

Applicant: Viasat, Inc.  
File No.: SES-STA-20200117-00055  
Call Sign: E160161  
Special Temporary Authority (STA)

Viasat, Inc. is granted special temporary authority to provide communication services to facilitate a demonstration by its customer, Astroscale Ltd. (Astroscale), of rendezvous and proximity operations (RPO), capture, and de-orbit of a mock debris. The mission involves a 5.4 meter earth station antenna located at geographic coordinates 34° 10' 29" N, 83° 40' 19" W in Pendergrass, GA, that will communicate using the 2073 MHz (Earth-to-space) and 2251 (space-to-Earth) MHz frequencies to provide space operations services, including telemetry, tracking and command functions (TT&C) to Astroscale's "Client" satellite of the ELSA-d system. Use of the Pendergrass earth station will commence immediately after separation of the ELSA-d spacecraft from the Soyuz launcher and continue to enable three short-duration contact passes (approx. 10-14 minutes each) from the Pendergrass earth station with the "Client" spacecraft. With a planned launch of March 20, 2021, and launch time of approx. 0600 GMT (0100 EST), use of the Pendergrass earth station for the ELSA-d Launch and Early Orbit Phase (LEOP) is expected to occur between March 20, 2021, at 0600 GMT (0100 EST) and March 22, 2021, at 2359 GMT (1859 EST). The "Client" satellite will be in a sun-synchronous orbit with an inclination of 97.6 degrees, at an altitude of perigee at 534.8 km and an altitude of apogee of 551.6 km. The Local Time of the Ascending Node (LTAN) will be 11:00.

STA operations will be conducted under the following conditions:

1. Communications between U.S.-licensed earth stations and the Astroscale ELSA-d system must comply with all existing and future space station coordination agreements reached between Japan and other administrations.
2. All Viasat, Inc. operations shall be on an unprotected, non-interference basis, including with respect to authorized federal stations, and Viasat, Inc. should be aware that any interference to these users will subject the licensee to immediate shut down. In the event that there is a report of interference, Viasat, Inc. must terminate transmissions and notify the Commission in writing.
3. Viasat, Inc. shall be aware that long term or operational use of the 2200-2290 MHz frequency band by non-Federal stations in the United States is highly unlikely, and Viasat, Inc. shall have no expectations that future requests for operation or renewal of licenses in this band will be approved.
4. All operations shall be limited to LEOP operations and three short term demonstration phases consisting of 12 total days. The demonstration phases consist of Demo 1 for 3 days, Demo 2 for 3 days, and Demo 3 (Parts 1 and 2: for a total of 6 days), as specified in the documentation provided by Astroscale for the purpose of pre-coordination with federal agencies. This authorization will expire on September 1, 2021.

5. Only the following frequencies and emissions (bandwidths) are authorized for communications between the Pendergrass, GA, earth station and the ELSA-d satellite system:
  - a. 2073 MHz (S-band uplink to the Client satellite): 61.4 kHz
  - b. 2251 MHz (S-band downlink from the Client satellite): 61.4 kHz (LEOP), 184 kHz (nominal)
6. Transmissions using the 2073 MHz uplink frequency are not permitted when the NASA International Space Station (NORAD ID 25544 or International Spacecraft ID 1998-067A) is within 5 degrees of the Pendergrass, GA ground station antenna boresight.
7. Viasat, Inc. shall notify the NASA GSFC Spectrum Management Office at [NASA-DL-GSFC-Spectrum-Management@mail.nasa.gov](mailto:NASA-DL-GSFC-Spectrum-Management@mail.nasa.gov), the NASA JSC Spectrum Management Office at [JSC-DL-Spectrum-Management@mail.nasa.gov](mailto:JSC-DL-Spectrum-Management@mail.nasa.gov), the U.S. Air Force (AF) at [jimmy.nguyen@us.af.mil](mailto:jimmy.nguyen@us.af.mil), and the Department of Commerce/NOAA at [carlos.flores@noaa.gov](mailto:carlos.flores@noaa.gov) of the proposed earth station contact dates and times, at least 2 weeks in advance of planned demonstrations. If planned demonstrations conflict with U.S. government operations, additional evaluations and/or restrictions will be required.
8. A 24/7 Astroscale contact shall be maintained concerning operations of the “Client” satellite.
9. All transmissions in the band 2200-2290 MHz shall comply with national and international power flux-density limits, except in cases where expected exceedances are pre-coordinated and agreed upon. The applicant has not identified any such cases for the planned operations, and none are hereby approved.
10. Transmitter(s) must be turned off during antenna maintenance to ensure compliance with the FCC-specified safety guidelines for human exposure to radiofrequency radiation in the region between the antenna feed and the reflector.
11. The licensee shall take all necessary measures to ensure that the antenna does not create potential exposure of humans to radiofrequency radiation in excess of the FCC exposure limits defined in 47 CFR 1.1307(b) and 1.1310 wherever such exposures might occur. Measures must be taken to ensure compliance with limits for both occupational/controlled exposure and for general population/uncontrolled exposure, as defined in these rule sections. The FCC's OET Bulletin 65 (available online at [www.fcc.gov/oet/rfsafety](http://www.fcc.gov/oet/rfsafety)) provides information on predicting exposure levels and on methods for ensuring compliance, including the use of warning and alert signs and protective equipment for workers.
12. Any actions taken or expenses incurred as a result of operations pursuant to this authority are solely at Viasat, Inc.'s risk.

This action is issued pursuant to Section 0.261 of the Commission's rules on delegated authority, 47 C.F.R. § 0.261, and is effective immediately.