Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
Use of the 5.850-5.925 GHz Band	)	ET Docket No. 19-138
	)	

OPPOSITION TO PETITION FOR STAY
OF PUBLIC KNOWLEDGE AND
THE OPEN TECHNOLOGY INSTITUTE AT NEW AMERICA

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TABLE OF CONTENTS

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	)	
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I. INTRODUCTION & SUMMARY

Public Knowledge and New America's Open Technology Institute oppose the 5G Automotive Association's Petition for Stay ("Petition for Stay")[1] of the First Report and Order ("Order")[2] in the above captioned proceeding. The Commission should deny the 5G Automotive Association's ("5GAA") request because the Petition for to Stay is unlikely to succeed on the merits; 5GAA cannot point to any irreparable harm requiring a stay; and the public interest strongly favors permitting unlicensed use in the band as soon as possible.

II. 5GAA FAILS TO MEET THE STANDARD FOR A STAY.

The FCC considers the *Virginia Petroleum Jobbers* factors to determine whether a stay is appropriate.[3] These factors are (1) whether it is likely to prevail on the merits; (2) whether the petitioner will be irreparably harmed; (3) whether a stay would substantially harm other interested parties; and (4) how a stay will impact the public interest.[4] As the Supreme Court

[1] 5GAA, Petition for Stay, ET Docket No. 19-138, (June 2, 2021), https://ecfsapi.fcc.gov/file/10602895931022/5GAA%20Stay%20Request.pdf. [hereinafter 5GAA Petition for Stay].
[2] F.C.C., First Report & Order, ET Docket No. 19-139, (rel. Nov 20, 2020), https://ecfsapi.fcc.gov/file/11202021603352/FCC-20-164A1.pdf. [hereinafter Report & Order].
[3] *E.g.* In the Matter of Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, et al., Order Denying Stay, 11 FCC Rcd 11754, ¶ 7 (1996); *2010 Siting Review Order* ¶7.
[4] Va. Petroleum Jobbers Asso. v. Fed. Power Com., 259 F.2d 921, 925 (1958).

explained, "a stay is not a matter of right, even if irreparable injury might otherwise result to the appellant. The parties and the public, while entitled to both careful review and a meaningful decision, are also entitled to the prompt execution of orders that the legislature has made final."[5]

Here, the Commission should not delay the rules adopted in the Order because (A) it is unlikely that 5GAA will prevail on the merits because the FCC sufficiently considered all of the facts and circumstances when it reviewed the record and adopted the Order; (B) 5GAA's alleged injuries are merely speculative, as the record demonstrated that the new rules will not cause harmful interference; (C) delaying the Order will cause significant harm to others who plan to operate in the 5.9 band; and (D) a stay would significantly harm the public interest by preventing the dissemination of new technology that furthers connectivity and increases wireless capacity at a time when the public most needs access to the internet.

A. 5GAA Is Unlikely to Succeed on the Merits Because the Commission Properly Considered All of the Relevant Facts And Circumstances.

5GAA's Petition for Reconsideration is unlikely to succeed on the merits because the FCC properly considered the record when it determined the out of band emission (OOBE) limits for indoor unlicensed use and 5GAA relies on impermissible new facts and arguments.[6] The Commission may only grant a Petition for Reconsideration that relies on facts or arguments not previously presented in limited circumstances.[7] The Commission can only consider new facts or arguments that (1) "relate to events which have occurred or circumstances which have changed since the last opportunity to present such matters to the Commission;"[8] (2) "were unknown to petitioner until after [their] last opportunity to present them to the Commission, and [they] could

[5] Nken v. Holder, 556 U.S. 418, 419 (2009) (internal citations omitted).
[6] Va. Petroleum Jobbers, 259 F.2d at 925.
[7] *See* F.C.C., Order on Reconsideration, 85 FR 40908, 40910 (July 8, 2020), https://www.federalregister.gov/d/2020-13183/p-22.
[8] 47 CFR 1.429(b)(1).

not through the exercise of ordinary diligence have learned of the facts or arguments in question prior to such opportunity;"[9] or (3) the Commission determines it must examine as "required in the public interest."[10] None of these circumstances are present here.

5GAA's Petition for Reconsideration completely contradicts its own comments in the proceeding leading up to the Commission's Order. Now, 5GAA claims that the Commission must give proper weight to a technical study it did not submit during proceeding,[11] the Order's OOBE limits for indoor unlicensed use are not stringent enough,[12] and that a root mean square (RMS) measurement is an inappropriate means to calculate OOBE levels.[13] This last-ditch effort is insufficient grounds for the FCC to halt progress on these landmark new rules for several reasons: (1) 5GAA did not submit the technical study that it refers to in the lengthy proceeding, which specifically sought comment on the appropriate OOBE limits for indoor unlicensed use, leading up to the Commission's Order; (2) 5GAA advocated for less stringent OOBE levels for indoor use than those that the Commission ultimately adopted; and (3) 5GAA does not reconcile its new stance against using RMS measurement with its own use of RMS measurement in its calculation of the more relaxed standards it proposed in the proceeding, nor why RMS measurement is acceptable within the upper 5.9 GHz band (which 5GAA supported) but not the lower 5.9 GHz band.

First, 5GAA did not submit the technical study that forms the basis of its argument during the pleading cycle or subsequent period in which the Commission sought comment regarding the OOBE limits for *indoor* unlicensed use. Rather, 5GAA submitted the technical study in response

[9] 47 CFR 1.429(b)(2).
[10] 47 CFR 1.429(b)(3).
[11] 5GAA, Petition for Partial Reconsideration, ET Docket No. 19-138, at 2-3 (June 2, 2021) [hereinafter 5GAA Petition for Reconsideration]; 5GAA Petition for Stay, *supra* note 1 at 3-4.
[12] Petition for Reconsideration, *supra* note 11 at 3.
[13] *Id.* at 11.

to the Further Notice of Proposed Rulemaking (FNPRM) that is currently pending and which is seeking comments on the proper OOBE limits for *outdoor* unlicensed use. If 5GAA wanted the Commission to consider this technical study for the Commission's proposed OOBE limits for *indoor* unlicensed use, then it should have submitted the study during the commenting period for the Order. 5GAA also fails to explain how this technical study fits within the limited circumstances in which the Commission may consider new facts or circumstances.

Second, when the Commission originally considered the proper OOBE limits for indoor unlicensed use, 5GAA actually proposed less stringent OOBE limits for unlicensed use than the OOBE limits it now finds objectionable.[14] The Commission ultimately adopted levels of -5 dBm/MHz at 5895 MHz and -27 dBM/MHz at 5925.[15] But, as 5GAA's Comments explained, "The 5GAA proposal relaxes the OOBE levels at the edges of the 30 MHz C-V2X band to 0 dBm/MHz at 5895 MHz and -17 dBm/MHz at 5925 MHz for indoor unlicensed U-NII-4 operations."[16] This proposal is significantly less stringent than the regulations the Commission actually adopted.

Third, contrary to 5GAA's assertion, the Commission properly considered its decision to use RMS measurement to calculate the OOBE levels of unlicensed devices within the 5.9 GHz band. Surprisingly, 5GAA specifically refers to an RMS measurement for the more relaxed OOBE limits it originally proposed.[17] If 5GAA was so concerned about using an RMS measurement to calculate OOBE levels, then why did it include an RMS measurement

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[14] Comments of the 5G Automotive Association, In the matter of Use of the 5.850-5.925 GHz Band, ET Docket 19-138, App. A (March 9, 2020), https://ecfsapi.fcc.gov/file/10309096401111/5GAA%20Comments%20(3-9-2020).pdf (proposed 47 C.F.R. §15.407(b)(5)(i)) [hereinafter 5GAA Comments I].
[15] Report & Order, *supra* note 2 at ¶¶ 80-83.
[16] *Id.* at 42 n. 123.
[17] 5GAA Comments I, *supra* note 14 at 44 n. 130, App. A (proposed 47 C.F.R. § 15.407(b)(5)(i)).

calculation within its own proposal for the very Order it now challenges? Additionally, 5GAA used an RMS measurement to calculate OOBE levels it recommended for use in the 5.905-5.925 GHz band.[18] NCTA cited this as evidence of 5GAA's likely support for using an RMS measurement within the current proceeding[19] and the Commission similarly referred to it within the Order.[20] Yet, even in 5GAA's current filings 5GAA does not challenge these inferences regarding its position on using an RMS measurement to calculate OOBE levels, nor does 5GAA explain why using an RMS measurement is acceptable at 5.905-5.925 GHz but not at 5.850-5.925 GHz.

Essentially, 5GAA appears to have changed its mind on OOBE limits and using RMS measurements after the notice and comment period for the Order ended. Instead of accepting that it is too late to have second thoughts on these matters, 5GAA confusingly conflates its arguments in the commenting period for the latest FNPRM with its arguments in the original proceeding. Granting a petition for reconsideration on such unstable grounds would be as precarious as 5GAA's fickle stance on the matters at hand. It is not enough. Thus, 5GAA is unlikely to succeed on the merits and the first *Jobbers* factor weighs against granting 5GAA's stay request.

B. The Injuries 5GAA Claims Its Members Will Suffer Are Speculative at Best.

5GAA must show that "[t]he claimed injury [is] . . . 'actual and not theoretical'" as well as "'imminent' and 'likely to occur.'"[21] 5GAA cannot possibly satisfy this standard given that

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[18] Letter from Sean T. Conway, Counsel to the 5G Automotive Ass'n, to Marlene H. Dortch, Secretary, FCC, ET Docket No. 18-295, GN Docket No. 17-183, at 2, 3 (filed Mar. 25, 2020), https://ecfsapi.fcc.gov/file/10325118873496/20200325%205GAA%206%20GHz%20Ex%20Parte%20Letter%20FINAL.pdf

[19] Letter from Broadcom, CableLabs, Facebook, and NCTA to Marlene H. Dortch, Secretary, FCC, ET Docket No. 19-138, at 5 (July 31, 2020), https://ecfsapi.fcc.gov/file/1080190760112/Joint%205.9%20GHz%20ex%20parte%207%2031%2020%20FINAL.pdf.

[20] Report & Order, *supra* note 2 at ¶ 84.

[21] *Implementation of Section 621(a)(1) of the Cable Communications Policy Act of 1984 as Amended by the Cable Television Consumer Protection and Competition Act of 1992*, Order

automakers have not committed to a widespread deployment of C-V2X technologies. In fact, automakers may never effectively deploy C-V2X for V2V safety-of-life purposes under current law; C-V2X is not currently ready for widespread use to facilitate safety communications, nor will automakers likely deploy V2V safety signaling ubiquitously enough to make it reliable within the next 20 years, absent a federal mandate that all new vehicles come equipped with interoperable C-V2X radios. Even if all automakers voluntarily agree to install interoperable C-V2X systems in every new vehicle (a scenario NHTSA previously concluded is unlikely without a mandate), NHTSA has previously concluded it would take more than two decades to determine if V2V and/or vehicle-to-infrastructure ("V2I") signaling is reliable.

The experience of DSRC, which after two decades never advanced beyond a relative handful of mostly government-funded pilot projects, seems likely to repeat itself. In its Petition, 5GAA itself concedes that only a "few thousand cars with DSRC have ever been sold."[22] When the Commission sought comment on the timeline for the final development and deployment of C-V2X technology for safety, it received "no substantive comments;" the auto industry and other ITS proponents focused instead on "seeking to retain use of the entire 75 megahertz of spectrum in the 5.9 GHz band, not on transition matters."[23] The NPRM and the prolonged debate preceding the Commission's Order last November gave 5GAA and its members ample chance to detail their plans and timeline for deployment, yet to date the industry has failed to produce any meaningful demonstration of concrete, near-term plans to begin what would necessarily be a decades-long and extremely expensive process of equipping all vehicles (and possibly roads and intersections) with interoperable C-V2X radios. Only one automaker (Ford) has so far been

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Denying Motion for Stay, 34 FCC Rcd. 10,336, ¶ 15 (MB 2019) (quoting Nken, 556 U.S. at 434-35); *see also* Wis. Gas Co. v. FERC, 758 F.2d 669, 674 (D.C. Cir. 2015).

[22] 5GAA Petition for Reconsideration, *supra* note 11 at 8.

[23] Report and Order, *supra* note 2 at ¶ 109.

willing to make even a tentative commitment in the record to install C-V2X in any vehicles in the foreseeable future.[24]

The National Highway Traffic Safety Administration (NHTSA) concluded in 2014 that to even determine if V2V safety communications is reliable, all new vehicles would need to be equipped for a period long enough to ensure full penetration of the fleet nationwide.[25] NHTSA concluded that given the costs and lack of demand for this from consumers, ubiquitous deployment would be untenable without a government mandate.[26]

Moreover, even with a mandate, it would be decades before consumers could rely on the technology for critical safety-of-life scenarios. As NHTSA concluded with respect to DSRC: "Even if the market drives faster uptake by consumers of aftermarket devices (if, for example, auto insurance companies offer discounts for installing the devices), which would increase the ability of V2V devices to find each other earlier on, it will still take 37 years before we would expect the technology to fully penetrate the fleet."[27] This same fundamental challenge confronts C-V2X. In fact, the timeline and costs of deployment could be far greater given that the technology is at an earlier phase of research and development than DSRC was at the time of

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[24] Ford recently expressed a "hope[] to begin deploying this technology" in 2022, but conditioned on undefined "supportive policies" being "in place." Comments of the Ford Motor Company on Further Notice of Proposed Rulemaking at 5, 13, ET Docket No. 19-138 (filed June 2, 2021).

[25] *See* Michael Calabrese and Amir Nasr, "The 5.9 GHz Band: Removing the Roadblock to Gigabit Wi-Fi," New America Report (July 9, 2020), https://www.newamerica.org/oti/reports/59-ghzband/ ("OTI 5.9 GHz Report"), at 22.

[26] National Highway Traffic Safety Administration (NHTSA), Department of Transportation (DOT) NPRM, Docket No. NHTSA-2016-0126, at 4000 (Jan. 12, 2017), available at https://www.federalregister.gov/documents/2017/01/12/2016-31059/federal-motor-vehicle-safety-standards-v2v-communications ("Without a mandate to require and standardize V2V communications, the agency believes that manufacturers will not be able to move forward in an efficient way and that a critical mass of equipped vehicles would take many years to develop, if ever.").

[27] Harding, J. et al., *Vehicle-to-vehicle communications: Readiness of V2V Technology for Application*, National Highway Traffic Safety Administration, Report No. DOT HS 812 014, at 24 (Aug. 2014) ("V2V Readiness Report").

NHTSA's *V2V Readiness Report* in 2014.[28] Moreover, V2I safety communication will require every state and/or local jurisdiction to make expensive investments in roadside units, sensors, and other infrastructure that the Government Accountability Office has concluded is unlikely to be feasible absent a mandate and billions of dollars in federal subsidies.[29]

C. Granting a Stay Would Harm Other Interested Parties Including ISPs and Consumers.

The third *Jobbers* factor also weighs against 5GAA's request because granting a stay would significantly harm other interested parties. As NCTA recently explained in its opposition AREDN's Petition for Stay of the same Order that 5GAA finds objectionable, "a stay of the Commission's 5.9 GHz rules would harm NCTA's members, other unlicensed network operators, and American consumers demanding additional unlicensed spectrum resources."[30]

As the Commission itself recognized, quickly expanding access to unlicensed spectrum within the 5.9 GHz band is critical to meet the increased demand for spectrum to meet our nation's Wi-Fi needs.[31] Granting a stay would significantly impede the ISPs that are depending

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[28] National Highway Traffic Safety Administration (NHTSA), Department of Transportation (DOT) NPRM, Docket No. NHTSA-2016-0126, at 4000 (Jan. 12, 2017), available at https://www.federalregister.gov/documents/2017/01/12/2016-31059/federal-motor-vehicle-safety-standards-v2v-communications; Letter of Competitive Enterprise Institute, American Commitment, Niskanen Center, Reason Foundation, and R St. Institute to Transportation Secretary Elaine Chao (April 3, 2017), https://cei.org/sites/default/files/Letter%20to%20USDOT%20on%20V2V%20April032017.pdf.

[29] U.S. Government Accountability Office, "Intelligent Transportation Systems: Vehicle-to-Infrastructure Technologies Expected to Offer Benefits, but Deployment Challenges Exist," Report to Congressional Requesters (September 2015), at 21-22 ("Many states and localities may lack resources for funding both V2I equipment and the personnel to install, operate and maintain the technologies. ... state budgets are the leanest they have been in years. Furthermore, traditional funding sources, such as the Highway Trust Fund, are eroding, and funding is further complicated by the federal government's current financial condition and fiscal outlook.").

[30] NCTA Opposition to AREDN's Petition for Stay at 12.

[31] Report & Order, *supra* note 2 at ¶ 2; *See also* Statement of Chairman Ajit Pai, *Re: Use of the 5.850-5.925 GHz Band*, First Report & Order, ET Docket No. 19-138 at 137 (rel. Nov. 20, 2020) ("there is a pressing need for us to allocate additional spectrum for unlicensed operations. The

on the Commission's recently promulgated rules. As NCTA explains: "These ISPs have been planning their 5.9 GHz deployment strategies based on the Commission's decision, awaiting the establishment of the effective date for the rules."[32] Granting a stay would disrupt "[d]eployment plans, equipment purchase schedules and, most importantly, the ability of these companies to improve Wi-Fi service for consumers."[33] This is particularly problematic as a stay "could halt chipmaker and OEM investment in and development of the software necessary for ISPs, such as NCTA's members, to deploy 5.9 GHz in existing equipment, as well as inhibit the development of new 5.9 GHz-capable equipment."[34]

Moreover, 5GAA underplays the significant need for spectrum access in the 5.9 GHz band to the detriment of more than 100 ISPs and their customers. In recognition that the demand for unlicensed access to spectrum far exceeds what is currently available, the Commission granted STAs that allowed access to the lower 5.9 GHz band for unlicensed use in advance of the Commission's Order.[35] As PK explained in its Opposition to AREDN's earlier Petition for Stay, "No licensees opposed these STAs, and no licensee has reported any incidents of harmful interference resulting from these STAs."[36] NCTA rightly claimed in Opposition to AREDN's Petition for Stay that granting a stay would "negatively impact over 100 wireless Internet service providers that rely on STAs to bring better broadband access to more Americans during the pandemic, potentially cutting off customers that have benefitted from access to this largely unused band."[37]

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pandemic has underscored that consumers need access and more bandwidth to be able to engage in telework, remote learning, telehealth, and other broadband-related services.").

[32] NCTA, Opposition to AREDN's Petition for Stay, ET Docket No. 19-138, at 12 (May 10, 2021) [hereinafter NCTA Opposition to AREDN's Petition for Stay].

[33] *Id.* at 13

[34] *Id*.

[35] Statement of Chairman Ajit Pai, *supra* note 31.

[36] Public Knowledge, Opposition to AREDN's Petition for Stay at 4.

[37] NCTA Opposition to AREDN's Petition for Stay at 13.

There is significant evidence before the Commission that granting a stay would harm other interested parties. Thus, the third *Jobbers* factor also weighs against granting 5GAA's stay request.

D. 5GAA Fails to Address How the FCC Can Grant a Stay Without Harming the Public Interest.

5GAA fails to address the public interest impact of delaying the Order by simply claiming that the same speculative harm to C-V2X technology that may affect its members will also hurt the public,[38] 5GAA completely ignores the public interest benefits of the Order. The Order provided a detailed description of the need for additional spectrum for unlicensed access, including the specific importance of opening up 45 megahertz of spectrum for unlicensed use at the bottom of 5.9 GHz band.[39] Part of the anticipated benefit to the public is the speed with which parties could deploy new equipment and services based on the adjacency of the 5.8 GHz U-NII-3 band and the newly opened 6 GHz band.[40] The combination of the U-NII-3 and U-NII-4 bands for full-power use indoors can quickly provide consumers with the unique benefits of gigabit throughput, low latency and whole-home coverage required for modern applications. The FCC should yet again reject 5GAA's deeply-flawed argument that the 6 GHz band serves as a reason to postpone the availability of 5.9 GHz spectrum, as it did in the Order.[41] The FCC concurred with consumer advocates and other stakeholders that adding 45 megahertz to existing Wi-Fi operations in the adjacent U-NII-3 band creates unique benefits that are squarely in the public interest and none of the arguments raised by 5GAA now concerning unlicensed access in other bands are in any way new and therefore fail to meet the standard necessary to grant the Petition for Stay.

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[38] 5GAA Petition for Stay, *supra* note 1 at 5.
[39] Report and Order, supra note 2, at ¶¶ 14-21.
[40] *Id*. at ¶¶ 22-25.
[41] 5GAA Petition for Stay, *supra* note 1 at 6; *Id.* at ¶ 5.

5GAA also fails to account for the public's increasingly salient need for gigabit-fast and affordable Wi-Fi. As fixed broadband speeds increase, the number of connected devices in the home grows, and mobile data offloaded onto the fixed network skyrockets with 4G LTE migrating towards more bandwidth-intense 5G applications and services, Wi-Fi must keep pace. The country's experience during the pandemic over the past 18 months has demonstrated that home connections must support multiple devices engaged in high-bandwidth, low-latency applications simultaneously. In a world where every member of a household may need to work or learn from home at the same time, the need for increased Wi-Fi capacity is obvious and irrefutable.

Furthermore, the FCC did not rely solely on the need for gigabit Wi-Fi in finding that the public interest supported reallocation. The FCC specifically noted the increasing congestion of unlicensed bands as consumer demand and the share of mobile data offloaded using Wi-Fi has skyrocketed—a factor the FCC has found highly relevant since it first proposed permitting unlicensed spectrum in 5.9 GHz.[42] Additionally, the FCC found that supplementing the adjacent U-NII-3 band with 45 megahertz from the lower U-NII-4 band would significantly enhance fixed wireless broadband services in rural, Tribal, and other underserved areas.[43] 5GAA challenges none of these findings. 5GAA merely alleges purported harms unsupported by the extensive record developed by the FCC. Without this urgently-needed spectrum, consumers will continue to experience congested Wi-Fi, mobile networks, and rural broadband as demand for such services have skyrocketed during the COVID-19 pandemic.

[42] F.C.C., Notice of Proposed Rulemaking, In the Matter of Use of the 5.850-5.925 GHz Band, at ¶¶ 13-15 (rel. Dec. 17, 2019), https://ecfsapi.fcc.gov/file/1217200308588/FCC-19-129A1.pdf.
[43] Report & Order, supra note 2, at ¶¶ 27-28.

Because 5GAA does not explain how the FCC may grant a stay without assuaging the harms to the public interest that would arise as a result of pausing the FCC's new rules, the Commission should deny its Petition for Stay.

III. CONCLUSION

The Commission should not grant 5GAA's Petition for Stay because none of the *Jobbers* factors weigh in its favor. First, 5GAA's Petition for Reconsideration is unlikely to succeed on the merits because 5GAA relies on impermissible new facts and arguments that it could have easily presented prior to the Commission's issuance of the Order. Second, 5GAA's claims that the Order will cause irreparable harm are speculative at best as automakers have not yet adopted C-V2X technology in any meaningful way. Third, granting a stay would harm other interested parties as it will interrupt plans that are already underway to roll out new unlicensed technologies and will disrupt the STAs the Commission has already granted within the 5.9 GHz band. Finally, 5GAA fails to address the numerous public interest benefits of quickly opening up the 5.9 GHz band for unlicensed use that the Commission outlined in the NPRM and the Report and Order. Because these factors all weigh against granting a stay, the Commission should deny 5GAA's Petition for Stay.

Respectfully submitted,

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