

OLite Progress Report

May 28, 2010

Team Activities

Progress by Subsystem

- Mechanical – The Mechanical subsystem has fabricated the flight and flight spare primary structure as well as the flight antenna assembly. The GNC experiment boxes have been contracted to a local machine shop where they have been delayed by ~3 Weeks. Expected delivery is June 11th.
- Power Subsystem – The regulation and distribution boards have been debugged and tested and their corresponding current sensors have been calibrated.
- CDH Subsystem – The CDH has demonstrated all hardware elements of their subsystem and has demonstrated communications with all experiments with the exception of the communications experiment. Work remains to write the final flight software, although the building blocks for the flight software are in place from the drivers and test software used to verify the operation of the subsystems.
- Comm Experiment – The Communications experiment has descope the 430MHz radio due to conflicts with the HASP command frequencies. The 900 MHz radio has been built up and is in testing, although extraneous spurs around the center frequency are being seen in the transmitted spectrum. We are in communication with the vendor to determine the source of the spurs. If this issue is not resolved before integration, the communications experiment will be descope all together.
- Power Experiment – The Power experiment has demonstrated the flight experiment board and solar board and that they can meet their mission objectives. They have demonstrated peak power tracking and I-V curve characterization on the two solar panels and demonstrated communication with the CDH subsystem. The experiment board has been integrated into the flight structure for final integration testing.
- Ground Station - Ground station subsystem is awaiting the arrival of parts ordered to begin testing and integration. Upon receiving the system components, testing and integration will begin with the communications system.
- GNC Experiment – The GNC experiment has demonstrated the operation of the magnetometer within the integrated flight system. The sun sensors are awaiting the delayed boxes to complete testing, although the sensor boards have been demonstrated working on the bench. The onboard determination software has been descope as a result of unresolved algorithm errors and for flight software timing purposes. The GNC determination software took too long to run on the flight computer while the objectives can be met on the ground with post flight analysis.

Design/Development Issues

The communications experiment has unresolved transmission spurs and will be descope if they cannot be resolved before HASP integration.

The OLite Payload is currently meets mass, volume and power constraints with few remaining unknowns.

Milestones

N/A

Current Leaders

Project Management	Allen Kummer
Systems	Phil Weir
Mechanical	Corey Friedenberger
Power Subsystem	Matthew Anderson
Command and Data Handling Subsystem	
Hardware	Eric Root
Software	David Zhang
Guidance Navigation and Control Experiment	Alex Malone
Communications Experiment	
Radio	Steve Devore
Antenna	Scott Pfeiffer
Power Experiment	Matthew Anderson

*Full list of participating students available on request

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