

S1. GENERAL INFORMATION Complete for all satellite applications.

a. Space Station or Satellite Network Name: VIASAT-3		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): 15 Years		j. Number of transponders offered on a common carrier basis: 0	
c. Construction Completion Date:		g. Total Number of Transponders: 72		k. Total Common Carrier Transponder Bandwidth: 0 MHz	
d1. Est Launch Date Begin:	d2. Est Launch Date End:	h. Total Transponder Bandwidth (no. transponders x Bandwidth) 99000 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 operate. 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)		
28.1	G	29.1	G	R	Fixed Satellite Service
29.5	G	30	G	R	Fixed Satellite Service
18.3	G	19.3	G	T	Fixed Satellite Service
19.7	G	20.2	G	T	Fixed Satellite Service

S3. ORBITAL INFORMATION FOR GEOSTATIONARY SATELLITES ONLY:

a. Nominal Orbital Longitude (Degrees E/W): 79.3 W		b. Alternate Orbital Longitude (Degrees E/W):		c. Reason for orbital location selection: The Ka-band spectrum at the nominal 79 W.L. orbital location is currently unassigned.	
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> Degrees </u> <u> E/W </u>		
d. Toward West:	0.05 Degrees		g. Westernmost:		
e. Toward East:	0.05 Degrees	0.05 Degrees	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.
SA1	S		Parts of CONUS, Canada and Mexico.
SA2	S		North America
SA3	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				
										(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														
G1U	R	48.4	47.4	0.05	0.05	26	N		SA1				1349	17.1	-100	20	1
G1UL	R	48.4	47.4	0.05	0.05	26	N		SA1				1349	17.1	-100	20	1
G2U	R	52.2	51.2	0.05	0.05	26	N		SA1				1349	20.9	-100	20	1
G2UL	R	52.2	51.2	0.05	0.05	26	N		SA1				1349	20.9	-100	20	1
G3U	R	52.6	51.6	0.05	0.05	26	N		SA1				1349	21.3	-100	20	1
G3UL	R	52.6	51.6	0.05	0.05	26	N		SA1				1349	21.3	-100	20	1
G4U	R	49.8	48.8	0.05	0.05	26	N		SA1				1349	18.5	-100	20	1
G4UL	R	49.8	48.8	0.05	0.05	26	N		SA1				1349	18.5	-100	20	1
G5U	R	52.7	51.7	0.05	0.05	26	N		SA1				1349	21.4	-100	20	1
G5UL	R	52.7	51.7	0.05	0.05	26	N		SA1				1349	21.4	-100	20	1
G6U	R	51.6	50.6	0.05	0.05	26	N		SA1				1349	20.3	-100	20	1
G6UL	R	51.6	50.6	0.05	0.05	26	N		SA1				1349	20.3	-100	20	1
G7U	R	52.3	51.3	0.05	0.05	26	N		SA1				1349	21	-100	20	1
G7UL	R	52.3	51.3	0.05	0.05	26	N		SA1				1349	21	-100	20	1
G8U	R	53.2	52.2	0.05	0.05	26	N		SA1				1349	21.9	-100	20	1
G8UL	R	53.2	52.2	0.05	0.05	26	N		SA1				1349	21.9	-100	20	1
G9U	R	52.1	51.1	0.05	0.05	26	N		SA1				1349	20.8	-100	20	1
G9UL	R	52.1	51.1	0.05	0.05	26	N		SA1				1349	20.8	-100	20	1
G10U	R	52.4	51.4	0.05	0.05	26	N		SA1				1349	21.1	-100	20	1
G10U	R	52.4	51.4	0.05	0.05	26	N		SA1				1349	21.1	-100	20	1
G11U	R	52.5	51.5	0.05	0.05	26	N		SA1				1349	21.2	-100	20	1
G11U	R	52.5	51.5	0.05	0.05	26	N		SA1				1349	21.2	-100	20	1
G12U	R	52.6	51.6	0.05	0.05	26	N		SA1				1349	21.3	-100	20	1
G12U	R	52.6	51.6	0.05	0.05	26	N		SA1				1349	21.3	-100	20	1
G14U	R	52.9	51.9	0.05	0.05	26	N		SA1				1349	21.6	-100	20	1
G14U	R	52.9	51.9	0.05	0.05	26	N		SA1				1349	21.6	-100	20	1
G15U	R	52.7	51.7	0.05	0.05	26	N		SA1				1349	21.4	-100	20	1
G15U	R	52.7	51.7	0.05	0.05	26	N		SA1				1349	21.4	-100	20	1
G13U	R	52.6	47.6	0.05	0.05	26	N		SA1				1349	21.3	-100	20	1

G16U	R	52.8	51.8	0.05	0.05	26	N						1349	21.5	-100	20	1
G16U	R	52.8	51.8	0.05	0.05	26	N						1349	21.5	-100	20	1
G17U	R	51.4	50.4	0.05	0.05	26	N						1349	20.1	-100	20	1
G17U	R	51.4	50.4	0.05	0.05	26	N						1349	20.1	-100	20	1
G18U	R	51.1	50.1	0.05	0.05	26	N						1349	19.8	-100	20	1
G18U	R	51.1	50.1	0.05	0.05	26	N						1349	19.8	-100	20	1
G1DL	T	47.2	46.2	0.05	0.05	30	N										
G1D	T	47.2	46.2	0.05	0.05	30	N			4.5	9.3	56.9					
G2DL	T	51.8	50.8	0.05	0.05	30	N										
G2D	T	51.8	50.8	0.05	0.05	30	N			4.5	9.3	61.5					
G3DL	T	52.1	51.1	0.05	0.05	30	N										
G3D	T	52.1	51.1	0.05	0.05	30	N			4.5	9.3	61.8					
G4DL	T	50.4	49.4	0.05	0.05	30	N										
G4D	T	50.4	49.4	0.05	0.05	30	N			4.5	9.3	60.1					
G13U	R	52.6	47.6	0.05	0.05	26	N						1349	21.3	-100	20	1
G19U	R	50.1	45.1	0.05	0.05	26	N						1349	18.8	-100	20	1
G4D	T	50.4	49.4	0.05	0.05	30	N			4.5	9.3	60.1					
G5DL	T	51.4	50.4	0.05	0.05	30	N										
G5D	T	51.4	50.4	0.05	0.05	30	N			4.5	9.3	61.1					
G6DL	T	50.7	49.7	0.05	0.05	30	N										
G6D	T	50.7	49.7	0.05	0.05	30	N			4.5	9.3	60.4					
G7DL	T	51.9	50.9	0.05	0.05	30	N										
G7D	T	51.9	50.9	0.05	0.05	30	N			4.5	9.3	61.6					
G8DL	T	52.5	51.5	0.05	0.05	30	N										
G8D	T	52.5	51.5	0.05	0.05	30	N			4.5	9.3	62.2					
G9DL	T	51.3	50.3	0.05	0.05	30	N										
G9D	T	51.3	50.3	0.05	0.05	30	N			4.5	9.3	61					
G10D	T	51.8	50.8	0.05	0.05	30	N										
G10D	T	51.8	50.8	0.05	0.05	30	N			4.5	9.3	61.5					
G11D	T	51.2	50.2	0.05	0.05	30	N										
G11D	T	51.2	50.2	0.05	0.05	30	N			4.5	9.3	60.9					
G12D	T	52	51	0.05	0.05	30	N										
G12D	T	52	51	0.05	0.05	30	N			4.5	9.3	61.7					
G14D	T	52.3	51.3	0.05	0.05	30	N										
G14D	T	52.3	51.3	0.05	0.05	30	N			4.5	9.3	62					
G15D	T	52	51	0.05	0.05	30	N										
G15D	T	52	51	0.05	0.05	30	N			4.5	9.3	61.7					
G16D	T	52	51	0.05	0.05	30	N										
G16D	T	52	51	0.05	0.05	30	N			4.5	9.3	61.7					
G17D	T	50.5	49.5	0.05	0.05	30	N										
G17D	T	50.5	49.5	0.05	0.05	30	N			4.5	9.3	60.2					

G17D	T	50.5	49.5	0.05	0.05	30	N		SA1	4.5	9.3	60.2					
G18D	T	49.9	48.9	0.05	0.05	30	N		SA1	4.5	9.3	59.6					
G18D	T	49.9	48.9	0.05	0.05	30	N		SA1	4.5	9.3	59.6					
G20U	R	52.1	47.1	0.05	0.05	26	N		SA1				1349	20.8	-100	20	1
G13D	T	51.2	46.2	0.05	0.05	30	N		SA1	4.5	9.3	60.9					
U1UR	R	53.1	48.1	0.05	0.05	26	N		SA1				1230	22.2	-100	20	1
U2UL	R	53.4	48.4	0.05	0.05	26	N		SA1				1230	22.5	-100	20	1
U3UL	R	53	48	0.05	0.05	26	N		SA1				1230	22.1	-100	20	1
U4UL	R	53.5	48.5	0.05	0.05	26	N		SA1				1230	22.6	-100	20	1
U5UL	R	53	48	0.05	0.05	26	N		SA1				1230	22.1	-100	20	1
U9UR	R	53.6	48.6	0.05	0.05	26	N		SA1				1230	22.7	-100	20	1
U10U	R	53	48	0.05	0.05	26	N		SA1				1230	22.1	-100	20	1
U11U	R	53.6	48.6	0.05	0.05	26	N		SA1				1230	22.7	-100	20	1
U12U	R	52.8	47.8	0.05	0.05	26	N		SA1				1230	21.9	-100	20	1
U14U	R	52.6	47.6	0.05	0.05	26	N		SA1				1230	21.7	-100	20	1
G13D	T	51.2	46.2	0.05	0.05	30	N		SA1	4.5	9.3	60.9					
G19D	T	50.5	45.5	0.05	0.05	30	N		SA1	4.5	9.3	60.2					
G20D	T	51.5	46.5	0.05	0.05	30	N		SA1	4.5	9.3	61.2					
U6UL	R	53.5	48.5	0.05	0.05	26	N		SA1				1230	22.6	-100	20	1
U7UL	R	52.8	47.8	0.05	0.05	26	N		SA1				1230	21.9	-100	20	1
U15U	R	53.3	48.3	0.05	0.05	26	N		SA1				1230	22.4	-100	20	1
U16U	R	53.4	48.4	0.05	0.05	26	N		SA1				1230	22.5	-100	20	1
U17U	R	53	48	0.05	0.05	26	N		SA1				1230	22.1	-100	20	1
U18U	R	53.5	48.5	0.05	0.05	26	N		SA1				1230	22.6	-100	20	1
U19U	R	52.8	47.8	0.05	0.05	26	N		SA1				1230	21.9	-100	20	1
U20U	R	53.5	48.5	0.05	0.05	26	N		SA1				1230	22.6	-100	20	1
U21U	R	52.6	47.6	0.05	0.05	26	N		SA1				1230	21.7	-100	20	1
U22U	R	53.2	48.2	0.05	0.05	26	N		SA1				1230	22.3	-100	20	1
U23U	R	53	48	0.05	0.05	26	N		SA1				1230	22.1	-100	20	1
U24U	R	53.6	48.6	0.05	0.05	26	N		SA1				1230	22.7	-100	20	1
U25U	R	52.8	47.8	0.05	0.05	26	N		SA1				1230	21.9	-100	20	1
U26U	R	53.5	48.5	0.05	0.05	26	N		SA1				1230	22.6	-100	20	1
U27U	R	52.6	47.6	0.05	0.05	26	N		SA1				1230	21.7	-100	20	1
U28U	R	53.4	48.4	0.05	0.05	26	N		SA1				1230	22.5	-100	20	1
U29U	R	52.4	47.4	0.05	0.05	26	N		SA1				1230	21.5	-100	20	1
U30U	R	53.4	48.4	0.05	0.05	26	N		SA1				1230	22.5	-100	20	1
U31U	R	52.9	47.9	0.05	0.05	26	N		SA1				1230	22	-100	20	1
U32U	R	53.5	48.5	0.05	0.05	26	N		SA1				1230	22.6	-100	20	1
U33U	R	52.8	47.8	0.05	0.05	26	N		SA1				1230	21.9	-100	20	1

U34U	R	53.5	48.5	0.05	0.05	26	N			SA1				1230	22.6	-100	20	1
U35U	R	52.6	47.6	0.05	0.05	26	N			SA1				1230	21.7	-100	20	1
U36U	R	53.4	48.4	0.05	0.05	26	N			SA1				1230	22.5	-100	20	1
U37U	R	52.3	47.3	0.05	0.05	26	N			SA1				1230	21.4	-100	20	1
U38U	R	53.5	48.5	0.05	0.05	26	N			SA1				1230	22.6	-100	20	1
U39U	R	52.8	47.8	0.05	0.05	26	N			SA1				1230	21.9	-100	20	1
U40U	R	53.5	48.5	0.05	0.05	26	N			SA1				1230	22.6	-100	20	1
U41U	R	52.7	47.7	0.05	0.05	26	N			SA1				1230	21.8	-100	20	1
U42U	R	53.3	48.3	0.05	0.05	26	N			SA1				1230	22.4	-100	20	1
U43U	R	52.5	47.5	0.05	0.05	26	N			SA1				1230	21.6	-100	20	1
U44U	R	53.1	48.1	0.05	0.05	26	N			SA1				1230	22.2	-100	20	1
U45U	R	52.9	47.9	0.05	0.05	26	N			SA1				1230	22	-100	20	1
U46U	R	53.4	48.4	0.05	0.05	26	N			SA1				1230	22.5	-100	20	1
U47U	R	52.9	47.9	0.05	0.05	26	N			SA1				1230	22	-100	20	1
U48U	R	53.5	48.5	0.05	0.05	26	N			SA1				1230	22.6	-100	20	1
U49U	R	52.8	47.8	0.05	0.05	26	N			SA1				1230	21.9	-100	20	1
U50U	R	53.4	48.4	0.05	0.05	26	N			SA1				1230	22.5	-100	20	1
U51U	R	52.5	47.5	0.05	0.05	26	N			SA1				1230	21.6	-100	20	1
U57U	R	51.2	46.2	0.05	0.05	26	N			SA1				1230	20.3	-100	20	1
U58U	R	53.5	48.5	0.05	0.05	26	N			SA1				1230	22.6	-100	20	1
U59U	R	52.4	47.4	0.05	0.05	26	N			SA1				1230	21.5	-100	20	1
U8UL	R	53.4	48.4	0.05	0.05	26	N			SA1				1230	22.5	-100	20	1
U13U	R	53.5	48.5	0.05	0.05	26	N			SA1				1230	22.6	-100	20	1
U52U	R	52.2	47.2	0.05	0.05	26	N			SA1				1230	21.3	-100	20	1
U53U	R	52.1	47.1	0.05	0.05	26	N			SA1				1230	21.2	-100	20	1
U60U	R	52.4	47.4	0.05	0.05	26	N			SA1				1230	21.5	-100	20	1
U61U	R	49.1	45.1	0.05	0.05	26	N			SA1				1230	18.2	-100	20	1
U62U	R	53	48	0.05	0.05	26	N			SA1				1230	22.1	-100	20	1
U63U	R	52.4	47.4	0.05	0.05	26	N			SA1				1230	21.5	-100	20	1
U64U	R	51.9	46.9	0.05	0.05	26	N			SA1				1230	21	-100	20	1
U65U	R	52.1	47.1	0.05	0.05	26	N			SA1				1230	21.2	-100	20	1
U66U	R	52.4	47.4	0.05	0.05	26	N			SA1				1230	21.5	-100	20	1
U67U	R	51.8	46.8	0.05	0.05	26	N			SA1				1230	20.9	-100	20	1
U68U	R	52.2	47.2	0.05	0.05	26	N			SA1				1230	21.3	-100	20	1
U69U	R	51.8	46.8	0.05	0.05	26	N			SA1				1230	20.9	-100	20	1
U70U	R	52.2	47.2	0.05	0.05	26	N			SA1				1230	21.3	-100	20	1
U71U	R	52.4	47.4	0.05	0.05	26	N			SA1				1230	21.5	-100	20	1
U72U	R	52.1	47.1	0.05	0.05	26	N			SA1				1230	21.2	-100	20	1
U1DL	T	52.6	47.6	0.05	0.05	30	N			SA1	4.5	24.6	66.5					

U2DR	T	52.6	47.6	0.05	0.05	30	N			SA1	4.5	24.6	66.5					
U3DR	T	52.4	47.4	0.05	0.05	30	N			SA1	4.5	24.6	66.3					
U4DR	T	52.6	47.6	0.05	0.05	30	N			SA1	4.5	24.6	66.5					
U5DR	T	52.2	47.2	0.05	0.05	30	N			SA1	4.5	24.6	66.1					
U9DL	T	52.6	47.6	0.05	0.05	30	N			SA1	4.5	24.6	66.5					
U10D	T	52.5	47.5	0.05	0.05	30	N			SA1	4.5	24.6	66.4					
U11D	T	52.6	47.6	0.05	0.05	30	N			SA1	4.5	24.6	66.5					
U12D	T	52.3	47.3	0.05	0.05	30	N			SA1	4.5	24.6	66.2					
U14D	T	51.7	46.7	0.05	0.05	30	N			SA1	4.5	24.6	65.6					
U15D	T	52.4	47.4	0.05	0.05	30	N			SA1	4.5	24.6	66.3					
U16D	T	52.6	47.6	0.05	0.05	30	N			SA1	4.5	24.6	66.5					
U17D	T	52.3	47.3	0.05	0.05	30	N			SA1	4.5	24.6	66.2					
U54U	R	52.1	47.1	0.05	0.05	26	N			SA1				1230	21.2	-100	20	1
U55U	R	52.5	47.5	0.05	0.05	26	N			SA1				1230	21.6	-100	20	1
U56U	R	52.4	47.4	0.05	0.05	26	N			SA1				1230	21.5	-100	20	1
U18D	T	52.6	47.6	0.05	0.05	30	N			SA1	4.5	24.6	66.5					
U19D	T	52.1	47.1	0.05	0.05	30	N			SA1	4.5	24.6	66					
U20D	T	52.6	47.6	0.05	0.05	30	N			SA1	4.5	24.6	66.5					
U21D	T	51.9	46.9	0.05	0.05	30	N			SA1	4.5	24.6	65.8					
U22D	T	52.5	47.5	0.05	0.05	30	N			SA1	4.5	24.6	66.4					
U23D	T	52.5	47.5	0.05	0.05	30	N			SA1	4.5	24.6	66.4					
U24D	T	52.6	47.6	0.05	0.05	30	N			SA1	4.5	24.6	66.5					
U25D	T	52.4	47.4	0.05	0.05	30	N			SA1	4.5	24.6	66.3					
U26D	T	52.6	47.6	0.05	0.05	30	N			SA1	4.5	24.6	66.5					
U27D	T	51.8	46.8	0.05	0.05	30	N			SA1	4.5	24.6	65.7					
U28D	T	52.4	47.4	0.05	0.05	30	N			SA1	4.5	24.6	66.3					
U29D	T	51.5	46.5	0.05	0.05	30	N			SA1	4.5	24.6	65.4					
U30D	T	52.5	47.5	0.05	0.05	30	N			SA1	4.5	24.6	66.4					
U31D	T	52.6	47.6	0.05	0.05	30	N			SA1	4.5	24.6	66.5					
U32D	T	52.6	47.6	0.05	0.05	30	N			SA1	4.5	24.6	66.5					
U33D	T	52.4	47.4	0.05	0.05	30	N			SA1	4.5	24.6	66.3					
U34D	T	52.5	47.5	0.05	0.05	30	N			SA1	4.5	24.6	66.4					
U35D	T	52	47	0.05	0.05	30	N			SA1	4.5	24.6	65.9					
U36D	T	52.4	47.4	0.05	0.05	30	N			SA1	4.5	24.6	66.3					
U37D	T	51.7	46.7	0.05	0.05	30	N			SA1	4.5	24.6	65.6					
U38D	T	52.8	47.8	0.05	0.05	30	N			SA1	4.5	24.6	66.7					
U39D	T	52.7	47.7	0.05	0.05	30	N			SA1	4.5	24.6	66.6					
U40D	T	52.8	47.8	0.05	0.05	30	N			SA1	4.5	24.6	66.7					
U41D	T	52.1	47.1	0.05	0.05	30	N			SA1	4.5	24.6	66					

U42D	T	52.7	47.7	0.05	0.05	30	N		SA1	4.5	24.6	66.6					
U43D	T	51.8	46.8	0.05	0.05	30	N		SA1	4.5	24.6	65.7					
U44D	T	52.2	47.2	0.05	0.05	30	N		SA1	4.5	24.6	66.1					
U45D	T	52.6	47.6	0.05	0.05	30	N		SA1	4.5	24.6	66.5					
U46D	T	52.8	47.8	0.05	0.05	30	N		SA1	4.5	24.6	66.7					
U47D	T	52.5	47.5	0.05	0.05	30	N		SA1	4.5	24.6	66.4					
U48D	T	52.8	47.8	0.05	0.05	30	N		SA1	4.5	24.6	66.7					
U49D	T	52.3	47.3	0.05	0.05	30	N		SA1	4.5	24.6	66.2					
U50D	T	52.7	47.7	0.05	0.05	30	N		SA1	4.5	24.6	66.6					
U51D	T	52	47	0.05	0.05	30	N		SA1	4.5	24.6	65.9					
U57D	T	48.8	43.8	0.05	0.05	30	N		SA1	4.5	24.6	62.7					
U58D	T	53.1	48.1	0.05	0.05	30	N		SA1	4.5	24.6	67					
U59D	T	51.6	46.6	0.05	0.05	30	N		SA1	4.5	24.6	65.5					
U60D	T	52	47	0.05	0.05	30	N		SA1	4.5	24.6	65.9					
U61D	T	50.4	45.4	0.05	0.05	30	N		SA1	4.5	24.6	64.3					
U62D	T	52.4	47.4	0.05	0.05	30	N		SA1	4.5	24.6	66.3					
U6DR	T	52.6	47.6	0.05	0.05	30	N		SA1	4.5	24.6	66.5					
U7DR	T	52	47	0.05	0.05	30	N		SA1	4.5	24.6	65.9					
U8DR	T	52.5	47.5	0.05	0.05	30	N		SA1	4.5	24.6	66.4					
U13D	T	51.7	46.7	0.05	0.05	30	N		SA1	4.5	24.6	65.6					
U52D	T	51.8	46.8	0.05	0.05	30	N		SA1	4.5	24.6	65.7					
U63D	T	52.2	47.2	0.05	0.05	30	N		SA1	4.5	24.6	66.1					
U64D	T	51.5	46.5	0.05	0.05	30	N		SA1	4.5	24.6	65.4					
U65D	T	52.3	47.3	0.05	0.05	30	N		SA1	4.5	24.6	66.2					
U66D	T	51.9	46.9	0.05	0.05	30	N		SA1	4.5	24.6	65.8					
U67D	T	50.7	45.7	0.05	0.05	30	N		SA1	4.5	24.6	64.6					
U68D	T	51.9	46.9	0.05	0.05	30	N		SA1	4.5	24.6	65.8					
U69D	T	51.4	46.4	0.05	0.05	30	N		SA1	4.5	24.6	65.3					
U70D	T	52.1	47.1	0.05	0.05	30	N		SA1	4.5	24.6	66					
U71D	T	51.8	46.8	0.05	0.05	30	N		SA1	4.5	24.6	65.7					
U72D	T	51.7	46.7	0.05	0.05	30	N		SA1	4.5	24.6	65.6					
U53D	T	51.2	46.2	0.05	0.05	30	N		SA1	4.5	24.6	65.1					
BNL	R	53.2	48.2	0.05	0.05	30	N		SA2								-3
BCN	T	24.4	22.4	0.05	0.05	30	N		SA2	2.4	0.91	24					
U54D	T	51.4	46.4	0.05	0.05	30	N		SA1	4.5	24.6	65.3					
U55D	T	52.1	47.1	0.05	0.05	30	N		SA1	4.5	24.6	66					
U56D	T	52	47	0.05	0.05	30	N		SA1	4.5	24.6	65.9					
TCR	R	53.2	48.2	0.05	0.05	26	N		SA2								-0.2
TCL	R	53.2	48.2	0.05	0.05	26	N		SA2								-0.2

TMR	T	52.5	47.5	0.05	0.05	30	N		SA2	7.5	0.01	25					
TML	T	52.5	47.5	0.05	0.05	30	N		SA2	7.5	0.01	25					
OMN	R	3	-1	0.05	0.05	30	N		SA3				2455	-30.9			
OMN	R	3	-1	0.05	0.05	30	N		SA3				2455	-30.9			
OMN	T	3	-1	0.05	0.05	30	N		SA3	5.5	7.1	14					
OMN	T	3	-1	0.05	0.05	30	N		SA3	5.5	7.1	14					
BNR	R	53.2	48.2	0.05	0.05	30	N		SA2								-3

**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)
UL01	500000	R	29750	R	C
UL02	500000	R	29750	L	C
UL03	1000000	R	28600	R	C
UL04	1000000	R	28600	L	C
DL01	500000	T	19950	L	C
DL02	500000	T	19950	R	C
DL03	1000000	T	18800	L	C
DL04	1000000	T	18800	R	C
CMD1	1000	R	29500.5	R	T
CMD2	1000	R	29500.5	L	T
CMD3	1000	R	29503	R	T
CMD4	1000	R	29503	L	T
TLM1	1000	T	19701	L	T
TLM2	1000	T	19703	R	T
BCN1	1	R	29999	R	T
BCN2	1	R	29999	L	T
BCN3	1	T	20199	R	T

(a) Transponder ID	(b) Transponder Gain (dB)	Receive Band		Transmit Band	
		(c) Channel No.	(d) Beam ID	(e) Channel No.	(f) Beam ID
FL01	116.5	UL02	G1UL	DL01	U69DL
FL02	116.5	UL03	G1UR	DL03	U57DL
FL03	116.5	UL04	G1UL	DL04	U67DR
FL04	112.7	UL01	G2UR	DL01	U26DL
FL05	112.7	UL02	G2UL	DL02	U34DR
FL06	112.7	UL03	G2UR	DL03	U27DL
FL07	112.7	UL04	G2UL	DL04	U35DR
FL08	112.3	UL01	G3UR	DL01	U38DL
FL09	112.3	UL02	G3UL	DL02	U46DR
FL10	112.3	UL03	G3UR	DL03	U39DL
FL11	112.3	UL04	G3UL	DL04	U45DR
FL12	115.1	UL01	G4UR	DL02	U64DR
FL13	115.1	UL02	G4UL	DL02	U58DR
FL14	115.1	UL03	G4UR	DL03	U68DL
FL15	112.2	UL01	G5UR	DL02	U65DR
FL16	112.2	UL02	G5UL	DL01	U66DL
FL17	112.2	UL03	G5UR	DL03	U62DL
FL18	112.2	UL04	G5UL	DL03	U71DL
FL19	113.3	UL01	G6UR	DL01	U15DL
FL20	113.3	UL02	G6UL	DL02	U2DR
FL21	113.3	UL03	G6UR	DL03	U14DL
FL22	113.3	UL04	G6UL	DL04	U3DR
FL23	112.6	UL01	G7UR	DL01	U42DL
FL24	112.6	UL02	G7UL	DL02	U36DR
FL25	112.6	UL03	G7UR	DL03	U43DL
FL26	112.6	UL04	G7UL	DL04	U37DR
FL27	111.7	UL01	G8UR	DL01	U24DL
FL28	111.7	UL02	G8UL	DL02	U30DR
FL29	111.7	UL03	G8UR	DL03	U23DL
FL30	111.7	UL04	G8UL	DL04	U31DR

FL31	112.8	UL01	G9UR	DL01	U28DL
FL32	112.8	UL02	G9UL	DL02	U22DR
FL33	112.8	UL03	G9UR	DL03	U29DL
FL34	112.8	UL04	G9UL	DL04	U21DR
FL35	112.5	UL01	G10UR	DL01	U72DL
FL36	112.5	UL03	G10UL	DL04	U70DR
FL37	112.5	UL04	G10UR	DL04	U63DR
FL38	112.4	UL01	G11UR	DL01	U40DL
FL39	112.4	UL02	G11UL	DL02	U32DR
FL40	112.4	UL03	G11UR	DL03	U25DL
FL41	112.4	UL04	G11UL	DL04	U33DR
FL42	112.3	UL01	G12UR	DL01	U44DL
FL43	112.3	UL02	G12UL	DL02	U16DR
FL44	112.3	UL03	G12UR	DL03	U41DL
FL45	112.3	UL04	G12UL	DL04	U47DR
FL46	112	UL01	G14UR	DL01	U11DL
FL47	112	UL02	G14UL	DL02	U20DR
FL48	112	UL03	G14UR	DL03	U12DL
FL49	112	UL04	G14UL	DL04	U19DR
FL50	112.2	UL01	G15UR	DL01	U9DL
FL51	112.2	UL02	G15UL	DL02	U18DR
FL52	112.2	UL03	G15UR	DL03	U10DL
FL53	112.2	UL04	G15UL	DL04	U17DR
FL54	112.1	UL02	G16UL	DL02	U4DR
FL55	112.1	UL03	G16UR	DL03	U1DL
FL56	112.1	UL04	G16UL	DL04	U5DR
FL57	113.5	UL01	G17UR	DL01	U60DL
FL58	113.5	UL02	G17UL	DL02	U50DR
FL59	113.5	UL03	G17UR	DL03	U59DL
FL60	113.5	UL04	G17UL	DL04	U51DR
FL61	113.8	UL01	G18UR	DL01	U61DL
FL62	113.8	UL02	G18UL	DL02	U48DR
FL63	113.8	UL04	G18UR	DL04	U49DR
RL01	108.9	UL01	U69UR	DL02	G1DR
RL02	109.5	UL03	U57UR	DL03	G1DL
RL03	108.9	UL04	U67UL	DL04	G1DR
RL04	107.2	UL01	U26UR	DL01	G2DL
RL05	107.2	UL02	U34UL	DL02	G2DR
RL06	108.1	UL03	U27UR	DL03	G2DL

RL07	108.1	UL04	U35UL	DL04	G2DR
RL08	107.2	UL01	U38UR	DL01	G3DL
RL09	107.3	UL02	U46UL	DL02	G3DR
RL10	107.9	UL03	U39UR	DL03	G3DL
RL11	107.8	UL04	U45UL	DL04	G3DR
FL64	112.3	UL01	G13UR	DL01	U13DL
FL65	112.3	UL02	G13UL	DL01	U56DL
FL66	112.3	UL03	G13UR	DL03	U55DL
FL67	112.3	UL04	G13UL	DL03	U53DL
FL68	112.1	UL01	G16UR	DL01	U54DL
FL69	114.8	UL02	G19UL	DL02	U8DR
FL70	114.8	UL04	G19UL	DL04	U52DR
FL71	112.8	UL02	G20UL	DL02	U6DR
FL72	112.8	UL04	G20UL	DL04	U7DR
RL12	108.8	UL02	U64UL	DL01	G4DL
RL13	107.2	UL02	U58UL	DL02	G4DR
RL14	108.5	UL03	U68UR	DL03	G4DL
RL15	108.6	UL02	U65UL	DL01	G5DL
RL16	108.3	UL01	U66UR	DL02	G5DR
RL17	107.7	UL03	U62UR	DL03	G5DL
RL18	108.3	UL03	U71UR	DL04	G5DR
RL19	107.4	UL01	U15UR	DL01	G6DL
RL20	107.3	UL02	U2UL	DL02	G6DR
RL21	108.1	UL03	U14UR	DL03	G6DL
RL22	107.7	UL04	U3UL	DL04	G6DR
RL23	107.4	UL01	U42UR	DL01	G7DL
RL24	107.3	UL02	U36UL	DL02	G7DR
RL25	108.2	UL03	U43UR	DL03	G7DL
RL26	108.4	UL04	U37UL	DL04	G7DR
RL27	107.1	UL01	U24UR	DL01	G8DL
RL28	107.3	UL02	U30UL	DL02	G8DR
RL29	107.7	UL03	U23UR	DL03	G8DL
RL30	107.8	UL04	U31UL	DL04	G8DR
RL31	107.3	UL01	U28UR	DL01	G9DL
RL32	107.5	UL02	U22UL	DL02	G9DR
RL33	108.3	UL03	U29UR	DL03	G9DL
RL34	108.1	UL04	U21UL	DL04	G9DR
RL35	108.6	UL01	U72UR	DL01	G10DL
RL36	108.5	UL04	U70UL	DL03	G10DL

RL37	108.3	UL04	U63UL	DL04	G10DR
RL38	107.2	UL01	U40UR	DL01	G11DL
RL39	107.2	UL02	U32UL	DL02	G11DR
RL40	107.9	UL03	U25UR	DL03	G11DL
RL41	107.9	UL04	U33UL	DL04	G11DR
RL42	107.6	UL01	U44UR	DL01	G12DL
RL43	107.3	UL02	U16UL	DL02	G12DR
RL44	108	UL03	U41UR	DL03	G12DL
RL45	107.8	UL04	U47UL	DL04	G12DR
RL46	107.1	UL01	U11UR	DL01	G14DL
RL47	107.2	UL02	U20UL	DL02	G14DR
RL48	107.9	UL03	U12UR	DL03	G14DL
RL49	107.9	UL04	U19UL	DL04	G14DR
RL64	107.2	UL01	U13UR	DL01	G13DL
RL65	108.3	UL01	U56UR	DL02	G13DR
RL66	108.2	UL03	U55UR	DL03	G13DL
RL50	107.1	UL01	U9UR	DL01	G15DL
RL51	107.2	UL02	U18UL	DL02	G15DR
RL52	107.7	UL03	U10UR	DL03	G15DL
RL53	107.7	UL04	U17UL	DL04	G15DR
RL54	107.2	UL02	U4UL	DL02	G16DR
RL55	107.6	UL03	U1UR	DL03	G16DL
RL56	107.2	UL04	U5UL	DL04	G16DR
RL57	108.3	UL01	U60UR	DL01	G17DL
RL58	107.3	UL02	U50UL	DL02	G17DR
RL59	108.3	UL03	U59UR	DL03	G17DL
RL60	108.2	UL04	U51UL	DL04	G17DR
RL61	111.6	UL01	U61UR	DL01	G18DL
RL62	107.2	UL02	U48UL	DL02	G18DR
RL63	107.9	UL04	U49UL	DL04	G18DR
RL67	108.6	UL03	U53UR	DL04	G13DR
RL68	108.6	UL01	U54UR	DL01	G16DL
RL69	107.3	UL02	U8UL	DL02	G19DR
RL70	108.5	UL04	U52UL	DL04	G19DR
RL71	107.2	UL02	U6UL	DL02	G20DR
RL72	107.9	UL04	U7UL	DL04	G20DR
TC1		CMD1	TCR		
TC2		CMD2	TCL		
TC3		CMD3	TCR		

TC4		CMD4	TCL		
TM1				TLM1	TMR
TM2				TLM2	TML
TC5		CMD1	OMNUR		
TC6		CMD2	OMNUL		
TC7		CMD3	OMNUR		
TC8		CMD4	OMNUL		
TM3				TLM1	OMNDR
TM4				TLM2	OMNDL
BN1		BCN1	BNR		
BN2		BCN2	BNL		
BN3				BCN3	BCNR

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	500MG7D	500000	16	1107000	0.6642		10.3	20.3
D2	500MG7D	500000	8	746300	0.597		3.6	13.6
D3	500MG7D	500000	4	205900	0.247		-2.8	7.2
D4	6M25G7D	6250	8	8750	0.5833		6.2	16.2
D5	3M13G7D	3125	4	3750	0.75		4.9	14.9
D6	1M57G7D	1562.5	4	937.5	0.375		-0.1	9.9
D7	782KG7D	781.25	2	312.5	0.5		-1.3	8.7
D8	25M0G7D	25000	8	50000	0.8333		10.8	20.8

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

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	1M00F2D	1000		1									10	22.2
A2	1M00G2D	1000		1									9	21.2
A3	1K00N0N	1		1									14	26.2
A4	1K00N0N	1		1									10	22.2

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) (j) Min. (k) Max.		EIRP (dBW) (l) Min. (m) Max.		(n) Max. Power Flux Density (dBW/m ² /Hz)	(o) Assoc. Stn Rec. G/T (dB/K)
FL01	FL72	D1		1		LB1.doc		64.9	4.3	10.1	57.7	67	-122.1	26
FL01	FL72	D2		1		LB2.doc		64.9	4.3	10.1	57.7	67	-122.1	17.6
FL01	FL72	D3		1		LB3.doc		64.9	4.3	10.1	57.7	67	-122.1	17.6
RL01	RL72	D4		80	6250	LB4.doc		44.4	4.5	4.5	38.2	39.2	-130.9	38
RL01	RL72	D5		160	3125	LB5.doc		44.4	4.5	4.5	35.2	36.2	-130.9	38
RL01	RL72	D6		320	1562.5	LB6.doc		44.4	4.5	4.5	32.1	33.1	-130.9	38
RL01	RL72	D7		640	781.25	LB7.doc		44.4	2.3	2.3	29.1	30.1	-130.9	38
RL01	RL72	D8		20	25000	LB8.doc		64.5	-6.8	2.7	44.2	45.2	-130.9	38
TC1	TC4		A1	1		TC OS.doc		64.9	-7.9	-6.9				
TM1	TM2		A2	1		TM OS.doc					24	25	-137.1	37.4
TC5	TC8		A1	1		TC TO.doc		70	18	22				
TM3	TM4		A2	1		TM TO.doc					10	14	-148.1	37.4
BN1	BN2		A3	1		BCN AT.doc		65	-11.5	-10.5				
BN3	BN3		A4	1		BCN UPC.doc					22	24	-138.1	37.4

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

Page 10: TT and C

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

**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): 3168	Spacecraft Dimensions (meters)	Probability of Survival to End of Life (0.0 - 1.0)
S15b. Mass of fuel and disposables at launch (kg): 3050		
S15c. Mass of spacecraft and fuel at launch (kg): 6218	S15f. Length (m): 9.35	S15i. Payload: 0.71
S15d. Mass of fuel, in orbit, at beginning of life (kg): 350	S15g. Width (m): 26.05	S15j. Bus: 0.77
S15e. Deployed Area of Solar Array (square meters): 74.2	S15h. Height (m): 8.4	S15k. Total: 0.55

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): 10292	(f): 10292	(k): 10292	(p): 10292
Bus (Watts):	(b): 2988	(g): 1320	(l): 2988	(q): 1320
Total (Watts):	(c): 13280	(h): 11612	(m): 13280	(r): 11612
Solar Array (Watts):	(d): 14375	(i): 13000	(n): 13666	(s): 12855
Depth of Battery Discharge (%):	(e) 74.5 %	(j) %	(o) 74.5 %	(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 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.