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| **World Radiocommunication Conference (WRC-15) Geneva, 2–27 November 2015** |  |
| **INTERNATIONAL TELECOMMUNICATION UNION** |  |
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| **PLENARY MEETING** | **Addendum 1 to Document 8-E** |
|  | **5 June 2015** |
|  | **Original: Russian** |
|  | |
| Regional Commonwealth in the field of Communications Common Proposals | |
| Proposals for the work of the conference | |
|  | |
| Agenda item 1.1 | |

1.1 to consider additional spectrum allocations to the mobile service on a primary basis and identification of additional frequency bands for International Mobile Telecommunications (IMT) and related regulatory provisions, to facilitate the development of terrestrial mobile broadband applications, in accordance with Resolution **233 (WRC‑12)**;

Resolution **233 (WRC-12)**: Studies on frequency-related matters on International Mobile Telecommunications and other terrestrial mobile broadband applications

Introduction

The proposals of the RCC Administrations regarding 19 frequency bands listed in the CPM Report are set out below.

The RCC Administrations also consider that frequency bands not included in the list should not be considered under agenda item 1.1 of WRC‑15.

| No. | Frequency band  MHz | Proposed method | Section of CPM Report |
| --- | --- | --- | --- |
| 1 | 470-694/698 | No change (Method A) | 1/1.1/5.1 |
| 2 | 1 350-1 400 | No change (Method A) | 1/1.1/5.2 |
| 3 | 1 427-1 452 | No change (Method A) | 1/1.1/5.3 |
| 4 | 1 452-1 492 | No change (Method A) | 1/1.1/5.4 |
| 5 | 1 492-1 518 | No change (Method A) | 1/1.1/5.5 |
| 6 | 1 518-1 525 | No change (Method A) | 1/1.1/5.6 |
| 7 | 1 695-1 710 | No change (Method A) | 1/1.1/5.7 |
| 8 | 2 700-2 900 | No change (Method A) | 1/1.1/5.8 |
| 9 | 3 300-3 400 | No change (Method A) | 1/1.1/5.9 |
| 10 | 3 400-3 600 | No change (Method A) | 1/1.1/5.10 |
| 11 | 3 600-3 700 | No change (Method A) | 1/1.1/5.11 |
| 12 | 3 700-3 800 | No change (Method A) | 1/1.1/5.12 |
| 13 | 3 800-4 200 | No change (Method A) | 1/1.1/5.13 |
| 14 | 4 400-4 500 | Identify frequency band for IMT in a new footnote (Method C (no options)) | 1/1.1/5.14 |
| 15 | 4 500-4 800 | No change (Method A) | 1/1.1/5.15 |
| 16 | 4 800-4 990 | Identify frequency band for IMT in a new footnote (Method C (no options)) | 1/1.1/5.16 |
| 17 | 5 350-5 470 | No change (Method A) | 1/1.1/5.17 |
| 18 | 5 725-5 850 | No change (Method A) | 1/1.1/5.18 |
| 19 | 5 925-6 425 | Identify the frequency band for IMT in a new footnote with reference to a new Resolution establishing a regulatory e.i.r.p. limit for IMT stations and limiting IMT deployment to indoor. | 1/1.1/5.19 |

Proposals

ARTICLE 5

Frequency allocations

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

NOC RCC/8A1/1

460-890 MHz

|  |  |  |
| --- | --- | --- |
| Allocation to services | | |
| Region 1 | Region 2 | Region 3 |
| 470-790  BROADCASTING  5.149 5.291A 5.294 5.296  5.300 5.304 5.306 5.311A 5.312 5.312A | 470-512  BROADCASTING  Fixed  Mobile  5.292 5.293 | 470-585  FIXED  MOBILE  BROADCASTING  5.291 5.298 |
| 512-608  BROADCASTING  5.297 |
| 585-610  FIXED  MOBILE  BROADCASTING  RADIONAVIGATION  5.149 5.305 5.306 5.307 |
| 608-614  RADIO ASTRONOMY  Mobile-satellite except aeronautical mobile-satellite (Earth-to-space) |
| 610-890  FIXED  MOBILE 5.313A 5.317A  BROADCASTING |
| 614-698  BROADCASTING  Fixed  Mobile  5.293 5.309 5.311A |
| 698-806  MOBILE 5.313B 5.317A  BROADCASTING  Fixed   5.293 5.309 5.311A |
| 790-862  FIXED  MOBILE except aeronautical mobile 5.316B 5.317A  BROADCASTING  5.312 5.314 5.315 5.316  5.316A 5.319 |
| 806-890  FIXED  MOBILE 5.317A  BROADCASTING |
| 862-890  FIXED  MOBILE except aeronautical mobile 5.317A  BROADCASTING 5.322 |
| 5.319 5.323 | 5.317 5.318 | 5.149 5.305 5.306 5.307 5.311A 5.320 |

**Reasons:** On account of the heavy usage of the frequency band 470‑694/698 MHz by the BS and the results of studies indicating the difficulty of sharing by the MS and BS.

NOC RCC/8A1/2

1 300-1 525 MHz

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Allocation to services | | | | |
| Region 1 | Region 2 | | Region 3 | |
| 1 350-1 400  FIXED  MOBILE  RADIOLOCATION  5.149 5.338 5.338A 5.339 | 1 350-1 400  RADIOLOCATION 5.338A  5.149 5.334 5.339 | | | |
| 1 400-1 427 EARTH EXPLORATION-SATELLITE (passive)  RADIO ASTRONOMY  SPACE RESEARCH (passive)  5.340 5.341 | | | | |
| 1 427-1 429 SPACE OPERATION (Earth-to-space)  FIXED  MOBILE except aeronautical mobile  5.338A 5.341 | | | | |
| 1 429-1 452  FIXED  MOBILE except aeronautical mobile  5.338A 5.341 5.342 | | 1 429-1 452  FIXED  MOBILE 5.343  5.338A 5.341 | | |
| 1 452-1 492  FIXED  MOBILE except aeronautical mobile  BROADCASTING  BROADCASTING-SATELLITE 5.208B  5.341 5.342 5.345 | | 1 452-1 492  FIXED  MOBILE 5.343  BROADCASTING  BROADCASTING-SATELLITE 5.208B  5.341 5.344 5.345 | | |
| 1 492-1 518  FIXED  MOBILE except aeronautical mobile  5.341 5.342 | | 1 492-1 518  FIXED  MOBILE 5.343  5.341 5.344 | | 1 492-1 518  FIXED  MOBILE  5.341 |
| 1 518-1 525  FIXED  MOBILE except aeronautical mobile  MOBILE-SATELLITE (space-to-Earth) 5.348 5.348A 5.348B 5.351A  5.341 5.342 | | 1 518-1 525  FIXED  MOBILE 5.343  MOBILE-SATELLITE (space-to-Earth) 5.348 5.348A 5.348B 5.351A  5.341 5.344 | | 1 518-1 525  FIXED  MOBILE  MOBILE-SATELLITE (space-to-Earth) 5.348 5.348A 5.348B 5.351A  5.341 |

**Reasons:** On account of the heavy usage of the frequency band 1 350‑1 400 MHz by the RLS and RNS under RR No. 5.338 and the results of studies indicating the difficulty of sharing by the MS, RLS and RNS; and on account of the heavy usage of the frequency band 1 427‑1 525 MHz by aeronautical telemetry operating under RR Nos. 5.342 and 4.10 and the results of studies indicating the difficulty of sharing by IMT systems and aeronautical telemetry.

NOC RCC/8A1/3

1 660-1 710 MHz

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| --- | --- | --- |
| Allocation to services | | |
| Region 1 | Region 2 | Region 3 |
| 1 690-1 700  METEOROLOGICAL AIDS  METEOROLOGICAL-SATELLITE (space-to-Earth)  Fixed  Mobile except aeronautical mobile | 1 690-1 700  METEOROLOGICAL AIDS  METEOROLOGICAL-SATELLITE (space-to-Earth) | |
| 5.289 5.341 5.382 | 5.289 5.341 5.381 | |
| 1 700-1 710  FIXED  METEOROLOGICAL-SATELLITE (space-to-Earth)  MOBILE except aeronautical mobile | | 1 700-1 710  FIXED  METEOROLOGICAL-SATELLITE (space-to-Earth)  MOBILE except aeronautical mobile |
| 5.289 5.341 | | 5.289 5.341 5.384 |

**Reasons:** On account of the heavy usage of the frequency band 1 695‑1 710 MHz by the meteorological-satellite service (space-to-Earth) and the results of studies indicating the difficulty of sharing by the MS and meteorological-satellite service (space-to-Earth).

NOC RCC/8A1/4

2 700-4 800 MHz

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| --- | --- | --- |
| Allocation to services | | |
| Region 1 | Region 2 | Region 3 |
| 2 700-2 900 AERONAUTICAL RADIONAVIGATION 5.337  Radiolocation  5.423 5.424 | | |
| 2 900-3 100 RADIOLOCATION 5.424A  RADIONAVIGATION 5.426  5.425 5.427 | | |
| 3 100-3 300 RADIOLOCATION  Earth exploration-satellite (active)  Space research (active)  5.149 5.428 | | |
| 3 300-3 400  RADIOLOCATION | 3 300-3 400  RADIOLOCATION  Amateur  Fixed  Mobile | 3 300-3 400  RADIOLOCATION  Amateur |
| 5.149 5.429 5.430 | 5.149 | 5.149 5.429 |
| 3 400-3 600  FIXED  FIXED-SATELLITE (space-to-Earth)  Mobile 5.430A  Radiolocation  5.431 | 3 400-3 500  FIXED  FIXED-SATELLITE (space-to-Earth)  Amateur  Mobile 5.431A  Radiolocation 5.433  5.282 | 3 400-3 500  FIXED  FIXED-SATELLITE (space-to-Earth)  Amateur  Mobile 5.432B  Radiolocation 5.433  5.282 5.432 5.432A |
| 3 500-3 700  FIXED  FIXED-SATELLITE (space-to-Earth)  MOBILE except aeronautical mobile  Radiolocation 5.433 | 3 500-3 600  FIXED  FIXED-SATELLITE (space-to-Earth)  MOBILE except aeronautical mobile 5.433A  Radiolocation 5.433 |
| 3 600-4 200  FIXED  FIXED-SATELLITE (space-to-Earth)  Mobile | 3 600-3 700  FIXED  FIXED-SATELLITE (space-to-Earth)  MOBILE except aeronautical mobile  Radiolocation  5.435 |
|  | 3 700-4 200  FIXED  FIXED-SATELLITE (space to-Earth)  MOBILE except aeronautical mobile | |

**Reasons:** On account of the heavy usage of the frequency bands 2 700‑2 900 MHz and 3 300‑3 400 MHz by the RLS and the results of studies indicating the difficulty of sharing by the MS and RLS; and on account of the heavy usage of the frequency bands 3 600‑3 700 MHz, 3 700‑3 800 MHz and 3 800‑4 200 MHz (space-to-Earth) and the results of studies indicating the difficulty of sharing by the MS and FSS (space-to-Earth). For the frequency band 3 400-3 600 MHz, no further action is required with regard to current MS allocations and identification for IMT under RR No. 5.430A.

NOC RCC/8A1/5

2 700-4 800 MHz

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| --- | --- | --- |
| Allocation to services | | |
| Region 1 | Region 2 | Region 3 |
| 4 500-4 800 FIXED  FIXED-SATELLITE (space-to-Earth) 5.441  MOBILE 5.440A | | |

**Reasons:** On account of the heavy usage of the frequency band 4 500‑4 800 MHz (space-to-Earth) and the results of studies indicating the difficulty of sharing by the MS and FSS (space-to-Earth).

NOC RCC/8A1/6

4 800-5 570 MHz

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| --- | --- | --- |
| Allocation to services | | |
| Region 1 | Region 2 | Region 3 |
| 5 350-5 460 EARTH EXPLORATION-SATELLITE (active) 5.448B  RADIOLOCATION 5.448D  AERONAUTICAL RADIONAVIGATION 5.449  SPACE RESEARCH (active) 5.448C | | |
| 5 460-5 470 EARTH EXPLORATION-SATELLITE (active)  RADIOLOCATION 5.448D  RADIONAVIGATION 5.449  SPACE RESEARCH (active)  5.448B | | |

**Reasons:** On account of the heavy usage of the frequency band 5 350‑5 470 MHz by the RLS and the results of studies indicating the difficulty of sharing by the MS and RLS.

NOC RCC/8A1/7

5 570-7 250 MHz

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| Allocation to services | | |
| Region 1 | Region 2 | Region 3 |
| 5 725-5 830  FIXED-SATELLITE (Earth-to-space)  RADIOLOCATION  Amateur | 5 725-5 830  RADIOLOCATION  Amateur | |
| 5.150 5.451 5.453 5.455 5.456 | 5.150 5.453 5.455 | |
| 5 830-5 850  FIXED-SATELLITE (Earth-to-space)  RADIOLOCATION  Amateur  Amateur-satellite (space-to-Earth) | 5 830-5 850  RADIOLOCATION  Amateur  Amateur-satellite (space-to-Earth) | |
| 5.150 5.451 5.453 5.455 5.456 | 5.150 5.453 5.455 | |

**Reasons:** On account of the heavy usage of the frequency band 5 725‑5 850 MHz by the RLS, and the lack of relevant studies on compatibility of the MS and RLS.

MOD RCC/8A1/8

2 700-4 800 MHz

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| Allocation to services | | |
| Region 1 | Region 2 | Region 3 |
| 4 400-4 500FIXED  MOBILE 5.440A ADD 5.A11 | | |

**Reasons:** To identify the frequency band 4 400‑4 500 MHz for IMT.

ADD RCC/8A1/9

5.A11 The frequency band 4 400‑4 500 MHz is identified for use by administrations wishing to implement International Mobile Telecommunications (IMT). This identification does not preclude the use of this band by any application of the services to which they are allocated and does not establish priority in the Radio Regulations.

**Reasons:** To identify the frequency band 4 400‑4 500 MHz for IMT.

MOD RCC/8A1/10

4 800-5 570 MHz

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| Allocation to services | | |
| Region 1 | Region 2 | Region 3 |
| 4 800-4 990 FIXED  MOBILE 5.440A 5.442 ADD 5.B11  Radio astronomy  5.149 5.339 5.443 | | |

**Reasons:** To identify the frequency band 4 800‑4 990 MHz for IMT.

ADD RCC/8A1/11

5.B11 The frequency band 4 800‑4 990 MHz is identified for use by administrations wishing to implement International Mobile Telecommunications (IMT). This identification does not preclude the use of this band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations.

**Reasons:** To identify the frequency band 4 800‑4 990 MHz for IMT.

MOD RCC/8A1/12

5 570-7 250 MHz

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| 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 ADD 5.C11 | | |

**Reasons:** To identify the frequency band 5 925‑6 425 MHz for IMT.

ADD RCC/8A1/13

5.C11The frequency band 5 925-6 425 MHz is identified for use by administrations wishing to implement International Mobile Telecommunications (IMT). This identification does not preclude the use of this band by any application of the services to which they are allocated and does not establish priority in the Radio Regulations. See draft new Resolution **[RCC‑A11‑5925TO6425MHZ] (WRC‑15)**.

**Reasons:** To identify the frequency band 5 925‑6 425 MHz for IMT and establish additional restrictions on the use of IMT stations in order to protect FSS space stations from aggregated interference from IMT stations.

ADD RCC/8A1/14

draft new resolution [RCC‑A11‑5925to6425mhz] (wrc-15)

Use of the frequency band 5 925-6 425 MHz by the   
mobile service for IMT systems

The World Radiocommunication Conference (Geneva, 2015),

considering

*a)* that this Conference has identified the frequency band 5 925-6 425 MHz for IMT systems;

*b)* that the band 5 925-6 425 MHz is allocated worldwide on a primary basis to the fixed-satellite service (FSS) (Earth-to-space);

*с)* that the band 5 925-6 425 MHz is also allocated to the mobile service on a primary basis;

*d)* that results of studies in ITU‑R indicate that sharing in the band 5 925‑6 425 MHz between IMT systems and the FSS space stations is feasible under specified conditions;

*e)* that there is a need to specify an appropriate e.i.r.p. limit as well as operational restrictions for IMT systems in the mobile service in the band 5 925-6 425 MHz in order to protect FSS satellite receivers,

further considering

*a)* that the interference from a single IMT station, complying with the operational restrictions under *resolves* 2 will not on its own cause any unacceptable interference to FSS receivers on board space stations in the frequency band 5 925-6 425 MHz;

*b)* that such FSS satellite receivers may experience an unacceptable effect due to the aggregate interference from IMT stations, especially in the case of a prolific growth in the number of these systems;

*c)* that the aggregate effect on FSS satellite receivers will be due to the global deployment of IMT stations and administrations may be unable to determine the location of the source of the interference and the number of IMT stations in operation simultaneously,

recognizing

*a)* that the calculation methods from Appendix **8** to the ITU Radio Regulations can be used to estimate aggregate interference to FSS satellite receivers from IMT stations;

*b)* that criteria for interference to FSS satellite receivers, based on Δ*T*/*T* ratio, are given in Recommendation ITU‑R S.1432;

*c)* that IMT stations in the mobile service must be deployed with due regard to providing, on average, a near-uniform spread of the loading of the spectrum in the band 5 925‑6 425 MHz used by them in order to improve sharing with satellite services;

*d)* that the use of the band 5 925-6 425 MHz by IMT systems will provide substantial additional capacity to address additional spectrum requirements for IMT;

*e)* that there is a need for administrations to ensure that IMT stations implement the required mitigation techniques, for example through equipment or standards compliance procedures,

resolves

1 that in the band 5 925-6 425 MHz, IMT stations shall be restricted to indoor use with a mean e.i.r.p.[[1]](#footnote-1)1 of not more than 15 dBm;

2 that if the frequency band made available for IMT systems by any administration is less than 500 MHz, the power level in *resolves* 1 shall be reduced by the following amount: reduction = 10 × log(500/B) in dB, where *B* is the available bandwidth for IMT systems, in MHz,

invites administrations

if they intend to permit the operation of IMT stations in the frequency band 5 925-6 425 MHz, to adopt the appropriate national regulatory as provisions indicated in *resolves* above;

to monitor whether the aggregate interference levels from IMT stations have exceeded, or will exceed in the future, the criteria given in Recommendation ITU‑R S.1432 for FSS satellite receivers in order to enable a future competent Conference to take appropriate action.

**Reasons:** To establish additional restrictions on the use of IMT stations in order to protect FSS space stations from aggregated interference from IMT stations in the frequency band 5 925‑6 425 MHz.

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1. 1 In the context of this Resolution, “mean e.i.r.p.” refers to the e.i.r.p. during the transmission burst which corresponds to the highest power, if power control is implemented. [↑](#footnote-ref-1)