

Echodyne Corp.
Application for Experimental Special Temporary Authority
ELS File No. 0324-EX-ST-2019

NARRATIVE STATEMENT

Pursuant to Section 5.3(j) and Section 5.61 of the Federal Communications Commission's ("FCC") rules, Echodyne Corp. hereby respectfully requests a special temporary authority ("STA") from April 15, 2019 to October 1, 2019 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 validate the performance of Echodyne's EchoGuard (MESA-SSR) radar as a ground-based radar for UAV navigation and other applications.

In support of this request, the following is shown:

A. Purpose of Operation and Need for Special Temporary Authority:

Echodyne's EchoGuard radar is a high performance ultra-low cost, size, weight, and power electronically scanning radar. This requested STA is to enable the company and its partners to validate the performance of the EchoGuard radar in ground-based radionavigation and other 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
Dugway Proving Ground, UT	40° 13' 17" N 112° 44' 41" W	5km
Corpus Christi, TX	27° 44' 12" N 97° 25' 50" W	21km
Grand Forks, ND	47° 56' 2" N 97° 5' 37" W	8km
Henderson, NV	35° 58' 42" N 114° 56' 3" W	5km
Enterprise, NV	36° 3' 58" N 115° 12' 59" W	5km
Reno, NV	39° 31' 16" N 119° 49' 56" W	5km

The requested locations in Texas, North Dakota and Nevada are for NASA Unmanned Aircraft System Traffic Management (UTM) Technical Capability Level (TCL) 4 testing at FAA UAS Test Sites. The requested location in Utah is for testing with the Naval Surface Warfare Center.

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 radar. It expects that it will be able to conduct its testing with a maximum of 12 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 Ms. Mo Swanson, whose contact information is provided below, to act as the "stop buzzer" for this purpose.

Furthermore, the length of the test period is short and 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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