

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

EXPERIMENTAL

(Nature of Service)

WH2XLV

(Call Sign)

XT FX MO

(Class of Station)

0707-EX-PL-2014

(File Number)

NAME Ted & Karyn Hume Center for National Security and Technology

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) Blacksburg, VA - NL 37-12-09; WL 80-24-24; MOBILE: , within 0.1 km

Frequency Information

Blacksburg, VA - NL 37-12-09; WL 80-24-24; MOBILE: , within 0.1 km

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
138-144 MHz	MO	25K0F3E 25K0D1D	0.4 W (ERP)	
138-144 MHz	FX	25K0F3E 25K0D1D	0.4 W (ERP)	
150.5-156 MHz	MO	25K0F3E 25K0D1D	0.4 W (ERP)	
150.5-156 MHz	FX	25K0F3E	0.4 W (ERP)	

This authorization effective December 03, 2014 and
will expire 3:00 A.M. EST December 01, 2016

**FEDERAL
COMMUNICATIONS
COMMISSION**



Frequency Information

Blacksburg, VA - NL 37-12-09; WL 80-24-24; MOBILE: , within 0.1 km

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
150.5-156 MHz	FX	25K0D1D	0.4 W (ERP)	
157.45-161.575 MHz	FX	25K0F3E 25K0D1D	0.4 W (ERP)	
157.45-161.575 MHz	MO	25K0F3E 25K0D1D	0.4 W (ERP)	
220-222 MHz	MO	25K0F3E 25K0D1D	0.4 W (ERP)	
220-222 MHz	FX	25K0F3E 25K0D1D	0.4 W (ERP)	
450-470 MHz	MO	25K0F3E 25K0D1D 25K0F1D	0.4 W (ERP)	
450-470 MHz	FX	25K0F3E 25K0D1D 25K0F1D	0.4 W (ERP)	
470-512 MHz	FX	25K0F3E 25K0D1D	0.4 W (ERP)	

Frequency Information

Blacksburg, VA - NL 37-12-09; WL 80-24-24; MOBILE: , within 0.1 km

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
470-512 MHz	FX	25K0F1D	0.4 W (ERP)	
470-512 MHz	MO	25K0F3E 25K0D1D 25K0F1D	0.4 W (ERP)	
776-787 MHz	FX	2M00DXD	0.4 W (ERP)	
776-787 MHz	MO	2M00DXD	0.4 W (ERP)	
824-849 MHz	MO	300KF1D	0.4 W (ERP)	
869-894 MHz	FX	300KF1D	0.4 W (ERP)	
870-915 MHz	MO	300KF1D	0.4 W (ERP)	
915-960 MHz	FX	300KF1D	0.4 W (ERP)	
1710-1785 MHz	MO	300KF1D	0.4 W (ERP)	
1805-1843 MHz	FX	300KF1D	0.4 W (ERP)	

Frequency Information

Blacksburg, VA - NL 37-12-09; WL 80-24-24; MOBILE: , within 0.1 km

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1850-1910 MHz	MO	300KF1D	0.4 W (ERP)	
1930-1990 MHz	FX	300KF1D	0.4 W (ERP)	

Special Conditions:

- (1) In lieu of frequency tolerance, the occupied bandwidth of the emission shall not extend beyond the band limits set forth above.
- (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) Broadband Division would recommend prior coordination with the local Society of Broadcast Engineers coordinator prior to operation to protect the Low Power Broadcast Auxiliary operations and Fixed Microwave licensees prior to operation on 1710-1755 MHz and 1850-2000 MHz.
- (4) The applicant must get consent of ALL Cellular licensees, PCS licenses and upper 700 MHz C block licensee (Verizon) within 25 miles of the location of the test.
- (5) The applicant must be notification of the following licensees within 25 miles of the locations of the test:
 - Paging licenses in 454 MHz and 459 MHz
 - General Aviation Air-Ground licensees in 454 MHz and 459 MHz
 - The 220-222 MHz licensees
- (6) The license is used to support for an experimental Software Defined Radio / Cognitive Radio testbed for the Ted and Karyn Hume Center for National Security and Technology, a department at Virginia Polytechnic Institute and State University (Virginia Tech). It does not apply to use for independent research for commercial purposes.
- (7) Stop Buzzer, Zach Leffke at (540) 231-4174 or (540) 808-6305.