

Before the
Federal Communications Commission
Washington DC 20554

In the Matter of)	
)	
Amendment of Part 101 of the)	
Commission’s Rules to Facilitate the Use of)	WT Docket No. 10-153
Microwave for Wireless Backhaul and Other)	
Uses and to Provide Additional Flexibility to)	
Broadcast Auxiliary Service and Operational)	
Fixed Microwave Licensees)	
)	
Request for Interpretation of Section)	
101.141(a)(3) of the Commission’s Rules)	WT Docket No. 09-106
Filed by Alcatel-Lucent, Inc., <i>et al.</i>)	
)	
Petition for Declaratory Ruling Filed by)	WT Docket No. 07-121
Wireless Strategies, Inc.)	
)	
Request for Temporary Waiver of Section)	
101.141(a)(3) of the Commission’s Rules)	
Filed by Fixed Wireless Communications)	
Coalition)	

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

The Fixed Wireless Communications Coalition (FWCC)¹ files these reply comments in response to the August 9, 2011, *Further Notice of Proposed Rulemaking* in the above-captioned proceeding.²

¹ 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, 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.

A. ANTENNA SPECIFICATIONS

The record shows near-unanimous support for antenna standards that permit the use of smaller antennas.³

The FWCC endorses Comsearch’s point that the more relaxed B2 standard are intended to be an option *in addition to* the pre-existing B standard (now renamed B1), rather than a replacement for the B standard.⁴ We also agree with Comsearch’s proposed changes to align the Commission’s Rules more closely with those of the European Telecommunications Standards Institute (ETSI), for the sake of consistency and economy in manufacturing for a global market.⁵ We support Comsearch’s proposed power limit of 65 dBm EIRP on antennas that do not conform to Category A standards.⁶ We agree on the need to add B2 standards to the 13 GHz band.⁷ And we concur with Comsearch on the need to correct Section 101.115(f) to eliminate an unintended effect.⁸

The FWCC opposes the suggestion by Wireless Strategies, Inc. to amend Section 101.115(f) in such a way as to effectively eliminate required compliance with Category A standards.⁹ The interference remedy that WSI proposes—upgrading to an unspecified “higher

² *Amendment of Part 101 of the Commission's Rules to Facilitate the Use of Microwave for Wireless Backhaul*, Report and Order, Further Notice of Proposed Rulemaking, and Memorandum Opinion and Order, 26 FCC Rcd 11614 (2011), ¶¶ 69-98 (“*Further Notice*”).

³ Comsearch Comments, filed October 4, 2011, at 1-3; Clearwire Comments, filed October 4, 2011, at 6-8; FWCC Comments, filed October 4, 2011, at 3-5; MetroPCS Comments, filed October 4, 2011, at 4-6; PCIA Comments, filed October 4, 2011, at 2-4; Wireless Strategies, Inc. Comments, filed October 5, 2011, at 1-2.

⁴ Comsearch Comments at 2.

⁵ Comsearch Comments at 2-3.

⁶ Comsearch Comments at 3-4.

⁷ Comsearch Comments at 4.

⁸ Comsearch Comments at 4-7.

⁹ Wireless Strategies, Inc. Comments at 2.

performance” antenna in the event of predicted interference—is too vague as written, and is likely to lead to disputes among users in the coordination process. The present form of Section 101.115(f) has withstood the test of time, and we advocate leaving it unchanged (except as noted in the preceding paragraph).

Engineers for the Integrity of Broadcast Auxiliary Services Spectrum (EIBASS) objects to references to antenna size, preferring specifications of electrical performance.¹⁰ The Commission’s Rules presently make no direct reference to antenna size. The FWCC agrees the rules should continue to specify performance characteristics.

The physics of diffraction, however, dictates that smaller antennas will produce more radiation to the back and sides than do larger antennas, for a given wavelength. While the FWCC supports allowing smaller antennas where reduced directionality does not lead to harmful interference, we are also on record as favoring a requirement for antenna upgrade within a set time period, where interference does occur or is predicted for a new path.¹¹

The FWCC supports Clearwire’s call for standards applicable to antenna configurations other than the traditional parabolic design.¹² Any such standards should offer a degree of protection to other users roughly comparable to that provided by the present rules.

B. EFFICIENCY STANDARDS IN RURAL AREAS

Comsearch opposes tying relaxed payload standards to non-Category A antennas on the ground that doing so creates an extra incentive to use less efficient antennas.¹³ The FWCC

¹⁰ EIBASS Comments, filed September 27, 2011, at 5.

¹¹ FWCC Comments at 4.

¹² Clearwire Comments at 8.

¹³ Comsearch Comments at 7-8.

concur. Relaxed payload standards should be triggered by population density, not antenna type.¹⁴

Comsearch also opposes relaxing efficiency standards in rural areas more generally, noting that the newly adopted rule permitting adaptive modulation requires meeting specified payload capacity only 99.95% of the time, which provides for less expensive links in less demanding environments.¹⁵ Here, the FWCC respectfully disagrees. We urge a requirement that the payload capacity of the equipment be capable of meeting the minimum in the rules.¹⁶ But in areas where demand is sparse, we see no point in a rule that requires high levels of loading.

C . “Stacking” Adjacent Channels

There is support in the record for combining adjacent channels to accommodate higher levels of traffic in the 6 and 11 GHz bands, where needed.¹⁷ The FWCC has no objection to Clearwire’s proposal to allow combining adjacent channels in the 18 and 23 GHz bands as well, in cases where the quantity of traffic exceeds the capacity of the widest channels specified in the rules.¹⁸

Comsearch opposes the proposal. It notes the advantages of coordinating pairs of channels on the same frequency by using different polarizations.¹⁹ Comsearch seems to argue

¹⁴ Our first-round comments suggested a link be considered “rural”, for purposes of specifying antenna standards, if both ends are in rural areas as defined in *Opportunities for Rural Telephone Companies to Provide Spectrum Based Services*, Report and Order, 19 FCC Rcd 19078 (2004), ¶ 11 (county or equivalent having population density of 100 persons per square mile or less); FWCC Comments at 5-6.

¹⁵ Comsearch Comments at 8.

¹⁶ FWCC Comments at 5-6.

¹⁷ Clearwire Comments at 8-10; MetroPCS Comments at 6-7.

¹⁸ Clearwire Comments at 8-9.

¹⁹ Comsearch Comments at 9-10.

that combined channels could not benefit from cross-polarization.²⁰ We disagree. An 80 MHz channel made up of two 40 MHz channels, at whatever polarization, still allows either of two 40 MHz channels, or even another combined 80 MHz channel, to be coordinated nearby at the opposite polarization.

Comsearch seems more willing to accept the proposal, however, if the Commission adopts the limitations proposed by the National Spectrum Management Association (NSMA).²¹ The FWCC is on record as supporting those limitations.²²

D. POINTING NEAR THE GEOSTATIONARY ARC

Sirius XM Radio opposes the Commission's proposal to amend Section 101.145 so as to limit the Fixed Services's need for waivers when pointing near the geostationary arc.²³ The proposal would conform the Commission's Rules to international regulations. Comsearch, at an earlier stage of the proceeding, laid out detailed, quantitative support for the change.²⁴ Among other points, Comsearch noted that current restrictions provide only negligible protection for satellites over the U.S. from microwave transmitters in the U.S. The fixed service transmitters that could impact satellites over the U.S. would by and large be located in other parts of the world.

²⁰ "If the maximum bandwidth is doubled to 60 or 80 MHz, each such channel would overlap two adjacent 30 or 40 MHz channels, and thus no cross-polarization advantage would be possible versus paths assigned according to the present maximum bandwidth and using adjacent channels on opposite polarization." Comsearch Comments at 9.

²¹ Comsearch Comments at 10; *See* National Spectrum Management Association Comments, Docket RM-11602, filed July 6, 2010, at 3-4.

²² FWCC Comments at 6-7.

²³ Sirius XM Radio Comments, *passim*.

²⁴ Comsearch Comments, filed Oct. 25, 2010, at 29-34. *See also* Comsearch Comments, filed Oct. 4, 2011, at 10.

Sirius XM Radio does not attempt to counter any of Comsearch's or the Commission's specific arguments. On the current state of the record, the Commission should adopt the proposal.

E. OTHER MATTERS

Full-Band, Full-Arc Coordination by Earth Stations. EIBASS objects to the Commission's routinely coordinating non-geostationary earth stations for the entire uplink or downlink band, even if the satellite uses only a much narrower range of frequencies²⁵ — a practice EIBASS correctly describes as “spectrum warehousing.”²⁶ Even earth stations accessing geosynchronous satellites routinely coordinate the full geosynchronous arc, despite the satellite's being confined to a narrow region of the sky. The FWCC agrees with EIBASS, having long contended that satellites should be allowed to coordinate only the frequencies and directions they actually need.²⁷

Applications for Adaptive Modulation. The FCC concurs with Comsearch's suggestion that an applicant be allowed to list adaptive modulation characteristics on a single row of the form, with a “Yes/No” box to indicate that the applicant intends to invoke the option of adaptive modulation.²⁸ This will simplify the application process while still providing the Commission with the information it needs for effective oversight.

²⁵ EIBASS Comments at 6-7.

²⁶ EIBASS Comments at 7. “If satellite Earth stations need to communicate with a different satellite or use other frequencies, the operator should submit a new frequency coordination, just as a terrestrial fixed link that wishes to modify its path is obligated to do.” *Id.*

²⁷ *But see Partial-Band Licensing of Earth Stations in the Fixed-Satellite Service*, Report and Order, 17 FCC Rcd 2002 (2002).

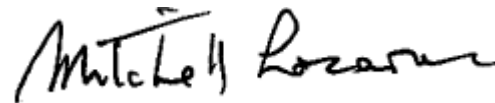
²⁸ Comsearch Comments at 11-12.

23 GHz Low Power Systems. The FWCC also agrees with Comsearch on the desirability of deleting the provision for 23 GHz low power limited coverage systems from Section 101.147(s)(8), for the reasons given by Comsearch.²⁹

CONCLUSION

As fixed service technology advances and user needs evolve, the Part 101 rules need occasional adjustment. The changes advocated above will help to reduce costs and benefit a variety of companies operating broadband backhaul systems.

Respectfully submitted,



Mitchell Lazarus
Christine Goepf
FLETCHER, HEALD & HILDRETH, P.L.C.
1300 North 17th Street, 11th Floor
Arlington, VA 22209
703-812-0400
Counsel for the Fixed Wireless
Communications Coalition

October 25, 2011

²⁹ Comsearch Comments at 12.

COURTESY SERVICE LIST

Chairman Julius Genachowski
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Commissioner Michael J. Copps
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Commissioner Robert McDowell
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Commissioner Mignon Clyburn
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Rick Kaplan, Chief
Wireless Telecommunications Bureau
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

James Schlichting, Senior Deputy Chief
Wireless Telecommunications Bureau
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

John S. Leibovitz, Deputy Chief
Wireless Telecommunications Bureau
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Tom Peters, Chief Engineer
Wireless Telecommunications Bureau
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Blaise Scinto, Chief
Broadband Division
Wireless Telecommunications Bureau
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

John Schauble, Deputy Chief
Broadband Division
Wireless Telecommunications Bureau
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Charles Oliver, Attorney Advisor
Broadband Division
Wireless Telecommunications Bureau
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Brian Wondrack, Attorney Advisor
Broadband Division
Wireless Telecommunications Bureau
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Stephen Buenzow, Deputy Chief
Broadband Division
Wireless Telecommunications Bureau
Federal Communications Commission
1280 Fairfield Road
Gettysburg, PA 17325

John Wong, Chief
Engineering Division
Media Bureau
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Wayne McKee, Deputy Chief
Engineering Division
Media Bureau
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Shabnam Javid, Senior Engineer
Engineering Division
Media Bureau
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Sean Yun
Engineering Division
Media Bureau
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554