

Investigating the Biological Impacts of Radio Spectrum Transmissions

The bee project group



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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

- Magnetometer sensor is being used by Prof. Rich Howard--it is in the calibration phase
- Prof. Rich Howard has completed the solar power unit



Tasks completed/on-going this week

- Discussion on how to prevent ants and other species from our “Bee hives” and came up with the following potential solution:

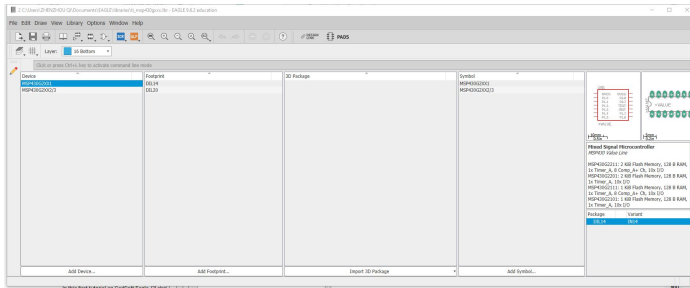


Insect Interceptor

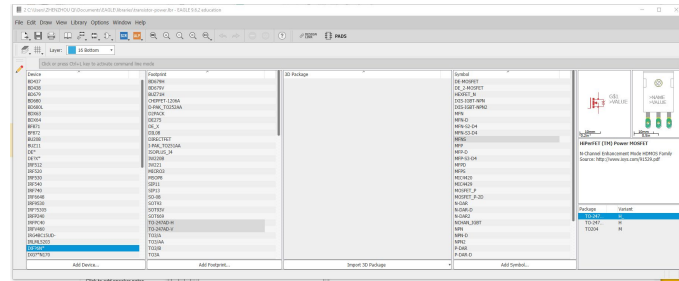
Put insect interceptors below the four legs of our “bee hives”. We may fill it with sticky liquid in between the space, or just liquid.

Tasks completed/on-going this week

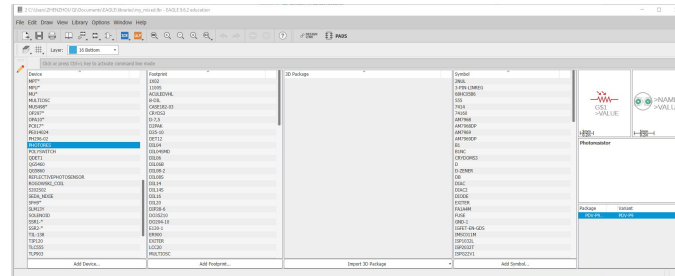
- Finished searching all the components needed for building the schematic design for PCB - MSP430, FET (**IXF?6N***), CDS Photoresistor,



MSP430



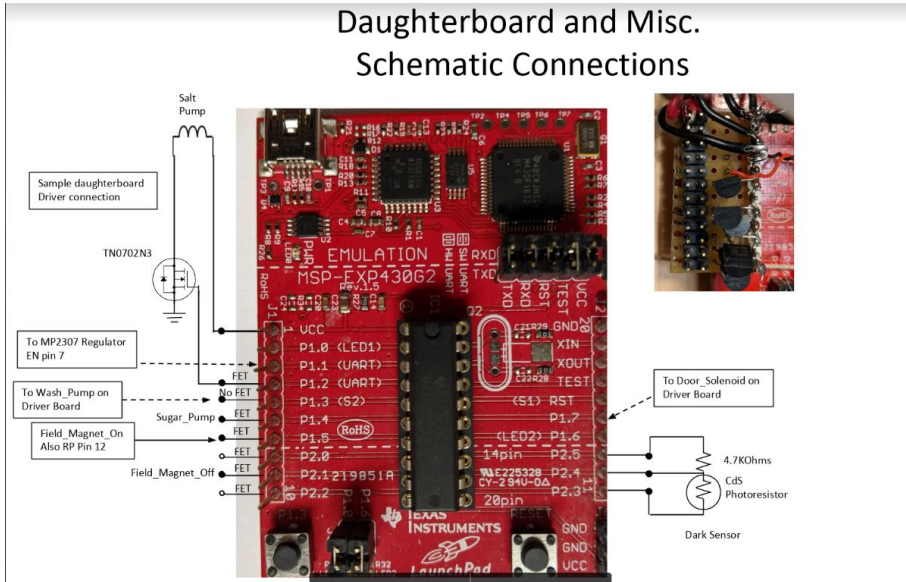
IXF?6N*



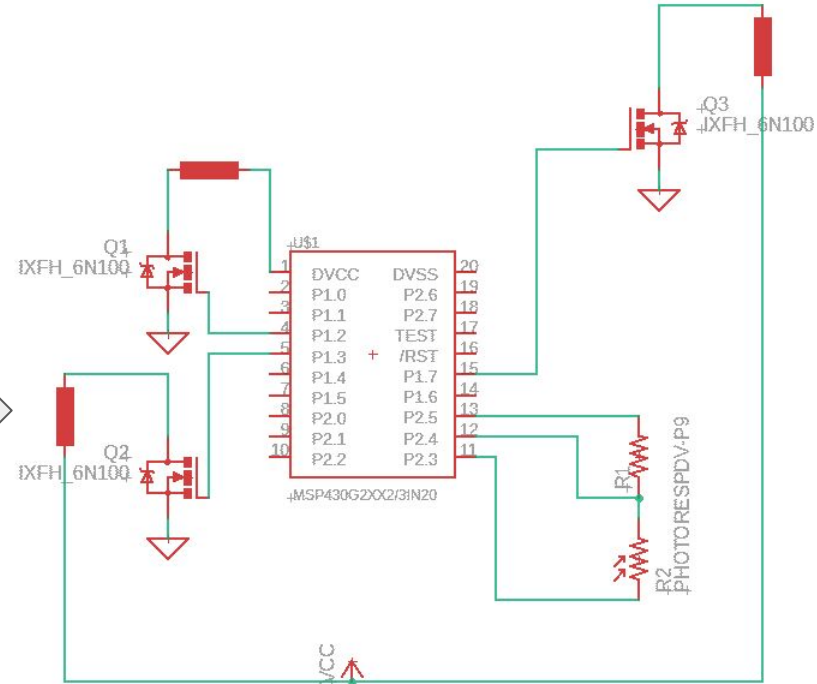
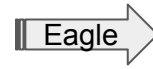
Photoresistor

Tasks completed/on-going this week

Daughterboard and Misc.
Schematic Connections



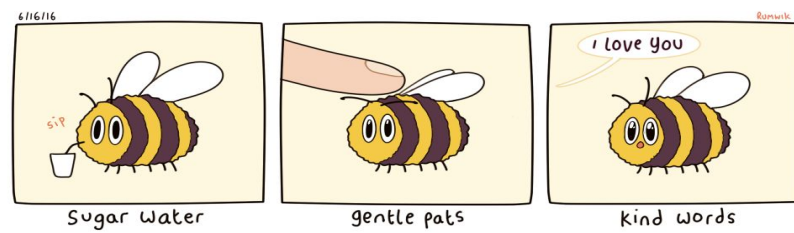
Control Layout



Revision needed in the following week.

Schematic design

Goal Next Week(s)



- Continue working on the schematic and board design for our PCB board.
- Deployment to the Hort farm (go back to research)
- Video counting bees
- Putting tags on bees?

Questions?

