

Explanation of Experiment and Need for STA

Raytheon Missile Systems is a US defense contractor that builds a variety of products and systems for the US Department of Defense. The currently proposed testing will explore the operation of an unmanned aerial system (UAS) that is being tested and demonstrated for DOD customers.

Need for an STA:

Raytheon has scheduled a series of product tests to take place in advance of a customer demonstration. Raytheon is seeking this STA to authorize its use of the UASs in and around Panama City Beach, Florida to test the performance of the UASs and then conduct a demonstration for its customers. An STA is appropriate because the time of use is expected to be less than six months. The testing is set to start in advance of a July 18, 2016 demonstration, so Raytheon is seeking an authorization that will allow it to test its product starting on July 1, 2016.

Description of Experiment:

Raytheon is working on the development of a small, quickly deployable UAS system that can be launched from aircraft or ships.

Technical Synopsis:

- Spectrum Request: 2377 MHz; as necessary, an alternate frequency between 2360 & 2395
- Area of operation: Coastal areas near Panama City Beach, Florida
- Test Time: One hour per test
- Power: 10 W output power, 0 gain, for an ERP of 10 W

Area of Operations:

Raytheon is seeking authorization for operation at three locations.

Location 1, ground-based testing, is a test site to work on the set up of the UASs and calibrate their performance. This location is also the designated re-charging location. With current sensitivities to the performance of lithium ion batteries, it was determined that it would be advisable to choose a remote, secure location for battery charging and testing to keep personnel and equipment safe.

Location 2 is the area of operations for the airborne demonstrations. The UASs will be launched at sea within the radius of operations and land at location specified in the coordinates for Location 2. This site will be used for customer demonstrations.

Location 3 is the dock where launch platform for the UAS system is berthed. It will be in use both for testing and for set up and preparation for the demonstration. The operations at Location 3 will all be ground-based.

Time of Use:

The battery life on the UASs is about one hour, then the system will have to be recharged. The total time of use will be limited to only a few tests per day. The radios are only expected to be in use constantly when the UASs are in use. Other than that, the radio use will be sporadic at best.

Each of the UASs will be sharing the spectrum when the testing and demonstrations take place.

The radios use a standard Wi-Fi protocol that listens before transmission, which will minimize the chance of any interference to another user of the spectrum.

Prior Coordination:

Raytheon has submitted a coordination request to AFTRCC for the use of this frequency for the testing. As soon as Raytheon has a response from AFTRCC, that will be submitted to supplement the exhibits to this experimental STA request.

Stop Buzzer Point of Contact:

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Conclusion:

Raytheon is seeking authorization to conduct testing and demonstrations for its DOD customers of a UAS system under development. Raytheon needs to test its system at two fixed locations, and then it will test and demonstrate the system with the UASs in flight. The testing is aimed at optimizing performance and ensuring that the demonstration shows the product at its best.

For any questions with regard to this application, please contact Thomas J. Fagan, Spectrum Manager, Raytheon Missile Systems or Anne Linton Cortez, WFS, alc@conspecinternational.com or +1 520-360-0925.