



# Withings Body Cardio Teardown

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Written By: November Five



## INTRODUCTION

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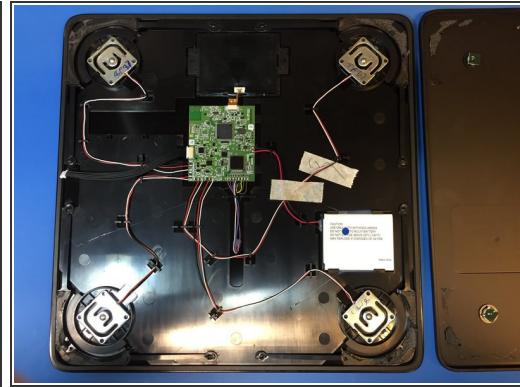
Please checkout the full post on:

<https://novemberfive.co/blog/hardware-te...>

### TOOLS:

- T3 Torx Screwdriver (1)
- Tweezers (1)

## Step 1 — Opening the scale



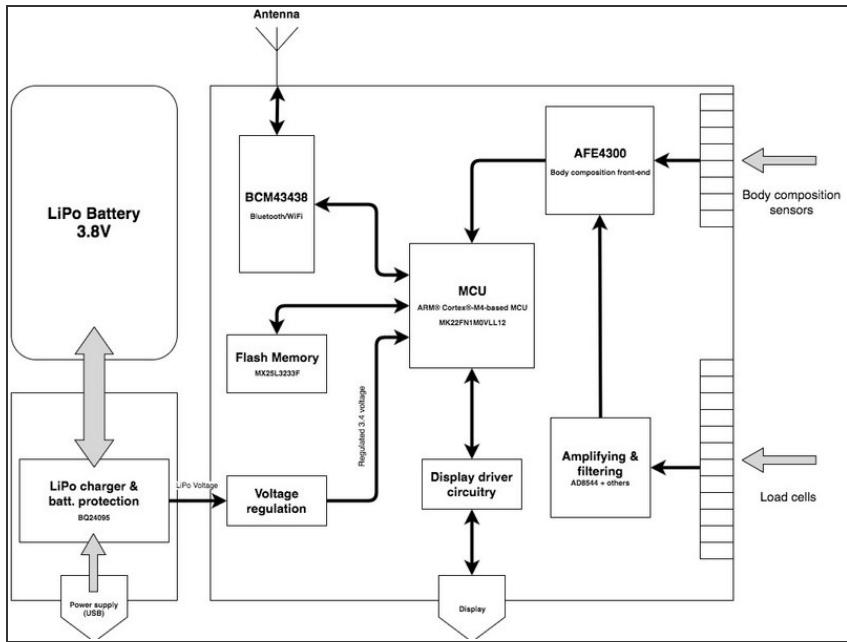
- Opening up the scale was not an easy task – there was a lot of double-sided tape involved.
- The back of the scale is fastened with four Torx screws – easy enough. The entire backplate, however, is glued to the front with double-sided adhesive cushions. Removing it simply involved pulling it firmly enough to break the adhesive, but not so hard as to break the connectors.
- With the backplate removed, you can immediately spot 4 loads cells, one in each corner.

## Step 2 — Main PCB



- ARM MCU - MK22FN1M0VLL12 (NXP)
- weighing scale and body composition front-end IC - AFE4300 (Texas Instruments)
- battery charging IC (including battery protection) - BQ24095 (Texas Instruments)
- WiFi and Bluetooth radio - BCM43438 (Broadcom)
- flash memory - MX25L3233F (Macronix)
- op-amp - AD8544
- connector to the USB port PCB

## Step 3 — Block diagram



- I've made an attempt to design a block diagram for the whole setup. This won't be 100% accurate as I don't know all the details but it will give you an idea on how the components are interlinked and work together.