

Following our board bring up plan, we built the board.

There were a couple values that were different than originally listed due to availability:

- For C3 and C4 we used 1uF
- For C1 we used 5 10uF in parallel (to get close to 47uF)
- For R10 and R11 we used 1.1k (closest available)
- The LED wasn't the specific one, but still a general LED

## Hover Copter

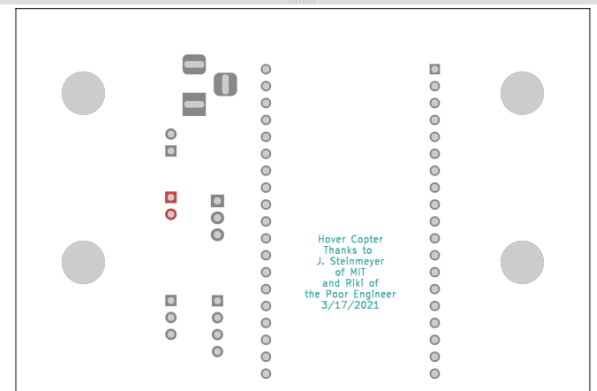
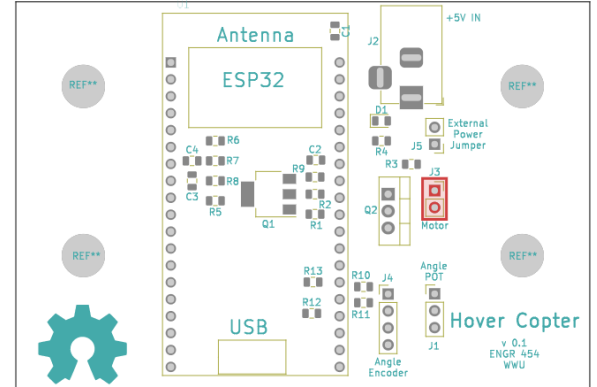
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Rev: 0.1

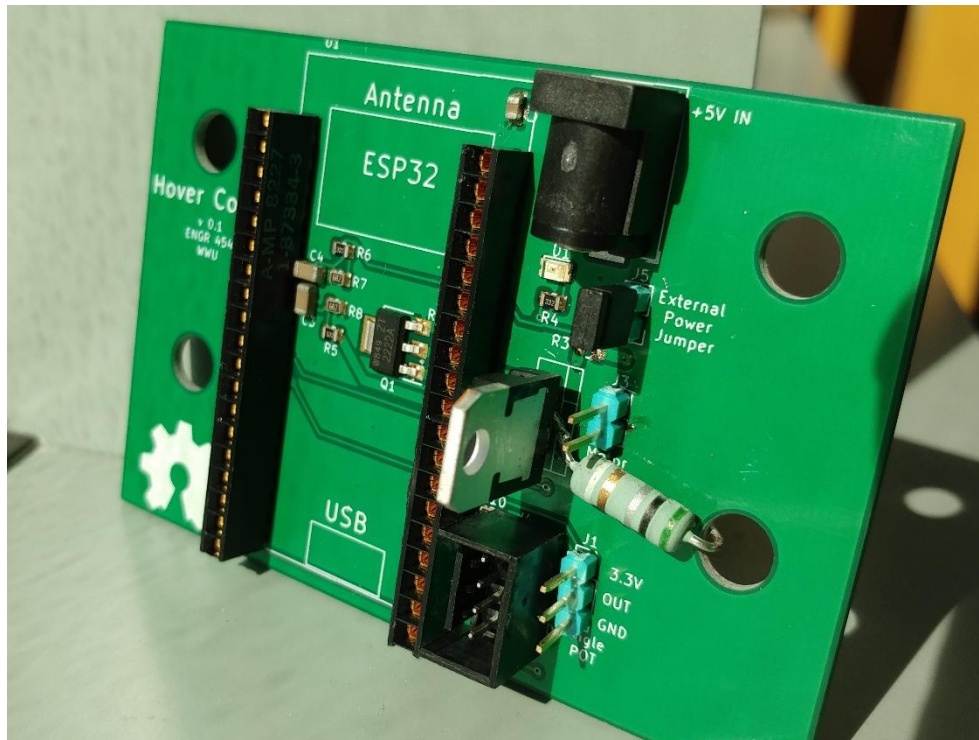
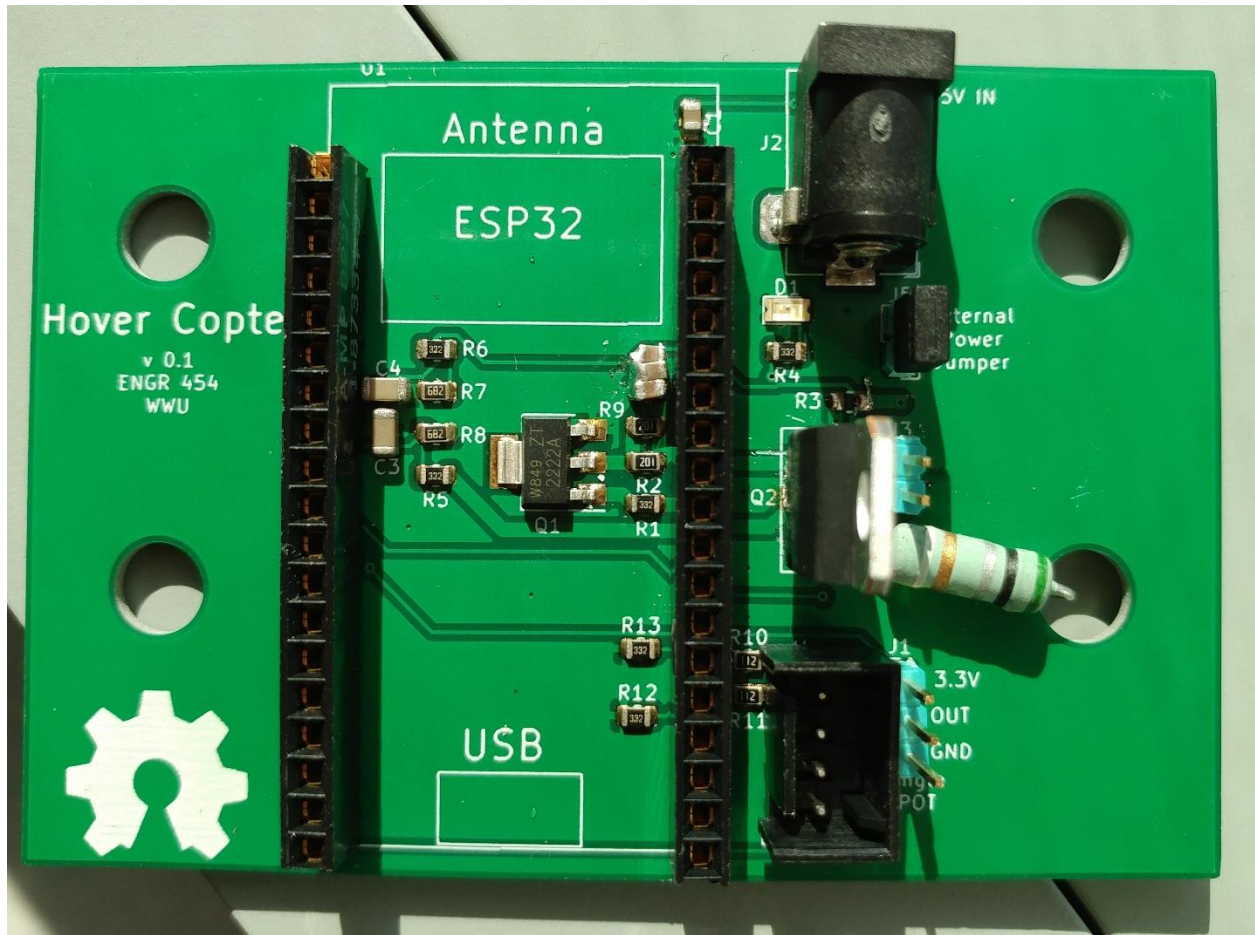
2021-03-17

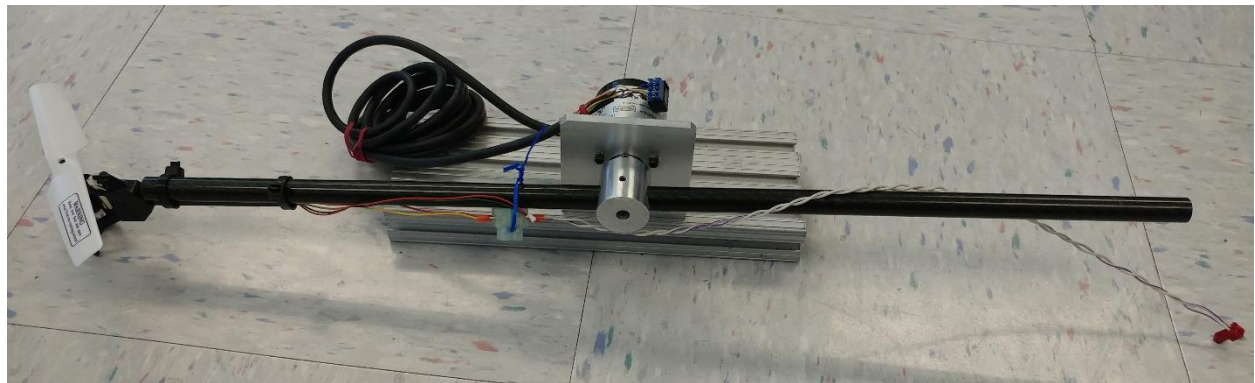
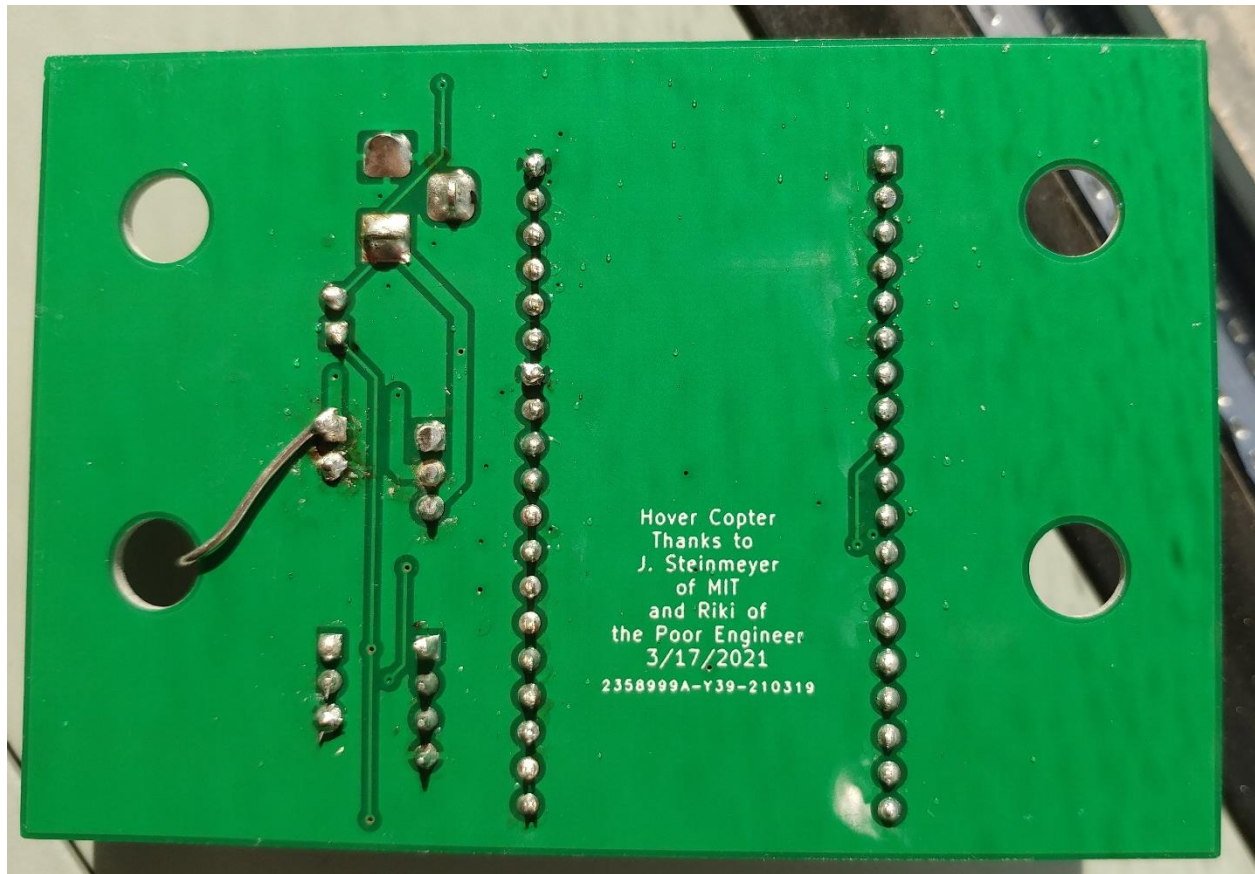


Ref lookup				Filter			
	Sour ced	Plac ed	Actu al Valu e	References	Value	Footprint	Quantity
1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	C3, C4	2.2uF	C_0805_2012Metric	2
2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	C1	47uF	C_0805_2012Metric	1
3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	C2	47nF	C_0805_2012Metric	1
4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	R1, R4, R5, R6, R12, R13	3.3k	R_0805_2012Metric	6
5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	R2, R9	200	R_0805_2012Metric	2
6	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	R7, R8	6.8k	R_0805_2012Metric	2
7	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	R10, R11	1k	R_0805_2012Metric	2
8	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	R3	0.5	R_0805_2012Metric	1
9	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	D1	150080V575000	LED_0805_2012Metric	1
10	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	U1	ESP32-DEVKITC-320	MODULE_ESP32-DEVKITC-320	1
11	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Q1	PZT2222A	SOT-223-3_TabPin2	1
12	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Q2	D45H11	TO-220-3_Verical	1
13	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	J2	+5V_IN	BarrelJack_Horizontal	1
14	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	J5	5V or your voltage	PinHeader_1x02_P2.54mm_Verical	1
15	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	J1	Angle POT	PinHeader_1x03_P2.54mm_Verical	1
16	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	J4	Shaft_Angle_Encode r	PinHeader_1x04_P2.54mm_Verical	1
17	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	J3	Motor	PinSocket_1x02_P2.54mm_Verical	1



(See following pages for PCB pictures, last page for test)





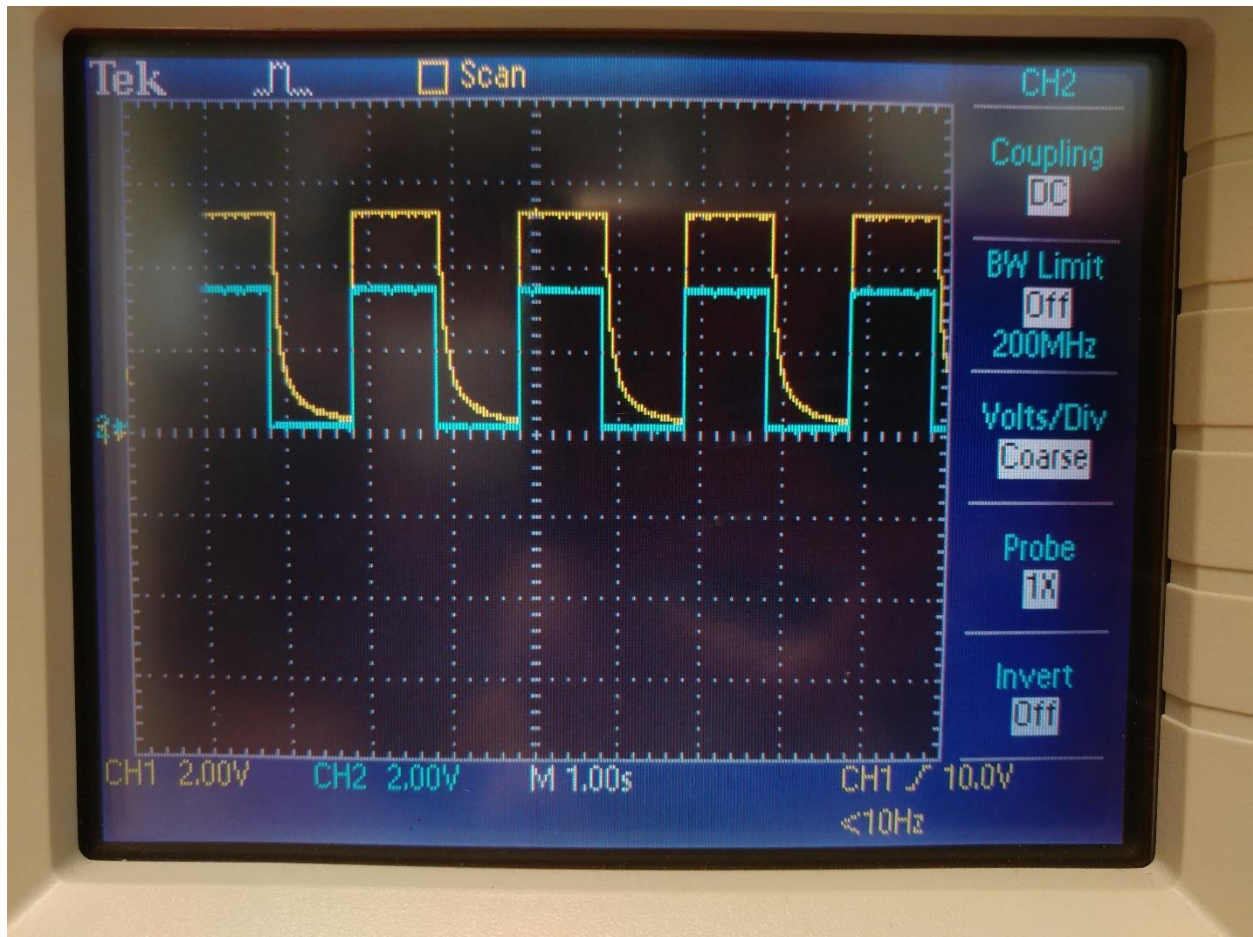
\*Our mechanism will be the same/similar to this one, but the parts have not been machined yet.

This is the one that has been built for us as an initial one and for an example to base our build on.



## Testing:

We used a “Blinking LED” program to test switching the motor output on and off. We looked at the Motor pin and Pin 5 (see below picture) and their respective voltages make sense and line up well.



\*Motor pin is CH1 and Pin 5 is CH2