September 21, 2020

VIA ELECTRONIC FILING
Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: Written *Ex Parte* Presentation
IBFS File No. SAT-MOD-20200417-00037

Dear Ms. Dortch:

Hughes Network Systems, LLC ("HUGHES") is filing this letter in support of recent ex parte comments by ViaSat Inc. in the referenced docket[1] regarding the above-referenced modification application filed by Space Exploration Holdings, LLC ("SpaceX"). Specifically, Hughes supports ViaSat's comments regarding SpaceX's ability to meet its alleged latency, and Hughes provides supplemental information questioning SpaceX's claims on the speeds it will be able to provide to users in a mass market offering. As a provider of satellite broadband services throughout the United States, Hughes is concerned that inaccurate information provided to the Commission and U.S. consumers regarding satellite broadband capabilities could result in negative repercussions throughout the satellite industry. In addition, Hughes urges the FCC to ensure that SpaceX's satellite network operates in a safe and reliable manner to protect space resources for all, including Hughes.

Hughes shares ViaSat's concerns over recent claims regarding the latency of SpaceX's Starlink system, including claimed ping times of 18 and 19 milliseconds.[2] As ViaSat notes, the FCC should be concerned about relying upon these *best-case* latency measurements as satisfactory evidence of meeting the Commission's 100 millisecond round-trip latency requirement. These measurements were based on an extremely lightly loaded network operating without regard to geographic location relative to terrestrial network components. As ViaSat further notes, the Commission's requirement reflects the ability to provide that level of service 95% of the time, under peak busy hour conditions, and at representative locations. SpaceX has failed to provide data that reflects mass market conditions for measuring latency. All beta customers are on a lightly loaded satellite without taking into account the network architecture that SpaceX will be operating. Accordingly, it is highly unlikely that SpaceX's system, once fully loaded and deployed, will be able to meet SpaceX's alleged latency metrics.

Based on recently published speed tests by Starlink beta customers,[3] it is unlikely that SpaceX can meet its alleged 100/20 Mbps speeds at a mass market capability. The testing was on an unloaded satellite. For nearly all beta customers, the download speeds did not reach 100 Mbps.[4] In fact, several testers were experiencing

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[1] ViaSat Notice of Ex Parte, IBFS File No. SAT-MOD-20200417-00037 (filed Sept. 17, 2020) ("ViaSat Ex Parte").

[2] *See* ViaSat Ex Parte at 2; and Letter of David Goldman, Space Exploration Holdings, LLC, to Marlene H. Dortch, Secretary, FCC, IBFS File No. SAT-MOD-20200417-00037, Exhibit A, at 5 (filed Sep. 4, 2020).

https://www.telecompetitor.com/first-spacex-starlink-satellite-broadband-speeds-revealed/.

[4] *See id.*

significantly lower speeds than what SpaceX is claiming, such as 31/33.62 Mbps, and 33/35.49 Mbps [5], which are reflective of the FCC's current broadband speed standard. Indeed, the FCC should rely only on credible data and analysis to show the magnitude of from an unloaded to a loaded Starlink system—similar to the latency curve in Figure 1 in the ViaSat *Ex Parte*—resulting in even lower speeds as the system approaches capacity.[6]

The Commission must carefully examine the serious issues raised in connection with SpaceX's pending modification application, including claims about its speed and latency performance metrics. SpaceX should be required to address these concerns in this application proceeding to ensure that the FCC and U.S. consumers have the most accurate information about the performance of SpaceX's satellite constellation.

Finally, as a participant in the U.S. space industry, Hughes urges the FCC to ensure a safe and sustainable space environment for the benefit of all. Accordingly, the FCC should examine each satellite network in this light prior to any authorization for launch.

Please feel free to contact the undersigned if you have any questions or need additional information regarding this submission.

Respectfully submitted,

/s/

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Hughes Network Systems, LLC

cc:

Stephen Spivey
Thomas Sullivan
Bob Nelson
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[5] *See id.*

[6] ViaSat Ex Parte at Figure 1.