



# Samsung Galaxy S7 Edge Teardown

Teardown of the Galaxy S7 Edge on March 11, 2016.

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## INTRODUCTION

Hot on the heels of our in-depth teardown of Samsung's [Galaxy S7](#), we bring you another future teardown classic: the Galaxy S7 Edge.

With most dual-flagship releases, manufacturers have been trending toward sharing as many design elements as possible. We're expecting this teardown to be a challenging game of "Spot the Differences."

Join us as we tear and compare the S7 Edge. To keep up to date on all of our teardown exploits, follow us on [Instagram](#), [Twitter](#), and [Facebook](#).

[video: <https://www.youtube.com/watch?v=mEAtYx-gXms>]

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### TOOLS:

- [Phillips #00 Screwdriver](#) (1)
  - [iOpener](#) (1)
  - [iSlack](#) (1)
  - [iFixit Opening Picks set of 6](#) (1)
  - [Tweezers](#) (1)
  - [Spudger](#) (1)
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## Step 1 — Samsung Galaxy S7 Edge Teardown



- Specs. Why do they seem familiar? [No reason.](#)
  - Dual edge 5.5" Super AMOLED touchscreen display with 2560 × 1440 resolution (534 ppi)
  - Qualcomm Snapdragon 820 processor with 4 GB RAM + Adreno 530 GPU
  - 12-megapixel rear camera with dual pixel autofocus, 4K video capture; 5-megapixel selfie camera
  - 32 or 64 GB internal storage, expandable via microSD card (up to 200 GB additional)
  - IP68 water resistance rating
  - Android 6.0 Marshmallow

## Step 2



- We just had to test out our Edge notifications to show off that curvy OLED. Unfortunately, [nobody](#) has our new number.
- A quick comparison with last year's Galaxy S6 Edge shows that bigger is in. The S7 Edge also adds that same IP68 rating and expandable microSD slot that we saw in the S7, absent from last year's offerings.
- The camera bump is noticeably reduced as well, which may just be a result of the ~~rising sea level~~ extra 0.7 mm of thickness on the S7 Edge.

## Step 3



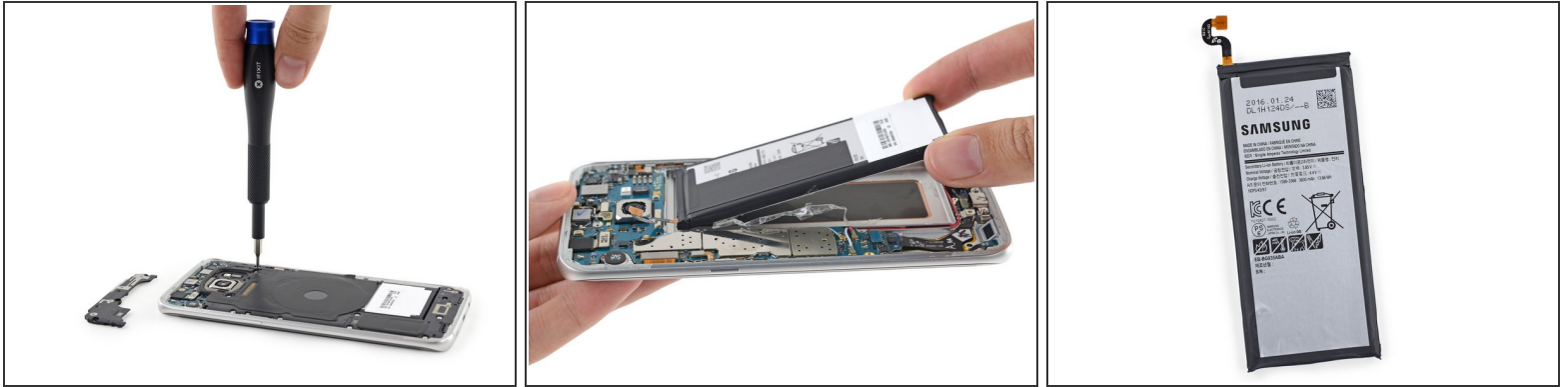
- Here again, we have the continuing voyages of the ~~SEA Protector~~ iOpener, heating up a galaxy near you.
- The procedure is identical to that of the standard S7: After liberal application of heat, our [iSclack](#) and pick combo is super effective despite some extremely stubborn adhesive.
- ☑ Do you remember the days when an easily cracked back panel was at least [easily replaced](#)? iFixit remembers.

## Step 4



- S7 and S7 Edge side by side to compare and contrast: Heavy on the compare, light on the contrast.
- Inside, the two devices feature the same camera, flash, general construction, and even antenna positions (although those squiggles are slightly different).
- Despite the startlingly similar layout, the curve-boasting Edge is actually less curvy from behind than its standard counterpart.
- ❗ The S7's back mimics the Edge's front, with a curvaceous rear panel glass. The result is a mirror-universe evil twin situation. But with glass curves instead of [goatees](#).

## Step 5



- Good news, everyone! The battery is no longer trapped under the motherboard, [like it was on last season's Edge](#).
- ⓘ Looks like the standardization with the vanilla S7 means some good things for the Edge.
- We extract the whopping 3.85 V, 13.86 Wh, 3,600 mAh burner of a battery.
  - That's 20% more capacity than the already capacious [3,000 mAh battery in the S7](#). It seems the tradeoff for a marginally thicker Edge will be longer battery life and less wear from frequent charging. Nice!
  - By Grabthar's hammer, [what a savings](#).



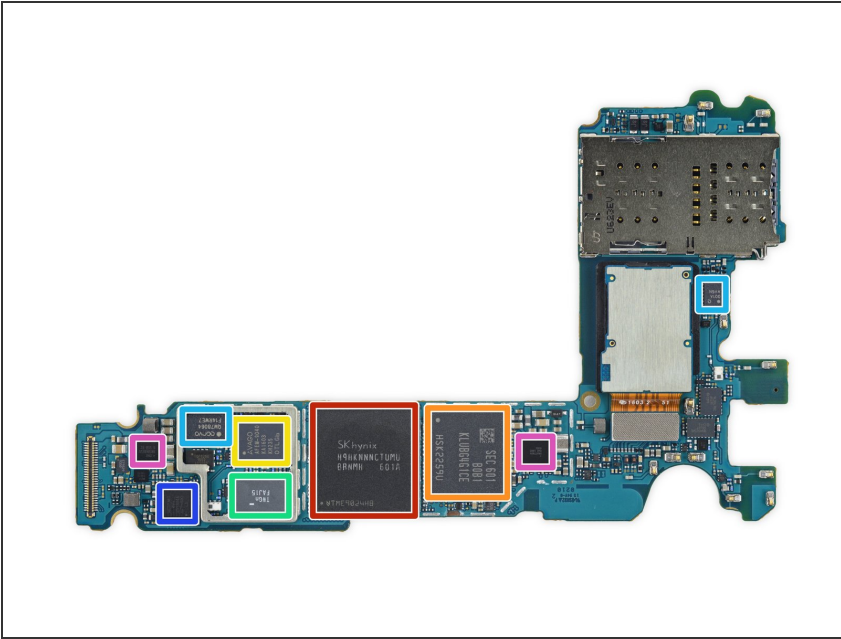
## Step 6



- We're deep in the belly of the curved-screen beast, but compared to its flat-faced sibling, everything looks... the same.
- ❗ Unfortunately, in a step backwards from last year's [model](#), this Edge has also adopted our *least* favorite design feature: soft-button LED cables that wrap around the midframe, to be glued down under the display glass. That daughterboard won't be coming out any time soon...
- Anyway, let's get that motherboard out.

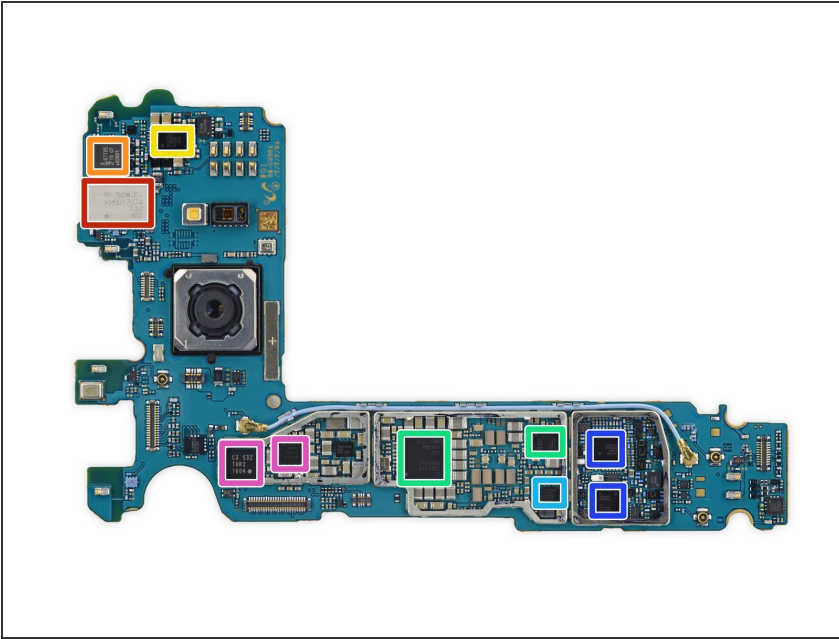


## Step 7



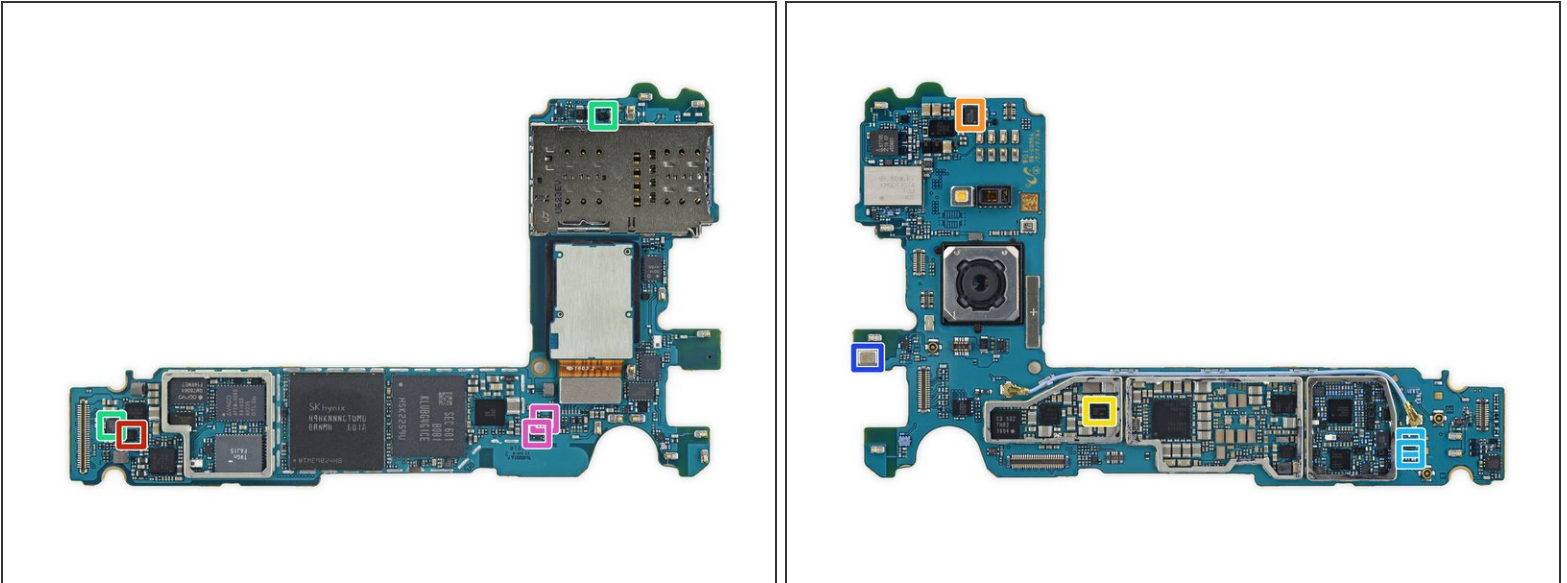
- With that, it's time to digitally convey some chip ID. On the front side of the motherboard, we note:
  - SK Hynix [H9KNNNCTUMU-BRNMH](#) 4 GB LPDDR4 SDRAM layered over the Qualcomm [MSM8996](#) Snapdragon 820
  - Samsung [KLUBG4G1CE-B0B1](#) 32 GB MLC Universal Flash Storage 2.0
  - Avago AFEM-9040 Multiband Multimode Module
  - Murata FAJ15 Front End Module
  - Qorvo [QM78064](#) high band RF Fusion Module and [QM63001A](#) diversity receive module
  - Qualcomm WCD9335 Audio Codec
  - Maxim MAX77854 PMIC and MAX98506BEWV audio amplifier

## Step 8



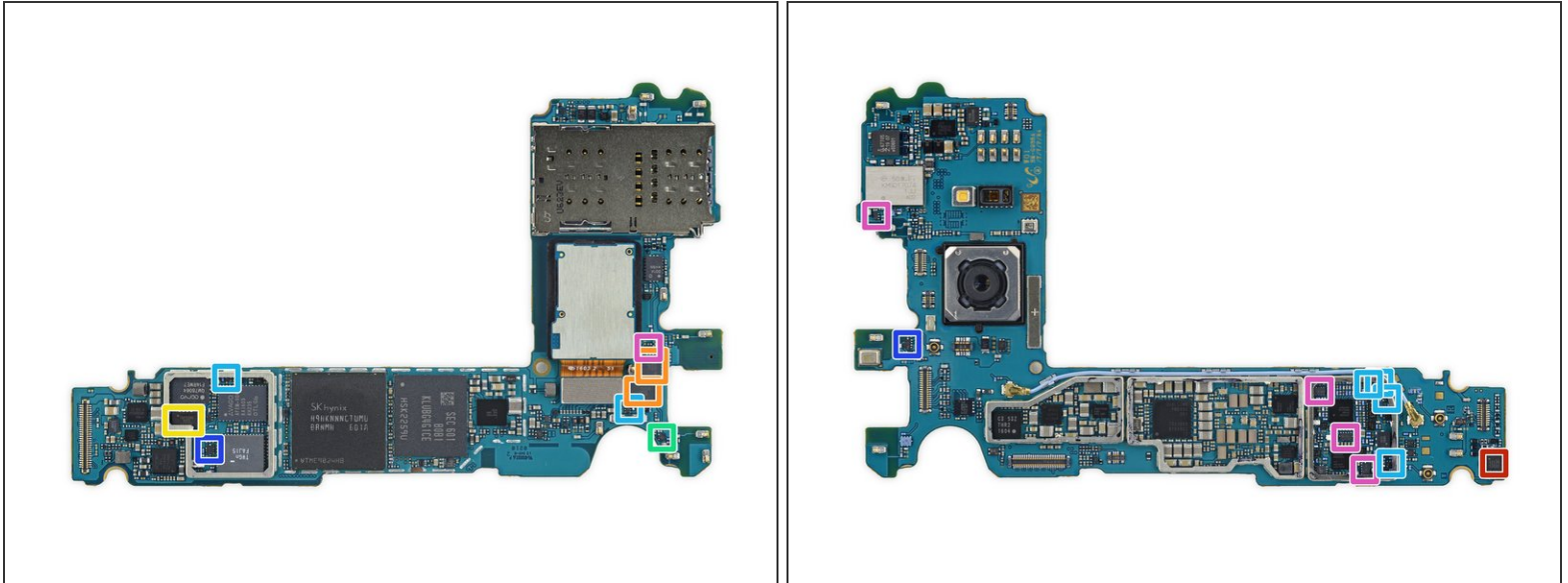
- With so many similarities to the standard S7's chipset, it almost feels like we're [repeating the computer](#):
  - Murata KM5D17074 Wi-Fi module (likely contains a Broadcom [BCM4359](#) WiFi/Bluetooth transceiver)
  - NXP Semiconductor 67T05 (PN67T) NFC controller
  - IDT P9221 wireless power receiver (likely an iteration of IDT [P9220](#))
  - Qualcomm PM8996 and PM8004 PMICs
  - Qualcomm [QFE3100](#) envelope tracker
  - Qualcomm [WTR4905](#) and [WTR3925](#) RF transceivers
  - Samsung C3 image processor and Samsung S2MPB02 PMIC

## Step 9



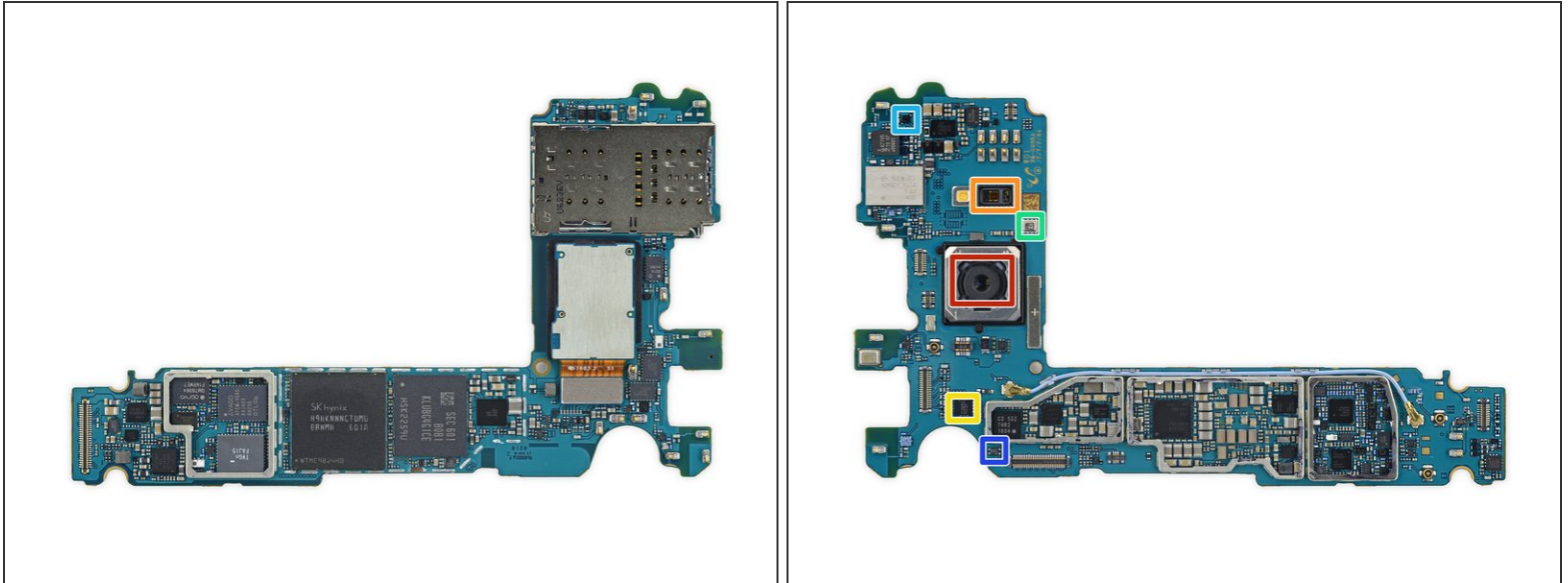
- IC identification, pt. 2:
  - DSP Group [DBMD4](#) audio/voice processor
  - Zinitix ZF115N haptic driver
  - Maxim Integrated MAX77838EWO power management
  - ETEK Microelectronics ET9529 over-voltage protection switch and an ON Semiconductor [FPF2495B](#) over-voltage/current protection load switch
  - Diodes Incorporated [AP7346D-3318FS6-7](#) and [AP7340D-18FS4-7](#) LDO regulators
  - Knowles MEMS microphone
  - NXP Semiconductor [NCX2200](#) comparator and a Toshiba TC7SBD385FU bus switch

## Step 10



- IC Identification, pt. 3:
  - RDA Microelectronics RDA6213N FM Radio Receiver
  - TDK D5275 and a D5287 Antenna Switch Module
  - Qorvo TQF6260 Power Amplifier Duplexer
  - NXP Semiconductor [BGU8103](#) GPS/GLONASS/Galileo/BeiDou Low Noise Amplifier
  - NXP Semiconductor [BGS8H2](#), [BGS8L2](#), and [BGS8M2](#) LTE Low Noise Amplifier
  - Infineon BGSX22GN10 DPDT RF Antenna Switch and another unknown type one
  - Infineon [BGS12PL6](#) and [BGS12SN6](#) SPDT RF Switch and a set of 3 unknown type ones

## Step 11



- IC identification, pt. 4 (sensors):
  - Sony IMX260 12 MP image sensor (likely)
  - Maxim Integrated MAX86902 heart rate sensor/integrated pulse oximetry/UV sensor module (likely)
  - STMicroelectronics [LSM6DS3](#) 3-axis accelerometer/gyroscope
  - Bosch Sensortec [BMP280](#) pressure sensor
  - AKM Semiconductor AK09911 3-axis electronic compass
  - ABLIC, Inc. (Formerly Seiko Instruments) [S-5712CCDL1-I4T1U](#) Hall-effect sensor

## Step 12



- Oh, and one more thing.
- That whole "[liquid cooling](#)" thing? Not really that big of a deal. In case you missed it, we detailed our findings in our [S7 teardown](#), and it's no different here.
- ⓘ The S7 Edge's tiny [heat pipe](#) is nigh-identical to one we removed from an S7. It should afford the same improved heat diffusion to the metal midframe, improving cooling for those extended Samsung Gear VR sessions.



## Step 13



## REPAIRABILITY SCORE:



- Samsung Galaxy S7 Edge Repairability Score: **3 out of 10** (10 is easiest to repair).
  - Many components are modular and can be replaced independently.
  - Unlike the S6 Edge, the battery can be removed without first ousting the motherboard—but tough adhesive and a glued-on rear panel make replacement more difficult than necessary.
  - The display needs to be removed (and likely destroyed) if you want to replace the USB port.
  - Front and back glass make for double the crackability, and strong adhesive on the rear glass makes it very difficult to gain entry into the device.
  - Replacing the glass without destroying the display is probably impossible.