



File # SAT-STA-20191220-00151

S2983

Call Sign S3018

Grant Date 01/02/20

(or other identifier)

Term Dates Period of

From 12/27/19

To: 30 days

Approved by OMB
3060-0678

Approved: Stephen J. Duall

Stephen J. Duall
Chief, Satellite Policy Branch

Date & Time Filed: Dec 20 2019 4:18:35:443PM
File Number: SAT-STA-20191220-00151
Callsign:

*with conditions

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:
Space Station Fifth Further STA Extension Request

1. Applicant

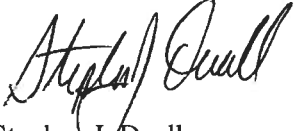
Name:	Space Exploration Holdings, LLC	Phone Number:	202-649-2700
DBA Name:		Fax Number:	202-649-2701
Street:	1155 F Street, N.W. Suite 475	E-Mail:	patricia.cooper@spacex.com
City:	Washington	State:	DC
Country:	USA	Zipcode:	20004
Attention:	Ms Patricia Cooper		

ATTACHMENT TO GRANT
 Space Exploration Holdings, LLC
 IBFS File No. SAT-STA-20191220-00151

IBFS File No(s):	SAT-STA-20191220-00151	<p>GRANTED – With Conditions</p>  <p>International Bureau Satellite Division</p>
Licensee/Grantee:	Space Exploration Holdings, LLC	
Call Sign:	S2983/S3018	
Satellite Name:	SpaceX Ku/Ka-band Constellation	
Orbital Location: (required station-keeping tolerance)	Non-geostationary orbit (NGSO)	
Administration:	United States of America	
Nature of Service:	Telemetry, Tracking, and Command (TT&C); Testing	
Scope of Grant:	Special temporary authority (STA) for a period of 30 days for continuation of Launch and Early Orbit-Phase (LEOP) operations necessary to (1) perform TT&C necessary for orbit-raising; and (2) communicate with seven Ku-band earth stations to test the communications payload on each of 60 satellites that were deployed on May 23, 2019.	
Service Area(s):	Not Applicable	
Frequencies:	TT&C Frequencies 12.221 GHz (space-to-Earth) and 13.925 GHz (Earth-to-space) Payload Testing Frequencies 10.7-12.7 GHz (space-to-Earth) 14.0-14.5 GHz (Earth-to-space).	
<p>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. All operations under this grant of special temporary authority must be on an unprotected and non-harmful interference basis, <i>i.e.</i>, SpaceX must not cause harmful interference to, and must not claim protection from interference caused to it by, any other lawfully operating station. 2. In the event of any harmful interference under this grant of special temporary authority, SpaceX must cease operations immediately upon notification of such interference and must inform the Commission, in writing, immediately of such an event. 3. SpaceX’s payload-frequency operations must be limited to testing and must not include the provision of commercial services. 4. During LEOP operations SpaceX must operate only the TT&C frequencies and test frequencies specified above. 5. Operations authorized here must comport with the conditions imposed in DA 19-342.¹ <p>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.</p> <p>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.</p>		

¹ *Space Exploration Holdings, LLC, Order and Authorization, DA 19-342 (IB rel. Apr. 26, 2019) (SpaceX Modification Order).*

ATTACHMENT TO GRANT
Space Exploration Holdings, LLC
IBFS File No. SAT-STA-20191220-00151

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:	January 2, 2020	
Term Dates	From: December 27, 2019	To: period of 30 days
Approved:	 Stephen J. Duall Chief, Satellite Policy Branch	

2. Contact	
Name: William M. Wiltshire	Phone Number: 202-730-1350
Company: Harris, Wiltshire & Grannis LLP	Fax Number: 202-730-1301
Street: 1919 M St. NW 8th Floor	E-Mail: wwiltshire@hwglaw.com
City: Washington	State: DC
Country: USA	Zipcode: 20036 -
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 SATSTA2019111800134 or Submission ID	
4a. 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):	
4b. Fee Classification CXW – Space Station (Non-Geostationary)	
5. Type Request	
<input type="radio"/> Change Station Location <input checked="" type="radio"/> Extend Expiration Date <input type="radio"/> Other	
6. Temporary Orbit Location	7. Requested Extended Expiration Date 2020-01-25 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.)

SpaceX requests extension of special temporary authority for the first tranche of its NGSO satellites to communicate with Ku−band gateway and TT&C earth stations for an additional 30 days.

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
Patricia Cooper

11. Title of Person Signing
Vice President, Satellite Government Affairs

12. Please supply any need attachments.

Attachment 1: STA Extension Reques

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).

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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.

REQUEST FOR EXTENSION OF SPECIAL TEMPORARY AUTHORITY

On May 9, 2019, the Commission granted Space Exploration Holdings, LLC (“SpaceX”) Special Temporary Authority (“STA”) for the first tranche of its non-geostationary orbit (“NGSO”) satellites launched on May 24, 2019 to communicate with seven earth stations operated by its sister company, SpaceX Services, Inc. (“SpaceX Services”).¹ The Commission subsequently extended that STA through December 26, 2019.² SpaceX respectfully requests that the Commission further extend that STA for an additional 30 days for the reasons discussed below.

SpaceX has been authorized to launch and operate a constellation of 4,409 NGSO satellites (call sign S2983/S3018) using Ku- and Ka-band spectrum. Pursuant to the STA, SpaceX has been communicating with an earth station to conduct telemetry, tracking, and control (“TT&C”) functions during orbit raising, de-orbit, and initial on-station operations,³ and has also been communicating with six Ku-band gateway earth stations to test the communications payload on each of its satellites.⁴ SpaceX has operated with these earth station pursuant to the STA for over six months, and has received no complaints from any other authorized spectrum user.

Allowing continued communications between the SpaceX space stations and SpaceX Services earth stations while applications for the latter are being processed would serve the public interest. The STA covers TT&C functions that are essential to commanding the spacecraft and ensuring the health and safety of SpaceX’s nascent constellation. The STA also allows SpaceX to confirm the operational status of its satellites on an ongoing basis. While much of the orbit-raising phase is now complete, there are still a few satellites that have yet to reach their authorized altitude. In addition, SpaceX may initiate the controlled de-orbit of some additional satellites. Extending the STA would allow SpaceX to continue to provide TT&C functions that are essential to commanding all of these spacecraft and ensuring continuing monitoring of and control over SpaceX’s nascent constellation, as well as maintaining communications with these craft to assess their functionality. Accordingly, extension of the STA will continue serve the public interest by enhancing space safety and promoting the health and safety of SpaceX’s NGSO constellation.

SpaceX will continue to operate on a non-interference basis, and in conformance with the applicable equivalent power flux-density (“EPFD”) limits set forth in Article 22 and Resolution 76 of the ITU Radio Regulations and the applicable power flux-density (“PFD”) limits set forth in the Commission’s rules and Article 21 of the ITU Radio Regulations, which the Commission has found sufficient to protect GSO systems and terrestrial systems, respectively, against harmful

¹ See Public Notice, Rep. No. SAT-01388 (rel. May 10, 2019).

² See Public Notice, Rep. No. SAT-01431 (rel. Dec. 6, 2019).

³ Although the Commission by rule authorizes TT&C operations for GSO satellites during the orbit-raising phase, it has not yet adopted a similar rule for NGSO systems (though one is currently under consideration). See 47 C.F.R. § 25.282; *Mitigation of Orbital Debris in the New Space Age*, 33 FCC Rcd. 11352, ¶ 70 (2018). Similarly, the Commission’s rules authorize TT&C for end-of-life disposal of GSO systems but has no parallel rule for NGSO systems. See 47 C.F.R. § 25.283.

⁴ SpaceX Services currently has applications pending for six Ku-band gateway earth stations (located in North Bend, WA; Conrad, MT; Merrillan, WI; Greenville, PA; Redmond, WA; and Hawthorne, CA) and one TT&C earth station (located in Brewster, WA). SpaceX Services received complementary STAs for these earth stations to communicate with the SpaceX NGSO satellites.

interference. In the extremely unlikely event that harmful interference should occur due to transmissions to or from its earth station, SpaceX will take all reasonable steps to eliminate the interference. Should an issue arise, SpaceX can be reached at satellite-operators-pager@spacex.com, which links to the pagers of appropriate technical personnel 24/7.

Accordingly, SpaceX requests that the Commission extend the STA for these space stations for up to an additional 30 days.