



312 File Number: **SATRPL2021032500039**

Filing Description

Question	Response
Description	Galaxy 34 Replacing Galaxy 12 at 129 degree W. L

**Satellite
Information**

Question	Response
Select Orbit Type	GSO
Space Station or Satellite Network Name	Galaxy 34
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		5925.0 MHz -6425.0 MHz	Receive
Fixed-Satellite Service		3700.0 MHz -4200.0 MHz	Transmit

Orbital Information For Geostationary Satellites

Section	Question	Response
Orbital Longitude Information	Orbital Longitude	129.0 degrees
	Hemisphere of Orbital Longitude	W
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	30.4 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	-116.0 dBW/m2
Max. Saturation Flux Density	-81.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	North America including Alaska and Hawaii; Central America; and the Caribbean

Receiving Beams 2:

Question	Response
Beam ID	CAVU
Receive Beam Frequency	5925.0 MHz -6425.0 MHz
Beam Type	Fixed
Polarization	V
Peak Gain	30.4 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	3.5 dB/K
Min. Saturation Flux Density	-116.0 dBW/m2
Max. Saturation Flux Density	-81.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	North America including Alaska and Hawaii; Central America; and the Caribbean

Receiving Beams 3:

Question	Response
Beam ID	CMH1
Receive Beam Frequency	6419.5 MHz -6420.5 MHz
Beam Type	Fixed
Polarization	H
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.35 degrees
Polarization Switchable	No
Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
G/T at Max. Gain Point	-99.0 dB/K
Min. Saturation Flux Density	-81.0 dBW/m2
Max. Saturation Flux Density	-80.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	CM1 HOR Tunable with 100 kHz step (5925-6425 MHz)

Receiving Beams 4:

Question	Response
Beam ID	CMV1
Receive Beam Frequency	6419.5 MHz -6420.5 MHz
Beam Type	Fixed
Polarization	V
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.35 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	-81.0 dBW/m2
Max. Saturation Flux Density	-80.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	CMV1 Tunable with 100 kHz step (5925-6425 MHz)

Receiving Beams 5:

Question	Response
Beam ID	CMR1
Receive Beam Frequency	6419.5 MHz -6420.5 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.35 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	-81.0 dBW/m2
Max. Saturation Flux Density	-80.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	CMR1 Tunable with 100 kHz step (5925-6425 MHz)

Receiving Beams 6:

Question	Response
Beam ID	CMH2
Receive Beam Frequency	6422.5 MHz -6423.5 MHz
Beam Type	Fixed
Polarization	H
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.35 degrees
Polarization Switchable	No
Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
G/T at Max. Gain Point	-99.0 dB/K
Min. Saturation Flux Density	-81.0 dBW/m2
Max. Saturation Flux Density	-80.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	CMH2 Tunable with 100 kHz step (5925-6425 MHz)

Receiving Beams 7:

Question	Response
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Beam ID	CMV2
Receive Beam Frequency	6422.5 MHz -6423.5 MHz
Beam Type	Fixed
Polarization	V
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.35 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	-81.0 dBW/m2
Max. Saturation Flux Density	-80.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	CMV2 Tunable with 100 kHz step (5925-6425 MHz)

Receiving Beams 8:

Question	Response
Beam ID	CMR2
Receive Beam Frequency	6422.5 MHz -6423.5 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.35 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	-81.0 dBW/m ²
Max. Saturation Flux Density	-80.0 dBW/m ²
Co- or Cross Polar Mode	C
Service Area Description	CMR2 Tunable with 100 kHz step (5925-6425 MHz)

Receiving Channels (16)

Channel ID	Channel Bandwidth (MHz)	Center Frequency s (MHz)	Feeder Link, Service Link or TT&C
CM01	1.0	6420.0	TT&C
CM02	1.0	6423.0	TT&C
CU08	125.0	6013.0	Service Link
CU07	43.0	6388.5	Service Link
CU06	36.0	6345.0	Service Link
CU05	36.0	6305.0	Service Link
CU04	36.0	6265.0	Service Link
CU03	36.0	6225.0	Service Link
CU13	36.0	6365.0	Service Link
CU14	36.0	6405.0	Service Link
CU01	125.0	5993.0	Service Link
CU02	125.0	6133.0	Service Link
CU12	36.0	6325.0	Service Link
CU11	36.0	6285.0	Service Link
CU10	36.0	6245.0	Service Link
CU09	125.0	6135.0	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	29.3 dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.35 degrees
Polarization Switchable	No
Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
Max. Transmit EIRP Density	-29.5 dBW/Hz
Max. Transmit EIRP	46.1 dBW
Co- or Cross Polar Mode	C
Service Area Description	North America including Alaska and Hawaii; Central America; and the Caribbean

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 kHz	-156.7	-156.6	-156.5	-156.4	-156.3	-155.5

Transmitting Beams 2:

Question	Response
Beam ID	CAVD
Transmit Beam Frequency	3700.0 MHz -4200.0 MHz

Beam Type	Fixed
Polarization	V
Peak Gain	29.3 dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.35 degrees
Polarization Switchable	No
Polarization Alignment Relative to the Equatorial Plane	90.0 degrees
Max. Transmit EIRP Density	-29.5 dBW/Hz
Max. Transmit EIRP	46.1 dBW
Co- or Cross Polar Mode	C
Service Area Description	North America including Alaska and Hawaii; Central America; and the Caribbean

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):
4.0 kHz	-156.7	-156.6	-156.5	-156.4	-156.3	-155.5

Transmitting Beams 3:

Question	Response
Beam ID	TLME
Transmit Beam Frequency	4199.075 MHz -4199.425 MHz
Beam Type	Fixed
Polarization	LHCP
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees

Antenna Rotational Error	0.35 degrees
Polarization Switchable	No
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-47.4 dBW/Hz
Max. Transmit EIRP	8.0 dBW
Co- or Cross Polar Mode	C
Service Area Description	TM Tunable with 100 kHz step (3700-4200 MHz)

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	-174.7	-174.6	-174.5	-174.4	-174.2	-173.5

Transmitting Beams 4:

Question	Response
Beam ID	TLMG
Transmit Beam Frequency	4199.075 MHz -4199.425 MHz
Beam Type	Fixed
Polarization	H
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.35 degrees
Polarization Switchable	No
Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
Max. Transmit EIRP Density	-47.4 dBW/Hz

Max. Transmit EIRP	8.0 dBW
Co- or Cross Polar Mode	C
Service Area Description	TM Tunable with 100 kHz step (3700-4200 MHz)

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	-174.7	-174.6	-174.5	-174.4	-174.2	-173.5

Transmitting Beams 5:

Question	Response
Beam ID	TLMH
Transmit Beam Frequency	4199.075 MHz -4199.425 MHz
Beam Type	Fixed
Polarization	V
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.35 degrees
Polarization Switchable	No
Polarization Alignment Relative to the Equatorial Plane	90.0 degrees
Max. Transmit EIRP Density	-47.4 dBW/Hz
Max. Transmit EIRP	8.0 dBW
Co- or Cross Polar Mode	C
Service Area Description	TM Tunable with 100 kHz step (3700-4200 MHz)

4.0	-174.7	-174.6	-174.5	-174.4	-174.2	-173.5
kHz						

Transmitting Beams 7:

Question	Response
Beam ID	TLMC
Transmit Beam Frequency	4198.075 MHz -4198.425 MHz
Beam Type	Fixed
Polarization	H
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.35 degrees
Polarization Switchable	No
Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
Max. Transmit EIRP Density	-47.4 dBW/Hz
Max. Transmit EIRP	8.0 dBW
Co- or Cross Polar Mode	C
Service Area Description	TM Tunable with 100 kHz step (3700-4200 MHz)

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	-174.7	-174.6	-174.5	-174.4	-174.2	-173.5
kHz						

Transmitting Beams 8:

Question	Response
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Beam ID	TLMD
Transmit Beam Frequency	4198.075 MHz -4198.425 MHz
Beam Type	Fixed
Polarization	V
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.35 degrees
Polarization Switchable	No
Polarization Alignment Relative to the Equatorial Plane	90.0 degrees
Max. Transmit EIRP Density	-47.4 dBW/Hz
Max. Transmit EIRP	8.0 dBW
Co- or Cross Polar Mode	C
Service Area Description	TM Tunable with 100 kHz step (3700-4200 MHz)

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	-174.7	-174.6	-174.5	-174.4	-174.2	-173.5

Transmitting Beams 9:

Question	Response
Beam ID	UPC1
Transmit Beam Frequency	4199.937 MHz -4199.962 MHz
Beam Type	Fixed
Polarization	RHCP

Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.35 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	9.0 dBW
Co- or Cross Polar Mode	C
Service Area Description	BEACON

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	-162.2	-162.1	-162.0	-161.9	-161.8	-161.0

Transmitting Channels (17)

Channel ID	Channel Bandwidth (MHz)	Center Frequency s (MHz)	Feeder Link, Service Link or TT&C
CD06	36.0	4120.0	Service Link
CD07	43.0	4163.5	Service Link
CD08	125.0	3788.0	Service Link
CD09	125.0	3928.0	Service Link
CD10	36.0	4020.0	Service Link
CD11	36.0	4060.0	Service Link
CD14	36.0	4180.0	Service Link
TM2	0.35	4198.25	TT&C
UPC1	0.025	4199.95	TT&C
CD01	125.0	3768.0	Service Link
TM1	0.35	4199.25	TT&C
CD02	125.0	3908.0	Service Link
CD03	36.0	4000.0	Service Link
CD04	36.0	4040.0	Service Link
CD05	36.0	4080.0	Service Link
CD12	36.0	4100.0	Service Link
CD13	36.0	4140.0	Service Link

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?	N/A
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
<u>G-34 V1.mdb</u>		GSO Antenna Gain Contour Data	GIMS file (*.mdb)	