

AMSC-1 SAT-MOD-20180912-00070 IB2018005708  
Ligado Networks Subsidiary LLC  
MSAT-2



File # SAT-MOD-20180912-00070

Call Sign \_\_\_\_\_ Grant Date 11/29/18  
(or other identifier)

From 11/29/18 Term Dates To: 12/31/18

Approved by OMB  
3060-0678

Approved: Stephen J. Duall  
Stephen J. Duall  
Chief, Satellite Policy Branch

Date & Time Filed: Sep 12 2018 2:48:25:656PM  
File Number: SAT-MOD-20180912-00070


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:  
Application to modify license to relocate MSAT-2 to 106.5 WL

1-8. Legal Name of Applicant			
<b>Name:</b>	Ligado Networks Subsidiary LLC	<b>Phone Number:</b>	703-390-2795
<b>DBA Name:</b>		<b>Fax Number:</b>	703-390-2778
<b>Street:</b>	10802 Parkridge Blvd	<b>E-Mail:</b>	maqbool@ligado.com
<b>City:</b>	Reston	<b>State:</b>	VA
<b>Country:</b>	USA	<b>Zipcode:</b>	20191 -
<b>Attention:</b>	Mr. Maqbool Aliani		

**ATTACHMENT TO GRANT**  
Ligado Networks Subsidiary LLC  
IBFS File No. SAT-MOD-20180912-00070

<b>IBFS File No(s):</b>	SAT-MOD-20180912-00070	<p><b>GRANTED – With Conditions</b></p>  <p><b>International Bureau Satellite Division</b></p>
<b>Licensee/Grantee:</b>	Ligado Networks Subsidiary LLC (Ligado)	
<b>Call Sign:</b>	AMSC-1	
<b>Satellite Name:</b>	MSAT-2	
<b>Orbital Location: (required station-keeping tolerance)</b>	106.5° W.L. (±0.1° East-West)	
<b>Administration:</b>	United States of America	
<b>Nature of Service:</b>	Mobile-satellite service	
<b>Scope of Grant:</b>	Modification of authorization to operate the MSAT-2 space station at the 106.5° W.L. orbital location instead of 103.3° W.L., its previously authorized location. <sup>1</sup>	
<b>Previous Grant(s):</b>	See call sign AMSC-1	
<b>Service Area(s):</b>	Contiguous United States, Alaska, Hawaii, and Canada	
<b>Frequencies:</b>	<p><u>Service Links</u>  1530-1559 MHz (space-to-Earth)  1631.5-1645.5 MHz (Earth-to-space)  1646.5-1660.5 MHz (Earth-to-space)</p> <p><u>Feeder Links</u>  10.75-10.95 GHz (space-to-Earth)  13-13.15 GHz (Earth-to-space)  13.2-13.25 GHz (Earth-to-space)</p> <p><u>Telemetry, Tracking, and Command</u>  11.7005 GHz (space-to-Earth)  11.701 GHz (space-to-Earth)  14.0005 GHz (Earth-to-space)  14.4995 GHz (Earth-to-space)</p> <p><u>Beacon Frequencies</u>  10.7535 GHz (primary)  10.751 (back up)</p>	
<p><b>Unless otherwise specified herein, operations under this grant must comport with the legal and technical specifications set forth by the applicant or petitioner and with Federal Communication Commission’s rules not waived herein. This grant is also subject to the following conditions:</b></p> <ol style="list-style-type: none"> <li>1. Ligado must comply with all terms and conditions cumulatively applied to operation of the MSAT-2 space station under Call Sign AMSC-1.</li> <li>2. Ligado is authorized to operate the MSAT-2 space station with an East-West station-keeping tolerance of +/- 0.1 degrees. Section 25.210(j) of the Commission’s rules, 47 CFR § 25.210(j), states that space stations “must be maintained within 0.05 degrees of their assigned orbital longitude in the east/west direction, unless specifically authorized by the Commission to operate with a different longitudinal tolerance. Ligado states that there will be no overlap with any existing or planned neighboring space stations at the 106.5° W.L. orbital location. MSAT-2’s east-west +/- 0.1 degree station-keeping operations shall terminate in the event that a satellite is launched into a location such that its station-</li> </ol>		

<sup>1</sup> Ligado was previously granted special temporary authority to conduct TT&C operations necessary to drift the MSAT-2 space station from the 103.3° W.L. orbital location to the 106.5° W.L. orbital location, and to conduct TT&C to maintain the space station at 106.5° W.L. See Ligado Networks Subsidiary LLC, IBFS File Nos. SAT-STA-20180810-00061 (granted Aug. 28, 2018) and SAT-STA-20180914-00072 (granted Oct. 4, 2018).

**ATTACHMENT TO GRANT**  
Ligado Networks Subsidiary LLC  
IBFS File No. SAT-MOD-20180912-00070

keeping volume would overlap MSAT-2's +/-0.1 degree station-keeping volume, but would not overlap MSAT-2's +/- 0.05 degree station-keeping volume, unless Ligado has successfully coordinated MSAT-2's physical operations with those of the other spacecraft. This authorization is limited to this spacecraft, does not extend any other spacecraft, and it is limited to operations at the 106.5° W.L. orbital location.

3. Nothing in this grant extends the license term of MSAT-2, which expires on December 31, 2018.

Licensee/grantee is afforded thirty (30) days from the date of release of this action to decline the grant as conditioned. Failure to respond within this period will constitute formal acceptance of the grant as conditioned.

This action is taken pursuant to Section 0.261 of the Commission's rules on delegated authority, 47 CFR § 0.261, and is effective upon release.

Station licenses are subject to the conditions specified in Section 309(h) of the Communications Act of 1934, as amended, 47 U.S.C. § 309(h).

<b>Action Date:</b>	November 29, 2018
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<b>Term Dates</b>	<b>From:</b> November 29, 2018	<b>To:</b> December 31, 2018
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**Approved:**



Stephen J. Duall  
Chief, Satellite Policy Branch

9-16. Name of Contact Representative

<b>Name:</b>	Jeffrey J. Carlisle	<b>Phone Number:</b>	202-253-6838
<b>Company:</b>	Jeffrey J. Carlisle, Attorney at Law	<b>Fax Number:</b>	703-390-2778
<b>Street:</b>	5335 Wisconsin Ave NW Suite 440	<b>E-Mail:</b>	jeff@jeffcarlislelaw.com
<b>City:</b>	Washington	<b>State:</b>	DC
<b>Country:</b>	USA	<b>Zipcode:</b>	20015-
<b>Attention:</b>	Mr. Jeffrey Carlisle	<b>Relationship:</b>	Legal Counsel

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
- b3. 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

<p>17c. Is a fee submitted with this application?</p> <p><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).</p> <p><input type="radio"/> Governmental Entity    <input type="radio"/> Noncommercial educational licensee</p> <p><input type="radio"/> Other (please explain):</p>	
<p>17d.</p> <p>Fee Classification BFY – Space Station Modification (Geostationary)</p>	
<p>18. If this filing is in reference to an existing station, enter:</p> <p>(a) Call sign of station: AMSC-1</p>	<p>19. If this filing is an amendment to a pending application enter both fields, if this filing is a modification please enter only the file number:</p> <p>(a) Date pending application was filed:</p> <p>(b) File number: SATMOD2017121500172</p>

TYPE 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:	
<input checked="" type="checkbox"/> a. Fixed Satellite <input checked="" type="checkbox"/> b. Mobile Satellite <input type="checkbox"/> c. Radiodetermination Satellite <input type="checkbox"/> d. Earth Exploration Satellite <input type="checkbox"/> e. Direct to Home Fixed Satellite <input type="checkbox"/> f. Digital Audio Radio Service <input type="checkbox"/> g. Other (please specify)	
21. STATUS: Choose the button next to the applicable status. Choose only one. <input type="radio"/> Common Carrier <input checked="" type="radio"/> Non-Common Carrier	22. If earth station applicant, check all that apply. <input type="checkbox"/> Using U.S. licensed satellites <input type="checkbox"/> Using Non-U.S. licensed satellites
23. If applicant is providing INTERNATIONAL COMMON CARRIER service, see instructions regarding Sec. 214 filings. Choose one. Are these facilities: <input type="radio"/> Connected to a Public Switched Network <input type="radio"/> Not connected to a Public Switched Network <input checked="" type="radio"/> N/A	
24. FREQUENCY BAND(S): Place an 'X' in the box(es) next to all applicable frequency band(s). <input type="checkbox"/> a. C-Band (4/6 GHz) <input type="checkbox"/> b. Ku-Band (12/14 GHz) <input checked="" type="checkbox"/> c. Other (Please specify upper and lower frequencies in MHz.) Frequency Lower: 1530                      Frequency Upper: 1559                      (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)

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 & countries)
- j — authorization to change Points of Communication (satellites & countries)
- k — authorization for facilities for which environmental assessment and radiation hazard reporting is required
- l — authorization to change orbit location
- m — authorization to perform fleet management
- n — authorization to extend milestones
- o — Other (Please specify)



ENVIRONMENTAL POLICY

28. Would a Commission grant of any proposal in this application or amendment have a significant 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.  Yes  No

ALIEN OWNERSHIP Earth station applicants not proposing to provide broadcast, common carrier, aeronautical en route or aeronautical fixed radio station services are not required to respond to Items 30-34.

29. Is the applicant a foreign government or the representative of any foreign government?	<input type="radio"/> Yes <input checked="" type="radio"/> No
30. Is the applicant an alien or the representative of an alien?	<input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> N/A
31. Is the applicant a corporation organized under the laws of any foreign government?	<input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> 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?	<input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> 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?

Yes  No  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 B

#### 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  No

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 explanation of circumstances.

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 explanation 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 exhibit, 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. Exhibit B

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  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  No

42b. What administration has licensed or is in the process of licensing the space station? If no license will be issued, what administration has coordinated or is in the process of coordinating the space station?

43. Description. (Summarize the nature of the application and the services to be provided). (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

By this application, Ligado seeks authority to operate MSAT-2 (AMSC-1) at 106.5 W.L.

Exhibit C

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.

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.

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 applicable response.)

- Individual
- Unincorporated Association
- Partnership
- Corporation
- Governmental Entity
- Other (please specify)

45. Name of Person Signing  
Jamie Kase

-->

46. Title of Person Signing  
Senior Vice President & Deputy General Counsel

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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