

Group number: 18

Project title: Radio Frequency Readout Device (RFRD)

Client &/Advisor: Dr. Qiao

Team Members/Role: Brandon Baxter/Team Leader, Vaughn Dorsey/Team Webmaster, Luke Myers/Team Communication Leader, Kurt Turner/Team Key Concept Holder, Aaron Haywood, Robert Buckley, Mehdy Faik, Kellen Yoder, Michael Miller

o Weekly Summary

This week was pretty slow as far as progress on our project is concerned. The main things we accomplished included updating our project plan and preliminary planning for our final presentation. We are still waiting for parts to arrive so that we can begin prototyping.

o Past week accomplishments

- Brandon Baxter: Project plan and preliminary planning for the final presentation
- Vaughn Dorsey: Continued work on the information portion of the website, as well as the landing page.
- Luke Myers: Completed project plan revisions and helped begin planning for the final presentation.
- Kurt Turner: Project plan revisions
- Aaron Haywood: Project Plan
- Robert Buckley: Spent a lot of time making the block diagrams and revising the project plan. Also started some work on the Final Presentation.
- Mehdy Faik: Covered rectenna paper. Decided on a diode for the rectifier based on the diode they used and our power requirements. Got information about impedance matching and input impedance of rectifier circuit as well as it relates to this problem.
- Kellen Yoder: Started work on the Final Presentation powerpoint, worked on the v2 of the project plan.
- Michael Miller: Worked on project plan v2.

o Pending issues

- Brandon Baxter: Need to get the parts in to begin prototyping ASAP
- Vaughn Dorsey: None

- Luke Myers:
- Kurt Turner: Need parts for prototype build.
- Aaron Haywood: Antenna design, demodulation
- Robert Buckley: Need parts. Already ordered, waiting for delivery.
- Mehdy Faik: Get that diode model for either Cadence or ADS. Then test. Rectifier input impedance, dc output power, impedance matching, and so on.
- Kellen Yoder: None
- Michael Miller: Need to test tag design

o Individual contributions

<u>NAME</u>	<u>Individual Contributions</u>	<u>Hours this week</u>	<u>HOURS cumulativ e</u>
Brandon Baxter	Project plan, Advisor meeting	4.5	35
Vaughn Dorsey	Meetings with Professor and Reader Team Working on website's information page and landing. Updated documents	2.5	38.5
Luke Myers	Worked on updating the project plan	2.5	38.5
Kurt Turner	Project plan updates	3	41.5
Aaron Haywood	Project Plan , Antenna, demodulation plan	3	33
Robert Buckley	Project Plan Update Block Diagrams	6	51
Mehdy Faik	Diode and rectenna research.	6	42

Kellen Yoder	Final Presentation Outline/PowerPoint, Project Plan v2, Weekly meetings	6	49
Michael Miller	Updated Timeline and Purpose in project plan	5	44

o Comments and extended discussion

We are hoping to get our parts soon so that we can begin prototyping.

o Plan for coming week

- Brandon Baxter: Build the prototype
- Vaughn Dorsey: Gather photos of the people of the project and photos to represent the project. Attempt to finish the website up this week. Work on app designs for next semester.
- Luke Myers: Work on IC prototype if we get the parts
- Kurt Turner: Build up and test cadence model. Assist with build and test of prototype when parts arrive.
- Aaron Haywood: Group meeting, antenna design and demodulation
- Robert Buckley: Build prototypes with parts if they come in.
- Mehdy Faik: Get that model for the RF diode. Test with it.
- Kellen Yoder: Begin reader build, Final Presentation PowerPoint
- Michael Miller: Hopefully test if the parts come in

o Summary of weekly advisor meeting

- Opened with questions of what we ordered
- Transitioned to how we are getting down to crunch time and have 2 class weeks to work on the prototype
 - Luckily we have a couple members going to be working on the project over break (Kurt and Robert will be in town and will work on testing.
- Antennae team:
 - Rectification: selection of diode can affect the rectification a bunch!
 - It will be hard to gather computer simulated models for a specific diode
 - We have the lack of test equipment to test such a diode
 - Match the antennae to the impedance of the diode and rectification circuit

- Idea was brought up to modify a cadence diode (like the one designed in EE330) and enter the parameters to test

- Next meeting scheduled Monday after Thanksgiving break (at 12:00)
- Prepare presentation (use a video clip to show the testing) and give mini presentation by Nov. 28th
 - This will be the monday of dead week at 12:00