

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

EXPERIMENTAL

(Nature of Service)

XT MO

(Class of Station)

WJ2XXG

(Call Sign)

0943-EX-CN-2018

(File Number)

NAME Swarm Technologies, Inc.

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) MOBILE: Los Altos, CA, within 5 km, centered around NL 37-21-53; WL 122-06-39
- (2) MOBILE: Flowery Branch, GA, within 5 km, centered around NL 34-11-29; WL 83-56-29
- (3) MOBILE: Draper, UT, within 5 km, centered around NL 40-28-53; WL 111-49-23
- (4) MOBILE: Satellite orbit, 475 km, 45 degrees

Frequency Information

MOBILE: Los Altos, CA, within 5 km, centered around NL 37-21-53; WL 122-06-39

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
148.3-148.42 MHz	MO	20K8F1D	11.5 W (ERP)	0.002 %

MOBILE: Flowery Branch, GA, within 5 km, centered around NL 34-11-29; WL 83-56-29

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
148.3-148.42 MHz	MO	20K8F1D	11.5 W (ERP)	0.002 %

This authorization effective April 05, 2019 and
will expire 3:00 A.M. EST April 01, 2021

**FEDERAL
COMMUNICATIONS
COMMISSION**



Frequency Information

MOBILE: Draper, UT, within 5 km, centered around NL 40-28-53; WL 111-49-23

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
148.3-148.42 MHz	MO	20K8F1D	11.5 W (ERP)	0.002 %

MOBILE: Satellite orbit, 475 km, 45 degrees

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
137.88-138 MHz	MO	20K8F1D	0.91 W (ERP)	0.002 %

Special Conditions:

- (1) The station identification requirements of Section 5.115 of the Commission's Rules are waived.
- (2) 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.
- (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) The occupied bandwidth of the emission shall not extend beyond the band limits set forth above.
- (5) 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:

- (6) This license authorizes the use of one 20 kHz uplink channel to be operated within the range of 148.30 - 148.42 MHz with peak ERP power of 11.5 watts using emission designator 20K8F1D, and use of one 20 kHz downlink channel to be operated within the range of 137.88 - 138 MHz with peak ERP power of 0.91 watts using emission designator 20K8F1D on a nonprotected, non-interference basis per the agreement between Swarm Technologies, Inc. and ORBCOMM Inc. provided in the exhibit in the application entitled "Letter from Swarm Technologies."