

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

EXPERIMENTAL

(Nature of Service)

WF9XGI

(Call Sign)

XT FX MO

(Class of Station)

0930-EX-ST-2014

(File Number)

NAME Space Exploration Technologies Corp.

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:

Space Station commercial re-supply run for NASA.

Station Locations

- (1) Cape Canaveral AFS (BREVARD), FL - NL 28-33-42; WL 80-34-38; MOBILE: Space: Dragon S-Band Directional Array
- (2) Cape Canaveral AFS (BREVARD), FL - NL 28-33-42; WL 80-34-38; MOBILE: Space: Dragon S-Band Omni
- (3) Cape Canaveral AFS (BREVARD), FL - NL 28-33-42; WL 80-34-38; MOBILE: Space: Dragon CUCU Patch Hemispherical
- (4) Kennedy Space Center (BREVARD), FL - NL 28-37-25; WL 80-41-11
- (5) Truth or Consequence (SIERRA), NM - NL 32-59-13; WL 106-58-37

Frequency Information

Cape Canaveral AFS (BREVARD), FL - NL 28-33-42; WL 80-34-38; MOBILE: Space: Dragon S-Band Directional Array

| Frequency | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|-----------|---------------|---------------------|------------------|---------------------------|
| 2216 MHz | MO | 546KG1D | 167 W (ERP) | |

This authorization effective December 01, 2014 and will expire 3:00 A.M. EST May 01, 2015

**FEDERAL
COMMUNICATIONS
COMMISSION**



Frequency Information

Cape Canaveral AFS (BREVARD), FL - NL 28-33-42; WL 80-34-38; MOBILE: Space: Dragon S-Band Omni

| Frequency | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|------------|---------------|---------------------|------------------|---------------------------|
| 2205.5 MHz | MO | 567KF1D 2M45F1D | 30 W (ERP) | |
| 2216 MHz | MO | 12K4G1D | 33 W (ERP) | |

Cape Canaveral AFS (BREVARD), FL - NL 28-33-42; WL 80-34-38; MOBILE: Space: Dragon CUCU Patch Hemispherical

| Frequency | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|-----------|---------------|---------------------|------------------|---------------------------|
| 400.5 MHz | MO | 338KG1D | 2.5 W (ERP) | |

Kennedy Space Center (BREVARD), FL - NL 28-37-25; WL 80-41-11

| Frequency | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|---------------|---------------|---------------------|----------------------|---------------------------|
| 2040.5675 MHz | FX | 5K40G2D | 100 W (Output Power) | |

Truth or Consequence (SIERRA), NM - NL 32-59-13; WL 106-58-37

| Frequency | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|---------------|---------------|---------------------|------------------|---------------------------|
| 2040.5675 MHz | FX | 5K40G2D | 6100 W (ERP) | |

Special Conditions:

- (1) Operation is subject to prior coordination with the Society of Broadcast Engineers, Inc. (SBE); ATTN: Executive Director; 9102 North Meridian Street, Suite 305; Indianapolis, IN 46260; telephone, (866) 632-4222; FAX, (317) 846-9120; e-mail, executivedir@sbe.org; information, www.sbe.org.
- (2) Due to harmful interference expected to U.S. Government systems and operation, SpaceX Dragon downlinks (2216 MHz and 2205.5 MHz) is prohibited to Sierra, NM (NL 32-59-13, WL 106-58-37) or any other western U.S. ground stations such as Navy Air Warfare Center San Nicolas Island, Western Range Telemetry Asset CA, Telemetry Asset Hawaii, the Pacific Missile Range in Kauai, Hawaii, and the AFSCN ground station at Vandenberg AFB, CA. During re-entry/splash down phase of this mission, SpaceX use of both 2216 MHz and 2205.5 MHz links over the Pacific Ocean and west coast of California will be pre-coordinated with Cathy Sham (catherine.c.sham@nasa.gov, 281-483-0124) at least 5 days prior to planned ISS departure date to mitigate frequency conflicts with Federal agency systems.
- (3) All SpaceX operations granted on an experimental basis shall be on an unprotected, non-interference basis to authorized federal stations.
- (4) This STA is limited to the single SpaceX Dragon capsule telemetry, tracking, and command, for SpX-5 mission scheduled for no earlier than December 09, 2014 to support the NASA cargo resupply mission to the International Space Station. This STA will expire as soon as the re-entry mission has been completed or on May 01, 2015, whichever occurs first. Any future launches will need to submit applications to the FCC to be re-coordinated with NTIA.
- (5) 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.
- (6) As soon as possible, but no later than seven days prior to the planned launch, SpaceX is required to provide Mr. Jimmy Nguyen (jimmy.nguyen@pentagon.af.mil, (301-225- 3729), Air Force Spectrum Management Office (AFSMO), Rich Rood (richard.l.rood@nasa.gov, 661-276-2138, NASA Dryden SMO), Farzin Manshadi (farzin.manshadi@jpl.nasa.gov, 818-354-0068, NASA JPL/DSN SMO), Scott Galbraith (vincent.s.galbraith@nasa.gov, 301-286-5089, NASA GSFC SMO), Cathy Sham (catherine.c.sham@nasa.gov, 281-483-0124) with the planned launch date/time/window/duration. In the event of last minute changes, 48 hour notice is requested.
- (7) Prior to transmitting at Cape Canaveral AFS, Florida, SpaceX shall coordinate and schedule their operations through the Eastern Range Scheduling Office, Mr. Steve Parish, COMM:321-853-2012, Stephen.Parish.1@us.af.mil, Steven Schindler (steven.f.schindler@nasa.gov, 321-867-2520, NASA KSC SMO), and Scott Galbraith (vincent.s.galbraith@nasa.gov, 301-286-5089, NASA GSFC SMO).
- (8) The STOP BUZZER POC information, for launch operations shall be provided to NTIA (bmitchell@ntia.doc.gov). This phone shall be manned 24/7.
- (9) All transmissions in the band 2200-2290 MHz will comply with national and international power flux-density limits, except in cases where expected exceedance is pre-coordinated under conditions (2) and (10).
- (10) SpaceX shall keep a log of all transmissions in the band 2200-2290 MHz that would be provided to NTIA after the mission. This log should include at least date, time, frequency, eirp density, and pointing direction of the antenna. The log should be provided to the following people at NTIA: bmitchell@ntia.doc.gov and edrocella@ntia.doc.gov.