

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

a. Space Station or Satellite Network Name: SATMEX 5		e. Estimated Date of Placement into Service: 2/1/2013		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: 48		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) 1728 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)		
5925	M	6425	M	R	Fixed Satellite Service
3700	M	4200	M	T	Fixed Satellite Service
3700	M	4200	M	T	Direct to Home in the Fixed Fixed Satellite Service
14000	M	14500	M	R	Fixed Satellite Service
11700	M	12200	M	T	Fixed Satellite Service
11700	M	12200	M	T	Direct to Home in the Fixed Fixed Satellite Service

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

a. Nominal Orbital Longitude (Degrees E/W): 114.9 W		b. Alternate Orbital Longitude (Degrees E/W):		c. Reason for orbital location selection:  The orbital location is consistent with the Trilateral Agreement reached between Canada, Mexico and the United States of America in 1988.	
Longitudinal Tolerance or E/W Station-Keeping:		f. Inclination Excursion or N/S Station-Keeping Tolerance:  5 Degrees	Range of orbital are in which adequate service can be provided (Optional): <u>Degrees</u> <u>E/W</u>		
d. Toward West:	0.1 Degrees		g. Westernmost:		
e. Toward East:	0.1 Degrees	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 intital 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.
SA1	S		-6 dB contour of all beams

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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				
										(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														
CUH	R	31.4	21.4	0.15		30	N	0	SA1				641	3.3	-99.5	15	1
CUV	R	31.4	21.4	0.15		30	N	90	SA1				641	3.3	-99.5	15	1
CDH	T	27.7	17.7	0.15		30	N	0	SA1	1.6	26.2	41.9					
CDV	T	27.7	17.7	0.15		30	N	90	SA1	1.6	25.8	41.8					
KU1H	R	33.5	23.5	0.15		30	N	0	SA1				565	6	-99.4	31	1
KU1V	R	34	24	0.15		30	N	90	SA1				560	6.5	-99.4	31	1
KU2H	R	30.2	20.2	0.15		30	N	0	SA1				581	2.6	-99.8	31	1
KU2V	R	31.5	21.5	0.15		30	N	90	SA1				548	4.1	-99.8	31	1
KD1H	T	32.7	22.7	0.15		30	N	0	SA1	1.6	92.5	52.4					
KD1V	T	32.9	22.9	0.15		30	N	90	SA1	1.6	85.9	52.2					
KD2H	T	29.6	19.6	0.15		30	N	0	SA1	1.9	87.3	49					
KD2V	T	29.7	19.7	0.15		30	N	90	SA1	1.9	88.3	49.2					

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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
CUH	R	C	-114.9		CUH.gxt					
CUV	R	C	-114.9		CUV.gxt					
CDH	T	C	-114.9		CDH.gxt	-158.5	-158.5	-158.5	-158.5	-158.5
CDV	T	C	-114.9		CDV.gxt	-158.5	-158.5	-158.5	-158.5	-158.5
KU1H	R	C	-114.9		KU1H.gxt					
KU1V	R	C	-114.9		KU1V.gxt					
KU2H	R	C	-114.9		KU2H.gxt					
KU2V	R	C	-114.9		KU2V.gxt					
KD1H	T	C	-114.9		KD1H.gxt					
KD1V	T	C	-114.9		KD1V.gxt					
KD2H	T	C	-114.9		KD2H.gxt					
KD2V	T	C	-114.9		KD2V.gxt					

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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)
CU001	36000	R	5945	H	C
CU002	36000	R	5985	H	C
CU003	36000	R	6025	H	C
CU004	36000	R	6065	H	C
CU005	36000	R	6105	H	C
CU006	36000	R	6145	H	C
CU007	36000	R	6185	H	C
CU008	36000	R	6225	H	C
CU009	36000	R	6265	H	C
CU010	36000	R	6305	H	C
CU011	36000	R	6345	H	C
CU012	36000	R	6385	H	C
CU013	36000	R	5965	V	C
CU014	36000	R	6005	V	C
CU015	36000	R	6045	V	C
CU016	36000	R	6085	V	C
CU017	36000	R	6125	V	C
CU018	36000	R	6165	V	C
CU019	36000	R	6205	V	C
CU020	36000	R	6245	V	C
CU021	36000	R	6285	V	C
CU022	36000	R	6325	V	C
CU023	36000	R	6365	V	C
CU024	36000	R	6405	V	C
CD001	36000	T	3720	V	C
CD002	36000	T	3760	V	C
CD003	36000	T	3800	V	C
CD004	36000	T	3840	V	C
CD005	36000	T	3880	V	C
CD006	36000	T	3920	V	C

(a) Transponder ID	(b) Transponder Gain (dB)	Receive Band		Transmit Band	
		(c) Channel No.	(d) Beam ID	(e) Channel No.	(f) Beam ID
C0001	119.6	CU001	CUH	CD001	CDV
C0002	119.6	CU002	CUH	CD002	CDV
C0003	119.6	CU003	CUH	CD003	CDV
C0004	119.6	CU004	CUH	CD004	CDV
C0005	119.6	CU005	CUH	CD005	CDV
C0006	119.6	CU006	CUH	CD006	CDV
C0007	119.6	CU007	CUH	CD007	CDV
C0008	119.6	CU008	CUH	CD008	CDV
C0009	119.6	CU009	CUH	CD009	CDV
C0010	119.6	CU010	CUH	CD010	CDV
C0011	119.6	CU011	CUH	CD011	CDV
C0012	119.6	CU012	CUH	CD012	CDV
C0013	119.6	CU013	CUV	CD013	CDH
C0014	119.6	CU014	CUV	CD014	CDH
C0015	119.6	CU015	CUV	CD015	CDH
C0016	119.6	CU016	CUV	CD016	CDH
C0017	119.6	CU017	CUV	CD017	CDH
C0018	119.6	CU018	CUV	CD018	CDH
C0019	119.6	CU019	CUV	CD019	CDH
C0020	119.6	CU020	CUV	CD020	CDH
C0021	119.6	CU021	CUV	CD021	CDH
C0022	119.6	CU022	CUV	CD022	CDH
C0023	119.6	CU023	CUV	CD023	CDH
C0024	119.6	CU024	CUV	CD024	CDH
K0001	130.1	KU001	KU1V	KD001	KD1H
K0002	130.1	KU002	KU1V	KD002	KD1H
K0003	130.1	KU003	KU1V	KD003	KD1H
K0004	130.1	KU004	KU1V	KD004	KD1H
K0005	130.1	KU005	KU1V	KD005	KD1H
K0006	130.1	KU006	KU1V	KD006	KD1H

CD007	36000	T	3960	V	C
CD008	36000	T	4000	V	C
CD009	36000	T	4040	V	C
CD010	36000	T	4080	V	C
CD011	36000	T	4120	V	C
CD012	36000	T	4160	V	C
CD013	36000	T	3740	H	C
CD014	36000	T	3780	H	C
CD015	36000	T	3820	H	C
CD016	36000	T	3860	H	C
CD017	36000	T	3900	H	C
CD018	36000	T	3940	H	C
CD019	36000	T	3980	H	C
CD020	36000	T	4020	H	C
CD021	36000	T	4060	H	C
CD022	36000	T	4100	H	C
CD023	36000	T	4140	H	C
CD024	36000	T	4180	H	C
KU001	36000	R	14020	V	C
KU002	36000	R	14060	V	C
KU003	36000	R	14100	V	C
KU004	36000	R	14140	V	C
KU005	36000	R	14180	V	C
KU006	36000	R	14220	V	C
KU007	36000	R	14260	V	C
KU008	36000	R	14300	V	C
KU009	36000	R	14340	V	C
KU010	36000	R	14380	V	C
KU011	36000	R	14420	V	C
KU012	36000	R	14460	V	C
KU013	36000	R	14040	H	C
KU014	36000	R	14080	H	C
KU015	36000	R	14120	H	C
KU016	36000	R	14160	H	C
KU017	36000	R	14200	H	C
KU018	36000	R	14240	H	C
KU019	36000	R	14280	H	C
KU020	36000	R	14320	H	C
KU021	36000	R	14360	H	C

K0007	130.1	KU007	KU1V	KD007	KD1H
K0008	130.1	KU008	KU1V	KD008	KD1H
K0009	130.1	KU013	KU1H	KD013	KD1V
K0010	130.1	KU014	KU1H	KD014	KD1V
K0011	130.1	KU015	KU1H	KD015	KD1V
K0012	130.1	KU016	KU1H	KD016	KD1V
K0013	130.1	KU017	KU1H	KD017	KD1V
K0014	130.1	KU018	KU1H	KD018	KD1V
K0015	130.1	KU019	KU1H	KD019	KD1V
K0016	130.1	KU020	KU1H	KD020	KD1V
K0017	133.6	KU005	KU2V	KD005	KD2H
K0018	133.6	KU006	KU2V	KD006	KD2H
K0019	133.6	KU007	KU2V	KD007	KD2H
K0020	133.6	KU008	KU2V	KD008	KD2H
K0021	133.6	KU009	KU2V	KD009	KD2H
K0022	133.6	KU010	KU2V	KD010	KD2H
K0023	133.6	KU011	KU2V	KD011	KD2H
K0024	133.6	KU012	KU2V	KD012	KD2H
K0025	133.6	KU017	KU2H	KD017	KD2V
K0026	133.6	KU018	KU2H	KD018	KD2V
K0027	133.6	KU019	KU2H	KD019	KD2V
K0028	133.6	KU020	KU2H	KD020	KD2V
K0029	133.6	KU021	KU2H	KD021	KD2V
K0030	133.6	KU022	KU2H	KD022	KD2V
K0031	133.6	KU023	KU2H	KD023	KD2V
K0032	133.6	KU024	KU2H	KD024	KD2V
CMD1		CMD1	CUH		
CMD2		CMD2	CUV		
TLM1				TLM1	CDV
TLM2				TLM2	CDV
BCN1				BCN1	KD1V
BCN2				BCN2	KD2H

KU022	36000	R	14400	H	C
KU023	36000	R	14440	H	C
KU024	36000	R	14480	H	C
KD001	36000	T	11720	H	C
KD002	36000	T	11760	H	C
KD003	36000	T	11800	H	C
KD004	36000	T	11840	H	C
KD005	36000	T	11880	H	C
KD006	36000	T	11920	H	C
KD007	36000	T	11960	H	C
KD008	36000	T	12000	H	C
KD009	36000	T	12040	H	C
KD010	36000	T	12080	H	C
KD011	36000	T	12120	H	C
KD012	36000	T	12160	H	C
KD013	36000	T	11740	V	C
KD014	36000	T	11780	V	C
KD015	36000	T	11820	V	C
KD016	36000	T	11860	V	C
KD017	36000	T	11900	V	C
KD018	36000	T	11940	V	C
KD019	36000	T	11980	V	C
KD020	36000	T	12020	V	C
KD021	36000	T	12060	V	C
KD022	36000	T	12100	V	C
KD023	36000	T	12140	V	C
KD024	36000	T	12180	V	C
CMD1	1000	R	6424	H	T
CMD2	1000	R	6424	V	T
TLM1	300	T	4199.125	V	T
TLM2	300	T	4199.625	V	T
BCN1	25	T	11701	V	T
BCN2	25	T	12198.5	H	T



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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)
D1	48K6G7W	48.6	4	56	0.691		5.7	17.9
D2	1M34G7W	1340	4	1544	0.691		5.7	17.9
D3	6M33G7W	6330	4	8448	0.801		5.8	18
D4	36M0G7W	36000	4	41505	0.691		5.7	17.9
D5	36M0G7W	36000	8	76502	0.841		6.5	18.7



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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) (j) Min. (k) Max.		EIRP (dBW) (l) Min. (m) Max.		(n) Max. Power Flux Density (dBW/m <sup>2</sup> /Hz)	(o) Assoc. Stn Rec. G/T (dB/K)
C0001	C0024	D1		617	58	LB1.doc		47.4	-10.8	-4.8	4.9	11	-162.4	21.9
C0001	C0024	D2		22	1608	LB2.doc		47.4	4.5	10.5	23.2	29.3	-158.5	21.9
C0001	C0024	D3		5	7200	LB3.doc		47.4	11.2	17.2	25.9	32	-162.5	21.9
C0001	C0024	D4		1		LB4.doc		47.4	21.8	27.8	35.8	41.9	-160.1	18.1
C0001	C0024	D5		1		LB5.doc		47.4	27.8	33.8	35.8	41.9	-160.1	18.1
K0001	K0016	D1		617	58	LB6.doc		43.2	-6.5	-0.5	15.3	21.5		24.4
K0001	K0016	D2		22	1608	LB7.doc		49.2	13.2	19.2	35.1	41.3		18.3
K0001	K0016	D3		5	7200	LB8.doc		49.2	9.4	15.4	36.2	42.4		24.4
K0001	K0016	D4		1		LB9.doc		54.7	14.6	20.6	46.2	52.4		20.8
K0001	K0016	D5		1		LB10.doc		54.7	14.6	20.6	46.2	52.4		20.8
K0017	K0032	D1		617	58	LB11.doc		43.2	-6.9	-0.9	12.1	18.3		26.9
K0017	K0032	D2		22	1608	LB12.doc		43.2	8.6	14.6	26.6	32.8		24.4
K0017	K0032	D3		5	7200	LB13.doc		49.2	9	15	33	39.2		26.9
K0017	K0032	D4		1		LB14.doc		54.7	14.3	20.3	43	49.2		20.8
K0017	K0032	D5		1		LB15.doc		54.7	14.3	20.3	43	49.2		20.8

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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: CONTEL - Edificio SGA-II			
S14b. City: Mexico,D.F.	S14c. County:	S14d. State/Country	S14e. Zip Code: CP 09310
S14f. Telephone Number: 1 52 (55) 5804 7300		S14g. Call Sign of Control Station (if appropriate):	

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

S14a: Street Address: Carretera a Bahía Kino Km 5.5			
S14b. City: Hermosillo, Sonora	S14c. County:	S14d. State/Country	S14e. Zip Code: CP 83210
S14f. Telephone Number: 01 (662) 2600289		S14g. Call Sign of Control Station (if appropriate):	

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Characteristics and  
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**S15. SPACECRAFT PHYSICAL CHARACTERISTICS:**

S15a. Mass of spacecraft without fuel (kg): 1920.1	Spacecraft Dimensions (meters)	Probability of Survival to End of Life (0.0 - 1.0)
S15b. Mass of fuel and disposables at launch (kg): 2223.8		
S15c. Mass of spacecraft and fuel at launch (kg): 4143.9	S15f. Length (m): 3.1	S15i. Payload: 0.8797
S15d. Mass of fuel, in orbit, at beginning of life (kg): 2261.5	S15g. Width (m): 2.54	S15j. Bus: 0.849
S15e. Deployed Area of Solar Array (square meters): 21.93	S15h. Height (m): 3.7	S15k. Total: 0.747

**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): 6862.5	(f): 6862.5	(k): 6862.5	(p): 6862.5
Bus (Watts):	(b): 527.2	(g): 1025.4	(l): 527.2	(q): 1025.4
Total (Watts):	(c): 7389.7	(h): 7887.9	(m): 7389.7	(r): 7887.9
Solar Array (Watts):	(d): 9772	(i): 8582	(n): 8589	(s): 7865
Depth of Battery Discharge (%):	(e) 75 %	(j) %	(o) 75 %	(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.**