

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

In the Matter of)	
)	
Shared Use of the 42-42.5 GHz Band)	WT Docket No. 23-158
)	
)	
)	GN Docket No. 14-177
Use of Spectrum Bands Above 24 GHz For)	
Mobile Radio Services)	
)	

COMMENTS OF THE DYNAMIC SPECTRUM ALLIANCE

The Dynamic Spectrum Alliance (“DSA”)¹ hereby submits these comments in response to the Federal Communications Commission’s (“FCC” or “the Commission”) Notice of Proposed Rulemaking (“NPRM”) in the above captioned proceeding in which it seeks comments on how “[i]nnovative, non-exclusive spectrum access models...” could be used to “provide

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/.

increased access to high-band spectrum, including by particularly by smaller wireless service providers, and to support efficient, intensive use of the [42.0-42.5 GHz] band.”²

One of DSA’s primary goals is to increase spectrum access through shared and more efficient use. Achievement of this goal is possible through the introduction of dynamic shared access – either using an automated Dynamic Spectrum Management System (“DSMS”) that actively manages new entrants’ access to maximize use of spectrum while ensuring protection of incumbents and facilitating coexistence among new users, or through a carefully crafted set of rules that allow new unlicensed or licensed-by-rule operations under specific circumstances and operating parameters. Such dynamic shared access approaches can help achieve the Commission’s goals of connecting everyone, stimulating innovation for next-generation broadband, and accelerating an inclusive digital economy. As the Commission looks to solve challenges of underserved communities, dynamic shared access can enable higher-capacity and lower-cost deployments in both urban and rural underserved areas.

In the NPRM, the Commission articulates its goals of “lower[ing] barriers to entry for smaller or emerging wireless service providers, encourage[ing] competition, and prevent[ing] spectrum warehousing” as it considers options for how innovative, non-exclusive licensing models might be deployed in the 42.0-42.5 GHz (“42 GHz”) band ³ The DSA believes that a license-by-rule framework similar to what has been adopted for the Citizens Broadband Radio

² *Shared Use of the 42-42.5 GHz Band and Use of Spectrum Bands Above 24 GHz For Mobile Radio Services*, Notice of Proposed Rulemaking, at ¶11 (2023). (“NPRM”).

³ *Id.*

Service (“CBRS”) General Authorized Access (“GAA”) tier, together with a light-touch automated DSMS, will assist the Commission in achieving its objectives for the 42 GHz band. This same licensing and sharing framework could also be applied to the lower 37 GHz band to facilitate sharing between federal and non-federal users and provide a harmonized approach to accessing 1100 MHz of valuable high band spectrum.

The DSA’s members have extensive experience in the development and implementation of innovative, non-exclusive licensing frameworks, supported by automated dynamic spectrum sharing solutions, including in the TV White Spaces, 3.5 GHz CBRS, and 6 GHz bands. We believe that the experience gained from these shared bands can be tailored to meet the specific opportunities and challenges of the 42 GHz band as well as of the lower 37 GHz band.

The DSA believes that the introduction of new, non-exclusive licensing options supported by automated DSMS technology to coordinate specific deployment sites is the best path to support increased spectrum access and intensive use by a wide range of new users, which will in turn lead to more rapid deployment of new networks, services, and innovative business models. At its core, an automated DSMS is a software-based embodiment of the Commission’s rules for protecting incumbents and facilitating coordination among users while enabling broader access and more intensive use. Automated dynamic spectrum sharing lowers transaction costs, uses spectrum more efficiently, speeds time-to-market for new services, protects incumbents from interference with greater certainty, and generally expands the supply of wireless connectivity that is fast becoming, like electricity, a critical input for other industries and economic activity.

The experience the Commission and industry have gained from implementing innovative licensing frameworks supported by automated DSMS solutions should be instructive to this proceeding. For example, sharing between terrestrial CBRS operations in the 3.5 GHz band under the Commission’s Part 96 rules is relevant to both the 42 GHz and lower 37 GHz bands.

From an incumbent protection perspective there have been no reports of interference by co-channel or adjacent incumbents in the three-and-a-half years of commercial CBRS service, which demonstrates that automated DSMS tools can effectively enforce protection of certain users while also enabling new entrants into a band. While the co-channel and adjacent channel incumbent users in the 42 GHz and 37 GHz bands are not identical to those in the 3.5 GHz CBRS band, the CBRS experience demonstrates that automated spectrum management is an effective way to implement and enforce protection requirements.

Likewise, from the perspective of increasing access to spectrum by a wide range of non-exclusive users, since commercial services were authorized in the CBRS band, there have been more than 360,000 CBRS devices (CBSDs) deployed by more than 1,200 different entities, most of whom operate using the opportunistic access CBRS GAA tier. This unprecedented growth, which shows no sign of abating, demonstrates that the Commission’s Part 96 license-by-rule framework, supported by automated spectrum management tools, lowers barriers to entry, reduces spectrum acquisition costs, speeds time-to-market for new services, and results in more intensive and efficient spectrum usage than do exclusive licensing or legacy manual coordination approaches.

The NPRM requests comments on potential non-exclusive licensing approaches to enable use of the 42 GHz that might also be applied to the lower 37 GHz band. Rather than a nationwide licensing framework with manual coordination, which could lead to spectrum warehousing in the absence of build-out requirements and could create barriers to entry for smaller operators and users, the DSA recommends that the Commission adopt a license-by-rule approach akin to the GAA tier in CBRS. All new users would be granted the same rights and access would be managed by one or more automated spectrum management system coordinators, which would enforce incumbent protections and facilitate efficient co-existence among new users. This license-by-rule approach with automated frequency management has proven to be a cost-effective, streamlined, and efficient way to encourage intensive use by a wide range of fixed point-to-point, fixed point-to-multipoint, as well as mobile services.

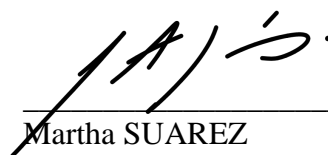
The DSA recommends that the Commission establish a license-by-rule approach and direct industry to establish through a multi-stakeholder process the co-existence criteria, including time division duplex (TDD) synchronization, that an automated DSMS will use to coordinate operations and avoid congestion and interference in the 42 GHz and lower 37 GHz bands. Automated DSMS management can incorporate technology-based sensing and other techniques, such as MIMO (multiple-input multiple-output) and beamforming antennas, to ensure spectrum is being used efficiently and intensively by multiple operators on sector-by-sector basis without the need to establish first-in-time rights or protections, which could skew spectrum access in favor of larger operators and result in less intensive use. Automating the process for coordination and coexistence through proven spectrum management tools will more

readily achieve the Commission’s objectives of “increase[ing] spectrum reuse, avoid[ing] warehousing, and encourage[ing] competition.”⁴

Conclusion

The DSA appreciates the opportunity to comment on the Commission’s NPRM exploring ways to increase access to the 42 GHz band and potentially to the lower 37 GHz band by a wide range of new users. The DSA and its members have extensive experience in implementing innovative licensing frameworks, such as the CBRS license-by-rule model, supported by automated DSMS tools. This combination lowers barriers to entry, results in more efficient and intensive spectrum use, speeds time-to-market for new services, and generally expands the supply of wireless connectivity. We look forward to working with the Commission and industry to apply this experience to the 42 GHz and lower 37 GHz bands.

Respectfully submitted,



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⁴ Id at ¶22