



**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.

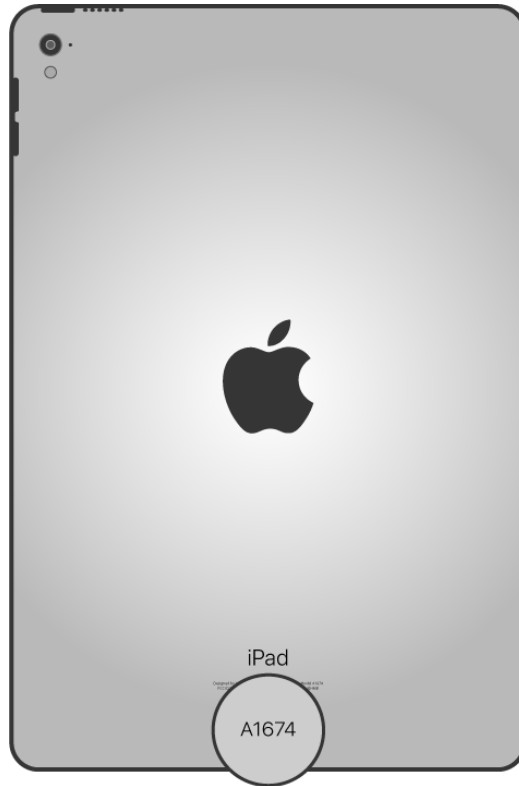
Disassembly procedures are intended to be performed only by trained electronics recycling professionals. The recycler is responsible for independently evaluating and ensuring compliance with all applicable environmental, health, and safety laws related to the work. These include but are not limited to 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](mailto: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/CO<sub>2</sub> fire extinguisher on a thermal runaway battery or a device containing one. Water and ABC/CO<sub>2</sub> 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

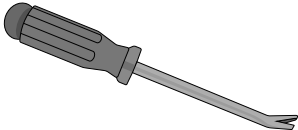


Rechargeable battery hazard

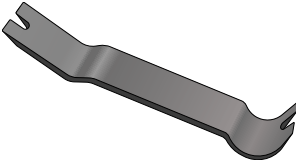


# Recommended Tools

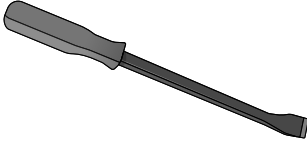
Nail-pulling screwdriver



Plastic pry bar



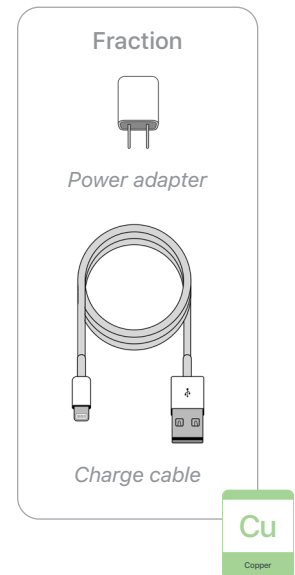
Screwdriver-handle pry bar



# 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.



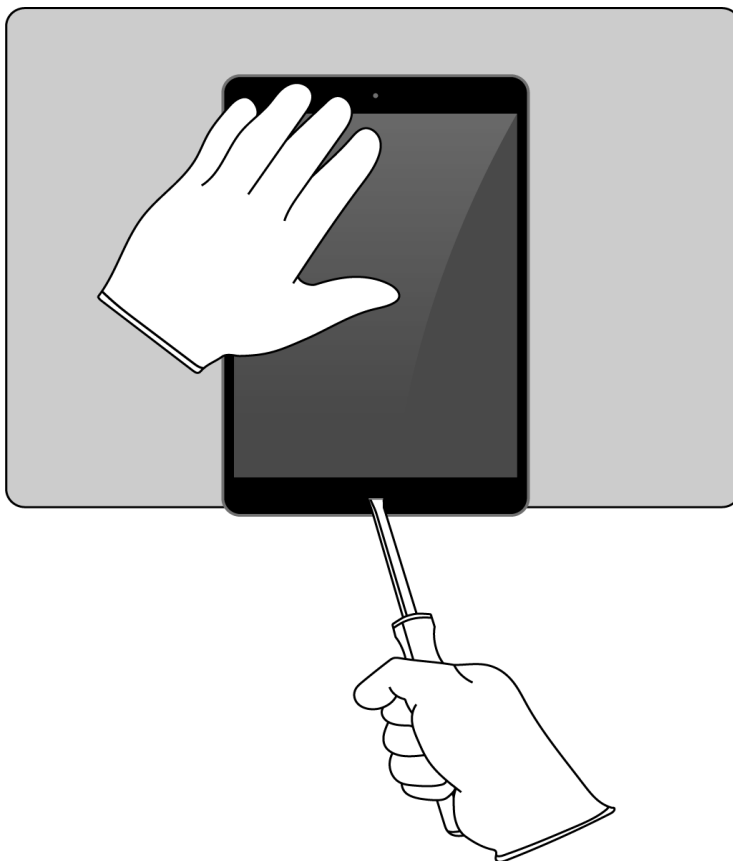
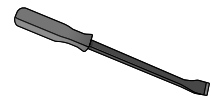
Broken glass hazard



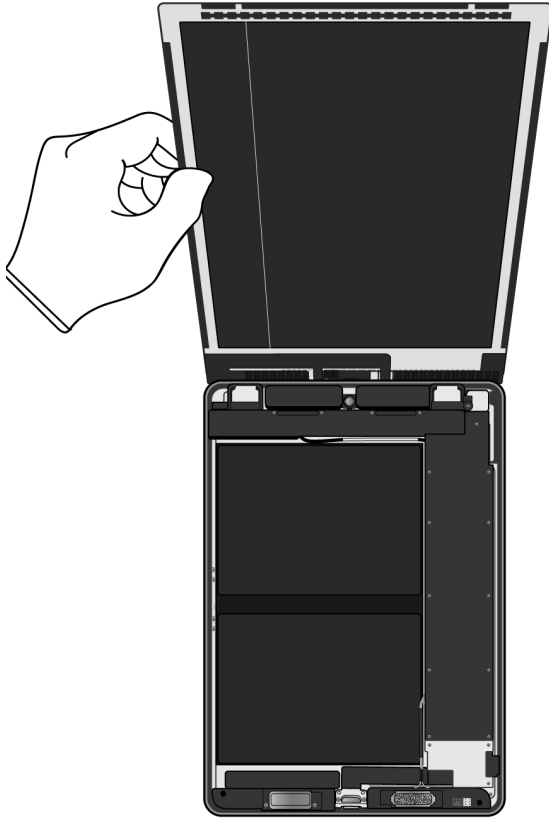
Chemical exposure hazard

- » *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

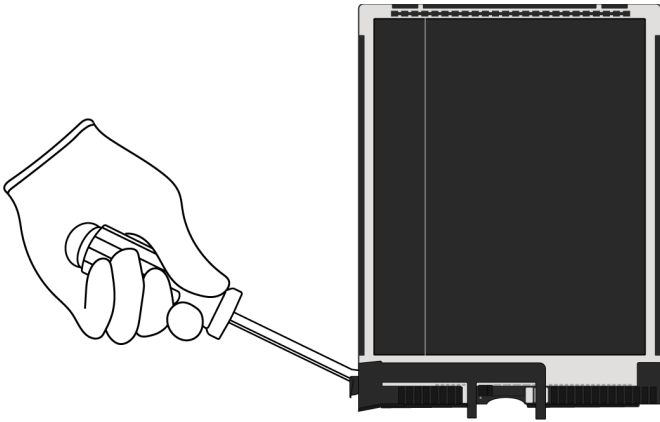


» Remove the display by hand. Set the enclosure aside.

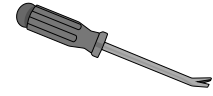


### 3. Remove the display logic board.

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



#### Tools Used



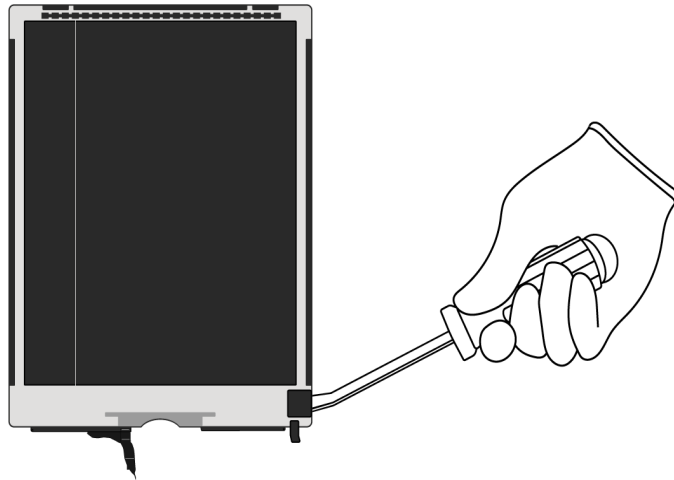
#### Fraction



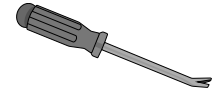
*Display logic board*



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

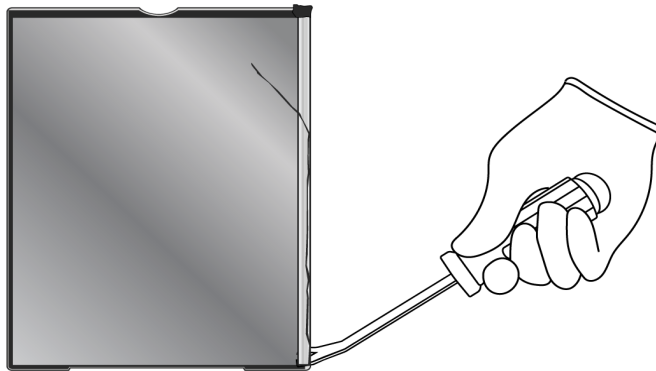


Tools Used



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


 Chemical inhalation hazard



Tools Used




Fraction



LED logic board

PMs  
Precious Metals

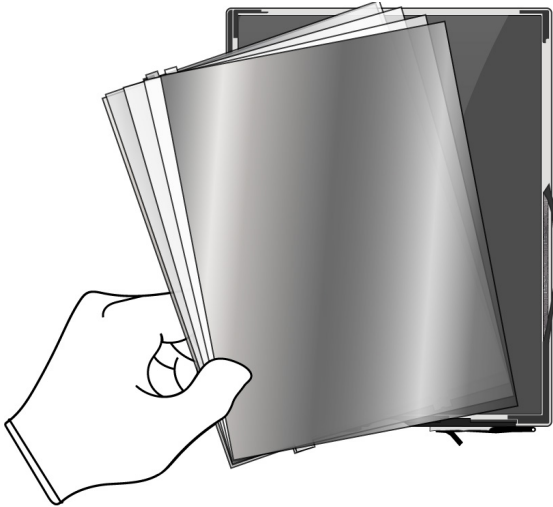
Fraction



Display shield

Fe  
Ferrous

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

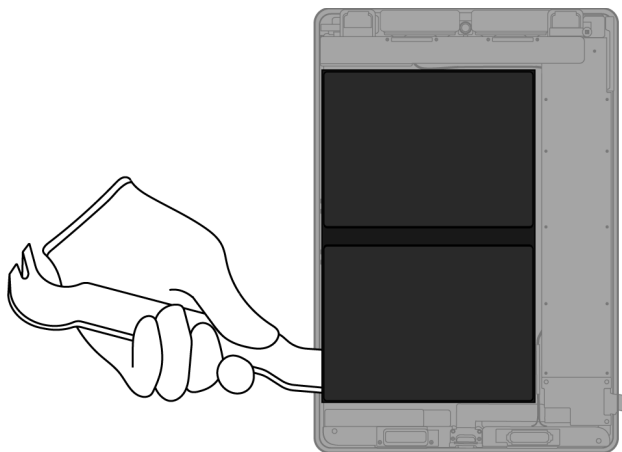




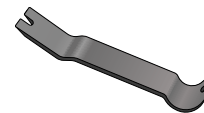
7. From the enclosure, carefully remove both lithium-ion polymer batteries.



Rechargeable battery hazard



Tools Used



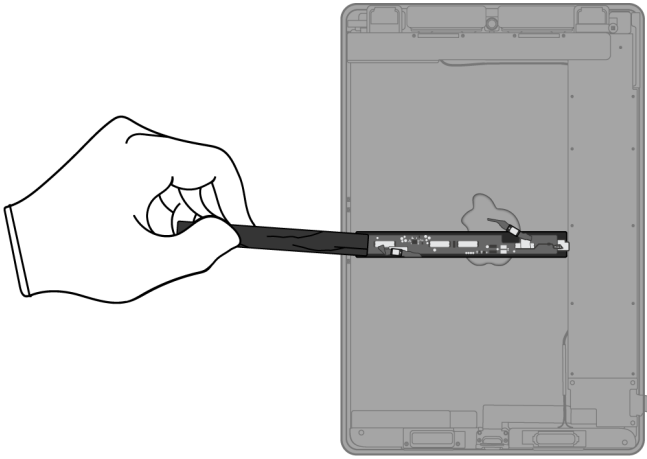
Fraction



Lithium-ion polymer  
batteries



**8.** Remove the power supply logic board cover.



Fraction

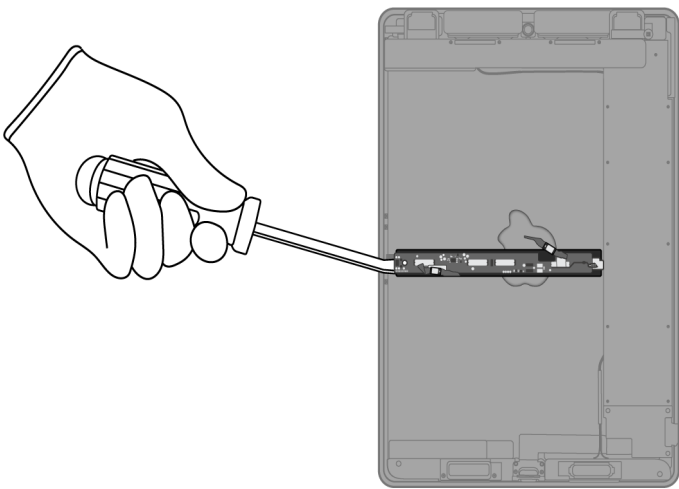


Logic board cover

PL

Plastics


**9.** Pry off the power supply logic board.



Tools Used



Fraction

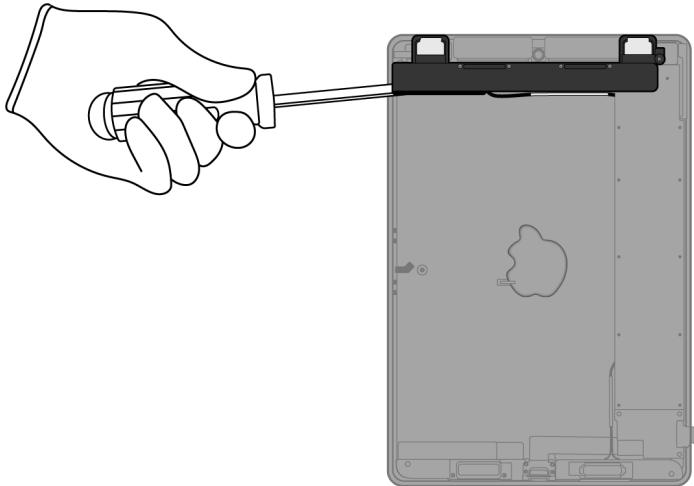


Power supply logic board

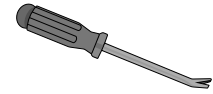
PMs

Precious Metals

## 10. Pry off the upper speakers.



### Tools Used



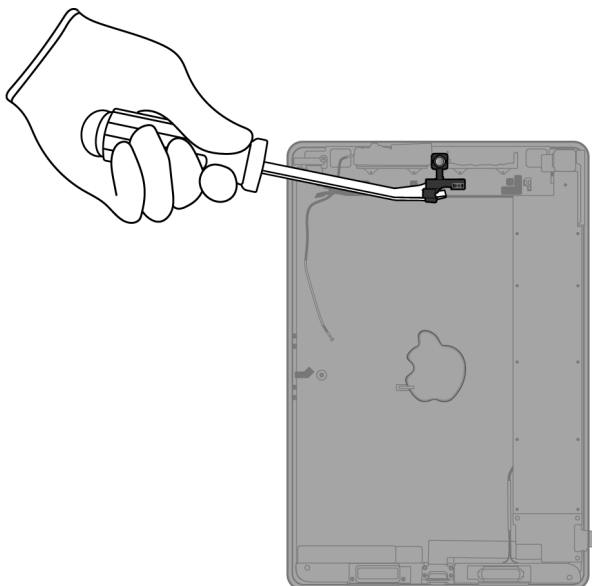
### Fraction



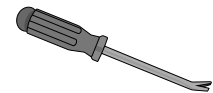
*Upper speakers*

**REE**  
Rare Earth  
Elements

## 11. Pry off the front camera.



### Tools Used



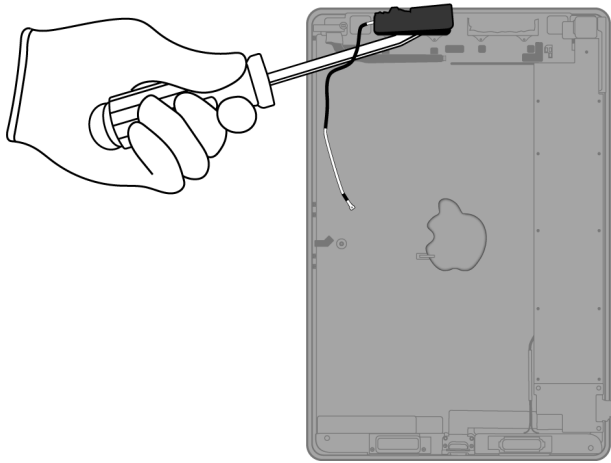
### Fraction



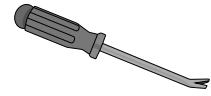
*Front camera*

**PMs**  
Precious  
Metals

## 12. Pry off the antenna.



### Tools Used



### Fraction

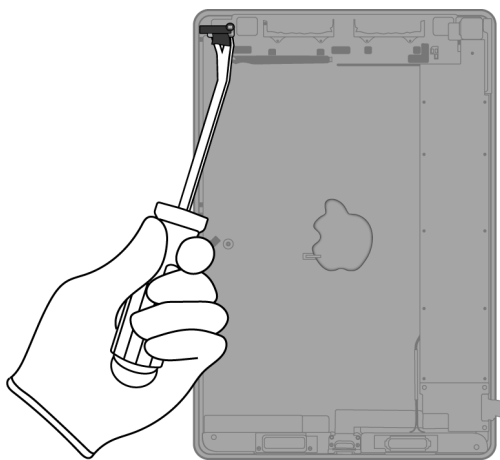


*Antenna*

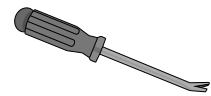
**Cu**

Copper

## 13. Pry off the headphone jack.



### Tools Used



### Fraction

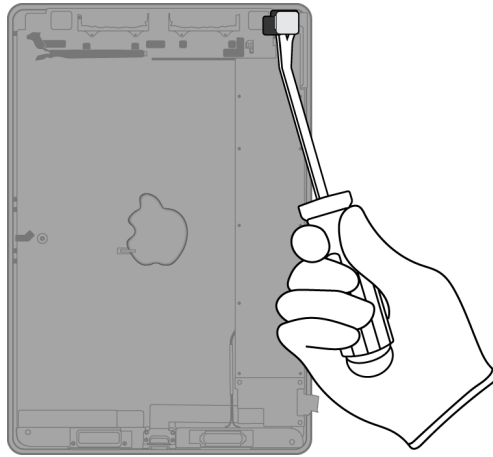


*Headphone jack*

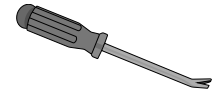
**Cu**

Copper

## 14. Pry off the rear camera.



### Tools Used



### Fraction

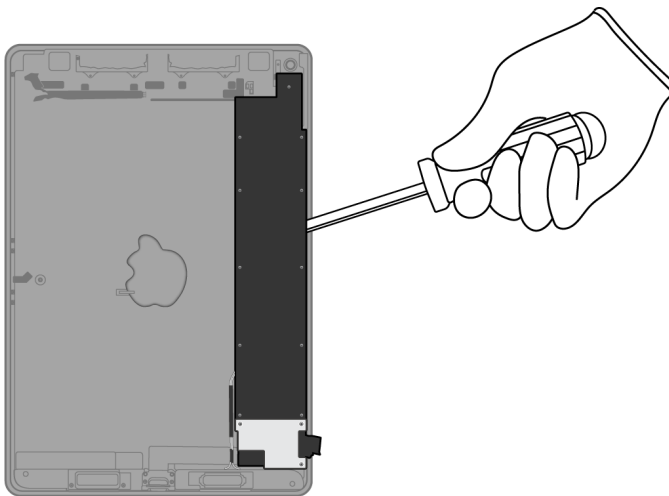


Rear camera

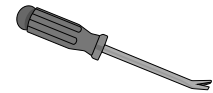
PMs

Precious Metals

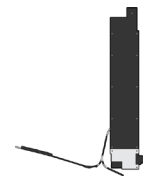
## 15. Pry off the main logic board.



### Tools Used



### Fraction

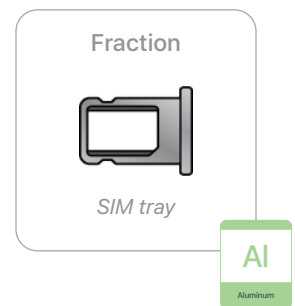
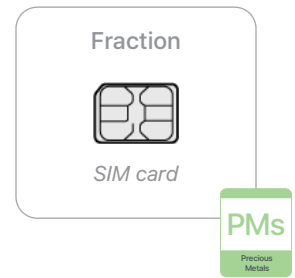
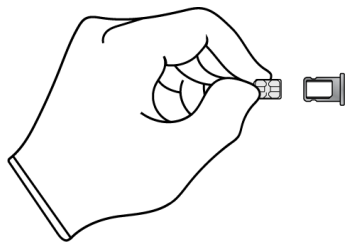
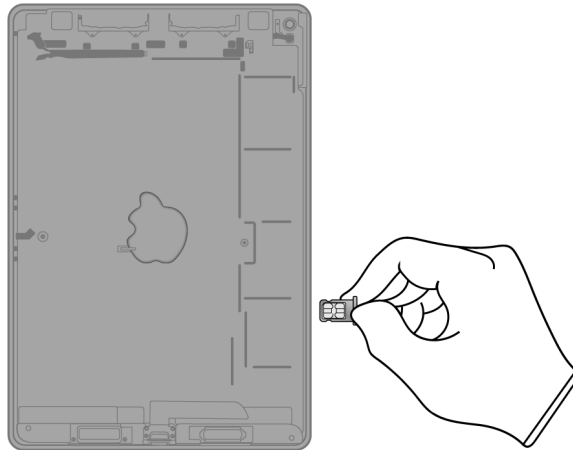


Main logic board

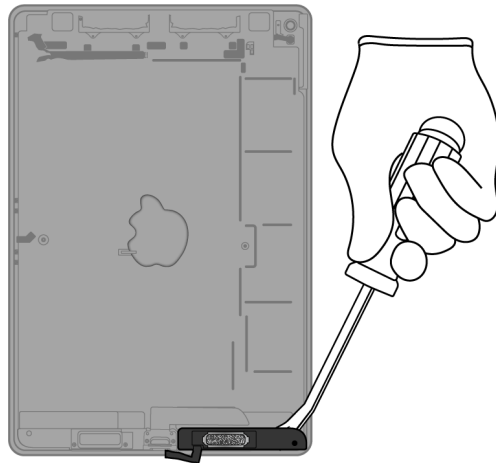
PMs

Precious Metals

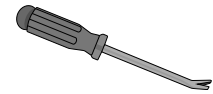
- 16.** (Cellular models only) Remove the SIM tray.  
Separate the SIM card from the SIM tray.



**17.** Pry off the right speaker.



Tools Used



Fraction

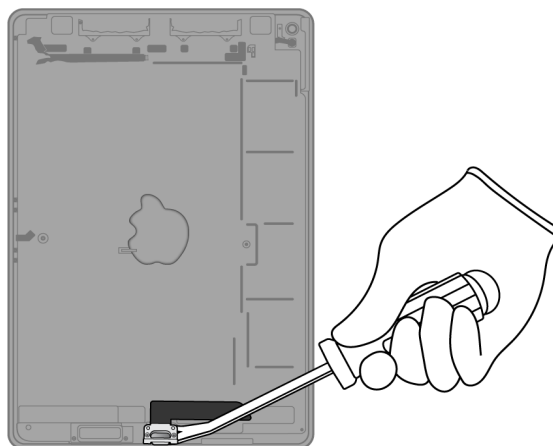


*Right speaker*

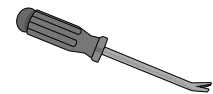
REE

Rare Earth  
Elements

**18.** Pry off the Lightning connector.



Tools Used



Fraction

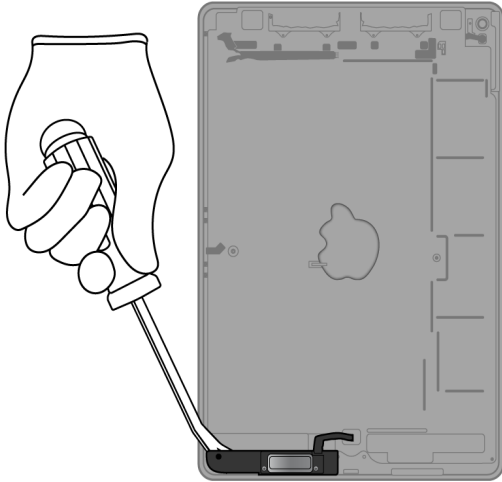


*Lightning connector*

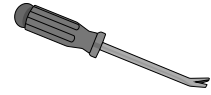
Cu

Copper

**19.** Pry off the left speaker.



Tools Used



Fraction

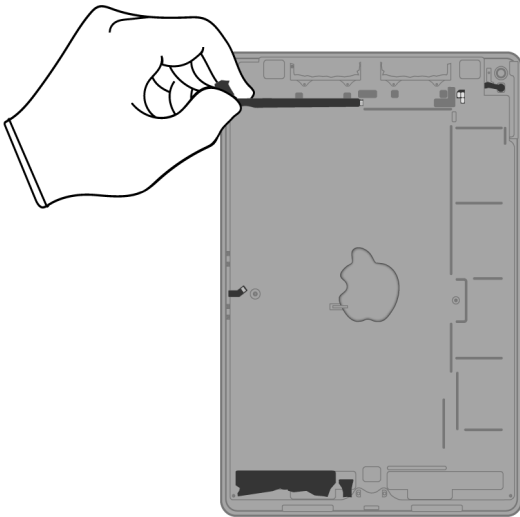


*Left speaker*

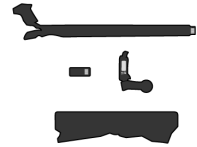
**REE**

Rare Earth Elements

**20.** Remove the remaining ribbon cables.



Fraction



*Ribbon cables*

**Cu**

Copper

Fraction



*Enclosure*




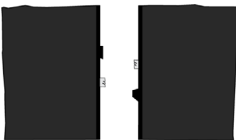



**Al**

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="435 554 568 579"><b>Aluminum</b></p>  <p data-bbox="451 831 552 852"><i>Enclosure</i></p>  <p data-bbox="461 999 545 1020"><i>SIM tray</i></p>	<p data-bbox="964 554 1276 579"><b>Primary Target Material</b></p> 
<p data-bbox="441 1121 561 1146"><b>Batteries</b></p>  <p data-bbox="360 1356 639 1377"><i>Lithium-ion polymer batteries</i></p>	<p data-bbox="964 1121 1276 1146"><b>Primary Target Material</b></p> 
<p data-bbox="451 1478 552 1503"><b>Ferrous</b></p>  <p data-bbox="435 1759 565 1780"><i>Display shield</i></p>	<p data-bbox="964 1478 1276 1503"><b>Primary Target Material</b></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**



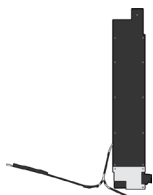
**Fraction**

**Downstream Processing**

**Logic Boards (cont.)**



*Rear camera*



*Main logic board*

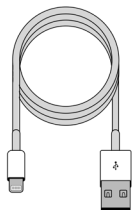


*SIM card*

**Mixed Electronics**



*Power adapter*



*Charge cable*

**Primary Target Material**



**Potential Additional Materials**



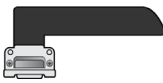
Mixed Electronics (cont.)



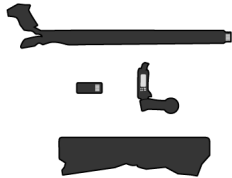
Antenna



Headphone jack



Lightning connector



Ribbon cables

Mixed Plastics



Display films



Logic board cover

Primary Target Material



**Fraction**

**Downstream Processing**

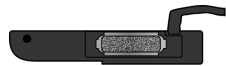
**Rare Earth Magnets**



*Upper speakers*



*Right speaker*



*Left speaker*

**Primary Target Material**



**Potential Additional Materials**

