

Update on FCC 5.9 GHz band rule-making

May 28, 2019

On May 14, 2019, Federal Communications Commission (FCC) Chairman Ajit Pai announced plans to open a rule-making to take a "fresh look" at the 5850-5925 megahertz (MHz) (5.9 gigahertz (GHz)) spectrum band. Initial reports suggested that the FCC would take the issue up in June, but the 5.9 GHz rule-making was not included on the tentative agenda for the commission's June open meeting. Chairman Pai delayed the rule-making at the request of U.S. Transportation Secretary Elaine Chao. The FCC has not provided a timeline for the rule-making, but we expect release of the rule-making sometime this summer.

Since 1999, spectrum in this band has been reserved for dedicated short range communications (DSRC). DSRC enables vehicle-to-vehicle (V2V) and vehicle-to-everything (V2X) communications that can help reduce traffic fatalities and injuries and reduce traffic congestion. The use restrictions and technical rules applicable to operations in the 5.9 GHz band are a lot more proscriptive than the rules that typically apply to the bands used for commercial wireless services such as Long Term Evolution technology (LTE) and Wi-Fi. As a result, some FCC stakeholders have urged the FCC to use the rule-making to provide more flexibility in the types of services that will be allowed in the band and to promote sharing between services. With a few notable exceptions (e.g., General Motors and Toyota), the automotive industry has been slow to invest in and develop products based on DSRC. In his announcement about the 5.9 GHz rule-making, Chairman Pai described this spectrum as "largely lying fallow" for the past 20 years.

While DSRC has been slow to emerge on a large scale, primarily because the federal government has refused thus far to mandate its use in vehicles, cellular and Wi-Fi technologies have blossomed. Proponents of new cellular-based technologies for vehicle safety (e.g., cellular V2X (C-V2X)) want access to the upper 20 MHz portion of the 5.9 GHz band to continue to test and develop these technologies. Wireless and cable companies also see significant potential in the band for the delivery of gigabit Wi-Fi. They want to see all or at least a portion of the band opened for the provision of those services on an unlicensed basis.

Changes to the 5.9 GHz band rules have been on the table for many years, but the time now seems ripe for FCC action. The FCC opened a rule-making proceeding for the 5.9 GHz band several years ago to explore the potential for sharing between DSRC and unlicensed gigabit Wi-Fi, and it has conducted some testing of prototype 5.9 GHz Wi-Fi devices to determine whether and how well they can share the band with DSRC without causing harmful interference. FCC Commissioners Michael O'Rielly and Jessica Rosenworcel have long called for a revamping of the 5.9 GHz rules, primarily to allow gigabit Wi-Fi. Industry forces also are increasing pressure on the FCC for a clear strategy. Cellular providers and many automobile manufacturers have sought

rule changes that would allow C-V2X operations in the band. Toyota announced recently that it has halted plans to deploy 5.9 GHz DSRC due to the uncertain regulatory climate and the lack of adoption by other automotive companies. Around the same time, Ford announced that it plans to deploy C-V2X technology in its cars beginning in 2020. And the European Union opted for DSRC over C-V2X as the safety platform for connected cars.

In this new proceeding, the FCC will consider whether and how to allow sharing in the band between DSRC, gigabit Wi-Fi, and C-V2X technologies. Chairman Pai outlined a wide range of potential outcomes for the new rule-making. As examples, the FCC could:

- Maintain the current allocation for DSRC (this outcome seems unlikely because the chairman has already revealed his skepticism about this approach, given the history and outlook for DSRC).
- Allocate the band for exclusive use for C-V2X technology.
- Allocate the band for exclusive use by automotive communications technology generally.
- Allocate the band exclusively for unlicensed uses such as gigabit Wi-Fi.
- Permit sharing between unlicensed uses and automotive safety and other communications in the lower 45 MHz of the band, and permit exclusive use for V2V technologies in the upper 30 MHz of the band.
- Permit exclusive use for unlicensed technologies in the lower 45 MHz of the band and exclusive use for automotive safety and other communications in the upper 30 MHz of the band.

In a related matter, on May 23, 2019, the Department of Transportation (DOT) announced that it will hold a conference on traffic safety and the 5.9 GHz spectrum band on June 3 to seek input regarding V2X communications. The purpose of the conference is to help DOT understand current and future investment strategies for V2X, as well as considerations for spectrum use to foster interoperability and compatibility. DOT has reopened docket DOT-OST-2018-0210 for comments in connection with the conference through June 8, 2019.

Please contact Ari Fitzgerald with any questions.

Contacts



Ari Q. Fitzgerald
Partner, Washington, D.C.
T +1 202 637 5423
ari.fitzgerald@hoganlovells.com

www.hoganlovells.com

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