

Before the
Federal Communications Commission
Washington DC 20554

In the Matter of)
)
Amendment of Parts 2, 15, 80, 90, 97, and 101)
of the Commission’s Rules Regarding)
Implementation of the Final Acts of the World) ET Docket No. 15-99
Radiocommunication Conference (Geneva,)
2012)(WRC-12), Other Allocation Issues, and)
Related Rule Updates)

**REPLY COMMENTS OF THE
FIXED WIRELESS COMMUNICATIONS COALITION**

The Fixed Wireless Communications Coalition, Inc. (FWCC)¹ files these reply comments in response to the April 23, 2015, *Report and Order, Order and Notice of Proposed Rulemaking* in the above-referenced docket.² The FWCC’s initial comments in this proceeding demonstrated that sharing of the 6 GHz (5925-6700 MHz) bands in the U.S. with aeronautical mobile telemetry (AMT) operations—under a proposed allocation to aeronautical mobile service

¹ The FWCC is a coalition of companies, associations, and individuals actively involved in the fixed services—*i.e.*, terrestrial fixed microwave communications. Our membership includes manufacturers of microwave equipment, fixed microwave engineering firms, 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, 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.

² 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, 2012)(WRC-12), Other Allocation Issues, and Related Rule Updates, ET Docket No. 15-99, *Report and Order, Order and Notice of Proposed Rulemaking*, 30 FCC Rcd 4183, FCC 15-50 (rel. April 27, 2015) (NPRM).

(AMS)—is not feasible due to the intense usage of the bands by Part 101 fixed service (FS) facilities across the country.³

No commenter has provided evidence that demonstrates otherwise.

At best, Aerospace and Flight Test Radio Coordinating Council, Inc. (AFTRCC) merely reiterates the NPRM’s inaccurate view that the ITU-R Report, and Resolution 416 from WRC-07,⁴ concluded that sharing would be feasible.⁵ This is a misplaced conclusion with respect to the U.S. The ITU-R Report and Resolution 416 established strict conditions under which 6 GHz band sharing between FS and AMT *might* be possible in certain locations.⁶ But acceptable sharing conditions were not achievable in the U.S. in 2007, and certainly not in the present day.⁷ And even the proponents of AMT acknowledge that the future for sharing is questionable.⁸

³ Comments of the Fixed Wireless Communications Coalition (filed Aug. 31, 2015) (FWCC Comments).

⁴ NPRM at ¶ 216. *See* Report ITU-R M.2119 (2007), titled “Sharing between aeronautical mobile telemetry systems for flight testing and other systems operating in the 4,400-4,940 and 5,925-6,700 MHz bands” (ITU-R Report). *See also*, ITU Radio Regulations, Volume III, Resolution 416 (WRC-07), titled “Use of the bands 4400-4940 MHz and 5925-6700 MHz by an aeronautical mobile telemetry application in the mobile service” (Resolution 416).

⁵ AFTRCC Comments at 5.

⁶ *See* Resolution 416 (recognizing “that in certain locations, availability of spectrum will be limited due to its extensive use by the various services...”).

⁷ Resolution 416 prohibits, absent further bilateral coordination, AMT operations within a 425 km by 24 km rectangle of a receiving FS station’s antenna main-beam axis (“receiver rectangles”). The “receiver rectangles” created by FS antennas in the 6 GHz bands *literally* blanket the U.S. *See* FWCC Comments at 7, Figure 3 (illustrating the exclusion zones created by FS receiver rectangles in just the lower 6 GHz band).

⁸ AFTRCC Comments at 6 (“it is too early to say whether [sharing] technology, or other proposals, would prove effective and efficient in the demanding environment associated with flight testing...”); Boeing Comments at 6 (only “cautiously” supporting proposed AMT operations).

The number of 6 GHz band FS stations in the U.S. today already approaches 100,000.⁹ And as NSMA notes, “the number of paths in this frequency range is increasing at over 12,000 duplex paths per year. The number of incumbent paths would be impractical to coordinate with a [moving] transmitter in the sky.”¹⁰ Indeed, no bilateral coordination solutions have been proposed by AMT proponents, and commenters fail to identify any realistic (*i.e.*, existing beyond the proposal stage) technical measures that would prevent harmful interference to FS stations. The conclusion supported by the record is clear: sharing between AMT and FS is not feasible. Accordingly, the Commission should decline to adopt the proposal to share the 6 GHz bands between incumbent FS operations and AMT.

The Commission should also disregard the Small UAV Coalition’s (SUC’s) proposal to operate “drones” in the 6 GHz bands utilized by FS (5925-6425 MHz and 6525-6700 MHz).¹¹ SUC misconstrues NTIA’s proposed operational criteria—which the Commission should not adopt in any case—as condoning AMS operations for anything but AMT for flight testing by aircraft stations. Rather, NTIA’s proposal, offered in the context of WRC-07’s Resolution 416, merely recognizes that the proposed AMT flight testing operations would not preclude use by or interfere with other services which are already authorized in the 6 GHz bands (including FS, FSS and MS). No other AMS use of the 6 GHz band was contemplated under Resolution 416. In any case, SUC’s proposal for ubiquitous drone operations in the 6 GHz bands is incompatible with incumbent FS operations. “[S]uccessful frequency sharing requires compatible services. Fixed and mobile services are generally not compatible, hence the allocation of these services to

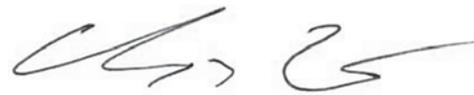
⁹ NPRM at Table 4.

¹⁰ NSMA Comments at 2.

¹¹ SUC Comments at 13-15.

separate bands.”¹² Moreover, it is difficult to envision how 6 GHz FS stations can be adequately protected from potential harmful interference caused by drones, which have an unnatural propensity to go where they are least wanted.¹³ Accordingly, the Commission should, in addition to rejecting the proposed AMT operations, disregard SUC’s proposal to permit drone operations in the 6 GHz bands.

Respectfully submitted,



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¹² NSMA Comments at 5.

¹³ *See More Than 20 Drone Flights Investigated in D.C. Area in Recent Months* (March 9, 2014), available at <http://www.nbcwashington.com/investigations/More-Than-20-Drone-Flights-Investigated-in-DC-Area-in-Recent-Months-287244061.html> (last visited Sept. 29, 2015) (describing investigations of illegal drone flights “above some of the most sensitive and secure locations in the region”).