Approved by OMB
3060−0678

Date & Time Filed: Dec 30 2010 1:18:27:550PM
File Number: SES−MFS−20101230−01641

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

APPLICANT INFORMATION
Enter a description of this application to identify it on the main menu:
December 2010 Modification to Germantown VSAT Network E000166 to Update Frequency Data

1−8. Legal Name of Applicant

Name:	HNS License Sub, LLC	**Phone Number:**	301−428−5506
DBA Name:		**Fax Number:**	301−428−2802
Street:	11717 Exploration Lane	**E−Mail:**	Steven.Doiron@hughes.com
City:	Germantown	**State:**	MD
Country:	USA	**Zipcode:**	20876 −
Attention:	Mr. Steven Doiron		

9−16. Name of Contact Representative

Name:	Stephen D. Baruch	**Phone Number:**	202−416−6782
Company:	Lerman Senter PLLC	**Fax Number:**	202−429−4626
Street:	2000 K Street, N.W. Suite 600	**E−Mail:**	sbaruch@lermansenter.com
City:	Washington	**State:**	DC
Country:	USA	**Zipcode:**	20006−
Attention:		**Relationship:**	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 ○ b3. Amendment to a Pending Application ◉ b4. Modification of License or Registration b5. Assignment of License or Registration b6. Transfer of Control of License or Registration ○ 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) (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 (N/A) b12. Application for Database Entry ○ b13. Amendment to a Pending Database Entry Application ○ b14. Modification of Database Entry

17c. Is a fee submitted with this application?

(●) If Yes, complete and attach FCC Form 159. If No, indicate reason for fee exemption (see 47 C.F.R.Section 1.1114).

( ) Governmental Entity ( ) Noncommercial educational licensee

( ) Other(please explain):

17d.

Fee Classification CGV − Fixed Satellite VSAT System

18. If this filing is in reference to an existing station, enter:	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:	
(a) Call sign of station: E000166	(a) Date pending application was filed:	(b) File number: SESRWL2010070100855

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:

- [x] a. Fixed Satellite
- [ ] b. Mobile Satellite
- [ ] c. Radiodetermination Satellite
- [ ] d. Earth Exploration Satellite
- [ ] e. Direct to Home Fixed Satellite
- [ ] f. Digital Audio Radio Service
- [ ] g. Other (please specify)

21. STATUS: Choose the button next to the applicable status. Choose only one.

○ Common Carrier ◉ Non−Common Carrier

22. If earth station applicant, check all that apply.

- [x] Using U.S. licensed satellites
- [x] Using Non−U.S. licensed satellites

23. If applicant is providng INTERNATIONAL COMMON CARRIER service, see instructions regarding Sec. 214 filings. Choose one. Are these facilities:

○ Connected to a Public Switched Network ○ Not connected to a Public Switched Network ◉ N/A

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

- [ ] a. C−Band (4/6 GHz)
- [x] 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
- [x] 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
- [x] g −− authorization to change frequency(ies)
- [ ] h −− authorization to add frequency
- [ ] i −− authorization to add Points of Communication (satellites & countries)
- [x] 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
- [x] 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.	

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 explination 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 explination 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 attemptiing 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 exhinit, 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?See Exhibit A.	

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.)

See Exhibit A.

Exhibit A

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

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	46. Title of Person Signing
Steven Doiron	Senior Director, Regulatory Affairs

−−>

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:	HUB−A	E5. Call Sign:	E000166	
E2: Contact Name	Network Management Ctr (Bill McHargue)	E6. Phone Number:	301−428−7205	
E3. Street:	11717 Exploration Lane	E7. City:	Germantown	
		E8. County:	Montgomery	
E4. State	MD	E9. Zip Code	20876	
E10. Area of Operation:		N/A		
E11. Latitude:	39 °10 ’49.0 "N			
E12. Longitude:	77 °14 ’47.0 "W			
E13. Lat/Lon Coordinates are:		○ NAD−27	◉ NAD−83	○ N/A
E14. Site Elevation (AMSL):		141.4 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?	○ Yes ○ No ◉ N/A
E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.	○ Yes ◉ No

E18. Is frequency coordination required? If YES, attach a frequency coordination report as	○ Yes ◉ No
E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as	○ Yes ◉ No
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? FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL RESULT IN THE RETURN OF THIS APPLICATION.	○ Yes ◉ No

POINTS OF COMMUNICATION

Satellite Name:	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)	
HUB−A	HubA 7.6M	3	ANDREW CORP.	ES76K−1	7.6	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)
	/						

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)
HubA 7.6M	11700.0000 12200.0000	R	Horizontal and Vertical	200KG7D	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.)

PSK, DIGITAL, 128 KSPS, INROUTE CARRIER

HubA 7.6M	11700.0000 12200.0000	R	Horizontal and Vertical	1M60G7D	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.)

PSK, DIGITAL, 1024 KSPS, INROUTE CARRIER

HubA 7.6M	14000.0000 14500.0000	T	Horizontal and Vertical	24M0G7D	78.0	40.2

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.)

PSK, DATA, 20 MSPS, OUTROUTE CARRIER

HubA 7.6M	14000.0000 14500.0000	T	Horizontal and Vertical	36M0G7D	78.0	38.5

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.)

PSK, DATA, 30 MSPS, OUTROUTE CARRIER

HubA 7.6M	14000.0000 14500.0000	T	Horizontal and Vertical	400KG7D	47.9	27.9

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.)

PSK, DATA, 256 KSPS, OUTROUTE CARRIER

FREQUENCY COORDINATION

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

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:	HUB−B	E5. Call Sign:	E000166	
E2: Contact Name	Network Management Ctr (Bill McHargue)	E6. Phone Number:	301−428−7205	
E3. Street:	11717 Exploration Lane	E7. City:	Germantown	
		E8. County:	Montgomery	
E4. State	MD	E9. Zip Code	20876	
E10. Area of Operation:		N/A		
E11. Latitude:	39 °10 ’46.0 "N			
E12. Longitude:	77 °14 ’41.0 "W			
E13. Lat/Lon Coordinates are:		○ NAD−27	◉ NAD−83	○ N/A
E14. Site Elevation (AMSL):		129.9 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?	○ Yes ○ No ◉ N/A

E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.	○ Yes ◉ No

E18. Is frequency coordination required? If YES, attach a frequency coordination report as	○ Yes ◉ No
E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as	○ Yes ◉ No
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? FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL RESULT IN THE RETURN OF THIS APPLICATION.	○ Yes ◉ No

POINTS OF COMMUNICATION

Satellite Name: 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)	
HUB−B	HubB 7.6M	2	ANDREW CORP.	ES76K−1	7.6	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)
HubB 7.6M	0.0/0.0	8.5	138.4	0.0	800.0	0.0	88.3

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)
HubB 7.6M	11700.0000 12200.0000	R	Horizontal and Vertical	200KG7D	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.)

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PSK, DIGITAL, 128 KSPS, INROUTE CARRIER
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HubB 7.6M	11700.0000 12200.0000	R	Horizontal and Vertical	1M60G7D	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.)

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PSK, DIGITAL, 1024 KSPS, INROUTE CARRIER
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HubB 7.6M	14000.0000 14500.0000	T	Horizontal and Vertical	24M0G7D	78.0	40.2

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.)

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PSK, DATA, 20 MSPS, OUTROUTE CARRIER
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HubB 7.6M	14000.0000 14500.0000	T	Horizontal and Vertical	36M0G7D	78.0	38.5

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.)

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PSK, DATA, 30 MSPS, OUTROUTE CARRIER
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HubB 7.6M	14000.0000 14500.0000	T	Horizontal and Vertical	400KG7D	47.9	27.9

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.)

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FREQUENCY COORDINATION

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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:	HUB−C 7.6M	E5. Call Sign:	E000166	
E2: Contact Name	Network Management Ctr (Bill McHargue)	E6. Phone Number:	301−428−7205	
E3. Street:	11717 Exploration Lane	E7. City:	Germantown	
		E8. County:	Montgomery	
E4. State	MD	E9. Zip Code	20876	
E10. Area of Operation:		N/A		
E11. Latitude:	39 °10 ’43.0 "N			
E12. Longitude:	77 °14 ’51.0 "W			
E13. Lat/Lon Coordinates are:		○ NAD−27	◉ NAD−83	○ N/A
E14. Site Elevation (AMSL):		155.4 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?	○ Yes ○ No ◉ N/A
E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.	○ Yes ◉ No

E18. Is frequency coordination required? If YES, attach a frequency coordination report as	○ Yes ◉ No
E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as	○ Yes ◉ No
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? FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL RESULT IN THE RETURN OF THIS APPLICATION.	○ Yes ◉ No

POINTS OF COMMUNICATION

Satellite Name: 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)	
HUB−C 7.6M	HubC 7.6M	1	NEC	APS−12/14−F64A	7.6	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)
HubC 7.6M	0.0/0.0	29.3	184.7	0.0	250.0	0.0	83.6

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)
HubC 7.6M	11700.0000 12200.0000	R	Horizontal and Vertical	1M60G7D	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.)

PSK, DIGITAL, 1024 KSPS, INROUTE CARRIER

HubC 7.6M	11700.0000 12200.0000	R	Horizontal and Vertical	200KG7D	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.)

PSK OR MSK, DATA, 128 KSPS, INROUTE CARRIER

HubC 7.6M	14000.0000 14500.0000	T	Horizontal and Vertical	12M0G7D	73.8	39.0

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.)

PSK, DATA, 10 MSPS, OUTROUTE CARRIER

HubC 7.6M	14000.0000 14500.0000	T	Horizontal and Vertical	400KG7D	59.0	39.0

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.)

PSK, DATA, 256 KSPS, OUTROUTE CARRIER

FREQUENCY COORDINATION

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

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:	HUB−D 7.6M	E5. Call Sign:	E000166
E2: Contact Name	Network Management Ctr (Bill McHargue)	E6. Phone Number:	301−428−7205
E3. Street:	11717 Exploration Lane	E7. City:	Germantown
		E8. County:	Montgomery
E4. State	MD	E9. Zip Code	20876
E10. Area of Operation:		N/A	
E11. Latitude:	39 °10 ’42.0 "N		
E12. Longitude:	77 °14 ’53.0 "W		
E13. Lat/Lon Coordinates are:	○ NAD−27	◉ NAD−83	○ N/A
E14. Site Elevation (AMSL):	155.5 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?	○ Yes ○ No ◉ N/A
E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.	○ Yes ◉ No

E18. Is frequency coordination required? If YES, attach a frequency coordination report as	○ Yes ◉ No
E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as	○ Yes ◉ No
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? FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL RESULT IN THE RETURN OF THIS APPLICATION.	○ Yes ◉ No

POINTS OF COMMUNICATION

Satellite Name: 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)	
HUB−D 7.6M	HubD 7.6M	1	NEC	APS−12/14−F0764A	7.6	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)
HubD 7.6M	0.0/0.0	30.8	186.2	0.0	250.0	0.0	83.6

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)
HubD 7.6M	11700.0000 12200.0000	R	Horizontal and Vertical	1M60G7D	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.)

PSK, DIGITAL, 1024 KSPS, INROUTE CARRIER

HubD 7.6M	11700.0000 12200.0000	R	Horizontal and Vertical	200KG7D	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.)

PSK OR MSK, DATA, 128 KSPS, INROUTE CARRIER

HubD 7.6M	14000.0000 14500.0000	T	Horizontal and Vertical	400KG7D	59.0	39.0

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.)

PSK, DATA, 256 KSPS, OUTROUTE CARRIER

HubD 7.6M	14000.0000 14500.0000	T	Horizontal and Vertical	12M0G7D	73.8	39.0

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.)

PSK, DATA, 1024 KSPS, OUTROUTE CARRIER

FREQUENCY COORDINATION

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

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:	HUB−E 6.1M	E5. Call Sign:	E000166
E2: Contact Name	Network Management Ctr (Bill McHargue)	E6. Phone Number:	301−428−7205
E3. Street:	11717 Exploration Lane	E7. City:	Germantown
		E8. County:	Montgomery
E4. State	MD	E9. Zip Code	20876
E10. Area of Operation:		N/A	
E11. Latitude:	39 °10 ’46.0 "N		
E12. Longitude:	77 °14 ’49.0 "W		

E13. Lat/Lon Coordinates are: ◉ NAD−27 ○ NAD−83 ○ N/A

E14. Site Elevation (AMSL): 135.8 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?	○ Yes ○ No ◉ N/A
E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.	○ Yes ◉ No

E18. Is frequency coordination required? If YES, attach a frequency coordination report as	○ Yes ◉ No
E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as	○ Yes ◉ No
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? FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL RESULT IN THE RETURN OF THIS APPLICATION.	○ Yes ◉ No

POINTS OF COMMUNICATION

Satellite Name: 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)	
HUB−E 6.1M	HubE 6.1M	1	VERTEX	6.1KPK	6.1	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)
HubE 6.1M	0.0/0.0	19.9	155.7	0.0	550.0	0.0	84.7

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)
HubE 6.1M	11700.0000 12200.0000	R	Horizontal and Vertical	200KG7D	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.)

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PSK, DATA, 128 KSPS, INROUTE CARRIER
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HubE 6.1M	11700.0000 12200.0000	R	Horizontal and Vertical	1M60G7D	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.)

PSK, DIGITAL, 1024 KSPS, INROUTE CARRIER

HubE 6.1M	14000.0000 14500.0000	T	Horizontal and Vertical	24M0G7D	79.7	41.9

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.)

PSK, DATA, 20 MSPS, OUTROUTE CARRIER

HubE 6.1M	14000.0000 14500.0000	T	Horizontal and Vertical	36M0G7D	97.7	40.2

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.)

PSK, DATA, 30 MSPS, OUTROUTE CARRIER

HubE 6.1M	14000.0000 14500.0000	T	Horizontal and Vertical	400KG7D	52.9	32.9

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.)

PSK, DATA, 256 KSPS, OUTROUTE CARRIER

FREQUENCY COORDINATION

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

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:	HUB−F 5.6M	E5. Call Sign:	E000166	
E2: Contact Name	Network Management Ctr (Bill McHargue)	E6. Phone Number:	301−428−7205	
E3. Street:	11717 Exploration Lane	E7. City:	Germantown	
		E8. County:	Montgomery	
E4. State	MD	E9. Zip Code	20876	
E10. Area of Operation:		N/A		
E11. Latitude:	39 °10 ’46.0 "N			
E12. Longitude:	77 °14 ’54.0 "W			
E13. Lat/Lon Coordinates are:		○ NAD−27	◉ NAD−83	○ N/A
E14. Site Elevation (AMSL):		143.3 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?	○ Yes ○ No ◉ N/A
E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.	○ Yes ◉ No

E18. Is frequency coordination required? If YES, attach a frequency coordination report as	○ Yes ◉ No
E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as	○ Yes ◉ No
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? FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL RESULT IN THE RETURN OF THIS APPLICATION.	○ Yes ◉ No

POINTS OF COMMUNICATION

Satellite Name: 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)	
HUB−F 5.6M	HubF 5.6M	1	ANDREW	ES56−1	5.6	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)
HubF 5.6M	0.0/0.0	28.9	172.2	0.0	125.0	0.0	77.7

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)
HubF 5.6M	11700.0000 12200.0000	R	Horizontal and Vertical	200KG7D	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.)

PSK, DATA, 128 KSPS, INROUTE CARRIER

HubF 5.6M	11700.0000 12200.0000	R	Horizontal and Vertical	1M60G7D	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.)

PSK, DATA, 1024 KSPS, INROUTE CARRIER

HubF 5.6M	14000.0000 14500.0000	T	Horizontal and Vertical	24M0G7D	77.7	39.9

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.)

PSK, DATA, 20 MSPS, OUTROUTE CARRIER

HubF 5.6M	14000.0000 14500.0000	T	Horizontal and Vertical	36M0G7D	77.7	38.2

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.)

PSK, DATA, 30 MSPS, OUTROUTE CARRIER

HubF 5.6M	14000.0000 14500.0000	T	Horizontal and Vertical	400KG7D	52.9	32.9

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.)

PSK, DATA, 256 KSPS, OUTROUTE CARRIER

FREQUENCY COORDINATION

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

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:	HUB−G 4.6M	E5. Call Sign:	E000166
E2: Contact Name	Network Management Ctr (Bill McHargue)	E6. Phone Number:	301−428−7205
E3. Street:	10450 Pacific Center Court	E7. City:	San Diego
		E8. County:	San Diego
E4. State	CA	E9. Zip Code	92121
E10. Area of Operation:		N/A	
E11. Latitude:	32 °54 ’31.0 "N		
E12. Longitude:	117 °11 ’26.0 "W		
E13. Lat/Lon Coordinates are:	○ NAD−27	◉ NAD−83	○ N/A
E14. Site Elevation (AMSL):	97.2 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?	○ Yes ○ No ◉ N/A

E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.	○ Yes ◉ No

E18. Is frequency coordination required? If YES, attach a frequency coordination report as	○ Yes ◉ No
E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as	○ Yes ◉ No
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? FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL RESULT IN THE RETURN OF THIS APPLICATION.	○ Yes ◉ No

POINTS OF COMMUNICATION

Satellite Name: 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)	
HUB−G 4.6M	HubG 4.6M	1	VERTEX	4.57KPK	4.6	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)
HubG 4.6M	0.0/0.0	5.2	102.4	0.0	2.0	0.0	57.5

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)
HubG 4.6M	11700.0000 12200.0000	R	Horizontal and Vertical	1M60G7D	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.) PSK, DIGITAL, 1024 KSPS, INROUTE CARRIER						
HubG 4.6M	11700.0000 12200.0000	R	Horizontal and Vertical	200KG7D	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.)

PSK OR MSK, DATA, 128 KSPS, INROUTE CARRIER

HubG 4.6M	14000.0000 14500.0000	T	Horizontal and Vertical	400KG7D	57.5	37.5

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.)

PSK, DATA, 256 KSPS, OUTROUTE CARRIER

HubG 4.6M	14000.0000 14500.0000	T	Horizontal and Vertical	1M60G7D	57.5	31.5

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.)

PSK, DATA, 1024 KSPS, OUTROUTE CARRIER

FREQUENCY COORDINATION

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

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:	HUB−H (11.1M)	E5. Call Sign:	E000166
E2: Contact Name	Network Management Ctr (Bill McHargue)	E6. Phone Number:	301−428−7205
E3. Street:	17633 Technology Blvd.	E7. City:	Hagerstown
		E8. County:	Washington
E4. State	MD	E9. Zip Code	21740
E10. Area of Operation:		N/A	
E11. Latitude:	39 °35 ’56.3 "N		
E12. Longitude:	77 °45 ’17.9 "W		
E13. Lat/Lon Coordinates are:		○ NAD−27	◉ NAD−83 ○ N/A
E14. Site Elevation (AMSL):		164.9 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?	○ Yes ○ No ◉ N/A

E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.	○ Yes ◉ No

E18. Is frequency coordination required? If YES, attach a frequency coordination report as	○ Yes ◉ No
E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as	○ Yes ◉ No
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? FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL RESULT IN THE RETURN OF THIS APPLICATION.	○ Yes ◉ No

POINTS OF COMMUNICATION

Satellite Name:OTHER | OTHER | If you selected OTHER, please enter the following:	
E21. Common Name: Galaxy 25	E22. ITU Name:
E23. Orbit Location: 93.1 W.L.	E24. Country: USA

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)	
HUB−H (11.1 M)	Hub H	1	VERTEX	11.1 KPK	11.1	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)
Hub H	0.0/0.0	11.1	175.99	0.0	407.4	0.0	88.0

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)
Hub H	11802.0000 12018.0000	R	Horizontal and Vertical	200KG7D	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.)

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DIGITAL, PSK, DATA, 128 KSPS, INROUTE
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Hub H	11802.0000 12018.0000	R	Horizontal and Vertical	1M60G7D	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, PSK, DATA, 1024 KSPS, INROUTE

Hub H	14102.0000 14318.0000	T	Horizontal and Vertical	6M00G7D	79.6	47.9

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, PSK, DATA, 5 MSPS, OUTROUTE

Hub H	14102.0000 14318.0000	T	Horizontal and Vertical	36M0G7D	87.4	47.9

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, PSK, DATA, 30 MSPS, OUTROUTE

FREQUENCY COORDINATION

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

REMOTE CONTROL POINT LOCATION

E61. Call Sign E000166 NOTE: Please enter the callsign of the controlling station, not the callsign for which this application is being filed.		E66. Phone Number 301−428−7205	
E62. Street Address 11717 Exploration Lane			
E63. City Germantown	E68. County Montgomery	E67/68. State/Country MD/ USA	E64. Zip Code 20876

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:	HUB−I (3.9M)	E5. Call Sign:	E000166
E2: Contact Name	Network Management Ctr (Bill McHargue)	E6. Phone Number:	301−428−7205
E3. Street:	11717 Exploration Lane	E7. City:	Germantown
		E8. County:	Montgomery
E4. State	MD	E9. Zip Code	20876
E10. Area of Operation:		CONUS, AK, HI, PR, VI	
E11. Latitude:	0 °0 ’0.0 "N		
E12. Longitude:	0 °0 ’0.0 "W		
E13. Lat/Lon Coordinates are:		○ NAD−27	◉ NAD−83 ○ N/A
E14. Site Elevation (AMSL):		0.0 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?	○ Yes ○ No ◉ N/A

E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.	◉ Yes ○ No

E18. Is frequency coordination required? If YES, attach a frequency coordination report as	○ Yes ◉ No
E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as	○ Yes ◉ No
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? FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL RESULT IN THE RETURN OF THIS APPLICATION.	○ Yes ◉ No

POINTS OF COMMUNICATION

Satellite Name: 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)	
HUB−I (3.9M)	Hub I	1	ANDREW CORPORATION	MILSATCOM 3.9 METER	3.9	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)
Hub I	0.0/0.0	3.9	0.0	0.0	300.0	0.0	77.6

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)
Hub I	11700.0000 12200.0000	R	Horizontal and Vertical	200KG7D	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.)

PSK, DATA, 128 KSPS, INROUTE CARRIER

Hub I	11700.0000 12200.0000	R	Horizontal and Vertical	1M60G7D	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.)

PSK, DATA, 1024 KSPS, INROUTE CARRIER

Hub I	14000.0000 14500.0000	T	Horizontal and Vertical	36M0G7D	77.6	38.8

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.)

PSK, DATA, 30 MSPS, OUTROUTE CARRIER

Hub I	14000.0000 14500.0000	T	Horizontal and Vertical	1M60G7D	64.8	38.8

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.)

PSK, DATA, 1024 KSPS, OUTROUTE CARRIER

FREQUENCY COORDINATION

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

REMOTE CONTROL POINT LOCATION

E61. Call Sign E940460 NOTE: Please enter the callsign of the controlling station, not the callsign for which this application is being filed.			E66. Phone Number 301−428−7205
E62. Street Address One Aerojet Way			
E63. City North Las Vegas	E68. County Clark	E67/68. State/Country NV/ USA	E64. Zip Code 89030

E61. Call Sign E000166 NOTE: Please enter the callsign of the controlling station, not the callsign for which this application is being filed.	E66. Phone Number 301−428−7205
E62. Street Address 11717 Exploration Lane	

E63. City	E68. County	E67/68. State/Country	E64. Zip Code
Germantown	Montgomery	MD/ USA	20876

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:	MESH 1.2M	E5. Call Sign:	E000166
E2: Contact Name	Network Management Ctr (Bill McHargue)	E6. Phone Number:	301−428−7205
E3. Street:	11717 Exploration Lane	E7. City:	Germantown
		E8. County:	Montgomery
E4. State	MD	E9. Zip Code	20876
E10. Area of Operation:		CONUS, AK, HI, PR, VI	
E11. Latitude:	0 °0 ’0.0 "N		
E12. Longitude:	0 °0 ’0.0 "W		
E13. Lat/Lon Coordinates are:	○ NAD−27	◉ NAD−83	○ N/A
E14. Site Elevation (AMSL):	0.0 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?	○ Yes ○ No ◉ N/A
E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.	◉ Yes ○ No

E18. Is frequency coordination required? If YES, attach a frequency coordination report as	○ Yes ◉ No
E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as	○ Yes ◉ No
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? FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL RESULT IN THE RETURN OF THIS APPLICATION.	○ Yes ◉ No

POINTS OF COMMUNICATION

Satellite Name: 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)	
MESH 1.2M	MESH 1.2M	5000	HUGHES NETWORK SYSTEMS	PES−RFT−120	1.2	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)
MESH 1.2M	0.0/0.0	0.0	0.0	0.0	1.5	0.0	45.0

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)
MESH 1.2M	11700.0000 12200.0000	R	Horizontal and Vertical	156KG7D	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 OR OQPSK, DATA, MESH CARRIER

MESH 1.2M	14000.0000 14500.0000	T	Horizontal and Vertical	156KG7D	45.0	29.1

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 OR OQPSK, DATA, MESH CARRIER

FREQUENCY COORDINATION

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

REMOTE CONTROL POINT LOCATION

E61. Call Sign E000166 NOTE: Please enter the callsign of the controlling station, not the callsign for which this application is being filed.		E66. Phone Number 301−428−7205	
E62. Street Address 11717 Exploration Lane			
E63. City Germantown	E68. County Montgomery	E67/68. State/Country MD/ USA	E64. Zip Code 20876

E61. Call Sign E940460 NOTE: Please enter the callsign of the controlling station, not the callsign for which this application is being filed.		E66. Phone Number 301−428−7205	
E62. Street Address One Aerojet Way			
E63. City North Las Vegas	E68. County Clark	E67/68. State/Country NV/ USA	E64. Zip Code 89030

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:	MESH 1.8M	E5. Call Sign:	E000166
E2: Contact Name	Network Management Ctr (Bill McHargue)	E6. Phone Number:	301−428−7205
E3. Street:	11717 Exploration Lane	E7. City:	Germantown
		E8. County:	Montgomery
E4. State	MD	E9. Zip Code	20876
E10. Area of Operation:		CONUS, AK, HI, PR, VI	
E11. Latitude:	0 °0 ’0.0 "N		
E12. Longitude:	0 °0 ’0.0 "W		
E13. Lat/Lon Coordinates are:		○ NAD−27	◉ NAD−83 ○ N/A
E14. Site Elevation (AMSL):		0.0 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?	○ Yes ○ No ◉ N/A

E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.	◉ Yes ○ No

E18. Is frequency coordination required? If YES, attach a frequency coordination report as	○ Yes ◉ No
E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as	○ Yes ◉ No
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? FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL RESULT IN THE RETURN OF THIS APPLICATION.	○ Yes ◉ No

POINTS OF COMMUNICATION

Satellite Name: 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)	
MESH 1.8M	MESH 1.8M	5000	HUGHES NETWORK SYSTEMS	PES−RFT−180	1.8	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)
MESH 1.8M	0.0/0.0	0.0	0.0	0.0	1.5	0.0	48.6

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)
MESH 1.8M	11700.0000 12200.0000	R	Horizontal and Vertical	156KG7D	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.)

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BPSK OR OQPSK, DATA, MESH CARRIER
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MESH 1.8M	14000.0000 14500.0000	T	Horizontal and Vertical	156KG7D	48.6	32.7

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.)

BPSK OR OQPSK, DATA, MESH CARRIER

FREQUENCY COORDINATION

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

REMOTE CONTROL POINT LOCATION

E61. Call Sign E940460 NOTE: Please enter the callsign of the controlling station, not the callsign for which this application is being filed.	E66. Phone Number 301−428−7205

E62. Street Address
One Aerojet Way

E63. City North Las Vegas	E68. County Clark	E67/68. State/Country NV/ USA	E64. Zip Code 89030

E61. Call Sign E000166 NOTE: Please enter the callsign of the controlling station, not the callsign for which this application is being filed.		E66. Phone Number 301−428−7205	
E62. Street Address 11717 Exploration Lane			
E63. City Germantown	E68. County Montgomery	E67/68. State/Country MD/ USA	E64. Zip Code 20876

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:	MESH 2.4M	E5. Call Sign:	E000166
E2: Contact Name	Network Management Ctr (Bill McHargue)	E6. Phone Number:	301−428−7205
E3. Street:	11717 Exploration Lane	E7. City:	Germantown
		E8. County:	Montgomery
E4. State	MD	E9. Zip Code	20876
E10. Area of Operation:		CONUS, AK, HI, PR, VI	
E11. Latitude:	0 °0 ’0.0 "N		
E12. Longitude:	0 °0 ’0.0 "W		
E13. Lat/Lon Coordinates are:		○ NAD−27	◉ NAD−83 ○ N/A
E14. Site Elevation (AMSL):		0.0 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?	○ Yes ○ No ◉ N/A

E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.	◉ Yes ○ No

E18. Is frequency coordination required? If YES, attach a frequency coordination report as	○ Yes ◉ No
E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as	○ Yes ◉ No
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? FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL RESULT IN THE RETURN OF THIS APPLICATION.	○ Yes ◉ No

POINTS OF COMMUNICATION

Satellite Name: 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)	
MESH 2.4M	MESH 2.4M	5000	HUGHES NETWORK SYSTEMS	PES−RFT−240	2.4	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)
MESH 2.4M	0.0/0.0	0.0	0.0	0.0	3.1	0.0	53.7

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)
MESH 2.4M	11700.0000 12200.0000	R	Horizontal and Vertical	307KG7D	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 OR OQPSK, DATA, MESH CARRIER

MESH 2.4M	14000.0000 14500.0000	T	Horizontal and Vertical	307KG7D	53.7	34.8

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 OR OQPSK, DATA, MESH CARRIER

FREQUENCY COORDINATION

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

REMOTE CONTROL POINT LOCATION

E61. Call Sign E000166 NOTE: Please enter the callsign of the controlling station, not the callsign for which this application is being filed.	E66. Phone Number 301−428−7205

E62. Street Address
11717 Exploration Lane

E63. City Germantown	E68. County Montgomery	E67/68. State/Country MD/ USA	E64. Zip Code 20876

E61. Call Sign E940460 NOTE: Please enter the callsign of the controlling station, not the callsign for which this application is being filed.		E66. Phone Number 301−428−7205	
E62. Street Address One Aerojet Way			
E63. City North Las Vegas	E68. County Clark	E67/68. State/Country NV/ USA	E64. Zip Code 89030

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:	MESH 3.5M	E5. Call Sign:	E000166
E2: Contact Name	Network Management Ctr (Bill McHargue)	E6. Phone Number:	301−428−7205
E3. Street:	11717 Exploration Lane	E7. City:	Germantown
		E8. County:	Montgomery
E4. State	MD	E9. Zip Code	20876
E10. Area of Operation:		CONUS, AK, HI, PR, VI	
E11. Latitude:	0 °0 ’0.0 "N		
E12. Longitude:	0 °0 ’0.0 "W		
E13. Lat/Lon Coordinates are:		○ NAD−27	◉ NAD−83 ○ N/A
E14. Site Elevation (AMSL):		0.0 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?	○ Yes ○ No ◉ N/A

E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.	◉ Yes ○ No

E18. Is frequency coordination required? If YES, attach a frequency coordination report as	○ Yes ◉ No
E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as	○ Yes ◉ No
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? FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL RESULT IN THE RETURN OF THIS APPLICATION.	○ Yes ◉ No

POINTS OF COMMUNICATION

Satellite Name: 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)	
MESH 3.5M	MESH 3.5M	5000	COMTECH	846400G1	3.5	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)
MESH 3.5M	0.0/0.0	0.0	0.0	0.0	24.6	0.0	66.2

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)
MESH 3.5M	11700.0000 12200.0000	R	Horizontal and Vertical	2M46G7D	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 OR OQPSK, DATA, MESH CARRIER						
MESH 3.5M	14000.0000 14500.0000	T	Horizontal and Vertical	2M46G7D	66.2	38.3

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 OR OQPSK, DATA, MESH CARRIER

FREQUENCY COORDINATION

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

REMOTE CONTROL POINT LOCATION

E61. Call Sign E940460 NOTE: Please enter the callsign of the controlling station, not the callsign for which this application is being filed.	E66. Phone Number 301−428−7205
E62. Street Address One Aerojet Way	

E63. City	E68. County	E67/68. State/Country	E64. Zip Code
North Las Vegas	Clark	NV/ USA	89030

E61. Call Sign E000166 NOTE: Please enter the callsign of the controlling station, not the callsign for which this application is being filed.		E66. Phone Number 301−428−7205	
E62. Street Address 11717 Exploration Lane			
E63. City Germantown	E68. County Montgomery	E67/68. State/Country MD/ USA	E64. Zip Code 20876

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:	R 1.2M	E5. Call Sign:	E000166	
E2: Contact Name	Network Management Ctr (Bill McHargue)	E6. Phone Number:	301−428−7205	
E3. Street:	11717 Exploration Lane	E7. City:	Germantown	
		E8. County:	Montgomery	
E4. State	MD	E9. Zip Code	20876	
E10. Area of Operation:		N/A		
E11. Latitude:	0 °0 ’0.0 "N			
E12. Longitude:	0 °0 ’0.0 "W			
E13. Lat/Lon Coordinates are:		○ NAD−27	◉ NAD−83	○ N/A
E14. Site Elevation (AMSL):		0.0 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?	○ Yes ○ No ◉ N/A

E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.	○ Yes ◉ No

E18. Is frequency coordination required? If YES, attach a frequency coordination report as	○ Yes ◉ No
E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as	○ Yes ◉ No
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? FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL RESULT IN THE RETURN OF THIS APPLICATION.	○ Yes ◉ No

POINTS OF COMMUNICATION

Satellite Name:OTHER | OTHER | 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)	
R 1.2M	R1.2	0	N/A	N/A	0.0	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)
R1.2	0.0/0.0	0.0	0.0	0.0	0.0	0.0	0.0

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)

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.)

FREQUENCY COORDINATION

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

REMOTE CONTROL POINT LOCATION

E61. Call Sign N/A NOTE: Please enter the callsign of the controlling station, not the callsign for which this application is being filed.	E66. Phone Number N/A
E62. Street Address N/A	

E63. City	E68. County	E67/68. State/Country	E64. Zip Code
N/A	N/A	/ USA	N/A

E61. Call Sign N/A NOTE: Please enter the callsign of the controlling station, not the callsign for which this application is being filed.	E66. Phone Number N/A
E62. Street Address N/A	

E63. City	E68. County	E67/68. State/Country	E64. Zip Code
N/A	N/A	/ USA	N/A

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:	TF TR 1.2M	E5. Call Sign:	E000166
E2: Contact Name	Network Management Ctr (Bill McHargue)	E6. Phone Number:	301−428−7205
E3. Street:	11717 Exploration Lane	E7. City:	Germantown
		E8. County:	Montgomery
E4. State	MD	E9. Zip Code	20876
E10. Area of Operation:		CONUS, AK, HI, PR, VI	
E11. Latitude:	0 °0 ’0.0 "N		
E12. Longitude:	0 °0 ’0.0 "W		
E13. Lat/Lon Coordinates are:	○ NAD−27	◉ NAD−83	○ N/A
E14. Site Elevation (AMSL):	0.0 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?	○ Yes ○ No ◉ N/A
E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.	◉ Yes ○ No

E18. Is frequency coordination required? If YES, attach a frequency coordination report as	○ Yes ◉ No
E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as	○ Yes ◉ No
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? FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL RESULT IN THE RETURN OF THIS APPLICATION.	○ Yes ◉ No

POINTS OF COMMUNICATION

Satellite Name: 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)	
TF TR 1.2M	TF TR 1.2	50000	PRODELIN	HNS−AN−120P−KU	1.2	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)
TF TR 1.2	0.0/0.0	0.0	0.0	0.0	2.0	0.0	46.1

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)
TF TR 1.2	11700.0000 12200.0000	R	Horizontal and Vertical	36M0G7D	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.)

PSK, DATA, 30 MSPS, OUTROUTE CARRIER

TF TR 1.2	11700.0000 12200.0000	R	Horizontal and Vertical	400KG7D	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.)

PSK, DATA, 256 KSPS, OUTROUTE CARRIER

TF TR 1.2	14000.0000 14500.0000	T	Horizontal and Vertical	1M60G7D	46.1	21.1

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.)

PSK, DIGITAL, 1024 KSPS, INROUTE CARRIER

TF TR 1.2	14000.0000 14500.0000	T	Horizontal and Vertical	200KG7D	46.1	29.1

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.)

PSK, DIGITAL, 128 KSPS, INROUTE CARRIER

FREQUENCY COORDINATION

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

REMOTE CONTROL POINT LOCATION

E61. Call Sign E940460 NOTE: Please enter the callsign of the controlling station, not the callsign for which this application is being filed.			E66. Phone Number 301−428−7205
E62. Street Address One Aerojet Way			
E63. City North Las Vegas	E68. County Clark	E67/68. State/Country NV/ USA	E64. Zip Code 89030

E61. Call Sign E000166 NOTE: Please enter the callsign of the controlling station, not the callsign for which this application is being filed.		E66. Phone Number 301−428−7205	
E62. Street Address 11717 Exploration Lane			
E63. City Germantown	E68. County Montgomery	E67/68. State/Country MD/ USA	E64. Zip Code 20876

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:	TF TR 74CM	E5. Call Sign:	E000166
E2: Contact Name	Network Management Ctr (Bill McHargue)	E6. Phone Number:	301−428−7205
E3. Street:	11717 Exploration Lane	E7. City:	Germantown
		E8. County:	Montgomery
E4. State	MD	E9. Zip Code	20876
E10. Area of Operation:		CONUS, AK, HI, PR, VI	
E11. Latitude:	0 °0 ’0.0 "N		
E12. Longitude:	0 °0 ’0.0 "W		
E13. Lat/Lon Coordinates are:		○ NAD−27	◉ NAD−83 ○ N/A
E14. Site Elevation (AMSL):		0.0 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?	○ Yes ○ No ◉ N/A

E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.	◉ Yes ○ No

E18. Is frequency coordination required? If YES, attach a frequency coordination report as	○ Yes ◉ No
E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as	○ Yes ◉ No
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? FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL RESULT IN THE RETURN OF THIS APPLICATION.	○ Yes ◉ No

POINTS OF COMMUNICATION

Satellite Name:OTHER | OTHER | If you selected OTHER, please enter the following:	
E21. Common Name: Galaxy 25	E22. ITU Name:
E23. Orbit Location: 93.1 W.L.	E24. Country: USA

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)	
TF TR 74CM	TF TR 74CM	60200	PRODELIN	HNS−AN−074P−KU	0.74	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)
TF TR 74CM	0.0/0.0	0.0	0.0	0.0	2.0	0.0	42.0

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)
TF TR 74CM	11700.0000 12200.0000	R	Horizontal and Vertical	36M0G7D	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.)

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PSK, DATA, 30 MSPS, OUTROUTE CARRIER
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TF TR 74CM	11700.0000 12200.0000	R	Horizontal and Vertical	400KG7D	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.)

PSK, DATA, 256 KSPS, OUTROUTE CARRIER

TF TR 74CM	14000.0000 14500.0000	T	Horizontal and Vertical	200KG7D	42.0	25.0

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.)

PSK, DIGITAL, 128 KSPS, INROUTE CARRIER

TF TR 74CM	14000.0000 14500.0000	T	Horizontal and Vertical	1M60G7D	42.0	16.0

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.)

PSK, DIGITAL, 1024 KSPS, INROUTE CARRIER

FREQUENCY COORDINATION

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

REMOTE CONTROL POINT LOCATION

E61. Call Sign E000166 NOTE: Please enter the callsign of the controlling station, not the callsign for which this application is being filed.			E66. Phone Number 301−428−7205
E62. Street Address 11717 Exploration Lane			
E63. City Germantown	E68. County Montgomery	E67/68. State/Country MD/ USA	E64. Zip Code 20876

E61. Call Sign E940460 NOTE: Please enter the callsign of the controlling station, not the callsign for which this application is being filed.	E66. Phone Number 301−428−7205
E62. Street Address One Aerojet Way	

E63. City	E68. County	E67/68. State/Country	E64. Zip Code
North Las Vegas	Clark	NV/ USA	89030

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:	TF TR 98CM	E5. Call Sign:	E000166
E2: Contact Name	Network Management Ctr (Bill McHargue)	E6. Phone Number:	301−428−7205
E3. Street:	11717 Exploration Lane	E7. City:	Germantown
		E8. County:	Montgomery
E4. State	MD	E9. Zip Code	20876
E10. Area of Operation:		CONUS, AK, HI, PR, VI	
E11. Latitude:	0 °0 ’0.0 "N		
E12. Longitude:	0 °0 ’0.0 "W		
E13. Lat/Lon Coordinates are:	○ NAD−27	◉ NAD−83	○ N/A
E14. Site Elevation (AMSL):	0.0 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?	○ Yes ○ No ◉ N/A
E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.	◉ Yes ○ No

E18. Is frequency coordination required? If YES, attach a frequency coordination report as	○ Yes ◉ No
E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as	○ Yes ◉ No
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? FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL RESULT IN THE RETURN OF THIS APPLICATION.	○ Yes ◉ No

POINTS OF COMMUNICATION

Satellite Name:OTHER | OTHER | If you selected OTHER, please enter the following:

E21. Common Name: Galaxy 25	E22. ITU Name:
E23. Orbit Location: 93.1 W.L.	E24. Country: USA

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)	
TF TR 98CM	TFTR 98CM	54000	PRODELIN	HNS−AN−098P−KU	0.98	0.0 dBi at	
TF TR 98CM	TFTR 98CM	54000	RAVEN	HNS−AN−098R−KU	0.98	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)
TFTR 98CM	0.0/0.0	0.0	0.0	0.0	2.0	0.0	44.3
TFTR 98CM	0.0/0.0	0.0	0.0	0.0	2.0	0.0	44.3

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)

TFTR 98CM	11700.0000 12200.0000	R	Horizontal and Vertical	36M0G7D	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.)

PSK, DATA, 30 MSPS, OUTROUTE CARRIER

TFTR 98CM	11700.0000 12200.0000	R	Horizontal and Vertical	400KG7D	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.)

PSK, DATA, 256 KSPS, OUTROUTE CARRIER

TFTR 98CM	14000.0000 14500.0000	T	Horizontal and Vertical	200KG7D	44.3	27.3

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.)

PSK, DIGITAL, 128 KSPS, INROUTE CARRIER

TFTR 98CM	14000.0000 14500.0000	T	Horizontal and Vertical	1M60G7D	44.3	18.3

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.)

PSK, DIGITAL, 1024 KSPS, INROUTE CARRIER

TFTR 98CM	11700.0000 12200.0000	R	Horizontal and Vertical	36M0G7D	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.)

PSK, DATA, 30 MSPS, OUTROUTE CARRIER

TFTR 98CM	11700.0000 12200.0000	R	Horizontal and Vertical	400KG7D	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.)

PSK, DATA, 256 KSPS, OUTROUTE CARRIER

TFTR 98CM	14000.0000 14500.0000	T	Horizontal and Vertical	200KG7D	44.3	27.3

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.)

PSK, DIGITAL, 128 KSPS, INROUTE CARRIER

TFTR 98CM	14000.0000 14500.0000	T	Horizontal and Vertical	1M60G7D	44.3	18.3

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.)

PSK, DIGITAL, 1024 KSPS, INROUTE CARRIER

FREQUENCY COORDINATION

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

REMOTE CONTROL POINT LOCATION

E61. Call Sign E000166 NOTE: Please enter the callsign of the controlling station, not the callsign for which this application is being filed.		E66. Phone Number 301−428−7205	
E62. Street Address 11717 Exploration Lane			
E63. City Germantown	E68. County Montgomery	E67/68. State/Country MD/ USA	E64. Zip Code 20876

E61. Call Sign E940460 NOTE: Please enter the callsign of the controlling station, not the callsign for which this application is being filed.		E66. Phone Number 301−428−7205	
E62. Street Address One Aerojet Way			
E63. City North Las Vegas	E68. County Clark	E67/68. State/Country NV/ USA	E64. Zip Code 89030

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:	TFTR 74−2CM	E5. Call Sign:	E000166
E2: Contact Name	Network Management Ctr (Bill McHargue)	E6. Phone Number:	301−428−7205
E3. Street:	11717 Exploration Lane	E7. City:	Germantown
		E8. County:	Montgomery
E4. State	MD	E9. Zip Code	20876
E10. Area of Operation:		CONUS, AK, HI, PR, VI	
E11. Latitude:	0 °0 ’0.0 "N		
E12. Longitude:	0 °0 ’0.0 "W		
E13. Lat/Lon Coordinates are:		○ NAD−27	◉ NAD−83 ○ N/A
E14. Site Elevation (AMSL):		0.0 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?	○ Yes ○ No ◉ N/A

E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.	◉ Yes ○ No

E18. Is frequency coordination required? If YES, attach a frequency coordination report as	○ Yes ◉ No
E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as	○ Yes ◉ No
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? FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL RESULT IN THE RETURN OF THIS APPLICATION.	○ Yes ◉ No

POINTS OF COMMUNICATION

Satellite Name:OTHER | OTHER | If you selected OTHER, please enter the following:	
E21. Common Name: Galaxy 25	E22. ITU Name:
E23. Orbit Location: 93.1 W.L.	E24. Country: USA

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)	
TFTR 74−2CM	TFTR 74−2C	50000	RAVEN	HNS−AN−074R−KU	0.74	0.0 dBi at	
TFTR 74−2CM	TFTR 74−2C	50000	PRODELIN	HNS−AN−074P−KU	0.74	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)
TFTR 74−2C	0.0/0.0	0.0	0.0	0.0	2.0	0.0	41.7
TFTR 74−2C	0.0/0.0	0.0	0.0	0.0	2.0	0.0	41.7

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)
TFTR 74−2C	11700.0000 12200.0000	R	Horizontal and Vertical	36M0G7D	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.)

PSK, DATA, 30 MSPS, OUTROUTE CARRIER

TFTR 74−2C	11700.0000 12200.0000	R	Horizontal and Vertical	400KG7D	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.)

PSK, DATA, 256 KSPS, OUTROUTE CARRIER

TFTR 74−2C	14000.0000 14500.0000	T	Horizontal and Vertical	200KG7D	41.7	24.7

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.)

PSK, DIGITAL, 128 KSPS, INROUTE CARRIER

TFTR 74−2C	14000.0000 14500.0000	T	Horizontal and Vertical	1M60G7D	41.7	15.7

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.)

PSK, DIGITAL, 1024 KSPS, INROUTE CARRIER

TFTR 74−2C	11700.0000 12200.0000	R	Horizontal and Vertical	36M0G7D	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.)

PSK, DATA, 30 MSPS, OUTROUTE CARRIER

TFTR 74−2C	11700.0000 12200.0000	R	Horizontal and Vertical	400KG7D	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.)

PSK, DATA, 256 KSPS, OUTROUTE CARRIER

TFTR 74−2C	14000.0000 14500.0000	T	Horizontal and Vertical	200KG7D	41.7	24.7

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.)

PSK, DIGITAL, 128 KSPS, INROUTE CARRIER

TFTR 74−2C	14000.0000 14500.0000	T	Horizontal and Vertical	1M60G7D	41.7	15.7

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.)

PSK, DIGITAL, 1024 KSPS, INROUTE CARRIER

FREQUENCY COORDINATION

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

REMOTE CONTROL POINT LOCATION

E61. Call Sign E000166 NOTE: Please enter the callsign of the controlling station, not the callsign for which this application is being filed.		E66. Phone Number 301−428−7205	
E62. Street Address 11717 Exploration Lane			
E63. City Germantown	E68. County Montgomery	E67/68. State/Country MD/ USA	E64. Zip Code 20876

E61. Call Sign E940460 NOTE: Please enter the callsign of the controlling station, not the callsign for which this application is being filed.		E66. Phone Number 301−428−7205	
E62. Street Address One Aerojet Way			
E63. City North Las Vegas	E68. County Clark	E67/68. State/Country NV/ USA	E64. Zip Code 89030

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:	TR 1.0M	E5. Call Sign:	E000166
E2: Contact Name	Network Management Ctr (Bill McHargue)	E6. Phone Number:	301−428−7205
E3. Street:	11717 Exploration Lane	E7. City:	Germantown
		E8. County:	Montgomery
E4. State	MD	E9. Zip Code	20876
E10. Area of Operation:		CONUS, AK, HI, PR, VI	
E11. Latitude:	0 °0 ’0.0 "N		
E12. Longitude:	0 °0 ’0.0 "W		
E13. Lat/Lon Coordinates are:		○ NAD−27	◉ NAD−83 ○ N/A
E14. Site Elevation (AMSL):		0.0 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?	○ Yes ○ No ◉ N/A

E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.	◉ Yes ○ No

E18. Is frequency coordination required? If YES, attach a frequency coordination report as	○ Yes ◉ No
E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as	○ Yes ◉ No
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? FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL RESULT IN THE RETURN OF THIS APPLICATION.	○ Yes ◉ No

POINTS OF COMMUNICATION

Satellite Name: 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)	
TR 1.0M	TR 1.0	100000	PRODELIN	1102 (135cm x 58cm)	1.0	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)
TR 1.0	0.0/0.0	0.0	0.0	0.0	2.0	0.0	44.0

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)
TR 1.0	11700.0000 12200.0000	R	Horizontal and Vertical	36M0G7D	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.)

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PSK, DATA, 30 MSPS, OUTROUTE CARRIER
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TR 1.0	11700.0000 12200.0000	R	Horizontal and Vertical	400KG7D	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.)

PSK, DATA, 256 KSPS, OUTROUTE CARRIER

TR 1.0	14000.0000 14500.0000	T	Horizontal and Vertical	200KG7D	44.0	27.0

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.)

PSK, DIGITAL, 128 KSPS, INROUTE CARRIER

TR 1.0	14000.0000 14500.0000	T	Horizontal and Vertical	1M60G7D	44.0	18.0

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.)

PSK, DIGITAL, 1024 KSPS, INROUTE CARRIER

FREQUENCY COORDINATION

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

REMOTE CONTROL POINT LOCATION

E61. Call Sign E000166 NOTE: Please enter the callsign of the controlling station, not the callsign for which this application is being filed.			E66. Phone Number 301−428−7205
E62. Street Address 11717 Exploration Lane			
E63. City Germantown	E68. County Montgomery	E67/68. State/Country MD/ USA	E64. Zip Code 20876

E61. Call Sign E940460 NOTE: Please enter the callsign of the controlling station, not the callsign for which this application is being filed.	E66. Phone Number 301−428−7205
E62. Street Address One Aerojet Way	

E63. City	E68. County	E67/68. State/Country	E64. Zip Code
North Las Vegas	Clark	NV/ USA	89030

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:	TR 1.2M	E5. Call Sign:	E000166
E2: Contact Name	Network Management Ctr (Bill McHargue)	E6. Phone Number:	301−428−7205
E3. Street:	11717 Exploration Lane	E7. City:	Germantown
		E8. County:	Montgomery
E4. State	MD	E9. Zip Code	20876
E10. Area of Operation:		CONUS, AK, HI, PR, VI	
E11. Latitude:	0 °0 ’0.0 "N		
E12. Longitude:	0 °0 ’0.0 "W		
E13. Lat/Lon Coordinates are:	○ NAD−27	◉ NAD−83	○ N/A
E14. Site Elevation (AMSL):	0.0 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?	○ Yes ○ No ◉ N/A
E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.	◉ Yes ○ No

E18. Is frequency coordination required? If YES, attach a frequency coordination report as	○ Yes ◉ No
E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as	○ Yes ◉ No
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? FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL RESULT IN THE RETURN OF THIS APPLICATION.	○ Yes ◉ No

POINTS OF COMMUNICATION

Satellite Name: 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)	
TR 1.2M	TR 1.2M	100000	PRODELIN	HNS−AN−120P−KU	1.2	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)
TR 1.2M	0.0/0.0	0.0	0.0	0.0	2.0	0.0	46.1

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)
TR 1.2M	11700.0000 12200.0000	R	Horizontal and Vertical	36M0G7D	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.)

PSK, DATA, 30 MSPS, OUTROUTE CARRIER

TR 1.2M	11700.0000 12200.0000	R	Horizontal and Vertical	400KG7D	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.)

PSK, DATA, 256 KSPS, OUTROUTE CARRIER

TR 1.2M	14000.0000 14500.0000	T	Horizontal and Vertical	200KG7D	46.1	29.1

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.)

PSK, DIGITAL, 128 KSPS, INROUTE CARRIER

TR 1.2M	14000.0000 14500.0000	T	Horizontal and Vertical	1M60G7D	46.1	21.1

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.)

PSK, DIGITAL, 1024 KSPS, INROUTE CARRIER

FREQUENCY COORDINATION

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

REMOTE CONTROL POINT LOCATION

E61. Call Sign E940460 NOTE: Please enter the callsign of the controlling station, not the callsign for which this application is being filed.	E66. Phone Number 301−428−7205
E62. Street Address One Aerojet Way	

E63. City	E68. County	E67/68. State/Country	E64. Zip Code
North Las Vegas	Clark	NV/ USA	89030

E61. Call Sign E000166 NOTE: Please enter the callsign of the controlling station, not the callsign for which this application is being filed.		E66. Phone Number 301−428−7205	
E62. Street Address 11717 Exploration Lane			
E63. City Germantown	E68. County Montgomery	E67/68. State/Country MD/ USA	E64. Zip Code 20876

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:	TR 1.8M	E5. Call Sign:	E000166
E2: Contact Name	Network Management Ctr (Bill McHargue)	E6. Phone Number:	301−428−7205
E3. Street:	11717 Exploration Lane	E7. City:	Germantown
		E8. County:	Montgomery
E4. State	MD	E9. Zip Code	20876
E10. Area of Operation:		CONUS, AK, HI, PR, VI	
E11. Latitude:	0 °0 ’0.0 "N		
E12. Longitude:	0 °0 ’0.0 "W		
E13. Lat/Lon Coordinates are:		○ NAD−27	◉ NAD−83 ○ N/A
E14. Site Elevation (AMSL):		0.0 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?	○ Yes ○ No ◉ N/A

E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.	◉ Yes ○ No

E18. Is frequency coordination required? If YES, attach a frequency coordination report as	○ Yes ◉ No
E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as	○ Yes ◉ No
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? FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL RESULT IN THE RETURN OF THIS APPLICATION.	○ Yes ◉ No

POINTS OF COMMUNICATION

Satellite Name: 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)	
TR 1.8M	TR 1.8M	50000	PRODELIN	HNS−AN−180P−KU	1.8	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)
TR 1.8M	0.0/0.0	0.0	0.0	0.0	2.0	0.0	49.7

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)
TR 1.8M	11700.0000 12200.0000	R	Horizontal and Vertical	36M0G7D	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.)

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PSK, DATA, 30 MSPS, OUTROUTE CARRIER
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TR 1.8M	11700.0000 12200.0000	R	Horizontal and Vertical	400KG7D	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.)

PSK, DATA, 256 KSPS, OUTROUTE CARRIER

TR 1.8M	14000.0000 14500.0000	T	Horizontal and Vertical	200KG7D	49.7	32.7

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.)

PSK, DIGITAL, 128 KSPS, INROUTE CARRIER

TR 1.8M	14000.0000 14500.0000	T	Horizontal and Vertical	1M60G7D	49.7	23.7

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.)

PSK, DIGITAL, 1024 KSPS, INROUTE CARRIER

FREQUENCY COORDINATION

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

REMOTE CONTROL POINT LOCATION

E61. Call Sign E000166 NOTE: Please enter the callsign of the controlling station, not the callsign for which this application is being filed.			E66. Phone Number 301−428−7205
E62. Street Address 11717 Exploration Lane			
E63. City Germantown	E68. County Montgomery	E67/68. State/Country MD/ USA	E64. Zip Code 20876

E61. Call Sign E940460 NOTE: Please enter the callsign of the controlling station, not the callsign for which this application is being filed.	E66. Phone Number 301−428−7205
E62. Street Address One Aerojet Way	

E63. City	E68. County	E67/68.	E64. Zip Code
North Las Vegas	Clark	State/Country NV/ USA	89030

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:	TR 2.4M	E5. Call Sign:	E000166
E2: Contact Name	Network Management Ctr (Bill McHargue)	E6. Phone Number:	301−428−7205
E3. Street:	11717 Exploration Lane	E7. City:	Germantown
		E8. County:	Montgomery
E4. State	MD	E9. Zip Code	20876
E10. Area of Operation:		CONUS, AK, HI, PR, VI	
E11. Latitude:	0 °0 ’0.0 "N		
E12. Longitude:	0 °0 ’0.0 "W		
E13. Lat/Lon Coordinates are:	○ NAD−27	◉ NAD−83	○ N/A
E14. Site Elevation (AMSL):	0.0 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?	○ Yes ○ No ◉ N/A
E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.	◉ Yes ○ No

E18. Is frequency coordination required? If YES, attach a frequency coordination report as	○ Yes ◉ No
E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as	○ Yes ◉ No
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? FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL RESULT IN THE RETURN OF THIS APPLICATION.	○ Yes ◉ No

POINTS OF COMMUNICATION

Satellite Name:	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)	
TR 2.4M	TR 2.4M	11000	PRODELIN	HNS−AN−240P−KU	2.4	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)
TR 2.4M	0.0/0.0	0.0	0.0	0.0	2.0	0.0	52.2

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)
TR 2.4M	11700.0000 12200.0000	R	Horizontal and Vertical	36M0G7D	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.)

PSK, DATA, 30 MSPS, OUTROUTE CARRIER

TR 2.4M	11700.0000 12200.0000	R	Horizontal and Vertical	400KG7D	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.)

PSK, DATA, 256 KSPS, OUTROUTE CARRIER

TR 2.4M	14000.0000 14500.0000	T	Horizontal and Vertical	200KG7D	52.2	35.2

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.)

PSK, DIGITAL, 128 KSPS, INROUTE CARRIER

TR 2.4M	14000.0000 14500.0000	T	Horizontal and Vertical	1M60G7D	52.2	26.2

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.)

PSK, DIGITAL, 1024 KSPS, INROUTE CARRIER

FREQUENCY COORDINATION

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

REMOTE CONTROL POINT LOCATION

E61. Call Sign E940460 NOTE: Please enter the callsign of the controlling station, not the callsign for which this application is being filed.	E66. Phone Number 301−428−7205
E62. Street Address One Aerojet Way	

E63. City	E68. County	E67/68. State/Country	E64. Zip Code
North Las Vegas	Clark	NV/ USA	89030

E61. Call Sign E000166 NOTE: Please enter the callsign of the controlling station, not the callsign for which this application is being filed.		E66. Phone Number 301−428−7205	
E62. Street Address 11717 Exploration Lane			
E63. City Germantown	E68. County Montgomery	E67/68. State/Country MD/ USA	E64. Zip Code 20876

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:	TR 74−2 CM	E5. Call Sign:	E000166
E2: Contact Name	Network Management Ctr (Bill McHargue)	E6. Phone Number:	301−428−7205
E3. Street:	11717 Exploration Lane	E7. City:	Germantown
		E8. County:	Montgomery
E4. State	MD	E9. Zip Code	20876
E10. Area of Operation:		CONUS, AK, HI, PR, VI	
E11. Latitude:	0 °0 ’0.0 "N		
E12. Longitude:	0 °0 ’0.0 "W		
E13. Lat/Lon Coordinates are:		○ NAD−27	◉ NAD−83 ○ N/A
E14. Site Elevation (AMSL):		0.0 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?	○ Yes ○ No ◉ N/A

E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.	◉ Yes ○ No

E18. Is frequency coordination required? If YES, attach a frequency coordination report as	○ Yes ◉ No
E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as	○ Yes ◉ No
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? FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL RESULT IN THE RETURN OF THIS APPLICATION.	○ Yes ◉ No

POINTS OF COMMUNICATION

Satellite Name:OTHER | OTHER | If you selected OTHER, please enter the following:	
E21. Common Name: Galaxy 25	E22. ITU Name:
E23. Orbit Location: 93.1 W.L.	E24. Country: USA

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)	
TR 74−2 CM	TR 74−2CM	500000	RAVEN	HNS−AN−074R−KU	0.74	0.0 dBi at	
TR 74−2 CM	TR 74−2CM	500000	PRODELIN	HNS−AN−074P−KU	0.74	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)
TR 74−2CM	0.0/0.0	0.0	0.0	0.0	2.0	0.0	41.7
TR 74−2CM	0.0/0.0	0.0	0.0	0.0	2.0	0.0	41.7

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)
TR 74−2CM	11700.0000 12200.0000	R	Horizontal and Vertical	36M0G7D	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.)

PSK, DATA, 30 MSPS, OUTROUTE CARRIER

TR 74−2CM	11700.0000 12200.0000	R	Horizontal and Vertical	400KG7D	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.)

PSK, DATA, 256 KSPS, OUTROUTE CARRIER

TR 74−2CM	14000.0000 14500.0000	T	Horizontal and Vertical	200KG7D	41.7	24.7

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.)

PSK, DIGITAL, 128 KSPS, INROUTE CARRIER

TR 74−2CM	14000.0000 14500.0000	T	Horizontal and Vertical	1M60G7D	41.7	15.7

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.)

PSK, DIGITAL, 1024 KSPS, INROUTE CARRIER

TR 74−2CM	11700.0000 12200.0000	R	Horizontal and Vertical	36M0G7D	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.)

PSK, DATA, 30 MSPS, OUTROUTE CARRIER

TR 74−2CM	11700.0000 12200.0000	R	Horizontal and Vertical	400KG7D	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.)

PSK, DATA, 256 KSPS, OUTROUTE CARRIER

TR 74−2CM	14000.0000 14500.0000	T	Horizontal and Vertical	200KG7D	41.7	24.7

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.)

PSK, DIGITAL, 128 KSPS, INROUTE CARRIER

TR 74−2CM	14000.0000 14500.0000	T	Horizontal and Vertical	1M60G7D	41.7	15.7

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.)

PSK, DIGITAL, 1024 KSPS, INROUTE CARRIER

FREQUENCY COORDINATION

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

REMOTE CONTROL POINT LOCATION

E61. Call Sign E000166 NOTE: Please enter the callsign of the controlling station, not the callsign for which this application is being filed.		E66. Phone Number 301−428−7205	
E62. Street Address 11717 Exploration Lane			
E63. City Germantown	E68. County Montgomery	E67/68. State/Country MD/ USA	E64. Zip Code 20876

E61. Call Sign E940460 NOTE: Please enter the callsign of the controlling station, not the callsign for which this application is being filed.		E66. Phone Number 301−428−7205	
E62. Street Address One Aerojet Way			
E63. City North Las Vegas	E68. County Clark	E67/68. State/Country NV/ USA	E64. Zip Code 89030

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:	TR 74CM	E5. Call Sign:	E000166
E2: Contact Name	Network Management Ctr (Bill McHargue)	E6. Phone Number:	301−428−7205
E3. Street:	11717 Exploration Lane	E7. City:	Germantown
		E8. County:	Montgomery
E4. State	MD	E9. Zip Code	20876
E10. Area of Operation:		CONUS, AK, HI, PR, VI	
E11. Latitude:	0 °0 ’0.0 "N		
E12. Longitude:	0 °0 ’0.0 "W		
E13. Lat/Lon Coordinates are:		○ NAD−27	◉ NAD−83 ○ N/A
E14. Site Elevation (AMSL):		0.0 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?	○ Yes ○ No ◉ N/A

E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.	◉ Yes ○ No

E18. Is frequency coordination required? If YES, attach a frequency coordination report as	○ Yes ◉ No
E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as	○ Yes ◉ No
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? FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL RESULT IN THE RETURN OF THIS APPLICATION.	○ Yes ◉ No

POINTS OF COMMUNICATION

Satellite Name: OTHER | OTHER | If you selected OTHER, please enter the following:	
E21. Common Name: Galaxy 25	E22. ITU Name:
E23. Orbit Location: 93.1 W.L.	E24. Country: USA

Satellite Name: GALAXY 16 | GALAXY 16 | 99 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)	
TR 74CM	TR 74CM	350000	PRODELIN	HNS−AN−074P−KU	0.74	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)
TR 74CM	0.0/0.0	0.0	0.0	0.0	2.0	0.0	42.0

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)
TR 74CM	11700.0000 12200.0000	R	Horizontal and Vertical	36M0G7D	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.)

PSK, DATA, 30 MSPS, OUTROUTE CARRIER

TR 74CM	11700.0000 12200.0000	R	Horizontal and Vertical	400KG7D	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.)

PSK, DATA, 256 KSPS, OUTROUTE CARRIER

TR 74CM	14000.0000 14500.0000	T	Horizontal and Vertical	200KG7D	42.0	25.0

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.)

PSK, DIGITAL, 128 KSPS, INROUTE CARRIER

TR 74CM	14000.0000 14500.0000	T	Horizontal and Vertical	1M60G7D	42.0	16.0

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.)

PSK, DIGITAL, 1024 KSPS, INROUTE CARRIER

FREQUENCY COORDINATION

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

REMOTE CONTROL POINT LOCATION

E61. Call Sign E940460 NOTE: Please enter the callsign of the controlling station, not the callsign for which this application is being filed.			E66. Phone Number 301−428−7205
E62. Street Address One Aerojet Way			
E63. City North Las Vegas	E68. County Clark	E67/68. State/Country NV/ USA	E64. Zip Code 89030

E61. Call Sign E000166 NOTE: Please enter the callsign of the controlling station, not the callsign for which this application is being filed.		E66. Phone Number 301−428−7205	
E62. Street Address 11717 Exploration Lane			
E63. City Germantown	E68. County Montgomery	E67/68. State/Country MD/ USA	E64. Zip Code 20876

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:	TR 98CM	E5. Call Sign:	E000166
E2: Contact Name	Network Management Ctr (Bill McHargue)	E6. Phone Number:	301−428−7205
E3. Street:	11717 Exploration Lane	E7. City:	Germantown
		E8. County:	Montgomery
E4. State	MD	E9. Zip Code	20876
E10. Area of Operation:		CONUS, AK, HI, PR, VI	
E11. Latitude:	0 °0 ’0.0 "N		
E12. Longitude:	0 °0 ’0.0 "W		
E13. Lat/Lon Coordinates are:		○ NAD−27	◉ NAD−83 ○ N/A
E14. Site Elevation (AMSL):		0.0 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?	○ Yes ○ No ◉ N/A

E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.	◉ Yes ○ No

E18. Is frequency coordination required? If YES, attach a frequency coordination report as	○ Yes ◉ No
E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as	○ Yes ◉ No
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? FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL RESULT IN THE RETURN OF THIS APPLICATION.	○ Yes ◉ No

POINTS OF COMMUNICATION

Satellite Name:OTHER | OTHER | If you selected OTHER, please enter the following:	
E21. Common Name: Galaxy 25	E22. ITU Name:
E23. Orbit Location: 93.1 W.L.	E24. Country: USA

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)	
TR 98CM	TR 98CM	200000	RAVEN	HNS−AN−098R−KU	0.98	0.0 dBi at	
TR 98CM	TR 98CM	200000	PRODELIN	HNS−AN−098P−KU	0.98	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)
TR 98CM	0.0/0.0	0.0	0.0	0.0	2.0	0.0	44.3
TR 98CM	0.0/0.0	0.0	0.0	0.0	2.0	0.0	44.3

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)
TR 98CM	11700.0000 12200.0000	R	Horizontal and Vertical	36M0G7D	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.)

PSK, DIGITAL, 30 MSPS, OUTROUTE CARRIER

TR 98CM	11700.0000 12200.0000	R	Horizontal and Vertical	400KG7D	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.)

PSK, DIGITAL, 256 KSPS, OUTROUTE CARRIER

TR 98CM	14000.0000 14500.0000	T	Horizontal and Vertical	200KG7D	44.3	27.3

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.)

PSK, DIGITAL, 128 KSPS, INROUTE CARRIER

TR 98CM	14000.0000 14500.0000	T	Horizontal and Vertical	1M60G7D	44.3	18.3

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.)

PSK, DIGITAL, 1024 KSPS, INROUTE CARRIER

TR 98CM	11700.0000 12200.0000	R	Horizontal and Vertical	36M0G7D	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.)

PSK, DIGITAL, 30 MSPS, OUTROUTE CARRIER

TR 98CM	11700.0000 12200.0000	R	Horizontal and Vertical	400KG7D	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.)

PSK, DIGITAL, 256 KSPS, OUTROUTE CARRIER

TR 98CM	14000.0000 14500.0000	T	Horizontal and Vertical	200KG7D	44.3	27.3

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.)

PSK, DIGITAL, 128 KSPS, INROUTE CARRIER

TR 98CM	14000.0000 14500.0000	T	Horizontal and Vertical	1M60G7D	44.3	18.3

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.)

PSK, DIGITAL, 1024 KSPS, INROUTE CARRIER

FREQUENCY COORDINATION

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

REMOTE CONTROL POINT LOCATION

E61. Call Sign E000166 NOTE: Please enter the callsign of the controlling station, not the callsign for which this application is being filed.		E66. Phone Number 301−428−7205	
E62. Street Address 11717 Exploration Lane			
E63. City Germantown	E68. County Montgomery	E67/68. State/Country MD/ USA	E64. Zip Code 20876

E61. Call Sign E940460 NOTE: Please enter the callsign of the controlling station, not the callsign for which this application is being filed.		E66. Phone Number 301−428−7205	
E62. Street Address One Aerojet Way			
E63. City North Las Vegas	E68. County Clark	E67/68. State/Country NV/ USA	E64. Zip Code 89030

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