

APPLICATION FOR EARTH STATION SPECIAL TEMPORARY AUTHORITY

APPLICANT INFORMATION Enter a description of this application to identify it on the main menu:  
Denver STA with 115.1 POC

1. Applicant

Name:	ViaSat, Inc.	Phone Number:	760-476-2583
DBA Name:		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:	Mr Daryl T Hunter		

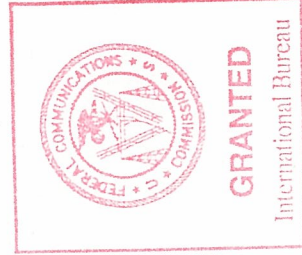
*with conditions*

File # SES-STA-20111114-01354

Call Sign E11048 Grant Date 22 Nov 2011  
(or other identifier)

Term Dates  
From 23 Nov 2010 To: 22 Dec 2011

Approved: Paul E. Hunter



Conditions:

Applicant: ViaSat, Inc.

File Number: SES-STA-20111114-01354

Call Sign: E110048

The application of ViaSat, Inc. for Special Temporary Authority (STA), IBFS File No. SES-STA-20111114-01354, is GRANTED. Accordingly, ViaSat, Inc. is authorized to conduct in-orbit testing of the ViaSat-1 space station (Call Sign E110048) using the 28.1-29.1 GHz and 29.5-30.0 GHz frequency bands (Earth-to-space) and the 18.3-19.3 GHz and 19.7-20.2 GHz frequency bands (space-to-Earth) at the 115.1° W.L. orbital location, for a period of 30 days commencing on November 23, 2011. This authorization is granted in accordance with the terms and technical specifications set forth in ViaSat, Inc.'s application, the Federal Communications Commission's (Commission) rules, and the conditions of this attachment.<sup>1</sup>

1. ViaSat, Inc. shall coordinate its test operations with all potentially affected in-orbit satellite networks.
2. The operations of E110048 shall not cause harmful interference to any other lawfully operating radiocommunication system.
3. ViaSat, Inc. shall cease operations immediately upon notification of harmful interference caused by the operations of the E110048 to any lawfully operating radiocommunication system. Further, ViaSat, Inc. shall notify the Commission immediately, in writing, of such an event.
4. ViaSat, Inc. shall accept interference from any lawfully operating radiocommunication system.
5. Prior to performing in-orbit testing operations, ViaSat, Inc. must coordinate the in-orbit testing operations of ViaSat-1 with entities operating satellites within +/- 6 degrees of the 115.1° W.L. orbital location.
6. ViaSat, Inc. will have personnel on duty at all times during the STA period and can be contacted at (720) 493-7300.
7. This authorization is issued pursuant to Section 0.261 of the Commission's rules on delegated authority, 47 C.F.R. § 0.261, and is effective immediately.



File # SES-STA-20111114-01354  
Call Sign E110048 Grant Date 23 Nov 2011  
(or other identifier)  
Term Dates  
From 23 Nov 2011 To 22 Dec 2011  
Approved: Paul E. Hines

<sup>1</sup> ViaSat, Inc. is authorized to operate ViaSat-1 at 115.1° W.L. See SAT-LOA-20110722-00132 and SAT-AMD-20110728-00140 (grant stamped with conditions on Oct. 14, 2011). This STA is for in-orbit testing at 115.1° W.L. that will be conducted at a variance from the authorized parameters.

<b>2. Contact</b>			
<b>Name:</b>	Daryl T. Hunter	<b>Phone Number:</b>	760-476-2583
<b>Company:</b>	ViaSat, Inc.	<b>Fax Number:</b>	760-929-3941
<b>Street:</b>	6155 El Camino Real	<b>E-Mail:</b>	daryl.hunter@viasat.com
<b>City:</b>	Carlsbad	<b>State:</b>	CA
<b>Country:</b>	USA	<b>Zipcode:</b>	92009 -
<b>Attention:</b>		<b>Relationship:</b>	Same
(If your application is related to an application filed with the Commission, enter either the file number or the IB Submission ID of the related application. Please enter only one.)			
3. Reference File Number or Submission ID			
4a. Is a fee submitted with this application?			
<input checked="" type="radio"/> If Yes, complete and attach FCC Form 159. If No, indicate reason for fee exemption (see 47 C.F.R. Section 1.1114).			
<input type="radio"/> Governmental Entity <input type="radio"/> Noncommercial educational licensee			
<input type="radio"/> Other (please explain):			
4b. Fee Classification CGX - Fixed Satellite Transmit/Receive Earth Station			
5. Type Request			
<input type="radio"/> Use Prior to Grant <input type="radio"/> Change Station Location <input checked="" type="radio"/> Other			
6. Requested Use Prior Date			
11/23/2011			
7. City Englewood			
8. Latitude			
(dd mm ss.s h) 39 32 57.78 N			

9. State	CO	10. Longitude (dd mm ss.s h)	104 51 52.08 W
11. Please supply any need attachments.		Attachment 1: Attachment A	Attachment 2: Attachment 3:
12. Description. (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)  See Attachment A.			
13. 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.  <input checked="" type="radio"/> Yes <input type="radio"/> No			
14. Name of Person Signing Daryl T. Hunter		15. Title of Person Signing 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).			

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**THE FOREGOING NOTICE IS REQUIRED BY THE PAPERWORK REDUCTION ACT OF 1995, PUBLIC LAW 104-13, OCTOBER 1, 1995, 44 U.S.C. SECTION 3507.**

**Request for Special Temporary Authority  
to Conduct In-Orbit Testing of VIASAT-1 at 115.1° W.L.**

ViaSat, Inc. (“ViaSat”) currently is authorized to conduct in-orbit testing of ViaSat-1 at 109.2° W.L. using, among other facilities, its gateway in Denver, Colorado.<sup>1</sup> By this application, ViaSat seeks Special Temporary Authority (“STA”) to continue that testing at 115.1° W.L. after the satellite is located there. STA is requested for a period not to exceed thirty (30) days commencing on November 23, 2011, when ViaSat-1 is expected to arrive at 115.1° W.L. after its authorized drift from 109.2° W.L.<sup>2</sup>

ViaSat originally intended to complete in-orbit testing of ViaSat-1 at 109.2° W.L., and then relocate the satellite to 115.1° W.L. ViaSat has since determined that it can commence commercial service sooner than originally expected by completing in-orbit testing at 115.1° W.L.

ViaSat already holds “regular” authority to operate ViaSat-1 at 115.1° W.L.<sup>3</sup> and to communicate over the Denver gateway.<sup>4</sup> Thus, STA is needed only for that portion of testing at 115.1° W.L. that would be conducted at variance from regularly authorized parameters.

In-orbit testing will consist of performance verification of each beam on ViaSat-1. The Denver gateway will be used to transmit and receive test signals. Consistent with industry practices and as detailed below, that gateway and the satellite temporarily will need to operate at higher-than-regularly-authorized power levels during certain tests.<sup>5</sup>

To enable testing of each beam in each direction (both uplink and downlink), the spacecraft will be oriented at various times to position a given beam over Denver. In closed-loop tests, the satellite will be oriented such that both the uplink and downlink beams being tested will be positioned over the Denver gateway. In open-loop uplink tests, each uplink beam will be positioned over the Denver gateway, which will result in the corresponding downlink beam illuminating a different geographic area than under regular operations (with that signal not intended to be received by any earth station). Open-loop downlink tests will be performed on a “noise loaded” basis (there will be no uplink transmission), with each downlink beam under test being positioned over the Denver gateway.

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<sup>1</sup> File No. SAT-STA-20110927-00188 (granted Oct. 21, 2011) File No. SES-STA-20110526-00635 (granted Oct. 14, 2011).

<sup>2</sup> *See id.*

<sup>3</sup> File No. SAT-LOA-20110722-00132; as amended (Call Sign 2474) (granted Oct. 14, 2011).

<sup>4</sup> File No. SES-LIC-20110328-00379; as amended (Call Sign E110048) (granted Oct. 21, 2011).

<sup>5</sup> These parameters were approved for testing at 109.2° W.L. File Nos. SAT-STA-20110927-00188 (granted Oct. 21, 2011); SES-STA-20110526-00635 (granted Oct. 14, 2011).

Tests that involve uplink transmissions will be performed using unmodulated CW carriers transmitted from the Denver gateway. In certain cases, this will involve a maximum uplink power level of 85 dBW. Operations at these higher-than-regularly-authorized power levels will be short-term (*i.e.*, typically several minutes) and limited to two specific frequencies that, consistent with Section 25.138, are being coordinated with adjacent satellites and with the U.S. government. Those frequencies are at 28.61 GHz and 29.75 GHz on the uplink, with corresponding downlink frequencies of 18.81 GHz and 19.95 GHz. The corresponding downlink power level of 73 dBW is higher than regularly-authorized for ViaSat-1, and the resulting pfd of -89 dBW/m<sup>2</sup>/MHz exceeds the limit in Section 25.208(e). While ViaSat does not believe that the brief duration of the testing at these power levels will result in harmful interference to terrestrial users, it bears emphasis that all remaining terrestrial users in these frequency ranges operate on a secondary basis, and are not entitled to interference protection in any event.<sup>6</sup> To the extent necessary, ViaSat seeks a waiver of Section 25.208(e) to allow testing at the power-density levels described above.

ViaSat is coordinating the higher-power test operations with operators of commercial Ka-band satellites within six degrees of 115.1° W.L. In the unlikely event that harmful interference nonetheless occurs, ViaSat will take all appropriate steps to eliminate such interference. In addition, ViaSat is engaged in US334 coordination process for the proposed operations.

ViaSat will make available a 24/7 point of contact should any issues arise in connection with the proposed STA operations. Personnel will be on duty at all times during the STA operations and can be contacted at (720) 493-7300.

Grant of the STA will help expedite commercial service over ViaSat-1, which will serve the public interest, convenience and necessity.

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<sup>6</sup> See 47 C.F.R. § 101.147(r) (stations operating in the 18.8-19.3 GHz band are no longer co-primary with Part 25 services after June 8, 2010).