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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 2 to Document 099(Add.27)-E** | |
|  | | **27 October 2023** | |
|  | | **Original: English** | |
|  | | | |
| Japan | | | |
| 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)**,

Introduction

At the last meeting of APT Conference Preparatory Group for WRC-23 (APG-23) in August 2023, APT Members discussed developing a preliminary APT Common Proposal regarding the identification of frequency band(s) for terrestrial component of International Mobile Telecommunications (IMT), as a possible item for inclusion in the agenda for WRC‑27.

Due to lack of time and complex discussion, the last APG-23 meeting was not able to develop a common proposal on this matter. However, it was clarified that “*APT Members support to consider an agenda item for WRC-27 towards identification of a portion(s) of the frequency range 4.4-15.35 GHz for the terrestrial component of IMT*.”

At WRC-23, APT Members will further discuss this possible agenda item for WRC-27, including the specific frequency bands to be included in the agenda item.

Proposal

Considering the above discussion conducted at APG-23, Japan supports and proposes a possible item for inclusion in the agenda for WRC-27 regarding the identification of the frequency band 12.75-12.95 GHz for the future development of terrestrial component of IMT.

In the discussion at APG-23, concerns were expressed to consider the frequency band 12.75-12.95 GHz with respect to the use of the fixed-satellite service (FSS). However, Japan is of the view that the use of the FSS in this frequency band is relatively limited compared to other frequency bands for Ku-band satellite communications. Furthermore, since this frequency band is used for Earth-to-space direction of the FSS, there is a possibility to coexist between applications of the FSS and terrestrial component of IMT by defining appropriate conditions to protect the FSS uplink, including the use for RR Appendix **30B**.

Japan also recognizes that some regional group(s) and/or individual administration(s) are preparing proposals regarding identification of the frequency band(s) for the terrestrial component of IMT, as an agenda item for WRC-27. Japan is ready to discuss these proposals at WRC-23, and the proposal from Japan should be considered together in order to establish a single agenda item for WRC-27 on this topic.

ADD J/99A27A2/1

Draft New Resolution [J-1] (WRC-23)

Agenda for the 2027 World Radiocommunication Conference

The World Radiocommunication Conference (Dubai, 2023),

…

resolves

...

1.x to consider identification of the frequency band 12.75-12.95 GHz for the future development of terrestrial component of International Mobile Telecommunications (IMT) in accordance with Resolution **[J-2] (WRC-23)**;

...

**Reasons:** Considering the extended use of IMT and its associated spectrum needs, ITU should continue exploring identification of IMT spectrum in the ITU Radio Regulations in order for administrations to flexibly select and use those identified frequency bands for IMT according to their own national spectrum policies. The use of the FSS in the frequency band 12.75-12.95 GHz is relatively limited compared to other frequency bands for Ku-band satellite communications. Since this frequency band is used for Earth-to-space direction of the FSS, there is a possibility to coexist between applications of the FSS and terrestrial component of IMT by defining appropriate conditions to protect the FSS uplink, including the use for RR Appendix **30B**. Further information on the details of the proposal can be found in the Annex below.

ADD J/99A27A2/2

Draft New Resolution [J-2] (WRC-23)

Studies on frequency-related matters for identification of the frequency band 12.75-12.95 GHz for the future development of terrestrial component of International Mobile Telecommunications (IMT) for 2030 and beyond

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 networks or terminals;

*b)* that IMT systems are now being evolved to provide diverse usage scenarios and applications including fixed broadband;

*c)* the development of IMT for 2030 and beyond is to continue improving quality of life for all and to expand its goals towards societal, environmental, cultural and economic sustainability;

*d)* that some of the frequency bands below 7 125 MHz and between 24.25 and 86 GHz have been studied and identified for IMT in the ITU Radio Regulations (RR) globally, regionally and/or nationally;

*e)* the identification of spectrum for IMT in the RR provides the information not only for the harmonized use of radio spectrum but also for the proper use of radio spectrum for IMT, which enables IMT to achieve sharing and compatibility with other applications and services in the same and/or adjacent frequency bands;

*f)* that while the frequency bands are identified for IMT, some countries have not been used or not be planned for use by IMT due to different spectrum usage for other applications and services;

*g)* that continuation of studies regarding additional identification for IMT spectrum is needed in order to provide proper conditions for a use of IMT, which provide sharing and compatibility with other incumbent applications, and then to give flexibility for administrations to select the frequency bands among those identified bands for IMT;

*h)* that at previous world radiocommunication conferences (WRCs), frequency ranges other than those mentioned in *considering d)* were not thoroughly studied;

*i)* that the ITU Radiocommunication Sector has been working on standardization for IMT for 2030 and beyond;

*j)* that adequate and timely availability of spectrum and supporting regulatory provisions is essential to support the future development of IMT;

*k)* 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;

*l)* that identification of additional frequency bands 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;

*m)* that IMT has effectively shared the limited spectrum resource with other services and applications through the provisions in the RR;

*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,

noting

*a)* that Resolution ITU‑R 65 addresses the principles for the process of development of IMT for 2030 and beyond;

*b)* that IMT encompasses IMT‑2000, IMT‑Advanced, IMT‑2020 and IMT‑2030 collectively, as described in Resolution ITU‑R 56;

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

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

*e)* Recommendation ITU‑R M.[IMT.FRAMEWORK FOR 2030 AND BEYOND], on the framework and objectives of the future development of IMT for 2020 and beyond;

*f)* that Report ITU‑R M.2516 addresses future technology trends of terrestrial IMT systems,

recognizing

*a)* that there is a lead time between the allocation of frequency bands by WRCs and the deployment of systems in those bands, and that timely availability of spectrum is therefore important to ensure the future development of IMT;

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

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

*d)* that the preamble of the RR provides objectives including “*to facilitate the efficient and effective operation of all radiocommunication services; and to provide for and, where necessary, regulate new applications of radiocommunication technology*”,

resolves to invite 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 band(s) listed in *resolves to invite the ITU Radiocommunication Sector*2, taking into account:

– evolving needs to meet emerging service demand;

– situations with high data traffic demands, such as in dense urban areas and/or in peak times;

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

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

– 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-2)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 band(s):

– 12.75-12.95 GHz,

*[Japan’s note: Other frequency bands could be added here based on discussion at WRC‑23.]*

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, based on the results of the above studies, to consider allocations to the mobile service on a primary basis and to consider identification of frequency band(s) for the terrestrial component of IMT, where the frequency bands to be considered shall be limited to part or all of the frequency bands listed in *resolves to invite the ITU Radiocommunication Sector*2,

*encourages Member States, Sector Members, Academia, and Associates*

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

**Reasons:** This draft new Resolution is proposed as an associated WRC Resolution for a possible agenda item of WRC-27 regarding identification of the frequency band(s) for the terrestrial component of IMT. This proposed Resolution could be combined with similar proposal(s) on the same topic provided by some other reginal group(s) and/or individual administration(s) at WRC-23.

ANNEX

Template for the submission of proposals for agenda items

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| **Subject:** Proposal for a new WRC-27 agenda item to consider identification of the frequency band 12.75-12.95 GHz for terrestrial component of International Mobile Telecommunications (IMT) | |
| **Origin**: Japan | |
| ***Proposal*:**  To consider identification of the frequency band 12.75-12.95 GHz for the future development of terrestrial component of International Mobile Telecommunications (IMT) in accordance with Resolution **[J-2] (WRC-23)**; | |
| ***Background/reason*:**  Since ITU initiated the studies on IMT in 1985, IMT has evolved not only for providing the international mobile telecommunications but also for supporting the development of various industry sectors. Furthermore, IMT will be an important enabler of achieving the UN Sustainable Development Goals (SDGs) and societal, economic, environmental, and cultural development.  The evolution of IMT has been facilitated through the identification of the frequency bands for IMT in the ITU Radio Regulations (RR). In the early stage of the identification of IMT spectrum, global harmonized use of IMT was the main purpose. However, it is now well recognized that the identification of IMT spectrum is also associated with the information on proper conditions regarding how IMT could share the frequency bands with other incumbent services through the provisions in the RR.  These provisions in the RR gives flexibility for Members to use the identified IMT frequency bands in accordance with their own national spectrum policies.  Considering the enlargement of usage scenario of IMT, the development of technology which enables the sharing of the frequency bands with other incumbent services and IMT identification for the proper use of IMT, ITU (collectively of Members) should continue exploring new identification of IMT spectrum in order not only to keep providing a way of efficient use of spectrum but also to assist Members to use/select those identified frequency bands for IMT according to their own national spectrum policies.  At the past WRCs, while the frequency ranges below 7.125 GHz and between 24.25 GHz and 86 GHz were extensively discussed for IMT, other frequency ranges were not thoroughly studied. Therefore, it would be useful to study some specific frequency bands for IMT from the frequency ranges that were not fully studied previously considering the needs for IMT to provide broadband capacity together with a certain level of coverage. As an example, one country started an examination of the 12.7 GHz frequency band for next-generation wireless services, including 5G (IMT-2020), 6G (IMT-2030), and beyond[[2]](#footnote-3). For this study, it is essential to keep in mind that there were some reasons why some of these frequency ranges were not considered for IMT at the past WRCs, such as heavy use of spectrum by the incumbent services and requirements of their protection and their future development.  There is a significant gap of time between the identification of frequency bands for IMT in the ITU Radio Regulations and the implementation and deployment of IMT systems in those bands. Therefore, timely identification of IMT spectrum in the RR is important to support the development of IMT, while considering the need to protect existing services and to allow for their continued development. | |
| ***Radiocommunication services concerned*:**  Within the frequency band 12.75-12.95 GHz: Fixed, fixed-satellite (Earth-to-space), mobile | |
| ***Indication of possible difficulties*:**  Sharing and compatibility between IMT and other applications in the co-primary services. | |
| ***Previous/ongoing studies on the issue*:**  ITU-R Working Party 5D is studying future development of terrestrial component of IMT. The following studies have been completed so far.  Report ITU-R M.2516 – “Future technology trends of terrestrial International Mobile Telecommunications systems towards 2030 and beyond”  Draft new Recommendation ITU-R M.[IMT.FRAMEWORK FOR 2030 AND BEYOND] – “Framework and overall objectives of the future development of IMT for 2030 and beyond” | |
| ***Studies to be carried out by*:**  ITU-R Study Group 5, Working Party 5D | ***with the participation of*:**  Members States and Sector Members of ITU-R |
| ***ITU‑R study groups concerned*:**  Study Group 5 (Working Parties 5A, 5B, 5C and 5D), Study Group 4 (Working Party 4A) | |
| ***ITU resource implications, including financial implications (refer to CV126)*:**  This proposed agenda item will be studied within the normal ITU-R procedures and planned budget. As the responsible group for IMT matters, ITU-R Working Party 5D usually has meetings three times a year, each of which lasts around 10 days. | |
| ***Common regional proposal*:** No | ***Multicountry proposal*:** No  ***Number of countries*:** |
| ***Remarks*** | |

**Reasons:** The above information is provided in accordance with the template in Annex 2 to Resolution **804 (Rev.WRC-19)** to explain the details of our proposal on an agenda items for WRC‑27 regarding identification of the frequency band(s) for the terrestrial component of IMT.

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1. 1 Including studies with respect to services in adjacent bands, as appropriate. [↑](#footnote-ref-2)
2. <https://www.fcc.gov/document/fcc-examine-127-ghz-band-next-gen-wireless> [↑](#footnote-ref-3)