

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

EXPERIMENTAL

(Nature of Service)

WH2XKP

(Call Sign)

XT FX MO

(Class of Station)

0180-EX-CM-2020

(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(j) of the Commission's Rules

Station Locations

- (1) Mojave (KERN), CA - NL 35-03-32; WL 118-09-05; MOBILE: Airborne at max altitude of 50,000 ft, within 185 km, centered around NL 35-03-32; WL 118-09-05
- (2) Red Bluff (TEHAMA), CA - NL 40-09-20; WL 122-15-05; MOBILE: Airborne at max altitude of 50,000 ft, within 185 km, centered around NL 40-09-20; WL 122-15-05
- (3) McClellan Park (SACRAMENTO), CA - NL 38-39-39; WL 121-23-35; MOBILE: Airborne at max altitude of 50,000 ft, within 185 km, centered around NL 38-39-39; WL 121-23-35
- (4) San Diego (SAN DIEGO), CA - NL 32-59-33; WL 117-06-57
- (5) Carlsbad (SAN DIEGO), CA - NL 33-05-45; WL 117-18-59; MOBILE: Airborne at max altitude of 50,000 ft, within 185 km, centered around NL 33-05-45; WL 117-18-59
- (6) Newport (NEWPORT), RI - NL 41-31-57; WL 71-18-26; MOBILE: airborne at max altitude 50,000 ft, within 185 km, centered around NL 41-31-57; WL 71-18-26
- (7) Grand Forks (GRAND FORKS), ND - NL 47-56-38; WL 97-10-40; MOBILE: airborne at max altitude of 50,000 ft, within 185 km, centered around NL 47-56-38; WL 97-10-40
- (8) Dulles (LOUDOUN), VA - NL 38-56-51; WL 77-27-36; MOBILE: airborne, max altitude 25,000 ft, within 242 km, centered around NL 38-56-51; WL 77-27-36
- (9) HOLLOWMAN AFB (OTERO), NM - NL 32-51-57; WL 106-06-27; MOBILE: airborne max altitude 50,000 ft, within 185 km, centered around NL 32-51-57; WL 106-06-27
- (10) HOLLOWMAN AFB (OTERO), NM - NL 32-51-57; WL 106-06-27; MOBILE: Max Altitude 50,000 ft, within 185 km, centered around NL 32-51-57; WL 106-06-27
- (11) Creech AFB (CLARK), NV - NL 36-35-01; WL 115-40-42; MOBILE: Max altitude 50,000 ft, within 185 km, centered around NL 36-35-01; WL 115-40-42
- (12) Mountain Home AFB (ELMORE), ID - NL 43-02-52; WL 115-52-17; MOBILE: Max. altitude 50,000 ft., within 185 km, centered around NL 43-02-52; WL 115-52-17

This authorization effective November 16, 2020 and
will expire 3:00 A.M. EST October 01, 2024

**FEDERAL
COMMUNICATIONS
COMMISSION**



Frequency Information

Mojave (KERN), CA - NL 35-03-32; WL 118-09-05; MOBILE: Airborne at max altitude of 50,000 ft, within 185 km, centered arc

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
14.61 GHz	MO	64M0G1D 21M4G1D	30 W (ERP)	
14.62 GHz	MO	21M4G1D 64M0G1D	30 W (ERP)	
14.65 GHz	MO	21M4G1D 64M0G1D	30 W (ERP)	
15.15-15.35 GHz	FX	21M4G1D 64M0G1D	30 W (ERP)	

Red Bluff (TEHAMA), CA - NL 40-09-20; WL 122-15-05; MOBILE: Airborne at max altitude of 50,000 ft, within 185 km, centered arc

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
14.61 GHz	MO	21M4G1D 64M0G1D	30 W (ERP)	
14.62 GHz	MO	21M4G1D 64M0G1D	30 W (ERP)	
14.65 GHz	MO	21M4G1D 64M0G1D	30 W (ERP)	

Frequency Information

Red Bluff (TEHAMA), CA - NL 40-09-20; WL 122-15-05; MOBILE: Airborne at max altitude of 50,000 ft, within 185 km, center

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
15.15-15.35 GHz	FX	21M4G1D 64M0G1D	30 W (ERP)	

McClellan Park (SACRAMENTO), CA - NL 38-39-39; WL 121-23-35; MOBILE: Airborne at max altitude of 50,000 ft, within 185

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
14.65 MHz	MO	21M4G1D 64M0G1D	30 W (ERP)	
14.61 GHz	MO	21M4G1D 64M0G1D	30 W (ERP)	
14.62 GHz	MO	21M4G1D 64M0G1D	30 W (ERP)	
15.15-15.35 GHz	FX	21M4G1D 64M0G1D	30 W (ERP)	

San Diego (SAN DIEGO), CA - NL 32-59-33; WL 117-06-57

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
15.15-15.35 GHz	FX	64M0G1D 21M4G1D	30 W (Output Power)	

Frequency Information

Carlsbad (SAN DIEGO), CA - NL 33-05-45; WL 117-18-59; MOBILE: Airborne at max altitude of 50,000 ft, within 185 km, cent

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
14.61 GHz	MO	21M4G1D 64M0G1D	30 W (ERP)	
14.62 GHz	MO	21M4G1D 64M0G1D	30 W (Output Power)	
14.65 GHz	MO	21M4G1D 64M0G1D	30 W (ERP)	
15.15-15.35 GHz	FX	64M0G1D 21M4G1D	30 W (Output Power)	

Newport (NEWPORT), RI - NL 41-31-57; WL 71-18-26; MOBILE: airborne at max altitude 50,000 ft, within 185 km, centered ε

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
14.61 GHz	MO	21M4G1D 64M0G1D	30 W (ERP)	
14.62 GHz	MO	64M0G1D 21M4G1D	30 W (ERP)	
14.65 GHz	MO	21M4G1D 64M0G1D	30 W (ERP)	

Frequency Information

Newport (NEWPORT), RI - NL 41-31-57; WL 71-18-26; MOBILE: airborne at max altitude 50,000 ft, within 185 km, centered at

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
15.15-15.35 GHz	FX	21M4G1D 64M0G1D	30 W (ERP)	

Grand Forks (GRAND FORKS), ND - NL 47-56-38; WL 97-10-40; MOBILE: airborne at max altitude of 50,000 ft, within 185 km, centered at

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
14.61 GHz	MO	21M4G1D 64M0G1D	30 W (ERP)	
14.62 GHz	MO	21M4G1D 64M0G1D	30 W (ERP)	
14.65 GHz	MO	21M4G1D 64M0G1D	30 W (ERP)	
15.15-15.35 GHz	FX	21M4G1D 64M0G1D	30 W (ERP)	

Dulles (LOUDOUN), VA - NL 38-56-51; WL 77-27-36; MOBILE: airborne, max altitude 25,000 ft, within 242 km, centered around

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
14.61 GHz	MO	21M4G1D 64M0G1D	30 W (ERP)	

Frequency Information

Dulles (LOUDOUN), VA - NL 38-56-51; WL 77-27-36; MOBILE: airborne, max altitude 25,000 ft, within 242 km, centered around

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
14.62 GHz	MO	21M4G1D 64M0G1D	30 W (ERP)	
14.65 GHz	MO	21M4G1D 64M0G1D	30 W (ERP)	
15.15-15.35 GHz	FX	21M4G1D 64M0G1D	30 W (ERP)	

HOLLOMAN AFB (OTERO), NM - NL 32-51-57; WL 106-06-27; MOBILE: airborne max altitude 50,000 ft, within 185 km, centered around

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
14.61 GHz	MO	21M4G1D 64M0G1D	30 W (ERP)	
15.15-15.35 GHz	FX	21M4G1D 64M0G1D	30 W (ERP)	

HOLLOMAN AFB (OTERO), NM - NL 32-51-57; WL 106-06-27; MOBILE: Max Altitude 50,000 ft, within 185 km, centered around

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
14.62 GHz	MO	21M4G1D 64M0G1D	30 W (ERP)	

Frequency Information

HOLLOMAN AFB (OTERO), NM - NL 32-51-57; WL 106-06-27; MOBILE: Max Altitude 50,000 ft, within 185 km, centered around

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
14.65 GHz	MO	21M4G1D 64M0G1D	30 W (ERP)	
15.15-15.35 GHz	FX	21M4G1D 64M0G1D	30 W (ERP)	

Creech AFB (CLARK), NV - NL 36-35-01; WL 115-40-42; MOBILE: Max altitude 50,000 ft, within 185 km, centered around NL

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
14.61 GHz	MO	21M4G1D 64M0G1D	30 W (ERP)	
14.62 GHz	MO	21M4G1D 64M0G1D	30 W (ERP)	
14.65 GHz	MO	21M4G1D 64M0G1D	30 W (ERP)	
15.15-15.35 GHz	FX	21M4G1D 64M0G1D	30 W (ERP)	

Frequency Information

Mountain Home AFB (ELMORE), ID - NL 43-02-52; WL 115-52-17; MOBILE: Max. altitude 50,000 ft., within 185 km, centered

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
14.62 MHz	MO	21M4G1D 64M0G1D	30 W (ERP)	
14.61 GHz	MO	21M4G1D 64M0F1D	30 W (ERP)	
14.65 GHz	MO	21M4G1D 64M0G1D	30 W (ERP)	
15.15-15.35 GHz	FX	21M4G1D 64M0G1D	30 W (ERP)	

Special Conditions:

- (1) The station identification requirements of Section 5.115 of the Commission's Rules are waived.
- (2) In lieu of frequency tolerance, the occupied bandwidth of the emission shall not extend beyond the band limits set forth above.
- (3) Northrop Grumman Systems Corporation must coordinate with the Western Area Frequency Coordinator (WAFC), Mr. J. Szelog at (760) 939-6948 prior to any California operations to mitigate harmful interference to Navy and Marine Corps assignments. Northrop Grumman Systems Corporation must also comply with any and all restrictions that may be levied by WAFC.
- (4) Upon notification from the FCC, operation on 15.15-15.35 GHz at Red Bluff and San Diego, CA is subject to immediate cessation, if it causes harmful interference to Navy and Marine Corps operations assignments.

Special Conditions:

- (5) OPERATIONS AT HOLLOMAN AFB, AND WHITE SANDS MISSILE RANGE (WSMR), MUST BE SCHEDULED AS BASE/RANGE MISSION, THROUGH THE DOD SPONSOR. TRAINING OPS AT HOLLOMAN AFB, THROUGH AIR EDUCATION AND TRAINING COMMAND, MUST BE SCHEDULED THROUGH THE HOLLOMAN AFB SCHEDULING OFFICE. TEST OPS AT HOLLOMAN AFB, THROUGH THE AIR FORCE MATERIAL COMMAND, 704TH TEST GROUP, MUST BE SCHEDULED THROUGH THE 586FLTS DET 1. FINAL AUTHORIZATION TO RADIATE IS CONTINGENT UPON SUCCESSFUL SCHEDULING, AND DE-CONFLICTION, OF BOTH AIRSPACE AND SPECTRUM, WITH OTHER AREA OPS BY THE WSMR SPECTRUM MANAGER, WHO MAY IMPOSE ADDITIONAL CONSTRAINTS.