

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

EXPERIMENTAL

(Nature of Service)

WL2XLK

(Call Sign)

XT FX MO

(Class of Station)

0029-EX-CN-2021

(File Number)

NAME Virginia Tech Electrical and Computer Engineering

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(i) of the Commission's Rules

Station Locations

- (1) Blacksburg (MONTGOMERY), VA - NL 37-13-53; WL 80-25-21; MOBILE: Virginia Tech, Blacksburg, VA, within 1.5 km, centered around NL 37-13-53; WL 80-25-21
- (2) Blacksburg (MONTGOMERY), VA - NL 37-13-54; WL 80-25-25; MOBILE: Virginia Tech, Blacksburg, VA, within 1.5 km, centered around NL 37-13-54; WL 80-25-25

Frequency Information

Blacksburg (MONTGOMERY), VA - NL 37-13-53; WL 80-25-21; MOBILE: Virginia Tech, Blacksburg, VA, within 1.5 km, center

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
138-144 MHz	FX	25K0F3E 25K0D1D	0.4 W (ERP)	
138-144 MHz	MO	25K0F3E 25K0D1D	0.4 W (ERP)	
150.8-154 MHz	FX	25K0F3E 25K0D1D	0.4 W (ERP)	

This authorization effective March 11, 2021 and
will expire 3:00 A.M. EST March 01, 2023

**FEDERAL
COMMUNICATIONS
COMMISSION**



Frequency Information

Blacksburg (MONTGOMERY), VA - NL 37-13-53; WL 80-25-21; MOBILE: Virginia Tech, Blacksburg, VA, within 1.5 km, center

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
150.8-154 MHz	MO	25K0F3E 25K0D1D	0.4 W (ERP)	
220-222 MHz	FX	25K0F3E 25K0D1D	0.4 W (ERP)	
220-222 MHz	MO	25K0F3E 25K0D1D	0.4 W (ERP)	
410-420 MHz	FX	12K5F3E 12K5F1D 12K5D1D	0.4 W (ERP)	
410-420 MHz	MO	12K5F3E 12K5F1D 12K5D1D	0.4 W (ERP)	
450-470 MHz	FX	25K0F3E 25K0F1D 25K0D1D	0.4 W (ERP)	
450-470 MHz	MO	25K0F3E 25K0F1D 25K0D1D	0.4 W (ERP)	
809-824 MHz	FX	25K0F3E	0.4 W (ERP)	

Frequency Information

Blacksburg (MONTGOMERY), VA - NL 37-13-53; WL 80-25-21; MOBILE: Virginia Tech, Blacksburg, VA, within 1.5 km, center

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
809-824 MHz	FX	25K0D1D	0.4 W (ERP)	
809-824 MHz	MO	25K0F3E 25K0D1D	0.4 W (ERP)	
824-849 MHz	MO	200KF1D 10M0DXD	0.4 W (ERP)	
869-894 MHz	FX	200KF1D 10M0DXD	0.4 W (ERP)	
902-928 MHz	MO	10M0DXD	0.4 W (ERP)	
902-928 MHz	FX	10M0DXD	0.4 W (ERP)	
1850-2000 MHz	MO	250KF1D 10M0DXD 25K0D1D	0.4 W (ERP)	
1850-2000 MHz	FX	250KF1D 10M0DXD 25K0D1D	0.4 W (ERP)	

Frequency Information

Blacksburg (MONTGOMERY), VA - NL 37-13-53; WL 80-25-21; MOBILE: Virginia Tech, Blacksburg, VA, within 1.5 km, center

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
5725-5850 MHz	MO	40M0DXD	0.4 W (ERP)	
5725-5850 MHz	FX	40M0DXD	0.4 W (ERP)	

Blacksburg (MONTGOMERY), VA - NL 37-13-54; WL 80-25-25; MOBILE: Virginia Tech, Blacksburg, VA, within 1.5 km, center

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
138-144 MHz	FX	25K0F3E 25K0D1D	0.4 W (ERP)	
138-144 MHz	MO	25K0F3E 25K0D1D	0.4 W (ERP)	
150.8-154 MHz	FX	25K0F3E 25K0D1D	0.4 W (ERP)	
150.8-154 MHz	MO	25K0F3E 25K0D1D	0.4 W (ERP)	
220-222 MHz	FX	25K0F3E 25K0D1D	0.4 W (ERP)	
220-222 MHz	MO	25K0F3E	0.4 W (ERP)	

Frequency Information

Blacksburg (MONTGOMERY), VA - NL 37-13-54; WL 80-25-25; MOBILE: Virginia Tech, Blacksburg, VA, within 1.5 km, center

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
220-222 MHz	MO	25K0D1D	0.4 W (ERP)	
410-420 MHz	FX	12K5F3E 12K5F1D 12K5D1D	0.4 W (ERP)	
410-420 MHz	MO	12K5F3E 12K5F1D 12K5D1D	0.4 W (ERP)	
450-470 MHz	FX	25K0F3E 25K0F1D 25K0D1D	0.4 W (ERP)	
450-470 MHz	MO	25K0F3E 25K0F1D 25K0D1D	0.4 W (ERP)	
809-824 MHz	FX	25K0F3E 25K0D1D	0.4 W (ERP)	
809-824 MHz	MO	25K0F3E 25K0D1D	0.4 W (ERP)	
824-849 MHz	MO	200KF1D	0.4 W (ERP)	

Frequency Information

Blacksburg (MONTGOMERY), VA - NL 37-13-54; WL 80-25-25; MOBILE: Virginia Tech, Blacksburg, VA, within 1.5 km, center

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
824-849 MHz	MO	10M0DXD	0.4 W (ERP)	
869-894 MHz	FX	200KF1D 10M0DXD	0.4 W (ERP)	
902-928 MHz	FX	10M0DXD	0.4 W (ERP)	
902-928 MHz	MO	10M0DXD	0.4 W (ERP)	
1850-2000 MHz	MO	250KF1D 10M0DXD 25K0D1D	0.4 W (ERP)	
1850-2000 MHz	FX	250KF1D 10M0DXD 25K0D1D	0.4 W (ERP)	
5725-5850 MHz	MO	40M0DXD	0.4 W (ERP)	
5725-5850 MHz	FX	40M0DXD	0.4 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.

Special Conditions:

- (2) In lieu of frequency tolerance, the occupied bandwidth of the emission shall not extend beyond the band limits set forth above.
- (3) The designated point-of-contact to terminate transmissions if interference occurs is Carl Dietrich at (540) 231-2963 or (540) 231-2970.
- (4) Operation 410-420 MHz, the bandwidth of the emission designator must not exceed 12.5 KHz.
- (5) Prior to commencing any operations in the frequencies below, the applicant must obtain consent from the following within 50 miles of the contours of the testing area:
 - Paging Service licensees in 152 MHz
 - Paging Service licensees in 152 MHz/158 MHz
 - 220-222 MHz Service licensees
 - Paging Service licensees in 454 MHz/459 MHz
 - General Aviation Air-Ground Service in 454 MHz/459 MHz
 - SMR licensees (809-824 MHz/854-869 MHz)
 - B/ILT licensees (809-824 MHz/854-869 MHz)
 - Cellular licensees (824-849 MHz/869-894 MHz)
 - Location & Monitoring Service licensees (902-928 MHz)
 - Broadband PCS licensees (1850-1910 MHz/1930-1990 MHz)
 - 1910-1915 MHz/1990-1995 MHz Bands licensee
- (6) The applicant must obtain consents from the Advanced Wireless Service licensees in each proposed area prior to accessing to 1850-2000 MHz band.
- (7) The applicant must coordinate with the local Society of Broadcast Engineers frequency coordinator in the proposed areas prior to operation in 150.8-154 MHz, and 450-470 MHz bands.