

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of	)	
	)	
ASTRA SPACE PLATFORM SERVICES, LLC	)	File Number: SAT-LOA-20260701-00266
	)	
Application for Authority to Launch and	)	Call Sign:
Operate a Non-Geostationary Orbit Satellite	)	
System in the Ku-Band, Ka-Band, and V-Band	)	
	)	

APPLICATION

Adam London
ASTRA SPACE PLATFORM SERVICES,
LLC
1900 Skyhawk Street
Alameda, CA 94501
adam@astra.com
(833) 711-4219

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APPLICATION

Astra Space Platform Services, LLC (“Astra”) hereby requests authority to launch and operate a non-geostationary orbit (“NGSO”) satellite system using Ku-band, Ka-band, and V-band frequencies (the “Astra Constellation”) under the Part 25 licensing framework.¹ This application is submitted in response to the Commission’s Public Notice initiating a new processing round for additional NGSO Fixed-Satellite Service (“FSS”) applications and petitions for market access in these bands.² Consistent with the information required by the Federal Communications Commission’s (“FCC’s” or “Commission’s”) rules, Astra provides with this application a completed FCC Form 312, an accompanying Schedule S, and a Technical Annex, satisfying the Commission’s requirements for an NGSO space station license application under section 25.114.³ Grant of this application will serve the public interest by enabling Astra to deploy the Astra

¹ See 47 C.F.R. § 25.101 *et seq.*

² See *Space Bureau Opens Processing Rounds Cut-Off Established for Additional NGSO-Like Satellite Systems in the Ku- and Ka-Bands and V-Band*, Public Notice, DA 26-552 (SB rel. June 5, 2026)

³ 47 C.F.R. § 25.114.

Constellation and bring new opportunities for reliable, high-speed communications services to enterprise, government, and institutional users and partners in the U.S. and around the globe.

I. COMPANY BACKGROUND

Astra is a Delaware limited liability company based in Alameda, California, and a wholly owned subsidiary of Astra Space, Inc., a Delaware corporation (“Astra Space”). Astra’s mission is to “Improve Life on Earth from Space” by creating a healthier and more connected planet.⁴ Astra Space was founded in 2016 by space veterans Chris Kemp, former Chief Technology Officer at the National Aeronautics and Space Administration (“NASA”) and now Astra Chairman and Chief Executive Officer, and Dr. Adam London, who developed miniature rocket technology with the sponsorship of NASA and the Defense Advanced Research Projects Agency and now serves as Astra’s Chief Technology Officer. Astra Space conducted four test flights over its first few years, and reached orbit from Kodiak, Alaska in November 2021, five years after its inception. Also in 2021, Astra Space became a public company and added a Satellite Engine product line to its business. In 2024, Astra Space was taken private by an investor group led by its co-founders, and has been focused on producing satellite engines for customers and completing the development of its next-generation satellite launch system.

II. GRANT OF ASTRA’S APPLICATION WOULD SERVE THE PUBLIC INTEREST.

Approval to operate the Astra Constellation would serve the public interest for several reasons. First, despite continued investment, meaningful connectivity gaps persist across the United States and globally—disproportionately impacting consumers, businesses, and government operations in remote and rural locations. Astra’s satellite solution is well-suited to bring

⁴ See *About, ASTRA*, <https://astra.com/about> (last visited July 6, 2026).

connectivity to these types of customers. In addition, commercial and government operations increasingly demand secure, reliable broadband at remote sites, in the air, and at sea—another important demand that can be fulfilled by Astra’s satellite network. Second, the Commission has long championed the introduction of new competitive service providers—not only to expand broadband options for consumers, enterprise, and government, but also to drive more affordable offerings and to encourage technology innovation and investment.⁵ Authorizing the Astra Constellation will add a new innovative and competitive entrant that can offer valuable connectivity options for remote and rural locations, improving both service options and affordability for prospective customers and partners, ranging from enterprise sites and terrestrial communications networks to national security applications.

Third, the Astra Constellation will contribute to the benefits that space-based platforms lend to reduced carbon footprints, enabling efficiencies across diverse industries and expanding connectivity in ways that can offset travel and resource use. The information, communications, and technology sector is a powerful enabler of emissions reductions across other sectors, and a space-based connectivity platform creates opportunities to host complementary space-based environmental technologies.

Fourth, grant of this application will not result in harms to other users. From a spectrum perspective, the Astra Constellation is designed to optimize efficient use of the assigned radio frequencies while retaining sufficient flexibility to coordinate spectrum with other authorized users. Consistent with the Commission’s rules, Astra will undertake good-faith coordination with

⁵ See, e.g., *Update to Parts 2 and 25 Concerning Non-Geostationary, Fixed-Satellite Service Systems and Related Matters*, Report and Order and Further Notice of Proposed Rulemaking, 32 FCC Rcd 7809 (Sept 27, 2017) (“NGSO FSS Order”)(recognizing benefits of competition, affordability, and additional NGSO entrants).

other NGSO users of these bands and will exchange the technical parameters necessary to avoid harmful interference and maximize spectral efficiency across operators. Astra views operator-to-operator coordination as a superior means of using spectrum to the regulatory approach of band segmentation.

III. SYSTEM DESCRIPTION

The Astra Constellation will ultimately consist of as many as 12,280 operational low-Earth orbit (“LEO”) satellites. The satellites will be supported by a global network of gateway earth stations using the requested frequency bands for feeder links. Astra is designing the Astra Constellation to gain maximum efficiency from the permitted frequency bands while ensuring the ability to co-exist with other operators without harmful radiofrequency interference. Key space and ground components are summarized below and detailed in Attachment A (Technical Annex) and Schedule S.

A. Space Segment

The space segment will be deployed in three phases, distributed at equatorial, mid-inclination, and sun-synchronous (“SSO”) altitudes, with an estimated operational lifetime of seven years. The Initial Deployment Phase features a single equatorial plane of 40 satellites at 700 km, permitting certain early services in targeted locations. A second phase of 2,304 additional satellites (36 mid-inclination planes at 700 km and 18 SSO planes at 455 km) enables global broadband service at all latitudes. A third phase densifies the Constellation with as many as 9,936 further satellites at three mid-inclination altitudes (380 km, 390 km, and 400 km). For purposes of Schedule S, Astra has identified six representative orbital configurations corresponding to the first orbit of each of the six shells of the planned deployment architecture. A full per-shell breakdown appears in the Technical Annex.

Astra intends to manufacture the spacecraft in-house, drawing on the engineering and production expertise gained from its small-launch-vehicle development. The spacecraft carry on-board propulsion for orbit-raising, end-of-life de-orbit, and collision-avoidance maneuvers. Astra plans to deploy the Constellation using its own launch vehicles, capturing the benefits of vertical integration, with third-party launch as an option to accelerate deployment.

B. Ground Segment

The Astra Constellation will connect to end-user terminals located at commercial and government customer sites, and route through gateway earth stations co-located with key access points to the Internet. Gateway and customer service links will use the requested frequency bands. Satellite operations will be supported by tracking, telemetry, and control (“TT&C”) earth stations, with a primary satellite control facility in the United States and additional capability sited outside the country. Astra will submit separate applications for individual U.S. gateway/TT&C licenses and a blanket end-user-terminal license pursuant to Sections 25.115 and 25.136 of the Commission’s rules.⁶

Astra specifically seeks to include the V-band, Ka-band, and Ku-band frequencies detailed in Schedule S to connect its space stations with end-user terminals in the U.S. and around the world, as well as with individually licensed gateway earth stations. The system will use these bands for both user links and gateway (feeder) links.

The Ku- bands are sought for FSS and certain Ka-band segments are sought for FSS and Mobile-Satellite Service (“MSS”) as shown in Schedule S.⁷ The Ka- and Ku-band frequency plan and allocations and power flux-density (“PFD”) treatment are detailed in the Technical Annex. As

⁶ See 47 C.F.R. §§ 25.115, 25.136.

⁷ Specifically, Astra seeks to use 19.7-20.2 GHz and 29.5-30.0 GHz for MSS.

discussed in Section IV, Astra seeks waiver of Section 2.106 to the extent necessary to permit use of certain Ka-bands as proposed.⁸ Astra has conducted preliminary Equivalent Power Flux-Density (“EPFD”) analysis in the Ku-band and Ka-band, as demonstrated in the Technical Annex. EPFD analysis and optimization is ongoing, but Astra’s initial analysis demonstrates that a solution exists to protect GSO operations and the ongoing EPFD analysis optimization is intended to adjust the EPFD operational constraints while maintaining compliance.

The V-band frequency plan and allocations are also detailed in the Technical Annex. Certain V-band segments are sought for both FSS and MSS use (MSS in the 39.5–40.0 GHz and 40.0–42.0 GHz space-to-Earth segments, and on a secondary basis in the 50.4–51.4 GHz Earth-to-space segment).⁹ For the V-band, Astra notes that the International Telecommunication Union (“ITU”) Radiocommunication Bureau has not yet released EPFD validation software capable of analyzing compliance under Resolution 770. Once such software becomes available, Astra will conduct the required analysis and will operate the Astra Constellation in compliance with any applicable EPFD limits and related requirements.

IV. WAIVER REQUESTS

The Commission may waive any of its rules for “good cause.”¹⁰ Waiver is appropriate when (i) special circumstances warrant a deviation from the general rule; and (ii) such deviation will

⁸ See 47 C.F.R. § 2.106.

⁹ For avoidance of doubt, the application is properly filed in the NGSO FSS processing round because it seeks NGSO FSS authority in the processing-round bands. As an ancillary request, Astra also seeks MSS authority in portions of those bands where MSS operations are permitted and as specified herein.

¹⁰ 47 C.F.R. § 1.3; see *Ne. Cellular Tel. Co. v. FCC*, 897 F.2d 1164, 1166 (D.C. Cir. 1990); see also *WAIT Radio v. FCC*, 418 F.2d 1153, 1159 (D.C. Cir. 1969).

serve the public interest better than strict adherence to the rule.¹¹ In general, the Commission will grant a waiver of its rules if the relief requested would not undermine the policy objective of the rule in question and would otherwise serve the public interest.¹²

Good cause exists in this case to waive the following rules to the extent necessary to process and grant the application. These waiver requests reflect the evolution of FCC policy in the NGSO FSS Order and the draft Part 100 Order.¹³ Several of these waiver requests are similar to those granted to other NGSO FSS licenses. In all cases, grant of the requested waivers would not undermine the policy objective of the rule in question and would serve the public interest.

A. 47 C.F.R. § 2.106 (U.S. Table of Frequency Allocations)

Astra requests waiver of Section 2.106 of the Commission’s rules, to the extent necessary, to permit use of the 18.6-18.8 GHz, 19.4-19.6 GHz, and 24.75-25.25 GHz bands in a manner that does not conform to either the U.S. Table of Frequency Allocations or the International Table of Frequency Allocations.¹⁴ Waiver is merited, as the Commission has found that “there may be benefits associated with operations not consistent with the current International Table of Frequency Allocations in certain circumstances.”¹⁵ The Commission has also repeatedly recognized that non-conforming satellite operations may be authorized where applicants

¹¹ *Ne. Cellular*, 897 F.2d at 1166.

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

¹³ *See* NGSO FSS Order; Public Draft, *Space Modernization for the 21st Century*, Report and Order and Further Notice of Proposed Rulemaking, FCC-CIRC2607-02 ¶ 156 (July 1, 2026) (“[A]llowing space station applicants the option to defer submission of the required orbital debris mitigation plan will allow operators to obtain a space station license, even while spacecraft design is still underway.”) (“Draft Part 100 Order”).

¹⁴ 47 C.F.R. § 2.106.

¹⁵ *Expediting Initial Processing of Satellite and Earth Station Applications, Report and Order and Further Notice of Proposed Rulemaking*, 38 FCC Rcd 8838 ¶ 26 (2023).

demonstrate compatibility with incumbent services and agree to operate on an unprotected, non-interference basis.¹⁶ Grant of the requested waiver would advance the public interest by permitting more intensive and efficient use of Ka-band spectrum while preserving protection for incumbent and priority services.

1. 18.6-18.8 GHz

The 18.6-18.8 GHz band has been allocated globally for FSS (downlink) on a co-primary basis and is currently limited to geostationary-satellite orbit (“GSO”) networks through footnotes NG164 and 5.522B.¹⁷ Astra seeks to use these frequencies for downlink in its LEO NGSO constellation. Astra acknowledges that this band is shared with Earth exploration-satellite service (“EESS”) (passive) operations and will comply with all applicable PFD limits and other technical requirements established to protect EESS (passive) and other incumbent operations. Astra further will operate on a non-interference, non-protected basis with respect to authorized GSO FSS systems. Grant of the requested waiver would advance the public interest by permitting more intensive and efficient use of Ka-band spectrum while preserving protection for incumbent services.

2. 19.4-19.6 GHz

The 19.4-19.6 GHz band is globally allocated to FSS (space-to-Earth) on a primary basis. However, under the Commission’s Ka-band Plan, use of the band by NGSO systems is limited to feeder links supporting MSS networks.¹⁸ Astra requests waiver of Section 2.106 and the Ka-

¹⁶ See, e.g., *Space Exploration Holdings, LLC, Request for Deployment and Operating Authority for the SpaceX Gen2 NGSO Satellite System*, Authorization & Order, DA 26-36, at 5-6 (Jan. 9, 2026).

¹⁷ 47 C.F.R. § 2.106.

¹⁸ NGSO FSS Order, App’x B.

Band Plan, as necessary, to permit NGSO FSS gateway-link operations in the 19.4–19.6 GHz band. This use will not cause additional interference risk for other users. Astra acknowledges that use of this band may require coordination with incumbent operations. Moreover, grant of this waiver will benefit the public by permitting more efficient network planning and resource allocation.

3. 19.7-20.2 GHz and 29.5-30 GHz

To the extent necessary, Astra requests waiver of the Commission’s Ka-band Plan to provide both MSS and FSS in the 19.7-20.2 GHz and 29.5-30.0 GHz bands. These bands are allocated for FSS and MSS domestically and internationally, and the Commission has previously allowed operators to provide MSS, as well as FSS, in the bands.¹⁹ Astra will coordinate with other NGSO FSS operators in order to ensure that all authorized uses, including MSS, comport with the applicable technical rules. The MSS operations will be conducted on a non-interference, non-protected basis with respect to other FSS operations in these bands.

4. 24.75-25.25 GHz

The 24.75-25.25 GHz band has been allocated globally for FSS (downlink) on a co-primary basis.²⁰ Under footnote 5.535, however, feeder links to stations of the broadcasting-satellite service (“BSS”) in Regions 2 and 3 are afforded priority over other fixed-satellite service Earth-to-space operations. Astra seeks to use these frequencies for NGSO FSS gateway uplink operations and requests any necessary waivers to do so.

¹⁹ See, e.g., *Kuiper Systems, LLC Application for Authority to Deploy and Operate a Ka-band Non-Geostationary Satellite Orbit System*, Order and Authorization, 35 FCC Rcd 8324 ¶ 32 (rel. Jul. 30, 2020) (“Kuiper Grant”).

²⁰ See *id.*

Grant of the requested waiver will not undermine the purpose of footnote 5.535. Astra proposes to use the band solely for gateway earth stations operating at fixed, individually coordinated locations rather than for ubiquitous user-terminal operations. Accordingly, Astra's operations can be coordinated with other authorized users of the band and managed through site-specific engineering and interference-protection measures. In addition, Astra will operate on a non-interference, non-protected basis with respect to any BSS feeder-link operations entitled to priority.

5. 29.1-29.25

In the United States under the Ka-band plan, the 29.1-29.25 GHz band is allocated to fixed service (local multipoint distribution service) and NGSO MSS feeder links for Earth-to-space transmissions. As discussed above, Astra will provide both MSS and FSS in the 19.7-20.2 GHz and 29.5-30.0 GHz bands and, accordingly, its use of the 29.1-29.25 GHz band for MSS feeder links (Earth-to-space) conforms with the Ka-band Plan. Moreover, Commission precedent exists for allowing this use.²¹ Astra will coordinate with, as applicable, authorized operations in this band. Nonetheless, to the extent necessary, Astra requests waiver of the Ka-band Plan and any applicable FCC rules for this proposed use of the 29.1-29.25 GHz band.

6. 29.25-29.5 GHz

In the United States under the Ka-band Plan, the 29.25-29.5 GHz band is allocated to GSO FSS and NGSO MSS feeder links for Earth-to-space transmissions. As discussed above, Astra will provide both MSS and FSS in the 19.7-20.2 GHz and 29.5-30.0 GHz bands, and

²¹ See, e.g., Kuiper Grant ¶ 59(j).

accordingly its use of the 29.25-29.5 GHz band for MSS feeder links (Earth-to-space) conforms with the Ka-band plan. The Commission reached the same conclusion recently in permitting Kuiper to provide MSS in the 19.7-20.2 GHz and 29.5-30.0 GHz bands and use of the 29.25-29.5 GHz band for MSS feeder links.²² Astra will coordinate with, as applicable, authorized operations in this band. Nonetheless, to the extent necessary, Astra requests waiver of the Ka-band plan and any applicable FCC rules for this proposed use of the 29.25-29.5 GHz band.

B. 47 C.F.R. § 25.112 (Application Processing)

Astra requests, to the extent necessary, waiver of the Commission's application processing requirements in Section 25.112.²³ The rule provides that the Commission may accept an application that lacks complete answers or showings or does not substantially comply with all the Commission's rules if the application is accompanied by an appropriate waiver request.²⁴ Astra's satellite design is currently being matured and certain technical details may need to be supplemented or updated as progress continues. Astra thus requests that the Commission accept the instant application for processing and permit Astra to supplement its application if such additional information or explanation is necessary. This approach would avoid unduly burdensome consequences and conserve limited FCC resources by permitting any concerns to be addressed on an issue-by-issue basis.

²² Kuiper Grant ¶ 21.

²³ See 47 C.F.R. § 25.112(a).

²⁴ See *id.* § 25.112(b)(1).

C. 47 C.F.R. § 25.114(c) (Schedule S)

As required by the Commission's rules,²⁵ Astra has submitted with this application a completed Schedule S, which contains certain technical information in a prescribed form. However, Astra has found that in certain respects, it cannot accurately describe its system due to limitations in Schedule S itself. Specifically, for the NGSO orbital information, Schedule S limits entry of the total number of operating satellites in the constellation. The Astra Constellation will ultimately consist of as many as 12,280 operational LEO satellites. In addition, for the orbital plane information on Schedule S, Astra has provided an example orbital plane from each of the constellation's six shells (apart from the first shell, which has only one orbital plane, the equatorial). To the extent necessary, Astra requests that the Commission waive aspects of Schedule S in light of these and similar limitations.

D. 47 C.F.R. § 25.114(d)(14) (Orbital Debris Mitigation)

Astra recognizes that pursuant to Section 25.114(d)(14) of the Commission's rules, it must submit a description of the design and operational strategies used to mitigate orbital debris.²⁶ Astra affirms that it is designing its satellites to conform to the requirements of Section 25.114(d)(14)²⁷ and Astra is providing preliminary details in the Technical Annex. Astra requests waiver of this requirement, to the extent necessary, to permit Astra to supplement its application with a final orbital debris mitigation plan once spacecraft design is sufficiently mature to support a complete and meaningful assessment. Astra affirms it will submit the required information at least six

²⁵ See *id.* § 25.114(a)(1), (c).

²⁶ See *id.* § 25.114(d)(14).

²⁷ *Id.*

months before integration with a launch vehicle.²⁸ Grant of this waiver is consistent with Commission policy and precedent.²⁹

V. ADDITIONAL LEGAL AND TECHNICAL INFORMATION

A. ITU Filings and Cost Recovery

Astra is aware that Commission applicants are responsible for payment of any and all fees charged by the ITU and accepts responsibility to pay any ITU cost-recovery fees associated with this application.³⁰

B. Spectrum Access Eligibility

Astra affirms that it does not have any other application for an NGSO-like satellite system in the frequency bands involved in this application or processing round on file with the Commission, nor does it hold any NGSO-like system that has been licensed but not yet built in the subject bands. Accordingly, this application is fully compliant with the Commission’s rule limiting the number of pending applications and unbuilt satellite systems an applicant may have.³¹

²⁸ This requirement is in line with that described in the Draft Part 100 Order. *See* Draft Part 100 Order ¶ 160.

²⁹ *See* Draft Part 100 Order ¶ 160 (permitting “station applicants to defer submission of the required orbital debris mitigation and end-of-life disposal plan at the time of filing the initial application and request a grant conditioned on submitting the required information at least six months prior to integration with a launch vehicle”); *see also* Kuiper Grant ¶ 32 (granting Kuiper’s request to waive Section 25.114(d)(14) of the Commission’s rules given the design of Kuiper’s satellites was not yet complete, and conditioning the grant of the application on “Kuiper presenting, and the Commission granting, a modification of [the] authorization to provide for review of the final orbital debris mitigation plan”).

³⁰ *See* 47 C.F.R. § 25.111.

³¹ *See id.* § 25.159.

C. System Deployment Milestones

Astra agrees to comply with the Commission’s milestone rules for NGSO deployment.³²

D. Posting of Surety Bond

Astra acknowledges that it will be required to post a performance surety bond pursuant to Section 25.165 of the Commission’s Rules upon grant of this application and will maintain it until the milestone obligations are met.³³

E. Reporting Requirements

Astra will comply with all FCC reporting requirements that apply to it or may ultimately be adopted with respect to the specific services it plans to provide.³⁴

F. PFD/EPFD Compliance Certification

Astra certifies that the Astra Constellation will comply with any applicable power flux-density (“PFD”) and EPFD levels as set out in Section 25.146(a) of the Commission’s rules.³⁵ Astra further affirms that prior to the initiation of service, it will receive a “favorable” or “qualified favorable” finding by the ITU Radiocommunication Bureau pursuant to Section 25.146(c).³⁶

G. Ownership Information

Astra’s ownership structure appears in Attachment B.

³² See *id.* § 25.164.

³³ See *id.* § 25.165.

³⁴ See 47 C.F.R. § 25.171.

³⁵ See 47 C.F.R. § 25.146(a).

³⁶ *Id.*

VI. CONCLUSION

For the reasons discussed above, grant of authority to launch and operate the Astra Constellation will serve the public interest. Astra respectfully requests that the Commission grant this application.

Respectfully submitted,

/s/ Adam London

Adam London

ASTRA SPACE PLATFORM SERVICES, LLC

1900 Skyhawk Street

Alameda, CA 94501

adam@astra.com

(833) 711-4219

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