Consumer Technology Association™

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Via Electronic Filing

March 27, 2024

Marlene H. Dortch, Secretary
Federal Communications Commission
45 L Street NE
Washington, DC 20554

Re: *Unlicensed Use of the 6 GHz Band*, ET Docket No. 18-295; *Expanding Flexible Use in Mid-Band Spectrum Between 3.7 and 24 GHz,* GN Docket No. 17-183

Dear Ms. Dortch:

Consumer Technology Association ("CTA")[1] writes on behalf of its members in response to the Federal Communications Commission ("FCC" or "Commission") Second Further Notice of Proposed Rulemaking ("FNPRM") on *Unlicensed Use of the 6 GHz Band* and *Expanding Flexible Use in Mid-Band Spectrum Between 3.7 and 24 GHz.* CTA is pleased to see the Commission take a data driven approach in this proceeding. CTA supports the proposal to permit operations in the U-NII-6 (6.425-6.525 GHz) and U-NII-8 (6.875-7.125 GHz) bands. To encourage innovation and benefit consumers, we ask the FCC to finalize rules for operations in the 6 GHz band by the end of 2024.

Expanding Operations in the 6 GHz Band Benefits Consumers

CTA commends the FCC's decision to authorize Very Low Power (VLP) devices to operate in the U-NII-5 (5.925-6.425 GHz) and U-NII-7 (6.525-6.875 GHz) portions of the 6 GHz band. This action provides innovators with an important new capability to provide high-speed connections for some of the most advanced applications, including wearables and augmented and virtual reality (AR/VR), that will help businesses, enhance learning opportunities, advance healthcare opportunities, and bring new entertainment experiences. Allowing operations in the proposed additional spectrum in the U-NII-6 and U-NII-8 bands will be critical for enabling robust VLP operation in densely populated environments, such as schools, airports, train stations, event centers and other public venues.

[1] CTA is North America's largest technology trade association. Our members are the world's leading innovators—from startups to global brands—helping support more than 18 million American jobs. CTA owns and produces CES® —the most powerful tech event in the world.

The VLP device class has the potential to introduce a new generation of innovative wireless use cases to the consumer market. VLP devices greatly benefit from low latency, high data rates, and high reliability for robust operations, especially in dense environments. For widespread consumer adoption of this exciting new class of devices to occur, it is critical that the devices be able to utilize in the full 6 GHz band to operate at their highest potential performance levels without technological constraint.

VLP devices include AR/VR technologies, headphones, game controllers, keyboards, hearing aids, and a range of other applications. These devices hold the potential for having a significant impact in a range of exciting and diverse use cases. For example:

- **Workforce training:** VR can improve the employee experience by simulating production processes and training for workplace safety. VR can also increase efficiency by providing instruction methods to build complicated systems and products.

- **Education:** VR enables students to participate together in a virtual classroom across geographies by creating digital twins of university campuses and classrooms. Stanford University offers anatomy classes in VR, and Arizona State has announced plans to do the same.[2]

- **Medical:** There has been groundbreaking research on how AR platforms in conjunction with traditional hearing aids may contribute to closing the gap for people with hearing loss through multimodal sensor integration.[3]

Finalizing Rules by the End of 2024 Encourages Innovation

In addition to permitting expanded VLP operations in the 6 GHz band, CTA requests that the FCC expeditiously work to finalize rules for Low Power Indoor (LPI) applications this year. Technology needs have changed since the FCC opened the 6 GHz band for Wi-Fi operations in 2020. Allowing LPI clients to directly communicate with each other would increase opportunity for new and exciting applications.

CTA member companies that manufacture VLP devices stand ready to deploy them to the benefit of consumers. If the Commission finalizes rules in 2024, devices may be available as early as CES 2025.[4] The FCC should act quickly in order to encourage innovation. As we previously shared with the Commission[5], according to CTA's 2022 report "Unlicensed Spectrum

[2] Grubbs, Steve "The Education Metaverse Has arrived: Get Sucked In" https://steve-grubbs.medium.com/the-advantages-of-a-digital-twin-virtual-reality-campus-563b77c951cc (last visited March 27, 2024).
[3] Mehra, Ravish et al "Potential of Augmented Reality Platforms to Improve Individual Hearing Aids and to Support More Ecologically Valid Research" https://pubmed.ncbi.nlm.nih.gov/33105268/ (last visited March 27, 2024).
[4] After the FDA finalized rules for over-the-counter hearing aids in 2022, products quickly came to market. *See generally* https://www.cta.tech/Resources/Standards/Over-the-Counter-Hearing-Aids.
[5] Letter from J. David Grossman, VP Regulatory Affairs, CTA, to Marlene H. Dortch, Secretary, FCC, ET Docket No. 18-295, GN Docket No. 17-183 (Feb. 7, 2022).

and the U.S. Economy"[6] unlicensed spectrum is a critical element of innovation in the United States and ensuring a balanced approach to spectrum policy, which includes unlicensed spectrum, should be an FCC priority.

CTA looks forward to continued dialogue with the Commission and other stakeholders on these important questions. Please contact the undersigned if you have any questions regarding this filing.

Respectfully submitted,

/s/ J. David Grossman
J. David Grossman
Vice President, Regulatory Affairs

/s/ Rachel Nemeth
Rachel Nemeth
Sr. Director, Regulatory Affairs

[6] *Unlicensed Spectrum and the U.S. Economy: Quantifying the Market Size and Diversity of Unlicensed Devices*, CTA (Feb. 2022), available at https://shop.cta.tech/collections/research/products/unlicensed-spectrum-and-the-us-economy-quantifying-the-market-size-and-diversity-of-unlicensed-devices.