

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

In the Matter of)
)
Amendment of Part 90 of the Commission's) WP Docket No. 07-100
Rules)
)

Martha SUAREZ
President
Dynamic Spectrum Alliance

January 11, 2022

REPLY COMMENTS OF THE DYNAMIC SPECTRUM ALLIANCE

The Dynamic Spectrum Alliance (“DSA”)¹ submits these reply comments in response to the Federal Communications Commission (“FCC” or “Commission”) Eighth Further Notice of Proposed Rulemaking (“Eighth FNPRM”) in the above-captioned proceeding.² The DSA reiterates its strong support for the Commission’s efforts to stimulate expanded use of and investment in the 4940-4990 MHz band (“4.9 GHz band”) while ensuring that public safety communications continue to have priority.

The DSA believes the best way to achieve these two goals is the use of an automated dynamic shared access system, such as the proven Spectrum Access System (“SAS”) that manages three tiers of users in the Citizens Broadband Radio Service (“CBRS”). With over 185,000 commercial CBRS base stations deployed across the country and zero reports of interference to protected incumbents (including the U.S. Department of Defense), the success of the CBRS sharing model is undeniable. This success is the result of the public/private partnership that was instrumental to the development of the SAS and the rules that have been effective at protecting incumbents, and to the vibrant ecosystem of commercial devices and applications that are currently operating in the CBRS band. The DSA urges the Commission to

¹ The Dynamic Spectrum Alliance is a global, cross-industry alliance focused on increasing dynamic access to unused radio frequencies. The membership spans multinational companies, small- and medium-sized enterprises, academic, research, and other organizations from around the world, all working to create innovative solutions that will increase the utilization of available spectrum to the benefit of consumers and businesses alike. A full list of the DSA members is available on the DSA’s website at www.dynamicspectrumalliance.org/members/.

² *Amendment of Part 90 of the Commission’s Rules*, WP Docket No. 07-100, Order on Reconsideration and 8th Further Notice of Proposed Rulemaking, FCC 21-106 (rel. Oct. 1, 2021) (“Eighth FNPRM”), at ¶ 27.

adopt a similar sharing framework for the 4.9 GHz band, leveraging the significant experience gained from CBRS, which will allow public safety operations to continue and to expand on a protected basis, while simultaneously opening the band for a wide range of new users, including critical infrastructure, Wireless Internet Service Providers (“WISPs”), as well as other public and private wireless network operators, to maximize the use of this valuable spectrum.

To achieve the Commission’s twin goals of promoting more efficient and intensive use of the 4.9 GHz band for public safety communications on a primary basis and for commercial use on a secondary and opportunistic basis,³ the DSA urges the Commission to implement a tiered sharing approach. Tier 1 would consist of primary licensees in the band (including all incumbent users), while other non-public safety users could access the band on an opportunistic, secondary basis in a lower Tier, much like CBRS General Authorized Access (“GAA”) users do today. Use of such a tiered sharing approach that leverages existing and proven automated shared access solutions, such as the CBRS SAS or Automated Frequency Coordination (“AFC”) system, will assist the Commission to increase use of these predominantly fallow frequencies, spur investment in and development of a vibrant equipment ecosystem, and enable both public safety and commercial operations to flourish on a coordinated basis.

The type of automated shared access system best suited to implement a tiered sharing approach in the 4.9 GHz band is dependent on the nature of the incumbent usage and the protection criteria the FCC chooses to adopt. For example, were the FCC to adopt protection

³ Eighth FNPRM at ¶ 4.

criteria based on aggregate interference, a more SAS-like approach is likely necessary, whereas with single entry protection criteria, a simpler, more AFC-like approach could suffice.

Additionally, if incumbent protection necessitates frequent interaction (multiple times per day or hour) with the shared access system due to itinerant or mobile use, a SAS-like approach may be more appropriate, whereas if incumbent operations are relatively static and less frequent interaction (once per day) is adequate, a more AFC-like approach may be warranted. DSA's observation at this time is that, given the types of current and planned uses by public safety, including mobile operations, a more SAS-like automated shared access system may be more appropriate. However, in either case, the FCC and industry have extensive experience in implementing automated shared access systems that have proven capable of managing tiered access and enabling more efficient and intensive use of critical spectrum resources.

Moreover, a tiered licensing approach, managed by a SAS-like automated shared access system, could also facilitate coordination amongst users of the 4.9 GHz band – both within the public safety community itself, as well as between and among new secondary users. In the CBRS band, the SAS provides spectrum assignments to both Tier 2 licensed Priority Access Licensees (“PALs”) and to Tier 3 GAA users, ensuring that protection of higher tiers is implemented properly, coordinating PAL channel assignments, minimizing interference amongst GAA users, and maximizing use of available frequencies. This same cloud-based, automated coordination capability could be leveraged for the 4.9 GHz band to support current and future public safety operations, while also managing spectrum assignments for a wide variety of secondary users.

Leveraging a SAS-like automated spectrum access system has the potential to improve existing public safety coordination by reducing time and resources associated with the current manual process. As DSA noted in previous comments, the APCO Task Force Report acknowledged that a new coordination mechanism for public safety use is critical, stating that the Commission should encourage the development of a new coordination mechanism in collaboration with the vendor community, including the potential development of software to determine priority and preemption.⁴ The CBRS SAS could serve as the basis for such a new coordination mechanism.

Furthermore, use of a SAS-like automated shared access system to manage new users in the 4.9 GHz band should address concerns expressed by commenters about “unlicensed” operations.⁵ Under the Commission’s Part 96 rules, secondary GAA users in the CBRS band are authorized to operate on a license-by-rule basis. While GAA spectrum access is similar to traditional Part 15 unlicensed operations, one important difference is that Part 96 GAA users must connect to a SAS in order to receive frequency assignments and must communicate regularly with the SAS in order to respond to commands to cease or alter operations. Through this closed-loop communications process, secondary GAA users are able to access spectrum much like unlicensed users do, but with the added benefits of automated coordination and the

⁴ APCO International, “4.9 GHz Task Force Report,” at 15 (Sept. 28, 2015), <https://ecfsapi.fcc.gov/file/60001325364.pdf>.

⁵ See Comments of American Association of State Highway and Transportation Officials, WP Docket No. 07–100 (filed Nov. 29, 2021); Comments of California Department of Transportation, WP Docket No. 07-100 (filed Nov. 29, 2021); Comments of International Association of Fire Chiefs, WP Docket No. 07-100 (filed Nov. 29, 2021); Comments of Public Safety Spectrum Alliance, WP Docket No. 07-100 (filed Nov. 29, 2021).

ability to adjust frequency assignments in the event of unexpected interference. By adopting a sharing framework similar to the existing Part 96 rules, public safety systems can be assured of any instances of interference can be addressed quickly, while also providing new users with the flexibility of unlicensed-like access to important spectrum resources.

Another benefit of the Part 96 rules is that, while technology neutral, they permit much higher power operations than the Part 15 rules. Higher power limits will support 4G and 5G deployments, providing users with most cost-effective solutions particularly in rural areas. Given the interest expressed by public safety users and others in deploying 5G systems,⁶ should the FCC choose to adopt a tiered licensing approach for the 4.9 GHz band, managed by a SAS-like automated shared access system, users of the band might also benefit from technical rules akin to those governing GAA operations under Part 96, as opposed to traditional unlicensed Part 15 rules.

CONCLUSION

The DSA strongly supports the Commission's twin goals of promoting more efficient and intensive use of the 4.9 GHz band for public safety communications, on a primary basis, and for commercial use on a secondary and opportunistic basis. We recommend that the Commission leverage the extensive work and experience to date in implementing shared spectrum frameworks for other bands, such as CBRS or 6 GHz. The overwhelming success of the CBRS

⁶ See Comments of National Public Safety Telecommunications Council, WP Docket No. 07-100 (filed Nov. 29, 2021); Comments of Comments of Public Safety Spectrum Alliance, WP Docket No. 07-100 (filed Nov. 29, 2021).

tiered sharing framework should be a model for the 4.9 GHz band. Given that dynamic spectrum sharing in the 4.9 GHz band would be functionally similar to the CBRS band, adoption of a tiered sharing approach that leverages a SAS-like automated shared access system would result in a win-win for all parties.

Respectfully submitted,



Martha SUAREZ

President

Dynamic Spectrum Alliance