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|  A close up of a sign  Description automatically generated | **World Radiocommunication Conference (WRC-23)Dubai, 20 November - 15 December 2023** |  |
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| PLENARY MEETING | **Document 91-E** |
|  | **23 October 2023** |
|  | **Original: English** |
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| Australia/Canada/Korea (Republic of)/New Zealand/Thailand |
| Proposals for the work of the conference |
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| Agenda item 1.1 |

1.1 to consider, based on the results of ITU‑R studies, possible measures to address, in the frequency band 4 800-4 990 MHz, protection of stations of the aeronautical and maritime mobile services located in international airspace and waters from other stations located within national territories, and to review the power flux-density criteria in No. **5.441B** in accordance with Resolution **223 (Rev.WRC‑19)**;

Background

The World Radiocommunication Conference 2015 (WRC‑15) adopted Radio Regulations (RR) No. **5.441B** which provides some countries with an identification for International Mobile Telecommunications (IMT) in the frequency band 4 800-4 990 MHz, or portions thereof, under certain conditions including the establishment of a power-flux density (pfd) limit to protect other mobile services. Technical studies to review this limit were conducted during the WRC-19 cycle; however, consensus was not reached. Discussions at WRC-19 resulted in a modification of RR No. **5.441B** to include additional countries in the footnote, and to further review the pfd limits at WRC-23. Resolution **223 (Rev.WRC-19)** was revised to include specific provisions relating to aircraft stations, fixed-service stations, and other ground-based stations of the mobile service operating in portions of the frequency band 4 800-4 990 MHz through the following *resolves*:

 *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 stations in relation to aircraft stations, a coordination distance from an IMT station to the border of another country equal to 300 km (for land path)/450 km (for sea path) applies;*

 *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 stations in relation to fixed-service stations or other ground-based stations of the mobile service, a coordination distance from an IMT station to the border of another country equal to 70 km applies;*

In addition, WRC-19 decided while the pfd limits are subject to review at WRC-23 to not apply the protection of other mobile services through use of pfd limits from IMT stations in certain countries through the following *resolves*:

 *5 that the power flux-density (pfd) limits in No.* ***5.441B****, which is subject to review at WRC-23, shall not apply to the following countries: Armenia, Brazil, Cambodia, China, Russian Federation, Kazakhstan, Lao P.D.R., Uzbekistan, South Africa, Viet Nam and Zimbabwe,*

Some administrations heavily utilize portions of the frequency band 4 800-4 990 GHz for fixed and mobile (including aeronautical and maritime stations) services and it is critical that these mobile operations are able to continue both on national territories and in airspace and waters outside national territories.

With the understanding that aeronautical and mobile stations cannot be notified nor coordinated when operating in airspace and waters outside national territories, a pfd criterion is an appropriate regulatory mechanism to prevent interference to these stations operating in these areas from IMT stations operating within national territories.

Studies were undertaken in Working Party (WP) 5B and WP 5D to address the ITU-R preparatory work for WRC-23. WP 5D has developed supporting material for WRC-23 agenda item 1.1 (see Document [5D/1776, Annex 4.7](https://www.itu.int/dms_ties/itu-r/md/19/wp5d/c/R19-WP5D-C-1776%21H4-N4.07%21MSW-E.docx)). The summary of studies and methods to satisfy the agenda item are in the CPM Report to WRC-23, see Document [3](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=R23-WRC23-C-0003).

Proposals

Based on ITU-R studies (Section 1/1.1/3 of the Report of the CPM to WRC-23) and the distinct sub-bands applicable to the aeronautical mobile service (AMS), the co-signing countries propose new pfd values in RR No.**5.441B** which would apply to all countries listed in this footnote in order to provide for the continued operation of AMS in the frequency bands 4 800-4 825 MHz and 4 835‑4 950 MHz, and the maritime mobile service (MMS) in the frequency band 4 800-4 990 MHz while allowing the operation of IMT stations. Both pfd values apply at 22 km from the coast, defined as the low-water mark, as officially recognized by the coastal State, i.e. at the border of the territorial seas. This aligns with Method D, Alternative 2 and the new pfd limits are:

 *−140 dB(W/(m2 · 1 MHz)) produced up to 19 km above sea level at 22 km from the coast, defined as the low-water mark, as officially recognized by the coastal State, for coexistence with the aeronautical mobile service in the frequency bands 4 800-4 825 MHz and 4 835-4 950 MHz, and −134 dB(W/(m2 · 1 MHz)) produced up to 30 m above sea level at 22 km from the coast, defined as the low-water mark, as officially recognized by the coastal State, for coexistence with the maritime mobile service in the frequency band 4 800-4 990 MHz.*

ARTICLE 5

Frequency allocations

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

MOD AUS/CAN/KOR/NZL/THA/91/1#1325

4 800-5 250 MHz

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| 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 |

MOD AUS/CAN/KOR/NZL/THA/91/2#1327

5.441B In Angola, Armenia, Azerbaijan, Benin, Botswana, Brazil, Burkina Faso, Burundi, Cambodia, Cameroon, China, Côte d’Ivoire, Djibouti, Eswatini, Russian Federation, Gambia, Guinea, Iran (Islamic Republic of), Kazakhstan, Kenya, Lao P.D.R., Lesotho, Liberia, Malawi, Mauritius, Mongolia, Mozambique, Nigeria, Uganda, Uzbekistan, the Dem. Rep. of the Congo, Kyrgyzstan, the Dem. People's Rep. of Korea, Sudan, South Africa, Tanzania, Togo, Viet Nam, Zambia and Zimbabwe, 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 concerned administrations, and IMT stations shall not claim protection from stations of other applications of the mobile service. In addition, before an administration brings into use an IMT station in the mobile service, it shall ensure that the power flux-density (pfd) produced by this station does not exceed:

 – in the frequency ranges 4 800-4 825 MHz and 4 835-4 950 MHz, −140 dB(W/(m2 · 1 MHz)) produced up to 19 km above sea level at 22 km from the coast, defined as the low-water mark, as officially recognized by the coastal State, and

 – in the frequency range 4 800-4 990 MHz, −134 dB(W/(m2 · 1 MHz)) produced up to 30 m above sea level at 22 km from the coast, defined as the low-water mark as officially recognized by the coastal State.

Resolution **223 (Rev.WRC‑23)** applies.     (WRC‑23)

**Reasons:** Studies indicate the feasibility of a relaxed pfd limit to facilitate the continued operations of aeronautical and maritime stations operating in the mobile service outside 22 km from coastal areas. The pfd limits and frequency ranges reflect the status of allocations and usage of aeronautical mobile stations and maritime mobile stations. Text indicating the review of the pfd criterion at WRC-23 and the IMT identification effective date is no longer required.

MOD AUS/CAN/KOR/NZL/THA/91/3#1332

RESOLUTION 223 (REV.WRC‑23)

Additional frequency bands identified for International
Mobile Telecommunications

The World Radiocommunication Conference (Dubai, 2023),

…

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 stations in relation to aircraft stations, a coordination distance from an IMT station to the border of another country equal to 300 km (for land path)/450 km (for sea path) applies;

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 stations in relation to fixed-service stations or other ground-based stations of the mobile service, a coordination distance from an IMT station to the border of another country equal to 70 km applies,

invites the ITU Radiocommunication Sector

1 to conduct compatibility studies in order to provide technical measures to ensure coexistence between the MSS in the frequency band 1 518-1 525 MHz and IMT in the frequency band 1 492-1 518 MHz, including guidance on the implementation of frequency arrangements for IMT deployment in the frequency band 1 427-1 518 MHz, taking into account the results of these studies;

2 to continue providing guidance to ensure that IMT can meet the telecommunication needs of developing countries and rural areas;

3 to include the results of the studies mentioned in *invites the ITU Radiocommunication Sector* above in one or more ITU‑R Recommendations and Reports, as appropriate.

**Reasons:** Consequential modifications to Resolution **223 (Rev.WRC-19)** as agenda item is resolved.

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