



October 18, 2017

By Electronic Filing

Marlene H. Dortch, Secretary
Federal Communications Commission
445 Twelfth Street, SW
Washington, DC 20554

Re: *ViaSat, Inc. Petition for Declaratory Ruling Granting Access to the U.S. Market for the ViaSat System*, IBFS File No. SAT-PDR-20161115-00120

Dear Ms. Dortch:

Pursuant to Section 1.1206 of the Commission's rules, 47 C.F.R. § 1.1206, Hughes Network Services, LLC ("Hughes") and Inmarsat, Inc. ("Inmarsat") submit this letter summarizing a meeting on October 17 regarding the above-referenced application. Present at the meeting on behalf of Hughes were Jennifer A. Manner, Senior Vice President, Regulatory Affairs, and Lynne Montgomery, outside counsel. Also present by phone on behalf of Inmarsat was Giselle Creeser, Director, Regulatory. Hughes and Inmarsat met with Jose Albuquerque, Karl Kensinger, Chip Fleming, Stephen Duall, and Alan Thomas of the International Bureau ("IB"). At the meeting, Hughes and Inmarsat discussed the points set forth in the attachment, copies of which were distributed to IB staff.

Please direct any questions regarding this matter to the undersigned.

Respectfully Submitted,

/s/ Jennifer A. Manner

Jennifer A. Manner
Senior Vice President, Regulatory Affairs
Hughes Network Systems, LLC
11717 Exploration Lane
Germantown, MD 20876
(301) 428-5893

Attachment

cc: Jose Albuquerque
Karl Kensinger
Chip Fleming

Stephen Duall
Alan Thomas



VIASAT'S REQUEST FOR NON-CONFORMING INTER-SATELLITE SERVICE USE OF KA-BAND FIXED-SATELLITE SERVICE SPECTRUM SHOULD BE DISMISSED

*ViaSat Petition for U.S. Market Access for Ka-band NGSO Operations, IBFS File No.
SAT-PDR-20161115-00120*

October 2017

- Hughes Network Systems, LLC (“Hughes”) is the largest provider of satellite broadband services in the United States and globally, with more than one million subscribers in North America. Hughes operates three satellites in the Ka band, including spectrum that ViaSat seeks access for inter-satellite links (“ISLs”) (*i.e.*, 17.8-19.3 GHz and 19.7-20.2 GHz for inter-satellite “downlinks” from geostationary (“GSO”) to non-geostationary (“NGSO”) satellites, and 27.5-29.1 GHz and 29.5-30.0 GHz for inter-satellite “uplinks” from NGSO to GSO satellites).¹ Hughes also has applied to the Commission for authority to construct, launch, and operate its next-generation satellite, HNS 95W, to provide state-of-the-art satellite broadband services to consumers across the United States.² Construction of HNS 95W has begun, and launch is planned for early 2021. The satellite will operate in the Ka and V bands, including 17.8-19.3 GHz, 19.7-20.2 GHz, 27.5-29.1 GHz, and 29.5-30.0 GHz.³

The Commission Should Dismiss ViaSat’s Request for Ka-band ISLs Since No International Frequency Allocation for ISL Use of the Spectrum Exists.

- Section 25.112(a)(3) of the FCC’s rules requires dismissal of a request for “authority to operate a space station in a frequency band that is not allocated internationally for such operations under the Radio Regulations of the International Telecommunication Union.” In adopting this rule, the FCC stated that it “will dismiss applications for NGSO-like satellite systems without prejudice as premature [in cases where there is no international frequency allocation].”⁴ The FCC further noted that “[o]nce there is an international frequency allocation ...

¹ ViaSat is seeking market access for a Ka- and V-band NGSO constellation, utilizing portions of the Ka-band (*i.e.*, 17.8-19.3 GHz, 19.7-20.2 GHz, 27.5-29.1 GHz, and 29.5-30.0 GHz) “to support high-speed transmissions between its NGSO constellation and its in-orbit [geostationary orbit (“GSO”)] satellites. See ViaSat, Petition for Declaratory Ruling, p.5 (filed November 15, 2016).

² Hughes Network Systems, LLC Application for Satellite Space Station Authorizations, IBFS File No. SAT-LOA-20170621-00092.

³ Press release: “Hughes Selects Space Systems Loral to Build Next-Generation Ultra High Density Satellite” (August 9, 2017), available at: <http://ir.echostar.com/news-releases/news-release-details/hughes-selects-space-systems-loral-build-next-generation-ultra>

⁴ See *Amendment of the Commission’s Space Station Licensing Rules and Policies*, 18 FCC Rcd 10760, ¶ 49 (2003).

[but] before a domestic allocation is adopted,” an applicant may request a waiver of the *domestic* allocations to permit a non-conforming use of spectrum.⁵

- Neither the International Table nor U.S. Table of Frequency Allocations provides any allocation for ViaSat’s proposed ISL use of Ka-band spectrum. *See* 47 C.F.R. § 2.106.
- The FCC has found that “ISLs are communication links between in-orbit satellites . . . [and] operate in spectrum *allocated to the inter-satellite service* [“ISS”].”⁶ The FCC in fact has deferred licensing of ISLs when the spectrum is not internationally allocated or otherwise available for ISS use.⁷
- Although ViaSat argues that Section 2.1 of the FCC’s rules broadly defines “Fixed-Satellite Service” to “include[] satellite-to-satellite links, which may also be operated in the inter-satellite service,” it fails to cite to any FCC precedent finding that ISLs qualify as FSS and may be authorized consistent with an international FSS allocation. Analogously, satellite services such as direct broadcast satellite (“DBS”), broadcasting satellite service (“BSS”), and mobile satellite service (“MSS”), may include gateway uplinks, but these uplinks are typically licensed for spectrum internationally allocated to FSS uplinks, and not for the end-user satellite service (*i.e.*, DBS, BSS, or MSS).
- Accordingly, in the absence of an international allocation for ISS use of the requested Ka-band spectrum, the FCC lacks authority to waive its allocation rules to permit non-conforming ISS use, and consequently should dismiss ViaSat’s request for Ka-band ISLs.

At a Minimum the FCC Should Defer Authorizing Use of Ka-Band FSS Spectrum for ISLs Until Completion of Technical Studies Are Completed to Ensure Interference Protection to GSO Operations

- Use of Ka-band FSS spectrum for ISLs has not been subject to completed technical studies to ensure interference protection to GSO operations. Although ViaSat has submitted a technical analysis purportedly showing no harmful interference, the analysis has not been fully vetted or supported domestically or internationally.
- Specific allocations of frequency bands for use as ISS links are traditionally made by competent World Radiocommunication Conferences (“WRC”) based on study contributions and analysis that guarantee the safe use of those frequency bands for such service. If necessary, an agenda item could be proposed at WRC-19 for consideration at WRC-23.
- ViaSat has recognized the importance of protecting GSO operations from harmful interference caused by NGSO systems and has supported conditioning grants of market access on the adoption of suitable aggregate interference limits.⁸ As with

⁵ *See id.* ¶ 50.

⁶ *See Teledesic*, Order and Authorization, DA 01-229, ¶ 1 n.3 (IB 2001) (emphasis added) (citing International Telecommunication Union (“ITU”) Radio Regulation § 1.22).

⁷ *See, e.g., Teledesic*, 12 FCC Rcd 3154, ¶ 21 (1997).

⁸ Reply Comments of ViaSat, IBFS File No. SAT-PDR-20161115-00120, (July 14, 2017).

the concerns over aggregate EPFD limits, the impact of multiple, large-scale NGSO constellations using ISS links to interconnect orbital arcs in FSS Ka-band spectrum has not been sufficiently quantified in order to fashion adequate protections for existing GSO networks. Unlike the concern over aggregate EPFD limits, there are no baseline interference standards from which operators can comport their NGSO-to-GSO FSS Ka-band ISS transmissions. Moreover, no studies have been conducted to determine whether use of FSS Ka-band spectrum for ISS links will contribute to aggregate EPFD limits, further exacerbating the issue for which ViaSat has itself demanded action.

- Without further analysis being performed and appropriate rules being adopted domestically and internationally, there is a risk that ViaSat's proposal could result in harmful interference to other satellite systems (both GSO and NGSO) in the Ka band. It is imperative then that further action on ViaSat's NGSO-to-GSO proposal be deferred until standards for antenna pointing accuracy, performance standards and interference avoidance can be addressed internationally and domestically.
- Accordingly, consideration of ViaSat's request for ISL use of Ka-band spectrum should be dismissed or at least deferred until completion of appropriate technical studies and adoption of technical and operational rules to ensure interference protection to GSO operations at a competent WRC and then domestically.