

Raytheon Company (Missiles & Defense – M)
Experimental License Renewal Application
Call Sign: WF2XBX
File Number: 0558-EX-CR-2020

Explanation of Experiment

Raytheon Company (Missiles & Defense – M) builds and develops a wide range of missile systems for various US government customers and approved foreign governments. Additionally, Raytheon builds systems that aid in accomplishing various missions of the US Department of Defense.

The current request to renew WF2XBX seeks authorization to continue the testing and development of a high speed data link that is used to control missiles and unmanned vehicles that operate on land and in the air to collect mission data.

Technical Synopsis:

- Spectrum Requested: 1780-1850 MHz
- Limited Power: only 5 W ERP
- Transmissions: Used for high speed, line of sight data transmission

Description of Experiment:

Raytheon has installed radios that it has designed in-house for these operations. The radios are mounted on unmanned vehicles that operate both in the air and on the ground. These vehicles are controlled using the Raytheon radios. The control system alerts the vehicles what data to capture and transmit back to the control station.

Previously, this testing was conducted under federal contracts. However, some of the testing is conducted for independent research and development, so no contract number is available.

With a renewed authorization, Raytheon will continue to develop these critical tools in support of the missions of its various government customers.

Raytheon has been operating these radio systems for years without any instances of interference to other users in the area. At this point, Raytheon does not anticipate that this renewal, with its much more limited usage, will cause any greater risk of interference. Of course, Raytheon will coordinate with other users as the FCC may require.

Area of Operations:

The testing is now conducted at only one site: Tucson, AZ. In Tucson, the testing is limited to a 40 km area around the test location. Within that area, testing is further limited to areas where the control station has line-of-sight communication with the remote radio.

Time of Use:

The system is in use intermittently using hoods or direct coaxial connections. The radios are only connected to an antenna approximately 1% of the time.

Stop Buzzer Point of Contact:

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Conclusion:

Raytheon is seeking to renew its experimental license WF2XBX. Only the Tucson, Arizona location continues to be used, and the spectrum band requested has been limited to 1780-1850 MHz.

The radios are used to provide a high speed, line of sight data link to and from missiles and UASs that Raytheon develops. The system operates with the minimum power possible.

Should there be any questions about this application, please contact Anne Cortez at alc@conspecinternational.com or 520-360-0925.