



312 File Number: **SATMOD2020081000094**

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## Filing Description

Question	Response
Description	T8 MOD to move to 119.05W

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## Satellite Information

Question	Response
Select Orbit Type	GSO
Space Station or Satellite Network Name	T8
Estimated Lifetime of Satellite(s) From Date of Launch	29 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>Direct Broadcast Satellite (DBS) Service</b>		12200.0 MHz -12700.0 MHz	Transmit
<b>Fixed-Satellite Service</b>		17300.0 MHz -17800.0 MHz	Receive

## Orbital Information For Geostationary Satellites

Section	Question	Response
<b>Orbital Longitude Information</b>	Orbital Longitude	119.0 degrees
	Hemisphere of Orbital Longitude	W
<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	0.05 degrees
<b>Eccentricity</b>	Max. Eccentricity	0.001
<b>Antenna Axis Attitude Accuracy</b>	Roll	0.12 degrees
	Pitch	0.12 degrees
	Yaw	0.12 degrees

## Receiving Beams 1:

Question	Response
Beam ID	UL1
Receive Beam Frequency	17300.0 MHz -17800.0 MHz
Beam Type	Shapeable
Polarization	LHCP
Peak Gain	32.3 dBi
Antenna Pointing Error	0.14 degrees
Antenna Rotational Error	0.14 degrees
Min. Cross-Polar Isolation within Service Area	30.0 dB
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	2.2 dB/K
Min. Saturation Flux Density	-93.5 dBW/m <sup>2</sup>
Max. Saturation Flux Density	-64.5 dBW/m <sup>2</sup>
Co- or Cross Polar Mode	C
Service Area Description	Los Angeles, CA and Castle Rock, CO

## Receiving Beams 2:

Question	Response
Beam ID	UL2
Receive Beam Frequency	17300.0 MHz -17800.0 MHz
Beam Type	Shapeable
Polarization	RHCP
Peak Gain	32.3 dBi
Antenna Pointing Error	0.14 degrees

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Antenna Rotational Error	0.14 degrees
Min. Cross-Polar Isolation within Service Area	30.0 dB
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	2.2 dB/K
Min. Saturation Flux Density	-93.5 dBW/m <sup>2</sup>
Max. Saturation Flux Density	-64.5 dBW/m <sup>2</sup>
Co- or Cross Polar Mode	C
Service Area Description	Los Angeles, CA and Castle Rock, CO

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**Receiving  
Channels (11)**

<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>A032</b>	24.0	17775.98	Feeder Link
<b>A022</b>	24.0	17630.18	Feeder Link
<b>A023</b>	24.0	17644.76	Feeder Link
<b>A024</b>	24.0	17659.34	Feeder Link
<b>A025</b>	24.0	17673.92	Feeder Link
<b>A026</b>	24.0	17688.5	Feeder Link
<b>A027</b>	24.0	17703.08	Feeder Link
<b>A028</b>	24.0	17717.66	Feeder Link
<b>A029</b>	24.0	17732.24	Feeder Link
<b>A030</b>	24.0	17746.82	Feeder Link
<b>A031</b>	24.0	17761.4	Feeder Link

## Transmitting Beams 1:

Question	Response
Beam ID	DL1
Transmit Beam Frequency	12200.0 MHz -12700.0 MHz
Beam Type	Shapeable
Polarization	LHCP
Peak Gain	35.7 dBi
Antenna Pointing Error	0.14 degrees
Antenna Rotational Error	0.14 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-16.5 dBW/Hz
Max. Transmit EIRP	57.3 dBW
Co- or Cross Polar Mode	C
Service Area Description	CONUS and Alaska and Hawaii

### 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>4.0 kHz</b>	-161.8	-156.6	-149.7	-146.4	-144.8	-142.5

## Transmitting Beams 2:

Question	Response
Beam ID	DL2
Transmit Beam Frequency	12200.0 MHz -12700.0 MHz



Beam Type	Shapeable
Polarization	RHCP
Peak Gain	35.7 dBi
Antenna Pointing Error	0.14 degrees
Antenna Rotational Error	0.14 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-16.5 dBW/Hz
Max. Transmit EIRP	57.3 dBW
Co- or Cross Polar Mode	C
Service Area Description	CONUS and Alaska and Hawaii

### 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>4.0 kHz</b>	-161.8	-156.6	-149.7	-146.4	-144.8	-142.5

## Transmitting Channels (11)

Channel ID	Channel Bandwidth (MHz)	Center Frequency s (MHz)	Feeder Link, Service Link or TT&C
C032	24.0	12675.98	Service Link
C031	24.0	12661.4	Service Link
C030	24.0	12646.82	Service Link
C029	24.0	12632.24	Service Link
C028	24.0	12617.66	Service Link
C027	24.0	12603.08	Service Link
C026	24.0	12588.5	Service Link
C025	24.0	12573.92	Service Link
C024	24.0	12559.34	Service Link
C023	24.0	12544.76	Service Link
C022	24.0	12530.18	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?	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
<u>T8TX_X.gxt</u>	DL2	GSO Antenna Gain Contour Data	GXT file (*.gxt)	DL2 Transmit Crosspolarized Gain
<u>T8TX_CO.gxt</u>	DL2	GSO Antenna Gain Contour Data	GXT file (*.gxt)	DL2 Transmit Copolarized Gain
<u>T8TX_X.gxt</u>	DL1	GSO Antenna Gain Contour Data	GXT file (*.gxt)	DL1 Transmit Crosspolarized Gain
<u>T8TX_CO.gxt</u>	DL1	GSO Antenna Gain Contour Data	GXT file (*.gxt)	DL1 Transmit Copolarized Gain
<u>T8RX_X.gxt</u>	UL2	GSO Antenna Gain Contour Data	GXT file (*.gxt)	UL2 Receive Crosspolarized Gain
<u>T8RX_CO.gxt</u>	UL2	GSO Antenna Gain Contour Data	GXT file (*.gxt)	UL2 Receive Copolarized Gain
<u>T8RX_X.gxt</u>	UL1	GSO Antenna Gain Contour Data	GXT file (*.gxt)	UL1 Receive Crosspolarized Gain
<u>T8RX_CO.gxt</u>	UL1	GSO Antenna Gain Contour Data	GXT file (*.gxt)	UL1 Receive Copolarized Gain