

See: SAT-L2A-19991207-00117  
 SAT-AMD-20030827-00283  
 SAT-AMD-20031223-00365  
 SAT-MOD-20050215-00039



File # SAT-MOD-20050812-00158

Call Sign S2385 Grant Date Oct 7, 2005

(or other identifier) Term Dates Approved by OMB 3060-0678

From see original conditions To: see original conditions  
 Approved: Robert G. Nelson Chief Satellite Engineering Branch

Date & Time Filed: Aug 12 2005 11:06:20:590AM  
 File Number: SAT-MOD-20050812-00158

FCC APPLICATION FOR SPACE AND EARTH STATION:MOD OR AMD - MAIN FORM	FCC Use Only
FCC 312 MAIN FORM FOR OFFICIAL USE ONLY	

APPLICANT INFORMATION

Enter a description of this application to identify it on the main menu:  
 G14 mod change to 125.05 WL (Aug 2005)

1-8. Legal Name of Applicant

<b>Name:</b>	PanAmSat Licensee Corp.	<b>Phone Number:</b>	202-292-4300
<b>DBA Name:</b>		<b>Fax Number:</b>	202-292-4378
<b>Street:</b>	1801 K Street, N.W. Suite 440	<b>E-Mail:</b>	
<b>City:</b>	Washington	<b>State:</b>	DC
<b>Country:</b>	USA	<b>Zipcode:</b>	20006 -
<b>Attention:</b>	Mr Kalpak S Gude Esq		

9-16. Name of Contact Representative

<b>Name:</b>	Joseph A. Godles, Esq.	<b>Phone Number:</b>	202-429-4900
<b>Company:</b>	Goldberg Godles Wiener & Wright	<b>Fax Number:</b>	202-429-4912
<b>Street:</b>	1229 19th Street, NW	<b>E-Mail:</b>	jgodles@g2w2.com
<b>City:</b>	Washington	<b>State:</b>	DC
<b>Country:</b>	USA	<b>Zipcode:</b>	20036-2413
<b>Attention:</b>	Attorney	<b>Relationship:</b>	Legal Counsel

CLASSIFICATION OF FILING

17. Choose the button next to the classification that applies to this filing for both questions a. and b. Choose only one for 17a and only one for 17b.

- a1. Earth Station
- a2. Space Station

- (N/A) b1. Application for License of New Station
- (N/A) b2. Application for Registration of New Domestic Receive-Only Station
- (N/A) b3. Amendment to a Pending Application
- (N/A) b4. Modification of License or Registration
- b5. Assignment of License or Registration
- b6. Transfer of Control of License or Registration
- (N/A) b7. Notification of Minor Modification
- (N/A) b8. Application for License of New Receive-Only Station Using Non-U.S. Licensed Satellite
- (N/A) b9. Letter of Intent to Use Non-U.S. Licensed Satellite to Provide Service in the United States
- (N/A) b10. Other (Please specify)

<p>17c. Is a fee submitted with this application?</p> <p><input checked="" type="radio"/> If Yes, complete and attach FCC Form 159. If No, indicate reason for fee exemption (see 47 C.F.R. Section 1.1114).</p> <p><input type="radio"/> Governmental Entity    <input type="radio"/> Noncommercial educational licensee</p> <p><input type="radio"/> Other (please explain):</p>	
<p>17d.</p> <p>Fee Classification BFY – Space Station Modification (Geostationary)</p>	
<p>18. If this filing is in reference to an existing station, enter:</p> <p>(a) Call sign of station: S2385</p>	<p>19. If this filing is an amendment to a pending application enter both fields, if this filing is a modification please enter only the file number:</p> <p>(a) Date pending application was filed:</p> <p>(b) File number: SATMOD2005021500039</p>

TYPE OF SERVICE

20. NATURE OF SERVICE: This filing is for an authorization to provide or use the following type(s) of service(s): Select all that apply:	
<input checked="" type="checkbox"/> a. Fixed Satellite <input type="checkbox"/> b. Mobile Satellite <input type="checkbox"/> c. Radiodetermination Satellite <input type="checkbox"/> d. Earth Exploration Satellite <input type="checkbox"/> e. Direct to Home Fixed Satellite <input type="checkbox"/> f. Digital Audio Radio Service <input type="checkbox"/> g. Other (please specify)	
21. STATUS: Choose the button next to the applicable status. Choose only one. <input type="radio"/> Common Carrier <input checked="" type="radio"/> Non-Common Carrier	22. If earth station applicant, check all that apply. <input type="checkbox"/> Using U.S. licensed satellites <input type="checkbox"/> Using Non-U.S. licensed satellites
23. If applicant is providing INTERNATIONAL COMMON CARRIER service, see instructions regarding Sec. 214 filings. Choose one. Are these facilities: <input type="radio"/> Connected to a Public Switched Network <input type="radio"/> Not connected to a Public Switched Network <input checked="" type="radio"/> N/A	
24. FREQUENCY BAND(S): Place an 'X' in the box(es) next to all applicable frequency band(s). <input checked="" type="checkbox"/> a. C-Band (4/6 GHz) <input type="checkbox"/> b. Ku-Band (12/14 GHz) <input type="checkbox"/> c. Other (Please specify upper and lower frequencies in MHz.) Frequency Lower:    Frequency Upper: (Please specify additional frequencies in an attachment)	

TYPE OF STATION

25. CLASS OF STATION: Choose the button next to the class of station that applies. Choose only one.

- a. Fixed Earth Station
- b. Temporary-Fixed Earth Station
- c. 12/14 GHz VSAT Network
- d. Mobile Earth Station
- e. Geostationary Space Station
- f. Non-Geostationary Space Station
- g. Other (please specify)

26. TYPE OF EARTH STATION FACILITY:

- Transmit/Receive    Transmit-Only    Receive-Only    N/A

"For Space Station applications, select N/A."

PURPOSE OF MODIFICATION

27. The purpose of this proposed modification is to: (Place an 'X' in the box(es) next to all that apply.)

- a — authorization to add new emission designator and related service
- b — authorization to change emission designator and related service
- c — authorization to increase EIRP and EIRP density
- d — authorization to replace antenna
- e — authorization to add antenna
- f — authorization to relocate fixed station
- g — authorization to change frequency(ies)
- h — authorization to add frequency
- i — authorization to add Points of Communication (satellites & countries)
- j — authorization to change Points of Communication (satellites & countries)
- k — authorization for facilities for which environmental assessment and radiation hazard reporting is required
- l — authorization to change orbit location
- m — authorization to perform fleet management
- n — authorization to extend milestones
- o — Other (Please specify)

ENVIRONMENTAL POLICY

28. Would a Commission grant of any proposal in this application or amendment have a significant environmental impact as defined by 47 CFR 1.1307? If YES, submit the statement as required by Sections 1.1308 and 1.1311 of the Commission's rules, 47 C.F.R. 1.1308 and 1.1311, as an exhibit to this application. A Radiation Hazard Study must accompany all applications for new transmitting facilities, major modifications, or major amendments.  Yes  No

ALIEN OWNERSHIP Earth station applicants not proposing to provide broadcast, common carrier, aeronautical en route or aeronautical fixed radio station services are not required to respond to Items 30-34.

29. Is the applicant a foreign government or the representative of any foreign government?  Yes  No

30. Is the applicant an alien or the representative of an alien?  Yes  No  N/A

31. Is the applicant a corporation organized under the laws of any foreign government?  Yes  No  N/A

32. Is the applicant a corporation of which more than one-fifth of the capital stock is owned of record or voted by aliens or their representatives or by a foreign government or representative thereof or by any corporation organized under the laws of a foreign country?  Yes  No  N/A

33. Is the applicant a corporation directly or indirectly controlled by any other corporation of which more than one-fourth of the capital stock is owned of record or voted by aliens, their representatives, or by a foreign government or representative thereof or by any corporation organized under the laws of a foreign country?

Yes  No  N/A

34. If any answer to questions 29, 30, 31, 32 and/or 33 is Yes, attach as an exhibit an identification of the aliens or foreign entities, their nationality, their relationship to the applicant, and the percentage of stock they own or vote.

Ques 34

#### BASIC QUALIFICATIONS

35. Does the Applicant request any waivers or exemptions from any of the Commission's Rules?  
If Yes, attach as an exhibit, copies of the requests for waivers or exceptions with supporting documents.

Yes  No

36. Has the applicant or any party to this application or amendment had any FCC station authorization or license revoked or had any application for an initial, modification or renewal of FCC station authorization, license, or construction permit denied by the Commission? If Yes, attach as an exhibit, an explanation of circumstances.

Yes  No

Ques 36



37. Has the applicant, or any party to this application or amendment, or any party directly or indirectly controlling the applicant ever been convicted of a felony by any state or federal court? If Yes, attach as an exhibit, an explanation of circumstances.

Yes  No

38. Has any court finally adjudged the applicant, or any person directly or indirectly controlling the applicant, guilty of unlawfully monopolizing or attempting unlawfully to monopolize radio communication, directly or indirectly, through control of manufacture or sale of radio apparatus, exclusive traffic arrangement or any other means or unfair methods of competition? If Yes, attach as an exhibit, an explanation of circumstances

Yes  No

39. Is the applicant, or any person directly or indirectly controlling the applicant, currently a party in any pending matter referred to in the preceding two items? If yes, attach as an exhibit, an explanation of the circumstances.

Yes  No

40. If the applicant is a corporation and is applying for a space station license, attach as an exhibit the names, address, and citizenship of those stockholders owning a record and/or voting 10 percent or more of the Filer's voting stock and the percentages so held. In the case of fiduciary control, indicate the beneficiary(ies) or class of beneficiaries. Also list the names and addresses of the officers and directors of the Filer.

41. By checking Yes, the undersigned certifies, that neither applicant nor any other party to the application is subject to a denial of Federal benefits that includes FCC benefits pursuant to Section 5301 of the Anti-Drug Act of 1988, 21 U.S.C. Section 862, because of a conviction for possession or distribution of a controlled substance. See 47 CFR 1.2002(b) for the meaning of "party to the application" for these purposes.

Yes  No

42a. Does the applicant intend to use a non-U.S. licensed satellite to provide service in the United States? If Yes, answer 42b and attach an exhibit providing the information specified in 47 C.F.R. 25.137, as appropriate. If No, proceed to question 43.

Yes  No

42b. What administration has licensed or is in the process of licensing the space station? If no license will be issued, what administration has coordinated or is in the process of coordinating the space station?

43. Description. (Summarize the nature of the application and the services to be provided). (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

PanAmSat seeks to modify its license to operate Galaxy 14 at 125.05 WL and to update technical information regarding those operations.

Engineering

CERTIFICATION

The Applicant waives any claim to the use of any particular frequency or of the electromagnetic spectrum as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise, and requests an authorization in accordance with this application. The applicant certifies that grant of this application would not cause the applicant to be in violation of the spectrum aggregation limit in 47 CFR Part 20. All statements made in exhibits are a material part hereof and are incorporated herein as if set out in full in this application. The undersigned, individually and for the applicant, hereby certifies that all statements made in this application and in all attached exhibits are true, complete and correct to the best of his or her knowledge and belief, and are made in good faith.

44. Applicant is a (an): (Choose the button next to applicable response.)

- Individual
- Unincorporated Association
- Partnership
- Corporation
- Governmental Entity
- Other (please specify)

45. Name of Person Signing  
Kalpak Gude

→

46. Title of Person Signing  
Associate General Counsel

WILLFUL FALSE STATEMENTS MADE ON THIS FORM ARE PUNISHABLE BY FINE AND / OR IMPRISONMENT  
(U.S. Code, Title 18, Section 1001), AND/OR REVOCATION OF ANY STATION AUTHORIZATION  
(U.S. Code, Title 47, Section 312(a)(1)), AND/OR FORFEITURE (U.S. Code, Title 47, Section 503).

**FCC NOTICE REQUIRED BY THE PAPERWORK REDUCTION ACT**

The public reporting for this collection of information is estimated to average 2 hours per response, including 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-PERM, 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 [jboley@fcc.gov](mailto:jboley@fcc.gov). PLEASE DO NOT SEND COMPLETED FORMS TO THIS ADDRESS.

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**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.**

### Engineering Statement

PanAmSat Licensee Corp. ("PanAmSat") proposes to operate its Galaxy 14 spacecraft from 125.05° WL. Galaxy 14 would utilize the 5925 – 6425 MHz and 3700 – 4200 MHz frequency bands to provide U.S coverage. PanAmSat also provides a correction of the command frequency for Galaxy 14. Specifically, the command frequency of the spacecraft is 6420.5 MHz rather than the previously specified value of 6424.5 MHz.

As a result of changes over time to PanAmSat's plans for operations in the vicinity of 125° W.L., there have been multiple modifications to the orbital location requested for Galaxy 14. In August 2003 PanAmSat requested authority to operate Galaxy 14 from 125° WL (See FCC File No.: SAT-AMD-20030827-00283). In December 2003, PanAmSat amended its request by specifying 125.05° WL instead of 125° WL (See FCC File No.: SAT-AMD-20031223-00365). In February 2004, the Commission granted (by grant stamp) PanAmSat's amended request to operate Galaxy 14 from 125.05° WL. In February 2005, PanAmSat requested authority to operate Galaxy 14 from 125.15° WL (See FCC File No.: SAT-MOD-20050215-00039), and the Commission granted PanAmSat's request in March 2005. With this filing, PanAmSat proposes to operate Galaxy 14 from the previously authorized orbital location of 125.05° WL.

To take the impact of this proposed change in orbital location into account; this engineering statement updates the following technical information that PanAmSat had previously submitted (for the 125.15° WL orbital location): (1) gain contours, (2) PFD levels and (3) link budget analysis.

#### Gain Contours

The coverage patterns for Galaxy 14 operating from the 125.05° WL orbital location that is proposed herein are the same as those previously submitted for the 125.15° WL orbital location. Changing the proposed orbital location from 125.15° WL to 125.05° WL will produce no visible change in the gain contours. Accordingly, no new beam gain contours are being submitted.

#### Power Flux Density Levels

The power flux density ("PFD") level at that the Earth's surface produced by Galaxy 14 operating from the proposed 125.05° WL orbital location will be the same as those corresponding to operation from 125.15° WL and are presented in Exhibit 1 for the sake of completeness.

### Link Budget and Interference Analysis

The operational co-frequency satellites nearest to the proposed 125.05° WL orbital location are Galaxy 10R, located at 123° WL, and Galaxy 13, located at 127° WL. Galaxy 10R and Galaxy 13 are licensed to PanAmSat. The operating parameters of Galaxy 10R and Galaxy 13 are specified in FCC File Nos. SAT-LOA-19990518-00054 and SAT-LOA-19991207-00118 (SAT-AMD-20030228-00020), respectively.

An earth station receiving transmissions from Galaxy 10R and having antenna off-axis gain characteristics that are in compliance with Section 25.209(a)(1) of the FCC Rules would have an off-axis gain of 20.7 dBi in the direction of Galaxy 14 operating from 125.15° WL. With Galaxy 14 operating from 125.05° WL, the off-axis gain of the receiving earth station would be 21.2 dBi. Hence there would be a resulting increase in the off-axis gain of the earth station antenna of 0.5 dB. Such a small increase in the off-axis gain will not change in any meaningful way the interference environment of Galaxy 10R receiving earth stations. Similarly, interference from Galaxy 10R transmissions into Galaxy 14 receive earth stations would be substantially unchanged (0.5 dB variation).

With respect to an earth station receiving transmissions from Galaxy 13, the off-axis antenna gain of the receiving antenna would be reduced from 22.3 dBi to 21.7 dBi – a decrease of 0.6 dB. Such a small decrease in the off-axis gain of the Galaxy 13 receive earth station will not change in any meaningful way the existing interference environment of Galaxy 13 receiving earth stations. Similarly, interference from Galaxy 13 transmissions into Galaxy 14 receiving earth stations would be substantially unchanged (0.6 dB variation).

Given that the proposed operation of Galaxy 14 would not result in any significant change to the existing interference environment as it pertains to Galaxy 14, Galaxy 10R and Galaxy 13, no link budget analysis is provided herein. In any case given that Galaxy 10R, Galaxy 13 and Galaxy 14 are all licensed to PanAmSat, in the unlikely event that Galaxy 14 operating from 125.05° were to adversely affect the transmissions from Galaxy 10R and/or Galaxy 13, PanAmSat would take appropriate actions to resolve the matter through internal coordination.

#### Command Frequency

On August 2003, PanAmSat filed an application to operate Galaxy 14 from 125° WL (see FCC File No.: SAT-AMD-20030827-00283). In that filing, the command frequency for Galaxy 14 was specified as 6424.5 MHz. PanAmSat informs the Commission, herein, of a correction to the command frequency of the spacecraft. Specifically, the command frequency of Galaxy 14 is 6420.5 MHz. The change in the command frequency of Galaxy 14 will not necessitate any additional changes to the information contained in the SAT-AMD-20030827-00283 filing.

#### Schedule S Submission

PanAmSat is providing herewith the Schedule S with its application. The Schedule S contains only those Galaxy 14 data items that have changed as a result of the proposed modification and data items whose inclusion was required in order for the software application to function properly. The Schedule S does not, however, contain link analysis for Galaxy 14 at the 125.05° WL orbital location, given that there would be no significant change in the Galaxy 14 links from this location as compared to those associated with 125.15° WL, for which link information has previously been provided. Additionally, no contour gain patterns have been included in the Schedule S since there is no significant difference in the coverage provided by Galaxy 14 from 125.05° WL when compared to 125.15° WL, for which coverage information has been previously provided.

**Certification Statement**

I hereby certify that I am a technically qualified person and am familiar with Part 25 of the Commission's Rules and Regulations. The contents of this engineering statement were prepared by me or under my direct supervision and to the best of my knowledge are complete and accurate.

/s/ Abdolmajid Khalilzadeh  
Abdolmajid Khalilzadeh  
PanAmSat Corporation  
Senior Manager, Asset Engineering

August 12, 2005  
Date



## EXHIBIT 1: POWER FLUX DENSITY CALCULATIONS

### Digital Carrier

Elevation Angle (degrees)	0	5	10	15	20	25	90
Assumed EIRP (dBW)	44.2	44.2	44.2	44.2	44.2	44.2	44.2
Spreading loss (dB/m <sup>2</sup> )	163.4	163.3	163.2	163.0	162.9	162.8	162.1
Maximum PFD (dB/m <sup>2</sup> /4kHz) (36 MHz Digital Carrier)	-158.7	-158.6	-158.5	-158.4	-158.3	-158.2	-157.4
PFD Limit (dB/m <sup>2</sup> /4kHz)	-152	-152	-149.5	-147	-144.5	-142	-142

### Analog TV Carrier

Elevation Angle (degrees)	0	5	10	15	20	25	90
Assumed EIRP (dBW)	41.3*	41.3*	43.1	43.1	43.1	43.1	43.1
Spreading loss (dB/m <sup>2</sup> )	163.4	163.3	163.2	163.0	162.9	162.8	162.1
Maximum PFD (dB/m <sup>2</sup> /4kHz) (36 MHz Analog TV   4MHz EDS)	-152.1	-152.0	-150.1	-149.9	-149.8	-149.7	-149.0
PFD Limit (dB/m <sup>2</sup> /4kHz)	-152	-152	-149.5	-147	-144.5	-142	-142

\* These are the maximum EIRP values at 0° and 5° for a beam-peak EIRP of 43.1 dBW. Therefore, for TV/FM carriers, the EIRP would have to be reduced by 1.1 dB from its maximum of 44.2 dBW.

### TT&C (OMNI)

Elevation Angle (degrees)	0	5	10	15	20	25	90
Assumed EIRP (dBW)	5.8	5.8	5.8	5.8	5.8	5.8	5.8
Spreading loss (dB/m <sup>2</sup> )	163.4	163.3	163.2	163.0	162.9	162.8	162.1
Maximum PFD (dB/m <sup>2</sup> /4kHz) (250 kHz Digital Carrier)	-175.5	-175.4	-175.3	-175.2	-175.1	-175.0	-174.2
PFD Limit (dB/m <sup>2</sup> /4kHz)	-152	-152	-149.5	-147	-144.5	-142	-142

### TT&C (WCA)

Elevation Angle (degrees)	0	5	10	15	20	25	90
Assumed EIRP (dBW)	4.8	4.8	4.8	4.8	4.8	4.8	4.8
Spreading loss (dB/m <sup>2</sup> )	163.4	163.3	163.2	163.0	162.9	162.8	162.1
Maximum PFD (dB/m <sup>2</sup> /4kHz) (250 kHz Digital Carrier)	-176.5	-176.4	-176.3	-176.2	-176.1	-176.0	-175.2
PFD Limit (dB/m <sup>2</sup> /4kHz)	-152	-152	-149.5	-147	-144.5	-142	-142

### TT&C (Reflector)

Elevation Angle (degrees)	0	5	10	15	20	25	90
Assumed EIRP (dBW)	20	20	20	20	20	20	20
Spreading loss (dB/m <sup>2</sup> )	163.4	163.3	163.2	163.0	162.9	162.8	162.1
Maximum PFD (dB/m <sup>2</sup> /4kHz) (250 kHz Digital Carrier)	-161.3	-161.2	-161.1	-161.0	-160.9	-160.8	-160.0
PFD Limit (dB/m <sup>2</sup> /4kHz)	-152	-152	-149.5	-147	-144.5	-142	-142

S1. GENERAL INFORMATION Complete for all satellite applications.

a. Space Station or Satellite Network Name: GALAXY 14		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): Years	j. Number of transponders offered on a common carrier basis:
c. Construction Completion Date:		g. Total Number of Transponders: 24	k. Total Common Carrier Transponder Bandwidth: 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 operate. 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

S3. ORBITAL INFORMATION FOR GEOSTATIONARY SATELLITES ONLY:

a. Nominal Orbital Longitude (Degrees E/W): 125.05 W		b. Alternate Orbital Longitude (Degrees E/W):		c. Reason for orbital location selection: PROVIDE C-BAND SERVICE TO UNITED STATES	
Longitudinal Tolerance or E/W Station-Keeping:		f. Inclination Excursion or N/S Station-Keeping Tolerance:		Range of orbital arc in which adequate service can be provided (Optional): Degrees EW	
d. Toward West:	0.05 Degrees	0.05 Degrees		g. Westernmost:	
e. Toward East:	0.05 Degrees			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 initial 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-ltr codes), satellites or Figure No. of Service Area Diagram.
1	S		UNITED STATES
2	S		GLOBAL





**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:

(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)
WCAC	1000	R	6420.5	R	T
OMNC	1000	R	6420.5	R	T
CVUP	1000	R	6420.5	V	T

S10. SPACE STATION TRANSPONDERS For each transponder provide:

(a) Transponder ID	(b) Transponder Gain (dB)	Receive Band		Transmit Band	
		(c) Channel No.	(d) Beam ID	(e) Channel No.	(f) Beam ID

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

Page 7: Digital Modulation

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)
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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): #Error

**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	#	NO	#	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	#	NO	#	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 type="checkbox"/>	YES	#	NO	#	N/A
<b>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.</b>						