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United States of America
FEDERAL COMMUNICATIONS COMMISSION
EXPERIMENTAL
RADIO STATION CONSTRUCTION PERMIT
AND LICENSE

EXPERIMENTAL	WP2XEU
(Nature of Service)	(Call Sign)
XT MO	0703-EX-CN-2024
(Class of Station)	(File Number)

NAME Astro Digital US Inc

Subject to the provisions of the Communications Act of 1934, subsequent acts, and treaties, and all regulations heretofore or hereafter made by this Commission, and further subject to the conditions and requirements set forth in this license, the licensee hereof is hereby authorized to use and operate the radio transmitting facilities hereinafter described for radio communications in accordance with the program of experimentation described by the licensee in its application for license.

Operation: In accordance with Sec. 5.3(J) of the Commission's Rules

Station Locations

(1) MOBILE: NGSO LEOSAT, 510km 97.6 Deg Inc.

Frequency Information

MOBILE: NGSO LEOSAT, 510km 97.6 Deg Inc.

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
401.1 MHz	MO	60K0F1D	4 W (ERP)	0.001 %

Special Conditions:

(1) The licensee shall provide the Commission with all information required for the Advance Publication, Coordination and Notification of frequency assignments pursuant to the International Radio Regulations. This includes the preparation of draft materials, to be provided to the Commission prior to submission to the International Telecommunication Union. The authorized operations require notification of frequency assignments pursuant to Article 11 of the ITU Radio Regulations. Licensee shall provide the FCC, not later than 30 days after a frequency assignment is brought into use, the documents required for notification (including SpaceCap Notification MDB file) of such frequency assignments. The licensee shall also prepare materials for informing the ITU that a frequency assignments has been brought into use, or that its use has been suspended or permanently discontinued.

This authorization effective January 24, 2025 and
will expire 3:00 A.M. EST February 01, 2026

FEDERAL COMMUNICATIONS COMMISSION

Special Conditions:

(2) Licensee should be aware that other stations may be licensed on these frequencies and if any interference occurs, the licensee of this authorization will be subject to immediate shut down.

(3) Upon receipt of a conjunction warning from the JSpOC or other source, the licensee must review the warning and take all possible steps to assess and, if necessary, to mitigate collision risk, including, but not limited to: contacting the operator of any active spacecraft involved in such warning; sharing ephemeris data and other appropriate operational information with any such operator; modifying spacecraft attitude and/or operations.

(4) The occupied bandwidth of the emission shall not extend beyond the band limits set forth above.

(5) Following launch of the satellite, the licensee must notify the FCC through electronic submission to the license file, of the status of the satellite (transmissions commenced, etc.), not later than 7 days after commencement or expected commencement of transmissions, and of termination of transmissions, not later than three months after such termination.

(6) OPERATIONS OF SPACE STATION/S THAT COMMUNICATE/S TO ASSOCIATED GROUND STATION/S OUTSIDE OF THE USP REQUIRE ASTRO DIGITAL US INC TO INITIATE AND COMPLETE THE ADVANCE PUBLICATION, COORDINATION, DUE DILIGENCE, AND NOTIFICATION PROCESS FOR THESE SPACE STATIONS AND OBTAINS AUTHORIZATION FROM APPROPRIATE ADMINISTRATION/S WHERE THE FOREIGN GROUND STATION/S IS/ARE LOCATED.

(7) FRAZIER IS NOT TO TRANSMIT WITHIN 2000 KM OF THE INTERNATIONAL SPACE STATION (ISS, NORAD ID 25544).

(8) This grant does not directly authorize any transmissions in the 2025-2110 MHz band. However, for electromagnetic compatibility with Federal systems, Astro Digital specified a single uplink (Earth-to-space) center frequency of 2055.0 MHz with a 300.0 kHz emission bandwidth. Any deviation from this emission center frequency and/or bandwidth shall be cause for revocation of this license. For future separate applications, Astro Digital should be aware of the difficulty associated with coordinating use of the 2025-2110 MHz band for new Earth-to-space users, especially those that are not in conformance with the Domestic Table of Allocations. Therefore, obtaining authorization for operations in the 2025-2110 MHz band may not be possible.

(9) Astro Digital operations using center frequencies of 401.1 MHz (space-to-Earth transmissions) or 2055 MHz (Earth-to-space transmissions) shall be strictly limited to durations when the FRAZIER spacecraft is visible to one of the earth station locations listed below:
a. Tromso, Norway
b. Vimercate, Italy
c. Unst, United Kingdom
d. Deadhorse, AK, USA

Special Conditions:

(10) Furthermore, during coordination with Federal agencies, Astro Digital asserted they shall completely discontinue the use of the beacon operational mode on the FRAZIER satellite. Instead, Astro Digital shall implement a health-telemetry downlink tool that will only allow downlink (space-to-Earth) transmissions centered on 401.1 MHz when the satellite is in view of the FRAZIER earth stations identified above, thus ensuring no transmissions occur when the satellite is not visible to FRAZIER earth stations. Per coordination with Federal agencies, transmissions to/from the earth stations above are limited to a duty cycle of 30% per earth station location. Astro Digital shall coordinate the addition of any other earth station locations (including earth station locations outside the US&P) with the NTIA and federal agencies prior to submitting regulatory applications for operation.

(11) Astro Digital shall submit the appropriate Advance Publication Information (API) to the ITU-R Radiocommunications Bureau (BR) prior to operations of the FRAZIER spacecraft and identify any non-conformal use of the allocations by specifying ITU R.R. Art. 4.4. Astro Digital shall ensure transmissions from foreign earth stations to the FRAZIER spacecraft shall obtain the appropriate regulatory approvals from the respective foreign administrations prior to operations.

(12) Stop Buzzer Point of Contact: Jack Ackohen
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(13) POINT OF COMMUNICATION: Frazier CubeSat