Planet Labs PBC
REQUEST FOR SPECIAL
TEMPORARY AUTHORITY

NARRATIVE

Planet Labs PBC (Planet), pursuant to Section 25.120 of the Federal Communications Commission's (FCC's or Commission's) rules,[1] hereby requests Special Temporary Authorization (STA) for a period of 90 days starting August 1, 2026 to operate and test a new Earth Station antenna at the antenna manufacturer's Duluth, Georgia facility for communication with the Pelican (S2912) satellite constellation. The requested 90-day period of Special Temporary Authority will enable the following technical evaluations:

1. Validation of uplink and downlink antenna performance specifications across the S-band (2025-2110 MHz), X-band (8025-8400 MHz), and Ka-band (25.5-27.0 GHz) frequency ranges.
2. Active tracking and monitoring of the Pelican constellation satellites during visible orbital passes to characterize signal performance and data reception metrics.

Table 1 below shows the channel frequencies and bandwidths used for these operations, current and proposed.

Table 1: Proposed Frequencies and Bandwidths

	S-band Uplink	X-band Downlink	Ka-band Downlink
Frequency Range (MHz)	2025-2110	8025-8400	25500 – 27000
Max Bandwidth (MHz)	1.1	0.2	86.4

[1] 47 C.F.R. § 25.120(b)(2),

Center Frequency (MHz)	2056.6	8030	25552.0 25638.4 25724.8 25811.2 25897.6 25984.0 26070.4 26156.8 26243.2 26329.6 26416.0 26502.4 26588.8 26675.2 26761.6 26848.0
	2066.6		
	2086.1	8040	
	2096.1		
Polarization	RHCP	RHCP	RHCP/LHCP

The STA is necessary to validate the performance and technical specifications of a new ground station antenna design at the Duluth site. Successful testing of this antenna will support its potential deployment and integration at other Planet Earth Station locations for future operations.

Grant of this STA request will serve the public interest by enabling Planet to validate the new antenna design, to support the eventual deployment of antennas of this design at other Earth Station locations, thereby strengthening the Pelican ground network necessary for Planet' sand is customers' operation and service offerings.

Planet is in the process of coordinating the proposed use with affected operators, including federal agencies, and will use parameters that minimize the potential for interference with other licensed operations. A minimum elevation mask of 20 degrees will be used to ensure compatibility with other licensed operations. For downlink operations in the 8025-8400 MHz band, all operations shall comply with the terms in the existing Memorandum of Agreement (MOA) between Planet Labs and Federal agencies.

In accordance with the Commission's Rules, Planet provides stop buzzer contact information below:

<u>Primary Contact</u>

Name: Joseph Breu
Email: breu@planet.com

Telephone: +1 210-422-1324

Planet includes the following attachments with this application:

1. Attachment 1: basic earth station antenna and frequency parameters;
2. Attachment 2: A radiation hazard report for the 3.4 m Sat-Lite Technologies antenna to be used for the testing; and
3. Attachment 3: A Comsearch frequency coordination and interference analysis report demonstrating coexistence with fixed microwave links.

Analysis of Non-Ionizing Radiation for a 3.4-Meter Earth Station System

This report analyzes the non-ionizing radiation levels for a 3.4-meter earth station system. The analysis and calculations performed in this report comply with the methods described in the FCC Office of Engineering and Technology Bulletin, No. 65 first published in 1985 and revised in 1997 in Edition 97-01. The radiation safety limits used in the analysis are in conformance with the FCC R&O 19-126. Bulletin No. 65 and the FCC R&O specifies that there are two separate tiers of exposure limits that are dependent on the situation in which the exposure takes place and/or the status of the individuals who are subject to the exposure. The Maximum Permissible Exposure (MPE) limits for persons in a General Population/Uncontrolled environment are shown in Table 1. The General Population/Uncontrolled MPE is a function of transmit frequency and is for an exposure period of thirty minutes or less. The MPE limits for persons in an Occupational/Controlled environment are shown in Table 2. The Occupational MPE is a function of transmit frequency and is for an exposure period of six minutes or less. The purpose of the analysis described in this report is to determine the power flux density levels of the earth station in the far-field, near-field, transition region, between the subreflector or feed and main reflector surface, at the main reflector surface, and between the antenna edge and the ground and to compare these levels to the specified MPEs.

Table 1. Limits for General Population/Uncontrolled Exposure (MPE)

Frequency Range (MHz)	Power Density (mW/cm^2)
30-300	0.2
300-1500	Frequency (MHz)*(0.8/1200)
1500-100,000	1.0

Table 2. Limits for Occupational/Controlled Exposure (MPE)

Frequency Range (MHz)	Power Density (mW/cm^2)
30-300	1.0
300-1500	Frequency (MHz)*(4.0/1200)
1500-100,000	5.0

Table 3. Formulas and Parameters Used for Determining Power Flux Densities

Parameter	Symbol	Formula	Value	Units
Antenna Diameter	D	Input	3.4	m
Antenna Surface Area	$A_{surface}$	$\pi D^2 / 4$	9.08	m^2
Subreflector Diameter	D_{sr}	Input	36.0	cm
Area of Subreflector	A_{sr}	$\pi D_{sr}{}^2/4$	1017.88	cm^2
Frequency	F	Input	2066	MHz
Wavelength	λ	300 / F	0.145208	m
Transmit Power	P	Input	10.00	W
Antenna Gain (dBi)	G_{es}	Input	33.0	dBi
Antenna Gain (factor)	G	$10^{Ges/10}$	1995.3	n/a
Pi	π	Constant	3.1415927	n/a
Antenna Efficiency	η	$G\lambda^2/(\pi^2D^2)$	0.37	n/a

1. Far Field Distance Calculation

The distance to the beginning of the far field can be determined from the following equation:

Distance to the Far Field Region

$$R_{ff} = 0.60\ D^2 / \lambda \quad (1)$$
$$= 47.8\ \text{m}$$

The maximum main beam power density in the far field can be determined from the following equation:

On-Axis Power Density in the Far Field

$$S_{ff} = G\ P / (4\ \pi\ R_{ff}^2) \quad (2)$$
$$= 0.696\ \text{W/m}^2$$
$$= 0.070\ \text{mW/cm}^2$$

2. Near Field Calculation

Power flux density is considered to be at a maximum value throughout the entire length of the defined Near Field region. The region is contained within a cylindrical volume having the same diameter as the antenna. Past the boundary of the Near Field region, the power density from the antenna decreases linearly with respect to increasing distance.

The distance to the end of the Near Field can be determined from the following equation:

Extent of the Near Field

$$R_{nf} = D^2 / (4\ \lambda) \quad (3)$$
$$= 19.9\ \text{m}$$

The maximum power density in the Near Field can be determined from the following equation:

Near Field Power Density

$$S_{nf} = 16.0\ P / (\eta\ \pi\ D^2) \quad (4)$$
$$= 11.948\ \text{W/m}^2$$
$$= 1.195\ \text{mW/cm}^2$$

3. Transition Region Calculation

The Transition region is located between the Near and Far Field regions. The power density begins to decrease linearly with increasing distance in the Transition region. While the power density decreases inversely with distance in the Transition region, the power density decreases inversely with the square of the distance in the Far Field region. The maximum power density in the Transition region will not exceed that calculated for the Near Field region. The power density calculated in Section 1 is the highest power density the antenna can produce in any of the regions away from the antenna. The power density at a distance R_t can be determined from the following equation:

Transition Region Power Density

$$S_t = S_{nf}\ R_{nf} / R_t \quad (5)$$
$$= 1.195\ \text{mW/cm}^2$$

4. Region between the Main Reflector and the Subreflector

Transmissions from the feed assembly are directed toward the subreflector surface, and are reflected back toward the main reflector. The most common feed assemblies are waveguide flanges, horns or subreflectors. The energy between the subreflector and the reflector surfaces can be calculated by determining the power density at the subreflector surface. This can be determined from the following equation:

Power Density at the Subreflector

$$S_{sr} = 4000\ P / A_{sr} \quad (6)$$
$$= 39.298\ mW/cm^2$$

5. Main Reflector Region

The power density in the main reflector is determined in the same manner as the power density at the subreflector. The area is now the area of the main reflector aperture and can be determined from the following equation:

Power Density at the Main Reflector Surface

$$S_{surface} = 4\ P / A_{surface} \quad (7)$$
$$= 4.406\ W/m^2$$
$$= 0.441\ mW/cm^2$$

6. Region between the Main Reflector and the Ground

Assuming uniform illumination of the reflector surface, the power density between the antenna and the ground can be determined from the following equation:

Power Density between Reflector and Ground

$$S_g = P / A_{surface} \quad (8)$$
$$= 1.101\ W/m^2$$
$$= 0.110\ mW/cm^2$$

7. Summary of Calculations

Table 4. Summary of Expected Radiation levels for Uncontrolled Environment

Region		Calculated Maximum Radiation Power Density Level (mW/cm^2)	Hazard Assessment
1. Far Field (R_{ff} = 47.8 m)	S_{ff}	0.070	Satisfies FCC MPE
2. Near Field (R_{nf} = 19.9 m)	S_{nf}	1.195	Potential Hazard
3. Transition Region ($R_{nf} < R_t < R_{ff}$)	S_t	1.195	Potential Hazard
4. Between Main Reflector and Subreflector	S_{sr}	39.298	Potential Hazard
5. Main Reflector	$S_{surface}$	0.441	Satisfies FCC MPE
6. Between Main Reflector and Ground	S_g	0.110	Satisfies FCC MPE

Table 5. Summary of Expected Radiation levels for Controlled Environment

Region		Calculated Maximum Radiation Power Density Level (mW/cm^2)	Hazard Assessment
1. Far Field (R_{ff} = 47.8 m)	S_{ff}	0.070	Satisfies FCC MPE
2. Near Field (R_{nf} = 19.9 m)	S_{nf}	1.195	Satisfies FCC MPE
3. Transition Region ($R_{nf} < R_t < R_{ff}$)	S_t	1.195	Satisfies FCC MPE
4. Between Main Reflector and Subreflector	S_{sr}	39.298	Potential Hazard
5. Main Reflector	$S_{surface}$	0.441	Satisfies FCC MPE
6. Between Main Reflector and Ground	S_g	0.110	Satisfies FCC MPE

It is the applicant's responsibility to ensure that the public and operational personnel are not exposed to harmful levels of radiation.

8. Conclusions

Based on the above analysis it is concluded that the FCC MPE guidelines have been exceeded (or met) in the regions of Table 4 and 5. The applicant proposes to comply with the MPE limits by one or more of the following methods.

The antenna will be mounted above ground. The bottom lip of the dish will be 1.5 meters above ground level. The general public will not have access to areas within ½ diameter from the edge of the antenna.

Since one diameter removed from the main beam of the antenna or ½ diameter removed from the edge of the antenna the RF levels are reduced by a factor of 100 or 20 dB. None of the areas exceeding the MPE levels will be accessible by the general public.

Means of Compliance Controlled Areas

The earth station’s operational staff will not have access to the areas that exceed the MPE levels while the earth station is in operation.

The transmitters will be turned off during antenna maintenance

Applicant is aware of and will comply with the recently modified rules for radiofrequency exposure that are relevant to fixed earth stations. See generally Proposed Changes in the Commission's Rules Regarding Human Exposure to Radiofrequency Electromagnetic Fields et al., Second Report and Order et al., 34 FCC Rcd 11687 (2019).

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
Planet Labs
Duluth, Ga
Satellite Earth Station

Prepared By:
COMSEARCH
21515 Ridgetop Circle, Suite 300
Sterling, VA 20166
May 11, 2026

TABLE OF CONTENTS

1. CONCLUSIONS

An interference study considering all existing, proposed and prior coordinated microwave facilities within the coordination contours of the proposed earth station demonstrates that this site will operate satisfactorily with the common carrier microwave environment. Further, there will be no restrictions of its operation due to interference considerations.

2. SUMMARY OF RESULTS

A number of great circle interference cases were identified during the interference study of the proposed earth station. Each of the cases, which exceeded the interference objective on a line-of-sight basis, was profiled and the propagation losses estimated using NBS TN101 (Revised) techniques. The losses were found to be sufficient to reduce the signal levels to acceptable magnitudes in every case.

3. SUPPLEMENTAL SHOWING

Pursuant to Part 25.203(c) of the FCC Rules and Regulations, the satellite earth station proposed in this application was coordinated by Comsearch using computer techniques and in accordance with Part 25 of the FCC Rules and Regulations.

Coordination data for this earth station was sent to the below listed carriers with a letter dated 04/30/2026.

Company
3G Wireless, LLC
Accelerated Media Technologies, Inc
Aerial Video Systems
Ascent Media Network Services, LLC
Bellsouth Telecommunications, Inc.
Borgeson, Tom R.
Broadcast Sports Inc.
Carolina Telephone and Telegraph Co
Casper, John
Chicago Comnet Corp
Cowboys Stadium LP
CP Communications
DCI II, INC.
Direct Broadcast Services, Inc.
Fine Satellites & Fiber, LLC
Forum Communication Company
Global Telecom & Technology Americas, In
Goodyear Tire & Rubber Company
Gray Television Licensee, LLC
Gray Television Licensee, LLC (WKYT)
Hawaiian Telecom Inc.
Heiden, William
Indiana Bell Telephone Company
Information & Display Systems, Inc.
International Communications Group, Inc.
Kentucky RSA #3 Cellular General Partner
Kentucky RSA #4 Cellular General Partner
KTBY License LLC
Lehman, Ronald G
Lumen Technologies Inc
Michigan Bell Telephone Company
Microwave Video Systems, LLC
Nexstar Media Inc.
North American Communications Corp
NorthWest Suburbs Community Access Corp
Ohio Bell GTelephone Company
Onboard Images
Pacific Bell Tel Com dba AT&T California
Production & Satellite Services, Inc.
Quick Link Connections Inc.

Qwest Corporation
RCC Minnesota Inc. - MN NE ND SD
RF Central, LLC
RF Film, Inc
Randy Hermes Production
Remote Facilities Consulting Services
SayRabbit LLC
SBE Coordinator
Southwestern Bell Telephone L.P.
TTWN Networks, LLC
VERIZON SOUTH INC.
Verizon Maryland, Inc.
Verizon New England Inc.
Verizon New Jersey, Inc.
Verizon New York, Inc.
Verizon North Inc.
Verizon Northwest Inc.
Verizon Pennsylvania, Inc.
Verizon Virginia, Inc.
Verizon Washington DC, Inc.
Winged Vision Inc
Wisconsin Bell Telephone Company
Wolfe Air Aviation

4. EARTH STATION COORDINATION DATA

This section presents the data pertinent to frequency coordination of the proposed earth station that was circulated to all carriers within its coordination contours.

COMSEARCH

Earth Station Data Sheet

19700 Janelia Farm Boulevard, Ashburn, VA 20147
(703)726-5500 http://www.comsearch.com

Date:	04/30/2026
Job Number:	260430COMSGE01

Administrative Information	
Status	TEMPORARY (Operation from 08/01/2026 to 10/31/2026)
Call Sign	TEMP10
Licensee Code	PLALAB
Licensee Name	Planet Labs

Site Information	**DULUTH, GA**
Venue Name	
Latitude (NAD 83)	33° 58' 17.4" N
Longitude (NAD 83)	84° 6' 38.2" W
Climate Zone	A
Rain Zone	1
Ground Elevation (AMSL)	273.08 m / 895.9 ft

Link Information	
Satellite Type	Low Earth Orbit
Mode	TO - Transmit-Only
Modulation	Digital
Minimum Elevation Angle	20.0°
Azimuth Range	0.0° to 360°
Antenna Centerline (AGL)	2.74 m / 9.0 ft

Antenna Information		**Transmit - FCC32**	
Manufacturer		Sat-Lite Technologies	
Model		3.4 meter	
Gain / Diameter		33.0 dBi / 3.4 m	
3-dB / 15-dB Beamwidth		2.90° / 4.00°	
Max Available RF Power	(dBW/4 kHz)	-7.0	
	(dBW/MHz)	17.0	
Maximum EIRP	(dBW/4 kHz)	26.0	
	(dBW/MHz)	50.0	
Interference Objectives:	Long Term	-154.0 dBW/4 kHz	20%
	Short Term	-131.0 dBW/4 kHz	0.0025%

Frequency Information	**Transmit 2.0 GHz**
Emission / Frequency Range (MHz)	200KF1D / 2056.5 - 2056.7 200KF1D / 2066.5 - 2066.7 1M10F1D / 2085.5 - 2086.6 1M10F1D / 2095.5 - 2096.6
Max Great Circle Coordination Distance	100.0 km / 62.1 mi
Precipitation Scatter Contour Radius	100.0 km / 62.1 mi

COMSEARCH

Earth Station Data Sheet

19700 Janelia Farm Boulevard, Ashburn, VA 20147
(703)726-5500 http://www.comsearch.com

Coordination Values	**DULUTH, GA**	
Licensee Name	Planet Labs	
Latitude (NAD 83)	33° 58' 17.4" N	
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Antenna Model	3.4 meter	
Antenna Mode	Transmit 2.0 GHz	
Interference Objectives: Long Term	-154.0 dBW/4 kHz	20%
Short Term	-131.0 dBW/4 kHz	0.0025%
Max Available RF Power	-7.0 (dBW/4 kHz)	

Transmit 2.0 GHz

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Horizon Gain (dBi)	Coordination Distance (km)
0	2.07	93.28	-2.50	100.00
5	1.45	88.31	-2.50	100.00
10	0.76	83.32	-2.50	100.00
15	0.72	78.34	-2.50	100.00
20	0.95	73.36	-2.50	100.00
25	1.25	68.39	-2.50	100.00
30	1.40	63.42	-2.50	100.00
35	1.32	58.44	-2.50	100.00
40	1.49	53.48	-2.50	100.00
45	1.30	48.50	-2.50	100.00
50	1.13	43.53	-2.50	100.00
55	1.43	38.60	-2.50	100.00
60	1.36	33.65	-2.50	100.00
65	1.40	28.74	-2.50	100.00
70	1.29	23.82	-2.50	100.00
75	1.24	18.96	-2.50	100.00
80	1.34	14.24	-2.50	100.00
85	1.18	9.67	-2.50	100.00
90	1.06	5.87	-2.50	100.00
95	0.71	4.82	-2.50	100.00
100	0.54	7.98	-2.50	100.00
105	0.37	12.41	-2.50	100.00
110	0.35	17.19	-2.50	100.00
115	0.47	22.09	-2.50	100.00
120	0.41	27.00	-2.50	100.00
125	0.46	31.95	-2.50	100.00
130	0.47	36.91	-2.50	100.00
135	0.66	41.89	-2.50	100.00
140	0.67	46.86	-2.50	100.00
145	0.40	51.82	-2.50	100.00
150	0.87	56.82	-2.50	100.00
155	1.28	61.82	-2.50	100.00
160	1.49	66.80	-2.50	100.00
165	1.66	71.78	-2.50	100.00
170	1.84	76.76	-2.50	100.00
175	2.04	81.74	-2.50	100.00
180	2.07	86.72	-2.50	100.00
185	2.09	91.69	-2.50	100.00

COMSEARCH

Earth Station Data Sheet

19700 Janelia Farm Boulevard, Ashburn, VA 20147
(703)726-5500 http://www.comsearch.com

Coordination Values	**DULUTH, GA**
Licensee Name	Planet Labs
Latitude (NAD 83)	33° 58' 17.4" N
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Ground Elevation (AMSL)	273.08 m / 895.9 ft
Antenna Centerline (AGL)	2.74 m / 9.0 ft
Antenna Model	3.4 meter
Antenna Mode	Transmit 2.0 GHz
Interference Objectives: Long Term	-154.0 dBW/4 kHz 20%
Short Term	-131.0 dBW/4 kHz 0.0025%
Max Available RF Power	-7.0 (dBW/4 kHz)

Transmit 2.0 GHz

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Horizon Gain (dBi)	Coordination Distance (km)
190	2.08	96.66	-2.50	100.00
195	1.86	101.64	-2.50	100.00
200	2.11	106.61	-2.50	100.00
205	1.99	111.58	-2.50	100.00
210	1.51	116.58	-2.50	100.00
215	1.16	121.57	-2.50	100.00
220	1.47	126.52	-2.50	100.00
225	1.69	131.47	-2.50	100.00
230	1.73	136.42	-2.50	100.00
235	1.47	141.39	-2.50	100.00
240	1.20	146.37	-2.50	100.00
245	1.10	151.31	-2.50	100.00
250	1.09	156.22	-2.50	100.00
255	1.10	161.08	-2.50	100.00
260	1.90	165.55	-2.50	100.00
265	2.47	169.61	-2.50	100.00
270	2.74	172.68	-2.50	100.00
275	2.69	173.29	-2.50	100.00
280	2.69	170.68	-2.50	100.00
285	2.47	166.75	-2.50	100.00
290	2.28	162.26	-2.50	100.00
295	2.24	157.52	-2.50	100.00
300	2.40	152.64	-2.50	100.00
305	2.81	147.69	-2.50	100.00
310	3.22	142.73	-2.50	100.00
315	3.43	137.79	-2.50	100.00
320	4.39	132.75	-2.50	100.00
325	4.73	127.80	-2.50	100.00
330	4.64	122.89	-2.50	100.00
335	4.66	117.97	-2.50	100.00
340	4.42	113.05	-2.50	100.00
345	3.79	108.14	-2.50	100.00
350	3.35	103.20	-2.50	100.00
355	2.82	98.25	-2.50	100.00

5. CERTIFICATION

I HEREBY CERTIFY THAT I AM THE TECHNICALLY QUALIFIED PERSON RESPONSIBLE FOR THE PREPARATION OF THE FREQUENCY COORDINATION DATA CONTAINED IN THIS APPLICATION, THAT I AM FAMILIAR WITH PARTS 101 AND 25 OF THE FCC RULES AND REGULATIONS, THAT I HAVE EITHER PREPARED OR REVIEWED THE FREQUENCY COORDINATION DATA SUBMITTED WITH THIS APPLICATION, AND THAT IT IS COMPLETE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

BY: _ 

Gary K. Edwards
Senior Manager
COMSEARCH
21515 Ridgetop Circle, Suite 300
Sterling, VA 20166

DATED: May 11, 2026