA-40;

– adds a note regarding the scaling procedure for surface water vapour density and total columnar water vapour content.

Draft revision of Recommendation ITU-R P.840-3 Doc. 3/47(Rev.1)

Attenuation due to clouds and fog

This draft revision:

– incorporates new digital maps of the total columnar content of cloud liquid water from ERA-40;

– incorporates a new section calculating the statistical distribution of total columnar content of cloud liquid water;

– incorporates new example maps;

– makes minor editorial changes to existing text.

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