

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of	)	File No. ____
	)	
Planet Labs PBC	)	
	)	
Application for Authority to Launch and Operate	)	
a Non-Geostationary Satellite Orbit System in	)	
the Earth-Exploration Satellite Service	)	

APPLICATION

Tony Lin
Emma Marion
DLA Piper LLP (US)
500 Eighth Street, N.W.
Washington, DC 20004
202-799-4450

Counsel for Planet Labs PBC

Danielle Piñeres
Vice President of Regulatory
Affairs & Compliance
Nathan Johnson
Corporate Counsel, Regulatory &
Compliance
Planet Labs PBC
645 Harrison Street, Floor 4
San Francisco, CA 94107

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APPLICATION

Planet Labs PBC (“Planet”) hereby requests authority from the Federal Communications Commission (“Commission”), under 47 C.F.R. § 25.114, to launch and operate a constellation of non-geostationary orbit (“NGSO”) hyperspectral earth observation satellites (the “Tanager” satellites).¹ Specifically, Planet requests authorization to launch and operate up to ten (10) technically identical, simultaneously operating satellites. The Tanager satellites will use the following frequencies:

- S-band (2025-2110 MHz Earth-to-space);
- X-band (8025-8400 MHz space-to-Earth);
- Ka-band (25.5-27.0 GHz space-to-Earth); and
- C-band (4000-4200 MHz space-to-space (geosynchronous equatorial orbit (“GEO”) to low-Earth orbit (“LEO”)) and 6225-6425 MHz space-to-space (LEO to GEO)).

¹ Planet also operates a constellation of optical imaging satellites, comprised of Flock, SkySat, and (in the future) Pelican satellites. *See* Application of Planet Labs PBC, IBFS File No. SAT-MOD-20220421-00042 (filed Apr. 21, 2022) (“Pelican Application”); *see also* Stamp Grant, IBFS File No. SAT-MOD-20200615-00076, Call Sign S2912 (granted Mar. 18, 2021); Stamp Grant, IBFS File No. SAT-MOD-20170713-00103, Call Sign S2912 (granted July 19, 2018); Stamp Grant, IBFS File No. SAT-MOD-20170317-00053, Call Sign S2862 (granted June 28, 2017).

This application includes an Orbital Debris Assessment Report (“ODAR”), Schedule S, and Technical Appendix, which provide relevant technical information for the Tanager satellites.

The Tanager constellation is a hyperspectral satellite constellation with the ability to pinpoint, quantify, and track point-source methane and carbon dioxide (“CO₂”) emissions. Imagery from the constellation will help improve understanding of and accelerate reductions in global methane and CO₂ emissions. Allowing Planet to launch and operate this new hyperspectral satellite constellation will expand the company’s capabilities and service and product offerings to customers interested in monitoring Earth’s climate and ecosystems, particularly methane and CO₂ emissions. In combination with Planet’s existing medium (3-5 meter resolution, Dove) and high-resolution (<1 meter resolution, SkySat and future Pelican) constellations, the hyperspectral Tanager data aims to complement and enhance Planet’s unprecedented dataset. By helping to identify the spectral “signatures” of chemicals, materials, and processes across the globe, hyperspectral data can help organizations understand changes on land and at sea, from coastal zones to forests to urban areas and more.² For these reasons, Planet submits that grant of the application is in the public interest and requests that the International Bureau (“Bureau”) approve the application in time for the targeted launch date of the first Tanager satellite scheduled for late 2023.

Background

Planet is an integrated aerospace and data analytics company that operates a constellation of Earth-Exploration Satellite Service (“EESS”) or Earth-imaging satellites collecting information about our changing planet. Planet is driven by its mission to image the entire Earth every day, and make global change visible, accessible, and actionable. Founded in 2010, Planet

² For more information see <https://www.planet.com/products/hyperspectral>.

designs, builds, and operates small satellites, as well as online platforms that serve data to users, helping decision-makers solve our world's toughest challenges, and entrepreneurs to build new businesses. In December 2021, Planet completed a transaction which took the company public and provided access to hundreds of millions in additional funds, which will allow the company to further develop its satellite constellation and expand its satellite imaging products and services to better serve its commercial and government customers.³ Planet is headquartered in San Francisco, California. For more information, visit <https://www.planet.com>.

The Tanager satellites will operate separate from Planet's existing optical imaging constellation. Planet is the technical and commercial partner for a larger public-private partnership, and has been charged with building, licensing, launching, and operating the satellites. As such, Planet will have exclusive control of the system. The public-private consortium is led by the non-profit entity Carbon Mapper and also includes the State of California, National Aeronautics and Space Administration's ("NASA") Jet Propulsion Laboratory, Planet, the University of Arizona, Arizona State University, RMI, and philanthropic partners including High Tide Foundation, among others.

The hyperspectral payload and target use cases for the system require that the satellites operate in LEO at altitudes in the range 404-408 km. The Tanager satellites will operate in the S-band (2025-2110 MHz Earth-to-space), X-band (8025-8400 MHz space-to-Earth), Ka-band (25.5-27.0 GHz space-to-Earth), and C-band (4000-4200 MHz and 6225-6425 MHz space-to-space) frequencies. Planet will operate a fleet of up to ten (10) technically identical, simultaneously operating satellites.

³ See Stamp Grant, IBFS File No. SES-ASG-20211103-01792, Call Signs E140109, E150004, E150005, E150030 (granted Nov. 5, 2021); Stamp Grant, IBFS File No. SAT-ASG-20211102-00137, Call Sign S2912 (granted Nov. 5, 2021).

Planet plans to launch the first Tanager satellite in late 2023, with further launches likely to occur in batches.⁴ Planet is also simultaneously applying for a license from the National Oceanic and Atmospheric Administration (“NOAA”) for the remote sensing operations of the Tanager satellites.

Discussion

I. Frequency Use

A. S-band/X-band/Ka-band EESS Frequencies

The S-band (2025-2110 MHz), X-band (8025-8400 MHz), and Ka-band (25.5-27.0 GHz) frequency bands each have allocations internationally and in the U.S. for EESS use. Specifically, the 2025-2110 MHz (Earth-to-space) band is allocated for non-Federal EESS use, subject to conditions as may be applied on a case-by-case basis and the limitation that any use may not cause harmful interference to authorized Federal and non-Federal operations.⁵ The 8025-8400 MHz (space-to-Earth) band is allocated for non-Federal EESS use on a primary basis. The 25.5-27.0 GHz (space-to-Earth) band is similarly allocated for non-Federal EESS use on a primary basis.⁶ Because the Tanager satellites are Earth-imaging satellites, use of these frequency bands is consistent with the international and domestic frequency allocations.

Spectrum sharing in the proposed EESS frequencies will be possible because the Tanager satellites and satellites in other similar systems transmit/receive only in short periods of time

⁴ Planet expects that the nominal lifetime for each Tanager satellite will be approximately five years.

⁵ See 47 C.F.R. § 2.106 n.US347. The 2025-2110 MHz (Earth-to-space) band is also allocated to space operations internationally. 47 C.F.R. § 2.106.

⁶ The 8025-8400 MHz and 25.5-27.0 GHz (space-to-Earth) frequency bands are subject to an electromagnetic compatibility analysis as may be applied on a case-by-case basis. 47 C.F.R. § 2.106 n.US258.

while visible to a receiving/transmitting earth station. For harmful interference to occur, satellites belonging to the different systems would have to be visible to the Earth station and transmitting or receiving using the same frequencies at the exact same time. In such an unlikely event, the resulting inline interference could be avoided by coordinating the satellite transmissions so that they do not occur simultaneously. Accordingly, there is no mutual exclusivity between the Tanager satellites and other EESS (or similar) systems using the same frequency bands.

As described in the attached Technical Appendix, Planet will also comply with technical requirements in Part 2 of the Commission's rules and applicable International Telecommunication Union ("ITU") rules and complete coordination with the Federal operators as required.⁷

B. C-band Intersatellite Links

Planet requests authority to include supplementary image tasking and confirmation communications links on the Tanager satellites using the conventional C-band Fixed Satellite Service ("FSS") frequencies on a non-conforming basis. Specifically, Planet requests to use the 4000-4200 MHz link for transmissions from geostationary orbit ("GSO") FSS satellites to the Tanager satellites (GEO to LEO), and the 6225-6425 MHz link for transmission from the Tanager satellites to the GSO FSS satellites (LEO to GEO). The frequencies requested are allocated for primary use for FSS (space-to-Earth) and FSS (Earth-to-space), respectively, by non-Federal operators. The Tanager satellites will communicate with existing and authorized

⁷ See Technical Appendix at 10-20.

C-band GSO FSS satellites operated by SES, an authorized GSO satellite operator. As discussed below, Planet requests a waiver of the Commission's rules to use these frequencies.⁸

These links will enable Planet to implement a near real-time satellite image tasking capability (*i.e.*, the ability to instruct satellites to capture images and then to transmit those images to the ground in near real-time) to complement its regular tasking operations in other frequencies, greatly enhancing the image tasking responsiveness (on the order of minutes rather than hours) of the Tanager satellites and allowing the company to meet the growing demand for time-sensitive, hyperspectral imagery of emerging events around the world in a cost-effective manner. As discussed in the Technical Appendix, Planet's proposed C-band use is limited and will not cause harmful interference to authorized operations, and Planet will accept any interference from existing and future systems authorized to use the C-band spectrum.⁹

II. Orbital Debris Mitigation

Planet has conducted an ODAR in compliance with NASA-STD-8719.14, which is attached as a separate exhibit (Exhibit D). As discussed in the submitted ODAR, the Tanager system is compliant with all applicable orbital debris requirements. Even so, Planet intends to submit in the future a higher fidelity ODAR analysis that it anticipates will be helpful in understanding cumulative casualty risk of the 10-satellite constellation.

Planet confirms that the Tanager satellites will not undergo any planned release of debris during normal operations. In addition, all separation and deployment mechanisms and any other potential source of debris, will be retained by the satellites. Planet has also assessed the probability of the satellites becoming a source of debris by collision with small debris or

⁸ See *infra* Section III.A.

⁹ See Technical Appendix at 7-10, 14-15, 17-20.

meteoroids of less than one centimeter in diameter that could cause loss of control and prevent post-mission disposal. Planet has taken steps to limit the effects of such collisions through shielding, the placement of components, and the use of redundant systems and concludes that small debris penetration will not cause the satellite to break up. Planet also concludes that, even if a satellite loses function due to small debris penetration, the risk to other operators is low given that the spacecraft will re-enter in less than 1 year from the nominal operational altitude of 406 km even from an inert and uncontrolled state.

Planet has assessed and limited the probability of accidental explosions during and after completion of mission operations through a failure-mode verification analysis. As part of the satellite manufacturing process, Planet has taken steps to ensure that debris generation will not result from the conversion of energy sources on board the satellite into energy that fragments the satellite. All sources of stored energy onboard the spacecraft will have been depleted or safely contained when no longer required for mission operations or post-mission disposal.

Planet has assessed and limited the probability of the space station becoming a source of debris by collisions with large debris or other operational spacecraft to less than 0.001 using the DAS v3.2.1 and calculation methods provided in NASA-STD-8719.14C, section 4.5.4. Planet will work closely with its launch providers to ensure that the satellite is deployed in such a way as to minimize the potential for in-plane collision. This specifically includes minimizing the potential for collision with crewed spacecraft.

Planet recognizes that its proposed Tanager orbit will bring the Tanager satellites into the orbital vicinity of the International Space Station (“ISS”). Planet has routinely worked with the relevant ISS parties to assess and manage close approaches for many years and will also do so for Tanager flight operations. Planet has established automated processes that monitor

conjunction data messages for potential close approaches and will initiate collision avoidance maneuvers as necessary. Planet also routinely screens and adjusts all maneuvers to minimize conjunction probability prior to scheduling their upload and execution on spacecraft.

Additionally, the Tanager satellites will use a propulsion system and have the ability to make collision avoidance and deorbit maneuvers. Planet certifies that upon receipt of a space situational awareness conjunction warning (related to the ISS or any other spacecraft), Planet will review the warning and take all possible steps to assess and, if necessary, to mitigate collision risk, including by contacting the operator of any active spacecraft involved in such a warning; sharing ephemeris data and other appropriate operational information with any such operator; and modifying space station attitude and/or operations.

Planet works with launch vehicle providers to obtain early injection vectors to positively identify spacecraft. It also relies on active tracking data from the 18th Space Defense Squadron (“18 SDS”) and LeoLabs for early operational identification. During routine operations, Tanager will perform orbit determination autonomously and transmit its ephemeris and identification to the ground. In support of Planet’s in-orbit actions, Planet works closely with the 18 SDS for space situational awareness (“SSA”) and the mitigation of potential conjunction events, including discussions in advance of satellite deployments and other activities. Planet receives conjunction data messages from the 18 SDS for potential collision events, which includes a time of closest approach estimate, a miss distance estimate, state vector and covariance information, from which a probability of a collision and uncertainty can be determined. Planet also has a SSA Sharing Agreement with USSTRATCOM, which results in expanded screening volumes for any 18 SDS warnings. Further, Planet actively participates in the Space Data Association, which assesses all conjunction warnings from the 18 SDS for satellites belonging to member

organizations. These proactive efforts to share information facilitate the ability of others to assess potential conjunctions and further minimize collision risk.

The ODAR demonstrates that the Tanager satellites will successfully deorbit naturally by atmospheric re-entry within less than 1 year for the planned operational orbit, well within the 25-year guideline and the Commission's proposed 5-year requirement.

Planet's ODAR is attached as Exhibit D. The disclosure of the orbital deployment parameters, orbital plane inclination, and the orbital period to be used can assist third parties in identifying potential problems. This information also lends itself to coordination between Planet and other operators located in similar orbits to Planet's satellites.

III. Waiver Requests

The Commission may waive any of its rules if there is "good cause" to do so.¹⁰ In general, waiver is appropriate if: (1) "special circumstances warrant a deviation from the general rule;" and (2) "such deviation would better serve the public interest than would strict adherence to the rule."¹¹ Generally, the Commission will grant a waiver of its rules in a particular case if the relief requested would not undermine the policy objective of the rule in question and would otherwise serve the public interest.¹² For the reasons stated below, Planet submits that good cause exists to waive the following rules or requirements.

¹⁰ See 47 C.F.R. § 1.3; *Northeast Cellular Tel. Co. v. FCC*, 897 F.2d 1164 (D.C. Cir. 1990); *WAIT Radio v. FCC*, 418 F.2d 1153 (D.C. Cir. 1969).

¹¹ See, e.g., *GE American Communications, Inc.*, 16 FCC Rcd. 11,038, at 11,041 ¶ 9 (IB 2001).

¹² See, e.g., *WAIT Radio*, 418 F.2d at 1157.

A. C-band Frequencies (4000-4200 MHz space-to-space (GEO to LEO) and 6225-6425 MHz space-to-space (LEO to GEO))

i. Table of Frequency Allocations and 47 C.F.R § 25.112(a)(3)

Planet requests any necessary waiver of the U.S. Table of Frequency Allocations¹³ to permit use of C-band FSS frequencies on a non-conforming basis for satellite-to-satellite links, as described above. Waivers of the U.S. Table of Frequency Allocations are generally granted “when there is little potential for interference into any service authorized under the Table of Frequency Allocations and when the nonconforming operator accepts any interference from authorized services.”¹⁴ As discussed in the Technical Appendix, Planet’s proposed use of the C-band frequencies in LEO is limited to space-to-space communications and will not cause harmful interference to existing or future authorized operations on the ground or in orbit. In addition, Planet will accept any interference from existing and future systems authorized to use the C-band spectrum. Grant of the waiver for use of the C-band frequencies for intersatellite links (“ISLs”) will greatly improve the image tasking responsiveness of the Tanager satellites and allow the company to meet the growing demand for time-sensitive, hyperspectral imagery of emerging events around the world in a cost-effective manner. Such increased capabilities will also enhance competition and expand U.S. capabilities in the market for commercial remote sensing data. Accordingly, grant of a waiver to allow use of C-band frequencies for ISLs, as proposed in this application, is warranted.

¹³ 47 C.F.R. § 2.106.

¹⁴ *The Boeing Company*, Order and Authorization, 16 FCC Rcd. 22,645, at 22,651 ¶ 12 & n.48 (IB & OET 2001) (citing *Fugro-Chance, Inc.*, Order and Authorization, 10 FCC Rcd. 2860, at 2860 ¶ 2 (IB 1995); *Motorola Satellite Communications, Inc.*, Order and Authorization, 11 FCC Rcd. 13,952, at 13,956 ¶ 11 (IB 1996)).

For the same reasons stated above, Planet requests waiver of Section 25.112(a)(3) of the Commission's rules, which finds an application to be defective where the applicant does not seek a waiver request for authority to operate a space station in a frequency band that is not allocated under the ITU Radio Regulations for such operations.¹⁵ As noted above, the Commission has specifically stated, with respect to waiver requests to permit non-conforming uses, that it will grant such waivers when there is little potential for interference into authorized services and when the non-conforming operator accepts any interference from authorized services.¹⁶ The Commission's standard for permitting non-conforming use and waiving 47 C.F.R. § 25.112(a)(3) has been applied to both operations that do not conform to the U.S. Table of Allocations and those that do not conform to ITU allocations.¹⁷ Because Planet has demonstrated that its

¹⁵ See 47 C.F.R. § 25.112(a)(3).

¹⁶ *Application for Modification of License to Authorize a Second-Generation NGSO MSS Constellation by Iridium Constellation LLC, Order and Authorization*, 31 FCC Rcd. 8676, at ¶ 21 (IB 2016) ("Iridium Order and Authorization"); see also, *Applications by Orbcomm License Corp. For Authority to Modify its Non-Voice, Non-Geostationary Satellite System et al., Order and Authorization*, 23 FCC Rcd. 4804, at 4809 ¶ 15 (IB/OET 2008); *The Boeing Company, Order and Authorization*, 16 FCC Rcd. 22645, at 22651 ¶ 12 & n.48 (IB & OET 2001) (citing *Fugro-Chance, Inc., Order and Authorization*, 10 FCC Rcd. 2860, at 2860 ¶ 2 (IB 1995); *Motorola Satellite Communications, Inc., Order and Authorization*, 11 FCC Rcd. 13952, at 13956 ¶ 11 (IB 1996)).

¹⁷ See *supra* note 14; see also Stamp Grant, Loft Orbital Solutions Inc., IBFS File Nos. SAT-LOA-20190807-00072 and SAT-AMD-20200527-00063, at Conditions 8-9 (Oct. 8, 2020) (granting waiver of 47 C.F.R. § 2.106 to allow use of commercial mobile-satellite service spectrum for intersatellite navigation correction service; granting waiver of 47 C.F.R. § 2.106 to allow use of commercial mobile-satellite service spectrum for intersatellite service on an unprotected, non-interference basis); Stamp Grant, Astro Digital US Inc., IBFS File No. SAT-LOA-20170508-00071 at n. 3 (granted in part Dec. 14, 2017) (granting use of commercial mobile-satellite service frequencies for intersatellite service based on showing of non-harmful interference); Stamp Grant, Spaceflight, Inc., IBFS File No. SAT-LOA-20220111-00007, at Condition 7 (granted in part May 10, 2022) (granting waiver of 47 C.F.R. 25.112(a)(3) to permit use of frequencies for space operation service in a frequency band allocated for other services, conditioned on operations on a non-interference, unprotected basis); *c.f. In the Matter of The Boeing Company Application for Authority to Launch and Operate a Non-Geostationary Satellite Orbit System in the Fixed-Satellite Service*, Order and Authorization, IBFS File Nos.

proposed use will not cause harmful interference and that it will accept any interference from existing and future systems authorized to use the C-band spectrum, waiver of the rule is appropriate in this case.

Planet underscores that the transmissions of its GSO partner (to be received by the Tanager satellites) will be identical to the partner's existing C-band services, thereby posing no additional interference risk. With respect to the Tanager transmissions (to be received by the GSO satellites), the Commission can condition the grant of the application on Planet's agreement to turn off the Planet C-band transmitter should there be harmful interference to other users. The Tanager C-band transmissions are intended only to confirm the receipt of an image tasking request. Accordingly, the primary purpose of the C-band ISL, to provide real-time image tasking capability for the Tanager satellites, will still be served if the Tanager C-band transmitter must be disabled to prevent harmful interference.

As further support for the grant of the waivers, Planet recently announced that it has been selected by SES Government Solutions and Telesat Government Solutions to demonstrate real-time space-to-space connectivity solutions from low-Earth orbit satellites to other in-space communication satellites, as part of the NASA Communication Services Project ("CSP").¹⁸

SAT-LOA-20170301-00028, SAT-AMD-20170929-00137, SAT-AMD-20180131-00013 ¶¶ 12-15 (rel. Nov. 3, 2021) (denying waiver of 47 C.F.R. § 25.112(a)(3) where applicant failed to provide sufficient technical information demonstrating that it could operate on a non-interference, unprotected basis).

¹⁸ See Planet to Provide Real-Time Data and Connectivity Solutions for NASA's CSP (Aug. 23, 2022), <https://www.businesswire.com/news/home/20220823005164/en/Planet-to-Provide-Real-Time-Data-and-Connectivity-Solutions-for-NASA%E2%80%99s-CSP>; Nat'l Aeronautics and Space Admin., *Communications Services Project*, <https://www1.grc.nasa.gov/space/communications-services-program> (last visited Sept. 7, 2022); *NASA, Industry to Collaborate on Space Communications by 2025* (Apr. 20, 2022), <https://www.nasa.gov/press-release/nasa-industry-to-collaborate-on-space-communications-by-2025>; Nat'l Aeronautics and Space Admin. Glenn Research Center Communications Services Project (CSP) Resources, <https://www1.grc.nasa.gov/space/communications-services->

With NASA’s plans to decommission its owned and operated satellites, which are a part of the Tracking and Data Relay Satellite System (“TDRSS”), the agency is evaluating the feasibility of commercial networks to support future near-Earth missions. As part of Planet’s involvement in the CSP, the company seeks to demonstrate a ubiquitous, always-on low-latency connectivity solution enabled by SES’s multi-orbit fleet of GSO satellites using the C-band frequencies, with the goal of enabling low latency solutions for NASA and other Planet customers.

Planet, with its partners, also intends to work toward enabling such services internationally in the C-band frequencies under the ITU Radio Regulations by seeking a future Agenda Item at World Radiocommunication Conference (“WRC”) 2023, which would be studied and considered at WRC 2027.

ii. C-band Downlink Filing Freeze

Planet requests any required waiver of the Commission’s public notice and/or C-band order placing a filing freeze on C-band space-to-Earth applications.¹⁹ The purpose of the filing prohibition is to avoid complicating the transition process with respect to the reallocation of a portion of the conventional C-band frequencies from FSS to mobile services.²⁰ Planet’s proposed use of the C-band downlink frequencies will be for GEO-to-LEO transmissions, and as demonstrated in the Technical Appendix, will not impact the terrestrial transition. Further,

[program/csp-resources](#) (last visited Sept. 13, 2022); Ryan Schradin, NASA Selects SES Government Solutions to Support Near-Earth Communications (May 10, 2022), <https://ses-gs.com/govsat/news/nasa-selects-ses-government-solutions-to-support-near-earth-communications>.

¹⁹ See *Notification of Temporary Filing Freeze on New Fixed-Satellite Service Space Station Applications in the 3.7-4.2 GHz Band*, Final Action, 83 Fed. Reg. 40155 (Aug. 14, 2018); *Expanding Flexible Use of the 3.7 to 4.2 GHz Band*, Report and Order and Order of Proposed Modification, 35 FCC Rcd. 2343, at 2407-08 ¶¶ 150-152 (rel. March 3, 2020) (“*C-band Order*”).

²⁰ See *C-band Order* ¶ 152.

Planet will operate only in spectrum allocated for satellite use (*i.e.*, 4000-4200 MHz and 6225-6425 MHz) on SES's C-band GSO FSS satellites already authorized or granted market access by the Commission. For these reasons, the proposed use will not cause harmful interference to any authorized users.²¹ In any event, Planet's use will also be on an unprotected, non-interference basis with respect to authorized C-band operations, and Planet will cease transmissions upon notice of any harmful interference from its proposed operations. Accordingly, the purpose of the filing freeze would not be undermined by grant of this waiver request and approval of the application.²²

iii. Use of C-band Frequencies for Image Tasking Commands and Confirmation

As discussed in the Technical Appendix, Planet will use the C-band FSS frequencies for image tasking commands and confirmation responses, not to control and monitor the positioning of the Tanager satellites. However, in the event that the Commission considers these image tasking-related functions as telemetry, tracking, and command ("TT&C") operations, Planet requests any necessary waiver of Section 25.202(g), which limits space station operators to TT&C links in the same frequency bands as their primary service operations.²³ The Commission has explained that its TT&C placement policy is intended "to simplify the coordination process for satellite systems, to provide an incentive for an operator to maximize the efficiency of its system's TT&C operations, and to minimize the constraints placed on other satellite

²¹ See Technical Appendix at 14-15, 17-20.

²² See, *e.g.*, Stamp Grant, Space Logistics, LLC, IBFS File No. SAT-LOA-20191210-00144 (granted March 25, 2020) (granting Space Logistics LLC a waiver of C-band filing freeze, *inter alia*, because the proposed use does not implicate the concerns that prompted the freeze).

²³ 47 C.F.R. § 25.202(g).

operations.”²⁴ The proposed C-band use will conform to the coordination agreements applicable to the geostationary satellites used and will not limit use of the frequencies by other authorized operators. Under these circumstances, grant of any required waiver of Section 25.202(g) is justified.

B. Modified Processing Round Rules

Planet requests that this application be processed pursuant to the first-come, first-served procedure adopted for “GSO-like satellite systems” under Section 25.158 of the Commission’s rules.²⁵ To the extent necessary to allow for such processing, Planet also requests waiver of Sections 25.156 and 25.157 of the Commission’s rules, which stipulate the processing of “NGSO-like satellite systems” under a modified processing round framework.²⁶

The Commission previously granted waiver of the modified processing round requirement with respect to Planet’s SkySat and Flock satellites,²⁷ as well as with respect to numerous other EESS operators.²⁸ The Commission concluded that authorizing Planet to operate in its requested EESS frequency bands would not preclude other NGSO operators from

²⁴ *Orbcomm License Corp.*, 23 FCC Rcd. 4804, at 4811 ¶ 20 (IB & OET 2008).

²⁵ 47 C.F.R. § 25.158.

²⁶ 47 C.F.R. §§ 25.156 and 25.157.

²⁷ See Stamp Grant, Planet Labs Inc., IBFS File No. SAT-MOD-20200615-00076 (granted Mar. 18, 2021); Stamp Grant, Planet Labs Inc., IBFS File No. SAT-MOD-20170713-00103 (granted Jul. 18, 2019); Stamp Grant, Skybox Imaging, Inc., IBFS File No. SAT-LOA-20120322-00058 (granted Sept. 20, 2012); Stamp Grant, Skybox Imaging Inc., IBFS File No. SAT-MOD-20150408-00019 (granted Aug. 31, 2016); Stamp Grant, Planet Labs Inc., IBFS File No. SAT-MOD-20150802-00053 (granted Sept. 15, 2016); see also *DigitalGlobe, Inc.*, 20 FCC Rcd. 15696, 15701 (2005).

²⁸ See, e.g., Stamp Grant, Astro Digital U.S., Inc., IBFS File No. SAT-LOA-20170508-00071 (granted in part Aug. 1, 2018); Stamp Grant, Astro Digital U.S., Inc., IBFS File No. SAT-LOA-20170508-00071 (granted in part Dec. 14, 2017).

operating in those bands.²⁹ With respect to the proposed use of the C-band frequencies for satellite-to-satellite links, Planet will use the frequencies as a customer of the authorized operator and, accordingly, initiating a processing round would be unnecessary and inappropriate.

C. Default Service Rules

Planet requests a waiver of the default service rules under Section 25.217(b) of the Commission's rules.³⁰ The Commission has not adopted band-specific rules for the services Planet proposes to provide. Additionally, the Commission has previously granted a waiver of the default service rules to NGSO EESS applicants based on the fact that the operators are required to comply with technical requirements in Part 2 of the Commission's rules and applicable ITU rules.³¹ In these cases, the Commission concluded that, because the cited requirements had been sufficient to prevent harmful interference, there was no need to impose additional technical requirements on operations in that band and, therefore, granted the waiver requests. These same reasons warrant waiver of the default service rules here.

D. Milestone and Bond Requirements

Planet requests waiver of the Commission's milestone and bond requirements for NGSO systems.³² Planet anticipates launch for its first Tanager satellite in late 2023, and additional

²⁹ See *supra* note 27.

³⁰ 47 C.F.R. § 25.217.

³¹ See *Space Imaging, LLC, Declaratory Order and Order and Authorization*, 20 FCC Rcd. 11,964 ¶¶ 26-31 (2005); *DigitalGlobe, Inc., Order and Authorization*, 20 FCC Rcd. 15696 ¶¶ 1, 15 (2005); see also Stamp Grant, Planet Labs Inc., IBFS File No. SAT-MOD-20170713-00103 (granted Jul. 18, 2019); Stamp Grant, Planet Labs Inc., IBFS File No. SAT-MOD-20150802-00053 (granted Sept. 15, 2016); Stamp Grant, Planet Labs, Inc., IBFS File No. SAT-LOA-20130626-00087 (granted Dec. 3, 2013); Stamp Grant, Skybox Imaging, Inc., IBFS File No. SAT-LOA-20120322-00058 (granted Sept. 20, 2012); Stamp Grant, Spire Global Inc., IBFS File No. SAT-LOA-20151123-00078 (granted in part Mar. 18, 2016).

³² See 47 C.F.R. §§ 25.164, 25.165.

satellites are expected to be deployed in blocks thereafter. Further, Planet does not seek mutually exclusive use of the spectrum used, as discussed above. Accordingly, there can be no concerns about speculation or spectrum warehousing, and there is no basis to impose the milestone or bond requirements.

In similar situations for many EESS or similar providers, the Commission has waived the milestone and bond requirements and conditioned such licenses on the authorization with respect to the applicable satellites becoming null and void if at any time after the initial deployment of satellites there are no satellites operating as part of the authorized constellation.³³ Planet would accept a license grant with such a condition applicable to the Tanager constellation.

For these reasons, Planet submits that waiver of the milestone and bond requirements is justified.³⁴

E. Form 312 Schedule S Requirements

Planet requests a limited waiver of section 25.114(c) of the Commission's rules, which requires certain information to be filed in the Schedule S. Some of these categories (*e.g.*, max/min saturation flux density, antenna pointing error, and antenna rotational error) are inapplicable and/or do not permit the entry of correct values. In such cases, Planet has provided placeholder data (*i.e.*, "0.0" or "-999.9") in the Schedule S to complete the form. Strict application of the rules here is unnecessary to serve the purposes of the rules, which is to ensure

³³ See, *e.g.*, Stamp Grant, Planet Labs Inc., IBFS File No. SAT-MOD-20200615-00076, at Condition 13 (granted Mar. 18, 2021); Stamp Grant, Planet Labs Inc., IBFS File No. SAT-MOD-20170713-00103, at Condition 14 (granted Jul. 18, 2019); Stamp Grant, Planet Labs Inc., IBFS File No. SAT-MOD-20150802-00053, at Condition 14 (granted Sept. 15, 2016); Stamp Grant, Spire Global, Inc., IBFS File No. SAT-LOA-20151123-00078, at Conditions 6-7 (granted in part Jun. 16, 2016).

³⁴ In the event the Commission denies this waiver request, Planet affirms that it will comply with the bond requirement.

that the Commission has all the relevant information necessary to evaluate the application.

Given that Planet has provided all relevant information in the narrative, Technical Appendix, and Schedule S, waiver of certain Schedule S requirements is appropriate.³⁵

IV. International Telecommunication Union Filing

Planet is preparing the ITU Advance Publication Information submission for the proposed system and will provide an electronic file with this information to the Bureau.

Attached as Exhibit B is an ITU cost-recovery letter associated with this application.

³⁵ See 47 C.F.R. § 1.3; *see, e.g.*, Stamp Grant, ViaSat, Inc., SAT-LOI-20140204-00013 (granted Jun. 18, 2014) (waiving Schedule S requirements because they were found to be unnecessary for the space station application).

Conclusion

For the reasons set out above, Planet respectfully requests grant of its application for space station authorization, as discussed above.

Respectfully submitted,

/s/ Danielle J. Piñeres

Tony Lin
Emma Marion
DLA Piper LLP (US)
500 Eighth Street, N.W.
Washington, DC 20004
202-799-4450

Counsel for Planet Labs PBC

Danielle Piñeres
Vice President of Regulatory
Affairs & Compliance
Nathan Johnson
Corporate Counsel, Regulatory &
Compliance
Planet Labs PBC
645 Harrison Street, Floor 4
San Francisco, CA 94107

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