

No library? Looks like microcontroller had the paddle removed

Also missing Gerber files, list of manually routed areas (if any) for design review checklist.

Antenna

- Layer 2 (3V pour) goes under antenna; ok?
- Trace between antenna and balun should be thicker - yours is 0.5mm and the redboard uses 0.76mm

Power

- **RAWBAT line (between battery connector and switch) is .254mm wide; this will carry the current of all 4 motors and should be much thicker.**
- VBAT and VCC are on different layers; ok?
- The VCC plane isn't really used; only 3 vias drop to it
- The VBAT plane is on an internal layer; external might be better

LEDs

- Power LED is blue, on 3V line, and has 10k resistor - consider color with lower fwd voltage and a lower value resistor. Alternatively, consider powering the LED from VBAT instead of VCC.
- **EYE LEDs**
 - Pin ADC4 on the microcontroller is an analog input pin connected to LEDs; was this meant to be on a GPIO pin? Check which GPIO pins have PWM if you want analog output.
 - The LEDs are all on the same microcontroller pin so their current draw will be cumulative. The red LEDs will draw ~4mA each and the green ~3mA, so ~14mA total. The max (see "driver strength" in datasheet) is 8mA.
 - Are the LEDs placed where they are meant to go?

Headers

- Pin indicators on FTDI and ISP headers?
- Serial debugger label is on the board but serial programmer label is off the board. Do you plan to have these printed on the board?

Microcontroller

- Bypass cap C3 isn't next to microcontroller power pin. Bypass cap C4 could be rotated to be closer to power pin.
- **RESET line not connected to FTDI header or pull-up resistor**
- No obvious Pin 1 indicator for on the silk screen?

Motor Drivers

- The bottom two motor controllers have thinner traces (0.4mm) than the top controllers (0.8mm) between the resistor and mosfet gate. Identical circuits would be more predictable for motor control.

Aesthetics

- Silk screen labels overlapping pads or edge of board
- No logo. Not sure if this is optional or required.

Mechanical

- Motor holders aren't all the same size; left side ones are 4.16mm. Should be 4.2mm but probably close enough?

Checks

- The "4pcb-33board" DRC complains about the pours in layers 2 and 15, presumably since this DRC is for a 2 layer board.