

Raytheon Company (Missiles and Defense – M)
Experimental STA Application
File Number: 1109-EX-ST-2020

Explanation of Experiment and Need for an STA

Overview:

Raytheon Company (Missile and Defense – M) (Raytheon) is the primary missile manufacturer in the US, supplying ordinance ready to operate to the US military. Raytheon's experience with missiles has led its customers to seek UAV technology based on some of its existing platforms and knowledge. This has led Raytheon into the development of advanced UAV technology as well. This application seeks authorization for the use of a radio that is used in the development and testing of its advanced UAVs. The radios incorporated into the UAVs support the mission of the UAV testing.

Need for an STA:

Raytheon has a contract with the US Army for the advanced development of the UAV systems. The contract number is: HQ 0727-18-F-1632. To meet the milestones in the contract, Raytheon needs to expedite its testing to meet demonstration deadlines. Raytheon has just learned that it needs to prepare for demonstration in early September. An STA will assist in accelerating the process.

Technical Synopsis:

Spectrum Needed: 1357 MHz, 1362 MHz, 1367 MHz, emission is 10 MHz wide
Limited Time of Use: only occasional testing at this location
Limited time of use: 1-2 hours per day of radio use
Limited area of operations: maximum 3000 feet elevation
Power levels are low: L band 5.5 W, only 6 W ERP

Description of Operations:

Raytheon will be taking its Coyote system to the Dugway Proving Grounds. These demonstrations of the Coyote system are intended to illustrate the platform's ability to perform various tasks required by DoD customers.

The range of tasks includes surveillance and monitoring, mapping, communications, and much more. Those tasks require the UAV to carry a range of radio links to ensure its proper performance. These frequencies are being tested to see if they can perform all of the tasks simultaneously.

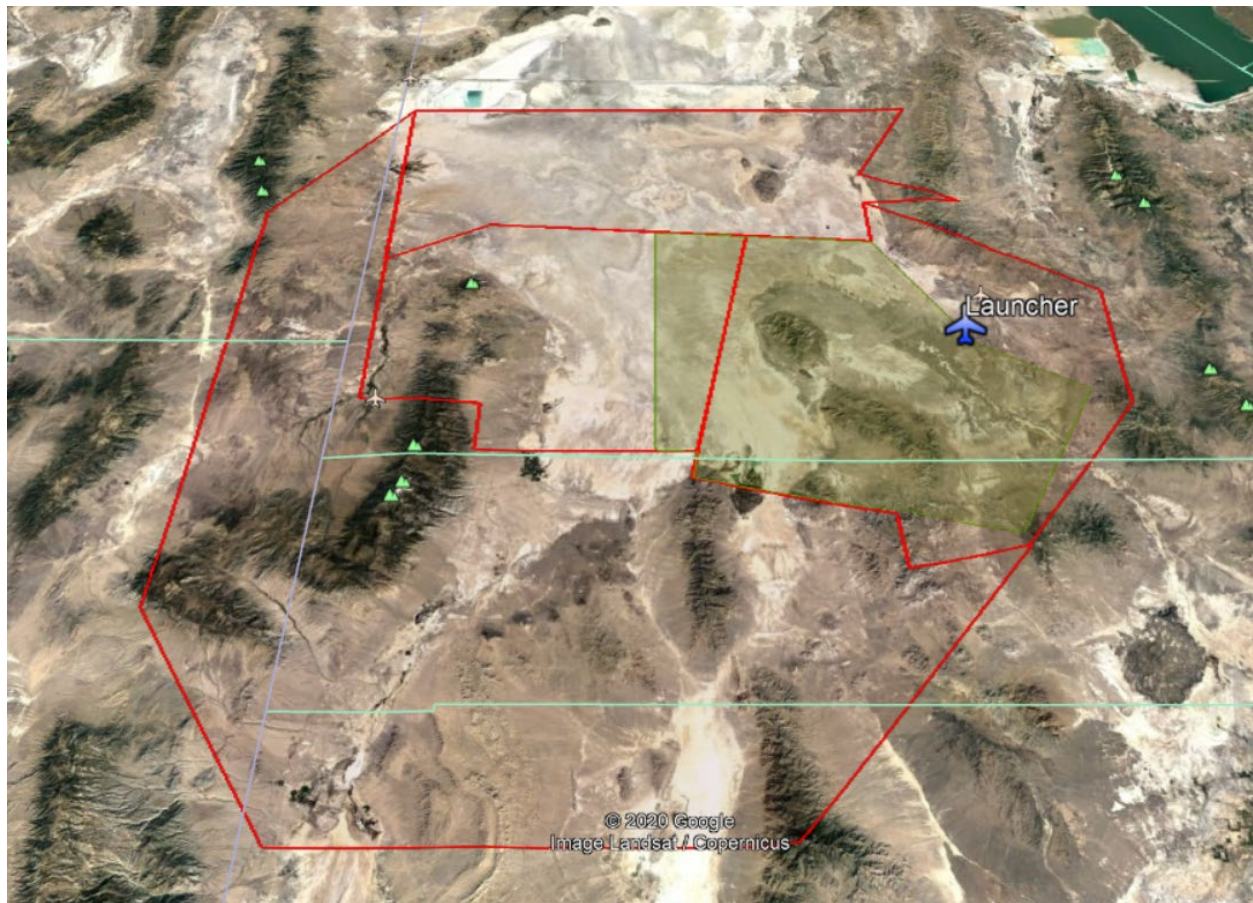
Limited Time of Use:

The UAVs are tested using batteries. Because the program will need to process test results, they normally only schedule two tests per day to take advantage of overnight recharging for the batteries.

Further, the program will not be testing at this location all the time, since the program is required to work in other locations as well. So, the time of spectrum use will be very limited.

Locations of Testing:

The testing will be conducted in a remote portion of Utah. See below for the operational area. The 36-mile radius of operations is based upon a center point in the diagram. The launches will take place at the launcher location marked below.



Spectrum Use by Band:

L band frequencies: These frequencies are used as datalinks to transmit data while the UAVs are in flight. These radios use a specifically configured frequency within the band. Most of the spectrum will be unused. The radios are programmed for the flights.

Local deconfliction: the program will work with local spectrum managers prior to any flight operations to deconflict radio operations that are local to the area.

Stop Buzzer Point of Contact:

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Conclusion:

Raytheon is seeking an STA for temporary, demonstration operations. The demonstrations are to show the development of the Coyote UAV system. The proposed testing will be limited in nature. The radio use will be limited, because the systems will not be tested in all locations at the same time. Furthermore, only selected parts of the frequency bands requested will be in use at any time. The bands were requested to expedite local spectrum coordination.

If there are any questions about this proposed operation, please contact Anne E. Cortez, counsel, Washington Federal Strategies, at 520-360-0925 or alc@conspecinternational.com.