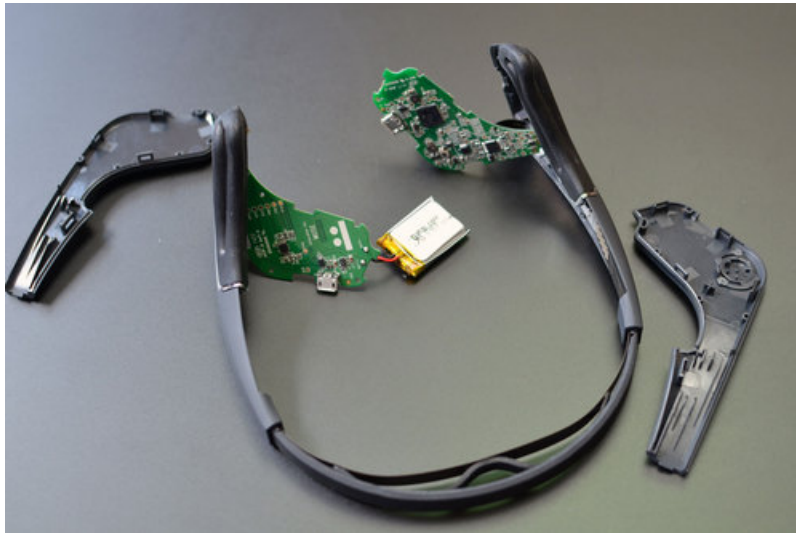




Muse Headset Teardown

Created by Becky Stern



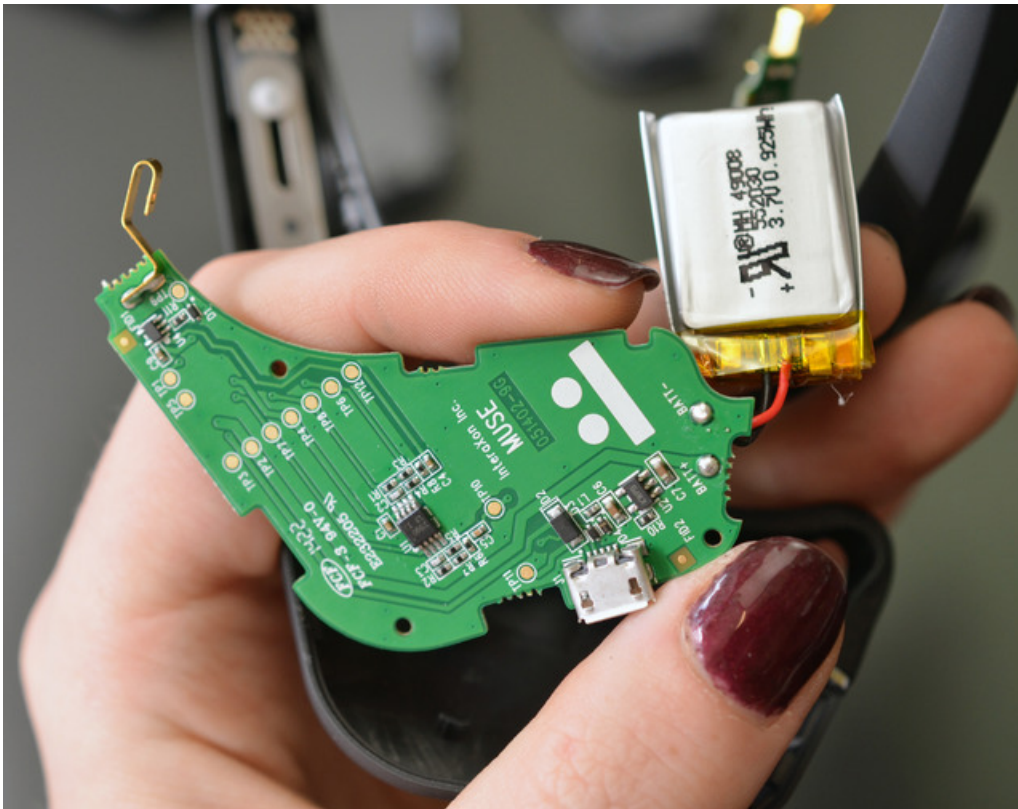
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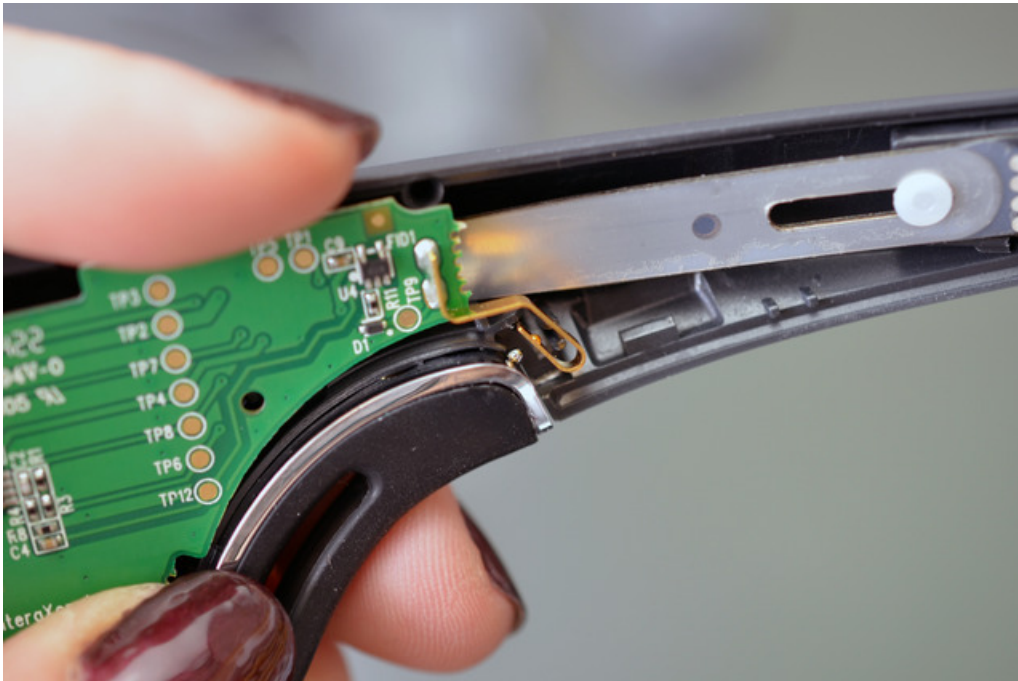
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Inside the Muse

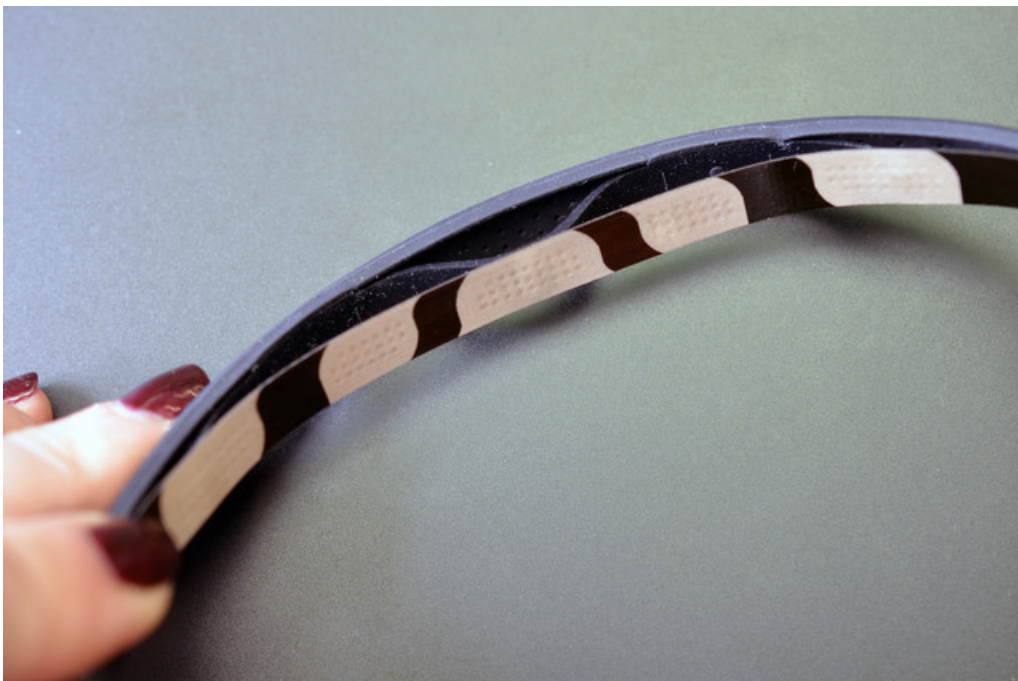
Muse is a brain sensing headband (<https://adafruit.it/fyW>) for assisted meditation. It pairs over bluetooth with your phone to guide you through a meditation session with realtime feedback on your brain's activity, followed by some stat tracking that helps you improve your calm over time.



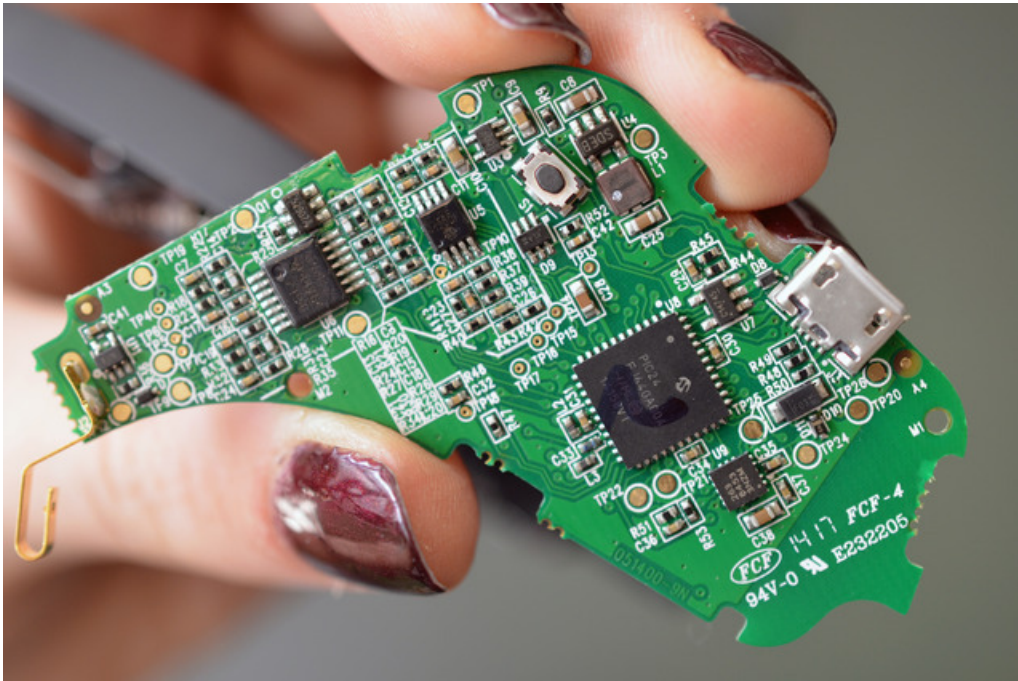
Disassembly revealed a circuit board behind each ear. This side contains the battery and charging circuitry, as well as an opamp and several test points.



The traditional circuit boards are joined to a flex circuit with a sophisticated adjustable metal piece. A small clip extends down to connect to the metal part of the exterior enclosure, which provides contact to the conductive rubber over-ear sensor.



The flex circuit also contains the forehead electrodes.



The other circuit board contains the analog sensing circuitry, microcontroller, and bluetooth module.



The chips we found on the board:

- PIC24 microcontroller
- MMA8453 accelerometer
- OPA4374 quad CMOS opamp
- MCP6L02 precision opamp
- RN42 Bluetooth classic module
- MFi33753959 iOS authentication chip

