Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
Petition for Rulemaking by Space Exploration Holdings, LLC, Regarding Revision of the Commission's 1.6/2.4 GHz MSS Sharing Plan	)	RM-11975
	)	
Petition for Rulemaking by Space Exploration Holdings, LLC, Regarding Revision of the Commission's 2 GHz MSS Sharing Plan	)	RM-11976

REPLY COMMENTS OF THE MOBILE SATELLITE SERVICES ASSOCIATION

The Mobile Satellite Services Association ("MSSA") submits these reply comments in the above-captioned proceedings, which concern two petitions for rulemaking (the "Petitions") filed by Space Exploration Holdings, LLC ("SpaceX") on February 21, 2024, and February 22, 2024, respectively.[1]

MSSA is a non-profit industry association that seeks to promote and advance the emerging Direct-to-Device ("D2D") ecosystem and support the efforts of D2D solutions providers—including terrestrial mobile and satellite operators, OEMs, infrastructure, chip vendors, and others.[2] Given the critical role that emerging D2D services will play in expanding connectivity and enabling competition across multiple large and diverse segments, MSSA is deeply concerned by the proposals set forth in the Petitions, which essentially ask the

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[1] *See* Space Exploration Holdings, LLC, Petition for Rulemaking Regarding Revision of the Commission's 1.6/2.4 GHz "Big LEO" NGSO MSS Sharing Plan, RM-11975 (Feb. 21, 2024) ("1.6/2.4 GHz Petition"); Space Exploration Holdings, LLC, Petition for Rulemaking Regarding Revision of the Commission 2 GHz MSS Sharing Plan, RM-11976 (Feb. 22, 2024) ("2 GHz Petition").

[2] Additional information on the MSSA can be found at https://www.mss-association.org/.

Commission to upend its existing licensing and sharing frameworks for Mobile Satellite Service ("MSS") operations in the 2 GHz and 1.6/2.4 GHz MSS bands—as well as the settled expectations of existing MSS licensees—based on unsubstantiated assertions that doing so would somehow lead to greater "efficiency." As the record clearly establishes, the proposals would undermine innovation that is already underway—including efforts to deploy game-changing D2D offerings—producing inherently *in*efficient results.

Simply stated, the proposed rulemakings are neither necessary nor appropriate, and represent yet another transparent attempt by one company to continue to *over*consume spectral and orbital resources and foreclose opportunities for others to access and use those resources to serve the public interest. The Commission should deny the Petitions accordingly.

I. THE RECORD ESTABLISHES THAT EXISTING MSS OPERATORS ARE USING THE 2 GHz AND 1.6/2.4 GHz BANDS TO PROVIDE CRITICAL CONNECTIVITY AND INNOVATIVE SERVICE OFFERINGS TO THE PUBLIC

As the Commission is no doubt aware, satellite operators have long been using MSS spectrum to provide connectivity to the public—including for safety-of-life, emergency response, national security, and other critical applications.[3] For example, Globalstar notes in its opposition that it has continually provided services using licensed MSS spectrum for over two decades, including everything from emergency and safety-of-life services to individual consumers to

[3] *See, e.g.*, *Satellite technology gives lone and at-risk workers a helping hand from space*, GLOBALSTAR, https://www.globalstar.com/en-us/blog/case-studies/satellite-technology-gives-lone-and-at-risk-worker; *Iridium Enables Rescue Squadron to Work Faster and Stay Connected*, IRIDIUM, https://www.iridium.com/case-studies/iridium-enables-rescue-squadron-to-work-faster-and-stay-connected/; *The Future of Maritime Safety 2023: collaboration and data are key in tackling safety challenges*, INMARSAT, https://www.inmarsat.com/en/insights/maritime/2023/the-future-of-maritime-safety-2023.html.

satellite IoT services for a wide range of industries.[4] The contributions of existing MSS operators are manifest and widely recognized.

But MSS operators have not been content to rest on their historical contributions; rather, they have actively sought to leverage cutting-edge technologies to bring innovative services to the public using licensed MSS spectrum—and are investing billions of dollars to do so. The evolving D2D ecosystem offers particularly exciting possibilities in this respect, as D2D services will allow satellite operators to provide seamless connectivity to unmodified cell phones and other consumer devices. Indeed, the advent of D2D services is potentially transformative for the satellite industry, unlocking new market segments and new ways to use MSS spectrum to provide connectivity to consumers without the need for specialized equipment.

Critically, these possibilities are *not* merely hypothetical but rather are being realized today. For example, Globalstar is advancing the use of licensed MSS spectrum for D2D services through its partnership with Apple and explains that "millions of people worldwide have Globalstar connectivity at their fingertips for critical, often lifesaving communication."[5] Chairwoman Rosenworcel has *repeatedly* cited these capabilities as illustrative of the public interest benefits that will flow from D2D services and efforts to leverage existing MSS spectrum to support innovative applications.[6] Many other MSS operators are similarly pursuing

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4 *See* Opposition of Globalstar, Inc., RM-11975, at 8 (Apr. 25, 2024) ("Globalstar Opposition").

5 Globalstar Opposition at 1. Similarly, EchoStar explains that it is currently providing D2D service in Europe through its partner, Skylo, and that it is testing those services in the U.S. today. *See* Comments of EchoStar Corporation, RM-11976, at 13 (Apr. 25, 2024).

6 *See, e.g., Remarks of Chairwoman Jessica Rosenworcel at the Satellite Industry Association's 24th Annual Leadership Dinner Washington, DC* (Mar. 13, 2023); *Remarks of Chairwoman Jessica Rosenworcel Silicon Valley Space Week Computer History Museum Mountain View, CA* (Oct. 17, 2023).

opportunities to introduce D2D offerings using varying spectrum and satellite configurations.[7] Thus, it is readily apparent that existing MSS licensing frameworks and market forces are already incentivizing operators to invest in their systems and take other steps necessary to make "efficient" use of MSS spectrum.

Given these exciting developments, suggestions that MSS spectrum somehow is not being used and should instead be relicensed ring particularly hollow.[8]

II. THE RECORD ESTABLISHES THAT THE PROPOSALS SET FORTH IN THE PETITIONS WOULD UNDERMINE AND UNDULY CONSTRAIN EXISTING AND PLANNED MSS OPERATIONS IN THE 2 GHz AND 1.6/2.4 GHz BANDS

As discussed above, the few parties that support the Petitions ignore both the critical services that MSS operators have provided to date and the innovative services that such operators are already beginning to deploy. They also fail to explain how the public interest could possibly be served by throwing the plans of MSS operators into disarray—undermining investor-backed expectations and stranding billions of dollars of investment at a critical moment in the evolution of MSS offerings.

Tellingly, the Petitions make no effort to establish that the 2 GHz and 1.6/2.4 GHz bands could accommodate additional entrants as proposed in the Petitions without significant harm to existing MSS operators and the services that they provide to millions of customers. This abject

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[7] *See, e.g.*, *Viasat, Ligado and Skylo Aim for Direct to Device Services*, VIASAT, https://news.viasat.com/newsroom/press-releases/viasat-ligado-and-skylo-aim-for-direct-to-device-services; *Viasat and Skylo Technologies Launch First Global Direct-to-Device Network*, VIASAT (Nov. 16, 2023), https://news.viasat.com/viasat-and-skylo-technologies-launch-first-global-direct-to-device-network; *Iridium Unveils Project Stardust; Developing the Only Truly Global, Standards-Based IoT and Direct-to-Device Service*, IRIDIUM, (Jan. 10, 2024), https://investor.iridium.com/2024-01-10-Iridium-Unveils-Project-Stardust-Developing-the-Only-Truly-Global,-Standards-Based-IoT-and-Direct-to-Device-Service.

[8] *See* 1.6/2.4 GHz Petition at 3-4; 2 GHz Petition at 7-9; Comments of Kepler Communications Inc., RM-11975, at 2-4 (Apr. 25, 2024) ("Kepler 1.6/2.4 GHz Comments"); Comments of Kepler Communications Inc., RM-11976, at 2 (Apr. 25, 2024).

failure is in no way cured by the opening comments; to the contrary, the record *underscores* that the proposals set forth in the Petitions would undermine the existing and planned operations of existing MSS operators, derailing innovation and skewing competition in ways that are anything but "efficient."

These harms would be particularly pronounced in one case. As both Omnispace and Globalstar note, SpaceX has proposed to operate a system of *7,500* satellites in the 2 GHz and 1.6/2.4 GHz bands—orders of magnitude larger than any existing MSS system operating in those bands.[9] It is difficult to see how a system operating on that scale and employing small user terminals could share spectrum without adversely impacting existing MSS systems; all indications are that those existing systems would suffer significant impairments in terms of availability and capacity. Indeed, in denying SpaceX's applications the Commission stated plainly that the "carefully rebalanced [1.6/2.4 GHz] band plan the Commission adopted in 2007 does not envision an additional CDMA MSS system, much less a system of 7,500 space stations,"[10] and SpaceX provides no evidence that either the 1.6/2.4 GHz or 2 GHz bands could be "carefully rebalanced" to accommodate *any* other system, much less a system on the scale of its proposal.

SpaceX glosses over this reality[11] and provides no technical analysis demonstrating that sharing would be possible without compromising the rights and services of existing MSS operators. Kepler, at least, acknowledges that for a system like Globalstar's to "share" MSS

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9 *See Space Exploration Holdings, LLC Application for Modification of Authorization for the SpaceX Gen2 NGSO Satellite System to Add a Mobile-Satellite Service System*, Order, ICFS File No.: SAT-MOD-20230207-00022 (SB rel. Mar. 26, 2024) ("*SpaceX Dismissal Order*") (dismissing SpaceX's applications in the 2 GHz and 1.6/2.4 GHz bands).

10 *See SpaceX Dismissal Order* ¶ 8.

11 *See* 2 GHz Petition at 8-13; 1.6/2.4 GHz Petition at 6-8.

spectrum with new entrants, it might "need to adjust its system parameters or accept some capacity loss."[12] In other words, requests that the Commission to change its rules purportedly in the name of "efficiency," are in reality a request that the Commission improperly sacrifice the interests of existing MSS operators and their ability to provide innovative and competitive services to the public.

Equally troubling is SpaceX's attempt to force other operators to adopt and adhere to their view of what constitutes a "successful" MSS offering by establishing minimum standards for operations in the 2 GHz and 1.6/2.4 GHz bands.[13] This misguided approach ignores that the "success" of a given offering is ultimately defined by the evolving preferences of consumers—not a fixed set of "minimum standards" established in top-down fashion on an *ex ante* basis.[14] Stated differently, the public interest is best served by affording operators the flexibility to design and deploy innovative services in response to market signals—and not by a *de facto* command and control model under which SpaceX (or the Commission) attempts to predetermine which use of spectrum is "best." As Omnispace rightly explains, "[t]he United States benefits from having multiple approaches to satellite services with different operators offering different services and different capabilities to different consumer, enterprise, and government customers at different price points."[15]

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12 Kepler 1.6/2.4 GHz Comments at 6.

13 *See* 2 GHz Petition at 10-11; 1.6/2.4 GHz Petition at 8-9.

14 Indeed, one of SpaceX's proposed characteristics is "spectral efficiency[,]" which itself is subject to myriad interpretations about what constitutes "efficiency."

15 Comments of Omnispace, LLC, RM-11976, at 5 (Apr. 25, 2024). *See also* Comments of OQ Technology, RM-11976, at 2 (Apr. 25, 2024) (explaining that a "one-size-fits all" approach to MSS spectrum fails to account for the "diverse range of systems with varying requirements and characteristics poised to enter the market").

III. THE RECORD ESTABLISHES THAT THERE IS NO COMPELLING NEED TO INITIATE THE PROPOSED RULEMAKINGS

The record also makes clear that there is no compelling need to proceed with the proposed rulemakings. Indeed, SpaceX already has access to significant spectrum resources—including spectrum resources capable of supporting satellite connectivity to mobile devices. Moreover, the SCS framework recently implemented by the Commission provides a path through which SpaceX can provide D2D services using spectrum allocated for terrestrial use.[16]

In addition, the WRC-27 is actively considering whether to allocate additional spectrum for MSS. The Commission should also pursue opportunities to make additional, dedicated MSS spectrum available, including through ongoing efforts to develop additional MSS allocations at the ITU.[17]

In light of these parallel opportunities, the Commission should not countenance attempts to displace licensed MSS operators—particularly when doing so would reward operators that seek to consume as much spectrum as possible as quickly as possible, without regard to how that approach would foreclose others from accessing spectral and orbital resources on an equitable

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[16] *See Single Network Future: Supplemental Coverage from Space; Space Innovation*, Report and Order and Further Notice of Proposed Rulemaking, FCC 24-28, GN Docket No. 23-65, IB Docket No. 22-271 (rel. Mar. 15, 2024).

[17] *See World Radiocommunication Conference 2023 Final Acts*, Agenda Item 1.12 ("to consider, based on the results of studies, possible new allocations to the mobile-satellite service and possible regulatory actions in the frequency bands 1 427-1 432 MHz (space-to-Earth), 1 645.5-1 646.5 MHz (space-to-Earth) (Earth-to-space), 1 880-1 920 MHz (space-to-Earth) (Earth to-space) and 2 010-2 025 MHz (space-to-Earth) (Earth-to-space) required for the future development of low-data-rate non-geostationary mobile-satellite systems, in accordance with Resolution **252 (WRC-23)**"), Agenda Item 1.13 ("to consider studies on possible new allocations to the mobile-satellite service for direct connectivity between space stations and International Mobile Telecommunications (IMT) user equipment to complement terrestrial IMT network coverage, in accordance with Resolution **253 (WRC-23)**"), and Agenda Item 1.14 ("to consider possible additional allocations to the mobile-satellite service, in accordance with Resolution **254 (WRC-23)**").

basis. The Commission has never willingly skewed competition in this manner, and it should not start now.

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MSSA appreciates the Commission's efforts to advance the interests of the satellite industry generally and MSS operators specifically. As explained herein, the record clearly establishes that the proposals set forth in SpaceX's Petitions would undermine existing MSS services, as well as efforts by MSS operators to introduce innovative new service offerings for the benefit of the public. Accordingly, the Commission should deny the Petitions.

Respectfully submitted,

/s/

John Ehrig
MSSA Executive Director
Mobile Satellite Services Association
5000 Executive Parkway, Suite 302
San Ramon, CA 94583
(925) 216-1552

May 10, 2024

CERTIFICATE OF SERVICE

I, Brad Bourne, hereby certify that on this 10th day of May, 2024, I caused to be served a true copy of the foregoing Reply Comments via first-class mail upon the following[1]:

David Goldman
Space Exploration Technologies Corp.
1155 F Street, NW
Suite 475
Washington, DC 20004

Jeff Blum
Jennifer A. Manner
Alison Minea
Hadass Kogan
EchoStar Corporation 1110 Vermont Avenue NW
Suite 450
Washington, DC 20005

Mindel De La Torre
Omnispace, LLC
8255 Greensboro Drive
Suite 101
McLean, VA 22102

Polly Averns
Conghui Liu
Kepler Communications, Inc.
196 Spadina Avenue
Suite 400
Toronto, ON Canada M5T2C2

L. Barbee Ponder IV
Globalstar, Inc.
1351 Holiday Square Blvd.
Covington, LA 70433

Stephen J. Berman
Lerman Senter PLLC
2001 L Street NW
Suite 400
Washington, DC 20036
Counsel for Globalstar, Inc.

Dane E. Ericksen
Richard A. Rudman
EIBASS
18755 Park Tree Lane
Sonoma, CA 95476

James E. Dunstan
TechFreedom
1500 K St NW
Floor 2
Washington, DC 20005

Arthur V. Belendiuk
Smithwick & Belendiuk, P.C.
5028 Wisconsin Avenue, NW
#301
Washington, DC 20016
Counsel for Ukrainian Congress Committee of America, Inc.

/s/
Brad Bourne

[1] MSSA acknowledges that OQ Technology, Jon Kramer, and Joseph Ledbetter also filed comments in these proceedings. These commenters did not provide a mailing address or other contact information and therefore were not served with a copy of MSSA's Reply Comments.