

**S1. GENERAL INFORMATION** Complete for all satellite applications.

a. Space Station or Satellite Network Name: SPACEWAY-2	e. Estimated Date of Placement into Service: 6/25/2005	i. Will the space station(s) operate on a Common Carrier Basis: N
b. Construction Commencement Date: 12/17/1999	f. Estimated Lifetime of Satellite(s): 12.6 Years	j. Number of transponders offered on a common carrier basis:
c. Construction Completion Date: 2/28/2005	g. Total Number of Transponders: 10	k. Total Common Carrier Transponder Bandwidth: MHz
d. Estimated Launch Date: 3/15/2005	h. Total Transponder Bandwidth (no. transponders x Bandwidth) 1000 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)		
18.3	G	18.8	G	T	Fixed Satellite Service
19.7	G	20.2	G	T	Fixed Satellite Service
19.7	G	20.2	G	T	Direct to Home in the Fixed Fixed Satellite Service
28.35	G	28.6	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): 99.05 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:	
d. Toward West: 0.05 Degrees e. Toward East: 0.05 Degrees	g. Westernmost: h. Easternmost: 0.05 Degrees	
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.
SAID-1	S		See file "BeamID&ZipCode99W.pdf" for zip codes covered by each SAID
SAID-106	S		Mexico City, Mexico
SAID-107	S		See file "BeamID&ZipCode99W.pdf" for zip codes covered by each SAID
SAID-108	S		Caracas, Venezuela
SAID-109	S		Bogota, Columbia
SAID-110	S		Sao Paulo/Rio de Janeiro, Brazil
SAID-111	S		Lima, Peru
SAID-112	S		Buenos Aires, Argentina
SAID-113	S		Southern CA and Central CO
SAID-A	S		CONUS+Alaska+Hawaii+Mexico City+Puerto Rico+Caracas+Bogota+Sao Paulo/Rio+Lima+Buenos Aires
SAID-B	S		Western U.S.
SAID-2	S		See file "BeamID&ZipCode99W.pdf" for zip codes covered by SAID-2
SAID-52	S		See file "BeamID&ZipCode99W.pdf" for zip codes covered by SAID-52
SAID-90	S		See file "BeamID&ZipCode99W.pdf" for zip codes covered by SAID-90
SAID-91	S		See file "BeamID&ZipCode99W.pdf" for zip codes covered by SAID-91

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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			Input Attenuator (dB)	
										(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)	(q) Max. Value	(r) Step Size
		(c) Peak (dBi)	(d) Edge (dBi)														
112	R	50.1	46.1	0.03		23	N		SAID-112				650	22		31.5	0.5
113	R	47	44	0.03		30	N		SAID-113				1452	15.4	-90	8	0.1
DL-A	T	51.5	50.5	0.03		30	Y		SAID-A			74.5					
DL-B	T	22	21	0.03		19	Y		SAID-B	4.74	11.8	27.98					
2	R	50.1	46.1	0.03		23	N		SAID-2				650	22		31.5	0.5
52	R	50.1	46.1	0.03		23	N		SAID-52				650	22		31.5	0.5
90	R	50.1	46.1	0.03		23	N		SAID-90				650	22		31.5	0.5
91	R	50.1	46.1	0.03		23	N		SAID-91				650	22		31.5	0.5
1	R	50.1	46.1	0.03		23	N		SAID-1				650	22		31.5	0.5

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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
112	R	C	-103		eam 112 (99W)_R1.g					
DL-A	T	C	-103		DL-A (99W).gxt					
113	R	C	-103		eam 113 (99W)_R1.g					
DL-B	T	C	-103		eam DL-B (99W)_R2.g	-152	-152	-152	-152	-152
1	R	C	-103		Beam 1 (99W)_R1.gx					
2	R	C	-103		Beam 2 (99W)_R1.gx					
90	R	C	-103		eam 90 (99W)_R1.gx					
91	R	C	-103		eam 91 (99W)_R1.gx					
52	R	C	-103		eam 52 (99W)_R1.gx					

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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)
RL001	165000	R	28442.5	L	C
RL002	165000	R	29342.5	L	C
RL003	62500	R	29531.25	L	C
RL004	62500	R	29593.75	L	C
RL005	62500	R	29656.25	L	C
RL006	62500	R	29718.75	L	C
RL007	62500	R	29781.25	L	C
RL008	62500	R	29843.75	L	C
RL009	62500	R	29906.25	L	C
RL010	62500	R	29968.75	L	C
RR002	165000	R	29342.5	R	C
RR003	62500	R	29531.25	R	C
RR004	62500	R	29593.75	R	C
RR005	62500	R	29656.25	R	C
RR006	62500	R	29718.75	R	C
RR007	62500	R	29781.25	R	C
RR008	62500	R	29843.75	R	C
RR009	62500	R	29906.25	R	C
RR010	62500	R	29968.75	R	C
TL001	165000	T	18447.5	L	C
TL002	165000	T	18652.5	L	C
TL003	62500	T	19731.25	L	C
TL004	62500	T	19793.75	L	C
TL005	62500	T	19856.25	L	C
TL006	62500	T	19918.75	L	C
TL007	62500	T	19981.25	L	C
TL008	62500	T	20043.75	L	C
TL009	62500	T	20106.25	L	C
TL010	62500	T	20168.75	L	C
TR001	165000	T	18447.5	R	C

(a) Transponder ID	(b) Transponder Gain (dB)	Receive Band		Transmit Band	
		(c) Channel No.	(d) Beam ID	(e) Channel No.	(f) Beam ID
T0001				TL100	DL-A
T0002				TL101	DL-A
A0302				TL012	DL-A
A0303				TR012	DL-A
A0304				TL013	DL-A
A0305				TR013	DL-A
B0001	120	RL001	113	TL001	DL-B
B0002	120	RL001	113	TR001	DL-B
B0003	133	RL002	1	TL002	DL-B
B0004	133	RL002	1	TR002	DL-B
B0005	133	RR002	112	TL002	DL-B
B0006	133	RR002	112	TR002	DL-B
A0001	71.5	RL003	1	TL003	DL-A
A0002	71.5	RL003	1	TR003	DL-A
A0003	71.5	RR003	112	TL003	DL-A
A0004	71.5	RR003	112	TR003	DL-A
A0005	71.5	RL003	1	TL010	DL-A
A0006	71.5	RL003	1	TR010	DL-A
A0007	71.5	RR003	112	TL010	DL-A
A0008	71.5	RR003	112	TR010	DL-A
A0009	71.5	RL010	1	TL010	DL-A
A0010	71.5	RL010	1	TR010	DL-A
A0011	71.5	RR010	112	TL010	DL-A
A0012	71.5	RR010	112	TR010	DL-A
A0013	71.5	RL010	1	TL003	DL-A
A0014	71.5	RL010	1	TR003	DL-A
A0015	71.5	RR010	112	TL003	DL-A
A0016	71.5	RR010	112	TR003	DL-A
A0103		RL003	1		
A0104		RL004	1		

TR002	165000	T	18652.5	R	C
TR003	62500	T	19731.25	R	C
TR004	62500	T	19793.75	R	C
TR005	62500	T	19856.25	R	C
TR006	62500	T	19918.75	R	C
TR007	62500	T	19981.25	R	C
TR008	62500	T	20043.75	R	C
TR009	62500	T	20106.25	R	C
TR010	62500	T	20168.75	R	C
RL100	1300	R	29503.9063	L	T
RL101	1300	R	29511.7188	L	T
RL102	25	R	29527.3438	L	T
RL103	25	R	29532.5521	L	T
TL100	106	T	19701.75	L	T
TL101	106	T	19702.75	L	T
TL011	500000	T	19950	L	C
TR011	500000	T	19950	R	C
TL012	167000	T	19950	L	C
TR012	167000	T	19950	R	C
TL013	100000	T	19950	L	C
TR013	100000	T	19950	R	C

A0105		RL005	1		
A0106		RL006	1		
A0107		RL007	1		
A0108		RL008	1		
A0109		RL009	1		
A0110		RL010	1		
A0203		RR003	112		
A0204		RR004	112		
A0205		RR005	112		
A0206		RR006	112		
A0207		RR007	112		
A0208		RR008	112		
A0209		RR009	112		
A0210		RR010	112		
A0300				TL011	DL-A
A0301				TR011	DL-A
C0001		RL100	113		
C0002		RL101	113		
C0003		RL102	113		
C0004		RL103	113		

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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)
E1/4	650KG7W	650	4	520.8	0.6		7.3	20
E1	2M61G7W	2610	4	2083	0.6		7.3	19
8E1	20M9G7W	20800	4	16666	0.6		7.3	19.9
BB1	500MG7W	500000	4	400000	0.61		6.8	18.4
BB2	167MG7W	167000	4	133333	0.61		6.8	18.4
BB3	125MG7W	125000	4	100000	0.61		6.8	18.4
DTH	24M0G7W	24000	8	60000	0.75		9	20.8
BH1	24M0G7W	24000	4	40000	0.5		1.9	13.8
BH2	36M0G7W	36000	4	60000	0.5		1.9	15
BH3	54M0G7W	54000	4	90000	0.5		1.9	13.3

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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						
C1	1M30F9D	1300		1									15	26
B1	25K0N0N	25		1									25	44.2
T1	106KG9D	160		1									14	11.5

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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/m2/Hz)	(o) Assoc. Stn Rec. G/T (dB/K)
(j) Min.	(k) Max.	(l) Min.	(m) Max.											
T0001	T0002	T1		1						5.82	32	-130	37.9	
C0001	C0002		C1	1			64.5	50	89.5					
C0003	C0004		B1	1			64.5	53.1	89.5					
B0001	B0006	BH1		4			66.8	8.2	13.2	23	23	-153.2	39.3	
B0001	B0006	BH2		2			66.7	10.7	15.7	26	26	-150.2	39.3	
B0001	B0006	BH3		2			66.7	11.7	16.7	26	26	-150.2	39.3	
A0001	A0016	DTH		2			66.8	8.1	13.1	58.4	58.4	-118	19.4	
A0300	A0301	BB3		1						64	64	-118	17.2	
A0300	A0301	BB2		1						64	66.2	-118	17.2	
A0300	A0301	BB1		1						64	71	-118	17.2	
A0300	A0301	BB3		1						64	64	-118	29	
A0300	A0301	BB2		1						64	66.2	-118	29	
A0300	A0301	BB1		1						64	71	-118	29	
A0001	A0016	8E1		2			53.3	57	58.7					
A0001	A0016	E1		24			45.8	47	51					
A0001	A0016	E1/4		96			45.8	42	47.4					
A0001	A0016	8E1		2			58.9	57	78.3					
A0001	A0016	E1		24			58.9	48	78.3					
A0001	A0016	E1/4		96			58.9	42	78.3					

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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): No

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

S14a: Street Address: 8900 Desoto Ave			
S14b. City: Canoga Park	S14c. County: Los Angeles	S14d. State/Country CA	S14e. Zip Code: 91303
S14f. Telephone Number: 818 586 0734		S14g. Call Sign of Control Station (if appropriate): E020241	

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

S14a: Street Address: 7235 W. Titan Rd			
S14b. City: Littleton	S14c. County: Douglas	S14d. State/Country CO	S14e. Zip Code: 80125
S14f. Telephone Number: 303 486 3902		S14g. Call Sign of Control Station (if appropriate): E020242	

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S15. SPACECRAFT PHYSICAL CHARACTERISTICS:

S15a. Mass of spacecraft without fuel (kg): 3635	Spacecraft Dimensions (meters)	Probability of Survival to End of Life (0.0 - 1.0)
S15b. Mass of fuel and disposables at launch (kg): 2425		
S15c. Mass of spacecraft and fuel at launch (kg): 6060	S15f. Length (m): 41	S15i. Payload: 0.86
S15d. Mass of fuel, in orbit, at beginning of life (kg): 260	S15g. Width (m): 8	S15j. Bus: 0.89
S15e. Deployed Area of Solar Array (square meters): 65	S15h. Height (m): 7	S15k. Total: 0.77

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): 8601	(f): 8601	(k): 8601	(p): 8601
Bus (Watts):	(b): 4248	(g): 3152	(l): 4248	(q): 3152
Total (Watts):	(c): 12849	(h): 11753	(m): 12849	(r): 11753
Solar Array (Watts):	(d): 15878	(i): 14116	(n): 14271	(s): 12859
Depth of Battery Discharge (%):	(e) 73 %	(j) 73 %	(o) 73 %	(t) 73 %

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 checked="" 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 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.**