

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

EXPERIMENTAL
(Nature of Service)

WF2XTH
(Call Sign)

XT FX
(Class of Station)

0490-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) St. Charles (ST CHARLES), MO - NL 38-55-36; WL 90-25-24

Frequency Information

St. Charles (ST CHARLES), MO - NL 38-55-36; WL 90-25-24

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
451-459 MHz	FX	N0N	2.9 W (ERP)	
471-589 MHz	FX	N0N	2.9 W (ERP)	
615-959 MHz	FX	N0N	3.8 W (ERP)	
1238-1400 MHz	FX	N0N	5.8 W (ERP)	

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

**FEDERAL
COMMUNICATIONS
COMMISSION**



Frequency Information

St. Charles (ST CHARLES), MO - NL 38-55-36; WL 90-25-24

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1851-1999 MHz	FX	N0N	8.417 W (ERP)	
3700-4009 MHz	FX	N0N	8.814 W (ERP)	
4191-4999 MHz	FX	N0N	11.096 W (ERP)	
5901-5999 MHz	FX	N0N	14.294 W (ERP)	
6421-7129 MHz	FX	N0N	18.414 W (ERP)	
7661-8409 MHz	FX	N0N	21.142 W (ERP)	
12191-15449 MHz	FX	N0N	35.088 W (ERP)	
16200-50000 MHz	FX	N0N	38.473 W (ERP)	

Special Conditions:

- (1) Operation is subject to prior coordination with the Associated Public Safety Communications Officers, Inc. (APCO); ATTN: Director of Frequency Coordination; 351 North Williamson Blvd.; Daytona Beach, FL 32114-1112; Telephone: (386) 322-2500.
- (2) One or more frequency assignments were coordinated prior to authorization with FAA Headquarters, 800 Independence Avenue, S.W., Washington, DC 20591; Telephone: 202-267-8699.
- (3) In lieu of frequency tolerance, the occupied bandwidth of the emission shall not extend beyond the band limits set forth above.

Special Conditions:

- (4) Operation is subject to prior coordination with the Society of Broadcast Engineers, Inc. (SBE); ATTN: Executive Director; 9102 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.
- (5) 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.
- (6) The station identification requirements of Section 5.115 of the Commission's Rules are waived.
- (7) Operation is subject to prior coordination with the FAA Central Regional Office, 601 East 12th St., Kansas City, Missouri 64106, ATTN: Frequency Management Office: PH 816-426-5647.
- (8) Operation is NOT PERMITTED using the following frequency bands: 460-470 MHz, 608-614MHz, 756-805 MHz, 1221-1238 MHz, 1400-1426 MHz, 1559-1619 MHz, 4200-4400 MHz and 15600-16200 MHz.
- (9) The designated point-of-contact to terminate transmissions if interference occurs is John Vortmeier at 636-250-3814.
- (10) Operation is subject prior coordination with microwave users and consent of PCS licensees to avoid interference.
- (11) Upon renewal, the frequency band 1221-1400 MHz needs to start 1238-1400 MHz and Boeing would have to submit with a new FAA coordination number.
- (12) 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:
 - Mobile Service licensees in 454 MHz/459 MHz
 - General Aviation Air-Ground Service in 454 MHz/459 MHz
 - 700 MHz Lower Band licensees (698-746 MHz)
 - 700 MHz Upper Band licensees (746-758 MHz, 775-788 MHz and 805-806 MHz)
 - 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)
 - Commercial Air-Ground licensee (849-851 MHz/894-896 MHz)
 - SMR licensees (896-901 MHz/935-940 MHz)
 - B/ILT licensees (896-901 MHz/935-940 MHz)
 - Narrowband PCS licensees (901-902/930-931/940-941 MHz)
 - Location & Monitoring Service licensees (902-928 MHz)
 - Paging Service licensees in 929 MHz and 931 MHz
 - 1390-1392 MHz Band Licensees
 - 1392-1395 MHz/1432-1435 MHz Band licensees
 - Broadband PCS licensees (1850-1910 MHz/1930-1990 MHz)
 - 1910-1915 MHz/1990-1995 MHz Bands licensee
- (13) With respect to operations in the 3700-4009 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>

Special Conditions:

- (14) Prior to commencing any operations in the 4.0-4.2 GHz (S-E) 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: E190639A
Frequency bands: 4.0-4.2 GHz
Licensee: Multimedia KSDK, LLC
ATTN: Denise A Branson
Phone: 703-873-6606 E-Mail: dbranson@tegn.com
- (15) Prior to commencing any in the 10.7 -12.7 GHz band, experimental licensee must notify licensees of SpaceX Services, Inc. (Attention: Ms Patricia Cooper Phone Number: 202-649-2700 E-Mail: patricia.cooper@spacex.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 pattern, antenna height(s), antenna orientation, eirp density) and day and times of each test.

Special Conditions:

- (16) Prior to commencing any operations in the 12191-12200 MHz (s-E) 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: E890202

Frequency bands: 11700-12200 MHz

Licensee: St Louis Community College

ATTN: Mr. Michael Petz

Phone: 314-539-5073 Fax: 314-539-5987 E-Mail: mpetz@stlcc.edu

Call Sign: E960115

Frequency bands: 11700-12200 MHz

Licensee: KDNL Licensee, LLC

ATTN: Mr. Harvey Arnold

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

VSAT Call Sign: E150142

Frequency bands: 11700-12200 MHz

Licensee: Anthem Inc.

ATTN: Steve LaBrique, Staff VP

Phone: 978-247-6600 E-Mail: steve.labrique@anthem.com

Site Contact: Bruce Crocker 314-452-4347

Call Sign: E7125

Frequency bands: 11700-12200 MHz

Licensee: NBC Telemundo License LLC

ATTN: Margaret L Tobey

Phone: 202-524-6401 Fax: 202-524-6411 E-Mail: margaret.tobey@nbcuni.com

Site Contact: MICHELE TULLY 321-723-5395

Call Sign: E000071

Frequency bands: 11700-12200 MHz

Licensee: Community Broadcasting, Inc.

ATTN: Richard P Bott

Phone: 913-642-7770

Site Contact: Bruce Cavins 913-642-7600

TFE MO Call Sign: E150024

Frequency bands: 11700-12200 MHz

Licensee: KMBC Hearst Television Inc. Phone Number: 919-839-0300

Fax Number: 919-839-0304 E-Mail: mprak@brookspierce.com

Attention: Mark J Prak

VSAT MO Call Sign: E940457

Frequency bands: 11700-12200 MHz

Licensee: Wal-Mart Stores, Inc., a Delaware corporation

Phone Number: 479-204-3281

Fax Number: 479-204-9864

E-Mail: brandon.vick@walmart.com

Special Attention: Brandon Vick

MES/MSS Call Sign: E060390
Licensee: L-3 Communications Corporation Linkabit Division
Phone Number: 858-552-9944
E-Mail: Mark.Monte@L-3com.com
Name: Mark S. Lawless Phone Number: 801-594-2808
Company: L3 Technologies, Inc.
E-Mail: mark.s.lawless@L3T.com

MES/MSS Call Sign: E060449, E060450, E060451, E060101, E060447, E060448
Licensee: Gilat North America, L.L.C. Phone Number: 703-848-1000
E-Mail: lesley.cooper@spacenet.com
Attention: Lesley Cooper

MES/MSS Call Sign: E960474
Licensee: Omnitrac, LLC. Phone Number: 469-801-6180
Fax Number: 469-801-6431
E-Mail: darnold@omnitrac.com
Attention: David Arnold
Name: Paul C. Besozzi Phone Number: 202-457-5292
Company: Squire Patton Boggs (US) LLP Fax Number: 202-457-6315
E-Mail: paul.besozzi@squirepb.com

MES/MSS Call Sign: E880423, E040139
Licensee: Omnitrac, Inc. Phone Number: 858-651-8838
Fax Number: 858-658-1576
E-Mail: ruelv@omnitrac.com
Attention: Mr. Ruel Valenzuela
Name: Daniel H. Kahn Phone Number: 202-662-5539
Company: Covington & Burling LLP Fax Number: 202-778-5539
E-Mail: dkahn@cov.com

VMES Call Sign: E120174
Licensee: ThinKom Solutions Inc. Phone Number: 310-896-3903
Fax Number: 310-214-1066
E-Mail: JorgeR@thin-kom.com
Attention: Mr. Jorge S Raphael
Name: Paul Moller Phone Number: 480.993.2220
Company: Intellicom Technologies Inc
E-Mail: PMoller@ITCcom.net
Relationship: Engineer

VMES Call Sign: E170191
Licensee: NBC Telemundo License LLC
Phone Number: 202-524-6401
Fax Number: 202-524-6411
E-Mail: margaret.tobey@nbcuni.com
Attention: Margaret L Tobey

VMES Call Sign: E170121
Licensee: Intelsat License LLC Phone Number: 703-559-7848
Fax Number: 703-559-8539

Spec: E-Mail: Cynthia.Grady@intelsat.com
Attention: Cynthia Grady
Name: Richard Cameron Phone Number: 202-230-4962
Company: LMI Advisors
E-Mail: rcameron@lmiadvisors.com

VMES Call Sign: E140087
Licensee: Astronics AeroSat Corporation Phone Number: 603-879-0205
E-Mail: jonathan.epstein@astronics.com
Attention: Mr. Jonathan Epstein
Name: Carlos Nalda Phone Number: 5713325626
Company: LMI Advisors
E-Mail: cnalda@lmiadvisors.com

VMES Call Sign: E170070
Licensee: Kymeta Corporation Phone Number: 425-896-3700
E-Mail: ryans@kymetacorp.com
Attention: Mr. Ryan Stevenson
Name: Robert Koppel Phone Number: 703-584-8669
Company: Lukas, LaFuria, Gutierrez & Sachs, LLP
E-Mail: bkoppel@fcclaw.com

VMES Call Sign: E100099
Licensee: L3harris Technologies
Phone Number: 805-584-1717 x3179
E-Mail: peter.richardson@l3harris.com
Attention: Mr. Peter A Richardson

VMES Call Sign: E110078
Licensee: KVH Industries, Inc. Phone Number: 401-845-8148
Fax Number: 401-845-8116
E-Mail: ffeingold@kvh.com
Attention: Ms. Felise Feingold
Name: Carlos Nalda Phone Number: 571-332-5626
Company: LMI Advisors
E-Mail: cnalda@lmiadvisors.com
Attention: Mr. Carlos Nalda

NGSO BES Call Sign: E190555
Frequency band(s): 11700-12200 MHz
Licensee: Kepler Communications Inc.
Phone Number: 437-537-5371
E-Mail: nspina@keplercommunications.
Attention: Mr. Nickolas G Spina
Receive-Only Blanket Earth Station Call Sign: E040344
Direct to Home Fixed Satellite
Frequency band(s): 11700-12200 MHz
Licensee: DISH Operating L.L.C.
Name: EchoStar Satellite L.L.C.
Phone Number: 303-723-1000
Attention: David K Moskowitz
Name: Pantelis Michalopoulos
Phone Number: 202-429-6494
Company: Stanton & Johnson LLP

Company: Steptoe & Johnson LLP

Special Agent: E-Mail: pmichalo@steptoe.com

Relationship: Legal Counsel

- (17) Prior to commencing any in the 12.2 -12.7 GHz band, experimental licensee must notify licensees of Dish Network (Mr. Mariam Sorond, Email: Mariam.sorond@dish.com Charles Ergen, Email: charlie.ergen@dish.com) EchoStar (Mr. Jaime Londono Email: Jaime.londono@echostar.com), and DirecTV/AT&T (Mr. Raquel Noriega Email: raquel.noriega@att.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 pattern, antenna height(s), antenna orientation, eirp density) and day and times of each test.
- (18) Prior to commencing any in the 12.2 -12.7 GHz band, experimental licensee must notify licensees of DISH Operating L.L.C. (Blanket Earth Stations call sign: E090020), DISH Broadcasting Corporation (Blanket Earth Stations call sign: E080107) and EchoStar 77 Corp. (Blanket Earth Stations call sign: E050196). Phone Number: 202-463-3709 or 202-293-0981, E-Mail: Alison.Minea@dish.com Attention: Alison Minea). 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 pattern, antenna height(s), antenna orientation, EIRP, EIRP density) and day and times of each test.
- (19) Prior to commencing any in the 17.3-17.7 GHz band, experimental licensee must notify licensees of DIRECTV Enterprises, LLC (Mr. Navid Motamed. Phone Number: 310-964-3589 E-Mail: nm704u@att.com and DirecTV/AT&T. Mr. Raquel Noriega Email: raquel.noriega@att.com), and NOVAVISION GROUP, INC. (Mr NORM LEVENTHAL. Phone Number: 202-955-3000 E-Mail: NORM.LEVENTHAL@HKLAW.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 pattern, antenna height(s), antenna orientation, eirp density) and day and times of each test.

Special Conditions:

- (20) Prior to commencing any operations in the 18.3-20.2 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:

KA BES Call Sign: E120227, E120071, E170088, E190201, E100143, E120026, E050033,

TFE Call Sign: E120092, E150097

Frequency band: 18.3-19.3 GHz, 19.7-20.2 GHz

Licensee: ViaSat, Inc.

Attention: Mr. Daryl T Hunter

Phone Number: 760-476-2583 E-Mail: daryl.hunter@viasat.com

Fax Number: 760-929-3941

NGSO KA BES Call Sign: E140101

TFE Call Sign: E040415, E040416, E040417

Frequency band: 18.8 – 19.3 GHz

Licensee: SES S.A.

Name: O3B LIMITED

Phone Number: 202-478-7143

E-Mail: petra.vorwig@ses.com

Attention: Ms. Petra Vorwig

KA BES Call Sign: E140114

MES Call Sign: E140029

TFE Call Sign: E150097

Frequency band: 19.3-20.2 GHz

Licensee: ISAT US Inc. Phone Number: 202-248-5150

E-Mail: brennan.price@inmarsat.com

Attention: Brennan Price

KA BES Call Sign: E060445, E110149

Frequency band: 18.3 – 19.3 GHz, 19.7-20.2 GHz

Licensee: HNS License Sub, LLC

Phone Number: 301-428-5893

Fax Number: 301-428-2818

E-Mail: jennifer.manner@echostar.com

Attention: Jennifer A. Manner

TFE Call Sign: E040285

Frequency band: 18.3-18.8 GHz, 19.7-20.2 GHz

Licensee: Telesat

Phone Number: 613-748-8700

E-Mail: eneasmith@telesat.com

Attention: MS Elisabeth Neasmith

Special Conditions:

- (21) Prior to commencing any in the 17.3-17.7 GHz band, experimental licensee must notify licensees of DISH Operating L.L.C. (Blanket Earth Stations call sign: E140100. Phone Number: 202-463-3709 E-Mail: Alison.Minea@dish.com Attention: Alison Minea). 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 pattern, antenna height(s), antenna orientation, EIRP, EIRP density) and day and times of each test.