**UNITED STATES OF AMERICA**

**DRAFT PROPOSALS FOR THE WORK OF THE CONFERENCE**

**Agenda item 1.15**:*to consider identification of frequency bands for use by administrations for the land-mobile and fixed services applications operating in the frequency range 275-450 GHz, in accordance with Resolution 767 (WRC-15)*

**Background Information**: WRC-19 Agenda Item1.15 considers land-mobile and fixed service applications operating in the frequency range 275-450 GHz. However, r

Footnote No. **5.565** does make identifications for radio astronomy, earth exploration-satellite (passive) and space research (passive) services. Consistent with No. **5.565**, frequencies for fixed and land mobile use could be utilized above 275 GHz, provided “all practicable steps” are taken to protect passive services. While the bands enumerated in No. 5.565 for various passive uses completely cover the 275-450 GHz under consideration in Agenda Item 1.15, Report ITU-R RA.2189[[1]](#footnote-1) concluded that "Sharing between radio astronomy and active services in the range 275-3 000 GHz is not problematic." Thus, frequencies identified for radio astronomy use but for neither earth exploration-satellite service (passive) nor space research service use can be used for terrestrial services on an interference-free basis, provided that suitable out-of-band emission limits are used and guard bands are adopted to reflect the realistic limitation of passive system to reject adjacent band power.

Furthermore, t (including those from other countries)

**Proposal**:

**MOD** **USA/1.15/1**

ARTICLE 5

Frequency allocations

**Section IV – Table of Frequency Allocations**

|  |  |  |
| --- | --- | --- |
| 248-3 000 GHz | | |
| Allocation to services | | |
| Region 1 | Region 2 | Region 3 |
| 275-3 000 (Not allocated) 5.565, ADD 5.THZ | | |

**Reasons**: Permitting Radiocommunication use within this frequency range will provide spectrum for new high-speed terrestrial radio systems that can be used efficiently in places where nonradio spectrum technology, e.g. optical fiber, is not economical due to high installation costs and also can be used for rapid restoration of broadband terrestrial networks that have been damaged in a disaster when rapid installation of replacement nonradio alternatives is not practical.



**NOC** **USA/1.15/3**

5.565 The following frequency bands in the range 275-1 000 GHz are identified for use by administrations for passive service applications:

– radio astronomy service: 275-323 GHz, 327-371 GHz, 388-424 GHz, 426‑442 GHz, 453‑510 GHz, 623-711 GHz, 795-909 GHz and 926-945 GHz;

– Earth exploration-satellite service (passive) and space research service (passive): 275-286 GHz, 296-306 GHz, 313-356 GHz, 361-365 GHz, 369-392 GHz, 397‑399 GHz, 409-411 GHz, 416‑434 GHz, 439-467 GHz, 477-502 GHz, 523‑527 GHz, 538-581 GHz, 611-630 GHz, 634‑654 GHz, 657-692 GHz, 713‑718 GHz, 729-733 GHz, 750-754 GHz, 771-776 GHz, 823‑846 GHz, 850‑854 GHz, 857-862 GHz, 866-882 GHz, 905-928 GHz, 951-956 GHz, 968‑973 GHz and 985-990 GHz.

The use of the range 275-1 000 GHz by the passive services does not preclude use of this range by active services. Administrations wishing to make frequencies in the 275-1 000 GHz range available for active service applications are urged to take all practicable steps to protect these passive services from harmful interference until the date when the Table of Frequency Allocations is established in the above-mentioned 275-1 000 GHz frequency range.

All frequencies in the range 1 000-3 000 GHz may be used by both active and passive services.    (WRC‑12)

**Reasons**: To continue to provide protection to passive services in 275-450 GHz, as well as allowing administrations to continue to authorize short range non-communications uses of this spectrum such as terahertz spectroscopy on a non-interference basis to the passive uses identified in No. **5.565**.

**ADD** **USA/1.15/3**

The following frequency bands in the range 275-1 000 GHz are identified for use by administrations for terrestrial fixed and land mobile service applications: 286-296 GHz, 306-313 GHz, 356-361 GHz, 365-369 GHz, 392-397 GHz, 399-409 GHz, 411-416 GHz, and 434-450 GHz. In the frequency bands 286-296 GHz, 306-313 GHz, 356-361 GHz, 365-369 GHz, , 392-397 GHz, 399-409 GHz, and 411-416 GHz some specific conditions (e.g. minimum separation distances and/or avoidance angles) may be necessary to ensure protection of radio astronomy sites from land-mobile and/or fixed service applications, on a case by case basis.

**Reasons**: While much of the spectrum in 275-450 GHz has been previously identified for Earth exploration-satellite service (passive) and space research service (passive), these bands have not been. Although this spectrum has been identified for radio astronomy service, an existing ITU-R report shows that terrestrial sharing with this service in this band is generally possible. The additional restrictions in some of the bands to protect radio astronomy sites is based on WP-1A concerns that in a few locations local circumstances may require additional protection. Since these sites are in remote areas and atmospheric absorption propagation limits interference rage these restrictions will have little impact on most terrestrial uses of these bands.

1. [↑](#footnote-ref-1)