Approved by OMB 3060-0678
Estimated Burden: up to 80 hours
April 2016

Federal Communications Commission

312 File Number: **SATPPL2019101700115**

Filing Description

Question	Response
Description	EUTELSAT 139 WEST A

Satellite Information

Question	Response
Select Orbit Type	GSO
Space Station or Satellite Network Name	EUTELSAT 139 WEST A
Estimated Lifetime of Satellite(s) From Date of Launch	21 Years
Will the space station(s) operate on a Common Carrier basis?	No

Operating Frequency Bands (8)

Nature of service	Description	Frequency Band(s)	Mode Type
Fixed-Satellite Service		11699.0 MHz -11701.0 MHz	Transmit
Fixed-Satellite Service		12499.0 MHz -12501.0 MHz	Transmit
Fixed-Satellite Service		11199.0 MHz -11201.0 MHz	Transmit
Fixed-Satellite Service		14000.0 MHz -14500.0 MHz	Receive
Fixed-Satellite Service		13750.0 MHz -14000.0 MHz	Receive
Fixed-Satellite Service		12500.0 MHz -12750.0 MHz	Transmit
Fixed-Satellite Service		11450.0 MHz -11700.0 MHz	Transmit
Fixed-Satellite Service		10950.0 MHz -11200.0 MHz	Transmit

Orbital Information For Geostationary Satellites

Section	Question	Response
Orbital Longitude Information	Orbital Longitude	139.0 degrees
	Hemisphere of Orbital Longitude	W
Longitudinal Tolerance or East /West Station-Keeping	Toward West	0.1 degrees
	Toward East	0.1 degrees
Inclination Excursion or North /South Station-Keeping Tolerance	Inclination Excursion or North /South Station-Keeping Tolerance	0.3 degrees
Antenna Axis Attitude Accuracy	Roll	0.1 degrees
	Pitch	0.1 degrees
	Yaw	0.1 degrees

Receiving Beams 1:

Question	Response
Beam ID	F1H1
Receive Beam Frequency	13750.0 MHz -14000.0 MHz
Beam Type	Fixed
Polarization	H
Peak Gain	32.9 dBi
Antenna Pointing Error	0.15 degrees
Antenna Rotational Error	0.4 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
G/T at Max. Gain Point	7.6 dB/K
Min. Saturation Flux Density	-104.0 dBW/m2
Max. Saturation Flux Density	-62.4 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	CONUS A Uplink Service Area

Receiving Beams 2:

Question	Response
Beam ID	F1H2
Receive Beam Frequency	14000.0 MHz -14500.0 MHz
Beam Type	Fixed
Polarization	H
Peak Gain	32.9 dBi
Antenna Pointing Error	0.15 degrees
Antenna Rotational Error	0.4 degrees

Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
G/T at Max. Gain Point	7.6 dB/K
Min. Saturation Flux Density	-104.0 dBW/m2
Max. Saturation Flux Density	-62.4 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	CONUS A Uplink Service Area

Receiving Beams 3:

Question	Response
Beam ID	F1V1
Receive Beam Frequency	13750.0 MHz -14000.0 MHz
Beam Type	Fixed
Polarization	V
Peak Gain	32.9 dBi
Antenna Pointing Error	0.15 degrees
Antenna Rotational Error	0.4 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	90.0 degrees
G/T at Max. Gain Point	7.6 dB/K
Min. Saturation Flux Density	-104.0 dBW/m2
Max. Saturation Flux Density	-62.4 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	CONUS A Uplink Service Area

Receiving Beams 4:

Question	Response
Beam ID	F1V2
Receive Beam Frequency	14000.0 MHz -14500.0 MHz
Beam Type	Fixed
Polarization	V
Peak Gain	32.9 dBi
Antenna Pointing Error	0.15 degrees
Antenna Rotational Error	0.4 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	90.0 degrees
G/T at Max. Gain Point	7.6 dB/K
Min. Saturation Flux Density	-104.0 dBW/m2
Max. Saturation Flux Density	-62.4 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	CONUS A Uplink Service Area

Receiving Beams 5:

Question	Response
Beam ID	TCH
Receive Beam Frequency	13750.0 MHz -13755.0 MHz
Beam Type	Fixed
Polarization	H
Peak Gain	25.2 dBi
Antenna Pointing Error	0.15 degrees
Antenna Rotational Error	0.4 degrees
Polarization Switchable	

Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
G/T at Max. Gain Point	-5.5 dB/K
Min. Saturation Flux Density	-107.0 dBW/m2
Max. Saturation Flux Density	-63.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth from 139.2 W. L.

Receiving Channels (24)

Channel ID	Channel Bandwidth (MHz)	Center Frequency s (MHz)	Feeder Link, Service Link or TT&C
B1	72.0	14291.67	Service Link
B2	72.0	14291.67	Service Link
B3	72.0	14375.0	Service Link
B4	72.0	14375.0	Service Link
B5	72.0	14458.33	Service Link
B6	72.0	14458.33	Service Link
D1	36.0	13771.41	Service Link
D2	36.0	13792.16	Service Link
D3	36.0	13812.91	Service Link
D4	36.0	13833.66	Service Link
D5	36.0	13854.41	Service Link
D6	36.0	13875.16	Service Link
D7	36.0	13895.91	Service Link
D8	36.0	13916.66	Service Link
D9	36.0	13937.41	Service Link
D10	49.5	13967.75	Service Link
D11	36.0	13978.91	Service Link
F1	72.0	14041.67	Service Link
TC1	0.6	13752.5	TT&C
F5	72.0	14208.33	Service Link
F3	72.0	14125.0	Service Link
F2	72.0	14041.67	Service Link
F6	72.0	14208.33	Service Link
F4	72.0	14125.0	Service Link

Transmitting Beams 1:

Question	Response
Beam ID	F2H1
Transmit Beam Frequency	10950.0 MHz -11200.0 MHz
Beam Type	Fixed
Polarization	H
Peak Gain	32.5 dBi
Antenna Pointing Error	0.15 degrees
Antenna Rotational Error	0.4 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
Max. Transmit EIRP Density	-24.1 dBW/Hz
Max. Transmit EIRP	51.5 dBW
Co- or Cross Polar Mode	C
Service Area Description	CONUS A Downlink Service Area

Max. Power Flux Density

* BW:	* 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	-152.8	-152.5	-152.1	-151.7	-151.2	-150.5

Transmitting Beams 2:

Question	Response
Beam ID	F2H2
Transmit Beam Frequency	11450.0 MHz -11700.0 MHz

Beam Type	Fixed
Polarization	H
Peak Gain	32.5 dBi
Antenna Pointing Error	0.15 degrees
Antenna Rotational Error	0.4 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
Max. Transmit EIRP Density	-24.1 dBW/Hz
Max. Transmit EIRP	51.5 dBW
Co- or Cross Polar Mode	C
Service Area Description	CONUS A Downlink Service Area

Max. Power Flux Density

* BW:	* 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	-152.8	-152.5	-152.1	-151.7	-151.2	-150.5

Transmitting Beams 3:

Question	Response
Beam ID	F2H3
Transmit Beam Frequency	12500.0 MHz -12750.0 MHz
Beam Type	Fixed
Polarization	H
Peak Gain	32.5 dBi
Antenna Pointing Error	0.15 degrees

Antenna Rotational Error	0.4 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
Max. Transmit EIRP Density	-24.1 dBW/Hz
Max. Transmit EIRP	51.5 dBW
Co- or Cross Polar Mode	C
Service Area Description	CONUS A Downlink Service Area

Max. Power Flux Density

* BW:	* 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	-152.8	-152.5	-152.1	-151.7	-151.2	-150.2

Transmitting Beams 4:

Question	Response
Beam ID	F2V1
Transmit Beam Frequency	10950.0 MHz -11200.0 MHz
Beam Type	Fixed
Polarization	V
Peak Gain	32.5 dBi
Antenna Pointing Error	0.15 degrees
Antenna Rotational Error	0.4 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	90.0 degrees
Max. Transmit EIRP Density	-24.1 dBW/Hz

Max. Transmit EIRP	51.5 dBW
Co- or Cross Polar Mode	C
Service Area Description	CONUS A Downlink Service Area

Max. Power Flux Density

* BW:	* 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	-152.8	-152.5	-152.1	-151.7	-151.2	-150.5

Transmitting Beams 5:

Question	Response
Beam ID	F2V2
Transmit Beam Frequency	11450.0 MHz -11700.0 MHz
Beam Type	Fixed
Polarization	V
Peak Gain	32.5 dBi
Antenna Pointing Error	0.15 degrees
Antenna Rotational Error	0.4 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	90.0 degrees
Max. Transmit EIRP Density	-24.1 dBW/Hz
Max. Transmit EIRP	51.5 dBW
Co- or Cross Polar Mode	C
Service Area Description	CONUS A Downlink Service Area

Max. Power Flux Density

* BW:	* 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	-152.8	-152.5	-152.1	-151.7	-151.2	-150.5

Transmitting Beams 6:

Question	Response
Beam ID	F2V3
Transmit Beam Frequency	12500.0 MHz -12750.0 MHz
Beam Type	Fixed
Polarization	V
Peak Gain	32.5 dBi
Antenna Pointing Error	0.15 degrees
Antenna Rotational Error	0.4 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	90.0 degrees
Max. Transmit EIRP Density	-24.1 dBW/Hz
Max. Transmit EIRP	51.5 dBW
Co- or Cross Polar Mode	C
Service Area Description	CONUS A Downlink Service Area

Max. Power Flux Density

* BW:	* 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	-152.8	-152.5	-152.1	-151.7	-151.2	-150.5

Transmitting Beams 7:

Question	Response
Beam ID	F3H2
Transmit Beam Frequency	11450.0 MHz -11700.0 MHz
Beam Type	Fixed
Polarization	H
Peak Gain	33.8 dBi
Antenna Pointing Error	0.15 degrees
Antenna Rotational Error	0.4 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
Max. Transmit EIRP Density	-22.9 dBW/Hz
Max. Transmit EIRP	52.6 dBW
Co- or Cross Polar Mode	C
Service Area Description	CONUS B Downlink Service Area

Max. Power Flux Density

* BW:	* 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	-152.3	-152.0	-151.4	-150.8	-150.0	-149.3

Transmitting Beams 8:

Question	Response

Beam ID	F3V2
Transmit Beam Frequency	11450.0 MHz -11700.0 MHz
Beam Type	Fixed
Polarization	V
Peak Gain	33.8 dBi
Antenna Pointing Error	0.15 degrees
Antenna Rotational Error	0.4 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	90.0 degrees
Max. Transmit EIRP Density	-22.9 dBW/Hz
Max. Transmit EIRP	52.6 dBW
Co- or Cross Polar Mode	C
Service Area Description	CONUS B Downlink Service Area

Max. Power Flux Density

* BW:	* 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	-152.3	-152.0	-151.4	-150.8	-150.0	-149.3

Transmitting Beams 9:

Question	Response
Beam ID	TMH
Transmit Beam Frequency	11699.0 MHz -11701.0 MHz
Beam Type	Fixed
Polarization	H

Peak Gain	24.5 dBi
Antenna Pointing Error	0.15 degrees
Antenna Rotational Error	0.4 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
Max. Transmit EIRP Density	-39.2 dBW/Hz
Max. Transmit EIRP	15.6 dBW
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth from 139.2 W. L.

Max. Power Flux Density

* BW:	* 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	-168.4	-168.1	-168.0	-167.8	-167.5	-165.6

Transmitting Beams 10:

Question	Response
Beam ID	BH1
Transmit Beam Frequency	12499.0 MHz -12501.0 MHz
Beam Type	Fixed
Polarization	H
Peak Gain	19.4 dBi
Antenna Pointing Error	0.15 degrees
Antenna Rotational Error	0.4 degrees
Polarization Switchable	

Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
Max. Transmit EIRP Density	-35.9 dBW/Hz
Max. Transmit EIRP	14.1 dBW
Co- or Cross Polar Mode	C
Service Area Description	Regional Service Area from 139.2 W.L.

Max. Power Flux Density

* BW:	* 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	-164.2	-163.9	-163.8	-163.6	-163.4	-162.3

Transmitting Beams 11:

Question	Response
Beam ID	BH2
Transmit Beam Frequency	11199.0 MHz -11201.0 MHz
Beam Type	Fixed
Polarization	H
Peak Gain	19.3 dBi
Antenna Pointing Error	0.15 degrees
Antenna Rotational Error	0.4 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
Max. Transmit EIRP Density	-35.5 dBW/Hz
Max. Transmit EIRP	14.5 dBW
Co- or Cross Polar Mode	C

Service Area Description	Regional Service Area from 139.2 W.L.

Max. Power Flux Density

* BW:	* 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	-163.8	-163.5	-163.4	-163.2	-163.0	-161.9

Transmitting Channels (27)

Channel ID	Channel Bandwidth (MHz)	Center Frequency s (MHz)	Feeder Link, Service Link or TT&C
F3	72.0	12625.0	Service Link
BC3	0.1	11200.0	Service Link
BC2	0.1	12500.0	Service Link
TM2	0.3	11700.4	TT&C
TM1	0.3	11699.8	TT&C
B2	72.0	10991.67	Service Link
B3	72.0	11075.0	Service Link
B4	72.0	11075.0	Service Link
B5	72.0	11158.33	Service Link
B6	72.0	11158.33	Service Link
D1	36.0	11471.41	Service Link
D2	36.0	11492.16	Service Link
D3	36.0	11512.91	Service Link
D4	36.0	11533.66	Service Link
D5	36.0	11554.41	Service Link
D6	36.0	11575.16	Service Link
D7	36.0	11595.91	Service Link
D8	36.0	11616.66	Service Link
D9	36.0	11637.41	Service Link
D10	49.5	11667.75	Service Link
D11	36.0	11678.91	Service Link
F1	72.0	12541.67	Service Link
F2	72.0	12541.67	Service Link
F5	72.0	12708.33	Service Link

F4	72.0	12625.0	Service Link
B1	72.0	10991.67	Service Link
F6	72.0	12708.33	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
E139WA Service Areas - RevA.pdf		Service Area Diagram	PDF file (*.pdf)	Service Area definition for all beams
E139WA.mdb		GSO Antenna Gain Contour Data	GIMS file (*.mdb)	GIMS Database container of GTX files.