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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 6 toDocument 12(Add.19)-E** |
|  | **3 October 2019** |
|  | **Original: Russian** |
|  |
| Regional Commonwealth in the field of Communications Common Proposals |
| Proposals for the work of the conference |
|  |
| Agenda item 7(F) |

7 to consider possible changes, and other options, in response to Resolution 86 (Rev. Marrakesh, 2002) of the Plenipotentiary Conference, an advance publication, coordination, notification and recording procedures for frequency assignments pertaining to satellite networks, in accordance with Resolution **86 (Rev.WRC-07)**, in order to facilitate rational, efficient and economical use of radio frequencies and any associated orbits, including the geostationary-satellite orbit;

7(F) Issue F - Measures to facilitate entering new assignments into the RR Appendix **30B** List

The RCC Administrations do not oppose modification of the existing criteria of Annex 4 to RR Appendix **30B** for determining affected allotments or assignments, provided the level of protection for frequency assignments recorded in the RR Appendix **30B** List before 22 November 2019 is maintained.

APPENDIX 30B (REV.WRC‑15)

Provisions and associated Plan for the fixed-satellite service
in the frequency bands 4 500-4 800 MHz, 6 725-7 025 MHz,
10.70-10.95 GHz, 11.20-11.45 GHz and 12.75-13.25 GHz

MOD RCC/12A19A6/1#50094

ANNEX 3     (Rev.WRC‑19)

Limits applicable to submissions received under Article 6 or Article 7MOD [[1]](#footnote-1)15

Under assumed free-space propagation conditions, the power flux-density (space-to-Earth) of a proposed new allotment or assignment produced on any portion of the surface of the Earth shall not exceed:

– −131.4\* dB(W/(m2 · MHz)) in the 4 500-4 800 MHz frequency band; and

– −118.4\* dB(W/(m2 · MHz)) in the 10.70-10.95 GHz and 11.20-11.45 GHz frequency bands.

Under assumed free-space propagation conditions, the power flux-density (Earth-to-space) of a proposed new allotment or assignment shall not exceed:

– −140.0 dB(W/(m2 · MHz)) towards any location in the geostationary-satellite orbit located more than 7° from the proposed orbital position in the 6 725-7 025 MHz frequency band, and

– −133.0 dB(W/(m2 · MHz)) towards any location in the geostationary-satellite orbit located more than 6° from the proposed orbital position in the 12.75-13.25 GHz frequency band.

*[\*NOTE – These are consequential changes to the proposed reduction of the coordination arc from 10° to 7° in the 4 GHz frequency band and from 9° to 6° in the 10/11 GHz frequency band. Should other sizes of the coordination arc be considered by WRC‑19, the power flux-densities should be amended according to the equation: pfdnew = pfdcurrent – 25 ∙ log (current coordination arc / new coordination arc)]*

**Reasons:** To facilitate coordination of new networks and the access of administrations to the frequency bands of RR Appendix **30B**.

MOD RCC/12A19A6/2#50095

ANNEX 4     (REV.WRC‑19)

Criteria for determining whether an allotment or
an assignment is considered to be affected[[2]](#footnote-2)xx

An allotment or an assignment is considered as being affected by a proposed new allotment or assignment:

1 if the orbital spacing between its orbital position and the orbital position of the proposed new allotment or assignment is equal to or less than:

1.1 7° in the 4 500-4 800 MHz (space-to-Earth) and 6 725-7 025 MHz (Earth-to-space) frequency bands;

1.2 6° in the 10.70-10.95 GHz (space-to-Earth), 11.20-11.45 GHz (space-to-Earth) and 12.75-13.25 GHz (Earth-to-space) frequency bands.

2 However, an allotment or assignment is not considered as being affected if at least one of the following conditions, 2.1 or 2.2, is satisfied:

2.1 the calculated16 Earth-to-space single-entry carrier-to-interference (*C*/*I*)*u* value at each test point associated with the allotment or assignment under consideration is greater than or equal to a reference value that is 30 dB, or (*C*/*N*)*u* + 9 dB17, or any already accepted Earth-to-space single-entry (*C*/*I*)*u*~~[[3]](#footnote-3)18~~, whichever is the lowest, and

 the calculated16 space-to-Earth single-entry (*C*/*I*)*d* value everywhere within the service area of the allotment or assignment under consideration is greater than or equal to a reference value19 that is 26.65 dB, or (*C*/*N*)*d* + 11.65 dB20, or any already accepted space-to-Earth single-entry (*C*/*I*)*d* value, whichever is the lowest, and

 the calculated16 overall aggregate (*C*/*I*)*agg* value at each test point associated with the allotment or assignment under consideration, is greater than or equal to a reference value that is 21 dB, or (*C/N*)*t* + 7 dB21, or any already accepted overall aggregate (*C*/*I*)*agg* value, whichever is the lowest, with a tolerance of 0.25 dB22 in the case of assignments not stemming from the conversion of an allotment into an assignment without modification, or when the modification is within the envelope characteristics of the initial allotment.

2.2 in the 4 500-4 800 MHz (space-to-Earth) frequency band, the pfd\*) produced under assumed free-space propagation conditions does not exceed the threshold values shown below, anywhere within the service area of the allotment or assignment under consideration:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | θ | ≤ | 0.09 | −243.5 | dB(W/(m2 ∙ Hz)) |
| 0.09 | < | θ | ≤ | 3 | −243.5 + 20log(θ/0.09) | dB(W/(m2 ∙ Hz)) |
| 3 | < | θ | ≤ | 5.5 | −219.8 + 0.75 ∙ θ2 | dB(W/(m2 ∙ Hz)) |
| 5.5 | < | θ | < | 7 | −196.8 + 25log(θ/5.6) | dB(W/(m2 ∙ Hz)) |

[\*) Note: For θ = 7, the pfd level = −196.8 + 25log(θ/5.6) = −194.38 dB(W/(m2 ∙ Hz)),

In accordance with Annex 3, the pfd level outside the coordination arc is −131.4 dB(W/(m2 ∙ MHz)) = −191.4 dB(W/(m2 ∙ Hz)), i.e. the difference between the values is 194.38 − 191.4 = 2.98 dB.]

 where θ denotes minimum geocentric separation (degrees) between interfering and interfered-with satellite networks;

 in the 6 725-7 025 MHz (Earth-to-space) frequency band, the pfd produced at the location in the geostationary-satellite orbit of the allotment or assignment under consideration under assumed free‑space propagation conditions does not exceed −204.0 dB – GRx (W/(m2 ∙ Hz)), where GRx is the relative gain of the space station receiving antenna on the uplink of the potentially affected assignment at the location of the interfering earth station;

 in the 10.7-10.95 and 11.2-11.45 GHz (space-to-Earth) frequency bands, the pfd\*\*) produced under assumed free-space propagation conditions does not exceed the threshold values shown below, anywhere within the service area of the allotment or assignment under consideration:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | θ | ≤ | 0.05 | −238.0 | dB(W/(m2 ∙ Hz)) |
| 0.05 | < | θ | ≤ | 3 | −238.0 + 20log(θ/0.05) | dB(W/(m2 ∙ Hz)) |
| 3 | < | θ | ≤ | 5 | −210.9 + 0.95 ∙ θ2 | dB(W/(m2 ∙ Hz)) |
| 5 | < | θ | < | 6 | −187.2 + 25log(θ/5) | dB(W/(m2 ∙ Hz)) |

[\*\*) Note: For θ = 6, the pfd level = −187.2 + 25log(θ/5) = −185.22 dB(W/(m2 ∙ Hz)),

In accordance with Annex 3, the pfd level outside the coordination arc is −118.4 dB(W/(m2 ∙ MHz)) = −178.4 dB(W/(m2 ∙ Hz)), i.e. the difference between the values is 185.22 − 178.4 = 6.82 dB.]

 where θ denotes minimum geocentric separation (degrees) between interfering and interfered-with satellite networks;

 in the 12.75-13.25 GHz (Earth-to-space) frequency band, the pfd produced at the location in the geostationary-satellite orbit of the allotment or assignment under consideration under assumed free‑space propagation conditions does not exceed −208.0 dB − GRx (W/(m2 ∙ Hz)), where GRx is the relative gain of the space station receiving antenna on the uplink of the potentially affected assignment at the location of the interfering earth station.

**Reasons:** To facilitate coordination of new networks and access of administrations to the frequency bands of RR Appendix **30B**, and to ensure adequate protection for satellite networks brought into use prior to the enactment of the new coordination criteria and for RR Appendix **30B** Plan allotments.

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1. 15 These limits shall not apply to assignments recorded in the List before 22 November 2019. [↑](#footnote-ref-1)
2. xx For frequency assignments recorded in the List before 22 November 2019, the criteria of Annex 4 (Rev.WRC-07) to Appendix **30B** of the Radio Regulations (2008 edition) apply. [↑](#footnote-ref-2)
3. 18 (SUP WRC-19) [↑](#footnote-ref-3)