
**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	
Amendment of Parts 1, 2, 15, 25, 27, 74, 78, 80, 87, 90, 97, and 101 of the Commission's Rules Regarding Implementation of the Final Acts of the World Radiocommunication Conference (Geneva, 2007) (WRC-07), Other Allocation Issues, and Related Rule Updates)	ET Docket No. 12-338 (Proceeding Terminated)
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Amendment of Parts 2, 15 80, 90, 97, and 101 of the Commission's Rules Regarding Implementation of the Final Acts of the World Radiocommunication Conference (Geneva, 2007) (WRC-07), Other Allocation Issues, and Related Rule Updates)	ET Docket No. 15-99
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REPLY COMMENTS OF THE WIMAX FORUM

The WiMAX Forum® is a not-for-profit industry association that certifies and promotes the compatibility and interoperability of broadband wireless products based upon IEEE Std 802.16. WiMAX Forum Certified® products are interoperable and support broadband fixed, nomadic, portable, and mobile services. The WiMAX Forum's interest in this proceeding stems from the fact that the Aeronautical Mobile Airport Communications System, known as AeroMACS, is based on

IEEE Std 802.16¹. For the past several years, the WiMAX Forum Aviation Working Group has been proactively engaged with the avionics industry and WiMAX equipment vendors to develop suitable system profiles and certification requirements to meet AeroMACS performance objectives as defined by various standards organizations including Radio Technical Commission for Aeronautics (RTCA), European Organization for Civil Aviation Equipment (EUROCAE), and the International Civil Aviation Organization (ICAO).

DISCUSSION

1. The WiMAX Forum applauds the Commission's decision to allocate the 5091-5150 MHz band to Aeronautical Mobile Service (AMS), commonly known as AeroMACS, on a primary basis (§ 58 to § 61) following the recommendations of WRC-7 and WRC-12.
2. The WiMAX Forum further offers enthusiastic support for the Commission's proposal to allocate the 5000-5030 MHz band AM(R)S (i.e. AeroMACS) on a primary basis for federal and non-federal use (§ 230). This additional 30 MHz will ensure support for the numerous applications for the broad range of users anticipated for AeroMACS and will ensure additional flexibility in the assignment of channels to the various federal and non-federal stakeholders. This will be especially important in the

¹ See NASA/TM—2011-217236, Aeronautical Mobile Airport Communications System (AeroMACS); James M. Budinger, Glenn Research Center, Cleveland, Ohio, Edward Hall, ITT Electronics Systems, Fort Wayne, Indiana <http://ntrs.nasa.gov/search.jsp?R=20110022433&hterms=budinger+hall&q=N%3D0%26Ntk%3DAI%26Ntx%3Dmode%2Bmatchallany%26Ntt%3Dbudinger%252C%2Bhall>

country's busiest airports, many of which are capacity constrained and stand to benefit the most with the implementation of AeroMACS².

3. The WiMAX Forum also notes the comments made by Boeing³ in their expressed support of Aeronautical Mobile Services (AMS) in the 5091-5150 MHz band, namely:

“Boeing notes that in lieu of requiring coordination between AM(R)S and Aeronautical Mobile Telemetry (“AMT”) systems, the Commission has elected to “urge operators...to cooperate with each other and exchange information about planned deployments of their respective systems.” Boeing hopes such informal cooperation and information sharing is sufficient to ensure compatible spectrum sharing of the band. Indeed, as Boeing has previously noted, good engineering practices by WiMAX network operators should limit interference to AMT. Should experience suggest that reliance on good engineering practices and informal cooperation is insufficient, however, Boeing recommends the Commission consider a more formal coordination requirement as an alternative.”

4. The need for a formal channel coordination approach is an issue we feel warrants further study and should be seriously considered for both the 5000-5030 MHz and 5091-5150 MHz AeroMACS bands. Considering the number of users that will require access to the network at the busiest US airports, channel congestion can be expected. Quality of Service (QoS), Class of Service (CoS), and contention based protocols that are all supported by AeroMACS will play a key role in ensuring priority services such as ATM, ATC, etc. have access to channel capacity when needed but a channel management approach can provide the additional assurances required to ensure reliable communications and

² See AeroMACS Delivering Next Generation Communications to the Airport Surface, WiMAX Forum, April, 2015. http://resources.wimaxforum.org/sites/wimaxforum.org/files/document_library/AeroMACS%20-%20Delivering%20Next%20Generation%20Communications%20to%20the%20Airport%20Surface.pdf

³ See Boeing Company comments at 3, ¶ B

ensure concurrence with NTIA recommendations (*i.e.*, AeroMACS will have priority over AMT systems in the 5091-5150 MHz band)⁴.

AREAS REQUIRING FURTHER STUDY:

CHANNEL COORDINATION AND AEROMACS SERVICES RULES

5. There is still much to be done to facilitate full AeroMACS deployments at some of the busiest US airports in the 5091-5150 MHz and 5000-5030 MHz bands. These are airports that stand to benefit the most with the implementation of AeroMACS. In addition to the potential requirement for channel coordination, service and operating rules are also necessary. US and International trials have clearly demonstrated the viability of AeroMACS in the 5000-5150 MHz band and many airports have expressed interest in implementing application-specific deployments with equipment that is currently available. In addition, work done by RTCA, EUROCAE, and ICAO has addressed many of the operational and inter-operational issues related to AeroMACS, and the WiMAX Forum is currently in the process of developing certification requirements for AeroMACS equipment. On April 22, 2015, the WiMAX Forum together with representatives from Hitachi, Honeywell, and the Federal Aviation Administration (FAA) met with Commission staff members of the Wireless Telecommunications Bureau and the Office of Engineering and Technology to discuss AeroMACS. At that meeting, the WiMAX Forum presented a preliminary view of service rules for AeroMACS⁵. The WiMAX Forum will continue to work with

⁴ See R & O, ¶ 60

⁵ See 12-338 04-23-2015 WiMAX Forum, et al. 60001044498, <http://apps.fcc.gov/ecfs/document/view?id=60001044498>

industry participants to gain consensus on AeroMACS service rules and the need for channel coordination.

SUMMARY

The WiMAX Forum applauds the Commission's decision to adopt the WRC-7 and WRC-12 recommendations for the 5000-5030 MHz and 5091-5150 MHz bands. This decision helps to facilitate further application-specific AeroMACS deployments at selected US airports. This however is only a first step. We strongly urge the Commission to consider the need for a frequency coordinator role for the AeroMACS bands and begin to take steps to develop a full set of AeroMACS service rules. The WiMAX Forum and its membership representing many entities with a vested interest in AeroMACS is in an excellent position to facilitate progress in both of these areas and looks forward to an ongoing cooperative effort with the Commission to lay the groundwork for AeroMACS licensing and full-scale AeroMACS deployments.

Respectfully submitted,

THE WIMAX FORUM

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