Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
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Office of Engineering and Technology and Wireless Telecommunications Bureau Seek Comment on 5GAA Petition Waiver to Allow Deployment of Cellular Vehicle-To-Everything (C-V2X) Technology in the 5.9 GHz Band	)	GN Docket No. 18-357

COMMENTS OF T-MOBILE USA, INC.

T-Mobile USA, Inc. ("T-Mobile")[1/] submits these comments in support of the petition for waiver ("Waiver Request") of the 5G Automotive Association ("5GAA"), seeking authority to deploy Cellular Vehicle to Everything ("C-V2X") technology within the upper 20 megahertz of the 5.850-5.925 GHz band ("5.9 GHz band").[2/] Grant of the Waiver Request will remove a regulatory barrier to near-term deployment of C-V2X, unleash new investment and innovation in this technology, and ensure America's continued global leadership in the development and evolution of C-V2X.

Consumers increasingly expect and demand connectivity everywhere, including as part of their in-vehicle experience. As a result, it is expected that there will be 500 million connected

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1/ T-Mobile USA, Inc. is a wholly-owned subsidiary of T-Mobile US, Inc., a publicly traded company.

2/ 5G Automotive Association Petition for Waiver to Allow Deployment of Intelligent Transportation System Cellular Vehicle to Everything (C-V2X) Technology, GN Docket No. 18-357 (filed Nov. 21, 2018); *Office of Engineering and Technology and Wireless Telecommunications Bureau Seek 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, DA 18-1231 (rel. Dec. 6, 2018). The Office of Engineering and Technology and the Wireless Telecommunications Bureau extended the comment and reply comment deadlines. *Office of Engineering and Technology and Wireless Telecommunications Bureau Extend Comment Cycle Deadlines on 5GAA Petition for Waiver to Allow Deployment of Cellular Vehicle-to-Everything (C-V2X) Technology in the 5.9 GHz Band*, Public Notice, DA 18-1310 (rel. Dec. 31, 2018).

vehicles on the road worldwide by 2022.[3/] These vehicles will offer consumers a host of features that improve safety, productivity, and convenience. For example, connected vehicles will enable:

- Emergency service applications that connect drivers with roadside assistance, provide automatic crash notifications, and track stolen vehicles.
- Safe driver applications, such as those designed to detect and prevent fatigue or allow parents to track teen drivers.
- Fleet management applications that allow businesses to more efficiently manage their fleet operations.

These services will be delivered over secure and reliable wireless carrier networks that are deployed and maintained by private sector investment, particularly as carriers implement Fifth Generation ("5G") wireless technologies. Connected vehicles will leverage these investments through the development of new applications that will profoundly benefit the transportation sector.

C-V2X technology is expected to fit seamlessly into this connected transportation ecosystem. It offers two modes of vehicular communications: network mode and peer-to-peer mode. Network mode enables communications similar to today's carrier networks, in which traffic is routed through the provider's network. Peer-to-peer mode enables direct vehicle-to-vehicle, vehicle-to-roadside infrastructure (*e.g.*, traffic lights), and vehicle-to-pedestrian communications that do not travel through the network.

A grant of 5GAA's Waiver Request will advance the development of both modes of C-V2X communications. In particular, a grant will allow for the near-term deployment of this technology and unleash increased investment and innovation in all forms of C-V2X applications. This investment and innovation will allow consumers to enjoy new and improved services that

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3/ *Cars Integrate with Smart Homes*, Consumer Technology Association (Jan. 9, 2019), https://www.cta.tech/News/i3/Articles/2019/January-February/Cars-Integrate-with-Smart-Homes.aspx.

will advance travel safety, productivity, mobility, and convenience and reduce energy consumption.

Grant of the Waiver Request will also help facilitate America's global leadership in C-V2X. Regulators in China recently adopted an allocation for C-V2X in the 5.9 GHz band, and policymakers in other regions of the world are contemplating similar actions.[4/] If the Commission does not permit C-V2X deployment in the U.S., America risks falling behind as this technology continues to progress. In contrast, a grant of the Waiver Request will help ensure America's leadership in C-V2X. This is particularly true given the recent announcement from Ford Motor Company – America's second largest automotive manufacturer – that it will equip all of its vehicles with C-V2X beginning in 2022.[5/]

Consumers are increasingly demanding connected vehicle services to improve the safety, efficiency, and environmental sustainability of their automotive travel. A grant of 5GAA's Waiver Request will allow for the near-term deployment of this technology, drive additional innovation and investment in all types of C-V2X applications, and ensure America's global leadership in this technology. T-Mobile therefore urges the Commission to grant this waiver.

4/ *See* Stephen Lawson, *C-V2X's Momentum in China May Drive Connected-Car Development*, TU-Automotive (Nov. 7, 2018), https://www.tu-auto.com/c-v2xs-momentum-in-china-may-drive-connected-car-development/; *see also* WHITE PAPER ON ITS SPECTRUM UTILIZATION IN THE ASIA PACIFIC REGION, 5GAA, http://5gaa.org/wp-content/uploads/2018/07/5GAA_WhitePaper_ITS-spectrum-utilization-in-the-Asia-Pacific-Region_FINAL_160718docx.pdf.

5/ *See* Don Butler, *How "Talking" and "Listening" Vehicles Could Make Roads Safer, Cities Better*, MEDIUM (Jan. 7, 2019), https://medium.com/@ford/how-talking-and-listening-vehicles-could-make-roads-safer-cities-better-f215c68f376f.

Respectfully submitted,

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