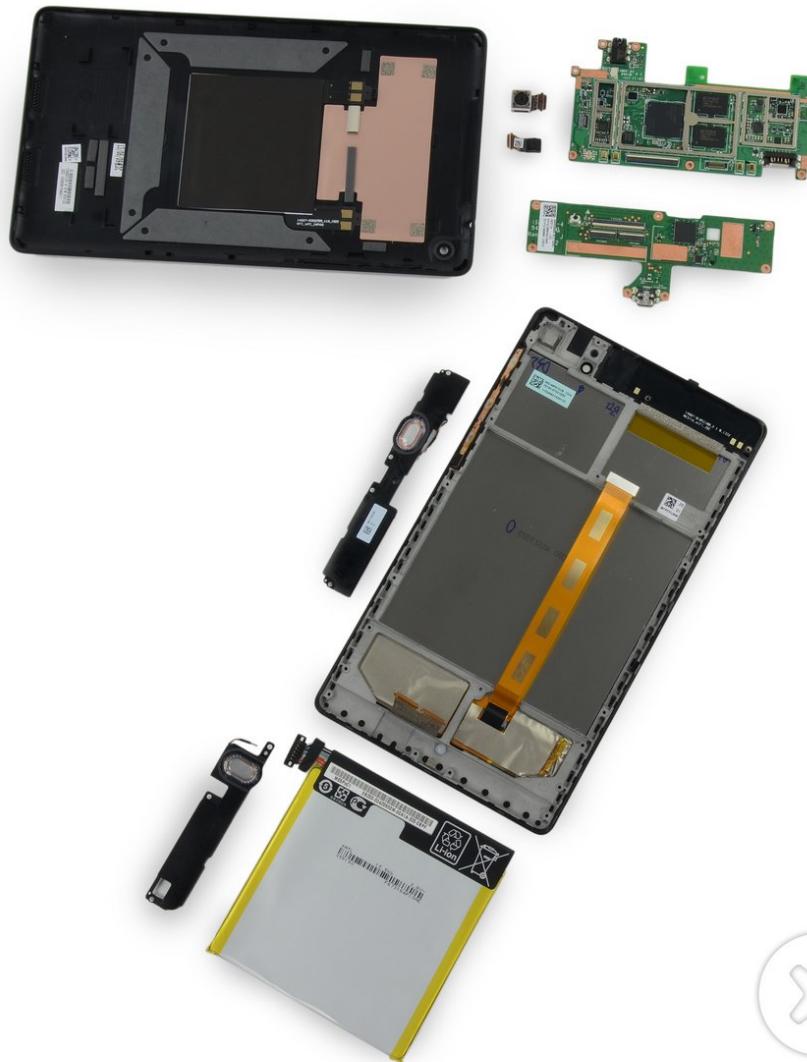




Nexus 7 2nd Generation Teardown

We took this tablet apart on 7/26/13.

Written By: Walter Galan



INTRODUCTION

Heads up, Nexus 7's up! We didn't get enough Google this morning with the [Chromecast](#), so we're back at it tearing into the second iteration of Google's Nexus 7 tablet. Without even allowing our spudgers time to cool down, we eagerly dove into the deep, dark depths of the newest tablet.

We're tearing down devices faster than molasses in January, and misquoting idioms like it's everybody's business. So don't miss out: [Instagram](#), [Twitter](#), and [Facebook](#) will keep you in proximity of the crazies that create these teardowns!

TOOLS:

- [Phillips #0 Screwdriver](#) (1)
- [iFixit Opening Tools](#) (1)
- [Spudger](#) (1)

PARTS:

- [Nexus 7 \(2nd Gen Wi-Fi\) Screw Set](#) (1)

Step 1 — Nexus 7 2nd Generation Teardown



- Seven tech specs about the Nexus 7? Sure, we can do that!
- 1.5 GHz Qualcomm Snapdragon S4 Pro processor
- 7-inch 1920x1200 IPS LCD screen
- 2 GB of RAM
- Adreno 320 GPU
- 5 MP rear-facing camera
- 1.2 MP front-facing camera
- Android 4.3 Jelly Bean

Step 2



- Comparing the second generation Nexus 7 to the first, we notice a drastic change in body type.
- The second generation (left) is thinner, narrower, and taller than its beefier predecessor, and lacks texture on the rear panel.
- Other obvious changes include the addition of a rear-facing camera, and an upgrade to stereo sound. There are now three grilles (serving two speakers): two at the base, and one up top.
- It also appears that while the micro USB port remains in place, the headphone jack has been...
transported.

Step 3

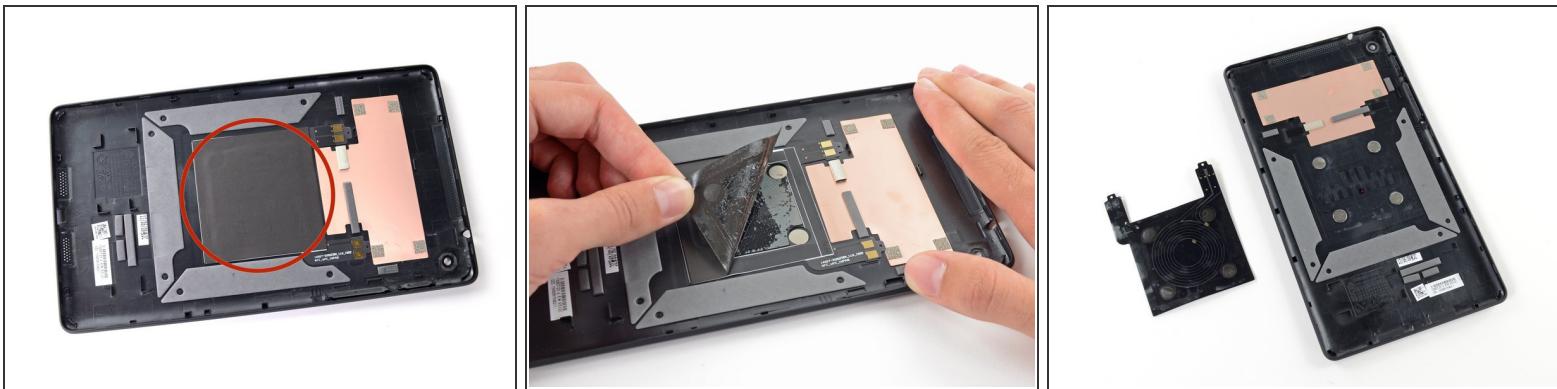


- The [second round](#) of rejoicing commences as the only tool we need to open this tablet is a plastic opening tool.
- Goodbye patience, goodbye warped glass, goodbye thermal opening—instant gratification for the win!

i A warning for Nexus 7 openers out there, our gentle procedure opened [a bit of a crack in the rear case](#).

- And...we're in, but not surprised. The first glance reveals a huge battery, the standard for tablets these days.

Step 4

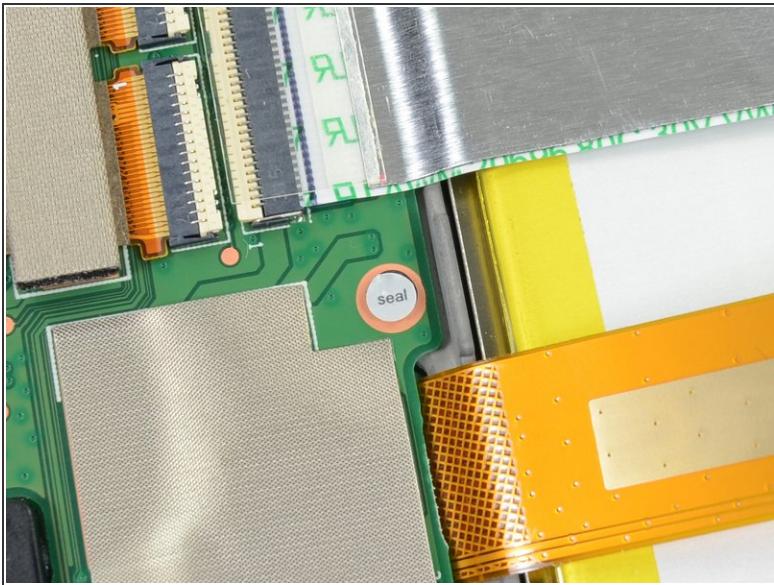
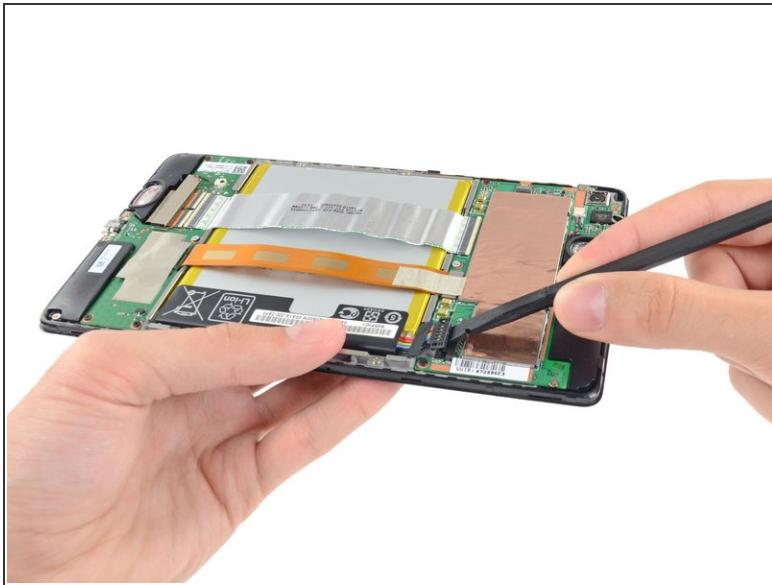


- But wait! There's more? An inductive charging coil?

(i) Hats off to the [great Tesla](#), forefather of wireless charging.

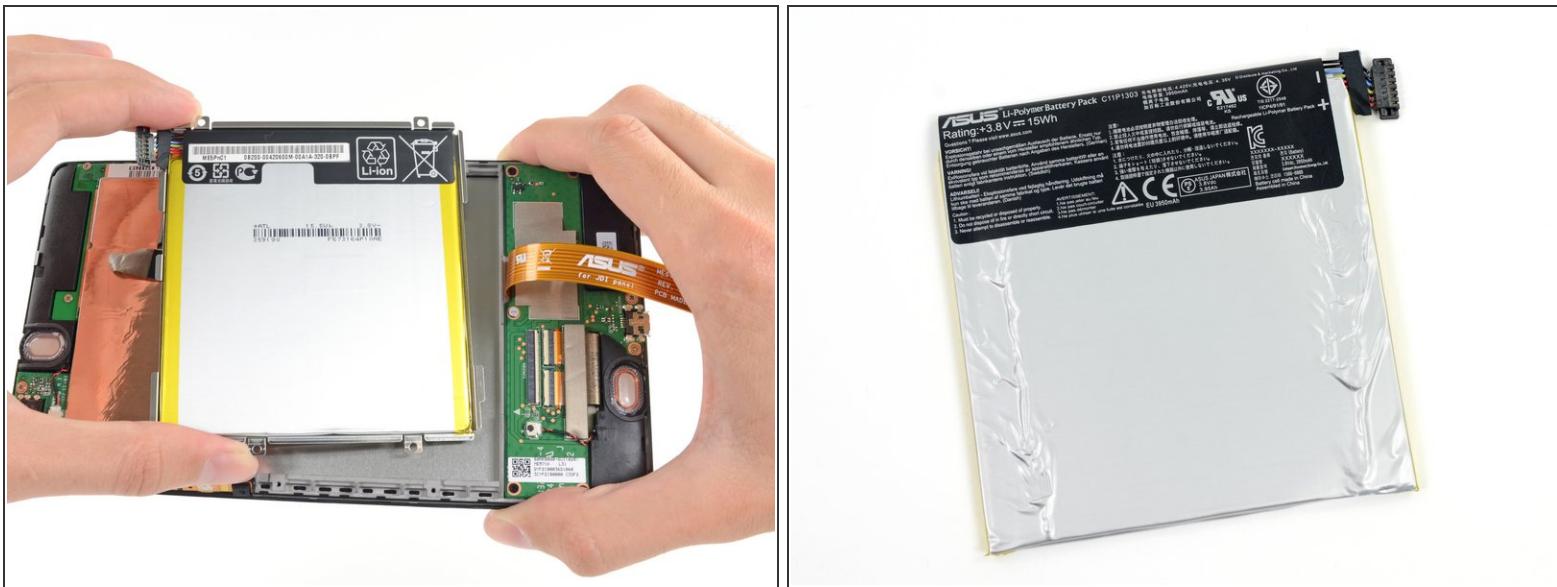
- Although inductive charging has been around for a while, this is the first time we've seen it in a tablet since the [HP TouchPad](#). We're pleased with the trend, as it may [help eliminate wires as a source of e-waste in the future](#). Now, if we could only make batteries infinitely rechargeable...
- The NFC Module is layered on top of the inductive charging coil.

Step 5



- Time to set our trusty connector-seeking spudger loose to free the battery from its bonds.
- Seals cover two of the screws in the Nexus 7—one on each of the main boards—so replacing either board will likely void your warranty.
- *i* We consulted Seal seal, our seal expert, and gave us the [seal of approval](#) to proceed. He concluded that our teardown was more important than our warranty.

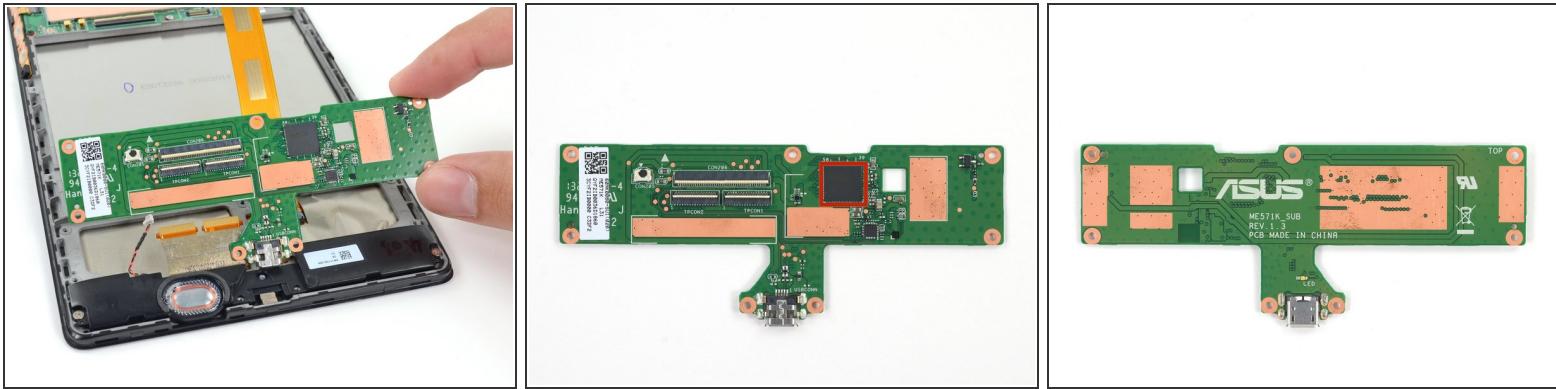
Step 6



- The battery tray comes out, no problem.
- The tray is held in place by only a few screws (yay!), but the battery is secured to the tray with pretty sticky adhesive (boo!).
- The battery is rated at 3.8 V, 15 Wh, 3950 mAh, with a charging voltage of 4.35 V and is made by Celxpert Industrial.

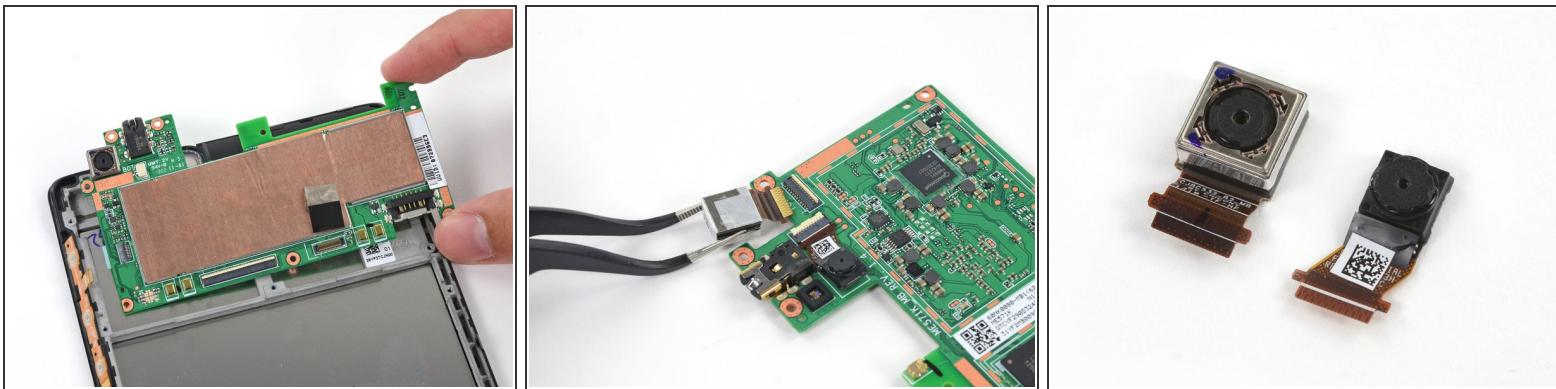
i Despite the 4326 mAh battery of the [original Nexus 7](#), this new generation boasts an extra hour of battery life. Devices with lower power consumption give more bang for the ecological-impact buck, so it's definitely a nice trend.

Step 7



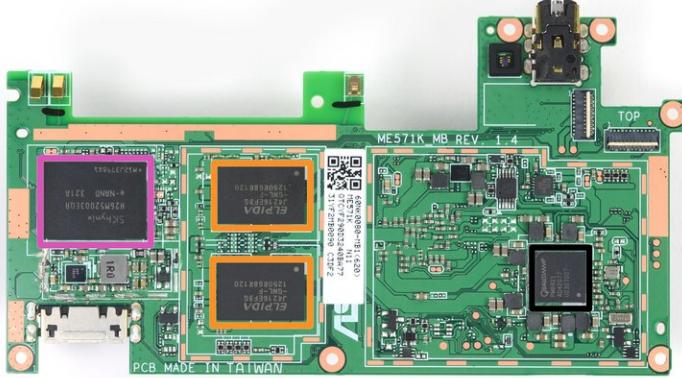
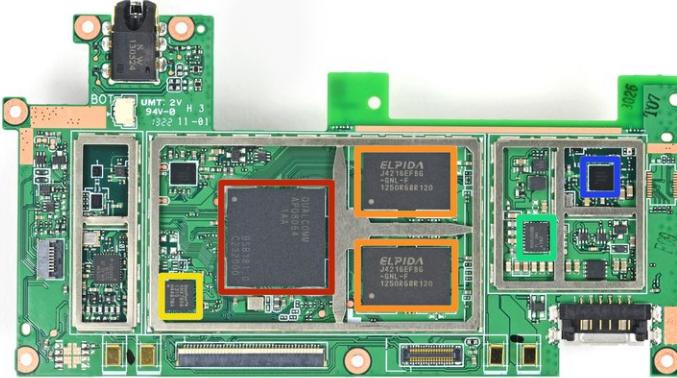
- It's time for the daughterboard to leave the nest; seals can't hold her captive forever. The board houses a single IC nested among the connectors.
- ELAN eKTH325BAWS, which we guess to be the capacitive touchpad controller from ELAN's [eKT line](#).

Step 8



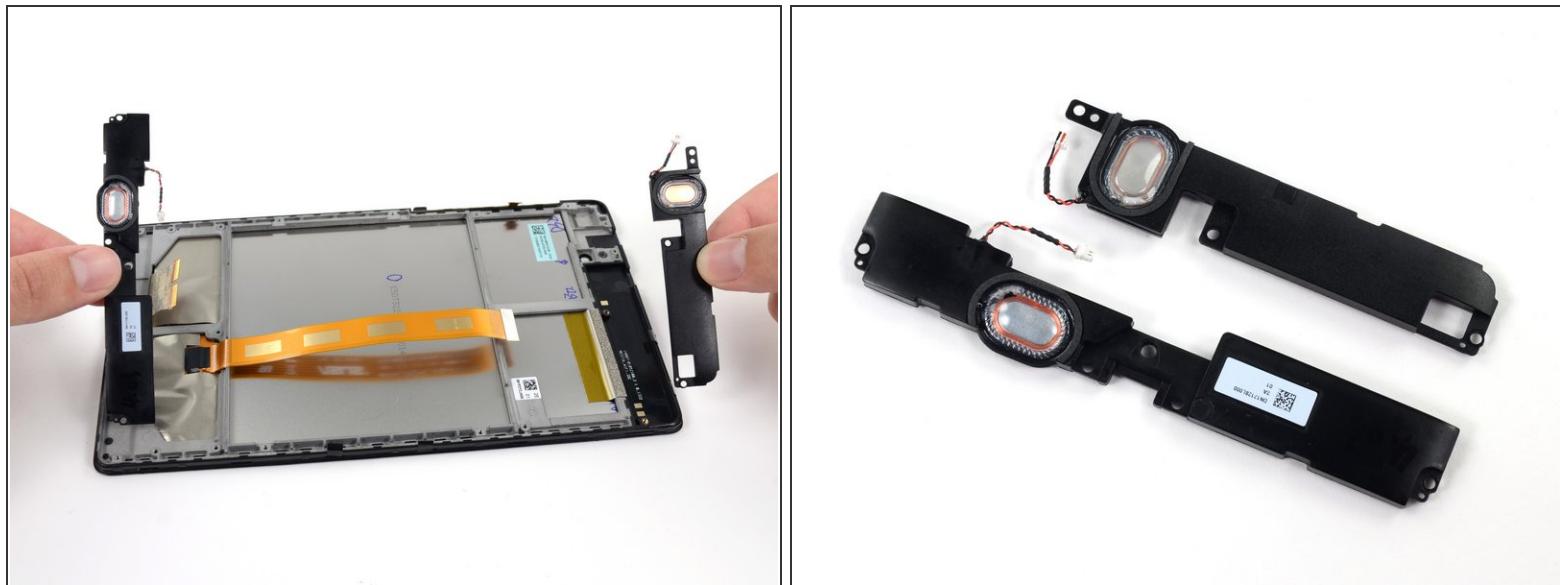
- Flushed with teardown fever, we pluck the motherboard from the casing, as well.
- The front- and rear-facing cameras are easy pickings.
- *(i)* Alas, consumers will still be able to take [awkward tablet photos](#). Will it ever end?
- If you happen to see [bigfoot](#) and need to take a picture with your new Nexus 7, you'll be getting a 5 MP image.
- *(i)* For selfies, you only get 1.2 MP.

Step 9



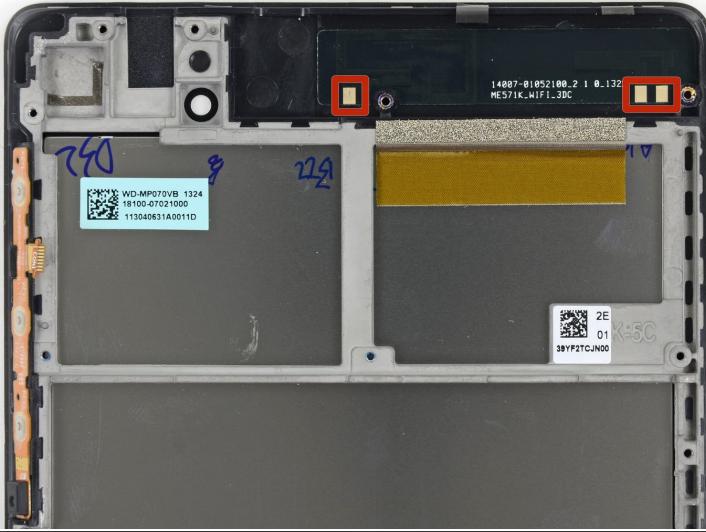
- The hardware powering this nifty trick of a tablet:
 - Qualcomm [APQ8064](#) Snapdragon S4 Pro Quad-Core CPU (includes the Adreno 320 GPU)
 - Elpida [J4216EFBG](#) 512 MB DDR3L SDRAM (four ICs for 2 GB total)
 - Analogix [ANX7808](#) SlimPort Transmitter
 - Texas Instruments [BQ51013B](#) Inductive Charging Controller
 - Qualcomm Atheros [WCN3660](#) WLAN a/b/g/n, Bluetooth 4.0 (BR/EDR+BLE), and FM Radio Module
 - SK Hynix [H26M52003EQR](#) 16 GB eMMC NAND Flash
 - Qualcomm [PM8921](#) Quick Charge Battery Management IC

Step 10



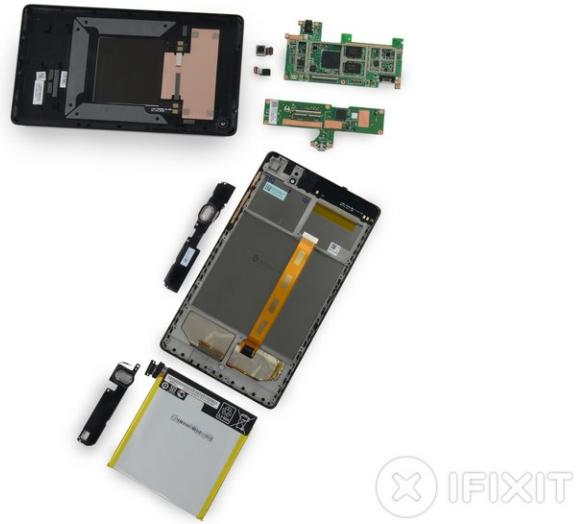
- The updated speakers come out next.
- What do we know about these speakers?
 - They're stereo.
 - They sound cool.
 - They are labeled DN17128L000.

Step 11



- Here we find the rear of the front panel, home to the Wi-Fi antennas.
- We take small steps and find wireless frequencies are made possible by [contacts](#) to the outside universe.
- What does the universe say?
 - ME571K_WIFI_3DC

Step 12



REPAIRABILITY SCORE:



- Nexus 7 2nd Generation Repairability Score: **7 out of 10** (10 is easiest to repair)
- The rear case is very easy to open, and requires minimal prying effort with a plastic opening tool to remove... But we cracked it, even though we were quite careful during the opening procedure.
- All fasteners inside are Phillips screws—no security or proprietary screws here.
- While the battery enclosure is easy to remove, some patient spudgering will be necessary to peel the battery off the tray.
- The front glass is adhered to the display frame, meaning you'll need a heat gun to get the LCD out—or replace the whole front panel.