

United States of America

DRAFT PROPOSAL FOR THE WORK OF THE CONFERENCE

WRC-07 Agenda Item 1.9: to review the technical, operational and regulatory provisions applicable to the use of the band 2 500-2 690 MHz by space services in order to facilitate sharing with current and future terrestrial services without placing undue constraint on the services to which the band is allocated;

Background Information: The band 2 500-2 690 MHz is allocated on a Primary basis to both terrestrial and satellite services. The terrestrial services include the Mobile Services and the Fixed Services (including IMT-2000). Both the terrestrial Mobile and Fixed Services have been rapidly evolving to encompass high-speed mobile Internet services requiring sensitive receiving equipment, which are highly susceptible to interference.

Portions of the 2500-2690 MHz band are also allocated to satellite services, which include MSS, BSS (including GSO and non-GSO), and FSS. The bands 2500-2520 MHz and 2670-2690 MHz are allocated to the MSS on a Primary basis and have been identified for use by the satellite component of IMT-2000 and beyond. As part of this identification, it was noted that, “in the long term” these bands might also be used for the terrestrial component of IMT-2000 and beyond (See Res.225).

At WRC-03 the issue of sharing between terrestrial services and NGSO BSS (Sound) in certain Region 3 countries was resolved with the revision of pfd limits for NGSO BSS (Sound) per Resolution 539. GSO BSS (Sound) limits within these countries were also tightened for systems for which complete Appendix 4 coordination information has been received after 1 June 2005. Other than for these Region 3 countries the BSS limits remained the same as given in Table 21-4.

In general, co-frequency sharing between the mobile-satellite service (MSS) and terrestrial services has been found to be difficult in the ITU-R studies. The sharing between the terrestrial services and the MSS poses risks of harmful interference to both systems. In addition, sharing would require large separation distances between terrestrial stations and MSS earth stations in order to avoid harmful interference to both Services.

Large separation distances could be available in large countries where citizens without the benefit of terrestrial infrastructure could rely on MSS systems to provide vital communications services including Internet access. The lack of terrestrial infrastructure in developing countries and sparsely populated areas also points up the need for Services such as the MSS.

ITU-R Report M.2041 studied the feasibility of sharing between MSS and MS for IMT-2000 and highlighted the sharing difficulties between these two services on a co-frequency, co-coverage basis. Report M.2041, came to the conclusion that sharing is not feasible over the same geographical area. Consequently, Radiocommunication Study Group 8 came to the conclusion that

co-frequency sharing is not feasible for networks operating in the same geographical area,” even though Report M.2041 was never vetted by ITU-R Working Party 8D.

Within Region 2, the 2005 hurricane season was marked by massive destruction that included terrestrial communications infrastructure. Entire regions in the states of Florida, Alabama, Mississippi, Louisiana and Texas were laid waste by hurricanes Katrina and Rita. MSS systems provided lifesaving communications for first responders and government agencies over wide spread areas where there were no terrestrial means. Had government officials availed themselves of MSS communications equipment before the storms and equipped their first responders continuity of emergency communications could have been maintained. Plans have been announced for first responders to be equipped with MSS equipment to provide alternative communications when terrestrial means fail. As much of Region 2 is prone to tropical storms, other countries may wish to follow the example of the USA and equip emergency personnel with MSS equipment.

In view of the outstanding performance provided by MSS systems during the past hurricane season, it seems foolhardy to advocate the complete elimination of an allocation for this Service in Region 2. Allocation to the MSS on a Secondary basis would provide a regulatory solution to interference while still maintaining the option of the MSS in areas where no terrestrial infrastructure exists.

Proposal

USA/ /1 MOD

ARTICLE 5

Frequency allocations

Section IV – Table of Frequency Allocations

2 500-2 520 MHz

Allocation to services		
2 500-2 520 FIXED 5.409 5.410 5.411 MOBILE except aeronautical mobile 5.384A MOBILE-SATELLITE (space-to-Earth) 5.351A 5.403 5.405 5.407 5.412 5.414	2 500-2 520 FIXED 5.409 5.411 FIXED-SATELLITE (space-to-Earth) 5.415 MOBILE except aeronautical mobile 5.384A MOBILE-SATELLITE <u>Mobile-Satellite</u> (space-to-Earth) 5.351A 5.403 5.404 5.407 5.414 5.415A	2 500-2 520 FIXED 5.409 5.411 FIXED-SATELLITE (space-to-Earth) 5.415 MOBILE except aeronautical mobile 5.384A MOBILE-SATELLITE (space-to-Earth) 5.351A 5.403 5.404 5.407 5.414 5.415A

Reasons: In general, co-frequency sharing between the mobile-satellite service (MSS) and terrestrial services has been found to be difficult in the ITU-R studies. The sharing between the terrestrial services and the MSS poses risks of harmful interference to both systems. In addition, sharing would require large separation distances between terrestrial stations and MSS earth stations in order to avoid harmful interference to both Services.

Large separation distances could be available in large countries where citizens without the benefit of terrestrial infrastructure could rely on MSS systems to provide vital communications services including Internet access. The lack of terrestrial infrastructure in developing countries and sparsely populated areas also points up the need for Services like MSS. The use of large separation distances could permit the use of both terrestrial Services and the MSS.

Allocation to the MSS on a Secondary basis would provide a regulatory solution to interference while still maintaining the option of the MSS in areas where no terrestrial infrastructure exists.

ARTICLE 5

Frequency allocations

Section IV – Table of Frequency Allocations

2 520-2 700 MHz

Allocation to services		
Region 1	Region 2	Region 3
<p>2 520-2 655 FIXED 5.409 5.410 5.411 MOBILE except aeronautical mobile 5.384A BROADCASTING-SATELLITE 5.413 5.416</p> <p>5.339 5.403 5.405 5.412 5.417C 5.417D 5.418B 5.418C</p>	<p>2 520-2 655 FIXED 5.409 5.411 FIXED-SATELLITE (space-to-Earth) 5.415 MOBILE except aeronautical mobile 5.384A BROADCASTING-SATELLITE 5.413 5.416</p> <p>5.339 5.403 5.417C 5.417D 5.418B 5.418C</p>	<p>2 520-2 535 FIXED 5.409 5.411 FIXED-SATELLITE (space-to-Earth) 5.415 MOBILE except aeronautical mobile 5.384A BROADCASTING-SATELLITE 5.413 5.416 5.403 5.415A</p>
		<p>2 535-2 655 FIXED 5.409 5.411 MOBILE except aeronautical mobile 5.384A BROADCASTING-SATELLITE 5.413 5.416 5.339 5.417A 5.417B 5.417C 5.417D 5.418 5.418A 5.418B 5.418C</p>
<p>2 655-2 670 FIXED 5.409 5.410 5.411 MOBILE except aeronautical mobile 5.384A BROADCASTING-SATELLITE 5.347A 5.413 5.416 Earth exploration-satellite (passive) Radio astronomy Space research (passive)</p> <p>5.149 5.412 5.420</p>	<p>2 655-2 670 FIXED 5.409 5.411 FIXED-SATELLITE (Earth-to-space) (space-to-Earth) 5.347A 5.415 MOBILE except aeronautical mobile 5.384A BROADCASTING-SATELLITE 5.347A 5.413 5.416 Earth exploration-satellite (passive) Radio astronomy Space research (passive)</p> <p>5.149 5.420</p>	<p>2 655-2 670 FIXED 5.409 5.411 FIXED-SATELLITE (Earth-to-space) 5.415 MOBILE except aeronautical mobile 5.384A BROADCASTING-SATELLITE 5.347A 5.413 5.416 Earth exploration-satellite (passive) Radio astronomy Space research (passive)</p> <p>5.149 5.420</p>

<p>2 670-2 690 FIXED 5.409 5.410 5.411 MOBILE except aeronautical mobile 5.384A MOBILE-SATELLITE (Earth-to-space) 5.351A Earth exploration-satellite (passive) Radio astronomy Space research (passive)</p> <p>5.149 5.412 5.419 5.420</p>	<p>2 670-2 690 FIXED 5.409 5.411 FIXED-SATELLITE (Earth-to-space) (space-to-Earth) 5.347A 5.415 MOBILE except aeronautical mobile 5.384A MOBILE-SATELLITE <u>Mobile-Satellite</u> (Earth-to-space) 5.351A</p> <p>Earth exploration-satellite (passive) Radio astronomy Space research (passive)</p> <p>5.149 5.419 5.420</p>	<p>2 670-2 690 FIXED 5.409 5.411 FIXED-SATELLITE (Earth-to-space) 5.415 MOBILE except aeronautical mobile 5.384A MOBILE-SATELLITE (Earth-to-space) 5.351A Earth exploration-satellite (passive) Radio astronomy Space research (passive)</p> <p>5.149 5.419 5.420 5.420A</p>
<p>2 690-2 700 EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.422</p>		

Reasons: In general, co-frequency sharing between the mobile-satellite service (MSS) and terrestrial services has been found to be difficult in the ITU-R studies. The sharing between the terrestrial services and the MSS poses risks of harmful interference to both systems. In addition, sharing would require large separation distances between terrestrial stations and MSS earth stations in order to avoid harmful interference to both Services.

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