

October 26, 2020

VIA ELECTRONIC FILING

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

Re: *ELS File No. 0773-EX-CN-2020*

Dear Ms. Dortch:

In this proceeding, Space Exploration Holdings, LLC (“SpaceX”) seeks an experimental authorization for operation of a total of ten of its user terminal earth stations across up to ten maritime vessels, including two autonomous spaceport droneships. SpaceX requested to use these terminals only when these vessels are (1) anchored in port, (2) in transit to predetermined landing zones in the Atlantic Ocean, and (3) on station at those landing zone sites. Nonetheless, RS Access, LLC (“RSA”) filed an informal objection to that request in an apparent effort to harass SpaceX.¹ RSA’s objection is frivolous, most glaringly because it rests upon a claim of potential interference from these earth stations in a frequency band that they *will only use to receive*. Indeed, the Commission has previously granted SpaceX *two* experimental authorizations to operate earth stations in motion (“ESIMs”) in the 12.2-12.7 GHz band (the “12 GHz band”)—and SpaceX received no complaints arising from those operations. Disappointingly, this latest filing from RSA demonstrates both that RSA knows no bounds in its efforts to drive SpaceX from the band for which it is authorized and that RSA lacks a fundamental understanding of the spectrum licensing and operations in the 12 GHz band. The Commission should expeditiously reject RSA’s baseless objection and grant the requested experimental authorization.

The Commission has authorized SpaceX to launch and operate a constellation of over 4,400 non-geostationary orbit (“NGSO”) satellites using Ku- and Ka-band spectrum.² That license specifically includes authorization to transmit in the 12 GHz band to any point on the Earth.³ To date, SpaceX has launched over 800 satellites that it has operated and will continue to operate in the 12 GHz band. Moreover, the Commission has granted a blanket

¹ See Letter from V. Noah Campbell to Marlene H. Dortch, ELS File No. 0773-EX-CN-2020 (Sep. 24, 2020) (“RSA Letter”).

² See *Space Exploration Holdings, LLC*, 33 FCC Rcd. 3391 (2018) (“*SpaceX Authorization*”); *Space Exploration Holdings, LLC*, 34 FCC Rcd. 2526 (IB 2019).

³ See *SpaceX Authorization* ¶ 40(e).

license that authorizes deployment throughout the United States of one million end-user customer earth stations that communicate with SpaceX's NGSO constellation, including in the 12 GHz band.⁴ Although it has been operating for months, SpaceX has received no claim of interference from any party.

Critically, *SpaceX's earth stations do not transmit in the 12 GHz band*. The spectrum is not allocated for transmission from earth stations, nor has SpaceX ever sought authority to do so. Nonetheless, RSA claims that grant of the requested experimental authorization for just ten more units on a non-interference basis and on maritime platforms would be "inherently incompatible" with the operations of other systems in the 12 GHz band.⁵ RSA is particularly concerned about its own Multichannel Video Distribution and Data Service ("MVDDS") systems. Yet RSA provides no analysis to support its claim—because, quite simply, there is none. These earth stations do not transmit in this band and cannot cause interference to RSA's land-locked use or any other use of that spectrum. SpaceX's satellites are already transmitting to Earth using the 12 GHz band and have been doing so for months with no complaint from any licensed user of the band. Nothing about the requested experimental authorization will change that fact or the authorization under which SpaceX transmits in this band. The proposed earth stations would simply receive those signals, and thus could not possibly create any interference in the 12 GHz band. RSA has no objection to operation of the proposed earth stations in their transmit band (14.0-14.5 GHz). Accordingly, RSA's informal objection has absolutely no technical basis.

Undeterred by the physical impossibility of its claims, RSA makes a number of regulatory arguments that are equally frivolous. For example, RSA asserts that the Commission and the International Telecommunication Union ("ITU") have "long precluded" the operation of ESIMs using the 12 GHz band. Yet in support of its specious claim, RSA actually cites an ITU resolution that provides the conditions under which maritime ESIMs may be *authorized* in spectrum including the 12 GHz band, so long as they do not "claim protection from, nor cause interference to, other services having allocations in these bands."⁶ Of course, all experimental authorizations are issued on such a non-interference, non-protected basis.⁷ Moreover, RSA's assertion is completely belied by the fact that the Commission has already granted SpaceX *two* experimental authorizations to operate ESIMs aboard aircraft in spectrum that includes the 12 GHz band⁸—experiments that were conducted for years without any complaint of harmful interference.

The only other materials RSA cites⁹ are ITU resolutions authorizing ESIM operations in other bands and the Commission's decision not to include the 12 GHz band in its recent

⁴ See Radio Station Authorization, IBFS File No. SES-LIC-20190211-00151 (granted Mar. 13, 2020) (call sign E190066). The Commission's rules specifically contemplate blanket licensing for earth stations operating in the 12 GHz band. See 47 C.F.R. § 25.115(f)(2).

⁵ RSA Letter at 2.

⁶ See RSA Letter at 2 n.5 (quoting ITU-R Resolution 902 (WRC-03) (2003)).

⁷ See 47 C.F.R. § 5.84.

⁸ See, e.g., Experimental Authorization, ELS File No. 0388-EX-CN-2019 (granted Aug. 27, 2019); Experimental Authorization, ELS File No. 0517-EX-CN-2019 (granted Aug. 27, 2019).

⁹ See RSA Letter at 2 n.5.

order on NGSO ESIMs because that band had not been included in the proceeding and thus “the record is insufficient for us to consider use of these bands for ESIMs communications with NGSO FSS satellites.”¹⁰ None of these sources “precluded” use of the 12 GHz band for ESIM operations—that band simply was not under consideration. Moreover, the Commission’s rules specifically contemplate that experimental authorizations may be issued for operations inconsistent with existing frequency allocations so long as they are on a non-interference basis.¹¹

Lastly, RSA repeats its debunked and tired argument that SpaceX does not need the 12 GHz band to test the performance of its user terminals aboard ships and could instead use other spectrum.¹² As SpaceX has made abundantly clear in every context in which RSA trots out this claim, SpaceX has designed its satellite system to make intensive and efficient use of all of its licensed Ku-band spectrum—including the 12 GHz band—except for that portion in which SpaceX is effectively precluded from operating.¹³ The 12 GHz band is an integral part of the operation of the system as a whole. Moreover, RSA once again fails to recognize that SpaceX must share this band with other NGSO operators, further restricting its ability to follow RSA’s simplistic assertion that SpaceX can just not use the band. Without using that band, SpaceX would not be able to accurately assess the operational performance of its user terminals in a maritime environment. RSA should not be allowed to dictate the parameters for testing a system it clearly does not understand in a band it somehow still fails to grasp. Given the fact that SpaceX is already authorized to operate its satellites in the 12 GHz band—and is doing so on an ongoing basis—RSA’s argument is particularly unfounded.

RSA’s objection is clearly intended to harass SpaceX and provides neither a technical basis nor a policy rationale for denying SpaceX’s request for experimental authorization. As it has done twice before in connection with similar SpaceX requests for ESIM testing, the Commission should grant the application.

¹⁰ *Facilitating the Communications of Earth Stations in Motion with Non-Geostationary Orbit Space Stations*, 35 FCC Rcd. 5137, ¶ 46 (2020).

¹¹ See 47 C.F.R. § 2.102(b)(3) (“Experimental stations, pursuant to part 5 of this chapter, may be authorized the use of any frequency or frequency band not exclusively allocated to the passive services” on a non-interference basis).

¹² See RSA Letter at 1.

¹³ See, e.g., Letter from Paul Caritj to Marlene H. Dortch, IBFS File No. SAT-MOD-20200417-00037, et al., Attachment at 4 (July 31, 2020) (indicating 250 MHz of spectrum that is unusable in order to create a guard band to protect Radio Astronomy operations in the contiguous band).

Marlene H. Dortch
October 26, 2020
Page 4 of 4

Very best regards,

/s/ David Goldman

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The SpaceX logo is located in the bottom right corner of the page. It features the word "SPACEX" in a bold, blue, sans-serif font. To the right of the text is a stylized, grey, curved line that represents a rocket's trajectory or a wing, extending from the end of the word and curving upwards and to the right.

SPACEX