

February 10, 2025

BY ELECTRONIC FILING

Ms. Ashley Davenport
National Telecommunications and Information Administration
U.S. Department of Commerce
1401 Constitution Avenue NW
Washington, DC 20230

Re: *Impact of L-Band MSS 'Direct-to-Device' Operations on GPS, NTIA-2024-0005, RIN 0660-XC065*

Dear Ms. Davenport:

The Mobile Satellite Services Association (MSSA) submits this response to the National Telecommunications and Information Administration's (NTIA) request for comment (RFC) on the impact of L-band mobile satellite service (MSS) 'Direct-to-Device' (D2D) Operations on GPS. We appreciate the opportunity to provide input on this critical issue.

MSSA is a non-profit industry association that seeks to promote and advance the emerging D2D ecosystem and support the efforts of D2D solutions providers—including terrestrial mobile and satellite operators, original equipment manufacturers, infrastructure, chip vendors, and others.¹ MSSA is focused on facilitating a global ecosystem utilizing spectrum already allocated and licensed for MSS and well-suited for integration into a broad range of mobile devices. Given the critical role that emerging D2D services will play in expanding connectivity and enabling competition across multiple large and diverse segments, MSSA and its members have closely monitored both the NTIA and the Federal Communications Commission's ongoing activities to enable D2D.

As highlighted by NTIA, MSS operators—including but not limited to MSSA members—are already using MSS spectrum resources to support a variety of critical connectivity applications. These include (i) augmenting and providing redundancy to existing mobile network operator infrastructure by enabling connectivity in underserved

¹ Additional information on the MSSA can be found at <https://www.mss-association.org/>.

or unserved areas, including, maritime, aeronautical, and rural regions, and (ii) supporting mission critical and time-sensitive communications, particularly in the context of disaster response, emergency relief efforts and national security. These same operators are actively seeking to utilize cutting-edge technologies to bring innovative services to the public—and are investing billions of dollars to do so. The evolving D2D ecosystem offers particularly exciting possibilities in this respect.

The satellite industry has worked diligently over the last several years to develop a robust technological ecosystem that enables the emergence of innovative, inter-operable D2D solutions. A major milestone was achieved in 2022 with the 3rd Generation Partnership Project (3GPP) Release 17, which established a strong foundation for direct communication between satellites and smartphones and other mass-market user equipment. This breakthrough has driven significant advancements in both terrestrial and non-terrestrial satellite networking technology.

3GPP Release 17 enhances key features of the 5G Core Architecture to support Non-Terrestrial Networks (NTNs) for various use cases, including coverage extension, Internet of Things (IoT), disaster communications, global roaming and broadcasting. 3GPP Release 18 identifies three specific MSS frequency bands under 6 GHz - recognized across all ITU Regions - for 5G New Radio (NR) and narrowband IoT (NB-IoT) to enable satellite-based connectivity, following the duplex mode defined by the ITU table of frequency allocations.

NTN Satellite Bands in FR1-NTN²

NTN satellite operating band	Uplink (UL) operating band Satellite Access Node receive / UE transmit FUL,low – FUL,high	Downlink (DL) operating band Satellite Access Node transmit / UE receive FDL,low – FDL,high	Duplex mode
n256	1980 MHz – 2010 MHz	2170 MHz – 2200 MHz	FDD
n255	1626.5 MHz – 1660.5 MHz	1525 MHz – 1559 MHz	FDD
n254	1610 – 1626.5 MHz	2483.5 – 2500 MHz	FDD

NOTE: NTN satellite bands are numbered in descending order from n256.

There are several examples of successful D2D solutions utilizing MSS bands, including the L-band. One notable first development is the partnership between Apple and Globalstar. Additionally, in 2024, Ligado and Viasat partnered with Skylo to launch the first global D2D network which continues to expand in both subscribers and

² See: 3GPP 38.101-5, NR; User Equipment (UE) radio transmission and reception; Part 5: Satellite access Radio Frequency (RF) and performance requirements, <https://portal.3gpp.org/desktopmodules/Specifications/SpecificationDetails.aspx?specificationId=3982>

services.³ That same year, Google introduced satellite D2D capabilities in its Pixel 9 smartphone, enabling emergency messaging outside cellular networks.⁴ Most recently, in 2025, Samsung launched the Galaxy S25, featuring satellite connectivity powered by dedicated MSS spectrum.⁵

MSS services are currently being provided within existing protection criteria for L-band without reported instances of GPS interference. We believe that D2D services can similarly be provided in MSS spectrum without posing a risk of harmful interference to adjacent-band GPS operations.

MSSA appreciates NTIA's efforts to advance the interests of the satellite industry and advance D2D connectivity. Leveraging D2D within MSS spectrum offers many advantages. MSS frequencies enable extensive domestic and international deployment of D2D services, supported by globally recognized regulations and pre-established market access agreements held by multiple operators. Millions of MSS users depend on these networks, especially in isolated or difficult-to-reach locations where terrestrial infrastructure is lacking, for critical safety-of-life applications that must be safeguarded.

Respectfully submitted,



Michele Lawrie-Munro
MSSA Executive Director
Mobile Satellite Services Association
5000 Executive Parkway, Suite 302
San Ramon, CA 94583
(925) 275-6673

³ <https://news.viasat.com/viasat-and-skylo-technologies-launch-first-global-direct-to-device-network>

⁴ <https://www.satellitoday.com/connectivity/2024/08/14/google-brings-satellite-sos-feature-to-android-with-pixel-9/>

⁵ <https://www.verizon.com/about/news/samsung-galaxy-s25-ultra-verizon-offers>