Samsung Galaxy S8 Teardown

Teardown of the Samsung Galaxy S8.

Written By: Sam Goldheart
INTRODUCTION

After the Galaxy Note7’s fiery exit, Samsung is hoping to bring a different kind of heat with the Galaxy S8 series. *We’ve carefully dissected and analyzed the Galaxy S8+*—and now we turn our attention its smaller twin, the Galaxy S8.

Does the S8 have what it takes to blast off without blowing up? There's only one way to find out — Ladies and gents, it is teardown time.

Ready for more teardown action? Tweet along on [Twitter](https://twitter.com), get friendly with us on [Facebook](https://www.facebook.com), or follow along on [Instagram](https://www.instagram.com) for all the teardown you can handle.

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**TOOLS:**

- iOpener (1)
- iSclack (1)
- iFixit Opening Picks set of 6 (1)
- Spudger (1)
- Phillips #00 Screwdriver (1)
- Plastic Cards (1)
- Tweezers (1)
- Halberd Spudger (1)
Samsung seems to have gone all-out to provide the same smartphone experience regardless of your screen size preferences, and the Galaxy S8's specs bear that out. Any of this look familiar?

- 5.8-inch, dual-edge, Super AMOLED display with 2960 × 1440 resolution (570 ppi)
- Qualcomm Snapdragon 835 or Samsung Exynos 8895 processor, with 4 GB RAM
- 12-megapixel rear camera with dual pixel autofocus and 4K video capture; 8-megapixel selfie camera
- 64 GB internal storage, expandable via MicroSD card (up to 256 GB additional)
- IP68 water resistance rating
- Android 7.0 Nougat
Dimensions aside, the S8 fairly identically clones the look of the S8+. Features include:

- Speaker grille and microphone hole
- USB-C charging port and headphone jack (Apple: 0 Samsung: 1)
- Pulse reader/flash assembly
- Rear-facing camera
- Fingerprint reader

The S8 is a safe evolution on the S7 Edge—proportions, camera and sensor package location, and size are all fairly on par.
Step 3

- The Galaxy once again rocks the glass-on-glass design, making our lives difficult. We heat the heck out of this panel and apply plenty of prying picks.

- Once we get an edge open, the iSclack helps us crank through the rest of the gnarly adhesive (which will need replacing upon reassembly—"groan").

- And we're in—to an S8+? This guy looks pretty darn identical.
The fingerprint sensor lives in the rear case, somewhat controversially placed. Using the thing (with your right hand) requires blindly stretching and blotting out the camera...

The good news is that this sensor is modular and can be popped right off its adhesive for replacement. All it takes is a little heat and a good push.

No word (yet) whether software locks (à la iPhone 7) will prevent a replacement from functioning.
As with its S8+ sibling, the S8 employs some sweet hardware multitasking. The speaker/antenna array, and antenna/NFC coil assembly, do double duty as the phone's midframe.

Also like the S8+, the NFC antenna presumably does an additional job, spoofing MST to use Samsung Pay at any card reading checkout location.

We're almost running out of things to say here—the rest of the phone looks pretty much like the S8+ too, down to the wee pancake vibrator. It's like someone left the S8+ in their pocket on laundry day and it came out of the wash slightly shrunken, but no worse for wear.
Step 6

- You'd think that after Samsung's less than stellar battery record, they'd have a quick eject system for these little bomb packs. And yet, this cell is firmly (and we mean firmly) adhered.

- And it's not like it's especially hard to have a removable battery—it's done all over the phone world.

- The Samsung-branded battery clocks in at 11.55 Wh—comparable to the Google Pixel's 10.66 Wh, but dwarfing the (slightly smaller) iPhone 7's 7.45 Wh battery.

  The capacity comparison may look impressive, but reports seem to suggest that the actual performance is nothing to cheer about.
Step 7

- The I/O board connector is *under* the motherboard in these late-model Galaxy phones. Because why not make things harder?

- The motherboard itself pops out with relative ease, giving us a peep at that now-Samsung-standard heatpipe.

- The I/O daughterboard configuration matches the S8+ right down to the modular headphone jack.

ℹ️ Since we've already gone through the [camera shenanigans](https://www.ifixit.com/Guides/Samsung%20Galaxy%20S8%20Teardown), let's get straight to the chips.
Step 8

- We checked the genetics chips in the S8 to see if it is truly a smaller twin of the S8+:
  - Samsung K3UH5H50MM-NGCJ
    4 GB LPDDR4 RAM layered over the MSM8998 Snapdragon 835
  - Toshiba THGBF7G9L4LBATR 64 GB UFS (NAND flash + controller)
  - Qualcomm Aqstic WCD9341 audio codec
  - Skyworks 78160-11
  - Avago AFEM-9066
  - NXP 80T71 NFC controller
  - Silicon Mitus SM5720 Interface PMIC
Step 9

- On the opposite side we find:
  - Murata KM6D28040 Wi-Fi Module
  - Qualcomm PM8998 (similar to PM8920)
  - Qualcomm WTR5975 RF Transceiver
  - Avago AFEM-9053
  - IDT P9320S
  - Maxim MAX77838 companion PMIC (similar to MAX77829)

Step 10

- That's it for the vanilla S8. If you haven't already guessed, we've got a more detailed breakdown of the
S8+, so check it out if you haven't already.

- With that, let's give the Galaxy S8 its repairability score.

### Step 11 — Final Thoughts

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<th>REPAIRABILITY SCORE:</th>
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- The Samsung Galaxy S8 earns a **4 out of 10** on our repairability scale (10 is the easiest to repair):
  - Lots of components are modular and can be replaced independently.
  - The battery _can_ be replaced, but tough adhesive and a glued-on rear panel make it unnecessarily difficult.
  - Front and back glass make for double the crackability, and strong adhesive on both makes it tough to access the internals for any repair.
  - Because of the curved screen, replacing the front glass without destroying the display is extremely difficult.