FCC 312 Schedule S	FEDERAL COMMUNICATIONS COMMISSION SATELLITE SPACE STATION AUTHORIZATIONS (Technical and Operational Description)	Page 1: General, Frequency Bands, and GSO Orbit

S1. GENERAL INFORMATION Complete for all satellite applications.

a. Space Station or Satellite Network Name: INTELSAT 2		e. Estimated Date of Placement into Service:	i Will the space station(s) operate on a Common Carrier Basis: N
b. Construction Commencement Date:		f. Estimated Lifetime of Satellite(s): Years	j. Number of transponders offered on a common carrier basis:
c. Construction Completion Date:		g. Total Number of Transponders: 32	k. Total Common Carrier Transponder Bandwidth: MHz
d1. Est Launch Date Begin:	d2. Est Launch Date End:	h. Total Transponder Bandwidth (no. transponders x Bandwidth) 1808 MHz	l. Orbit Type: Mark all boxes that apply: [X] GSO [ ] 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)		
5925	M	6425	M	R	Fixed Satellite Service
14000	M	14500	M	R	Fixed Satellite Service
3700	M	4200	M	T	Fixed Satellite Service
3700	M	4200	M	T	Fixed Satellite Service
5925	M	6425	M	R	Fixed Satellite Service
12250	M	12750	M	T	Fixed Satellite Service

S3. ORBITAL INFORMATION FOR GEOSTATIONARY SATELLITES ONLY:

a. Nominal Orbital Longitude (Degrees E/W): 169.1 E	b. Alternate Orbital Longitude (Degrees E/W):		c. Reason for orbital location selection: PROVIDE SERVICE TO EAST ASIA, AUSTRALIA, THE PACIFIC OCEAN REGION AND WESTERN NORTH AMERICA
Longitudinal Tolerance or E/W Station-Keeping: d. Toward West: 0.05 Degrees e. Toward East: 0.05 Degrees	f. Inclination Excursion or N/S Station-Keeping Tolerance: 0.05 Degrees	Range of orbital are in which adequate service can be provided (Optional): Degrees E/W g. Westernmost: h. Easternmost:	
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:

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

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

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 intital 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.
1	S		EAST ASIA, AUSTRALIA, PACIFIC OCEAN REGION, WESTERN NORTH AMERICA
2	S		EAST ASIA, AUSTRALIA, PACIFIC OCEAN REGION
3	S		EAST ASIA
4	S		AUSTRALIA, NEW ZEALAND
5	S		GLOBAL

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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 Isolation (dB)	(h) Polarization Switchable? (Y/N)	(i) Polarization Alignment Rel. Equatorial Plane (Degrees)	(j) Service Area ID	Transmit			Receive				
		(c) Peak (dBi)	(d) Edge (dBi)							(k) Input Losses (dB)	(l) Effective Output Power (W)	(m) Max. EIRP (dBW)	(n) System Noice Temp (k)	(o) G/T Max. Gain Pt. (db/K)	(p) Min. Saturation Flux Density (dBW/m2)	Input Attenuator (dB)	
																(q) Max. Value	(r) Step Size
PCH	R	25.9	15.9						1					-1.5	-97.3	15	1
PCV	R	27	17						1					1.2	-100	15	1
OCH	R	23.2	13.2						1					-2.8	-96	15	1
AKH	R	29.7	19.7						1					3.8	-94.2	15	1
AKV	R	29.8	19.8						1					3.8	-94.2	15	1
P1H	T	23.7	13.7						1			38.1					
P1VD	T	24.3	14.3						1			37.5					
P2H	T	24.9	14.9						1			39.2					
P2VD	T	25.1	15.1						2			39.4					
OCV	T	21.9	11.9						2			36.8					
C1H	T	36.4	26.4						3			53.5					
C2H	T	36.1	26.1						3			53.3					
AKH	T	30.9	20.9						4			48					
AKV	T	31	21						4			48.3					
NKV	T	34.9	24.9						3			51.7					
CMD	R	18.8	16						5					-24.1	-100.4		
CMD	R	2	-2						5					-28.9	-96.3		
TLM	T	22.5	18						5			6.4					
TLM	T	2	-2						5			9.2					
UPC	T	19.6	17						5			13.3					
UPC	T	19.6	17						5			13.3					

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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
PCH	R	C	169.1		pchu.gxt					
PCV	R	C	169.1		pcvu.gxt					
OCH	R	C	169.1		ochu.gxt					
AKH	R	C	169.1		akhu.gxt					
AKV	R	C	169.1		akvu.gxt					
P1H	T	C	169.1		p1hd.gxt	-155.2	-155.1	-154.9	-154.8	-154.7
P1VD	T	C	169.1		p1vd.gxt	-155.8	-155.7	-155.5	-155.4	-155.3
P2H	T	C	169.1		p2hd.gxt	-154.1	-154	-153.8	-153.7	-153.6
P2VD	T	C	169.1		p2vd.gxt	-153.9	-153.8	-153.6	-153.5	-153.4
OCV	T	C	169.1		ocvd.gxt	-156.5	-156.4	-156.2	-156.1	-156
C1H	T	C	169.1		c1hd.gxt	-148	-145.5	-143	-140.5	-139.3
C2H	T	C	169.1		c2hd.gxt	-148	-145.5	-143	-140.5	-139.5
AKH	T	C	169.1		akhd.gxt	-148	-145.5	-145	-144.9	-144.8
AKV	T	C	169.1		akvd.gxt	-148	-145.5	-144.7	-144.6	-144.5
NKV	T	C	169.1		nkvd.gxt	-148	-145.5	-143	-141.2	-141.1
CMD	R	C	169.1	cmdg.pdf						
CMD	R	C	169.1	cmdb.pdf						
TLM	T	C	169.1	tlmg.pdf		-174.9	-174.8	-174.6	-174.5	-174.4
TLM	T	C	169.1	tlmb.pdf		-172.1	-172	-171.8	-171.7	-171.6
UPC	T	C	169.1	upcr.pdf		-158	-157.9	-157.7	-157.6	-157.5
UPC	T	C	169.1	upcl.pdf		-158	-157.9	-157.7	-157.6	-157.5

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S9. SPACE STATION CHANNELS For each frequency channel 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)
1CU	54000	R	5955	V	C
3CU	54000	R	6015	V	C
5CU	54000	R	6075	H	C
7CU	64000	R	6140	H	C
9CU	54000	R	6205	H	C
11CU	54000	R	6265	H	C
13CU	54000	R	6325	V	C
15CU	64000	R	6390	H	C
2CU	54000	R	5955	H	C
4CU	54000	R	6015	H	C
6CU	54000	R	6075	V	C
8CU	64000	R	6140	V	C
10CU	54000	R	6205	V	C
12CU	54000	R	6265	V	C
14CU	54000	R	6325	H	C
16CU	64000	R	6390	V	C
1CD	54000	T	3730	V	C
3CD	54000	T	3790	V	C
5CD	54000	T	3850	V	C
7CD	64000	T	3915	V	C
9CD	54000	T	3980	V	C
11CD	54000	T	4040	V	C
13CD	54000	T	4100	V	C
15CD	64000	T	4165	V	C
2CD	54000	T	3730	H	C
4CD	54000	T	3790	H	C
6CD	54000	T	3850	H	C
8CD	64000	T	3915	H	C
10CD	54000	T	3980	H	C
12CD	54000	T	4040	H	C

S10. SPACE STATION TRANSPONDERS For each transponder provide:

(a) Transponder ID	(b) Transponder Gain (dB)	Receive Band		Transmit Band	
		(c) Channel No.	(d) Beam ID	(e) Channel No.	(f) Beam ID
1C	124.6	1CU	PCVU	1CD	P2VD
3C	123.5	3CU	PCVU	3CD	P1VD
5C	123	5CU	PCHU	5CD	P2VD
7C	121.9	7CU	PCHU	7CD	P1VD
9C	123	9CU	PCHU	9CD	P2VD
11C	121.9	11CU	PCHU	11CD	P1VD
13C	124.6	13CU	PCVU	13CD	P2VD
15C	121.9	15CU	PCHU	15CD	P1VD
2C	123	2CU	PCHU	2CD	P2HD
4C	123.1	4CU	PCHU	4CD	P1HD
6C	124.6	6CU	PCVU	6CD	P2HD
8C	124.7	8CU	PCVU	8CD	P1HD
10C	124.6	10CU	PCVU	10CD	P2HD
12C	124.7	12CU	PCVU	12CD	P1HD
14C	123	14CU	PCHU	14CD	P2HD
16C	124.7	16CU	PCVU	16CD	P1HD
1K	126	1KU	AKVU	1KD	C1HD
3K	126.2	3KU	AKHU	3KD	C2HD
5K	126	5KU	AKVU	5KD	C1HD
7K	126.2	7KU	AKHU	5KD	C2HD
9K	126	9KU	AKVU	9KD	C1HD
11K	126.2	11KU	AKHU	11KD	C2HD
13K	126	13KU	AKVU	13KD	C1HD
15K	126.2	15KU	AKHU	15KD	C2HD
2K	126.3	2KU	AKHU	2KD	AKVD
4K	125.7	4KU	AKVU	4KD	NKVD
6K	126.3	6KU	AKHU	6KD	AKVD
8K	125.7	8KU	AKVU	8KD	NKVD
10K	126.3	10KU	AKHU	10KD	AKVD
12K	125.7	12KU	AKVU	12KD	NKVD

14CD	54000	T	4100	H	C
16CD	64000	T	4165	H	C
1KU	54000	R	14029	V	C
3KU	54000	R	14089	H	C
5KU	54000	R	14149	V	C
7KU	64000	R	14214	H	C
9KU	54000	R	14279	V	C
11KU	54000	R	14339	H	C
13KU	54000	R	14399	V	C
15KU	64000	R	14464	H	C
2KU	54000	R	14029	H	C
4KU	54000	R	14089	V	C
6KU	54000	R	14149	H	C
8KU	64000	R	14214	V	C
10KU	54000	R	14279	H	C
12KU	54000	R	14339	V	C
14KU	54000	R	14399	H	C
16KU	64000	R	14464	V	C
1KD	54000	T	12281	H	C
3KD	54000	T	12341	H	C
5KD	54000	T	12401	H	C
7KD	64000	T	12466	H	C
9KD	54000	T	12531	H	C
11KD	54000	T	12591	H	C
13KD	54000	T	12651	H	C
15KD	64000	T	12716	H	C
2KD	54000	T	12281	V	C
4KD	54000	T	12341	V	C
6KD	54000	T	12401	V	C
8KD	64000	T	12466	V	C
10KD	54000	T	12531	V	C
12KD	54000	T	12591	V	C
14KD	54000	T	12651	V	C
16KD	64000	T	12716	V	C
CMD1	1000	R	6424.5	H	T
CMD2	1000	R	5925.5	H	T
TLM1	500	T	4198.5	H	T
TLM2	500	T	4199.5	H	T
TLM3	500	T	4198.5	V	T

14K	126.3	14KU	AKHU	14KD	AKVD
16K	125.7	16KU	AKVU	16KD	NKVD
7CPO	123.6	7CU	PCHU	7CD	OCVD
11CPO	123.6	11CU	PCHU	11CD	OCVD
15CPO	123.6	15CU	PCHU	15CD	OCVD
4COP	124.5	4CU	OCHU	4CD	P1HD
7COP	123.3	7CU	OCHU	7CD	P1VD
11COP	123.3	11CU	OCHU	11CD	P1VD
15COP	123.3	15CU	OCHU	15CD	P1VD
7COO	125	7CU	OCHU	7CD	OCVD
11COO	125	11CU	OCHU	11CD	OCVD
15COO	125	15CU	OCHU	15CD	OCVD
10KAP	123.3	10KU	AKHU	1CD	P2VD
12KAP	122.1	12KU	AKVU	3CD	P1VD
13KAP	123.2	13KU	AKVU	5CD	P2VD
15KAP	122.2	15KU	AKHU	7CD	P1VD
15KAO	123.9	15KU	AKHU	7CD	OCVD
9KAP	123.2	9KU	AKVU	2CD	P2HD
11KAP	123.4	11KU	AKHU	4CD	P1HD
14KAP	123.3	14KU	AKHU	6CD	P2HD
16KAP	123.3	16KU	AKVU	8CD	P1HD
2CPC	125.8	2CU	PCHU	9KD	C1HD
4CPC	125.9	4CU	PCHU	11KD	C2HD
4CPA	125.8	4CU	PCHU	11KD	AKHD
5CPC	125.8	5CU	PCHU	13KD	C1HD
7CPC	125.9	7CU	PCHU	15KD	C2HD
7CPA	125.8	7CU	PCHU	15KD	AKHD
1CPA	127.6	1CU	PCVU	10KD	AKVD
3CPN	127.1	3CU	PCVU	12KD	NKVD
6CPA	127.6	6CU	PCVU	14KD	AKVD
8CPN	127.1	8CU	PCVU	16KD	NKVD

TLM4	500	T	4199.5	V	T
UPC1	25	T	12500	R	T
UPC2	25	T	12500	L	T

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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)

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S12. ANALOG MODULATION PARAMETERS For each analog emission provide:

(a) Analog Mod. ID	(b) Emission Designator	(c) Assigned Bandwidth (kHz)	(d) Signal Type	(e) Channels per Carrier	Multi-channel Telephony				(j) Video Standard NTSC, PAL, etc.	(k) Video Noise-Weighting (dB)	(l) Video and SCPC/FM Modulation Index	(m) SCPC/FM Compander, Preemphasis, and Noise Weighting (dB)	(n) Total C/N Performance Objective (dB)	(o) Single Entry C/I Objective (dB)
					(f) Ave. Companded Talker Level (dBm0)	(g) Bottom Baseband Freq. (MHz)	(h) Top Baseband Freq. (MHz)	(i) RMS Modulation Index						

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

Associated Transponder ID Range		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)			
(a) Start	(b) End	(c) Digital (Table S11)	(d) Analog (Table S12)					(i)Assoc. Stn. Max. Antenna Gain (dBi)	Assoc. Station Transmit Power (dBW)		EIRP (dBW)		(n) Max. Power Flux Density (dBW/m2/Hz)	(o)Assoc. Stn Rec. G/T (dB/K)
									(j) Min.	(k) Max.	(l) Min.	(m) Max.		

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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: 3400 INTERNATIONAL DRIVE, N.W.			
S14b. City: WASHINGTON, D.C.	S14c. County: USA	S14d. State/Country DC	S14e. Zip Code: 20008
S14f. Telephone Number: 202-944-7701	S14g. Call Sign of Control Station (if appropriate):		

S15. SPACECRAFT PHYSICAL CHARACTERISTICS:

S16. SPACECRAFT ELECTRICAL CHARACTERISTICS:

S17. CERTIFICATIONS:

a. Are the power flux density limits of § 25.208 met?:		**YES**	#	**NO**	#	**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?		**YES**	#	**NO**	#	**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?		**YES**	#	**NO**	#	**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.