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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 1 to Document 89(Add.13)-E** |
|  | **7 October 2019** |
|  | **Original: English** |
|  | |
| Angola (Republic of)/Botswana (Republic of)/Eswatini (Kingdom of)/Lesotho (Kingdom of)/Madagascar (Republic of)/Malawi/Mauritius (Republic of)/Mozambique (Republic of)/Namibia (Republic of)/Democratic Republic of the Congo/Seychelles (Republic of)/South Africa (Republic of)/Tanzania (United Republic of)/Zambia (Republic of)/Zimbabwe (Republic of) | |
| Proposals for the work of the conference | |
|  | |
| Agenda item 1.13 | |

1.13 to consider identification of frequency bands for the future development of International Mobile Telecommunications (IMT), including possible additional allocations to the mobile service on a primary basis, in accordance with Resolution **238 (WRC-15)**;

Part 1 – Frequency band 24.25-27.5 GHz

Introduction

The above-listed Administrations from the Southern African Development Community (SADC) support the identification of IMT in the frequency bands 24.25-27.5 GHz due to the possibility of global harmonization and because studies indicated feasibility of sharing with other services operating in the 24.25-27.25 GHz band. SADC Administrations also support the allocation of the band 24.25-25.25 GHz to the mobile (except aeronautical mobile) service on a primary basis in all three regions. Protection of passive services operating in the adjacent band is addressed through a proposed revision to Resolution **750 (Rev.WRC-15)**. SADC Administrations support mandatory limits of −32 dB(W/200 MHz) and −28 dB(W/200 MHz) of unwanted emission power for the base station and user equipment respectively and applied within the band 24.25-25.25 GHz. For the other services, SADC Administrations is of the view that studies indicated sufficient protection margins or sharing could be dealt with on a national basis and therefore no additional conditions are required.

ARTICLE 5

Frequency allocations

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

MOD AGL/BOT/SWZ/LSO/MDG/MWI/MAU/MOZ/NMB/COD/SEY/AFS/TZA/ZMB/ZWE/89A13A1/1#49833

22-24.75 GHz

|  |  |  |
| --- | --- | --- |
| Allocation to services | | |
| Region 1 | Region 2 | Region 3 |
| 24.25-24.45  FIXED  MOBILE except aeronautical mobile ADD 5.A113b  MOD 5.338A | 24.25-24.45  MOBILE except aeronautical mobile ADD 5.A113b  MOD 5.338A  RADIONAVIGATION | 24.25-24.45  FIXED  MOBILE ADD 5.A113b  MOD 5.338A  RADIONAVIGATION |
| 24.45-24.65  FIXED  INTER-SATELLITE  MOBILE except aeronautical mobile ADD 5.A113b  MOD 5.338A | 24.45-24.65  INTER-SATELLITE  MOBILE except aeronautical mobile ADD 5.A113b  MOD 5.338A  RADIONAVIGATION | 24.45-24.65  FIXED  INTER-SATELLITE  MOBILE ADD 5.A113b  MOD 5.338A  RADIONAVIGATION |
|  | 5.533 | 5.533 |
| 24.65-24.75  FIXED  FIXED-SATELLITE (Earth-to-space) 5.532B  INTER-SATELLITE  MOBILE except aeronautical mobile ADD 5.A113b  MOD 5.338A | 24.65-24.75  INTER-SATELLITE  MOBILE except aeronautical mobile ADD 5.A113b  MOD 5.338A  RADIOLOCATION- SATELLITE (Earth-to-space) | 24.65-24.75  FIXED  FIXED-SATELLITE (Earth-to-space) 5.532B  INTER-SATELLITE  MOBILE ADD 5.A113b  MOD 5.338° |
|  |  | 5.533 |

**Reasons:** Allocation to the mobile service (except aeronautical mobile) on a primary basis is required in the frequency band 24.25-25.25 GHz in Regions 1 and 2 and a new RR footnote (**5.A113b**) is added to identify the frequency band 24.25-27.5 GHz for IMT on a global basis. Modification of RR footnote No. **5.338A** is required to ensure protection of the EESS (pas) service operating in the frequency band 23.6-24 GHz from IMT stations operating in the frequency band 24.25-25.25 GHz (band where new mobile allocation is added).

MOD AGL/BOT/SWZ/LSO/MDG/MWI/MAU/MOZ/NMB/COD/SEY/AFS/TZA/ZMB/ZWE/89A13A1/2#49834

24.75-29.9 GHz

|  |  |  |
| --- | --- | --- |
| Allocation to services | | |
| Region 1 | Region 2 | Region 3 |
| 24.75-25.25  FIXED  FIXED-SATELLITE (Earth-to-space) 5.532B  MOBILE except aeronautical mobileADD 5.A113b  MOD 5.338A | 24.75-25.25  FIXED-SATELLITE (Earth-to-space) 5.535  MOBILE except aeronautical mobileADD 5.A113b  MOD 5.338A | 24.75-25.25  FIXED  FIXED-SATELLITE (Earth-to-space) 5.535  MOBILEADD 5.A113b  MOD 5.338A |
| 25.25-25.5 FIXED  INTER-SATELLITE 5.536  MOBILEADD 5.A113b  Standard frequency and time signal-satellite (Earth-to-space) | | |
| 25.5-27EARTH EXPLORATION-SATELLITE (space-to Earth) 5.536B  FIXED  INTER-SATELLITE 5.536  MOBILEADD 5.A113b  SPACE RESEARCH (space-to-Earth) 5.536C  Standard frequency and time signal-satellite (Earth-to-space)  5.536A | | |
| 27-27.5  FIXED  INTER-SATELLITE 5.536  MOBILE ADD 5.A113b | 27-27.5  FIXED  FIXED-SATELLITE (Earth-to-space)  INTER-SATELLITE 5.536 5.537  MOBILE ADD 5.A113b | |

**Reasons:** Allocation to the mobile service (except aeronautical mobile) on a primary basis is required in the frequency band 24.25-25.25 GHz in Regions 1 and 2 and a new RR footnote (**5.A113b**) is added to identify the frequency band 24.25-27.5 GHz for IMT on a global basis. Modification of RR footnote No. **5.338A** is required to ensure protection of the EESS (pas) services operating in the band 23.6-24 GHz from IMT stations operating in the frequency band 24.25-25.25 GHz (band where new mobile allocation is added).

ADD AGL/BOT/SWZ/LSO/MDG/MWI/MAU/MOZ/NMB/COD/SEY/AFS/TZA/ZMB/ZWE/89A13A1/3#49836

5.A113bThe frequency band 24.25-27.5 GHz is identified for use by administrations wishing to implement the terrestrial component of International Mobile Telecommunications (IMT). This identification does not preclude the use of this frequency band by any application of the services to which they are allocated and does not establish priority in the Radio Regulations. Resolutions **[SADC-A113-IMT 26 GHZ] (WRC‑19)** and **750 (Rev.WRC‑19)** apply.     (WRC‑19)

**Reasons:** The new footnote is proposed for the identification of IMT in the frequency band 24.25-27.5 GHz on a global basis. A new Resolution pertaining to the use of IMT in the 26 GHz band is also proposed. Updating of Resolution **750 (Rev.WRC-15)** is also proposed to address the protection of the EESS (pas) services operating in the band 23.6-24 GHz.

MOD AGL/BOT/SWZ/LSO/MDG/MWI/MAU/MOZ/NMB/COD/SEY/AFS/TZA/ZMB/ZWE/89A13A1/4#49841

5.338AIn the frequency bands 1 350-1 400 MHz, 1 427-1 452 MHz, 22.55-23.55 GHz, 24.25-25.25 GHz, 30-31.3 GHz, 49.7‑50.2 GHz, 50.4-50.9 GHz, 51.4-52.6 GHz, 81-86 GHz and 92-94 GHz, Resolution **750 (Rev.WRC‑19)** applies.     (WRC‑19)

**Reasons:** Amendment to No. **5.338A** is required to list the proposed IMT frequency band to be added to Resolution **750 (Rev.WRC-15)**.

MOD AGL/BOT/SWZ/LSO/MDG/MWI/MAU/MOZ/NMB/COD/SEY/AFS/TZA/ZMB/ZWE/89A13A1/5

RESOLUTION 750 (Rev.WRC‑19)

Compatibility between the Earth exploration-satellite service (passive) and relevant active services

The World Radiocommunication Conference (Sharm el-Sheikh, 2019)*,*

…

resolves

1 that unwanted emissions of stations brought into use in the frequency bands and services listed in Table 1‑1 below shall not exceed the corresponding limits in that table, subject to the specified conditions;

…

TABLE 1-1

|  |  |  |  |
| --- | --- | --- | --- |
| EESS (passive) band | Active service band | Active service | Limits of unwanted emission power from active service stations in a specified bandwidth within the EESS (passive) band1 |
| … | … | … | … |
| 23.6-24.0 GHz | 24.25-25.25 GHz | Mobile | −32 dBW total radiated power in any 200 MHz in the EESS (passive) band for IMT base stations  −28 dBW total radiated power in any 200 MHz in the EESS (passive) band for IMT user equipment |
| … | … | … | … |
| 1 The unwanted emission power level is to be understood as/is understood to mean the level measured at the antenna port, unless specified in terms of total radiated power. | | | |

…

**Reasons:** SADC Administrations support the addition of the EESS (pas) protection levels in Table 1‑1 of Resolution **750 (Rev.WRC-19**) within the active services band of 24.25-25.25 GHz.

ADD AGL/BOT/SWZ/LSO/MDG/MWI/MAU/MOZ/NMB/COD/SEY/AFS/TZA/ZMB/ZWE/89A13A1/6#49920

DRAFT NEW RESOLUTION [SADC-A113-IMT 26 GHZ] (WRC-19)

International Mobile Telecommunications   
in frequency band 24.25-27.5 GHz

The World Radiocommunication Conference (Sharm el-Sheikh, 2019),

considering

*a)* that International Mobile Telecommunications (IMT), including IMT‑2000, IMT‑Advanced and IMT‑2020, is the ITU vision of global mobile access;

*b)* that International Mobile Telecommunications (IMT), including IMT‑2000, IMT-Advanced and IMT‑2020, is intended to provide telecommunication services on a worldwide scale, regardless of location and type of network or terminal;

*c)* that the evolution of IMT is being studied within ITU‑R;

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

*e)* 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;

*f)* that ultra-low latency and very high bit-rate applications of IMT will require larger contiguous blocks of spectrum than those available in frequency bands that are currently identified for use by administrations wishing to implement IMT;

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

noting

Recommendation ITU‑R M.2083 “IMT Vision – Framework and overall objectives of the future development of IMT for 2020 and beyond”,

recognizing

*a)* that the identification of a frequency band for IMT does not establish priority in the Radio Regulations and does not preclude the use of the frequency band by any application of the services to which it is allocated;

*b)* that Resolution **750 (Rev.WRC‑19)** establishes limits on unwanted emissions in the frequency band 23.6-24 GHz from IMT base stations and IMT mobile stations within the 24.25-25.25 GHz frequency band;

*c)* that spurious emission limits of Recommendation ITU‑R SM.329 Category B (−60 dB(W/MHz)) are sufficient to protect the EESS (passive) within the bands 50.2-50.4 GHz and 52.6-54.25 GHz from the second harmonic of IMT base station emissions in the 24.25-27.5 GHz band,

resolves

that administrations wishing to implement IMT consider the use of the frequency band 24.25-27.5 GHz identified for IMT in No. **5.A113b**, and the benefits of harmonized utilization of the spectrum for the terrestrial component of IMT taking into account the latest relevant ITU‑R Recommendations,

invites ITU‑R

to develop harmonized frequency arrangements to facilitate IMT deployment in the frequency band 24.25-27.5 GHz.

**Reasons:** SADC Administrations propose a new Resolution pertaining to the use of IMT in the frequency band 24.25-27.5 GHz band.

SUP AGL/BOT/SWZ/LSO/MDG/MWI/MAU/MOZ/NMB/COD/SEY/AFS/TZA/ZMB/ZWE/89A13A1/7#49949

RESOLUTION 238 (WRC‑15)

Studies on frequency-related matters for International Mobile Telecommunications identification including possible additional   
allocations to the mobile services on a primary basis in portion(s)   
of the frequency range between 24.25 and 86 GHz for the future   
development of International Mobile Telecommunications   
for 2020 and beyond

**Reasons:** Studies pertaining to this agenda item has been completed and Resolution **238 (WRC‑15)** may therefore be suppressed.

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