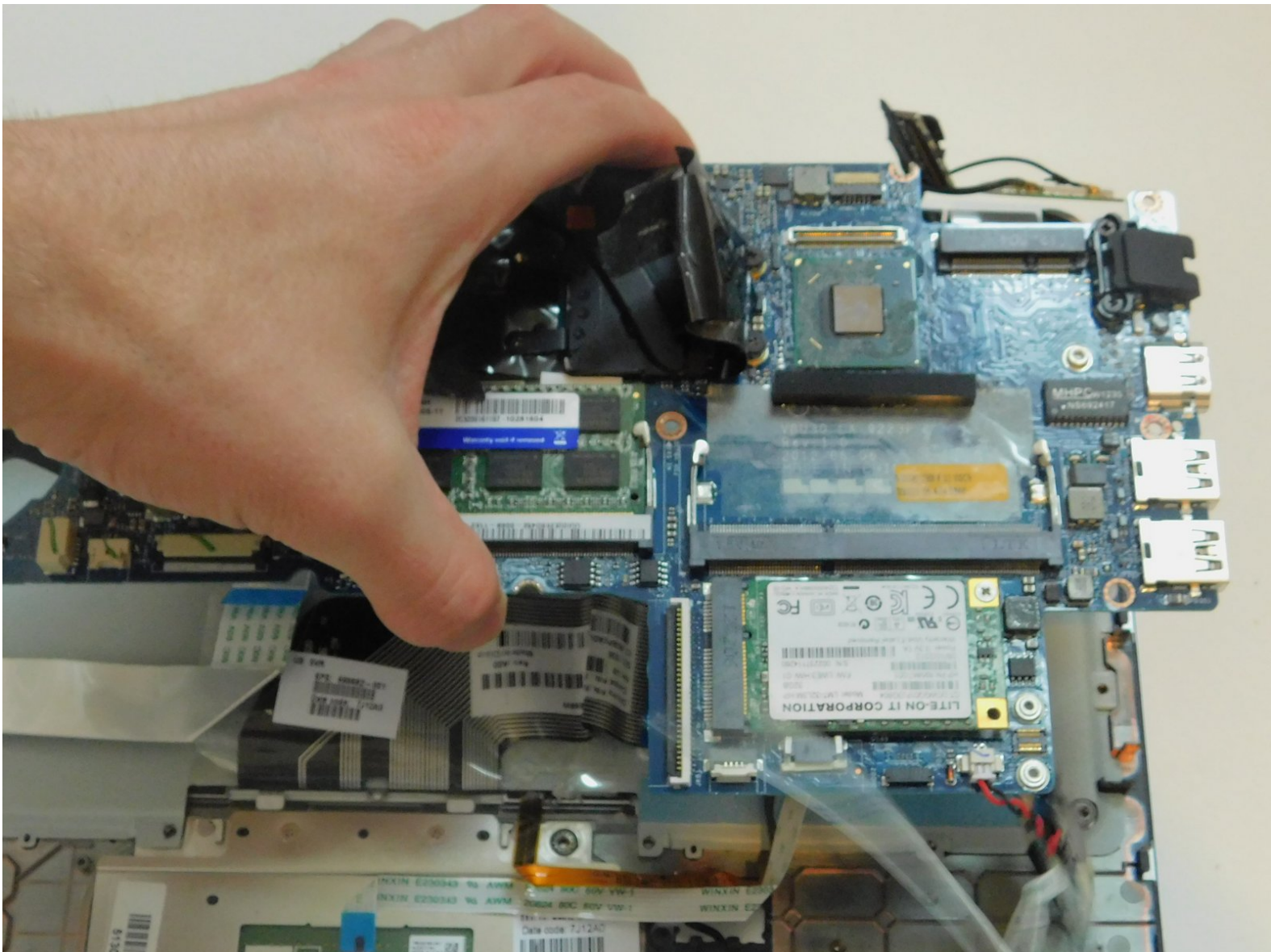




HP Envy 4-1105dx Motherboard Replacement

Use this guide to replace a damaged or defective motherboard.

Written By: Mace S



INTRODUCTION

Replacing a laptop's motherboard can cause irreversible damage to the device, and it should be a last resort. Some professionals prefer to salvage any working components and replace the whole machine because this saves time and increases the likelihood of retaining working parts. The construction of the HP Envy 4-1105 makes this procedure particularly inconvenient since it is impossible to get at the motherboard without disconnecting many other delicate components.

However, if you are confident that a new motherboard will improve your laptop's performance, and you are comfortable with the possibility that you will need to replace the entire laptop if the motherboard replacement doesn't work out, this guide can help.

For best results, familiarize yourself in advance with the appearance of your laptop's components, consult a reference manual for safe handling of electronics, and make sure your work space is secure, so any components you leave out will not be disturbed.



TOOLS:

- [Phillips #1 Screwdriver](#) (1)
- [iFixit Opening Tools](#) (1)
- [Spudger](#) (1)



PARTS:

- [HP TouchPad Battery](#) (1)
- [Replacement HP 4-1105 motherboard](#) (1)

Step 1 — Battery



- ❗ Power off the device before beginning disassembly. Disconnect all external devices.
- Flip the device on its back.

Step 2



- Unscrew and remove the one 7.5 mm Phillips-head screw using Phillips #1 screwdriver.

Step 3



- Unscrew twelve 6.0 mm Phillips-head screws using Phillips #1 screwdriver.

Step 4



- Use the plastic opening tool (which is short and has a thin end for prying open device parts) to pry open the back case of the device.

Step 5



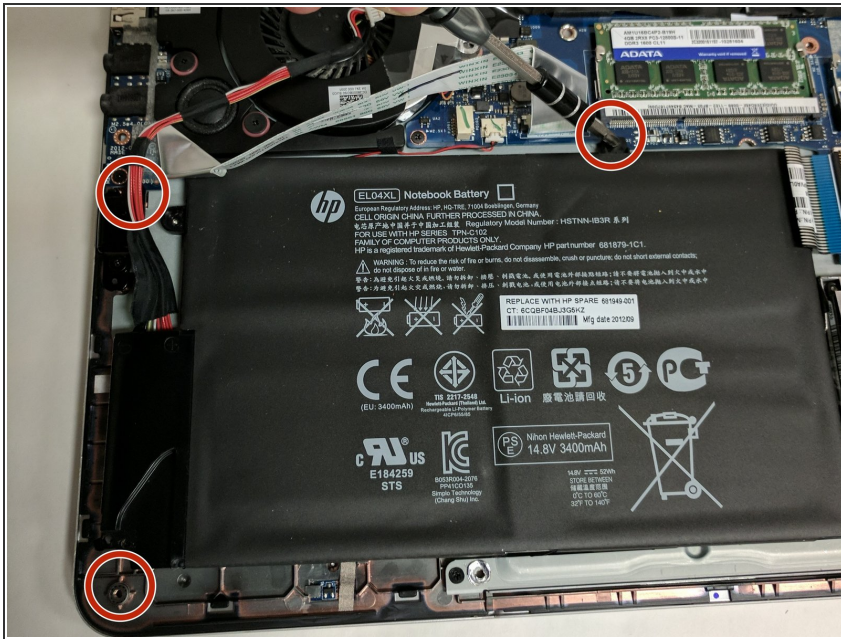
- Once the device is open, move the ribbon cable to the side.

Step 6



- Use the flat end of a plastic spudger to disconnect the battery cable from its socket in the motherboard.

Step 7



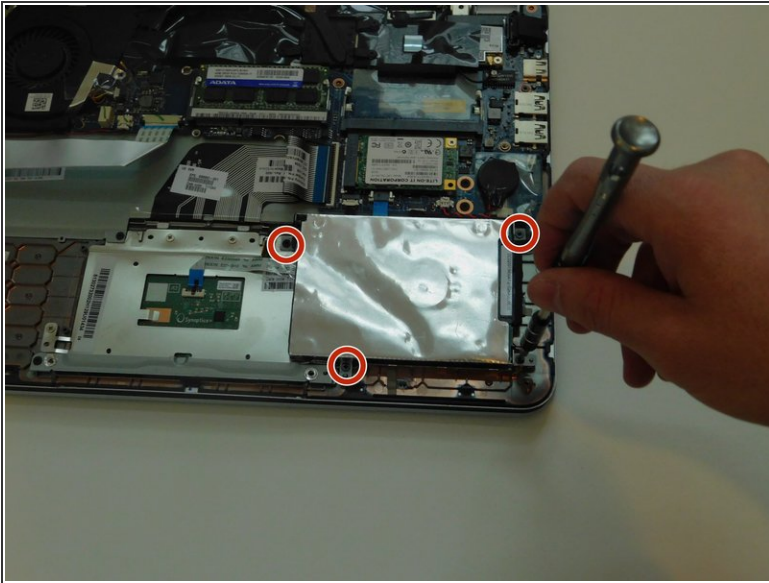
- Unscrew and remove the three 4.0 mm Phillips-head screws that hold the battery in place, using a Phillips #1 screwdriver.

Step 8



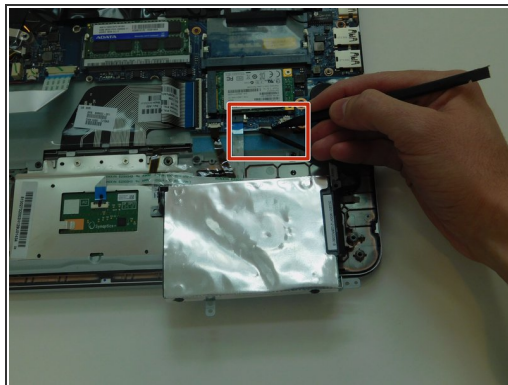
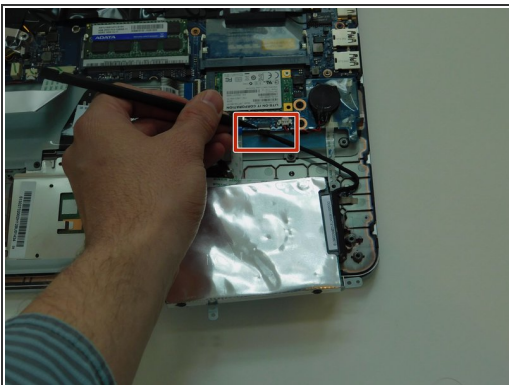
- Lift the battery up and remove.
- ⚠ Removing the battery can dislodge the touchpad bracket. Place the battery carefully over the alignment pins.

Step 9 — Hard Drive



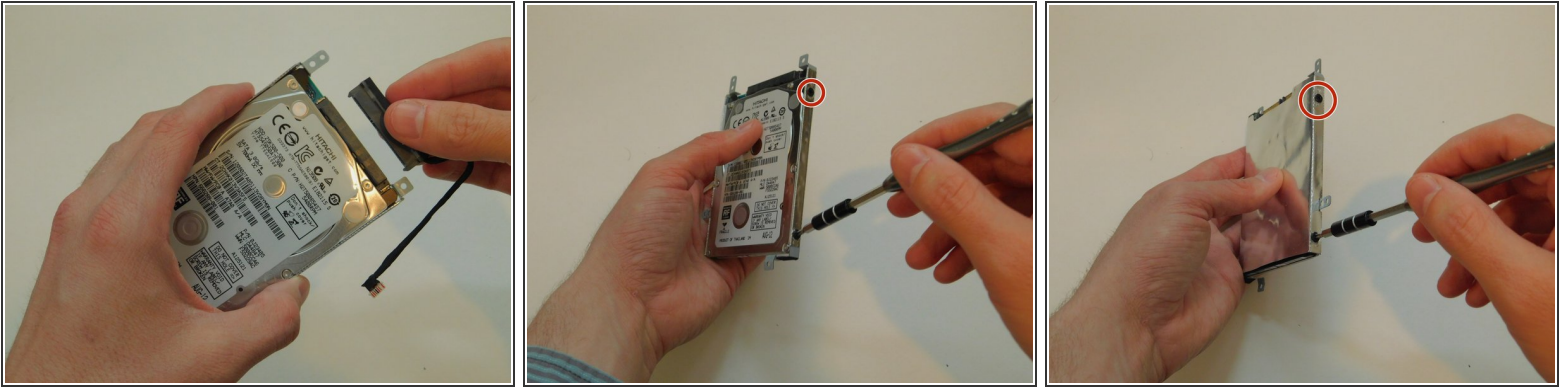
- Remove the four 4.0 mm screws that hold down the hard drive case using a Philips #1 Screwdriver.
- Move the hard drive case and hard drive so that you can easily reach the hard drive cable.

Step 10



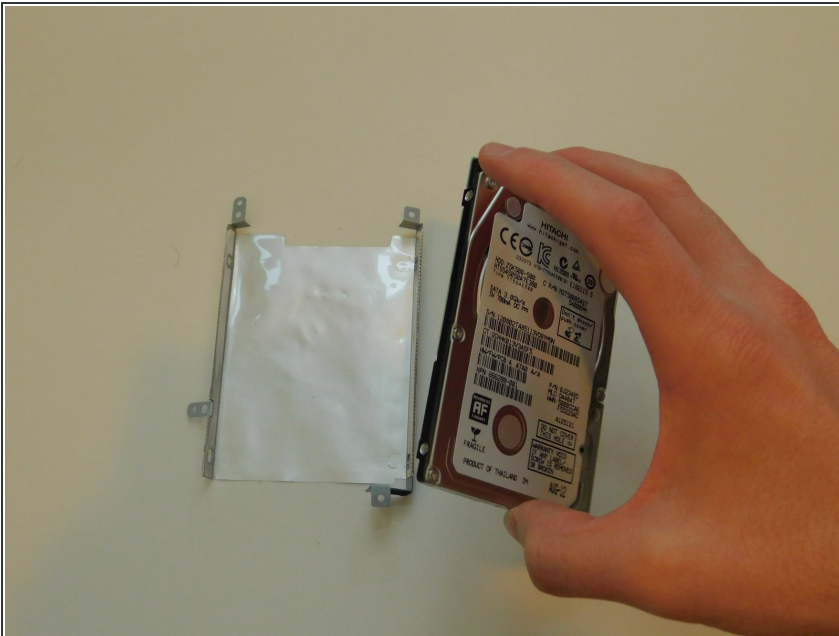
- Use the plastic spudger tool to loosen the hard drive SATA cable connection by pushing it away from the motherboard.
- Once it is loose, pull the hard drive out of the socket.
- Remove the hard drive from the device.

Step 11



- Pull out the hard drive cable from the hard drive, and set it aside.
- Remove the four 3.0 mm screws that attach the hard drive case to the hard drive using a Philips #1 Screwdriver. If the screwdriver is too big, try #0 sized screwdriver.

Step 12



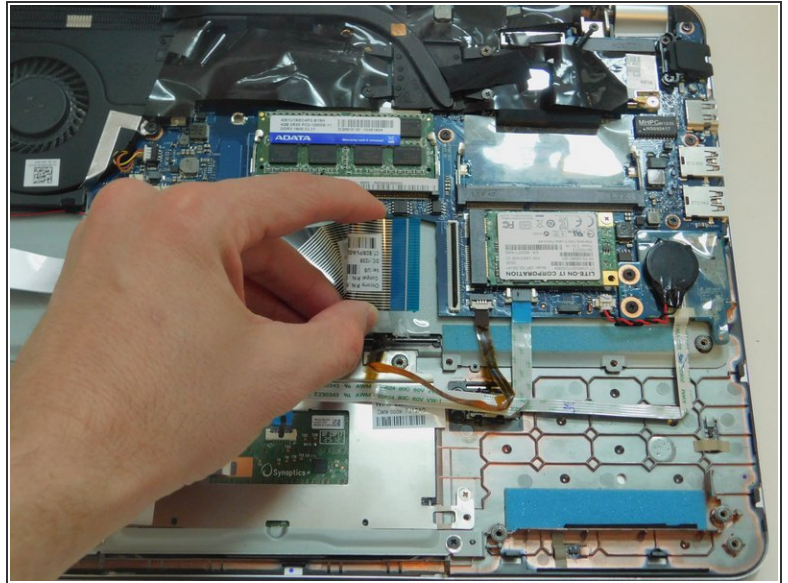
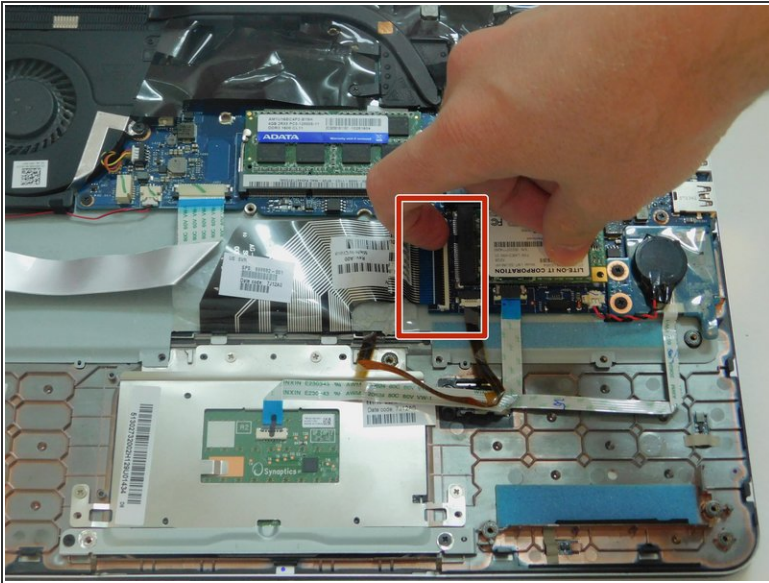
- Remove the hard drive from the hard drive case.

Step 13 — Motherboard



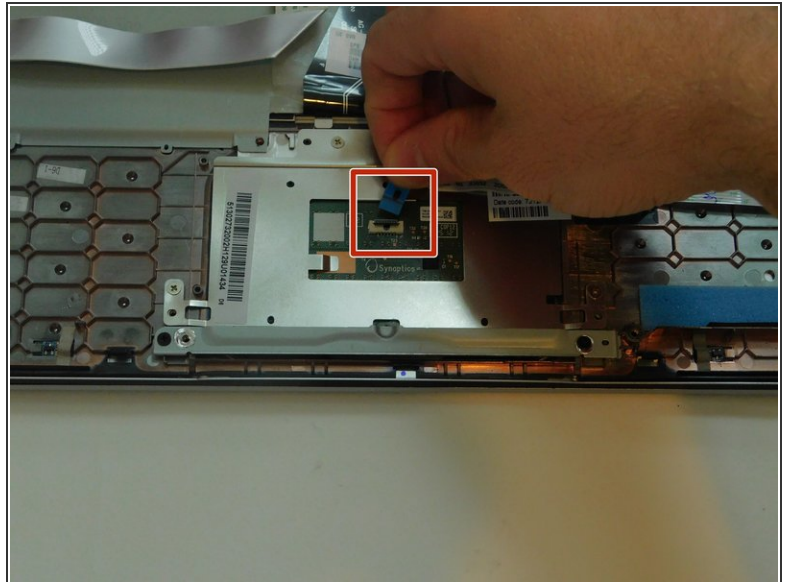
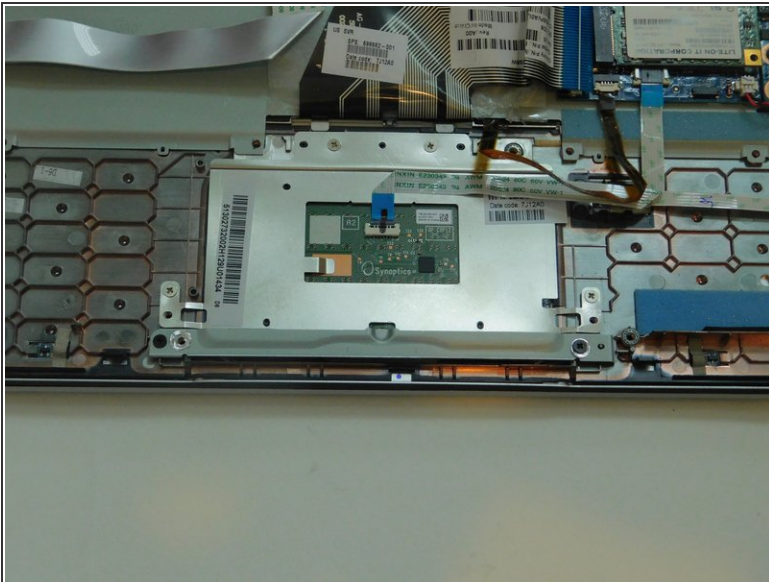
- Prepare to disconnect the motherboard from any components you have not already removed, including the screen, touchpad, and keyboard.
- ⓘ In its original factory configuration, the motherboard is connected to 10 components.
- ⓘ Take notes or photographs to help you remember which connections went to which components.
- ⓘ Components do not have to be disconnected in the order shown.
- ⚠ Whenever possible, use plastic tools rather than metal ones, and don't touch connection points.

Step 14



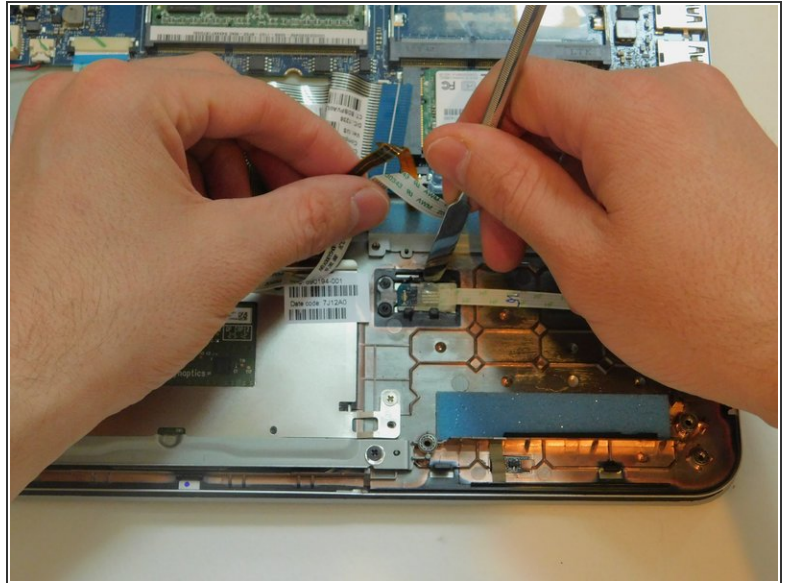
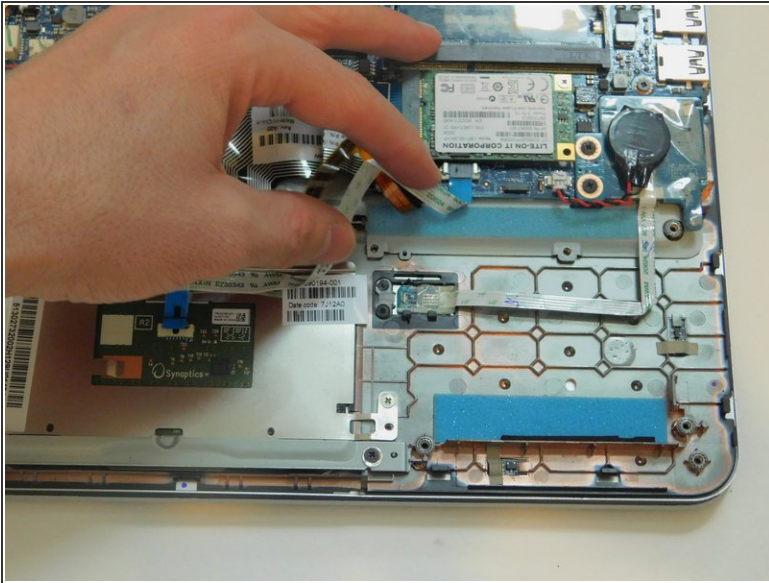
- Remove the ribbon cable running from under the motherboard by undoing the latch mechanism with your fingernail, and pulling out on the edge of the connector. (This is the keyboard cable).

Step 15



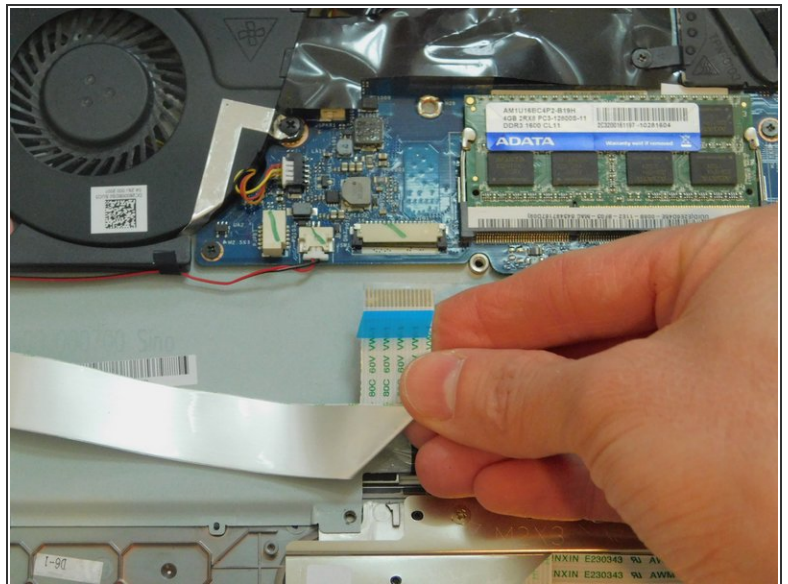
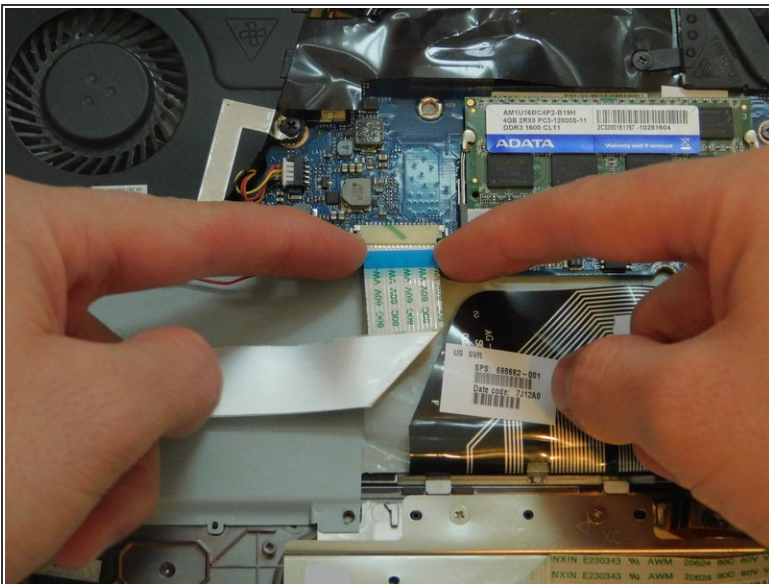
- Flip up the black connector with your fingernail or using the plastic spudger.
- Unplug the trackpad by pulling up on the touchpad board cable.

Step 16



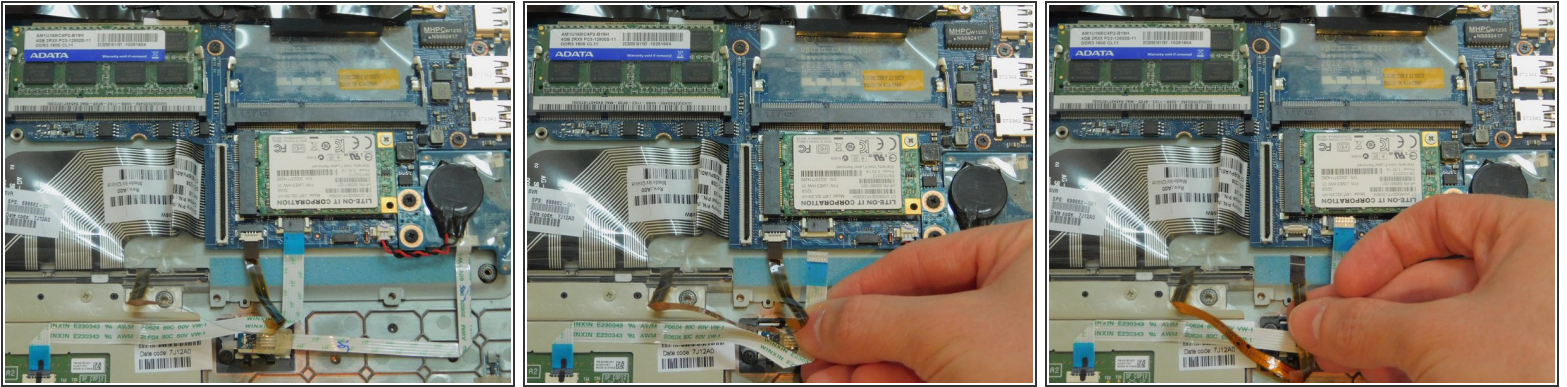
- Use the plastic spudger to gently pry out the small chip next to the touchpad.
- ⓘ The metal spudger has been used in the photograph, but the plastic spudger is a better choice because it is ESD safe.

Step 17



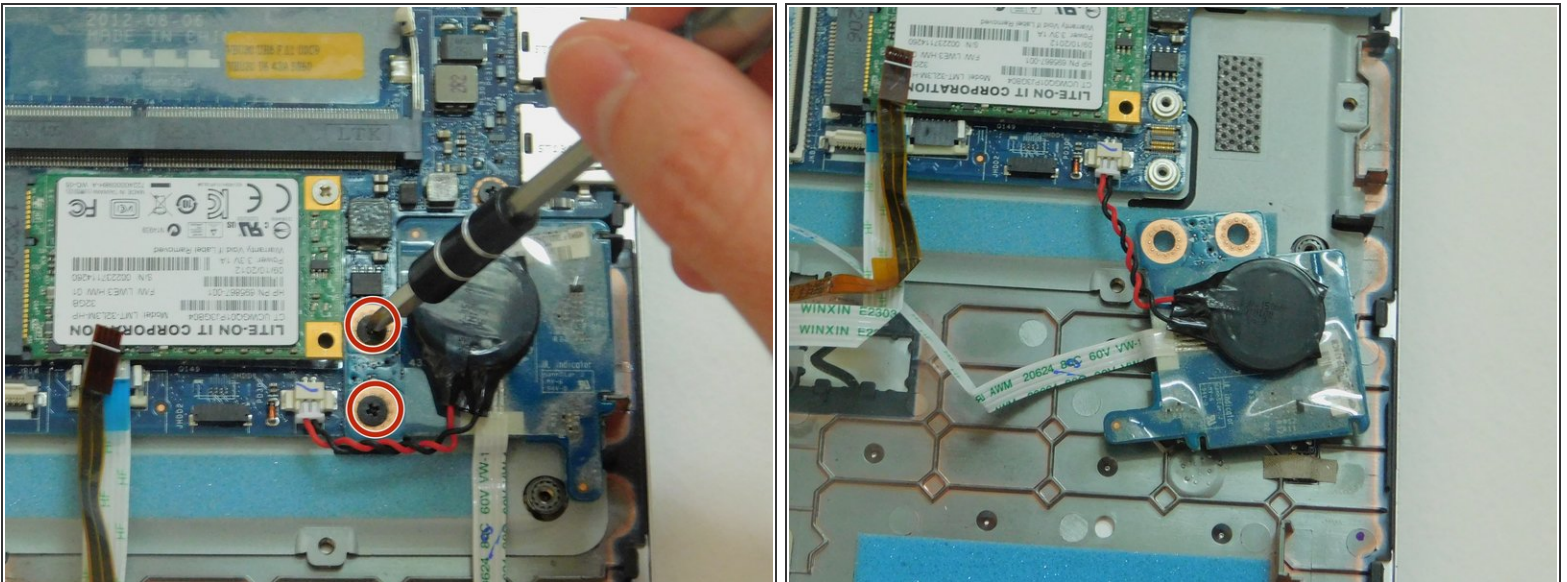
- Disconnect the ribbon cable running to the ports on the right-hand side of the laptop.

Step 18



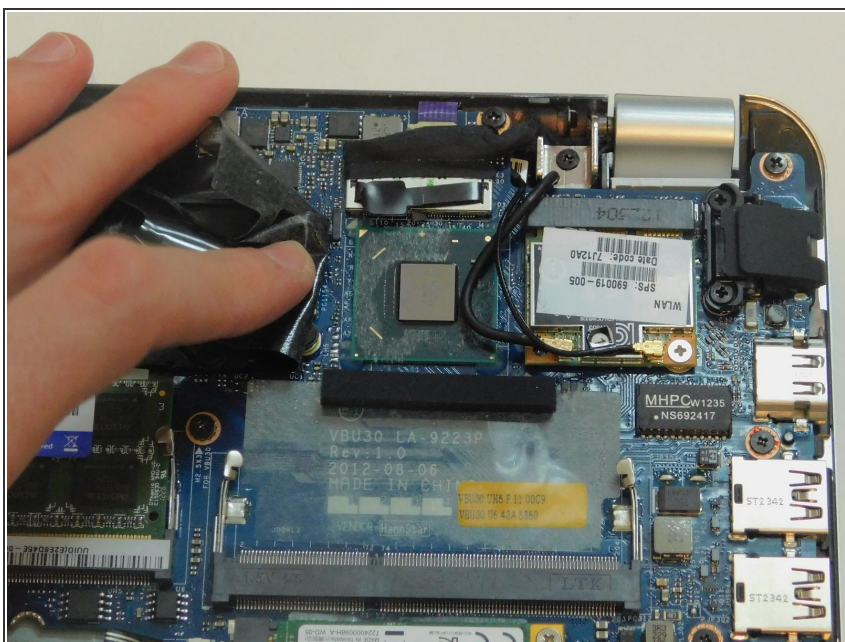
- Disconnect the two small ribbon cables in front of the hard drive. The larger one is the touchpad board cable, and the smaller one is the keyboard light cable.

Step 19



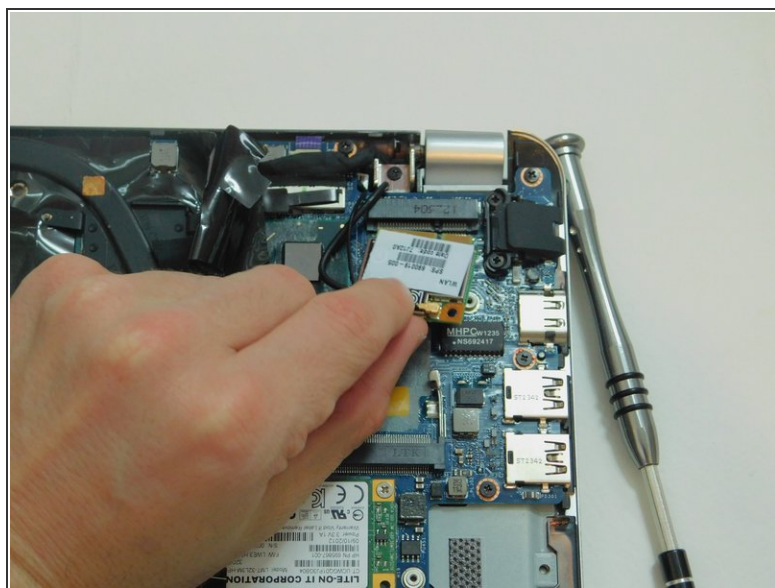
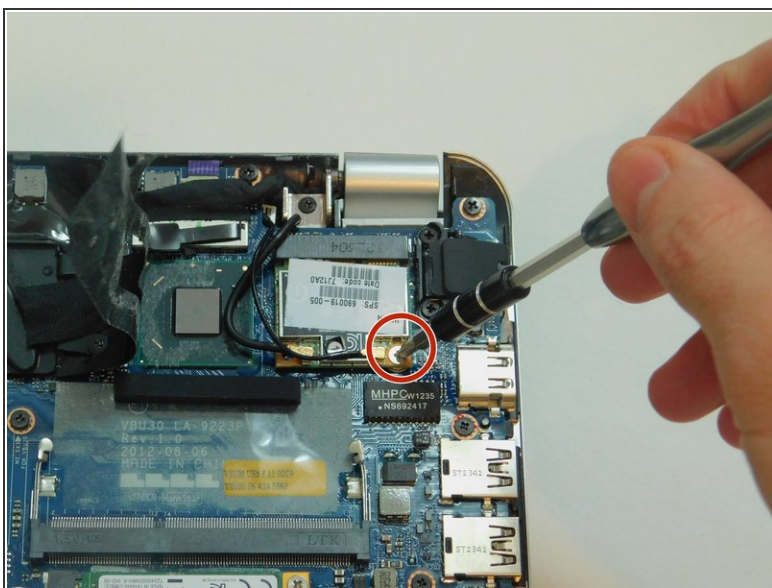
- Using a Phillips #0 screwdriver, remove the two 3.0 mm screws holding the speaker and motherboard to the plastic frame.
- Move the speaker out of the way. It will stay attached to the motherboard. The cord connection cannot be disconnected.

Step 20



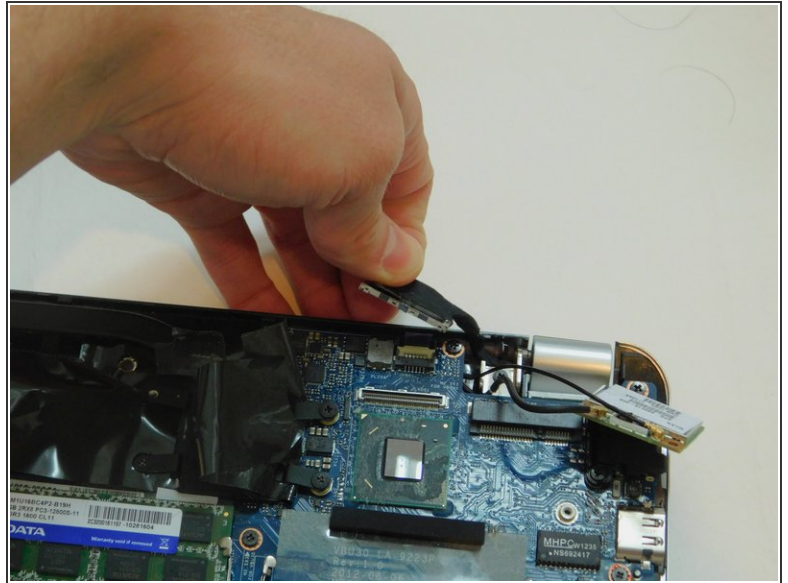
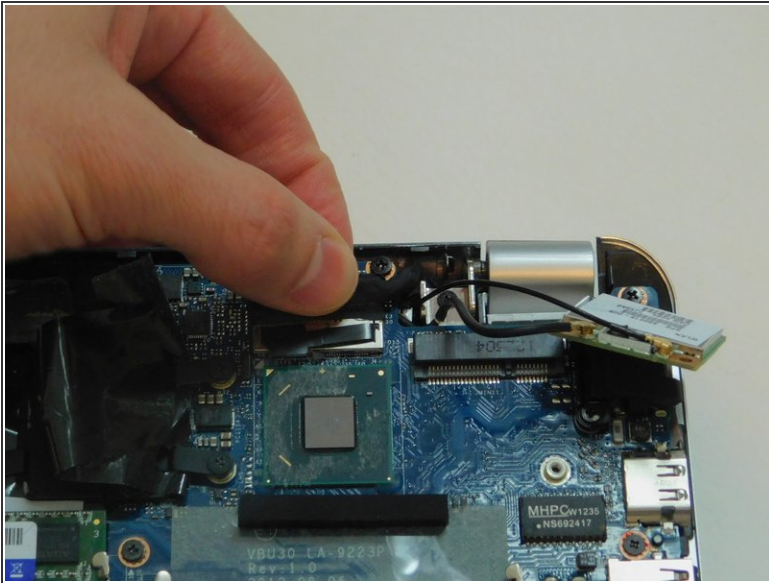
- Pull back the black plastic covering over the northbridge.

Step 21



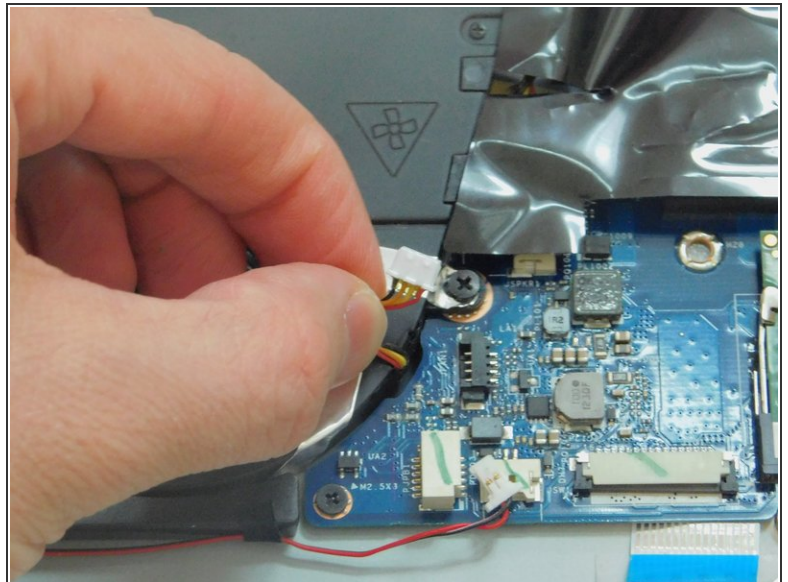
- Using a Phillips #0 screwdriver, remove the 3.0 mm screw securing the wireless LAN adapter.
- Detach the wireless LAN adapter from the board.

Step 22



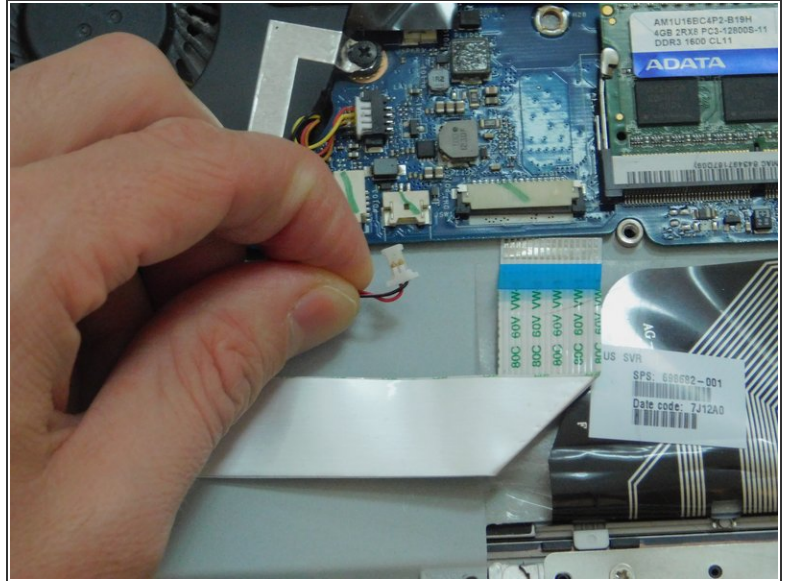
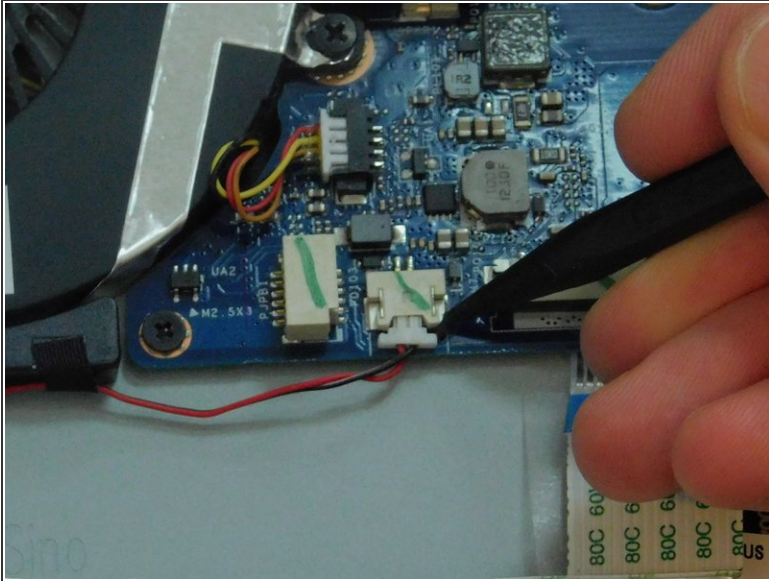
- Using your fingers, locate the display panel cable under the hinge and disconnect it.

Step 23



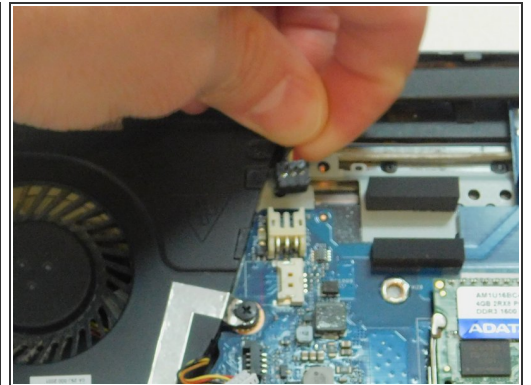
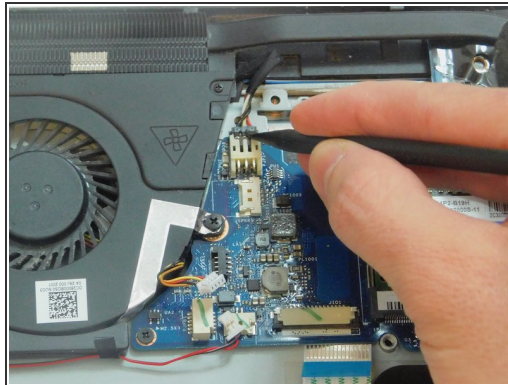
- Disconnect the multicolored power connector for the USB/audio board by first probing it gently with a plastic spudger, then pulling it free.

Step 24



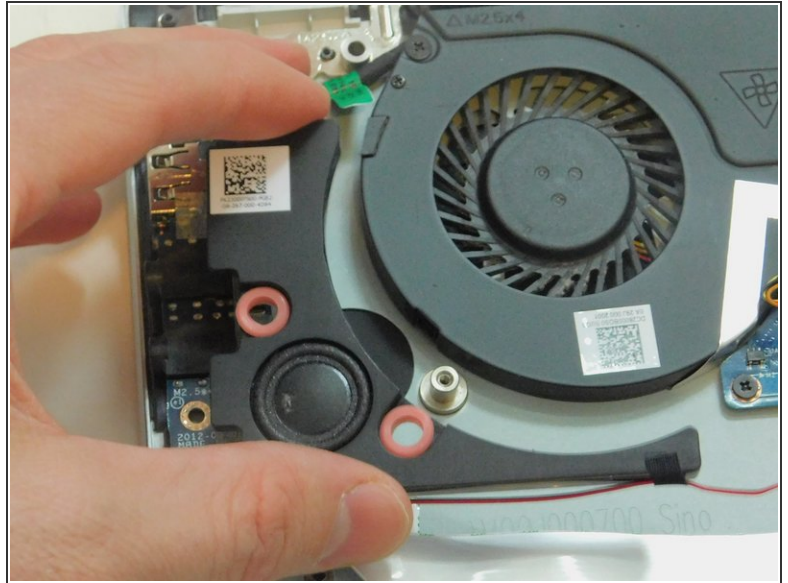
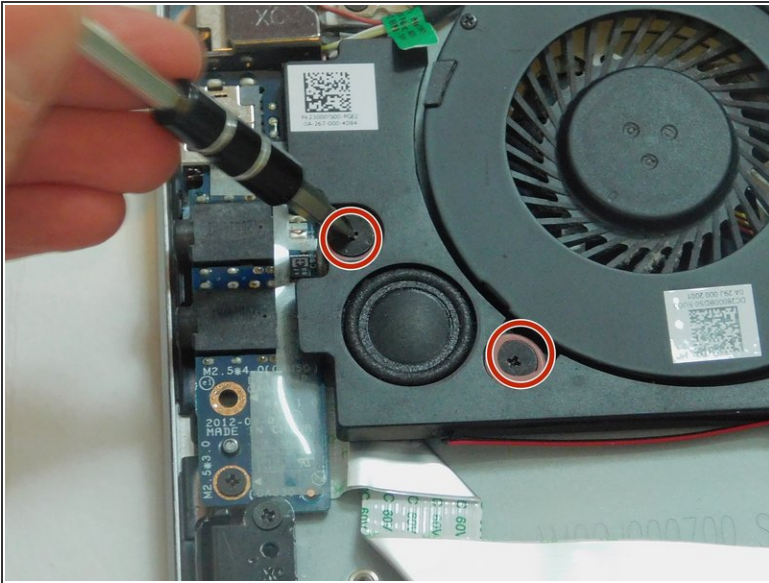
- Disconnect the red and black power connector for the subwoofer by first probing it gently with a plastic spudger, then pulling it free with your fingernails.

Step 25



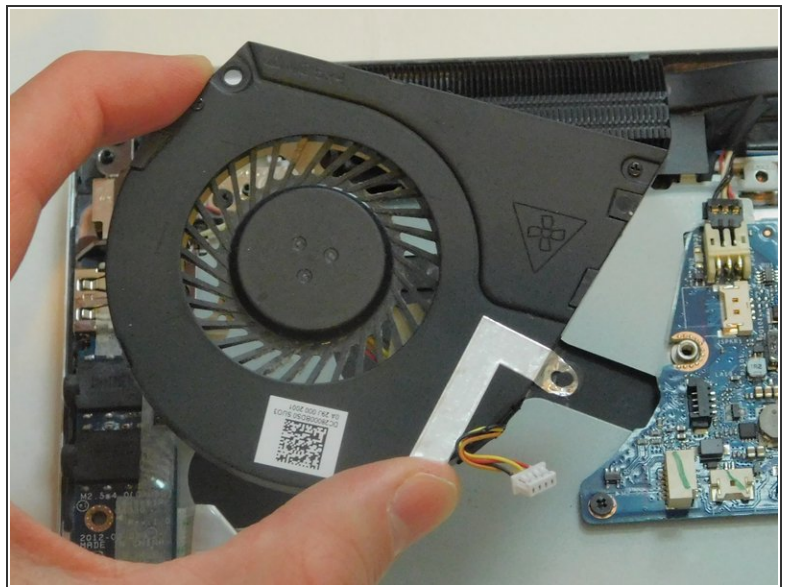
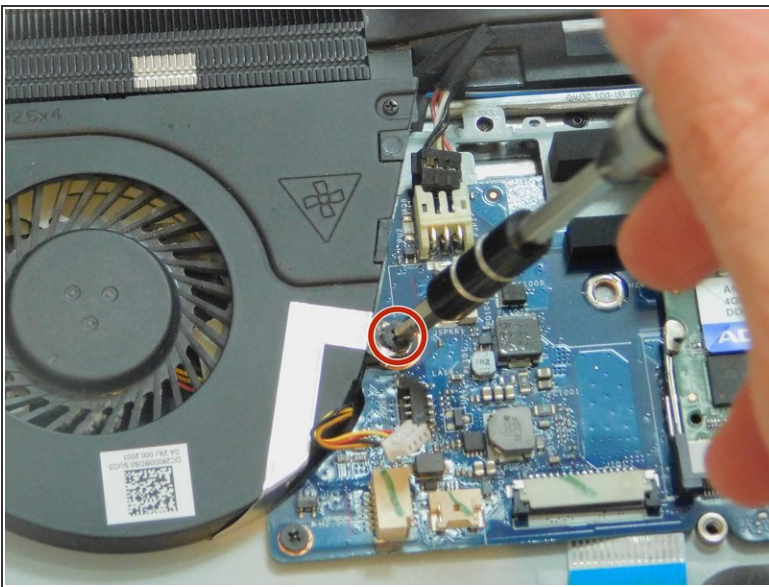
- Peel back more of the black plastic to reveal the multicolored power connector for the cooling fan.
- Disconnect the power connector for the cooling fan by probing it with the spudger, then pulling it free.

Step 26



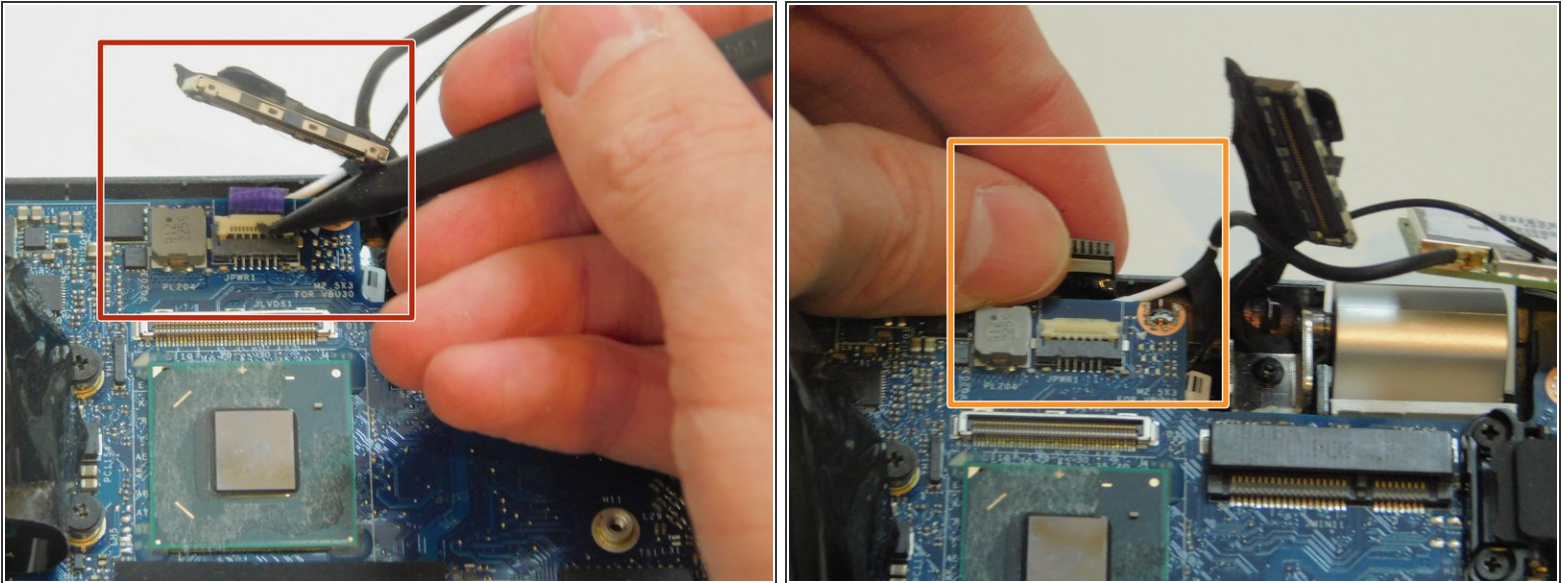
- Using a Phillips #0 screwdriver, remove the two 2.0 mm screws holding the right speaker in place.
- Remove the right speaker.

Step 27



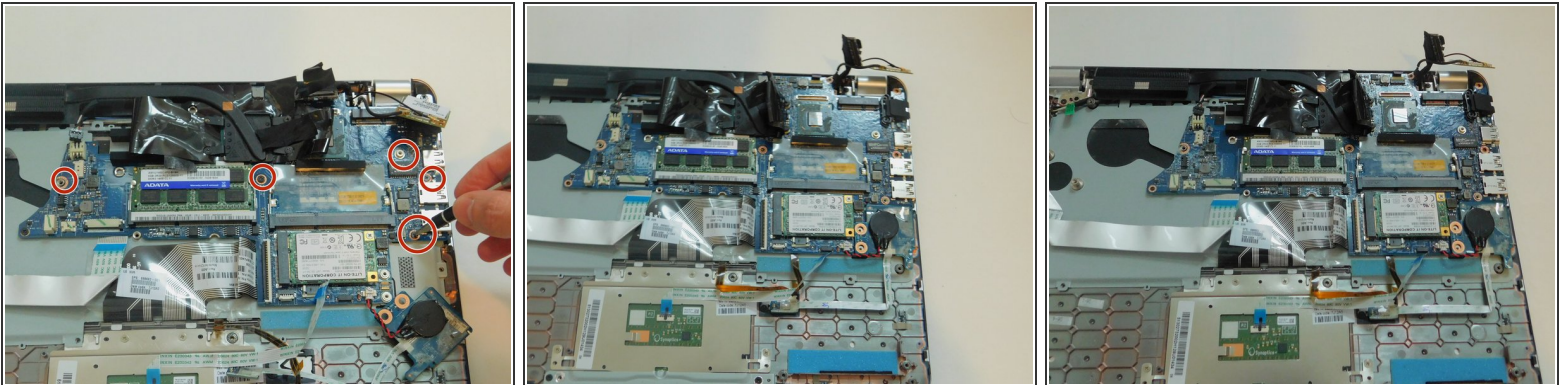
- Using a Phillips #0 screwdriver, remove the 2.5 mm screw holding the cooling fan in place.
- Lift out the cooling fan.

Step 28



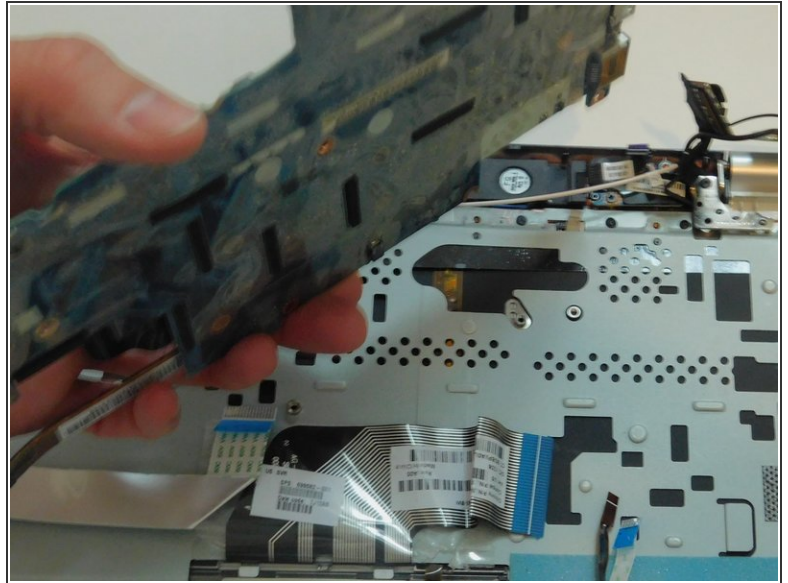
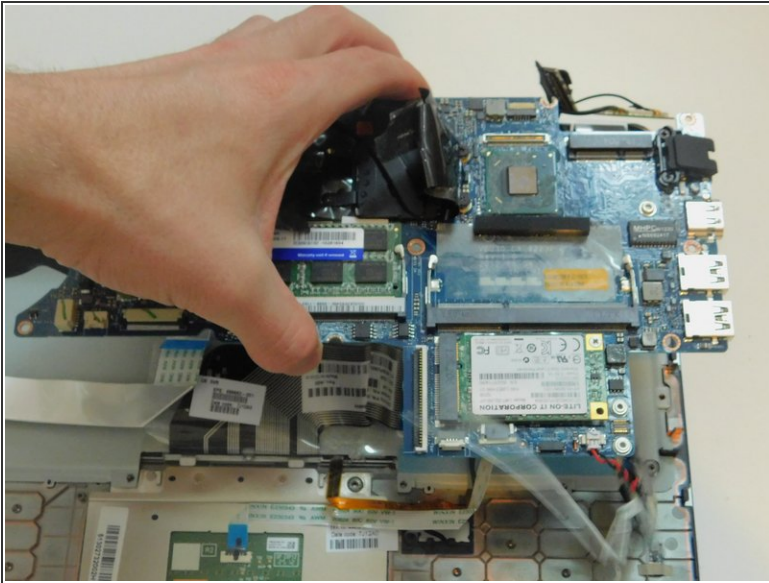
- Using the plastic spudger, remove the power button cable. This is the small, purple ribbon cable at the back of the motherboard.


Step 29



- Using a Phillips #0 screwdriver, remove any remaining screws attaching the motherboard to the rest of the laptop.

Step 30



- Gently lift out the motherboard and heat sink. If the motherboard has been fully disconnected from other components, it will lift free easily.
 - If the motherboard seems stuck, do not force it. Instead, return to previous steps to see if there is a connection or screw you have missed. Also check for tape, glue, or similar materials that may be attached to the motherboard.
-  Removing the motherboard before it has been fully disconnected may break not only the old motherboard, but connections or components that you will need to attach to the new motherboard. Do not rush this step.

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