

From: Michael Weinhoffer

To: Doug Young

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Subject: Request for Info - File # 0095-EX-CN-2017

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Message:

Narrative Statement:

Program of Research and Experiment Proposal:

The purpose of the RADSat research project is to design and launch a miniature satellite with a payload into low Earth orbit. The 1U CubeSat will carry the Highly Miniaturized Radiation Monitor (HMRM) payload, which is a miniature monitor that will measure radiation in outer space. The flight will serve a technology demonstration of the payload, which could be used on larger missions if initial tests are successful.

Experiment Objectives:

1. Successfully launch the experiment, RADSat, into the proper low-earth orbit
2. Successfully communicate (transmit and receive) with RADSat and receive appropriate telemetry
3. Receive radiation data from HMRM payload
4. Certify that the HMRM is effective in measuring radiation in low Earth orbit and can be relied upon for accurate data for use in future missions

Contribution to Radio Art:

The team will build their own ground station near the Spacecraft Development Laboratory at Embry-Riddle. The team will communicate with the satellite using the frequencies of 400.5-401 MHz for transmitting and 140-143.65 MHz for receiving. These frequencies have never been used before by a FCC-licensed CubeSat, so the experiment will also test the effectiveness of these bands for FCC-licensed small satellite communications. Such communication features will greatly contribute to the radio art and will extend its applications.