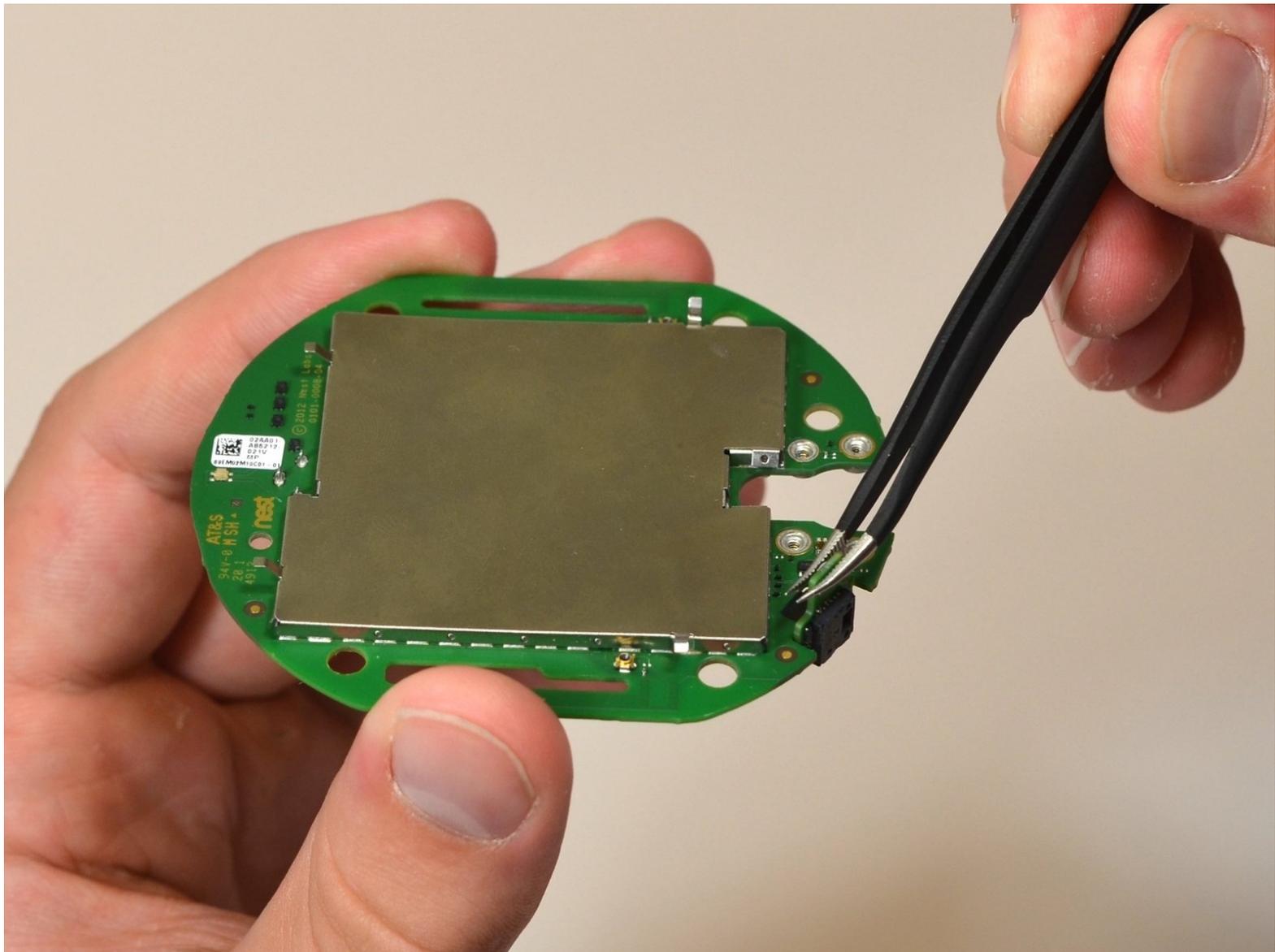




# Nest Learning Thermostat 2nd Generation Optical Finger Motion Sensor Replacement

Replacement of the optical finger navigation module, is necessary, if the Nest thermostat is no longer detecting it's position around the steal ring.

Written By: Charles Suleskey



---

## INTRODUCTION

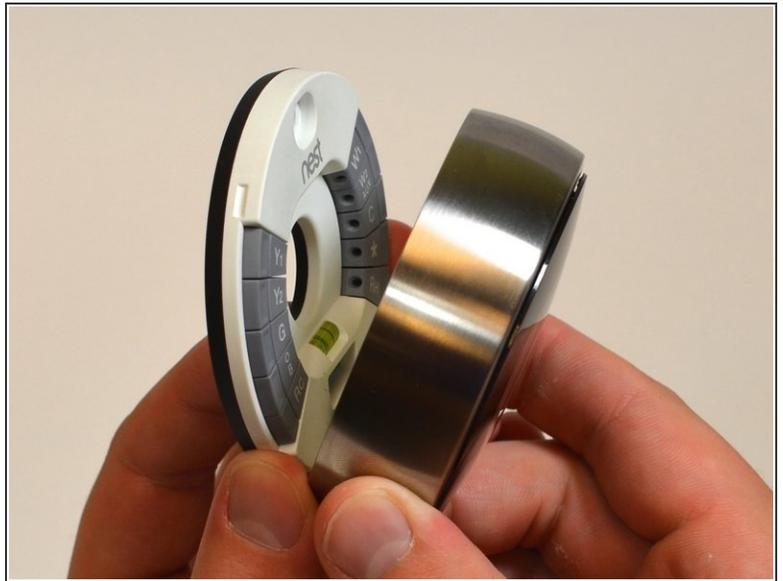
The optical finger is the smallest component of the Nest Thermostat. Although it is one of the last components to be disassembled it is still easily to get to. The tools required to replace the optical finger are a #0 Phillips screwdriver, tweezers, and plastic opening tools.

---

### TOOLS:

- [Phillips #0 Screwdriver](#) (1)
  - [Tweezers](#) (1)
  - [iFixit Opening Tools](#) (1)
-

## Step 1 — Removal from Wall



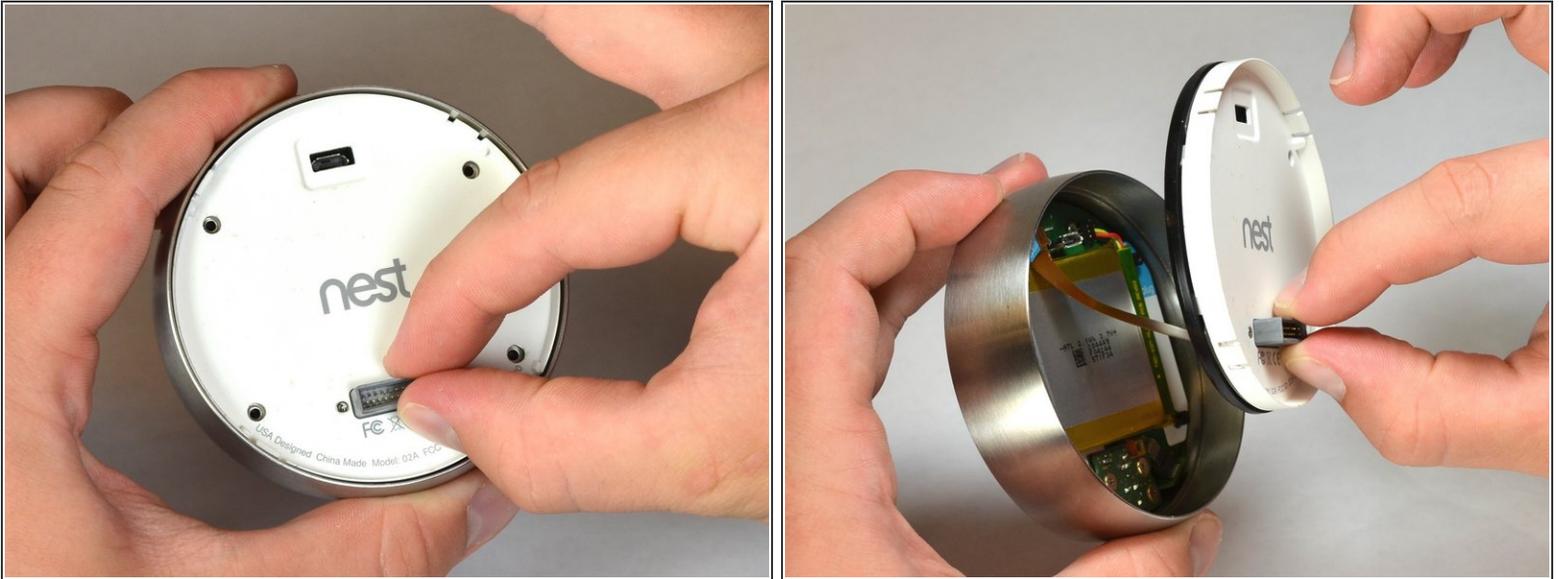
- Grasp the display's metal outer ring with your fingers and pull directly away from the wall.

## Step 2 — Open Display



- Turn the display over.
- Remove the four 6 mm screws from the back of the display using a Phillips #0 screwdriver.

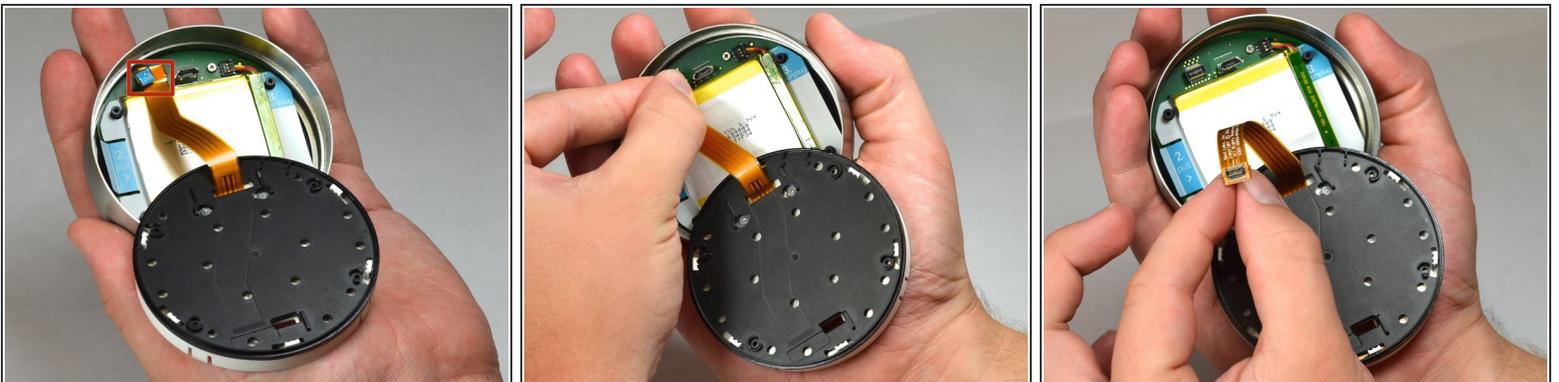
### Step 3 — Remove the back of the display



- Pinch the gray 20-pin connector with your fingers and pull directly away from the display.

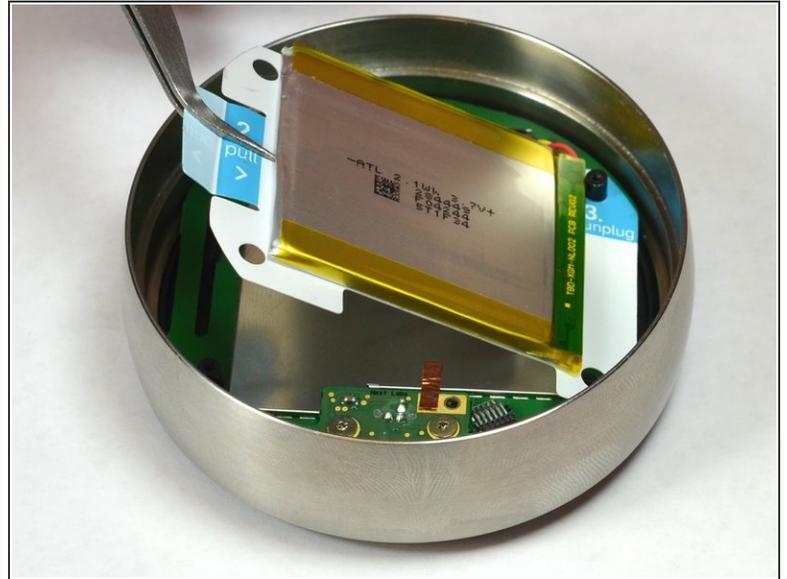
**⚠** Do NOT pull too far as there is a ribbon on the back panel connecting the 20-pin connector to the display.

### Step 4 — Disconnect the base connection ribbon cable.



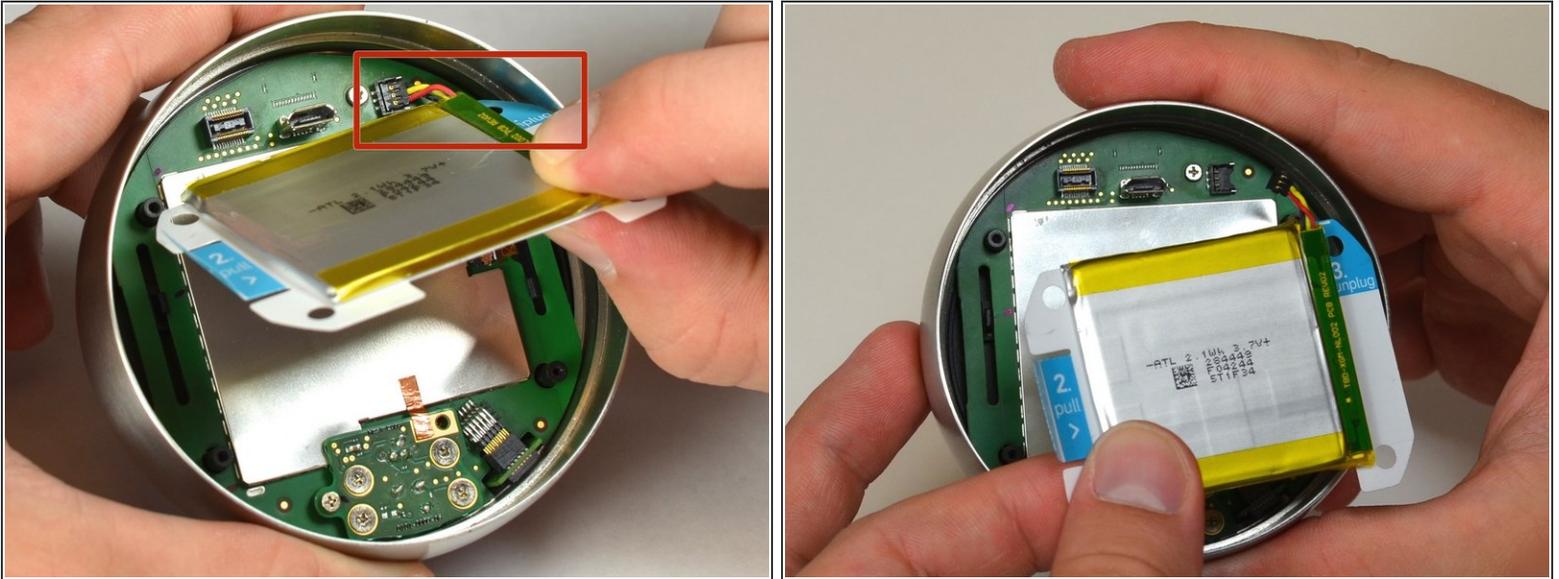
- Locate the blue pull tab at the end of the ribbon which says, "1. Pull".
- Grasp the tab with your fingers and pull directly away from the motherboard.

## Step 5 — Lift battery from the base



- Locate the blue tab which says, "2. Pull".
  - Use tweezers to pull the battery up and away from the display.
- ⚠ Do NOT pull too far, as the battery is still connected to the motherboard and must be unplugged.

## Step 6 — Disconnect the battery from the motherboard



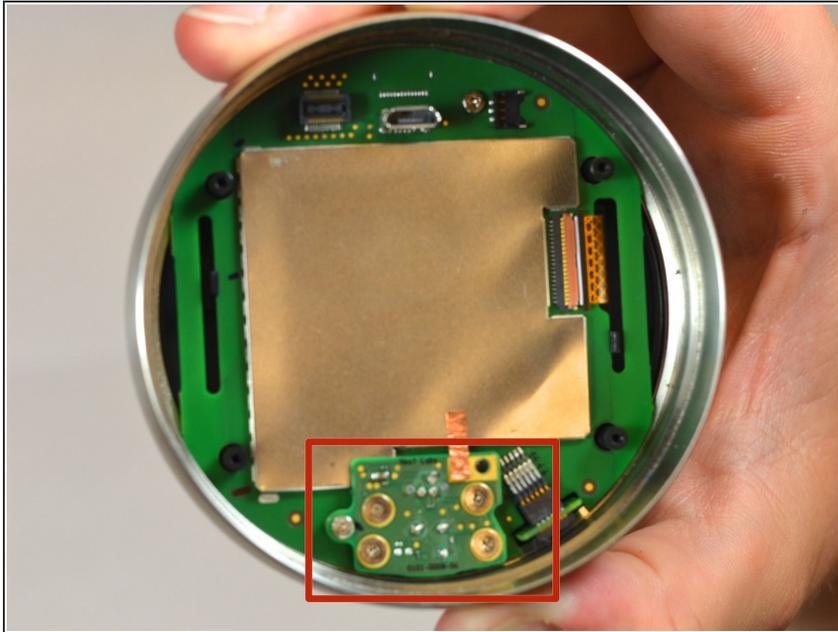
- Locate the blue tab which says "3 unplug".
- Grasp the battery with your fingers. Pull gently directly away from the display to unplug the battery from the motherboard.

## Step 7 — Remove battery from the display



- Grasp the battery with your fingers and pull directly away from motherboard to separate the battery from the display.

## Step 8 — Locate auto-away sensor



- Locate the auto-away sensor.

## Step 9 — Remove screws



- Remove the four 3mm screws with a #0 Phillips screwdriver.
- Remove the one 4mm screw located at the edge of the auto-away sensor. Use a #0 Phillips screwdriver.

## Step 10 — Remove auto-away sensor



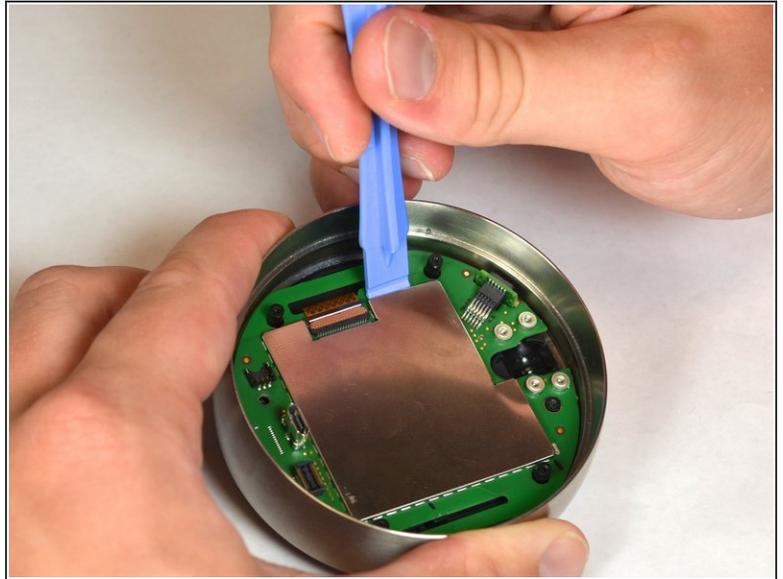
- Lift the auto-away sensor from motherboard using tweezers.
- Peel the copper foil gently from the EMI shield.

## Step 11 — Remove screw from motherboard



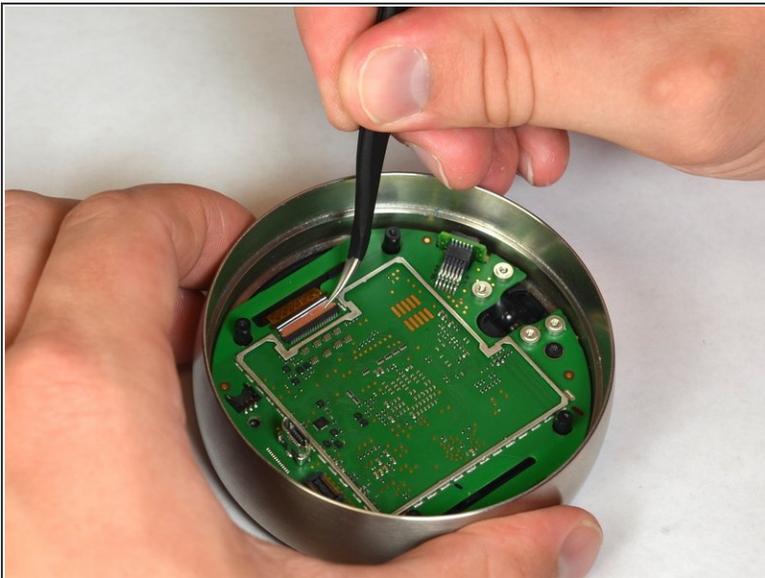
- Remove the 4 mm screw from the motherboard using a #0 Phillips screwdriver.

## Step 12 — Removal of EMI Shield



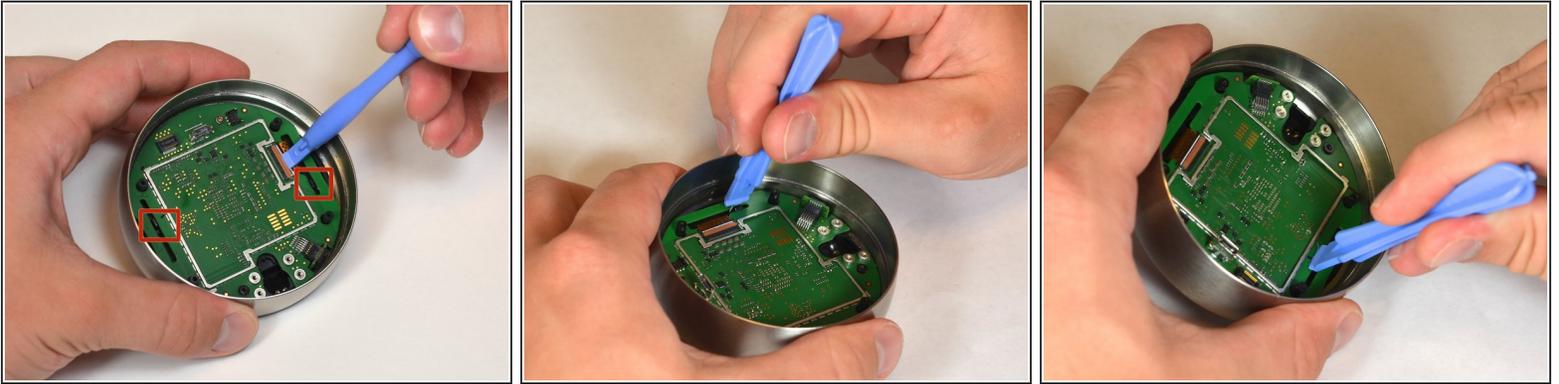
- Remove the EMI shield from the motherboard using a plastic opening tool.

## Step 13 — Disconnect the LCD ribbon



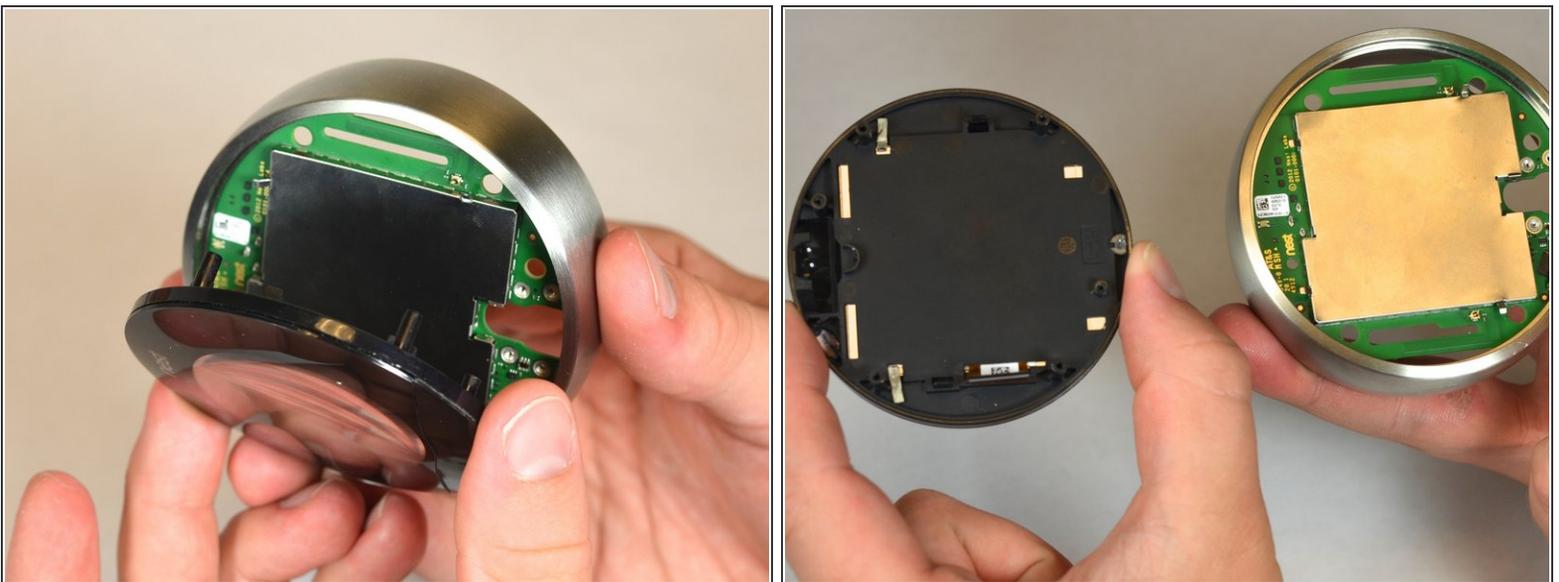
- Unsnap the LCD ribbon from the motherboard gently using tweezers.

## Step 14 — Disconnect the motherboard from the display



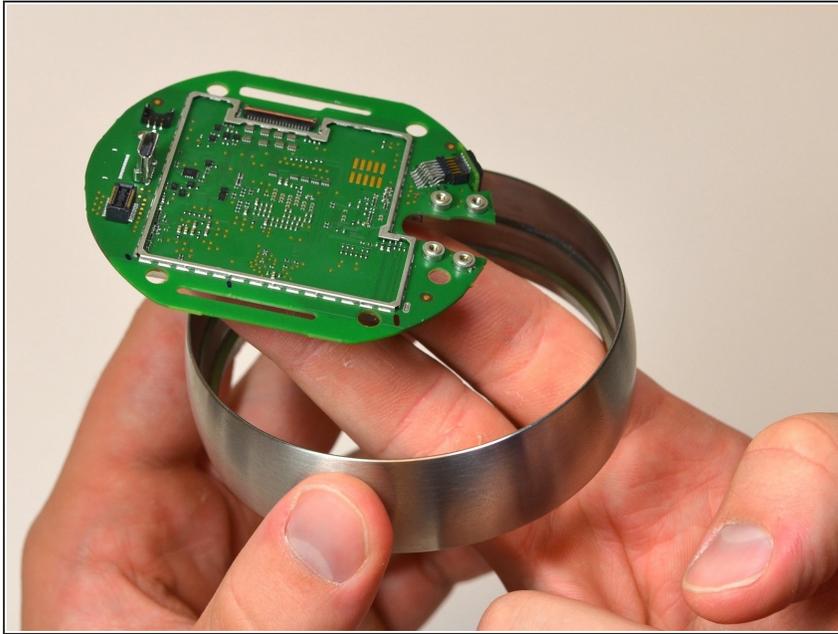
- Locate the black tabs that hold the display to the motherboard.
- Push the black tabs gently away from the motherboard using the plastic opening tools.

## Step 15 — Separate the motherboard and the display



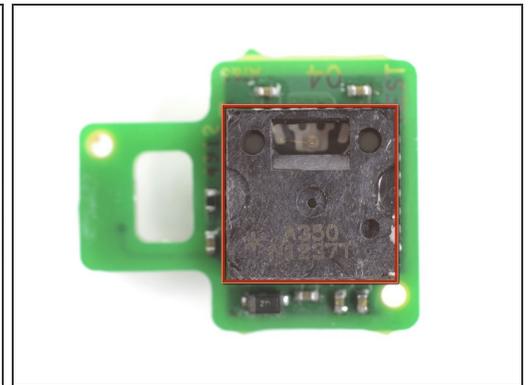
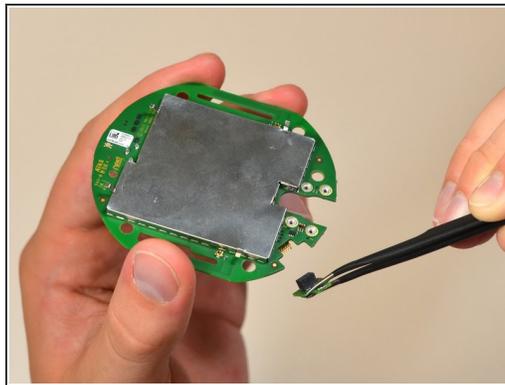
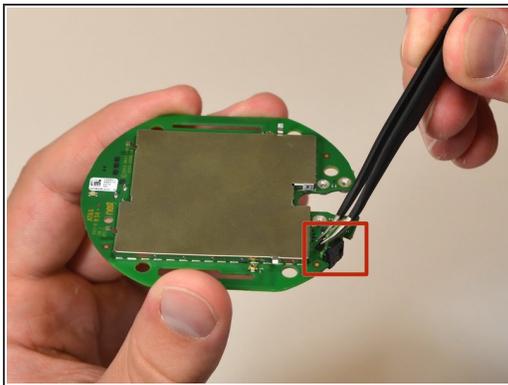
- Pull the face display gently away from the motherboard.

## Step 16 — Separate motherboard from steel ring



- Using one hand to hold the steel ring, carefully lift the motherboard out of the ring using the other hand.

## Step 17 — Removal of optical finger



- Locate the optical sensor, a small board attached at 90 degrees from the side of the motherboard.
- Using the tweezers, grasp the small green piece of exposed board on the sensor, and pull directly away from the side of the motherboard.

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