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More Spectrum for 5G: FCC Adopts Order Sharing 37, 50 GHz Bands

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The US race for 5G supremacy continues as the FCC released an order intended to address questions about how the 37 GHz and 50 GHz frequency bands – which will be used to provide 5G service in the US – will be shared with other users of those bands. The decision helps clear the way for the auction of the upper portion of the 37 GHz band (37.6 to 38.6 GHz), along with the 39 and 47 GHz bands, which FCC Chairman Pai has scheduled to begin on December 10, 2019.

The 37 GHz band will be shared between government and non-government uses, and the Department of Defense is the principal government user. The decision creates a process to limit the impact of future use of the upper portion of the band by the Defense Department. The Defense Department will submit requests to the FCC to use the band at specific locations, and the FCC can coordinate with licensees to determine if the use will cause unacceptable interference. Once the coordination process is complete, the FCC will decide whether to permit the Defense Department use. The FCC expects Defense Department requests to be relatively rare and generally to be for operations in remote, lightly populated areas.

These coordination rules addressed the last open issue on how the upper 37 GHz band could be used. Within hours after the rules were adopted, Chairman Pai announced the December 10 auction date. The auction will offer a total of 3,400 MHz of spectrum – 2,400 MHz of which is contiguous – and the FCC already is seeking public comment on auction procedures.

The 50 GHz band will be shared between satellite operators and terrestrial wireless providers. This order addresses the conditions for use of the band by satellite operators for earth stations and significantly limits the number of earth stations that will be licensed. The new rules permit no more than 15 50 GHz earth stations in any of the 416 Partial Economic Areas in the US, and no more than three earth stations in any county. Within a single county, the signals from the earth stations also are limited based on potential interference to terrestrial wireless operations. No more than 1/10th of a percent of the population can be affected by earth station interference in counties with 450,000 or more people, no more than 7.5 percent can be affected in counties with fewer than 6,000 people, and no more than 450 people can be affected in any other county. In addition, the interference area for any 50 GHz earth station cannot include any major event venue, urban mass transit route, passenger railroad or cruise ship port and cannot cross any significant road or highway. These limitations mean that earth stations in the 50 GHz band likely will not affect areas where there is significant wireless traffic.

This decision illustrates the challenges the FCC faces in opening up new frequency bands for wireless service. Nearly all of the bands below 100 GHz that are suitable for wireless already are allocated for government use, non-government use or both. To use them for wireless service, the FCC will have to move existing users to new frequencies, find ways to use spectrum bands more efficiently or require the bands to be shared between new and existing users. Sharing often is the least disruptive solution, so the FCC is increasingly likely to adopt it, even if sharing may not be an ideal answer for either existing users or wireless providers. As a result, it is likely that more decisions that find ways to accommodate potentially conflicting uses of a single spectrum band will be forthcoming.

Cooley lawyers can assist in evaluating the impact of these decisions on current and prospective users of 5G and mmW spectrum, as well as preparations for the December spectrum auction.

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