

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

a. Space Station or Satellite Network Name: EHOSTAR-14		e. Estimated Date of Placement into Service: 3/1/2010		i. Will the space station(s) operate on a Common Carrier Basis: N	
b. Construction Commencement Date: 1/1/2007		f. Estimated Lifetime of Satellite(s): 15 Years		j. Number of transponders offered on a common carrier basis: 0	
c. Construction Completion Date: 9/1/2009		g. Total Number of Transponders: 146		k. Total Common Carrier Transponder Bandwidth: 0 MHz	
d1. Est Launch Date Begin: 1/15/2010	d2. Est Launch Date End: 2/15/2010	h. Total Transponder Bandwidth (no. transponders x Bandwidth) 3504 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
12.2	G	12.7	G	T	Broadcasting Satellite Service - Sound
12.2	G	12.7	G	T	Broadcasting Satellite Service - Data

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

a. Nominal Orbital Longitude (Degrees E/W): 118.9 W		b. Alternate Orbital Longitude (Degrees E/W):		c. Reason for orbital location selection: Consistent with ITU Region 2 BSS Plan and existing EchoStar license as this is within the 119W ±0.2° cluster	
Longitudinal Tolerance or E/W Station-Keeping:		f. Inclination Excursion or N/S Station-Keeping Tolerance: 0.05 Degrees	Range of orbital are in which adequate service can be provided (Optional): Degrees      E/W		
d. Toward West:	0.05 Degrees		g. Westernmost: h. Easternmost:		
e. Toward East:		0.05 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.
CHEYENNE	S		Area around Cheyenne, WY
GILBERT	S		Area around Gilbert, AZ
PEORIA	S		Area around Peoria, IL
RICHMOND	S		Area around Richmond, VA
SAN ANTONIO	S		Area around San Antonio, TX
SPOKANE	S		Area around Spokane, WA
CONUS	S		CONUS
ALASKA	S		Alaska
HAWAII	S		Hawaii
PUERTO RICO	S		Puerto Rico
CUBA	S		Cuba
CONUS+	S		CONUS, Alaska, Hawaii, Puerto Rico & Cuba
GLOBAL	S		Visible Earth

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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)														
R1	R	49.6	46.6	0.12	0.12	30	N		CHEYENN				4748	12.8	-106	21	0.5
R2	R	48.4	45.4	0.12	0.12	30	N		GILBERT				4836	11.6	-106	21	0.5
R3	R	48.1	45.1	0.12	0.12	30	N		RICHMON				2911	13.4	-106	21	0.5
R4	R	47.2	44.2	0.12	0.12	30	N		PEORIA				2964	12.4	-106	21	0.5
R5	R	44.4	41.4	0.12	0.12	30	N		SPOKANE				2117	11.2	-106	21	0.5
R6	R	46.4	43.4	0.12	0.12	30	N		SAN ANT				3181	11.4	-106	21	0.5
TC1L	T	36.2	21.2	0.12	0.12	30	N		CONUS+	2.2	269.2	60.5					
TC1R	T	36.4	21.4	0.12	0.12	30	N		CONUS+	2.2	269.2	60.7					
TC2L	T	36.1	21.1	0.12	0.12	30	N		CONUS+	2.3	263	60.3					
TC2R	T	36.1	21.1	0.12	0.12	30	N		CONUS+	2.4	257	60.2					
A01	T	44.8	41.7	0.05	0.12	30	N		CONUS	2	6.8	53.2					
A02	T	44.5	40.9	0.05	0.12	30	N		CONUS	2	8.2	53.6					
A03	T	43.4	38.6	0.05	0.12	30	N		CONUS	2	13.8	54.9					
A04	T	45.1	39.4	0.05	0.12	30	N		CONUS	2	11.5	55.8					
A05	T	42.9	39.9	0.05	0.12	30	N		CONUS	2	10.2	52.9					
A06	T	43.5	38.7	0.05	0.12	30	N		CONUS	2	13.4	54.8					
A07	T	42.6	35.4	0.05	0.12	30	N		CONUS	2	28.8	57.2					
A08	T	45.9	40.1	0.05	0.12	30	N		CONUS	2	9.8	55.8					
A09	T	44.7	37.4	0.05	0.12	30	N		CONUS	2	18.3	57.3					
A10	T	47.6	39.8	0.05	0.12	30	N		CONUS	2	10.5	57.8					
A11	T	46.1	36.8	0.05	0.12	30	N		CONUS	2	20.8	59.3					
A12	T	46.1	38.5	0.05	0.12	30	N		CONUS	2	14.1	57.6					
A13	T	43.1	34.9	0.05	0.12	30	N		CONUS	2	32.4	58.2					
A14	T	45.7	35.8	0.05	0.12	30	N		CONUS	2	26	59.9					
A15	T	44.6	37.1	0.05	0.12	30	N		CONUS	2	19.4	57.4					
A16	T	46.2	37.6	0.05	0.12	30	N		CONUS	2	17.2	58.6					
A17	T	46.7	36.8	0.05	0.12	20	N		CONUS	2	21	59.9					
A18	T	46.6	37	0.05	0.12	30	N		CONUS	2	19.9	59.6					
A19	T	45	37.2	0.05	0.12	30	N		CONUS	2	19.1	57.8					

A20	T	47.1	38.6	0.05	0.12	30	N		CONUS	2	13.8	58.6					
A21	T	42.6	38.3	0.05	0.12	30	N		CONUS	2	14.8	54.3					
A22	T	43.9	39.3	0.05	0.12	30	N		CONUS	2	11.8	54.6					
A23	T	47.5	41.6	0.05	0.12	30	N		CONUS	2	7	56					
A24	T	43.2	36.7	0.05	0.12	30	N		ALASKA	2	8.6	52.6					
A25	T	43.2	36.9	0.05	0.12	30	N		ALASKA	2	8.1	52.3					
A26	T	42.6	36.7	0.05	0.12	30	N		CUBA	2	8.5	51.9					
A27	T	41.7	35.7	0.05	0.12	30	N		HAWAII	2	10.7	52					
A28	T	41.7	35.7	0.05	0.12	30	N		HAWAII	2	10.7	52					
B01	T	45.1	38.7	0.05	0.12	30	N		CONUS	2	13.4	56.4					
B02	T	44.6	38.1	0.05	0.12	30	N		CONUS	2	15.5	56.5					
B03	T	44.6	36.8	0.05	0.12	30	N		CONUS	2	20.8	57.8					
B04	T	46.1	42.5	0.05	0.12	30	N		CONUS	2	5.6	53.6					
B05	T	47.7	36.6	0.05	0.12	30	N		CONUS	2	21.8	61.1					
B06	T	43.8	38.8	0.05	0.12	30	N		CONUS	2	13.1	55					
B07	T	44.1	36.8	0.05	0.12	30	N		CONUS	2	20.8	57.3					
B08	T	42.6	39	0.05	0.12	30	N		CONUS	2	12.5	53.6					
B09	T	44.6	35.5	0.05	0.12	30	N		CONUS	2	28.2	59.1					
B10	T	44.9	35.8	0.05	0.12	30	N		CONUS	2	26.4	59.2					
B11	T	44.5	36	0.05	0.12	30	N		CONUS	2	25.2	58.5					
B12	T	44.9	37.9	0.05	0.12	30	N		CONUS	2	16.2	57					
B13	T	44.1	35.2	0.05	0.12	30	N		CONUS	2	30.5	59					
B14	T	44.8	35	0.05	0.12	30	N		CONUS	2	31.6	59.8					
B15	T	46.2	35.5	0.05	0.12	30	N		CONUS	2	28.2	60.7					
B16	T	46	37.2	0.05	0.12	30	N		CONUS	2	19.2	58.9					
B17	T	48.2	40.1	0.05	0.12	30	N		CONUS	2	9.7	58					
B18	T	47	36.4	0.05	0.12	30	N		CONUS	2	22.7	60.5					
B19	T	47.8	37.6	0.05	0.12	30	N		CONUS	2	17.5	60.2					
B20	T	45.6	36.3	0.05	0.12	30	N		CONUS	2	23.6	59.4					
B21	T	47.2	39.7	0.05	0.12	30	N		CONUS	2	10.7	57.5					
B22	T	44.9	39.7	0.05	0.12	30	N		PUERTO	2	4.2	51.2					
B23	T	46.6	42.2	0.05	0.12	30	N		PUERTO	2	2.4	50.4					
OMN	R	9	-1			30	N		GLOBAL				4365	-27.4		-83	
OMN	T	5	-4			30	N		GLOBAL	3.6	15.1	16.8					
GBL	R	25.25	24.25	0.12	0.12	30	N		GLOBAL				13804	-16.2		-93	



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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)
R01	24000	R	17324.00	R	C
R03	24000	R	17353.16	R	C
R05	24000	R	17382.32	R	C
R07	24000	R	17411.48	R	C
R09	24000	R	17440.64	R	C
R11	24000	R	17469.80	R	C
R13	24000	R	17498.96	R	C
R15	24000	R	17528.12	R	C
R17	24000	R	17557.28	R	C
R19	24000	R	17586.44	R	C
R21	24000	R	17615.60	R	C
R23	24000	R	17644.76	R	C
R25	24000	R	17673.92	R	C
R27	24000	R	17703.08	R	C
R29	24000	R	17732.24	R	C
R31	24000	R	17761.40	R	C
R02	24000	R	17338.58	L	C
R04	24000	R	17367.74	L	C
R06	24000	R	17396.90	L	C
R08	24000	R	17426.06	L	C
R10	24000	R	17455.22	L	C
R12	24000	R	17484.38	L	C
R14	24000	R	17513.54	L	C
R16	24000	R	17542.70	L	C
R18	24000	R	17571.86	L	C
R20	24000	R	17601.02	L	C
R22	24000	R	17630.18	L	C
R24	24000	R	17659.34	L	C
R26	24000	R	17688.50	L	C
R28	24000	R	17717.66	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
001	127	R01	R1	T01	TC1R
002	127	R02	R1	T02	TC2L
003	127	R03	R1	T03	TC2R
004	127	R04	R1	T04	TC1L
005	127	R05	R1	T05	TC1R
006	127	R06	R1	T06	TC2L
007	127	R07	R1	T07	TC2R
008	127	R08	R1	T08	TC1L
009	127	R09	R1	T09	TC1R
010	127	R10	R1	T10	TC2L
011	127	R11	R1	T11	TC2R
012	127	R12	R1	T12	TC1L
013	127	R13	R1	T13	TC1R
014	127	R14	R1	T14	TC2L
015	127	R15	R1	T15	TC2R
016	127	R16	R1	T16	TC1L
017	127	R17	R1	T17	TC1R
018	127	R18	R1	T18	TC2L
019	127	R19	R1	T19	TC2R
020	127	R20	R1	T20	TC1L
021	127	R21	R1	T21	TC1R
022	127	R22	R1	T22	TC2L
023	127	R23	R1	T23	TC2R
024	127	R24	R1	T24	TC1L
025	127	R25	R1	T25	TC1R
026	127	R26	R1	T26	TC2L
027	127	R27	R1	T27	TC2R
028	127	R28	R1	T28	TC1L
029	127	R29	R1	T29	TC1R
030	127	R30	R1	T30	TC2L

R30	24000	R	17746.82	L	C
R32	24000	R	17775.98	L	C
T01	24000	T	12224.00	R	C
T03	24000	T	12253.16	R	C
T05	24000	T	12282.32	R	C
T07	24000	T	12311.48	R	C
T09	24000	T	12340.64	R	C
T11	24000	T	12369.80	R	C
T13	24000	T	12398.96	R	C
T15	24000	T	12428.12	R	C
T17	24000	T	12457.28	R	C
T19	24000	T	12486.44	R	C
T21	24000	T	12515.60	R	C
T23	24000	T	12544.76	R	C
T25	24000	T	12573.92	R	C
T27	24000	T	12603.08	R	C
T29	24000	T	12632.24	R	C
T31	24000	T	12661.40	R	C
T02	24000	T	12238.58	L	C
T04	24000	T	12267.74	L	C
T06	24000	T	12296.90	L	C
T08	24000	T	12326.06	L	C
T10	24000	T	12355.22	L	C
T12	24000	T	12384.38	L	C
T14	24000	T	12413.54	L	C
T16	24000	T	12442.70	L	C
T18	24000	T	12471.86	L	C
T20	24000	T	12501.02	L	C
T22	24000	T	12530.18	L	C
T24	24000	T	12559.34	L	C
T26	24000	T	12588.50	L	C
T28	24000	T	12617.66	L	C
T30	24000	T	12646.82	L	C
T32	24000	T	12675.98	L	C
CMD1	1000	R	17794	R	T
CMD2	1000	R	17797	R	T
TLM1	1000	T	12692	R	T
TLM2	1000	T	12698.5	R	T
RFB	30	R	17799.75	R	T

031	127	R31	R1	T31	TC2R
032	127	R32	R1	T32	TC1L
033	128	R01	R2	T01	TC1R
034	128	R02	R2	T02	TC2L
035	128	R03	R2	T03	TC2R
036	128	R04	R2	T04	TC1L
037	128	R05	R2	T05	TC1R
038	128	R06	R2	T06	TC2L
039	128	R07	R2	T07	TC2R
040	128	R08	R2	T08	TC1L
041	128	R09	R2	T09	TC1R
042	128	R10	R2	T10	TC2L
043	128	R11	R2	T11	TC2R
044	128	R12	R2	T12	TC1L
045	128	R13	R2	T13	TC1R
046	128	R14	R2	T14	TC2L
047	128	R15	R2	T15	TC2R
048	128	R16	R2	T16	TC1L
049	128	R17	R2	T17	TC1R
050	128	R18	R2	T18	TC2L
051	128	R19	R2	T19	TC2R
052	128	R20	R2	T20	TC1L
053	128	R21	R2	T21	TC1R
054	128	R22	R2	T22	TC2L
055	128	R23	R2	T23	TC2R
056	128	R24	R2	T24	TC1L
057	128	R25	R2	T25	TC1R
058	128	R26	R2	T26	TC2L
059	128	R27	R2	T27	TC2R
060	128	R28	R2	T28	TC1L
061	128	R29	R2	T29	TC1R
062	128	R30	R2	T30	TC2L
063	128	R31	R2	T31	TC2R
064	128	R32	R2	T32	TC1L
065	115	R19	R5	T05	A01
066	115	R12	R5	T02	A02
067	115	R14	R5	T04	A02
068	115	R16	R5	T06	A02
069	115	R02	R5	T02	A03



070	115	R04	R5	T04	A03
071	115	R06	R5	T06	A03
072	115	R05	R5	T05	A04
073	115	R07	R5	T07	A04
074	115	R09	R5	T09	A04
075	115	R11	R5	T11	A04
076	115	R04	R6	T04	A05
077	115	R06	R6	T06	A05
078	115	R08	R2	T08	A06
079	115	R21	R5	T07	A01
080	115	R20	R6	T13	A07
081	115	R15	R4	T01	A07
082	115	R21	R4	T07	A07
083	115	R02	R2	T02	A08
084	115	R14	R6	T04	A09
085	115	R12	R6	T02	A10
086	115	R01	R4	T01	A11
087	115	R07	R4	T07	A11
088	115	R09	R4	T09	A11
089	115	R13	R4	T13	A11
090	115	R02	R4	T02	A12
091	115	R08	R4	T08	A12
092	115	R01	R6	T01	A13
093	115	R07	R6	T07	A13
094	115	R09	R6	T09	A13
095	115	R13	R6	T13	A13
096	115	R02	R6	T02	A14
097	115	R08	R6	T08	A14
098	115	R10	R6	T10	A14
099	115	R01	R3	T01	A15
100	115	R07	R3	T07	A15
101	115	R02	R3	T02	A16
102	115	R18	R6	T11	A17
103	115	R21	R6	T07	A17
104	115	R15	R3	T01	A17
105	115	R12	R3	T02	A18
106	115	R06	R2	T02	A19
107	115	R15	R6	T01	A20
108	115	R19	R6	T05	A20

109	115	R13	R1	T13	A21
110	115	R15	R5	T01	A21
111	115	R11	R2	T05	A22
112	115	R21	R2	T07	A23
113	115	R01	R2	T01	A24
114	115	R03	R2	T03	A24
115	115	R05	R2	T05	A24
116	115	R04	R2	T04	A25
117	115	R10	R2	T10	A25
118	115	R07	R2	T01	A26
119	115	R19	R3	T05	A26
120	115	R15	R2	T01	A27
121	115	R17	R2	T03	A27
122	115	R19	R2	T05	A27
123	115	R12	R2	T02	A28
124	115	R14	R2	T04	A28
125	115	R08	R5	T08	B01
126	115	R10	R5	T10	B01
127	115	R17	R5	T03	B02
128	115	R01	R5	T01	B03
129	115	R03	R5	T03	B03
130	115	R13	R5	T13	B03
131	115	R02	R1	T02	B04
132	115	R08	R1	T08	B04
133	115	R16	R6	T09	B05
134	115	R20	R5	T10	B06
135	115	R03	R1	T03	B07
136	115	R09	R1	T09	B07
137	115	R11	R1	T11	B07
138	115	R12	R4	T02	B08
139	115	R06	R1	T06	B09
140	115	R10	R1	T10	B09
141	115	R18	R4	T08	B09
142	115	R03	R6	T03	B10
143	115	R05	R6	T05	B10
144	115	R11	R6	T11	B10
145	115	R16	R2	T06	B11
146	115	R18	R2	T08	B11
147	115	R04	R4	T04	B12

148	115	R06	R4	T06	B12
149	115	R10	R4	T10	B12
150	115	R03	R4	T03	B13
151	115	R05	R4	T05	B13
152	115	R11	R4	T11	B13
153	115	R14	R4	T04	B14
154	115	R16	R4	T06	B14
155	115	R20	R4	T10	B14
156	115	R17	R4	T03	B15
157	115	R19	R4	T05	B15
158	115	R03	R3	T03	B16
159	115	R05	R3	T05	B16
160	115	R09	R3	T09	B16
161	115	R11	R3	T11	B16
162	115	R13	R3	T13	B16
163	115	R04	R3	T04	B17
164	115	R06	R3	T06	B17
165	115	R08	R3	T08	B17
166	115	R10	R3	T10	B17
167	115	R14	R3	T04	B18
168	115	R16	R3	T06	B18
169	115	R20	R3	T10	B18
170	115	R09	R2	T09	B19
171	115	R13	R2	T13	B19
172	115	R18	R3	T04	B20
173	115	R17	R3	T03	B21
174	115	R21	R3	T07	B21
175	115	R01	R1	T01	B22
176	115	R05	R1	T05	B22
177	115	R07	R1	T07	B22
178	115	R04	R1	T04	B23
CMDA		CMD1	OMNR		
CMDB		CMD2	OMNR		
CMDC		CMD1	GBLR		
CMDD		CMD2	GBLR		
TLMA				TLM1	OMNT
TLMB				TLM2	OMNT
TLMC				TLM1	TC1R
TLMD				TLM2	TC1R

179	115	R05	R5	T05	A01
180	115	R19	R5	T05	A04
181	115	R09	R6	T01	A07
182	115	R13	R6	T05	A07
183	115	R02	R1	T02	A08
184	115	R02	R6	T02	A10
185	115	R05	R4	T05	A11
186	115	R12	R6	T02	A14
187	115	R08	R3	T01	A17
188	115	R10	R3	T03	A17
189	115	R15	R4	T01	A23
190	115	R02	R2	T02	A25
191	115	R15	R5	T01	B02
192	115	R17	R6	T03	B07
193	115	R08	R2	T04	B09
194	115	R14	R6	T04	B11
195	115	R17	R4	T03	B13
196	115	R16	R3	T02	B20
197	115	R03	R1	T03	B22
RFB1		RFB	R1		
RFB2		RFB	R2		

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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)
QPSK1	24M0G7W	24000	4	27647	0.6912	0	5.7	28
QPSK2	24M0G7W	24000	4	30719	0.768	0	6.6	28
8PSK1	25M8G7W	25800	8	41200	0.6389	0	7.5	28

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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						
CMD1	1M00F2D	1000		1								10	22.2	
TLM1	1M00G2D	1000		1								9	21.2	
RFB	30K0N0N	30		1								14	26.2	

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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 <sup>2</sup> /Hz)	(o) Assoc. Stn Rec. G/T (dB/K)
001	178	QPSK1		1		E-14 Link Budg		65	3.4	16.4	46.3	61.1		13.2
001	178	QPSK2		1		E-14 Link Budg		65	3.4	16.4	48	61.1		13.2
001	178	8PSK1		1		E-14 Link Budg		65	3.4	16.4	48	61.1		13.2
CMDA	CMDB		CMD1	1		E-14 Link Budg		64	16.3	39.3				-37.4
CMDC	CMDD		CMD1	1		E-14 Link Budg		64	5.8	15.8				-17.2
TLMA	TLMB		TLM1	1		E-14 Link Budg					7.8	16.8		42
TLMC	TLMD		TLM1	1		E-14 Link Budg					17.3	27		37
RFB1	RFB2		RFB	1		E-14 Link Budg		64	-5.2	1.8				

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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): 3223	Spacecraft Dimensions (meters)	Probability of Survival to End of Life (0.0 - 1.0)
S15b. Mass of fuel and disposables at launch (kg): 3085		
S15c. Mass of spacecraft and fuel at launch (kg): 6308	S15f. Length (m): 32.4	S15i. Payload: 0.721
S15d. Mass of fuel, in orbit, at beginning of life (kg): 3080	S15g. Width (m): 12	S15j. Bus: 0.832
S15e. Deployed Area of Solar Array (square meters): 90	S15h. Height (m): 8.2	S15k. Total: 0.6

**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): 14410	(f): 14410	(k): 14410	(p): 14410
Bus (Watts):	(b):	(g):	(l): 3429	(q): 1636
Total (Watts):	(c):	(h):	(m) 17839	(r): 16046
Solar Array (Watts):	(d): 21696	(i): 19349	(n): 19393	(s): 17449
Depth of Battery Discharge (%):	(e) 76.5 %	(j) 0 %	(o) 76.5 %	(t) 0 %

**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.**