



Mac mini Model A1283 Teardown

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INTRODUCTION

We picked up the new Mac mini from our local Apple store and took it apart!




TOOLS:

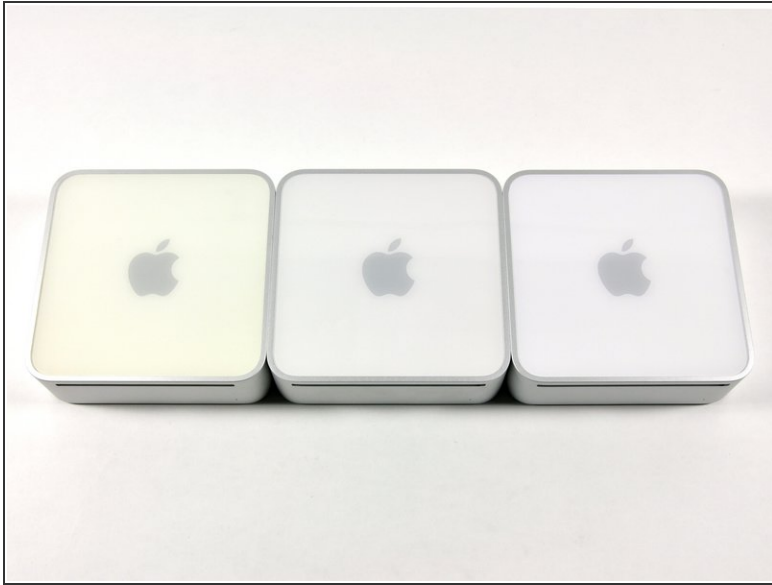
- [1.5" Thin Putty Knife](#) (1)
 - [Phillips #0 Screwdriver](#) (1)
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Step 1 — Teardown



- The Mac mini for this First Look was graciously provided by our friends at [macminicolo](#), a Mac mini colocation service. They allow your Mac mini to be used as a surprisingly powerful and inexpensive server.
- Ladies and gentlemen, without further ado, allow us to introduce the new and improved Mac mini!
- We immediately tried to open the mini using our [iMac opening tool](#), used in yesterday's [iMac First Look](#).
 - It did not work.
-  We also posted a guide for installing a [second hard drive in the Mac mini](#).

Step 2



- The beauty of evolution at its finest. From left to right: Power PC, Intel Core Duo, Intel Core 2 Duo.
- Notable differences in the latest model:
 - ① An additional USB port brings the total to five, one more than the previous model (and three more than the Power PC!).
 - ① A Mini DisplayPort and mini-DVI port -- which allow for Dual-Monitor support for the first time in a Mac mini -- replace the DVI display port of the previous generation.
 - ① A Firewire 800 port replaced the old FireWire 400 port, much to the chagrin of Mac users.

Step 3



- Let's rock this thing!
- Carefully insert a putty knife into the crevice in between the top cover and bottom housing. Start on the left side first.
- Gently enlarge the existing crevice by twisting the putty knife downward and away from the mini.
- Repeat the prying motion until a portion of the bottom housing has been nudged upward.

Step 4



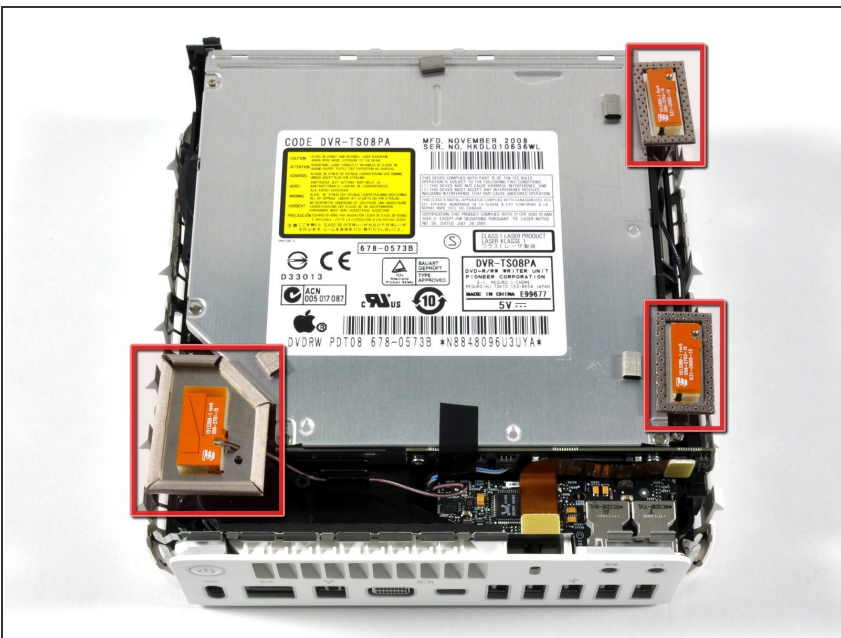
- Repeat the same prying procedure on the right side.
- The top cover should now be marginally separated from the bottom housing. Use your fingers to completely separate the two, starting with the I/O side of the mini.
- The top cover does not have any cables attaching it to the bottom housing; it should now be completely detached from the bottom.

Step 5



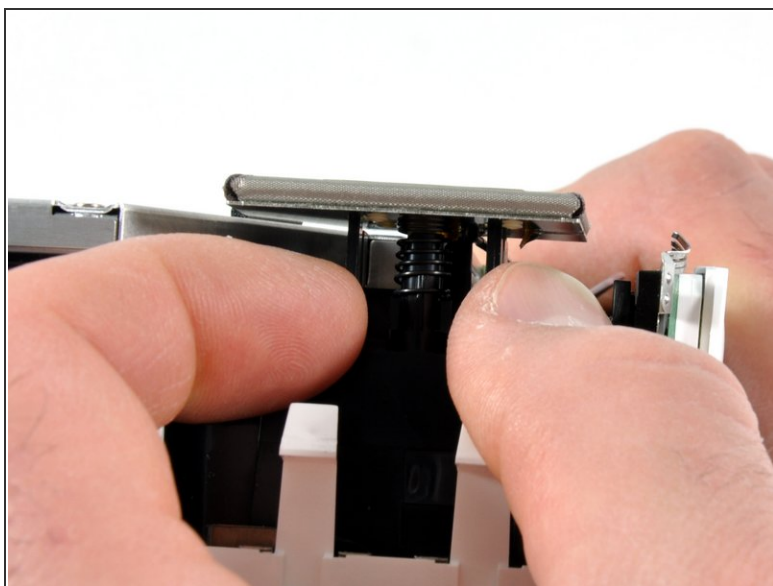
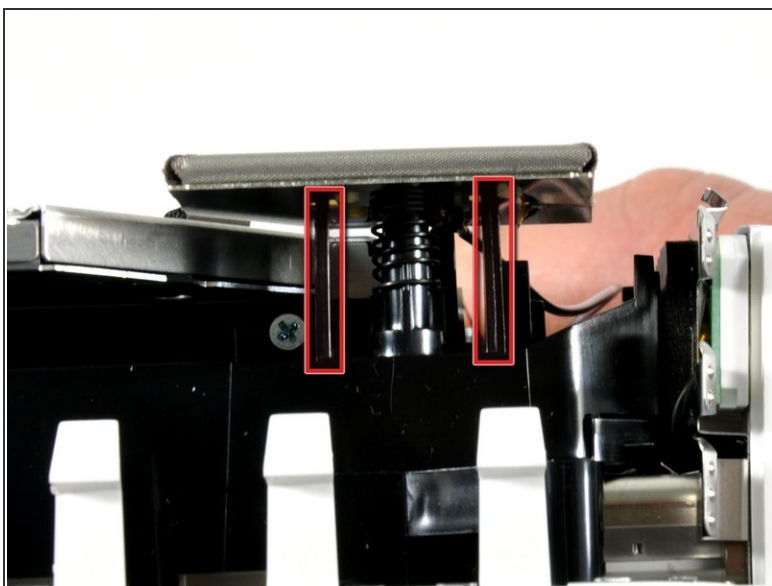
- A quick comparison photo of the three Mac mini generations (oldest on left) showcases their technological progression:
 - No antennas --> One antenna --> Two antennas (Airport card)
 - Desktop RAM --> laptop RAM
 - PATA --> SATA drives

Step 6



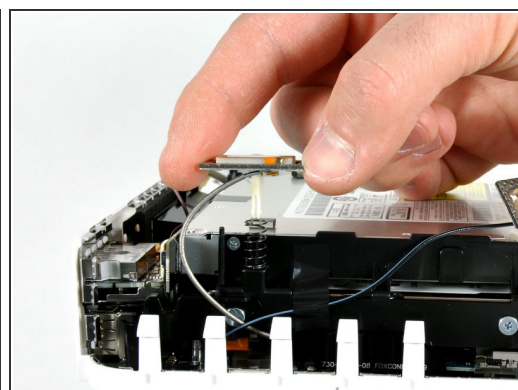
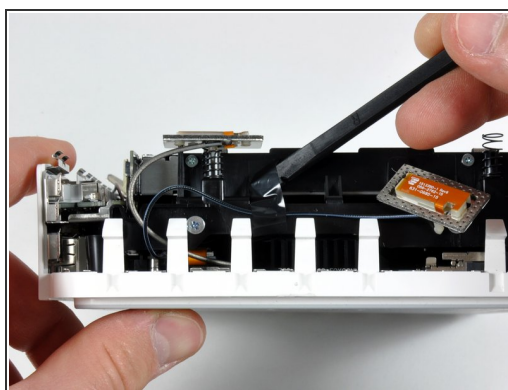
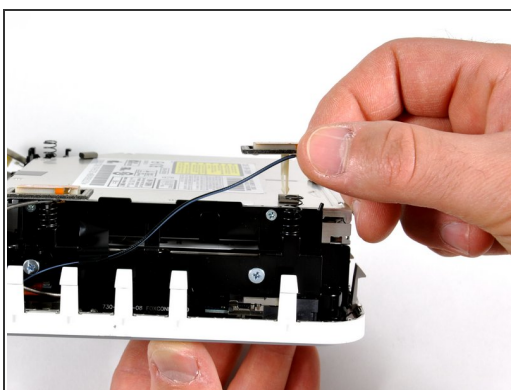
- Can you hear me now? Excellent.
- The wireless board contains a Broadcom BCM4312KFBGH WiFi transceiver on it.
- The new mini houses three wireless communications antennas, one for use with the built-in Bluetooth and two for the Airport Extreme wireless 802.11n card.
- All three antennas need to be removed before accessing the hardware underneath.

Step 7



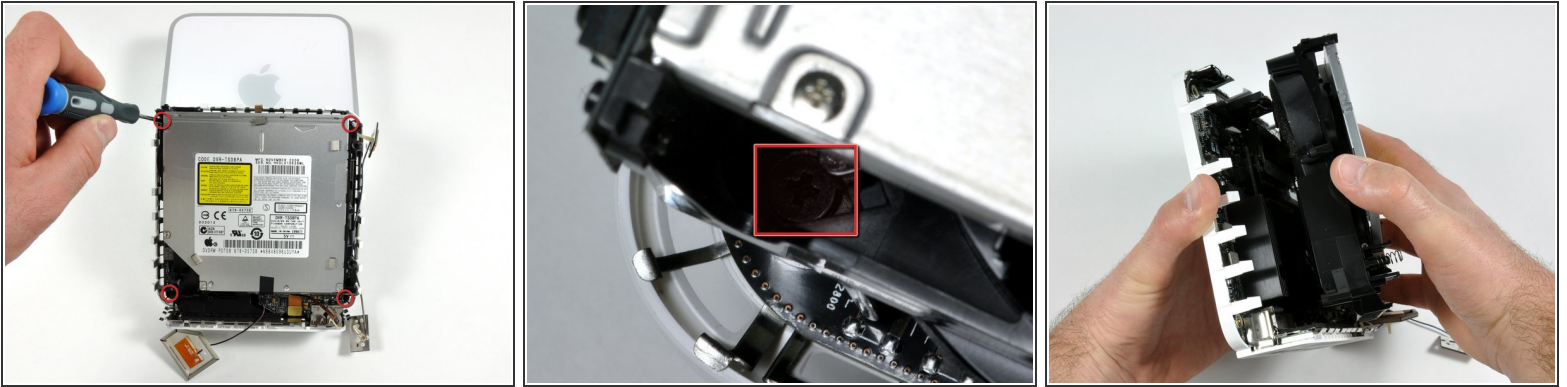
- There are two black posts securing the Airport antenna board to the internal frame.
- Squeeze both black posts together and gently lift the antenna board from the post.

Step 8



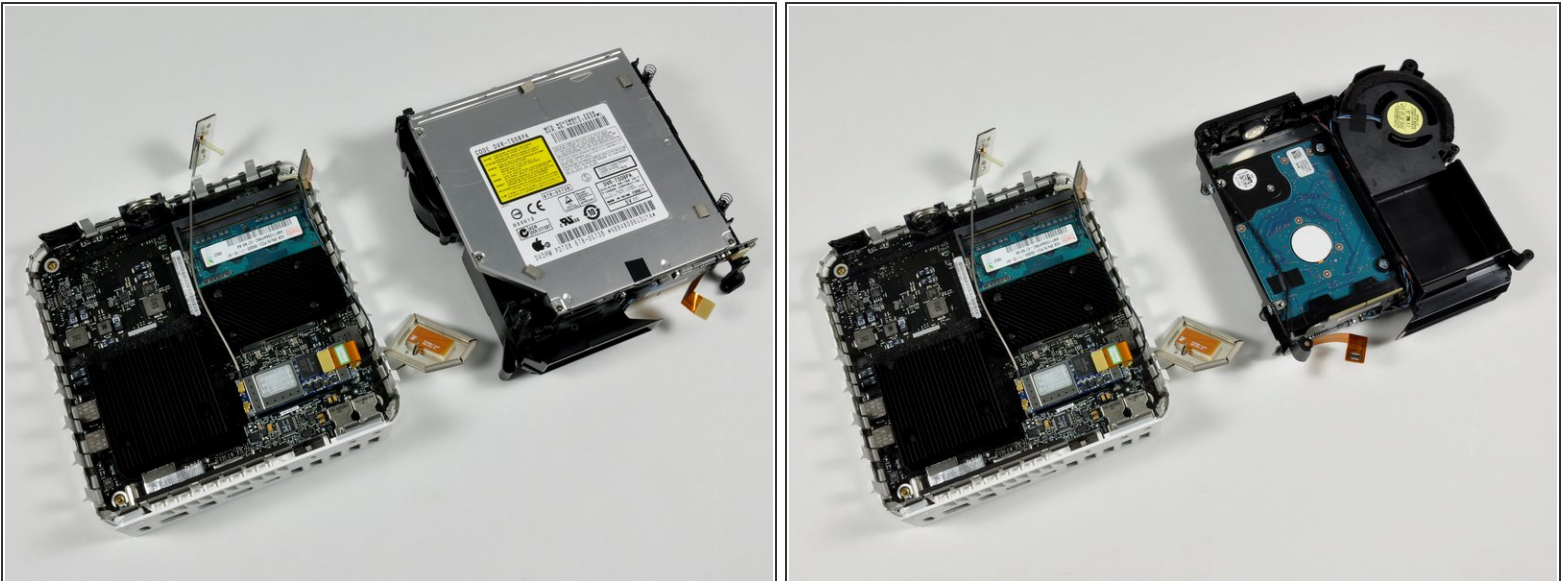
- Rotate the mini 180 degrees.
- Use a spudger to peel back the black tape and release the antenna cable.
- Carefully lift the remaining two antennas from the right side of the mini.

Step 9



- Remove the four black Phillips screws holding the internal frame to the bottom housing.
- ⓘ We spent a lot of time searching for these screws. Is this an Apple conspiracy to prevent consumers from disassembling their products? Put on your tinfoil hats!
- After the screws were removed, we separated the internal framework from the bottom housing.

Step 10



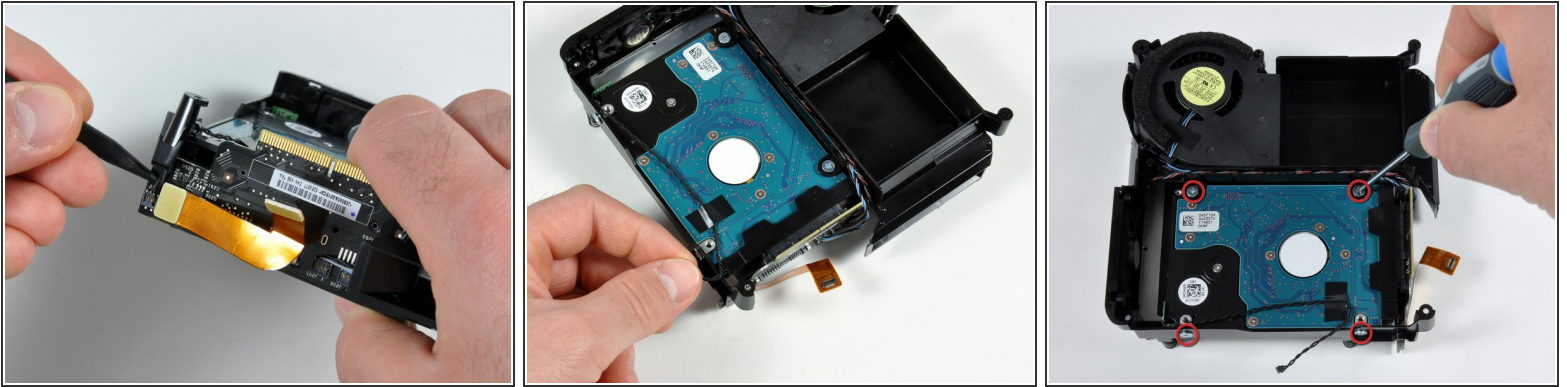
- On the left we have the bottom housing, which includes the logic board, CPU, and RAM. On the right is the internal framework, which contains the SuperDrive, fan, and hard drive.


Step 11





- Remove the six Philips screws from the left, right, and back sides of the SuperDrive.
- Unplug the drive from the interconnect board to completely remove it from the framework.

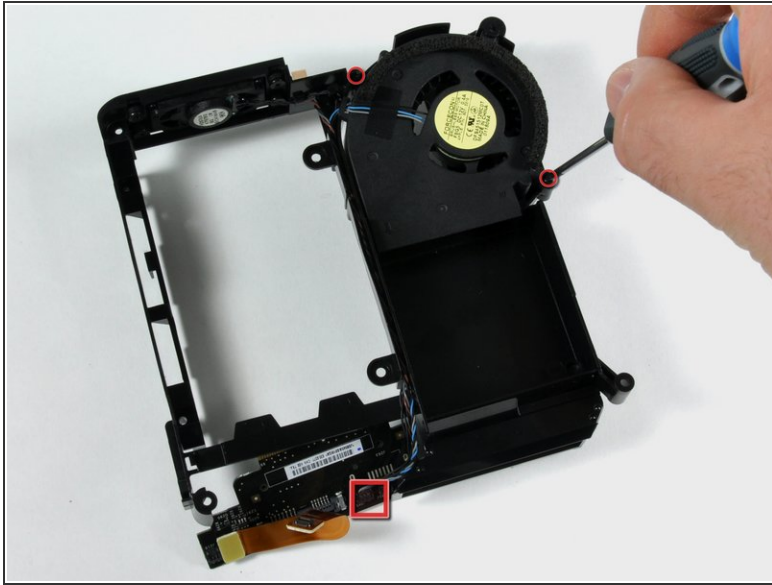
Step 12



 Use the [Mac mini Terabyte Upgrade Guide](#) instead of this First Look to make any modifications to your mini.

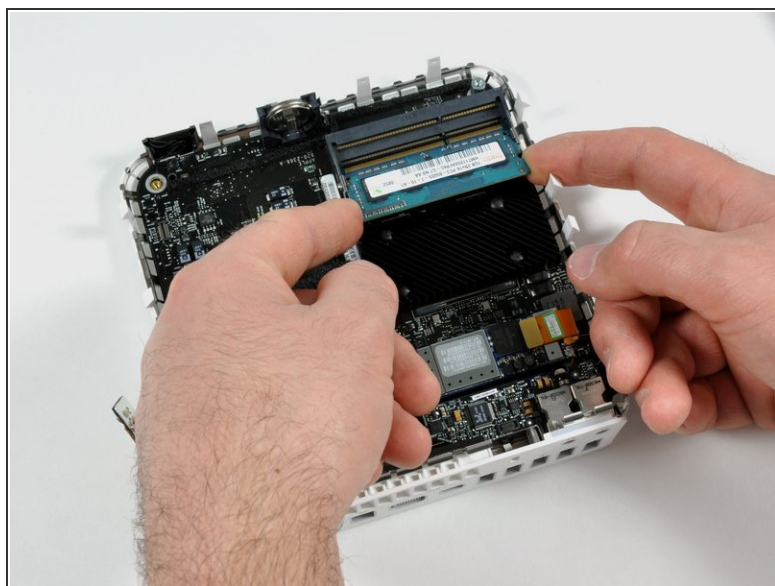
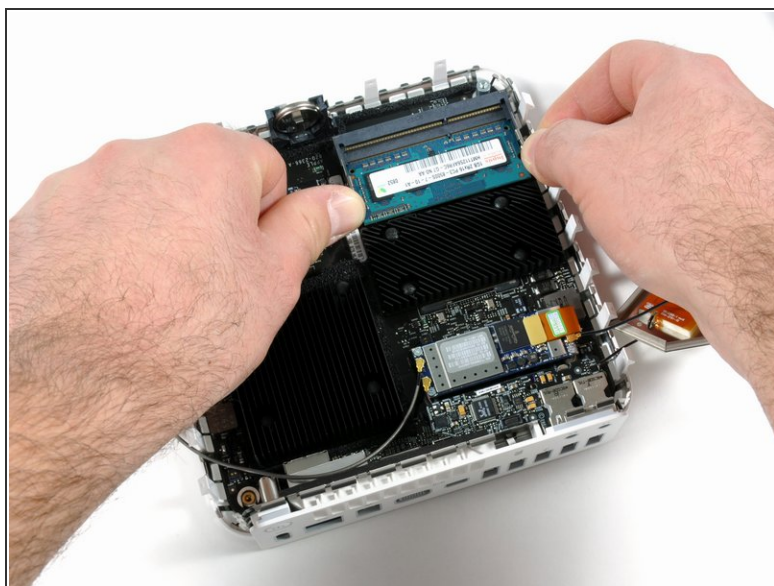
- Next, disconnect the small black two-wire connector from the interconnect board and move it out of the way.
 - Remove the four Phillips screws securing the hard drive to the internal frame.
 - The hard drive easily slides out once it is detached from the interconnect board.
-  The hard drive is a paltry 120 GB. If you'd like to hold more than six photographs on your computer, you can [upgrade](#) to a 500 GB drive for just \$130 and a little time.
-  Apple only allows you to customize the mini with a 320 GB drive, and they want a whopping \$175!

Step 13



- Remove the two screws holding the fan in place.
- Disconnect the fan's blue/gray cable from the interconnect board. This should allow the fan to be removed from the framework.
- The top half of the Mac mini is now completely disassembled!

Step 14



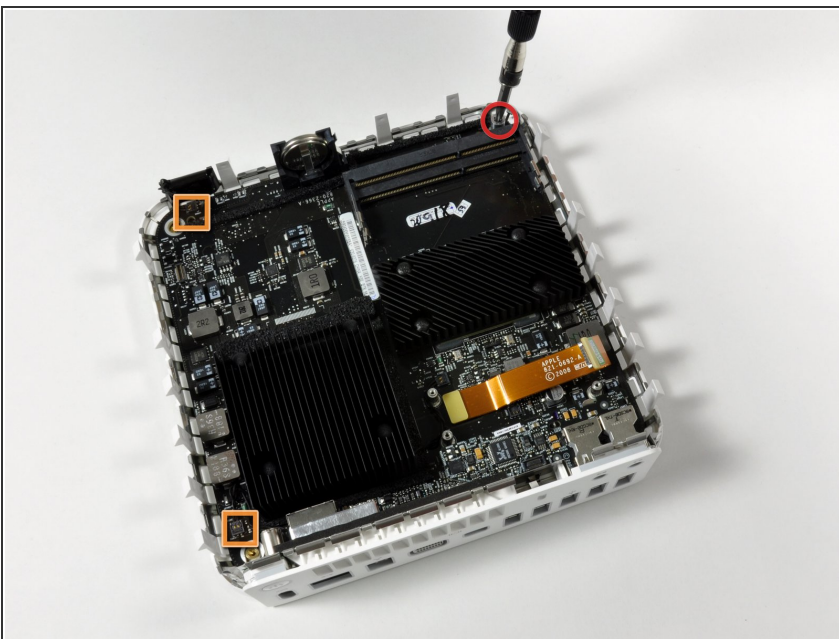
- Now for the lower half...
- The standard quick pry with the fingers (and subsequent pull) frees the RAM from the logic board.
- ⓘ Our \$599 mini shipped with only a single 1 GB PC3-8500 chip. In this configuration, the NVIDIA 9400M graphics processor allocated 128 MB of this memory as VRAM. When we installed a second chip in this machine, for a total of 2 GB, the 9400M automatically allocated 256 MB VRAM instead.

Step 15



- On to the AirPort/Bluetooth board removal. A couple of steps are needed to remove the board:
 - Disconnect the three antennas (marked in red).
 - Disconnect the AirPort/Bluetooth communication cable (second photo).
 - Remove three Phillips screws (third photo) and then completely remove the AirPort/Bluetooth board.

Step 16



- Once we had removed the AirPort/Bluetooth board, the only thing preventing us from taking out the logic board was two connectors and a T10 Torx screw.
- Disconnect the power button cable and the power-on LED.
- Use a T10 Torx screwdriver to remove the standoff screw.

Step 17



- Use a spudger to gently pry up the logic board.
- Grasp the logic board with your hand and pull it away from the I/O ports.
- Voila! The logic board is free.

Step 18



- All the goodies of the disassembly in one place. Taking apart the Mac mini was a lot simpler than the [iMac](#) we took apart yesterday.
- Putting the mini back together was easy too, it's running great. In fact, we've figured out how to add [one terabyte of internal storage](#) to our mini.
- We also did these [product teardowns](#) recently:
 - [iMac 20" disassembly](#)
 - [Kindle 2 disassembly](#)
 - [MacBook Pro 17" disassembly](#)
- Shameless plug: We sell both [Mac parts](#), [iPod parts](#), and [tools](#).