

FCC Proposal on the Use of the 5.9 GHz Band

REPLY COMMENT SYNOPSIS

INTRODUCTION

Similarly to the overwhelming proportion of comments opposed to the NPRM in the initial comment period for the Federal Communications Commission's (FCC) 5.9 GHz Band proceeding, the record established by the reply comments once again displays that the depth and diversity of groups opposed to reallocation of the 5.9 GHz Band far outweighs those who support of the FCC's plan – 64 comments opposed band reallocation with only 11 in favor of the proposal. State and city departments of transportation, safety groups, technology companies, automakers, technical experts, first responders, and many others submitted compelling arguments in support of maintaining the full 75 MHz of the 5.9 GHz Band for vehicle communications, echoing the nation's premier authority on transportation safety, the U.S. Department of Transportation (USDOT).

A significant majority of commenters in this proceeding specifically commented on how the FCC's action would directly harm safety in our transportation system and articulated the impact of that loss of safety, including loss of life, damage to property, increased congestion, and the economic consequences it would entail. They convincingly maintain that reallocating a majority of the spectrum available for Vehicle-to-Everything (V2X) technology would leave insufficient spectrum for this important technology to function. Commenters routinely referenced USDOT research, which indicates that unlicensed devices operating in the lower 45 MHz of spectrum would likely cause significant interference with V2X technologies operating in the remaining 30 MHz. Commenters also discussed various FCC actions to introduce regulatory uncertainty regarding the 5.9 GHz Band and how these actions have dramatically reduced current deployment of these life-saving technologies.

Commenters submitted evidence to refute the economic arguments presented by supporters of band reallocation, clearly articulating how the economic savings accompanying the safety and congestion benefits of V2X technologies far outpace the economic benefits that might be gained by reallocating an additional 45 MHz of spectrum to unlicensed devices, particularly after the FCC recently provided unlicensed devices with 1200 MHz of spectrum in the 6 GHz Band. They compellingly argue that the Commission's legal obligations towards public safety spectrum licensees should prevent the FCC from moving forward with this draconian proposal. Many commenters requested that the FCC enter into a negotiated rulemaking with USDOT to create a band plan that is workable for the transportation community and protects lifesaving V2X technologies. This request was given extra weight with the new announcement of the auto industry's pledge to deploy at least five million V2X devices in vehicles over the next five years, which both tangibly increases safety and requires that the FCC allow sufficient spectrum for V2X to operate without harmful interference. Furthermore, the auto industry announced that it has reached a landmark consensus on how the 5.9 GHz Band will be used by the two leading V2X technologies – Cellular V2X (C-V2X) and Dedicated Short Range Communications (DSRC). This mitigates the technological uncertainty that the FCC lists as one of the main driving factors of its proposal. These developments eliminate the two major rationale the FCC has relied upon in advancing its proposal. The

FCC should heed the 85 percent of comments in both comment periods asking the Commission to withdraw its proposal to split up the 5.9 GHz Band and to work with USDOT to develop a spectrum plan that prioritizes saving lives in the U.S. transportation network.

Organizations Submitting Reply Comments:

Oppose the FCC Proposal

ITS America
5GAA
Alliance for Automotive Innovation
Airbus UM
Amateur Radio Emergency Data Network
American Association of State Highway and Transportation Officials
American Highway Users Alliance
American Public Transportation Association
American Trucking Associations
Applied Information Inc.
Argo AI, LLC
AT&T Services, Inc.
Autonomy Institute
CAR 2 CAR Communication Consortium
Center for Auto Safety
Cintra
Cirrus Aircraft
Commercial Vehicle Safety Alliance
Consumer Reports
Continental
Contra Costa Transportation Authority
DENSO International America, Inc.
DJI Technology, Inc.
DriveOhio
DSRC Auto Safety Coalition
Ford Motor Company
General Aviation Manufacturers Association
General Motors
Georgia Department of Transportation
Governors Highway Safety Association
American Honda Motor Co.
Hyundai America Technical Center, Inc.
Idaho Department of Transportation
Idaho Department of Transportation and others
IEEE 802 LAN/MAN Standards Committee
Institute of Transportation Engineers
International Association of Fire Chiefs
International Municipal Signal Association
ISO/TC 204 Intelligent Transport Systems

Juniper Networks
Montana Department of Transportation
Motor & Equipment Manufacturers Association
National Business Aviation Association
National Federation of the Blind
Nokia
North Dakota Department of Transportation
NXP Semiconductors
PrePass Safety Alliance
SAE International: V2X Core Technical Committee & Infrastructure Applications Technical Committee
Savari
SES Americom, Inc., Intelsat License LLC
Sibrtech inc.
South Dakota Department of Transportation
T-Mobile
Texas Department of Transportation
Toyota Motor North America
Trevilon LLC
Truck and Engine Manufacturers Association
Wyoming Department of Transportation

Organizations Supporting the NPRM

Broadcom, Inc. & Facebook Inc.
Citizens Against Government Waste
Comcast
Dynamic Spectrum Alliance
Engine
Innovation Economy Institute and others
International Center for Law & Economics
NCTA - The Internet & Television Association
New America's Open Technology Institute and others
Wi-Fi Alliance
Wireless Internet Service Providers Association

COMMENT EXCERPTS

ITS America: "The Comments in this proceeding do not provide an adequate legal, policy, economic or technical basis for the FCC to adopt the proposed band reallocation. Over 200 parties submitted comments in response to the NPRM. The vast majority of these Commenters, including ITS America, urged that the FCC withdraw its proposal to reallocate 45 MHz (5850-5895 MHz) of the 5850-5925 MHz band ("5.9 GHz Band") for use by unlicensed devices. The Comments reflected a consensus of the nation's transportation safety

experts and many serious concerns that the FCC proposal will harm transportation safety and otherwise disregards the vast positive economic and environmental benefits of V2X technologies.”

5G Automotive Association: “5G-based C-V2X Direct applications will help support highly advanced automated driving capabilities and revolutionize transportation safety. To unlock these benefits, the technology requires access to an additional 40 MHz of mid-band spectrum to enable burst transmissions of large quantities of data and persistent exchange of information between vehicles.”

Alliance for Automotive Innovation: “Commenters overwhelmingly agreed that the NPRM’s proposal is severely flawed in several respects. First, the proposal is contrary to the public interest and well-being and fails to properly account for the immense safety, societal, and economic benefits of dedicating spectrum for a life-saving technology like V2X. Second, the Commission’s proposal fails to ensure that V2X communications are adequately protected from harmful interference, and in so doing, effectively forecloses use of the band for any V2X technology. The Commission should heed commenters’ calls and reformulate the proposed 5.9 GHz band plan to allow V2X to flourish and deliver life-saving benefits to the American people.”

Amateur Radio Emergency Data Network: “The NPRM and comments of Wi-Fi promoters are remarkably silent about the severely detrimental effect that the FCC’s proposal would have on the federal ITS Program administered by US DoT. This is the elephant in the room that they do not want to talk about. The 5.9 GHz band allocation is indispensable to much of the ITS Program. If the FCC were to scuttle the spectrum allocation it would also torpedo the portions of the ITS Program that are premised on this spectrum allocation. This would negate the purpose and intent of Congress in enacting a significant amount of legislation that has mandated and funded this program. The FCC clearly disagrees with the policy choices made by the federal ITS Program. However, these policy choices were, by and large, made by Congress. The FCC does not have the luxury of substituting the agency’s policy choices for those of Congress.”

American Association of State Highway and Transportation Officials: “AASHTO appreciates the opportunity to provide these comments on the flawed and misguided changes proposed in the notice published by the FCC. As does nearly all of the transportation industry, AASHTO continues to oppose the proposal by FCC to reallocate use of the 5.9 GHz spectrum. We are optimistic about the pledge by the Alliance for Automotive Innovation to install five million connected vehicle radios in passenger vehicles over the next five years and look forward to working with them on a complementary infrastructure component. We believe public health interests that will be advanced through safety improvements supported by this band simply cannot be usurped in furtherance of for-profit motives.”

American Public Transportation Association: “APTA stands with the Department of Transportation and other transportation stakeholders in urging the FCC to ensure that the 5.9 GHz band stays dedicated to transportation safety. To do otherwise would not only put our passengers at risk but would also stem any progress made to deploy lifesaving transportation safety technology in our public transportation vehicles.”

American Trucking Associations: “ATA reiterates our recommendation that the full 75 MHz of spectrum in the 5.9 GHz band be preserved for V2X and that the FCC and US DOT proceed with the spectrum sharing testing that has already been started. ATA is concerned that the FCC does not have the appropriate expertise to properly evaluate the impact that potential rules changes in the 5.9 GHz band can have on the safety and efficiency of the nation’s roadways, nor the significant work and investment by industry and all levels of government that is needed to develop and deploy safety-critical technology in the transportation system. ATA endorses the negotiated rulemaking approach suggested by the US DOT in their comments in this proceeding as a means to address this concern.”

AT&T Services, Inc.: “Proponents of the proposal to allocate 45 MHz in the 5.9 GHz band to unlicensed use cite to the value of that reallocation provided in the RAND Corporation study (“RAND Study”) mentioned in the Notice and, to gloss over its shortcomings, to a similar study prepared by Wi-Fi Forward (“Wi-Fi Forward Study”). These studies are flawed for many reasons, including their inaccurate underlying assumptions and an absence of any recognition or analysis of the costs of reallocation. Even if accurate, the benefits cited by those proponents pale in comparison to the costs from reallocation in the form of foregone improvements in transportation safety and the foregone reductions in loss of human life, personal injuries, and property damage that would otherwise follow those safety improvements.”

Center for Auto Safety: “[T]he record clearly shows that the principle rationale cited for the proposed reallocation, slow development of the dedicated spectrum, is not supportable. In fact, 5.9 GHz spectrum development for V2X has been rapid when compared with other novel communication technologies in spite of numerous attempts to delay its development by both the FCC (including a delay of 5 years between DSRC spectrum allocation by Congress and enabling approval of reallocation of spectrum previously used for conflicting services) and NHTSA. It defies logic and understanding that the government would use the consequences of its own ongoing actions and inactions unnecessarily delaying lifesaving dedicated 5.9 GHz spectrum development as a rationale for further destruction of its safety potential.”

Consumer Reports: “From a review of the public comments on this proceeding, it is clear that there is widespread dissent on the FCC’s proposal, with a broad range of stakeholders urging the FCC not to move forward. Consumer advocates, safety experts, and car companies do not always see eye-to-eye on auto safety issues, but on this proceeding, these strange bedfellows agree: the FCC has not provided clear and convincing data to show its proposal actually will protect the ability to use V2X technology to save lives.”

General Motors: “[T]he NPRM’s proposal to increase the amount of spectrum for unlicensed operations by cramming innovative life-saving technologies into an essentially unusable 30 megahertz does not serve the public interest. This is especially the case given the Commission’s action—less than a week ago—to allocate a 1200-megahertz spectrum swath for unlicensed use. Indeed, action to reallocate additional spectrum to unlicensed use—and especially from spectrum presently allocated for potentially life-saving technology—would effectively foreclose the well-documented safety benefits that V2X technologies promise for the American public”.

Ford Motor Company: “We believe that an overwhelming majority of the 75 MHz in the 5.9 GHz band will ultimately be needed for C-V2X. While we believe we have made a case for C-V2X in the upper 20 MHz of the band, there is an additional need for 40 MHz of spectrum for advanced C-V2X applications. This would include facilitating transition of C-V2X’s direct communication capability to 5G and support use cases beyond vehicles themselves which would include vulnerable road users such as pedestrians, scooters and bikers, as well as advanced infrastructure to support an autonomous future. This 60 MHz of spectrum would be utilized to bring about a fully connected mobility eco-system in the future.”

Institute of Transportation Engineers: “To realize the full potential of V2X technologies, we must follow the path that has led to widespread adoption of other technological advancements. That is, be willing to adopt a technology when it has been proven to meet the requirements of the applications we want to deploy and then adapt to new technologies as they emerge. If we continually wait for the next technology in development to arrive, we will be waiting forever, and we will miss the opportunity to save lives today.”

International Association of Fire Chiefs: “The IAFC agrees with the position of the U.S. DOT, which has stated in its comments that, ‘the full 75 MHz of the 5.9 GHz band should be retained for safety and other transportation purposes; that FCC should revisit its proposal and seek broader stakeholder engagement on

any reworking of the 5.9 GHz band; and that any reallocation of this band to include unlicensed use should be grounded in robust science demonstrating that V2X applications will not be subject to harmful interference, and showing that these applications will retain their key functionality.’ Unlicensed use of the 5.9 GHz band threatens to cause interference to ITS systems responsible for vehicle communication. The FCC should reconsider the proposal to allow unlicensed devices in the 5.9 GHz band given the overwhelming opposition to the proposed rulemaking in the record.”

Motor & Equipment Manufacturers Association: “Indeed, one of the consistent themes expressed by commenters is one of alarm: given the critical role ITS technology can play to drastically reduce the tens of thousands of traffic fatalities and millions of injuries annually, the Commission appears to be consciously avoiding the need to examine the consequences of its proposals or supporting it with actual data.”

National Federation of the Blind: “For many blind Americans, the prospect of fully autonomous vehicles (SAE Level 4 and 5) represent a new era in transportation efficiency and independence. Given that the 5.9 GHz Band was originally set aside for the application of V2X communications and considering that we are just now getting to the point where these communications are going to be critical, it makes little sense to use the band for other purposes. We believe that taking away the majority of the spectrum available for V2X technologies threatens to undermine the ability of these technologies to function and should not be considered when we are closer than ever before to having fully autonomous vehicles on our roadways. This is especially true, given the recent announcement by the Alliance for Automotive Innovation that the industry will be committing to the deployment of five million radios for V2X communications over the next five years. Each of these devices will need to use the 5.9 GHz band without the possibility of interference in order to maintain safety on American roadways.”

Nokia: “Nokia disagrees with the NPRM’s premise that, based on a sampling of other countries, initial allocations for ITS of less-than 75 MHz justifies the Commission reallocating the lower portion of the 5.9 GHz band to Wi-Fi and foreclosing Advanced C-V2X in the 5.9 GHz band. As an initial matter, those initial allocations do not necessarily foreclose the potential for further adjacent allocations as the Commission proposes. Rather, the Commission’s proposal is contrary to the global trend to allocate more – not less – spectrum to ITS.”

Savari: “Savari has both participated in and observed multiple testing programs to evaluate the safety and viability problems that may be caused by reducing the available spectrum and associated frequency guard bands. As a result, we believe there is a significant risk to the overall system performance, and resultant loss in safety, that results from sacrificing the lower 45MHz of the V2X safety spectrum to unlicensed Wi-Fi. Tests conducted by hardware providers and the CAMP organization prove that interference from random, unlicensed access points adversely affect the signal integrity and performance of this critical, life-saving system. Use of the previously allocated 75MHz of spectrum is critical to ensuring the reliable operation of both DSRC and C-V2X systems operate to their highest level of safety, reliability, and throughput.”

Sibrtech: “Arguments in support of the Commission’s proposed action (a) wrongly advance short term growth in Wi-Fi over pedestrian and traffic safety, (b) build an incomplete record that does not recognize this nations growth in transportation technology, and (c) relegate our potential to advance safety to a follower position of other nations. The result ignores the growth and full breadth of V2X and transportation safety technology, wastes the opportunities that many V2X and transportation safety applications provide to advance safety and the Commission’s core mission, and blunts this nation’s ability to lead in pedestrian and traffic transportation safety.”

South Dakota Department of Transportation: The FCC should allocate the 75 MHz to achieve the “highest and best use” in the public interest, which differs from the “highest-value” use serving private interests in the unlicensed spectrum. Just because the spectrum can be consumed by other unlicensed users does not mean it will be consumed in ways that promote the “highest and best use” for the public, that enhance transportation mobility and safety, and that promote the mission of the FCC has outlined in its strategic plan.

T-Mobile USA, Inc.: “While T-Mobile recognizes the utility of spectrum for unlicensed use, the Commission has already made significant spectrum resources available for that purpose. Indeed, the Commission recently adopted a Report and Order making 1,200 megahertz of spectrum available for unlicensed use in the 5.925-7.125 (“6 GHz”) band.” “The 5.9 GHz band, in contrast, is the only potential home for designated automotive applications. Reallocating C-V2X to a different band outside the 5.9 GHz range is simply infeasible.”

Toyota North America: “Toyota strongly urges the Commission to maintain the entire 75 MHz of spectrum in the 5.9 GHz band for ITS. The Commission’s unexpected and dramatic shift from its long-standing focus on sharing the band between transportation safety uses and unlicensed uses to a proposal to permanently repurpose more than half of the spectrum away from transportation uses is disappointing and should be rejected. Toyota reminds the Commission that a wide and diverse group of stakeholders with a strong and enduring commitment to transportation safety are united in wanting all 75 MHz of spectrum preserved for ITS. Reducing the amount of spectrum available for transportation means that important applications that have been developed or are under development will likely not be offered in the United States and that the full potential of the technology to advance transportation safety will not be realized. Toyota further addresses the Commission’s faulty assertions that automated technology has diminished the need for ITS spectrum and that smaller spectrum allocations in other parts of the world are sufficient to meet the needs of transportation stakeholders. Unfortunately, with this NPRM, the Commission misses a unique and long overdue opportunity to provide automakers and infrastructure providers with the regulatory certainty that will spur wide-scale deployment of this important technology.”