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November 12, 2020

**EX PARTE PRESENTATION**

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

Re: Ex Parte Presentation in Petition for Rulemaking to Permit MVDDS Use of the 12.2-12.7 GHz Band for Two-Way Mobile Broadband Service, RM-11768

Dear Ms. Dortch:

DISH Network L.L.C. (“DISH”) writes to correct two misstatements from Space Exploration Holdings, LLC (“SpaceX”) in its ongoing campaign to oppose a neutral rulemaking to develop more durable rules for the 12.2-12.7 GHz band (“12 GHz Band”).<sup>1</sup>

First, SpaceX mischaracterizes the nature of its own authorization. In SpaceX’s telling, the Commission imposed only generic conditions when approving the original system and said nothing about the 12 GHz rulemaking proceeding. Not so. Footnote 88, which SpaceX inexplicably fails to cite, debunks SpaceX’s claim:

The MVDDS 5G Coalition expresses concerns regarding protection of current and potential future MVDDS operations in the 12.2-12.7 GHz band. *See* Letter from MVDDS 5G Coalition to Marlene H. Dortch, Secretary, FCC, (dated March 6, 2018). Such concerns are addressed in paragraphs 40(e) and 40(r) below, requiring SpaceX to comply with established pfd limits in this band and subjecting the authorization to modification to conform it to any future rules or policies adopted by the Commission in

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<sup>1</sup> *See* Letter from David Goldman, Director of Satellite Policy, SpaceX, to Marlene Dortch, Secretary, FCC, RM-11768 (filed November 5, 2020).

pending rulemaking proceedings. *See, e.g.*, Petition of MVDDS 5G Coalition for Rulemaking, RM-11768 (filed Apr. 26, 2016).<sup>2</sup>

SpaceX makes much of how its conditional grant contains slightly different language than that of OneWeb. The Commission made OneWeb’s authorization “subject to the outcome of the pending MVDDS Coalition Petition for Rulemaking.”<sup>3</sup> OneWeb’s conditional grant also states that the authorization “does not preclude the Commission from initiating a rulemaking proceeding regarding the 12.2-12.7 GHz band on its own motion or in response to a petition for rulemaking, including the MVDDS Coalition’s pending Petition, in the manner that best serves the public interest.”<sup>4</sup> Although SpaceX’s authorization does not contain that exact verbiage, it does not need to because footnote 88 in SpaceX’s initial authorization is already clear. By expressly citing the 12 GHz Petition, SpaceX’s grant put the company on clear notice that its authorization was conditioned on the outcome of any 12 GHz rulemaking the Commission might commence.

Just like SpaceX and OneWeb, every other Ku-band authorization is conditioned on the outcome of the 12 GHz petition.<sup>5</sup> SpaceX’s modification grants are also conditioned on rules

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<sup>2</sup> *Space Exploration Holdings, LLC Application For Approval for Orbital Deployment and Operating Authority for the SpaceX NGSO Satellite System*, Memorandum Opinion Order and Authorization, 33 FCC Rcd 3391, n.88 (2018).

<sup>3</sup> *WorldVu Satellites Limited Petition for a Declaratory Ruling Granting Access to the U.S. Market for the OneWeb NGSO FSS System*, Declaratory Ruling and Order, 32 FCC Rcd 5366, ¶ 6 (2017).

<sup>4</sup> *Id.*

<sup>5</sup> *Space Norway AS Petition for a Declaratory Ruling Granting Access to the U.S. Market for the Arctic Satellite Broadband Mission*, Order and Declaratory Ruling, 32 FCC Rcd 9649 ¶ 13 & n.48 (2017) (“As indicated above, we defer consideration of broadly applicable matters to . . . other future rulemakings, and we condition grant of the Space Norway Petition on the outcome of any rulemaking proceedings. . . . We note that, as with the *OneWeb Order*, grant of the Space Norway Petition will not prejudice any decision, including a contrary action, in any pending or future rulemaking proceeding. Rather, decisions of general applicability in such proceedings will be based on the totality of comments and proposals in those proceedings. In any event, Space Norway will not receive any special exemptions to determinations made in these rulemakings based solely on this grant, should Space Norway choose to accept it.”); *Kepler Communications Inc. Petition for Declaratory Ruling to Grant Access to the U.S. Market for Kepler’s NGSO FSS System*, Order, 33 FCC Rcd 11453, n.17 (2018) (“Although it did not file comments on the Kepler Application, the MVDDS 5G Coalition has expressed concern in other proceedings regarding protection of current and potential future MVDDS operations in the 12.2-12.7 GHz band. . . . Such concerns are addressed in paragraphs 24(d) and 29 below, requiring Kepler to comply with established PFD limits in this band and subjecting the authorization to modification to conform it to any future rules or policies adopted by the Commission in pending rulemaking proceedings.”); *Karousel Satellite LLC Application for Authority to Launch and Operate a Non-Geostationary Earth Orbit Satellite System in the Fixed Satellite Service*, Memorandum, Opinion and Authorization, 33 FCC Rcd 8485, n.14 (2018) (“Although it did not file comments on the Karousel Application, the MVDDS 5G Coalition has expressed concern in other proceedings regarding protection of current and potential future MVDDS operations in the 12.2-12.7 GHz band. . . . Such concerns are addressed by paragraphs 24(e) and 24(v)

and policies the Commission may adopt in the future.<sup>6</sup> The implication of SpaceX’s position—namely, that it has superior 12 GHz rights relative to terrestrial operators compared to OneWeb—is therefore illogical and unwarranted.

It is clear that the Commission put all NGSO FSS systems operating in the 12 GHz Band on notice that their authorizations were subject to material changes based on the outcome of the pending 12 GHz rulemaking petition. SpaceX’s plea of unfair surprise is not credible and belied by the history of events leading up to its 2018 authorization and the express language the Commission used in its Ku-band orders.

Second, SpaceX continues to mischaracterize technical studies conducted in 2016<sup>7</sup> and claims—falsely—that two-way 5G services in the 12 GHz Band are inherently incompatible with non-geostationary orbit (“NGSO”) fixed-satellite service (“FSS”) systems. The 2016 technical studies, however, were far more nuanced than SpaceX’s caricature portrays them to be. The 2016 studies concluded that coexistence may prove complicated when NGSO “earth stations rely on steerable antennas that track the path of the satellites to close the communications link.”<sup>8</sup> In

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below, requiring Karousel to comply with established PFD limits in this band and subjecting the authorization to modification to conform it to any future rules or policies adopted by the Commission in pending rulemaking proceedings.”); *Theia Holdings A, Inc. Request for Authority to Launch and Operate a Non-Geostationary Satellite Orbit System in the Fixed-Satellite Service, Mobile-Satellite Service, and Earth-Exploration Satellite Service*, Memorandum, Opinion and Authorization, 34 FCC Rcd 3526, n.13 (2019) (“Although it did not file comments on the Theia Application, the MVDDS 5G Coalition has expressed concern in other proceedings regarding protection of current and potential future MVDDS operations in the 12.2-12.7 GHz band.... To the extent they would be applicable here, such concerns are addressed in paragraph 55f below, requiring Theia to comply with established PFD limits in this band and subjecting the authorization to modification to conform it to any future rules or policies adopted by the Commission in pending rulemaking proceedings.”).

<sup>6</sup> *Space Exploration Holdings, LLC Request for Modification of the Authorization for the SpaceX NGSO Satellite System*, Order and Authorization, 34 FCC Rcd 2526 ¶ 4 (2018) (“Where appropriate, we defer matters of general applicability to ongoing or potential future rulemakings.”); *Space Exploration Holdings, LLC Request for Modification of the Authorization for the SpaceX NGSO Satellite System*, Order and Authorization, 34 FCC Rcd 12307 ¶ 19(r) (2019) (“This authorization is subject to modification to bring it into conformance with any rules or policies adopted by the Commission in the future.”).

<sup>7</sup> See Tom Peters, *MVDDS 12.2-12.7 GHz Co-Primary Service Coexistence*, at 35 (June 8, 2016), available at Attachment I to Comments of MVDDS 5G Coalition, RM-11768 (June 8, 2016) (finding that “coexistence between MVDDS 5G operations and DBS receivers is possible with modest adjustments to MVDDS site locations and radiofrequency design parameters.”); Tom Peters, *MVDDS 12.2-12.7 GHz Co-Primary Service Coexistence II* (June 23, 2016), available at Attachment I to Reply Comments of MVDDS 5G Coalition, RM-11768 (June 23, 2016) (revalidating the original coexistence study in different topological use-cases); Tom Peters, *MVDDS 12.2-12.7 GHz NGSO Coexistence Study* (Aug. 15, 2016), available at Attachment I of Petition to Deny of MVDDS 5G Coalition, RM-11768, et al. (Aug. 15, 2016).

<sup>8</sup> See Peters June 8 Study at 32.

other words, two-way 5G services may be incompatible when NGSO FSS antennas point in all directions instead of towards a fixed set of locations in the sky. To the extent, however, that NGSO FSS antennas “maintain a highly elliptical orbit and time its active operations to align with the perigee of its orbit in a manner intended to simulate the operation of a geostationary satellite orbit (GSO) system,” then 5G operations “would presumably result in a more manageable interference environment than a standard NGSO FSS system.”<sup>9</sup>

Since the 2016 studies, developments in the satellite industry indicate that NGSO FSS constellations possess geostationary-like functions and properties that could prove more compatible with 5G services in the 12 GHz Band than last-generation NGSO earth stations. NGSO FSS licensees have proposed tens of thousands of satellites blanketing the low-Earth orbit. Given the large number of satellites contemplated by these systems, an NGSO FSS antenna should be expected to operate with a much narrower field of view as opposed to throughout all realistic azimuths and elevation angles. At some level of concentration, large numbers of NGSO FSS satellites could operate for interference purposes similar to fixed DBS licensees because the receiving earth stations are directed at a limited number of proximate points in low-Earth orbit instead of a nearly limitless array of different points throughout the sky. The 2016 studies expressly addressed these contingencies and left open the possibility that coexistence between 5G and NGSO FSS may become a reality. Since 2016, moreover, a number of additional spectrum-sharing advances have emerged that may make coexistence even more feasible than it was four years ago. Whether the coexistence scenario envisioned in 2016 is now possible in 2020 is *precisely* the complex technical issue that deserves Commission study during a rulemaking.

Please feel free to contact me with any questions regarding this submission.

Sincerely,

/s/ Jeffrey H. Blum

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<sup>9</sup> See *id.* at 32 n.82.