

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)	
)	
Amendment of Part 90 of the Commission’s Rules)	WP Docket No. 07-100
)	
Implementing a Nationwide, Broadband, Interoperable Public Safety Network in the 700 MHz Band)	PS Docket No. 06-229
)	
Service Rules for the 698-746, 747-762 and 777- 792 MHz Bands)	WT Docket No. 06-150
)	

To: The Commission

**REPLY COMMENTS OF
THE WIRELESS INTERNET SERVICE PROVIDERS ASSOCIATION**

The Wireless Internet Service Providers Association (“WISPA”), pursuant to Sections 1.415 and 1.419 of the Commission’s Rules, hereby submits its Reply Comments to address certain issues in this proceeding.¹ Of primary importance, WISPA strongly urges the Commission to amend its eligibility rules so that commercial users may share the 4.9 GHz band with public safety users on a secondary basis. By using geolocation database capabilities and ensuring that public safety users have priority access during times of incidents, the concerns of those opposing or suggesting deferral of consideration for secondary use can be alleviated.

¹ *Amendment of Part 90 of the Commission’s Rules; Implementing a Nationwide, Broadband, Interoperable Public Safety Network in the 700 MHz Band; Service Rules for the 698-746, 747-762 and 777-792 MHz Bands*, Fourth Report and Order and Fifth Further Notice of Proposed Rulemaking, WP Docket No. 07-100, PS Docket No. 06-229 and WT Docket No. 06-150, FCC 12-61, rel. June 13, 2012 (“*FNPRM*”). WISPA filed Comments in this proceeding on November 1, 2012. See Comments of the Wireless Internet Service Providers Association, WP Docket No. 07-100, *et al.*, filed Nov. 1, 2012 (“*WISPA Comments*”).

Discussion

I. THE COMMISSION SHOULD ALLOW COMMERCIAL USERS TO SHARE THE 4.9 GHz BAND ON A SECONDARY BASIS.

A. Secondary Commercial Use Promotes Important Public Interest Objectives.

In its Comments, WISPA agreed with the Commission's tentative conclusion to expand eligibility to enable commercial users to share the 4.9 GHz band with public safety licensees.² WISPA proposed that such use be secondary to primary public safety uses and be subject to registration in a geolocation database in order to protect primary users from potential interference. Public safety users would have priority access both to the spectrum (by being primary) and to compatible commercial networks during public safety incidents. WISPA demonstrated that expanding eligibility would promote the public interest in several respects. First, the "increased number and density of commercial systems will provide additional opportunities for public safety users to communicate effectively during times of public safety incidents."³ Second, access to additional commercial spectrum for fixed wireless broadband would help alleviate congestion that compromises the consumer experience in other unlicensed bands. Third, the availability of additional unlicensed spectrum would facilitate provision of broadband to unserved and underserved consumers.

Several commenters agreed with WISPA. The Wyoming Public Safety Communications Commission – Spectrum Work Group supported commercial eligibility so long as public safety agencies have priority access.⁴ The Alarm Industry

² See *FNPRM* at ¶ 43.

³ WISPA Comments at 4.

⁴ See Comments of the Wyoming Public Safety Communications Commission – Spectrum Work Group, WP Docket No. 07-100, *et al.*, filed Nov. 1, 2012.

Communications Committee (“AICC”) stated that eligibility should be expanded “to include, at a minimum, safety-related private sector operations.”⁵ AICC agreed with WISPA in acknowledging that “[i]f safety-related service providers can operate on the same spectrum as first responders, it can improve their ability to send emergency communications to the public safety broadband network.”⁶ Access to commercial broadband networks, especially in remote areas where wired technologies like cable and DSL do not extend, can provide additional, supplemental facilities for public safety network use and thereby improve overall broadband communications’ support of community public safety.

B. A Geolocation Database Will Enable Spectrum Sharing While Protecting Primary Users.

WISPA proposed that secondary use would be governed by a geolocation database similar to the databases employed for unlicensed TV white space spectrum. Secondary users could only access spectrum if and when the database reported the availability of a channel at a particular time. Three commenters – all successful innovators in spectrum sharing – agreed that the 4.9 GHz band can be successfully shared between primary and secondary users. Spectrum Bridge, Inc. (“Spectrum Bridge”) offered significant detail on how the geolocation database would be established and operated and the protocols that would be required in order to ensure its proper operation to protect primary users from harmful interference.⁷ Citing the PCAST Report,⁸ Shared Spectrum Company (“Shared Spectrum”) states that “spectrum sharing is necessary to

⁵ Comments of the Alarm Industry Communications Committee, WP Docket No. 07-100, *et al.*, filed Oct. 31, 2012 (“AICC Comments”), at 3.

⁶ *Id.*

⁷ See Comments of Spectrum Bridge, Inc., WP Docket No. 07-100, *et al.*, filed Oct. 31, 2012 (“Spectrum Bridge Comments”).

⁸ *Realizing the Full Potential of Government-Held Spectrum to Spur Economic Growth*, the President’s Council of Advisors on Science and Technology, July 2012 (“PCAST Report”).

meet the growth in demand for spectrum from all types of users.”⁹ Carlson Wireless Technologies Inc. (“Carlson Wireless”), a manufacturer of 4.9 GHz equipment and a pioneer in TV white space technology, observed that a geolocation database can be used not only to protect primary users, but also could be used to coordinate use among primary public safety users.¹⁰ It also stated that a “database approach would result in more intensive use of the band by accounting for the variety of networks and devices to be deployed.”¹¹ As an existing manufacturer of public safety equipment in the 4.9 GHz band and an innovator in TV white space technology, Carlson Wireless’ comments should be afforded substantial weight.

Those commenters opposing expanding eligibility to include commercial uses base their objections on the potential for increased congestion and interference.¹² These concerns, however, become moot if the following two companion requirements are adopted, both of which WISPA recommended in its Comments.

First, commercial use would be secondary, meaning that primary users could always displace secondary users. Consequently, concerns about commercial users operating under licenses that “exhaust the available supply of 4.9 GHz licenses” are

⁹ Comments of Shared Spectrum Company, WP Docket No. 07-100, *et al.*, filed Oct. 25, 2012, at 3. Shared Spectrum advocates spectrum sensing alongside a geolocation database solution because, in its view, sharing alone “would naturally result in an overly conservative restriction zone, blocking potential sharing in an area which is geographically larger than necessary.” *Id.* at 5. WISPA takes no position at this time on spectrum sensing in the 4.9 GHz band.

¹⁰ See Comments of Carlson Wireless Technologies, Inc., WP Docket No. 07-100, *et al.*, filed Nov. 1, 2012, at 4.

¹¹ *Id.* at 5-6.

¹² See, e.g., Comments of the Utilities Telecom Council, WP Docket No. 07-100, *et al.*, filed Nov. 1, 2012 (“UTC Comments”), at 14; Response to Request for Comments Regarding FCC Document 12-61: “Improving Spectrum Efficiency in the 4.9 GHz Band” filed by Great River Energy, WP Docket No. 07-11, *et al.*, filed Nov. 1, 2012, at 12; Comments of County of Los Angeles, California, WP Docket No. 07-100, *et al.*, filed Oct. 31, 2012 (“LA County Comments”), at 2.

unfounded.¹³ Congestion becomes an issue, if at all, only to secondary users, not to primary users. WISPA members, the vast majority of which operate on unlicensed frequencies, accept this risk and can make their spectrum plans accordingly.

Second, the geolocation database will ensure that primary users – both incumbents and any licensees subsequently authorized – can operate without interference from secondary users. The database would automatically deny secondary access to frequencies in certain areas when used by a primary user, so there need not be any concern about secondary users being unwilling to vacate spectrum.¹⁴ Similarly, the experience of “incompatible uses” in the 800 MHz band is not relevant where public safety licensees will enjoy primary status and will be protected by the automatic features of the database – commercial users would not be able to “license up” the frequencies because they will not have licenses¹⁵ and thus could not “compromise the availability of the band for public safety and other non-commercial uses.”¹⁶ The Commission endorsed the geolocation database approach in TV white spaces to protect incumbent TV stations and others, and there is no reason why the same protocols and safeguards cannot be adopted here to protect public safety and other primary users.

A third reason for expanding eligibility is the important role fixed broadband providers can and will play in supporting public safety and critical information infrastructure. In the National Broadband Plan, the Commission observed that

¹³ Comments of Motorola Solutions Inc., WP Docket No. 07-100, *et al.*, at 5. *See also* LA County Comments at 2.

¹⁴ *See* Comments of 700 MHz Regional Planning Committee Region 35 Oregon, WP Docket No. 07-100, *et al.*, filed Oct. 31, 2012, at 2.

¹⁵ EMR Consulting, Inc.’s Comments, WP Docket No. 07-100, *et al.*, filed Oct. 31, 2012, at 6.

¹⁶ Comments of the Enterprise Wireless Alliance, WP Docket No. 07-100, *et al.*, filed Nov. 1, 2012, at 3. The primary-secondary regime also would not require coordination between public safety and commercial users, but it would ensure the primacy of public safety. *See* Comments of the City of Chicago, WP Docket No. 07-100, *et al.*, filed Oct. 31, 2-012, at 3.

“[b]roadband can help public safety personnel prevent emergencies and respond swiftly when they occur. Broadband can also provide the public with new ways of calling for help and receiving emergency information.”¹⁷

C. The Commission Should Not Defer Expanding Eligibility To Commercial Users.

While not directly opposing commercial eligibility in the 4.9 GHz band, a few parties ask the Commission to defer action for the time being. The National Public Safety Telecommunications Council (“NPSTC”) and APCO both recommended that proposed rules for frequency coordination and planning be implemented before the Commission expands eligibility.¹⁸ NPSTC stated that “before opening the band to commercial use, there would need to be development and testing of viable solutions to these issues to avoid any negative impact to public safety.”¹⁹ Spectrum Bridge, a designated TV white space administrator, recommended that “various ecosystem constituents implement a realistic market trial to address questions and concerns.”²⁰ This trial would include testing of the capabilities of a geolocation database.

WISPA believes that the Commission can and should implement its proposals to allow secondary commercial use of the 4.9 GHz band utilizing a geolocation database at the earliest possible time.²¹ Given the time and effort the Commission took in crafting

¹⁷ National Broadband Plan, Chapter 16.

¹⁸ See Comments of the National Public Safety Telecommunications Council, WP Docket No. 07-100, *et al.*, filed Nov. 1, 2012 (“NPSTC Comments”), at 8-9; Comments of APCO, WP Docket No. 07-100, *et al.*, filed Oct. 31, 2012, at 4. See also Comments of the Forestry Conservation Communications Association, *et al.*, WP Docket No. 07-100, *et al.*, filed Nov. 1, 2012, at 13 (“premature to suggest that the band should be used by other than public safety entities”); Comments of Cambium Networks Ltd, WP Docket No. 07-100, *et al.*, filed Oct. 1, 2012, at 6 (“cannot recommend use of the band by secondary commercial users unless an extremely robust sharing mechanism can be put in place”).

¹⁹ NPSTC Comments at 9.

²⁰ Spectrum Bridge Comments at 18.

²¹ Carlson Wireless estimated that it could incorporate geolocation database technology into its existing 4.9 GHz equipment “in a few weeks.” Carlson Wireless Comments at 4.

detailed TV white space rules, WISPA is confident that a similar database approach will overcome objections cited by commenters in this proceeding. At the same time, WISPA acknowledges that the public safety community may need convincing. While this proceeding is ongoing, WISPA urges interested parties to engage in cooperative testing of geolocation database solutions and network equipment compatibility. WISPA welcomes the opportunity to participate in those trials.

Conclusion

WISPA recommends adoption of the Commission's proposal to expand eligibility for the 4.9 GHz band to enable commercial use on a secondary basis, subject to geolocation database requirements.

Respectfully submitted,

November 29, 2012

**WIRELESS INTERNET SERVICE
PROVIDERS ASSOCIATION**

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