

**WRC-2003 Advisory Committee**

**IWG-2**

**Draft U.S. Proposal on WRC-03 Agenda Item 1.31 (Resolution 226)**

**Agenda Item 1.31:** *"to consider the additional allocations to the mobile-satellite service in the 1-3 GHz band, in accordance with Resolutions 226 (WRC-2000) and 227 (WRC-2000)"*

**BACKGROUND:** WRC-2000 considered proposals for an allocation to the mobile-satellite service (MSS) (space-to-Earth) in Regions 1 and 3 in the frequency band 1 518-1 525 MHz. This band is adjacent to the 1 525-1 559 MHz band in use by GSO MSS operators.

WRC-2000 considered in Resolution 226 that the proposed allocation to the MSS (space-to-Earth) at 1 518-1 525 MHz due to their potentially widespread emissions upon the Earth from either geostationary or non-geostationary systems, could have an impact on the mobile service, including aeronautical mobile and aeronautical mobile telemetry, in all three Regions. Resolution 226 also states there is a need to review the pfd values in Appendix S5 in order to ensure that they are adequate to protect new point-to-multipoint systems operating in the fixed service in the band, as well as, a need to study sharing between the MSS and aeronautical mobile telemetry in all the Regions in the band. Sharing studies have been performed, and a number of these studies lead to the conclusion that sharing between MSS and flight aeronautical mobile telemetry is not possible.

Recommendation ITU-R M.1459 gives the values needed for protection of the aeronautical mobile service for telemetry systems in the 1 452-1 525 MHz band from geostationary satellites operating in the MSS. The validity of M.1459 has been affirmed in several sharing studies presented to and debated within ITU Working Parties 8B and 8D. The required separation distances between co-frequency telemetry and MSS operations prescribed by the levels in M.1459 are large, making the feasibility of use of the 1 518-1 525 MHz band by MSS questionable. This is true for co-frequency, co-coverage sharing and for co-frequency, non-co-coverage sharing, even when the mitigation techniques suggested in Recommendation M.1459 are considered.

There has been no MSS implemented in the 1 492-1 525 MHz band due to the incompatibility between aeronautical telemetry and MSS systems.

**Proposals:**

**USA/ /1  
MOD**

**1 492-1 525 MHz**

<b>Allocation to Services</b>		
<b>Region 1</b>	<b>Region 2</b>	<b>Region 3</b>
<b>1 452 - 1492</b>  FIXED MOBILE except aeronautical mobile BROADCASTING S5.345 S5.347 BROADCASTING-SATELLITE S5.345 S5.347  S5.341 S5.342	<b>1 452 - 1 492</b>  FIXED MOBILE S5.343 BROADCASTING S5.345 S5.347 BROADCASTING SATELLITE S5.345 S5.347  S5.341 <u>MOD S5.344</u>	
<b>1 492 - 1 525</b>  FIXED MOBILE except aeronautical mobile  S5.341 S5.342	<b>1 492 - 1 525</b>  FIXED MOBILE S5.343 <del>MOBILE SATELLITE</del> <del>-(space to Earth) S5.348A</del>  S5.341 <del>S5.344</del> S5.348	<b>1 492 - 1 525</b>  FIXED MOBILE  S5.341 S5.348A

**Reason:** There has been no MSS implemented in the 1 492-1 525 MHz band due to the incompatibility between aeronautical telemetry and MSS systems.

USA/ /2  
NOC

1 492-1 525 MHz

Allocation to Services		
Region 1	Region 2	Region 3
1 492 - 1 525  FIXED MOBILE except aeronautical mobile  S5.341 S5.342	* * *	1 492 - 1 525  FIXED MOBILE  S5.341 S5.348A <sup>[NOTE]</sup>

*Note: The U.S. proposes that there be no change to the Allocations to Services in Regions 1 and 3 in the band 1 492 - 1 525 MHz. The proposed deletion of No. S5.348A in USA/ /1 above is a consequence of the proposed deletion of the Mobile-Satellite Service (space-to-Earth) allocation in Region 2, and is shown here for sake of consistency.*

**Reason:** U.S. studies have shown that sharing between MSS and Aeronautical Telemetry in 1 492 - 1 525 MHz, even when the service area is in an adjacent ITU Region, is not feasible.

**USA/ /3**  
**MOD**

**S5.344** *Alternative Allocation:* in the United States, the band 1452-~~1492~~ 1525-MHz is allocated to the fixed and mobile services on a primary basis (see also No. **S5.343**).

**Reason:** Consequential to the suppression of the mobile-satellite service from the Table of Frequency Allocations in the band 1492-1525 MHz in Region 2.

**USA/ /4**  
**SUP**

~~**S5.348**~~

**Reason:** Consequential to the deletion of the Mobile-Satellite Service from the Table of Frequency Allocations at 1492 - 1525 MHz in Region 2.

**USA/ /5**  
**SUP**

~~**S5.348A**~~

**Reason:** Consequential to the deletion of the Mobile-Satellite Service from the Table of Frequency Allocations at 1492 - 1525 MHz in Region 2.

Appendix S5  
ANNEX 1

TABLE S5-2

Frequency band (MHz)	Terrestrial service to be protected	Coordination threshold values				
		GSO space stations		Non-GSO space stations		
		pfd (per space station) calculation factors (NOTE 2)		pfd (per space station) calculation factors (NOTE 2)		% FDP (in 1 MHz) (NOTE 1)
		<i>P</i>	<i>r</i> dB/degrees	<i>P</i>	<i>r</i> dB/degrees	
1 492-1 525	Analogue FS telephony (NOTE 5)	-146 dB(W/m <sup>2</sup> ) in 4 kHz and -128 dB(W/m <sup>2</sup> ) in 1 MHz	0.5	-146 dB(W/m <sup>2</sup> ) in 4 kHz and -128 dB(W/m <sup>2</sup> ) in 1 MHz	0.5	
	All other cases (NOTE 4)	-128 dB(W/m <sup>2</sup> ) in 1 MHz	0.5	-128 dB(W/m <sup>2</sup> ) in 1 MHz	0.5	25

NOTE 4—Exceptions for the band 1 492-1 525 MHz are as follows:

4.1 For the land mobile service on the territory of Japan (No. ~~S5.348A~~): 150 dB(W/m<sup>2</sup>) in 4 kHz at all angles of arrival is applicable to all satellite space to Earth emissions.

4.2 For the aeronautical mobile service for telemetry (No. ~~S5.343~~), the requirement for coordination is determined by frequency overlap (No. ~~S5.348~~).

NOC NOTE 5

**Reason:** Consequential changes due to the deletion of MSS from the band 1 492- 1 525 MHz.