

**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: GALAXY-12		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:	
c. Construction Completion Date:		g. Total Number of Transponders: 24		k. Total Common Carrier Transponder Bandwidth: MHz	
d1. Est Launch Date Begin:	d2. Est Launch Date End:	h. Total Transponder Bandwidth (no. transponders x Bandwidth) 864 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

S3. ORBITAL INFORMATION FOR GEOSTATIONARY SATELLITES ONLY:

a. Nominal Orbital Longitude (Degrees E/W): 125.25 W		b. Alternate Orbital Longitude (Degrees E/W):		c. Reason for orbital location selection: PROVIDE BACKUP TO GALAXY-14	
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.
1	S		UNITED STATES

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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				
		(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)	Input Attenuator (dB)	
																(q) Max. Value	(r) Step Size
CHU	R	30.7	20.7	0.12	0.12	30	Y						3.5				
CVU	R	30.7	20.7	0.12	0.12	30	Y						3.5				
CHD	T	29.5	19.5	0.12	0.12	30	Y				44.2						
CVD	T	29.5	19.5	0.12	0.12	30	Y				44.2						
OMN	R	2.1	0.1	0.12	0.12	9	N						-25.4				
OMN	T	2.1	0.1	0.12	0.12	12	N				5.8						
WCA	R	13.1	11.1	0.12	0.12	30	N						-14.4				
WCA	T	13.1	11.1	0.12	0.12	26	N				4.8						

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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
CHU	R	C	-125.25		CHUP.gxt					
CVU	R	C	-125.25		CVUP.gxt					
CHD	T	C	-125.25		CHDN.gxt	-152	-149.5	-149.3	-149.2	-149.1
CVD	T	C	-125.25		CVDN.gxt	-152	-149.5	-149.3	-149.2	-149.1
OMN	R	C	-125.25		OMNC.gxt					
OMN	T	C	-125.25		OMNT.gxt	-175.4	-175.4	-175.2	-175.1	-175
WCA	R	C	-125.25		WCAC.gxt					
WCA	T	C	-125.25		WCAT.gxt	-176.4	-176.4	-176.2	-176.1	-176

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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)
CU1	36	R	5945	V	C
CU3	36	R	5985	V	C
CU5	36	R	6025	V	C
CU7	36	R	6065	V	C
CU9	36	R	6105	V	C
CU11	36	R	6145	V	C
CU13	36	R	6185	V	C
CU15	36	R	6225	V	C
CU17	36	R	6265	V	C
CU19	36	R	6305	V	C
CU21	36	R	6345	V	C
CU23	36	R	6385	V	C
CU2	36	R	5965	H	C
CU4	36	R	6005	H	C
CU6	36	R	6045	H	C
CU8	36	R	6085	H	C
CU10	36	R	6125	H	C
CU12	36	R	6165	H	C
CU14	36	R	6205	H	C
CU16	36	R	6245	H	C
CU18	36	R	6285	H	C
CU20	36	R	6325	H	C
CU22	36	R	6365	H	C
CU24	36	R	6405	H	C
CD1	36	T	3720	H	C
CD3	36	T	3760	H	C
CD5	36	T	3800	H	C
CD7	36	T	3840	H	C
CD9	36	T	3880	H	C
CD11	36	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
C1	130	CU1	CVUP	CD1	CHDN
C3	130	CU3	CVUP	CD3	CHDN
C5	130	CU5	CVUP	CD5	CHDN
C7	130	CU7	CVUP	CD7	CHDN
C9	130	CU9	CVUP	CD9	CHDN
C11	130	CU11	CVUP	CD11	CHDN
C13	130	CU13	CVUP	CD13	CHDN
C15	130	CU15	CVUP	CD15	CHDN
C17	130	CU17	CVUP	CD17	CHDN
C19	130	CU19	CVUP	CD19	CHDN
C21	130	CU21	CVUP	CD21	CHDN
C23	130	CU23	CVUP	CD23	CHDN
C2	130	CU2	CHUP	CD2	CVDN
C4	130	CU4	CHUP	CD4	CVDN
C6	130	CU6	CHUP	CD6	CVDN
C8	130	CU8	CHUP	CD8	CVDN
C10	130	CU10	CHUP	CD10	CVDN
C12	130	CU12	CHUP	CD12	CVDN
C14	130	CU14	CHUP	CD14	CVDN
C16	130	CU16	CHUP	CD16	CVDN
C18	130	CU18	CHUP	CD18	CVDN
C20	130	CU20	CHUP	CD20	CVDN
C22	130	CU22	CHUP	CD22	CVDN
C24	130	CU24	CHUP	CD24	CVDN

CD13	36	T	3960	H	C
CD15	36	T	4000	H	C
CD17	36	T	4040	H	C
CD19	36	T	4080	H	C
CD21	36	T	4120	H	C
CD23	36	T	4160	H	C
CD2	36	T	3740	V	C
CD4	36	T	3780	V	C
CD6	36	T	3820	V	C
CD8	36	T	3860	V	C
CD10	36	T	3900	V	C
CD12	36	T	3940	V	C
CD14	36	T	3980	V	C
CD16	36	T	4020	V	C
CD18	36	T	4060	V	C
CD20	36	T	4100	V	C
CD22	36	T	4140	V	C
CD24	36	T	4180	V	C

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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	30M1G7W	30100	4	36863	0.75		6.1	14.8
D2	5M57G7W	5565	4	6000	0.75		6.8	12.4
D3	77K0G7W	77	4	64	0.5		6.8	13.4

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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						
A1	36M0F3F	36000	TV/FM	1					NTSC	12.8	2.6		10	15.3

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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)		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.				
C1	C24	D1		1		LINK BUDGET		51	19.4	23.4	42.2	44.2	-156.6	19.2
C1	C24	D2		6		LINK BUDGET		51	9.6	13.6	30.9	32.9	-160.7	21
C1	C24	D3		257		LINK BUDGET		51	-6.7	-2.7	14.6	16.6	-158.4	19.2
C1	C24		A1	1		LINK BUDGET	4000	51	19.4	23.4	42.2	44.2	-147.9	21

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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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 Characteristics and
 Certifications**

S15. SPACECRAFT PHYSICAL CHARACTERISTICS:

S16. SPACECRAFT ELECTRICAL CHARACTERISTICS:

S17. CERTIFICATIONS:

a. Are the power flux density limits of § 25.208 met?:	<input 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 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 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.						