Raymond J. Weber
March 28, 2013
MSU – Payload #4

Dr. Gregory Guzik
LSU HASP Program

Re: Monthly Status Report – March 2013

The MSU HASP teams work this month is still focused on the FPGA systems that will be used during this year flight. This month we continued work on readback scrubbing of the FPGA to detect and correct for configuration errors, system benchmarking, and development of a secondary science payload to give the primary goal of developing and testing radiation tolerant computer data to process. We have decided to try and fly a camera for this goal.

Raymond Weber – Developed the camera hardware and software to drive it. We hope this will replace last years program which was a simple counter, as a more practical demonstration of the system performing a useful task. Also continued progress on benchmarking and power measurements.

Justin Hogan – Continued work on the FPGA configuration RAM readback scrubber. We are now able to read the configuration RAM and compare it to the bitstram that was initially programmed to check for faults. This work will also lead to future synthetic fault injection tests to predict system response to radiation induced faults.

Blaine Ferris – No assigned tasks.

Issued encountered during payload design and development

- Supporting software needed to be developed to decode the bitstreams used in readback scrubbing.

- Difficulties were encountered enabling and buffering image data from the camera to be processed by the FPGA.

Milestones Achieved

- Ability to read FPGA Configuration RAM

- Camera hardware developed and running, though image quality and speed refinements remain to be compleated

- Additional system benchmarking and power tests consumption were performed

Current Team Members

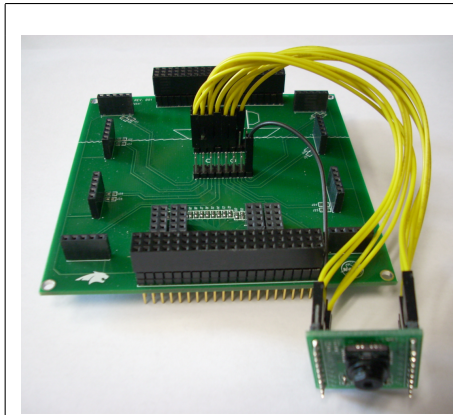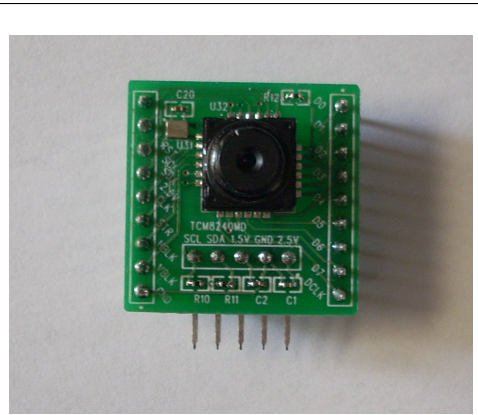| Name	Team Role	E-mail	Phone
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Blaine Ferris	Team Member		

Figure 1: Camera Board

Figure 2: Camera Module