



July 31, 2024

Via ECFS

Marlene H. Dortch  
Secretary  
Federal Communications Commission  
Washington, DC 20554

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

The Computer & Communications Industry Association (CCIA) is pleased to provide further input in this ongoing Federal Communications Commission (FCC or Commission) proceeding to consider 6 GHz rules “to foster unlicensed innovation.”<sup>1</sup> This letter focuses on the recent engineering report from RKF Engineering, *Report on Frequency Sharing Between Very Low Power RLAN Devices and Broadcast Central Receive Stations in the 6 GHz Band* (June 2024) (RKF June Report),<sup>2</sup> which demonstrates that Very Low Power (VLP) wireless devices carry an “extremely low”—actually “insignificant” (at iv.)—risk of interference with incumbent services in the 6 GHz band.

As CCIA has previously stated,<sup>3</sup> we support the FCC’s proposal to permit VLP wireless devices to operate in the U-NII-6 and U-NII-8 bands on an unlicensed basis and at higher power levels subject to use of geofencing. *2d FNPRM* ¶ 104.

The Commission’s efforts to open the 6 GHz band for unlicensed use have enabled tremendous innovation in and deployment of WiFi services, which is reflected in the constant, steady increase in demand—from both end users and enterprises—for more and more WiFi-enabled devices that themselves constantly achieve improved performance and enhanced user experiences. Reliant largely on unlicensed WiFi spectrum, connected devices worldwide are predicted to number 55.7 Billion in 2025, with 75% of those devices being connected to the Internet-of-Things ecosystem.<sup>4</sup> The latest generation of WiFi, made for the 6 GHz band, is WiFi 6E.<sup>5</sup> Authorizing the U-NII-6 and U-NII-8 bands will make WiFi 6E more robust and reliable for the billions of connected devices that U.S. consumers need for educational, professional, and recreational use.

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<sup>1</sup> ET Docket No. 18-295, GN Docket No. 22-270, *Second Report and Order, Second Further Notice of Proposed Rulemaking, and Memorandum Opinion and Order on Remand*, FCC 23-86 ¶ 2 (rel. [Nov. 1, 2023](#)), published at 89 Fed. Reg. 14-15 (Feb. 26, 2024). CCIA will refer to the request for comment portion of this document as the “*2d FNPRM*”.

<sup>2</sup> The Report, prepared on behalf of Apple Inc., Broadcom Inc., Meta Platforms, Inc., and Qualcomm Inc., and Google LLC, was filed in the above-named dockets on [June 28, 2024](#).

<sup>3</sup> ET Docket No. 18-295, GN Docket No. 17-183, CCIA Comments ([Mar. 27, 2024](#)).

<sup>4</sup> Kevin Robinson, “Wi-Fi 6 and Wi-Fi 6E: The Key to IOT,” *The Beacon* (originally in [Information Age](#)), <https://www.wi-fi.org/beacon/kevin-robinson/wi-fi-6-and-wi-fi-6e-the-key-to-iot> (last visited July 31, 2024).

<sup>5</sup> *Id.*; see also IEEE.org, “Demand for Wi-Fi 6 Is Growing,” IEEE Innovation at work, <https://innovationatwork.ieee.org/demand-for-wi-fi-6-is-growing/> (last visited July 31, 2024).



The RKF June Report demonstrates that opening these frequencies to VLP will not cause harmful interference to incumbents. The report is the result of a “comprehensive Monte Carlo analysis” in which “100,000 iterations were performed” across the contiguous U.S. to see whether TV Pickup (“TP”) Central Receivers incurred harmful interference from VLP devices. RKF June Report at iii. The study was modeled on a VLP deployment at a “slightly higher” density than the San Francisco and Houston studies on which the FCC relied when it authorized the U-NII-5 and U-NII-7 bands for unlicensed use. *Id.* at iii. RKF concluded that “the risk of harmful interference to the TP Central Receivers in real-world situations is,” as with the San Francisco and Houston studies, “insignificant.” *Id.* at iv.

The Report’s key findings include:

- In 100,000 simulation iterations, 95% of TP links had no exceedance of even the conservative -6dB I/N level. *Id.* at iv, 21.
- The risk of such an exceedance from VLP devices to TP links was “exceedingly small with a 0.0001% average probability of an exceedance across all TP links.” *Id.*
- This low risk of exceedance is actually lower than the risk levels that the FCC found with regard to Low-Power Indoor devices in the U-NII-6 and U-NII-8 bands and VLP devices in the U-NII-5 and U-NII-7 bands—risk levels the FCC called “insignificant.” *Id.*
- “Dynamic management” of TP links makes the risk of harmful interference even lower. *Id.*
- The “itinerant nature” of VLP devices also decreases the risk of harmful interference. *Id.* at iv.
- Even taking the “worst-case scenario” that could result in exceedance of -6 dB I/N, harmful interference with TP links would likely be avoided because TP links are configured to operate with sufficient Signal-to-Interference-Plus-Noise Ratio (SINR) in order to operate optimally in prevailing conditions. *Id.* at iv, 22.

These results amply demonstrate that the U-NII-6 and U-NII-8 bands can be authorized for unlicensed use, such as for WiFi 6E, without risk of harmful interference to existing 6 GHz band operations. The Commission therefore should adopt its proposed rule allowing VLP devices in U-NII-6 and U-NII-8. *2d FNPRM* ¶ 104.

CCIA appreciates the opportunity to participate in this proceeding and is available to provide any additional information that might be helpful to the Commission.

Sincerely,

Stephanie Joyce  
Chief of Staff and Senior Vice President  
CCIA