EE CprE 491 – May 20 - 49
CySat Senior Design Team
Week 28 Report
February 27, 2020 – March 4, 2020
Faculty Advisors: Phillip Jones

Team Members:
Bryan Friestad —— *Team Lead / EPS Lead / OBC Lead*
Ryan Hansen —— *SDR Lead*
Chase Kirchner —— *Ground Station Lead*
Kyle Muehlenthaler —— *UHF Lead / Ground Station Secondary*
Talon Stromgren —— *Boost Board Lead / SDR Secondary*
Xiangzhu Yan —— *ADCS Lead*

Past Week's Accomplishments
- OBC: Added OBC pins to the new PC-104 Master list [Bryan].
- ADCS: The meeting with Dr.Lee was scheduled for next Tuesday. Reviewed the code and document to prepare for the meeting next Tuesday.
- SDR: No measurable progress.
- EPS: Measure all 104 PC-104 pin default voltages and put them into a nice chart. I also added the EPS pins to the new PC-104 Master list. Updates the Input/Output read flags as according to what I believe is the correct I2C command listing [Bryan].
- Ground Station: Working through necessary commands for barebones Mock Launch [Ryan and Bryan]. Minor changes to checksum and work on checksum validation [Chase]
- UHF: made crc32 calculations and conversion from hex to ascii and back functions. [Kyle]
- Analog Components:

Pending Issues
- Still no round trip data radio communication
- EnduroSat is not responding to emails regarding EPS
- Still don't understand what I'm seeing on the solar arrays
- Boost board was soldered incorrectly
- Still need a wireless stick for cleanroom computer

Individual Time Contributions

Team Member	In lab hours	Outside lab hours	Total Weekly Hours	Last Week Hours	Total Project Hours	Attend Gen. Meeting?
Bryan Friestad	12	3	15	17	181	yes
Ryan Hansen	8	2	10	15	161	No
Chase Kirchner	1	6	7	8	118	No
Kyle Muehlenthaler	5	7	12	14	135	no
Talon Stromgren	8		8	9	135	no
Xiangzhu Yan	3	8	11	10	135	No

Description of Work contributed

Team Member	Contribution
Bryan Friestad	Made EPS default voltages chart. Worked on 492 peer review presentation. Made update video for NASA/whoever. Added OBC and EPS pins to the new PC-104 Master list. Sent emails regarding radio issues. Working with Ryan to get the Mock Launch planned out.
Ryan Hansen	Helped work on the 492 peer review presentation. Continuing to work through some documentation for getting a software team version of the Con Ops written. Helped establish new commands for the mock mission. Worked with Talon to diagnose issues with the Boost Board.
Chase Kirchner	Minor changes to checksum generation function. Implementing checksum validation on ground station. Began creating ground station manual for users
Kyle Muehlenthaler	Made functions for crc32 calculations. As well as converting it to ascii for transceiver.
Talon Stromgren	Tested boost board, found some solder was bridged under the microcontroller.
Xiangzhu Yan	Helped work on the 492 peer review presentation. Added ADCS pins to the new PC-104 Master list. Review the code and document to prepare for the meeting next Tuesday.

Plans for Coming Week

- Bryan Friestad: Implement and test the EPS write functions, which I am assuming based on the I2C manual version 2. Write OBC code to parse new commands and turn on the beacon, etc. Perform the mock launch.
- Ryan Hansen: Get the Ground Station command database updated for new mock mission commands. Work through more mock mission preparation as tasks come along.
- Chase Kirchner: Continue work on ground station user manual. Wrapping up checksum generation/validation with testing
- Kyle Muehlenthaler: discover issue with i2c and transceiver not working currently.
- Talon Stromgren: Re-Solder boost board, make changes to carrier board connectors so they will fit with the SDR.
- Xiangzhu Yan: Continue to work on ADCS based on the meeting.