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| **World Radiocommunication Conference (WRC-19) Sharm el-Sheikh, Egypt, 28 October – 22 November 2019** |  |
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| PLENARY MEETING | **Addendum 15 to Document 28-E** |
|  | **27 September 2019** |
|  | **Original: Chinese** |
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| China (People's Republic of) | |
| Proposals for the work of the conference | |
|  | |
| Agenda item 1.15 | |

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)**;

# 1 Introduction

This agenda item seeks to identify spectrum for land mobile service (LMS) and fixed service (FS) applications in the 275-450 GHz frequency range while maintaining protection of the existing Earth exploration-satellite service (EESS) (passive) and radio astronomy service (RAS) applications identified in o. **5.565** of the Radio Regulations (RR).

In the CPM Report, 7 methods A-G are proposed to satisfy this agenda item. The frequency bands identified by Methods B to G are more than sufficient to meet the spectrum needs concluded by the ITU-R studies. Method B proposes to modify RR No. **5.565** toidentify frequency bands for use by FS/LMS applications within the frequency range 275-450 GHz without specific constraints to protect EESS (passive). Methods C to G propose to accomplish this identification by adding a new footnote.

# 2 Views and Proposals

Based on the study results of ITU-R Working Party (WP) 1A, this Administration proposes to add a new footnote RR No. **5.X115** for the administrations to identify the frequency bands for operating land-mobile and fixed services applications in the frequency ranges of 275-296 GHz, 306-313 GHz, 320-330 GHz and 356-450 GHz.

This Administration is also of the view that, in the bands identified for RAS in RR No. **5.565** (275-323 GHz, 327-371 GHz, 388-424 GHz and 426‑442 GHz), separation distances and/or avoidance angles between RAS stations and FS stations should be considered depending on the deployment environment of FS stations.

Considering Terahertz technology continues to evolve and new applications are foreseen to use some parts of 275-450 GHz in the future, identification for the implementation of FS/LMS applications in this frequency range should not cause constraints to the use of new applications in the future.

ARTICLE 5

Frequency allocations

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

MOD CHN/28A15/1

248-3 000 GHz

|  |  |  |
| --- | --- | --- |
| Allocation to services | | |
| Region 1 | Region 2 | Region 3 |
| 248-250 AMATEUR  AMATEUR-SATELLITE  Radio astronomy  5.149 | | |
| 250-252 EARTH EXPLORATION-SATELLITE (passive)  RADIO ASTRONOMY  SPACE RESEARCH (passive)  5.340 5.563A | | |
| 252-265 FIXED  MOBILE  MOBILE-SATELLITE (Earth-to-space)  RADIO ASTRONOMY  RADIONAVIGATION  RADIONAVIGATION-SATELLITE  5.149 5.554 | | |
| 265-275 FIXED  FIXED-SATELLITE (Earth-to-space)  MOBILE  RADIO ASTRONOMY  5.149 5.563A | | |
| 275-3 000 (Not allocated) 5.565 ADD 5.X115 | | |

ADD CHN/28A15/2#49830

5.X115 The following frequency bands are identified for use by administrations for the implementation of the following active service applications:

– land mobile service applications: 275-296 GHz, 306-313 GHz, 320-330 GHz and 356-450 GHz;

– fixed service applications: 275-296 GHz, 306-313 GHz, 320-330 GHz and 356-450 GHz.

The above-mentioned applications do not have priority over other applications of radio services in the range of 275-450 GHz.

Administrations wishing to make the above-mentioned frequency bands available for land mobile and/or fixed service applications are urged to take all practicable steps to protect passive services operating according to No. **5.565** until the date when the Table of Frequency Allocations is established in the 275-1 000 GHz frequency range. Considering the protection of the Earth exploration-satellite service (passive), the bands 296-306 GHz, 313-320 GHz and 330-356 GHz should not be used for land mobile and fixed services.

In the frequency bands 275-296 GHz, 306-313 GHz, 318-323 GHz, 327-333 GHz and 388-424 GHz, specific conditions (e.g. minimum separation distances and/or avoidance angles) should be considered as appropriate to ensure protection of radio astronomy sites from land mobile and/or fixed service applications, on a case-by-case basis.    (WRC‑19)

**Reasons:** Report ITU-R SM.2450-0 shows that sharing is feasible between fixed service/land mobile service applications and the EESS (passive)/RAS in the particular bands (275-296 GHz, 306-313 GHz, 320-330 GHz and 356-450 GHz). For the other frequency bands current studies have shown that sharing between FS/LMS applications and EESS (passive)/RAS applications is not feasible.  
Considering Terahertz technology continues to evolve and new applications are foreseen to use some parts of 275-450 GHz in the future, identification for implementation of FS/LMS applications in this frequency range should not cause constraints to the use of new applications in the future.

NOC CHN/28A15/3

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:** Modifications to RR No. **5.565** are not necessary as the addition of fixed and land mobile services to the 275-450 GHz frequency range can be accomplished through the addition of a new footnote, which identifies frequency bands for use by FS / LMS applications that exceed spectrum needs.

SUP CHN/28A15/4

RESOLUTION 767 (WRC-15)

Studies towards an identification for use by administrations for land-mobile and fixed services applications operating in the frequency range 275-450 GHz

**Reasons:** No longer required after WRC-19.

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