SPACEX

July 10, 2020

VIA ELECTRONIC FILING

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

Re: *IBFS File No. SAT-MOD-20200417-00037; RM-11768; GN Docket No. 17-183*

Dear Ms. Dortch:

This letter responds to an ex parte submission by RS Access[1] that largely recycles arguments made in a 2016 petition for rulemaking (the "2016 Petition") by the MVDDS 5G Coalition. That petition proposes to stifle Fixed-Satellite Service ("FSS") consumers' ability to use the 12.2-12.7 GHz band (the "12 GHz Band") so that Multichannel Video Distribution and Data Service ("MVDDS") operators can be given mobile rights.[2] While RS Access primarily repeats arguments that have been thoroughly debunked in the record of the 2016 Petition, it also purports to somehow tie those arguments to the modification SpaceX has proposed to improve the performance and safety profile of its licensed non-geostationary orbit ("NGSO") satellite constellation.[3] Despite the attempt to impart a new gloss to these tired claims, RS Access fails both to support its plea to be given new spectrum rights and to substantiate any purported connection with SpaceX's proposed modification.

To be clear, RS Access does not allege that SpaceX's proposed modification will harm licensed MVDDS operations—nor could it. SpaceX has demonstrated that its system will continue to comply with all rules imposed to safeguard MVDDS systems.[4] Instead, RS Access vaguely asserts that SpaceX's use of the band under the existing co-primary FSS allocation could theoretically complicate the rights MVDDS operators hope the Commission will give them at a later date. RS Access repeatedly conflates the rights for which it paid—i.e., rights to operate low-power fixed links in shared spectrum—for the high-power mobile rights it hopes the government will give it for free at the expense of other licensees in the band.

---

1 Letter from V. Noah Campbell to Marlene H. Dortch, IBFS File No. SAT-MOD-20200417-00037, et al (June 11, 2020) ("RSA Letter").

2 *See* MVDDS 5G Coalition Petition for Rulemaking to Permit MVDDS Use of the 12.2-12.7 GHz Band for Two-Way Mobile Broadband Service, RM-11768 (Apr. 26, 2016) ("2016 Petition").

3 *See* Application, IBFS File No. SAT-MOD-20200417-00037 (Apr. 17, 2020).

4 *See, e.g.*, *id.*, Technical Attachment at 11-12 (demonstrating compliance with PFD limits).

1155 F Street, NW Suite 475 Washington, DC 20004
phone 202.649.2700 fax 202.649.2701
spacex.com

In doing so, RS Access ignores the careful balance that the Commission struck in the 12 GHz Band to allow both fixed terrestrial and FSS technologies to serve consumers. The Commission should not upset that balance now, just as investment and development is at an all-time high and NGSO operators are poised to bring revolutionary broadband access services to market. While SpaceX does not comment on the degree to which RS Access has succeeded in serving consumers to date, the rules enabling satellite operations in the 12 GHz Band are proving to be an overwhelming success in bringing broadband access to all Americans, regardless of where they live.

RS Access Relies on Studies that Support Its Goal of Eliminating Service to NGSO FSS Consumers but Fail to Demonstrate Any Issue with SpaceX's Proposed Modification

We should lay to rest the notion that MVDDS operators propose anything other than a take-over of the 12 GHz Band at the expense of NGSO FSS operators. As recently as December 2019, members of the MVDDS 5G Coalition conceded that "concurrent sharing of spectrum between co-primary 5G and NGSO FSS operations is not viable in the 12 GHz Band."[5] RS Access misleadingly asserts that the MVDDS Coalition has "submitted several coexistence studies demonstrating the feasibility of terrestrial mobile 5G services in the 12 GHz Band in rural areas, urban canyons, and other unique geographic conditions."[6] But in no way did those studies show how the rights RS Access asks to be given are compatible with authorized use of the band by NGSO FSS consumers. In fact, those studies related to spectrum sharing with Direct Broadcast Satellite ("DBS") systems, not NGSO FSS systems.

The conclusion of the report itself makes this clear: "For each of the three scenarios studied, we concluded that while coexistence between DBS and 5G MVDDS would prove feasible within limits, *coexistence between NGSO FSS and 5G MVDDS would not prove feasible,* without substantial constraints on one or both services."[7] As if to drive this point home, another MVDDS sharing study concluded bluntly that "MVDDS licensees *cannot* deploy two-way 5G services in the 12.2-12.7 GHz band without overwhelming NGSO FSS operations even under the current rules, notwithstanding new 5G deployment architectures and newly available high-resolution ground-obstacle data."[8] Not surprisingly, the 2016 Petition proposes that the allocation to benefit consumers of NGSO FSS in the 12 GHz Band be either eliminated entirely or relegated from co-primary to secondary.[9]

---

5 Letter from Alison Minea, DISH Network L.L.C. and SOUTH.COM LLC, to Marlene H. Dortch, Secretary, FCC, RM-11768, at 3 (Dec. 2, 2019).

6 RSA Letter at 7.

7 Reply Comments of MVDDS 5G Coalition, RM-11768, Appendix A at 1 (June 23, 2016) (emphasis added) ("MVDDS Reply Comments").

8 Comments of the MVDDS 5G Coalition, RM-11768, Attachment I at 2 (June 8, 2016) (emphasis in original) ("Peters Report").

9 *See* 2016 Petition at 23.

Accordingly, to the extent RS Access argues that the modification proposed by SpaceX could make sharing the 12 GHz Band more difficult for MVDDS and NGSO FSS operators, its argument is totally irrelevant. The technical studies submitted by the MVDDS 5G Coalition demonstrate that "MVDDS licensees cannot deploy two way 5G services in the 12.2-12.7 GHz band without overwhelming NGSO FSS operations."[10] And as RS Access points out, "[n]o party has put forth any meaningful technical data challenging the extensive engineering analysis that the Coalition has presented" – and that includes RS Access itself.[11] The 2016 Petition does not propose spectrum sharing for NGSO FSS and MVDDS. That alone is sufficient reason to dismiss any contention that the SpaceX modification should be denied because it would complicate such spectrum sharing.

RS Access Provides No Analysis of How SpaceX's Proposed Modification Could Harm MVDDS Operators' Hoped-For Rights—Or Even Their Existing Rights

Yet even if the 2016 Petition had proposed to share the band, RS Access's arguments do not hold water. In one of the few places that RS Access does tie its comments to anything specific about SpaceX's modification, it asserts—with no support—that "SpaceX's currently licensed NGSO satellite system may be compatible with 5G terrestrial broadband operations," but its "proposed system redesign likely cannot coexist with 5G terrestrial broadband," and thus could preclude a mobile allocation.[12] RS Access claims that SpaceX's proposal to change its elevation angle for communications to its user terminals could somehow complicate any effort to allow mobile operations to share the band.[13] Yet, once again, RS Access presents no evidence that the change in elevation angle makes any material difference. And once again, RS Access's assertions are directly undercut by the technical analysis submitted by the MVDDS 5G Coalition.

> While the NGSO receiver may have a directional, upward-facing antenna that provides some protection from the emissions of the 5G mobile UE, even 30 dB of antenna discrimination by the NGSO receiver would still require more than a kilometer of separation distance between the 5G mobile device and the NGSO receiver when the 5G mobile device was operating with an EIRP of 23 dBm per 24 MHz.[14]

In other words, terrestrial mobile use of the 12 GHz Band would overwhelm NGSO FSS downlinks at almost any elevation angle in the absence of significant separation distances from mobile handsets. The change proposed by SpaceX is immaterial.

---

10 MVDDS Reply Comments at 12.
11 RSA Letter at 7-8.
12 *Id.* at 2.
13 *Id.* at 4-5. RS Access also makes passing reference (with no supporting analysis) to two other issues that are wholly irrelevant to its MVDDS operations – the number of satellites communicating with gateway earth stations in another band and the potential risk of relocating satellites to new orbital altitudes. *Id.* The Commission should simply ignore these unsupported make-weight assertions.
14 Peters Report at 33.

RS Access Has No Reliance Interest in Its Speculation That the Commission Might Fundamentally Change the Nature of MVDDS One Day

RS Access also makes a strange claim to some sort of reliance interest in future Commission action, while denying NGSO operators any right to rely on the existing allocation.[15] RS Access essentially argues that it only invested in the 12 GHz Band on the speculation that the Commission might someday modify the allocation and grant terrestrial rights beyond what are currently authorized. But FSS licensees are in fact the users of the band that have invested in serving consumers in reliance on the *existing* rules. In just three years since the Commission issued NGSO licenses, satellite operators like SpaceX have launched hundreds of satellites to serve consumers using the band. The 12 GHz Band has been home to some of the largest investments and most exciting developments in advanced broadband technology over the past few years. The Commission's rules have enabled in just three years as much satellite innovation in the 12 GHz Band as in any other band.

RS Access unfortunately repeats the canard that co-primary licensees should forgo authorized use of their licensed bands if another user of the band unilaterally claims it for itself. Bizarrely, it argues that SpaceX should be prepared for such a change because of a condition placed on *another NGSO operator's* license.[16] The only condition in SpaceX's license specifically related to the 12 GHz Band authorizes operations up to the relevant power flux-density and equivalent power flux-density limits.[17] A more general condition states that the license is "subject to modification to bring it into conformance with any rules or policies adopted by the Commission in the future."[18] This sort of broadly-applicable condition is not uncommon in space station licenses, and is specifically intended *not* to prejudge the outcome of any pending or future rulemaking proceeding.[19] It is by no means a de facto grant of the 2016 Petition as RS Access seems to believe.

* * *

In summary, RS Access's attempt to recycle discredited arguments and apply them to the modification proposed by SpaceX betrays a fundamental misunderstanding of the record in the 2016 Petition proceeding, the implications of the proposed modification, and the careful balance that the Commission has struck for shared operations in the 12 GHz Band. Accordingly, the Commission should reject its arguments.

---

15 RSA Letter at 8-9.
16 *See id.* at 3 (citing OneWeb's authorization).
17 *See Space Exploration Holdings, LLC*, 34 FCC Rcd. 12307, ¶ 19(e) (IB 2019).
18 *Id.* ¶ 19(r).
19 *See, e.g.*, *Space Exploration Holdings, LLC*, 33 FCC Rcd. 3391, ¶ 17 (2018) ("We note that, as with the *OneWeb Order*, *Telesat Canada Order,* and *Space Norway Order,* grant of the SpaceX application will not prejudge any decision, including a contrary action, in any future rulemaking proceedings.").

Very best regards,

/s/ David Goldman

David Goldman
Director of Satellite Policy

SPACE EXPLORATION
TECHNOLOGIES CORP.
1155 F Street, NW
Suite 475
Washington, DC 20004
Tel: 202-649-2641
Email: David.Goldman@spacex.com