



312 File Number: **SATPPL2019101700116**

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## Filing Description

Question	Response
Description	Eutelsat 8 West B

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## Satellite Information

Question	Response
Select Orbit Type	GSO
Space Station or Satellite Network Name	Eutelsat 8 West B
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 (6)

Nature of service	Description	Frequency Band(s)	Mode Type
Space Operation Service		12500.0 MHz -12505.0 MHz	Transmit
Space Operation Service		11195.0 MHz -11205.0 MHz	Transmit
Fixed-Satellite Service		11450.0 MHz -11700.0 MHz	Transmit
Fixed-Satellite Service		10950.0 MHz -11200.0 MHz	Transmit
Fixed-Satellite Service		14000.0 MHz -14500.0 MHz	Receive
Fixed-Satellite Service		13750.0 MHz -14000.0 MHz	Receive

## Orbital Information For Geostationary Satellites

Section	Question	Response
<b>Orbital Longitude Information</b>	Orbital Longitude	8.0 degrees
	Hemisphere of Orbital Longitude	W
<b>Longitudinal Tolerance or East /West Station-Keeping</b>	Toward West	0.1 degrees
	Toward East	0.1 degrees
<b>Inclination Excursion or North /South Station-Keeping Tolerance</b>	Inclination Excursion or North /South Station-Keeping Tolerance	0.1 degrees
<b>Antenna Axis Attitude Accuracy</b>	Roll	0.1 degrees
	Pitch	0.1 degrees
	Yaw	0.1 degrees

## Receiving Beams 1:

Question	Response
Beam ID	UUH1
Receive Beam Frequency	13750.0 MHz -14000.0 MHz
Beam Type	Fixed
Polarization	H
Peak Gain	35.9 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	10.1 dB/K
Min. Saturation Flux Density	-110.0 dBW/m2
Max. Saturation Flux Density	-60.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Americas Service Area

## Receiving Beams 2:

Question	Response
Beam ID	UUH2
Receive Beam Frequency	14000.0 MHz -14500.0 MHz
Beam Type	Fixed
Polarization	H
Peak Gain	35.9 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	10.1 dB/K
Min. Saturation Flux Density	-110.0 dBW/m2
Max. Saturation Flux Density	-60.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Americas Service Area

### Receiving Beams 3:

Question	Response
Beam ID	UUV1
Receive Beam Frequency	13750.0 MHz -14000.0 MHz
Beam Type	Fixed
Polarization	V
Peak Gain	35.9 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	10.1 dB/K
Min. Saturation Flux Density	-110.0 dBW/m2
Max. Saturation Flux Density	-60.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Americas Service Area

### Receiving

**Beams 4:**

Question	Response
Beam ID	UUV2
Receive Beam Frequency	14000.0 MHz -14500.0 MHz
Beam Type	Fixed
Polarization	V
Peak Gain	35.9 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	10.1 dB/K
Min. Saturation Flux Density	-110.0 dBW/m2
Max. Saturation Flux Density	-60.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Americas Service Area

**Receiving Beams 5:**

Question	Response
Beam ID	UUF2
Receive Beam Frequency	13750.0 MHz -13755.0 MHz
Beam Type	Fixed
Polarization	H
Peak Gain	21.8 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
G/T at Max. Gain Point	-10.1 dB/K
Min. Saturation Flux Density	-110.0 dBW/m2
Max. Saturation Flux Density	-60.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth

**Receiving Beams 6:**

Question	Response
Beam ID	UUF3
Receive Beam Frequency	14245.0 MHz -14500.0 MHz
Beam Type	Fixed
Polarization	H
Peak Gain	21.8 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
G/T at Max. Gain Point	-10.1 dB/K
Min. Saturation Flux Density	-110.0 dBW/m2
Max. Saturation Flux Density	-60.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth

**Receiving Beams 7:**

Question	Response
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Beam ID	UUF4
Receive Beam Frequency	13750.0 MHz -13755.0 MHz
Beam Type	Fixed
Polarization	LHCP
Peak Gain	10.0 dBi
Antenna Pointing Error	0.15 degrees
Antenna Rotational Error	0.4 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	-16.0 dB/K
Min. Saturation Flux Density	-85.0 dBW/m2
Max. Saturation Flux Density	-77.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth

**Receiving Beams 8:**

Question	Response
Beam ID	UUF5
Receive Beam Frequency	14245.0 MHz -14500.0 MHz
Beam Type	Fixed
Polarization	LHCP
Peak Gain	10.0 dBi
Antenna Pointing Error	0.15 degrees
Antenna Rotational Error	0.4 degrees
Polarization Switchable	

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Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	-16.0 dB/K
Min. Saturation Flux Density	-85.0 dBW/m <sup>2</sup>
Max. Saturation Flux Density	-77.0 dBW/m <sup>2</sup>
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth

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## Receiving Channels (40)

Channel ID	Channel Bandwidth (MHz)	Center Frequency s (MHz)	Feeder Link, Service Link or TT&C
KU07	36.0	14228.75	Service Link
KU05	36.0	14187.25	Service Link
KU03	72.0	14125.0	Service Link
KU01	72.0	14041.67	Service Link
KA05	36.0	14187.25	Service Link
KA03	72.0	14125.0	Service Link
KA01	72.0	14041.67	Service Link
GA06	72.0	14208.33	Service Link
DA04	72.0	14125.0	Service Link
GA02	72.0	14041.67	Service Link
DU11	36.0	14478.253	Service Link
DU09	36.0	14436.753	Service Link
DU07	36.0	14395.253	Service Link
DU05	36.0	14353.753	Service Link
DU03	36.0	14312.253	Service Link
DU01	36.0	14270.753	Service Link
DE12	36.0	14478.253	Service Link
DE10	36.0	14436.753	Service Link
DE08	36.0	14395.253	Service Link
DE06	36.0	14353.753	Service Link
DE04	36.0	14312.253	Service Link
DE02	36.0	14270.753	Service Link
DA11	36.0	14478.253	Service Link
DA09	36.0	14436.753	Service Link

<b>DA07</b>	36.0	14395.253	Service Link
<b>DA05</b>	36.0	14353.753	Service Link
<b>DA03</b>	36.0	14312.253	Service Link
<b>DA01</b>	36.0	14270.753	Service Link
<b>BE08</b>	54.0	13968.75	Service Link
<b>BE06</b>	54.0	13906.25	Service Link
<b>BE04</b>	54.0	13843.75	Service Link
<b>BE02</b>	54.0	13781.25	Service Link
<b>BA08</b>	54.0	13968.75	Service Link
<b>BA06</b>	54.0	13906.25	Service Link
<b>BA02</b>	54.0	13781.25	Service Link
<b>UTC3</b>	1.0	14497.5	TT&C
<b>UTC2</b>	1.0	14248.0	TT&C
<b>UTC1</b>	0.3	13752.5	TT&C
<b>BA04</b>	54.0	13843.75	Service Link
<b>KA07</b>	36.0	14228.75	Service Link

## Transmitting Beams 1:

Question	Response
Beam ID	UDH1
Transmit Beam Frequency	10950.0 MHz -11200.0 MHz
Beam Type	Fixed
Polarization	H
Peak Gain	34.2 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
Max. Transmit EIRP Density	-21.6 dBW/Hz
Max. Transmit EIRP	54.0 dBW
Co- or Cross Polar Mode	C
Service Area Description	Americas Service Area

### 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):
<b>4.0 kHz</b>	-153.4	-152.9	-151.4	-150.0	-149.0	-147.9

## Transmitting Beams 2:

Question	Response
Beam ID	UDH2
Transmit Beam Frequency	11450.0 MHz -11700.0 MHz

Beam Type	Fixed
Polarization	H
Peak Gain	34.2 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
Max. Transmit EIRP Density	-21.6 dBW/Hz
Max. Transmit EIRP	54.0 dBW
Co- or Cross Polar Mode	C
Service Area Description	Americas Service Area

### 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>	-153.4	-152.9	-151.4	-150.0	-149.0	-147.9

### Transmitting Beams 3:

Question	Response
Beam ID	UDV1
Transmit Beam Frequency	10950.0 MHz -11200.0 MHz
Beam Type	Fixed
Polarization	V
Peak Gain	34.2 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	-21.6 dBW/Hz
Max. Transmit EIRP	54.0 dBW
Co- or Cross Polar Mode	C
Service Area Description	Americas Service Area

### 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>	-153.4	-152.9	-151.4	-150.0	-149.0	-147.9

### Transmitting Beams 4:

Question	Response
Beam ID	UDV2
Transmit Beam Frequency	11450.0 MHz -11700.0 MHz
Beam Type	Fixed
Polarization	V
Peak Gain	34.2 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	-21.6 dBW/Hz

Max. Transmit EIRP	54.0 dBW
Co- or Cross Polar Mode	C
Service Area Description	Americas Service Area

### Max. Power Flux Density

	* 0° - 5° (dBW/m <sup>2</sup> ) /BW:	* 5° - 10° (dBW/m <sup>2</sup> ) /BW:	* 10° - 15° (dBW/m <sup>2</sup> ) /BW:	* 15° - 20° (dBW/m <sup>2</sup> ) /BW:	* 20° - 25° (dBW/m <sup>2</sup> ) /BW:	* 25° - 90° (dBW/m <sup>2</sup> ) /BW:
<b>4.0 kHz</b>	-153.4	-152.9	-151.4	-150.0	-149.0	-147.9

### Transmitting Beams 5:

Question	Response
Beam ID	UDF2
Transmit Beam Frequency	11195.0 MHz -11205.0 MHz
Beam Type	Fixed
Polarization	H
Peak Gain	22.0 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	-36.52 dBW/Hz
Max. Transmit EIRP	19.5 dBW
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth

### 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</b> <b>kHz</b>	-163.8	-163.7	-163.5	-163.4	-163.3	-162.9

## Transmitting Beams 6:

Question	Response
Beam ID	UDF3
Transmit Beam Frequency	12500.0 MHz -12505.0 MHz
Beam Type	Fixed
Polarization	V
Peak Gain	22.0 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	-36.52 dBW/Hz
Max. Transmit EIRP	19.5 dBW
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth

## 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</b> <b>kHz</b>	-163.8	-163.7	-163.5	-163.4	-163.3	-162.9

## Transmitting Beams 7:

Question	Response
Beam ID	UDF4
Transmit Beam Frequency	11195.0 MHz -11205.0 MHz
Beam Type	Fixed
Polarization	LHCP
Peak Gain	10.0 dBi
Antenna Pointing Error	0.15 degrees
Antenna Rotational Error	0.4 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-33.72 dBW/Hz
Max. Transmit EIRP	22.3 dBW
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth

### 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>	-163.8	-163.7	-163.5	-163.4	-163.3	-162.9

## Transmitting Beams 8:

Question	Response
Beam ID	UDF5
Transmit Beam Frequency	12500.0 MHz -12505.0 MHz

Beam Type	Fixed
Polarization	LHCP
Peak Gain	10.0 dBi
Antenna Pointing Error	0.15 degrees
Antenna Rotational Error	0.4 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-33.72 dBW/Hz
Max. Transmit EIRP	22.3 dBW
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth

### 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>	-163.8	-163.7	-163.5	-163.4	-163.3	-162.9

## Transmitting Channels (47)

Channel ID	Channel Bandwidth (MHz)	Center Frequency s (MHz)	Feeder Link, Service Link or TT&C
BE06	54.0	11106.25	Service Link
BE02	54.0	10981.25	Service Link
KU07	36.0	11178.75	Service Link
UB2	0.4	12500.5	TT&C
DA12	36.0	11678.253	Service Link
DA10	36.0	11636.753	Service Link
DA08	36.0	11595.253	Service Link
DA06	36.0	11553.753	Service Link
DA04	36.0	11512.253	Service Link
DA02	36.0	11470.753	Service Link
BE08	54.0	11168.75	Service Link
GA04	72.0	11575.0	Service Link
GA02	72.0	11491.67	Service Link
DU11	36.0	11678.253	Service Link
DU09	36.0	11636.753	Service Link
DU07	36.0	11595.253	Service Link
DU05	36.0	11553.753	Service Link
DU03	36.0	11512.253	Service Link
DU01	36.0	11470.753	Service Link
DE12	36.0	11678.253	Service Link
DE10	36.0	11636.753	Service Link
DE08	36.0	11595.253	Service Link
DE06	36.0	11553.753	Service Link
DE04	36.0	11512.253	Service Link

<b>DE02</b>	36.0	11470.753	Service Link
<b>DA11</b>	36.0	11678.253	Service Link
<b>UB1</b>	0.4	12501.0	TT&C
<b>UB3</b>	0.4	11200.2	TT&C
<b>UB4</b>	0.4	11199.5	TT&C
<b>BA02</b>	54.0	10981.25	Service Link
<b>BA04</b>	54.0	11043.75	Service Link
<b>BA06</b>	54.0	11106.25	Service Link
<b>BA08</b>	54.0	11168.75	Service Link
<b>DA01</b>	36.0	11470.753	Service Link
<b>DA03</b>	36.0	11512.253	Service Link
<b>DA05</b>	36.0	11553.753	Service Link
<b>DA07</b>	36.0	11595.253	Service Link
<b>DA09</b>	36.0	11636.753	Service Link
<b>GA06</b>	72.0	11658.33	Service Link
<b>KA01</b>	72.0	10991.67	Service Link
<b>KA03</b>	72.0	11075.0	Service Link
<b>KA05</b>	36.0	11137.25	Service Link
<b>KA07</b>	36.0	11178.75	Service Link
<b>KU01</b>	72.0	10991.67	Service Link
<b>KU03</b>	72.0	11075.0	Service Link
<b>KU05</b>	36.0	11137.25	Service Link
<b>BE04</b>	54.0	11043.75	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
<a href="#"><u>Service Area Descriptions (E8WB).pdf</u></a>		Service Area Diagram	PDF file (*.pdf)	Service Area Diagrams for All beams
<a href="#"><u>E8WB.mdb</u></a>		GSO Antenna Gain Contour Data	GIMS file (*.mdb)	GIMS container of GXT files for all beams