EE CprE 491 – May 20 - 49
CySat Senior Design Team
Week 11 Report

November 2 – November 8
Faculty Advisors: Phillip Jones

Team Members:

Bryan Friestad —— *Team Lead / EPS Lead / OBC Lead*
Ryan Hansen —— *SDR Lead / Payload Secondary*
Chase Kirchner —— *Ground Station Lead / CI Testing Lead / UHF Antenna Secondary*
Kyle Muehlenthaler —— *UHF Lead / Ground Station Secondary*
Talon Stromgren —— *GitLab Master / Payload Lead / SDR Secondary*
Xiangzhu Yan —— *ADCS Lead*

Past Week Accomplishments

- OBC: Made comprehensive how-to for setting up development environment for OBC. Figured out how UART transmit function works at the register level.
- ADCS: Read up on the MPU-9250 datasheet to build I2C communication between OBC and MPU-9250. Set up the dev working environment and read through the HAL layer. Create a readme file that includes the description for 7 manuals in the ADCS folder.
- SDR: Conceptual timeline and design constraint planning. Started reorganizing SDR GitLab files. Not much physical work done.
- EPS: None
- Ground Station: Research on creating serial port application, decoding telemetry packets, and sending serial packets over communication port
- UHF: Asked Matt Nelson for help on setup. He made a load antenna for the uhf system, just need to screw on the antenna when we want to test. Making light blink when pushing commands through putty to the comm type ii, however no output can be seen.
- Boost Board: Met with Plewa and made more progress, waiting to do a final design review with Dr. Jones.
- LNA Board: None

Pending Issues

- UHF: sending commands through putty works (light blinks) I must be inputting incorrect commands as I am not receiving output.

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours	Attend Gen. Meeting?
Bryan Friestad	Finished organizing RAW documents folder. Created how to use gitlab and how to set up dev env documents. Moved all important documents from cybox into gitlab. Got the team together with Brian and Jared to go over HAL functions and data sheet reading.	8	33	yes
Ryan Hansen	Attended Gen Meeting and created conceptual timeline details and design.	4	20	Yes
Chase Kirchner	Research on serial communication, decoding telemetry/packets, Dev env meeting, began dev env installation	5	24	No
Kyle Muehlenthaler	Testing on uhf system.	7	19	no
Talon Stromgren	Boost board progress, look at carrier board information, pc104 slides	6	31	no
Xiangzhu Yan	Working on MPU-9250 for I2C test, create readme files for ADCS manuals.	5	22	No

Plans for Coming Week

- OBC: Figure out how timers work in the HAL. Try to get I2C wrapper functions so I can talk to the gyroscope. Make "how to understand HAL functions" presentation.
- ADCS: Finish I2C test on MPU-9250; Follow the new added 'Task_List_README.pdf'.
- SDR: Meet Bryan Bradford and discuss FPGA and runtime file structure with UART.
- EPS: Figure out how to get the software version of the EPS manually in preparation for sending I2C commands to it for retrieving such information.
- Ground Station: Meet with Kyle to get up to speed on UHF communication, continue research on serial communication and begin application interface
- UHF: decipher the commands found on the ESTTC protocol document.
- Boost Board: Meet with Dr. Jones for design review
- LNA Board: