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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 27 to Document 85-E** | |
|  | | **22 October 2023** | |
|  | | **Original: Russian** | |
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| Regional Commonwealth in the field of Communications Common Proposals | | | |
| proposals for the work of the conference | | | |
|  | | | |
| 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)**,

Proposal

The RCC Administrations propose to add the following items to the WRC-27 agenda:

– new secondary allocations to the Earth exploration-satellite service (active) in the frequency bands 3 000-3 100 MHz and 3 300-3 400 MHz;

– possible regulatory and technical methods to ensure fair, equitable access and rational use of orbit resources in non-geostationary orbits and associated radio frequency spectrum;

– identification of frequency bands below 10 GHz for the satellite component of International Mobile Telecommunications (IMT), including possible additional allocations to the mobile-satellite service on a primary basis;

– development of regulatory and technical provisions for obtaining explicit agreement from an administration to the inclusion of its national territory in the service area of a non-GSO FSS satellite system and the emissions level of the non-GSO FSS space station in the direction of its national territory;

– International Mobile Telecommunications identification in the following frequency bands for the future development of IMT for 2030 and beyond:

• 4 400-4 800 MHz

• 10-10.5 GHz

• 14.8-15.35 GHz.

The RCC Administrations propose to add the following item to the WRC-31 agenda:

– IMT identification in the sub-THz frequency bands 102-109.5 GHz, 151.5-164 GHz, 167-174.8 GHz, 209-226 GHz and 252-275 GHz for the future development of IMT.

The RCC Administrations have no objection to the inclusion of items 2.4, 2.5, 2.6, 2.11 and 2.13 under *resolves* of Resolution **812 (WRC-19)** in the WRC-27 agenda, but they do object to the inclusion in the WRC-27 agenda of the items 2.9 and 2.10 under *resolves* of Resolution **812 (WRC‑19)**.

The RCC Administrations have no objection to the inclusion of item 2.2 indicated in Resolution **812 (WRC-19)** in the WRC-27 agenda, provided that modifications are made to Resolution **176 (WRC‑19)**.

The RCC Administrations suggest that the proposed agenda items be considered in accordance with the general principle that sharing should be ensured between existing and future services in the frequency bands under consideration.

The RCC Administrations invite WRC-23 to consider draft new Resolution **[RCC-WRC-27-AGENDA] (WRC-23)** as the framework for the WRC-27 agenda and to suppress existing Resolution **812 (WRC-19)**.

MOD RCC/85A27/1

RESOLUTION 176 (Rev.WRC‑23)

Use of the frequency bands 37.5-39.5 GHz (space-to-Earth), 47.2-50.2 GHz (Earth-to-space) and 50.4-51.4 GHz (Earth-to-space) by aeronautical and maritime earth stations in motion communicating with geostationary space stations in the fixed-satellite service

The World Radiocommunication Conference (Dubai, 2023),

considering

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

*b)* that there is an increasing need for mobile communications, including global broadband satellite services, and that some of this need can be met by allowing aeronautical and maritime earth stations in motion (ESIMs) to communicate with FSS space stations operating in the frequency bands 37.5-40.5 GHz (space-to-Earth), 47.2-50.2 GHz (Earth-to-space) and 50.4-51.4 GHz (Earth-to-space);

*c)* that in the FSS, there are geostationary-satellite (GSO) networks operating and/or planned for near-term operation in the frequency bands allocated to the FSS in the frequency range 37.5‑51.4 GHz;

*d)* that some administrations have already deployed, and plan to expand their use of, ESIMs with operational and future GSO FSS networks;

*e)* that GSO FSS networks in the frequency bands 37.5-39.5 GHz (space-to-Earth), 47.2-50.2 GHz (Earth-to-space) and 50.4-51.4 GHz (Earth-to-space) are required to be coordinated and notified in accordance with the provisions of Articles **9** and **11**;

*f)* that the frequency bands 37.5-39.5 GHz, 47.2-50.2 GHz and 50.4‑51.4 GHz are also allocated to several other services on a primary basis, the allocated services are used by a variety of different systems in many administrations, and these existing services and their future development should be protected without undue constraints;

*g)* the need to encourage the development and implementation of new technologies in the FSS at frequencies above 30 GHz,

recognizing

*a)* that Article **21** contains power flux-density (pfd) limits for GSO FSS;

*b)* that advances in technology, including the use of tracking techniques, allow ESIMs to operate within the characteristics of fixed earth stations of the FSS;

*c)* that WRC‑15 adopted No. **5.527A** and Resolution **156 (WRC‑15)** related to ESIMs;

*d)* that ESIMs addressed by this Resolution are not to be used for safety-of-life applications;

*e)* that the frequency bands 47.5-47.9 GHz (space-to-Earth) in Region 1, 48.2-48.54 GHz (space-to-Earth) in Region 1, 49.44-50.2 GHz (space-to-Earth) in Region 1 and 48.2-50.2 GHz (Earth-to-space) in Region 2 are identified for use by high-density applications in the FSS (No. **5.516B**);

*f)* that the frequency band 37-40 GHz is available for high-density applications in the fixed service (No. **5.547**);

*g)*that the allocation to the fixed service in the frequency bands 47.2-47.5 GHz and 47.9‑48.2 GHz is designated for use by high-altitude platform stations, and the use of the frequency bands 47.2-47.5 GHz and 47.9‑48.2 GHz is subject to the provisions of Resolution **122 (Rev.WRC‑19)** (No. **5.552A**);

*h)*that the use of the frequency bands 47.5-47.9 GHz, 48.2-48.54 GHz and 49.44-50.2 GHz by the FSS (space-to-Earth) is limited to GSO satellites (No. **5.554A**);

*i)*that the pfd in the frequency band 48.94-49.04 GHz produced by any GSO space station in the FSS (space-to-Earth) operating in the frequency bands 48.2-48.54 GHz and 49.44-50.2 GHz shall not exceed −151.8 dB(W/m2) in any 500 kHz band at the site of any radio astronomy station (No. **5.555B**);

*j)*that, in the frequency bands 49.7-50.2 GHz, 50.4-50.9 GHz and 51.4-52.6 GHz, Resolution **750** **(Rev.WRC‑19)** applies, and Nos. **5.338A**, **5.340** and**5.340.1** apply among other provisions of the Radio Regulations;

*k)* that the fixed and mobile services are allocated on a primary basis in the frequency bands 37.5-42.5 GHz and 47.2-50.2 GHz on a global basis;

*l)* that the frequency band 37.5-38 GHz is allocated to the space research service (SRS) (deep space) in the space-to-Earth direction on a primary basis;

*m)* that the frequency bands 37.5-40.5 GHz and 38-39.5 GHz are also allocated to the EESS in the space-to-Earth direction on a secondary basis;

*n)* that the frequency band 50.2-50.4 GHz is allocated on a primary basis to the EESS (passive) and SRS (passive), which need to be adequately protected;

*o)* that all allocated services in these frequency bands should be taken into account,

resolves to invite the ITU Radiocommunication Sector

1 to study the technical and operational characteristics of aeronautical and maritime ESIMs that plan to operate within GSO FSS allocations in the frequency bands 37.5-39.5 GHz, 47.2-50.2 GHz and 50.4‑51.4 GHz;

2 to study sharing and compatibility between aeronautical and maritime ESIMs operating with GSO FSS networks in the frequency bands 37.5-39.5 GHz, 47.2‑50.2 GHz[[1]](#footnote-1)\* and 50.4-51.4 GHz\* and current and planned stations of existing services allocated in these frequency bands and, where appropriate, in adjacent frequency bands, in order to ensure protection of, and not impose undue constraints on, those services;

3 to develop, for different types of ESIM, technical conditions and regulatory provisions for their operation, taking into account the results of the studies above,

invites the 2027 World Radiocommunication Conference

to consider the results of the above studies and take necessary actions, as appropriate, provided that the results of the studies referred to in *resolves to invite the ITU Radiocommunication Sector* are complete and agreed by the radiocommunication study groups.

**Reasons:** It is not appropriate to consider the frequency band 40.5-42.5 GHz under this preliminary item.

ADD RCC/85A27/2

Draft New Resolution [RCC-SAT-IMT] (WRC‑23)

Studies to identify frequency bands below 10 GHz for the satellite component of International Mobile Telecommunications, including possible additional allocations to the mobile-satellite service on a primary basis

The World Radiocommunication Conference (Dubai, 2023)

considering

*a)* that International Mobile Telecommunications (IMT) systems have evolved significantly in terms of spectrum identification, network deployment and radio access technology, with the standardization of IMT-Advanced and IMT-2020;

*b)* that satellite systems for IMT-2020 networks, designed to operate globally and requiring sufficient bandwidth, are currently being actively developed and deployed in the world;

*c)* that using a satellite component would encourage expanding the operational coverage of IMT services in underserved and unserved areas where reinforcing the terrestrial component is most relevant;

*d)* that using physically heterogeneous components would enhance overall IMT system reliability;

*e)* that studies of new IMT network topologies may provide increased spectrum efficiency for the frequency bands already identified for IMT;

*f)* that Resolutions **212 (Rev.WRC‑19)** and **225 (Rev.WRC‑12)** identified frequency bands for the deployment of IMT satellite systems;

*g)* that, with technological development, the mobile-satellite service (MSS) can be compatible and share with existing services on the same frequencies under specific technical methods and conditions below 10 GHz;

*h)* that, in considering a possible new allocation to MSS in a frequency band below 10 GHz, there is a need to determine the necessary conditions and regulatory provisions for the coexistence of services sharing the band and the appropriate balance between them,

noting

*a)* Recommendation ITU‑R M.2083‑0, onIMT vision – framework and overall objectives of the future development of IMT for 2020 and beyond, which defined the role of the satellite component in providing global IMT network coverage;

*b)* Report ITU‑R M.2514‑0, on vision, requirements and evaluation guidelines for satellite radio interface(s) of IMT-2020, which defined the minimum technical requirements for satellite systems which can be part of the IMT-2020 ecosystem, including bandwidth requirements;

*c)* Recommendation ITU‑R M.1182‑1, which considered the integration of terrestrial and satellite mobile communication systems;

*d)* that previous studies addressed spectrum requirements for the satellite component of IMT – IMT‑2000 and systems beyond IMT-2000 (Report ITU‑R M.2077), and spectrum requirements for new broadband MSS applications in the 4-16 GHz frequency range (Reports ITU‑R M.2218 and ITU‑R M.2221),

recognizing

*a)* that satellite systems for IMT-2020 networks, designed to operate globally and requiring sufficient bandwidth, are currently being actively developed and deployed in the world;

*b)* that, for the deployment of IMT satellite systems, the most attractive systems are those operating in a non-geostationary orbit, for which there are no coordination methods, except segmentation of the notified/used spectrum;

*c)* that the limited amount of spectrum identified for IMT satellite system deployment could result in the available orbital and frequency resource being taken up by a limited number of satellite operators,

resolves to invite the 2027 World Radiocommunication Conference

to consider, based on the results of ITU Radiocommunication Sector (ITU‑R) studies, the possibility of identifying frequency bands below 10 GHz for the IMT satellite component, including possible additional allocations to the mobile-satellite service on a primary basis,

invites the ITU Radiocommunication Sector

to conduct sharing and compatibility studies, in time for consideration by WRC-27, for the IMT satellite component between the mobile-satellite service and other services with primary allocations in frequency bands below 10 GHz,

invites administrations

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

**Reasons**: The insufficient spectrum for deployment of IMT satellite systems.

Annex

Proposal for an additional agenda item on identifying frequency bands below 10 GHz for the satellite component of International Mobile Telecommunications

**Subject:** Proposal of a new WRC-27 agenda item

**Origin:** RCC

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| **Proposal:**  To consider identification of frequency bands below 10 GHz for the satellite component of International Mobile Telecommunications (IMT) | |
| ***Background/reason*:**  The insufficient spectrum for deployment of IMT satellite systems | |
| ***Radiocommunication services concerned*:**  Mobile-satellite and mobile services | |
| ***Indication of possible difficulties*:**  *−* | |
| ***Previous/ongoing studies on the issue*:**  Report ITU-R M.2514 defines requirements for the satellite component of IMT-2020, including bandwidth | |
| ***Studies to be carried out by*:**  Study Group 4 | ***with the participation of***: |
| ***ITU‑R Study Groups concerned*:**  Study Group 5 | |
| ***ITU resource implications, including financial implications (refer to CV126)*:**  None, everything will be carried out within framework of current Study Groups and their Working Parties. | |
| ***Common regional proposal*:** Yes | ***Multicountry proposal*:** No  ***Number of countries*:** |
| ***Remarks*** | |

ADD RCC/85A27/3

Draft New Resolution [RCC-WRC-27-AGENDA] (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,

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:

1.1 to consider possible new allocations to the Earth exploration‑satellite service (active) in the frequency bands 3 000-3 100 MHz and 3 300-3 400 MHz on a secondary basis in accordance with Resolution **[RCC-EESS‑3GHZ SECONDARY] (WRC‑23)**;

1.2 to consider possible regulatory and technical methods to ensure fair, equitable access and rational use of orbit resources in non-geostationary orbits (non-GSO) and associated radio-frequency spectrum in accordance with Resolution **[RCC-NGSO REGULATION] (WRC‑23)**;

1.3 to consider the identification of frequency bands below 10 GHz for the satellite component of International Mobile Telecommunications, including possible additional allocations to the mobile‑satellite service (MSS) on a primary basis, in accordance with Resolution **[RCC‑SAT‑IMT] (WRC‑23)**;

1.4 to consider the development of regulatory and technical provisions for obtaining explicit agreement from an administration to the inclusion of its national territory in the service area of a non‑GSO fixed-satellite service (FSS) satellite system and the emissions level of the non‑GSO FSS space station in the direction of its national territory, in accordance with Resolution **[RCC-NGSO FSS SERVICE AREA] (WRC‑23)**;

1.5 to consider International Mobile Telecommunications (IMT) identification in the frequency bands 4 400-4 800 MHz, 10-10.5 GHz and 14.8-15.35 GHz for the future development of IMT for 2030 and beyond, in accordance with Resolution **[RCC‑IMT/NEWIDENTIFICATION/WRC‑27] (WRC‑23)**;

1.6 the introduction of power flux-density (pfd) and equivalent isotropically radiated power (e.i.r.p.) limits in Article **21** for the frequency bands 71-76 GHz and 81-86 GHz in accordance with Resolution **775 (WRC‑19)**;

1.7 the conditions for the use of the 71-76 GHz and 81-86 GHz frequency bands by stations in the satellite services to ensure compatibility with passive services in accordance with Resolution **776 (WRC‑19)**;

1.8 to consider a new Earth exploration-satellite service (Earth‑to‑space) allocation in the frequency band 22.55‑23.15 GHz, in accordance with Resolution **664 (WRC‑19)**;

1.9 to consider a possible worldwide allocation to the mobile‑satellite service for the future development of narrowband mobile-satellite systems in frequency bands within the frequency range [1.5-5 GHz], in accordance with Resolution **248 (WRC‑19)**;

1.10 to consider regulatory provisions for appropriate recognition of space weather sensors and their protection in the Radio Regulations, taking into account the results of ITU Radiocommunication Sector studies reported to WRC‑23 under agenda item 9.1 and its corresponding Resolution **657 (Rev.WRC‑19)**;

1.11 to study and develop technical, operational and regulatory measures, as appropriate, to facilitate the use of the frequency bands 37.5-39.5 GHz (space‑to‑Earth), 47.2-50.2 GHz (Earth-to-space) and 50.4-51.4 GHz (Earth-to-space) by aeronautical and maritime earth stations in motion communicating with geostationary space stations in the fixed-satellite service, in accordance with Resolution **176 (Rev.WRC‑23)**,

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 to 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:** The RCC Administrations propose to include new items 1.1‑1.11 in the WRC‑27 agenda.

ADD RCC/85A27/4

Draft New Resolution [RCC‑EESS‑3GHZ SECONDARY] (WRC‑23)

Possible secondary allocation to the Earth exploration-satellite service (active) in the frequency bands 3 000-3 100 MHz and 3 300-3 400 MHz

The World Radiocommunication Conference (Dubai, 2023),

considering

*a)* that spaceborne active radio-frequency sensors can provide unique information on physical properties of the Earth;

*b)* that spaceborne active remote sensing requires specific frequency ranges depending on the physical phenomena to be observed;

*c)* that there is an interest in using active spaceborne sensors in the 3 GHz frequency range primarily for measurement of ice boundaries, type and age, ocean wave structure, ocean wind speed and direction and mapping of ocean circulation (currents and eddies);

*d)* that the frequency band 3 100-3 300 MHz is already allocated to the Earth exploration-satellite service (active) on a secondary basis and is currently being used for altimeters and synthetic aperture radar (SAR);

*e)* that a frequency band of at least 400 MHz is preferable to satisfy the requirements for high-resolution SAR;

*f)* that SAR in the 3 GHz frequency range are not intended to be operated in populated areas of the globe, but primarily over oceans and seas;

*g)* that sharing is generally feasible between spaceborne active microwave sensors operating in the Earth exploration-satellite service (active) and terrestrial radars operating in the radiolocation service,

recognizing

*a)* that the frequency band 3 000-3 100 MHz is allocated to the radiolocation and radionavigation services on a primary basis;

*b)* that the frequency band 3 300-3 400 MHz is allocated to the radiolocation service on a primary basis;

*c)* that the frequency band 3 300-3 400 MHz is also allocated to the amateur service on a secondary basis in ITU Regions 2 and 3;

*d)* that the frequency band 3 300-3 400 MHz is also allocated to the fixed and mobile services on a secondary basis in ITU Region 2;

*e)* that the frequency band 3 300-3 400 MHz is also allocated to the fixed and mobile (except aeronautical mobile) services on a primary basis in certain countries under Nos. **5.429A**, **5.429C** and **5.429E** of the Radio Regulations;

*f)* that the frequency band 3 300-3 400 MHz is identified for the implementation of International Mobile Telecommunications in certain countries in ITU Regions 1 and 2 under Nos. **5.429B** and **5.429D**;

*g)* that, in accordance with No. **5.149**, administrations are urged to take all practicable steps to protect the radio astronomy service from harmful interference in the frequency bands 3 332-3 339 MHz and 3 345.8-3 352.5 MHz,

resolves to invite the 2027 world radiocommunication conference

to consider the results of studies on spectrum needs for a possible new secondary allocation to the Earth exploration‑satellite service (active) for spaceborne SAR in the frequency bands 3 000 MHz‑3 100 MHz and 3 300‑3 400 MHz, taking into account the protection of incumbent services, and take appropriate action,

invites the ITU Radiocommunication Sector

to conduct studies on spectrum needs and studies on the possibility of sharing between the Earth exploration-satellite service (active) and incumbent radio services in the frequency bands 3 000-3 100 MHz and 3 300-3 400 MHz,

invites administrations

to participate actively in the studies by submitting contributions to the ITU Radiocommunication Sector.

**Reasons:** A new secondary allocation in these frequency bands is necessary to increase the resolution of the synthetic aperture radars of space‑based Earth remote sensing systems for the measurement of ice boundaries, type and age, ocean wave structure, ocean wind speed and direction and mapping of ocean circulation (currents and eddies).

Annex

Proposal for an additional agenda item on a possible new secondary allocation to the Earth exploration-satellite service (active) in the frequency bands 3 000-3 100 MHz and 3 300-3 400 MHz

**Subject:** Proposal of a new WRC-27 agenda item

**Origin:** RCC

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| **Proposal:**  To consider a possible new secondary allocation to the Earth exploration-satellite service (active) in the frequency bands 3 000-3 100 MHz and 3 300-3 400 MHz | |
| ***Background/reason*:**  To increase the resolution of SAR of future space-based Earth remote sensing systems in the 3 GHz frequency range. | |
| ***Radiocommunication services concerned*:**  Radiolocation, radionavigation, fixed, mobile and amateur services | |
| ***Indication of possible difficulties*:**  *−* | |
| ***Previous/ongoing studies on the issue*:**  Compatibility studies with radiolocation and radionavigation services in the frequency band 3 100-3 300 MHz | |
| ***Studies to be carried out by*:**  Study Group 7 | ***with the participation of***:  Study Group 5 |
| ***ITU‑R Study Groups concerned*:**  Study Group 5 | |
| ***ITU resource implications, including financial implications (refer to CV126)*:**  None, everything will be carried out within framework of current Study Groups and their Working Parties. | |
| ***Common regional proposal*:** Yes | ***Multicountry proposal*:** No  ***Number of countries*:** |
| ***Remarks*** | |

ADD RCC/85A27/5

Draft New Resolution [RCC-NGSO REGULATION] (WRC‑23)

Studies to develop possible regulatory and technical methods to ensure fair, equitable access and rational use of orbit resources in non-geostationary   
orbits and associated radio-frequency spectrum

The World Radiocommunication Conference (Dubai, 2023)

considering

*a)* the limited available radio-frequency spectrum and associated orbit resources that must be shared among all nations;

*b)* the continued and expanded launch and operation of non-geostationary-satellite orbit (non-GSO) systems;

*c)* that, under No. **22.2**, non-GSO systems shall not cause unacceptable interference to geostationary-satellite networks in the fixed-satellite service or the broadcasting-satellite service, unless otherwise specified in the ITU Radio Regulations;

*d)* that current ITU tools do not allow for an accurate assessment of the ability of non-GSO systems to comply with all relevant ITU limits for permitted levels of interference caused to geostationary-satellite orbit (GSO) networks;

*e)* that more non-GSO systems are being deployed than were assumed would be in existence when those interference limits were adopted;

*f)* that large non-GSO systems may have a disproportionate adverse impact on the ability of smaller non-GSO systems to share use of the same radio-frequency spectrum;

*g)* that some large non-GSO constellations are being divided into smaller filings to appear as though their operation would consume less spectrum and orbit resources, and create less interference than they would in the configuration in which they actually operate;

*h)* that, in a number of cases, administrations notify frequency assignments to non-GSO satellite systems to the Radiocommunication Bureau (BR) while making reference to No. **4.4**, which precludes BR from examining such frequency assignments, which could potentially cause interference to stations in space and terrestrial radio services;

*i)* that multiple non-GSO systems are operating or are planned to operate in the same frequency bands;

*j)* that the aggregate interference from multiple non-GSO FSS systems will be related to the actual number of systems sharing a frequency band based on the single-entry operational use of each system,

noting

that Resolution 219 (Bucharest, 2022) of the Plenipotentiary Conference resolves to instruct the Radiocommunication Assembly, as a matter of urgency, to perform the necessary studies through relevant ITU Radiocommunication Sector (ITU-R) study groups on the issue of the increasing use of radio-frequency spectrum and associated orbit resources in non-GSO orbits and the long-term sustainability of these resources, as well as on equitable access to, and rational and compatible use of, the GSO and non-GSO orbit and spectrum resources, consistent with Article 44 of the ITU Constitution,

recognizing

*a)* that the current Radio Regulations lack an appropriate regulatory framework to resolve issues in the management of large non-GSO constellations;

*b)* that administrations operating or planning to operate non-GSO systems will need to agree cooperatively through consultation meetings to share the aggregate interference allowance (aggregate epfd level) for all non-GSO systems sharing frequency bands in order to achieve the desired level of protection for GSO networks, as indicated in Article **22**;

*c)* that the coordination procedure for large non-GSO constellations shall be conducted through consultation meetings in order to meet the needs of new users and guarantee in practice equitable and rational access to radio-frequency spectrum resources and associated non-GSO orbits;

*d)* that Member States have the exclusive right to license the use of non-GSO systems within their territory and may be required, where it is possible, to exclude the emissions of non-GSO spacecraft in the direction of their territory for the implementation of a national non-GSO system,

resolves to invite the 2027 World Radiocommunication Conference

to consider possible regulatory and technical methods to ensure fair, equitable access and rational use of orbit resources in non-geostationary orbits and associated radio-frequency spectrum,

invites the ITU Radiocommunication Sector

1 to develop, as a matter of urgency, a suitable regulatory framework for the operation of non-GSO systems sharing co-frequency bands in order to ensure that the aggregate power levels given in Article **22** are met, as well as the equitable access to, and rational and compatible use of, the radio-frequency spectrum and associated orbit resources for administrations operating or planning to operate non-GSO systems;

2 to conduct studies and to develop a suitable methodology for calculating the aggregate epfd produced by all non-GSO systems operating or planning to operate co-frequency to GSO networks, which may be used to determine whether the systems are in compliance with the aggregate power levels specified in Article **22**, taking into account relevant elements of Recommendation ITU‑R S.1503 and other relevant Recommendations, as appropriate,

invites administrations

to participate actively in the studies and provide technical and operational characteristics of affected systems by submitting contributions to ITU‑R.

**Reasons:** According to the provisions of Article 44 of the ITU Constitution, it is necessary to ensure equitable access to orbits and frequencies for different countries or groups of countries, taking into account the special needs of developing countries and the geographical position of some countries.

Annex

Proposal for an additional agenda item on ensuring fair, equitable access and rational and shared use of the radio-frequency spectrum and associated orbit resources in non-geostationary orbits

**Subject:** Proposal of a new WRC-27 agenda item

**Origin:** RCC

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| **Proposal:**  To consider possible regulatory and technical methods to ensure fair, equitable access and rational use of orbit resources in non-GSO and associated radio frequency spectrum. | |
| ***Background/reason* :**  According to the provisions of Article 44 of the ITU Constitution, it is necessary to ensure equitable access to orbits and frequencies for different countries or groups of countries, taking into account the special needs of developing countries and the geographical position of some countries. | |
| ***Radiocommunication services concerned*:**  *Fixed-satellite, mobile-satellite and broadcasting-satellite services* | |
| ***Indication of possible difficulties*:**  Lack of existing methods for coordination between satellite systems operating in non-GSO. A large number of existing applications for non-GSO systems in ITU BR. | |
| ***Previous/ongoing studies on the issue*:**  *−* | |
| ***Studies to be carried out by*:**  *Study Group 4* | ***with the participation of***: |
| ***ITU‑R Study Groups concerned*:** | |
| ***ITU resource implications, including financial implications (refer to CV126)*:**  *None, everything will be carried out within framework of current Study Groups and their Working Parties.* | |
| ***Common regional proposal*:** Yes | ***Multicountry proposal*:** No  ***Number of countries*:** |
| ***Remarks*** | |

ADD RCC/85A27/6

Draft New Resolution   
[RCC-IMT/NEWIDENTIFICATION/WRC-27] (WRC‑23)

Studies on frequency-related matters for International Mobile Telecommunications identification in the frequency bands   
4 400-4 800 MHz, 10-10.5 GHz and 14.8-15.35 GHz for the   
future development of International Mobile   
Telecommunications for 2030 and beyond

The World Radiocommunication Conference (Dubai, 2023),

considering

*a)* that International Mobile Telecommunications (IMT) are intended to provide telecommunication services on a worldwide scale, regardless of location and type of network or terminal;

*b)* that IMT systems have contributed to global economic and social development;

*c)* that IMT systems are now being evolved to provide diverse usage scenarios and applications such as enhanced mobile broadband, massive machine-type communications and ultra-reliable and low-latency communications;

*d)* that ultra-low latency and very high bit-rate applications of IMT will require larger contiguous blocks of spectrum than those available in frequency bands that are currently identified for use by administrations wishing to implement IMT;

*e)* that it may be suitable to examine higher frequency bands for these larger blocks of spectrum;

*f)* that there is a need to continually take advantage of technological developments in order to increase the efficient use of spectrum and facilitate spectrum access;

*g)* that the properties of higher frequency bands, such as shorter wavelength, would better enable the use of advanced antenna systems including multiple input, multiple output (MIMO) and beam-forming techniques in supporting enhanced broadband;

*h)* that harmonized worldwide bands and harmonized frequency arrangements for IMT are highly desirable in order to achieve global roaming and the benefits of economies of scale;

*i)* that identification of frequency bands allocated to the mobile service for IMT may change the sharing situation regarding applications of services to which the frequency band is already allocated, and may require additional regulatory actions,

noting

*a)* that IMT encompasses IMT-2000, IMT-Advanced, IMT-2020 and IMT-2030 collectively;

*b)* that Report ITU‑R M.2516 addresses future technology trends of terrestrial systems for IMT for 2030 and beyond;

*c)* that there are ongoing studies within the ITU Radiocommunication Sector (ITU‑R) on radio wave propagation characteristics for mobile systems in higher frequency bands,

recognizing

*a)* that there is a lead time between the allocation of frequency bands by world radiocommunication conferences and the deployment of systems in those bands, and that timely availability of wide and contiguous blocks of spectrum is therefore important to support the development of IMT;

*b)* that any identification of frequency bands for IMT should take into account the use of the given and adjacent frequency bands by other services and the evolving needs of these services;

*c)* that there should be no additional regulatory or technical constraints imposed on services to which the given frequency band and adjacent frequency bands are allocated on a primary basis;

*d)* the need to protect existing services and to allow for their continued development when considering frequency bands for possible additional allocations to any service;

*e)* that the frequency band 4 400-4 800 MHz is allocated to the fixed and mobile services, and the frequency band 4 500-4 800 MHz is allocated to the fixed-satellite service (space-to-Earth);

*f)* that the frequency band 9.2-10.4 GHz is allocated to the Earth exploration-satellite service (active);

*g)* that the frequency band 10-10.5 GHz is allocated to the fixed, mobile and radiolocation services;

*h)* that the frequency band 10.6-10.7 MHz is allocated to the Earth exploration-satellite service (passive);

*i)* that the frequency band 14.8-15.35 GHz is allocated to the fixed, mobile and space research services;

*j)* that the frequency bands 10.6-10.7 GHz and 15.35-15.4 GHz are allocated to the radio astronomy service;

*k)* that No. **5.340** of the Radio Regulations prohibits all emissions in the frequency bands 10.68-10.7 GHz and 15.35-15.4 GHz,

resolves to invite the ITU Radiocommunication Sector

1 to conduct and complete in time for WRC‑27 the appropriate studies to determine the spectrum needs for the terrestrial component of IMT in the frequency bands:

– 4 400-4 800 MHz (globally);

– 10-10.5 GHz (Region 1); and

– 14.8-15.35 GHz (globally),

taking into account:

– technical and operational characteristics of terrestrial IMT systems that would operate in this frequency band, including the evolution of IMT through advances in technology and spectrally efficient techniques;

– the deployment scenarios envisaged for IMT-2030 systems and the related coverage and high data traffic requirements;

– the needs of developing countries and the time-frame in which spectrum would be needed;

2 to conduct and complete in time for WRC‑27 the appropriate sharing and compatibility studies, taking into account the need to ensure compatibility with the services indicated in *recognizing d)* to *i)*,

further resolves

1 to invite CPM27‑1 to define the date by which technical and operational characteristics needed for sharing and compatibility studies are to be available, to ensure that studies referred to in *resolves to invite the ITU Radiocommunication Sector* can be completed in time for consideration by WRC‑27;

2 to invite WRC‑27 to consider, based on the results of the above studies, the identification of the frequency bands specified in *resolves to invite the ITU Radiocommunication Sector*1 for the terrestrial component of IMT, taking into account *recognizing* *c)*,

invites administrations

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

**Reasons:** New frequency bands may be needed for the future development of IMT for 2030 and beyond.

ANNEX

Proposal for an additional agenda item on studying the possibility of IMT identification in the frequency bands 4 400-4 800 MHz, 10-10.5 GHz and 14.8-15.35 GHz

**Subject:** Proposal of a new WRC-27 agenda item

**Origin:** RCC

|  |  |
| --- | --- |
| **Proposal:**  To consider the identification of the frequency bands 4 400-4 800 MHz, 10-10.5 GHz and 14.8-15.35 GHz for IMT. | |
| ***Background/reason* :**  The growing demand for IMT services for various applications | |
| ***Radiocommunication services concerned*:**  Fixed, fixed-satellite (space-to-Earth), aeronautical mobile, maritime mobile, radiolocation, Earth exploration-satellite, space operation, amateur, amateur-satellite services | |
| ***Indication of possible difficulties*:**  *−* | |
| ***Previous/ongoing studies on the issue*:**  *−* | |
| ***Studies to be carried out by*:**  Study Group 5 | ***with the participation of***: |
| ***ITU‑R Study Groups concerned*:**  Study Groups 4 and 7 | |
| ***ITU resource implications, including financial implications (refer to CV126)*:**  None, everything will be carried out within framework of current Study Groups and their Working Parties. | |
| ***Common regional proposal*:** Yes | ***Multicountry proposal*:** No  ***Number of countries*:** |
| ***Remarks*** | |

ADD RCC/85A27/7

Draft New Resolution [RCC-NGSO FSS SERVICE AREA] (WRC-23)

Studies to develop regulatory and technical provisions for obtaining explicit agreement from an administration to the inclusion of its national territory   
in the service area of a non-GSO FSS satellite system and the   
emissions level of the non-GSO FSS space station   
in the direction of its national territory

The World Radiocommunication Conference (Dubai, 2023)

considering

*a)* the active implementation of non-geostationary-satellite orbit (non-GSO) systems in the fixed-satellite service (FSS) with a global service area and comprising many spacecraft covering Earth’s entire surface;

*b)* reports to ITU from administrations regarding the presence of unauthorized transmissions of transmitting earth stations of non-GSO systems within their territory;

*c)* that many non-GSO systems operate or are planned to operate in the same FSS frequency bands;

*d)* that No. **18.1** of the Radio Regulations provides that no transmitting station may be established or operated by a private person or by any enterprise without a licence issued in an appropriate form and in conformity with the provisions of the Radio Regulations by or on behalf of the government of the country to which the station in question is subject,

noting

*a)* that Article **18** specifies the requirements for licensing the operation of stations within any given territory;

*b)* that administrations involved in the provision of satellite services, including notifying administrations of satellite networks or systems, are subject to Article **18**;

*c)* that Resolution **22 (WRC‑19)**, onmeasures to limit unauthorized uplink transmissions from earth stations, resolves that the operation of transmitting earth stations within the territory of an administration shall be carried out only if authorized by that administration;

*d)* that the Radio Regulations do not contain provisions under which an affected administration would have the right to decide to remain in the service area of a non-GSO FSS satellite network,

recognizing

*a)* that the ITU Constitution recognizes the sovereign right of each Member State to regulate its telecommunications;

*b)* that Member States have the exclusive right to license the use of non-GSO systems in their territories and may be required, where it is possible, to exclude the emissions of non-GSO spacecraft in the direction of their territory for the implementation of a national non-GSO system;

*c)* that the current Radio Regulations lack an appropriate regulatory framework to resolve issues in the management of large non-GSO constellations;

*d)* that the current Radio Regulations lack an appropriate regulatory framework to eliminate emissions of non-GSO FSS space stations when removing national territory from a service area,

resolves to invite the 2027 World Radiocommunication Conference

to consider, based on the outcomes of ITU Radiocommunication Sector studies, regulatory and technical provisions for obtaining explicit agreement from an administration to the inclusion of its national territory in the service area of a non-GSO FSS satellite system and the emissions level of the non-GSO FSS space station in the direction of its national territory,

invites the ITU Radiocommunication Sector

1 to conduct studies of technical and regulatory measures to limit the level of emissions from a non-GSO FSS space station in the direction of an administration’s national territory;

2 to conduct studies and develop an appropriate regulatory framework under which a responsible administration shall obtain explicit agreement from an affected administration to the inclusion of its national territory in the service area of a non-GSO FSS satellite network notified for coordination and to the emissions of a non-GSO FSS space station in the direction of its national territory,

invites administrations

to participate actively in the studies by submitting contributions to the ITU Radiocommunication Sector.

**Reasons:** Administrations require a regulatory procedure under which any administration may express its agreement or objection to remaining in the service area of a non-GSO FSS satellite network notified for coordination, in order to protect national interests.

Annex

Proposal for an additional agenda item on developing regulatory and technical provisions for obtaining explicit agreement from an administration to the inclusion of its national territory in the service area of a non-GSO FSS satellite system and the emissions level of the non-GSO FSS space station in the direction of its national territory

**Subject:** Proposal of a new WRC-27 agenda item

**Origin:** RCC

|  |  |
| --- | --- |
| **Proposal:**  To consider the development of regulatory and technical provisions for obtaining explicit agreement from an administration to the inclusion of its national territory in the service area of a non-GSO FSS satellite system and the emissions level of the non-GSO FSS space station in the direction of its national territory. | |
| ***Background/reason* :**  Given the active implementation of non-GSO FSS satellite systems with a global service area and comprising many spacecraft covering Earth’s entire surface, administrations require a regulatory procedure under which any administration may express its agreement or objection to remaining in the service area of a non-GSO FSS satellite network notified for coordination, in order to protect national interests. | |
| ***Radiocommunication services concerned*:**  Fixed-satellite service | |
| ***Indication of possible difficulties*:**  *−* | |
| ***Previous/ongoing studies on the issue*:**  Studies under WRC-19 agenda item 9.1.7. | |
| ***Studies to be carried out by*:**  Study Group 4 | ***with the participation of***: |
| ***ITU‑R Study Groups concerned*:**  *−* | |
| ***ITU resource implications, including financial implications (refer to CV126)*:**  None, everything will be carried out within framework of current Study Groups and their Working Parties. | |
| ***Common regional proposal*:** Yes | ***Multicountry proposal*:** No  ***Number of countries*:** |
| ***Remarks*** | |

SUP RCC/85A27/8

RESOLUTION 812 (WRC-19)

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

**Reasons**: In view of proposed new Resolution **[RCC-WRC-27-AGENDA] (WRC-23)**, containing the proposed agenda for WRC-27, Resolution **812 (WRC-19)** is no longer required.

RCC/85A27/9

The RCC Administrations have no objection to the inclusion of items 2.4, 2.5, 2.6, 2.11 and 2.13 under *resolves* of Resolution **812 (WRC-19)** in the WRC-27 agenda.

– the introduction of power flux-density (pfd) and equivalent isotropically radiated power (e.i.r.p.) limits in Article **21** for the frequency bands 71-76 GHz and 81-86 GHz in accordance with Resolution **775 (WRC‑19);**

– the conditions for the use of the 71-76 GHz and 81-86 GHz frequency bands by stations in the satellite services to ensure compatibility with passive services in accordance with Resolution **776 (WRC‑19)**;

– to consider regulatory provisions for appropriate recognition of space weather sensors and their protection in the Radio Regulations, taking into account the results of ITU Radiocommunication Sector studies reported to WRC‑23 under agenda item 9.1 and its corresponding Resolution **657 (Rev.WRC‑19)**;

– to consider a new Earth exploration-satellite service (Earth-to-space) allocation in the frequency band 22.55-23.15 GHz, in accordance with Resolution **664 (WRC‑19)**;

– to consider a possible worldwide allocation to the mobile-satellite service for the future development of narrowband mobile-satellite systems in frequency bands within the frequency range [1.5-5 GHz], in accordance with Resolution **248 (WRC‑19)**.

The RCC Administrations have no objection to the inclusion of item 2.2 indicated in Resolution **812 (WRC-19)** in the WRC-27 agenda, provided that modifications are made to Resolution **176 (WRC‑19)**.

The RCC Administrations object to the inclusion of the items 2.9 and 2.10 under *resolves* of Resolution **812 (WRC-19)** in the WRC-27 agenda.

– to consider possible additional spectrum allocations to the mobile service in the frequency band 1 300-1 350 MHz to facilitate the future development of mobile-service applications, in accordance with Resolution **250 (WRC‑19)**;

– to consider improving the utilization of the VHF maritime frequencies in Appendix **18**, in accordance with Resolution **363 (WRC‑19)**;

The RCC Administrations propose to add the following items to the WRC-27 agenda:

– new secondary allocations to the Earth exploration-satellite service (active) in the frequency bands 3 000-3 100 MHz and 3 300-3 400 MHz;

– possible regulatory and technical methods to ensure fair, equitable access and rational use of orbit resources in non-geostationary orbits and associated radio frequency spectrum;

– identification of frequency bands below 10 GHz for the satellite component of International Mobile Telecommunications (IMT), including possible additional allocations to the mobile-satellite service on a primary basis;

– development of regulatory and technical provisions for obtaining explicit agreement from an administration to the inclusion of its national territory in the service area of a non-GSO FSS satellite system and the emissions level of the non-GSO FSS space station in the direction of its national territory;

– International Mobile Telecommunications identification in the following frequency bands for the future development of IMT for 2030 and beyond:

• 4 400-4 800 MHz

• 10-10.5 GHz

• 14.8-15.35 GHz.

The RCC Administrations propose to add the following item to the WRC-31 agenda:

– IMT identification in the sub-THz frequency bands 102-109.5 GHz, 151.5-164 GHz, 167-174.8 GHz, 209-226 GHz and 252-275 GHz for the future development of IMT.

ADD RCC/85A27/10

Draft New Resolution [RCC-IMT/NEWIDENTIFICATION/WRC-31] (WRC-23)

Studies on frequency-related matters for International Mobile Telecommunications identification in the sub-THz frequency   
bands 102-109.5 GHz, 151.5-164 GHz, 167-174.8 GHz, 209-  
226 GHz and 252-275 GHz for the future development   
of International Mobile Telecommunications

The World Radiocommunication Conference (Dubai, 2023),

considering

*a)* that International Mobile Telecommunications (IMT) are intended to provide telecommunication services on a worldwide scale, regardless of location and type of network or terminal;

*b)* that IMT systems have contributed to global economic and social development;

*c)* that IMT systems are now being evolved to provide diverse usage scenarios and applications such as enhanced mobile broadband, massive machine-type communications and ultra-reliable and low-latency communications;

*d)* that ultra-low latency and very high bit-rate applications of IMT will require larger contiguous blocks of spectrum than those available in frequency bands that are currently identified for use by administrations wishing to implement IMT;

*e)* that it may be suitable to examine higher frequency bands for these larger blocks of spectrum;

*f)* that there is a need to continually take advantage of technological developments in order to increase the efficient use of spectrum and facilitate spectrum access;

*g)* that the properties of higher frequency bands, such as shorter wavelength, would better enable the use of advanced antenna systems including multiple input, multiple output (MIMO) and beam-forming techniques in supporting enhanced broadband;

*h)* that harmonized worldwide bands and harmonized frequency arrangements for IMT are highly desirable in order to achieve global roaming and the benefits of economies of scale;

*i)* that identification of frequency bands allocated to the mobile service for IMT may change the sharing situation regarding applications of services to which the frequency band is already allocated, and may require additional regulatory actions,

noting

*a)* that IMT encompasses IMT-2000, IMT-Advanced, IMT-2020, IMT-2030 and future generations of IMT collectively;

*b)* that Report ITU‑R M.2516 addresses future technology trends of terrestrial systems for IMT for 2030 and beyond;

*c)* that there are ongoing studies within the ITU Radiocommunication Sector (ITU‑R) on the propagation characteristics for mobile systems in higher frequency bands,

recognizing

*a)* that there is a lead time between the allocation of frequency bands by world radiocommunication conferences and the deployment of systems in those bands, and that timely availability of wide and contiguous blocks of spectrum is therefore important to support the development of IMT;

*b)* that any identification of frequency bands for IMT should take into account the use of the bands by other services and the evolving needs of these services;

*c)* that there should be no additional regulatory or technical constraints imposed on services to which the band is currently allocated on a primary basis,

resolves to invite the ITU Radiocommunication Sector

1 to conduct and complete in time for WRC‑31 the appropriate studies to determine the spectrum needs for the terrestrial component of IMT in the frequency bands 102-109.5 GHz, 151.5-164 GHz, 167-174.8 GHz, 209-226 GHz and 252-275 GHz, taking into account:

– technical and operational characteristics of terrestrial IMT systems that would operate in these frequency bands, including the evolution of IMT through advances in technology and spectrally efficient techniques;

– the deployment scenarios envisaged for IMT-2030 systems and the related requirements of high data traffic such as in dense urban areas and/or in peak times;

– the needs of developing countries and the time-frame in which spectrum would be needed;

2 to conduct and complete in time for WRC‑31 the appropriate sharing and compatibility studies, taking into account the protection of services to which the band is allocated on a primary basis for the following frequency bands:

– 102-109.5 GHz, 151.5-164 GHz, 167-174.8 GHz, 209-226 GHz and 252-275 GHz, which are allocated to the mobile service on a primary basis,

further resolves

1 to invite CPM31‑1 to define the date by which technical and operational characteristics needed for sharing and compatibility studies are to be available, to ensure that studies referred to in *resolves to invite the ITU Radiocommunication Sector* can be completed in time for consideration by WRC‑31;

2 to invite WRC‑31 to consider, based on the results of the above studies, the identification of frequency bands for the terrestrial component of IMT; the bands to be considered being limited to part or all of the bands listed in *resolves to invite the ITU Radiocommunication Sector* 2,

invites administrations

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

**Reasons:** New frequency bands may be needed for the future development of IMT for 2030 and beyond.

Annex

Proposal for an additional agenda item on studying the possibility of IMT identification in the sub-THz frequency bands 102−109.5 GHz, 151.5−164 GHz, 167−174.8 GHz, 209−226 GHz and 252−275 GHz

**Subject:** Proposal of a new WRC-31 agenda item

**Origin:** RCC

|  |  |
| --- | --- |
| **Proposal:**  To consider the identification of the frequency bands 102−109.5 GHz, 151.5−164 GHz, 167−174.8 GHz, 209−226 GHz and 252−275 GHz for IMT | |
| ***Background/reason*:**  The growing demand for IMT services for various applications | |
| ***Radiocommunication services concerned*:**  Mobile, fixed, radio astronomy and space research (passive) services | |
| ***Indication of possible difficulties*:** | |
| ***Previous/ongoing studies on the issue*:** | |
| ***Studies to be carried out by*:**  Study Group 5 | ***with the participation of***: |
| ***ITU‑R Study Groups concerned*:**  Study Group 7 | |
| ***ITU resource implications, including financial implications (refer to CV126)*:**  *None, everything will be carried out within framework of current Study Groups and their Working Parties.* | |
| ***Common regional proposal*:** Yes | ***Multicountry proposal*:** No  ***Number of countries*:** |
| ***Remarks*** | |

\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. \* For the frequency bands 47.2-50.2 GHz and 50.4-51.4 GHz, sharing and compatibility studies for aeronautical ESIM should take into account all necessary steps to protect the terrestrial services to which the frequency band is allocated to. [↑](#footnote-ref-1)
2. \* 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)