EE CprE 491 – May 20 - 49
CySat Senior Design Team
Week 32 Report

March 26, 2020 – April 1, 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: Working on porting code back over to the disco-board
- ADCS: none
- SDR: none
- EPS: Trying to test some simple battery capacity calculations to see if I am getting stuff working on the disco board. Floats/exponents do not seem to be parsed by vsnprintf().
- Ground Station: Ground Station application UI mock-up/list of additional features
- UHF: Meeting with the UHF team over plans for the semester. Plans will depend somewhat on the setup done for testing. Plans include catching up on documentation and code review and writing code for packeting information as is seen on the endurosat documents.
- Analog Components: Boost board schematic done, working on pcb.

Pending Issues

- Still no round trip data radio communication
- Still don't understand what I'm seeing on the solar arrays
- Need Discovery board for testing (just for Ryan)
- Disco-board seems to not have a Flop unit? Datasheet says it should, but vsnprintf doesn't seem to fill in float format specifiers.

Individual Time Contributions

Team Member	Total Weekly Hours	Last Week Hours	Total Project Hours	Attend Gen. Meeting?
Bryan Friestad	6	7	223	yes
Ryan Hansen		3	183	no
Chase Kirchner	4	3	134	no
Kyle Muehlenthaler	8	5	162	no
Talon Stromgren	5	3	152	no
Xiangzhu Yan		0	149	no

Description of Work contributed

Team Member	Contribution
Bryan Friestad	Met with Talon to talk about boost board and carrier board designs. Held team meeting. Got disco board from Talon and started messing around with it (detailed above). Messed around with possible configurations for transistors on the boost board.
Ryan Hansen	
Chase Kirchner	Worked on Mock-up ppt for Ground Station UI enhancements and additional features to implement
Kyle Muehlenthaler	Met with Dylan and Xiangzhu about plans moving forward. Wrote code for packaged protocol for the endurosat and documented. Plans for testing code dependant on our remote setup because of COVID-19
Talon Stromgren	Boost board logistics figured out, schematic is done.
Xiangzhu Yan	

Plans for Coming Week

- Bryan Friestad: Make sure Ryan gets the other discoboard. Figure out why vsnprintf isn't working and what options we have. Meet with Ryan regarding the necessary amount of in-flight reprogramming robustness.
- Ryan Hansen:
- Chase Kirchner: Start refining mock-up, touch base with Kenzie to understand features that the M:2:I team would like to see a part of the ground station application.
- Kyle Muehlenthaler: Test code written if possible and make sure code is documented properly for the handoff to another team. Ensure readme files on gitlab updated with the current files.
- Talon Stromgren: Finish PCB design for boost board and edit modify carrier board
- Xiangzhu Yan: