



iPad Pro 9.7-inch Wi-Fi

iPad Pro 9.7-inch Wi-Fi + Cellular

Apple Recycler Guide

June 2023

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About This Guide

Apple Recycler Guides provide guidance for electronics recyclers on how to disassemble products to maximize recovery of resources. The guides provide step-by-step disassembly instructions and information on the material composition to help recyclers direct fractions to the appropriate material recycler.

To conserve important resources, we work to reduce the materials we use and aim to one day source only recycled or renewable materials in our products. A key path to reaching that goal is resource recovery from end-of-life electronics.

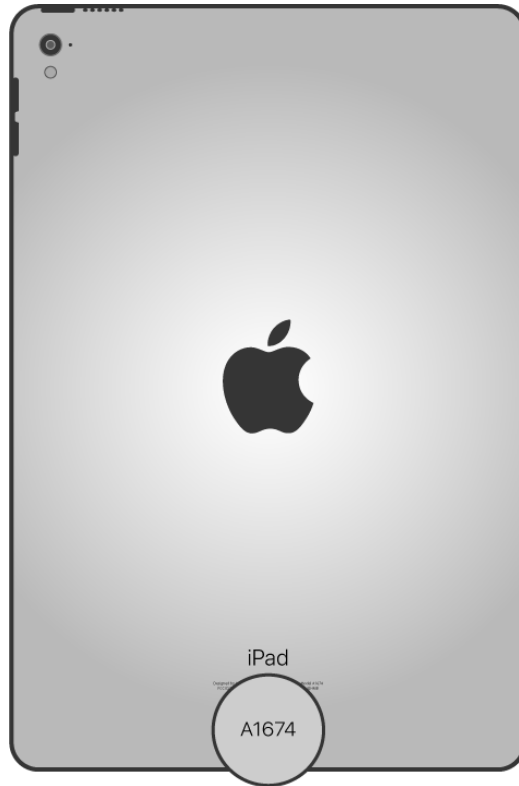
Disassembly procedures are intended to be performed only by trained electronics recycling professionals. The recycler is responsible for independently evaluating and ensuring compliance with all applicable environmental, health, and safety laws related to the work. These include but are not limited to laws relating to the management, handling, shipping, and disposal of the outputs of this work as waste and laws in place to ensure the health and safety of all employees who support this work.

For questions or feedback about this guide, email contactesci@apple.com.

Note: This guide may show images from other similar models, but the procedures are the same.

Identification

You can find the model number on the back of the iPad.



*Model numbers:
(Wi-Fi) A1673
(Wi-Fi + Cellular) A1674, A1675*

Directive 2012/19/EU Annex VII Components

Directive 2012/19/EU Annex VII requirements apply to the following substances and components.

Substance/Component	Apple Part Name	Removal Instructions
Printed circuit board if the surface is greater than 10 square centimeters	Display logic board, light-emitting diode (LED) logic board, power supply logic board, main logic board	Follow steps 1–15
External electric cables	Power adapter, charge cable	Follow step 1
Battery	Lithium-ion polymer batteries	Follow steps 1–7
Cover glass and liquid crystal display (LCD) cell if the surface is greater than 100 square centimeters	LCD cell	Follow steps 1–6
No further substances or components as listed in Annex VII		

Safety Considerations

The recycler is responsible for independently evaluating all activities undertaken by its employees to perform or support the work and ensuring compliance with all applicable health and safety laws related to the work. These include but are not limited to laws relating to the health and safety of all employees who perform or support this work. The recycler is also responsible for evaluating the workspace and ensuring that the area in which the work is to be undertaken is designed using ergonomic best practices and meets all ergonomic requirements to ensure the protection of its employees.

Personal Protective Equipment

Personal protective equipment should be worn during the entire recycling process.



Wear hand protection



Wear a mask



Wear eye protection



Wear foot protection



Wear protective clothing

Battery Safety

This product uses a lithium-ion polymer battery. Before beginning any disassembly work, ensure that a safe working procedure for handling lithium-ion batteries has been established, which could include discharging the batteries so that they can be more safely managed. The following considerations may also be included:

- Remove anything from your person that could conduct energy, such as jewelry and watches, to avoid electric shock to yourself or the logic board.
- To avoid the potential for thermal runaway and the release of potentially noxious fumes, don't puncture, strike, or crush lithium-ion polymer batteries or devices powered by them.
- Don't throw, drop, or bend the battery.
- Don't expose the battery to excessive heat or sunlight.
- Don't use tools that are sharp or conduct electricity.
- Keep your workspace clear of foreign objects and sharp materials.
- Dispose of batteries according to local environmental laws and guidelines.

Workspace safety guidelines

- Use heat-resistant gloves and safety glasses.
- Keep a sand dispenser within arm's reach (2 feet or 0.6 m) on one side of the workstation, not above the workstation. The dispenser should be a wide-mouthed, quick-pour metal container with a flip-top lid or tray that contains 8–10 cups (1.9–2.4 L) of clean, dry, untreated sand.
- Keep the battery at least 2 feet (0.6 m) from paper and other combustible materials.
- Work in an area with adequate ventilation.

Handling a thermal runaway

If you notice any of the following signs, a thermal runaway is likely underway, and you should act immediately:

- The lithium-ion polymer battery or a device containing one begins to smoke or emit sparks or soot.
- The battery pouch suddenly and quickly puffs out.
- You hear hissing or popping sounds.

Don't use water or an ABC/CO₂ fire extinguisher on a thermal runaway battery or a device containing one. Water and ABC/CO₂ fire extinguishers will not stop the reaction.

Do smother the battery or device immediately with plenty of clean, dry sand, dumped all at once. Timing is critical; the faster you pour all the sand, the faster the thermal runaway will stop.

Do leave the room for 30 minutes if the thermal runaway causes any irritation.

Do wait 30 minutes before touching the battery. Wear heat-resistant gloves and safety glasses to remove the battery from the sand, or use a touchless thermometer to measure the battery temperature. Only touch the battery when the event has finished.

Do dispose of the damaged battery or device (including any debris removed from the sand) according to local environmental laws and guidelines.

LED Safety

Broken LEDs must be handled properly to ensure the safety of your employees and mitigate any hazards. Package broken LEDs in an appropriate container to properly manage the hazards associated with the materials and store only with compatible materials. All waste must be properly classified, packaged, and labeled in accordance with all relevant laws and regulations.

Hazard Warnings



Broken glass hazard



Chemical inhalation hazard



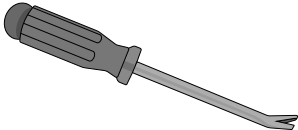
Chemical exposure hazard



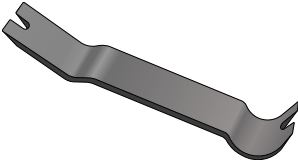
Rechargeable battery hazard

Recommended Tools

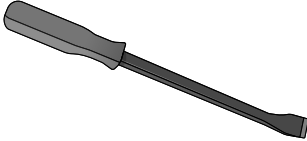
Nail-pulling screwdriver



Plastic pry bar



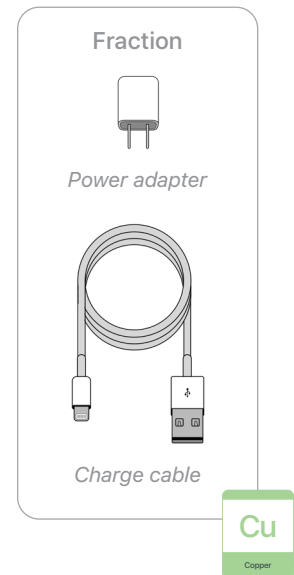
Screwdriver-handle pry bar



Disassembly Instructions

1. Remove the power adapter and the charge cable.

- » *Ensure that the iPad is turned off.*
- » *Unplug the power adapter. Disconnect both ends of the charge cable.*



2. Remove the display.



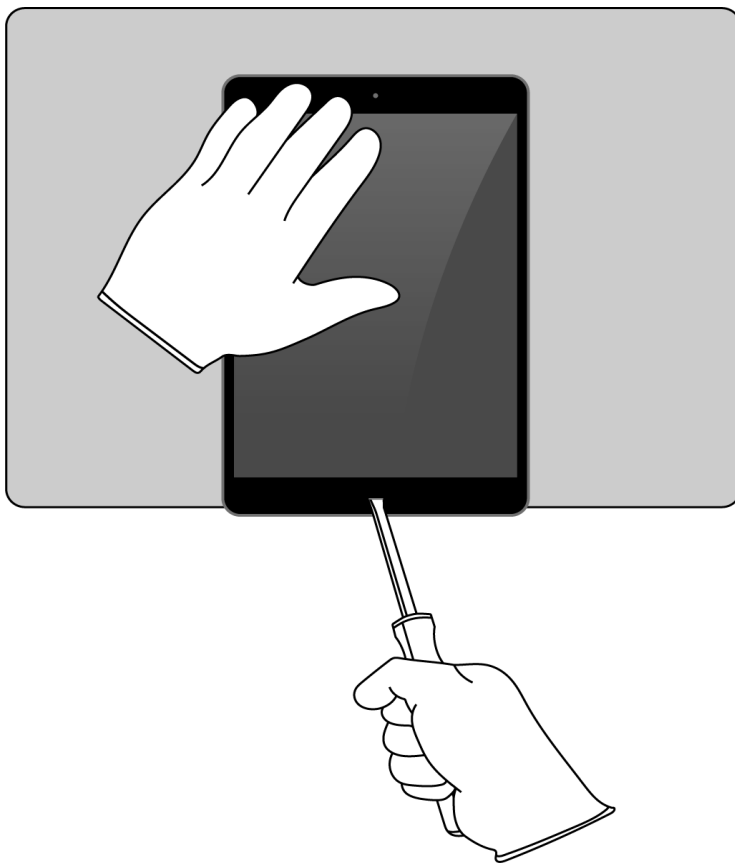
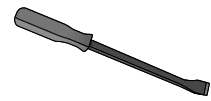
Broken glass hazard



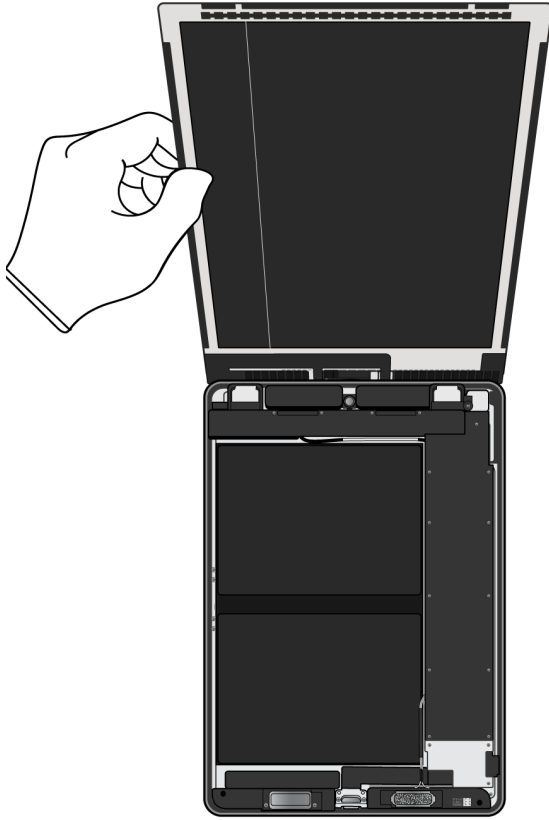
Chemical exposure hazard

- » *Hold the iPad at the edge of a counter with the display facing up.*
- » *Insert the tool tip into the Home button/Touch ID sensor. Push the handle down to pry the display from the enclosure.*

Tools Used

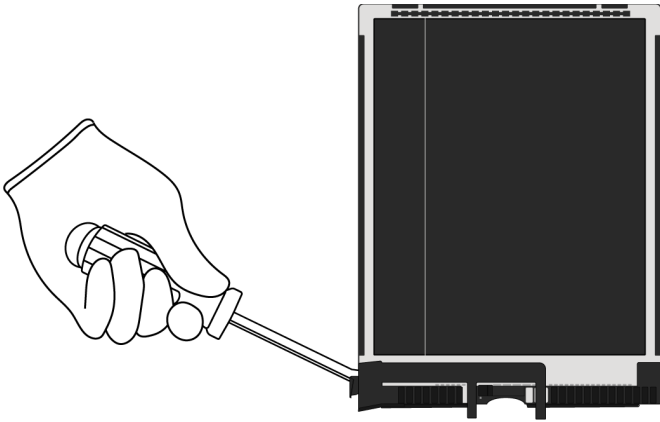


» Remove the display by hand. Set the enclosure aside.

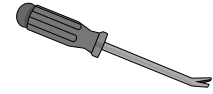


3. Remove the display logic board.

- » *Lay the display facedown.*
- » *Pry off the display logic board.*



Tools Used



Fraction

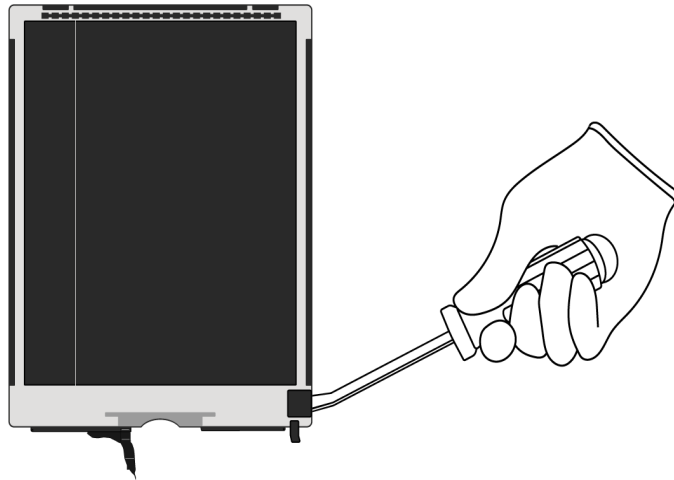


Display logic board

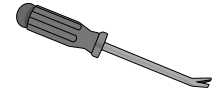
PMs

Precious Metals

4. Pry off the display shield. Set the LCD cell aside.

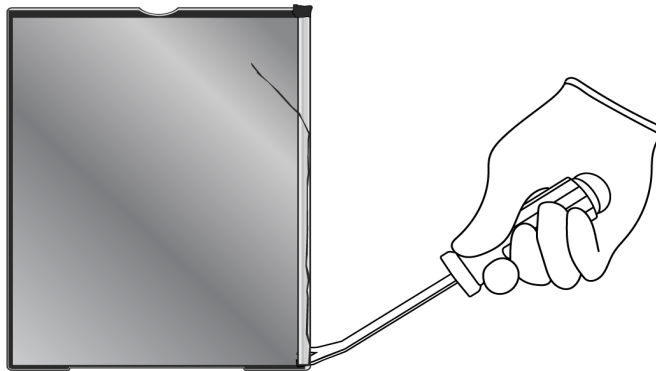


Tools Used



5. On the display shield, pry off the LED logic board.


 Chemical inhalation hazard



Tools Used




Fraction



LED logic board

PMs
Precious Metals

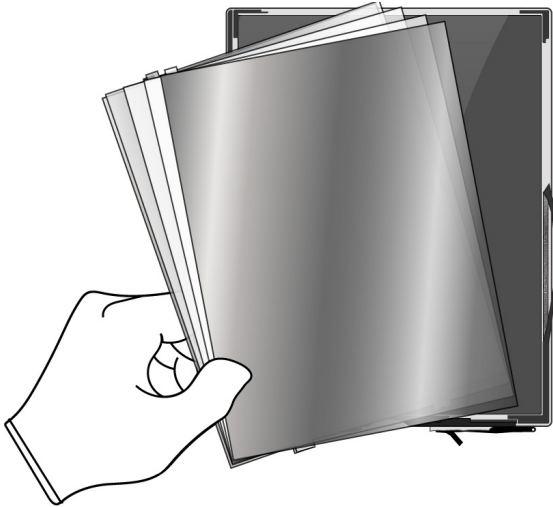
Fraction



Display shield

Fe
Ferrous

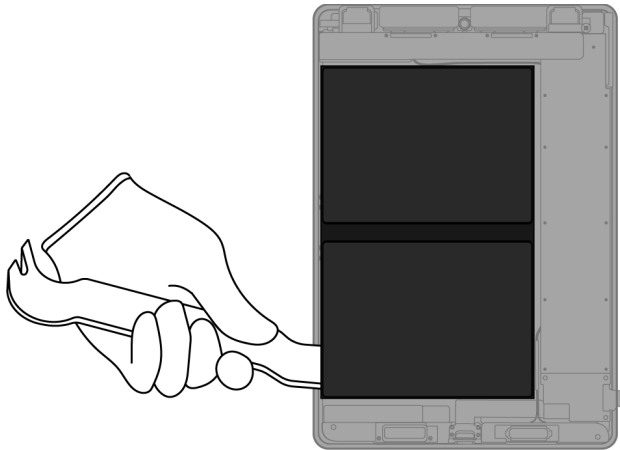
6. From the LCD cell, remove the display films.



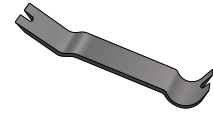
7. From the enclosure, carefully remove both lithium-ion polymer batteries.



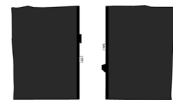
Rechargeable battery hazard



Tools Used



Fraction

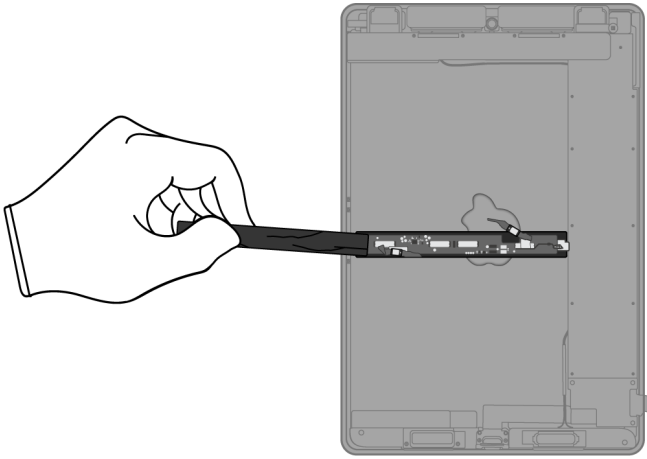


Lithium-ion polymer
batteries

BT

Battery

8. Remove the power supply logic board cover.



Fraction

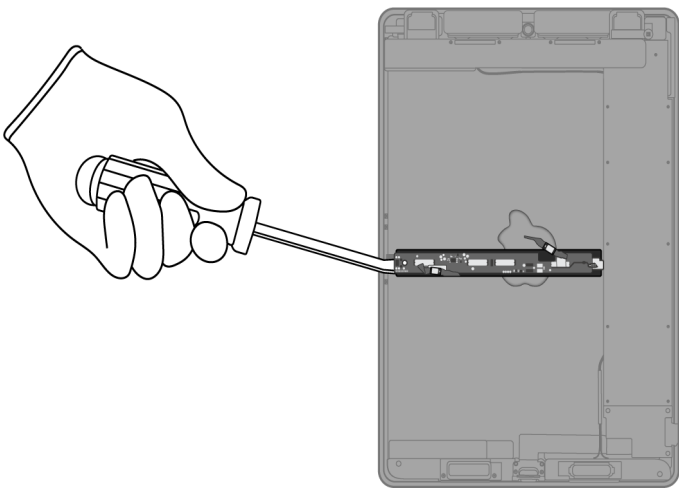


Logic board cover

PL

Plastics


9. Pry off the power supply logic board.



Tools Used



Fraction

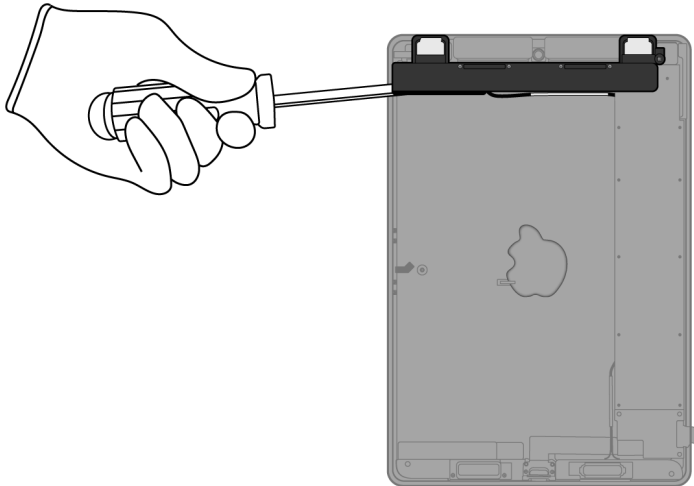


Power supply logic board

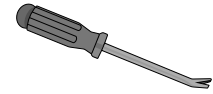
PMs

Precious Metals

10. Pry off the upper speakers.



Tools Used



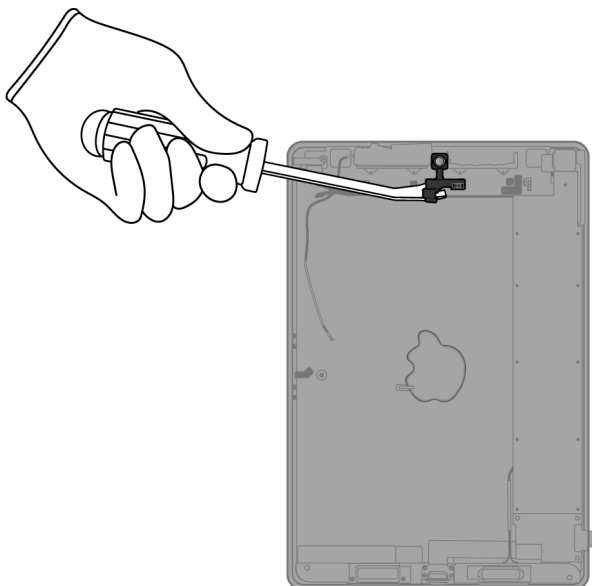
Fraction



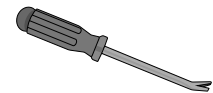
Upper speakers



11. Pry off the front camera.



Tools Used



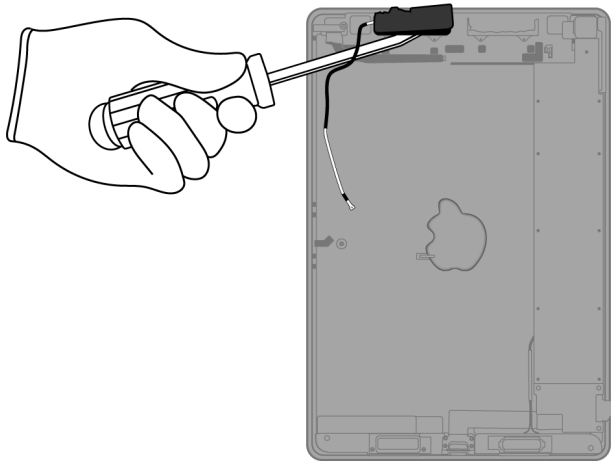
Fraction



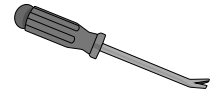
Front camera



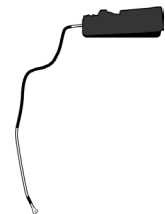
12. Pry off the antenna.



Tools Used



Fraction

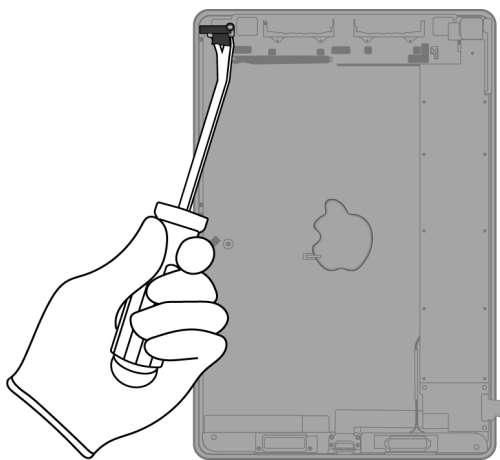


Antenna

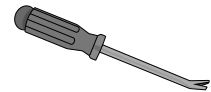
Cu

Copper

13. Pry off the headphone jack.



Tools Used



Fraction

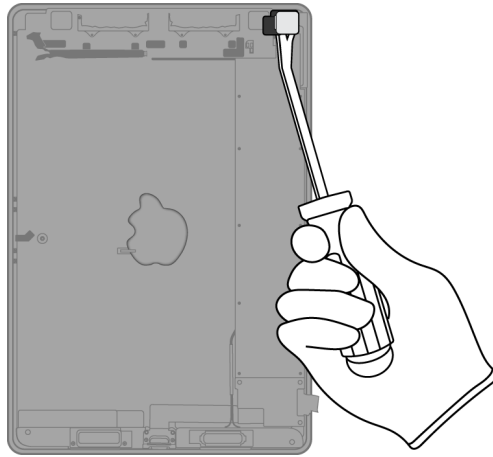


Headphone jack

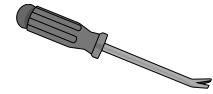
Cu

Copper

14. Pry off the rear camera.



Tools Used



Fraction

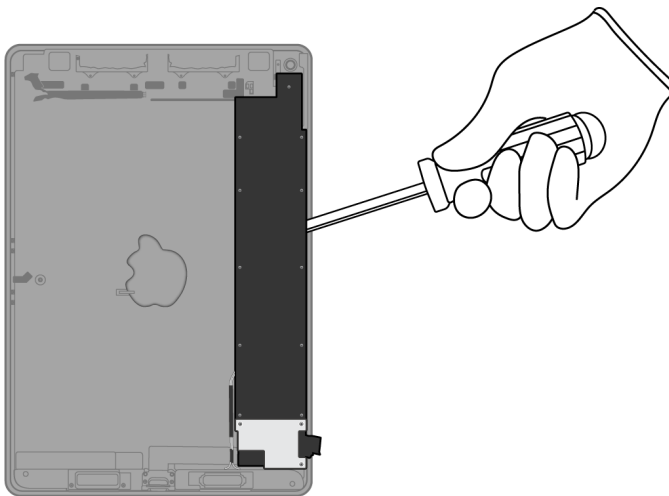


Rear camera

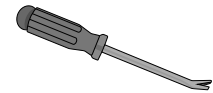
PMs

Precious Metals

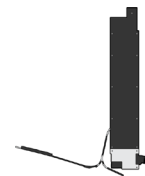
15. Pry off the main logic board.



Tools Used



Fraction

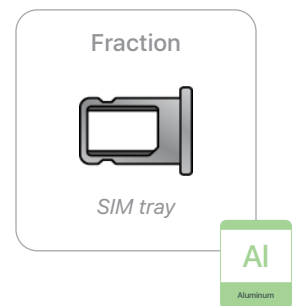
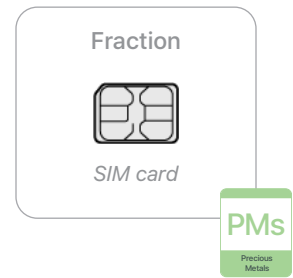
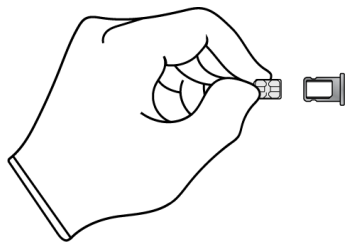
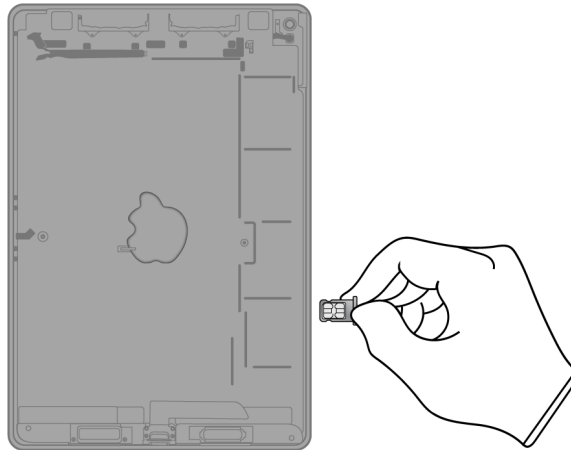


Main logic board

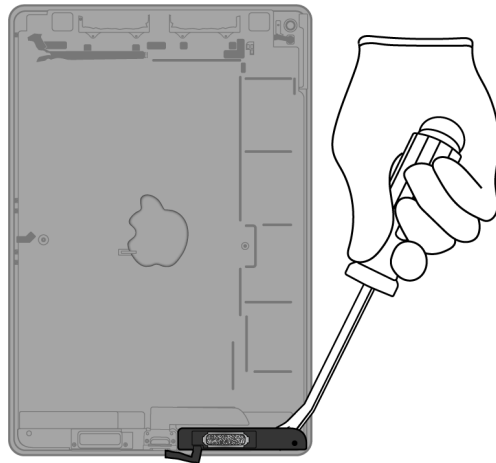
PMs

Precious Metals

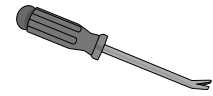
- 16.** (Cellular models only) Remove the SIM tray.
Separate the SIM card from the SIM tray.



17. Pry off the right speaker.



Tools Used



Fraction

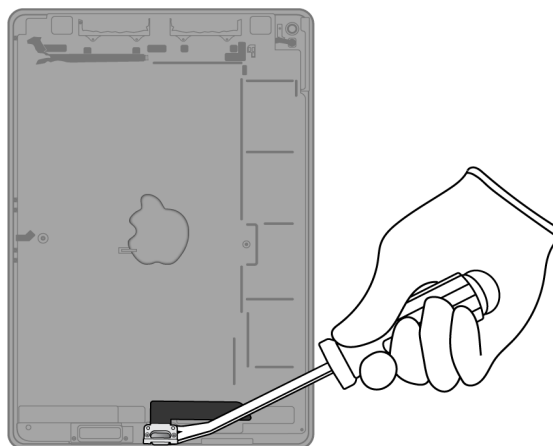


Right speaker

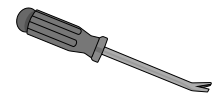
REE

Rare Earth
Elements

18. Pry off the Lightning connector.



Tools Used



Fraction

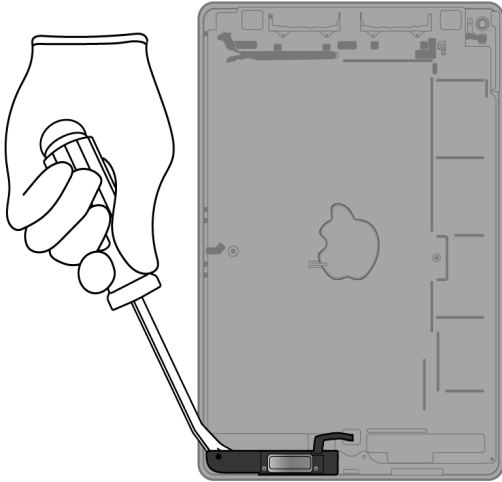


Lightning connector

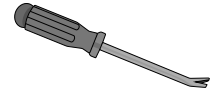
Cu

Copper

19. Pry off the left speaker.



Tools Used



Fraction

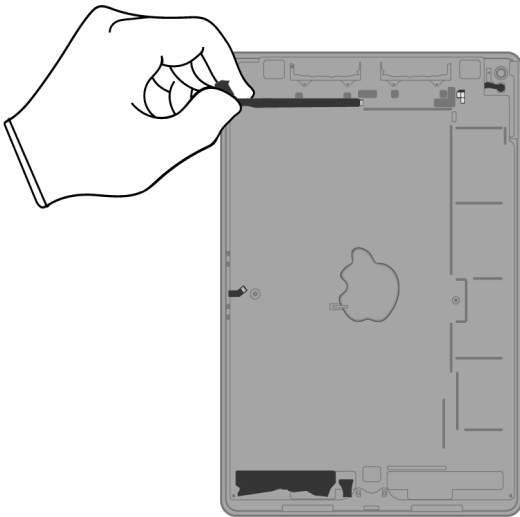


Left speaker

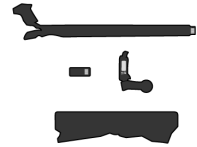
REE

Rare Earth Elements

20. Remove the remaining ribbon cables.



Fraction

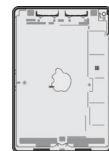


Ribbon cables

Cu

Copper

Fraction






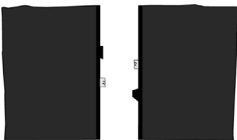



Enclosure

Al

Aluminum

Material Categorization of Output Fractions

All outputs from this process must be managed, handled, and disposed of in accordance with applicable waste laws and regulations, including but not limited to the Waste Framework Directive and its national enactments in Europe.

Fraction	Downstream Processing
<p data-bbox="435 554 570 579">Aluminum</p>  <p data-bbox="451 831 553 852"><i>Enclosure</i></p>  <p data-bbox="461 999 548 1020"><i>SIM tray</i></p>	<p data-bbox="967 554 1276 579">Primary Target Material</p>  <p data-bbox="1105 646 1138 674">Al</p> <p data-bbox="1101 695 1143 705">Aluminum</p>
<p data-bbox="440 1121 565 1146">Batteries</p>  <p data-bbox="358 1356 643 1377"><i>Lithium-ion polymer batteries</i></p>	<p data-bbox="967 1121 1276 1146">Primary Target Material</p>  <p data-bbox="1101 1213 1138 1241">BT</p> <p data-bbox="1101 1262 1143 1272">Battery</p>
<p data-bbox="448 1478 557 1503">Ferrous</p>  <p data-bbox="435 1757 565 1778"><i>Display shield</i></p>	<p data-bbox="967 1478 1276 1503">Primary Target Material</p>  <p data-bbox="1101 1570 1138 1598">Fe</p> <p data-bbox="1101 1619 1143 1629">Ferrous</p>

Fraction

Downstream Processing

Glass



LCD cell

Primary Target Material



Potential Additional Materials



Logic Boards



Display logic board



LED logic board



Power supply logic board



Front camera

Primary Target Material



Potential Additional Materials



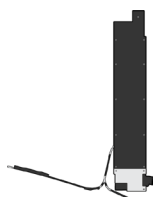
Fraction

Downstream Processing

Logic Boards (cont.)



Rear camera



Main logic board

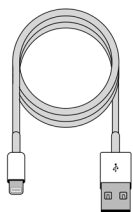


SIM card

Mixed Electronics



Power adapter



Charge cable

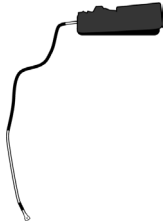
Primary Target Material



Potential Additional Materials



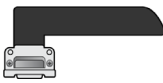
Mixed Electronics (cont.)



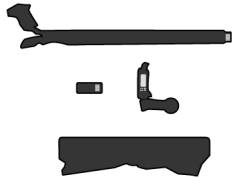
Antenna



Headphone jack



Lightning connector



Ribbon cables

Mixed Plastics



Display films



Logic board cover

Primary Target Material



Fraction

Downstream Processing

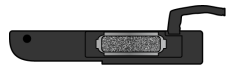
Rare Earth Magnets



Upper speakers



Right speaker



Left speaker

Primary Target Material



Potential Additional Materials

