



312 File Number: **SATAMD2021030300029**

Filing Description

Question	Response
Description	Galaxy 14 redeployment from 235 E.L and operate at 32.9 E.L

**Satellite
Information**

Question	Response
Select Orbit Type	GSO
Space Station or Satellite Network Name	Galaxy 14
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
Fixed-Satellite Service		3700.0 MHz -4200.15 MHz	Transmit
Fixed-Satellite Service		5925.0 MHz -6425.0 MHz	Receive

Orbital Information For Geostationary Satellites

Section	Question	Response
Orbital Longitude Information	Orbital Longitude	33.0 degrees
	Hemisphere of Orbital Longitude	E
Longitudinal Tolerance or East /West Station-Keeping	Toward West	0.05 degrees
	Toward East	0.05 degrees
Inclination Excursion or North /South Station-Keeping Tolerance	Inclination Excursion or North /South Station-Keeping Tolerance	0.1 degrees
Antenna Axis Attitude Accuracy	Roll	0.1 degrees
	Pitch	0.1 degrees
	Yaw	0.1 degrees

Receiving Beams 1:

Question	Response
Beam ID	CAHU
Receive Beam Frequency	5925.0 MHz -6425.0 MHz
Beam Type	Fixed
Polarization	H
Peak Gain	31.01 dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.34 degrees
Polarization Switchable	No
Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
G/T at Max. Gain Point	3.5 dB/K
Min. Saturation Flux Density	-116.5 dBW/m ²
Max. Saturation Flux Density	-81.5 dBW/m ²
Co- or Cross Polar Mode	C
Service Area Description	This reflector is attached to the platform and expects to be biased on a seasonal basis summer and winter , covers Middle East, Europe and North Africa

Receiving Beams 2:

Question	Response
Beam ID	CAVU

Receive Beam Frequency	5935.0 MHz -6425.0 MHz
Beam Type	Fixed
Polarization	V
Peak Gain	30.54 dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.34 degrees
Polarization Switchable	No
Polarization Alignment Relative to the Equatorial Plane	90.0 degrees
G/T at Max. Gain Point	2.8 dB/K
Min. Saturation Flux Density	-115.8 dBW/m2
Max. Saturation Flux Density	-80.8 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	This reflector is attached to the platform and expects to be biased on a seasonal basis summer and winter , covers Middle East, Europe and North Africa

Receiving Beams 3:

Question	Response
Beam ID	CMV1
Receive Beam Frequency	6420.0 MHz -6420.5 MHz
Beam Type	Fixed
Polarization	V

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	90.0 degrees
G/T at Max. Gain Point	-99.0 dB/K
Min. Saturation Flux Density	-90.0 dBW/m2
Max. Saturation Flux Density	-89.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	CM V1

**Receiving
Beams 4:**

Question	Response
Beam ID	CMR1
Receive Beam Frequency	6420.0 MHz -6421.0 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	-99.0 dB/K
Min. Saturation Flux Density	-90.0 dBW/m2
Max. Saturation Flux Density	-89.0 dBW/m2
Co- or Cross Polar Mode	C

Service Area Description

CM Omni

Receiving Channels (25)

Channel ID	Channel Bandwidth (MHz)	Center Frequency s (MHz)	Feeder Link, Service Link or TT&C
CU02	36.0	5985.0	Service Link
CU01	36.0	5945.0	Service Link
CU06	36.0	6145.0	Service Link
CU05	36.0	6105.0	Service Link
CU04	36.0	6065.0	Service Link
CU03	36.0	6025.0	Service Link
CMDA	1.0	6420.5	TT&C
CU07	36.0	6185.0	Service Link
CU08	36.0	6225.0	Service Link
CU09	36.0	6265.0	Service Link
CU10	36.0	6305.0	Service Link
CU11	36.0	6345.0	Service Link
CU18	36.0	6165.0	Service Link
CU17	36.0	6125.0	Service Link
CU16	36.0	6085.0	Service Link
CU15	36.0	6045.0	Service Link
CU14	36.0	6005.0	Service Link
CU13	36.0	5965.0	Service Link
CU12	36.0	6385.0	Service Link
CU24	36.0	6405.0	Service Link
CU23	36.0	6365.0	Service Link
CU22	36.0	6325.0	Service Link
CU21	36.0	6285.0	Service Link
CU20	36.0	6245.0	Service Link

CU19

36.0

6205.0

Service Link

Transmitting Beams 1:

Question	Response
Beam ID	CAHD
Transmit Beam Frequency	3700.0 MHz -4200.0 MHz
Beam Type	Fixed
Polarization	H
Peak Gain	31.01 dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.34 degrees
Polarization Switchable	No
Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
Max. Transmit EIRP Density	-32.7 dBW/Hz
Max. Transmit EIRP	42.9 dBW
Co- or Cross Polar Mode	C
Service Area Description	This reflector is attached to the platform and expects to be biased on a seasonal basis summer and winter , covers Middle East, Europe and North Africa

Max. Power Flux Density

	* 0° - 5°	* 5° - 10°	* 10° - 15°	* 15° - 20°	* 20° - 25°	* 25° - 90°
* BW:	(dBW/m ² /BW):	(dBW/m ² /BW):	(dBW/m ² /BW):	(dBW/m ² /BW):	(dBW/m ² /BW):	(dBW/m ² /BW):
4.0 kHz	-160.0	-159.8	-159.7	-159.6	-159.5	-158.7

Transmitting Beams 2:

Question	Response
Beam ID	CAVD
Transmit Beam Frequency	3700.0 MHz -4200.0 MHz
Beam Type	Fixed
Polarization	V
Peak Gain	30.54 dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.34 degrees
Polarization Switchable	No
Polarization Alignment Relative to the Equatorial Plane	90.0 degrees
Max. Transmit EIRP Density	-33.2 dBW/Hz
Max. Transmit EIRP	42.4 dBW
Co- or Cross Polar Mode	C
Service Area Description	This reflector is attached to the platform and expects to be biased on a seasonal basis summer and winter , covers Middle East, Europe and North Africa

Max. Power Flux Density

	* 0° - 5°	* 5° - 10°	* 10° - 15°	* 15° - 20°	* 20° - 25°	* 25° - 90°
* BW:	(dBW/m ² /BW):	(dBW/m ² /BW):	(dBW/m ² /BW):	(dBW/m ² /BW):	(dBW/m ² /BW):	(dBW/m ² /BW):
4.0 kHz	-160.5	-160.3	-160.2	-160.2	-160.0	-159.2

Transmitting Beams 3:

Question	Response
Beam ID	TLME
Transmit Beam Frequency	4197.6 MHz -4198.25 MHz
Beam Type	Fixed
Polarization	H
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.03 degrees
Polarization Switchable	No
Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
Max. Transmit EIRP Density	-45.7 dBW/Hz
Max. Transmit EIRP	11.27 dBW
Co- or Cross Polar Mode	C
Service Area Description	TM1

Max. Power Flux Density

	* 0° - 5°	* 5° - 10°	* 10° - 15°	* 15° - 20°	* 20° - 25°	* 25° - 90°
*	(dBW/m ²	(dBW/m ²	(dBW/m ²	(dBW/m ²	(dBW/m ²	(dBW/m ²
BW:	/BW):	/BW):	/BW):	/BW):	/BW):	/BW):
4.0 kHz	-173.0	-172.9	-172.7	-172.6	-172.5	-171.8

Transmitting Beams 4:

Question	Response
Beam ID	TLMF
Transmit Beam Frequency	4197.75 MHz -4198.25 MHz

Beam Type	Fixed
Polarization	LHCP
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.03 degrees
Polarization Switchable	No
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-45.7 dBW/Hz
Max. Transmit EIRP	11.27 dBW
Co- or Cross Polar Mode	C
Service Area Description	TM Omni

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):
4.0 kHz	-173.0	-172.9	-172.7	-172.6	-172.5	-171.8

Transmitting Beams 5:

Question	Response
Beam ID	TLMA
Transmit Beam Frequency	4199.6 MHz -4200.15 MHz
Beam Type	Fixed
Polarization	H
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	0.0 degrees
Max. Transmit EIRP Density	-45.0 dBW/Hz
Max. Transmit EIRP	12.03 dBW
Co- or Cross Polar Mode	C
Service Area Description	TM2

Max. Power Flux Density

	* 0° - 5°	* 5° - 10°	* 10° - 15°	* 15° - 20°	* 20° - 25°	* 25° - 90°
*	(dBW/m ²	(dBW/m ²	(dBW/m ²	(dBW/m ²	(dBW/m ²	(dBW/m ²
BW:	/BW):	/BW):	/BW):	/BW):	/BW):	/BW):
4.0 kHz	-172.2	-172.1	-172.0	-171.9	-171.8	-171.0

Transmitting Beams 6:

Question	Response
Beam ID	TLMB
Transmit Beam Frequency	4199.6 MHz -4200.15 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	-45.0 dBW/Hz

Max. Transmit EIRP	12.03 dBW
Co- or Cross Polar Mode	C
Service Area Description	TM2 Omni

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):
4.0	-172.2	-172.1	-172.0	-171.9	-171.8	-171.0
kHz						

Transmitting Channels (26)

Channel ID	Channel Bandwidth (MHz)	Center Frequency s (MHz)	Feeder Link, Service Link or TT&C
TLME	0.5	4198.0	TT&C
CD07	36.0	3960.0	Service Link
CD06	36.0	3920.0	Service Link
CD05	36.0	3880.0	Service Link
CD04	36.0	3840.0	Service Link
CD03	36.0	3800.0	Service Link
CD02	36.0	3760.0	Service Link
CD01	36.0	3720.0	Service Link
CD09	36.0	4040.0	Service Link
CD10	36.0	4080.0	Service Link
CD11	36.0	4120.0	Service Link
CD12	36.0	4160.0	Service Link
CD13	36.0	3740.0	Service Link
CD24	36.0	4180.0	Service Link
CD23	36.0	4140.0	Service Link
CD22	36.0	4100.0	Service Link
CD21	36.0	4060.0	Service Link
CD20	36.0	4020.0	Service Link
CD19	36.0	3980.0	Service Link
CD16	36.0	3860.0	Service Link
CD18	36.0	3940.0	Service Link
CD17	36.0	3900.0	Service Link
TMMA	0.5	4199.875	TT&C
CD08	36.0	4000.0	Service Link

CD15	36.0	3820.0	Service Link
CD14	36.0	3780.0	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
<u>G-14 summer and winter.mdb</u>		GSO Antenna Gain Contour Data	GIMS file (*.mdb)	