

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

In the Matter of)	
)	
Modernizing and Expanding Access to the 70/80/90 GHz Bands)	WT Docket No. 20-133
)	
Amendment of Part 101 of the Commission's Rules to Facilitate the Use of Microwave for Wireless Backhaul and Other Uses and to Provide Additional Flexibility to Broadcast Auxiliary Service and Operational Fixed Microwave Licensees)	WT Docket No. 10-153
)	
Aeronet Global Communications Inc. Petitions for Rulemaking to Amend the Commission's Allocation and Service Rules for the 71-76 GHz, 81-86 GHz, and 92-95 GHz Bands to Authorize Aviation and Maritime Scheduled Dynamic Datalinks)	RM-11824 (Aviation) RM-11825 (Maritime)
)	
Requests of Aviat Networks and CBF Networks, Inc. d/b/a Fastback Networks for Waiver of Certain Antenna Requirements in the 71-76 and 81-86 GHz Bands)	WT Docket No. 15-244 (Terminated)
)	

REPLY COMMENTS OF THE DYNAMIC SPECTRUM ALLIANCE

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The Dynamic Spectrum Alliance (“DSA”)¹ is pleased to submit these reply comments on the Commission’s proposal to modernize its 70/80 GHz light-licensing framework.² In its comments, DSA encouraged the Commission to adopt a comprehensive, technology-neutral approach to managing static and moving point-to-point links in the 70/80 GHz bands, and to set a path toward dynamic spectrum access that will spur even more innovation and efficient use of this valuable spectrum in the future.³ The record reflects support for these positions.

First, the record reflects support for a comprehensive, technology neutral approach to spectrum sharing in the 70/80 GHz bands. Comsearch, a company that manages one of the 70/80 GHz databases and has extensive experience with the development and management of spectrum access systems, urges the Commission to “authorize a comprehensive framework that can accommodate various use cases” instead of a piecemeal approach requiring “major modifications in response to each new spectrum use proposal it receives.”⁴ Aeronet “anticipates sharing spectrum in the E-Band with other new and innovative users, including possible competitors, who share its view that the Band’s allocation and service rules should be flexible to permit multiple innovative operations.”⁵ FWCC supports sharing the bands with antennas in

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 DSA members is available on the DSA’s website at www.dynamicspectrumalliance.org/members.

² See *Modernizing and Expanding Access to the 70/80/90 GHz Bands, et al.*, WT Docket No. 20-133, et al., Notice of Proposed Rulemaking and Order, FCC 20-76 (rel. June 10, 2020) (NPRM). In these comments, DSA focuses solely on modifications to the 70/80 GHz bands to accommodate links involving antennas in motion and prospective new services.

³ See *In the Matter of Modernizing and Expanding Access to the 70/80/90 GHz Bands, et al.*, WT Docket No. 20-133, et al., Comments of the Dynamic Spectrum Alliance, 4 (Aug. 5, 2020).

⁴ See Comsearch Comments at 17.

⁵ See Aeronet Comments at 24.

motion.⁶ Loon similarly recommends that the Commission “incorporate all fixed and mobile point-to-point links in its light-licensing framework for the 70/80 GHz bands” and “uniformly apply all proposed rule modifications to all users of the 70/80 GHz bands, including stratospheric Internet platforms.”⁷ The Satellite Industry Association advocates for a single database that accommodates terrestrial and satellite links, as well as mobile links subject to Commission review.⁸ Scientel similarly asserts that “establishing a single, uniform licensing scheme for all parties that seek to utilize the 70/80/90 GHz bands will ensure that access to this spectrum is technology neutral and does not disadvantage any particular current or future use.”⁹ “SpaceX welcomes discussions to facilitate the most efficient use of the 70/80/90 MHz bands among all stakeholders.”¹⁰ And Elefante advocates that the Commission should “strive to preserve maximum flexibility and opportunities in its regulatory framework for the 70/80 GHz bands.”¹¹ No commenter opposed incorporating all non-Federal users in the 70/80 GHz link registration framework, although parties disagreed whether and at what point the database should include mobile-to-mobile links.¹² The Commission should adopt a future-proof and comprehensive

⁶ See FWCC Comments at 6-7.

⁷ See Loon Comments at 14.

⁸ See SIA Comments at 8. DSA submits that the database preapproval SIA requests is unnecessary, as the lead database provider for the 70/80 GHz band has already confirmed it can incorporate ground-to-balloon links with only “minor modifications” to its system. See Comsearch Comments at 14-15.

⁹ See Scientel Comments at 9.

¹⁰ See SpaceX Comments at 4.

¹¹ See Elefante Comments at 3-4.

¹² See Aeronet Comments at 19-20 (citing study demonstrating no need to coordinate registration of ATA links); Comsearch Comments at 14 (noting that certain limitations could “obviate the need to store mobile-to-mobile aspects” in the database); Qualcomm Comments at 12 (asking the Commission to “rethink its proposal to require registration of air links between in-flight aircraft” because they “present[] a limited risk of interference to other users of these bands.”); *but see* Scientel Comments at 11 (all links should be registered); SIA Comments at 8 (all links should be registered).

framework that can accommodate all existing and future services within the bands, including through the registration of multidimensional areas and/or polyhedrons.

Second, the record reflects support for establishing a pathway toward dynamic spectrum sharing in the 70/80 GHz bands. In response to the NPRM, Aeronet, Comsearch, and Loon have all offered to assist the Commission in developing a workable spectrum sharing regime within the bands. Aeronet notes that it “welcomes” the “registration of time dynamic vectors” that “preserve[] the flexibility to allow adoption of such models once the 70/80 GHz band has developed further.”¹³ Comsearch explains that it could “assist with fleshing out the database manager functionality,” although proponents must play a leading role in designing the system.¹⁴ Loon, which “does not seek to serve as a third-party database manager”, asserts that “the technology to dynamically and efficiently register and coordinate static and moving point-to-point links in the 70/80 GHz bands has already been developed, tested, and put into production,” and that it is “happy to work with the Commission and existing or potential third-party database managers to assist in the conceptualization and implementation of a neutral, third-party system for dynamically managing links in the bands.”¹⁵ DSA and its members stand ready to offer further assistance to help shape a pathway toward dynamic spectrum sharing in the 70/80 GHz band.

Third, the Commission should reject requests to delay authorization of or impose unnecessary limitations on antennas in motion and stratospheric Internet platforms in the

¹³ Aeronet Comments at 21.

¹⁴ See Comsearch Comments at 17.

¹⁵ See *id.*

70/80 GHz bands, as there are no meaningful technical, administrative, or pro-competitive reasons to do so. To start, the record shows a low risk of interference between antennas in motion/stratospheric Internet platforms and existing or future services--including radio astronomy and earth exploration satellite service--when adequate physical separation and standard frequency coordination techniques are employed.¹⁶ For that reason, the Commission need not impose directionality limitations, a minimum elevation angle, a maximum altitude, or channelization that would prohibit or restrict operation of antennas in motion or stratospheric Internet platforms in either the 71-76 GHz band or 81-86 GHz band.¹⁷ As DSA asserted in its comments, a better way to address interference concerns, while respecting co-primary allocations of services in the 70/80 GHz bands, would be to authorize operation of antennas in motion and stratospheric Internet platforms *now* while establishing a pathway toward dynamic spectrum sharing.¹⁸

Finally, the record does not support the conclusion of some commenters that authorizing antennas in motion will somehow distract the Commission from 5G deployment.¹⁹ The Commission issued this NPRM explicitly to promote a variety of innovative 70/80 GHz

¹⁶ See Aeronet Comments at 13, 18; FWCC Comments at 6-7; L3Harris Comments at 21; Loon Comments at 7-9; Qualcomm Comments at 10, WISPA Comments at 7. Indeed, SIA and Aeronet expect only a limited number of ground stations/earth stations, which are likely to be deployed in rural areas away from urban 5G backhaul deployments. See Aeronet Comments at 24; SIA Comments at 2. Aeronet's studies have demonstrated a low risk of interference between antennas in motion and satellite services based on the narrow beamwidth and moving nature of the links. See Aeronet Comments at 10.

¹⁷ Qualcomm Comments at 9-10. As DSA noted in its comments, the Commission should not impose explicit or implicit prioritization of services. See DSA Comments at 6-7. For example, imposing a maximum altitude for aeronautical mobile service would unjustifiably prioritize airplane-based services over other stratospheric aircraft offering a similar service.

¹⁸ See DSA Comments at 5-7.

¹⁹ See CTIA Comments at 7; Ericsson Comments at 13; Nokia Comments at 9; T-Mobile Comments at 10; Verizon Comments at 8.

backhaul use cases at once, including 5G backhaul and antennas in motion.²⁰ Even if the primary focus of the NPRM was 5G backhaul, the Commission still should authorize antennas in motion and stratospheric Internet platforms now, since those platforms partner with mobile network operators to extend their networks into rural and remote areas in response to disasters, and will play an important role in the deployment of 5G networks. Erecting new regulatory barriers to wireless backhaul deployment by delaying authorization of antennas in motion and other stratospheric services would undermine--not advance--the Commission's 5G FAST Plan.

For these reasons, the Commission should expeditiously authorize antennas in motion and stratospheric Internet platforms in the 70/80 GHz bands, adopt a comprehensive, technology-neutral link registration framework that accommodates all services in the bands, set a pathway toward dynamic spectrum sharing, and reject requests to delay or to restrict operation of these critical backhaul networks.

Respectfully submitted,

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²⁰ See NPRM ¶ 1 (“We seek to promote expanded use of this co-primary millimeter wave spectrum for *a myriad of innovative services* by commercial industry, and in particular, we seek to take advantage of the highly directional signal characteristics of these bands, which may permit the coexistence of multiple types of deployments.”) (emphasis added).