

S1. GENERAL INFORMATION Complete for all satellite applications.

a. Space Station or Satellite Network Name: INMARSAT 2F1		e. Estimated Date of Placement into Service: 11/22/2008		i. Will the space station(s) operate on a Common Carrier Basis: N	
b. Construction Commencement Date:		f. Estimated Lifetime of Satellite(s): 12 Years		j. Number of transponders offered on a common carrier basis: 0	
c. Construction Completion Date:		g. Total Number of Transponders: 4		k. Total Common Carrier Transponder Bandwidth: 0 MHz	
d1. Est Launch Date Begin: 10/1/1991	d2. Est Launch Date End: 10/31/1991	h. Total Transponder Bandwidth (no. transponders x Bandwidth) 23 MHz		i. Orbit Type: Mark all boxes that apply: <input checked="" type="checkbox"/> GSO <input type="checkbox"/> NGSO	

S2. OPERATING FREQUENCY BANDS Identify the frequency range and transmit/receive mode for all frequency bands in which this station will oper
Also indicate the nature of service(s) for each frequency band.

Frequency Band Limits				e. T/R Mode	f. Nature of Service(s): List all that apply to this band
Lower Frequency (.Hz)		Upper Frequency (.Hz)			
a. Numeric	b. Unit (K/M/G)	c. Numeric	d. Unit (K/M/G)		
1530	M	1548	M	T	Mobile-Satellite Service
1626.5	M	1649.5	M	R	Mobile-Satellite Service
6425	M	6443	M	R	Feeder Link for Mobile Satellite Service in FSS
3600	M	3623	M	T	Feeder Link for Mobile Satellite Service in FSS
6170	M	6180	M	R	Fixed Satellite Service
3945	M	3955	M	T	Fixed Satellite Service

S3. ORBITAL INFORMATION FOR GEOSTATIONARY SATELLITES ONLY:

a. Nominal Orbital Longitude (Degrees E/W): 142 W		b. Alternate Orbital Longitude (Degrees E/W):		c. Reason for orbital location selection: Inmarsat is authorized by the United Kingdom to operate the Inmarsat-2 F1 satellite at 142 W.L.	
Longitudinal Tolerance or E/W Station-Keeping:		f. Inclination Excursion or N/S Station-Keeping Tolerance: 3 Degrees	Range of orbital arc in which adequate service can be provided (Optional): g. Westernmost: h. Easternmost:		
d. Toward West:	0.1 Degrees		Degrees E/W		
e. Toward East:	0.1 Degrees	i. Reason for service are selection (Optional):			

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S4. ORBITAL INFORMATION FOR NON-GEOSTATIONARY SATELLITES ONLY

S4a. Total Number of Satellites in Network or System:

S4c. Celestial Reference Body (Earth, Sun, Moon, etc.):

S4b. Total Number of Orbital Planes in Network or System:

S4d. Orbit Epoch Date:

For each Orbital Plane Provide:

(e) Orbital Plane No.	(f) No. of Satellites in Plane	(g) Inclination Angle (degrees)	(h) Orbital Period (Seconds)	(i) Apogee (km)	(j) Perigee (km)	(k) Right Ascension of the Ascending Node (Deg.)	(l) Argument of Perigee (Degrees)	Active Service Arc Range (Degrees)		
								(m) Begin Angle	(n) End Angle	(o) Other

S5. INITIAL SATELLITE PHASE ANGLE For each satellite in each orbital plane, provide the initial phase angle.

(a) Orbital Plane No.	(b) Satellite Number	(c) Initial Phase Angle (Degrees)

NO NGSO DATA FILED

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S6. SERVICE AREA CHARACTERISTICS for each service area provide:

(a) Service Area ID	(b) Type of Associated Station (Earth or Space)	(c) Service Area Diagram File Name (GXT File)	(d) Service Area Description. Provide list of geographic areas (state postal codes or ITU 3-ltr codes), satellites or Figure No. of Service Area Diagram.
GLOBAL	S		All visible areas of the Earth.

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S7. SPACE STATION ANTENNA BEAM CHARACTERISTICS For each antenna beam provide:

(a) Beam ID	(b) T/R Mode	Isotropic Antenna Gain		(e) Pointing Error (Degrees)	(f) Rotational Error (Degrees)	(g) Min. Cross- Polar Iso- lation (dB)	(h) Polar- ization Switch- able? (Y/N)	(i) Polarization Alignment Rel. Equatorial Plane (Degrees)	(j) Service Area ID	Transmit			Receive			Input Attenuator (dB)	
										(k) Input Losses (dB)	(l) Effective Output Power (W)	(m) Max. EIRP (dBW)	(n) System Noise Temp (k)	(o) G/T Max. Gain Pt. (db/K)	(p) Min. Saturation Flux Density (dBW/m2)	(q) Max. Value	(r) Step Size
		(c) Peak (dBi)	(d) Edge (dBi)														
CGU	R	20.5	16.5	0.2	0.1	30	N		GLOBAL				891	-9			
CGD	T	20.5	17	0.2	0.1	30	N		GLOBAL	3.5	4.5	27					
LGD	T	18.5	17	0.2	0.1		N		GLOBAL	3	112.2	39					
TCN	R	2	0	0.2	0.1	30	N		GLOBAL				1500	-29.8			
LGU	R	18.5	16	0.2	0.1		N		GLOBAL				562	-9			
TLML	T	0	-3	0.2	0.1	30	N		GLOBAL	3.5	0.38	-4.2					

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S8. ANTENNA BEAM DIAGRAMS For each beam pattern provide the reference to the graphic image and numerical data:
 Also provide the power flux density levels in each beam that result from the emission with the highest power flux density.

(a) Beam ID	(b) T/R Mode	(c) Co-or Cross Polar Mode ("C" or" X")	(d) GSO Ref. Orbital Longitude (Deg. E/W)	(e) NGSO Antenna Gain Contour Description (Figure/Table/ Exhibit)	(f) GSO Antenna Gain Contour Data (GXT File)	Max. Power Flux Density (dBW/M2/Hz)				
						At Angle of Arrival above horizontal (for emission with highest PFD)				
						(g) 5 Deg	(h) 10 Deg	(i) 15 Deg	(j) 20 Deg	(k) 25 Deg
CGU	R	C	-142		I2_CGUR (142W).gxt					
CGD	T	C	-142		I2_CGDL (142W).gxt	-165.9	-165.7	-165.5	-165.2	-164.9
LGD	T	C	-142		I2_LGD (142W).gxt					
TCN	R	C	-142		I2_TNCR (142W).gxt					
LGU	R	C	-142		I2_LGU (142W).gxt					
TLML	T	C	-142		I2_TML (142W).gxt	-171.4	-171.4	-171.3	-171.2	-171.1

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S9. SPACE STATION CHANNELS For each frequency channel provide: S10. SPACE STATION TRANSPONDERS For each transponder provide:

(a) Channel No.	(B) Assigned Bandwidth (kHz)	(c) T/R Mode	(d) Center Frequency (MHz)	(e) Polarization (H, V, L, R)	(f) TTC or Comm Channel (T or C)
CXU	18000	R	6434	R	C
CYD	23000	T	3611.5	L	C
LU	23000	R	1638	R	C
LD	18000	T	1539	R	C
TLCR	10000	R	6175	R	T
TLML	10000	T	3950	L	T

(a) Transponder ID	(b) Transponder Gain (dB)	Receive Band		Transmit Band	
		(c) Channel No.	(d) Beam ID	(e) Channel No.	(f) Beam ID
FL5	176	CXU	CGUR	LD	LGD
RL6	176	LU	LGU	CYD	CGDL
TC		TLCR	TCNR		
TM				TLML	TLML

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S11. DIGITAL MODULATION PARAMETERS For each digital emission provide:

(a) Digital Mod. ID	(b) Emission Designator	(c) Assigned Bandwidth (kHz)	(d) No. of Phases	(e) Uncoded Data Rate (kbps)	(f) FEC Error Correction Coding Rate	(g) CDMA Processing Gain (dB)	(h) Total C/N Performance Objective (dB)	(i) Single Entry C/I Objective (dB)
13	20K0G1E	20	4	12	0.5		5.1	17.3
14	100KG1X	100	4	64	0.5		5	17.2
15	10K0G1X	10	2	3	0.5		0.6	12.8
16	10K0G1W	10	4	4	0.5		5	17.2
17	10K0G1X	10	2	3	0.5		2.8	15
20	5K00G1D	5	2	0.3	0.5		3.5	15.7
21	2K50F1D	2.5	2	0.001	0.242		-10.9	1.3
22	20K0G1E	20	4	12	0.5		5.1	17.3
23	100KG1X	100	4	64	0.5		5	17.2
24	20K0G1X	20	4	12	0.5		4.4	16.6
25	10K0G1W	10	4	4	0.5		5	17.2
26	20K0G1X	20	2	1.5	0.5		1.7	13.9
28	5K00G1D	5	2	0.3	0.5		3.5	15.7
29	2K50F1D	2.5	2	0.064	0.5		-3.7	8.5
50	7K50G1D	7.5	2	10.5	0.5		5	17.2
51	5K00G1D	5	2	4.8	0.5		4.7	16.9
52	2K50G1D	2.5	2	1.2	0.5		3.2	15.4
53	45K0G7D	45	4	64	0.5		7.7	19.9
54	5K00G1W	5	2	4.8	0.5		5.4	17.6
55	7K50G1W	7.5	2	4.8	0.5		5.4	17.6
63	7K50G1D	7.5	2	10.5	0.5		5	17.2
64	5K00G1D	5	2	4.8	0.5		4.7	16.9
65	2K50G1D	2.5	2	1.2	0.5		3.2	15.4
66	45K0G7D	45	4	64	0.5		7.7	19.9
67	5K00G1W	5	2	4.8	0.5		5.4	17.6
68	5K00G1W	5	2	4.8	0.5		5.4	17.6
76	100KN0N	100			1		15	27.2
77	100KN0N	100			1		15	27.2

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S13. TYPICAL EMISSIONS For each planned type of emission provide:

Associated Transponder ID Range (a) Start (b) End		Modulation ID		(e) Carriers per Transponder	(f) Carrier Spacing (kHz)	(g) Noise Budget Reference (Table No.)	(h) Energy Dispersal Bandwidth (kHz)	Receive Band (Assoc. Transmit Stn)			Transmit Band (This Space Station)			
		(c) Digital (Table S11)	(d) Analog (Table S12)					(i) Assoc. Stn. Max. Antenna Gain (dBi)	Assoc. Station Transmit Power (dBW) (j) Min. (k) Max.		EIRP (dBW) (l) Min. (m) Max.		(n) Max. Power Flux Density (dBW/m ² /Hz)	(o) Assoc. Stn Rec. G/T (dB/K)
FL5	FL5	13		368	20	FLG INM-B 20		54	-3.4	1.6	17.3	21.3		-4
FL5	FL5	14		112	100	FLG INM-B 100		54	-0.2	4.8	22.5	26.5		-4
FL5	FL5	15		2089	10	FLG INM-B 10		54	-10.9	-5.9	9.8	13.8		-4
FL5	FL5	16		288	10	FLG INM-M 10		54	-2.3	2.7	18.4	22.4		-10
FL5	FL5	17		479	10	FLG INM-M 10		54	-4.5	0.5	16.2	20.2		-10
FL5	FL5	20		209	10	FLG INM-C.doc		54	-0.9	4.1	19.8	23.8		-23
FL5	FL5	21		178	5	FLG INM-D.doc		54	-2.2	2.8	20.5	24.5		-22.1
RL6	RL6	22		6300	20	RLG INM-B 20		21	5	12	-8.4	2.6	-165.2	30.2
RL6	RL6	23		1260	100	RLG INM-B 100		21	8	16	-1.4	8.6	-166.5	30.2
RL6	RL6	24		6300	20	RLG INM-B 20		21	4.3	13	-9.1	3.6	-164.2	30.2
RL6	RL6	25		12600	10	RLG INM-M 10		14	7	13	-13.4	-6.4	-169.4	30.2
RL6	RL6	26		6300	20	RLG INM-M 20		14	3	11	-17.4	-5.4	-167.2	30.2
RL6	RL6	28		25200	5	RLG INM-C.doc		0	4	10.5	-23	-12.6	-174.7	30.2
RL6	RL6	29		25200	2.5	RLG INM-D.doc		3.5	-3	9	-30.2	-16.2	-178.3	30.2
FL5	FL5	50		186	7.5	FLG AERO-H 7		54	-0.4	4.6	20.3	24.3		-13
FL5	FL5	51		112	5	RLG AERO-I 5		54	1.8	6.8	22.5	26.5		-19
FL5	FL5	52		58	2.5	FLG AERO-L 2.		54	4.7	9.7	25.4	29.4		-26
FL5	FL5	53		68	45	FLG F77 45 kH		54	1	6	24.7	25.7		-4
FL5	FL5	54		1023	5	FLG F55 5kHz.		54	-8.8	-3.8	12.9	15.9		-7
FL5	FL5	55		323	7.5	FLG F33 7.5 k		54	-3.3	1.7	17.4	21.4		-12.5
RL6	RL6	63		5623	7.5	RLG AERO-H 7		12	7.6	13.5	-6.5	3.5	-160.7	30.2
RL6	RL6	64		13183	5	RLG AERO-I 5		6	9.9	16	-10.2	-0.2	-162.3	30.2
RL6	RL6	65		18577	2.5	RLG AERO-L 2		0	11.8	13.5	-14.7	-9	-169	30.2
RL6	RL6	66		851	45	RLG F77 45 kH		20	10	12	1.7	7.7	-164.4	30.2
RL6	RL6	67		13490	5	RLG F55 5 kHz		17	3	8	-10.3	-1.3	-163.4	30.2
RL6	RL6	68		13490	5	RLG F33 5 kHz		11.5	8.5	13.5	-10.3	-1.3	-163.4	30.2
FL5	FL5	76		4	100	FLG AFC.doc		54	-9	9	10	15		14.2
RL6	RL6	77		4	100	RLG AFC.doc		38.4	-7.9	2.1	-9	-4		30.2

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S14. Is the space station(s) controlled and monitored remotely? If Yes, provide the location and telephone number of the TT and C control point(s): Yes

Remote Control (TT C) Location(s):

S14a: Street Address: 24 Unity Drive North			
S14b. City: Auckland	S14c. County:	S14d. State/Country	S14e. Zip Code: 1331
S14f. Telephone Number: +64 9 913 3800		S14g. Call Sign of Control Station (if appropriate):	

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Characteristics and
Certifications

S15. SPACECRAFT PHYSICAL CHARACTERISTICS:

S15a. Mass of spacecraft without fuel (kg): 618	Spacecraft Dimensions (meters)	Probability of Survival to End of Life (0.0 - 1.0)
S15b. Mass of fuel and disposables at launch (kg): 614		
S15c. Mass of spacecraft and fuel at launch (kg): 1382	S15f. Length (m): 1.5	S15i. Payload: 0.74
S15d. Mass of fuel, in orbit, at beginning of life (kg): 150	S15g. Width (m): 1.6	S15j. Bus: 0.74
S15e. Deployed Area of Solar Array (square meters): 14	S15h. Height (m): 1.4	S15k. Total: 0.55

S16. SPACECRAFT ELECTRICAL CHARACTERISTICS:

Spacecraft Subsystem	Electrical Power (Watts) At Beginning of Life		Electrical Power (Watts) At End of Life	
	At Equinox	At Solstice	At Equinox	At Solstice
Payload (Watts):	(a): 655	(f): 655	(k): 655	(p): 655
Bus (Watts):	(b): 479	(g): 351	(l): 407	(q): 251
Total (Watts):	(c): 1134	(h): 1006	(m): 1026	(r): 906
Solar Array (Watts):	(d): 1440	(i): 1280	(n): 1156	(s): 1040
Depth of Battery Discharge (%):	(e) 48 %	(j) 0 %	(o) 45 %	(t) 0 %

S17. CERTIFICATIONS:

a. Are the power flux density limits of § 25.208 met?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	<input type="checkbox"/> N/A
b. Are the appropriate service area coverage requirements of § 25.143(b)(ii) and (iii), or § 25.145(c)(1) and (2) met?	<input type="checkbox"/> YES	<input type="checkbox"/> NO	<input checked="" type="checkbox"/> N/A
c. Are the frequency tolerances of § 25.202(e) and the out-of-band emission limits of § 25.202(f)(1), (2) and (3) met?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	<input type="checkbox"/> N/A

In addition to the information required in this Form, the space station applicant is required to provide all the information specified in Section 25.114 of the Commission's rules, 47 C.F.R § 25.114.