

EE 491 WEEKLY REPORT 4

Date: 10/4/2016

9/27/16-10/3/16

Group number: MAY1729

Project title: Garmin Power Sensor Test Fixture

Client: Jeremie Vens

Advisor: Professor Degang Chen

Team Members/Role:

Amna Aftab/Key Concept Holder #1

Brandon Floyd/Team Leader

Stephen Julich/Webmaster

Francis Wagner/Team Communication Leader

Xi Zhu/Key Concept Holder #2

o **Weekly Summary (Short summary about what you did this week)**

On Tuesday, we met as a team to discuss our circuit simulations using PSPICE. We know that the greatest challenge will be the non-invasive measure of current, and we have been researching and simulating current mirror circuits to see if they are the solution. Our first advisor meeting with Dr. Degang Chen was on Thursday, and he told us that our range of desired current values is far too large. We wanted our power sensor to be able to read current values from 1 nA to 1 A. This range was requested by our client. We knew that the range was challenging at least, but Dr. Chen informed us that it was entirely unrealistic. We spent the last part of the week deciding how to best resolve this difference in opinion.

o **Past week accomplishments (please describe as what was done, by whom, when)**

- Xi Zhu: Attended the meeting with advisor and discussed about the issues we are going to face. Continuing practicing Cadstar software.
- Brandon Floyd: Set up and attended meeting with advisor. Coordinated future meeting between advisor and Garmin contact so we can discuss the design specifications in greater detail.
- Stephen Julich: Attended two group meetings including an initial meeting with our advisor. Created a website and installed it to the project server space. Sent a request to ETG to order a FRDM-KL25Z board and SD Card Reader.
- Amna Aftab: Attended two group meetings. Discussed our circuit design issues with advisor and finished the minute meeting notes.
- Francis Wagner: Attended two group meetings. Reserved rooms for meetings. Researched methods to measure currents on the high-end of the range. Coordinated weekly report.

Pending issues (if applicable)

- Our client and advisor feel differently about how realistic our range of current values is. We are having a large group meeting with the entire team, client, and advisor next week.

o **Individual contributions**

<u>NAME</u>	<u>Individual Contributions</u>	<u>Hours this week</u>	<u>HOURS cumulative</u>
Xi Zhu	See above past week accomplishments.	3	11
Brandon Floyd	See above past week accomplishments.	3	10
Stephen Julich	See above past week accomplishments.	5	15
Amna Aftab	See above past week accomplishments.	4	13
Francis Wagner	See above past week accomplishments.	4	13

- **Comments and extended discussion**
 - Our advice for future groups would be to meet with your advisor as soon as humanly possible and to not get carried away with a certain design before doing so.

- **Plan for coming week (please describe as what, who, when)**
 - We are having a large meeting including everyone involved in the project on 10/6 in the afternoon. Later that evening, we will meet as a team to discuss how to move forward with updated design requirements.

- **Summary of weekly advisor meeting (if applicable/optional)**
 - Dr. Chen provided his idea on how to measure power - and more specifically the current. We proposed the current mirror, and he thought it was a good idea though it had its limitations with respect to range of measured values. Because of our advisor's skepticism with respect to the client's design requirements, we asked that Dr. Chen sit in on a team-client meeting.