

November 28, 2018

**VIA ELECTRONIC SUBMISSION:** <http://apps.fcc.gov/ecfs/>

Marlene Dortch, Secretary  
Federal Communications Commission  
445 12<sup>th</sup> Street, SW  
Room TW-A325  
Washington, D.C. 20554

**Re: ET Docket No. 13-49**

Dear Secretary Dortch:

The Truck and Engine Manufacturers Association (“EMA”) hereby submits comments on the Federal Communications Commission’s (“FCC’s”) Public Notice titled *Office of Engineering and Technology Requests Comment on Phase I Testing of Prototype U-NII-4 Devices*, DA 18-1111, dated October 29, 2018 (“Public Notice”). With the Public Notice, the FCC’s Office of Engineering and Technology (“OET”) invited input on the results of the first phase of the testing to evaluate potential sharing solutions between Unlicensed National Information Infrastructure (“U-NII”) devices and Dedicated Short Range Communications (“DSRC”) operations in the 5,850-5,925 MHz frequency band (“5.9 GHz band”).

DSRC uses short-range wireless communications links in the 5.9 GHz band to facilitate information transfer between appropriately-equipped vehicles (“vehicle-to-vehicle” or “V2V”) and between vehicles and the surrounding environment (“vehicle-to-everything” or “V2X”). Further, the U.S. Department of Transportation (“DOT”) anticipates that V2V and V2X communications will be an important element of the emerging Automated Driving Systems (“ADS”) and is working to preserve the entire 5.9 GHz band for transportation safety applications. See, *Preparing for the Future of Transportation: Automated Vehicles 3.0*, U.S. DOT, October 4, 2018. We agree with DOT and strongly believe that DSRC operations in the 5.9 GHz band will be crucial to achieving the important safety benefits of V2V, V2X, and ADS.

EMA is a trade association representing the world’s leading manufacturers of heavy-duty engines and commercial motor vehicles (with a gross vehicle weight rating greater than 10,000 pounds). EMA member companies design and produce medium- and heavy-duty vehicles that are highly customized to perform a wide variety of commercial functions, including line-haul trucking, regional trucking, package delivery, refuse hauling and construction. EMA member companies are taking active steps toward the deployment of DSRC in the 5.9 GHz band for V2V and V2X communications. One of the near-term applications of V2V communications in heavy-duty vehicles is platooning of two or more tractor-trailer combination vehicles. Platooning involves establishing an electronic coupling to simultaneously control the acceleration and braking of the

vehicles in order to safely minimize the gap between them to reduce aerodynamic drag and improve fuel efficiency.

Utilizing the 5.9 GHz band, DSRC technology provides V2V and V2X transmissions that are secure, reliable and fast (up to ten times per second). Through low-latency communications, vehicles can communicate their relative location, speed and direction. Such constant 360° situational awareness -- around corners and in all ambient conditions -- shows great promise in eliminating some vehicle collisions and reducing the severity of others. In the case of platooning multiple tractor-trailer combination vehicles, rapid and interference-free communication is crucial to simultaneously control the acceleration and braking of all vehicles. By utilizing DSRC over the 5.9 GHz band to electronically link the vehicles, the gap between the lead and following vehicles can be safely reduced from the normal following distances that are needed to account for drivers' reaction time. By minimizing the gap between platooned vehicles, the aerodynamic drag of the following vehicle is greatly reduced. Additionally, the aerodynamic drag of the lead vehicle in the platoon is reduced, although not as much as the following vehicle. Those reductions in aerodynamic drag translate directly into significant improvements in the fuel efficiency of line-haul trucking operations.

FCC's OET has established a three-phase test plan to evaluate potential sharing solutions between U-NII devices and DSRC operations in the 5.9 GHz band. The three phases of that test plan are: (I) testing to determine the technical characteristics of prototype unlicensed devices and how they are designed to avoid causing harmful interference with DSRC, (II) vehicle testing with DOT to determine whether those techniques to avoid interference with DSRC are effective in the field, and (III) tests with many more vehicles, more test devices, and real-world scenarios. While the results of the Phase I testing are encouraging, we agree with the conclusions of the October 22, 2018, peer review memo that was included with the Phase I test report that the data collected should be further used in live vehicle conditions with more complex traffic environments to assess the impacts of real-world noises that may not have been evaluated.

We look forward to FCC following through with the remaining two planned test phases to fully evaluate potential sharing solutions for the 5.9 GHz. In particular, FCC should work closely with DOT in field testing of unlicensed devices in actual vehicle operations and subsequently in a wide variety of real-world environments. Any potential sharing solutions must be thoroughly validated before permitting unlicensed devices to share any frequency in the 5.9 GHz band. It is critically important that FCC only permit sharing if it will not interfere with the timeliness and reliability of vehicle safety communications.

If you have any questions, or if there is any additional information we could provide, please do not hesitate to contact Timothy Blubaugh at (312) 929-1972, or [tblubaugh@emamail.org](mailto:tblubaugh@emamail.org).

Respectfully submitted,

TRUCK & ENGINE  
MANUFACTURERS ASSOCIATION