

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	
Joint Request for Waiver of 5.9 GHz Band)	ET Docket No. 19-138
Rules to Permit Initial Deployments of Cellular)	
Vehicle-to-Everything Services)	
)	

COMMENTS OF THE ALLIANCE FOR AUTOMOTIVE INNOVATION

The Alliance for Automotive Innovation (“Auto Innovators”), which represents the automotive ecosystem in the U.S., including automakers, suppliers, and technology companies, hereby submits comments in support of the request for waiver (“Waiver Request”) of the Federal Communications Commission’s (“FCC” or “Commission”) 5.850-5.925 GHz band (“5.9 GHz band”) rules filed by several automakers, state departments of transportation, and equipment manufacturers (collectively, the “Waiver Parties”).¹ Grant of the Waiver Request will permit rapid deployment of Cellular Vehicle-to-Everything (“C-V2X”) technology in the 5.895-5.925 GHz band (“Upper 5.9 GHz band”), helping to further the Commission’s goal to “improve transportation and vehicular-safety related applications” for years to come.²

¹ See Utah Department of Transportation *et al.* Request for Waiver of the 5.9 GHz Band Rules to Permit Initial Deployments of Cellular Vehicle-to-Everything Technology, ET Docket No. 19-138 (filed Dec. 13, 2021) (“Waiver Request”); Letter from Emily Frascaroli, Global Director, Automotive Safety Office, Ford Motor Company *et al.*, to Marlene H. Dortch, Secretary, Federal Communications Commission, ET Docket No. 19-138 (filed Apr. 20, 2022) (“Waiver Supplement”).

² *Use of the 5.850-5.925 GHz Band*, Report and Order, ET Docket No. 19-138, at ¶ 26 (2020) (“5.9 GHz Report & Order”).

I. INTRODUCTION

The Commission should promptly grant the Waiver Request to permit the Waiver Parties to use the Upper 5.9 GHz band to begin deploying C-V2X technology. Grant of the Waiver Request would be in the public interest for several reasons. *First*, a grant will allow automakers, state departments of transportation, and C-V2X manufacturers to deploy ITS technology to help address a growing traffic safety crisis in the U.S. The National Highway Transportation Safety Administration (“NHTSA”) estimates that 42,915 people died in motor vehicle traffic crashes last year, representing the deadliest year on American highways since 2005.³ *Second*, grant will help ensure that the technology can be implemented into the vehicle models at the design stage and delivered to consumers expeditiously. *Third*, an expedited grant of the Waiver Request will also help to ensure that the U.S. remains competitive in global automotive innovation and does not fall behind other countries.

If the Commission grants the Waiver Request, however, it should specify technical requirements that ensure that C-V2X stakeholders can make effective use of the entirety of the 30 megahertz in the Upper 5.9 GHz band. C-V2X stakeholders now have less than half of the 75 megahertz of spectrum that was originally allotted for ITS, and the Commission should guarantee that automotive safety applications can be deployed through the entirety of the Upper 5.9 GHz band without the threat of harmful interference.

³ Press Release, Newly Released Estimates Show Traffic Fatalities Reached a 16-Year High in 2021, National Highway Transportation Safety Administration (May 17, 2022), *available at* <https://www.nhtsa.gov/press-releases/early-estimate-2021-traffic-fatalities>.

II. THE COMMISSION SHOULD EXPEDITIOUSLY GRANT THE WAIVER REQUEST TO FACILITATE THE DEPLOYMENT OF C-V2X TECHNOLOGY IN THE U.S.

The Commission should quickly grant the C-V2X Waiver Request to address the “pent-up demand” among automakers, state departments of transportation, and C-V2X manufacturers to begin deployment of C-V2X onboard unit (“OBU”) and roadside unit (“RSU”) technology in the Upper 5.9 GHz band immediately.⁴ The Commission has recognized that time is of the essence. In the *5.9 GHz Report & Order*, the Commission established a waiver process for C-V2X deployments in recognition that automotive industry stakeholders want to deploy the new ITS technology “as soon as possible.”⁵ While the Commission’s *5.9 GHz FNPRM* proposes to fully transition the Upper 5.9 GHz band to C-V2X two years after the effective date of a future second report and order, automotive industry stakeholders cannot wait until then to begin rollout.⁶ As evidenced by the Waiver Request, Waiver Supplement, and other recently filed C-V2X waiver requests, the automotive ecosystem has planned C-V2X deployments and is ready to begin integrating C-V2X technology into vehicles and initiate OBU and RSU rollout now.⁷

⁴ See Notice of Ex Parte Meeting, Alliance for Automotive Innovation, ET Docket Nos. 19-138, 21-264, at 1 (filed June 1, 2022).

⁵ *5.9 GHz Report & Order* ¶ 95. Although Auto Innovators maintains that the Commission erred in reallocating the lower 45 megahertz of the 5.9 GHz band for unlicensed use, that question is currently before the D.C. Circuit and its resolution does not impact the timeline of the C-V2X transition in the Upper 5.9 GHz band, or the Commission’s ability to grant waivers for C-V2X operation in the band. See *Intelligent Transportation Society of America et al. v. Federal Communications Commission et al.*, Case No. 21-1130.

⁶ *Use of the 5.850-5.925 GHz Band*, Further Notice of Proposed Rulemaking, ET Docket No. 19-138 (2020) (“*5.9 GHz FNPRM*”).

⁷ See, e.g., Waiver Request at 3-4 (listing planned deployments of Audi of America, Ford Motor Company, Jaguar Land Rover, the Utah Department of Transportation, the Virginia Department of Transportation, Applied Information, Inc., and other C-V2X equipment manufacturers); Waiver Supplement at 3-4 (“All equipment manufacturers party to the C-V2X Joint Waiver Request are capable of manufacturing both C-V2X RSUs and OBUs. Prior to commercial deployment, the automaker parties to this waiver request can notify the Commission of the

Grant of the Waiver Request is merited because it would be in the public interest.⁸ The Commission recognizes, there is a “critical need to promote the ‘widespread deployment of [Intelligent Transportation System] services to the American automotive public,’”⁹ and grant of the C-V2X Waiver Request would help address that need. As Auto Innovators has asserted in numerous previous filings, V2X applications provide a multitude of traffic safety benefits, including prevention of non-line-of-sight automotive accidents; driver alerting to the presence of vulnerable road users, including pedestrians, bicyclists, and public safety personnel; red light notifications; weather alerts; vehicle-to-vehicle safety communications; and vehicle-to-infrastructure communications.¹⁰ The Commission should not make industry wait to deploy these lifesaving technologies. Indeed, as stated above, NHTSA’s estimate that 42,915 people died in motor vehicle traffic crashes last year, would, if accurate, represent the deadliest year on the road since 2005, and the largest annual percentage increase in automotive deaths that NHTSA’s Fatality Analysis Reporting System has ever recorded.¹¹ Prompt grant of the Waiver

manufacturer(s) of the C-V2X OBUs employed in their vehicles.”); Public Safety and Homeland Security Bureau Seeks Comment on Waiver Requests from Intelligent Transportation System Licensees to Use C-V2X Technology in the 5.895-5.925 GHz Band, Public Notice, ET Docket No. 19-138 (rel. June 7, 2022); Ohio Department of Transportation/DriveOhio Request for Waiver of 5.9 GHz Band Rules to Permit Deployments of Cellular Vehicle-to-Everything Technology, ET Docket No. 19-138 (filed June 10, 2022); New York City Department of Transportation Request for Waiver of 5.9 GHz Band Rules to Permit Deployments of Cellular Vehicle-to-Everything Technology, ET Docket No. 19-138 (filed July 1, 2022).

⁸ See 47 C.F.R. § 1.925(b)(3)(i).

⁹ Waiver Request at 3 (citing *5.9 GHz Report & Order* ¶ 36).

¹⁰ Alliance for Automotive Innovation Reply to Oppositions to Petition for Reconsideration, ET Docket No. 19-138, at 6-7 (filed Aug. 2, 2021); Reply Comments of the Alliance for Automotive Innovation, ET Docket No. 19-138, at 7-8, 13-14 (filed July 2, 2021) (“July 2 Auto Innovators Reply Comments”).

¹¹ The NHTSA Fatality Analysis Reporting System “contains data on a census of fatal traffic crashes within the 50 States, the District of Columbia, and Puerto Rico” since 1975. “To be included in FARS, a crash must involve a motor vehicle traveling on a traffic way customarily open to the public, and must result in the death of a vehicle occupant or a nonoccupant within 30

Request would allow the Waiver Parties to begin C-V2X deployments in the upcoming vehicle models, which will help combat the growing traffic safety crisis now.

In addition, an expedited grant of the Waiver Request is necessary to ensure that lifesaving C-V2X technology is integrated into the vehicle models at the design stage. Auto Innovators has previously explained that “automotive manufacturers face ‘especially long and complex production cycles.’”¹² As such, “it is difficult or impossible to make changes to component parts of the vehicle after it is designed.”¹³ The Commission’s grant of the Waiver Request, however, would provide much-needed regulatory certainty to both the Waiver Parties, and other automotive industry and state department of transportation stakeholders preparing for the C-V2X transition.¹⁴ Auto Innovators therefore encourages the FCC to act quickly so that the automotive industry can incorporate C-V2X receivers into vehicle models at the design stage and enhance automotive safety while creating transportation efficiencies to the benefit of the American public.

III. PROMPT GRANT OF THE C-V2X WAIVER REQUEST WILL PRESERVE AMERICAN LEADERSHIP IN AUTOMOTIVE INNOVATION AND FACILITATE INTERNATIONAL HARMONIZATION.

The Commission’s expeditious grant of the Waiver Request will also ensure that “America remains at the forefront of global automotive innovation” while promoting

days of the crash.” *Fatality Analysis Reporting System*, National Highway Transportation Safety Administration, <https://www.nhtsa.gov/crash-data-systems/fatality-analysis-reporting-system> (last visited July 14, 2022).

¹² See Comments of the Alliance for Automotive Innovation, ET Docket No. 22-137, at 6 (filed June 27, 2022) (citing Comments of the Alliance for Automotive Innovation, GN Docket No. 21-140, at 3 (filed June 7, 2021) (“June 7 Auto Innovators Comments”)).

¹³ June 7 Auto Innovators Comments at 3.

¹⁴ See Alliance for Automotive Innovation Comments, ET Docket No. 19-138, at 3 (filed June 2, 2021) (“June 2 Auto Innovators Comments”) (“C-V2X users need long-term authorizations for business planning and certainty.”).

international harmonization of C-V2X standards.¹⁵ Without FCC action, however, the U.S. could quickly fall behind the global competition. As the Waiver Parties note, a growing number of automakers have already launched or are planning to launch C-V2X OBUs in China, and Chinese transportation officials have already deployed 7,000 C-V2X RSUs, with hundreds of thousands more to come by 2025.¹⁶ Closer to home in North America, Mexican and Canadian authorities have launched regulatory proceedings to accommodate C-V2X operations in the 5.9 GHz band.¹⁷ In addition to ensuring the U.S. remains technologically competitive, rapid deployment of C-V2X in the Upper 5.9 GHz band will promote international harmonization of the automotive safety technology across countries, thereby creating manufacturing efficiencies and economies of scale.

IV. THE COMMISSION SHOULD ENSURE THAT THE ENTIRE UPPER 5.9 GHZ BAND IS PRESERVED FOR C-V2X OPERATION.

If the Commission proceeds with granting the Waiver Request, it should impose technical requirements that help protect all users of the band from harmful interference. Auto Innovators encourages the Commission to adopt out-of-band emission (“OOBE”) interference limits that ensure “C-V2X deployments in the full 30 MHz band.”¹⁸ Indeed, C-V2X applications will

¹⁵ July 2 Auto Innovators Reply Comments at 9.

¹⁶ Waiver Supplement at 1-2.

¹⁷ *See id.* at 2; Waiver Request at 3-4 (noting that Audi AG already announced that it is integrating “5G mobile communication and C-V2X technology into production vehicles for China, with launches in other markets expected to follow soon”).

¹⁸ Waiver Request at 7, n.14. Auto Innovators has previously argued that a -27 dBm/MHz OOBE peak power limit is necessary to allow V2X licensees to operate in the entire Upper 5.9 GHz band without the threat of harmful interference from U-NII-4 unlicensed operators. *See* Comments of the Alliance for Automotive Innovation, ET Docket No. 19-138, at 3 (filed July 22, 2021). Indeed, testing from CAMP, LLC demonstrates that excessive U-NII-4 OOBE levels in the Upper 5.9 GHz band interfere with C-V2X operations, and that a -27 dBm/MHz OOBE root mean square limit is insufficient to prevent such harmful interference. *See* Letter from Sean

require interference-free use of the *entire* 30 megahertz of the Upper 5.9 GHz band for auto safety applications, given that automakers, state departments of transportation, and equipment manufacturers are operating with less than half of the 75 megahertz initially allocated to ITS. As such, the Commission should adopt OOB limits that “maximize the utility of the upper 30 megahertz of the 5.9 GHz band . . . given V2X’s reduced spectrum allotment.”¹⁹

T. Conway, Counsel to 5GAA, to Marlene H. Dortch, Secretary, FCC (filed Oct. 1, 2021) (summarizing testing by the CAMP LLC C-V2X Communications Consortium).

¹⁹ See June 2 Auto Innovators Comments at 8.

V. CONCLUSION

The Commission's prompt grant of the Waiver Request will serve the public interest by providing the Waiver Parties and other automotive ecosystem stakeholders with the regulatory certainty needed to prepare for the deployment of cutting-edge C-V2X safety applications. Rapid grant will also help address a growing U.S. automotive safety crisis, maintain American competitiveness in automotive innovation, and encourage harmonized global deployment of C-V2X technologies in the Upper 5.9 GHz band. To guarantee successful deployment, however, the FCC must promulgate sufficient OOB interference limits to ensure that C-V2X operations can make use of the entire 30 megahertz of the Upper 5.9 GHz band, free from interference from unlicensed users.

Respectfully submitted,

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