

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 for sharing by 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 the satellite services, which include MSS, BSS (including GSO and non-GSO), and FSS. 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 stations. 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. Per Report M.2041, "When considering the sharing of the same frequency band between the terrestrial component of IMT-2000 and the MSS, the detailed analysis (see Annex 2) shows that such 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." Report M.2041 was approved in SG8 with support from the USA.

Within Region 2 any satellite service launched will naturally overlap many other Region 2 countries and may have the effect of interfering with existing and planned terrestrial services within that band. Administrations in Region 2 have indicated no plans to implement MSS systems in the 2500-2690 MHz band. A number of Administrations in Region 2 have authorized terrestrial Mobile and Fixed services and several other Region 2 Administrations have definite plans to

introduce new terrestrial Mobile and Fixed services in the 2500-2690 MHz band. (See WP-8F questionnaire to administrations and summary in document 8F/TEMP/276).

In addition to the allocation of the 2500-2520 MHz and 2670-2690 MHz band for MSS within Region 2, the bands 137-137.025 MHz, 148-150.05 MHz, 399.9-401 MHz, 406-406.1 MHz, 455-456 MHz, 459-460 MHz, 1518-1559 MHz, 1610-1660.5 MHz, 1668.4-1675 MHz, 1930-1970 MHz, 1980-2025 MHz, 2120-2200 MHz, 2483.5-2500 MHz, 14-14.5 GHz, 19.7-21.2 GHz, 29.5-31 GHz, 39.5-41 GHz, among others, are also allocated for MSS within Region 2.

Considering that:

- (1) Administrations in Region 2 have indicated no plans to implement MSS services in the 2500-2690 MHz band,
- (2) Administrations in Region 2 have implemented or plan to implement terrestrial Mobile and Fixed services in the 2500-2690 MHz band,
- (3) Co-frequency sharing of the 2500-2690 MHz band between MSS and terrestrial services threatens to cause interference to terrestrial Mobile services systems,
- (4) That there is other spectrum allocated for MSS within Region 2, (I move to strike *considering*

the MSS allocation in Region 2 should be suppressed

Proposal

USA/ /1 MOD

ARTICLE 5

Frequency allocations

Section IV – Table of Frequency Allocations

2 170-2 520 MHz

Allocation to services		
Region 1	Region 2	Region 3
2 170-2 200	FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) 5.351A 5.388 5.389A 5.389F 5.392A	
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	
2 290-2 300	FIXED MOBILE except aeronautical mobile SPACE RESEARCH (deep space) (space-to-Earth)	
2 300-2 450 FIXED MOBILE Amateur Radiolocation 5.150 5.282 5.395	2 300-2 450 FIXED MOBILE RADIOLOCATION Amateur 5.150 5.282 5.393 5.394 5.396	
2 450-2 483.5 FIXED MOBILE Radiolocation 5.150 5.397	2 450-2 483.5 FIXED MOBILE RADIOLOCATION 5.150 5.394	
2 483.5-2 500 FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) 5.351A Radiolocation	2 483.5-2 500 FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) 5.351A RADIOLOCATION RADIODETERMINATION-SATELLITE (space-to-Earth) 5.398	2 483.5-2 500 FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) 5.351A RADIOLOCATION Radiodetermination-satellite (space-to-Earth) 5.398

5.150 5.371 5.397 5.398 5.399 5.400 5.402	5.150 5.402	5.150 5.400 5.402
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 (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: Co-frequency, co-coverage sharing between MSS and terrestrial Mobile services is not possible per ITU-R Report M.2041. As stated in M.2041, “When considering the sharing of the same frequency band between the terrestrial component of IMT-2000 and the MSS, the detailed analysis (see Annex 2) shows that such 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.”

Administrations in Region 2 have indicated no plans to implement MSS systems in the 2500-2690 MHz band. A number of Administrations in Region 2 have authorized terrestrial Mobile and Fixed services and several other Region 2 Administrations have definite plans to introduce new terrestrial Mobile and Fixed services in the 2500-2690 MHz band. (See WP-8F questionnaire to administrations and summary in document 8F/TEMP/276). Considering that:

- (1) Administrations in Region 2 have indicated no plans to implement MSS networks in the 2500-2690 MHz band,
- (2) Administrations in Region 2 have implemented or plan to implement terrestrial Mobile and Fixed services in the 2500-2690 MHz band,
- (3) Co-frequency sharing at 2500-2690 MHz between MSS and terrestrial services threatens to cause interference to terrestrial Mobile services systems.
- (4) That there is other spectrum allocated for MSS within Region 2

the MSS allocation in Region 2 is suppressed.

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>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>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>5.339 5.403 5.405 5.412 5.417C 5.417D 5.418B 5.418C</p>	<p>5.339 5.403 5.417C 5.417D 5.418B 5.418C</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>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>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 5.412 5.420</p>	<p>5.149 5.420</p>	<p>5.149 5.420</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) 5.149 5.412 5.419 5.420	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 (Earth-to-space) 5.351A Earth exploration-satellite (passive) Radio astronomy Space research (passive) 5.149 5.419 5.420	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) 5.149 5.419 5.420 5.420A
2 690-2 700 EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.422		

Reasons: Co-frequency, co-coverage sharing between MSS and terrestrial Mobile services is not possible per ITU-R Report M.2041. As stated in M.2041, “When considering the sharing of the same frequency band between the terrestrial component of IMT-2000 and the MSS, the detailed analysis (see Annex 2) shows that such 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.”

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- (3) Co-frequency sharing at 2500-2690 MHz between MSS and terrestrial services threatens to cause interference to terrestrial Mobile services,
- (4) That there is other spectrum allocated for MSS within Region 2,

the MSS allocation in Region 2 is suppressed.