

S1. GENERAL INFORMATION Complete for all satellite applications.

a. Space Station or Satellite Network Name: USASAT-27M,31G	e. Estimated Date of Placement into Service: 7/17/2007	i. Will the space station(s) operate on a Common Carrier Basis: N
b. Construction Commencement Date: 7/17/2004	f. Estimated Lifetime of Satellite(s): 12 Years	j. Number of transponders offered on a common carrier basis:
c. Construction Completion Date: 12/16/2006	g. Total Number of Transponders: 2	k. Total Common Carrier Transponder Bandwidth: MHz
d. Estimated Launch Date: 2/16/2007	h. Total Transponder Bandwidth (no. transponders x Bandwidth) 10 MHz	i. Orbit Type: Mark all boxes that apply: <input 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)		
2000	M	2020	M	R	Mobile-Satellite Service
2180	M	2200	M	T	Mobile-Satellite Service
28.35	G	28.60	G	R	Feeder Link for Mobile Satellite Service in FSS
29.25	G	29.50	G	R	Feeder Link for Mobile Satellite Service in FSS
18.30	G	18.80	G	T	Feeder Link for Mobile Satellite Service in FSS

S3. ORBITAL INFORMATION FOR GEOSTATIONARY SATELLITES ONLY:

a. Nominal Orbital Longitude (Degrees E/W): 121 W	b. Alternate Orbital Longitude (Degrees E/W):		c. Reason for orbital location selection:
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: 0.05 Degrees	g. Westernmost: 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.
CONUS	S		Continental United States
AK	S		Alaska
HI	S		Hawaii
PRC	S		Puerto Rico and Virgin Islands

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

(a) Beam ID	(b) T/R Mode	(e) 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.	(p) Min. Saturation Flux Density (dBW/m2)	Input Attenuator (dB)		
																(q) Max. Value	(r) Step Size	
1-153	T	45	44	0.1			N		CONUS	2.2	747	73						
1-153	R	44.5	43.5	0.1			N		CONUS				595	16	-138	10	1	
154	T	42	40	0.1			N		AK	2.2	93	61						
154	R	41.5	39.5	0.1			N		AK				595	13	-141	10	1	
155	T	40	39	0.1			N		HI	2.2	93	59						
155	R	39.5	38.5	0.1			N		HI				595	11	-143	10	1	
156	T	42	41	0.1			N		PRC	2.2	93	61						
156	R	41.5	40.5	0.1			N		PRC				595	13	-141	10	1	

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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)
S TX	5000	T	2190	R	C
S RX1	5000	R	2010	R	C
S RX2	5000	R	2010	L	C
KA TX	500000	T	18550	R	C
KA R1	250000	R	28475	L	C
KA R2	250000	R	29375	L	C

(a) Transponder ID	(b) Transponder Gain (dB)	Receive Band		Transmit Band	
		(c) Channel No.	(d) Beam ID	(e) Channel No.	(f) Beam ID
FWD	130	KA R1	1-153	S TX	1-153
RTN1	130	S RX1	1-153	KA TX	1-153
RTN2	130	S RX2	1-153	KA TX	1-153

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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)
TBD								

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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: To Be Determined			
S14b. City:	S14c. County:	S14d. State/Country	S14e. Zip Code:
S14f. Telephone Number:		S14g. Call Sign of Control Station (if appropriate):	

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S15. SPACECRAFT PHYSICAL CHARACTERISTICS:

S15a. Mass of spacecraft without fuel (kg): 2262	Spacecraft Dimensions (meters)	Probability of Survival to End of Life (0.0 - 1.0)
S15b. Mass of fuel and disposables at launch (kg): 5407		
S15c. Mass of spacecraft and fuel at launch (kg): 5401	S15f. Length (m): 2.7	S15i. Payload: 0.79
S15d. Mass of fuel, in orbit, at beginning of life (kg): 168	S15g. Width (m): 3.3	S15j. Bus: 0.89
S15e. Deployed Area of Solar Array (square meters): 45.6	S15h. Height (m): 5	S15k. Total: 0.7

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): 5927	(f): 5927	(k): 5927	(p): 5927
Bus (Watts):	(b): 1899	(g): 1034	(l): 1899	(q): 1034
Total (Watts):	(c): 7826	(h): 6961	(m): 7826	(r): 6961
Solar Array (Watts):	(d): 10016	(i): 8324	(n): 9246	(s): 7741
Depth of Battery Discharge (%):	(e) 76.8 %	(j) 0 %	(o) 76.8 %	(t) 0 %

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.