INTERNATIONAL TELECOMMUNICATION UNION

Radiocommunication Bureau
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Administrative Circular
CAR/240

16 May 2007

To Administrations of Member States of the ITU

Subject: **Radiocommunication Study Group 3**

– **Proposed approval of 1 draft new Question and 3 draft revised Questions**

At the meeting of Radiocommunication Study Group 3 held on 26 and 27 April 2007, 1 draft new Question and 3 draft revised Questions were adopted and it was agreed to apply the procedure of Resolution ITU-R 1-4 (see § 3) for approval of Questions in the interval between Radiocommunication Assemblies.

Having regard to the provisions of § 3.4 of Resolution ITU-R 1-4, you are requested to inform the Secretariat (brsgd@itu.int) by 16 August 2007, whether your Administration approves or does not approve these Questions.

After the above-mentioned deadline, the results of this consultation will be notified in an Administrative Circular. If the Questions are approved, they will have the same status as Questions approved at a Radiocommunication Assembly and will become official texts attributed to Radiocommunication Study Group 3 (see: http://www.itu.int/pub/R-QUE-SG03/en).

Valery Timofeev
Director, Radiocommunication Bureau

Annexes: 4

– 1 draft new Question and 3 draft revised ITU-R Questions

Distribution:
- Administrations of Member States of the ITU
- Radiocommunication 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

Source: Document 3/100

DRAFT NEW QUESTION ITU-R [MAN-MADE NOISE]/3*

The effect of electromagnetic emissions from man-made sources on the performance of radiocommunication systems and networks

The ITU Radiocommunication Assembly,

considering

a) that electromagnetic emissions occur from a wide variety of man-made sources, such as ignition systems in internal combustion engines, electrical machinery, electronic equipment and apparatus, information technology and telecommunications equipment, etc.;

b) that the reception of such emissions may affect the performance of radiocommunication systems and networks;

c) that the information on man-made noise in Recommendation ITU-R P.372 relates to the aggregated noise from all man-made sources in typical environments, and does not provide information on the emissions received from individual or identifiable sources;

d) that such emissions may be impulsive in character and cannot be adequately described in terms of an external noise factor;

e) that emissions from individual sources may become of increasing importance in determining the performance of radio systems and networks,

decides that the following Question should be studied

1 How can the distribution of the radiation from individual sources be described and measured?

2 What is the effect of electromagnetic emissions from man-made sources on the performance of radiocommunication systems and networks, and how should the effect of such emissions be described and quantified?

further decides

1 that the results of studies should be included in Recommendations and/or Reports;

2 that the above studies should be completed by 2010.

Category: S2

* This Question should be brought to the attention of Radiocommunication Study Group 1.

Annex 2

Source: Document 3/89

DRAFT REVISION OF QUESTION ITU-R 214-2/3

Radio noise

(1978-1982-1990-1993-2000)

The ITU Radiocommunication Assembly,

considering

a) that radio noise of natural or man-made origin often determines the practical limit of performance for radio systems and thus is an important factor in planning efficient use of the spectrum;

b) that much has been learned about the origin, statistical characteristics, and general intensities of both natural and man-made noise, but that additional information is needed, particularly for parts of the world not previously studied, for the planning of telecommunications systems;

c) that for system design, determination of system performance and spectrum utilization factors, it is essential to determine the noise parameters appropriate in considering various modulation methods, including, as a minimum, the noise parameters described in Recommendation ITU-R P.372,

decides that the following Question should be studied

1 What are the intensities and the values of other parameters of natural and man-made noise from local and distant sources, in both indoor and outdoor locations; what are the temporal and geographical variations, the directions of arrival, and the relationship to changes in geophysical phenomena, such as solar activity; and how should measurements be made?

2 Where the radio noise has an impulsive characteristic, what are the appropriate parameters to describe the noise and how does the impulsive noise vary with frequency, location, season, etc.?

further decides

1 that appropriate information concerning radio noise resulting from studies within the ITU-R shall be contained in ~~a single~~ Recommendations and or Reports;

2 that the above studies should be completed by 2010.

Category: S2

Annex 3

Source: Document 3/90

DRAFT REVISION OF QUESTION ITU-R 202-2/3

Methods for predicting propagation over the surface of the Earth

(1990-2000)

The ITU Radiocommunication Assembly,

considering

a) that the presence of obstacles on the propagation path may modify, to a large extent, the mean value of the transmission loss, as well as the fading amplitude and characteristics;

b) that, with increase in frequency, the influence of the detailed roughness of the surface of the Earth as well as that of vegetation and natural or man-made structures on or above the surface of the Earth becomes more significant;

c) that propagation over high mountain ridges is sometimes of great practical importance;

d) that diffraction and site shielding are of practical significance in interference studies;

e) that the increase in performance and storage capacity of computers, permits the development of detailed digital terrain and clutter data bases;

f) that the field strength of the ground wave for frequencies between 10 kHz and 30 MHz is given in Recommendation ITU-R P.368, and a computer implementation, GRWAVE, is available from the Radiocommunication Study Group 3 Web page;

g) that information on the phase of the ground-wave mode is required;

h~~f~~) that information on ground conductivity is often available in digital form;

j~~g~~) that seasonal variation of ground-wave propagation has been observed,

decides that the following Question should be studied

1 What is the influence of terrain irregularities, vegetation and buildings, the existence of conducting structures and seasonal variability, both for locations within the service area around a transmitter and for the evaluation of interference at much greater distances, on the transmission loss, polarization, group delay and angle of arrival?

2 What is the additional transmission loss in urban areas?

3 What is the screening provided by obstacles near a terminal, taking into account the propagation mechanisms over the path?

4 What are the conditions under which obstacle gain occurs and the short-term and long-term variations of transmission loss under these conditions?

5 What are suitable methods and formats for describing the detailed roughness of the surface of the Earth including topographic features and man-made structures?

6 How can terrain data bases, together with other detailed information on terrain features, vegetation and buildings be applied in the prediction of attenuation, time delay, scatter and diffraction?

7 How can quantitative relationships and statistically-based prediction methods be developed which treat reflection, diffraction and scatter from terrain features and buildings, as well as the influence of vegetation?

8 What is the phase of the ground-wave mode?

~~8~~9 How can information on ground conductivity be made available digitally as matrix or vector information?

further decides

1 that the results of the above studies should be included in Recommendations and/or Reports;

2 that the above studies should be completed by 2010.

Category: S2

Annex 4

Source: Document 3/92

DRAFT REVISION OF QUESTION ITU-R 225-4/3

The prediction of propagation factors affecting systems at LF and MF including the use of digital modulation techniques

(1995-1997-2000)

The ITU Radiocommunication Assembly,

considering

a) that Recommendation ITU-R P.368 presents ground-wave propagation curves for frequencies between 10 kHz and 30 MHz and that Recommendation ITU-R P.684 and Recommendation ITU-R P.1147 describe procedures for predicting sky-wave propagation at frequencies below about 150 kHz and at frequencies between about 150 and 1 700 kHz, respectively;

b) that most of these and other available prediction methods are intended primarily for narrow-band or analogue systems;

c) that under certain conditions, ground-wave and sky-wave signals of the same source may be comparable in amplitude;

d) that there is an increasing use of digital modulation techniques, including those that use fast signalling speeds or which require good phase or frequency stability;

e) that Recommendation ITU-R P.1321 summarizes some results of studies on propagation factors affecting systems using digital techniques at LF and MF;

f) that, for digital systems, information will be required of the signal level and its variation as well as of time and frequency spreads within the channel,

decides that the following Question should be studied

1 What improvements may be made to the methods of predicting the sky-wave field strength and circuit performance at frequencies below about 1.7 MHz?

2 Are there significant variations in ground-wave field strength with location or with time?

3 How does the coexistence of ground-wave and sky-wave signals affect digital systems at LF and MF?

4 What are the amplitude and phase characteristics of time and frequency spreads (multipath and Doppler) of the LF/MF sky-wave signals?

5 What are the appropriate parameters for these signal characteristics for incorporation into a measurement data bank?

6 How do the sky-wave parameters vary with time, frequency, path length and other factors?

7 What are the appropriate methods for predicting these parameters and to what extent should different prediction models be used, dependent on the modulation methods employed for the signal?

further decides

1 that the results of the above studies should be included in Recommendations and/or Reports;

2 that the above studies should be completed by 2010.

Category: S2