

S1. GENERAL INFORMATION Complete for all satellite applications.

a. Space Station or Satellite Network Name: WINDS		e. Estimated Date of Placement into Service: 7/1/2008		i. Will the space station(s) operate on a Common Carrier Basis: N	
b. Construction Commencement Date:		f. Estimated Lifetime of Satellite(s): 5 Years		j. Number of transponders offered on a common carrier basis: 0	
c. Construction Completion Date:		g. Total Number of Transponders: 1		k. Total Common Carrier Transponder Bandwidth: 0 MHz	
d1. Est Launch Date Begin:	d2. Est Launch Date End:	h. Total Transponder Bandwidth (no. transponders x Bandwidth) 107 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)		
28446.5	M	28553.5	M	R	Fixed Satellite Service
18646.5	M	18753.5	M	R	Fixed Satellite Service

S3. ORBITAL INFORMATION FOR GEOSTATIONARY SATELLITES ONLY:

a. Nominal Orbital Longitude (Degrees E/W): 143 E		b. Alternate Orbital Longitude (Degrees E/W):		c. Reason for orbital location selection: The WINDS satellite operates at 143 E.L. under authority of the Japanese Government and under the WINDS-A ITU filing.	
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): <u> </u> Degrees <u> </u> E/W	
d. Toward West:	0.1 Degrees	e. Toward East:		g. Westernmost:	h. Easternmost:
	0.1 Degrees			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.
S1	S		Area around Kashima, Japan (Kanto region)
S2	S		Hawaii

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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				
										(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)	Input Attenuator (dB)	
		(q) Max. Value	(r) Step Size														
JUH	R	50	48.5	0.015		30	N	-3.9	S1				795	21	-109.3	30	0.5
HIUV	R	39	38.9	0.1		30	N	24.4	S2				832	9.8	-96.7	30	0.5
JDH	T	52	50.5	0.015		30	N	-3.9	S1	1	224	75.5					
HIDV	T	41	40.9	0.1		30	N	24.4	S2	1	95.5	60.8					

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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
JUH	R	C	143		JUH.gxt					
HIUV	R	C	143		HIUV.gxt					
JDH	T	C	143		JDH.gxt	-133.4	-133.4	-133.4	-133.4	-133.4
HIDV	T	C	143		HIDV.gxt	-122.3	-122.3	-122.3	-122.3	-122.3

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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)
U001	107000	R	28500	H	C
U002	107000	R	28500	V	C
D001	107000	T	18700	V	C
D002	107000	T	18700	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
T001	129.6	U001	JUH	D001	HIDV
T002	131.7	U002	HIUV	D002	JDH

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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	1M67G7W	167000	4	1624.5	0.67		9	21.2
D2	6M66G7W	666000	4	6498	0.67		9	21.2
D3	26M7G7W	267000	4	25992	0.67		9	21.2
D4	53M3G7W	533000	4	51984	0.67		9	21.2
D5	107MG7W	107000	4	103968	0.67		9	21.2

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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						
A1	25K0N0N	25000											12	24.2

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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)
T001	T001	D1		64	1670	FL1.docx		48.4	-3	-3	39	39.1	-124.6	19.5
T001	T001	D2		16	6680	FL2.docx		48.4	3	3	45	45.1	-124.6	19.5
T001	T001	D3		4	26750	FL3.docx		48.4	8.6	8.6	50.6	50.7	-125	19.5
T001	T001	D4		2	53500	FL4.docx		48.4	11.6	11.6	53.6	53.7	-125	19.5
T001	T001	D5		1		FL5.docx		48.4	12.6	12.6	56.6	56.7	-125	19.5
T001	T001	D5		1		NRB.docx		60.2	-12.5	-12.5	41.3	41.4	-122.3	19.5
T001	T001		A1	1		FL6.docx		48.4	-10	-10	32	32.1	-130.8	19.5
T002	T002			64		RL1.docx		48.4	4.1	4.1	48.3	49.8	-113.4	19.5
T002	T002	D2		16	6680	RL2.docx		48.4	10.1	10.1	54.3	55.8	-113.4	19.5
T002	T002	D3		4	26750	RL3.docx		48.4	14.1	14.1	58.3	59.8	-115.4	19.5
T002	T002	D4		2	53500	RL4.docx		48.4	14.1	14.1	58.3	59.8	-118.4	19.5
T002	T002		A1	1		RL5.docx		48.4	-10.6	-10.6	38.3	40.3	-122.1	19.5

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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): No

Remote Control (TT C) Location(s):

S14a: Street Address: 2-2-1 Sengen			
S14b. City: Tsukuba-shi Ibaragi	S14c. County:	S14d. State/Country	S14e. Zip Code: 305-8505
S14f. Telephone Number: 81-80-1004-2281		S14g. Call Sign of Control Station (if appropriate):	

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S15. SPACECRAFT PHYSICAL CHARACTERISTICS:

S15a. Mass of spacecraft without fuel (kg): 2422	Spacecraft Dimensions (meters)	Probability of Survival to End of Life (0.0 - 1.0)
S15b. Mass of fuel and disposables at launch (kg): 2420		
S15c. Mass of spacecraft and fuel at launch (kg): 4842	S15f. Length (m): 21.63	S15i. Payload: 0.7
S15d. Mass of fuel, in orbit, at beginning of life (kg): 278	S15g. Width (m): 4.9	S15j. Bus: 0.8
S15e. Deployed Area of Solar Array (square meters): 45	S15h. Height (m): 8	S15k. Total: 0.56

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): 3100	(f): 3100	(k): 3100	(p): 3100
Bus (Watts):	(b): 750	(g): 750	(l): 750	(q): 750
Total (Watts):	(c): 4800	(h): 4800	(m): 4800	(r): 4800
Solar Array (Watts):	(d): 6400	(i): 5900	(n): 5900	(s): 5400
Depth of Battery Discharge (%):	(e) 77.8 %	(j) 32.2 %	(o) 77.8 %	(t) 33.2 %

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.