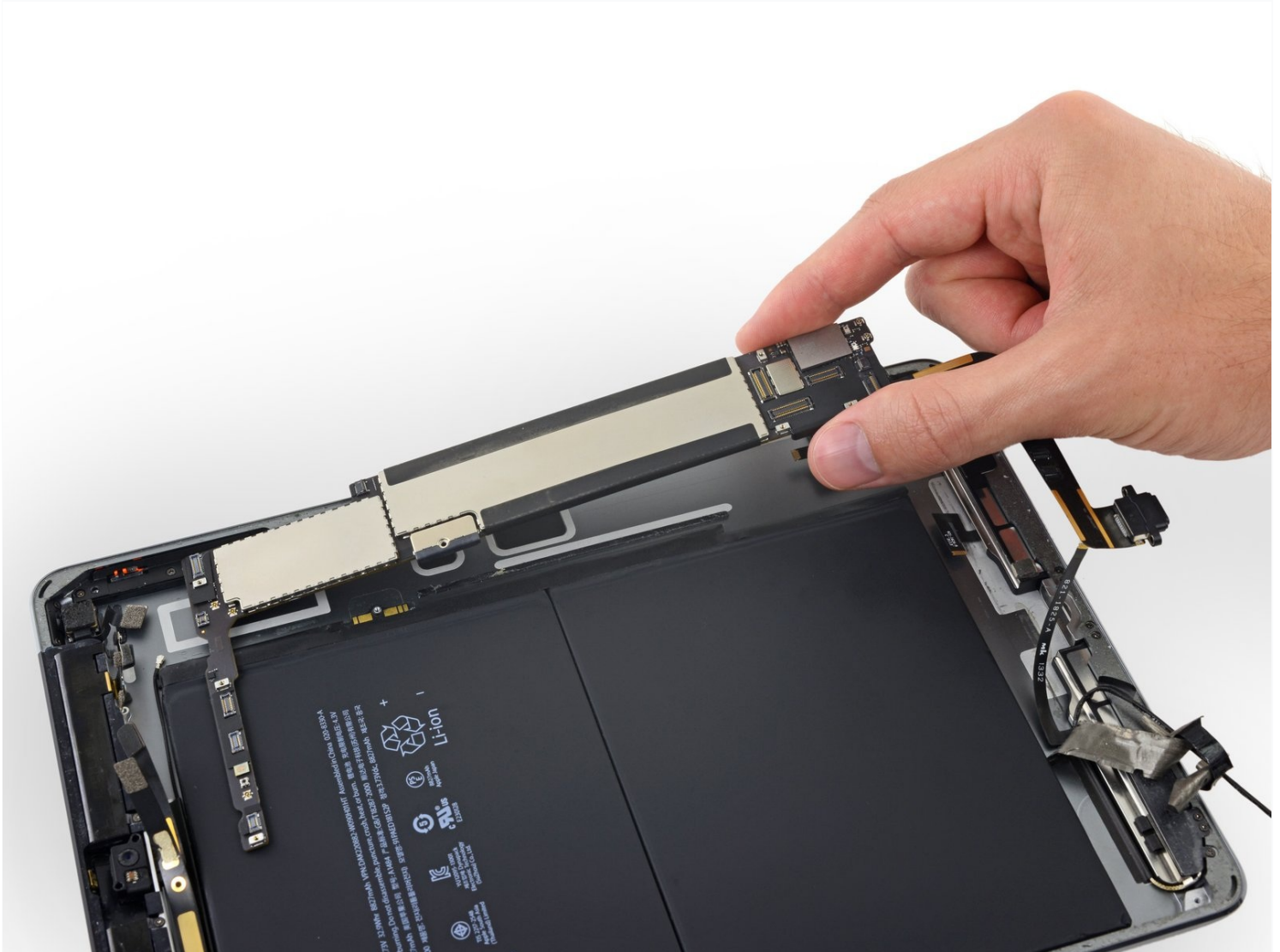




iPad 5 LTE Logic Board Replacement

Follow the steps in this guide to replace the...

Written By: Arthur Shi



INTRODUCTION

Follow the steps in this guide to replace the logic board in an iPad 5 LTE.

Note that replacing the logic board will result in losing all your data, as well as Touch ID functionality.

Parts of this guide were shot with a Wi-Fi model and as such the internals may look slightly different from the LTE model. The procedure is the same for both models except where noted.

TOOLS:

[Anti-Clamp](#) (1)
[iOpener](#) (1)
[iFixit Opening Picks \(Set of 6\)](#) (1)
[Suction Handle](#) (1)
[Tweezers](#) (1)
[Phillips #00 Screwdriver](#) (1)
[Spudger](#) (1)

PARTS:

[iPad Air, iPad 5, iPad 6 Adhesive Strips](#) (1)
[iPad Air LTE Logic Board](#) (1)

Step 1 — Heat the left edge



- [Heat an iOpener](#) and apply it to the left edge of the device for two minutes.

Step 2 — Screen removal information



- While you're waiting for the adhesive to loosen, note the following areas that are sensitive to prying:
 - Front camera
 - Antennas
 - Display cables

Step 3 — Anti-Clamp instructions



- ① The next three steps demonstrate the [Anti-Clamp](#), a tool we designed to make the opening procedure easier. **If you aren't using the Anti-Clamp, skip down three steps for an alternate method.**
- ① For complete instructions on how to use the Anti-Clamp, [check out this guide](#).
- Pull the blue handle backwards to unlock the Anti-Clamp's arms.
- Place an object under your iPad so it rests level between the suction cups.
- Position the suction cups near the middle of the left edge—one on the top, and one on the bottom.
- Hold the bottom of the Anti-Clamp steady and firmly press down on the top cup to apply suction.
- ① If you find that the surface of your iPad is too slippery for the Anti-Clamp to hold onto, [use tape](#) to create a grippier surface.

Step 4



- Pull the blue handle forward to lock the arms.
- Turn the handle clockwise 360 degrees or until the cups start to stretch.
- Make sure the suction cups remain aligned with each other. If they begin to slip out of alignment, loosen the suction cups slightly and realign the arms.

Step 5



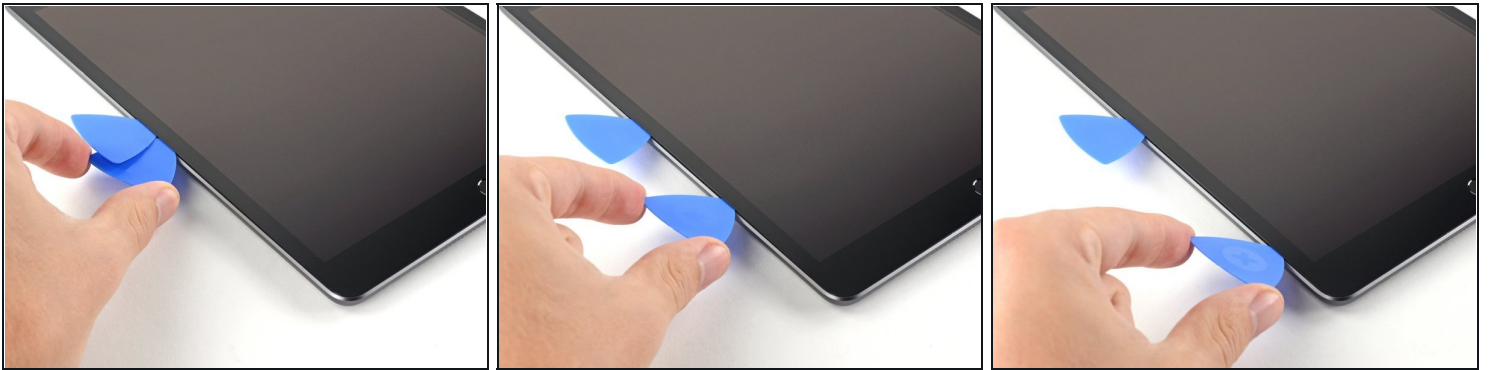
- Wait one minute to give the adhesive a chance to release and present an opening gap.
- If your screen isn't getting hot enough, you can use a hair dryer to heat along the left edge of the iPad.
 - ① For complete instructions on how to use a hair dryer, [check out this guide](#).
- Insert an opening pick under the digitizer when the Anti-Clamp creates a large enough gap.
 - ① If the Anti-Clamp doesn't create a sufficient gap, apply more heat to the area and rotate the handle clockwise half a turn.
- ⚠ Don't crank more than a half a turn at a time, and wait one minute between turns. Let the Anti-Clamp and time do the work for you.
- **Skip the next step.**

Step 6 — Insert an opening pick



- ① If your display is badly cracked, [covering it with a layer of clear packing tape](#) may allow the suction cup to adhere. Alternatively, very strong tape may be used instead of the suction cup. If all else fails, you can superglue the suction cup to the broken screen.
- Once the screen is warm to touch, apply a suction handle to the left edge of the screen and as close to the edge as possible.
 - Lift the screen with the suction handle to create a small gap between the digitizer and the frame.
 - Insert an opening pick into the gap between the digitizer and the frame.

Step 7 — Separate the left adhesive



- Insert a second opening pick into the gap you just created.
 - Slide the pick toward the bottom-left corner of the device to separate the adhesive.
 - Leave the pick in the bottom-left corner to prevent the adhesive from re-sealing.
- ⓘ Don't worry if you can see [the opening pick through the digitizer](#)—just pull the pick out. The LCD screen shouldn't be damaged, but you risk leaving behind hard-to-clean adhesive.

Step 8



- If the opening pick gets stuck in the adhesive, "roll" the pick along the side of the iPad to continue separating the adhesive.

Step 9



- Slide the first opening pick towards the top-left corner of the device to separate the adhesive.
- Leave the pick in the top-left corner to prevent the adhesive from re-sealing.

Step 10 — Heat the top edge



- Heat an iOpener and apply it to the top edge of the device for two minutes.

Step 11 — Separate the top left adhesive



- Rotate the pick around the top-left corner of the device to separate the adhesive.

Step 12 — Separate the top adhesive



- Slide the opening pick along the top edge of the device, stopping just before you reach the front camera.

⚠️ Avoid sliding the pick over the front camera, as you may damage the lens. The following steps will show how to prevent this.

Step 13



- Pull the pick out until only the tip is between the digitizer and the frame.
- Slide the pick above the front camera to separate the adhesive.
- Leave the pick near the right side of the front camera before continuing.

Step 14



- Re-insert the pick and slide it towards the top-right corner of the device to completely separate the top adhesive.
- Leave the pick in the top-right corner to prevent the adhesive from re-sealing.

Step 15 — Heat the right edge



- Heat an iOpener and apply it to the right edge of the device for two minutes.

Step 16 — Separate the top right adhesive



- Rotate the pick around the top-right corner of the device to separate the adhesive.

Step 17 — Separate the right adhesive



- Insert a new opening pick and slide it to the middle of the iPad's right edge.

⚠ The display cables are located approximately halfway from the bottom of the iPad. Stop sliding once you reach three inches from the bottom of the iPad.

Step 18 — Heat the bottom edge



- Heat an iOpener and apply it to the bottom edge of the device for two minutes.

Step 19 — Separate the bottom left adhesive



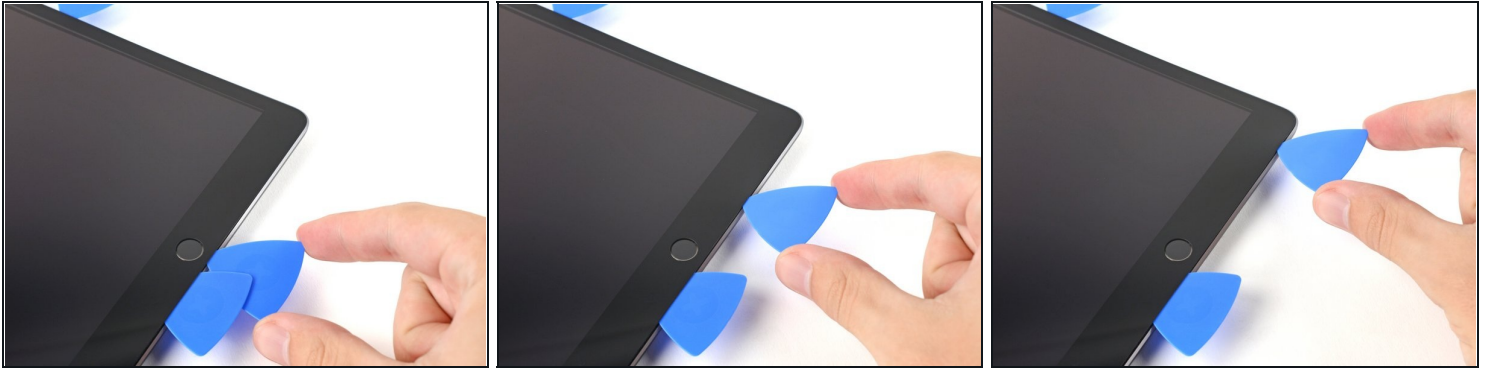
- Slide the bottom-left pick to the bottom-left corner to separate the adhesive.
⚠ Don't fully rotate the pick around the corner, as you may damage the antenna.
- Leave the pick in the bottom-left corner before moving to the next step.

Step 20 — Separate the bottom adhesive



- Insert a new opening pick into the gap you just created on the bottom edge of the iPad.
- Slide the pick over the antenna, stopping just before the home button.
⚠ Only slide the pick towards the home button and not away from it, as you may damage the antenna.
- ❗ If you need to slide the pick over this section again, remove and re-insert it at the bottom-left corner.
- Leave the pick to the left of the home button before continuing.

Step 21



- Insert an opening pick into the gap you just created.
- Slide the pick underneath the home button and towards the bottom-right corner, making sure **only the tip** is between the digitizer and the frame.

⚠ Only insert the pick up to 1 mm to avoid damaging the right antenna.

Step 22



- Re-insert the pick and slide it towards the home button to completely separate the bottom adhesive.

⚠ Only slide the pick towards the home button and not away from it, as you may damage the antenna.

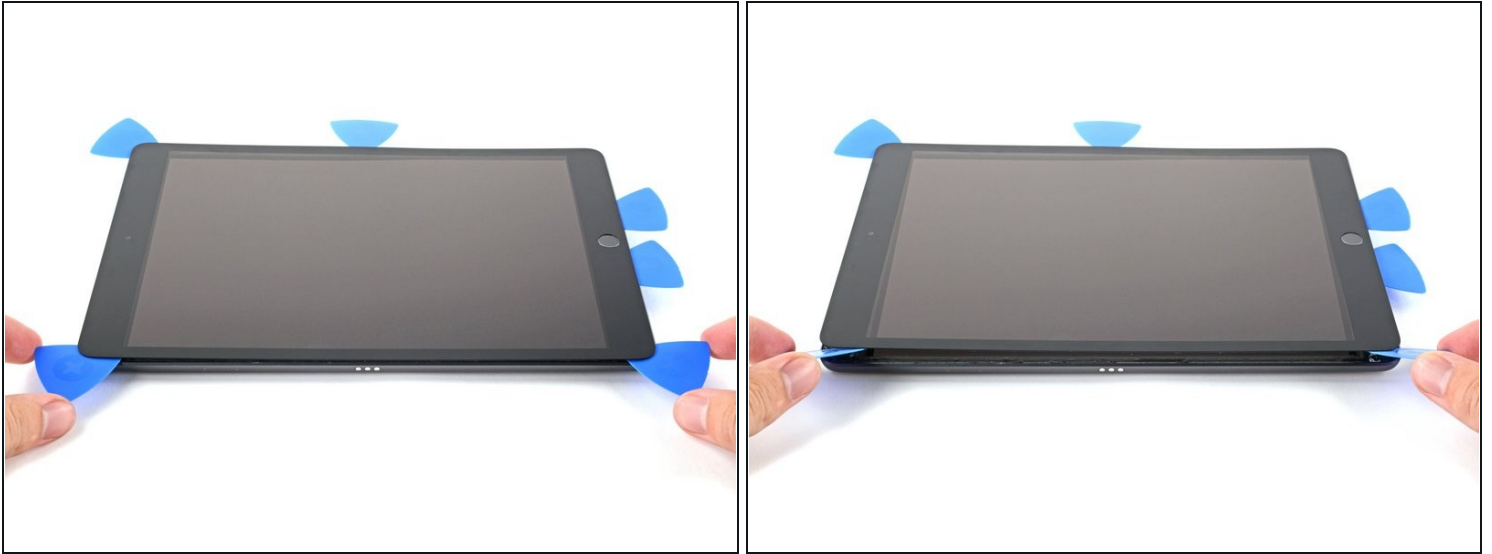
- ① If you need to slide the pick over this section again, remove and re-insert it at the bottom-right corner.
- Leave the pick to the right of the home button before continuing.

Step 23 — Heat the right edge



- Heat an iOpener and apply it to the right edge of the device for two minutes.

Step 24



⚠ Be very careful with this step. Take your time, ensure the adhesive is hot and soft, and make sure you separated all of the adhesive with a pick. Don't be afraid to stop and reheat.

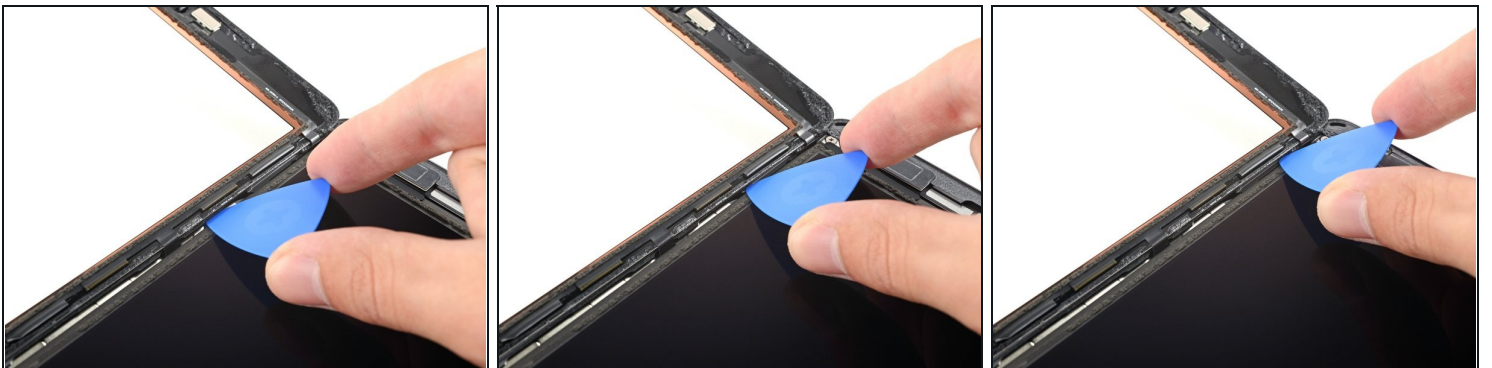
- Twist the two opening picks on the left corners of the iPad to lift the digitizer slightly, separating the the last of the adhesive in the process.
- ① If there's a significant amount of resistance, reheat the edges and work along them with an opening pick.

Step 25



- Lift the left edge of the digitizer upwards to further separate the adhesive along the right edge of the iPad.

Step 26 — Separate the right adhesive



- While supporting the digitizer, slide an opening pick between the two display cables to separate the last of the adhesive.

Step 27



- Once all of the adhesive has been separated, open the digitizer like a book and rest it parallel to the iPad.
- ☑ During reassembly, clean the remaining adhesive from the frame—and the digitizer if you're re-using it—with isopropyl alcohol. Replace the adhesive with our [adhesive strips](#) or [pre-cut adhesive cards](#).
- ☑ Be mindful of the display cables when reassembling the device. Make sure they are folded properly underneath the LCD screen to prevent any damage.

Step 28 — LCD



- Remove any tape obscuring the LCD screws.

Step 29



- Remove the four Phillips screws securing the LCD:
 - Three 4.0 mm screws
 - One 4.8 mm screw

Step 30



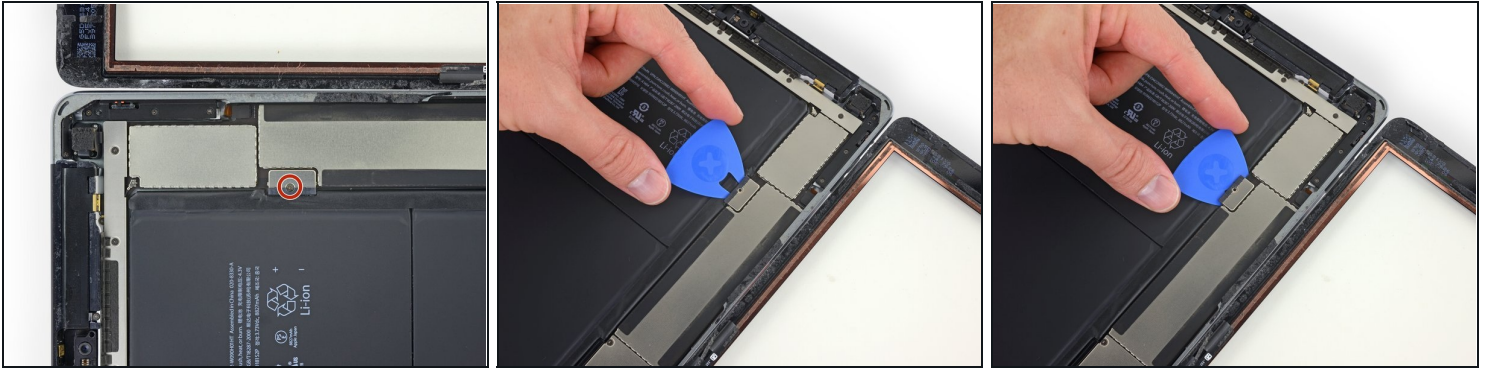
⚠ Do not attempt to fully remove the LCD. It is still connected to the iPad by several cables at the home button end. Lift only from the front-facing camera end.

- Use the flat end of a spudger to pry the LCD out of its recess just enough to grab it with your fingers.
- Flip the iPad LCD like a page in a book, lifting near the camera and turning it over the home button end of the rear case.

⚠ Be gentle and keep an eye on the LCD cables as you flip the display over.

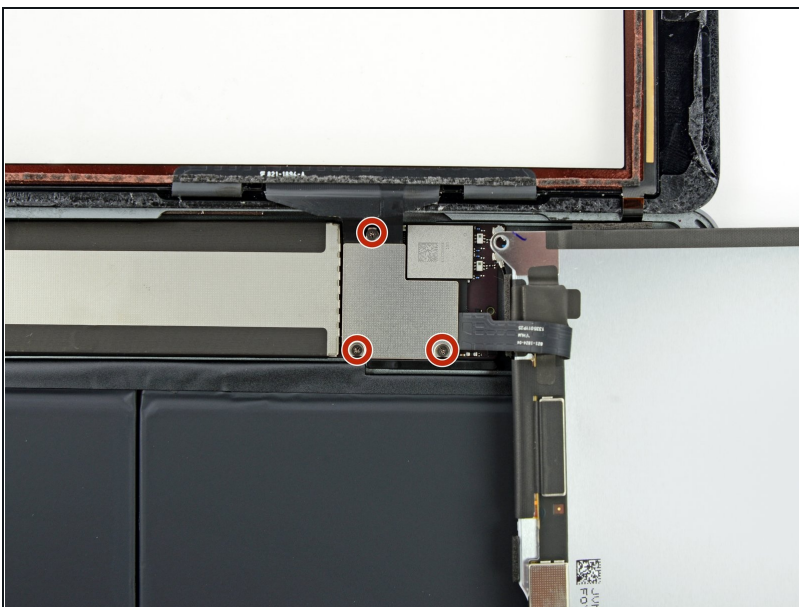
- Lay the LCD on its face to allow access to the display cables.
 - ⓘ Set the LCD down on a soft, clean, lint-free surface.

Step 31



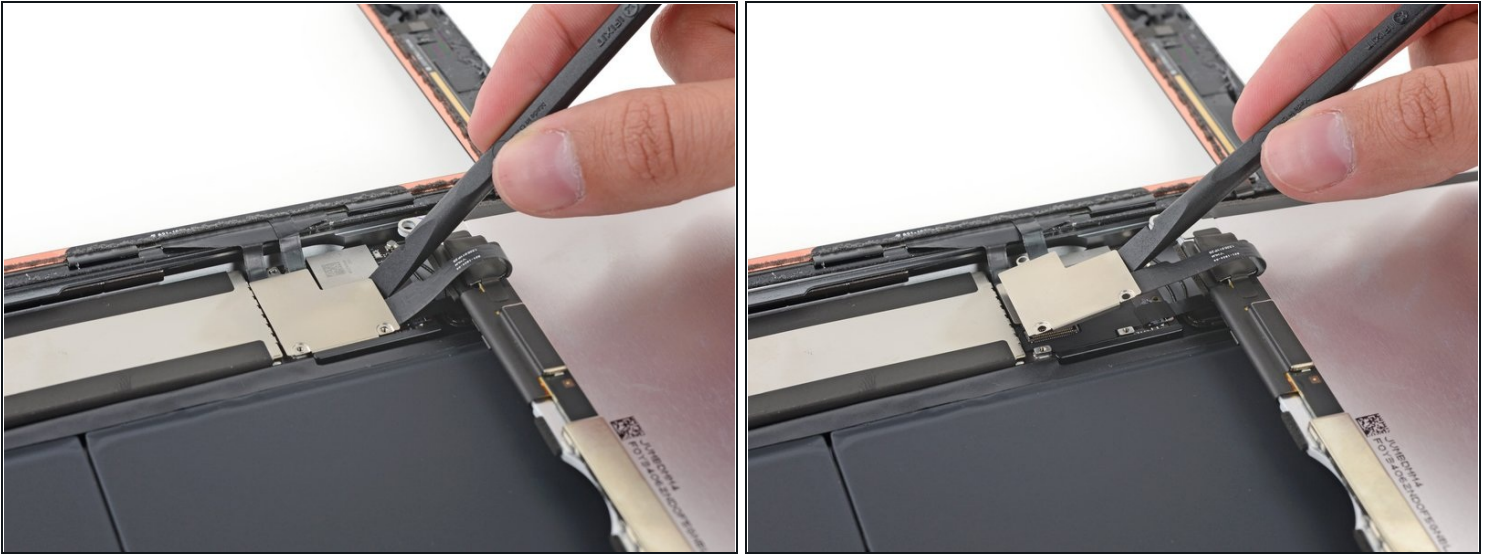
- Remove the single 2.3 mm Phillips screw securing the battery connector to the logic board.
- ① [Make a battery blocker using a playing card](#) and slide it underneath the logic board connector to disconnect the battery.
 - ⚠ You can also use an iFixit battery blocker. Be very careful and don't push the battery blocker underneath the connector with excessive force.
- Leave the blocker there to prevent the battery connector leads from making contact until you have completed your repairs.

Step 32



- Remove the three 1.4 mm Phillips screws securing the display cable bracket.

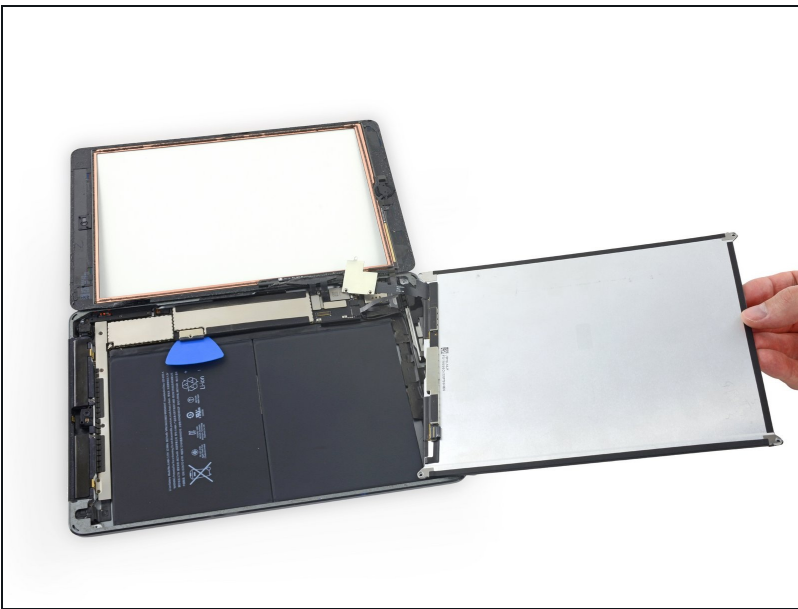
Step 33



- Use the flat end of a spudger to gently pry the display cable bracket straight up from the logic board.

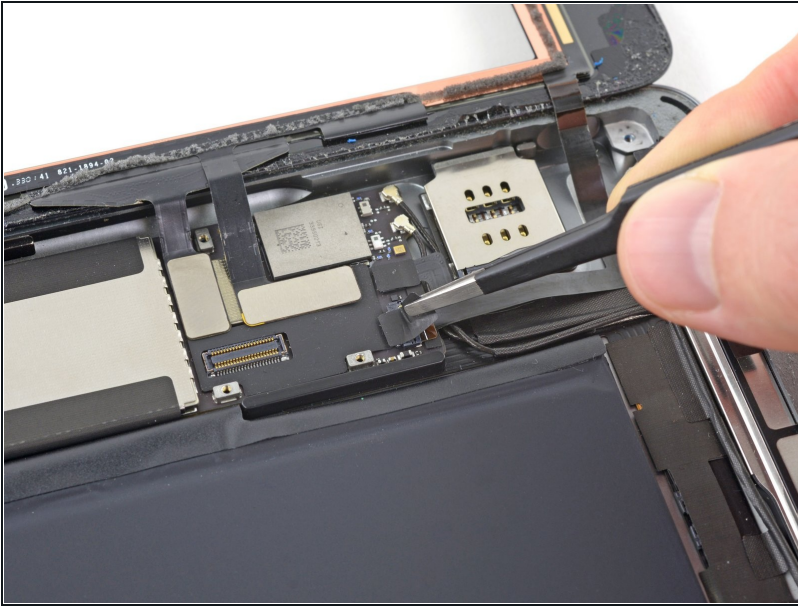
⚠ The display cable connector is adhered to the underside of the bracket, so don't push the spudger too far under the bracket, or you may damage the connector.

Step 34



- Remove the LCD.

Step 35 — Front Panel Assembly



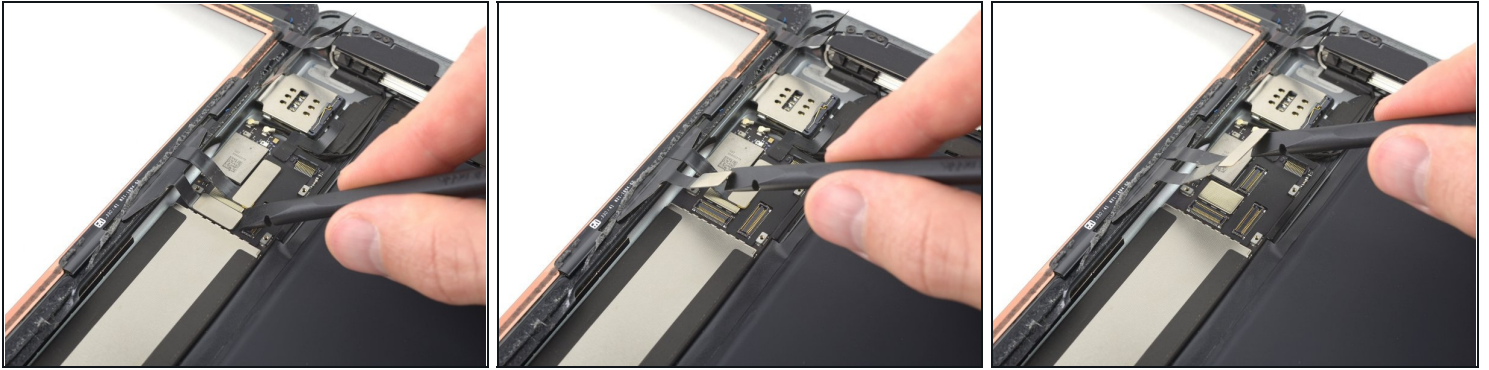
- Remove any tape covering the home button ribbon cable connector.

Step 36



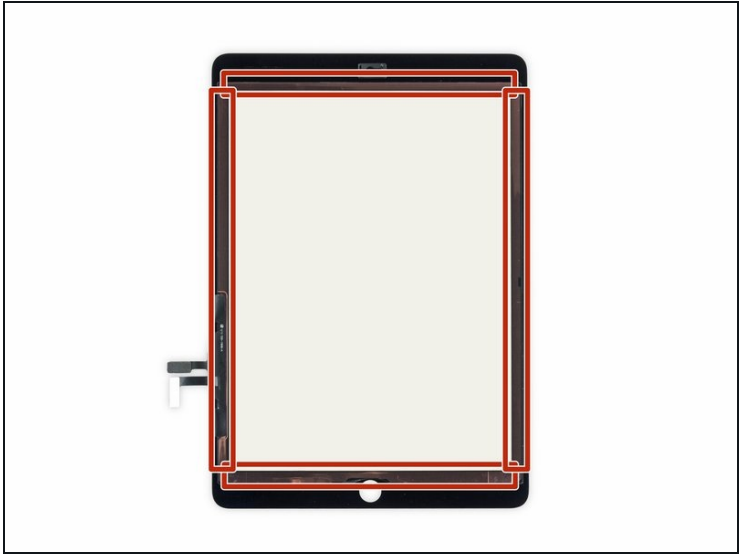
- Use the flat end of a spudger to flip the tab on the home button ribbon cable ZIF connector upward.
- Carefully pull the home button ribbon cable straight out of the ZIF connector.

Step 37



- Use the flat end of a spudger or a fingernail to carefully pop the two digitizer cable connectors straight up from their sockets.
⚠ To avoid damaging your iPad, pry only on the connectors themselves, **not** on the socket on the logic board.

Step 38

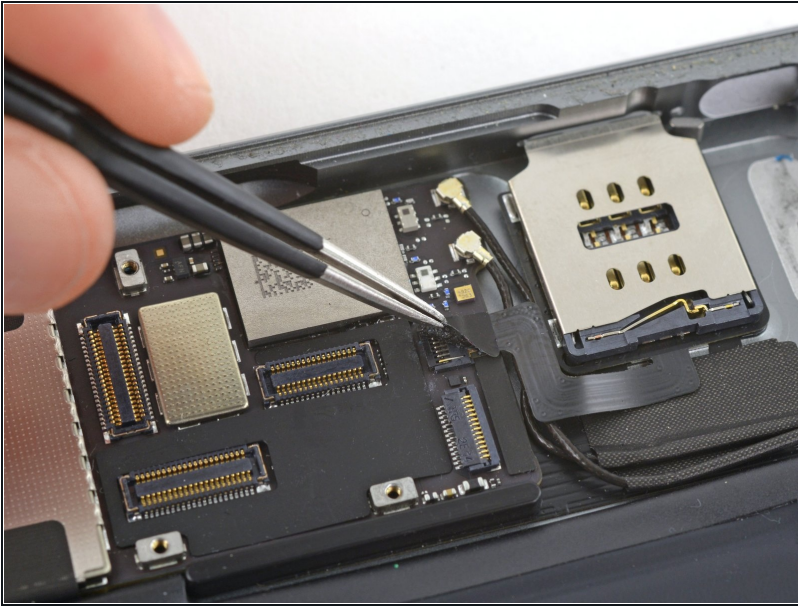


- Remove the front panel assembly.

⚠ If the home button ribbon cable sticks to the iPad's rear case, don't try to force it. Gently peel it off the case using a pair of tweezers, and then you can fully remove the front panel assembly.

- If you experience "ghost" or "phantom" touch input issues with your new display, this can be resolved by adding a layer of very thin insulating tape, such as [Kapton \(polyimide\) tape](#), to the highlighted areas on the back of the panel. **iFixit panels come with the proper insulation, and should not require the addition of any tape.**
 - ✦ Without the proper insulation, these areas of the digitizer can ground out against other components, causing touch input malfunction.
 - ⓘ The insulation is not visible to the naked eye, and is different from the foam dust barrier strips found on many iPads.

Step 39 — SIM Board Cable



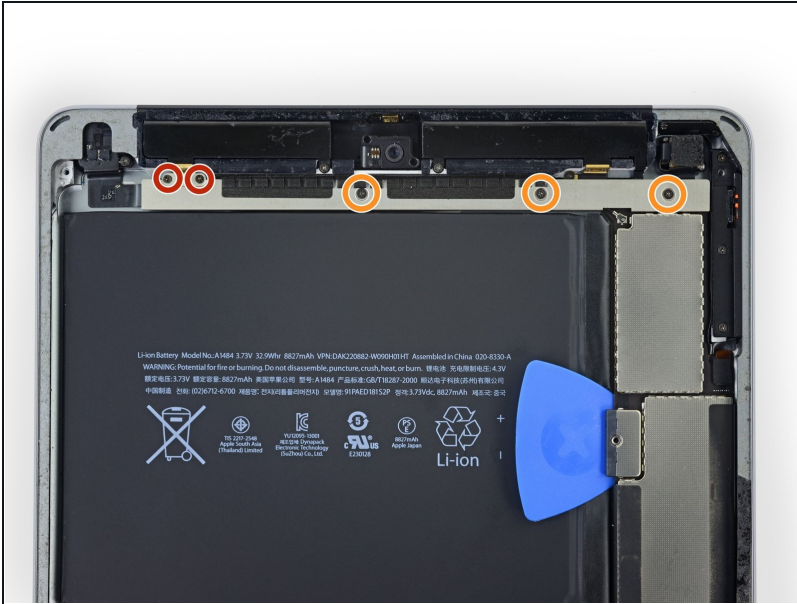
- Use [tweezers](#) to peel and remove the piece of tape covering the SIM board cable connector on the logic board.

Step 40



- Use the pointed end of a spudger to flip up the retaining flap on the SIM board cable connector.
- Slide the SIM board cable straight out of its ZIF connector.

Step 41 — Upper Component Cable Bracket



- Remove the following screws securing the upper component cable bracket:
 - Two 2.0 mm Phillips screws
 - Three 1.4 mm Phillips screws

Step 42



- Use [tweezers](#) to start peeling back the tape securing the upper component cable bracket.

Step 43



- Slowly peel the upper component cable bracket up out of the iPad—leaving the tape pieces on the bracket to make it easier to reinstall.

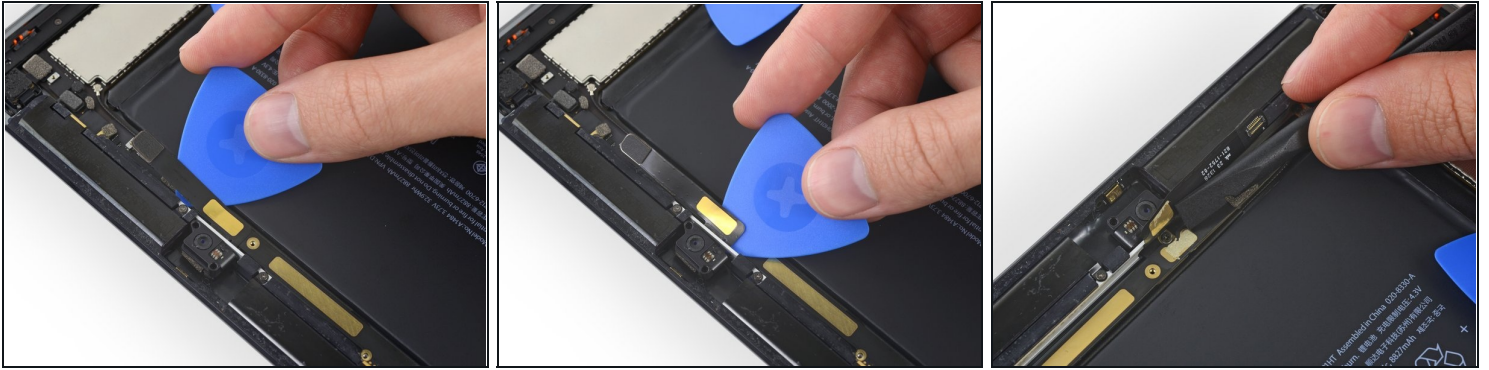
Step 44 — Logic Board



⚠ The following steps involve disconnecting many press connectors from their sockets on the logic board. When disconnecting these cables, be sure to pry up only on the connector, and not the socket itself.

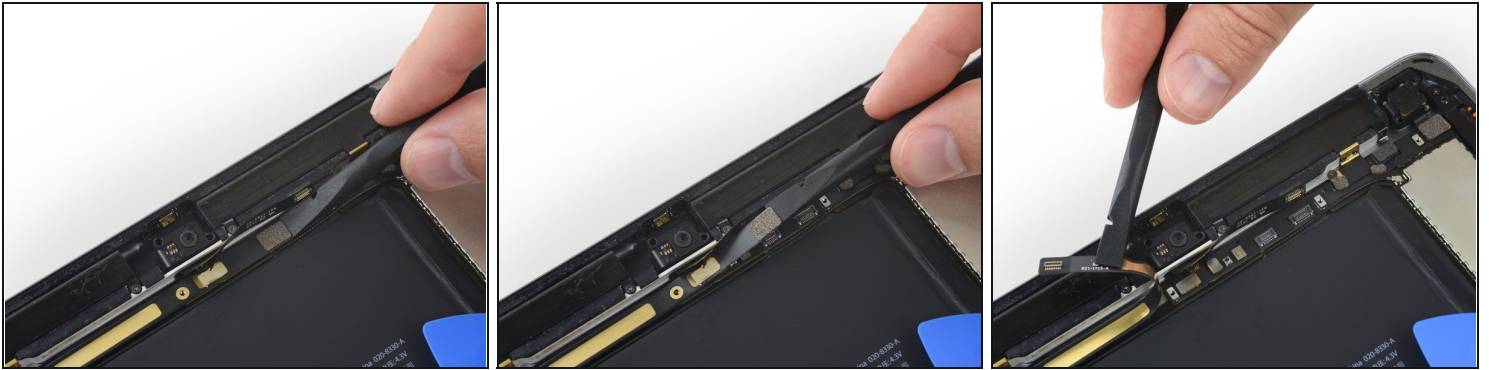
- Use the flat end of a spudger to disconnect the front-facing camera connector from its socket on the logic board.

Step 45



- Slide an opening pick underneath the front-facing camera cable to break up the adhesive holding it in place.
- Push the camera cable up with a spudger to reveal a second ribbon cable connector underneath.

Step 46



- Use the flat end of a spudger to gently disconnect the headphone jack ribbon cable from its socket on the logic board.
- Again, carefully push this second ribbon cable aside to reveal more connectors underneath.

Step 47



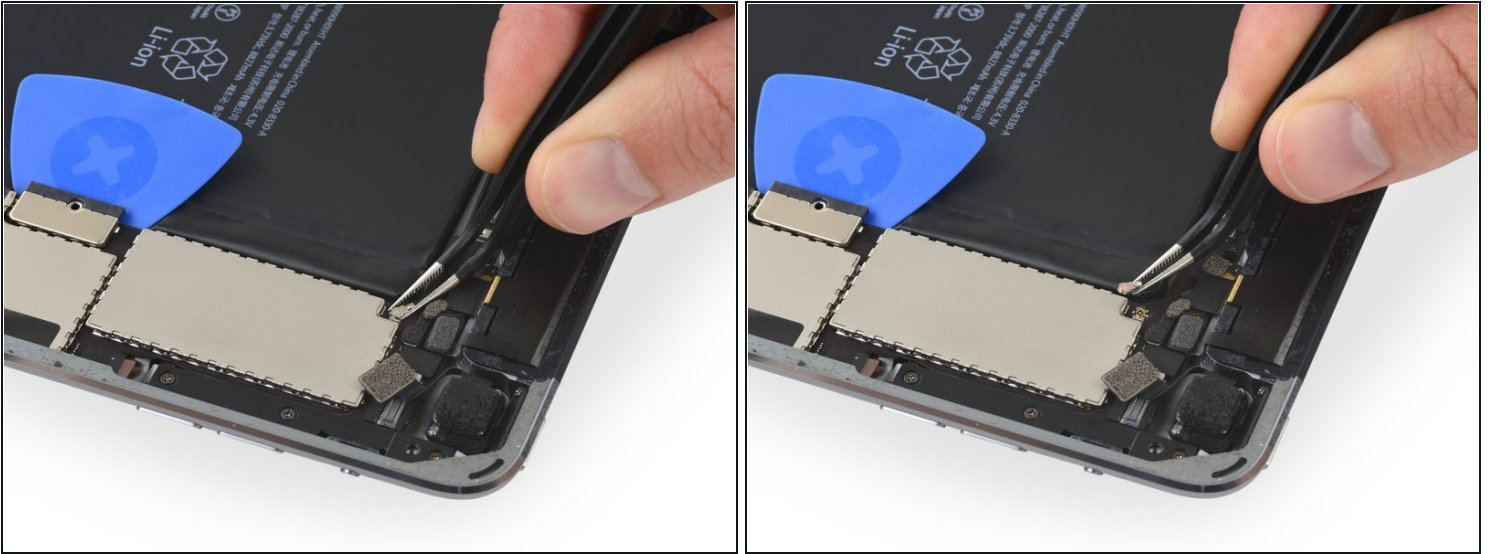
- Use the pointed tip of a spudger to disconnect the microphone cable connector from its socket on the logic board.
- Use the pointed tip of the spudger to disconnect the GPS antenna cable, directly to the right of the microphone cable connector.

Step 48



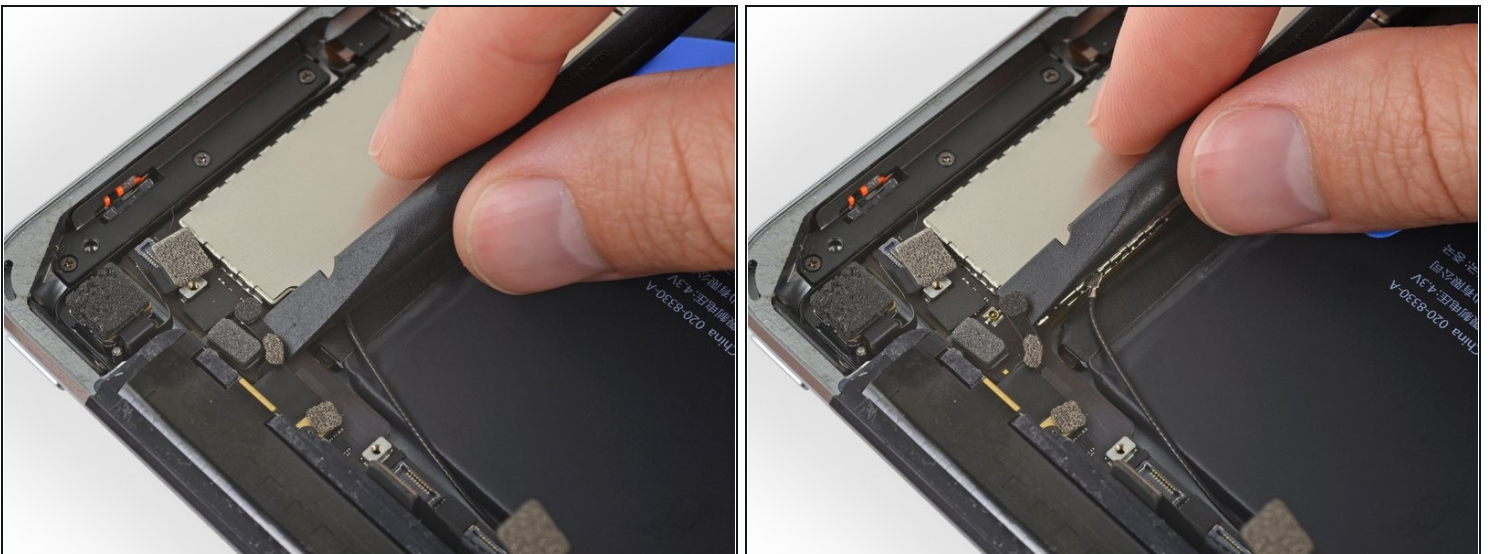
- Use the flat tip of a spudger to disconnect the rear-facing camera cable by prying it straight up from its socket on the logic board.

Step 49



- Disconnect the antenna interconnect cable by lifting it straight up from its socket on the logic board.

Step 50



- Use the flat end of a spudger to disconnect the primary cellular antenna interconnect cable from its socket on the logic board.

Step 51



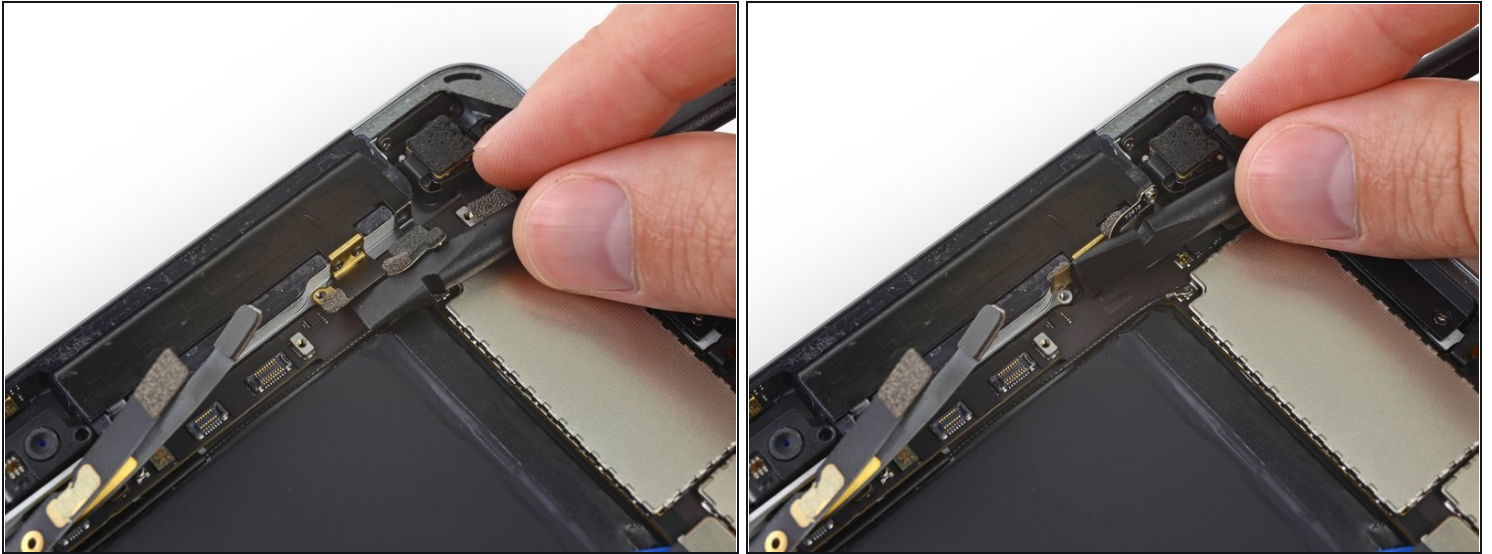
- Use the flat end of a spudger to lift the primary cellular antenna connector from its socket on the logic board.

Step 52



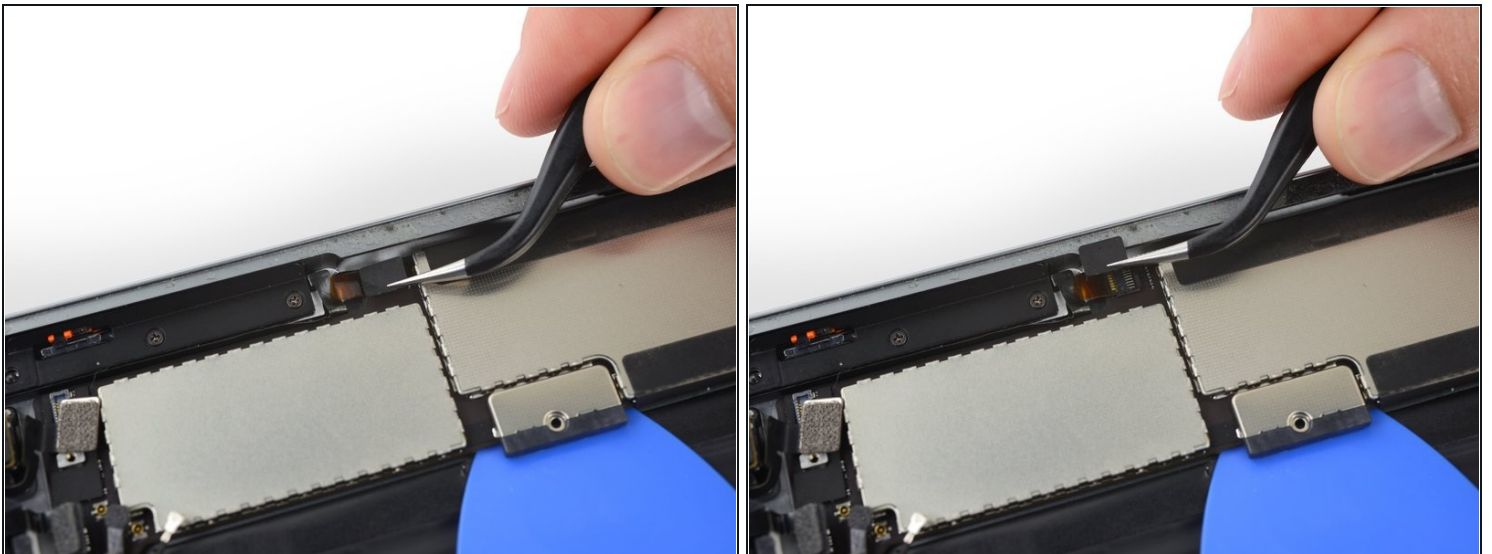
- Remove the 1.4 mm Phillips screw securing the primary cellular antenna interconnect cable bracket.

Step 53



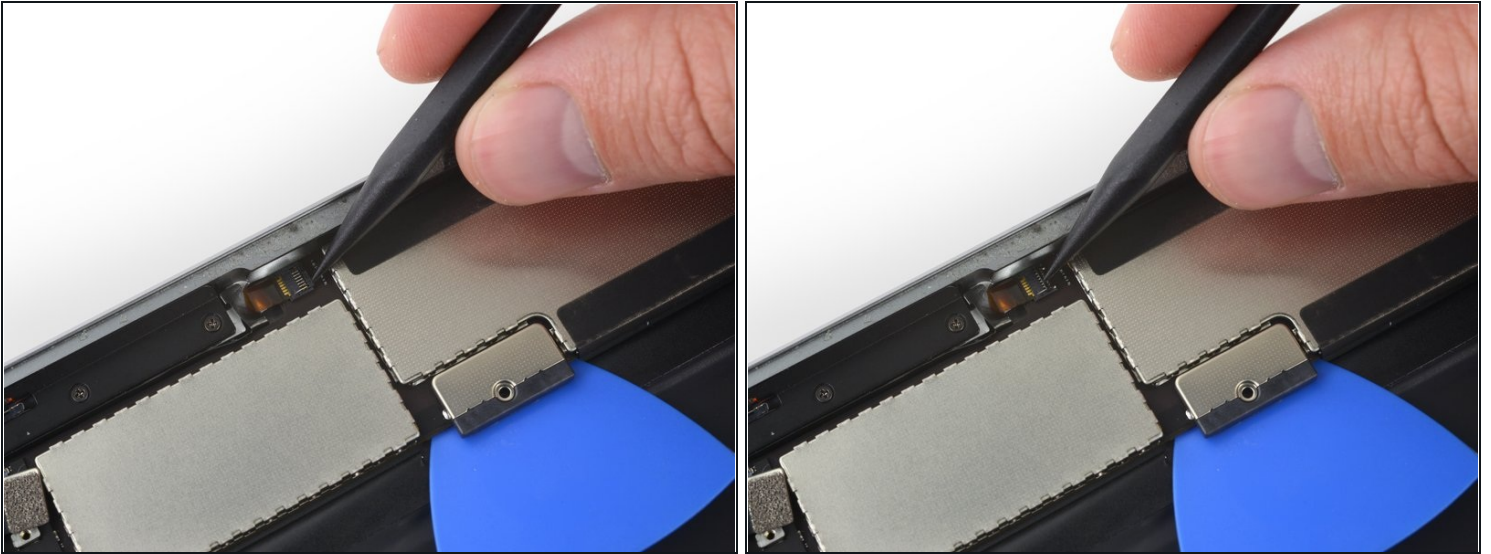
- Use the flat end of a spudger to gently fold the primary cellular antenna interconnect cable bracket up and out of the way.
 - ☑ The small, S-shaped interconnect cable remains attached to the bracket via a press connector on the underside of the bracket. If it disconnects accidentally, reconnect it by pressing it into place.

Step 54



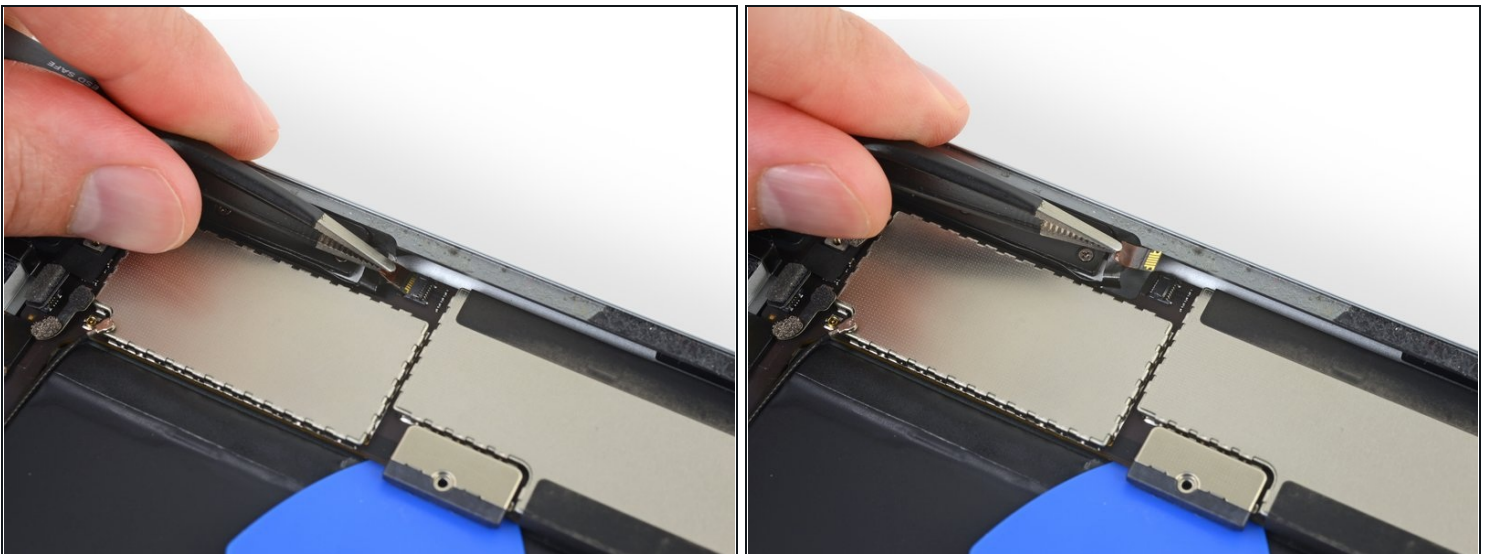
- Remove the piece of black tape covering the upper button assembly cable connector.

Step 55



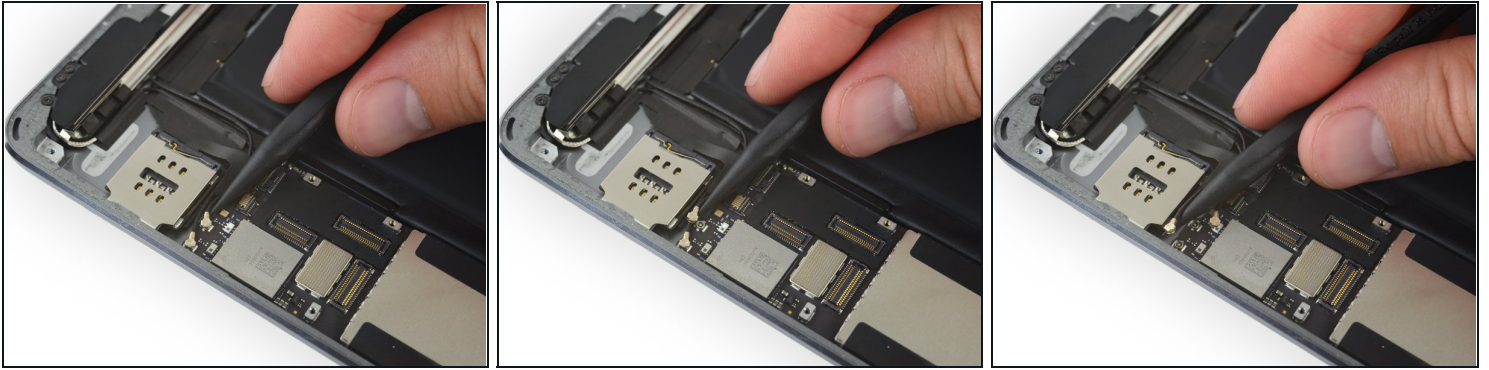
- Use the pointed tip of a spudger to flip up the retaining flap on the upper button assembly cable connector.

Step 56



- Use [tweezers](#) to carefully pull the upper button assembly ribbon cable straight out of its connector.
⚠ There is very little give on this cable, so you may need to apply a decent amount of force. Be sure you are pulling the cable straight back, and not upward against the connector.

Step 57



- Disconnect the left and right Wi-Fi antenna cables by lifting them straight up from their sockets on the lower end of the logic board.

⚠ These sockets are fairly delicate. Be careful to apply pressure straight up so you don't shear the socket off the board.

Step 58

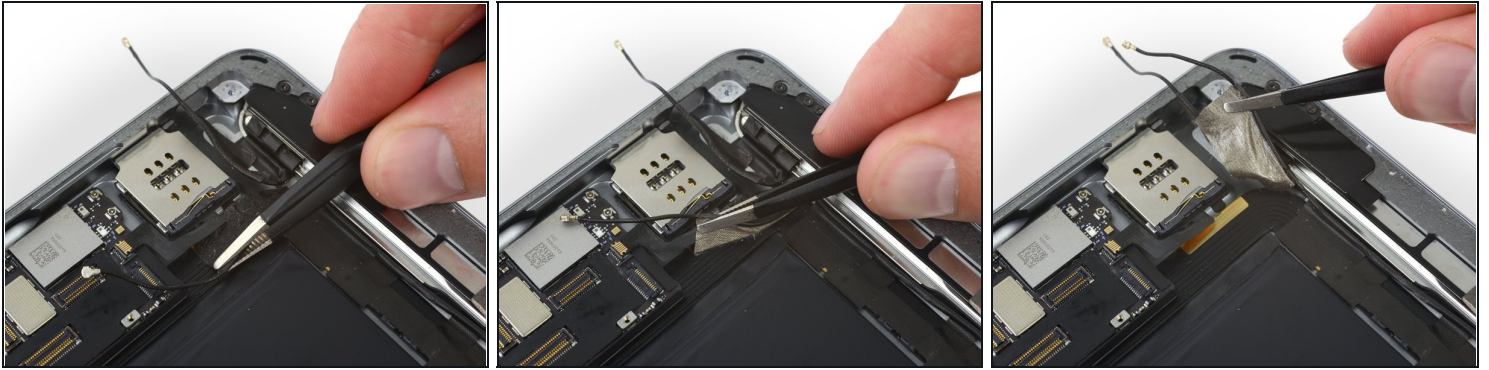


- Use a pair of tweezers to peel up the tape securing the right Wi-Fi antenna cable near the SIM board.

⚠ Peel carefully and pull up on the tape only—not the antenna cable, which will rip easily.

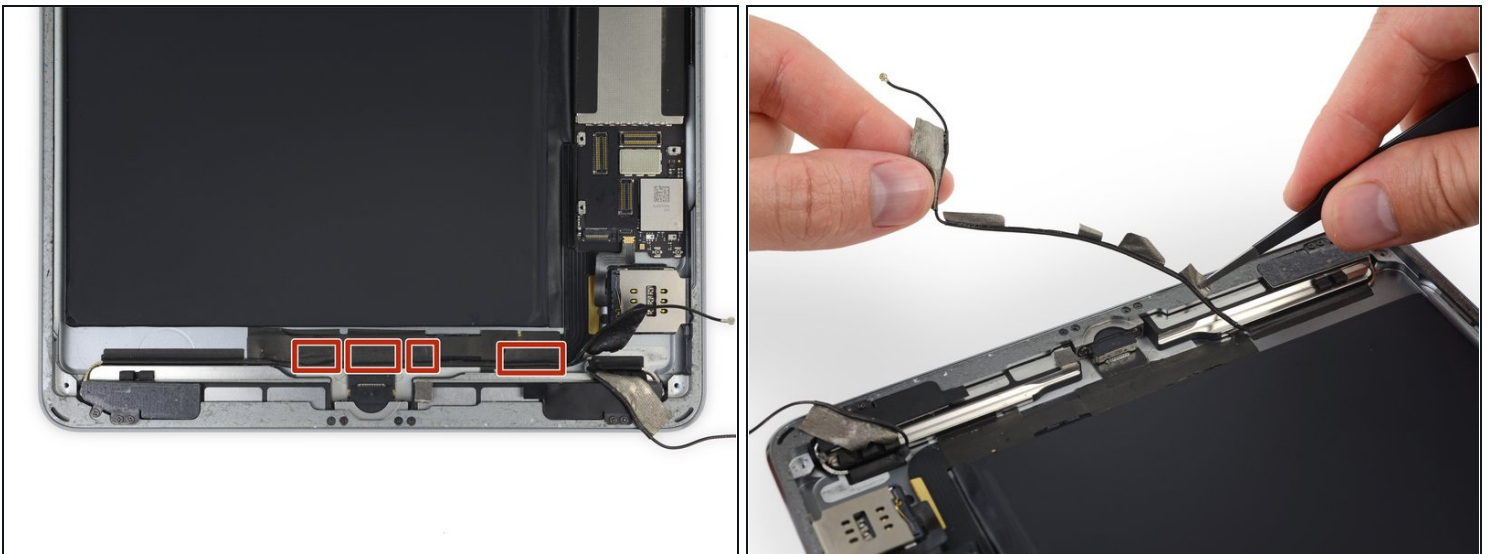
⚠ It may be helpful to fold the SIM board cable back slightly to better access the tape—but be careful not to damage the SIM board cable. If you need more clearance, [remove the SIM board](#).

Step 59



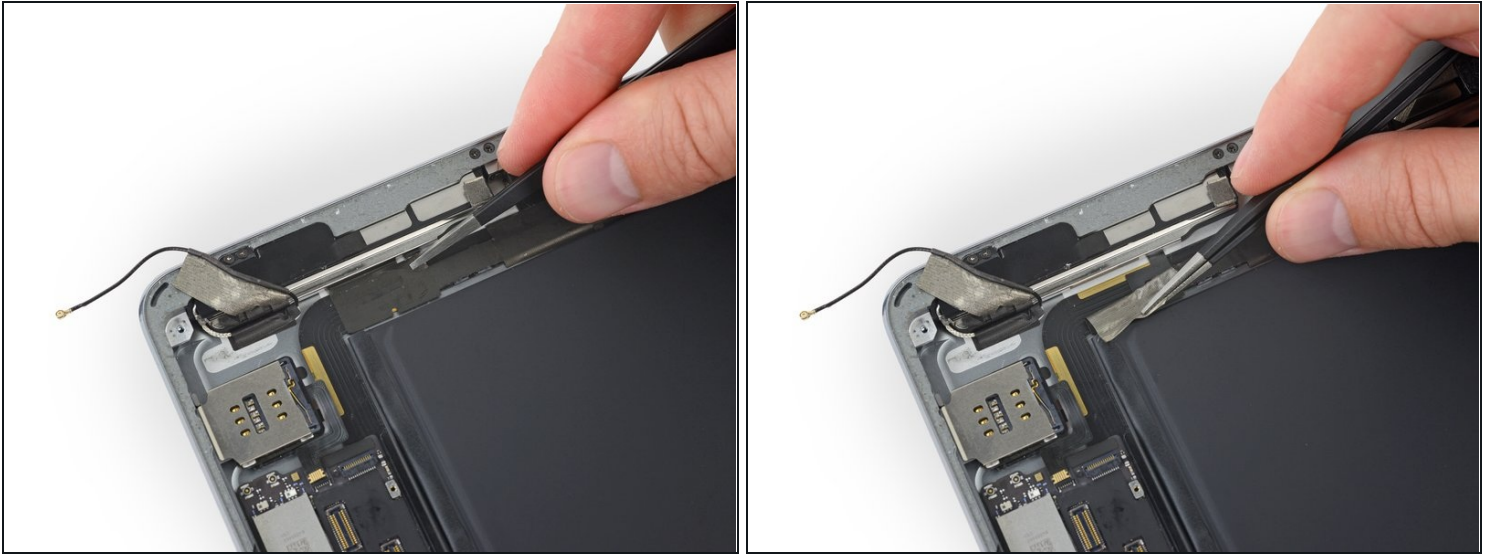
- Repeat the previous step to peel up a second piece of tape directly underneath, securing the left Wi-Fi antenna cable.
- If you accidentally peeled up both pieces of tape together, carefully peel them apart and separate them before proceeding to the next step.

Step 60



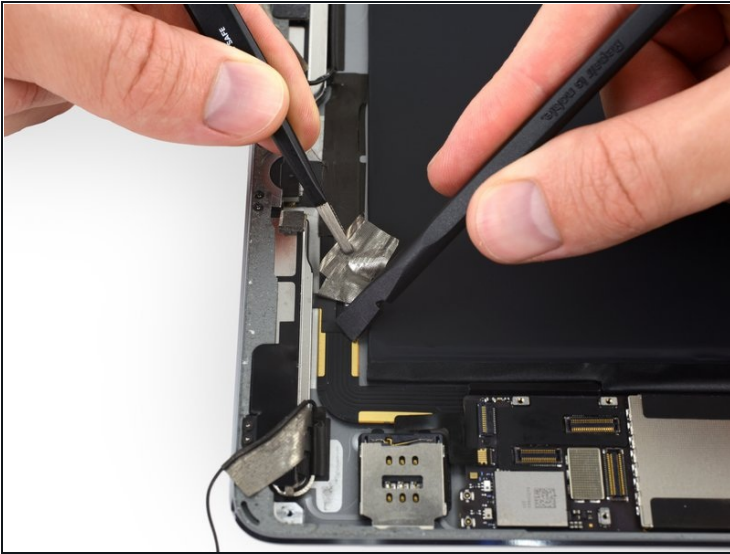
- Four additional pieces of tape secure the left Wi-Fi antenna near the lower edge of the iPad.
- Peel the tape up from the rear case.
- Fold the antenna cable out of the way.

Step 61



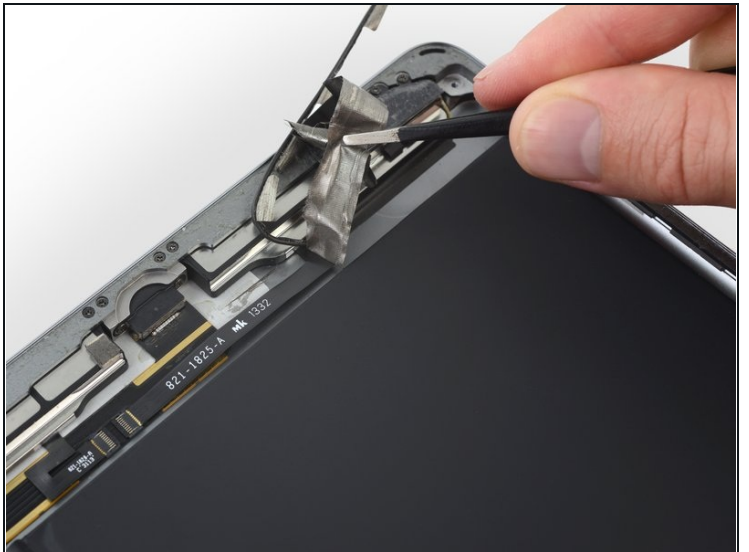
- ⓘ A bend in the speaker cable makes it difficult to peel the tape up from the end.
- Instead, grip the tape just under the speaker and peel it down, away from the edge of the case.
- ⚠ Be careful with your tweezers—only grab and peel the tape, and not the cable beneath.

Step 62



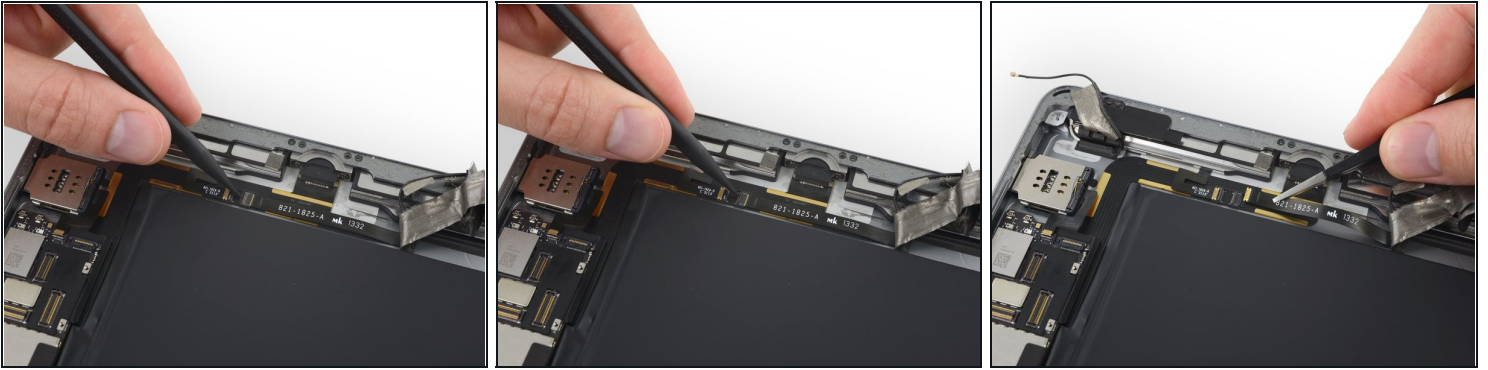
- Peel the tape toward the home button to uncover the speaker cable connector.
⚠ If necessary, as you peel the tape off the right speaker ribbon cable, use a spudger to hold the cable in place and prevent it from tearing.

Step 63



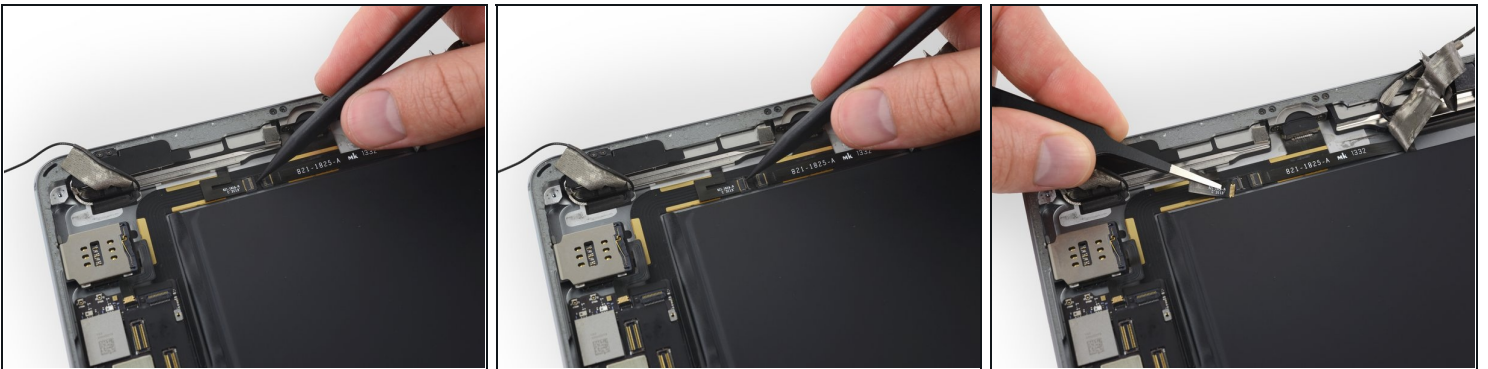
- Continue peeling up the tape away until there is enough slack in the left speaker cable to disconnect it.
☑ Do not completely remove the tape—it will be easier to replace if you leave a section still attached to the rear case.

Step 64



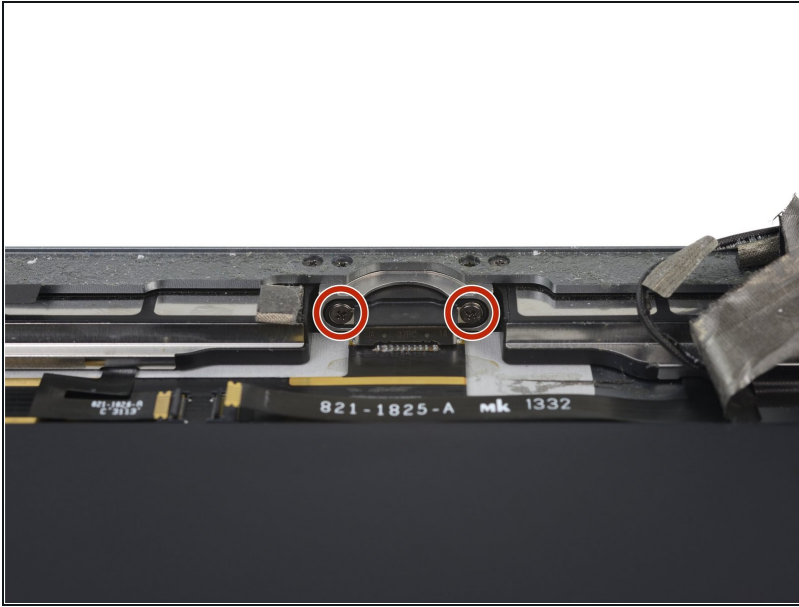
- Use the pointed end of a spudger to flip up the retaining flap on the left speaker cable connector.
- Disconnect the left speaker cable by pulling it straight out of its socket.

Step 65



- Use the pointed end of a spudger to flip up the retaining flap on the right speaker cable connector.
- Disconnect the right speaker cable by pulling it straight out of its socket.

Step 66



- Remove the two 3.3 mm Phillips screws securing the Lightning connector to the rear case.

Step 67



- ① In the next steps, you will use an iOpener to apply heat to the rear case of the iPad to soften adhesive holding the logic board in place.
- ① As you reheat and place the iOpener in each of the indicated locations, leave it in place for at least a minute to soften the adhesive through the rear case.
- The adhesive is in the form of seven strips of black tape—refer to this step as you work at heating and prying to keep track of where each piece is located.

Step 68



- Reheat your iOpener and lay it over the bottom edge of the iPad to soften the adhesive securing the Lightning port ribbon cable to the rear case.
- Wait a couple minutes for the adhesive to soften, then move on to the next step.

Step 69



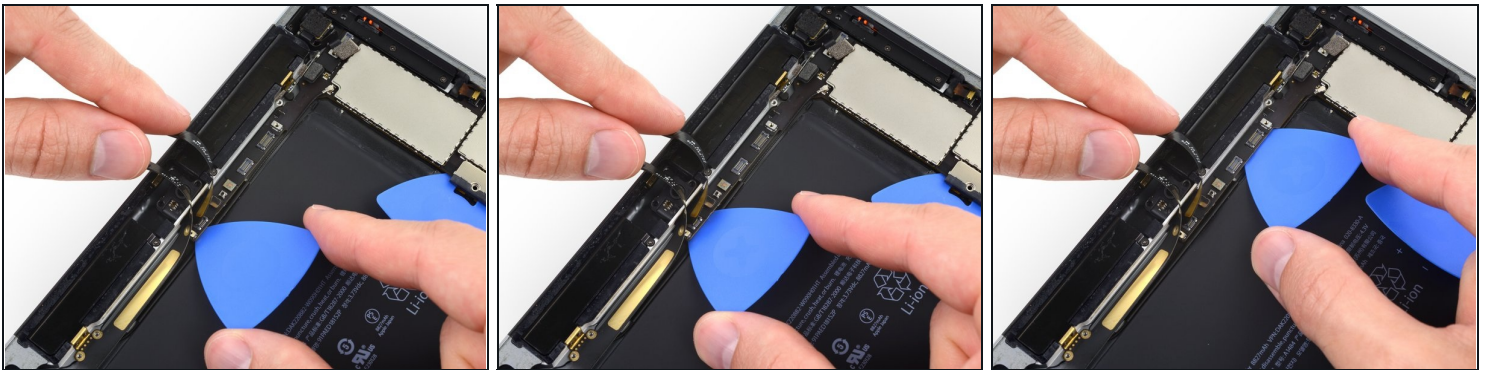
- Slide the flat end of a spudger under the Lightning connector cable to break up the adhesive securing it to the rear case.
- If necessary, push the left speaker cable gently aside to provide access to the Lightning connector cable.

Step 70



- Lay a warm iOpener over the upper edge of the iPad and let it sit for a couple minutes to soften the adhesive holding the logic board in place.

Step 71



⚠ As you complete the next few steps, prying adhesive securing the logic board in place, always start by testing gently to see if the adhesive is softened. If not, reheat the iOpener and reapply it to the back of the rear case.

- Carefully insert an opening pick under the logic board, between the front-facing camera and the battery.
 - ⓘ Be sure to insert the pick *over* the antenna cable that runs along the length of the battery.
- Slide the guitar pick toward the front-facing camera connector, and stop at the bend in the logic board.

Step 72



- Reheat your iOpener and lay it lengthways on the rear case, directly over the logic board.
- Wait a couple minutes for the adhesive to soften, then remove the iOpener and move on to the next step.

Step 73



- Insert an opening pick underneath the logic board at the corner of the large EMI shield.
- Slide the pick upwards until you reach the battery connector to break up the adhesive holding the logic board in place.

Step 74



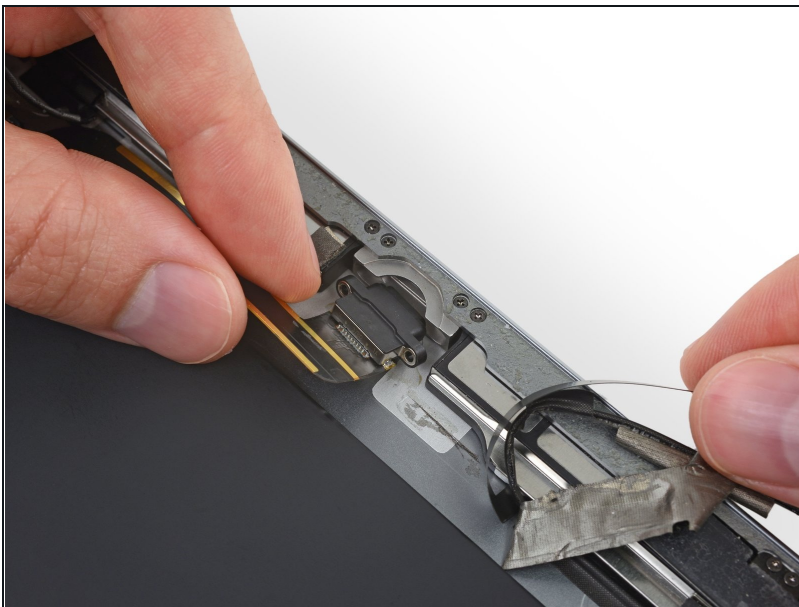
- Remove the battery isolation pick.
- Insert a [plastic card](#) underneath the logic board at the battery connector.
 - ⚠ Do not use excessive force when inserting this card under the logic board to prevent damaging its battery pins. If the logic board won't budge easily, try reheating the adhesive underneath with an iOpener.
 - ⚠ As you push through the adhesive at the outer edge of the logic board, be careful not to damage the upper button assembly ribbon cable that you disconnected in [Step 60](#). Position the card exactly as shown.
- Slide the card all the way underneath the logic board, separating the adhesive along the outer edge.

Step 75



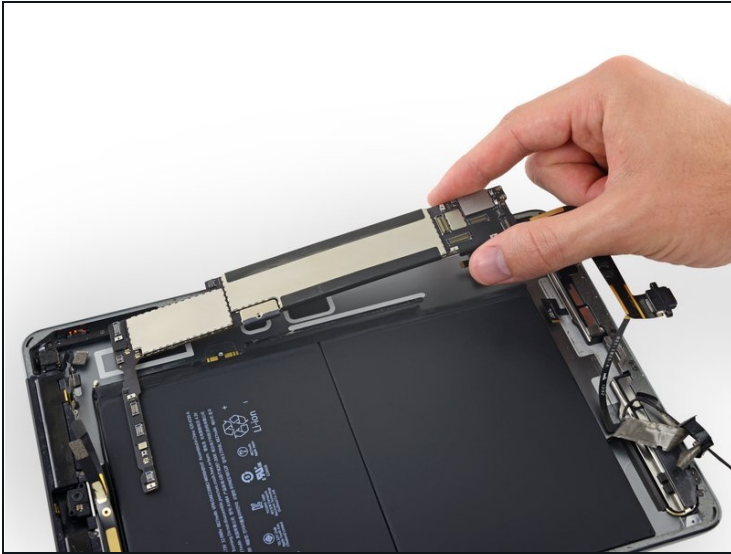
- Insert a plastic card underneath the lower end of the logic board, directly underneath the display connectors and Wi-Fi module.

Step 76



- Pull the Lightning connector straight out of its recess in the rear case.

Step 77



- Gently lift up on the logic board from its lower edge and remove the logic board.
- ☑ When installing the logic board, check to make sure that each of the cable connectors you detached earlier is correctly routed over the top of the logic board *before* proceeding with reassembly.

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