

**United States of America
FEDERAL COMMUNICATIONS COMMISSION
EXPERIMENTAL
SPECIAL TEMPORARY AUTHORIZATION**

EXPERIMENTAL

(Nature of Service)

WR9XRB

(Call Sign)

XT MO

(Class of Station)

1271-EX-ST-2021

(File Number)

NAME Firefly Aerospace

This Special Temporary Authorization is granted upon the express condition that it may be terminated by the Commission at any time without advance notice or hearing if in its discretion the need for such action arises. Nothing contained herein shall be construed as a finding by the Commission that the authority herein granted is or will be in the public interest beyond the express terms hereof.

This Special Temporary Authorization shall not vest in the grantee any right to operate the station nor any right in the use of the frequencies designated in the authorization beyond the term hereof, nor in any other manner than authorized herein. Neither the authorization nor the right granted hereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934. This authorization is subject to the right of use of control the Government of the United States conferred by Section 706 of the Communications Act of 1934.

Special Temporary Authority is hereby granted to operate the apparatus described below:

Purpose Of Operation:

To demonstrate the viability of Alpha as a small-satellite launcher.

Station Locations

- (1) MOBILE: Launch from VAFB, CA to 300km orbit, centered around NL 34-45-20; WL 120-37-20

Frequency Information

MOBILE: Launch from VAFB, CA to 300km orbit, centered around NL 34-45-20; WL 120-37-20

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
2205 MHz	MO	780KG1D	10.5 W (ERP)	1 %
2215 MHz	MO	3M90G1D	10.5 W (ERP)	1 %

This authorization effective September 15, 2021 and
will expire 3:00 A.M. EST March 16, 2022

**FEDERAL
COMMUNICATIONS
COMMISSION**



Special Conditions:

- (1) 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.
- (2) In lieu of frequency tolerance, the occupied bandwidth of the emission shall not extend beyond the band limits set forth above.
- (3) Future STA requests to extend this authorization will not be considered. The applicant is required to file for a regular experimental application in accordance with the FCC CFR47 Part 5.61.
- (4) All Firefly Aerospace operations granted on an experimental basis shall be on an unprotected, non-interference basis to authorized federal stations.
- (5) Operations are limited to a single Firefly Aerospace launch from Vandenberg AFB, CA for the Alpha Flight 1 mission. This STA will expire as soon as the launch has been completed or 15 March 2022, whichever occurs first. Applications for any future launches, or modifications to this STA, shall be submitted to the FCC for coordination with NTIA and federal agencies.
- (6) Firefly Aerospace shall be aware that future requests for non-federal operations in the 2200-2290 MHz band will be considered on a case-by-case basis, and Firefly Aerospace shall have no expectations that future requests will be approved.
- (7) All transmissions in the band 2200-2290 MHz shall comply with national and international power flux-density limits, except in cases where expected exceedances are pre-coordinated and agreed-upon.
- (8) As soon as possible, but no later than 60 business days prior to the planned launch, Firefly Aerospace is required to provide, as a minimum, launch date/time/window and planned first- and second-stage trajectory, transmission frequencies with associated duration/cut-off time to Randall Shepherd (Randall.shepherd@spaceforce.mil, USSF SPOC 30 SCS/SCPS), Jimmy Nguyen (jimmy.nguyen@us.af.mil, AFSMO), Shaobei Xu (shaobei.xu.1@us.af.mil, AFSMO), Pedro Mendoza (pedro.mendoza.1@us.af.mil, AFSMO), Felipe Arroyo (felipe.arroyo-1@nasa.gov, NASA WFF), NASA GSFC Spectrum Office (NASA-DL-GSFC-Spectrum-Management@mail.nasa.gov), Stephen Horan (stephen.j.horan@nasa.gov, NASA LaRC), NOAA Satellite Operations Control Center (Matt.G.Sullivan@noaa.gov), and NASA JSC Spectrum Office (JSC-DL-Spectrum-Management@mail.nasa.gov). In the event of last-minute changes, 48-hour notice is required.
- (9) Firefly Aerospace shall coordinate all operations with the NASA JSC Spectrum Management Office (JSC-DL-Spectrum-Management@mail.nasa.gov), at least 15 business days prior to operation.
- (10) Firefly Aerospace shall be aware that future requests for commercial launch vehicle transmissions within the 2200-2290 MHz frequency band should be limited the following recommended frequencies 2211.0 +/-4 MHz, 2215.0 +/-4 MHz, 2272.5 +/-2 MHz, or 2285-2290 MHz (for communication with NASA Tracking and Data Relay Satellite (TDRS) only), to avoid impact to federal operations that may result in unfavorable findings.
- (11) The Stop Buzzer information, for launch operations shall be provided to NTIA (ravery@ntia.gov). This phone shall be manned 24/7.

Special Conditions:

- (12) Firefly Aerospace shall keep a log of all transmissions in the band 2200-2290 MHz and provide to the NTIA after the mission. This log shall include, as a minimum, date, time, vehicle position, frequency, EIRP density, and pointing direction of all antennas. The log shall be provided to the following NTIA personnel no later than three (3) weeks after completing the mission: ravery@ntia.gov and edrocella@ntia.gov.
- (13) Commercial launch service providers should be aware that a satellite integrated into a launch vehicle or deployment device without a current FCC authorization may need to be removed from that vehicle or deployment device if the satellite operator's application for an FCC authorization is not acted upon favorably, or for various reasons cannot be granted within a time frame consistent with the launch schedule. Commercial launch providers should exercise due diligence to verify satellite operator's regulatory approvals prior to launch (FCC Enforcement Advisory DA 18-368).
- (14) Prior to the planned operating at Vandenberg Space Force Base (VSFB), CA, Firefly Aerospace is required to coordinate and schedule their operations with 2 ROPS/DOS Range Scheduling (805) 606-8825, 2 ROPS/DOS Section (2ROPS.DOS@us.af.mil) and provide a copy of FCC license to SLD 30 Spectrum Management Office (805) 606-6695, email: 30scs.scorf@us.af.mil
- (15) As soon as possible, but no later than 60 business days prior to the planned launch, Firefly Aerospace is required to provide operations and spaceflight trajectories to the Naval Surface Warfare Center, Dahlgren Division (NSWCDD). One (1) or more of five (5) blackout zones (BOZs) MAY be imposed as follows: (1) 1500 nautical mile radius centered at 22N160W; (2) 1500 nautical mile radius centered at 33.25N119.57W; (3) 1500 nautical mile radius centered at 4.11N175.2W; (4) 1500 nautical mile radius centered at 57.46N152.38W; and (5) 1500 nautical mile radius centered at 32.37N106.47W. The final launch schedule for this SpaceX mission will ultimately determine which, if any BOZ will be implemented. The primary contacts for frequency coordination: Mr. James Moneyhon, (540) 653-3477- james.moneyhon@navy.mil, Mr. A. Jason Verdugo, (540) 653-9590 – Anthony.J.Verdugo@navy.mil, and/or Mr. Phillip B. Scyphers, (540) 653-6071 – Phillip.scyphers@navy.mil. Group email box - W_DLGR_NSWC_FTMA_FM@navy.mil.
- (16) Firefly must schedule their launch so that the launch vehicle will avoid the following specified proximities in relation to NOAA satellites:
- a. The launch vehicle is within 3 degrees of the JASON-3 satellite as it's downlinking to the NOAA Wallops ground station.
- b. The launch vehicle is within 5 degrees of the DSCOVR satellite as it's downlinking to the NOAA Wallops ground station.
- In both cases, the specified angle is measured from the boresight of the NOAA Wallops ground station antenna. The coordinates for the Wallops ground station are 37.9454 N, 75.4616 W.
- (17) This STA is authorized for 6 months. Future STA requests to extend this authorization will not be considered. The applicant is required to file a regular experimental application in accordance with the FCC CFR 47 Part 5.61.