

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

EXPERIMENTAL

(Nature of Service)

WI2XZC

(Call Sign)

XT FX

(Class of Station)

0406-EX-CR-2021

(File Number)

NAME The Boeing 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(i) of the Commission's Rules

Station Locations

(1) Seattle (KING), WA - NL 47-30-59; WL 122-18-01

Frequency Information

Seattle (KING), WA - NL 47-30-59; WL 122-18-01

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
26-72.9 MHz	FX	N0N	24.5 mW (ERP)	
75.3-107.9 MHz	FX	N0N	24.5 mW (ERP)	
138-224.9 MHz	FX	N0N	24.5 mW (ERP)	
403-608 MHz	FX	N0N	16.6 mW (ERP)	

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

**FEDERAL
COMMUNICATIONS
COMMISSION**



Frequency Information

Seattle (KING), WA - NL 47-30-59; WL 122-18-01

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
614-977 MHz	FX	N0N	16.6 mW (ERP)	
979-1020 MHz	FX	N0N	16.6 mW (ERP)	
1040-1080 MHz	FX	N0N	16.6 mW (ERP)	
1100-1164 MHz	FX	N0N	16.6 mW (ERP)	
1189-1215 MHz	FX	N0N	16.6 mW (ERP)	
1240-1367 MHz	FX	N0N	16.6 mW (ERP)	
1394-1400 MHz	FX	N0N	16.6 mW (ERP)	
1427-1524 MHz	FX	N0N	16.6 mW (ERP)	
1628-1660.5 MHz	FX	N0N	16.6 mW (ERP)	
1668.4-2200 MHz	FX	N0N	35.9 mW (ERP)	

Frequency Information

Seattle (KING), WA - NL 47-30-59; WL 122-18-01

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
2290-2299 MHz	FX	N0N	35.9 mW (ERP)	
2361-2482 MHz	FX	N0N	35.9 mW (ERP)	
2501-2690 MHz	FX	N0N	35.9 mW (ERP)	
2700-2705 MHz	FX	N0N	50.6 mW (ERP)	
2715-2770 MHz	FX	N0N	50.6 mW (ERP)	
2780-3000 MHz	FX	N0N	50.6 mW (ERP)	
3000-3549 MHz	FX	N0N	6.35 mW (ERP)	
4400-4990 MHz	FX	N0N	6.35 mW (ERP)	
5250-6000 MHz	FX	N0N	6.35 mW (ERP)	
6000-10000 MHz	FX	N0N	2.55 mW (ERP)	

Frequency Information

Seattle (KING), WA - NL 47-30-59; WL 122-18-01

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
10000-10680 MHz	FX	N0N	1.07 mW (ERP)	
12760-14000 MHz	FX	N0N	1.07 mW (ERP)	
14000-15350 MHz	FX	N0N	0.85 mW (ERP)	
15400-17299 MHz	FX	N0N	0.85 mW (ERP)	
17701-18000 MHz	FX	N0N	0.85 mW (ERP)	

Special Conditions:

- (1) Operation in the 824-849 or 869-894 MHz band requires consent of local cellular licensee(s) to avoid interference.
- (2) This frequency assignment in one of the bands 1435-1525, 2310-2320 and 2345-2390 MHz was coordinated prior to its authorization with AFMO CONUS, Ft. Sam Houston, TX, 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 AFMO CONUS, Ft. Sam Houston, TX, as necessary to ensure compatibility with existing uses.
- (3) 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.
- (4) In lieu of frequency tolerance, the occupied bandwidth of the emission shall not extend beyond the band limits set forth above.
- (5) The designated point-of-contact to terminate transmissions if interference occurs is Blaine Smith, 253-657-9475.
- (6) Boeing must coordinate with AFTRCC and FAA prior to renew this license.

Special Conditions:

- (7) The applicant must obtain "consent" of the following within 50 miles of the test area:
- o All 700 MHz licensees (698-758 MHz; 775-788 MHz)
 - o All Cellular licensees (824-849 MHz/869-894 MHz)
 - o Commercial Air-Ground licensee (849-851 MHz/894-896 MHz)
 - o SMR licensees (809-824 MHz/854-869 MHz)
 - o SMR licensees (896-901 MHz/935-940 MHz)
 - o All Broadband PCS licensee (1850-1910 MHz/1930-1990 MHz)
 - o All WCS licensees (2305-2320 MHz/2345-2360 MHz)
- (8) The applicant must be "notification" of the following within 50 miles of the test area:
- o Narrowband PCS licensees (901-902 MHz)
 - o Location & Monitoring Service licensees (902-928 MHz)
 - o All services in 220 MHz
 - o 218-219 MHz Service
 - o 220-222 MHz Service
 - o Paging Service licensees in 35 MHz, 43 MHz, 152 MHz, 158 MHz, 152 MHz/158 MHz and 454 MHz/459 MHz
 - o General Aviation Air-Ground Service in 454 MHz/459 MHz
 - o 1390-92 Band Licensees
 - o 1392-1395 MHz/1432-1435 MHz Band licensees
 - o 1670-1675 MHz Band licensee (Crown Castle International,) and the lessee (Ligado Networks)
- (9) Boeing must notch out +/- 2MHz of the following frequencies:
- 1278 MHz
 - 1283 MHz
 - 1007 MHz
 - 1321 MHz
 - 1326 MHz
 - 2795 MHz
 - 2845 MHz
- (10) Applicant agrees Band 14 use will be limited to testing, experimentation or trial and may not involve live-duty operations by first responders or others to protect life, property, or safety.
- (11) Applicant agrees that any press release to be issued regarding the STA/EL, surrounding demonstration, or use of Band 14 spectrum relating to the STA/EL must be coordinated with and receive written signoff from FirstNet prior to release (POCs: ryan.oremland@firstnet.gov and peter.tomczak@firstnet.gov).
- (12) Applicant certifies that the Governor-appointed FirstNet Single Point of Contact within the proposed EL/STA location has been notified of STA application (contact information available at www.firstnet.gov/consultation).
- (13) Applicant must accept interference from any other user of Band 14 and must coordinate operation with other authorized Band 14 STAs/ELs. Failure to effectively coordinate shall result in immediate suspension of STA until such time, as determined by FirstNet, that project may continue.

Special Conditions:

- (14) Applicant 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 licensed to operate on Band 14). Failure to effectively coordinate shall result in FirstNet requesting that the FCC immediately suspend the STA/EL. Reinstitution of the STA/EL would require re-coordination with FirstNet.
- (15) Applicant certifies that it has verified with reasonable supporting detail no current potential for interference with FirstNet operations or those approved to operate in Band 14 per STA/EL or license (i.e. public safety entities licensed to operate on Band 14).
- (16) Point-of-Contact must be established and sent to FirstNet upon STA/EL approval with "kill switch" authority; Applicant agrees to immediately cease operations as directed by FirstNet upon receipt (in any form and for any reason) of notification to kill switch POC until such time, as determined by FirstNet, that project may continue.
- (17) Operation is NOT PERMITTED using the following frequency bands:
 - 406-406.1 MHz
 - 413-413.025 MHz
 - 414-414.025 MHz
 - 1130-1132 MHz
 - 1525-1559 MHz
 - 1610-1627 MHz
 - 2300-2319 MHz
 - 2346-2360 MHz
 - 2483-2500 MHz
 - 3550-4200 MHz
 - 5000-5250 MHz
 - 10700-12200 MHz
 - 12000-12750 MHz
 - 17300-17700 MHz
- (18) Operation is subject to prior coordination with FAA Headquarter, 800 Independence Avenue, S.W., Washington, DC 20591. Phone: 202-267-8699.
- (19) Boeing must notch out +/- 1 MHz of the following frequencies:
 - 1001 MHz
 - 1004 MHz
 - 1007 MHz
 - 1011 MHz
 - 1015 MHz
- (20) Prior to commencing any operations in the 161-163 MHz frequency band, experimental licensee must notify licensee of ORBCOMM License Corp. (Call signs: E940534, S2103. Mr. Walter H. Sonnenfeldt, Phone Number: 585-461-3018, E-Mail: sonnenfeldt.walter@orbcomm.com). The notice must include the name and contact information of the stop buzzer personnel that will be available to cease operations in the event of reported interference. The notification should include the testing parameters (specific location(s), antenna gain(s), antenna height(s), antenna orientation, EIRP, EIRP density) and day and times of each test.

Special Conditions:

- (21) Prior to commencing any operations in the 156.0125-162.0375 MHz frequency band, experimental licensee must notify licensee of Iridium Constellation LLC (Ms. Maureen C McLaughlin, Phone Number: : 703-287-7518 E-Mail: : maureen.mclaughlin@iridium.com) or Name: Jennifer Hindin, Phone Number: 2027194975 E-Mail: jhindin@wileyrein.com). The notice must include the name and contact information of the stop buzzer personnel that will be available to cease operations in the event of reported interference. The notification should include the testing parameters (specific location(s), antenna gain(s), antenna height(s), antenna orientation, EIRP, EIRP density) and day and times of each test.
- (22) Prior to commencing any operations in the 156.7625-156.7875 MHz, 156.8125-156.8375 MHz, 161.9625-161.9875 MHz, 162.0125-162.0375 MHz, 161.9375-161.9625 MHz, and 161.9875-162.0125 MHz frequency bands, experimental licensee must notify licensee of Spire Global, Inc. (Name: Mrs. Francisca Adeuyi, Phone Number: 4153563400 x307, E-Mail: francisca.adeuyi@spire.com). The notice must include the name and contact information of the stop buzzer personnel that will be available to cease operations in the event of reported interference. The notification should include the testing parameters (specific location(s), antenna gain(s), antenna height(s), antenna orientation, EIRP, EIRP density) and day and times of each test.
- (23) Prior to commencing any operations in the 156.5125-156.5375 MHz, 156.7625-156.7875 MHz, 156.8125-156.8375 MHz, 161.9625-161.9875 MHz, 162.0125-162.0375 MHz frequency bands, experimental licensee must notify licensee of HawkEye 360, Inc. (Call sign: S3042. Name: Mr. Rob Rainhart, Phone Number: 571-203-0360 E-Mail: rob@he360.com or Mr. Michael Mineiro Phone Number: 571-203-0360 E-Mail: michael.mineiro@he360.com). The notice must include the name and contact information of the stop buzzer personnel that will be available to cease operations in the event of reported interference. The notification should include the testing parameters (specific location(s), antenna gain(s), antenna height(s), antenna orientation, EIRP, EIRP density) and day and times of each test.
- (24) The applicant must obtain consents from the Advanced Wireless Service licensees in the proposed area prior to accessing to 1668.4-2200 MHz band.
- (25) The applicant must obtain consents from the Upper Microwave Flexible Use Service licensees in the proposed area prior to accessing to 614-698 MHz band.
- (26) The applicant must obtain consents from the Educational Broadband Service and Broadband Radio Service licensees in the proposed area prior to accessing to the frequency range from 2501 MHz to 2690 MHz.
- (27) The applicant must coordinate with the local Society of Broadcast Engineers frequency coordinator prior to operation in the proposed frequency bands.
- (28) The applicant must coordinate with Fixed Microwave Service licensees in the proposed venue in accordance with 47 C.F.R, Part 101.103(d) prior to operation in the proposed frequency bands.