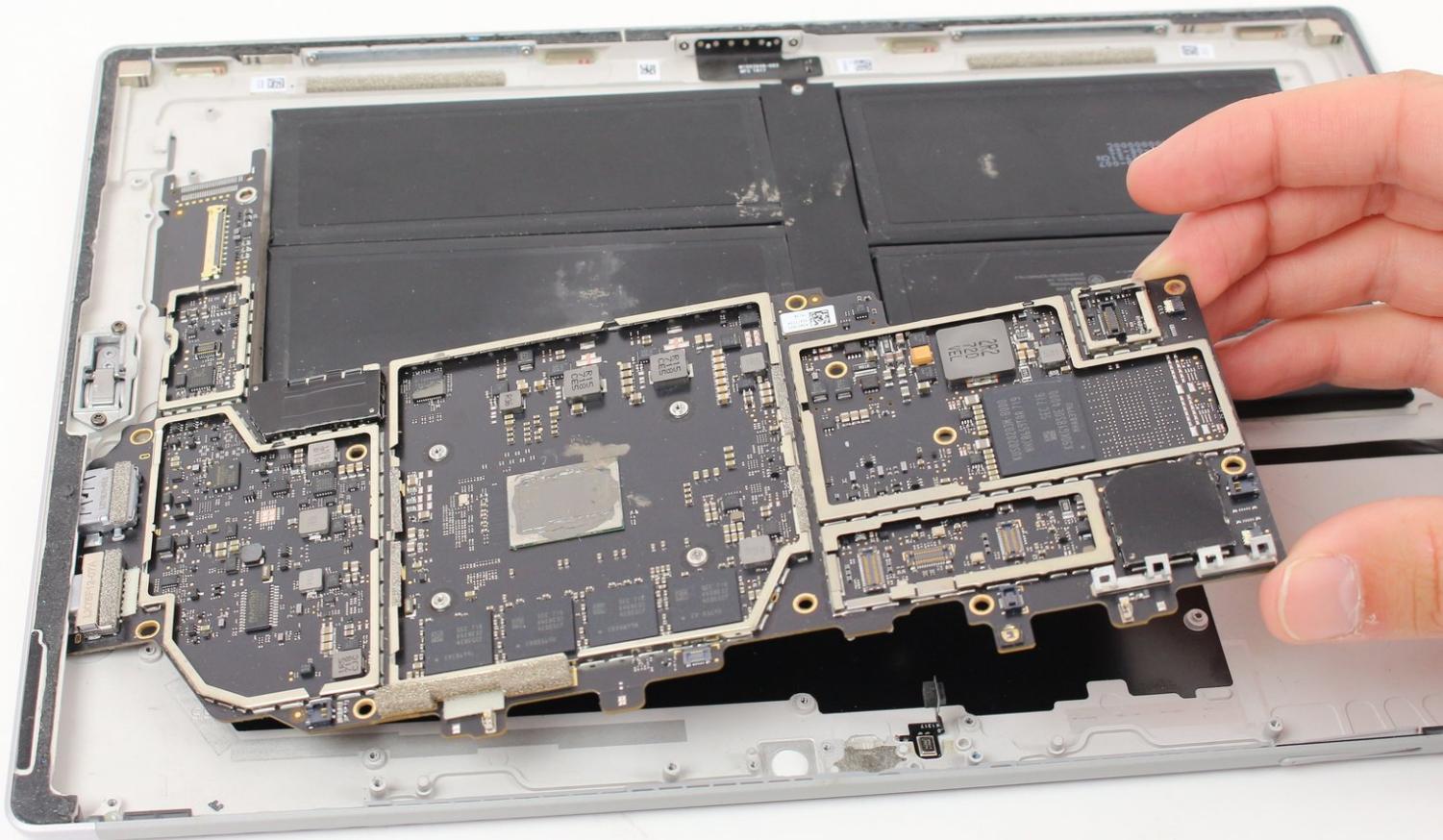




Microsoft Surface Pro 5 Motherboard Replacement

How to replace the motherboard on the Microsoft Surface Pro 5 or Microsoft Surface Pro (2017).

Written By: Kaden Foster



INTRODUCTION

This guide will go over how to remove the motherboard on the Microsoft Surface Pro 5. Since the motherboard is the central part of the tablet computer, it takes some work to get to it. The iOpener is used in this guide, but a hair dryer or heat gun could also be used. See instructions for the iOpener [here](#).

TOOLS:

- [Tesa 61395 Tape \(1\)](#)
- [Microfiber Cleaning Cloths \(1\)](#)
- [Isopropyl Alcohol \(1\)](#)
- [Tweezers \(1\)](#)
- [iOpener \(1\)](#)
- [iFixit Opening Picks set of 6 \(1\)](#)
- [iFixit Opening Tools \(1\)](#)
- [T5 Torx Screwdriver \(1\)](#)
- [T4 Torx Screwdriver \(1\)](#)
- [Spudger \(1\)](#)
- [Suction Handle \(1\)](#)
- [Heat Gun \(1\)](#)

Step 1 — Screen



⚠ Before you begin, discharge the Surface Pro's battery below 25%. A charged lithium-ion battery can catch fire and/or explode if accidentally damaged during the repair.

i The display is strongly glued to the frame of the device.

- To remove the display, first soften the adhesive by applying heat. You can use a heat pad, heat gun, or iOpener. In a pinch, a hair dryer can also work.

⚠ Be careful when using a heat gun, as too much heat can permanently damage the display and/or battery.

- Steadily and evenly heat the perimeter of the display until it's too hot to touch, and try to maintain that temperature for several minutes.

Step 2



- Use a suction cup or an iSclack to pull up on the glass and create a slight gap between the glass and the metal frame.
 - If your display is badly cracked, a suction cup may not adhere. It may help to first cover the display with a layer of packing tape. Alternatively, you can superglue your suction cup to the display.
- Insert an opening pick into the gap.
- Slide the pick around the sides and bottom of the display to cut the adhesive. Apply more heat as needed.
 - ⚠ Work carefully—the glass is thin and will crack easily if you try to force it.
 - Separate the top edge last. There are antennas on both sides, so be careful not to damage them. Use more heat or a bit of isopropyl alcohol to help weaken the adhesive.

Step 3



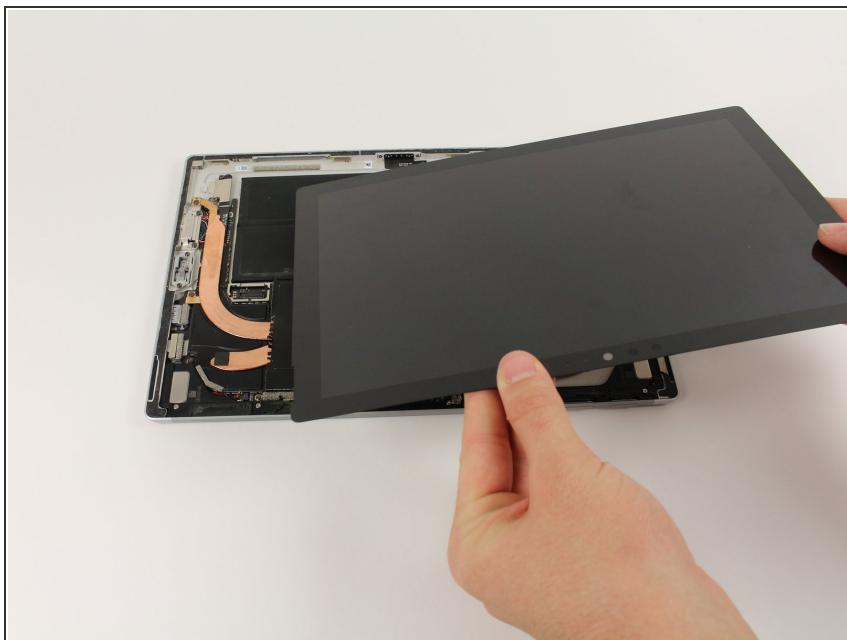
- Pry up the metal shield covering the smaller ribbon cable port using the plastic opening tool.
- Disconnect the smaller ribbon cable by prying up with the nylon spudger.

Step 4



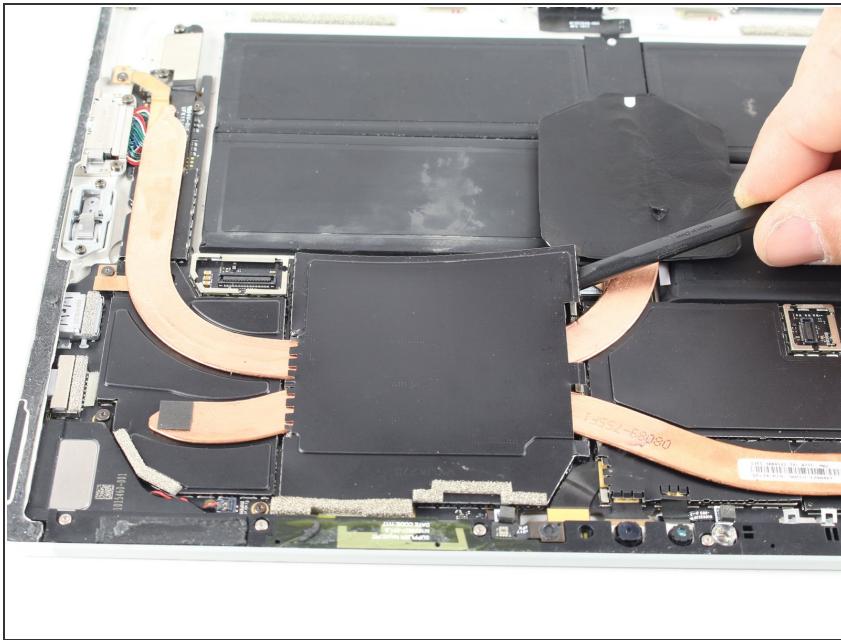
- Pry up the metal shield covering the larger ribbon cable port using the plastic opening tool and remove.
- Disconnect the larger ribbon cable by prying up with the nylon spudger.

Step 5



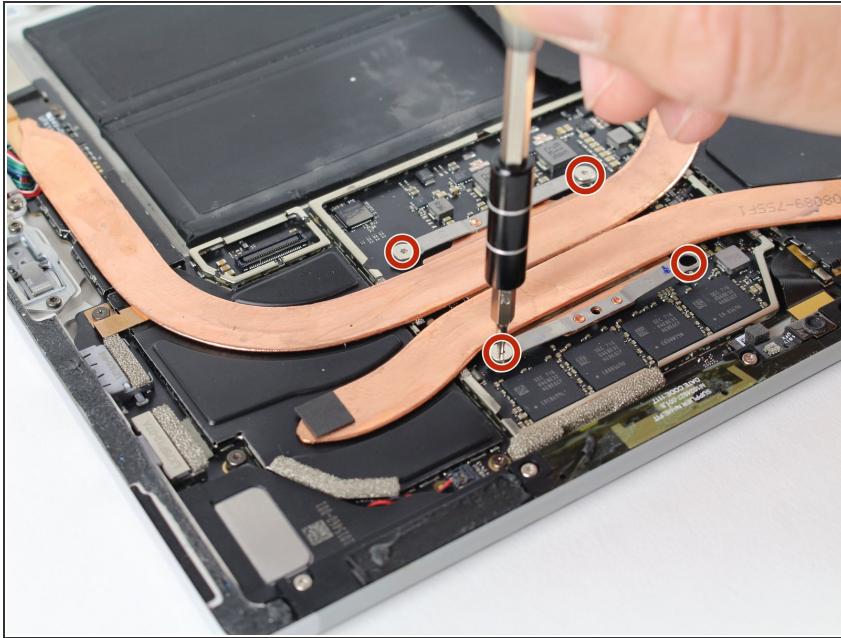
- Remove the screen from the rest of the device .
-  To replace the adhesive securing the screen, carefully remove any old adhesive from both the device and the back of the display. Clean and prep the surface with isopropyl alcohol and a lint-free cloth, swiping the cloth in one direction (not back and forth). Apply a strong double-sided tape, such as 2 mm [Tesa 61395](#).

Step 6 — Heat Sink



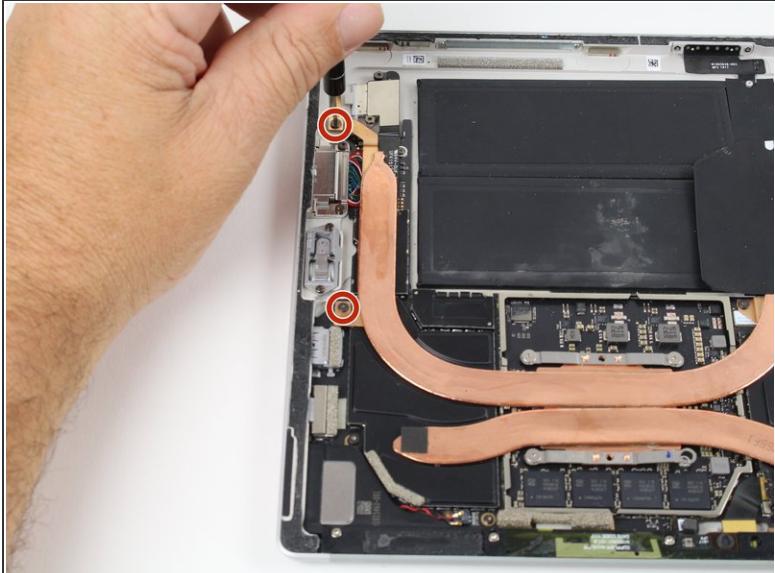
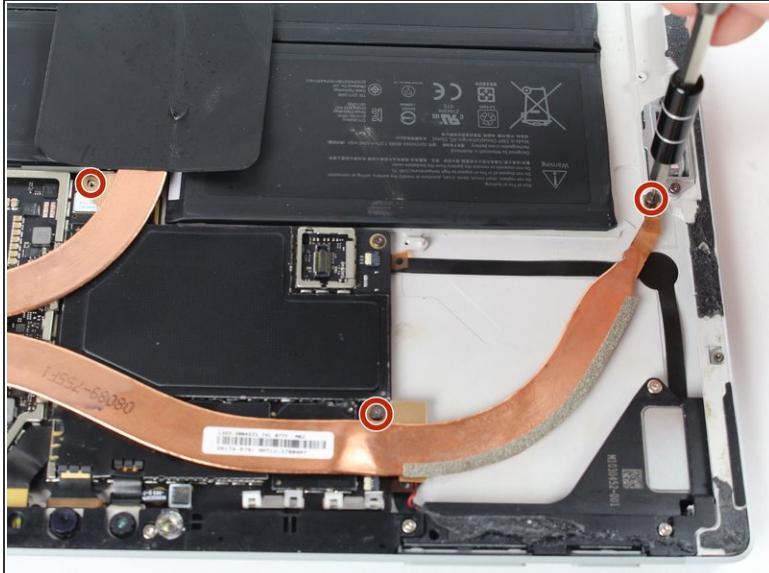
- Pry off the protective metal shield covering the main processor using either the nylon spudger or the plastic opening tool.

Step 7



- Remove the four silver Torx T5 x 3mm screws holding the heat sink onto the main processor.

Step 8



- Remove the remaining five black Torx T4 x 3mm screws holding down the heat sink assembly.

Step 9



- Remove the heat sink from the device by grabbing one of the copper bars with your fingers and lifting straight up.

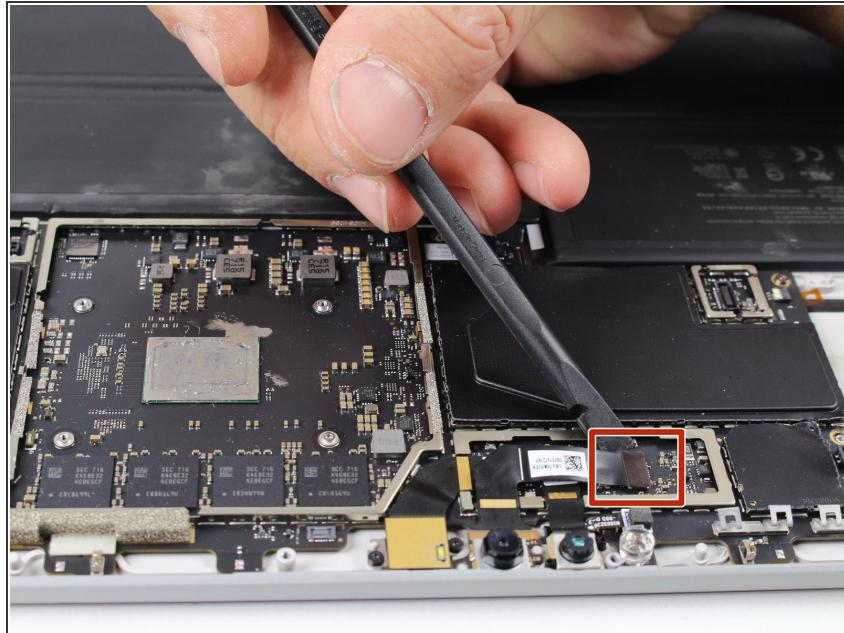
⚠ Avoid touching the thermal paste that is on the back of the heat sink and on the front of the CPU. If you get thermal paste on your hands, wash it off with mild soap and water.

Step 10 — Front and Rear Camera



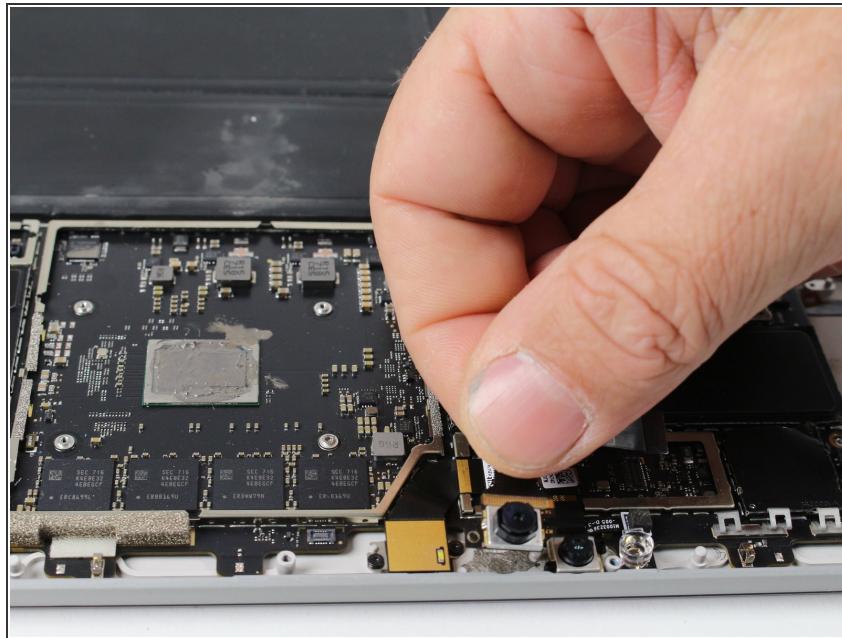
- Pry off the metal cover covering the front and rear camera ribbon cable motherboard connections using a nylon spudger.

Step 11



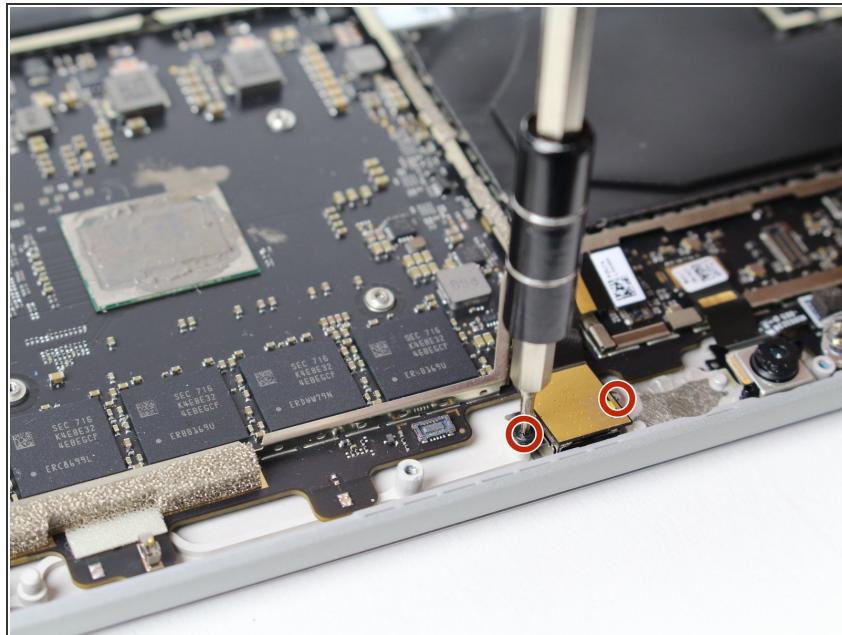
- Lift the front camera ribbon cable off the motherboard using the nylon spudger.

Step 12



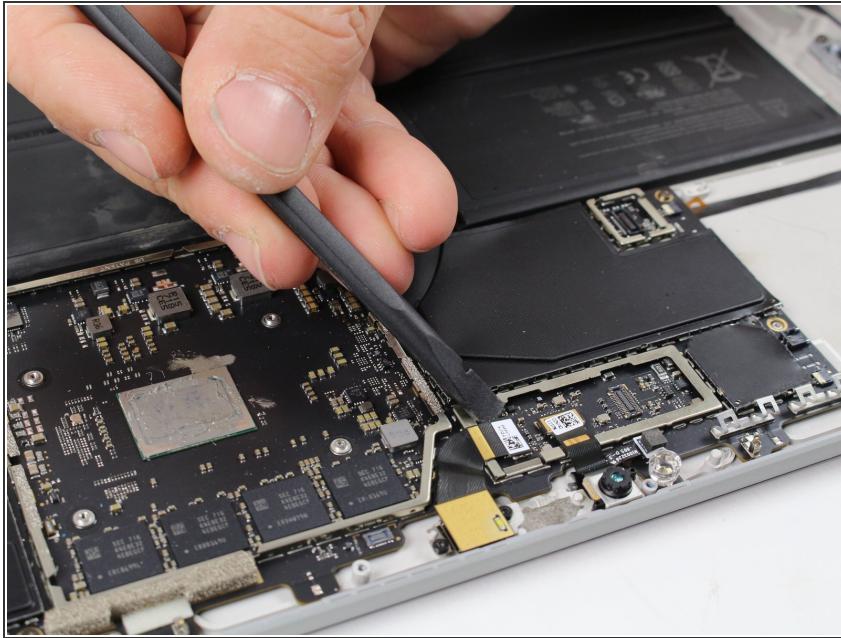
- Remove the front camera.

Step 13



- Remove the two Torx T3 x 2.5mm screws holding down the rear camera.

Step 14



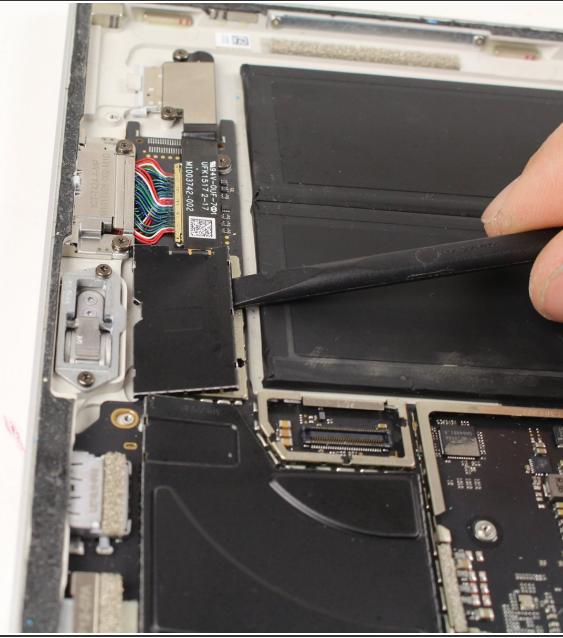
- Lift the rear camera ribbon cable off the motherboard using the nylon spudger.

Step 15



- Remove the rear camera.

Step 16 — Charging Port



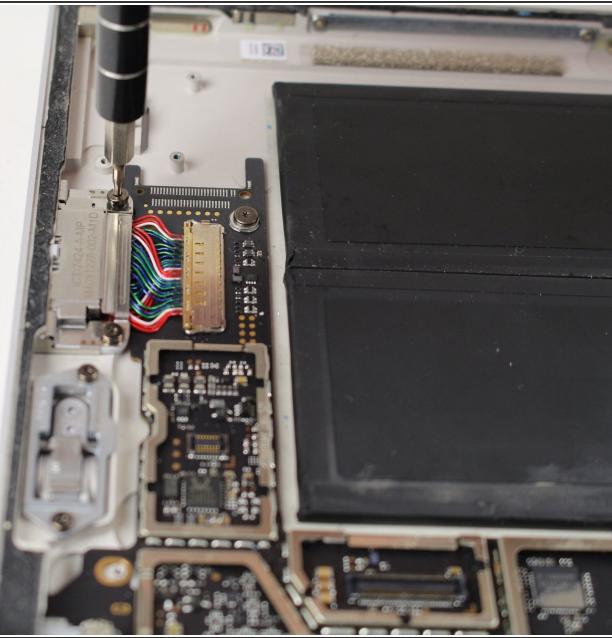
- Pry up the metal cover on the motherboard using either the nylon spudger or plastic opening tool.

Step 17



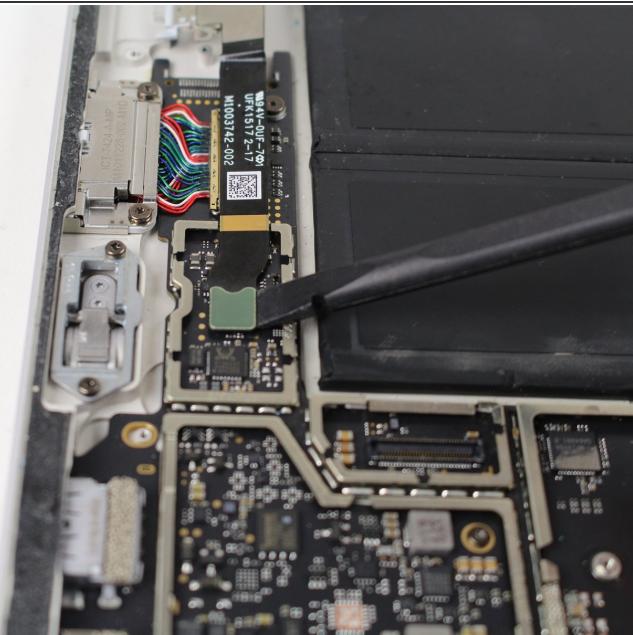
- Use a T4 Torx driver to remove the two 3mm screws from the ribbon holder on top of the colored cables.

Step 18



- Use a T4 Torx driver to remove the two 3mm screws holding the charging port assembly to the case.

Step 19



- Use the nylon spudger to pop off the ribbon connector for the ribbon going over the charging port connection.

Step 20



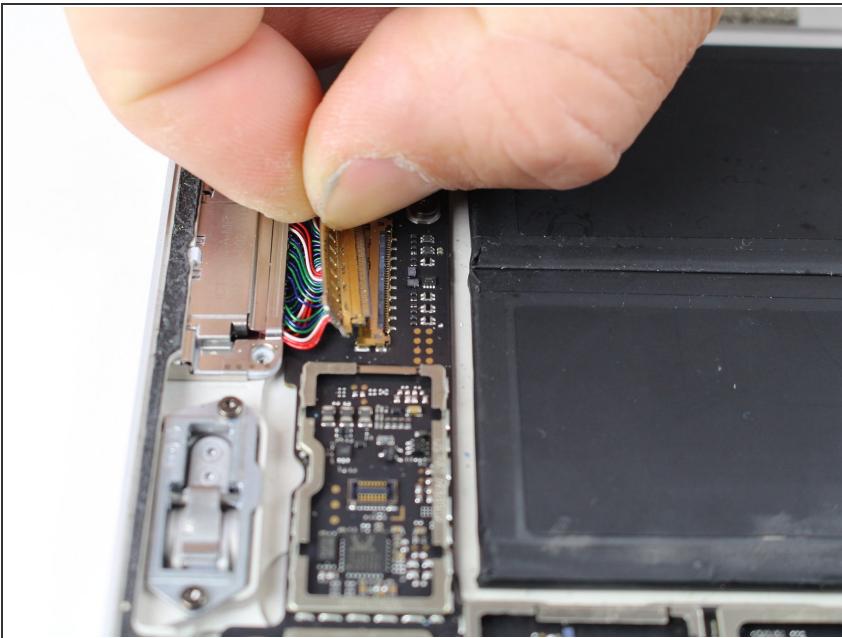
- Remove the ribbon by lifting up and sliding out the connector.

Step 21



- Use the nylon spudger to pop up the clamp on the charging port connection.

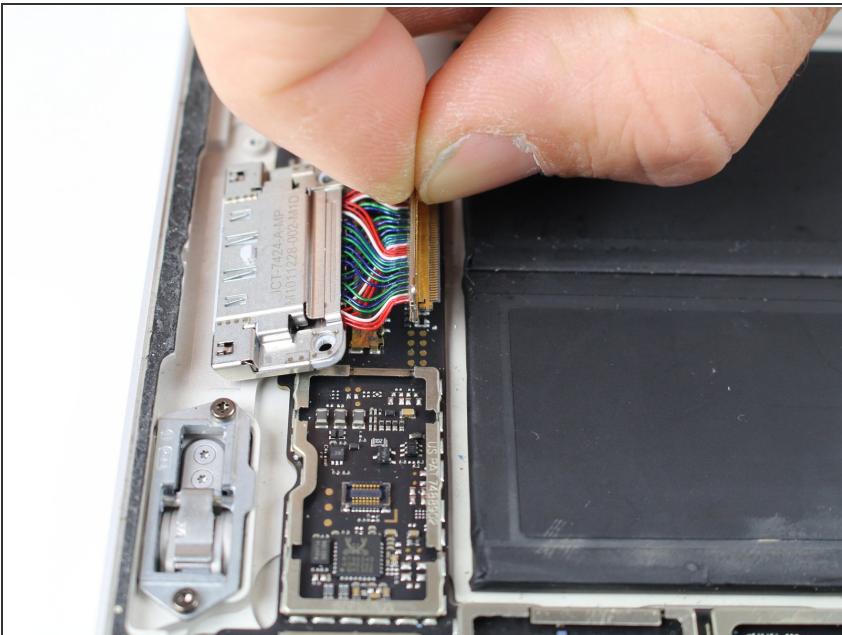
Step 22



- Grab the opened clamp on the charging port connecting cables and disconnect it by pulling back.

i This may take some force to disconnect.

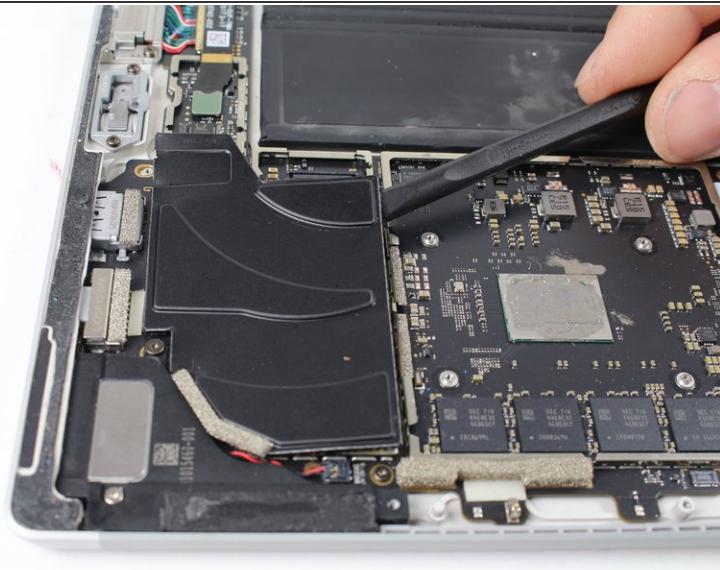
Step 23



- Remove the charging port by pulling the connector in the direction of the batteries.

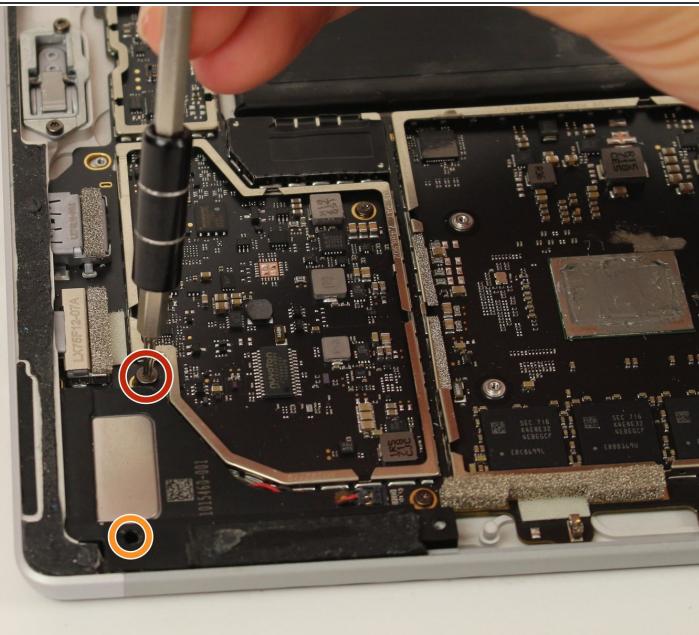
i Pull carefully so that the cables do not get pulled out of the connector.

Step 24 — Right Speaker



- Pry up the large metal cover next to the right speaker using the nylon spudger.

Step 25



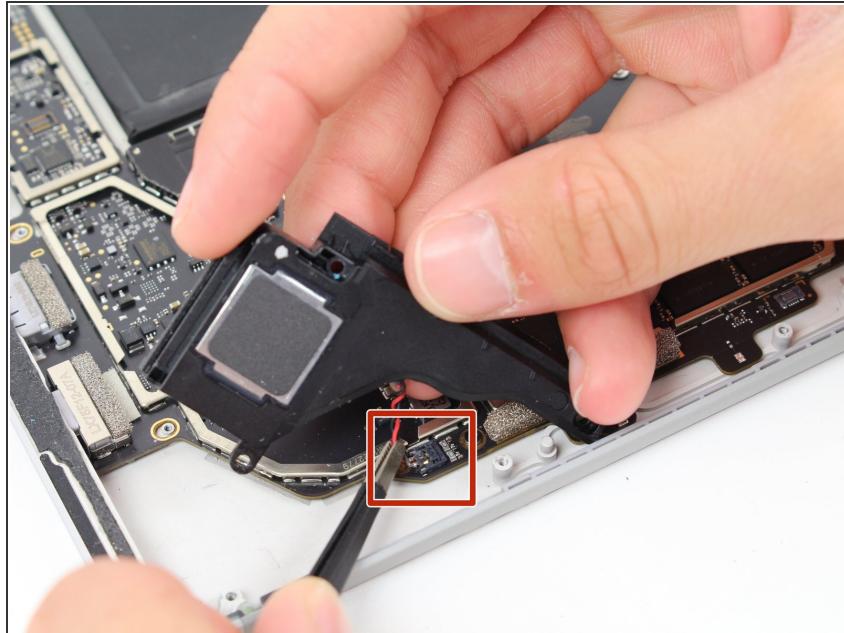
- Remove the Torx T4 3mm screw.
- Remove the Torx T5 6mm screw.

Step 26



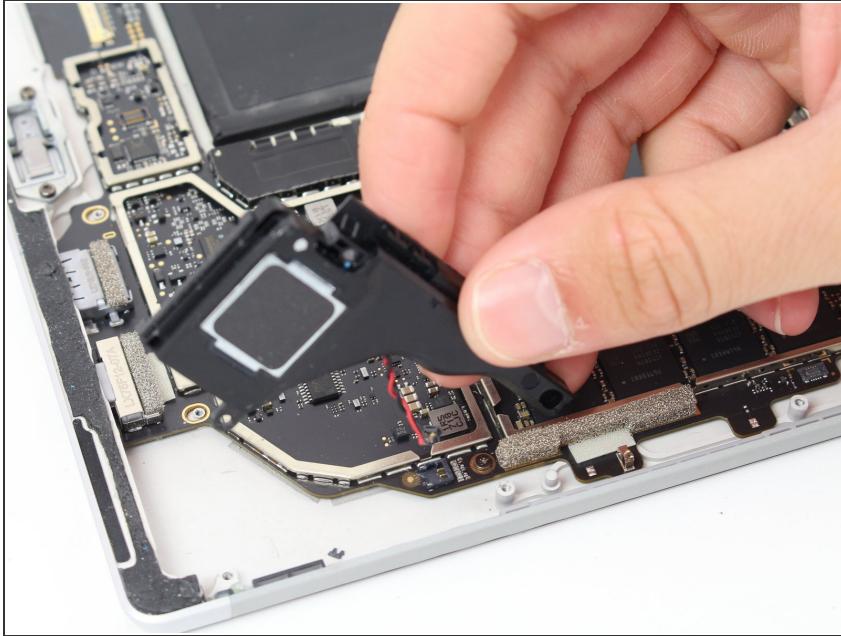
- Lift up the right speaker being careful not to pull out the cable that is still connected.

Step 27



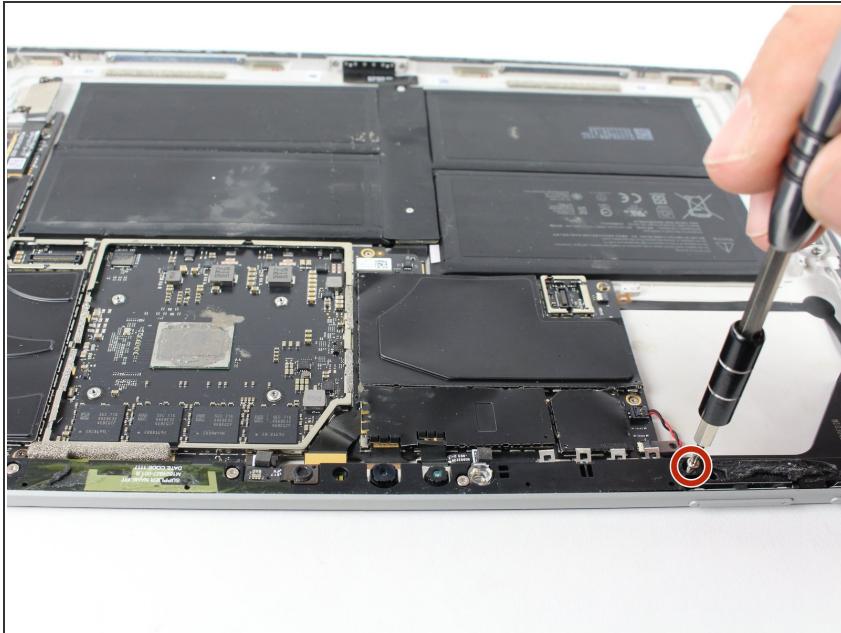
- Grab the black and red cable on the bottom using tweezers.
- Lift the black and red cable out of its port.

Step 28



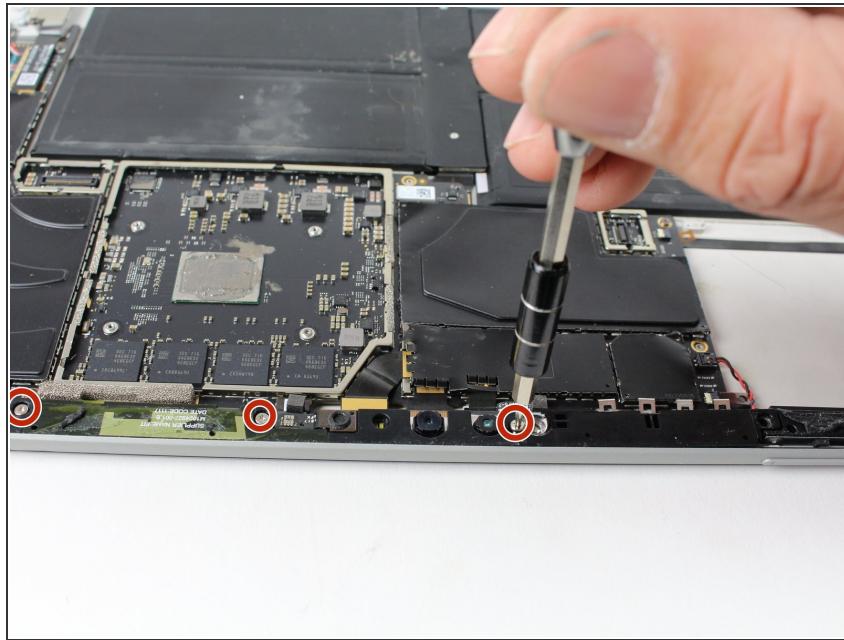
- Remove the right speaker from the device.

Step 29 — Camera Tie Bar



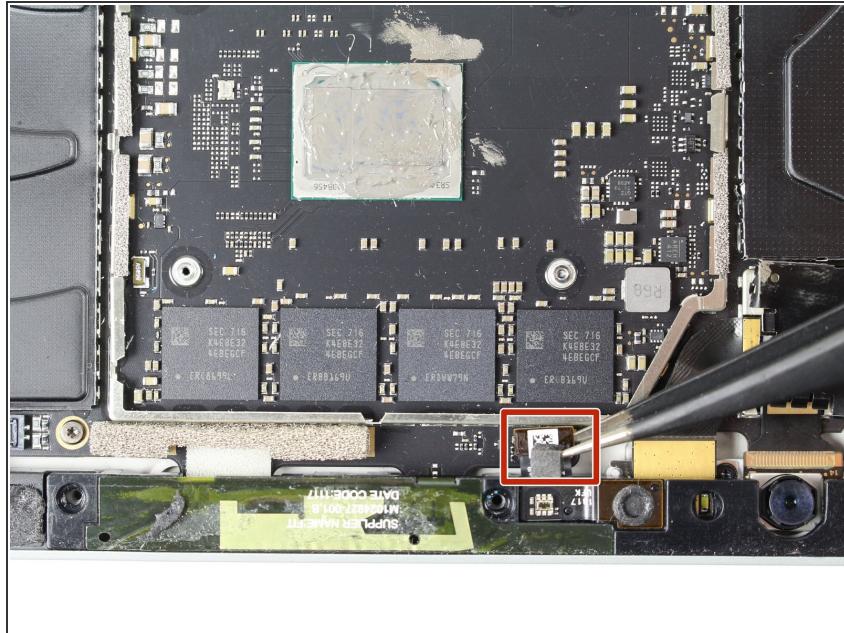
- Remove the Torx T5 x 6mm screw connecting the black tie bar to the power button/volume control/speaker assembly.

Step 30



- Remove the remaining three Torx T5 x 4.5mm screws holding down the camera tie bar.

Step 31



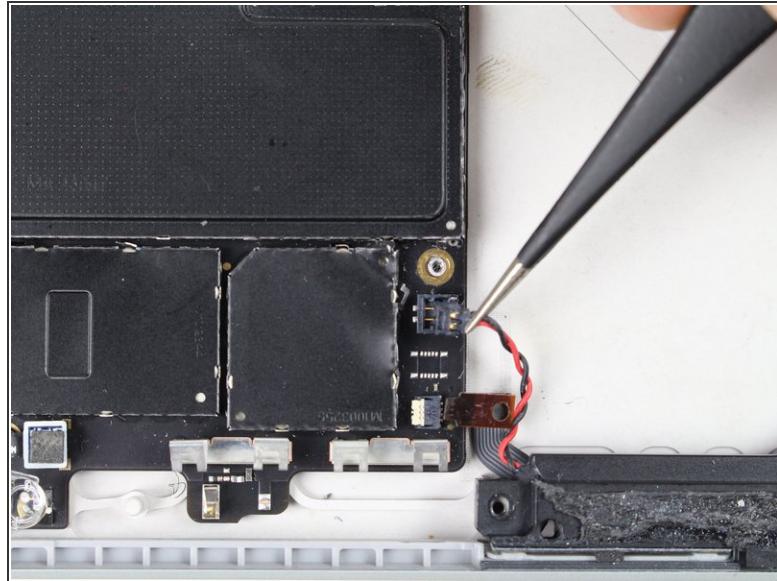
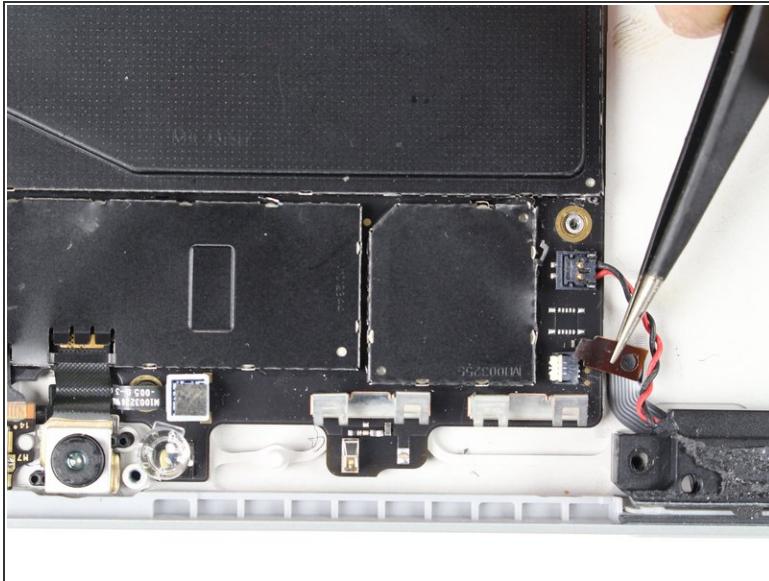
- Disconnect the small ribbon cable connecting the camera tie bar to the motherboard by pulling up with tweezers.

Step 32



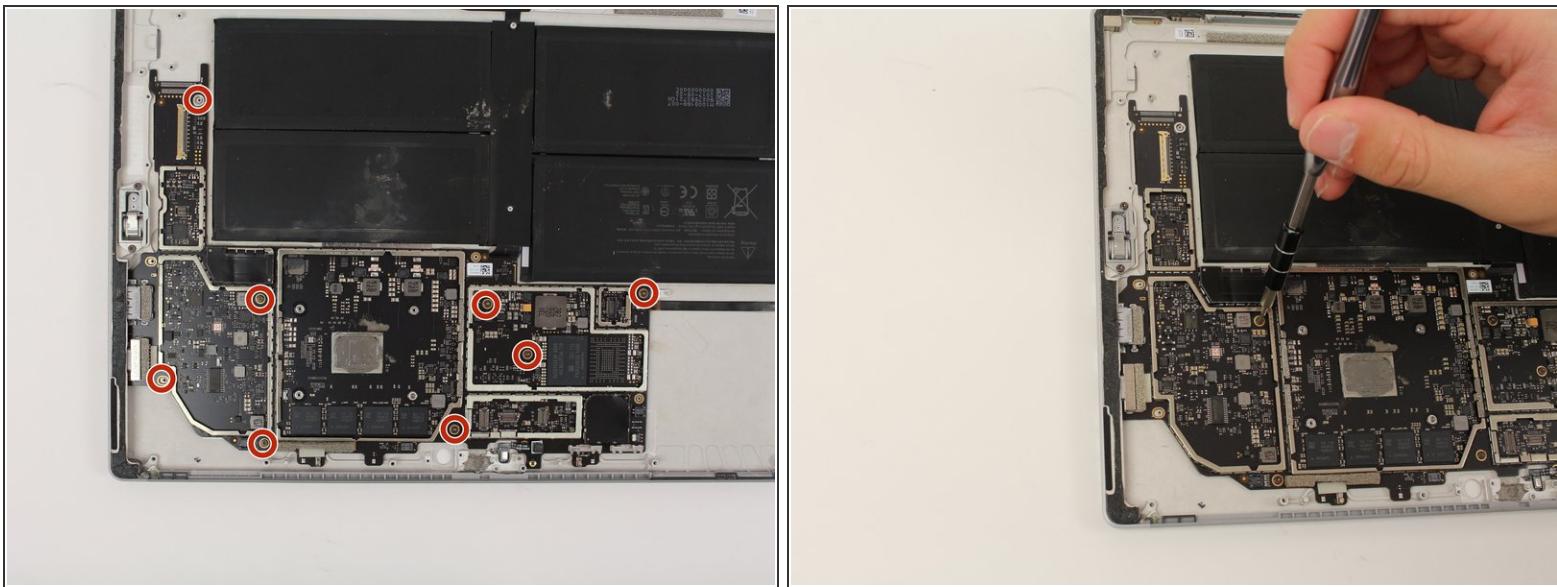
- Lift the camera tie bar off of the device.

Step 33 — Motherboard



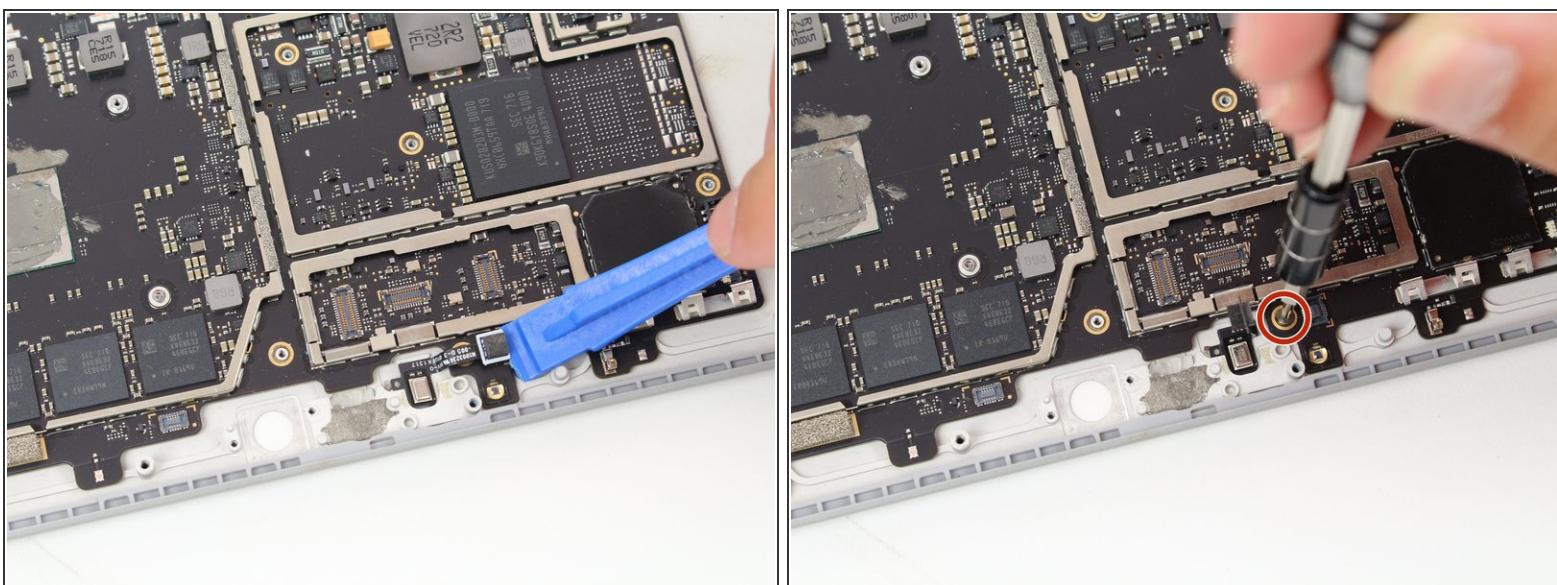
- Disconnect the black and red cable connector and the ribbon from the motherboard that connect the power button assembly.

Step 34



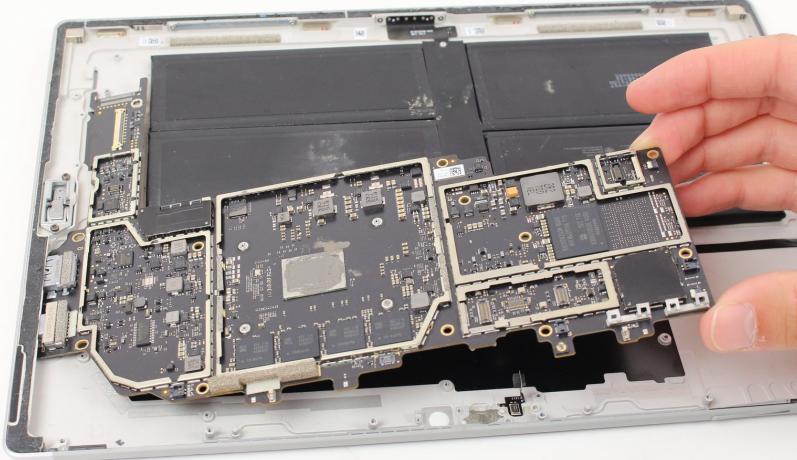
- Remove the eight 2.5 mm T3 screws from the motherboard.

Step 35



- Use the plastic opening tool to pop up the connector going from the edge of the case to the motherboard.
- Use a Torx T3 to remove the one 2.5 mm screw on the motherboard.

Step 36



- Remove the motherboard by using a hand to lift up and move it to the right.

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