

APPLICATION FOR EARTH STATION SPECIAL TEMPORARY AUTHORITY

APPLICANT INFORMATION Enter a description of this application to identify it on the main menu:
STA Request to Test AeroSat Terminals

1. Applicant

Name: Gogo LLC Phone Number: 202-870-7220
DBA Name: Fax Number:
Street: 5505 Connecticut Avenue, NW E-Mail: bgordon@aircell.com
#288
City: Washington State: DC
Country: USA Zipcode: 20015
Attention: Mr William J Gordon

SES-STA-20120727-00698
E120106 9-5-12
Call Sign (Grant Date) 9-5-12
(or other identifier) Term Dates
From 8-29-12 To 10-27-12
Appr Paul E. Blain
Verbal Grant with Conditions

Applicant: Gogo LLC
 Call Sign: E120106
 File No.: SES-STA-20120727-00698
 Special Temporary Authority (STA)

Gogo LLC is granted STA for a period of 60 days from August 29, 2012 to October 27, 2012 to temporary operate a Vehicle-Mounted earth station (VMES) with 4 technically-identical transmit/receive antennas model AeroSat HR6400 at site locations: Itasca, IL and Amherst, NH that will communicate with space station SES-1 at orbital location 101.0 degrees W.L. in the conventional Ku-band frequencies (14.0-14.5 GHz uplink and 11.7-12.2 GHz downlink) with the following conditions:

- 1) Gogo LLC's testing shall be in compliance with 47 C.F.R. § 25.226 and in accordance with the satellite's certification agreement from SES Americom, Inc.
- 2) Grant of this authorization is without prejudice to any determination that the Commission may make regarding pending or future Gogo LLC's applications.
- 3) Any action taken or expense incurred as a result of operations pursuant to this special temporary authority is solely at Gogo LLC's risk.
- 4) The licensee shall cease authorized VMES operations in the 14.0-14.2 GHz band within 125 km of NASA TDRSS facilities on Guam (latitude 13°36'55" N, longitude 144°51'22" E) or White Sands, New Mexico (latitude 32°20'59" N, longitude 106°36'31" W and latitude 32°32'40" N, longitude 106°36'48" W)
- 5) The licensee shall not operate in the vicinity of radio observatories of Radio Astronomy Service (RAS) in the table below in the band 14.47-14.50 GHz.


Observatory	Latitude (north)	Longitude (west)	Radius (km) of coordination zone
Arecibo, Observatory, Arecibo, PR	18°20'37"	66°45'11"	Island of Puerto Rico.
Green Bank, WV	38°25'59"	79°50'23"	160.
Very Large Array, near Socorro, NM	34°04'44"	107°37'06"	160.
Pisgah Astronomical Research Institute, Rosman, NC	35°11'59"	82°52'19"	160.
U of Michigan Radio Astronomy Observatory, Stinchfield Woods, MI	42°23'56"	83°56'11"	160.
Very Long Baseline Array (VLBA) stations:			
Owens Valley, CA	37°13'54"	118°16'37"	160*.
Mauna Kea, HI	19°48'05"	155°27'20"	50.
Brewster, WA	48°07'52"	119°41'00"	

Kitt Peak, AZ	31°57'23"	111°36'45"
Pie Town, NM	34°18'04"	108°07'09"
Los Alamos, NM	35°46'30"	106°14'44"
Fort Davis, TX	30°38'06"	103°56'41"
North Liberty, IA	41°46'17"	91°34'27"
Hancock, NH	42°56'01"	71°59'12"
St. Croix, VI	17°45'24"	64°35'01"

*Owens Valley, CA operates both a VLBA station and single-dish telescopes.

6) This action 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.

SES-STA-2012-0727-00698



GRANTED

International Bureau

Call Sign G120106 **Grant Date** 9-5-12

(or other identifier)

From 8-29-12 **Term Dates** 10-27-12

Approved *Paul E. [Signature]*

2. Contact	
Name: Karis A. Hastings	Phone Number: 202-599-0975
Company: SatCom Law LLC	Fax Number:
Street: 1317 F Street, N.W. Suite 400	E-Mail: karis@satcomlaw.com
City: Washington	State: DC
Country: USA	Zipcode: 20004 -
Attention:	Relationship: Legal Counsel
(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 SESLIC2012061900574 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 CGB - Mobile Satellite Earth Stations	
5. Type Request	
<input checked="" type="radio"/> Use Prior to Grant <input type="radio"/> Change Station Location <input type="radio"/> Other	
6. Requested Use Prior Date 09/10/2012	
7. City/Asca	
8. Latitude (dd mm ss.s h) 41 59 22.6 N	

9. State IL	10. Longitude (dd mm ss.s h) 88 0 15.6 W
11. Please supply any need attachments. Attachment 1: Narrative and Coord. 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.) Gogo LLC ('Gogo') respectfully requests special temporary authority for a period of 60 days beginning on September 10, 2012, to permit operation of four technically-identical terminals for testing purposes, pending Commission action on Gogo's underlying application for an AMSS blanket license.	
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. Yes <input checked="" type="radio"/> No <input type="radio"/>	
14. Name of Person Signing William Gordon	15. Title of Person Signing Vice President, 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).	

FCC NOTICE REQUIRED BY THE PAPERWORK REDUCTION ACT

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Remember – You are not required to respond to a collection of information sponsored by the Federal government, and the government may not conduct or sponsor this collection, unless it displays a currently valid OMB control number or if we fail to provide you with this notice. This collection has been assigned an OMB control number of 3060-0678.

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

Gogo LLC (“Gogo”) hereby requests special temporary authority (“STA”) for a period of 60 days commencing on September 10, 2012, to operate a total of four technically identical transmit/receive earth stations to communicate with the SES-1 satellite in the conventional Ku-band (14-14.5 GHz uplink and 11.7-12.2 GHz downlink). Grant of the requested STA is consistent with Commission precedent and will serve the public interest by enabling Gogo to evaluate the terminals’ operational performance prior to full-scale deployment of Gogo’s planned Aeronautical Mobile Satellite Service (“AMSS”) network.

Gogo has filed an application for a blanket license for AMSS operations.¹ That application includes complete technical information regarding the Gogo AMSS system and fully describes the AeroSat terminals that will be used in this testing. Gogo incorporates that information by reference herein.

Gogo seeks special temporary authority pending Commission action on the Gogo AMSS blanket license application to permit Gogo to operate a limited number of the AeroSat terminals in order to evaluate their operational characteristics. However, the testing proposed in this STA request will not involve placement of the terminals on aircraft.

Instead, Gogo plans to perform testing of two terminals in and near each of two locations: the Gogo building in Itasca, IL, and the AeroSat facility in Amherst, NH.² For some of the tests, an AeroSat terminal will be placed in a temporary fixed position on the roof of each building. In addition, mobile testing is planned within a five-mile radius of the two specified locations. Mobile testing will involve placement of a terminal on the roof rack of a vehicle that will be operated at typical street and highway speeds. The terminals will communicate with an existing SES hub earth station in Woodbine, MD, call sign E920698.³

Grant of the requested authority will not adversely affect other licensed operations. As noted above, operations under the STA will use the SES-1 spacecraft. Attached is an affidavit confirming that the technical specifications of operation of the AeroSat terminals have been coordinated with operators of the satellites within six degrees on either side of SES-1. In any event, Gogo seeks to operate on an unprotected, non-harmful interference basis, so the authorized operations will not harm other regularly licensed Ku-band spectrum users.

¹ *Gogo LLC*, File No. SES-LIC-20120619-00574, Call Sign E120106 (the “Gogo AMSS Application”).

² The Gogo building is located at 1250 N. Arlington Heights Road, Itasca, IL 60143, and the AeroSat building is located at 62 New Hampshire 101A, Amherst, NH 03031. Coordinates for the Itasca address are provided in the attached STA form. The coordinates for the Amherst address are: 42° 48’ 43” N, 71° 35’ 18” W.

³ *SES Americom, Inc.*, File No. SES-RWL-20040524-00711, Call Sign E920698.

Grant of the requested authority is consistent with prior Commission actions⁴ and will serve the public interest by permitting Gogo to continue developing a competitive AMSS network that will enhance service to air travelers and airline crew members. Testing of the AeroSat terminals is scheduled to begin in the second week of September, and Gogo respectfully requests action on this STA request consistent with that schedule.

⁴ The International Bureau has previously granted special temporary authority for other entities to perform testing of AMSS terminals pending regular licensing of AMSS operations. *See, e.g., Row 44, Inc.*, File No. SES-STA-20071121-01610, grant-stamped Dec. 11, 2007 (30-day STA for testing of AMSS terminal).



Federal Communication Commission
International Bureau
445 12th Street SW
Washington, D.C. 20554

July 2, 2012

Subject: Re: Engineering Certification of SES Americom, Inc.

To Whom It May Concern:

SES Americom, Inc.
4 Research Way
Princeton, NJ 08540
USA
Tel. +1 609 987 4000
Fax +1 609 987 4517
www.ses.com

This letter certifies that SES Americom, Inc. (SES) is aware that Gogo LLC ("Gogo") is seeking a blanket authorization, from the Federal Communications Commission ("FCC"), to operate technically identical non-conforming Ku-band transmit/receive earth stations for the provision of Aeronautical Mobile Satellite Service (AMSS), pursuant to ITU RR 5.504A, on domestic and international flights. Gogo also seeks authorization, from FCC, for these non-conforming aeronautical Ku-band earth stations to communicate with (e.g., points of communication) SES-1 at 101 WL.

In its FCC application, Gogo stated that their AMSS aircraft remote terminals use the AeroSat HR6400 antenna model which supports reception and transmission in the 11.7-12.2 GHz and 14.0-14.5 GHz bands respectively, with linear polarized array antennas to and from a geostationary satellite in space. The HR6400 antenna is two rows of 32 element array with each lensed-horn element being 3.4 X .75 inches. The antenna operates under gimballed motor control to orient the antenna in azimuth, elevation and polarization and achieves better than a ± 0.2 degree rms pointing accuracy during active tracking of the intended satellite. All emissions automatically cease within 100 ms if the pointing error exceeds 0.5° , and transmission is not resumed until the angle is verified to be less than 0.2° . In its application, Gogo indicated that the AMSS antenna complies with the



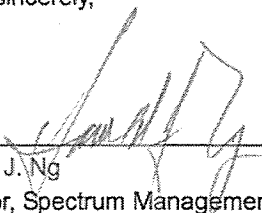
off-axis EIRP density level requirements specified in Sections §25.222 and §25.226 of the Commission's Rules, at all off-axis angles up to and including 6 degrees off-axis angle.

Gogo stated in its application and also informed SES that when their AMSS aircraft remote terminals communicate with SES-1 satellite, using the 14.0-14.5 GHz band, the maximum EIRP equal to 44.4 dBW and the corresponding maximum power density, at the antenna flange, is -16.3 dBW/4kHz. In addition, Gogo also informed SES that when Gogo operates its AMSS antennas within the 11.7-12.2 GHz band, it will maintain the forward downlink EIRP density at beam peak equal to, or less than 13.0 dBW/4 kHz, which is routinely used at 2-degree spacing without causing unacceptable interference to adjacent satellite operators, at the spacecraft downlink-beam peak.

SES acknowledges that the use of the above referenced AMSS transmit/receive antenna by Gogo, installed and operated in accordance with the Gogo application and the above conditions should not cause unacceptable interference into an adjacent satellite operating in accordance with the FCC's 2-degree spacing policy, and is consistent with existing coordination agreements with all adjacent satellite operators, within +/- 6 degrees of SES-1.

In order to prevent unacceptable interference into adjacent satellites, SES has been informed, and Gogo acknowledges, that the AMSS antennas will be installed and operated in accordance with the above conditions and/or any other operational requirements specified in the FCC license ultimately granted to Gogo. If the use of this antenna should cause unacceptable interference into other systems, Gogo has agreed it will terminate transmissions immediately upon notice from the affected parties.

Yours sincerely,



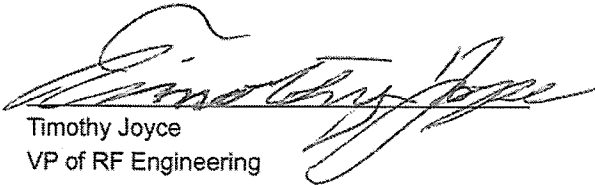
Harold J. Ng
Director, Spectrum Management & Develop.
SES Americom, Inc.



Date

Acceptance by Gogo, LLC:

Gogo affirms that the information provided to SES and reflected in this coordination letter is true and accurate to the best of Gogo's knowledge, information and belief, and that it shall comply with all relevant SES coordination agreements, as provided herein.

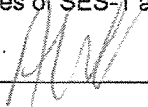


Timothy Joyce
VP of RF Engineering
Gogo LLC

7/6/2012
Date

Acceptance by Intelsat:

Intelsat agrees to the operation of the above Gogo AMSS antenna with the technical parameters described herein with respect to Galaxy 16 at 99.2 WL, Galaxy 19 at 97 WL and Galaxy3C at 95 WL which are operating within 6 degrees of SES-1 at 101 WL.



Alan Yates
Senior Technical Advisor, Spectrum Strategy
Intelsat, LLC

7/9/2012
Date