

**United States of America
FEDERAL COMMUNICATIONS COMMISSION
EXPERIMENTAL
SPECIAL TEMPORARY AUTHORIZATION**

EXPERIMENTAL

(Nature of Service)

WR9XVB

(Call Sign)

XT MO

(Class of Station)

0358-EX-ST-2021

(File Number)

NAME Insitu

This Special Temporary Authorization is granted upon the express condition that it may be terminated by the Commission at any time without advance notice or hearing if in its discretion the need for such action arises. Nothing contained herein shall be construed as a finding by the Commission that the authority herein granted is or will be in the public interest beyond the express terms hereof.

This Special Temporary Authorization shall not vest in the grantee any right to operate the station nor any right in the use of the frequencies designated in the authorization beyond the term hereof, nor in any other manner than authorized herein. Neither the authorization nor the right granted hereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934. This authorization is subject to the right of use of control the Government of the United States conferred by Section 706 of the Communications Act of 1934.

Special Temporary Authority is hereby granted to operate the apparatus described below:

Purpose Of Operation:

The test will use a signal generator on the ground as the transmitter and an airborne passive receiver.

Station Locations

- (1) MOBILE: Bingen, WA Ground Only within 5 Kilometer of Coordinates, within 5 km, centered around NL 45-42-23; WL 121-27-23
- (2) MOBILE: Boardman, OR Ground Only within 1 Kilometer of Coordinates, within 1 km, centered around NL 45-44-54; WL 119-47-38

Frequency Information

MOBILE: Bingen, WA Ground Only within 5 Kilometer of Coordinates, within 5 km, centered around NL 45-42-23; WL 121-27-23

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
3-30 MHz	MO	NON	50 W (ERP)	
30-50 MHz	MO	NON	50 W (ERP)	

This authorization effective May 15, 2021 and
will expire 3:00 A.M. EST October 01, 2021

**FEDERAL
COMMUNICATIONS
COMMISSION**



Frequency Information

MOBILE: Bingen, WA Ground Only within 5 Kilometer of Coordinates, within 5 km, centered around NL 45-42-23; WL 121-27-23

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
138-148 MHz	MO	N0N	25 W (ERP)	
151-156 MHz	MO	N0N	25 W (ERP)	
157-161 MHz	MO	N0N	25 W (ERP)	
163-174 MHz	MO	N0N	25 W (ERP)	
420-450 MHz	MO	N0N	25 W (ERP)	
2400-2483.5 MHz	MO	N0N	15 W (ERP)	

MOBILE: Boardman, OR Ground Only within 1 Kilometer of Coordinates, within 1 km, centered around NL 45-44-54; WL 119-47-38

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
3-30 MHz	MO	N0N	50 W (ERP)	
30-50 MHz	MO	N0N	50 W (ERP)	
138-148 MHz	MO	N0N	25 W (ERP)	

Frequency Information

MOBILE: Boardman, OR Ground Only within 1 Kilometer of Coordinates, within 1 km, centered around NL 45-44-54; WL 119-47-38

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
151-156 MHz	MO	N0N	25 W (ERP)	
157-161 MHz	MO	N0N	25 W (ERP)	
163-174 MHz	MO	N0N	25 W (ERP)	
420-450 MHz	MO	N0N	25 W (ERP)	
2400-2483.5 MHz	MO	N0N	15 W (ERP)	

Special Conditions:

- (1) Operation is subject to prior coordination with the local Society of Broadcast Engineers, Inc. (SBE) frequency coordinator. Consult the list at <http://sbe.org/wp-content/uploads/freqcoor.pdf> to find the appropriate coordinator.
- (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) In lieu of frequency tolerance, the occupied bandwidth of the emission shall not extend beyond the band limits set forth above.
- (4) Fixed Microwave Service licensees in accordance with 47 C.F.R, Part 101.103(d) prior to operation in the proposed frequency bands.
- (5) The stop buzzer: Insitu the Operations Action Center at 866-637-4691.
- (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:
 - Paging Service licensees in 35 MHz
 - Paging Service licensees in 43 MHz
 - Paging Service licensees in 152 MHz
 - Paging Service licensees in 158 MHz
 - Mobile Service licensees in 152 MHz/158 MHz

Special Conditions:

(7) Following frequencies need to be notched for Boardman, OR:

2850 - 3025 kHz
3024.4 kHz+/- 1.4 kHz
3054.4 kHz+/- 1.4 kHz
3057.4 kHz+/- 1.4 kHz
3120.4 kHz+/- 1.4 kHz
3123.4 kHz+/- 1.4 kHz
3400 - 3500 kHz
4126.4 kHz+/- 1.4 kHz
4177.5 kHz+/- 1.4 kHz
4207.5 kHz+/- 1.4 kHz
4572.5 kHz+/- 1.4 kHz
4576.4 kHz+/- 1.4 kHz
4650 - 4700 kHz
4731.4 kHz+/- 1.4 kHz
4734.4 kHz+/- 1.4 kHz
4821 kHz+/- 1.4 kHz
4902 kHz+/- 1.4 kHz
4965 kHz+/- 1.4 kHz
5107 kHz+/- 1.5 kHz
5108 kHz+/- 1.4 kHz
5108.5 kHz+/- 1.5 kHz
5110 kHz+/- 1.5 kHz
5215.5 kHz+/- 1.5 kHz
5217 kHz+/- 1.5 kHz
5221.5 kHz+/- 1.5 kHz
5223 kHz+/- 1.5 kHz
5224.5 kHz+/- 1.5 kHz
5264.5 kHz+/- 1.5 kHz
5266 kHz+/- 1.5 kHz
5267.5 kHz+/- 1.5 kHz
5270.5 kHz+/- 1.5 kHz
5272 kHz+/- 1.5 kHz
5418 kHz+/- 1.5 kHz
5419.5 kHz+/- 1.5 kHz
5421 kHz+/- 1.5 kHz
5450 - 5680 kHz
5681.4 kHz+/- 1.4 kHz
5694.4 kHz+/- 1.4 kHz
5697.4 kHz+/- 1.4 kHz
5700.4 kHz+/- 1.4 kHz
5885 kHz+/- 1.4 kHz
6502.4 kHz+/- 1.4 kHz
6517.4 kHz+/- 1.4 kHz
6525 - 6685 kHz
6710.4 kHz+/- 1.4 kHz
6743.4 kHz+/- 1.4 kHz
6961 kHz+/- 1.5 kHz
7577 kHz+/- 1.5 kHz
7617 kHz+/- 1.5 kHz
7626 kHz+/- 1.5 kHz
7630.5 kHz+/- 1.4 kHz

Specific
7669.5 kHz+/- 1.4 kHz
7736 kHz+/- 1.4 kHz
7743 kHz+/- 1.4 kHz
7747 kHz+/- 1.4 kHz
7754.5 kHz+/- 1.5 kHz
7775 kHz+/- 1.4 kHz
7793 kHz+/- 1.4 kHz
7821 kHz+/- 1.4 kHz
7845 kHz+/- 1.5 kHz
7884 kHz+/- 1.5 kHz
7909 kHz+/- 1.5 kHz
8815 - 8965 kHz
8981.4 kHz+/- 1.4 kHz
8984.4 kHz+/- 1.4 kHz
9035.4 kHz+/- 1.4 kHz
9038.4 kHz+/- 1.4 kHz
9110 kHz+/- 1.5 kHz
9169 kHz+/- 1.5 kHz
9291 kHz+/- 1.5 kHz
9332 kHz+/- 1.5 kHz
10005 - 10100 kHz
10297.5 kHz+/- 1.5 kHz
10338.5 kHz+/- 1.5 kHz
10354.5 kHz+/- 1.5 kHz
10378 kHz+/- 1.5 kHz
10540 kHz+/- 1.4 kHz
10675 kHz+/- 1.5 kHz
10759 kHz+/- 1.5 kHz
10774 kHz+/- 1.4 kHz
10788 kHz+/- 1.5 kHz
10810 kHz+/- 1.4 kHz
10891 kHz+/- 1.4 kHz
10918 kHz+/- 1.4 kHz
10929.5 kHz+/- 1.5 kHz
10935.5 kHz+/- 1.5 kHz
11024 kHz+/- 1.5 kHz
11045 kHz+/- 1.5 kHz
11157.5 kHz+/- 1.5 kHz
11197.4 kHz+/- 1.4 kHz
11200.4 kHz+/- 1.4 kHz
11203.4 kHz+/- 1.4 kHz
11275 - 11400 kHz
13260 - 13360 kHz
14428.5 kHz+/- 1.4 kHz
14461 kHz+/- 1.4 kHz
15083.4 kHz+/- 1.4 kHz
15086.4 kHz+/- 1.4 kHz
15089.4 kHz+/- 1.4 kHz
16027.5 kHz+/- 1.4 kHz
16421.4 kHz+/- 1.4 kHz
16695 kHz+/- 1.4 kHz
16804.5 kHz+/- 1.4 kHz
17900 - 17970 kHz

Specimens

- 17989.4 kHz+/- 1.4 kHz
- 18186.5 kHz+/- 1.4 kHz
- 20137 kHz+/- 1.4 kHz
- 20247.5 kHz+/- 1.4 kHz
- 20330 kHz+/- 1.4 kHz
- 20843 kHz+/- 1.4 kHz
- 20882.5 kHz+/- 1.4 kHz
- 20985 kHz+/- 1.4 kHz
- 21924 - 22000 kHz
- 23074 kHz+/- 1.4 kHz
- 23077 kHz+/- 1.4 kHz
- 23091 kHz+/- 1.4 kHz
- 23094 kHz+/- 1.4 kHz
- 23840.5 kHz+/- 1.4 kHz
- 24228.5 kHz+/- 1.4 kHz
- 26582.5 kHz+/- 1.4 kHz
- 26640.5 kHz+/- 1.4 kHz
- 27590.5 kHz+/- 1.4 kHz
- 121.5 MHz+/-3 kHz
- 156.3 MHz+/- 8 kHz
- 156.525 MHz+/- 8 kHz
- 156.6 MHz+/- 8 kHz
- 156.8 MHz+/- 8 kHz
- 157.05 MHz+/- 8 kHz
- 157.075 MHz+/- 8 kHz
- 157.1 MHz+/- 8 kHz
- 157.15 MHz+/- 8 kHz
- 157.175 MHz+/- 8 kHz
- 161.975 MHz+/- 10 kHz
- 162.025 MHz+/- 10 kHz
- 162.325 MHz+/- 5.5 kHz
- 163.05 MHz+/- 5.5 kHz
- 163.1 MHz+/- 5.5 kHz
- 163.1 MHz+/- 5.5 kHz
- 163.1 MHz+/- 5.5 kHz
- 163.1 MHz+/- 5.5 kHz
- 163.1 MHz+/- 5.5 kHz
- 163.1 MHz+/- 5.5 kHz
- 163.1 MHz+/- 5.5 kHz
- 163.1 MHz+/- 5.5 kHz
- 163.1 MHz+/- 5.5 kHz
- 163.1 MHz+/- 5.5 kHz
- 163.1 MHz+/- 5.5 kHz
- 163.1 MHz+/- 5.5 kHz
- 163.1 MHz+/- 5.5 kHz
- 163.1 MHz+/- 5.5 kHz
- 163.1 MHz+/- 5.5 kHz
- 164.3625 MHz+/- 5.5 kHz
- 164.3625 MHz+/- 5.5 kHz
- 165.3125 MHz+/- 5.5 kHz
- 166.6625 MHz+/- 5.5 kHz
- 167.225 MHz+/- 5.5 kHz
- 167.225 MHz+/- 5.5 kHz
- 167.225 MHz+/- 5.5 kHz
- 167.3 MHz+/- 5.5 kHz

Special

Specific

411.8250 MHz+/- 12.5 kHz
411.9000 MHz+/- 12.5 kHz
411.9750 MHz+/- 12.5 kHz
412.0000 MHz+/- 12.5 kHz
412.0750 MHz+/- 12.5 kHz
412.1000 MHz+/- 12.5 kHz
412.2000 MHz+/- 12.5 kHz
412.2750 MHz+/- 12.5 kHz
412.3500 MHz+/- 12.5 kHz
412.7750 MHz+/- 12.5 kHz
412.9125 MHz+/- 12.5 kHz
412.975 MHz+/- 5.5 kHz
413 MHz+/- 5.5 kHz
413.025 MHz+/- 5.5 kHz
414.8750 MHz+/- 12.5 kHz
414.9750 MHz+/- 12.5 kHz
415.0250 MHz+/- 12.5 kHz
449.75-450 MHz

Special Conditions:

(8) Following frequencies need to be notched for Bingen, WA:

2850 - 3025 kHz
3024.4 kHz $\pm$ 1.4 kHz
3054.4 kHz $\pm$ 1.4 kHz
3057.4 kHz $\pm$ 1.4 kHz
3120.4 kHz $\pm$ 1.4 kHz
3123.4 kHz $\pm$ 1.4 kHz
3400 - 3500 kHz
4126.4 kHz $\pm$ 1.4 kHz
4177.5 kHz $\pm$ 1.4 kHz
4207.5 kHz $\pm$ 1.4 kHz
4572.5 kHz $\pm$ 1.4 kHz
4576.4 kHz $\pm$ 1.4 kHz
4650 - 4700 kHz
4731.4 kHz $\pm$ 1.4 kHz
4734.4 kHz $\pm$ 1.4 kHz
4821 kHz $\pm$ 1.4 kHz
4902 kHz $\pm$ 1.4 kHz
4965 kHz $\pm$ 1.4 kHz
5107 kHz $\pm$ 1.5 kHz
5108 kHz $\pm$ 1.4 kHz
5108.5 kHz $\pm$ 1.5 kHz
5110 kHz $\pm$ 1.5 kHz
5215.5 kHz $\pm$ 1.5 kHz
5217 kHz $\pm$ 1.5 kHz
5221.5 kHz $\pm$ 1.5 kHz
5223 kHz $\pm$ 1.5 kHz
5224.5 kHz $\pm$ 1.5 kHz
5264.5 kHz $\pm$ 1.5 kHz
5266 kHz $\pm$ 1.5 kHz
5267.5 kHz $\pm$ 1.5 kHz
5270.5 kHz $\pm$ 1.5 kHz
5272 kHz $\pm$ 1.5 kHz
5418 kHz $\pm$ 1.5 kHz
5419.5 kHz $\pm$ 1.5 kHz
5421 kHz $\pm$ 1.5 kHz
5450 - 5680 kHz
5681.4 kHz $\pm$ 1.4 kHz
5694.4 kHz $\pm$ 1.4 kHz
5697.4 kHz $\pm$ 1.4 kHz
5700.4 kHz $\pm$ 1.4 kHz
5885 kHz $\pm$ 1.4 kHz
6502.4 kHz $\pm$ 1.4 kHz
6517.4 kHz $\pm$ 1.4 kHz
6525 - 6685 kHz
6710.4 kHz $\pm$ 1.4 kHz
6743.4 kHz $\pm$ 1.4 kHz
6961 kHz $\pm$ 1.5 kHz
7577 kHz $\pm$ 1.5 kHz
7617 kHz $\pm$ 1.5 kHz
7626 kHz $\pm$ 1.5 kHz
7630.5 kHz $\pm$ 1.4 kHz

Speciæ7669.5 kHz+/-1.4 kHz
7736 kHz+/-1.4 kHz
7743 kHz+/-1.4 kHz
7747 kHz+/-1.4 kHz
7754.5 kHz+/-1.5 kHz
7775 kHz+/-1.4 kHz
7793 kHz+/-1.4 kHz
7821 kHz+/-1.4 kHz
7845 kHz+/-1.5 kHz
7884 kHz+/-1.5 kHz
7909 kHz+/-1.5 kHz
8815 - 8965 kHz
8981.4 kHz+/-1.4 kHz
8984.4 kHz+/-1.4 kHz
9035.4 kHz+/-1.4 kHz
9038.4 kHz+/-1.4 kHz
9110 kHz+/-1.5 kHz
9169 kHz+/-1.5 kHz
9291 kHz+/-1.5 kHz
9332 kHz+/-1.5 kHz
10005 - 10100 kHz
10297.5 kHz+/-1.5 kHz
10338.5 kHz+/-1.5 kHz
10354.5 kHz+/-1.5 kHz
10378 kHz+/-1.5 kHz
10540 kHz+/-1.4 kHz
10675 kHz+/-1.5 kHz
10759 kHz+/-1.5 kHz
10774 kHz+/-1.4 kHz
10788 kHz+/-1.5 kHz
10810 kHz+/-1.4 kHz
10891 kHz+/-1.4 kHz
10918 kHz+/-1.4 kHz
10929.5 kHz+/-1.5 kHz
10935.5 kHz+/-1.5 kHz
11024 kHz+/-1.5 kHz
11045 kHz+/-1.5 kHz
11157.5 kHz+/-1.5 kHz
11197.4 kHz+/-1.4 kHz
11200.4 kHz+/-1.4 kHz
11203.4 kHz+/-1.4 kHz
11275 - 11400 kHz
13260 - 13360 kHz
14428.5 kHz+/-1.4 kHz
14461 kHz+/-1.4 kHz
15083.4 kHz+/-1.4 kHz
15086.4 kHz+/-1.4 kHz
15089.4 kHz+/-1.4 kHz
16027.5 kHz+/-1.4 kHz
16421.4 kHz+/-1.4 kHz
16695 kHz+/-1.4 kHz
16804.5 kHz+/-1.4 kHz
17900 - 17970 kHz

Species
17989.4 kHz+/-1.4 kHz
18186.5 kHz+/-1.4 kHz
20137 kHz+/-1.4 kHz
20247.5 kHz+/-1.4 kHz
20330 kHz+/-1.4 kHz
20843 kHz+/-1.4 kHz
20882.5 kHz+/-1.4 kHz
20985 kHz+/-1.4 kHz
21924 - 22000 kHz
23074 kHz+/-1.4 kHz
23077 kHz+/-1.4 kHz
23091 kHz+/-1.4 kHz
23094 kHz+/-1.4 kHz
23840.5 kHz+/-1.4 kHz
24228.5 kHz+/-1.4 kHz
26582.5 kHz+/-1.4 kHz
26640.5 kHz+/-1.4 kHz
27590.5 kHz+/-1.4 kHz
121.5 MHz+/-3 kHz
156.3 MHz+/- 8 kHz
156.525 MHz+/- 8 kHz
156.6 MHz+/- 8 kHz
156.8 MHz+/- 8 kHz
157.05 MHz+/- 8 kHz
157.075 MHz+/- 8 kHz
157.1 MHz+/- 8 kHz
157.15 MHz+/- 8 kHz
157.175 MHz+/- 8 kHz
159.27 MHz+/- 5.5 kHz
161.975 MHz+/- 10 kHz
162.025 MHz+/- 10 kHz
162.325 MHz+/- 5.5 kHz
163.05 MHz+/- 5.5 kHz
163.1 MHz+/- 5.5 kHz
163.7125 MHz+/- 5.5 kHz
164.1375 MHz+/- 5.5 kHz
164.15 MHz+/- 5.5 kHz
164.3625 MHz+/- 5.5 kHz
164.875 MHz+/- 5.5 kHz
164.9625 MHz+/- 5.5 kHz
165.075 MHz+/- 5.5 kHz
165.225 MHz+/- 5.5 kHz
165.3125 MHz+/- 5.5 kHz
166 MHz+/- 5.5 kHz
166.55 MHz+/- 5.5 kHz
166.6625 MHz+/- 5.5 kHz
166.9875 MHz+/- 5.5 kHz
167.1375 MHz+/- 5.5 kHz
167.3 MHz+/- 5.5 kHz
167.425 MHz+/- 5.5 kHz
167.45 MHz+/- 5.5 kHz
167.475 MHz+/- 5.5 kHz
167.6 MHz+/- 5.5 kHz

Specific
167.625 MHz+/- 5.5 kHz
167.725 MHz+/- 5.5 kHz
168.025 MHz+/- 5.5 kHz
168.15 MHz+/- 5.5 kHz
168.2 MHz+/- 5.5 kHz
168.2875 MHz+/- 5.5 kHz
168.3125 MHz+/- 5.5 kHz
168.35 MHz+/- 5.5 kHz
168.6125 MHz+/- 5.5 kHz
168.625 MHz+/- 5.5 kHz
168.65 MHz+/- 5.5 kHz
168.675 MHz+/- 5.5 kHz
168.775 MHz+/- 5.5 kHz
169.125 MHz+/- 5.5 kHz
169.575 MHz+/- 5.5 kHz
169.7875 MHz+/- 5.5 kHz
169.925 MHz+/- 5.5 kHz
169.95 MHz+/- 5.5 kHz
170.125 MHz+/- 5.5 kHz
170.525 MHz+/- 5.5 kHz
171.425 MHz+/- 5.5 kHz
171.7875 MHz+/- 5.5 kHz
172.225 MHz+/- 5.5 kHz
172.325 MHz+/- 5.5 kHz
172.475 MHz+/- 5.5 kHz
172.5125 MHz+/- 5.5 kHz
173.625 MHz+/- 5.5 kHz
407.1250 MHz+/- 12.5 kHz
407.9125 MHz+/- 12.5 kHz
408.3750 MHz+/- 12.5 kHz
409.6750 MHz+/- 12.5 kHz
411.6250 MHz+/- 12.5 kHz
411.6500 MHz+/- 12.5 kHz
411.7000 MHz+/- 12.5 kHz
411.7750 MHz+/- 12.5 kHz
411.8250 MHz+/- 12.5 kHz
411.9000 MHz+/- 12.5 kHz
411.9750 MHz+/- 12.5 kHz
412.0000 MHz+/- 12.5 kHz
412.0750 MHz+/- 12.5 kHz
412.1000 MHz+/- 12.5 kHz
412.2000 MHz+/- 12.5 kHz
412.2750 MHz+/- 12.5 kHz
412.3500 MHz+/- 12.5 kHz
412.7750 MHz+/- 12.5 kHz
412.8750 MHz+/- 12.5 kHz
412.9 000 MHz+/- 12.5 kHz
412.9125 MHz+/- 12.5 kHz
412.975 MHz+/- 5.5 kHz
413 MHz+/- 5.5 kHz
413.025 MHz+/- 5.5 kHz
414.8250 MHz+/- 12.5 kHz
414.8750 MHz+/- 12.5 kHz
... ..

Specific 414.9750 MHz+/- 12.5 kHz
415.0250 MHz+/- 12.5 kHz
449.75-450 MHz

- (9) Further requests for extension of the authority granted herein must be filed on Form 442, "Application for New or Modified Radio Station Authorization under Part 5 of FCC Rules - Experimental Radio Service." Future STA requests to extend this authorization will not be considered.