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| **World Radiocommunication Conference (WRC-19)Sharm el-Sheikh, Egypt, 28 October – 22 November 2019** |  |
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| PLENARY MEETING | **Addendum 10 toDocument 12(Add.21)-E** |
|  | **2 October 2019** |
|  | **Original: Russian** |
|  |
| Regional Commonwealth in the field of Communications Common Proposals |
| Proposals for the work of the conference |
|  |
| Agenda item 9.1 |

9 to consider and approve the Report of the Director of the Radiocommunication Bureau, in accordance with Article 7 of the Convention:

9.1 on the activities of the Radiocommunication Sector since WRC-15;

**5.441B** - To revise No. **5.441B** of the Radio Regulations (RR) in the light of ITU-R studies on the conditions of use of IMT in the frequency band 4 800-4 990 MHz to protect the aeronautical mobile service.

Introduction

According to Resolution **223 (Rev.WRC-15)** and RR No. **5.441B**, WRC-19 must consider the results of ITU-R studies regarding the technical and regulatory conditions for the use of IMT in the frequency band 4 800-4 990 MHz in order to protect the aeronautical mobile service and revise the protection criterion indicated in RR No. **5.441B**.

After discussions, CPM19-2 recognized that “this criterion is subject to review at WRC-19”, as per RR No. **5.441B**. Administrations were also encouraged to consider the matter, if they deemed appropriate, when preparing for WRC-19.

The RCC Administrations, having considered this question, take the view that RR No. **5.441B** must maintain the application of RR No. **9.21** with regard to IMT stations in order to provide protection for the aeronautical mobile service (AMS) and fixed-service stations, and to exclude the pfd threshold criterion from RR No. **5.441B** as it is not required to protect the AMS and limits the use of IMT in the frequency band 4 800-4 990 MHz without any good reason.

The RCC Administrations also consider that it is necessary to clarify the conditions for obtaining protection from possible interference by AMS stations located outside the national airspace of any State in the frequency band 4 800-4 990 MHz, by including a new footnote in Article **5** of the RR. The new footnote stipulates that AMS stations may use particular portions of the band 4 800-4 990 MHz without the prior agreement of any administration provided that the distance from the location of the AMS station to the coast, defined as the low-water mark officially recognized by the coastal State, exceeds the established minimum distance.

Proposal

It is proposed that footnote RR No. **5.441B** should be amended and a new footnote drafted, as shown in the annex. In addition, changes to the frequency allocation table and to Resolution **223 (Rev.WRC‑15)** are proposed.

ARTICLE 5

Frequency allocations

Section IV – Table of Frequency Allocations
(See No. 2.1)

MOD RCC/12A21A10/1

4 800-5 250 MHz

|  |
| --- |
| Allocation to services |
| Region 1 | Region 2 | Region 3 |
| 4 800-4 990 FIXED MOBILE 5.440A 5.441A MOD 5.441B 5.442  Radio astronomy 5.149 5.339 5.443 ADD 5.A91 |

**Reasons:** The changes to the frequency allocation table reflect changes to RR footnote No. **5.441B** and the addition of a new RR footnote No. **5.A91**.

MOD RCC/12A21A10/2

5.441B In Cambodia, Lao P.D.R. [list of countries] and Viet Nam, the frequency band 4 800-4 990 MHz, or portions thereof, is identified for use by administrations wishing to implement International Mobile Telecommunications (IMT). This identification does not preclude the use of this frequency band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. The use of IMT stations is subject to agreement obtained under No. **9.21** with countries using aircraft receiving stations communicating with fixed AMS stations in the frequency bands 4 800-4 825 MHz and 4 835-4 950 MHz and/or fixed-service stations in the frequency band 4 800-4 990 MHz, in accordance with Resolution **223 (Rev.WRC‑19)**. See also Resolution **416 (WRC-07)**.     (WRC‑19)

(*Author’s note: it is assumed that, depending on the results of the review, there may be proposed additions of countries in the footnote in question*.*)*

**Reasons:** Use of the frequency band 4 800-4 990 MHz in accordance with ITU-R documents may involve the aeronautical telemetry systems described in Report ITU-R M.2286, and the aeronautical data transmission links indicated in Recommendation ITU-R M.2116. On the other hand, according to RR footnote No. **5.442**, the frequency band 4 825-4 835 MHz may not be used by AMS stations, except for some countries in Region 2 and Australia, where the frequency band 4 825-4 835 MHz may be used only for aeronautical telemetry for flight testing by aircraft stations. In addition, according to this note, the frequency band 4 950-4 990 MHz is not allocated to the aeronautical mobile service at all.
Resolution **416 (WRC-07)** restricts the use of aeronautical telemetry to transmission from aircraft stations, and the use of the pfd limit is therefore unnecessary, as the limit in question is used to protect aeronautical telemetry station receivers on the ground. In addition, according to Resolution 416 (WRC-07), bilateral coordination of AMT aircraft transmitting stations is required in the band 4 400-4 940 MHz in relation to fixed or mobile receiving stations within 450 km. Furthermore, according to RR No. **5.440A**, any use of aeronautical mobile telemetry does not preclude the use of this frequency band by other mobile service applications or by other services to which this band is allocated on a co-primary basis, and does not establish priority in the Radio Regulations. The application of RR No. **9.21** to aeronautical telemetry stations in the frequency band 4 400-4 940 MHz is therefore not appropriate.
In accordance with Recommendation ITU-R M.2116, the use by aeronautical data transmission links of the band 4 800-4 990 MHz is restricted to national territory and the pfd limit is therefore superfluous, and protection of AMS stations is fully assured by the application of RR No. **9.21**. Furthermore, the application of RR No. **9.21** remains relevant only for aircraft receiving stations, as that is an AMS application where protection may be required. Protection of fixed station receivers in aeronautical data transmission systems, by analogy with aeronautical mobile telemetry applications, is not required.
In addition, it is proposed that agreement should be obtained under RR No. **9.21** from countries using fixed-service stations. This will protect such stations used in some countries.

ADD RCC/12A21A10/3

5.A91 If an aeronautical mobile service station is outside the national air space of any State, it may use the frequency bands 4 800-4 825 MHz and 4 835-4 950 MHz without the prior agreement of any administration on condition that the minimum distance from its location to the coast, defined as the low-water mark officially recognized by the coastal State, is more than 400 km. Any transmissions from such stations located closer than the minimum distance are subject to prior agreement with the affected administration(s).     (WRC‑19)

**Reasons:** Conditions for protection from possible interference by AMS stations located outside the national airspace of any State in the frequency band 4 800-4 990 MHz are not currently defined by the Radio Regulations.
The measure in question will allow the creation of a mechanism to ensure the compatibility of AMS stations outside the national airspace of any State.

(*Author’s note: The following proposals for changes to Resolution 223 concern only the frequency band 4 800-4 990 MHz and may not reflect other proposals that relate to other frequency bands.*)

MOD RCC/12A21A10/4

RESOLUTION 223 (Rev.WRC‑19)

Additional frequency bands identified for International
Mobile Telecommunications

The World Radiocommunication Conference (Sharm el-Sheikh, 2019),

considering

*...*

*af)* that the frequency band 4 800-4 990 MHz is allocated worldwide to the mobile and fixed services on a primary basis;

*ag)* that this conference has identified the frequency band 4 800-4 990 MHz for use by administrations wishing to implement terrestrial IMT systems in No. **5.441A** for Region 2 and **5.441B** for Region 3 *(Author’s note: this provision may be clarified during WRC-19)*;

*ah)* that appropriate technical measures may be considered by administrations at a national level to facilitate adjacent band compatibility between radio astronomy receivers in the frequency band 4 990-5 000 MHz and IMT systems in the frequency band 4 800‑4 990 MHz;

*ai)* that in accordance with No. **5.442**, the allocation to the mobile service in the frequency bands 4 825-4 835 MHz and 4 950-4 990 MHz is restricted to the mobile, except aeronautical mobile, service;

*aj)* that in accordance with No. **5.440A** and Resolution **416 (WRC‑07)**, the use of aeronautical mobile telemetry in the frequency band 4 800-4 990 MHz is restricted to transmission only from aircraft stations, and bilateral coordination of aircraft transmitting stations in aeronautical mobile telemetry systems is required in relation to fixed or mobile receiving stations;

*ak)* that in accordance with No. **5.440A**, any use of aeronautical mobile telemetry does not preclude the use of this frequency band by other mobile service applications or by other services to which this band is allocated on a co-primary basis, and does not establish priority in the Radio Regulations;

*al)* that Recommendation ITU‑R M.2116 contains the technical characteristics and protection criteria for aeronautical mobile service systems operating in the 4 400-4 990 MHz frequency range,

*...*

noting

*...*

*n)* that the provisions of Nos. **5.317A**, **5.384A**, **5.388**, **5.429B**, **5.429D**, **5.429F**, **5.441A** and **5.441B** do not prevent administrations from having the choice to implement other technologies in the frequency bands identified for IMT, based on national requirements,

resolves

1 to invite administrations planning to implement IMT to make available, based on user demand and other national considerations, additional frequency bands or portions of the frequency bands above 1 GHz identified in Nos. **5.341B**, **5.384A**, **5.429B**, **5.429D**, **5.429F**, **5.441A** and **5.441B** for the terrestrial component of IMT; due consideration should be given to the benefits of harmonized utilization of the spectrum for the terrestrial component of IMT, taking into account the services to which the frequency band is currently allocated;

2 to acknowledge that the differences in the texts of Nos. **5.341B**, **5.384A** and **5.388** do not confer differences in regulatory status;

3 that in the frequency bands 4 800-4 825 MHz and 4 835-4 950 MHz, in order to identify potentially affected administrations when applying the procedure for seeking agreement under No. **9.21** by IMT transmitting stations in relation to aircraft receiving stations, a coordination distance (between the IMT station and the potentially affected aircraft receiving station) equal to 300 km should be used;

4 that in the frequency band 4 800-4 990 MHz, in order to identify potentially affected administrations when applying the procedure for seeking agreement under No. **9.21** by IMT transmitting stations in relation to fixed-service stations, a coordination distance (between the IMT station and the potentially affected fixed-service station) equal to [30-70] km should be used,

invites ITU‑R

...

6 to develop harmonized frequency arrangements for the frequency band 3 300‑3 400 MHz for operation of the terrestrial component of IMT, taking into account the results of the sharing studies;

...

**Reasons:** It would appear appropriate to reflect a number of provisions of the Radio Regulations concerning allocation conditions, as well as conditions of use of AMS applications.
In order to apply RR No. **9.21** in respect of AMS and FS stations, the coordination distance has to be determined.
In addition, it is important to consider that studies of the technical and regulatory conditions for the use of IMT in the frequency band 4 800-4 990 MHz are completed to protect the aeronautical mobile service and a frequency plan drawn up.

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