

GRANTED – With Conditions  Space Bureau Satellite Licensing Division	File #: <u>SAT-LOA-20250117-00019</u>	
	Call Sign: <u>S3220</u> (Or other identifier)	Grant Date: <u>October 7, 2025</u>
	Term Dates From: <u>See Conditions</u> To: <u>See Conditions</u>	
	Approved: <i>Kathryn J. Medley</i> Kathryn J. Medley Chief, Satellite Licensing Division	

Approved by OMB
3060-0678

Date & Time Filed: Jan 17 2025 6:24:47:563PM
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APPLICATION FOR SATELLITE SPACE STATION AUTHORIZATIONS FCC 312 MAIN FORM FOR OFFICIAL USE ONLY	FCC Use Only
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APPLICANT INFORMATION

Enter a description of this application to identify it on the main menu:
 Block 3.0 Tranche 1

1-8. Legal Name of Applicant			
Name:	Umbra Lab Inc	Phone Number:	805-270-5069
DBA Name:		Fax Number:	
Street:	133 E De La Guerra #39	E-Mail:	iulia.davies@umbra.space
City:	Santa Barbara	State:	CA
Country:	USA	Zipcode:	93101 –
Attention:	Ms Iulia Davies		

9-16. Name of Contact Representative

Name:	Ms. Iulia Davies	Phone Number:	805-455-3507
Company:	Umbra Lab, Inc.	Fax Number:	
Street:	133 E De La Guerra #39	E-Mail:	iulia.davies@umbra.space
City:	Santa Barbara	State:	CA
Country:	USA	Zipcode:	93101 -
Attention:	Legal Department	Relationship:	Legal Counsel

CLASSIFICATION OF FILING

17. Choose the buttonnext to the classification that applies to thisfiling for both questions a. and b. Choose only one for 17a and only one for 17b.

a.

(N/A) a1. Earth Station

☒ a2. Space Station

b.

☒ b1. Application for License of New Station

(N/A) b2. Application for Registration of New Domestic Receive-Only Station

(N/A) b3. Amendment to a Pending Application

(N/A) b4. Modification of License or Registration

(N/A) b5. Assignment of License or Registration

(N/A) b6. Transfer of Control of License or Registration

(N/A) b7. Notification of Minor Modification

(N/A) b8. Application for License of New Receive-Only Station Using Non-U.S. Licensed Satellite

☐ b9. Letter of Intent to Use Non-U.S. Licensed Satellite to Provide Service in the United States

☐ b10. Replacement Satellite Application - no new frequency bands

☐ b11. Replacement Satellite Application - new frequency bands (Not eligible for streamlined processing)

☐ b12. Petition for Declaratory Ruling to be Added to the Permitted List

(N/A) b13. Other (Please specify)

17c. Is a fee submitted with this application? ☒ If Yes, complete and attach FCC Form 159. If No, indicate reason for fee exemption (see 47 C.F.R. Section 1.1114). ☐ Governmental Entity ☐ Noncommercial educational licensee ☐ Other (please explain):					
17c. Fee Classification					
18. If this filing is in reference to an existing station, enter: (a) Call sign of station: Not Applicable					
19. If this filing is an amendment to a pending application enter: <table border="0"> <tr> <td>(a) Date pending application was filed:</td> <td>(b) File number of pending application:</td> </tr> <tr> <td>Not Applicable</td> <td>Not Applicable</td> </tr> </table>		(a) Date pending application was filed:	(b) File number of pending application:	Not Applicable	Not Applicable
(a) Date pending application was filed:	(b) File number of pending application:				
Not Applicable	Not Applicable				

TYPE OF SERVICE

20. NATURE OF SERVICE: This filing is for an authorization to provide or use the following type(s) of service(s): Select all that apply: ☐ a. Fixed Satellite ☐ b. Mobile Satellite ☐ c. Radiodetermination Satellite ☒ d. Earth Exploration Satellite ☐ e. Direct to Home Fixed Satellite ☐ f. Digital Audio Radio Service ☐ g. Other (please specify)	
21. STATUS: Choose the button next to the applicable status. Choose only one. ☐ Common Carrier ☒ Non-Common Carrier	22. If earth station applicant, check all that apply. Not Applicable
23. If applicant is providing INTERNATIONAL COMMON CARRIER service, see instructions regarding Sec. 214 filings. Choose one. Are these facilities: ☐ Connected to a Public Switched Network ☐ Not connected to a Public Switched Network ☒ N/A	
24. FREQUENCY BAND(S): Place an "X" in the box(es) next to all applicable frequency band(s). ☐ a. C-Band (4/6 GHz) ☐ b. Ku-Band (12/14 GHz) ☒ c. Other (Please specify upper and lower frequencies in MHz.) Frequency Lower: 2025 Frequency Upper: 10400 (Please specify additional frequencies in an attachment)	

TYPE OF STATION

25. CLASS OF STATION: Choose the button next to the class of station that applies. Choose only one.

- (N/A) a. Fixed Earth Station
(N/A) b. Temporary-Fixed Earth Station
(N/A) c. 12/14 GHz VSAT Network
(N/A) d. Mobile Earth Station
☐ e. Geostationary Space Station.
☒ f. Non-Geostationary Space Station
☐ g. Other (please specify)

26. TYPE OF EARTH STATION FACILITY: Not Applicable

PURPOSE OF MODIFICATION

27. The purpose of this proposed modification is to: (Place an "X" in the box(es) next to all that apply.) Not Applicable

ENVIRONMENTAL POLICY

28. Would a Commission grant of any proposal in this application or amendment have a significant environmental impact as defined by 47 CFR 1.1307? If YES, submit the statement as required by Sections 1.1308 and 1.1311 of the Commission's rules, 47 C.F.R. §§ 1.1308 and 1.1311, as an exhibit to this application. A Radiation Hazard Study must accompany all applications for new transmitting facilities, major modifications, or major amendments. ☐ Yes ☒ No

ALIEN OWNERSHIP

Earth station applicants not proposing to provide broadcast, common carrier, aeronautical en route or aeronautical fixed radio station services are not required to respond to Items 30-34.

29. Is the applicant a foreign government or the representative of any foreign government?	☐ Yes ☒ No
30. Is the applicant an alien or the representative of an alien?	☐ Yes ☒ No ☐ N/A
31. Is the applicant a corporation organized under the laws of any foreign government?	☐ Yes ☒ No ☐ N/A
32. Is the applicant a corporation of which more than one-fifth of the capital stock is owned of record or voted by aliens or their representatives or by a foreign government or representative thereof or by any corporation organized under the laws of a foreign country?	☐ Yes ☒ No ☐ N/A
33. Is the applicant a corporation directly or indirectly controlled by any other corporation of which more than one-fourth of the capital stock is owned of record or voted by aliens, their representatives, or by a foreign government or representative thereof or by any corporation organized under the laws of a foreign country?	☐ Yes ☒ No ☐ N/A
34. If any answer to questions 29, 30, 31, 32 and/or 33 is Yes, attach as an exhibit an identification of the aliens or foreign entities, their nationality, their relationship to the applicant, and the percentage of stock they own or vote.	

BASIC QUALIFICATIONS

35. Does the Applicant request any waivers or exemptions from any of the Commission's Rules? If Yes, attach as an exhibit, copies of the requests for waivers or exceptions with supporting documents.	☒ Yes ☐ No Narrative
36. Has the applicant or any party to this application or amendment had any FCC station authorization or license revoked or had any application for an initial, modification or renewal of FCC station authorization, license, or construction permit denied by the Commission? If Yes, attach as an exhibit, an explanation of circumstances.	☐ Yes ☒ No Exhibit A
37. Has the applicant, or any party to this application or amendment, or any party directly or indirectly controlling the applicant ever been convicted of a felony by any state or federal court? If Yes, attach as an exhibit, an explanation of circumstances.	☐ Yes ☒ No Exhibit B
38. Has any court finally adjudged the applicant, or any person directly or indirectly controlling the applicant, guilty of unlawfully monopolizing or attempting unlawfully to monopolize radio communication, directly or indirectly, through control of manufacture or sale of radio apparatus, exclusive traffic arrangement or any other means or unfair methods of competition? If Yes, attach as an exhibit, an explanation of circumstances	☐ Yes ☒ No Exhibit C
39. Is the applicant, or any person directly or indirectly controlling the applicant, currently a party in any pending matter referred to in the preceding two items? If yes, attach as an exhibit, an explanation of the circumstances.	☐ Yes ☒ No Exhibit D

40. If the applicant is a corporation and is applying for a space station license, attach as an exhibit the names, address, and citizenship of those stockholders owning a record and/or voting 10 percent or more of the Filer's voting stock and the percentages so held. In the case of fiduciary control, indicate the beneficiary(ies) or class of beneficiaries. Also list the names and addresses of the officers and directors of the Filer.

Exhibit E

41. By checking Yes, the undersigned certifies, that neither applicant nor any other party to the application is subject to a denial of Federal benefits that includes FCC benefits pursuant to Section 5301 of the Anti-Drug Act of 1988, 21 U.S.C. Section 862, because of a conviction for possession or distribution of a controlled substance. See 47 CFR 1.2002(b) for the meaning of "party to the application" for these purposes.

☒ Yes ☐ No

42a. Does the applicant intend to use a non-U.S. licensed satellite to provide service in the United States? If Yes, answer 42b and attach an exhibit providing the information specified in 47 C.F.R. 25.137, as appropriate. If No, proceed to question 43.

☐ Yes ☒ No

42b. What administration has licensed or is in the process of licensing the space station? If no license will be issued, what administration has coordinated or is in the process of coordinating the space station?

43. Description. (Summarize the nature of the application and the services to be provided). (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

Umbra seeks authorization to launch and operate a small satellite non-geostationary orbit constellation to provide Synthetic Aperture Radar data.

43a. Geographic Service Rule Certification

By selecting A, the undersigned certifies that the applicant is not subject to the geographic service or geographic coverage requirements specified in 47 C.F.R. Part 25.

☒ A

By selecting B, the undersigned certifies that the applicant is subject to the geographic service or geographic coverage requirements specified in 47 C.F.R. Part 25 and will comply with such requirements.

☐ B

By selecting C, the undersigned certifies that the applicant is subject to the geographic service or geographic coverage requirements specified in 47 C.F.R. Part 25 and will not comply with such requirements because it is not feasible as a technical matter to do so, or that, while technically feasible, such services would require so many compromises in satellite design and operation as to make it economically unreasonable. A narrative description and technical analysis demonstrating this claim are attached.

☐ C

CERTIFICATION

The Applicant waives any claim to the use of any particular frequency or of the electromagnetic spectrum as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise, and requests an authorization in accordance with this application. The applicant certifies that grant of this application would not cause the applicant to be in violation of the spectrum aggregation limit in 47 CFR Part 20. All statements made in exhibits are a material part hereof and are incorporated herein as if set out in full in this application. The undersigned, individually and for the applicant, hereby certifies that all statements made in this application and in all attached exhibits are true, complete and correct to the best of his or her knowledge and belief, and are made in good faith.

44. Applicant is a (an): (Choose the button next to applicable response.)		
☐ Individual ☐ Unincorporated Association ☐ Partnership ☒ Corporation ☐ Governmental Entity ☐ Other (please specify)		
45. Name of Person Signing Iulia Davies	46. Title of Person Signing Legal Counsel	
47. Please supply any need attachments. 1: 2: 3:		
WILLFUL FALSE STATEMENTS MADE ON THIS FORM ARE PUNISHABLE BY FINE AND / OR IMPRISONMENT (U.S. Code, Title 18, Section 1001), AND/OR REVOCATION OF ANY STATION AUTHORIZATION (U.S. Code, Title 47, Section 312(a)(1)), AND/OR FORFEITURE (U.S. Code, Title 47, Section 503).		

ATTACHMENT TO GRANT

Umbra Lab, Inc.

ICFS File No. SAT-LOA-20250117-00019

ICFS File No(s):	SAT-LOA-20250117-00019	GRANTED – With Conditions  Space Bureau Satellite Licensing Division
Licensee/Grantee:	Umbra Lab, Inc.	
Call Sign:	S3220	
Satellite Name:	Block 3 Tranche 1	
Orbital Location: (required station-keeping tolerance)	Non-geostationary orbit (NGSO) with initial deployment at approximately 590 km and operating altitudes between 535 km and 595 km with an inclination of 97.4 degrees (± 0.1 degrees) for satellites 11 through 13 and 53.5 degrees (± 0.1 degrees) for satellite 14, and continued SAR operations at the terminal phase of flight down to an altitude of 325 km. ¹	
Administration:	United States of America	
Scope of Grant:	Authority to deploy and operate four satellites to conduct synthetic aperture radar (SAR) imaging in the Earth exploration-satellite service.	
Service Area(s):	N/A	
Frequencies:	8025-8400 MHz (center frequency 8150.0 MHz; 250 MHz bandwidth) (space-to-Earth) <u>SAR:</u> 9300-9900 MHz (center frequency 9600 MHz; 600 MHz bandwidth) 9200-10400 MHz (center frequency 9800 MHz; 1200 MHz bandwidth) <u>TT&C:</u> 2025-2110 MHz (Earth-to-space) (center frequencies 2080.0 MHz for odd numbered satellites and 2100.0 MHz for even number satellites, 100 kHz bandwidth) 2200-2290 MHz (space-to-Earth) (center frequencies 2254.0 MHz for odd numbered satellites and 2274.0 MHz for even number satellites, 100 kHz bandwidth) (outside U.S. and Possessions only)	
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. Umbra’s request for its application to be processed under the rules for streamlined licensing of small satellites is GRANTED. We find that the operations requested in this application met the criteria listed in section 25.122 of the Commission’s rules, 47 CFR § 25.122.² We conclude that Umbra’s operations are compatible with existing operations in the requested bands and will not materially constrain future space station entrants from using the authorized frequencies. 2. In connection with the provision of service in any particular country, Umbra is obliged to comply with the applicable laws, regulations, rules, and licensing procedures of that country. 3. Umbra’s request for a waiver in part of Section 25.114(c) of the Commission’s rules, 47 CFR § 25.114(c),³ is GRANTED, specifically with respect to certain entries in the Form 312 – Schedule S. As required by the Commission’s rules, Umbra submitted a completed Schedule S for its application, which contains certain technical information in a prescribed form. Umbra found that it could not accurately describe its system in certain respects due to limitations in Schedule S itself. Umbra cites three limitations in Schedule S that affected how the Schedule S was completed: (1) the inability to enter a number less than zero for the maximum transmit EIRP for Umbra’s TT&C transmitter, which will transmit at -8.4		

¹ See Technical Attachment at 1.

² See 47 CFR § 25.122; *see also* Legal Narrative at 10-11 (specifying compliance with the qualifying criteria in 47 CFR § 25.122(b)).

³ See Legal Narrative at 13.

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dBW; (2) the requirement to include a maximum PFD value for the 0-5 degrees and 5-10 degrees fields for Umbra's SAR transmit, which does not image below 10 degrees; and (3) the inability to include both vertical and horizontal polarization for Umbra's SAR transmitter. In view of the fact that Umbra has implemented a workaround for each of these limitations to allow entry of the required information, we find that a waiver of the requirement to complete certain aspects or fields of Schedule S is warranted.

4. Umbra's requests for waiver of the U.S. Table of Frequency Allocations, 47 CFR § 2.106(a), to conduct EESS (active) operations in the 9200-9300 MHz, 9900-10000 MHz, and 10000-10400 MHz bands,⁴ and for waiver of the U.S. Table of Frequency Allocations, Footnote US128, 47 CFR § 2.106(a), (c)(128), to conduct SAR operations in the 10000-10400 MHz band using pulsed emissions⁵ are GRANTED. These bands were allocated internationally to the EESS (active) at WRC-15, however the Commission has not at this time incorporated any WRC-15 substantive outcomes into the U.S. Table of Frequency Allocations.⁶ Umbra states that its operations comply with international requirements for these bands and it will coordinate with other operators to minimize interference. Umbra also relies on an ITU study which analyzes the impact of systems with similar characteristics to the Umbra SAR Constellation in order to assess the risk of interference from Umbra's operations in the 9200-9300 MHz, 9900-10000 MHz, and 10000-10400 MHz band.⁷ The ITU study was conducted before WRC-15 to analyze possible interference between potential new global SAR systems and co-frequency and adjacent-channel operations in the 8.7-9.3 GHz and 9.9-10.5 GHz bands and formed the basis for adoption of the international allocations.⁸ Umbra observes that the system described in the ITU study, SAR-4, has similar characteristics (orbital parameters and SAR operations) to the Umbra system, except for the equivalent isotropic radiated power (EIRP), which is lower for the Umbra system than the SAR-4 system, resulting in lower interference risk from the Umbra SAR Constellation than calculated in the SAR-4 system in the ITU study.⁹ We find that a waiver is justified and in the public interest. Umbra must operate in these bands to protect other Federal and non-Federal operations. Additionally, the 10000-10400 MHz band is allocated for non-Federal amateur use, and Umbra must operate to protect amateur use in this band. Given that the Commission has not modified its rules in the U.S. Table of Frequency Allocations to implement the international allocations for EESS (active) operations in these bands, Umbra's SAR operations in the 9200-9300 MHz, 9900-10000 MHz, and 10000-10400 MHz bands are subject to modification to bring them into conformance with any future Commission rulemakings.
5. Umbra may only transmit to earth stations outside the US&P in the 2200-2290 MHz band. The 2200-2290 MHz band is allocated to Space Operations (space-to-Earth) and EESS (space-to-Earth) in all ITU regions, but the band is allocated solely for federal use within the United States and Possessions (except as provided for in 47 CFR section 2.106(c)(96), (303) (footnotes US96 and US303), which are not applicable here). Umbra is required to successfully coordinate with NTIA prior to submitting any ITU filing involving any earth stations outside of the United States and Possessions (US&P) that operate in the 2200-2290 MHz band. NTIA will consider the request by Umbra for access to the 2200-2290 MHz band for earth stations located outside of the US&P on a case-by-case coordinated basis¹⁰ with appropriate EMC analysis to NTIA (ravery@ntia.gov), AFSMO (jimmy.nguyen@us.af.mil), NASA (HQ-SatCoord@mail.nasa.gov), and DOC/NOAA (spectrum.coordinator@noaa.gov) to ensure compatibility of operations with the Federal government.
6. We GRANT, on our own motion, a waiver of the U.S. Table of Frequency Allocations, 47 CFR § 2.106(a), to allow non-conforming use of the 2025-2110 MHz band for Umbra's satellites TT&C, subject to the condition that Umbra operates on an unprotected and non-interference basis, accepts any

⁴ See Legal Narrative at 12-13.

⁵ See Interference Analysis at 8-9.

⁶ See Interference Analysis at 2.

⁷ See Interference Analysis at 3-9.

⁸ See Interference Analysis at 1-2.

⁹ See Interference Analysis at 3.

¹⁰ See Appendix A for a list of coordinated earth station locations.

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interference from authorized services, and complies with the other conditions regarding operations in this band. Umbra intends to operate TT&C in these frequencies but will not operate in the EESS using these bands. In the band 2025-2110 MHz, non-Federal Earth-to-space transmissions may be authorized in the space research and Earth exploration-satellite services, however, this does not include operations solely in the space operations service. 47 CFR § 2.106(a), (c)(347). In this instance we find good cause to waive the Table of Allocations to allow Umbra to operate command links only with its satellites based on Umbra's coordination with federal users in the band, which should ensure that any authorized federal users are protected from harmful interference.

7. Transmissions in the 8025-8400 MHz bands may only be made to/from Federal earth stations or earth stations coordinated with the National Aeronautics and Space Administration (NASA), the Air Force Spectrum Management Office (AFSMO), Department of Commerce/National Oceanic and Atmospheric Administration (DOC/NOAA), and the Department of the Navy (DON). A list of coordinated non-Federal earth stations is attached in Appendix A. Umbra shall provide the FCC with an updated list of coordinated non-Federal earth stations within ten business days following any changes to this list. Communications of the Umbra satellites with Federal or government-sponsored earth stations shall be coordinated by Umbra's Federal government customers with AFSMO (jimmy.nguyen@us.af.mil), NASA (HQ-SatCoord@mail.nasa.gov) and DOC/NOAA (spectrum.coordinator@noaa.gov).
8. Umbra shall limit earth station duty cycle percentage (time transmitting/time visible) to no more than the percentages listed for each earth station identified in Appendix A.
9. Transmissions in the 2200-2290 MHz frequency band using an emission bandwidth of 100 kHz shall not exceed an equivalent isotropic radiated power (e.i.r.p.) of -4.8 dBW. During NASA Artemis missions, beginning with Artemis IV, from launch until launch plus 48 hours Umbra shall cease space-to-Earth transmissions centered at 2254.0 MHz when within radio line of sight of earth stations located in Canberra, Australia; Madrid, Spain; Harteebesthoek, South Africa; Dongara, Australia; Kiruna, Sweden; Svalbard, Norway; Troll, Antarctica; Punta Arenas, Chile; Santiago, Chile; and Singapore. During NASA Artemis missions, beginning with Artemis IV, from launch until launch plus 48 hours Umbra shall cease space-to-Earth transmissions centered at 2274.0 MHz when within radio line of sight of earth stations located in Oakham, United Kingdom; Andersen, Guam; Diego Garcia, DGA; and Thule Greenland.
10. Umbra's Block 3 Tranche 1 space-to-Earth transmissions in the 8025-8400 MHz band must not exceed power flux density (PFD) levels at the geostationary-satellite orbit and at the surface of the Earth as specified in the ITU Radio Regulation No. 22.5 and Table 21-4. During altitude reductions resulting from end-of-life orbital decay, Umbra shall reduce transmit power in the space-Earth direction so as not to exceed a maximum power flux density level at the surface of the Earth of -255.1 dBW/Hz/m² in the 8400-8450 MHz band.
11. Umbra shall cease Earth-to-space transmissions centered at 2100.0 MHz when any of the following spacecraft are within 10 degrees of the antenna boresight of a supporting earth station:
 - a. Landsat-8 (NORAD ID: 39084)
 - b. Landsat-9 (NORAD ID: 49260)
 - c. Magnetospheric Multiscale Mission (MMS) (NORAD IDs: 40482-40485)
12. Umbra shall cease space-to-Earth transmissions centered at 2274.0 MHz from any of its satellites when the conjunction angle formed by an Umbra satellite, any of the earth stations located at Madrid, Spain (40° 25' 32" N, 04° 15' 15" W); Canberra, Australia (35° 23' 54" S, 148° 58' 55" E); Dongara, Australia (29° 02' 44" S, 115° 20' 55" E); Svalbard, Norway (78° 13' 54" N, 15° 24' 40" E); Santiago, Chile (33° 09' 04" S, 70° 39' 59" W); or Punta Arenas, Chile (52° 56' 06" S, 70° 52' 15" W), and either the Wind (Sun-Earth 1 Lagrange Point (L1)), SMAP (NORAD ID: 40376), CYGNSS (NORAD IDs: 41884-41888 and 41890-41891), NuSTAR (NORAD ID: 38358), PACE (NORAD ID: 58928), or PolSIR (NORAD ID: TBD) is less than 2 degrees.

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13. In the 8025-8400 MHz band, Umbra shall cease downlink (space-Earth) transmissions to the Svalbard, Norway earth station, centered at 8150.0 MHz, when any Umbra satellite is within a 2-degree conjunction angle of the Suomi-NPP satellite (NORAD ID: 37849), as observed from the NOAA Svalbard, Norway earth station (78.2321N, 15.4014E). Additionally, Umbra shall cease downlink transmissions to the Barrow, AK earth station when the following NOAA satellites are within a conjunction angle of 1 degree from any Umbra satellite, as observed from the NOAA Fairbanks, AK, USA earth station (64.9725N, 147.5011W):
 - a. JASON-CS A/Sentinel-6A (NORAD ID: 46984)
 - b. JASON-CS B/Sentinel-6B (NORAD ID: TBD, launch Nov 2025)
 - c. Suomi-NPP (NORAD ID: 37849)
 - d. OceanSat-3 (NORAD ID: 54361)
14. 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)).
15. Unless extended by the Commission for good cause shown, this authorization will become null and void in the event the Umbra Block 3 Tranche 1 space stations are not constructed and launched in accordance with the schedule set forth in section 25.164 of the Commission's rules, as follows:
 - a. In the event that at least one of the Umbra Block 3 Tranche 1 space stations has not been launched, placed into the assigned orbit, and begun operations in accordance with this grant by October 7, 2026, Umbra must post a surety bond in satisfaction of 47 CFR §§ 25.165(a)(1) & (b) no later than November 6, 2026, and 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
 - b. Umbra must launch all four Umbra Block 3 Tranche 1 space stations, place them into the assigned orbit, and operate the space stations in accordance with this grant no later than October 7, 2031. 47 CFR § 25.164(b).
16. The license term is six years and begins at 3 a.m. EST on the date that Umbra certifies to the Commission that the first of the Umbra Block 3 Tranche 1 space stations is successfully placed into orbit and the operations fully conform to the terms and conditions of this authorization. Umbra must also file a certification within five business days of placing the first Umbra Block 3 Tranche 1 space station into operation.

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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:	October 7, 2025
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Term Dates	From: See Conditions	To: See Conditions
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Approved:



Kathryn J. Medley
Division Chief, Satellite Licensing Division

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Appendix A: List of Coordinated Non-Federal Earth Stations

S-band uplink (2025-2110 MHz) Earth-to-space, all earth stations limited to 15 % duty cycle (duty cycle is the time transmitting divided by time visible, multiplied by 100)

1. Awarua, New Zealand
2. Barrow, AK, USA
3. Bel Ombre, Mauritius
4. Chitose, Japan
5. Cordoba, Argentina
6. Guildford, United Kingdom
7. Harmon (Dededo), Guam
8. Harteebesthoek, South Africa
9. Mingenew, Australia
10. Nemea, Greece
11. Punta Arenas, Chile
12. Singapore, Singapore
13. Svalbard, Norway
14. Troll, Antarctica
15. Ushuaia, Argentina

S-band downlink (2200-2290 MHz) space-to-Earth, all earth stations limited to 75 % duty cycle (except Cordoba, Argentina; and Svalbard, Norway, which are limited to 80% duty cycle)

1. Awarua, New Zealand
2. Bel Ombre, Mauritius
3. Chitose, Japan
4. Cordoba, Argentina
5. Guildford, United Kingdom
6. Harteebesthoek, South Africa
7. Mingenew, Australia
8. Nemea, Greece
9. Punta Arenas, Chile
10. Singapore, Singapore
11. Svalbard, Norway
12. Troll, Antarctica
13. Ushuaia, Argentina

X-band downlink (8025-8400 MHz) space-to-Earth, all earth stations limited to 75 % duty cycle (except Cordoba, Argentina; and Svalbard, Norway, which are limited to 80% duty cycle)

1. Awarua, New Zealand
2. Barrow, AK, USA
3. Bel Ombre, Mauritius
4. Chitose, Japan
5. Cordoba, Argentina

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6. Guildford, United Kingdom
7. Harmon (Dededo), Guam
8. Harteebesthoek, South Africa
9. Mingenew, Australia
10. Nemea, Greece
11. North Pole, Alaska, USA
12. Punta Arenas, Chile
13. Singapore, Singapore
14. Svalbard, Norway
15. Troll, Antarctica
16. Ushuaia, Argentina