Echodyne Corp.
Request for Part 5 Experimental
Special Temporary Authority
OET File No. 0665-EX-ST-2023

NARRATIVE STATEMENT

Pursuant to 47 C.F.R. § 5.3 and 47 C.F.R § 5.61 Echodyne Corp. hereby respectfully requests a special temporary authority ("STA") from Apr 16th, 2023, to Oct 15th, 2023, to operate in the 15.7-16.6 GHz radiolocation band to conduct customer demonstrations of a new radar model developed by Echodyne Corp.

A. Purpose of Operation and Need for STA:

Echodyne Corp., headquartered in Kirkland, Washington, is developing innovative uses of radar by creating high performance ultra-low cost, size, weight, and power ("C-SWaP") electronically scanning radars leveraging its Metamaterial Electronically Scanning Array ("MESA") technology.

Under the STA requested in this application, Echodyne proposes to demonstrate its EchoShield Radar, which is an electronically scanned pulsed Doppler radar. Grant of the STA will allow Echodyne to demonstrate its equipment and obtain immediate feedback from potential customers.

B. Location of Proposed Operation:

The radar will be operated at a fixed location within the following area:

Location	Coordinates (NAD83)	Radius of Operation
Huntsville, AL	34° 39' 32" N 86° 44' 55" W	10 km

C. Technical Specifications:

1. Frequencies Desired

Echodyne requests authorization to operate in the 15.7 - 16.6 GHz Band.

2. Effective Radiated Power

The units to be deployed are configured to operate at a peak maximum transmitter power output of 200.0W, and a peak maximum effective radiated power of 77.00kW. Echodyne will reduce the actual powers to the minimum power needed for successful demonstration, 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

The EchoShield radar operates using pulsed linear frequency modulation. The primary emission designator is 250MQ3N. The emissions will not extend beyond the frequency bands requested.

4. Antenna Information

The mobile base station radar transmitter antennas will not, under any circumstances, extend more than 6 meters above ground or a building. Operations will occur in Huntsville, AL.

5. Equipment To Be Used

Echodyne proposes to demonstrate its EchoShield Radar. It expects that it will be able to conduct its demonstrations with a maximum of 4 units.

D. Protection Against Causing Interference:

In the event that Echodyne receives a complaint of harmful interference from the proposed operation, Echodyne will take immediate action to address the interference. The company has designated Mr. Matthew Ugarph (contact information below) to act as the "stop buzzer" for this purpose.

Furthermore, the length of the planned demonstration period is short, extending only from Apr 16th, 2023, to Oct 15th, 2023, and during that period the proposed operations will be limited in scope. 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 discontinuing operations if necessary. In addition, Echodyne will advise all personnel 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.

F. Public Interest:

Echodyne submits that issuance of an STA as requested is in the public interest, convenience, and necessity. Grant of an STA will permit Echodyne to develop innovative equipment that will enable enhanced security and situation awareness at a more accessible commercial price point.

G. Contact Information:

For questions about this application, the company, or the testing, please contact:

Ian Levy
Solutions Engineer

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

Matthew Ugarph
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