May 6, 2019

Ex Parte

Ms. Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street SW
Washington, DC 20554

Re: *Amendment to Part 101 to Facilitate Wireless Backhaul*, WT Docket No. 10-153; *Use of Spectrum Bands Above 24 GHz for Mobile Radio Services, et al.*, GN Docket No. 14-177, IB Docket Nos. 15-256 and 97-95, RM 11664, WT Docket No. 10-112; *Petition for Rulemaking of Aeronet Global Communications, Inc.*, RM-11824; *Petition for Rulemaking of Aeronet Global Communications, Inc.*, RM-11825.

Dear Ms. Dortch:

5G Americas[1] submits this *ex parte* communication in support of Nokia's[2] and the Fixed Wireless Communications Coalition's[3] requests to amend the current requirements applicable to directional antennas operating in the 71-76 GHz and 81-86 GHz band ("E-band"),[4] to allow for a minimum antenna gain of 38 dBi. 5G Americas requests that such a rule change apply to both Category A and Category B antenna standards. Today, the Commission's rules require a minimum of 43 dBi for directional antennas in the band. Changing the minimum gain to 38 dBi for these antennas would better support backhaul demand for 5G densification, while also providing network operators the flexibility to respond to specific deployment scenarios. 5G Americas also urges the Commission to consider the various proposals[5] to amend the service

[1] 5G Americas is an industry trade organization composed of leading telecommunications service providers and manufacturers. Our mission is to advocate for and foster the advancement and full capabilities of LTE wireless technology and its evolution beyond to 5G, throughout the ecosystem's networks, services, applications and wirelessly connected devices in the Americas. 5G Americas is invested in developing a connected wireless community while leading 5G development for all of the Americas. Currently chaired by T-Mobile, 5G Americas' Board of Governors includes América Móvil, AT&T, Cable & Wireless, Cisco, CommScope, Entel, Ericsson, Hewlett Packard Enterprise (HPE), Intel, Kathrein, Mitel, Nokia, Qualcomm, Samsung, Sprint, and Telefónica.

[2] Letter from Jeffrey A. Marks, Head of Regulatory Affairs North America, Nokia, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 10-153 *et al.* (filed Mar. 19, 2019) ("Nokia Ex Parte").

[3] Letter from Cheng-yi Liu and Mitchell Lazarus, Counsel for the Fixed Wireless Communications Coalition, to Marlene H. Dortch, Secretary, FCC, at 3-4, WT Docket No. 10-153 *et al*. (filed Feb. 13, 2018) ("FWCC Ex Parte").

[4] See 47 CFR § 101.115(b)(2), Table.

[5] *Compare* Nokia Ex Parte and FWCC Parte *with* Petition for Rulemaking of Aeronet Global Communications, Inc. RM-11824 (filed Feb. 6, 2019) ("Aeronet Aviation Petition") and Petition for Rulemaking of Aeronet Global Communications, Inc., RM-11825 (filed Feb. 6, 2019) ("Aeronet Maritime Petition").

rules for use of the E-band in a holistic manner, so that it can fully assess the impact that such changes would have on efficient and cooperative use of the band.

As the Commission knows, to enable 5G densification, it will be necessary to build "hundreds of thousands" of small cells "to deliver super high speed, super high bandwidth service at millimeter wave frequencies that are only effective over short distances."[6] Not all of these cell sites will be served by fiber, but instead will also be served by uWave or mmWave transport technology.[7] Indeed, more than 50 percent of wireless sites today use microwave technology and are not covered by fiber.[8] To support 5G and even on-going 4G densification, it is necessary to amend the Commission's current antenna gain rules in the E-band to accommodate new use cases with street level installations. The E-band is being used increasingly for last mile transport and aggregation and is likely to "become the most used frequency for wireless transport due to its versatility."[9]

To tap into the band's transport potential, it is essential to allow providers greater flexibility to decide antenna size based on use case.[10] Smaller and easier to install, lower-gain antennas provide a number of benefits when delivering microwave backhaul and would facilitate providers' ability to meet demands for data capacity necessary for 5G deployment.[11] A revised minimum antenna gain, down from 43 dBi to 38 dBi, will also support more visually-attractive antennas. 5G Americas has worked to educate stakeholders on more aesthetic options for small cell densification that would better respond to local communities' interests, including in our small cell white paper of last year.[12] Reducing the minimum gain for directional antennas in the E-band would be consistent with those efforts.

In addition, amending the Part 101 rules governing the E-band to include both Category A and Category B standards would be "in line with the rules for most other Part 101 bands,"[13] and would have the benefit of harmonizing U.S. and Canadian requirements.[14] As an association advocating for harmonized deployment of the 3GPP technologies throughout the Americas, 5G

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[6] Nokia Ex Parte at Attachment p. 19 (quoting Donald Evans, *FCC Acts to Speed 5G Rollouts*, CommLawBlog (Oct. 2, 2018), https://www.commlawblog.com/2018/10/articles/telecom/fcc-acts-to-speed-5g-rollouts/).

[7] *See* Nokia Ex Parte at Attachment pp. 5-6, 19.

[8] *Id*. at Attachment pp. 5-6.

[9] *Id.* at Attachment pp. 10-11, 19. *Cf.* FWCC Ex Parte at 3 (stating that microwave may be "the only practicable option" in some cases and that "70/80 GHz is often the best choice.").

[10] Nokia Ex Parte.

[11] *See* Nokia Ex Parte at Attachment pp. 6, 11, 15; FWCC Ex Parte at 3.

[12] Small Cell Forum and 5G Americas,
Small Cell Siting Challenges and Recommendations (Aug. 2018); available at
http://www.5gamericas.org/files/2615/3737/0889/Small_Cell_Siting_Challenges__Recommendations_Whitepaper_final.pdf

[13] FWCC Ex Parte at 4.

[14] Nokia Ex Parte at Attachment p. 17; FWCC Ex Parte at 4.

Americas supports harmonizing this U.S. directional antenna requirement with that of our neighbor to our North, given the lower gain's potential for facilitating 5G densification backhaul.

5G Americas also urges the Commission to consider proposals to modify the existing service rules in the E-band together, so that the Commission can assess more holistically the combined effect of any rule changes on existing and future terrestrial use in this band and its goals for 5G leadership. Specifically, the Commission should avoid considering Aeronet's *Petitions for Rulemaking*—which propose use of the E-band for maritime and aviation scheduled dynamic datalinks[15]—in a vacuum. Rather, the Commission should address Aeronet's petitions in the broader context of requests like Nokia's and FWCC's to ensure that any modifications the Commission makes do not foreclose cooperative use of the E-band.[16]

More flexible antenna gain requirements for the E-band are needed now,[17] with the increasing number of 5G deployments already announced and planned for the near term, and with an auction for flexible use just concluded.[18] The Commission has done so much over the last year to reduce barriers to investment for wireless infrastructure. This additional rule change would continue those efforts to facilitate the infrastructure necessary for 5G deployment. 5G Americas respectfully requests that the Commission act with haste to amend Part 101.115(b)(2) to allow a minimum gain of 38 dBi for directional antennas operating in the E-band.

Respectfully submitted,

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[15] *See* Aeronet Aviation Petition*;* Aeronet Maritime Petition.

[16] *See* Opposition of T-Mobile USA, Inc. at 2-5, RM-11824, RM-11825 (filed Mar. 11, 2019).

[17] Nokia Ex Parte at Attachment p. 11.

[18] *See* Video: Larry Kudlow, Director, U.S. National Economic Council, Keynote at CTIA 5G Summit (Apr. 4, 2019), available at https://www.youtube.com/watch?time_continue=1&v=NE9zz9uD_Dk (noting that the Commission is in the midst of an auction, and that the U.S. is expected to have 92 deployments by the end of 2019).