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## INTRODUCTION

Welcome, Fairphone, to the world of wireless earbuds. We're about to tear down the company's first offering in this expanding category to see if it bears any familial resemblance to their [line of smartphones](#)—which consistently rank at the tippy-top of our [repairability scale](#). (No pressure or anything.)

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### TOOLS:

- [Spudger](#) (1)
- [Heat Gun](#) (1)
- [Vise](#) (1)
- [iMac Opening Wheel](#) (1)
- [iFixit Opening Picks \(Set of 6\)](#) (1)
- [Tweezers](#) (1)
- [Phillips #00 Screwdriver](#) (1)
- [Minnow Driver Kit](#) (1)

*optional*

## Step 1 — Fairphone True Wireless Earbuds Teardown



- We only just tore down the stellar [Fairphone 4](#), but we're not through yet. Let's hear what the Fairpods ahem, *True Wireless Earbuds* have to offer:
  - In-ear detection and touch control
  - Active noise cancellation with transparency mode
  - Bluetooth 5.3, A2DP, HFP, AVRCP
  - 10 mm / 32 Ohm drivers
  - IPX4 splash resistance
- These earbuds are not tied to an app—you can use them with any Bluetooth connection.
- For comparison (left to right): one each of the Fairphone Earbuds, AirPods Pro, Nothing ear(1), Samsung Galaxy Beans Buds Live, and Galaxy Buds+.

## Step 2



- We kick off disassembly with the most removable, and cleanable, bit: the flexible tips—much like you find on competing models, including [AirPods Pro](#). With three different size options, you've got a good chance of finding a set that fits.
- Next: hoping to keep it nondestructive, we aim for a likely seam and get slicing with an opening wheel—luckily no heat required!
- ❗ The plate we peel up has the touch controls mounted to it, but your taps are communicated via spring contacts, so no booby trap cables in sight!
- Inside, we can already spot the glued-in motherboard. Forcing it out seems unwise, so we'll backtrack a bit—and try what has become our standard opening procedure for the generally not-so-repairable earbud category.

### Step 3



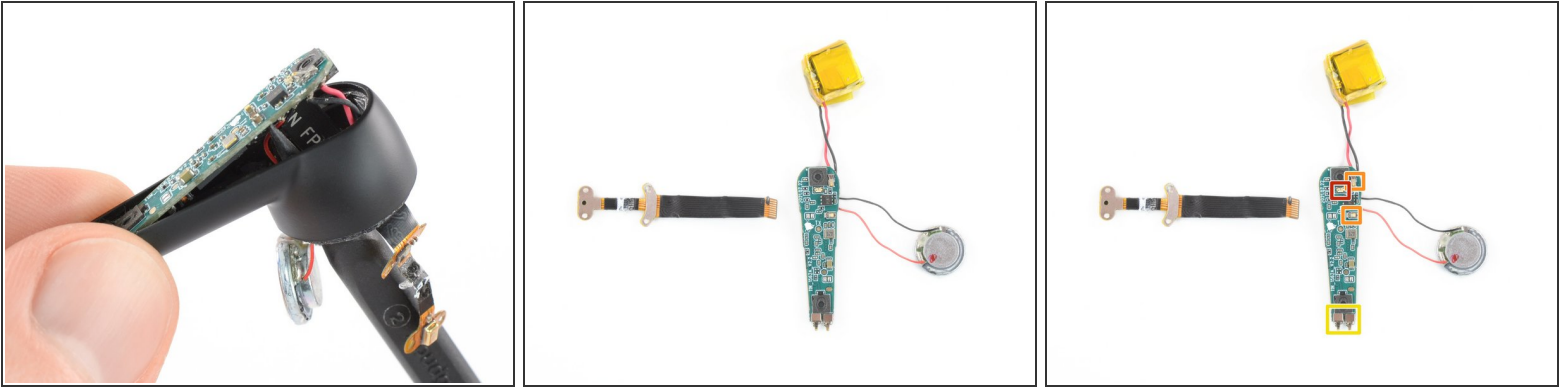
- Here we are [putting the squeeze](#) on the speaker portion of these buds, with help from our trusty bench vise. It deforms the buds' outer shell just enough to open up a seam—a chink in the armor, if you will.
- Pressure and heat makes diamonds, and also progress on our teardown.
- After some picking and prying, we peep a tiny battery pouch deep inside—but it's mostly tiny cables and solder in there.
- Now what?
- ⓘ Is it too early to say we already miss [Fairphone's visual aids](#) and [standard screws](#)?

## Step 4



- We opt for battery removal—both because it gives more room to maneuver, and because this cell will someday need replacing anyway. (Fairphone [says](#) they're engineered to last "twice as long" as the competition, but that's [not really saying much.](#))
- The teeny tiny battery pouch measures only 10×9.8×5.6 mm, and delivers 0.1 Wh (50 mAh @ 3.7 V).
- ❗ That's on par with the battery cells in the [AirPods Pro](#). The new AirPods 3 bring 0.133 Wh to the table, while the [Nothing ear\(1\)](#) carry a 0.11 Wh battery.
- On our way to the driver (which is glued down in a super tight recess), we see the ribbon cable held captive by brackets—which in turn are secured by plastic rivets. With heavy hearts, we break out the [flush cutter](#)—it's about to get destructive in here.
- ❗ While we're no fans of glue, we're even *less* fond of destructive fasteners. At least glue can be reapplied!

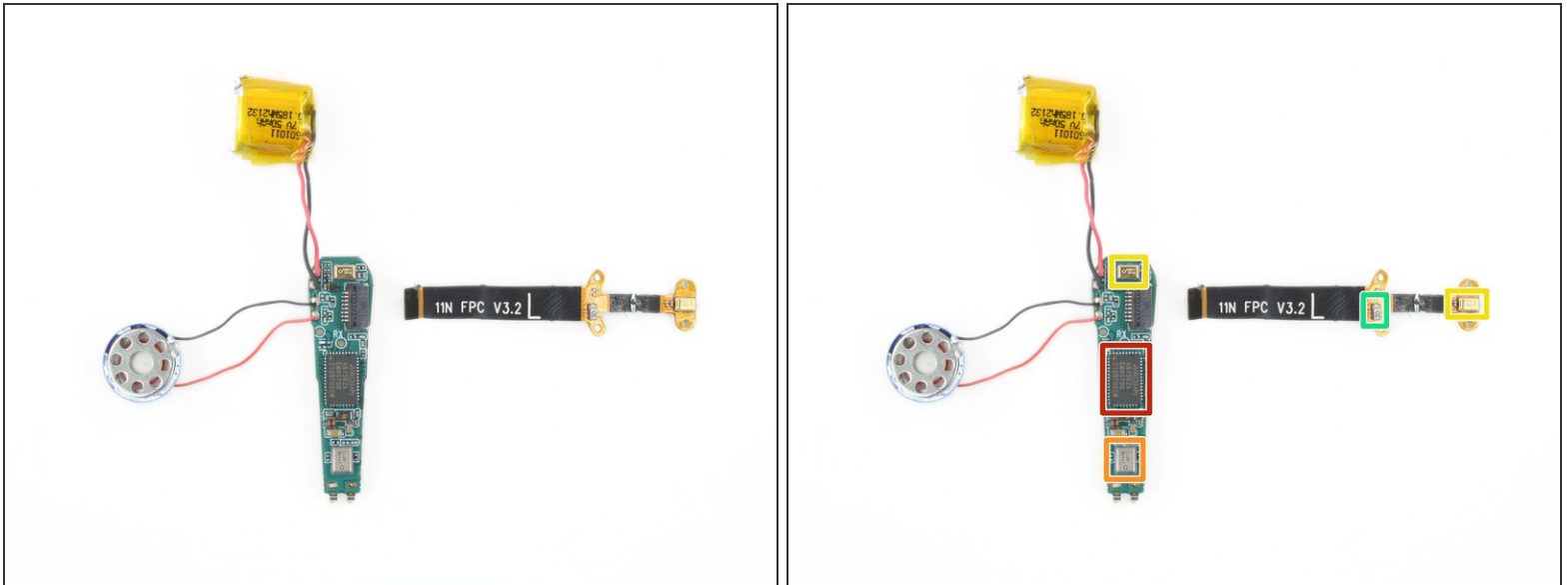
## Step 5



- Since at first we're not succeeding, we pry, pry again with some heat and a deft spudger. The buds finally give up their (decidedly non-modular) internals: motherboard, driver, and battery.
- On this side of the motherboard we find:
  - Indicator LED
  - Spring contacts for touch controls
  - Spring contacts for charging the buds in their case



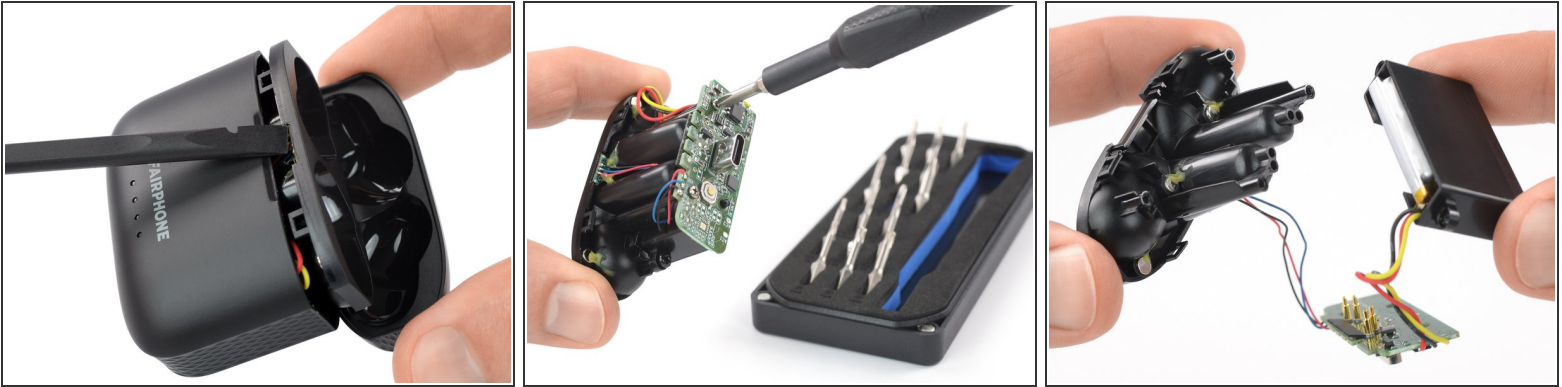
## Step 6



- The silicon is a little more fun on the reverse side:
  - [Airoha AB 1562](#) Bluetooth audio SoC (single chip solution)
  - Main microphone
  - Active noise cancellation microphones
  - Proximity sensor for in-ear detection

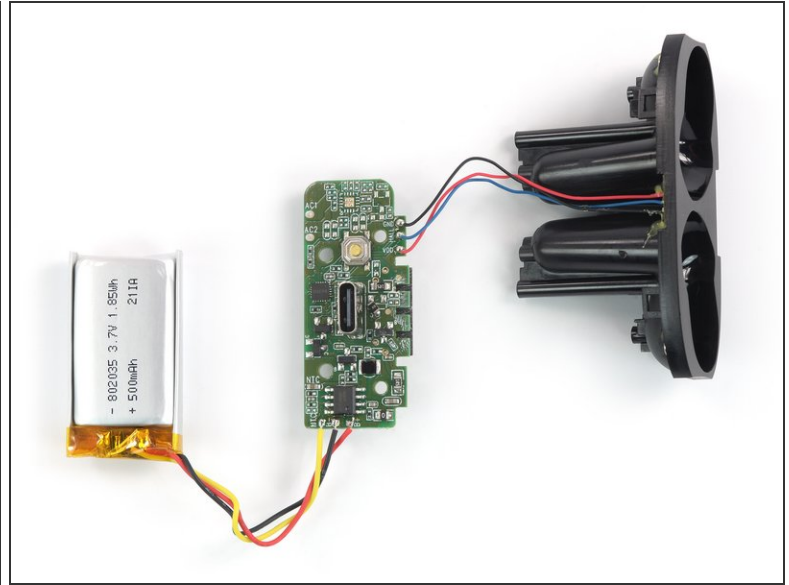
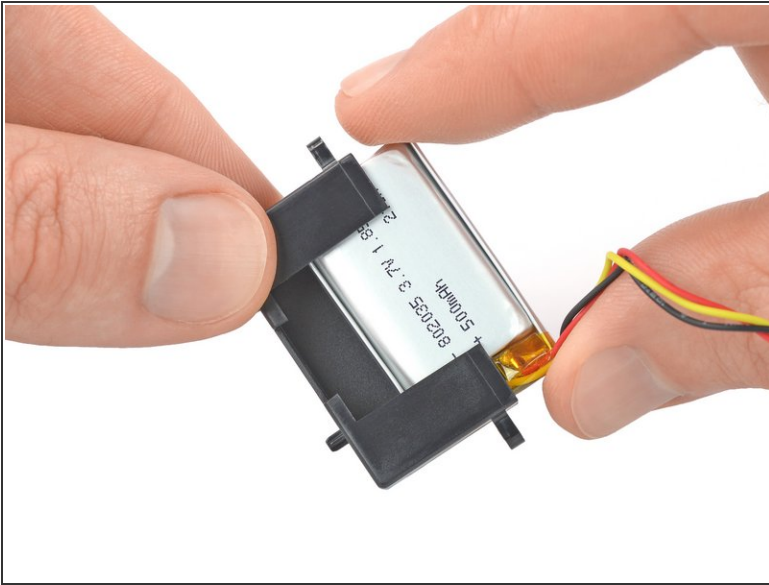


## Step 7



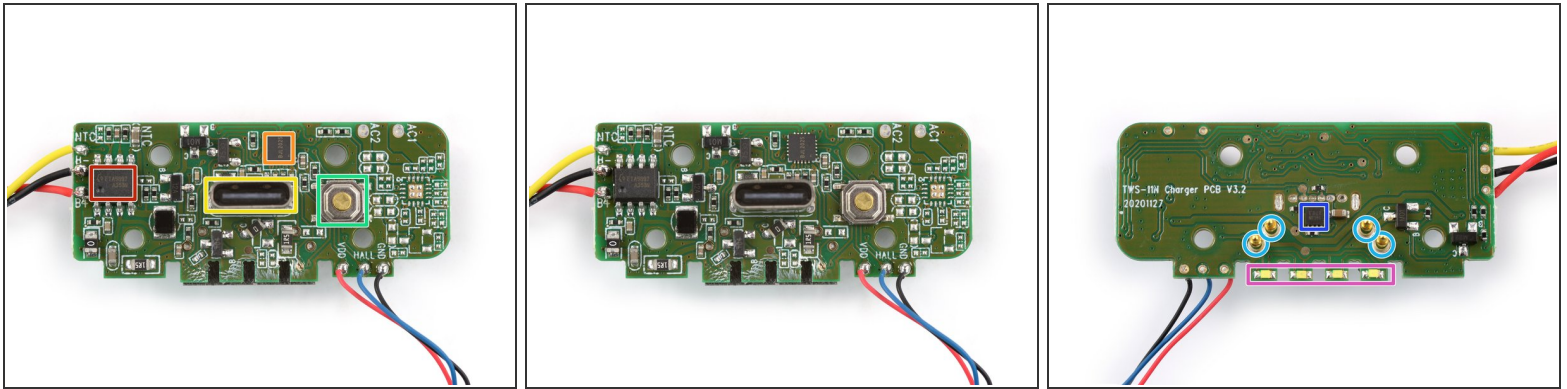
- ✦ The earbuds were a bit of a disappointment, we'll admit. Hopefully at least the charging case will prove more cooperative than some of those [other offerings](#).
- A spudger is all we need to move the insides outside—no glue, and no screws! We feel the optimism building.
  - Our [pocket-sized Minnow driver kit](#) is perfect for the Phillips screws in this compact case—the first screws we've seen so far.
  - Alas, separating the bits reveals a whole bunch of soldered cables. This case seems to be allergic to connectors—unless that battery pack is hiding some surprise?

## Step 8



- No adhesive for its protective sleeve, but this battery is certainly securely soldered.
  - ❗ It provides 1.85 Wh (500 mAh @ 3.7 V) which ought to re-juice those twin 0.1 Wh earbud batteries a handful of times.
- The rest of the cables are similarly soldered, we also spot a simple [hall effect sensor](#) up top to track the lid state (open/closed).
- ★ This charging case seems to have enough room for [no-fuss ribbon cables](#) and [power](#) connectors, without much risk of disconnection. Fairphone may have fair reasons, but repairs—and device life—will certainly suffer without these aids.

## Step 9



- Before we go, let's snack on some charging case chips:

- ETA Solutions [ETA9697](#) linear charger
- BJT2025
- USB Type-C charging connector
- Pairing button
- Pogo pins for charging earbuds
- Prisemi P14C1N OVP Load Switch
- Charge indicator LEDs

## Step 10



- Admittedly, we may have had inflated hopes for Fairphone's first earbud offerings—[earbuds are tough!](#) But we're still a little bummed these aren't easier-than-average to service.
- i That said, even the [Fairphone 1](#) had a lot to improve upon! Let's hope for a similar evolution.
- Fairphone is doing some things right with their earbuds' materials (Fairtrade Gold, and some recycled plastics)—and we're all for it! It just won't lengthen device life like repair does.
- But don't despair, their phones are still topping our wishlists—check out their latest [Fairphone 4](#).
- Read on to check out the repairability score, but we'll say right now, it's gonna be tough to beat [Galaxy Buds](#).

## Step 11 — Final Thoughts

### REPAIRABILITY SCORE:



- The Fairphone True Wireless Earbuds earn a **1 out of 10** on our repairability scale (10 is the easiest to repair):
  - The charging case is held together only by clips and standard Phillips screws.
  - While the earbuds can be opened with gentle prying, nothing inside is easily repairable.
  - The critical charging case and earbud components—including batteries and port—are soldered together.
  - Reliance on solder, plastic rivets, and clips make repair harder than the use of screws and connectors.