Boomphones Pocket Speaker Teardown

Let's take a look what drives this room-filling pocket Bluetooth speaker!

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介绍

The Boomphones Pocket Speaker is an interesting Bluetooth-enabled, portable speaker. It can easily fill a room with music while maintaining a small, pocketable form factor. What kind of sorcery does this little speaker is packing inside? Let's crank up the teardown, shall we?

工具:

- Philips head screwdriver (1)
- Flathead Screwdriver (1)

步骤 1 — Removing the Rubber/Silicone cover.



- The side of this super compact Bluetooth speaker is covered with a rubbery silicone cover.
  - From the outside, it looks like there are no screws to open this little monster. Maybe it's hidden under the silicone band surrounding the sides.
- The silicone band is secured with double-sided-tape-like adhesive to the plastic case.
  - We can remove this rubbery silicone cover by wedging a flathead screwdriver in between the plastic case and the silicone cover. Just be careful not to scratch the plastic case in the process.

⚠ Also, be extra careful when removing the silicone cover as the material can easily break if too much force is applied. Do not use tiny flathead screwdrivers.

- After some plying of the silicone band off case, continue peeling it carefully on all sides until it comes off completely from the plastic case.

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步骤 2 — Opening the plastic case.



- Finally, some screws! Let's crack open this baby with a Philips head screwdriver. There are a total of 7 screw holding the case together.

Yes, it is powered on because I love listening to music when tearing down electronics :D

Don't try this at home, folks! You may ended up shorting some components in the mainboard if you leave the power on during disassembly.

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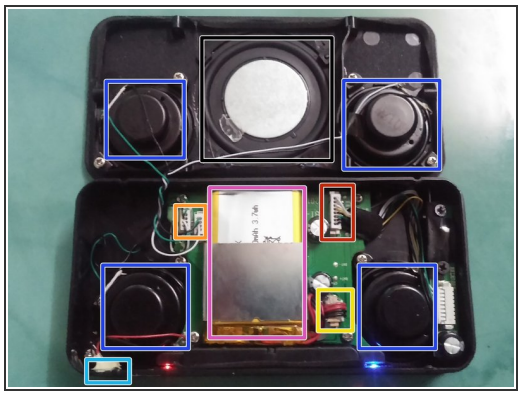
步骤 3 — First look at the mainboard and stuff,



- After all 7 screws are removed, we can easily crack this thing open. And voila! We can clearly see 4 speakers and the mainboard. The sides of the case has some kind of foam to make sure air moving inside the case can't easily escape to provide maximum vibration to the passive radiator.
  - 4 tiny speakers
  - One of the two passive radiator
  - 3.7 Wh Lithium Ion Battery. Rated for 8 hours of continous usage by Boomphones
    - If we assume the battery Voltage is 3.7 V, it means the battery has a 1000mAh capacity.
  - Battery connector
  - MicroUSB charging & audio input connector
  - Speaker connector

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步骤 4 — Speakers

- Each speaker is rated at 8 ohms and 1.2 watts. Combined, it makes 4.8 watts of audio power. This baby boombox packs some serious punch.
- After removing 2 Philips head screws, the speaker can be pulled from the case.

ⓘ Look at how tiny it is!

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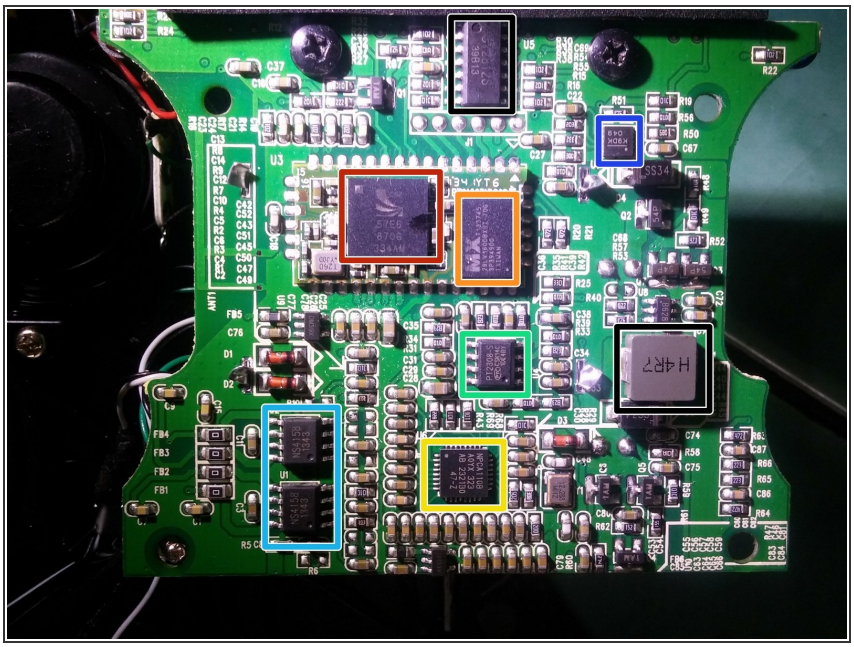
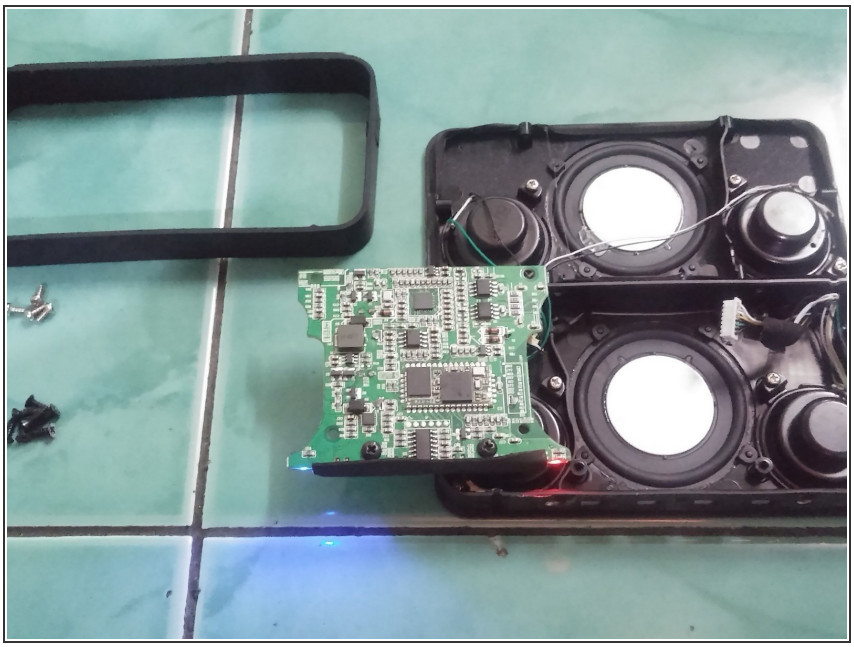
步骤 5 — Mainboard



- Removing 4 Philips head screws on every corner of the mainboard enables us to lift it off and see what's hidden behind it.
  - CSR 57E6 Low power consumption Bluetooth chip
  - MX29LV160DBXBI-70G 16M flash memory chip
  - Nsiway NS 4158 2.6W Mono Amplifier (one for each stereo channel)
  - Nuvoton NPCA110B Audio Enhancing Engine and Codec. It uses Waves MaxxAudio enhancement to combat distortion in high volume levels
  - PTC PT2308 Class AB stereo headphone driver chip
  - Unidentified IC, presumably for power management and battery charging
  - Unidentified IC and big inductor for power regulation

步骤 6 — Finish



- This pocket speaker is relatively easy to teardown, I give it 9/10.
  - The battery can be easily replaced by twisting the retaining clip on the mainboard
  - Standard Philips head screws make opening easy
  - Minimal adhesive (not too strong) on the outer silicone cover
  - No detailed documentation on the electronics and official teardown guide

To reassemble your device, follow these instructions in reverse order.