

Week 13

Keel Bone Chicken Project

11/21/2025



College of Engineering

This Week

This week's progress

- PCBA Setup for Ordering
- BOM + PoS File Generation
- Final Routing
- Ordering PCB

PCBA Setup for Ordering


Using JLCPCB as a vendor

- Options:
 - JLCPCB
 - PCBWay
 - PCB Trace
- All have ~24 hour lead time + 3 day PCBA time
- Ship time varies
- PCBA on JLCPCB Parts: <https://jlcpcb.com/parts/in-stock-parts>
 - Some parts may be unavailable, need to find alternatives

BOM Generation

~20 Components on BOM, listed below

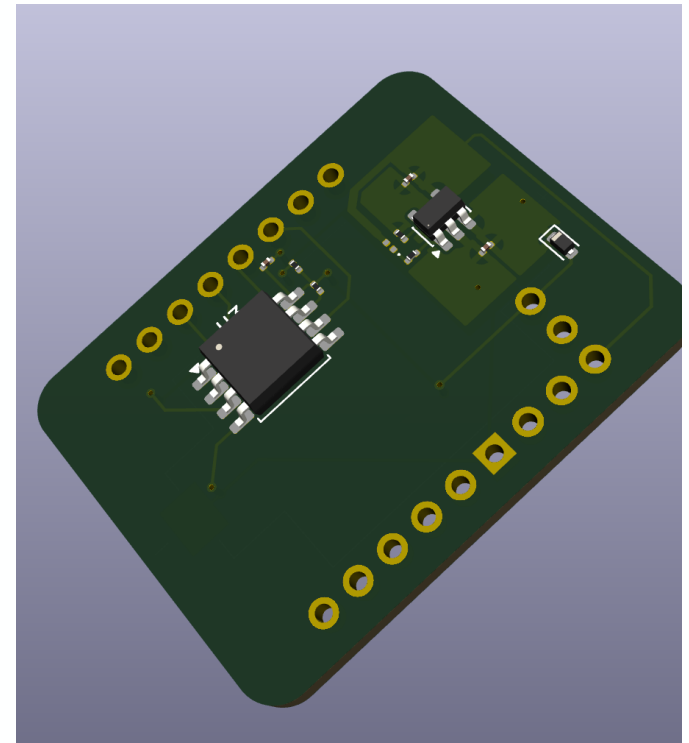
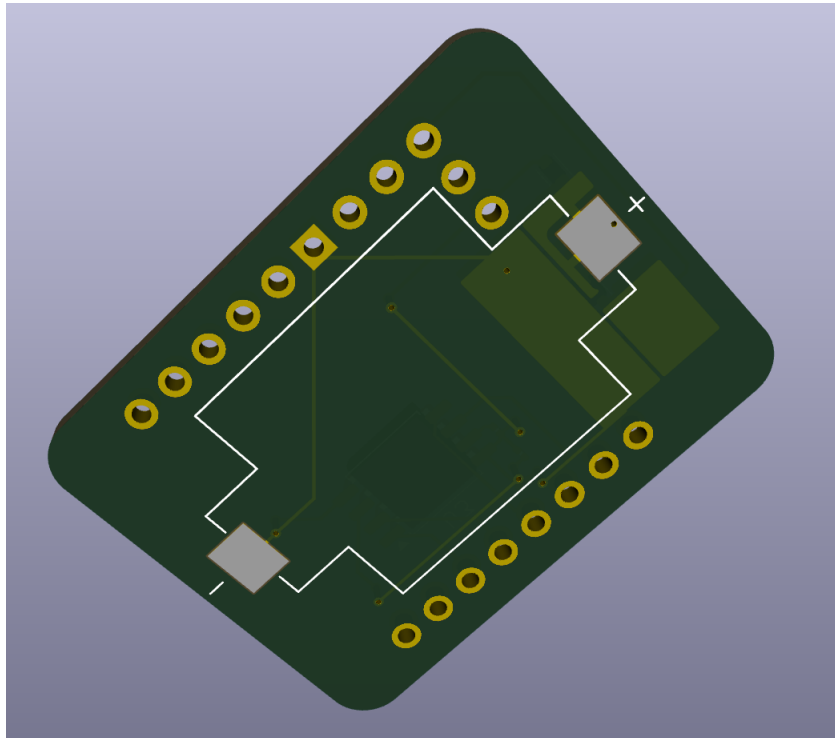
- BOM Created with JLC Extension in KiCAD:

	A	B	C	D	E	F
1	Designator	Footprint	Quantity	Value	LCSC Part #	
2	BT1	BAT_504	1	LIR2032	C17422337	
3	C1, C2	201	2	4.7 μ F	C253012	
4	C4	201	1	1 μ F	C53067	
5	D1	201	1	RED	C531176	
6	D2	D_SOD-523	1	1N4148WT	C2099	
7	R1	201	1	2.2 k Ω	C100164	
8	R2	201	1	470 Ω	C163491	
9	R3, R4	201	2	10 k Ω	C100126	
10	U1	SOT-23-5	1	MCP73831-2-OT	C14879	
11	U3	SOIC-8_5.3x5.3mm_P1.27mm	1	W25Q128JVS	C97521	
12						
12						

Final Routing

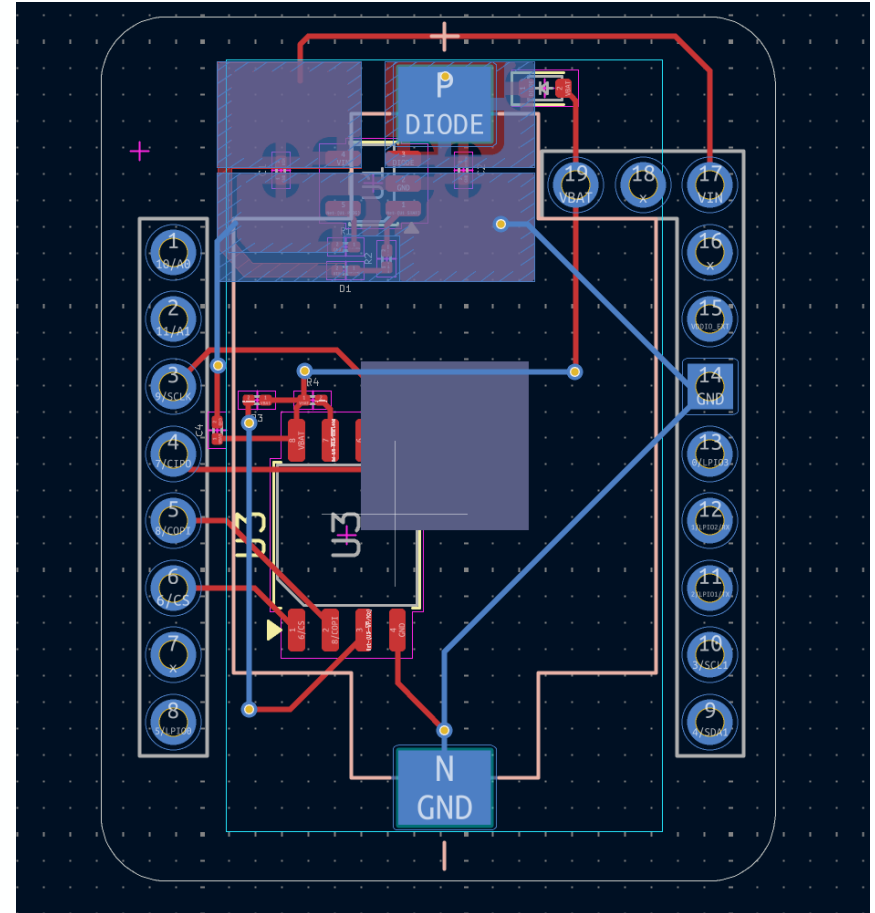
Several Different Design Choices

- Finished Rev. 1 Design
 - Slightly larger frame for PCB than (insufficient area to increase price)
 - 8 vias (1 may be cause of concern)



Traces on PCB Board

- Location of vias and rest of board shown below
- Would prefer review of 1+ other individuals



Ordering PCB

From JLCPCB's website with .bom and .gerber and .pos files

- Quote around \$23 without assembly, \$59 with assembly

Charge Details		Total Price: \$59.03	
PCB Price	\$13.00	Weight [?]	667.91g
Via Covering:	\$0.00	Product Description [?]	<div>Select</div>
Special Offer:	\$13.00	<div>SAVE TO CART</div>	
Standard PCBA Price			
Setup Fee:	\$25.00		
Stencil:	\$7.86		
Panel:	\$0.00		
Large Size:	\$0.00		
Components(5 items):	\$4.76		
Feeders Loading fee: [?]	\$7.50		
SMT Assembly [?]	\$0.44		
Packaging fee:	\$0.47		
Build Time: [?]			
PCB: 3 days	\$0.00		

Next Week

Blockers & Next Week's Work

- Hear back on Resistive vs. Capacitive Sensors
- Order PCBs before break
 - Fill out form 12 from ordering office
- Work on app store application
 - Developer app for monitoring Niclas + Sensors

Thank You

Purdue Polytechnic Institute