

GRANT
Venturi Astrolab, Inc.
ICFS File Nos. SAT-LOA-20250729-00192;
SAT-AMD-20260120-00032

SAT-LOA-20250729-00192; File # SAT-AMD-20260120-00032	
Call Sign <u>S00733</u> (or other identifier)	Grant Date: <u>06/09/2026</u>
From: <u>See Conditions</u> To: For a period of 90 days	
 GRANTED* Space Bureau	
Approved <u>Jonathan R Markman</u> Acting Division Chief Satellite Programs and Policy Division	
*with conditions	

ICFS File No(s):	SAT-LOA-20250729-00192 ¹ SAT-AMD-20260120-00032	GRANTED – With Conditions  Space Bureau Satellite Programs and Policy Division
Licensee/Grantee:	Venturi Astrolab, Inc. (Astrolab)	
Call Sign:	S00733	
Satellite Name:	FLEX Lunar Innovation Platform (FLIP) rover	
Orbital Location: (required station- keeping tolerance)	On lunar surface	
Administration:	United States of America	
Nature of Service:	Space Operation Service; Space Research Service	
Scope of Grant:	Authority for radiofrequency communications to deploy and operate a spacecraft, the FLIP lunar rover, on the lunar surface for a period of up to 90 days.	
Service Area(s):	Lunar surface	
Frequencies:²	<u>Primary Telemetry, Tracking, and Command (TT&C) and Payload Data:</u> 2025-2110 MHz (Earth-to-space) (3.7 MHz bandwidth, center frequency of 2069.1354 MHz) 8450-8500 MHz (space-to-Earth) (5 MHz bandwidth, center frequency of 8455.0 MHz) <u>Backup TT&C and Payload Data:</u> 2200-2290 MHz (space-to-Earth) (3.7 MHz bandwidth, center frequency of 2247.024869 MHz) <u>Space-to-Space Communications:³</u> 2400-2483.5 MHz (20 MHz bandwidth, center frequency of 2462.0 MHz)	
Unless otherwise specified herein, operations under this grant must comport with the legal and technical specifications set forth by the applicant or petitioner and with the Federal Communications Commission’s rules not waived herein. This grant is also subject to the following conditions: 1. Astrolab’s request for its application to be processed under the rules for streamlined licensing of small spacecraft is GRANTED. We find that the operations requested in this application meet the criteria listed in section 25.123 of the Commission’s rules, 47 CFR § 25.123, for streamlined small spacecraft applicants.⁴ We conclude that Astrolab’s operations are compatible with existing operations in the requested frequency bands and will not materially constrain future space station entrants from using the requested frequency bands.		

¹ This application was placed on public notice on November 21, 2025. See Satellite Licensing Division and Satellite Programs and Policy Division, Space Station Applications Accepted for Filing, Report No. SAT-01953 (Nov. 21, 2025).

² Specified center frequencies and bandwidths reflect the outcome of coordination with federal spectrum users and may be updated as a result of ongoing coordination.

³ Astrolab requests authority to use the 2400-2483.5 MHz band for short-range (less than 1 km), short duration space-to-space communications on the lunar surface between the FLIP rover and the Astrobotic Griffin-1 lander, which will transport the FLIP rover to the lunar surface. See Legal Narrative at 15-16.

⁴ See 47 CFR § 25.123; see also Venturi Astrolab, LLC, ICFS File No. SAT-LOA-20250729-00192, Legal Narrative at 4-8 (specifying compliance with the qualifying criteria in 47 CFR § 25.123(b)).

GRANT
Venturi Astrolab, Inc.
ICFS File Nos. SAT-LOA-20250729-00192; SAT-AMD-20260120-00032

2. Astrolab's request for a waiver of section 25.123(b)(10), 47 CFR § 25.123(b)(10), is DISMISSED as MOOT. Astrolab has requested a waiver of the mass requirement in section 25.123(b)(10) for the combined mass of the FLIP rover and the Astrobotic Griffin-1 spacecraft.⁵ The Astrobotic Griffin-1 spacecraft is separately licensed and therefore its mass does not affect the mass of the FLIP rover.⁶ The mass of the FLIP rover is 480 kg, under the 500 kg limit in the Commission's rules.⁷ Because Astrolab's application fits within the streamlined process for small spacecraft, we dismiss the waiver request as moot.
3. U.S. earth station transmissions to space stations in the 2025-2110 MHz band must be coordinated with fixed and mobile stations in the 2025-2110 MHz band (e.g., via the Society of Broadcast Engineers (SBE)).
4. Astrolab must operate in accordance with the power levels, emission bandwidths, and other technical parameters coordinated with federal agencies, including duty cycles. Transmissions in the 2025-2110 MHz, 2200-2290 MHz, and 8025-8400 MHz frequency bands may only be made to/from Federal earth stations or non-Federal earth stations coordinated with the National Aeronautics and Space Administration (NASA), the Air Force Spectrum Management Office (AFSMO), DOC/NOAA, and the Department of the Navy (DON). A list of coordinated non-Federal earth stations is attached in the Appendix A. Astrolab must provide the FCC with an updated list of coordinated non-Federal earth stations within ten business days following any changes to this list. Use of Federal ground stations must be coordinated by Astrolab's Federal government customers with AFSMO (jimmy.nguyen@us.af.mil), NASA (HQ-SatCoord@mail.nasa.gov) and DOC/NOAA (spectrum.coordinator@noaa.gov).
5. For the uplink centered at 2069.1354 MHz, the following shall apply:
 - a. Astrolab must limit the uplink (Earth-to-space) transmission duty cycle from the Inuvik, Canada earth station to no more than 25%. Duty cycle is referenced to the duration of each visibility opportunity from the Inuvik, Canada earth station to the FLIP rover;
 - b. Astrolab must cease earth station uplink (Earth-to-space) transmissions whenever the Pandora spacecraft (NORAD ID: 67395) is within 10 degrees of the Svalbard, Norway earth station antenna boresight.
6. Astrolab must ensure that reception of space station transmissions centered at 2247.024869 MHz at the South Point, HI earth station location are limited to operations in direct support of NASA under the Commercial Lunar Payload Services (CLPS) initiative.
7. Astrolab's request for a waiver of the U.S. Table of Frequency Allocations, 47 CFR § 2.106(a), to conduct non-Federal space-to-Earth operations in the 2200-2290 MHz frequency band is GRANTED, subject to the condition that operations in these bands do not cause harmful interference and that Astrolab may not claim protection from interference. The 2200-2290 MHz band is allocated to the space operation (space-to-Earth) and space research (space-to-Earth) services in the U.S. Table for federal use only.⁸ Astrolab requests to use these bands for backup TT&C and payload data downlink.⁹ Given the limited duration of its mission and Astrolab's coordination with federal operators, we conclude that the operations will not cause harmful interference to systems operating in accordance with the Table of

⁵ See Legal Narrative at 20-21.

⁶ See Astrobotic Technology, Inc, ICFS File No. SAT-LOA-20250407-00094.

⁷ See Legal Narrative at 20; 47 CFR § 25.123(b)(10).

⁸ 47 CFR § 2.106(a).

⁹ See Legal Narrative at 18.

GRANT
Venturi Astrolab, Inc.
ICFS File Nos. SAT-LOA-20250729-00192; SAT-AMD-20260120-00032

Frequency Allocations. Accordingly, we find that it is in the public interest to grant Astrolab's waiver request.

8. Astrolab's request for waiver of the U.S. Table, 47 CFR § 2.106(a), to conduct inter-satellite communications in the 2400-2483.5 MHz band with the Griffin-1 lander is GRANTED on the condition that Astrolab operates in the band on an unprotected and non-interference basis, and accepts interference from and does not cause harmful interference to authorized stations that are operating in accordance with the U.S. Table. Astrolab intends to engage in short range space-to-space transmissions in the 2400-2483.5 MHz band with the Griffin-1 during its initial egress on the lunar surface.¹⁰ Astrolab notes that the emissions are low-power and remain on the lunar surface and agrees to accept any interference from other authorized services in the band.¹¹ In light of the foregoing, we believe that the proposed use of these frequencies will not cause harmful interference to existing or future authorized operations on the ground or in orbit and find that grant of this waiver is in the public interest.
9. Astrolab's request for partial waiver of sections 25.123(c) and 25.122(d)(4)-(9), 47 CFR §§ 25.123(c), 25.122(d)(4)-(9), is GRANTED. The Commission's rules require an applicant for a small spacecraft authorization to provide an orbital debris mitigation plan.¹² Astrolab specifically requests waiver of the requirement to provide orbital debris mitigation information for portions of the FLIP rover's operations where it will be attached as a payload to the Griffin-1 lander.¹³ Because the FLIP rover will be attached as a payload to the Griffin-1 lander until the FLIP rover is deployed on the lunar surface, some of the requirements in the Commission's rules will pertain to the Griffin-1's operations and are addressed in that application.¹⁴ Astrolab has provided an orbital debris mitigation plan for the aspects of its operations that are distinct from those of the Griffin-1 lunar lander.¹⁵ The Commission has reviewed and found that this information satisfies our rules. Because the FLIP rover will be a payload on the Griffin-1 lander until reaching the lunar surface, and because the orbital debris mitigation information for the Griffin-1 lander covers the period of time prior to reaching the lunar surface, we find that grant of Astrolab's waiver request does not undermine the purpose of the rule and is in the public interest.
10. Astrolab's request for partial waiver of section 25.114(c) of the Commission's rules, 47 CFR § 25.114(c), is GRANTED. Due to the nature of Astrolab's operations, certain requirements in section 25.114(c) do not apply. Specifically, Astrolab asks that the Commission waive the requirement to provide certain GXT files with the Schedule S and to provide the minimum and maximum saturation flux density for each space station receive antenna that is connected to transponders.¹⁶ We find that Astrolab has provided the technical information required for the Commission to review this application and therefore grant of this waiver is in the public interest.
11. Power flux-density levels at the surface of the earth from Astrolab's operation in the 8450-8500 MHz band must not exceed the limits in No. 22.5 and Table 21-4 of the ITU Radio Regulations and must meet the limits/protection criteria in Recommendation ITU-R SA.1157-1.

¹⁰ See Legal Narrative at 19.

¹¹ See *id.*

¹² 47 CFR §§ 25.123(c), 25.122(d).

¹³ Legal Narrative at 22.

¹⁴ See Astrobotic Technology, Inc, ICFS File No. SAT-LOA-20250407-00094. Astrolab specifically requests waiver of the requirement to provide the information required in 47 CFR § 25.122(d)(4)-(6), and (9).

¹⁵ See ICFS File No. Sat-LOA-20250719-00192, Exhibit A.

¹⁶ Legal Narrative at 21-22; 47 CFR § 25.114(c)(4)(v).

GRANT
Venturi Astrolab, Inc.
ICFS File Nos. SAT-LOA-20250729-00192; SAT-AMD-20260120-00032

12. Unless extended by the Commission for good cause shown, this authorization will become null and void in the event the FLIP lunar rover is not constructed and launched in accordance with the schedule set forth in section 25.164 of the Commission's rules, as follows:
13. In the event that the FLIP lunar rover has not been launched, placed into the assigned orbit, and begun operations in accordance with this grant by **June 9, 2027**,¹⁷ Astrolab must post a surety bond in satisfaction of 47 CFR §§ 25.165(a)(1) & (b) no later than **July 9, 2027**, thereafter maintain on file a surety bond requiring payment in the event of a default in an amount, at minimum, determined according to the formula set forth in 47 CFR § 25.165(a)(1); and
14. Astrolab must launch, place into the assigned orbit, and operate the FLIP lunar rover in accordance with this grant no later than **June 9, 2032**. 47 CFR § 25.164(b).
15. The license term is 90 days and will begin on 3 a.m. EST on the date that Astrolab certifies to the Commission that the FLIP lunar rover has been successfully placed into orbit and its operations fully conform to the terms and conditions of this authorization. Astrolab must file such certification within five (5) business days of placing the FLIP lunar rover into operation.

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

This action is taken pursuant to Section 0.261 of the Commission's rules on delegated authority, 47 CFR § 0.261, and is effective upon release.

Station licenses are subject to the conditions specified in Section 309(h) of the Communications Act of 1934, as amended, 47 U.S.C. § 309(h).

Action Date:	June 9, 2026	
Term Dates	From: See Conditions	To: For a period of 90 days

Approved:

Jonathan R. Markman
Acting Division Chief, Satellite Programs and Policy Division

¹⁷ We note that since this application is being processed under the rules for streamlined licensing of small spacecraft, the requirement for Astrolab to post a surety bond in accordance with 47 CFR § 25.165(a)(1) & (b) is deferred by one year following the date of grant in accordance with the grace period adopted in FCC 19-81. *See* 47 CFR 25.165(a).

GRANT
Venturi Astrolab, Inc.
ICFS File Nos. SAT-LOA-20250729-00192; SAT-AMD-20260120-00032

Appendix A: Coordinated Earth Stations

Downlink (space-Earth) earth stations in S-band and X-band

1. Inuvik, Canada
2. Svalbard, Norway
3. Western Australia
4. Byalalu, India
5. Byalalu, India
6. Irbene, Latvia
7. Maspalomas, Spain
8. Maspalomas, Spain
9. Santiago, Chile
10. South Point, Hawaii
11. Esrange, Sweden

Uplink (Earth-space) earth stations in S-band

1. Inuvik, Canada
2. Western Australia
3. Byalalu, India
4. Byalalu, India
5. Irbene, Latvia
6. Maspalomas, Spain
7. Maspalomas, Spain
8. Santiago, Chile
9. South Point, Hawaii