

Raytheon Missile Systems
Exhibit to Experimental License Modification Application
Call Sign: WF2XQR
File Number: 0132-EX-CM-2019

Explanation of Experimentation, Need for Spectrum, Advancement of Radio Art

Overview:

Raytheon Missile Systems (Raytheon) builds and tests various missiles which are developed for the US military and other US-government approved customers. Those missiles are tested by Raytheon in a number of ways including testing the command and control radio systems on the missiles and testing of the telemetry systems which send data back to control points to deliver key information on the missile flight and the health of the missile systems while in flight. The results of this testing advance the technologies built into the systems.

In this application, Raytheon is seeking authority to continue its ongoing testing of radio systems which will provide enhanced and more efficient telemetry systems which are essential to monitoring the flight of the missiles.

At the 2007 World Radio Conference, there was tentative international agreement to allocate additional spectrum in the “C Band” for aeronautical telemetry use. The spectrum expected to be used for aeronautical telemetry in the US includes 4400 to 4940 MHz, 5091 to 5150 MHz, and 5925 to 6700 MHz. Raytheon is developing advanced systems, and it needs to continue experimenting with these radio systems that will deliver key telemetry data for using this spectrum.

Synopsis:

- Spectrum requested: 5019-5150 MHz requested in this application
- Power levels: previously licensed power levels
- Purpose: Development of C band aeronautical mobile telemetry technology

Purpose of Modification:

Raytheon is seeking to modify its experimental license WF2XQR to add back the spectrum from 5091-5150, which was not included in the recent renewal. This request is being submitted again because the FAA coordination process has been complex and requires a great deal of time and preparation to complete. Raytheon has recently engaged technical consultants to expedite the process, which should facilitate completion of the coordination within a shorter period of time.

Stop Buzzer Point of Contact:

Jim Ortega, Spectrum Manager

Raytheon Missile Systems
520-794-0227 (office)
james.e.ortega@raytheon.com

Conclusion:

In sum, the goal of the testing is to maximize the efficiency of new aeronautical mobile telemetry equipment that must be designed and built for AMT users who will be forced to move into the C band spectrum. The experiments ongoing under experimental license WF2XQR are designed to optimize performance and throughput, including HD video, with the goal of advancing the use of telemetry spectrum for more operations.

This frequency was arbitrarily omitted from the renewal request that was submitted in 2018, due to issues beyond the applicant's control. The previous modification request was held up for related reasons. Raytheon continues to need to use these frequencies on an experimental basis to respond to the needs of its DOD customers, and it is doing everything possible to respond to other concerns.

If there are any questions, please contact Anne Linton Cortez, Counsel, 520-360-0925, alc@conspecinternational.com.