iMac (Retina 5K, 27-inch, 2017)

iMac (Retina 5K, 27-inch, 2019)

iMac (Retina 5K, 27-inch, 2020)

Apple Recycler Guide

July 2023

Contents

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 of the iMac on the bottom of the stand.
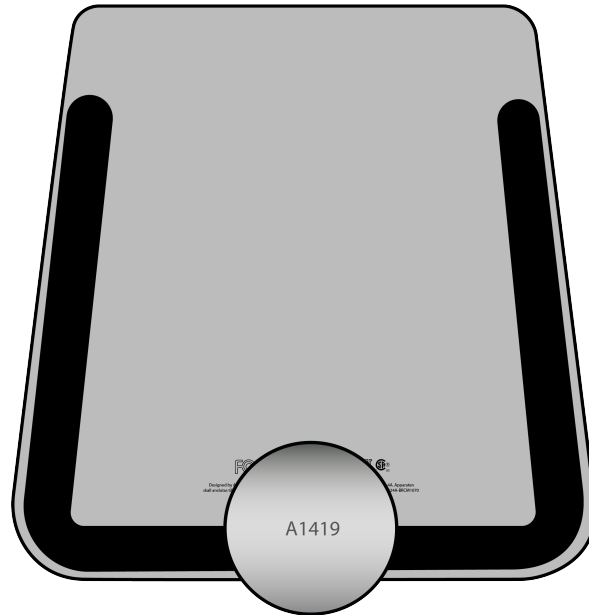
Model numbers:
A1419, A2115

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	Hard drive, display logic board, light-emitting diode (LED) logic board, power supply, main logic board	Follow steps 1–18
External electric cables	Power cord	Follow step 1
Battery	Coin cell battery	Follow steps 1–17
Cover glass and liquid crystal display (LCD) cell if the surface is greater than 100 square centimeters	Display	Follow steps 1–8
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

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

Recommended Tools

Miniature pry bar
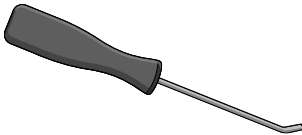
Nail-pulling screwdriver
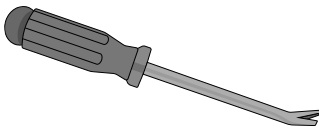
Phillips screwdriver
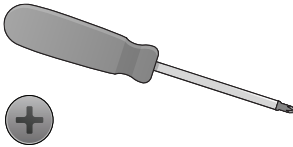
Screwdriver-handle
pry bar
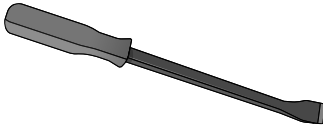
Torx T8 screwdriver
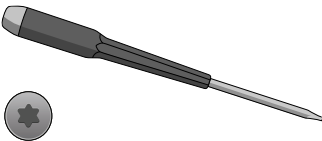
Wire cutters
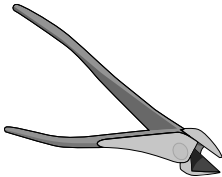
Disassembly Instructions

1. Remove the power cord.

» *Ensure that the iMac is turned off.*

» *Unplug the power cord from the back of the iMac.*
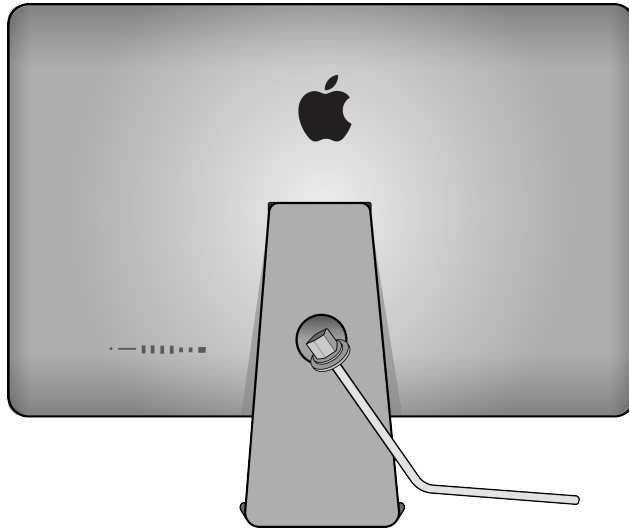
Warning: Before continuing disassembly, wait 10 minutes after unplugging the device for stored energy to discharge.
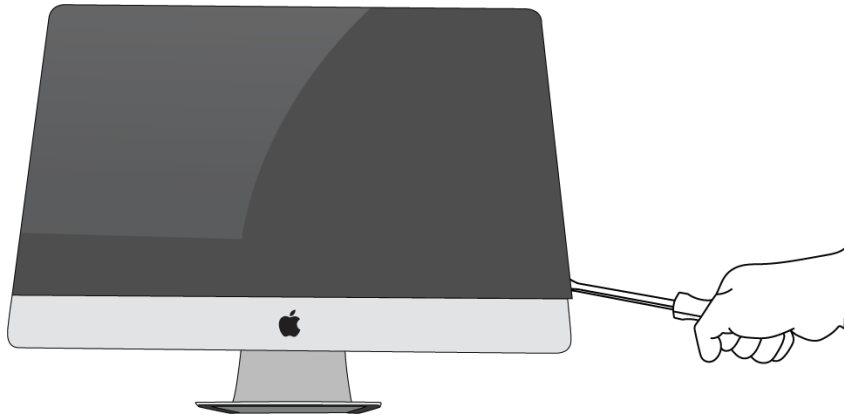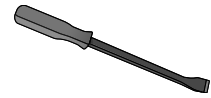
Fraction

Power cord

Cu

Copper
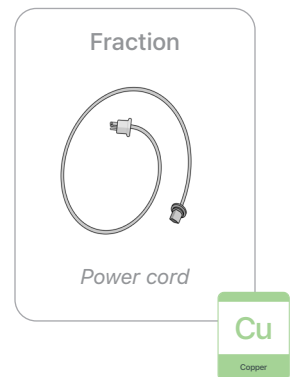
2.   Pry the display away from the housing.

> ⚠️ Broken glass hazard

Tools Used

3. Separate the display from the housing.

» *Disconnect the wires by hand.*
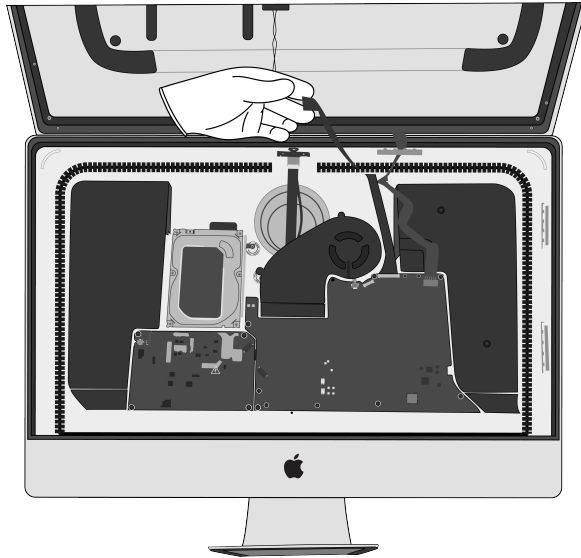
» *Lay the display facedown. Set the housing aside.*
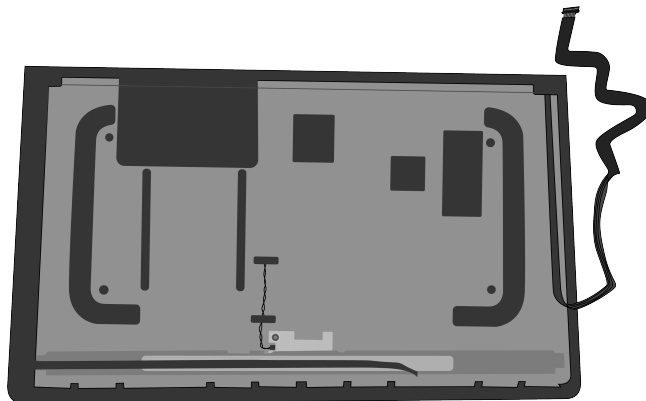
4. Pull the ribbon cables off the back of the display.
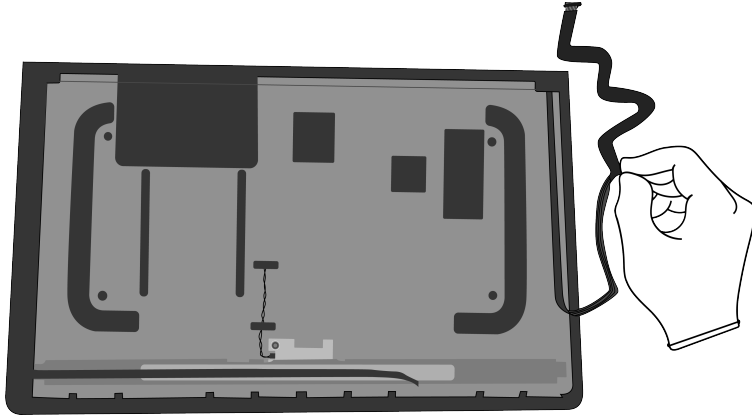
5. Pry off the display logic board cover.
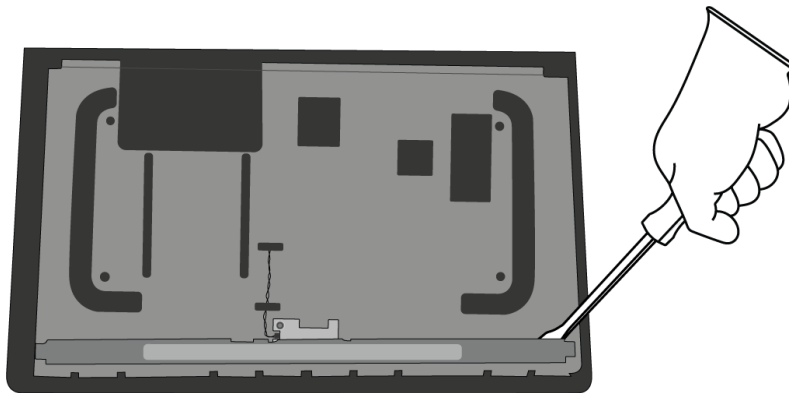
Tools Used

Fraction

Display logic board cover

Fe
Ferrous

6. Pry off the display logic board.
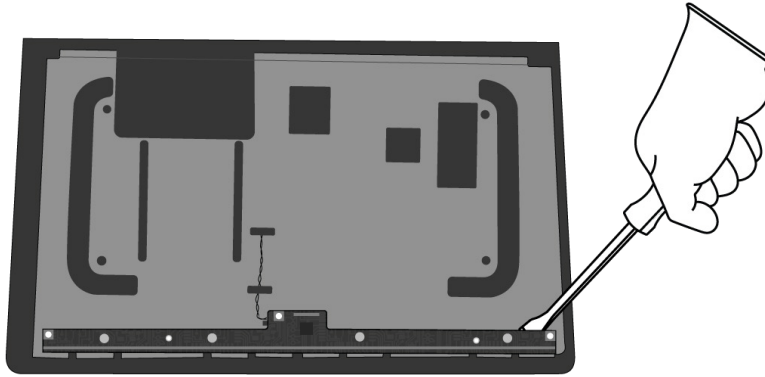
Tools Used
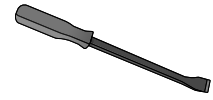
Fraction

Display logic board

PMs
Precious Metals

7. Pull the cable off the display mid plate.
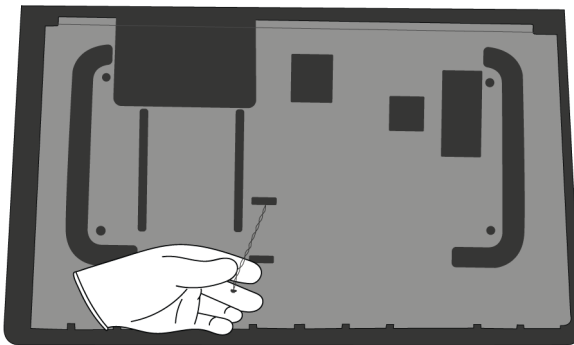
Fraction

Cable

Cu
Copper

8. Remove the LCD cell and display films.

Tools Used

» *Pry the mid plate off the LCD cell and films. Set the mid plate aside.*
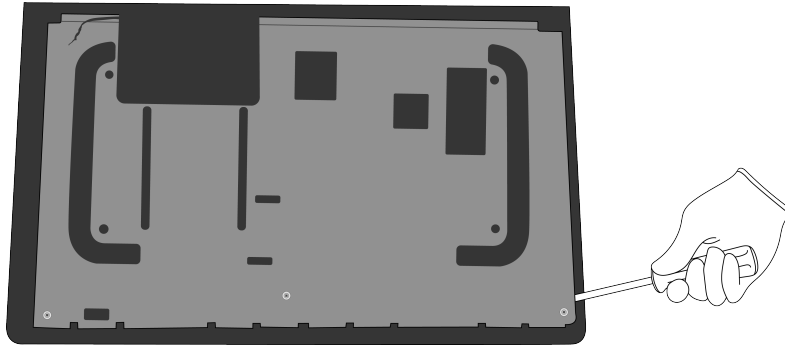
» *Lift the display films away from the LCD cell.*

> ⚠️ Chemical exposure hazard
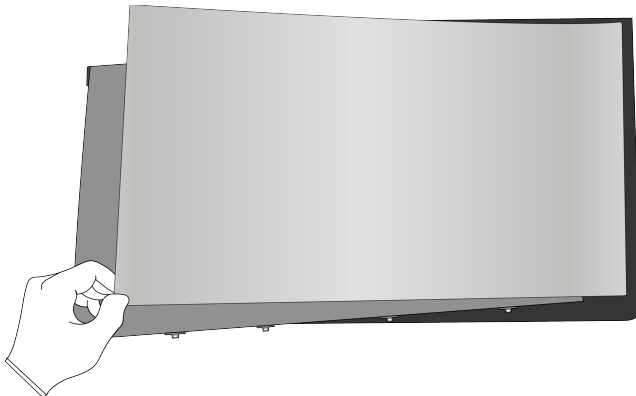
Fraction
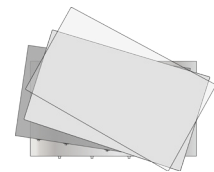
Display films

PL
Plastics

Fraction

LCD cell

GL
Glass

9. On the mid plate, remove the LED logic board.

> ⚠️ Chemical inhalation hazard

» *Unscrew the 16 Phillips fasteners along the length of the LED logic board cover.*
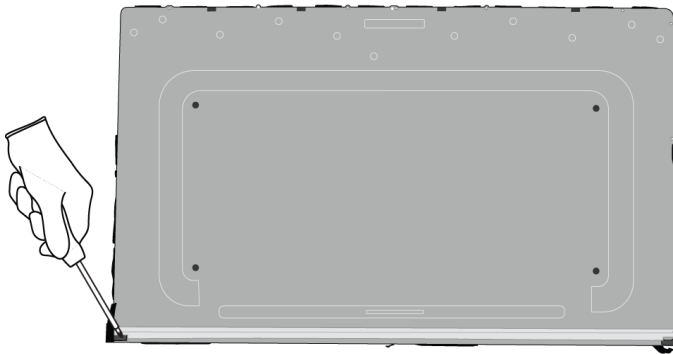
Tools Used
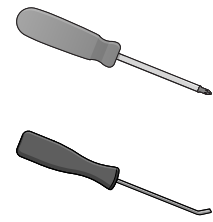
Fraction

Fasteners (x16)

Fe
Ferrous

» *Separate the LED cover from the LED logic board using the miniature pry bar.*

Fraction

LED cover

PL

Plastics

Fraction

LED logic board

PMs

Precious Metals

Fraction

Mid plate

Al

Aluminum
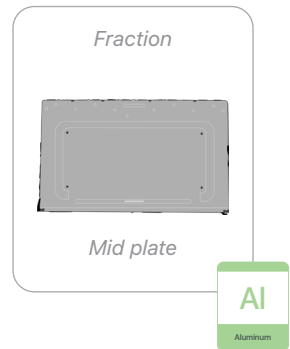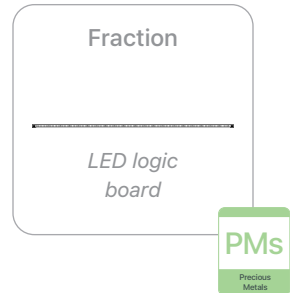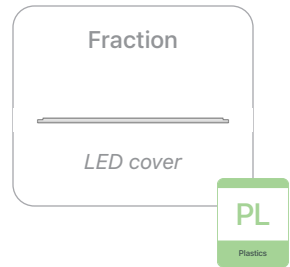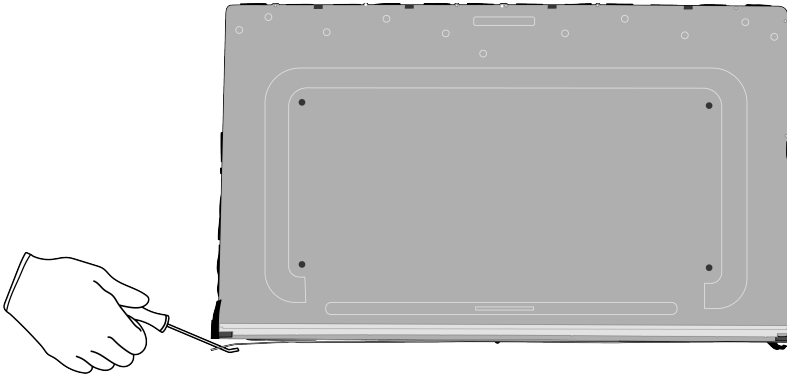
10. Inside the housing, remove the left speaker.

» *Pry off the speaker.*
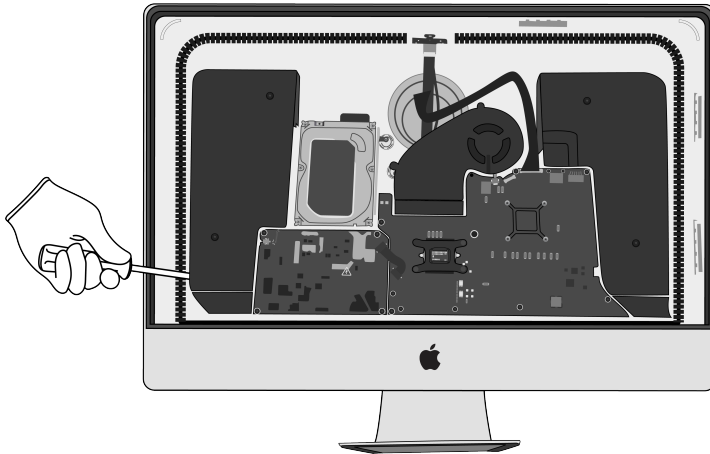
» *Cut the cable that attaches the speaker to the main logic board.*
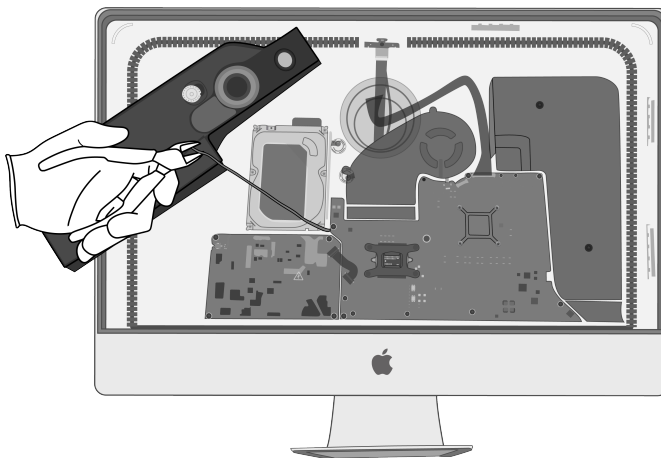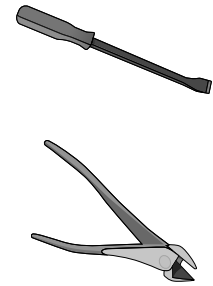
Tools Used

Fraction


Left speaker

REE

Rare Earth
Elements

11. Remove the hard drive.

» *Unplug the hard drive/main logic board connector.*
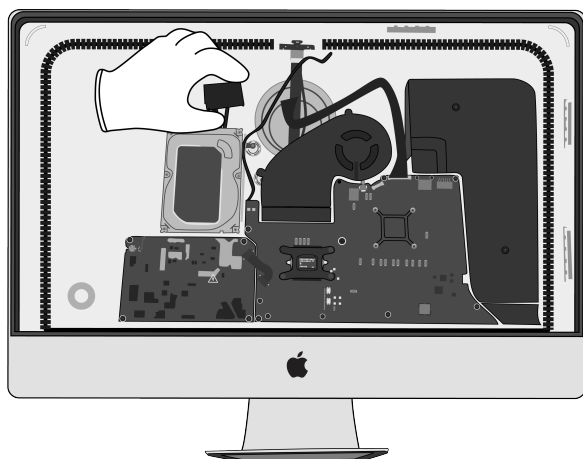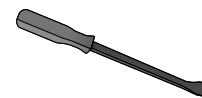
» *Pry the hard drive off the brackets.*

Fraction

Hard drive

HDD
Hard Disk Drives
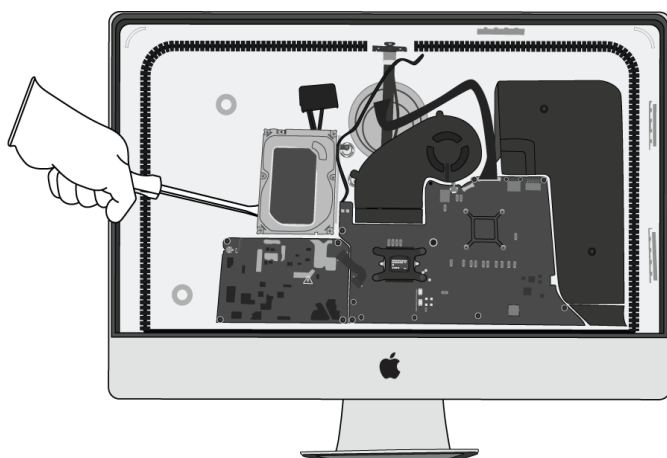
12. Remove the hard drive brackets.
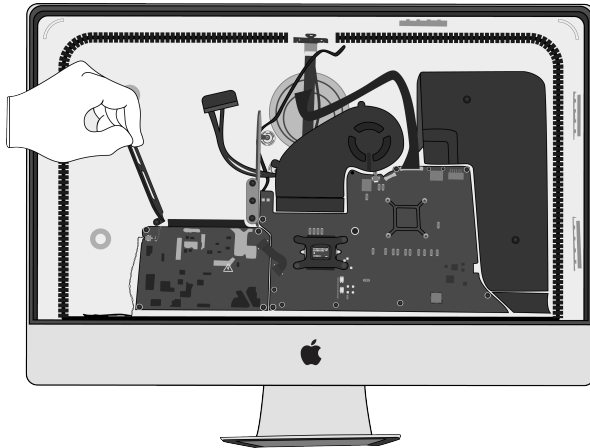
Fraction

Hard drive brackets

Fe
Ferrous

13. Pry off the fan.
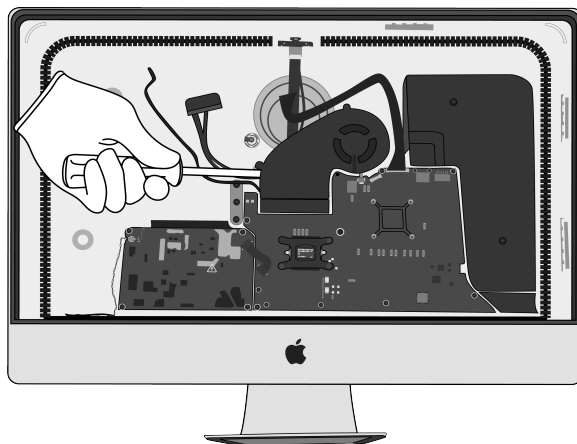
Tools Used
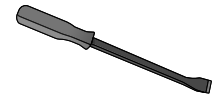
Fraction
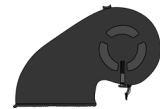
Fan

Cu
Copper

14. Remove the power supply logic board.

》 *Unscrew the four Torx T8 fasteners.*

》 *Flip over the power supply logic board and cut the two cables.*
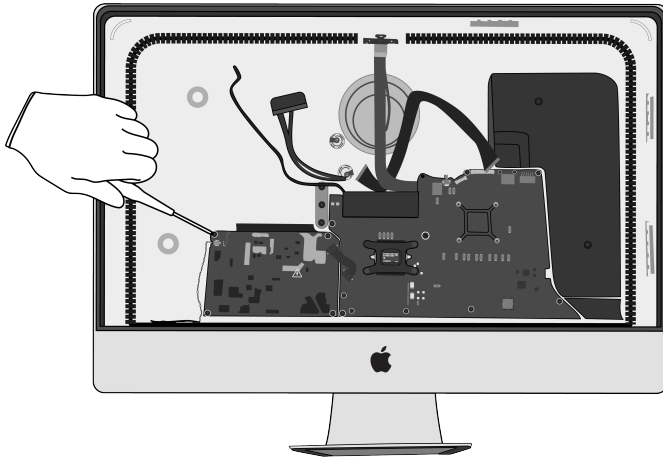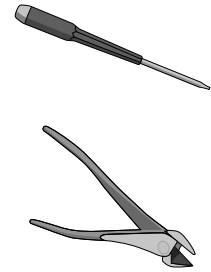
Tools Used

Fraction

Fasteners (x4)

Fe
Ferrous
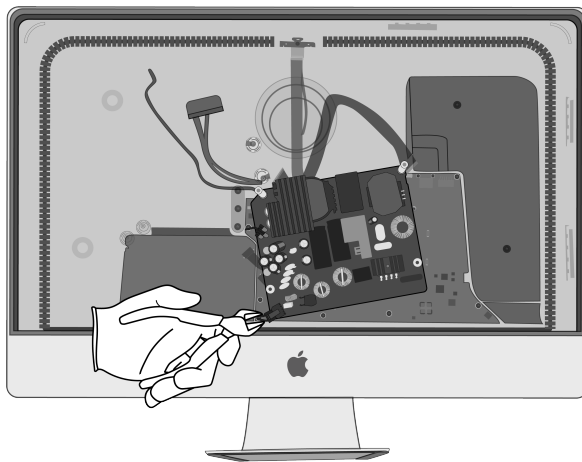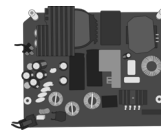
Fraction

Power supply logic board

PMs
Precious Metals

15. Remove the right speaker.

» *Pry off the speaker.*
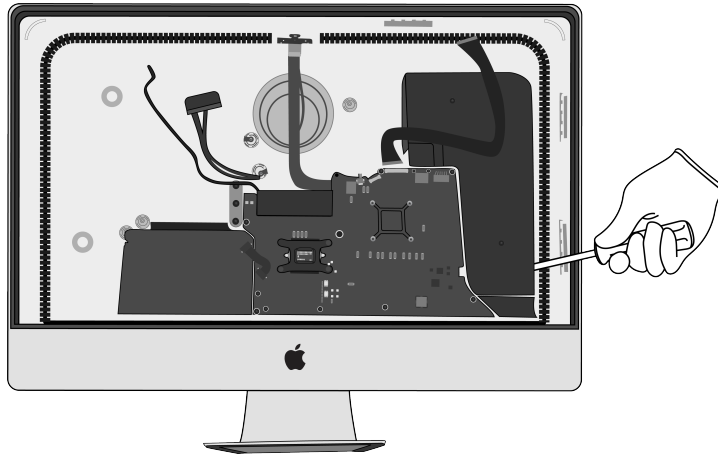
» *Cut the cable that attaches the speaker to the main logic board.*
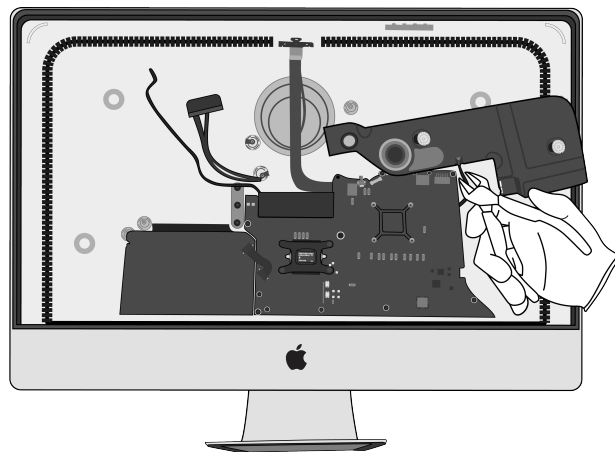
Fraction

Right speaker

REE
Rare Earth Elements

16. Remove the main logic board.

» *Pry the main logic board off the housing.*
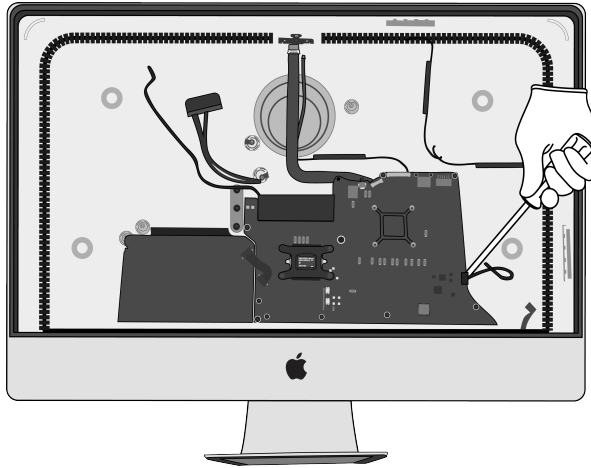
Tools Used

» *Flip over the main logic board and pry it off the heat sink.*
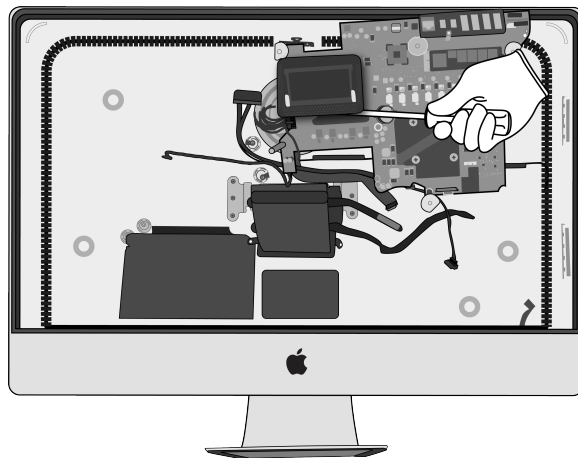
17. Remove the coin cell battery from the main logic board.
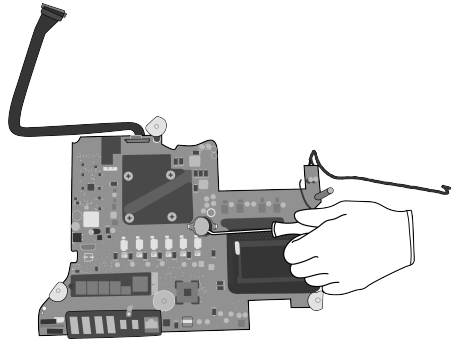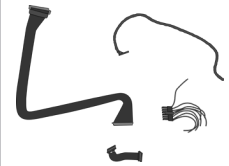

Tools Used
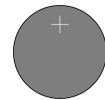
Fraction

Coin cell battery

BT
Battery

18. Pull the four cables off the main logic board.
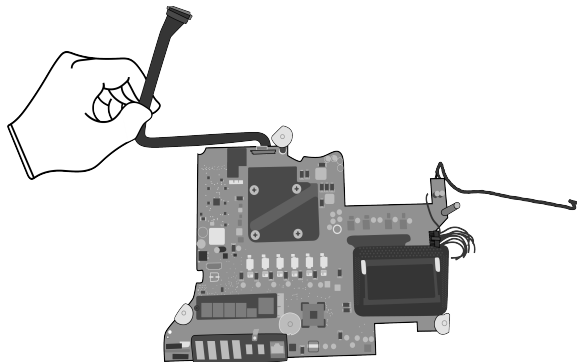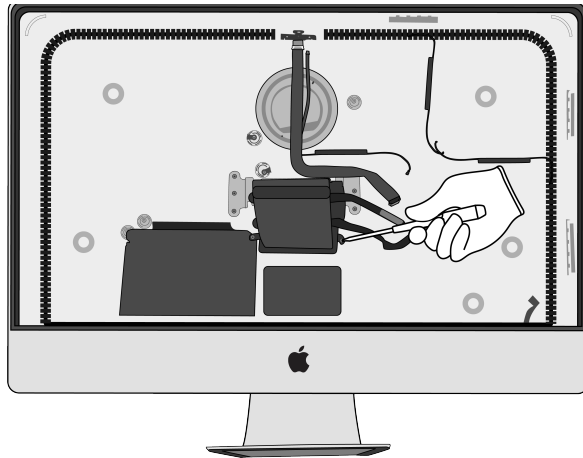

Fraction

Cables

Cu
Copper
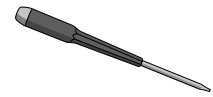
Fraction
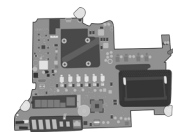
Main logic board

PMs
Precious Metals

19. Pull the hard drive/main logic board connector off
the housing.

Fraction

*Hard drive/main logic
board connector*

Cu
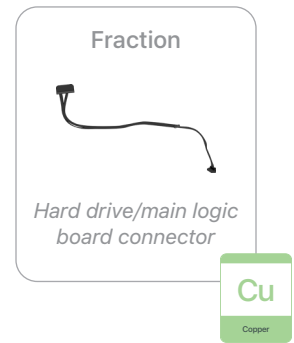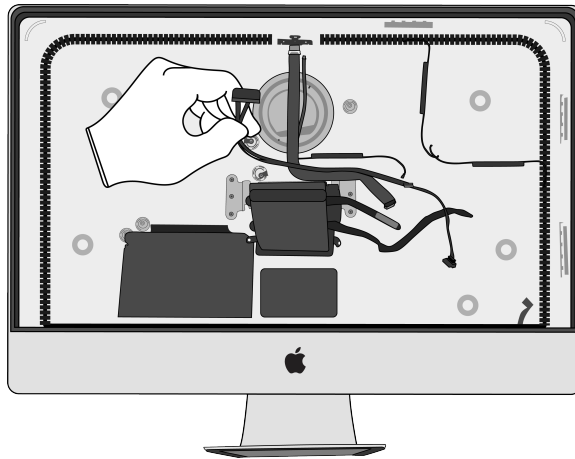
Copper

20. Remove the heat sink from the housing by unscrewing the three Torx T8 fasteners.

Tools Used

Fraction

Fasteners (x3)

Fe
Ferrous

Fraction
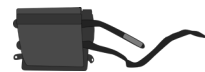
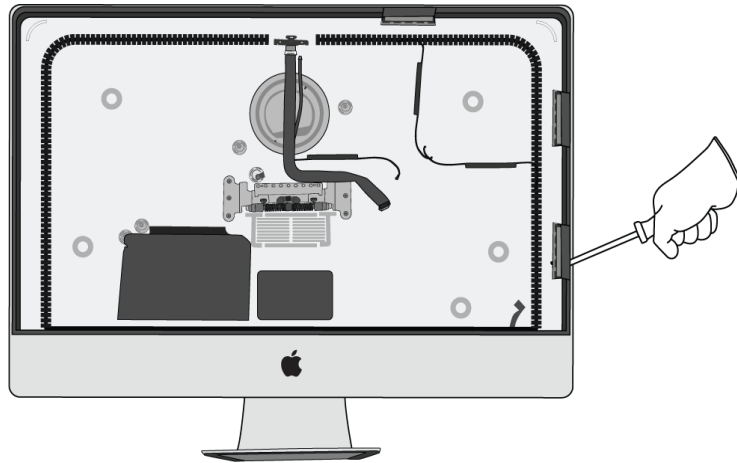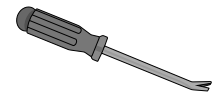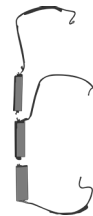*Heat sink*

Cu
Copper

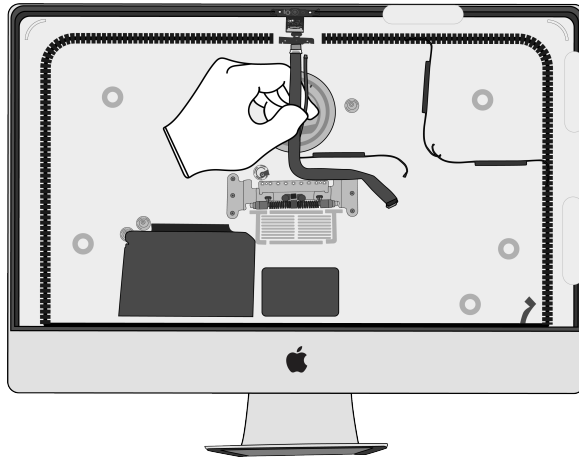**21.** Pry off the three Wi-Fi antennas.

Tools Used

Fraction
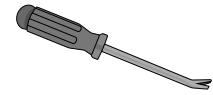
Wi-Fi antennas

Cu
Copper

22. Remove the camera with logic board.

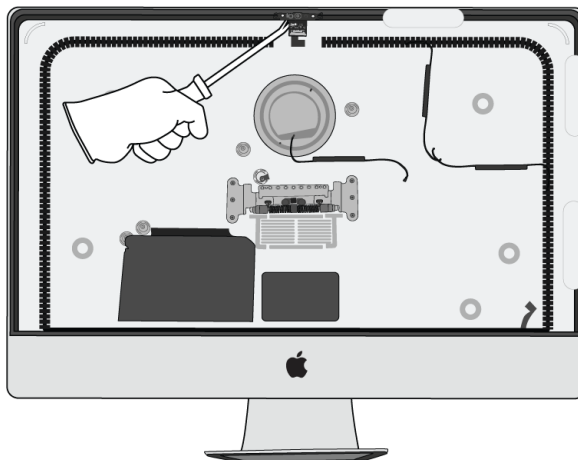» *Pull off the ribbon cable by hand.*

Tools Used

Fraction

Ribbon cable

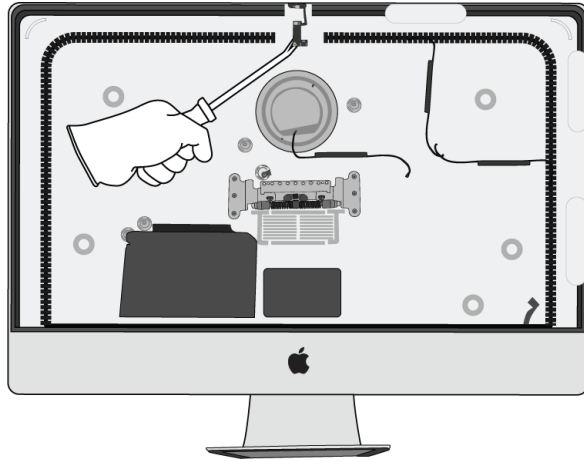**Cu**
Copper

» *Pry off the camera with logic board.*

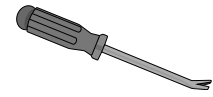### Fraction

Camera with logic board

PMs
Precious Metals
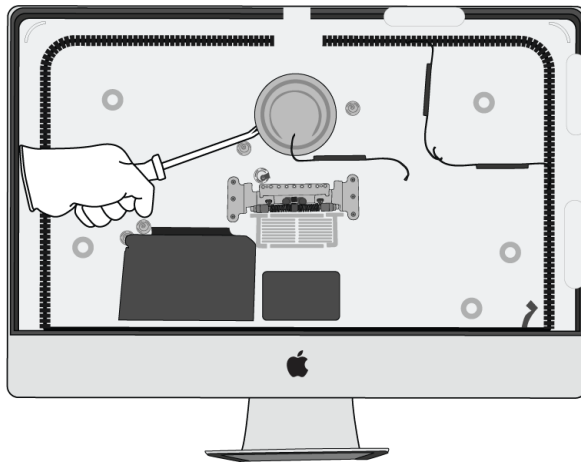
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23. Pry off the microphone.
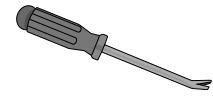
Tools Used

Fraction
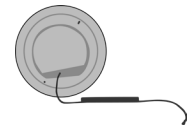
Microphone

Cu
Copper

24. Pry off the Bluetooth antenna.
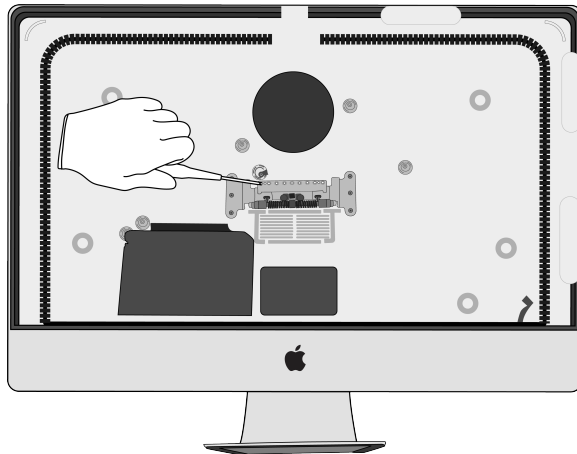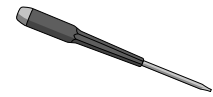

Tools Used

Fraction

Bluetooth antenna

Cu
Copper

25. Remove the stand by unscrewing the nine Torx T8 fasteners.

Tools Used

Fraction

Fasteners (x9)
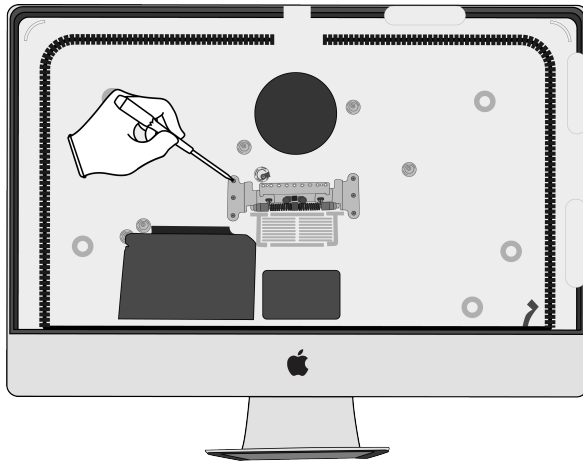
Fe
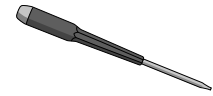Ferrous

Fraction

Stand

Al
Aluminum

26. Remove the hinge from the housing by unscrewing the six Torx T8 fasteners.
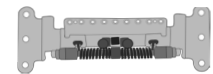

Tools Used

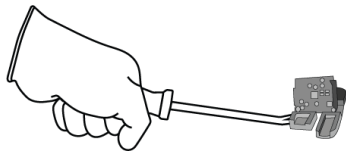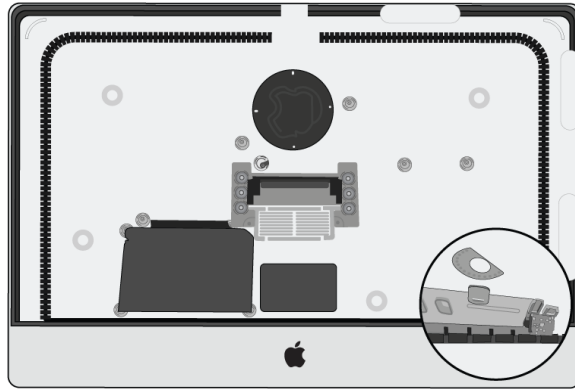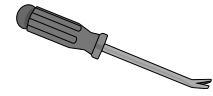Fraction

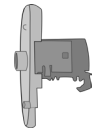*Fasteners (x6)*

Fe
Ferrous

Fraction

Hinge

Fe
Ferrous
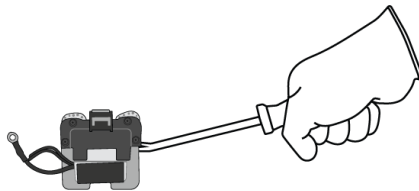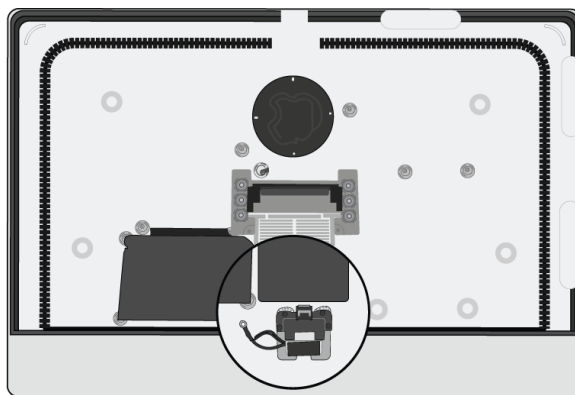
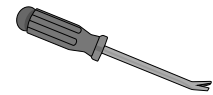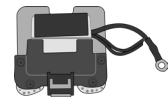**27.** Pry off the headphone jack.

Tools Used

Fraction

Headphone jack

Cu

Copper

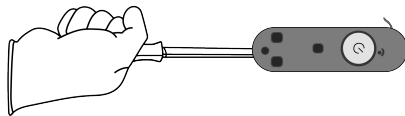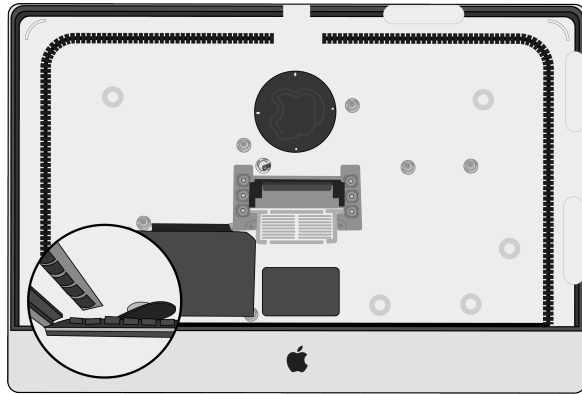**28.** Pry off the power connector.

Tools Used

Fraction

Power connector

Cu

Copper

29. Pry off the power button.

Fraction

Power button

Cu
Copper

Fraction
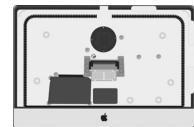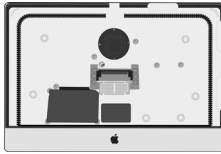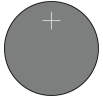
Housing

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
Aluminum	**Primary Target Material**

Mid plate

Stand

Housing

Primary Target Material

Al
Aluminum

Potential Additional Materials

PL
Plastics

Batteries

Coin cell battery

Primary Target Material

BT
Battery

Fraction	Downstream Processing
Ferrous	**Primary Target Material**

Display logic board cover

Hard drive brackets

Fasteners (x38)

Hinge

Fe
Ferrous
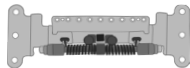
| Glass | Primary Target Material |

LCD cell

GL
Glass

Potential Additional Materials

ITO
Indium Tin Oxide

PL
Plastics

Fraction	Downstream Processing

Hard Drives

Hard drive

Primary Target Material

HDD
Hard Disk Drives

Potential Additional Materials

Al
Aluminum

PMs
Precious Metals

REE
Rare Earth Elements

SS
Stainless Steel

Fraction	Downstream Processing

Logic Boards

Display logic board

LED logic board

Power supply logic board
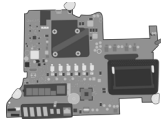
Main logic board

Camera with logic board

Primary Target Material

PMs
Precious Metals

Potential Additional Materials

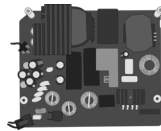| Al	Cu	Fe
Aluminum	Copper	Ferrous

PL
Plastics

Fraction	Downstream Processing

Mixed Electronics

Fan

Primary Target Material

Power cord

Potential Additional Materials

Cables

Hard drive/main logic board connector

Heat sink

Ribbon cables

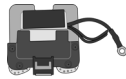| Fraction	Downstream Processing

Mixed Electronics (cont.)

Microphone

Wi-Fi and Bluetooth antennas

Headphone jack

Power connector

Power button

Mixed Plastics

Primary Target Material
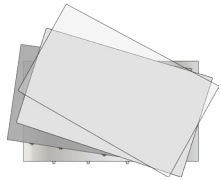
Display films

LED cover

PL

Plastics

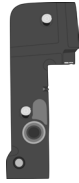| Fraction	Downstream Processing

Rare Earth Magnets

Left speaker

Right speaker

Primary Target Material

REE
Rare Earth Elements

Potential Additional Materials

Cu — Copper

Fe — Ferrous

PL — Plastics