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| **World Radiocommunication Conference (WRC-19) Sharm el-Sheikh, Egypt, 28 October – 22 November 2019** |  |
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| PLENARY MEETING | **Document 84-E** |
|  | **9 October 2019** |
|  | **Original: English** |
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| Bangladesh (People's Republic of)/Korea (Republic of)/Japan/ Lao People's Democratic Republic/Mongolia/Nepal (Federal Democratic Republic of)/Singapore (Republic of)/Viet Nam (Socialist Republic of) | |
| Proposals for the work of the conference | |
|  | |
| Agenda item 9.1(9.1.2) | |

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;

9.1 (9.1.2) Resolution **761 (WRC-15)** **-** Compatibility of International Mobile Telecommunications and broadcasting-satellite service (sound) in the frequency band 1 452-1 492 MHz in Regions 1 and 3

Introduction

The current No. **9.11** of the Radio Regulations (RR)stipulates the coordination requirement with respect to terrestrial applications. However, as indicated in *recognizing c)* of Resolution **761 (WRC-15)**, “*the application of No.* ***9.11*** *does not provide long-term stability for the operation of International Mobile Telecommunications (IMT) due to the fact that only the IMT systems that would come into operation within the next three years would be protected if their coordination is agreed, and only for those three years*”. Consequently, for those countries wishing to implement IMT in the frequency band 1 452-1 492 MHz, it is essential for WRC-19 to take appropriate regulatory action to address the drawback indicated in this *recognizing*. Stipulating a pfd limit for broadcasting-satellite service (BSS) (sound) in Table **21-4** under RR No. **21.16** with respect to the protection of IMT stations is considered to be a suitable action.

In Region 3, according to the survey results in the APT studies on harmonized frequency arrangement for the band 1 427-1 518 MHz, a number of countries are considering future implementation of IMT in all or parts of the frequency band 1 427-1 518 MHz. As these countries have not decided the frequency arrangement to be used for this IMT implementation yet, it is essential to choose a pfd limit which can protect both IMT base and mobile stations.

As for the protection of BSS (sound) receivers, the current RR No. **9.19** canapply with respect to the coordination for potential cross-border interference from IMT systems into the BSS (sound) receivers between different countries within the service area of the satellite network.

Considering the above, administrations listed in this contribution support possible action 3 Alternative 2 in the CPM Report to WRC-19 for agenda item 9.1, Issue 9.1.2.

Proposals

ARTICLE 5

Frequency allocations

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

MOD BGD/KOR/J/LAO/MNG/NPL/SNG/VTN/84/1#50143#50143

1 300-1 525 MHz

|  |  |  |  |
| --- | --- | --- | --- |
| Allocation to services | | | |
| Region 1 | Region 2 | | Region 3 |
| 1 452-1 492  FIXED  MOBILE except aeronautical mobile 5.346  BROADCASTING  BROADCASTING-SATELLITE 5.208B ADD 5.A912  5.341 5.342 5.345 | | 1 452-1 492  FIXED  MOBILE 5.341B 5.343 5.346A  BROADCASTING  BROADCASTING-SATELLITE 5.208B ADD 5.A912  5.341 5.344 5.345 | |

**Reasons:** To stipulate a pfd limit for broadcasting-satellite service (BSS) (sound) in Table **21-4** under RR No. **21.16** with respect to the protection of IMT base and mobile stations in Regions 1 and 3 for the long-term stable operations of IMT systems in the frequency band 1 452-1 492 MHz.

ADD BGD/KOR/J/LAO/MNG/NPL/SNG/VTN/84/2

5.A912 The power flux-density (pfd) at the Earth’s surface given in Table **21‑4** of Article **21** for the broadcasting-satellite service, shall apply on the territory of the countries in Regions 1 and 3 , except frequency assignment of broadcasting-satellite service in the frequency band 1 452-1 492 MHz for which the notification information has been recorded in the MIFR with a favourable finding under Nos. **11.31**, **11.32** and **11.32A**, as appropriate, prior to [28 October 2019].    (WRC‑19)

**Reasons:** Tostipulate a pfd limit for BSS (sound) in Table **21-4** under RR No. **21.16** with respect to the protection of IMT base and mobile stations in Regions 1 and 3 for the long-term stable operations of IMT systems in the frequency band 1 452-1 492 MHz and in order to avoid retroactive impact on the BSS (sound), necessary transitional measures are required.

ARTICLE 21

Terrestrial and space services sharing frequency bands above 1 GHz

Section V − Limits of power flux-density from space stations

MOD BGD/KOR/J/LAO/MNG/NPL/SNG/VTN/84/3#50149

TABLE **21-4**     (Rev.WRC‑19)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Frequency band | Service\* | Limit in dB(W/m2) for angles of arrival (δ) above the horizontal plane | | | | | Reference bandwidth |
| 0°-5° | | 5°-25° | | 25°-90° |
| … | … | … | … | | … | | … |
| 1 452‑1 492 MHz  (Applicable to the territory of the administrations in Regions 1 and 3) | Broadcasting-satellite | **0°–5°** | | **5°–25°** | | **25°–90°** | **1** **MHz** |
| −131.3 | | −131.3 + 16/20(δ − 5) | | −115.3 |  |
| ... | ... | ... | | ... | | ... | ... |

**Reasons:** For the long-term stable operations of IMT systems in the frequency band 1 452-1 492 MHz, it is proposed tostipulate a pfd limit for BSS (sound) in Table **21-4** under RR No. **21.16** which can protect both IMT base and mobile stations.

APPENDIX 5 (REV.WRC‑15)

Identification of administrations with which coordination is to be effected or  
agreement sought under the provisions of Article 9

MOD BGD/KOR/J/LAO/MNG/NPL/SNG/VTN/84/4

TABLE 5-1     (Rev. WRC-19)

Technical conditions for coordination

(see Article 9)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Reference of Article 9 | Case | Frequency bands  (and Region) of the service  for which coordination  is sought | Threshold/condition | Calculation  method | Remarks |
| … | … | … | … | … | … |
| No. **9.7B**  Non‑GSO system/GSO earth station (*cont.*) |  |  | iii) the epfd↓ from the non-GSO satellite system exceeds:  a) in the frequency band  10.7‑12.75 GHz:  −174.5 dB(W/(m2 · 40 kHz)) for any percentage of time for non-GSO satellite systems with all satellites only operating at or below 2 500 km altitude, or  −202 dB(W/(m2 · 40 kHz)) for any percentage of the time for non-GSO satellite systems with any satellites operating above 2 500 km altitude;  b) in the frequency bands 17.8‑18.6 GHz or 19.7‑20.2 GHz:  −157 dB(W/(m2 · MHz)) for any percentage of time for non-GSO satellite systems with all satellites only operating at or below 2 500 km altitude, or  −185 dB(W/(m2 · MHz)) for any percentage of the time for non-GSO satellite systems with any satellites operating above 2 500 km altitude | iii) use the epfd↓ radiated by the non-GSO FSS satellite system  into the earth station employing the very large antenna when this antenna is pointed towards the wanted GSO satellite |  |

TABLE 5-1 (*continued*)     (Rev.WRC‑15)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Reference of Article 9 | Case | Frequency bands  (and Region) of the service  for which coordination  is sought | Threshold/condition | Calculation  method | Remarks |
| No. **9.11** GSO, non-GSO/ terrestrial | A space station in the BSS in any band shared on an equal primary basis with terrestrial services and where the BSS is not subject to a Plan, in respect of terrestrial services | 620-790 MHz (see Resolution **549 (WRC‑07)**) 1 452-1 492 MHz (Region 2) 2 310-2 360 MHz (No. **5.393**) 2 535-2 655 MHz (Nos. **5.417A** and **5.418**) 17.7-17.8 GHz (Region 2)  74-76 GHz | Bandwidths overlap: The detailed conditions for the application of No. **9.11** in the bands 2 630-2 655 MHz and 2 605-2 630 MHz are provided in Resolution **539 (Rev.WRC‑03)** for non-GSO BSS (sound) systems pursuant to Nos. **5.417A** and **5.418**, and in Nos. **5.417A** and **5.418** for GSO BSS (sound) networks pursuant to those provisions. | Check by using the assigned frequencies and bandwidths |  |
| No. **9.12**  Non-GSO/ non-GSO | A station in a non-GSO satellite network in the frequency bands for which a footnote refers to No. **9.11A** or No. **9.12**, in respect of any other non-GSO satellite network, with the exception of coordination between earth stations operating in the opposite direction of transmission | Frequency bands for which a footnote refers to No. **9.11A** or No. **9.12** | Bandwidths overlap | Check by using the assigned frequencies and bandwidths |  |
| ... | … | … | … | … | … |

**Reasons:** Coordination under RR No. **9.11** continues to apply in Region 2.

SUP BGD/KOR/J/LAO/MNG/NPL/SNG/VTN/84/5

RESOLUTION 761 (WRC‑15)

Compatibility of International Mobile Telecommunications and   
broadcasting-satellite service (sound) in the frequency band   
1 452-1 492 MHz in Regions 1 and 3

**Reasons:** Resolution **761 (WRC-15)** does not need to be maintained as no further studies would be conducted under this Resolution.

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