

AMSC-1 SAT-STA-20180914-00072
Ligado Networks Subsidiary LLC
MSAT-2

IB2018005790



File # SAT-STA-20180914-00072

Call Sign AMSC-1 Grant Date 10/04/18
(or other identifier)

From 10/04/18 Term Dates period of
To: 60 days

Approved: *Stephen J. Duell*

Approved by OMB
3060-0678

Date & Time Filed: Sep 14 2018 3:47:59:856PM
File Number: SAT-STA-20180914-00072
Callsign:

*with conditions

Stephen J. Duell
Chief, Satellite Policy Branch

FEDERAL COMMUNICATIONS COMMISSION
APPLICATION FOR SPACE STATION SPECIAL TEMPORARY AUTHORITY
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APPLICANT INFORMATION

Enter a description of this application to identify it on the main menu:
Extension of STA granted August 28, 2018 to operate MSAT-2 at 106.5 degrees WL

I. Applicant

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

ATTACHMENT TO GRANT
Ligado Networks Subsidiary LLC
IBFS File No. SAT-STA-20180914-00072

IBFS File No(s):	SAT-STA-20180914-00072	<p>GRANTED – With Conditions</p>  <p>International Bureau Satellite Division</p>
Licensee/Grantee:	Ligado Networks Subsidiary LLC (Ligado)	
Call Sign:	AMSC-1	
Satellite Name:	MSAT-2	
Orbital Location: (required station-keeping tolerance)	106.5° W.L. (±0.1° East-West)	
Administration:	United States of America	
Nature of Service:	Telemetry, tracking and control (TT&C)	
Scope of Grant:	Special temporary authority for a period of 60 days to continue 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.	
Service Area(s):	N/A	
Frequencies:	<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) <u>Beacon</u> 10.7535 GHz 10.751 GHz	
<p>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:</p> <ol style="list-style-type: none"> 1. Operations pursuant to this special authority must be on an unprotected and non-harmful interference basis, i.e., the MSAT-2 space station must not cause harmful interference to, and Ligado must not claim protection from interference caused to it by any other lawfully operating station. In the event of any harmful interference, Ligado must cease operations immediately upon notification of such interference, and must inform the Commission, in writing, immediately of such an event. 2. Ligado must coordinate the operations of MSAT-2 with existing geostationary space stations to ensure that no unacceptable interference results from its operations during the drift to the 106.5° W.L. orbital location or maintenance of the space station at that location. 3. Ligado may not provide payload services during the drift to or from the 106.5° W.L. orbital location until further Commission action. 4. The Satellite Division grants, on its own motion, a waiver of Section 25.210(j) of the Commission’s rules, which requires geostationary space stations to be “maintained within 0.05° of their assigned orbital longitude in the east/west direction, unless specifically authorized by the Commission to operate with a different longitudinal tolerance.” See 47 CFR §§ 1.3 and 25.210(j). Ligado must maintain the MSAT-2 space station within an east/west longitudinal station-keeping tolerance of +/- 0.1 degrees of the 106.5° W.L. orbital location. Ligado states this station keeping range will not result in any overlap with any neighboring satellites. This waiver and the operations it permits shall terminate in the event that a satellite is launched into a location such that its station-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. 		

ATTACHMENT TO GRANT
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IBFS File No. SAT-STA-20180914-00072

5. Any action taken or expense incurred as a result of this special temporary authority is solely at Ligado's own risk.
6. This grant of temporary authority is without prejudice to any action the Commission may take on IBFS File No. SAT-MOD-20180912-00070.

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.

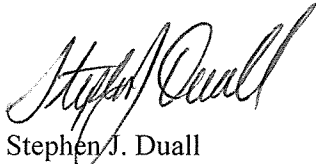
This action is taken pursuant to Section 0.261 of the Commission's rules on delegated authority, 47 CFR § 0.261, and is effective upon release.

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

Action Date:	October 4, 2018
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Term Dates	From: October 4, 2018	To: December 3, 2018
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Approved:



Stephen J. Duall
Chief, Satellite Policy Branch

2. Contact

Name:	Jeffrey J. Carlisle	Phone Number:	202-253-6838
Company:	Jeffrey Carlisle, Attorney at Law	Fax Number:	703-390-2778
Street:	5335 Wisconsin Avenue, NW Suite 440	E-Mail:	jeff@jeffcarlislelaw.com
City:	Washington	State:	DC
Country:	USA	Zipcode:	20015 -
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 SATSTA2018081000061 or Submission ID

4a. Is a fee submitted with this application?

- If Yes, complete and attach FCC Form 159. If No, indicate reason for fee exemption (see 47 C.F.R. Section 1.1114).
- Governmental Entity Noncommercial educational licensee
- Other (please explain):

4b. Fee Classification CRY – Space Station (Geostationary)

5. Type Request

- Change Station Location Extend Expiration Date Other

6. Temporary Orbit Location

7. Requested Extended Expiration Date
2018-12-03 00:00:00.0

8. 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.)

Pursuant to Section 25.120 of the Commission's rules, Ligado Networks Subsidiary LLC hereby requests an extension of an STA granted Aug 28, 2018, to operate MSAT-2 (AMSC-1) at 106.5 degrees WL during the consideration of its application to modify MSAT-2's satellite license.

9. 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

10. Name of Person Signing
Jamie Kase

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

12. Please supply any need attachments.

Attachment 1: Narrative

Attachment 2:

Attachment 3:

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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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.

APPLICATION FOR SPECIAL TEMPORARY AUTHORITY

Ligado Networks Subsidiary LLC (“Ligado”), pursuant to Section 25.120 of the Commission’s Rules, hereby requests an extension of its existing special temporary authority (“STA”)¹ to conduct telemetry, tracking, and command (“TT&C”) communications with MSAT-2 (AMSC-1) at 106.5° WL during the pendency of its application to modify the MSAT-2 to relocate from 103.3° WL to 106.5° WL.² Ligado requests that the Commission extend the August STA an additional 60 days, commencing on October 4, 2018 and ending on December 3, 2018.

Ligado commenced the drift from MSAT-2’s previous location at 103.3°³ to 106.5° on September 5, 2018, and is on track to complete the maneuver before the August STA expires on October 4, 2018. Ligado will, however, need to continue conducting TT&C communications with the satellite while the Commission considers the MSAT-2 Modification Application. As such, the following repeats information from the August STA application relevant to ongoing operations at the new orbital location. Please also note that, consistent with the MSAT-2 Modification Application, Ligado is requesting authorization to operate with an east-west station-keeping range of +/-0.1 degree.

The August STA application requested authorization to relocate MSAT-2 from 103.3° WL to 106.5° WL, an orbital position under Canadian authority. During the relocation, MSAT-2’s communications payload hardware is powered on but is not providing downlink services. During the drift, Telesat Canada Inc. (“Telesat”), Ligado’s contractor for flight operations, is operating only (1) MSAT-2’s telemetry, tracking, and command TT&C payload on 11.701 GHz (primary), 11.7005 GHz (backup), 14.0005 GHz (backup) and 14.4995 GHz (Primary) and (2) MSAT-2’s beacon frequencies at 10.7535 GHz (primary) and 10.751 GHz (backup).

MSAT-2 serves as a backup satellite to Ligado’s other U.S. satellite, ST-1 and, as a backup satellite, does not currently carry customer traffic. The orbital location at 106.5° WL is the former location of Ligado’s Canadian satellite, MSAT-1, which was moved from 106.5° WL to 107.5° WL in October, 2015. Ligado will file an application in the near future to modify MSAT-2’s satellite license and associated U.S. earth station and mobile earth terminal licenses. Innovation, Science & Economic Development (“ISED”) Canada is aware of the August STA and the request for an extension.⁴

¹ See FCC File No. SAT-STA-20180810-00061 (granted Aug. 28, 2018) (“August STA”).

² See FCC File No. SAT-MOD-20180912-00070 (filed Sept. 12, 2018) (“MSAT-2 Modification Application”).

³ See FCC File No. SAT-MOD-20100412-00075 (granted Nov. 8, 2010) (granting authority to move MSAT-2 to 103.3°); FCC File No. SAT-MOD-20171215-00172 (granted Jan. 23, 2018) (extending MSAT-2 operations through Dec. 31, 2018).

⁴ Ligado requested in both the August STA and the MSAT-2 Modification Application that the Commission indicate to ISED that it consents to relocating MSAT-2 to bring back into use the orbital location at 106.5° WL, and to the extent necessary reiterates that request here. See ITU,

Grant of this application is entirely consistent with the Commission's policy of granting Special Temporary Authority when doing so will not cause harmful interference and will serve the public interest, convenience and necessity.⁵ The public interest, convenience and necessity is served because MSAT-2's previous location only allowed operation on a non-interference basis. The relocation of the satellite to 106.5°, without interference or harm to other operators, will result in MSAT-2 being better accommodated in a fully coordinated orbital location, thus providing future certainty for backup MSS operations.

With regard to interference, there is no risk of harmful interference from MSAT-2 operating in the new location. As MSAT-2 and MSAT-1 were built to the same design specifications, MSAT-2's operating characteristics and interference envelope are identical to those of MSAT-1,⁶ which operated in that location for 20 years without causing any harmful interference to other operators. Moreover, this location has already been coordinated with other L-band operators assuming use by an MSAT-class satellite. Thus, placement of MSAT-2 will not create any new interference risk that has not already been discussed and resolved by the relevant operators. Finally, MSAT-2's TT&C communications pursuant to the August STA and this extension will be on a secondary, non-interference basis. The MSAT-2 Modification Application provides further information substantiating the absence of any risk of harmful interference.⁷

With regard to MSAT-2's east-west station keeping range, MSAT-2 has adopted an increasingly inclined orbit, which will continue to increase for several years after relocation to the new orbital location. Accordingly, to provide necessary flexibility for expected operations for the next five years and to extend MSAT-2 remaining fuel life, Ligado requested in the MSAT-2 Modification Application to change the north-south station-keeping range to +/-13.5 degrees and, pursuant to 47 C.F.R. §25.201(j), requested that the Commission authorize a change to the east-west station-keeping range to +/-0.1 degrees.

As explained in the MSAT-2 Modification Application,⁸ these ranges will not result in any overlap with any neighboring satellites. The nearest existing satellites to the new orbital location are a U.S. Navy satellite located at 105.5°WL and a Telesat satellite located at 107.3°WL, neither of which will overlap with MSAT-2's station-keeping range. Ligado has also reviewed planned satellites and determined that there will be no overlap with the nearest

Radiocommunication Bureau, *WRC-12 decisions included in the Minutes of Plenary meeting relating to space services procedures*, Circular Letter CR/333 (2012) at 2 (citing (§3.12 Doc. CMR12/554); see also ITU, Radiocommunication Bureau, *Decisions of past WRCs concerning the application of the Radio Regulations*, Circular Letter CR/380 (2015) at 3 (same).

⁵ See e.g., *Newcomb Communs., Inc.*, 8 FCC Rcd. 3631, 3633 (1993); *Columbia Comms. Corp.*, 11 FCC Rcd. 8639, 8640 (1996); *Am. Tel. & Tel. Co.*, 8 FCC Rcd. 8742 (1993).

⁶ MSAT-2 does differ from MSAT-1 in only one respect: MSAT-2 uses 11.7005 GHz as a backup TT&C frequency, while MSAT-1 uses 11.70275 GHz as a backup. This difference is not material, however, to interference with any other operator.

⁷ See MSAT-2 Modification Application, Exhibit C, 4-6 and Technical Exhibit.

⁸ See *id.*, Exhibit C, 2-3.

planned satellites, none of which will be placed into orbit through the duration of the extension requested.

Accordingly, and for good cause shown, Ligado respectfully requests that its STA request be granted.