

Before the  
**Federal Communications Commission**  
Washington DC 20554

In the Matter of )  
 )  
FCC Seeks Comment on Recommendations ) IB Docket No. 04-286  
Approved by the Advisory Committee )  
for the 2007 World Radiocommunication )  
Conference )

**COMMENTS OF THE  
FIXED WIRELESS COMMUNICATIONS COALITION**

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May 26, 2006

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The Fixed Wireless Communications Coalition (FWCC) files these comments in the above-captioned proceeding.<sup>1</sup>

**Agenda Item 1.5: to consider spectrum requirements and possible additional spectrum allocations for aeronautical telecommand and high bit-rate aeronautical telemetry, in accordance with Resolution 230 (WRC-03).**

This agenda item seeks to identify the band 5925-6700 MHz, among others, as suitable for the implementation of aeronautical mobile telemetry (AMT), an application in the mobile service, which is co-primary in this band.

The FWCC opposes accommodating AMT in this band and generally supports the IWG-1 proposal, with the important exceptions noted below.

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<sup>1</sup> *FCC Seeks Comment on Recommendations Approved by the Advisory Committee for the 2007 World Radiocommunication Conference*, IB Docket No. 04-286, Public Notice, DA 06-960 (released May 1, 2006). The FWCC is a coalition of companies, associations, and individuals interested in the Fixed Service -- *i.e.*, in terrestrial fixed microwave communications. Our membership includes manufacturers of microwave equipment, licensees of terrestrial fixed microwave systems and their associations, and communications service providers and their associations. The membership also includes railroads, public utilities, petroleum and pipeline entities, public safety agencies, cable TV providers, backhaul providers, and/or their respective associations, common carrier and private communications carriers, and telecommunications attorneys and engineers. Our members build, install, and use both licensed and unlicensed point-to-point, point-to-multipoint, and other fixed wireless systems, in frequency bands from 900 MHz to 95 GHz. For more information, see [www.fwcc.us](http://www.fwcc.us).

The 6 GHz band is heavily used in the United States by the Fixed Service to carry critical services such as public safety communications (including police and fire vehicle dispatch), coordinating the movement of railroad trains, controlling natural gas and oil pipelines, regulating the electric grid, and backhauling wireless telephone traffic. Many of these applications routinely require 99.999% or 99.9999% availability.

The U.S. Fixed Service divides its 6 GHz operations between the "Lower 6 GHz" at 5925-6425 MHz, and the "Upper 6 GHz" at 6525-6875 MHz. As of April 1, 2006, these bands supported 40,514 and 30,835 transmitters, respectively.

The proposed AMT allocation would cover all of the Lower 6 and the bottom half of the Upper 6. Fixed Service transmitter frequencies are distributed almost uniformly across the two bands. The number of transmitters (and receivers) that overlap the proposed AMT allocation includes the entire Lower 6 population, and about half of the Upper 6, for a total of approximately 56,000 transmitters.

Over the past two years, the Fixed Service growth rate in these bands has been 1 percent in the Lower 6 and 3 percent in the Upper 6. Together these amount to more than 1300 new transmitters per year. The growth rate is likely to increase during the next few years as Fixed Service licensees are displaced and relocated from 2 GHz spectrum being taken over by other services. Few, if any, of these users can move to the 4 GHz band, where the large number of C-band receive earth stations has made coordinating new Fixed Service links all but impossible. The next bands up, the Upper and Lower 6 GHz, are the most attractive option -- sometimes the only option -- for links of significant length.

Moreover, the Lower 6 band is shared with approximately 3,500 uplink earth stations in the Fixed Satellite Service, and an unknown but growing number of Earth Station Vessels operating in coastal waters and inland waterways.

All of these services are co-primary. Each must undergo advance frequency coordination with its co-users and both of the other services before operating a new facility. AMT would likewise have to frequency-coordinate prior to operations, so as not to cause massive, widespread interference.

If AMT seeks to use the entire 5925-6700 MHz band, it would have to frequency coordinate with the entire Lower 6 and half the Upper 6 over the proposed region of operation.

Attached are maps of Lower and Upper 6 GHz links. Note that the links are extremely dense in the heavily populated parts of the country -- particularly the east and west coasts, the midwest, and the southwest. Links that appear in close proximity on the map were doubtless able to coordinate by operating on different frequencies. If AMT attempts to coordinate significant frequency segments, it would be restricted to the exceedingly sparse white areas on the Lower 6 map, and be further limited by links operating in the bottom half of the Upper 6. There is little, if any, geographic room for a mobile operation that covers the entire band.

Conversely, if AMT were able to coordinate across significant frequency segments within these bands, this would severely limit the possibilities for establishing new Fixed Service links in extensive areas surrounding the AMT areas of operation.

For these reasons, the FWCC strongly disputes this assertion in IWG-1: "The ITU-R studies have demonstrated that aeronautical mobile telemetry for flight test purposes can be implemented in these bands without adversely affecting the operation of existing systems and

allocated services." Far from being adequately "demonstrated," the assertion is demonstrably wrong, in view of the density of 6 GHz Fixed Service links. One submission to WP 9D calculates possible harmful interference from AMT systems into any of those Fixed Service receivers located within distances as great as 450 kilometers.<sup>2</sup>

**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.**

The FWCC supports the position taken today on this item by the Wireless Communications Association International, Inc. (WCA) opposing mobile satellite services (MSS) in the 2500-2690 MHz band.<sup>3</sup> In particular (and without limitation), the FWCC agrees that the Broadband Radio Service and the Educational Broadband Service, which are allocated this band in the United States, are well positioned to provide needed competition to wired broadband services, where those exist, and to deliver broadband service where wired systems do not reach. The Commission has long understood, and repeatedly held, that MSS and ubiquitous terrestrial systems, on the same frequencies and in the same geographic area, are fundamentally incompatible.

For the same reasons that the Commission has rejected domestic allocation of this band to satellite services -- *i.e.*, the exceedingly high likelihood of intractable interference -- it should advocate similar positions with regard to Agenda Item 1.9, specifically (1) by adopting the positions advocated in Document WAC/101 (relating to PFD limits for satellite services

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<sup>2</sup> USWP9D/6 At 11 (May 9, 2006).

<sup>3</sup> See Letter from Paul J. Sinderbrand, Counsel to the WCA, to Ms. Marlene H. Dortch, Secretary, FCC (May 26, 2006).

operating in the band) and (2) by supporting the elimination of obsolete allocations of 2.5 GHz spectrum for MSS in Region 2, as proposed by a majority of IWG-3 and reflected in Document WAC 102A.

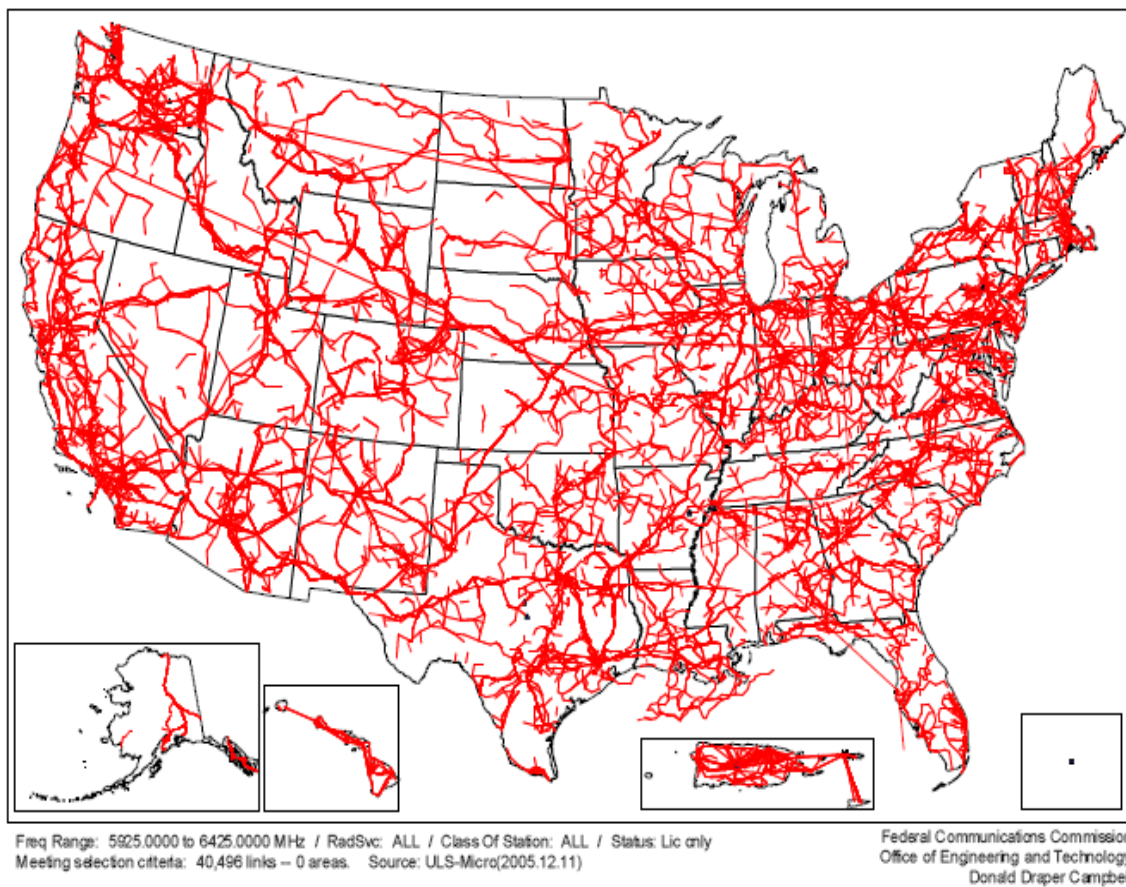
**CONCLUSION**

The U.S. position at WRC-07 should reflect the importance of protecting the Fixed Service from harmful interference from aeronautical mobile telemetry and mobile satellite services.

Respectfully submitted,

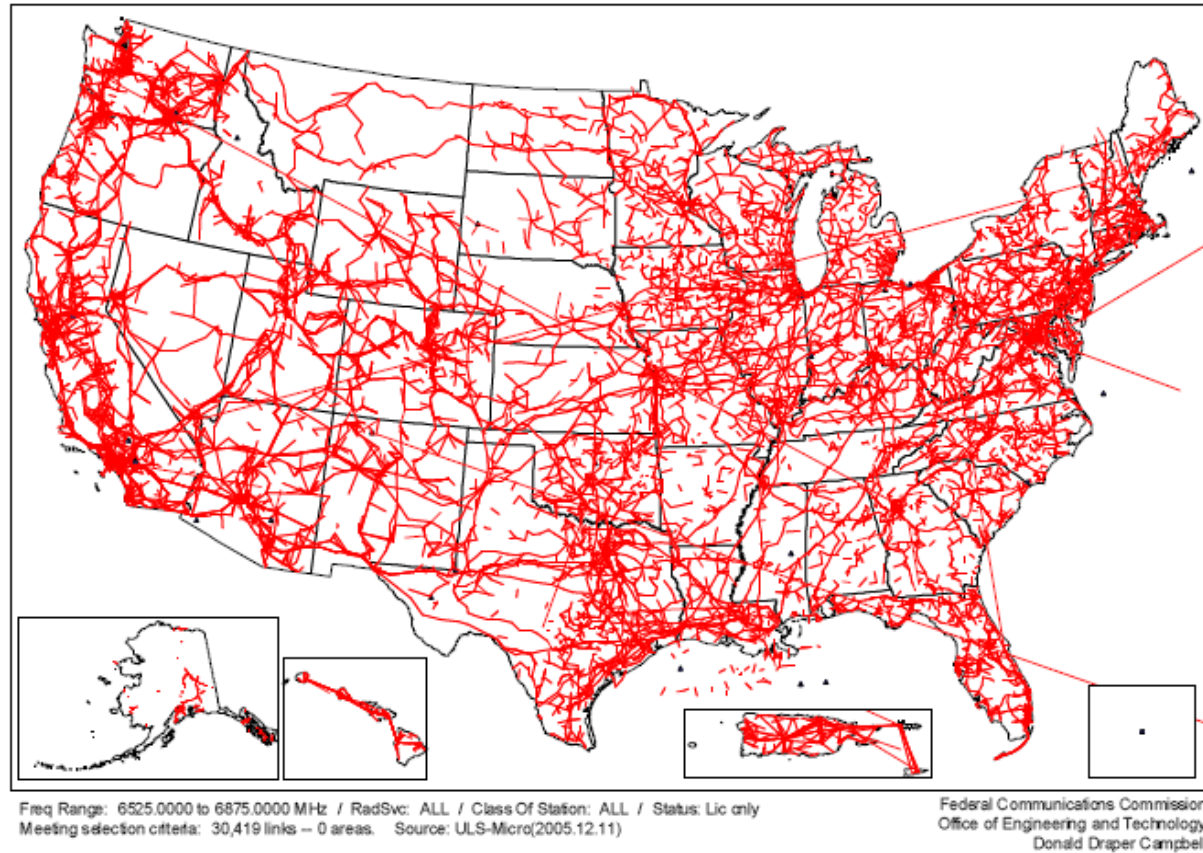
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“Lower 6 GHz” Fixed Service Deployment as of Dec. 2005

Figure 1



“Upper 6 GHz” Fixed Service Deployment as of Dec. 2005

Figure 2



## COURTESY SERVICE LIST

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