

United States of America
FEDERAL COMMUNICATIONS COMMISSION
EXPERIMENTAL
RADIO STATION CONSTRUCTION PERMIT
AND LICENSE

EXPERIMENTAL

(Nature of Service)

XT FX MO

(Class of Station)

WL2XRE

(Call Sign)

1059-EX-CN-2020

(File Number)

NAME AST&Science LLC

Subject to the provisions of the Communications Act of 1934, subsequent acts, and treaties, and all regulations heretofore or hereafter made by this Commission, and further subject to the conditions and requirements set forth in this license, the licensee hereof is hereby authorized to use and operate the radio transmitting facilities hereinafter described for radio communications in accordance with the program of experimentation described by the licensee in its application for license.

Operation: In accordance with Sec. 5.3(J) of the Commission's Rules

Station Locations

- (1) Midland, TX - NL 31-55-49; WL 102-12-31
- (2) Kapolei, HI - NL 21-20-11; WL 158-05-18; MOBILE: 91-340 Farrington, within 48 km, centered around NL 21-20-11; WL 158-05-18
- (3) MOBILE: HMM32Q Old Christian Place, within 48 km, centered around NL 31-34-39; WL 104-20-43
- (4) MOBILE: W of Rt 343, within 48 km, centered around NL 32-08-23; WL 100-50-52
- (5)

Frequency Information

Midland, TX - NL 31-55-49; WL 102-12-31

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
437-438 MHz	FX	30K0F1D	28.2 W (ERP)	0.001 %
846.5-849 MHz	MO	180KDXD	0.12 W (ERP)	0.001 %

This authorization effective May 02, 2022 and
will expire 3:00 A.M. EST May 24, 2023

**FEDERAL
COMMUNICATIONS
COMMISSION**



Frequency Information

Kapolei, HI - NL 21-20-11; WL 158-05-18; MOBILE: 91-340 Farrington, within 48 km, centered around NL 21-20-11; WL 158-C

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
845-846.5 MHz	MO	180KD1D	0.12 W (ERP)	0.001 %
50.4-51.4 GHz	FX	10M0D1D	97.7 kW (ERP)	0.001 %

MOBILE: HMH32Q Old Christian Place, within 48 km, centered around NL 31-34-39; WL 104-20-43

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
788-798 MHz	MO	180KDxD	0.12 W (ERP)	0.001 %

MOBILE: W of Rt 343, within 48 km, centered around NL 32-08-23; WL 100-50-52

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
788-798 MHz	MO	180KDxD	0.12 W (ERP)	0.001 %

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
50.4-51.4 GHz	FX	10M0D1D	97.7 kW (ERP)	0.001 %

Special Conditions:

- (1) 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.
- (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) 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.
- (4) This is for experimental purpose only and doesn't permit commercial service or market access.
- (5) Licensee must notch the following frequency band
 - a) 47.2 - 50.2 GHz
- (6) Licensee to prior coordinate testing on Band 14 with AT&T/ FirstNet.
- (7) Licensee must accept interference from others operating on Band 14 and must not cause interference to FirstNet operations.
- (8) Licensee to submit a "Stop Buzzer" contact with "kill switch" authority to FirstNet at: peter.tomczak@firstnet.gov; Licensee agrees to immediately cease operations on Band 14 if notified of any interference concerns.
- (9) License subject to further review by the FCC and possible re-coordination with FirstNet.
- (10) Prior to commencing any operations in the frequencies below, the experimental licensee must obtain consent from the following within 316 miles of the contours of the testing area:
 - a. Cellular licensees (824-849 MHz/869-894 MHz)
- (11) Point of Communication: BLUEWALKER 3

Special Conditions:

- (12) Stop Buzzer Point of Contact is Huiwen Yao,
5825 University Research Court, Building 2, Suite 2300, College Park, MD 20737,
Telephone: (301) 793-3416
Email: hyao@ast-science.com

- (13) This authorization SUPERSEDES the previously issued authorization with the same
call sign and file number: expiration date