

EE/CprE/SE 492 BIWEEKLY REPORT 02

1/21/18 – 2/3/18

Group number: 11

Project title: RFRD Phase II

Client &/Advisor: Dr. Daji Qiao and Dr. Nathan Neihart

Team Members/Role:

Bailey Akers - Facilitator/RFRD Tag Design/Fabrication Engineer

Colin Sunderman - RFRD Tag Design/Fabrication Engineer

Lyle Bishop - Principal Antenna Engineer

Pengyu Qu – Antenna/Power Harvesting Engineer

Nathan Mulbrook - RFRD Wireless Communications Engineer

o Past two weeks accomplishments

Team Member 1: Bailey Akers

Performed test on the capacitance measuring circuit to find power as a function of voltage and to find period as a function of capacitance

Team Member 2: Colin Sunderman

Performed test on the capacitance measuring circuit to find power as a function of voltage and to find period as a function of capacitance, wrote biweekly report

Team Member 3: Pengyu Qu

Worked on creating a model of the rectifier in ADS

Team Member 4: Lyle Bishop

Worked on harmonic balance simulation for rectifier in ADS

Team Member 5: Nathan Mulbrook

Worked on creating a basic program for the microcontroller

o Biweekly Summary

1/22 - Colin, Bailey, Pengyu, and Nathan met with advisors for first meeting. Planned for initial capacitance measuring circuit simulations and tests. Planned to begin working on the simulation of the rectifier.

11/23 - Team met to begin working on the discussed aspects of the project.

11/26 - Bailey and Colin met to work on simulations of capacitance measuring circuit.

11/29 - Colin, Bailey, Pengyu, and Nathan met with advisors. Discussed initial simulations for capacitance measuring circuit. Discussed initial simulations for rectifier. Discussed the coding that needs to be done for the microcontroller.

11/30 - Team met to prepare for presentation in class.

2/1/18 - The team met in class for PIRM.

Last Two Weeks:

NAME	Individual Contributions Summary	Hours 1 st week	Hours 2 nd week	Hours Cumulative
Bailey Akers	Did simulations and testing for circuit	5	4	13
Colin Sunderman	Did simulations and testing for circuit, wrote biweekly report	5	6	15
Pengyu Qu	Worked on simulation for rectifier	3	6	12
Lyle Bishop	Worked on Simulation for rectifier in ADS	3	3	6
Nathan Mulbrook	Worked on creating a basic program for the microcontroller	4	3	12

***Details of weekly contributions are noted in above Weekly Summary section.**

o Plan for coming week

Goals for next couple weeks:

The capacitance measuring team is going to finish tests to find what kind of power is needed for their circuit. The antenna team will complete the ADS simulations for the rectifier. The communications team will have a simple program made to test the microcontroller.

o Team Difficulties

The main difficulties for the past two weeks have been related to simulations the team has been performing. The capacitance measuring team had problems getting their Pspice simulations to run properly. They have moved on to testing the actual circuit because that is more important. The antenna team has had some difficulties getting the rectifier simulation set up properly. They are planning on having it figured out for the next advisor meeting.