

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

Pursuant to Sections 5.51, 5.54(a)(1), and 5.61 of the rules<sup>1</sup> of the Federal Communications Commission (“Commission”), Kuiper Systems LLC, a wholly owned subsidiary of Amazon.com Services LLC (“Amazon.com” or “Amazon”), hereby respectfully requests a special temporary authorization (“STA”) to operate up to 1,000 prototypes of fixed earth stations for customers (“Customer Terminals” or “CTs”) in the frequency bands 28.35-29.1 GHz and 29.5-30.0 GHz (Earth-to-space) for a period of 6 months to validate the over-the-air performance of the CTs within the permitted scope of services specified in Section 5.3(e), (h), (j), and (k) of the Commission’s rules. In support of its request, Amazon provides the following additional information required by Section 5.61:

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

*Amazon Stop Buzzer  
Contact*

*Amazon FCC Contact*

Brian Jones  
6464 185th Ave NE  
Redmond, WA, 98052  
24 hr. contact:  
+1 858-860-4621  
brianjns@amazon.com

Kalpak Gude  
Amazon.com  
525 14<sup>th</sup> Street South  
Arlington, VA 22203  
gudekal@amazon.com

**(2) Explanation of why an STA is needed.**

Amazon is developing fixed CTs to operate with its non-geostationary satellite orbit (“NGSO”) system to provide service using certain Fixed-Satellite Service (“FSS”) and Mobile-Satellite Service (“MSS”) Ka-band frequencies (the “Kuiper System”). Grant of the requested STA will allow Amazon to test the fixed CTs that will communicate with the Kuiper System, including by conducting over-the-air product performance measurements with its satellites prior to commencing product manufacturing. These measurements form a vital part of Amazon’s plan to deploy a non-geostationary satellite orbit system, which will expand the availability of high-speed, innovative, satellite-delivered services to unserved and underserved customers worldwide. Accordingly, grant of the requested experimental authority would serve the public interest, convenience, and necessity.

---

<sup>1</sup> 47 C.F.R. § 5.51, 5.54(a)(1), 5.61.

### (3) Description of the operation to be conducted and its purpose.

Amazon proposes to operate the CTs from a number of locations throughout the contiguous United States (“CONUS”) to its licensed space stations shown below for the purposes of validation of product performance.

Call Sign	File number	Grant date
WM2XKY (experimental)	0108-EX-CM-2023	09/26/2023
S3051 (non-experimental)	SAT-MOD-20211207-00186	02/08/2023

For the flexibility to operate at various locations, Amazon requests authority to operate up to 1,000 prototype CTs dispersed throughout CONUS. Amazon will operate no more than 200 of the CTs at the same time. Amazon acknowledges that experimental operations must not cause harmful interference to authorized facilities, and will maintain a 24/7 stop buzzer contact to address any complaint of interference and cease operations.<sup>2</sup>

### (4) Time and dates of proposed operation.

Amazon seeks a 6-month experimental STA to begin operations in April 2024. Transmission times depend upon the CT latitude, as well as how many satellites are in orbit and visible to the CT at the time of the measurement. Amazon expects this to be a total of 4-6 hours on average per day.

### (5) Equipment to be used, manufacturer, model number and pointing directions.

Prototype	Manufacturer	Model number	Gain dBi @ 28.6GHz	3dB max beamwidth (V/H) degrees	Pointing directions all CT types
TYPE IP	Kuiper Systems LLC	IP	31.0	2.5°/2.5°	To Kuiper-licensed space stations
TYPE IIP		IIP	34.0	4.9°/4.9°	Azimuth 0-360 degrees
TYPE IIIP		IIIP	38.0	1.9°/1.9°	Elevation 35-90 degrees

---

<sup>2</sup> Amazon is aware of its obligations under its associated space station authorizations to protect terrestrial and space systems in certain shared bands, particularly the applicable equivalent power flux-density (“EPFD”) limits set forth in Article 22 and Resolution 76 of the ITU Radio Regulations, for operations in the 28.35-28.6 GHz and 29.5-30.0 GHz frequency bands, as well as the applicable power flux-density (“PFD”) limits set forth in the Commission’s rules and Article 21 of the ITU Radio Regulations. *See generally Kuiper Systems LLC, Application for Authority to Deploy and Operate a Ka-band Non-Geostationary Satellite Orbit System, Order and Authorization, 35 FCC Rcd 8324 (2020); Kuiper Systems LLC, Request for Modification of the Authorization for the Kuiper NGSO Satellite System, Order and Authorization, SAT-MOD-20211207-00186, DA 23-114 (rel. Feb. 8, 2023); ELS File No. 0956-EX-CN-2021, Call Sign WM2XKY (granted June 9, 2022); ELS File No. 0108-EX-CM-2023, Call Sign WM2XKY (granted June 26, 2023).*

**(6) Frequency band, emission designator and EIRP**

Station (name)	Frequency bands (GHz)	Frequency tolerance	Emission designators	Modulation	EIRP (dBW)	
					min	max
All station types	28.35-29.1	$\pm 10$ ppm	10M0D7W	Fixed power variable bandwidth SC-OFDM  BW range:10-200 MHz	-10	45.8
	29.5-30.0		To  200MD7W			

**(7) Radiofrequency (“RF”) exposure compliance**

The fixed CTs will comply with the Commission’s Maximum Permissible Exposure (“MPE”) limit for General Population/Uncontrolled exposures, which for the Ka-band frequencies used by these CTs is a power density equal to 1 mW/cm<sup>2</sup> averaged over a thirty-minute period.<sup>3</sup> Amazon will ensure that all personnel operating the CTs are trained on proper handling of the CT to avoid any possibility of exposure in excess of these limits.

---

<sup>3</sup> See 47 C.F.R. § 1.1310(e).