

**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)

0144-EX-ML-2008

(File Number)

NAME RAYTHEON COMPANY

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(b) 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 (+/-) |
|---------------|---------------|---------------------|------------------|---------------------------|
| 155 MHz       | FX            | 2M00P0N             | 43 W (ERP)       | 5.0E-7 %                  |
| 815 MHz       | FX            | 2M00P0N             | 2495 W (ERP)     | 5.0E-7 %                  |
| 1300 MHz      | FX            | 2M00P0N             | 28119 W (ERP)    | 5.0E-7 %                  |
| 2000-4000 MHz | FX            | 2M00P0N             | 66222 W (ERP)    | 5.0E-7 %                  |

This authorization effective April 29, 2009 and  
will expire 3:00 A.M. EST November 01, 2009

**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 (+/-) |
|-----------------|---------------|---------------------|------------------|---------------------------|
| 4000-8000 MHz   | FX            | 2M00P0N             | 36392 W (ERP)    | 5.0E-7 %                  |
| 8000-12000 MHz  | FX            | 2M00P0N             | 58884 W (ERP)    | 5.0E-7 %                  |
| 12000-18000 MHz | FX            | 2M00P0N             | 62517 W (ERP)    | 5.0E-7 %                  |
| 32000-39000 MHz | FX            | 2M00P0N             | 2884 W (ERP)     | 5.0E-7 %                  |

## Special Conditions:

- (1) This authorization is issued for the express purpose of conducting experimental operations described in the related application and required by . 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.
- (2) Licensee is authorized to use various modes of modulation, bandwidth, and data rates. None of these modes of transmission shall extend beyond the band limits set forth above. Power and emission for the 902-928, 2400-2483.5 and 5725-5850 MHz bands must conform to Part 15 FCC Rules.
- (3) Operation in the 1710-1755 or 2110-2155 MHz band requires consent of local Advanced Wireless Service (AWS) licensee(s) to avoid interference.
- (4) All customers participating in the experiment shall be informed that this operation is for experimental purposes only and can be cancelled at any time.
- (5) The station identification requirements of Section 5.115 of the Commission's Rules are waived.
- (6) In lieu of frequency tolerance, the occupied bandwidth of the emission shall not extend beyond the band limits set forth above.
- (7) Operation is subject to prior coordination with the Society of Broadcast Engineers, Inc. (SBE); ATTN: Executive Director; 9247 North Meridian Street, Suite 305; Indianapolis, IN 46260; telephone, (866) 632-4222; FAX, (317) 846-9120; e-mail, executivedir @ sbe.org; information, www.sbe.org.
- (8) 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.

**Special Conditions:**

- (9) Operation is subject to prior coordination with affected Educational Broadband Service/Broadband Radio Service (EBS/BRS) licensees.
- (10) 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: 602-538-6423.
- (11) 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: N00019-87-C-3102. 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.
- (12) Renewal of this License is subject to prior coordination with AFTRCC Frequency Advisory Committee, PO Box 200547, Cartersville, GA 30120-9010, Telephone (770) 494-2893.
- (13) The designated point-of-contact to terminate transmissions if interference occurs is Steve Cox at (520) 663-6884.
- (14) 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.
- (15) 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.