

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of)	
)	
Office of Engineering and Technology and)	GN Docket No. 19-128
Wireless Telecommunications Bureau Seek)	
Comment on Bidirectional Sharing Pursuant to)	
RAY BAUM'S Act of 2018)	

COMMENTS OF VERIZON

Verizon supports forward-looking policies to identify opportunities to expand access to spectrum given the massive and ever-growing demand for wireless services. Today, Verizon is leading the globe in the development and deployment of 5G. We launched the world's first commercial 5G service last year with the roll out of 5G Home fixed broadband service.¹ And we launched the world's first mobile 5G network in Chicago and Minneapolis in April 2019, with more than 30 5G Ultra Wideband cities planned by the end of the year.²

A robust spectrum pipeline – including healthy amounts of licensed, exclusive-use spectrum – is essential for delivering the ultra-high-speed, low-latency, secure mobile connectivity that 5G and other next-generation deployments will require.³ To meet this goal,

¹ Verizon, *Verizon Turns on World's First 5G Network* (Oct. 1, 2018), <https://www.verizon.com/about/news/verizon-turns-worlds-first-5g-network>.

² Verizon, *Customers in Chicago and Minneapolis Are First in the World to Get 5G-Enabled Smartphones Connected to a 5G Network* (Apr. 3, 2019), <https://www.verizon.com/about/news/customers-chicago-and-minneapolis-are-first-world-get-5g-enabled-smartphones-connected-5g>.

³ See, e.g., FCC, 5G FAST Plan, <https://www.fcc.gov/5G> (last visited May 30, 2019).

policymakers should incorporate incentives for federal agencies to make more spectrum available for commercial use. Verizon, for example, has long supported the Spectrum Relocation Fund, which uses proceeds from FCC spectrum auctions to reimburse federal agencies for the costs they incur in repurposing spectrum⁴ – including state-of-the-art replacement systems that enable increased functionality and more efficient use of spectrum.⁵

Policymakers should also pursue other tools that facilitate better spectrum management and more efficient use of spectrum, including approaches to bidirectional sharing that provide offsetting federal access to non-federal spectrum consistent with the RAY BAUM’S Act.⁶ Bidirectional sharing is a potentially important opportunity in appropriate contexts, as it can encourage federal users to free up needed spectrum by offering a backstop for gaining access to non-federal spectrum in locations and times of federal need.

Where bidirectional sharing makes sense, Verizon supports the use of negotiated secondary-market arrangements in which commercial or other non-federal licensees voluntarily offer federal entities access to non-federal spectrum on a shared basis. As the Commerce Spectrum Management Advisory Committee (“CSMAC”) recognized in a report on bidirectional sharing, “[s]haring arrangements should be constructed in a way that meets the needs of both the

⁴ See 47 U.S.C. § 928.

⁵ See 47 U.S.C. § 923(g)(3)(B).

⁶ See *Office of Engineering and Technology and Wireless Telecommunications Bureau Seek Comment on Bidirectional Sharing Pursuant to RAY BAUM’S Act of 2018*, Public Notice, DA 19-371 (OET/WTB rel. May 1, 2019); Repack Airwaves Yielding Better Access for Users of Modern Services Act of 2018, Pub. L. 115-141, § 610, 132 Stat. 1080, 1108 (2018) (“RAY BAUM’S Act”).

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incumbent and the new entrant.”⁷ Conversely, policymakers should avoid prescriptive mandates or conditions that would undermine the exclusive-use commercial license framework that has served as the bedrock of the American wireless revolution and remains critical to 5G.

DISCUSSION

I. SHARED FEDERAL ACCESS TO NON-FEDERAL SPECTRUM SHOULD BE ON A NEGOTIATED SECONDARY MARKET BASIS.

Winning the race to 5G requires sustained government action to identify and repurpose large amounts of spectrum for flexible-use commercial services. This in turn requires the government to review incentives to increase the reallocation of federal spectrum for non-federal commercial use. Bidirectional sharing – providing federal government access to non-federal spectrum – could be one such incentive, if accomplished through voluntarily negotiated secondary-market agreements in which the non-federal licensee agrees to provide access to specified frequencies at a given time and/or place. As Chairman Pai has stated, “we all benefit from a vibrant secondary market. It allows spectrum to flow to its highest valued use, thereby maximizing consumer welfare.”⁸

A market-based approach to bi-directional sharing could provide federal agencies with negotiated access to spectrum when or where they need it – and an incentive for them to free up federal spectrum in other bands or areas for commercial use. Such a market-based approach

⁷ See Commerce Spectrum Management Advisory Committee, Bi-Directional Sharing Working Group Report, at 5 (adopted Feb. 18, 2015) (“Bidirectional Sharing Report”), https://www.ntia.doc.gov/files/ntia/publications/bi-directional_sharing_working_group_draft_report_jan815-dfo.pdf.

⁸ *Policies Regarding Mobile Spectrum Holdings*, Report and Order, 29 FCC Rcd 6133, 6268 (2014) (Statement of Commissioner Ajit Pai); see also Press Release, *Statement of FCC Chairman Ajit Pai on the Future of 5G*, FCC (Jan. 29, 2018) (noting that “the market, not the government, is best positioned to drive innovation and investment”), <https://www.fcc.gov/document/statement-fcc-chairman-ajit-pai-future-5g>.

could involve federal sharing of non-federal spectrum in certain areas (*i.e.*, geographic sharing) and/or at certain times (*i.e.*, temporal sharing). For example, federal agency interest in use of non-federal spectrum in many cases may be restricted to certain locations like military bases that are geographically remote and sparsely populated. In these areas, capacity needs may be lower than in areas with greater population density. These geographic areas could present opportunities for federal agencies to negotiate agreements to access non-federal spectrum without negatively impacting the ability of non-federal entities to meet the service and public safety needs of their customers.⁹

Temporal sharing arrangements also may be an option under certain circumstances. For instance, in situations where federal or non-federal operations are time-limited, it may be possible for both parties to negotiate an agreement that allows shared use of non-federal spectrum under a coordination approach, such as through an interactive database or the use of sensing capabilities.¹⁰

Regardless of whether bidirectional sharing is accomplished by time, geography, or other method, it must be predicated on a market-based approach that allows both sides *voluntarily* to negotiate to meet their respective needs and to appropriately internalize associated costs. Negotiations can address and ferret out whether and when bidirectional sharing opportunities exist. For example, equipment capable of operating across multiple bands could help address

⁹ See Bidirectional Sharing Report at 5.

¹⁰ See *id.*

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competing use cases, and parties may be able to take advantage of coordination approaches that already exist in bands where federal and non-federal uses share spectrum.¹¹

As the CSMAC reported on bidirectional sharing, “[n]ew entrant operations should not negatively impact the ability of the incumbent to meet its requirements,” while “sharing arrangements that do not provide meaningful access for the new entrant are of little value.”¹² Both of these goals can be achieved by allowing federal and non-federal users voluntarily to negotiate mutually agreeable commercial arrangements. NTIA should be encouraged to review its Manual of Regulations and Procedures for Federal Radio Frequency Management to determine whether changes are needed to enable these secondary market arrangements, as noted in the CSMAC report.¹³

II. PRESCRIPTIVE MANDATES OR CONDITIONS THAT COULD UNDERMINE EXCLUSIVE-USE LICENSES SHOULD BE AVOIDED.

Prescriptive mandates would be contrary to the goal of bidirectional sharing in the RAY BAUM’S Act – namely, to determine the “best means” of providing federal entities with flexible access to non-federal spectrum in a way that preserves the “regulatory certainty” needed for commercial licensees and federal users to “make longer-term investment decisions.”¹⁴ As the CSMAC correctly recognized, a secondary markets approach “may be [more] preferable in many instances than rigid regulatory approaches because they allow the nonfederal entity to more accurately determine what spectrum resources can be made available based on actual needs.”¹⁵

¹¹ *See id.* at 5-6.

¹² *Id.* at 5.

¹³ *See id.* at 2.

¹⁴ RAY BAUM’S Act, § 610.

¹⁵ Bidirectional Sharing Report at 6.

In contrast, any such “rigid regulatory approaches” – *e.g.*, a license condition or rules that provide agencies with access to unused commercial spectrum – risk undermining the regulatory certainty inherent in exclusive-use commercial licenses that has fueled U.S. global leadership in wireless and is critical to the Nation’s success in 5G. The FCC has recognized that exclusive-use licensing “strike[s] the right balance between the benefits of competition, on the one hand, and the efficiencies of scale and scope that justify investments of capital and expertise.”¹⁶

Policymakers considering bidirectional sharing must not undermine these very real public interest benefits,¹⁷ which allow prospective 5G players to invest confidently in developing the novel network infrastructure and end-user devices that 5G will require. Indeed, the regulatory certainty that comes with exclusive-use licensing has already attracted substantial spectrum investment, with carriers like Verizon investing billions in their networks each year.¹⁸ With a stable and predictable investment environment, 5G services and use cases will reach their full potential as investment and innovation will thrive across repurposed spectrum bands.

The FCC’s recent decision in the *Spectrum Frontiers* proceeding provides a cautionary note, however. There, the FCC freed up spectrum in the Upper 37 GHz band for auction, but adopted a process allowing the Department of Defense (“DoD”) to access commercially licensed

¹⁶ *Use of Spectrum Bands Above 24 GHz For Mobile Radio Services*, Notice of Inquiry, 29 FCC Rcd 13020, 13045 ¶ 88 (2014).

¹⁷ See The Brattle Group, *Mobile Broadband Spectrum: A Vital Resource for the U.S. Economy*, at 1-2, 23-24 (2015), https://api.ctia.org/docs/default-source/default-document-library/brattle_spectrum_051115.pdf (explaining the importance of licensed exclusive-use spectrum).

¹⁸ See CTIA, *The Global Race to 5G*, at 2 (Apr. 2018), <https://api.ctia.org/wp-content/uploads/2018/04/Race-to-5G-Report.pdf>.

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spectrum *post-auction* in certain circumstances.¹⁹ Specifically, if defense or national security operations cannot be accommodated in the Lower 37 GHz band, DoD can request that the FCC permit shared access to commercially licensed spectrum if it can be accommodated without a “significant risk of harmful interference” to non-federal deployments.²⁰ Such a policy undermines the certainty normally associated with exclusive-use licenses. That is, by establishing a process for *future* federal sites in what is licensed as exclusive-use spectrum, the FCC has added an element of uncertainty that may de-value the spectrum, negatively affect the auction of the Upper 37 GHz band, and limit its utility to support 5G investment. A better alternative would have been to permit DoD to enter into secondary market transactions with commercial licensees in cases where it might require additional spectrum access.²¹

For all these reasons, policymakers should reject rigid regulatory approaches to bidirectional sharing that could undercut the regulatory certainty commercial flexible use licenses afford, and rely instead on negotiated secondary market agreements to meet the bidirectional sharing needs of both federal and nonfederal users.

¹⁹ See *Use of Spectrum Bands Above 24 GHz For Mobile Radio Services*, Fifth Report and Order, FCC 19-30, at ¶¶16-17 (rel. Apr. 15, 2019).

²⁰ *Id.* at ¶ 16.

²¹ See Letter from Patrick Welsh, Verizon, to Marlene H. Dortch, Secretary, FCC, GN Dkt. 14-177, at 1 (Apr. 4, 2019); Letter from Kara Graves, CTIA, to Marlene H. Dortch, Secretary, FCC, GN Dkt. 14-177, at 2-3 (Apr. 5, 2019).

CONCLUSION

Making more spectrum available for commercial mobile use is critical to meet consumer demand for advanced services and ensure the United States wins the global race to 5G. Policymakers should consider tools that encourage federal users to free up needed spectrum, including bidirectional sharing approaches that can provide offsetting federal access to non-federal spectrum. A bidirectional sharing framework should be grounded in negotiated secondary market agreements that allow parties the flexibility to determine when and where non-federal spectrum can be made available to federal users, while avoiding rigid regulatory approaches that could undermine the certainty and predictability benefits of exclusive-use licensing that are necessary to attract investment capital.

Respectfully submitted,

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