

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

a. Space Station or Satellite Network Name: EHOSTAR-9		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: 0	
c. Construction Completion Date:		g. Total Number of Transponders: 2		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) 400 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)		
29.3	G	29.5	G	R	Fixed Satellite Service
28.4	G	28.6	G	R	Fixed Satellite Service
18.6	G	18.8	G	T	Fixed Satellite Service
18.3	G	18.5	G	T	Fixed Satellite Service

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

a. Nominal Orbital Longitude (Degrees E/W): 121 W		b. Alternate Orbital Longitude (Degrees E/W):		c. Reason for orbital location selection:  The EHOSTAR-9 satellite is in operation at 121 degrees W.L. The satellite includes a lower Ka-band payload.
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):				

**FEDERAL COMMUNICATIONS COMMISSION  
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**

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

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.
SA1	S	Anchorage SA.gxt	Anchorage
SA2	S	Honolulu SA.gxt	Honolulu
SA3	S	Mexico City SA.gxt	Mexico City
SA4	S	Newark SA.gxt	Newark
SA5	S	Denver SA.gxt	Denver
SA6	S	Phoenix SA.gxt	Phoenix

**FEDERAL COMMUNICATIONS COMMISSION**  
**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				
										(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														
ANC	R	45.2	43.2	0.13	0.02	20	N		SA1				8710	5.8	-97.8	21	1
HON	R	43.7	40.7	0.13	0.02	20	N		SA2				8710	4.3	-96.3	21	1
MEX	R	45.3	42.3	0.13	0.02	20	N		SA3				8710	5.9	-97.9	21	1
NEW	R	45.4	42.4	0.13	0.02	20	N		SA4				8710	6	-98	21	1
DEN	T	42.6	39.6	0.13	0.02	22	N		SA5	3.19	57.6	60.2					
PHO	T	43.5	40.5	0.13	0.02	22	N		SA6	3.19	57.6	61.1					

**FEDERAL COMMUNICATIONS COMMISSION  
 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
ANC	R	C	-121		Anchorage.gxt					
HON	R	C	-121		Honolulu.gxt					
MEX	R	C	-121		Mexico City.gxt					
NEW	R	C	-121		Newark.gxt					
DEN	T	C	-121		Denver.gxt	-147	-147	-147	-147	-147
PHO	T	C	-121		Phoenix.gxt	-147	-147	-147	-147	-147

**FEDERAL COMMUNICATIONS COMMISSION  
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)
U01	200000	R	29400	R	C
U02	200000	R	28500	R	C
D01	200000	T	18700	L	C
D02	200000	T	18400	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
T01	121	U01	ANC	D02	PHO
T02	121	U01	ANC	D02	DEN
T03	121	U01	HON	D02	PHO
T04	121	U01	HON	D02	DEN
T05	121	U01	MEX	D02	PHO
T06	121	U01	MEX	D02	DEN
T07	121	U01	NEW	D02	PHO
T08	121	U01	NEW	D02	DEN
T09	122.7	U02	ANC	D01	PHO
T10	122.7	U02	ANC	D01	DEN
T11	122.7	U02	HON	D01	PHO
T12	122.7	U02	HON	D01	DEN
T13	122.7	U02	MEX	D01	PHO
T14	122.7	U02	MEX	D01	DEN
T15	122.7	U02	NEW	D01	PHO
T16	122.7	U02	NEW	D01	DEN

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

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	24M0G7W	24000	4	27647	0.691		6.1	18.3
D2	72M0G7W	72000	4	82942	0.691		6.1	18.3





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

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)
T01	T16	D1		8	25000	LB1.doc		55.5	12.8	17.3	44.6	47.6	-128.6	28.4
T01	T16	D2		2	100000	LB2.doc		61	14.5	21	57.2	61.1	-127.4	25.9

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

**Page 10: TT and C**

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

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

**Page 11:  
Characteristics and  
Certifications**

**S15. SPACECRAFT PHYSICAL CHARACTERISTICS:**

S15a. Mass of spacecraft without fuel (kg):	Spacecraft Dimensions (meters)	Probability of Survival to End of Life (0.0 - 1.0)
S15b. Mass of fuel and disposables at launch (kg):		
S15c. Mass of spacecraft and fuel at launch (kg):	S15f. Length (m):	S15i. Payload: 0.9268
S15d. Mass of fuel, in orbit, at beginning of life (kg):	S15g. Width (m):	S15j. Bus: 0.8441
S15e. Deployed Area of Solar Array (square meters):	S15h. Height (m):	S15k. Total: 0.7823

**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

**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.**