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| **World Radiocommunication Conference (WRC-15) Geneva, 2–27 November 2015** |  |
| **INTERNATIONAL TELECOMMUNICATION UNION** |  |
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| **PLENARY MEETING** | **Addendum 4 to Document 9(Add.1)-E** |
|  | **24 June 2015** |
|  | **Original: English** |
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| European Common Proposals (CEPT) | |
| Proposals for the work of the conference | |
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| 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)**;

European Proposals on no change for allocations to services in Article 5

1 300- 1 350 MHz, 1 350-1 400 MHz, 1 518-1 525 MHz, 1 695-1 710 MHz, 2 025‑2 110 MHz, 2 200-2 290 MHz, 2 900-3 100 MHz, 3 300-3 400 MHz, 4 500‑4 800 MHz, 5 350-5 470 MHz, 5 725-5 850 MHz

Proposals

ARTICLE 5

Frequency allocations

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

NOC EUR/9A1A4/1

1 300-1 525 MHz

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| Allocation to services | | |
| Region 1 | Region 2 | Region 3 |
| 1 300-1 350 RADIOLOCATION  AERONAUTICAL RADIONAVIGATION 5.337  RADIONAVIGATION-SATELLITE (Earth-to-space)  5.149 5.337A | | |

**Reasons:** The band 1 300-1 350 MHz is used by radar systems. The compatibility studies indicate that co-channel sharing between radiolocation service and the downlink of mobile service is not feasible.

NOC EUR/9A1A4/2

1 300-1 525 MHz

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| 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 | |

**Reasons:** The band 1 350-1 400 MHz is allocated worldwide to radiolocation and in Region 1 also to mobile and fixed services. In addition, in this band there are other mobile applications which have to be maintained. Given that there is only an allocation for radiolocation in Region 2 and 3, it may appear difficult to achieve worldwide harmonization of this band for IMT.

NOC EUR/9A1A4/3

1 300-1 525 MHz

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| Allocation to services | | | | |
| Region 1 | Region 2 | | Region 3 | |
| 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:** The band 1 518-1 525 MHz was identified also for the satellite component of the IMT at WRC-07 by Resolution 225 (Rev.WRC-07). Compatibility studies indicate that sharing is not possible in this band between terrestrial IMT and MSS.

NOC EUR/9A1A4/4

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:** The band 1 695-1 710 MHz band is widely used by meteorological satellites systems (space-to-Earth) and in particular European satellites operated by EUMETSAT. This use represents a large number of receiving earth stations that would not be compatible with typical mobile deployment as confirmed by technical studies. In addition, this band is not considered relevant for mobile service due to the limited bandwidth available.

NOC EUR/9A1A4/5

1 710-2 170 MHz

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| Allocation to services | | |
| Region 1 | Region 2 | Region 3 |
| 2 025-2 110 SPACE OPERATION (Earth-to-space) (space-to-space)  EARTH EXPLORATION-SATELLITE (Earth-to-space) (space-to-space)  FIXED  MOBILE 5.391  SPACE RESEARCH (Earth-to-space) (space-to-space)  5.392 | | |

**Reasons:** The compatibility studies indicate that sharing terrestrial IMT is not feasible with the space research (space-to-space), Earth exploration-satellite (space-to-space) and space operations (space-to-space) services.

NOC EUR/9A1A4/6

2 170-2 520 MHz

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| Allocation to services | | |
| Region 1 | Region 2 | Region 3 |
| 2 200-2 290 SPACE OPERATION (space-to-Earth) (space-to-space)  EARTH EXPLORATION-SATELLITE (space-to-Earth) (space-to-space)  FIXED  MOBILE 5.391  SPACE RESEARCH (space-to-Earth) (space-to-space)  5.392 | | |

**Reasons:** The compatibility studies indicate that sharing terrestrial IMT is not feasible with the space research (space-to-space), Earth exploration-satellite (space-to-space) and space operations (space-to-space) services.

These bands are heavily used by scientific satellite applications on the one hand but also for most of other types of satellites (Commercial or governmental Earth observation, navigation, telecommunications, broadcasting, ...), as well as launchers. These bands are used for TT&C (Telemetry, Tracking and Command), where tracking includes ranging (localization of the satellite) and telemetry encompasses information on the state of the satellites as well as payload sensors data.

New studies agreed in ITU-R in Report ITU-R SA. 2225 “Sharing between space-to-space links in space research, space operation and Earth exploration-satellite services and IMT systems in the frequency bands 2 025-2 110 MHz and 2 200-2 290 MHz” show that sharing is not feasible between LTE systems and incumbent data relay satellites forward and return links operating in these bands in the space research (space-to-space), Earth exploration-satellite (space-to-space) and space operations (space-to-space) services.

These new studies reaffirmed earlier ITU-R studies as in Recommendation ITU-R SA.1154 that resulted in the adoption of No. 5.391 at WRC-97, which prohibits high-density mobile systems from operation within these frequency bands.

Europe does not see rationale to modify conditions in No. 5.391 and therefore does not support the identification of frequency bands 2 025-2 110 MHz and 2 200-2 290 MHz for IMT.

NOC EUR/9A1A4/7

2 700-4 800 MHz

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| Allocation to services | | |
| Region 1 | Region 2 | Region 3 |
| 2 900-3 100 RADIOLOCATION 5.424A  RADIONAVIGATION 5.426  5.425 5.427 | | |

**Reasons:** The frequency band 2 900-3 100 MHz is heavily used by radiolocation systems. The compatibility studies indicate that sharing between mobile service and radiodetermination service is not feasible.

NOC EUR/9A1A4/8

2 700-4 800 MHz

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| Allocation to services | | |
| Region 1 | Region 2 | Region 3 |
| 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 |

**Reasons:** The frequency band 3 300-3 400 MHz is extensively used by different radar applications. Compatibility studies indicate that sharing between radiolocation and mobile (IMT) services is not feasible.

NOC EUR/9A1A4/9

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:** This band is extensively used for applications in the fixed and mobile services (including aeronautical mobile applications) and will not be available, even in the long term, in many European countries. In addition, the compatibility studies indicate that sharing between aeronautical mobile applications and IMT systems is not feasible. Moreover, the band 4 500-4 800 MHz is also part of Appendix 30B for FSS.

NOC EUR/9A1A4/10

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:** The band 5 350-5 470 MHz represents a key spectrum source for Europe’s policy Earth exploration through the GMES/Copernicus Programme with Sentinel satellites and is also used by important governmental radiolocation systems. Compatibility studies show that sharing between EESS(active) and RLAN systems in the 5 350-5 470 MHz frequency range is not feasible. It has been noted that further studies on some possible mitigation techniques may be carried out in the ITU-R and Europe, but it is unlikely that these studies would be concluded in the time-scales associated with WRC-15. Therefore, at this stage, after consideration of the results of the current studies and without the conclusions of these further studies it would not be possible to support an allocation of the frequency band 5 350-5 470 MHz for mobile service at WRC-15. This corresponds to the only method in the CPM Report regarding this frequency band (NOC).

NOC EUR/9A1A4/11

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:** There were no substantial sharing and compatibility studies carried out at the ITU-R Joint Task Group 4-5-6-7 on IMT/mobile broadband/RLANs in this band. The proposal corresponds to the only method in the CPM Report regarding this frequency band (NOC).

SUP EUR/9A1A4/12

RESOLUTION 233 (WRC‑12)

Studies on frequency-related matters on International Mobile   
Telecommunications and other terrestrial   
mobile broadband applications

**Reasons:** Following these European proposals, it is considered that agenda item 1.1 will be completed and consequently Resolution 233 will no longer be needed.

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