FCC	312	
Sche	dule	S

FEDERAL COMMUNICATIONS COMMISSION SATELLITE SPACE STATION AUTHORIZATIONS (Technical and Operational Description)

Page 1: General, Frequency Bands, and GSO Orbit

S1.	GENERAL	. INFORMATION	Complete for	all satellite	applications.

a. Space Station or Satellite N GALAXY 12	etwork Name:	e. Estimated Date of Placement into Service:	i Will the space station(s) operate on a Common Carrier Basis:		
b. Construction Commenceme	ent Date:	f. Estimated Lifetime of Satellite(s): Years	j. Number of transponders offered on a common carrier basis:		
c. Construction Completion Da	ate:	g. Total Number of Transponders:	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) MHz	I. Orbit Type: Mark all boxes that apply: X GSO 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		
Lower Frequency (_Hz)	Lower Frequency (_Hz) Upper Frequency (_Hz)		f. Nature of Service(s): List all that apply to this band
a. Numeric b. Unit (K/M/G)	c. Numeric d. Unit (K/M/G)		()

S3. ORBITAL INFORMATION FOR GEOSTATIONARY SATELLITES ONLY:

a. Nominal Orbital Longitude 125.1 W	e (Degrees E/W):	b. Alternate Orbital Longitude (Degrees E/W):			c. Reason for orbital location selection:
Longitudinal Tolerance or E, d. Toward West: e. Toward East:		f. Inclination Excursion or N/S Station-Keeping Tolerance: Range of orbital are in which adequate service can be provided (Optional): Degrees E/W g. Westernmost: h. Easternmost:			
i. Reason for service are	e selection (Optional)				

Page 2: NGSO Orbits

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	(f) No. of	(g) Inclination	(h) Orbital	(i) Apogee (km)	(j) Perigee (km)	(k) Right Ascension	(I) Argument of	Active Se	rvice Arc Rang	e (Degrees)
Plane No.	Satellites in	Angle (degrees)	Period			of the Ascending	Perigee	(m) Begin	(n) End	(o) Other
	Plane		(Seconds)			Node (Deg.)	(Degrees)	Angle	Ångle	. ,
			(=====)			(9-)	(5,000)	,g.o	gio	

S5. INITIAL SATELLITE PHASE ANGLE For each satellite in each orbital plane, provide the intital phase angle.

(a) Orbital Plane No.	(b) Satellite Number	(c) Initial Phase Angle
		(Degrees)

NO NGSO DATA FILED

Page 3: Service Areas

FCC Form 312 - Schedule S: (Technical and Operational Description)

S6. SERVICE AREA CHARACTERISTICS for each service area provide:

ID Station (Earth or File Name (GXT File) Service Area Diagram.	·
Space)	

Page 4: Antenna Beams

FCC Form 312 - Schedule S: (Technical and Operational Description)

S7. SPACE STATION ANTENNA BEAM CHARACTERISTICS For each antenna beam provide:

	(a)	(b)	Isotropic	Antenna	(e)	(f)	(g) Min.	(h) Polar-	(i) Polarization	(j) Service		Transmit				Receive		
В	eam	T/R	Ga		Pointing	Rotational	Cross-	ization	Alignment Rel.	Area ID	(k)	(I) Effective	(m)	(n)	(o) G/T	(p) Min.	Input Attenu	uator (dB)
	ID	Mode	(c) Peak (dBi)	(d) Edge (dBi)	Error (Degrees)	Error (Degrees)	Polar Iso- lation (dB)	Switch- able?	Equatorial Plane (Degrees)		Input Losses	Output Power (W)	Max. EIRP	System Noice	Max. Gain Pt.	Saturation Flux Density	(1)	(r) Step
			(dDI)	(GDI)	, ,	,	, ,	(Y/N)	,		(dB)	,	(dBW)	Temp (k)		(dBW/m2)	Value	Size

Page 5: Beam Diagrams

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)	(b)	(c) Co-or	(d) GSO	(e) NGSO Antenna Gain	(f) GSO Antenna		Max. Power F	Flux Density (dB	W/M2/Hz)	
Beam	T/R	Cross	Ref.	Contour Description	Gain Contour Data	At Angle of	Arrival above ho	orizontal (for em	ission with high	hest PFD)
ID	Mode	Polar Mode ("C"	Orbital Longitude	(Figure/Table/ Exhibit)	(GXT File)	(g) 5 Deg	(h) 10 Deg	(i) 15 Deg	(j) 20 Deg	(k) 25 Deg
		or" X")	(Deg. E/W)							

Page 6: Channels and Transponders

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)	(B) Assigned	(c)	(d) Center	(e)	(f) TTC
Channel	Bandwidth	T/R	Frequency	Polarization	or Comm
No.	(kHz)	Mode	(MHz)	(H, V, L, R)	Channel
					(T or C)

(a)	(b)	Receive	Band	Transmi	t Band
Transponder	Transponder	(c) Channel	(d) Beam	(e) Channel	(f) Beam ID
ID	Gain (dB)	No.	ID	No.	

Page 7: Digital Modulation

FCC Form 312 - Schedule S: (Technical and Operational Description)

S11. DIGITAL MODULATION PARAMETERS For each digital emission provide:

ſ	(a) Digital	(b) Emission	(c) Assigned	(d) No. of	(e)Uncoded	(f) FEC Error	(g) CDMA	(h) Total C/N	(i) Single Entry
ı	Mod. ID	Designator	Bandwidth	Phases	Data Rate	Correction	Processing	Performance	C/I Objective
ı			(kHz)		(kbps)	Coding Rate	Gain (dB)	Objective (dB)	(dB)
ı									

Page 8: Analog Modulation

FCC Form 312 - Schedule S: (Technical and Operational Description)

S12. ANALOG MODULATION PARAMETERS For each analog emission provide:

(a)	(b) Emission	(c)	(d) Signal	(e)	Multi-channel Telephony				(j) Video	(k) Video	(I) Video	(m) SCPC/FM	(n) Total C/N	(o) Single
Analo Mod.		Assigned Bandwidth (kHz)	Туре	Channels per Carrier	(f) Ave. Companded Talker Level (dBm0)	(g) Bottom Baseband Freq. (MHz)		(i) RMS Modulation Index	Standard NTSC, PAL, etc.	- 3 - 3	and SCPC/FM Modulation Index	Compander, Preemphasis, and Noise Weighting (dB)	Performance Objective (dB)	Entry C/I Objective (dB)

Page 9: Typical Emissions

FCC Form 312 - Schedule S: (Technical and Operational Description)

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

	Associated				()	(3)	(h) Energy	Receive Band (Assoc. Transmit Stn)			Transmit Band (This Space Station)			tion)
(a) Start	er ID Range (b) End	(Table (Table S12)	per Transponder	Spacing (kHz)	Reference (Table No.)	Dispersal Bandwidth (kHz)	(i)Assoc. Stn. Max.	Assoc. Stati Power		EIRP	(dBW)	Power Flux	(o)Assoc. Stn Rec. G/T	
		S11)					, ,	Antenna Gain (dBi)	(j) Min.	(k) Max.	(I) Min.	(m) Max.	Density (dBW/m2/Hz)	(dB/K)

Page 10: TT and C

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): #Error

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:

S16. SPACECRAFT ELECTRICAL CHARACTERISTICS:

S17. CERTIFICATIONS:

a. Are the power flux density limits of § 25.208 met?:	YES	# NO	# N/A	
b. Are the appropriate service area coverage requirements of § 25.143(b)(ii) and (iii), or § 25.145(c)(1) and (20.145(c)(1))	2) met? YES	# NO	# 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? YES	# NO	# N/A	
In addition to the information required in this Form, the appearatoing applicant is required to provi	ido all the information	a anaaifiad in l	Cootion OF 111	£ 41a.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.