



90th Anniversary
CCIR/ITU-R Study Groups
(1927-2017)

Radiocommunication Bureau (BR)

Administrative Circular
CACE/815

29 June 2017

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

Subject: Radiocommunication Study Group 3 (Radiowave propagation)
– **Approval of 1 revised ITU-R Question**

By Administrative Circular CACE/805 of 20 April 2017, 1 draft revised ITU-R Question was submitted for approval by correspondence in accordance with Resolution ITU-R 1-7 (§A2.5.2.3).

The conditions governing this procedure were met on 20 June 2017.

The text of the approved Question is attached for your reference in the Annex to this letter and will be published by the ITU.

François Rancy
Director

Annex: 1

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

QUESTION ITU-R 203-7/3

Propagation prediction methods for terrestrial broadcasting, fixed (broadband access) and mobile services using frequencies above 30 MHz

(1990-1993-1995-2000-2002-2009-2012-2017)

The ITU Radiocommunication Assembly,

considering

- a)* that there is a continuing need to improve and develop field strength prediction techniques for the planning or establishing of terrestrial broadcasting, fixed (broadband access) and mobile services using frequencies above 30 MHz;
- b)* that for terrestrial broadcasting, fixed (broadband access) and mobile services, propagation studies involve consideration of point-to-area and multipoint-to-multipoint propagation paths;
- c)* that present methods are based largely upon measurement data and there is a continuing need for measurements within this range of frequencies from all geographical regions, especially developing countries, to increase the accuracy of the prediction techniques;
- d)* that the increasing use of frequencies above 10 GHz requires that prediction methods should be developed to meet these new requirements;
- e)* that digital systems involving wideband transmission are being introduced to both broadcasting and mobile services;
- f)* that reflected signals must be taken into account in the design of digital radio systems;
- g)* that there are increasing demands for frequency sharing between these and other services;
- h)* that the maximum speed of railway transportation is increasing up to 500 km/h,

decides that the following Questions should be studied

- 1 What field strength prediction methods can be used for terrestrial broadcasting, fixed (broadband access) and mobile services in the frequency range above 30 MHz?
- 2 How are the predicted field strengths, multipath and their temporal and spatial statistics influenced by:
 - frequency, bandwidth and polarization;
 - length and properties of the propagation path;

- terrain features, including the possibility of long delayed reflections from off-great circle hillsides;
 - ground cover, buildings and other man-made structures;
 - atmospheric constituents;
 - height and surrounding environment of the terminating antennas;
 - directivity and diversity of the antennas;
 - mobile reception, including Doppler effects;
 - the general nature of the propagation path, e.g., paths over deserts, seas, coastal areas or mountains and, in particular, in areas subject to super-refractive conditions?
- 3 To what extent are propagation statistics correlated over different paths and frequencies?
- 4 What methods and parameters best describe the coverage reliability of these analogue and digital services and what information beyond field strength data is necessary for these purposes, e.g. the “intelligence” incorporated in a frequency agile system?
- 5 What methods and parameters best describe the propagation channel's impulse response?

further decides

- 1 that the available information should be prepared as revisions to relevant Recommendations or as new Recommendations;
- 2 that the above studies should be completed by 2019.

Category: S1
