PUBLIC NOTICE

Federal Communications Commission
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Washington, D.C. 20554

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DA 22-157
February 22, 2022

INTERNATIONAL BUREAU SEEKS COMMENT ON RECOMMENDATIONS APPROVED BY THE WORLD RADIOCOMMUNICATION CONFERENCE ADVISORY COMMITTEE

IB Docket No. 16-185

On February 15, 2022 the World Radiocommunication Conference Advisory Committee (WRC-23 Advisory Committee or WAC) approved and provided for Commission consideration of its draft recommendations on issues that will be considered by the 2023 World Radiocommunication Conference (WRC-23). These recommendations are attached to this Public Notice.

Based upon an initial review of the draft recommendations forwarded to the Commission, the International Bureau, in coordination with other Commission Bureaus and Offices, tentatively concludes that we can generally support most of the content attached in the WRC-23 Advisory Committee draft recommendation. We seek comment on the draft recommendation provided by the WRC-23 Advisory Committee (Attachment A). In addition, we also seek comment on the NTIA draft proposals (Attachment B).

The comments provided by interested parties will assist the FCC in its upcoming consultations with the U.S. Department of State and NTIA in the development of U.S. positions for WRC-23. The recommendations that are attached to this Public Notice may evolve in the course of interagency discussions as we approach WRC-23 and, therefore, do not constitute any final U.S. Government positions on any issue.

The deadline for comments on the proposed recommendations is **March 4, 2022**. It is necessary that all comments be received by **March 4, 2022**, in order to allow sufficient time to finalize the U.S. position before commencement of regional WRC-23 preparatory meetings. All comments are to reference **IB Docket No. 16-185** and to specific recommendations by WAC document number.

Pursuant to sections 1.415 and 1.419 of the Commission's rules, 47 CFR §§ 1.415, 1.419, interested parties may file comments on or before **March 4, 2022**. Comments may be filed using the Commission's Electronic Comment Filing System (ECFS). *See Electronic Filing of Documents in Rulemaking Proceedings*, 63 FR 24121 (1998).

- Electronic Filers: Comments may be filed electronically using the Internet by accessing the ECFS: http://apps.fcc.gov/ecfs/.
- Paper Filers: Parties who choose to file by paper must file an original and one copy of each filing.
    - Filings can be sent by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail. All filings must be addressed to the Commission's Secretary, Office of the Secretary, Federal Communications Commission.
    - Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9050 Junction Drive, Annapolis Junction, MD 20701.U.S.
    - Postal Service first-class, Express, and Priority mail must be addressed to 45 L Street, N.E., Washington DC 20554
- Effective March 19, 2020, and until further notice, the Commission no longer accepts any hand or messenger delivered filings. This is a temporary measure taken to help protect the health and safety of individuals, and to mitigate the transmission of COVID-19.[1]
- During the time the Commission's building is closed to the general public and until further notice, if more than one docket or rulemaking number appears in the caption of a proceeding, paper filers need not submit two additional copies for each additional docket or rulemaking number; an original and one copy are sufficient.

People with Disabilities: To request materials in accessible formats for people with disabilities (braille, large print, electronic files, audio format), send an e-mail to fcc504@fcc.gov or call the Consumer and Governmental Affairs Bureau at 202-418-0530 (voice), 1-888-835-5322 (tty).

In addition, one copy of each pleading must be sent to: Dante Ibarra, Designated Federal Official, Global Strategy and Negotiation Division, International Bureau, 45 L Street, N.E., Washington, D.C. 20554; email: WRC-23@fcc.gov.

The complete texts of these recommendations are available by accessing the FCC's WRC-23 web site at: www.fcc.gov/wrc-23. Filings and comments are also available for public inspection and copying during regular business hours at the FCC Reference Information Center, Portals II, 45 L Street, N.E., Washington, D.C. 20554.

For further information, please contact Dante Ibarra at (202) 418-0610 or by email at: WRC-23@fcc.gov.

-FCC–

[1] *See FCC Announces Closure of FCC Headquarters Open Window and Change in Hand-Delivery Policy*, Public Notice, 35 FCC Rcd 2788 (2020).

ATTACHMENT (A)

UNITED STATES OF AMERICA
DRAFT PRELIMINARY VIEWS FOR WRC-23

Agenda Item 1.7: Studies on a possible new allocation to the aeronautical mobile-satellite (R) service within the frequency band 117.975-137 MHz in order to support aeronautical VHF communications in the Earth-to-space and space-to-Earth directions

BACKGROUND: The frequency band 117.975- 137 MHz is allocated on a primary basis to the AM(R)S service and used for air-ground, ground-air and air-air systems, providing critical voice and data communications for air traffic management and airline operational control on a global basis. Resolution **428 (WRC-19)** invites WRC-23 to consider a new primary allocation to the AMS(R)S based on the results of sharing and compatibility studies. This new AMS(R)S service is intended to support direct pilot-air traffic controller voice as well as data communications in oceanic and remote areas without modifying aircraft equipment.

In the United States, the AM(R)S allocation in 117.975-137 MHz supports the primary Air Traffic Control (ATC) and Aeronautical Operational Control (AOC) systems for all manned aircraft. This includes both standard voice communications but also the recently introduced national ATC datalink system, utilizing data messages for ATC and AOC functions to aircraft in the air and on the ground. Current terrestrial voice and datalink networks in the US provide coverage over the entire United States up to 40,000ft altitude, including up to 250+ nautical miles from the national coastline as aircraft transition from US oceanic to terrestrial control.

Additionally, there is significant utilization by terrestrial VHF systems within this allocation today, thus severely limiting options for new regional or national satellite frequency assignments that would need to be harmonized with existing terrestrial assignments.

U.S. VIEW: The Unites States supports technical and regulatory studies under Resolution **428 (WRC-19)** for a new primary AMS(R)S service in the 117.975 – 137 MHz frequency band provided such an allocation is found to be compatible with existing services. The United States is of the view that this new allocation must protect current systems using existing primary services and should not constrain the planned usage of those systems, for both ground stations and aircraft under their control.

UNITED STATES OF AMERICA
DRAFT PROPOSALS FOR THE WORK OF THE CONFERENCE

Agenda Item 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)****;*

BACKGROUND

Mobile broadband plays a crucial role in providing access to businesses and consumers worldwide. In 2020, the first year of the pandemic, the number of Internet users grew by 10.2 per cent, the largest increase in a decade, driven by developing countries where Internet use went up 13.3 per cent. According to ITU estimates, the number of active mobile-cellular telephone subscriptions per 100 inhabitants continues to grow strongly, reaching 110 subscriptions per 100 inhabitants, including a record number of mobile subscriptions with broadband capacity (3G or better).[2] Ninety-five percent of the world's population lives within reach of a mobile broadband service, and the relatively small difference in the number of subscriptions between developed and developing countries demonstrates that connectivity is a priority among people in countries at all levels of development.[3]

The demand for mobile wireless broadband applications such as IMT continues to grow dramatically as does the need for access to radio spectrum to support that growth.[4] Fifth generation (5G) provides improved data rates and reduced latency. Importantly 5G has been designed to enable capabilities in a wide range of industries including healthcare, transportation, manufacturing, education, and telemedicine; 5G is expected to have a broad impact on our economies and societies. With demand for IMT applications continuing to increase, additional IMT spectrum identifications in the mid-range frequency bands – with its favourable mix of coverage and capacity - will need to be considered in order to enable future deployments, where

[2] https://www.itu.int/en/ITU-D/Statistics/Documents/facts/FactsFigures2021.pdf

[3] https://www.itu.int/en/ITU-D/Statistics/Documents/facts/FactsFigures2021.pdf

[4] Ericsson predicts that total mobile traffic is expected to increase by a factor of five over the next six years, reaching 164 exabytes per month by the end of 2025. Ericsson reports that today, smartphones generate about 95% of total mobile data traffic, and that by 2025, 5G networks will carry about half of the world's mobile data traffic. *See* Ericsson, Mobility Report at 20 (2020), https://www.ericsson.com/49da93/assets/local/mobility-report/documents/2020/june2020-ericsson-mobility-report.pdf. Cisco estimates that, by 2022, 22% of global internet traffic will come from mobile networks, up from 12% in 2017. *See* Cisco Systems Inc., Cisco Visual Networking Index: Global Mobile Data Traffic Forecast Update, 2017-2022 White Paper (2019), https://www.cisco.com/c/en/us/solutions/collateral/service-provider/visual-networking-index-vni/white-paper-c11-738429.html.

these applications and services might be difficult to implement using lower or higher frequency bands.

6 425-7 025 MHz and 7 025-7 125 MHz

The 6 425 – 7 125 MHz band is already allocated to the mobile service on a primary basis. As a broadly defined service allocation,[5] it affords administrations the flexibility to allow the use of various mobile systems and applications of the mobile service (e.g. electronic news gathering and other video relay and auxiliary services, IMT, RLAN) based on their national priorities and requirements.

The 6 425-7 125 MHz frequency range is allocated to the fixed satellite service (6 425-7 075 MHz), fixed and mobile services and portions of the band are used for Aeronautical Mobile Telemetry (AMT) in Region 2 (No. **5.457C**). Fixed services include microwave links of a critical nature deployed by public safety, utilities, rail and IMT backhaul for telecommunications operators. The space-to-Earth allocation to the fixed-satellite service in the band 6 700-7 075 MHz is limited to feeder links for non-geostationary satellite systems of the mobile-satellite service.

Regarding the Fixed Satellite Service (FSS) use of the band:

- 6 425-7 075 MHz: allocated globally to FSS.
    - 6 425-6 725 MHz: allocated to the FSS (Earth-to-space) in all Regions.
    - 6 725-7 025 MHz: allocated to the FSS (Earth-to-space) and subject to the provisions of Appendix **30B** (No. **5.441**). The FSS allotment in 6 725-7 025 MHz is particularly important to the developing countries.
    - 6 700-7 075 MHz: allocated to the FSS (space-to-Earth), limited to feeder links for non-geostationary satellite systems of the mobile-satellite service and is subject to coordination under No. **9.11A** (No. **5.458B**).
- 7 025-7 075 MHz: Satellite Digital Audio Radio Services (SDARS) for GEO feeder links in the Earth-space direction to provide audio programming to subscribers in the United States, Canada and the Caribbean.

In 2020, the United States made 1200 megahertz of spectrum available for unlicensed use in 5 925-7 125 MHz. This decision allows unlicensed devices (e.g., Wi-Fi 6E, LAA, NR-U) to share this spectrum with incumbent services under rules that are carefully crafted to protect the licensed services and to enable both unlicensed and licensed operations to continue to thrive throughout the band. A number of countries, including nine CITEL administrations, have already decided to allow license-exempt use of the frequency band 6 425-7 125 MHz and others are considering such use. Global regulatory harmonization would ensure economies of scope and scale to enable commercially viable unlicensed device 6 GHz ecosystem. Accordingly, the United States proposes no change to the Radio Regulations for the bands 6 425– 7 125 MHz globally in order to support the flexible use of the mobile service allocation, including for RLAN use, and supports the further harmonization of the 6 GHz band for unlicensed devices.

[5] See Rec. ITU-R SM.1133, "Spectrum utilization of broadly defined services."

Proposal:

ARTICLE 5

Frequency allocations

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

NOC USA/1.2/6 GHz/1

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 5.149 5.440 5.458	

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 5.458 5.458A 5.458B	
7 075-7 145	FIXED MOBILE 5.458 5.549	
…		

Reasons: No change to the Table of Frequency Allocations in the band 6 425 – 7 125 MHz in order to harmonize license-exempt use of the band. Regulatory harmonization will create economies of scope and scale and produce a robust equipment market, benefitting consumers and national economies worldwide. Given the existing mobile allocation, administrations may deploy and operate systems and applications of the mobile service (e.g. IMT or RLAN) based on their national priorities and requirements.

UNITED STATES OF AMERICA

DRAFT PRELIMARY VIEWS FOR WRC-23

Note: This preliminary view is presented as a modification to the existing preliminary view under consideration in CITEL PCC.II (Document GT-CMR23-2021-38-024). Changes proposed by the United States are shown in tracked changes.

Agenda Item 9.1, topic C: *Study the use of International Mobile Telecommunication system for fixed wireless broadband in the frequency bands allocated to the fixed services on primary basis, in accordance with Resolution **175 (WRC-19)**;*

BACKGROUND:

Source: Brazil 5373/USA

This topic was proposed as a new agenda item to WRC-19 through a multi-country proposal (Bahrain, United Arab Emirates, Kuwait and Tunisia) to study fixed wireless broadband applications in the bands allocated to the fixed service that could use IMT technology. The rationale provided by these administrations for this topic is to develop a similar ecosystem for fixed wireless broadband as the IMT ecosystem to encourage economies of scale and equipment interoperability between different fixed broadband equipment suppliers. It is noted that broadband applications in the fixed service and desired economies of scale can already be achieved through the use of different technologies including IMT technology-based systems.

Source: Mexico 5396

On the last days of the World Radiocommunication Conference of 2019 (WRC-19) of the Radiocommunication sector of the International Telecommunication Union (ITU-R), some administrations proposed that, for the next World Radiocommunication Conference, consideration would be given to examining the use of international mobile telecommunications (IMT) for fixed wireless broadband systems in some frequency bands allocated to fixed services on a primary basis.

After several conversations, both at WRC-19 and at the first preparatory meeting for WRC-23 (CPM-23), it was agreed to include this topic on the agenda of WRC-23 as agenda item 9.1.c, in the understanding that the topics included on agenda item 9 could and should not lead to changes in the ITU Radio Regulations (RR) of ITU-R.

It should be mentioned that other administrations attending the CPM-23 asked several questions about this topic, since it is a common practice for work carried out within the ITU-R to be conducted under conditions of technological neutrality. Furthermore, there are recommendations that address the use of fixed wireless access systems in frequency bands allocated to fixed services, such as recommendations ITU-R F.757-4,[6] ITU-R F.1401-1,[7] ITU-R F.1402,[8] and ITU-R F.1488.[9]

[6] https://www.itu.int/rec/R-REC-F.757/en

ISSUES:

Source: Brazil 5373 /USA

To study fixed wireless broadband applications that use IMT technology in the frequency bands allocated to the fixed service on a primary basis, taking into account the relevant ITU-R studies, Handbooks, Recommendations and Reports.

The results of these studies are to be reported to WRC-23 by the Director of the Radiocommunication Bureau, as are all topics under Agenda item 9.1.

Source: USA

The ITU-R has already established a framework in which IMT and other mobile technologies can be used to provide fixed wireless access, including broadband access, in frequencies allocated to the fixed service on a primary basis. However, many of the F.Series Recommendations regarding FWA are outdated and do not reflect the current capability of wireless broadband technology. New or revised Reports and/or Recommendations could be developed to reflect the current state of fixed wireless broadband technologies, including that of IMT. Study Group 5 may continue to review and revise these documents during the next study cycle under relevant ITU-R Questions.

DISCUSSION

Source: Mexico 5396

It is well known that the topics included under agenda item 9 of WRC-23 do not have the necessary authorizations to modify the Radio Regulations, because in accordance with operative clause 9 of Resolution 811 and the terms of Article 7 of the ITU Convention, its application is confined to examining and approving the report of the Director of the Radiocommunication Bureau on the activities of the ITU-R since the last conference. In addition, in the "Structure of the sections of the agenda items in the chapters of the draft CPM report to WRC-23" contained in Administrative Circular CA/251, no consideration is given to "Methods to satisfy the agenda item" or the "Regulatory and procedural considerations." As a result, it is not deemed necessary to establish methods that could meet the requirements of an agenda item, or include regulatory or procedural considerations such as those that are normally included with respect to agenda items in the Report on Preparations prior to a WRC.

Furthermore, in Resolution 175, which includes the matter relative to topic 9.1.c, no frequency band in particular is specified and there is no recommendation made to ITU-R to conduct studies of coexistence and compatibility with other services regarding the use of IMTs in bands allocated to fixed services. Moreover, there is no ITU-R Working Party, including WP 5D that is in charge of everything in connection with IMT, that has sent any technical parameters to Working Parties 5A and 5C, which were designated to be in charge of topic 9.1.c, because of which it is not expected that the ITU-R will submit any studies on coexistence, compatibility, and/or similar aspects of this topic 9.1.c in WRC-23.

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[7] https://www.itu.int/rec/R-REC-F.1401/en

[8] https://www.itu.int/rec/R-REC-F.1401/en

[9] https://www.itu.int/rec/R-REC-F.1488/en

Thus, in view of the above, the Administration of Mexico submits to Permanent Consultative Committee II: Radiocommunications (PCC.II) of CITEL the following preliminary view.

PRELIMINARY VIEWS:

Source: Brazil 5373

The Brazilian Administration supports studies to investigate the use of IMT technologies for fixed wireless broadband in the bands allocated to the fixed service. Brazil is of the view that changes to the Radio Regulations are outside the scope of Agenda Item 9.1 and that existing ITU-R Recommendations/Reports/Handbooks should be taken into account in the assessment of Topic 9.1.c).

Source: Mexico 5396

The Administration of Mexico considers that topic 9.1.c of WRC-23 must be developed in accordance with what is set forth in operative clause 9 of Resolution 811, consisting of examining and approving the Report of the Director of the Radiocommunication Bureau on the activities of the ITU-R since WRC-19, as well as with the structure of the sections of the agenda items in the chapters of the draft Report of the CPM for WRC-23 contained in Administrative Circular CA/251, where neither methods nor regulatory or procedural consideration are established for the topics of 9.1, because of which they could not lead to changes in the Radio Regulations (RR) in connection with topic 9.1.c.

Furthermore, the Administration of Mexico considers that the topic addressed in 9.1.c may be dealt with in ITU-R handbooks, reports, or recommendations, especially in those recommendations referring to the use of fixed wireless access systems in the frequency bands allocated to fixed services published by the ITU-R and still in force to date. Thus, on the one hand, the use of IMT can be assessed as a technological solution to implement fixed wireless broadband systems as part of the applications for fixed services, and on the other hand, the scope of topic 9.1.c is complied with in accordance with Resolution 175 (WRC-19).

Finally, the Administration of Mexico deems it is unnecessary to broaden the scope of this topic to take into consideration the identification of new frequency bands for IMT systems in the bands allocated to fixed services.

Source: United States of America

The United States is of the view that changes to the Radio Regulations are outside the scope of Agenda Item 9.1. For WRC-23 Agenda Item 9.1, Topic c), the United States has been participating in studies under Resolution **175 (WRC-19)** and looks forward to continued participation on these matters in ITU-R Study Group 5**.**

UNITED STATES OF AMERICA

DRAFT PROPOSALS FOR THE WORK OF THE CONFERENCE

Agenda Item 1.18

Agenda Item 1.18: to consider studies relating to spectrum needs and potential new allocations to the mobile-satellite service for future development of narrowband mobile-satellite systems, in accordance with Resolution **248 (WRC-19)**;

Background: This agenda item invited the ITU-R to consider studies relating to spectrum needs and potential new allocations to the mobile-satellite service (MSS) for the applications of low-data rate systems for the collection of data from, and management of, terrestrial devices in the MSS. The technical and operational characteristics in accordance with Resolution **248 (WRC-19)**, as well as spectrum needs, and associated sharing and compatibility studies were not developed to ensure the protection of existing services (in-band and adjacent) with potential new allocations to the MSS in the frequency bands 1695 - 1710 MHz in Region 2, 2 010 – 2 025 MHz in Region 1, 3 300 – 3 315 MHz, 3 385 – 3 400 MHz in Region 2.

For the frequency bands under study in Region 2, in the United States all or portions of the 1 675-1 710 MHz band is allocated to Meteorological-Satellite, Meteorological Aids, and Fixed and Mobile except aeronautical mobile services on a primary basis; the 3 300-3 315 MHz band and the 3 385-3 400 MHz band are allocated to the radiolocation service, and is currently under study for advanced wireless services[10].

Proposal:

NOC USA/1.18/1

Radio Regulations Volumes 1, 2 and 4

Reason: ITU-R studies did not demonstrate that sharing and compatibility is feasible between low-data rate, narrowband MSS applications and existing primary services. In addition, discussions on Resolution 248 have shown it is ambiguous and unclear regarding the consideration of the appropriate technical and operational characteristics that should be used in the sharing and compatibility studies. Therefore, the United States believes that no regulatory actions are necessary to Volumes 1, 2 and 4 of the Radio Regulations.

[10] FCC Notice of Proposed Rulemaking, "Facilitating Shared Use in 3.1-3.55 GHz band." https://docs.fcc.gov/public/attachments/FCC-19-130A1.pdf

SUP USA/1.18/2

RESOLUTION 248 (WRC-19)

Studies relating to spectrum needs and potential new allocations to the mobile satellite service in the frequency bands 1 695-1 710 MHz, 2 010-2 025 MHz, 3 300-3 315 MHz and 3 385-3 400 MHz for future development of narrowband mobile-satellite systems

Reason: Consequential action.

ATTACHMENT (B)

UNITED STATES DEPARTMENT OF COMMERCE
National Telecommunications and Information Administration
Washington, D.C. 20230

Mr. Tom Sullivan
Chief, International Bureau
Federal Communications Commission
45 L St NE,
Washington, DC 20554

Dear Mr. Sullivan:

The National Telecommunications and Information Administration (NTIA), on behalf of the Executive Branch agencies, provides the attached two proposals and one preliminary view for WRC-23:

WRC-23 Proposal for Agenda Item 1.5 addressing spectrum needs in the 470-960 MHz frequency range in Region 1

WRC-23 Proposal for Agenda Item 9, Issue 9.1 Topic C addressing fixed wireless broadband use of IMT

WRC-23 Preliminary View for Agenda Item 1.10 addressing non-safety aeronautical mobile applications

NTIA looks forward to reconciling these proposals with FCC for the upcoming CITEL PCC II meeting in April. If you have any questions, please contact our WRC coordinator, Mr. Charles Glass, who can be reached at (202) 714-1763 or cglass@ntia.gov.

Sincerely,

Steve Molina
Deputy Associate Administrator

Office of Spectrum Management

Enclosures (3)

UNITED STATES OF AMERICA

DRAFT PROPOSALS FOR THE WORK OF THE CONFERENCE

Agenda Item 1.5: *to review the spectrum use and spectrum needs of existing services in the frequency band 470-960 MHz in Region 1 and consider possible regulatory actions in the frequency band 470-694 MHz in Region 1 on the basis of the review in accordance with Resolution* ***235 (WRC-15)****;*

Background

World Radiocommunication Conference 2023 (WRC-23) agenda item 1.5 addresses the spectrum use and spectrum needs of existing services in the frequency band 470-960 MHz in Region 1 and consideration of possible regulatory actions in the frequency band 470-694 MHz in Region 1.

Part of this band was studied under agenda item 1.1 of WRC-15 and resulted in new mobile allocations and identifications for IMT in portions of the frequency range for some administrations in Regions 2 and 3. Since WRC-15, a total of eight countries in Region 2 and seven in Region 3 have IMT identifications including these bands, with 28 countries in Region 3 having IMT identifications in the 698-790 MHz band.

Internationally harmonized bands benefit consumers, through economies of scale in infrastructure, devices, chipsets, etc., thereby reducing network deployment and consumer costs while simultaneously enabling global roaming. The United States has already made the 614-698 MHz band available for mobile broadband licensees through a successful incentive auction that concluded in April 2017. 3GPP has specified Band 71 (the range 663 – 698 MHz / 617 – 652 MHz) as an operating band for 5G New Radio (NR) and equipment is already available for that band.

Proposal:

<u>NOC</u> (for Region 2) USA/1.5/1

460-890 MHz

Region 2

470-512 BROADCASTING Fixed Mobile 5.292 5.293 5.295
512-608 BROADCASTING 5.295 5.297
608-614 RADIO ASTRONOMY Mobile-satellite except aeronautical mobile-satellite (Earth-to-space)
614-698 BROADCASTING Fixed Mobile 5.293 5.308 5.308A 5.309

Reasons: No change is proposed for Region 2. Any changes made to the Radio Regulations under WRC-23 agenda item 1.5 must not impact the existing allocations and identifications for Region 2, nor subject Region 2 to any changed procedural or regulatory provisions.

UNITED STATES OF AMERICA

DRAFT PROPOSALS FOR THE WORK OF THE CONFERENCE

Agenda Item 9, topic 9.1 c): *Use of International Mobile Telecommunications systems for fixed wireless broadband in the frequency bands allocated to the fixed service on a primary basis*

Background

CPM 23-1 assigned both ITU-R Working Parties 5A and 5C with the responsibility to develop CPM text for WRC-23 agenda item 9.1, topic c):

Resolution **175 (WRC-19)** *resolves to invite the ITU Radiocommunication Sector* "to conduct any necessary studies on the use of IMT systems for fixed wireless broadband in the frequency bands allocated to the fixed service on primary basis, taking into account the relevant ITU-R studies, Handbooks, Recommendations and Reports," and *instructs the Director of the Radiocommunication Bureau "*to report to WRC-23 on the results of these studies"

Discussion

The ITU-R has already established a framework in which IMT and other mobile technologies can be used to provide fixed wireless access, including broadband access, in frequencies allocated to the fixed service on a primary basis. Work was performed several years ago by the predecessor group of ITU-R Study Group 5 which developed a body of Recommendations, Reports and Handbooks on Fixed Wireless Access (FWA). This body of work comprises a range of technologies, including IMT, that provide broadband wireless telecommunication applications in a fixed or stationary scenario. However, many of these F-series Recommendations regarding FWA are outdated and do not reflect the current capability of wireless broadband technology. Proponents of using IMT technologies for FWA can revise these existing F-series Recommendations to reflect the current state of wireless broadband technologies, including that of IMT.

The proponents of using IMT for FWA should revise these existing F-series recommendations and not seek further action by WRC-27; noting that primary fixed service bands are often co-allocated with those of the fixed satellite service, along with bands of other services. Therefore, such an agenda item at WRC-27 could have far-reaching consequences. The relevant F-series documentation should be summarized as part of the output of this topic to assist the Director in preparing his report.

Proposals:

NOC USA/9.1-C/1

ARTICLE 5

Frequency allocations

Reason: The United States is of the view that changes to the Radio Regulations are typically outside the scope of Agenda item 9.1 topics. Given that ITU-R SG 5 has already adopted Recommendations, Reports, and Handbooks regarding the use of mobile system technologies for fixed wireless broadband, a review and revision of these publications, as needed, is adequate to address AI 9.1, topic c).

SUP USA/9.1-C/2

RESOLUTION 175 (WRC-19)

Use of International Mobile Telecommunications Systems for Fixed Wireless Broadband in the Frequency Bands Allocated to the Fixed Service on a Primary Basis

Reason: Consequential change as no further action is required by WRC-23 to address this topic.

UNITED STATES OF AMERICA
DRAFT PRELIMINARY VIEWS ON WRC-23

AGENDA ITEM 1.10: to conduct studies on spectrum needs, coexistence with radio communication services and regulatory measures for possible new allocations for the aeronautical mobile service for the use of non-safety aeronautical mobile applications, in accordance with Resolution **430 (WRC-19)**;

BACKGROUND:

Resolution **430 (WRC-19)**, calls for:

1) Sharing and compatibility studies in the 22-22.21 GHz band, already allocated on a primary basis to mobile, except aeronautical mobile to determine if the "except aeronautical mobile" restriction can be revised or deleted
2) Sharing and compatibility studies on a possible new primary allocation to the aeronautical mobile service (AMS) for non-safety aeronautical applications in the frequency band 15.4-15.7 GHz.
3) Definition of appropriate protection for passive services and the radio astronomy service (RAS) allocated in adjacent frequency bands from unwanted emissions of the AMS.

The frequency range 15.4-15.7 GHz is widely used by the radiolocation and aeronautical radionavigation services for critical applications with a significant investment in airborne radar applications within this band. ITU-R past studies show sharing between RLS and AMS could be difficult, requiring extremely large separation distances. Additionally, the sub-band 15.43-15.63 GHz is allocated to the fixed-satellite service (space-to-Earth) on a primary basis for use by feeder links of non-geostationary systems in the mobile satellite service. The aeronautical radionavigation service in the 15.4-15.7 GHz band is used for landing systems and unmanned aircraft detect and avoid systems. An ITU-R Recommendation is currently being developed to provide characteristics and protection requirements for these aeronautical radionavigation systems (Document 5B/76). The sharing studies for the 15.4-15.7 GHz band should take into account the characteristics and protection requirements being developed and the airborne mobile nature of the aeronautical radionavigation systems that operate in the 15.4-15.7 GHz band.

The 22-22.21 GHz frequency band under consideration is adjacent to the 22.21-22.5 GHz frequency band allocated to the EESS (passive). The 22.21-22.5 GHz frequency band allows for remote sensing observations near an H_2O absorption line that is essential not only for measuring atmospheric water vapor, but also for reducing error in other geophysical parameters due to the presence of water vapor. Therefore, adjacent band studies are required to ensure protection of the EESS (passive) in the 22.21-22.5 GHz frequency band.

The United States notes the adjacent 15.35-15.4 GHz frequency band, for which footnote **No. 5.340** applies, is allocated to both the radio astronomy service (RAS) and Earth exploration-satellite service (EESS) (passive) on a primary basis. Additionally, the frequency band 22.21-22.5 GHz is allocated to the RAS and EESS (passive) on a primary basis, and is subject to footnote **No 5.149**, which indicates the particular challenge aeronautical sources of emissions pose for the RAS. The challenge to RAS increases as mobile platforms are moved to increasingly high altitudes because of the line-of-sight to RAS sites, typically sited in

geographically remote locations. RAS can often be protected with a combination of power-level restrictions, geographic avoidance and/or coordination zones, and avoidance of line-of-sights, but aeronautical mobile applications would require careful sharing and compatibility studies and the potential inclusion of restricted zones around RAS sites. The United States also notes the growing importance of geographic radio quiet zones for the protection of RAS and any new allocation should recognize the established radio quiet zones internationally.

U.S. VIEW: The United States supports consideration of possible new allocations to the non-safety aeronautical mobile applications service in the ranges 15.4-15.7 GHz and 22-22.21 GHz. Such consideration would need to take into account the results of spectrum needs and sharing studies, as well as the need to provide protection and not impose constraints on incumbent services within the frequency ranges, 15.4-15.7 GHz and 22-22.21 GHz, and adjacent frequency bands, as appropriate. The studies need to take into account the latest characteristics and protection requirements for incumbent systems, including those that are currently under development. The United States is of the view that protection levels for the RAS, found in Recommendation ITU-R RA.769-2, are appropriate for the protection of the radio astronomy service from adjacent-band transmissions including harmonics and out-of-band emissions.