

sdmay20-39: High Speed Magnetic Field Generator

Week 4 Report

November 2 - November 17

Team MembersJason Cheng — *Technology Lead*Zach Higgs — *Project Lead*Craig Philipp — *Communications Lead*Harel Cohen — *Hardware Lead*Ben Colosn — *Test Lead***Summary of Progress this Report**

We have finalized the schematic and the PCB, and have ordered the hardware to begin assembly and testing soon. The PCB has been designed with an input selector so we can switch between source voltage and boosted voltage. We have also added daughterboards for the MOSFET, so we can change around the MOSFETs on the main board without soldering and desoldering components. We also made the decision to order our own board to use a rapid prototyping company, which allows us to get the board quicker. In fact, we have the boards now to solder in the coming week.

Pending Issues

We need to quickly assemble and test the boards so that we can get a plan for future improvements before the finish of the semester.

Plans for Upcoming Reporting Period

Solder and test the existing boards.

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Jason Cheng	Finished the schematic and sourced a few parts for the PCB. Layed out the base PCB and designed the daughterboard to fit the MOSFETs. Did the weekly report. Created a parts library in Altium for ease of switching around parts in case we need revisions later on down the line, and 3D models in Altium so we could better lay out the board	10	0
Zach Higgs	The past week Jason and I have worked on the schematic and printed circuit board (PCB). One of the main thing we have changed is the layout of the PCB, this has now been design to minimize the trace distances to decrease the circuits rise time. We will now test and	8	

	verify our changes and new components		
Craig Philipp	Helped source and compile MOSFETs for daughterboards and parts order. Helped define limits of MOSFETs for others to assist in sourcing desired input capacitances and resistances.	5	0
Harel Cohen	Worked with the PCB to help finalize design and conduct hardware review so we know exactly what we're ordering. Reviewed components to get another check before ordering.	5	0
Ben Colosn	Worked with the group to develop a plan for testing to do over the next few weeks. Still stepping back due to personal reasons with permission of group	5	

Gitlab Activity Summary

Nothing to report.