

S1. GENERAL INFORMATION Complete for all satellite applications.

a. Space Station or Satellite Network Name: AMAZONAS-3		e. Estimated Date of Placement into Service: 3/31/2013		i. Will the space station(s) operate on a Common Carrier Basis: N	
b. Construction Commencement Date: 5/31/2010		f. Estimated Lifetime of Satellite(s): 15 Years		j. Number of transponders offered on a common carrier basis:	
c. Construction Completion Date:		g. Total Number of Transponders: 35		k. Total Common Carrier Transponder Bandwidth: MHz	
d1. Est Launch Date Begin: 12/1/2012	d2. Est Launch Date End: 5/31/2013	h. Total Transponder Bandwidth (no. transponders x Bandwidth) 1530 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)		
5850	M	6425	M	R	Fixed Satellite Service
3625	M	4200	M	T	Fixed Satellite Service
14	G	14.5	G	R	Fixed Satellite Service
11.7	G	12.2	G	T	Fixed Satellite Service

S3. ORBITAL INFORMATION FOR GEOSTATIONARY SATELLITES ONLY:

a. Nominal Orbital Longitude (Degrees E/W): 61 W		b. Alternate Orbital Longitude (Degrees E/W):		c. Reason for orbital location selection: The satellite network AMAZONAS-3 will be a replacement of the AMAZONAS-1 (located in the orbital location 61° West) for the C and Ku bands and will add new Ka band capacity. Under this application, for the C and Ku band, we are only seeking authority to provide service with AMAZONAS-3 to the U.S. territories in the standard bands (3700-4200 MHz, 5925-6425 MHz, 14-14.5 GHz and 11.7-12.2 GHz); we are not seeking authority to provide service to the U.S.	
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	e. Toward East: 0.05 Degrees		Degrees E/W		
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	Vsa__va.GXT	01
2	S	vupku_sa.GXT	01

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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				
		(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
CRH	R	25.5	15.5	0.05	0.05	30	N	0	1				446	-1	-97	20	0.5
CRV	R	25.5	15.5	0.05	0.05	30	N	90	1				446	-1	-97	20	0.5
CTH	T	25.3	15.3	0.05	0.05	30	N	0	1	1.5	15.7	41					
CTV	T	25.3	15.3	0.05	0.05	30	N	90	1	1.5	15.7	41					
KUR	R	31	23	0.05	0.05	30	N	0	2				428	4.7	-94	20	1
KUR	R	31	23	0.05	0.05	30	N	90	2				428	4.7	-94	20	1
KUT	T	29.9	21.9	0.05	0.05	30	N	0	2	1.9	18.1	48					
KUTV	T	29.9	21.9	0.05	0.05	30	N	90	2	1.9	18.1	48					

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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
CRH	R	C	-61		VUPCBRAh.GXT					
CRH	R	X	-61		VUPCBRhX.GXT					
CTH	T	C	-61		VDWCBRhC.GXT	-159.7	-159.7	-159.7	-159.7	-159.7
CTH	T	X	-61		VDWCBRhX.GXT					
CRV	R	C	-61		VUPCBRAv.GXT					
CRV	R	X	-61		VUPCBRvX.GXT					
CTV	T	C	-61		VDWCBRvC.GXT	-159.7	-159.7	-159.7	-159.7	-159.7
CTV	T	X	-61		VDWCBRvX.GXT					
KUR	R	C	-61		vupkunach.GXT					
KUR	R	X	-61		VUPKUNAXh.GXT					
KUT	T	C	-61		vdwkunach.GXT	-132.5	-132.5	-132.5	-132.5	-132.5
KUT	T	X	-61		VDWKUNAXh.GXT					
KUR	R	C	-61		vupkunacv.GXT					
KUR	R	X	-61		VUPKUNAXv.GXT					
KUTV	T	C	-61		vdwkunacv.GXT	-132.5	-132.5	-132.5	-132.5	-132.5
KUTV	T	X	-61		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)
CT1	54000	T	3661	V	C
CT2	54000	T	3722	V	C
CT3	54000	T	3783	V	C
CT4	54000	T	3844	V	C
CT5	54000	T	3905	V	C
CT6	54000	T	3966	V	C
CT7	54000	T	4027	V	C
CT8	54000	T	4088	V	C
CT9	36000	T	4140	V	C
CT10	36000	T	4180	V	C
CT11	54000	T	3652	H	C
CT12	54000	T	3713	H	C
CT13	54000	T	3774	H	C
CT14	54000	T	3835	H	C
CT15	54000	T	3896	H	C
CT16	54000	T	3970	H	C
CT17	54000	T	4031	H	C
CT18	54000	T	4092	H	C
CT19	54000	T	4153	H	C
CR1	54000	R	5886	H	C
CR2	54000	R	5947	H	C
CR3	54000	R	6008	H	C
CR4	54000	R	6069	H	C
CR5	54000	R	6130	H	C
CR6	54000	R	6191	H	C
CR7	54000	R	6252	H	C
CR8	54000	R	6313	H	C
CR9	36000	R	6365	H	C
CR10	36000	R	6405	H	C
CR11	54000	R	5877	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	124.2	CR1	CRH	CT1	CTV
2	124.2	CR2	CRH	CT2	CTV
3	124.2	CR3	CRH	CT3	CTV
4	124.2	CR4	CRH	CT4	CTV
5	124.2	CR5	CRH	CT5	CTV
6	124.2	CR6	CRH	CT6	CTV
7	124.2	CR7	CRH	CT7	CTV
8	124.2	CR8	CRH	CT8	CTV
9	124.2	CR9	CRH	CT9	CTV
10	124.2	CR10	CRH	CT10	CTV
11	124.2	CR11	CRV	CT11	CTH
12	124.2	CR12	CRV	CT12	CTH
13	124.2	CR13	CRV	CT13	CTH
14	124.2	CR14	CRV	CT14	CTH
15	124.2	CR15	CRV	CT15	CTH
16	124.2	CR16	CRV	CT16	CTH
17	124.2	CR17	CRV	CT17	CTH
18	124.2	CR18	CRV	CT18	CTH
19	124.2	CR19	CRV	CT19	CTH
20	127.1	KR1	KURH	KT1	KUTV
21	127.1	KR2	KURH	KT2	KUTV
22	127.1	KR3	KURV	KT3	KUTH
23	127.1	KR4	KURV	KT4	KUTH
24	127.1	KR5	KURH	KT5	KUTV
25	127.1	KR6	KURH	KT6	KUTV
26	127.1	KR7	KURH	KT7	KUTV
27	127.1	KR8	KURH	KT8	KUTV
28	127.1	KR9	KURH	KT9	KUTV
29	127.1	KR10	KURH	KT10	KUTV
30	127.1	KR11	KURV	KT11	KUTH

CR12	54000	R	5938	V	C
CR13	54000	R	5999	V	C
CR14	54000	R	6060	V	C
CR15	54000	R	6121	V	C
CR16	54000	R	6195	V	C
CR17	54000	R	6256	V	C
CR18	54000	R	6317	V	C
CR19	54000	R	6378	V	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
KR15	36000	R	13932	V	C

31	127.1	KR12	KURV	KT12	KUTH
32	127.1	KR13	KURV	KT13	KUTH
33	127.1	KR14	KURV	KT14	KUTH
34	127.1	KR15	KURV	KT15	KUTH
35	127.1	KR16	KURV	KT16	KUTH

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	70K0G7W	70	8	64	0.66666667		8	20.2
2	1M70G7W	1700	8	2048	0.66666667		8	20.2
3	7M50G7W	7500	4	8448	0.75		9	21.2
4	36M0G7W	36000	4	45000	0.875		7.4	19.6
5	1M80G7W	1800	4	2048	0.75		9	17.7
6	36M0G7W	36000	4	38010	0.75		6.1	18.3
7	9M00G7W	9000	8	11300	0.66666667		8	20.2
8	14K0G7W	14	4	11000	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	8	1		800		Link_Budget_1.		47	-5	2	4.5	9.5	-164.5	24.5
1	19	1		318		Link_Budget_2.		47	-1	6	8.7	13.7	-160.4	18.9
1	8	2		30		Link_Budget_3.		47	9.2	16.2	18.9	23.9	-163.3	24.5
1	19	2		10		Link_Budget_4.		47	14	21	23.6	28.6	-159.7	18.9
1	8	3		5		Link_Budget_5.		47	17	24	26.6	31.6	-163.2	24.5
1	19	4		1		Link_Budget_6.		47	20	27	29.7	34.7	-166.9	30
9	10	1		800		Link_Budget_1.		47	-5	2	4.5	9.5	-164.5	24.5
11	19	1		800		Link_Budget_1.		47	-5	2	4.5	9.5	-164.5	24.5
9	10	2		30		Link_Budget_3.		47	9.2	16.2	18.9	23.9	-163.3	24.5
11	19	2		30		Link_Budget_3.		47	9.2	16.2	18.9	23.9	-163.3	24.5
9	10	3		5		Link_Budget_5.		47	17	24	26.6	31.6	-163.2	24.5
11	19	3		5		Link_Budget_5.		47	17	24	26.6	31.6	-163.2	24.5
20	35	5		18		Link_Budget_7.		53	2.5	9.5	27.1	32.1	-132.5	30
20	23	8		2340		Link_Budget_8.		43	-15	-8	2.6	5.6	-137.8	31
24	35	8		2340		Link_Budget_8.		43	-15	-8	2.6	5.6	-137.8	31
20	23	8		2340		Link_Budget_9.		49.2	-16.4	-9.4	5.4	10.4	-133	26.3
24	35	8		2340		Link_Budget_9.		49.2	-16.4	-9.4	5.4	10.4	-133	26.3
20	35	6		1		Link_Budget_1		53	16	23	40.1	45.1	-132.5	26.3
20	35	7		4		Link_Budget_1		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: 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: 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):	

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Characteristics and
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S15. SPACECRAFT PHYSICAL CHARACTERISTICS:

S15a. Mass of spacecraft without fuel (kg): 2778	Spacecraft Dimensions (meters)	Probability of Survival to End of Life (0.0 - 1.0)
S15b. Mass of fuel and disposables at launch (kg): 3459		
S15c. Mass of spacecraft and fuel at launch (kg): 6254	S15f. Length (m): 26.06	S15i. Payload: 0.846
S15d. Mass of fuel, in orbit, at beginning of life (kg): 1057	S15g. Width (m): 8.82	S15j. Bus: 0.8863
S15e. Deployed Area of Solar Array (square meters): 74.2	S15h. Height (m): 8.11	S15k. Total: 0.75

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): 11596	(f): 11596	(k): 11596	(p): 11596
Bus (Watts):	(b): 2890	(g): 1559	(l): 2890	(q): 1559
Total (Watts):	(c): 14486	(h): 13155	(m): 14486	(r): 13155
Solar Array (Watts):	(d): 17537	(i): 15678	(n): 15865	(s): 14331
Depth of Battery Discharge (%):	(e) 78.9 %	(j) %	(o) 78.9 %	(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.