

July 9, 2020

The Honorable Ajit Pai  
Chairman  
Federal Communications Commission  
445 12th Street, SW  
Washington, DC 20554

**Re: Petition for Rulemaking to Permit MVDDS Use of the 12.2-12.7 GHz Band for Two-Way Mobile Broadband Service, RM-11768**

Dear Chairman Pai:

The undersigned 11 organizations write to urge the Commission to initiate a Notice of Proposed Rulemaking to revisit and revise the service rules governing use of the highly valuable but grossly underutilized spectrum between 12.2 and 12.7 GHz (the “12 GHz Band”). In light of the vast progress made in the last two decades on spectrum sharing technology, and the ever-increasing need for new spectrum for advanced wireless services and rural connectivity, the current very low-power and one-way constraints on terrestrial use of the band are antiquated, unnecessary and a hindrance to bridging the digital divide. By adding the 12 GHz Band to the Commission’s 5G FAST Plan, the Commission can make an additional 500 megahertz of contiguous spectrum available for two-way fixed and mobile 5G wireless broadband services, while protecting incumbent satellite uses (including satellite broadband) from harmful interference. This will promote competition, innovation and improve services to underserved communities.

When the Commission adopted the current MVDDS rules in 2000,<sup>1</sup> long before smartphones or online video services, we lived in a very different world. At that time, DBS was a fast-growing service and much of the speculation around the use of the band was as a means of supplementing DBS – such as providing “local-into-local” television service. Experience with shared use of bands relying on interference mitigation technologies was barely in its infancy, with many of the technologies for spectrum re-use and sharing not even imagined. Wi-Fi and other technologies that rely on unlicensed access had only just begun to take hold, and wireless for broadband (indeed, broadband itself) hardly existed. Today, DBS is rapidly losing customers, while broadband satellite providers using an entirely different technology from DBS are poised to enter the market. Wi-Fi and other unlicensed spectrum uses are fully integrated into our lives

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<sup>1</sup> Amendment of Parts 2 and 25 of the Commission’s Rules to Permit Operation of NGSO FSS Systems Co-Frequency with GSO and Terrestrial Systems in the Ku-Band Frequency Range, First Report and Order and Further Notice of Proposed Rule Making, 16 FCC Rcd 4096 (2000) (“MVDDS First R&O”); Amendment of Parts 2 and 25 of the Commission’s Rules to Permit Operation of NGSO FSS Systems Co-Frequency with GSO and Terrestrial Systems in the Ku-Band with Frequency Range, Memorandum Opinion and Order and Second Report and Order, 17 FCC Rcd 9614 (2002)

and play an important role in the economy. Fixed wireless using both licensed and unlicensed spectrum has become an important component in closing the rural digital divide. And competition in the mobile wireless sector has gone from highly competitive in 2000 to highly concentrated in 2020.

The 12 GHz Band provides an opportunity to adopt a sharing framework that greatly expands the availability of spectrum for both fixed and mobile broadband deployments with mid-band propagation characteristics significantly better than the millimeter wave bands at 24 GHz and beyond. The Commission should seek comment on how best to expand more flexible and intensive terrestrial uses of the band while continuing to ensure that co-primary satellite services are protected from harmful interference.

Specifically, our groups support consideration of the proposal made in the petition for rulemaking filed by the MVDDS Coalition.<sup>2</sup> We agree with other stakeholders that “if two-way, 5G wireless broadband services were allowed, initial use cases would include fixed broadband, mobile 5G services to handsets and street-level Internet of Things opportunities.”<sup>3</sup> Given this Commission’s commitment to opening additional mid-band spectrum for 5G services, including low-power unlicensed uses for Wi-Fi 6, a NPRM considering the best way to achieve more intensive and efficient use of the 12 GHz band is in the public interest. This would follow the highly successful approach to expanding use of the C-Band, which began with a similar NPRM considering multiple options and resolved with adding 300 MHz of new 5G spectrum while protecting incumbent services.

### **Promoting Competition in Mobile and Satellite Broadband.**

More flexible spectrum use rights for existing licensees will promote competition in mobile broadband. As a consequence of the T-Mobile acquisition of Sprint, American consumers are now limited to a choice of three national carriers. The Department of Justice consent decree and the Commission’s *Order* approving the merger create conditions for DISH to become a fourth competitor. Although many of us expressed skepticism that DISH could replace Sprint as a viable national competitor, that argument against the transaction did not carry the day. As a consequence, it is imperative that the Commission ensure that DISH has access to sufficient spectrum to compete aggressively with the incumbent providers. Adding this 500 MHz of spectrum will enhance DISH’s chances of success.

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<sup>2</sup> See MVDDS 5G Coalition Petition for Rulemaking to Permit MVDDS Use of the 12.2-12.7 GHz Band for Two-Way Mobile Broadband Service, RM-11768 (filed Apr. 26, 2016).

<sup>3</sup> See Letter of Competitive Carrier Association, *et al.* to Chairman Ajit Pai, RM-11768 (filed May 26, 2020).

At the same time, the Commission must protect the entry of potential satellite broadband competitors. We note the recent filing by SpaceX<sup>4</sup> detailing their significant investment in broadband satellite technology, and their readiness to enter the broadband market. We applaud their focus on connecting rural America. We are also gratified to see SpaceX's willingness to consider spectrum sharing on a non-interfering basis.

Certainly, the presumption is that any expanded spectrum rights or other terrestrial use of the band must be secondary to existing incumbent satellite users. However, while we are sensitive to SpaceX's interference concerns, we believe the best way to resolve these concerns is through a Notice of Proposed Rulemaking where the Commission makes concrete proposals and invites all interested parties to provide comment and engineering analysis. Rural America deserves not just one broadband provider, but competition. While no one can guarantee the certainty the success of either new satellite broadband technology or any specific wireless provider, we believe maximizing the number of potential providers through a 12 GHz rulemaking offer the best chance for rural Americans to have both broadband access and broadband competition.

#### **Proposed Aggressive Build Out Obligations to Rural America.**

As the Commission recognized in its *Order* on the T-Mobile/Sprint merger and extension of time for build out of DISH's 700 MHz licenses,<sup>5</sup> it is critical to build out 5G systems to rural America. The Commission should therefore consider in its NPRM appropriately aggressive build out obligations to ensure that rural Americans receive the benefit of these expanded spectrum rights in a timely fashion. These expanded build out obligations should also provide suitable penalties for missing the deadlines. This follows the precedent established by the Commission in the recent T-Mobile/Sprint *Order*.

#### **Spectrum Sharing to Promote Rural Broadband, Competition and Innovation.**

In addition to considering two-way and more flexible use rights for MVDDS licensees, the NPRM should request comment on the authorization of coordinated, shared use of the band for high-capacity fixed wireless services on an opportunistic unlicensed or licensed-by-rule basis. The Commission should propose authorizing coordinated access to vacant 12 GHz spectrum on a secondary basis to further ensure that the band is more efficiently utilized and, in particular, to provide spectrum-as-infrastructure to fixed wireless ISPs and other broadband network providers in underserved rural, tribal and less densely populated communities. Authorizing secondary

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<sup>4</sup> See Letter of David Goldman, Director of Satellite Policy, to Marlene Dortch, RM-11768 (filed June 4, 2020).

<sup>5</sup> *In re Applications of T-Mobile U.S., Inc. and Sprint Corp for Consent to Transfer of Licenses and Authorizations*, WT Docket No. 18-197 (rel. Nov. 5, 2019).

shared public access to the band is especially appropriate if the Commission decides to propose granting the MVDDS Coalition's request for flexible use rights.<sup>6</sup>

Coordinated sharing of unused portions of the 12 GHz band could be particularly beneficial for rural, tribal and other underserved communities. Even if the Commission decides to grant flexible use rights to MVDDS licensees, or through some other process, the shared nature of the band makes it likely that power limits will be lower than in bands that mobile operators will rely upon for wide-area 5G coverage (such as the post-auction C-band). As a result, initial deployments in the band are most likely in urban, suburban and other higher-density areas where an investment in greater capacity justifies the cost. Rather than leave as much as 500 megahertz in the band fallow in underserved rural and other less-densely-populated areas, the Commission should consider a "use it or share it" approach that allows at least secondary, coordinated access for fixed broadband uses (both point-to-point and point-to-multipoint).

Conceptually, this approach is similar to the Commission's very recent and successful authorization of coordinated access to unused spectrum in the lower 45 megahertz of the 5.9 GHz band in the face of the Covid crisis.<sup>7</sup> As you recently testified to the Senate Appropriations Committee, the Commission has "granted authority to more than 100 such providers, and we have heard that the spectrum is helping address the increased demand for broadband associated with the pandemic."<sup>8</sup> Wireless internet service providers ("WISPs") are making coordinated, secondary use of the spectrum to boost the capacity of their fixed wireless deployments that rely on the adjacent unlicensed spectrum band (U-NII-3) to make affordable broadband service available in mostly rural, small town and historically underserved areas.<sup>9</sup> WISPs granted this Special Temporary Authority are required to ensure that any base station making opportunistic use of the 5.9 GHz band is a safe distance away from any incumbent Intelligent Transportation Service deployment.

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<sup>6</sup> See Comments of Public Knowledge and Open Technology Institute at New America, *Petition for Rulemaking to Permit MVDDS Use of the 12.2-12.7 GHz Band for Two-Way Mobile Broadband Service*, RM 117-68 (June 8, 2016) ("the public must be compensated for this *de facto* windfall in the form of additional public interest benefits").

<sup>7</sup> See FCC Press Release, "5.9 GHz Band Boosts Consumer Internet Access During Covid-19 Pandemic," May 4, 2020. Available at: <https://docs.fcc.gov/public/attachments/DOC-364138A1.pdf>

<sup>8</sup> "Statement of Chairman Ajit Pai, Federal Communications Commission, Before the Subcommittee on Financial Services and General Government, U.S. Senate Committee on Appropriations," Hearing on the Oversight of the Federal Communications Commission Spectrum Auctions Program, Fiscal Year 2021 (June 16, 2021), at 3.

<sup>9</sup> Claude Aiken, "FCC 5.9 GHz STA Helps WISPs Serve Through COVID-19 Pandemic," Claude's Blog, Wireless Internet Service Providers Association (WISPA), available at [http://wispa.org/news\\_manager.php?page=21979](http://wispa.org/news_manager.php?page=21979).

A coordinated sharing process at 12 GHz could operate very much like the new Citizens Broadband Radio Service (CBRS), which authorizes secondary and temporary access to the licensed portion of the band (70 megahertz) in any local area where post-auction Priority Access licensees have not yet deployed or commenced service. A new or existing automated frequency coordination (AFC) system, such as the Spectrum Access Systems authorized by the Commission to coordinate General Authorized Access to CBRS spectrum, can ensure that unused spectrum is put to use in rural and other hard-to-serve areas without any risk of interference or any negative impact whatsoever on the primary licensee that has not yet built out. Since automated frequency coordination would be an equally reliable and cost-effective mechanism to coordinate access to unused 12 GHz spectrum, leaving even a single megahertz vacant in rural areas is a lost opportunity to narrow the digital divide.

The NPRM should propose to include this coordinated, “use-it-or-share-it” access as an added condition on the more flexible terrestrial use licenses. A use-it-or-share-it opportunity at 12 GHz will help expand affordable broadband services in rural, tribal and other communities where there is a limited economic incentive for a national or regional carrier to offer service, but still a real economic need for the community. A recent study by BroadbandNow Research found that 42 million Americans lack access to wireline or fixed wireless broadband, nearly 13 percent of the population, with a disproportionate share in rural and small town communities.<sup>10</sup> Surveys by the Pew Research Center found that only 63 percent of rural Americans said they having broadband at home, compared to 79 percent of suburban Americans and 75 percent of Americans living in urban areas.<sup>11</sup>

These less-densely-populated areas tend to have lower rates of broadband adoption due to the high costs for both backhaul and last mile buildout. This makes fixed wireless access, both P2P and P2MP, particularly potent in narrowing the connectivity gap. Rural communities will especially benefit from the higher capacity throughput that wireless ISPs could potentially offer with local access to this spectrum. As the current COVID-19 crisis has made painfully clear, adequate and affordable broadband access has become critical for accessing education, healthcare, government services and the modern workplace.

Unleashing opportunistic, shared access to fallow spectrum also creates a general incentive for licensees to build out services more quickly, or to make greater efforts to partition or lease, since opportunistic use of the band will demonstrate that other (typically smaller) operators are finding value in the unused portions of their license area. This will reduce spectrum warehousing and increase access to operators that are ready to deploy, but who lack spectrum

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<sup>10</sup> John Busby et al., “FCC Reports Broadband Unavailable to 21.3 Million Americans, BroadbandNow Study Indicates 42 Million Do Not Have Access,” BroadbandNow Research (Feb. 3, 2020), <https://broadbandnow.com/research/fcc-underestimates-unserved-by-50-percent>.

<sup>11</sup> Andrew Perrin, “Digital gap between rural and nonrural America persists,” Pew Research Center (May 31, 2019), <https://www.pewresearch.org/fact-tank/2019/05/31/digital-gap-between-rural-and-nonrural-america-persists/>.

access in a local area.<sup>12</sup> The authorization of opportunistic access takes a more affirmative, non-punitive approach than the more draconian concept of “use it or lose it,” where licensees would be forced to forfeit spectrum in areas that fall short of strict build-out requirements. Indeed, the Commission could decide to permit licensees to attribute all or a portion of the areas served by opportunistic users to their own performance in relation to build-out requirements.<sup>13</sup>

Finally, the Commission should seek comment on the possibility of a low-power or very low power unlicensed underlay. Even if spectrum sharing at higher power is too difficult on a non-interfering basis at this time, the band appears well suited to a low-power underlay under traditional Part 15 rules. A contiguous 500 megahertz of spectrum would allow for the creation of new high-bandwidth channels capable of supporting Wi-Fi 6. As the Commission has acknowledged in the recent 6 GHz proceeding,<sup>14</sup> expanding opportunities for Wi-Fi 6 will dramatically improve the quality of existing Wi-Fi and open up opportunities for new innovative services, such as augmented reality and virtual reality. Even more so than in 6 GHz, the propagation characteristics of 12 GHz should permit robust indoor use without jeopardizing existing satellite or future mobile services.

## **Conclusion**

Commencing a rulemaking process will allow the Commission to develop a record and ultimately decide how the grossly underutilized 12 GHz Band can advance forward-looking 5G services, promote competition, spur innovation and help to address the digital divide in underserved communities. We urge the Commission to adopt a NPRM with a tentative conclusion that the 12 GHz band can be used for two-way, fixed and mobile 5G wireless broadband services by primary terrestrial licensees as well as on a coordinated and secondary unlicensed or licensed-by-rule basis. The Commission can clarify and greatly enhance the value of the band for all users by moving from a suboptimal legacy use to an expanded and more efficient new set of service rules.

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<sup>12</sup> See Comments of the Open Technology Institute at New America and Public Knowledge, *Partitioning, Disaggregation, and Leasing of Spectrum*, WT Docket No. 19-38 (June 3, 2019), at 8-10.

<sup>13</sup> *Id.* at 9. See also Michael A. Calabrese, “Use it or Share it: Unlocking the Vast Wasteland of Fallow Spectrum,” New America Foundation, presented at 39th Research Conference on Communication, Information and Information Policy (TPRC) (Sep. 23, 2011).

<sup>14</sup> *In re Unlicensed Use of 6 GHz band, Expanding Flexible Use in Mid-Band Spectrum Between 3.7 GHz and 24 GHz*, ET Docket 18-295, GN Docket 17-183 (rel. April 24, 2020).

Respectfully submitted,

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**On Behalf of:**

**Access Humboldt**  
**Center for Rural Strategies**  
**Consumer Federation of America**  
**Institute for Local Self-Reliance**  
**Next Century Cities**  
**National Consumer Law Center** on behalf of its low-income clients  
**National Digital Inclusion Alliance**  
**Open Technology Institute at New America**  
**Public Knowledge**  
**Tribal Digital Village**  
**X-Labs**

cc: Commissioner Brendan Carr  
Commissioner Michael O’Rielly  
Commissioner Jessica Rosenworcel  
Commissioner Geoffrey Starks