

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

EXPERIMENTAL
(Nature of Service)

WN2XTR
(Call Sign)

XD FX
(Class of Station)

1026-EX-CN-2023
(File Number)

NAME Tim Wilkinson

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) Sausalito (MARIN), CA - NL 37-51-04; WL 122-29-54
- (2) Berkeley (ALAMEDA), CA - NL 37-53-17; WL 122-16-05
- (3) Berkeley (ALAMEDA), CA - NL 37-51-55; WL 122-13-16
- (4) Richmond (CONTRA COSTA), CA - NL 37-57-26; WL 122-18-41

Frequency Information

Sausalito (MARIN), CA - NL 37-51-04; WL 122-29-54

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
5925-6425 MHz	FX	80M0D7D	2.43 W (ERP)	0.0001 %

Berkeley (ALAMEDA), CA - NL 37-53-17; WL 122-16-05

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
5925-6425 MHz	FX	80M0D7D	2.43 W (ERP)	0.0001 %

This authorization effective July 20, 2023 and will expire 3:00 A.M. EST August 01, 2025

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COMMUNICATIONS
COMMISSION**



Frequency Information

Berkeley (ALAMEDA), CA - NL 37-51-55; WL 122-13-16

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
5925-6425 MHz	FX	80M0D7D	2.43 W (ERP)	0.0001 %

Richmond (CONTRA COSTA), CA - NL 37-57-26; WL 122-18-41

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
5925-6425 MHz	FX	80M0D7D	2.43 W (ERP)	0.0001 %

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) The station identification requirements of Section 5.115 of the Commission's Rules are waived.
- (3) In lieu of frequency tolerance, the occupied bandwidth of the emission shall not extend beyond the band limits set forth above.
- (4) Operation must not exceed the conducted power/input power/ output power and maximum EIRP limits of the Unlicensed Use of the 6 GHz Band, 35 FCC Rcd 3852, 3853 (2020), including footnote 34.
- (5) The operation is limited to outdoor testing.
- (6) Licensee is authorized to conduct outdoor tests on 1 fixed Ubiquiti Inc LTU-Rocket antenna (base station/Access Point) operating in the 5.925-6.425 GHz (U-NII-5) frequency band; which will be used as outdoor standard power access points (AFC Controlled) and mounted on a tower located at Sausalito, MARIN, CA- NL 37-51-04; WL 122-29-54. The Maximum output power of fixed Ubiquiti Inc LTU-Rocket antenna (with antenna gain of 21dBi) must not exceed 31.6mW/0.03W/11dbm/-15dBW. The Maximum EIRP must not exceed 2.43W ERP/4 watts/36 dBm/6dBW. In addition, the maximum power spectral density shall not exceed 23 dBm (200mW) in any 1-megahertz band.

Special Conditions:

- (7) Licensee is authorized to conduct outdoor tests on 3 fixed Ubiquiti Inc airFiber 5XHD antennas (base station/Access Point) operating in the 5.925-6.425 GHz (U-NII-5) frequency band; which will be used as outdoor standard power access points (AFC Controlled) and mounted on 3 towers located at Berkeley,ALAMEDA,CA- NL 37-53-17; WL 122-16-05, Berkeley,ALAMEDA,CA- NL 37-51-55; WL 122-13-16, and Richmond,CONTRA COSTA,CA- NL 37-57-26; WL 122-18-41. The Maximum output power of fixed Ubiquiti Inc airFiber 5XHD antennas (with antenna gain of 30 dBi) must not exceed 0.003981W/3.98mW/6dBm/-24dBW. The Maximum EIRP must not exceed 2.43W ERP/4 watts/36 dBm/6dBW. In addition, the maximum power spectral density shall not exceed 23 dBm (200mW) in any 1-megahertz band.
- (8) For conducting outdoor tests in the 5.925-6.425 GHz (U-NII-5) frequency band, the maximum EIRP from a Standard-Power Access Point (AFC Controlled) and fixed client device must not exceed 125 mW (21 dBm) at any elevation angle of more than 30 degrees above the horizon to protect satellite receivers.
- (9) For transmitters operating within the 5.925-6.425 GHz (U-NII-5) frequency band: Any emissions outside of the 5.925-6.425 GHz (U-NII-5) frequency band must not exceed an EIRP of -27 dBm /MHz (The -27 dBm is equivalent to 0.000002 W).
- (10) The height of the fixed tower must be in compliance with the Federal Aviation Administration (FAA) requirements as set forth in Section 17.4 of the Commission's Rules. 47 C.F.R. § 17.4
- (11) Licensee coordinate with the Fixed Microwave Service licensees in the proposed venue in accordance with 47 C.F.R, Part 101.103(d) prior to conducting the experimental operations.