

Dr. Gregory Guzik
LSU HASP Program

Re: Monthly Status Report – May 2012

May has been a very productive month in terms of schematic capture and circuit board design. The circuit schematic for the power supply conversion board and the PCB design was completed and is under review. The FPGA board circuit schematic was completed and PCB design is nearly complete. It is expected that these boards will be submitted for manufacture in the first week of June. Thermal analysis of the payload continues. In the next month we will turn our attention to constructing the payload enclosure, testing circuit boards as they are completed, and integrating the electronics stack with the enclosure. Additionally, team members traveled to the cyclotron at Texas A&M to conduct another set of tests of the radiation sensors.

Justin Hogan – Justin continued work on the FPGA CCA schematic capture and PCB layout. The PCB design has taken longer than anticipated to complete, and is nearly done. Participated in another round of cyclotron testing of the radiation sensors.

Raymond Weber – Completed schematic capture and layout of the power conversion board. Generated a 3-D model of the power conversion board. Participated in another round of cyclotron testing of the radiation sensors.

Todd Buerkle – Graduated

Jennifer Hane – Graduated

Adrien Lambert – Adrien continues to work on payload thermal simulations.

Blaine Ferris – Blaine joined our team this month, and has been performing thermal simulations of circuit card assemblies using the Hyperlynx Thermal simulation software. This program allows us to directly import our circuit boards into the software, define environmental parameters, and simulate the board temperatures. We will be performing these simulations for each of the circuit boards in the stack.

Issues encountered during payload design and development

Routing of the FPGA PCB has been a fairly complex and time consuming process requiring multiple pin-out iterations.

Milestones Achieved

- Power CCA design completed.
- Majority of FPGA routing completed.
- Cyclotron testing of radiation sensors.

Current team members and leaders

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Adrien Lambert	Team Member	adrien.lambert@msu.montana.edu	
Blaine Ferris	Team Member	blaine.ferris@gmail.com	

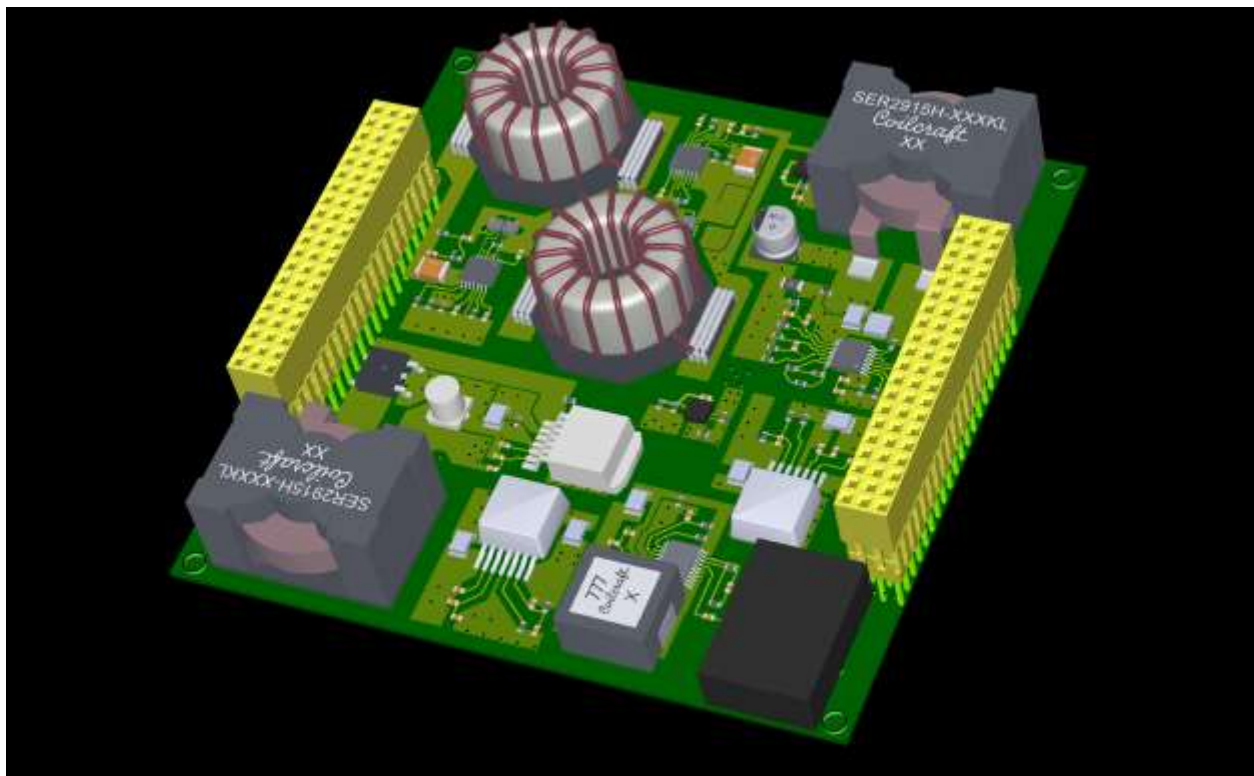


Figure 1: 3-D rendering of power supply CCA.