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| **World Radiocommunication Conference (WRC-15) Geneva, 2–27 November 2015** |  |
| **INTERNATIONAL TELECOMMUNICATION UNION** |  |
|  |  |
| PLENARY MEETING | **Addendum 2 to Document 118(Add.6)-E** |
|  | **19 October 2015** |
|  | **Original: English** |
|  | |
| Indonesia (Republic of), Malaysia | |
| Proposals for the work of the conference | |
|  | |
| Agenda item 1.6.2 | |

1.6 to consider possible additional primary allocations:

1.6.2 to the fixed-satellite service (Earth-to-space) of 250 MHz in Region 2 and 300 MHz in Region 3 within the range 13-17 GHz;

and review the regulatory provisions on the current allocations to the fixed-satellite service within each range, taking into account the results of ITU‑R studies, in accordance with Resolutions **151 (WRC‑12)** and **152 (WRC‑12)**, respectively;

Introduction

Indonesia and Malaysia’s proposals for WRC-15 agenda item 1.6.2 are as follows:

* supports Method E2 which proposes to make an allocation of 250 MHz in the 13.4-13.75 GHz band to the FSS (Earth-to-space) in Regions 2 and 3.
* supports Method A (NOC to the ITU Radio Regulations) in 14.5-14.8 GHz frequency band under this agenda item.

Proposals

ARTICLE 5

Frequency allocations

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

MOD INS/MLA/118A6A2/1

11.7-14 GHz

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Allocation to services | | | | |
| Region 1 | Region 2 | | | Region 3 |
| 13.4-13.45 EARTH EXPLORATION-SATELLITE (active)  RADIOLOCATION  SPACE RESEARCH MOD 5.501A  Standard frequency and time signal-satellite (Earth-to-space)  5.499 5.500 5.501 5.501B | | | | |
| 13.45-13.5  EARTH EXPLORATION-SATELLITE (active)  RADIOLOCATION  SPACE RESEARCH MOD 5.501A  Standard frequency and time signal-satellite (Earth-to-space)    5.499 5.500 5.501 5.501B | | | 13.4-13.75  EARTH EXPLORATION-  SATELLITE (active)  FIXED-SATELLITE (Earth-to-space) ADD 5.A162 ADD 5.162*bis* ADD 5.D162  RADIOLOCATION  SPACE RESEARCH MOD 5.501A  Standard frequency and time signal-satellite (Earth-to-space)  5.499 5.500 5.501 5.501B | |
| 13.5-13.75  EARTH EXPLORATION-SATELLITE (active)  RADIOLOCATION  SPACE RESEARCH MOD 5.501A  Standard frequency and time signal-satellite (Earth-to-space)  5.499 5.500 5.501 5.501B | | 13.5-13.75  EARTH EXPLORATION-SATELLITE (active)  FIXED-SATELLITE (Earth-to-space) ADD 5.A162 ADD 5.A162*bis* ADD 5.D162  RADIOLOCATION  SPACE RESEARCH MOD 5.501A  Standard frequency and time signal-satellite (Earth-to-space)  5.499 5.500 5.501 5.501B MOD 5.502 | | |

ADD INS/MLA/118A6A2/2

5.A162 In the band 13.45-13.75 GHz in Region 3 and in the band 13.5-13.75 GHz in Region 2, the peak envelope power delivered to the antenna of stations of the fixed-satellite service (Earth-to-space) shall not exceed the spectral density of −53.5 dB(W/Hz) computed from the peak envelope power and the occupied bandwidth.     (WRC-15)

ADD INS/MLA/118A6A2/3

5.A162*bis* The use of the band 13.5-13.75 GHz in Region 2 and 13.45-13.75 GHz in Region 3 by the fixed-satellite service (Earth-to-space) is limited to geostationary-satellite systems.

ADD INS/MLA/118A6A2/4

5.D162 The use of the band 13.5-13.75 GHz in Region 2, the band 13.45-13.75 in Region 3 by systems in the fixed-satellite service (Earth-to-space) shall not cause harmful interference to, nor claim protection from, nor constrain the use and development of EESS (active) systems, and No. **22.2** does not apply.     (WRC-15)

MOD INS/MLA/118A6A2/5

5.502 In the band 13.45-13.75 GHz in Region 3, in the band 13.5-13.75 GHz in Region 2 and in the band 13.75-14 GHz, an earth station of a geostationary fixed-satellite service network shall have a minimum antenna diameter of 1.2 m. In the band 13.75-14 GHz, an earth station of a non‑geostationary fixed-satellite service system shall have a minimum antenna diameter of 4.5 m. In addition, the e.i.r.p., averaged over one second, radiated by a station in the radiolocation or radionavigation services shall not exceed 59 dBW for elevation angles above 2° and 65 dBW at lower angles. Before an administration brings into use an earth station in a geostationary-satellite network in the fixed-satellite service in this band with an antenna diameter smaller than 4.5 m, it shall ensure that the power flux-density produced by this earth station does not exceed:

– –115 dB(W/(m2 · 10 MHz)) for more than 1% of the time produced at 36 m above sea level at the low water mark, as officially recognized by the coastal State;

– –115 dB(W/(m2 · 10 MHz)) for more than 1% of the time produced 3 m above ground at the border of the territory of an administration deploying or planning to deploy land mobile radars in this band, unless prior agreement has been obtained.

For earth stations within the fixed-satellite service having an antenna diameter greater than or equal to 4.5 m, the e.i.r.p. of any emission should be at least 68 dBW and should not exceed 85 dBW.     (WRC-15)

MOD INS/MLA/118A6A2/6

5.501A The allocation of the band 13.4-13.75 GHz to the space research service on a primary basis is limited to active spaceborne sensors, as well as satellite systems, operating in the space research service (space-to-Earth, space-to-space) to relay data from space stations in the geostationary-satellite orbit to associated earth stations and space stations in the non-geostationary-satellite orbit, for which information for advance publication has been received by the Bureau prior to 27 November 2015. Other uses of the band by the space research service are on a secondary basis.     (WRC‑15)

APPENDIX 7 (REV.WRC‑12)

Methods for the determination of the coordination area around an earth  
station in frequency bands between 100 MHz and 105 GHz

ANNEX 7

System parameters and predetermined coordination distances for determination of the coordination area around an earth station

MOD INS/MLA/118A6A2/7

TABLE 7b    (Rev.WRC‑15)

Parameters required for the determination of coordination distance for a transmitting earth station

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Transmitting space radiocommunication  service designation | | Fixed-satellite, mobile-satellite | Aero-nautical mobile-satellite (R) service | Aero-nautical mobile-satellite (R) service | Fixed- satellite | Fixed- satellite | Fixed- satellite | Fixed- satellite | | Space  operation, space  research | | Fixed-satellite, mobile-satellite, meteorological- satellite | | Fixed- satellite | | Fixed- satellite | | Fixed- satellite | Fixed- satellite 3 | Fixed- satellite | Fixed- satellite 3 |
| Frequency bands (GHz) | | 2.655-2.690 | 5.030-5.091 | 5.030-5.091 | 5.091-5.150 | 5.091-5.150 | 5.725-5.850 | 5.725-7.075 | | 7.100-7.235 5 | | 7.900-8.400 | | 10.7-11.7 | | 12.5-14.8 | | 13.45-14.3 | 15.43-15.65 | 17.7-18.4 | 19.3-19.7 |
| Receiving terrestrial service designations | | Fixed, mobile | Aeronautical radio- navigation | Aeronautical mobile (R) | Aeronautical radio- navigation | Aeronautical mobile (R) | Radiolocation | Fixed, mobile | | Fixed, mobile | | Fixed, mobile | | Fixed, mobile | | Fixed, mobile | | Radiolocation radionavigation (land only) | Aeronautical radionavigation | Fixed, mobile | Fixed, mobile |
| Method to be used | | § 2.1 | § 2.1, § 2.2 | § 2.1, § 2.2 |  |  | § 2.1 | § 2.1 | | § 2.1, § 2.2 | | § 2.1 | | § 2.1 | | § 2.1, § 2.2 | | § 2.1 |  | § 2.1, § 2.2 | § 2.2 |
| Modulation at terrestrial station 1 | | A |  |  |  |  |  | A | N | A | N | A | N | A | N | A | N | − |  | N | N |
| Terrestrial station interference parameters and criteria | *p0* (%) | 0.01 |  |  |  |  |  | 0.01 | 0.005 | 0.01 | 0.005 | 0.01 | 0.005 | 0.01 | 0.005 | 0.01 | 0.005 | 0.01 |  | 0.005 | 0.005 |
| *n* | 2 |  |  |  |  |  | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 |  | 2 | 2 |
| *p* (%) | 0.005 |  |  |  |  |  | 0.005 | 0.0025 | 0.005 | 0.0025 | 0.005 | 0.0025 | 0.005 | 0.0025 | 0.005 | 0.0025 | 0.01 |  | 0.0025 | 0.0025 |
| *NL* (dB) | 0 |  |  |  |  |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  | 0 | 0 |
| *Ms* (dB) | 26 2 |  |  |  |  |  | 33 | 37 | 33 | 37 | 33 | 37 | 33 | 40 | 33 | 40 | 1 |  | 25 | 25 |
| *W* (dB) | 0 |  |  |  |  |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  | 0 | 0 |
| Terrestrial station parameters | *Gx* (dBi) 4 | 49 2 | 6 | 10 | 6 | 6 |  | 46 | 46 | 46 | 46 | 46 | 46 | 50 | 50 | 52 | 52 | 36 |  | 48 | 48 |
| *Te* (K) | 500 2 |  |  |  |  |  | 750 | 750 | 750 | 750 | 750 | 750 | 1 500 | 1 100 | 1 500 | 1 100 | 2 636 |  | 1 100 | 1 100 |
| Reference bandwidth | *B* (Hz) | 4 × 103 | 150 × 103 | 37.5 × 103 | 150 × 103 | 106 |  | 4 × 103 | 106 | 4 × 103 | 106 | 4 × 103 | 106 | 4 × 103 | 106 | 4 × 103 | 106 | 107 |  | 106 | 106 |
| Permissible interference power | *Pr*( *p*) (dBW) in *B* | −140 | −160 | −157 | −160 | −143 |  | −131 | −103 | −131 | −103 | −131 | −103 | −128 | −98 | −128 | −98 | −131 |  | −113 | −113 |

NOC INS/MLA/118A6A2/8

14-15.4 GHz

|  |  |  |
| --- | --- | --- |
| Allocation to services | | |
| Region 1 | Region 2 | Region 3 |
| 14.5-14.8 FIXED  FIXED-SATELLITE (Earth-to-space) 5.510  MOBILE  Space research | | |

**Reasons:** No change in the band 14.5-14.8 GHz due to incompatibility with existing services.

SUP INS/MLA/118A6A2/9

RESOLUTION 152 (WRC‑12)

Additional primary allocations to the fixed-satellite service in the   
Earth-to-space direction in frequency bands between 13-17 GHz   
in Region 2 and Region 3

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