

Applicant: The University of Miami Center for Southeastern Tropical Advanced Remote Sensing (CSTARS)

File No.: SES-STA-20200811-00859

Call Sign: None

Special Temporary Authority (STA)

The University of Miami Center for Southeastern Tropical Advanced Remote Sensing (CSTARS) is granted special temporary authority, beginning November 17, 2021 for 180 days 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 an 11 meter earth station antenna located at geographic coordinates 25° 36' 50" N, 80° 23' 4" W in Miami, FL, that will communicate using the 8470 MHz (space-to-Earth) frequency to receive signals from Astroscale's "Servicer" satellite of the ELSA-d system. The "Servicer" 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 CSTARS operations shall be on an unprotected, non-interference basis, including with respect to authorized federal stations, and CSTARS 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, CSTARS must terminate transmissions and notify the Commission in writing.
3. All operations shall be limited to an initial "Commissioning" phase and three short-term demonstration phases. The "Commissioning" phase includes operations for approximately three 10-minute periods, for a total of 30 minutes over four weeks. The demonstration phases consist of Demo 1 for 3 days (operations for a total of 90 minutes), Demo 2 for 3 days (operations for a total of 90 minutes), and Demo 3 (Parts 1 and 2: for a total of 6 days; operations for a total of 180 minutes), as specified in the documentation provided by Astroscale for the purpose of pre-coordination with federal agencies and in the materials supporting this STA request. This authorization will expire 180 days from [date].
4. Only the following frequencies and emissions (bandwidths) are authorized for communications between the Miami, FL, earth station and the ELSA-d satellite system, in accordance with pre-coordination discussions between Astroscale and federal agencies:
 - a. 8470 MHz (X-band downlink from the Servicer satellite): 8.33 MHz
5. CSTARS shall notify the NASA GSFC Spectrum Management Office at NASA-DL-GSFC-Spectrum-Management@mail.nasa.gov, the NASA JSC Spectrum Management

Office at JSC-DL-Spectrum-Management@mail.nasa.gov, the U.S. Air Force (AF) at jimmy.nguyen@us.af.mil, and the Department of Commerce/NOAA at 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.

6. 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) 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.
7. Any actions taken or expenses incurred as a result of operations pursuant to this authority are solely at CSTARS' 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.