

**Kuiper Systems LLC
Application for Special Temporary Authority
Narrative Statement**

Pursuant to Sections 5.51, 5.54(a)(2), and 5.61 of the rules¹ of the Federal Communications Commission (“Commission” or “FCC”), Kuiper Systems LLC (“Amazon Leo”), a wholly owned subsidiary of Amazon.com Services LLC (collectively, “Amazon”), hereby respectfully requests special temporary authority (“STA”) to operate in the 17.8-18.6 GHz and 18.8-20.2 GHz bands for a period of six months to conduct in-orbit testing at a 450 km orbital altitude. In support of its request, Amazon Leo provides the following information required by Section 5.61:

Name, address, phone number (also email address and facsimile number, if available) of the applicant.

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Explanation of why an STA is needed.

Amazon Leo seeks STA to conduct in-orbit testing (“IOT”) from five satellites (the “Test Satellites”) in its already-authorized first-generation non-geostationary (“NGSO”) satellite constellation of identical space stations (the “Gen 1 Amazon Leo System”)² to each of its already-authorized satellite telecommand, telemetry, and control (“TT&C”) and gateway (“GW”) earth stations.³ Specifically, Amazon Leo seeks to operate the Test Satellites at an orbital altitude of 450 km, which is below the operational altitudes authorized by the Amazon Leo System Modified License.

¹ 47 C.F.R. §§ 5.51, 5.54(a)(2), 5.61.

² *Kuiper Systems LLC, Request for Modification of the Authorization for the Kuiper NGSO Satellite System*, Order and Authorization, 39 FCC Rcd 3987 (SB 2024) (“Amazon Leo System Modified License”); *Kuiper Systems LLC*, Stamp Grant, ICFS File Nos. SAT-LOA-20211104-00145 and SAT-AMD-20250311-00068 (granted Feb. 10, 2026).

³ Amazon Leo requests authority to communicate with all gateway earth stations with Part 25 licenses licensed to Kuiper Systems LLC, which are available on ICFS. Amazon Leo is a known and trusted Part 25 satellite and earth station licensee, and as part of the Part 25 licensing process, all its licensed earth stations have already been coordinated. *See, e.g.*, Federal Communications Commission Radio Station Authorization, ICFS File No. SES-LIC-20240207-00305, Call Sign E240057 (Mar. 24, 2025) (“Blanket Earth Station License”); Federal Communications Commission Radio Station Authorization, ICFS File No. SES-LIC-20210409-00635, Call Sign E210071 (Dec. 13, 2022); Federal Communications Commission Radio Station Authorization, ICFS File No. SES-LIC-20221128-01279, Call Sign E220187 (Apr. 2, 2025).

Amazon Leo seeks to commence testing as soon as possible, by September 25, 2026.

Description of the operation to be conducted and its purpose.

Amazon Leo proposes to perform IOT with the Test Satellites at a 450 km orbital altitude, which will allow Amazon Leo to reduce risk for satellites at operational altitudes. Specifically, the proposed operations would allow Amazon Leo to 1) confirm ground testing and validate core flight software changes, which facilitates making any necessary changes before full-fleet rollout; 2) test automation and automation behavior on a subset of satellites that will not be required to serve customers; and 3) perform other testing that does not require space stations at operational altitude.

Amazon seeks only to downlink in the requested frequencies under this experimental STA. Any transmissions from the earth stations to the Test Satellites will be made in accordance with their Part 25 authorization, including previously submitted radiation hazard reports.

These activities serve the public interest by derisking key operational tasks and enabling more agile deployment of software fixes, allowing Amazon Leo to more quickly and efficiently provide affordable, high-quality connectivity to customers and communities around the world.

Time and dates of proposed operation.

Amazon Leo requests special temporary authority for a 180-day period and seeks to commence testing on September 25, 2026.

Description of the location(s) and, if applicable, geographical coordinates of the proposed operation.

The proposed transmissions will occur in non-geostationary orbit at an orbital altitude of 450 km and will be received by Amazon's already-authorized TT&C and GW earth stations.

Amazon Leo recognizes that experimental operations must not cause harmful interference to authorized facilities, and, prior to commencing operations, Amazon Leo will coordinate with any incumbent licensees as needed to ensure that the experimental operations do not interfere with authorized operations.

Equipment to be used, including name of manufacturer, model and number of units.

The IOT uses the same antennas as in the already-authorized space station license and associated earth station licenses. There are two main types of antennas that will be used for this IOT: a parabolic steerable antenna used for GW transmissions and a set of fixed antennas used for TT&C transmissions.

Antenna ID	Manufacturer	Model Number	Number of units
SC-GW-1	Amazon	N/A	5
SC-TTC-1	Amazon	N/A	5

Frequency (or frequency bands) requested.

The IOT uses the same frequency bands and channelization as in the already-authorized space station license and associated earth station licenses. The full list of requested frequency bands is listed below.

Antenna ID	Service	Frequency Band(s)
SC-GW-1	GW	17.8 – 18.6 GHz, 18.8 – 20.2 GHz
SC-TTC-1	TT&C	19.25 – 19.4 GHz

Maximum effective radiated power and output power.

The maximum power and maximum EIRP shown below include all carriers in multi-carrier configuration. Both the GW downlink and the TT&C downlink comply with all PFD and EPFD limits in Articles 21 and 22 of the ITU Radio Regulations.

Antenna ID	Peak Antenna Gain (dBi)	Typical Antenna Gain (dBi)	Maximum Output Power (W)	Maximum EIRP (dBW)	Typical EIRP (dBW)
SC-GW-1	35.5	-	2.0	38.5	-
SC-TTC-1 ⁴	13.5	-0.7	4.5	20	5.8

Emission designator or describe emission (bandwidth, modulation, etc.).

Antenna ID	Emission Designator	Modulating Signal	Frequency Tolerance (%)
SC-GW-1	100MD7W, 500MD7W	OFDM	0.002
SC-TTC-1	1M00D7W, 2M50D7W, 5M00D7W, 10M0D7W, 20M0D7W, 50M0D7W	OFDM	0.002

⁴ The TT&C downlink on the spacecraft has a peak antenna gain of 13.5 dBi; however, since it is a fixed antenna, the actual antenna gain and thus EIRP radiated toward the TT&C earth station is typically much lower.