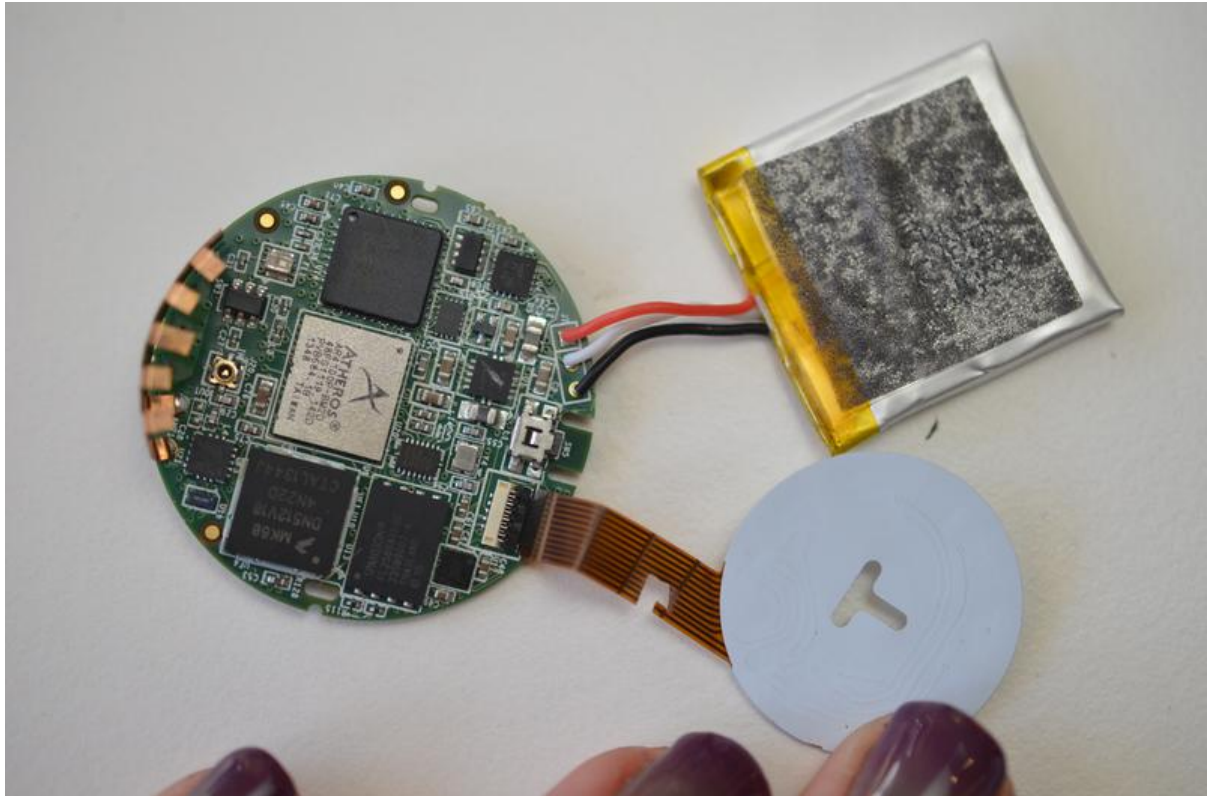




Whistle Dog Activity Monitor Teardown

Created by Becky Stern



<https://learn.adafruit.com/whistle-dog-activity-monitor-teardown>

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Table of Contents

[Inside the Whistle](#)

3

Inside the Whistle



The Whistle is an activity monitor for dogs. It clips onto the collar and tracks your dog's motion throughout the day. The Whistle joins your home wifi network to report stats to the iOS/Android app even when you're not home.

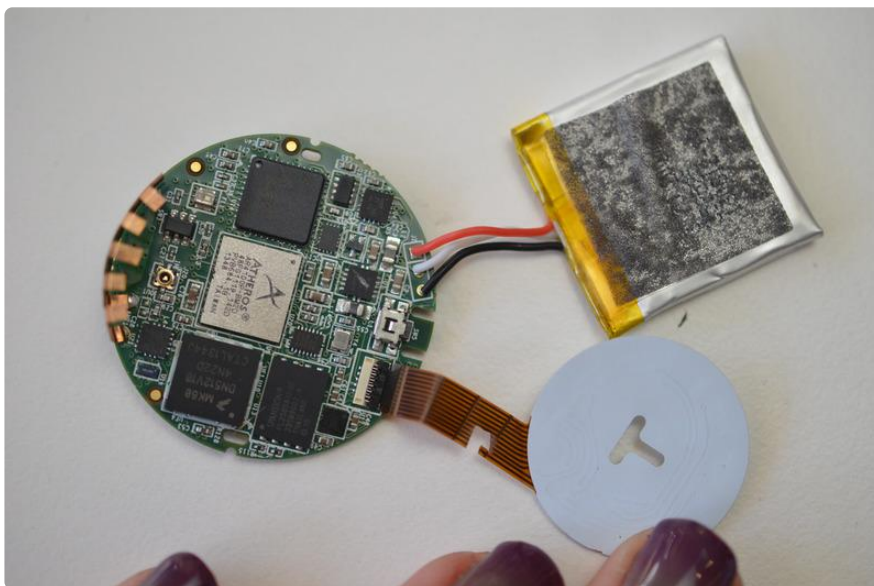
The Whistle also has bluetooth, and reports on who your dog was spending time with if you've added multiple owners to the device. It's also waterproof. So we wanted to get inside to see all the tech crammed into such a small space.



The Whistle charges with a special USB charging port containing pogo pins. The pogo pins press up on metal tabs in the waterproof enclosure to cause contact to the circuit board for charging, but stay not connected when the device is in use.

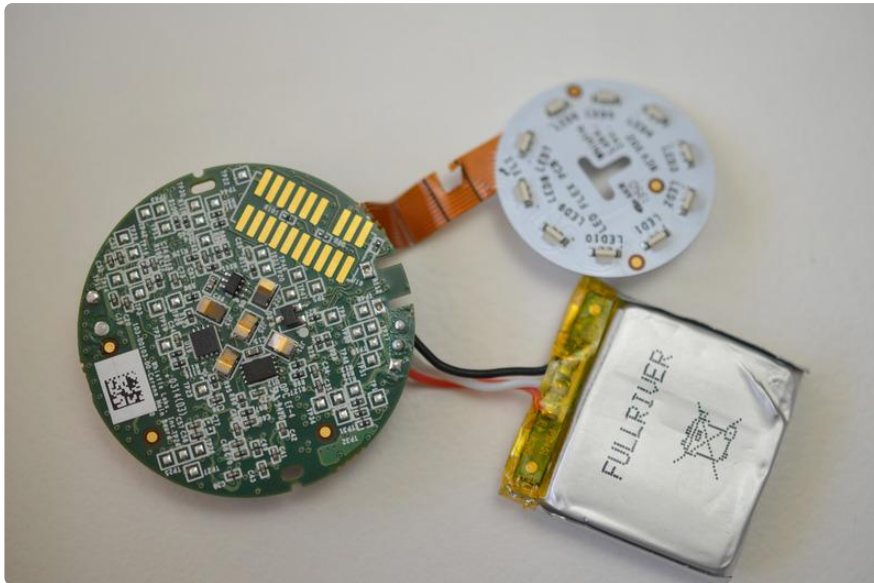


After prying off both bits of metal, we found a glued plastic disc on top that diffuses the LEDs and keeps the water out. This was hard to remove, and we did our best not to mangle the device by carefully cutting into it with flush diagonal snips.



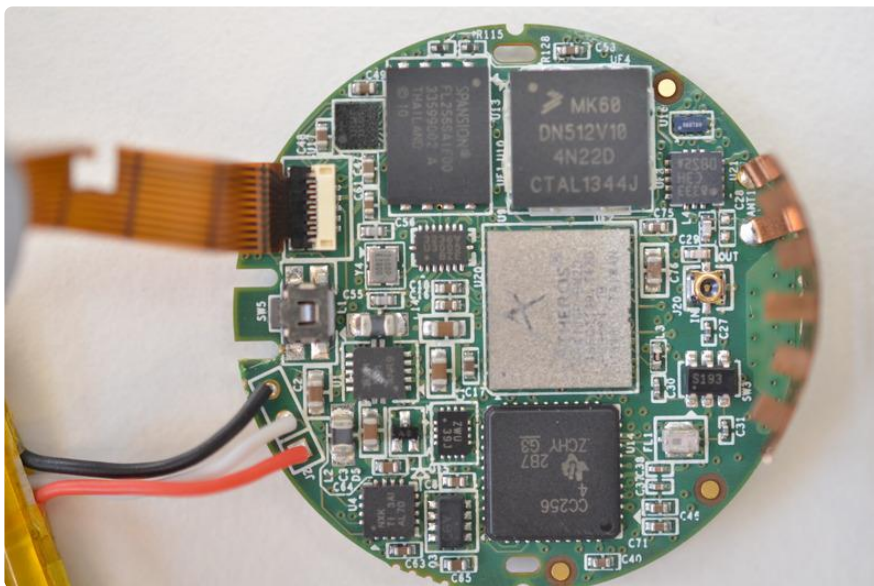
This is the circuitry after being removed from the plastic enclosure. We mangled the flex connector to the LED PCB during disassembly. The rechargeable lipoly battery is labeled 200mAh and has a third wire attached for temperature monitoring. In this photo the text is clearly legible on the Atheros chip (click any photo to enlarge).

- Atheros AR4100 integrated wifi module



This is the back of the board, where you can see the springy charging contacts, test points, and programming connector.

The flex PCB contains the ten LEDs used for different indications during Whistle's operation.



This photo makes it easier to read the labels on the non-Atheros chips. In the photo above:

- Upper right big square: Freescale MK60DN512 microprocessor
- Upper left big rectangle: r32MB Spansion flash storage
- Lowest big square: Texas Instruments CC2564 dual bluetooth/BTLE module
- marked NXK: Texas Instruments lipoly charger
- marked C3H: LIS3DH triple axis accelerometer
- marked BYH: 3.3v and 1.8v buck converter