

S1. GENERAL INFORMATION Complete for all satellite applications.

a. Space Station or Satellite Network Name: GALAXY 17		e. Estimated Date of Placement into Service: 7/30/2007		i. Will the space station(s) operate on a Common Carrier Basis: N	
b. Construction Commencement Date: 8/30/2005		f. Estimated Lifetime of Satellite(s): 15 Years		j. Number of transponders offered on a common carrier basis:	
c. Construction Completion Date: 3/8/2007		g. Total Number of Transponders: 48		k. Total Common Carrier Transponder Bandwidth: MHz	
d1. Est Launch Date Begin: 4/15/2007	d2. Est Launch Date End: 6/23/2007	h. Total Transponder Bandwidth (no. transponders x Bandwidth) 1728 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)		
5925	M	6425	M	R	Fixed Satellite Service
3700	M	4200	M	T	Fixed Satellite Service
14000	M	14500	M	R	Fixed Satellite Service
11700	M	12200	M	T	Fixed Satellite Service

S3. ORBITAL INFORMATION FOR GEOSTATIONARY SATELLITES ONLY:

a. Nominal Orbital Longitude (Degrees E/W): 91 W		b. Alternate Orbital Longitude (Degrees E/W):		c. Reason for orbital location selection: Replaces Galaxy 11			
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):							

**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.
1	S		Continental United States, Hawaii, Portions of Canada and Mexico
2	S		Continental United States, Hawaii, Puerto Rico, Portion of Canada
3	S		Visible Earth

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			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)														
CUP	R	31.7	26.7	0.12	0.28	27	Y		1				447	5.2	-114.2	47	1
CDN	T	28.6	25.6	0.12	0.28	25	Y		1	2	29.5	43.3					
KUP	R	33.7	27.7	0.12	0.28	30	Y		2				453	7.1	-119.1	47	1
KDN	T	33.1	29.1	0.12	0.28	29	Y		2	2.3	66.1	51.3					
UPC	T	33.1	29.1	0.12	0.28	29	Y		2	3.7	0.17	25.4					
CMD	R	31.7	21.7	0.12	0.28	27	Y		1				11396	-8.9	-122.5		
TLM	T	28.6	18.6	0.12	0.28	25	Y		1	6.8	0.08	17.8					
OCM	R	8	6	0.12	0.28		N		3				2431	-25.9	-105.3		
OTL	T	7.8	5.8	0.12	0.28		N		3	7.3	8.7	17.2					

**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
CUP	R	C	-91		CUP.gxt					
CDN	T	C	-91		CDN.gxt	-152	-149.9	-149.7	-149.6	-149.5
KUP	R	C	-91		KUP.gxt					
KDN	T	C	-91		KDN.gxt					
UPC	T	C	-91		UPC.gxt					
CMD	R	C	-91		CMD.gxt					
TLM	T	C	-91		TLM.gxt	-158	-157.9	-157.8	-157.7	-157.6
OCM	R	C	-91	OCMD.PDF						
OTL	T	C	-91	OTLM.PDF		-158.6	-158.5	-158.4	-158.3	-158.2
CUP	R	X	-91		CUPX.gxt					
CDN	T	X	-91		CDNX.gxt					
KUP	R	X	-91		KUPX.gxt					
KDN	T	X	-91		KDNX.gxt					
UPC	T	X	-91		UPCX.gxt					

**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)
UC1	36000	R	5945	V	C
UC3	36000	R	5985	V	C
UC5	36000	R	6025	V	C
UC7	36000	R	6065	V	C
UC9	36000	R	6105	V	C
UC11	36000	R	6145	V	C
UC13	36000	R	6185	V	C
UC15	36000	R	6225	V	C
UC17	36000	R	6265	V	C
UC19	36000	R	6305	V	C
UC21	36000	R	6345	V	C
UC23	36000	R	6385	V	C
UC2	36000	R	5965	H	C
UC4	36000	R	6005	H	C
UC6	36000	R	6045	H	C
UC8	36000	R	6085	H	C
UC10	36000	R	6125	H	C
UC12	36000	R	6165	H	C
UC14	36000	R	6205	H	C
UC16	36000	R	6245	H	C
UC18	36000	R	6285	H	C
UC20	36000	R	6325	H	C
UC22	36000	R	6365	H	C
UC24	36000	R	6405	H	C
DC1	36000	T	3720	H	C
DC3	36000	T	3760	H	C
DC5	36000	T	3800	H	C
DC7	36000	T	3840	H	C
DC9	36000	T	3880	H	C
DC11	36000	T	3920	H	C

(a) Transponder ID	(b) Transponder Gain (dB)	Receive Band		Transmit Band	
		(c) Channel No.	(d) Beam ID	(e) Channel No.	(f) Beam ID
1C	134.5	UC1	CUP	DC1	CDN
2C	134.5	UC2	CUP	DC2	CDN
3C	134.5	UC3	CUP	DC3	CDN
4C	134.5	UC4	CUP	DC4	CDN
5C	134.5	UC5	CUP	DC5	CDN
6C	134.5	UC6	CUP	DC6	CDN
7C	134.5	UC7	CUP	DC7	CDN
8C	134.5	UC8	CUP	DC8	CDN
9C	134.5	UC9	CUP	DC9	CDN
10C	134.5	UC10	CUP	DC10	CDN
11C	134.5	UC11	CUP	DC11	CDN
12C	134.5	UC12	CUP	DC12	CDN
13C	134.5	UC13	CUP	DC13	CDN
14C	134.5	UC14	CUP	DC14	CDN
15C	134.5	UC15	CUP	DC15	CDN
16C	134.5	UC16	CUP	DC16	CDN
17C	134.5	UC17	CUP	DC17	CDN
18C	134.5	UC18	CUP	DC18	CDN
19C	134.5	UC19	CUP	DC19	CDN
20C	134.5	UC20	CUP	DC20	CDN
21C	134.5	UC21	CUP	DC21	CDN
22C	134.5	UC22	CUP	DC22	CDN
23C	134.5	UC23	CUP	DC23	CDN
24C	134.5	UC24	CUP	DC24	CDN
1K	148.1	UK1	KUP	DK1	KDN
2K	148.1	UK2	KUP	DK2	KDN
3K	148.1	UK3	KUP	DK3	KDN
4K	148.1	UK4	KUP	DK4	KDN
5K	148.1	UK5	KUP	DK5	KDN
6K	148.1	UK6	KUP	DK6	KDN

DC13	36000	T	3960	H	C
DC15	36000	T	4000	H	C
DC17	36000	T	4040	H	C
DC19	36000	T	4080	H	C
DC21	36000	T	4120	H	C
DC23	36000	T	4160	H	C
DC2	36000	T	3740	V	C
DC4	36000	T	3780	V	C
DC6	36000	T	3820	V	C
DC8	36000	T	3860	V	C
DC10	36000	T	3900	V	C
DC12	36000	T	3940	V	C
DC14	36000	T	3980	V	C
DC16	36000	T	4020	V	C
DC18	36000	T	4060	V	C
DC20	36000	T	4100	V	C
DC22	36000	T	4140	V	C
DC24	36000	T	4180	V	C
CMD1	1000	R	5925.5	H	T
CMD2	1000	R	6424.5	V	T
CMD3	1000	R	5925.5	L	T
CMD4	1000	R	6424.5	R	T
TLM1	500	T	4197.125	H	T
TLM2	500	T	4198.875	H	T
TLM3	500	T	4197.125	L	T
TLM4	500	T	4198.875	R	T
UPC1	25	T	11701	V	C
UPC2	25	T	12195	H	C
UK1	36000	R	14020	V	C
UK3	36000	R	14060	V	C
UK5	36000	R	14100	V	C
UK7	36000	R	14140	V	C
UK9	36000	R	14180	V	C
UK11	36000	R	14220	V	C
UK13	36000	R	14260	V	C
UK15	36000	R	14300	V	C
UK17	36000	R	14340	V	C
UK19	36000	R	14380	V	C
UK21	36000	R	14420	V	C

7K	148.1	UK7	KUP	DK7	KDN
8K	148.1	UK8	KUP	DK8	KDN
9K	148.1	UK9	KUP	DK9	KDN
10K	148.1	UK10	KUP	DK10	KDN
11K	148.1	UK11	KUP	DK11	KDN
12K	148.1	UK12	KUP	DK12	KDN
13K	148.1	UK13	KUP	DK13	KDN
14K	148.1	UK14	KUP	DK14	KDN
15K	148.1	UK15	KUP	DK15	KDN
16K	148.1	UK16	KUP	DK16	KDN
17K	148.1	UK17	KUP	DK17	KDN
18K	148.1	UK18	KUP	DK18	KDN
19K	148.1	UK19	KUP	DK19	KDN
20K	148.1	UK20	KUP	DK20	KDN
21K	148.1	UK21	KUP	DK21	KDN
22K	148.1	UK22	KUP	DK22	KDN
23K	148.1	UK23	KUP	DK23	KDN
24K	148.1	UK24	KUP	DK24	KDN

UK23	36000	R	14460	V	C
UK2	36000	R	14040	H	C
UK4	36000	R	14080	H	C
UK6	36000	R	14120	H	C
UK8	36000	R	14160	H	C
UK10	36000	R	14200	H	C
UK12	36000	R	14240	H	C
UK14	36000	R	14280	H	C
UK16	36000	R	14320	H	C
UK18	36000	R	14360	H	C
UK20	36000	R	14400	H	C
UK22	36000	R	14440	H	C
UK24	36000	R	14480	H	C
DK1	36000	T	11720	H	C
DK3	36000	T	11760	H	C
DK5	36000	T	11800	H	C
DK7	36000	T	11840	H	C
DK9	36000	T	11880	H	C
DK11	36000	T	11920	H	C
DK13	36000	T	11960	H	C
DK15	36000	T	12000	H	C
DK17	36000	T	12040	H	C
DK19	36000	T	12080	H	C
DK21	36000	T	12120	H	C
DK23	36000	T	12160	H	C
DK2	36000	T	11740	V	C
DK4	36000	T	11780	V	C
DK6	36000	T	11820	V	C
DK8	36000	T	11860	V	C
DK10	36000	T	11900	V	C
DK12	36000	T	11940	V	C
DK14	36000	T	11980	V	C
DK16	36000	T	12020	V	C
DK18	36000	T	12060	V	C
DK20	36000	T	12100	V	C
DK22	36000	T	12140	V	C
DK24	36000	T	12180	V	C

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	30M1G7W	30133	4	36863	0.75		6.1	16.3
D2	4M15G7W	4154	4	6000	0.75		6.7	16.4
D3	1M21G7W	1212.8	4	1544	0.75		5.7	15.6
D4	75K4G7W	75.4	4	64	0.75		3	13.4
D5	1M23G7W	1229	2	512	0.5		3.4	13.3
D6	307KG7W	307	2	128	0.5		3.4	12.9

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

Page 8: Analog Modulation

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						
A1	36M0F3F	36000	TV/FM	1					NTSC	12.8	2.6		10	20.2

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)		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.				
1C	24C		A1	1		G17 SCHEDUL	4	52.8	18.9	23.9	40.3	43.3	-148.8	23.6
1C	24C	D1		1		NOTE.txt		52.8	18.9	23.9	40.3	43.3	-157.5	19.2
1C	24C	D2		5	6875	NOTE.txt		52.8	6.3	11.3	29.2	32.2	-160.1	21
1C	24C	D3		23	1550	NOTE.txt		52.8	-0.2	4.8	22.7	25.7	-161.2	21
1C	24C	D4		360	100	NOTE.txt		52.8	-11.9	-6.9	11	14	-160.9	19.2
1K	24K		A1	1		NOTE.txt	4	56.9	16.9	22.9	47.3	51.3	-140.8	25
1K	24K	D1		1		NOTE.txt		56.9	16.9	22.9	47.3	51.3	-149.6	18.8
1K	24K	D2		5	6875	NOTE.txt		56.9	3.9	9.9	36.8	40.8	-151.5	22.3
1K	24K	D3		20	1550	NOTE.txt		56.9	-2.3	3.7	30.6	34.6	-152.3	22.3
1K	24K	D4		322	100	NOTE.txt		56.9	-14.2	-8.2	18.7	22.7	-152.2	18.8
1K	24K	D5		20	1450	NOTE.txt		56.9	-2.2	3.8	30.7	34.7	-152.3	18.8
1K	24K	D6		90	400	NOTE.txt		42.9	-1.4	4.6	17.5	21.5	-159.5	33.1

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

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: 3400 International Drive, NW			
S14b. City: Washington, DC	S14c. County:	S14d. State/Country DC	S14e. Zip Code: 20008
S14f. Telephone Number: 202-944-7701		S14g. Call Sign of Control Station (if appropriate):	

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): 1777	Spacecraft Dimensions (meters)	Probability of Survival to End of Life (0.0 - 1.0)
S15b. Mass of fuel and disposables at launch (kg): 2323		
S15c. Mass of spacecraft and fuel at launch (kg): 4100	S15f. Length (m): 5.3	S15i. Payload: 0.938
S15d. Mass of fuel, in orbit, at beginning of life (kg): 707	S15g. Width (m): 3.3	S15j. Bus: 0.802
S15e. Deployed Area of Solar Array (square meters): 66	S15h. Height (m): 2.3	S15k. Total: 0.752

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): 6187	(f): 6187	(k): 6187	(p): 6187
Bus (Watts):	(b): 1713	(g): 921	(l): 1713	(q): 921
Total (Watts):	(c): 7900	(h): 7108	(m): 7900	(r): 7108
Solar Array (Watts):	(d): 10738	(i): 9603	(n): 8891	(s): 8043
Depth of Battery Discharge (%):	(e) 64 %	(j) %	(o) 61 %	(t) %

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 checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	<input 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.