

**Before the
Federal Communications Commission
Washington, DC 20554**

In the Matter of	)	
	)	
Application of Kuiper Systems LLC	)	Call Sign: S00917
for Authority to Launch and Operate	)	
a Non-Geostationary Satellite Orbit	)	ICFS File No. SAT-LOA 20260601-00224
D2D System	)	
	)	

**RESPONSIVE COMMENTS OF AEROSPACE AND FLIGHT TEST
RADIO COORDINATING COUNCIL, INC.**

I. INTRODUCTION

Aerospace and Flight Test Radio Coordinating Council, Inc. (“AFTRCC”) hereby submits its Responsive Comments on the application filed by Kuiper Systems LLC (“Amazon Leo”)¹ which seeks authority from the Commission to operate within the U.S. a new system of 5105 non-geostationary orbit (“NGSO”) satellites to deliver direct-to-device (“D2D”) services utilizing a number of frequency bands.² Amazon Leo also seeks authority to provide service outside of the United States in, among other bands, Mobile Satellite Services (“MSS”) frequencies as they are or may be allocated in other countries (unidentified at this time) in the 1518-1525 MHz (space-to-Earth) for MSS and, more generally, within the range 1427-2690 MHz (space-to-Earth and Earth-to-space) for D2D operations. The Application provides little detail regarding such operations outside the

¹ Amazon Leo is a wholly-owned subsidiary of Amazon.com Services LLC (“Amazon”).

² Application of Kuiper Systems LLC for Authority to Launch and Operate a Non-Geostationary Satellite Orbit System, ICFS File No. SAT-LOA-20260601-00224, Call Sign S00917 (filed Jul. 24, 2026) (“Kuiper Application”). *See Space Bureau Accepts for Filing Application of Amazon Leo for NGSO D2D System*, Public Notice, DA 26-866 (re. Aug. 18, 2026) (“Public Notice”).

U.S. territory but notes that “[o]utside of the United States, the Amazon Leo D2D System will comply with the International Telecommunication Union’s (“ITU”) Table of Frequency Allocations, any applicable footnote conditions, and any applicable frequency allocations adopted by affected national administrations.”³

AFTRCC⁴ submits these comments in light of concerns with potential harmful interference from the Amazon Leo D2D System that may, in the future, as anticipated by the Application, operate outside the U.S. overlapping the 1435-1525 MHz band (the “L-Band”) or the 2360-2395 MHz band (the “Upper S-Band”). These two bands are the workhorse shared non-Federal/Federal bands allocated on a primary, safety-of-life basis for aeronautical mobile telemetry (“AMT”) used by American aerospace manufacturers for flight testing of military aircraft, commercial airplanes passenger and cargo transport, missiles, and next-generation uncrewed aircraft systems (“UAS” and commonly referred to as “drones”). The Federal Government, particularly the Department of Defense (“DoW”), also makes heavy use of the L-

³ Application, Legal Narrative at 13. *See also id.* at 6 (“Amazon Leo seeks authority to provide SCS [Supplemental Coverage from Space] using the 1427–2690 MHz . . . as well as MSS in the 1518–1525 MHz . . . band[], consistent with local laws and the Commission’s orders. The uplink and downlink directionality for SCS will depend on applicable frequency allocations and country-specific authorizations.”). In 2025, Innovation, Science and Economic Development Canada (“ISED”) adopted a supplemental mobile coverage by satellite (“SMCS”) framework and identified initial spectrum bands for SMCS which do not include 1435-1525 MHz or 2360-2395 MHz. *See* Decision on a Policy, Licensing and Technical Framework for Supplemental Mobile Coverage by Satellite, SMSE-001-25, at §5.2, ¶ 47 (Feb. 20, 2025). The initial bands identified by ISED for SCMS generally overlap those identified by the Commission for SCS. It is unclear what other countries have an SCS-like regulatory framework in place akin to that adopted by the Commission.

⁴ AFTRCC, a member organization, was founded in 1954 to serve as an advocate for the aerospace industry on matters affecting spectrum policy, in particular ensuring flight testing of both military and commercial aircraft enjoys reliable, interference-free spectrum access. AFTRCC’s Members include many of the nation’s principal aerospace manufacturers. *See* Attachment. More information regarding AFTRCC may be found at <https://afrcc.org>.

Band and Upper S-Band for AMT operations.⁵ Flight testing throughout the life cycle of aircraft and missile programs, from design through sustainment (modifications and upgrades), is essential to advance the national objectives of military superiority, safe aviation, and drone dominance,⁶ among others.⁷ Real-time receipt of telemetry during test flights not only is required for the successful conduct of the tests, but is essential to ensure the safety of pilots, crews, and persons on the ground. Without interference-free access to AMT spectrum, the timeliness of design, development, production, delivery, and sustainment of aircraft programs (which extend for many years, if not decades, for some aircraft programs) would be jeopardized by increased delays and costs, potentially slowing defense and aviation transportation advances within the United States generally.

⁵ AFTRCC has a long history of working with DoW counterparts to collaboratively and compatibly coordinate and share the two AMT bands. On a coordinated basis with AFTRCC and the DoW, there are other users of the L-Band and Upper S-Band that would be potentially impacted by the proposed D2D operations. On a limited basis, both bands are available for commercial space launch and reentry operations following coordination with AFTRCC and DoW. Further, on a secondary, licensed basis under Part 74, the L-Band is available for wireless microphones on a coordinated basis. Under Part 95, the Upper S-Band is available for use by Medical Body Area Networks (“MBANS”) on a secondary, licensed basis through coordination by the Enterprise Wireless Alliance (the Commission-designated MBANS coordinator with whom AFTRCC has entered into a relevant concurrence agreement related to coordination with AMT, recently renewed). The Commission is also considering introducing earth stations of TT&C purposes into the Upper S-Band; a draft Further Notice of Proposed Rulemaking in SB Dockets Nos. 26-54 and 25-180 will be voted on at the Commission’s September 30, 2026, Open Meeting.

⁶ See E.O. 14307, Unleashing American Drone Dominance, (June 6, 2025).

⁷ The Aerospace and Defense (“A&D”) industry which relies on flight testing remains vital to the national economy and balance of trade. 2025 data compiled by the Aerospace Industries Association (“AIA”) reflect that the industry supported over 2.1 million U.S. jobs (434,000 direct jobs in the Aeronautics/Aircraft sector), with average labor income per A&D job in excess of \$127,000 (40% above the national average) and generated over \$988 billion in total sales. In terms of economic value, the industry contributed a healthy 1.6 percent of total nominal GDP and a \$109.2 billion trade surplus, the largest positive contribution to the nation’s trade balance of any U.S. manufacturing sector. See AIA, 2026 Facts & Figures (June 25, 2026), at <https://www.aia-aerospace.org/news/2026-aia-facts-figures-u-s-aerospace-defense-industry-leads-the-world-with-1-trillion-in-sale/>.

II. DISCUSSION

AFTRCC recognizes the potential consumer benefits that D2D services could bring and the challenges the introduction of D2D faces due to the increasing congestion in radiofrequency spectrum. A number of the comments filed by interested parties on the Application recognize not only the benefits, but the potential for harmful interference to incumbent services from the Amazon Leo D2D System in certain frequency bands, particularly the proposed operations in the United States.⁸

AFTRCC wishes to supplement the record developed to date by bringing attention to the potential for interference to U.S. AMT operations in the L-Band and Upper S-Band from any prospective Amazon Leo D2D System operations authorized by foreign administrations.

AFTRCC urges the Commission, should it otherwise grant the Application, to impose explicit license conditions that require specific showings of spectrum compatibility with AMT operations conducted within the U.S. in the L-Band and Upper S-Band from any proposed Amazon Leo D2D System operations outside the United States (whether from in-band or adjacent band D2D operations). The Application, understandably since the extra-U.S. operations are not specified at this time, provides no such demonstration of compatibility; the focus in the Application is on D2D operations within the country in the 1.6 and 2.4 GHz Bands, as well as feeder links and telemetry, tracking, and command operations (“TT&C”) in the Ka- and V-bands.⁹

AMT receive sites are highly susceptible to interference from in-band operations and out-of-band emissions from adjacent band systems that exceed established criteria set forth in

⁸ See, e.g., Comments of the GPS Innovation Alliance, ICFS File No. SAT-LOA-20260601-00224, at 14-26 (Sep. 17, 2026); Petition to Deny in Part and Comments of CTIA, ICFS File No. SAT-LOA-20260601-00224 (Sep. 17, 2026).

⁹ See Public Notice at 2.

Rec. ITU-R M.1459 expressed in terms of power flux density (“PFD”) into AMT receivers from interfering sources depending upon the angle of arrival of the interfering signal at the AMT receive antenna.¹⁰ The geographic scope of non-Federal and Federal flight test operations is large, with hundreds of Federal and non-Federal AMT receive sites in more than 30 States with sensitive AMT ground stations receiving telemetry sent from test aircraft, often up to approximately two hundred miles away. Of significance related to the uses within the 1427-2690 MHz range in which Amazon Leo might hope to offer in other countries predicated on the authority requested in the Application, many AMT sites are near the borders and coasts of the United States, raising cross-border interference concerns.¹¹

It is far from certain that D2D operations can share the same spectrum as AMT, and the assessment must be made on the specific parameters of a proposed D2D system. The Commission has found more generally that there are interference protection challenges that must be overcome before similar MSS services, for example, can be authorized for operation

¹⁰ E.g., in the band 1518-1525 MHz, which is the portion of the band 1435-1525 MHz that has an existing MSS allocation, the ITU adopted PFD limits from MSS towards the United States between certain longitudes that align with Rec. ITU-R M.1459 *recommends* 1. See Table 21-4 of Article 21, ITU-R Radio Regulations. AFTRCC is concerned that these limits, which were derived from an analysis of potential harmful interference from geostationary orbit (“GSO”) satellites, are insufficient to protect flight tests using AMT from NGSO operations such as Amazon Leo D2D System consistent with the Rec. ITU-R M.1459 I/N and percentage of time AMT protection criteria (namely, $I/N \leq -4.15$ dB for at least 95% of the time); ongoing studies are examining this issue within ITU-R Working Party 4C. Studies contributed by the United States in connection with Agenda Item 1.13 for the 2027 World Radiocommunications Conference process indicate that significant separation distances (scores or even hundreds of kilometers) may be required between customer mobile devices, *i.e.*, user equipment, being served by D2D satellite systems and AMT receive sites in the L-Band and Upper S-Band to protect to the Rec. ITU-R M.1459 AMT protection criteria. See Documents 4C/691 and 4C/692. Compatibility, whether on an in-band or adjacent band basis, would be highly dependent on the operational and technical parameters of the D2D system.

¹¹ Concentrations of AMT receive sites exist in the near vicinity of the U.S. borders in Southern California, the Southwest, Texas, the Pacific Northwest, Florida, and Great Lakes, among other areas.

in adjacent bands as well, *e.g.*, the 2345-2360 MHz Band. In its 2024 SCS Order, the Commission identified five frequency bands where it would accept applications for MSS providers, in conjunction with terrestrial exclusive mobile service licensees, to provide SCS service on a secondary basis.¹² SCS is effectively the same as D2D operations from a concept of operations perspective, as the Application affirms by using the terms somewhat interchangeably. The Commission’s *SCS Order* excluded from consideration bands with primary, non-flexible-use Federal or non-Federal incumbents.¹³ Accordingly, the L-Band and Upper S-Band, had they been considered, would have been excluded by definition given the primary AMT incumbents in those bands rather than flexible-use licensees. However, the Commission also entertained two requests to make mobile service spectrum licensed to a single flexible-use provider on a nationwide basis *adjacent or near adjacent to the AMT bands* available for SCS but, temporarily at least, rejected both of them in the *SCS Order* because of unresolved interference concerns.¹⁴

¹² *Single Network Future: Supplemental Coverage from Space*, GN Docket No. 23-65, IB Docket No. 22-271, Report and Order and Further Notice of Proposed Rulemaking, (rel. March 15, 2024) (“SCS Order”).

¹³ *See id.*, ¶ 39.

¹⁴ *See id.*, ¶¶ 32-34 (rejecting 2305-2320 and 2345-2360 MHz as initial SCS bands “given the serious concern that permitting SCS in this band could potentially interfere with important adjacent band operations,” such as AMT) & ¶¶ 43-44 (rejecting the 1432-1435 MHz band as an SCS band because it presents “technically complex interference protection scenarios”). AFTRCC filed comments in the SCS docket stating that if the SCS operator could demonstrate it would meet the Rec. ITU-R M. 1459 interference protection criteria for AMT, it would be unlikely to have an objection to SCS in the bands adjacent to AMT spectrum, and explained in an *ex parte* that the PFD limit being applied in the initial SCS bands only of -120 dBW/m²/MHz would be inadequate to protect AMT. *See* Comments of AFTRCC, GN Docket No. 23-65, IB Docket No. 22-271 (May 12, 2023); *Ex Parte* Letter from Edward A. Yorkgitis, Jr., Counsel to AFTRCC, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 23-65, IB Docket No. 22-271, p. 4 (Mar. 7, 2024).

AFTRCC urges the Commission to take a similar thoughtful approach as it did with SCS to the services Amazon Leo might propose to offer within the 1429-2690 MHz range outside the United States taking into account the potential for cross-border interference into important U.S.-based AMT operations. In particular, the Commission should satisfy itself before the Amazon Leo D2D System commences any operations within the 1429-2690 MHz Band in countries neighboring the United States that any complex interference protection scenarios have been resolved. In the case of the sub-bands co-frequency with or adjacent-frequency to the AMT Bands, the interference protection scenarios surrounding Amazon Leo D2D operation are at least as complex as those the Commission identified in the *SCS Order* that precluded it from designating either 1432-1435 or 2345-2360 MHz as one of the initial SCS bands. As noted above, many AMT sites are located in the U.S. sufficiently near the border requiring the consideration of how a D2D operator will avoid cross-border interference into U.S. AMT operations.¹² Moreover, while Amazon Leo has not at this time provided in the Application any interference analysis seeking to demonstrate cross-border compatibility with primary safety-of-life AMT operations in the same or adjacent spectrum, it should be required to do so (with an opportunity for public review and comment, as well as gathering input from the Government AMT operators). Ideally, this would be done prior to a grant of the Application or, at a minimum, the obligation to provide such a compatibility analysis to the Commission should be a license pre-condition to commencing operations in or adjacent to either the L-Band or Upper S-Band in a neighboring country (where Amazon Leo has received authorization from that country, as well).¹⁵

¹⁵ Such a condition has precedence. See, e.g., *In the Matter of Space Exploration Holdings, LLC Request for Deployment and Operating Authority for the SpaceX Gen2 NGSO Satellite System et al.*, SAT-AMD-20241017-00228 et al., Order and Authorization, DA 24-1193 (rel. Nov. 26, 2024).

By granting authority before Amazon Leo demonstrates how it can and would operate compatibly, the Bureau risks unintentionally, by not focusing on the matter now, relegating measures to ensure non-interference to primary incumbents to something of an afterthought. Rather, as the Application is before the Commission currently, it is better to require a rigorous demonstration at this time of how cross-border interference will be avoided for safety-of-life AMT services operating in the United States. Until that showing is forthcoming, and the Commission and the public have the chance to review and comment on the same, AFTRCC respectfully requests that the Commission, in addition to addressing the interference concerns of other commenters regarding the proposed domestic Amazon Leo D2D System operations, defer the action on the Application, at least with respect to authority to operate outside the country in spectrum within or adjacent to the 1435-1525 MHz and 2360-2395 MHz AMT Bands.

III. CONCLUSION

AFTRCC notes and appreciates Amazon Leo's commitment to work with potentially affected parties to ensure that its proposed domestic operations will avoid causing interference to incumbent operations.¹⁶ While that specific commitment was with regard to the 1.6 GHz band, AFTRCC welcomes the opportunity to work with Amazon Leo and the Commission in the event that Amazon Leo intends, in neighboring countries, to operate in or adjacent to the L-Band and Upper S-Band to ensure that critical AMT operations in the United States are protected.

Respectfully submitted,

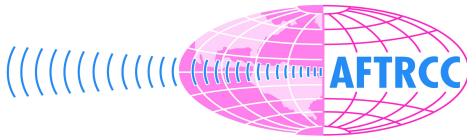
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September 28, 2026

¹⁶ See Application, Technical Statement at 16.



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CERTIFICATE OF SERVICE

I, Winafred Brantl, hereby certify that on September 28, 2026, a copy of the foregoing document (*Responsive Comments of Aerospace and Flight Test Radio Coordinating Council, Inc.*) was sent via U.S. Mail to the following:

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