Dynamic Spectrum Alliance Limited
3855 SW 153rd Drive
Beaverton, OR 97003
United States
http://www.dynamicspectrumalliance.org

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
	)	

REPLY COMMENTS OF THE DYNAMIC SPECTRUM ALLIANCE

The Dynamic Spectrum Alliance ("DSA")[1] submits these reply comments in response to the Federal Communications Commission's (the "FCC" or "Commission") Further Notice of Proposed Rulemaking regarding the introduction of new wireless broadband services in the 3.1-3.55 GHz band. The DSA agrees with the majority of commenters in this proceeding that support the extension of the successful CBRS sharing framework and licensing rules to the 3.45-3.55 GHz ("3.45 GHz band"), which will ensure that this band is put to the best and highest use in the near future. Indeed, extending the existing CBRS framework would be the most expedient way to make this critical spectrum available for commercial 5G operations, rather than waiting

[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/.

Dynamic Spectrum Alliance Limited
3855 SW 153rd Drive
Beaverton, OR 97003
United States
http://www.dynamicspectrumalliance.org

for a more complicated and time-consuming clearing and auction process. It will also ensure that CBRS Priority Access License ("PAL") and General Authorized Access ("GAA") operations will not be negatively impacted by the introduction of uncoordinated, high-power operations in the adjacent 3.45 GHz band, thereby protecting the multi-billion dollar investments already made by hundreds of wireless services providers in CBRS. DSA supports the other commenters in this proceeding that encourage the FCC to take a comprehensive look at the 3 GHz band and to adopt technical and service rules that will maximize the use of this critical mid-band spectrum, jumpstart private investment, and leverage the extensive collaboration between the public and private sectors to achieve a resounding commercial and policy success in operationalizing 5G networks.

I. EXTENSION OF THE CBRS SHARING FRAMEWORK AND LICENSING RULES WILL BE THE MOST EXPEDIENT WAY TO MAKE THE 3.45 GHz BAND AVAILABLE FOR COMMERCIAL SERVICES

DSA agrees with the majority of commenters in this proceeding that encourage the FCC to extend the CBRS sharing framework and licensing rules to the adjacent 3.45 GHz band. Given the resounding success of both CBRS GAA operations over the past year as well as the recent PAL auction, it is clear that the highest and best use of the 3.45 GHz band (and ultimately the 3.1-3.55 GHz band) is for innovative, commercial wireless use, which can be readily implemented on a shared basis with federal incumbents leveraging the existing, proven dynamic shared spectrum solution developed for the CBRS band. Furthermore, DSA agrees with commenters that support the expansion of the CBRS licensing framework, including both

Dynamic Spectrum Alliance Limited
3855 SW 153rd Drive
Beaverton, OR 97003
United States
http://www.dynamicspectrumalliance.org

licensed and lightly-licensed access options, county-based 10 MHz licenses, and a use-it-or-share-it requirement.

DSA supports the comments of Charter, Cox, WISPA, Sony, Google, Federated Wireless, Inc. and others that encourage the FCC to extend the CBRS sharing framework, including the use of the Spectrum Access System ("SAS"), to the 3.45 GHz band. The inclusion of the 3.45 GHz band into the CBRS framework would greatly expedite commercial access to this additional 100 MHz of mid-band spectrum – both from the perspective of establishing an efficient sharing regime with federal users as well as fast-tracking the development of an equipment ecosystem. Given the complexities of clearing Department of Defense (DoD) systems out of the 3.45GHz band, the process to auction this spectrum as exclusive licenses will be more time-consuming than extending the proven SAS solution. As Charter and Cox noted, "Extending the three-tier CBRS spectrum sharing framework into the adjacent 3.45 GHz band will ensure expedited deployment of important 5G services by enabling more commercial providers to utilize limited spectrum resources more quickly, and without requiring DoD to clear the spectrum before commercial use of the band can commence."[2] Similarly, Sony observed that, "a SAS-like spectrum coordination database approach in the 3.45 GHz Band would reduce the time to commercial wireless service deployment."[3] Given the similar nature of the federal incumbents, the time and resources it would take to adopt a new, manual coordination process, and the experience that has been gained in the development and implementation of the highly

[2] *See* Comments of Charter Communications, Inc. and Cox Communications, Inc., WT Docket 19-348 (filed Nov. 20, 2020) ("Charter/Cox Comments"), p. 5.
[3] *See* Comments of Sony Electronics Inc., WT Docket 19-348 (filed Nov. 20, 2020) ("Sony Comments"), p. 3.

Dynamic Spectrum Alliance Limited
3855 SW 153rd Drive
Beaverton, OR 97003
United States
http://www.dynamicspectrumalliance.org

successful CBRS sharing framework, DSA urges the Commission, NTIA and DoD to leverage the SAS and its capabilities to the 3.45 GHz band for 5G.

Furthermore, DSA agrees with commenters that point to the expansive CBRS equipment ecosystem and the ability to modify equipment quickly and easily to operate in the 3.45 GHz band. As WISPA notes, "Equipment certified for CBRS can easily be modified to operate in the adjacent 3.45-3.55 GHz band. Because those devices already have the ability to communicate with the SAS, it may not be necessary for any hardware to be changed out – software or firmware upgrades at the access points and the consumer devices should be achievable within a very short time after rules are adopted."[4] Google made similar observations: "Given the closeness in frequency to CBRS, the same propagation models could be applied. Moreover, CBRS equipment manufacturers can likely extend device frequency ranges below 3.55 GHz, while maintaining SAS management of the devices."[5] Extension of the CBRS framework to the adjacent 100 MHz should, therefore, accelerate the deployment of new networks and services, while building upon the thriving CBRS equipment and technology ecosystem.

DSA also agrees with commenters in the proceeding that recommend the extension to the 3.45 GHz band of the CBRS licensing rules, including a combination of licensed and lightly-licensed access options, 10 MHz wide, county-based licenses, and the use-it-or-share-it requirement for all licensed blocks. As API and ENTELEC noted in their comments, county-based licenses, as opposed to those based on Partial Economic Areas, will do "a better job at "(1)

[4] *See* Comments of The Wireless Internet Service Providers Association, WT Docket 19-348 (filed Nov. 20, 2020) ("WISPA Comments"), p. 22.
[5] *See* Comments of Google LLC, WT Docket 19-348 (filed Nov. 20, 2020) ("Google Comments"), p. 10.

facilitating access to spectrum by both small and large providers; (2) providing for the efficient use of spectrum; (3) encouraging deployment of wireless broadband services to consumers, especially those in rural areas and Tribal lands; and (4) promoting investment in and rapid deployment of new technologies and services."[6] Charter and Cox, along with the New America's Open Technology Institute and Public Knowledge ("OTI/PK"), made similar comments in support of the CBRS licensing rules and their facilitation of more diverse participation in spectrum access and service provision. Specifically, Charter and Cox state, "With both licensed and shared spectrum, the CBRS framework offers opportunities for a diverse array of providers, including both nationwide carriers and new entrants and smaller providers who will serve rural areas."[7] Whereas, OTI/PK noted, "The 3.45-3.55 GHz band presents the Commission with an opportunity to establish rules that will enable a wide range of wireless use cases and innovation such as WISPs serving rural areas; private LTE networks by school districts and campuses; neutral-host networks in sporting arenas, shopping malls and other venues; industrial IoT networks deployed and customized for enterprises including warehouses, factories, utilities, and airports; and many other novel uses that regulators and innovators have not yet envisioned. To unleash these capabilities, the Commission should extend the three-tier sharing framework in the adjacent Citizens Broadband Radio Service (CBRS)."[8]

[6] *See* Joint Comments of the Telecommunications Subcommittee of the American Petroleum Institute and the Regulatory and Technology Committee of the Energy Telecommunications and Electrical Association, WT Docket 19-348 (filed Nov. 20, 2020), p. 2.
[7] *See* Charter/Cox Comments, p. 1.
[8] *See* Comments of New America's Open Technology Institute and Public Knowledge, WT Docket 19-348 (filed Nov. 20, 2020), p. 2.

Dynamic Spectrum Alliance Limited
3855 SW 153rd Drive
Beaverton, OR 97003
United States
http://www.dynamicspectrumalliance.org

In addition to smaller license areas and blocks, such as those established in the CBRS rules, 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. Several commenters in this proceeding, including Charter and Cox, WISPA, Google, Federated Wireless, and API and ENTELEC, support the adoption of a use-it-or-share-it rule. This combination of licensed and opportunistic access "will promote innovation and efficient use of this band"[9] and ensure that deployment of 5G services will be swift and widespread. Under SAS control, GAA use of vacant 3.45 GHz band spectrum is a particularly promising way to promote more widespread deployment of high-capacity broadband in rural and other underserved areas.

II. EXTENSION OF THE CBRS SHARING FRAMEWORK WILL FACILITATE COEXISTENCE AMONG COMMERCIAL 3 GHz USERS

As stated in its initial comments, DSA strongly believes that co-existence between future 3.45 GHz band operations and CBRS systems will be essential for 5G to succeed. The FCC must assure that 3.45 GHz operations do not undermine the availability of CBRS networks in which operators have already invested billions. Nor should CBRS operations cause interference to new 3.45 GHz band users. Successful co-existence between CBRS and the 3.45 GHz band, which can be readily accomplished through the extension of the CBRS sharing framework and rules, will lead to the maximization of at least 250 MHz of vital mid-band spectrum.

[9] *See* Charter/Cox Comments, p. 5.

Dynamic Spectrum Alliance Limited
3855 SW 153rd Drive
Beaverton, OR 97003
United States
http://www.dynamicspectrumalliance.org

Numerous commenters in this proceeding have expressed the same concerns about co-existence. The WInnForum,[10] WISPA,[11] Charter and Cox,[12] Google,[13] and Federated Wireless[14] have all observed that the proposed rules for the 3.45-3.55 GHz band, as well as any potential relocation of federal users from the 3.45 GHz band to CBRS, threaten to impair operations in the CBRS band. The reverse is also true. Without coordination between CBRS and new 3.45 GHz users, there is a chance that CBRS operations could impair 3.45 GHz services. Given the extensive technological expertise, know-how, methods, and relationships that have been developed over the past five years in the context of implementing the CBRS sharing framework, these coexistence problems need not occur. DSA urges the Commission to leverage the automated dynamic sharing capability of the CBRS SAS to manage and coordinate the use of the 3.45 GHz band as well as CBRS. As Sony stated, the Commission should, "permit CBRS SASs to interoperate with spectrum coordination databases for the 3.45 GHz Band, in order to maximize the utility and availability of both bands."[15]

III. CONCLUSION

It is evident from the comments filed in this proceeding that extension of the CBRS sharing and licensing framework to the 3.45 GHz band will make the most efficient use of this

[10] *See* Comments of The Wireless Innovation Forum ("WInnForum"), WT Docket 19-348 (filed Nov. 20, 2020), p. 3.
[11] *See* WISPA Comments, p. 24.
[12] *See* Charter/Cox Comments, p. 3-4.
[13] *See* Google Comments, p. 13.
[14] *See* Comments of Federated Wireless, Inc., WT-Docket 19-348 (filed Nov. 20, 2020), p. 12.
[15] *See* Sony Comments, p. 4.

Dynamic Spectrum Alliance Limited
3855 SW 153rd Drive
Beaverton, OR 97003
United States
http://www.dynamicspectrumalliance.org

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. 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

December 7, 2020