Design Review 1

Conducted by Team 8 (Eric Sanman and Chuong Vo)

Schematic

- Pull-up resistors for I2C connections
- Move power input to left side of schematic
- Add 0.1uF from 12v input to gnd
- Add box around regulator and other circuit areas for explanation
- Add resistors to high current pin connections

PCB

- Keep traces away from edges of board, DRC compliant
- Use ground planes better
- 2.54mm between pins
- Use 0805 size resistors, label them on pcb
- Make pcb larger
- Make power traces larger

Overall

- Add broken component warning

Design Review 2

Conducted by Andrew Greenberg (In-Class)

Schematic

- Use 5V symbol for VCC (instead of lines)
- Add connector symbol to 12V input
- Label connections instead of lines “UR OUT” “UR TX”
- Power to esp ->critical to function-> add capacitors to ground
- Add bypass capacitors to multiple locations as needed
- I^2C missing 4.7k Ohm resistors-> add in physical pull up resistors, don't use software
- 3.3V add symbol and label for where power comes from, don’t use lines
- SDA TO SDK add test points
- Add test points as needed
- Add snubber diode-> reverse bias parallel with the coil
- Add led’s for heartbeat monitoring and for testing
- Use ground symbol instead of wires
- Add test points
- C1 & C2 check floating pins, no pins should be floating-> if floating make it go to a test point->

PCB

- Add test points
- Use test point diameter .1” or 1mm holes
- Add stitching-> ground to vias
- Use thick wires 10, 20, 30 mm

Overall

- Version and date are good
- Add to the schematic first then to the PCB
- Relay-> will relay click at 3.3V? (GPIO 32), if not use smaller relay that will click sooner or use the 5 volt rail and try click it