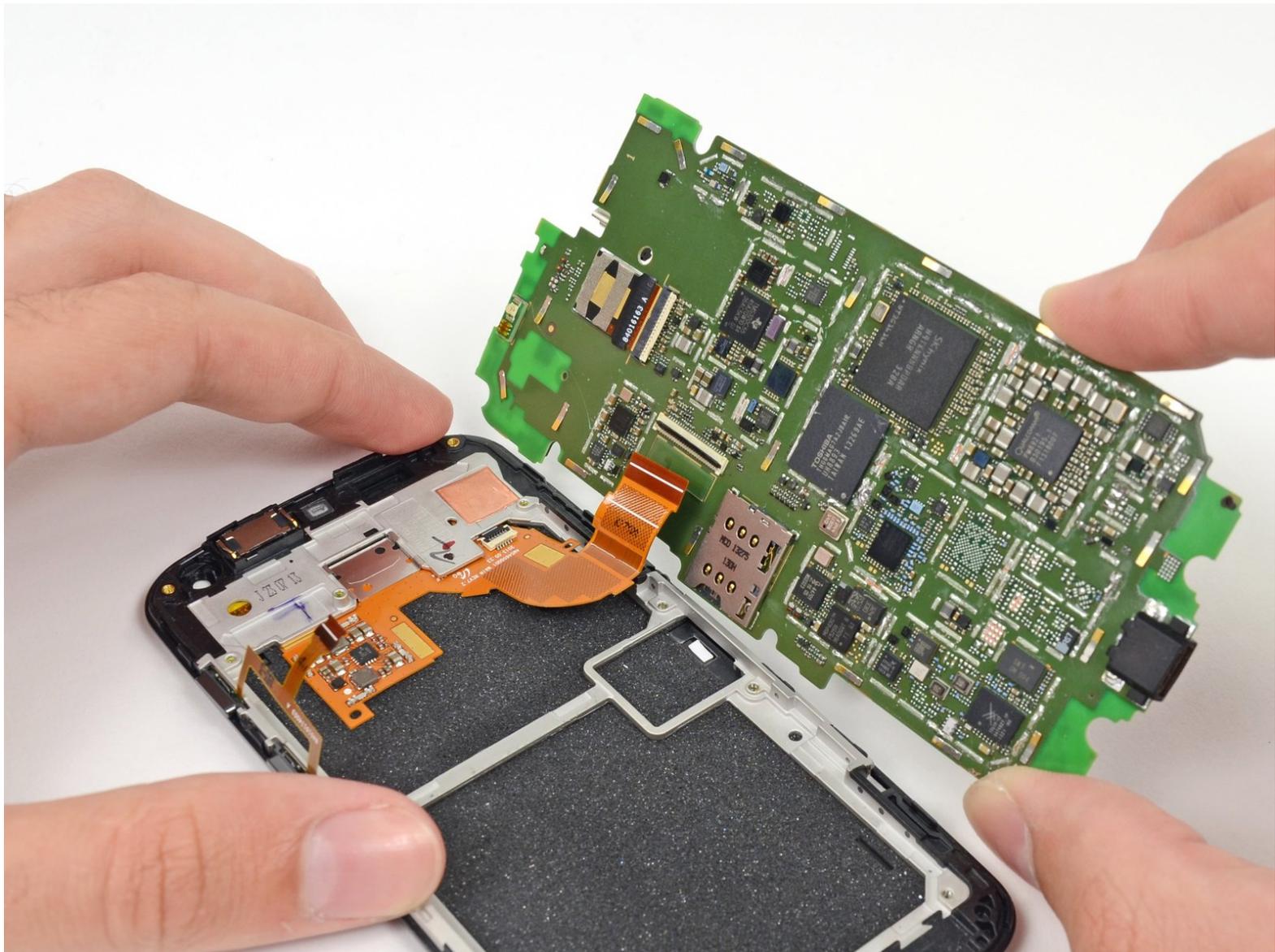




Motorola Moto X Motherboard Replacement

Replace the motherboard in a Motorola Moto X.

Written By: Sam Goldheart



INTRODUCTION

Use this guide to replace the motherboard in your Motorola Moto X.

TOOLS:

- [SIM Card Eject Tool](#) (1)
 - [iOpener](#) (1)
 - [iFixit Opening Tools](#) (1)
 - [Spudger](#) (1)
 - [T3 Torx Screwdriver](#) (1)
 - [Tweezers](#) (1)
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Step 1 — SIM Card



- Insert the SIM card eject tool into the hole in the side of the SIM card tray and push to eject the tray.
 - Remove the SIM card tray.
- i** If the SIM card does not fall free from the tray on its own, simply remove it with your fingers.

Step 2 — Back Cover Assembly



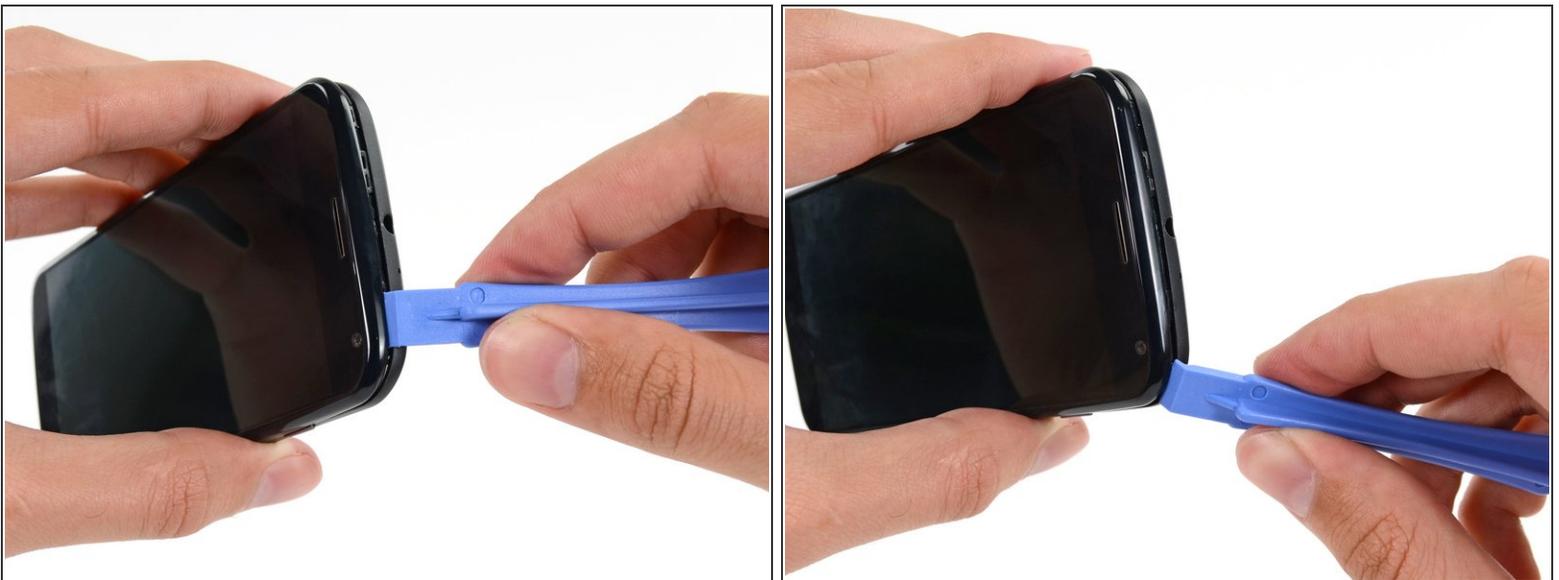
- i** In the following steps you will be releasing the clips holding the phone's cases together. However, the back case is also secured with an adhesive pad. After separating the clips you will use an iOpener to allow the case to fully open. **Do not** attempt to fully open the phone before loosening the adhesive.
- Insert a plastic opening tool into the seam between the front and rear covers near the SIM card slot.
 - Slide the plastic opening tool along the seam toward the upper corner.

Step 3



- Carefully slide the plastic opening tool around the corner, freeing it from clips.

Step 4



- Pry around the top right corner of the phone between the two covers.

Step 5



- Run the opening tool along the seam around all four sides, separating the remaining clips holding the cover on.

 The plastic on the front cover is thinner near the buttons, and the buttons may move around. Go slowly to avoid damaging the buttons or the front cover.

 Do not push the opening tool deep into phone, or you may damage internal components.

Step 6



- [Heat an iOpener](#) and lay it over the phone for approximately 90 seconds to loosen the adhesive securing the back cover.

Step 7



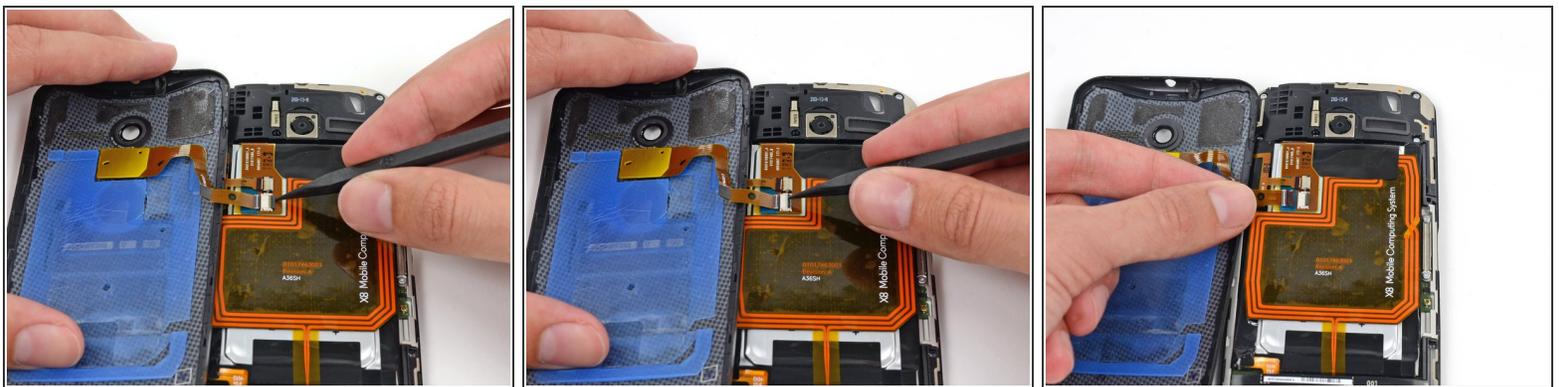
- Starting from the SIM slot side, carefully peel the back cover off of the phone.
- ⓘ The back cover is very flexible, but you don't want to damage any internal components by being too hasty.
- ⚠ There is a chance that the NFC coil may remain stubbornly adhered to the back cover. If that's the case, stop peeling the cover and reapply a heated iOpener to the back cover.
- ⚠ **Do not** separate the back cover entirely; it is still connected to the phone by the camera flash cable.
- ⓘ The flash cable is attached on the power/volume button side of the phone.

Step 8



- Gently set the back cover down in a way that exposes the camera flash cable connector, but does not put strain on it.

Step 9



- Use the tip of a spudger to flip up the retaining flap on the flash cable ZIF connector.

⚠ Be sure to pry only on the flap itself, **not** on the connector.

- Pull the flash cable straight out of its socket.

Step 10



- Separate the back cover from the phone.

Step 11 — Lower Antenna Assembly



- Remove the four 3 mm T3 Torx screws securing the lower antenna assembly to the phone.

Step 12



- Use the flat end of a spudger to pry up the lower antenna assembly and free it from the phone.
- Remove the antenna assembly.

Step 13 — Battery



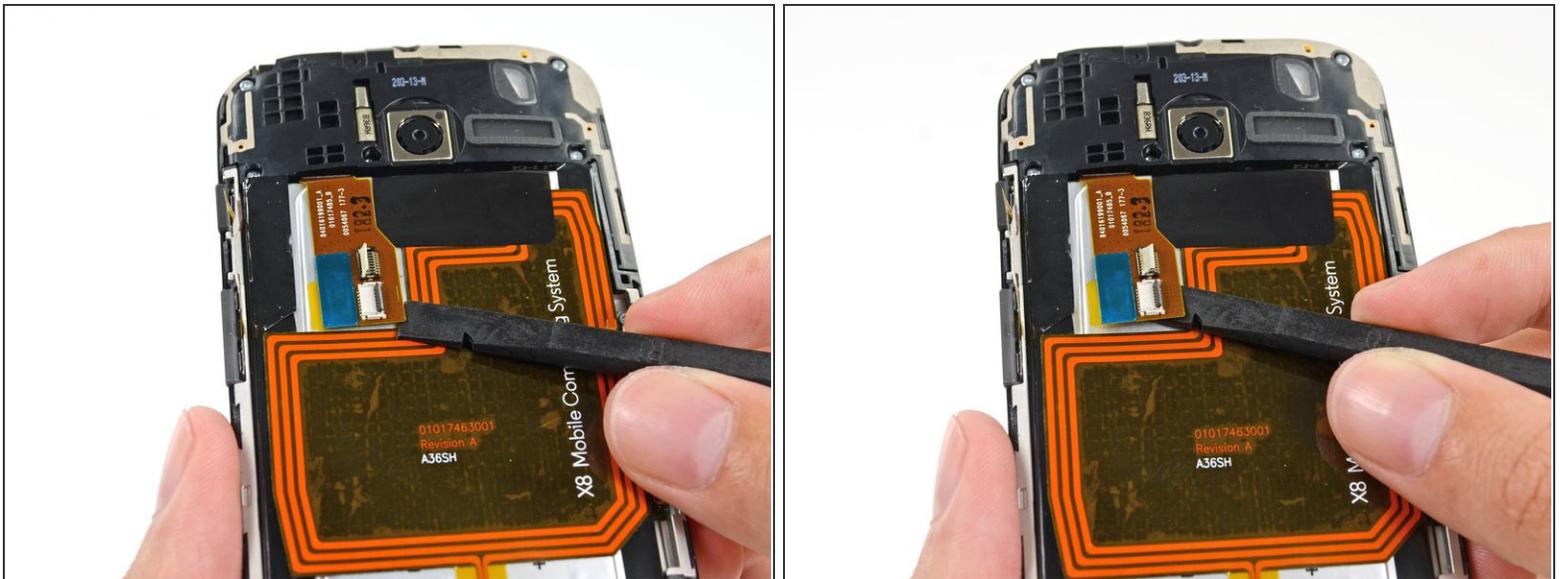
- Insert the tip of a spudger under the battery cable near the connector to lift it straight up from its socket.
- Use the flat end of a spudger to disconnect the NFC antenna cable connector.

Step 14



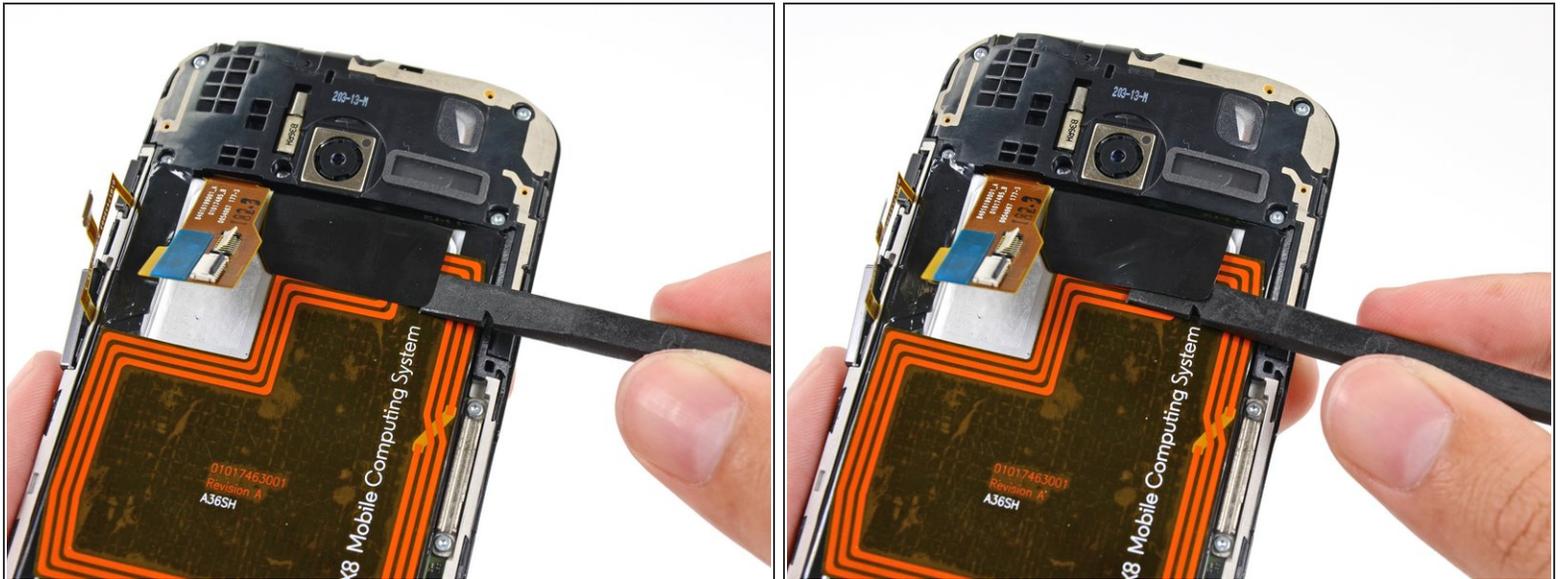
- Use the tip of a spudger to flip up the ZIF retaining flap from the button assembly cable connector.
- Slide the tip of the spudger under the button assembly cable near the connector to pull the cable straight out of its socket.

Step 15



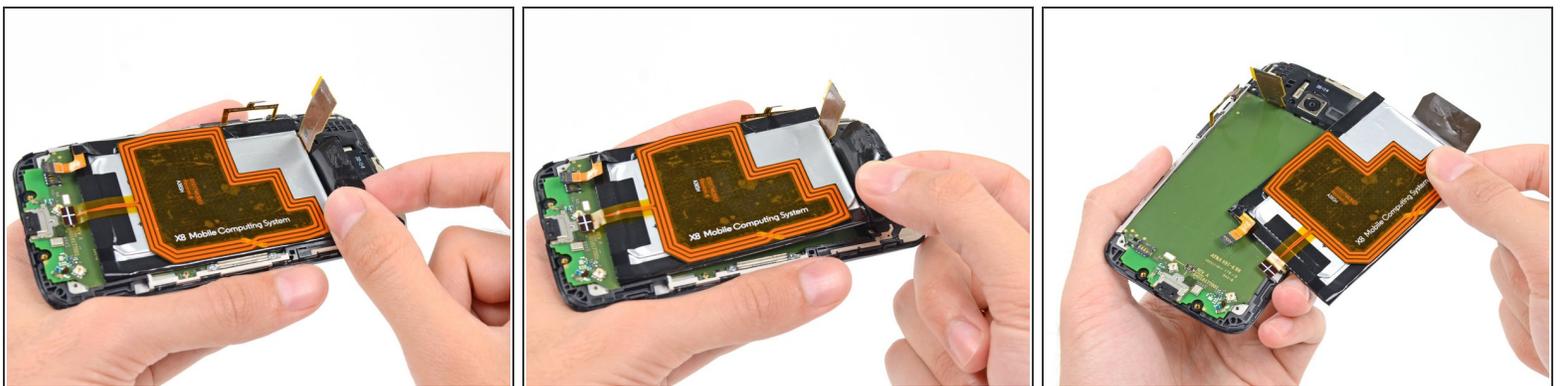
- Insert the flat end of a spudger under the interconnect cable to free it from the adhesive holding it to the battery.

Step 16



- Use the flat end of a spudger to peel the adhesive pull-tab off the top of battery.

Step 17



- Use the adhesive pull-tab to lift the battery from its recess.

 The battery is secured to the motherboard with mild adhesive. Peel slowly, and be careful not to bend or puncture the battery.

- Remove the battery from the phone.

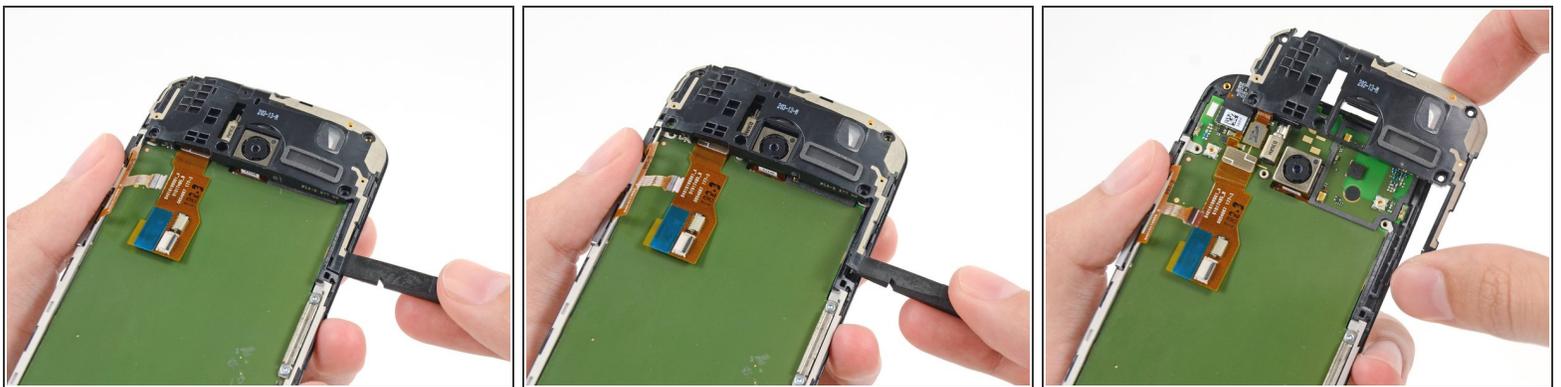
 When reassembling your phone secure the battery with [double-sided tape](#) or [pre-cut adhesive strips](#).

Step 18 — Motherboard Assembly



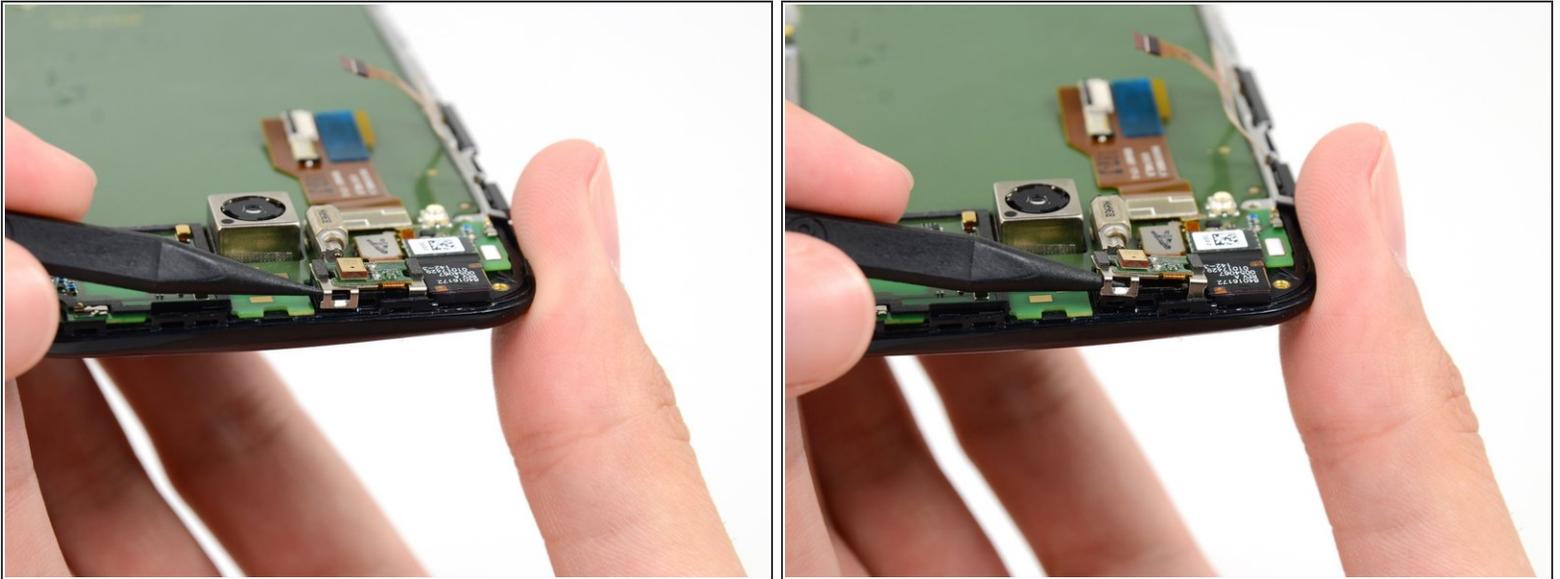
- Remove the five 3 mm T3 Torx screws from the headphone jack/speaker assembly.

Step 19



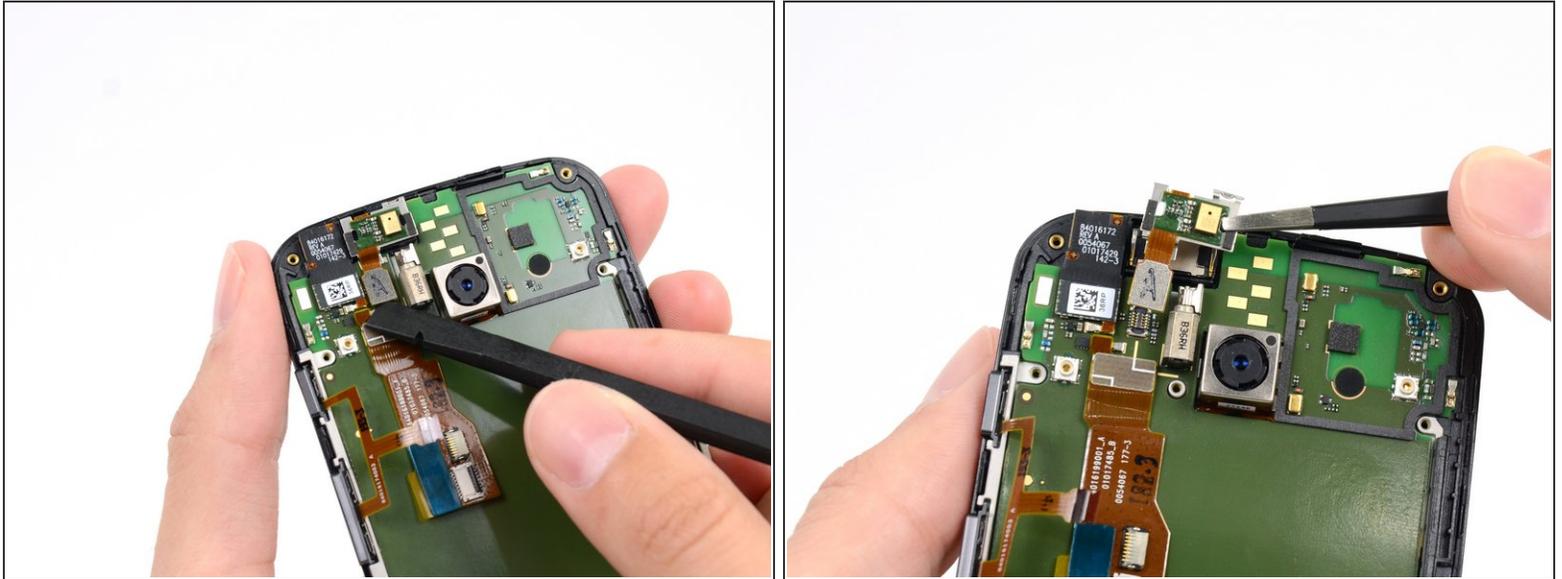
- Insert a spudger under the panhandle of the headphone jack/speaker assembly and pry it up from its recess.
- Remove the headphone jack/speaker assembly.

Step 20



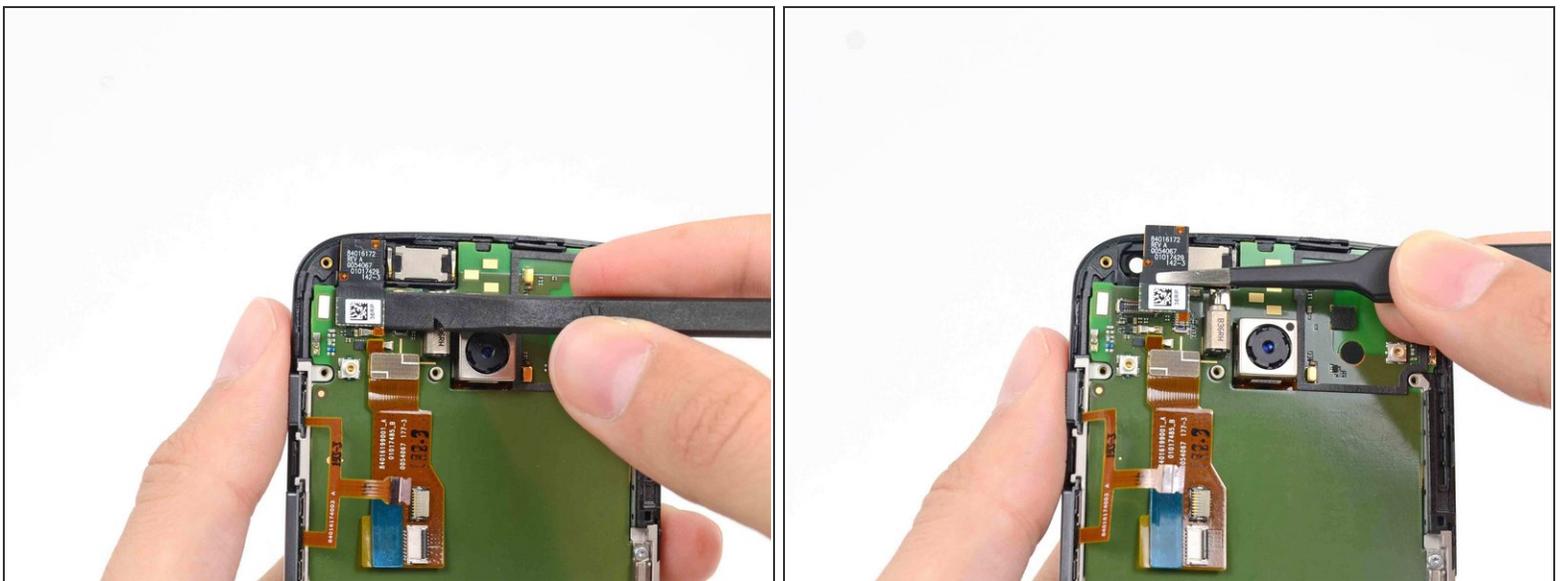
- Push the tip of a spudger under the microphone assembly clip to free it from the earpiece speaker.
- ⓘ If the assembly clip seems to be missing, check the speaker assembly that was removed from the previous step.

Step 21



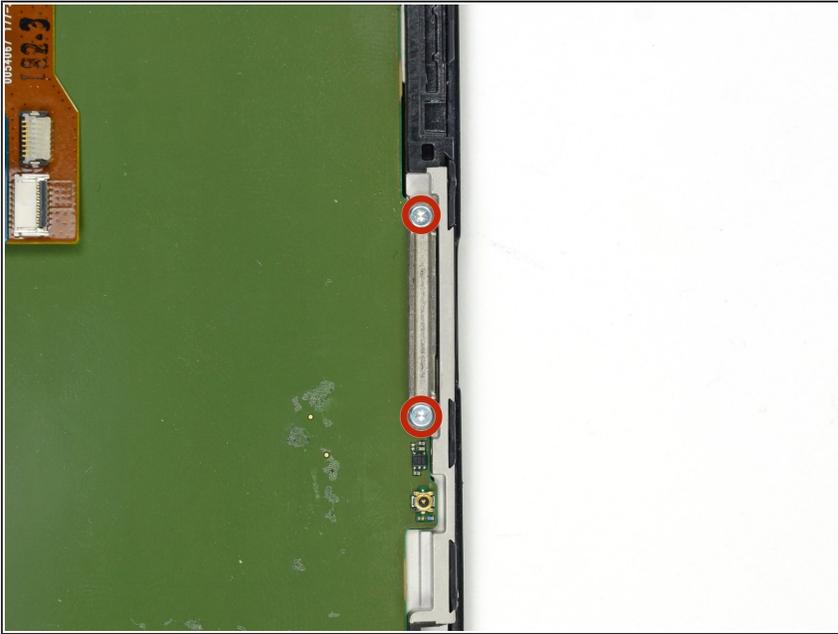
- Use the flat end of a spudger to free the microphone assembly cable connector.
- Use tweezers to remove the microphone assembly.

Step 22



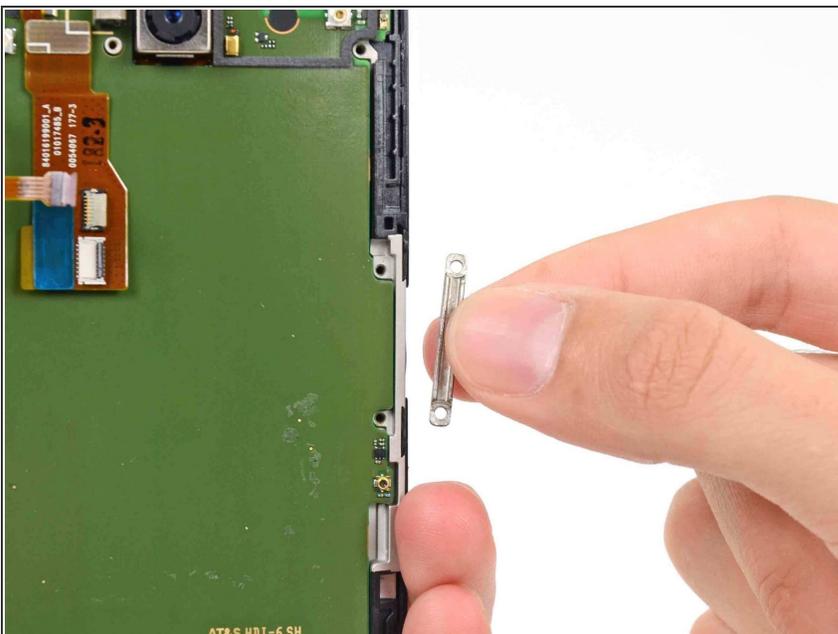
- Disconnect the front-facing camera cable connector.
- Remove the front-facing camera from its recess with a pair of tweezers.

Step 23



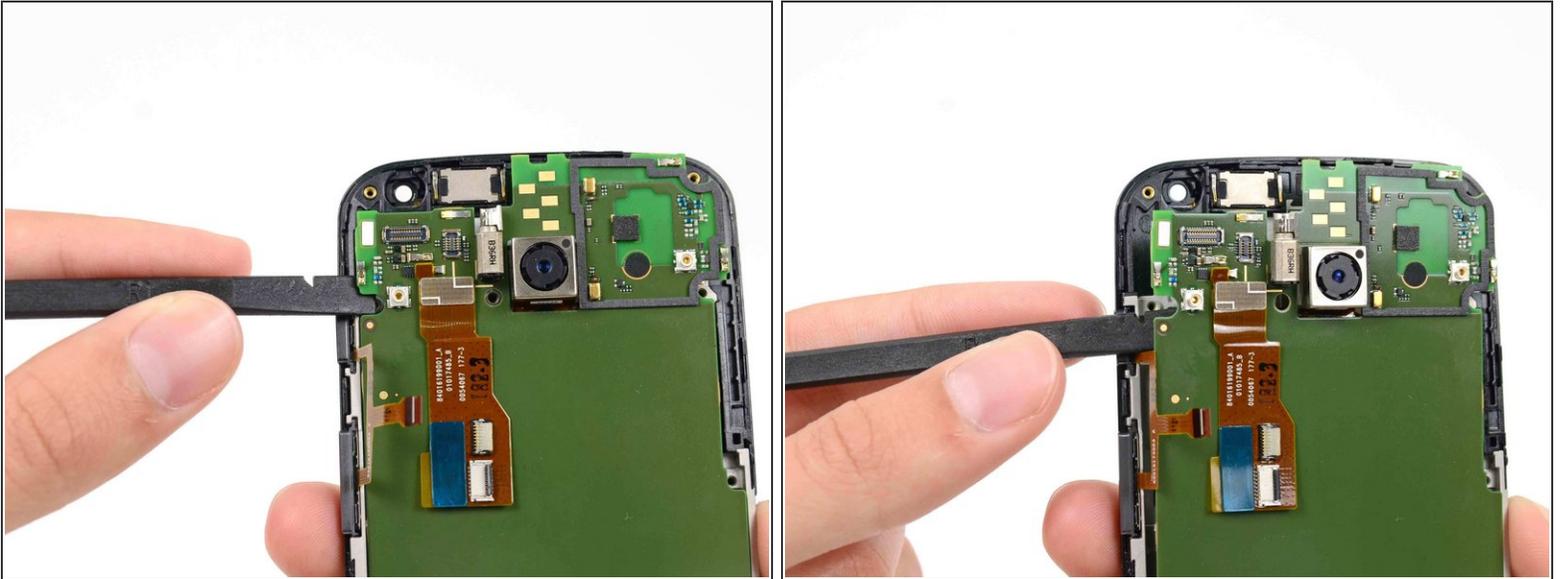
- Remove the final two 3 mm T3 Torx screws from the SIM slot bracket.

Step 24



- Remove the SIM slot bracket from the motherboard.

Step 25

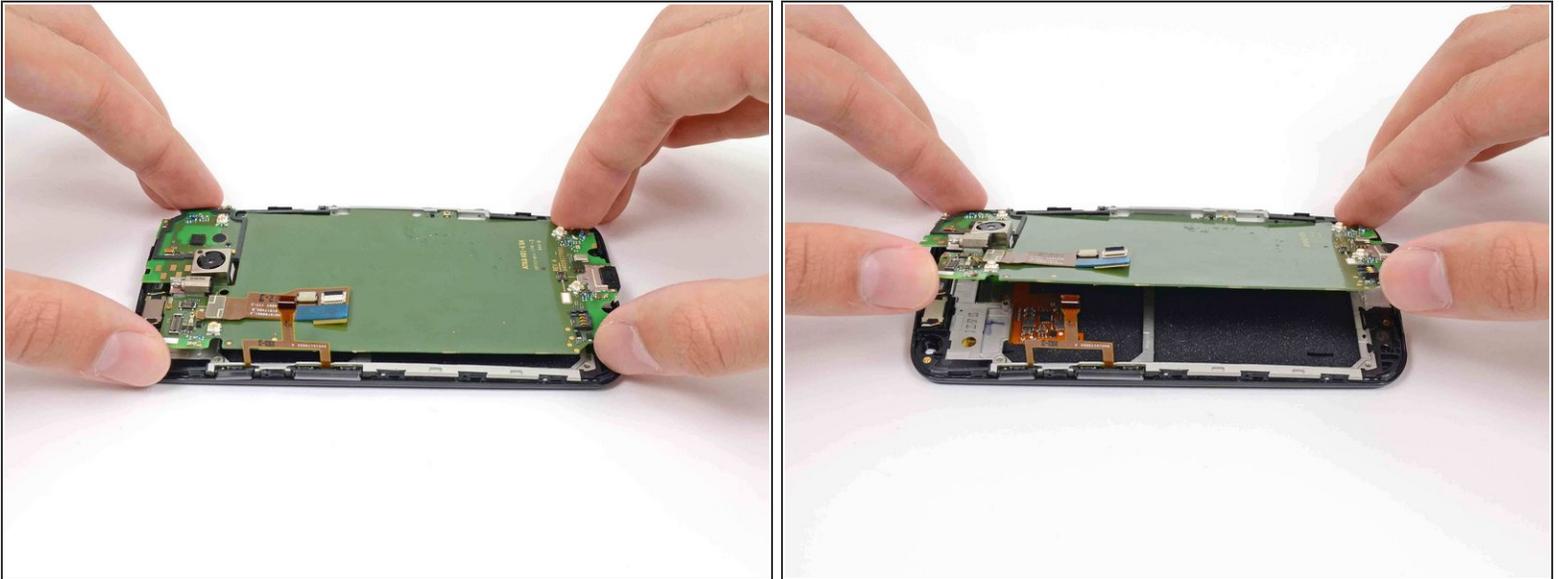


- Insert the flat end of a spudger under the motherboard above the button assembly cable, and pry it out of the phone.

⚠ Be careful not to snag any cables.

ⓘ The buttons may pop out of their recesses; take care not to lose them.

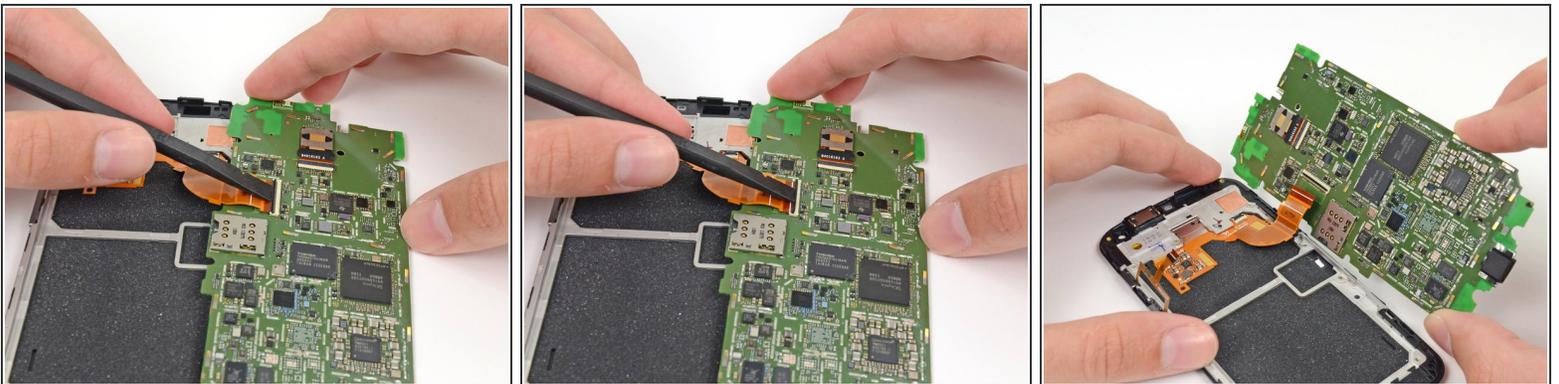
Step 26



- Gently lift the motherboard out of the phone, rotating it from the SIM slot edge of the phone.

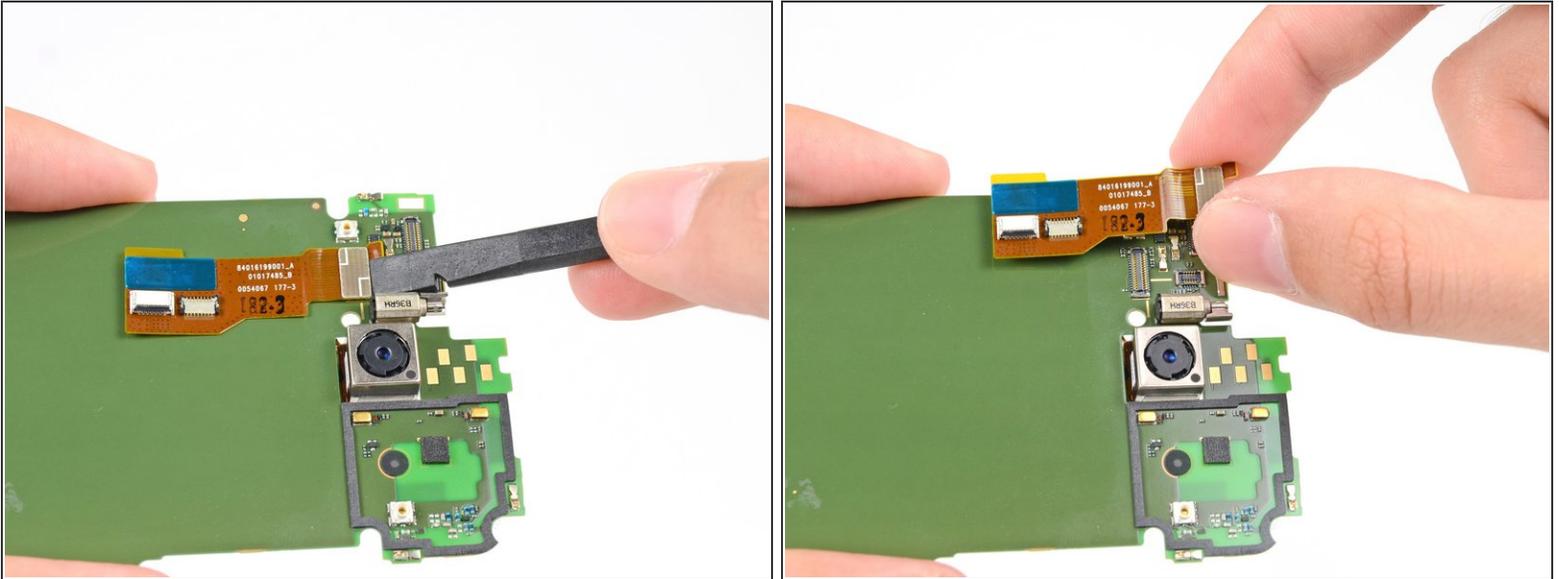
! Do **not** attempt to separate the motherboard entirely; it is still connected to the display by the display cable.

Step 27



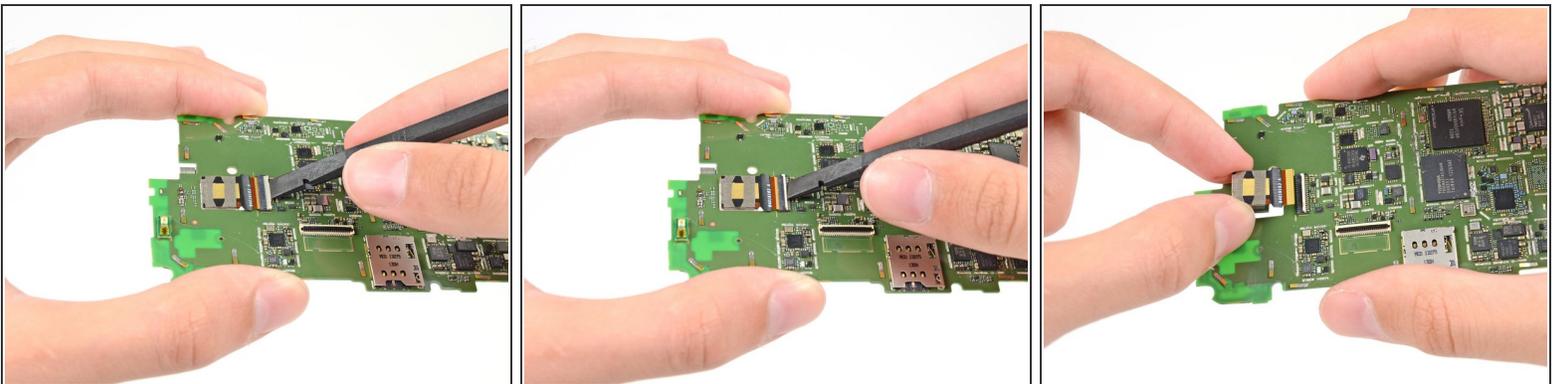
- ⓘ Lay the motherboard down to allow access to the display cable connector.
- Use the flat end of a spudger to flip the retaining tab on the display cable ZIF connector.
- Carefully pull the display cable out of its connector as you remove the motherboard from the display assembly.

Step 28 — Motherboard



- Use the flat end of a spudger to free the interconnect cable connector.
- Remove the interconnect cable from the motherboard.

Step 29



- Use the flat end of a spudger to flip up the retaining tab on the front-facing camera ZIF cable connector.
- Remove the front-facing camera from the motherboard.

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