

S1. GENERAL INFORMATION Complete for all satellite applications.

a. Space Station or Satellite Network Name: EHOSTAR-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): 12 Years		j. Number of transponders offered on a common carrier basis: 0	
c. Construction Completion Date:		g. Total Number of Transponders: 16		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) 384 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)		
17.3	G	17.8	G	R	Feeder Link for Broadcasting Satellite Service in FSS
12.2	G	12.7	G	T	Broadcasting Satellite Service - Video
5.926	G	5.927	G	R	Space Operations Service
4.198	G	4.2	G	T	Space Operations Service
6.423	G	6.424	G	R	Space Operations Service

S3. ORBITAL INFORMATION FOR GEOSTATIONARY SATELLITES ONLY:

a. Nominal Orbital Longitude (Degrees E/W): 77.15 W		b. Alternate Orbital Longitude (Degrees E/W):		c. Reason for orbital location selection: This nominal orbital location is registered at the ITU by the Mexican administration.			
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:	0.05 Degrees	e. Toward East:	0.05 Degrees			g. Westernmost: 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.
SAC	S		Partial CONUS
SAM	S		Mexico
SAGBL	S		Visible Earth
SARX	S		Partial CONUS

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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)														
RXC	R	31.4	25.4	0.12	0.2	30	N		SARX				513	4.3	-96	18	1.5
TXC	T	36.1	26.1	0.12	0.2	30	N		SAC	2.1	80.2	55.1					
TXM	T	36.1	26.1	0.12	0.2	30	N		SAM	2.1	80.2	55.1					
GBL	R	22	16.4	1		30	N		SAGBL				2818	-12.5			
GBL	T	18	12.4	1		30	N		SAGBL	4.7	0.5	10.3					
OMN	R	2	-3	1		30	N		SAGBL				1500	-29.8			
OMN	T	3	-3	1		30	N		SAGBL	1.9	6	8.9					

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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
RXC	R	C	-77.15		RXC.gxt					
TXC	T	C	-77.15		TXC.gxt					
TXM	T	C	-77.15		TXM.gxt					
GBL	R	C	-77.15		GBLU.gxt					
GBL	T	C	-77.15		GBLD.gxt					
OMN	R	C	-77.15							
OMN	T	C	-77.15							

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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)
U0001	24000	R	17324	R	C
U0003	24000	R	17353.16	R	C
U0005	24000	R	17382.32	R	C
U0007	24000	R	17411.48	R	C
U0009	24000	R	17440.64	R	C
U0011	24000	R	17469.8	R	C
U0013	24000	R	17498.96	R	C
U0015	24000	R	17528.12	R	C
U0017	24000	R	17557.28	R	C
U0019	24000	R	17586.44	R	C
U0021	24000	R	17615.6	R	C
U0023	24000	R	17644.76	R	C
U0025	24000	R	17673.92	R	C
U0027	24000	R	17703.08	R	C
U0029	24000	R	17732.24	R	C
U0031	24000	R	17761.4	R	C
CR002	800	R	6423.5	H	T
D0001	24000	T	12224	R	C
D0003	24000	T	12253.16	R	C
D0005	24000	T	12282.32	R	C
D0007	24000	T	12311.48	R	C
D0009	24000	T	12340.64	R	C
D0011	24000	T	12369.8	R	C
D0013	24000	T	12398.96	R	C
D0015	24000	T	12428.12	R	C
D0017	24000	T	12457.28	R	C
D0019	24000	T	12486.44	R	C
D0021	24000	T	12515.6	R	C
D0023	24000	T	12544.76	R	C
D0025	24000	T	12573.92	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
T0001	125	U0001	RXC	D0001	TXC
T0002	125	U0003	RXC	D0003	TXM
T0003	125	U0005	RXC	D0005	TXC
T0004	125	U0007	RXC	D0007	TXM
T0005	125	U0009	RXC	D0009	TXC
T0006	125	U0011	RXC	D0011	TXM
T0007	125	U0013	RXC	D0013	TXC
T0008	125	U0015	RXC	D0015	TXM
T0009	125	U0017	RXC	D0017	TXC
T0010	125	U0019	RXC	D0019	TXM
T0011	125	U0021	RXC	D0021	TXC
T0012	125	U0023	RXC	D0023	TXM
T0013	125	U0025	RXC	D0025	TXC
T0014	125	U0027	RXC	D0027	TXM
T0015	125	U0029	RXC	D0029	TXC
T0016	125	U0031	RXC	D0031	TXM
T001				TM001	GBLD
T002				TM002	GBLD
C001		CR001	GBLU		
T003				TM001	OMND
T004				TM002	OMND
C002		CR002	OMNU		

D0027	24000	T	12603.08	R	C
D0029	24000	T	12632.24	R	C
D0031	24000	T	12661.4	R	C
CR001	800	R	5926.5	H	T
TM001	800	T	4198.5	H	T
TM002	800	T	4199.5	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	24M0G7W	24000	4	27647	0.691		5.7	17.9
D2	24M0G7W	24000	4	30719	0.768		6.6	18.8
D3	25M8G7W	25800	8	41200	0.639		7.5	19.7

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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						
CMD	800KG2D	800		1									9	21.2
TLM	800KG2D	800		1									9	21.2

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S13. TYPICAL EMISSIONS For each planned type of emission provide:

Associated Transponder ID Range		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)			
(a) Start	(b) End	(c) Digital (Table S11)	(d) Analog (Table S12)					(i) Assoc. Stn. Max. Antenna Gain (dBi)	Assoc. Station Transmit Power (dBW)		EIRP (dBW)		(n) Max. Power Flux Density (dBW/m ² /Hz)	(o) Assoc. Stn Rec. G/T (dB/K)
									(j) Min.	(k) Max.	(l) Min.	(m) Max.		
C001	C001		CMD	1		CMD_LB_horn.		53.1	11.7	15.7				
T001	T002		TLM	1		TLM_LB_horn.					4.7	10.6	27.2	
T0001	T0016	D1		1		DBS_CONUS_		65.7	-0.2	19.5	45.1	55.1	13.2	
T0001	T0016	D2		1		DBS_CONUS_		65.7	-0.2	19.5	45.1	55.1	13.2	
T0001	T0016	D3		1		DBS_CONUS_		65.7	-0.2	19.5	45.1	55.1	13.2	
T0001	T0016	D1		1		DBS_MEXICO_		65.7	-0.2	19.5	45.1	55.1	13.2	
T0001	T0016	D2		1		DBS_MEXICO_		65.7	-0.2	19.5	45.1	55.1	13.2	
T0001	T0016	D3		1		DBS_MEXICO_		65.7	-0.2	19.5	45.1	55.1	13.2	
C002	C002		CMD	1		CMD_LB_omni.		53.1	22.7	25.7				
T003	T004		TLM	1		TLM_LB_omni.					2.9	8.9	27.2	

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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): Yes

Remote Control (TT C) Location(s):

S14a: Street Address: 530 Echostar Drive			
S14b. City: Cheyenne	S14c. County: Laramie	S14d. State/Country WY	S14e. Zip Code: 82007
S14f. Telephone Number: 307-633-5460		S14g. Call Sign of Control Station (if appropriate):	

Remote Control (TT C) Location(s):

S14a: Street Address: 801 North Dish Drive			
S14b. City: Gilbert	S14c. County: Maricopa	S14d. State/Country AZ	S14e. Zip Code: 85233
S14f. Telephone Number: 480-558-2778		S14g. Call Sign of Control Station (if appropriate):	

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S15. SPACECRAFT PHYSICAL CHARACTERISTICS:

S15a. Mass of spacecraft without fuel (kg): 1318	Spacecraft Dimensions (meters)	Probability of Survival to End of Life (0.0 - 1.0)
S15b. Mass of fuel and disposables at launch (kg): 1970		
S15c. Mass of spacecraft and fuel at launch (kg): 3288	S15f. Length (m): 23.8	S15i. Payload: 0.92
S15d. Mass of fuel, in orbit, at beginning of life (kg): 459	S15g. Width (m): 4.6	S15j. Bus: 0.82
S15e. Deployed Area of Solar Array (square meters): 51.3	S15h. Height (m): 7.1	S15k. Total: 0.75

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): 3978	(f): 3878	(k): 3978	(p): 3878
Bus (Watts):	(b): 1075	(g): 617	(l): 1075	(q): 617
Total (Watts):	(c): 5053	(h): 4495	(m): 5053	(r): 4495
Solar Array (Watts):	(d): 7126	(i): 6307	(n): 5257	(s): 4910
Depth of Battery Discharge (%):	(e) 68.8 %	(j) %	(o) 68.8 %	(t) %

S17. CERTIFICATIONS:

a. Are the power flux density limits of § 25.208 met?	<input type="checkbox"/> YES	<input type="checkbox"/> NO	<input checked="" 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.