

50.4-51.4 GHz Grant

File # SAT-LOA-20170301-00027

Call Sign S2992 Grant Date June 9 2020

(or other identifier) Term Dates

From June 9 2020 To: See Conditions

Approved by OMB
3060-0678



* with conditions

Date & Time Filed: Mar 1 2017 5:22:30:483PM
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Callsign/Satellite ID: S2992

APPLICATION FOR SATELLITE SPACE STATION AUTHORIZATIONS
FCC 312 MAIN FORM
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APPLICANT INFORMATION

Enter a description of this application to identify it on the main menu:
NGSO Constellation

1-8. Legal Name of Applicant

Name:	Space Exploration Holdings, LLC	Phone Number:	202-649-2634
DBA Name:		Fax Number:	202-649-2701
Street:	1030 15th Street, N.W. Suite 220E	E-Mail:	patricia.cooper@spacex.com
City:	Washington	State:	DC
Country:	USA	Zipcode:	20005
Attention:	Ms. Patricia Cooper		

ATTACHMENT TO GRANT
 Space Exploration Holdings, LLC
 IBFS File No. SAT-LOA-20170301-00027

IBFS File No(s):	IBFS File No. SAT-LOA-20170301-00027 ¹	<p>GRANTED – With Conditions</p>  <p>International Bureau Satellite Division</p>
Licensee/Grantee:	Space Exploration Holdings, LLC (SpaceX)	
Call Sign:	S2992	
Satellite Name:	SpaceX V-Band NGSO Constellation	
Orbital Location: (required station-keeping tolerance)	N/A	
Administration:	United States	
Nature of Service:	Fixed-Satellite Service (FSS)	
Scope of Grant:	Authority to use the 50.4-51.4 GHz band for service and gateway uplinks	
Prior Grants	<i>Space Exploration Holdings, LLC, Application for Approval for Orbital Deployment and Operating Authority for the SpaceX V-band NGSO Satellite System, Memorandum Opinion, Order and Authorization, 33 FCC Rcd 11434 (2018) (SpaceX V-band Order).</i> ²	
Service Area(s):	N/A	
Frequencies:	50.4-51.4 GHz (Earth-to-space)	
<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"> Operations in the 50.4-51.4 GHz band (Earth-to-space) must provide interference protection to the fixed and mobile services, except for earth stations authorized pursuant to 47 CFR § 25.136.³ 		

¹ This application was granted in part by the Commission on November 15, 2018.

² The *SpaceX V-band Order* deferred action on SpaceX’s request to use the 50.4-51.4 GHz band for service and gateway uplinks, pending consideration of that band in the *Spectrum Frontiers Proceeding*, GN Docket 14-177. *SpaceX V-band Order*, 33 FCC Rcd 11434, 11443 para. 23. In the *Spectrum Frontiers Fifth Report and Order*, the Commission adopted rules permitting licensing of individual FSS earth stations in the 50.4-51.4 GHz band. *Use of Spectrum Bands Above 24 GHz for Mobile Radio Service*, Fifth Report and Order, 34 FCC Rcd 2556, 2560, paras. 10-12 (2019). We now authorize SpaceX to receive transmissions from earth stations operating in the 50.4-51.4 GHz band, subject to the rules adopted in the *Spectrum Frontiers Fifth Report and Order* and the conditions herein.

³ In the *V-band First Report and Order*, the Commission added wireless designations on a primary basis in the 50.4-51.4 GHz band for use by fixed and mobile service; jointly referring to fixed and mobile services as “wireless service.” See *Allocation and Designation of Spectrum for Fixed-Satellite Services in the 37.5-38.5 GHz, 40.5-41.5 GHz and 48.2-50.2 GHz Frequency Bands; Allocation of Spectrum to Upgrade Fixed and Mobile Allocations in the 40.5-42.5 GHz Frequency Band; Allocation of Spectrum in the 46.9-47.0 GHz Frequency Band for Wireless Services; and Allocation of Spectrum in the 37.0-38.0 GHz and 40.0-40.5 GHz for Government Operations*, First Report and Order, 13 FCC Rcd 24649, 24651 para. 2, and 24665 n.71. (1999) (*V-Band First Report and Order*). In the *Spectrum Frontiers Fifth Report and Order*, the Commission allowed individually licensed FSS earth stations to operate in the 50.4-51.4 GHz band, subject to the licensing criteria adopted by the Commission for the 24.75-25.25 GHz band - that is, applying the permitted aggregate population limits within the specified earth station power flux density contour on a per-county basis and adopting constraints on the number of

ATTACHMENT TO GRANT
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2. Operations in the 50.4-51.4 GHz band (Earth-to-space) must not cause unacceptable interference to, or claim protection from, a Geostationary Orbit Satellite (GSO) FSS or GSO Broadcast Satellite Service network. These operations have to comply with ITU Radio Regulations Nos. 22.5L and 22.5M.
3. Earth station emissions into the 50.2-50.4 GHz band must comport with the limits contained in Resolution 750 (Rev. WRC-19) of the ITU Radio Regulations upon its entry into force on January 1, 2021.⁴
4. SpaceX must continue to comply with all other terms and conditions of its authorization set forth in the *SpaceX V-Band Order*.

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.

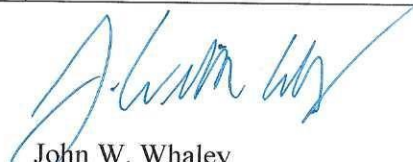
This action is taken pursuant to Section 0.261 of the Commission's rules on delegated authority, 47 C.F.R. § 0.261, and is effective upon release.

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).

Action Date:	June 9, 2020
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Term Dates	From: June 9, 2020	To: See conditions
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Approved:


 John W. Whaley
 Acting Chief, Satellite Policy Branch

permitted earth stations on both a per county and a per partial economic area basis. *Spectrum Frontiers Fifth Report and Order* 34 FCC Rcd at 2560-61, paras. 10-12 (2019).

⁴ In November 2019, the World Radiocommunication Conference 2019 revised the limits on unwanted emission power into the 50.2-50.4 GHz band, used by the earth exploration-satellite service (passive), from earth stations operating with NGSO FSS satellite systems in the adjacent 49.7-50.2 GHz and 50.4-50.9 GHz bands. The new limits, contained in Resolution 750, are equal to or more stringent than the unwanted emissions limits previously adopted by the Commission and set forth in footnote US156 to the U.S. Table of Frequency Allocations. We will require SpaceX to operate in accordance with Resolution 750 (Rev. WRC-19) upon its entry into force on January 1, 2021.

9-16. Name of Contact Representative

Name: William M. Wiltshire Phone Number: 202-730-1350
 Company: Harris, Wiltshire & Gramis LLP Fax Number: 202-730-1301
 Street: 1919 M Street NW E-Mail: wwiltshire@hwglaw.com
 Suite 800
 City: Washington State: DC
 Country: USA Zipcode: 20036
 Attention: Relationship: Legal Counsel

CLASSIFICATION OF FILING

17. Choose the buttonnext to the classification that applies to thisfiling for both questions a. and b. Choose only one for 17a and only one for 17b.

- a.
 a1. Earth Station
 a2. Space Station

b.

- b1. Application for License of New Station (N/A)
- b2. Application for Registration of New Domestic Receive-Only Station (N/A)
- b3. Amendment to a Pending Application (N/A)
- b4. Modification of License or Registration (N/A)
- b5. Assignment of License or Registration (N/A)
- b6. Transfer of Control of License or Registration (N/A)
- b7. Notification of Minor Modification (N/A)
- b8. Application for License of New Receive-Only Station Using Non-U.S. Licensed Satellite
- b9. Letter of Intent to Use Non-U.S. Licensed Satellite to Provide Service in the United States
- b10. Replacement Satellite Application – no new frequency bands
- b11. Replacement Satellite Application – new frequency bands (Not eligible for streamlined processing)
- b12. Petition for Declaratory Ruling to be Added to the Permitted List (N/A)
- b13. Other (Please specify)

<p>17c. Is a fee submitted with this application? <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). <input type="radio"/> Governmental Entity <input type="radio"/> Noncommercial educational licensee <input type="radio"/> Other (please explain):</p>	<p>17c. Fee Classification CLW – Space Station (Non-Geostationary)</p>
<p>18. If this filing is in reference to an existing station, enter: (a) Call sign of station: Not Applicable</p>	<p>19. If this filing is an amendment to a pending application enter: (a) Date pending application was filed: Not Applicable (b) File number of pending application: Not Applicable</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:

- 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.
Not Applicable

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

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.

- (N/A) a. Fixed Earth Station
- (N/A) b. Temporary-Fixed Earth Station
- (N/A) c. 12/14 GHz VSAT Network
- (N/A) d. Mobile Earth Station
- e. Geostationary Space Station.
- f. Non-Geostationary Space Station
- g. Other (please specify)

26. TYPE OF EARTH STATION FACILITY: Not Applicable

PURPOSE OF MODIFICATION

27. The purpose of this proposed modification is to: (Place an "X" in the box(es) next to all that apply.) Not Applicable

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.

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

BASIC QUALIFICATIONS

<p>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.</p>	<p style="text-align: right;"> <input checked="" type="radio"/> Yes <input type="radio"/> No </p> <p style="text-align: right;">Waiver Requests</p>
<p>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.</p>	<p style="text-align: right;"> <input type="radio"/> Yes <input checked="" type="radio"/> No </p>
<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 style="text-align: right;"> <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 style="text-align: right;"> <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 style="text-align: right;"> <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>	<p style="text-align: right;">Organization</p>
<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"; party to the application; for these purposes.</p>	<p style="text-align: right;"> <input checked="" type="radio"/> Yes <input type="radio"/> No </p>
<p>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.</p>	<p style="text-align: right;"> <input type="radio"/> Yes <input checked="" type="radio"/> No </p>
<p>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?</p>	

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.)

Space Exploration Holdings, LLC seeks operating authority (i.e., approval for orbital deployment and a station license) for a non-geostationary orbit satellite system in the Fixed-Satellite Service using V-band frequencies.

Legal Narrative

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

Technical Attachment

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) limited liability company

45. Name of Person Signing
Tim Hughes

46. Title of Person Signing
Sr. Vice President

47. Please supply any need attachments.

1: Spectrum

2:

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).

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