



LMI Advisors
8601 James Creek Drive
Springfield, VA 22152

Carlos M. Nalda
T: +1 571 332 5626
cnalda@lmiadvisors.com

February 2, 2015

Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, SW
Washington, D.C. 20554

Re: Astronics AeroSat Corporation – Section 1.65 Letter
Update on Coordination Status, Call Sign E140087,
File Nos. SES-LIC-20140902-00688 and SES-AMD-20141117-00858

Dear Ms. Dortch:

Astronics AeroSat (“AeroSat”), in connection with the above-referenced earth station aboard aircraft (“ESAA”) application and pursuant to Section 1.65 of the Commission’s Rules, 47 C.F.R. § 1.65, hereby updates the Commission of the status of coordination with certain U.S. government operations required under Section 25.227 of the Rules, 47 C.F.R § 25.227.

Specifically, operation of ESAAs in the 14.47-14.5 GHz frequency band in the radio line-of-sight of radio astronomy service (“RAS”) observatories receiving in the same frequency band are subject to coordination with the National Science Foundation (“NSF”).¹ AeroSat has completed coordination with NSF and the coordination agreement is attached hereto.

In addition, operations of ESAAs in the 14.0-14.2 GHz frequency band in the radio line-of-sight of the NASA TDRSS facilities on Guam or White Sands, New Mexico, as well as the facility at Blossom Point, Maryland, are subject to coordination with the National Aeronautics and Space Administration (“NASA”).² AeroSat has completed coordination discussions with NASA and is awaiting preparation of a final execution of the agreement for signature. AeroSat will file the executed version in the docket of this application proceeding when it is finalized.

¹ 47 C.F.R. § 25.227(d)(1).

² 47 C.F.R. § 25.227(c)(1).

Please do not hesitate to contact me with any questions. Thank you very much.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Carlos M. Nalda". The signature is fluid and cursive, with the first name "Carlos" being more prominent.

Carlos M. Nalda
LMI Advisors

Attachment

cc w/att.: Vincent Scott Galbraith, NASA
Glen Langston, NSF
Paul Blais, FCC



COORDINATION AGREEMENT FOR THE JOINT USAGE OF THE
BAND 14.0 - 14.5 GHz BETWEEN THE NATIONAL SCIENCE
FOUNDATION AND ASTRONICS AEROSAT CORPORATION

Version 2.0

August 18, 2014

Coordination Agreement for the Joint Usage of the Band 14.0 - 14.5 GHz Between the National Science Foundation and Astronics AeroSat Corporation

Astronics AeroSat Corporation is applying for authority to operate a global Earth Station Aboard Aircraft (ESAA) network in the 14.0-14.5 GHz Fixed-Satellite Service (FSS) band. The ESAA terminals will be installed aboard commercial aircraft and operate with commercial geostationary satellites. This coordination agreement and the pending Federal Communications Commission (FCC) license comply with FCC Part 25 rules and the recommendations of the International Telecommunication Union (ITU) as a product of the World Radiocommunication Conference WRC-03.

1. Overview

- 1.1 The band 14.47-14.5 GHz is used by the radio astronomy service in accordance with footnotes US133, US203 and US342 to the U.S. Table of Frequency Allocations.
- 1.2 The band 14.0-14.5 GHz has been allocated to ESAA on a secondary basis with the provision that government services, including the radio astronomy service in the 14.47-14.50 GHz band, be protected from interference from the ESAA service.
- 1.3 Astronics AeroSat Corporation has been granted FCC experimental authority to operate five transmit/receive ESAAs and also plans to submit a commercial license application to the FCC.
- 1.4 The ESAA operations will allow ESAAs to transmit and receive information from a ground earth station via a transponder on geostationary satellites arc under the control of a ground-based network operation center in Houston, Texas.
- 1.5 This Coordination Agreement ensures that the Astronics AeroSat Corporation ESAA system complies with both Part 25 FCC requirements and ITU recommendations for radio astronomy protection.
- 1.6 Negotiation and signatures of this agreement are to be executed by Astronics AeroSat Corporation and the Electromagnetic Spectrum Management Unit of the National Science Foundation (NSF) for the Radio Astronomy sites identified in Section 2.1.

2. National Science Foundation Radio Astronomy Observatories

2.1 Radio Astronomy Site Listing

The Radio Astronomy sites under NSF support and listed in Table 2-1 make measurements in the 14.47-14.50 GHz band. These sites, including sites associated with the Very Long Baseline

Array (VLBA), are to be protected during their operation in accordance with the description provided in Section 3.

Table 2-1 Current Radio Astronomy Sites

Observatory	Latitude (D,M,S)	Longitude (D,M,S)
<u>National Radio Astronomy Observatory (NRAO) sites:</u>		
Green Bank Telescope, WV	38 25 59	79 50 23
Very Large Array, Socorro, NM	34 04 44	107 37 06
<u>VLBA Sites:</u>		
St. Croix, VI	17 45 24	64 35 01
Hancock, NH	42 56 01	71 59 11
N. Liberty, IA.....	41 46 17	91 34 27
Ft. Davis, TX	30 38 06	103 56 41
Los Alamos, NM	35 46 30	106 14 44
Pie Town, NM	34 18 04	108 07 09
Kitt Peak, AZ	31 57 23	111 36 45
Owens Valley, CA	37 13 54	118 16 37
Brewster, WA	48 07 52	119 41 00
Mauna Kea, HI	19 48 05	155 27 20

2.2 Additional Radio Astronomy Sites

NSF may add new radio astronomy sites to the list given in Table 2-1. In this case NSF shall give Astronics AeroSat Corporation at least 2 months notice of modifications to existing sites, for the inclusion of any additional Radio Astronomy sites to operate in the 14.47 -14.5 GHz band.

3. Operational Coordination Agreement

NSF and Astronics AeroSat Corporation agree to the following stipulations:

- 3.1 To provide protection to the Radio Astronomy sites listed in Table their operational period, the following aggregate power flux density the 14.47-14.50 GHz band shall be no greater than:
 - (a) -221 dB (W/m²/Hz) for the, Green Bank and Socorro sites
 - (b) -189 dB (W/m²/Hz) for the ten VLBA sites
- 3.2 Within a year following initiation of the licensed Astronics AeroSat Corporation ESAA service, authorized NSF and Astronics AeroSat Corporation personnel shall periodically review the terms of this Coordination Agreement. If required, modifications of this Coordination Agreement will be negotiated and instituted.

- 3.3 Any changes in the points of contact given in Section 5 shall be identified and reported by the respective party in a reasonable period.

Astronics AeroSat Corporation agrees to the following stipulations:

- 3.4 Astronics AeroSat Corporation will respond promptly to any NSF request for protection as described above for interference occurring at any site listed in Table 2-1.

NSF agrees to the following stipulations:

- 3.5 Provide Astronics AeroSat Corporation points of contact given in Section 5 a current schedule of Radio Astronomy measurements to be conducted in the 14.47-14.5 GHz band for the sites identified in Table 2-1.

4. Termination Conditions

- 4.1 This Coordination Agreement shall be binding for Astronics AeroSat Corporation and NSF.
- 4.2 Either party providing a written notice of six months may execute termination of this Coordination Agreement.

5. Points of Contact

- 5.1 Points of contact for this Coordination Agreement are:

Name: Glen Langston	Name: Frank Blanda
Organization: National Science Foundation	Organization: Astronics AeroSat Corporation
Title: Program Director, AST	Title: Chief Technology Officer
Address: 4201 Wilson Boulevard, Suite 1045	Address: 60A State Route 101A
City State Zip: Arlington, VA 22230	City State Zip: Amherst, NH 03031-2213
Phone: +1 (703) 292-4937	Phone: +1 (603) 879-0205 ext. 170
Fax: +1 (703) 292-9034	Fax: +1 (603) 386-6488
E-mail: esm@nsf.gov	E-mail: frank.blanda@astronics.com

- 5.2 Points of contact for Radio Astronomy observation schedules are:

Dr. Dr. Harvey Liszt	Name: Frank Blanda
Title: Spectrum Manager	Title: Chief Technology Officer
Organization: NRAO	Organization: Astronics AeroSat Corporation
Address: NRAO 520 Edgemont Rd. Charlottesville, VA 22903-2475	Address: Astronics AeroSat Corporation 60A State Route 101A Amherst, NH 03031-2213
Phone +1 (434) 296-0344	Phone: +1 (603) 879-0205 ext. 170
Fax: +1 (434) 296-0278	Fax: +1 (603) 386-6488
E-mail: hliszt@nrao.edu	E-mail: frank.blanda@astronics.com

6. Signatures

This Agreement is being made in good faith by both parties and is effective on the date on which the last party signs it.

For the National Science Foundation

By: 

Name: Glen Langston
Title: Program Director, AST
National Science Foundation

For Astronics AeroSat Corporation

By: 

Name: Frank Blanda
Title: Chief Technology Officer,
Astronics AeroSat Corporation

Date: August 18, 2014

Date: August 18, 2014