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| **World Radiocommunication Conference (WRC-19)Sharm el-Sheikh, Egypt, 28 October – 22 November 2019** |  |
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|  | CPG(18)073 ANNEX V-06 |
| PLENARY MEETING | **Addendum 6 toDocument XXX-E** |
|  | **Date** |
|  | **Original: English** |
|  |
| European Common Proposals |
| Proposals for the work of the conference |
| Agenda item 1.6 |

1.6 to consider the development of a regulatory framework for non-GSO FSS satellite systems that may operate in the frequency bands 37.5-39.5 GHz (space-to-Earth), 39.5-42.5 GHz (space-to-Earth), 47.2-50.2 GHz (Earth-to-space) and 50.4-51.4 GHz (Earth-to-space), in accordance with Resolution **159 (WRC-15)**;

# Introduction

Studies in CEPT reviewed technical, operational issues and regulatory provisions for non-geostationary fixed-satellite service systems in the 50/40 GHz frequency range.

CEPT studies have shown that in the 50/40 GHz frequency bands propagation impairments can substantially affect FSS satellite links. To account for the differences in propagation from lower frequency bands, a new ITU-R Recommendation on sharing criteria for FSS systems in the 50/40 GHz frequency bands is being developed in parallel with the studies associated with this agenda item. This proposed new Recommendation aims to establish appropriate protection criteria and maximum permissible levels of interference for emissions between FSS networks operating co-frequency in the 50/40 GHz frequency bands.

Multiple sharing studies have been conducted on sharing between non-GSO and GSO FSS networks. The results of these studies showed that it is possible to achieve compatibility in the 50/40 GHz band by FSS systems that would allow non-GSO systems to operate while ensuring protection to GSO satellite networks in the FSS, MSS, and BSS.

CEPT studies of compatibility between non-GSO FSS systems and EESS (passive) have shown that the limits currently in Resolution **750 (WRC-15)** are not sufficient for the protection of EESS (passive) in the adjacent band 50.2-50.4 GHz. These studies show that an unwanted emission limit of [-61.9] dBW/200 MHz for non-GSO FSS user equipment and [-63] dBW/200 MHz for gateways would be required to meet the EESS (passive) protection criteria in Recommendation ITU-R RS.2017, taking into account an apportionment of 3 dB.

Based on the sharing studies results CEPT proposes a method to satisfy this agenda item which includes the following modifications to the Radio Regulations:

* Include a new footnote No. **5.A16** in order to address the coordination between non-GSO FSS systems under RR No. **9.12** of the subject frequency bands;
* Add a new footnote in the frequency band 39.5-40.5 GHz in all Regions to address the coordination between MSS and non-GSO FSS systems under RR No. **9.11A**;
* Use the new Recommendation ITU-R S. [50/40 GHz Sharing Methodology] to calculate the maximum permissible levels of interference from non-GSO satellite systems;
* Modify RR Article 22 to include single-entry allowable unavailability limits of 3% along with aggregate unavailability limits for multiple non-GSO FSS systems of 10% given in Recommendation ITU-R S.[50/40 GHz FSS Sharing Methodology], to protect GSO networks in these bands;
* Modify RR Article 22 to include limits for the maximum decrease in capacity (expressed as throughput or spectral efficiency) originated by any non-GSO system to GSO networks implementing ACM in these bands; in addition, aggregate limits to account for the effect of multiple non-GSO systems on the decrease in spectral efficiency of GSO networks using ACM should also be established;
* Develop a new Resolution to verify compliance with the aggregate interference levels to ensure protection of GSO FSS satellite networks from non-GSO FSS systems operating in the 50/40 GHz frequency bands;
* Develop a new Recommendation for GSO Reference Links, which will be used as the basis for the calculation of the single-entry and aggregate limits;
* Modify Resolution **750 (Rev.WRC-15)** to include unwanted emission power limits in order to protect EESS systems from non-GSO FSS systems.

Proposal

ARTICLE 5

Frequency allocations

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

MOD EUR/XXXA6/1

34.2-40 GHz

|  |
| --- |
| Allocation to services |
| Region 1 | Region 2 | Region 3 |
| 37.5-38 FIXED FIXED-SATELLITE (space-to-Earth) ADD 5.A16 MOBILE except aeronautical mobile SPACE RESEARCH (space-to-Earth) Earth exploration-satellite (space-to-Earth) 5.547 |
| 38-39.5 FIXED FIXED-SATELLITE (space-to-Earth) ADD 5.A16 MOBILE Earth exploration-satellite (space-to-Earth) 5.547 |
| 39.5-40 FIXED FIXED-SATELLITE (space-to-Earth) 5.516B ADD 5.A16 MOBILE MOBILE-SATELLITE (space-to-Earth) Earth exploration-satellite (space-to-Earth) 5.547 ADD 5.B16 |

**Reasons:** Add a new footnote 5.A16 to address the coordination between non-GSO FSS systems under RR No. **9.12.** Add a new footnote 5.B16 in the frequency band 39.5-40.5 GHz in all Regions to address the coordination between MSS and non-GSO FSS systems under RR No. **9.11A**.

MOD EUR/XXXXA6/2

40-47.5 GHz

|  |
| --- |
| Allocation to services |
| Region 1 | Region 2 | Region 3 |
| 40-40.5 EARTH EXPLORATION-SATELLITE (Earth-to-space) FIXED FIXED-SATELLITE (space-to-Earth) 5.516B ADD 5.A16 MOBILE MOBILE-SATELLITE (space-to-Earth) SPACE RESEARCH (Earth-to-space) Earth exploration-satellite (space-to-Earth)  ADD 5.B16 |
| 40.5-41FIXEDFIXED-SATELLITE (space-to-Earth) ADD 5.A16BROADCASTINGBROADCASTING-SATELLITEMobile5.547 | 40.5-41FIXEDFIXED-SATELLITE (space-to-Earth) 5.516B ADD 5.A16BROADCASTINGBROADCASTING-SATELLITEMobileMobile-satellite (space-to-Earth)5.547 | 40.5-41FIXEDFIXED-SATELLITE (space-to-Earth) ADD 5.A16BROADCASTINGBROADCASTING-SATELLITEMobile5.547 |
| 41-42.5 FIXED FIXED-SATELLITE (space-to-Earth) 5.516B ADD 5.A16 BROADCASTING BROADCASTING-SATELLITE Mobile 5.547 5.551F 5.551H 5.551I |
| 42.5-43.5 FIXED FIXED-SATELLITE (Earth-to-space) 5.552 MOBILE except aeronautical mobile RADIO ASTRONOMY 5.149 5.547 |
| 43.5-47 MOBILE 5.553 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.554 |
| 47-47.2 AMATEUR AMATEUR-SATELLITE |
| 47.2-47.5 FIXED FIXED-SATELLITE (Earth-to-space) 5.552 ADD 5.A16 MOBILE 5.552A |

**Reasons:** Add a new footnote 5.A16 to address the coordination between non-GSO FSS systems under RR No. **9.12.** Add a new footnote 5.B16 in the frequency band 39.5-40.5 GHz in all Regions to address the coordination between MSS and non-GSO FSS systems under RR No. **9.11A**.

MOD EUR/XXXXA6/3

47.5-51.4 GHz

|  |
| --- |
| Allocation to services |
| Region 1 | Region 2 | Region 3 |
| 47.5-47.9FIXEDFIXED-SATELLITE(Earth-to-space) 5.552 ADD 5.A16(space-to-Earth) 5.516B 5.554AMOBILE | 47.5-47.9 FIXED FIXED-SATELLITE (Earth-to-space) 5.552 ADD 5.A16 MOBILE |
| 47.9-48.2 FIXED FIXED-SATELLITE (Earth-to-space) 5.552 ADD 5.A16 MOBILE 5.552A |
| 48.2-48.54FIXEDFIXED-SATELLITE(Earth-to-space) 5.552 ADD 5.A16(space-to-Earth) 5.516B5.554A 5.555BMOBILE | 48.2-50.2 FIXED FIXED-SATELLITE (Earth-to-space) 5.516B 5.338A 5.552 ADD 5.A16 MOBILE |
| 48.54-49.44FIXEDFIXED-SATELLITE(Earth-to-space) 5.552 ADD 5.A16MOBILE5.149 5.340 5.555 |  |
| 49.44-50.2FIXEDFIXED-SATELLITE(Earth-to-space) 5.338A 5.552 ADD 5.A16(space-to-Earth) 5.516B5.554A 5.555BMOBILE |  5.149 5.340 5.555 |
| 50.2-50.4 EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive) 5.340 |
| 50.4-51.4 FIXED FIXED-SATELLITE (Earth-to-space) 5.338A ADD 5.A16 MOBILE Mobile-satellite (Earth-to-space) |

**Reasons:** Add a new footnote 5.A16 to address the coordination between non-GSO FSS systems under RR No. **9.12.**

ADD EUR/XXXA6/4

5.A16 The use of the frequency bands 37.5-39.5 GHz (space-to-Earth), 39.5-42.5 GHz (space‑to‑Earth), 47.2-50.2 GHz (Earth-to-space) and 50.4-51.4 GHz (Earth-to-space) by a non‑geostationary‑satellite system in the Fixed Satellite Service is subject to the application of the provisions of No. **9.12** for coordination with other non-geostationary satellite systems in the Fixed Satellite Service, but not with non-geostationary satellite systems in other services. Draft new **[EUR-A16-AGG.SHARING] (WRC-19)** shall also apply, and No. **22.2** shall continue to apply.     (WRC-19)

**Reasons:** Add RR footnote No. 5.A16 to include the subject frequency bands in order to address the coordination between non-GSO FSS systems under No. **9.12**.

*Editorial note: Proposal A6/3 is now incorporated in proposal A6/1*

*Editorial note: Proposal A6/4 is now incorporated in proposal A6/2*

ADD EUR/XXXA6/5

5.B16 The use of the frequency bands 39.5-40 and 40-40.5 GHz by the mobile-satellite service (space-to-Earth) and non‑geostationary-satellite systems in the Fixed Satellite Service (space-to-Earth) is subject to coordination under No. **9.11A**, but not with non-geostationary satellite systems in other services.(WRC-19)

**Reasons:** Resolution **159 (WRC-15)** resolves to conduct studies of regulatory provisions for the operation of non-GSO FSS satellite systems, while ensuring protection of GSO satellite networks in the FSS, MSS and BSS. The protection of GSO satellite networks in the FSS and BSS is provided by applying the limitations of Article **22** of the RR. In order to cover MSS case it is proposed to address the coordination between MSS and non-GSO FSS systems under No. **9.11A**.

ARTICLE 22

Space services1

Section II − Control of interference to geostationary-satellite systems

ADD EUR/XXXXA6/6

Option 1

22.5L 9) A non-geostationary-satellite system in the fixed-satellite service in the frequency bands 37.5-39.5, 39.5-42.5, 47.2-50.2, and 50.4-51.4 GHz shall not exceed a single-entry permissible allowance of3% of the time allowance for the degradation in terms of C/N specified in the short term and long term performance objectives of reference GSO FSS networks. The calculation procedures given in ITU Recommendation S.[50/40 GHz Sharing Methodology] and the GSO reference links contained in Recommendation ITU-R S.[50/40 GSO FSS Reference Links] shall be used for calculation procedures.

Option 2

22.5L 9) A non-geostationary-satellite system in the fixed-satellite service in the frequency bands 37.5-39.5, 39.5-42.5, 47.2-50.2, and 50.4-51.4 GHz shall not exceed a single-entry permissible allowance of3% of the time allowance for the degradation in terms of C/N specified in the short term and long term performance objectives of reference GSO FSS networks .The calculation procedures given in Recommendation ITU-R S.[50/40 GSO FSS Sharing Methodology], including any applicable references to calculations using existing ITU-R Recommendations, such as Recommendations ITU-R S.1503 for the calculations of interference statistics and ITU-R P.618 for the calculation of rain fade statistics, and the GSO reference links contained in Recommendation S.[50/40 GHz Sharing Methodology] shall be used for the calculation procedures.

**Reasons:** Use the new Recommendation ITU-R S. [50/40 GHz Sharing Methodology] to calculate the maximum permissible level of interference from non-GSO satellite systems based on the probability density function issued from Recommendation ITU-R S.1503.

ADD EUR/XXXA6/7

22.5M 10) Administrations operating or planning to operate non-geostationary-satellite systems in the fixed-satellite service in the frequency bands 37.5-39.5, 39.5-42.5, 47.2-50.2, and 50.4-51.4 GHz shall apply the provisions of Resolution **[EUR-A16-AGG.SHARING] (WRC-19)** to ensure that the aggregate interference into geostationary fixed and broadcasting satellite service networks caused by all non-geostationary fixed satellite service systems operating co-frequency in these frequency bands should not exceed 10% of the time allowance for the degradation in terms of C/N specified in the short term and long term performance objectives of the geostationary reference links listed in Recommendation ITU-R S. [50/40 GHz GSO FSS Reference Links. (WRC-19)

**Reasons:** Modify RR Article **22** to include single-entry allowable unavailability limits along with aggregate unavailability limits for multiple non-GSO FSS systems of [10%] given in Recommendation ITU-R S.[50/40 GHz FSS Sharing Methodology], to protect GSO networks in these bands.

ARTICLE 9

Procedure for effecting coordination with or obtaining agreement of other administrations1, 2, 3, 4, 5, 6, 7, 8, 9    (WRC‑19)

Section II − Procedure for effecting coordination12, 13

Sub-Section IIA − Requirement and request for coordination

MOD EUR/XXXXA6/8

9.35 *a)* examine that information with respect to its conformity with No. 11.31MOD**19**; (WRC‑2019)

**Reasons:**

MOD EUR/XXXXA6/9

19 9.35.1The Bureau shall include the detailed results of its examination under No. 11.31 of compliance with the limits in Tables **22-1** to **22-3** and the single entry limits in No. **22.5L** of Article **22** in the publication under No. **9.38**.     (WRC‑2019)

**Reasons:** Resolution **159 (WRC-15)** resolves to conduct studies of regulatory provisions for the operation of non-GSO FSS satellite systems, while ensuring protection of GSO satellite networks in the FSS, MSS and BSS. In order to cover FSS and BSS cases it is proposed to address this issue by Bureau examination of NGSO filings on the criteria presented in in **22.5L**.

ADD EUR/XXXA6/10

Draft New Resolution [EUR-A16-AGG.SHARING]

Protection of geostationary fixed-satellite service and broadcasting satellite-service networks from the aggregate equivalent power flux-density produced by non-geostationary fixed-satellite service networks and systems in the
37.5-39.5 GHz (space-to-Earth), 39.5‑42.5 GHz (space‑to‑Earth), 47.2-50.2 GHz (Earth-to-space) and 50.4-51.4 GHz (Earth-to-space) frequency bands

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

considering

*a)* that the frequency bands 37.5-39.5 GHz (space-to-Earth), 39.5-42.5 GHz (space-to-Earth), 47.2-50.2 GHz (Earth-to-space), and 50.4-51.4 GHz (Earth-to-space) are allocated, *inter alia*, on a primary basis to the fixed-satellite service (FSS) in all Regions;

*b)* that Article **22** contains regulatory and technical provisions on sharing between GSO and non-GSO FSS systems in these bands in *considering a)*;

*c)* that, in accordance with No. **22.2**, non-GSO systems shall not cause unacceptable interference to GSO FSS and broadcasting-satellite service (BSS) networks and, unless otherwise specified in the Radio Regulations, shall not claim protection from GSO FSS and BSS satellite networks;

*d*) that non-GSO FSS systems would benefit from the certainty that would result from the quantification of regulatory measures required to protect GSO FSS and BSS satellite networks under No. **22.2**;

*e)* that the Radio Regulations should enable the introduction of new applications of radiocommunication technology to ensure the operation of as many systems as possible in order to ensure efficient use of spectrum;

*f)* that GSO FSS systems can be protected without placing undue constraints on non-GSO FSS systems in the bands in *considering a)*;

*g)* that single-entry and aggregate limits for the protection of GSO networks from non-geostationary FSS satellite systems are contained in Recommendation ITU-R S.[50/40 GHz sharing];

*h)* that this conference modified Article **22** to include single-entry and aggregate permissible time allowances for degradation in terms of C/N of GSO networks in the bands in *considering a)*

*i)* that, the aggregate epfd levels from multiple non‑geostationary FSS systems will be directly related to the actual number of systems sharing a frequency band based on the single-entry operational use of each system;

*j)* that the aggregate interference caused by all co-frequency non-GSO FSS systems into these bands into GSO FSS networks should not exceed the aggregate limits given in Recommendation ITU-R S.[50/40 GHz FSS Sharing Methodology] *recommends* 3;

recognizing

*a)* that non-geostationary FSS systems are likely to need to implement interference mitigation techniques, such as orbital angle avoidance, Earth station site diversity, and GSO arc avoidance to mutually share frequencies and to protect GSO FSS networks;

noting

*a)* that Recommendation ITU‑R S.[50/40 GHz FSS sharing] contains the methodology for determining conformity to the single-entry and aggregate limits to protect the GSO networks;

*b)* that Recommendation ITU-R S.1503 provides recommendations on how to compute the epfd from a non-GSO system into victim earth stations and satellites;

*c)* that administrations may use their own software in conjunction with any approved ITU‑R software tools for the calculation and verification of the aggregate limits given in Recommendation ITU-R S.[ 50/40 GHz FSS SHARING METHODOLOGY], noting that the aggregation of all systems can be performed from these results without a specialized software tool. They are invited to provide the Radiocommunication Bureau and all participants to the Consultation meetings with access to their software;

*d)* that Recommendation ITU‑R S.[50/40 GHz GSO FSS Reference Links] contains satellite system characteristics to be considered in frequency sharing analyses within the fixed-satellite service in the frequency bands 37.5-39.5 GHz, 39.5-42.5 GHz, 47.2-50.2 GHz and 50.4-51.4 GHz

resolves

1 that administrations operating or planning to operate non‑geostationary FSS systems in the frequency bands referred to in *considering a)* above, shall, in collaboration, take all necessary steps, including, if necessary, by means of appropriate modifications to their systems or networks, to ensure that the aggregate interference into geostationary FSS and BSS satellite networks caused by such systems operating co-frequency in these frequency bands does not exceed the aggregate protection limits as determined pursuant to No. **22.5M** of the Radio Regulations ;

2 that to carry the obligations in *resolves*1 above, administrations operating or planning to operate non-geostationary FSS systems shall agree cooperatively through regular consultation discussions to ensure that operations of all non-GSO networks do not exceed the aggregate level of protection for geostationary satellite networks;

3 that to carry out the calculation of *resolves 2,* administrations shall use the GSO reference links listed in Recommendation ITU‑R S.[50/40 GHz FSS Reference Links] when applying the methodology contained in Recommendation ITU-R S.[50/40 GHz sharing methodology] and the epfd results calculated by a epfd validation, if necessary;

4 that administrations, in carrying out their obligations under *resolves*1, shall take into account only those non-geostationary FSS systems with frequency assignments in the frequency bands referred to in *considering a)* above that have met the criteria listed in Annex 2 to this Resolution through appropriate information provided to consultation discussions referred to in *resolves* 2;

5 that administrations, in developing agreements to carry out their obligations under *resolves*1, shall establish mechanisms to ensure that all potential non-geostationary FSS systems and network notifying administrations and operators are given full visibility and the opportunity to participate in the process;

6 that in the absence of an agreement reached at consultation discussions referred to in *resolves* 2, each non-geostationary FSS system shall be operated in accordance with single entry limits calculated by the apportionment of the aggregate levels commensurate to the number of non-GSO systems operating so as to assure equitable sharing of the aggregate limit among all non-GSO systems in operation;

7 that the administrations participating at the consultation discussion referred to in *resolves 2* shall designate one convener to be responsible for communicating to the Radiocommunication Bureau, such as shown in Annex 1 that the results of the aggregate non-GSO system operational calculation and sharing determinations made in application of *resolves*1 above, without regard to whether such determinations result in any modifications to the published characteristics of their respective systems, providing a draft record of each Consultation meeting, and posting the approved record;

instructs the Radiocommunication Bureau

1 to observe the results of the aggregate epfd calculation performed according to *resolves*1;

2 to publish in the International Frequency Information Circular (BR IFIC), the information referred to in *resolves*7.

ANNEX 1 TO RESOLUTION [EUR-A16-AGG.SHARING] (WRC-19)

Format of the result of the aggregate epfd calculation to be provided to BR for
publication for information

I GSO FSS, GSO BSS and Non-GSO system characteristics to be used in the calculation of aggregate emissions from non-GSO FSS systems

I-1 GSO FSS and GSO BSS Characteristics

Recommendation ITU-R S.[50/40 REFERENCE LINKS]

I-2 Non-GSO satellite system constellation parameters

For each non GSO satellite system, the following parameters should be provided to BR for publication in the aggregate calculation:

– System administration;

– Number of space stations used in aggregate calculation;

– Single entry use of each non-GSO FSS systems.

ANNEX 2 TO RESOLUTION [EUR-A16-AGG.SHARING] (WRC-19)

**List of criteria for the application of *resolves* 3**

1 Submission of appropriate Advance Publication Information.

2 Entry into satellite manufacturing or procurement agreement, and entry into satellite launch agreement.

The non-geostationary FSS system operator should possess:

i) evidence of a binding agreement for the manufacture or procurement of its satellites; and

ii) evidence of a binding agreement to launch its satellites.

The manufacturing or procurement agreement should identify the contract milestones leading to the completion of manufacture or procurement of satellites required for the service provision, and the launch agreement should identify the launch date, launch site and launch service provider. The notifying administration is responsible for authenticating the evidence of agreement.

The information required under this criterion may be submitted in the form of a written commitment by the responsible administration.

3 As an alternative to satellite manufacturing or procurement and launch agreements, evidence of guaranteedfunding arrangements for the implementation of the project would be accepted. The notifying administration is responsible for authenticating the evidence of these arrangements and for providing such evidence to other interested administrations in furtherance of its obligations under this Resolution.

**Reasons:** Modify Article **22** to include a single-entry and aggregate interference limits, in order to protect GSO satellite networks from non-GSO FSS systems operating in the subject frequency bands and develop a new Resolution providing the procedure to ensure aggregate limits will not be exceeded.

MOD EUR/XXXA6/11

RESOLUTION 750 (Rev.WRC‑19)

Compatibility between the Earth exploration-satellite service (passive) and relevant active services

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

…

TABLE 1-1

|  |  |  |  |
| --- | --- | --- | --- |
| EESS (passive) band | Activeservice band | Active service | Limits of unwanted emission power fromactive service stations in a specified bandwidthwithin the EESS (passive) band1 |
| … | … | … | … |
| 50.2-50.4 GHz | 49.7-50.2 GHz | Fixed-satellite (E‑to‑s)4 | For GSO stations brought into use after the date of entry into force of the Final Acts of WRC‑07 and non-GSO stations brought into use after the date of entry into force of the Final Acts of WRC‑07 and before the date of entry into force of the Final Acts of WRC‑19:−10 dBW into the 200 MHz of the EESS (passive) band for earth stations having an antenna gain greater than or equal to 57 dBi−20 dBW into the 200 MHz of the EESS (passive) band for earth stations having an antenna gain less than 57 dBi |
| 50.2-50.4 GHz | 49.7-50.2 GHz | Fixed-satellite non-GSO (E‑to‑s)4 | For stations brought into use after the date of entry into force of the Final Acts of WRC‑19:[-63] dBW into the 200 MHz of the EESS (passive) band |
| 50.2-50.4 GHz | 50.4-50.9 GHz | Fixed-satellite (E‑to‑s)4 | For GSO stations brought into use after the date of entry into force of the Final Acts of WRC‑07 and non-GSO stations brought into use after the date of entry into force of the Final Acts of WRC‑07 and before the date of entry into force of the Final Acts of WRC‑19:−10 dBW into the 200 MHz of the EESS (passive) band for earth stations having an antenna gain greater than or equal to 57 dBi−20 dBW into the 200 MHz of the EESS (passive) band for earth stations having an antenna gain less than 57 dBi |
| 50.2-50.4 GHz | 50.4-50.9 GHz | Fixed-satellite non-GSO (E‑to‑s)4 | For stations brought into use after the date of entry into force of the Final Acts of WRC‑19:[-63] dBW into the 200 MHz of the EESS (passive) band |
| 52.6-54.25 GHz | 51.4-52.6 GHz | Fixed | For stations brought into use after the date of entry into force of the Final Acts of WRC‑07:−33 dBW in any 100 MHz of the EESS (passive) band |
| 1 The unwanted emission power level is to be understood here as the level measured at the antenna port.2 This limit does not apply to mobile stations in the IMT systems for which the notification information has been received by the Radiocommunication Bureau by 28 November 2015. For those systems, −60 dBW/27 MHz applies as the recommended value.3 The unwanted emission power level is to be understood here as the level measured with the mobile station transmitting at an average output power of 15 dBm.4 The limits apply under clear-sky conditions. During fading conditions, the limits may be exceeded by earth stations when using uplink power control. |

…

**Reasons:** To add unwanted emission power limits in the Earth-to-space direction in order to protect EESS (passive) in the band 50.2‑50.4 GHz from non-GSO FSS systems operating in the adjacent frequency bands 49.7-50.2 GHz and 51.4-52.6 GHz.

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