

**S1. GENERAL INFORMATION** Complete for all satellite applications.

a. Space Station or Satellite Network Name: GESN @89 W	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): 15 Years	j. Number of transponders offered on a common carrier basis:
c. Construction Completion Date:	g. Total Number of Transponders: 0	k. Total Common Carrier Transponder Bandwidth: MHz
d. Estimated Launch Date:	h. Total Transponder Bandwidth (no. transponders x Bandwidth) 18000 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)		
29.25	G	29.5	G	R	2x 125 MHz channels
28.35	G	28.6	G	R	2 x 125 MHz channels
47.2	G	47.5	G	R	Gateway beams - 1 x 300 MHz channel
47.5	G	47.9	G	R	Gateway and user beams - 1 x 400 MHz channel
47.9	G	48.2	G	R	Gateway beams - 1 x 300 MHz channel
48.2	G	50.2	G	R	4 x 500 MHz channels
18.3	G	18.8	G	T	2 x 250 MHz channels
37.5	G	40.0	G	T	Gateway/ Hub applications - 5 x 500 MHz channels
40.0	G	42.0	G	T	4 x 500 MHz channels
3650	M	3700	M	T	Telemetry- 2 MHz spectrum of this band (TT&C)
6425	M	6525	M	R	Telecommand: 2 MHz spectrum of this band (TT&C)

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

a. Nominal Orbital Longitude (Degrees E/W): 89 W	b. Alternate Orbital Longitude (Degrees E/W):	c. Reason for orbital location selection: Part of GESN satellite system.
Longitudinal Tolerance or E/W Station-Keeping:	f. Inclination Excursion or N/S Station-Keeping Tolerance:	
d. Toward West:            0.05 Degrees e. Toward East:            0.05 Degrees	0.05 Degrees	
i. Reason for service are selection (Optional):		



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SATELLITE SPACE STATION AUTHORIZATIONS  
FCC Form 312 - Schedule S: (Technical and Operational Description)**

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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 SATELLITE SPACE STATION AUTHORIZATIONS  
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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		AAB

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**SATELLITE SPACE STATION AUTHORIZATIONS**  
**FCC Form 312 - Schedule S: (Technical and Operational Description)**

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)														
V3R	T	53	50	0.05		30	Y		1	2	12.6	64					
V4R	T	53	50	0.05		30	Y		1	2	25.2	67					
V5R	R	54.4	51.4	0.05		30	Y		1				520	27.2	-95.3		
KTR	T	48	45	0.05		30	Y		1	2	31.6	63					
KRR	R	46.5	43.5	0.05		30	Y		1				504	19.5	-116.2		

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SATELLITE SPACE STATION AUTHORIZATIONS  
FCC Form 312 - Schedule S: (Technical and Operational Description)**

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
V3R	T	C	-89	/ 40 GHz Tx Antenna	-140	-134	-126	-126	-126	
V3R	T	X	-89	V 40 GHz Tx Antenna						
V4R	T	C	-89	/ 40 GHz Tx Antenna	-124	-120	-117	-117	-117	
V5R	R	C	-89	/ 50 GHz Rx Antenna						
V5R	R	X	-89	V 50 GHz Rx Antenna						
KTR	T	C	-89	/ 20 GHz Tx Antenna	-121	-121	-121	-120	-120	
KTR	T	X	-89	V 20 GHz Tx Antenna						
KRR	R	C	-89	V 30 GHz Rx Antenna						
KRR	R	X	-89	V 30 GHz Rx Antenna						
KRB	R	C		eacon Antenna Beam						
KRB	R	X		Beacon Antenna Beam						
KTB	T	C		eacon Antenna Beam-	-119	-119	-118	-118	-118	
KTB	T	X		eacon Antenna Beam						
V4R	T	X	-89	V 40 GHz Tx Antenna						
4	T	C	-119	0 GHz Tx Antenna Co	-121	-121	-121	-120	-120	
4	T	X	-119	20 GHz Tx Antenna Xf						
9	T	C	-119	V 40 GHz Tx Antenna	-140	-134	-126	-126	-126	
9	T	X	-119	W 40 GHz Tx Antenna						
21	T	C	-119	V 40 GHz Tx Antenna	-124	-120	-117	-117	-117	
21	T	X	-119							

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SATELLITE SPACE STATION AUTHORIZATIONS  
FCC Form 312 - Schedule S: (Technical and Operational Description)**

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)
K1	125000	R	28412.5	L	C
K1	125000	R	28412.5	R	C
K2	125000	R	28537.5	L	C
K2	125000	R	28537.5	R	C
K3	125000	R	29312.5	L	C
K3	125000	R	29312.5	R	C
K4	110000	R	29437.5	L	C
K4	110000	R	29437.5	R	C
V1	300000	R	47350	L	C
V1	300000	R	47350	R	C
V2	400000	R	47700	L	C
V2	400000	R	47700	R	C
V3	300000	R	48050	L	C
V3	300000	R	48050	R	C
V4	500000	R	48450	L	C
V4	500000	R	48450	R	C
V5	500000	R	48950	L	C
V5	500000	R	48950	R	C
V6	500000	R	49450	L	C
V6	500000	R	49450	R	C
V7	500000	R	49950	R	C
V7	500000	R	49950	L	C
T1	2000	R	28354	R	T
T2	2000	R	6435	H	T
T3	2000	R	6445	H	T
K1T	250000	T	18425	R	C
K1T	250000	T	18425	L	C
K2T	240000	T	18675	L	C
K2T	240000	T	18675	R	C
V1T	500000	T	37750	L	C

(a) Transponder ID	(b) Transponder Gain (dB)	Receive Band		Transmit Band	
		(c) Channel No.	(d) Beam ID	(e) Channel No.	(f) Beam ID

V1T	500000	T	37750	R	C
V2T	500000	T	38250	L	C
V2T	500000	T	38250	R	C
V3T	500000	T	38750	L	C
V3T	500000	T	38750	R	C
V4T	500000	T	39250	L	C
V4T	500000	T	39250	R	C
V5T	500000	T	39750	L	C
V5T	500000	T	39750	R	C
V6T	500000	T	40250	L	C
V6T	500000	T	40250	R	C
V7T	500000	T	40750	L	C
V7T	500000	T	40750	R	C
V8T	500000	T	41250	L	C
V8T	500000	T	41250	R	C
V9T	500000	T	41750	L	C
V9T	500000	T	41750	L	C
T3	2000	T	18304	R	C
T4	2000	T	3660	H	T
T4	2000	T	3670	H	T









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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: TBD			
S14b. City: TBD	S14c. County: USA	S14d. State/Country	S14e. Zip Code:
S14f. Telephone Number:		S14g. Call Sign of Control Station (if appropriate):	

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SATELLITE SPACE STATION AUTHORIZATIONS  
FCC Form 312 - Schedule S: (Technical and Operational Description)**

S15. SPACECRAFT PHYSICAL CHARACTERISTICS:

S15a. Mass of spacecraft without fuel (kg): 2700	Spacecraft Dimensions (meters)	Probability of Survival to End of Life (0.0 - 1.0)
S15b. Mass of fuel and disposables at launch (kg): 2800		
S15c. Mass of spacecraft and fuel at launch (kg): 5500	S15f. Length (m): 4.8	S15i. Payload: 0.78
S15d. Mass of fuel, in orbit, at beginning of life (kg): 1700	S15g. Width (m): 2.5	S15j. Bus: 0.93
S15e. Deployed Area of Solar Array (square meters): 38	S15h. Height (m): 2.5	S15k. Total: 0.72

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): 8600	(f): 8170	(k): 7050	(p): 6696
Bus (Watts):	(b): 2100	(g): 2000	(l): 1720	(q): 1639
Total (Watts):	(c): 10700	(h): 10170	(m): 8770	(r): 8335
Solar Array (Watts):	(d): 11200	(i): 10670	(n): 9180	(s): 8745
Depth of Battery Discharge (%):	(e) 70 %	(j) 70 %	(o) 70 %	(t) 70 %

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.**