



May 6, 2019

Ex Parte

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

Re: *Spectrum Horizons*, ET Docket No. 18-21

Dear Ms. Dortch:

5G Americas appreciates the Commission's continued attempt to unlock the potential of spectrum previously considered inappropriate for commercial use, as pursued in the above-captioned proceeding *Spectrum Horizons*.¹ With continued investment in research and development by the wireless industry, 5G Americas believes 95 GHz and above will prove to be appropriate for exclusively-licensed use. The Commission's *Notice of Proposed Rulemaking*² in *Spectrum Horizons* proposed only to make 15.2 GHz of spectrum above 95 GHz available for unlicensed, as well as to adopt service rules for fixed point-to-point licenses in over a 100 GHz of spectrum. However, the Commission's *First Report and Order* adopted earlier this spring allocated even more spectrum for unlicensed use – 21.2 GHz – and determined it was premature to adopt a regime for licensed broadband use, outside of experimental licensing.³

5G Americas is disappointed that the Commission decided in its *First Report and Order* to only create frameworks for Part 5 experimental licensing and Part 15 unlicensed use, but is heartened by the Commission's promise to consider developing rules for segments of the range above 95 GHz for exclusive licensing in the future. As noted in our *Spectrum Vision* white paper, spectrum above 95 GHz will play an important role in enabling innovators to develop new technologies.⁴ 5G Americas accordingly supports the Commission proposing rules for licensed access to band segments as soon as possible.⁵

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 *Spectrum Horizons, et al.*, Notice of Proposed Rulemaking, 33 FCC Rcd. 2438, 2439 ¶ 1 (2018).

³ *Spectrum Horizons*, First Report and Order, FCC 19-19, 1-2, 12 ¶¶ 1-2, 27 (rel. Mar. 21, 2019).

⁴ 5G Americas, *Spectrum Vision* at 31 § 5.3.7 (February 2019), available at http://www.5gamericas.org/files/4015/4958/3330/5G_Americas_5G_Spectrum_Vision_Whitepaper.pdf.

⁵ See *First R&O* at 2 ¶ 2; *id.*, Statement of Commissioner O'Rielly at 40.

As the Commission knows, a blend of low-, mid-, and high-band spectrum is essential to the successful deployment of 5G. Likewise, a blend of unlicensed and licensed spectrum is optimal for a vibrant wireless ecosystem.⁶ For that reason, 5G Americas believes it is important to ensure that rules are developed with an eye to licensed 5G deployment in this band, and not just unlicensed.

Making spectrum above 95 GHz band available on an exclusively licensed basis in the near term will help keep the United States competitive on the global stage. As the Commission is aware, through preparations for the World Radiocommunication Conference (“WRC-19”) Agenda Item 1.15, the International Telecommunication Union is studying the introduction of land-mobile and fixed service applications operating in the frequency range 275-450 GHz. The world is already studying use cases that are typically licensed in other parts of the world in bands that are even higher than those the Commission allocated to unlicensed last month. Indeed, the U.S.’ own proposal to the Inter-American Telecommunications Commission (“CITEL”) to satisfy this WRC-19 Agenda Item proposes a number of band segments in the 275-450 GHz range for land-mobile and fixed services, without specifying that such use should be on an unlicensed basis.⁷ Having spectrum identified above 95 GHz for both unlicensed and licensed use in the near term will help our region to continue to lead in innovative commercial use of spectrum.

5G Americas also urges that when the Commission returns to the question of licensed use of spectrum above 95 GHz for commercial services, it considers making at least one band segment available with channelization of 20 GHz. A 20 GHz band will provide a needed supplement to fiber optic technology for both mobile backhaul and fixed services. As the U.S proposal for WRC-19 Agenda Item 1.15 to CITEL acknowledged,

While optical fiber is generally the least expensive terrestrial communications medium in terms of equipment cost per Gb/s-km, there are some applications where fixed radio systems of comparable bandwidth have unique advantages. In some locations, e.g. highly urbanized areas, optical fiber has very high installation costs which greatly exceeds component costs. Optical fiber cannot be installed quickly in certain places for special events and may not be economical for short-term events at a given location. Optical fiber has a time latency greater than radio systems due to the index of refraction of the fiber material which results in a group velocity about 25% less than in radio systems. While for many applications this latency is insignificant, for some applications it is an issue. Finally, in case of disaster, especially earthquakes with ground rupture along a fault, fiber optics systems cannot be restored quickly and temporary radio systems with

⁶ See also Letter from Prakash Moorut, Chair of Steering Group, mmWave Coalition, to Marlene H. Dortch, Secretary, FCC, at 2, ET Docket No. 18-21 (filed Mar. 5, 2019) (“mmWC Ex Parte”) (“In today’s spectrum environments, licensed and unlicensed spectrum and new allocations for them exist side by side and are complementary.”).

⁷ See Inter-Am. Telecomm’n Comm’n, Permanent Consultative Comm. II: Radiocomm’n, U.S. Proposal on WRC-19 Agenda Item 1.15 (2018), available at <https://www.fcc.gov/us-contributions-sent-citel-pccii-0>.

*comparable capacity would be beneficial in restoring communications networks for both landline service and mobile service.*⁸

Moreover, as it has done with the lower millimeter wave bands, the Commission's rules should allow for flexibility in the use case, for not just fixed services, but mobile as well. Directional beamforming in terrestrial networks for 5G will enable mobile use above 100 GHz in the near future.⁹

Finally, when the Commission does consider a *Further Notice*, 5G Americas urges that it include radio frequency ("RF") safety rules for *Spectrum Horizon* bands. Today, as the Commission is aware, its rules have no quantitative provisions for RF safety above 100 GHz. Canada and Europe have RF safety rules up to 300 GHz. As an association that advocates for the harmonized deployment of 3GPP technologies throughout the Americas, 5G Americas supports harmonizing RF safety rules for bands above 95 GHz with those of our neighbors to our North and other trading partners. Predictable RF rules for equipment in these bands will reduce litigation risk for operators, while harmonized rules will facilitate commercial use of these bands, at more affordable price points.¹⁰

For the above reasons, 5G Americas supports a *Further Notice of Proposed Rulemaking* to consider the above issues, including wider channelization of bands (20 GHz) for licensed operations.

Respectfully Submitted,



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⁸ *Id.* at 2; *see also* mmWC Ex Parte at 2 (“[W]e request that the Commission also address the need for licensed spectrum. . . . The immediate need for licensed spectrum is for point-to-point applications for cellular backhaul and fixed communications systems and do not need area licensing as mobile applications do.”).

⁹ mmWC Ex Parte at 3.

¹⁰ *See also* mmWC Ex Parte at 5 (“The increased regulatory and litigation risk resulting from [the absence of an applicable RF safety standard] is a significant disincentive for capital formation under the unlicensed rules in the *Draft R&O*.”).