Mac mini Mid 2010 Logic Board Replacement

Completely replacing the logic board requires...

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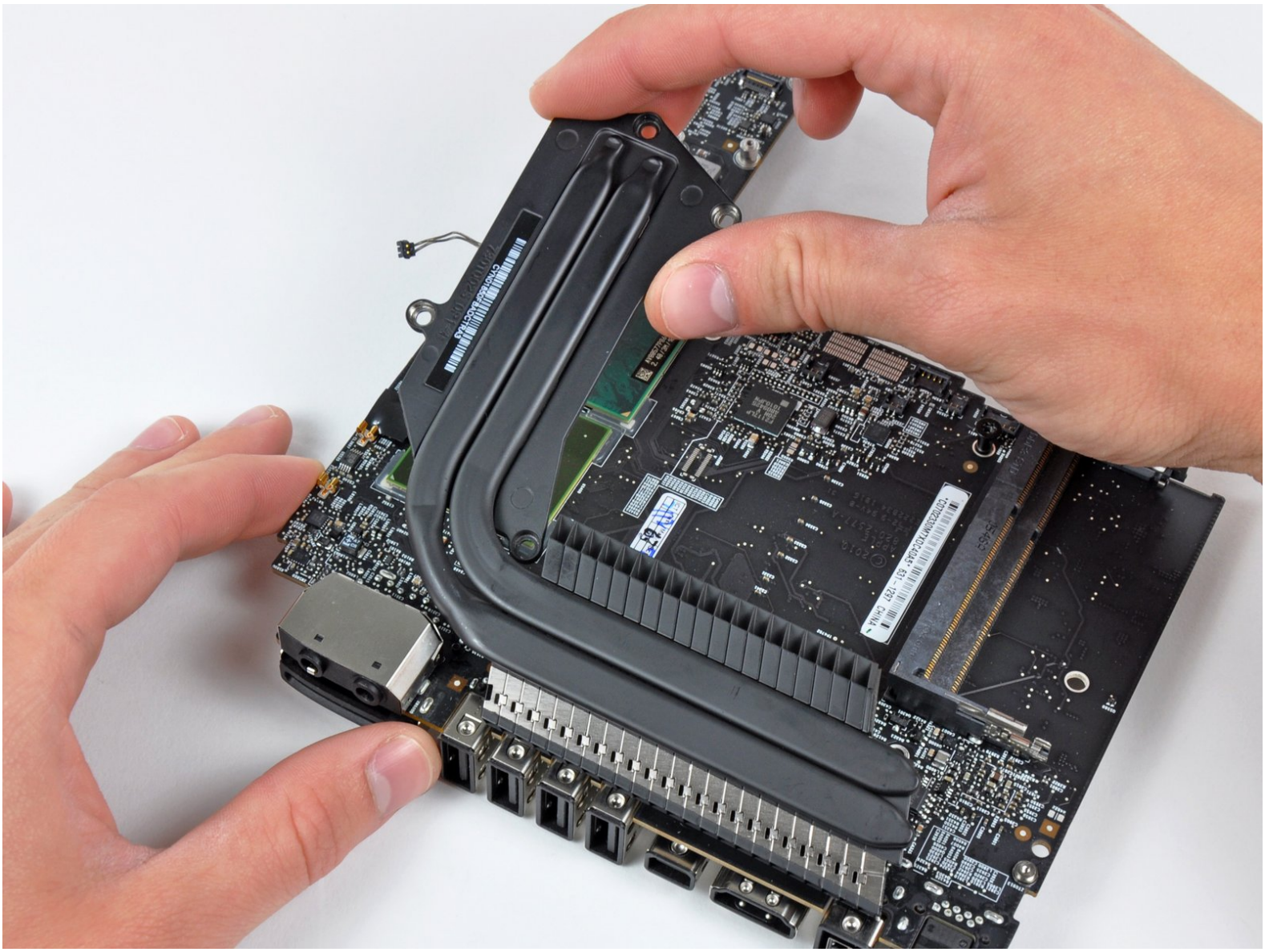


INTRODUCTION

Completely replacing the logic board requires removal of the logic board itself as well as all components attached to it.

TOOLS:

- 2 mm Hex Screwdriver (1)
- Arctic Silver ArctiClean (1)
- Arctic Silver Thermal Paste (1)
- Mac Mini Logic Board Removal Tool (1)
- Spudger (1)
- T6 Torx Screwdriver (1)
- TR8 Torx Security Screwdriver (1)

PARTS:

- Mac mini A1347 (Mid 2010) 2.4 GHz Logic Board (1)

Step 1 — Bottom Cover

- Place your thumbs in the depressions cut into the bottom cover.
- Rotate the bottom cover counter-clockwise until the white dot painted on the bottom cover is aligned with the ring inscribed on the outer case.

Step 2

- Tilt the mini enough to allow the bottom cover to fall away from the outer case.
- Remove the bottom cover and set it aside.

Step 3 — Fan

- Remove the two 11.3 mm T6 Torx screws securing the fan to the logic board near the antenna plate.

Step 4

- Lift the ear of the fan nearest the RAM up off the standoff secured to the outer case.

  If the fan doesn't separate from the standoff screw with a moderate amount of force, you can use a T6 Torx driver to simply remove this screw.

Step 5

- Lift the fan out of the mini for enough clearance to access its connector.
- Carefully pull the fan cables upward to lift the fan connector up out of its socket on the logic board.
- Remove the fan.

Step 6 — Cowling

- Remove the single 3.5 mm T6 Torx screw securing the cowling to the heat sink.

Step 7

- Lift the cowling from the end nearest the antenna plate.
- Rotate the cowling away from the outer case and remove it from the mini.

Step 8 — Antenna Plate

- Remove the following screws securing the antenna plate to the mini:
  - Two 6.6 mm T8 or T9 Torx screws
  - Two 5.0 mm T8 Torx or 2.0 mm Hex screws (either will work)

Step 9

- Slightly lift the antenna plate from the end closest to the RAM.
- Carefully pull the antenna plate straight away from the circular rim of the outer case.

⚠ Do not remove the antenna plate yet. It is still attached to the AirPort/ Bluetooth board.

Step 10

- Use the tip of a spudger to carefully pry the antenna connector up off the AirPort/Bluetooth board.

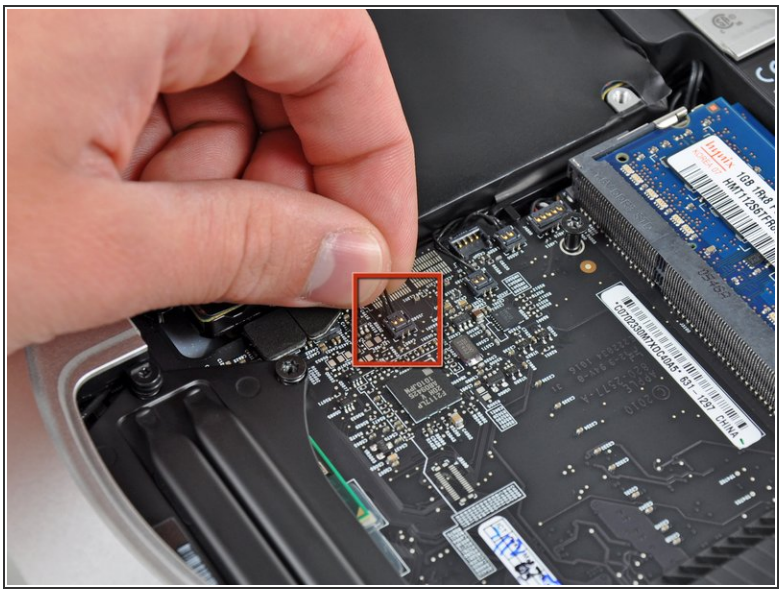
Step 11

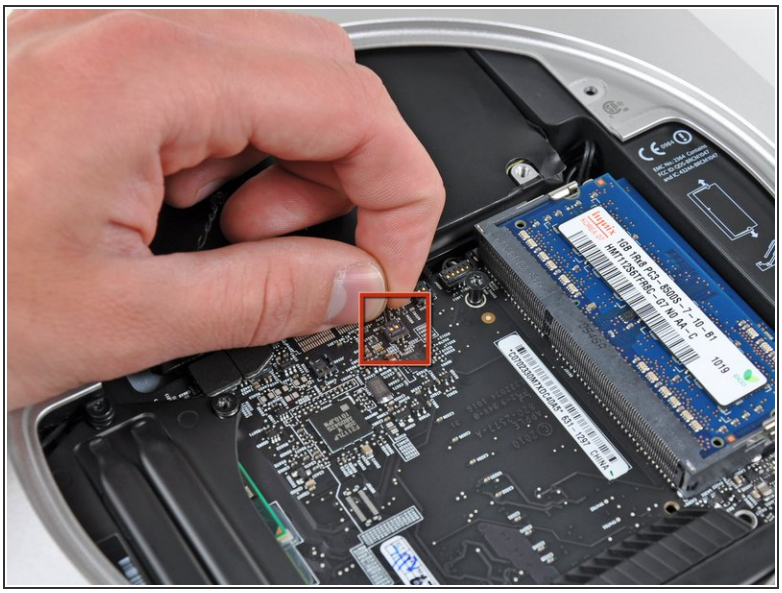
- Remove the antenna plate from the mini.

Step 12 — Logic Board

- Remove the following three screws:
  - One 5.0 mm T8 Torx or 2.0 mm Hex screw (either will work)
  - One 16.2 mm T6 Torx screw
  - One 26 mm T6 Torx standoff

Step 13



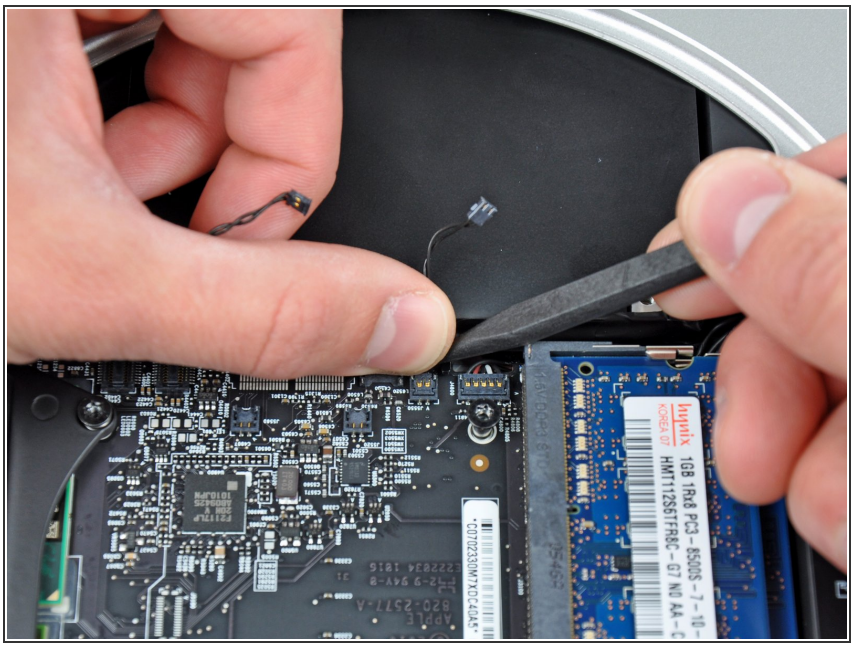


- Carefully pull the wires for both hard drive thermal sensors upward to lift their connectors up and out of the sockets on the logic board.

Step 14

- Use the flat end of a spudger to pry both the hard drive and optical drive connectors up out of their sockets on the logic board.

Step 15



- To disconnect the optical drive thermal sensor, pinch its cables between your thumb and a spudger and pry the spudger upward to lift the connector up and out of its socket on the logic board.

Step 16

- Use the tip of a spudger to lift the IR sensor connector up and out of its socket on the logic board.

Step 17



⚠ To remove the logic board, two cylindrical rods must be inserted into the holes highlighted in red. Inserting instruments into any logic board holes other than the ones highlighted in red may destroy the logic board.

- Insert a Mac mini Logic Board Removal Tool into the two holes highlighted in red. Be sure it makes contact with the outer case below the logic board before proceeding.

ⓘ If you don't have a Logic Board Removal Tool handy, you can use two tools having a maximum diameter of 2.5 mm instead. Just insert one into each of the highlighted holes.

- Carefully pull the tool toward the I/O board. The logic board and I/O board assembly should slightly slide out of the outer case.
- Cease prying when the I/O board is visibly separated from the outer case. Remove the Mac mini Logic Board Removal tool.

Step 18

- Simultaneously push the two plastic clips on the far left and right sides of the I/O board toward the middle of the I/O board and pull the I/O board away from the outer case.

Step 19

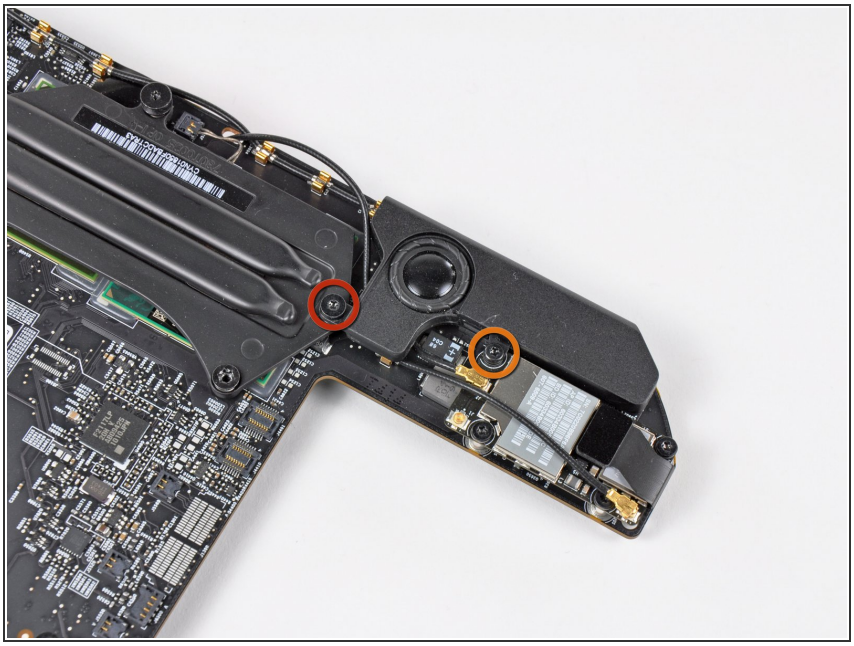
- Pull the I/O board/logic board assembly out of the outer case enough to access the power connector.
- Use a pair of tweezers to disconnect the power cable from the logic board.

Pull the power cable connector toward the optical drive opening.

Step 20

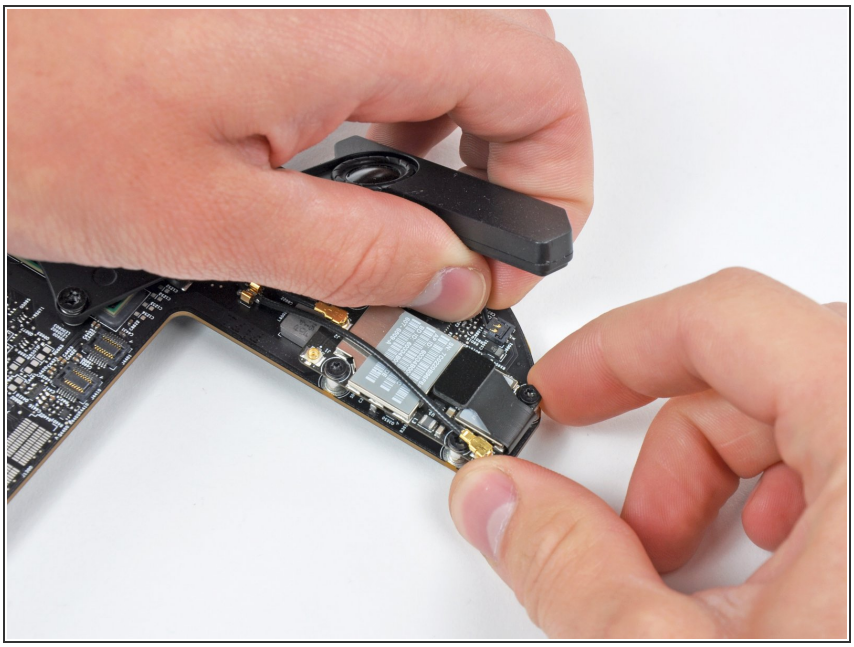
- Carefully slide the logic board assembly out of the mini, minding any cables that may get caught.

Step 21 — Speaker



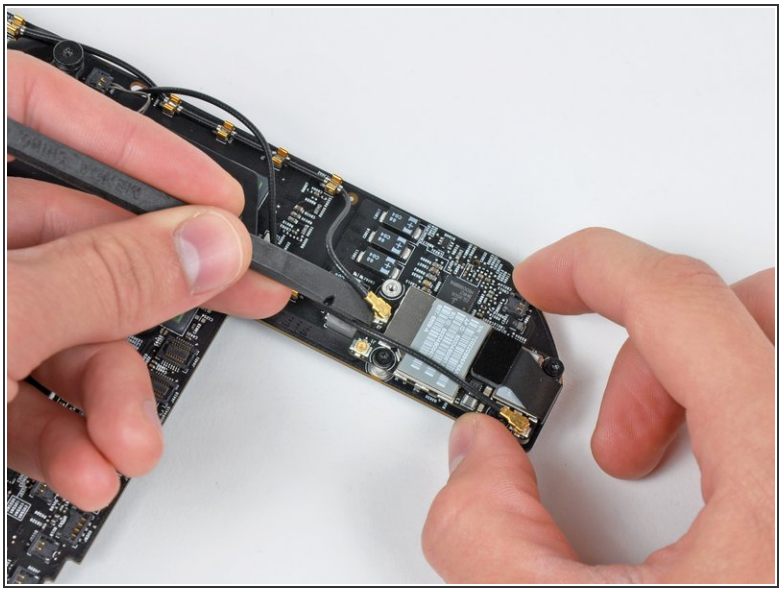
- Remove the following two screws securing the speaker to the logic board assembly:
  - One 4.2 mm T6 Torx
  - One 3.7 mm T6 Torx

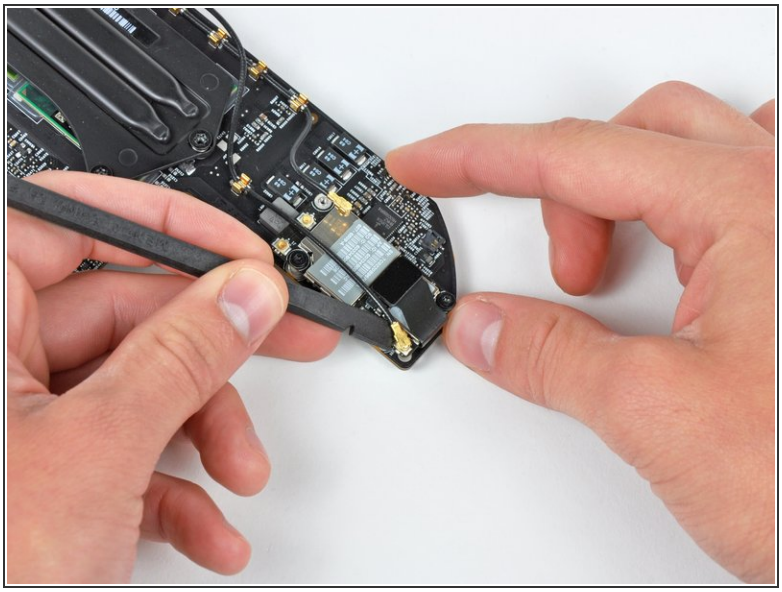
Step 22



- Carefully lift the speaker wires upward to lift the speaker connector up and out of its socket on the logic board.

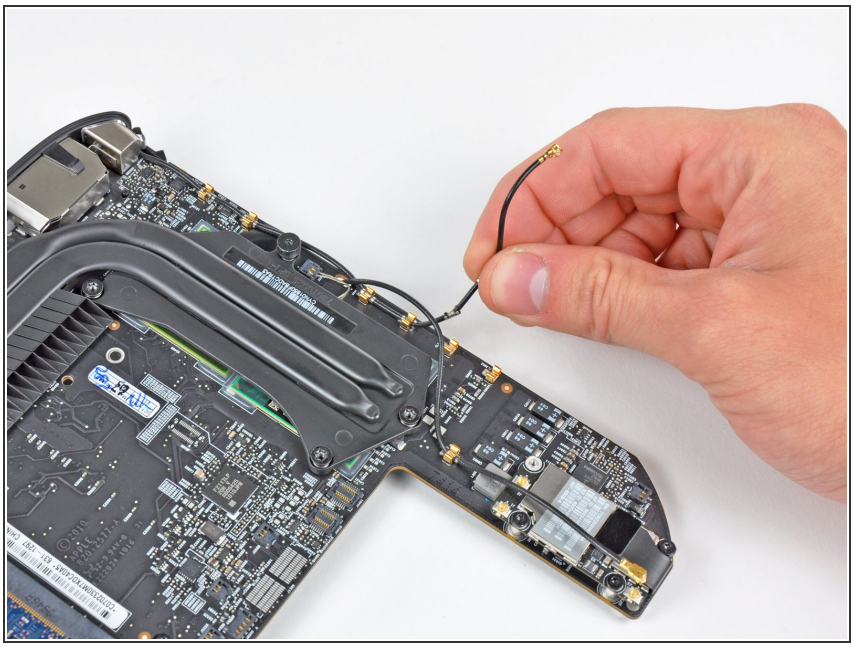
Step 23 — I/O Bezel





- Use the flat end of a spudger to pry the antenna connectors up off the AirPort/Bluetooth board.

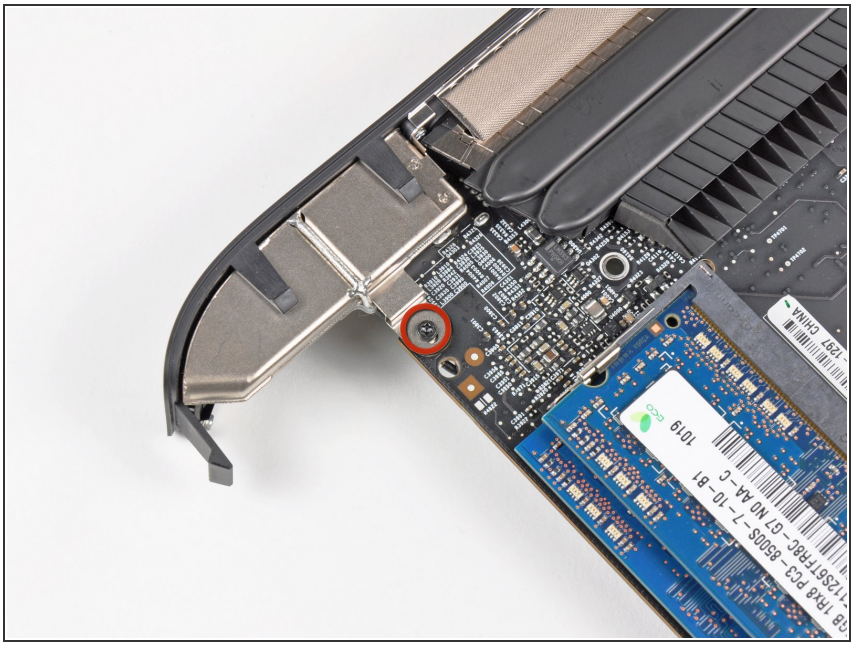
Step 24



- De-route **both** antenna cables from the clips securing them to the top side of the logic board.

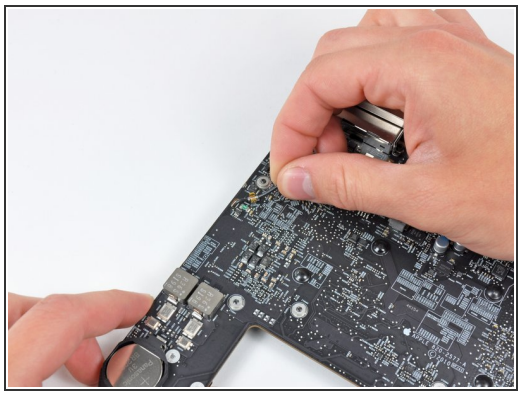
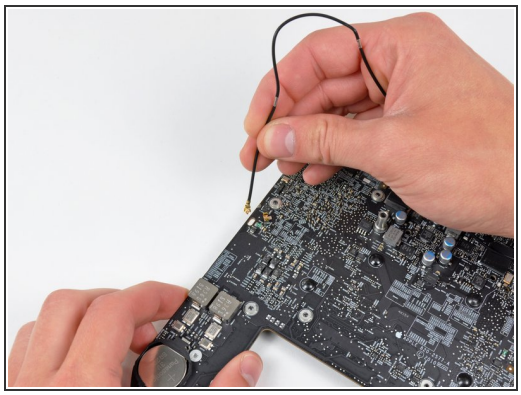
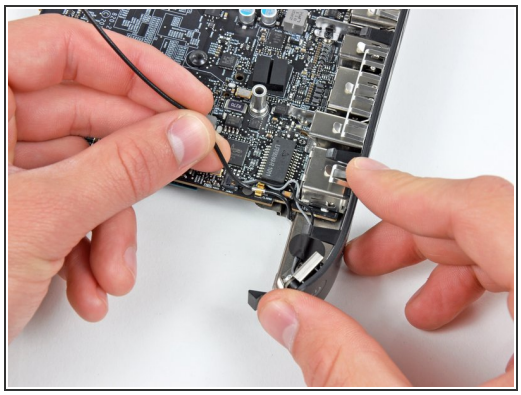
⚠ Be careful when removing the cables from their retaining clips, as the thin metal contacts crimped to the antenna cables can be easily torn off. If any contacts become separated from the antenna cables, use a pair of pliers to gently crimp them back into place.

Step 25



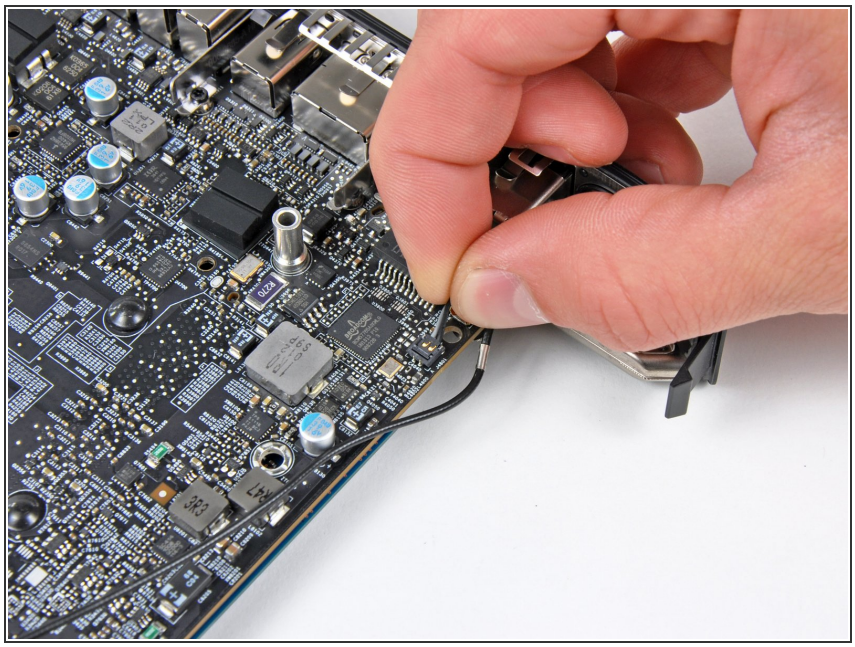
- Remove the single 2.6 mm T6 Torx screw securing the I/O bezel to the logic board near the RAM.

Step 26

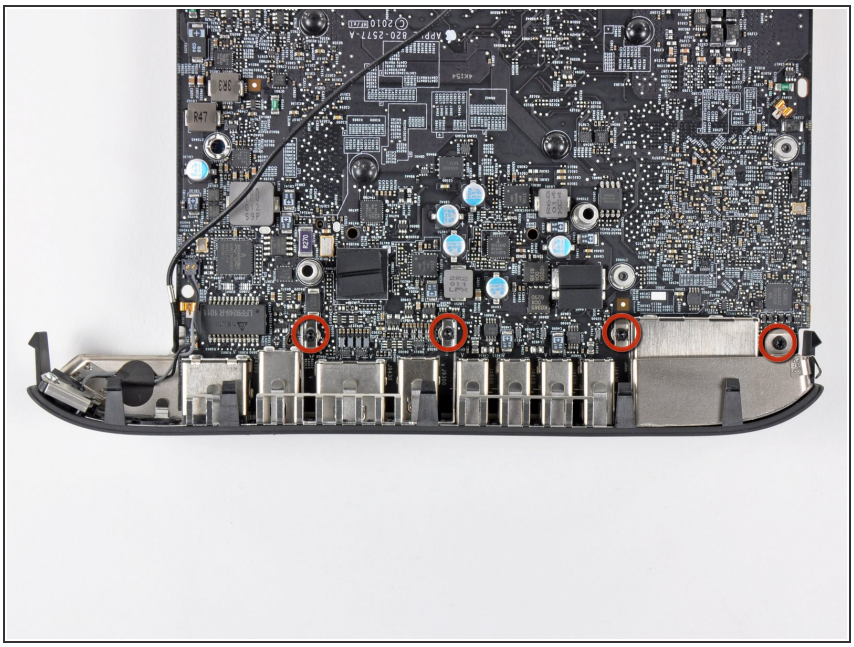
- Carefully un-clip the antenna from the logic board near the PRAM battery.
- Gently de-route the antenna cable through the hole in the logic board.
- De-route the antenna cable from the clips on the logic board near the I/O bezel.

Step 27



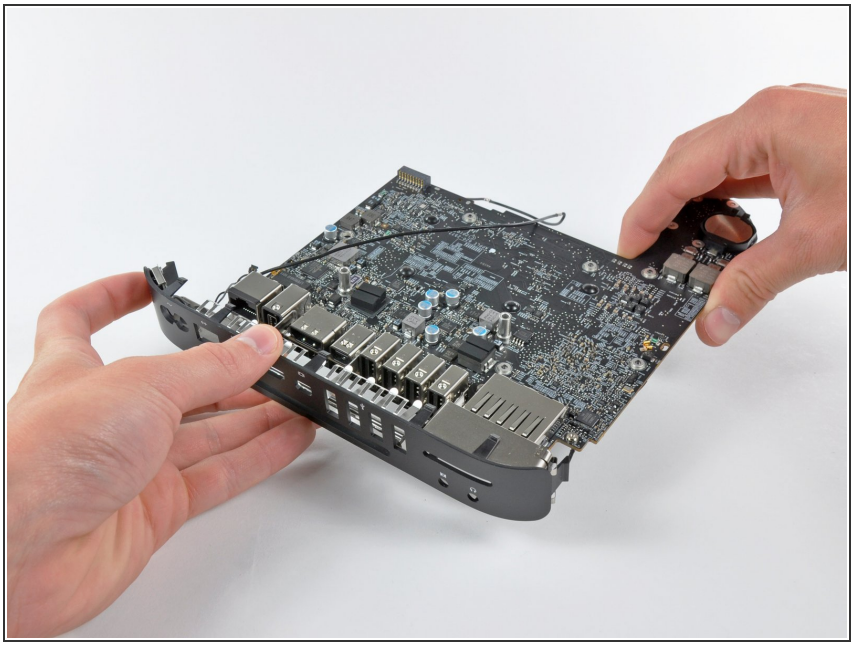
- Lift the power button cables upward to gently pull the power button cable up and out of its connector on the logic board.

Step 28



- Remove the four 2.6 mm T6 Torx screws securing the I/O bezel to the logic board.

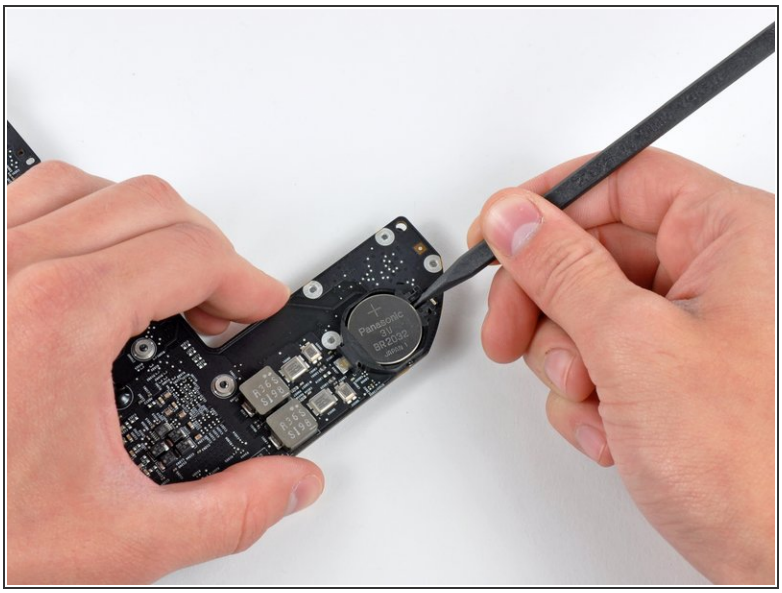
Step 29

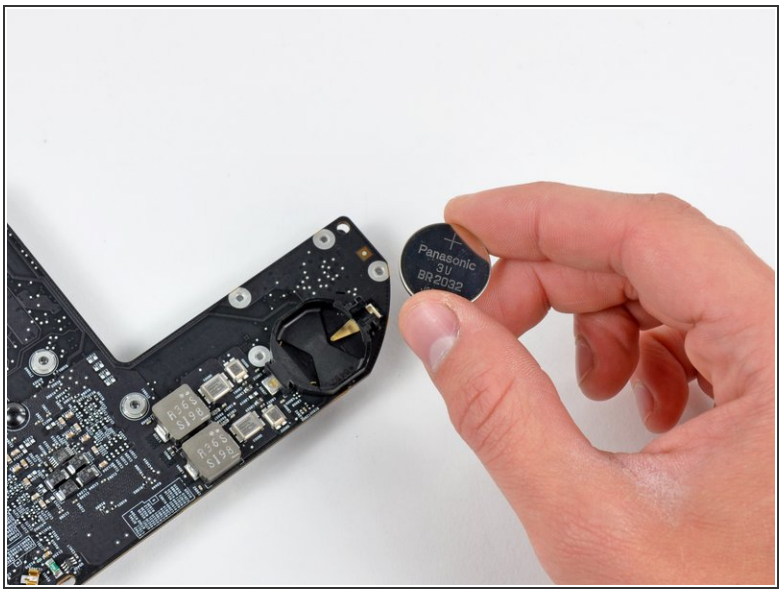


- Pull the I/O bezel away from the logic board, minding any cables that may get caught.

Try not to handle the small steel EMI fingers on the logic board and I/O bezel, as oils from your fingers may cause interference issues. Before installing the logic board assembly, clean the EMI fingers to remove any oils transferred during the removal process.

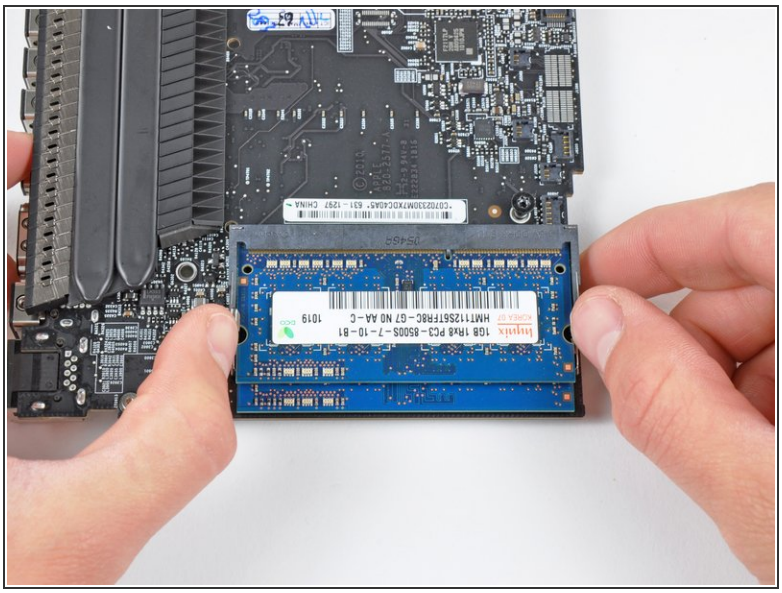
Step 30 — Logic Board





- Use the tip of a spudger to carefully pry the PRAM battery up and out of its holder on the logic board.
- Remove the PRAM battery and set it aside.

Step 31



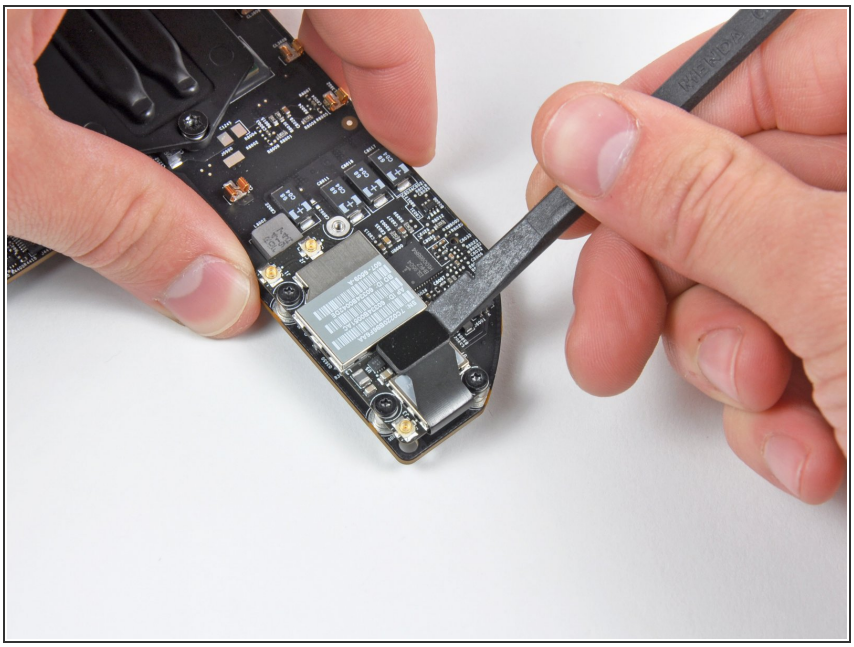
- Release the tabs on each side of the RAM chip by simultaneously pushing each tab away from the RAM.

These tabs lock the chip in place and releasing them will cause the chip to "pop" up.

- After the RAM chip has popped up, pull it straight out of its socket.

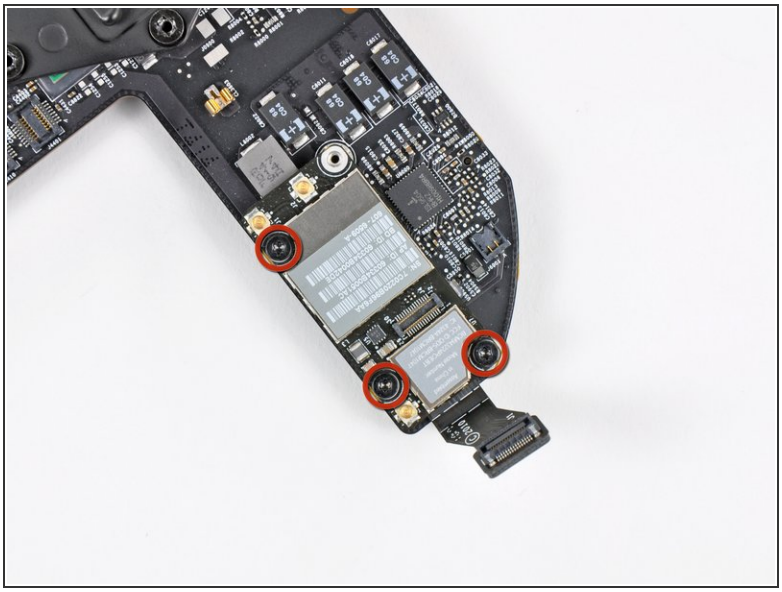
Repeat this process if a second RAM chip is installed.

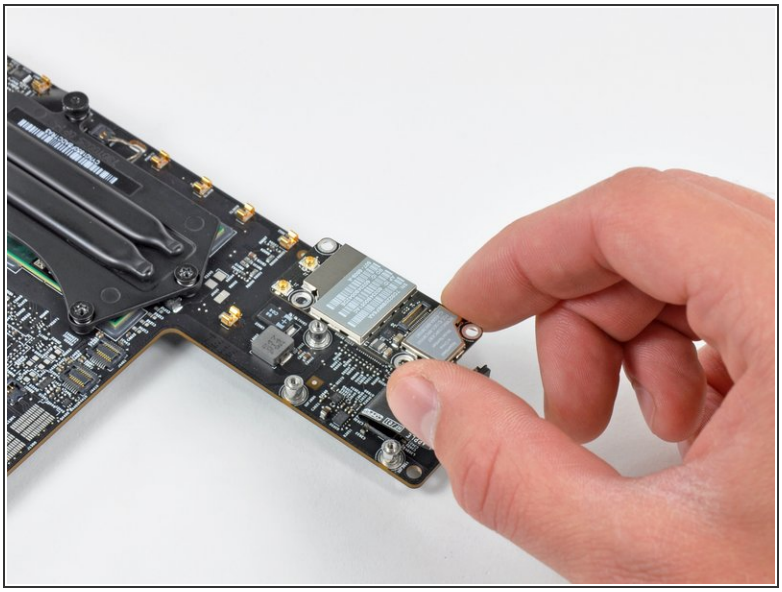
Step 32



- Use the flat end of a spudger to pry the AirPort/Bluetooth ribbon cable connector up off the AirPort/Bluetooth board.

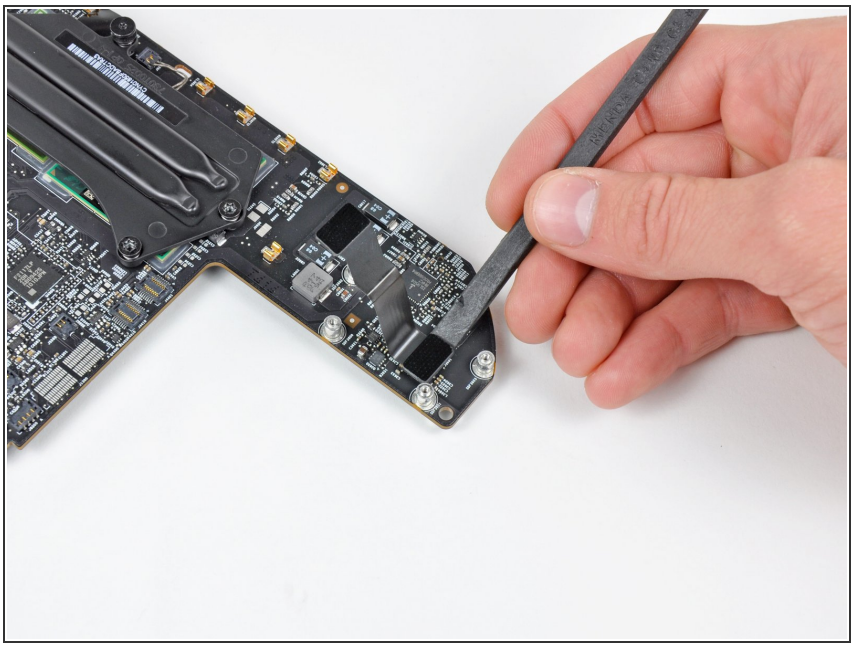
Step 33





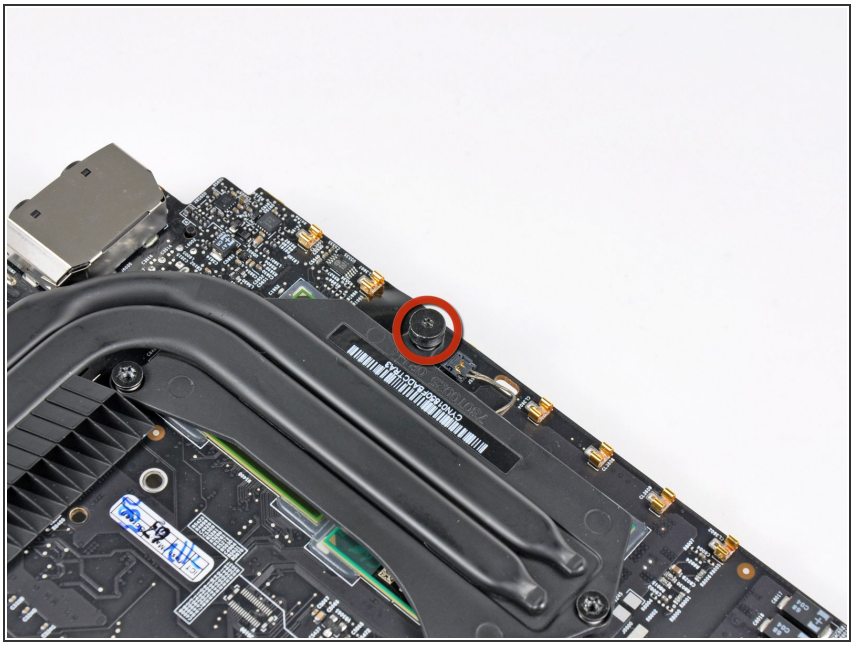
- Remove the three 2.6 mm T6 Torx screws securing the AirPort/Bluetooth board to the logic board.
- Remove the AirPort/Bluetooth board and set it aside.

Step 34



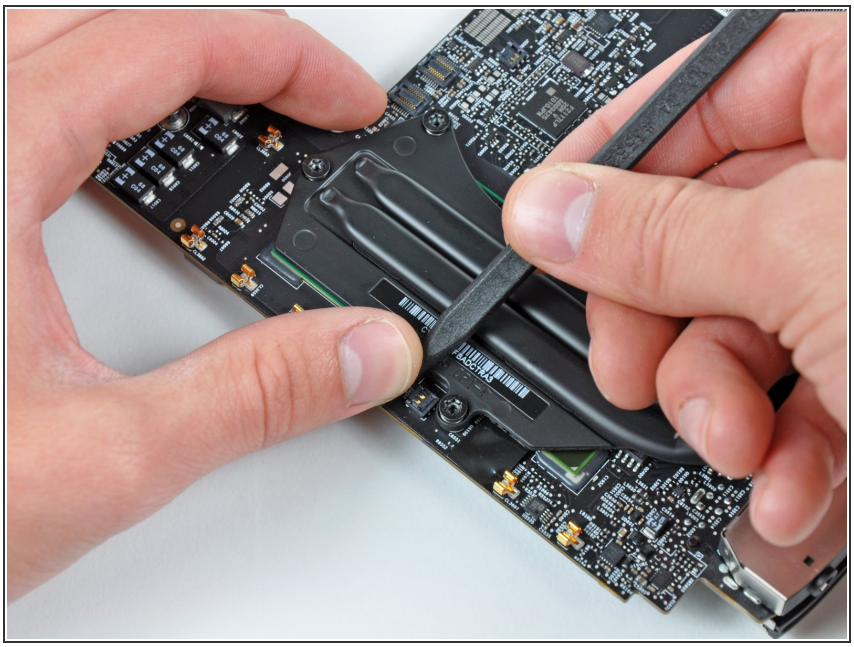
- Use the flat end of a spudger to pry the AirPort/Bluetooth ribbon cable up off the logic board.
- Remove the AirPort/Bluetooth ribbon cable.

Step 35



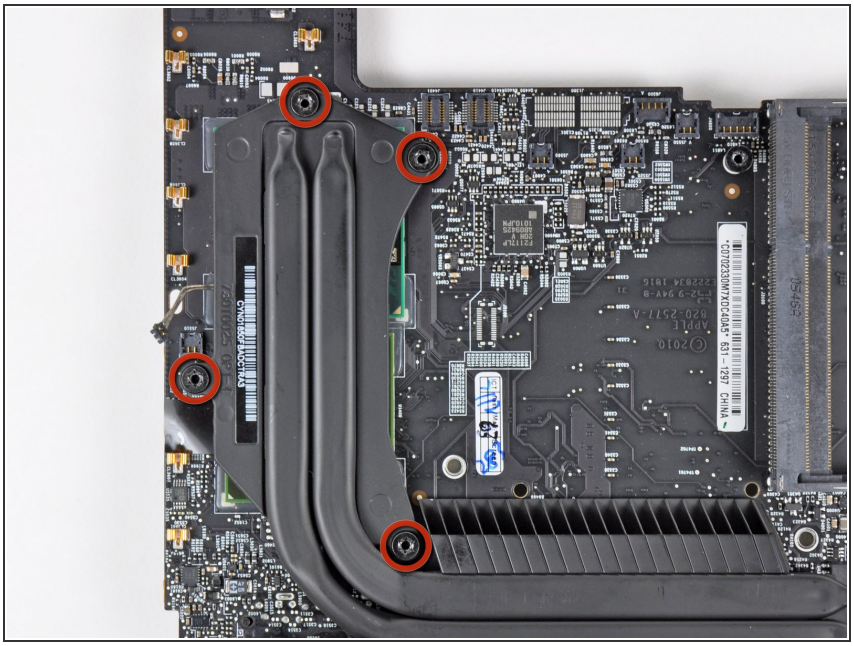
- Remove the single 5 mm T6 Torx standoff from the heat sink.

Step 36



- To disconnect the heat sink thermal sensor, pinch its cables between your thumb and a spudger and pry the spudger upward to lift the connector up and out of its socket on the logic board.

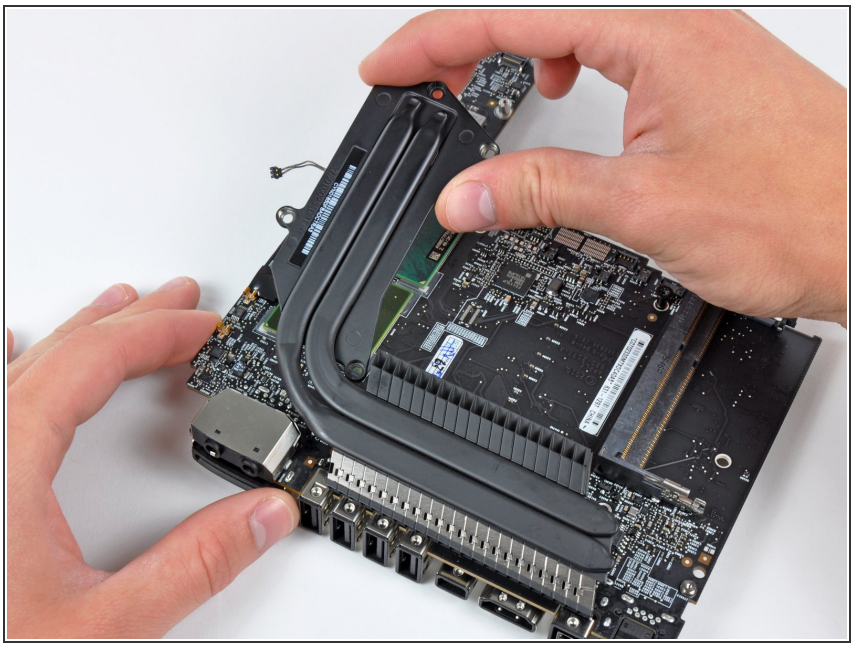
Step 37



- Remove the four 8.5 mm T8 Torx screws securing the heat sink to the logic board.

⚠ Keep track of the springs held beneath each of the heat sink screws.

Step 38



- Carefully lift the heat sink off the logic board, minding the thermal sensor cable that may get caught.

- If the heat sink appears to be stuck to the logic board after removing all six screws, it may be helpful to use a spudger to separate the two components.

- If you need to mount the heat sink back onto the logic board, we have a thermal paste guide that makes replacing the thermal compound easy.

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

