

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

EXPERIMENTAL

(Nature of Service)

XT FX

(Class of Station)

W12XWR

(Call Sign)

0321-EX-CN-2017

(File Number)

NAME Raven Industries, 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) Baltic (MINNEHAHA), SD - NL 43-42-06; WL 96-42-33

Frequency Information

Baltic (MINNEHAHA), SD - NL 43-42-06; WL 96-42-33

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1575.42 MHz	FX	20M0W7D	20 pW (ERP)	

Special Conditions:

- (1) GPS re-radiators are limited to a maximum ERP value that will result in power levels not to exceed a power spectral density of -140 dBm/24 MHz measured at a distance of 100 ft outside the building of operation. Any malfunction, misalignment, or tampering of the equipment or its location which results in an increased power spectral density outside the building could cause harmful radio frequency interference to GPS receivers, including those in aircraft and/or ground based facilities.
- (2) 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.
- (3) In lieu of frequency tolerance, the occupied bandwidth of the emission shall not extend beyond the band limits set forth above.

This authorization effective May 24, 2017 and
will expire 3:00 A.M. EST May 01, 2019

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Special Conditions:

- (4) Raven Industries, Inc. shall post signs on doors to the test area notifying that, "GPS re-radiator is in use and the GPS information you receive may be in error."
- (5) The test equipment shall only be used indoors and shall be under the control of Raven Industries, Inc.
- (6) Operation is limited to activity for the purpose of testing radio-navigation satellite service (RNSS) equipment and systems.
- (7) GPS users in the area of potential interference to GPS reception must be notified that GPS information may be impacted for periods of time.
- (8) Area of potential interference to GPS reception is under the control of Raven Industries, Inc.
- (9) The designated point-of-contact to terminate transmissions if interference occurs is Mr. Nathan Dixon at (800) 243-5435.