

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

EXPERIMENTAL

(Nature of Service)

WN9XKS

(Call Sign)

XT MO

(Class of Station)

0006-EX-ST-2020

(File Number)

NAME Virgin Orbit

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:**

S-Band transmitter will be used for telemetry and video transmission from the launch vehicle.

**Station Locations**

(1) MOBILE: Mojave, CA, centered around NL 35-03-24; WL 118-09-28

**Frequency Information**

MOBILE: Mojave, CA, centered around NL 35-03-24; WL 118-09-28

| Frequency  | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|------------|---------------|---------------------|------------------|---------------------------|
| 2215.5 MHz | MO            | 4M99G1W             | 80 W (ERP)       | 0.002 %                   |
| 2215.5 MHz | MO            | 2M73G1W             | 25 W (ERP)       | 0.002 %                   |

**Special Conditions:**

(1) In lieu of frequency tolerance, the occupied bandwidth of the emission shall not extend beyond the band limits set forth above.

This authorization effective February 19, 2020 and  
will expire 3:00 A.M. EST August 17, 2020

**FEDERAL  
COMMUNICATIONS  
COMMISSION**



## Special Conditions:

- (2) Virgin Orbit 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) Virgin Orbit shall be aware that future non-federal launches requests for the use of 2200-2290 MHz band will be considered on a case-by-case basis and Virgin Orbit shall have no expectations that future launches will be approved for operation in this band.
- (4) This STA is limited to launch vehicle communications for the telemetry transmissions and reception of the Launcher One satellite launch vehicle. This STA will expire as soon as the launch has been completed or 16 August 2020, whichever occurs first. Applications for any future launches shall be submitted to the FCC for re-coordination with NTIA.
- (5) 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 by Federal Agencies.
- (6) As soon as possible, but no later than 60 business days prior to commencing flight operations, Virgin Orbit shall provide, as a minimum, launch date/window, planned aircraft flight path, and planned Launch One trajectory, transmission frequencies with associated duration/cut-off time to: Jimmy Nguyen (jimmy.nguyen@us.af.mil), Scott Galbraith (vincent.s.galbraith@nasa.gov), Robert Avery (robert.avery.9@us.af.mil), John Zuzek (john.e.zuzek@nasa.gov), Richard Ontiveros (richard.ontiveros1.civ@mail.mil), Stephen Harris (stephen.b.harris6.civ@mail.mil), Carmelo Rivera (carmelo.rivera@noaa.gov), and Cathy Sham (catherine.c.sham@nasa.gov). In the event of last-minute changes, 48-hour notice is required.
- (7) Virgin Orbit shall notify the NASA GSFC Spectrum Management Office at NASA-DL-GSFC-SPECTRUM-MANAGEMENT@MAIL.NASA.GOV of the specific launch time once it is finalized. In the event of last-minute changes, notification shall be provided as soon as possible.
- (8) Virgin Orbit coordinates 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 Mrs. Lory Santiago, (540)-653-0096 – lory.santiago@navy.mil , a minimum of 21-days prior to the flight test, to mitigate harmful interference to Navy/Marine Corps/DoD operations.