Kristi Key, 1 Rocket Road, Hawthorne, CA 90250,

United States of America
FEDERAL COMMUNICATIONS COMMISSION
EXPERIMENTAL
SPECIAL TEMPORARY AUTHORIZATION

EXPERIMENTAL	WG9XHP
(Nature of Service)	(Call Sign)
XT FX MO	1503-EX-ST-2020
(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:
Launch vehicle communications for mission launching from Cape Canaveral.

Station Locations

(1) MOBILE: Cape Canaveral; Launch vehicle 1st stage
(2) MOBILE: Launch vehicle 2nd stage, orbital
(3) Cape Canaveral AFS (BREVARD), FL - NL 28-29-11; WL 80-32-51
(4) MOBILE: Autonomous Drone Ship, within 40.5 nautical miles, within 75 km, centered around NL 28-17-31; WL 73-42-23
(5) MOBILE: Boat, within 40.5 nautical miles, within 75 km, centered around NL 28-17-31; WL 73-42-23

Frequency Information

MOBILE: Cape Canaveral; Launch vehicle 1st stage

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
2247.5 MHz	MO	4M84F1D	11.8 W (ERP)	0.000225 %

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

FEDERAL COMMUNICATIONS COMMISSION

Frequency Information

MOBILE: Cape Canaveral; Launch vehicle 1st stage

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
2255.5 MHz	MO	4M84F1D	10.8 W (ERP)	0.000225 %

MOBILE: Launch vehicle 2nd stage, orbital

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
2232.5 MHz	MO	4M14F1D	9.4 W (ERP)	0.000225 %
2272.5 MHz	MO	4M14F1D	9.6 W (ERP)	0.000225 %

Cape Canaveral AFS (BREVARD), FL - NL 28-29-11; WL 80-32-51

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

MOBILE: Autonomous Drone Ship, within 40.5 nautical miles, within 75 km, centered around NL 28-17-31; WL 73-42-23

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

Frequency Information

MOBILE: Boat, within 40.5 nautical miles, within 75 km, centered around NL 28-17-31; WL 73-42-23

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
2090 MHz	MO	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 F9 Mission 1453 from either Complex 40, Cape Canaveral AFS, FL or Kennedy Space Center, FL. This STA is limited to the single SpaceX F9 Mission 1453 from Complex 40, Cape Canaveral AFS, FL or from LC-39a, Kennedy Space Center, FL to include pre-launch checkout test of the command uplink from an onshore station at launch site, the first and second Stages and experimental recovery operations (command of landed stage from an onshore station at the launch site) following the launch of SpaceX Mission 1453. This STA will expire as soon as the launch has been completed or 17 May 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.

(4) Sixty (60) days prior to transmitting at Complex 40, Cape Canaveral AFS, FL or LC-39a, Kennedy Space Center, FL, SpaceX shall coordinate and schedule their operations with Range Scheduling (1ropschd@us.af.mil, 321-853-5941), Jamie Bjornbak (James.P.Bjornbak@nasa.gov, 321-867-6905, NASA KSC SMO), and NASA GSFC Spectrum Office (NASA-DL-GSFC-Spectrum-Management@mail.nasa.gov), and provide a copy of the FCC license to the 45th Space Wing Spectrum Management Office, 321-853-8408, email: 45sw.erfmo@us.af.mil and DoD EAFC, 321-853-8426, email: 45sw.dodeafc@us.af.mil.

(5) 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.

(6) The STOP BUZZER POC information, for launch operations shall be provided to NTIA (ravery@ntia.gov). This phone shall be manned 24/7.

(7) SpaceX shall keep a log of all transmissions in the band 2200-2290 MHz and provide to the NTIA after the mission. This log shall include, as a minimum, at least date, time, frequency, EIRP density, pointing direction of all antennas. The log shall be provided to the following NTIA personnel no later than three (3) weeks after completing the mission: ravery@ntia.gov and edrocella@ntia.gov.

Special Conditions:

(8) As soon as possible, but no later than 60 business days prior to the planned launch, SpaceX is required to provide, as a minimum, launch date/time/window and planned first- and second-stage trajectory, 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@mail.nasa.gov), (vincent.s.galbraith@nasa.gov, NASA/GSFC), Stephen Horan and Kenneth Dudley (stephen.j.horan@nasa.gov and kenneth.l.dudley@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). In the event of last-minute changes, 48-hour notice is required.

(9) SpaceX avoid launching at a time that would result in their launch vehicle being visible over Wallops when the NOAA spacecraft (listed in the table below) are also visible over the NOAA ground station in Wallops, VA (37.9454 N, 75.4616 W), then there will be no impact to NOAA satellite networks. NESDIS requests acknowledgement/confirmation from SpaceX that they will abide by this operational condition.

NOAA Satellite	NORAD ID
NOAA-15	25338
NOAA-18	28654
NOAA-19	33591