Samsung Galaxy S21 Ultra Battery Replacement

Use this guide to replace a worn-out or dead...

Written By: Dominik Schnabelrauch

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INTRODUCTION

Use this guide to replace a worn-out or dead battery in your Samsung Galaxy S21 Ultra.

This guide was performed on the **SM-G998B/DS** (international) model. Other models have an additional antenna cable sitting in the edge of the midframe.

If your battery is swollen, take appropriate precautions.

For your safety, discharge your battery below 25% before disassembling your phone. This reduces the risk of a dangerous thermal event if the battery is accidentally damaged during the repair.

If you do not replace the adhesive seals when reassembling, your device will function normally, but will most likely lose its water protection.

You'll need replacement adhesive to reattach components when reassembling the device.

TOOLS:

- iOpener (1)
- Suction Handle (1)
- iFixit Opening Picks (Set of 6) (1)
- Heat Gun (1)
- Isopropyl Alcohol (90% or Greater) (1)
- Microfiber Cleaning Cloths (1)
- ESD Safe Tweezers Blunt Nose (1)
- Spudger (1)
- Phillips #00 Screwdriver (1)
- Heavy-Duty Suction Cups (Pair) (1)

PARTS:

- Galaxy S21 Ultra Battery (1)
- Galaxy S21 Ultra Battery Adhesive (1)

Step 1 — Heat the back cover

Unplug and power off your phone before you begin.

- Prepare an iOpener and apply it to the back cover for at least three minutes to loosen the adhesive underneath.

  A hair dryer, heat gun, or hot plate may also be used, but be careful not to overheat the phone—the display and internal battery are both susceptible to heat damage.

Step 2 — Insert an opening pick



- Secure a suction handle to the bottom edge of the back cover, as close to the edge as possible.
  - If the back cover 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 cover.
- Lift the back cover with the suction handle to create a small gap between the back cover and the frame.
  - If you have trouble creating a gap, apply more heat to further soften the adhesive. Follow the iOpener instructions to avoid overheating.
- Insert an opening pick into the gap you created.
- Slide the opening pick to the bottom left corner to slice the adhesive.
- Leave the opening pick in place to prevent the adhesive from resealing.

Step 3 — Slice the adhesive

- Insert a second opening pick at the bottom edge of your phone.
- Slide the opening pick to the bottom right corner to slice the adhesive.
- Leave the opening picks in place to prevent the adhesive from resealing.

Step 4



If the adhesive becomes hard to cut, it has most likely cooled down. Use your iOpener for two to three minutes to reheat it.

- Insert a third opening pick at the bottom right corner of your phone.
- Slide the opening pick along the right edge of your phone to slice the adhesive.
- Leave the opening pick in the top right corner to prevent the adhesive from resealing.

Step 5



When you slice near the camera assembly, insert only the tip of the opening pick (~ 4-5 mm) to avoid damaging or smearing the camera.

- Insert a fourth opening pick underneath the top right corner of your phone.
- Slide the opening pick along the top edge to slice the adhesive.
- Leave the opening pick in the top left corner to prevent the adhesive from resealing.

Step 6



- Insert a fifth opening pick underneath the top left corner.
- Slide the opening pick along the left edge of the back cover to slice the remaining adhesive.

⚠ When you slice near the power button, insert only the tip of the opening pick (~ 3-4 mm) to avoid damaging the power and volume button flex cable.

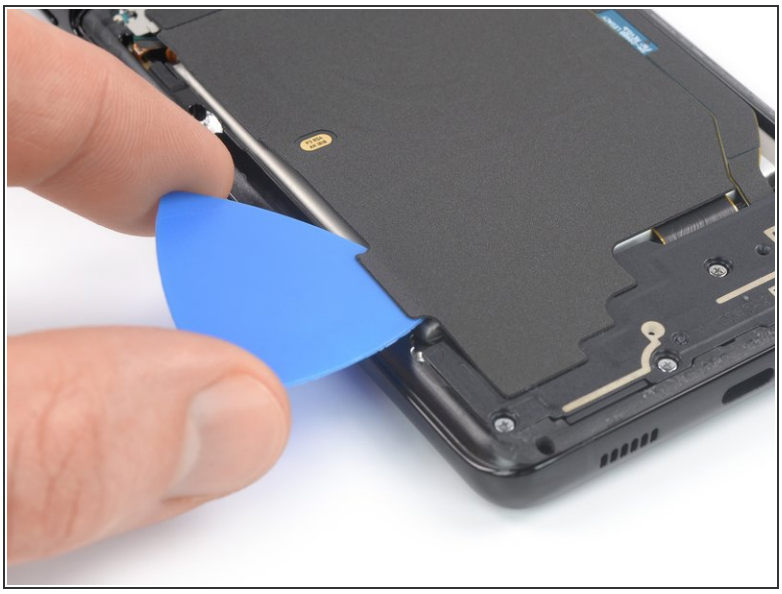
Step 7 — Remove the back cover

- Remove the back cover.

During reassembly:

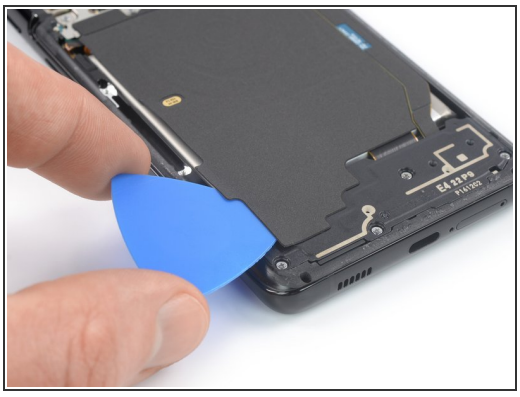
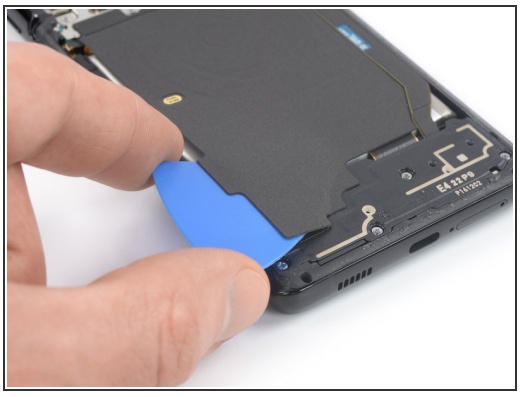
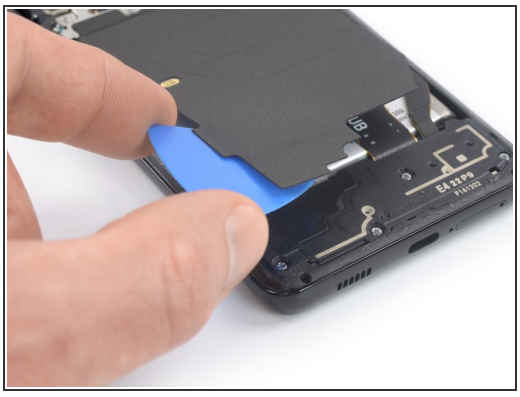
- This is a good point to power on your phone and test all functions before sealing it up. Be sure to power your phone back down completely before you continue working.
- Remove any adhesive chunks with a pair of tweezers or your fingers.
- Use some high concentration (over 90%) isopropyl alcohol to wipe away any adhesive residue.
- If you're using Samsung custom-cut adhesives, follow this guide.
- If you're using double-sided tape, follow this guide.

Step 8 — Slice the adhesive

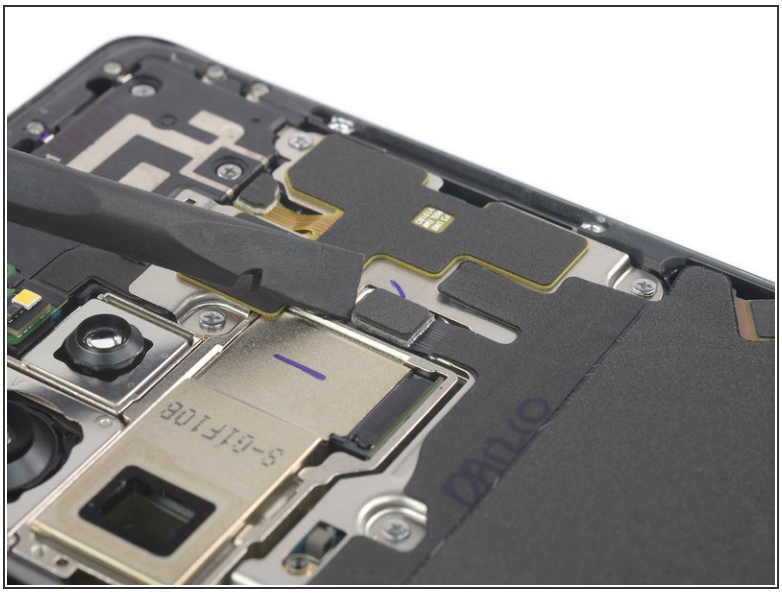
- Insert an opening pick underneath the left bottom end of the NFC antenna and charging coil assembly.
- Carefully slide the opening pick along the bottom left edge of the assembly to separate it from the battery.

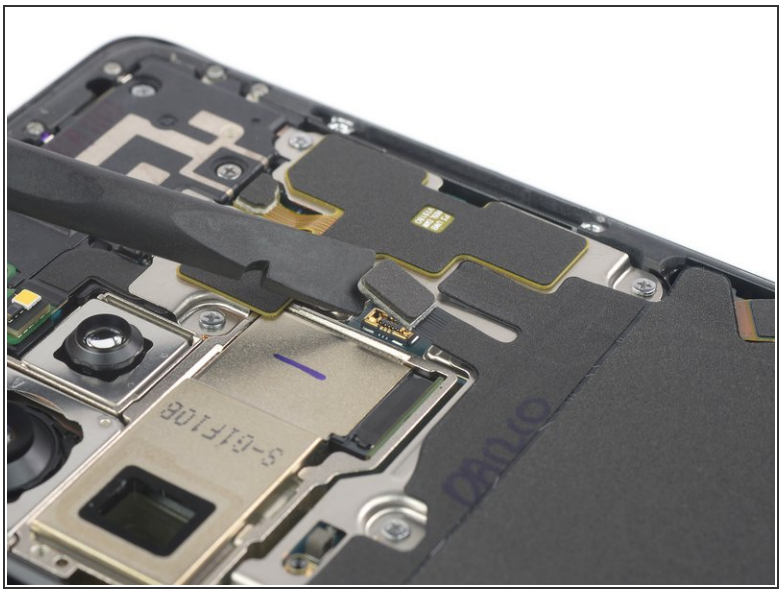
Step 9

- Insert an opening pick underneath the bottom end of the NFC antenna and charging coil assembly.
- Carefully slide the opening pick along the bottom of the assembly to separate it from the loudspeaker.

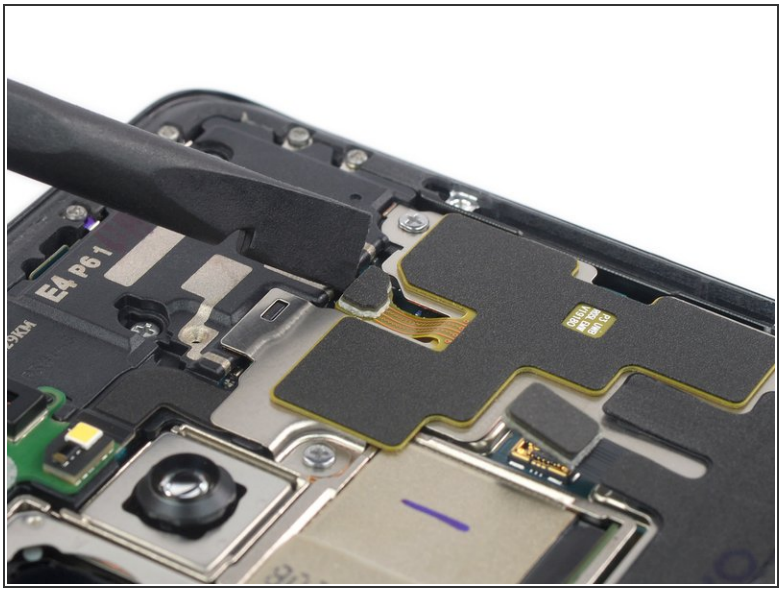
Step 10 — Disconnect the charging coil

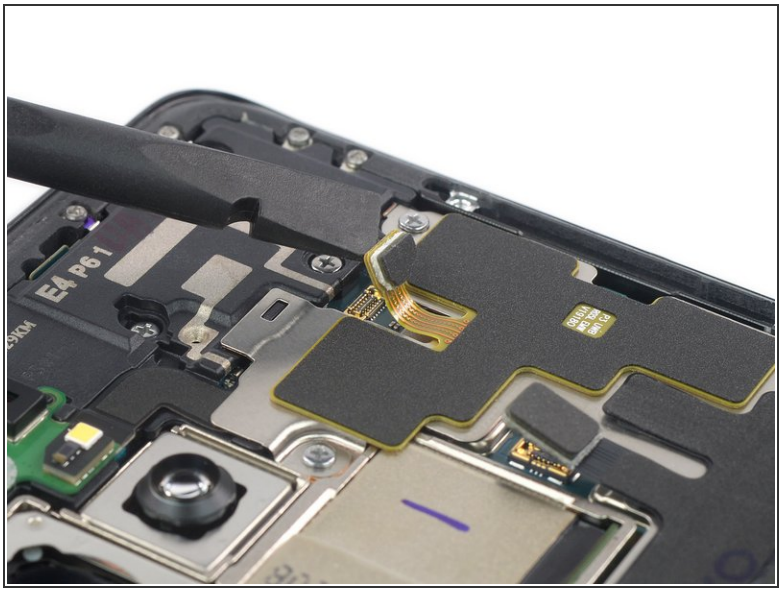




- Use a spudger to disconnect the charging coil by prying the connector straight up from its socket.

Step 11 — Disconnect the NFC antenna



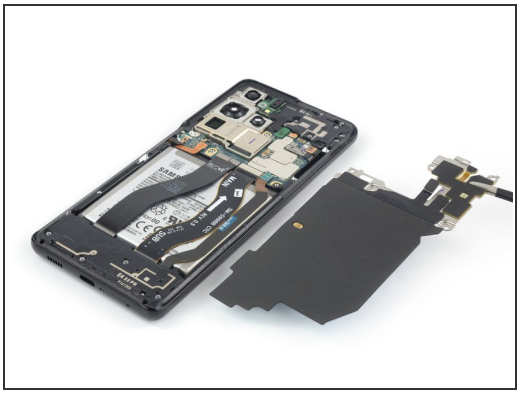


- Use a spudger to disconnect the NFC antenna by prying the connector straight up from its socket.

Step 12 — Unfasten the NFC antenna & charging coil assembly

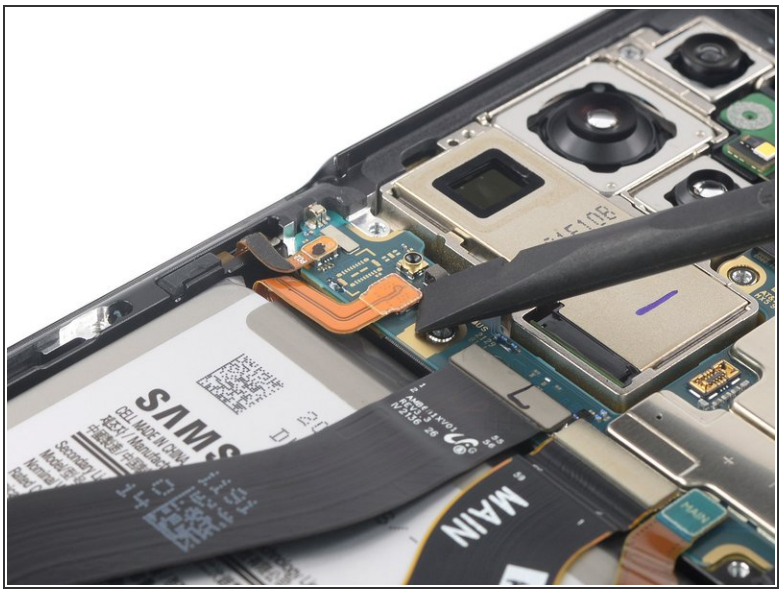
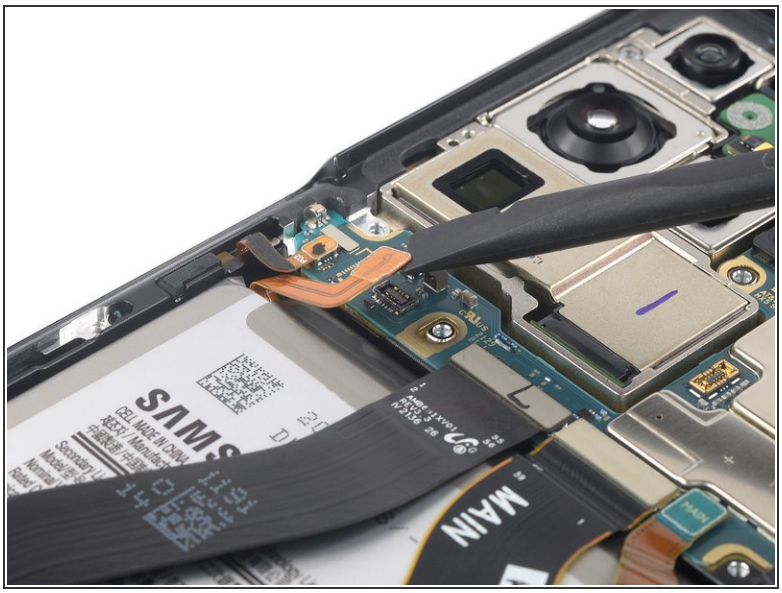
- Use a Phillips screwdriver to remove the five 3.9 mm-long screws securing the NFC antenna and charging coil assembly.

Step 13 — Remove the NFC antenna & charging coil assembly



- Use a pair of tweezers or your fingers to carefully remove the NFC antenna and charging coil assembly.

Step 14 — Disconnect the battery cable

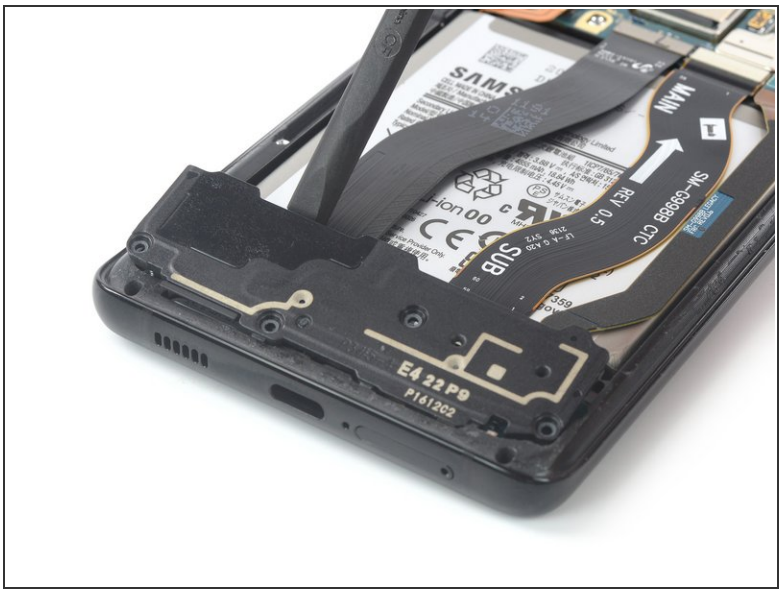



- Use a spudger to disconnect the battery cable by prying the connector straight up from its socket.

Step 15 — Unfasten the loudspeaker assembly screws

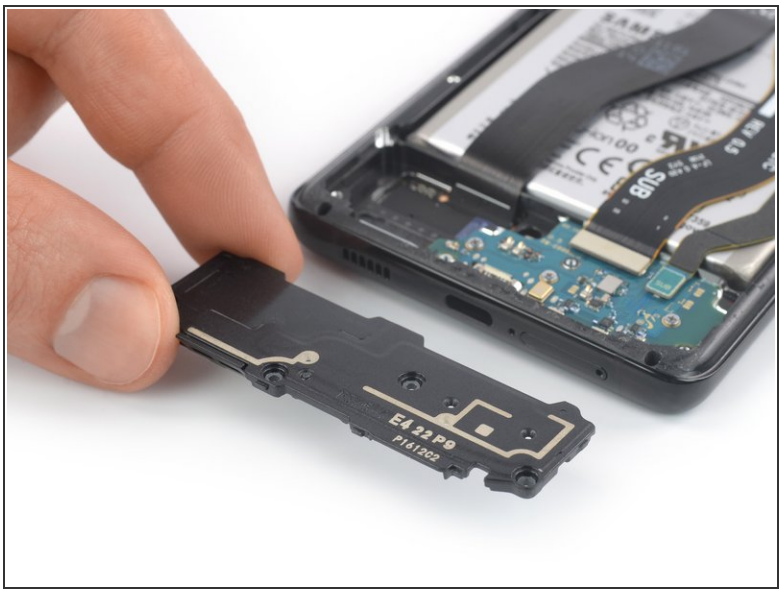
- Use a Phillips screwdriver to remove the four 3.9 mm-long screws securing the loudspeaker assembly.

Step 16 — Pry up the loudspeaker assembly



- Insert a spudger into the gap between the top edge of the loudspeaker assembly and the midframe.
- Use your spudger to pry up the loudspeaker assembly by tilting it downwards.

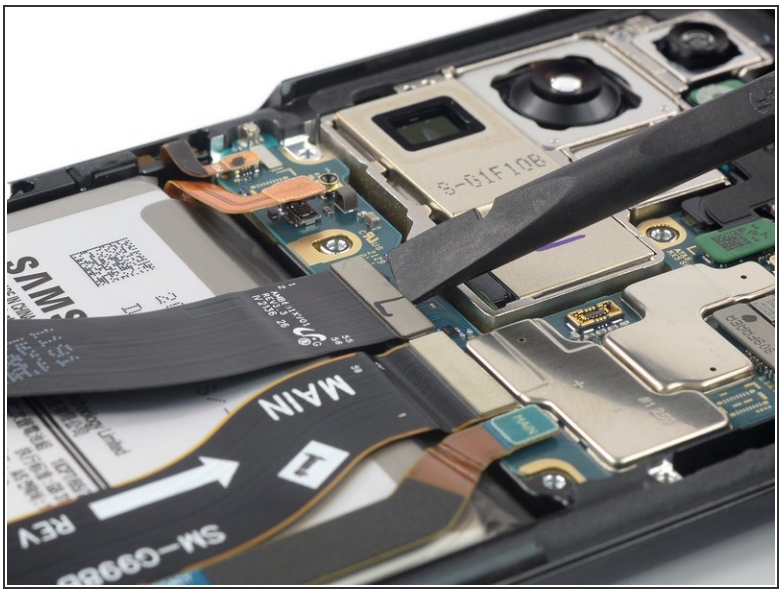
Step 17 — Remove the loudspeaker assembly

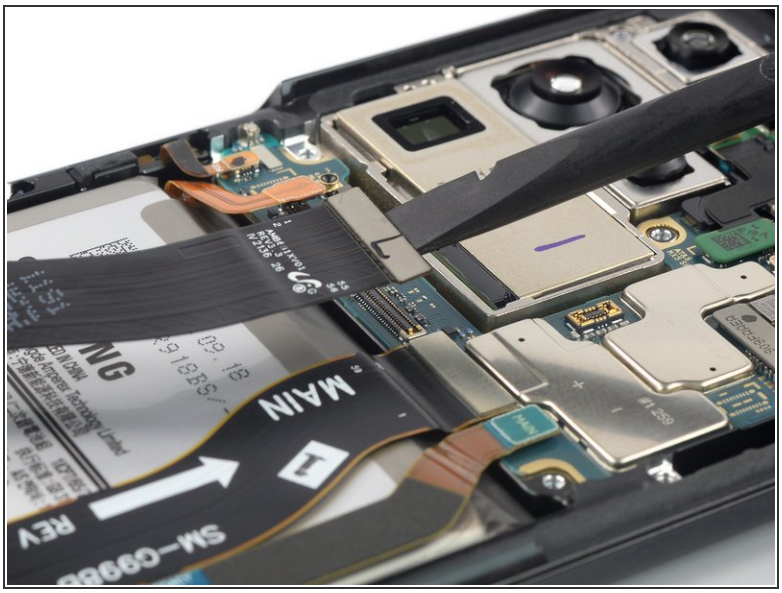


- Remove the loudspeaker assembly.

During reassembly apply new adhesive where it's necessary after cleaning the relevant areas with isopropyl alcohol (>90%).

Step 18 — Disconnect the display flex cable

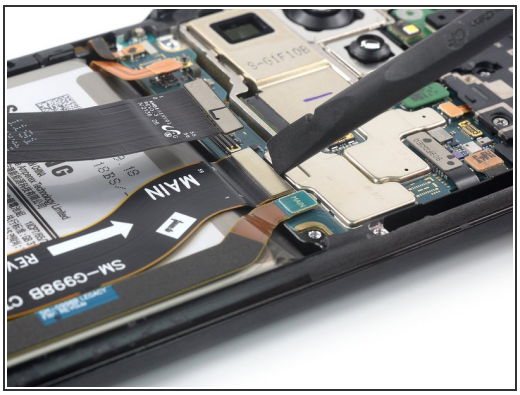


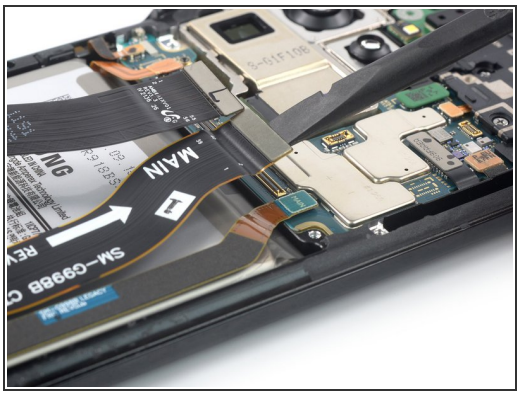


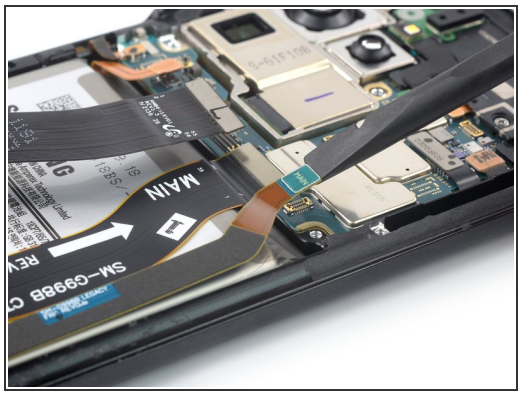
If you're not planning to remove the motherboard or to replace the battery, you can skip this step and continue with the next one.

- Use a spudger to disconnect the display flex cable by prying the connector straight up from its socket.

Step 19 — Disconnect the main & interconnect flex cables







- Use a spudger to disconnect the main and interconnect flex cables from the motherboard by prying their upper connectors straight up from their sockets.

Step 20 — Remove the interconnect flex cable



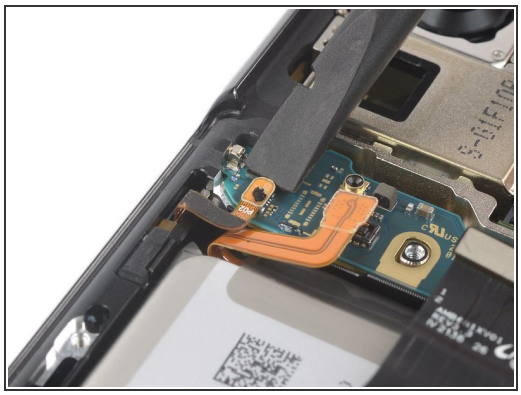
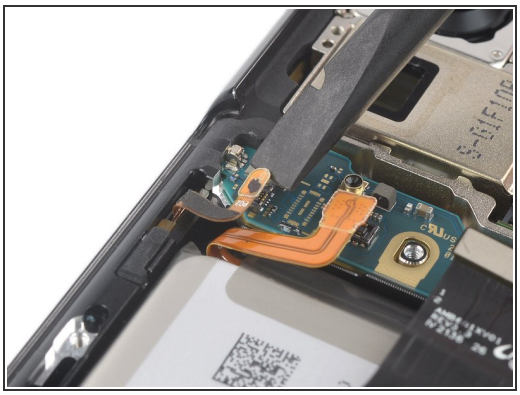
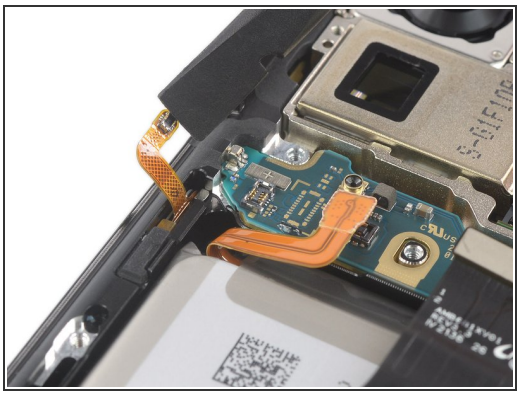
- Use a spudger to disconnect the interconnect flex cable from the daughterboard by prying its bottom connector straight up from its socket.
- Use your fingers or a pair of tweezers to carefully remove the interconnect flex cable.

Step 21 — Remove the main flex cable



- Use a spudger to disconnect the main flex cable from the daughterboard by prying its bottom connector straight up from its socket.
- Use your fingers or a pair of tweezers to carefully remove the main flex cable.

Step 22 — Disconnect the power button flex cable

- Use a spudger to disconnect the power button flex cable by prying the connector straight up from its socket.
- Use your spudger to carefully bend the flex cable to the side to avoid damaging it during the battery removal.

Step 23 — Free the battery


⚠ During the following step do not fold the cable sharply and only bend it to avoid cable damage.

- Fold the display flex cable towards the charging port to get free access to the battery.

ⓘ You might want to use a small piece of tape to temporarily stick the cable onto your working surface to avoid accidentally damaging it during the battery removal.

Step 24 — Apply adhesive remover

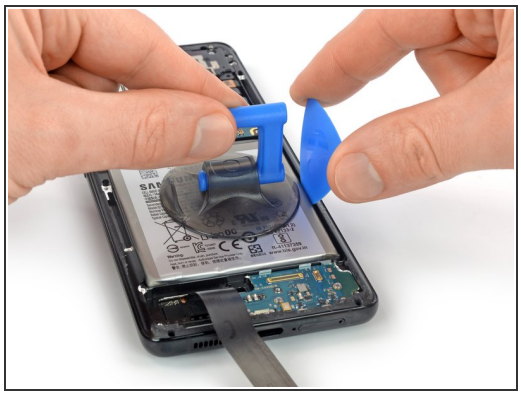
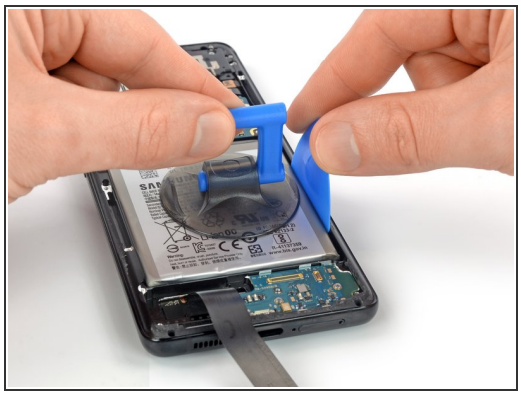
The battery adhesive of the Samsung Galaxy S21 Ultra is very strong. If you can't manage to remove the battery by only using high isopropyl alcohol (over 90%) you can try a combination with heat. In this case prepare an iOpener and apply it to the screen for at least two minutes to loosen the adhesive underneath the battery.

- Apply a few drops of high concentration (over 90%) isopropyl alcohol to the gaps in between the frame and the left and right edge of the battery.

  Only apply a few drops and come back again if necessary. The are two cutouts in the midframe of the phone and too much isopropyl alcohol may run to the screen and loosen it.

- Let the isopropyl alcohol penetrate the battery adhesive for at least two to three minutes.

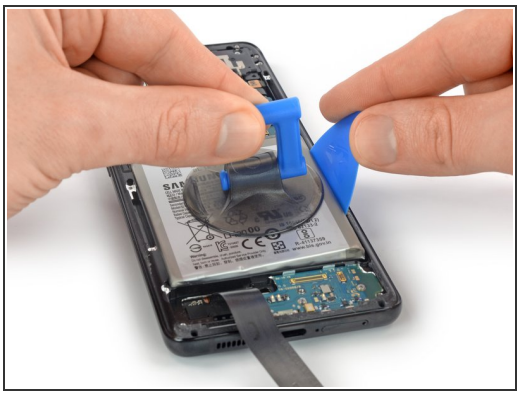
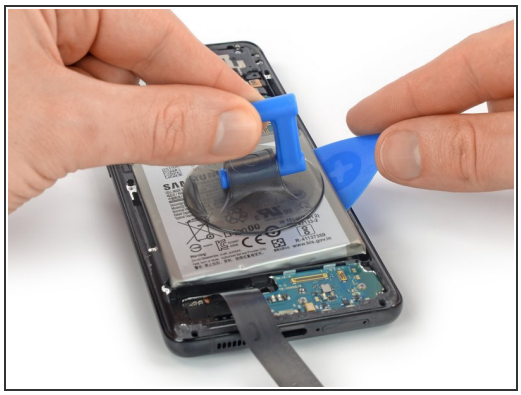
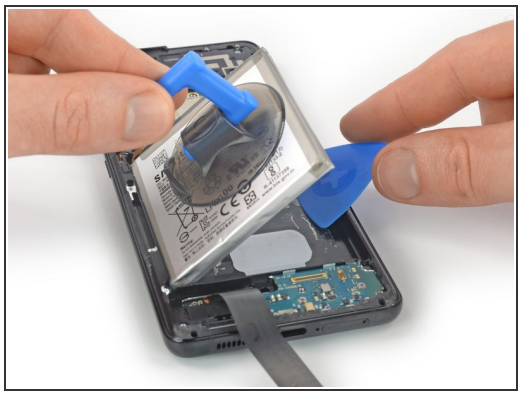
Step 25 — Insert an opening pick

For this step, insert the opening pick into the edge with a wider gap between the midframe and the battery so that you have more space for the opening pick and get a better leverage.

- Secure a suction handle to the battery, as close to the battery edge as possible.
- Insert an opening pick into the gap between the edge of the battery and the frame.
- Twist the opening pick to insert its long edge into the gap.

Step 26 — Pry up the battery

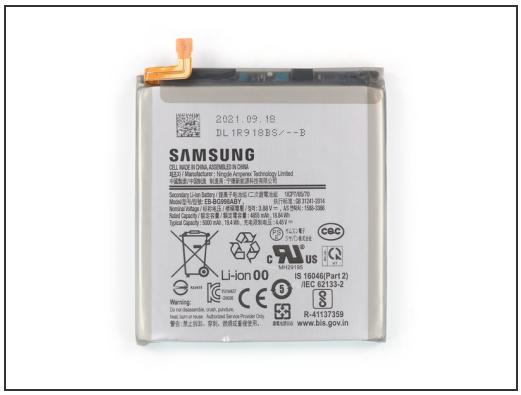




⚠ Take care not to puncture or bend the battery during the removal procedure—a punctured or bent battery may leak dangerous chemicals or cause a thermal event. In case you're struggling to pull up the battery apply more isopropyl alcohol and try again.

- Pull up on the suction handle and tilt the opening pick downwards at the same time to pry up the battery.

ⓘ If you're struggling to pull up the battery with your suction handle you can try to use a heavy-duty suction cup instead.

Step 27 — Remove the battery



- Peel the battery off the remaining adhesive.
- Remove the battery.

⚠ Do not reinstall a damaged or deformed battery, as doing so is a potential safety hazard.

Secure the new battery with pre-cut adhesive or double-sided adhesive tape. In order to position it correctly, apply the new adhesive into the device at the places where the old adhesive was located, not directly onto the battery. Press the new battery firmly into place.

During reassembly, temporarily reconnect the battery to the motherboard to help align it correctly. Disconnect the battery after it is seated.

If possible, turn on your device and test your repair before installing new adhesive and resealing.

Compare your new replacement part to the original part—you may need to transfer remaining components or remove adhesive backings from the new part before installing.

To reassemble your device, follow these instructions in reverse order. During reassembly apply new adhesive where necessary after cleaning the relevant areas with isopropyl alcohol (>90%).

Follow this guide to perform a battery cycle reset, and calibrate your newly-installed battery.

Take your e-waste to an R2 or e-Stewards certified recycler.

Repair didn't go as planned? Try some basic troubleshooting, or ask our Answers community for help.

