

August 4, 2016

Via ECFS

Marlene H. Dortch
Secretary
Federal Communications Commission
445 Twelfth St., S.W.
Washington, D.C. 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; Use of Spectrum Bands Above 24 GHz For Mobile Radio Services, GN Docket No. 14-177

Dear Ms. Dortch:

The Computer & Communications Industry Association (CCIA)¹ respectfully submits this letter in support of the above-referenced petition for rulemaking. On July 14th, the Commission voted to approve the *Spectrum Frontiers Report & Order*, which opened up nearly eleven GHz of spectrum for wireless broadband above 24 GHz, including close to four GHz for licensed spectrum and about seven GHz for unlicensed.² This action marked a significant step forward in setting the pathways for the next generation of wireless technology – “5G” or fifth generation.

In a recent speech at the National Press Club, Chairman Wheeler outlined his vision for a 5G future.³ Wheeler marked the importance of the Commission’s actions in the *Spectrum Frontiers* proceeding as the U.S. will be the first country to have opened up the high-band

¹ CCIA represents large, medium, and small companies in the high technology products and services sectors, including computer hardware and software, electronic commerce, telecommunications, and Internet products and services. Our members employ more than 750,000 workers and generate annual revenues in excess of \$540 billion.

² *In the Matter of Use of Spectrum Bands Above 24 GHz for Mobile Radio Services, Report and Order and Further Notice of Proposed Rulemaking*, GN Dkt. No. 14-77 (rel. July 14, 2016) [hereinafter *Spectrum Frontiers Report & Order*].

³ Tom Wheeler, Chairman, Fed. Commc’ns Comm’n, Prepared Remarks of FCC Chairman Tom Wheeler at National Press Club: “The Future of Wireless: A Vision for U.S. Leadership in a 5G World” (June 20, 2016), http://transition.fcc.gov/Daily_Releases/Daily_Business/2016/db0620/DOC-339920A1.pdf [hereinafter Wheeler Future of Wireless Speech].

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spectrum that will facilitate 5G.⁴ This will ensure that U.S. companies are “first out of the gate” in developing and bringing 5G technology to market.⁵ The Commission should be lauded for blazing a new trail for spectrum above 24 GHz to facilitate 5G, but it should not lose sight of the utility of spectrum below that threshold. Wheeler also noted that new 5G “technologies require new access to spectrum in multiple bands – the wireless future will not be a one-size-fits-all future.”⁶ Therefore, the Commission must continue identifying new spectrum to facilitate 5G. The Commission also said as much in the *Spectrum Frontiers* NPRM: “We note that we may consider additional bands in the future, and the fact that a particular band or bands are not considered in [that proceeding] does not foreclose future Commission action on the band or bands.”⁷ The Commission should continue its work from the *Spectrum Frontiers Report & Order* by granting the petition of the MVDDS 5G Coalition and initiate a rulemaking to update its rules for the 12.2-12.7 GHz band and to enable sharing for two-way mobile broadband 5G services.⁸

The 12.2-12.7 GHz band presents a great opportunity for the Commission to update its rules and facilitate the development and deployment of 5G. As Commissioner O’Rielly noted in the *Spectrum Frontiers* proceeding, “the Commission needs to look even further and target additional bandwidth between 6 and 24 GHz and even in lower bands.”⁹ The 12.2-12.7 GHz

⁴ *Id.*

⁵ *Id.*

⁶ *Id.*

⁷ *In the Matter of Use of Spectrum Bands Above 24 GHz for Mobile Radio Services*, GN Docket No. 14-177, Notice of Proposed Rulemaking at ¶ 20 (rel. Oct. 23, 2015) [hereinafter “*Spectrum Frontiers NPRM*”].

⁸ *In the Matter of MVDDS 5G Coalition Petition for Rulemaking to Permit MVDDS Use of the 12.2-12.7 GHz Band for Two-Way Mobile Broadband Service* at 5-6 (filed April 26, 2016) [hereinafter *MVDDS 5G Coalition Petition*].

⁹ *Spectrum Frontiers NPRM* at 137 (Statement of Commissioner Michael O’Rielly).

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band could fill this gap, and it would fit the Commission's criteria from the *Spectrum Frontiers* NPRM for evaluating bands for 5G.¹⁰ For example, Chairman Wheeler has stated that the Commission hopes to identify "blocks of at least 200 MHz in width" for 5G because they can facilitate the larger amounts of traffic that networks will handle.¹¹ The 12.2-12.7 GHz band presents a large, contiguous block of spectrum that can be utilized to handle high volumes of traffic in a given area.

Updating the rules for the 12.2-12.7 GHz band will promote the goals of flexible usage¹² and spectrum sharing.¹³ As the Petitioners explained, "[t]he Commission has long advocated flexible use rules that allow spectrum to be put to its highest and best use."¹⁴ Mobile sharing for MVDDS is better than non-geostationary satellite orbit ("NGSO") system use, which is "unable to leverage the directional nature of satellite radios to provide isolation between systems."¹⁵ Moreover, Petitioners have argued that "co-existence between coprimary terrestrial MVDDS and NGSO systems serving mobile devices will prove very difficult, if not impossible."¹⁶ MVDDS deployment has been hampered by current Commission rules that restrict MVDDS operations to

¹⁰ See *Spectrum Frontiers NPRM* at ¶¶ 20-23 ("1. [Focusing] on bands with at least 500 megahertz of contiguous spectrum"; 2. Identifying "bands that are being considered internationally for mmW mobile service"; 3. "[M]obile use in mmW bands should be compatible with existing incumbent license assignments and uses"; 4. "[Establishing] a flexible regulatory framework that accommodates as wide a variety of services as possible."); *Spectrum Frontiers Report & Order* at ¶ 370 (restating the four criteria from the NPRM as the Commission identifies more bands for the FNPRM); see also Letter from John A. Howes, Jr., CCIA, RM-11768, at 3 (filed June 8, 2016) (explaining how updating the Commission's MVDDS spectrum rules to allow for two-way mobile communication would meet the four factors).

¹¹ Wheeler Future of Wireless Speech.

¹² See *id.* ("Opening up spectrum and offering flexibility to operators and innovators is the most important thing we can do to enable the 5G revolution.").

¹³ See *id.* ("Sharing is essential for the future of spectrum utilization.").

¹⁴ MVDDS 5G Coalition Petition at 12.

¹⁵ Reply Comments of the MVDDS 5G Coalition RM-11768, at 15 (filed June 23, 2016).

¹⁶ Notice of Ex Parte Presentation from MVDDS 5G Coalition, RM-11768, GN Dkt. No. 14-177, at 3 (filed July 27, 2016).

partially protect NGSO operations, which are currently a non-existent and unknown operation that may or may not be launched in the future. Petitioners have asserted that “5G services in the 12.2-12.7 GHz band require eliminating or designating as secondary the unused NGSO FSS allocation at 12.2-12.7 GHz, while maintaining the NGSO allocation in the adjacent 10.7-12.2 GHz band.”¹⁷ CCIA supports the Petitioners’ proposed elimination or modification of the co-primary NGSO FSS allocation at 12.2-12.7 GHz. As Petitioners have explained, such action “will still preserve sufficient spectrum for future NGSO FSS operations, should demand for such operations develop.”¹⁸ Therefore, by updating the rules for the 12.2-12.7 GHz band for two-way mobile broadband consistent with the petition for rulemaking, the Commission would allow for different use cases and promote the development of technology for this band, which has been underutilized.

One of the main issues that has been raised so far between the Petitioners and opponents is the potential interference between DBS and two-way mobile. The Petitioners have submitted two technical studies that showed “MVDDS licensees can deploy two-way 5G services in the 12.2-12.7 GHz band while satisfying the current level of protection that DBS enjoys today from MVDDS licensees.”¹⁹ The second coexistence study, like the first, found a limited amount of excess effective power flux density (“EPFD”), and “any problems can likely be addressed by attentive placement of 5G MVDDS base stations and sound radiofrequency engineering of the

¹⁷ *Id.* at 4.

¹⁸ *Id.*

¹⁹ MVDDS 12.2-12.7 GHz Co-Primary Service Coexistence II at 1, *in* Reply Comments of the MVDDS 5G Coalition.

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5G MVDDS network.”²⁰ Furthermore, the Petitioners have proposed to maintain the EPFD limits that protect DBS.²¹

However, some opponents of the petition suggest that the Commission should stand pat in the 12.2-12.7 GHz band and rely on the same reasoning even though technology and the wireless landscape have changed dramatically in the decade and a half since the Commission promulgated the rules.²² As the Petitioners pointed out, the current MVDDS rules “are not working”, 5G calls for infrastructure that has evolved dramatically over the decade and a half since the MVDDS rules were promulgated, and 5G is a national priority, so a review of the MVDDS rules is “urgent” due to the additional spectrum that it will require.²³ The Commission should review its rules so that this spectrum would not be “handcuffed to particular use cases and outmoded services.”²⁴

Chairman Wheeler stated: “The interconnected world of the future will be the result of decisions we must make today.”²⁵ The 12.2-12.7 GHz band presents an opportunity for the Commission to continue its trailblazing approach to 5G by maximizing the utility of a considerable chunk of spectrum for two-way mobile broadband. The Commission should ensure that spectrum in this band is used more efficiently, which will improve the ability of consumers to enjoy higher speeds and greater connectivity. 5G has the potential to dramatically improve the

²⁰ *Id.* at 9.

²¹ Notice of Ex Parte Presentation from MVDDS 5G Coalition, RM-11768, GN Dkt. No. 14-177, at 2 (filed July 27, 2016).

²² See Statement of AT&T Opposing Petition for Rulemaking, RM-11768 at 2 (filed June 8, 2016) (“In the prior rulemaking proceeding, the Commission determined that the MITRE Report upon which it relied in setting the parameters for MVDDS service constituted a sufficient technical demonstration for any technology that operated within those parameters, so that it need not obtain a separate review for every deployment of a new technology.”).

²³ Reply Comments of the MVDDS 5G Coalition at 10.

²⁴ *Id.* at 13 (quoting Fed. Comm’n Comm’n, Connecting America: the National Broadband Plan 75 (2010)).

²⁵ Wheeler Future of Wireless Speech.

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capacity and latency issues that can be present with 3G and 4G. The Commission should solicit public comment and review its current rules that are holding back technological innovation. Such a proceeding would promote the Commission's goals of providing more spectrum for 5G, and it would help the U.S. maintain its position as a global leader in mobile.

Sincerely,

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