

**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: JCSAT-2B		e. Estimated Date of Placement into Service:		i. Will the space station(s) operate on a Common Carrier Basis:	
b. Construction Commencement Date:		f. Estimated Lifetime of Satellite(s): 15 Years		j. Number of transponders offered on a common carrier basis:	
c. Construction Completion Date:		g. Total Number of Transponders: 44		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) 2853 MHz		l. 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	Nature of Service(s): List all that apply to this band	f.
Lower Frequency (Hz)		Upper Frequency (Hz)				
a. Numeric	b. Unit (K/M/G)	c. Numeric	d. Unit (K/M/G)			
11460.75	M	12746.25	M	T	Fixed Satellite Service	
14002.75	M	14494.75	M	R	Fixed Satellite Service	
3625	M	4198	M	T	Fixed Satellite Service	
5850	M	6423	M	R	Fixed Satellite Service	

**S3. ORBITAL INFORMATION FOR GEOSTATIONARY SATELLITES ONLY:**

a. Nominal Orbital Longitude (Degrees E/W): 154 E		b. Alternate Orbital Longitude (Degrees E/W):		c. Reason for orbital location selection: SKY Perfect JSAT Corporation has authorization from Ministry of Internal Affairs and Communication of Japan to operate the satellite at the 154 degrees East longitude orbital location.	
Longitudinal Tolerance or E/W Station-Keeping:		f. Inclination Excursion or N/S Station-Keeping Tolerance:		Range of orbital are in which adequate service can be provided (Optional): Degrees    E/W	
d. Toward West:	0.05 Degrees	e. Toward East:		g. Westernmost:	
	0.05 Degrees	0.1 Degrees		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:

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-itr codes), satellites or Figure No. of Service Area Diagram.
KU JAPAN BE	E	see PDF file	Japan
KU ASIA BEAM	E	see PDF file	East Asia, Southeast Asia, US Hawaii
KU PACIFIC B	E	see PDF file	Micronesia, Melanesia, Polynesia, US Hawaii
C NORTH BEA	E	see PDF file	Northeast Asia, US Alaska
C SOUTH BEA	E	see PDF file	East Asia, Southeast Asia, Oceania, US Hawaii
C GLOBAL BE	E	see PDF file	Global field of view

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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)														
JP-T	T	40.4	30.4	0.1	0.1	N		90	KU JAPAN	2.02	150	60.2					
JP-R	R	41.4	31.4	0.1	0.1	N		0	KU JAPAN				525	13	-105	25	1
AS-T	T	32.4	22.4	0.1	0.1	N		90	KU ASIA B	1.67	150	52.5					
AS-R	R	32.7	22.7	0.1	0.1	N		0	KU ASIA B				520	4.4	-95	25	1
PC-T	T	32.1	22.1	0.1	0.1	N		0	KU PACIFI	2.27	150	51.6					
PC-R	R	31.2	21.2	0.1	0.1	N		90	KU PACIFI				547	2.4	-95	25	1
N-TV	T	30.5	20.5	0.1	0.1	N		90	C NORTH	1.81	100	48.7					
N-RH	R	32.6	22.6	0.1	0.1	N		0	C NORTH				563	3.8	-100	25	1
N-TH	T	30.5	20.5	0.1	0.1	N		0	C NORTH	1.81	100	48.7					
N-RV	R	32.6	22.6	0.1	0.1	N		90	C NORTH				564	3.7	-100	25	1
S-TV	T	25.4	15.4	0.1	0.1	N		90	C SOUTH	1.6	100	43.8					
S-RH	R	27.1	17.1	0.1	0.1	N		0	C SOUTH				548	-1.7	-100	25	1
S-TH	T	25.5	15.5	0.1	0.1	N		0	C SOUTH	1.6	100	43.9					
S-RV	R	27.05	17.05	0.1	0.1	N		90	C SOUTH				550	-1.7	-100	25	1
GL-T	T	20.4	17.4	0.17	0.1	N		0	C GLOBA	1.93	100	38.5					
GL-R	R	20.7	17.7	0.17	0.1	N		90	C GLOBA				575	-8.4	-95	25	1

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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
JP-T	T	C	154		AT-2B_Ku_Japan_TV					
JP-R	R	C	154		AT-2B_Ku_Japan_RH					
AS-T	T	C	154		SAT-2B_Ku_Asia_TV	-157.8	-158.2	-158.1	-155.5	-153.4
AS-R	R	C	154		SAT-2B_Ku_Asia_RH					
PC-T	T	C	154		AT-2B_Ku_Pacific_TH	-157.5	-157.4	-157.3	-157.5	-157.9
PC-R	R	C	154		AT-2B_Ku_Pacific_RV					
N-TV	T	C	154		SAT-2B_C_North_TV	-158.5	-158.3	-158	-157.6	-157.2
N-RH	R	C	154		SAT-2B_C_North_RH					
N-TH	T	C	154		SAT-2B_C_North_TH	-158.5	-158.4	-158.1	-157.7	-157.3
N-RV	R	C	154		SAT-2B_C_North_RV					
S-TV	T	C	154		SAT-2B_C_South_TV	-164.1	-163.8	-163.5	-163.2	-162.8
S-RH	R	C	154		SAT-2B_C_South_RH					
S-TH	T	C	154		SAT-2B_C_South_TH	-163.6	-163.3	-163	-162.7	-162.3
S-RV	R	C	154		SAT-2B_C_South_RV					
GL-T	T	C	154		SAT-2B_C_Global_TH	-168.8	-168.6	-168.4	-168.2	-167.9
GL-R	R	C	154		SAT-2B_C_Global_RV					

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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)
K1T	57000	T	12283.25	V	C
K1R	57000	R	14031.25	H	C
K2T	57000	T	12298.25	H	C
K2R	57000	R	14046.25	V	C
K3T	57000	T	12343.25	V	C
K3R	57000	R	14091.25	H	C
K4T	57000	T	12358.25	H	C
K4R	57000	R	14106.25	V	C
K5T	57000	T	12403.25	V	C
K5R	57000	R	14151.25	H	C
K6T	57000	T	12418.25	H	C
K6R	57000	R	14166.25	V	C
K7T	57000	T	12463.25	V	C
K7R	57000	R	14211.25	H	C
K8T	57000	T	12478.25	H	C
K8R	57000	R	14226.25	V	C
K9T	57000	T	12523.25	V	C
K9R	57000	R	14271.25	H	C
K10T	57000	T	12538.25	H	C
K10R	57000	R	14286.25	V	C
K11T	57000	T	12583.25	V	C
K11R	57000	R	14331.25	H	C
K12T	57000	T	12596.25	H	C
K12R	57000	R	14346.25	V	C
K13T	57000	T	12643.25	V	C
K13R	57000	R	14391.25	H	C
K14T	57000	T	12658.25	H	C
K14R	57000	R	14406.25	V	C
K15T	57000	T	12703.25	V	C
K15R	57000	R	14451.25	H	C

(a) Transponder ID	(b) Transponder Gain (dB)	Receive Band		Transmit Band	
		(c) Channel No.	(d) Beam ID	(e) Channel No.	(f) Beam ID
K1AA	126.9	K1R	AS-RH	K1T	AS-TV
K3AA	126.9	K3R	AS-RH	K3T	AS-TV
K5AA	126.9	K5R	AS-RH	K5T	AS-TV
K6PP	127.8	K6R	PC-RV	K106T	PC-TH
K7AJ	126.5	K7R	AS-RH	K7T	JP-TV
K7JA	128.2	K7R	JP-RH	K7T	AS-TV
K7AA	126.9	K7R	AS-RH	K7T	AS-TV
K8PP	127.8	K8R	PC-RV	K108T	PC-TH
K11AJ	126.5	K11R	AS-RH	K11T	JP-TV
K11JA	128.2	K11R	JP-RH	K11T	AS-TV
K11AA	126.9	K11R	AS-RH	K11T	AS-TV
K12PP	127.8	K2R	PC-RV	K102T	PC-TH
K14PP	127.8	K4R	PC-RV	K104T	PC-TH
K15AJ	126.5	K15R	AS-RH	K15T	JP-TV
K15JA	128.2	K15R	JP-RH	K15T	AS-TV
K15AA	126.9	K15R	AS-RH	K15T	AS-TV
C1NN	122.6	C1R	N-RH	C1T	N-TV
C2NN	122.7	C2R	N-RV	C2T	N-TH
C3NN	122.6	C3R	N-RH	C3T	N-TV
C4NN	122.7	C4R	N-RV	C4T	N-TH
C5NN	122.6	C5R	N-RH	C5T	N-TV
C6NN	122.7	C6R	N-RV	C6T	N-TH
C7NN	122.6	C7R	N-RH	C7T	N-TV
C9NN	122.6	C9R	N-RH	C9T	N-TV
C11SS	128.4	C11R	S-RH	C11T	S-TV
C12SS	128.4	C12R	S-RV	C12T	S-TH
C13SS	128.4	C13R	S-RH	C13T	S-TV
C14SS	128.4	C14R	S-RV	C14T	S-TH
C15SS	128.4	C15R	S-RH	K15T	S-TV
C16SS	128.4	C16R	S-RV	C16T	S-TH

K16T	57000	T	12718.25	H	C
K16R	57000	R	14466.25	V	C
K102T	57000	T	11489.25	H	C
K104T	57000	T	11549.25	H	C
K106T	57000	T	11609.25	H	C
K108T	57000	T	11669.25	H	C
ASBCN		T	12748	V	T
PCBCN		T	11451	H	T
C1T	72000	T	3661	V	C
C1R	72000	R	5886	H	C
C2T	72000	T	3661	H	C
C2R	72000	R	5886	V	C
C3T	108000	T	3760	V	C
C3R	108000	R	5985	H	C
C4T	108000	T	3760	H	C
C4R	108000	R	5985	V	C
C5T	108000	T	3880	V	C
C5R	108000	R	6105	H	C
C6T	108000	T	3880	H	C
C6R	108000	R	6105	V	C
C7T	108000	T	4020	V	C
C7R	108000	R	6245	H	C
C9T	108000	T	4140	V	C
C9R	108000	R	6365	H	C
C11T	72000	T	3661	V	C
C11R	72000	R	5886	H	C
C12T	72000	T	3661	H	C
C12R	72000	R	5886	V	C
C13T	56000	T	3730	V	C
C13R	56000	R	5955	H	C
C14T	56000	T	3730	H	C
C14R	56000	R	5955	V	C
C15T	56000	T	3790	V	C
C15R	56000	R	6015	H	C
C16T	56000	T	3790	H	C
C16R	56000	R	6015	V	C
C17T	56000	T	3850	V	C
C17R	56000	R	6075	H	C
C18T	56000	T	3850	H	C

C17SS	128.4	C17R	S-RH	C17T	S-TV
C18SS	128.4	C18R	S-RV	C18T	S-TH
C19SS	128.4	C19R	S-RH	C19T	S-TV
C20SS	128.4	C20R	S-RV	C20T	S-TH
C21SS	128.4	C21R	S-RH	C21T	S-TV
C22SS	128.4	C22R	S-RV	C22T	S-TH
C22SG	128.1	C22R	S-RV	C22T	GL-TH
C22GS	129.8	C22R	GL-RV	C22T	S-TH
C22GG	129.4	C22R	GL-RV	C22T	GL-TH
C23SS	128.4	C23R	S-RH	C23T	S-TV
C24SS	128.4	C24R	S-RV	C24T	S-TH
C24SG	128.1	C24R	S-RV	C24T	GL-TH
C24GS	129.8	C24R	GL-RV	C24T	S-TH
C24GG	129.4	C24R	GL-RV	C24T	GL-TH
C25SS	128.4	C25R	S-RH	C25T	S-TV
C26SS	128.4	C26R	S-RV	C26T	S-TH
C26SG	128.1	C26R	S-RV	C26T	GL-TH
C26GS	129.8	C26R	GL-RV	C26T	S-TH
C26GG	129.4	C26R	GL-RV	C26T	GL-TH
C27SS	128.4	C27R	S-RH	C27T	S-TV
C28SS	128.4	C28R	S-RV	C28T	S-TH
C28SG	128.1	C28R	S-RV	C28T	GL-TH
C28GS	129.8	C28R	GL-RV	C28T	S-TH
C28GG	129.4	C28R	GL-RV	C28T	GL-TH

C18R	56000	R	6075	V	C
C19T	56000	T	3910	V	C
C19R	56000	R	6135	H	C
C20T	56000	T	3910	H	C
C20R	56000	R	6135	V	C
C21T	56000	T	3990	V	C
C21R	56000	R	6215	H	C
C22T	56000	T	3990	H	C
C22R	56000	R	6215	V	C
C23T	56000	T	4050	V	C
C23R	56000	R	6275	H	C
C24T	56000	T	4050	H	C
C24R	56000	R	6275	V	C
C25T	56000	T	4110	V	C
C25R	56000	R	6335	H	C
C26T	56000	T	4110	H	C
C26R	56000	R	6335	V	C
C27T	56000	T	4170	V	C
C27R	56000	R	6395	H	C
C28T	51000	T	4167.5	H	C
C28R	51000	R	6392.5	V	C
CBCN		T	4199.375	H	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)
D1	1M14G7W	1600	4	2000	0.875			
D2	855KG7W	1200	8	2000	0.78			
D3	2M86G7W	4000	4	5000	0.875			
D4	2M14G7W	3000	8	5000	0.78			





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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): #Error

**Remote Control (TT C) Location(s):**

S14a: Street Address: 229-1 Miho-cho			
S14b. City: Yokohama	S14c. County: Japan	S14d. State/Country	S14e. Zip Code: 226-0015
S14f. Telephone Number: +81-25-922-7111		S14g. Call Sign of Control Station (if appropriate):	

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Characteristics and  
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**S15. SPACECRAFT PHYSICAL CHARACTERISTICS:**

S15a. Mass of spacecraft without fuel (kg): 2194.2	Spacecraft Dimensions (meters)	Probability of Survival to End of Life (0.0 - 1.0)
S15b. Mass of fuel and disposables at launch (kg): 2498		
S15c. Mass of spacecraft and fuel at launch (kg): 4696.2	S15f. Length (m): 25.5	S15i. Payload: 0.9743
S15d. Mass of fuel, in orbit, at beginning of life (kg):	S15g. Width (m): 9	S15j. Bus: 0.8671
S15e. Deployed Area of Solar Array (square meters): 44.8	S15h. Height (m): 7.5	S15k. Total: 0.8216

**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):	(f):	(k): 6301	(p): 6301
Bus (Watts):	(b):	(g):	(l): 1958	(q): 1287
Total (Watts):	(c):	(h):	(m): 8259	(r): 7588
Solar Array (Watts):	(d): 10997	(i): 9776	(n): 9878	(s): 8954
Depth of Battery Discharge (%):	(e) %	(j) %	(o) 69.5 %	(t) %

**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.**

**FCC NOTICE REQUIRED BY THE PAPERWORK REDUCTION ACT**

The public reporting estimate for this collection of information includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the required data, and completing and reviewing the collection of information. If you have any comments on this burden estimate, or how we can improve the collection and reduce the burden it causes you, please write to the Federal Communications Commission, AMD-PERF, Paperwork Reduction Project (3060-0678), Washington, DC 20554. We will also accept your comments regarding the Paperwork Reduction Act aspects of this collection via the Internet if you send them to PERM@fcc.gov. PLEASE DO NOT SEND COMPLETED FORMS TO THIS ADDRESS.

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**THE FOREGOING NOTICE IS REQUIRED BY THE PAPERWORK REDUCTION ACT OF 1995, PUBLIC LAW 104-13, OCTOBER 1, 1995, 44 U.S.C. SECTION 3507.**