Radiocommunication Bureau (BR)

Administrative Circular
CACE/977

13 April 2021

To Administrations of Member States of the ITU, Radiocommunication Sector Members, ITU-R Associates participating in the work of the Radiocommunication Study Group 6 and ITU Academia

Subject: **Radiocommunication Study Group 6 (Broadcasting service)**

– Proposed approval of 1 draft revised ITU-R Question

At the meeting of Radiocommunication Study Group 6 held on 26 March 2021, 1 draft revised ITU-R Question was adopted according to Resolution ITU-R 1-8 (§ A2.5.2.2) and it was agreed to apply the procedure of Resolution ITU-R 1-8 (see § A2.5.2.3) for approval of Questions in the interval between Radiocommunication Assemblies. The text of the draft ITU-R Question is attached for your reference in the Annex to this letter. Any Member State which objects to the approval of a draft Question is requested to inform the Director and the Chairman of the Study Group of the reasons for the objection.

Having regard to the provisions of § A2.5.2.3 of Resolution ITU-R 1-8, Member States are requested to inform the Secretariat (brsgd@itu.int) by 13 June 2021, whether they approve or do not approve the proposal above.

After the above-mentioned deadline, the results of this consultation will be announced in an Administrative Circular and the approved Question will be published as soon as practicable (see: http://www.itu.int/ITU-R/go/que-rsg6/en).

Mario Maniewicz
Director

Annex: 1 draft revised ITU-R Question

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Annex

(Document 6/112)

DRAFT REVISION OF QUESTION ITU-R 132-5/6

Digital terrestrial ~~television~~ broadcasting planning

(2010-2011-2011-2015-2017-2019-2021)

The ITU Radiocommunication Assembly,

considering

a) that many administrations have already introduced, and others are introducing, ~~Digital~~ digital ~~Terrestrial~~ terrestrial ~~Television Broadcasting~~ broadcasting~~(DTTB)~~ ~~services~~ in ~~VHF (Band III) and/or UHF (Bands IV/V)~~ bands assigned to the broadcasting service;

b) that experience gained through the implementation of ~~DTTB~~ digital terrestrial television, sound and multimedia broadcasting ~~services~~ will be useful in refining the assumptions and techniques to be applied in the broadcasting networks planning and implementation ~~of DTTB services~~;

c) that planning procedures are being developed to facilitate the introduction of ~~these~~ new systems in the existing radio frequency environment;

d) that these planning procedures are based on the use of propagation prediction methods and empirically derived protection ratios;

e) that the characteristics of ~~television~~ receiving installations, receivers and antennas are the important elements in frequency planning;

f) that administrations and/or broadcasters need to verify and validate the results from the process of planning of digital terrestrial ~~television sound and multimedia~~ broadcasting networks,

decides that the following Questions should be studied

1 What are the frequency planning parameters for ~~such services~~digital terrestrial broadcasting, including but not limited to:

– minimum field strengths;
– implications of modulation and emission methods;
– receiving and transmitting antenna characteristics;
– implications of using diversity transmission and reception methods;
– location correction values;
– time variability values;
– single frequency networks;
– speed ranges;
– environmental noise and its impact on digital terrestrial ~~TV~~ broadcasting reception;

– effect of wet foliage on digital terrestrial ~~TV~~ broadcasting reception;

– effect of wind turbine farms and airplane flutter on digital terrestrial ~~TV~~ broadcasting reception;

– building ~~penetration~~ entry loss;

– indoor location variations?

2 What is the likely impact on matters related to the planning of digital terrestrial broadcasting networks in the migration from analogue networks?

~~2~~3 What is the likely impact on matters related to the planning of digital terrestrial broadcasting networks ~~for terrestrial television broadcasting~~ in the migration from existing first generation digital ~~television modulation parameters to new~~systems[1] ~~and~~ to more spectrally efficient ~~modulation parameters~~ second generation digital systems[2]?

~~3~~4 What protection ratios are required when two or more digital transmitters of the same system, ~~digital television and multimedia transmitters~~ or of different systems, or analogue and digital ~~television~~ transmitters are operating:

– in the same channel;

– in adjacent channels;

– with overlapping channels;

– in other potential interference relationships (e.g. image channel)?

~~4~~5 What receiver and antenna system characteristics should be used for frequency planning with respect to more efficient use of the frequency spectrum (e.g. selectivity, noise figure, etc.)?

~~5~~6 What are the protection ratios needed to protect ~~television~~ the digital terrestrial broadcasting service~~s~~ from other services sharing the same bands or operating in adjacent bands?

~~6~~7 What techniques can be used to mitigate interference?

~~7~~8 What are acceptable durations of outages due to local short-term interference to ~~DTTB~~ digital terrestrial broadcasting ~~services~~?

~~8~~9 What are the technical bases required for planning which lead to efficient utilization of the ~~VHF and UHF~~frequency bands for digital terrestrial ~~television~~ broadcasting ~~services~~?

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[1] ~~For example DVB-T (ITU-R DTTB System B)~~See in Recommendation ITU-R BT.1306-8 (04/2020) 'Error correction, data framing, modulation and emission methods for digital terrestrial television broadcasting', Recommendation ITU-R BT.2016-2 (12/2020) 'Error-correction, data framing, modulation and emission methods for terrestrial multimedia broadcasting for mobile reception using handheld receivers in VHF/UHF bands' and Recommendation ITU-R BS.1114-11 (06/2019) 'Systems for terrestrial digital sound broadcasting to vehicular, portable and fixed receivers in the frequency range 30-3 000 MHz'.

[2] See in Recommendation ITU-R BT.1877-3 (12/2020) 'Error-correction, data framing, modulation and emission methods and selection guidance for second generation digital terrestrial television broadcasting systems'~~For example DVB-T2~~.

~~9~~10 What are the characteristic multipath conditions that need to be taken into account in the digital terrestrial broadcasting networks planning ~~of such services~~?

~~10~~11 What time availability percentages can be practically achieved in ~~DTTB~~ digital terrestrial broadcasting ~~service implementation~~ and what margins in planning parameters are required to achieve these time availability percentages?

~~11~~12 What planning criteria can be optimized to facilitate the implementation of ~~terrestrial~~ digital terrestrial broadcasting, taking into account existing services?

~~12~~13 What are the characteristics of the mobile multipath channel that need to be taken into account in the use of mobile reception, at different speeds?

~~13~~14 What are the characteristics of the multipath channel that need to be taken into account in the use of hand-held reception, at different speeds?

~~14~~15 What radio-frequency verification methods are appropriate for the verification and validation of the digital ~~television and sound~~terrestrial broadcasting planning processes?

further decides

1 that the results of the above studies should be included in (a) Report(s) and/or Recommendation(s);

2 that the above studies should be completed by ~~2023~~2027.

Category: S3