

From: RICHARD ROGALA

To: Leann Nguyen
Date: March 06, 2013

Subject: FCC File# 0074-EX-PL-2013

Message:

• Purpose of operation: This application is for experimental operation of Telephonics APS-143C(V)3 X- Band Maritime Surveillance Radar. The radar is a lightweight, multi-mode radar consisting of three units, an Antenna/Pedestal, Receiver/Transmitter and Signal Processor. The radar provides multiple modes as listed below.

- ? Surface Search with four levels of range coverage and resolution.
- ? Weather Avoidance Detection
- ? ISAR and Range Profile modes for Identification of ships
- ? Detection of SART Beacons
- ? Imaging modes of Strip Map, and Spotlight with 4 levels of Imaging resolution.

The radar accomplishes these modes through the use of a programmable waveform generator which can generate various Pulse widths, PRFs, and Linear Frequency Modulation.

Telephonics plans to conduct research and experimentation to develop radar signal processing techniques for the purposes of improving detection of watercraft in a marine environment to support improving search and rescue capability to government agencies whose mission is over water surveillance. Imaging techniques provide the ability to identify the size and shape details of objects detected beyond visual ranges or under bad weather conditions. The continual availability of improved digital processors permits the development of practical detection techniques. While computer simulations are used initially, actual field deployment is needed to show performance under real environmental conditions.

Telephonics plans to conduct company funded research to install this radar on a roof-top installation and company owned aircraft. Experimental roof-top testing usually precedes testing with the aircraft over water. The experiments will demonstrate radar performance and the use of modern signal process techniques and development.

• Complete emission designator information. What is "XX"? Explain. A review of the emission designator nomenclature indicated that its is incorrect and will be re-submitted with the correct designator nomenclature.

• Stop Buzzer who will terminate the system if having interference occurs: Rich Hines. 631-755-7000 or Rich Rogala 631-470-8422.

• Justification letter for requesting 5-year experimental license: Telephonics is a leading developer of high-tech radars systems and as such is continually make upgrades and modifications to our radar equipment as the result of technology advances and customer requirements. Many of our IR&D programs extend over multiple years. The improvements that we make are required to be field tested for verification of performance and demonstration to potential customers. Therefore, we fully expect to continue to need experimental authorization for at least five years. It should noted that Telephonics does not intend to radiate any radar on a daily or prolonged continuous basis. Testing requiring radiation is usually conducted over a few days period at a time with several weeks in between. However, if this justification is insufficient a two year license is acceptable and with the expectation that the company would apply again after two years when the license expires.