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May 5, 2016

VIA ELECTRONIC FILING

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

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Re: ViaSat, Inc. IBFS File No. SES-MOD-20160108-00029; Call Sign E120075

Dear Ms. Dortch:

ViaSat, Inc. (“ViaSat”) responds to Verizon’s April 13, 2016¹ informal comments on ViaSat’s application to modify its existing Ka-band aeronautical earth station authorization to extend to operations in the 28.1-28.35 GHz band segment.²

Verizon does not oppose grant of the Modification Application, but simply asks that the Commission either (i) make clear that operations at 28.1-28.35 GHz would not be “grandfathered” because they are authorized before an order issues in the Spectrum Frontiers rulemaking, or (ii) defer grant until it considers “the impact of existing and future FSS earth station operations” on the 5G services being considered for the 27.5-28.35 GHz band segment in that proceeding.³

¹ See Letter from Christopher D. Oatway, Verizon, to Marlene H. Dortch, FCC, IBFS File No. SES-MOD-20160108-00029; Call Sign E120075 (Apr. 13, 2016) (“Verizon Informal Comments”). Verizon’s filing was made outside of the 30-day period for formal comment. See 47 C.F.R. § 25.154(a); Public Notice, Rept. No. SES-01829, at 8 (rel. Mar. 2, 2016).

² ViaSat, Inc. Modification Application, IBFS File No. SES-MOD-20160108-00029, Call Sign E120075 (filed Jan. 8, 2016) (“Modification Application”).

³ Verizon Informal Comments at 2.

As a threshold matter, ViaSat does not object to conditioning grant of the Modification Application on the outcome of the Spectrum Frontiers rulemaking⁴ or otherwise making clear that the requested authority would not be “grandfathered” simply because it issues before that rulemaking is resolved. As Verizon acknowledges, ViaSat has requested authority to operate aeronautical earth stations in the 28.1-28.35 GHz band on a secondary basis, not on a “protected” basis that might apply to certain grandfathered or future individually-licensed earth station facilities.

Verizon questions whether ViaSat has adequately assessed the interference potential of its proposed operations at 28.1-28.35 GHz, including what happens during aircraft rolling/turning maneuvers.⁵ Notably, the Modification Application incorporates by reference ViaSat’s prior detailed technical analysis of such matters in its initial license application.⁶ As explained in that prior application, the antenna remains accurately pointed in the intended direction (toward a satellite) even when an aircraft banks, rolls, and turns. Moreover, transmissions cease in less than 100 milliseconds if the antenna is not properly aligned.⁷ ViaSat is not aware of a single case of harmful interference caused by these types of aeronautical antennas in hundreds of millions of flight miles and nearly 12 years of operations in the Ku and Ka bands, even though they have long operated in spectrum bands shared with many other licensees.⁸

Sharing in the 28.1-28.35 GHz band segment with terrestrial wireless networks is no different because the aeronautical terminals typically will not be aligned with terrestrial receivers when the aircraft is flying at altitudes of 10,000 feet and above. Moreover, the aircraft fuselage typically provides blockage of any emissions toward the ground. But even if that were not the case, the resulting I/N at the LMDS receiver is still negative. As demonstrated in the Modification Application, the impact to terrestrial receivers would be *de minimis* even in a worst-case direct azimuth alignment.⁹ ViaSat analyzed typical terrestrial receivers in the absence

⁴ *Use of Spectrum Bands Above 24 GHz for Mobile Radio Services*, GN Docket No. 14-77, *et al.*, Notice of Proposed Rulemaking, FCC 15-138 (rel. Oct. 23, 2015).

⁵ *See* Verizon Informal Comments.

⁶ *See* Modification Application, Technical Analysis; ViaSat, Inc., IBFS File No. SES-LIC-20120427-00404, Call Sign E120075 (filed Apr. 27, 2012) (“Aeronautical Application”).

⁷ *See* Aeronautical Application, Exhibit A at 7, Attachment 1 Technical Description at 5-6.

⁸ *See, e.g.*, ViaSat, Inc. OET File No. 0130-EX-RR-2004 (granted on Nov. 1, 2004) (granting experimental authority for mobile terminals in Ku band frequencies); *ARINC Incorporated*, 20 FCC Rcd 7553 (2005) (granting authority for an aeronautical mobile Ku band network using ViaSat antennas and control equipment); *ViaSat, Inc.*, 22 FCC Rcd 19964 (2007) (granting ViaSat authority to operate an aeronautical mobile network using Ku band frequencies); ViaSat, Inc., IBFS File No. SES-LIC-20120427-00404, Call Sign E120075 (granted July 17, 2013) (granting authority for Ka band aeronautical mobile terminal network).

⁹ *See* Modification Application, Technical Analysis at 3-4.

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of any defined parameters for the 5G service that is being considered in this band, and no one has claimed that it is unreasonable to use those parameters for this purpose, particularly given the remote chance of a direct alignment ever occurring.

For these reasons, the proposed aeronautical operations in the 28.1-28.35 GHz band segment would not pose a threat to any future terrestrial operations that may be authorized in the context of the Spectrum Frontiers proceeding. Therefore, ViaSat respectfully requests that the Commission promptly grant the Modification Application, on the basis described therein and in this letter.

Respectfully submitted,

/s/

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cc: Jose Albuquerque
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