

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

EXPERIMENTAL

(Nature of Service)

XC FX

(Class of Station)

WH2XJA

(Call Sign)

0186-EX-TC-2019

(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(c) of the Commission's Rules

Station Locations

(1) Tucson (PIMA), AZ - NL 32-06-23; WL 110-56-48

Frequency Information

Tucson (PIMA), AZ - NL 32-06-23; WL 110-56-48

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
14-218 kHz	FX	200HP0N	13 W (ERP)	
224-334 kHz	FX	200HP0N	13 W (ERP)	
224-241 kHz	FX	200HP0N	13 W (ERP)	
249-334 kHz	FX	200HP0N	13 W (ERP)	

This authorization effective January 22, 2020 and
will expire 3:00 A.M. EST October 01, 2020

**FEDERAL
COMMUNICATIONS
COMMISSION**



Frequency Information

Tucson (PIMA), AZ - NL 32-06-23; WL 110-56-48

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
340-392 kHz	FX	200HP0N	13 W (ERP)	
396-2850 kHz	FX	200HP0N	13 W (ERP)	
3.025-3.4 MHz	FX	200HP0N	13 W (ERP)	
3.5-4.65 MHz	FX	200HP0N	13 W (ERP)	
4.7-4.995 MHz	FX	200HP0N	13 W (ERP)	
5.005-5.45 MHz	FX	200HP0N	13 W (ERP)	
5.68-6.525 MHz	FX	200HP0N	13 W (ERP)	
6.685-8.815 MHz	FX	200HP0N	13 W (ERP)	
8.965-9.995 MHz	FX	200HP0N	13 W (ERP)	
10.1-11.275 MHz	FX	200HP0N	13 W (ERP)	

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Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
11.4-13.26 MHz	FX	200HP0N	13 W (ERP)	
13.36-14.995 MHz	FX	200HP0N	13 W (ERP)	
15.505-17.9 MHz	FX	200HP0N	13 W (ERP)	
17.97-19.995 MHz	FX	200HP0N	13 W (ERP)	
20.005-21.924 MHz	FX	200HP0N	13 W (ERP)	
22-24.995 MHz	FX	200HP0N	13 W (ERP)	
25.005-74.6 MHz	FX	200HP0N	13 W (ERP)	
75.4-108 MHz	FX	200HP0N	13 W (ERP)	
137-162.3125 MHz	FX	200HP0N	13 W (ERP)	
981-1014 MHz	FX	200HP0N	1 W (ERP)	

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1016-1026 MHz	FX	200HP0N	1 W (ERP)	
1034-1086 MHz	FX	200HP0N	1 W (ERP)	
1034-1077 MHz	FX	200HP0N	1 W (ERP)	
1079-1086 MHz	FX	200HP0N	1 W (ERP)	
1104-1213 MHz	FX	200HP0N	1 W (ERP)	
1104-1130 MHz	FX	200HP0N	1 W (ERP)	
1132-1146 MHz	FX	200HP0N	1 W (ERP)	
1148-1193 MHz	FX	200HP0N	1 W (ERP)	
1195-1209 MHz	FX	200HP0N	1 W (ERP)	
1211-1213 MHz	FX	200HP0N	1 W (ERP)	

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Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1215-1390 MHz	FX	200HP0N	13 W (ERP)	
1610-2000 MHz	FX	200HP0N	13 W (ERP)	
2728-2747 MHz	FX	200HP0N	330 W (ERP)	
2753-4000 MHz	FX	200HP0N	330 W (ERP)	
4000-4200 MHz	FX	200HP0N	13 W (ERP)	
7235-8123 MHz	FX	200HP0N	13 W (ERP)	
8143-8290 MHz	FX	200HP0N	13 W (ERP)	
8310-8355 MHz	FX	200HP0N	13 W (ERP)	
8375-40000 MHz	FX	200HP0N	13 W (ERP)	
8375-9000 MHz	FX	200HP0N	13 W (ERP)	

Frequency Information

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Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
9200-40000 MHz	FX	200HP0N	13 W (ERP)	

Special Conditions:

- (1) Operation in the 1850-1910 or 1930-1990 MHz band requires prior frequency coordination with 2 GHz microwave users and consent of PCS licensees to avoid interference.
- (2) Operation is subject to prior coordination with affected Educational Broadband Service/Broadband Radio Service (EBS/BRS) licensees.
- (3) Subject to prior coordination with FAA Western Regional Office, P.O. Box 92007, Worldway Center, Los Angeles, California 90009, Attn: Frequency Management Office. Phone 310-297-1872.
- (4) Operation in the 1710-1755 or 2110-2155 MHz band requires consent of local Advanced Wireless Service (AWS) licensee(s) to avoid interference.
- (5) In lieu of frequency tolerance, the occupied bandwidth of the emission shall not extend beyond the band limits set forth above.
- (6) This frequency assignment in one of the bands 1435-1525, 2310-2320 and 2345-2390 MHz was coordinated prior to authorization with the Area Frequency Coordinator, Ft. Huachuca, AZ, who also coordinated it, as appropriate, with the Aerospace and Flight Test Radio Coordinating Council. Use of this frequency under the authority of this assignment is subject to such further coordination with the AFC, Ft. Huachuca, as necessary to ensure compatibility with existing uses.
- (7) Licensee is required to coordinate operations with existing microwave users in the area to avoid interference.
- (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.
- (9) Operation in the 1695-1780 MHz, 1915-1920 MHz, 1995-2020 MHz or 2110-2200 MHz band requires consent of local Advanced Wireless Service (AWS) licensee(s) to avoid interference.
- (10) For 3650-3700 MHz band, Raytheon shall maintain separation from the grandfathered satellite earth station as defined in Part 90 Subpart Z, or coordinate and agreement with the grandfathered earth station licensees. In addition, Raytheon must notify the registered stations in the 3650-3700 MHz band.
- (11) The designated point-of-contact to terminate transmissions if interference occurs is Mr. Ernest Gossmann at (520) 794-0227.

Special Conditions:

- (12) This authorization is issued for the express purpose of conducting experimental operations described in the related application and required by the U.S. Government; contract numbers HQ0276-13-C-0001, N68936-13-D-0004, and N00024-12-C-5401. 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.
- (13) FirstNet can request the FCC to order the licensee to cease operations within 24 hours.
- (14) Operations subject to be consented by ALL PCS licensees within 25 miles of the location.
- (15) Operation subject to notification of 1670-75 MHz licensees serving the test area.
- (16) Operation is limited to indoor use only.
- (17) Operations subject to prior coordination and consent of Satellite Digital Audio Radio Service (SDARS) licensee(s) within 25 miles of the location.
- (18) OPERATION IS PROHIBITED IN 2000-2722 MHZ AND 4400-7215 MHZ BANDS.