

Date & Time Filed: Aug 4 2014 2:55:48:730PM  
File Number: SES-MFS-20140804-00632

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:  
WA28 Add Hub Antennas

1-8. Legal Name of Applicant			
<b>Name:</b>	Astrium Services Government, Inc.	<b>Phone Number:</b>	301-838-7807
<b>DBA Name:</b>		<b>Fax Number:</b>	301-838-7752
<b>Street:</b>	2600 Tower Oaks Boulevard	<b>E-Mail:</b>	rob.swanson@astrium.eads-na.com
<b>City:</b>	Rockville	<b>State:</b>	MD
<b>Country:</b>	USA	<b>Zipcode:</b>	20852 -
<b>Attention:</b>	Mr Robert W Swanson		

9-16. Name of Contact Representative

<b>Name:</b>	Astrium Services Government, Inc.	<b>Phone Number:</b>	301-838-7839
<b>Company:</b>		<b>Fax Number:</b>	301-838-7752
<b>Street:</b>	2600 Tower Oaks Boulevard	<b>E-Mail:</b>	james.lovelace@astrium.eads-na.com
<b>City:</b>	Rockville	<b>State:</b>	MD
<b>Country:</b>	USA	<b>Zipcode:</b>	20852-
<b>Attention:</b>	James G. Lovelace	<b>Relationship:</b>	Other

CLASSIFICATION OF FILING

<p>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.</p> <p><input checked="" type="radio"/> a1. Earth Station</p> <p><input type="radio"/> a2. Space Station</p>	<p>(N/A) b1. Application for License of New Station</p> <p>(N/A) b2. Application for Registration of New Domestic Receive-Only Station</p> <p><input type="radio"/> b3. Amendment to a Pending Application</p> <p><input checked="" type="radio"/> b4. Modification of License or Registration</p> <p>b5. Assignment of License or Registration</p> <p>b6. Transfer of Control of License or Registration</p> <p><input type="radio"/> b7. Notification of Minor Modification</p> <p>(N/A) b8. Application for License of New Receive-Only Station Using Non-U.S. Licensed Satellite</p> <p>(N/A) b9. Letter of Intent to Use Non-U.S. Licensed Satellite to Provide Service in the United States</p> <p>(N/A) b10. Other (Please specify)</p> <p>(N/A) b11. Application for Earth Station to Access a Non-U.S.satellite Not Currently Authorized to Provide the Proposed Service in the Proposed Frequencies in the United States</p> <p>(N/A) b12. Application for Database Entry</p> <p><input type="radio"/> b13. Amendment to a Pending Database Entry Application</p> <p><input type="radio"/> b14. Modification of Database Entry</p>
<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 CGX – Fixed Satellite Transmit/Receive Earth Station</p>	

<p>18. If this filing is in reference to an existing station, enter:</p> <p>(a) Call sign of station: WA28</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:                      (b) File number:  SESMFS2008103101433</p>
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**TYPE OF SERVICE**

<p>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:</p> <p><input checked="" type="checkbox"/> a. Fixed Satellite</p> <p><input checked="" type="checkbox"/> b. Mobile Satellite</p> <p><input type="checkbox"/> c. Radiodetermination Satellite</p> <p><input type="checkbox"/> d. Earth Exploration Satellite</p> <p><input type="checkbox"/> e. Direct to Home Fixed Satellite</p> <p><input type="checkbox"/> f. Digital Audio Radio Service</p> <p><input type="checkbox"/> g. Other (please specify)</p>	
<p>21. STATUS: Choose the button next to the applicable status. Choose only one.</p> <p><input checked="" type="radio"/> Common Carrier      <input type="radio"/> Non-Common Carrier</p>	<p>22. If earth station applicant, check all that apply.</p> <p><input checked="" type="checkbox"/> Using U.S. licensed satellites</p> <p><input checked="" type="checkbox"/> Using Non-U.S. licensed satellites</p>
<p>23. If applicant is providing INTERNATIONAL COMMON CARRIER service, see instructions regarding Sec. 214 filings. Choose one. Are these facilities:</p> <p><input checked="" type="radio"/> Connected to a Public Switched Network      <input type="radio"/> Not connected to a Public Switched Network      <input type="radio"/> N/A</p>	

24. FREQUENCY BAND(S): Place an 'X' in the box(es) next to all applicable frequency band(s).

a. C-Band (4/6 GHz)     b. Ku-Band (12/14 GHz)

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

<p>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.</p>	<p><input type="radio"/> Yes <input checked="" type="radio"/> No</p> <p>RadHaz Statement</p>
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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.

<p>29. Is the applicant a foreign government or the representative of any foreign government?</p>	<p><input type="radio"/> Yes <input checked="" type="radio"/> No</p>
<p>30. Is the applicant an alien or the representative of an alien?</p>	<p><input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> N/A</p>
<p>31. Is the applicant a corporation organized under the laws of any foreign government?</p>	<p><input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> N/A</p>
<p>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?</p>	<p><input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> N/A</p>

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.

Ownership Statement

#### 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



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? Satellites to be use on either ISAT or ALSAT Permitted lists.

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.)

Astrium Services Government, Inc. (ASGI) respectfully requests that authorizations for three C-Band and L-Band Hub Antennas which are currently authorized per ASGI's Southbury, CT Call Sign WB36 Teleport license be added to its WA28 license. The reason for this request is explained in the attached Question 43 Exhibit Narrative. No change of any kind

Narrative Exhibit

43a. Geographic Service Rule Certification

By selecting A, the undersigned certifies that the applicant is not subject to the geographic service or geographic coverage requirements specified in 47 C.F.R. Part 25.

A

By selecting B, the undersigned certifies that the applicant is subject to the geographic service or geographic coverage requirements specified in 47 C.F.R. Part 25 and will comply with such requirements.

B

By selecting C, the undersigned certifies that the applicant is subject to the geographic service or geographic coverage requirements specified in 47 C.F.R. Part 25 and will not comply with such requirements because it is not feasible as a technical matter to do so, or that, while technically feasible, such services would require so many compromises in satellite design and operation as to make it economically unreasonable. A narrative description and technical analysis demonstrating this claim are attached.

C

25.130(g) Compliance

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 James G. Lovelace	46. Title of Person Signing Contractor
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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).

SATELLITE EARTH STATION AUTHORIZATIONS  
 FCC Form 312 – Schedule B:(Technical and Operational Description)  
 FOR OFFICIAL USE ONLY

Location of Earth Station Site

E1. Site Identifier:	21CTTC	E5. Call Sign:	WA28
E2. Contact Name	Guy White	E6. Phone Number:	203-262-5010
E3. Street:	2120 River Road	E7. City:	Southbury
		E8. County:	New Haven
E4. State	CT	E9. Zip Code	06488
E10. Area of Operation:	Continental U.S.		
E11. Latitude:	41 °27 '4.1 "N		
E12. Longitude:	73 °17 '20.87 "		
E13. Lat/Lon Coordinates are:	<input type="radio"/> NAD-27	<input checked="" type="radio"/> NAD-83	<input type="radio"/> N/A
E14. Site Elevation (AMSL):	35.7 meters		

E15. If the proposed antenna(s) operate in the Fixed Satellite Service (FSS) with geostationary satellites, do(es) the proposed antenna(s) comply with the antenna gain patterns specified in Section 25.209(a) and (b) as demonstrated by the manufacturer's qualification measurement? If NO, provide as a technical analysis showing compliance with two-degree spacing policy.

Yes     No     N/A

E16. If the proposed antenna(s) do not operate in the Fixed Satellite Service (FSS), or if they operate in the Fixed Satellite Service (FSS) with non-geostationary satellites, do(es) the proposed antenna(s) comply with the antenna gain patterns specified in Section 25.209(a2) and (b) as demonstrated by the manufacturer's qualification measurements?	<input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> N/A
E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.	<input type="radio"/> Yes <input checked="" type="radio"/> No

E18. Is frequency coordination required? If YES, attach a frequency coordination report as	<input checked="" type="radio"/> Yes <input type="radio"/> No
E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as	<input type="radio"/> Yes <input checked="" type="radio"/> No
<p>E20. FAA Notification – (See 47 CFR Part 17 and 47 CFR part 25.113(c)) Where FAA notification is required, have you attached a copy of a completed FCC Form 854 and/or the FAA's study regarding the potential hazard of the structure to aviation?</p> <p><b>FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL RESULT IN THE RETURN OF THIS APPLICATION.</b></p>	<input type="radio"/> Yes <input checked="" type="radio"/> No

**POINTS OF COMMUNICATION**

Satellite Name: ALSAT   ALL AUTHORIZED U.S.   ALSAT    If you selected OTHER, please enter the following:	
E21. Common Name:	E22. ITU Name:
E23. Orbit Location:	E24. Country:

Satellite Name: INMARSAT 3F4   INMARSAT 3F4   54 W.L.    If you selected OTHER, please enter the following:
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E21. Common Name:	E22. ITU Name:
E23. Orbit Location:	E24. Country:

Satellite Name: INMARSAT 3F2   INMARSAT 3F2   15.5 W.L. If you selected OTHER, please enter the following:	
E21. Common Name:	E22. ITU Name:
E23. Orbit Location:	E24. Country:

Satellite Name: INMARSAT 4F3   INMARSAT 4F3   97.65 W.L. If you selected OTHER, please enter the following:	
E21. Common Name:	E22. ITU Name:
E23. Orbit Location:	E24. Country:

**POINTS OF COMMUNICATION (Destination Points)**

E25. Site Identifier:	
E26. Common Name:	E27. Country:

**ANTENNA**

Site ID	E28. Antenna Id	E29. Quantity	E30. Manufacturer	E31. Model	E32. Antenna Size<meters>	E41/42. Antenna Gain Transmint and/or Recieve (___dBi at ___GHz)	
21CTTC	21CTTC	0	Philco Ford	12.8M	12.8	0.0 dBi at	

E28. Antenna Id	E33/34. Diameter Minor/Major (meters)	E35. Above Ground Level (meters)	E36. Above Sea Level(meters)	E37. Building Height Above Ground Level (meters)	E38. Total Input Power at antenna flange (Watts)	E39. Maximum Antenna Height Above Rooftop (meters)	E40. Total EIRP for al carriers(dBW)

21CTTC	12.8/12.8	14.6	51.2	0.0	1125.0	0.0	86.5
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**FREQUENCY**

<b>E28. Antenna Id</b>	<b>E43/44. Frequency Bands (MHz)</b>		<b>E45. T/R Mode</b>	<b>E46. Antenna Polarization(H,V,L,R)</b>	<b>E47. Emission Designator</b>	<b>E48. Maximum EIRP per Carrier (dBW)</b>	<b>E49. Maximum ERIP Density per Carrier (dBW/4kHz)</b>
21CTTC	5925	6425	T	Left and Right Circular	36M0F8W	86.5	59.5

E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

ANALOG CARRIER TO MONITOR TRANSPONDER PERFORMANCE

**FREQUENCY COORDINATION**

<b>E28. Antenna Id</b>	<b>E51. Satellite Orbit Type</b>	<b>E52/53. Frequency Limits(MHz)</b>	<b>E54/55. Range of Satellite Arc Eastern/Western Limit</b>	<b>E56. Earth Station Azimuth Angle Eastern Limit</b>	<b>E57. Antenna Elevation Angle Eastern Limit</b>	<b>E58. Earth Station Azimuth Angle Western Limit</b>	<b>E59. Antenna Elevation Angle Western Limit</b>	<b>E60. Maximum EIRP Density toward the Horizon (dBW/4kHz)</b>
			/					

**REMOTE CONTROL POINT LOCATION**



E61. Call Sign  NOTE: Please enter the callsign of the controlling station, not the callsign for which this application is being filed.		E66. Phone Number	
E62. Street Address			
E63. City	E68. County	E67/68. State/Country /	E64. Zip Code

**SATELLITE EARTH STATION AUTHORIZATIONS**  
**FCC Form 312 – Schedule B:(Technical and Operational Description)**  
**FOR OFFICIAL USE ONLY**

Location of Earth Station Site			
E1. Site Identifier:	21CNORM	E5. Call Sign:	WA28
E2. Contact Name	Guy White	E6. Phone Number:	203-262-5010
E3. Street:	2120 River Road	E7. City:	Southbury
		E8. County:	New Haven
E4. State	CT	E9. Zip Code	06488
E10. Area of Operation:	Continental U.S.		
E11. Latitude:	41 °27 '4.1 "N		
E12. Longitude:	73 °17 '20.87 "W		
E13. Lat/Lon Coordinates are:	<input type="radio"/> NAD-27	<input checked="" type="radio"/> NAD-83	<input type="radio"/> N/A
E14. Site Elevation (AMSL):	35.7 meters		

E15. If the proposed antenna(s) operate in the Fixed Satellite Service (FSS) with geostationary satellites, do(es) the proposed antenna(s) comply with the antenna gain patterns specified in Section 25.209(a) and (b) as demonstrated by the manufacturer's qualification measurement? If NO, provide as a technical analysis showing compliance with two-degree spacing policy.	<input checked="" type="radio"/> Yes <input type="radio"/> No <input type="radio"/> N/A
E16. If the proposed antenna(s) do not operate in the Fixed Satellite Service (FSS), or if they operate in the Fixed Satellite Service (FSS) with non-geostationary satellites, do(es) the proposed antenna(s) comply with the antenna gain patterns specified in Section 25.209(a2) and (b) as demonstrated by the manufacturer's qualification measurements?	<input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> N/A

E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.	<input type="radio"/> Yes <input checked="" type="radio"/> No
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E18. Is frequency coordination required? If YES, attach a frequency coordination report as	<input checked="" type="radio"/> Yes <input type="radio"/> No
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E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as	<input type="radio"/> Yes <input checked="" type="radio"/> No
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<p>E20. FAA Notification – (See 47 CFR Part 17 and 47 CFR part 25.113(c)) Where FAA notification is required, have you attached a copy of a completed FCC Form 854 and/or the FAA’s study regarding the potential hazard of the structure to aviation?</p> <p>FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL RESULT IN THE RETURN OF THIS APPLICATION.</p>	<input type="radio"/> Yes <input checked="" type="radio"/> No
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**POINTS OF COMMUNICATION**

Satellite Name: ALSAT   ALL AUTHORIZED U.S.   ALSAT    If you selected OTHER, please enter the following:	
E21. Common Name:	E22. ITU Name:
E23. Orbit Location:	E24. Country:

Satellite Name: INMARSAT 3F4   INMARSAT 3F4   54 W.L.    If you selected OTHER, please enter the following:	
E21. Common Name:	E22. ITU Name:
E23. Orbit Location:	E24. Country:

Satellite Name: INMARSAT 3F2   INMARSAT 3F2   15.5 W.L.    If you selected OTHER, please enter the following:	
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E21. Common Name:	E22. ITU Name:
E23. Orbit Location:	E24. Country:

Satellite Name: INMARSAT 4F3   INMARSAT 4F3   97.65 W.L. If you selected OTHER, please enter the following:	
E21. Common Name:	E22. ITU Name:
E23. Orbit Location:	E24. Country:

**POINTS OF COMMUNICATION (Destination Points)**

E25. Site Identifier:	
E26. Common Name:	E27. Country:

**ANTENNA**

Site ID	E28. Antenna Id	E29. Quantity	E30. Manufacturer	E31. Model	E32. Antenna Size<meters>	E41/42. Antenna Gain Transmint and/or Recieve (___dBi at ___GHz)	
21CNORM	21CNORM	1	Philco Ford	12.8M	12.8	52.8 dBi at 3.6000	
21CNORM	21CNORM	1	Philco Ford	12.8M	12.8	56.0 dBi at 6.4250	

E28. Antenna Id	E33/34. Diameter Minor/Major (meters)	E35. Above Ground Level (meters)	E36. Above Sea Level(meters)	E37. Building Height Above Ground Level (meters)	E38. Total Input Power at antenna flange (Watts)	E39. Maximum Antenna Height Above Rooftop (meters)	E40. Total EIRP for al carriers(dBW)
21CNORM	12.8/12.8	14.6	51.2	0.0	790.0	0.0	85.0

FREQUENCY

E28. Antenna Id	E43/44. Frequency Bands (MHz)		E45. T/R Mode	E46. Antenna Polarization(H,V, L,R)	E47. Emission Designator	E48. Maximum EIRP per Carrier (dBW)	E49. Maximum ERIP Density per Carrier (dBW/4kHz)
21CNORM	3600	3629	R	Left and Right Circular	2K40G1D	0.0	0.0
<p>E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)</p> <div data-bbox="254 561 1856 735" style="border: 1px solid black; padding: 5px;"> <p>BPSK, DATA</p> </div>							
21CNORM	3600	3629	R	Left and Right Circular	2M20G1D	0.0	0.0
<p>E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)</p> <div data-bbox="254 951 1856 1125" style="border: 1px solid black; padding: 5px;"> <p>BPSK, DATA</p> </div>							
21CNORM	3600	3629	R	Left and Right Circular	100KG1X	0.0	0.0

E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

DIGITAL DATA

21CNORM	3600	3629	R	Left and Right Circular	10K0G1W	0.0	0.0
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

DIGITAL DATA

21CNORM	3600	3629	R	Left and Right Circular	17K5G1D	0.0	0.0
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

DIGITAL DATA

21CNORM	3600	3629	R	Left and Right Circular	20K0G1E	0.0	0.0
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

DIGITAL DATA

21CNORM	3600	3629	R	Left and Right Circular	20K0G1X	0.0	0.0
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

DIGITAL DATA

21CNORM	3600	3629	R	Left and Right Circular	2K50F1D	0.0	0.0
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

DIGITAL DATA

21CNORM	3600	3629	R	Left and Right Circular	2K50G1D	0.0	0.0
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

DIGITAL DATA

21CNORM	3600	3629	R	Left and Right Circular	45K0G7D	0.0	0.0
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

DIGITAL DATA

21CNORM	3600	3629	R	Left and Right Circular	5K00G1D	0.0	0.0
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

DIGITAL DATA

21CNORM	3600	3629	R	Left and Right Circular	5K00G1E	0.0	0.0
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

DIGITAL DATA

21CNORM	3600	3629	R	Left and Right Circular	5K00G1W	0.0	0.0
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

DIGITAL DATA

21CNORM	3600	3629	R	Left and Right Circular	60K0D1W	0.0	0.0
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

DIGITAL DATA

21CNORM	3600	3629	R	Left and Right Circular	7K50G1D	0.0	0.0
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

DIGITAL DATA

21CNORM	3600	3629	R	Left and Right Circular	7K50G1E	0.0	0.0
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

DIGITAL DATA

21CNORM	3600	3629	R	Left and Right Circular	7K50G1W	0.0	0.0
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

DIGITAL DATA

21CNORM	6425	6454	T	Left and Right Circular	100KG1X	60.8	46.8
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
DIGITAL DATA							
21CNORM	6425	6454	T	Left and Right Circular	10K0G1W	59.7	55.7
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
DIGITAL DATA							
21CNORM	6425	6454	T	Left and Right Circular	10K0G1X	61.2	57.2
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
DIGITAL DATA							
21CNORM	6425	6454	T	Left and Right Circular	17K5G1D	61.4	55.0

E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
DIGITAL DATA							
21CNORM	6425	6454	T	Left and Right Circular	20K0G1E	56.8	49.8
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
DIGITAL DATA							
21CNORM	6425	6454	T	Left and Right Circular	2K50F1D	58.8	58.8
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
DIGITAL DATA							
21CNORM	6425	6454	T	Left and Right Circular	2K50G1D	65.7	65.7

E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

DIGITAL DATA

21CNORM	6425	6454	T	Left and Right Circular	45K0G7D	66.0	55.5
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

DIGITAL DATA

21CNORM	6425	6454	T	Left and Right Circular	5K00G1D	61.8	60.8
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

DIGITAL DATA

21CNORM	6425	6454	T	Left and Right Circular	5K00G1E	51.9	50.9
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
DIGITAL DATA							
21CNORM	6425	6454	T	Left and Right Circular	5K00G1W	51.9	50.9
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
DIGITAL DATA							
21CNORM	6425	6454	T	Left and Right Circular	60K0D1W	65.9	54.1
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
DIGITAL DATA							
21CNORM	6425	6454	T	Left and Right Circular	7K50G1D	59.1	56.4

E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
DIGITAL DATA							
21CNORM	6425	6454	T	Left and Right Circular	7K50G1E	62.2	59.5
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
DIGITAL DATA							
21CNORM	6425	6454	T	Left and Right Circular	7K50G1W	58.4	55.7
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
DIGITAL DATA							
21CNORM	3600	3629	R	Left and Right Circular	132KG7D	0.0	0.0

E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
BPSK, DATA/TDM							
21CNORM	3600	3629	R	Left and Right Circular	24K0G1W	0.0	0.0
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
QPSK, DATA/FAX							
21CNORM	3600	3629	R	Left and Right Circular	2K40G7D	0.0	0.0
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
BPSK, DATA/TDM							
21CNORM	3600	3629	R	Left and Right Circular	5K60G1W	0.0	0.0



E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
QPSK, DATA/FAX							
21CNORM	6424	6454	T	Left and Right Circular	132KG7D	62.0	46.8
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
BPSK, DATA/TDM							
21CNORM	6424	6454	T	Left and Right Circular	24K0G1W	61.1	53.3
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
QPSK, DATA/FAX							
21CNORM	6424	6454	T	Left and Right Circular	2K40G1D	51.1	51.1

E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
BPSK, DATA/TDM							
21CNORM	6424	6454	T	Left and Right Circular	2K40G7D	51.1	51.1
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
BPSK, DATA/TDM							
21CNORM	6424	6454	T	Left and Right Circular	2M20G1D	62.0	34.6
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
BPSK, DATA/TDM							
21CNORM	6424	6454	T	Left and Right Circular	5K60G1W	54.8	53.3

E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
QPSK, DATA/FAX							
21CNORM	3600	3629	R	Left and Right Circular	24K0G1E	0.0	0.0
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
QPSK, TELEPHONY							
21CNORM	3600	3629	R	Left and Right Circular	5K60G1E	0.0	0.0
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
QPSK, TELEPHONY							
21CNORM	6424	6454	T	Left and Right Circular	24K0G1E	61.1	53.3

E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
QPSK, TELEPHONY							
21CNORM	6424	6454	T	Left and Right Circular	5K60G1E	54.8	53.3
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
QPSK, TELEPHONY							
21CNORM	5927	5927	T	Left and Right Circular	NON	53.3	53.3
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
TT&C RANGING CARRIER							
21CNORM	6424	6454	T	Left and Right Circular	40K0G1W	63.3	53.3

E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
16QAM DIGITAL TELEPHONY							
21CNORM	3600	3629	R	Left and Right Circular	400KG1F	0.0	0.0
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
QPSK, DIGITAL VIDEO/DATA							
21CNORM	3600	3629	R	Left and Right Circular	40K0G1W	0.0	0.0
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
16QAM, DIGITAL TELEPHONY							
21CNORM	6424	6454	T	Left and Right Circular	400KG1F	62.0	42.0

E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

QPSK, DIGITAL VIDEO/DATA

21CNORM	6424	6454	T	Left and Right Circular	27K0F3W	62.0	59.2
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

FM9 ANALOG BROADCAST CARRIER

21CNORM	3600	3629	R	Left and Right Circular	NON	0.0	0.0
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

UNMODULATED AFC PILOT (CLOSE LOOP)

21CNORM	6424	6454	T	Left and Right Circular	NON	62.0	62.0
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

UNMODULATED AFC PILOT (CLOSE LOOP)

21CNORM	3947	3953	R	Left and Right Circular	131KG2D	0.0	0.0
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

PCM/PSK/BI-PHASE TRACKING BEACON

21CNORM	3600	3629	R	Left and Right Circular	34K0F3E	0.0	0.0
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

FM TELEPHONY COMPANDED AND UNCOMPANDED

21CNORM	6424	6454	T	Left and Right Circular	34K0F3E	62.0	58.2
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

FM TELEPHONY COMPANDED AND UNCOMPANDED

21CNORM	6454.4 6456.6	T	Left and Right Circular	2M20G1D	80.7	53.3
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

BPSK SPREAD SPECTRUM DATA (NAVIGATION)

21CNORM	3600      3629	R	Left and Right Circular	2M20G1D	0.0	0.0
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

BPSK SPREAD SPECTRUM DATA - NAVIGATION CLOSE LOOP

21CNORM	3700      4200	R	Left and Right Circular	36M0F8W	0.0	0.0
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

TEST ANALOG CARRIER TO MONITOR TRANSPONDER PERFORMANCE

**FREQUENCY COORDINATION**

<b>E28. Antenna Id</b>	<b>E51. Satellite Orbit Type</b>	<b>E52/53. Frequency Limits(MHz)</b>	<b>E54/55. Range of Satellite Arc Eastern/Western Limit</b>	<b>E56. Earth Station Azimuth Angle Eastern Limit</b>	<b>E57. Antenna Elevation Angle Eastern Limit</b>	<b>E58. Earth Station Azimuth Angle Western Limit</b>	<b>E59. Antenna Elevation Angle Western Limit</b>	<b>E60. Maximum EIRP Density toward the Horizon (dBW/4kHz)</b>
21CNORM	Geostationary	3600 3629	2.0/144.0	102.6	5.2	257.0	5.7	0.0
	Geostationary	3947 3953	2.0/144.0	102.6	5.2	257.0	5.7	0.0
	Geostationary	5925 6425	2.0/144.0	102.6	5.2	257.0	5.7	31.64
	Geostationary	5927 5927	2.0/144.0	102.6	5.2	257.0	5.7	57.14
	Geostationary	6424 6454	2.0/144.0	102.6	5.2	257.0	5.7	30.5
	Geostationary	6454 6456	2.0/144.0	102.6	5.2	257.0	5.7	25.44
	Geostationary	3700 4200.0	2.0/144.0	102.6	5.2	257.0	5.7	0.0

REMOTE CONTROL POINT LOCATION

E61. Call Sign  NOTE: Please enter the callsign of the controlling station, not the callsign for which this application is being filed.		E66. Phone Number	
E62. Street Address			
E63. City	E68. County	E67/68. State/Country /	E64. Zip Code

SATELLITE EARTH STATION AUTHORIZATIONS  
 FCC Form 312 – Schedule B:(Technical and Operational Description)  
 FOR OFFICIAL USE ONLY

Location of Earth Station Site			
E1. Site Identifier:	21LBAND	E5. Call Sign:	WA28
E2. Contact Name	Guy White	E6. Phone Number:	203-262-5010
E3. Street:	2120 River Road	E7. City:	Southbury
		E8. County:	New Haven
E4. State	CT	E9. Zip Code	06488
E10. Area of Operation:	Continental U.S.		
E11. Latitude:	41 °27 '4.1 "N		
E12. Longitude:	73 °17 '20.87 "		
E13. Lat/Lon Coordinates are:	<input type="radio"/> NAD-27	<input checked="" type="radio"/> NAD-83	<input type="radio"/> N/A
E14. Site Elevation (AMSL):	35.7 meters		

E15. If the proposed antenna(s) operate in the Fixed Satellite Service (FSS) with geostationary satellites, do(es) the proposed antenna(s) comply with the antenna gain patterns specified in Section 25.209(a) and (b) as demonstrated by the manufacturer's qualification measurement? If NO, provide as a technical analysis showing compliance with two-degree spacing policy.	<input checked="" type="radio"/> Yes <input type="radio"/> No <input type="radio"/> N/A
E16. If the proposed antenna(s) do not operate in the Fixed Satellite Service (FSS), or if they operate in the Fixed Satellite Service (FSS) with non-geostationary satellites, do(es) the proposed antenna(s) comply with the antenna gain patterns specified in Section 25.209(a2) and (b) as demonstrated by the manufacturer's qualification measurements?	<input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> N/A

E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.	<input type="radio"/> Yes <input checked="" type="radio"/> No
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E18. Is frequency coordination required? If YES, attach a frequency coordination report as	<input type="radio"/> Yes <input checked="" type="radio"/> No
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E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as	<input type="radio"/> Yes <input checked="" type="radio"/> No
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<p>E20. FAA Notification – (See 47 CFR Part 17 and 47 CFR part 25.113(c)) Where FAA notification is required, have you attached a copy of a completed FCC Form 854 and/or the FAA’s study regarding the potential hazard of the structure to aviation?</p> <p>FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL RESULT IN THE RETURN OF THIS APPLICATION.</p>	<input type="radio"/> Yes <input checked="" type="radio"/> No
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**POINTS OF COMMUNICATION**

Satellite Name: ISAT List   ISAT List   If you selected OTHER, please enter the following:	
E21. Common Name:	E22. ITU Name:
E23. Orbit Location:	E24. Country:

**POINTS OF COMMUNICATION (Destination Points)**

E25. Site Identifier:	
E26. Common Name:	E27. Country:

**ANTENNA**

Site ID	E28. Antenna Id	E29. Quantity	E30. Manufacturer	E31. Model	E32. Antenna Size<meters>	E41/42. Antenna Gain Transmint and/or Recieve (____ dBi at _____ GHz)	
21LBAND	21LBAND	0	Philco Ford	12.8M	12.8	36.9 dBi at 1.5	
21LBAND	21LBAND	0	Philco Ford	12.8M	12.8	41.0 dBi at 1.64	

E28. Antenna Id	E33/34. Diameter Minor/Major (meters)	E35. Above Ground Level (meters)	E36. Above Sea Level(meters)	E37. Building Height Above Ground Level (meters)	E38. Total Input Power at antenna flange (Watts)	E39. Maximum Antenna Height Above Rooftop (meters)	E40. Total EIRP for al carriers(dBW)
21LBAND	12.8/12.8	14.6	51.2	0.0	25.0	0.0	55.0

FREQUENCY

E28. Antenna Id	E43/44. Frequency Bands (MHz)	E45. T/R Mode	E46. Antenna Polarization(H,V, L,R)	E47. Emission Designator	E48. Maximum EIRP per Carrier (dBW)	E49. Maximum ERIP Density per Carrier (dBW/4kHz)
21LBAND	1525 1559	R	Left and Right Circular	2K40G1D	0.0	0.0

E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
TEST BPSK, DATA							
21LBAND	1525	1559	R	Left and Right Circular	2M20G1D	0.0	0.0
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
TEST BPSK, DATA							
21LBAND	1525	1559	R	Left and Right Circular	132KG7D	0.0	0.0
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
TEST BPSK, DATA/TDM							
21LBAND	1525	1559	R	Left and Right Circular	2K40G1W	0.0	0.0

E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
TEST QPSK , DATA/FAX							
21LBAND	1525	1559	R	Left and Right Circular	2K40G7D	0.0	0.0
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
TEST BPSK , DATA/TDM							
21LBAND	1525	1559	R	Left and Right Circular	5K60G1W	0.0	0.0
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
TEST QPSK , DATA/FAX							
21LBAND	1626.5 1660.5		T	Left and Right Circular	2K40G1D	36.0	36.0

E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
TEST BPSK , DATA							
21LBAND	1626.5 1660.5		T	Left and Right Circular	2M20G1D	36.0	8.6
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
TEST BPSK , DATA							
21LBAND	1525	1559	R	Left and Right Circular	24K0G1E	0.0	0.0
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
TEST QPSK , TELEPHONY							
21LBAND	1525	1559	R	Left and Right Circular	5K60G1E	0.0	0.0



E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)						
TEST QPSK , TELEPHONY						
21LBAND	1626.5 1660.5	T	Left and Right Circular	132KG7D	36.0	20.8
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)						
TEST BPSK , DATA/TDM						
21LBAND	1626.5 1660.5	T	Left and Right Circular	2K40G1W	36.0	36.0
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)						
TEST QPSK , DATA/FAX						
21LBAND	1626.5 1660.5	T	Left and Right Circular	5K60G1W	36.0	34.5

E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)						
TEST QPSK , DATA/FAX						
21LBAND	1626.5 1660.5	T	Left and Right Circular	24K0G1E	36.0	28.2
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)						
TEST QPSK , TELEPHONY						
21LBAND	1626.5 1660.5	T	Left and Right Circular	2K40G7D-	36.0	36.0
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)						
TEST BPSK , DATA/TDM						
21LBAND	1626.5 1660.5	T	Left and Right Circular	5K60G1E	36.0	34.5

E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

TEST QPSK, TELEPHONY

21LBAND	1525	1559	R	Left and Right Circular	400KG1F	0.0	0.0
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

TEST QPSK DIGITAL VIDEO/DATA

21LBAND	1525	1559	R	Left and Right Circular	40K0G1W	0.0	0.0
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

TEST 16QAM DIGITAL TELEPHONY

21LBAND	1525	1559	R	Left and Right Circular	NON	0.0	0.0
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

UNMODULATED AFC PILOT (CLOSE LOOP)

21LBAND	1626.5 1660.5	T	Left and Right Circular	400KG1F	36.0	16.0
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

TEST QPSK DIGITAL VIDEO/DATA

21LBAND	1626.5 1660.5	T	Left and Right Circular	40K0G1W	48.2	38.2
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

TEST 16QAM DIGITAL TELEPHONY

21LBAND	1626.5 1660.5	T	Left and Right Circular	NON	40.5	40.5
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

UNMODULATED AFC PILOT (CLOSE LOOP)

21LBAND	1525	1559	R	Left and Right Circular	2M20G1D	0.0	0.0
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

TEST BPSK SPREAD SPECTRUM DATA - CLOSE LOOP

21LBAND	1525	1559	R	Left and Right Circular	34K0F3E	0.0	0.0
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

TEST FM, TELEPHONY COMPANDED OR UNCOMPANDED

21LBAND	1574.4 1576.6		R	Left and Right Circular	2M20G1D	0.0	0.0
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

TEST BPSK SPREAD SPECTRUM DATA - CLOSE LOOP

21LBAND	1626.5 1660.5	T	Left and Right Circular	34K0F3E	36.0	32.2
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

TEST FM, TELEPHONY COMPANDED OR UNCOMPANDED

**FREQUENCY COORDINATION**

<b>E28. Antenna Id</b>	<b>E51. Satellite Orbit Type</b>	<b>E52/53. Frequency Limits(MHz)</b>	<b>E54/55. Range of Satellite Arc Eastern/West ern Limit</b>	<b>E56. Earth Station Azimuth Angle Eastern Limit</b>	<b>E57. Antenna Elevation Angle Eastern Limit</b>	<b>E58. Earth Station Azimuth Angle Western Limit</b>	<b>E59. Antenna Elevation Angle Western Limit</b>	<b>E60. Maximum EIRP Density toward the Horizon (dBW/4kHz)</b>
21LBAND	Geostationary	1525 1559	2.0/144.0	102.6	5.2	257.0	5.7	0.0
	Geostationary	1574.4 1576.6	2.0/144.0	102.6	5.2	257.0	5.7	0.0

	Geostationary	1626.5 1660.5	2.0/144.0	102.6	5.2	257.0	5.7	27.64
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**REMOTE CONTROL POINT LOCATION**

E61. Call Sign  NOTE: Please enter the callsign of the controlling station, not the callsign for which this application is being filed.		E66. Phone Number	
E62. Street Address			
E63. City	E68. County	E67/68. State/Country /	E64. Zip Code

**SATELLITE EARTH STATION AUTHORIZATIONS**  
**FCC Form 312 – Schedule B:(Technical and Operational Description)**  
**FOR OFFICIAL USE ONLY**

Location of Earth Station Site			
E1. Site Identifier:	23ACTTC	E5. Call Sign:	WA28
E2. Contact Name	Guy White	E6. Phone Number:	2
E3. Street:	2120 River Road	E7. City:	Southbury
		E8. County:	New Haven
E4. State	CT	E9. Zip Code	06488
E10. Area of Operation:	Continental U.S.		
E11. Latitude:	41 °27 '4.54 "N		
E12. Longitude:	73 °17 '21.54 "W		
E13. Lat/Lon Coordinates are:	<input type="radio"/> NAD-27	<input checked="" type="radio"/> NAD-83	<input type="radio"/> N/A
E14. Site Elevation (AMSL):	35.7 meters		

E15. If the proposed antenna(s) operate in the Fixed Satellite Service (FSS) with geostationary satellites, do(es) the proposed antenna(s) comply with the antenna gain patterns specified in Section 25.209(a) and (b) as demonstrated by the manufacturer's qualification measurement? If NO, provide as a technical analysis showing compliance with two-degree spacing policy.	<input checked="" type="radio"/> Yes <input type="radio"/> No <input type="radio"/> N/A
E16. If the proposed antenna(s) do not operate in the Fixed Satellite Service (FSS), or if they operate in the Fixed Satellite Service (FSS) with non-geostationary satellites, do(es) the proposed antenna(s) comply with the antenna gain patterns specified in Section 25.209(a2) and (b) as demonstrated by the manufacturer's qualification measurements?	<input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> N/A



E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.	<input type="radio"/> Yes <input checked="" type="radio"/> No
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E18. Is frequency coordination required? If YES, attach a frequency coordination report as	<input checked="" type="radio"/> Yes <input type="radio"/> No
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E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as	<input type="radio"/> Yes <input checked="" type="radio"/> No
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<p>E20. FAA Notification – (See 47 CFR Part 17 and 47 CFR part 25.113(c)) Where FAA notification is required, have you attached a copy of a completed FCC Form 854 and/or the FAA’s study regarding the potential hazard of the structure to aviation?</p> <p><b>FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL RESULT IN THE RETURN OF THIS APPLICATION.</b></p>	<input type="radio"/> Yes <input checked="" type="radio"/> No
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**POINTS OF COMMUNICATION**

Satellite Name: INMARSAT 4F3   INMARSAT 4F3   97.65 W.L.    If you selected OTHER, please enter the following:	
E21. Common Name:	E22. ITU Name:
E23. Orbit Location:	E24. Country:

Satellite Name: ALSAT   ALL AUTHORIZED U.S.   ALSAT    If you selected OTHER, please enter the following:	
E21. Common Name:	E22. ITU Name:
E23. Orbit Location:	E24. Country:

Satellite Name: INMARSAT 3F4   INMARSAT 3F4   54 W.L.    If you selected OTHER, please enter the following:
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E21. Common Name:	E22. ITU Name:
E23. Orbit Location:	E24. Country:

Satellite Name: INMARSAT 3F2   INMARSAT 3F2   15.5 W.L. If you selected OTHER, please enter the following:	
E21. Common Name:	E22. ITU Name:
E23. Orbit Location:	E24. Country:

**POINTS OF COMMUNICATION (Destination Points)**

E25. Site Identifier:	
E26. Common Name:	E27. Country:

**ANTENNA**

Site ID	E28. Antenna Id	E29. Quantity	E30. Manufacturer	E31. Model	E32. Antenna Size<meters>	E41/42. Antenna Gain Transmint and/or Recieve (___dBi at ___GHz)	
23ACTTC	23ACTTC	0	Philco Ford	10.4M	10.4	0.0 dBi at	

E28. Antenna Id	E33/34. Diameter Minor/Major (meters)	E35. Above Ground Level (meters)	E36. Above Sea Level(meters)	E37. Building Height Above Ground Level (meters)	E38. Total Input Power at antenna flange (Watts)	E39. Maximum Antenna Height Above Rooftop (meters)	E40. Total EIRP for al carriers(dBW)
23ACTTC	10.4/10.4	11.0	46.7	0.0	2000.0	0.0	86.5

**FREQUENCY**

<b>E28. Antenna Id</b>	<b>E43/44. Frequency Bands (MHz)</b>	<b>E45. T/R Mode</b>	<b>E46. Antenna Polarization(H,V, L,R)</b>	<b>E47. Emission Designator</b>	<b>E48. Maximum EIRP per Carrier (dBW)</b>	<b>E49. Maximum EIRP Density per Carrier (dBW/4kHz)</b>
23ACTTC	5925 6425	T	Left and Right Circular	36M0F8W	86.5	59.5

E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

TEST ANALOG CARRIER TO MONITOR TRANSPONDER PERFORMANCE

#### FREQUENCY COORDINATION

<b>E28. Antenna Id</b>	<b>E51. Satellite Orbit Type</b>	<b>E52/53. Frequency Limits(MHz)</b>	<b>E54/55. Range of Satellite Arc Eastern/Western Limit</b>	<b>E56. Earth Station Azimuth Angle Eastern Limit</b>	<b>E57. Antenna Elevation Angle Eastern Limit</b>	<b>E58. Earth Station Azimuth Angle Western Limit</b>	<b>E59. Antenna Elevation Angle Western Limit</b>	<b>E60. Maximum EIRP Density toward the Horizon (dBW/4kHz)</b>
			/					

#### REMOTE CONTROL POINT LOCATION

<p>E61. Call Sign</p> <p>NOTE: Please enter the callsign of the controlling station, not the callsign for which this application is being filed.</p>	<p>E66. Phone Number</p>
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E62. Street Address			
E63. City	E68. County	E67/68. State/Country /	E64. Zip Code

**SATELLITE EARTH STATION AUTHORIZATIONS**  
 FCC Form 312 – Schedule B:(Technical and Operational Description)  
 FOR OFFICIAL USE ONLY

Location of Earth Station Site

E1: Site Identifier:	23ACNOR	E5. Call Sign:	WA28
E2: Contact Name	Guy White	E6. Phone Number:	203-262-5010
E3. Street:	2120 River Road	E7. City:	Southbury
		E8. County:	New Haven
E4. State	CT	E9. Zip Code	06488
E10. Area of Operation:	Continental U.S.		
E11. Latitude:	41 °27 '4.54 "N		
E12. Longitude:	73 °17 '21.54 "W		
E13. Lat/Lon Coordinates are:	<input type="radio"/> NAD-27	<input checked="" type="radio"/> NAD-83	<input type="radio"/> N/A
E14. Site Elevation (AMSL):	35.7 meters		

<p>E15. If the proposed antenna(s) operate in the Fixed Satellite Service (FSS) with geostationary satellites, do(es) the proposed antenna(s) comply with the antenna gain patterns specified in Section 25.209(a) and (b) as demonstrated by the manufacturer's qualification measurement? If NO, provide as a technical analysis showing compliance with two-degree spacing policy.</p>	<p><input checked="" type="radio"/> Yes   <input type="radio"/> No   <input type="radio"/> N/A</p>
<p>E16. If the proposed antenna(s) do not operate in the Fixed Satellite Service (FSS), or if they operate in the Fixed Satellite Service (FSS) with non-geostationary satellites, do(es) the proposed antenna(s) comply with the antenna gain patterns specified in Section 25.209(a2) and (b) as demonstrated by the manufacturer's qualification measurements?</p>	<p><input type="radio"/> Yes   <input type="radio"/> No   <input checked="" type="radio"/> N/A</p>
<p>E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.</p>	<p><input type="radio"/> Yes   <input checked="" type="radio"/> No</p>
<p>E18. Is frequency coordination required? If YES, attach a frequency coordination report as</p>	<p><input checked="" type="radio"/> Yes   <input type="radio"/> No</p>
<p>E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as</p>	<p><input type="radio"/> Yes   <input checked="" type="radio"/> No</p>
<p>E20. FAA Notification – (See 47 CFR Part 17 and 47 CFR part 25.113(c)) Where FAA notification is required, have you attached a copy of a completed FCC Form 854 and/or the FAA's study regarding the potential hazard of the structure to aviation?  <b>FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL RESULT IN THE RETURN OF THIS APPLICATION.</b></p>	<p><input type="radio"/> Yes   <input checked="" type="radio"/> No</p>

**POINTS OF COMMUNICATION**

<p>Satellite Name: ALSAT   ALL AUTHORIZED U.S.   ALSAT   If you selected OTHER, please enter the following:</p>
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E21. Common Name:	E22. ITU Name:
E23. Orbit Location:	E24. Country:

Satellite Name: INMARSAT 3F4   INMARSAT 3F4   54 W.L. If you selected OTHER, please enter the following:	
E21. Common Name:	E22. ITU Name:
E23. Orbit Location:	E24. Country:

Satellite Name: INMARSAT 4F3   INMARSAT 4F3   97.65 W.L. If you selected OTHER, please enter the following:	
E21. Common Name:	E22. ITU Name:
E23. Orbit Location:	E24. Country:

Satellite Name: INMARSAT 3F2   INMARSAT 3F2   15.5 W.L. If you selected OTHER, please enter the following:	
E21. Common Name:	E22. ITU Name:
E23. Orbit Location:	E24. Country:

**POINTS OF COMMUNICATION (Destination Points)**

E25. Site Identifier:	
E26. Common Name:	E27. Country:

**ANTENNA**

Site ID	E28. Antenna Id	E29. Quantity	E30. Manufacturer	E31. Model	E32. Antenna Size<meters>	E41/42. Antenna Gain Transmint and/or Recieve ( ___ dBi at ___ GHz)	

23ACNOR	23ACNOR	1	Philco Ford	10.4M	10.4	50.4 dBi at 3.6000	
23ACNOR	23ACNOR	1	Philco Ford	10.4M	10.4	53.5 dBi at 6.4250	

<b>E28. Antenna Id</b>	<b>E33/34. Diameter Minor/Major (meters)</b>	<b>E35. Above Ground Level (meters)</b>	<b>E36. Above Sea Level(meters)</b>	<b>E37. Building Height Above Ground Level (meters)</b>	<b>E38. Total Input Power at antenna flange (Watts)</b>	<b>E39. Maximum Antenna Height Above Rooftop (meters)</b>	<b>E40. Total EIRP for al carriers(dBW)</b>
23ACNOR	10.4/10.4	11.0	46.7	0.0	800.0	0.0	82.5

FREQUENCY

<b>E28. Antenna Id</b>	<b>E43/44. Frequency Bands (MHz)</b>		<b>E45. T/R&lt;br&gt;Mode</b>	<b>E46. Antenna Polarization(H,V, L,R)</b>	<b>E47. Emission Designator</b>	<b>E48. Maximum EIRP per Carrier (dBW)</b>	<b>E49. Maximum ERIP Density per Carrier (dBW/4kHz)</b>
23ACNOR	3600	3629	R	Left and Right Circular	2K40G1D	0.0	0.0

E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

BPSK, DATA

23ACNOR	3600	3629	R	Left and Right Circular	2M20G1D	0.0	0.0
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
BPSK, DATA							
23ACNOR	6424	6454	T	Left and Right Circular	2K40G1D	48.6	48.6
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
BPSK, DATA							
23ACNOR	6424	6454	T	Left and Right Circular	2M20G1D	71.7	44.3
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
BPSK, DATA							
23ACNOR	3600	3629	R	Left and Right Circular	100KG1X	0.0	0.0



E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

DIGITAL DATA

23ACNOR	3600	3629	R	Left and Right Circular	10K0G1W	0.0	0.0
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

DIGITAL DATA

23ACNOR	3600	3629	R	Left and Right Circular	17K5G1D	0.0	0.0
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

DIGITAL DATA

23ACNOR	3600	3629	R	Left and Right Circular	20K0G1E	0.0	0.0
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

DIGITAL DATA

23ACNOR	3600	3629	R	Left and Right Circular	20K0G1X	0.0	0.0
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

DIGITAL DATA

23ACNOR	3600	3629	R	Left and Right Circular	2K50F1D	0.0	0.0
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

DIGITAL DATA

23ACNOR	3600	3629	R	Left and Right Circular	2K50G1D	0.0	0.0
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

DIGITAL DATA

23ACNOR	3600	3629	R	Left and Right Circular	45K0G7D	0.0	0.0
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

DIGITAL DATA

23ACNOR	3600	3629	R	Left and Right Circular	5K00G1D	0.0	0.0
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

DIGITAL DATA

23ACNOR	3600	3629	R	Left and Right Circular	5K00G1E	0.0	0.0
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

DIGITAL DATA

23ACNOR	3600	3629	R	Left and Right Circular	5K00G1W	0.0	0.0
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

DIGITAL DATA

23ACNOR	3600	3629	R	Left and Right Circular	60K0D1W	0.0	0.0
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

DIGITAL DATA

23ACNOR	3600	3629	R	Left and Right Circular	7K50G1D	0.0	0.0
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

DIGITAL DATA

23ACNOR	3600	3629	R	Left and Right Circular	7K50G1E	0.0	0.0
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

DIGITAL DATA

23ACNOR	3600	3629	R	Left and Right Circular	7K50G1W	0.0	0.0
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

DIGITAL DATA

23ACNOR	6425	6454	T	Left and Right Circular	100KG1X	60.8	46.8
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

DIGITAL DATA

23ACNOR	6425	6454	T	Left and Right Circular	10K0G1W	59.7	55.7
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

DIGITAL DATA

23ACNOR	6425	6454	T	Left and Right Circular	10K0G1X	61.2	57.2
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

DIGITAL DATA

23ACNOR	6425	6454	T	Left and Right Circular	17K5G1D	61.4	55.0
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
DIGITAL DATA							
23ACNOR	6425	6454	T	Left and Right Circular	20K0G1E	56.8	49.8
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
DIGITAL DATA							
23ACNOR	6425	6454	T	Left and Right Circular	2K50F1D	58.8	58.8
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
DIGITAL DATA							
23ACNOR	6425	6454	T	Left and Right Circular	2K50G1D	65.7	65.7

E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

DIGITAL DATA

23ACNOR	6425	6454	T	Left and Right Circular	45K0G7D	66.0	55.5
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

DIGITAL DATA

23ACNOR	6425	6454	T	Left and Right Circular	5K00G1D	61.8	60.8
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

DIGITAL DATA

23ACNOR	6425	6454	T	Left and Right Circular	5K00G1E	51.9	50.9
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

DIGITAL DATA

23ACNOR	6425	6454	T	Left and Right Circular	5K00G1W	51.9	50.9
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

DIGITAL DATA

23ACNOR	6425	6454	T	Left and Right Circular	60K0D1W	65.9	54.1
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

DIGITAL DATA

23ACNOR	6425	6454	T	Left and Right Circular	7K50G1D	59.1	56.4
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

DIGITAL DATA

23ACNOR	6425	6454	T	Left and Right Circular	7K50G1E	62.2	59.5
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

DIGITAL DATA

23ACNOR	6425	6454	T	Left and Right Circular	7K50G1W	58.4	55.7
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

DIGITAL DATA

23ACNOR	3600	3629	R	Left and Right Circular	132KG7D	0.0	0.0
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
BPSK, DATA/TDM							
23ACNOR	3600	3629	R	Left and Right Circular	24K0G1W	0.0	0.0
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
QPSK, DATA/FAX							
23ACNOR	3600	3629	R	Left and Right Circular	2K40G7D	0.0	0.0
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
BPSK, DATA/TDM							
23ACNOR	3600	3629	R	Left and Right Circular	5K60G1W	0.0	0.0

E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
QPSK, DATA/FAX							
23ACNOR	6424	6454	T	Left and Right Circular	132KG7D	59.5	44.3
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
BPSK, DATA/TDM							
23ACNOR	6424	6454	T	Left and Right Circular	24K0G1W	58.6	50.8
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
QPSK, DATA/FAX							
23ACNOR	6424	6454	T	Left and Right Circular	2K40G7D	48.6	48.6

E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

BPSK, DATA/TDM

23ACNOR	6424	6454	T	Left and Right Circular	5K60G1W	52.3	50.8
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

QPSK, DATA/FAX

23ACNOR	3600	3629	R	Left and Right Circular	24K0G1E	0.0	0.0
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

QPSK, TELEPHONY

23ACNOR	3600	3629	R	Left and Right Circular	5K60G1E	0.0	0.0
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
QPSK, TELEPHONY							
23ACNOR	6424	6454	T	Left and Right Circular	24K0G1E	58.6	50.8
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
QPSK, TELEPHONY							
23ACNOR	6424	6454	T	Left and Right Circular	5K60G1E	53.2	50.8
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
QPSK, TELEPHONY							
23ACNOR	5927	5927	T	Left and Right Circular	NON	50.8	50.8

E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
TT&C RANGING CARRIER							
23ACNOR	3600	3629	R	Left and Right Circular	NON	0.0	0.0
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
UNMODULATED AFC PILOT							
23ACNOR	6424	6454	T	Left and Right Circular	NON	59.5	59.5
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
UNMODULATED AFC PILOT							
23ACNOR	3600	3629	R	Left and Right Circular	40K0G1W	0.0	0.0

E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
16QAM DIGITAL TELEPHONY							
23ACNOR	6424	6454	T	Left and Right Circular	40K0G1W	60.8	50.8
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
16QAM DIGITAL TELEPHONY							
23ACNOR	3600	3629	R	Left and Right Circular	400KG1F	0.0	0.0
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
QPSK, DIGITAL VIDEO/DATA							
23ACNOR	6424	6454	T	Left and Right Circular	400KG1F	59.5	39.5



E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
QPSK, DIGITAL VIDEO/DATA							
23ACNOR	6424	6454	T	Left and Right Circular	27K0F3W	59.5	56.7
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
FM9 ANALOG BROADCAST CARRIER							
23ACNOR	3947	3953	R	Left and Right Circular	131KG2D	0.0	0.0
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
PCM/PSK/BI-PHASE TRACKING BEACON							
23ACNOR	3600	3629	R	Left and Right Circular	2M20G1D	0.0	0.0

E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
BPSK SPREAD SPECTRUM DATA (NAVIGATION)							
23ACNOR	6424	6454	T	Left and Right Circular	34K0F3E	59.5	55.7
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
FM TELEPHONY COMPANDED AND UNCOMPANDED							
23ACNOR	3600	3629	R	Left and Right Circular	34K0F3E	0.0	0.0
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
FM TELEPHONY COMPANDED ANAD UNCOMPANDED							
23ACNOR	6454.4 6456.6		T	Left and Right Circular	2M20G1D	73.5	46.1

E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

BPSK SPREAD SPECTRUM DATA (NAVIGATION)

23ACNOR	3700 4200.0	R	Left and Right Circular	36M0F8W	0.0	0.0
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

TEST ANALOG CARRIER TO MONITOR TRANSPONDER PERFORMANCE

**FREQUENCY COORDINATION**

<b>E28. Antenna Id</b>	<b>E51. Satellite Orbit Type</b>	<b>E52/53. Frequency Limits(MHz)</b>	<b>E54/55. Range of Satellite Arc Eastern/West ern Limit</b>	<b>E56. Earth Station Azimuth Angle Eastern Limit</b>	<b>E57. Antenna Elevation Angle Eastern Limit</b>	<b>E58. Earth Station Azimuth Angle Western Limit</b>	<b>E59. Antenna Elevation Angle Western Limit</b>	<b>E60. Maximum EIRP Density toward the Horizon (dBW/4kHz)</b>
23ACNOR	Geostationary	5925 6425	2.0/144.0	102.6	5.2	257.0	5.7	41.16
	Geostationary	5927 5927	2.0/144.0	102.6	5.2	257.0	5.7	66.66

	Geostationary	6424 6454	2.0/144.0	102.6	5.3	257.0	5.7	27.1
	Geostationary	6454 6456	2.0/144.0	102.6	5.2	257.0	5.7	27.76

**REMOTE CONTROL POINT LOCATION**

E61. Call Sign  NOTE: Please enter the callsign of the controlling station, not the callsign for which this application is being filed.		E66. Phone Number	
E62. Street Address			
E63. City	E68. County	E67/68. State/Country /	E64. Zip Code

**SATELLITE EARTH STATION AUTHORIZATIONS**  
 FCC Form 312 – Schedule B:(Technical and Operational Description)  
**FOR OFFICIAL USE ONLY**

Location of Earth Station Site			
E1. Site Identifier:	23BLBAND	E5. Call Sign:	WA28
E2. Contact Name	Guy White	E6. Phone Number:	203-262-5010
E3. Street:	2120 River Road	E7. City:	Southbury
		E8. County:	New Haven
E4. State	CT	E9. Zip Code	06488
E10. Area of Operation:	Continental U.S.		
E11. Latitude:	41 °27 '4.54 "N		
E12. Longitude:	73 °17 '21.8 "		
E13. Lat/Lon Coordinates are:	<input type="radio"/> NAD-27	<input checked="" type="radio"/> NAD-83	<input type="radio"/> N/A
E14. Site Elevation (AMSL):	35.7 meters		

E15. If the proposed antenna(s) operate in the Fixed Satellite Service (FSS) with geostationary satellites, do(es) the proposed antenna(s) comply with the antenna gain patterns specified in Section 25.209(a) and (b) as demonstrated by the manufacturer's qualification measurement? If NO, provide as a technical analysis showing compliance with two-degree spacing policy.	<input checked="" type="radio"/> Yes <input type="radio"/> No <input type="radio"/> N/A
E16. If the proposed antenna(s) do not operate in the Fixed Satellite Service (FSS), or if they operate in the Fixed Satellite Service (FSS) with non-geostationary satellites, do(es) the proposed antenna(s) comply with the antenna gain patterns specified in Section 25.209(a2) and (b) as demonstrated by the manufacturer's qualification measurements?	<input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> N/A

E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.	<input type="radio"/> Yes <input checked="" type="radio"/> No
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E18. Is frequency coordination required? If YES, attach a frequency coordination report as Frequency Coordinat	<input type="radio"/> Yes <input checked="" type="radio"/> No
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E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as	<input type="radio"/> Yes <input checked="" type="radio"/> No
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<p>E20. FAA Notification – (See 47 CFR Part 17 and 47 CFR part 25.113(c)) Where FAA notification is required, have you attached a copy of a completed FCC Form 854 and/or the FAA’s study regarding the potential hazard of the structure to aviation?FAA Exhibit</p> <p>FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL RESULT IN THE RETURN OF THIS APPLICATION.</p>	<input type="radio"/> Yes <input checked="" type="radio"/> No
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**POINTS OF COMMUNICATION**

Satellite Name: ISAT List   ISAT List   If you selected OTHER, please enter the following:	
E21. Common Name:	E22. ITU Name:
E23. Orbit Location:	E24. Country:

**POINTS OF COMMUNICATION (Destination Points)**

E25. Site Identifier:	
E26. Common Name:	E27. Country:

**ANTENNA**

Site ID	E28. Antenna Id	E29. Quantity	E30. Manufacturer	E31. Model	E32. Antenna Size<meters>	E41/42. Antenna Gain Transmint and/or Recieve (____ dBi at _____ GHz)	
23BLBAND	23BLBAND	1	True Focus	1.8M	1.8	26.9 dBi at 1.5	
23BLBAND	23BLBAND	1	True Focus	1.8M	1.8	27.7 dBi at 1.64	

E28. Antenna Id	E33/34. Diameter Minor/Major (meters)	E35. Above Ground Level (meters)	E36. Above Sea Level(meters)	E37. Building Height Above Ground Level (meters)	E38. Total Input Power at antenna flange (Watts)	E39. Maximum Antenna Height Above Rooftop (meters)	E40. Total EIRP for al carriers(dBW)
23BLBAND	1.8/1.8	7.0	42.7	0.0	10.7	0.0	38.0

FREQUENCY

E28. Antenna Id	E43/44. Frequency Bands (MHz)	E45. T/R Mode	E46. Antenna Polarization(H,V, L,R)	E47. Emission Designator	E48. Maximum EIRP per Carrier (dBW)	E49. Maximum ERIP Density per Carrier (dBW/4kHz)
23BLBAND	1525 1559	R	Left and Right Circular	2K40G1D	0.0	0.0

E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
TEST BPSK , DATA							
23BLBAND	1525	1559	R	Left and Right Circular	2M20G1D	0.0	0.0
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
TEST BPSK , DATA							
23BLBAND	1525	1559	R	Left and Right Circular	NON	0.0	0.0
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
UNMODULATED AFC PILOT							
23BLBAND	1525	1559	R	Left and Right Circular	132KG7D	0.0	0.0



E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
TEST BPSK , DATA/TDM							
23BLBAND	1525	1559	R	Left and Right Circular	24K0G1W	0.0	0.0
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
TEST QPSK , DATA/FAX							
23BLBAND	1525	1559	R	Left and Right Circular	2K40G7D	0.0	0.0
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
TEST BPSK , DATA/TDM							
23BLBAND	1525	1559	R	Left and Right Circular	5K60G1W	0.0	0.0

E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
TEST QPSK , DATA/FAX							
23BLBAND	1525	1559	R	Left and Right Circular	24K0G1E	0.0	0.0
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
TEST QPSK , TELEPHONY							
23BLBAND	1525	1559	R	Left and Right Circular	5K60G1E	0.0	0.0
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
TEST QPSK , TELEPHONY							
23BLBAND	1525	1559	R	Left and Right Circular	40K0G1W	0.0	0.0

E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
TEST 16QAM DIGITAL TELEPHONY							
23BLBAND	1525	1559	R	Left and Right Circular	400KG1F	0.0	0.0
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
TEST QPSK , DIGITAL VIDEO/DATA							
23BLBAND	1626.5		T	Left and Right Circular	NON	27.2	27.2
	1660.5						
E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)							
UNMODULATED AFC PILOT (CLOSE LOOP)							
23BLBAND	1525	1559	R	Left and Right Circular	2M20G1D	0.0	0.0

E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

TEST BPSK SPREAD SPECTRUM DATA - CLOSE LOOP

23BLBAND	1525	1559	R	Left and Right Circular	34K0F3E	0.0	0.0
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

TEST FM TELEPHONY COMPANDED AND UNCOMPANDED

23BLBAND	1574.4 1576.6		R	Left and Right Circular	2M20G1D	0.0	0.0
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E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

TEST BPSK SPREAD SPECTRUM DATA - CLOSE LOOP

FREQUENCY COORDINATION

<b>E28. Antenna Id</b>	<b>E51. Satellite Orbit Type</b>	<b>E52/53. Frequency Limits(MHz)</b>	<b>E54/55. Range of Satellite Arc Eastern/Western Limit</b>	<b>E56. Earth Station Azimuth Angle Eastern Limit</b>	<b>E57. Antenna Elevation Angle Eastern Limit</b>	<b>E58. Earth Station Azimuth Angle Western Limit</b>	<b>E59. Antenna Elevation Angle Western Limit</b>	<b>E60. Maximum EIRP Density toward the Horizon (dBW/4kHz)</b>
23BLBAND	Geostationary	1525 1559	2.0/144.0	102.6	5.2	257.0	5.7	0.0
	Geostationary	1574.4 1576.6	2.0/144.0	102.6	5.2	257.0	5.7	0.0
	Geostationary	1626.5 1660.5	2.0/144.0	102.6	5.2	257.0	5.7	34.66

**REMOTE CONTROL POINT LOCATION**

E61. Call Sign  NOTE: Please enter the callsign of the controlling station, not the callsign for which this application is being filed.		E66. Phone Number	
E62. Street Address			
E63. City	E68. County	E67/68. State/Country /	E64. Zip Code

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**43. Description. (Summarize the nature of the application and the services to be provided).**

Astrium Services Government, Inc. (ASGI) respectfully requests that authorizations for three C-Band and L-Band Hub Antennas which are currently authorized per ASGI's Southbury, CT Call Sign WB36 Teleport license be added to its WA28 license. The reason for this request is explained in the attached Question 43 Exhibit Narrative. No change of any kind is being requested to any of the Authorizations which are set forth for these antennas in the WB36 license. Except for refinement of the response to E11 of Schedule B specifying the latitude and longitude of the antennas, all of the information set forth in the Schedule B of this Modification Application adding them to the WA28 license is an exact replication of that which is set forth for the Authorizations for those antennas in the WB36 license and ASGI respectfully hereby incorporates by reference the various exhibits previously submitted to the Commission in support of the prior WB36 applications which were the basis for those authorizations.