|  |  |  |
| --- | --- | --- |
| A close up of a sign  Description automatically generated | **World Radiocommunication Conference (WRC-23)Dubai, 20 November - 15 December 2023** |  |
|  |  |
|  |  |
| PLENARY MEETING | **Addendum 2 toDocument 127-E** |
|  | **29 October 2023** |
|  | **Original: Spanish** |
|  |
| Mexico |
| proposals for the work of the conference |
|  |
| Agenda item 1.2 |

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)**;

ARTICLE 5

Frequency allocations

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

MOD MEX/127A2/1

10-10.7 GHz

|  |
| --- |
| Allocation to services |
| Region 1 | Region 2 | Region 3 |
| 10-10.4EARTH EXPLORATION-SATELLITE (active) 5.474A 5.474B 5.474C FIXEDMOBILERADIOLOCATIONAmateur | 10-10.4EARTH EXPLORATION-SATELLITE (active) 5.474A 5.474B 5.474CMOBILE ADD 5.A12RADIOLOCATIONAmateur | 10-10.4EARTH EXPLORATION-SATELLITE (active) 5.474A 5.474B 5.474CFIXEDMOBILERADIOLOCATIONAmateur |
| 5.474D 5.479  | 5.474D 5.479 MOD 5.480  | 5.474D 5.479  |
| 10.4-10.45FIXEDMOBILERADIOLOCATIONAmateur | 10.4-10.45MOBILE ADD 5.A12RADIOLOCATIONAmateur | 10.4-10.45FIXEDMOBILERADIOLOCATIONAmateur |
|  | MOD 5.480 |  |
| 10.45-10.5RADIOLOCATIONAmateurAmateur-satelliteMOD 5.481 | 10.45-10.5MOBILE ADD 5.A12RADIOLOCATIONAmateurAmateur-satelliteMOD 5.481 | 10.45-10.5RADIOLOCATIONAmateurAmateur-satelliteMOD 5.481 |

**Reasons:** To include the allocation to the mobile service on a primary basis in the frequency band 10-10.5 GHz for Region 2, with corresponding amendments to Nos. **5.480** and **5.481**, and to include a new footnote to indicate the IMT identification.

MOD MEX/127A2/2#1379

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)

**Reasons:** As a result of the allocation of the frequency band 10-10.5 GHz on a primary basis in Region 2, this footnote should be updated to reflect the additional allocation to the fixed service alone.

MOD MEX/127A2/3#1380

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, Mexico, 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)

**Reasons:** As a result of the allocation of the frequency band 10-10.5 GHz on a primary basis in Region 2, this footnote should be updated to reflect the additional allocation to the fixed service.

ADD MEX/127A2/4

5.A12 The frequency band 10-10.5 GHz is identified for use by administrations wishing to introduce the terrestrial component of International Mobile Telecommunications (IMT) – see Resolution **[A12-10GHZ] (WRC‑23)**. 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)

**Reasons:** The identification of the frequency band 10-10.5 GHz in Region 2 will make it possible to introduce additional broadband services and as a result to continue with the process of digitalization and bridging the digital divide.

ADD MEX/127A2/5#2244

Draft New Resolution [a12-10ghz] (wrc-23)

Terrestrial component of International Mobile Telecommunications in the frequency band 10-10.5 GHz in Region 2

The World Radiocommunication Conference (Dubai, 2023),

considering

*a)* that International Mobile Telecommunications (IMT), including IMT-2000, IMT‑Advanced and IMT-2020, are 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 set out 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 10.6-10.68 GHz is allocated on a primary basis to both active and passive services with the specific conditions outlined in Resolution **751 (WRC‑07)**, based on the conclusions of the studies contained in Report ITU‑R RS.2096, which allow for sharing with the Earth exploration-satellite service (EESS) (passive);

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

resolves

1that administrations wishing to implement IMT shall consider using the frequency band 10-10.5 GHz identified for IMT in No. **5.A12** in Region 2, taking into account the latest relevant ITU‑R Recommendations;

2 that 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;

3 that administrations shall consider suppression side lobe techniques providing 16 dB additional attenuation for angles above 30°, considering the main beam at boresight, compared to the approximation envelope according to Recommendation ITU‑R M.2101;

4 that, for the purposes of protecting the EESS (passive), the unwanted emission level per IMT base station shall not exceed −36.7 dB(W/100 MHz)| in the frequency band 10.6-10.7 GHz;

5 that, for the purposes of protecting the EESS (passive), the unwanted emission level per IMT user equipment shall not exceed −34 dB(W/100 MHz) in the frequency band 10.6-10.7 GHz;

6 that IMT stations operating in the frequency band 10-10.5 GHz shall ensure adequate protection for radio astronomy stations operating in the frequency band 10.68-10.7 GHz,

invites the ITU Radiocommunication Sector

1 to develop harmonized frequency arrangements to facilitate IMT deployment in the frequency band 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 developing countries;

3 to develop an ITU‑R Report and/or Recommendation on methodologies for calculating coordination zones around radio astronomy stations operating in the frequency band 10.6-10.7 GHz in order to avoid harmful interference from IMT systems operating in the frequency band 10-10.5 GHz;

4 to review existing ITU‑R Recommendations and, as appropriate, to update them or develop new ITU‑R Recommendations to provide information on possible coordination measures for fixed-service (FS) stations with IMT stations in the frequency band 10-10.5 GHz and provide assistance to the administrations concerned,

instructs the Director of the Radiocommunication Bureau

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

**Reasons:** Identification of the frequency band 10-10.5 GHz in Region 2 will make it possible to implement additional broadband services and as a result continue the process of digitalization and bridging the digital divide.

MOD MEX/127A2/6

RESOLUTION 245 (WRC‑23)

Studies on frequency-related matters for the terrestrial component of International Mobile Telecommunications identification in the frequency bands6 425-7 025 MHz and
7 025-7 125 MHz

The World Radiocommunication Conference (Dubai, 2023),

considering

*a)* that International Mobile Telecommunications (IMT) is 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 such as enhanced mobile broadband, massive machine-type communications and ultra-reliable and low-latency communications, and applications including fixed broadband;

*d)* that ultra-low latency and very high data transfer speed applications of IMT will require contiguous blocks of spectrum for use by administrations wishing to implement IMT;

*e)* that, compared with lower and higher frequency bands, the mid-band spectrum can provide better balance for meeting needs for both coverage and capacity;

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

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

*h)* that the development of IMT-2030 will continue improving wireless communications, thereby improving people’s quality of life, and will expand its aims towards socioeconomic, environmental and cultural sustainability;

*i)* that adequate and timely availability of spectrum and corresponding regulatory provisions are essential to support the future development of IMT;

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

*k)* that identification of frequency bands as in *considering* *e)* for IMT may change the sharing situation regarding applications of all services to which the frequency band is already allocated, and may require additional regulatory actions;

*l)* that in preparation for WRC‑23, the frequency bands 6 425-7 025 MHz (Region 1) and 7 025-7 125 MHz have been studied for possible use by the terrestrial component of IMT in these bands, mainly under specific considerations for Region 1;

*m)* that ITU-R has not examined sharing between transmitting earth stations in the fixed-satellite service (FSS) and IMT receiving stations in the frequency band 6 425-7 125 MHz;

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

*o)* that the implementation of IMT may differ among administrations in the various frequency bands identified for IMT,

noting

*a)* that Resolution ITU‑R 65 addresses the principles for the process of development of IMT for 2020 and beyond;

*b)* that IMT encompasses IMT-2000, IMT-Advanced, IMT-2020 and IMT-2030 collectively, as described in [the draft revision of] Resolution ITU‑R 56;

*c)* that Question ITU‑R 77‑8/5 considers the needs of developing countries in the development and implementation of IMT;

*d)* that Question ITU‑R 229/5 seeks to address the further development of IMT;

*e)* that Question ITU‑R 262/5 addresses the study of usage of IMT systems for specific applications;

*f)* Recommendation ITU‑R M.2083, on the framework and objectives of the future development of IMT for 2020 and beyond;

*g)* that Recommendation ITU‑R M.2101 refers to modelling and simulation of IMT networks and systems with a view to the use thereof in sharing and compatibility studies;

*h)* that Recommendation ITU-R M.2150 gives detailed specifications of the terrestrial radio interfaces of International Mobile Telecommunications-2020 (IMT-2020);

*i)* that the new Recommendation ITU-R M.[IMT.FRAMEWORK FOR 2030 AND BEYOND], which includes the objectives for future development of IMT-2030 and beyond, is [in the process of being] approved under Resolution ITU-R 1.8;

*j)* that Recommendation ITU‑R P.2108 deals with prediction of clutter loss;

*k)* that Report ITU‑R M.2320 addresses future technology trends of terrestrial IMT systems;

*l)* that Report ITU‑R M.2370 analyses trends impacting future IMT traffic growth beyond the year 2020 and estimates global traffic demand for the period 2020 to 2030;

*m)* Report ITU‑R M.2376, on technical feasibility of IMT in the frequency bands above 6 GHz;

*n)* Report ITU‑R M.2410, on minimum requirements related to technical performance for IMT-2020 radio interface(s);

*o)* Report ITU‑R M.2516, on future technology trends of terrestrial IMT systems towards 2030 and beyond,

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 in order to ensure the future development of IMT it is important to ensure the timely identification of additional spectrum;

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

*d)* that for many countries there is a need to identify additional radio spectrum resources to achieve global harmonization in IMT implementation;

*e)* that for some administrations the only way to implement IMT would be to reconfigure spectrum set aside for other services or applications;

*f)* that in order to ensure the presence of the elements that could apply to the region-specific regulations, issues specific to each of them must be taken into account in studying the various frequency bands;

*g)* that administrations may have different spectrum requirements, depending on their national situation or specific circumstances,

resolves to invite the ITU Radiocommunication Sector

1 to conduct and complete in time for WRC‑27 the appropriate studies of technical, operational and regulatory issues pertaining to the possible use of the terrestrial component of IMT in the frequency bands listed in *resolves to invite the ITU Radiocommunication Sector*2, taking into account:

– evolving needs to meet emerging demand for IMT;

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

– the deployment scenarios envisaged for IMT systems and the related requirements of balanced coverage and capacity;

– 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 sharing and compatibility studies[[1]](#footnote-1)1, with a view to ensuring the protection only 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, the protection of services with primary allocations in adjacent bands, for the following frequency bands and regions:

– 7 025-7 125 MHz;

– 6 425-7 025 MHz (Region 2),

resolves

1 to invite the first session of the Conference Preparatory Meeting for WRC‑27 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 at WRC‑27;

2 to invite WRC‑27 to consider, based on the results of the above studies, additional spectrum allocations to the mobile service on a primary basis and to consider identification of frequency bands for the terrestrial component of IMT, the frequency bands to be considered being limited to part or all of the frequency bands listed in *resolves to invite the ITU Radiocommunication Sector*2,

invites administrations

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

**Reasons:** Studying the possible identification of the frequency bands 6 425-7 025 GHz and 7 025-7 125 MHz for the terrestrial component of IMT offers an opportunity to ensure that in the future the necessary radio spectrum will be available for the provision of next generation broadband services and so that the process of digitalization and bridging the digital divide can continue.

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

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