

File # SAT-STA-20200115-00010

Call Sign 52862 Grant Date March 26, 2020

(or other identifier)

Term Dates

From April 1, 2020 To: 180 Days

Approved:

J. Miller Wada
John W. Wada
Acting Chief
Satellite Policy Branch

Approved by OMB
3060-0678



Date & Time Filed: Jan 15 2020 4:22:33:293PM
File Number: SAT-STA-20200115-00010
Callsign:

FEDERAL COMMUNICATIONS COMMISSION
APPLICATION FOR SPACE STATION SPECIAL TEMPORARY AUTHORITY
FOR OFFICIAL USE ONLY


APPLICANT INFORMATION

Enter a description of this application to identify it on the main menu:
Skysat temporary change in Telemetry Frequency

I. Applicant

Name:	Planet Labs Inc.	Phone Number:	415-225-9550
DBA Name:		Fax Number:	
Street:	645 Harrison Street	E-Mail:	adonica.wada@planet.com
City:	San Francisco	State:	CA
Country:	USA	Zipcode:	94107
Attention:	Adonica Wada		

ATTACHMENT TO GRANT
Planet Labs Inc.
IBFS File No. SAT-STA-20200115-00010

IBFS File No(s):	SAT-STA-20200115-00010	<p>GRANTED – With Conditions</p>  <p>International Bureau Satellite Division</p>
Licensee/Grantee:	Planet Labs Inc.	
Call Sign:	S2862	
Satellite Name:	SkySat-16 to SkySat-21	
Orbital Location: (required station-keeping tolerance)	NGSO at altitudes between approximately 190 and 400 km, inclination between 52 and 54 degrees	
Administration:	United States of America	
Nature of Service:	Telemetry, Tracking and Control	
Scope of Grant:	Special temporary authority for a period of 180 days to allow SkySat-16 to SkySat-21 satellites to conduct telemetry downlink while they are brought into service after launch using the following center frequencies: 8374.25 MHz, 8374.50 MHz, 8374.75 MHz, 8375.25 MHz, 8375.50 MHz, and 8375.75 MHz. ¹	
Service Area(s):	See Scope of Grant and Conditions	
Frequencies:	See Scope of Grant	
<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.</p> <ol style="list-style-type: none"> 1. Operations under this STA must be in compliance with the terms of the Memorandum of Agreement between Planet Labs and the National Aeronautics and Space Administration (NASA) pertaining to operation in the frequency band 8025-8400 MHz. 2. Transmissions of telemetry data in the 8025-8400 MHz frequency band may only be made to and when within the line of sight of the earth stations approved for such transmissions under the existing Memorandum of Agreement between Planet Labs and NASA, or any successor agreement. 3. The transmissions of each space station must not exceed the maximum PFD limit of -150.00 dBW/m²/4kHz at the surface of the earth and at the GSO arc. To meet this limit, the maximum space station e.i.r.p. is as follows: <ol style="list-style-type: none"> a. For the 190 km x 380 km elliptical orbit: the maximum space station EIRP is limited to -15.47 dBW b. For the nominal circular orbital altitude of 400 km, the maximum space station e.i.r.p. Is limited to -9.01 dBW 4. Transmissions are limited to a single non-overlapping signal in each 250 KHz channel at any one time. 		

¹ Planet Labs will assign each of the six new SkySat satellites one of the listed center frequencies immediately after launch. After approximately 30 to 60 days, the satellite orbits will have diverged sufficiently so that earth stations will be able to distinguish each individual satellite and all satellites will be commanded to transmit on the authorized center frequency of 8375.00 MHz for regular operations. Planet Labs requests special temporary authority for 180 days to accommodate possible launch delays. Narrative at 1.

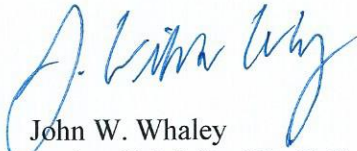
ATTACHMENT TO GRANT
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Licensee/grantee is afforded thirty (30) days from the date of release of this action to decline the grant as conditioned. Failure to respond within this period will constitute formal acceptance of the grant as conditioned. This 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).

Action Date:	March 26, 2020
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Term Dates	From: April 1, 2020	To: period of 180 days
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Approved:



John W. Whaley
Acting Chief, Satellite Policy Branch

2. Contact	
Name: Planet Labs Inc.	Phone Number: 415-225-9550
Company: 645 Harrison Street	Fax Number:
Street: San Francisco	E-Mail: adonica.wada@planet.com
City: USA	State: CA
Country:	Zipcode: 94107 -
Attention:	Relationship:
(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 SATMOD2019121700148 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 type="radio"/> Extend Expiration Date <input checked="" type="radio"/> Other	
6. Temporary Orbit Location	7. Requested Extended Expiration Date

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.)

Planet Labs Inc. requests temporary authorization to change the telemetry downlink frequency to communicate with six additional earth stations during launch and satellite commissioning phase. See Narrative for more information.

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
Adonica Wada

11. Title of Person Signing
Vice President, Regulatory Affairs & Compliance

12. Please supply any need attachments.

Attachment 1: Narrative for STA

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.

EXHIBIT A - NARRATIVE STATEMENT

Planet Labs Inc. (Planet), pursuant to Section 25.120 of the Federal Communications Commission's (FCC's or Commission's) Rules, 47 C.F.R. § 25.120, hereby requests Special Temporary Authority (STA) for short-term modification of the telemetry downlink frequencies on six commercial remote sensing satellites, SkySat-16 to SkySat-21, while they are brought into service after launch. The satellites are intended to be launched as secondary payloads on two separate Falcon 9 launch vehicles: (1) April 1, 2020 for SkySat-16 to SkySat-18, and (2) June 1, 2020 for SkySat-19 to SkySat-21. These satellites were previously authorized by the Commission¹, with a request to modify the orbital location now before the Commission.² Approval for this STA application would be consistent with previous Commission actions in 2016, 2017, and 2018 for similar STA's with an identical purpose for Skysat-4 to Skysat-7³, Skysat-8 to Skysat-13⁴, and SkySat-14 to SkySat-15⁵.

To accommodate possible launch delays, Planet seeks temporary authority for a period commencing on the first intended launch date (April 1, 2020), and extending 180 days afterward. The requested temporary authority, however, would be utilized only until routine communications links with the satellites are established, which is expected to be a period of no more than 60 days after each launch.

Planet Justification for Special Temporary Authority (STA)

Planet currently operates fifteen commercial remote sensing satellites, SkySat-1 to SkySat-15, under FCC Call Sign S2862, as part of a non-geostationary orbit (NGSO) Earth Exploration Satellite Service (EESS) high-resolution imagery satellite system⁶. The requested STA would apply to SkySat-16 to SkySat-21, which, again, are expected to be launched in April and June of 2020.

For each launch, SkySat-16 to SkySat-18 and SkySat-19 to SkySat-21 will be released by the launch vehicle in a cluster that is so closely spaced that ordinary telemetry transmissions from the different satellites—which will use the same frequencies—would be indistinguishable at earth stations for the first few days on-orbit. To facilitate the identification and monitoring of each individual satellite, Planet therefore requests authority to temporarily modify the telemetry downlink frequency (Channel ID TTC1) for each of the new satellites to a frequency that is unique but close to the frequency authorized for operations under Call Sign S2862. Without the requested temporary modification, all six satellites could be transmitting at the same time, on the same frequency, and thus interfering with each other.

¹ File number SAT-MOD-20170317-00053, granted June 26, 2018.

² File number SAT-MOD-20191217-00148, filed Dec 17, 2019.

³ File number SAT-STA-20160803-00076, granted Sept 14, 2016.

⁴ File number SAT-STA-20170726-00109, granted Oct 12, 2017.

⁵ File number SAT-STA-20180724-00055, granted September 13, 2018.

⁶ File number SAT-LOA-20120322-00058 (SkySat-1 and SkySat-2) and File No. SAT-MOD-20150408-00019 (SkySat-3 through 15).

Specifically, Planet requests authority to assign the six new satellites one of the following frequencies for telemetry transmissions effective upon launch:

- 8374.25 MHz
- 8374.50 MHz
- 8374.75 MHz
- 8375.25 MHz
- 8375.50 MHz
- 8375.75 MHz

Each of the proposed frequencies is within the 8025-8400 MHz band allocated to EESS, as well as within 250 kHz of the telemetry downlink frequency of 8375.00 MHz currently authorized for Call Sign S2862. Assuming nominal conditions, after approximately 30 to 60 days, the satellite orbits will have diverged enough so that the earth stations are able to distinguish each individual satellite. At that time, the satellites will be commanded to transmit on the licensed frequency of 8375.00 MHz for permanent operations.

Planet incorporates by reference all of the technical showings it made in the license modification application (both on Form 312, Schedule S, and in Exhibit 43)⁷, and confirms that operation under this STA will not vary from such parameters with the exception of narrowband telemetry signals identified herein. The temporary frequencies would be no less compatible with other satellite missions than the licensed frequency, since they are narrowband and in close proximity to the currently authorized telemetry downlink frequency of 8375.00 MHz. There will be no changes to other parameters currently authorized for operations under Call Sign S2862, including modulation, bandwidth, and power of the telemetry transmitters.

Grant of this STA will serve the public interest by facilitating Planet's operation of six additional, high-resolution imagery satellites that are complementary to the existing satellites, SkySat-1 to Skysat-15, thereby enhancing competition and expanding U.S. capabilities in the market for commercial remote sensing data. Planet's innovative approach—using small, lightweight, and low-cost satellites—allows the company to meet the growing demand for high resolution imagery in a cost-effective, timely manner, and deployment of the proposed satellites will further enhance Planet's EESS capabilities.

In summary, and on the basis of the information provided herein and in File No. SAT-MOD-20191217-00148, Planet requests special temporary authority to modify the telemetry downlink frequencies on six commercial remote sensing satellites, SkySat-16 to SkySat-21, for a period commencing on the first intended launch date (April 1, 2020) and extending 180 days afterward.

⁷ Ibid footnote 2.