Before the
Federal Communications Commission
Washington, DC 20554

In the Matter of	)	
	)	
Use of Spectrum Bands Above 24 GHz For Mobile Radio Services	)	GN Docket No. 14-177
	)	
Amendment of the Commission's Rules Regarding the 37.0-38.6 GHz and 38.6-40.0 GHz Bands	)	ET Docket No. 95-183 (Terminated)
	)	
Implementation of Section 309(j) of the Communications Act – Competitive Bidding, 37.0-38.6 GHz and 38.6-40.0 GHz Bands	)	PP Docket No. 93-253 (Terminated)
	)	
Petition for Rulemaking of the Fixed Wireless Communications Coalition to Create Service Rules for the 42.0-43.5 GHz Band	)	RM-11664

REPLY COMMENTS OF THE SATELLITE INDUSTRY ASSOCIATION

The Satellite Industry Association ("SIA") submits these reply comments in the above captioned proceeding on technological developments and use of spectrum in the bands above 24 GHz.[1] The record in this proceeding demonstrates that the satellite industry is a critical part of the communications infrastructure of the United States, providing innovative, cost-effective and spectrally efficient services in bands above 24 GHz. The record further demonstrates that the next-generation mobile radio service ("5G") is years away and needs further definition before any technical rules can be developed to ensure the compatibility of 5G services with other services to which the bands are currently allocated and for which there is demonstrated need. As such, it would be premature for the Federal Communications Commission ("FCC" or "the Commission") to initiate any rulemakings for the use of the bands above 24 GHz for 5G services

[1] *See Use of Spectrum Bands Above 24 GHz For Mobile Radio Services*, et al., Notice of Inquiry, FCC 14-154 (rel. Oct. 17, 2014) ("NOI").

on a shared basis, or to forestall the continued use of these frequencies by other services. Further, any calls for exclusive use by 5G services of the bands above 24 GHz must be rejected because excluding currently accommodated services would reduce availability of ubiquitous, competitive communications services available to U.S. consumers.

I. THE RECORD IN THIS PROCEEDING DEMONSTRATES THAT THE DEVELOPMENT OF 5G TECHNOLOGY IS IN ITS INFANCY AND THAT A RULEMAKING PROCEEDING EXPLORING SHARING WITH SUCH TECHNOLOGY WOULD BE PREMATURE

As the record demonstrates, 5G technologies are still in the conceptual phase and, accordingly, are many years away from potential deployment despite limited early testing by a few manufacturers.[2] Before the FCC can examine the compatibility of 5G services with other users in spectrum above 24 GHz in a rulemaking proceeding, 5G technology needs to be further defined.[3] Until 5G technologies are further developed, such that meaningful technical analyses can be conducted, the FCC should not move forward to initiate a rulemaking proceeding exploring sharing by 5G services in the spectrum above 24 GHz.

II. THE FCC SHOULD REJECT CALLS FOR EXCLUSIVE USE OF SPECTRUM FOR 5G, AS THIS WILL CONSTRAIN INNOVATIVE AND IMPORTANT EXISTING AND PLANNED SPECTRUM USES

The Commission must keep in mind the operation of existing services and the spectrum resources required to support increasing customer demands as it considers the use of the same spectrum by new services, even on a shared basis. This is especially true in the satellite bands

[2] *See, e.g.*, GN Dkt No. 14-177, RM-11664, Comments of Verizon at 2 ("While a substantial amount of work is being done that may eventually lead to commercial uses of one or more above-24 GHz spectrum bands, it is currently unclear what technologies and business models may eventually emerge for those frequencies."); GN Dkt No. 14-177, RM-11664, Comments of 4G Americas at 3 ("much more research and development by industry is needed before 5G is deployed").

[3] *Cf.* Amendment of Part 11 of the Commission's Rules (Emergency Alert System), Order, 18 FCC Rcd. 16406, 16406 ¶ 1 (EB 2003) (dismissing a petition for rulemaking that was premature because an advisory committee was still working through issues); *cf.* 47 C.F.R. § 1.401(e) (petitions for rulemaking may be denied or dismissed if premature).

above 24 GHz where broadband and other advanced satellite services, like direct-to-home video, are offered.[4] As the record reflects, satellites are providing vital services to all Americans using spectrum bands above 24 GHz. Satellites "distribute point-to-multipoint video and other high-bandwidth services more efficiently and more cost effectively than any other technology."[5] In addition, high-throughput satellites are bringing competitive broadband services to all of the United States. Satellites also provide advanced services to ships, aircrafts and motor vehicles.[6]

Despite the many valuable services currently provided by existing licensees, including satellite network operators and service providers, in the bands above 24 GHz, there are proposals to make spectrum exclusively available to support 5G.[7] These proposals are not supported by the record and are premature, at best. Consideration of repurposing spectrum access from existing users without a supporting record would result in the loss of critical services to U.S. consumers, and to vital enterprise users such as first responders and the U.S. military.[8] As such, the FCC should not consider reassigning spectrum above 24 GHz for exclusive use for 5G services.

Instead, SIA urges the FCC to protect and facilitate the continued use of spectrum in the bands under consideration by incumbents, including satellite service providers, to meet the broad range of expanding consumer, commercial, and government requirements. As SIA stated in its

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[4] *See* GN Dkt No. 14-177, RM-11664, Comments of the Satellite Industry Association at 7-9 (filed Jan. 15, 2015) ("SIA Comments"). In the future the V-band and even the 70/80 GHz band are planned for satellite services.

[5] SIA Comments at 3. *See also* GN Dkt No. 14-177, RM-11664, Comments of ViaSat at 2 (filed Jan. 15, 2015), GN Dkt No. 14-177, RM-11664, Comments of O3b Limited at 5-6 (filed Jan. 15, 2015), GN Dkt No. 14-177, RM-11664, Comments of Iridium Satellite LLC at 2-5 (filed Jan. 15, 2015).

[6] SIA Comments at 3.

[7] *See* GN Dkt No. 14-177, RM-11664, Comments of Qualcomm Incorporated at 16 (filed Jan. 15, 2015); GN Dkt No. 14-177, RM-11664, Comments of CTIA – The Wireless Association at 8-9 (filed Jan. 15, 2015).

[8] *See* NOI at ¶ 46 ("most of the candidate bands above 24 GHz are already shared and, most likely, will continue to be shared by other services").

initial comments in this proceeding, "a comprehensive spectrum policy is required that takes into account the growth requirements and the need for innovation for all services – whether terrestrial or space-based."[9] Consequently, the FCC needs to ensure that all services, including satellite services, have continued access to sufficient spectrum to meet existing and future capacity demands.

III. THERE IS NO BASIS FOR FREEZING APPLICATIONS IN THE V-BAND

As the record reflects, the bands above 24 GHz which are allocated for satellite use are either being used extensively or are under active development. For example, many satellite companies are planning new satellite networks in the V-band and are developing the required space and ground segment components.[10] This expanding deployment in the V-band will lead in the near future to widespread use of this spectrum, as has happened in other satellite bands, like the Ka-band, that is now being used for broadband services across the United States by over 1.6 million U.S. consumers.

In an effort to obtain exclusive or greater use of these frequency bands, one commenter has asked the FCC to freeze satellite applications in the V-band.[11] In light of the important stage of development of frequency bands such as the V-band for satellite services and the infancy of 5G technologies, freezing V-band satellite applications at this time would be a mistake. In fact, such FCC action could forestall the availability of advanced services to consumers in the V-band

[9] SIA Comments at 10.

[10] *See id.* at 8; GN Dkt No. 14-177, RM-11664, Comments of EchoStar Satellite Operating Corporation, Hughes Network Systems, LLC and Alta Wireless, Inc. at 9 (filed Jan. 15, 2015) ("EchoStar Comments").

[11] GN Dkt No. 14-177, RM-11664, *Ex Parte* of Straight Path Communications, Inc. at 2-3 (filed Jan. 15, 2015).

without any resulting benefit, given the undeveloped status of 5G technology.[12] Freezing V-band satellite applications not only threatens to forestall innovation, but also risks prejudging the many issues that will need to be considered in future rulemaking proceedings. SIA urges the Commission not to impose a freeze on satellite applications in the bands under consideration in this proceeding. Instead, the FCC should continue to allow currently-allocated services to further develop and deploy, bringing innovative services to U.S. consumers and organizations.

IV. CONCLUSION

SIA urges the Commission to ensure that U.S. consumers, enterprises, and government users continue to have access to cost-effective, innovative and spectrally efficient satellite services. Only once 5G technologies are mature enough to enable an evaluation of their technical parameters and the potential for co-existence with existing spectrum allocations should the FCC consider proceeding with a rulemaking.

Respectfully submitted,

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February 18, 2015

[12] *See* SIA Comments at 9; EchoStar Comments at 25.