

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

EXPERIMENTAL
(Nature of Service)

WK2XHY
(Call Sign)

XC FX
(Class of Station)

0263-EX-CN-2019
(File Number)

NAME Northrop Grumman Systems Corporation

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(c) of the Commission's Rules

Station Locations

(1) Hanover (ANNE ARUNDEL), MD - NL 39-10-58; WL 76-42-04

Frequency Information

Hanover (ANNE ARUNDEL), MD - NL 39-10-58; WL 76-42-04

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
420-450 MHz	FX	10K0P0N 1M00P0N 1M20Q1N 20M0Q3N	550 kW (ERP)	
902-928 MHz	FX	10K0P0N 1M00P0N 1M20Q1N 20M0Q3N	2.43 MW (ERP)	
1380 MHz	FX	10K0P0N 1M00P0N	5.53 MW (ERP)	

This authorization effective August 09, 2019 and
will expire 3:00 A.M. EST February 01, 2021

**FEDERAL
COMMUNICATIONS
COMMISSION**



Frequency Information

Hanover (ANNE ARUNDEL), MD - NL 39-10-58; WL 76-42-04

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1380 MHz	FX	1M20Q1N 20M0Q3N	5.53 MW (ERP)	
2417-2483.5 MHz	FX	10K0P0N 1M00P0N 1M20Q1N 20M0Q3N	17.4 MW (ERP)	
2965-3650 MHz	FX	10K0P0N 1M00P0N 1M20Q1N 20M0Q3N	31.9 MW (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.
- (2) In lieu of frequency tolerance, the occupied bandwidth of the emission shall not extend beyond the band limits set forth above.
- (3)
 - a. Prior to operation in 2417-2483.5 MHz band, licensee must successfully coordinate with the local Society of Broadcast Engineers frequency coordinator and the existing and future Fixed Microwave Service licensees in accordance with 47 CFR, Part 101.103(d).
 - b. Licensee must consult the ULS database to ensure that the operation will not cause harmful interference to any existing registered stations in the 3650-3700 MHz band, and notify the registered users in the proposed geographic area prior to operation in 2950-3650 MHz band.
- (4) Prior to commencing any operations in the frequencies below, Northrop Grumman Systems Corporation must obtain consent from the following within 50 miles of the contours of the testing area:
 - > Location & Monitoring Service licensees (902-928 MHz)
- (5) Experimental station shall use the minimum power level necessary to establish communications links to minimize potential interference to licensed users.

Special Conditions:

- (6) THE FOLLOWING CONDITION APPLIES TO THE OPERATION IN THE 2417-2483.5 MHz BAND.
PER CLEARANCE-UPON NOTIFICATION FROM THE FCC, OPERATION ON THIS ASSIGNMENT IS SUBJECT TO IMMEDIATE CESSATION, IF IT CAUSES HARMFUL INTERFERENCE TO FEDERAL LICENSEES.
- (7) This authorization is issued for the express purpose of conducting experimental operations described in the related application and required by AFRL/RQKDA Contract Number FA8650-18-C-7841. The use of this radio station in any other manner or for any other purpose will constitute a violation of the privileges herein authorized. Except as subsequently authorized by the Commission, this radio station shall not be operated after the expiration date of the contract designated in the related application and enumerated above.