

EE 491 WEEKLY REPORT 8

Date: 10/31/2016

10/25/16-10/31/16

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)**

We met twice as a team: on Tuesday after class and on Thursday with our advisor. We have begun the testing phase of our initial circuit design using breadboards and PSPICE. After much consideration, we also changed our deadline for our first complete CADSTAR prototype design submission from Thanksgiving Break to Winter Break.

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

- Xi Zhu: Attended two group meetings. start the basic design of the pcb. watch some tutorial on youtube.
- Brandon Floyd: Attended two group meetings. Built a prototype circuit that would be used to test current and voltage measurements according to our circuit design. Calculated resistor ranges based on the ADC's voltage range.
- Stephen Julich: Attended a group meeting with our team Advisor. Ordered a new microprocessor board with better specs from ETG (FRDM-K64F). Downloaded pin assignments for the microprocessor and went through them to finalize connections for the layout so Xi can start layout work. Selected a precision voltage reference for the ADC reference voltage to be included on the board.
- Amna Aftab: Attended a group meeting with our Advisor Chen. Finished building a prototype circuit to test current and voltage measurements of the current mirror design. Going through the process of selecting the best op amp for our current mirror circuit with high gain requirement and 0.2% accuracy. Searching for the amplifiers with 120-130 dB range and with an offset current less than the amount we need to measure (<20 mA). Finding the resistors with accuracy of 1-5% or better.
- Francis Wagner: Attended two group meetings. Completed the majority of the Project Design Document. Used Microsoft Visio to create clean, sophisticated block and circuit diagrams.

Pending issues (if applicable)

- N/A

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	24
Brandon Floyd	See above past week accomplishments.	3	25
Stephen Julich	See above past week accomplishments.	4	31

Amna Aftab	See above past week accomplishments.	4	29
Francis Wagner	See above past week accomplishments.	4	34

o **Comments and extended discussion**

- N/A

o **Plan for coming week (please describe as what, who, when)**

- We will meet with our client and advisor on Thursday to finalize our Project Design Document and to share our testing results with our expert counsel.