Raytheon Missile Systems
Experimental License Application
File Number: 0315-EX-CN-2017

Explanation of Experiment

Raytheon Missile Systems is a federal contractor that develops a range of missile and radio systems for federal customers. This application seeks authorization to test components of a larger system to determine if the components will withstand the rigor of the uses Raytheon is planning for.

Raytheon is seeking to extend operations authorized under STA WK9XLD for testing an amplifier to be incorporated into some of Raytheon's products.

Technical Synopsis

Spectrum Needed:	44.4-44.6 GHz
Test time limited:	Limited to 15 minutes per day, only testing 2 days per week
Directional Antenna:	Antenna gain is 59 dBi, with 0.3 degrees of beamwidth
Emission:	200HN0N

Explanation of Experiment

Raytheon is developing a new radio system for some of its federal customers. In the process of developing that radio system, Raytheon has selected a variety of components that are essential to the operation of the system. Each component needs to be tested to be sure that it can perform under the rigors of real operation and meet the customer's requirements.

In this case, Raytheon is seeking authorization to continue testing an amplifier that it is considering as an essential component in the radio system under development. These tests examine the performance of the amplifier under a variety of circumstances that the radio system could face when it is in actual use. If the amplifier performs as expected, it will be selected for use in the end product. Initial testing under the STA has led to the need for more testing.

Area of Operations

The proposed operations will be conducted outdoors, at the Raytheon facility in Albuquerque, New Mexico. The operations will have an azimuth of 0° and an elevation of 45°. Figure 1 below shows the area of operations, and the signal with its 0.3° beamwidth will not be directed at anything but sky. Figure 2 below shows the approximate elevation angle of the signal.

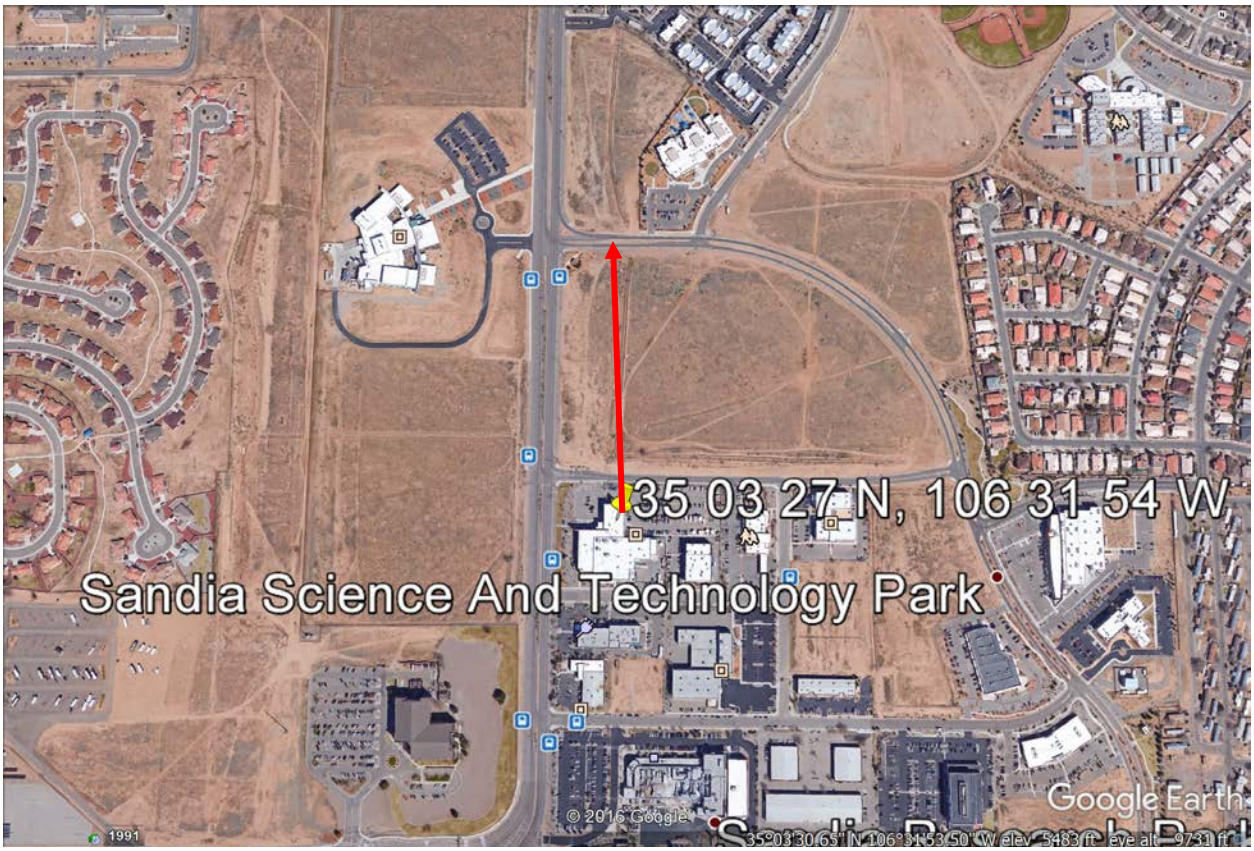

Figure 1. Area of Operations, arrow shows azimuth of transmission

Figure 2. Elevation of Directional Signal, arrow shows direction of signal

The program will select its test times to minimize any potential for interference to any mobile satellites that may have an orbit that will pass over this area.

Stop Buzzer Point of Contact

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Conclusion:

Raytheon is seeking authorization for additional testing of an amplifier to determine if the amplifier will perform as required by customers if the amplifier is incorporated into a new radio system under development. The testing is expected to be very limited in time, only two 15 minute tests per week. The signal will be transmitted at azimuth 0°, elevation 45°, with a beamwidth of 0.3°. The signal is not expected to interfere with any other radio operations.

If there are any questions with respect to this application, please contact Thomas J. Fagan, Spectrum Manager, Raytheon Missile Systems or Anne Cortez, WFS, alc@conspecinternational.com or 520-360-0925.