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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 | | **Addendum 3 to Document 65(Add.22)-E** | |
|  | | **30 October 2023** | |
|  | | **Original: English** | |
|  | | | |
| European Common Proposals | | | |
| PROPOSALS FOR THE WORK OF THE CONFERENCE | | | |
|  | | | |
| Agenda item 7(C) | | | |

7 to consider possible changes, in response to Resolution 86 (Rev. Marrakesh, 2002) of the Plenipotentiary Conference, on 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 the rational, efficient and economical use of radio frequencies and any associated orbits, including the geostationary-satellite orbit;

7(C) Topic C – Protection of geostationary satellite networks in the mobile-satellite service operating in the 7/8 GHz and 20/30 GHz bands from emissions of non-geostationary satellite systems operating in the same frequency bands and identical directions

Introduction

Topic C under WRC-23 agenda item 7 was established to verify the effectiveness of the regulatory protection of geostationary-satellite orbit (GSO) mobile-satellite service (MSS) networks from interference caused by non-GSO systems and networks, and to identify possible inconsistencies in the provisions of the Radio Regulations (RR) applicable to the frequency bands:

– 7 250-7 750 MHz (space-to-Earth);

– 7 900-8 025 MHz (Earth-to-space);

– 20.2-21.2 GHz (space-to-Earth), and

– 30-31 GHz (Earth-to-space).

Non-GSO networks and systems operating in the above frequency bands currently do not require coordination with GSO networks in the mobile-satellite service, except for those non-GSO satellite systems coordinated according to RR No. **9.21** (based on RR No. **5.461**). If an administration is of the view that unacceptable interference may be caused by a non-GSO network or system to its existing or planned GSO systems, it can ask for solving respective difficulties according to RR No. **9.3** based on a best effort basis only. Furthermore, it is experienced that requests to resolve any difficulties in accordance with RR No. **9.3** sometimes simply remain unanswered or that technical discussions cannot be concluded in absence of clear criteria.

RR No. **22.2** stipulates that non-GSO systems shall not cause unacceptable interference to GSO networks in the fixed-satellite service and broadcasting-satellite service. However, this protection does not apply to GSO networks in the mobile-satellite service.

Because of this apparent ambivalent regulatory framework, the protection of GSO MSS networks in these frequency bands cannot be fully ensured.

It is proposed to quantify the protection of GSO networks operating in the MSS from interference caused by non-GSO networks or systems operating in the same frequency bands 7 250-7 750 MHz (space-to-Earth), 7 900-8 025 MHz (Earth-to-space), 20.2-21.2 GHz (space-to-Earth) and 30-31 GHz (Earth-to-space) and in identical directions.

It is therefore proposed to:

– modify footnote RR No. **5.461** to exempt application of RR No. **9.21** regarding geostationary-satellite networks in the mobile-satellite service in the frequency bands 7 250-7 300 MHz and 7 300-7 375 MHz with respect to non-geostationary-satellite systems for which complete coordination or notification information are received by the Bureau after 15 December 2023;

– add a new provision (RR No. **22.2*bis***) to extend the provisions of RR No. **22.2** to geostationary-satellite networks in the mobile-satellite service in the concerned frequency bands;

– introduce new RR Appendix **4** data items for assignments to non-GSO systems in the above-mentioned frequency bands to better facilitate analysis of potential interference for victim geostationary-satellite networks.

Proposals

ARTICLE 5

Frequency allocations

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

MOD EUR/65A22A3/1#1998

7 250-8 500 MHz

|  |  |  |
| --- | --- | --- |
| Allocation to services | | |
| Region 1 | Region 2 | Region 3 |
| 7 250-7 300 FIXED  FIXED-SATELLITE (space-to-Earth)  MOBILE  MOD 5.461 | | |
| 7 300-7 375 FIXED  FIXED-SATELLITE (space-to-Earth)  MOBILE except aeronautical mobile  MOD 5.461 | | |
| ... | | |
| 7 900-8 025 FIXED  FIXED-SATELLITE (Earth-to-space)  MOBILE  MOD 5.461 | | |

MOD EUR/65A22A3/2#2000

5.461 *Additional allocation:*the frequency bands 7 250-7 375 MHz (space-to-Earth) and 7 900-8 025 MHz (Earth-to-space) are also allocated to the mobile-satellite service on a primary basis, subject to agreement obtained under No. **9.21**. However, No. **9.21** is not applicable to the geostationary-satellite networks in the mobile-satellite service with respect to non-geostationary-satellite systems for which complete coordination or notification information, as appropriate, is received by the Bureau after 15 December 2023.     (WRC‑23)

**Reasons:** To exemptapplication of RR No. **9.21** forgeostationary-satellite networks in the mobile-satellite service with respect to non-geostationary-satellite systems.

ARTICLE 22

Space services1

Section II − Control of interference to geostationary-satellite systems

ADD EUR/65A22A3/3#2001

22.2*bis* In the frequency bands 7 250-7 750 MHz (space-to-Earth), 7 900-8 025 MHz (Earth-to-space), 20.2‑21.2 GHz (space-to-Earth) and 30-31 GHz (Earth-to-space), non-geostationary-satellite systems for which complete coordination or notification information, as appropriate, is received by the Bureau after 15 December 2023 shall not cause unacceptable interference to and shall not claim protection from geostationary-satellite networks in the mobile-satellite service operating in accordance with these Regulations. No. **5.43A** does not apply in this case.     (WRC-23)

**Reasons:** To clarify the protection of geostationary-satellite networks in the mobile-satellite service in the concerned frequency bands from non-geostationary-satellite systems.

APPENDIX 4 (REV.WRC‑19)

Consolidated list and tables of characteristics for use in the  
application of the procedures of Chapter III

ANNEX 2

Characteristics of satellite networks, earth stations  
or radio astronomy stations2    (Rev.WRC‑12)

Footnotes to Tables A, B, C and D

MOD EUR/65A22A3/4#2002

**TABLE A**

GENERAL CHARACTERISTICS OF THE SATELLITE NETWORK OR SYSTEM,  
EARTH STATION OR RADIO ASTRONOMY STATION     (Rev.WRC‑23)

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Items in Appendix** | ***A \_ GENERAL CHARACTERISTICS OF THE SATELLITE NETWORK OR SYSTEM, EARTH STATION OR RADIO ASTRONOMY STATION*** | **Advance publication of a geostationary- satellite network** | **Advance publication of a non-geostationary-satellite network or system subject to coordination under Section II  of Article 9** | **Advance publication of a non-geostationary-satellite network or system not subject to coordination under Section II  of Article 9** | **Notification or coordination of a geostationary-satellite network (including space operation functions under Article 2A of Appendices 30 or 30A)** | **Notification or coordination of a non-geostationary-satellite network or system** | **Notification or coordination of an earth station (including notification under  Appendices 30A or 30B)** | **Notice for a satellite network in the broadcasting-satellite service under  Appendix 30 (Articles 4 and 5)** | **Notice for a satellite network  (feeder-link) under Appendix 30A  (Articles 4 and 5)** | **Notice for a satellite network in the fixed- satellite service under Appendix 30B  (Articles 6 and 8)** | **Items in Appendix** | **Radio astronomy** |
| … | … | … | … | … | … | … | … | … | … | … | … | … |
| **A.25** | **CHARACTERISTICS OF NON-GSO SYSTEMS IN THE FREQUENCY BANDS 7 250-7 750 MHz (SPACE-TO-EARTH), 7 900-8 025 MHz (EARTH-TO-SPACE), 20.2-21.2 GHz (SPACE-TO-EARTH) AND 30-31 GHz (EARTH-TO-SPACE) FOR ADVANCE PUBLICATION OF A NON-GEOSTATIONARY-SATELLITE NETWORK OR SYSTEM NOT SUBJECT TO COORDINATION UNDER SECTION II OF ARTICLE 9 AND/OR NOTIFICATION OF THOSE SATELLITE NETWORKS OR SYSTEMS** |  | | | | | | | | | **A.25** |  |
| A.25.a | Maximum aggregate e.i.r.p. in a 1 MHz reference bandwidth of associated non-GSO earth stations operating co-frequency of a single non-GSO constellation/configuration towards any point within the geostationary arc |  |  | X |  | + |  |  |  |  | A.25.a |  |
| A.25.b | Maximum aggregate pfd in a 1 MHz reference bandwidth caused by all non-GSO space stations operating co-frequency towards the same location in a filing/configuration at any point of the Earth’s surface within the visibility area of the GSO |  |  | X |  | + |  |  |  |  | A.25.b |  |
| A.25.c | For the exclusion zone about the geostationary-satellite orbit, the type of zone (based on topocentric angle or satellite-based angle for establishing the exclusion zone) |  |  | X |  | + |  |  |  |  | A.25.c |  |
| A.25.d | For the exclusion zone about the geostationary-satellite orbit, if the zone is based on a topocentric angle or a satellite-based angle, the width of the zone, in degrees |  |  | X |  | + |  |  |  |  | A.25.d |  |

**Reasons:** Radio Regulations Appendix **4** Item A.25 is applicable only to the frequency bands 7 250-7 750 MHz (space-to-Earth), 7 900-8 025 MHz (Earth-to-space), 20.2-21.2 GHz (space-to-Earth) and 30-31 GHz (Earth-to-space) and only for the advance publication of a non-geostationary-satellite network or system not subject to coordination under Section II of RR Article **9** and/or notification of those satellite networks or systems. The proposed parameters are intended to support the bilateral efforts of administrations to resolve difficulties. They are not used for any examination by the Bureau. It will allow for GSO MSS operators to conduct reliable interference assessment into their networks using information directly from the BR IFIC publication without having to contact the notifying administration of the non-geostationary satellite network or system.

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