



iPad Air 2 Wi-Fi Battery Replacement

Does your battery no longer hold a charge?...

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INTRODUCTION

Does your battery no longer hold a charge? Follow the steps in this guide to replace a faulty or aging battery in an iPad Air 2 Wi-Fi.

If your battery is swollen, [take appropriate precautions](#).

Be very careful when you isolate the battery using a battery blocker. The battery contacts are easily damaged, resulting in irreversible damage. If you choose to complete the guide without isolating the battery, avoid using metal tools except when completely necessary (like when removing screws) to prevent shorting the battery and damaging sensitive circuit components.



TOOLS:

[Anti-Clamp](#) (1)
[Tweezers](#) (1)
[iFixit Opening Picks \(Set of 6\)](#) (1)
[Battery Blocker](#) (1)
[Phillips #00 Screwdriver](#) (1)
[Plastic Cards](#) (3)
[iOpener](#) (1)
[Suction Handle](#) (1)
[Spudger](#) (1)
[iFixit Opening Tool](#) (1)



PARTS:

[iPad Air 2 Battery](#) (1)

Step 1 — iOpener Heating



- ① We recommend that you clean your microwave before proceeding, as any nasty gunk on the bottom may end up stuck to the iOpener.
- Place the iOpener in the center of the microwave.
 - ⚠ For carousel microwaves: Make sure the plate spins freely. If your iOpener gets stuck, it may overheat and burn.

Step 2



- Heat the iOpener for **thirty seconds**.
- Throughout the repair procedure, as the iOpener cools, reheat it in the microwave for an additional thirty seconds at a time.

⚠ Be careful not to overheat the iOpener during the repair. Overheating may cause the iOpener to burst. Do not attempt to heat over 100°C (212°F).

⚠ Never touch the iOpener if it appears swollen.

⚠ If the iOpener is still too hot in the middle to touch, continue using it while waiting for it to cool down some more before reheating. A properly heated iOpener should stay warm for up to 10 minutes.

Step 3



- Remove the iOpener from the microwave, holding it by one of the two flat ends to avoid the hot center.

⚠ The iOpener will be very hot, so be careful when handling it. Use an oven mitt if necessary.

Step 4 — Alternate iOpener heating method



ⓘ If you don't have a microwave, follow this step to heat your iOpener in boiling water.

- Fill a pot or pan with enough water to fully submerge an iOpener.
- Heat the water to a boil. **Turn off the heat.**
- Place an iOpener into the hot water for 2-3 minutes. Make sure the iOpener is fully submerged in the water.
- Use tongs to extract the heated iOpener from the hot water.
- Thoroughly dry the iOpener with a towel.
- ⚠ The iOpener will be very hot, so be careful to hold it only by the end tabs.
- Your iOpener is ready for use! If you need to reheat the iOpener, heat the water to a boil, turn off the heat, and place the iOpener in the water for 2-3 minutes.

Step 5 — iPad Air 2 Wi-Fi Opening Procedure



- If your display glass is cracked, keep further breakage contained and prevent bodily harm during your repair by taping the glass.
- Lay overlapping strips of clear packing tape over the iPad's display until the whole face is covered.
 - ⓘ This will keep glass shards contained and provide structural integrity when prying and lifting the display.
- Do your best to follow the rest of the guide as described. However, once the glass is broken, it will likely continue to crack as you work, and you may need to use a metal prying tool to scoop the glass out.

⚠ Wear safety glasses to protect your eyes, and be careful not to damage the LCD screen.

Step 6



- ① The following steps involve using an iOpener to soften the adhesive holding the front panel assembly in place. When using the iOpener, be sure to heat it in the microwave for no more than 30 seconds.
- Handling it by the tabs on either end, place a heated iOpener over the top edge of the iPad.
- Let the iOpener sit on the iPad for two minutes to soften the adhesive securing the front panel to the rest of the iPad.

Step 7



- ⓘ While the iPad looks uniform from the outside, there are delicate components under certain portions of the front glass. To avoid damage, only heat and pry in the areas described in each step.
- As you follow the directions, take special care to avoid prying in the following areas:
 - Home Button
 - Front Facing Camera
 - Main Camera

Step 8 — Anti-Clamp instructions



- ① The next two 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 two steps for an alternate method.**
- ① For complete instructions on how to use the Anti-Clamp, [check out this guide](#).
- Elevate the iPad enough for the Anti-Clamp's arms to rest above and below the screen.
- Pull the blue handle towards the hinge to disengage opening mode.
- Position the suction cups near the top edge of the iPad—one on the front, and one on the back.
- Push down on the cups to apply suction to the desired area.
- ① If you find that the surface of your device is too slippery for the Anti-Clamp to hold onto, you can use packing tape to create a grippier surface.

Step 9



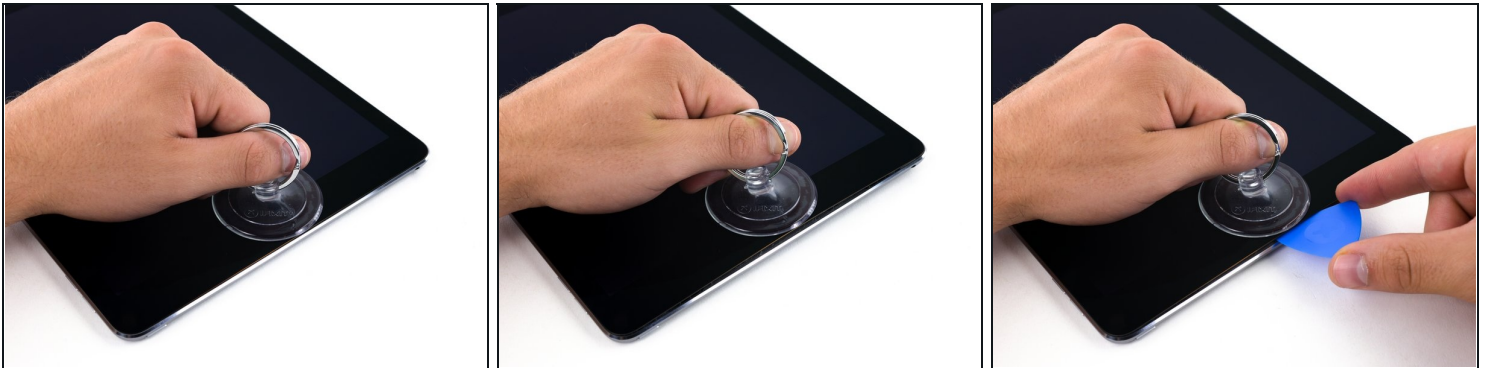
- Push the blue handle away from the hinge to engage opening mode.
 - Turn the handle clockwise until you see the cups start to stretch.
 - ⓘ Make sure the suction cups remain aligned to each other. If they begin to slip out of alignment, loosen the suction cups slightly and realign the arms.
 - Wait one minute to give the adhesive a chance to release and present an opening gap.
 - Insert an opening pick under the screen when the Anti-Clamp creates a large enough gap.
 - ⓘ 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 two steps.**

Step 10



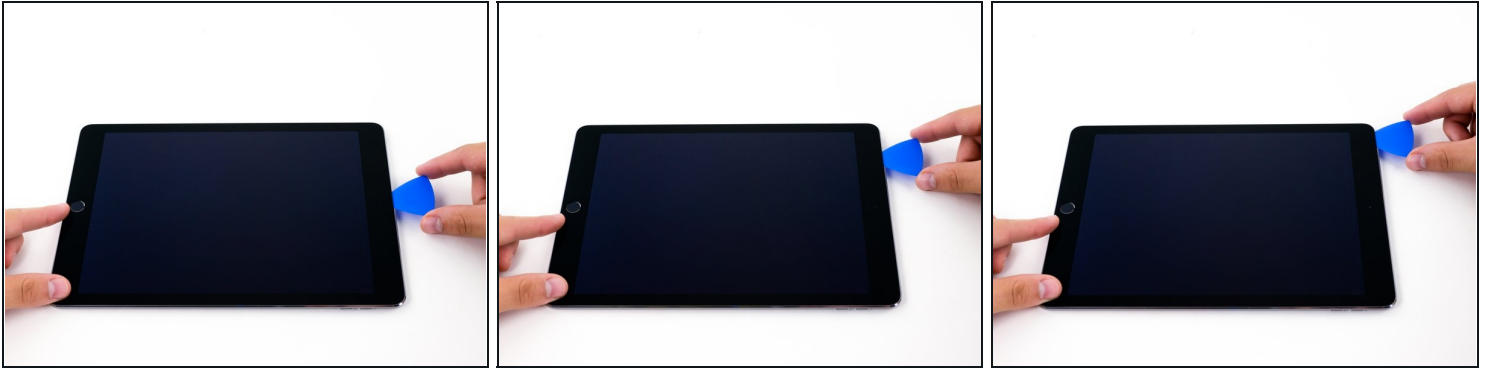
- Place a suction cup over the iPad's front-facing camera and press down to create a seal.
 - ① To get the most leverage, place the suction cup as close to the edge as possible without going past the edge of the display.

Step 11



- Firmly pull up on the suction cup to create a small gap between the front panel and the rear case.
 - ⚠ Do not pull too hard or you may shatter the glass.
- Once you've opened a sufficient gap, insert an opening pick into the gap to prevent the adhesive from resealing.

Step 12

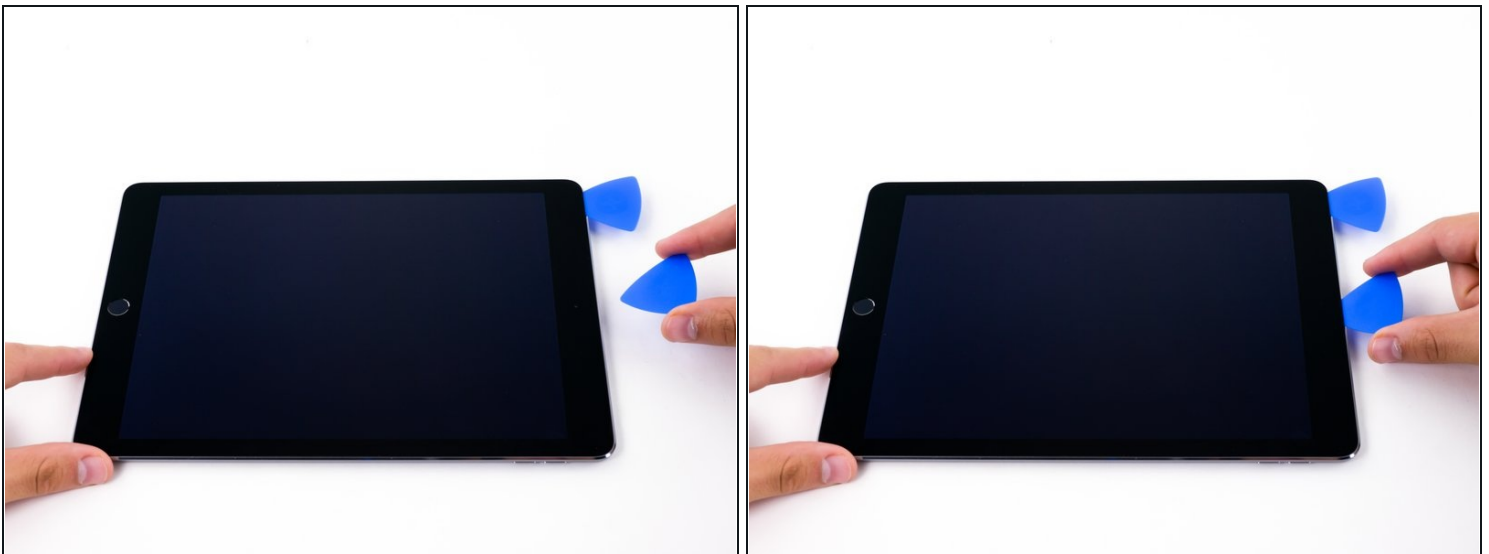


- Slide the pick along the edge of the display, towards the headphone jack.
- If there is still a considerable amount of resistance when sliding the opening pick, repeat the iOpener heating procedure and apply additional heat.

⚠ Be careful not to let the opening pick slide between the fused LCD and front panel, as doing so can permanently damage the display.

- ① A good rule of thumb is to never insert the opening pick more than a quarter inch (6 mm) into the iPad.

Step 13



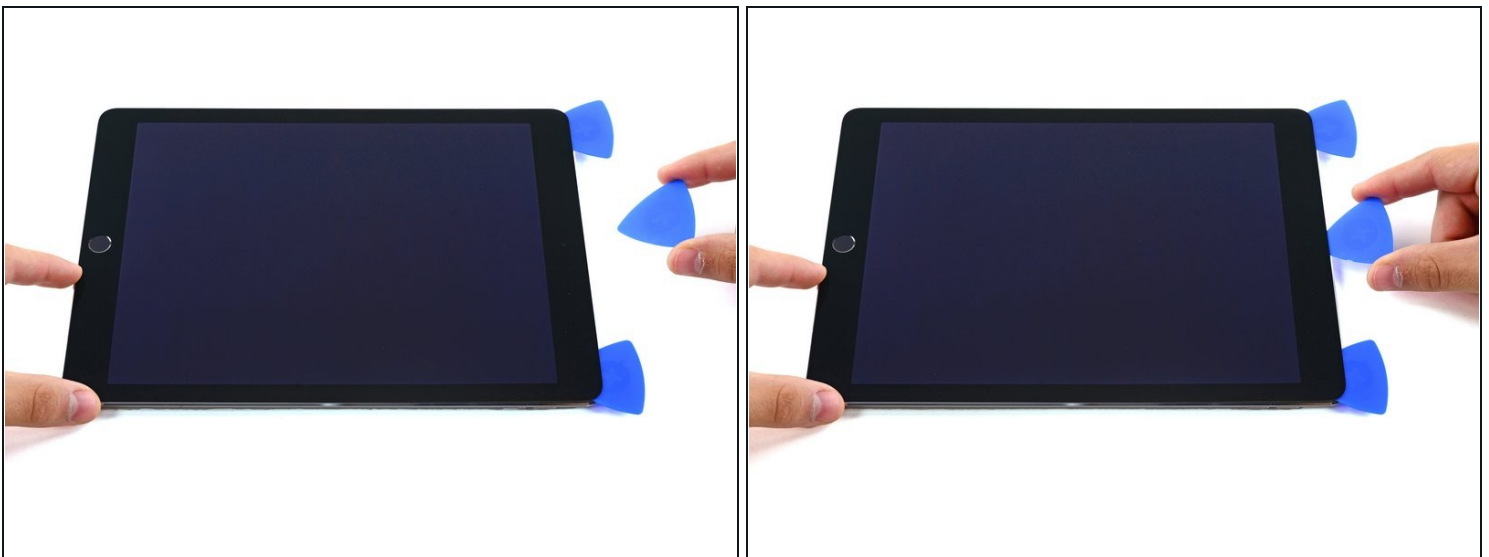
- Insert a second opening pick by the front-facing camera.

Step 14



- Slide the second pick along the top edge of the iPad, towards the Sleep/Wake Button.

Step 15



- Insert a third pick by the front-facing camera.

Step 16



- Bring the right opening pick down and around the top right corner of the iPad.

Step 17



- Bring the left opening pick around the top left corner of the tablet.

Step 18



- Reheat the iOpener and lay it over the right edge of the display to loosen the adhesive underneath.

Step 19



- Slide the right opening pick roughly halfway down the display.

Step 20



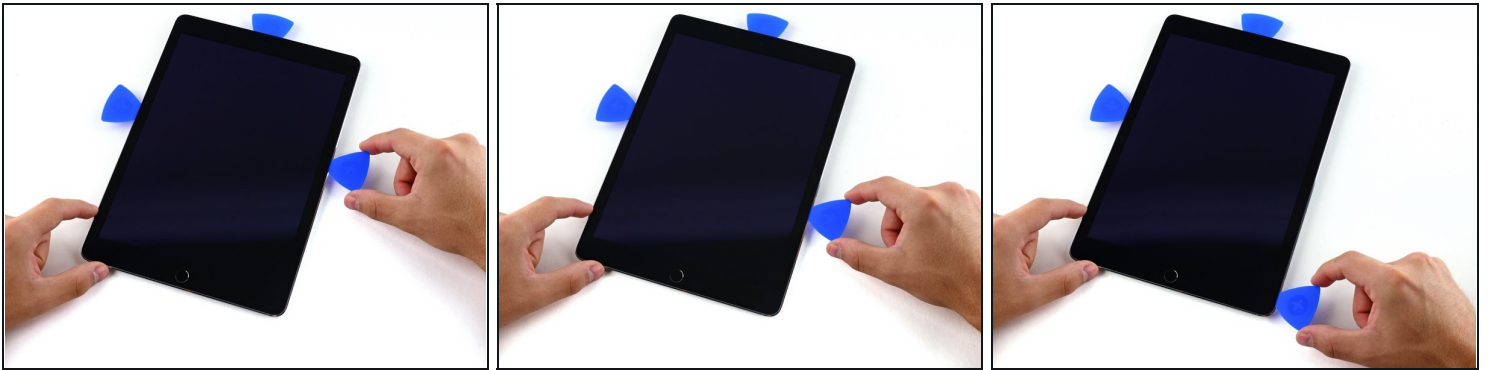
- Reheat the iOpener and apply heat to the left side of the iPad.

Step 21



- Slide the left-hand opening pick about halfway down the edge of the display.

Step 22



- Slide the opposite opening pick down to the bottom right corner of the iPad.
- ⓘ If necessary, reheat the adhesive on the right edge to loosen the display assembly.

Step 23



- Slide the left-hand opening pick down the edge of the display until you reach the corner.

Step 24



- Use the iOpener to apply heat to the bottom edge of the iPad.

Step 25



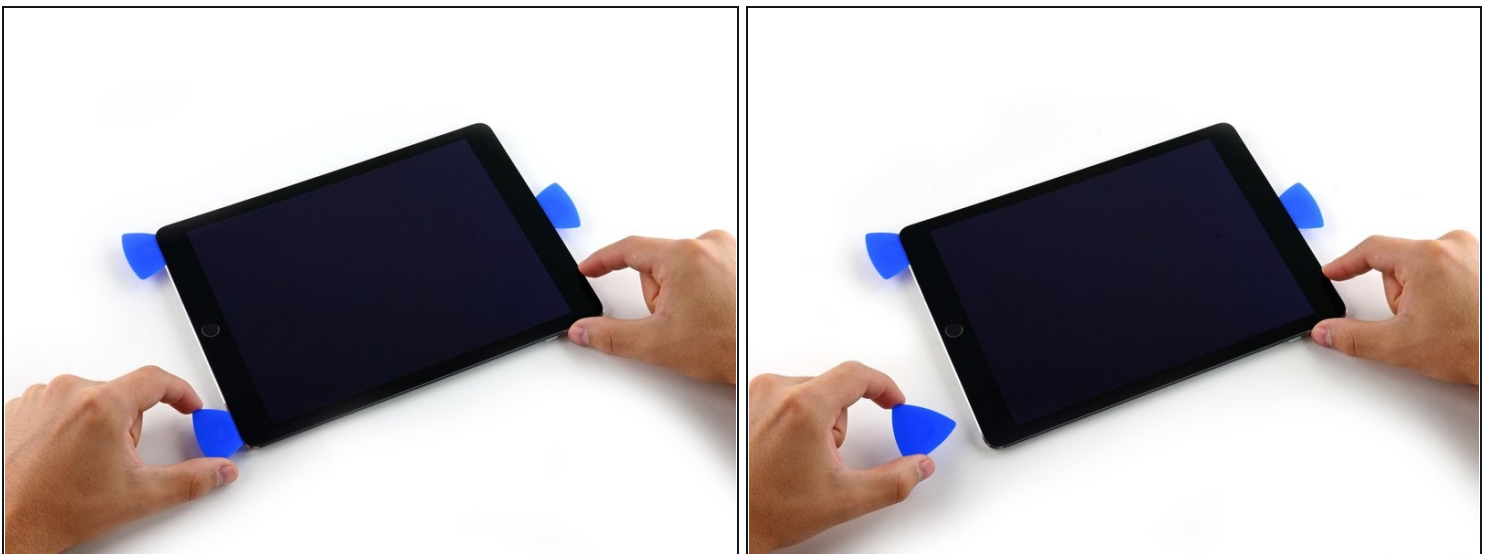
- Bring the right-hand opening pick around the bottom corner of the iPad.

Step 26



- Repeat for the left-hand pick.
- ① Reheat and reapply the iOpener as needed. Always wait at least ten minutes before reheating the iOpener.

Step 27



- Remove the right-hand opening pick at the bottom of the iPad.

Step 28



- Slide the left-hand opening pick along the bottom edge of the display, then remove it from the bottom right corner of the iPad.

⚠ Be very careful to not insert the pick more than 2 mm below home button to avoid damaging the button.

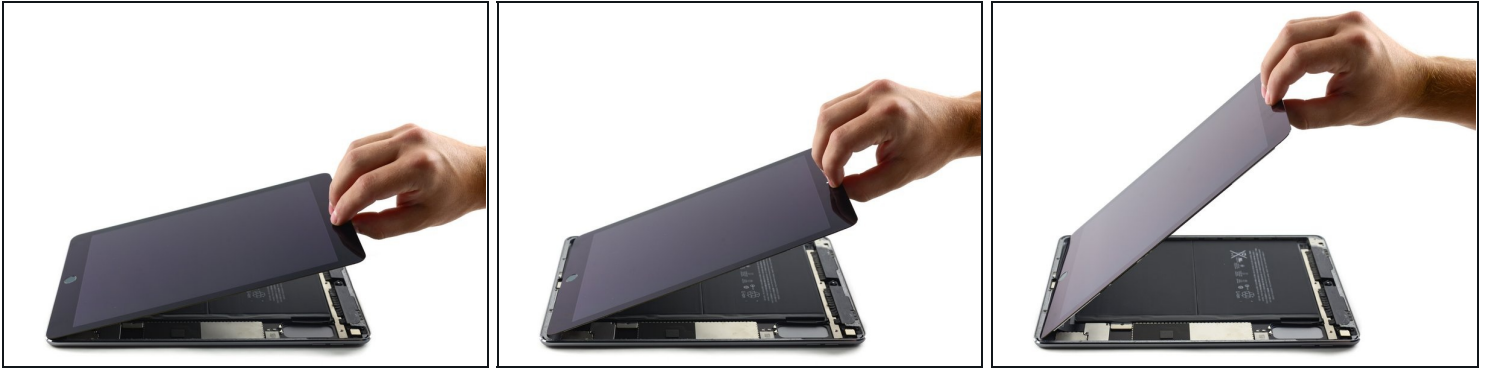
⚠ Be very careful to not insert the pick more than a quarter inch (6 mm) into either side of the home button to avoid damaging the display cables underneath.

Step 29



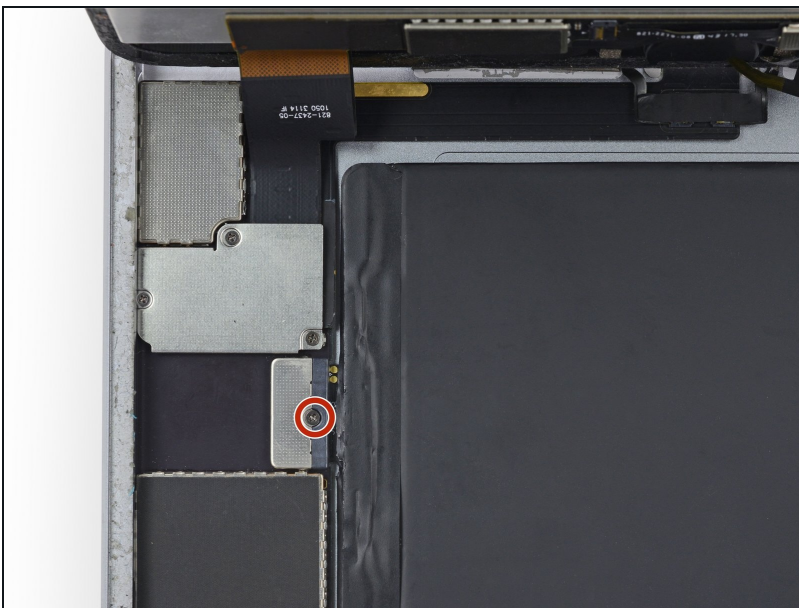
- Twist the remaining pick by the front-facing camera to separate the top edge of the display assembly from the rear case.

Step 30



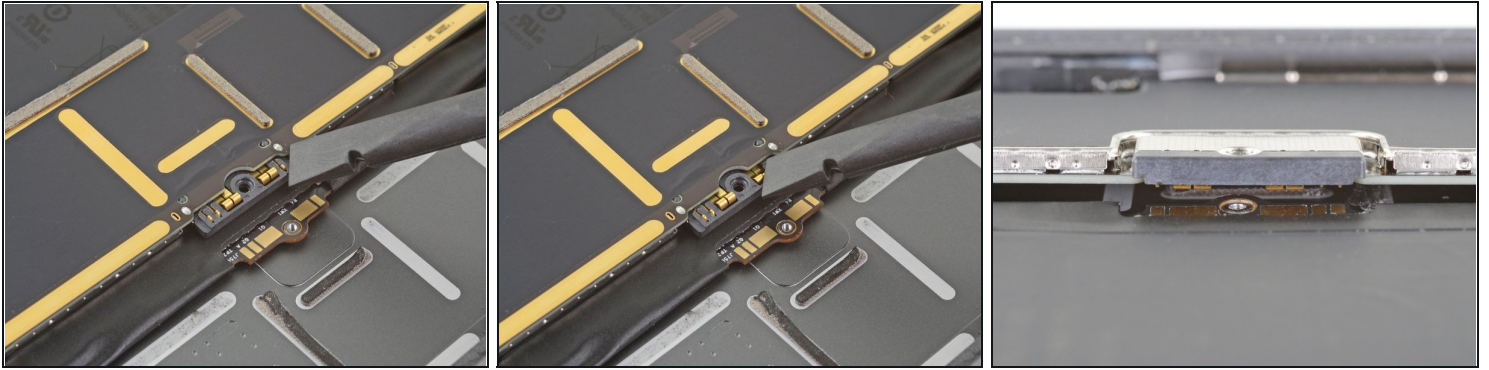
- Continue lifting the display assembly from the front-facing camera side.
- Pull the display slightly away from the bottom edge to completely separate it from the rear case.
- Keep lifting until the display assembly is roughly perpendicular to the body of the iPad.
⚠ Do *not* attempt to remove the display yet—it is still attached to the rear case by three delicate ribbon cables.

Step 31



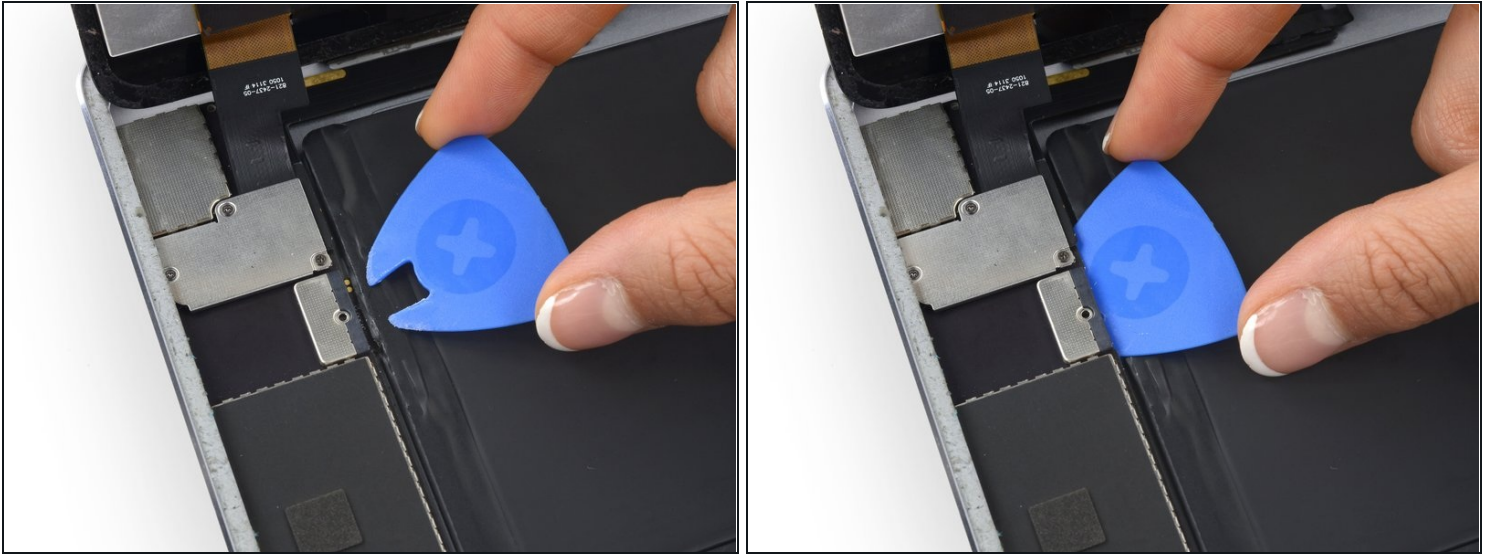
- Remove the single 1.8 mm Phillips screw securing the battery terminals to their contacts on the logic board.

Step 32 — Battery connector information



- ① These photos show what the battery connector looks like underneath the logic board. Use these photos as a reference while you safely disconnect the battery.
- ① Notice that the battery connector has springs on the logic board that press down against the battery contact pads. You'll need to slide something thin and flexible between the contact points to disconnect the battery.

Step 33



① To reduce the risk of a short, you can use a battery isolation pick to disconnect the battery.

⚠ Be very careful when you isolate the battery using a battery blocker. The battery contacts are easily damaged, resulting in irreversible damage to the logic board.

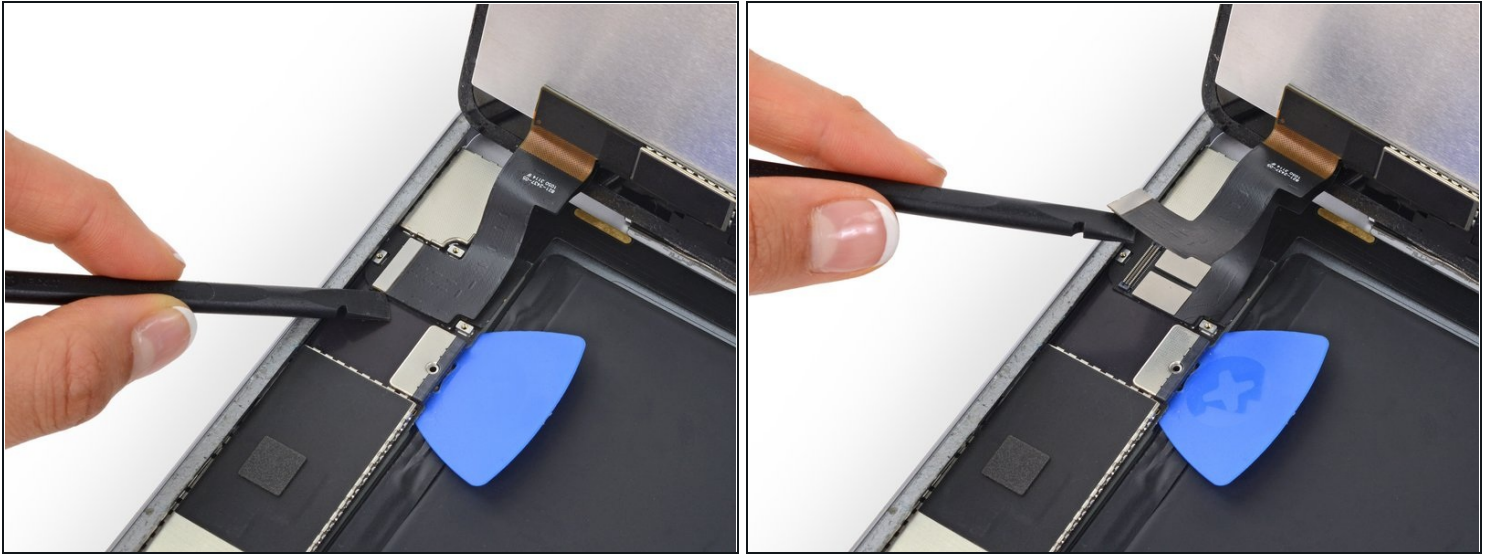
- Slide a battery isolation pick underneath the battery connector area of the logic board, and leave it in place while you work.
- Alternatively, [make a battery blocker using a playing card](#) and slide it underneath the logic board connector to disconnect the battery.

Step 34



- Remove the three 1.3mm Phillips screws from the display cable bracket.
- Remove the bracket.

Step 35



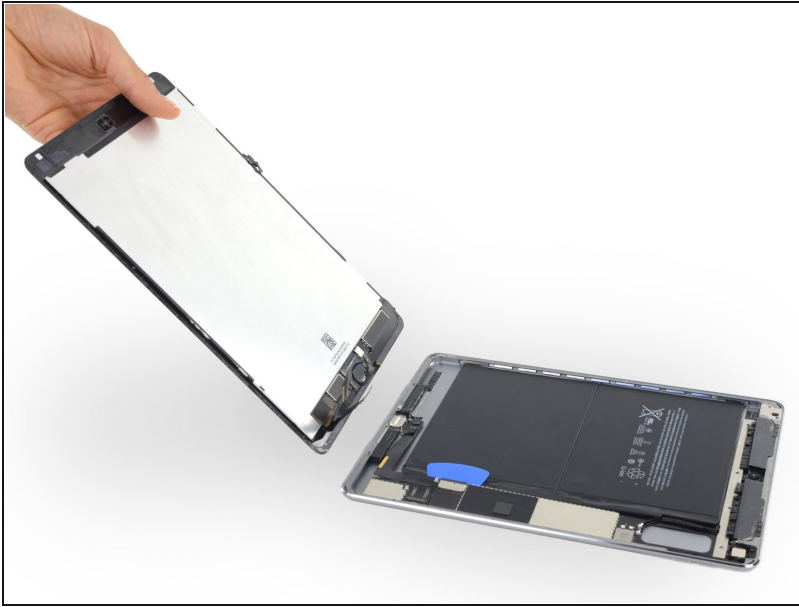
- Disconnect the display data connector from its socket on the logic board.

Step 36



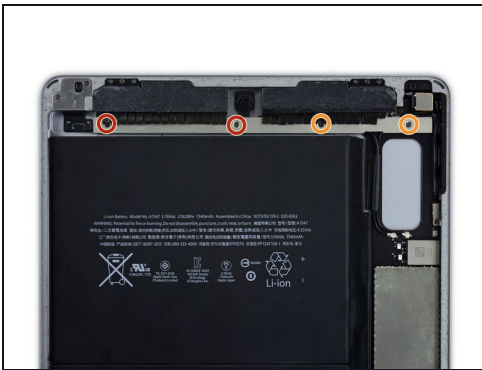
- Disconnect the two remaining digitizer cables underneath the display data cable.

Step 37



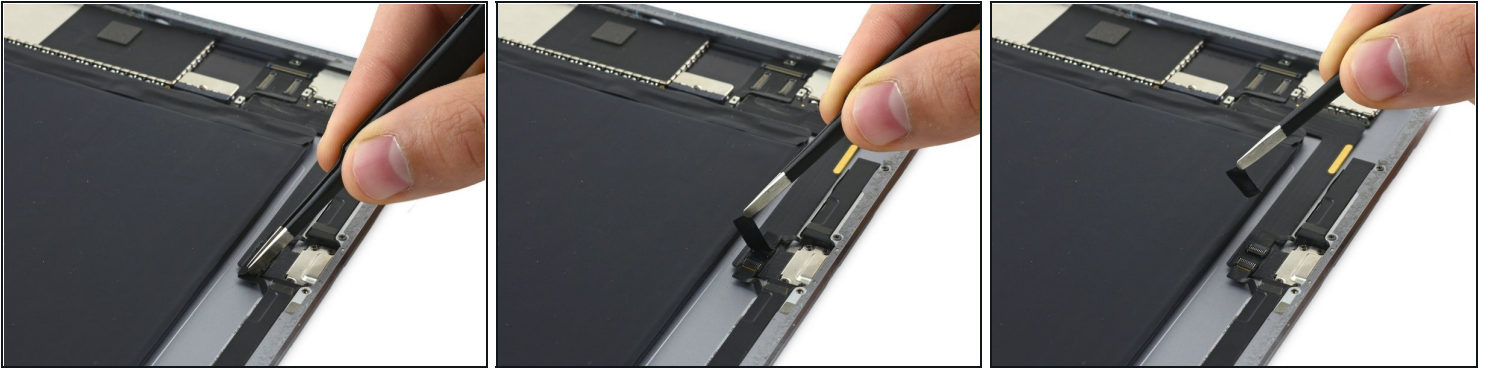
- Remove the front panel assembly from the rear case.
- ★ If you plan to reuse your display assembly, you will need to replace the display adhesive. Follow our [iPad Adhesive Guide](#) to reapply your display adhesive and reseal your device.

Step 38 — Upper Component Cable Bracket



- Remove the following four Phillips screws securing the upper component cable bracket to the tablet.
 - Two 1.6 mm
 - Two 1.3 mm
- Slide the upper component cable bracket out from under the protective flaps and remove it from the iPad.

Step 39 — Logic Board



- Remove the tape covering the two speaker ZIF connectors.

Step 40



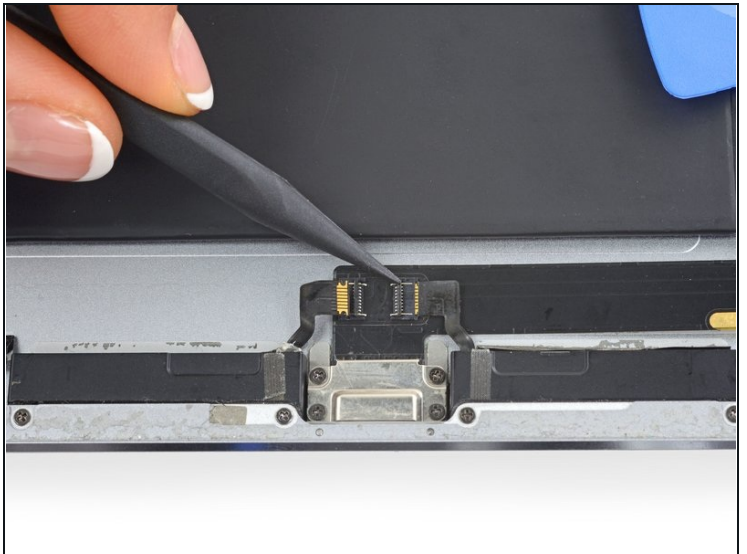
- Use a spudger to flip up the retaining flap on the left speaker's ZIF connector.

Step 41



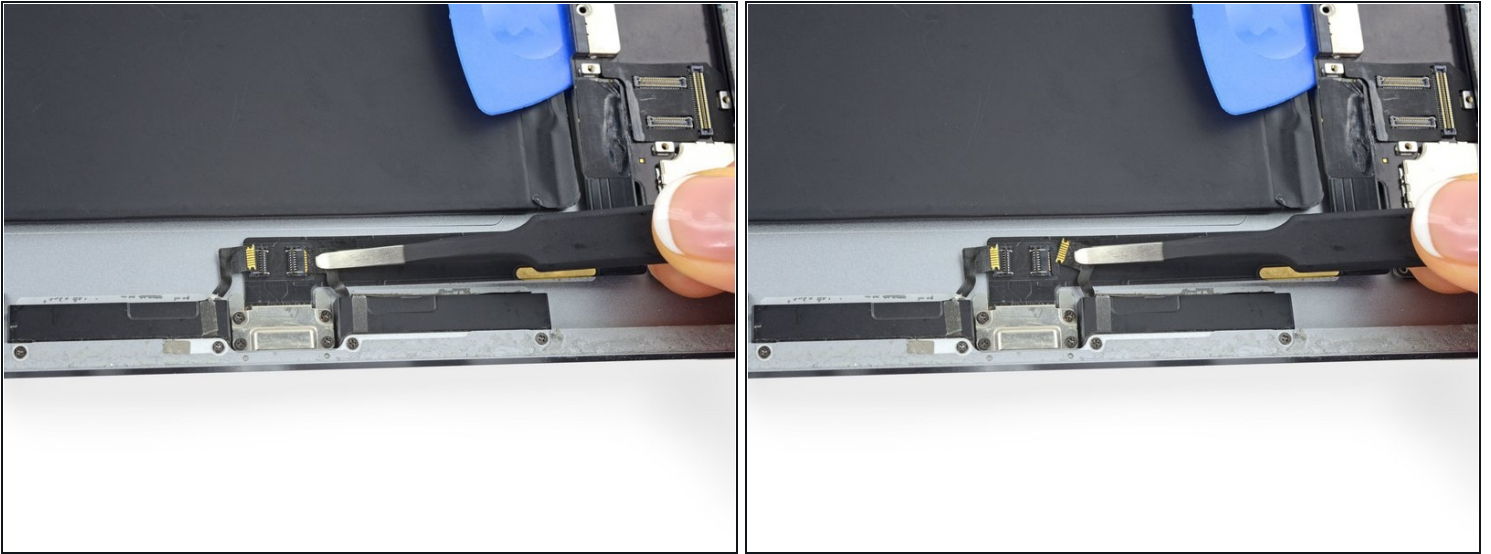
- Slide the left speaker cable out of its ZIF connector.

Step 42



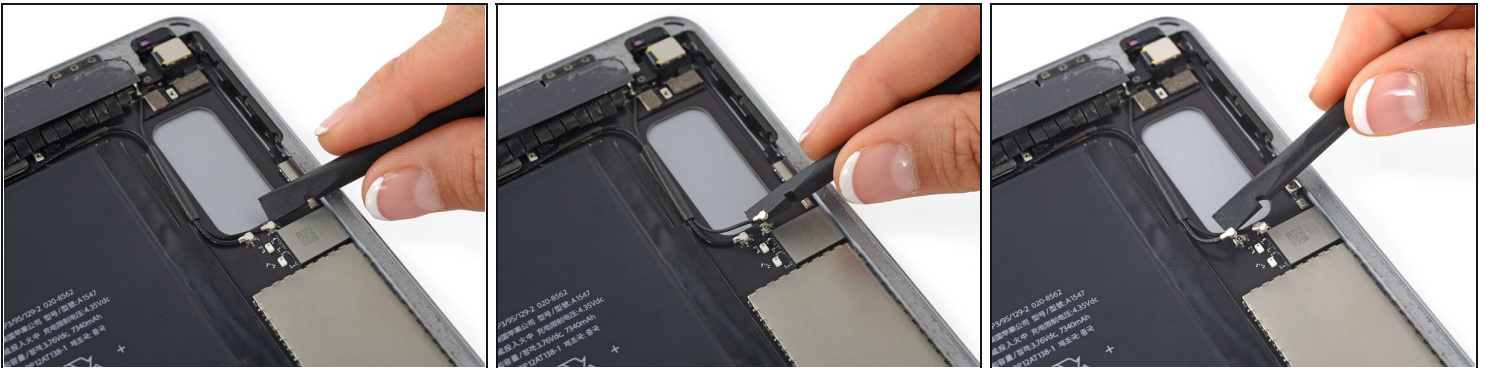
- Use a spudger to flip up the retaining flap on the right speaker's ZIF connector.

Step 43



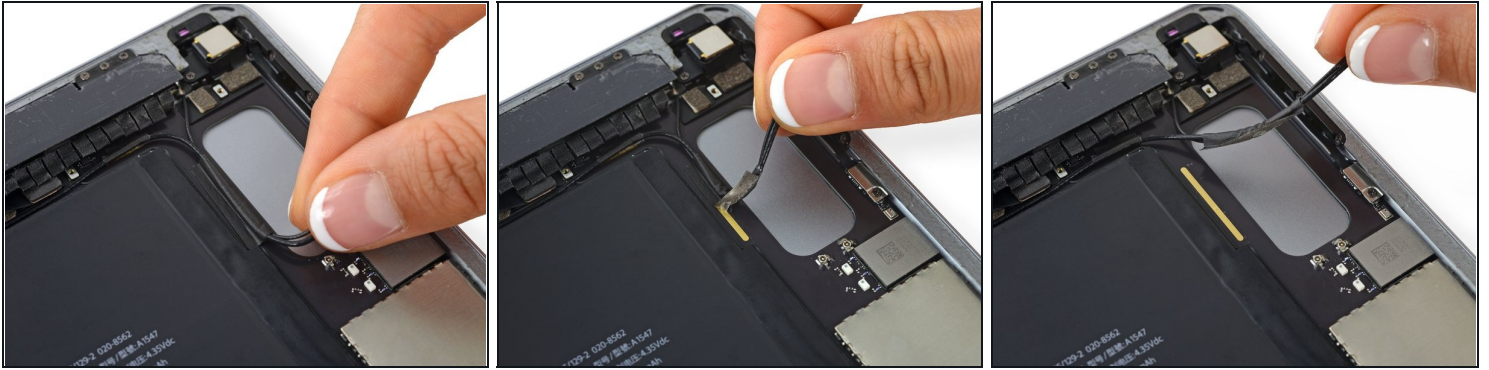
- Slide the right speaker cable out of its ZIF connector.

Step 44



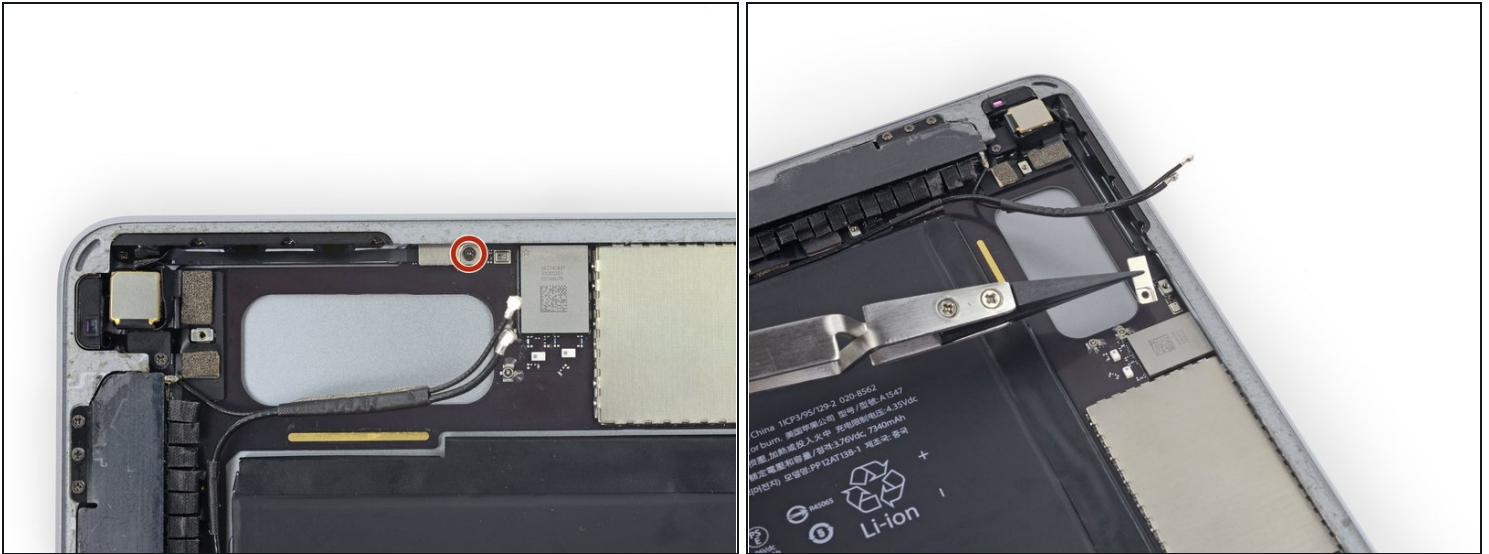
- Use a spudger to gently pry up the antenna cables from their sockets.

Step 45



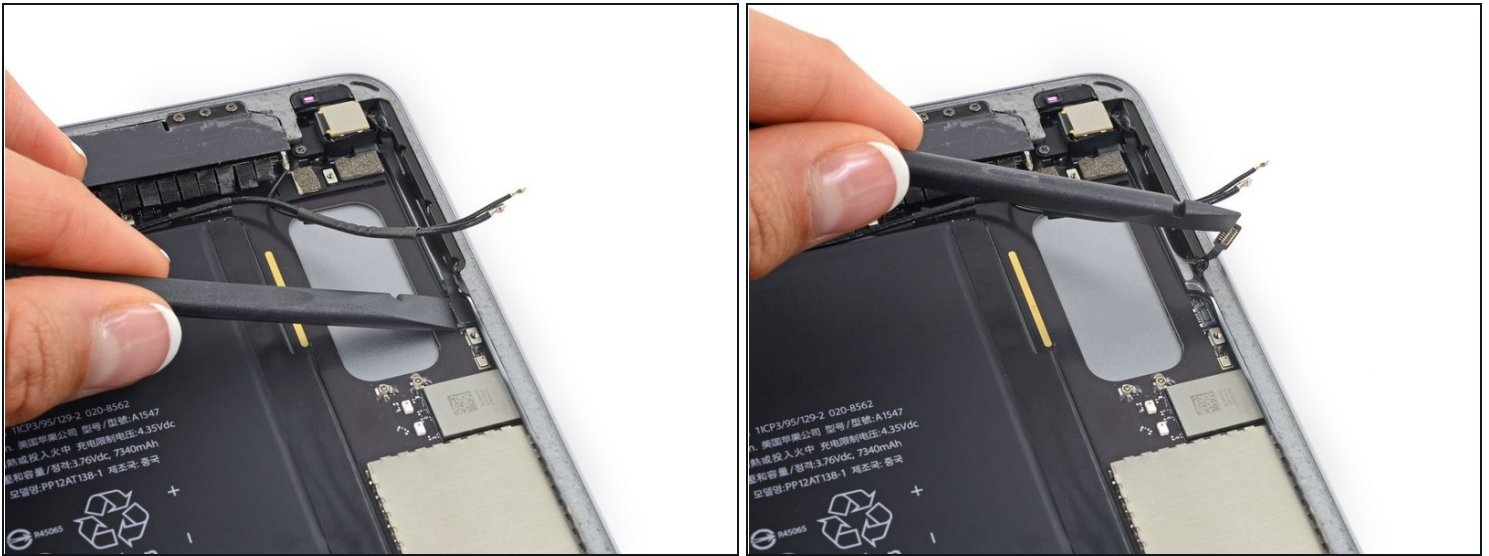
- Firmly grasp the antenna cable and peel up the grounding tape attaching it to the logic board.
- ☑ Upon reassembly, it is important to reattach the antenna cable to the logic board with grounding tape properly adhered on the copper tape.

Step 46



- Remove the 1.2 mm Phillips screw securing the bracket covering the volume control cable connector.
- Remove the bracket.

Step 47



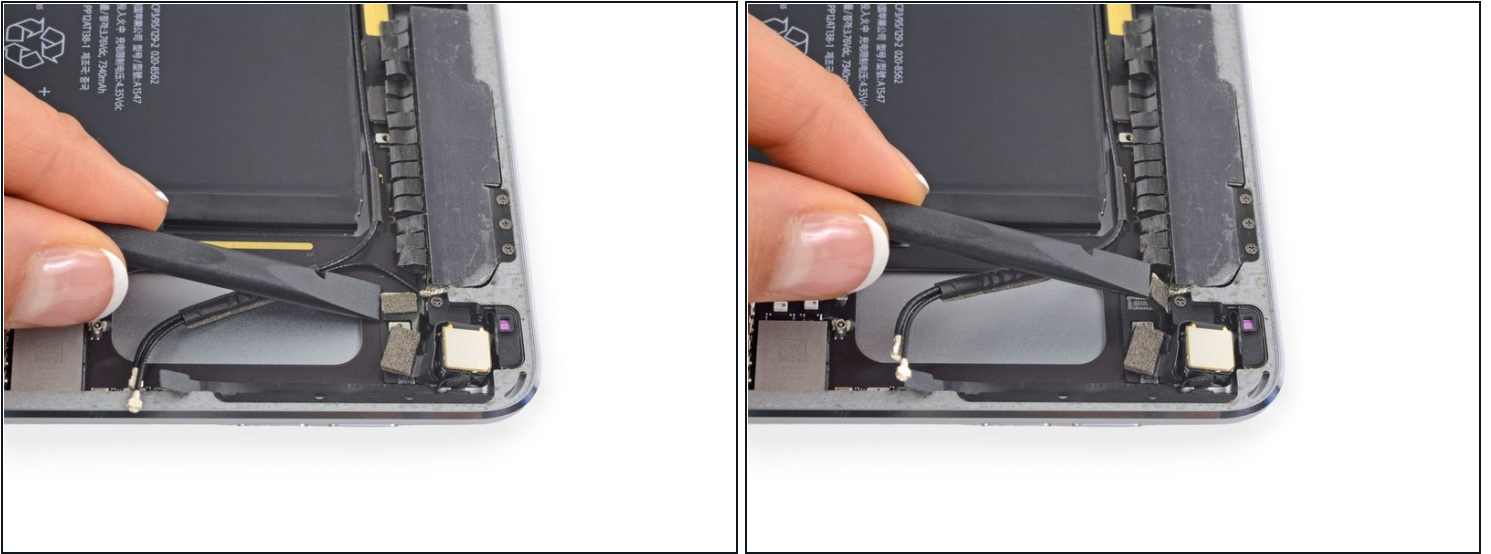
- Detach the volume button cable connector by prying it straight up from its socket.

Step 48



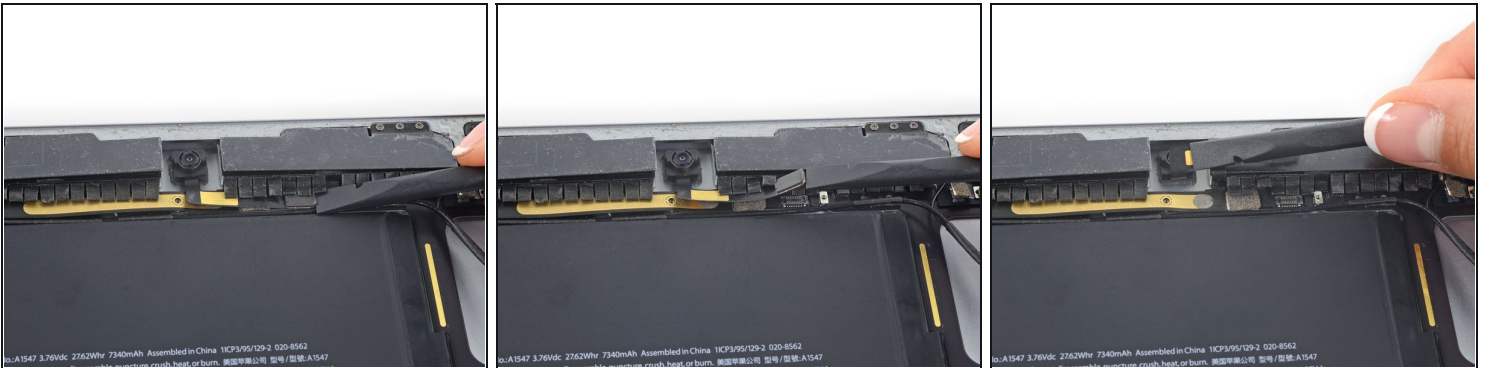
- Pry up the rear facing camera cable connector from its socket.

Step 49



- Pry up the home button/microphone ribbon cable connector from its socket.

Step 50



- Use the flat end of a spudger to disconnect the Facetime camera connector from its socket on the logic board.
- Pry up the adhesive attaching the Facetime camera cable to the audio jack cable underneath.
- Fold the Facetime camera cable up and out of the way.

Step 51



- Disconnect the headphone jack cable connector from its socket on the logic board.
- Pry the cable up to free it from the adhesive securing it to the rear case.
- Pull the audio jack cable out of the way of the logic board below.

Step 52



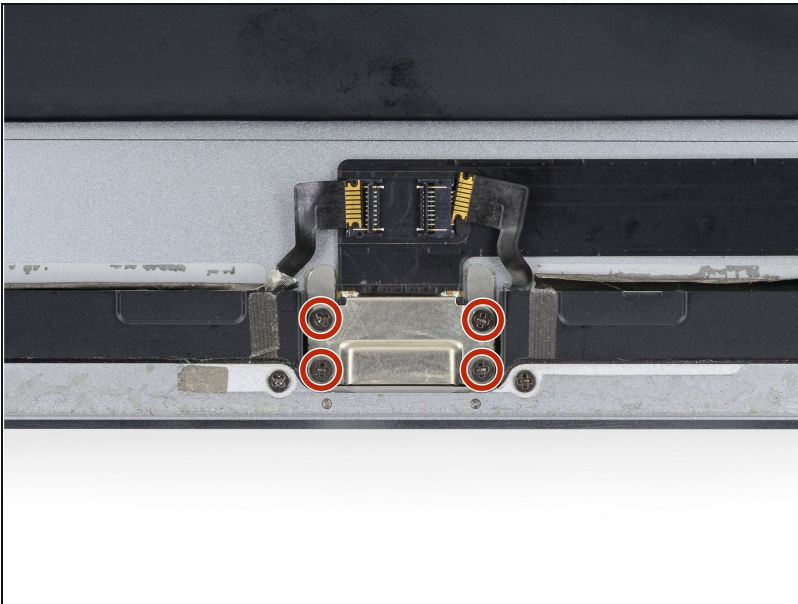
- Use [tweezers](#) to peel up the rightmost grounding tape attaching the antennas to the logic board.
- Bend the antenna wire back and out of the way of the logic board.

Step 53



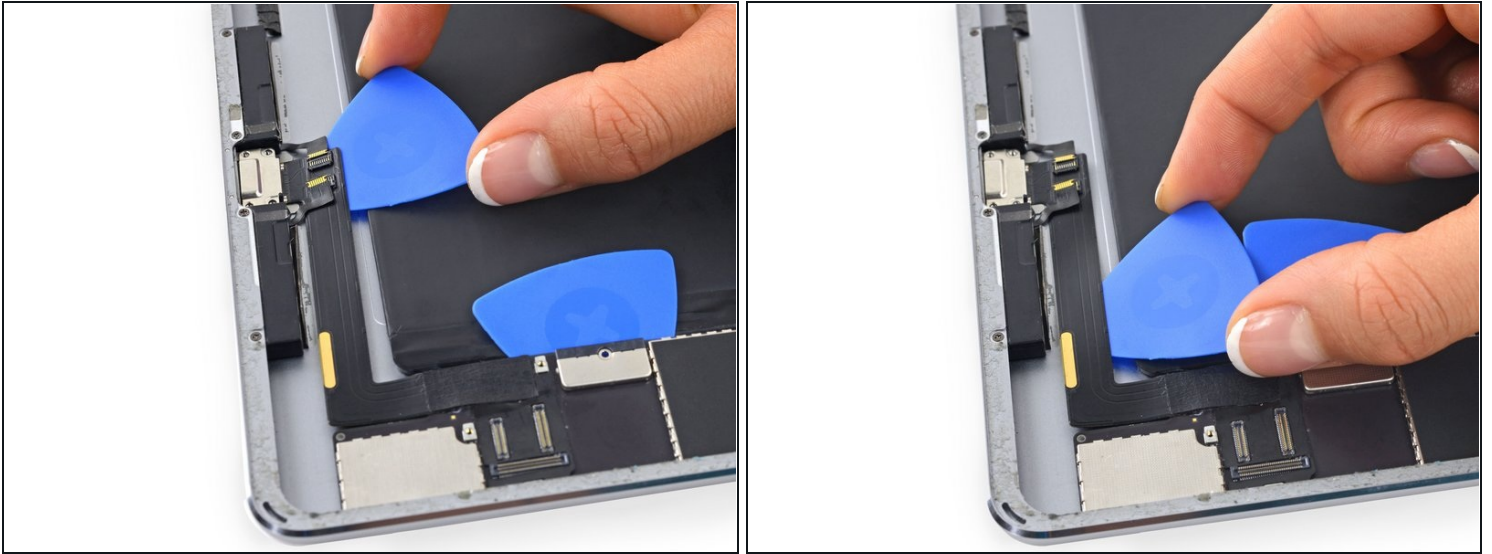
- Peel up the tape covering the top left edge of the logic board.

Step 54



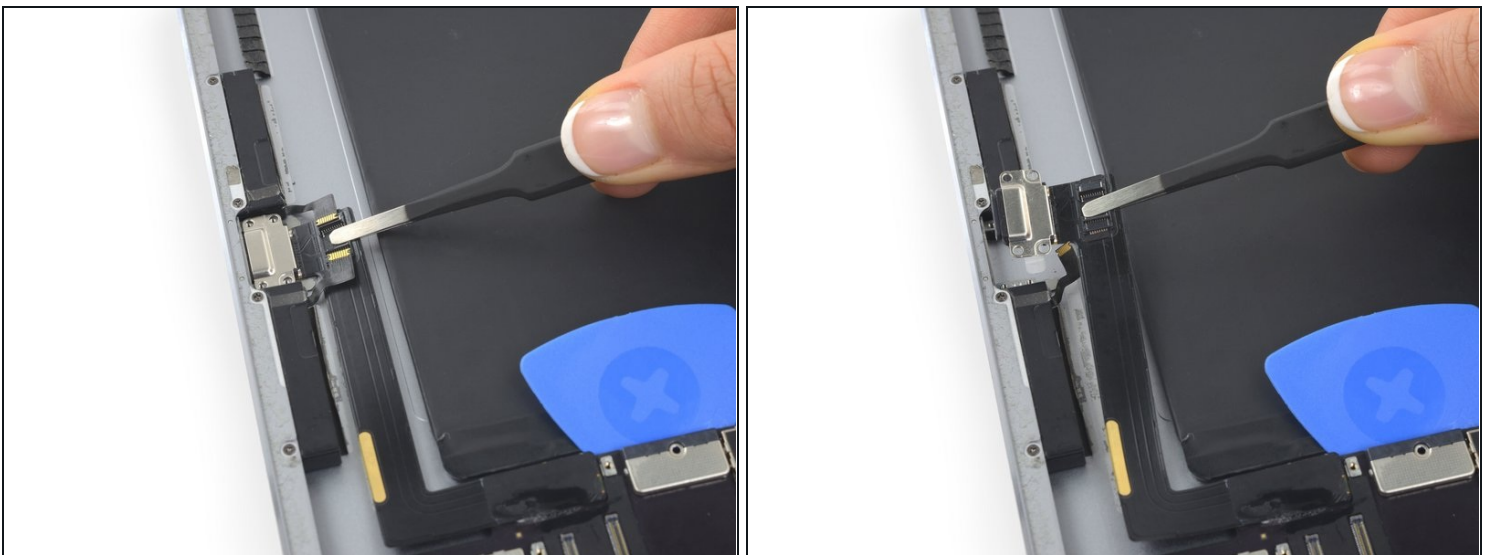
- Remove the four 1.6 mm Phillips screws attaching the lightning port to the rear case.

Step 55



- ⓘ The Lightning connector cable is stuck to the case with some adhesive. To detach the adhesive you will be sliding an opening pick between the cable and the case. Be very careful not to cut the Lightning connector cable itself.
- Insert an opening pick underneath the Lightning cable where it meets the logic board.
 - Slide the opening pick towards the bend in the cable.

Step 56



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

Step 57



- Prepare an iOpener following the steps in the [iOpener Heating Guide](#).
- Place the iOpener along the top of the back of the iPad for 2-3 minutes to soften the adhesive holding the logic board in place.

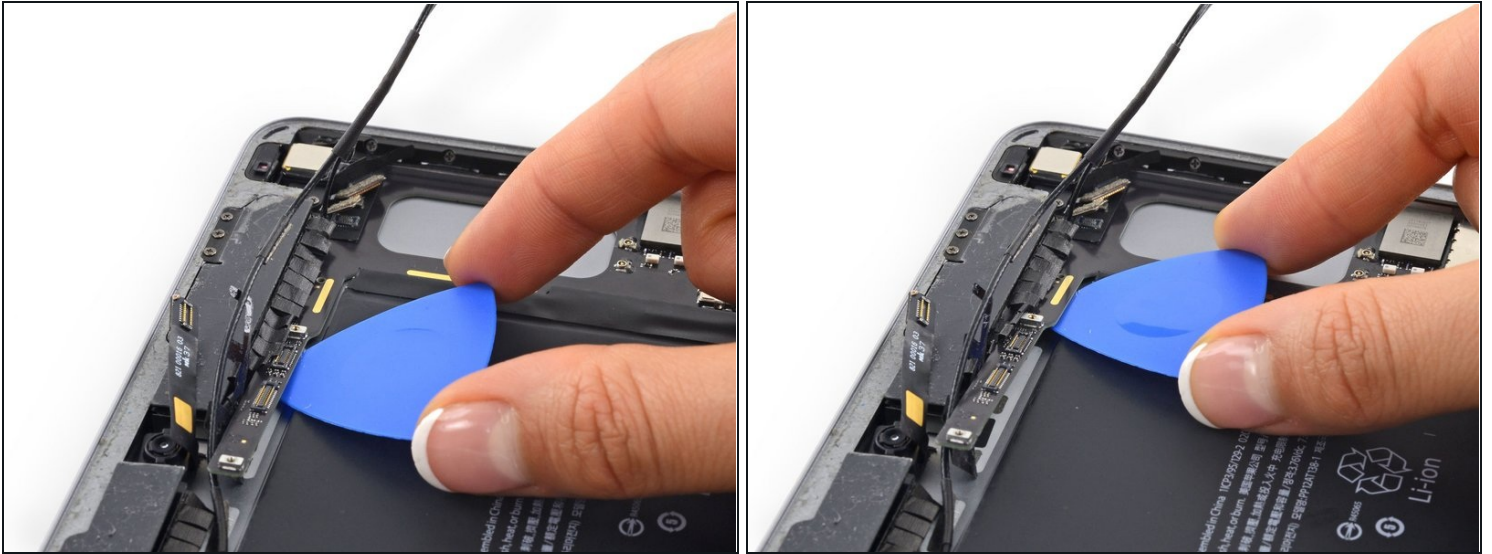
Step 58



- Insert an opening tool underneath the logic board below the FaceTime camera.
- Pry the left edge of the logic board up.

⚠ Lift the end of the logic board slowly. If you encounter significant resistance, stop prying and reapply the iOpener.

Step 59



- Insert an opening pick underneath the portion of the logic board pried up in the previous step.
- Slide the opening pick towards the volume control buttons, and stop at the bend in the logic board.

Step 60



- Place a heated iOpener on the lefthand side of the back of the iPad for 2-3 minutes.

Step 61



- Insert a plastic opening tool underneath the logic board, inside the rectangular cut out, and gently pry the logic board up.
- Slide the opening tool down the length of the gap while continuing to pry the logic board up.

⚠ Lift the logic board slowly. If you encounter significant resistance, stop prying and reapply the iOpener.

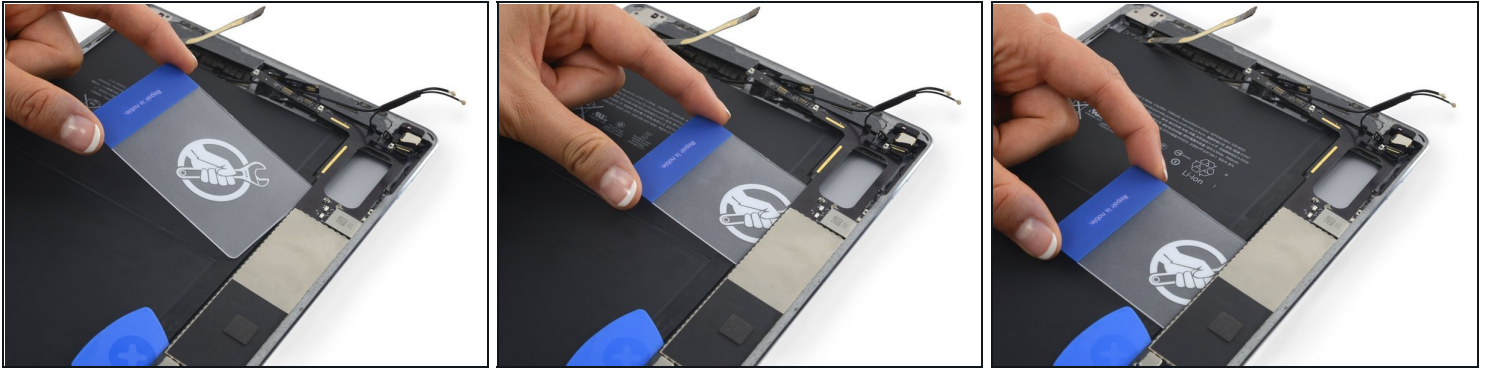
Step 62



- Insert an opening tool underneath the logic board on the other side of the rectangular cut out and pry it up.
- Slide the opening tool down the length of the gap while continuing to pry the logic board up.

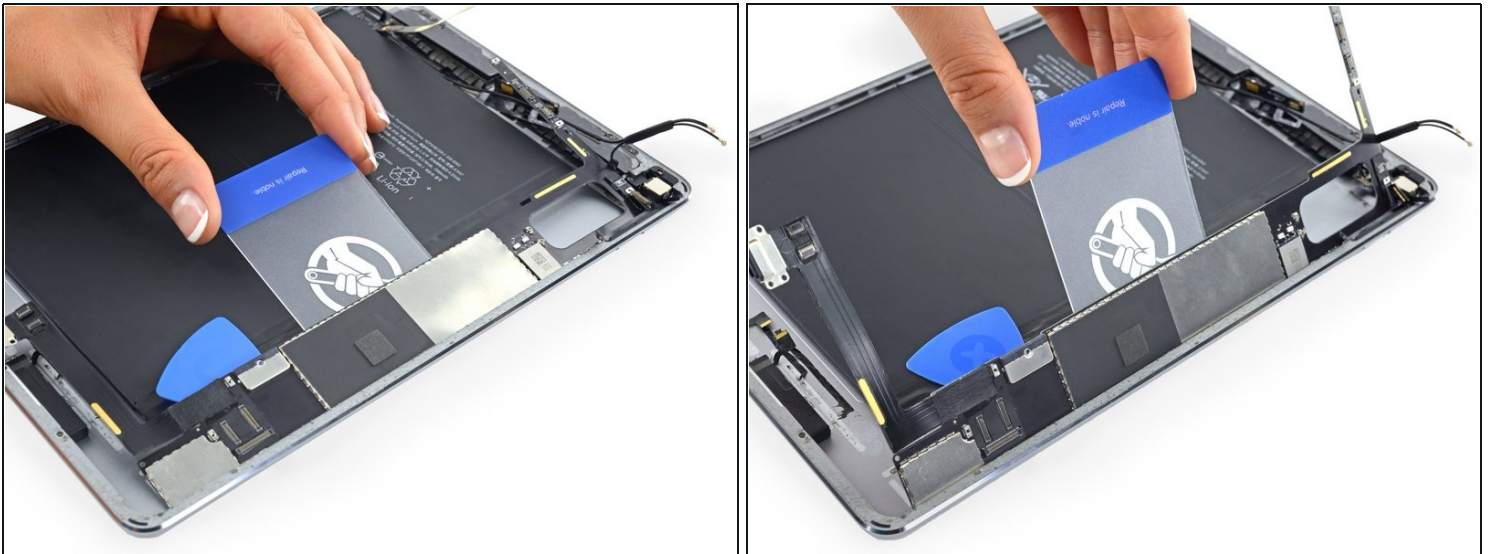
⚠ Lift the the logic board slowly. If you encounter significant resistance, stop prying and reapply the iOpener.

Step 63



- Insert a [plastic card](#) underneath the logic board.
- Slide the card down the length of the logic board to release the adhesive.

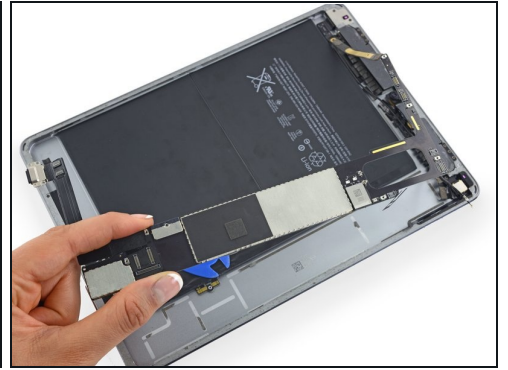
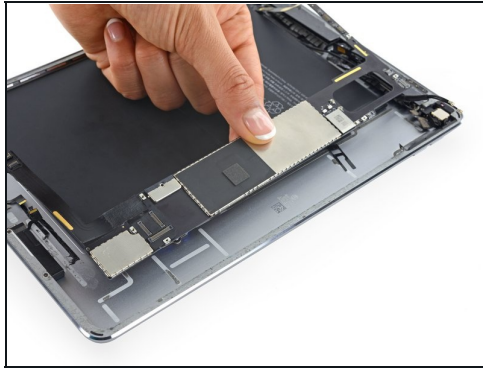
Step 64



- Slide a plastic card underneath the center of the logic board, pushing it in as far as it will go.
- Slowly swing the left edge of the logic board up, while making sure it doesn't snag against any of the disconnected cables.

⚠ If any portion of the logic board requires excessive force to pry up, stop prying, re-apply the iOpener, and re-perform the corresponding guide steps to fully release the adhesive.

Step 65



- Remove the logic board.

Step 66 — Battery



- Reheat the iOpener in the microwave for 30 seconds.
⚠ Remember to be careful not to overheat the iOpener during the repair procedure. Wait at least two minutes before reheating the iOpener, and never microwave it for more than 30 seconds.
- Place the heated iOpener in the center of the back of the iPad. Keep it there for 90 seconds to soften the battery adhesive.
- Move the iOpener to the right (away from the rear-facing camera), and keep it there for another 90 seconds.
- Finally, place the iOpener near the right-hand edge of the iPad for 90 seconds.
- ① You will likely need to repeat this step several times throughout the rest of the procedure to ensure the adhesive remains soft.
- ① The iOpener may cool significantly. If so, reheat it for another 30 seconds between each position.

Step 67



- ⚠** Throughout the following procedure, you'll be sliding thin plastic cards between the battery and rear case of the iPad, to separate the adhesive securing the battery. Be careful to keep the cards as flat as possible to avoid bending the battery, which may damage it and cause it to release dangerous chemicals.
- Once the adhesive has had a couple minutes to soften, flip the iPad over, battery-side up.
 - Insert a [plastic card](#) underneath the battery contacts.
 - ⓘ There is a metal standoff under the battery contact. You will need to lift the contact up slightly to clear this standoff and insert the plastic card.
 - Push the card about an inch under the battery to begin breaking up the adhesive holding it in place.

Step 68



- Slide the plastic card up along the edge of the battery until the card is even with the top edge of the battery.

Step 69



- Insert a second plastic card underneath the battery contacts.
- Rotate the plastic card around the lower right corner of the battery to begin breaking up the adhesive along the lower edge.
- ⚠ Carefully maneuver the card over the top of the speaker ribbon cables so as not to damage them.

Step 70



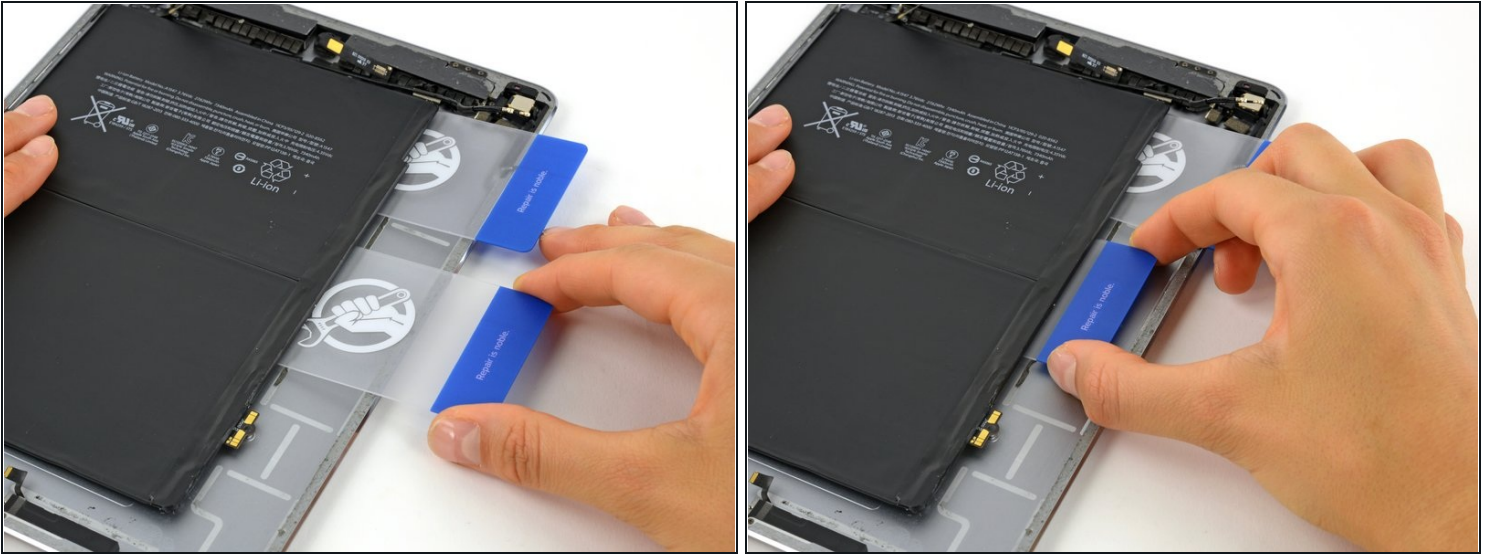
- Slide the second card along the bottom edge of the battery to continue breaking up the adhesive holding it to the rear case.
- ① You may need to reheat the iOpener and lay it across the bottom of the iPad to soften the adhesive securing the bottom edge of the battery.

Step 71



- Push the plastic card about two inches underneath the battery, and lift it up to pry the first battery cell off the rear case.
- ① If the battery begins to bend, use an iOpener to apply heat to the back of the battery and repeat the previous two steps to adequately break up the battery adhesive.

Step 72



- Remove the card from the bottom of the battery and slide it between the battery and rear case, along the side and underneath the seam where the two battery cells meet.
- Push the card as far underneath the battery as you can.

Step 73



- Firmly grasp the first card you inserted underneath the battery and push it as far as you can underneath the battery.
 - ① You may need to add more heat to soften the adhesive before completing this step.

Step 74



- Slide a third card underneath the top edge of the battery, on the right side.
⚠ Carefully maneuver the card past the upper component cables so as not to damage them.
- Push the card in as far as it will go, breaking through as much of the adhesive underneath the battery as you can.

Step 75



- Remove the card and slide it under the top edge of the battery again, on the left side near the edge of the iPad.
⚠ Be extremely careful to slide the card **over the front-facing camera and headphone jack cables to avoid cutting them.**
- Push the card in as far as it will go, breaking through as much of the adhesive underneath the battery as you can.

Step 76



- Remove the card and again slide it under the top edge of the battery, near the center.

⚠ Be extremely careful to slide the card **over** the front-facing camera and headphone jack cables to avoid cutting them.

- Slide the card in as far as it will go, breaking through as much of the adhesive as you can.
 - Lift up on the card to pry the second battery cell up from the rear case.
- ⓘ If there is significant resistance from the battery when you try to pry it up, reheat the adhesive with an iOpener and repeat the previous 3 steps to break apart the adhesive as necessary.

Step 77



- Remove the battery.

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