Date & Time Filed: Jan 8 2016 10:16:05:513AM File Number: SES-MOD-INTR2016-00046

FCC APPLICATION FOR SPACE AND EARTH STATION:MOD OR AMD – MAIN FORM

FCC Use Only

FCC 312 MAIN FORM FOR OFFICIAL USE ONLY

APPLICANT INFORMATION

Enter a description of this application to identify it on the main menu:

Modification to E120075 to add 28.1 – 28.35 GHz

1-8.	Legal	Name	of App	licant
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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 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

b4. Modification of License or Registration

b5. Assignment of License or Registration

b6. Transfer of Control of License or Registration

b7. Notification of Minor Modification

(N/A) b8. Application for License of New Receive-Only Station Using Non-U.S. Licensed Satellite

(N/A) b9. Letter of Intent to Use Non-U.S. Licensed Satellite to Provide Service in the United States

(N/A) b10. Other (Please specify)

(N/A) b11. Application for Earth Station to Access a Non–U.S.satellite Not Currently Authorized to Provide the Proposed Service in the Proposed Frequencies in the United States

(N/A) b12. Application for Database Entry

b13. Amendment to a Pending Database Entry Application

b14. Modification of Database Entry

17c. Is a fee submitted with this application. If Yes, complete and attach FCC Form.	on? 159. If No, indicate reason for fee exemption (s	ee 47 C.F.R.Section 1.1114).
Governmental Entity Noncomme		co in chiadocalan mining.
Other(please explain):		
17d.		
Fee Classification CGV – Fixed Satellite	VSAT System	
18. If this filing is in reference to an existing station, enter:	19. If this filing is an amendment to a pending a modification please enter only the file number:	pplication enter both fields, if this filing is a
(a) Call sign of station: E120075	(a) Date pending application was filed:	(b) File number:
L120073		SESMOD2015091100584

TYPE OF SERVICE

20. NATURE OF SERVICE: This filing is for an authorization to provide	e 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) 20/30 GHz Mobile	
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 Non–Common Carrier	Using Non–U.S. licensed satellites
23. If applicant is providing INTERNATIONAL COMMON CARRIER s facilities:	service, see instructions regarding Sec. 214 filings. Choose one. Are these
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 a	pplicable 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: 28100 Frequency Upper: 28350	(Please specify additional frequencies in an attachment)

TYPE OF STATION

25. CLASS OF STATION: Choose the button next to the class of station that applies. Choose only one.
a. Fixed Earth Station
b. Temporary–Fixed Earth Station
c. 12/14 GHz VSAT Network
d. Mobile Earth Station
e. Geostationary Space Station
f. Non-Geostationary Space Station
g. Other (please specify) 20/30 GHz Mobile
26. TYPE OF EARTH STATION FACILITY:
Transmit/Receive Transmit-Only Receive-Only N/A
"For Space Station applications, select N/A."

PURPOSE OF MODIFICATION

27. The purpose of this proposed modification is to: (Place an 'X' in the box(es) next to all that apply.)
a — authorization to add new emission designator and related service
b — authorization to change emission designator and related service
c — authorization to increase EIRP and EIRP density
d — authorization to replace antenna
e — authorization to add antenna
f — authorization to relocate fixed station
g — authorization to change frequency(ies)
h — authorization to add frequency
i — authorization to add Points of Communication (satellites & Double
j — authorization to change Points of Communication (satellites & Double of Communication (satellites & Doub
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	•	No i	N/A
34. If any answer to questions 29, 30, 31, 32 and/or 33 is Yes, attach as an exhibit an identification of the aliens or foreign entities, their nationality, their relationship to the applicant, and the percentage of stock they own or vote.				
BASIC QUALIFICATIONS				
35. Does the Applicant request any waivers or exemptions from any of the Commission's Rules? If Yes, attach as an exhibit, copies of the requests for waivers or exceptions with supporting documents.	•	Yes	٥	No
	Technic	al Ana	lysis	
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.	0	Yes	•	No

37. Has the applicant, or any party to this application or amendment, or any party directly or indirectly controlling the applicant ever been convicted of a felony by any state or federal court? If Yes, attach as an exhibit, an explination of circumstances.	• Yes	⊚ No
38. Has any court finally adjudged the applicant, or any person directly or indirectly controlling the applicant, guilty of unlawfully monopolizing or 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	⊘ 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, v coordinated or is in the process of coordinating the space station? UK/IOM and US	vhat administi	ration has
43. Description. (Summarize the nature of the application and the services to be provided). (If the complete description, please go to the end of the form to view it in its entirety.)	ion does not a	ppear in this
Add frequency band to license - see attached narrative.		
Exhibit A		

43a. Geographic Service Rule Certification By selecting A, the undersigned certifies that the applicant is not subject to the geographic service or geographic coverage requirements specified in 47 C.F.R. Part 25.	● A
By selecting B, the undersigned certifies that the applicant is subject to the geographic service or geographic coverage requirements specified in 47 C.F.R. Part 25 and will comply with such requirements.	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.	o c

CERTIFICATION

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

44. Applicant is a (an): (Choose the button next to applic	cable response.)	
Individual		
 Unincorporated Association 		
Partnership		
Corporation		
Governmental Entity		
Other (please specify)		
45. Name of Person Signing	46. Title of Person Signing	
Daryl T Hunter, P.E.	Sr. Director, Regulatory Affairs	
>	•	

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

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

Location of Earth St	ration Site				
E1: Site Identifier:	M32	E5. Call Sign:			
E2: Contact Name	Daryl T. Hunter	E6. Phone Number:	760–476–2583		
E3. Street:		E7. City:			
		E8. County:			
E4. State		E9. Zip Code			
E10. Area of Opera	tion:	CONUS, AK, HI			
E11. Latitude:	0 °0 '0.0 "				
E12. Longitude:	0 °0 '0.0 "				
E13. Lat/Lon Coord	linates are:	O NAD-27	O 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.

E16. If the proposed antenna(s) do not operate in the Fixed Satellite Satellite Service (FSS) with non–geostationary satellites, do(es) the program patterns specified in Section 25.209(a2) and (b) as demonstrated measurements?	roposed antenna(s) comply with the antenna	O Yes	O No	⊚ N/A
E17. Is the facility operated by remote control? If YES, provide the log point.	cation and telephone number of the control	Yes	0	No
E18. Is frequency coordination required? If YES, attach a frequency co	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 FA the structure to aviation? FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILI APPLICATION.	AA's study regarding the potential hazard of	O Yes	•	No
POINTS OF COMMUNICATION		<u> </u>		
Satellite Name: VIASAT-1 (S2747) VIASAT-1 (S2747) 115.1W.L.	. If you selected OTHER, please enter the fo	ollowing:		
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)	
M32	M32	4000	ViaSat	M-32	0.355	39.3 dBi at 28.1	

Id			` ′	Height Above Ground Level	Input Power at antenna flange	E39. Maximum Antenna Height Above Rooftop (meters)	EIRP for al
M32	0.157/0.639	0.0	0.0	0.0	4.4	0.0	46.0

FREQUENCY

	E43/44. Frequency Bands (MHz)	E45. T/R Mode			E48. Maximum EIRP per Carrier (dBW)	E49. Maximum ERIP Density per Carrier (dBW/4kHz)
M32	28100 28350	Т	Left and Right Circular	5M00G7D	46.0	15.0

E50. Modulation entirety.)	and Services (If t	he complete descripti	on does not appear ir	this box, please go t	to the end of the form	to view it in its
	Digital Carrie	er				
M32	28100 28350	Т	Left and Right Circular	10M0G7D	46.0	12.0
E50. Modulation entirety.) 10 MBd PSF	and Services (If t		on does not appear in	this box, please go t	o the end of the form	to view it in its
M32	28100 28350	Т	Left and Right Circular	20M0G7D	46.0	9.0
E50. Modulation entirety.) 20 MBd PSI	and Services (If the Control of the		on does not appear ir	this box, please go t	to the end of the form	to view it in its
M32	28100 28350	Т	Left and Right Circular	2M50G7D	46.0	18.0

E50. Modulation entirety.)	and Services (If the	he complete descripti	on does not appear	in this box, please	go to the end of the	he form to view it in its
2.5 MBd PS	K Digital Carr	rier				
M32	28100 28350	Т	Left and Right Circular	625KG7D	42.4	20.5
entirety.) 625 kBd PS	K Digital Carr	rier				
M32	28100 28350	Т	Left and Right Circular	1M25G7D	45.4	20.5
E50. Modulation entirety.) 1250 kBd P	and Services (If the SK Digital Car		on 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	Frequency	Range of Satellite Arc Eastern/West	Station Azimuth Angle	E57. Antenna Elevation Angle Eastern Limit	Station Azimuth Angle	Antenna Elevation Angle Western	E60. Maximum EIRP Density toward the Horizon (dBW/4kHz)
M32	Geostationary	28100 28350	111.1/115.1	108.0	19.5	235.5	30.5	-10.5

REMOTE CONTROL POINT LOCATION

E61. Call Sign NOTE: Please enter the callsign of the contro callsign for which this application is being filed.	E66. Phone Number 720–554–7575			
E62. Street Address 5970 South Greenwood Plaza Blv Suite 300				
E63. City Greenwood Village	E68. County Arapahoe		E67/68. State/Country CO/ USA	E64. Zip Code 80111

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

Location of Earth S	tation Site					
E1: Site Identifier:	M40	E5. Call Sign:				
E2: Contact Name	Daryl T. Hunter	E6. Phone Number:	760–476–2583			
E3. Street:		E7. City:				
		E8. County:				
E4. State		E9. Zip Code				
E10. Area of Opera	tion:	CONUS, AK, HI				
E11. Latitude:	0 °0 '0.0 "					
E12. Longitude:	0 °0 '0.0 "					
E13. Lat/Lon Coord	dinates are:	O NAD-27	O 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	⊚ 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.	● 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	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 RAPPLICATION.	's study regarding the potential hazard of	O Yes	No
POINTS OF COMMUNICATION		!	-
Satellite Name: VIASAT-1 (S2747) VIASAT-1 (S2747) 115.1W.L.	If you selected OTHER, please enter the fo	llowing:	
E21. Common Name:	E22. ITU Name:		
E23. Orbit Location:	E24. Country:		
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)
M40	M40	4000	ViaSat	M-40	0.397	37.0 dBi at 28.1

Id	Diameter		,	Height Above Ground Level	Input Power at antenna flange	E39. Maximum Antenna Height Above Rooftop (meters)	EIRP for al
M40	0.1575/0.7874	0.0	0.0	0.0	4.0	0.0	43.5

FREQUENCY

	E43/44. Frequency Bands (MHz)	E45. T/R Mode			E48. Maximum EIRP per Carrier (dBW)	E49. Maximum ERIP Density per Carrier (dBW/4kHz)
M40	28100 28350	Т	Left and Right Circular	5M00G7D	43.5	12.5

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.)

5 MBd PSK Digital Carrier	

M40	28100 28350	Т	Left and Right Circular	10M0G7D	43.5	9.5
E50. Modulation entirety.)	and Services (If t	he complete descript	ion does not appear	in this box, please §	go to the end of th	ne form to view it in its
10 MBd PSK	Digital Carr	ier				
M40	28100 28350	Т	Left and Right Circular	20M0G7D	43.5	6.5
20 MBd PSK	Digital Carr	ier				
M40	28100 28350	Т	Left and Right Circular	2M50G7D	43.5	15.5
E50. Modulation entirety.)	and Services (If t	the complete descript	ion does not appear	in this box, please §	go to the end of th	ne form to view it in its
2.5 MBd PS	K Digital Car	rier				

M40	28100 28350	Т	Left and Right Circular	625KG7D	42.4	20.5
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
625 kBd PS	K Digital Carr	ier				
M40	28100 28350	Т	Left and Right Circular	1M25G7D	43.5	18.6
E50. Modulation entirety.)	and Services (If th		on does not appear in	this box, please go to	o the end of the form	to view it in its

FREQUENCY COORDINATION

E28. Antenna Id	E51. Satellite Orbit Type	E52/53. Frequency Limits(MHz)		Station Azimuth Angle		Station Azimuth Angle	Antenna Elevation Angle Western	E60. Maximum EIRP Density toward the Horizon (dBW/4kHz)
M40	Geostationary	28100 28350	111.1/115.1	108.0	30.5	235.5	19.5	-4.5

REMOTE CONTROL POINT LOCATION

E61. Call Sign NOTE: Please enter the callsign of the contro callsign for which this application is being filed.		E66. Phone Number 720–554–7575		
E62. Street Address 5970 South Greenwood Plaza Blv Suite 300				
E63. City Greenwood Village	E68. County Arapahoe		E67/68. State/Country CO/ USA	E64. Zip Code 80111

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