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

ĺ	FCC APPLICATION FOR SPACE AND EARTH STATION:MOD OR AMD - MAIN FORM	FCC Use Only
	FCC 312 MAIN FORM FOR OFFICIAL USE ONLY	
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## 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 A	pplicant		
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. E-Mail: sbaruch@lermansenter.com

Suite 600

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

**b**3. Amendment to a Pending Application

**b**4. Modification of License or Registration

b5. Assignment of License or Registration

b6. Transfer of Control of License or Registration

**b**7. 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 applicat  The image of the submitted with this applicat in the submitted with this application. If Yes, complete and attach FCC Form	ion? 159. If No, indicate reason for fee exemption	n (see 47 C.F.R.Section 1.1114).			
Governmental Entity Noncomme	ercial 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 pendin modification please enter only the file number	g application enter both fields, if this filing is a er:			
(a) Call sign of station: E000166	(a) Date pending application was filed:	(b) File number:			
E000100		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:
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 22. If earth station applicant, check all that apply.
only one. Using U.S. licensed satellites
Common Carrier
23. If applicant is providing 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)  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 sta	tion that applies. Choose only	one.	
a. Fixed Earth Station				
o b. Temporary–Fixed Earth Station				
oc. 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/Δ		
Transmit/Receive Transmit-Only "For Space Station applications, select N/A."	O Receive—Only	O N/A		

## PURPOSE OF MODIFICATION

27. The purpose of this proposed modification is to: (Place an 'X' in the box(es) next to all that apply.)
a — authorization to add new emission designator and related service
b — authorization to change emission designator and related service
c — authorization to increase EIRP and EIRP density
d — authorization to replace antenna
e — authorization to add antenna
f — authorization to relocate fixed station
g — authorization to change frequency(ies)
h — authorization to add frequency
i — authorization to add Points of Communication (satellites & Double
j — authorization to change Points of Communication (satellites & tountries)
k — authorization for facilities for which environmental assessment and
radiation hazard reporting is required
1 — authorization to change orbit location
m — authorization to perform fleet management
n — authorization to extend milestones
o — Other (Please specify)

#### **ENVIRONMENTAL POLICY**

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.	•		~			
ALIEN OWNERSHIP Earth station applicants not proposing to provide broadcast, common carrier, aeron aeronautical fixed radio station services are not required to respond to Items 30–34.	autic	al en	ı rou	ite or		
29. Is the applicant a foreign government or the representative of any foreign government?	0	Yes	•	No		
30. Is the applicant an alien or the representative of an alien?	0	Yes	0	No	•	N/A
31. Is the applicant a corporation organized under the laws of any foreign government?	0	Yes	0	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?	0	Yes	0	No	•	N/A

 $lackbox{ Yes } lackbox{ No}$ 

28. Would a Commission grant of any proposal in this application or amendment have a significant environmental

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?	O Yes O	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.	<b>o</b> 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.	O 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	<b>⊚</b> No
38. Has any court finally adjudged the applicant, or any person directly or indirectly controlling the applicant, guilty of unlawfully monopolizing or attempting unlawfully to monopolize radio communication, directly or indirectly, through control of manufacture or sale of radio apparatus, exclusive traffic arrangement or any other means or unfair methods of competition? If Yes, attach as an exhibit, an explanation of circumstances	• Yes	No
39. Is the applicant, or any person directly or indirectly controlling the applicant, currently a party in any pending matter referred to in the preceding two items? If yes, attach as an exhinit, an explanation of the circumstances.	• Yes	<b>⊘</b> 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	O 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	O No
42b. What administration has licensed or is in the process of licensing the space station? If no license will be issued, we coordinated or is in the process of coordinating the space station? See Exhibit A.	hat administr	ration has
43. Description. (Summarize the nature of the application and the services to be provided). (If the complete descriptions, please go to the end of the form to view it in its entirety.)  See Exhibit A.	on does not a	ppear in this
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.	<b>●</b> 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.	O 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.	<b>o</b> 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.

<ul> <li>Individual</li> <li>Unincorporated Association</li> <li>Partnership</li> <li>Corporation</li> <li>Governmental Entity</li> <li>Other (please specify)</li> <li>45. Name of Person Signing Steven Doiron</li> <li>46. Title of Person Signing Senior Director, Regulatory Affairs</li> </ul>	
Partnership Corporation Governmental Entity Other (please specify)  45. Name of Person Signing Steven Doiron  46. Title of Person Signing Senior Director, Regulatory Affairs	
Partnership Corporation Governmental Entity Other (please specify)  45. Name of Person Signing Steven Doiron  46. Title of Person Signing Senior Director, Regulatory Affairs	
Corporation Governmental Entity Other (please specify)  45. Name of Person Signing Steven Doiron  46. Title of Person Signing Senior Director, Regulatory Affairs	
Governmental Entity Other (please specify)  45. Name of Person Signing Steven Doiron  46. Title of Person Signing Senior Director, Regulatory Affairs	
Other (please specify)  45. Name of Person Signing Steven Doiron  46. Title of Person Signing Senior Director, Regulatory Affairs	
45. Name of Person Signing Steven Doiron  46. Title of Person Signing Senior Director, Regulatory Affairs	
Steven Doiron Senior Director, Regulatory Affairs	
Steven Doiron Senior Director, Regulatory Affairs	
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).

Location of Earth Station Site

E1: Site Identifier: HUB-A E5. Call Sign: E000166

E2: Contact Name Network E6. Phone 301–428–7205

Management Ctr Number:

(Bill McHargue)

E3. Street: 11717 Exploration E7. City: Germantown

Lane

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.	<b>●</b> Yes	s	O No	O 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?	O Yes	s	O No	<b>⊚</b> N/A
E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.	O Ye	es	•	No
E18. Is frequency coordination required? If YES, attach a frequency coordination report as	O Ye	es	•	No
E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as	O Ye	es	•	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.	O Ye	es	•	No
POINTS OF COMMUNICATION				
Satellite Name: If you selected OTHER, please enter the following:				

E21. Common N	Name:			E22. ITU Name:				
E23. Orbit Loca	tion:			E24. Country:				
POINTS OF	COMMUNICAT	ON (Destination	Points)	·				
E25. Site Identif	fier:							
E26. Common N	Name:			E27. Country:				
ANTENNA								
Site ID	E28. Antenna Id	E29. Quantity	E30. Manufacturer	E31. Model	E32. Antenna Size <meters></meters>	E41/42. Antenna Gain Transmint and/or Recieve (dBi atGHz)		
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)		

# FREQUENCY

HubA 7.6M

0.0/0.0

8.5

	E43/44. Frequency Bands (MHz)	E45. T/R Mode			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

0.0

800.0

0.0

149.9

88.3

E50. Modulation entirety.)	n and Services (If the	ne complete descripti	on does not appear i	n this box, please g	go to the end of th	he form to view it in its
PSK, DIGI	TAL, 128 KSPS,	INROUTE CARRIE	IR			
HubA 7.6M	11700.0000 12200.0000	R	Horizontal and Vertical	1M60G7D	0.0	0.0
E50. Modulation entirety.)	n and Services (If the	ne complete descripti	on does not appear i	n this box, please g	to the end of the	he form to view it in its
PSK, DIGI	TAL, 1024 KSPS,	INROUTE CARRI	IER			
HubA 7.6M	14000.0000 14500.0000	Т	Horizontal and Vertical	24M0G7D	78.0	40.2
E50. Modulation entirety.)	n and Services (If the	ne complete descripti	on does not appear i	n this box, please g	to the end of the	he form to view it in its
PSK, DATA	, 20 MSPS, OUTF	COUTE CARRIER				
HubA 7.6M	14000.0000 14500.0000	Т	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	T	Horizontal and	400KG7D	47.9	27.9
	14500.0000		Vertical			

E50. Modulation and Services (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	Frequency Limits(MHz)	Range of Satellite Arc Eastern/West	Station Azimuth Angle	Station Azimuth Angle	E59. Antenna Elevation Angle Western Limit	E60. Maximum EIRP Density toward the Horizon (dBW/4kHz)
			/				

REMOTE CONTROL POINT LOCATION

E61. Call Sign		E66. Phone Number		
NOTE: Please enter the callsign of the control callsign for which this application is being filed.				
E62. Street Address		•		
E63. City	E68. County		E67/68. State/Country	E64. Zip Code

Location of Earth Station Site E1: Site Identifier: HUB-B E5. Call Sign: E000166 E2: Contact Name Network E6. Phone 301-428-7205 Management Ctr Number: (Bill McHargue) E3. Street: 11717 Exploration E7. City: Germantown Lane 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: N/A NAD-27 **⋒** NAD-83 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.	<b>●</b> Yes	O No	O 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?	O Yes	O No	● N/A

E17. Is the facility operated by remote control? If YES, provide the point.	location and telephone number of the control	O Yes	No
E18. Is frequency coordination required? If YES, attach a frequency	y accordination raport as		
E18. Is frequency coordination required? If TES, attach a frequency	coordination report as	O Yes	No
E19. Is coordination with another country required? If YES, attach to coordination contours as	the name of the country(ies) and plot of	O Yes	No
E20. FAA Notification – (See 47 CFR Part 17 and 47 CFR part 2 have you attached a copy of a completed FCC Form 854 and/or the the structure to aviation?  FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WI APPLICATION.	FAA's study regarding the potential hazard of	O Yes	No
POINTS OF COMMUNICATION		•	
Satellite Name: If you selected OTHER, please enter the following	ng:		
E21. Common Name:	E22. ITU Name:		
E23. Orbit Location:	E24. Country:		
POINTS OF COMMUNICATION (Destination Points)	•		
E25. Site Identifier:			
E26. Common Name:	E27. Country:		
A NUTERINI A			

ANTENNA

Site ID	E28. Antenna Id	E29. Quantity	E30. Manufacturer	E31. Model	E32. Antenna Size <meters></meters>	E41/42. Antenna Gain Transmint and/or Recieve (dBi atGHz)
HUB-B	HubB 7.6M	2	ANDREW CORP.	ES76K-1	7.6	0.0 dBi at

Id	Diameter		,	Height Above Ground Level	Input Power at	E39. Maximum Antenna Height Above Rooftop (meters)	EIRP for al
HubB 7.6M	0.0/0.0	8.5	138.4	0.0	800.0	0.0	88.3

# FREQUENCY

	E43/44. Frequency Bands (MHz)	E45. T/R Mode			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.)

PSK,	DIGITAL,	128	KSPS,	INROUTE	CARRIER

HubB 7.6M	11700.0000 12200.0000	R	Horizontal and Vertical	1M60G7D	0.0	0.0
E50. Modulation entirety.)	and Services (If	the complete de	escription does not appear	in this box, please	go to the end of th	ne form to view it in its
PSK, DIGIT	TAL, 1024 KSPS	, INROUTE (	CARRIER			
HubB 7.6M	14000.0000 14500.0000	Т	Horizontal and Vertical	24M0G7D	78.0	40.2
PSK, DATA,	20 MSPS, OUT	ROUTE CARRI	[ER			
HubB 7.6M	14000.0000 14500.0000	Т	Horizontal and Vertical	36M0G7D	78.0	38.5
E50. Modulation entirety.)	and Services (If	the complete de	escription does not appear	in this box, please	go to the end of th	ne form to view it in its
PSK, DATA,	30 MSPS, OUT	ROUTE CARRI	IER			

HubB 7.6M	14000.000 14500.000			Horizontal and Vertical	400KG7D	47.9		27.9
E50. Modula entirety.)	ation and Service	es (If the con	nplete descriptio	n does not appear	in this box, plea	ase go to the en	d of the form	to view it in its
	TA, 256 KSI		E CARRIER					
FREQUENCY E28. Antenna Id	E51. Satellite Orbit Type	E52/53. Frequency Limits(MHz)	E54/55. Range of Satellite Arc Eastern/West ern 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 CO	NTROL POIN	T LOCATION	Ţ	·!	<u> </u>			
	gn se enter the calls ch this applicati				. Phone Number			
E62. Street A	Address			-				
E63. City			E68. Coun	ty		E67/68. State/Country		E64. Zip Code

Location of Earth Station Site

E1: Site Identifier: HUB-C 7.6M E5. Call Sign: E000166

E2: Contact Name Network E6. Phone 301–428–7205

Management Ctr Number:

(Bill McHargue)

E3. Street: 11717 Exploration E7. City: Germantown

Lane

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	O No	O 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?	<b>O</b> Yes	O No	<b>⊚</b> N/A
E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.	O Yes	· •	No
E18. Is frequency coordination required? If YES, attach a frequency coordination report as	O Yes	s <b>©</b>	No
E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as	O Yes	s <b>@</b>	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.	O Yes	· •	No
POINTS OF COMMUNICATION	-		
Satellite Name: If you selected OTHER, please enter the following:			

E28. Antenna Id	E43/44. Frequency Ba (MHz)	1	E45. T/R M	ode	E46. Ante Polarizat L,R)		E47. E Design	Emission nator		Maximum P per Carrier W)	E49. Maximum ERIP Density pe Carrier
FREQUENCY		•		·				·			
HubC 7.6M	0.0/0.0	29.3		184.7		0.0		250.0		0.0	83.6
	E33/34. Diameter Minor/Major (meters)		Above and Level ers)		bove Sea meters)	E37. Buil Height A Ground I (meters)	bove	E38. Total Input Powe antenna fla (Watts)		E39. Maximur Antenna Heigl Above Rooftoj (meters)	ht EIRP for al
HUB-C 7.6M	HubC 7.6M	1		NEC		APS-12/1 F64A	14–	7.6		0.0 dBi at	
	E28. Antenna Id	E29.	Quantity	E30. Manuf	facturer	E31. Moo	del	E32. Antend Size <meters< td=""><td></td><td>E41/42. Antenna Gain Transmint and/or Recieve (dBi atGHz)</td><td></td></meters<>		E41/42. Antenna Gain Transmint and/or Recieve (dBi atGHz)	
E26. Common Na ANTENNA	ame:					E27. Cou	ntry:				
E25. Site Identifie											
POINTS OF CO	OMMUNICATI	ON (D	Destination	Points)							
E23. Orbit Location	on:					E24. Country:					
E21. Common Na	ame:					E22. ITU Name:					

Horizontal and

Vertical

1M60G7D

0.0

(dBW/4kHz)

0.0

HubC 7.6M

11700.0000

12200.0000

R

E50. Modulation entirety.)	and Services (If the	e complete description	on does not appear in	this box, please go t	o the end of the form	to view it in its
PSK, DIGIT	TAL, 1024 KSPS,	INROUTE CARRI	ER			
HubC 7.6M	11700.0000 12200.0000	R	Horizontal and Vertical	200KG7D	0.0	0.0
E50. Modulation entirety.)  PSK OR MSK	and Services (If the Land Services), DATA, 128 KS			this box, please go t	o the end of the form	to view it in its
HubC 7.6M	14000.0000 14500.0000	Т	Horizontal and Vertical	12M0G7D	73.8	39.0
E50. Modulation entirety.)  PSK, DATA,	and Services (If the 10 MSPS, OUTR		on does not appear in	this box, please go t	o the end of the form	to view it in its
HubC 7.6M	14000.0000 14500.0000	T	Horizontal and Vertical	400KG7D	59.0	39.0

E50. Modul entirety.)	ation and Servic	es (If the com	plete description	does not appear	in this box, plea	se go to the en	d of the for	n to view it in its
	Y COORDINA	PS, OUTROUT	E CARRIER					
E28. Antenna Id	E51. Satellite Orbit Type	E52/53. Frequency Limits(MHz)	E54/55. Range of Satellite Arc Eastern/West ern 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	n EIRP Density toward the
			/					
REMOTE CC	NTROL POIN	T LOCATION		Į.		<u> </u>		!
	ise enter the calls	sign of the contro			. Phone Number			
E62. Street	Address			,				
E63. City			E68. County	у		E67/68. State/Country		E64. Zip Code

Location of Earth St	ation 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 Operat	ion:	N/A				
E11. Latitude:	39 °10 '42.0 "N					
E12. Longitude:	77 °14 '53.0 "W					
E13. Lat/Lon Coordinates are:		<b>○</b> NAD-27	● NAD-83	O 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.

E16. If the proposed antenna(s) do not operate in the Fixed Satellite Set Satellite Service (FSS) with non–geostationary satellites, do(es) the progain patterns specified in Section 25.209(a2) and (b) as demonstrated by measurements?	O Yes	O No	<b>⊚</b> N/A	
E17. Is the facility operated by remote control? If YES, provide the loca point.	ation and telephone number of the control	O Yes	•	No
E18. Is frequency coordination required? If YES, attach a frequency coordination	ordination report as	o Yes	•	No
E19. Is coordination with another country required? If YES, attach the coordination contours as	name of the country(ies) and plot of	O Yes	•	No
E20. FAA Notification – (See 47 CFR Part 17 and 47 CFR part 25.1 have you attached a copy of a completed FCC Form 854 and/or the FAZ the structure to aviation?  FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL APPLICATION.	A's study regarding the potential hazard of	O 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	Size <meters></meters>	E41/42. Antenna Gain Transmint and/or Recieve (dBi atGHz)	
HUB-D 7.6M	HubD 7.6M	1	NEC	APS-12/14- F0764A	7.6	0.0 dBi at	

Id	Diameter			Height Above Ground Level	Input Power at antenna flange	E39. Maximum Antenna Height Above Rooftop (meters)	EIRP for al
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)			Designator	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 entirety.)	and Services (If the	e complete description	on does not appear in	this box, please go to	o the end of the form	to view it in its		
PSK, DIGIT	AL, 1024 KSPS,	INROUTE CARRI	ER					
HubD 7.6M	11700.0000 12200.0000	R	Horizontal and Vertical	200KG7D	0.0	0.0		
E50. Modulation entirety.)	and Services (If the	e complete description	on does not appear in	this box, please go to	o the end of the form	to view it in its		
PSK OR MSK	PSK OR MSK, DATA, 128 KSPS, INROUTE CARRIER							
HubD 7.6M	14000.0000 14500.0000	Т	Horizontal and Vertical	400KG7D	59.0	39.0		
E50. Modulation entirety.)	and Services (If the	e complete description	on does not appear in	this box, please go to	o the end of the form	to view it in its		
PSK, DATA, 256 KSPS, OUTROUTE CARRIER								
HubD 7.6M	14000.0000 14500.0000	Т	Horizontal and Vertical	12M0G7D	73.8	39.0		

E50. Modula entirety.)	ation and Service	es (If the com	plete description	does not appear	in this box, plea	se go to the en	d of the form to	view it in its
	ATA, 1024 KS	·	ΓΕ CARRIER					
E28. Antenna Id		E52/53. Frequency Limits(MHz)	E54/55. Range of Satellite Arc Eastern/West ern 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)
DEMOTE CC	NITPOL DOIN	T I OCATION	/					
E61. Call Si NOTE: Plea	gn	sign of the contro	olling station, no		. Phone Number			
E28. Antenna Id  REMOTE CO  E61. Call Si  NOTE: Plea	Orbit Type  ONTROL POIN gn  ase enter the calls ich this applicati	E52/53. Frequency Limits(MHz)  T LOCATION	Range of Satellite Arc Eastern/West ern Limit	Station Azimuth Angle Eastern Limit	Antenna Elevation Angle Eastern Limit	Station Azimuth Angle Western Limit	Antenna Elevation Angle Western	Maximum EIRP Density toward the Horizon

E68. County

E64. Zip Code

E67/68. State/Country

E63. City

Location of Earth St	tation 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 Opera	tion:	N/A				
E11. Latitude:	39 °10 '46.0 "N					
E12. Longitude:	77 °14 '49.0 "W					
E13. Lat/Lon Coordinates are:		<b>●</b> NAD-27	<b>○</b> NAD-83	O 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.

E16. If the proposed antenna(s) do not operate in the Fixed Satellite Set Satellite Service (FSS) with non–geostationary satellites, do(es) the progain patterns specified in Section 25.209(a2) and (b) as demonstrated by measurements?	posed antenna(s) comply with the antenna	O Yes	O No	<b>⊚</b> N/A
E17. Is the facility operated by remote control? If YES, provide the loca point.	ntion and telephone number of the control	O Yes	•	No
E18. Is frequency coordination required? If YES, attach a frequency coordination	ordination report as	O Yes	•	No
E19. Is coordination with another country required? If YES, attach the a coordination contours as	name of the country(ies) and plot of	O Yes	•	No
E20. FAA Notification – (See 47 CFR Part 17 and 47 CFR part 25.1 have you attached a copy of a completed FCC Form 854 and/or the FAZ the structure to aviation?  FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL APPLICATION.	O 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:
4.3.700	

#### ANTENNA

Site ID	E28. Antenna Id	E29. Quantity	E30. Manufacturer		Size <meters></meters>	E41/42. Antenna Gain Transmint and/or Recieve (dBi atGHz)	
HUB-E 6.1M	HubE 6.1M	1	VERTEX	6.1KPK	6.1	0.0 dBi at	

Id	Diameter		` ′	Height Above	Input Power at	E39. Maximum Antenna Height Above Rooftop (meters)	EIRP for al
HubE 6.1M	0.0/0.0	19.9	155.7	0.0	550.0	0.0	84.7

# FREQUENCY

	E43/44. Frequency Bands (MHz)				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.)

PSK,	DATA,	128	KSPS,	INROUTE	CARRIER

HubE 6.1M	11700.0000 12200.0000	R	Horizontal and Vertical	1M60G7D	0.0	0.0
E50. Modulation entirety.)	and Services (If	the complete des	scription does not appear	in this box, please	go to the end of the	he form to view it in its
PSK, DIGIT	TAL, 1024 KSPS	, INROUTE C	CARRIER			
HubE 6.1M	14000.0000 14500.0000	Т	Horizontal and Vertical	24M0G7D	79.7	41.9
PSK, DATA,	20 MSPS, OUT	ROUTE CARRI	IER			
HubE 6.1M	14000.0000 14500.0000	Т	Horizontal and Vertical	36M0G7D	97.7	40.2
E50. Modulation entirety.)	and Services (If	the complete des	scription does not appear	in this box, please	go to the end of the	he form to view it in its
PSK, DATA,	30 MSPS, OUT	ROUTE CARRI	IER			

HubE 6.1M	14000.000 14500.000			Horizontal and Vertical	400KG7D	52.9		32.9
E50. Modula entirety.)	ation and Service	es (If the cor	nplete description	on does not appear	in this box, plea	se go to the en	d of the form	to view it in its
	TA, 256 KSI		TE CARRIER					
FREQUENCY			T====		I	I		
E28. Antenna Id	E51. Satellite Orbit Type	E52/53. Frequency Limits(MHz)	E54/55. Range of Satellite Arc Eastern/Wes ern Limit	t Angle	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 CO	NTROL POIN	T LOCATION	1		!	•		
E61. Call Sig NOTE: Pleas callsign for whi	se enter the calls				. Phone Number			
E62. Street A	Address							
E63. City			E68. Coun	nty		E67/68. State/Country	,	E64. Zip Code

Location of Earth Station Site

E1: Site Identifier: HUB-F 5.6M E5. Call Sign: E000166

E2: Contact Name Network E6. Phone 301–428–7205

Management Ctr Number:

(Bill McHargue)

E3. Street: 11717 Exploration E7. City: Germantown

Lane

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.	<b>⊚</b> Yes	O No	O 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?	O Yes	O No	<b>⊚</b> N/A
E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.	O Yes	•	No
E18. Is frequency coordination required? If YES, attach a frequency coordination report as	O Yes	· •	No
E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as	O 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.	O Yes	§ <b>⊚</b>	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

	E28. Antenna Id		E30. Manufacturer		Size <meters></meters>	E41/42. Antenna Gain Transmint and/or Recieve (dBi atGHz)	
HUB-F 5.6M	HubF 5.6M	1	ANDREW	ES56-1	5.6	0.0 dBi at	

Id			, ,	Height Above	Input Power at	E39. Maximum Antenna Height Above Rooftop (meters)	EIRP for al
HubF 5.6M	0.0/0.0	28.9	172.2	0.0	125.0	0.0	77.7

# FREQUENCY

	E43/44. Frequency Bands (MHz)	E45. T/R Mode			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 entirety.)	and Services (If th	e complete description	on does not appear in	this box, please go to	o the end of the form	to view it in its
PSK, DATA,	128 KSPS, INR	OUTE CARRIER				
HubF 5.6M	11700.0000 12200.0000	R	Horizontal and Vertical	1M60G7D	0.0	0.0
E50. Modulation entirety.)	and Services (If th	e complete description	on does not appear in	this box, please go to	o the end of the form	to view it in its
PSK, DATA,	1024 KSPS, IN	ROUTE CARRIER				
HubF 5.6M	14000.0000 14500.0000	Т	Horizontal and Vertical	24M0G7D	77.7	39.9
E50. Modulation entirety.)	and Services (If th	e complete description	on does not appear in	this box, please go to	o the end of the form	to view it in its
PSK, DATA,	20 MSPS, OUTR	OUTE CARRIER				
HubF 5.6M	14000.0000 14500.0000	Т	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	Т	Horizontal and	400KG7D	52.9	32.9
	14500.0000		Vertical			

E50. Modulation and Services (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.	E51. Satellite	E52/53.	E54/55.	E56. Earth	E57.	E58. Earth	E59.	E60.
Antenna Id	Orbit Type	Frequency	Range of	Station	Antenna	Station	Antenna	Maximum
		Limits(MHz)	Satellite Arc	Azimuth	Elevation	Azimuth	Elevation	EIRP Density
			Eastern/West	Angle	Angle	Angle	Angle	toward the
			ern Limit	Eastern Limit	Eastern Limit	Western	Western	Horizon
						Limit	Limit	(dBW/4kHz)
			/					

REMOTE CONTROL POINT LOCATION

E61. Call Sign		E66. Phone Number		
NOTE: Please enter the callsign of the colcallsign for which this application is being fit				
E62. Street Address		•		
E63. City	E68. County		E67/68. State/Country	E64. Zip Code

Location of Earth Station Site E1: Site Identifier: HUB-G 4.6M E5. Call Sign: E000166 E2: Contact Name Network E6. Phone 301-428-7205 Management Ctr Number: (Bill McHargue) E3. Street: 10450 Pacific E7. City: San Diego Center Court 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: N/A NAD-27 **⋒** NAD-83 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.	<b>●</b> Yes	O No	O 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?	O Yes	O No	<b>⊚</b> N/A

E17. Is the facility operated by remote control? If YES, provide the lopoint.	cation and telephone number of the control	O Yes	No
E18. Is frequency coordination required? If YES, attach a frequency c	coordination report as		
E18. Is frequency coordination required? If 1ES, attach a frequency c	oordination report as	O Yes	No
E19. Is coordination with another country required? If YES, attach the coordination contours as	e name of the country(ies) and plot of	O Yes	No
E20. FAA Notification – (See 47 CFR Part 17 and 47 CFR part 25 have you attached a copy of a completed FCC Form 854 and/or the Fathe structure to aviation?  FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL APPLICATION.	AA's study regarding the potential hazard of	O 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:		
A DIFFERENCE A			

ANTENNA

Site ID	E28. Antenna Id	E29. Quantity	E30. Manufacturer		Size <meters></meters>	E41/42. Antenna Gain Transmint and/or Recieve (dBi atGHz)
HUB-G 4.6M	HubG 4.6M	1	VERTEX	4.57KPK	4.6	0.0 dBi at

- 1	Id	Diameter		` ′	Height Above	Input Power at	E39. Maximum Antenna Height Above Rooftop (meters)	EIRP for al
	HubG 4.6M	0.0/0.0	5.2	102.4	0.0	2.0	0.0	57.5

# FREQUENCY

	E43/44. Frequency Bands (MHz)	E45. T/R Mode			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	R	Horizontal and	200KG7D	0.0	0.0
	12200.0000		Vertical			

E50. Modulation entirety.)	and Services (If the	ne complete descri	ption does not appear	in this box, please	go to the end of the	he form to view it in its
PSK OR MSK	, DATA, 128 KS	PS, INROUTE	CARRIER			
HubG 4.6M	14000.0000 14500.0000	Т	Horizontal and Vertical	400KG7D	57.5	37.5
E50. Modulation entirety.)	and Services (If the	ne complete descri	ption does not appear	in this box, please	go to the end of the	he form to view it in its
PSK, DATA,	256 KSPS, OUT	ROUTE CARRIE	R			
HubG 4.6M	14000.0000 14500.0000	Т	Horizontal and Vertical	1M60G7D	57.5	31.5
E50. Modulation entirety.)	and Services (If the	ne complete descri	ption does not appear	in this box, please	go to the end of the	he form to view it in its
PSK, DATA,	1024 KSPS, OU	TROUTE CARRI	ER			

FREQUENCY COORDINATION

E28. Antenna Id	E51. Satellite Orbit Type	E52/53. Frequency Limits(MHz)	E54/55. Range of Satellite Arc Eastern/West ern Limit	E56. Ea Station Azimutl Angle Eastern	h	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 CO	ONTROL POIN	T 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		on is being filed	•						

E68. County

E67/68.

State/Country

E64. Zip Code

E63. City

Location of Earth Station Site E5. Call Sign: E1: Site Identifier: HUB-H (11.1M) E000166 E2: Contact Name Network E6. Phone 301-428-7205 Management Ctr Number: (Bill McHargue) E3. Street: 17633 Technology E7. City: Hagerstown Blvd. 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: N/A NAD-27 **⋒** NAD-83 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.	<b>●</b> Yes	O No	O 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?	O Yes	O No	<b>⊚</b> N/A

E17. Is the facility operated by remote control? If YES, provide the locat point.	O Yes	No	
E18. Is frequency coordination required? If YES, attach a frequency coordination required?	rdination report as	O Yes	No
E19. Is coordination with another country required? If YES, attach the na coordination contours as	ame of the country(ies) and plot of	O Yes	No
E20. FAA Notification – (See 47 CFR Part 17 and 47 CFR part 25.11 have you attached a copy of a completed FCC Form 854 and/or the FAA' the structure to aviation?  FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL R APPLICATION.	's study regarding the potential hazard of	O Yes	No
POINTS OF COMMUNICATION			
Satellite Name: OTHER   OTHER   If you selected OTHER, please en	iter 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: ANTENNA	E27. Country:		

Site ID	E28. Antenna Id	E29. Quantity	E30. Manufacturer	E31. Model	Size <meters></meters>	E41/42. Antenna Gain Transmint and/or Recieve (dBi atGHz)
HUB-H (11.1 M)	Hub H	1	VERTEX	11.1 KPK	11.1	0.0 dBi at

Id	Diameter		` ′	Height Above Ground Level	Input Power at antenna flange	E39. Maximum Antenna Height Above Rooftop (meters)	EIRP for al
Hub H	0.0/0.0	11.1	175.99	0.0	407.4	0.0	88.0

# FREQUENCY

	E43/44. Frequency Bands (MHz)	E45. T/R Mode			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.)

DIGITAL, PSK, DA	ATA, 128	KSPS,	INROUTE

Hub H	11802.0000 12018.0000	R	Horizontal and Vertical	1M60G7D	0.0	0.0
E50. Modulation entirety.)	on and Services (I	the complete de	escription does not appear	in this box, please	go to the end of the	he form to view it in its
DIGITAL,	PSK, DATA, 10	24 KSPS, IN	ROUTE			
Hub H	14102.0000 14318.0000	Т	Horizontal and Vertical	6M00G7D	79.6	47.9
	PSK, DATA, 5					
Hub H	14102.0000 14318.0000	Т	Horizontal and Vertical	36M0G7D	87.4	47.9
E50. Modulation entirety.)	on and Services (I	the complete de	escription does not appear	in this box, please	go to the end of the	he form to view it in its
DIGITAL,	PSK, DATA, 30	MSPS, OUTR	OUTE			

FREQUENCY COORDINATION

E28.	E51. Satellite	E52/53.	E54/55.	E56. Earth	E57.	E58. Earth	E59.	E60.
Antenna Id	Orbit Type	Frequency Limits(MHz)		Station Azimuth	Antenna Elevation	Station Azimuth	Antenna Elevation	Maximum EIRP Density
		Limits(Willz)	Eastern/West	Angle	Angle	Angle	Angle	toward the
			ern Limit	Eastern Limit	Eastern Limit	Limit	Western Limit	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 E5. Call Sign: E1: Site Identifier: HUB-I (3.9M) E000166 E2: Contact Name Network E6. Phone 301-428-7205 Management Ctr Number: (Bill McHargue) E3. Street: 11717 Exploration E7. City: Germantown Lane 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: N/A NAD-27 **⋒** NAD-83 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	O No	O 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?	O Yes	O No	● N/A

E17. Is the facility operated by remote control? If YES, provide the point.	e location and telephone number of the control	• Yes	O No
E18. Is frequency coordination required? If YES, attach a frequency	y coordination report as	<u> </u>	
E16. Is frequency coordination required: If TES, attach a frequency	y coordination report as	O Yes	No
E19. Is coordination with another country required? If YES, attach coordination contours as	the name of the country(ies) and plot of	O Yes	No
E20. FAA Notification – (See 47 CFR Part 17 and 47 CFR part have you attached a copy of a completed FCC Form 854 and/or the the structure to aviation?  FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 W. APPLICATION.	FAA's study regarding the potential hazard of	O Yes	No
POINTS OF COMMUNICATION		•	
Satellite Name: If you selected OTHER, please enter the following	ng:		
E21. Common Name:	E22. ITU Name:		
E23. Orbit Location:	E24. Country:		
POINTS OF COMMUNICATION (Destination Points)			
E25. Site Identifier:			
E26. Common Name:	E27. Country:		
A NITTENINI A			

ANTENNA

Site ID	E28. Antenna Id	E29. Quantity	E30. Manufacturer	E31. Model		E41/42. Antenna Gain Transmint and/or Recieve (dBi atGHz)	
HUB-I (3.9M)	Hub I	1		MILSATCOM 3.9 METER	3.9	0.0 dBi at	

Id	1		` /	Height Above	Input Power at	E39. Maximum Antenna Height Above Rooftop (meters)	EIRP for al
Hub I	0.0/0.0	3.9	0.0	0.0	300.0	0.0	77.6

## FREQUENCY

	E43/44. Frequency Bands (MHz)	E45. T/R Mode			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 entirety.)	on and Services (If	the complete descri	ription does not appear	in this box, please	go to the end of the	ne form to view it in its
PSK, DATA	A, 1024 KSPS, 1	INROUTE CARRI	ER			
Hub I	14000.0000 14500.0000	Т	Horizontal and Vertical	36M0G7D	77.6	38.8
Hub I	14000.0000 14500.0000	Т	Horizontal and Vertical	1M60G7D	64.8	38.8
E50. Modulation entirety.)	on and Services (If	the complete descri	ription does not appear	in this box, please	go to the end of the	ne form to view it in its
PSK, DATA	A, 1024 KSPS, (	OUTROUTE CARR	IER			

FREQUENCY COORDINATION

E28. Antenna Id	E51. Satellite Orbit Type	E52/53. Frequency Limits(MHz)	E54/55. Range of Satellite Arc Eastern/West ern Limit	E56. Earth Station Azimuth Angle Eastern Lin		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 CO	L ONTROL POIN	T LOCATION							
E61. Call Sign E940460 NOTE: Please enter the callsign of the controlling station, not the callsign for which this application is being filed.  E62. Street Address One Aerojet Way									
One rerojet									
E63. City North Las V	egas		E68. County Clark	7			E67/68. State/Country NV/ USA		E64. Zip Code 89030
								I	
	gn se enter the calls ich this application	•	•	3		Phone Number -428–7205			
E62. Street A	Address oration Lane			·					

MD/ USA	E63. City Germantown	E68. County Montgomery	E67/68. State/Country MD/ USA	E64. Zip Code 20876
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Location of Earth Station Site

E1: Site Identifier: MESH 1.2M E5. Call Sign: E000166

E2: Contact Name Network E6. Phone 301–428–7205

Management Ctr Number:

(Bill McHargue)

E3. Street: 11717 Exploration E7. City: Germantown

Lane

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 NAD-83

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.	<b>⊗</b> Yes	O No	O 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?	O Yes	O No	<b>⊗</b> N/A
E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.	<b>⊚</b> Yes	s o	No
E18. Is frequency coordination required? If YES, attach a frequency coordination report as	O Yes	s 🔞	No
E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as	O Yes	s 💿	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.	O Yes	s 🔞	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		Size <meters></meters>	E41/42. Antenna Gain Transmint and/or Recieve (dBi atGHz)	
MESH 1.2M	MESH 1.2M	5000	HUGHES NETWORK SYSTEMS	PES-RFT-120	1.2	0.0 dBi at	

Id	Diameter		` ′	Height Above	Input Power at antenna flange	E39. Maximum Antenna Height Above Rooftop (meters)	EIRP for al
MESH 1.2M	0.0/0.0	0.0	0.0	0.0	1.5	0.0	45.0

# FREQUENCY

	E43/44. Frequency Bands (MHz)	E45. T/R Mode			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 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.	E51. Satellite	E52/53.	E54/55.	E56. Earth	E57.	E58. Earth	E59.	E60.
Antenna Id	Orbit Type	Frequency	Range of	Station	Antenna	Station	Antenna	Maximum
		Limits(MHz)	Satellite Arc	Azimuth	Elevation	Azimuth	Elevation	EIRP Density
			Eastern/West	Angle	Angle	Angle	Angle	toward the
			ern Limit	Eastern Limit	Eastern Limit	Western	Western	Horizon
						Limit	Limit	(dBW/4kHz)
			/					

REMOTE CONTROL POINT LOCATION

E61. Call Sign E000166 NOTE: Please enter the callsign of the cont callsign for which this application is being file	E66. Phone Number 301–428–7205	r			
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 cont callsign for which this application is being file	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	

Location of Earth Station Site E1: Site Identifier: MESH 1.8M E5. Call Sign: E000166 E2: Contact Name Network E6. Phone 301-428-7205 Management Ctr Number: (Bill McHargue) E3. Street: 11717 Exploration E7. City: Germantown Lane 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: N/A NAD-27 **⋒** NAD-83 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	O No	O 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?	O Yes	O No	● N/A

E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.			O No
E18. Is frequency coordination required? If YES, attach a frequency	y coordination report as	<u> </u>	
E16. Is frequency coordination required: If TES, attach a frequency	y coordination report as	O Yes	No
E19. Is coordination with another country required? If YES, attach coordination contours as	O Yes	No	
E20. FAA Notification – (See 47 CFR Part 17 and 47 CFR part have you attached a copy of a completed FCC Form 854 and/or the the structure to aviation?  FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 W. APPLICATION.	O Yes	No	
POINTS OF COMMUNICATION		•	
Satellite Name: If you selected OTHER, please enter the following	ng:		
E21. Common Name:	E22. ITU Name:		
E23. Orbit Location:	E24. Country:		
POINTS OF COMMUNICATION (Destination Points)			
E25. Site Identifier:			
E26. Common Name:	E27. Country:		
A NITTENINI A			

ANTENNA

Site ID	E28. Antenna Id	E29. Quantity	E30. Manufacturer		Size <meters></meters>	E41/42. Antenna Gain Transmint and/or Recieve (dBi atGHz)	
MESH 1.8M	MESH 1.8M	5000	HUGHES NETWORK SYSTEMS	PES-RFT-180	1.8	0.0 dBi at	

Id	Diameter		, ,	Height Above	Input Power at	E39. Maximum Antenna Height Above Rooftop (meters)	EIRP for al
MESH 1.8M	0.0/0.0	0.0	0.0	0.0	1.5	0.0	48.6

## FREQUENCY

	E43/44. Frequency Bands (MHz)	E45. T/R Mode			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.)

BPSK	OR	OQPSK,	DATA,	MESH	CARRIER

MESH 1.8M	14000.000 14500.000	-		Horizontal and Vertical	156KG7D	48.6	3	32.7
E50. Modula entirety.)	ation and Service	es (If the cor	nplete description	n does not appear	in this box, plea	se go to the en	d of the form to	o view it in its
	R OQPSK, DAT		ARRIER					
	COORDINA'		_	_	_			
E28. Antenna Id	E51. Satellite Orbit Type	E52/53. Frequency Limits(MHz)	E54/55. Range of Satellite Arc Eastern/West ern Limit	1 0	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 CO	NTROL POIN	T LOCATION	J .		•			
		_	rolling station, no	301	6. Phone Number -428-7205			
E62. Street A One Aerojet				,				
E63. City North Las Ve	egas		E68. Count Clark	У		E67/68. State/Country	, 8	E64. Zip Code 89030

E61. Call Sign E000166 NOTE: Please enter the callsign of the contro 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

Location of Earth Station Site E1: Site Identifier: MESH 2.4M E5. Call Sign: E000166 E2: Contact Name Network E6. Phone 301-428-7205 Management Ctr Number: (Bill McHargue) E3. Street: 11717 Exploration E7. City: Germantown Lane 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: N/A NAD-27 **⋒** NAD-83 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.	<b>●</b> Yes	O No	O 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?	O Yes	O No	● N/A

E17. Is the facility operated by remote control? If YES, provide the point.	e location and telephone number of the control	• Yes	O No		
E18. Is frequency coordination required? If YES, attach a frequency	y coordination report as	<u> </u>			
E16. Is frequency coordination required: If TES, attach a frequency	y coordination report as	O Yes	No		
E19. Is coordination with another country required? If YES, attach coordination contours as	the name of the country(ies) and plot of	O Yes	No		
E20. FAA Notification – (See 47 CFR Part 17 and 47 CFR part have you attached a copy of a completed FCC Form 854 and/or the the structure to aviation?  FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 W. APPLICATION.	FAA's study regarding the potential hazard of	O Yes	No		
POINTS OF COMMUNICATION		•			
Satellite Name: If you selected OTHER, please enter the following	ng:				
E21. Common Name:	E22. ITU Name:				
E23. Orbit Location:	E24. Country:				
POINTS OF COMMUNICATION (Destination Points)					
E25. Site Identifier:					
E26. Common Name: E27. Country:					
A NITTENINI A					

ANTENNA

Site ID	E28. Antenna Id	E29. Quantity	E30. Manufacturer	E31. Model	Size <meters></meters>	E41/42. Antenna Gain Transmint and/or Recieve (dBi atGHz)	
MESH 2.4M	MESH 2.4M	5000	HUGHES NETWORK SYSTEMS	PES-RFT-240	2.4	0.0 dBi at	

Id	Diameter		` ′	Height Above	Input Power at	E39. Maximum Antenna Height Above Rooftop (meters)	EIRP for al
MESH 2.4M	0.0/0.0	0.0	0.0	0.0	3.1	0.0	53.7

## FREQUENCY

	E43/44. Frequency Bands (MHz)	E45. T/R Mode			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	14000.000 14500.000	- I		Horizontal and Vertical	307KG7D	53.7		34.8
E50. Modula entirety.)	ation and Service	es (If the com	plete description	does not appear	in this box, plea	se go to the en	d of the form t	to view it in its
		TA, MESH CAI	RRIER					
FREQUENCY			1	<u></u>	<u></u>	T		
E28. Antenna Id	E51. Satellite Orbit Type	E52/53. Frequency Limits(MHz)	E54/55. Range of Satellite Arc Eastern/West ern Limit	0	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 CO	NTROL POIN	T LOCATION				•		•
	se enter the calls	sign of the contro	•	301-	. Phone Number -428–7205			
E62. Street A				,				
E63. City Germantowr	1		E68. County Montgomer	•		E67/68. State/Country		E64. Zip Code 20876

MD/ USA

E61. Call Sign E940460 NOTE: Please enter the callsign of the contro 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 E6. Phone 301-428-7205 Management Ctr Number: (Bill McHargue) E3. Street: 11717 Exploration E7. City: Germantown Lane 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: N/A NAD-27 **⋒** NAD-83 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.	<b>●</b> Yes	O No	O 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?	O Yes	O No	<b>⊚</b> N/A

	Yes	O 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></meters>	E41/42. Antenna Gain Transmint and/or Recieve (dBi atGHz)	
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				1		1	I

	E43/44. Frequency Bands (MHz)	E45. T/R Mode			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	T	Horizontal and	2M46G7D	66.2	38.3
	14500.0000		Vertical			

E50. Modulation and Services (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	Frequency Limits(MHz)	Range of Satellite Arc Eastern/West	Station Azimuth	Antenna Elevation Angle	Station Azimuth Angle	Antenna Elevation Angle Western	E60. Maximum EIRP Density toward the Horizon (dBW/4kHz)
			/					

### REMOTE CONTROL POINT LOCATION

E61. Call Sign E940460 NOTE: Please enter the callsign of the contro 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 contro 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 E6. Phone 301-428-7205 Management Ctr Number: (Bill McHargue) E3. Street: 11717 Exploration E7. City: Germantown Lane 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.	<b>o</b> Yes	O No	<b>⊚</b> 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?	O Yes	O No	● N/A

E18. Is frequency coordination required? If YES, attach a frequency coordination report as  Yes	<b>⊚</b> No
E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as  Yes	<b>⊚</b> 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.	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		Size <meters></meters>	E41/42. Antenna Gain Transmint and/or Recieve (dBi atGHz)	
R 1.2M	R1.2	0	N/A	N/A	0.0	0.0 dBi at	

- 1	Id	Diameter		` ′	Height Above	Input Power at	E39. Maximum Antenna Height Above Rooftop (meters)	EIRP for al
Ī	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 entirety.)	n and Services (If the	he complete descripti	ion does not appear in	this box, please go	to the end of the form	to view it in its

FREQUENCY COORDINATION

E28. Antenna Id	E51. Satellite Orbit Type	E52/53. Frequency Limits(MHz)	E54/55. Range of Satellite Arc Eastern/West ern 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 CO	    NTROL POIN	 T LOCATION						
	ase enter the calls ich this applicati			N/A	. Phone Number			
E63. City N/A			E68. County N/A	7		E67/68. State/Country / USA		E64. Zip Code N/A
	ign ase enter the calls ich this applicati	0		N/A	. Phone Number			
E62. Street N/A	Address	<u> </u>		L				

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

#### 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 E6. Phone 301–428–7205

Management Ctr Number:

(Bill McHargue)

E3. Street: 11717 Exploration E7. City: Germantown

Lane

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.	<b>●</b> Ye	S	O No	O 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?	○ Ye	s	O No	● N/A
E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.	Ye	es	0	No
E18. Is frequency coordination required? If YES, attach a frequency coordination report as	O Yo	es	•	No
E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as	O Ye	es	•	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.	O Yo	es	•	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:
DOINTS OF COMMUNICATION (Destination Doints)	•

#### POINTS OF COMMUNICATION (Destination Points)

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

## ANTENNA

Site ID	E28. Antenna Id	E29. Quantity	E30. Manufacturer		Size <meters></meters>	E41/42. Antenna Gain Transmint and/or Recieve (dBi atGHz)	
TF TR 1.2M	TF TR 1.2	50000	PRODELIN	HNS-AN- 120P-KU	1.2	0.0 dBi at	

I	d	Diameter		,	Height Above Ground Level	Input Power at antenna flange	E39. Maximum Antenna Height Above Rooftop (meters)	EIRP for al
Γ	F TR 1.2	0.0/0.0	0.0	0.0	0.0	2.0	0.0	46.1

## FREQUENCY

	E43/44. Frequency Bands (MHz)	E45. T/R Mode			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 entirety.)	and Services (If th	e complete description	on does not appear in	this box, please go to	o the end of the form	to view it in its
PSK, DATA,	30 MSPS, OUTR	OUTE CARRIER				
TF TR 1.2	11700.0000 12200.0000	R	Horizontal and Vertical	400KG7D	0.0	0.0
E50. Modulation entirety.)	and Services (If th	ne complete description	on does not appear in	this box, please go to	o the end of the form	to view it in its
PSK, DATA,	256 KSPS, OUT	ROUTE CARRIER				
TF TR 1.2	14000.0000 14500.0000	Т	Horizontal and Vertical	1M60G7D	46.1	21.1
E50. Modulation entirety.)	and Services (If the	ne complete description	on does not appear in	this box, please go to	o the end of the form	to view it in its
PSK, DIGIT	AL, 1024 KSPS,	INROUTE CARRI	ER			
TF TR 1.2	14000.0000 14500.0000	Т	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	Frequency Limits(MHz)	Range of Satellite Arc Eastern/West	Station Azimuth	E57. Antenna Elevation Angle Eastern Limit	Station Azimuth Angle	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 contro 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 contro 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 E6. Phone 301-428-7205 Management Ctr Number: (Bill McHargue) E3. Street: 11717 Exploration E7. City: Germantown Lane 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: N/A NAD-27 **⋒** NAD-83 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.	O Yes	<b>●</b> No	O 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?	O Yes	O No	● N/A

E17. Is the facility operated by remote control? If YES, provide the locat point.	ion and telephone number of the control	• Yes	O No
E18. Is frequency coordination required? If YES, attach a frequency coordination	rdination report as	O Yes	No
E19. Is coordination with another country required? If YES, attach the na coordination contours as	nme of the country(ies) and plot of	O Yes	No
E20. FAA Notification – (See 47 CFR Part 17 and 47 CFR part 25.11 have you attached a copy of a completed FCC Form 854 and/or the FAA' the structure to aviation?  FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL RAPPLICATION.	's study regarding the potential hazard of	O Yes	No
POINTS OF COMMUNICATION		•	
Satellite Name: OTHER   OTHER   If you selected OTHER, please en	iter 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: ANTENNA	E27. Country:		

Site ID	E28. Antenna Id	E29. Quantity	E30. Manufacturer		E32. Antenna Size <meters></meters>	E41/42. Antenna Gain Transmint and/or Recieve (dBi atGHz)
TF TR 74CM	TF TR 74CM	60200	PRODELIN	HNS-AN- 074P-KU	0.74	0.0 dBi at

Id	Diameter		` ′	Height Above	E38. Total Input Power at antenna flange (Watts)		EIRP for al
TF TR 74CM	0.0/0.0	0.0	0.0	0.0	2.0	0.0	42.0

## FREQUENCY

	E43/44. Frequency Bands (MHz)	E45. T/R Mode			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.)

PSK,	DATA,	30 MSPS,	OUTROUTE CARRIER	

TF TR 74CM	11700.0000 12200.0000	R	Horizontal and Vertical	400KG7D	0.0	0.0
E50. Modulation entirety.)	on and Services (I	f the complete do	escription does not appear	in this box, please	go to the end of the	he form to view it in its
PSK, DATA	A, 256 KSPS, C	UTROUTE CAR	RIER			
TF TR 74CM	14000.0000 14500.0000	Т	Horizontal and Vertical	200KG7D	42.0	25.0
PSK, DIG	ITAL, 128 KSPS	, INROUTE C	ARRIER			
TF TR 74CM	14000.0000 14500.0000	Т	Horizontal and Vertical	1M60G7D	42.0	16.0
entirety.)	on and Services (I		escription does not appear	in this box, please	go to the end of the	he form to view it in its

FREQUENCY COORDINATION

E28. Antenna Id	E51. Satellite Orbit Type	E52/53. Frequency Limits(MHz)	E54/55. Range of Satellite Arc Eastern/West ern 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)
DEMOTE CO	NTROL POIN	T I OCATION						
	se enter the calls	sign of the contro on is being filed	olling station, no	301-	Phone Number -428–7205			
11717 Explo	oration Lane							
E63. City Germantown	n		E68. County Montgomery			E67/68. State/Country MD/ US		E64. Zip Code 20876
	se enter the calls	sign of the contro	olling station, no	301-	Phone Number -428–7205		·	
E62. Street A				l				

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

# 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 E6. Phone 301–428–7205

Management Ctr Number:

(Bill McHargue)

E3. Street: 11717 Exploration E7. City: Germantown

Lane

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.	O Yes	<b>⊚</b> No	O 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?	O Yes	O No	● N/A
E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.	<b>⊚</b> Ye.	s o	No
E18. Is frequency coordination required? If YES, attach a frequency coordination report as	O Yes	s 🔞	No
E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as	O Yes	s 💿	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.	O Yes	s 🐵	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></meters>	E41/42. Antenna Gain Transmint and/or Recieve (dBi atGHz)
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			` ′	Height Above Ground Level	Input Power at	E39. Maximum Antenna Height Above Rooftop (meters)	EIRP for al
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.	E45.	E46. Antenna	E47. Emission	E48. Maximum	E49. Maximum
	Frequency Bands	T/R Mode	Polarization(H,V,	Designator	EIRP per Carrier	ERIP Density per
	(MHz)		L,R)		(dBW)	Carrier
						(dBW/4kHz)

TFTR 98CM	11700.0000 12200.0000	R	Horizontal and Vertical	36M0G7D	0.0	0.0
E50. Modulation entirety.)	and Services (If	the complete descrip	otion does not appear	in this box, please	go to the end of the	he form to view it in its
PSK, DATA,	30 MSPS, OUT	TROUTE CARRIER				
TFTR 98CM	11700.0000 12200.0000	R	Horizontal and Vertical	400KG7D	0.0	0.0
PSK, DATA,	256 KSPS, OU	JTROUTE CARRIE	₹			
TFTR 98CM	14000.0000 14500.0000	Т	Horizontal and Vertical	200KG7D	44.3	27.3
E50. Modulation entirety.)	and Services (If	the complete descrip	otion does not appear	in this box, please	go to the end of the	he form to view it in its
PSK, DIGIT	AL, 128 KSPS,	INROUTE CARR	[ER			

TFTR 98CM	14000.0000 14500.0000	Т	Horizontal and Vertical	1M60G7D	44.3	18.3
E50. Modulation entirety.)	and Services (If the	ne complete description	on does not appear	in this box, please g	to the end of th	ne form to view it in its
PSK, DIGIT	'AL, 1024 KSPS,	INROUTE CARRI	ER			
TFTR 98CM	11700.0000 12200.0000	R	Horizontal and Vertical	36M0G7D	0.0	0.0
PSK, DATA,	30 MSPS, OUTR					ne form to view it in its
TFTR 98CM	11700.0000 12200.0000	R	Horizontal and Vertical	400KG7D	0.0	0.0
E50. Modulation entirety.)	and Services (If the	ne complete description	on does not appear	in this box, please g	o to the end of th	ne form to view it in its
PSK, DATA,	256 KSPS, OUT	ROUTE CARRIER				

TFTR 98CM	14000.0000 14500.0000	Т	Horizontal and Vertical	200KG7D	44.3	27.3
E50. Modulation entirety.)	and Services (If the	ne complete description	on does not appear in	this box, please go to	o the end of the form	to view it in its
PSK, DIGIT.	AL, 128 KSPS,	INROUTE CARRIE	R			
TFTR 98CM	14000.0000 14500.0000	Т	Horizontal and Vertical	1M60G7D	44.3	18.3
E50. Modulation entirety.)  PSK, DIGIT.		ine complete description		this box, please go to	o the end of the form	to view it in its

## FREQUENCY COORDINATION

E51. Satellite Orbit Type	Frequency	Range of Satellite Arc Eastern/West	Station Azimuth	Antenna Elevation Angle	Station Azimuth Angle	Antenna Elevation Angle Western	E60. Maximum EIRP Density toward the Horizon (dBW/4kHz)
		/					

REMOTE CONTROL POINT LOCATION

E61. Call Sign E000166 NOTE: Please enter the callsign of the controcallsign 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 controcallsign 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 E6. Phone 301-428-7205 Management Ctr Number: (Bill McHargue) E3. Street: 11717 Exploration E7. City: Germantown Lane 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: N/A NAD-27 **⋒** NAD-83 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.	O Yes	<b>●</b> No	O 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?	O Yes	O No	<b>⊚</b> N/A

E17. Is the facility operated by remote control? If YES, provide the locat point.	ion and telephone number of the control	• Yes	O No
E18. Is frequency coordination required? If YES, attach a frequency coordination	rdination report as	O Yes	No
E19. Is coordination with another country required? If YES, attach the na coordination contours as	nme of the country(ies) and plot of	O Yes	No
E20. FAA Notification – (See 47 CFR Part 17 and 47 CFR part 25.11 have you attached a copy of a completed FCC Form 854 and/or the FAA' the structure to aviation?  FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL RAPPLICATION.	O Yes	No	
POINTS OF COMMUNICATION		•	
Satellite Name: OTHER   OTHER   If you selected OTHER, please en	ter 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: ANTENNA	E27. Country:		

Site ID	E28. Antenna Id	E29. Quantity	E30. Manufacturer	E31. Model	E32. Antenna Size <meters></meters>	E41/42. Antenna Gain Transmint and/or Recieve (dBi atGHz)	
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	Diameter		` ′	Height Above Ground Level	Input Power at antenna flange	E39. Maximum Antenna Height Above Rooftop (meters)	EIRP for al
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

	E43/44. Frequency Bands (MHz)	E45. T/R Mode			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 entirety.)	and Services (If the	e complete description	on does not appear in	this box, please go to	o the end of the form	to view it in its
PSK, DATA,	30 MSPS, OUTR	OUTE CARRIER				
TFTR 74–2C	11700.0000 12200.0000	R	Horizontal and Vertical	400KG7D	0.0	0.0
E50. Modulation entirety.)	and Services (If the	e complete description	on does not appear in	this box, please go to	o the end of the form	to view it in its
PSK, DATA,	256 KSPS, OUT	ROUTE CARRIER				
TFTR 74–2C	14000.0000 14500.0000	Т	Horizontal and Vertical	200KG7D	41.7	24.7
E50. Modulation entirety.)	and Services (If th	e complete description	on does not appear in	this box, please go to	o the end of the form	to view it in its
PSK, DIGIT	AL, 128 KSPS,	INROUTE CARRIE	R			
TFTR 74–2C	14000.0000 14500.0000	Т	Horizontal and Vertical	1M60G7D	41.7	15.7

E50. Modulation entirety.)	and Services (If the	e complete description	on does not appear in	this box, please go to	o the end of the form	to view it in its
PSK, DIGIT	AL, 1024 KSPS,	INROUTE CARRI	ER			
TFTR 74–2C	11700.0000 12200.0000	R	Horizontal and Vertical	36M0G7D	0.0	0.0
E50. Modulation entirety.)			on does not appear in	this box, please go to	o the end of the form	to view it in its
PSK, DATA,	30 MSPS, OUTR	OUTE CARRIER				
TFTR 74–2C	11700.0000 12200.0000	R	Horizontal and Vertical	400KG7D	0.0	0.0
E50. Modulation entirety.)	and Services (If the	e complete description	on does not appear in	this box, please go to	o the end of the form	to view it in its
PSK, DATA,	256 KSPS, OUT	ROUTE CARRIER				
TFTR 74–2C	14000.0000 14500.0000	Т	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	Т	Horizontal and	1M60G7D	41.7	15.7
	14500.0000		Vertical			

E50. Modulation and Services (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	Frequency Limits(MHz)	Range of Satellite Arc Eastern/West	Station Azimuth	E57. Antenna Elevation Angle Eastern Limit	Station Azimuth Angle	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 controcallsign 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 controcallsign 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 E6. Phone 301-428-7205 Management Ctr Number: (Bill McHargue) E3. Street: 11717 Exploration E7. City: Germantown Lane 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: N/A NAD-27 **⋒** NAD-83 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.	<b>o</b> Yes	<b>⊚</b> No	O 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?	O Yes	O No	● N/A

nd telephone number of the control	<b>⊚</b> Y	es	0	No
ion report as				
	OY	es	•	No
f the country(ies) and plot of	O Y	es	•	No
Where FAA notification is required, dy regarding the potential hazard of LT IN THE RETURN OF THIS	O Y	es	•	No
ITU Name:				
Country:				
E26. Common Name: E27. Country:				
	ion report as  f the country(ies) and plot of  Where FAA notification is required, dy regarding the potential hazard of  LT IN THE RETURN OF THIS  ITU Name:  Country:	ion report as  Y  If the country(ies) and plot of  Where FAA notification is required, dy regarding the potential hazard of  LT IN THE RETURN OF THIS  ITU Name:  Country:	ion report as  Yes  The country (ies) and plot of  Yes  Where FAA notification is required, dy regarding the potential hazard of  LT IN THE RETURN OF THIS  ITU Name:  Country:	ion report as  Yes  Yes  f the country(ies) and plot of  Where FAA notification is required, dy regarding the potential hazard of  LT IN THE RETURN OF THIS  ITU Name:  Country:

ANTENNA

Site ID	E28. Antenna Id	E29. Quantity	E30. Manufacturer	E31. Model	Size <meters></meters>	E41/42. Antenna Gain Transmint and/or Recieve (dBi atGHz)
TR 1.0M	TR 1.0	100000	PRODELIN	1102 (135cm x 58cm)	1.0	0.0 dBi at

Id	Diameter		,	Height Above Ground Level	Input Power at antenna flange	E39. Maximum Antenna Height Above Rooftop (meters)	EIRP for al
TR 1.0	0.0/0.0	0.0	0.0	0.0	2.0	0.0	44.0

## FREQUENCY

	E43/44. Frequency Bands (MHz)				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.)

PSK,	DATA,	30 MS	SPS,	OUTROUTE	CARRIER

TR 1.0	11700.0000 12200.0000	R	Horizontal and Vertical	400KG7D	0.0	0.0
E50. Modulation entirety.)	on and Services (If	the complete descri	iption does not appear	in this box, please	go to the end of th	ne form to view it in its
PSK, DATA	A, 256 KSPS, OT	UTROUTE CARRIE	IR .			
ΓR 1.0	14000.0000 14500.0000	Т	Horizontal and Vertical	200KG7D	44.0	27.0
ΓR 1.0	14000.0000 14500.0000	Т	Horizontal and Vertical	1M60G7D	44.0	18.0
	n and Carriage (II	the complete descri	intion does not annear	in this box_please	go to the and of th	
E50. Modulation entirety.)	on and services (II	and complete descri	iption does not appear	m tims oon, preuse	go to the end of th	ne form to view it in its

FREQUENCY COORDINATION

E28. Antenna Id	E51. Satellite Orbit Type	E52/53. Frequency Limits(MHz)	E54/55. Range of Satellite Arc Eastern/West ern 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 CO	NTROL POIN	T LOCATION						
callsign for whi	se enter the calls	sign of the contro on is being filed.	olling station, not	301-	Phone Number -428–7205			
E63. City Germantown	1		E68. County Montgomery			E67/68. State/Country MD/ US		E64. Zip Code 20876
	se enter the calls	sign of the contro	olling station, not	301-	Phone Number -428–7205		·	
E62. Street A	Address	on is being filed.						

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

#### 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 E6. Phone 301–428–7205

Management Ctr Number:

(Bill McHargue)

E3. Street: 11717 Exploration E7. City: Germantown

Lane

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.	<b>●</b> Ye	S	O No	O 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?	○ Ye	s	O No	● N/A
E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.	Ye	es	0	No
E18. Is frequency coordination required? If YES, attach a frequency coordination report as	O Yo	es	•	No
E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as	O Ye	es	•	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.	O Yo	es	•	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		Size <meters></meters>	E41/42. Antenna Gain Transmint and/or Recieve (dBi atGHz)
TR 1.2M	TR 1.2M	100000	PRODELIN	HNS-AN- 120P-KU	1.2	0.0 dBi at

Id	Diameter		, ,	Height Above Ground Level	Input Power at antenna flange	E39. Maximum Antenna Height Above Rooftop (meters)	EIRP for al
TR 1.2M	0.0/0.0	0.0	0.0	0.0	2.0	0.0	46.1

# FREQUENCY

	E43/44. Frequency Bands (MHz)	E45. T/R Mode			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 entirety.)	and Services (If the	ne complete description	on does not appear in	this box, please go to	o the end of the form	to view it in its
PSK, DATA,	30 MSPS, OUTR	OUTE CARRIER				
TR 1.2M	11700.0000 12200.0000	R	Horizontal and Vertical	400KG7D	0.0	0.0
E50. Modulation entirety.)	and Services (If the	e complete description	on does not appear in	this box, please go to	o the end of the form	to view it in its
PSK, DATA,	256 KSPS, OUT	ROUTE CARRIER				
TR 1.2M	14000.0000 14500.0000	Т	Horizontal and Vertical	200KG7D	46.1	29.1
E50. Modulation entirety.)	and Services (If the	e complete description	on does not appear in	this box, please go to	o the end of the form	to view it in its
PSK, DIGIT	'AL, 128 KSPS,	INROUTE CARRIE	R			
TR 1.2M	14000.0000 14500.0000	Т	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	Frequency Limits(MHz)	Range of Satellite Arc Eastern/West	Station Azimuth	Antenna Elevation Angle	Station Azimuth Angle	Elevation Angle Western	E60. Maximum EIRP Density toward the Horizon (dBW/4kHz)
			/					

## REMOTE CONTROL POINT LOCATION

E61. Call Sign E940460 NOTE: Please enter the callsign of the contro 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 contro 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 E6. Phone 301-428-7205 Management Ctr Number: (Bill McHargue) E3. Street: 11717 Exploration E7. City: Germantown Lane 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: N/A NAD-27 **⋒** NAD-83 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.	<b>●</b> Yes	O No	O 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?	O Yes	O No	● N/A

E17. Is the facility operated by remote control? If YES, provide the point.	e location and telephone number of the control	• Yes	O No
E18. Is frequency coordination required? If YES, attach a frequency	y coordination report as	<u> </u>	
E16. Is frequency coordination required: If TES, attach a frequency	y coordination report as	O Yes	No
E19. Is coordination with another country required? If YES, attach coordination contours as	the name of the country(ies) and plot of	O Yes	No
E20. FAA Notification – (See 47 CFR Part 17 and 47 CFR part have you attached a copy of a completed FCC Form 854 and/or the the structure to aviation?  FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 W. APPLICATION.	FAA's study regarding the potential hazard of	O Yes	No
POINTS OF COMMUNICATION		•	
Satellite Name: If you selected OTHER, please enter the following	ng:		
E21. Common Name:	E22. ITU Name:		
E23. Orbit Location:	E24. Country:		
POINTS OF COMMUNICATION (Destination Points)			
E25. Site Identifier:			
E26. Common Name:	E27. Country:		
A NITTENINI A			

ANTENNA

Site ID	E28. Antenna Id	E29. Quantity	E30. Manufacturer		Size <meters></meters>	E41/42. Antenna Gain Transmint and/or Recieve (dBi atGHz)
TR 1.8M	TR 1.8M	50000	PRODELIN	HNS-AN- 180P-KU	1.8	0.0 dBi at

Id	Diameter		,	Height Above Ground Level	Input Power at	E39. Maximum Antenna Height Above Rooftop (meters)	EIRP for al
TR 1.8M	0.0/0.0	0.0	0.0	0.0	2.0	0.0	49.7

## FREQUENCY

	E43/44. Frequency Bands (MHz)	E45. T/R Mode			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.)

PSK,	DATA,	30	MSPS,	OUTROUTE	CARRIER

TR 1.8M	11700.0000 12200.0000	R	Horizontal and Vertical	400KG7D	0.0	0.0
E50. Modulatentirety.)	ion and Services (I	f the complete de	scription does not appear	in this box, please	go to the end of t	he form to view it in its
PSK, DAT	A, 256 KSPS, O	UTROUTE CARF	RIER			
ΓR 1.8M	14000.0000 14500.0000	Т	Horizontal and Vertical	200KG7D	49.7	32.7
TR 1.8M	14000.0000 14500.0000	Т	Horizontal and Vertical	1M60G7D	49.7	23.7
E50. Modulatentirety.)	ion and Services (I	f the complete de	scription does not appear	in this box, please	go to the end of t	he form to view it in its
PSK, DIG	ITAL, 1024 KSP	S, INROUTE (	CARRIER			

FREQUENCY COORDINATION

E28. Antenna Id	E51. Satellite Orbit Type	E52/53. Frequency Limits(MHz)	E54/55. Range of Satellite Arc Eastern/West ern 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 CO	NTROL POIN	T LOCATION		!				
E62. Street	ase enter the calls ich this application			301-	Phone Number -428–7205			
E63. City Germantowi	n		E68. County Montgomery			E67/68. State/Country MD/ US		E64. Zip Code 20876
	ign ase enter the calls ich this application	•	•	301-	Phone Number -428–7205			
E62. Street A One Aerojet				l				

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

#### 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 E6. Phone 301–428–7205

Management Ctr Number:

(Bill McHargue)

E3. Street: 11717 Exploration E7. City: Germantown

Lane

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.	<b>●</b> Yes	O No	O 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?	O Yes	O No	<b>⊚</b> N/A
E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.	<b>●</b> Yes	· 0	No
E18. Is frequency coordination required? If YES, attach a frequency coordination report as	O Yes	• ⊗	No
E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as	O 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.	O Yes	§ <b>⊚</b>	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)	
POINTS OF COMMUNICATION (Destination Points)	

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

## ANTENNA

Site ID	E28. Antenna Id	E29. Quantity	E30. Manufacturer		Size <meters></meters>	E41/42. Antenna Gain Transmint and/or Recieve (dBi atGHz)
TR 2.4M	TR 2.4M	11000	PRODELIN	HNS-AN- 240P-KU	2.4	0.0 dBi at

E28. Antenna Id			, ,	Height Above Ground Level	Input Power at antenna flange	E39. Maximum Antenna Height Above Rooftop (meters)	EIRP for al
TR 2.4M	0.0/0.0	0.0	0.0	0.0	2.0	0.0	52.2

# FREQUENCY

	E43/44. Frequency Bands (MHz)	E45. T/R Mode			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 entirety.)	and Services (If the	e complete description	on does not appear in	this box, please go to	o the end of the form	to view it in its
PSK, DATA,	30 MSPS, OUTR	OUTE CARRIER				
TR 2.4M	11700.0000 12200.0000	R	Horizontal and Vertical	400KG7D	0.0	0.0
E50. Modulation entirety.)	and Services (If the 256 KSPS, OUT		on does not appear in	this box, please go to	o the end of the form	to view it in its
PSR, DATA,	230 KSP3, 001	ROUTE CARRIER				
TR 2.4M	14000.0000 14500.0000	Т	Horizontal and Vertical	200KG7D	52.2	35.2
E50. Modulation entirety.)	and Services (If the	e complete description	on does not appear in	this box, please go to	o the end of the form	to view it in its
PSK, DIGIT	AL, 128 KSPS,	INROUTE CARRIE	R			
TR 2.4M	14000.0000 14500.0000	Т	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	Frequency Limits(MHz)	Range of Satellite Arc Eastern/West	Station Azimuth	E57. Antenna Elevation Angle Eastern Limit	Station Azimuth Angle	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 contro 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 contro 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 E6. Phone 301-428-7205 Management Ctr Number: (Bill McHargue) E3. Street: 11717 Exploration E7. City: Germantown Lane 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: N/A NAD-27 **⋒** NAD-83 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.	<b>O</b> Yes	<b>⊚</b> No	O 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?	O Yes	O No	● N/A

E17. Is the facility operated by remote control? If YES, provide the locat point.	ion and telephone number of the control	• Yes	O No
E18. Is frequency coordination required? If YES, attach a frequency coordination	rdination report as	O Yes	No
E19. Is coordination with another country required? If YES, attach the na coordination contours as	nme of the country(ies) and plot of	O Yes	No
E20. FAA Notification – (See 47 CFR Part 17 and 47 CFR part 25.11 have you attached a copy of a completed FCC Form 854 and/or the FAA' the structure to aviation?  FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL RAPPLICATION.	's study regarding the potential hazard of	O Yes	No
POINTS OF COMMUNICATION		•	
Satellite Name: OTHER   OTHER   If you selected OTHER, please en	iter 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: ANTENNA	E27. Country:		

Site ID	E28. Antenna Id	E29. Quantity	E30. Manufacturer	E31. Model	E32. Antenna Size <meters></meters>	E41/42. Antenna Gain Transmint and/or Recieve (dBi atGHz)	
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			` ′	Height Above Ground Level	Input Power at antenna flange	E39. Maximum Antenna Height Above Rooftop (meters)	EIRP for al
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

	E43/44. Frequency Bands (MHz)	E45. T/R Mode			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 entirety.)	and Services (If th	e complete description	on does not appear in	this box, please go to	o the end of the form	to view it in its
PSK, DATA,	30 MSPS, OUTR	OUTE CARRIER				
TR 74–2CM	11700.0000 12200.0000	R	Horizontal and Vertical	400KG7D	0.0	0.0
E50. Modulation entirety.)  PSK, DATA,	and Services (If the 256 KSPS, OUT		on does not appear in	this box, please go to	o the end of the form	to view it in its
TR 74–2CM	14000.0000 14500.0000	Т	Horizontal and Vertical	200KG7D	41.7	24.7
E50. Modulation entirety.)	and Services (If th	e complete description	on does not appear in	this box, please go to	o the end of the form	to view it in its
PSK, DIGIT	AL, 128 KSPS,	INROUTE CARRIE	R			
TR 74–2CM	14000.0000 14500.0000	Т	Horizontal and Vertical	1M60G7D	41.7	15.7

E50. Modulation entirety.)	and Services (If the	ne complete description	on does not appear in	this box, please go t	o the end of the form	to view it in its
PSK, DIGIT	'AL, 1024 KSPS,	INROUTE CARRI	ER			
TR 74–2CM	11700.0000 12200.0000	R	Horizontal and Vertical	36M0G7D	0.0	0.0
E50. Modulation entirety.)  PSK, DATA,	and Services (If the 30 MSPS, OUTR		on does not appear in	this box, please go t	o the end of the form	to view it in its
TR 74–2CM	11700.0000 12200.0000	R	Horizontal and Vertical	400KG7D	0.0	0.0
E50. Modulation entirety.)	and Services (If the	e complete description	on does not appear in	this box, please go t	o the end of the form	to view it in its
PSK, DATA,	256 KSPS, OUT	ROUTE CARRIER				
TR 74–2CM	14000.0000 14500.0000	Т	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	T	Horizontal and	1M60G7D	41.7	15.7
	14500.0000		Vertical			

E50. Modulation and Services (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	Frequency Limits(MHz)	Range of Satellite Arc Eastern/West	Station Azimuth Angle	Station Azimuth Angle	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 controcallsign 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 controcallsign 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 E6. Phone 301-428-7205 Management Ctr Number: (Bill McHargue) E3. Street: 11717 Exploration E7. City: Germantown Lane 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: N/A NAD-27 **⋒** NAD-83 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.	O Yes	<b>⊚</b> No	O 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?	O Yes	O No	<b>●</b> N/A

E17. Is the facility operated by remote control? If YES, provide the locat point.	ion and telephone number of the control	Yes	O No
E18. Is frequency coordination required? If YES, attach a frequency coordination	rdination report as	O Yes	<b>⊚</b> No
E19. Is coordination with another country required? If YES, attach the na coordination contours as	ame of the country(ies) and plot of	O Yes	<b>●</b> No
E20. FAA Notification – (See 47 CFR Part 17 and 47 CFR part 25.11 have you attached a copy of a completed FCC Form 854 and/or the FAA' the structure to aviation?  FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL RAPPLICATION.	O Yes	No	
POINTS OF COMMUNICATION		•	
Satellite Name: OTHER   OTHER   If you selected OTHER, please en	·		
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	Size <meters></meters>	E41/42. Antenna Gain Transmint and/or Recieve (dBi atGHz)	
TR 74CM	TR 74CM	350000		HNS-AN- 074P-KU	0.74	0.0 dBi at	

Id	Diameter		, ,	Height Above Ground Level	Input Power at	E39. Maximum Antenna Height Above Rooftop (meters)	EIRP for al
TR 74CM	0.0/0.0	0.0	0.0	0.0	2.0	0.0	42.0

## FREQUENCY

	E43/44. Frequency Bands (MHz)	E45. T/R Mode			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 entirety.)	and Services (If the	e complete description	on does not appear in	this box, please go to	o the end of the form	to view it in its
PSK, DATA,	30 MSPS, OUTR	OUTE CARRIER				
TR 74CM	11700.0000 12200.0000	R	Horizontal and Vertical	400KG7D	0.0	0.0
E50. Modulation entirety.)	and Services (If the	e complete description	on does not appear in	this box, please go to	o the end of the form	to view it in its
PSK, DATA,	256 KSPS, OUT	ROUTE CARRIER				
TR 74CM	14000.0000 14500.0000	Т	Horizontal and Vertical	200KG7D	42.0	25.0
E50. Modulation entirety.)	and Services (If th	e complete description	on does not appear in	this box, please go to	o the end of the form	to view it in its
PSK, DIGIT	AL, 128 KSPS,	INROUTE CARRIE	R			
TR 74CM	14000.0000 14500.0000	Т	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	Frequency Limits(MHz)	Range of Satellite Arc Eastern/West	Station Azimuth	E57. Antenna Elevation Angle Eastern Limit	Station Azimuth Angle	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 contro 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:	E5. Call Sign:		
E2: Contact Name	E6. Phone Number:		
E3. Street:	E7. City:		
	E8. County:		
E4. State	E9. Zip Code		
E10. Area of Operation:			
E11. Latitude:			
E12. Longitude: °' '"			
E13. Lat/Lon Coordinates are:	O NAD-27	O NAD-83	O N/A
E14. Site Elevation (AMSL):	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.	O Yes	<b>⊗</b> No	O 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?	<b>O</b> Yes	O No	<b>⊚</b> N/A

E17. Is the facility operated by remote control? If YES, provide the locat point.	ion and telephone number of the control	• Yes	O No
E18. Is frequency coordination required? If YES, attach a frequency coordination	rdination report as	O Yes	No
E19. Is coordination with another country required? If YES, attach the na coordination contours as	nme of the country(ies) and plot of	O Yes	No
E20. FAA Notification – (See 47 CFR Part 17 and 47 CFR part 25.11 have you attached a copy of a completed FCC Form 854 and/or the FAA' the structure to aviation?  FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL RAPPLICATION.	O Yes	No	
POINTS OF COMMUNICATION		•	
Satellite Name: OTHER   OTHER   If you selected OTHER, please en	iter 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: ANTENNA	E27. Country:		

Site ID	E28. Antenna Id	E29. Quantity	E30. Manufacturer	E31. Model	E32. Antenna Size <meters></meters>	E41/42. Antenna Gain Transmint and/or Recieve (dBi atGHz)
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	1	E35. Above Ground Level (meters)	` ′	Height Above	Input Power at	E39. Maximum Antenna Height Above Rooftop (meters)	EIRP for al
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

	E43/44. Frequency Bands (MHz)				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 entirety.)	and Services (If the	e complete description	on does not appear in	this box, please go t	o the end of the form	to view it in its
	AL, 30 MSPS, O	UTROUTE CARRIE	R			
TR 98CM	11700.0000 12200.0000	R	Horizontal and Vertical	400KG7D	0.0	0.0
E50. Modulation entirety.)  PSK, DIGIT	AL, 256 KSPS,			tills box, please go t	o the end of the form	to view it in its
TR 98CM	14000.0000 14500.0000	Т	Horizontal and Vertical	200KG7D	44.3	27.3
E50. Modulation entirety.)  PSK, DIGIT	and Services (If the AL, 128 KSPS,			this box, please go t	o the end of the form	to view it in its
TR 98CM	14000.0000 14500.0000	Т	Horizontal and Vertical	1M60G7D	44.3	18.3

E50. Modulation entirety.)	and Services (If the	ne complete description	on does not appear in	this box, please go t	o the end of the form	to view it in its
	PAL, 1024 KSPS,	INROUTE CARRI	ER			
TR 98CM	11700.0000 12200.0000	R	Horizontal and Vertical	36M0G7D	0.0	0.0
E50. Modulation entirety.)  PSK, DIGIT	TAL, 30 MSPS, O			tinis box, piease go t	o the end of the form	to view it in its
TR 98CM	11700.0000 12200.0000	R	Horizontal and Vertical	400KG7D	0.0	0.0
E50. Modulation entirety.)  PSK, DIGIT	and Services (If the Park and Services) (If the Park and Services)			this box, please go t	o the end of the form	to view it in its
TR 98CM	14000.0000 14500.0000	Т	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	Т	Horizontal and	1M60G7D	44.3	18.3
	14500.0000		Vertical			

E50. Modulation and Services (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.	E51. Satellite	E52/53.	E54/55.	E56. Earth	E57.	E58. Earth	E59.	E60.
Antenna Id	Orbit Type	Frequency	Range of	Station	Antenna	Station	Antenna	Maximum
		Limits(MHz)	Satellite Arc	Azimuth	Elevation	Azimuth	Elevation	EIRP Density
			Eastern/West	Angle	Angle	Angle	Angle	toward the
			ern Limit	Eastern Limit	Eastern Limit	Western	Western	Horizon
						Limit	Limit	(dBW/4kHz)
			/					

REMOTE CONTROL POINT LOCATION

E61. Call Sign E000166 NOTE: Please enter the callsign of the contr 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 contractly 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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