

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

EXPERIMENTAL

(Nature of Service)

WK2XQH

(Call Sign)

XT FX MO

(Class of Station)

0074-EX-CM-2021

(File Number)

NAME North Carolina State University

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) Raleigh (WAKE), NC - NL 35-46-29; WL 78-39-24; MOBILE: Ground mobile only, within 10 km, centered around NL 35-46-29; WL 78-39-24
- (2) Raleigh (WAKE), NC - NL 35-43-38; WL 78-41-45; MOBILE: ground mobile or UAV, within 3 km, centered around NL 35-43-38; WL 78-41-45
- (3) MOBILE: UAV 400 ft AGL Helikite at only LWL 700 ft AGL, within 10 km, centered around NL 35-46-29; WL 78-39-24

Frequency Information

Raleigh (WAKE), NC - NL 35-46-29; WL 78-39-24; MOBILE: Ground mobile only, within 10 km, centered around NL 35-46-29;

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
2500-2690 MHz	MO	40K0F1D 40M0D9D 40M0D1D 25K0F3E	3 W (ERP)	
2500-2690 MHz	FX	40K0F1D 40M0D9D 40M0D1D	10 W (ERP)	

This authorization effective November 18, 2021 and
will expire 3:00 A.M. EST February 01, 2022

**FEDERAL
COMMUNICATIONS
COMMISSION**



Frequency Information

Raleigh (WAKE), NC - NL 35-46-29; WL 78-39-24; MOBILE: Ground mobile only, within 10 km, centered around NL 35-46-29;

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
2500-2690 MHz	FX	25K0F3E	10 W (ERP)	
3300-3550 MHz	MO	40K0F1D 40M0D9D 40M0D1D 25K0F3E	3 W (ERP)	
3300-3550 MHz	FX	40K0F1D 40M0D9D 40M0D1D 25K0F3E	10 W (ERP)	

Raleigh (WAKE), NC - NL 35-43-38; WL 78-41-45; MOBILE: ground mobile or UAV, within 3 km, centered around NL 35-43-38;

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1755-1760 MHz	MO	5M00D7D	1 W (ERP)	
2155-2160 MHz	FX	5M00D7D	30 W (ERP)	

MOBILE: UAV 400 ft AGL Helikite at only LWL 700 ft AGL, within 10 km, centered around NL 35-46-29; WL 78-39-24

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
2500-2690 MHz	MO	40K0F1D 40M0D9D	3 W (ERP)	

Frequency Information

MOBILE: UAV 400 ft AGL Helikite at only LWL 700 ft AGL, within 10 km, centered around NL 35-46-29; WL 78-39-24

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
2500-2690 MHz	MO	40M0D1D 25K0F3E	3 W (ERP)	
3300-3550 MHz	MO	40K0F1D 40M0D9D 40M0D1D 25K0F3E	3 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) Experimental station shall use the minimum power level necessary to establish communications links to minimize potential interference to licensed users.
- (4) This authorization is without prejudice to any determination that the Commission may make regarding pending or future experimental satellite earth station application:
- (5) North Carolina State University must obtain consents from the Educational Broadband Service and the Broadband Radio Service licensees prior to operation in 2500-2690 MHz range.
- (6) The following directive applies to the 2500 MHz - 2690 MHz frequency spectrum band:
 - > Unmanned Airborne operations will be conducted inside restricted airspace and manned airborne operations will be conducted outside restricted airspace.
- (7) North Carolina State University is prohibited from operating in the 3500 - 3700 MHz band due to an explicit airborne prohibition in our CBRS Service rules.
- (8) North Carolina State University must secure consents from the Advanced Wireless Service licensees in each corresponding proposed area prior to accessing to 1755-1760 MHz and 2155-2160 MHz bands.
- (9) Experimental licensee must notch the following:
 - a. 3550-4200 MHz