

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

EXPERIMENTAL

(Nature of Service)

WK2XAJ

(Call Sign)

XT FX MO

(Class of Station)

0987-EX-CN-2018

(File Number)

NAME Tyvak Nano-Satellite Systems

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(h) of the Commission's Rules

Station Locations

- (1) MOBILE: Tyvak-0129- Nongeostationary, SP
- (2) Fairbanks (Borough of Juneau), AK - NL 64-51-18; WL 147-41-10
- (3) San Diego (SAN DIEGO), CA - NL 32-53-49; WL 117-12-03
- (4) MOBILE: Tyvak-0129- Nongeostationary, SP

Frequency Information

MOBILE: Tyvak-0129- Nongeostationary, SP

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
400.74 MHz	MO	28K8G1D	1.25 W (ERP)	
401.205 MHz	MO	28K8G1D	1.25 W (ERP)	

This authorization effective April 27, 2020 and
will expire 3:00 A.M. EST May 01, 2022

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Frequency Information

Fairbanks (Borough of Juneau), AK - NL 64-51-18; WL 147-41-10

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
401.205 MHz	FX	28K8G1D	10471.2 W (ERP)	

San Diego (SAN DIEGO), CA - NL 32-53-49; WL 117-12-03

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
401.205 MHz	FX	28K8G1D	10471.2 W (ERP)	

MOBILE: Tyvak-0129- Nongeostationary, SP

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
2235 MHz	MO	2M80G1D	2.51 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) 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.
- (4) 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.

Special Conditions:

- (5) TYVAK-0129 downlink operation using a frequency 400.74 MHz to the Tyvak facility in San Diego, CA or uplink operation from the Tyvak facility in San Diego, CA to the TYVAK-0129 using a frequency of 401.205 MHz shall not occur when the NASA International Space Station (ISS) (NORAD designation 25544 or international spacecraft ID 1998-067A) is within the horizon to horizon view of the Tyvak facility in San Diego, CA. Tyvak Nano-Satellite Systems will take full responsibility for accounting for the ISS orbital position to avoid transmitting while it is within view.
- (6) Point-of-communication: Tyvak-0129.