



iMac Intel 27" EMC 2639 Teardown

Teardown of the fall 2013 27" intel iMac, EMC 2639.

Written By: Sam Goldheart



INTRODUCTION

In the calm after the iPhone 5s/c storm, Apple thought it could slip a couple new iMacs by us. Time for us to get our pry on and pop this next generation 27" iMac wide open for a quick tour of the highlights.

We also tore apart the newly refreshed smaller-brother iMac 21.5"—head over to its [teardown](#) and check it out too.

Can't get enough of our play-by-play? Show us your game face on [Twitter](#), [Instagram](#), or [Facebook](#).



TOOLS:

- [iMac Opening Tool](#) (1)
- [Plastic Cards](#) (1)
- [Spudger](#) (1)
- [T5 Torx Screwdriver](#) (1)
- [T8 Torx Screwdriver](#) (1)
- [T10 Torx Screwdriver](#) (1)



PARTS:

- [iMac Intel 27" EMC 2639 Adhesive Strips](#) (1)
includes iMac Opening Tool

Step 1 — iMac Intel 27" EMC 2639 Teardown

iMac 27"



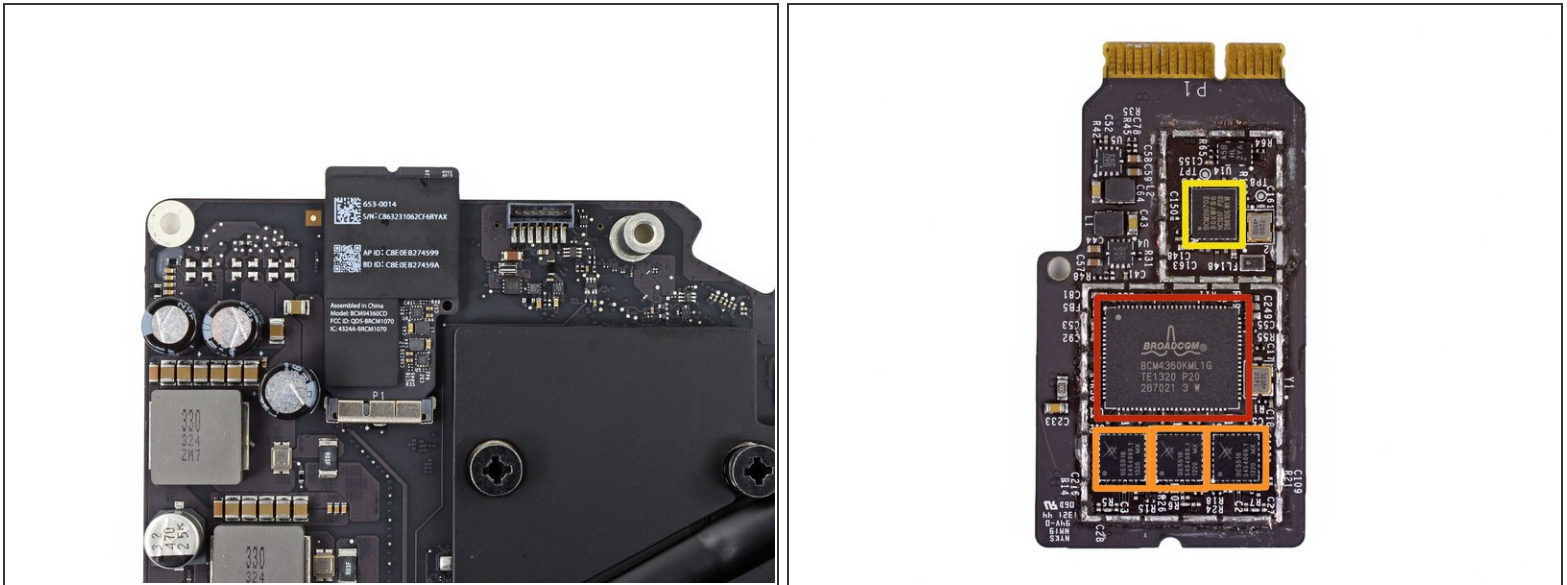
- Externally, the iMac Intel 27" EMC 2639 looks identical to the previous generation, but the interior specs have been upgraded:
 - 3.2GHz quad-core Intel Core i5 processor (Turbo Boost up to 3.6GHz) with 6MB L3 cache
 - NVIDIA GeForce GT 755M graphics processor with 1GB of GDDR5 memory
 - 802.11ac Wi-Fi
 - PCIe flash SSD available

Step 2



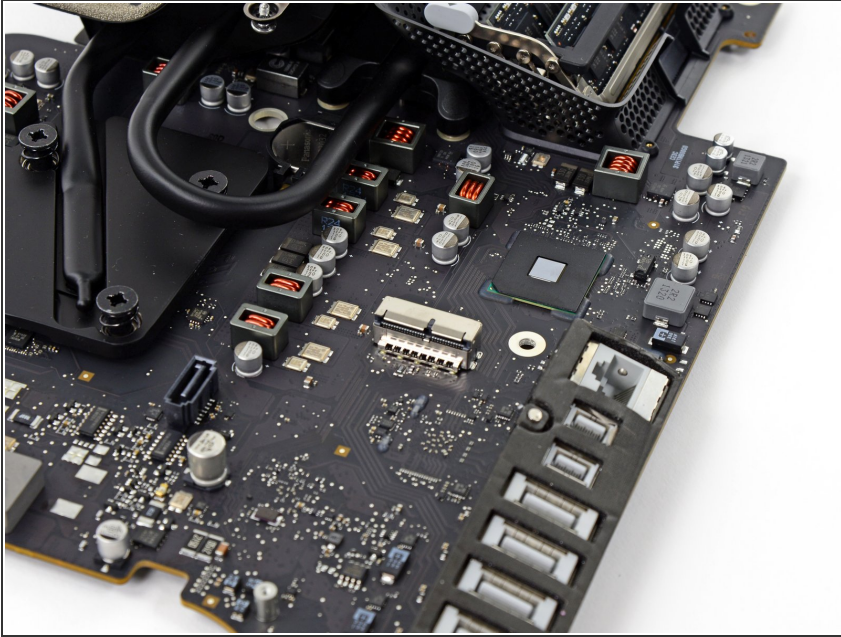
- After some quick slicing with our handy [iMac Opening Tool](#), we pop the hood and get a massive bout of [deja vu](#).

Step 3



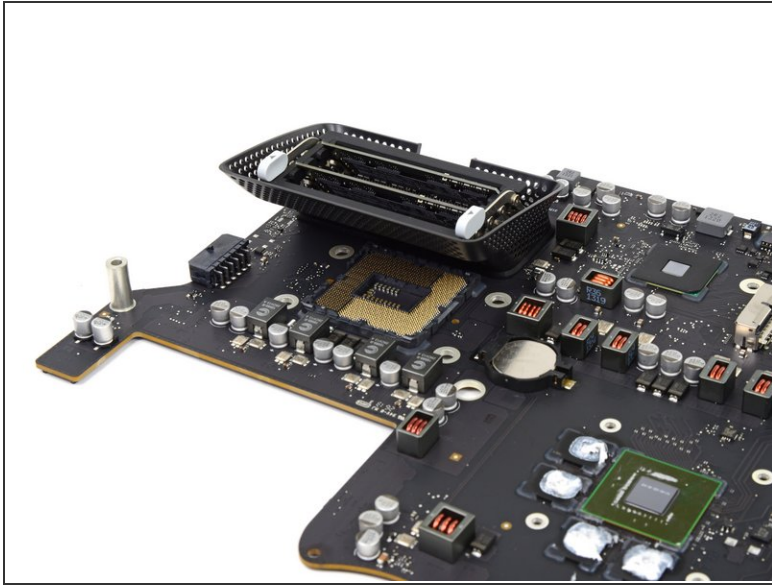
- The AirPort/Bluetooth card, conforming to the [802.11ac Wi-Fi](#) standard, still clings to the back of the logic board — making replacement no easier than [before](#).
- Not the first Mac to get updated with the new ac standard, we expected to see some similar hardware as in the refreshed [MacBook Airs](#) from earlier this year.
- Chips off the old new block:
 - Broadcom [BCM4360KML1G](#) 5G WiFi 3-Stream 802.11ac Gigabit Transceiver—as expected, this is the same chip driving the ac Wi-Fi in the 11" and 13" MacBook Air
 - Skyworks [SE5516](#) Dual-Band 802.11a/b/g/n/ac WLAN Front-End Module
 - Broadcom [BCM20702](#) Single-Chip Bluetooth 4.0 HCI Solution with Bluetooth Low Energy (BLE) Support

Step 4



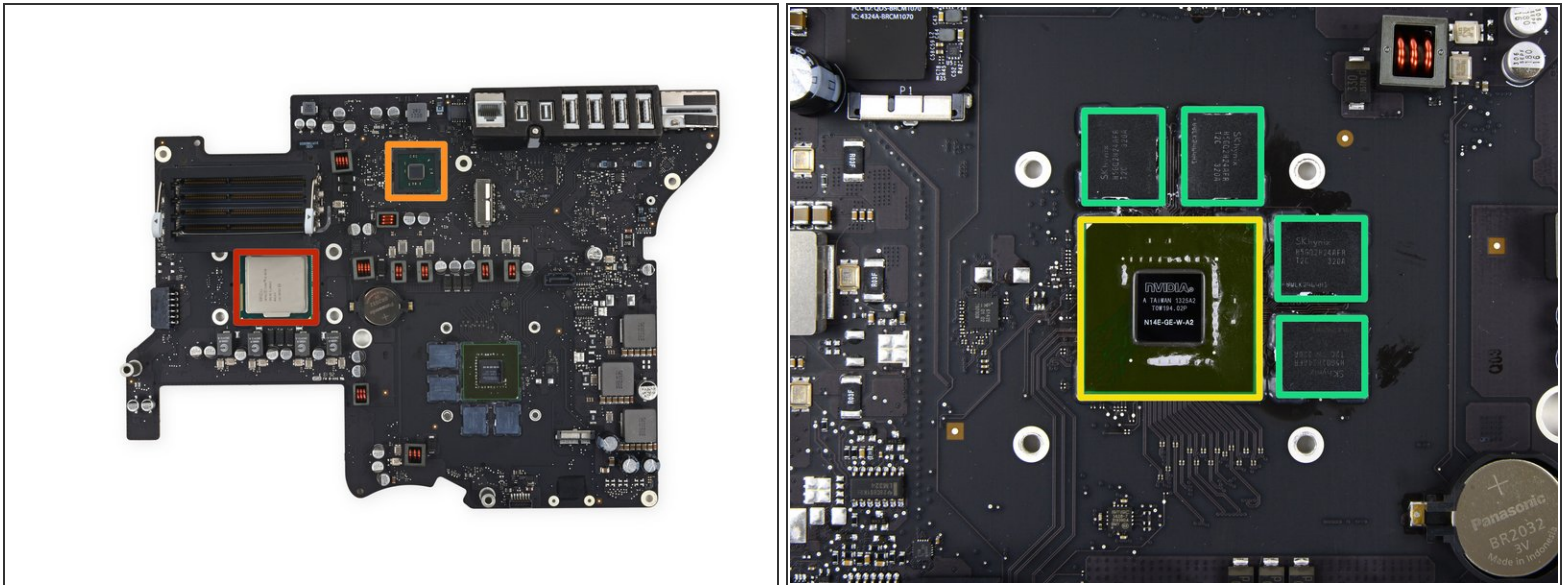
- As is now standard across all new iMacs, the new iMac 27" features support for PCIe-based flash storage. This is a pleasant surprise compared to last year's 21.5" model, when we were left [sorely disappointed by unpopulated solder pads](#) on our low-end logic board.
- According to Apple, the inclusion of PCIe flash storage allows for up to 50 percent faster speeds than the previous generation.
- ① The [Fusion Drive](#) option combines the large storage capacity of a hard drive with the high performance of flash to deliver shorter boot times and faster access to apps and files.

Step 5



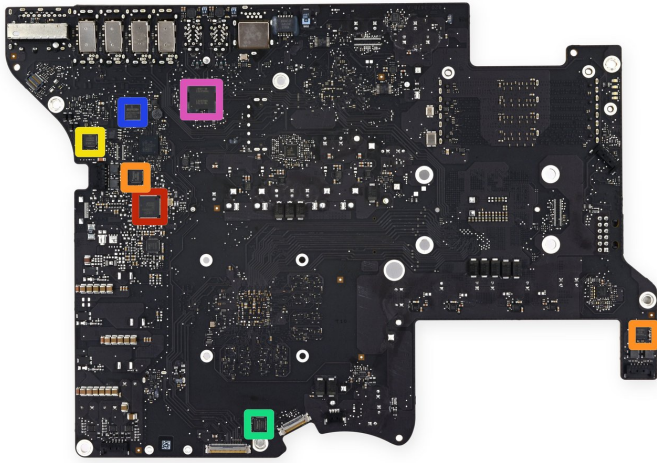
- ⓘ Apple's iMac refresh included some sneaky changes to the [21.5" model](#), and we were more than a little perturbed to discover a **soldered CPU**.
- Thankfully, its 27" big brother was saved from the same fate, and power users will still be able to upgrade their processor without a reflow oven.

Step 6



- Heavy-weight ICs:
 - 3.2GHz quad-core Intel Core i5 processor
 - Intel platform controller hub
- As advertised, the iMac 27" now sports a fancy new graphics processor:
 - NVIDIA [GeForce GT 755M](#) GPU
 - Four SK hynix [H5GQ2H24AFR](#) 256 MB GDDR5 SGRAM ICs make up the 1 GB of graphics RAM

Step 7



- The B-side of our IC record:
 - NXP [ARM7TDMI-S](#) based Microcontroller
 - Analog Devices [SSM3302](#) audio amplifier
 - Cirrus Logic 4206BCNZ audio controller, the same chip as found in [last year's 21.5"](#)
 - Vimicro [VC0359](#) webcam processor
 - Broadcom [BCM57765A1KMLG](#) gigabit ethernet controller with integrated SDXC card reader
 - Intel DSL3510L [Cactus Ridge](#) Thunderbolt controller

Step 8



REPAIRABILITY SCORE:



- iMac 27" EMC 2639 Repairability Score: **5 out of 10** (10 is easiest to repair)
- RAM is user-replaceable without opening the case, thanks to the rear access door.
- You can still replace the hard drive and CPU inside this machine, albeit with some adhesive cutting.
- Components are modular and fairly easy to remove.
- Budget-minded folks now can add a second hard drive to the base iMac because the Fusion Drive connector is no longer missing from the logic board.
- The glass and LCD are fused together, and there are no more magnets holding the glass in place.
- You'll have to masterfully peel off the old double-sided sticky tape and apply new tape in order to reseal this iMac into original condition.

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