

**FEDERAL COMMUNICATIONS COMMISSION  
SATELLITE SPACE STATION AUTHORIZATIONS  
(Technical and Operational Description)**

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

a. Space Station or Satellite Network Name: SES-1		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: 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) 500 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)		
24.75	G	25.25	G	R	Feeder Link for Broadcasting Satellite Service in FSS
17.3	G	17.8	G	T	Broadcasting Satellite Service - Video

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

a. Nominal Orbital Longitude (Degrees E/W): 101 W		b. Alternate Orbital Longitude (Degrees E/W):		c. Reason for orbital location selection: The 17/24 GHz payload will be present in the satellite SES-1, but will not be operated at this orbital location (101W)	
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			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-ltr codes), satellites or Figure No. of Service Area Diagram.
KABSS-UL	E		CONUS, Alaska, Hawaii, Southern Canada, Caribbean
KABSS-DL	E		CONUS, Alaska, Hawaii, Southern Canada, Caribbean

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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)	
		(c) Peak (dBi)	(d) Edge (dBi)							(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
KAR	R	23.5	18.5	0.15	0	25	N	45	KABSS-U				1318	-7.7	-90	20	1
KAT	T	23.48	18.5	0.15	0	25	N	45	KABSS-D	3.3	30	35					

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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
KAR	R		-101		KAR.gxt					
KAT	T		-101		KAT.gxt	-128.95	-128.8	-128.66	-128.49	-128.34

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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)
KAR01	31000	R	24769.15	L	C
KAR02	31000	R	24803.45	L	C
KAR03	31000	R	24837.75	L	C
KAR04	31000	R	24872.05	L	C
KAR05	31000	R	24906.35	L	C
KAR06	31000	R	24940.65	L	C
KAR07	31000	R	24974.95	L	C
KAR08	31000	R	25009.25	L	C
KAR09	31000	R	25043.55	L	C
KAR10	31000	R	25077.85	L	C
KAR11	31000	R	25112.15	L	C
KAR12	31000	R	25146.45	L	C
KAR13	31000	R	25180.75	L	C
KAR14	31000	R	25215.05	L	C
KAT01	31000	T	17319.15	R	C
KAT02	31000	T	17353.45	R	C
KAT03	31000	T	17387.75	R	C
KAT04	31000	T	17422.05	R	C
KAT05	31000	T	17456.35	R	C
KAT06	31000	T	17490.65	R	C
KAT07	31000	T	17524.95	R	C
KAT08	31000	T	17559.25	R	C
KAT09	31000	T	17593.55	R	C
KAT10	31000	T	17627.85	R	C
KAT11	31000	T	17662.15	R	C
KAT12	31000	T	17696.45	R	C
KAT13	31000	T	17730.75	R	C
KAT14	31000	T	17765.05	R	C

(a) Transponder ID	(b) Transponder Gain (dB)	Receive Band		Transmit Band	
		(c) Channel No.	(d) Beam ID	(e) Channel No.	(f) Beam ID
KA01	106.9	KAR01	KAR	KAT01	KAT
KA02	106.9	KAR02	KAR	KAT02	KAT
KA03	106.9	KAR03	KAR	KAT03	KAT
KA04	106.9	KAR04	KAR	KAT04	KAT
KA05	106.9	KAR05	KAR	KAT05	KAT
KA06	106.9	KAR06	KAR	KAT06	KAT
KA07	106.9	KAR07	KAR	KAT07	KAT
KA08	106.9	KAR08	KAR	KAT08	KAT
KA09	106.9	KAR09	KAR	KAT09	KAT
KA10	106.9	KAR10	KAR	KAT10	KAT
KA11	106.9	KAR11	KAR	KAT11	KAT
KA12	106.9	KAR12	KAR	KAT12	KAT
KA13	106.9	KAR13	KAR	KAT13	KAT
KA14	106.9	KAR14	KAR	KAT14	KAT

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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)
KA_1	1M20G1W	1200	4	1430	0.75		4.7	10
KA_2	5M50G1W	5500	4	4758	0.5		1.3	10





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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 <sup>2</sup> /Hz)	(o) Assoc. Stn Rec. G/T (dB/K)
KA01	KA14	KA_1		1		Ka budgets.xls		65	3	4	31	35	-127	20.9
KA01	KA14	KA_2		1		Ka budgets.xls		65	8	10.5	31	35	-127	24.87
KA01	KA14	KA_1		2	10000	Ka budgets.xls		65	3	4	31	35	-127	20.9
KA01	KA14	KA_2		2	10000	Ka budgets.xls		65	8	10.5	31	35	-127	24.87
KA01	KA14	KA_2		1		Hawaii budgets.		65	8	10.5	31	35	-127	20.9

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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

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S15. SPACECRAFT PHYSICAL CHARACTERISTICS:

S16. SPACECRAFT ELECTRICAL CHARACTERISTICS:

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
<b>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.</b>						