

**Before the  
Federal Communications Commission  
Washington, D.C. 20554**

In the Matter of	)	
	)	
Use of Spectrum Bands Above 24 GHz For	)	GN Docket No. 14-177
Mobile Radio Services	)	
	)	
Amendment of Parts 1, 22, 24, 27, 74, 80,	)	WT Docket No. 10-112
90, 95 and 101 To Establish Uniform	)	
License Renewal, Discontinuance of	)	
Operation, and Geographic Partitioning and	)	
Spectrum Disaggregation Rules and Policies	)	
for Certain Wireless Radio Services	)	
	)	

**REPLY COMMENTS OF VIASAT, INC.  
TO THIRD FURTHER NOTICE OF PROPOSED RULEMAKING**

Viasat, Inc. (“Viasat”) replies to comments filed in response to the Commission’s Third Further Notice of Proposed Rulemaking (“FNPRM”) in the Spectrum Frontiers proceeding, which, among other things, seeks comment on a proposal to make the 50.4-51.4 GHz band segment available for satellite operations.<sup>1</sup>

In its opening comments, Viasat expressed support for opening the 50.4-51.4 GHz band segment for satellite use, as the Commission proposed in the FNRPM. The Commission has acknowledged both the important need for satellite access to 50.4-51.4 GHz on a shared basis with terrestrial mobile services, and the demonstrated ability of smaller gateway-type earth stations to operate with very small separation distances from terrestrial services. Therefore, Viasat urged the Commission to clarify that, in addition to the limited numbers of protected earth

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<sup>1</sup> *Use of Spectrum Bands Above 24 GHz for Mobile Radio Services*, GN Docket No. 14-177, Third Report and Order, Memorandum Opinion and Order, and Third Further Notice of Proposed Rulemaking, FCC 18-73, ¶ 94 (rel. June 8, 2018) (“FNPRM”).

stations that may be operated in the 50.4-51.4 GHz and 47.2-48.2 GHz bands pursuant to the criteria in Section 25.136, additional earth stations in these bands may be authorized to operate on a secondary basis with respect to terrestrial wireless operations.

Like Viasat, other commenters support the Commission's proposal to allow FSS at 50.4-51.4 GHz based on the population coverage limitations and numerical limits that have been adopted for other bands shared with UMFU. Specifically, AT&T, Ericsson and the Telecommunications Industry Association ("TIA") concur that FSS can share based on rules that parallel the existing regime in other bands.<sup>2</sup> These commenters agree that the existing sharing framework would permit deployment of new FSS earth stations alongside commercial development of 5G in the 50.4-51.4 GHz band segment.<sup>3</sup>

Because the Commission essentially has proposed simply to extend to the 50.4-51.4 GHz band the existing sharing framework adopted for the 24.75-25.25 GHz, 27.5-28.35 GHz and 47.2-48.2 GHz bands, there is no need to defer adopting service rules for satellite at 50.4-51.4 GHz as CTIA, CCA, Nokia and T-Mobile suggest. While not opposing a satellite designation at 50.4-51.4 GHz, these commenters ask the Commission to finalize rules for UMFU before adopting licensing rules for the FSS.<sup>4</sup> Because the Commission has determined that this sharing mechanism works in other bands—notably at 24.75-25.25 GHz, 27.5-28.35 GHz, and 47.2-48.2 GHz—there is no good reason to defer action on the 50.4-51.4 GHz. In fact, the operating environment at 50.4-51.4 GHz is even more favorable for this type of coexistence, because transmitting earth station signals at these higher frequencies will not travel as far and are more

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<sup>2</sup> AT&T Comments at 15; Ericsson Comments at 14; TIA Comments at 6-7.

<sup>3</sup> AT&T Comments at 16; Ericsson Comments at 14; TIA Comments at 6-7.

<sup>4</sup> See CTIA Comments at 14; CCA Comments at 7; T-Mobile Comments at 19-20.

susceptible to blockage and attenuation, particularly as compared to signals at 24.75-25.25 GHz and 27.5-28.35 GHz.

Based on these propagation characteristics, satellite operators voice unanimous support for allowing satellite use of the 50.4-51.4 GHz band,<sup>5</sup> and note that several applications for authority to operate satellite networks in this band remain pending while the Commission considers service rules in this proceeding.<sup>6</sup> In general, the other satellite operator commenters urge the Commission to provide greater flexibility for earth stations at 50.4-51.4 GHz. Boeing, SpaceX and SES/O3b each propose that the Commission loosen the numerical and population coverage restrictions proposed for the 50.4-51.4 GHz.<sup>7</sup>

Viasat has no objection to exploring additional flexibility for the siting of protected earth stations. However, the fundamental premise underlying Boeing and SES/O3b's proposals—that gateway-type earth stations are more likely to be sited in rural areas<sup>8</sup>—is wrong and does not reflect the reality of high-throughput satellite technology. Boeing and SES/O3b's comments incorrectly leave the impression that rural deployment will be the norm.

As Viasat has underscored throughout this proceeding, satellite gateways must be capable of deployment throughout the nation, not just in rural areas. In particular, gateways must be capable of deployment in areas where suitable fiber facilities are located in order to provide cost-effective connectivity to the Internet.<sup>9</sup> SpaceX also acknowledges that “[p]roviding robust

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<sup>5</sup> See EchoStar/Hughes Comments at 1; SpaceX Comments at 1-2; Boeing Comments at 2; SES/O3b Comments at 2.

<sup>6</sup> See EchoStar/Hughes Comments at 6-7; Boeing Comments at 2; SES/O3b Comments at 2.

<sup>7</sup> See, e.g., Boeing Comments at 4-5; SpaceX Comments at 6-7; SES/O3b Comments at 4.

<sup>8</sup> Boeing Comments at 5, 6; SES/O3b Comments at 3.

<sup>9</sup> See, e.g., Opposition of Viasat, Inc. to Petitions for Reconsideration, GN Docket No. 14-177, *et al.*, at 6 (filed Jan. 31, 2017).

broadband connectivity to the entire U.S. requires that FSS operators . . . be able to locate their gateways at sites with reliable power and access to Internet points of presence, and these sites are often not rural.”<sup>10</sup> Indeed, the Commission adopted the current sharing framework for FSS and UMFU based on its express recognition of the need for earth stations to access spectrum in and around populated areas where fiber connections to the internet backbone are available and readily accessible.<sup>11</sup>

For the reasons discussed above and in its opening comments in this FNPRM proceeding, Viasat supports the Commission’s proposal to adopt rules allowing satellite access to the 50.4-51.4 GHz band segment. Viasat also urges the Commission to clarify the ability of earth stations to operate on a secondary basis in the 47.2-48.2 GHz and 50.4-51.4 GHz band segments, as an alternative to meeting the criteria for protection in Section 25.136.

Respectfully submitted,

/s/

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<sup>10</sup> SpaceX Comments at 3-4.

<sup>11</sup> See *Use of Spectrum Bands Above 24 GHz for Mobile Radio Services, et al.*, Report and Order and Further Notice of Proposed Rulemaking, 31 FCC Rcd 8014 ¶ 60 (2016) (rejecting proposals that would limit earth station deployment to rural areas, and acknowledging that earth stations would need to be deployed near population centers).