

FCC 312 Schedule S	FEDERAL COMMUNICATIONS COMMISSION SATELLITE SPACE STATION AUTHORIZATIONS (Technical and Operational Description)	Page 1: General, Frequency Bands, and GSO Orbit
-------------------------------	---	--

S1. GENERAL INFORMATION Complete for all satellite applications.

a. Space Station or Satellite Network Name: AMC-16		e. Estimated Date of Placement into Service:		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: 24		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) 864 MHz		l. 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 opera
 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)		
14000	M	14500	M	R	Feeder Link for Broadcasting Satellite Service in FSS
11700	M	12200	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

S3. ORBITAL INFORMATION FOR GEOSTATIONARY SATELLITES ONLY:

a. Nominal Orbital Longitude (Degrees E/W): 85 W		b. Alternate Orbital Longitude (Degrees E/W):		c. Reason for orbital location selection: ESOC has Commission authorization to operate the Ku-band payload of the AMC-16 satellite at 85 W.L.			
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	0.05 Degrees				g. Westernmost: h. Easternmost:	
i. Reason for service are selection (Optional):							

**FEDERAL COMMUNICATIONS COMMISSION
 SATELLITE SPACE STATION AUTHORIZATIONS
 FCC Form 312 - Schedule S: (Technical and Operational Description)**

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

**FEDERAL COMMUNICATIONS COMMISSION
 SATELLITE SPACE STATION AUTHORIZATIONS
 FCC Form 312 - Schedule S: (Technical and Operational Description)**

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.
SAUP	E		-8 dB contour of beams NALH and NALV
SADN	E		-10 dB contour of beams NACR, NAEL, NAV and NAH

FEDERAL COMMUNICATIONS COMMISSION
SATELLITE SPACE STATION AUTHORIZATIONS
FCC Form 312 - Schedule S: (Technical and Operational Description)

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														
NALH	R	33.3	25.3	0.15		30	Y	0	SAUP				594	5.6	-98.6	18	1
NALV	R	33.3	25.3	0.15		30	Y	90	SAUP				594	5.6	-98.6	18	1
NAC	T	37.1	27.1	0.15		30	Y		SADN			56.3					
NACL	T	37.1	27.1	0.15		30	Y		SADN			56.3					
NAV	T	33.3	23.3	0.15		30	Y	90	SADN			53					
NAH	T	33.3	23.3	0.15		30	Y	0	SADN			53					

**FEDERAL COMMUNICATIONS COMMISSION
 SATELLITE SPACE STATION AUTHORIZATIONS
 FCC Form 312 - Schedule S: (Technical and Operational Description)**

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
NALH	R	C	-85		NALH.gxt					
NALV	R	C	-85		NALV.gxt					
NAC	T	C	-85		NACR.gxt					
NACL	T	C	-85		NACL.gxt					
NAV	T	C	-85		NAV.gxt					
NAH	T	C	-85		NAH.gxt					

FEDERAL COMMUNICATIONS COMMISSION
SATELLITE SPACE STATION AUTHORIZATIONS
FCC Form 312 - Schedule S: (Technical and Operational Description)

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)
U0001	36000	R	14020	H	C
U0003	36000	R	14060	H	C
U0005	36000	R	14100	H	C
U0007	36000	R	14140	H	C
U0009	36000	R	14180	H	C
U0011	36000	R	14220	H	C
U0013	36000	R	14260	H	C
U0015	36000	R	14300	H	C
U0017	36000	R	14340	H	C
U0019	36000	R	14380	H	C
U0021	36000	R	14420	H	C
U0023	36000	R	14460	H	C
U0002	36000	R	14040	V	C
U0004	36000	R	14080	V	C
U0006	36000	R	14120	V	C
U0008	36000	R	14160	V	C
U0010	36000	R	14200	V	C
U0012	36000	R	14240	V	C
U0014	36000	R	14280	V	C
U0016	36000	R	14320	V	C
U0018	36000	R	14360	V	C
U0020	36000	R	14400	V	C
U0022	36000	R	14440	V	C
U0024	36000	R	14480	V	C
D0001	36000	T	11720	R	C
D0003	36000	T	11760	R	C
D0005	36000	T	11800	R	C
D0007	36000	T	11840	R	C
D0009	36000	T	11880	R	C
D0011	36000	T	11920	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	1	U0001	NALH	D0001	NACR
T0003	1	U0003	NALH	D0003	NACR
T0005	1	U0005	NALH	D0005	NACR
T0007	1	U0007	NALH	D0007	NACR
T0009	1	U0009	NALH	D0009	NACR
T0011	1	U0011	NALH	D0011	NACR
T0013	1	U0013	NALH	D0013	NACR
T0015	1	U0015	NALH	D0015	NACR
T0017	1	U0017	NALH	D0017	NACR
T0019	1	U0019	NALH	D0019	NACR
T0021	1	U0021	NALH	D0021	NACR
T0023	1	U0023	NALH	D0023	NACR
T0002	1	U0002	NALV	D0002	NACL
T0004	1	U0004	NALV	D0004	NACL
T0006	1	U0006	NALV	D0006	NACL
T0008	1	U0008	NALV	D0008	NACL
T0010	1	U0010	NALV	D0010	NACL
T0012	1	U0012	NALV	D0012	NACL
T0014	1	U0014	NALV	D0014	NACL
T0016	1	U0016	NALV	D0016	NACL
T0018	1	U0018	NALV	D0018	NACL
T0020	1	U0020	NALV	D0020	NACL
T0022	1	U0022	NALV	D0022	NACL
T0024	1	U0024	NALV	D0024	NACL
T0025	1	U0001	NALH	D0025	NAV
T0027	1	U0003	NALH	D0027	NAV
T0029	1	U0005	NALH	D0029	NAV
T0031	1	U0007	NALH	D0031	NAV
T0033	1	U0009	NALH	D0033	NAV
T0035	1	U0011	NALH	D0035	NAV

D0013	36000	T	11960	R	C
D0015	36000	T	12000	R	C
D0017	36000	T	12040	R	C
D0019	36000	T	12080	R	C
D0021	36000	T	12120	R	C
D0023	36000	T	12160	R	C
D0002	36000	T	11740	L	C
D0004	36000	T	11780	L	C
D0006	36000	T	11820	L	C
D0008	36000	T	11860	L	C
D0010	36000	T	11900	L	C
D0012	36000	T	11940	L	C
D0014	36000	T	11980	L	C
D0016	36000	T	12020	L	C
D0018	36000	T	12060	L	C
D0020	36000	T	12100	L	C
D0022	36000	T	12140	L	C
D0024	36000	T	12180	L	C
D0025	36000	T	11720	V	C
D0027	36000	T	11760	V	C
D0029	36000	T	11800	V	C
D0031	36000	T	11840	V	C
D0033	36000	T	11880	V	C
D0035	36000	T	11920	V	C
D0037	36000	T	11960	V	C
D0039	36000	T	12000	V	C
D0041	36000	T	12040	V	C
D0043	36000	T	12080	V	C
D0045	36000	T	12120	V	C
D0047	36000	T	12160	V	C
D0026	36000	T	11740	H	C
D0028	36000	T	11780	H	C
D0030	36000	T	11820	H	C
D0032	36000	T	11860	H	C
D0034	36000	T	11900	H	C
D0036	36000	T	11940	H	C
D0038	36000	T	11980	H	C
D0040	36000	T	12020	H	C
D0042	36000	T	12060	H	C

T0037	1	U0013	NALH	D0037	NAV
T0039	1	U0015	NALH	D0039	NAV
T0041	1	U0017	NALH	D0041	NAV
T0043	1	U0019	NALH	D0043	NAV
T0045	1	U0021	NALH	D0045	NAV
T0047	1	U0023	NALH	D0047	NAV
T0026	1	U0002	NALV	D0026	NAH
T0028	1	U0004	NALV	D0028	NAH
T0030	1	U0006	NALV	D0030	NAH
T0032	1	U0008	NALV	D0032	NAH
T0034	1	U0010	NALV	D0034	NAH
T0036	1	U0012	NALV	D0036	NAH
T0038	1	U0014	NALV	D0038	NAH
T0040	1	U0016	NALV	D0040	NAH
T0042	1	U0018	NALV	D0042	NAH
T0044	1	U0020	NALV	D0044	NAH
T0046	1	U0022	NALV	D0046	NAH
T0048	1	U0024	NALV	D0048	NAH

D0044	36000	T	12100	H	C
D0046	36000	T	12140	H	C
D0048	36000	T	12180	H	C

FEDERAL COMMUNICATIONS COMMISSION
SATELLITE SPACE STATION AUTHORIZATIONS
FCC Form 312 - Schedule S: (Technical and Operational Description)

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	36M0G7W	36000						
D2	27M0G7W	27000						
D3	6M33G7W	6330						
D4	5M00G7W	5000						
D5	1M34G7W	1340						
D6	54K7G7W	54.7						

FEDERAL COMMUNICATIONS COMMISSION
SATELLITE SPACE STATION AUTHORIZATIONS
FCC Form 312 - Schedule S: (Technical and Operational Description)

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)
						(j) Min.	(k) Max.		(l) Min.	(m) Max.			
T0001	T0048	D1				LB1.doc					56.3		
T0001	T0048	D2				LB2.doc					56.3		
T0001	T0048	D3				LB3.doc					46.9		
T0001	T0048	D4				LB4.doc					44.9		
T0001	T0048	D5				LB5.doc					39.8		
T0001	T0048	D6				LB6.doc					26		

**FEDERAL COMMUNICATIONS COMMISSION
SATELLITE SPACE STATION AUTHORIZATIONS
FCC Form 312 - Schedule S: (Technical and Operational Description)**

Page 10: TT and C

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

**FEDERAL COMMUNICATIONS COMMISSION
SATELLITE SPACE STATION AUTHORIZATIONS
FCC Form 312 - Schedule S: (Technical and Operational Description)**

**Page 11:
Characteristics and
Certifications**

S15. SPACECRAFT PHYSICAL CHARACTERISTICS:

S16. SPACECRAFT ELECTRICAL CHARACTERISTICS:

S17. CERTIFICATIONS:

a. Are the power flux density limits of § 25.208 met?:	<input type="checkbox"/>	YES	<input type="checkbox"/>	NO	<input checked="" 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.						

FCC NOTICE REQUIRED BY THE PAPERWORK REDUCTION ACT

The public reporting estimate for this collection of information includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the required data, and completing and reviewing the collection of information. If you have any comments on this burden estimate, or how we can improve the collection and reduce the burden it causes you, please write to the Federal Communications Commission, AMD-PERF, Paperwork Reduction Project (3060-0678), Washington, DC 20554. We will also accept your comments regarding the Paperwork Reduction Act aspects of this collection via the Internet if you send them to PERM@fcc.gov. PLEASE DO NOT SEND COMPLETED FORMS TO THIS ADDRESS.

Remember - You are not required to respond to a collection of information sponsored by the Federal government, and the government may not conduct or sponsor this collection, unless it displays a currently valid OMB control number or if we fail to provide you with this notice. This collection has been assigned an OMB control number of 3060-0678.

THE FOREGOING NOTICE IS REQUIRED BY THE PAPERWORK REDUCTION ACT OF 1995, PUBLIC LAW 104-13, OCTOBER 1, 1995, 44 U.S.C. SECTION 3507.