

# Fast, Compact, High Strength Magnetic Pulse Generator

EE 491 Weekly Report

May 15-30

Week 1 (9/2/14-9/8/14)

Advisors: Mani Mina, John Pritchard, Robert Bouda  
Client: High Speed Systems Engineering Lab  
Members: Team Leader – Adam Kaas  
Team Webmaster – Gregory Fontana, Meiyong Himmtann  
Team Communication Leader – Brittany Duffy  
Team Key Concept Holder – Megan Sharp, Brandon Dixon  
Team Commissioner – Alain Ndoutoume



## Weekly Summary

We had a few main goals for this week. One of our goals was to become familiar with one another and each other's strengths as electrical engineers. Team obligations were discussed and assigned. We also organized weekly meeting times with our advisor and have started to become familiar with the project through documentation provided by our advisor.

## Meeting Notes

### 9/2 Group meeting with members

**Duration:** 1 hour      **Members Present:** Adam, Greg, Meiyong, Brittany, Megan

#### **Purpose and Goals:**

Assigned individual roles to members present. Discussed dates/times available for us to have weekly meetings. Sent emails to advisors asking for more information and when they are available to meet.

**Achievements:** All purposes and goals were met.

### 9/4 Group meeting with members & advisor

**Duration:** 1 hour      **Members Present:** Adam, Greg, Meiyong, Megan

#### **Purpose and Goals:**

Discussed desired deliverables and necessities for project with John Prichard. Goal of end of semester is to have working prototype. This does not have to be up to specs as far as size or speed; it just has to work. It can be as simple as on a breadboard. Next semester will be spent shrinking and speeding it up. We will need a circuit simulator and eventually a layout planner. We went over available software, and he gave us some options and his opinion on them. John wants to have weekly meetings between the group and the clients, but those meetings will be with Robert. He left us with a list of questions to be the talking points of our next meeting.

**Achievements:** Connecting with advisor and going over expectations.

### Email Discussions

**Duration:** All week      **Members Present:** All Members

#### **Purpose and Goals:**

Finalize team member participation and roles. Develop new team role for Alain as "Team Commissioner". This role accomplishes a particular action when a member of the team needs it complete.

**Achievements:** All purposes and goals were met.

## Pending Issues

N/A

## Plans for Next Week

**Adam:** Research the necessary concepts surrounding project, download ModelSim.

**Greg:** Look into simulation software and see about setting up a few simple circuits. Bake cookies.

**Meiyong:** Research the software, review electromagnetic equation.

**Brittany:** Research more into the tools we decide on, research even more about the background of this project, review electromagnetic applications, discuss more details with advisors.

**Megan:** My main goal is to come up with an overall plan for the semester. I plan to do more reading and research (including research into software), as well as talk with the rest of the team until I feel comfortable in how to move forward. Once we decide on a software, determine how to let everyone work on the most current format.

**Brandon:** PCB design research. Meet with John for a brief overview / catch-up. Review electromagnetic circuits as well as coil equations.

**Alain:** Attend meetings, I'll do some more research on Orcad and Pcb. Practice multisim software. I'll continue my reading on high performance pulse generation, and I'll go get some information to the library to get a list good Electro-Magnetic books.

### **Individual Contributions This Week**

**Adam:** Attended core team meeting (1hr), attended group meeting with John (1hr), reviewed material given by John (1hr), communicated with Brandon and Alain via email to understand status of team membership (.5hr)

**Greg:** Attended core team meeting (1hr), attended group meeting with John (1hr), reviewed material given by John (1hr)

**Meiyong:** Attended core team meeting (1hr), attended group meeting with John (1hr), reviewed material given by John (1hr)

**Brittany:** Attended core team meeting (1hr), reviewed material given by John (1 hr), created google drive for project (15 min), created template for weekly reports (15 min), wrote weekly report and gathered everyone's information (30 min), communicating with team members via email (20 min)

**Megan:** Attended initial team meeting (1hr), attended meeting with John and group (1hr), and reviewed John and Robert's provided materials, went through PCB Multisim, and did a little of my own research into this to get a better handle on relevant subjects (2hrs)

**Brandon:** Met in private with John (15 min), reviewed material given by John (1 hr), reviewed inductor and coil equations (1 hr), searched for applicable books at the library (30 min)

**Alain:** I did some research about OrCad (1hr) and eagle pcb (1hr). I read the document that was sent to us by John about the high performance pulse generation, I read about the first 30 pages.(30min) I met with Mani Mina and Robert(45 min)

### **Total Contributions for Project**

**Adam:** 3.5 hours

**Greg:** 3 hours

**Meiyong:** 3 hours

**Brittany:** 3.5 hours

**Megan:** 4 hours

**Brandon:** 2.75 hours

**Alain:** 3 hours