June 30, 2026

Via ECFS

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

RE: **NOTICE OF EX PARTE AN INFORMAL OBJECTION**

Promoting the Development of Positioning, Navigation, and Timing Technologies and Solutions **(WT Docket No. 25-110);** ***Wireless Telecommunications Bureau and Office of Engineering and Technology Seek Comment on NextNav Petition for Rulemaking*** **(WT Docket No. 24-240);** ***OET Changes Ex Parte Status From "Restricted" to "Permit-But-Disclose" for NextNav Experimental Licensing Matters*** **(ET Docket No. 26-84); ELS File Nos. 1088-EX-ST-2026, 0094-EX-CM-2026, & 0622-EX-CN-2025**

Ms. Dortch,

NextNav, Inc. ("NextNav") recently purported to conduct two "coexistence demonstrations" involving 5G signals and unlicensed devices that currently utilize the 902-928 MHz band (the "Lower 900 MHz Band"), undertaken pursuant to an experimental radio service license issued by the FCC.[1] We write to aid the Commission by providing technical information and additional context regarding NextNav's alleged demonstrations, including their substantial defects. Importantly, these demonstrations possessed none of the characteristics of a technically sound or instructive experiment, such as controlled environments, known variables or repeatable, replicable outcomes designed "for [the] purposes of experimentation in the radio art . . . ."[2] These were not experiments—rather, they were an extension of NextNav's ongoing public relations efforts.

NextNav has provided almost no details about this "testing," mainly describing it in blog posts and two short videos uploaded to YouTube. From the information that is available, it appears that the first "test" involved a few hours of observation of an RFID reader and tags

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[1] Elisabeth Jeffs, *Seeing Is Believing: NextNav Demonstrates 5G and RFID Coexistence in the Lower 900 MHz Band*, NextNav (May 5, 2026), https://nextnav.com/demonstrating-5g-and-rfid-coexistence-in-the-lower-900-mhz-band ("NextNav 5G/RFID Coexistence Article"); Elisabeth Jeffs, *Seeing is Believing: Demonstrating 5G and Security/Alarm System Coexistence in the Lower 900 MHz Band*, NextNav (May 21, 2026), https://nextnav.com/demonstrating-5g-security-alarm-coexistence-lower-900-mhz-band ("NextNav 5G/Security & Alarm System Coexistence Article").

[2] 47 C.F.R. § 5.5.

in use in close proximity to a 5G base station, occurring on a single day in May on a rooftop in San Jose, California.[3] The second test similarly covered a single day of testing on the same rooftop, this time involving one smoke and carbon monoxide detector and one Inovonics panic button.[4] At the end of both videos, NextNav asserts that, because of these demonstrations, "coexistence isn't just possible, *it's proven*." The provided information does not support these claims, with which we strongly disagree.

NextNav's testing was not conducted in a controlled environment. Based upon the videos, it appears that NextNav tested one RFID use case, one model of smoke detector, and one panic button system all in a single location.[5] In the video accompanying the RFID demonstration, an RFID reader appears to be a few feet away from a panel of RFID tags. However, some RFID readers are designed to operate and indeed do operate with RFID tags at ranges of up to one hundred feet.

Moreover, nothing in the videos indicates how NextNav was actually operating its purported 5G system at the time. The videos include a clip of what appears to be a spectrum analyzer, presumably to show measured emissions of around -45 dBm in the neighborhood of the 918-928 MHz frequency range. However, NextNav does not disclose the resolution bandwidth, the separation of the measurement antenna from the base station, the measurement antenna gain, or any other operating details sufficient to inform stakeholders of the parameters of the system under test. Multiple stakeholders have previously and unsuccessfully requested these data from NextNav both in these proceedings and in response to direct outreach from NextNav, in order to help assess the potential impacts of the experimental operations on incumbent Part 15 devices in the area and evaluate claims of potential coexistence.[6] Also missing from the videos is any indication that NextNav had 5G handsets operating in the vicinity, and what impact (if any) the Part 15 unlicensed operations had on the performance of the handsets. Thus, whether operating Part 15 devices can coexist with NextNav's experimental 5G network deployment and 5G consumer devices remains very much unproven.

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[3] NextNav 5G/RFID Coexistence Article.

[4] NextNav 5G/Security & Alarm System Coexistence Article.

[5] Indeed, even if NextNav had conducted testing using all eight of its authorized base stations in the downtown San Jose area, this still would not be representative of the various geographies, topographies, population densities, and use cases utilizing Part 15 devices over Lower 900 MHz Band spectrum.

[6] *See, e.g.*, Ex Parte Letter from Howard Waltzman, Counsel to the Security Industry Association, & Olivia Negus, Director of Policy, Information Technology Industry Council, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 24-240, ELS File No. 0622-EX-CN-2025 (filed Dec. 22, 2025); Ex Parte Letter from Aileen Ryan, President, RAIN Alliance et al., to Marlene H. Dortch, Secretary, FCC, WT Docket Nos. 25-110 & 24-240, ELS File No. 0622-EX-CN-2025 (filed Dec. 22, 2025); Ex Parte Letter from Avi Rosenthal, Chair, Connected Devices for America Coalition et al., to Marlene H. Dortch, Secretary, FCC, WT Docket Nos. 24-240 & 25-110, ELS File Nos. 0622-EX-CN-2025, 0158-EX-ST-2026, & 0121-EX-CN-2026 (filed Mar. 6, 2026) ("March 2026 Big Tent Ex Parte"); Ex Parte Letter from Howard W. Waltzman, Counsel to the Security Industry Association, Mayer Brown LLP, to Marlene H. Dortch, Secretary, FCC, WT Docket Nos. 24-240 & 25-110, ET Docket No. 26-84 (filed Apr. 28, 2026).

NextNav's claim that its testing involved "extremely" and "unrealistically" high 5G signal levels[7] casts significant doubt on the need for the elevated power levels NextNav has requested. As an initial matter, NextNav's maximum authorized power pursuant to its experimental license is 1,000 W ERP across the entirety of its 10-megahertz downlink channel, or approximately one-tenth of the power NextNav has requested under its proposed rule changes (1,000 W/MHz ERP).[8] But even beyond this discrepancy, NextNav does not appear to have been operating at "full power" during its demonstrations, as claimed in the videos. This is based upon several points of evidence:

- First, while NextNav has not disclosed the reference bandwidth for its transmissions (and thus the power density is unknown), if NextNav's transmit power were 1000 Watts ERP (1340 Watts EIRP or 61.2 dBm), then the received power should be much higher than -45 dBm. Free space path loss at 918 MHz over a 20-foot separation distance (assuming that the measurement antenna is placed close to the location indicated in the NextNav videos for the victim receiver antenna) is 47.4 dB, meaning the received power into a 0 dBi antenna would be 13.8 dBm.[9] Assuming significant cable loss (e.g., -10 dB), then the received power would still be 3.8 dBm. Further assuming that all the power of the transmitted signal was spread across the full 10-megahertz bandwidth, and the measurement was made in only a one-megahertz bandwidth (a factor of 10 dB), then the received power would still be expected to be -6.2 dBm, nowhere close to the -45 dBm shown in NextNav's videos.

- Second, in both the RFID video and in the security devices blog post, NextNav asserts that it created a separation distance between its 5G base station antenna and the unlicensed devices of approximately 20 feet.[10] But the chain barrier used for controlling RF exposure on the roof is positioned around seven feet from the base station antenna.[11] Based upon the required separation distance for controlling RF exposure as set forth in equation (4) of OET Bulletin 65, a seven-foot separation distance for transmissions in the 900 MHz band would indicate that the actual EIRP

[7] *See* NextNav 5G/RFID Coexistence Article.

[8] *Compare* FCC Experimental Radio Service Construction Permit & License, Call Sign WP2XYS (granted Nov. 20, 2025) (authorizing 1,000 W ERP for each base station) *with* Letter from Robert Lantz, General Counsel, NextNav Inc. to Marlene H. Dortch, Secretary, FCC, FCC Inbox-1.401 at A-10 (filed June 7, 2024) (proposing new rule 90.1408 authorizing power of up to 1,000 W/MHz in densely populated counties, and 2,000 W/MHz in less densely populated counties).

[9] 61.2 dBm – 47.4 dB.

[10] NextNav, *NextNav Demonstrates 5G and RFID Coexistence in the Lower 900 MHz Band*, YouTube, at 0:38 (May 5, 2026), https://www.youtube.com/watch?v=pnpJHn0QcXU.

[11] This distance is derived based upon an assumption that the tiles on the rooftop are 12 inches square, based upon the presence of 20 rows of (equally sized) tiles between the RFID location and the base station antenna. The chain barrier used for controlling RF exposure is positioned around seven tiles from the base station antenna.

used by NextNav would be around 350 Watts, or approximately 26% of the power authorized by the experimental license and 2.6% of the power that NextNav has proposed as a limit in its petition (when applied over a 10-megahertz signal).[12]

These data points significantly undermine NextNav's claims that its 5G test network was transmitting at "full power" during the testing—at least not at the full power for which it seeks authorization under its proposed rule changes.

Finally, given the dearth of information made available regarding the demonstrations, replication of the "results" is impossible. NextNav itself did not attempt to replicate the results over multiple days or in multiple different environments, opting instead to run a few scenarios over a couple of hours using one base station during two days in total.[13]

Fundamentally, NextNav's demonstrations lack the scientific rigor and transparency necessary to draw any reliable conclusions.

Multiple parties have previously warned of this precise outcome. In March, stakeholders cautioned the Commission that, absent further action, NextNav's experimental operations were "very likely to provide misleading information" in relation to NextNav's request to modify the terms of its current licenses in the Lower 900 MHz Band.[14] These parties explained that "the testing conducted pursuant to [the] Experimental License cannot be used to support any claims or assertions of coexistence between 5G PNT and incumbent Lower 900 MHz Band users given the limited purposes described in the application and information provided to users in the area."[15] This is exactly what NextNav is now attempting to do.

Additionally, NextNav's other experimental license applications are clear evidence that NextNav's "coexistence testing" is for a very different purpose than what was stated in its request. The narrative exhibit to NextNav's experimental license application for San Jose asserted that it sought authorization to "evaluate the performance and accuracy of 5G New Radio (NR) Positioning Reference Signal (PRS) positioning information in real-world fixed

[12] Alternatively, and at a minimum, if NextNav was indeed operating at the full power level it has requested under its proposed rule changes then its operations likely exceeded the levels permitted under the FCC's radiofrequency exposure rules, or else NextNav has applied a very low duty cycle to the 5G signal being used for the testing—just as it has done for various technical analyses to date. Use of a low duty cycle (*i.e.*, a small base station loading factor) would skew the test results to show greater compatibility as compared to higher base station loading expected in real world conditions.

[13] If NextNav ran additional tests, then the undersigned would again request more information about such tests (as well as any future testing).

[14] *See* March 2026 Big Tent Ex Parte at 1.

[15] *Id.* at 5.

and mobile scenarios such as outdoors, indoors, and in-vehicle."[16] Had NextNav wanted to test Part 15 unlicensed device coexistence in San Jose, it could have stated that in its application. NextNav certainly knows how to seek this sort of permission from the FCC. Unlike the stated purpose of the San Jose experimental license, NextNav requested an experimental license in Pueblo, Colorado specifically to "conduct a small-scale outdoor field test to evaluate coexistence between 5G operations and licensed automatic equipment identification (AEI) systems in the 902-928 MHz band."[17] If NextNav had made its intentions clear from the start, then the FCC's Office of Engineering and Technology may have adopted different conditions (or interpreted differently the existing conditions) placed on its San Jose experimental license based upon the nature of that request.[18]

The FCC's experimental licensing service permits companies to engage in important research and development and serves compelling policy objectives. Experimental Radio Service licensees like NextNav should not be allowed to abuse this privilege and, in the process, undermine the foundations of the program. NextNav's recent public statements are inconsistent with the stated reason for its original experimental license application, and NextNav should not be permitted to conduct operations wholly distinct from its stated purpose. Moreover, NextNav's recent "demonstrations" provide no reliable evidence of the ability of unlicensed devices and high-power 5G operations to coexist and these claims can now only properly be refuted if the FCC modifies the terms of NextNav's license to require the disclosure of additional details related to its 5G network under test.

Accordingly, the undersigned entities respectfully request that the FCC direct NextNav to file an amended experimental license application to the extent NextNav seeks to conduct testing in Santa Clara County regarding coexistence with incumbent operations, and that any such amended application only be granted subject to special conditions requiring NextNav to produce technical details regarding its operations sufficient to allow incumbent operators in the area to fully assess the veracity of the technical parameters of the 5G network design under test and the potential impacts of the 5G deployment on Part 15

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[16] Application for Experimental Authority at 1, attached to Letter from Renee Gregory, Vice President of Regulatory Affairs, NextNav, to Chief, Experimental Licensing Branch, Office of Engineering & Technology, FCC, ELS File No. 0622-EX-CN-2025, at 3 (Sept. 2, 2025), https://apps.fcc.gov/els/GetAtt.html?id=384537&x=; *see also id.* at 5 ("The experiment NextNav has proposed will further validate state-of-the-art radiofrequency techniques for 5G-based PNT to deliver accurate location data, improved timing synchronization, and enhanced PNT resilience in conjunction with 5G data services. This additional validation of NextNav's 5G PNT capabilities through controlled field testing will support U.S. leadership in next-generation PNT technologies.").

[17] Application for Special Temporary Authority for WA9XSQ, ELS File No. 0158-EX-ST-2026 (filed Feb. 11, 2026), https://apps.fcc.gov/els/GetAtt.html?id=394210&x=

[18] Under the FCC's rules, conventional experimental radio licenses are issued "for a specific research or experimentation project (or a series of closely-related research or experimentation projects)" and "[w]idely divergent and unrelated experiments must be conducted under separate licenses." 47 C.F.R. § 5.54(a)(1). To that end, NextNav's coexistence demonstrations are sufficiently divergent and unrelated to the stated purpose of the San Jose license to warrant a separate license under the FCC's rules.

devices. For the same reasons, NextNav must be required to provide similar technical details as a condition to grant of any additional pending or future Part 5 applications for which its stated purpose is to demonstrate coexistence with incumbent operators.[19]

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/s/ Avi Rosenthal

Avi Rosenthal
Chair
Connected Devices for America Coalition

/s/ Kevin Grove

Kevin Grove
Director, Safety & Technology Policy
American Trucking Associations (ATA)

/s/ Rachel Nemeth

Rachel Nemeth
Vice President, Regulatory & Government Affairs
Consumer Technology Association (CTA)

/s/ Aryeh Fishman

Aryeh Fishman
Associate General Counsel, Regulatory Legal Affairs
Edison Electric Institute (EEI)

/s/ Olivier Beaujard

Olivier Beaujard
Chair
LoRa Alliance

/s/ David French

David French
EVP of Government Relations
National Retail Federation

/s/ Erin Fitzgerald Dobozy

Erin Fitzgerald Dobozy
Regulatory Affairs Director – Broadband
National Rural Electrical Cooperative Association (NRECA)

/s/ Don Erickson

Don Erickson
Chief Executive Officer
Security Industry Association

/s/ Alex Roytblat

Alex Roytblat
Vice President Worldwide Regulatory Affairs
Wi-Fi Alliance

/s/ Phil Beecher

Phil Beecher
President & CEO
Wi-SUN Alliance

/s/ Louis Peraertz

Louis Peraertz
Vice President of Policy
WISPA – The Association for Broadband Without Boundaries

[19] *See, e.g.*, Application for Special Temporary Authority, ELS File No. 1088-EX-ST-2026 (filed June 11, 2026).