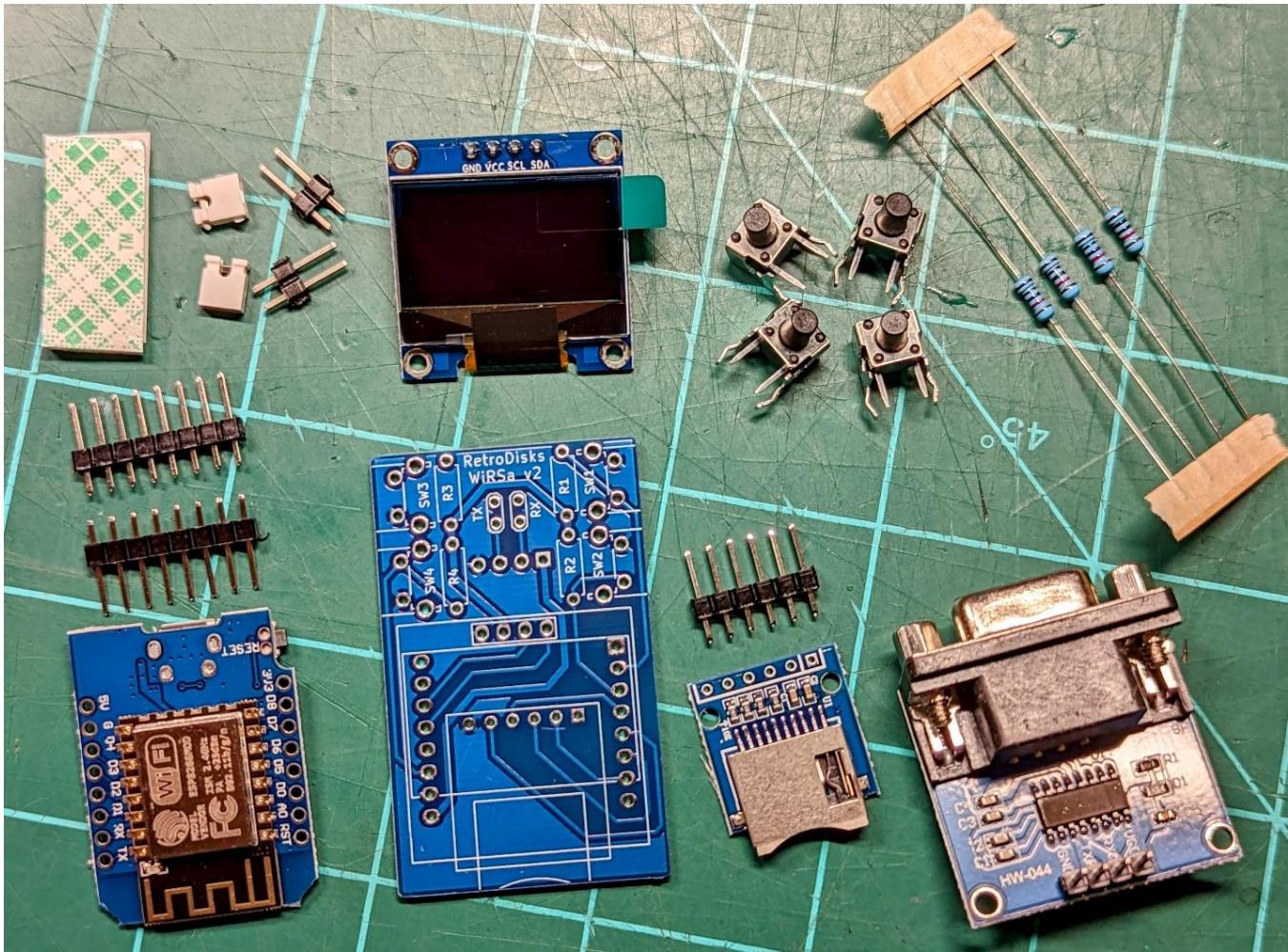


# WiRSA v2 Kit Assembly Instructions

Included in the kit



- Piece of double-sided mounting tape
- (2) jumpers & (2) 2-pin jumper headers
- 128x64 SPI OLED display
- (4) right-angle momentary switches
- (4) 10k resistors
- Wemos D1 Mini & (2) 8-pin standoff header pins
- WiRSA v2 PCB
- SD card reader module & 6-pin header
- RS232-to-TTL converter module

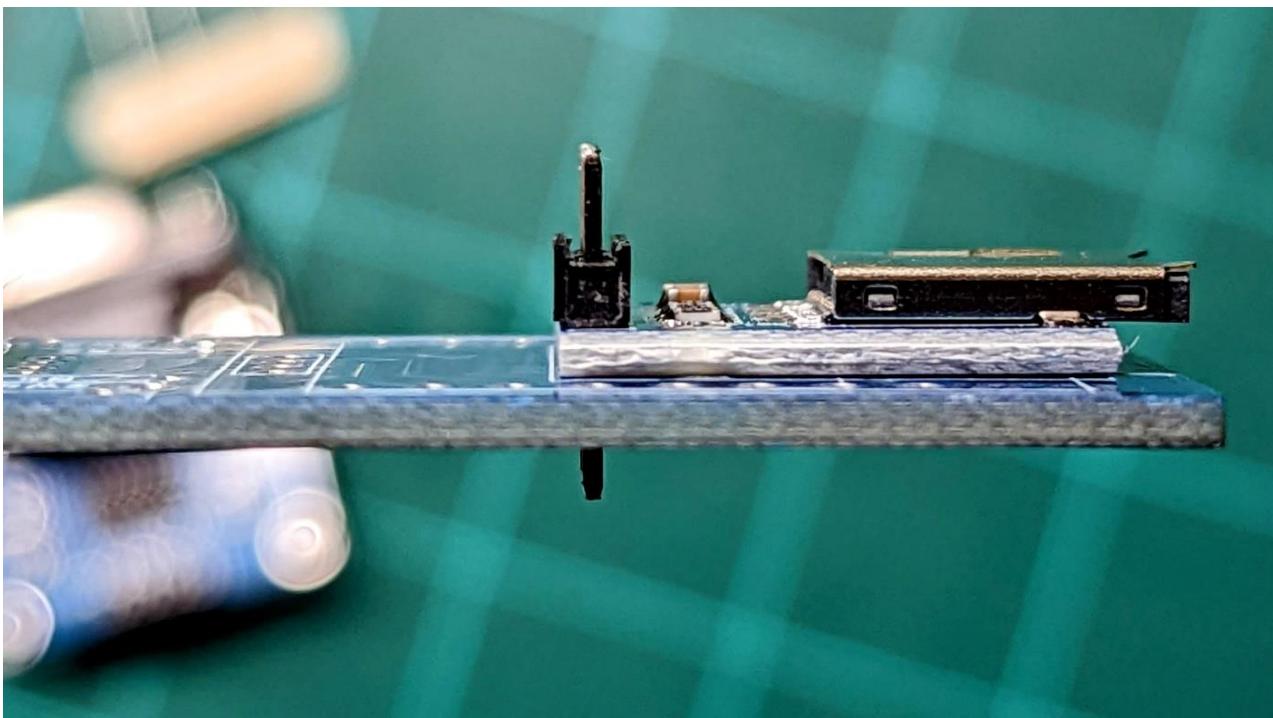
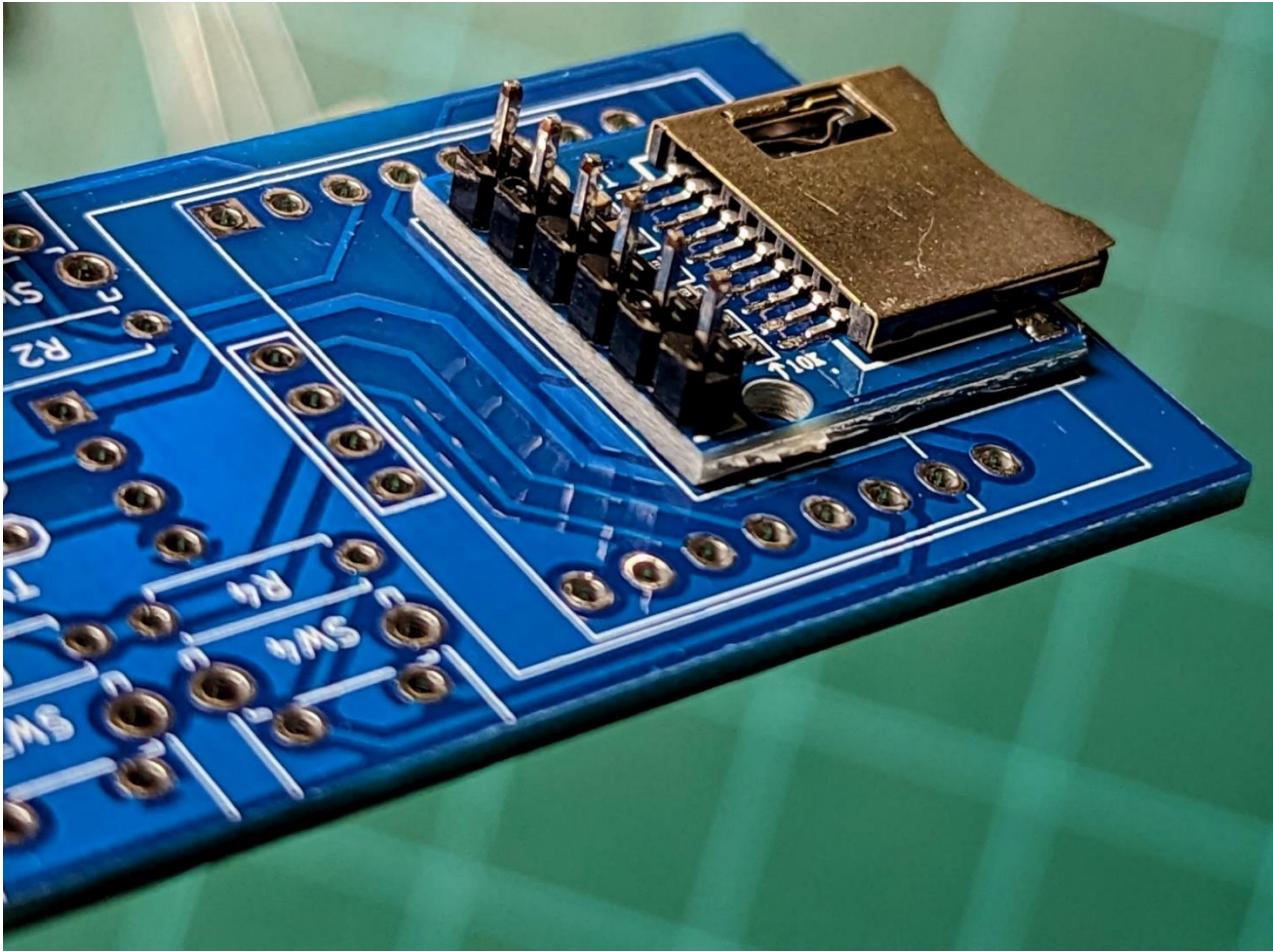
## Other things you'll need



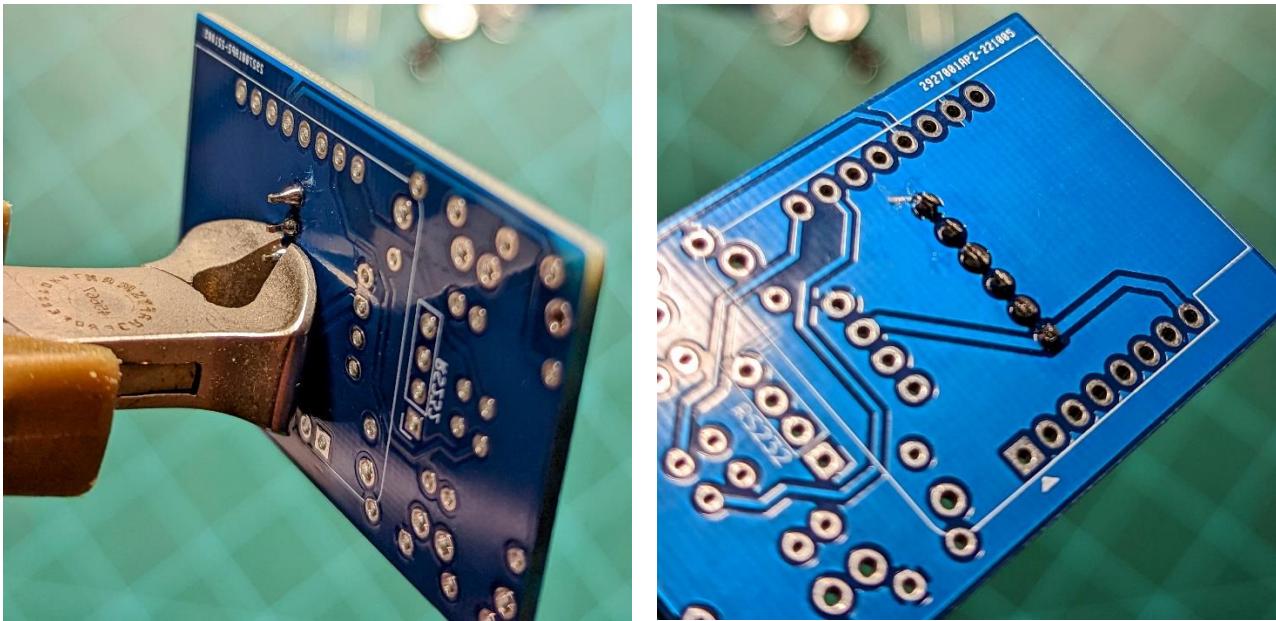
- Electrical Tape
- Good quality precision side-cutter or nipper
- Good quality soldering iron with fine-point tip
- Solder (recommend no-clean variety)
- X-acto knife

## Assembly

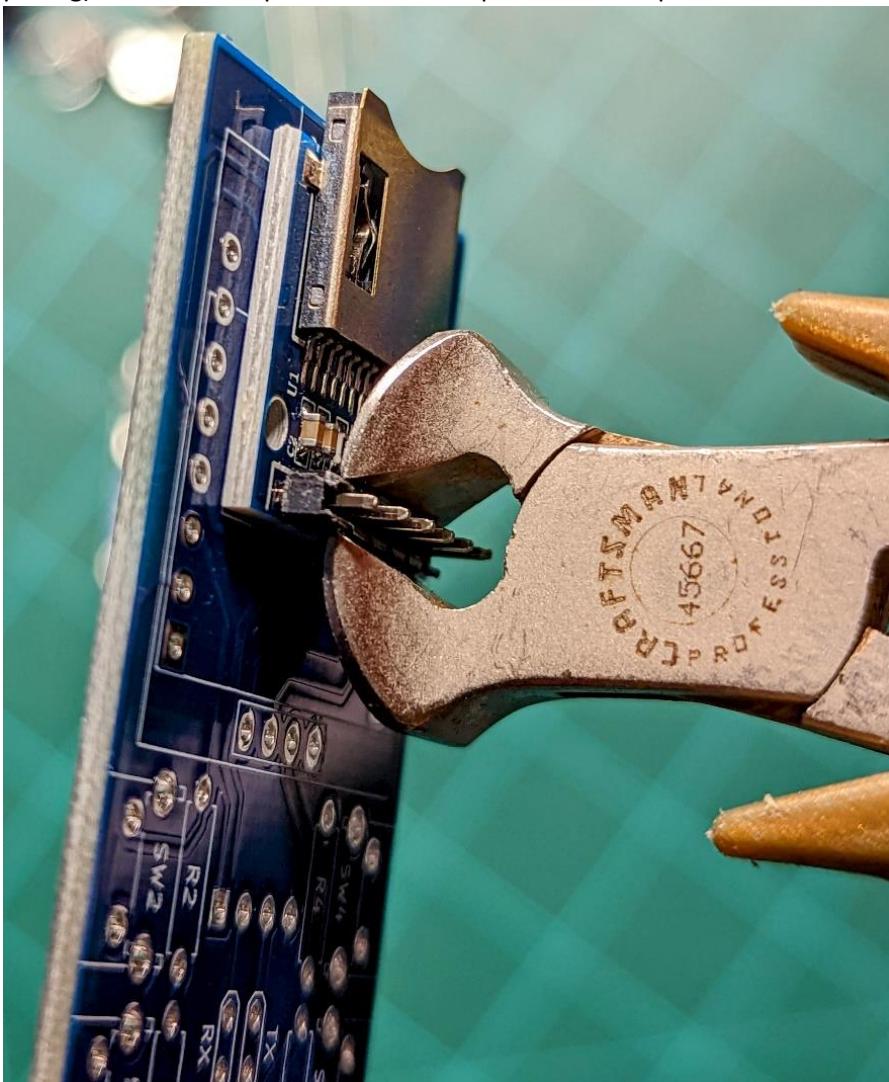
1. Start by placing the SD reader module on top (line up with outline) and insert the 6-pin header to hold in place as pictured.



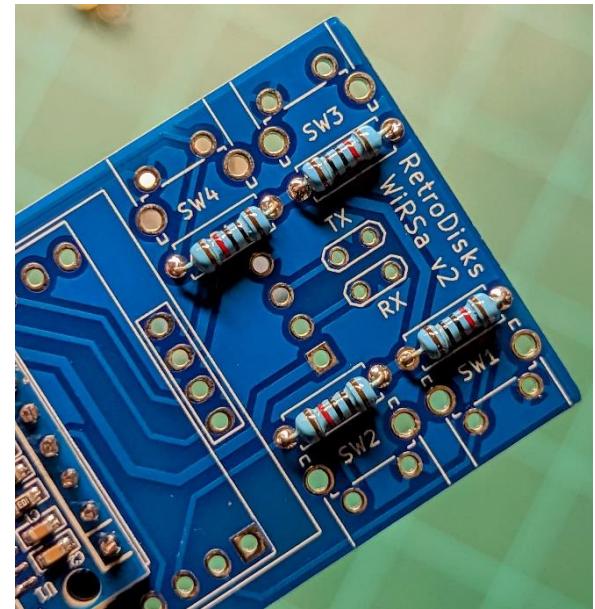
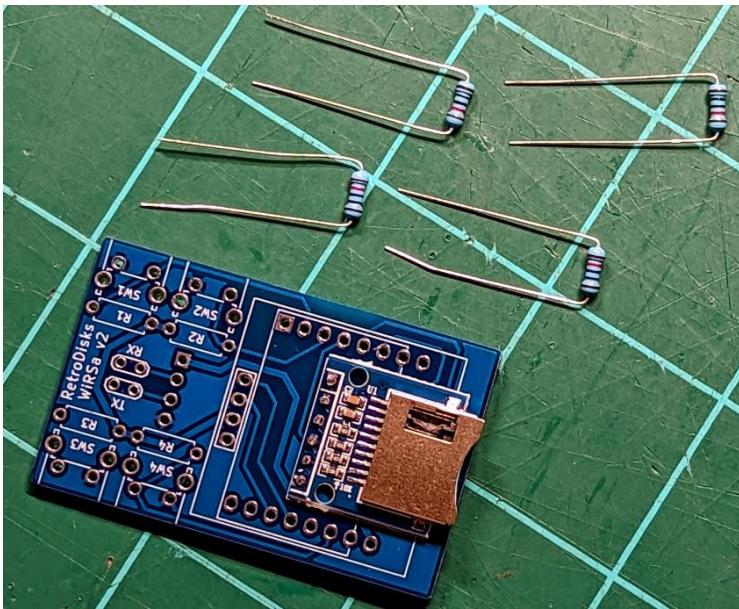
2. Solder these points from the bottom, then trim off the pins as flush as possible.



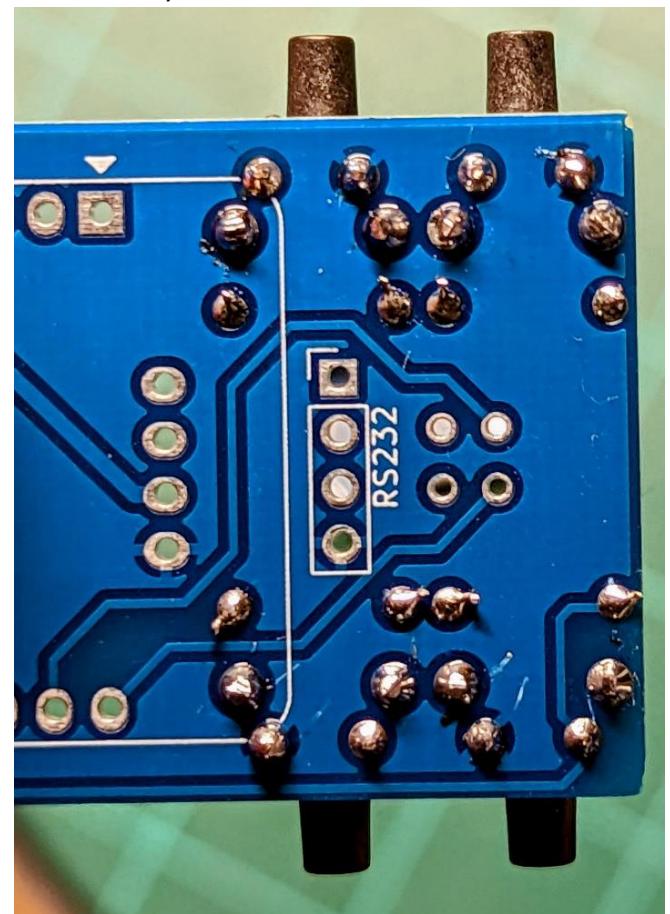
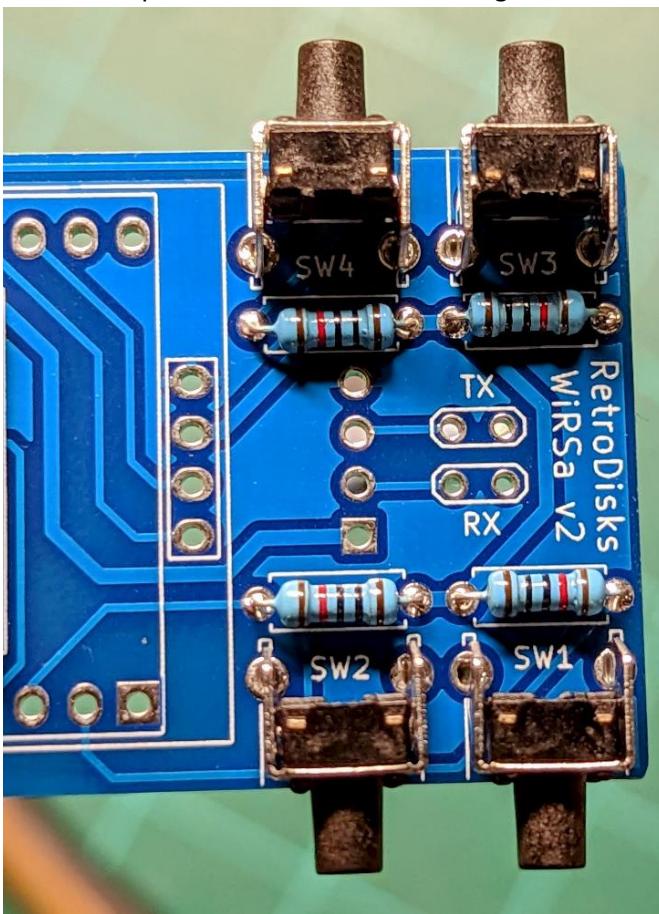
3. Now back from the top, remove the plastic piece from the pin header completely (preferably by carefully pulling). Solder the 6 points from the top and trim the pins.



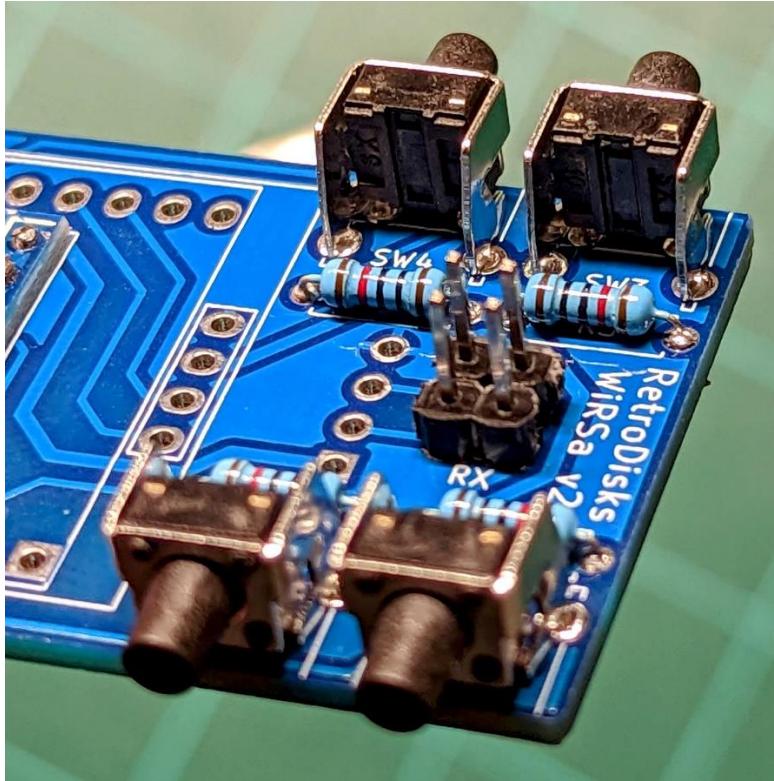
4. Pre-bend the resistor legs to make insertion easy. Solder all 4 resistors into place and trim the legs.



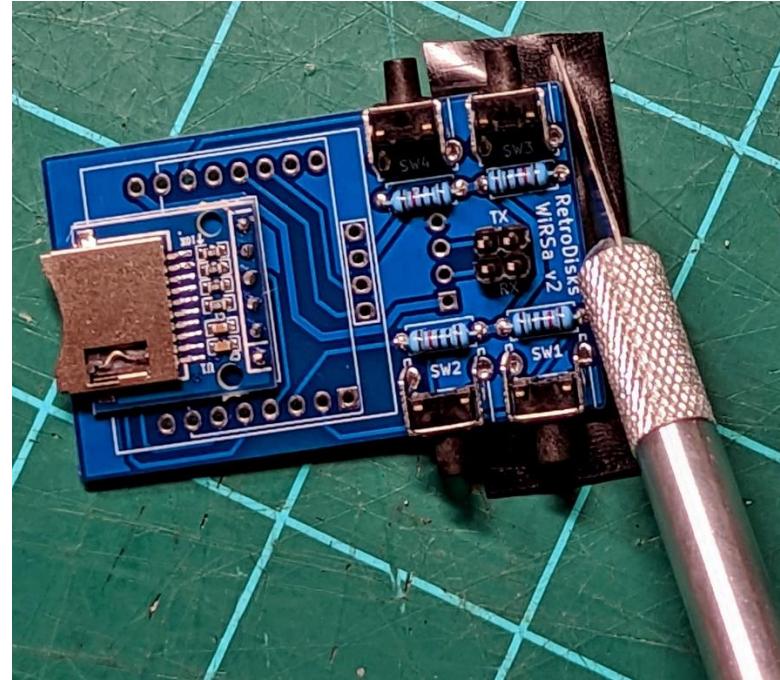
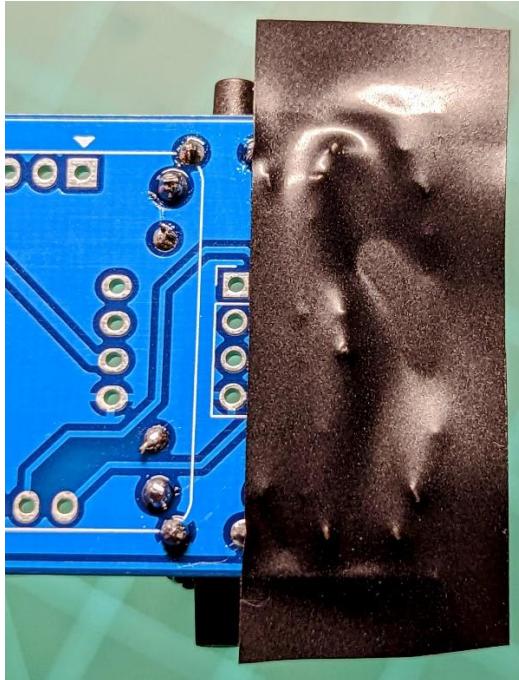
5. Insert the 4 switches and solder from the bottom. Apply downward pressure to the PCB to help hold the switches in place and flush while soldering. Trim all the pins as best as you can.



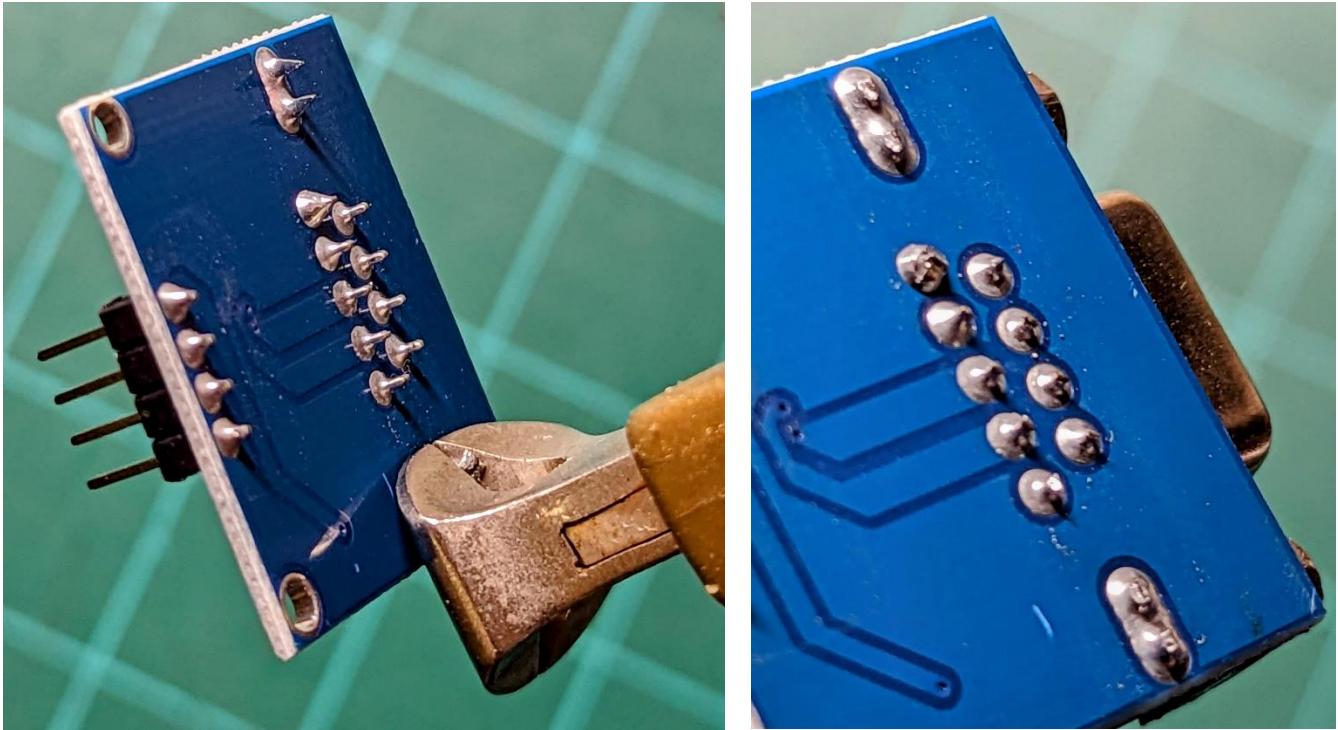
6. Insert the 2 jumper headers and solder into place. Trim these solder points, too.



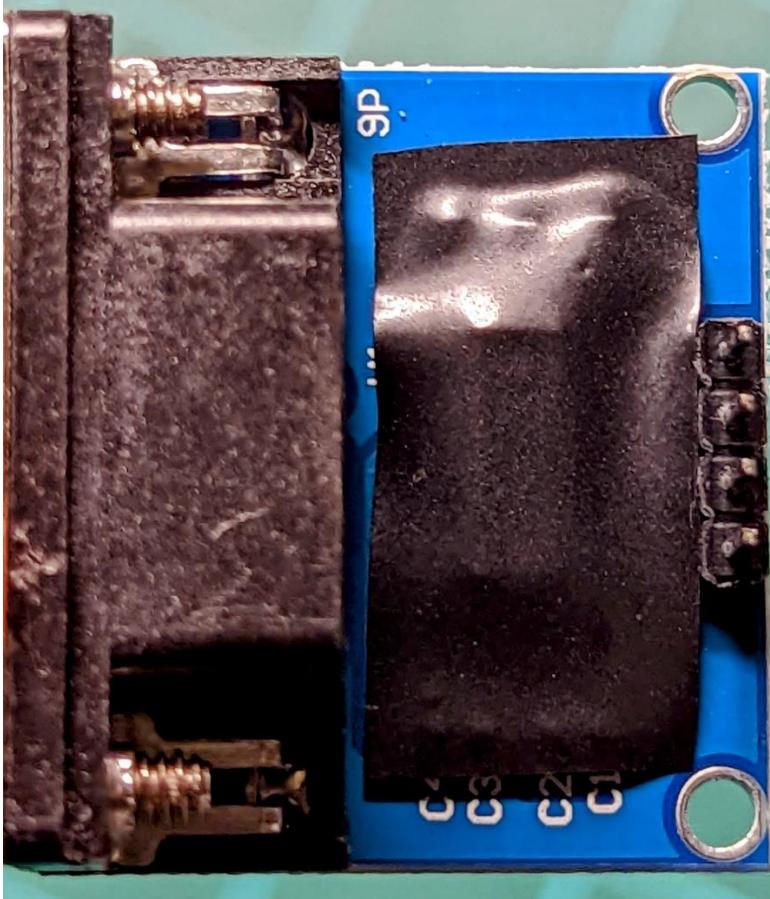
7. Cut a piece of electrical tape and place over the switch/resistor solder area, but do not cover the 4 open RS232 holes. From the other side, use the PCB as a guide to cut the tape to size.



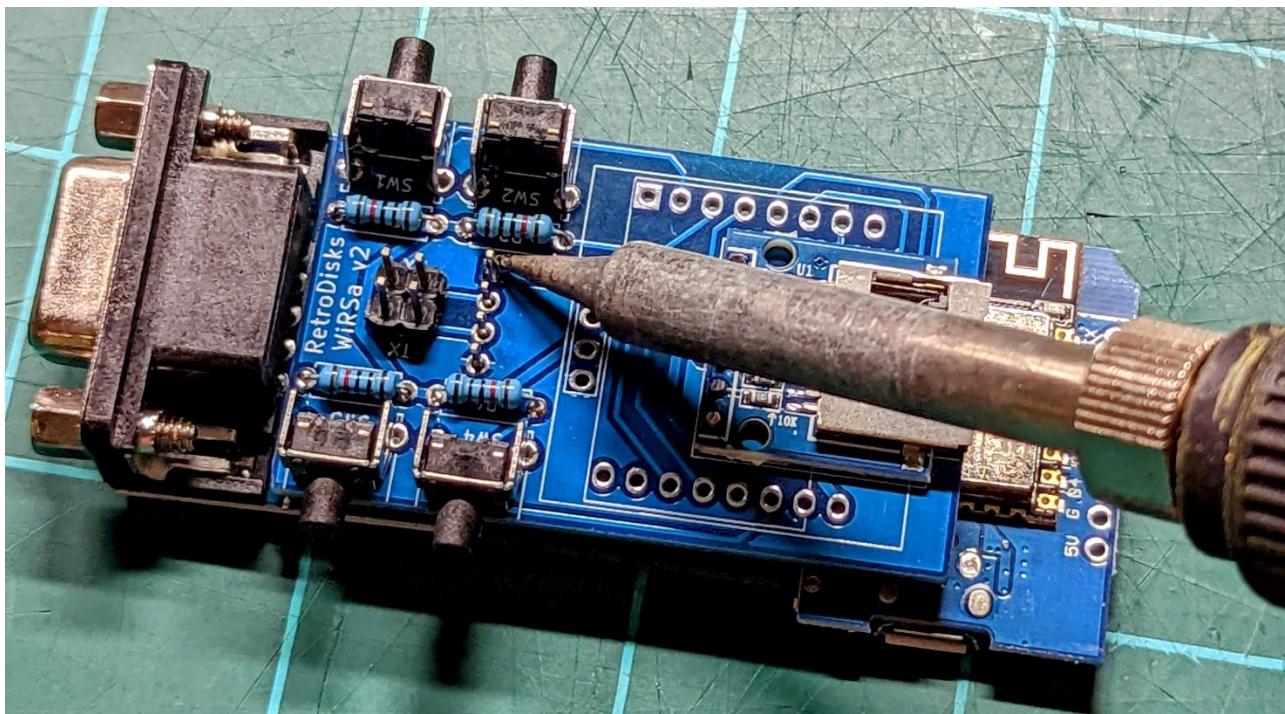
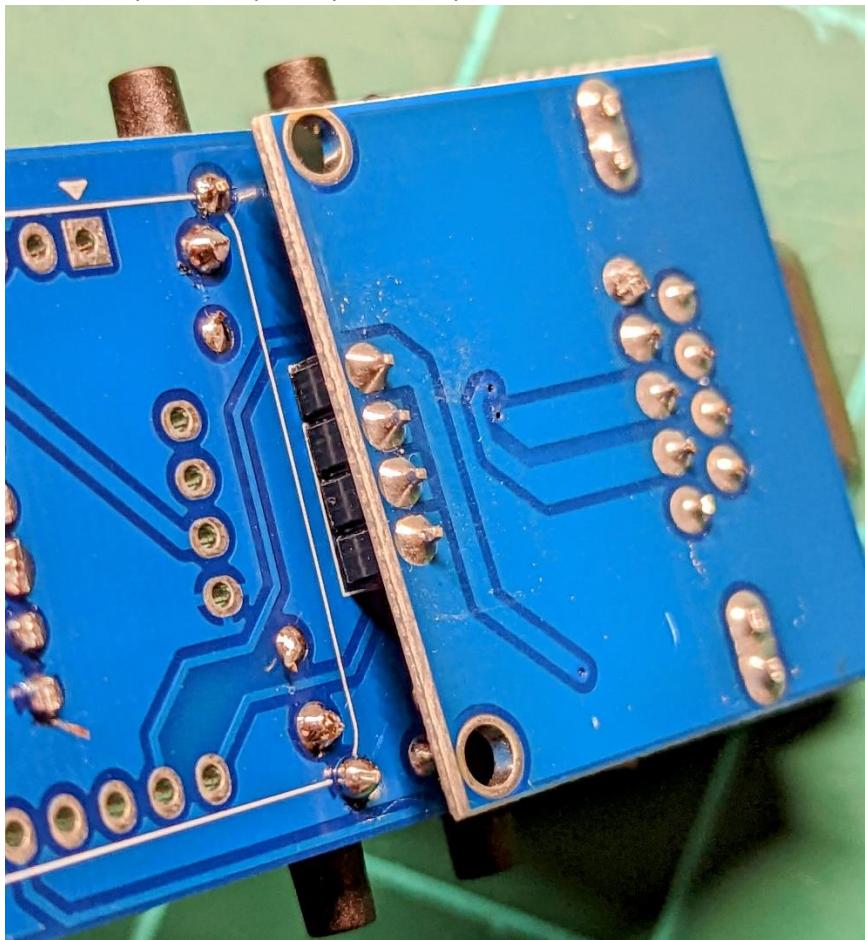
8. Flip over the RS232 module and trim the pins, especially the 2 larger mounts for the DB9 connector. This will ensure the assembled product will fit properly in a case.



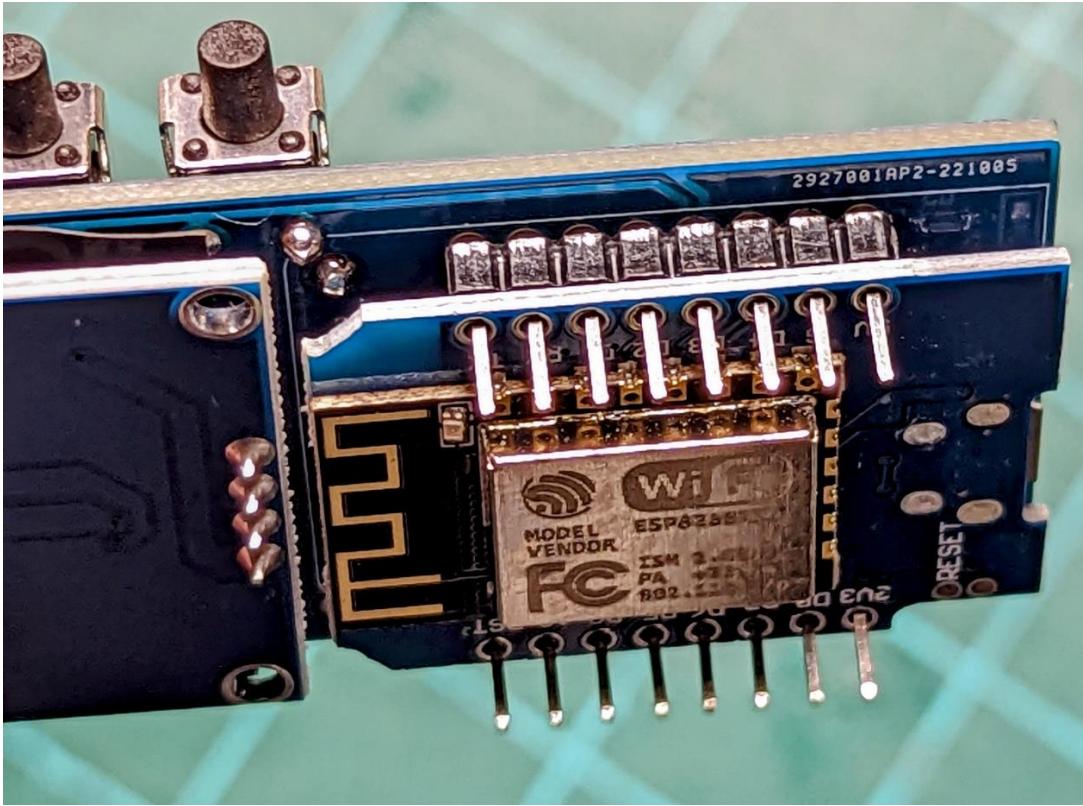
9. Trim a piece of electrical tape and cover circuitry on the top of the RS232 module.



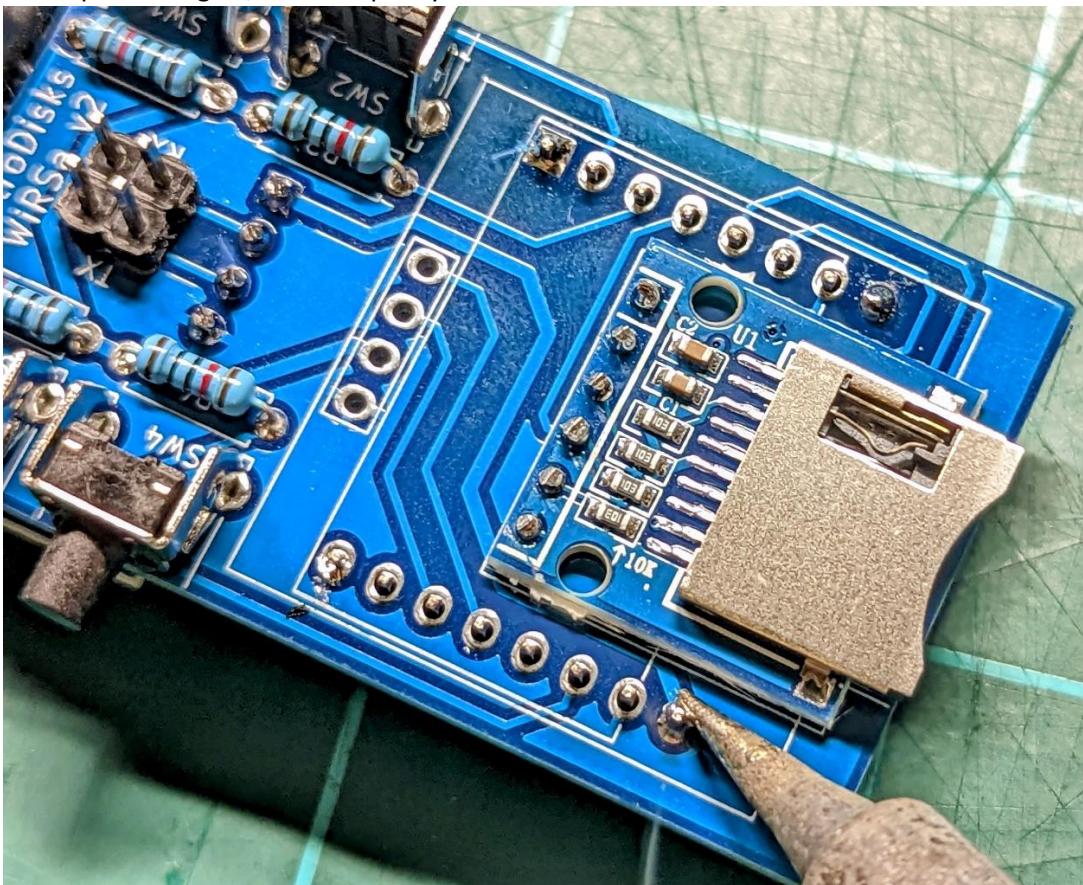
10. Insert the RS232 module into the holes on the WiRSA PCB from the bottom, and solder from the top. Use something under the PCB temporarily (like the Wemos) to help keep level while soldering. It is not necessary to trim these pins on top, but you can if your cutter can reach.



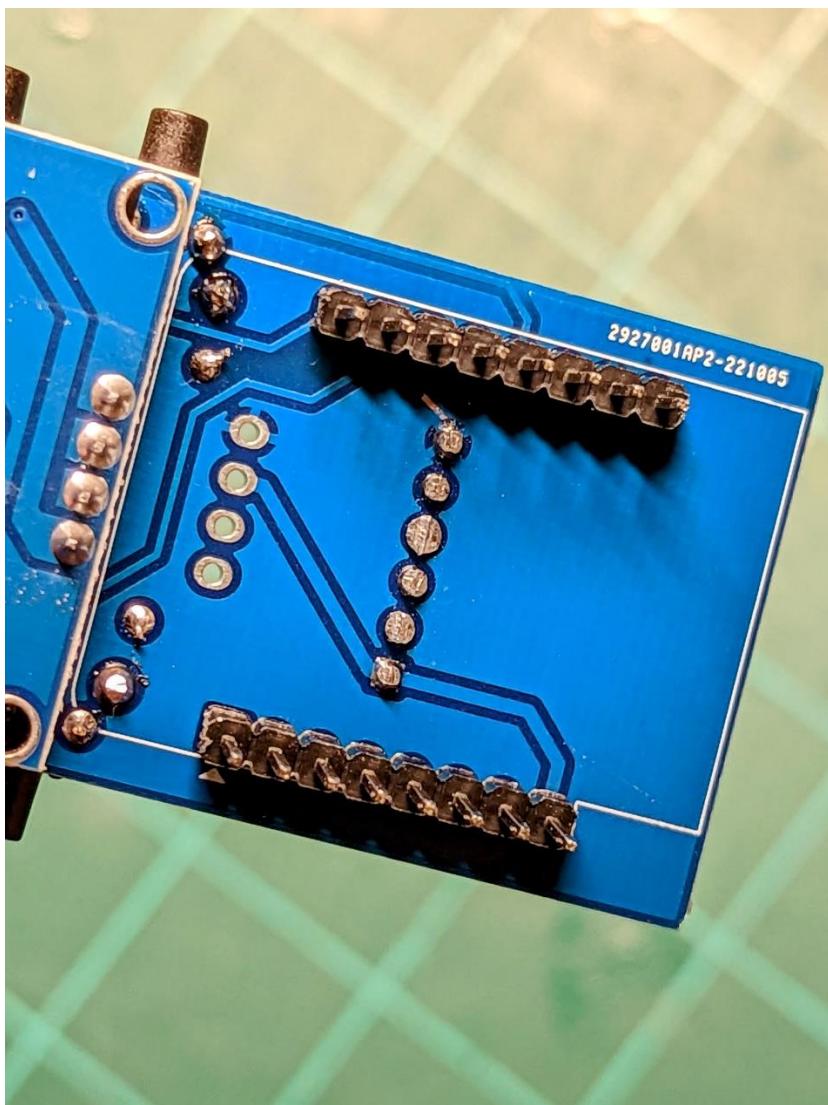
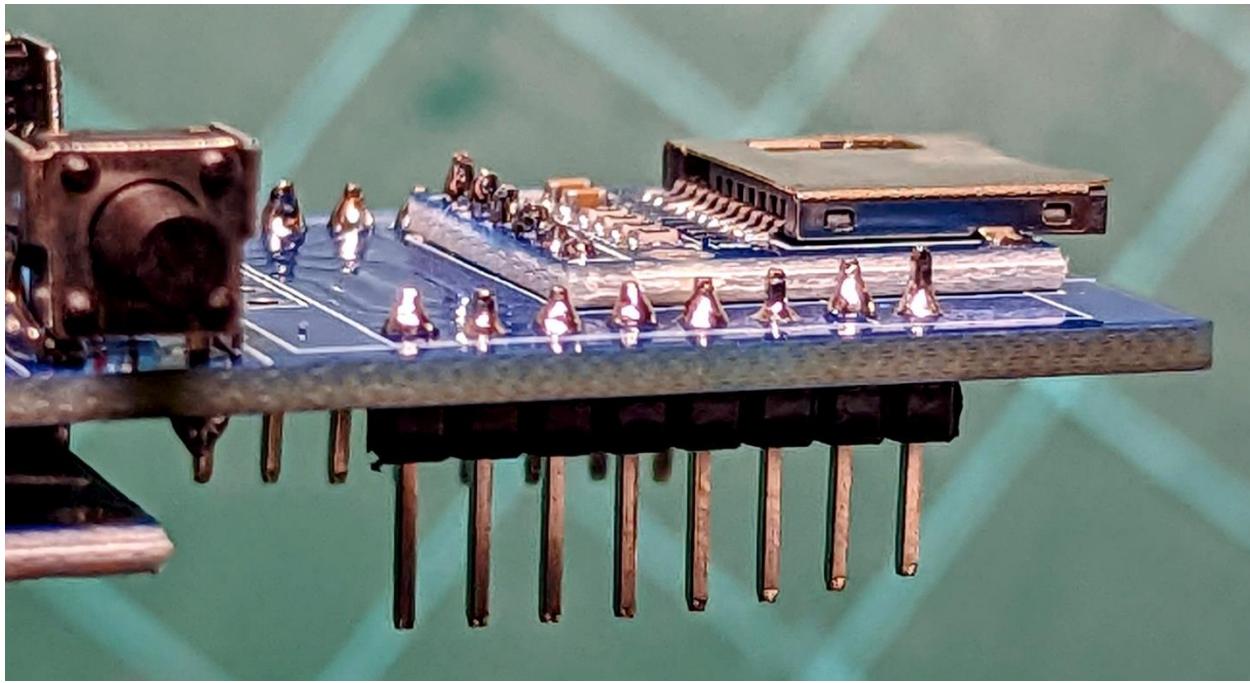
11. Insert the (2) 8-pin headers with short end coming up through the WiRSA PCB. The plastic part and longer pins will be underneath. Insert the Wemos to help space the pins correctly and solder from the top ONLY. DO NOT solder the Wemos into place yet from the bottom.



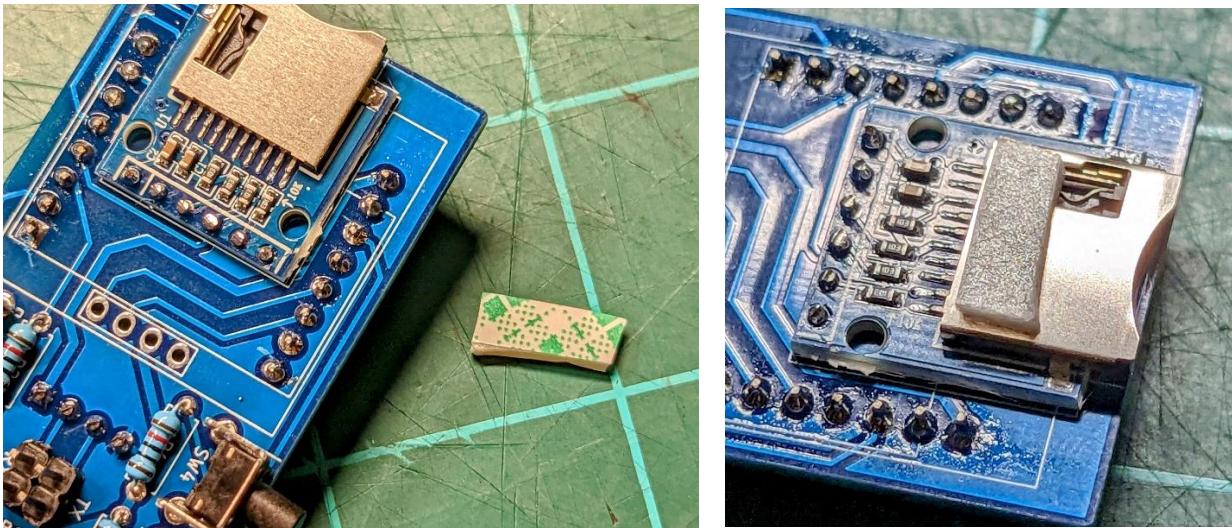
12. It will be a bit wobbly. Try to solder down the 4 corner pins to stabilize it, then go through and solder all the rest of the points – again, on the top only. No need to trim these.



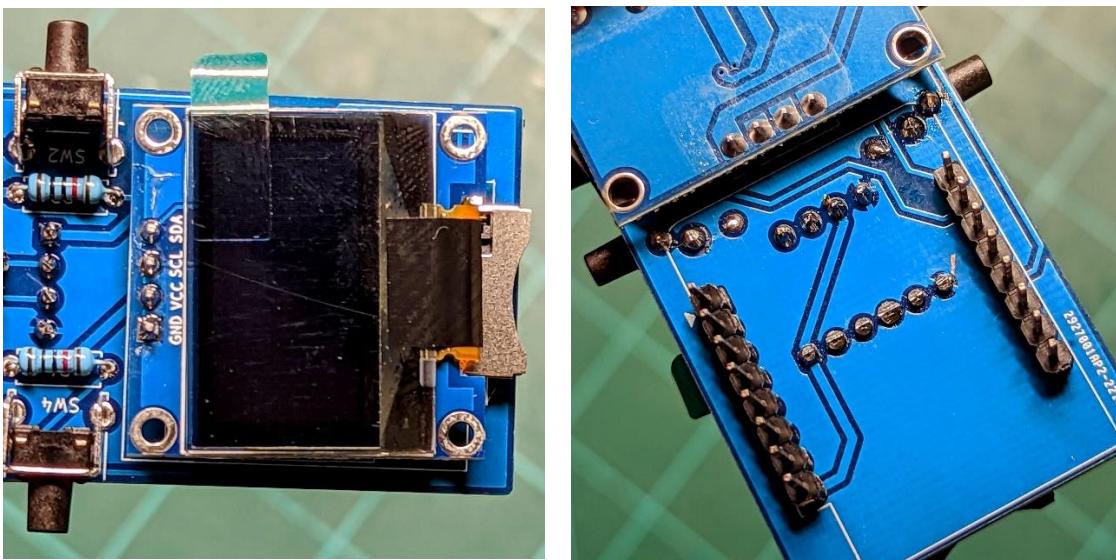
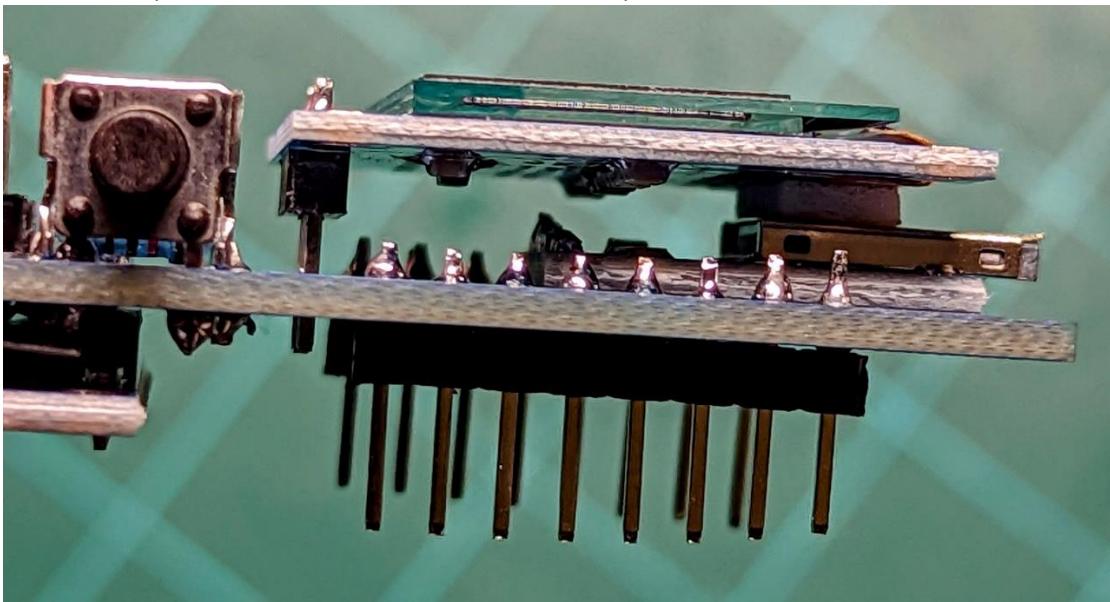
13. Remove the Wemos if you used it for spacing. This end of the PCB should currently look like this:



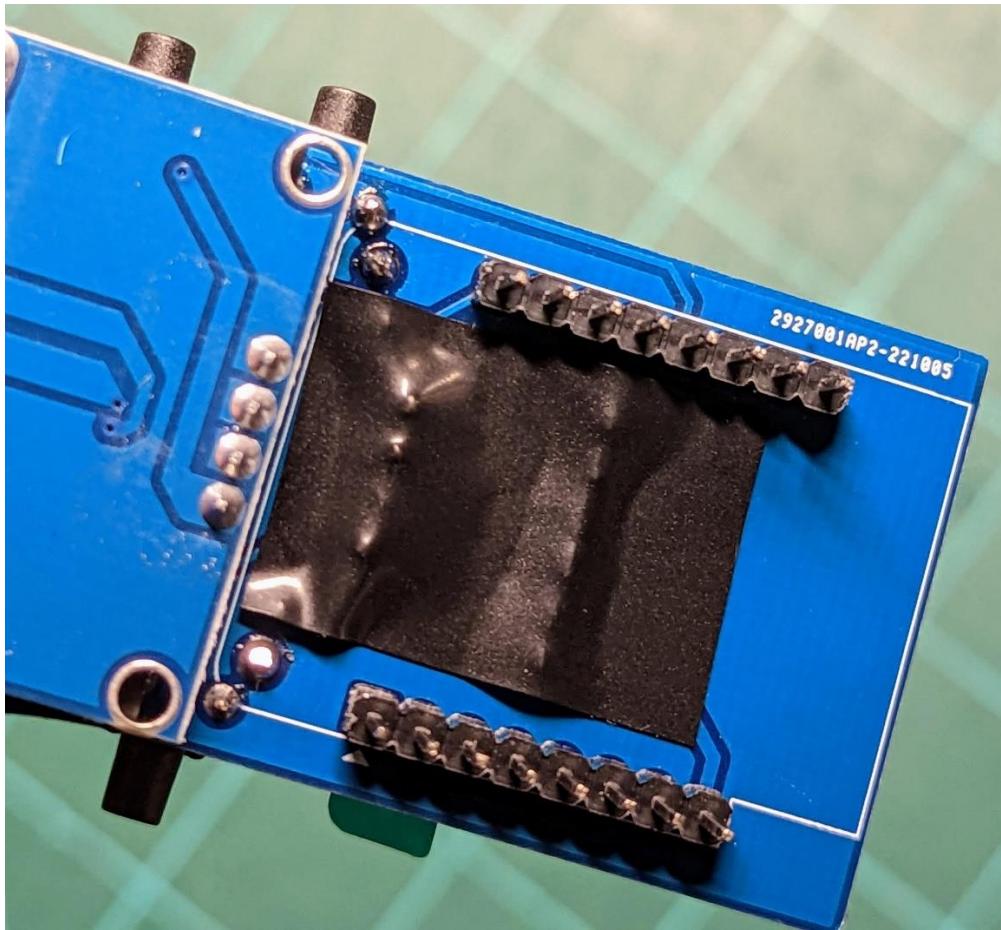
14. Trim a small piece of double-sided mounting tape, place on top of the SD reader module as shown.



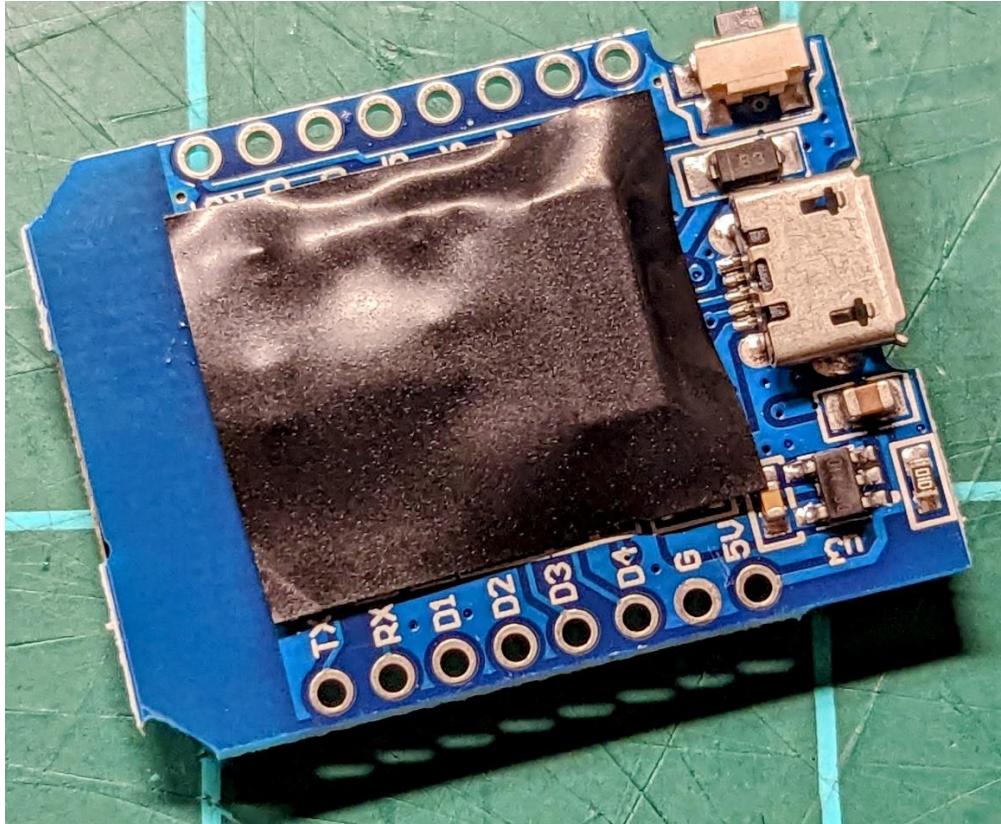
15. Align the screen as shown below. Bottom of the screen will rest on and stick to the mounting tape. Solder the 4 points from the bottom and trim these pins.



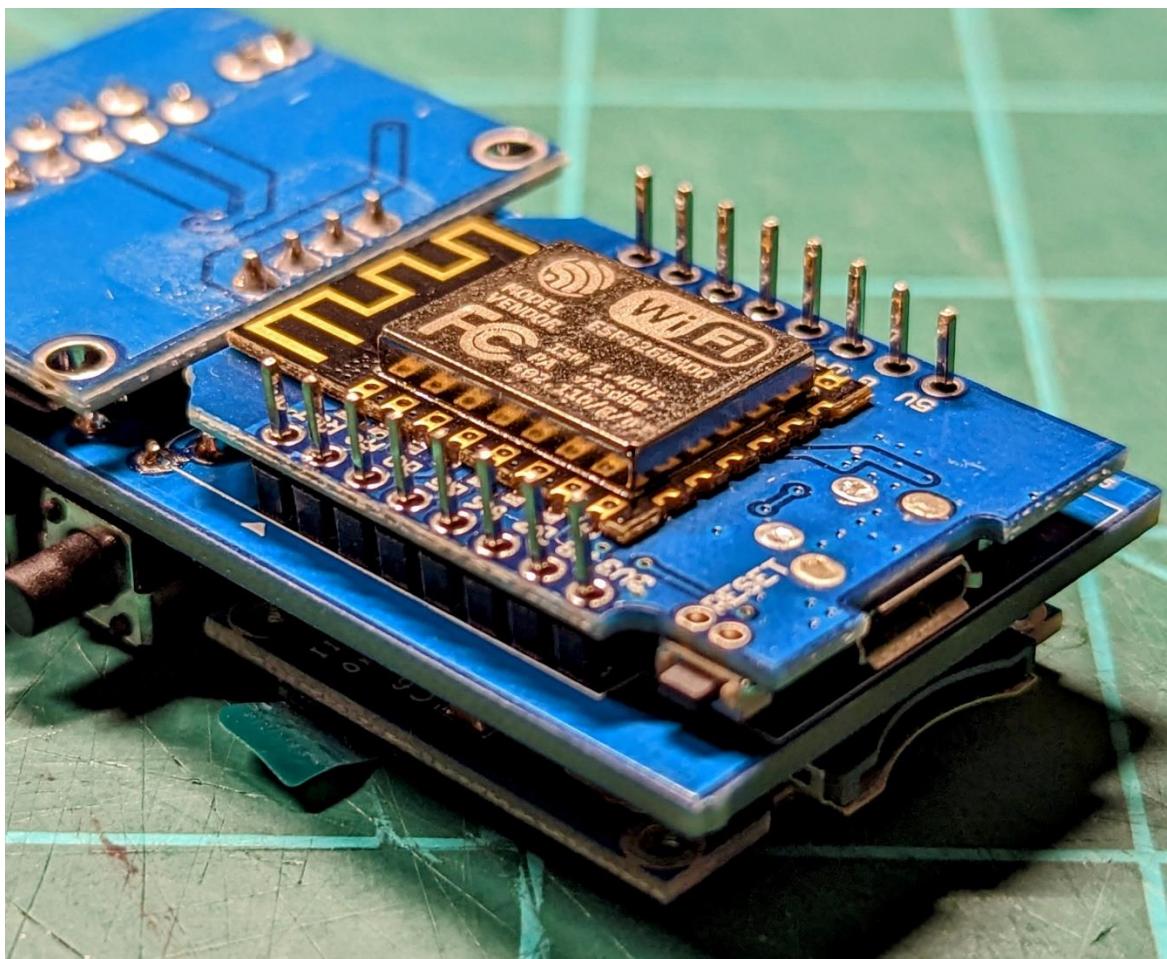
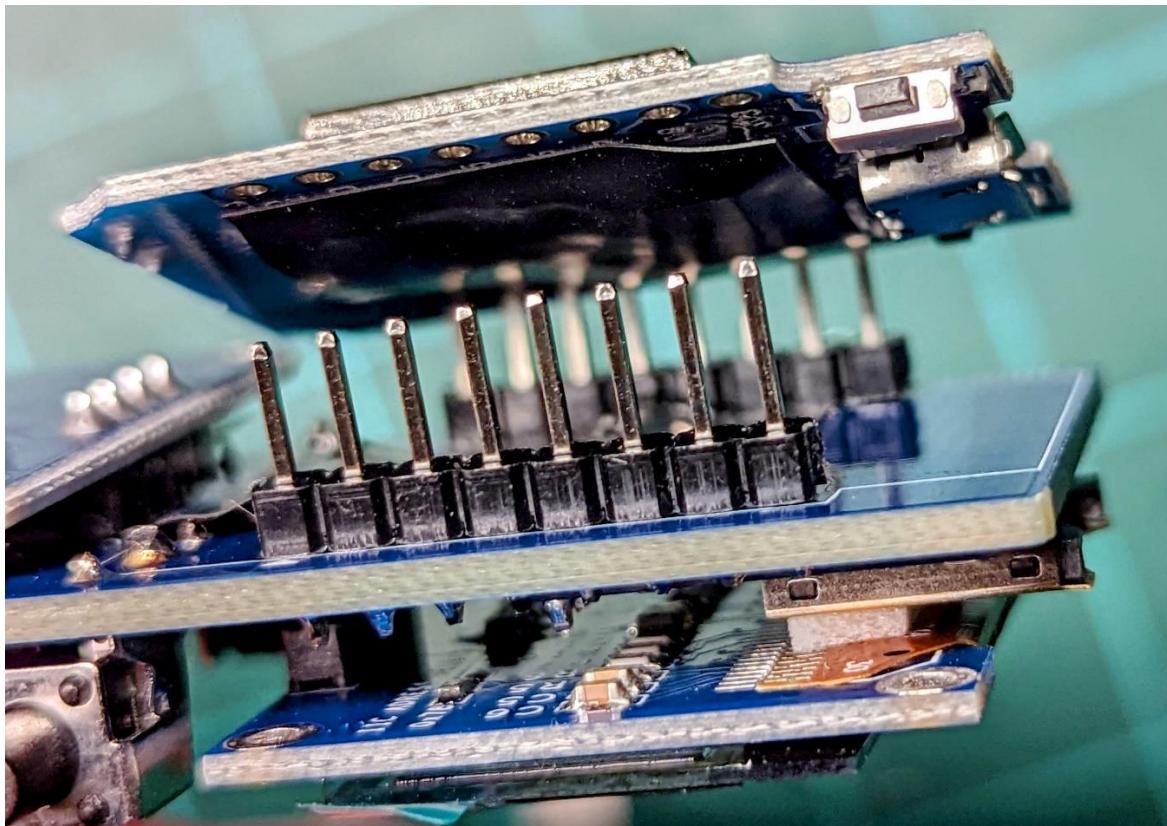
16. Cut a piece of electrical tape and apply over the screen / SD solder points area.

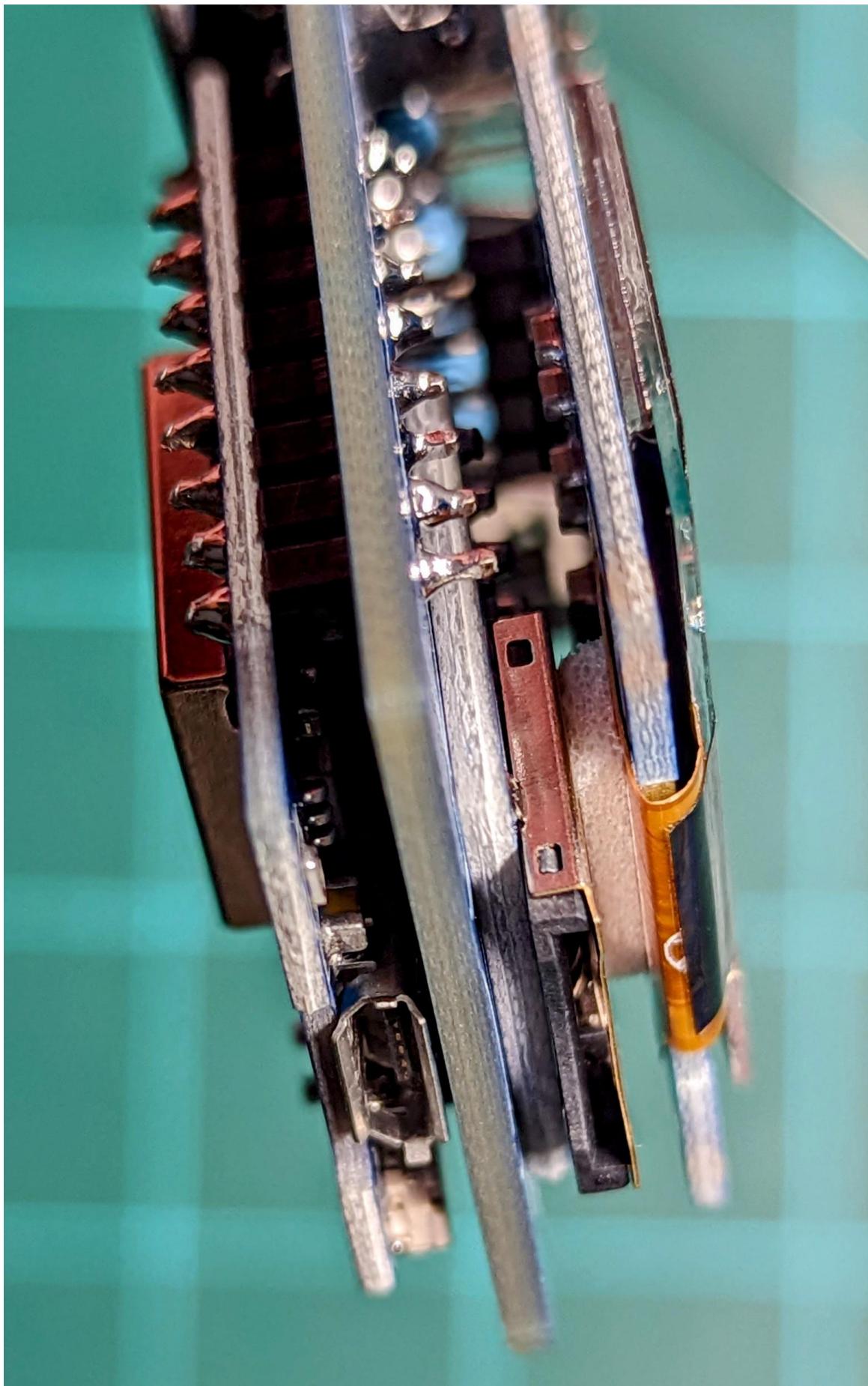


17. Cut another piece of electrical tape and apply it over the middle circuitry of the Wemos as shown. This gets applied to the side with the USB port (not the side with the silver WiFi module)



18. Place the Wemos into both 8-pin headers, aligned as shown. Study the pictures below. The USB port will be “sandwiched” between the Wemos and the WiRSa PCB.





19. Solder all of these points now and trim the pins.



20. Insert the 2 white jumpers. For normal operation, the jumpers should be installed. Remove them when flashing the firmware, as the RS232-TTL can sometimes cause interference.

**Congratulations! Assembly is now complete. If you purchased the kit, the Wemos will be preprogrammed and ready to use. Default Baud Rate will be 9600bps but this can be changed in the menu system. Below are some pictures of the final assembled product.**

