

April 25, 2014

To: Dr. T. Gregory Guzik - HASP Project Director
From: Seth Frick – Team Lead
RE: HASP Monthly Status Report

1. Activities

Finished design and layout of power supply and interface board. Had boards manufactured, ordered and received parts, populated the board, and began interface testing.

Finished layout of two-channel peak detector board, had boards manufactured, and ordered and received all parts needed to populate them.

Completed structural design of the payload and ordered all structural materials and hardware needed.

Continued testing of detectors and energy detection using known radioactive sources.

Tested GNSS receiver and new antenna with both GPS and GLONASS signals.

Compiled preliminary PSIP document.

2. Issues Encountered

As is the case with the first revision of any board layout, the power and interface board had a few errors that were noticed after manufacturing. Luckily, the errors were minor and easy to fix.

The LM1085 regulator used to provide the 5V rail dissipates a significant amount of heat, even with a proper heatsink attached. The part will likely be replaced with a more efficient switching regulator or DC/DC converter.

3. Milestones Achieved

Completed and turned preliminary PSIP.

All parts and materials have been ordered, including all electrical components and hardware, structural materials, and mounting hardware.

4. Current Student Team

Name	Gender	Ethnicity	Race	Student Status	Responsibilities
Seth Frick	M	Non-hispanic	Caucasian	Graduate 1 st year	Team lead, detector systems and photon energy measurement, GPS and IMU operation
Andrew Mahon	M	Non-hispanic	Caucasian	Undergraduate Junior	Detector systems, hardware configuration, and structure fabrication
Haley Rorvick	F	Non-hispanic	Caucasian	Undergraduate Junior	Structure design and fabrication, hardware configuration
Josiah DeLange	M	Non-hispanic	Caucasian	Undergraduate Junior	Flight computer and power systems, flight software
Alec Forsman	M	Non-hispanic	Caucasian	Undergraduate Junior	Flight computer and power systems, flight software
Seth Merrifield	M	Non-hispanic	Caucasian	Undergraduate Junior	Thermal monitoring and protection.
John Jackson	M	Non-hispanic	Caucasian	Undergraduate Junior	Detector energy measurement and testing