

Narrative

Applicant Information

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Purpose of Experimental License

SES Americom Inc. ("SES") respectfully requests experimental authority to test and demonstrate the efficacy and capabilities of the BAE Systems BAE Ka-band ESA antenna ("BAE antenna"). The BAE antenna has the potential to deliver performance across multiple form factors and frequency bands that increases flexibility for reliable, efficient communications.

SES is requesting authority to conduct tests of the BAE antenna for mobile operations at several sites, including Broomfield, Colorado; Bristow, Virginia; Hagerstown, Maryland; Mount Prospect, Illinois; and Ellenwood, Georgia. The antennas will communicate with SES's O3b non-geostationary satellite and its SES-17 geostationary orbit satellite transmitting in the 28.35-29.10 and 29.5-30.0 GHz frequencies¹ and its SES-17 geostationary orbit satellite transmitting in the 28.35-29.10 and 29.5-30.0 GHz frequencies.

Time and dates of proposed operation

SES requests a license for six months from August 19, 2026, to February 19, 2027.

Description of the location and geographical coordinates of the proposed operation

SES will test and operate the antennas for mobile operations at the following location:

Broomfield, CO

Latitude: 39° 54' 10" N

Longitude: 105° 6' 44" W

Operating Range: 50 kilometers

Bristow, VA

Latitude: 38° 48' 00" N

Longitude: 77° 34' 30" W

Operating Range: 50 kilometers

Hagerstown, MD

Latitude: 39° 35' 57" N

Longitude: 77° 45' 33" W

Operating Range: 50 kilometers

¹ See O3b Limited, Order and Declaratory Ruling, 33 FCC Rcd 5508 (2018).

Mount Prospect, IL
Latitude: 42° 04' 42" N
Longitude: 87° 55' 06" W
Operating Range: 50 kilometers

Ellenwood, GA
Latitude: 33° 39' 53" N
Longitude: 84° 16' 19" W
Operating Range: 50 kilometers

Transmit equipment to be used

Manufacturer	Model	Size
BAE Systems	Ka-MultiOrbit ESA	50x80 cm

Maximum effective isotropic radiated power (EIRP).

Maximum transmitted EIRP will be 55.0 dBW and antenna gain of 39.8 dBi. The transmitted power is 33 W and the maximum EIRP density will be 22.0 dBW/4kHz.

Overall height of antenna of 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 overall height of the antenna above ground level and above existing structures will not exceed six meters.

Directional Antenna Information

Is a directional antenna used? Yes.

Width of the beam in degrees at the half power point	Orientation in horizontal plane (degrees from True North)	Orientation in vertical plane (degrees from horizontal)
1.8	0° to 360°	5° to 90°

Sharing with Primary GSO FSS Operators

Pursuant to Sections 25.115(f)(1) and 25.146(a)(2) of the Commission's rules, SES hereby certifies that the earth station operations proposed herein will comply with the applicable equivalent power flux-density levels in Article 22, Section II, and Resolution 76 of the International Telecommunication Union Radio Regulations.

Compliance with FCC 25.202

SES will comply with the out-of-band emissions limits specified in Section 25.202 of the Commission's rules regarding frequency tolerance and emission limits.