

EE / CprE / SE 491 - sdmay18-13

Determining voltage and Wire Continuity

Report # 4

2/23 - 3/9

Client: Grace Engineering

Faculty Advisor: Nathan Neihart

Team Members:

Mohamed Almansoori - Report Manager

Aaron Eaton - Chief Engineer

Matt Kelly - Meeting Scribe

Sam Kline - Meeting Facilitator

Chris Williams - Test Engineer

Accomplishments

- TI Launchpad - Voltage detection software (Sam)
 - Looked into using multithreading for taking voltage measurements from multiple ports, decided against using it
 - Wrote code to calculate RMS values for 6 analog input voltages
 - Tested voltage software in lab, outputs consistent but incorrect values to to low quality testing hardware, will test again once our PCB is completed
- PCB for Voltage Detection (Chris)
 - Polished PCB design and reduced size
 - Ordered PCB

Pending Issues

- Was unable to find a directional coupler to use in the simulation so far. (Aaron)

Individual Contributions

Team Member	Contribution	Hours Worked	Total Hours
Mohamed Almansoori	Start working on the wire continuity circuit simulation. We also are waiting for the parts to be received.	7	9
Aaron Eaton	Ordered directional coupler, started wroking on coupler	6	6

	circuit simulation.		
Matt Kelly	Looked at a best fitting a sine wave to our measurements and how to implement it in c. This seems more complex than just using root mean square method since we measure periodic measurements.	8	22
Sam Kline	TI Launchpad - voltage detection software	8	23
Chris Williams	Finished PCB Design and ordered parts. Helped Sam with testing	8	40

Plans for Coming Week

- Sam
 - Retest voltage measurement software when PCB is completed, hopefully week after spring break
 - Get details on most recent plans for implementing the wire continuity portion of the project so I can write updated software
- Chris
 - Start assembling device when parts come in
 - Test device after soldering is done
- Aaron
 - Finish simulation
 - Start testing actual coupler

