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Before the

Federal Communications Commission

Washington, D.C. 20554

In the Matter of	)	
Facilitating Shared Use in the 3.1-3.55 GHz Band	)	WT Docket No. 19-348
	)	

COMMENTS OF THE DYNAMIC SPECTRUM ALLIANCE

The Dynamic Spectrum Alliance ("DSA")[1] is pleased to submit these comments in the Federal Communications Commission's (the "FCC" or "Commission") proceeding regarding the introduction of new wireless broadband services in the 3.1-3.55 GHz band. The DSA applauds the FCC for its efforts to make additional critical mid-band spectrum available for 5G services and supports spectrum policies that make efficient use of the spectrum, deliver more spectrum for connectivity and broadband access, and accelerate commercialization of new technologies and services. The DSA encourages the FCC to adopt rules that ensure that this band, as well as adjacent mid-band frequencies, will be put to the best and highest use in the near future.

[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/.

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To that end, the DSA urges the Commission to reconsider its proposed rules for the 3.45-3.55 GHz band given: 1) the negative impact they will likely have on adjacent CBRS band operations and on the potential for future sharing of the 3.1-3.45 GHz band; and 2) the opportunity that exists to expand the substantial success of the CBRS licensing approach, while maximizing the use of 250 MHz (and potentially more) of critical mid-band spectrum for 5G. The DSA supports the Commission's efforts to free up additional mid-band spectrum for commercial use--a key component for 5G deployment--to meet ever-increasing consumer demand. This proceeding is an excellent opportunity both to achieve that goal and to enable shared commercial use in the 3.1-3.55 GHz band. This critical step can be taken to address industry demand for spectrum to support 5G and fits into the Commission's "all of the above" licensed, unlicensed, and shared policy approach.

I. TECHNICAL RULES FOR THE 3.45-3.55 GHz BAND MUST NOT IMPAIR CBRS OPERATIONS

As an initial matter, co-existence between future 3.45-3.55 GHz band operations and CBRS systems in the adjacent 3.55-3.70 GHz band will be essential for national 5G coverage. The FCC must assure that 3.45-3.55 GHz operations do not undermine the availability of CBRS networks in which operators have already invested billions. Not only did 228 individual licensees bid nearly $4.6 billion in the recent Priority Access License ("PAL") auction, but hundreds of millions more have already been invested in the General Authorized Access ("GAA") network operations over the past year since Initial Commercial Deployments were

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approved. Successful co-existence between CBRS and the 3.45-3.55 GHz band will lead to the maximization of at least 250 MHz of vital mid-band spectrum.

As the CBRS Alliance,[2] WISPA,[3] NCTA,[4] Federated Wireless[5] have all noted, the proposed rules for the 3.45-3.55 GHz band are likely to impair operations in the CBRS band given disparities in transmit power levels, out-of-band emissions limits, and a lack of coordination requirements and TDD synchronization. The C-Band Technical Working Group on 5G/Citizens Broadband Radio Service Coexistence ("TWG4") recently submitted a study of co-existence challenges associated with CBRS and future 3.7 GHz operations, the technical rules for which are nearly identical to those proposed by the Commission for the 3.45-3.55 GHz band.[6] TWG4 concluded that unsynchronized operations would likely "mutually degrade the performance" of both 3.7 GHz and CBRS networks under certain deployment scenarios.[7] Under the FCC's proposed rules, the same challenges identified by TWG4 will also exist at the band edge between the 3.45 GHz band and CBRS. To further complicate matters, the CBRS Environmental Sensing Capability ("ESC") sensors are also likely to be impacted by uncoordinated, high-power 3.45 GHz operations.

To avoid mutually assured destruction between the 3.45 GHz operations, CBRS and/or future 3.1-3.45 GHz operations, the DSA urges the FCC to reconsider its proposed rules and to extend the existing CBRS sharing framework, which relies on automated dynamic spectrum

[2] *See* Letter from CBRS Alliance, WT Docket 19-348 (filed Sept. 31, 2020).
[3] *See* Letter from WISPA, WT Docket 19-348 (filed Sept. 17, 2020).
[4] *See* Letter from NCTA, WT Docket 19-348 (filed Oct. 26, 2020).
[5] *See* Letter from Federated Wireless, Inc., 19-348 (filed Sept. 2, 2020).
[6] *See* Letter from the C-Band Technical Working Group 4 (TWG-4) on 5G/CBRS Coexistence; WT--Docket 18-122 (filed Oct. 12, 2020).
[7] *Id.*

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sharing technology to manage coordination among different users. This technology, the Spectrum Access Systems ("SAS"), which is embedded in CBRS operations, facilitates coordination and co-existence within the band that can easily be extended to manage users in the 3.45 GHz band. The success of CBRS demonstrates the possibility that thoughtful collaboration among industry stakeholders, like the CBRS Alliance industry group, NTIA, DoD, the WInnForum, and the Commission, can achieve a resounding commercial and policy success in operationalizing 5G networks. This technological expertise, know-how, methods, and relationships should be leveraged by the Commission to expedite requirements development and technical specifications for the 3.45-3.55 GHz band without impairing ongoing CBRS operations and deployments or the potential for sharing of 3.1-3.45 GHz.

Furthermore, the extension of the CBRS sharing framework, including the SAS, will greatly facilitate sharing between new commercial users and incumbent DoD systems that remain in the 3.45-3.55 GHz band and those in the adjacent CBRS band. In its January 2020 report, NTIA concluded that "a dynamic, time-based sharing mechanism could present a potentially attractive approach to both protecting federal systems and providing viable commercial operations," whereas geographic-based and frequency-based sharing approaches would make "sufficient access for viable commercial applications unlikely."[8] The DSA appreciates the significant work that DoD and NTIA conducted over this summer "to minimize operations in the 3450-3550 MHz band to the extent possible."[9] However, despite that effort, it

[8] NTIA Technical Report TR-20-546 *Technical Feasibility of Sharing Federal Spectrum with Future Commercial Operations in the 3450-3550 MHz Band*, Jan. 2020.
[9] *See* Letter from Charles Cooper, Associate Administrator, NTIA, WT Docket No. 19-348 (filed Sept. 8, 2020).

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is evident that "a spectrum-sharing solution that allows 5G development to progress in the private sector, while at the same time, allowing the U.S. military to continue to use that spectrum to meet national security requirements" will continue to be necessary.[10] Rather than reverting to outdated, manual, static coordination approaches that are likely to result in inefficient spectrum and resource utilization, DSA recommends the extension of the existing and successful CBRS framework. Leveraging the automated dynamic sharing capability of the CBRS SAS and the extensive collaboration between the public and private sectors that produced it will achieve resounding commercial and policy success for commercial 5G networks and ongoing DoD operations alike.

II. EXTENSION OF THE CBRS LICENSING FRAMEWORK WILL PROVIDE BOTH LICENSED AND OPPORTUNISTIC SPECTRUM ACCESS OPTIONS THAT WILL PROMOTE THE WIDEST RANGE OF 5G SERVICES

The DSA recommends that, as it considers the licensing options for the 3.45-3.55 GHz band, the FCC recognize the significant benefits that have accrued from the CBRS licensing framework that includes both licensed and lightly-licensed access options. As mentioned above, the CBRS PAL auction was a resounding success with gross proceeds of over $4.5 billion, an unprecedented number of auction participants, and an even more impressive diversity of PAL license winners.

The DSA encourages the FCC to extend the CBRS licensing framework to incorporate 3.45-3.55 GHz, including auctioning at least a portion of the band using county-based license

[10] *Id.*

areas and 10 MHz spectrum blocks, while also leaving a portion unlicensed for GAA. A mix of PAL and GAA spectrum under the same technical rules is a uniquely productive feature of CBRS that should be extended to the 3.45-3.55 GHz band. GAA spectrum both augments the capacity of operators relying on PALs and facilitates use of the band by smaller and rural WISPs, campuses, and enterprises of all sizes that cannot afford or justify the cost of an exclusive license.

In addition, the Commission should adopt the CBRS "use-it or share-it" rule that authorizes opportunistic GAA use of spectrum in areas where 3.45-3.55 GHz licensees are not providing service. The SASs already certified and operating in the adjacent CBRS band can immediately coordinate GAA use of available 3.45-3.55 GHz spectrum in areas prior to PALs launching service as well as in locations where PAL holders ultimately decide not to provide service. As DSA explained in comments responding to the Commission's proceeding on secondary markets last year, a use-it-or-share-it rule expands productive use of spectrum without risk of harmful interference and without undermining the deployment plans of primary licensees.[11] This combination of licensed and opportunistic access will ensure that deployment of 5G services will be swift and widespread. Under SAS control, GAA use of vacant 3.45-.355 GHz spectrum is a particularly promising way to promote more widespread deployment of high-capacity broadband in rural and other underserved areas.

[11] Comments of Dynamic Spectrum Alliance, *Partitioning, Disaggregation and Leasing of Spectrum*, WT Docket 19-38 (June 3, 2019). *See also* Comments of Google, *Partitioning, Disaggregation and Leasing of Spectrum*, WT Docket 19-38, at 17-19 (June 3, 2019); Open Technology Institute and Public Knowledge, *Partitioning, Disaggregation and Leasing of Spectrum*, WT Docket 19-38, at 8-16 (June 3, 2019).

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III. CONCLUSION

Extension of the CBRS sharing and licensing framework to the 3.45-3.55 GHz band will make efficient use of this critical mid-band spectrum, deliver more spectrum for connectivity and broadband access, and accelerate 5G service commercialization. The opportunity exists to maximize the use of 250 MHz, if not more, of contiguous 5G spectrum, protect existing investments, and leverage the significant collaboration that produced the CBRS sharing framework that has proven to be a resounding commercial and policy success. As Commissioner Rosenworcel noted in her Statement on the FNPRM, "coordination should compel us to consider a forward-thinking, holistic approach to the entire 3 GHz band."[12] The DSA looks forward to working with the Commission to ensure that the 3.45 GHz band and adjacent mid-band frequencies can be put to the best and highest use in the near future.

Respectfully submitted,

Martha SUAREZ
President
Dynamic Spectrum Alliance

[12] *Facilitating Shared Use in the 3.1-3.55 GHz Band*, WT Docket No. 19-348, Report and Order and Further Notice of Proposed Rulemaking, FCC 20-138 (rel. Oct. 2, 2020).