



312 File Number: **SATMOD2020091800111**

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## Filing Description

Question	Response
Description	Intelsat 904 at 29.5 W. L platform bias modification

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**Satellite  
Information**

Question	Response
Select Orbit Type	GSO
Space Station or Satellite Network Name	Intelsat 904
Estimated Lifetime of Satellite(s) From Date of Launch	20 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
<b>Fixed-Satellite Service</b>		5850.0 MHz -6425.0 MHz	Receive
<b>Fixed-Satellite Service</b>		14000.0 MHz -14500.0 MHz	Receive
<b>Fixed-Satellite Service</b>		3625.0 MHz -4200.0 MHz	Transmit
<b>Fixed-Satellite Service</b>		10950.0 MHz -11200.0 MHz	Transmit
<b>Fixed-Satellite Service</b>		11450.0 MHz -11700.0 MHz	Transmit

## Orbital Information For Geostationary Satellites

Section	Question	Response
<b>Orbital Longitude Information</b>	Orbital Longitude	30.0 degrees
	Hemisphere of Orbital Longitude	W
<b>Longitudinal Tolerance or East /West Station-Keeping</b>	Toward West	0.05 degrees
	Toward East	0.05 degrees
<b>Inclination Excursion or North /South Station-Keeping Tolerance</b>	Inclination Excursion or North /South Station-Keeping Tolerance	1.23 degrees
<b>Antenna Axis Attitude Accuracy</b>	Roll	0.1 degrees
	Pitch	0.1 degrees
	Yaw	0.1 degrees

## Receiving Beams 1:

Question	Response
Beam ID	NWRU
Receive Beam Frequency	5850.0 MHz -6300.0 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.34 degrees
Polarization Switchable	No
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	5.4 dB/K
Min. Saturation Flux Density	-92.0 dBW/m <sup>2</sup>
Max. Saturation Flux Density	-70.0 dBW/m <sup>2</sup>
Co- or Cross Polar Mode	C
Service Area Description	Mid-East CONUS and North East Canada

## Receiving Beams 2:

Question	Response
Beam ID	NERU
Receive Beam Frequency	5850.0 MHz -6300.0 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.34 degrees

Polarization Switchable	No
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	3.7 dB/K
Min. Saturation Flux Density	-93.2 dBW/m2
Max. Saturation Flux Density	-71.2 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Middle East, North Africa and Eastern Europe

**Receiving Beams 3:**

Question	Response
Beam ID	MERU
Receive Beam Frequency	5850.0 MHz -6300.0 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.34 degrees
Polarization Switchable	No
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	1.9 dB/K
Min. Saturation Flux Density	-92.8 dBW/m2
Max. Saturation Flux Density	-70.8 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	West part of Africa, West Europe and Greenland

## Receiving Beams 4:

Question	Response
Beam ID	CGLU
Receive Beam Frequency	6300.0 MHz -6425.0 MHz
Beam Type	Fixed
Polarization	LHCP
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.34 degrees
Polarization Switchable	No
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	-6.3 dB/K
Min. Saturation Flux Density	-91.5 dBW/m2
Max. Saturation Flux Density	-69.5 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Global - Gain contour attachment not provided pursuant to Section 25.114(c)(4)(vi)(A) of the FCC rules

## Receiving Beams 5:

Question	Response
Beam ID	CERU
Receive Beam Frequency	5850.0 MHz -6300.0 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees

Antenna Rotational Error	0.34 degrees
Polarization Switchable	No
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	0.2 dB/K
Min. Saturation Flux Density	-92.7 dBW/m2
Max. Saturation Flux Density	-70.7 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Africa, Easter Europe, Middle East and Eastern Europe

## Receiving Beams 6:

Question	Response
Beam ID	SERU
Receive Beam Frequency	5850.0 MHz -6300.0 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.34 degrees
Polarization Switchable	No
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	3.3 dB/K
Min. Saturation Flux Density	-92.8 dBW/m2
Max. Saturation Flux Density	-70.8 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	South East Africa



## Receiving Beams 7:

Question	Response
Beam ID	S2HU
Receive Beam Frequency	14000.0 MHz -14500.0 MHz
Beam Type	Steerable
Polarization	H
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.34 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
G/T at Max. Gain Point	8.7 dB/K
Min. Saturation Flux Density	-92.6 dBW/m <sup>2</sup>
Max. Saturation Flux Density	-74.6 dBW/m <sup>2</sup>
Co- or Cross Polar Mode	C
Service Area Description	Steerable Spot beam. May be pointed toward any visible location on the earth Mid-East CONUS, Mexico Caribbean and north part of South America

## Receiving Beams 8:

Question	Response
Beam ID	CGRU
Receive Beam Frequency	6300.0 MHz -6425.0 MHz

Beam Type	Fixed
Polarization	RHCP
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.34 degrees
Polarization Switchable	No
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	-5.6 dB/K
Min. Saturation Flux Density	-92.0 dBW/m2
Max. Saturation Flux Density	-70.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Global - Gain contour attachment not provided pursuant to Section 25.114(c)(4)(vi)(A) of the FCC rules

**Receiving  
Beams 9:**

Question	Response
Beam ID	CMDB
Receive Beam Frequency	6175.82 MHz -6176.78 MHz
Beam Type	Fixed
Polarization	LHCP
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.3 degrees
Polarization Switchable	No

Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	-99.0 dB/K
Min. Saturation Flux Density	-90.0 dBW/m2
Max. Saturation Flux Density	-89.9 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Global - Gain contour attachment not provided pursuant to Section 25.114(c)(4)(vi)(A) of the FCC rules

**Receiving Beams 10:**

Question	Response
Beam ID	WHLU
Receive Beam Frequency	5850.0 MHz -6300.0 MHz
Beam Type	Fixed
Polarization	LHCP
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.34 degrees
Polarization Switchable	No
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	-2.6 dB/K
Min. Saturation Flux Density	-92.4 dBW/m2
Max. Saturation Flux Density	-70.4 dBW/m2
Co- or Cross Polar Mode	C

Service Area Description	East Canada, Greenland, Mid-East CONUS, Mexico, Caribbean and South America
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## Receiving Beams 11:

Question	Response
Beam ID	SWRU
Receive Beam Frequency	5850.0 MHz -6300.0 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.34 degrees
Polarization Switchable	No
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	-0.9 dB/K
Min. Saturation Flux Density	-92.7 dBW/m2
Max. Saturation Flux Density	-70.7 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	South part of CONUS, South America, Mexico and the Caribbean

## Receiving Beams 12:

Question	Response
Beam ID	CMDG
Receive Beam Frequency	6173.22 MHz -6174.18 MHz
Beam Type	Fixed
Polarization	LHCP
Peak Gain	dBi

Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.3 degrees
Polarization Switchable	No
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	-99.0 dB/K
Min. Saturation Flux Density	-90.0 dBW/m2
Max. Saturation Flux Density	-89.9 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Global - Gain contour attachment not provided pursuant to Section 25.114(c)(4)(vi)(A) of the FCC rules

**Receiving Beams 13:**

Question	Response
Beam ID	EHLU
Receive Beam Frequency	5850.0 MHz -6300.0 MHz
Beam Type	Fixed
Polarization	LHCP
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.34 degrees
Polarization Switchable	No
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	1.6 dB/K
Min. Saturation Flux Density	-93.4 dBW/m2
Max. Saturation Flux Density	-71.4 dBW/m2

Co- or Cross Polar Mode	C
Service Area Description	Africa, Middle East and Europe

**Receiving Beams 14:**

Question	Response
Beam ID	S1VU
Receive Beam Frequency	14000.0 MHz -14500.0 MHz
Beam Type	Steerable
Polarization	V
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.34 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	90.0 degrees
G/T at Max. Gain Point	8.7 dB/K
Min. Saturation Flux Density	-92.0 dBW/m2
Max. Saturation Flux Density	-74.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Steerable Spot beam. May be pointed toward any visible location on the earth Coverage Mid-East CONUS, Mexico Caribbean and north part of South America

## Receiving Channels (19)

Channel ID	Channel Bandwidth (MHz)	Center Frequency s (MHz)	Feeder Link, Service Link or TT&C
SKU8	36.0	14475.0	Service Link
CGU1	36.0	6320.0	Service Link
CGU2	36.0	6360.0	Service Link
CGU3	41.0	6402.5	Service Link
SKU3	72.0	14205.0	Service Link
CU2	72.0	5970.0	Service Link
SKU2	72.0	14125.0	Service Link
CMDB	0.96	6176.3	TT&C
CMDG	0.96	6173.7	TT&C
SKU1	77.0	14042.5	Service Link
CU1	72.0	5890.0	Service Link
CU3	72.0	6050.0	Service Link
SKU7	36.0	14435.0	Service Link
SKU6	36.0	14395.0	Service Link
SKU5	36.0	14355.0	Service Link
CU6	36.0	6280.0	Service Link
CU5	72.0	6220.0	Service Link
CU4	72.0	6130.0	Service Link
SKU4	72.0	14295.0	Service Link

## Transmitting Beams 1:

Question	Response
Beam ID	CELD
Transmit Beam Frequency	3625.0 MHz -4075.0 MHz
Beam Type	Fixed
Polarization	LHCP
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.34 degrees
Polarization Switchable	No
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-33.8 dBW/Hz
Max. Transmit EIRP	44.8 dBW
Co- or Cross Polar Mode	C
Service Area Description	Africa, Middle East and Eastern Europe

### 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:
<b>4.0 kHz</b>	-161.1	-160.9	-160.8	-160.7	-160.6	-159.8

## Transmitting Beams 2:

Question	Response
Beam ID	EHRD
Transmit Beam Frequency	3625.0 MHz -4075.0 MHz



Beam Type	Fixed
Polarization	RHCP
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.3 degrees
Polarization Switchable	No
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-33.3 dBW/Hz
Max. Transmit EIRP	45.3 dBW
Co- or Cross Polar Mode	C
Service Area Description	Africa, Middle East and Europe

### Max. Power Flux Density

	* 0° - 5°	* 5° - 10°	* 10° - 15°	* 15° - 20°	* 20° - 25°	* 25° - 90°
* BW:	(dBW/m <sup>2</sup> /BW):	(dBW/m <sup>2</sup> /BW):	(dBW/m <sup>2</sup> /BW):	(dBW/m <sup>2</sup> /BW):	(dBW/m <sup>2</sup> /BW):	(dBW/m <sup>2</sup> /BW):
<b>4.0 kHz</b>	-160.6	-160.4	-160.3	-160.2	-160.1	-159.3

### Transmitting Beams 3:

Question	Response
Beam ID	MELD
Transmit Beam Frequency	3625.0 MHz -4075.0 MHz
Beam Type	Fixed
Polarization	LHCP
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees

Antenna Rotational Error	0.3 degrees
Polarization Switchable	No
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-34.8 dBW/Hz
Max. Transmit EIRP	43.8 dBW
Co- or Cross Polar Mode	C
Service Area Description	West part of Africa, West Europe and Greenland

### 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):
<b>4.0 kHz</b>	-162.1	-161.9	-161.8	-161.7	-161.6	-160.8

### Transmitting Beams 4:

Question	Response
Beam ID	UPKD
Transmit Beam Frequency	11451.98 MHz -11452.02 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.3 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees

Max. Transmit EIRP Density	-33.0 dBW/Hz
Max. Transmit EIRP	11.0 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):
<b>4.0 kHz</b>	-160.2	-160.1	-160.0	-159.9	-159.8	-159.0

### Transmitting Beams 5:

Question	Response
Beam ID	S1HD
Transmit Beam Frequency	10950.0 MHz -11200.0 MHz
Beam Type	Steerable
Polarization	H
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.3 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
Max. Transmit EIRP Density	-25.5 dBW/Hz

Max. Transmit EIRP	53.1 dBW
Co- or Cross Polar Mode	C
Service Area Description	Steerable Spot beam-may be pointed toward any visible location on the earth Mid-East CONUS, Mexico Caribbean and north part of South America

### 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):
<b>4.0 kHz</b>	-152.8	-152.6	-152.5	-152.4	-152.3	-151.5

### Transmitting Beams 6:

Question	Response
Beam ID	S1HE
Transmit Beam Frequency	11450.0 MHz -11700.0 MHz
Beam Type	Steerable
Polarization	H
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.3 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	0.0 degrees

Max. Transmit EIRP Density	-22.5 dBW/Hz
Max. Transmit EIRP	53.1 dBW
Co- or Cross Polar Mode	C
Service Area Description	Steerable Spot beam. May be pointed toward any visible location on the earth Mid-East CONUS, Mexico Caribbean and north part of South America

### Max. Power Flux Density

	* 0° - 5°	* 5° - 10°	* 10° - 15°	* 15° - 20°	* 20° - 25°	* 25° - 90°
* (dBW/m <sup>2</sup> /BW):	(dBW/m <sup>2</sup> /BW):	(dBW/m <sup>2</sup> /BW):	(dBW/m <sup>2</sup> /BW):	(dBW/m <sup>2</sup> /BW):	(dBW/m <sup>2</sup> /BW):	(dBW/m <sup>2</sup> /BW):
<b>4.0 kHz</b>	-149.7	-149.6	-149.4	-149.4	-149.3	-148.5

### Transmitting Beams 7:

Question	Response
Beam ID	S2VE
Transmit Beam Frequency	11450.0 MHz -11700.0 MHz
Beam Type	Steerable
Polarization	V
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.3 degrees
Polarization Switchable	

Polarization Alignment Relative to the Equatorial Plane	90.0 degrees
Max. Transmit EIRP Density	-21.8 dBW/Hz
Max. Transmit EIRP	53.8 dBW
Co- or Cross Polar Mode	C
Service Area Description	Steerable Spot beam. May be pointed toward any visible location on the earth Mid-East CONUS, Mexico Caribbean and north part of South America

### 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):
<b>4.0 kHz</b>	-149.1	-148.9	-148.8	-148.7	-148.6	-147.8

### Transmitting Beams 8:

Question	Response
Beam ID	S2VD
Transmit Beam Frequency	10950.0 MHz -11200.0 MHz
Beam Type	Steerable
Polarization	V
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.3 degrees

Polarization	Switchable
Polarization Alignment Relative to the Equatorial Plane	90.0 degrees
Max. Transmit EIRP Density	-24.8 dBW/Hz
Max. Transmit EIRP	53.8 dBW
Co- or Cross Polar Mode	C
Service Area Description	Steerable Spot beam-may be pointed toward any visible location on the earth Mid-East CONUS, Mexico Caribbean and north part of South America

### 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):
<b>4.0 kHz</b>	-152.1	-151.9	-151.8	-151.7	-151.6	-150.8

### Transmitting Beams 9:

Question	Response
Beam ID	UPCV
Transmit Beam Frequency	3949.98 MHz -3950.02 MHz
Beam Type	Fixed
Polarization	V
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.3 degrees
Polarization Switchable	No

Polarization Alignment Relative to the Equatorial Plane	90.0 degrees
Max. Transmit EIRP Density	-36.0 dBW/Hz
Max. Transmit EIRP	8.0 dBW
Co- or Cross Polar Mode	C
Service Area Description	Global-Beacon

### Max. Power Flux Density

	* 0° - 5° (dBW/m <sup>2</sup> ) /BW:	* 5° - 10° (dBW/m <sup>2</sup> ) /BW:	* 10° - 15° (dBW/m <sup>2</sup> ) /BW:	* 15° - 20° (dBW/m <sup>2</sup> ) /BW:	* 20° - 25° (dBW/m <sup>2</sup> ) /BW:	* 25° - 90° (dBW/m <sup>2</sup> ) /BW:
<b>4.0 kHz</b>	-163.2	-163.1	-163.0	-162.9	-162.8	-162.0

### Transmitting Beams 10:

Question	Response
Beam ID	UPKC
Transmit Beam Frequency	11197.98 MHz -11198.02 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.3 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-33.0 dBW/Hz
Max. Transmit EIRP	11.0 dBW
Co- or Cross Polar Mode	C



**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):
<b>4.0 kHz</b>	-160.2	-160.1	-160.0	-159.9	-159.8	-159.0

**Transmitting Beams 11:**

Question	Response
Beam ID	TLMG
Transmit Beam Frequency	3947.25 MHz -3947.75 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.3 degrees
Polarization Switchable	No
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-49.0 dBW/Hz
Max. Transmit EIRP	8.0 dBW
Co- or Cross Polar Mode	C
Service Area Description	Global-Telemetry

**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):
<b>4.0 kHz</b>	-176.2	-176.1	-176.0	-175.9	-175.8	-175.0

## Transmitting Beams 12:

Question	Response
Beam ID	TLMB
Transmit Beam Frequency	3947.75 MHz -3948.25 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.3 degrees
Polarization Switchable	No
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-49.0 dBW/Hz
Max. Transmit EIRP	8.0 dBW
Co- or Cross Polar Mode	C
Service Area Description	Global-Telemetry

## 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):
<b>4.0 kHz</b>	-176.2	-176.1	-176.0	-175.9	-175.8	-175.0

## Transmitting Beams 13:

Question	Response
Beam ID	NELD
Transmit Beam Frequency	3625.0 MHz -4075.0 MHz
Beam Type	Fixed
Polarization	LHCP
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.3 degrees
Polarization Switchable	No
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-30.9 dBW/Hz
Max. Transmit EIRP	47.7 dBW
Co- or Cross Polar Mode	C
Service Area Description	Middle East, North Africa and Eastern Europe

### 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:
<b>4.0 kHz</b>	-158.2	-158.0	-157.9	-157.8	-157.7	-156.9

## Transmitting Beams 14:

Question	Response
Beam ID	SELD
Transmit Beam Frequency	3625.0 MHz -4075.0 MHz

Beam Type	Fixed
Polarization	LHCP
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.3 degrees
Polarization Switchable	No
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-35.0 dBW/Hz
Max. Transmit EIRP	43.6 dBW
Co- or Cross Polar Mode	C
Service Area Description	South East Africa

### 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):
<b>4.0 kHz</b>	-162.3	-162.1	-162.0	-161.9	-161.8	-161.0

### Transmitting Beams 15:

Question	Response
Beam ID	SWLD
Transmit Beam Frequency	3625.0 MHz -4075.0 MHz
Beam Type	Fixed
Polarization	LHCP
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.3 degrees

Polarization Switchable	No
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-36.4 dBW/Hz
Max. Transmit EIRP	42.2 dBW
Co- or Cross Polar Mode	C
Service Area Description	South part of CONUS, South America, Mexico and the Caribbean

### Max. Power Flux Density

	* 0° - 5° (dBW/m <sup>2</sup> /BW):	* 5° - 10° (dBW/m <sup>2</sup> /BW):	* 10° - 15° (dBW/m <sup>2</sup> /BW):	* 15° - 20° (dBW/m <sup>2</sup> /BW):	* 20° - 25° (dBW/m <sup>2</sup> /BW):	* 25° - 90° (dBW/m <sup>2</sup> /BW):
<b>4.0 kHz</b>	-163.7	-163.5	-163.4	-163.3	-136.2	-162.4

### Transmitting Beams 16:

Question	Response
Beam ID	NWLD
Transmit Beam Frequency	3625.0 MHz -4075.0 MHz
Beam Type	Fixed
Polarization	LHCP
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.3 degrees
Polarization Switchable	No
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-37.0 dBW/Hz
Max. Transmit EIRP	41.6 dBW

Co- or Cross Polar Mode	C
Service Area Description	Mid-East CONUS and North East Canada

### 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):
4.0 kHz	-164.3	-164.1	-164.0	-163.9	-163.8	-163.0

### Transmitting Beams 17:

Question	Response
Beam ID	WHRD
Transmit Beam Frequency	3625.0 MHz -4075.0 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.3 degrees
Polarization Switchable	No
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-37.6 dBW/Hz
Max. Transmit EIRP	41.0 dBW
Co- or Cross Polar Mode	C
Service Area Description	East Canada, Greenland, Mid-East CONUS, Mexico, Caribbean and South America

### 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):
<b>4.0 kHz</b>	-164.9	-164.7	-164.6	-164.5	-164.4	-163.6

## Transmitting Beams 18:

Question	Response
Beam ID	CGRD
Transmit Beam Frequency	4075.0 MHz -4200.0 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.3 degrees
Polarization Switchable	No
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-40.3 dBW/Hz
Max. Transmit EIRP	35.3 dBW
Co- or Cross Polar Mode	C
Service Area Description	Global - Gain contour attachment not provided pursuant to Section 25.114(c)(4)(vi)(A) of the FCC rules

## 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):

<b>4.0</b>	-167.6	-167.4	-167.3	-167.2	-167.1	-166.3
<b>kHz</b>						

## Transmitting Beams 19:

Question	Response
Beam ID	CGLD
Transmit Beam Frequency	4075.0 MHz -4200.0 MHz
Beam Type	Fixed
Polarization	LHCP
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.34 degrees
Polarization Switchable	No
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-39.9 dBW/Hz
Max. Transmit EIRP	35.7 dBW
Co- or Cross Polar Mode	C
Service Area Description	Global - Gain contour attachment not provided pursuant to Section 25.114(c)(4)(vi)(A) of the FCC rules

## 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):
<b>4.0</b>	-167.1	-167.0	-166.9	-166.8	-166.7	-165.9
<b>kHz</b>						



## Transmitting Beams 20:

Question	Response
Beam ID	TMB1
Transmit Beam Frequency	3952.25 MHz -3952.75 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.3 degrees
Polarization Switchable	No
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-49.0 dBW/Hz
Max. Transmit EIRP	8.0 dBW
Co- or Cross Polar Mode	C
Service Area Description	Telemetry Bicone

### Max. Power Flux Density

	* 0° - 5°	* 5° - 10°	* 10° - 15°	* 15° - 20°	* 20° - 25°	* 25° - 90°
* (dBW/m <sup>2</sup> /BW):	(dBW/m <sup>2</sup> /BW):	(dBW/m <sup>2</sup> /BW):	(dBW/m <sup>2</sup> /BW):	(dBW/m <sup>2</sup> /BW):	(dBW/m <sup>2</sup> /BW):	(dBW/m <sup>2</sup> /BW):
<b>4.0 kHz</b>	-176.2	-176.1	-176.0	-175.9	-175.8	-175.0

## Transmitting Beams 21:

Question	Response
Beam ID	TMG1
Transmit Beam Frequency	3951.75 MHz -3952.25 MHz
Beam Type	Fixed

Polarization	RHCP
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.3 degrees
Polarization Switchable	No
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-49.0 dBW/Hz
Max. Transmit EIRP	8.0 dBW
Co- or Cross Polar Mode	C
Service Area Description	Telemetry 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):
<b>4.0</b>	-176.2	-176.1	-176.0	-175.0	-175.8	-175.0
<b>kHz</b>						

## Transmitting Channels (24)

Channel ID	Channel Bandwidth (MHz)	Center Frequency s (MHz)	Feeder Link, Service Link or TT&C
<b>KD04</b>	72.0	11495.0	Service Link
<b>KD05</b>	36.0	11555.0	Service Link
<b>KD06</b>	36.0	11595.0	Service Link
<b>CD02</b>	72.0	3745.0	Service Link
<b>CD01</b>	72.0	3665.0	Service Link
<b>BCK1</b>	0.025	11198.0	TT&C
<b>KD07</b>	36.0	11635.0	Service Link
<b>BCK2</b>	0.025	11452.0	TT&C
<b>TMB1</b>	0.5	3952.5	TT&C
<b>TLMB</b>	0.5	3948.0	TT&C
<b>TMG1</b>	0.5	3952.0	TT&C
<b>TLMG</b>	0.5	3947.5	TT&C
<b>KD08</b>	36.0	11675.0	Service Link
<b>BNCC</b>	0.025	3950.0	TT&C
<b>CD03</b>	72.0	3825.0	Service Link
<b>CD04</b>	72.0	3905.0	Service Link
<b>CGD1</b>	36.0	4095.0	Service Link
<b>CGD2</b>	36.0	4135.0	Service Link
<b>CGD3</b>	41.0	4177.5	Service Link
<b>KD01</b>	77.0	10992.5	Service Link
<b>KD02</b>	72.0	11075.0	Service Link
<b>KD03</b>	72.0	11155.0	Service Link
<b>CD06</b>	36.0	4055.0	Service Link
<b>CD05</b>	72.0	3995.0	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>Yes</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>Yes</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="#"><u>IS-904.mdb</u></a>		GSO Antenna Gain Contour Data	GIMS file (*.mdb)	