

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

EXPERIMENTAL

(Nature of Service)

XD FX

(Class of Station)

WG2XDD

(Call Sign)

0341-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(j) of the Commission's Rules

Station Locations

- (1) Renton (KING), WA - NL 47-29-25; WL 122-12-47
- (2) Everett (SNOHOMISH), WA - NL 47-54-22; WL 122-16-53
- (3) Seattle (KING), WA - NL 47-31-48; WL 122-18-07

Frequency Information

Renton (KING), WA - NL 47-29-25; WL 122-12-47

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
417 MHz	FX	NON	18 W (ERP)	
427 MHz	FX	NON	18 W (ERP)	
437 MHz	FX	NON	18 W (ERP)	
447 MHz	FX	NON	18 W (ERP)	

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

**FEDERAL
COMMUNICATIONS
COMMISSION**



Frequency Information

Renton (KING), WA - NL 47-29-25; WL 122-12-47

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
457 MHz	FX	N0N	18 W (ERP)	
468 MHz	FX	N0N	18 W (ERP)	
479 MHz	FX	N0N	18 W (ERP)	
484-490 MHz	FX	N0N	10 W (ERP)	
708 MHz	FX	N0N	10 W (ERP)	
724 MHz	FX	N0N	10 W (ERP)	
741 MHz	FX	N0N	10 W (ERP)	
755 MHz	FX	N0N	10 W (ERP)	
772 MHz	FX	N0N	10 W (ERP)	
776 MHz	FX	N0N	10 W (ERP)	

Frequency Information

Renton (KING), WA - NL 47-29-25; WL 122-12-47

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
782 MHz	FX	N0N	10 W (ERP)	
787 MHz	FX	N0N	10 W (ERP)	
813 MHz	FX	N0N	18 W (ERP)	
822.5 MHz	FX	N0N	10 W (ERP)	
832 MHz	FX	N0N	18 W (ERP)	
851 MHz	FX	N0N	18 W (ERP)	
871 MHz	FX	N0N	18 W (ERP)	
891 MHz	FX	N0N	18 W (ERP)	
912 MHz	FX	N0N	18 W (ERP)	
933 MHz	FX	N0N	10 W (ERP)	

Frequency Information

Renton (KING), WA - NL 47-29-25; WL 122-12-47

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
955 MHz	FX	N0N	10 W (ERP)	
1437.9 MHz	FX	N0N	10 W (ERP)	
1455.4 MHz	FX	N0N	10 W (ERP)	
1480.3 MHz	FX	N0N	10 W (ERP)	
1643.5 MHz	FX	N0N	10 W (ERP)	
1738 MHz	FX	N0N	10 W (ERP)	
1778 MHz	FX	N0N	10 W (ERP)	
1819.2-1819.8 MHz	FX	N0N	10 W (ERP)	
1862 MHz	FX	N0N	10 W (ERP)	
1905 MHz	FX	N0N	10 W (ERP)	

Frequency Information

Renton (KING), WA - NL 47-29-25; WL 122-12-47

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1920 MHz	FX	N0N	10 W (ERP)	
1950 MHz	FX	N0N	10 W (ERP)	
1953.1-1999 MHz	FX	N0N	10 W (ERP)	
2018 MHz	FX	N0N	10 W (ERP)	
2130-2159 MHz	FX	N0N	10 W (ERP)	
2310 MHz	FX	N0N	10 W (ERP)	
2357.5 MHz	FX	N0N	10 W (ERP)	
2455 MHz	FX	N0N	10 W (ERP)	
2512 MHz	FX	N0N	10 W (ERP)	
2570 MHz	FX	N0N	10 W (ERP)	

Frequency Information

Renton (KING), WA - NL 47-29-25; WL 122-12-47

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
2630 MHz	FX	N0N	10 W (ERP)	
2638-2689 MHz	FX	N0N	10 W (ERP)	
3467 MHz	FX	N0N	10 W (ERP)	
3548 MHz	FX	N0N	10 W (ERP)	
3650 MHz	FX	N0N	10 W (ERP)	
3750 MHz	FX	N0N	10 W (ERP)	
5012 MHz	FX	N0N	10 W (ERP)	
5129 MHz	FX	N0N	10 W (ERP)	
5248 MHz	FX	N0N	10 W (ERP)	
5300 MHz	FX	N0N	10 W (ERP)	

Frequency Information

Renton (KING), WA - NL 47-29-25; WL 122-12-47

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
5369-5424 MHz	FX	N0N	10 W (ERP)	
5495 MHz	FX	N0N	10 W (ERP)	
5623 MHz	FX	N0N	10 W (ERP)	
5754 MHz	FX	N0N	10 W (ERP)	
5765-5889 MHz	FX	N0N	10 W (ERP)	

Everett (SNOHOMISH), WA - NL 47-54-22; WL 122-16-53

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
417 MHz	FX	N0N	18 W (ERP)	
427 MHz	FX	N0N	18 W (ERP)	
437 MHz	FX	N0N	18 W (ERP)	
447 MHz	FX	N0N	18 W (ERP)	

Frequency Information

Everett (SNOHOMISH), WA - NL 47-54-22; WL 122-16-53

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
457 MHz	FX	N0N	18 W (ERP)	
468 MHz	FX	N0N	18 W (ERP)	
479 MHz	FX	N0N	18 W (ERP)	
484-490 MHz	FX	N0N	10 W (ERP)	
708 MHz	FX	N0N	10 W (ERP)	
724 MHz	FX	N0N	10 W (ERP)	
741 MHz	FX	N0N	10 W (ERP)	
755 MHz	FX	N0N	10 W (ERP)	
772 MHz	FX	N0N	10 W (ERP)	
776 MHz	FX	N0N	10 W (ERP)	

Frequency Information

Everett (SNOHOMISH), WA - NL 47-54-22; WL 122-16-53

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
782 MHz	FX	N0N	10 W (ERP)	
787 MHz	FX	N0N	10 W (ERP)	
813 MHz	FX	N0N	18 W (ERP)	
822.5 MHz	FX	N0N	10 W (ERP)	
832 MHz	FX	N0N	18 W (ERP)	
851 MHz	FX	N0N	18 W (ERP)	
871 MHz	FX	N0N	18 W (ERP)	
891 MHz	FX	N0N	18 W (ERP)	
912 MHz	FX	N0N	18 W (ERP)	
933 MHz	FX	N0N	10 W (ERP)	

Frequency Information

Everett (SNOHOMISH), WA - NL 47-54-22; WL 122-16-53

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
955 MHz	FX	N0N	10 W (ERP)	
1437.9 MHz	FX	N0N	10 W (ERP)	
1455.4 MHz	FX	N0N	10 W (ERP)	
1480.3 MHz	FX	N0N	10 W (ERP)	
1643.5 MHz	FX	N0N	10 W (ERP)	
1738 MHz	FX	N0N	10 W (ERP)	
1778 MHz	FX	N0N	10 W (ERP)	
1819.2-1819.8 MHz	FX	N0N	10 W (ERP)	
1862 MHz	FX	N0N	10 W (ERP)	
1905 MHz	FX	N0N	10 W (ERP)	

Frequency Information

Everett (SNOHOMISH), WA - NL 47-54-22; WL 122-16-53

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1920 MHz	FX	N0N	10 W (ERP)	
1950 MHz	FX	N0N	10 W (ERP)	
1953.1-1999 MHz	FX	N0N	10 W (ERP)	
2018 MHz	FX	N0N	10 W (ERP)	
2130-2159 MHz	FX	N0N	10 W (ERP)	
2310 MHz	FX	N0N	10 W (ERP)	
2357.5 MHz	FX	N0N	10 W (ERP)	
2455 MHz	FX	N0N	10 W (ERP)	
2512 MHz	FX	N0N	10 W (ERP)	
2570 MHz	FX	N0N	10 W (ERP)	

Frequency Information

Everett (SNOHOMISH), WA - NL 47-54-22; WL 122-16-53

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
2630 MHz	FX	N0N	10 W (ERP)	
2638-2689 MHz	FX	N0N	10 W (ERP)	
3467 MHz	FX	N0N	10 W (ERP)	
3548 MHz	FX	N0N	10 W (ERP)	
3650 MHz	FX	N0N	10 W (ERP)	
3750 MHz	FX	N0N	10 W (ERP)	
5012 MHz	FX	N0N	10 W (ERP)	
5129 MHz	FX	N0N	10 W (ERP)	
5248 MHz	FX	N0N	10 W (ERP)	
5300 MHz	FX	N0N	10 W (ERP)	

Frequency Information

Everett (SNOHOMISH), WA - NL 47-54-22; WL 122-16-53

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
5369-5424 MHz	FX	N0N	10 W (ERP)	
5495 MHz	FX	N0N	10 W (ERP)	
5623 MHz	FX	N0N	10 W (ERP)	
5754 MHz	FX	N0N	10 W (ERP)	
5765-5889 MHz	FX	N0N	10 W (ERP)	

Seattle (KING), WA - NL 47-31-48; WL 122-18-07

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
417 MHz	FX	N0N	18 W (ERP)	
427 MHz	FX	N0N	18 W (ERP)	
437 MHz	FX	N0N	18 W (ERP)	
447 MHz	FX	N0N	18 W (ERP)	

Frequency Information

Seattle (KING), WA - NL 47-31-48; WL 122-18-07

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
457 MHz	FX	N0N	18 W (ERP)	
468 MHz	FX	N0N	18 W (ERP)	
479 MHz	FX	N0N	18 W (ERP)	
484-490 MHz	FX	N0N	10 W (ERP)	
708 MHz	FX	N0N	10 W (ERP)	
724 MHz	FX	N0N	10 W (ERP)	
741 MHz	FX	N0N	10 W (ERP)	
755 MHz	FX	N0N	10 W (ERP)	
772 MHz	FX	N0N	10 W (ERP)	
776 MHz	FX	N0N	10 W (ERP)	

Frequency Information

Seattle (KING), WA - NL 47-31-48; WL 122-18-07

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
782 MHz	FX	N0N	10 W (ERP)	
787 MHz	FX	N0N	10 W (ERP)	
813 MHz	FX	N0N	18 W (ERP)	
822.5 MHz	FX	N0N	10 W (ERP)	
832 MHz	FX	N0N	18 W (ERP)	
851 MHz	FX	N0N	18 W (ERP)	
871 MHz	FX	N0N	18 W (ERP)	
891 MHz	FX	N0N	18 W (ERP)	
912 MHz	FX	N0N	18 W (ERP)	
933 MHz	FX	N0N	10 W (ERP)	

Frequency Information

Seattle (KING), WA - NL 47-31-48; WL 122-18-07

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
955 MHz	FX	N0N	10 W (ERP)	
1437.9 MHz	FX	N0N	10 W (ERP)	
1455.4 MHz	FX	N0N	10 W (ERP)	
1480.3 MHz	FX	N0N	10 W (ERP)	
1643.5 MHz	FX	N0N	10 W (ERP)	
1738 MHz	FX	N0N	10 W (ERP)	
1778 MHz	FX	N0N	10 W (ERP)	
1819.2-1819.8 MHz	FX	N0N	10 W (ERP)	
1862 MHz	FX	N0N	10 W (ERP)	
1905 MHz	FX	N0N	10 W (ERP)	

Frequency Information

Seattle (KING), WA - NL 47-31-48; WL 122-18-07

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1920 MHz	FX	N0N	10 W (ERP)	
1950 MHz	FX	N0N	10 W (ERP)	
1953.1-1999 MHz	FX	N0N	10 W (ERP)	
2018 MHz	FX	N0N	10 W (ERP)	
2130-2159 MHz	FX	N0N	10 W (ERP)	
2310 MHz	FX	N0N	10 W (ERP)	
2357.5 MHz	FX	N0N	10 W (ERP)	
2455 MHz	FX	N0N	10 W (ERP)	
2512 MHz	FX	N0N	10 W (ERP)	
2570 MHz	FX	N0N	10 W (ERP)	

Frequency Information

Seattle (KING), WA - NL 47-31-48; WL 122-18-07

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
2630 MHz	FX	N0N	10 W (ERP)	
2638-2689 MHz	FX	N0N	10 W (ERP)	
3467 MHz	FX	N0N	10 W (ERP)	
3548 MHz	FX	N0N	10 W (ERP)	
3650 MHz	FX	N0N	10 W (ERP)	
3750 MHz	FX	N0N	10 W (ERP)	
5012 MHz	FX	N0N	10 W (ERP)	
5129 MHz	FX	N0N	10 W (ERP)	
5248 MHz	FX	N0N	10 W (ERP)	
5300 MHz	FX	N0N	10 W (ERP)	

Frequency Information

Seattle (KING), WA - NL 47-31-48; WL 122-18-07

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
5369-5424 MHz	FX	N0N	10 W (ERP)	
5495 MHz	FX	N0N	10 W (ERP)	
5623 MHz	FX	N0N	10 W (ERP)	
5754 MHz	FX	N0N	10 W (ERP)	
5765-5889 MHz	FX	N0N	10 W (ERP)	

Special Conditions:

- (1) Any operation in the 1850-1990 and 2130-2200 MHz band must be coordinated with the existing and future users to avoid interference. Emission types may vary under the experiment.
- (2) Operation in the 824-849 or 869-894 MHz band requires consent of local cellular licensee(s) to avoid interference.
- (3) 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.
- (4) 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.
- (5) In lieu of frequency tolerance, the occupied bandwidth of the emission shall not extend beyond the band limits set forth above.

Special Conditions:

- (6) Prior to commencing any operations at the 2018 band, experimental licensee must notify licensee (operating in the 2010-2020 MHz band) of DBSD Services Limited. (Call sign E070272, POC/Satellite: S2651. Name: Ms. Allison Minea, Phone Number: 202-293-1216, E-Mail: alison.minea@dish.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.
- (7) Operations at the 2310 MHz band (which falls within in the WCS bands (2305-2320 MHz and 2345-2360 MHz)), must comply with the emission limits applicable to those bands. See 47 C.F.R. § 27.53(a).
- (8) With respect to operations in 3700-4200 MHz band, Licensee should be made aware that they must avoid causing interference to existing FSS earth stations in the band. For applicant's reference, a list of registered incumbent FSS earth stations in the band can be found at the following link:
[HTTPS://docs.fcc.gov/public/attachments/DA-20-823A2.xls](https://docs.fcc.gov/public/attachments/DA-20-823A2.xls)

Special Conditions:

- (9) Prior to commencing any operations in the 3750 GHz frequency band, experimental licensee must notify licensees of earth stations. 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. Please notify the following licensees:

Call Sign: E990286

Frequency bands: 3.7-4.2 GHz

Licensee: Sinclair Television Media, Inc.

ATTN: John Barrett

Phone: 206-404-7000 Fax: 206-404-6014

Site Contact: JACK D. BARNES 206-404-4322

Call Sign: E3276

Frequency bands: 3.7-4.2 GHz

Licensee: Sinclair Television Media, Inc.

ATTN: Lynn Thomas

Phone: 206-404-6789 E-Mail: lthomas@fsci.com

Call Sign: E960569, E980042

Frequency bands: 3.7-4.2 GHz

Licensee: Associated Press

ATTN: Oleta J Brown

Phone: 816-654-1000 Fax: 816-654-1035

E-Mail: ojbrown@ap.org

Call Sign: E970452

Frequency bands: 3.7-4.2 GHz

Licensee: iHM Licenses, LLC

Phone: 918-664-4581 Fax: 918-664-3066 E-Mail: FCCcontact@iheartmedia.com

Site Contact: JOHN MILLER 206-494-2999

Call Sign: E000140

Frequency bands: 3.7-4.2 GHz

Licensee: The University of Washington

ATTN: Mr Terry Denbrook

Phone: 206-543-2710 Fax: 206-543-2720 E-Mail: tdenbrook@u.washington.edu

Site Contact: TERRY DENBROOK 206-685-1137

Call Sign: E202165A

Frequency bands: 3.7-4.2 GHz

Licensee: Northwest Fiber, LLC dba Ziplly Fiber

ATTN: Legal Department

Phone: 425-250-8155 x107 Fax: E-Mail: legal@nwfbf.com

Site Contact: Janet Leising 704-488-1552

Special Call Sign: E120015

Frequency bands: 3.7-4.2 GHz

Licensee: WHIDBEY TELEPHONE COMPANY

ATTN: BRUCE A. RUSSELL

Phone: 360-321-0086 Fax: 360-321-9824 E-Mail: bruce.russell@whidbeytel.com

Site Contact: BRUCE A. RUSSELL 360-321-0086

Call Sign: E5348

Frequency bands: 3.7-4.2 GHz

Licensee: Sinclair Television Media, Inc.

ATTN: Mr Harvey Arnold

Phone: 410-568-1500 Fax: E-Mail: fcccontacts@sbgvtv.com

Site Contact: JOHN REYNOLDS 206-404-4129

Call Sign: E865031

Frequency bands: 3.7-4.2 GHz

Licensee: KIRO-TV, Inc.

ATTN: Mr. Eric Lerner

Phone: 206-728-7777 Fax: 206-728-234

Counsel: DOW LOHNES PLLC, Phone: 202-776-2000

- (10) Licensee must get consent from Advanced Wireless Service licensees prior to operation.
- (11) Licensee must get consent from Education Broadband Services /Broadband Radio Services licensees prior to operation on 2512MHz, 2570MHz and 2630MHz.
- (12) Operation is subject to coordinate with the local Society of Broadband Engineers coordinator prior to operation.
- (13) Operation on this assignment is subject to immediate cessation if it causes harmful interference to Federal Aviation Administration.
- (14) Operation is subject to prior coordination with FAA Northwest Regional Office, 1601 Lind Avenue, S.W Renton, Washington 98055, and phone: 206-227-2464.
- (15) The designated point of contact if having interference occurs is Daniel K Griffith 425-245-2043.
- (16) Operation is NOT PERMITTED using the frequencies 756-768 MHz and 788-798 MHz.
- (17) Maintain separation from the grandfathered earth stations as defined in Part 90, subpart Z, or coordinate an agreement with the grandfathered earth station licensees prior to operation in 3650-3700MHz.
- (18) Ensure that the operation will not cause harmful interference to any existing registered stations in the 3650-3700MHz, and notify the registered users in the area.
- (19) Operation is NOT Permitted using the frequency band 1479.3-1489.6 MHz except 1480.3 MHz.
- (20) Operation is NOT permitted using the frequency band 5091-5150 MHz.

Special Conditions:

- (21) Prior to commencing any operations in the frequencies below, the applicant must obtain consent from the following within 50 miles of the contours of the testing area:
- 700 MHz Lower Band “B” block licensees (704-710 MHz/734-740 MHz)
 - 700 MHz Lower Band “C” block licensees (710-716 MHz/740-746 MHz)
 - 700 MHz Lower Band “E” block licensees (722-728 MHz)
 - 700 MHz Upper Band “C” block (746-757 MHz/776-787 MHz) licensee (Verizon) and/or lessees
 - SMR/ESMR licensees (809-824 MHz/854-869 MHz)
 - B/ILT licensees (809-824 MHz/854-869 MHz)
 - Cellular licensees (824-849 MHz/869-894 MHz)
 - Location & Monitoring Service licensees (902-928 MHz)
 - Broadband PCS licensees (1850-1910 MHz/1930-1990 MHz)
 - 1910-1915 MHz/1990-1995 MHz Bands licensee (Sprint)
 - WCS (2305-2320 MHz/2345-2360 MHz) licensee (AT&T)
- (22) With respect to operations in the 3750 MHz band, WTB/Mobility Division recommends that the applicant should be made aware that they must avoid causing interference to the existing Fixed Service operators and FSS earth stations in the band. For applicant’s reference, a list of registered incumbent FSS earth stations in the band can be found at the following link:
<https://docs.fcc.gov/public/attachments/DA-20-823A2.xls>
- (23) The applicant must coordinate its operations in the 3650 MHz band with one or more authorized Spectrum Access System (SAS) administrators to obtain channel assignments and avoid causing harmful interference to authorized users of the band, including General Authorized Access (GAA) users.
- (24) Licensee must successfully secure consents from the Upper Microwave Flexible Use Service licensees in the proposed area prior to accessing to frequency range from 615 MHz to 698 MHz and from 16200 MHz to 50000 MHz bands.
- (25) Licensee must successfully coordinate with Fixed Microwave Service licensees in the proposed area in accordance with 47 C.F.R, Part 101.103(d) prior to commencing experimental operations.