Jacob Portukalian, P.O. Box 94501, 1900 Skyhawk St., Alameda, CA 94501,

United States of America
FEDERAL COMMUNICATIONS COMMISSION
EXPERIMENTAL
SPECIAL TEMPORARY AUTHORIZATION

EXPERIMENTAL	WQ9XBT
(Nature of Service)	(Call Sign)
XT MO	0004-EX-ST-2020
(Class of Station)	(File Number)

NAME Astra Space

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:
The operation is to launch a small satellite into low earth orbit. This will be a launch from Wallops in support of the DARPA challenge

Station Locations
(1) MOBILE: Launch vehicle stages 1 & 2, within 2000 km, centered around NL 37-49-27; WL 75-29-51

Frequency Information

MOBILE: Launch vehicle stages 1 & 2, within 2000 km, centered around NL 37-49-27; WL 75-29-51

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
2209.84-2212.16 MHz	MO	2M32F1D	6.31 W (ERP)	0.00002 %
2212.68-2217.32 MHz	MO	4M64F1D	6.31 W (ERP)	0.00002 %

This authorization effective March 01, 2020 and will expire 3:00 A.M. EST September 02, 2020

FEDERAL COMMUNICATIONS COMMISSION

Special Conditions:

(1) The licensee shall provide the Commission with all information required for the Advance Publication, Coordination and Notification of frequency assignments pursuant to the International Radio Regulations. This includes the preparation of draft materials, to be provided to the Commission prior to submission to the International Telecommunication Union. The authorized operations require notification of frequency assignments pursuant to Article 11 of the ITU Radio Regulations. Licensee shall provide the FCC, not later than 30 days after a frequency assignment is brought into use, the documents required for notification (including SpaceCap Notification MDB file) of such frequency assignments. The licensee shall also prepare materials for informing the ITU that a frequency assignments has been brought into use, or that its use has been suspended or permanently discontinued.

(2) Upon receipt of a conjunction warning from the JSpOC or other source, the licensee must review the warning and take all possible steps to assess and, if necessary, to mitigate collision risk, including, but not limited to: contacting the operator of any active spacecraft involved in such warning; sharing ephemeris data and other appropriate operational information with any such operator; modifying spacecraft attitude and/or operations.

(3) Following launch of the satellite, the licensee must notify the FCC through electronic submission to the license file, of the status of the satellite (transmissions commenced, etc.), not later than 7 days after commencement or expected commencement of transmissions, and of termination of transmissions, not later than three months after such termination.

(4) All operations shall be limited to telemetry, tracking and launch vehicle communications for a single Astra Space launch from Wallops Flight Facility, VA. This STA will expire as soon as the launch has been completed or 1 September 2020, whichever occurs first.

(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) Astra Space 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 Astra Space shall have no expectations that future launches will be approved.

(7) As soon as possible, but no later than sixty (60) business days prior to the planned launch, Astra Space 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), Felipe Arroyo (felipe.arroyo-1@nasa.gov, NASA/WFF), NASA GSFC Spectrum Management Office (NASA-DL-GSFC-Spectrum-Management@nasa.gov), Stephen Horan (stephen.j.horan@nasa.gov, NASA/LaRC), Kenneth Dudley (kenneth.l.dudley@nasa.gov, NASA/LaRC), NOAA Satellite Operations Control Center (Matt.G.Sullivan@noaa.gov), NESDIS Spectrum Liaison (alfredo.mistichelli@noaa.gov), Richard Ontiveros, (richard.ontiveros1@navy.mil, NMSC), and Cathy Sham (catherine.c.sham@nasa.gov). In the event of last-minute changes, 48-hour notice is required.

Special Conditions:

(8) Seven (7) days prior to transmitting at Wallops Flight Facility, VA, Astra Space shall coordinate and schedule their operations with the NASA Wallops Flight Facility Spectrum Manager, Felipe Arroyo at 757.824.1623 or felipe.arroyo-1@nasa.gov, and the NASA GSFC Spectrum Management Office (NASA-DL-GSFC-Spectrum-Management@nasa.gov).

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

(10) Astra Space 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: bmitchell@ntia.doc.gov and edrocella@ntia.doc.gov