

S2134 SAT-MOD-20120524-00087 IB2012001295
SES Americom, Inc.
AMC-2



* with conditions

File # SAT-MOD-20120524-00087

Call Sign S2134 Grant Date 07/25/12

(or other identifier)

Term Dates see

From 07/25/12

To: conditions

Approved by OMB
3060-0678

Approved:

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

Date & Time Filed: May 24 2012 3:28:49:520PM
File Number: SAT-MOD-20120524-00087

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:
AMC-2 (S2134) Mod for Move to 19 E.L. and Authorize Deorbit

1-8. Legal Name of Applicant

Name:	SES Americom, Inc.	Phone Number:	202-478-7137
DBA Name:		Fax Number:	202-478-7101
Street:	1129 20th Street NW Suite 1000	E-Mail:	daniel.mah@ses.com
City:	Washington	State:	DC
Country:	USA	Zipcode:	20036 -
Attention:	Mr Daniel C.H. Mah		

**Attachment to Grant
SES Americom, Inc.
IBFS File No. SAT-MOD-20120524-00087
Call Sign S2134**

The application of SES Americom, Inc. (SES Americom), IBFS File No. SAT-MOD-20120524-00087, as supplemented, to modify the authorization for its geostationary-satellite orbit space station, AMC-2 (Call Sign S2134), to specify operations at the 19.0° E.L. orbital location, rather than at 4.98° E.L., is GRANTED. Accordingly, SES Americom is authorized to operate AMC-2 at 19.0° E.L. to provide Fixed-Satellite Service (FSS), including direct-to-home services, in the conventional Ku-band frequencies of 11.7-12.2 GHz (space-to-Earth) and 14.0-14.5 GHz (Earth-to-space). In addition, SES Americom is authorized to conduct Telemetry, Tracking, and Command (TT&C) operations necessary to drift AMC-2 to 19.0° E.L. and to maintain it at that location using center frequencies located at: 3700.5 MHz, 4199.5 MHz, and 12.198 GHz (space-to-Earth), and 6423.5 MHz (Earth-to-space).¹ Operations under this authorization must be in accordance with the technical specifications set forth in SES Americom's application, Federal Communication Commission (Commission) rules not waived herein, and are subject to the conditions set forth below.

1. All operations must be on an unprotected and non-harmful interference basis, *i.e.*, the AMC-2 space station must not cause harmful interference to, and must not claim protection from interference caused to it by, any other lawfully operating station. In the event of any harmful interference, SES Americom must cease operations immediately upon notification of such interference, and must inform the Commission, in writing, immediately of such an event.

2. In connection with the provision of service in any particular country, SES Americom is obliged to comply with the applicable laws, regulations, rules, and licensing procedures of that country.

3. This authorization is issued with the understanding that, to the extent SES Americom and its affiliated companies, pursuant to any arrangement with the Luxembourg Administration, conforms its operations to any parameters agreed to in coordination agreements between the Luxembourg Administration and other Administrations, responsibility for both compliance with, and enforcing compliance with, those arrangements and agreements is a matter that would arise under private law.

4. The United States remains the licensing administration of the AMC-2 space station and its communications payloads for purposes of International Telecommunication Union (ITU) Radio Regulation 18.1 and is the administration responsible for the operations of AMC-2. The U.S. Administration will not object to use of the AMC-2 satellite by the Luxembourg Administration for claiming bringing into use or continuing the use of orbital assignments at 19.0° E.L. This grant does not in any way express a view concerning, or agreement as to, the validity or lack of validity of any ITU filing at or within the vicinity of the 19.0° E.L. orbital location.

5. SES Americom's request for a waiver of Section 25.114(d)(3) of the Commission's rules, 47 C.F.R. § 25.114(d)(3), is granted. Section 25.114(d)(3) requires applicants to provide predicted space station antenna gain contour(s) for each transmit and each receive antenna beam

¹ While the AMC-2 space station is capable of operating in both the C- and Ku-band, SES does not propose to operate the AMC-2 C-band frequencies while the spacecraft is located at 19.0° E.L., but does propose to use limited C-band frequencies for TT&C.

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and nominal orbital location requested. The main purpose of the contour map is to allow evaluation of the potential for harmful interference with other operators and services in the frequency band. SES Americom states that it did not provide gain information for the global horn antenna in accordance with Section 25.114(d)(3) because the space station manufacturer did not provide .gxt data for this antenna. We find that Figure 9 in Annex 1 of the Technical Appendix, together with the descriptive characterization provided on pages 6-7 of the application, provide a sufficiently complete description of the global horn antenna on the AMC-2 space station to enable the Commission to determine whether the AMC-2 space station meets the Commission's technical requirements.

6. SES Americom's request for a waiver of Section 25.202(g) of the Commission's rules, 47 C.F.R. § 25.202(g), is granted. Section 25.202(g) requires "telemetry, tracking and command (TT&C) functions for U.S. domestic satellites must be conducted at either or both edges of the allocated band(s). Frequencies, polarization and coding must be selected to minimize interference into other satellite networks and within their own satellite system." SES Americom requests this waiver for the proposed use of command carriers in the C-band center frequency of 6423.5 MHz, and telemetry beacons in the C-band center frequencies of 3700.5 MHz and 4199.5 MHz (space-to-Earth) because these TT&C operations occur at the band edges of an FSS band other than the Ku-band in which it is providing service. This waiver is based upon the following findings: (a) AMC-2 was designed to operate with both service links and TT&C functions in the C-band; (b) SES Americom has coordinated C-band TT&C operations with adjacent satellite operators operating in the C-band; (c) AMC-2 is only authorized to operate on an unprotected and non-harmful interference basis. As a condition of this waiver, SES Americom must accommodate future space station networks that are compliant with Section 25.202(g). Further, SES Americom must operate AMC-2 pursuant to any existing or future coordination agreements for this location.

7. SES Americom is granted a waiver of Section 25.210(j) of the Commission's rules, 47 C.F.R. § 25.210(j). Section 25.210(j) specifies an East/West station-keeping tolerance of +/-0.05 degrees. SES Americom proposes to operate AMC-2 at the 19.0° E.L. orbital location with an East/West station-keeping tolerance of +/-0.1 degrees. SES Americom states that AMC-2's station-keeping volume will not overlap with any other space craft. It also states that this station-keeping tolerance will extend the fuel life of AMC-2 and will not affect any other operators. SES Americom may operate AMC-2 with +/-0.1 degrees East/West tolerance station-keeping provided no other spacecraft is located within the station-keeping volume of AMC-2. This waiver and the operations it permits shall terminate in the event a satellite is launched or relocated into a location such that its station-keeping volume would overlap AMC-2's +/-0.1 degrees station-keeping volume, but not overlap AMC-2's +/-0.05 degrees station-keeping volume, unless SES Americom successfully coordinates AMC-2's physical operations with those of other space craft.

8. Operations of AMC-2 to or from the United States shall comply with the power levels specified in Section 25.212 of the Commission's rules, 47 C.F.R. § 25.212, unless SES Americom coordinates any operations using power levels exceeding the levels in Section 25.212 with all potentially affected adjacent satellites within 6 degrees orbital separation of the 19.0° E.L orbital location. SES Americom shall inform the Commission of the power levels it has

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coordinated. In addition, SES Americom must inform all affected earth station operators that Section 25.220 of the Commission's rules applies to operations that exceed the power levels specified in Section 25.212. In no event shall the downlink EIRP density of AMC-2's digital carriers exceed -22.8 dBW/Hz for the Ku-band.

9. Grant of this authorization does not convey to SES Americom any authority to operate a space station at the 19.0° E.L orbital location beyond the term granted herein, nor any status in the United States satellite licensing process relative to applications for authority to operate a regularly authorized satellite at this orbital position.

10. Nothing in this authorization extends the license term for this space station, Call Sign S2134, which expires on May 31, 2016.²

11. SES Americom is afforded 30 days from the date of this action to decline this authorization as conditioned. Failure to respond within this period will constitute formal acceptance of the authorization as conditioned.

12. 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. Petitions for reconsideration under Section 1.106 or applications for review under Section 1.115 of the Commission's rules, 47 C.F.R. §§ 1.106, 1.115, may be filed within 30 days of the date of the public notice indicating that this action was taken.

 GRANTED* International Bureau *with conditions	File # <u>SAT-MOD-20120524-00087</u>
	Call Sign <u>S2134</u> Grant Date <u>07/25/12</u> (or other identifier)
	Term Dates <u>see</u> From <u>07/25/12</u> To: <u>conditions</u>
	Approved: <u>Stephen J. Duall</u> Stephen J. Duall Chief, Satellite Policy Branch

² See IBFS File No. SAT-MOD-20111025-00209 (granted Feb. 24, 2012).

9-16. Name of Contact Representative

Name:	Karis A. Hastings	Phone Number:	202-599-0975
Company:	SatCom Law LLC	Fax Number:	
Street:	1317 F Street, NW, Suite 400	E-Mail:	karis@satcomlaw.com
City:	Washington	State:	DC
Country:	USA	Zipcode:	20004-
Attention:		Relationship:	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

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 type="checkbox"/> b. Mobile Satellite <input type="checkbox"/> c. Radiodetermination Satellite <input type="checkbox"/> d. Earth Exploration Satellite <input checked="" 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 checked="" type="checkbox"/> a. C-Band (4/6 GHz) <input checked="" type="checkbox"/> b. Ku-Band (12/14 GHz) <input type="checkbox"/> c. Other (Please specify upper and lower frequencies in MHz.) Frequency Lower: Frequency Upper: (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. Exh A and B

BASIC QUALIFICATIONS

35. Does the Applicant request any waivers or exemptions from any of the Commission's Rules? Yes No
If Yes, attach as an exhibit, copies of the requests for waivers or exceptions with supporting documents.

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

<p>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.</p>	<p><input type="radio"/> Yes <input checked="" type="radio"/> No</p>
<p>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</p>	<p><input type="radio"/> Yes <input checked="" type="radio"/> No</p>
<p>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.</p>	<p><input type="radio"/> Yes <input checked="" type="radio"/> No</p>
<p>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.</p>	

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.)

SES Americom, Inc. ('SES') hereby seeks a modification of the license for AMC-2, call sign S2134, to reassign the satellite to the nominal 19.2 deg. E.L. orbital location. At that location, AMC-2 will operate pursuant to Luxembourg ITU filings and will use the Ku-band for communications links and the C-band only for TT&C. SES also seeks authority to

Narr and Tech App

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
Daniel C.H. Mah

46. Title of Person Signing
Regulatory Counsel

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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.

43. Description. (Summarize the nature of the application and the services to be provided).

SES Americom, Inc. ('SES') hereby seeks a modification of the license for AMC-2, call sign S2134, to reassign the satellite to the nominal 19.2 deg. E.L. orbital location. At that location, AMC-2 will operate pursuant to Luxembourg ITU filings and will use the Ku-band for communications links and the C-band only for TT&C. SES also seeks authority to deorbit the satellite at its end of life.