

Explanation of Experiment

Background:

Raytheon Missile Systems, through its wholly owned subsidiary Raytheon K-Tech, is seeking an experimental license for continued 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 will continue testing that has been authorized under an experimental STA, which allowed a brief explosion that resulted in the release of RF energy. This application seeks exactly the same authorization as the existing STA WH9XTJ. The STA grant allowed Raytheon to take advantage of a testing window that was available last August. Successful testing has led to the need for continued authorization for additional testing, so Raytheon is filing this application to continue the authorization under an experimental license.

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 has 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 the tests at these locations.

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 continued authorization for

the testing. Because of the nature of the testing, it is absolutely impossible for the spectrum to be in use for longer than the 10 microseconds of energy release after the explosion.

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. As noted above, Raytheon only expects to conduct tests 10 times per year. The time of spectrum use is very limited, very sporadic, and very remote.

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 license to continue 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.