

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

EXPERIMENTAL

(Nature of Service)

XC FX

(Class of Station)

KA2XAG

(Call Sign)

0266-EX-CR-2021

(File Number)

NAME Raytheon Company (Missiles and Defense - M)

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) Tucson (PIMA), AZ - NL 32-06-06; WL 110-56-49

Frequency Information

Tucson (PIMA), AZ - NL 32-06-06; WL 110-56-49

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
138-225 MHz	FX	2M00P0N	28119 W (ERP)	
410.1-414.9875 MHz	FX	2M00P0N	28119 W (ERP)	
415.0125-968 MHz	FX	2M00P0N	28119 W (ERP)	
1216-1240 MHz	FX	2M00P0N	28119 W (ERP)	

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

**FEDERAL
COMMUNICATIONS
COMMISSION**



Frequency Information

Tucson (PIMA), AZ - NL 32-06-06; WL 110-56-49

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1350-1558 MHz	FX	2M00P0N	28119 W (ERP)	
1618-1660.5 MHz	FX	2M00P0N	28119 W (ERP)	
1668.4-2000 MHz	FX	2M00P0N	28119 W (ERP)	
2000-4000 MHz	FX	2M00P0N	66222 W (ERP)	
4000-8000 MHz	FX	2M00P0N	36392 W (ERP)	
8000-12000 MHz	FX	2M00P0N	58884 W (ERP)	
12000-18000 MHz	FX	2M00P0N	62517 W (ERP)	
32000-39000 MHz	FX	2M00P0N	2884 W (ERP)	

Special Conditions:

- (1) Licensee must accept interference from others operating in the band and must not cause interference to FirstNet operations or those approved to operate in Band 14 per license (i.e. AT&T testing or public safety entities authorized to operate on Band 14).
- (2) Licensee POC shall submit a "Stop Buzzer" contact to FirstNet at peter.tomczak@firstnet.gov upon authorization issuance with "kill switch" authority; license POC agrees to immediately cease operations on Band 14 if notified of any interference concerns until any issues are resolved.
- (3) Licensee agrees that this license may be subject to further review by the FCC and possible re-coordination with FirstNet.

Special Conditions:

- (4) Licensee must prior coordinate testing with other authorized Band 14 operations. Failure to effectively coordinate shall result in FirstNet seeking immediate suspension of the experimental license by the FCC.
- (5) License POC certifies that the Governor-appointed FirstNet Single Point of Contact within the proposed Band 14 authorization location will be notified (contact information is available at www.firstnet.gov/consultation).
- (6) Operation is subject to prior coordination with the Associated Public Safety Communications Officers, Inc. (APCO); ATTN: Director of Frequency Coordination; 351 North Williamson Blvd.; Daytona Beach, FL 32114-1112; Telephone: (386) 322-2500.
- (7) Operation requires consent of affected Educational Broadband Service/Broadband Radio Service (EBS/BRS) licensees.
- (8) Licensee is required to coordinate operations with existing microwave users in the area to avoid interference.
- (9) One or more frequency assignments were coordinated prior to authorization with FAA Headquarters, 800 Independence Avenue, S.W., Washington, DC 20591; Telephone: 202-267-8699.
- (10) In lieu of frequency tolerance, the occupied bandwidth of the emission shall not extend beyond the band limits set forth above.
- (11) 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.
- (12) The station identification requirements of Section 5.115 of the Commission's Rules are waived.
- (13) Operation is subject to prior coordination with the local Society of Broadcast Engineers, Inc. (SBE) frequency coordinator. Consult the list at <http://sbe.org/wp-content/uploads/freqcoor.pdf> to find the appropriate coordinator.
- (14) This authorization is issued for the express purpose of conducting experimental operations described in the related application and required by U.S. Navy Contract number: N00019-17-C-0034. 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.
- (15) Stop buzzer is Jim Ortega at (520) 794-0227 to terminate transmissions if interference occurs.
- (16) Assignment in frequency bands 960-1400, and 2000-18000 MHz was coordinated prior to authorization with the FAA Western Coordinator, Los Angeles, CA. Use of frequencies under the authority of this assignment is subject to such further coordination with the FAA Western Coordinator, Los Angeles, CA, as necessary to ensure compatibility with existing uses.
- (17) The transmission is LIMITED to antenna height of no more than 10 ft AGL, and the direction of 237 degrees referenced to True North and at 70 nsec per pulse.
- (18) Subject to coordination with the Area Frequency Coordinator, located at the Army Electronic Proving Ground, Ft. Huachuca, Arizona, prior to use within the State of Arizona. Phone: 520-538-6423.
- (19) Successfully secure consents from the existing and future Advanced Wireless Service (AWS) licensees.

Special Conditions:

- (20) Maintain separation from the grandfathered earth stations as defined in Part 90, sub-part Z, or coordinate and agreement with the grandfathered earth station licensees prior to operation in 3650-3700 MHz.
- (21) Ensure that the operation will not cause harmful interference to any existing registered stations in the 3650-3700 MHz, and notify the registered users in the proposed area.
- (22) Operations in the following bands are prohibited:
 - 414.9875-415.0125 MHz
 - 968-1216 MHz
 - 1240-1350 MHz
 - 1400-1427 MHz
 - 1558-1618 MHz
 - 1660.5-1668.4 MHz
- (23) Operation in the following bands shall limit the total cumulative usage rate of any single frequency to 400 milliseconds per day:
 - 2690-2700 MHz
 - 2887-2893 MHz
 - 3952-3961 MHz
 - 4990-5000 MHz
 - 10680-10700 MHz
 - 15350-15400 MHz