



312 File Number: **SATMOD2022030700023**

Filing Description

Question	Response
Description	This Schedule S is submitted in support of the modification application to reflect a proposed change in pointing of the North and South American beams of the NSS-10 satellite at 37.45 W.L.

Satellite
Information

Question	Response
Select Orbit Type	GSO
Space Station or Satellite Network Name	NSS-10
Estimated Lifetime of Satellite(s) From Date of Launch	24 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	37.0 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	EARH
Receive Beam Frequency	5925.0 MHz -6425.0 MHz
Beam Type	Fixed
Polarization	H
Peak Gain	dBi
Antenna Pointing Error	0.15 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	Yes
Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
G/T at Max. Gain Point	3.8 dB/K
Min. Saturation Flux Density	-101.3 dBW/m2
Max. Saturation Flux Density	-81.3 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Europe, Africa, Iceland, Southeast Greenland

Receiving Beams 2:

Question	Response
Beam ID	EARV
Receive Beam Frequency	5925.0 MHz -6425.0 MHz
Beam Type	Fixed
Polarization	V
Peak Gain	dBi
Antenna Pointing Error	0.15 degrees
Antenna Rotational Error	0.0 degrees

Polarization Switchable	Yes
Polarization Alignment Relative to the Equatorial Plane	90.0 degrees
G/T at Max. Gain Point	3.8 dB/K
Min. Saturation Flux Density	-101.3 dBW/m2
Max. Saturation Flux Density	-81.3 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Europe, Africa, Iceland, Southeast Greenland

Receiving Beams 3:

Question	Response
Beam ID	NARH
Receive Beam Frequency	5925.0 MHz -6425.0 MHz
Beam Type	Fixed
Polarization	H
Peak Gain	dBi
Antenna Pointing Error	0.15 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	Yes
Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
G/T at Max. Gain Point	8.4 dB/K
Min. Saturation Flux Density	-106.6 dBW/m2
Max. Saturation Flux Density	-86.6 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Eastern CONUS, Caribbean, Southern Mexico, Central America

Receiving Beams 4:

Question	Response
Beam ID	NARV
Receive Beam Frequency	5925.0 MHz -6425.0 MHz
Beam Type	Fixed
Polarization	V
Peak Gain	dBi
Antenna Pointing Error	0.15 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	Yes
Polarization Alignment Relative to the Equatorial Plane	90.0 degrees
G/T at Max. Gain Point	8.4 dB/K
Min. Saturation Flux Density	-106.6 dBW/m2
Max. Saturation Flux Density	-86.6 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Eastern CONUS, Caribbean, Southern Mexico, Central America

Receiving Beams 5:

Question	Response
Beam ID	SARH
Receive Beam Frequency	5925.0 MHz -6425.0 MHz
Beam Type	Fixed
Polarization	H
Peak Gain	dBi
Antenna Pointing Error	0.15 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	Yes

Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
G/T at Max. Gain Point	5.3 dB/K
Min. Saturation Flux Density	-107.0 dBW/m2
Max. Saturation Flux Density	-87.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	South America

Receiving Beams 6:

Question	Response
Beam ID	SARV
Receive Beam Frequency	5925.0 MHz -6425.0 MHz
Beam Type	Fixed
Polarization	V
Peak Gain	dBi
Antenna Pointing Error	0.15 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	Yes
Polarization Alignment Relative to the Equatorial Plane	90.0 degrees
G/T at Max. Gain Point	5.3 dB/K
Min. Saturation Flux Density	-107.0 dBW/m2
Max. Saturation Flux Density	-87.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	South America

Receiving
Channels (25)

Channel ID	Channel Bandwidth (MHz)	Center Frequency s (MHz)	Feeder Link, Service Link or TT&C
CR03	36.0	5985.0	Service Link
CR04	36.0	6005.0	Service Link
CR06	36.0	6045.0	Service Link
CR08	36.0	6085.0	Service Link
CR09	36.0	6105.0	Service Link
CR10	36.0	6125.0	Service Link
CR11	36.0	6145.0	Service Link
CR12	36.0	6165.0	Service Link
CR13	36.0	6185.0	Service Link
CR14	36.0	6205.0	Service Link
CR15	36.0	6225.0	Service Link
CR16	36.0	6245.0	Service Link
CR17	36.0	6265.0	Service Link
CR18	36.0	6285.0	Service Link
CR19	36.0	6305.0	Service Link
CR20	36.0	6325.0	Service Link
CR21	36.0	6345.0	Service Link
CR22	36.0	6365.0	Service Link
CR23	36.0	6385.0	Service Link
TC01	0.8	6423.5	TT&C
CR05	36.0	6025.0	Service Link
CR07	36.0	6065.0	Service Link
CR24	36.0	6405.0	Service Link
CR01	36.0	5945.0	Service Link

CR02	36.0	5965.0	Service Link
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Transmitting
Beams 1:

Question	Response
Beam ID	EATH
Transmit Beam Frequency	3700.0 MHz -4200.0 MHz
Beam Type	Fixed
Polarization	H
Peak Gain	dBi
Antenna Pointing Error	0.15 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	Yes
Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
Max. Transmit EIRP Density	-31.6 dBW/Hz
Max. Transmit EIRP	44.0 dBW
Co- or Cross Polar Mode	C
Service Area Description	Europe, Africa, Iceland, Southeast Greenland

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	-158.9	-158.7	-158.6	-158.5	-158.4	-157.6

Transmitting
Beams 2:

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

Beam Type	Fixed
Polarization	V
Peak Gain	dBi
Antenna Pointing Error	0.15 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	Yes
Polarization Alignment Relative to the Equatorial Plane	90.0 degrees
Max. Transmit EIRP Density	-31.6 dBW/Hz
Max. Transmit EIRP	44.0 dBW
Co- or Cross Polar Mode	C
Service Area Description	Europe, Africa, Iceland, Southeast Greenland

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	-158.9	-158.7	-158.6	-158.5	-158.4	-157.6

Transmitting
Beams 3:

Question	Response
Beam ID	NATH
Transmit Beam Frequency	3700.0 MHz -4200.0 MHz
Beam Type	Fixed
Polarization	H
Peak Gain	dBi
Antenna Pointing Error	0.15 degrees

Antenna Rotational Error	0.0 degrees
Polarization Switchable	Yes
Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
Max. Transmit EIRP Density	-30.1 dBW/Hz
Max. Transmit EIRP	45.5 dBW
Co- or Cross Polar Mode	C
Service Area Description	Eastern CONUS, Caribbean, Southern Mexico, Central America

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	-159.4	-159.2	-159.1	-159.0	-156.9	-156.1

Transmitting Beams 4:

Question	Response
Beam ID	NATV
Transmit Beam Frequency	3700.0 MHz -4200.0 MHz
Beam Type	Fixed
Polarization	V
Peak Gain	dBi
Antenna Pointing Error	0.15 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	Yes
Polarization Alignment Relative to the Equatorial Plane	90.0 degrees
Max. Transmit EIRP Density	-30.1 dBW/Hz

Max. Transmit EIRP	45.5 dBW
Co- or Cross Polar Mode	C
Service Area Description	Eastern CONUS, Caribbean, Southern Mexico, Central America

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	-159.4	-159.2	-159.1	-159.0	-156.9	-156.1

Transmitting Beams 5:

Question	Response
Beam ID	SATH
Transmit Beam Frequency	3700.0 MHz -4200.0 MHz
Beam Type	Fixed
Polarization	H
Peak Gain	dBi
Antenna Pointing Error	0.15 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	Yes
Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
Max. Transmit EIRP Density	-30.0 dBW/Hz
Max. Transmit EIRP	45.6 dBW
Co- or Cross Polar Mode	C
Service Area Description	South America

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	-161.3	-161.1	-161.0	-158.9	-158.8	-156.0

Transmitting Beams 6:

Question	Response
Beam ID	SATV
Transmit Beam Frequency	3700.0 MHz -4200.0 MHz
Beam Type	Fixed
Polarization	V
Peak Gain	dBi
Antenna Pointing Error	0.15 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	Yes
Polarization Alignment Relative to the Equatorial Plane	90.0 degrees
Max. Transmit EIRP Density	-30.0 dBW/Hz
Max. Transmit EIRP	45.6 dBW
Co- or Cross Polar Mode	C
Service Area Description	South America

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	-161.3	-161.1	-161.0	-158.9	-158.8	-156.0
kHz						

**Transmitting
Channels (26)**

Channel ID	Channel Bandwidth (MHz)	Center Frequency s (MHz)	Feeder Link, Service Link or TT&C
CT15	36.0	4000.0	Service Link
CT14	36.0	3980.0	Service Link
CT13	36.0	3960.0	Service Link
CT12	36.0	3940.0	Service Link
CT11	36.0	3920.0	Service Link
CT10	36.0	3900.0	Service Link
CT09	36.0	3880.0	Service Link
CT08	36.0	3860.0	Service Link
CT07	36.0	3840.0	Service Link
CT06	36.0	3820.0	Service Link
TM01	0.8	3700.5	TT&C
TM02	0.8	4199.5	TT&C
CT21	36.0	4120.0	Service Link
CT22	36.0	4140.0	Service Link
CT23	36.0	4160.0	Service Link
CT24	36.0	4180.0	Service Link
CT01	36.0	3720.0	Service Link
CT02	36.0	3740.0	Service Link
CT03	36.0	3760.0	Service Link
CT04	36.0	3780.0	Service Link
CT05	36.0	3800.0	Service Link
CT16	36.0	4020.0	Service Link
CT17	36.0	4040.0	Service Link
CT18	36.0	4060.0	Service Link

CT19	36.0	4080.0	Service Link
CT20	36.0	4100.0	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

Information not provided.