

Raytheon Company
Experimental License Application
File Number: 0326-EX-CM-2023

Explanation of Experiment

Raytheon Company is a defense contractor that builds UAVs and missile systems for the federal government. Those systems incorporate embedded radio systems that are essential to the performance and tracking of Raytheon's products. This application seeks authorization for use of a telemetry system that is being developed by Raytheon for use in its products.

Raytheon is seeking to extend operations for use of this telemetry system because it has been asked to explore the system as part of its next generation of telemetry in its products. The testing conducted over the summer led to customer requests for additional development, so Raytheon needs to extend its operations.

Technical Synopsis

- Power level: only 10 W
- Spectrum requested: 2210-2290 MHz
- Area of operations: Tucson, AZ and Huntsville, AL
- Time of use: 1-2 hours daily of RF use, perhaps less, flights weekdays only
- Directional transmissions: transmit antenna will be aimed at RMS plant during transmissions

Description of Operations

Raytheon will be testing the telemetry system on the ground, directed at the plant site. No captive carry testing will take place in Tucson or Huntsville.

Time of Use

The telemetry transmitters will be in use only for 1-2 hours daily, when it is possible to schedule a flight. It is likely that there will not be testing every day. Scheduling is possible, if required.

Antenna Gain

The antenna has 4 dBi of gain, making it directional. This will allow the signal to reach the ground stations across the required distance at these frequencies.

Area of Operations

The area of operations will be extremely limited. The goal of the testing is to optimize throughput of the data, not to test the distance of the link.

Stop Buzzer POC

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Conclusion

Raytheon is seeking to extend the testing started under an STA to continue work on a telemetry system. The radios will be used during captive carry flights of the Raytheon products. Testing will take place no more than 1-2 hours per day. The transmissions will be directed at the RMS plant.

If there are questions about these operations, please contact Shaun Crum, Spectrum Manager for Raytheon, at 520-646-6421 or shaun.crum@rtx.com.