David J. Den Herder, 1030 15th Street, NW, Suite 220 E, Washington, DC 20005,

United States of America
FEDERAL COMMUNICATIONS COMMISSION
EXPERIMENTAL
SPECIAL TEMPORARY AUTHORIZATION

EXPERIMENTAL	WF9XGI
(Nature of Service)	(Call Sign)
XD MO	0301-EX-ST-2012
(Class of Station)	(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:
No change from previous approval. The purpose of this operation is to demonstrate a low-cost, commercial capability to transport cargo to the International Space Station (ISS) and return it

Station Locations
(1) MOBILE: Space: DRAGON (Dragon S-Band Directional Array)
(2) MOBILE: Space: DRAGON (Dragon S-Band Omni)
(3) MOBILE: Space: DRAGON (CUCU Patch Hemispherical)

Frequency Information

MOBILE: Space: DRAGON (Dragon S-Band Directional Array)

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
2216 MHz	MO	546KG1D	20 W (ERP)	

This authorization effective May 19, 2012 and
will expire 3:00 A.M. EST November 20, 2012

FEDERAL COMMUNICATIONS COMMISSION

Frequency Information

MOBILE: Space: DRAGON (Dragon S-Band Omni)

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
2205.5 MHz	MO	406KF1D	20 W (ERP)	
2216 MHz	MO	7K76G1D 12K4G1D	20 W (ERP)	
2231.5 MHz	MO	2M32F1F	20 W (ERP)	

MOBILE: Space: DRAGON (CUCU Patch Hemispherical)

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
400.5 MHz	MO	338KG1D	1.5 W (ERP)	

Special Conditions:

(1) Licensee 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.

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

(3) Operation is subject to prior coordination with the Society of Broadcast Engineers, Inc. (SBE); ATTN: Executive Director; 9247 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.

(4) The station identification requirements of Section 5.115 of the Commission's Rules are waived.

(5) Use of this STA is for the demonstration of a low-cost, commercial capability to transport cargo to the International Space Station (ISS) and return it safely to the Earth mission only. It can’t be used for any other mission/purpose. This STA is not to exceed 19 May 2012.

Special Conditions:

(6) When docked to the ISS, 2216 MHz Omni-directional antenna to TDRSS and to Ground operation may be used on a noninterference basis (NIB) only.

(7) When not docked to the ISS, 2205.5 MHz may be used without further operating schedule coordination during window May 19, 2012 through November 19, 2012 or the termination of the specified mission, whichever is sooner. Usage schedule information to be provided to Michael Bielucki at mbielucki@mail.wsc.nasa.gov (575-527-7010) with copy to Vincent Galbraith at vincent.s.galbraith@nasa.gov.

(8) When docked to the International Space Station (ISS), 2205.5 MHz Omni-directional antenna to ground may be used on a noninterference basis (NIB) only.

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

(10) Use of this STA is for a single demonstration of a low-cost, commercial capability to transport cargo to the International Space Station (ISS) and return it safely to the Earth mission only. This STA is limited to the single Dragon launch scheduled, as of 3 May 2012, for 10 May 2012 at the earliest.

(11) 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 non-federal launches will be approved.

(12) Prior to transmitting, SpaceX shall coordinate and schedule their operations:

a. During prelaunch/launch operations with KSC Spectrum Manager (Steve Schindler, stevean.f.schindler@nasa.gov) and Cape Canaveral Air Force Station (CCAFS), the Eastern Range Scheduling Office. A local KSC RFA shall be obtained from the KSC spectrum manager; and

b. For on-orbit/reentry/splashdown with Jimmy.Nguyen@pentagon.af.mil (Comm 301-225-3729), vincent.s.galbraith@nasa.gov , mbielucki@mail.wsc.nasa.gov and Catherine.c.sham@nasa.gov.

(13) Prior to FCC granting this STA, SpaceX shall provide STOP BUZZER POC information, both for ground testing and for launch/on-orbit/reentry operations, to skotler@ntia.doc.gov, edavison@ntia.doc.gov, Jimmy.Nguyen@pentagon.af.mil (Comm 301-225-3729), steven.f.schindler@nasa.gov, vincent.s.galbraith@nasa.gov, mbielucki@mail.wsc.nasa.gov, and catherine.c.sham@nasa.gov.

(14) With the exception of operations on 2216 MHz (Emission Designator = 12K4G1D and 7K76G1D), all transmissions in the band 2200-2290 MHz will comply with national and international power flux-density limits.

(15) SpaceX shall be aware that NTIA does not object to the operations on 2216 MHz that will exceed the PFD for this one mission only. For future missions this link shall be re-engineered to meet the applicable limits or NTIA will object.

Special Conditions:

(16) Operations of the DRAGON antennas are limited to operations with fixed ground station facilities at South Point, Hawaii (NL 10-00-50; WL 155-39-47), Mingeneu, Australia, UM, Kennedy Space Center (Brevard), FL (NL 28-37-25; WL 80-41-11), and Wallops Island (ACCOMACK), VA (NL 37-55-38; WL 75-28-30) operating on 2040.5675 MHz with emission designator 54KOG2D at 200 W output power, and at Singapore, UM, operating on 2040.5675 MHz with emission designator 54KOG2D at 100 W output power.

(17) The frequency 2205.5 MHz may be used only as specifically coordinated with NASA operations and use must be immediately terminated if NASA advises that it requires use of the frequency. Usage schedule information to be coordinated with Robert W. Ransom at robert.w.ransom@nasa.gov (575-527-7356) with copy to Vincent Galbraith at vincent.s.galbraith@nasa.gov.

(18) SpaceX shall keep a log of all transmissions in the bands 400.15-401 MHz, 2025-2110 MHz, and 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: skotler@ntia.doc.gov and edavison@ntia.doc.gov.