

NARRATIVE STATEMENT

Pursuant to Sections 5.3(a), (e), (h) and (j), and Section 5.51 of the Federal Communications Commission ("FCC") rules, 47 C.F.R. §§ 5.3(a), (e), (h) and (j); 5.51 (2021), Reach Power, Inc. fna Supply, Inc. DBA Reach Labs ("Reach Power") hereby respectfully requests an experimental license to conduct government contract research and development of a small-scale, short-range point-to-point phased array system. Specifically, Reach Power seeks to conduct experimental tests at Tyndall Airforce Base in Florida and at various locations in California listed below pursuant to government contracts with federal entities. Information relating to the government contracts and the company's points of contact are provided in the FCC Form 442 accompanying this narrative.

In support of this request, the following is shown:

1) Applicant's Name, Address, and FCC Registration Number ("FRN"):

- a) Company Name: Reach Power, Inc
- b) Address: 114 Hazel Avenue
Redwood City, California 94061
- c) FRN: 0026852046

2) Description of Operation and Purpose of Test:

Reach Power proposes has been involved in conducting experimental testing of a wireless power system under a separate experimental license issued under call sign WL2XYZ, which was granted initially under Experimental Radio Licensing System ("ELS") File No. 0603-EX-CN-2021 and renewed under ELS File No. 0445-EX-CR-2023.

The tests involve operating a custom-built, phased array to beam power directionally to small RFDC converters. The experimentation conducted under that authority supports the company's efforts to research and evaluate software beamforming performance, RFDC converter range and efficiency, and possible future product development.

Certain tests were conducted in coordination with a Federal government agency, and information relating to the government contract and the company's point of contact were provided in the FCC Form 442 accompanying its application submitted under ELS File No. 0603-EX-CN-2021.

By this application, Reach Power seeks to expand its testing in coordination with requests from certain Federal government agencies.

3) Locations of Proposed Additional Testing Sites:

Reach Power seeks authority to operate mobile and temporary fixed units at the locations listed below and in the accompanying application on FCC Form 442.

Loc. No.	Location	Coordinates (NAD 83)	Operational Radius (from Coordinates)
1	Tyndall Air Force Base, Florida	30° 05' 07.05" N 85° 34' 50.44" W	2 km
2	Morgan Hill, CA	37° 03' 03.24" N 121° 40' 36.08" W	2 km
3	Pleasanton, CA	37° 37' 36.53" N 121° 50' 28.52" W	2 km
4	Livermore, CA	37° 41' 07.56" N 121° 42' 24.24" W	2 km
5	Bethel Island, CA	38° 00' 31.86" N 121° 37' 22.46" W	2 km
6	Imperial County, CA	32° 39' 19.61" N 115° 46' 50.08" W	12 km

At Location No.1, Reach Power proposes to conduct tests at Tyndall Air Force Base for the U.S. Air Force Research Laboratory. At the other locations, Reach Power will conduct tests for federal government entities Information relating to the government contracts associated with these testing efforts and the company's points of contact within the relevant agencies is provided in the FCC Form 442 accompanying this narrative.

4) Equipment To Be Used:

The company proposes to operate 576-port phased array prototype transmitters developed by Reach Power, Inc. as well as other prototypes as needed. These transmitters would operate at a single geographic site within the radius of operation specified at each of the first five locations (Location Nos. 1 - 5) listed in the table above and at up to four (4) geographic sites within the radius of operation specified in the table above as Location No. 6 (within Imperial County). In no event would the company operate more than sixteen (16) transmitters in Imperial County, CA or more than 36 transmitters in the aggregate at all of the locations requested in this application. Reach Power will seek a modification of its experimental license should it need to conduct tests that are outside the scope of the authority requested in this application or at any new locations.

Moreover, the company will limit the operation of the equipment to the minimum necessary to conduct its research. It expects that the operation will generally be limited to a period of approximately four (4) hours a day during business hours on weekdays. There will be an occasional need (approximately once a month) when the company will need to operate for up to 5 continuous days, however.

5) Frequencies Desired:

The company proposes to operate on the frequency 5.855 GHz with a tolerance of +/- 500 kHz; accordingly, it has specified an emission designator with an occupied bandwidth of 1 MHz. If this particular frequency is not available due to Federal government or non-Federal government use, Reach Power would be agreeable to operate on another frequency in the 5.6-5.9 GHz band subject to any restriction, or carve out, suggested by the FCC or other spectrum coordinators.

6) Power Levels and RFE Considerations:

The peak power output per unit operated at the new locations is 370 Watts as a CW-like signal transmitted continuously into an antenna patch array with a gain of 25 dBi and a peak effective radiated power ("ERP") of 71.3 kW. If four units are operated simultaneously at any location, the peak power output would be 1152 kW. It will take precautions to ensure compliance with the limits set forth in the FCC's rules relating to human exposure to radiofrequency energy ("RFE"). For example:

- a) An area consisting of a 3m radius from the transmit antenna will be established as a personnel exclusion zone. The exclusion zone will be marked with a barrier and posted with an RF warning sign.
- b) All personnel operating the transmitters must wear a personal RF meter that displays the current exposure level of all frequencies up to 40 GHz and that beeps to warn the operator if exposure is approaching or has exceed the occupational maximum permissible exposure limits of the FCC.
- c) The transmitters have a radar-based sensor with redundant optical detection capabilities that will automatically disable RF output if any persons or objects approach within one meter of the transmit antenna.

In addition, all personnel who will operate the equipment are knowledgeable as to the effects of RF energy and will have the ability to control their exposure. For example, all operators must complete SiteSafe RF Safety and Awareness training.

7) Type of Emission, Modulation Technique, and Bandwidth Required:

As noted above, the transmissions will not be modulated and occupy a bandwidth of 1 MHz or less. Accordingly, the application specifies that the emission designator is 1M00N0N.

8) Overall Height of Antenna(s) Above Ground/Orientation:

Reach Power will comply with all Federal Aviation Administration (“FAA”) and FCC rules and regulations regarding the installation and operation of antennas and their support structures. The antennas to be deployed under the authority requested under this license will not extend more than six meters above ground or more than six meters above a building.

9) Interference Protection/Stop Buzzer Contact Information:

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

Notwithstanding these precautions, Reach Power believes that its experimental operations are unlikely to cause interference. It proposes to limit the transmitting times of the proposed tests to the minimum necessary to conduct its evaluations, and the operations will be limited to mobile and temporary fixed locations within the radius of the center coordinates specified in the application.

In addition, Reach Power advises the FCC that Chris Davlantes, the Chief Executive Officer of the company, is the technical contact for this request and that he will serve as the “stop buzzer” in the event that operations must be terminated because of any interference concerns. His contact information is provided below.

10) Contact Information:

a) Company Technical Point of Contact and “Stop Buzzer:”

Chris Davlantes, CEO
Reach Power, Inc
114 Hazel Avenue
Redwood City, CA 94061
Telephone: (904) 502-0677
Email Address: operations@reachpower.com

b) FCC Legal Counsel:

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