

**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 Licenses)	WT Docket No. 10-153
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)	
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)
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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 CTIA

CTIA submits these reply comments in response to the Notice of Proposed Rulemaking (“NPRM”) issued by the Federal Communications Commission (“Commission”) exploring innovative new uses of the 71–76 GHz, 81–86 GHz, 92–94 GHz, and 94.1–95 GHz bands (collectively, the “70/80/90 GHz bands”).¹

I. INTRODUCTION.

As demonstrated by the record, the Commission should enhance the rules for the 70/80/90 GHz bands to promote additional wireless backhaul in furtherance of the Commission’s goals of expanding access to broadband and fostering the efficient use of millimeter-wave

¹ See *Modernizing and Expanding Access to the 70/80/90 GHz Bands, et al.*, Notice of Proposed Rulemaking and Order, 35 FCC Rcd 6039 (2020) (“NPRM”).

spectrum in the public interest. As CTIA stated, the densification associated with 5G networks, especially in millimeter-wave bands, has dramatically increased the need for reliable backhaul solutions.² Other commenters similarly urge the Commission to adopt the proposed changes to the antenna standards applicable to the 70/80/90 GHz bands and also to the current link registration rules to eliminate never-constructed links from the database. The Commission should thus prioritize updating its rules to facilitate fixed 5G backhaul as its priority action in these proceedings. With the Commission’s proposed rule changes to provide more flexibility for fixed use of these spectrum bands and to improve the existing registration process, the 70/80/90 GHz bands can provide the critical high-speed backhaul needed to address our nation’s burgeoning demand for data in years to come.

II. THE RECORD SUPPORTS UPDATING THE ANTENNA AND LINK REGISTRATION REQUIREMENTS TO ENABLE FIXED WIRELESS 5G BACKHAUL AND TO ALLOW FOR THE ACCURATE TRACKING OF SPECTRUM USAGE.

A. Commenters Agree that the Commission Should Revise the Antenna Rules for the 70/80/90 GHz Bands to Enable Fixed Wireless 5G Backhaul.

CTIA supports the Commission’s proposals to move forward rapidly to make technical changes to the antenna requirements for the 70/80 GHz bands to facilitate fixed backhaul services—even as it explores the potential for other terrestrial mobile services to coexist with fixed operations—and encourages the Commission to extend those changes to the 90 GHz band as well. More specifically, CTIA agrees with the broad segment of commenters who advocate that the Commission should: (1) increase the maximum beamwidth for antennas by 3 dB points, from 1.2 to 2.2 degrees; (2) reduce minimum antenna gain from 43 dBi to 38 dBi and retain the proportional EIRP reduction requirement; and (3) reduce the co-polar and cross-polar

² Comments of CTIA, WT Docket No. 20-133, at 2 (filed Aug. 5, 2020) (“CTIA Comments”).

discrimination requirement.³ The record reflects that such changes would facilitate the use of smaller antennas, allow for global harmonization of equipment, and not require any changes to the frequency coordination process.⁴ CTIA also agrees with commenters that the Commission should refrain from adopting the proposal to allow +/- 45 degree polarization (commonly known as slant polarization) in the 70/80 GHz bands.⁵ This proposal would represent a fundamental technical change to the rules and present an increased risk of interference.⁶ Finally, to the extent that the Commission moves forward with adopting its proposal for a second antenna standard—Category B—in the 70/80 GHz bands, it should be aligned with ETSI class 2 (and ISSED envelope B) to ensure harmonization with the antenna standards in Europe and Canada.⁷

B. The Record Reflects Industry-Wide Support for Updating the 70/80 GHz Link Registration System to Allow for Accurate Tracking of Spectrum Usage.

Commenters agree that the 70/80 GHz link registration system should be improved to allow for accurate tracking of spectrum usage. Under the current rules, licensees must complete construction and bring registered links into regular use within 12 months of the date on which a

³ See, e.g., Comments of Verizon, WT Docket No. 20-133, at 3, 5 (filed Aug. 5, 2020) (“Verizon Comments”); Comments of Nokia, WT Docket No. 20-133, at 1-2 (filed Aug. 5, 2020) (“Nokia Comments”); Comments of Ericsson, WT Docket No. 20-133, at 5 (filed Aug. 5, 2020) (“Ericsson Comments”); Comments of AT&T, WT Docket No. 20-133, at 3-4 (filed Aug. 5, 2020) (“AT&T Comments”); Comments of T-Mobile, WT Docket No. 20-133, at 3-6 (filed Aug. 5, 2020) (“T-Mobile Comments”); Comments of FWCC, WT Docket No. 20-133, at 2 (filed Aug. 5, 2020).

⁴ See, e.g., Verizon Comments at 2 (noting that the technical changes the Commission proposes to make to its antenna requirements will allow for the deployment of smaller antennas in the 70 GHz and 80 GHz bands that are well suited to provide backhaul capacity for small cell 5G deployments); T-Mobile Comments at 4 (noting reducing the minimum antenna gain and retaining the proportional EIRP reduction would make the rules consistent with Canada’s regulations for the 70 GHz and 80 GHz bands, promoting economies of scale, which will lead to a global equipment system, lower prices, and higher quality for consumers); Ericsson Comments at 13-14 (noting the introduction of mobile operations would require database changes and new coordination requirements).

⁵ See AT&T Comments at 4-5; Ericsson Comments at 7; Nokia Comments at 5-6.

⁶ See AT&T Comments at 4-5; Nokia Comments at 5-6.

⁷ See T-Mobile Comments at 6-7; Ericsson Comments at 8.

third-party database manager registers the link.⁸ The Commission then relies on licensees to notify database managers to withdraw unconstructed links from the database.⁹ The record reflects broad support for the Commission adopting its proposals to review and update the existing link registration system to ensure that all potential users of the 70/80 GHz bands have access to accurate information.¹⁰ In doing so, the Commission should require 70/80 GHz registrants to file a certification of construction when a link has been placed in operation—and adopt a similar requirement for the 90 GHz band as well.

C. Any Channelization Plan Adopted by the Commission Should Foster Spectrum Efficiency and Harmonization.

The NPRM also sought comment on whether to adopt a channelization plan in the 70/80/90 GHz bands.¹¹ CTIA does not oppose adoption of a channelization plan for the 70/80/90 GHz bands, as it will facilitate a more efficient way for licensees to use critical high-band spectrum. However, any adopted plan should be Frequency Division Duplex (“FDD”) only and harmonized with international channelization plans.¹² In addition, all existing links should be grandfathered under the rules and the channelization implementation date for future links should allow sufficient time for equipment vendors to develop compliant hardware and software.¹³

⁸ See 47 C.F.R. § 101.63(b); see also NPRM ¶ 18.

⁹ NPRM ¶ 18.

¹⁰ See, e.g., Verizon Comments at 6; Nokia Comments at 7; Ericsson Comments at 8; AT&T Comments at 5; T-Mobile Comments at 8.

¹¹ See NPRM ¶ 46.

¹² See Ericsson Comments at 3, 9-12.

¹³ See AT&T Comments at 8-9.

III. THE COMMISSION SHOULD PRIORITIZE PROPOSALS TO ENHANCE THE 70/80/90 GHZ BANDS FOR 5G BACKHAUL SERVICES.

The record reflects that the Commission’s primary objective in this proceeding should be on enhancing the technical and license registration requirements for the 70/80/90 GHz bands that make them available for fixed backhaul.

A. The 70/80/90 GHz Bands Will Play an Increasingly Important Role for 5G Backhaul Throughout the Country.

The record demonstrates that access to fixed backhaul is necessary to facilitate the widespread deployment of 5G service at this critical time for our nation.¹⁴ As stated by AT&T, smaller antennas that could be leveraged by enhanced rules are desirable for 5G backhaul because they provide greater flexibility to licensees and allow for antenna mounting on structures such as light posts, traffic poles, road signs, and other locations on the street that may sway in the wind.¹⁵ Indeed, Ericsson noted that in 2018, 14 times more 70/80 GHz band radios were sold globally as compared to 2011, and Commission action to update the licensing rules will enable U.S. wireless providers to tap into this global solution for backhaul.¹⁶ CTIA agrees with the above-referenced comments, which align with Commission precedent on enabling the growth of 5G backhaul services. In the *Spectrum Frontiers* proceeding, the Commission noted the critical nature of 5G backhaul and opportunities to facilitate such use in the 70/80 GHz bands: “It is important not only to protect existing links but also to provide an opportunity for future growth of fixed service in [the 70/80 GHz] bands as demand for backhaul and other related services

¹⁴ See CTIA Comments at 6-7.

¹⁵ AT&T Comments at 4.

¹⁶ See Ericsson Comments at 4.

increases.”¹⁷ The Commission should therefore make access to 5G backhaul its top priority in these proceedings.

B. Proposals to Expand Services in the 70/80/90 GHz Bands Are Premature.

At this time, the Commission should refrain from acting on any proposals that would expand the services allowed to operate in the 70/80/90 GHz bands, including those of Aeronet, Elefante, and Loon.¹⁸ Commenters highlighted that these proposals require significant additional engineering analysis to demonstrate that such uses will not interfere with fixed backhaul services. For example, Ericsson noted that the Comsearch technical study submitted in connection with Aeronet’s proposed broadband service suggests that there will be technical limitations on fixed 70/80 GHz service that would limit its usefulness for backhaul.¹⁹ Further, various astronomy entities raised concerns about interference to their operations that must be addressed prior to Commission action allowing additional operations in the bands.²⁰ And

¹⁷ *Use of Spectrum Bands Above 24 GHz For Mobile Radio Services, et al.*, Second Report and Order, Second Further Notice of Proposed Rulemaking, Order on Reconsideration, and Memorandum Opinion and Order, 32 FCC Rcd 10988, 11054 ¶ 200 (2017).

¹⁸ See Comments of Aeronet Global Communications, WT Docket No. 20-133, at 2 (filed Aug. 5, 2020) (urging the Commission to authorize point-to-point links to endpoints in motion in the 70/80 GHz bands); Comments of Loon, WT Docket No. 20-133, at 5 (filed Aug. 5, 2020) (noting support for the Commission’s proposal to authorize antennas in motion in the 70/80 GHz bands and to incorporate services that rely on them into its existing light-touch regulatory framework); Comments of Elefante Group, WT Docket No. 20-133, at 2 (filed Aug. 5, 2020) (referencing its petition seeking access to spectrum including the 70/80 GHz bands for stratospheric-based communications solutions).

¹⁹ See Ericsson Comments at 14.

²⁰ See, e.g., Comments of MIT Haystack Observatory, WT Docket No. 20-133, at 1-2 (filed Aug. 4, 2020) (noting there is no indication on the record of how the vitally important coordination task will take place for airplanes in the skies near Haystack); Comments of American Astronomical Society, WT Docket No. 20-133, at 1-2 (filed Aug. 5, 2020) (noting there is no detail provided on how radio astronomy uses will be protected, particularly with regard to radio interference protections for millimeter-wave radio telescopes); Comments of National Radio Astronomy Observatory, WT Docket No. 20-133, at 2, 4 (filed July 31, 2020) (“The potential for harmful interference in frequency bands allocated for radio astronomy service could be eliminated by not using the 81-86 GHz frequency band.”); Comments of The National Academy of Sciences’ Committee on Radio Frequencies, WT Docket No. 20-133, at 1-2 (filed Aug. 4, 2020) (“Given their expected impact on the incumbent passive scientific users of the 80/90 GHz bands,

notably Comsearch—which is “one of two operating database managers for the 70/80/90 GHz bands”—indicated that allowing new uses in the bands would require significant changes to the existing link registration system.²¹ Additional uses could be further explored by the Commission through component parts of this proceeding. Nevertheless, the record here specifies with near unanimous consensus that expeditious action to update the existing fixed service rules for 5G backhaul would be beneficial and without any underlying concerns. Therefore, the Commission should rapidly pursue updating the existing fixed service rules, while continuing to investigate other uses of the band.

IV. CONCLUSION.

The Commission should, as its primary focus in these proceedings, enhance the rules for the 70/80/90 GHz bands to promote additional wireless backhaul in furtherance of the Commission’s goals of expanding access to broadband and fostering the efficient use of millimeter-wave spectrum.

Respectfully submitted,

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CORF opposes the implementation of the proposed ‘Scheduled Dynamic Datalinks’ (SDDLs) to provide service to aircraft or ships in motion in the 80 GHz bands.”).

²¹ Comments of Comsearch, WT Docket No. 20-133, at ii, 14-17 (filed Aug. 5, 2020).