

1.)

Michigan Multipurpose Minisat (M-Cubed) is a small, student-built satellite that will capture images of Earth and transmit them back to the mission ground station. The M-Cubed project team started in the summer of 2007, and the team now consists of 30 members. The entire satellite (also known as CubeSat) weighs no more than 1.3 kg and is 10cm x 10cm x 10cm in dimension. The imaging system consists of a 2.0 Megapixel CMOS sensor and Field Programmable Gate Array (FPGA) coprocessor, and is capable of 200 meters per pixel resolution. The objectives of this technical demonstration mission are to prove the reliability of the radiation-hardened FPGA in the space environment and assess the performance of the processing algorithm that will resolve the space-based images using miniaturized components. M-Cubed will be launched on a Delta-II rocket from Vandenberg Air Force Base in Q4 of 2011.

2.)

The communication link between the satellite and the ground station is essential to the project. Uplink transmissions are critical to commanding image capture and processing. Downlink transmissions of both the image data and telemetry vital for mission success. In order for the communication to take place, permission to use the designated frequencies is required.

3.)

An experimental license is requested because no other satellite service is appropriate for (or can accommodate) university research projects in space.