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

Federal Communications Commission

312 File Number: **SESMFS2017072100787**

Filing Description

Question	Response
Description	Hawaii Pacific Teleport seeking authorization for Ka-band Earth Station communicating with Eutelsat E172B

Satellite Information

Question	Response
Select Orbit Type	GSO
Space Station or Satellite Network Name	EUTELSAT 172B
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		18400.0 MHz -19202.1 MHz	Transmit
Fixed-Satellite Service		27500.0 MHz -29150.0 MHz	Receive

Orbital Information For Geostationary Satellites

Section	Question	Response
Orbital Longitude Information	Orbital Longitude	172.0 degrees
	Hemisphere of Orbital Longitude	E
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	0.1 degrees
Antenna Axis Attitude Accuracy	Roll	0.1 degrees
	Pitch	0.1 degrees
	Yaw	0.1 degrees

Receiving Beams 1:

Question	Response
Beam ID	OAUR
Receive Beam Frequency	27500.0 MHz -29150.0 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	48.5 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	19.5 dB/K
Min. Saturation Flux Density	-104.5 dBW/m2
Max. Saturation Flux Density	-77.5 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	HAWAII

Receiving Beams 2:

Question	Response
Beam ID	OAUL
Receive Beam Frequency	27500.0 MHz -29150.0 MHz
Beam Type	Fixed
Polarization	LHCP
Peak Gain	48.5 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.0 degrees

Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	19.5 dB/K
Min. Saturation Flux Density	-104.5 dBW/m2
Max. Saturation Flux Density	-77.5 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	HAWAII

Receiving Channels (21)

Channel ID	Channel Bandwidth (MHz)	Center Frequency s (MHz)	Feeder Link, Service Link or TT&C
GH2U	36.0	28971.0	Feeder Link
G09U	170.0	27780.0	Feeder Link
G08U	170.0	27970.0	Feeder Link
GN1U	54.0	28681.25	Feeder Link
G07U	170.0	28540.0	Feeder Link
G06U	170.0	27590.0	Feeder Link
G05U	170.0	28540.0	Feeder Link
G04U	170.0	27970.0	Feeder Link
G03U	170.0	27780.0	Feeder Link
G02U	170.0	28350.0	Feeder Link
G01U	170.0	28160.0	Feeder Link
GW1U	54.0	29056.25	Feeder Link
GN2U	54.0	28743.75	Feeder Link
GS1U	54.0	28291.25	Feeder Link
GS2U	54.0	28353.75	Feeder Link
G10U	170.0	27590.0	Feeder Link
G11U	170.0	28160.0	Feeder Link
GE1U	54.0	28806.25	Feeder Link
GW2U	54.0	29118.75	Feeder Link
GE2U	54.0	28868.75	Feeder Link
GH1U	36.0	28931.0	Feeder Link

Transmitting Beams 1:

Question	Response
Beam ID	OADR
Transmit Beam Frequency	18400.0 MHz -19202.1 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	44.2 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-25.9 dBW/Hz
Max. Transmit EIRP	62.5 dBW
Co- or Cross Polar Mode	C
Service Area Description	HAWAII

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):
1.0 MHz	-154.2	-154.1	-153.9	-153.8	-148.7	-128.3

Transmitting Channels (16)

Channel ID	Channel Bandwidth (MHz)	Center Frequency s (MHz)	Feeder Link, Service Link or TT&C
G06D	54.0	18556.25	Feeder Link
G05D	54.0	19101.75	Feeder Link
G04D	54.0	18976.75	Feeder Link
G03D	54.0	18868.75	Feeder Link
G02D	54.0	18681.25	Feeder Link
G07D	54.0	18743.75	Feeder Link
G10D	54.0	18806.25	Feeder Link
G11D	54.0	19039.25	Feeder Link
G09D	54.0	18618.75	Feeder Link
G08D	54.0	18431.25	Feeder Link
G01D	40.0	18493.75	Feeder Link
GW1D	20.0	19144.5	Feeder Link
GN1D	20.0	19189.5	Feeder Link
GS1D	40.0	18922.75	Feeder Link
GE1D	20.0	19167.0	Feeder Link
GW8D	0.1	19202.0	TT&C

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
E172B Uplink Beam Service Area.pdf	OAUL	Service Area Diagram	PDF file (*.pdf)	E172B Uplink Beam Service Area pdf file
E172B Downlink Service Area.pdf	OADR	Service Area Diagram	PDF file (*.pdf)	E172B Downlink Service Area pdf file
OADR.gxt	OADR	GSO Antenna Gain Contour Data	GXT file (*.gxt)	OADR Beam Contour gxt file
E172B Uplink Beam Service Area.pdf	OAUR	Service Area Diagram	PDF file (*.pdf)	E172B Uplink Beam Service Area pdf file
OAUR.gxt	OAUR	GSO Antenna Gain Contour Data	GXT file (*.gxt)	OAUR Beam Contour gxt file
OAUL.gxt	OAUL	GSO Antenna Gain Contour Data	GXT file (*.gxt)	OAUL Beam Contour gxt file