



School of Computing and Engineering
Civil and Mechanical Engineering

Federal Communications Commission
445 12th St SW
Washington, D.C., 20554

September 25, 2018

Dear FCC:

We request an experimental license to operate a 433 MHz transmitter system as the control link for an unmanned aircraft (multirotor) that operates in a restricted airspace. We are an academic institution and are conducting research under contract from the U.S. Army Natick Soldier Research Development and Engineering center.

The research project is focused on the development of a low-cost precision aerial delivery system. We are utilizing a cross parachute that can be steered with a single motor. We use a large multirotor to lift the parachute system up to 6,000 ft where we release the parachute and payload to begin the drop test. We need to achieve high altitudes (and potentially similar horizontal offset distances) in order to provide sufficient descent time to evaluate the parachute system. Testing is conducted at McMilan Airfield (unmanned aircraft restricted airspace) at Camp Roberts in California.

Additionally, a short (4-day) testing event will be held at the Avon Park Air Force Range in Avon Park, Florida November 5-8, 2018.

The traditional control link for the multirotor is a spread spectrum 2.4GHz system used on most recreational UAVs; however this link is limited to approximately 1,000 - 2,000 ft. We need a more powerful telemetry link, and the Dragonlink v3 433 MHz radio system is marketed to UAV hobbyists as a long range system (without any mention of the U.S. frequency allocation issues even though it is a U.S.A.-based company). The Dragonlink system will enable us to achieve the necessary range to deploy the parachute systems.

If you have any questions please do not hesitate to contact me for more information.

Sincerely,

A handwritten signature in black ink, appearing to read "Travis D. Fields".

Travis D. Fields, Ph.D., P.E.
Department of Civil and Mechanical Engineering
University of Missouri - Kansas City