

NARRATIVE STATEMENT

Pursuant to Section 5.3(j) and Section 5.54 of the Federal Communications Commission's ("FCC") rules, Echodyne Corp. hereby respectfully requests an experimental license commencing December 1, 2018 to operate in the 24.45-24.65 GHz band to test a new radar developed by Echodyne Corp.

Grant of authority to test at the proposed locations will enable the company to demonstrate the capabilities of its radar technology for ground-based detect and avoid and security applications.

In support of this request, the following is shown:

A. Purpose of Operation and Need for Experimental License:

Echodyne Corp., headquartered in Kirkland, Washington, is making high performance ultra-low cost, size, weight, and power electronically scanning radars.

This requested experimental license is to enable Echodyne and its partners to validate and improve the performance of the EchoGuard (MESA-SSR) for specific ground-based detect and avoid and security scenarios.

B. Location of Proposed Operation:

Echodyne proposes to test the radars on the ground within a specified area of operation. By this application, Echodyne seeks authority to conduct tests at the following location:

Location	Coordinates (NAD83)	Radius of Operation
Chatanika, AK	65° 07' 34" -147° 28' 35"	25 km
Fairbanks, AK	64° 51' 34" -147° 51' 02"	25 km
Lake Mathews, CA	33° 48' 14" -117° 22' 28"	4 km
Apple Valley, CA	34° 27' 08" -117° 06' 20"	4 km
Ryan, TX	30° 17' 07" -104° 34' 02"	9 km
Jacumba, CA	32° 37' 02" -116° 12' 25"	9 km
Chino, CA	33° 55' 27" -117° 41' 3"	2 km
Sterling, VA	38° 59' 54" -77° 24' 34"	1 km

Manassas, VA	38° 43' 54" -77° 30' 57"	2 km
Deadhorse, AK	70° 11' 36" -148° 39' 16"	32km
Willow Creek, AK	61° 50' 34" -145° 14' 42"	32km
Prescott, AZ	34° 36' 53" -112° 27' 1"	5km
Corryton, TN	36° 7' 32" -83° 47' 43"	5km
Yakima, WA	46° 35' 11" -120° 23' 32"	60km
Carnation, WA	47° 40' 21" -121° 56' 30"	7km
White Sands, NM	32° 57' 30" -106° 32' 26"	5km
Crane, IN	38° 54' 5" -86° 53' 4"	20km
Camp Atterbury, IN	39° 20' 11" -86° 3' 29"	15km
Muscatatuck, IN	39° 2' 58" -85° 31' 45"	5km
San Clemente Island, CA	32° 53' 44" -118° 29' 35"	20km
Fort AP Hill, VA	38° 8' 42" -77° 21' 20"	2 km
Montpelier, VA	37° 46' 55" -77° 35' 31"	2 km
Rapidan, VA	38° 19' 39" -78° 0' 41"	2 km

Note that the locations in Alaska are for testing with an FAA UAS Test Site; the location in Jacumba, CA is part of a Customs and Border Patrol pilot deployment site; the location in Tennessee is for testing with NOAA; the locations in New Mexico and Indiana are for testing with the Naval Surface Warfare Center, and the location in Fort AP Hill, VA is part of a US Army facility.

C. **Technical Specifications:**

1. **Frequencies Desired**

Echodyne requests authorization to operate in the 24.45-24.65 GHz band.

2. **Effective Radiated Power**

The units to be deployed operate at a peak maximum transmitter power output of 4W, and a peak maximum effective radiated power of 486W.

Echodyne will reduce the actual powers to the minimum power needed for successful operation, based on set-up and testing at the proposed locations. Operations will be conducted to comply with rules relating to human exposure to radiation.

3. Modulation and Emissions

Echodyne proposes to operate using linear FM modulation. The primary emission designator is 190MFXN. Other emission modes may be utilized, but in no event will the emissions extend beyond the frequency bands requested.

4. Antenna Information

No antennas will be mounted in a fashion that will require approval under FAA and FCC rules and regulations.

5. Equipment To Be Used

Echodyne proposes to test its EchoGuard (MESA-SSR) radar. It expects that it will be able to conduct its testing with a maximum of 15 units.

D. Protection Against Causing Interference:

As noted above, Echodyne has requested authority to operate in the 24.45-24.65 GHz band. It has conducted a search of the Commission's Universal Licensing System ("ULS") database and determined that there are no licensed operations in that spectrum.

In the event that it receives a complaint of harmful interference resulting from the proposed operation, Echodyne will take immediate action to address the interference, including if necessary discontinuing its operations. The company has designated Mr. Jeff Finan, whose contact information is provided below, to act as the "stop buzzer" for this purpose.

The proposed operations will be limited in scope. Echodyne will on average transmit for only 240 minutes over a period of 8 hours on not more than 5 days each week.

In summary, the analysis conducted by Echodyne indicates the proposed operation should not interfere with any licensed operation.

E. Restrictions on Operation:

Echodyne recognizes that the operation of any equipment under experimental authority must not cause harmful interference to authorized facilities. Should interference occur, Echodyne will take immediate steps to resolve the interference, including if necessary arranging for the discontinuance of operation.

In addition, Echodyne will advise entities using the equipment that permission to operate has been granted under experimental authority issued to Echodyne, that such operation is strictly temporary, and that the equipment may not cause harmful interference. Entities will also be advised in accordance with Section 2.803 of the Commission's rules, 47 C.F.R. §2.803, that any unapproved devices have not been authorized as required by the rules of the FCC.

F. Public Interest:

Grant of an authorization will permit Echodyne to develop innovative radar equipment that will enhance public safety.

G. Contact Information:

For questions, please contact:

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In the unlikely event interference concerns should arise during the period of authorization requested by this application, please contact the company's "Stop Buzzer" identified below:

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