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# APPLICATION FOR EARTH STATION AUTHORIZATIONS FCC 312 MAIN FORM FOR OFFICIAL USE ONLY FCC Use Only

#### APPLICANT INFORMATION

Enter a description of this application to identify it on the main menu: Indianapolis 4.1 m Gateway

Name: ViaSat, Inc. Phone Number: 760–476–2583

**DBA Fax Number:** 760–929–3941

Name:

Street: 6155 El Camino Real E–Mail: daryl.hunter@viasat.com

City: Carlsbad State: CA

Country: USA Zipcode: 92009 -

**Attention:** Mr Daryl T Hunter

9–16. Name of Contact Representative

Name: ViaSat, Inc. Phone Number: 760–476–2583

**Company: Fax Number:** 760–929–3941

Street: 6155 El Camino Real E–Mail: daryl.hunter@viasat.com

City: Carlsbad State: CA

Country: USA Zipcode: 92009–

**Attention:** Daryl T Hunter, P.E. **Relationship:** Engineer

### **CLASSIFICATION OF FILING**

17. Choose the button next to the	b.
classification that applies to this filing for	b1. Application for License of New Station
both questions a. and b. Choose only one	b2. Application for Registration of New Domestic Receive–Only Station
for 17a and only one for 17b.	
	(N/A) b3. Amendment to a Pending Application (N/A) b4. Modification of License or Registration
a.	(N/A) b5. Assignment of License or Registration
a1. Earth Station	(N/A) b6. Transfer of Control of License or Registration
(N/A) a2. Space Station	(N/A) b7. Notification of Minor Modification
	(N/A) b8. Application for License of New Receive-Only Station Using Non-U.S. Licensed
	Satellite
	(N/A) b9. Letter of Intent to Use Non–U.S. Licensed Satellite to Provide Service in the United
	States  h 10. Other (Please specify)
	o b10. Other (Please specify)
	▶ 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) b13. Amendment to a Pending Database Entry Application
	(N/A) b14. Modifiction of Database Entry
17c. Is a fee submitted with this applicati	on?
If Yes, complete and attach FCC Form	159. If No, indicate reason for fee exemption (see 47 C.F.R.Section 1.1114).
Governmental Entity Noncomme	ercial educational licensee
Other(please explain):	
17d.	
Fee Classification BAX – Fixed Satellite T	ransmit/Receive Earth
Station	

18. If this filing is in reference to an	19. If this filing is an amendment to a pending application enter:		
existing station, enter:  (a) Call sign of station:	(a) Date pending application was filed:	(b) File number of pending application:	
Not Applicable	Not Applicable	Not Applicable	

#### TYPE OF SERVICE

I YPE 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 only one.  Common Carrier  Non–Common Carrier	22. If earth station applicant, check all that apply.  Using U.S. licensed satellites  Using Non–U.S. licensed satellites
23. If applicant is providing INTERNATIONAL COMMON CARRIER so facilities:  Connected to a Public Switched Network  Not connected to	ervice, see instructions regarding Sec. 214 filings. Choose one. Are these 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: 17700 Frequency Upper: 30000
TYPE OF STATION
25. CLASS OF STATION: Choose the button next to the class of station that applies. Choose only one.
a. Fixed Earth Station
b. Temporary–Fixed Earth Station
c. 12/14 GHz VSAT Network
d. Mobile Earth Station
(N/A) e. Geostationary Space Station
(N/A) f. Non–Geostationary Space Station
og. Other (please specify)
26. TYPE OF EARTH STATION FACILITY: Choose only one.
Transmit/Receive Transmit-Only Receive-Only 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.)
27. The purpose of this proposed modification is to. (Finee an A. In the box(es) next to an that appry.)
Not Applicable
1 tot replicable

#### ENVIRONMENTAL POLICY

environmental impact as defined by 47 CFR 1.1307? If YES, submit the statement as required by Sections 1.1308 and 1.1311 of the Commission's rules, 47 C.F.R. §§ 1.1308 and 1.1311, as an exhibit to this application. A Radiation Hazard Study must accompany all applications for new transmitting facilities, major modifications, or major amendments.	Exhibit B
ALIEN OWNERSHIP Earth station applicants not proposing to provide broadcast, common carrier, aerona aeronautical fixed radio station services are not required to respond to Items 30–34.	utical en route or
29. Is the applicant a foreign government or the representative of any foreign government?	O Yes O No
30. Is the applicant an alien or the representative of an alien?	O Yes O No O N/A
31. Is the applicant a corporation organized under the laws of any foreign government?	O Yes O No O 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?	O Yes O No O N/A

33. Is the applicant a corporation directly or indirectly controlled by any other corporation of which more than one–fourth of the capital stock is owned of record or voted by aliens, their representatives, or by a foreign government or representative thereof or by any corporation organized under the laws of a foreign country?	O Yes O No	o <b>⊚</b> 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.	Exhibit C	
BASIC QUALIFICATIONS		
35. Does the Applicant request any waivers or exemptions from any of the Commission's Rules? If Yes, attach as an exhibit, copies of the requests for waivers or exceptions with supporting documents.	Yes	O No
	Exhibit D	
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
	Exhibit E	

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.	O 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	O Yes	<b>⊚</b> 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.	O 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.	<b>⊚</b> 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 coordinated or is in the process of coordinating the space station? UK	d, what administr	ration has
43. Description. (Summarize the nature of the application and the services to be provided). (If the not appear in this box, please go to the end of the form to view it in its entirety.)	ne complete desc	ription does
See attached narrative.		

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.

Individual				
Unincorporated Association				
Partnership				
Corporation				
Governmental Entity				
Other (please specify)				
45. Name of Person Signing Daryl T Hunter, P.E.  47. Please supply any need attachmen		46. Title of Perso Sr. Director, Reg	ulatory Affairs	
A // 1 / 1 T 1 T 1 T A	Attachment 2:		Attachment 3:	
Attachment 1: Exhibit A				

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

Location of Earth Station Site

E1: Site Identifier: SAN 1 E5. Call Sign:

E2: Contact Name Daryl T Hunter E6. Phone 760–476–2583

Number:

E3. Street: 1902 S. East St E7. City: Indianapolis

E8. County: Marion

E4. State IN E9. Zip Code 46225

E10. Area of Operation: Fixed

E11. Latitude: 39 °44 '29.2 "N

E12. Longitude: 86 °9 '7.1 "W

E13. Lat/Lon Coordinates are: NAD-27 NAD-83 N/A

E14. Site Elevation (AMSL): 221.0 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 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: VIASAT-2 (S2902)   VIASAT-2 (S2902)   69.9 W.L. If you selected OTHER, please enter the	following	g:	

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 GainTransmint and/or Recieve (dBi atGHz)
SAN 1	1	1	ViaSat, Inc.	VA-41-KA	4.1	60.3 dBi at 30
						55.8 dBi at 17.7
						56.6 dBi at 19.2
						56.9 dBi at 20.2
						59.6 dBi at 27.5
						60.0 dBi at 29.0

E28. Antenna Id	E33/34. Diameter Minor/Major (meters)	E35. Above Ground Level  (meters)	(meters)	Height Above Ground	Input Power at antenna flange 	Maximum Antenna Height	E40. Total EIRP for al carriers  (dBW)
1	4.1/4.1	4.7	225.7	0.0	4.4	0.0	66.7

## FREQUENCY

	E43/44. Frequency Bands (MHz)	E45. T/R Mode			E48. Maximum EIRP per Carrier (dBW)	E49. Maximum ERIP Density per Carrier (dBW/4kHz)
1	17800 19300	R	Left and Right Circular	417MG7D	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.)

416.6 MBd M-ary PSK Digital Data

1	19700 20200	R	Left and Right Circular	0.0	0.0
	20200		Circulai		

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					
416.6 MBd	416.6 MBd M-ary PSK Digital Data										
1	17700 18300	R	Left and Right Circular	500MG7D	0.0	0.0					
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					
500 MBd M-	ary PSK Digita-	l Carrier									
1	27600 29100	Т	Left and Right Circular	417MG7D	60.0	9.8					
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					
416.6 MBd M-ary PSK Digital Data											
1	29500 30000	Т	Left and Right Circular	417MG7D	60.0	9.8					

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

416.6 MBd M-ary PSK Digital Data

ŀ							
I	1	27500	T	Left and Right	500MG7D	61.6	9.8
l		28100		Circular			
ı							

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

500 MBd M-ary PSK Digital Carrier

### FREQUENCY COORDINATION

E28. Antenna Id	E51. Satellite Orbit Type	E52/53. Frequency Limits(MHz)	E54/55. Range of Satellite Arc E/W Limit	Station Azimuth 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)
1	Geostationary	17700 19300	69.9/ 69.9	155.5	41.0	155.5	41.0	0.0
	Geostationary	19700 20200	69.9/69.9	155.5	41.0	155.5	41.0	0.0

Ge	-	27500 29100	69.9/ 69.9	155.5	41.0	155.5	41.0	-57.0
Ge	-	29500 30000	69.9/ 69.9	155.5	41.0	155.5	41.0	-57.0

#### REMOTE CONTROL POINT LOCATION

E61. Call Sign  NOTE: Please enter the callsign of the contro callsign for which this application is being filed.	_	E65. Phone Number 720–493–7300		
E62. Street Address 349 Inverness Drive South				
E63. City Englewood	E67. County Arapahoe		E64/68. State/Country CO/ USA	E66. Zip Code 80112

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