

SES Space and Defense Application for Experimental Special Temporary Authority
Narrative Statement

(1) Name, address, phone number (also e-mail address and facsimile number, if available) of the applicant

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(2) Description of why an STA is needed.

SES Space & Defense (“SES SD”), a wholly-owned subsidiary of SES S.A. (“SES”), provides satellite solutions to U.S. government customers to meet mission critical needs. SES SD is seeking an experimental special temporary authority (“STA”) in order to test and demonstrate two earth station terminals that operate in fixed mode. The terminals will communicate with the O3b non-geostationary orbit (“NGSO”) satellite system in the Ka-band (Call Sign S2935)¹ using the 28.35-29.1 GHz and 29.5-30.0 GHz bands.

Specifically, SES SD requests this STA to perform time-sensitive testing and demonstration of the Get SAT LESA Blade Ka Air antenna with the O3b network to assess the antenna’s suitability to support satellite communications to U.S. Government customers deployed around the world.

NGSO operations have primary status, transmitting in the 28.6- 29.1 GHz frequencies. All operations in this band will protect other NGSO FSS transmissions and operate in accordance with O3b’s existing coordination agreements.

SES SD further certifies that these operations will continue to comply with 47 C.F.R. § 25.289, and that all operations in the 28.35-29.1 GHz and 29.5-30.0 GHz bands will be conducted in compliance with Article 22, Section II, and Resolution 76 of the ITU Radio Regulations.

¹ The FCC has granted market access to the current O3b 20 satellite constellation and authorized the expansion of the constellation to up to 42 satellites. See O3b Limited, Order and Declaratory Ruling, 33 FCC Rcd 5508 (2018) (“O3b Market Access Grant”).

In the 28.35-28.6 GHz and 29.5-30.0 GHz bands, where GSO FSS is primary, the SES SD terminal will comply with the Off-Axis EIRP density envelopes specified in 47 C.F.R. § 25.218 and will operate in accordance with applicable coordination agreements for GSO satellites with which it communicates, ensuring compliance with regulatory requirements and minimizing interference with co-primary services.

(3) Time and Date of Proposed Operation.

SES SD request expedited processing to enable testing for 180 days to begin by July 15, 2026.

The timing is driven by the need to conduct time sensitive testing and demonstrations for the U.S. government. SES S recognizes that a grant may not be feasible on this timeline and requests a grant as soon as practicable.

(4) Class(es) of station (fixed, mobile, fixed and mobile) and call sign of station (if applicable).

The transmitting antenna will operate as a fixed satellite earth station.

(5) Description of the location(s) and geographical coordinates of operation.

SES SD will test and operate the terminal in fixed mode at two locations. During testing or demonstration, the antenna will be positioned within a 1-mile (1.6 km) radius of the coordinates indicated below.

- Bristow, Virginia
 - Latitude: 38° 46' 48" N
 - Longitude: 77° 34' 12" W
 - Antenna Elevation Range: 10° - 10°
 - Antenna Azimuth Range: 0° - 360°
 - Operating Range: 1.6 kilometers
- Eglin AFB, FL
 - Latitude: 30° 29' 11.47" N
 - Longitude: 86 °30' 15.28" W
 - Antenna Elevation Range: 10° - 10°
 - Antenna Azimuth Range: 0° - 360°
 - Operating Range: 1.6 kilometers
- MacDill AFB, FL
 - Latitude: 27° 50' 59.36" N
 - Longitude: 82° 30' 32.27" W
 - Antenna Elevation Range: 10° - 10°
 - Antenna Azimuth Range: 0° - 360°
 - Operating Range: 1.6 kilometers
- Barksdale AFB, LA

- Latitude: 32° 30' 03.09" N
- Longitude: 93° 39' 44.05" W
- Antenna Elevation Range: 10° - 10°
- Antenna Azimuth Range: 0° - 360°
- Operating Range: 1.6 kilometers
- San Diego, CA
 - Latitude: 32° 59' 25.18" N
 - Longitude: 117° 04' 46.33" W
 - Antenna Elevation Range: 10° - 10°
 - Antenna Azimuth Range: 0° - 360°
 - Operating Range: 1.6 kilometers
- Oklahoma City, OK
 - Latitude: 35° 25' 10.29" N
 - Longitude: 97° 24' 17.60" W
 - Antenna Elevation Range: 10° - 10°
 - Antenna Azimuth Range: 0° - 360°
 - Operating Range: 1.6 kilometers
- Palmdale, CA
 - Latitude: 34° 55' 26.51" N
 - Longitude: 117° 53' 28.35" W
 - Antenna Elevation Range: 10° - 10°
 - Antenna Azimuth Range: 0° - 360°
 - Operating Range: 1.6 kilometers
- Baltimore, MD
 - Latitude: 39° 11' 45.48" N
 - Longitude: 76° 45' 06.11" W
 - Antenna Elevation Range: 10° - 10°
 - Antenna Azimuth Range: 0° - 360°
 - Operating Range: 1.6 kilometers

(6) Transmit equipment to be used, including name of manufacturer, model, and number of units.

Get SAT LESA Blade Ka Air (.46 m), 1 unit at each site

(7) Maximum effective radiated power (ERP).

The output power is 12.6 Watt(s), and the peak ERP is 47 dBw.

For all operations, SES SD will comply with the radiofrequency radiation exposure limits in 47 C.F.R. § 1.1310 and apply the measures recommended in the FCC's OET Bulletin 65 to ensure compliance.

In addition to the showing provided, SES S&D affirms that it will have control over the fixed testing locations during all testing operations and will be able to ensure that no one from the general population enters the testing area while the Get SAT terminal is transmitting.

(8) Emission Designator.

18M0G7W

(9) Overall height of antenna or antenna structure above the ground (if greater than 6 meters above the ground or an existing structure, see part 17 of this Chapter concerning notification to the FAA).

The antenna's overall height above ground level will be less than 6 meters.

(10) Certification with Out-Of-Bound Emission Requirements

Applicant hereby certify that our proposed operations will fully comply with the applicable out-of-band emission limitations and frequency tolerance requirements specified in Section 25.202 of the Commission's Rules.

(11) Antenna Gain

KA Gain [dBi] @ Bore = 37

(12) Directional Antenna Characteristics

Width of the antenna beam in degrees at the half-power point	4 degrees
Orientation of the antenna in the horizontal plane	10=90 degrees
Orientation of the antenna in the vertical plane	0-360 degrees