

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of)
)
Petition for Waiver to Allow Deployment of) GN Docket No. 18-357
Cellular Vehicle-to-Everything (C-V2X))
Technology In the 5.9 GHz Band)
)

COMMENTS OF WI-FI ALLIANCE

Wi-Fi Alliance ®^{1/} submits these comments in response to the Public Notice issued in the above-referenced proceeding by the Office of Engineering and Technology (“OET”) and the Wireless Telecommunications Bureau (“WTB”) regarding the petition by the 5G Automotive Association (“5GAA”) seeking permission to deploy Cellular Vehicle-to-Everything (“C-V2X”) technology in the 5905-5925 MHz portion of the 5850-5925 MHz band (the “U-NII-4 Band”) (the “Petition”).^{2/} The Commission should deny the Petition. The Commission’s reevaluation of this band for potential use by Unlicensed National Information Infrastructure (“U-NII”) devices like Wi-Fi is ongoing, and must be completed before any new uses of this spectrum are

^{1/} Wi-Fi®, the Wi-Fi logo, the Wi-Fi CERTIFIED logo, Wi-Fi Protected Access® (WPA), WiGig®, the Wi-Fi Protected Setup logo, Wi-Fi Direct®, Wi-Fi Alliance®, WMM®, Miracast®, Wi-Fi CERTIFIED Passpoint®, and Passpoint® are registered trademarks of Wi-Fi Alliance. Wi-Fi CERTIFIED™, Wi-Fi Protected Setup™, Wi-Fi Multimedia™, WPA2™, WPA3™, Wi-Fi CERTIFIED Miracast™, Wi-Fi ZONE™, the Wi-Fi ZONE logo, Wi-Fi Aware™, Wi-Fi CERTIFIED HaLow™, Wi-Fi HaLow™, Wi-Fi CERTIFIED WiGig™, Wi-Fi CERTIFIED Vantage™, Wi-Fi Vantage™, Wi-Fi CERTIFIED TimeSync™, Wi-Fi TimeSync™, Wi-Fi CERTIFIED Location™, Wi-Fi Location™, Wi-Fi CERTIFIED Home Design™, Wi-Fi Home Design™, Wi-Fi CERTIFIED Agile Multiband™, Wi-Fi Agile Multiband™, Wi-Fi CERTIFIED Optimized Connectivity™, Wi-Fi Optimized Connectivity™, Wi-Fi CERTIFIED EasyMesh™, Wi-Fi EasyMesh™, Wi-Fi CERTIFIED Enhanced Open™, Wi-Fi Enhanced Open™, Wi-Fi CERTIFIED Easy Connect™, Wi-Fi Easy Connect™, and the Wi-Fi Alliance logo are trademarks of Wi-Fi Alliance.

^{2/} *Office of Engineering and Technology and Wireless Telecommunications Bureau Seeks Comment on 5GAA Petition for Waiver to Allow Deployment of Cellular Vehicle-To-Everything (C-V2X) Technology in the 5.9 GHz Band*, Public Notice, GN Docket No. 18-357, (rel. Dec. 6, 2018).

considered. Moreover, the Petition masquerades as a waiver request when it is really a petition for rulemaking.

I. BACKGROUND

In 1999, the Commission allocated 75 megahertz of spectrum in the 5.85-5.925 GHz band for Dedicated Short Range Communications (“DSRC”) to be used by Intelligent Transportation Systems.^{3/} In 2013, recognizing the need for capacity for unlicensed operations in the 5 GHz band, the Commission initiated a proceeding to make additional spectrum available, including in the U-NII-4 band.^{4/} The Petition seeks the authority to operate C-V2X technology in the upper 20 megahertz of the U-NII-4 band, excluding DSRC operations from that portion of the band. The Commission should reject the Petition. First, the Petition would re-designate the use of spectrum which is the subject of an ongoing proceeding and long-delayed Commission tests on sharing, and its grant would further complicate the Commission’s efforts to comprehensively finalize the future of the band. The Commission should complete its current assessment of the potential use of the band already under consideration before it considers new uses. Second, the Petition seeks substantial and general relief which dramatically limits incumbent rights, and is more correctly viewed as a request for rulemaking. Granting waiver of the rules may prejudice potential rule changes that would be inconsistent with operations under the waiver.

^{3/} See Amendment of Parts 2 and 90 of the Commission’s Rules to Allocate the 5.850-5925 GHz Band to the Mobile Service for Dedicated Short Range Communications of Intelligent Transportation Services, ET Docket No. 98-95, *Report and Order*, 14 FCC Rcd 18221 (1999)([FCC 99-305](#)).

^{4/} See 47 CFR pt. 15 subpart E – Unlicensed National Information Infrastructure Devices. Part 15 of the Commission’s rules permits the operation of radio frequency devices without issuing individual licenses to operators of these devices. We are using the Commission-designated sequential numbers to identify the U-NII 5 GHz band segments. *Revision of Part 15 of the Commission’s Rules to Permit Unlicensed National Information Infrastructure (U-NII) Devices in the 5 GHz Band*, ET Docket No. 13-49, Notice of Proposed Rulemaking, 28 FCC Rcd 1769, 1771 n.5 (2013), para. 18.

II. THE COMMISSION MUST COMPLETE ITS CURRENT EVALUATION OF SHARED USE OF THE U-NII-4 BAND BEFORE IT CONSIDERS OTHER SERVICES

The Petition would have the Commission permit use of the U-NII-4 band for a service not contemplated by current rules. But before the Commission considers another use for the U-NII-4 Band, it should finalize its consideration of the potential use of the band for unlicensed technologies. The Commission has been considering whether to permit unlicensed operations in the U-NII-4 Band for close to 6 years.^{5/} And for good reason. The use of Wi-Fi, which employs unlicensed spectrum, is growing rapidly, and supports the majority of Internet off-load and on-load traffic.^{6/} The need for additional spectrum to meet these needs is well documented and supported by Congress and members of the Commission.^{7/}

^{5/} *Revision of Part 15 of the Commission's Rules to Permit Unlicensed National Information Infrastructure(U-NII) Devices in the 5 GHz Band*, Notice of Proposed Rulemaking, 28 FCC Rcd 1769 (2013) (“2013 NPRM”).

^{6/} CISCO, VNI Complete Forecast Highlights Tool, North America, United States, Wired Wi-Fi and Mobile Growth (2018), http://www.cisco.com/c/m/en_us/solutions/service-provider/vni-forecast-highlights.html (select “United States” from the “North America” drop-down menu, select “2022 Forecast Highlights” and expand “Wired Wi-Fi and Mobile Growth.”) (finding that “fixed/Wi-Fi was 50.4% of total Internet traffic in 2017, and will be 56.6% by 2022”).

^{7/} *See* Wi-Fi Alliance, Spectrum Needs Study at p. 23, Feb. 2017, available at <https://www.wi-fi.org/downloads-registered-guest/Wi-Fi%2BSpectrum%2BNeeds%2BStudy0.pdf/33364>; Reps. Doris Matsui and Brett Guthrie and Jessica Rosenworcel and Mike O’Rielly, *The Next Generation of Wireless Innovation*, THE HILL, Sept. 12, 2018; *Consolidated Appropriations Act 2018*, Pub. L. No. 115-141, div. P, tit. VI, § 603 (requiring the Commission to identify a minimum of 100 megahertz of spectrum below 8 GHz for unlicensed operation by 2022); § 611 (requiring the Commission to evaluate unlicensed operations in guard bands); § 617 (making the promotion of unlicensed spectrum the official policy of the United States and charging the Commission with making unlicensed spectrum a priority); and § 618 (requiring the Commission to work with NTIA to draft a “National Plan for Unlicensed Spectrum” by September 23, 2020 which will lead to increased unlicensed spectrum access); and *Middle Class Tax Relief Act of 2012*, Pub. Law 112-96 §§ 6406 and 6407 (requiring unlicensed operations in the 5 GHz Band and guard bands). *See also*, Letter from Ben Guthrie and Doris Matsui, Co-Chairs, Congressional Spectrum Caucus to Ajit Pai, Chairman, Federal Communications Commission, July 11, 2018 and Letter from John Thune, Chairman, Senate Committee on Commerce, Science and Transportation to Ajit Pai, Chairman, Federal Communications Commission, June 29, 2018.

Access to the U-NII-4 band can be particularly useful in meeting Wi-Fi spectrum needs. Opening this band would offer up to 75 megahertz of extremely desirable spectrum for future Wi-Fi technologies. As Wi-Fi Alliance previously observed, “because the U-NII-4 band is adjacent to other bands already used by unlicensed technologies like Wi-Fi, the same equipment will be able to take advantage of additional capacity and offer higher speeds using wider bandwidths — assisting in meeting the challenges of rapidly growing demand for higher-bandwidth data streams.”^{8/} Next generation Wi-Fi wireless networking standards, such as Wi-Fi 6,^{9/} are intended to operate with wider channels to support a growing number of bandwidth-intensive Wi-Fi applications, meaning that if the Commission makes more contiguous spectrum available, there can be greater deployment of devices that take advantage of this new standard.^{10/}

In considering the Petition, the Commission should recognize the considerable time and effort invested over the years by both the automotive and communications industries, as well as by the Department of Transportation (“DoT”), other government agencies, and the Commission itself in evaluating the potential for U-NII devices to share the 5850-5925 MHz frequency band with DSRC. Granting this request will disrupt these ongoing efforts to evaluate sharing potential, stall development of both unlicensed and DSRC technologies and undermine pending processes – the Commission must not allow this to happen.

III. THE PETITION IS PROCEDURALLY FLAWED

While there may be limited impact on the ongoing evaluation of the U-NII-4 Band for unlicensed operations if the Petition truly sought a waiver, that is not what it seeks. In fact, it is a

^{8/} *Comments of Wi-Fi Alliance*, ET Docket No. 13-49 at 3 (filed July 7, 2016).

^{9/} *See Wi-Fi Alliance, Discover Wi-Fi, Wi-Fi 6*, available at <https://www.wi-fi.org/discover-wi-fi/wi-fi-6>.

^{10/} *See National Instruments, Introduction to 802.11ax High-Efficiency Wireless*, White Paper, Jul. 24, 2017, available at <http://www.ni.com/white-paper/53150/en/>.

petition for rulemaking. The Petition does not seek the right to deploy a particular product or service which complies with the relevant rules in all but a limited number of ways. Instead, it seeks permission to create an entirely new category of product and service and deploy it by the millions across the U.S.

The Commission may grant a waiver if it finds that compliance with the rule is inconsistent with the public interest.^{11/} However, the Commission has also noted that “it is well established that the function of a waiver is not to change the general standard... but to justify an *ad hoc* exception to that standard on the grounds that it works against the public interest in the particular case.”^{12/} But the Petition does not seek an *ad hoc* exception, but a change to the general standard. A grant of the Petition would require exemption of nearly all the relevant rules which apply to this band for an entire category of new devices. This mischaracterization is particularly problematic because, as described above, the Commission is already performing an evaluation of the band that would lead to potentially inconsistent general standards.

The fact that 5GAA asserts that C-V2X is superior to DSRC further demonstrates that it seeks a *change* to the rules.^{13/} A waiver accepts the premise of nature of the rules, while a petition for rulemaking seeks to demonstrate that the current rules are unsound or out of date. That is precisely what 5GAA asserts here.

5GAA attempts to justify the Petition by asserting that C-V2X operations are incompatible with the existing rules.^{14/} That too is additional evidence that it does not seek a

^{11/} *Northeast Cellular Tel. Co. v. FCC*, 897 F.2d 1164, 1166 (D.C. Cir. 1990), citing *WAIT Radio v. FCC*, 418 F.2d 1153, 1159 (D.C. Cir. 1969).

^{12/} *In the Matter of Applications for Consent to the Transfer of Control of Licenses*, 23 FCC Rcd 12348, 12422 (2008).

^{13/} *See e.g. Petition* at 7-15.

^{14/} *Petition* at 4-5.

waiver, but a change of the rules. An entity that chooses to design a product in a non-compliant way is not entitled to waiver relief based on that incompatibility. Overall incompatibility with rules, particularly when, as 5GAA claims, that incompatibility is caused by a superior design or new technology, means the rule should potentially be changed, not waived.

Finally, 5GAA asserts that the Commission routinely grants waiver requests in advance of finalizing rulemaking proceedings.^{15/} However, the cases it cites are different from the circumstances governing the U-NII-4 Band. In those cases, there were no identified competing uses of the band to which the waiver would be applicable. Here, the opposite is true. There is a pending process for evaluating potential additional uses of the band that may be inconsistent with the use contemplated by the waiver. The Commission must first resolve those issues before it considers waivers applicable to the band.^{16/}

IV. CONCLUSION

The Commission should deny the Petition. For nearly six years, it has considered the potential use of the U-NII-4 Band for unlicensed operations. It should complete its consideration of that potential before determining whether additional services should be included in the band. Moreover, the Petition, while styled as a waiver request, actually seeks to change the rules – a potential outcome even more problematic because of the continuing assessment of use of the band for unlicensed devices.

^{15/} *Petition* at 22-23.

^{16/} Grant of a waiver in advance of completion of a rulemaking proceeding regarding the characterization of spectrum may also create an unreasonable expectation that the waiver recipient will be able to continue to operate under the new rules as adopted. The Commission must avoid creating circumstances where it has “spectrum squatters” based on waiver requests that seek continued use of the band based on investments made through the waiver process.

Respectfully submitted,

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February 8, 2019