



312 File Number: **SATLOI2021110400147**

Filing Description

Question	Response
Description	SN Space Systems

**Satellite
Information**

Question	Response
Select Orbit Type	NGSO
Space Station or Satellite Network Name	SN- CONSTELLATION1
Estimated Lifetime of Satellite(s) From Date of Launch	5 Years
Will the space station(s) operate on a Common Carrier basis?	No

Operating Frequency Bands (19)

Nature of service	Description	Frequency Band(s)	Mode Type
Fixed-Satellite Service		47200.0 MHz -50200.0 MHz	Receive
Fixed-Satellite Service		50400.0 MHz -51400.0 MHz	Receive
Fixed-Satellite Service		37500.0 MHz -42000.0 MHz	Transmit
Fixed-Satellite Service		14000.0 MHz -14500.0 MHz	Receive
Fixed-Satellite Service		27500.0 MHz -28350.0 MHz	Receive
Fixed-Satellite Service		17800.0 MHz -18300.0 MHz	Transmit
Fixed-Satellite Service		18300.0 MHz -18600.0 MHz	Transmit
Fixed-Satellite Service		18800.0 MHz -19300.0 MHz	Transmit
Fixed-Satellite Service		19600.0 MHz -19700.0 MHz	Transmit
Fixed-Satellite Service		19300.0 MHz -19400.0 MHz	Transmit
Fixed-Satellite Service		19700.0 MHz -20200.0 MHz	Transmit
Mobile-Satellite Service		19700.0 MHz -20200.0 MHz	Transmit
Mobile-Satellite Service		14000.0 MHz -14500.0 MHz	Receive
Fixed-Satellite Service		28350.0 MHz -29100.0 MHz	Receive
Fixed-Satellite Service		29100.0 MHz -29250.0 MHz	Receive
Fixed-Satellite Service		29250.0 MHz -29500.0 MHz	Receive

Fixed-Satellite Service	29500.0 MHz -30000.0 MHz	Receive
Fixed-Satellite Service	19200.0 MHz -19600.0 MHz	Transmit
Fixed-Satellite Service	13750.0 MHz -14000.0 MHz	Receive

**Orbital
Information For
Non-
Geostationary
Satellites**

Question	Response
Total Number of Satellites in the active constellation	2
Orbit Epoch Date	01/01/2022
Celestial Reference Body	Earth

Orbital Plane 1:

Question	Response
Number of Satellites in Plane	1
Inclination Angle	55.0 degrees
Right Ascension of Ascending Node	0.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6090.0 seconds
Apogee	830.0 km
Perigee	830.0 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

Orbital Plane 2:

Question	Response
Number of Satellites in Plane	1
Inclination Angle	55.0 degrees
Right Ascension of Ascending Node	0.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	5730.0 seconds
Apogee	554.14 km
Perigee	554.14 km
Active Service Arc Begin Angle with respect to Ascending Node	-55.0 degrees
Active Service Arc End Angle with respect to Ascending Node	55.0 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	RVB
Receive Beam Frequency	47200.0 MHz -50200.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	39.8 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	11.4 dB/K
Min. Saturation Flux Density	-93.0 dBW/m2
Max. Saturation Flux Density	-73.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth

Receiving Beams 2:

Question	Response
Beam ID	RVA
Receive Beam Frequency	50400.0 MHz -51400.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	39.8 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	2.0 degrees

Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	11.4 dB/K
Min. Saturation Flux Density	-93.0 dBW/m2
Max. Saturation Flux Density	-73.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth

Receiving Beams 3:

Question	Response
Beam ID	LVB
Receive Beam Frequency	47200.0 MHz -50200.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	39.8 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	11.4 dB/K
Min. Saturation Flux Density	-93.0 dBW/m2
Max. Saturation Flux Density	-73.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth

Receiving

Beams 4:

Question	Response
Beam ID	LVA
Receive Beam Frequency	50400.0 MHz -51400.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	39.8 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	11.4 dB/K
Min. Saturation Flux Density	-93.0 dBW/m2
Max. Saturation Flux Density	-73.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth

Receiving Beams 5:

Question	Response
Beam ID	RKE
Receive Beam Frequency	27500.0 MHz -28350.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	37.3 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	

Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	10.0 dB/K
Min. Saturation Flux Density	-95.0 dBW/m2
Max. Saturation Flux Density	-75.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth

Receiving Beams 6:

Question	Response
Beam ID	RKD
Receive Beam Frequency	28350.0 MHz -29100.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	37.3 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	10.0 dB/K
Min. Saturation Flux Density	-95.0 dBW/m2
Max. Saturation Flux Density	-75.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth

Receiving Beams 7:

Question	Response
----------	----------

Beam ID	RKC
Receive Beam Frequency	29100.0 MHz -29250.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	37.3 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	10.0 dB/K
Min. Saturation Flux Density	-95.0 dBW/m2
Max. Saturation Flux Density	-75.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth

Receiving Beams 8:

Question	Response
Beam ID	RKB
Receive Beam Frequency	29250.0 MHz -29500.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	37.3 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	

Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	10.0 dB/K
Min. Saturation Flux Density	-95.0 dBW/m2
Max. Saturation Flux Density	-75.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth

Receiving Beams 9:

Question	Response
Beam ID	RKA
Receive Beam Frequency	29500.0 MHz -30000.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	37.3 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	10.0 dB/K
Min. Saturation Flux Density	-95.0 dBW/m2
Max. Saturation Flux Density	-75.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth

Receiving Beams 10:

Question	Response
----------	----------

Beam ID	RKU
Receive Beam Frequency	14000.0 MHz -14500.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	40.0 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	14.0 dB/K
Min. Saturation Flux Density	-114.0 dBW/m2
Max. Saturation Flux Density	-94.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth

Receiving Beams 11:

Question	Response
Beam ID	LKU
Receive Beam Frequency	14000.0 MHz -14500.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	40.0 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	

Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	14.0 dB/K
Min. Saturation Flux Density	-114.0 dBW/m2
Max. Saturation Flux Density	-94.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth

**Receiving
Beams 12:**

Question	Response
Beam ID	LKE
Receive Beam Frequency	27500.0 MHz -28350.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	37.3 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	10.0 dB/K
Min. Saturation Flux Density	-95.0 dBW/m2
Max. Saturation Flux Density	-75.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth

**Receiving
Beams 13:**

Question	Response
----------	----------

Beam ID	LKD
Receive Beam Frequency	28350.0 MHz -29100.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	37.3 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	10.0 dB/K
Min. Saturation Flux Density	-95.0 dBW/m2
Max. Saturation Flux Density	-75.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth

Receiving Beams 14:

Question	Response
Beam ID	LKC
Receive Beam Frequency	29100.0 MHz -29250.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	37.3 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	

Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	10.0 dB/K
Min. Saturation Flux Density	-95.0 dBW/m2
Max. Saturation Flux Density	-75.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth

**Receiving
Beams 15:**

Question	Response
Beam ID	LKB
Receive Beam Frequency	29250.0 MHz -29500.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	37.3 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	10.0 dB/K
Min. Saturation Flux Density	-95.0 dBW/m2
Max. Saturation Flux Density	-75.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth

**Receiving
Beams 16:**

Question	Response
----------	----------

Beam ID	LKA
Receive Beam Frequency	29500.0 MHz -30000.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	37.3 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	10.0 dB/K
Min. Saturation Flux Density	-95.0 dBW/m2
Max. Saturation Flux Density	-75.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth

Receiving Beams 17:

Question	Response
Beam ID	LKTA
Receive Beam Frequency	13750.0 MHz -14000.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	40.0 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	

Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	14.0 dB/K
Min. Saturation Flux Density	-114.0 dBW/m2
Max. Saturation Flux Density	-94.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth

**Receiving
Beams 18:**

Question	Response
Beam ID	RKTA
Receive Beam Frequency	13750.0 MHz -14000.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	40.0 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	14.0 dB/K
Min. Saturation Flux Density	-114.0 dBW/m2
Max. Saturation Flux Density	-94.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth

**Receiving
Beams 19:**

Question	Response
----------	----------

Beam ID	LKTB
Receive Beam Frequency	13750.0 MHz -14000.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	15.0 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	-11.0 dB/K
Min. Saturation Flux Density	-72.0 dBW/m2
Max. Saturation Flux Density	-52.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth

**Receiving
Beams 20:**

Question	Response
Beam ID	RKTB
Receive Beam Frequency	13750.0 MHz -14000.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	15.0 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	

Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	-11.0 dB/K
Min. Saturation Flux Density	-72.0 dBW/m ²
Max. Saturation Flux Density	-52.0 dBW/m ²
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth

Receiving Channels (27)

Channel ID	Channel Bandwidth (MHz)	Center Frequency s (MHz)	Feeder Link, Service Link or TT&C
KA3U	150.0	29175.0	Feeder Link
KG1U	50.0	13975.0	TT&C
KG2U	50.0	13925.0	TT&C
KG3U	50.0	13875.0	TT&C
V06U	500.0	48450.0	Feeder Link
V07U	500.0	47950.0	Feeder Link
V08U	500.0	47450.0	Feeder Link
KG4U	50.0	13825.0	TT&C
KG5U	50.0	13775.0	TT&C
V05U	500.0	48950.0	Feeder Link
KT5U	50.0	13775.0	TT&C
KT4U	50.0	13825.0	TT&C
KT3U	50.0	13875.0	TT&C
KT2U	50.0	13925.0	TT&C
KT1U	50.0	13975.0	TT&C
KA1U	850.0	27925.0	Feeder Link
KA2U	750.0	28725.0	Feeder Link
KU1U	125.0	14062.5	Service Link
KU2U	125.0	14187.5	Service Link
KU3U	125.0	14312.5	Service Link
KU4U	125.0	14437.5	Service Link
KA4U	250.0	29375.0	Feeder Link
KA5U	500.0	29750.0	Feeder Link
V01U	500.0	51150.0	Feeder Link

V02U	500.0	50650.0	Feeder Link
V04U	500.0	49450.0	Feeder Link
V03U	500.0	49950.0	Feeder Link

Transmitting Beams 1:

Question	Response
Beam ID	RQ
Transmit Beam Frequency	37500.0 MHz -42000.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	38.9 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-32.0 dBW/Hz
Max. Transmit EIRP	64.5 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):
1.0 MHz	-120.0	-116.2	-112.5	-108.7	-105.0	-105.0

Transmitting Beams 2:

Question	Response
Beam ID	LQ
Transmit Beam Frequency	37500.0 MHz -42000.0 MHz

Beam Type	Steerable
Polarization	LHCP
Peak Gain	38.9 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-32.0 dBW/Hz
Max. Transmit EIRP	64.5 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):
1.0 MHz	-120.0	-116.2	-112.5	-108.7	-105.0	-105.0

Transmitting Beams 3:

Question	Response
Beam ID	RF
Transmit Beam Frequency	17800.0 MHz -18300.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	39.9 dBi
Antenna Pointing Error	1.0 degrees

Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-32.0 dBW/Hz
Max. Transmit EIRP	55.0 dBW
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth

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	-138.1	-129.8	-121.5	-113.3	-105.0	-105.0

Transmitting Beams 4:

Question	Response
Beam ID	RE
Transmit Beam Frequency	18300.0 MHz -18600.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	39.9 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-32.0 dBW/Hz

Max. Transmit EIRP	52.8 dBW
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth

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	-138.1	-129.8	-121.5	-113.3	-105.0	-105.0

Transmitting Beams 5:

Question	Response
Beam ID	RD
Transmit Beam Frequency	18800.0 MHz -19300.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	39.9 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-32.0 dBW/Hz
Max. Transmit EIRP	55.0 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):
1.0 MHz	-138.1	-129.8	-121.5	-113.3	-105.0	-105.0

Transmitting Beams 6:

Question	Response
Beam ID	RC
Transmit Beam Frequency	19300.0 MHz -19400.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	39.9 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-32.0 dBW/Hz
Max. Transmit EIRP	48.0 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):
1.0 MHz	-138.1	-129.8	-121.5	-113.3	-105.0	-105.0

Transmitting Beams 7:

Question	Response
Beam ID	RKAT
Transmit Beam Frequency	19400.0 MHz -19600.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	39.9 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-32.0 dBW/Hz
Max. Transmit EIRP	51.0 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):
1.0 MHz	-138.1	-129.8	-121.5	-113.3	-105.0	-105.0

Transmitting Beams 8:

Question	Response
Beam ID	RB
Transmit Beam Frequency	19600.0 MHz -19700.0 MHz

Beam Type	Steerable
Polarization	RHCP
Peak Gain	39.9 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-32.0 dBW/Hz
Max. Transmit EIRP	48.0 dBW
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth

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	-138.1	-129.8	-121.5	-113.3	-105.0	-105.0

Transmitting Beams 9:

Question	Response
Beam ID	RA
Transmit Beam Frequency	19700.0 MHz -20200.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	39.9 dBi
Antenna Pointing Error	1.0 degrees

Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-32.0 dBW/Hz
Max. Transmit EIRP	55.0 dBW
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth

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	-138.1	-129.8	-121.5	-113.3	-105.0	-105.0

Transmitting Beams 10:

Question	Response
Beam ID	LKBT
Transmit Beam Frequency	19200.0 MHz -19600.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	15.0 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-42.0 dBW/Hz

Max. Transmit EIRP	41.0 dBW
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth

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	-115.0	-129.8	-112.5	-107.5	-105.0	-105.0

Transmitting Beams 11:

Question	Response
Beam ID	RKBT
Transmit Beam Frequency	19200.0 MHz -19600.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	15.0 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-42.0 dBW/Hz
Max. Transmit EIRP	41.0 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):
1.0 MHz	-115.0	-112.5	-110.0	-107.5	-105.0	-105.0

Transmitting Beams 12:

Question	Response
Beam ID	LF
Transmit Beam Frequency	17800.0 MHz -18300.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	39.9 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-32.0 dBW/Hz
Max. Transmit EIRP	55.0 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):
1.0 MHz	-138.1	-129.8	-121.5	-113.3	-105.0	-105.0

Transmitting Beams 13:

Question	Response
Beam ID	LE
Transmit Beam Frequency	18300.0 MHz -18600.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	39.9 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-32.0 dBW/Hz
Max. Transmit EIRP	52.8 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):
1.0 MHz	-138.1	-129.8	-121.5	-113.3	-105.0	-105.0

Transmitting Beams 14:

Question	Response
Beam ID	LD
Transmit Beam Frequency	18800.0 MHz -19300.0 MHz

Beam Type	Steerable
Polarization	LHCP
Peak Gain	39.9 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-32.0 dBW/Hz
Max. Transmit EIRP	55.0 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):
1.0 MHz	-138.1	-129.8	-121.5	-113.3	-105.0	-105.0

Transmitting Beams 15:

Question	Response
Beam ID	LC
Transmit Beam Frequency	19300.0 MHz -19400.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	39.9 dBi
Antenna Pointing Error	1.0 degrees

Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-32.0 dBW/Hz
Max. Transmit EIRP	48.0 dBW
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth

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	-138.1	-129.8	-121.5	-113.3	-105.0	-105.0

Transmitting Beams 16:

Question	Response
Beam ID	LKAT
Transmit Beam Frequency	19400.0 MHz -19600.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	39.9 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-32.0 dBW/Hz

Max. Transmit EIRP	51.0 dBW
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth

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	-138.1	-129.8	-121.5	-113.3	-105.0	-105.0

Transmitting Beams 17:

Question	Response
Beam ID	LB
Transmit Beam Frequency	19600.0 MHz -19700.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	39.9 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-32.0 dBW/Hz
Max. Transmit EIRP	48.0 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):
1.0 MHz	-138.1	-129.8	-121.5	-113.3	-105.0	-105.0

Transmitting Beams 18:

Question	Response
Beam ID	LA
Transmit Beam Frequency	19700.0 MHz -20200.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	39.9 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-32.0 dBW/Hz
Max. Transmit EIRP	55.0 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):
1.0 MHz	-138.1	-129.8	-121.5	-113.3	-105.0	-105.0

Transmitting Channels (27)

Channel ID	Channel Bandwidth (MHz)	Center Frequency s (MHz)	Feeder Link, Service Link or TT&C
Q04D	500.0	40250.0	Feeder Link
KG4D	50.0	19425.0	Feeder Link
KG3D	50.0	19475.0	Feeder Link
KG2D	50.0	19525.0	Feeder Link
Q08D	500.0	38250.0	Feeder Link
Q07D	500.0	38750.0	Feeder Link
Q06D	500.0	39250.0	Feeder Link
Q05D	500.0	39750.0	Feeder Link
KT4D	50.0	19425.0	TT&C
KT3D	50.0	19475.0	TT&C
KT2D	50.0	19525.0	TT&C
KT1D	50.0	19575.0	TT&C
KT5D	50.0	19375.0	TT&C
KT6D	50.0	19325.0	TT&C
KT7D	50.0	19275.0	TT&C
KT8D	50.0	19225.0	TT&C
KG1D	50.0	19575.0	Feeder Link
KA1D	500.0	19950.0	Service Link
KA2D	100.0	19650.0	Service Link
KA3D	100.0	19350.0	Service Link
KA4D	500.0	19050.0	Service Link
KA5D	300.0	18450.0	Service Link
KA6D	500.0	18050.0	Service Link
Q09D	500.0	37750.0	Feeder Link

Q01D	500.0	41750.0	Feeder Link
Q02D	500.0	41250.0	Feeder Link
Q03D	500.0	40750.0	Feeder 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?	Yes
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?	Yes
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>SN Space Systems - Schedule S - Constellation Details.txt</u>		Service Area Diagram	Text file (*.txt)	Constellation information for all operational satellite plus spares in an excel CSV format
<u>SN Space Systems - GIMS.mdb</u>		NGSO Antenna Gain Data	GIMS file (*.mdb)	