



**UNITED STATES OF AMERICA  
FEDERAL COMMUNICATIONS COMMISSION  
RADIO STATION AUTHORIZATION**

Name: Planet Labs Inc.

Call Sign: E150004

Authorization Type: Modification of License

File Number: SES-MOD-20171002-01098

Non Common Carrier

Grant date: 10/25/2018

Expiration Date: 09/30/2030



Nature of Service: Earth Exploration Satellite Service

Class of Station: Fixed Earth Stations

**A) Site Location(s)**

#	Site ID	Address	Latitude	Longitude	Elevation (Meters)	Special Provisions NAD (Refer to Section H)
1)	Maddock	5190 30th St. NE Maddock, Benson, ND 58348	47°50'38.7"N	99°28'10.4"W	472.83	83

Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209

*Subject to the provisions of the Communications Act of 1934, The Communications Satellite Act of 1962, subsequent acts and treaties, and all present and future regulations made by this Commission, and further subject to the conditions and requirements set forth in this license, the grantee is authorized to construct, use and operate the radio facilities described below for radio communications for the term beginning September 30, 2015 (3 AM Eastern Standard Time) and ending September 30, 2030 (3 AM Eastern Standard Time) . The required date of completion of construction and commencement of operation is October 25, 2019 (3 AM Eastern Standard Time) . Grantee must file with the Commission a certification upon completion of construction and commencement of operation.*

**B) Particulars of Operations**

The General Provision 1010 applies to all receiving frequency bands.

The General Provision 1900 applies to all transmitting frequency bands.

For the text of these provisions, refer to Section H.

#	Frequency (MHz)	Polarization Code	Emission	Tx/Rx Mode	Max EIRP /Carrier (dBW)	Max EIRP Density /Carrier (dBW/4kHz)	Associated Antenna	Special Provisions (Refer to Section H)	Modulation/ Services
1)	8025.0000-8400.0000	R	66M8G1D	Rx	0.00	0.00	S/X-BAND	9027 9028	Digital/Data Downlink
2)	2055.3450-2056.6550	R	1M31F1D	Tx	54.80	29.70	S/X-BAND	3449 9026	Digital/Telecommand
3)	401.2700-401.3300	R	60K0F1D	Rx	0.00	0.00	UHF_DL	3466	Digital
4)	449.9700-450.0300	R	60K0F1D	Tx	36.50	24.70	UHF_UL	90237	Digital



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**C) Frequency Coordination Limits**

#	Frequency Limits (MHz)	Satellite Arc (Deg. Long.)		Elevation (Degrees)		Azimuth (Degrees)		Max EIRP Density toward Horizon (dBW/4kHz)	Associated Antenna(s)
		East Limit	West Limit	East Limit	West Limit	East Limit	West Limit		
1)	449.9700-450.0300	NGSO		05.0-05.0		000.0-360.0		24.7	UHF_UL
2)	401.2700-401.3300	NGSO		05.0-05.0		000.0-360.0		0	UHF_DL
3)	2055.3450-2056.6550	NGSO		05.0-05.0		000.0-360.0		-4.3	S/X-BAND

**D) Points of Communications**

The following stations located in the Satellite orbits consistent with Sections B and C of this Entry:

- 1) Maddock to Planet Labs (S2912) satellites (NGSO) Earth Exploration Satellite Service (Flocks 1-3)

**E) Antenna Facilities**

Site ID	Antenna ID	Units	Diameter (meters)	Manufacturer	Model number	Site Elevation (Meters)	Max Antenna Height (Meters)	Special Provisions (Refer to Section H)
Maddock	S/X-BAND	2	5	CGC	350SX (R)	472.83	7 AGL/ 438.63 AMSL	
Max Gains(s):		39.0 dBi @ 2.0560 GHz		50.4 dBi @ 8.0000 GHz				
Maximum total input power at antenna flange (Watts) =					37.90			
Maximum aggregate output EIRP for all carriers (dBW) =					54.80			
Maddock	UHF_DL	4	2.7	M2 Inc.	400CP30	472.83	3.8 AGL/ 431.63 AMSL	
Max Gains(s):		16.5 dBi @ 0.4010 GHz						
Maximum total input power at antenna flange (Watts) =					.00			
Maximum aggregate output EIRP for all carriers (dBW) =					.00			
Maddock	UHF_UL	4	2.7	M2 Inc.	450CP34	472.83	3.8 AGL/ 431.63 AMSL	
Max Gains(s):		16.5 dBi @ 0.4500 GHz						
Maximum total input power at antenna flange (Watts) =					100.00			
Maximum aggregate output EIRP for all carriers (dBW) =					36.50			



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**F) Remote Control Point:**

Maddock

346 9th St

Call Sign:

San Francisco, USA, CA 94103

415-829-3313

**G) Antenna Structure marking and lighting requirements:**

None unless otherwise specified under Special and General Provisions

**H) Special and General Provisions**

A) This RADIO STATION AUTHORIZATION is granted subject to the following special provisions and general conditions:

- 4 --- Licensee must ensure that a current listing of the name, title, mailing address, email address, and telephone number of the responsible point of contact are on file at the FCC. Any changes must be filed electronically in the International Bureau Filing System (IBFS) in the "Other Filings" tab within 10 days of the change.
- 5 --- Licensee must notify the Commission when this earth station is no longer operational or when it has not been used to provide any service during any 6-month operation.
- 6 --- Licensee must comply with the license modification and notification requirements of 47 CFR § 25.118 to change the coordinates of its authorized earth station.
- 3449 --- Any use of the 2025-2110 MHz band by the Licensee for TT&C must be on a non-interference basis to all other systems operating under a primary or secondary status in the band. As a non-conforming user, Licensee will also be required to accept any interference to it that is caused by any of these allocated services.
- 3466 --- This authorization is subject to the conditions set forth in the Commission's Order (DA 99-353) released February 17, 1999. Any use of the 402-403 MHz band by the Licensee for TT&C must be on a non-interference basis to all other systems operating under a primary or secondary status in the band. As a non-conforming user, Licensee will also be required to accept any interference to it that is caused by any of these allocated services.
- 9026 --- Earth Station may only operate in compliance with the 47 C.F.R. Section 2.106, Table of Allocations Footnote US347, "US347 In the band 2025-2110 MHz, non-Federal Earth-to-space and space-to-space transmissions may be authorized in the space research and Earth exploration-satellite services subject to such conditions as may be applied on a case-by-case basis. Such transmissions shall not cause harmful interference to Federal and non-Federal stations operating in accordance with the Table of Frequency Allocations."
- 9027 --- This authorization is in compliance with 47 C.F.R Table of Allocations Footnote US258, "US258 In the bands 8025-8400 MHz and 25.5-27 GHz, the Earth exploration-satellite service (space-to-Earth) is allocated on a primary basis for non-Federal use. Authorizations are subject to a case-by-case electromagnetic compatibility analysis."
- 9028 --- Operations in the 8025-8400 MHz frequency band are not protected from current and future Federal terrestrial and earth station transmitters.



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## H) Special and General Provisions

A) This RADIO STATION AUTHORIZATION is granted subject to the following special provisions and general conditions:

- 90237 --- Earth Station may only operate in compliance with the 47 C.F.R. Section 2.106, Table of Allocations Footnote US87, "Operations in the band 449.75-450.25 MHz may be used by Federal and non-Federal stations for space telecommand (Earth-to-space) at specific locations, subject to such conditions as may be applied on a case-by-case basis. Operators shall take all practical steps to keep the carrier frequency close to 450 MHz."
- 90398 --- Changes to previously authorized transmitting facilities, operations and devices regulated by the Commission that may have significant environmental impact, and are not excluded by §1.1306, require the preparation of an Environmental Assessment (EA) by the licensee. (See 47 C.F.R. §§1.1307, 1.1308 and 1.1311)
- 90399 --- The licensee shall, at all times, take all necessary measures to ensure that operation of this (these) authorized earth station(s) does not create potential exposure of humans to radiofrequency radiation in excess of the FCC exposure limits defined in 47 CFR §§ 1.1307(b) and 1.1310. Physical measures must be taken to ensure compliance with limits for both occupational/controlled exposure and for general population/uncontrolled exposure, as defined in these rule sections. Compliance can be accomplished in most cases by appropriate restrictions, such as fencing. Requirements for restrictions can be determined by predictions based on calculations, modeling, or by field measurements. The FCC's OET Bulletin 65 (available on-line at [www.fcc.gov/oet/rfsafety](http://www.fcc.gov/oet/rfsafety)) provides information on predicting exposure levels and on methods for ensuring compliance, including the use of warning and alerting signs and protective equipment for workers.



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B) This RADIO STATION AUTHORIZATION is granted subject to the additional conditions specified below:

This authorization is issued on the grantee's representation that the statements contained in the application are true and that the undertakings described will be carried out in good faith.

This authorization shall not be construed in any manner as a finding by the Commission on the question of marking or lighting of the antenna system should future conditions require. The grantee expressly agrees to install such marking or lighting as the Commission may require under the provisions of Section 303(q) of the Communications Act. 47 U.S.C. § 303(q).

Neither this authorization nor the right granted by this authorization shall be assigned or otherwise transferred to any person, firm, company or corporation without the written consent of the Commission. This authorization is subject to the right of use or control by the government of the United States conferred by Section 706 of the Communications Act. 47 U.S.C. § 706. Operation of this station is governed by Part 25 of the Commission's Rules. 47 C.F.R. Part 25.

This authorization shall not vest in the licensee any right to operate this station nor any right in the use of the designated frequencies beyond the term of this license, nor in any other manner than authorized herein.

This authorization is issued on the grantee's representation that the station is in compliance with environmental requirements set forth in Section 1.1307 of the Commission's Rules. 47 C.F.R. § 1.1307.

This authorization is issued on the grantee's representation that the station is in compliance with the Federal Aviation Administration (FAA) requirements as set forth in Section 17.4 of the Commission's Rules. 47 C.F.R. § 17.4.

The following condition applies when this authorization permits construction of or modifies the construction permit of a radio station.

This authorization shall be automatically forfeited if the station does not meet each required construction deadline by the required date of completion unless, before such date(s), a specific application is timely filed to request an extension of the construction deadline(s), supported with good cause why that failure to construct by the required date was due to factors not under control of the grantee.

Licensees are required to pay annual regulatory fees related to this authorization. The requirement to collect annual regulatory fees from regulatees is contained in Public Law 103-66, "The Omnibus Budget Reconciliation Act of 1993." These regulatory fees, which are likely to change each fiscal year, are used to offset costs associated with the Commission's enforcement, public service, international and policy and rulemaking activities. The Commission issues a Report and Order each year, setting the new regulatory fee rates. Receive only earth stations are exempt from payment of regulatory fees.