

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

EXPERIMENTAL

(Nature of Service)

WI2XHO

(Call Sign)

XT FX MO

(Class of Station)

0153-EX-CR-2021

(File Number)

NAME Caterpillar, Inc.

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) Mossville (PEORIA), IL - NL 40-50-54; WL 89-33-45; MOBILE: , within 5 km
- (2) Green Valley (PIMA), AZ - NL 31-49-24; WL 111-08-05; MOBILE: , within 5 km
- (3) Washington (TAZEWELL), IL - NL 40-43-58; WL 89-28-02; MOBILE: , within 5 km

Frequency Information

Mossville (PEORIA), IL - NL 40-50-54; WL 89-33-45; MOBILE: , within 5 km

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
699-716 MHz	MO	18M0W9W	251 mW (ERP)	
717-728 MHz	FX	10M0F9W 5M00D7W	251 mW (ERP)	
729-756 MHz	FX	10M0W7W 20M0F9W 5M00D7W	251 mW (ERP)	

This authorization effective June 01, 2021 and
will expire 3:00 A.M. EST June 01, 2026

**FEDERAL
COMMUNICATIONS
COMMISSION**



Frequency Information

Mossville (PEORIA), IL - NL 40-50-54; WL 89-33-45; MOBILE: , within 5 km

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
729-756 MHz	FX	18M0W9W	251 mW (ERP)	
777-787 MHz	MO	10M0W9W	251 mW (ERP)	
799-821 MHz	MO	22M0W9W	251 mW (ERP)	
824-849 MHz	MO	25M0W9W	251 mW (ERP)	
832-862 MHz	FX	30M0W9W	251 mW (ERP)	
859-894 MHz	FX	20M0F9W 5M00D7W 25M0W9W	251 mW (ERP)	
896-902 MHz	MO	40M0W9W	251 mW (ERP)	
1626.5-1660.5 MHz	MO	30M0W9W	251 mW (ERP)	
1710-1755 MHz	MO	40M0W9W	60 W (ERP)	
1805-1880 MHz	FX	20M0F9W	251 mW (ERP)	

Frequency Information

Mossville (PEORIA), IL - NL 40-50-54; WL 89-33-45; MOBILE: , within 5 km

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1850-1910 MHz	FX	40M0W9W	251 mW (ERP)	
1910-1930 MHz	FX	20M0W9W	251 mW (ERP)	
1910-1930 MHz	MO	20M0W9W	251 mW (ERP)	
1920-1980 MHz	MO	40M0W9W	251 mW (ERP)	
1930-1995 MHz	FX	5M00D7W 40M0W9W 20M0W9W	251 mW (ERP)	
2000-2020 MHz	MO	20M0W9W	251 mW (ERP)	
2110-2170 MHz	FX	20M0F9W 5M00D7W 40M0W9W	251 mW (ERP)	
2110-2155 MHz	FX	40M0W9W	60 W (ERP)	
2180-2200 MHz	FX	20M0W9W	251 mW (ERP)	
2350-2360 MHz	FX	10M0F9W	251 mW (ERP)	

Frequency Information

Mossville (PEORIA), IL - NL 40-50-54; WL 89-33-45; MOBILE: , within 5 km

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
2350-2360 MHz	FX	5M00D7W	251 mW (ERP)	
2500-2690 MHz	FX	20M0F9W 5M00D7W 40M0W9W	251 mW (ERP)	
2500-2690 MHz	MO	20M0F9W 5M00D7W 40M0W9W	251 mW (ERP)	
2500-2570 MHz	MO	40M0W9W	251 mW (ERP)	
3400-3600 MHz	FX	40M0W9W	7.5 mW (ERP)	
3400-3600 MHz	MO	40M0W9W	7.5 mW (ERP)	
3600-3800 MHz	FX	40M0W9W	251 mW (ERP)	

Green Valley (PIMA), AZ - NL 31-49-24; WL 111-08-05; MOBILE: , within 5 km

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
699-716 MHz	MO	18M0W9W	251 mW (ERP)	

Frequency Information

Green Valley (PIMA), AZ - NL 31-49-24; WL 111-08-05; MOBILE: , within 5 km

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
717-728 MHz	FX	10M0F9W 5M00D7W	251 mW (ERP)	
729-756 MHz	FX	10M0W7W 20M0F9W 5M00D7W 18M0W9W	251 mW (ERP)	
777-787 MHz	MO	10M0W9W	251 mW (ERP)	
799-821 MHz	MO	21M0W9W	251 mW (ERP)	
824-849 MHz	MO	25M0W9W	251 mW (ERP)	
832-862 MHz	FX	30M0W9W	251 mW (ERP)	
859-894 MHz	FX	20M0F9W 5M00D7W 25M0W9W	251 mW (ERP)	
896-902 MHz	MO	40M0W9W	251 mW (ERP)	
1626.5-1660.5 MHz	MO	30M0W9W	251 mW (ERP)	

Frequency Information

Green Valley (PIMA), AZ - NL 31-49-24; WL 111-08-05; MOBILE: , within 5 km

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1710-1755 MHz	MO	40M0W9W	60 W (ERP)	
1805-1880 MHz	FX	20M0F9W	251 mW (ERP)	
1850-1910 MHz	FX	40M0W9W	251 mW (ERP)	
1910-1930 MHz	FX	20M0W9W	251 mW (ERP)	
1910-1930 MHz	MO	40M0W9W	251 mW (ERP)	
1930-1995 MHz	FX	5M00D7W 20M0W9W 40M0W9W	251 mW (ERP)	
2000-2020 MHz	MO	20M0W9W	251 mW (ERP)	
2110-2170 MHz	FX	20M0F9W 5M00D7W 40M0W9W	251 mW (ERP)	
2110-2155 MHz	FX	40M0W9W	60 W (ERP)	

Frequency Information

Green Valley (PIMA), AZ - NL 31-49-24; WL 111-08-05; MOBILE: , within 5 km

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
2180-2200 MHz	FX	20M0W9W	251 mW (ERP)	
2350-2360 MHz	FX	10M0F9W 5M00D7W	251 mW (ERP)	
2500-2690 MHz	FX	20M0F9W 5M00D7W 40M0W9W	251 mW (ERP)	
2500-2690 MHz	MO	20M0F9W 5M00D7W 40M0W9W	251 mW (ERP)	
2500-2570 MHz	MO	40M0W9W	251 mW (ERP)	
3400-3600 MHz	FX	40M0W9W	7.5 mW (ERP)	
3400-3600 MHz	MO	40M0W9W	7.5 mW (ERP)	
3600-3800 MHz	FX	40M0W9W	251 mW (ERP)	

Frequency Information

Washington (TAZEWELL), IL - NL 40-43-58; WL 89-28-02; MOBILE: , within 5 km

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
699-716 MHz	MO	18M0W9W	251 mW (ERP)	
717-728 MHz	FX	10M0F9W 5M00D7W	251 mW (ERP)	
729-756 MHz	FX	10M0W7W 20M0F9W 5M00D7W 18M0W9W	251 mW (ERP)	
777-787 MHz	MO	10M0W9W	251 mW (ERP)	
799-821 MHz	MO	21M0W9W	251 mW (ERP)	
824-849 MHz	MO	25M0W9W	251 mW (ERP)	
832-862 MHz	FX	30M0W9W	251 mW (ERP)	
859-894 MHz	MO	20M0F9W 5M00D7W 25M0W9W	251 mW (ERP)	
896-902 MHz	MO	40M0W9W	251 mW (ERP)	

Frequency Information

Washington (TAZEWELL), IL - NL 40-43-58; WL 89-28-02; MOBILE: , within 5 km

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
1626.5-1660.5 MHz	MO	30M0W9W	251 mW (ERP)	
1710-1755 MHz	MO	40M0W9W	60 W (ERP)	
1805-1880 MHz	FX	20M0F9W	251 mW (ERP)	
1850-1910 MHz	FX	40M0W9W	251 mW (ERP)	
1910-1930 MHz	FX	20M0W9W	251 mW (ERP)	
1910-1930 MHz	MO	20M0W9W	251 mW (ERP)	
1920-1980 MHz	MO	40M0W9W	251 mW (ERP)	
1930-1995 MHz	FX	5M00D7W 20M0W9W 40M0W9W	251 mW (ERP)	
2000-2020 MHz	MO	20M0W9W	251 mW (ERP)	
2110-2170 MHz	FX	20M0F9W 5M00D7W	251 mW (ERP)	

Frequency Information

Washington (TAZEWELL), IL - NL 40-43-58; WL 89-28-02; MOBILE: , within 5 km

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
2110-2170 MHz	FX	40M0W9W	251 mW (ERP)	
2110-2155 MHz	FX	40M0W9W	60 W (ERP)	
2180-2200 MHz	FX	20M0W9W	251 mW (ERP)	
2350-2360 MHz	FX	10M0F9W 5M00D7W	251 mW (ERP)	
2500-2690 MHz	FX	20M0F9W 5M00D7W 40M0W9W	251 mW (ERP)	
2500-2690 MHz	MO	20M0F9W 5M00D7W 40M0W9W	251 mW (ERP)	
2500-2570 MHz	MO	40M0W9W	251 mW (ERP)	
3400-3600 MHz	MO	40M0W9W	7.5 mW (ERP)	
3400-3600 MHz	FX	40M0W9W	7.5 mW (ERP)	

Frequency Information

Washington (TAZEWELL), IL - NL 40-43-58; WL 89-28-02; MOBILE: , within 5 km

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
3600-3800 MHz	FX	40M0W9W	251 mW (ERP)	

Special Conditions:

- (1) 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.
- (2) This license supersedes previous grant to remove the Firstnet Band 14 frequencies 758-768 MHz and 788-798 MHz that are not needed for testing.
- (3) Caterpillar, Inc. must secure consents from the Advanced Wireless Service licensees in the proposed areas prior to accessing to 1710-1755 MHz, 1910-1930 MHz, 2000-2020 MHz, 2180-2200 MHz, and 2110-2170 MHz bands.
- (4) Caterpillar, Inc. must obtain consents from the Educational Broadband Service and Broadband Radio Service licensees prior to accessing to the frequency range from 2500 MHz to 2690 MHz.
- (5) Caterpillar, Inc. must coordinate with Fixed Microwave Service licensees in accordance with 47 C.F.R, Part 101.103(d) prior to operation in 3700-3800 MHz band.

Special Conditions:

- (6) Prior to commencing any operations in the frequencies below, the licensee must obtain consent from the following within 50 miles of the contours of the testing area:
- a. 700 MHz Lower Band "A" block licensees (698-704 MHz/728-734 MHz)
 - b. 700 MHz Lower Band "B" block licensees (704-710 MHz/734-740 MHz)
 - c. 700 MHz Lower Band "C" block licensees (710-716 MHz/740-746 MHz)
 - d. 700 MHz Lower Band "D" block licensees (716-722 MHz)
 - e. 700 MHz Lower Band "E" block licensees (722-728 MHz)
 - f. 700 MHz Upper Band "C" block (746-757 MHz and 776-787 MHz) licensee (Verizon) and/or lessees
 - g. 700 MHz Guard Band licensees (775-776 MHz/805-806 MHz)
 - h. SMR/ESMR licensees (809-824 MHz/854-869 MHz)
 - i. B/ILT licensees (809-824 MHz/854-869 MHz)
 - j. Cellular licensees (824-849 MHz/869-894 MHz)
 - k. Commercial Air-Ground licensee (849-851 MHz/894-896 MHz)
 - l. SMR licensees (896-901 MHz/935-940 MHz)
 - m. B/ILT licensees (896-901 MHz/935-940 MHz)
 - n. Narrowband PCS licensees (901-902/930-931/940-941 MHz)
 - o. Broadband PCS licensees (1850-1910 MHz/1930-1990 MHz)
 - p. 1910-1915 MHz/1990-1995 MHz Bands licensee
 - q. WCS (2305-2320 MHz/2345-2360 MHz) licensee (AT&T)
- (7) Licensee must coordinate its operations in the 3550-3700 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.
- (8) With respect to operations in the 3700-3800 MHz band, the licensee 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>