



312 File Number: **SATPPL2019030500014**

Filing Description

Question	Response
Description	SES-17 Ka-band Satellite at 67.1 W.L.

Satellite Information

Question	Response
Select Orbit Type	GSO
Space Station or Satellite Network Name	SES-17
Estimated Lifetime of Satellite(s) From Date of Launch	15 Years
Will the space station(s) operate on a Common Carrier basis?	No

Operating Frequency Bands (4)

Nature of service	Description	Frequency Band(s)	Mode Type
Fixed-Satellite Service		11700.0 MHz -12450.0 MHz	Transmit
Fixed-Satellite Service		13750.0 MHz -14500.0 MHz	Receive
Fixed-Satellite Service		27500.0 MHz -30000.0 MHz	Receive
Fixed-Satellite Service		17300.0 MHz -20200.0 MHz	Transmit

Orbital Information For Geostationary Satellites

Section	Question	Response
Orbital Longitude Information	Orbital Longitude	67.0 degrees
	Hemisphere of Orbital Longitude	W
Longitudinal Tolerance or East /West Station-Keeping	Toward West	0.05 degrees
	Toward East	0.05 degrees
Inclination Excursion or North /South Station-Keeping Tolerance	Inclination Excursion or North /South Station-Keeping Tolerance	0.1 degrees
Antenna Axis Attitude Accuracy	Roll	0.04 degrees
	Pitch	0.04 degrees
	Yaw	0.05 degrees

Receiving Beams 1:

Question	Response
Beam ID	NCU2
Receive Beam Frequency	27500.0 MHz -30000.0 MHz
Beam Type	Spot
Polarization	LHCP
Peak Gain	52.9 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.09 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	20.5 dB/K
Min. Saturation Flux Density	-131.3 dBW/m2
Max. Saturation Flux Density	-76.3 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	North America and Caribbean

Receiving Beams 2:

Question	Response
Beam ID	NSU1
Receive Beam Frequency	27500.0 MHz -30000.0 MHz
Beam Type	Spot
Polarization	RHCP
Peak Gain	49.3 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.09 degrees

Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	16.9 dB/K
Min. Saturation Flux Density	-131.3 dBW/m2
Max. Saturation Flux Density	-76.3 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	North and South America

Receiving Beams 3:

Question	Response
Beam ID	NSU2
Receive Beam Frequency	27500.0 MHz -30000.0 MHz
Beam Type	Spot
Polarization	LHCP
Peak Gain	49.3 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.09 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	16.9 dB/K
Min. Saturation Flux Density	-131.3 dBW/m2
Max. Saturation Flux Density	-76.3 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	North and South America

Receiving

Beams 4:

Question	Response
Beam ID	SAU1
Receive Beam Frequency	27500.0 MHz -30000.0 MHz
Beam Type	Spot
Polarization	RHCP
Peak Gain	48.5 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.09 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	16.1 dB/K
Min. Saturation Flux Density	-131.3 dBW/m2
Max. Saturation Flux Density	-76.3 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Central America, South America, Caribbean and North Atlantic Ocean

Receiving Beams 5:

Question	Response
Beam ID	SAU2
Receive Beam Frequency	27500.0 MHz -30000.0 MHz
Beam Type	Spot
Polarization	LHCP
Peak Gain	48.5 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.09 degrees
Polarization Switchable	

Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	16.1 dB/K
Min. Saturation Flux Density	-131.3 dBW/m2
Max. Saturation Flux Density	-76.3 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Central America, South America, Caribbean and North Atlantic Ocean

Receiving Beams 6:

Question	Response
Beam ID	TAU1
Receive Beam Frequency	29300.0 MHz -29500.0 MHz
Beam Type	Spot
Polarization	RHCP
Peak Gain	38.0 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.09 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	5.6 dB/K
Min. Saturation Flux Density	-131.3 dBW/m2
Max. Saturation Flux Density	-76.3 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Trans-Atlantic

Receiving Beams 7:

Question	Response
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Beam ID	TAU2
Receive Beam Frequency	29300.0 MHz -29500.0 MHz
Beam Type	Spot
Polarization	LHCP
Peak Gain	38.0 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.09 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	5.6 dB/K
Min. Saturation Flux Density	-131.3 dBW/m2
Max. Saturation Flux Density	-76.3 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Trans-Atlantic

Receiving Beams 8:

Question	Response
Beam ID	VEU1
Receive Beam Frequency	29300.0 MHz -29500.0 MHz
Beam Type	Spot
Polarization	RHCP
Peak Gain	31.4 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.14 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees

G/T at Max. Gain Point	2.6 dB/K
Min. Saturation Flux Density	-137.8 dBW/m2
Max. Saturation Flux Density	-82.8 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Pacific and Atlantic Ocean and coasts along Americas

Receiving Beams 9:

Question	Response
Beam ID	VEU2
Receive Beam Frequency	29300.0 MHz -29500.0 MHz
Beam Type	Spot
Polarization	LHCP
Peak Gain	30.8 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.14 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	2.0 dB/K
Min. Saturation Flux Density	-137.8 dBW/m2
Max. Saturation Flux Density	-82.8 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Pacific and Atlantic Ocean and coasts along Americas

Receiving Beams 10:

Question	Response
Beam ID	FVU2

Receive Beam Frequency	29300.0 MHz -29500.0 MHz
Beam Type	Spot
Polarization	LHCP
Peak Gain	33.1 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.09 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	3.6 dB/K
Min. Saturation Flux Density	-137.8 dBW/m2
Max. Saturation Flux Density	-82.8 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Pacific Ocean and coasts along Americas

Receiving Beams 11:

Question	Response
Beam ID	FVU1
Receive Beam Frequency	29300.0 MHz -29500.0 MHz
Beam Type	Spot
Polarization	RHCP
Peak Gain	33.1 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.09 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	3.6 dB/K

Min. Saturation Flux Density	-137.8 dBW/m2
Max. Saturation Flux Density	-82.8 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Pacific Ocean and coasts along Americas

Receiving Beams 12:

Question	Response
Beam ID	GWU1
Receive Beam Frequency	27500.0 MHz -30000.0 MHz
Beam Type	Spot
Polarization	RHCP
Peak Gain	52.6 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.05 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	18.6 dB/K
Min. Saturation Flux Density	-145.7 dBW/m2
Max. Saturation Flux Density	-90.7 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	USA

Receiving Beams 13:

Question	Response
Beam ID	GWU2
Receive Beam Frequency	27500.0 MHz -30000.0 MHz

Beam Type	Spot
Polarization	LHCP
Peak Gain	52.6 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.5 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	18.6 dB/K
Min. Saturation Flux Density	-145.7 dBW/m2
Max. Saturation Flux Density	-90.7 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	USA

Receiving Beams 14:

Question	Response
Beam ID	GWU4
Receive Beam Frequency	27500.0 MHz -30000.0 MHz
Beam Type	Fixed
Polarization	LHCP
Peak Gain	53.8 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.5 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	19.8 dB/K
Min. Saturation Flux Density	-145.7 dBW/m2

Max. Saturation Flux Density	-90.7 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	USA

**Receiving
Beams 15:**

Question	Response
Beam ID	GWU3
Receive Beam Frequency	27500.0 MHz -30000.0 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	53.8 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.5 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	19.8 dB/K
Min. Saturation Flux Density	-145.7 dBW/m2
Max. Saturation Flux Density	-90.7 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	USA

**Receiving
Beams 16:**

Question	Response
Beam ID	NCU1
Receive Beam Frequency	27500.0 MHz -30000.0 MHz
Beam Type	Spot
Polarization	RHCP

Peak Gain	52.9 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.09 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	20.5 dB/K
Min. Saturation Flux Density	-131.3 dBW/m2
Max. Saturation Flux Density	-76.3 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	North America and Caribbean

Receiving Beams 17:

Question	Response
Beam ID	TCV1
Receive Beam Frequency	14002.55 MHz -14003.45 MHz
Beam Type	Fixed
Polarization	V
Peak Gain	19.4 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.5 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	90.0 degrees
G/T at Max. Gain Point	-5.42 dB/K
Min. Saturation Flux Density	-95.0 dBW/m2
Max. Saturation Flux Density	-60.0 dBW/m2

Co- or Cross Polar Mode	C
Service Area Description	Visible earth. Contour at 8 dB below peak falls entirely beyond the edge of visible earth.

**Receiving
Beams 18:**

Question	Response
Beam ID	TCV2
Receive Beam Frequency	14004.55 MHz -14005.45 MHz
Beam Type	Fixed
Polarization	V
Peak Gain	19.4 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.5 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	90.0 degrees
G/T at Max. Gain Point	-5.42 dB/K
Min. Saturation Flux Density	-95.0 dBW/m2
Max. Saturation Flux Density	-60.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Visible earth. Contour at 8 dB below peak falls entirely beyond the edge of visible earth.

**Receiving
Beams 19:**

Question	Response
Beam ID	TCH1
Receive Beam Frequency	14496.55 MHz -14497.45 MHz
Beam Type	Fixed
Polarization	H

Peak Gain	19.2 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.5 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
G/T at Max. Gain Point	-5.42 dB/K
Min. Saturation Flux Density	-95.0 dBW/m ²
Max. Saturation Flux Density	-60.0 dBW/m ²
Co- or Cross Polar Mode	C
Service Area Description	Visible earth. Contour at 8 dB below peak falls entirely beyond the edge of visible earth.

**Receiving
Channels (11)**

Channel ID	Channel Bandwidth (MHz)	Center Frequency s (MHz)	Feeder Link, Service Link or TT&C
SU01	1100.0	28050.0	Service Link
FD01	2500.0	28750.0	Feeder Link
CMD1	0.9	14003.0	TT&C
SU04	100.0	29450.0	Service Link
SU03	600.0	29425.0	Service Link
SU02	100.0	29350.0	Service Link
SU05	900.0	29550.0	Service Link
CMD3	0.9	14497.0	TT&C
CMD2	0.9	14005.0	TT&C
SU06	230.0	29620.0	Service Link
SU07	230.0	29875.0	Service Link

Transmitting Beams 1:

Question	Response
Beam ID	NCD1
Transmit Beam Frequency	17800.0 MHz -20200.0 MHz
Beam Type	Spot
Polarization	RHCP
Peak Gain	51.6 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.09 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-17.0 dBW/Hz
Max. Transmit EIRP	63.1 dBW
Co- or Cross Polar Mode	C
Service Area Description	North America and Caribbean

Max. Power Flux Density

	* 0° - 5°	* 5° - 10°	* 10° - 15°	* 15° - 20°	* 20° - 25°	* 25° - 90°
*	(dBW/m ²	(dBW/m ²	(dBW/m ²	(dBW/m ²	(dBW/m ²	(dBW/m ²
BW:	/BW):	/BW):	/BW):	/BW):	/BW):	/BW):
1.0 MHz	-140.2	-140.1	-140.0	-139.8	-139.7	-119.0

Transmitting Beams 2:

Question	Response
Beam ID	NCD2
Transmit Beam Frequency	17800.0 MHz -20200.0 MHz

Beam Type	Spot
Polarization	LHCP
Peak Gain	51.6 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.09 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-17.0 dBW/Hz
Max. Transmit EIRP	63.1 dBW
Co- or Cross Polar Mode	C
Service Area Description	North America and Caribbean

Max. Power Flux Density

	* 0° - 5°	* 5° - 10°	* 10° - 15°	* 15° - 20°	* 20° - 25°	* 25° - 90°
*	(dBW/m ²	(dBW/m ²	(dBW/m ²	(dBW/m ²	(dBW/m ²	(dBW/m ²
BW:	/BW):	/BW):	/BW):	/BW):	/BW):	/BW):
1.0 MHz	-139.8	-139.7	-139.6	-139.5	-139.4	-118.6

Transmitting Beams 3:

Question	Response
Beam ID	NSD1
Transmit Beam Frequency	17800.0 MHz -20200.0 MHz
Beam Type	Spot
Polarization	RHCP
Peak Gain	50.2 dBi
Antenna Pointing Error	0.1 degrees

Antenna Rotational Error	0.09 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-17.0 dBW/Hz
Max. Transmit EIRP	62.0 dBW
Co- or Cross Polar Mode	C
Service Area Description	North and South America

Max. Power Flux Density

	* 0° - 5° (dBW/m ²) /BW:	* 5° - 10° (dBW/m ²) /BW:	* 10° - 15° (dBW/m ²) /BW:	* 15° - 20° (dBW/m ²) /BW:	* 20° - 25° (dBW/m ²) /BW:	* 25° - 90° (dBW/m ²) /BW:
1.0 MHz	-123.0	-121.4	-120.1	-119.2	-120.1	-123.6

Transmitting Beams 4:

Question	Response
Beam ID	NSD2
Transmit Beam Frequency	17800.0 MHz -20200.0 MHz
Beam Type	Spot
Polarization	LHCP
Peak Gain	50.2 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.09 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-17.0 dBW/Hz

Max. Transmit EIRP	62.0 dBW
Co- or Cross Polar Mode	C
Service Area Description	North and South America

Max. Power Flux Density

	* 0° - 5° (dBW/m ²) /BW:	* 5° - 10° (dBW/m ²) /BW:	* 10° - 15° (dBW/m ²) /BW:	* 15° - 20° (dBW/m ²) /BW:	* 20° - 25° (dBW/m ²) /BW:	* 25° - 90° (dBW/m ²) /BW:
1.0 MHz	-123.0	-121.4	-120.1	-119.2	-120.1	-123.6

Transmitting Beams 5:

Question	Response
Beam ID	SAD1
Transmit Beam Frequency	17800.0 MHz -20200.0 MHz
Beam Type	Spot
Polarization	RHCP
Peak Gain	49.6 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.09 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-17.0 dBW/Hz
Max. Transmit EIRP	61.4 dBW
Co- or Cross Polar Mode	C
Service Area Description	Central and South America and Atlantic Ocean

Max. Power Flux Density

	* 0° - 5°	* 5° - 10°	* 10° - 15°	* 15° - 20°	* 20° - 25°	* 25° - 90°
*	(dBW/m ²)	(dBW/m ²)	(dBW/m ²)	(dBW/m ²)	(dBW/m ²)	(dBW/m ²)
BW:	/BW):	/BW):	/BW):	/BW):	/BW):	/BW):
1.0 MHz	-121.0	-120.5	-119.3	-119.3	-120.2	-119.8

Transmitting Beams 6:

Question	Response
Beam ID	SAD2
Transmit Beam Frequency	17800.0 MHz -20200.0 MHz
Beam Type	Spot
Polarization	LHCP
Peak Gain	49.6 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.09 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-17.0 dBW/Hz
Max. Transmit EIRP	61.4 dBW
Co- or Cross Polar Mode	C
Service Area Description	Central and South America and Atlantic Ocean

Max. Power Flux Density

	* 0° - 5°	* 5° - 10°	* 10° - 15°	* 15° - 20°	* 20° - 25°	* 25° - 90°
*	(dBW/m ²)	(dBW/m ²)	(dBW/m ²)	(dBW/m ²)	(dBW/m ²)	(dBW/m ²)
BW:	/BW):	/BW):	/BW):	/BW):	/BW):	/BW):
1.0 MHz	-120.1	-119.6	-118.9	-118.8	-119.4	-119.6

Transmitting Beams 7:

Question	Response
Beam ID	TAD1
Transmit Beam Frequency	19400.0 MHz -19700.0 MHz
Beam Type	Spot
Polarization	RHCP
Peak Gain	38.0 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.09 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-20.0 dBW/Hz
Max. Transmit EIRP	55.6 dBW
Co- or Cross Polar Mode	C
Service Area Description	Trans-Atlantic

Max. Power Flux Density

	* 0° - 5°	* 5° - 10°	* 10° - 15°	* 15° - 20°	* 20° - 25°	* 25° - 90°
*	(dBW/m ²	(dBW/m ²	(dBW/m ²	(dBW/m ²	(dBW/m ²	(dBW/m ²
BW:	/BW):	/BW):	/BW):	/BW):	/BW):	/BW):
1.0 MHz	-123.9	-124.2	-123.7	-123.0	-122.2	-121.3

Transmitting Beams 8:

Question	Response
Beam ID	TAD2
Transmit Beam Frequency	19400.0 MHz -19700.0 MHz

Beam Type	Spot
Polarization	LHCP
Peak Gain	38.0 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.09 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-20.0 dBW/Hz
Max. Transmit EIRP	55.6 dBW
Co- or Cross Polar Mode	C
Service Area Description	Trans-Atlantic

Max. Power Flux Density

	* 0° - 5°	* 5° - 10°	* 10° - 15°	* 15° - 20°	* 20° - 25°	* 25° - 90°
	(dBW/m ²)	(dBW/m ²)	(dBW/m ²)	(dBW/m ²)	(dBW/m ²)	(dBW/m ²)
BW:	/BW):	/BW):	/BW):	/BW):	/BW):	/BW):
1.0 MHz	-126.2	-125.6	-124.7	-123.6	-122.8	-120.8

Transmitting Beams 9:

Question	Response
Beam ID	VED1
Transmit Beam Frequency	19300.0 MHz -19400.0 MHz
Beam Type	Spot
Polarization	RHCP
Peak Gain	31.4 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.14 degrees

Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-20.0 dBW/Hz
Max. Transmit EIRP	49.9 dBW
Co- or Cross Polar Mode	C
Service Area Description	Pacific and Atlantic Ocean and coasts along Americas

Max. Power Flux Density

	* 0° - 5° (dBW/m ²) /BW:	* 5° - 10° (dBW/m ²) /BW:	* 10° - 15° (dBW/m ²) /BW:	* 15° - 20° (dBW/m ²) /BW:	* 20° - 25° (dBW/m ²) /BW:	* 25° - 90° (dBW/m ²) /BW:
1.0 MHz	-121.3	-123.1	-122.9	-122.6	-122.3	-121.1

Transmitting Beams 10:

Question	Response
Beam ID	VED2
Transmit Beam Frequency	19300.0 MHz -19400.0 MHz
Beam Type	Spot
Polarization	LHCP
Peak Gain	31.4 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.14 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-20.0 dBW/Hz
Max. Transmit EIRP	49.9 dBW

Co- or Cross Polar Mode	C
Service Area Description	Pacific and Atlantic Ocean and coasts along Americas

Max. Power Flux Density

	* 0° - 5° (dBW/m ²) /BW:	* 5° - 10° (dBW/m ²) /BW:	* 10° - 15° (dBW/m ²) /BW:	* 15° - 20° (dBW/m ²) /BW:	* 20° - 25° (dBW/m ²) /BW:	* 25° - 90° (dBW/m ²) /BW:
1.0 MHz	-123.5	-123.3	-123.1	-122.8	-122.5	-121.1

Transmitting Beams 11:

Question	Response
Beam ID	FVD1
Transmit Beam Frequency	19300.0 MHz -19400.0 MHz
Beam Type	Spot
Polarization	RHCP
Peak Gain	33.1 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.09 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-20.0 dBW/Hz
Max. Transmit EIRP	53.1 dBW
Co- or Cross Polar Mode	C
Service Area Description	Pacific and Atlantic Ocean and coasts along Americas

Max. Power Flux Density

	* 0° - 5°	* 5° - 10°	* 10° - 15°	* 15° - 20°	* 20° - 25°	* 25° - 90°
*	(dBW/m ²	(dBW/m ²	(dBW/m ²	(dBW/m ²	(dBW/m ²	(dBW/m ²
BW:	/BW):	/BW):	/BW):	/BW):	/BW):	/BW):
1.0 MHz	-123.1	-122.7	-122.3	-122.4	-122.7	-122.5

Transmitting Beams 12:

Question	Response
Beam ID	FVD2
Transmit Beam Frequency	19300.0 MHz -19400.0 MHz
Beam Type	Spot
Polarization	LHCP
Peak Gain	33.1 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.09 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-20.0 dBW/Hz
Max. Transmit EIRP	53.1 dBW
Co- or Cross Polar Mode	C
Service Area Description	Pacific and Atlantic Ocean and coasts along Americas

Max. Power Flux Density

	* 0° - 5°	* 5° - 10°	* 10° - 15°	* 15° - 20°	* 20° - 25°	* 25° - 90°
*	(dBW/m ²	(dBW/m ²	(dBW/m ²	(dBW/m ²	(dBW/m ²	(dBW/m ²
BW:	/BW):	/BW):	/BW):	/BW):	/BW):	/BW):
1.0 MHz	-124.6	-124.3	-123.8	-123.1	-122.3	-121.3

Transmitting Beams 13:

Question	Response
Beam ID	GWD1
Transmit Beam Frequency	17300.0 MHz -20200.0 MHz
Beam Type	Spot
Polarization	RHCP
Peak Gain	50.3 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.5 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-25.0 dBW/Hz
Max. Transmit EIRP	62.7 dBW
Co- or Cross Polar Mode	C
Service Area Description	USA

Max. Power Flux Density

	* 0° - 5°	* 5° - 10°	* 10° - 15°	* 15° - 20°	* 20° - 25°	* 25° - 90°
*	(dBW/m ²	(dBW/m ²	(dBW/m ²	(dBW/m ²	(dBW/m ²	(dBW/m ²
BW:	/BW):	/BW):	/BW):	/BW):	/BW):	/BW):
1.0 MHz	-130.1	-128.9	-128.1	-127.6	-127.0	-134.3

Transmitting Beams 14:

Question	Response
Beam ID	GWD2
Transmit Beam Frequency	17300.0 MHz -20200.0 MHz

Beam Type	Spot
Polarization	LHCP
Peak Gain	50.3 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.5 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-25.0 dBW/Hz
Max. Transmit EIRP	62.7 dBW
Co- or Cross Polar Mode	C
Service Area Description	USA

Max. Power Flux Density

	* 0° - 5° (dBW/m ²) /BW:	* 5° - 10° (dBW/m ²) /BW:	* 10° - 15° (dBW/m ²) /BW:	* 15° - 20° (dBW/m ²) /BW:	* 20° - 25° (dBW/m ²) /BW:	* 25° - 90° (dBW/m ²) /BW:
1.0 MHz	-130.7	-129.4	-128.1	-127.5	-129.4	-134.7

Transmitting Beams 15:

Question	Response
Beam ID	TMH1
Transmit Beam Frequency	11704.35 MHz -11704.65 MHz
Beam Type	Fixed
Polarization	H
Peak Gain	19.4 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.5 degrees

Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
Max. Transmit EIRP Density	-35.4 dBW/Hz
Max. Transmit EIRP	17.0 dBW
Co- or Cross Polar Mode	C
Service Area Description	Visible earth, contour at 8 dB below the peak falls entirely beyond the edge of the visible earth.

Max. Power Flux Density

Information not provided.

Transmitting Beams 16:

Question	Response
Beam ID	TMV1
Transmit Beam Frequency	12195.35 MHz -12195.65 MHz
Beam Type	Fixed
Polarization	V
Peak Gain	19.4 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.5 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	90.0 degrees
Max. Transmit EIRP Density	-35.4 dBW/Hz
Max. Transmit EIRP	17.0 dBW
Co- or Cross Polar Mode	C
Service Area Description	Visible earth, contour at 8 dB below the peak falls entirely beyond the edge of the visible earth.

Max. Power Flux Density

Information not provided.

Transmitting Beams 17:

Question	Response
Beam ID	BCV1
Transmit Beam Frequency	19698.9 MHz -19699.3 MHz
Beam Type	Fixed
Polarization	V
Peak Gain	19.4 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.5 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	90.0 degrees
Max. Transmit EIRP Density	-33.4 dBW/Hz
Max. Transmit EIRP	21.4 dBW
Co- or Cross Polar Mode	C
Service Area Description	Visible earth, contour at 8 dB below the peak falls entirely beyond the edge of the visible earth.

Max. Power Flux Density

	* 0° - 5° (dBW/m ²)	* 5° - 10° (dBW/m ²)	* 10° - 15° (dBW/m ²)	* 15° - 20° (dBW/m ²)	* 20° - 25° (dBW/m ²)	* 25° - 90° (dBW/m ²)
BW:	/BW):	/BW):	/BW):	/BW):	/BW):	/BW):
1.0 MHz	-135.9	-135.7	-135.6	-135.5	-135.4	-134.6

Transmitting Beams 18:

Question	Response
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Beam ID	GWD3
Transmit Beam Frequency	17300.0 MHz -20200.0 MHz
Beam Type	Spot
Polarization	LHCP
Peak Gain	51.1 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.5 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-25.0 dBW/Hz
Max. Transmit EIRP	63.3 dBW
Co- or Cross Polar Mode	C
Service Area Description	USA

Max. Power Flux Density

	* 0° - 5°	* 5° - 10°	* 10° - 15°	* 15° - 20°	* 20° - 25°	* 25° - 90°
	(dBW/m ²)	(dBW/m ²)	(dBW/m ²)	(dBW/m ²)	(dBW/m ²)	(dBW/m ²)
BW:	/BW):	/BW):	/BW):	/BW):	/BW):	/BW):
1.0	-147.6	-147.5	-147.4	-147.2	-147.1	-126.4
MHz						

Transmitting Channels (14)

Channel ID	Channel Bandwidth (MHz)	Center Frequency s (MHz)	Feeder Link, Service Link or TT&C
FD01	2900.0	18750.0	Feeder Link
SD09	250.0	20075.0	Service Link
SD07	800.0	19750.0	Service Link
SD06	150.0	19625.0	Service Link
SD05	150.0	19475.0	Service Link
SD04	50.0	19375.0	Service Link
SD03	50.0	19325.0	Service Link
SD02	700.0	18950.0	Service Link
FD02	1900.0	18750.0	Feeder Link
SD08	250.0	19820.0	Service Link
TLM1	0.3	11704.5	TT&C
TLM2	0.3	12195.5	TT&C
BCN1	0.3	19699.1	TT&C
SD01	800.0	18200.0	Service Link

Certification Questions

Question	Response
Are the applicable service area coverage requirements of 25.143(b)(2) (ii) and (iii), or 25.144(a)(3)(i), or 25.145 (c)(1) and (2), or 25.146(i)(1) and (2), or 25.148(c), or 25.225 met?	N/A
Are the applicable frequency tolerances of 25.202(e) and out-of-band emission limits of 25.202(f)(1),(2), and (3) met?	Yes
Are the cessation of emissions requirements of 25.207 met?	Yes
Are the applicable power-flux-density limits of 25.208 met, and is the appropriate technical showing provided within the application?	Yes
For NGSO applications, are the applicable equivalent-power-flux-density limits of 25.208 met, and is the appropriate technical showing provided within the application?	N/A
Are the applicable full-frequency-reuse requirements of 25.210 met?	Yes
If the application is for a 17/24 GHz BSS space station, will it be operated at an offset location with full power and interference protection in accordance with 25.262(b)?	

Attachments

File Name	Beam	Field	Attachment Type	Description
<u>SES-17.mdb</u>		GSO Antenna Gain Contour Data	GIMS file (*.mdb)	GSO Antenna Gain Contour Diagrams
<u>25.114(c)(4)(vii)(B).txt</u>		GSO Antenna Gain Contour Data	Text file (*.txt)	All Beams - Boresight Latitude and Longitude