

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

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<i>In the Matter of</i>)	
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VIASAT, INC.)	IBFS File No. SAT-PDR-20161115-00120
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REPLY OF SPACE EXPLORATION HOLDINGS, LLC

Space Exploration Holdings, LLC (“SpaceX”) hereby replies to the response filed by ViaSat, Inc. (“ViaSat”) in the above referenced proceeding.¹ In particular, SpaceX highlights two issues: (1) the need for ViaSat to share beam pointing information for its mid-Earth orbit (“MEO”) satellites to enable other NGSO systems to distinguish between real and false in-line events; and (2) concerns that ViaSat’s system may not protect other NGSO systems while splitting spectrum bands during in-line events. As discussed below, the Commission should address these two issues in order to ensure that any authorization issued to ViaSat will be consistent with efficient use of valuable spectrum resources.

In its comments, SpaceX argued that the Commission should require ViaSat to share real-time pointing data for its MEO constellation with other NGSO operators so as to minimize the potential impact of false in-line events – *i.e.*, those situations where such an event is possible but does not actually occur because ViaSat is not operating a beam in the relevant direction.² ViaSat argues that it should not be required to disclose “proprietary data of this type,” claiming that as

¹ See Consolidated Response of ViaSat, Inc., IBFS File No. SAT-PDR-20161115-00120 (Aug. 1, 2017) (“ViaSat Response”).

² See Comments of Space Exploration Holdings, LLC, IBFS File Nos. SAT-LOA-20161115-00117, *et al.*, at 10-12 (July 17, 2017) (“SpaceX Comments”).

long as it complies with the Commission’s NGSO spectrum sharing requirements “there is no legitimate need for SpaceX to have information about the particulars of ViaSat’s beam pointing at any given time.”³ This argument ignores the huge increase in spectral efficiency that sharing this data could achieve. Each ViaSat MEO satellite’s beam can be steered across a footprint significantly larger than North America, but will only serve a small portion of that footprint at any given time. Without real-time steering information, therefore, other operators will be unable to determine when they pass through and seek to serve an earth station within an active ViaSat spot beam, as opposed to a portion of the ViaSat footprint that is not actively being served. Using such information, other NGSO systems can identify and ignore a large number of false in-line events, and focus spectrum sharing efforts on the much smaller number of cases in which interference is truly likely to occur. This would enable both ViaSat and other operators to avoid inefficient band splitting and other strategies that would significantly decrease the ability of all NGSO operators to provide robust service to U.S. consumers. Clearly, there is a “legitimate need” for ViaSat to share such information to maximize the public interest benefits of efficient spectrum use.⁴

SpaceX also raised a question about whether ViaSat will be able to achieve sufficient adjacent-channel performance to facilitate band splitting.⁵ ViaSat attempts to dismiss this concern for two reasons.⁶ First, it notes that its NGSO system will comply with the out-of-band emission limits of Section 25.202(f). However, it is not clear how this rule applies in the context of band

³ ViaSat Response at 4-5.

⁴ To the extent ViaSat is concerned about sharing proprietary information, beam-pointing data could be provided on a confidential basis to a third-party clearinghouse that could then provide other NGSO operators a simple “yes/no” response as to whether a given satellite would be involved in an in-line event with ViaSat.

⁵ See SpaceX Comments at 12 and n.15.

⁶ See ViaSat Response at 7.

splitting during an in-line event. In particular, the term “authorized bandwidth” is not defined in the Commission’s rules. By definition, both operators involved in an in-line event are authorized to operate over the entire bandwidth at issue, even if in fact each operates using only half of that bandwidth. A system designed to comply with Section 25.202(f) at the edges of a band may not have the ability to meet the same restrictions when using sub-bands. The Commission should clarify that “authorized bandwidth” in the context of an in-line event refers to the spectrum actually used by each operator during such an event. Second, ViaSat says that it will comply with any new rules adopted to address adjacent channel interference issues during band-splitting. Such a commitment provides some comfort, but the Commission should reinforce this obligation with an appropriate condition on any grant.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that, on this 11th day of August, 2017, a copy of the foregoing pleading was served via U.S. mail upon:

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