



312 File Number: **SATLOA2016111500113**

Filing Description

Question	Response
Description	Karousel

**Satellite
Information**

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

**Operating
Frequency
Bands (5)**

Nature of service	Description	Frequency Band(s)	Mode Type
Fixed-Satellite Service		10700.0 MHz -12700.0 MHz	Transmit
Fixed-Satellite Service		14000.0 MHz -14500.0 MHz	Receive
Fixed-Satellite Service		17800.0 MHz -19300.0 MHz	Transmit
Fixed-Satellite Service		27500.0 MHz -30000.0 MHz	Receive
Fixed-Satellite Service		19700.0 MHz -20200.0 MHz	Transmit

**Orbital
Information For
Non-
Geostationary
Satellites**

Question	Response
Total Number of Satellites in the active constellation	12
Orbit Epoch Date	07/27/2016
Celestial Reference Body	Earth

Orbital Plane 1:

Question	Response
Number of Satellites in Plane	1
Inclination Angle	63.4 degrees
Right Ascension of Ascending Node	39.894 degrees
Argument of Perigee	180.0 degrees
Orbital Period	86163.6 seconds
Apogee	40002.3 km
Perigee	31569.5 km
Active Service Arc Begin Angle with respect to Ascending Node	63.4 degrees
Active Service Arc End Angle with respect to Ascending Node	63.4 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	63.4 degrees
Right Ascension of Ascending Node	309.894 degrees
Argument of Perigee	180.0 degrees
Orbital Period	86163.6 seconds
Apogee	40002.3 km
Perigee	31569.5 km
Active Service Arc Begin Angle with respect to Ascending Node	63.4 degrees

Active Service Arc End Angle with respect to Ascending Node	63.4 degrees
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Mean Anomaly For Each Satellite

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

Orbital Plane 3:

Question	Response
Number of Satellites in Plane	1
Inclination Angle	63.4 degrees
Right Ascension of Ascending Node	219.894 degrees
Argument of Perigee	180.0 degrees
Orbital Period	86163.6 seconds
Apogee	40002.3 km
Perigee	31569.5 km
Active Service Arc Begin Angle with respect to Ascending Node	63.4 degrees
Active Service Arc End Angle with respect to Ascending Node	63.4 degrees

Mean Anomaly For Each Satellite

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

Orbital Plane 4:

Question	Response
Number of Satellites in Plane	1
Inclination Angle	63.4 degrees
Right Ascension of Ascending Node	259.894 degrees

Argument of Perigee	180.0 degrees
Orbital Period	86163.6 seconds
Apogee	40002.3 km
Perigee	31569.5 km
Active Service Arc Begin Angle with respect to Ascending Node	63.4 degrees
Active Service Arc End Angle with respect to Ascending Node	63.4 degrees

Mean Anomaly For Each Satellite

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

Orbital Plane 5:

Question	Response
Number of Satellites in Plane	1
Inclination Angle	63.4 degrees
Right Ascension of Ascending Node	169.894 degrees
Argument of Perigee	180.0 degrees
Orbital Period	86163.6 seconds
Apogee	40002.3 km
Perigee	31569.5 km
Active Service Arc Begin Angle with respect to Ascending Node	63.4 degrees
Active Service Arc End Angle with respect to Ascending Node	63.4 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
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1	90.0
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Orbital Plane 6:

Question	Response
Number of Satellites in Plane	1
Inclination Angle	63.4 degrees
Right Ascension of Ascending Node	79.894 degrees
Argument of Perigee	180.0 degrees
Orbital Period	86163.6 seconds
Apogee	40002.3 km
Perigee	31569.5 km
Active Service Arc Begin Angle with respect to Ascending Node	63.4 degrees
Active Service Arc End Angle with respect to Ascending Node	63.4 degrees

Mean Anomaly For Each Satellite

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

Orbital Plane 7:

Question	Response
Number of Satellites in Plane	1
Inclination Angle	63.4 degrees
Right Ascension of Ascending Node	149.894 degrees
Argument of Perigee	180.0 degrees
Orbital Period	86163.6 seconds
Apogee	40002.3 km

Perigee	31569.5 km
Active Service Arc Begin Angle with respect to Ascending Node	63.4 degrees
Active Service Arc End Angle with respect to Ascending Node	63.4 degrees

Mean Anomaly For Each Satellite

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

Orbital Plane 8:

Question	Response
Number of Satellites in Plane	1
Inclination Angle	63.4 degrees
Right Ascension of Ascending Node	59.894 degrees
Argument of Perigee	180.0 degrees
Orbital Period	86163.6 seconds
Apogee	40002.3 km
Perigee	31569.5 km
Active Service Arc Begin Angle with respect to Ascending Node	63.4 degrees
Active Service Arc End Angle with respect to Ascending Node	63.4 degrees

Mean Anomaly For Each Satellite

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

Orbital Plane 9:

Question	Response
Number of Satellites in Plane	1

Inclination Angle	63.4 degrees
Right Ascension of Ascending Node	329.894 degrees
Argument of Perigee	180.0 degrees
Orbital Period	86163.6 seconds
Apogee	40002.3 km
Perigee	31569.5 km
Active Service Arc Begin Angle with respect to Ascending Node	63.4 degrees
Active Service Arc End Angle with respect to Ascending Node	63.4 degrees

Mean Anomaly For Each Satellite

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

Orbital Plane 10:

Question	Response
Number of Satellites in Plane	1
Inclination Angle	63.4 degrees
Right Ascension of Ascending Node	129.894 degrees
Argument of Perigee	180.0 degrees
Orbital Period	86163.6 seconds
Apogee	40002.3 km
Perigee	31569.5 km
Active Service Arc Begin Angle with respect to Ascending Node	63.4 degrees
Active Service Arc End Angle with respect to Ascending Node	63.4 degrees

Mean Anomaly For Each Satellite

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

Orbital Plane 11:

Question	Response
Number of Satellites in Plane	1
Inclination Angle	63.4 degrees
Right Ascension of Ascending Node	349.894 degrees
Argument of Perigee	180.0 degrees
Orbital Period	86163.6 seconds
Apogee	40002.3 km
Perigee	31569.5 km
Active Service Arc Begin Angle with respect to Ascending Node	63.4 degrees
Active Service Arc End Angle with respect to Ascending Node	63.4 degrees

Mean Anomaly For Each Satellite

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

Orbital Plane 12:

Question	Response
Number of Satellites in Plane	1
Inclination Angle	63.4 degrees
Right Ascension of Ascending Node	239.894 degrees
Argument of Perigee	180.0 degrees
Orbital Period	86163.6 seconds

Apogee	40002.3 km
Perigee	31569.5 km
Active Service Arc Begin Angle with respect to Ascending Node	63.4 degrees
Active Service Arc End Angle with respect to Ascending Node	63.4 degrees

Mean Anomaly For Each Satellite

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

Receiving Beams 1:

Question	Response
Beam ID	UU1A
Receive Beam Frequency	14000.0 MHz -14500.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	34.1 dBi
Antenna Pointing Error	0.15 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	7.6 dB/K
Min. Saturation Flux Density	-97.6 dBW/m2
Max. Saturation Flux Density	-77.6 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	global

Receiving Beams 2:

Question	Response
Beam ID	UU1B
Receive Beam Frequency	14000.0 MHz -14500.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	34.1 dBi
Antenna Pointing Error	0.15 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	7.6 dB/K
Min. Saturation Flux Density	-97.6 dBW/m2
Max. Saturation Flux Density	-77.6 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	global

Receiving
Beams 3:

Question	Response
Beam ID	UU2A
Receive Beam Frequency	14000.0 MHz -14500.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	38.3 dBi
Antenna Pointing Error	0.15 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	11.8 dB/K
Min. Saturation Flux Density	-101.8 dBW/m2
Max. Saturation Flux Density	-81.8 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	global

Receiving

Beams 4:

Question	Response
Beam ID	UU2B
Receive Beam Frequency	14000.0 MHz -14500.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	38.3 dBi
Antenna Pointing Error	0.15 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	11.8 dB/K
Min. Saturation Flux Density	-101.8 dBW/m2
Max. Saturation Flux Density	-81.8 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	global

Receiving Beams 5:

Question	Response
Beam ID	UU3A
Receive Beam Frequency	14000.0 MHz -14500.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	38.3 dBi
Antenna Pointing Error	0.15 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	11.8 dB/K
Min. Saturation Flux Density	-101.8 dBW/m2
Max. Saturation Flux Density	-81.8 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	global

Receiving Beams 6:

Question	Response
Beam ID	UU3B
Receive Beam Frequency	14000.0 MHz -14500.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	38.3 dBi
Antenna Pointing Error	0.15 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	11.8 dB/K
Min. Saturation Flux Density	-101.8 dBW/m2
Max. Saturation Flux Density	-81.8 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	global

Receiving Beams 7:

Question	Response
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Beam ID	UU4A
Receive Beam Frequency	14000.0 MHz -14500.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	21.5 dBi
Antenna Pointing Error	0.15 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	-5.0 dB/K
Min. Saturation Flux Density	-85.0 dBW/m2
Max. Saturation Flux Density	-65.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	global

Receiving Beams 8:

Question	Response
Beam ID	UU4B
Receive Beam Frequency	14000.0 MHz -14500.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	21.5 dBi
Antenna Pointing Error	0.15 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	-5.0 dB/K
Min. Saturation Flux Density	-85.0 dBW/m2
Max. Saturation Flux Density	-65.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	global

Receiving Beams 9:

Question	Response
Beam ID	GU5A
Receive Beam Frequency	14000.0 MHz -14500.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	38.3 dBi
Antenna Pointing Error	0.15 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	11.8 dB/K
Min. Saturation Flux Density	-95.8 dBW/m2
Max. Saturation Flux Density	-70.8 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	global

Receiving Beams 10:

Question	Response
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Beam ID	GU5B
Receive Beam Frequency	14000.0 MHz -14500.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	38.3 dBi
Antenna Pointing Error	0.15 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	11.8 dB/K
Min. Saturation Flux Density	-95.8 dBW/m2
Max. Saturation Flux Density	-70.8 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	global

Receiving Beams 11:

Question	Response
Beam ID	GU5C
Receive Beam Frequency	27500.0 MHz -30000.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	42.5 dBi
Antenna Pointing Error	0.15 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	-92.0 dBW/m2
Max. Saturation Flux Density	-67.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	global

Receiving Beams 12:

Question	Response
Beam ID	GU5D
Receive Beam Frequency	27500.0 MHz -30000.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	42.5 dBi
Antenna Pointing Error	0.15 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	-92.0 dBW/m2
Max. Saturation Flux Density	-67.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	global

Receiving Beams 13:

Question	Response
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Beam ID	GU6A
Receive Beam Frequency	14000.0 MHz -14500.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	38.3 dBi
Antenna Pointing Error	0.15 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	11.8 dB/K
Min. Saturation Flux Density	-95.8 dBW/m2
Max. Saturation Flux Density	-70.8 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	global

Receiving Beams 14:

Question	Response
Beam ID	GU6B
Receive Beam Frequency	14000.0 MHz -14500.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	38.3 dBi
Antenna Pointing Error	0.15 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	11.8 dB/K
Min. Saturation Flux Density	-95.8 dBW/m2
Max. Saturation Flux Density	-70.8 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	global

Receiving Beams 15:

Question	Response
Beam ID	GU6C
Receive Beam Frequency	27500.0 MHz -30000.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	42.5 dBi
Antenna Pointing Error	0.15 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	-92.0 dBW/m2
Max. Saturation Flux Density	-67.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	global

Receiving Beams 16:

Question	Response
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Beam ID	GU6D
Receive Beam Frequency	27500.0 MHz -30000.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	42.5 dBi
Antenna Pointing Error	0.15 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	-92.0 dBW/m2
Max. Saturation Flux Density	-67.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	global

Receiving Channels (36)

Channel ID	Channel Bandwidth (MHz)	Center Frequency s (MHz)	Feeder Link, Service Link or TT&C
CM8	5.0	29997.5	TT&C
CM7	5.0	29502.5	TT&C
GU18	250.0	27875.0	Service Link
GU17	250.0	27625.0	Service Link
GU16	250.0	14375.0	Service Link
GU15	250.0	14125.0	Service Link
GU3	250.0	28125.0	Service Link
GU26	250.0	29875.0	Service Link
GU25	250.0	29625.0	Service Link
GU10	250.0	29875.0	Service Link
UU4	250.0	14375.0	Service Link
UU3	250.0	14125.0	Service Link
UU2	250.0	14375.0	Service Link
UU1	250.0	14125.0	Service Link
GU9	250.0	29625.0	Service Link
GU8	250.0	29375.0	Service Link
GU7	250.0	29125.0	Service Link
GU6	250.0	28875.0	Service Link
GU5	250.0	28625.0	Service Link
GU4	250.0	28375.0	Service Link
GU32	250.0	14375.0	Service Link
GU31	250.0	14125.0	Service Link
CM6	5.0	29997.5	TT&C
CM5	5.0	29502.5	TT&C

CM4	5.0	14497.5	TT&C
CM3	5.0	14002.5	TT&C
CM2	5.0	14497.5	TT&C
CM1	5.0	14002.5	TT&C
GU1	250.0	27625.0	Service Link
GU24	250.0	29375.0	Service Link
GU23	250.0	29125.0	Service Link
GU22	250.0	28875.0	Service Link
GU21	250.0	28625.0	Service Link
GU20	250.0	28375.0	Service Link
GU2	250.0	27875.0	Service Link
GU19	250.0	28125.0	Service Link

Transmitting
Beams 1:

Question	Response
Beam ID	UD1A
Transmit Beam Frequency	10700.0 MHz -12700.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	34.1 dBi
Antenna Pointing Error	0.15 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-24.6 dBW/Hz
Max. Transmit EIRP	58.4 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 /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	-126.0	-126.0	-126.0	-126.0	-126.0	-126.0

Transmitting
Beams 2:

Question	Response
Beam ID	UD1B
Transmit Beam Frequency	10700.0 MHz -12700.0 MHz

Beam Type	Steerable
Polarization	LHCP
Peak Gain	34.1 dBi
Antenna Pointing Error	0.15 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-24.6 dBW/Hz
Max. Transmit EIRP	58.4 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	-126.0	-126.0	-126.0	-126.0	-126.0	-126.0

Transmitting Beams 3:

Question	Response
Beam ID	UD1C
Transmit Beam Frequency	17800.0 MHz -19300.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	34.1 dBi
Antenna Pointing Error	0.15 degrees

Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-24.6 dBW/Hz
Max. Transmit EIRP	58.4 dBW
Co- or Cross Polar Mode	C
Service Area Description	Global

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	-126.0	-126.0	-126.0	-126.0	-126.0	-126.0

Transmitting
Beams 4:

Question	Response
Beam ID	UD1D
Transmit Beam Frequency	17800.0 MHz -19300.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	34.1 dBi
Antenna Pointing Error	0.15 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-24.6 dBW/Hz

Max. Transmit EIRP	58.4 dBW
Co- or Cross Polar Mode	C
Service Area Description	Global

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):
* BW:						
1.0 MHz	-126.0	-126.0	-126.0	-126.0	-126.0	-126.0

Transmitting Beams 5:

Question	Response
Beam ID	UD1E
Transmit Beam Frequency	19700.0 MHz -20200.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	34.1 dBi
Antenna Pointing Error	0.15 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-24.6 dBW/Hz
Max. Transmit EIRP	58.4 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	-126.0	-126.0	-126.0	-126.0	-126.0	-126.0

Question	Response
Beam ID	UD1F
Transmit Beam Frequency	19700.0 MHz -20200.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	34.1 dBi
Antenna Pointing Error	0.15 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-24.6 dBW/Hz
Max. Transmit EIRP	58.4 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	-126.0	-126.0	-126.0	-126.0	-126.0	-126.0

Transmitting
Beams 7:

Question	Response
Beam ID	UD2A
Transmit Beam Frequency	10700.0 MHz -12700.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	35.1 dBi
Antenna Pointing Error	0.15 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-26.6 dBW/Hz
Max. Transmit EIRP	56.4 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	-128.0	-128.0	-128.0	-128.0	-128.0	-128.0

Transmitting
Beams 8:

Question	Response
Beam ID	UD2B
Transmit Beam Frequency	10700.0 MHz -12700.0 MHz

Beam Type	Steerable
Polarization	LHCP
Peak Gain	35.1 dBi
Antenna Pointing Error	0.15 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-26.6 dBW/Hz
Max. Transmit EIRP	56.4 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	-128.0	-128.0	-128.0	-128.0	-128.0	-128.0

Transmitting Beams 9:

Question	Response
Beam ID	UD2C
Transmit Beam Frequency	17800.0 MHz -19300.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	39.0 dBi
Antenna Pointing Error	0.15 degrees

Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-22.7 dBW/Hz
Max. Transmit EIRP	60.3 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	-124.0	-124.0	-124.0	-124.0	-124.0	-124.0

Transmitting Beams 10:

Question	Response
Beam ID	UD2D
Transmit Beam Frequency	17800.0 MHz -19300.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	39.0 dBi
Antenna Pointing Error	0.15 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-22.7 dBW/Hz

Max. Transmit EIRP	60.3 dBW
Co- or Cross Polar Mode	C
Service Area Description	Global

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):
* BW:						
1.0 MHz	-124.0	-124.0	-124.0	-124.0	-124.0	-124.0

Transmitting Beams 11:

Question	Response
Beam ID	UD2E
Transmit Beam Frequency	19700.0 MHz -20200.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	39.0 dBi
Antenna Pointing Error	0.15 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-22.7 dBW/Hz
Max. Transmit EIRP	60.3 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	-124.0	-124.0	-124.0	-124.0	-124.0	-124.0

Question	Response
Beam ID	UD2F
Transmit Beam Frequency	19700.0 MHz -20200.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	39.0 dBi
Antenna Pointing Error	0.15 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-22.7 dBW/Hz
Max. Transmit EIRP	60.3 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	-124.0	-124.0	-124.0	-124.0	-124.0	-124.0

Transmitting
Beams 13:

Question	Response
Beam ID	UD3A
Transmit Beam Frequency	10700.0 MHz -12700.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	35.1 dBi
Antenna Pointing Error	0.15 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-26.6 dBW/Hz
Max. Transmit EIRP	56.4 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	-128.0	-128.0	-128.0	-128.0	-128.0	-128.0

Transmitting
Beams 14:

Question	Response
Beam ID	UD3B
Transmit Beam Frequency	10700.0 MHz -12700.0 MHz

Beam Type	Steerable
Polarization	LHCP
Peak Gain	35.1 dBi
Antenna Pointing Error	0.15 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-26.6 dBW/Hz
Max. Transmit EIRP	56.4 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	-128.0	-128.0	-128.0	-128.0	-128.0	-128.0

Transmitting Beams 15:

Question	Response
Beam ID	UD3C
Transmit Beam Frequency	17800.0 MHz -19300.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	39.0 dBi
Antenna Pointing Error	0.15 degrees

Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-22.7 dBW/Hz
Max. Transmit EIRP	60.3 dBW
Co- or Cross Polar Mode	C
Service Area Description	Global

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	-124.0	-124.0	-124.0	-124.0	-124.0	-124.0

Transmitting Beams 16:

Question	Response
Beam ID	UD3D
Transmit Beam Frequency	17800.0 MHz -19300.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	39.0 dBi
Antenna Pointing Error	0.15 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-22.7 dBW/Hz

Max. Transmit EIRP	60.3 dBW
Co- or Cross Polar Mode	C
Service Area Description	Global

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):
* BW:						
1.0 MHz	-124.0	-124.0	-124.0	-124.0	-124.0	-124.0

Transmitting Beams 17:

Question	Response
Beam ID	UD3E
Transmit Beam Frequency	19700.0 MHz -20200.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	39.0 dBi
Antenna Pointing Error	0.15 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-22.7 dBW/Hz
Max. Transmit EIRP	60.3 dBW
Co- or Cross Polar Mode	C
Service Area Description	Global

Max. Power Flux Density

Transmitting
Beams 18:

	* 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	-124.0	-124.0	-124.0	-124.0	-124.0	-124.0

Question	Response
Beam ID	UD3F
Transmit Beam Frequency	19700.0 MHz -20200.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	39.0 dBi
Antenna Pointing Error	0.15 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-22.7 dBW/Hz
Max. Transmit EIRP	60.3 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	-124.0	-124.0	-124.0	-124.0	-124.0	-124.0

Transmitting
Beams 19:

Question	Response
Beam ID	UD4A
Transmit Beam Frequency	10700.0 MHz -12700.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	21.5 dBi
Antenna Pointing Error	0.15 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-27.2 dBW/Hz
Max. Transmit EIRP	45.8 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	-128.0	-128.0	-128.0	-128.0	-128.0	-128.0

Transmitting
Beams 20:

Question	Response
Beam ID	UD4B
Transmit Beam Frequency	10700.0 MHz -12700.0 MHz

Beam Type	Steerable
Polarization	LHCP
Peak Gain	21.5 dBi
Antenna Pointing Error	0.15 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-27.2 dBW/Hz
Max. Transmit EIRP	45.8 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	-128.0	-128.0	-128.0	-128.0	-128.0	-128.0

Transmitting Beams 21:

Question	Response
Beam ID	UD4C
Transmit Beam Frequency	17800.0 MHz -19300.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	21.5 dBi
Antenna Pointing Error	0.15 degrees

Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-27.2 dBW/Hz
Max. Transmit EIRP	45.8 dBW
Co- or Cross Polar Mode	C
Service Area Description	Global

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	-128.0	-128.0	-128.0	-128.0	-128.0	-128.0

Transmitting Beams 22:

Question	Response
Beam ID	UD4D
Transmit Beam Frequency	17800.0 MHz -19300.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	21.5 dBi
Antenna Pointing Error	0.15 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-27.2 dBW/Hz

Max. Transmit EIRP	45.8 dBW
Co- or Cross Polar Mode	C
Service Area Description	Global

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	-128.0	-128.0	-128.0	-128.0	-128.0	-128.0

Transmitting Beams 23:

Question	Response
Beam ID	UD4E
Transmit Beam Frequency	17800.0 MHz -19300.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	21.5 dBi
Antenna Pointing Error	0.15 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-27.2 dBW/Hz
Max. Transmit EIRP	45.8 dBW
Co- or Cross Polar Mode	C
Service Area Description	Global

Max. Power Flux Density

**Transmitting
Beams 24:**

	* 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	-128.0	-128.0	-128.0	-128.0	-128.0	-128.0

Question	Response
Beam ID	UD4F
Transmit Beam Frequency	17800.0 MHz -19300.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	21.5 dBi
Antenna Pointing Error	0.15 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-27.2 dBW/Hz
Max. Transmit EIRP	45.8 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	-128.0	-128.0	-128.0	-128.0	-128.0	-128.0

**Transmitting
Beams 25:**

Question	Response
Beam ID	GD5E
Transmit Beam Frequency	19700.0 MHz -20200.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	39.0 dBi
Antenna Pointing Error	0.15 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-22.7 dBW/Hz
Max. Transmit EIRP	60.3 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	-124.0	-124.0	-124.0	-124.0	-124.0	-124.0

**Transmitting
Beams 26:**

Question	Response
Beam ID	GD5F
Transmit Beam Frequency	19700.0 MHz -20200.0 MHz

Beam Type	Steerable
Polarization	LHCP
Peak Gain	39.0 dBi
Antenna Pointing Error	0.15 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-22.7 dBW/Hz
Max. Transmit EIRP	60.3 dBW
Co- or Cross Polar Mode	C
Service Area Description	Global

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	-124.0	-124.0	-124.0	-124.0	-124.0	-124.0

Transmitting Beams 27:

Question	Response
Beam ID	GD6E
Transmit Beam Frequency	19700.0 MHz -20200.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	39.0 dBi
Antenna Pointing Error	0.15 degrees

Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-22.7 dBW/Hz
Max. Transmit EIRP	60.3 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	-124.0	-124.0	-124.0	-124.0	-124.0	-124.0

Transmitting Beams 28:

Question	Response
Beam ID	GD6F
Transmit Beam Frequency	19700.0 MHz -20200.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	39.0 dBi
Antenna Pointing Error	0.15 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-22.7 dBW/Hz

Max. Transmit EIRP	60.3 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	-124.0	-124.0	-124.0	-124.0	-124.0	-124.0

**Transmitting
Channels (44)**

Channel ID	Channel Bandwidth (MHz)	Center Frequency s (MHz)	Feeder Link, Service Link or TT&C
UD12	250.0	18675.0	Service Link
UD22	250.0	12075.0	Service Link
UU4	250.0	20075.0	Service Link
UU3	250.0	19825.0	Service Link
UD9	250.0	17925.0	Service Link
UD8	250.0	12575.0	Service Link
UD25	250.0	17925.0	Service Link
UD24	250.0	12575.0	Service Link
UD23	250.0	12325.0	Service Link
UD21	250.0	11825.0	Service Link
UD13	250.0	18925.0	Service Link
UD11	250.0	18425.0	Service Link
UU2	250.0	20075.0	Service Link
UU1	250.0	19825.0	Service Link
UD7	250.0	12325.0	Service Link
UD6	250.0	12075.0	Service Link
UD5	250.0	11825.0	Service Link
UD4	250.0	11575.0	Service Link
UD32	250.0	20075.0	Service Link
UD31	250.0	19825.0	Service Link
UD30	250.0	19175.0	Service Link
UD3	250.0	11325.0	Service Link
UD29	250.0	18925.0	Service Link
UD28	250.0	18675.0	Service Link

UD27	250.0	18425.0	Service Link
UD26	250.0	18175.0	Service Link
UD20	250.0	11575.0	Service Link
UD2	250.0	11075.0	Service Link
UD19	250.0	11325.0	Service Link
UD18	250.0	11075.0	Service Link
UD17	250.0	10825.0	Service Link
UD16	250.0	20075.0	Service Link
UD15	250.0	19825.0	Service Link
UD14	250.0	19175.0	Service Link
UD10	250.0	18175.0	Service Link
UD1	250.0	10825.0	Service Link
TM8	5.0	20197.5	TT&C
TM7	5.0	19702.5	TT&C
TM6	5.0	20197.5	TT&C
TM5	5.0	19702.5	TT&C
TM4	5.0	12197.5	TT&C
TM3	5.0	11702.5	TT&C
TM2	5.0	12197.5	TT&C
TM1	5.0	11702.5	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?	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>UD2C-UD2D UD3C-UD3D contours.pdf</u>	UD3D	NGSO Antenna Gain Data	PDF file (*.pdf)	UD3D antenna pattern
<u>UD2A-UD2B UD3A-UD3B contours.pdf</u>	UD3A	NGSO Antenna Gain Data	PDF file (*.pdf)	UD3A antenna pattern
<u>UD2A-UD2B UD3A-UD3B contours.pdf</u>	UD2A	NGSO Antenna Gain Data	PDF file (*.pdf)	UD2A antenna pattern
<u>UD2C-UD2D UD3C-UD3D contours.pdf</u>	UD2D	NGSO Antenna Gain Data	PDF file (*.pdf)	UD2D antenna pattern
<u>UD2E-UD2F UD3E-UD3F contours.pdf</u>	UD3E	NGSO Antenna Gain Data	PDF file (*.pdf)	UD3E antenna pattern
<u>UD2A-UD2B UD3A-UD3B contours.pdf</u>	UD2B	NGSO Antenna Gain Data	PDF file (*.pdf)	UD2B antenna pattern
<u>UD2A-UD2B UD3A-UD3B contours.pdf</u>	UD3B	NGSO Antenna Gain Data	PDF file (*.pdf)	UD3B antenna pattern
<u>UD2E-UD2F UD3E-UD3F contours.pdf</u>	UD2E	NGSO Antenna Gain Data	PDF file (*.pdf)	UD2E antenna pattern
<u>UU4A-UU4B UD4A-UD4F contours.pdf</u>	UD4B	NGSO Antenna Gain Data	PDF file (*.pdf)	UD4B antenna pattern
<u>UU4A-UU4B UD4A-UD4F contours.pdf</u>	UD4E	NGSO Antenna Gain Data	PDF file (*.pdf)	UD4E antenna pattern
<u>UD2C-UD2D UD3C-UD3D contours.pdf</u>	UD3C	NGSO Antenna Gain Data	PDF file (*.pdf)	UD3C antenna pattern
<u>UD2E-UD2F UD3E-UD3F contours.pdf</u>	UD3F	NGSO Antenna Gain Data	PDF file (*.pdf)	UD3F antenna pattern

<u>UU4A-UU4B UD4A-UD4F contours.pdf</u>	UD4C	NGSO Antenna Gain Data	PDF file (*.pdf)	UD4C antenna pattern
<u>UU4A-UU4B UD4A-UD4F contours.pdf</u>	UD4F	NGSO Antenna Gain Data	PDF file (*.pdf)	UD4F antenna pattern
<u>UU4A-UU4B UD4A-UD4F contours.pdf</u>	UD4D	NGSO Antenna Gain Data	PDF file (*.pdf)	UD4D antenna pattern
<u>UD2E-UD2F UD3E-UD3F contours.pdf</u>	UD2F	NGSO Antenna Gain Data	PDF file (*.pdf)	UD2F antenna pattern
<u>UD2C-UD2D UD3C-UD3D contours.pdf</u>	UD2C	NGSO Antenna Gain Data	PDF file (*.pdf)	UD2C antenna pattern
<u>UU4A-UU4B UD4A-UD4F contours.pdf</u>	UD4A	NGSO Antenna Gain Data	PDF file (*.pdf)	UD4A antenna pattern
<u>GD5E-GD5F GD6E-GD6F contours.pdf</u>	GD5E	NGSO Antenna Gain Data	PDF file (*.pdf)	GD5E antenna pattern
<u>GU5A-GU5B GU6A-GU6B contours.pdf</u>	GU5B	NGSO Antenna Gain Data	PDF file (*.pdf)	GU5B antenna pattern
<u>GU5C-GU5D GU6C-GU6D contours.pdf</u>	GU5C	NGSO Antenna Gain Data	PDF file (*.pdf)	GU5C antenna pattern
<u>GU5C-GU5D GU6C-GU6D contours.pdf</u>	GU5D	NGSO Antenna Gain Data	PDF file (*.pdf)	GU5D antenna pattern
<u>GU5A-GU5B GU6A-GU6B contours.pdf</u>	GU6A	NGSO Antenna Gain Data	PDF file (*.pdf)	GU6A antenna pattern
<u>GU5A-GU5B GU6A-GU6B contours.pdf</u>	GU6B	NGSO Antenna Gain Data	PDF file (*.pdf)	GU6B antenna pattern
<u>GU5A-GU5B GU6A-GU6B contours.pdf</u>	GU5A	NGSO Antenna Gain Data	PDF file (*.pdf)	GU5A antenna pattern

<u>GU5C-GU5D GU6C-GU6D contours.pdf</u>	GU6C	NGSO Antenna Gain Data	PDF file (*.pdf)	GU6C antenna pattern
<u>GU5C-GU5D GU6C-GU6D contours.pdf</u>	GU6D	NGSO Antenna Gain Data	PDF file (*.pdf)	GU6D antenna pattern
<u>UU1A-UU1B UD1A-UD1F contours.pdf</u>	UU1A	NGSO Antenna Gain Data	PDF file (*.pdf)	UU1A antenna pattern
<u>UU1A-UU1B UD1A-UD1F contours.pdf</u>	UU1B	NGSO Antenna Gain Data	PDF file (*.pdf)	UU1B antenna pattern
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<u>UU2A-UU2B UU3A-UU3B contours.pdf</u>	UU2B	NGSO Antenna Gain Data	PDF file (*.pdf)	UU2B antenna pattern
<u>UU2A-UU2B UU3A-UU3B contours.pdf</u>	UU3B	NGSO Antenna Gain Data	PDF file (*.pdf)	UU3B antenna pattern
<u>UU4A-UU4B UD4A-UD4F contours.pdf</u>	UU4A	NGSO Antenna Gain Data	PDF file (*.pdf)	UU4A antenna pattern
<u>UU4A-UU4B UD4A-UD4F contours.pdf</u>	UU4B	NGSO Antenna Gain Data	PDF file (*.pdf)	UU4B antenna pattern
<u>UU2A-UU2B UU3A-UU3B contours.pdf</u>	UU3A	NGSO Antenna Gain Data	PDF file (*.pdf)	UU3A antenna pattern
<u>GD5E-GD5F GD6E-GD6F contours.pdf</u>	GD5F	NGSO Antenna Gain Data	PDF file (*.pdf)	GD5F antenna pattern
<u>GD5E-GD5F GD6E-GD6F contours.pdf</u>	GD6E	NGSO Antenna Gain Data	PDF file (*.pdf)	GD6E antenna pattern
<u>GD5E-GD5F GD6E-GD6F contours.pdf</u>	GD6F	NGSO Antenna Gain Data	PDF file (*.pdf)	GD6F antenna pattern

<u>UU1A-UU1B UD1A-UD1F contours.pdf</u>	UD1A	NGSO Antenna Gain Data	PDF file (*.pdf)	UD1A antenna pattern
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<u>UU1A-UU1B UD1A-UD1F contours.pdf</u>	UD1F	NGSO Antenna Gain Data	PDF file (*.pdf)	UD1F antenna pattern