



312 File Number: **SATLOA2020082000100**

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## Filing Description

Question	Response
Description	Application to Drift Asiastar Satellite from 105E to 21E for Bringing Back Into Use AFRIBSS spectrum at 21E Slot

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## Satellite Information

Question	Response
Select Orbit Type	GSO
Space Station or Satellite Network Name	S2367
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 (2)

Nature of service	Description	Frequency Band (s)	Mode Type
<b>Satellite Digital Audio Radio Service</b>		7025.0 MHz -7075.0 MHz	Receive
<b>Satellite Digital Audio Radio Service</b>		1452.0 MHz -1492.0 MHz	Transmit

## Orbital Information For Geostationary Satellites

Section	Question	Response
<b>Orbital Longitude Information</b>	Orbital Longitude	21.0 degrees
	Hemisphere of Orbital Longitude	E
<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	0.1 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	X1
Receive Beam Frequency	7025.0 MHz -7075.0 MHz
Beam Type	Fixed
Polarization	LHCP
Peak Gain	15.0 dBi
Antenna Pointing Error	0.12 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	No
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	-8.0 dB/K
Min. Saturation Flux Density	-98.0 dBW/m <sup>2</sup>
Max. Saturation Flux Density	-80.0 dBW/m <sup>2</sup>
Co- or Cross Polar Mode	C
Service Area Description	Service areas include: Middle east, Africa, Southern Europe

**Receiving Channels (8)**

<b>Channel ID</b>	<b>Channel Bandwidth (MHz)</b>	<b>Center Frequency s (MHz)</b>	<b>Feeder Link, Service Link or TT&amp;C</b>
<b>6</b>	2.6	7034.092	Service Link
<b>1</b>	2.6	7038.835	Service Link
<b>2</b>	2.6	7042.483	Service Link
<b>TC2</b>	1.0	7074.0	TT&C
<b>3</b>	2.6	7046.131	Service Link
<b>4</b>	2.6	7070.572	Service Link
<b>5</b>	2.6	7052.332	Service Link
<b>TC1</b>	1.0	7073.0	TT&C

## Transmitting Beams 1:

Question	Response
Beam ID	L1
Transmit Beam Frequency	1476.004 MHz -1478.604 MHz
Beam Type	Spot
Polarization	LHCP
Peak Gain	30.0 dBi
Antenna Pointing Error	0.12 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-10.4 dBW/Hz
Max. Transmit EIRP	53.7 dBW
Co- or Cross Polar Mode	C
Service Area Description	See L-Band Transmit Service area

### 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>1.0 MHz</b>	-160.0	-155.4	-150.8	-146.4	-142.0	-111.0

## Transmitting Beams 2:

Question	Response
Beam ID	L2
Transmit Beam Frequency	1469.564 MHz -1472.164 MHz

Beam Type	Spot
Polarization	LHCP
Peak Gain	30.0 dBi
Antenna Pointing Error	0.12 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-8.9 dBW/Hz
Max. Transmit EIRP	53.7 dBW
Co- or Cross Polar Mode	X
Service Area Description	See L-Band Transmission Service Area

### 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>1.0 MHz</b>	-160.0	-155.4	-150.8	-146.4	-142.0	-111.0

### Transmitting Beams 3:

Question	Response
Beam ID	L3
Transmit Beam Frequency	1484.284 MHz -1486.884 MHz
Beam Type	Spot
Polarization	LHCP
Peak Gain	30.0 dBi
Antenna Pointing Error	0.12 degrees



Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-8.9 dBW/Hz
Max. Transmit EIRP	53.7 dBW
Co- or Cross Polar Mode	X
Service Area Description	See L-Band Transmit Service Area

### 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>1.0 MHz</b>	-160.0	-155.4	-150.8	-146.4	-142.0	-111.0

### Transmitting Beams 4:

Question	Response
Beam ID	L4
Transmit Beam Frequency	1471.864 MHz -1474.464 MHz
Beam Type	Spot
Polarization	RHCP
Peak Gain	30.0 dBi
Antenna Pointing Error	0.12 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-10.4 dBW/Hz

Max. Transmit EIRP	53.7 dBW
Co- or Cross Polar Mode	C
Service Area Description	See L-Band Transmit Service Area

### 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>1.0 MHz</b>	-161.6	-156.9	-152.4	-147.9	-143.6	-112.6

### Transmitting Beams 5:

Question	Response
Beam ID	L5
Transmit Beam Frequency	1480.144 MHz -1482.744 MHz
Beam Type	Spot
Polarization	RHCP
Peak Gain	30.0 dBi
Antenna Pointing Error	0.12 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-10.4 dBW/Hz
Max. Transmit EIRP	53.7 dBW
Co- or Cross Polar Mode	C
Service Area Description	See L-Band Transmit Service Area



<b>1.0</b>	-161.6	-156.9	-152.4	-147.9	-143.6	-112.6
<b>MHz</b>						

## Transmitting Beams 7:

Question	Response
Beam ID	TM1
Transmit Beam Frequency	1452.0 MHz -1453.0 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	11.3 dBi
Antenna Pointing Error	0.12 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-51.0 dBW/Hz
Max. Transmit EIRP	9.0 dBW
Co- or Cross Polar Mode	C
Service Area Description	L-Band Telemetry is a Global Beam

## 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>1.0</b>	-161.3	-160.6	-159.8	-159.0	-158.3	-153.1
<b>MHz</b>						

## Transmitting Beams 8:

Question	Response
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Beam ID	TM2
Transmit Beam Frequency	1491.0 MHz -1492.0 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	11.3 dBi
Antenna Pointing Error	0.12 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-51.0 dBW/Hz
Max. Transmit EIRP	9.0 dBW
Co- or Cross Polar Mode	C
Service Area Description	L-Band Telemetry is Global Coverage

### 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>1.0 MHz</b>	-161.3	-160.6	-159.8	-159.0	-158.3	-153.1

## Transmitting Channels (8)

Channel ID	Channel Bandwidth (MHz)	Center Frequency s (MHz)	Feeder Link, Service Link or TT&C
L6	2.6	1487.884	Service Link
L2	2.6	1470.864	Service Link
L3	2.6	1485.584	Service Link
L4	2.6	1473.164	Service Link
L5	2.6	1481.444	Service Link
TM1	1.0	1452.5	TT&C
L1	2.6	1477.304	Service Link
TM2	1.0	1491.5	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?	N/A
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
<a href="#">L-Band-6.GXT</a>	L6	GSO Antenna Gain Contour Data	GXT file (*.gxt)	
<a href="#">L-Band-5.GXT</a>	L5	GSO Antenna Gain Contour Data	GXT file (*.gxt)	
<a href="#">L-Band-4.GXT</a>	L4	GSO Antenna Gain Contour Data	GXT file (*.gxt)	
<a href="#">L-Band-3.GXT</a>	L3	GSO Antenna Gain Contour Data	GXT file (*.gxt)	
<a href="#">L-Band-2.GXT</a>	L2	GSO Antenna Gain Contour Data	GXT file (*.gxt)	
<a href="#">L-Band-1.GXT</a>	L1	GSO Antenna Gain Contour Data	GXT file (*.gxt)	
<a href="#">Asiastar Service Area (S Schedule).pdf</a>	L2	GSO Antenna Gain Contour Data	PDF file (*.pdf)	
<a href="#">Asiastar Service Area (S Schedule).pdf</a>	L1	GSO Antenna Gain Contour Data	PDF file (*.pdf)	L1 - L6 Transmit Beam Service Area
<a href="#">Asiastar Uplink Beam (S Schedule).pdf</a>	X1	GSO Antenna Gain Contour Data	PDF file (*.pdf)	X-Band Global Uplink Beam