

CLIENT MEMORANDUM

FCC Seeks Comment on Flexible Use of Mid-Band Spectrum

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AUTHORS

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On August 3, 2017, the Federal Communications Commission (the “Commission”) adopted and released a Notice of Inquiry (the “NOI”) (available [here](#)) as part of its continuing effort to make additional spectrum available for next-generation services, particularly wireless broadband services. The NOI evaluates three specific “mid-range” frequency bands (3.7 GHz–4.2 GHz, 5.925 GHz–6.425 GHz, and 6.425 GHz–7.125 GHz)¹ for expanded flexible use, and seeks comments identifying other non-Federal mid-range frequencies that may be suitable for expanded flexible use. Aside from Federal uses managed by the National Telecommunications and Information Administration, these three bands are generally allocated in the United States to the fixed satellite service (the “FSS”), terrestrial fixed services (the “FS”), and certain mobile operations. The Commission notes that these three bands have attracted industry interest from wireless broadband providers for expanded flexible broadband use, at least in part due to more favorable geographic coverage as compared to 24 GHz frequencies and above, and improved capacity as compared to frequencies below 3.7 GHz. This inquiry will enable the Commission to explore options for making such spectrum available now and in the future. Of course, incumbent licensees in these bands will want to ensure that their continued ability to operate is not encumbered.

¹ These frequency bands are “mid-range” in the sense that they lie between the frequencies that the Commission has focused attention on more recently for flexible broadband use, those below 3.7 GHz and above 24 GHz.

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Comments are due October 2, 2017, with replies due November 1, 2017. Current uses for these bands and the Commission's key questions in the NOI are provided below.

Key Issues Raised in the NOI

The NOI seeks comment on the following key issues:

- How can the Commission best provide for flexible use allowing the introduction of more intensive terrestrial fixed use and the introduction of mobile broadband wireless services in these bands? Will technological advancements facilitate flexible use revisions to the allocations in these bands?
- How can the Commission achieve more flexible use as described above while protecting existing services in these bands against harmful interference?
- What are the appropriate authorization mechanisms for potential new fixed and mobile wireless broadband use? Could these include issuing licenses on a primary basis, possibly through auctions, issuing licenses on a shared or secondary basis, and unlicensed use (particularly with respect to the 5.925 GHz–6.425 GHz band)?
- Can the service rules for the incumbent licenses be modified to make the bands more suitable for mobile broadband wireless use, such as by creating incentives for incumbent licensees to relocate or be repacked?
- Can existing rules be eliminated to reduce regulatory burdens and maximize efficient use?

Incumbent Uses of the Spectrum

3.7 GHz–4.2 GHz Band. The 3.7 GHz–4.2 GHz band is used today by FSS licensees as the space-to-Earth or “downlink” portion of the conventional C-band. Approximately 48 domestic satellites use this band to downlink signals to approximately 4,700 earth stations throughout the United States. FSS uses of the C-band include telemetry for satellite operation, delivery of programming content to television and radio broadcasters, cable television and small master antenna systems, and telecommunications backhaul. FS licensees in this band provide point-to-point common carrier or private operational fixed microwave links. While once heavily used by telecommunications providers, current FS use of this band is limited to approximately 119 licenses.

5.925 GHz–6.425 GHz Band. Similarly, the 5.925 GHz–6.425 GHz band is used today by FSS licensees as the Earth-to-space or “uplink” portion of the conventional C-band, with approximately 1,535 earth station licenses. However, as compared to FS use of the 3.7 GHz–4.2 GHz band, FS use of the 5.925 GHz–6.425 GHz band is more intense, with more than 27,000 point-to-point microwave licenses issued to provide a variety of services, including backhaul for police and fire vehicle dispatch, coordination of train movements, control of natural gas and oil pipelines, regulation of electric grids, and wireless backhaul.

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6.425 GHz–7.125 GHz Band. The 6.425 GHz–7.125 GHz band is used today for FS at 6.525 GHz–7.125 GHz, mobile operations at 6.425 GHz–6.525 GHz and 6.875 GHz–7.125 GHz, and FSS at 6.425 GHz–6.700 GHz and 7.025 GHz–7.075 GHz (uplink) and at 6.700 GHz–7.025 GHz (both uplink and downlink). FS licenses in the 6.525 GHz–6.875 GHz and 6.875 GHz–7.125 GHz bands are issued for point-to-point microwave links and fixed broadcast auxiliary operations. Approximately 18,000 licenses have been issued for point-to-point operations in the 6.525 GHz–6.875 GHz band, and 4,900 licenses have been issued for such operations in the 6.875 GHz–7.125 GHz band. The FS and broadcast auxiliary operations in these bands support public safety (including police and fire vehicle dispatch), train coordination, control of natural gas and oil pipelines, electric grid regulation, wireless backhaul, television studio-transmitter links, television relay, and television translator relay stations.

FSS uplink operations are less intensive than in the C-band. Mobile operations in the 6.425 GHz–6.525 GHz band and the 6.875 GHz–7.125 GHz band are licensed for broadcast auxiliary services, community antenna relay services, and local television transmission services. Approximately 139 broadcast auxiliary, 26 community antenna relay, and 243 local television transmission licenses are issued for mobile operations in the 6.425 GHz–6.525 GHz band, and 346 broadcast auxiliary, 19 community antenna, and 38 local television transmission licenses are issued for mobile operations in the 6.875 GHz–7.125 GHz band.

If you have any questions regarding this memorandum, please contact Michael G. Jones (202-303-1141, mjones@willkie.com), Renee R. Gregory (202-303-1104, rgregory@willkie.com) or the Willkie attorney with whom you regularly work.

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