

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

EXPERIMENTAL

(Nature of Service)

XC FX

(Class of Station)

WD2XKJ

(Call Sign)

0084-EX-RR-2013

(File Number)

NAME Raytheon Missile Systems

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 32-06-24; WL 110-56-16
- (2) TUCSON (PIMA), AZ - NL 32-06-33; WL 110-56-39
- (3) TUCSON (PIMA), AZ - NL 32-05-31; WL 110-48-24
- (4) TUCSON (PIMA), AZ - NL 32-08-18; WL 110-55-17
- (5) TUCSON (PIMA), AZ - NL 32-07-39; WL 110-56-07
- (6) Farmington (SAN JUAN), NM - NL 36-39-24; WL 108-13-36
- (7) East Camden (OUACHITA), AR - NL 33-37-09; WL 92-45-33
- (8) Tucson (PIMA), AZ - NL 32-06-15; WL 110-56-17
- (9) Tucson (PIMA), AZ - NL 32-06-26; WL 110-56-40
- (10) Tucson (PIMA), AZ - NL 32-05-40; WL 110-48-28
- (11) Tucson (PIMA), AZ - NL 32-08-18; WL 110-55-14
- (12) Tucson (PIMA), AZ - NL 32-07-39; WL 110-56-07
- (13) Tucson (PIMA), AZ - NL 32-06-08; WL 110-56-26
- (14) Tucson (PIMA), AZ - NL 32-06-11; WL 110-56-23
- (15) Tucson (PIMA), AZ - NL 32-06-11; WL 110-56-29
- (16) Tucson (PIMA), AZ - NL 32-06-07; WL 110-56-29
- (17) Tucson (PIMA), AZ - NL 32-06-22; WL 110-56-35
- (18) Tucson (PIMA), AZ - NL 32-06-22; WL 110-56-37
- (19) Tucson (PIMA), AZ - NL 32-06-14; WL 110-56-22
- (20) Tucson (PIMA), AZ - NL 32-06-10; WL 110-56-19
- (21) Tucson (PIMA), AZ - NL 32-06-15; WL 110-56-14
- (22) Tucson (PIMA), AZ - NL 32-06-23; WL 110-56-45
- (23) Tucson (PIMA), AZ - NL 32-06-23; WL 110-56-50
- (24) Tucson (PIMA), AZ - NL 32-06-20; WL 110-56-51
- (25) Tucson (PIMA), AZ - NL 32-06-20; WL 110-56-52

This authorization effective May 02, 2013 and
will expire 3:00 A.M. EST April 01, 2015

**FEDERAL
COMMUNICATIONS
COMMISSION**

Station Locations

- (26) Tucson (PIMA), AZ - NL 32-06-20; WL 110-56-53
- (27) Tucson (PIMA), AZ - NL 32-06-20; WL 110-56-55
- (28) Tucson (PIMA), AZ - NL 32-06-22; WL 110-56-55
- (29) Tucson (PIMA), AZ - NL 32-06-21; WL 110-56-57
- (30) Tucson (PIMA), AZ - NL 32-06-27; WL 110-56-45
- (31) Tucson (PIMA), AZ - NL 32-06-26; WL 110-56-44
- (32) Tucson (PIMA), AZ - NL 32-06-25; WL 110-56-17
- (33) Tucson (PIMA), AZ - NL 32-06-27; WL 110-56-19
- (34) Tucson (PIMA), AZ - NL 32-06-22; WL 110-57-14
- (35) Tucson (PIMA), AZ - NL 32-06-22; WL 110-57-19
- (36) Tucson (PIMA), AZ - NL 32-06-25; WL 110-57-18
- (37) Tucson (PIMA), AZ - NL 32-06-16; WL 110-57-12
- (38) Tucson (PIMA), AZ - NL 32-05-38; WL 110-56-04
- (39) Tucson (PIMA), AZ - NL 32-05-40; WL 110-55-37
- (40) Tucson (PIMA), AZ - NL 32-07-40; WL 110-56-07
- (41) Tucson (PIMA), AZ - NL 32-07-42; WL 110-56-06
- (42) Tucson (PIMA), AZ - NL 32-05-46; WL 110-56-47
- (43) Tucson (PIMA), AZ - NL 32-05-46; WL 110-57-07
- (44) Tucson (PIMA), AZ - NL 32-05-30; WL 110-56-47
- (45) Tucson (PIMA), AZ - NL 32-06-29; WL 110-56-46
- (46) Tucson (PIMA), AZ - NL 32-08-13; WL 110-55-14
- (47) Tucson (PIMA), AZ - NL 32-08-23; WL 110-54-58
- (48) Tucson (PIMA), AZ - NL 32-05-40; WL 110-48-29
- (49) Tucson (PIMA), AZ - NL 32-05-39; WL 110-48-42
- (50) Tucson (PIMA), AZ - NL 32-05-39; WL 110-48-40
- (51) East Camden (OUACHITA), AR - NL 33-39-02; WL 92-39-06

Frequency Information

TUCSON (PIMA), AZ - NL 32-06-24; WL 110-56-16

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1227.6 MHz	FX	24M0G1D	0.000124 pW (ERP)	
1575.42 MHz	FX	24M0G1D	0.000075 pW (ERP)	

Frequency Information

TUCSON (PIMA), AZ - NL 32-06-33; WL 110-56-39

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1227.6 MHz	FX	24M0G1D	0.000124 pW (ERP)	
1575.42 MHz	FX	24M0G1D	0.000075 pW (ERP)	

TUCSON (PIMA), AZ - NL 32-05-31; WL 110-48-24

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1227.6 MHz	FX	24M0G1D	0.000124 pW (ERP)	
1575.42 MHz	FX	24M0G1D	0.000075 pW (ERP)	

TUCSON (PIMA), AZ - NL 32-08-18; WL 110-55-17

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1227.6 MHz	FX	24M0G1D	0.000124 pW (ERP)	
1575.42 MHz	FX	24M0G1D	0.000075 pW (ERP)	

Frequency Information

TUCSON (PIMA), AZ - NL 32-07-39; WL 110-56-07

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1227.6 MHz	FX	24M0G1D	0.000124 pW (ERP)	
1575.42 MHz	FX	24M0G1D	0.000124 pW (ERP)	

Farmington (SAN JUAN), NM - NL 36-39-24; WL 108-13-36

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1227.6 MHz	FX	24M0G1D	0.000069 pW (ERP)	
1575.42 MHz	FX	24M0G1D	0.000042 pW (ERP)	

East Camden (OUACHITA), AR - NL 33-37-09; WL 92-45-33

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1227.6 MHz	FX	24M0G1D	0.000069 pW (ERP)	
1575.42 MHz	FX	24M0G1D	0.000042 pW (ERP)	

Frequency Information

Tucson (PIMA), AZ - NL 32-06-15; WL 110-56-17

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1227.6 MHz	FX	24M0G1D	0.000124 pW (ERP)	
1575.42 MHz	FX	24M0G1D	0.000078 pW (ERP)	

Tucson (PIMA), AZ - NL 32-06-26; WL 110-56-40

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1227.6 MHz	FX	24M0G1D	0.000124 pW (ERP)	
1575.42 MHz	FX	24M0G1D	0.000078 pW (ERP)	

Tucson (PIMA), AZ - NL 32-05-40; WL 110-48-28

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1227.6 MHz	FX	24M0G1D	0.000124 pW (ERP)	
1575.42 MHz	FX	24M0G1D	0.000078 pW (ERP)	

Frequency Information

Tucson (PIMA), AZ - NL 32-08-18; WL 110-55-14

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1227.6 MHz	FX	24M0G1D	0.000124 pW (ERP)	
1575.42 MHz	FX	24M0G1D	0.000078 pW (ERP)	

Tucson (PIMA), AZ - NL 32-07-39; WL 110-56-07

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1227.6 MHz	FX	24M0G1D	0.000124 pW (ERP)	
1575.42 MHz	FX	24M0G1D	0.000078 pW (ERP)	

Tucson (PIMA), AZ - NL 32-06-08; WL 110-56-26

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1227.6 MHz	FX	24M0G1D	0.000124 pW (ERP)	
1575.42 MHz	FX	24M0G1D	0.000078 pW (ERP)	

Frequency Information

Tucson (PIMA), AZ - NL 32-06-11; WL 110-56-23

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1227.6 MHz	FX	24M0G1D	0.000124 pW (ERP)	
1575.42 MHz	FX	24M0G1D	0.000078 pW (ERP)	

Tucson (PIMA), AZ - NL 32-06-11; WL 110-56-29

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1227.6 MHz	FX	24M0G1D	0.000124 pW (ERP)	
1575.42 MHz	FX	24M0G1D	0.000078 pW (ERP)	

Tucson (PIMA), AZ - NL 32-06-07; WL 110-56-29

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1227.6 MHz	FX	24M0G1D	0.000124 pW (ERP)	
1575.42 MHz	FX	24M0G1D	0.000078 pW (ERP)	

Frequency Information

Tucson (PIMA), AZ - NL 32-06-22; WL 110-56-35

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1227.6 MHz	FX	24M0G1D	0.000124 pW (ERP)	
1575.42 MHz	FX	24M0G1D	0.000078 pW (ERP)	

Tucson (PIMA), AZ - NL 32-06-22; WL 110-56-37

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1227.6 MHz	FX	24M0G1D	0.000124 pW (ERP)	
1575.42 MHz	FX	24M0G1D	0.000078 pW (ERP)	

Tucson (PIMA), AZ - NL 32-06-14; WL 110-56-22

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1227.6 MHz	FX	24M0G1D	0.000124 pW (ERP)	
1575.42 MHz	FX	24M0G1D	0.000078 pW (ERP)	

Frequency Information

Tucson (PIMA), AZ - NL 32-06-10; WL 110-56-19

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1227.6 MHz	FX	24M0G1D	0.000124 pW (ERP)	
1575.42 MHz	FX	24M0G1D	0.000078 pW (ERP)	

Tucson (PIMA), AZ - NL 32-06-15; WL 110-56-14

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1227.6 MHz	FX	24M0G1D	0.000124 pW (ERP)	
1575.42 MHz	FX	24M0G1D	0.000078 pW (ERP)	

Tucson (PIMA), AZ - NL 32-06-23; WL 110-56-45

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1227.6 MHz	FX	24M0G1C	0.000124 pW (ERP)	
1575.42 MHz	FX	24M0G1D	0.000078 pW (ERP)	

Frequency Information

Tucson (PIMA), AZ - NL 32-06-23; WL 110-56-50

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1227.6 MHz	FX	24M0G1D	0.000124 pW (ERP)	
1575.42 MHz	FX	24M0G1D	0.000078 pW (ERP)	

Tucson (PIMA), AZ - NL 32-06-20; WL 110-56-51

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1227.6 MHz	FX	24M0G1D	0.000124 pW (ERP)	
1575.42 MHz	FX	24M0G1D	0.000078 pW (ERP)	

Tucson (PIMA), AZ - NL 32-06-20; WL 110-56-52

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1227.6 MHz	FX	24M0G1D	0.000124 pW (ERP)	
1575.42 MHz	FX	24M0G1D	0.000078 pW (ERP)	

Frequency Information

Tucson (PIMA), AZ - NL 32-06-20; WL 110-56-53

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1227.6 MHz	FX	24M0G1D	0.000124 pW (ERP)	
1575.42 MHz	FX	24M0G1D	0.000078 pW (ERP)	

Tucson (PIMA), AZ - NL 32-06-20; WL 110-56-55

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1227.6 MHz	FX	24M0G1D	0.000124 pW (ERP)	
1575.42 MHz	FX	24M0G1D	0.000078 pW (ERP)	

Tucson (PIMA), AZ - NL 32-06-22; WL 110-56-55

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1227.6 MHz	FX	24M0G1D	0.000124 pW (ERP)	
1575.42 MHz	FX	24M0G1D	0.000078 pW (ERP)	

Frequency Information

Tucson (PIMA), AZ - NL 32-06-21; WL 110-56-57

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1227.6 MHz	FX	24M0G1D	0.000124 pW (ERP)	
1575.42 MHz	FX	24M0G1D	0.000078 pW (ERP)	

Tucson (PIMA), AZ - NL 32-06-27; WL 110-56-45

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1227.6 MHz	FX	24M0G1D	0.000124 pW (ERP)	
1575.42 MHz	FX	24M0G1D	0.000078 pW (ERP)	

Tucson (PIMA), AZ - NL 32-06-26; WL 110-56-44

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1227.6 MHz	FX	24M0G1D	0.000124 pW (ERP)	
1575.42 MHz	FX	24M0G1D	0.000078 pW (ERP)	

Frequency Information

Tucson (PIMA), AZ - NL 32-06-25; WL 110-56-17

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1227.6 MHz	FX	24M0G1D	0.000124 pW (ERP)	
1575.42 MHz	FX	24M0G1D	0.000078 pW (ERP)	

Tucson (PIMA), AZ - NL 32-06-27; WL 110-56-19

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1227.6 MHz	FX	24M0G1D	0.000124 pW (ERP)	
1575.42 MHz	FX	24M0G1D	0.000078 pW (ERP)	

Tucson (PIMA), AZ - NL 32-06-22; WL 110-57-14

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1227.6 MHz	FX	24M0G1D	0.000124 pW (ERP)	
1575.42 MHz	FX	24M0G1D	0.000078 pW (ERP)	

Frequency Information

Tucson (PIMA), AZ - NL 32-06-22; WL 110-57-19

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1227.6 MHz	FX	24M0G1D	0.000124 pW (ERP)	
1575.42 MHz	FX	24M0G1D	0.000078 pW (ERP)	

Tucson (PIMA), AZ - NL 32-06-25; WL 110-57-18

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1227.6 MHz	FX	24M0G1D	0.000124 pW (ERP)	
1575.42 MHz	FX	24M0G1D	0.000078 pW (ERP)	

Tucson (PIMA), AZ - NL 32-06-16; WL 110-57-12

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1227.6 MHz	FX	24M0G1D	0.000124 pW (ERP)	
1575.42 MHz	FX	24M0G1D	0.000078 pW (ERP)	

Frequency Information

Tucson (PIMA), AZ - NL 32-05-38; WL 110-56-04

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1227.6 MHz	FX	24M0G1D	0.000124 pW (ERP)	
1575.42 MHz	FX	24M0G1D	0.000078 pW (ERP)	

Tucson (PIMA), AZ - NL 32-05-40; WL 110-55-37

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1227.6 MHz	FX	24M0G1D	0.000124 pW (ERP)	
1575.42 MHz	FX	24M0G1D	0.000078 pW (ERP)	

Tucson (PIMA), AZ - NL 32-07-40; WL 110-56-07

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1227.6 MHz	FX	24M0G0D	0.000124 pW (ERP)	
1575.42 MHz	FX	24M0G1D	0.000078 pW (ERP)	

Frequency Information

Tucson (PIMA), AZ - NL 32-07-42; WL 110-56-06

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1227.6 MHz	FX	24M0G1D	0.000124 pW (ERP)	
1575.42 MHz	FX	24M0G1D	0.000078 pW (ERP)	

Tucson (PIMA), AZ - NL 32-05-46; WL 110-56-47

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1227.6 MHz	FX	24M0G1D	0.000124 pW (ERP)	
1575.42 MHz	FX	24M0G1D	0.000078 pW (ERP)	

Tucson (PIMA), AZ - NL 32-05-46; WL 110-57-07

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1227.6 MHz	FX	24M0G1D	0.000124 pW (ERP)	
1575.42 MHz	FX	24M0G1D	0.000078 pW (ERP)	

Frequency Information

Tucson (PIMA), AZ - NL 32-05-30; WL 110-56-47

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1227.6 MHz	FX	24M0G1D	0.000124 pW (ERP)	
1575.42 MHz	FX	24M0G1D	0.000078 pW (ERP)	

Tucson (PIMA), AZ - NL 32-06-29; WL 110-56-46

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1227.6 MHz	FX	24M0G1D	0.000124 pW (ERP)	
1575.42 MHz	FX	24M0G1D	0.000078 pW (ERP)	

Tucson (PIMA), AZ - NL 32-08-13; WL 110-55-14

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1227.6 MHz	FX	24M0G1D	0.000124 pW (ERP)	
1575.42 MHz	FX	24M0G1D	0.000078 pW (ERP)	

Frequency Information

Tucson (PIMA), AZ - NL 32-08-23; WL 110-54-58

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1227.6 MHz	FX	24M0G1D	0.000124 pW (ERP)	
1575.42 MHz	FX	24M0G1D	0.000078 pW (ERP)	

Tucson (PIMA), AZ - NL 32-05-40; WL 110-48-29

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1227.6 MHz	FX	24M0G1D	0.000124 pW (ERP)	
1575.42 MHz	FX	24M0G1D	0.000078 pW (ERP)	

Tucson (PIMA), AZ - NL 32-05-39; WL 110-48-42

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1227.6 MHz	FX	24M0G1D	0.000124 pW (ERP)	
1575.42 MHz	FX	24M0G1D	0.000078 pW (ERP)	

Frequency Information

Tucson (PIMA), AZ - NL 32-05-39; WL 110-48-40

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1227.6 MHz	FX	24M0G1D	0.000124 pW (ERP)	
1575.42 MHz	FX	24M0G1D	0.000078 pW (ERP)	

East Camden (OUACHITA), AR - NL 33-39-02; WL 92-39-06

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1227.6 MHz	FX	24M0G1D	0.000124 pW (ERP)	
1575.42 MHz	FX	24M0G1D	0.000078 pW (ERP)	

Special Conditions:

- (1) In lieu of frequency tolerance, the occupied bandwidth of the emission shall not extend beyond the band limits set forth above.
- (2) 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.
- (3) The station identification requirements of Section 5.115 of the Commission's Rules are waived.
- (4) This authorization is issued for the express purpose of conducting experimental operations described in the related application and required by the contract numbers A-49228A, F08635-03-C-0002, F34601-02-C-0090, F42630-01-C-0025, F42630-99-D-0288, FA8520-04-D-0004, FA8675-04-C-0001, FA8675-05-C-0070, FA8681-05-C-0075, N00019-00-C-0135, N00019-04-C-0569, N00019-95-C-0120, N00024-00-C-5401, N00024-02-C-5421, N00024-04-C-5342, N00024-06-C-5350, N00024-98-D-8124, W31P4Q-06-C-0032. 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.
- (5) GPS users in the area of potential interference to GPS reception must be notified that GPS information may be impacted for periods of time.

Special Conditions:

- (6) The designated point-of-contacts to terminate transmissions if interference occurs are Mr. Thomas Fagan at (520) 794-0227 (office) or (520) 465-7087 (cell) ;
tjfagan@raytheon.com.
- (7) Operation is limited to activity for the purpose of testing radionavigation satellite service (RNSS) equipment and systems.
- (8) This frequency assignment on 1227.6 MHz was coordinated prior to authorization with the FAA Western Coordinator, Los Angeles, California.
- (9) The test equipment shall only be used indoors and shall be under the control of Raytheon.
- (10) Raytheon shall post signs on doors to the test area notifying that, "GPS re-radiator is in use and the GPS information you receive may be in error."