

Investigating the Biological Impacts of Radio Spectrum Transmissions

The bee project group



Undergraduate Student:

Zhenzhou (Tom) Qi

Graduate Student:

Murtadha Aldeer

Instructor: Richard Martin;

Richard Howard

Objectives & Current Phase

- Bees use Earth's magnetic field for navigation and orientation.
- Explore if RF(Radio Frequencies) has any impact on the behaviors of the bees.



What we have done so far:

- A Method to conduct the experiment.
- A prototype for magnetic field sensing (using a magnetometer)
- Basic equipment design: camera, feeder pump

Tasks completed/on-going this week

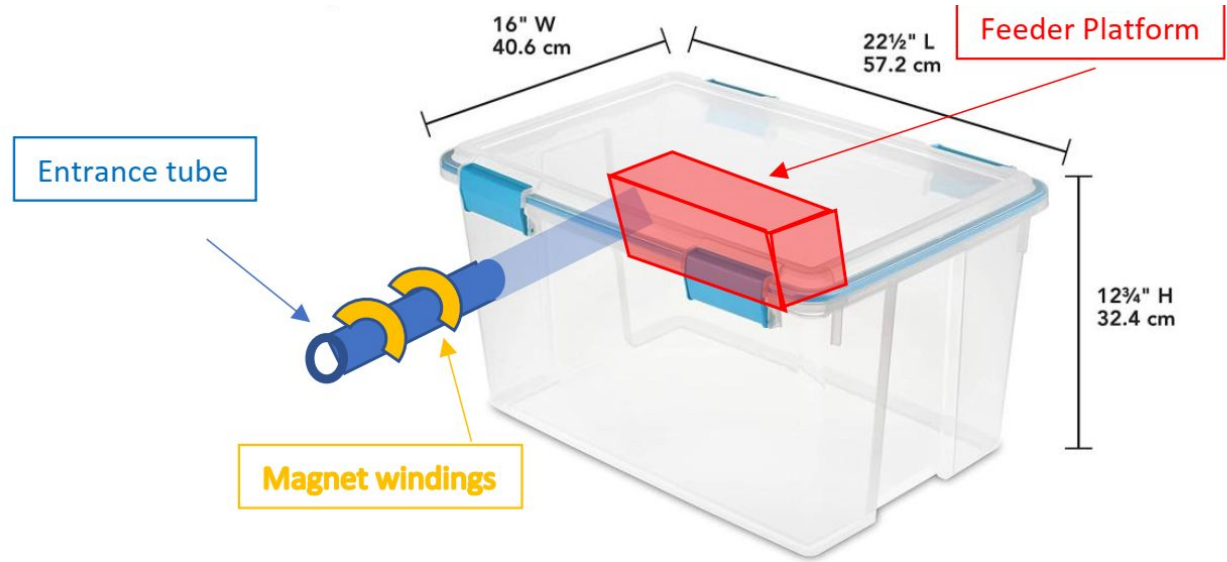
The magnetometer is working as required!



Tasks completed/on-going this week

Next:

3D printing



Tasks completed/on-going this week

- Eagle Libraries added and shared for the following components:
 - 1 . Buck Converter regulator: MP2307 (Figure 1).
 2. Relay: AY1-SRD / G6AK-434P (Figure 2).
 3. Header size: 14*1, 2*1, 7*1. (Figure 3).

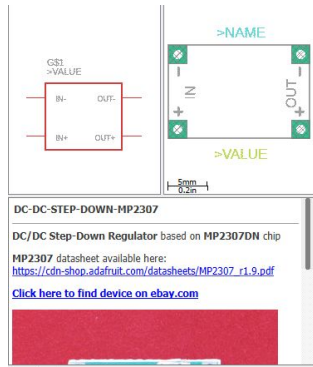


Figure 1

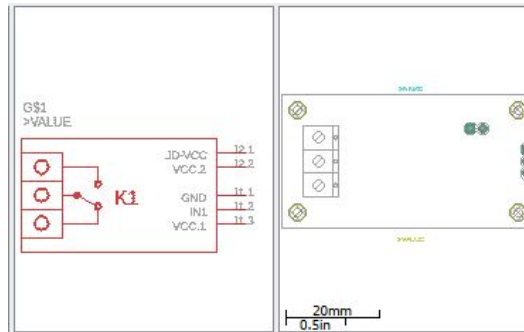


Figure 2

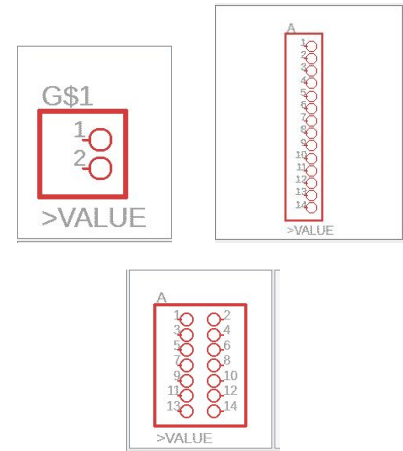
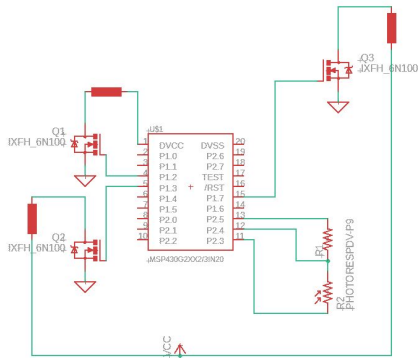
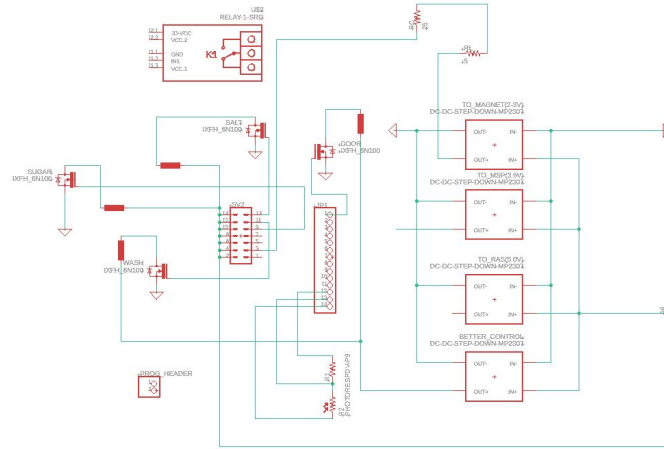


Figure 3

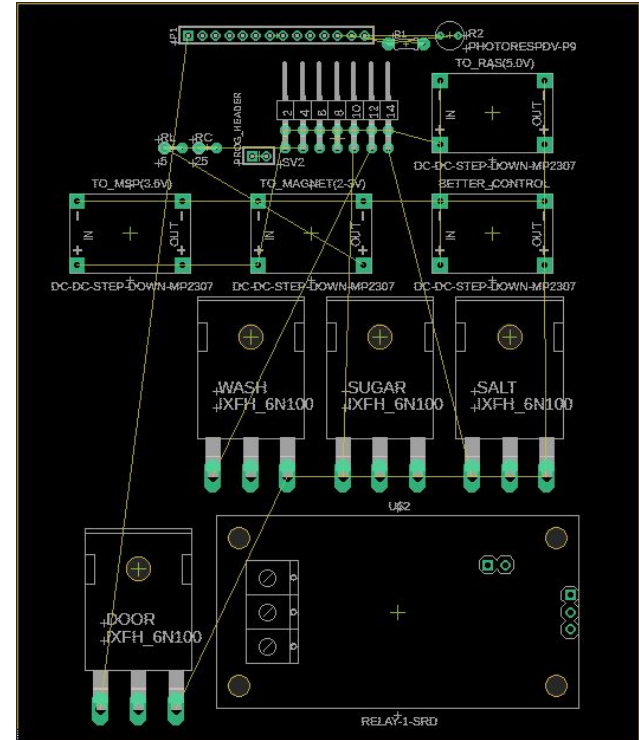
Tasks completed/on-going this week



Schematic View from Last Week

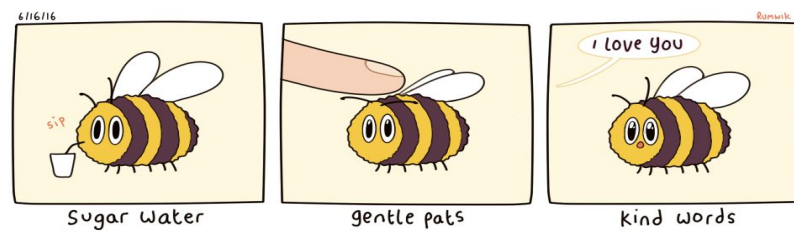


Updated Schematic View



Board View

Goal Next Week(s)



- Learn how to add customized components to Eagle.
- Adjust locations of the pin headers to fit to MSP430.
- 3D printing of the feeder.

Questions?

