

<b>FCC 312 Schedule S</b>	<b>FEDERAL COMMUNICATIONS COMMISSION SATELLITE SPACE STATION AUTHORIZATIONS (Technical and Operational Description)</b>	<b>Page 1: General, Frequency Bands, and GSO Orbit</b>
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**S1. GENERAL INFORMATION** Complete for all satellite applications.

a. Space Station or Satellite Network Name: TELSTAR 12 VANTAGE		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: 45	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) 3621 MHz	l. 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)		
10.95	G	11.2	G	T	Fixed Satellite Service
11.2	G	11.45	G	T	Fixed Satellite Service
11.45	G	11.7	G	T	Fixed Satellite Service
11.7	G	12.2	G	T	Fixed Satellite Service
12.5	G	12.75	G	T	Fixed Satellite Service
13	G	13.25	G	R	Fixed Satellite Service
13.75	G	14	G	R	Fixed Satellite Service
14	G	14.5	G	R	Fixed Satellite Service
18.3	G	18.8	G	T	Fixed Satellite Service
18.8	G	19.1	G	T	Fixed Satellite Service
19.7	G	20.2	G	T	Fixed Satellite Service
28.35	G	28.9	G	R	Fixed Satellite Service
29.25	G	29.5	G	R	Fixed Satellite Service
29.5	G	30.0	G	R	Fixed Satellite Service

**S3. ORBITAL INFORMATION FOR GEOSTATIONARY SATELLITES ONLY:**

a. Nominal Orbital Longitude (Degrees E/W): 15 W	b. Alternate Orbital Longitude (Degrees E/W):	c. Reason for orbital location selection:
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Longitudinal Tolerance or E/W Station-Keeping: d. Toward West:           0.05 Degrees e. Toward East:            0.05 Degrees	f. Inclination Excursion or N/S Station-Keeping Tolerance:  0.05 Degrees	Range of orbital are in which adequate service can be provided (Optional): <u>Degrees</u> <u>E/W</u>  g. Westernmost: h. Easternmost:	This satellite is a replacement satellite for Iridium 12 which is currently operating at 15W orbital location.
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-itr codes), satellites or Figure No. of Service Area Diagram.
1	S	SA No 1.gxt	
2	S	SA No 2.gxt	
3	S	SA No 3.gxt	
4	S	SA No 4.gxt	
5	S	SA No 5.gxt	
6	S	SA No 6.gxt	
7	S	SA No 7.gxt	
8	S	SA No 8.gxt	
9	S	SA No 9.gxt	
10	S	SA No 10.gxt	
11	S	SA No 11.gxt	
12	S	SA No 12.gxt	
13	S	SA No 13.gxt	
14	S	SA No 14.gxt	
15	S	SA No 15.gxt	

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

(a) Beam ID	(b) T/R Mode	(c) 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
BRXV	R	34	26	0.1	0	30	N	90	4			1	6.9	-103.9	20	0.5	
PRXV	R	32.1	22.1	0.1	0	30	N	90	1				6.1	-103.1	20	0.5	
PRXH	R	32.1	22.1	0.1	0	30	N	0	1				6.1	-103.1	20	0.5	
ARXV	R	31.8	25.8	0.1	0	30	N	90	3				4.6	-101.6	20	0.5	
ARXH	R	31.8	25.8	0.1	0	30	N	0	3				4.6	-101.6	20	0.5	
ERXV	R	32.4	24.4	0.1	0	30	N	90	2				6.4	-103.4	20	0.5	
ERXH	R	32.4	24.4	0.1	0	30	N	0	2				6.4	-103.4	20	0.5	
BTXH	T	32.2	24.2	0.1	0	30	N	0	4		52.7						
PTXV	T	29.5	23.5	0.1	0	30	N	90	1		50						
PTXH	T	29.5	23.5	0.1	0	30	N	0	1		50						
ATXV	T	30.7	28.7	0.1	0	30	N	90	3		51.1						
ATXH	T	30.7	28.7	0.1	0	30	N	0	3		51.1						
ETXV	T	31.1	27.1	0.1	0	30	N	90	2		51.6						
ETXH	T	31.1	27.1	0.1	0	30	N	0	2		51.6						
SJRX	R	42.4	40.4	0.1	0	30	N	90	14				14.6	-107.6	20	0.5	
SJRX	R	42.4	40.4	0.1	0	30	N	0	14				14.6	-107.6	20	0.5	
S1RX	R	40.7	36.7	0.1	0	30	N	90	6				12.9	-106.9	20	0.5	
SATX	T	29.4	23.4	0.1	0	30	N	90	13		51.1						
CTXV	T	38.8	34.8	0.1	0	30	N	90	5		60.5						
S1TX	T	37.5	35.5	0.1	0	30	N	90	6		58						
S2TX	T	38.8	32.8	0.1	0	30	N	90	7		59.3						
S3TX	T	38.4	32.4	0.1	0	30	N	90	8		58.9						
S4TX	T	38.5	34.5	0.1	0	30	N	90	9		59						
S5TX	T	38.1	36.1	0.1	0	30	N	90	10		58.5						
S6TX	T	38.7	36.7	0.1	0	30	N	90	11		59.2						
SARX	R	30.8	22.8	0.1	0	30	N	0	13				3	-97	20	0.5	
CRX	R	39.8	35.8	0.1	0	30	N	0	5				12	-106	20	0.5	
S1RX	R	40.7	36.7	0.1	0	30	N	0	6				12.9	-106.9	20	0.5	
S2RX	R	39.9	33.9	0.1	0	30	N	0	7				12.1	-106.1	20	0.5	

S3RX	R	39.9	33.9	0.1	0	30	N	0	8				12.1	-106.1	20	0.5
S4RX	R	39.8	33.8	0.1	0	30	N	0	9				12	-106	20	0.5
S5RX	R	39.5	35.5	0.1	0	30	N	0	10				11.7	-105.7	20	0.5
S6RX	R	39.9	35.9	0.1	0	30	N	0	11				12.1	-106.1	20	0.5
SJTX	T	39.7	37.7	0.1	0	30	N	90	14			60.2				
SJTX	T	39.7	37.7	0.1	0	30	N	0	14			60.2				
S1TX	T	37.5	35.5	0.1	0	30	N	0	6			58				
MJRX	R	48	44	0.1	0	30	N		12				19	-111	20	0.5
MJTX	T	45	43	0.1	0	30	N		12			64.6				
MJRX	R	48	44	0.1	0	30	N		12				19	-111	20	0.5
MJTX	T	45	43	0.1	0	30	N		12			64.6				
TTAC	T	21.9	17.9	0.1	0	30	N	90	15			18.4				
TTAC	T	21.9	17.9	0.1	0	30	N	0	15			18.4				
TTAC	R	23.8	17.8	0.1	0	30	N		15					-111.2		

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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
BRXV	R	C	-15							
PRXV	R	C	-15							
PRXH	R	C	-15							
ARXV	R	C	-15							
ARXH	R	C	-15							
ERXV	R	C	-15							
ERXH	R	C	-15							
BTXH	T	C	-15			-158.7	-158.7	-156.7	-154.7	-152.7
PTXV	T	C	-15			-153.4	-153.4	-153.4	-153.4	-153.4
PTXH	T	C	-15			-153.4	-153.4	-153.4	-153.4	-153.4
ATXV	T	C	-15			-152.2	-152.2	-152.2	-152.2	-152.2
ATXH	T	C	-15			-152.2	-152.2	-152.2	-152.2	-152.2
ETXV	T	C	-15			-151.8	-151.8	-151.8	-151.8	-151.8
ETXH	T	C	-15			-151.8	-151.8	-151.8	-151.8	-151.8
SJRX	R	C	-15							
SJRX	R	C	-15							
S1RX	R	C	-15							
SATX	T	C	-15			-164.7	-164.7	-162.7	-160.7	-160.7
CTXV	T	C	-15			-150.2	-148.1	-146.1	-146.1	-146.1
S1TX	T	C	-15			-150.2	-148.6	-148.6	-148.6	-148.6
S2TX	T	C	-15			-153.3	-153.3	-153.3	-153.3	-151.3
S3TX	T	C	-15			-153.7	-153.7	-151.7	-149.7	-147.7
S4TX	T	C	-15			-151.6	-151.6	-149.6	-147.6	-147.6
S5TX	T	C	-15			-150.5	-148	-148	-148	-148
S6TX	T	C	-15			-150.4	-147.9	-147.4	-147.4	-147.4
SARX	R	C	-15							
CRX	R	C	-15							
S1RX	R	C	-15							

S2RX	R	C	-15							
S3RX	R	C	-15							
S4RX	R	C	-15							
S5RX	R	C	-15							
S6RX	R	C	-15							
SJTX	T	C	-15		-150.2	-150.2	-146.4	-146.4	-146.4	
SJTX	T	C	-15		-150.2	-150.2	-146.4	-146.4	-146.4	
S1TX	T	C	-15		-150.2	-148.6	-148.6	-148.6	-148.6	
MJRX	R	C	-15							
MJTX	T	C	-15		-119	-119	-119	-121	-127	
MJRX	R	C	-15							
MJTX	T	C	-15		-119	-119	-119	-121	-127	
TTAC	T	C	-15		-162.7	-162.7	-162.7	-162.7	-162.7	
TTAC	T	C	-15		-162.7	-162.7	-162.7	-162.7	-162.7	
TTAC	R	C	-15							



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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)
U1V	54000	R	13155	V	C
U1H	54000	R	13155	H	C
U2V	54000	R	13217	V	C
U2H	54000	R	13217	H	C
U3V	54000	R	13783	V	C
U3H	54000	R	13783	H	C
U4V	54000	R	13845	V	C
U4H	54000	R	13845	H	C
U5V	54000	R	13907	V	C
U5H	54000	R	13907	H	C
U6V	54000	R	13969	V	C
U6H	54000	R	13969	H	C
U7V	54000	R	14033	V	C
U7H	54000	R	14033	H	C
U8V	54000	R	14095	V	C
U8H	54000	R	14095	H	C
U9V	54000	R	14157	V	C
U9H	54000	R	14157	H	C
U10V	54000	R	14219	V	C
U10H	54000	R	14219	H	C
U11V	54000	R	14281	V	C
U11H	54000	R	14281	H	C
U12V	54000	R	14343	V	C
U12H	54000	R	14343	H	C
U13V	54000	R	14405	V	C
U13H	54000	R	14405	H	C
U14V	54000	R	14467	V	C
U14H	54000	R	14467	H	C
D1V	54000	T	10,983	V	C
D1H	54000	T	10,983	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
55	1	U1V	ERXV	D5H	ETXH
59	1	U1H	ERXH	D5V	ETXV
56	1	U2V	ERXV	D6H	ETXH
60	1	U2H	ERXH	D6V	ETXV
8	1	U3V	PRXV	D1H	PTXH
7	1	U3H	PRXH	D1V	PTXV
26	1	U3V	ARXV	D19H	ETXH
29		U3H	ARXH	D19V	ATXV
33	1	U3V	ERXV	D19H	ATXH
37	1	U3H	ERXH	D19V	ETXV
9	1	U4V	PRXV	D2H	PTXH
20	1	U4H	PRXH	D20H	ETXH
30	1	U4H	ARXH	D20V	ATXV
34	1	U4V	ERXV	D20H	ATXH
38	1	U4H	ERXH	D20V	ETXV
10	1	U5V	PRXV	D21H	ATXH
21	1	U5H	PRXH	D21H	ETXH
27	1	U5V	ARXV	D3H	PTXH
31	1	U5H	ARXH	D21V	ATXV
35	1	U5V	ERXV	D3V	PTXV
39	1	U5H	ERXH	D21V	ETXV
11	1	U6V	PRXV	D22H	ATXH
22	1	U6H	PRXH	D22H	ETXH
28	1	U6V	ARXV	D4H	PTXH
32	1	U6H	ARXH	D22V	ATXV
36	1	U6V	ERXV	D4V	PTXV
40	1	U6H	ERXH	D22V	ETXV
12	1	U7V	PRXV	D11H	PTXH
13	1	U8V	PRXV	D12H	PTXH
61	1	U7H	ERXH	D1V	ETXV

D2V	54000	T	11,045	V	C
D2H	54000	T	11,045	H	C
D3V	54000	T	11,107	V	C
D3H	54000	T	11,107	H	C
D4V	54000	T	11,169	V	C
D4H	54000	T	11,169	H	C
D5V	54000	T	11,355	V	C
D5H	54000	T	11,355	H	C
D6V	54000	T	11,417	V	C
D6H	54000	T	11,417	H	C
D7V	54000	T	11,481	V	C
D7H	54000	T	11,481	H	C
D8V	54000	T	11,543	V	C
D8H	54000	T	11,543	H	C
D9V	54000	T	11,605	V	C
D9H	54000	T	11,605	H	C
D10V	54000	T	11,667	V	C
D10H	54000	T	11,667	H	C
D11V	54000	T	11,733	V	C
D11H	54000	T	11,733	H	C
D12V	54000	T	11,795	V	C
D12H	54000	T	11,795	H	C
D13V	54000	T	11,857	V	C
D13H	54000	T	11,857	H	C
D14V	54000	T	11,919	V	C
D14H	54000	T	11,919	H	C
D15V	54000	T	11,981	V	C
D15H	54000	T	11,981	H	C
D16V	54000	T	12,043	V	C
D16H	54000	T	12,043	H	C
D17V	54000	T	12,105	V	C
D17H	54000	T	12,105	H	C
D18V	54000	T	12,167	V	C
D18H	54000	T	12,167	H	C
D19V	54000	T	12,535	V	C
D19H	54000	T	12,535	H	C
D20V	54000	T	12,597	V	C
D20H	54000	T	12,597	H	C
D21V	54000	T	12,659	V	C

62		1	U8H	ERXH	D2V	ETXV
14		1	U9V	PRXV	D13H	PTXH
15		1	U10V	PRXV	D14H	PTXH
63		1	U9H	ERXH	D3V	ETXV
64		1	U10H	ERXH	D4V	ETXV
16		1	U11V	BRXV	D15H	BTXH
17		1	U12V	BRXV	D16H	BTXH
18		1	U13V	BRXV	D17H	BTXH
19		1	U14V	BRXV	D18H	BTXH
47		1	U11V	ERXV	D7H	ETXH
48		1	U12V	ERXV	D8H	ETXH
49		1	U13V	ERXV	D9H	ETXH
50		1	U14V	ERXV	D10H	ETXH
51		1	U11H	ERXH	D7V	ETXV
52		1	U12H	ERXH	D8V	ETXV
53		1	U13H	ERXH	D9V	ETXV
54		1	U14H	ERXH	D10V	ETXV
1		1	U15V	S1RXV	D23V	S1TXV
65		1	U17H	SJRXH	D27V	SATXV
41		1	U18H	SJRXH	D25V	CTXV
42		1	U19H	SJRXH	D26V	CTXV
2		1	U16V	SJRXV	D24V	S2TXV
3		1	U18V	SJRXV	D23V	S3TXV
4		1	U19V	SJRXV	D24V	S4TXV
5		1	U20V	SJRXV	D23V	S5TXV
6		1	U21V	SJRXV	D24V	S6TXV
66			U22H	SARXH	D27V	SJTXV
67		1	U22H	CRXH	D29V	SJTXV
23		1	U18H	S1RXH	D28H	S1TXH
24			U18H	S3RXH	D25V	SJTXH
25		1	U18H	S5RXH	D30H	SJTXH
70		1	U19H	S2RXH	D31H	SJTXH
68		1	U19H	S4RXH	D24H	SJTXH
69		1	U19H	S6RXH	D26H	SJTXH
71		1	U23	MJRXR	D27V	SATXV
72		1	U24	MJRXR	D25V	CTXV
73		1	U25	MJRXR	D26V	CTXV
74		1	U26	MJRXR	D24V	S2TXV
75		1	U27	MJRXR	D23V	S3TXV

D21H	54000	T	12,659	H	C
D22V	54000	T	12,721	V	C
D22H	54000	T	12,721	H	C
U15V	112500	R	13062	V	C
U16V	112500	R	13938	V	C
U17H	236500	R	13876	H	C
U18V	112500	R	14064	V	C
U18H	112500	R	14064	H	C
U19V	112500	R	14188	V	C
U19H	112500	R	14188	H	C
U20V	112500	R	14312	V	C
U21V	112500	R	14436	V	C
D23V	112500	T	11014	V	C
D24V	112500	T	11138	V	C
D25V	112500	T	11764	V	C
D26V	112500	T	11888	V	C
D27V	236500	T	12074	V	C
U22H	236500	R	14126	H	C
D24H	112500	T	11138	H	C
D28H	112500	T	11264	H	C
D29V	236500	T	11826	V	C
D25H	112500	T	11764	H	C
D26H	112500	T	11888	H	C
D30H	112500	T	12012	H	C
D31H	112500	T	12136	H	C
U23	236500	R	28481	R	C
U24	112500	R	28690	R	C
U25	112500	R	28814	R	C
U26	112500	R	29314	R	C
U27	112500	R	29438	R	C
U28	112500	R	29562	R	C
U29	112500	R	29686	R	C
U30	112500	R	29810	R	C
D32	112500	T	18364	R	C
D33	112500	T	18488	R	C
D34	112500	T	18612	R	C
D35	112500	T	18736	R	C
D36	112500	T	18924	R	C
D37	112500	T	19764	R	C

76		1	U28	MJRXR	D24V	S4TXV
77		1	U29	MJRXR	D23V	S5TXV
78		1	U30	MJRXR	D24V	S6TXV
79		1	U22H	SARXH	D38	MJTXR
80		1	U22H	CRXH	D36	MJTXR
81		1	U19H	S2RXH	D35	MJTXR
82		1	U18H	S3RXH	D32	MJTXR
83		1	U19H	S4RXH	D37	MJTXR
84		1	U18H	S5RXH	D34	MJTXR
85		1	U19H	S6RXH	D33	MJTXR
86		1	U23L	MJRXL	D27V	SATXV
87		1	U24L	MJRXL	D25V	CTXV
88		1	U25L	MJRXL	D26V	CTXV
89		1	U26L	MJRXL	D24V	S2TXV
90		1	U27L	MJRXL	D23V	S3TXV
91		1	U28L	MJRXL	D24V	S4TXV
92		1	U29L	MJRXL	D23V	S5TXV
93		1	U30L	MJRXL	D24V	S6TXV
94		1	U18H	S3RXH	D32L	MJTXL
95		1	U19H	S6RXH	D33L	MJTXL
96		1	U18H	S5RXH	D34L	MJTXL
97		1	U19H	S2RXH	D35L	MJTXL
98		1	U22H	CRXH	D36L	MJTXL
99		1	U19H	S4RXH	D37L	MJTXL
100		1	U22H	SARXH	D38L	MJTXL
101			TC1	TTACU		
102			TC2	TTACU		
103					TM1	TTACV
104					TM2	TTACH
105					TM3	TTACV
106					TM4	TTACH

D38	112500	T	19950	R	C
U23L	236500	R	28481	L	C
U24L	112500	R	28690	L	C
U25L	112500	R	28814	L	C
U26L	112500	R	29314	L	C
U27L	112500	R	29438	L	C
U28L	112500	R	29562	L	C
U29L	112500	R	29686	L	C
U30L	112500	R	29810	L	C
D32L	112500	T	18364	L	C
D33L	112500	T	18488	L	C
D34L	112500	T	18612	L	C
D35L	112500	T	18736	L	C
D36L	112500	T	18924	L	C
D37L	112500	T	19764	L	C
D38L	112500	T	19950	L	C
TC1	800	R	14497.6	H	T
TC2	800	R	14499.6	H	T
TM1	200	T	11700	V	T
TM2	200	T	11700	H	T
TM3	200	T	11701	V	T
TM4	200	T	11701	H	T

**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)
1	54M0G7W	54000						
2	27M0G7W	27000						
3	10M0G7W	10000						
4	5M00G7W	5000						
5	2M00G7W	2000						
6	800KG2D	800						
7	200KG2D	200						



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

Associated Transponder ID Range		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 <sup>2</sup> /Hz)
(a) Start	(b) End							(j) Min.	(k) Max.	(l) Min.	(m) Max.		
1	100	1									48		
1	100	2									45		
1	100	3									40.7		
1	100	4									37.7		
1	100	5									33.7		
1	6	1									51.8		
1	6	2									48.8		
1	6	3									44.5		
1	6	4									41.5		
1	6	5									37.5		
41	42	1									51.8		
41	42	2									48.8		
72	78	1									51.8		
72	78	2									48.8		
23	25	1									51.8		
23	25	2									48.8		
66	70	1									51.8		
66	70	2									48.8		
79	85	1									56.4		
79	85	2									53.4		
79	85	3									49.1		
79	85	4									46.1		
79	85	5									42.1		
101	102	6											
103	106	7									18.4		

**FEDERAL COMMUNICATIONS COMMISSION  
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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): Yes

**Remote Control (TT C) Location(s):**

S14a: Street Address: 1305 Industrial Park Road			
S14b. City: Mt. Jackson	S14c. County:	S14d. State/Country VA	S14e. Zip Code: 22842
S14f. Telephone Number: 540-477-5520		S14g. Call Sign of Control Station (if appropriate):	



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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 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
<b>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.</b>						

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