



312 File Number: **SATLOA2023061200136**

Filing Description

Question	Response
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Description	Outpost requests authority to launch, operate, and complete basic equipment testing for one NGSO small satellite, Mission 2, using 401-402 MHz space-to-Earth and 449.75-450.25 MHz Earth-to-space space operation service allocations.
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Satellite
Information

Question	Response
Select Orbit Type	NGSO
Space Station or Satellite Network Name	Outpost Mission 2
Estimated Lifetime of Satellite(s) From Date of Launch	4 Years
Will the space station(s) operate on a Common Carrier basis?	No

**Operating
Frequency
Bands (2)**

Nature of service	Description	Frequency Band(s)	Mode Type
Space Operation Service		449.75 MHz -450.25 MHz	Receive
Space Operation Service		401.0 MHz -402.0 MHz	Transmit

**Orbital
Information For
Non-
Geostationary
Satellites**

Question	Response
Total Number of Satellites in the active constellation	1
Orbit Epoch Date	10/01/2023
Celestial Reference Body	Earth

Orbital Plane 1:

Question	Response
Number of Satellites in Plane	1
Inclination Angle	98.0 degrees
Right Ascension of Ascending Node	0.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	5707.9 seconds
Apogee	525.0 km
Perigee	525.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-90.0 degrees
Active Service Arc End Angle with respect to Ascending Node	90.0 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	0.0

Receiving Beams 1:

Question	Response
Beam ID	URX1
Receive Beam Frequency	449.75 MHz -450.25 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	0.0 dBi
Antenna Pointing Error	0.0 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	-28.0 dB/K
Min. Saturation Flux Density	-107.4 dBW/m2
Max. Saturation Flux Density	-77.44 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth

Receiving Beams 2:

Question	Response
Beam ID	URX2
Receive Beam Frequency	449.75 MHz -450.25 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	0.0 dBi
Antenna Pointing Error	0.0 degrees
Antenna Rotational Error	0.0 degrees

**Receiving
Beams 3:**

Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	-28.0 dB/K
Min. Saturation Flux Density	-107.4 dBW/m2
Max. Saturation Flux Density	-77.44 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth

Question	Response
Beam ID	URX3
Receive Beam Frequency	449.75 MHz -450.25 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	0.0 dBi
Antenna Pointing Error	0.0 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	-28.0 dB/K
Min. Saturation Flux Density	-107.4 dBW/m2
Max. Saturation Flux Density	-77.44 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth

Receiving
Channels (3)

Channel ID	Channel Bandwidth (MHz)	Center Frequency s (MHz)	Feeder Link, Service Link or TT&C
URX2	0.014	450.0	TT&C
URX1	0.025	450.0	TT&C
URX3	0.003	450.0	TT&C

Transmitting
Beams 1:

Question	Response
Beam ID	UTX1
Transmit Beam Frequency	401.0 MHz -402.0 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	0.0 dBi
Antenna Pointing Error	0.0 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-35.4 dBW/Hz
Max. Transmit EIRP	0.0 dBW
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth

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):
4.0 kHz	-136.7	-135.0	-133.3	-131.9	-130.6	-124.4

Transmitting
Beams 2:

Question	Response
Beam ID	UTX2
Transmit Beam Frequency	401.0 MHz -402.0 MHz
Beam Type	Fixed
Polarization	RHCP

Peak Gain	0.0 dBi
Antenna Pointing Error	0.0 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-35.4 dBW/Hz
Max. Transmit EIRP	0.0 dBW
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth

Max. Power Flux Density

	* 0° - 5°	* 5° - 10°	* 10° - 15°	* 15° - 20°	* 20° - 25°	* 25° - 90°
* (dBW/m ² /BW):	(dBW/m ² /BW):	(dBW/m ² /BW):	(dBW/m ² /BW):	(dBW/m ² /BW):	(dBW/m ² /BW):	(dBW/m ² /BW):
4.0 kHz	-136.7	-135.0	-133.3	-131.9	-130.6	-124.4

Transmitting Beams 3:

Question	Response
Beam ID	UTX3
Transmit Beam Frequency	401.0 MHz -402.0 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	0.0 dBi
Antenna Pointing Error	0.0 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees

Max. Transmit EIRP Density	-35.4 dBW/Hz
Max. Transmit EIRP	0.0 dBW
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth

Max. Power Flux Density

	* 0° - 5°	* 5° - 10°	* 10° - 15°	* 15° - 20°	* 20° - 25°	* 25° - 90°
* BW:	(dBW/m ² /BW):	(dBW/m ² /BW):	(dBW/m ² /BW):	(dBW/m ² /BW):	(dBW/m ² /BW):	(dBW/m ² /BW):
4.0 kHz	-136.7	-135.0	-133.3	-131.9	-130.6	-124.4

Transmitting
Channels (3)

Channel ID	Channel Bandwidth (MHz)	Center Frequency s (MHz)	Feeder Link, Service Link or TT&C
UTX2	0.014	401.5	TT&C
UTX1	0.003	401.5	TT&C
UTX3	0.025	401.5	TT&C

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?	
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?	
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

Information not provided.