

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

EXPERIMENTAL

(Nature of Service)

WQ9XYH

(Call Sign)

XT MO

(Class of Station)

1237-EX-ST-2020

(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 Astras Rocket 3-series orbital rocket, for launch attempts between September 17th 2020 and March 16th 2021.

Station Locations

- (1) MOBILE: Launch vehicle stages 1 & 2, within 2000 km, centered around NL 57-25-52;
WL 152-21-16

Frequency Information

MOBILE: Launch vehicle stages 1 & 2, within 2000 km, centered around NL 57-25-52; WL 152-21-16

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
2209.84-2212.16 MHz	MO	2M32F1D	6.31 W (ERP)	0.00002 %
2212.68-2217.32 MHz	MO	4M64F1D	6.31 W (ERP)	0.00002 %

This authorization effective September 17, 2020 and
will expire 3:00 A.M. EST March 17, 2021

**FEDERAL
COMMUNICATIONS
COMMISSION**



Special Conditions:

- (1) Operations shall be limited to telemetry, tracking and launch vehicle communications for a single Astra Space launch from Kodiak, AK. This STA will expire as soon as the launch has been completed or 16 March 2021, whichever occurs first.
- (2) 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.
- (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) Notification of the specific launch date, launch time, and the latest estimated launch trajectory shall be provided to the NASA GSFC Spectrum Office at NASA-DL-GSFC-SPECTRUM-MANAGEMENT@MAIL.NASA.GOV, at least 3 days prior to operation.
- (5) As soon as possible, but no later than 30 business days prior to the planned launch, Astra Space is required to provide, as a minimum, launch date/time/window, and 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), Felipe Arroyo (felipe.arroyo-1@nasa.gov, NASA/WFF), NASA GSFC Spectrum Office (NASA-DL-GSFC-Spectrum-Management@nasa.gov, Stephen Horan (stephen.j.horan@nasa.gov, NASA/LaRC), Kenneth Dudley (kenneth.l.dudley@nasa.gov, NASA/LaRC), NOAA Satellite Operations Control Center (Matt.G.Sullivan@noaa.gov), and Cathy Sham (catherine.c.sham@nasa.gov). In the event of last-minute changes, 48-hour notice is required.
- (6) To mitigate the potential for interference to the NOAA satellite network, Astra Space must generate blackout windows to protect these NOAA satellite networks when they downlink to Fairbanks. The specific affected NOAA satellite network names and their NORAD IDs are listed in the table below.

NOAA Satellite	Other Satellite Name	NORAD ID
DMSP	5D-2 F15	25991
DMSP	5D-3 F16	28054
DMSP	5D-3 F17	29522
DMSP	5D-3 F18	35951
COSMIC	FORMOSAT-3A	29047
COSMIC	FORMOSAT-3B	29048
COSMIC	FORMOSAT-3C	29049
COSMIC	FORMOSAT-3D	29050
COSMIC	FORMOSAT-3E	29051
COSMIC	FORMOSAT-3F	29052
DSCOV	DSCOV	40390
JASON-3	JASON-3	41240

Special Conditions:

- (7) Astra Space must pre-coordinate with the Naval Surface Warfare Center, Dahlgren Division (NSWCDD), group email box; W_DLGR_NSWC_FTMA_FM@navy.mil. Primary frequency coordination contacts; 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. a minimum of 60-days prior to test, for analyses, assessment, de-confliction and mitigation of harmful interference to Navy/Marine Corps/DoD operations. Astra Space must also comply with any and all restrictions that may be levied by the Naval Surface Warfare Center, Dahlgren Division (NSWCDD).