

S1. GENERAL INFORMATION Complete for all satellite applications.

a. Space Station or Satellite Network Name: GALAXY 4R		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: 48		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) 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
14.0	G	14.5	G	R	Fixed Satellite Service
11.7	G	12.2	G	T	Fixed Satellite Service

S3. ORBITAL INFORMATION FOR GEOSTATIONARY SATELLITES ONLY:

a. Nominal Orbital Longitude (Degrees E/W): 76.85 W		b. Alternate Orbital Longitude (Degrees E/W):		c. Reason for orbital location selection: PROVIDE SERVICE CONTINENTAL UNITED STATES, HAWAII, ALASKA, SOUTHERN CANADA, MEXICO AND CARRIBEAN ISLANDS
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	Range of orbital are in which adequate service can be provided (Optional): g. Westernmost: _____ Degrees _____ E/W _____ 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		CONTINENTAL UNITED STATES, HAWAII, ALASKA, SOUTHERN CANADA, MEXICO AND THE CARRIBEAN
2	S		NORTH AMERICA
3	S		GLOBAL

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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				
										(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	29.5	25.5	0.2	0.7	30	Y	0	1					0	-96	16	2
CVU	R	29.5	25.5	0.2	0.7	30	Y	90	1					0	-96	16	2
CHD	T	29.6	25.6	0.2	0.7	30	Y	0	1			42.1					
CVD	T	29.6	25.6	0.2	0.7	30	Y	90	1			42.1					
KHU	R	33.3	27.3	0.2	0.7	30	Y	0	1					4.4	-98.4	16	2
KVU	R	33.3	27.3	0.2	0.7	30	Y	90	1					4.4	-98.4	16	2
KHD	T	30.9	26.9	0.2	0.7	30	Y	0	1			47.9					
KVD	T	30.9	26.9	0.2	0.7	30	Y	90	1			47.9					
CMD	R	29.5	19.5	0.2	0.7		Y	90	1					-9.6	-114.4		
CMD	R	5.1	3.1	0.2	0.7		N		3					-29	-96.7		
CMD	R	-2.3	-5.3	0.2	0.7		N	0	3					-34.7	-90.1		
TLM	T	29.9	19.9	0.2	0.7		Y	0	1			18.6					
TLM	T	5.8	3.8	0.2	0.7		N		3			12.1					
TLM	T	-0.4	-3.4	0.2	0.7		N	90	3			8.5					
UPC	T	22.8	18.8	0.2	0.7		Y	0	2			15.8					
UPC	T	22.8	18.8	0.2	0.7		Y	90	2			15.8					

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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	76.85		CHUP.gxt					
CVU	R	C	76.85		CVUP.gxt					
CHD	T	C	76.85		CHDN.gxt	-152	-151.1	-150.9	-150.8	-150.7
CVD	T	C	76.85		CVDN.gxt	-152	-151.1	-150.9	-150.8	-150.7
KHU	R	C	76.85		KHUP.gxt					
KVU	R	C	76.85		KVUP.gxt					
KHD	T	C	76.85		KHDN.gxt					
KVD	T	C	76.85		KVDN.gxt					
CMD	R	C	76.85		CMDC.gxt					
CMD	R	C	76.85	CMDP.pdf						
CMD	R	C	76.85	CMDB.pdf						
TLM	T	C	76.85		TLMC.gxt					
TLM	T	C	76.85	TLMP.pdf						
TLM	T	C	76.85	TLMB.pdf						
UPC	T	C	76.85	UPCH.pdf						
UPC	T	C	76.85	UPCV.pdf						

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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	36000	R	5945	V	C
CU3	36000	R	5985	V	C
CU5	36000	R	6025	V	C
CU7	36000	R	6065	V	C
CU9	36000	R	6105	V	C
CU11	36000	R	6145	V	C
CU13	36000	R	6185	V	C
CU15	36000	R	6225	V	C
CU17	36000	R	6265	V	C
CU19	36000	R	6305	V	C
CU21	36000	R	6345	V	C
CU23	36000	R	6385	V	C
CU2	36000	R	5965	H	C
CU4	36000	R	6005	H	C
CU6	36000	R	6045	H	C
CU8	36000	R	6085	H	C
CU10	36000	R	6125	H	C
CU12	36000	R	6165	H	C
CU14	36000	R	6205	H	C
CU16	36000	R	6245	H	C
CU18	36000	R	6285	H	C
CU20	36000	R	6325	H	C
CU22	36000	R	6365	H	C
CU24	36000	R	6405	H	C
CD1	36000	T	3720	H	C
CD3	36000	T	3760	H	C
CD5	36000	T	3800	H	C
CD7	36000	T	3840	H	C
CD9	36000	T	3880	H	C
CD11	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	116.3	CU1	CVUP	CD1	CHDN
3C	116.3	CU3	CVUP	CD3	CHDN
5C	116.3	CU5	CVUP	CD5	CHDN
7C	116.3	CU7	CVUP	CD7	CHDN
9C	116.3	CU9	CVUP	CD9	CHDN
11C	116.3	CU11	CVUP	CD11	CHDN
13C	116.3	CU13	CVUP	CD13	CHDN
15C	116.3	CU15	CVUP	CD15	CHDN
17C	116.3	CU17	CVUP	CD17	CHDN
19C	116.3	CU19	CVUP	CD19	CHDN
21C	116.3	CU21	CVUP	CD21	CHDN
23C	116.3	CU23	CVUP	CD23	CHDN
2C	116.3	CU2	CHUP	CD2	CVDN
4C	116.3	CU4	CHUP	CD4	CVDN
6C	116.3	CU6	CHUP	CD6	CVDN
8C	116.3	CU8	CHUP	CD8	CVDN
10C	116.3	CU10	CHUP	CD10	CVDN
12C	116.3	CU12	CHUP	CD12	CVDN
14C	116.3	CU14	CHUP	CD14	CVDN
16C	116.3	CU16	CHUP	CD16	CVDN
18C	116.3	CU18	CHUP	CD18	CVDN
20C	116.3	CU20	CHUP	CD20	CVDN
22C	116.3	CU22	CHUP	CD22	CVDN
24C	116.3	CU24	CHUP	CD24	CVDN
1K	126.6	KU1	KVUP	KD1	KHDN
3K	126.6	KU3	KVUP	KD3	KHDN
5K	126.6	KU5	KVUP	KD5	KHDN
7K	126.6	KU7	KVUP	KD7	KHDN
9K	126.6	KU9	KVUP	KD9	KHDN
11K	126.6	KU11	KVUP	KD11	KHDN

CD13	36000	T	3960	H	C
CD15	36000	T	4000	H	C
CD17	36000	T	4040	H	C
CD19	36000	T	4080	H	C
CD21	36000	T	4120	H	C
CD23	36000	T	4160	H	C
KU1	36000	R	14020	V	C
KU3	36000	R	14060	V	C
KU5	36000	R	14100	V	C
KU7	36000	R	14140	V	C
KU9	36000	R	14180	V	C
KU11	36000	R	14220	V	C
KU13	36000	R	14260	V	C
KU15	36000	R	14300	V	C
KU17	36000	R	14340	V	C
KU19	36000	R	14380	V	C
KU21	36000	R	14420	V	C
KU23	36000	R	14460	V	C
KU2	36000	R	14040	H	C
KU4	36000	R	14080	H	C
KU6	36000	R	14120	H	C
KU8	36000	R	14160	H	C
KU10	36000	R	14200	H	C
KU12	36000	R	14240	H	C
KU14	36000	R	14280	H	C
KU16	36000	R	14320	H	C
KU18	36000	R	14360	H	C
KU20	36000	R	14400	H	C
KU22	36000	R	14440	H	C
KU24	36000	R	14480	H	C
KD1	36000	T	11720	H	C
KD3	36000	T	11760	H	C
KD5	36000	T	11800	H	C
KD7	36000	T	11840	H	C
KD9	36000	T	11880	H	C
KD11	36000	T	11920	H	C
KD13	36000	T	11960	H	C
KD15	36000	T	12000	H	C
KD17	36000	T	12040	H	C

13K	126.6	KU13	KVUP	KD13	KHDN
15K	126.6	KU15	KVUP	KD15	KHDN
17K	126.6	KU17	KVUP	KD17	KHDN
19K	126.6	KU19	KVUP	KD19	KHDN
21K	126.6	KU21	KVUP	KD21	KHDN
23K	126.6	KU23	KVUP	KD23	KHDN
2K	126.6	KU2	KHUP	KD2	KVDN
4K	126.6	KU4	KHUP	KD4	KVDN
6K	126.6	KU6	KHUP	KD6	KVDN
8K	126.6	KU8	KHUP	KD8	KVDN
10K	126.6	KU10	KHUP	KD10	KVDN
12K	126.6	KU12	KHUP	KD12	KVDN
14K	126.6	KU14	KHUP	KD14	KVDN
16K	126.6	KU16	KHUP	KD16	KVDN
18K	126.6	KU18	KHUP	KD18	KVDN
20K	126.6	KU20	KHUP	KD20	KVDN
22K	126.6	KU22	KHUP	KD22	KVDN
24K	126.6	KU24	KHUP	KD24	KVDN

KD19	36000	T	12080	H	C
KD21	36000	T	12120	H	C
KD23	36000	T	12160	H	C
KD2	36000	T	11740	V	C
KD4	36000	T	11780	V	C
KD6	36000	T	11820	V	C
KD8	36000	T	11860	V	C
KD10	36000	T	11900	V	C
KD12	36000	T	11940	V	C
KD14	36000	T	11980	V	C
KD16	36000	T	12020	V	C
KD18	36000	T	12060	V	C
KD20	36000	T	12100	V	C
KD22	36000	T	12140	V	C
KD24	36000	T	12180	V	C
CMD1	1000	R	6422.25	V	T
CMD2	1000	R	6422.25	H	T
CMD3	1000	R	5926.75	R	T
TLM1	500	T	4198.125	H	T
TLM2	500	T	4199.625	H	T
CD2	36000	T	3740	V	C
CD4	36000	T	3780	V	C
CD6	36000	T	3820	V	C
CD8	36000	T	3860	V	C
CD10	36000	T	3900	V	C
CD12	36000	T	3940	V	C
CD14	36000	T	3980	V	C
CD16	36000	T	4020	V	C
CD18	36000	T	4060	V	C
CD20	36000	T	4100	V	C
CD22	36000	T	4140	V	C
CD24	36000	T	4180	V	C
TLM3	500	T	4198.125	V	T
TLM4	500	T	4199.625	V	T
TLM5	500	T	4198.125	R	T
TLM6	500	T	4199.625	R	T
ULPC1	25	T	11701	V	C
ULPC2	25	T	12195	H	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	30133	4	36863	0.75		6.1	13.6
D2	4M15G7W	4154	4	6000	0.75		6.7	14.2
D3	1M21G7W	1212.8	4	1544	0.75		5.7	13.1
D4	75K4G7W	75.4	4	64	0.5		3	10.4
D5	30M1G7W	30133	4	36863	0.75		6.1	21.8
D6	4M15G7W	4154	4	6000	0.75		6.7	19.6
D7	1M21G7W	1212.8	4	1544	0.75		5.7	19.1
D8	75K4G7W	75.4	4	64	0.5		3	17.1
D9	1M23G7W	1229	2	512	0.5		3.4	17
D10	307KG7W	307	2	128	0.5		3.4	15

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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	2.56		10	15.2
A2	36M0F3F	36000	TV/FM	1					NTSC	12.8	2.56		10	23.9

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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.											
1C	24C		A1	1		C-BAND LINK	4000	51	19.9	23.9	38.1	42.1	-150	28.4
1C	24C	D1		1		C-BAND LINK		51	19.9	23.9	38.1	42.1	-158.7	21
1C	24C	D2		3		C-BAND LINK		51	13.4	17.4	29.1	33.1	-159.1	21
1C	24C	D3		15		C-BAND LINK		51	6.9	10.9	22.6	26.6	-160.3	21
1C	24C	D4		360		C-BAND LINK		51	-7.8	-3.8	7.9	11.9	-162.9	21
1K	24K		A2	1		KU-BAND LINK	4000	58.1	11.7	17.7	39	43	-149.1	33.1
1K	24K	D5		1		KU-BAND LINK		58.1	13.8	19.8	40.8	44.8	-156.1	25
1K	24K	D6		4		KU-BAND LINK		58.1	-2.4	3.6	32.2	36.2	-156.1	26.7
1K	24K	D7		16		KU-BAND LINK		58.1	-7.8	-1.8	26.9	30.9	-156	25
1K	24K	D8		318		KU-BAND LINK		58.1	-20	-14.6	14.1	18.1	-156.8	22.3
1K	24K	D9		20		KU-BAND LINK		58.1	-8.6	-2.6	26.1	30.1	-156.9	22.3
1K	24K	D10		90		KU-BAND LINK		46.4	-8.1	-2.1	14.9	18.9	-162.1	34.6

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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
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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.								