

**Before the  
Federal Communications Commission  
Washington, D.C. 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 FEDERATED WIRELESS, INC.**

Federated Wireless, Inc. (“Federated Wireless”) offers these comments in response to the public notice issued by the Federal Communications Commission (“Commission”) in the above-captioned proceeding seeking comment on the use of bidirectional sharing regimes to provide Federal entities flexible access to non-Federal spectrum across a range of short-, mid-, and long-range timeframes, including for intermittent purposes like emergency use.<sup>1</sup> Federated Wireless, a leading developer of and advocate for shared spectrum solutions, shares the Commission’s enthusiasm for identifying and enabling innovative mechanisms for making available additional spectrum for sharing between and among varying uses and users. Bidirectional sharing is just such an innovation that can be leveraged to facilitate the spectrum access needed to satisfy both Federal users’ mission requirements and non-Federal users’ business needs. In particular, bidirectional sharing holds great promise for: (1) providing Federal users the ability to flexibly access the spectrum resources needed to meet the requirements of their varied and critical missions, all while leveraging the economies and efficiency of commercial deployments and devices where appropriate; (2) enabling new opportunities and revenue sources for non-Federal

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<sup>1</sup> *In the Matter of Office Of Engineering and Technology and Wireless Telecommunications Bureau Seek Comment on Bidirectional Sharing Pursuant to Ray Baum’s Act of 2018*, GN Docket No. 19-128, Public Notice, DA 19-371 (WTB/OET rel. May 1, 2019).

users, especially in remote areas where Federal users have spectrum needs and there is otherwise no compelling business case for commercial deployments; and (3) allowing non-Federal users to satisfy their regulatory obligations by helping Federal users access the spectrum needed to support their missions.

**I. BIDIRECTIONAL SHARING REGIMES CAN SATISFY THE REQUIREMENTS OF FEDERAL AND NON-FEDERAL USERS FOR FLEXIBLE SPECTRUM ACCESS AND REGULATORY CERTAINTY.**

As Congress determined in directing the Commission and the National Telecommunications and Information Administration (“NTIA”) to study the best means of enabling sharing between Federal and non-Federal users,<sup>2</sup> and as the Commission found in adopting a Federal-non-Federal sharing framework for the Lower 37 GHz Band at 37.0-37.6 GHz in its *Spectrum Frontiers* proceeding,<sup>3</sup> bidirectional sharing can generate tremendous benefits for both Federal and non-Federal users. Indeed, bidirectional sharing can be leveraged to “provide easy access to spectrum, including for new innovative uses and for targeted access where and when providers need additional capacity” and simultaneously “give Federal users and consumers an opportunity to take advantage of speed-to-market and lower cost of broadly deployed commercial technologies, and provide Federal users opportunities for current use and future growth.”<sup>4</sup> As 5G—and the extraordinary applications its massive capacity and throughput will enable—nears, bidirectional sharing presents an opportunity to ensure that all spectrum

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<sup>2</sup> Repack Airwaves Yielding Better Access for Users of Modern Services (RAY BAUM’S) Act of 2018, Pub. L. No. 115-141, § 610, 132 Stat. 1080, 1108 (2018).

<sup>3</sup> *Use of Spectrum Bands Above 24 GHz For Mobile Radio Services et al.*, GN Docket No. 14-177 *et al.*, Report and Order and Further Notice of Proposed Rulemaking, FCC 16-89, at paras. 111-117 (2016).

<sup>4</sup> *Id.* at para. 117.

users, Federal and non-Federal alike, are able to exploit the technology and its benefits to the fullest degree possible.

**A. Bidirectional Sharing Can Provide Federal Users the Flexible Spectrum Access Needed to Perform Their Missions and Allow Them to Take Advantage of the Economies of Commercially Available Equipment.**

For Federal users, access to sufficient spectrum resources is critical to their ability to perform their missions. For example, when troops arrive at a military installation for final training exercises in preparation for deployment overseas, the spectrum needed to facilitate the conduct of such exercises simply must be available. By providing Federal users access to commercial flexible use spectrum, bidirectional sharing arrangements can help ensure that Federal users are able to access sufficient spectrum when and where needed to satisfy their mission requirements. In addition, the Commission has generally designated, with great success, commercial spectrum for flexible use, allowing licensees to design and deploy fixed and mobile facilities in a way that best meets their internal and/or business needs. By providing Federal users access to such flexible use spectrum, bidirectional sharing can help ensure that Federal users are not only able to access sufficient amounts of spectrum, but also that the spectrum is suitable for the uses needed to perform the Federal mission. Indeed, commercial flexible use spectrum accessed via a bidirectional sharing arrangement may be more adaptable to the dynamic demands of Federal operations than the comparatively more static allocations of Federal spectrum to particular uses.

Bidirectional sharing will also enable Federal users to leverage the scale of the commercial device and equipment ecosystem, including the technologies that will support 5G. Where commercial, off-the-shelf equipment meets the requirements of the Federal mission, access to non-Federal spectrum through bidirectional sharing arrangements would allow Federal

users to procure such equipment and in doing so realize cost savings compared to the more limited equipment ecosystem available for use in exclusively Federal bands. This is particularly relevant as the full-scale roll-out of 5G technology nears, and with it an order of magnitude increase in the number of connected devices and applications that could be used to support and advance Federal missions. As a result, bidirectional sharing can better ensure that Federal users are able to exploit the benefits of 5G technology to the same degree as commercial operators and the public. Indeed, bidirectional spectrum sharing is likely the most feasible solution for providing Federal users the spectrum access they need in light of their critical security requirements. Other potential approaches to facilitating Federal access to commercial spectrum, such as network sharing or wholesale networks, present challenges given that Federal and commercial users have vastly different requirements for user security, data security, network security, and network availability. Conversely, a bidirectional spectrum sharing regime could allow both commercial and Federal users to participate in the same equipment ecosystems and drive greater scale while maintaining the independence they need to deploy their facilities in a way that satisfies their individual network security and hardening requirements.

**B. Bidirectional Sharing Regimes Can Facilitate Voluntary Commercial Arrangements for Federal User Access to Non-Federal Spectrum.**

Bidirectional sharing can also benefit commercial operators by facilitating the use of voluntary commercial arrangements to enable Federal access to non-Federal spectrum. For example, it is likely that many Federal operations for which access to commercial spectrum is sought will occur in remote areas where Federal entities engage in training and other exercises. These remote areas have historically been difficult for commercial operators to serve, both because the areas are largely Federal land and must be secure. Accessing these areas to deploy commercial facilities presents a number of challenges. In addition, these areas are frequently

sparsely populated and thus pose a difficult business proposition given the high fixed costs of deploying network facilities relative to the very low population density. By contrast, as described above, Federal users need access to sufficient spectrum resources and could make productive use of commercial spectrum in support of their missions in these areas. Bidirectional sharing could allow commercial operators to enter into voluntary commercial arrangements with Federal users in these remote areas, providing the commercial operators the opportunity to generate additional revenue in areas where they might otherwise be unable to locate commercial customers and providing Federal users the access to flexible use spectrum they need to perform their missions.

In addition, the capability of a bidirectional sharing regime to enable Federal access to commercial spectrum through the use of voluntary commercial arrangements could be further enhanced by leveraging automation where possible to reduce transaction costs, thus reducing potential barriers to the negotiation and implementation of such arrangements. For example, the Commission could authorize the establishment of a secure, private database that contains information voluntarily provided by commercial operators on where, when, and how much commercial spectrum could be made available for Federal use and the terms offered by the licensees for such access. This type of database-enabled secondary market mechanism may facilitate streamlined Federal access to non-Federal spectrum by reducing the friction inherent to one-off secondary market transactions because spectrum availability information and commercial terms would reside in a centralized location, rather than requiring manual outreach to determine whether, where, when, and how a Federal user might obtain access to commercial spectrum. Additionally, by housing information on where, when, and on what terms a Federal user could access commercial spectrum, a database-enabled bidirectional sharing approach could facilitate

the rapid execution of more tailored secondary market agreements to provide for differing levels of access required by Federal users depending on the particular needs of a given mission, such as long-term exclusive access, short-term shared access, or other parameters.

**C. Bidirectional Sharing Regimes Can Provide Federal and Non-Federal Users the Regulatory Certainty and Flexibility Needed to Make Long-Term Investment Decisions.**

Bidirectional sharing mechanisms can also provide commercial operators the regulatory certainty and flexibility needed to make long-term investment decisions that align with their business plans while simultaneously facilitating Federal access to commercial spectrum. This could be accomplished by applying the same principles underlying the Commission’s secondary markets rules to spectrum made available to Federal users through a bidirectional sharing regime. For example, the Commission’s spectrum leasing rules provide that a licensee may “attribute to itself the build-out or performance activities of its spectrum lessee(s) for purposes of complying with any applicable performance or build-out requirement.”<sup>5</sup> Consistent with this approach, the Commission could provide that licensees making their spectrum available to Federal users via a bidirectional sharing regime could likewise rely on such shared use to satisfy any applicable performance requirements. The Commission could also consider other alternatives, such as a “use or share with Federal entities” model, performance benchmarks targeted to the areas in which licensees sharing their spectrum with Federal users have deployed and are operating their own facilities, or sharing-specific safe harbors for construction and other operating requirements. In doing so, the Commission could construct a bidirectional sharing regime that provides commercial operators the flexibility and certainty needed to invest in and construct their

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<sup>5</sup> 47 C.F.R. §§ 1.9020(d)(5), 1.9030(d)(5).

networks in the areas and on the timelines that best align with their business plans, incents licensees to facilitate Federal shared access to commercial spectrum, and helps ensure that valuable spectrum resources are put to widespread and productive use that benefits the public interest.

## **II. CONCLUSION.**

Federated Wireless commends the Commission for its ongoing leadership in examining innovative sharing approaches to spectrum management and, as described above, believes that bidirectional sharing can be implemented in a way that will benefit all parties involved by:

(1) providing Federal users the ability to flexibly access the spectrum resources needed to meet the requirements of their varied and critical missions, all while leveraging the economies and efficiency of commercial deployments and devices where appropriate; (2) enabling new opportunities and revenue sources for non-Federal users, especially in remote areas where Federal users have spectrum needs and there is otherwise no compelling business case for commercial deployments; and (3) allowing non-Federal users to satisfy their regulatory obligations by helping Federal users access the spectrum needed to support their missions.

Federated Wireless stands ready to assist the Commission and NTIA as they continue to evaluate the myriad benefits that sharing regimes can provide to Federal users, non-Federal users, and consumers.

Respectfully submitted,

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