INTERNATIONAL TELECOMMUNICATION UNION

Radiocommunication Bureau
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Administrative Circular
CACE/420

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To Administrations of Member States of the ITU and Radiocommunication Sector Members participating in the work of the Radiocommunication Study Groups and the Special Committee on Regulatory/Procedural Matters

Subject: Radiocommunication Study Group 1

– Approval of 2 new ITU-R Questions

By Administrative Circular CAR/231 of 22 November 2006, 2 draft new ITU-R Questions were submitted for approval by correspondence in accordance with Resolution ITU-R 1-4 (§ 3.4).

The conditions governing these procedures were met on 22 February 2007 and therefore the Questions are considered approved.

The texts of these Questions are attached for your reference and will be published in Addendum 4 to Document 1/1 which contains the ITU-R Questions approved by the 2003 Radiocommunication Assembly and assigned to Radiocommunication Study Group 1.

Valery Timofeev
Director, Radiocommunication Bureau

Annexes: 2

Distribution:

- Administrations of Member States and Radiocommunication Sector Members
- Chairmen and Vice-Chairmen of Radiocommunication Study Groups and Special Committee on Regulatory/Procedural Matters
- Chairman and Vice-Chairmen of the Conference Preparatory Meeting
- Members of the Radio Regulations Board
- ITU-R Associates in the work of Radiocommunication Study Group 1
- Secretary-General of the ITU, Director of the Telecommunication Standardization Bureau, Director of the Telecommunication Development Bureau

ANNEX 1

QUESTION ITU-R 233/1

Measurement of spectrum occupancy

(2007)

The ITU Radiocommunication Assembly,

considering

a) that frequency management is providing theoretical values, retrieved from planning software regarding field strength values, produced by users of the frequency spectrum;

b) that monitoring services are tasked to measure the frequency spectrum and compare those values with the theoretical values from the frequency management;

c) that different types of occupancy measurements are performed worldwide and that it is often difficult to compare the results of those different methods,

decides that the following Question should be studied

1 What techniques could be used to perform frequency channel occupancy measurements, including processing and presentation methods?

2 What techniques could be used to perform frequency band occupancy measurements, including processing and presentation methods?

3 How can “occupancy” defined for both, frequency channel as well as for frequency band measurements, also taking into account, the size of the used filter and the values measured in adjacent channels?

4 How can threshold levels be defined and applied in practical situations including dynamic threshold levels?

further decides

1 that the above studies should be included in Recommendation(s);

2 that the above studies should be completed by 2009.

Category: S2

ANNEX 2

QUESTION ITU-R 234/1

Alternative techniques for radiolocation determination

(2007)

The ITU Radiocommunication Assembly,

considering

a) that the current 2002 edition of the Spectrum Monitoring Handbook describes direction-finding as the only terrestrial technique to locate transmitters and harmful interference;

b) the trends in wireless communications towards higher frequencies, wider bandwidths, more complex modulation schemes and lower power levels are making radiolocation determination more problematic;

c) that new alternative techniques and solutions for radiolocating transmitters (such as time difference of arrival (TDOA)) are now becoming available;

d) that said techniques may offer advantages in accuracy and capability over direction finding in some situations,

recognizing

a) that the Radio Regulations provides definitions for *radiodetermination*, *radiolocation* and *radio direction-finding*;

b) that the current 2002 edition of the Spectrum Monitoring Handbook describes radiolocation of transmitters on Earth using time and frequency difference measurements from two GSO satellites to locate interference to communication satellites;

c) that Recommendation ITU-R SM.1598 describes alternative techniques for direction-finding and location specifically for time division multiple access and code division multiple access signals;

d) that Recommendation ITU-R SM.854-1 describes an alternative direction-finding and location determination technique of signals below 30 MHz using single site location (SSL),

noting

a) that Question ITU-R 28-3/1 proposed that methods to improve the accuracy of direction-finding and related digital signal processing be studied, but did not specifically address using TDOA or frequency difference of arrival (FDOA) methods for radiolocation,

decides that the following Question should be studied

1 What alternative radiolocation technologies, such as TDOA and FDOA, are available and how do they compare to DF in different scenarios for a broad range of emission types?

2 What are the considerations and requirements for the specification, deployment and operation of such systems that effect geographical coverage, signal detection ability and location determination accuracy?

further decides

1 that the results of the above studies should be included in an Addendum for the Spectrum Monitoring Handbook and/or Report(s);

2 that the above study should be completed by 2009.

Category: S2