

S2414 SAT-MOD-20190429-00032 IB2019001247  
Intelsat License LLC  
Intelsat 1002



\*with conditions

File # SAT-MOD-20190429-00032

Call Sign S2414 Grant Date 07/11/19  
(or other identifier)

From 07/11/19 Term Dates To: 12/31/26

Approved by OMB  
3060-0678

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

Date & Time Filed: Apr 29 2019 5:14:47:946PM  
File Number: SAT-MOD-20190429-00032

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:  
Request to Modify Authorization for Intelsat10-02 Satellite (Call Sign S2414)

1-8. Legal Name of Applicant

<b>Name:</b>	Intelsat License LLC	<b>Phone Number:</b>	703-559-7848
<b>DBA Name:</b>		<b>Fax Number:</b>	703-559-8539
<b>Street:</b>	c/o Intelsat US LLC 7900 Tysons One Place	<b>E-Mail:</b>	susan.crandall@intelsat.com
<b>City:</b>	McLean	<b>State:</b>	VA
<b>Country:</b>	USA	<b>Zipcode:</b>	22102 -5972
<b>Attention:</b>	Susan H. Crandall		

9-16. Name of Contact Representative

<b>Name:</b>	Jennifer D. Hindin	<b>Phone Number:</b>	202&#8722;719&#8722;4975
<b>Company:</b>	Wiley Rein LLP	<b>Fax Number:</b>	202&#8722;719&#8722;7049
<b>Street:</b>	1776 K Street, NW	<b>E-Mail:</b>	jhindin@wileyrein.com
<b>City:</b>	Washington	<b>State:</b>	DC
<b>Country:</b>	USA	<b>Zipcode:</b>	20006-
<b>Attention:</b>	Jennifer D. Hindin	<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

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 Intelsat License LLC  
 IBFS File No. SAT-MOD-20190429-00032

<b>IBFS File No(s):</b>	SAT-MOD-20190429-00032	<b>GRANTED – With Conditions</b>    <b>International Bureau Satellite Division</b>
<b>Licensee/Grantee:</b>	Intelsat License LLC	
<b>Call Sign:</b>	S2414	
<b>Satellite Name:</b>	Intelsat 10-02	
<b>Orbital Location: (required station-keeping tolerance)</b>	1.0° W.L. (± 0.05 degrees east/west)	
<b>Administration:</b>	United States of America	
<b>Nature of Service:</b>	Fixed-Satellite Service (FSS)	
<b>Scope of Grant:</b>	Modification of the authorization for the Intelsat 10-02 space station to extend the license term and previously granted waivers through December 2026.	
<b>Previous Grant(s):</b>	Authority to Construct, Launch and Operate a Geostationary Orbit Satellite at 1.0° W.L. (IBFS File No. SAT-LOA-20000119-00028). <i>Applications of Intelsat LLC For Authority to Operate, and to Further Construct, Launch and Operate C-Band and Ku-Band Global Satellites That Form a Global Communications System in Geostationary Orbit, Memorandum Opinion and Order and Authorization, 15 FCC Rcd 15460, at Appendix C (2000), recon. denied, 15 FCC Rcd 25234, further proceedings, 16 FCC Rcd 12280 (2001) and 19 FCC Rcd 5266 (2004) (Intelsat Licensing Orders).</i> <sup>1</sup>	
<b>Service Area(s):</b>	See Schedule S Tech Report at 5-12.	
<b>Frequencies:</b>	3625-4200 MHz (space-to-Earth) 5850-6425 MHz (Earth-to-space) 10.95-11.2 GHz (space-to-Earth) 11.45-11.70 GHz (space-to-Earth) 12.50-12.75 (space-to-Earth) 13.75-14.5 GHz (Earth-to-space)  TT&C center frequencies: 3947.5 MHz, 3948.0 MHz, 3952.0 MHz, 3952.5 MHz (space-to-Earth) 6173.7 MHz and 6176.3 MHz (Earth-to-space)	
<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. Intelsat must operate Intelsat 10-02 at the 1.0° W.L. orbital location in accordance with any existing or future coordination agreements for this location.</li> <li>2. In connection with the provision of service in any particular country, Intelsat is obliged to comply with the applicable laws, regulations, rules, and licensing procedures of that country.</li> <li>3. While at the 1.0° W.L. orbital location, Intelsat must maintain the Intelsat 10-02 spacecraft with an east/west longitudinal station-keeping tolerance of +/- 0.05 degrees.</li> <li>4. The operations of Intelsat 10-02 and associated earth stations must comport with the applicable uplink and downlink limits in 47 CFR § 25.140(a)(3) of the Commission's rules, unless Intelsat coordinates any non-conforming operations with the operations of U.S.-licensed geostationary orbit space stations within</li> </ol>		

<sup>1</sup> Intelsat 10-02, known then as Alpha 2, was one of 10 new satellites authorized as part of the *Intelsat Licensing Orders*.

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- 6 degrees of the 1.0° W.L. orbital location. Intelsat must also comport with the maximum power limits indicated in existing or future coordination agreements at 1.0° W.L. Non-conforming operation must also be coordinated with respect to those operations of non-U.S.-licensed space stations within 6 degrees of 1.0° W.L. involving approved communications with U.S.-licensed earth stations.
5. Intelsat's use of the 10.95-11.2 GHz and 11.45-11.7 GHz frequency bands is limited to international operations in accordance with footnote NG52 to the United States Table of Frequency Allocations, 47 CFR § 2.106, NG52.
  6. Intelsat's use of the 10.95-11.2 GHz and 11.45-11.7 GHz (space-to-Earth) frequency bands is subject to footnote US211 to the United States Table of Frequency Allocations, 47 CFR § 2.106, US211, which urges applicants for airborne or space station assignments to take all practicable steps to protect radio astronomy observations in the adjacent bands from harmful interference, consistent with footnote US74.
  7. The power flux-density at the Earth's surface produced by the emissions from the Intelsat 10-02 space station in the 10.95-11.2 GHz(space-to-Earth) and 11.45-11.7 GHz (space-to-Earth) frequency bands must not exceed the applicable power flux-density limits contained in 47 CFR § 25.208(b) of the Commission's rules, and in Article 21 of the ITU Radio Regulations.
  8. Use of the 12.5-12.70 GHz frequency band is not authorized for FSS in International Telecommunication Union (ITU) Region 2.
  9. Use of the 12.70-12.75 GHz frequency band is not authorized for FSS in the space-to-Earth direction in ITU Region 2.
  10. The power flux-density (PFD) at the Earth's surface produced by the emissions from the Intelsat 10-02 space station in the 12.5-12.75 GHz frequency band (space- to-Earth), must not exceed the applicable power flux-density limits contained in No. 21.16 in Article 21 of the ITU Radio Regulations.
  11. Pursuant to footnote US337 of the United States Table of Frequency Allocations, 47 CFR § 2.106, US337, any earth station in the United States and its possessions communicating with the Intelsat 10-02 space station in the 13.75-13.8 GHz (Earth-to-space) frequency band is required to coordinate through the National Telecommunications and Information Administration (NTIA) Interdepartment Radio Advisory Committee (IRAC) Frequency Assignment Subcommittee (FAS) to minimize interference to the National Aeronautics and Space Administration (NASA) Tracking and Data Relay Satellite System, including manned space flight.
  12. In the 13.75-14.0 GHz (Earth-to-space) frequency band, receiving space stations in the fixed satellite service must not claim protection from radiolocation transmitting stations operating in accordance with footnote US356 the United States Table of Frequency Allocations, 47 CFR § 2.106, US356.
  13. Operations of any earth station in the United States and its possessions communicating with the Intelsat 10-02 space station in the 13.75-14.0 GHz (Earth-to-space) frequency band must comply with footnote US356 to the United States Table of Frequency Allocations, 47 CFR § 2.106, US356, which specifies a mandatory minimum antenna diameter of 4.5 meters and recommended minimum and maximum equivalent isotropically radiated powers (e.i.r.p.). Operations of any earth station located outside the United States and its possessions communicating with the Intelsat 10-02 space station in the 13.75-14.0 GHz (Earth-to-space) frequency band must be consistent with No. 5.502 to the ITU Radio Regulations, which allows a minimum antenna diameter of 1.2 meters for earth stations of a geostationary satellite orbit network and specifies mandatory power limits.
  14. Operations of any earth station in the United States and its possessions communicating with the 10-02 space station in the 13.77-13.78 GHz (Earth-to-space) frequency band must comply with footnote US357 to United States Table of Frequency Allocations, 47 CFR § 2.106, US357, which specifies that the maximum e.i.r.p. density of emissions not exceed 71 dBW in any 6 MHz band within the 13.77-13.78 GHz (Earth-to-space) frequency band for communications with a space station in geostationary-satellite

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orbit. Operations of any earth station located outside the United States and its possessions communicating with the Intelsat 10-02 space station in the 13.77-13.78 GHz (Earth-to-space) frequency band must comply with No. 5.503 of the ITU Radio Regulations, which specifies a required maximum e.i.r.p. density of emissions (limit is dependent on antenna diameter) for communications with a space station in geostationary-satellite orbit.

15. Intelsat states that stored energy sources will remain on Intelsat 10-02 at end of life. Section 25.283(c) specifies that space stations must discharge stored energy sources at end-of-life of the spacecraft. Intelsat 10-02 is an EADS-Astrium Eurostar 3000 model spacecraft, which was not designed to vent all pressurized systems. Intelsat states that the helium tank was sealed by firing a pyrotechnic valve following transfer orbit after the spacecraft's launch in June 2004, which was after section 25.283(c) was adopted, but before it became effective. At end of life, 1339 grams of helium is expected to remain in a helium tank with a volume of 178 liters. We find that this amount of helium, which is an inert gas, is constitutes *de minimis* quantity of stored energy.
16. Intelsat's request for continued waivers of sections 25.140(a) and 25.202(g) of the Commission's rules<sup>2</sup> is GRANTED, subject to the conditions in the original grant.<sup>3</sup>
17. Intelsat's operations of the Intelsat 10-02 space station at the 1.0° W.L. orbital location are subject to the following additional conditions:
  - a. Intelsat shall remain a signatory to the Public Services Agreement between Intelsat and the International Telecommunications Satellite Organization (ITSO) that was approved by the ITSO Twenty-fifth and Thirty-seventh Assembly of Parties, as amended.
  - b. No entity shall be considered a successor-in-interest to Intelsat under the ITSO Agreement for licensing purposes unless it has undertaken to perform the obligations of the Public Services Agreement approved by the Twenty-fifth and Thirty-seventh Assembly of Parties, as amended.
18. The license term for the Intelsat 10-02 space station is extended from August 16, 2019 through December 31, 2026.

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>	July 11, 2019	
<b>Term Dates</b>	<b>From:</b> July 11, 2019	<b>To:</b> December 31, 2026

<sup>2</sup> See 47 CFR. §§ 25.140(a)(3)(vi) (previously codified at 47 CFR § 25.140(b)(2)), and 25.202(g). See Application, Narrative and Exhibits at 5.

<sup>3</sup> IBFS File No. SAT-LOA-20000119-00028.

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Approved:



Stephen J. Duall  
Chief, Satellite Policy Branch

17c. 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):

17d.

Fee Classification BFY – Space Station Modification(Geostationary)

18. If this filing is in reference to an existing station, enter:

(a) Call sign of station:  
S2414

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:

(a) Date pending application was filed:

(b) File number:

SATMOD2003072300136

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:

- a. Fixed Satellite
- b. Mobile Satellite
- c. Radiodetermination Satellite
- d. Earth Exploration Satellite
- e. Direct to Home Fixed Satellite
- f. Digital Audio Radio Service
- g. Other (please specify)

21. STATUS: Choose the button next to the applicable status. Choose only one.

- Common Carrier     Non-Common Carrier

22. If earth station applicant, check all that apply.

- Using U.S. licensed satellites
- 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:

- Connected to a Public Switched Network     Not connected to a Public Switched Network     N/A

24. FREQUENCY BAND(S): Place an 'X' in the box(es) next to all applicable frequency band(s).

- a. C-Band (4/6 GHz)     b. Ku-Band (12/14 GHz)
- 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.

#### 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.

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.)

Intelsat License LLC, pursuant to Section 25.117 of the rules of the Federal Communications Commission, hereby seeks to modify the authorization for Intelsat 10-02 (Call Sign S2414), a C-band and Ku-band satellite operating at 1.0 W.L. Specifically, Intelsat seeks to extend the license term and previously granted waivers for the Intelsat

Narrative & Exhibits

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  
Susan H. Crandall

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46. Title of Person Signing  
Assoc. Gen. Counsel, Intelsat US LLC

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).**

Intelsat License LLC, pursuant to Section 25.117 of the rules of the Federal Communications Commission, hereby seeks to modify the authorization for Intelsat 10-02 (Call Sign S2414), a C-band and Ku-band satellite operating at 1.0 W.L. Specifically, Intelsat seeks to extend the license term and previously granted waivers for the Intelsat 10-02 satellite through December 2026.