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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 7 toDocument 44(Add.27)-E** |
|  | **13 October 2023** |
|  | **Original: English** |
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| Member States of the Inter-American Telecommunication Commission (CITEL) |
| PROPOSALS FOR THE WORK OF THE CONFERENCE |
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| Agenda item 10 |

10to recommend to the ITU Council items for inclusion in the agenda for the next world radiocommunication conference, and items for the preliminary agenda of future conferences, in accordance with Article 7 of the ITU Convention and Resolution **804 (Rev.WRC‑19)**,

Part 7

Background

Today, non-geostationary-satellite orbit (non-GSO) satellite systems provide a wide range of fixed-satellite services (FSS) to a rapidly growing customer base. Advances in satellite technologies are allowing a variety of new services including innovative broadband, video and mobile services covering all corners of the globe and providing services to places and regions not covered by traditional terrestrial services and that, accordingly, are missing out on the benefits of new and innovative telecommunications services. In addition to adding broadband connectivity, non-GSO FSS systems also support a number of important public interest initiatives including tele-health, tele-education and public protection and disaster relief.

The technological progress in radio communication enables the satellite industry to offer much more capacity today with much less spectrum. This applies to the FSS whether operating in the geostationary or non-geostationary orbits. The satellite industry takes this development into account by using the most spectrum efficient technologies, including advances in spot-beam technologies and frequency re-use. In addition, for some satellite applications, such as gateways, sharing with other radiocommunication services could be more easily accomplished. However, even with the efficient use of advances in technology, the growing demand for the FSS outstrips the currently available spectrum in the C, Ku, Ka and Q/V bands for this service.

There is growing demand for the FSS, including broadband and data services which in many rural and remote locations are the only ways of receiving these important communication services. Therefore, non-GSO satellite operators are seeking access to additional FSS spectrum to satisfy requirements for existing and new services, including broadband services.

WRC‑19 allocated the band 51.4-52.4 GHz to the FSS (Earth-to-space) but limited its use to geostationary-satellite orbit (GSO) networks, associated gateway earth stations, in accordance with No. **5.555C** of the Radio Regulations. The need for additional FSS spectrum in the frequency range 50 GHz for non-GSO FSS gateway uplinks was established in response to WRC‑19 agenda item 9.1, issue 9.1.9 in Report ITU‑R S.2461. These studies included the need for spectrum for GSO and non-GSO FSS networks. The need for spectrum for GSO being resolved by WRC‑19. The need for additional spectrum for non-GSO systems remains unresolved, despite the findings of Report ITU‑R S.2461 were successfully addressed by adopting an allocation at WRC‑19 to GSO use of the frequency band 51.4-52.4 GHz.

WRC‑23 agenda item 10 is intended to recommend to the Council items for inclusion in the agenda of the next WRC. In this regard, it is proposed to consider expanding the use of the FSS (Earth-to-space) frequency band 51.4-52.4 GHz to address the spectrum needs of non-GSO FSS satellite systems, taking into account the protection of existent services.

Proposals

ADD IAP/44A27A7/1

Draft New Resolution [AI-10] (WRC-23)

Agenda for the 2027 World Radiocommunication Conference

The World Radiocommunication Conference (Dubai, 2023),

considering

*a)* that, in accordance with No. 118 of the ITU Convention, the general scope of the agenda for a world radiocommunication conference (WRC) should be established four to six years in advance and that a final agenda shall be established by the ITU Council two years before the conference;

*b)* Article 13 of the ITU Constitution relating to the competence and scheduling of WRCs and Article 7 of the Convention relating to their agendas;

*c)* the relevant resolutions and recommendations of previous world administrative radio conferences (WARCs) and WRCs,

recognizing

*a)* that this conference has identified a number of urgent issues requiring further examination by WRC‑27;

*b)* that, in preparing this agenda, some items proposed by administrations could not be included and have had to be deferred to future conference agendas,

resolves

to recommend to the Council that a WRC be held in 2027 for a maximum period of four weeks, with the following agenda:

1 on the basis of proposals from administrations, taking account of the results of WRC‑23 and the Report of the Conference Preparatory Meeting, and with due regard to the requirements of existing and future services in the frequency bands under consideration, to consider and take appropriate action in respect of the following items:

…

1.xx to consider the use of the frequency band 51.4-52.4 GHz by gateway earth stations transmitting to non-geostationary-satellite orbit systems operating in the fixed-satellite service (FSS) (Earth-to-space) in accordance with Resolution **[AI-10-51.4-52.4 NON-GSO FSS] (WRC‑23)**;

…

invites the ITU Council

to finalize the agenda and arrange for the convening of WRC‑27, and to initiate as soon as possible the necessary consultations with Member States,

*instructs the Director of the Radiocommunication Bureau*

1 to make the necessary arrangements to convene meetings of the Conference Preparatory Meeting (CPM) and to prepare a report to WRC‑27;

2 to submit a draft Report on any difficulties or inconsistencies encountered in the application of the Radio Regulations referred in agenda item 9.2 to the second session of the CPM and to submit the final Report at least five months before the next WRC,

instructs the Secretary-General

to communicate this Resolution to international and regional organizations concerned.

**Reasons:** To provide for studies in the frequency band 51.4-52.4 GHz for gateway earth stations of non-GSO FSS in the Earth-to-space direction on a primary basis.

ADD IAP/44A27A7/2

Draft New Resolution [AI10 51.4-52.4 Non-GSO FSS] (WRC‑23)

Studies relating to the use of the frequency band 51.4-52.4 GHz by gateway earth stations transmitting to non-geostationary-satellite orbit FSS systems (Earth-to-space)

The World Radiocommunication Conference (Dubai, 2023),

considering

*a)* that satellite systems are increasingly being used to deliver broadband services and can help enable broadband access;

*b)* that next-generation FSS technologies for broadband will increase speeds, with faster rates expected in the near future;

*c)* that technological developments such as advances in spot-beam technologies and frequency reuse are used by the fixed-satellite service (FSS) in spectrum above 30 GHz to increase the efficient use of spectrum,

recognizing

*a)* the need to protect existing services when considering frequency bands for possible additional allocations to any service;

*b)* that the frequency band 51.4-52.4 GHz is allocated to fixed and mobile services, which will need to be protected, and is available for high-density applications in the fixed service as indicated in No. **5.547**;

*c)* that the frequency bands 50.2-50.4 GHz and 52.6-54.25 GHz are allocated to the space research service (passive), which will need to be protected as indicated in No. **5.340**;

*d)* that the frequency band 50.2-50.4 GHz is also allocated to the Earth exploration-satellite service (EESS) (passive) with applicable non-geostationary-satellite orbit (non-GSO) FSS unwanted emission limits provided in Resolution **750 (Rev.WRC‑19)**;

*e)* that Resolution **750 (Rev.WRC‑19)** is applied to the FSS in the frequency band 51.4-52.4 GHz and includes protections studied for geostationary-satellite orbit (GSO) operation;

*f)* that the frequency band 52.6-54.25 GHz is allocated to the EESS (passive), which will need to be protected as indicated in No. **5.340** through a revision of Resolution **750 (Rev.WRC‑19)** to include the non-GSO FSS protection for the frequency band 52.6-54.25 GHz;

*g)* that Report ITU-R S.2461 includes studies on the spectrum needs for additional FSS spectrum in the Earth-to-space direction for both GSO FSS networks and non-GSO FSS systems in the frequency band 51.4-52.4 GHz;

*h)* that WRC‑19, pursuant to Resolution **162 (WRC‑15)**, allocated the frequency band 51.4-52.4 GHz to the FSS (Earth-to-space) on a primary basis, and also adopted No. **5.555C** which limited the use of the FSS allocation to geostationary satellite networks;

*i)* that the need for additional uplink spectrum in the frequency range 50 GHz for non-GSO FSS gateway use continues;

*j)* that No. **5.340** applies to the frequency bands 50.2-50.4 GHz and 52.6-54.25 GHz,

resolves to invite the ITU‑R

to conduct, and complete in time for WRC‑27:

1 sharing and compatibility studies with current and planned stations of existing primary services, including in adjacent bands as appropriate, including protection of fixed and mobile services, to determine the suitability of revising the primary allocation to the FSS in the frequency band 51.4-52.4 GHz to enable use by gateway earth stations of non-GSO FSS systems (Earth-to-space);

2 compatibility studies between non-GSO FSS (Earth-to-space) gateway stations operating in the frequency band 51.4-52.4 GHz and the EESS (passive) and SRS (passive) systems operating in the frequency band 52.6-54.25 GHz;

3 studies regarding the protection of GSO FSS networks and associated gateway earth stations from the emissions of non-GSO FSS systems and associated gateways,

instructs the Director of the Radiocommunication Bureau

to report on the results of the ITU‑R studies to WRC‑27,

invites administrations

to participate actively in these studies by submitting contributions to ITU‑R.

**Reasons:** To conduct studies on the possibility of revising the allocation to the FSS (Earth-to-space) in the frequency band 51.4-52.4 GHz and associated regulatory provisions to enable use by non-GSO FSS gateway stations on a primary basis.

SUP IAP/44A27A7/3

RESOLUTION 812 (WRC-19)

Preliminary agenda for the 2027 World Radiocommunication Conference[[1]](#footnote-2)\*

**Reasons:** This Resolution must be suppressed, as WRC-23 will create a new Resolution that will specify the agenda for WRC-27.

ATTACHMENT

Proposal for an additional agenda item to consider expanding the use of the FSS (Earth-to-space) FSS allocation in the frequency band 51.4-52.4 GHz to address the spectrum needs of non-GSO systems for gateway earth station Earth-to-space links

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| **Subject:** Proposed a future WRC‑27 agenda item to consider expanding the use of the FSS (Earth-to-space) FSS allocation in the frequency band 51.4-52.4 GHz to address the spectrum needs of non-GSO systems for gateway earth station Earth-to-space links. |
| **Origin:** CITEL |
| ***Proposal*:**to consider the use of the frequency band 51.4-52.4 GHz by gateway earth stations transmitting to non-geostationary-satellite orbit systems operating in the fixed-satellite service (FSS) (Earth-to-space). |
| ***Background/reason*:**WRC‑19 allocated the frequency band 51.4-52.4 GHz to FSS (Earth-to-space) but limited its use to geostationary-satellite orbit (GSO) networks, associated gateway earth stations, in accordance with No. **5.555C** of the Radio Regulations. The need for additional FSS spectrum in the frequency range 50 GHz for non-GSO FSS systems in the Earth-to-space direction was established in response to WRC‑19 agenda item 9.1, issue 9.1.9 in Report ITU-R S.2461. These studies included the need for spectrum for GSO and non-GSO FSS networks, the former being resolved by WRC‑19. The need for additional spectrum for non-GSO systems remains unresolved, despite the findings of Report ITU‑R S.2461.WRC‑23 agenda item 10 of the is intended to recommend to the Council items for inclusion in the agenda of the next WRC. In this regard, it is proposed to consider expanding the use of the FSS (Earth-to-space) allocation in the frequency band 51.4-52.4 GHz to address the spectrum needs of non-GSO systems for gateway earth station Earth-to-space links, with due consideration being given to concerns related to sharing and compatibility with existing services.To expand the availability of FSS gateway uplink spectrum in the frequency range 50 GHz to meet documented requirements of non-GSO FSS systems. |
| ***Radiocommunication services concerned*:**fixed service, fixed-satellite service, mobile service, Earth exploration-satellite service, radio astronomy service |
| ***Indication of possible difficulties*:**None foreseen |
| ***Previous/ongoing studies on the issue*:**Studies on spectrum needs for non-GSO FSS systems in this frequency range were conducted for WRC‑19 and included in Report ITU‑R S.2461; sharing/compatibility studies not including non-GSO FSS systems in this frequency range are included in Report ITU‑R S.2463. |
| ***Studies to be carried out by*:**Working Party 4A, ITU‑R Study Group 4 | ***with the participation of*:** administrations and Sector Members of the ITU‑R  SGs 5 and 7 |
| ***ITU‑R study groups concerned*:**Study Groups 4, 5, 7 |
| ***ITU resource implications, including financial implications (refer to CV126)*:**This proposed agenda item will be studied within the normal ITU‑R procedures and planned budget. Minimal |
| ***Common regional proposal*:** Yes/No | ***Multicountry proposal*:** Yes/No***Number of countries*:** |
| ***Remarks*** |

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1. \* The appearance of square brackets around certain frequency bands in this Resolution is understood to mean that WRC‑23 will consider and review the inclusion of these frequency bands with square brackets and decide, as appropriate. [↑](#footnote-ref-2)