



312 File Number: **SATRPL2022041400041**

Filing Description

Question	Response
Description	Galaxy 35 C band Replacing Galaxy 3C at 95.15 degree W.L

**Satellite
Information**

Question	Response
Select Orbit Type	GSO
Space Station or Satellite Network Name	Galaxy 35
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 -4200.0 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	95.0 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	0.05 degrees
Antenna Axis Attitude Accuracy	Roll	0.1 degrees
	Pitch	0.1 degrees
	Yaw	0.1 degrees

Receiving Beams 1:

Question	Response
Beam ID	CAVU
Receive Beam Frequency	5925.0 MHz -6425.0 MHz
Beam Type	Steerable
Polarization	V
Peak Gain	30.52 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	4.0 dB/K
Min. Saturation Flux Density	-102.0 dBW/m2
Max. Saturation Flux Density	-77.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Central Arc . North America including Alaska and Hawaii; Central America; and the Caribbean This Reflector has a RPM of plus minus 10 degree east-west and plus minus 8 degree north-south

Receiving Beams 2:

Question	Response
Beam ID	WAHU

Receive Beam Frequency	5925.0 MHz -6425.0 MHz
Beam Type	Steerable
Polarization	H
Peak Gain	30.52 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	4.0 dB/K
Min. Saturation Flux Density	-102.0 dBW/m2
Max. Saturation Flux Density	-77.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Western Arc .North America including Alaska and Hawaii; Central America; and the Caribbean This Reflector has a RPM of plus minus 10 degree east-west and plus minus 8 degree north-south

Receiving Beams 3:

Question	Response
Beam ID	WAVU
Receive Beam Frequency	5925.0 MHz -6425.0 MHz
Beam Type	Steerable

Polarization	V
Peak Gain	30.52 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	4.0 dB/K
Min. Saturation Flux Density	-102.0 dBW/m2
Max. Saturation Flux Density	-77.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Western Arc. North America including Alaska and Hawaii; Central America; and the Caribbean This Reflector has a RPM of plus minus 10 degree east-west and plus minus 8 degree north-south

Receiving Beams 4:

Question	Response
Beam ID	CAHU
Receive Beam Frequency	5925.0 MHz -6425.0 MHz
Beam Type	Steerable
Polarization	H
Peak Gain	30.52 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	4.0 dB/K
Min. Saturation Flux Density	-102.0 dBW/m2
Max. Saturation Flux Density	-77.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Central Arc . North America including Alaska and Hawaii; Central America; and the Caribbean This Reflector has a RPM of plus minus 10 degree east-west and plus minus 8 degree north-south

Receiving Beams 5:

Question	Response
Beam ID	CMD1
Receive Beam Frequency	6421.5 MHz -6422.5 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.34 degrees
Polarization Switchable	Yes

Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	-99.0 dB/K
Min. Saturation Flux Density	-89.0 dBW/m2
Max. Saturation Flux Density	-80.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	COMMAND

Receiving Beams 6:

Question	Response
Beam ID	CMD2
Receive Beam Frequency	6421.5 MHz -6422.5 MHz
Beam Type	Fixed
Polarization	H
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.34 degrees
Polarization Switchable	Yes
Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
G/T at Max. Gain Point	-99.0 dB/K
Min. Saturation Flux Density	-89.0 dBW/m2
Max. Saturation Flux Density	-80.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	CM2

Receiving Beams 7:

Question	Response
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Beam ID	CMD3
Receive Beam Frequency	6421.5 MHz -6422.5 MHz
Beam Type	Fixed
Polarization	V
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.34 degrees
Polarization Switchable	Yes
Polarization Alignment Relative to the Equatorial Plane	90.0 degrees
G/T at Max. Gain Point	-99.0 dB/K
Min. Saturation Flux Density	-89.0 dBW/m2
Max. Saturation Flux Density	-80.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	CM3

Receiving Beams 8:

Question	Response
Beam ID	CMD4
Receive Beam Frequency	6424.0 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	Yes

Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	-99.0 dB/K
Min. Saturation Flux Density	-89.0 dBW/m2
Max. Saturation Flux Density	-80.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	CM4

Receiving Beams 9:

Question	Response
Beam ID	CMD5
Receive Beam Frequency	6424.0 MHz -6425.0 MHz
Beam Type	Fixed
Polarization	H
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.34 degrees
Polarization Switchable	Yes
Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
G/T at Max. Gain Point	-99.0 dB/K
Min. Saturation Flux Density	-89.0 dBW/m2
Max. Saturation Flux Density	-80.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	CM5

Receiving Beams 10:

Question	Response
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Beam ID	CMD6
Receive Beam Frequency	6424.0 MHz -6425.0 MHz
Beam Type	Fixed
Polarization	V
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.34 degrees
Polarization Switchable	Yes
Polarization Alignment Relative to the Equatorial Plane	90.0 degrees
G/T at Max. Gain Point	-99.0 dB/K
Min. Saturation Flux Density	-89.0 dBW/m2
Max. Saturation Flux Density	-80.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	CM6

Receiving Channels (16)

Channel ID	Channel Bandwidth (MHz)	Center Frequency s (MHz)	Feeder Link, Service Link or TT&C
CMD4	1.0	6424.5	TT&C
CMD1	1.0	6422.0	TT&C
C14	36.0	6404.0	Service Link
C13	36.0	6363.0	Service Link
C03	36.0	6225.0	Service Link
C02	126.0	6130.0	Service Link
C01	126.0	5990.0	Service Link
C04	36.0	6265.0	Service Link
C05	36.0	6305.0	Service Link
C06	36.0	6345.0	Service Link
C07	43.0	6388.5	Service Link
C08	126.0	6010.0	Service Link
C09	126.0	6150.0	Service Link
C10	36.0	6245.0	Service Link
C11	36.0	6285.0	Service Link
C12	36.0	6325.0	Service Link

Transmitting
Beams 1:

Question	Response
Beam ID	TLMA
Transmit Beam Frequency	4196.575 MHz -4196.925 MHz
Beam Type	Fixed
Polarization	LHCP
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.34 degrees
Polarization Switchable	Yes
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 RHCP

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

Transmitting
Beams 2:

Question	Response
Beam ID	TLMB
Transmit Beam Frequency	4196.575 MHz -4196.925 MHz

Beam Type	Fixed
Polarization	H
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.34 degrees
Polarization Switchable	Yes
Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
Max. Transmit EIRP Density	-74.4 dBW/Hz
Max. Transmit EIRP	8.0 dBW
Co- or Cross Polar Mode	C
Service Area Description	TM Horizontal

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	-147.7	-174.6	-174.5	-174.4	-174.2	-173.5

Transmitting Beams 3:

Question	Response
Beam ID	TLMC
Transmit Beam Frequency	4196.575 MHz -4196.925 MHz
Beam Type	Fixed
Polarization	V
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees

Antenna Rotational Error	0.34 degrees
Polarization Switchable	Yes
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	TLMC Vertical

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	TLMD
Transmit Beam Frequency	4198.075 MHz -4198.425 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	-47.4 dBW/Hz

Max. Transmit EIRP	8.0 dBW
Co- or Cross Polar Mode	C
Service Area Description	TLMD

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	TLME
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	0.34 degrees
Polarization Switchable	Yes
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	TLME Horizontal

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

Transmitting Beams 6:

Question	Response
Beam ID	CAHD
Transmit Beam Frequency	3700.0 MHz -4200.0 MHz
Beam Type	Steerable
Polarization	H
Peak Gain	29.03 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	-28.6 dBW/Hz
Max. Transmit EIRP	47.0 dBW
Co- or Cross Polar Mode	C
Service Area Description	Central Arc. North America including Alaska and Hawaii; Central America; and the Caribbean This Reflector has a RPM of plus minus 10 degree east-west and plus minus 8 degree north-south

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	-155.8	-155.7	-155.6	-155.5	-155.4	-154.6

Transmitting Beams 7:

Question	Response
Beam ID	CAVD
Transmit Beam Frequency	3700.0 MHz -4200.0 MHz
Beam Type	Steerable
Polarization	V
Peak Gain	29.03 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	-28.6 dBW/Hz
Max. Transmit EIRP	47.0 dBW
Co- or Cross Polar Mode	C

Service Area	Central Arc. North America including Alaska and Hawaii;
Description	Central America; and the Caribbean This Reflector has a RPM of plus minus 10 degree east-west and plus minus 8 degree north-south

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	-155.8	-155.7	-155.6	-155.5	-155.4	-154.6

Transmitting Beams 8:

Question	Response
Beam ID	WAHD
Transmit Beam Frequency	3700.0 MHz -4200.0 MHz
Beam Type	Steerable
Polarization	H
Peak Gain	29.03 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	-28.6 dBW/Hz
Max. Transmit EIRP	47.0 dBW

Co- or Cross Polar Mode	C
Service Area Description	Western Arc. North America including Alaska and Hawaii; Central America; and the Caribbean This Reflector has a RPM of plus minus 10 degree east-west and plus minus 8 degree north-south

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	-155.8	-155.7	-155.6	-155.5	-155.4	-154.6

Transmitting Beams 9:

Question	Response
Beam ID	WAVD
Transmit Beam Frequency	3700.0 MHz -4200.0 MHz
Beam Type	Steerable
Polarization	V
Peak Gain	29.03 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	-28.6 dBW/Hz

Max. Transmit EIRP	47.0 dBW
Co- or Cross Polar Mode	C
Service Area Description	Western Arc. North America including Alaska and Hawaii; Central America; and the Caribbean This Reflector has a RPM of plus minus 10 degree east-west and plus minus 8 degree north-south

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):
4.0 kHz	-155.8	-155.7	-155.6	-155.5	-155.4	-154.6

Transmitting Beams 10:

Question	Response
Beam ID	TLMF
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	0.34 degrees
Polarization Switchable	Yes
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

TLMF Vertical

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 11:**

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	0.34 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	ULPC1 RHCP

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	-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
TLMD	0.35	4198.25	TT&C
CD12	36.0	4100.0	Service Link
CD13	36.0	4140.0	Service Link
CD14	36.0	4180.0	Service Link
UPC1	0.025	4199.95	TT&C
TLMA	0.35	4196.75	TT&C
CD11	36.0	4060.0	Service Link
CD01	126.0	3765.0	Service Link
CD02	126.0	3905.0	Service Link
CD03	36.0	4000.0	Service Link
CD04	36.0	4040.0	Service Link
CD05	36.0	4080.0	Service Link
CD06	36.0	4120.0	Service Link
CD07	43.0	4163.5	Service Link
CD08	126.0	3785.0	Service Link
CD10	36.0	4020.0	Service Link
CD09	126.0	3925.0	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-35 New</u> <u>cband.mdb</u>		GSO Antenna Gain Contour Data	GIMS file (*. mdb)	