

Explanation of Experiment and Need for STA

Background:

Raytheon Missile Systems, through its wholly owned subsidiary Raytheon K-Tech, is seeking an experimental license for testing of some specialized K-Tech technologies that are part of explosives design, development, and testing K-Tech conducts for the US military. Raytheon K-Tech has developed highly specialized systems that are sold to all branches of the US military and other federal agencies.

The proposed testing to be conducted under this experimental STA will be a brief explosion that will result in the release of RF energy.

Synopsis:

- Spectrum needed: 100 kHz to 100 MHz
- Test time: 10 microseconds per test, approximately 10 tests per year
- Test locations: explosives range test sites in New Mexico
- Purpose: explosives testing
- Power, ERP, Emission: 133 W, 0 dBi gain, 99M0P0N

Description of Experimentation:

Raytheon conducts explosives research and testing for the military. Most of the testing will be performed in a laboratory detonation chamber. However, every so often testing will have to be performed outside at a special explosives range.

Raytheon has contracted with the New Mexico Institute of Mining and Technology, Energetic Materials Research and Testing Center (EMRTC) for this test. Testing will be conducted at one of two locations: Big Eagle N34.05917 W106.9614 at 5892' MSL and NSTF N34.06073 W106.9749 at 6358' MSL. These locations are designed for energetic research and testing. This license is to cover only the RF emissions from this test.

Need for STA

Access to the range is difficult to arrange, due to the sensitive nature of the testing and the limited number of tests that can be conducted. A time slot has opened for testing in August, and Raytheon K-tech is filing this STA application for authorization to test in that time slot.

Nature of RF Use

The energetic research and testing requires the explosion of a device. The explosion will release a very short, 10 microsecond, pulse of RF energy. The RF energy pulse is centered at 50 MHz, with

occupied bandwidth from 100 kHz to 100 MHz. This application seeks authorization for the testing.

It is expected that Raytheon K-Tech will conduct a test in August, in the newly available timeslot. Raytheon K-Tech expects to conduct approximately four more tests through the end of January 2015, so this application seeks authorization for testing for six months.

Range site is very remote:

Raytheon K-Tech has contracted with EMRTC to conduct the proposed testing at EMRTC's remote test ranges which are licensed to conduct the testing. These sites are specially designated and very remote, to avoid impact to populated areas.

Time of use is limited:

The nature of the testing is that the RF energy will be released for only a very brief 10 microseconds.

Stop Buzzer Point of Contact:

In the event that it is necessary to reach a stop buzzer, the person to contact is:

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Conclusion:

Raytheon K-Tech is seeking an experimental STA to conduct explosives research and testing. The testing is to be conducted at the EMRTC explosives range in two remote locations in New Mexico. The use of the RF will only be for 10 microseconds, approximately once per month. For additional information about this application, please contact Thomas J. Fagan, Spectrum Manager, Raytheon Missile Systems, 520-794-0227 or tjfagan@raytheon.com or Anne Linton Cortez, WFS, 520-360-0925 or alc@conspecinternational.com.