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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 13 toDocument 45-E** |
|  | **4 October 2019** |
|  | **Original: English** |
|  |
| New Zealand |
| 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)**;

The proposals outlined in this contribution are developed based on Method A2, Alternative 2 of the CPM Report, with the following conditions and associated options applicable for the band 24.25-27.5 GHz:

• Condition A2a: Option 1 - support to set mandatory limit to protect EESS (passive) in the band 23.6-24 GHz by choosing a value for the unwanted emission limit of IMT base stations from the range −28 to −37 dBW/200 MHz and a value for the unwanted emission limit of IMT mobile stations from the range −24 to −33 dBW/200 MHz

• Condition A2b: Option 2 - recognizing that the spurious emission limit of Recommendation ITU-R SM.329 would be sufficient to protect EESS (passive) in second harmonic of IMT emission

• Condition A2c: Option 5 - no condition is necessary for earth stations in SRS/EESS as it is largely a national matter since results of sharing studies indicated that coexistence is feasible with separation distance of several kilometres

• Condition A2d: Option 4 - no condition is necessary as coexistence measures related to transmitting FSS earth stations at known locations interfering into IMT is a national matter

• Condition A2e: Option 5 or 6 - outdoor base stations shall have antenna main beam pointing below horizon except when the base station is only receiving

• Condition A2f: Option 3 - no condition is necessary as dimensions of the coordination zones for coexistence with RAS stations could be established on a national level

• Condition A2g: Option 5 - no other condition is required

The corresponding proposed modifications to the ITU Radio Regulations can be found as enclosed in this contribution.

ARTICLE 5

Frequency allocations

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

MOD NZL/45A13/1#49891

5.338AIn the frequency bands 1 350-1 400 MHz, 1 427-1 452 MHz, 22.55-23.55 GHz, 30-31.3 GHz, 49.7‑50.2 GHz, 24.25- 27.5 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:** Mandatory limit applicable to the relevant active service bands within 24.25-27.5 GHz to be enforced through Resolution **750 (Rev.WRC-19)** to protect EESS (passive) in the adjacent band 23.6-24 GHz.

MOD NZL/45A13/2#49833

22-24.75 GHz

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| Allocation to services |
| Region 1 | Region 2 | Region 3 |
| 24.25-24.45FIXEDMOBILE except aeronautical mobile ADD 5.A113 MOD 5.338A | 24.25-24.45MOBILE except aeronautical mobile ADD 5.A113 MOD 5.338ARADIONAVIGATION | 24.25-24.45FIXEDMOBILE ADD 5.A113 MOD 5.338ARADIONAVIGATION |
| 24.45-24.65FIXEDINTER-SATELLITEMOBILE except aeronautical mobile ADD 5.A113 MOD 5.338A | 24.45-24.65INTER-SATELLITEMOBILE except aeronautical mobile ADD 5.A113 MOD 5.338ARADIONAVIGATION | 24.45-24.65FIXEDINTER-SATELLITEMOBILE ADD 5.A113 MOD 5.338ARADIONAVIGATION |
|  | 5.533 | 5.533 |
| 24.65-24.75FIXEDFIXED-SATELLITE(Earth-to-space) 5.532BINTER-SATELLITEMOBILE except aeronautical mobile ADD 5.A113 MOD 5.338A | 24.65-24.75INTER-SATELLITEMOBILE except aeronautical mobile ADD 5.A113 MOD 5.338ARADIOLOCATION-SATELLITE (Earth-to-space) | 24.65-24.75FIXEDFIXED-SATELLITE(Earth-to-space) 5.532BINTER-SATELLITEMOBILE ADD 5.A113 MOD 5.338A |
|  |  | 5.533 |

**Reasons:** To identify the frequency band 24.25-27.5 GHz to provide global harmonised spectrum for IMT based on Method A2, Alternative 2 as outlined in CPM Report.

MOD NZL/45A13/3#49834

24.75-29.9 GHz

|  |
| --- |
| Allocation to services |
| Region 1 | Region 2 | Region 3 |
| 24.75-25.25FIXEDFIXED-SATELLITE(Earth-to-space) 5.532BMOBILE except aeronautical mobileADD 5.A113 MOD 5.338A | 24.75-25.25FIXED-SATELLITE(Earth-to-space) 5.535MOBILE except aeronautical mobileADD 5.A113 MOD 5.338A | 24.75-25.25FIXEDFIXED-SATELLITE(Earth-to-space) 5.535MOBILEADD 5.A113 MOD 5.338A |
| 25.25-25.5 FIXED INTER-SATELLITE 5.536 MOBILEADD 5.A113 MOD 5.338A 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.A113 MOD 5.338A SPACE RESEARCH (space-to-Earth) 5.536C Standard frequency and time signal-satellite (Earth-to-space) 5.536A |
| 27-27.5FIXEDINTER-SATELLITE 5.536MOBILE ADD 5.A113 MOD 5.338A | 27-27.5 FIXED FIXED-SATELLITE (Earth-to-space) INTER-SATELLITE 5.536 5.537 MOBILE ADD 5.A113 MOD 5.338A |

**Reasons:** To identify the frequency band 24.25-27.5 GHz to provide global harmonised spectrum for IMT based on Method A2, Alternative 2 as outlined in CPM Report.

ADD NZL/45A13/4#50605

5.A113 The 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. Resolution **[NZL/A113-IMT 26 GHZ] (WRC‑19)** applies.     (WRC‑19)

**Reasons:** To identify the frequency band 24.25-27.5 GHz to provide global harmonised spectrum for IMT based on Method A2, Alternative 2 as outlined in CPM Report.

NOC NZL/45A13/5

5.536A

NOC NZL/45A13/6

5.536B

NOC NZL/45A13/7

5.536C

**Reasons:** No change to the current provisions applicable to 25.5-27 GHz under Nos. 5.536A, 5.536B or 5.536C is necessary.

MOD NZL/45A13/8#49932

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 | Activeservice band | Active service | Limits of unwanted emission power fromactive service stations in a specified bandwidthwithin the EESS (passive) band1 |
| … | … | … | … |
| *Note: The row below applies only to Condition A2a Option 1* |
| 23.6-24 GHz | 24.25-27.5 GHz | Mobile | −28 to −37 dBW/200 MHz for IMT base station−24 to −33 dBW/200 MHz for IMT mobile station |
| … | … | … | … |

**Reasons:** Mandatory limit for IMT base and mobile stations to protect EESS (passive) in the adjacent band 23.6-24 GHz.

ADD NZL/45A13/9

DRAFT NEW RESOLUTION [NZL/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, on the framework and 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;

*[For Condition A2a Option 1]*

*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 24.25-27.5 GHz frequency band;

*[For Condition A2b Option 2]*

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

resolves

1 that administrations wishing to implement IMT consider the use of frequency band 24.25-27.5 GHz identified for IMT in **No. 5.A113**, and the benefits of harmonized utilization of the spectrum for the terrestrial component of IMT taking into account the latest relevant ITU-R Recommendations;

2 in order to ensure the coexistence between IMT in the frequency band 24.25-27.5 GHz as identified by WRC-19 in Article **5** of the Radio Regulations and other services to which the frequency band is allocated including the protection of these other services, administrations shall apply the following condition:

*[For Condition A2e Option 5]*

*that, when deploying outdoor base stations, all possible measures shall be taken to avoid pointing the main beam of each transmitting antenna above the horizon and the antenna shall have mechanical pointing below the horizon except when the base station is only receiving,*

invites ITU‑R

to develop harmonized frequency arrangements to facilitate IMT deployment in the frequency band 24.25-27.5 GHz, taking into account the results of sharing and compatibility studies.

**Reasons:** To identify the frequency band 24.25-27.5 GHz to provide global harmonised spectrum for IMT based on Method A2, Alternative 2, Conditions A2a/A2b/A2e and the associated options.

SUP NZL/45A13/10#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:** There is no need to retain Resolution **238 (WRC-15)** since the agenda item would be satisfied through the identification of appropriate frequency bands, including 24.25-27.5 GHz, for IMT-2020.

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