



312 File Number: **SATAMD2016111400107**

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## Filing Description

Question	Response
Description	Applicant seeks to amend its pending LOA application by (i) adding new frequencies to increase the flexibility it has to coordinate spectrum use and (ii) providing deployment parameters to minimize orbital debris concerns.

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**Satellite  
Information**

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

## Operating Frequency Bands (20)

Nature of service	Description	Frequency Band(s)	Mode Type
Mobile-Satellite Service		399.9 MHz -400.05 MHz	Receive
Earth Exploration-Satellite Service		402.0 MHz -403.0 MHz	Receive
Earth Exploration-Satellite Service		402.0 MHz -403.0 MHz	Transmit
Earth Exploration-Satellite Service		2200.0 MHz -2290.0 MHz	Transmit
Space Operation Service		401.0 MHz -402.0 MHz	Transmit
Space Operation Service		449.75 MHz -450.25 MHz	Receive
Earth Exploration-Satellite Service		2020.0 MHz -2025.0 MHz	Transmit
Earth Exploration-Satellite Service		1560.07 MHz -1590.77 MHz	Receive
Earth Exploration-Satellite Service		1217.37 MHz -1237.83 MHz	Receive
Earth Exploration-Satellite Service		1592.95 MHz -1611.05 MHz	Receive
Earth Exploration-Satellite Service		1237.8 MHz -1254.2 MHz	Receive
Earth Exploration-Satellite Service		1557.52 MHz -1593.32 MHz	Receive
Earth Exploration-Satellite Service		1166.215 MHz -1217.375 MHz	Receive
Earth Exploration-Satellite Service		161.962 MHz -161.988 MHz	Receive
Earth Exploration-Satellite Service		162.012 MHz -162.038 MHz	Receive
Earth Exploration-Satellite Service		156.762 MHz -156.788 MHz	Receive

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<b>Earth Exploration-Satellite Service</b>	156.812 MHz -156.838 MHz	Receive
<b>Earth Exploration-Satellite Service</b>	1087.7 MHz -1092.3 MHz	Receive
<b>Earth Exploration-Satellite Service</b>	161.987 MHz -162.013 MHz	Receive
<b>Earth Exploration-Satellite Service</b>	161.937 MHz -161.963 MHz	Receive

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**Orbital  
Information For  
Non-  
Geostationary  
Satellites**

Question	Response
Total Number of Satellites in the active constellation	100
Orbit Epoch Date	01/01/2017
Celestial Reference Body	Earth

## Orbital Plane 1:

Question	Response
Number of Satellites in Plane	8
Inclination Angle	98.0 degrees
Right Ascension of Ascending Node	0.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	5801.0 seconds
Apogee	720.0 km
Perigee	450.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	315.0
2	270.0
3	225.0
4	180.0
5	135.0
6	90.0
7	45.0
8	0.0

## Orbital Plane 2:

Question	Response
Number of Satellites in Plane	8
Inclination Angle	98.0 degrees
Right Ascension of Ascending Node	0.0 degrees

Argument of Perigee	0.0 degrees
Orbital Period	5776.0 seconds
Apogee	580.0 km
Perigee	580.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	315.0
2	270.0
3	225.0
4	180.0
5	135.0
6	90.0
7	45.0
8	0.0

### Orbital Plane 3:

Question	Response
Number of Satellites in Plane	8
Inclination Angle	98.0 degrees
Right Ascension of Ascending Node	0.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	5801.0 seconds
Apogee	600.0 km
Perigee	600.0 km

Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	315.0
2	270.0
3	225.0
4	180.0
5	135.0
6	90.0
7	45.0
8	0.0

### Orbital Plane 4:

Question	Response
Number of Satellites in Plane	8
Inclination Angle	98.0 degrees
Right Ascension of Ascending Node	0.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	5677.0 seconds
Apogee	500.0 km
Perigee	500.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite



Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	315.0
2	270.0
3	225.0
4	180.0
5	135.0
6	90.0
7	45.0
8	0.0

### Orbital Plane 5:

Question	Response
Number of Satellites in Plane	8
Inclination Angle	24.0 degrees
Right Ascension of Ascending Node	0.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	5677.0 seconds
Apogee	600.0 km
Perigee	400.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	315.0
2	270.0
3	225.0

4	180.0
5	135.0
6	90.0
7	45.0
8	0.0

## Orbital Plane 6:

Question	Response
Number of Satellites in Plane	8
Inclination Angle	98.0 degrees
Right Ascension of Ascending Node	0.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	5801.0 seconds
Apogee	600.0 km
Perigee	600.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

## Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	315.0
2	270.0
3	225.0
4	180.0
5	135.0
6	90.0
7	45.0

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8	0.0
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### Orbital Plane 7:

Question	Response
Number of Satellites in Plane	4
Inclination Angle	98.0 degrees
Right Ascension of Ascending Node	0.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	5801.0 seconds
Apogee	600.0 km
Perigee	600.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	0.0
2	90.0
3	180.0
4	270.0

### Orbital Plane 8:

Question	Response
Number of Satellites in Plane	4
Inclination Angle	51.6 degrees
Right Ascension of Ascending Node	0.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	5615.0 seconds

Apogee	450.0 km
Perigee	450.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	270.0
2	180.0
3	90.0
4	0.0

### Orbital Plane 9:

Question	Response
Number of Satellites in Plane	4
Inclination Angle	51.6 degrees
Right Ascension of Ascending Node	0.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	5615.0 seconds
Apogee	450.0 km
Perigee	450.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	270.0

2	180.0
3	90.0
4	0.0

### Orbital Plane 10:

Question	Response
Number of Satellites in Plane	8
Inclination Angle	98.0 degrees
Right Ascension of Ascending Node	0.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	5677.0 seconds
Apogee	500.0 km
Perigee	500.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	315.0
2	270.0
3	225.0
4	180.0
5	135.0
6	90.0
7	45.0
8	0.0

## Orbital Plane 11:

Question	Response
Number of Satellites in Plane	8
Inclination Angle	98.0 degrees
Right Ascension of Ascending Node	0.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	5770.0 seconds
Apogee	575.0 km
Perigee	575.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	315.0
2	270.0
3	225.0
4	180.0
5	135.0
6	90.0
7	45.0
8	0.0

## Orbital Plane 12:

Question	Response
Number of Satellites in Plane	4
Inclination Angle	98.0 degrees
Right Ascension of Ascending Node	0.0 degrees

Argument of Perigee	0.0 degrees
Orbital Period	5677.0 seconds
Apogee	500.0 km
Perigee	500.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	270.0
2	180.0
3	90.0
4	0.0

### Orbital Plane 13:

Question	Response
Number of Satellites in Plane	4
Inclination Angle	45.0 degrees
Right Ascension of Ascending Node	0.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	5615.0 seconds
Apogee	450.0 km
Perigee	450.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	270.0
2	180.0
3	90.0
4	0.0

### Orbital Plane 14:

Question	Response
Number of Satellites in Plane	2
Inclination Angle	90.0 degrees
Right Ascension of Ascending Node	0.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	5677.0 seconds
Apogee	500.0 km
Perigee	500.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	180.0
2	0.0

### Orbital Plane 15:

Question	Response
Number of Satellites in Plane	2
Inclination Angle	87.9 degrees
Right Ascension of Ascending Node	0.0 degrees



Argument of Perigee	0.0 degrees
Orbital Period	5677.0 seconds
Apogee	500.0 km
Perigee	500.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	180.0
2	0.0

### Orbital Plane 16:

Question	Response
Number of Satellites in Plane	12
Inclination Angle	51.6 degrees
Right Ascension of Ascending Node	0.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	5553.0 seconds
Apogee	400.0 km
Perigee	400.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	90.0

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<b>2</b>	0.0
<b>3</b>	0.0
<b>4</b>	0.0
<b>5</b>	180.0
<b>6</b>	180.0
<b>7</b>	90.0
<b>8</b>	90.0
<b>9</b>	270.0
<b>10</b>	270.0
<b>11</b>	270.0
<b>12</b>	180.0

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## Receiving Beams 1:

Question	Response
Beam ID	UU1P
Receive Beam Frequency	402.0 MHz -403.0 MHz
Beam Type	Fixed
Polarization	V
Peak Gain	2.05 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
G/T at Max. Gain Point	-23.0 dB/K
Min. Saturation Flux Density	-95.0 dBW/m <sup>2</sup>
Max. Saturation Flux Density	-85.0 dBW/m <sup>2</sup>
Co- or Cross Polar Mode	C
Service Area Description	Global

## Receiving Beams 2:

Question	Response
Beam ID	UU2P
Receive Beam Frequency	399.9 MHz -400.05 MHz
Beam Type	Fixed
Polarization	V
Peak Gain	2.05 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	

Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
G/T at Max. Gain Point	-23.0 dB/K
Min. Saturation Flux Density	-96.0 dBW/m2
Max. Saturation Flux Density	-86.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Global

### Receiving Beams 3:

Question	Response
Beam ID	UU3P
Receive Beam Frequency	449.75 MHz -450.25 MHz
Beam Type	Fixed
Polarization	V
Peak Gain	2.05 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
G/T at Max. Gain Point	-23.0 dB/K
Min. Saturation Flux Density	-95.0 dBW/m2
Max. Saturation Flux Density	-85.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Global

### Receiving Beams 4:

Question	Response
Beam ID	UU1B

Receive Beam Frequency	402.0 MHz -403.0 MHz
Beam Type	Fixed
Polarization	H
Peak Gain	3.5 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
G/T at Max. Gain Point	-21.5 dB/K
Min. Saturation Flux Density	-96.0 dBW/m2
Max. Saturation Flux Density	-86.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Global

**Receiving  
Beams 5:**

Question	Response
Beam ID	UU2B
Receive Beam Frequency	399.9 MHz -400.05 MHz
Beam Type	Fixed
Polarization	H
Peak Gain	3.5 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
G/T at Max. Gain Point	-21.5 dB/K
Min. Saturation Flux Density	-96.0 dBW/m2

Max. Saturation Flux Density	-86.0 dBW/m <sup>2</sup>
Co- or Cross Polar Mode	C
Service Area Description	Global

## Receiving Beams 6:

Question	Response
Beam ID	UU3B
Receive Beam Frequency	449.75 MHz -450.25 MHz
Beam Type	Fixed
Polarization	H
Peak Gain	3.5 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
G/T at Max. Gain Point	-21.5 dB/K
Min. Saturation Flux Density	-96.0 dBW/m <sup>2</sup>
Max. Saturation Flux Density	-86.0 dBW/m <sup>2</sup>
Co- or Cross Polar Mode	C
Service Area Description	Global

## Receiving Beams 7:

Question	Response
Beam ID	GPR1
Receive Beam Frequency	1560.07 MHz -1590.77 MHz
Beam Type	Fixed

Polarization	RHCP
Peak Gain	9.0 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	-16.0 dB/K
Min. Saturation Flux Density	-37.7 dBW/m2
Max. Saturation Flux Density	-27.7 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Global

**Receiving Beams 8:**

Question	Response
Beam ID	GPR2
Receive Beam Frequency	1217.37 MHz -1237.83 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	9.5 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	-15.5 dB/K
Min. Saturation Flux Density	-40.37 dBW/m2
Max. Saturation Flux Density	-30.37 dBW/m2

Co- or Cross Polar Mode	C
Service Area Description	Global

**Receiving  
Beams 9:**

Question	Response
Beam ID	GLR1
Receive Beam Frequency	1592.95 MHz -1611.05 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	8.5 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	-16.5 dB/K
Min. Saturation Flux Density	-37.06 dBW/m2
Max. Saturation Flux Density	-27.06 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Global

**Receiving  
Beams 10:**

Question	Response
Beam ID	GLR2
Receive Beam Frequency	1237.8 MHz -1254.2 MHz
Beam Type	Fixed
Polarization	RHCP



Peak Gain	10.0 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	-15.0 dB/K
Min. Saturation Flux Density	-40.74 dBW/m2
Max. Saturation Flux Density	-30.74 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Global

**Receiving  
Beams 11:**

Question	Response
Beam ID	GAR1
Receive Beam Frequency	1557.52 MHz -1593.32 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	9.0 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	-16.0 dB/K
Min. Saturation Flux Density	-37.7 dBW/m2
Max. Saturation Flux Density	-27.7 dBW/m2
Co- or Cross Polar Mode	C

Service Area Description	Global
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**Receiving  
Beams 12:**

Question	Response
Beam ID	GAR2
Receive Beam Frequency	1166.215 MHz -1217.375 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	8.0 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	-17.0 dB/K
Min. Saturation Flux Density	-39.13 dBW/m2
Max. Saturation Flux Density	-29.13 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Global

**Receiving  
Beams 13:**

Question	Response
Beam ID	GPR3
Receive Beam Frequency	1560.07 MHz -1590.77 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	9.0 dBi

Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	-16.0 dB/K
Min. Saturation Flux Density	-37.7 dBW/m2
Max. Saturation Flux Density	-27.7 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Global

**Receiving  
Beams 14:**

Question	Response
Beam ID	GPR4
Receive Beam Frequency	1217.37 MHz -1237.83 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	9.5 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	-15.5 dB/K
Min. Saturation Flux Density	-40.37 dBW/m2
Max. Saturation Flux Density	-30.37 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Global

## Receiving Beams 15:

Question	Response
Beam ID	GLR3
Receive Beam Frequency	1592.95 MHz -1611.05 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	8.5 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	-16.5 dB/K
Min. Saturation Flux Density	-37.06 dBW/m <sup>2</sup>
Max. Saturation Flux Density	-27.06 dBW/m <sup>2</sup>
Co- or Cross Polar Mode	C
Service Area Description	Global

## Receiving Beams 16:

Question	Response
Beam ID	GLR4
Receive Beam Frequency	1237.8 MHz -1254.2 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	10.0 dBi
Antenna Pointing Error	1.0 degrees

Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	-15.0 dB/K
Min. Saturation Flux Density	-40.74 dBW/m2
Max. Saturation Flux Density	-30.74 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Global

## Receiving Beams 17:

Question	Response
Beam ID	GAR3
Receive Beam Frequency	1557.52 MHz -1593.32 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	9.0 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	-16.0 dB/K
Min. Saturation Flux Density	-37.7 dBW/m2
Max. Saturation Flux Density	-27.7 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Global

**Receiving  
Beams 18:**

Question	Response
Beam ID	GAR4
Receive Beam Frequency	1166.215 MHz -1217.375 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	8.0 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	-17.0 dB/K
Min. Saturation Flux Density	-39.13 dBW/m2
Max. Saturation Flux Density	-29.13 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Global

**Receiving  
Beams 19:**

Question	Response
Beam ID	NR1
Receive Beam Frequency	1560.07 MHz -1590.77 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	3.5 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	1.0 degrees

Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	-21.5 dB/K
Min. Saturation Flux Density	-28.1 dBW/m2
Max. Saturation Flux Density	-18.1 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Global

## Receiving Beams 20:

Question	Response
Beam ID	NR2
Receive Beam Frequency	1217.37 MHz -1237.83 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	3.5 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	-21.5 dB/K
Min. Saturation Flux Density	-30.27 dBW/m2
Max. Saturation Flux Density	-20.27 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Global

## Receiving

**Beams 21:**

<b>Question</b>	<b>Response</b>
Beam ID	GPR5
Receive Beam Frequency	1560.07 MHz -1590.77 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	5.0 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	-20.0 dB/K
Min. Saturation Flux Density	-33.7 dBW/m2
Max. Saturation Flux Density	-23.7 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Global

**Receiving Beams 22:**

<b>Question</b>	<b>Response</b>
Beam ID	GPR6
Receive Beam Frequency	1217.37 MHz -1237.83 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	6.0 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	



Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	-19.0 dB/K
Min. Saturation Flux Density	-36.87 dBW/m2
Max. Saturation Flux Density	-26.87 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Global

**Receiving Beams 23:**

Question	Response
Beam ID	GLR5
Receive Beam Frequency	1592.95 MHz -1611.05 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	5.0 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	-20.0 dB/K
Min. Saturation Flux Density	-33.56 dBW/m2
Max. Saturation Flux Density	-23.56 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Global

**Receiving Beams 24:**

Question	Response
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Beam ID	GLR6
Receive Beam Frequency	1237.8 MHz -1254.2 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	6.0 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	-19.0 dB/K
Min. Saturation Flux Density	-36.74 dBW/m2
Max. Saturation Flux Density	-26.74 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Global

**Receiving Beams 25:**

Question	Response
Beam ID	AIR1
Receive Beam Frequency	161.962 MHz -161.988 MHz
Beam Type	Fixed
Polarization	H
Peak Gain	1.5 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	

Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
G/T at Max. Gain Point	-23.5 dB/K
Min. Saturation Flux Density	-32.56 dBW/m2
Max. Saturation Flux Density	-22.56 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Global

**Receiving Beams 26:**

Question	Response
Beam ID	AIR2
Receive Beam Frequency	162.012 MHz -162.038 MHz
Beam Type	Fixed
Polarization	H
Peak Gain	1.5 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
G/T at Max. Gain Point	-23.5 dB/K
Min. Saturation Flux Density	-32.56 dBW/m2
Max. Saturation Flux Density	-22.56 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Global

**Receiving Beams 27:**

Question	Response
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Beam ID	AIR3
Receive Beam Frequency	156.762 MHz -156.788 MHz
Beam Type	Fixed
Polarization	H
Peak Gain	1.5 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
G/T at Max. Gain Point	-23.5 dB/K
Min. Saturation Flux Density	-32.84 dBW/m2
Max. Saturation Flux Density	-22.84 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Global

**Receiving Beams 28:**

Question	Response
Beam ID	AIR4
Receive Beam Frequency	156.812 MHz -156.838 MHz
Beam Type	Fixed
Polarization	H
Peak Gain	1.5 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	

Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
G/T at Max. Gain Point	-23.5 dB/K
Min. Saturation Flux Density	-32.84 dBW/m2
Max. Saturation Flux Density	-22.84 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Global

**Receiving  
Beams 29:**

Question	Response
Beam ID	ADR1
Receive Beam Frequency	1087.7 MHz -1092.3 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	5.0 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	-20.0 dB/K
Min. Saturation Flux Density	-19.5 dBW/m2
Max. Saturation Flux Density	-9.5 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Global

**Receiving  
Beams 30:**

Question	Response
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Beam ID	ASM1
Receive Beam Frequency	161.937 MHz -161.963 MHz
Beam Type	Fixed
Polarization	H
Peak Gain	1.5 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
G/T at Max. Gain Point	-23.5 dB/K
Min. Saturation Flux Density	-32.56 dBW/m2
Max. Saturation Flux Density	-22.56 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Global

**Receiving Beams 31:**

Question	Response
Beam ID	ASM2
Receive Beam Frequency	161.987 MHz -162.013 MHz
Beam Type	Fixed
Polarization	H
Peak Gain	1.5 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	

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Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
G/T at Max. Gain Point	-23.5 dB/K
Min. Saturation Flux Density	-32.56 dBW/m <sup>2</sup>
Max. Saturation Flux Density	-22.56 dBW/m <sup>2</sup>
Co- or Cross Polar Mode	C
Service Area Description	Global

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## Receiving Channels (31)

Channel ID	Channel Bandwidth (MHz)	Center Frequency s (MHz)	Feeder Link, Service Link or TT&C
GLR1	18.1	1602.0	Service Link
GLR5	18.1	1602.0	Service Link
GLR4	16.4	1246.0	Service Link
GLR3	18.1	1602.0	Service Link
GLR2	16.4	1246.0	Service Link
UU3P	0.5	450.0	TT&C
GPR4	20.46	1227.6	Service Link
UU2P	0.15	399.975	TT&C
UU1B	1.0	402.5	TT&C
NR2	20.46	1227.6	Service Link
NR1	30.7	1575.42	Service Link
GPR6	20.46	1227.6	Service Link
GPR5	30.7	1575.42	Service Link
GAR4	51.16	1191.795	Service Link
GAR3	35.7	1575.42	Service Link
GAR2	51.16	1191.795	Service Link
GAR1	35.7	1575.42	Service Link
AIR4	0.025	156.825	Service Link
AIR3	0.025	156.775	Service Link
AIR2	0.025	162.025	Service Link
AIR1	0.025	161.975	Service Link
ADR1	4.6	1090.0	Service Link
UU3B	0.5	450.0	TT&C
UU2B	0.15	399.975	TT&C



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<b>UU1P</b>	1.0	402.5	TT&C
<b>GPR3</b>	30.7	1575.42	Service Link
<b>GPR2</b>	20.46	1227.6	Service Link
<b>GPR1</b>	30.7	1575.42	Service Link
<b>GLR6</b>	16.4	1246.0	Service Link
<b>ASM2</b>	0.026	162.0	Service Link
<b>ASM1</b>	0.025	161.95	Service Link

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## Transmitting Beams 1:

Question	Response
Beam ID	UD1P
Transmit Beam Frequency	402.0 MHz -403.0 MHz
Beam Type	Fixed
Polarization	V
Peak Gain	2.05 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
Max. Transmit EIRP Density	-42.73 dBW/Hz
Max. Transmit EIRP	5.05 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 <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>
BW:	/BW):	/BW):	/BW):	/BW):	/BW):	/BW):
Hz	-172.0	-171.0	-169.0	-167.0	-166.0	-160.0

## Transmitting Beams 2:

Question	Response
Beam ID	UD2P
Transmit Beam Frequency	401.0 MHz -402.0 MHz
Beam Type	Fixed
Polarization	V

Peak Gain	2.05 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
Max. Transmit EIRP Density	-42.73 dBW/Hz
Max. Transmit EIRP	5.05 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 <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>
BW:	/BW):	/BW):	/BW):	/BW):	/BW):	/BW):
Hz	-172.0	-171.0	-169.0	-167.0	-166.0	-160.0

### Transmitting Beams 3:

Question	Response
Beam ID	UD3P
Transmit Beam Frequency	401.0 MHz -402.0 MHz
Beam Type	Fixed
Polarization	V
Peak Gain	2.05 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
Max. Transmit EIRP Density	-36.71 dBW/Hz

Max. Transmit EIRP	5.05 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 <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>
BW:	/BW):	/BW):	/BW):	/BW):	/BW):	/BW):
Hz	-170.0	-168.0	-166.0	-164.0	-163.0	-157.0

### Transmitting Beams 4:

Question	Response
Beam ID	UD1B
Transmit Beam Frequency	402.0 MHz -403.0 MHz
Beam Type	Fixed
Polarization	H
Peak Gain	3.5 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
Max. Transmit EIRP Density	-41.28 dBW/Hz
Max. Transmit EIRP	6.5 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 <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>
BW:	/BW):	/BW):	/BW):	/BW):	/BW):	/BW):
Hz	-171.0	-170.0	-168.0	-166.0	-165.0	-159.0

## Transmitting Beams 5:

Question	Response
Beam ID	UD2B
Transmit Beam Frequency	401.0 MHz -402.0 MHz
Beam Type	Fixed
Polarization	H
Peak Gain	3.5 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
Max. Transmit EIRP Density	-41.28 dBW/Hz
Max. Transmit EIRP	6.5 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 <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>
BW:	/BW):	/BW):	/BW):	/BW):	/BW):	/BW):
Hz	-171.0	-170.0	-168.0	-166.0	-165.0	-159.0

## Transmitting Beams 6:

Question	Response
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Beam ID	UD3B
Transmit Beam Frequency	401.0 MHz -402.0 MHz
Beam Type	Fixed
Polarization	H
Peak Gain	3.5 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
Max. Transmit EIRP Density	-35.26 dBW/Hz
Max. Transmit EIRP	6.5 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 <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>
BW:	/BW):	/BW):	/BW):	/BW):	/BW):	/BW):
Hz	-169.0	-167.0	-165.0	-163.0	-162.0	-156.0

### Transmitting Beams 7:

Question	Response
Beam ID	SD1
Transmit Beam Frequency	2020.0 MHz -2025.0 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	5.0 dBi

Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-58.99 dBW/Hz
Max. Transmit EIRP	8.0 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 <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>
BW:	/BW):	/BW):	/BW):	/BW):	/BW):	/BW):
Hz	-200.0	-200.0	-198.0	-196.0	-195.0	-189.0

### Transmitting Beams 8:

Question	Response
Beam ID	SD2
Transmit Beam Frequency	2200.0 MHz -2290.0 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	5.0 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees

Max. Transmit EIRP Density	-52.0 dBW/Hz
Max. Transmit EIRP	8.0 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 <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>
BW:	/BW):	/BW):	/BW):	/BW):	/BW):	/BW):
Hz	-194.0	-193.0	-191.0	-189.0	-188.0	-182.0



## Transmitting Channels (8)

Channel ID	Channel Bandwidth (MHz)	Center Frequency s (MHz)	Feeder Link, Service Link or TT&C
UD3P	0.015	401.5	TT&C
UD3B	0.015	401.5	TT&C
UD2P	0.06	401.5	TT&C
UD2B	0.06	401.5	TT&C
UD1P	0.06	402.5	TT&C
UD1B	0.06	402.5	TT&C
SD1	5.0	2022.5	Service Link
SD2	1.0	2245.0	Service Link

## Certification Questions

Question	Response
<p>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?</p>	<p>N/A</p>
<p>Are the applicable frequency tolerances of 25.202(e) and out-of-band emission limits of 25.202(f)(1),(2), and (3) met?</p>	<p>Yes</p>
<p>Are the cessation of emissions requirements of 25.207 met?</p>	<p>Yes</p>
<p>Are the applicable power-flux-density limits of 25.208 met, and is the appropriate technical showing provided within the application?</p>	
<p>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?</p>	<p>N/A</p>
<p>Are the applicable full-frequency-reuse requirements of 25.210 met?</p>	
<p>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)?</p>	

## Attachments

File Name	Beam	Field	Attachment Type	Description
<a href="#">beam-GPR1.pdf</a>	GPR1	NGSO Antenna Gain Data	PDF file (*.pdf)	Applicable to all orbits.
<a href="#">beam-UU2B.pdf</a>	UU2B	NGSO Antenna Gain Data	PDF file (*.pdf)	Applicable to all orbits.
<a href="#">beam-UU1P.pdf</a>	UU1P	NGSO Antenna Gain Data	PDF file (*.pdf)	Applicable to all orbits.
<a href="#">beam-UU1B.pdf</a>	UU1B	NGSO Antenna Gain Data	PDF file (*.pdf)	Applicable to all orbits.
<a href="#">beam-UU2P.pdf</a>	UU2P	NGSO Antenna Gain Data	PDF file (*.pdf)	Applicable to all orbits.
<a href="#">beam-UU3P.pdf</a>	UU3P	NGSO Antenna Gain Data	PDF file (*.pdf)	Applicable to all orbits.
<a href="#">beam-GPR2.pdf</a>	GPR2	NGSO Antenna Gain Data	PDF file (*.pdf)	Applicable to all orbits.
<a href="#">beam-GLR1.pdf</a>	GLR1	NGSO Antenna Gain Data	PDF file (*.pdf)	Applicable to all orbits.
<a href="#">beam-GLR2.pdf</a>	GLR2	NGSO Antenna Gain Data	PDF file (*.pdf)	Applicable to all orbits.
<a href="#">beam-GAR2.pdf</a>	GAR2	NGSO Antenna Gain Data	PDF file (*.pdf)	Applicable to all orbits.
<a href="#">beam-GPR3.pdf</a>	GPR3	NGSO Antenna Gain Data	PDF file (*.pdf)	Applicable to all orbits.
<a href="#">beam-GPR4.pdf</a>	GPR4	NGSO Antenna Gain Data	PDF file (*.pdf)	Applicable to all orbits.
<a href="#">beam-GLR3.pdf</a>	GLR3	NGSO Antenna Gain Data	PDF file (*.pdf)	Applicable to all orbits.
<a href="#">beam-GLR4.pdf</a>	GLR4	NGSO Antenna Gain Data	PDF file (*.pdf)	Applicable to all orbits.
<a href="#">beam-GAR3.pdf</a>	GAR3	NGSO Antenna Gain Data	PDF file (*.pdf)	Applicable to all orbits.
<a href="#">beam-NR1.pdf</a>	NR1	NGSO Antenna Gain Data	PDF file (*.pdf)	Applicable to all orbits.

<a href="#"><u>beam-NR2.pdf</u></a>	NR2	NGSO Antenna Gain Data	PDF file (*.pdf)	Applicable to all orbits.
<a href="#"><u>beam-GPR5.pdf</u></a>	GPR5	NGSO Antenna Gain Data	PDF file (*.pdf)	Applicable to all orbits.
<a href="#"><u>beam-GPR6.pdf</u></a>	GPR6	NGSO Antenna Gain Data	PDF file (*.pdf)	Applicable to all orbits.
<a href="#"><u>beam-GLR5.pdf</u></a>	GLR5	NGSO Antenna Gain Data	PDF file (*.pdf)	Applicable to all orbits.
<a href="#"><u>beam-GLR6.pdf</u></a>	GLR6	NGSO Antenna Gain Data	PDF file (*.pdf)	Applicable to all orbits.
<a href="#"><u>beam-AIR1.pdf</u></a>	AIR1	NGSO Antenna Gain Data	PDF file (*.pdf)	Applicable to all orbits.
<a href="#"><u>beam-AIR3.pdf</u></a>	AIR3	NGSO Antenna Gain Data	PDF file (*.pdf)	Applicable to all orbits.
<a href="#"><u>beam-AIR4.pdf</u></a>	AIR4	NGSO Antenna Gain Data	PDF file (*.pdf)	Applicable to all orbits.
<a href="#"><u>beam-UD2B.pdf</u></a>	UD2B	NGSO Antenna Gain Data	PDF file (*.pdf)	Applicable to all orbits.
<a href="#"><u>beam-GAR4.pdf</u></a>	GAR4	NGSO Antenna Gain Data	PDF file (*.pdf)	Applicable to all orbits.
<a href="#"><u>beam-GAR1.pdf</u></a>	GAR1	NGSO Antenna Gain Data	PDF file (*.pdf)	Applicable to all orbits.
<a href="#"><u>beam-ADR1.pdf</u></a>	ADR1	NGSO Antenna Gain Data	PDF file (*.pdf)	Applicable to all orbits.
<a href="#"><u>beam-SD1.pdf</u></a>	SD1	NGSO Antenna Gain Data	PDF file (*.pdf)	Applicable to all orbits.
<a href="#"><u>beam-SD2.pdf</u></a>	SD2	NGSO Antenna Gain Data	PDF file (*.pdf)	Applicable to all orbits.
<a href="#"><u>beam-UD1B.pdf</u></a>	UD1B	NGSO Antenna Gain Data	PDF file (*.pdf)	Applicable to all orbits.
<a href="#"><u>beam-UD1P.pdf</u></a>	UD1P	NGSO Antenna Gain Data	PDF file (*.pdf)	Applicable to all orbits.
<a href="#"><u>beam-UD2P.pdf</u></a>	UD2P	NGSO Antenna Gain Data	PDF file (*.pdf)	Applicable to all orbits.

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<a href="#"><u>beam-UD3B.pdf</u></a>	UD3B	NGSO Antenna Gain Data	PDF file (*.pdf)	Applicable to all orbits.
<a href="#"><u>beam-UD3P.pdf</u></a>	UD3P	NGSO Antenna Gain Data	PDF file (*.pdf)	Applicable to all orbits.
<a href="#"><u>beam-ASM2.pdf</u></a>	ASM2	NGSO Antenna Gain Data	PDF file (*.pdf)	Applicable to all orbits.
<a href="#"><u>beam-ASM1.pdf</u></a>	ASM1	NGSO Antenna Gain Data	PDF file (*.pdf)	Applicable to all orbits.
<a href="#"><u>beam-UU3B.pdf</u></a>	UU3B	NGSO Antenna Gain Data	PDF file (*.pdf)	Applicable to all orbits.

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