

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

EXPERIMENTAL

(Nature of Service)

WS9XWI

(Call Sign)

XT MO

(Class of Station)

1418-EX-ST-2021

(File Number)

NAME Astra Space

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:

This application is for the launch of an orbital rocket, for launch attempts between December 1st 2021 and June 1st 2022.

Station Locations

- (1) MOBILE: Launch Vehicle Stages 1 and 2, within 7500 km, centered around NL 28-50-45; WL 80-31-42

Frequency Information

MOBILE: Launch Vehicle Stages 1 and 2, within 7500 km, centered around NL 28-50-45; WL 80-31-42

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
2209.84-2212.16 MHz	MO	2M32F1D	6.31 W (ERP)	0.0002 %

Special Conditions:

- (1) All Astra Space operations granted on an experimental basis shall be on an unprotected, non-interference basis to authorized federal stations.

This authorization effective December 01, 2021 and
will expire 3:00 A.M. EST June 02, 2022

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COMMISSION**



Special Conditions:

- (2) Operations shall be limited to telemetry, tracking, and launch vehicle communications for a single Astra Space launch from Kennedy Space Center, FL or Cape Canaveral Space Force Base, FL. This STA is limited to the single Astra Space mission to include pre-launch checkout and first and second Stage operation following the launch. This STA will expire as soon as the launch has been completed or 1 June 2022, whichever occurs first.
- (3) Astra Space shall be aware that future non-federal launches will be considered on a case-by-case basis for requests in the band 2200-2290 MHz, and Astra Space shall have no expectations that future launches will be approved for operation in this band.
- (4) As soon as possible, but no later than 60 business days prior to the planned launch, Astra Space 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 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), Omar Torres (omar.torres@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.
- (5) All transmissions in the band 2200-2290 MHz shall comply with national and international power flux density limits, unless otherwise coordinated and agreed to. PFD analysis and exceedances shall be provided in the FCC application and provided to the NTIA for US Government review.
- (6) Sixty (60) days prior to transmitting at Kennedy Space Center, FL or Cape Canaveral Space Force Base, FL, Astra Space shall coordinate and schedule their operations with Range Scheduling (1ropschd@us.af.mil, 321-853-5941), Jamie Bjornbak (James.P.Bjornbak@nasa.gov, 321-867-6905, NASA KSC SMO), and NASA GSFC Spectrum Office (NASA-DL-GSFC-Spectrum-Management@mail.nasa.gov), and provide a copy of the FCC license to the 45th Space Wing Spectrum Management Office, 321-853-8408, email: 45sw.erfmo@us.af.mil and DoD EAFC, 321-853-8426, email: 45sw.dodeafc@us.af.mil.
- (7) The STOP BUZZER POC information, for launch operations shall be provided to NTIA (ravery@ntia.doc.gov). This phone shall be manned 24/7.
- (8) Astra Space 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, at least date, time, frequency, EIRP density, 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.doc.gov and edrocella@ntia.doc.gov.

Special Conditions:

- (9) 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).
- (10) As soon as possible, but no later than 60 business days prior to the planned launch, SpaceX is required to provide operations and spaceflight trajectories to the Naval Surface Warfare Center, Dahlgren Division (NSWCDD). One (1) or more of six (6) blackout (For S Band) 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 8.723303N167.718662W; (4) 1500 nautical mile radius centered at 57.45N152.378W; (5) 1500 nautical mile radius centered at 32.37N106.47W; and (6) 1500 nautical mile radius centered at 57.34N7.35W. 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.
- (11) Astra Space contact Pacific Missile Range Facility (PMRF) Integrated Control Center (ICC) (808) 335-4258 prior to conducting OPS in Hawaii. If PMRF ICC is not available please contact one of the following personnel: CDR Eli Marshall (Range Operations Officer, ROO), (808) 335-4564 or Mr. Stuart Butts (Deputy Range Operations Officer, DROO), (808) 335-4253.