Will "Supersizing" Wi-Fi Lead to the Demise of 5.9GHz and the Emergence of Upper 30MHz Technologies?

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The allocation of 5.9GHz spectrum, a safety band originally allocated for transportation safety communications, was the subject of a meeting of the Federal Communications Commission (FCC) on November 18, 2020. The transportation community had encouraged the FCC to reserve access for vehicle use, but the decision of the FCC has put the industry in a position where it must question where future development efforts should be aimed.

The Federal Communications Commission decision

The FCC, at its November 18th meeting, adopted an order and further notice of proposed rulemaking to address spectrum in the 5.85-5.925 MHz band that had originally been allocated in 1999 to the Intelligent Transportation Service (ITS). The 75 MHz of spectrum was designated to be used for vehicle-to-vehicle and vehicle-to-infrastructure communications using the Dedicated Short-Range Communications (DSRC) protocol. Instead, in 2019, the FCC proposed to split up the band, allocating the lower 45 MHz of spectrum to Wi-Fi services, and the upper 30 MHz of spectrum to the automotive safety services, so that the two different uses would not be sharing spectrum.

The FCC decision adopted that plan to split up the band, thus reducing the spectrum for automotive services from 75 MHz to 30 MHz. In addition, the FCC modified the protocol that would be used for the vehicle-to-vehicle and vehicle-to-infrastructure communications from DSRC to cellular vehicle-to-everything (cellular V2X). The Commission's decision will allow the lower 45 MHz of spectrum to be used for Wi-Fi services indoors immediately, and the further notice seeks comment on how outdoor use might be allowed in the future. The further notice will additionally seek comment on the transition from DSRC to cellular V2X for the already deployed equipment that has been operating under the old rules, as well as the technical and

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operational parameters for cellular V2X service. Finally, the further notice will invite comments on whether the FCC should allocate additional spectrum for ITS applications in the future. We will update this alert with the comment dates once the text of the FCC decision is released and published in the Federal Register.

Although the FCC's decision was unanimously agreed to by both the Republican and Democratic Commissioners, it is not without controversy. The FCC decision was opposed by NHTSA and the Department of Transportation, which see V2V and V2X communications as critical to automotive safety. Those agencies are concerned that the 30 MHz of spectrum will be inadequate and subject to interference from the Wi-Fi services that will be operating in the adjacent band. As an independent agency, however, the FCC was not bound by the views of these other federal agencies. In adopting the order, the FCC relied on the dearth of DSRC deployments that have occurred since the spectrum was allocated in 1999. However, the FCC failed to acknowledge that its action in 2013 proposing changes to the ITS band put a cloud over that spectrum, which hindered deployment by automobile manufacturers and government agencies.

What does this mean for the industry?

1. The risk of potential interference remains at 5.9GHz

In 2013, the FCC decided that the automotive industry was not making sufficient use of the spectrum, and proposed that it be shared with unlicensed Wi-Fi services. However, because of concerns that the Wi-Fi usage might cause harmful interference to the public safety automotive services, the FCC and the Department of Transportation agreed to undertake a three-phase test of the potential for interference. Those tests were never completed, leaving uncertainty in the overall safety based on the risk of potential interference.

2. The U.S. is moving farther away from the approach of the EU

After significant consultation, in January 2020, the European Data Protection Board adopted guidelines on processing personal data in the context of connected vehicles and mobility-related applications. Although this doesn't naturally appear to fit, the guidelines contain security recommendations including assuring that the vehicle's vital functions are given priority and robust, secure frequencies that are specifically dedicated to transportation. Where the European Union would likely promote a strengthening and separation of the spectrum, the FCC decision alters the ability of manufacturers to manufacture in such an environment domestically.

3. This may hasten development of vehicle safety technology in the remaining 30MHz of the ITS allocation

The change in the ITS allocation in the 5.9GHz band will likely "hasten the actual deployment of ITS services that will improve automotive safety" according to the FCC. Certain portions of the 30MHz allocated to DSRC have been set aside for Cellular Vehicle-to-Everything (C-V2X) communications for newer vehicle safety development. At this time, however, the FCC has not

yet finalized technical rules on how to transition the upper 30MHz band from DSRC to C-V2X. Truncating the availability of 5.9GHz will likely lead to faster issuance of these rules to meet potential commercial deployment of chipsets and other technologies in 2021.

Butzel Long continues to track, analyze, and advise on a variety of issues surrounding this rapidly evolving technology and regulatory framework. Your Butzel attorneys have focused specialties and expertise that cover the broad scope of issues surrounding mobility and transportation. Contact your Butzel attorney for updates or for assistance in preparing comments on upcoming rulemakings.

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