

S1. GENERAL INFORMATION Complete for all satellite applications.

a. Space Station or Satellite Network Name: AMAZONAS-1		e. Estimated Date of Placement into Service: 7/31/2004		i. Will the space station(s) operate on a Common Carrier Basis: N	
b. Construction Commencement Date: 1/2/2002		f. Estimated Lifetime of Satellite(s): 16.8 Years		j. Number of transponders offered on a common carrier basis:	
c. Construction Completion Date: 5/31/2004		g. Total Number of Transponders: 16		k. Total Common Carrier Transponder Bandwidth: MHz	
d1. Est Launch Date Begin: 1/6/2004	d2. Est Launch Date End: 6/30/2004	h. Total Transponder Bandwidth (no. transponders x Bandwidth) 648 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)		
14.0	G	14.5	G	R	Fixed Satellite Service
11.7	G	12.2	G	T	Fixed Satellite Service
13.75	G	14.0	G	R	Fixed Satellite Service

S3. ORBITAL INFORMATION FOR GEOSTATIONARY SATELLITES ONLY:

a. Nominal Orbital Longitude (Degrees E/W): 55.5 W		b. Alternate Orbital Longitude (Degrees E/W):		c. Reason for orbital location selection: The satellite network AMAZONAS-1 has been relocated from 36°W to 55.5°W. Under this application we are seeking authority to provide service with AMAZONAS-1 to the U.S. territories in the Ku band.	
Longitudinal Tolerance or E/W Station-Keeping:		f. Inclination Excursion or N/S Station-Keeping Tolerance: 0.07 Degrees	Range of orbital are in which adequate service can be provided (Optional): g. Westernmost: h. Easternmost:		
d. Toward West:	0.05 Degrees		Degrees E/W		
e. Toward East:	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-ltr codes), satellites or Figure No. of Service Area Diagram.
1	S	vupku_sa.gxt	01

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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
KUR	R	C	-55.5		vupkunach.gxt					
KUR	R	X	-55.5		VUPKUNAXH.gxt					
KUT	T	C	-55.5		vdwkunach.gxt	-132.5	-132.5	-132.5	-132.5	-132.5
KUT	T	X	-55.5		VDWKUNAXH.gxt					
KUR	R	C	-55.5		vupkunacv.gxt					
KUR	R	X	-55.5		VUPKUNAXV.gxt					
KUTV	T	C	-55.5		vdwkunacv.gxt	-132.5	-132.5	-132.5	-132.5	-132.5
KUTV	T	X	-55.5		VDWKUNAXV.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)
KT1	54000	T	11738	V	C
KT2	54000	T	11799	V	C
KT3	54000	T	11738	H	C
KT4	54000	T	11799	H	C
KT5	36000	T	11972	V	C
KT6	36000	T	12012	V	C
KT7	36000	T	12052	V	C
KT8	36000	T	12092	V	C
KT9	36000	T	12132	V	C
KT10	36000	T	12172	V	C
KT11	36000	T	11972	H	C
KT12	36000	T	12012	H	C
KT13	36000	T	12052	H	C
KT14	36000	T	12092	H	C
KT15	36000	T	12132	H	C
KT16	36000	T	12172	H	C
KR1	54000	R	14034	H	C
KR2	54000	R	14095	H	C
KR3	54000	R	14034	V	C
KR4	54000	R	14095	V	C
KR5	36000	R	13772	H	C
KR6	36000	R	13812	H	C
KR7	36000	R	13852	H	C
KR8	36000	R	13892	H	C
KR9	36000	R	13932	H	C
KR10	36000	R	13972	H	C
KR11	36000	R	13772	V	C
KR12	36000	R	13812	V	C
KR13	36000	R	13852	V	C
KR14	36000	R	13892	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
1	127.1	KR1	KURH	KT1	KUTV
2	127.1	KR2	KURH	KT2	KUTV
3	127.1	KR3	KURV	KT3	KUTH
4	127.1	KR4	KURV	KT4	KUTH
5	127.1	KR5	KURH	KT5	KUTV
6	127.1	KR6	KURH	KT6	KUTV
7	127.1	KR7	KURH	KT7	KUTV
8	127.1	KR8	KURH	KT8	KUTV
9	127.1	KR9	KURH	KT9	KUTV
10	127.1	KR10	KURH	KT10	KUTV
11	127.1	KR11	KURV	KT11	KUTH
12	127.1	KR12	KURV	KT12	KUTH
13	127.1	KR13	KURV	KT13	KUTH
14	127.1	KR14	KURV	KT14	KUTH
15	127.1	KR15	KURV	KT15	KUTH
16	127.1	KR16	KURV	KT16	KUTH

KR15	36000	R	13932	V	C
KR16	36000	R	13972	V	C

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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)
1	1M80G7W	1800	4	2048	0.75		9	17.7
2	36M0G7W	36000	4	38010	0.75		6.1	18.3
3	9M00G7W	9000	8	11300	0.66666667		8	20.2
4	14K0G7W	14	4	11	0.5		6.8	19

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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/m ² /Hz)	(o) Assoc. Stn Rec. G/T (dB/K)
						(j) Min.	(k) Max.		(l) Min.	(m) Max.				
1	16	1		18		Link_Budget_1.		53	2.5	9.5	27.1	32.1	-132.5	30
1	4	4		2340		Link_Budget_2.		43	-15	-8	2.6	5.6	-137.8	31
5	16	4		2340		Link_Budget_2.		43	-15	-8	2.6	5.6	-137.8	31
1	4	4		2340		Link_Budget_3.		49.2	-16.4	-9.4	5.4	10.4	-133	26.3
5	16	4		2340		Link_Budget_3.		49.2	-16.4	-9.4	5.4	10.4	-133	26.3
1	16	2		1		Link_Budget_4.		53	16	23	40.1	45.1	-132.5	26.3
1	16	3		4		Link_Budget_5.		53	8.1	15.1	32.7	37.7	-134	30

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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: CARRETERA M 220, KM 1,800			
S14b. City: ARGANDA DEL REY	S14c. County: SPAIN	S14d. State/Country	S14e. Zip Code: 28500
S14f. Telephone Number: +34918700160		S14g. Call Sign of Control Station (if appropriate):	

Remote Control (TT C) Location(s):

S14a: Street Address: PRAIA DO FLAMENGO 200			
S14b. City: RIO DE JANEIRO	S14c. County: BRAZIL	S14d. State/Country	S14e. Zip Code: 22210-030
S14f. Telephone Number: +552198582255		S14g. Call Sign of Control Station (if appropriate):	

Remote Control (TT C) Location(s):

S14a: Street Address:			
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): 2121	Spacecraft Dimensions (meters)	Probability of Survival to End of Life (0.0 - 1.0)
S15b. Mass of fuel and disposables at launch (kg): 2415		
S15c. Mass of spacecraft and fuel at launch (kg): 4536	S15f. Length (m): 36.1	S15i. Payload: 0.77
S15d. Mass of fuel, in orbit, at beginning of life (kg): 885	S15g. Width (m): 7.89	S15j. Bus: 0.87
S15e. Deployed Area of Solar Array (square meters): 55.6	S15h. Height (m): 6.74	S15k. Total: 0.67

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): 7315	(f): 7315	(k): 7315	(p): 7315
Bus (Watts):	(b): 1660	(g): 940	(l): 1660	(q): 940
Total (Watts):	(c): 8975	(h): 8255	(m): 8975	(r): 8255
Solar Array (Watts):	(d): 11504	(i): 10359	(n): 9770	(s): 8906
Depth of Battery Discharge (%):	(e) 60 %	(j) %	(o) 60 %	(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 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.