

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

EXPERIMENTAL

(Nature of Service)

WP9XLD

(Call Sign)

XT FX MO

(Class of Station)

1041-EX-ST-2020

(File Number)

NAME Space Exploration Technologies Corp. (SpaceX)

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:

Experimental med altitude hop, landing, and recovery tests of the Starship Prototype suborbital test vehicle from Boca Chica TX.

Station Locations

- (1) MOBILE: Boca Chica Pad Suborbital Test Veh Max Alt 20 km, within 2 km, centered around NL 25-59-50; WL 97-09-25
- (2) Boca Chica (CAMERON), TX - NL 25-59-52; WL 97-09-26

Frequency Information

MOBILE: Boca Chica Pad Suborbital Test Veh Max Alt 20 km, within 2 km, centered around NL 25-59-50; WL 97-09-25

| Frequency | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|------------|---------------|---------------------|------------------|---------------------------|
| 2211 MHz | MO | 4M84F1D | 23.2 W (ERP) | 0.000225 % |
| | | 4M88G1D | | |
| | | 5M00G1D | | |
| | | | | |
| 2232.5 MHz | MO | 4M84F1D | 23.2 W (ERP) | 0.000225 % |
| | | 4M88G1D | | |
| | | | | |

This authorization effective August 18, 2020 and will expire 3:00 A.M. EST February 18, 2021

**FEDERAL
COMMUNICATIONS
COMMISSION**



Frequency Information

MOBILE: Boca Chica Pad Suborbital Test Veh Max Alt 20 km, within 2 km, centered around NL 25-59-50; WL 97-09-25

| Frequency | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|------------|---------------|-------------------------------|------------------|---------------------------|
| 2232.5 MHz | MO | 5M00G1D | 23.2 W (ERP) | 0.000225 % |
| 2247.5 MHz | MO | 4M84F1D 4M88G1D 5M00G1D | 23.2 W (ERP) | 0.000225 % |
| 2272.5 MHz | MO | 4M84F1D 4M88G1D 5M00G1D | 23.2 W (ERP) | 0.000225 % |

Boca Chica (CAMERON), TX - NL 25-59-52; WL 97-09-26

| Frequency | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|-----------|---------------|---------------------|------------------|---------------------------|
| 2090 MHz | FX | 800KG1D | 3 W (ERP) | 0.000225 % |

Special Conditions:

- (1) Operation is subject to prior coordination with the local Society of Broadcast Engineers, Inc. (SBE) frequency coordinator. Consult the list at https://www.sbe.org/sections/freq_local.php to find the appropriate coordinator.
- (2) All operations shall be limited to telemetry, tracking and launch vehicle communications for SpaceX Starship Medium Altitude Hop Test from Boca Chica, TX launch pad, and the experimental uplink supporting recovery operations. This STA is limited to the single SpaceX Starship Medium Altitude Hop Test from Boca Chica, TX launch pad. This STA will expire as soon as the test mission has been completed or 18 February 2021, whichever occurs first.
- (3) SpaceX shall be aware that future non-federal launches will be considered on a case-by-case basis, especially for requests in the band 2200-2290 MHz, and SpaceX shall have no expectations that future launches will be approved.

Special Conditions:

- (4) As soon as possible, but no later than 30 business days prior to the planned launch, SpaceX is required to email: Jimmy.Nguyen@us.af.mil, Robert.Avery.9@us.af.mil, Shaobei.Xu.1@us.af.mil, david.pooley@us.af.mil, 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), Richard Ontiveros, (richard.ontiveros1@navy.mil, NMSC), and NASA JSC Spectrum Office (JSC-DL-Spectrum-Management@mail.nasa.gov) with the following data for launch coordination:
 - a. primary and back up launch date/time/window;
 - b. planned first- and second-stage trajectory, transmission frequencies with associated duration/cut-off time;
 - c. copy/ies of FCC granted (STA) for frequency/ies that will be used for the launch;
 - d. the launch coordination Memo.
- (5) The STOP BUZZER POC information, for launch operations shall be provided to NTIA (bmitchell@ntia.doc.gov). This phone shall be manned 24/7.
- (6) 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.
- (7) No later than 5 business days prior to the planned launch, SpaceX is required to provide Air Force (Email: Jimmy.Nguyen@us.af.mil, Robert.Avery.9@us.af.mil, Shaobei.Xu.1@us.af.mil) with the primary and back up launch date/time/window. In the event of last-minute changes, 24-hour notice is required.