Contents

1 Tools

- Pad, Trace, Polygon, Drill Hole, Silkscreen
- ratsnest: reevaluate airwires for shortest path
- ripup: delete routes
- mirror: flip component to the other side
- via: for connecting routes on different layers

2 Some rule of thumb

- Trace: short and wide, increase spaces between traces
- Trace width: 12 mm for digital signal; 20 mm for analog; Power, GND, Motor: 30mm;
-

3 Layout Criteria

- Everything need to be inside the board (all white frames inside): quadcopter propellers need clearance.
- Nothing under white frame except the Radio Module
- Battery JBT need to have +- on the edge of the PCB
- Mandatory: Top Polygon: VCC, Bottom Polygon: GND; Don't worry about Digital and Analog VCC and GND.
-

4 BOM

Description	Part#	Package	Quantity	Link	Datasheet	Criteria
MCU	ATMEGA328P-AU-ND		1	link	link	Default
Cap: 1uF		0603	1	link	link	Ceramic, Dim
Cap: 100nF		0603	6	link	link	Ceramic, Dim
Cap: 10uF		0603	3	link	link	Ceramic, Dim
Cap: 100uF		1206	4	link	link	Ceramic
Res: 2.2k		0603	6	link	link	Dimension
Res: 10k		0603	5	link	link	Dimension
MOSFET			4	link	link	Drain Curren
Diode			4	link	link	Current 3A
LED			4	link	link	Dimension
Push Button			1	link	link	IDK
Voltage Regulator			1	link	link	Step-up AND
Oscillator			1	link	link	8-10MHz, mi

value	sin	cos	tan	angle
1	2	3	4	5