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

Federal Communications Commission

312 File Number: **SESLIC2022122001413**

Filing Description

Question	Response
Description	Inmarsat 6 F2 at 28WL

Satellite Information

Question	Response
Select Orbit Type	GSO
Space Station or Satellite Network Name	INMARSAT-6-28W
Estimated Lifetime of Satellite(s) From Date of Launch	25 Years
Will the space station(s) operate on a Common Carrier basis?	Yes

Operating Frequency Bands (4)

Nature of service	Description	Frequency Band(s)	Mode Type
Fixed-Satellite Service		17700.0 MHz -20200.0 MHz	Transmit
Fixed-Satellite Service		27500.0 MHz -30000.0 MHz	Receive
Mobile-Satellite Service		1525.0 MHz -1559.0 MHz	Transmit
Mobile-Satellite Service		1626.5 MHz -1660.5 MHz	Receive

Orbital Information For Geostationary Satellites

Section	Question	Response
Orbital Longitude Information	Orbital Longitude	28.0 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	S01U
Receive Beam Frequency	29500.0 MHz -30000.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	48.6 dBi
Antenna Pointing Error	0.2 degrees
Antenna Rotational Error	0.1 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	21.2 dB/K
Min. Saturation Flux Density	-93.0 dBW/m2
Max. Saturation Flux Density	-77.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth

Receiving Beams 2:

Question	Response
Beam ID	S03U
Receive Beam Frequency	27500.0 MHz -29500.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	43.8 dBi
Antenna Pointing Error	0.2 degrees
Antenna Rotational Error	0.1 degrees

Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	16.2 dB/K
Min. Saturation Flux Density	-93.0 dBW/m2
Max. Saturation Flux Density	-77.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth

Receiving Beams 3:

Question	Response
Beam ID	S04U
Receive Beam Frequency	27500.0 MHz -29500.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	43.8 dBi
Antenna Pointing Error	0.2 degrees
Antenna Rotational Error	0.1 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	16.2 dB/K
Min. Saturation Flux Density	-93.0 dBW/m2
Max. Saturation Flux Density	-77.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth

Receiving

Beams 4:

Question	Response
Beam ID	SO2U
Receive Beam Frequency	29500.0 MHz -30000.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	48.6 dBi
Antenna Pointing Error	0.2 degrees
Antenna Rotational Error	0.1 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	21.2 dB/K
Min. Saturation Flux Density	-105.0 dBW/m2
Max. Saturation Flux Density	-97.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth

Receiving Beams 5:

Question	Response
Beam ID	S05U
Receive Beam Frequency	27500.0 MHz -29500.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	48.6 dBi
Antenna Pointing Error	0.2 degrees
Antenna Rotational Error	0.1 degrees
Polarization Switchable	

Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	22.1 dB/K
Min. Saturation Flux Density	-93.0 dBW/m2
Max. Saturation Flux Density	-77.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth

Receiving Beams 6:

Question	Response
Beam ID	S06U
Receive Beam Frequency	27500.0 MHz -29500.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	48.6 dBi
Antenna Pointing Error	0.2 degrees
Antenna Rotational Error	0.1 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	22.1 dB/K
Min. Saturation Flux Density	-93.0 dBW/m2
Max. Saturation Flux Density	-77.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth

Receiving Beams 7:

Question	Response

Beam ID	L01U
Receive Beam Frequency	1626.5 MHz -1660.5 MHz
Beam Type	Both Steerable and Shapeable
Polarization	RHCP
Peak Gain	37.3 dBi
Antenna Pointing Error	0.2 degrees
Antenna Rotational Error	0.1 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	12.7 dB/K
Min. Saturation Flux Density	-100.0 dBW/m2
Max. Saturation Flux Density	-99.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Global

Receiving Beams 8:

Question	Response
Beam ID	L02U
Receive Beam Frequency	1626.5 MHz -1660.5 MHz
Beam Type	Both Steerable and Shapeable
Polarization	RHCP
Peak Gain	22.0 dBi
Antenna Pointing Error	0.2 degrees
Antenna Rotational Error	0.1 degrees
Polarization Switchable	

Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	-1.6 dB/K
Min. Saturation Flux Density	-100.0 dBW/m2
Max. Saturation Flux Density	-99.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Global

Receiving Channels (17)

Channel ID	Channel Bandwidth (MHz)	Center Frequency s (MHz)	Feeder Link, Service Link or TT&C
C06F	110.0	28180.0	Feeder Link
C05F	110.0	28055.0	Feeder Link
C04R	110.0	29945.0	Service Link
C04F	110.0	27930.0	Feeder Link
C12F	110.0	28945.0	Feeder Link
C11F	110.0	28820.0	Feeder Link
C10F	110.0	28695.0	Feeder Link
C09F	110.0	28570.0	Feeder Link
C08F	110.0	28430.0	Feeder Link
C07F	110.0	28305.0	Feeder Link
C01F	110.0	27555.0	Feeder Link
C01R	110.0	29570.0	Service Link
C02F	110.0	27680.0	Feeder Link
C02R	110.0	29695.0	Service Link
C03F	110.0	27805.0	Feeder Link
C03R	110.0	29820.0	Service Link
L01U	34.0	1643.5	Service Link

Transmitting Beams 1:

Question	Response
Beam ID	S01D
Transmit Beam Frequency	19700.0 MHz -20200.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	44.2 dBi
Antenna Pointing Error	0.2 degrees
Antenna Rotational Error	0.1 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-18.0 dBW/Hz
Max. Transmit EIRP	60.8 dBW
Co- or Cross Polar Mode	C
Service Area Description	GLOBAL

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	-121.3	-121.2	-121.0	-120.9	-120.8	-120.1

Transmitting Beams 2:

Question	Response
Beam ID	S04D
Transmit Beam Frequency	17700.0 MHz -19700.0 MHz

Beam Type	Steerable
Polarization	LHCP
Peak Gain	42.1 dBi
Antenna Pointing Error	0.2 degrees
Antenna Rotational Error	0.1 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-31.1 dBW/Hz
Max. Transmit EIRP	49.3 dBW
Co- or Cross Polar Mode	C
Service Area Description	GLOBAL

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	-134.4	-134.3	-134.1	-134.0	-133.9	-133.2

Transmitting Beams 3:

Question	Response
Beam ID	S05D
Transmit Beam Frequency	17700.0 MHz -19700.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	43.9 dBi
Antenna Pointing Error	0.2 degrees

Antenna Rotational Error	0.1 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-28.6 dBW/Hz
Max. Transmit EIRP	51.8 dBW
Co- or Cross Polar Mode	C
Service Area Description	GLOBAL

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	-131.9	-131.8	-131.6	-131.5	-131.4	-130.7

Transmitting Beams 4:

Question	Response
Beam ID	S06D
Transmit Beam Frequency	17700.0 MHz -19700.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	43.9 dBi
Antenna Pointing Error	0.2 degrees
Antenna Rotational Error	0.1 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-28.6 dBW/Hz

Max. Transmit EIRP	51.8 dBW
Co- or Cross Polar Mode	C
Service Area Description	GLOBAL

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	-131.9	-131.8	-131.6	-131.5	-131.4	-130.7

Transmitting Beams 5:

Question	Response
Beam ID	L07D
Transmit Beam Frequency	1525.0 MHz -1559.0 MHz
Beam Type	Both Steerable and Shapeable
Polarization	RHCP
Peak Gain	37.1 dBi
Antenna Pointing Error	0.2 degrees
Antenna Rotational Error	0.1 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-0.4 dBW/Hz
Max. Transmit EIRP	63.4 dBW
Co- or Cross Polar Mode	C
Service Area Description	GLOBAL

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	-116.0	-115.9	-115.7	-115.6	-115.5	-114.8

Transmitting Beams 6:

Question	Response
Beam ID	S03D
Transmit Beam Frequency	17700.0 MHz -19700.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	42.1 dBi
Antenna Pointing Error	0.2 degrees
Antenna Rotational Error	0.1 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-31.1 dBW/Hz
Max. Transmit EIRP	49.3 dBW
Co- or Cross Polar Mode	C
Service Area Description	GLOBAL

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	-134.4	-134.3	-134.1	-134.0	-133.9	-133.2

Transmitting Beams 7:

Question	Response
Beam ID	S02D
Transmit Beam Frequency	19700.0 MHz -20200.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	44.2 dBi
Antenna Pointing Error	0.2 degrees
Antenna Rotational Error	0.1 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-18.0 dBW/Hz
Max. Transmit EIRP	60.8 dBW
Co- or Cross Polar Mode	C
Service Area Description	GLOBAL

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	-121.3	-121.2	-121.0	-120.9	-120.8	-120.1

Transmitting Channels (21)

Channel ID	Channel Bandwidth (MHz)	Center Frequency s (MHz)	Feeder Link, Service Link or TT&C
C10R	110.0	18880.0	Feeder Link
C11R	110.0	19005.0	Feeder Link
C8HC	110.0	19630.0	Feeder Link
C8FD	110.0	20145.0	Service Link
C7HC	110.0	19505.0	Feeder Link
C7FD	110.0	20020.0	Service Link
C2RD	110.0	17880.0	Feeder Link
C1RD	110.0	17755.0	Feeder Link
C9RD	110.0	18755.0	Feeder Link
C8RD	110.0	18630.0	Feeder Link
C7RD	110.0	18505.0	Feeder Link
C6RD	110.0	18380.0	Feeder Link
C6HC	110.0	19380.0	Feeder Link
C3RD	110.0	18005.0	Feeder Link
C4RD	110.0	18130.0	Feeder Link
C5FD	110.0	19770.0	Service Link
C5HC	110.0	19255.0	Feeder Link
C5RD	110.0	18255.0	Feeder Link
C6FD	110.0	19895.0	Service Link
C12R	110.0	19130.0	Feeder Link
L01D	34.0	1542.0	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

File Name	Beam	Field	Attachment Type	Description
Q5F3_Rx_LHCP_29570.gxt	SO2U	GSO Antenna Gain Contour Data	GXT file (*.gxt)	
Q5F3_Tx_RHCP_19770.gxt	S02D	GSO Antenna Gain Contour Data	GXT file (*.gxt)	
Q5F3 Tx LHCP 19770.gxt	S01D	GSO Antenna Gain Contour Data	GXT file (*.gxt)	
Nom Feeder Tx RHCP 19700.gxt	S03D	GSO Antenna Gain Contour Data	GXT file (*.gxt)	
Nom Feeder Tx LHCP 19700.gxt	S04D	GSO Antenna Gain Contour Data	GXT file (*.gxt)	
Reg1_Q1F3 Tx LHCP 18505.gxt	S06D	GSO Antenna Gain Contour Data	GXT file (*.gxt)	
Reg1_Q1F3 Tx RHCP 18505.gxt	S05D	GSO Antenna Gain Contour Data	GXT file (*.gxt)	
Q5F3 Rx RHCP 29570.gxt	S01U	GSO Antenna Gain Contour Data	GXT file (*.gxt)	
Reg1_Q1F3 Rx RHCP 28180.gxt	S05U	GSO Antenna Gain Contour Data	GXT file (*.gxt)	
Reg1_Q1F3 Rx LHCP 28180.gxt	S06U	GSO Antenna Gain Contour Data	GXT file (*.gxt)	
Nom Feeder Rx LHCP 27500.gxt	S04U	GSO Antenna Gain Contour Data	GXT file (*.gxt)	
Nom Feeder Rx RHCP 27500.gxt	S03U	GSO Antenna Gain Contour Data	GXT file (*.gxt)	