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| **Radiocommunication Study Groups** |  |
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| Received: 3 October 2022  Source: Annex 4.10 to Document [5D/1361](https://www.itu.int/md/R19-WP5D-C-1361/en)  Subject: WRC-23 agenda item 1.2 | **Document 5D/1455-E** |
| **4 October 2022** |
| **English only**  **SPECTRUM ASPECTS AND WRC-23 PREPARATIONS** |
| Saudi Arabia (Kingdom of) | |
| working document towards Draft CPM Text on  WRC-23 agenda item 1.2 | |
|  | |

At its June 2022 meeting, Working Party (WP) 5D developed further a working document towards draft CPM text on WRC-23 agenda item 1.2 (Resolution **245 (WRC-19)**). The working document was attached to the WP 5D Chairman’s Report of the June 2022 meeting (Annex 4.10 to Doc. [5D/1361](https://www.itu.int/md/R19-WP5D-C-1361/en)).

This contribution provides further revision to the summaries of studies and methods to satisfy the Agenda Item in the frequency band of 6 425-7 075 MHz. Proposed changes to the existing document are shown in track changes, in green.

**Attachment**: 1

CHAPTER 1

Fixed, Mobile and Broadcasting issues

(Agenda items 1.1, 1.2, 1.3, 1.4, 1.5)

Agenda item 1.2

(**WP 5D** / **WP 3K, WP 3M, WP 4A, WP 4B, WP 4C, WP 5A, WP 5B, WP 5C,   
WP 7B, WP 7C, WP 7D)**

*1.2 to consider identification of the frequency bands 3 300-3 400 MHz, 3 600-3 800 MHz, 6 425-7 025 MHz, 7 025-7 125 MHz and 10.0-10.5 GHz for International Mobile Telecommunications (IMT), including possible additional allocations to the mobile service on a primary basis, in accordance with Resolution* ***245 (WRC-19)****;*

Resolution **245 (WRC‑19)** – *Studies on frequency-related matters for the terrestrial component of international mobile telecommunications identification in the frequency bands 3 300-3 400 MHz, 3 600-3 800 MHz, 6 425-7 025 MHz, 7 025-7 125 MHz, and 10.0-10.5 GHz*

resolves to invite the ITU Radiocommunication Sector

2 to conduct and complete in time for WRC-23 the sharing and compatibility studies[[1]](#footnote-1), with a view to ensuring the protection of services to which the frequency band is allocated on a primary basis, without imposing additional regulatory or technical constraints on those services, and also, as appropriate, on services in adjacent bands, for the frequency bands:

– 3 600-3 800 MHz and 3 300-3 400 MHz (Region 2);

– 3 300-3 400 MHz (amend footnote in Region 1);

– 7 025-7 125 MHz (globally);

– 6 425-7 025 MHz (Region 1);

– 10.0-10.5 GHz (Region 2).

1/1.2/1 Executive summary

[Text of the executive summary, not more than half a page of text to describe briefly the purpose of the agenda item, summarize the results of the studies carried out and, most importantly, provide a brief description of the method(s) identified that may satisfy the agenda item. See also § A2.1 of Annex 2 to [Resolution ITU-R 2-8](http://www.itu.int/pub/R-RES-R.2-8-2019)]

1/1.2/2 Background

[Text of the background, not more than half a page of text to provide general information in a concise manner, in order to describe the rationale of the agenda items (or issue(s)). See also § A2.2 of Annex 2 to [Resolution ITU-R 2-8](http://www.itu.int/pub/R-RES-R.2-8-2019)]

Information and Communication Technologies (ICTs) emerging technologies play an important role in supporting socio-economic development. The use of the technologies, including IMT-2020, will increase productivity, create new opportunities, and generate new services. IMT systems are able to support various usage scenarios including enhanced Mobile Broadband (eMBB), massive Machine Type Communications (mMTC) and Ultra-Reliable Low-Latency Communications (URLLC).

With demand for IMT applications continuing to increase, additional IMT spectrum identifications in the mid-range frequency bands need to be considered in order to enable future deployments, where these applications and services might be difficult to implement using lower or higher frequency bands. Agenda item 1.2 can help give ITU Member States greater flexibility in their adoption of suitable frequency bands for IMT implementation subject to sharing and compatibility studies to ensure protection of in-band and adjacent band (as appropriate) primary allocated services.

1/1.2/3 Summary and analysis of the results of ITU-R studies

[This section should contain a summary of the technical and operational studies performed within ITU-R, including a list of relevant ITU-R Recommendations. Depending on the agenda item, this section could be divided in two parts, one part dealing with the summary and the other part dealing with the analysis. The results of the ITU-R studies should also be analysed with respect to the possible methods of satisfying the agenda item and presented in a concise manner.]

1/1.2/3.1 Relevant ITU-R Recommendations and Reports

Recommendations ITU-R: [M.2101](https://www.itu.int/rec/R-REC-M.2101/en) (*Modelling and simulation of IMT networks and systems for use in sharing and compatibility studies*), [M.2083](https://www.itu.int/rec/R-REC-M.2083/en) (*IMT Vision - Framework and overall objectives of the future development of IMT for 2020 and beyond*), [RS.2017](https://www.itu.int/rec/R-REC-RS.2017/en) (*Performance and interference criteria for satellite passive remote sensing*), RS.2065 (*Protection of space research service (SRS) space-to-Earth links in the 8 400-8 450 MHz and 8 450-8 500 MHz bands from unwanted emissions of synthetic aperture radars operating in the Earth exploration-satellite service (active) around 9 600 MHz*), RS.2105 (*Typical technical and operational characteristics of Earth exploration-satellite service (active) systems using allocations between 432 MHz and 238 GHz),* [*RA.769*](https://www.itu.int/rec/R-REC-RA.769/en) *(Protection criteria used for radio astronomical measurements*), [[SM.1132-2](https://www.itu.int/rec/R-REC-SM.1132/en) (*General principles and methods for sharing between radiocommunication services or between radio stations*)]

ITU-R Reports: [M.2320](https://www.itu.int/pub/R-REP-M.2320) (*Future technology trends of terrestrial IMT systems,* [*M.2370*](https://www.itu.int/pub/R-REP-M.2370) *IMT Traffic estimates for the years 2020 to 2030*), [M.2376](https://www.itu.int/pub/R-REP-M.2376) (*Technical feasibility of IMT in bands above 6 GHz*), [M.2410](https://www.itu.int/pub/R-REP-M.2410) (*Minimum requirements related to technical performance for IMT-2020 radio interface(s)*), [M.2481](https://www.itu.int/pub/R-REP-M.2481) (*In-band and adjacent band coexistence and compatibility studies between IMT systems in 3 300-3 400 MHz and radiolocation systems in 3 100-3 400 MHz*), [RS.2313](https://www.itu.int/pub/R-REP-RS.2313) (*Sharing analyses of wideband Earth exploration-satellite service (active) transmissions with stations in the radio determination service operating in the frequency bands 8 700-9 300 MHz and 9 900-10 500 MHz*), [RS.2178](https://www.itu.int/pub/R-REP-RS.2178) (*The essential role and global importance of radio spectrum use for Earth observations and for related applications*).

1/1.2/3.2 Sharing and compatibility studies

1/1.2/3.2.1 Frequency range 3 300-3 400 MHz

The frequency range 3 300-3 400 MHz is allocated to the RLS on a primary basis. The frequency bands adjacent to this frequency range are allocated to the FS, FSS, MS [(LMS, MMS)], RLS. The details of these allocations and those of the adjacent frequency bands can be found in the Radio Regulations.

[No ITU-R studies were performed for xxx.]

1/1.2/3.2.1.1 RLS

[Editor’s note: Placeholder for WRC-23 studies]

Report ITU-R M.2481 contains additional in-band and adjacent band coexistence studies between IMT systems in the 3 300-3 400 MHz band and radiolocation systems in the 3 100-3 400 MHz band.

1/1.2/3.2.1.2 FS

[Placeholder for Summary of technical studies]

1/1.2/3.2.2 Frequency range 3 600-3 800 MHz

The frequency range 3 600-3 800 MHz is allocated to the FS, FSS, MS in Region 2. The frequency bands adjacent to this frequency range are allocated to the FS, FSS, MS [(LMS, MMS)]. The details of these allocations and those of the adjacent frequency bands can be found in RR Article **5**.

[No ITU-R studies were performed for xxx.]

1/1.2/3.2.2.1 FSS

[Editor’s note: placeholder for WRC-23 studies.]

Report ITU-R S.2368-0 includes studies on the coexistence of IMT-Advanced and the fixed-satellite service in the frequency band 3 400-4 200 MHz.

1/1.2/3.2.2.2 FS

[Placeholder for Summary of technical studies]

[1/1.2/3.2.3 Frequency ranges 6 425-7 025 and 7 025-7 125 MHz

The frequency range 6 425-7 025 MHz is allocated to the FS, FSS, MS [(LMS, AMS, MMS)] on a primary basis. The frequency bands adjacent to this frequency range are allocated to the FS, FSS, MS [(LMS, AMS, MMS)]. The details of these allocations and those of the adjacent frequency bands can be found in the Radio Regulations, including RR Appendix **30B** (RR No. **5.441**) for the frequency band 6 725‑7 025 MHz taking into account that this is a worldwide plan in all Regions.

The frequency range 7 025-7 125 MHz is allocated to the FS, FSS, MS [(LMS, AMS, MMS)], SOS. The frequency bands adjacent to this frequency range are allocated to the FS, FSS, MS [(LMS, AMS, MMS)], SRS (deep space). The details of these allocations and those of the adjacent frequency bands can be found in RR Article **5**.]

[No ITU-R studies were performed for xxx.]

[Editor’s Note: There is no agreement whether to include WP 7C studies between IMT and EESS/SRS (passive) in 6 425-7 250 MHz.]

*[View 1:* *“The bands 6 425-7 075 MHz and 7 075-7 250 MHz are used by passive EESS (RR No.****5.458****) in order to perform Sea Surface Temperature (SST) measurements. There is a significant relationship between overall sea-surface temperature (SST) and tropical storms/typhoon/hurricane intensity. RR No.* ***5.458*** *states that “administrations should bear in mind the needs of the Earth exploration-satellite (passive) and space research (passive) services in their future planning of the bands 6 425-7 075 MHz and 7 075-7 250 MHz”. However, ongoing studies in ITU-R have shown that there may be high level of interference from mass-market mobile systems such as IMT or WiFi, which will result in making impossible to predict and follow climate changes and severe weather events. ITU-R is studying alternative bands for SST which would exhibit better coexistence opportunities. WRC-23 may consider, under agenda item 1.2, an extension of the bands in RR   
No.* ***5.458*** *as a consequence of the IMT identification of the bands 6 425-7 075 MHz and 7 075-7 125 MHz.”*

*View 2: “ITU-R Working Party 5D is the responsible group for performing the requisite studies and developing the draft CPM text for WRC-23 agenda item 1.2 Impact studies performed by ITU-R Working Party 7C between the primary mobile service/IMT and Earth exploration-satellite (passive) and space research (passive) services in 6 425-7 075 MHz and 7 075-7 250 MHz; operating under RR No.* ***5.458****, was deemed by WP 5D to be outside of the scope of WRC-23 AI 1.2 and Resolution* ***245 (WRC-19)****. As such, the inclusion of any text from these EESS/SRS impact studies that propose or imply WRC-23 action regarding new alternative frequency bands for the EESS/SRS is not appropriate for inclusion in the draft CPM text for WRC-23 agenda item 1.2.”]*

1/1.2/3.2.3.1 FSS

##### [1/1.2/3.2.3.1.1 FSS uplink (6 425-7 025 MHz and 7 025-7 075)]

The frequency band 6 425-7 075 MHz is allocated to the FSS (Earth-to-space) in all Regions.

The use of the frequency band 6 725-7 025 MHz by GSO FSS (Earth-to-space) networks is subject to the provisions of RR Appendix **30B** (RR No. **5.441**). The objective of Appendix **30B** is to guarantee in practice, for all countries, equitable access to the geostationary-satellite orbit in the frequency bands which is important for developing countries. The need to use national allotments of the Plan depend on the demand of each particular country.

A number of earth stations deployed in Region 1 operating with existing GSO FSS satellite systems, including feeder links for GSO MSS systems, in the bands 6 425-6 725 MHz (Earth-to-space) and 6 725-7 025 MHz (Earth-to-space). New earth stations operating with GSO FSS satellites may be deployed in the future.

One study indicated that FSS space stations employing spotbeams pointing at elevation angles of up to 45o would be subject to harmful interference from IMT deployments, with protection criteria exceedance reaching up to 13.8 dB.

[Placeholder for Summary of technical studies]

##### [1/1.2/3.2.3.1.2 FSS downlink (6 700-7 025 and 7 025-7 075 MHz)]

The frequency bands 6 700-7 025 and 7 025-7 075 MHz are allocated to the FSS (space-to-Earth) in all Regions limited to feeder links for non-GSO MSS systems. The use of this band by feeder links for non-GSO MSS is subject to coordination under RR No. **9.11A** and is not subject to RR No. **22.2** as per footnote RR No. **5.458B**. There is a limited number of earth stations (space-to-Earth) in the bands 6 725-7 025 MHz, 7 025-7 075 MHz, operating with LEO and MEO satellites and new earth stations operating with LEO, MEO and НEO satellites may be deployed in the future.

One study indicates that urban macro cell, micro cell, and indoor IMT deployments can exceed the protection criteria of an FSS ES receiving in the 6 700 – 7 075 MHz range.

[Placeholder for Summary of technical studies]

1/1.2/3.2.3.2 FS

[Placeholder for Summary of technical studies]

1/1.2/3.2.3.3 SOS (7 100-7 155 MHz)

[Placeholder for Summary of technical studies]

1/1.2/3.2.3.4 SRS (7 145-7 190 MHz)

[Placeholder for Summary of technical studies]

1/1.2/3.2.4 Frequency range 10-10.5 GHz

The frequency range 10-10.5 GHz is allocated to the EESS (active), RLS on a primary basis. The frequency bands adjacent to this frequency range are allocated to the EESS (active), EESS (passive), FS, MS [(LMS, AMS, MMS)], RAS and RLS. The details of these allocations and those of the adjacent frequency bands can be found in the Radio Regulations.

[No ITU-R studies were performed for xxx.]

[Resolution **751 (WRC-07)** “Use of the frequency band 10.6-10.68 GHz” provides the sharing criteria in the band for the Earth exploration-satellite service (passive), the fixed service and the mobile service.]

1/1.2/3.2.4.1 RLS

[Placeholder for Summary of technical studies]

1/1.2/3.2.4.2 EESS (active) (10-10.4 GHz)

[Placeholder for Summary of technical studies]

1/1.2/3.2.4.3 EESS (passive) (10.6-10.7 GHz)

[Placeholder for Summary of technical studies]

1/1.2/3.2.4.4 RAS

[Placeholder for Summary of technical studies]

1/1.2/4 Methods to satisfy the agenda item

| Band  (based on Res. 245 (WRC-19)) | Section |
| --- | --- |
| 1 / 3 300-3 400 MHz in R1 | 1/1.2/4.1 |
| 2 / 3 300-3 400 MHz in R2 | 1/1.2/4.2 |
| 3 / 3 600-3 800 MHz in R2 | 1/1.2/4.3 |
| 4 / 6 425-7 025 MHz in R1 | 1/1.2/4.4 |
| 5 / 7 025-7 125 MHz globally | 1/1.2/4.5 |
| 6 / 10.0-10.5 GHz in R2 | 1/1.2/4.6 |

1/1.2/4.1 Band 1 – 3 300-3 400 MHz [(amend footnote] in Region 1[)]

View1:

View 2:

1/1.2/4.1.1 Method 1A

This method proposes no change to the allocations in the frequency band 3 300-3 400 MHz in Region 1, and proposes the suppression of Resolution **245 (WRC-19)**.

1/1.2/4.1.2 Method 1B

This method proposes to modify existing footnotes RR No. **5.429A** and RR No. **5.429B** to add interested Region 1 countries which are in the area defined in RR No. **5.429B** (south of 30° parallel north) to allocate the band 3 300-3 400 MHz to the mobile service (except aeronautical mobile) on a primary basis and to identify it for IMT in those countries.

1/1.2/4.1.3 Method 1C

This method proposes to modify existing footnotes RR No. **5.429A** and RR No. **5.429B** including the revision of given conditions and to add interested Region 1 countries to allocate the band 3 300-3 400 MHz to the mobile service (except aeronautical mobile) on a primary basis (RR No. **5.429A**) and to identify it for IMT in those countries (RR No. **5.429B**).

1/1.2/4.1.4 Method 1D

This method proposes a primary allocation to the mobile service (except aeronautical mobile) in the band 3 300-3 400 MHz in interested Region 1 countries and identification of IMT through a new footnote

[Note: Resolution **245 (WRC-19)** refers only to amending existing footnote for the band 3 300-3 400 MHz in Region 1.

Or

Note: This Method was included in accordance with View X. See also Views 1 and 2 in Section 4.1.]

1/1.2/4.1.5 Method 1E

Primary allocation to the mobile service (except aeronautical mobile) in the band 3 300-3 400 MHz by adding the band in the Table of Allocations for Region 1 and identification to IMT by modification of RR No. **5.429B** to apply to Region 1, and any consequent modifications to RR No. **5429A**.

[Note: Resolution **245 (WRC-19)** refers only to amending existing footnote for the band 3 300-3 400 MHz in Region 1.

Or

Note: This Method was included in accordance with View X. See also Views 1 and 2 in Section 4.1.]

1/1.2/4.2 Band 2 – 3 300-3 400 MHz (Region 2)

1/1.2/4.2.1 Method 2A

This method proposes no change to the allocations in the frequency band 3 300-3 400 MHz in Region 2, and proposes the suppression of Resolution **245 (WRC-19)**.

1/1.2/4.2.2 Method 2B

This method proposes to allocate the band 3 300-3 400 MHz to the mobile service on a primary basis in Region 2 and identify it for IMT, by:

– upgrading the existing secondary mobile allocation on the Table of Frequency Allocations

– modifying the existing RR footnotes (RR Nos. **5.429C** and **5.429D**) specifying that stationsin the MS operating in the frequency band 3 300‑3 400 MHz shall not cause harmful interference to or claim protection from systems in the RLS

– modifying the existing RR footnote (RR No. **5.429D**) for IMT identification in Region 2.

1/1.2/4.2.2 Method 2C

This method proposes to allocate the band 3 300-3 400 MHz to the mobile service on a primary basis in Region 2 and identify it for IMT, by:

– upgrading the existing secondary mobile allocation, except aeronautical mobile, on the Table of Frequency Allocations

– modifying the existing RR footnotes (RR Nos. **5.429C** and **5.429D**) specifying that stationsin the MS operating in the frequency band 3 300‑3 400 MHz shall not cause harmful interference to or claim protection from systems in the RLS

– modifying the existing RR footnote for IMT (RR No. **5.429D**) identification in Region 2.

1/1.2/4.3 Band 3 – 3 600-3 800 MHz (Region 2)

1/1.2/4.3.1 Method 3A

This method proposes no change to the allocations in the frequency band 3 600-3 800 MHz in Region 2, and proposes the suppression of Resolution **245 (WRC-19)**.

1/1.2/4.3.2 Method 3B

This method proposes to identify the frequency band 3 600-3 800 MHz for IMT in Region 2 by modifying RR No **5.434** to list the following condition:

– RR Table **21-4**.

In addition, conditions applicable to the MS in the frequency band equally apply to IMT

1/1.2/4.3.3 Method 3C

This method proposes to identify the frequency band 3 600-3 800 MHz for IMT in Region 2 by modifying RR No. **5.434** to list the following conditions:

– pfd limit for the MS/IMT

– RR Table **21-4**

– RR Nos. **9.17**, **9.18.**

[1/1.2/4.3.4 Method 3D

This method proposes to identify the frequency band 3 600-3 700 MHz for IMT in additional countries in Region 2 by adding names of countries to RR No. **5.434** while maintaining all existing conditions.]

1/1.2/4.3.5 Method 3E

This method proposes to identify the frequency band 3 600-3 800 MHz for IMT in Region 2 by modifying RR No. **5.434** listing the following conditions:

– RR Nos. **9.17**, **9.18**

– RR Nos. **9.21**

– RR Table **21-4**

– Revised pfd limit for the MS/IMT.

1/1.2/4.3.6 Method 3F

This method proposes to identify the frequency band 3 600-3 700 MHz for IMT in Region 2 by modifying RR No. **5.434** while maintaining all existing conditions.

1/1.2/4.4 Band 4 – 6 425-7 025 MHz (Region 1)

1/1.2/4.4.1 Method 4A

This method proposes no change to the allocations in the frequency band 6 425-7 025 MHz in Region 1, and proposes the suppression of Resolution **245 (WRC-19)**.

*Reason: sharing and compatibility studies show that IMT operations in the 6 425 – 7 025 MHz band can cause harmful interference to the fixed service. Moreover, studies indicate that typical IMT deployment densities would result in harmful aggregate interference into FSS space stations.*

1/1.2/4.4.2 Method 4B

This method proposes to identify the frequency band 6 425-7 025 MHz in Region 1 for IMT by creating a new RR footnote without any conditions.

1/1.2/4.4.3 Method 4C

This method proposes to identify the frequency band 6 425-7 025 MHz, or portions thereof, in Region 1 for IMT by creating a new RR footnote without any conditions.

1/1.2/4.4.4 Method 4D

This method proposes to identify the frequency band6 425-7 025 MHz, or portions thereof, in Region 1 for IMT by creating a new RR footnote with conditions which are contained in a new Resolution.

1/1.2/4.5 Band 5 – 7 025-7 125 MHz (globally)

1/1.2/4.5.1 Method 5A

This method proposes no change to the allocations in the frequency band 7 025-7 125 MHz, and proposes the suppression of Resolution **245 (WRC-19)**.

*Reason: sharing and compatibility studies show that IMT operations in the 7 025-7 125 MHz band can cause harmful interference to the fixed services. Moreover, studies indicate that typical IMT deployment densities would result in harmful aggregate interference into FSS space stations.*

1/1.2/4.5.2 Method 5B

This method proposes to identify the frequency band 7 025-7 125 MHz for IMT by creating a new RR footnote without any conditions.

1/1.2/4.5.3 Method 5C

This method proposes to identify the frequency band 7 025-7 125 MHz, or portions thereof, for IMT, by creating a new RR footnotewith conditions which are contained in a new Resolution.

1/1.2/4.5.4 Method 5D

This method proposes to identify 7 025-7 125 MHz for IMT by creating a new RR footnote with a requirement to implement technical measures to protect SOS (Earth-to-space) in the band 7 100-7 155 MHz.

1/1.2/4.6 Band 6–10.0-10.5 GHz (Region 2)

1/1.2/4.6.1 Method 6A

This method proposes no change to the allocations in the frequency band 10-10.5 GHz in Region 2, and proposes the suppression of Resolution **245 (WRC-19)**.

1/1.2/4.6.2 Method 6B

This method proposes to allocate the band 10-10.5 GHz to the mobile service on a primary basis in the Frequency Allocation Table in Region 2, modify RR Nos. **5.480** and **5.481**, and identify the frequency band for IMT by creating a new RR footnote with conditions which are contained in a new Resolution.

1/1.2/4.6.3 Method 6C

This method proposes to allocate the band 10-10.5 GHz to the mobile service on a primary basis in the Frequency Allocation Table in Region 2, modify RR Nos. **5.480** and **5.481**, and identify the frequency band for IMT by creating a new RR footnote with conditions applying to IMT stations only and excluding aeronautical IMT stations.

1/1.2/5 Regulatory and procedural considerations

[Editor’s Note: Section 5 has not been considered at the 41st meeting of WP 5D. The membership is invited to review these sections and make proposals to the 42nd meeting of WP5D.]

**[**

1/1.2/5.1 Methods 1A, 2A, 3A, 4A, 5A and 6A

No change, the regulatory text below applies.

NOC

ARTICLES

NOC

APPENDICES

SUP

RESOLUTION 245 (WRC‑19)

Studies on frequency-related matters for the terrestrial component of International Mobile Telecommunications identification in the frequency bands 3 300-3 400 MHz, 3 600-3 800 MHz, 6 425-7 025 MHz,   
7 025-7 125 MHz and 10.0-10.5 GHz

NOC

RECOMMENDATIONS

## 1/1.2/5.2 Band 1 – 3 300-3 400 MHz (amend footnote in Region 1)

1/1.2/5.2.1 For Method 1B

ARTICLE 5

Frequency allocations

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

MOD

2 700-3 600 MHz

|  |  |  |
| --- | --- | --- |
| Allocation to services | | |
| Region 1 | Region 2 | Region 3 |
| 3 300-3 400  RADIOLOCATION |  |  | |
| 5.149 5.429 MOD 5.429A MOD 5.429B 5.430 |  |  | |

MOD

5.429A *Additional allocation*:  in [Country name for countries of Region 1 south of 30° parallel north] Angola, Benin, Botswana, Burkina Faso, Burundi, Djibouti, Eswatini, Ghana, Guinea, Guinea-Bissau, Lesotho, Liberia, Malawi, Mauritania, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sudan, South Sudan, South Africa, Tanzania, Chad, Togo, Zambia and Zimbabwe, the frequency band 3 300‑3 400 MHz is allocated to the mobile, except aeronautical mobile, service on a primary basis. Stations in the mobile service operating in the frequency band 3 300-3 400 MHz shall not cause harmful interference to, or claim protection from, stations operating in the radiolocation service.     (WRC‑23)

MOD

5.429B In the following countries of Region 1 south of 30° parallel north: [Country name] Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Congo (Rep. of the), Côte d’Ivoire, Egypt, Eswatini, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Malawi, Mauritania, Mozambique, Namibia, Niger, Nigeria, Uganda, the Dem. Rep. of the Congo, Rwanda, Sudan, South Sudan, South Africa, Tanzania, Chad, Togo, Zambia and Zimbabwe, The frequency band 3 300-3 400 MHz is identified for the implementation of International Mobile Telecommunications (IMT). The use of this frequency band shall be in accordance with Resolution **223 (Rev.WRC‑19)**. The use of the frequency band 3 300-3 400 MHz by IMT stations in the mobile service shall not cause harmful interference to, or claim protection from, systems in the radiolocation service, and administrations wishing to implement IMT shall obtain the agreement of neighbouring countries to protect operations within the radiolocation service. This identification does not preclude the use of this frequency band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations.     (WRC‑23)

1/1.2/5.2.2 For Method 1C

MOD

5.429A *Additional allocation*:  in [Country name] Angola, Benin, Botswana, Burkina Faso, Burundi, Djibouti, Eswatini, Ghana, Guinea, Guinea-Bissau, Lesotho, Liberia, Malawi, Mauritania, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sudan, South Sudan, South Africa, Tanzania, Chad, Togo, Zambia and Zimbabwe, the frequency band 3 300‑3 400 MHz is allocated to the mobile, except aeronautical mobile, service on a primary basis. Stations in the mobile service operating in the frequency band 3 300-3 400 MHz shall not cause harmful interference to, or claim protection from, stations operating in the radiolocation service.     (WRC‑23)

MOD

5.429B In [Country name] Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Congo (Rep. of the), Côte d’Ivoire, Egypt, Eswatini, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Malawi, Mauritania, Mozambique, Namibia, Niger, Nigeria, Uganda, the Dem. Rep. of the Congo, Rwanda, Sudan, South Sudan, South Africa, Tanzania, Chad, Togo, Zambia and Zimbabwe, The frequency band 3 300-3 400 MHz is identified for the implementation of International Mobile Telecommunications (IMT). The use of this frequency band shall be in accordance with Resolution **223 (Rev.WRC‑19)**. The use of the frequency band 3 300-3 400 MHz by IMT stations in the mobile service shall not cause harmful interference to, or claim protection from, systems in the radiolocation service, and administrations wishing to implement IMT shall obtain the agreement of neighbouring countries to protect operations within the radiolocation service. This identification does not preclude the use of this frequency band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations.     (WRC‑23)

## 1/1.2/5.3 Band 2 – 3 300-3 400 MHz (Region 2)

1/1.2/5.3.1 For Method 2B

ARTICLE 5

Frequency allocations

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

MOD

2 700-3 600 MHz

|  |  |  |
| --- | --- | --- |
| Allocation to services | | |
| Region 1 | Region 2 | Region 3 |
|  | 3 300-3 400  MOBILE MOD 5.429D  RADIOLOCATION  Amateur  Fixed |  | |
|  | 5.149 MOD 5.429C |  | |

MOD

5.429C *Different category of service*: in Argentina, Brazil, Guatemala, the Dominican Republic, Guatemala, Mexico, Paraguay and Uruguay, the frequency band 3 300-3 400 MHz is also allocated to the fixed service on a primary basis. Stations in the fixed service operating in the frequency band 3 300-3 400 MHz shall not cause harmful interference to, or claim protection from, stations operating in the radiolocation service.     (WRC‑23)

MOD

5.429D Stations in the mobile service operating in the frequency band 3 300-3 400 MHz shall not cause harmful interference to, or claim protection from, stations operating in the radiolocation service. The use of the frequency band 3 300-3 400 MHz is identified for the implementation of International Mobile Telecommunications (IMT). This use in Argentina, Paraguay and Uruguay is subject to the application of No. 9.21. Administrations wishing to implement IMT shall obtain the agreement of neighbouring countries to protect operations within the radiolocation service. This identification does not preclude the use of this frequency band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations.     (WRC‑23)

## 1/1.2/5.4 Band 3 – 3 600-3 800 MHz (Region 2)

1/1.2/5.4.1 For Method 3B

ARTICLE 5

Frequency allocations

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

MOD

3 600-4 800 MHz

|  |  |  |
| --- | --- | --- |
| Allocation to services | | |
| Region 1 | Region 2 | Region 3 |
|  | 3 600-3 700  FIXED  FIXED-SATELLITE (space-to-Earth)  MOBILE except aeronautical mobile MOD 5.434  Radiolocation 5.433 | 3 600-3 700  FIXED  FIXED-SATELLITE (space-to-Earth)  MOBILE except aeronautical mobile  Radiolocation  5.435 |
| 3 700-3 800  FIXED  FIXED-SATELLITE (space-to-Earth)  MOBILE except aeronautical mobile MOD 5.434 | 3 700-3 800  FIXED  FIXED-SATELLITE (space-to-Earth)  MOBILE except aeronautical mobile |
| 3 800-4 200  FIXED  FIXED-SATELLITE (space-to-Earth)  MOBILE except aeronautical mobile | |

ARTICLE 5

Frequency allocations

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

MOD

5.434 In Region 2, the frequency band 3 600-3 800 MHz, or portions thereof, is identified for use by administrations wishing to implement International Mobile Telecommunications (IMT). Stations of the mobile service, including IMT systems, in the frequency band 3 600-3 800 MHz shall not claim more protection from space stations than that provided in Table 21‑4 of the Radio Regulations.     (WRC‑23)

1/1.2/5.4.2 For Method 3C

ARTICLE 5

Frequency allocations

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

MOD

5.434 In Region 2, the frequency band 3 600-3 800 MHz, or portions thereof, is identified for use by administrations wishing to implement International Mobile Telecommunications (IMT). This identification does not preclude the use of this frequency band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. At the stage of coordination the provisions of Nos. **9.17** and **9.18** also apply. Before an administration brings into use a base or mobile station of an IMT system, it shall ensure that the power flux-density (pfd) produced at 3 m above ground does not exceed −154.5 dB(W/(m2 ⋅ 4 kHz)) for more than 20% of time at the border of the territory of any other administration. This limit may be exceeded on the territory of any country whose administration has so agreed. In order to ensure that the pfd limit at the border of the territory of any other administration is met, the calculations and verification shall be made, taking into account all relevant information, with the mutual agreement of both administrations (the administration responsible for the terrestrial station and the administration responsible for the earth station), with the assistance of the Bureau if so requested. In case of disagreement, the calculation and verification of the pfd shall be made by the Bureau, taking into account the information referred to above. Stations of the mobile service, including IMT systems, in the frequency band 3 600-3 800 MHz shall not claim more protection from space stations than that provided in Table **21‑4** of the Radio Regulations.     .     (WRC‑23)

[1/1.2/5.4.3 For Method 3D

ARTICLE 5

Frequency allocations

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

MOD

5.434 In Canada, Chile, Colombia, Costa Rica, El Salvador, the United States and Paraguay, [add name of countries], the frequency band 3 600-3 700 MHz, or portions thereof, is identified for use by administrations wishing to implement International Mobile Telecommunications (IMT). This identification does not preclude the use of this frequency band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. At the stage of coordination the provisions of Nos. **9.17** and **9.18** also apply. Before an administration brings into use a base or mobile station of an IMT system, it shall seek agreement under No. **9.21** with other administrations and ensure that the power flux-density (pfd) produced at 3 m above ground does not exceed −154.5 dB(W/(m2 ⋅ 4 kHz)) for more than 20% of time at the border of the territory of any other administration. This limit may be exceeded on the territory of any country whose administration has so agreed. In order to ensure that the pfd limit at the border of the territory of any other administration is met, the calculations and verification shall be made, taking into account all relevant information, with the mutual agreement of both administrations (the administration responsible for the terrestrial station and the administration responsible for the earth station), with the assistance of the Bureau if so requested. In case of disagreement, the calculation and verification of the pfd shall be made by the Bureau, taking into account the information referred to above. Stations of the mobile service, including IMT systems, in the frequency band 3 600-3 800 MHz shall not claim more protection from space stations than that provided in Table **21‑4** of the Radio Regulations (Edition of 2020).     (WRC‑23)

]

1/1.2/5.4.2 For Method 3E

MOD

5.434 In Region 2, the frequency band 3 600-3 700 MHz, or portions thereof, is identified for use by administrations wishing to implement International Mobile Telecommunications (IMT). This identification does not preclude the use of this frequency band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. At the stage of coordination the provisions of Nos. **9.17** and **9.18** also apply. Before an administration brings into use a base or mobile station of an IMT system, it shall seek agreement under No. **9.21** with other administrations and ensure that the power flux-density (pfd) produced at 3 m above ground does not exceed [−154.5] dB(W/(m2 ⋅ 4 kHz)) for more than 0.005% of time at the border of the territory of any other administration. This limit may be exceeded on the territory of any country whose administration has so agreed. In order to ensure that the pfd limit at the border of the territory of any other administration is met, the calculations and verification shall be made, taking into account all relevant information, with the mutual agreement of both administrations (the administration responsible for the terrestrial station and the administration responsible for the earth station), with the assistance of the Bureau if so requested. In case of disagreement, the calculation and verification of the pfd shall be made by the Bureau, taking into account the information referred to above. Stations of the mobile service, including IMT systems, in the frequency band 3 600-3 800 MHz shall not claim more protection from space stations than that provided in Table **21‑4** of the Radio Regulations (Edition of 2004).     (WRC‑19)

1/1.2/5.4.3 For Method 3F

ARTICLE 5

Frequency allocations

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

MOD

5.434 In Region 2, the frequency band 3 600-3 700 MHz, or portions thereof, is identified for use by administrations wishing to implement International Mobile Telecommunications (IMT). This identification does not preclude the use of this frequency band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. At the stage of coordination the provisions of Nos. **9.17** and **9.18** also apply. Before an administration brings into use a base or mobile station of an IMT system, it shall seek agreement under No. **9.21** with other administrations and ensure that the power flux-density (pfd) produced at 3 m above ground does not exceed −154.5 dB(W/(m2 ⋅ 4 kHz)) for more than 20% of time at the border of the territory of any other administration. This limit may be exceeded on the territory of any country whose administration has so agreed. In order to ensure that the pfd limit at the border of the territory of any other administration is met, the calculations and verification shall be made, taking into account all relevant information, with the mutual agreement of both administrations (the administration responsible for the terrestrial station and the administration responsible for the earth station), with the assistance of the Bureau if so requested. In case of disagreement, the calculation and verification of the pfd shall be made by the Bureau, taking into account the information referred to above. Stations of the mobile service, including IMT systems, in the frequency band 3 600-3 800 MHz shall not claim more protection from space stations than that provided in Table **21‑4** of the Radio Regulations (Edition of 2020).     (WRC‑23)

## 1/1.2/5.5 Band 4 – 6 425-7 025 MHz (Region 1)

1/1.2/5.5.1 For Method 4B

ARTICLE 5

Frequency allocations

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

MOD

5 570-6 700 MHz

|  |  |  |
| --- | --- | --- |
| Allocation to services | | |
| Region 1 | Region 2 | Region 3 |
| 5 925-6 700 FIXED 5.457  FIXED-SATELLITE (Earth-to-space) 5.457A 5.457B  MOBILE 5.457C ADD AI12-4A  5.149 5.440 5.458 | | |

MOD

6 700-7 250 MHz

|  |  |  |
| --- | --- | --- |
| Allocation to services | | |
| Region 1 | Region 2 | Region 3 |
| 6 700-7 075 FIXED  FIXED-SATELLITE (Earth-to-space) (space-to-Earth) 5.441  MOBILE ADD AI12-4A  5.458 5.458A 5.458B | | |

ADD

AI12-4A1 In Region 1, the frequency band 6 425-7 025 MHz is identified for use by administrations wishing to implement the terrestrial component of International Mobile Telecommunications (IMT). This identification does not preclude the use of this frequency band by any application of the services to which they are allocated and does not establish priority in the Radio Regulations.     (WRC-23)

1/1.2/5.5.2 For Method 4C

**ADD**

AI12-4A2 In Region 1, the frequency band 6 425-7 025 MHz is identified for use by administrations wishing to implement the terrestrial component of International Mobile Telecommunications (IMT). This identification does not preclude the use of this frequency band by any application of the services to which they are allocated and does not establish priority in the Radio Regulations. Resolution **[AI124A] (WRC-23)** applies.     (WRC-23)

ADD

draft new Resolution [AI124A] (WRC-23)

**(*the text also includes the frequency band 7 025-7 125 MHz covered in section 5.6.2*)**

Terrestrial component of International Mobile Telecommunications in the frequency band 6 425-7 125 MHz

The World Radio Communication Conference (Dubai, 2023),

considering

*a)* that International Mobile Telecommunications (IMT), including IMT‑2000, IMT‑Advanced and IMT‑2020, is the ITU vision of global mobile access, and is intended to provide telecommunication services on a worldwide scale, regardless of location and type of network or terminal;

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

*c)* 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 regulatory actions;

*d)* that ITU‑R has studied, in preparation for WRC-23, sharing and compatibility with services allocated in the frequency band 6 425-7 025 MHz in Region 1 and 7 025-7 125 MHz in all Regions, based on characteristics available at that time, and results may change if these characteristics change;

*e)* that it is assumed that a very limited number of IMT base stations will be communicating with a positive elevation angle towards IMT indoor mobile stations;

*f)*  that the frequency band 6 425-7 125 MHz, or part thereof, is allocated on a primary basis to the fixed, mobile and fixed-satellites services (Earth-to-space and space-to-Earth);

*g)* that in the band 6 425-7 075 MHz, passive microwave sensor measurements are carried out over the oceans under No. **5.458**,

noting

*a)* Resolutions **223 (Rev.WRC-19)**, **224 (Rev.WRC-19)** and **225 (Rev.WRC-12)**, which also relate to IMT;

*b)* that the IMT terrestrial radio interfaces as defined in Recommendations ITU-R M.1457 and ITU-R M.2012 are expected to evolve within the framework of ITU-R beyond those initially specified, to provide enhanced services and services beyond those envisaged in the initial implementation;

*c)* that ITU-R has developed its vision defining the framework and overall objectives of IMT towards 2030 and beyond to drive the future developments for IMT;

*d)* that ITU-R is studying the application of No. 21.5 to IMT station that use an antenna that consists of an array of active elements,

recognizing

*a)* that the identification of a frequency band for IMT does not establish priority in the Radio Regulations and does not preclude the use of the frequency band by any application of the services to which it is allocated;

*b)* that for some administrations the only way of implementing IMT would be spectrum refarming, requiring significant financial investment;

*c)* that studies have shown that the protection of non-GSO FSS Earth-stations requires determination of protection distances ranging between few kilometres to tens of kilometres. These protection distances are site specific and depend on several elements such as the propagation parameters, local terrain topography, station, and orbital parameters of the non-GSO system,

resolves

1 that administrations wishing to implement IMT consider use of the frequency band 6 425-7 025 in Region 1 and 7 025-7 125 MHz in all Regions identified for IMT in No. 5.AI124Aand No. 5.A12-5A2, and the benefits of harmonized utilization of the spectrum for the terrestrial component of IMT, taking into account the latest relevant ITU‑R Recommendations;

2 that administrations shall apply the following conditions to ensure the protection, continued use and future development of the fixed-satellite service:

2.1 take practical measures to ensure the transmitting antennas of outdoor base stations are normally pointing below the horizon, when deploying IMT base stations within the frequency band 6 425-7 075 MHz; the mechanical pointing needs to be at or below the horizon;

2.2 as far as practicable, sites for IMT base stations within the frequency band 6 425-7 075 MHz employing values of e.i.r.p. per beam exceeding XX dBW should be selected so that the direction of maximum radiation of any antenna will be separated from the geostationary-satellite orbit, within line-of-sight of the IMT base station, by ±YY degrees;

2.3 that protection of FSS receiving earth stations in the frequency band 6 700-7 075 MHz should be facilitated by adoption of site specific coordination, either on a national basis or through bilateral agreement;

2.4 that IMT stations within the frequency range 6 700-7 075 MHz are used for applications of the land mobile service;

3 that, for the purpose of verification of No. 21.5 in the notification of IMT stations that use an array of active elements in the frequency band 6 425-7 075 MHz, the power delivered by a transmitter to the antenna of a station in No. 21.5 shall be considered as the total radiated power (TRP) of such antenna,

encourages administrations

1 to ensure that provisions for the implementation of IMT allow for the continued use of FSS earth stations and their future development;

2 to keep the antenna pattern of IMT base stations within the limits of the approximation envelope according to Recommendation ITU‑R M.2101 and to implement suppression side lobe mitigation techniques,

invites the ITU Radiocommunication Sector

1 to develop harmonized frequency arrangements to facilitate IMT deployment in the frequency band 6 425-7 025 MHz in Region 1 and 7 025-7 125 MHz in all Regions;

2 to develop a recommendation to address methods for the determination of the protection area around a non-GSO Earth-station in the 6 700-7 075 MHz frequency bands, from an IMT base station;

3 to regularly review, as appropriate, the impact of evolving technical and operational characteristics of IMT systems (including base-station density) on sharing and compatibility with space services, and to take into account the results of these reviews in the development and/or revision of ITU‑R Recommendations/Reports addressing, *inter alia*, if necessary, applicable measures to mitigate the risk of interference into space services,

instructs the Director of the Radiocommunication Bureau

to bring this Resolution to the attention of relevant international organizations.

1/1.2/5.6 Band 5 – 7 025-7 125 MHz (globally)

1/1.2/5.6.1 For Method 5B

ARTICLE 5

Frequency allocations

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

MOD

6 700-7 250 MHz

|  |  |  |
| --- | --- | --- |
| Allocation to services | | |
| Region 1 | Region 2 | Region 3 |
| 6 700-7 075 FIXED  FIXED-SATELLITE (Earth-to-space) (space-to-Earth) 5.441  MOBILE ADD 5.A12-5A  5.458 5.458A 5.458B | | |
| 7 075-7 145 FIXED  MOBILE ADD 5.A12-5A  5.458 5.459 | | |

ADD

5.A12-5A1 The frequency band 7 025-7 125 MHz is identified for use by administrations wishing to implement the terrestrial component of International Mobile Telecommunications (IMT). This identification does not preclude the use of this frequency band by any application of the services to which they are allocated and does not establish priority in the Radio Regulations.     (WRC‑23)

1/1.2/5.6.2 For Method 5C

ADD

5.A12-5A2 The frequency band 7 025-7 125 MHz, or portions thereof, is identified for use by administrations wishing to implement the terrestrial component of International Mobile Telecommunications (IMT). This identification does not preclude the use of this frequency band by any application of the services to which they are allocated and does not establish priority in the Radio Regulations. Resolution **[AI124A] (WRC-23)** applies.     (WRC-23)

ADD

draft new Resolution [AI124A] (WRC-23)

**(*see text in section 5.5.2*)**

1/1.2/5.6.3 For Method 5D

ADD

5.A12-5A1 The frequency band 7 025-7 125 MHz is identified for use by administrations wishing to implement the terrestrial component of International Mobile Telecommunications (IMT) in accordance with Resolution **[IMT 7 100-7 125 MHz] (WRC-23)**. This identification does not preclude the use of this frequency band by any application of the services to which they are allocated and does not establish priority in the Radio Regulations.     (WRC‑23)

ADD

Draft New Resolution [IMT 7 100-7 125 MHz] (WRC-23)

Terrestrial component of International Mobile Telecommunications   
in the frequency band 7 100-7 125 MHz

The World Radio Communication Conference (Dubai, 2023),

considering

*a)* that International Mobile Telecommunications (IMT), including IMT-2000, IMT-Advanced and IMT-2020, is intended to provide telecommunication services on a worldwide scale, regardless of location and type of network or terminal;

*b)* that adequate and timely availability of spectrum and supporting regulatory provisions are essential to realize the objectives in Recommendation ITU-R M.2083;

*c)* 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;

*d)* 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,

recognizing

*a)* that timely availability of wide and contiguous blocks of spectrum is important to support the development of IMT;

*b)* that the frequency band 7 100-7 155 MHz is allocated on a primary basis to the SOS (Earth-to-space),

resolves

1 {Editor’s note: Placeholder to further develop this section, including any provisions deemed necessary to provide protection to SOS (Earth-to-space).}

invites the ITU Radiocommunication Sector

1 to develop harmonized frequency arrangements to facilitate IMT deployment in the frequency bands 7 025-7 125 MHz, taking into account the results of sharing and compatibility studies conducted in preparation for WRC-23;

2 to continue providing guidance to ensure that IMT can meet the telecommunication needs of the developing countries,

instructs the Director of the Radiocommunication Bureau

to bring this Resolution to the attention of relevant international organizations.

## 1/1.2/5.7 Band 6 – 10.0-10.5 GHz (Region 2)

1/1.2/5.7.1 For Method 6B

ARTICLE 5

Frequency allocations

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

MOD

10-10.7 GHz

|  |  |  |
| --- | --- | --- |
| Allocation to services | | |
| Region 1 | Region 2 | Region 3 |
|  | 10-10.4  EARTH EXPLORATION-SATELLITE (active) 5.474A 5.474B 5.474C  MOBILE ADD 5.A12-6A  RADIOLOCATION  Amateur |  |
|  | 5.474D 5.479 MOD 5.480 |  |
|  | 10.4-10.45  MOBILE ADD 5.A12-6A  RADIOLOCATION  Amateur |  |
|  | MOD 5.480 |  |
| 10.45-10.5 MOBILE ADD 5.A12-6A  RADIOLOCATION  Amateur  Amateur-satellite  MOD 5.481 | | |

MOD

5.480 *Additional allocation:*in Argentina, Brazil, Chile, Colombia, Costa Rica, Cuba, El Salvador, Ecuador, Guatemala, Honduras, Mexico, Paraguay, the overseas countries and territories within the Kingdom of the Netherlands in Region 2, Peru, Uruguay and Venezuela, the frequency band 10‑10.45 GHz is also allocated to the fixed service on a primary basis..     (WRC‑23)

MOD

5.481 *Additional allocation:* in Algeria, Germany, Angola, China, Côte d’Ivoire, Egypt, Spain, Hungary, Japan, Kenya, Morocco, Nigeria, Oman, Uzbekistan, Pakistan, the Dem. People’s Rep. of Korea, Romania and Tunisia, the frequency band 10.45-10.5 GHz is also allocated to the fixed and mobile services on a primary basis. In Brazil, Costa Rica, El Salvador, Ecuador, Guatemala, Paraguay, Peru and Uruguay, the frequency band 10.45-10.5 GHz is also allocated to the fixed service on a primary basis.     (WRC‑23)

ADD

5.A12-6A1 In Region 2, the frequency band 10-10.5 GHz, is identified for use by administrations wishing to implement the terrestrial component of International Mobile Telecommunications (IMT). This identification does not preclude the use of this frequency band by any application of the services to which they are allocated and does not establish priority in the Radio Regulations. Resolution **[IMT 10 GHz] (WRC-23)** applies.     (WRC-23)

ADD

5.A12-6A2 In Region 2, stations in the mobile service operating in the frequency band 10-10.5 GHz shall not cause harmful interference to, or claim protection from, stations operating in the radiolocation service. In addition, the frequency band 10-10.5 GHz, is identified for use by administrations wishing to implement the terrestrial component of International Mobile Telecommunications (IMT). This identification does not preclude the use of this frequency band by any application of the services to which they are allocated and does not establish priority in the Radio Regulations. Resolution **[IMT 10 GHz] (WRC-23)** applies.     (WRC-23)

ADD

5.A12-6A3 In Region 2, the frequency band 10-10.5 GHz, is identified for use by administrations wishing to implement the terrestrial component of International Mobile Telecommunications (IMT). This identification does not preclude the use of this frequency band by any application of the services to which they are allocated and does not establish priority in the Radio Regulations. Harmful interference shall not be caused to stations of the radio astronomy service using the band 10.6-10.7 GHz by stations using frequencies in the band 10-10.5 GHz under this identification for the terrestrial component of IMT and the power flux received at such radio astronomy stations in the band 10.68-10.7 GHz from said implementation shall not exceed –167 dB(W/m2). Resolution **[IMT 10 GHz] (WRC-23)** applies.     (WRC-23)

ADD

Draft New Resolution [IMT 10 GHz] (WRC-23)

Terrestrial component of International Mobile Telecommunications in the frequency band 10-10.5 GHz

The World Radio Communication Conference (Dubai, 2023),

considering

1. that International Mobile Telecommunications (IMT), including IMT-2000, IMT‑Advanced and IMT-2020, is intended to provide telecommunication services on a worldwide scale, regardless of location and type of network or terminal;
2. that adequate and timely availability of spectrum and supporting regulatory provisions are essential to realize the objectives in Recommendation ITU-R M.2083;
3. 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;
4. 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,

recognizing

*a)* that timely availability of wide and contiguous blocks of spectrum is important to support the development of IMT;

*b)* that the frequency band 10.6-10.68 GHz is allocated on a primary basis to both active and passive services with specific conditions outlined in Resolution **751 (WRC-07)**, based on the conclusion of studies contained in Report ITU-R RS.2096, that allow for sharing with EESS (passive);

*c)* that the frequency band 10.68-10.7 GHz is solely allocated to passive services and No. **5.340** applies,

resolves

1that administrations shall take practical measures to ensure the transmitting antennas of outdoor base stations are normally pointing below the horizon, when deploying IMT base stations within the frequency band 10-10.5 GHz; the mechanical pointing needs to be at or below the horizon;

2 that administrations shall use suppression sidelobe techniques providing [30 dB] additional attenuation for angles above 30° compared to the approximation envelope according to Recommendation ITU‑R M.2101;

3 that the power delivered by a transmitter to the antenna of a station; or the total radiated power (TRP) of IMT stations that use an antenna that consists of an array of active elements, shall not exceed 34 dBm,

*{Editor’s note: Placeholder to further develop this section, including any provisions deemed necessary to provide protection to incumbent services.}*

invites the ITU Radiocommunication Sector

1 to develop harmonized frequency arrangements to facilitate IMT deployment in the frequency bands 10-10.5 GHz, taking into account the results of sharing and compatibility studies conducted in preparation for WRC-23;

2 to continue providing guidance to ensure that IMT can meet the telecommunication needs of the developing countries,

instructs the Director of the Radiocommunication Bureau

to bring this Resolution to the attention of relevant international organizations.

*]*

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

1. Including studies with respect to services in adjacent bands, as appropriate. [↑](#footnote-ref-1)