

4.4 GHz: A Prime Opportunity for Spectrum Sharing

Sharing could bring more spectrum online sooner for AI, advanced manufacturing, and next-generation wireless while protecting critical federal missions.

What's happening: NTIA is preparing to study 4400–4940 MHz, one of the country's key remaining mid-band spectrum resources.

The challenge: 4.4 GHz is one of the most heavily utilized federal bands ever considered for repurposing. Military communications, drone operations, wildfire monitoring, border security, nuclear emergency response, and other critical missions already rely on the band.

The policy choice: As federal policymakers study whether this band can be freed up for commercial use, Congress explicitly directed agencies to explore sharing as one pathway for expanding commercial spectrum access. Sharing can unlock innovation and capacity by using sharing tools that have proven to work at scale, all while protecting existing federal operations.

Valo Analytica's analysis finds sharing could deliver more usable spectrum, sooner and at lower cost, while keeping critical federal systems in place. Spectrum sharing in the 4.4 GHz band must be given careful research and consideration by policymakers – the stakes are too high not to do so.

Why It Matters for the AI Economy

AI, robotics, smart manufacturing, and automated logistics increasingly depend on reliable, localized wireless connectivity.

Medium-power shared spectrum can put dedicated private 5G and 6G networks within reach of manufacturers, ports, utilities, healthcare systems, and other enterprises that cannot justify nationwide exclusive licenses.

The Sharing Advantage



More spectrum, sooner

Clearing for exclusive use requires federal systems to be relocated or reconfigured before commercial deployment can proceed. Sharing can begin more quickly once the coordination framework is operational, with incumbents remaining in place. Historically, federal clearing efforts have taken a decade or more.



Lower transition costs

Relocating complex federal systems could cost **tens of billions of dollars**. A sharing framework avoids much of the comparable clearing expense by coordinating new users around incumbents instead of moving them.



More usable bandwidth

Exclusive licensing would allow for commercial use only within a fixed block of spectrum for a single commercial operator. In contrast, sharing can open the entire band whenever and wherever federal users are absent, giving multiple commercial users more capacity in the places they need it most.



Better taxpayer economics

A large exclusive auction may produce a bigger headline number, but **gross auction receipts are not the same as net revenue to the Treasury, which is substantially lower.**

This is because auction revenues are offset by the significant cost to taxpayers of relocating federal systems. By law, if revenues can't cover at least 110% of projected relocation costs, then the auction fails – and no licenses are awarded.

Valo finds a shared auction tier could generate revenue sooner with little comparable clearing cost – potentially producing a competitive or greater net return. Moreover, utilizing shared spectrum in the 4.4 GHz band will vastly increase the number of providers and users of available spectrum, leading to better spectrum efficiency and innovation. As a result, it will generate enhanced economic growth far beyond any short-term auction revenue collected in an exclusive spectrum auction designed to benefit a select few providers.

The Sharing Technology Already Works at Scale

Sharing at 4.4 GHz would build on systems already operating today.

6 GHz shows fixed links can be protected at scale: Automated Frequency Coordination already coordinates around 70,000+ incumbent links – about 20x the estimated number in 4.4 GHz.

CBRS shows military systems can coexist with commercial networks: 440,000+ base stations operate without a reported harmful interference incident to incumbent military radars.

The Bottom Line

As NTIA begins its study, medium-power sharing should be carefully evaluated as a core strategy for maximizing the value of the 4.4 GHz band – not as an afterthought. America's finite public resource of spectrum needs to be put to its highest and greatest use that benefits a wide swath of Americans, not a select few. Spectrum sharing offers the greatest opportunity to reach that goal.

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Full report: <https://valoanalytica.ai/blog/f/sharing-the-4-ghz-band-american-leadership-in-spectrum-access>