
PLENARY MEETING

**Addendum 11 to
Document 6420(Add.24)-
E
9 September 2019
Original: English**

Member States of the Inter-American Telecommunication Commission (CITEL)
PROPOSALS FOR THE WORK OF THE CONFERENCE

Agenda item 10

{Temporary information note to be deleted before the submission via CPI of this document to the WRC-19 Secretariat: In accordance with Resolution 804 (Rev. WRC-12), Administrations are invited to use the template provided in Annex 2 to that Resolution (TIES-protected) when proposing agenda items for WRCs. This template may be filled out for each of the proposed WRC agenda item and annexed to this document.}

10 to recommend to the Council items for inclusion in the agenda for the next WRC, and to give its views on the preliminary agenda for the subsequent conference and on possible agenda items for future conferences, in accordance with Article 7 of the Convention.

Background information:

The need for broadband services to passengers on aircraft and ships continues to grow with the increasing demand for internet-based applications for the aviation and shipping industry and their passengers. This need can be provided by aeronautical and maritime earth stations in motion (ESIM), communicating with GSO space stations in the Fixed Satellite Service (FSS). The availability of the bands 10.7-10.95 GHz, 11.2-11.45 GHz, and 12.75-13.25 GHz, allocated to the FSS, for the use by aeronautical and maritime ESIM would allow satellite network operators to provide additional capacity for the growing needs in this sector.

The frequency band 12.75-13.25 GHz is allocated on a primary basis to the fixed, fixed-satellite (Earth-to-space)¹, and mobile services, and on a secondary basis to the Space research (deep space) (space-to-Earth) services. The frequency bands 10.7-10.95 GHz (space-to-Earth) and 11.2-11.45

¹ The use of the band 12.75-13.25 GHz (Earth-to-space) by geostationary-satellite systems in the fixed-satellite service is in accordance with the provisions of Appendix **30B** according to No. **5.441**.

GHz (space-to-Earth) are allocated on a primary basis to the fixed, fixed-satellite (space-to-Earth)², and mobile except aeronautical mobile services.

Currently, satellite networks operating in this frequency band can provide services with aeronautical and maritime ESIM only under No. **4.4**, which requires the associated transmissions not to cause harmful interference to, and not to claim protection from harmful interference caused by, a station operating in accordance with the Radio Regulations.

Proposal

Given the growing need for connectivity for aviation and maritime, it is proposed to study the viability of allowing the operation of aeronautical and maritime ESIM communicating with GSO space stations in the FSS in the 10.7-10.95 GHz (space-to-Earth), 11.2-11.45 GHz (space-to-Earth), and 12.75-13.25 GHz (Earth-to-space), frequency bands, with the aim of developing regulatory means and associated conditions for this type of application.

² The use of the bands 10.7-10.95 GHz (space-to-Earth) and 11.2-11.45 GHz (space-to-Earth) by geostationary-satellite systems in the fixed-satellite service is in accordance with the provisions of Appendix **30B** according to No. **5.441**.

ADD IAP/6420A24A11/1

DRAFT NEW RESOLUTION [IAP/10(K)-2023] (WRC-19)

Agenda for the 2023 World Radiocommunication Conference

The World Radiocommunication Conference (Geneva, 2015),

considering

- a) that, in accordance with No. 118 of the ITU Convention, the general scope of the agenda for a world radiocommunication conference should be established four to six years in advance and that a final agenda shall be established by the Council two years before the conference;
- b) Article 13 of the ITU Constitution relating to the competence and scheduling of world radiocommunication conferences and Article 7 of the Convention relating to their agendas;
- c) the relevant resolutions and recommendations of previous world administrative radio conferences (WARCs) and world radiocommunication conferences (WRCs),

resolves

to recommend to the Council that a world radiocommunication conference be held in 2023 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-19 and the Report of the Conference Preparatory Meeting, and with due regard to the requirements of existing and future services in the bands under consideration, to consider and take appropriate action in respect of the following items:

1.[FSS-12.75-13.25 GHz] to consider, on the basis of ITU-R studies in accordance with Resolution **[IAP/10(K)/ESIM-AERO-MAR] (WRC-19)**, appropriate regulatory and technical provisions for the use of the frequency bands 10.7-10.95 GHz (space-to-Earth), 11.2-11.45 GHz (space-to-Earth), and 12.75-13.25 GHz (Earth-to-space), by aeronautical and maritime ESIM communicating with geostationary space stations in the fixed-satellite service;

resolves further

to activate the Conference Preparatory Meeting,

invites the Council

to finalize the agenda and arrange for the convening of WRC-23, and to initiate as soon as possible the necessary consultations with Member States,

instructs the Director of the Radiocommunication Bureau

to make the necessary arrangements to convene meetings of the Conference Preparatory Meeting and to prepare a report to WRC-23,

instructs the Secretary-General

to communicate this Resolution to international and regional organizations concerned.

Reasons: To consider additional uses of the FSS frequency bands 10.7-10.95 GHz, 11.2-11.45 GHz, and 12.75-13.25 GHz to meet growing demand for spectrum for aeronautical and maritime ESIM.

ADD IAP/6420A24A11/2

DRAFT NEW RESOLUTION [IAP/10(K)/ESIM-AERO-MAR] (WRC-19)

Operation of aeronautical and maritime earth stations in motion communicating with geostationary space stations in the fixed-satellite service in the frequency bands 10.7-10.95 GHz (space-to-Earth), 11.2-11.45 GHz (space-to-Earth), and 12.75-13.25 GHz (Earth-to-space)

The World Radiocommunication Conference (Sharm el-Sheik Egypt, 2019),

considering

- a)* that the frequency band 12.75-13.25 GHz is allocated on a primary basis to the fixed, mobile and fixed-satellite (Earth-to-space) services, and on a secondary basis to the space research (deep space) (space-to-Earth) services globally;
- b)* that the frequency bands 10.7-10.95 GHz and 11.2-11.45 GHz are allocated on a primary basis to the fixed, fixed-satellite (space-to-Earth), and mobile except aeronautical mobile services globally;
- c)* that the use of the fixed-satellite service (FSS) in this band is subject to Appendix **30B** and that any actions under this agenda item should not impact the integrity of the Appendix **30B** Plan;
- d)* that in order to meet the growing demand for connectivity on aircraft and vessels, networks operating in this frequency band may already be providing services to earth stations on aircraft and vessels under No. **4.4**;
- e)* that the advances in earth station technology, including the use of tracking techniques, allow aeronautical and maritime earth stations to operate within the transmission envelope established for earth stations in the FSS;
- f)* that the availability of the band 10.7-10.95 GHz (space-to-Earth), 11.2-11.45 GHz (space-to-Earth) and 12.75-13.25 GHz (Earth-to-space) for aeronautical and maritime ESIM will provide administrations with more flexibility to use their allotments in the Appendix **30B** Plan;
- g)* that operations of aeronautical and maritime ESIM should protect stations of allocated services and not constrain their future development;
- h)* that a consistent approach to the use of the 10.7-10.95 GHz (space-to-Earth), 11.2-11.45 GHz (space-to-Earth) and 12.75-13.25 GHz (Earth-to-space) by aeronautical and maritime ESIM under a status other than No. **4.4** can support the growing need for inflight and maritime connectivity globally;
- i)* that aeronautical and maritime ESIM must comply and operate within the envelope of the emission characteristics of the associated earth stations in the GSO satellite network,

recognizing

- a) that the use of the bands 10.7-10.95 GHz (space-to-Earth), 11.2-11.45 GHz (space-to-Earth), and 12.75-13.25 GHz (Earth-to-space) by geostationary-satellite networks in the fixed-satellite service is in accordance with the provisions of Appendix **30B** according to No. **5.441**;
- b) that aeronautical and maritime ESIM in the 10.7-10.95 GHz (space-to-Earth) and 11.2-11.45 GHz (space-to-Earth) frequency bands would be receiving and not transmitting;
- c) that for the bands in *recognizing b)* aeronautical and maritime ESIM should not impose constraints to other allocated services or claim protection from allocated services operating in accordance with the Radio Regulations;
- c) that previous World Radiocommunication Conferences have adopted measures to allow aeronautical and maritime ESIM to communicate with GSO space stations in the FSS in certain frequency allocations under certain technical requirements and associated regulatory provisions;
- d) that these ESIM will not be used or relied upon for safety-of-life applications;
- e) that the use of the band 12.75-13.25 GHz (Earth-to-space) by non-geostationary-satellite systems in the fixed-satellite service shall not claim protection from geostationary-satellite networks operating in accordance with the Radio Regulations,

resolves to invite ITU-R

- 1 to carry out studies on technical and operational characteristics of aeronautical and maritime ESIM that communicate or plan to communicate with GSO space stations within the existing FSS allocation in the frequency bands 10.7-10.95 GHz, 11.2-11.45 GHz, and 12.75-13.25 GHz;
- 2 to study sharing and compatibility between aeronautical and maritime ESIM communicating with GSO space stations in the FSS and current and planned stations of existing services allocated in the 12.75-13.25 GHz frequency band to ensure protection of, and not impose undue constraints on those services;
- 3 to develop technical conditions and regulatory provisions for the operation of aeronautical and maritime ESIM communicating with GSO space stations in the FSS in the frequency bands 10.7-10.95 GHz (space-to-Earth), 11.2-11.45 GHz (space-to-Earth), and 12.75-13.25 GHz (Earth-to-space) taking into account the result of studies as called for in *resolves 1)* and *2)* above and in particular without affecting any provisions of Appendix **30B**;
- 4 to complete studies in time for WRC-23,

Further resolves to invite WRC-23

to consider the results of the above studies in *resolves to invite ITU-R* and take necessary actions, as appropriate,

invites administrations

to participate actively in the studies by submitting contributions to ITU-R.

Reasons:

SUP IAP/6420A24A11/3

RESOLUTION 810 (WRC-15)

Preliminary agenda for the 2023 World Radiocommunication Conference

The World Radiocommunication Conference (Geneva, 2015),

Reasons: This Resolution must be suppressed, as WRC-19 will create a new Resolution that will include the agenda for WRC-23.

ATTACHMENT

Subject: Considering the use of the frequency bands 10.7-10.95 GHz (space-to-Earth), 11.2-11.45 GHz (space-to-Earth), and 12.75-13.25 GHz (Earth-to-space) by aeronautical and maritime ESIM communicating with geostationary space stations in the FSS.

Origin: CITEL

Proposal: *To consider the use of the frequency bands 10.7-10.95 GHz (space-to-Earth), 11.2-11.45 GHz (space-to-Earth), and 12.75-13.25 GHz (Earth-to-space) by aeronautical and maritime ESIM communicating with geostationary space stations in the fixed-satellite service in accordance with Resolution [USA/10/FSS 12.75-13.25 GHZ] (WRC-19).*

Background/reason: According to the provisions of the Radio Regulations, FSS satellite networks operating in the Earth-to-space direction in the 12.75-13.25 GHz frequency band can only provide services to aeronautical and maritime ESIM under No. 4.4. This provision requires the associated transmissions not to cause harmful interference to, and not to claim protection from harmful interference caused by, a station operating according to primary or secondary frequency allocations. Previous WRCs have adopted technical requirements and other associated regulatory provisions to allow aeronautical and maritime ESIM to communicate with GSO space stations in the FSS in certain FSS frequency allocations.

It may therefore be feasible to allow aeronautical and maritime ESIM to communicate with geostationary space stations in the FSS operating in the frequency bands 10.7-10.95 GHz (space-to-Earth), 11.2-11.45 GHz (space-to-Earth), and 12.75-13.25 GHz (Earth-to-space), which would allow the provision of such services with regulatory status rather than No. 4.4.

This additional use will not impact the Appendix 30B allotments/assignments. The earth stations on aircraft and vessels, similar to any other earth station operating in Appendix 30B frequency assignments, are to be operated within the service area and with the characteristics notified for earth stations of the GSO FSS system (i.e. within the interference envelope established for earth stations of the GSO FSS system). Such operation therefore should not cause interference to other allotments/assignments of Appendix 30B.

Radiocommunication services concerned: FSS, FS, MS and SRS (deep space)

Indication of possible difficulties: None foreseen

Previous/ongoing studies on the issue:

Previous WRCs have adopted technical and regulatory provisions that allow earth stations on aircraft to communicate with GSO space stations in the FSS. These decisions were based on studies carried out by the ITU-R.

One of the regional organizations of ITU-R Region 1 has conducted technical studies on introducing earth stations on aircraft in the 12.75-13.25 GHz band.

Studies to be carried out by: SG4

with the participation of: SG5 and SG7

ITU-R Study Groups concerned: SG5 and SG7

ITU resource implications, including financial implications (refer to CV126): Minimal

Common regional proposal: Yes/No

Multicountry proposal: Yes/No

Number of countries:

Remarks