

# **Assembly Instructions**

## **Required materials :**

### **Case**

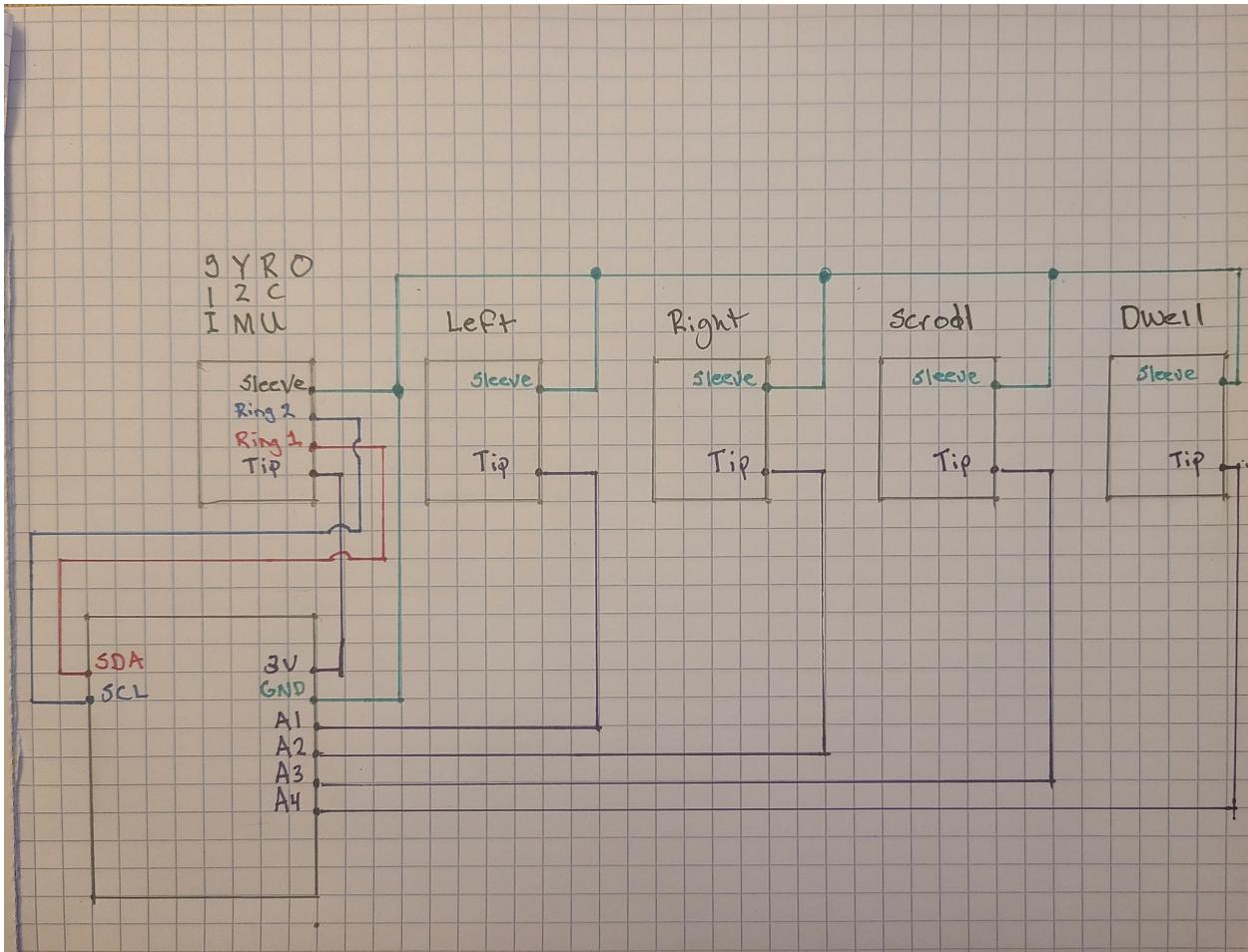
Case - 3d printed case.stl x1  
Lid - 3d printed lid.stl x1  
Adafruit Feather nRF52840 Express x1  
3.5mm socket 4 pole TRRS x5  
Power switch x1  
Lithium ion polymer 3.7v battery x1  
JST PH 2-pin female cable x1  
JST PH 2-pin male cable x1  
Solder tubes x4  
M3 by 25mm flathead bolts x4  
M3 nuts x4  
M2.5 by 10mm bolts x2  
M2.5 nuts x2  
Hookup wires

### **Gyroscope and Earpiece**

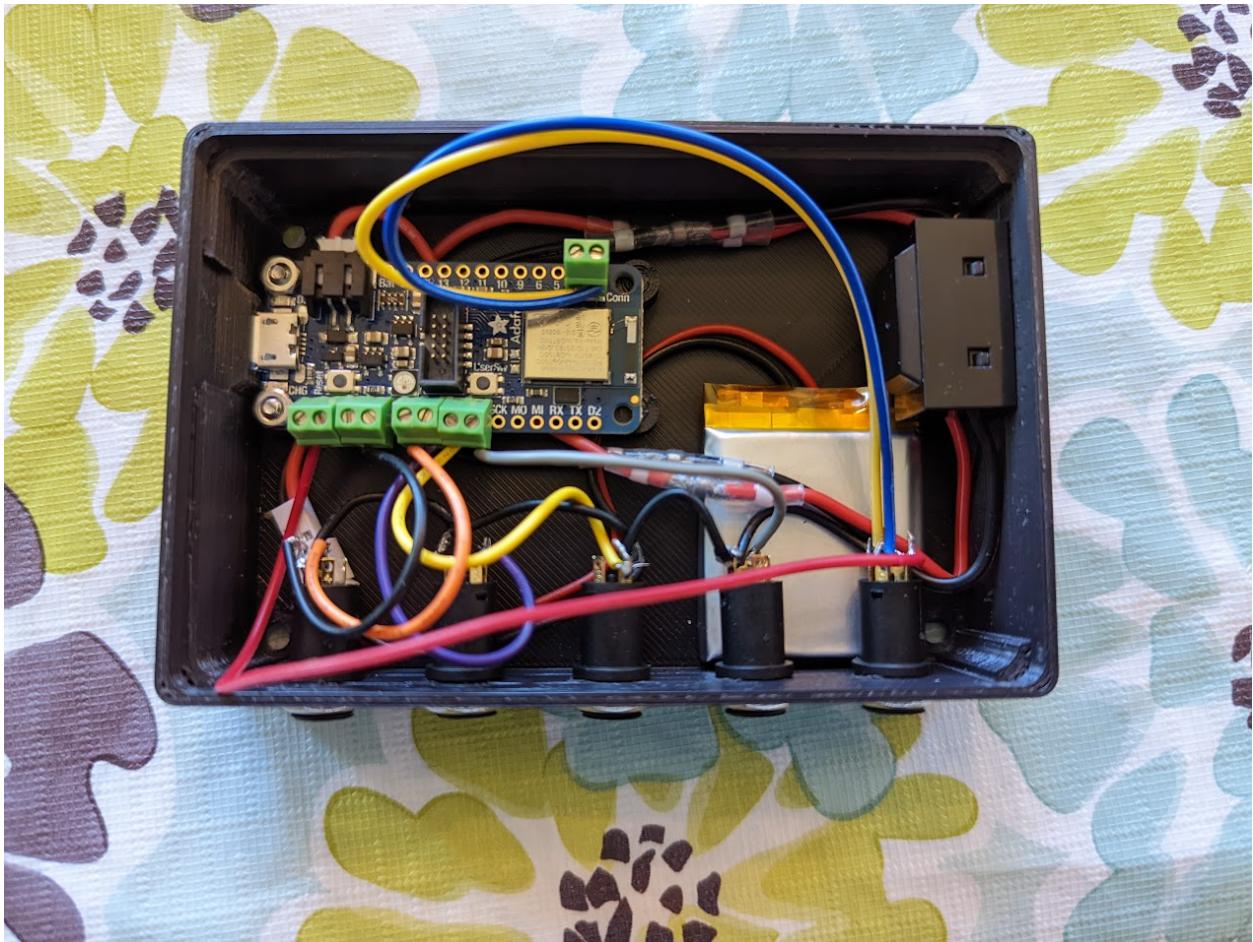
gyro cover.stl x1  
earpiece.stl x1  
Adafruit LSM6DSO32 x1  
STEMMA QT 4-pin cable x1  
3.5mm male plug to bare wire 4 pole x1  
Solder tubes x4  
M1.7 electronics screw x4

## Case

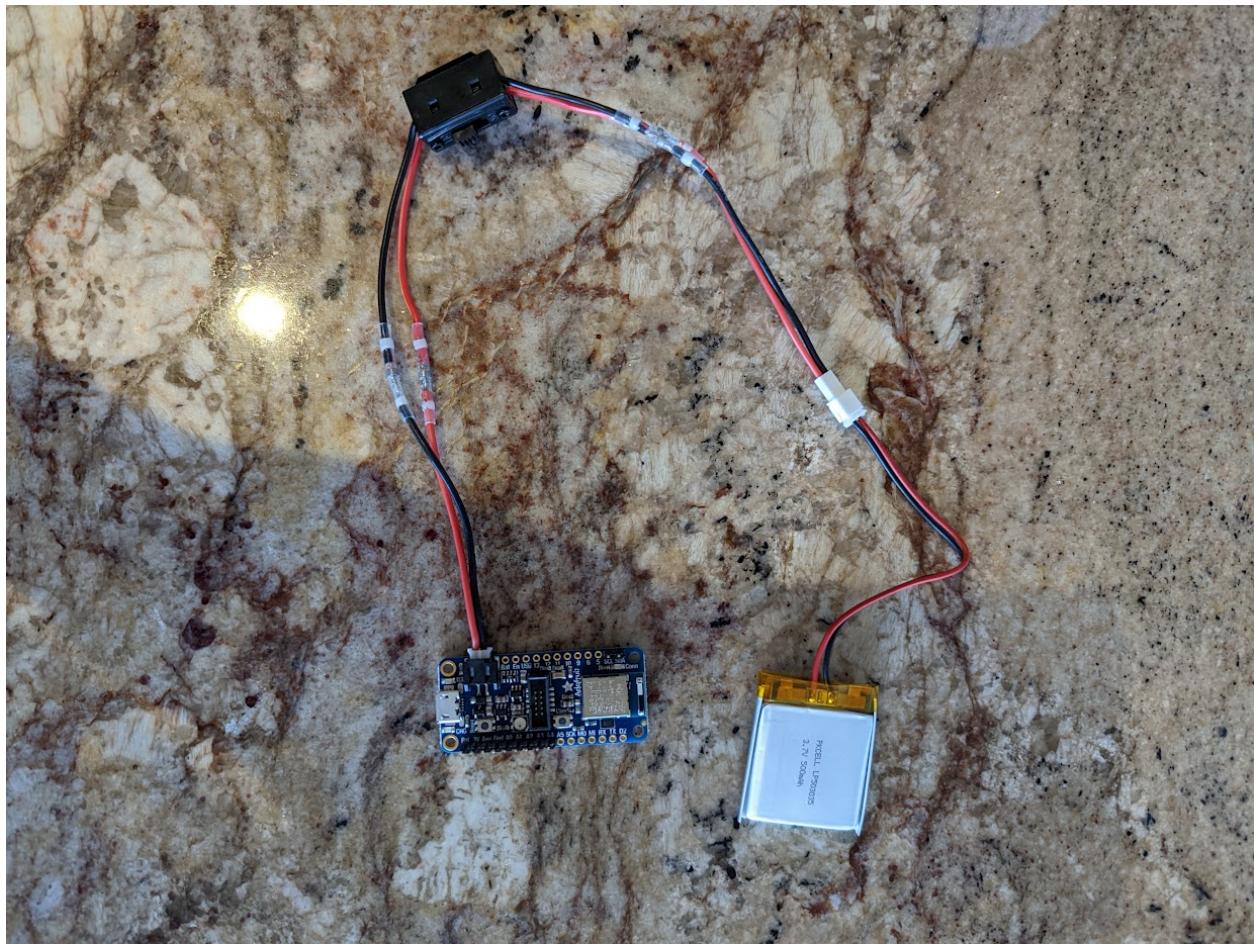
1. Wire the 5 3.5mm sockets



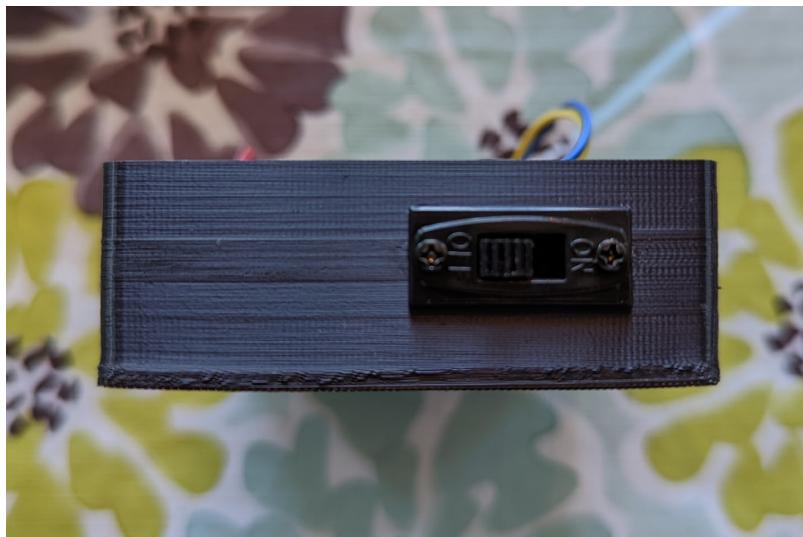
\*\*\*note the diagram above should use A2, A3, A4, A5. A1 is not used.



2. Solder screw terminals to nRF52840
3. Wire 3.5mm plugs to nRF52840
4. Splice JST PH cables(female and male) using solder tubes
5. Connect battery, power switch and nRF52840 feather



6. Use M2.5 bolts and nuts to attach the nRF52840 feather to the case
7. Secure the 3.5mm sockets to the case with the panel mount nuts
8. Secure the power switch to the case by removing the two screws and faceplate and reattaching through the holes in the case



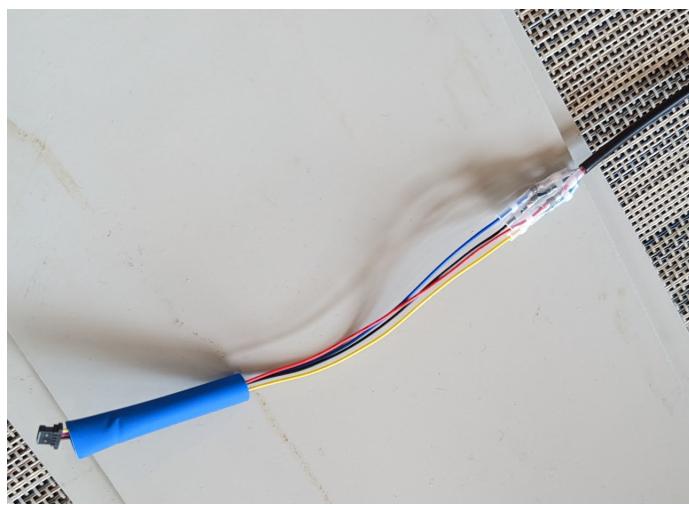
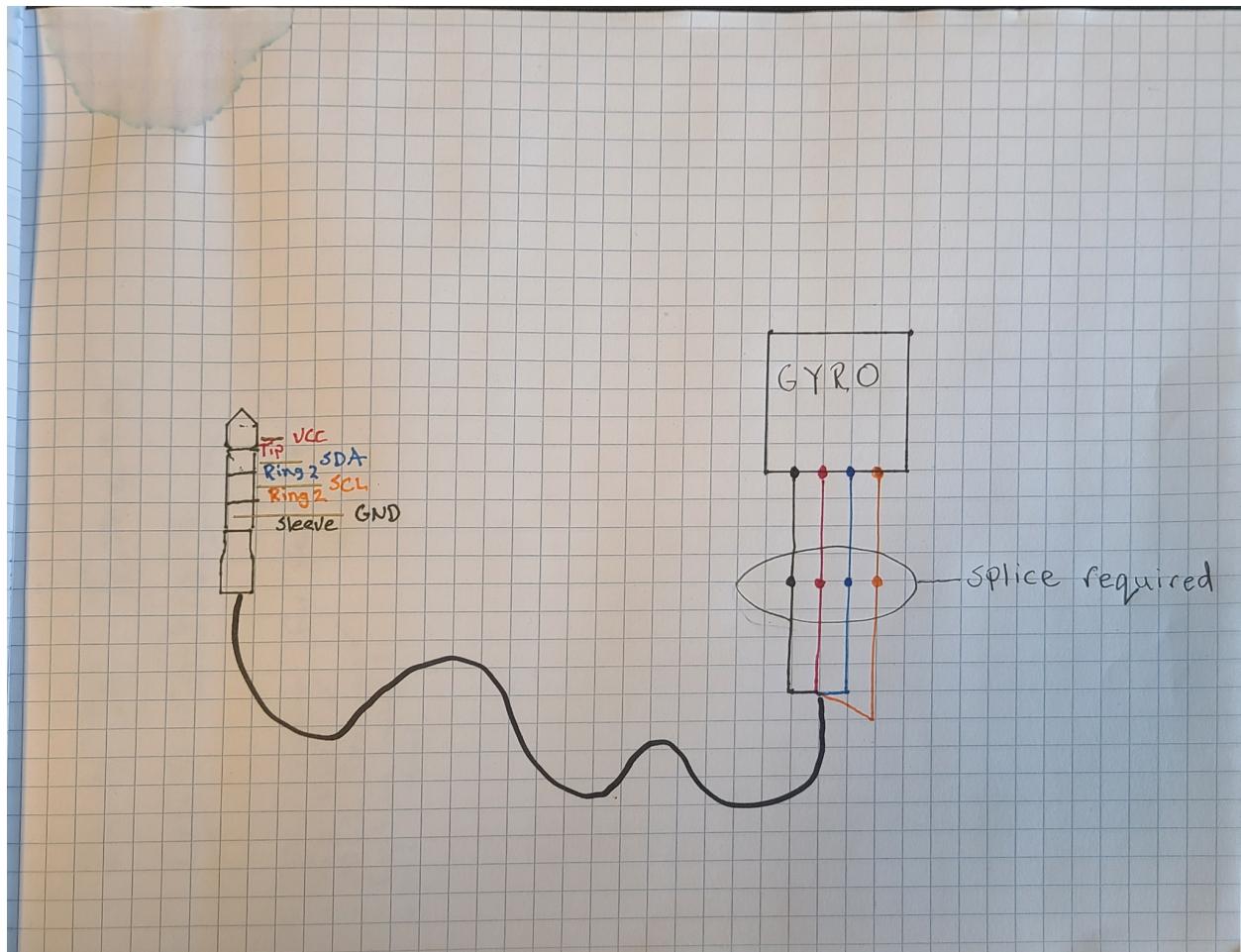
9. Secure lid with the M3 bolts and nuts



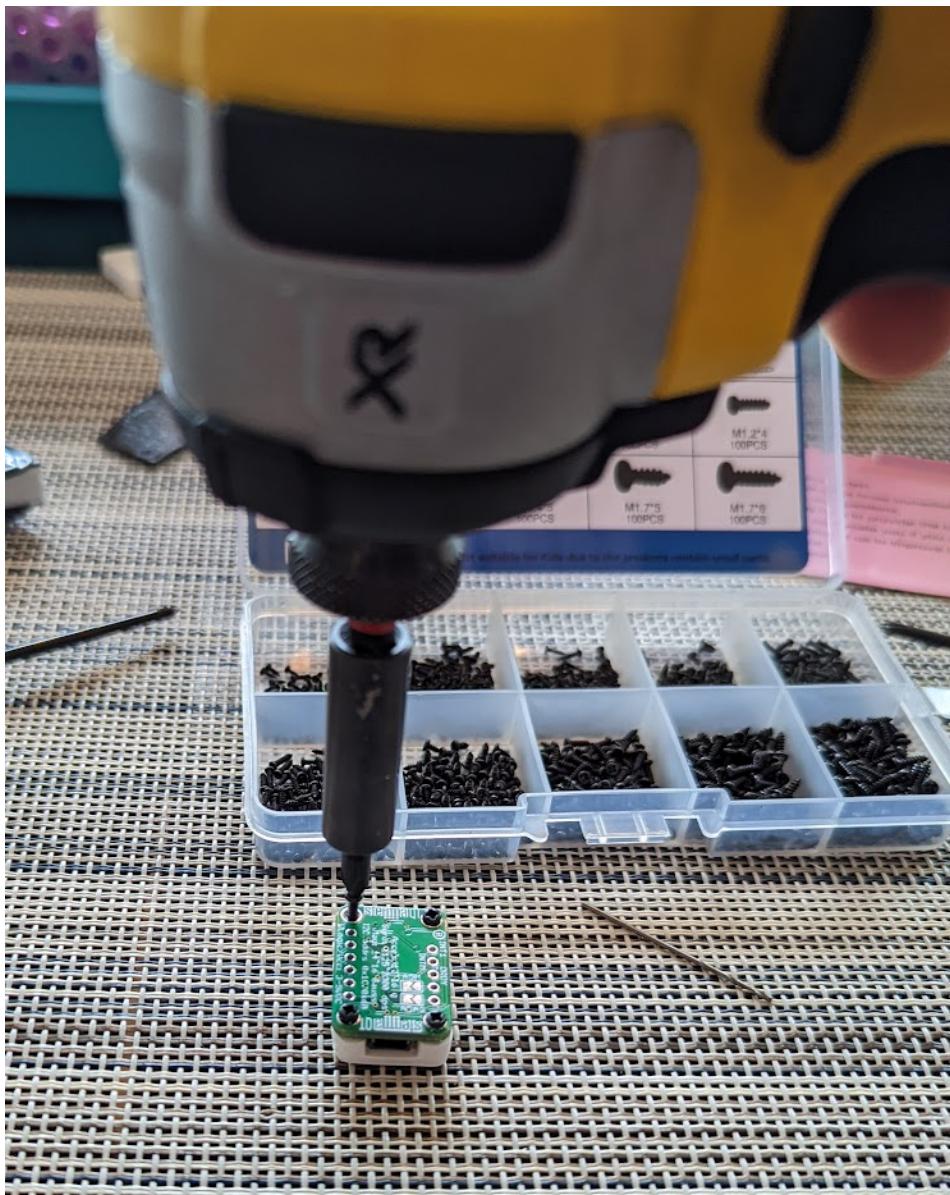
10. Apply velcro tape to the bottom of the case. This is used for mounting the case.

## Gyroscope and Earpiece

1. Splice STEMMA QT cable to 3.5mm male plug using solder tubes



2. Heat shrink to cover the splice3
3. Attach gyro cover to LSM6DSO32 gyroscope with m1.7 screws



4. Apply velcro tape to gyroscope and the flat side of the earpiece

