

1.)

Michigan Multipurpose Minisat (M-Cubed) is a satellite that will test an image-processing algorithm that will be used on a future space flight. M-Cubed is a 1U CubSat whose payload is an imaging system comprised of a 2 Megapixel CMOS sensor and Field Programmable Gate Array (FPGA) coprocessor. The camera will take an image from low earth orbit with a resolution better than 200 meters per pixel. M-Cubed is the first spacecraft developed by the University of Michigan's Student Space Systems Fabrication Lab (S3FL). The satellite bus is student designed with feedback from University of Michigan faculty and industry professionals. M-cubed will be launched in fall 2011

2.)

The communication link between the satellite and the ground station is a necessary aspect of the mission architecture. The satellite must downlink both image data and telemetry for mission success. In order for this communication to take place, permission to use the designated frequencies is required. Without this permission the satellite will be completely incapable of performing its research.

3.)

Since M-Cubed is a satellite the statement regarding the existence of other communications facilities does not apply. However, research was done to find out how to get permission to use these frequencies. It was found that M-Cubed does not qualify for any other options besides those presented by the Federal Communications Commission.