



312 File Number: **SATMOD2023021500036**

Filing Description

Question	Response
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Description	SpaceX Ku/Ka NGSO Constellation. Application to authorize upgraded satellite hardware.
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Satellite
Information

Question	Response
Select Orbit Type	NGSO
Space Station or Satellite Network Name	SpaceX Constellation
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 (11)

Nature of service	Description	Frequency Band(s)	Mode Type
Fixed-Satellite Service		12750.0 MHz -13250.0 MHz	Receive
Fixed-Satellite Service		14000.0 MHz -14500.0 MHz	Receive
Fixed-Satellite Service		27500.0 MHz -29100.0 MHz	Receive
Fixed-Satellite Service		29500.0 MHz -30000.0 MHz	Receive
Fixed-Satellite Service		13850.0 MHz -14000.0 MHz	Receive
Fixed-Satellite Service		10700.0 MHz -12700.0 MHz	Transmit
Fixed-Satellite Service		17800.0 MHz -18600.0 MHz	Transmit
Fixed-Satellite Service		18800.0 MHz -19300.0 MHz	Transmit
Fixed-Satellite Service		19700.0 MHz -20200.0 MHz	Transmit
Fixed-Satellite Service		12150.0 MHz -12250.0 MHz	Transmit
Fixed-Satellite Service		18550.0 MHz -18600.0 MHz	Transmit

**Orbital
Information For
Non-
Geostationary
Satellites**

Question	Response
Total Number of Satellites in the active constellation	22
Orbit Epoch Date	01/01/2015
Celestial Reference Body	Earth

Orbital Plane 1:

Question	Response
Number of Satellites in Plane	22
Inclination Angle	53.0 degrees
Right Ascension of Ascending Node	0.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	5760.0 seconds
Apogee	550.0 km
Perigee	550.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	0.0 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	310.9
2	163.6
3	180.0
4	130.9
5	245.5
6	229.1
7	212.7
8	327.3
9	147.3
10	261.8
11	114.5
12	98.2
13	81.8

14	65.5
15	49.1
16	0.0
17	343.6
18	294.5
19	278.2
20	196.4
21	16.4
22	32.7

Receiving Beams 1:

Question	Response
Beam ID	Rx1
Receive Beam Frequency	12750.0 MHz -13250.0 MHz
Beam Type	Both Steerable and Shapeable
Polarization	RHCP
Peak Gain	35.7 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.1 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	8.4 dB/K
Min. Saturation Flux Density	-0.1 dBW/m2
Max. Saturation Flux Density	0.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Global

Receiving Beams 2:

Question	Response
Beam ID	Rx5
Receive Beam Frequency	14000.0 MHz -14500.0 MHz
Beam Type	Both Steerable and Shapeable
Polarization	RHCP
Peak Gain	35.7 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.1 degrees

Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	8.4 dB/K
Min. Saturation Flux Density	-0.1 dBW/m2
Max. Saturation Flux Density	0.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Global

Receiving
Beams 3:

Question	Response
Beam ID	Rx7
Receive Beam Frequency	27500.0 MHz -29100.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	38.5 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.1 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	11.5 dB/K
Min. Saturation Flux Density	-0.1 dBW/m2
Max. Saturation Flux Density	0.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Global

Receiving

Beams 4:

Question	Response
Beam ID	Rx9
Receive Beam Frequency	29500.0 MHz -30000.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	38.5 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.1 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	11.5 dB/K
Min. Saturation Flux Density	-0.1 dBW/m2
Max. Saturation Flux Density	0.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Global

Receiving Beams 5:

Question	Response
Beam ID	Rx3
Receive Beam Frequency	13850.0 MHz -14000.0 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	3.0 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.1 degrees
Polarization Switchable	

Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	-29.3 dB/K
Min. Saturation Flux Density	-0.1 dBW/m2
Max. Saturation Flux Density	0.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Global

Receiving Beams 6:

Question	Response
Beam ID	Rx2
Receive Beam Frequency	12750.0 MHz -13250.0 MHz
Beam Type	Both Steerable and Shapeable
Polarization	LHCP
Peak Gain	35.7 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.1 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	8.4 dB/K
Min. Saturation Flux Density	-0.1 dBW/m2
Max. Saturation Flux Density	0.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Global

Receiving Beams 7:

Question	Response
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Beam ID	Rx6
Receive Beam Frequency	14000.0 MHz -14500.0 MHz
Beam Type	Both Steerable and Shapeable
Polarization	LHCP
Peak Gain	35.7 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.1 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	8.4 dB/K
Min. Saturation Flux Density	-0.1 dBW/m2
Max. Saturation Flux Density	0.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Global

Receiving Beams 8:

Question	Response
Beam ID	Rx8
Receive Beam Frequency	27500.0 MHz -29100.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	38.5 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.1 degrees
Polarization Switchable	

Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	11.5 dB/K
Min. Saturation Flux Density	-0.1 dBW/m2
Max. Saturation Flux Density	0.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Global

Receiving Beams 9:

Question	Response
Beam ID	Rx10
Receive Beam Frequency	29500.0 MHz -30000.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	38.5 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.1 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	11.5 dB/K
Min. Saturation Flux Density	-0.1 dBW/m2
Max. Saturation Flux Density	0.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Global

Receiving Beams 10:

Question	Response
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Beam ID	Rx4
Receive Beam Frequency	13850.0 MHz -14000.0 MHz
Beam Type	Fixed
Polarization	LHCP
Peak Gain	3.0 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.1 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	-29.3 dB/K
Min. Saturation Flux Density	-0.1 dBW/m2
Max. Saturation Flux Density	0.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Global

Receiving
Channels (10)

Channel ID	Channel Bandwidth (MHz)	Center Frequency s (MHz)	Feeder Link, Service Link or TT&C
Rx10	500.0	29750.0	Service Link
Rx01	500.0	13000.0	Service Link
Rx02	500.0	13000.0	Service Link
Rx03	150.0	13925.0	TT&C
Rx09	500.0	29750.0	Service Link
Rx08	1600.0	28300.0	Service Link
Rx07	1600.0	28300.0	Service Link
Rx06	500.0	14250.0	Service Link
Rx05	500.0	14250.0	Service Link
Rx04	150.0	13925.0	TT&C

Transmitting
Beams 1:

Question	Response
Beam ID	Tx6
Transmit Beam Frequency	17800.0 MHz -18600.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	34.5 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.1 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-54.3 dBW/Hz
Max. Transmit EIRP	29.5 dBW
Co- or Cross Polar Mode	C
Service Area Description	Global

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):
1.0 MHz	-157.0	-153.6	-148.7	-140.5	-126.3	-126.3

Transmitting
Beams 2:

Question	Response
Beam ID	Tx10
Transmit Beam Frequency	18800.0 MHz -19300.0 MHz

Beam Type	Steerable
Polarization	LHCP
Peak Gain	34.5 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.1 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-54.3 dBW/Hz
Max. Transmit EIRP	29.5 dBW
Co- or Cross Polar Mode	C
Service Area Description	Global

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):
1.0 MHz	-157.0	-153.6	-148.7	-140.5	-126.3	-126.3

Transmitting Beams 3:

Question	Response
Beam ID	Tx1
Transmit Beam Frequency	10700.0 MHz -12700.0 MHz
Beam Type	Both Steerable and Shapeable
Polarization	RHCP
Peak Gain	34.0 dBi
Antenna Pointing Error	0.1 degrees

Antenna Rotational Error	0.1 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-51.1 dBW/Hz
Max. Transmit EIRP	32.7 dBW
Co- or Cross Polar Mode	C
Service Area Description	Global

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	-170.4	-167.0	-162.1	-154.1	-147.5	-146.0

Transmitting Beams 4:

Question	Response
Beam ID	Tx9
Transmit Beam Frequency	18800.0 MHz -19300.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	34.5 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.1 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-54.3 dBW/Hz

Max. Transmit EIRP	29.5 dBW
Co- or Cross Polar Mode	C
Service Area Description	Global

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	-157.0	-153.6	-148.7	-140.5	-126.3	-126.3

Transmitting Beams 5:

Question	Response
Beam ID	Tx5
Transmit Beam Frequency	17800.0 MHz -18600.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	34.5 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.1 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-54.3 dBW/Hz
Max. Transmit EIRP	29.5 dBW
Co- or Cross Polar Mode	C
Service Area Description	Global

Max. Power Flux Density

Transmitting
Beams 6:

	* 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):
1.0 MHz	-157.0	-153.6	-148.7	-140.5	-126.3	-126.3

Question	Response
Beam ID	Tx8
Transmit Beam Frequency	18550.0 MHz -18600.0 MHz
Beam Type	Fixed
Polarization	LHCP
Peak Gain	5.0 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.1 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-86.1 dBW/Hz
Max. Transmit EIRP	0.0 dBW
Co- or Cross Polar Mode	C
Service Area Description	Global

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):
1.0 MHz	-164.0	-162.3	-160.7	-159.3	-158.1	-151.9

Transmitting
Beams 7:

Question	Response
Beam ID	Tx4
Transmit Beam Frequency	12150.0 MHz -12250.0 MHz
Beam Type	Fixed
Polarization	LHCP
Peak Gain	3.0 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.1 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-89.2 dBW/Hz
Max. Transmit EIRP	0.0 dBW
Co- or Cross Polar Mode	C
Service Area Description	Global

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	-191.0	-189.4	-187.8	-186.4	-185.2	-179.0

Transmitting
Beams 8:

Question	Response
Beam ID	Tx12
Transmit Beam Frequency	19700.0 MHz -20200.0 MHz

Beam Type	Steerable
Polarization	LHCP
Peak Gain	34.5 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.1 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-54.3 dBW/Hz
Max. Transmit EIRP	29.5 dBW
Co- or Cross Polar Mode	C
Service Area Description	Global

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):
1.0 MHz	-157.0	-153.6	-148.7	-140.5	-126.3	-126.3

Transmitting Beams 9:

Question	Response
Beam ID	Tx11
Transmit Beam Frequency	19700.0 MHz -20200.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	34.5 dBi
Antenna Pointing Error	0.1 degrees

Antenna Rotational Error	0.1 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-54.3 dBW/Hz
Max. Transmit EIRP	29.5 dBW
Co- or Cross Polar Mode	C
Service Area Description	Global

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	-157.0	-153.6	-148.7	-140.5	-126.3	-126.3

Transmitting Beams 10:

Question	Response
Beam ID	Tx3
Transmit Beam Frequency	12150.0 MHz -12250.0 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	3.0 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.1 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-89.2 dBW/Hz

Max. Transmit EIRP	0.0 dBW
Co- or Cross Polar Mode	C
Service Area Description	Global

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	-191.0	-189.4	-187.8	-186.4	-185.2	-179.0

Transmitting Beams 11:

Question	Response
Beam ID	Tx7
Transmit Beam Frequency	18550.0 MHz -18600.0 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	5.0 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.1 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-86.1 dBW/Hz
Max. Transmit EIRP	0.0 dBW
Co- or Cross Polar Mode	C
Service Area Description	Global

Max. Power Flux Density

Transmitting Beams 12:

	* 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):
1.0 MHz	-164.0	-162.3	-160.7	-159.3	-158.1	-151.9

Question	Response
Beam ID	Tx2
Transmit Beam Frequency	10700.0 MHz -12700.0 MHz
Beam Type	Both Steerable and Shapeable
Polarization	LHCP
Peak Gain	34.0 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.1 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-51.1 dBW/Hz
Max. Transmit EIRP	32.7 dBW
Co- or Cross Polar Mode	C
Service Area Description	Global

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	-170.4	-167.0	-162.1	-154.1	-147.5	-146.0

Transmitting
Channels (12)

Channel ID	Channel Bandwidth (MHz)	Center Frequency s (MHz)	Feeder Link, Service Link or TT&C
Tx2	2000.0	11700.0	Service Link
Tx11	500.0	19950.0	Service Link
Tx10	500.0	19050.0	Service Link
Tx1	2000.0	11700.0	Service Link
Tx12	500.0	19950.0	Service Link
Tx9	500.0	19050.0	Service Link
Tx8	50.0	18575.0	TT&C
Tx7	50.0	18575.0	TT&C
Tx6	800.0	18200.0	Service Link
Tx5	800.0	18200.0	Service Link
Tx4	100.0	12200.0	TT&C
Tx3	1000.0	12200.0	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?	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>SPACEX-NGSO-B-KU-RX-PHI0.gxt</u>		NGSO Antenna Gain Data	GXT file (*.gxt)	Contour for KU RX beams (PHI=0)
<u>SPACEX-NGSO-B-KU-RX-PHI20.gxt</u>		NGSO Antenna Gain Data	GXT file (*.gxt)	Contour for KU RX beams (PHI=20)
<u>SPACEX-NGSO-B-KU-RX-PHI45.gxt</u>		NGSO Antenna Gain Data	GXT file (*.gxt)	Contour for KU RX beams (PHI=45)
<u>SPACEX-NGSO-B-KU-RX-PHI57.gxt</u>		NGSO Antenna Gain Data	GXT file (*.gxt)	Contour for KU RX beams (PHI=57)
<u>SPACEX-NGSO-B-KU-TX-PHI0.gxt</u>		NGSO Antenna Gain Data	GXT file (*.gxt)	Contour for KU TX beams (PHI=0)
<u>SPACEX-NGSO-B-KU-TX-PHI20.gxt</u>		NGSO Antenna Gain Data	GXT file (*.gxt)	Contour for KU TX beams (PHI=20)
<u>SPACEX-NGSO-B-KU-TX-PHI45.gxt</u>		NGSO Antenna Gain Data	GXT file (*.gxt)	Contour for KU TX beams (PHI=45)
<u>SPACEX-NGSO-B-KU-TX-PHI57.gxt</u>		NGSO Antenna Gain Data	GXT file (*.gxt)	Contour for KU TX beams (PHI=57)