# Pixel 5a

## Repair Manual

Version 4.0

**Google recommends that
you seek professional assistance
for all device repairs.**

Self service repair is not recommended
unless you are an adult with the technical
expertise to safely repair electronic
devices. If you choose to perform self
repair, you agree to assume the risk
associated with such repair.

⚠️

**Use caution if engaging in repair.**

Opening and/or repairing your device
can present electric shock, device
damage, fire and personal injury risks,
and other hazards. Before servicing
the product, read the full set of
precautions in this document.

# Welcome!
## We are here to help.

At Google, we innovate, design and build in order to create helpful and sustainable products.
Product longevity is really important to us and repairability is part of that. Repair enables our products to stay in-use and out of landfills.

If you have any questions or need support, please reach out.

( support.google.com )

### Precautions

Safety is a top priority for Google. Users should work in a safe environment and have the skills and training necessary to safely complete repairs.

### Repair flows

Here, we have a flow chart of the most efficient repair methods.

### Disassembly

Each section contains a list (in the order of device disassembly) of prerequisite steps, tools, fixtures and parts required to complete the repair.

### Assembly

For each disassembly, we provide a guide to reassembly. This may include rework steps for certain components.

### Troubleshooting & Testing

Use the diagnostic steps and testing recommended in this section
to identify the source of device problems and issues.

### Glossary

All the terms and acronyms you need to communicate with the same language to colleagues and customers.

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# Revision History

| Version | Date | Change Description |
|---------|------|---------------------|
| v3.0 | Dec 2021 | 1. Added clear picture for M23 : G730-06006-01 (P18)<br>2. Fine-tune dssy step - remove Audio Jack (HSJ) first then Logic board. (P91~)<br>3. Added press pen SPEC - 2kg (P10)<br>4. Added Graphite condition (mid-Frame) reuse condition (P60)<br>5. Added press pen time spec - 10s (P135) |
| v3.1 | Apr 2022 | Changed battery GPN from G823-00265-01 to G949-00268-01 (Page 16 & 143) |
| **v4.0** | **March 2024** | 1. **Removed proprietary references**<br>2. **Added disclaimers**<br>3. **Updated tools and fixtures names and part numbers** |

# Precautions

# Important: Before you begin

⚠️

## Be careful if engaging in repair

Opening and/or repairing a device can present electric shock, device damage, fire and personal injury risks, and other hazards.

Always perform repairs in a clean work space with good ventilation and no combustible materials.

Ensure no additional screws or small parts are left in the device after assembly.

Always ensure that screws are securely fastened.

Before servicing the product, read the full set of precautions in this document.

🔋

## Caution:
## Batteries should be carefully handled, and can be dangerous when damaged

- Fully discharge device battery before attempting repair.

- Never bend, dent, puncture, or use tools to pry the battery.

- Store batteries in the replacement part packaging as soon as possible after removal to prevent damage.

- If a battery begins to vent, immediately cover in sand or use gloves and tongs to place battery in a fire safe.

- Take care to prevent shorting of battery terminals or damaging the battery, as fire or overheating could result.

- Dispose of the battery in a manner in accordance with local regulations.

☢️

## Caution:
## Pixel 5a contains a Class 1 laser module

The design of the device incorporates optics and protective housing such that there is no access to a level of laser radiation above Class 1 during normal use or approved servicing.

Laser modules in this product comply with 21 CFR 1040.10 and 1040.11; except for conformance with IEC 60825-1 Ed. 3., as described in Laser Notice No. 56, dated May 8, 2019.

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

**Laser Module:**
Made in Taiwan. No. 6-8, Zhonghua Rd. Shulin Dist. New Taipei City 23860, Taiwan

Made in Taiwan. 90, Chien 1 Road, Chung Ho New Taipei City 23585, Taiwan

# Important: Before you begin

## Caution:
## Part handling – Glass

- Wear protective gloves and safety glasses when handling damaged parts.

- Use protective film when removing damaged parts.

- Once removed, immediately store the damaged part in the replacement part packaging to prevent injury.

## Tools and fixtures

The use of Google-authorized tools and fixtures is **strongly recommended** in order to repair a device in a safe and effective manner.

### Caution:

- We don't recommend performing repairs without the specified tools and fixtures.

- Improper use of tools and fixtures may result in injury to yourself, the user of the device or other third parties, as well as damage to the product, tools, fixtures, replacement parts and/or other spare parts.

## Important: Before Disassembling the Device

- Disconnect the device from all power sources before any disassembly.

- Make sure the battery is fully discharged before any disassembly.

- If the phone battery shows signs of swelling or damage, or if the phone feels hot or emits strong odor, don't attempt disassembly. Please reach out to Google customer support.

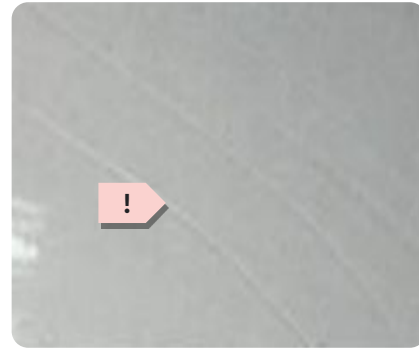- Take care not to expose the phone or its components to liquids once disassembled.

# Examples of unacceptable battery conditions - Not suitable for repair*
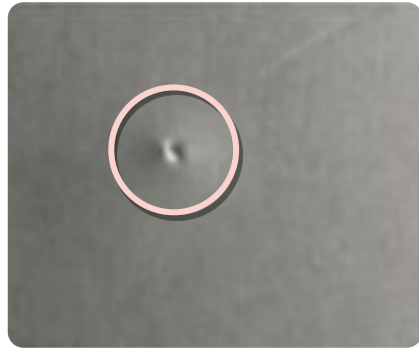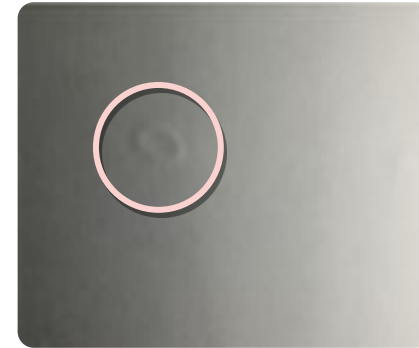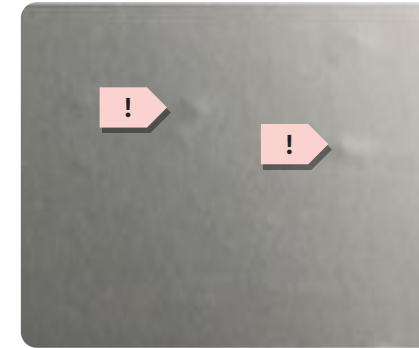


Pouch damage
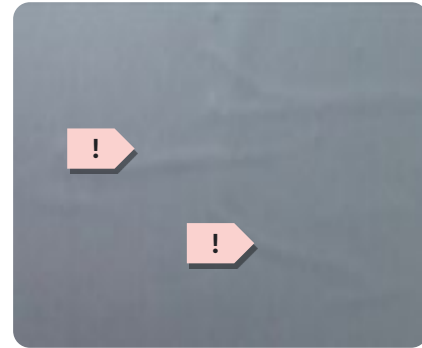


Line protrusion
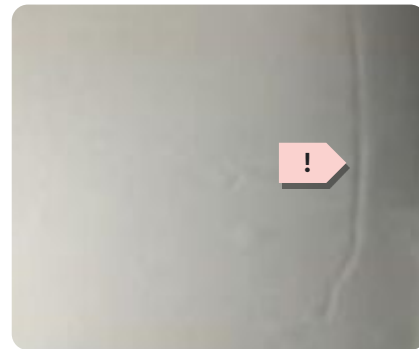


Scratch



Contamination marking



Dot protrusion



Dent



Bubbling



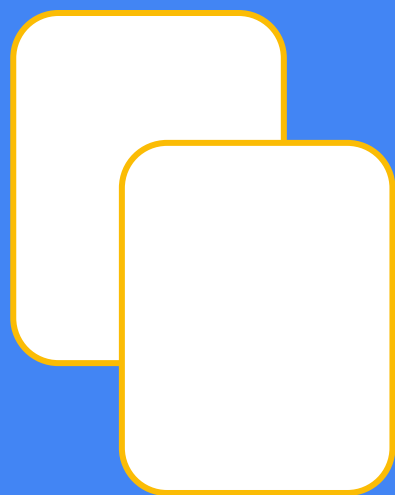Imprinted line



Swelling or electrolyte leakage

*These are examples of potentially dangerous battery conditions but don't reflect all possible dangerous conditions. Please follow general safety guidance outlined in this document.

# Introduction

# Expanded view

Screws

Middle Frame

Battery

Side Key FPC

Rear Camera
12M & 16M

Main Board

Front Camera

Audio Jack

Top Speaker
with Holder



CG-Trim

Display BTB

Vibrator

Bottom
Speaker

ANT2 Board

Battery
Adhesive

SIM Tray

USB
Stamping
Plate

MIC1 Bracket

Coaxial Cable x3

Enclosure
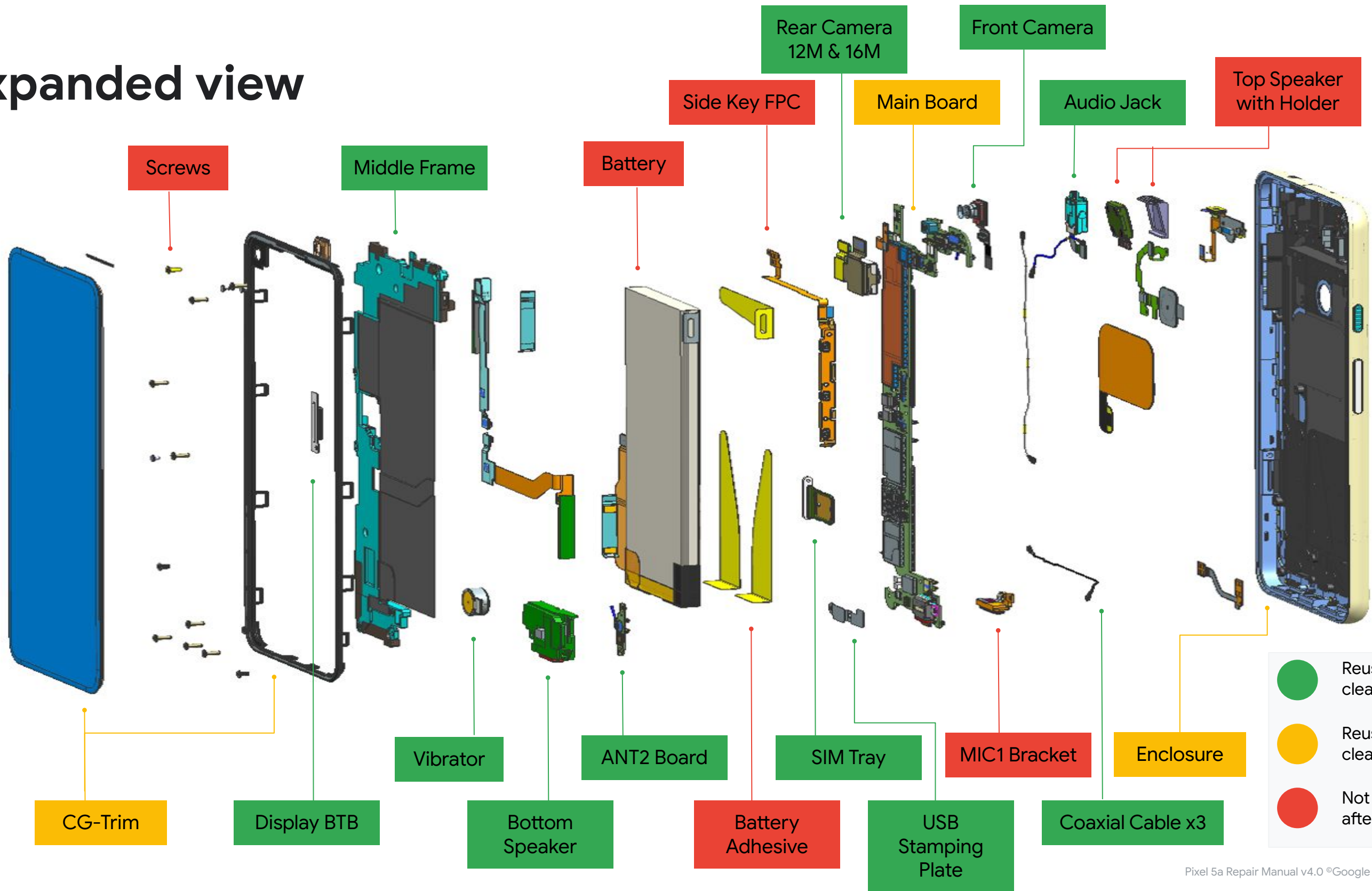
**Reusable without cleaning**

**Reusable with cleaning**

**Not Reusable after disassembly**

# Pixel touch screen calibration process
## *For the Pixel 5a product*

*[Note: This process applies all Pixel 1 - Pixel 8 Pro devices, which includes Pixel Fold]*

**Complete the following
before you boot up the device:**

- Nothing should touch the display. This includes protective films, cases, fingers, tape, labels, scratch covers, adhesives and debris.

- Devices should be on a flat surface. *Don't* hold it in your hands.

After the above conditions are met, the device should be
powered on by pressing the power button. *Don't* touch the device until it's fully booted into the user operating system.

**Display touch calibration**

After any repair that requires you to open the phone, complete the display touch calibration during first boot.

**Touch function**

If this process isn't followed, the touch function of the screen may not work as intended.

# ESD protection

Electro static discharge (ESD) could damage components, so it's important to work in an ESD-safe environment during repair.

**Follow these four steps to keep ESD safe:**

### Stay grounded

Carry out repairs on an ESD mat, when the person who repairs the device wears a grounded ESD strap.

### Avoid static buildup

*Don't* wear synthetic fibers such as fleeces that could generate static.

### Did you know?

ESD is the sudden flow of electricity through two electrically charged objects. For example, when you walk across a carpet, then touch a metal door handle and feel a shock. It's the ESD.

### Protective bags

Pack all ESD-sensitive parts in metalized protective bags during shipping.

### Avoid touching pins

*Don't* touch pins with use of ESD-safe tools to handle components.

# Screw Map - Pixel 5a

HW, SCREW, SUS410, M1.2x0.25-1.5 D2.4
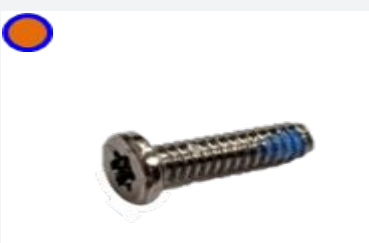**G250-05391-00**

HW, SCREW, SWRCH22A, M1.4x0.3-2.4, D2.7
**G250-05371-00**

SCREWS, HSG, SUS410 (M1.4x3.5)
**G250-04528-00**

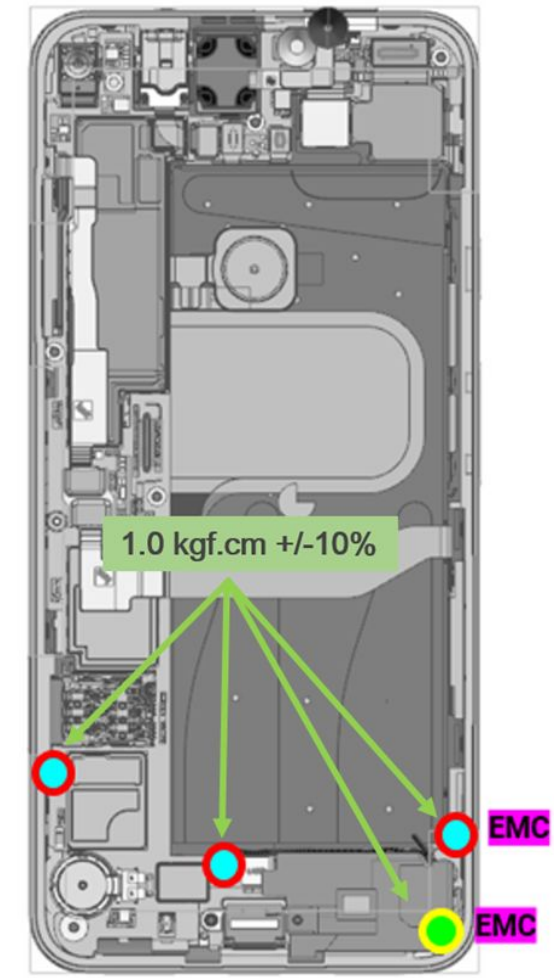HW, SCREW, SUS410,M1.4,4.1L
**G250-05341-00**

SCREW , 3IP , M1.2 , L4.1 , 5a
**G250-05726-00**

⚠️ **Screws are a single use item**

Screws are a single use item and if removed from the device, they should be replaced with a new screw.

💡 **After removal, replace with a new screw**

Each screw is critical to the safe continued operation of the phone. Since thread locking adhesive can't be reactivated, replace each used screw with a new screw after removal.

**1.2 kgf.cm +/-10%**

**1.1 kgf.cm +/-10%**

**1.0 kgf.cm +/-10%**

**1.2 kgf.cm +/-10%**

**1.1 kgf.cm +/-10%**

**1.0 kgf.cm +/-10%**

Ant.   Ant.   EMC   EMC   EMC
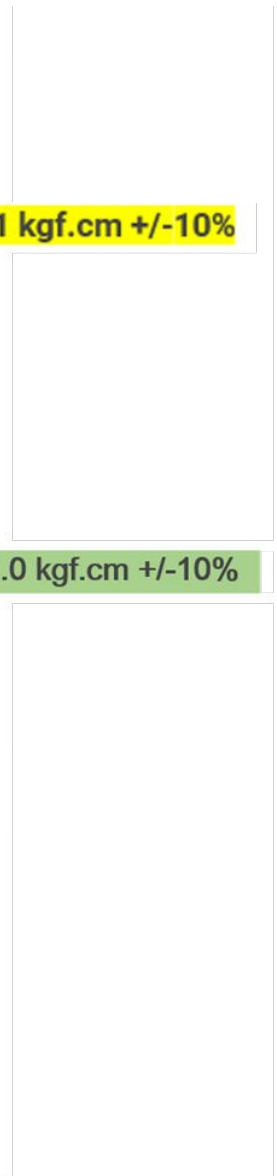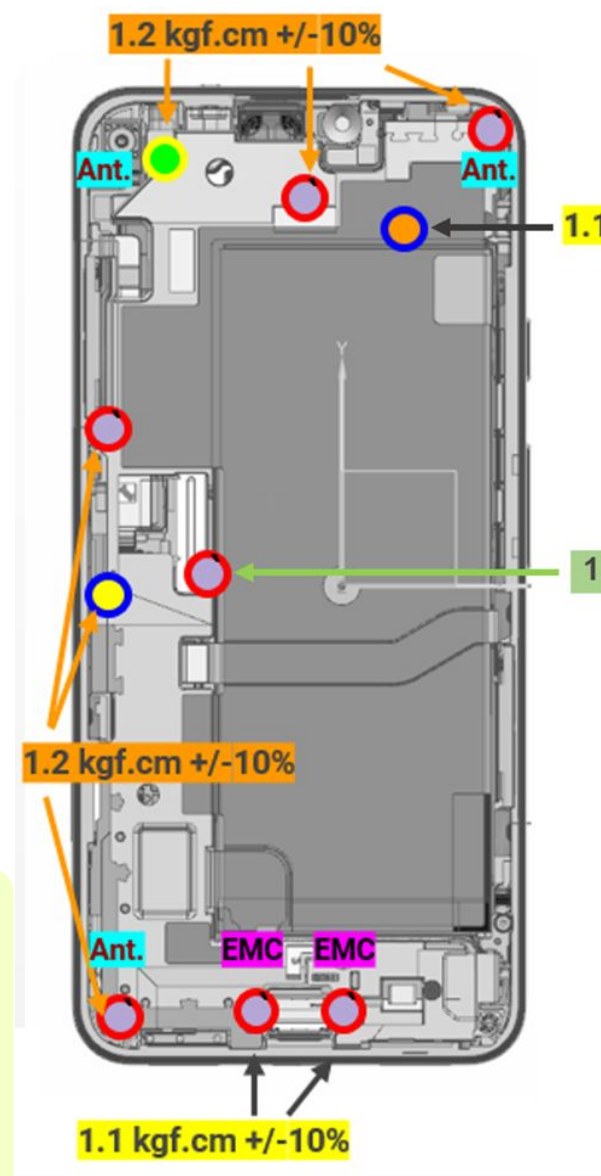
# Liquid damage indicators

**Liquid damage indicators (LDI) are strips that change colors when a phone has been exposed to water or other liquids.**

- Exposure to liquids could lead to the device malfunction, such as overheating or a short circuit.

- There're three LDI on this device.

LDI →

LDI →

LDI →
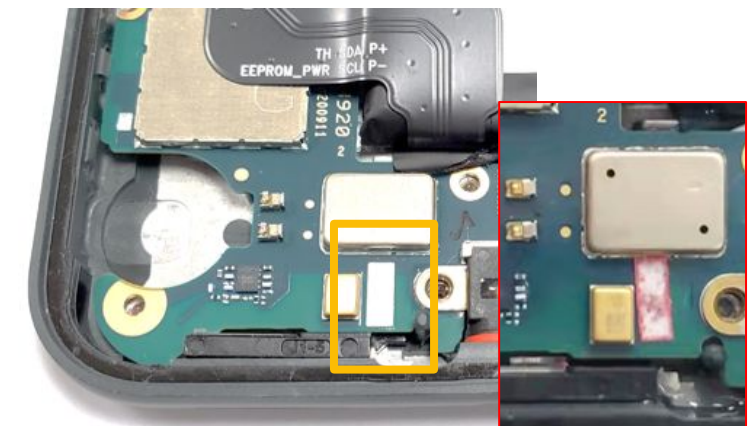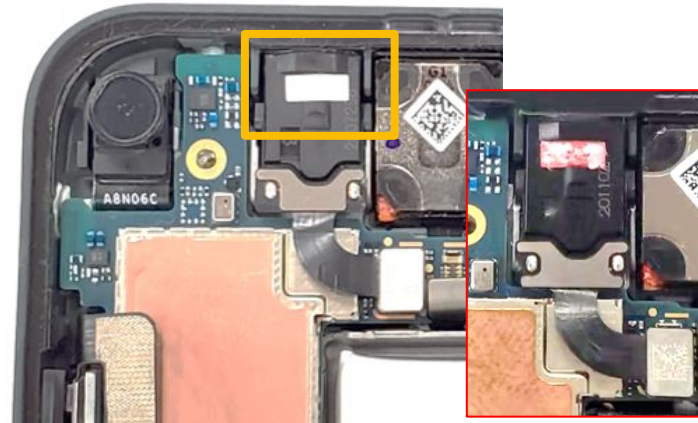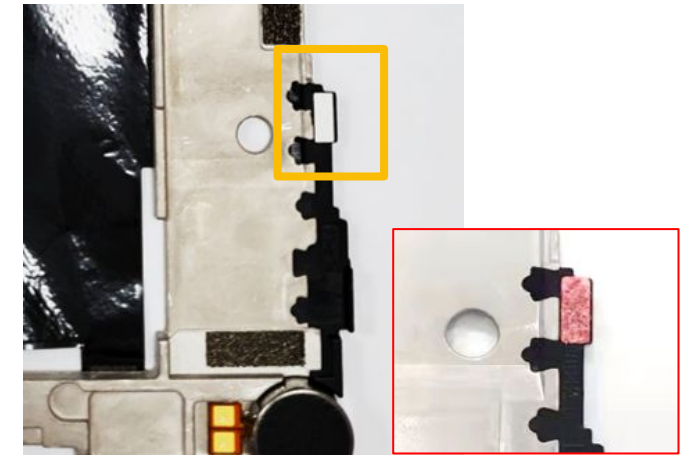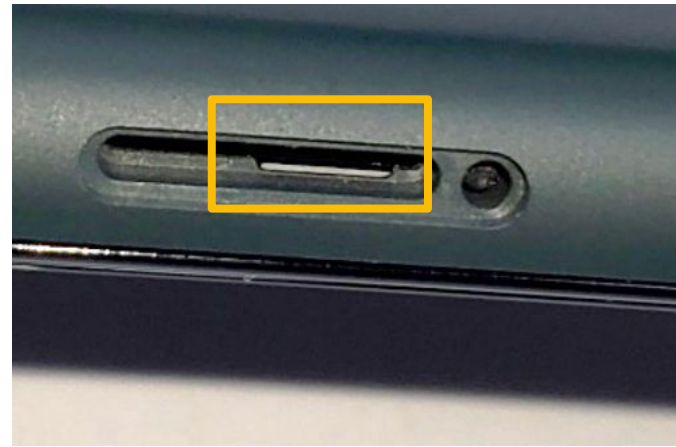


- On the mid-frame (visible through SIM slot, without disassemble the device).

- On the audio jack FPC.

- On the logic board.
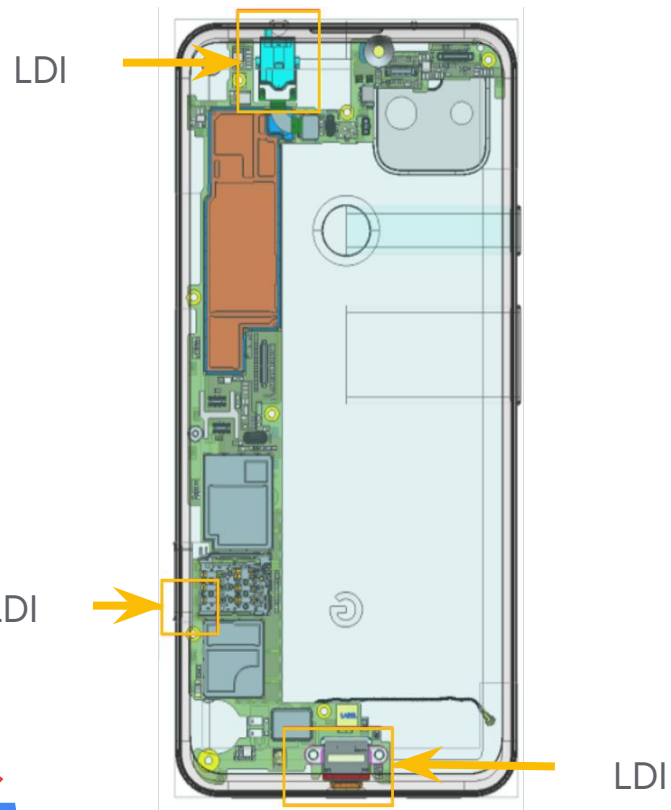
# Tools and Fixtures

The use of Google-authorized tools and fixtures is required in order to repair a device in a safe and effective manner.

Please note that some tools and fixtures require maintenance and calibration before performing repairs.

⚠ **Caution:**

- Do not perform repairs without Google-specified tools and fixtures.

- Improper use of tools and fixtures may result in injury to yourself, the user of the device or other third parties, as well as damage to the product, tools , fixtures, replacement parts and/or other spare parts.

# Google-approved fixtures - Pixel 5a

Google-approved fixtures are Google tested and are strongly encouraged to ensure high quality and safe repairs.



Pixel 5a Enclosure &
ANT2 Holder

G980-08631-00



Pixel 5a Enclosure PSA
Align & Unit Press
Cover
G980-08632-00



Pixel 5a Battery Press
Block
G980-08634-00



Pixel 5a Screw Cover
G980-08635-00



Pixel 5a Press Pen

G980-09058-00



Pixel 5a Enclosure PSA
Press Cover
G940-00919-00



Pixel 5a Rear Camera
FPC Reshaping Tool

G940-00920-00



Pixel 5a L-shape Holder
for Bending Front FPC

G940-00921-00

# Google-approved fixtures

Google-approved fixtures are Google tested and are strongly encouraged to ensure high quality and safe repairs.



**Universal Disassembly Fixture**
G940-00873-00



**Universal Disassembly Fixture - Universal Device Clips**
G940-00874-00



**Universal adsorption bulb**
G940-00780-00



**Universal Press Fixture**
G940-00733-00



**Universal Battery Alignment Jig**
G940-00424-01



Upper : SIM TRAY EJECTOR
Lower : CONNECT DSSY

**Universal Fish line tool**
G940-00779-00
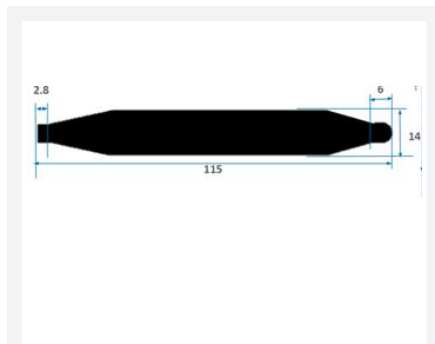


**Universal Disassembly ESD stick**
G940-00782-00



**Screwdriver Hex Shank Torx Plus Bit no.3**
G940-00785-00



**Universal Cap Removal**
G940-00923-00



**Universal Coaxial cable tool**
G940-00781-00



**Universal Disassembly ESD pick**
G940-00783-00



**Universal Protective Film**
G940-00786-00

# Common Tools

Common tools are suggested to ensure high quality and safe repairs. These items don't need to be purchased from a Google-recommended supplier.

| | | |
|---|---|---|
| ESD wristband | ESD gloves | Dust free cloth |
| Dust-free Dust-free Cotton swabs | Plastic ESD Tweezers | SIM card ejection pin |
| Heating plate | IPA (Isopropyl Alcohol) | 3M UPUV or AP111 Primer |
| Screwdriver Torx Plus 3IP [Optional] | Adjustable type torque screwdriver | Spudger (ESD Stick) |
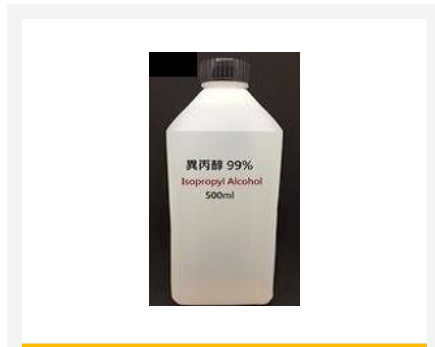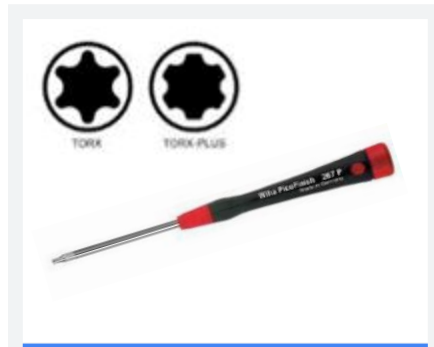
# Common Tools

Common tools are suggested to ensure high quality and safe repairs. These items don't need to be purchased from a Google-recommended supplier.

| | | |
|---|---|---|
| Suction Cup | Table C-Clamp | Ionizing air fan |
| Masking tape | Ionizing air fan | Sankol lubricant CFD 409Z_V2 |

| | | |
|---|---|---|
| Feeler gauge | Deglue Machine | Fishing Line (Thickness 0.4mm, 13.9kg/30lb) |
| Air Gun / Blowing Ball | | |
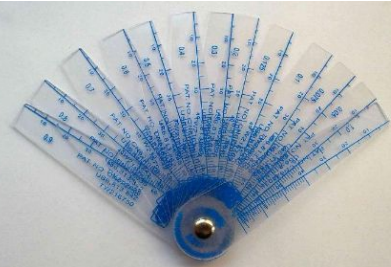
# Safety items

Safety items are suggested to ensure high quality and safe repairs. These items don't need to be purchased from a Google recommended supplier.

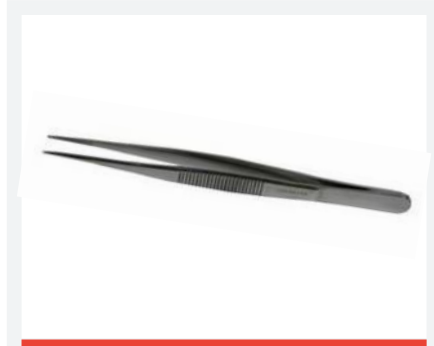| Safety Glasses | Heat Resistant Protective Gloves | Cut Resistant Protective Gloves | Nitrile or Lint-Free Gloves |
|---|---|---|---|
|  |  |  |  |

# Replacement Parts

**Important notice about replacement parts**

- The use of Google authorized replacement parts is strongly recommended.

- Performance within product specifications cannot be assured if Google authorized replacement parts are not used.

⚠️ **Caution:**

Use of replacement parts other than Google authorized replacement parts, such as aftermarket batteries, may impact device safety, reliability and performance.

# Replacement parts

● Reusable without cleaning    ● Reusable with cleaning    ● Not Reusable after disassembly

| | | |
|---|---|---|
| Logic board Assy_G5a/US - FI 128G **G949-00123-01** | Logic board Assy_G5a/NA_US 128G **G949-00125-01** | Logic board Assy_G5a/JP 128G **G949-00131-01** |
| CG-Trim Assembly, 5a **G949-00138-01** | Enclosure Assembly, BLK, 5a **G949-00139-01** | ANT2 Board Assembly, 5a **G949-00141-01** |

| | | |
|---|---|---|
| HSJ FPC Assembly, 5a **G949-00142-01** | SIDE KEY FPC Assembly, 5a **G949-00143-01** | Front Camera FPC Module Assembly, 5a **G949-00144-01** |
| Rear Camera FPC Module Assembly, 5a (12M) **G949-00145-01** | Rear Camera FPC Module Assembly, 5a (16M) **G949-00146-01** | Top Speaker with Holder Assembly, 5a **G949-00154-01** |
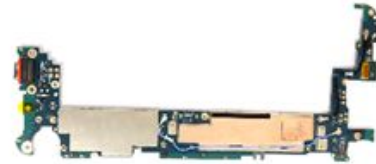
# Replacement parts

Mid-Frame Assembly, 5a
**G949-00155-01**



Assy_G5a/Service Battery assembly, 5a
**G949-00268-01**



HW, SCREW, SUS410, M1.2x0.25-1.5 D2.4
**G250-05391-00**



HW, SCREW, SWRCH22A, M1.4x0.3-2.4, D2.7
**G250-05371-00**



SCREWS, HSG, SUS410 (M1.4x3.5)
**G250-04528-00**



HW, SCREW, SUS410,M1.4,4.1L
**G250-05341-00**



SCREW , 3IP , M1.2 , L4.1 , 5a
**G250-05726-00**



Cable, coax, Logic board top, 5a
**G821-00703-01**



Cable, coax, Logic board Mid, 5a
**G821-00704-01**



Cable, coax, Logic board btm, 5a
**G821-00705-01**



TRAY, SIM, BLACK, 5a
**G852-01766-01**
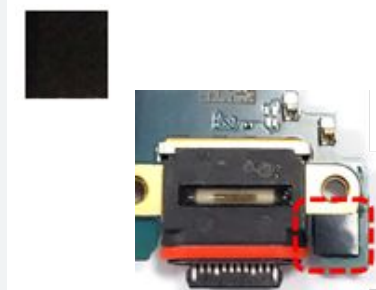


DIECUT,MYLAR,USB, COMP,5a
**G806-04934-01**

# Replacement parts

Reusable without cleaning

Reusable with cleaning

Not Reusable after disassembly
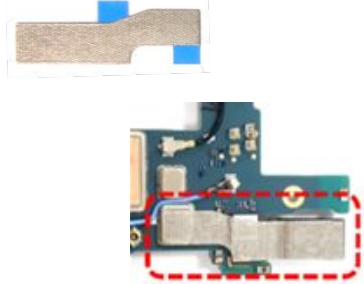
DIECUT, CONDUCTIVE FABRIC, CAMERA, FRONT, 5a
**G806-04418-01**

FPCA, PROX, EMITTER, VCSEL, FLEX, 5a
**G652-01499-02**

SPEAKER, BOTTOM, MP, 5a
**G863-00395-01**

DIECUT, KAPTON, BOTTOM SPEAKER CABLE FIXING, 5a
**G806-04406-01**
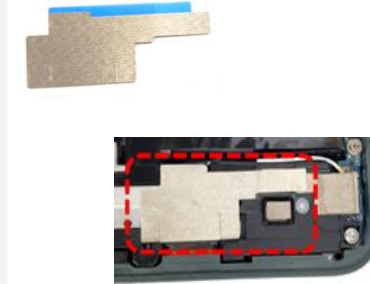
DIECUT, CONDUCTIVE FABRIC, SPK, FATP, 5a
**G806-04717-01**

ELEC/MECH, VIBRATOR, MPLUS, LINEAR 1040, FPC TYPE, LV1040SC, 5a
**G710-02255-01**

MECH, USB, STAMPING PLATE, 5a
**G853-00960-01**

ASSY, MECH, DISPLAY, BTB, STAMPING PLATE, 5a
**G730-05675-01**

ASSY, MECH, MIC1, BRACKET, DOE5, 5a
**G730-05667-06**

DIECUT, ADHESIVE, FRONT ASM, TESA75925, 5a
**G806-05066-01**
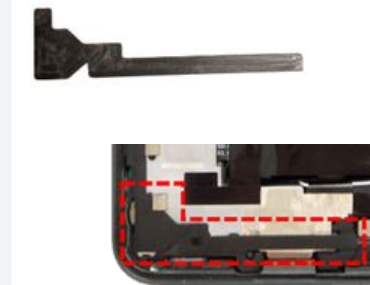
ASSY, MECH, DISPLAY PC SPACER, LEFT, 5a
**G730-05961-01**

PLASTIC, BUMPER, LEFT, 5a
**G852-02114-01**

# Replacement parts

ASSY, MECH, BUMPER,
RIGHT1, 5a
**G730-06006-01**



PLASTIC, BUMPER,
RIGHT2, 5a
**G852-02116-01**
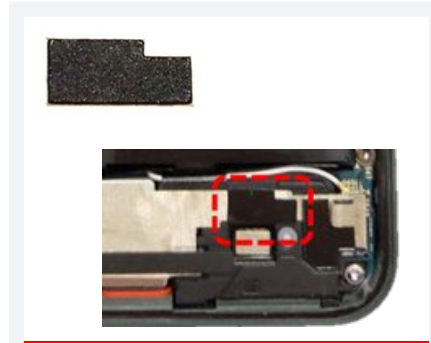


DIECUT, PC FILM,
DISPLAY MIDDLE, 5a
**G806-05495-01**

# Replacement parts
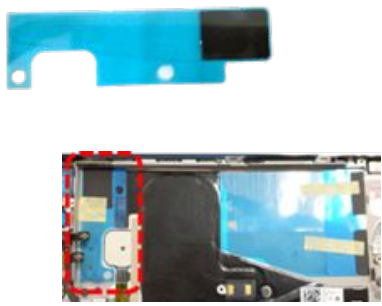
DIECUT, ADHESIVE, BATTERY, TOP, 0.15MM pull tape, 5a
**G806-04416-01**

DIECUT, ADHESIVE, BATTERY, BOTTOM, 0.15MM pull tape, 5a
**G806-04417-01**

DIECUT, PSA,TOP SPK HOLDER, 5a
**G806-04473-01**
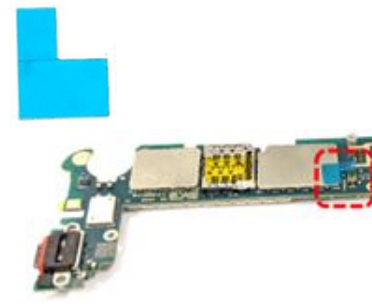
DIECUT, ADHESIVE,SHIELDING, BATTERY PROTECT, 5a
**G806-04498-01**

MECH, PLASTIC, Rcam wide cap, 5a
**G806-04547-01**

MECH, PLASTIC, Rcam ultra wide cap, 5a
**G806-04548-01**

MECH, PLASTIC, Protect cap, 5a
**G852-01413-01**

DIECUT, Protective film, Rcam, 5a
**G806-04550-01**
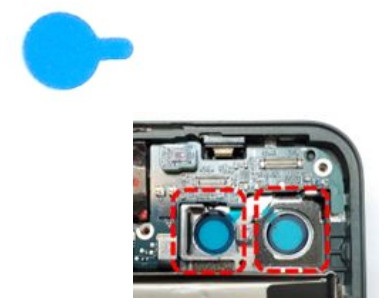
DIECUT, Protective film, Rcam ultra wide, 5a
**G806-04714-01**
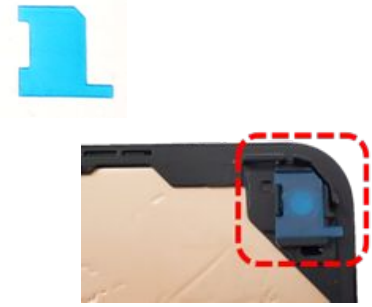
DIECUT, LINER, FCAM, DUST RESISTANCE, 5a
**G806-04990-01**
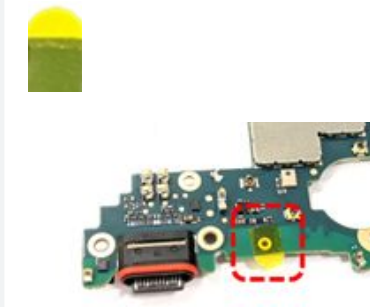
DIECUT,KAPTOP,2ND MIC HOLE,5a
**G806-04755-01**

# Repair flows

# Pixel 5a Disassembly flows

Display → Mid-frame → Rear camera → Logic board → Enclosure

Mid-frame:
- Vibrator
- P-sensor

Rear camera:
- Bottom speaker
- Audio jack FPC

Logic board:
- ANT2 board
- Front camera
- Mic.1 bracket
- Top speaker
- Side key FPC
- Battery

**Legend:**

⌐ **Must** be Removed before Next Process

⌐ **OPTIONAL** to Remove

🟢 Reusable without cleaning

🟡 Reusable with cleaning

🔴 Not Reusable after disassembly

**Note : Rear camera/Front camera/Bottom speaker/Battery are in the same layer, you can replace each of them without interference.**

# Pixel 5a Assembly flows

**Assembly flowchart**

```
Enclosure            Logic board           Battery              Display
```

| Enclosure | Logic board | Battery | Display |
|---|---|---|---|
| **Top speaker** | ANT2 board | Mid-frame | |
| Side key FPC | **Front camera** | Vibrator | |
| Mic1 bracket | Bottom speaker | P-sensor | |
| | **Rear camera 12M & 16M** | | |
| | Audio jack FPC | | |
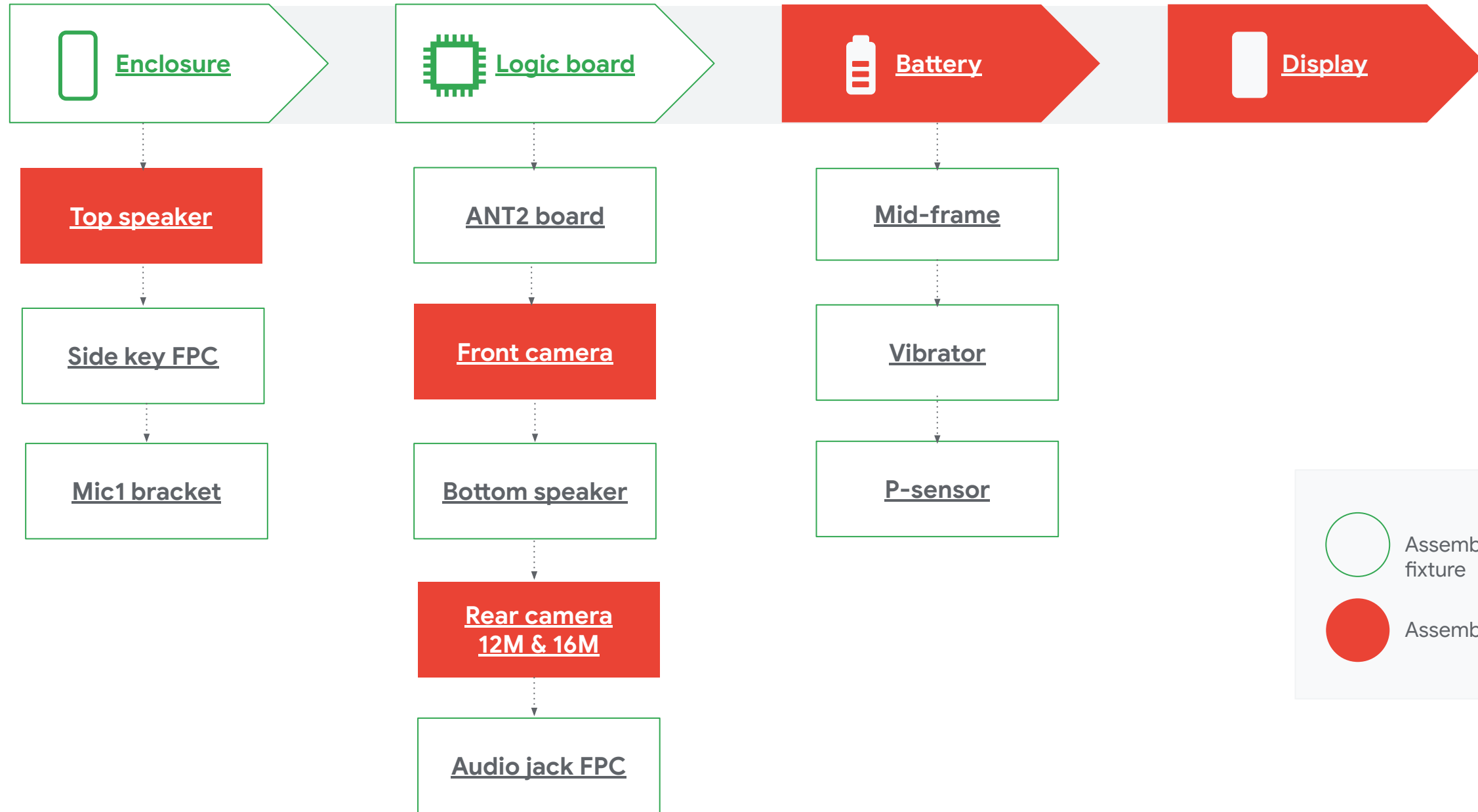
○ Assembled without fixture

● Assembled with fixture

Disassembly instructions
# Display

# Display replacement

## Prerequisites

Before beginning a repair, be sure to power off the device.

## Tools

Heating Plate

Universal disassembly fixture & universal device clips

Universal protective film

Ionizing air fan

Universal adsorption-bulb

Torx Plus 3IP screwdriver

Universal Fish line tool

ESD tweezers

Universal Disassembly ESD stick

Universal Disassembly ESD pick

3M UPUV Primer

Pixel 5a Enclosure & ANT2 Holder

Pixel 5a Enclosure PSA Align & Unit Press Cover

Pixel 5a Enclosure PSA Press Cover

Universal press fixture

Screw Cover

**Caution!**
Use **safety gloves** to handle damaged displays as some splinter during removal and could cause injury. Apply **protective film** to broken glass before removal. Review all **safety precautions** before beginning work.

# Display replacement - Cont.

The **Display module** is connected to the **Logic board**, so be careful with the flex when opening the device up.

## Parts

| | | |
|---|---|---|
| ↻ G949-00138-01 <br> CG-Trim Assembly, 5a |  | |
| G806-04550-01 <br> Protective film |  | |
| G806-05066-01 <br> DIECUT, ADHESIVE, FRONT <br> ASM, TESA75925, 5a |  | |
| G806-04990-01 <br> Protective film |  | |
| G730-05675-01 <br> ASSY, MECH, DISPLAY, BTB, <br> STAMPING PLATE, 5a |  | |
| G852-01413-01 <br> Front camera protective cap |  | |
| G250-05341-00 <br> 1 x screw |  | |

⚠ **Caution!**
Use **safety gloves** to handle damaged displays as some splinter during removal and could cause injury. Apply **protective film** to broken glass before removal. Review all **safety precautions** before beginning work.

## 01. Set up Ionizing air fan



## 02. Remove SIM tray



- Setup **Ionizing air fan** during disassembly steps to prevent ESD/EOS issue.

- Insert a **SIM eject tool** to remove the SIM Tray.

Do NOT scratch the enclosure.

Display  Mid-frame  Rear Camera  Bottom Speaker  Audio jack FPC  Logic board  ANT2 board  Front Camera  Mic1 Bracket  Top Speaker  Side key FPC  Battery

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## 03. Soften the adhesive



- Place the device by **heating plate** with **122°F/ 50°C** for 600 seconds to soften the glue.

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

**Heat plate is a hot surface.**
**Use caution as it could cause burns.**

⚠️

## 04. Cover the Back Cover



- Cut the **universal protective film** in appropriate size, and paste it around the camera on enclosure.

Display | Mid-frame | Rear Camera | Bottom Speaker | Audio jack FPC | Logic board | ANT2 board | Front Camera | Mic1 Bracket | Top Speaker | Side key FPC | Battery

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## 05. Use fixture
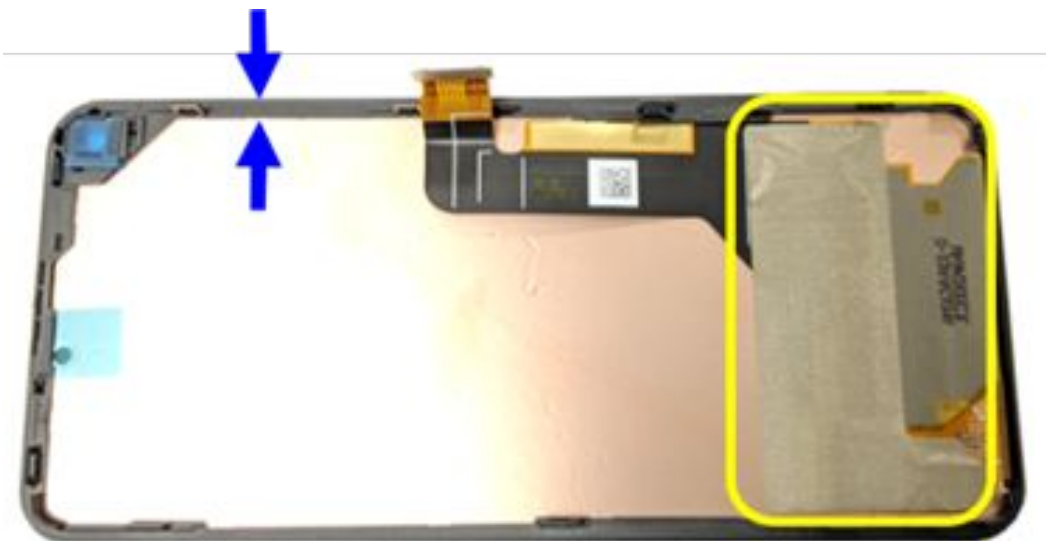


| ● (yellow) | Be careful to avoid touching this area |
|---|---|
| ● (blue) | Adhesive perimeter: Prying beyond the narrow perimeter without angling the pick will damage the Display and Trim. |

## 06. Use fixture



Camera
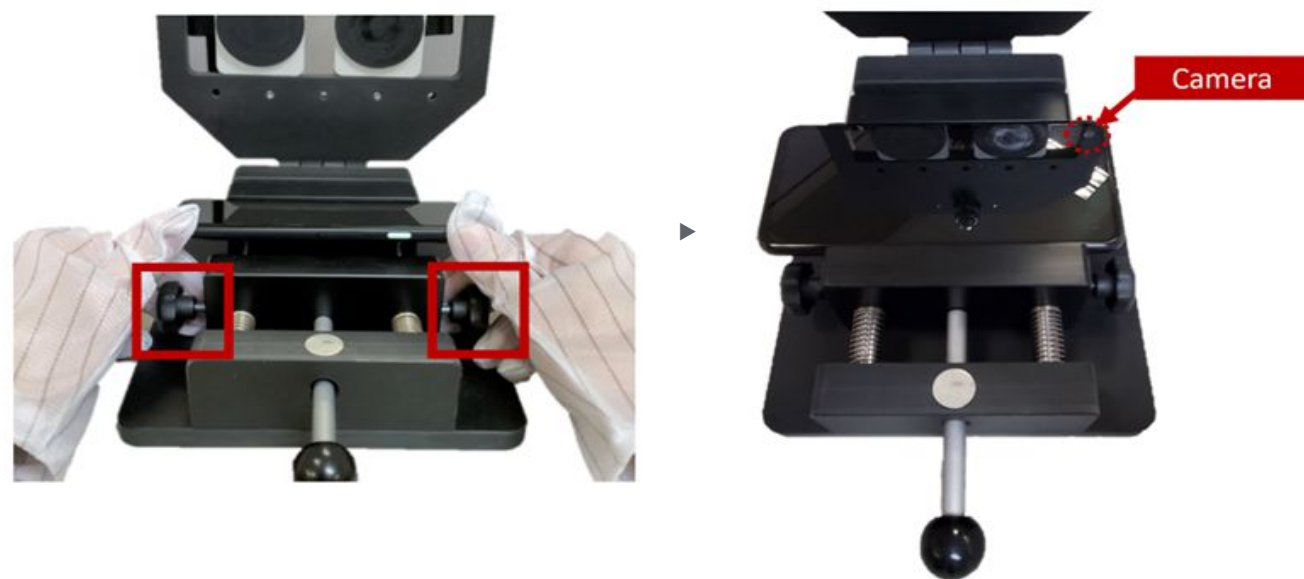
- Use **Universal Disassembly Fixture & Universal Device Clips** to dismantle the CG.
  - Place the device, facing upward, on the fixture.
  - Pull the knob backward to lock it.

To avoid activating the device by accident, align the power button with the groove as illustrated in the photo.

Groove

| Display | Mid-frame | Rear Camera | Bottom Speaker | Audio jack FPC | Logic board | ANT2 board | Front Camera | Mic1 Bracket | Top Speaker | Side key FPC | Battery |

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## 07. Use fixture



- Adjust 2 suction cups before closing the lid, the suction cup should adjust to the middle area of CG.

## 08. Use fixture



- Rotate the knob as tight as possible, CG will open simultaneously.

**Display**  >  **Mid-frame**  >  **Rear Camera**  >  **Bottom Speaker**  >  **Audio jack FPC**  >  **Logic board**  >  **ANT2 board**  >  **Front Camera**  >  **Mic1 Bracket**  >  **Top Speaker**  >  **Side key FPC**  >  **Battery**

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**Display**

## 09. Use fixture

*Left side (USB)*          *Right side (TOP SPK)*

 ▶ 

- Once the CG is open, leave the **pick** inserted along the left edge (USB) of your phone and right edge (TOP SPK) to prevent the adhesive from re-sealing.



## 10. Use fixture



- Do not damage P sensor (yellow area), else the part make not function as intended.
  You should be avoided to pry through.

| Display | Mid-frame | Rear Camera | Bottom Speaker | Audio jack FPC | Logic board | ANT2 board | Front Camera | Mic1 Bracket | Top Speaker | Side key FPC | Battery |

Pixel 5a Repair Manual v4.0 ©Google 2024 | Page  **39**
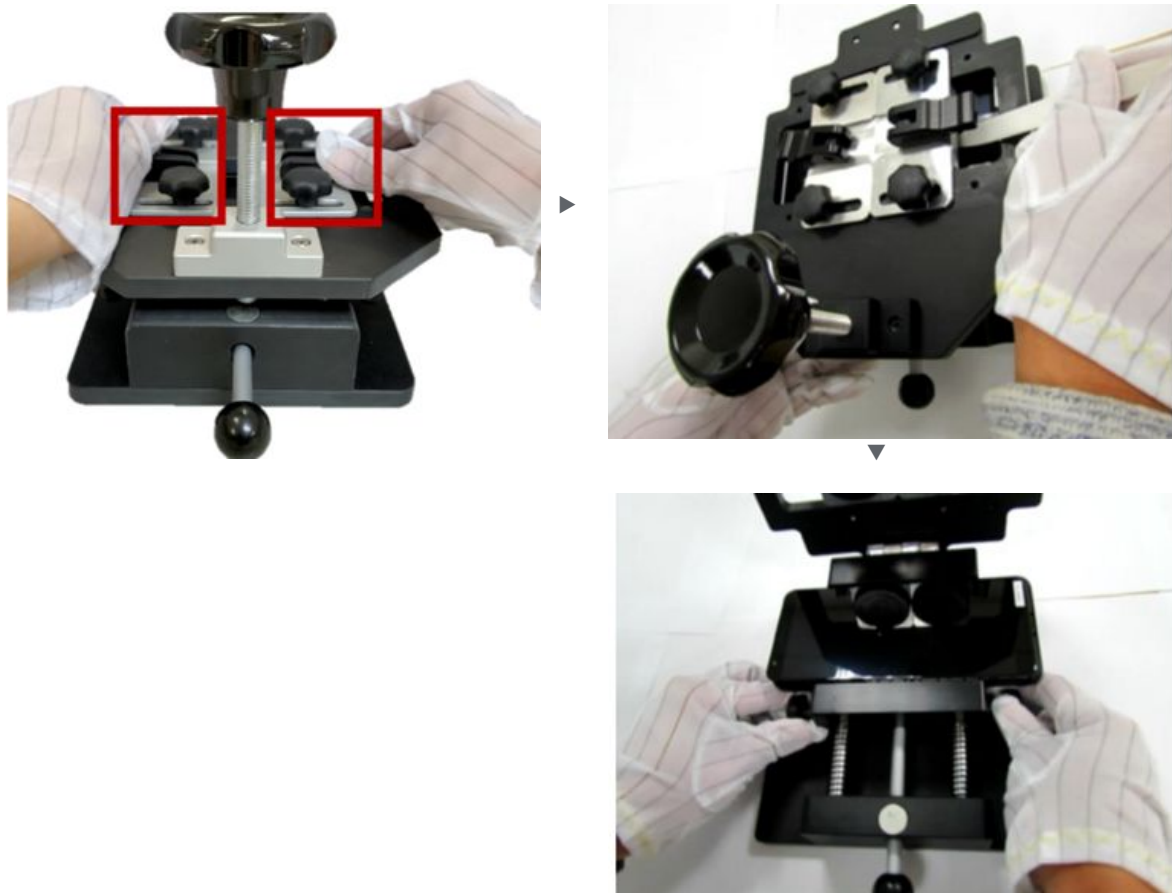
## 11. Open the lid



- Unlock the 2 handles.
- Use **plastic Universal Disassembly ESD stick** to release the two suction cups.
- Open the lid and unlock the knob to take out the device.

## 12. Separate CG



- Insert the **Universal Disassembly ESD Piece** into the gap to separate the CG from the device slowly and carefully.

---

Do not insert the pick further than the stopper on the pick allows, or the product may not work as intended. ⚠️

Display | Mid-frame | Rear Camera | Bottom Speaker | Audio jack FPC | Logic board | ANT2 board | Front Camera | Mic1 Bracket | Top Speaker | Side key FPC | Battery

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## 13. Separate CG



- Slide the **ESD piece** around the phone to cut the adhesive.

---

The yellow area is P-sensor.
You should be avoided to pry through.

⚠️

## 14. Hold the Display



- Flip the attached CG side down and rest it on side of the phone. The display FPC should be loosely arched.

---

Do not attempt to separate display by force. It is still attached to the enclosure via a very fragile cable. Damage to this cable may cause the device to not function as intended.

⚠️

Display | Mid-frame | Rear Camera | Bottom Speaker | Audio jack FPC | Logic board | ANT2 board | Front Camera | Mic1 Bracket | Top Speaker | Side key FPC | Battery

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## 15. Inspect P-sensor IC



| NG: IC is damaged | OK: IC is good |
|---|---|
|  |  |

Make sure the IC on P-sensor FPC is NOT damaged or dropped. (refer pic. above) ⚠️

## 16. Remove the screw



*Before*



- Use a Screwdriver Torx Plus 3IP to remove 1 screw securing the display to Logic board.

Do NOT reuse screws.

📱 **Display** › 🔲 **Mid-frame** › 📱 **Rear Camera** › 🔊 **Bottom Speaker** › 🔊 **Audio jack FPC** › ▫️ **Logic board** › ▫️ **ANT2 board** › 📱 **Front Camera** › 🎤 **Mic1 Bracket** › 🔊 **Top Speaker** › ▮ **Side key FPC** › 🔋 **Battery**

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## 17. Remove CG BTB plate
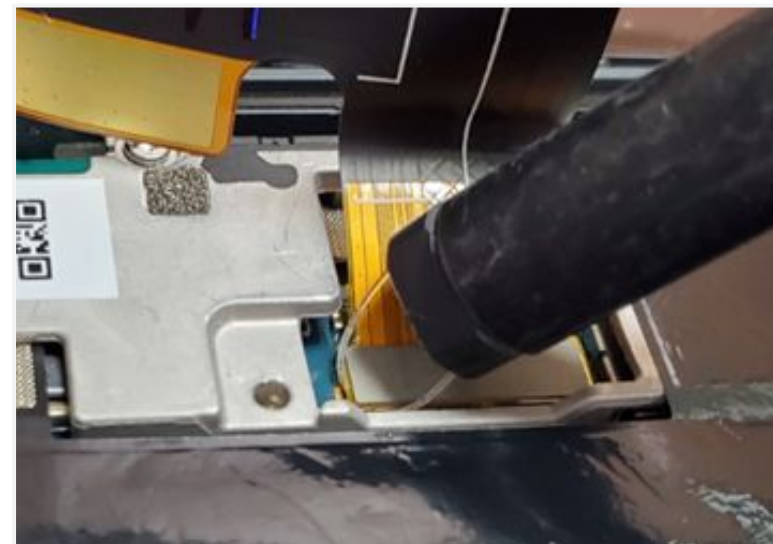


*Before*



- Remove **CG BTB** with **plastic ESD tweezers**.

## 18. Disconnect display



*Before*



- Use a **universal fish line tool** to disconnect the display FPC.

Display | Mid-frame | Rear Camera | Bottom Speaker | Audio jack FPC | Logic board | ANT2 board | Front Camera | Mic1 Bracket | Top Speaker | Side key FPC | Battery

Pixel 5a Repair Manual v4.0 ©Google 2024 | Page 43

## 19. Cover device



## 20. Attach protective film



| NG | OK: P-sensor hole cover well |
|---|---|
|  |  |

● Cut the **universal protective film** in appropriate size, and paste it on top display.

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

Do not wrap to the back side of the display, it will damage the sponge. ⚠️

● Stick the **protective film** onto F camera & P-sensor with **plastic ESD tweezers.**

**Part:** G806-04550-01 (Protective film)
G806-04990-01 (FCAM dust film)

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

P-sensor hole need to be covered well. (refer pic. above) ⚠️

📱 **Display** ▸ Mid-frame ▸ Rear Camera ▸ Bottom Speaker ▸ Audio jack FPC ▸ Logic board ▸ ANT2 board ▸ Front Camera ▸ Mic1 Bracket ▸ Top Speaker ▸ Side key FPC ▸ Battery

Pixel 5a Repair Manual v4.0 ©Google 2024  l  Page    44

## 21. Place on holder fixture



- Place enclosure on the **Holder Fixture**.

## 22. Cover the protective cap



- Carefully assemble the protective cap on the camera to avoid dust.

**Part:** G852-01413-01 (Front camera protect cap)

1. Protective cap is a reusable part.
   If the protective is lacking adhesive or dust, please change a new one.
2. Do not damage the camera lens.

| Display | Mid-frame | Rear Camera | Bottom Speaker | Audio jack FPC | Logic board | ANT2 board | Front Camera | Mic1 Bracket | Top Speaker | Side key FPC | Battery |

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Assembly instructions

# Display

## 01. Re-using the Display



- Clean the enclosure and display residue adhesive with **plastic Universal Disassembly ESD stick** .

- Apply a small amount of **IPA** after the cleaning process with **plastic Universal Disassembly ESD stick .**

---

Clean the corner carefully to avoid damage the trim.



## 02. Apply primer
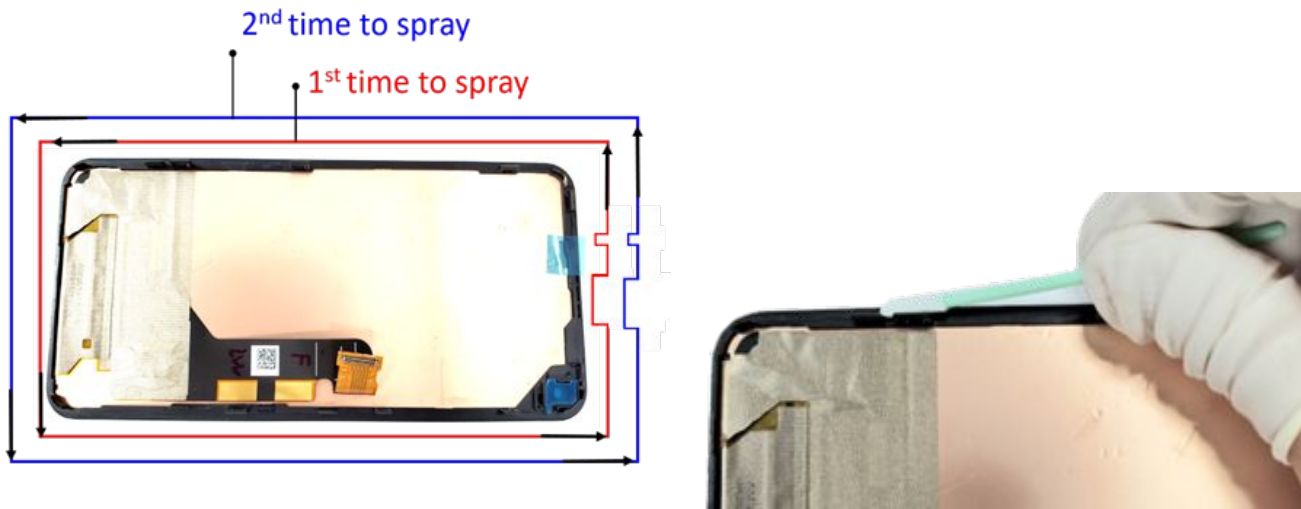


2nd time to spray
1st time to spray

- Using cotton swab to apply a small amount of **3M UPUV primer** to the red and blue highlighted area following designated order twice as shown in the enclosure photo below.

---

1. Broken, overflowing, or excessive primer is unacceptable.
2. Do not apply 3M UPUV primer back and forth.
3. Apply 3M UPUV primer on enclosure counterclockwise twice.
4. Do NOT apply the primer on the area of Top Speaker.



area of top speaker

Display  Mid-frame  Rear Camera  Bottom Speaker  Audio jack FPC  Logic board  ANT2 board  Front Camera  Mic1 Bracket  Top Speaker  Side key FPC  Battery

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## 03. Apply primer



2nd time to spray
1st time to spray

- Using cotton swab to apply a small amount of **3M UPUV primer** to the red and blue highlighted area following designated order twice as shown in the display photo below.

---

1. Broken, overflowing, or excessive primer is unacceptable.
2. Do not apply 3M UPUV primer back and forth.
3. Apply 3M UPUV primer on CG counterclockwise twice.
4. Do NOT apply the primer on P-sensor and mesh.

⚠️
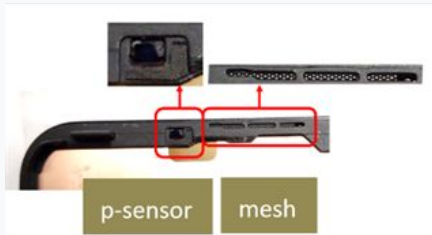


p-sensor    mesh

## 04. Adhesive alignment



- Take the enclosure **Pixel 5a Enclosure PSA Align** and place the PSA on guide pin of fixture.

**Part**: G806-05066-01 (Adhesive front ASM)

---

Take the enclosure PSA carefully and slowly.

⚠️

Display  Mid-frame  Rear Camera  Bottom Speaker  Audio jack FPC  Logic board  ANT2 board  Front Camera  Mic1 Bracket  Top Speaker  Side key FPC  Battery

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## 05. Enclosure to adhesive



- Place the enclosure to the fixture and press it.

---

1. Take the enclosure PSA carefully and slowly.
2. Enclosure side face up.
3. Use air gun/blowing ball to clean the front camera & P-sensor area.
4. Paste Diecut PSA after assembling middle frame.

⚠️

## 06. Place the press cover



- Place the device the Enclosure holder, then stack **Pixel 5a Enclosure PSA Unit Press Cover** on the top.

---

Do not touch the adhesive. If it gets dirty, change for another one.

⚠️

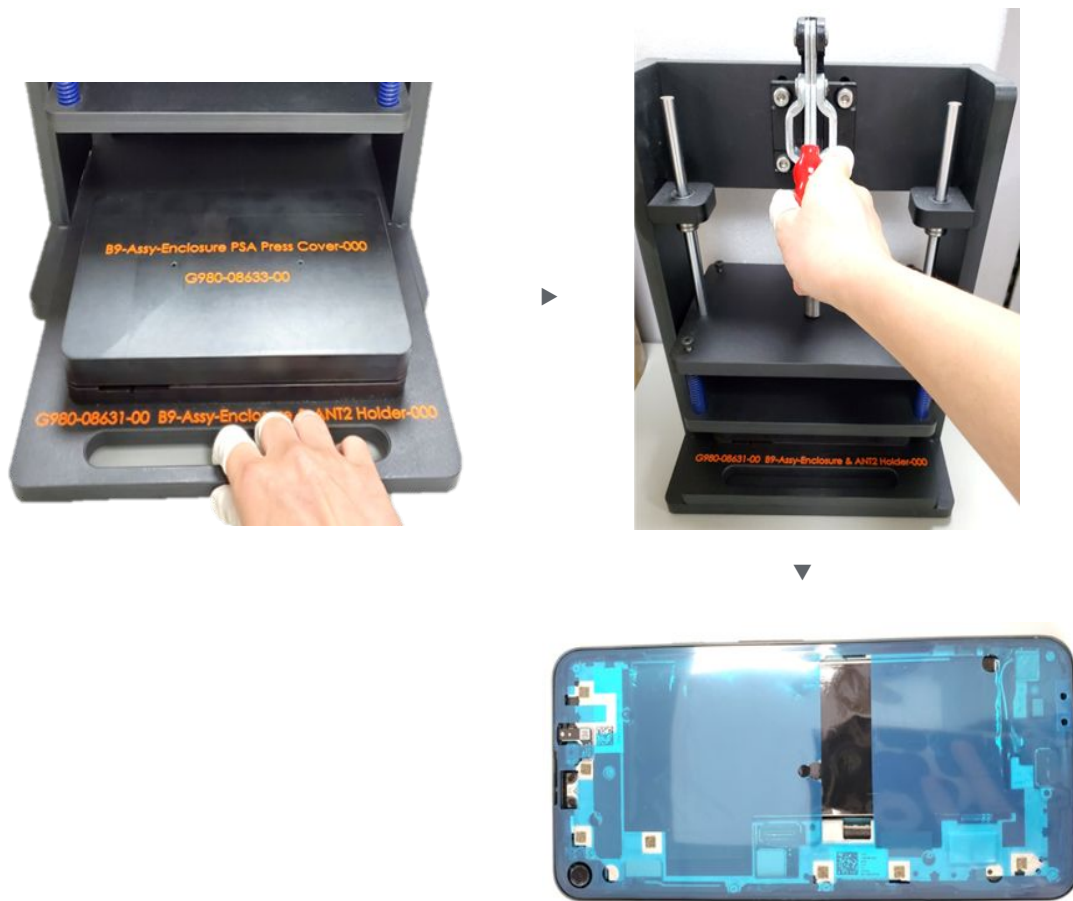Display → Mid-frame → Rear Camera → Bottom Speaker → Audio jack FPC → Logic board → ANT2 board → Front Camera → Mic1 Bracket → Top Speaker → Side key FPC → Battery

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## 07. Press together in fixture



- Deliver the setup onto the **Universal Press Fixture**.
  **Press time：10s**

  Pinch point. Keeps hands clear during operation.
  ⚠️

## 08. Remove 2 liners



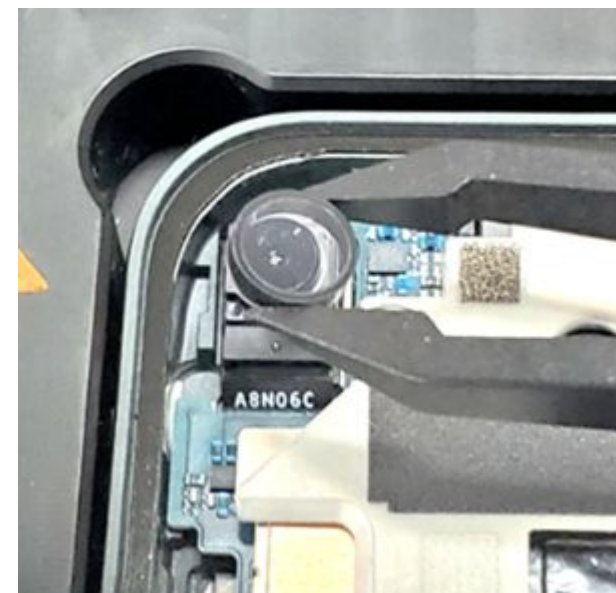- Gently and slowly remove 2 big liners from enclosure with **plastic ESD tweezer**.

| Display | Mid-frame | Rear Camera | Bottom Speaker | Audio jack FPC | Logic board | ANT2 board | Front Camera | Mic1 Bracket | Top Speaker | Side key FPC | Battery |
|---------|-----------|-------------|----------------|----------------|-------------|------------|--------------|--------------|-------------|--------------|---------|

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## 09. Remove liner (for new enclosure)



- Gently and slowly remove 1 liner from enclosure with **plastic ESD tweezer**.



## 10. Remove protective cap



- Twist and turn the **protective cap** clockwise. Please do NOT damage the camera lens.
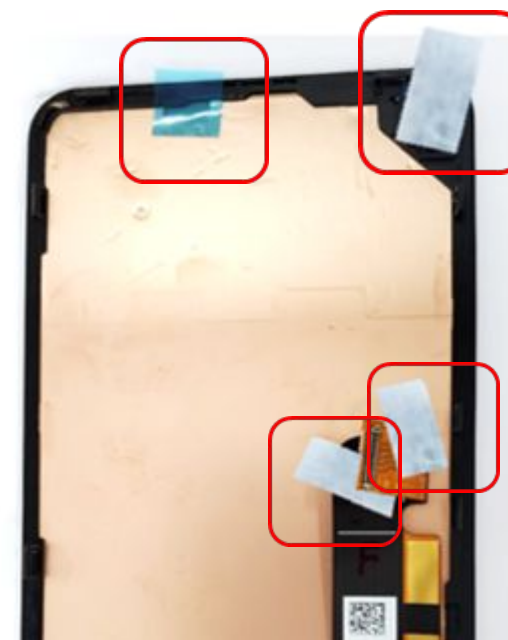


| Display | Mid-frame | Rear Camera | Bottom Speaker | Audio jack FPC | Logic board | ANT2 board | Front Camera | Mic1 Bracket | Top Speaker | Side key FPC | Battery |

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## 11. Remove protective film
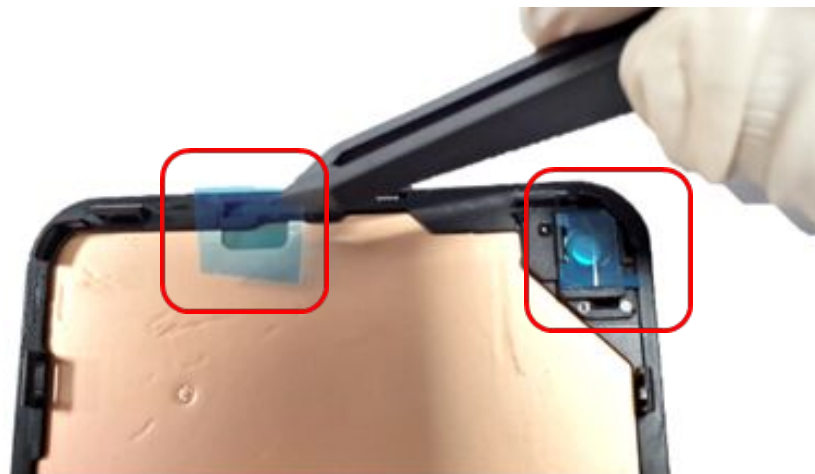


- Remove all the **protective films** covering the front camera and P-sensor on display.

## 12. Remove protective film (for new CG)



- Remove all the **protective films** and **tapes** on display.

| Display | Mid-frame | Rear Camera | Bottom Speaker | Audio jack FPC | Logic board | ANT2 board | Front Camera | Mic1 Bracket | Top Speaker | Side key FPC | Battery |

## 13. Connect CG BTB



- Connect **CG BTB connector** to Logic board



---

Check that every connector is fully attached to the Logic board, else the device may not function as intended.

## 14. Install BTB stamping plate



- Install **BTB stamping plate**.



Display | Mid-frame | Rear Camera | Bottom Speaker | Audio jack FPC | Logic board | ANT2 board | Front Camera | Mic1 Bracket | Top Speaker | Side key FPC | Battery

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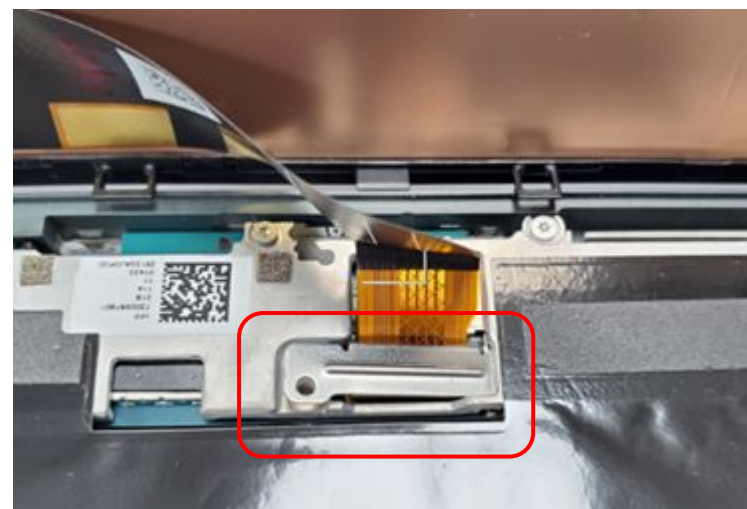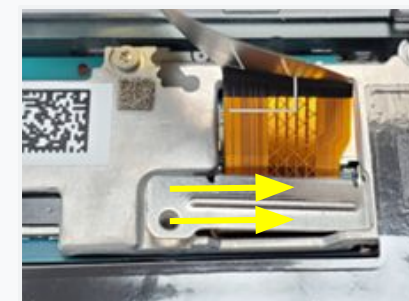
**Display**

## 15. Fasten the screw



| | G250-05341-00 M1.4x4.1 ; Head D 2.7 (Torque force: 1.0kgf.cm +/-10%) | 1 |
|---|---|---|

red-long

- Attach the **Pixel 5a Screw Cover** on Enclosure Holder Fixture.
- Fasten 1 pcs screw on display bracket with Screwdriver Torx Plus 3IP.

---

1. Make sure screw head is not tilted during the installation, and that it is fully seated.
2. Do NOT reuse screws.

## 16. Install display



- Hold the CG above enclosure and align on all pins.

  Once alignment is confirmed, gently lowers display to connect with enclosure.

Display › Mid-frame › Rear Camera › Bottom Speaker › Audio jack FPC › Logic board › ANT2 board › Front Camera › Mic1 Bracket › Top Speaker › Side key FPC › Battery

## 17. Press the device



## 18. Press the device



- Place the device in the **Pixel 5a Enclosure & ANT2 Holder,** then stack **Pixel 5a Enclosure PSA Align** on the top.
- Deliver the setup onto the **Universal Press Fixture**.
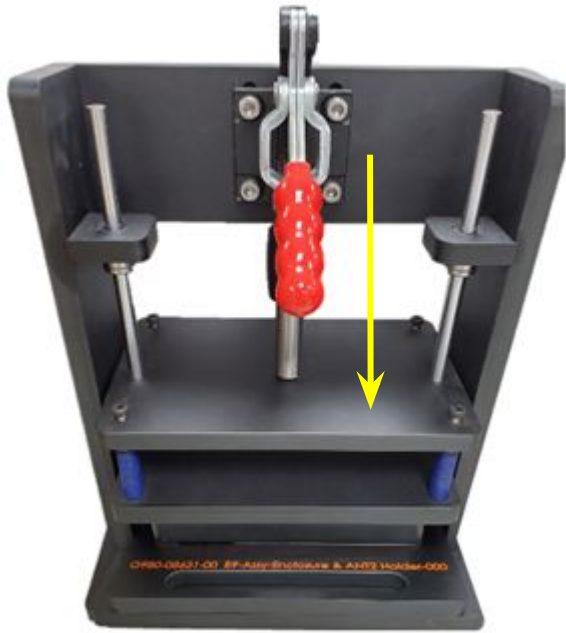
- Press the handle to keep pressing.
  **Press time: 10s**
  **Press weight: 23kg**

---

Pinch point. Keeps hands clear during operation.



Display  ›  Mid-frame  ›  Rear Camera  ›  Bottom Speaker  ›  Audio jack FPC  ›  Logic board  ›  ANT2 board  ›  Front Camera  ›  Mic1 Bracket  ›  Top Speaker  ›  Side key FPC  ›  Battery

**Display**
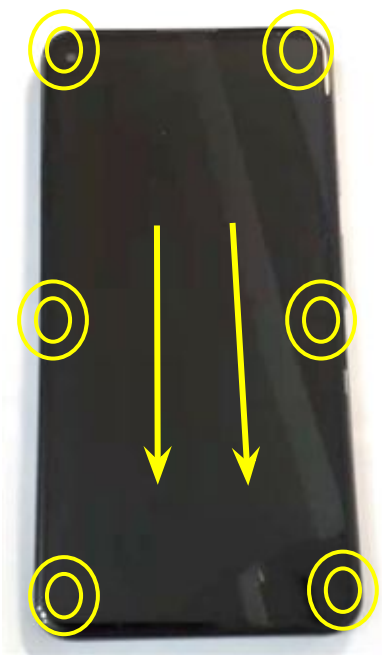
## 19. Press the device



- Gently press the device from the top to the bottom using your hands.

---

Do NOT touch the side key. ⚠️

## 20. Remove protective film



- Remove the **protective film** from rear camera lens.

Display | Mid-frame | Rear Camera | Bottom Speaker | Audio jack FPC | Logic board | ANT2 board | Front Camera | Mic1 Bracket | Top Speaker | Side key FPC | Battery

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# Pixel touch screen calibration process*

## [*Required for all Pixel 1 - Pixel 8 Pro devices, which includes Pixel Fold]

**Complete the following
before you boot up the device:**

- Nothing should touch the display. This includes protective films, cases, fingers, tape, labels, scratch covers, adhesives and debris.

- Devices should be on a flat surface. *Don't* hold it in your hands.

After the above conditions are met, the device should be
powered on by pressing the power button. *Don't* touch the device until it's fully booted into the user operating system.

**Display touch
calibration**

After any repair that requires you to open the phone, complete the display touch calibration during first boot.

**Touch
function**

If this process isn't followed, the touch function of the screen may not work as intended.

## 21. Check device is working



- Turn on the device and make sure it is working.
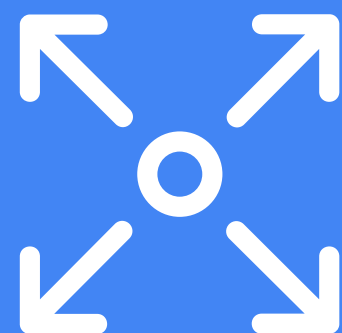
Disassembly instructions
# Mid-frame

# Mid-frame replacement

## Prerequisites

The following components must be removed first:

- Display module
- Vibrator

## Tools

Ionizing air fan
Torx Plus 3IP screwdriver
ESD tweezers
Universal Disassembly ESD stick
Enclosure & ANT2 Holder (Button)
Screw Cover

**Caution!**
Review all **safety precautions** before beginning work.

# Mid-frame replacement

The **Mid-frame** ensures connectors remain engaged with the **Logic board** and acts as a heatsink.

## Parts

| | |
|---|---|
| G949-00155-01<br>Mid-Frame Assembly, 5a |  |
| G652-01499-02<br>FPCA, PROX, EMITTER, VCSEL, FLEX, 5a |  |
| G710-02255-01<br>ELEC/MECH, VIBRATOR, MPLUS, LINEAR 1040, FPC TYPE, LV1040SC |  |
| G852-02114-01<br>PLASTIC, BUMPER, LEFT, 5a |  |
| G853-00960-01<br>MECH, USB, STAMPING PLATE, 5a |  |
| G806-04717-01<br>DIECUT, CONDUCTIVE FABRIC, SPK, FATP, 5a |  |

| | |
|---|---|
| G730-05961-0<br>ASSY, MECH, DISPLAY PC SPACER, LEFT, 5a |  |
| G806-05495-01<br>DIECUT, PC FILM, DISPLAY MIDDLE, 5a |  |
| G852-02116-01<br>PLASTIC, BUMPER, RIGHT2, 5a |  |
| G250-05341-00<br>6 x screws |  |
| G250-05726-00<br>1 x screw |  |
| G250-05391-00<br>1 x screw |  |
| G250-04528-00<br>1 x screw |  |

## 01. Remove spacer left



## 02. Remove conductive fabric
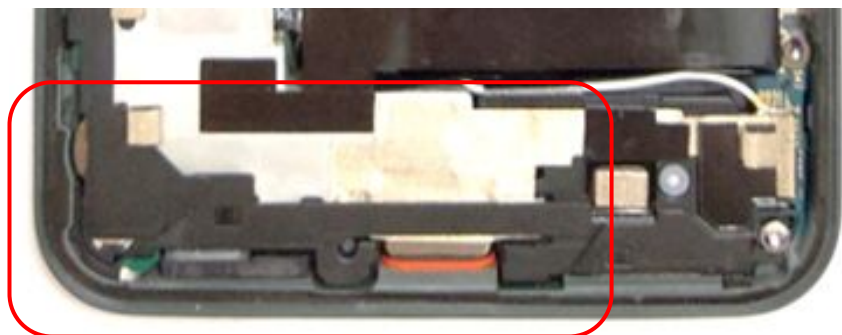


- Use **plastic ESD tweezers** to remove Spacer Left.
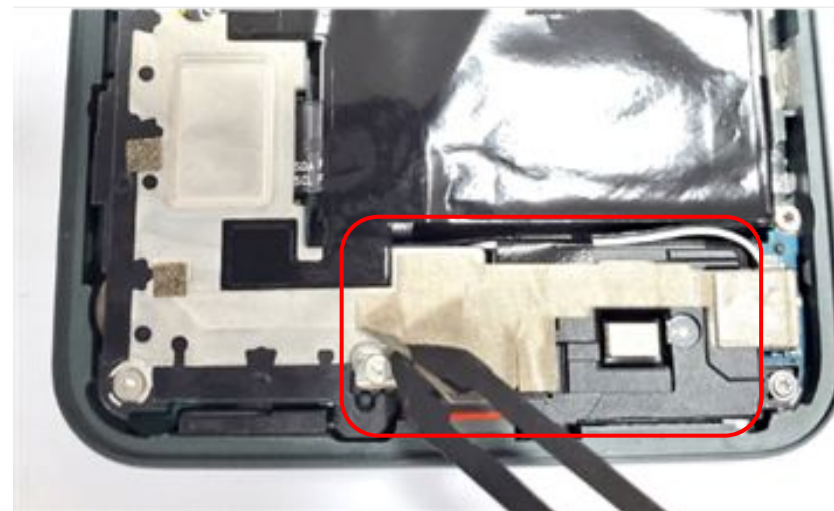
- Use **plastic ESD tweezers** to peel off the Conductive Fabric covering the USB stamping plate.

---

Do NOT reuse this part.

Do NOT reuse this part.

Display | Mid-frame | Rear Camera | Bottom Speaker | Audio jack FPC | Logic board | ANT2 board | Front Camera | Mic1 Bracket | Top Speaker | Side key FPC | Battery

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## 03. Remove the screw



1     2
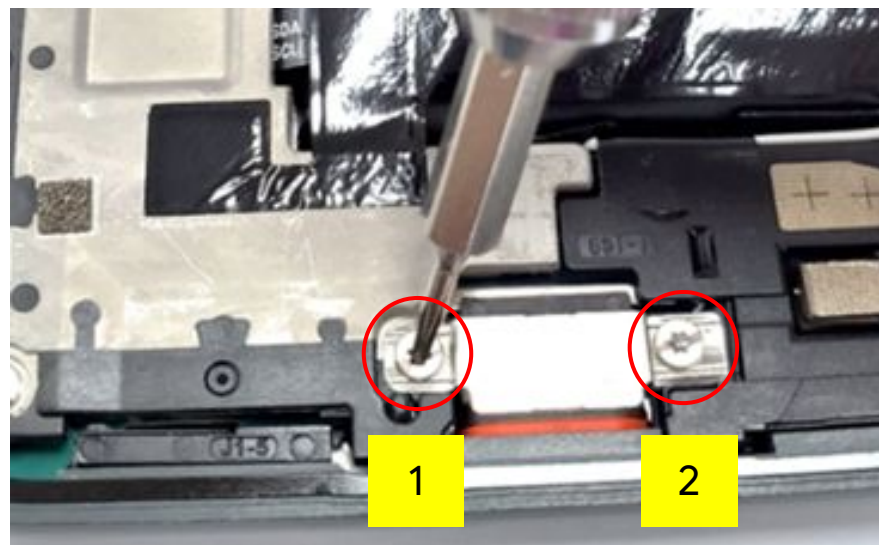
- Use a Screwdriver Torx Plus 3IP to remove 2 screws securing the USB stamping plate.

---

Do NOT reuse screws.

## 04. Remove the USB plate
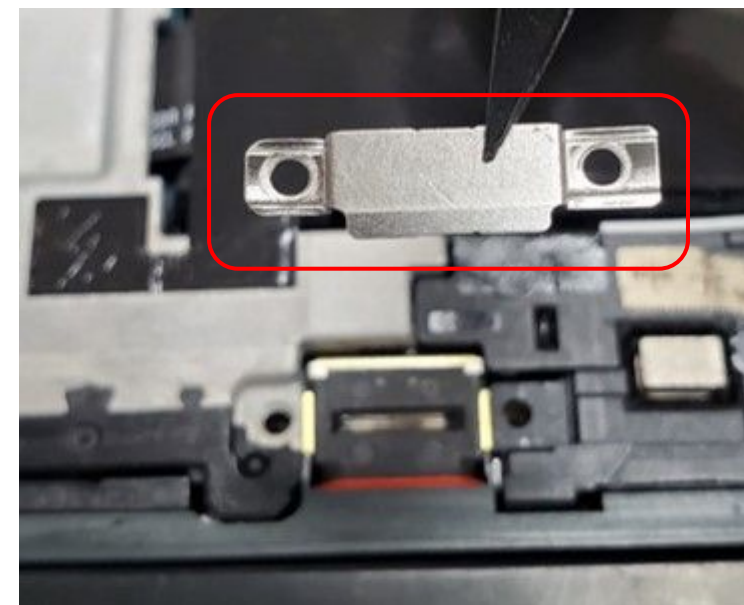


- Use a **plastic ESD tweezers** to remove **USB Stamping Plate.**

---

Do NOT reuse this part.

| Display | **Mid-frame** | Rear Camera | Bottom Speaker | Audio jack FPC | Logic board | ANT2 board | Front Camera | Mic1 Bracket | Top Speaker | Side key FPC | Battery |

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## 05. Remove the screw
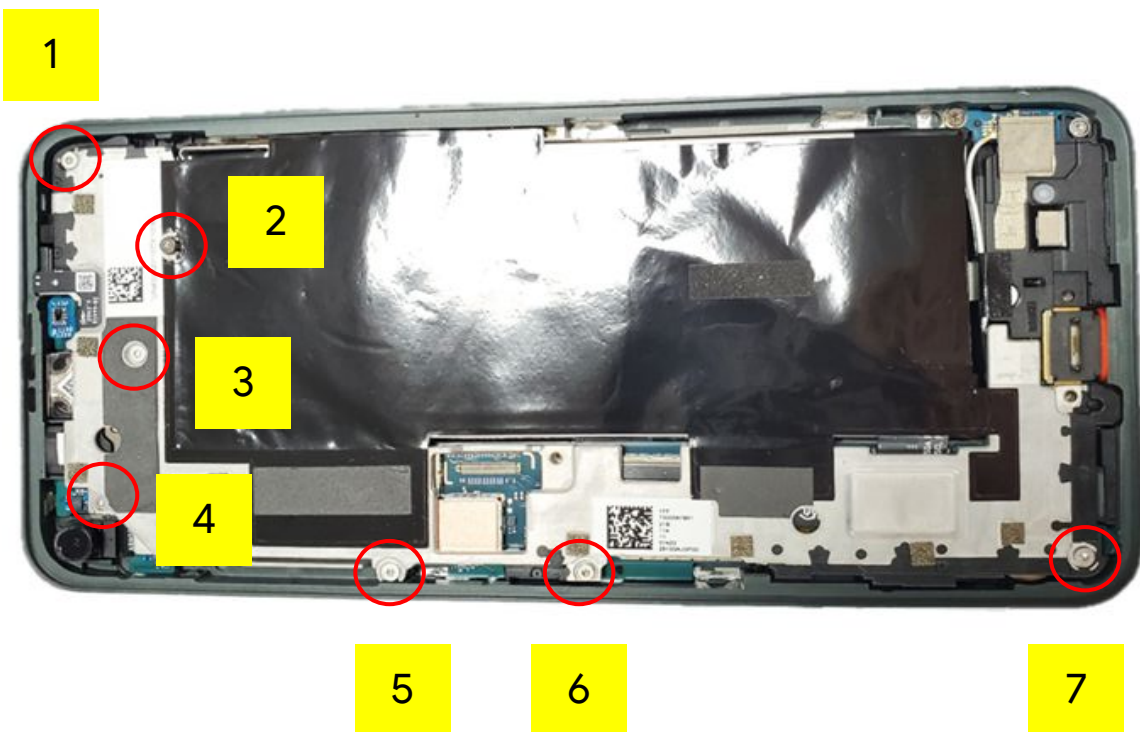


- Use a Screwdriver Torx Plus 3IP to remove 7 screws securing middle frame to Logic board.

---

Do NOT reuse screws.

## 06. Remove middle frame
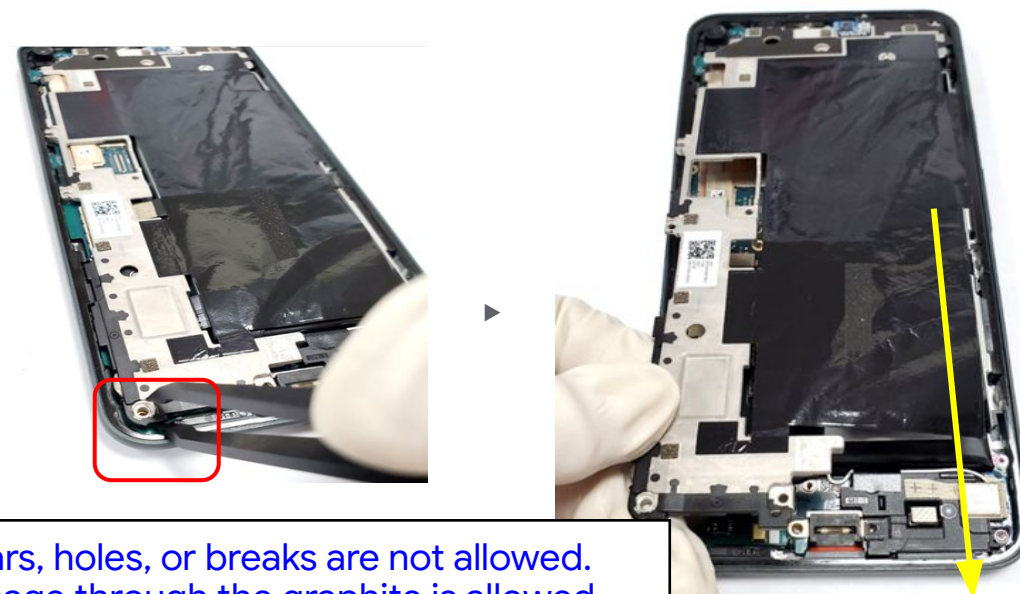


**NG: Tears, holes, or breaks are not allowed.
No damage through the graphite is allowed.**

- Use **plastic ESD tweezers** to lift up the **Middle Frame** from the lower left hand corner.

- Raise the **middle frame** up to 45 degree angle, and pull it backwards.

---

1. Do NOT damage P-sensor IC.

Display | **Mid-frame** | Rear Camera | Bottom Speaker | Audio jack FPC | Logic board | ANT2 board | Front Camera | Mic1 Bracket | Top Speaker | Side key FPC | Battery
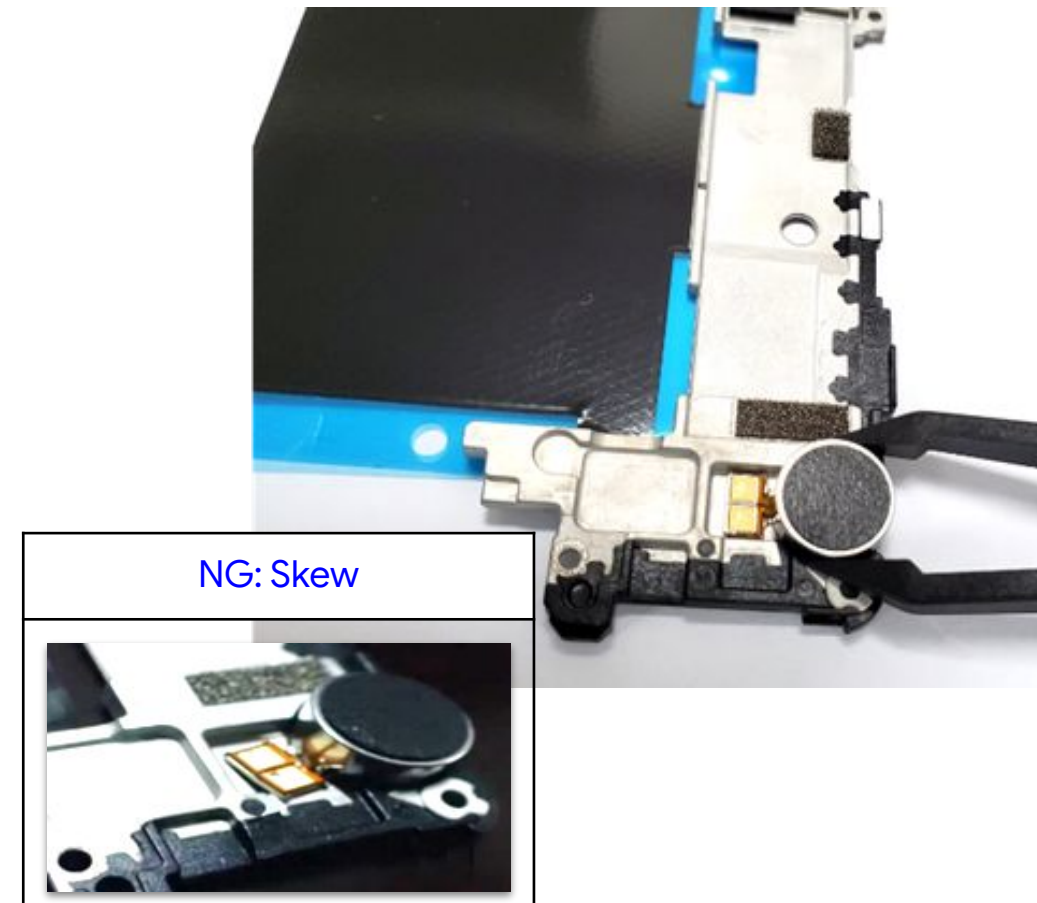
Pixel 5a Repair Manual v4.0 ©Google 2024  |  Page  64
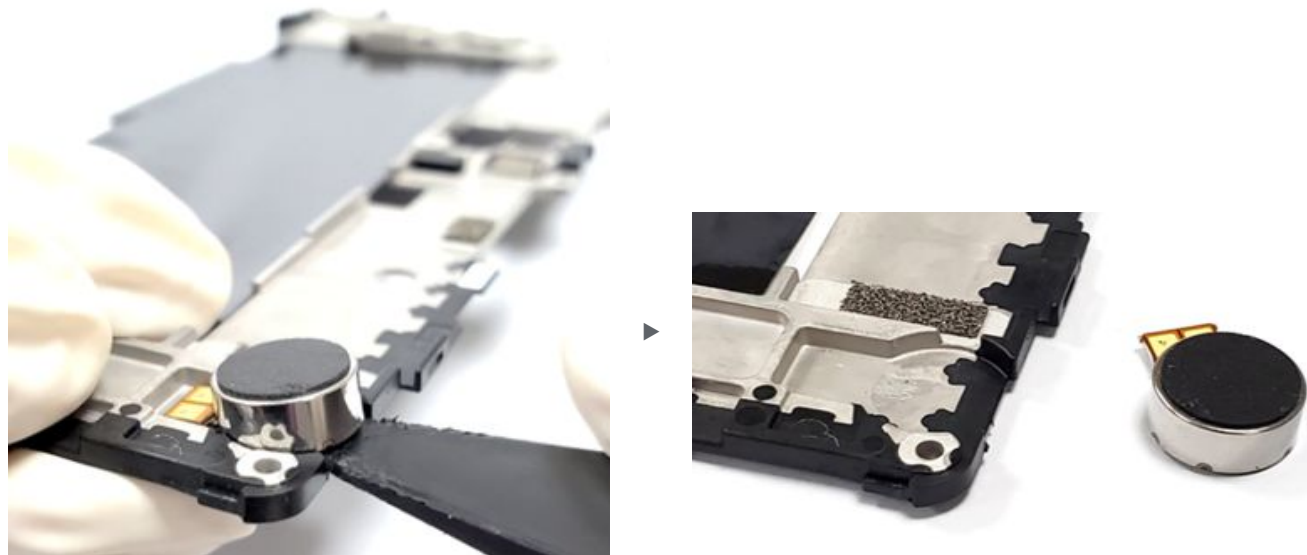
## 07. Remove vibrator



- Insert the **plastic Universal Disassembly ESD stick** below **Vibrato**r to remove it.

## 08. Remove P-sensor FPC
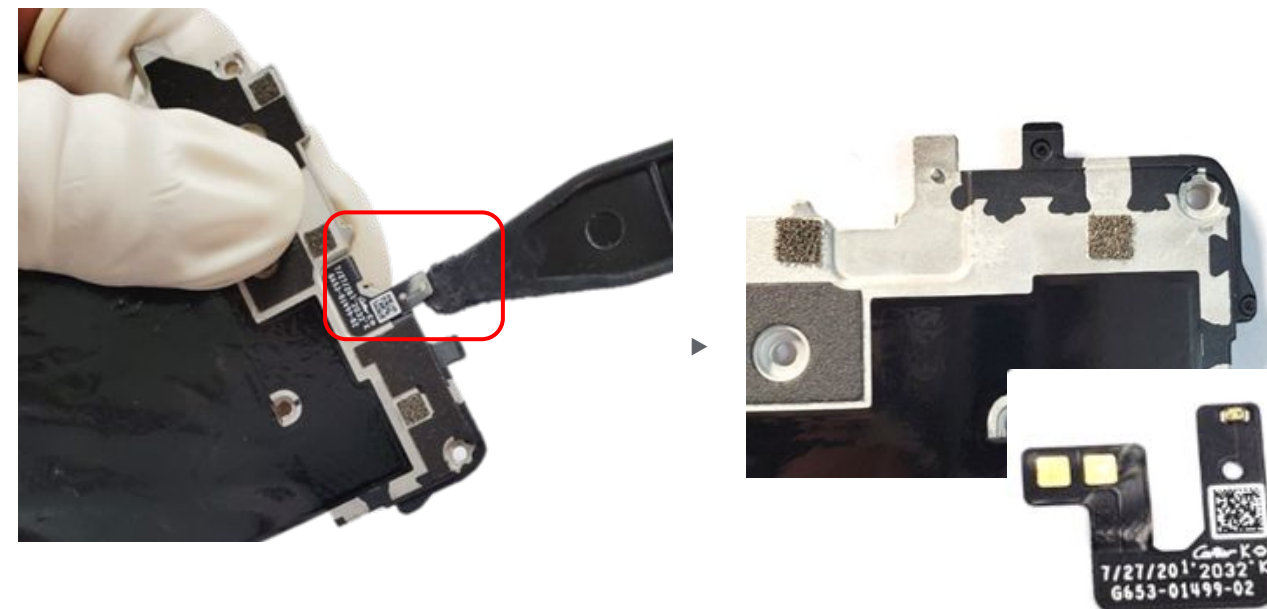


- Use a **plastic Universal Disassembly ESD stick** to remove **P-sensor FPC**.

---

Do NOT reuse this part.

| Display | **Mid-frame** | Rear Camera | Bottom Speaker | Audio jack FPC | Logic board | ANT2 board | Front Camera | Mic1 Bracket | Top Speaker | Side key FPC | Battery |

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## 09. Remove left/right bumpers
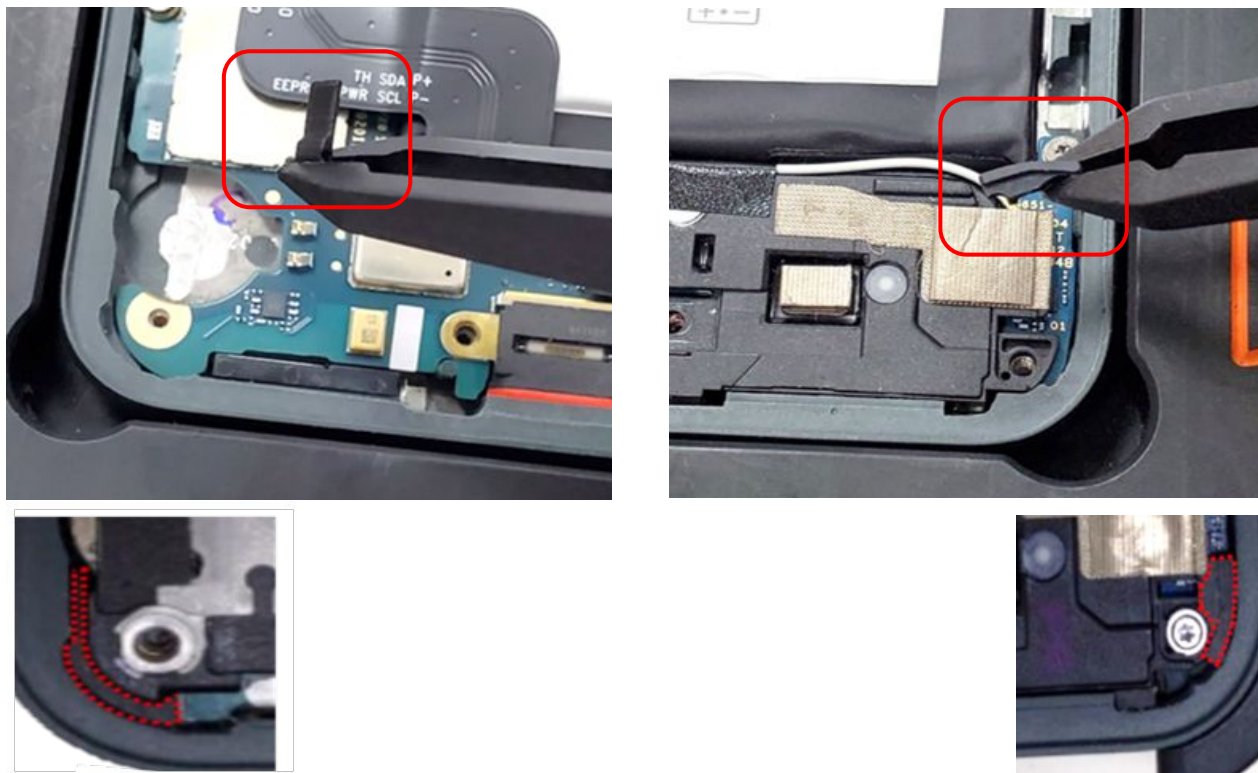


- Use a plastic ESD tweezers to **remove 2 Bumpers** (Left & Right 2) from enclosure.

-------------------------------------------------------------------

Be very careful as these plastic bumpers can fly off easily.

⚠️

Display  Mid-frame  Rear Camera  Bottom Speaker  Audio jack FPC  Logic board  ANT2 board  Front Camera  Mic1 Bracket  Top Speaker  Side key FPC  Battery

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Assembly instructions

# Mid-frame

## 01. Install P-sensor
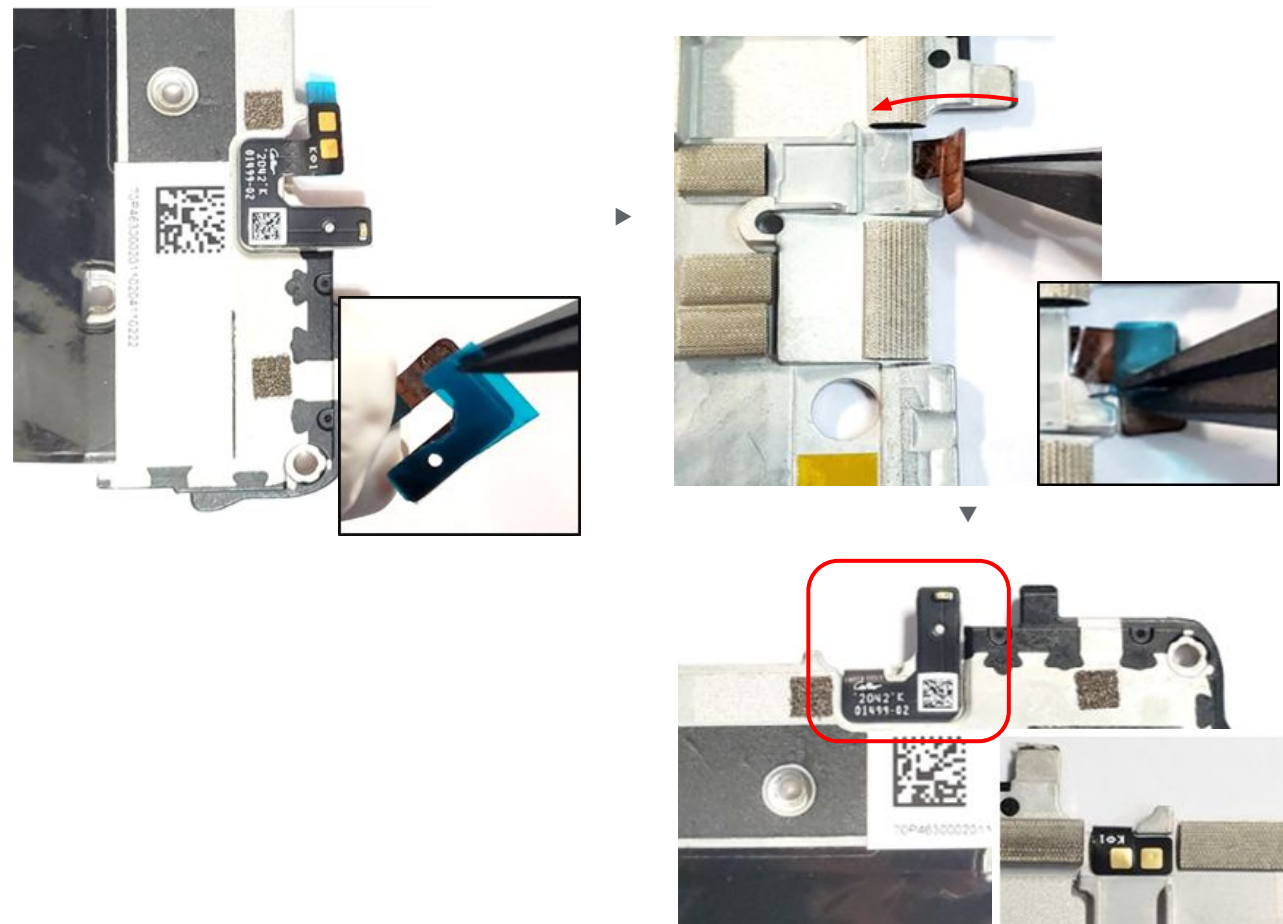


- Tear off the liner on **P-sensor** with **plastic ESD tweezers**.
- Assemble **P-sensor** on **middle frame** following the designated order.

## 02. Install vibrator



NG: Skew

- Remove the liner from the vibrator.
- Install **Vibrator** on the back of **middle frame**.

Display  |  **Mid-frame**  |  Rear Camera  |  Bottom Speaker  |  Audio jack FPC  |  Logic board  |  ANT2 board  |  Front Camera  |  Mic1 Bracket  |  Top Speaker  |  Side key FPC  |  Battery

Pixel 5a Repair Manual v4.0 ©Google 2024  |  Page     68
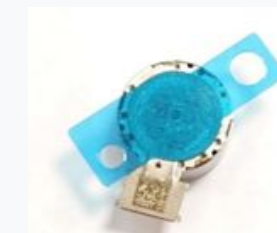
## 03. Install middle frame
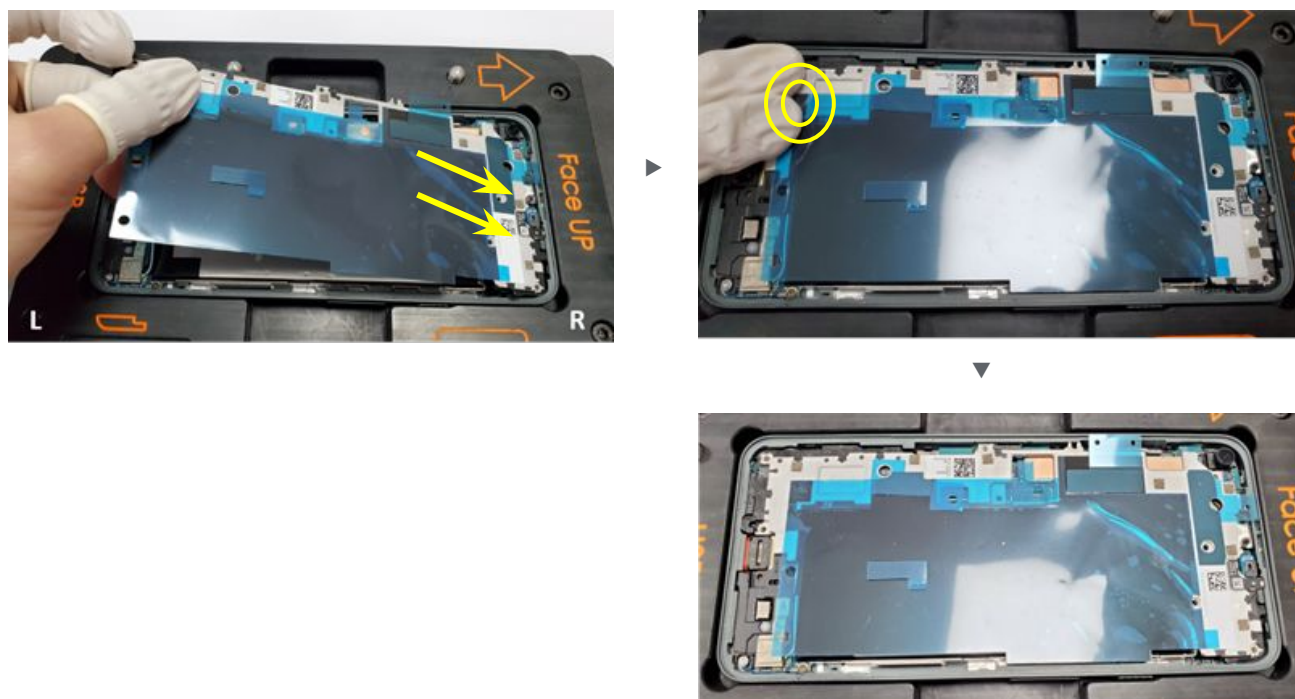


- Align the lower right slot for assembly **middle frame**.

| NG: assembling to the left (USB) is wrong. | NG: Pin is broken | OK |
|---|---|---|
|  |  |  |

- Secure the middle frame using the **1 slot** and **1 pin** on the enclosure.

Pin          Slot

| Display | Mid-frame | Rear Camera | Bottom Speaker | Audio jack FPC | Logic board | ANT2 board | Front Camera | Mic1 Bracket | Top Speaker | Side key FPC | Battery |

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## 04. Insert bumper left



- Take 1 pcs of **Bumper Left** with **plastic ESD tweezers**.
- Align with enclosure inside profile and insert it between the middle frame and enclosure.



------------------------------------
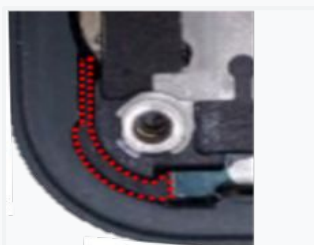
The bumper must be lower than enclosure PSA plate. ⚠️

## 05. Remove liners
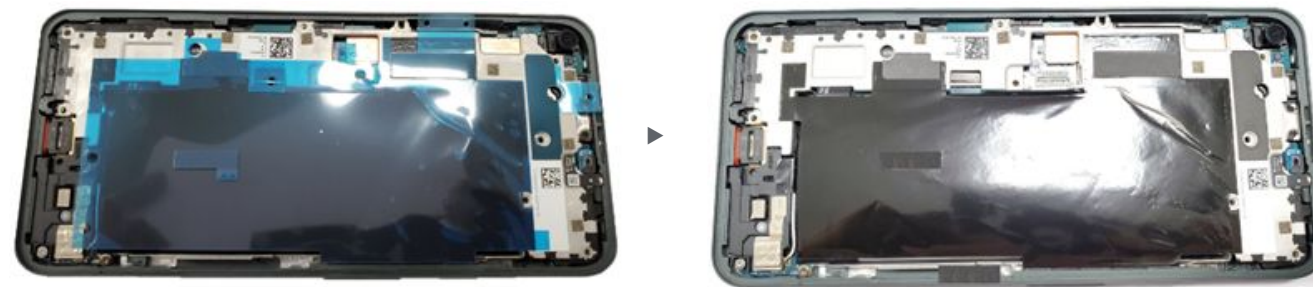


- Tear off all the liners on middle frame carefully and slowly.

------------------------------------

Do NOT damage the graphite sheet. ⚠️

| Display | Mid-frame | Rear Camera | Bottom Speaker | Audio jack FPC | Logic board | ANT2 board | Front Camera | Mic1 Bracket | Top Speaker | Side key FPC | Battery |

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## 06. Fasten the screw



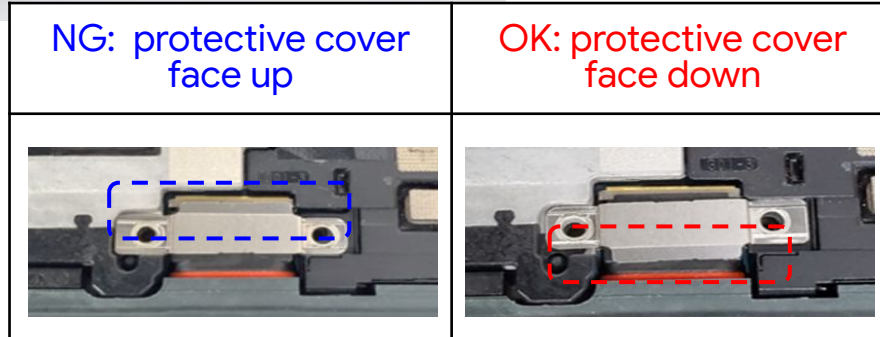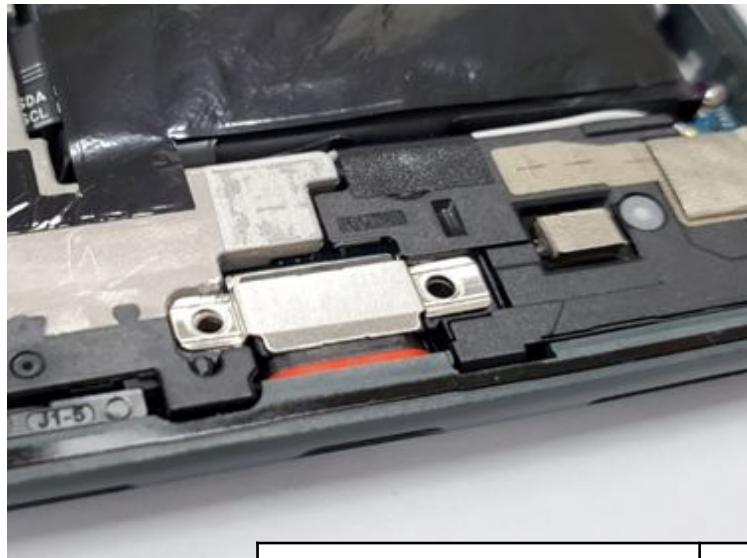| | G250-05341-00<br>M1.4x4.1 ; Head D 2.7<br>(Torque force:<br>1.2kgf.cm +/-10%) | 1 |
|---|---|---|

1.2 kgf.cm +/-10%

red-long

- Attach the Pixel 5a screw cover on Enclosure Holder Fixture.
- Fasten 1 pcs screw on middle frame with Screwdriver Torx Plus 3IP.

---
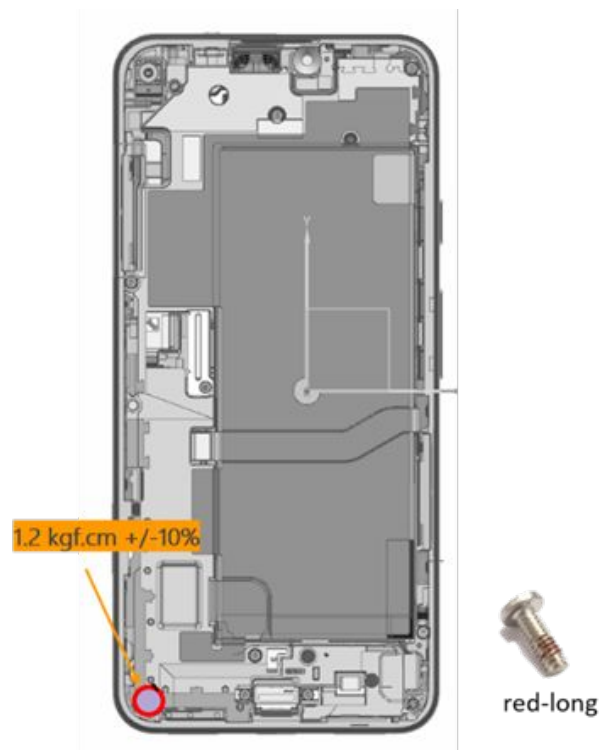
1. Make sure the screw head is not tilted during installation, and ensure the screw is fully seated.
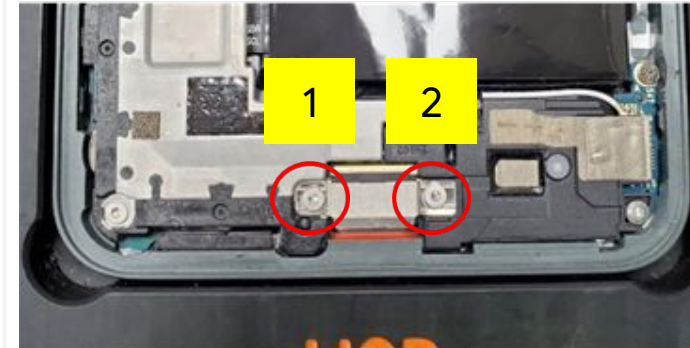2. Do NOT reuse this part.

## 07. Fasten the screw



| | G250-05341-00<br>M1.4x4.1 ; Head D 2.7<br>(Torque force:<br>1.2kgf.cm +/-10%) | 3 |
|---|---|---|
| | G250-05726-00<br>M1.2x4.1 ; Head D 2.2<br>(Torque force:<br>1.1kgf.cm +/-10%) | 1 |
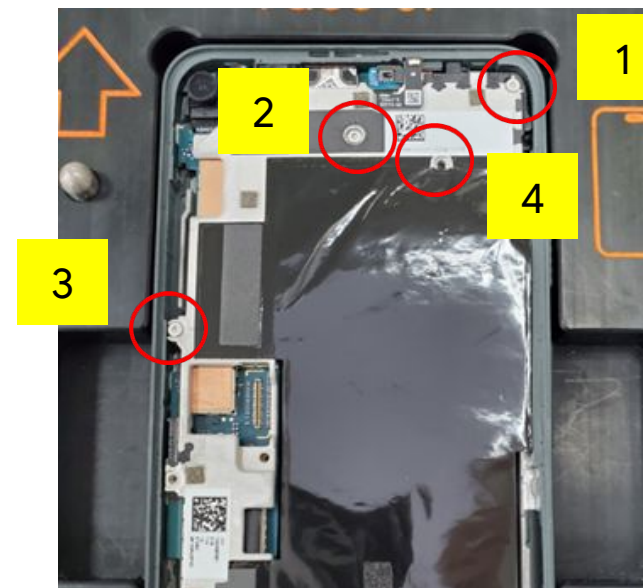
- Attach the Pixel 5a screw cover on Enclosure Holder Fixture.
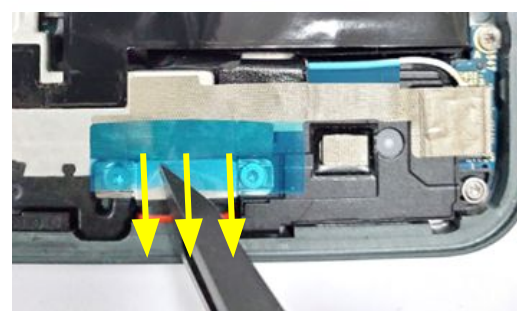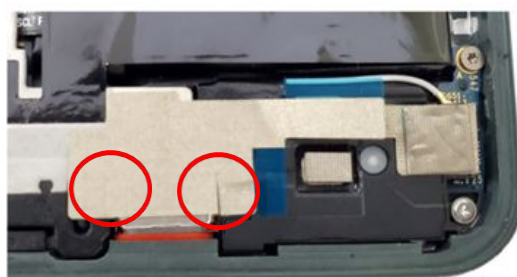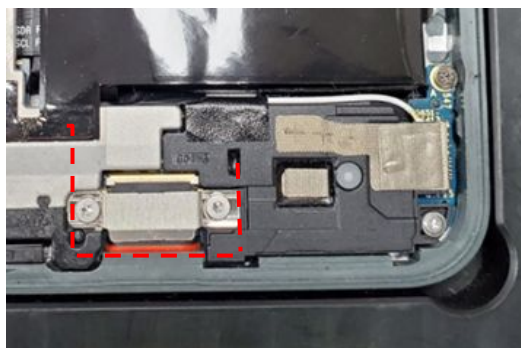- Fasten 4 pcs screws on middle frame with Screwdriver Torx Plus 3IP.

---

1. Make sure the screw head is not tilted during installation, and ensure the screw is fully seated.
2. Do NOT reuse screws.

Display | Mid-frame | Rear Camera | Bottom Speaker | Audio jack FPC | Logic board | ANT2 board | Front Camera | Mic1 Bracket | Top Speaker | Side key FPC | Battery

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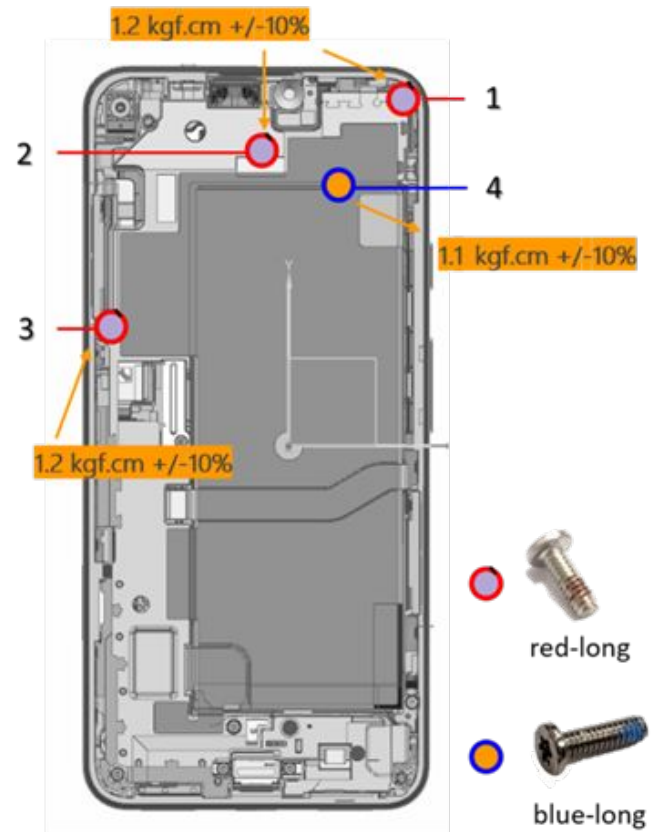
## 08. Fasten the screw



| | G250-05391-00<br>M1.2x1.5 ; Head D 2.7<br>(Torque force:<br>1.2kgf.cm +/-10%) | 1 |
|---|---|---|
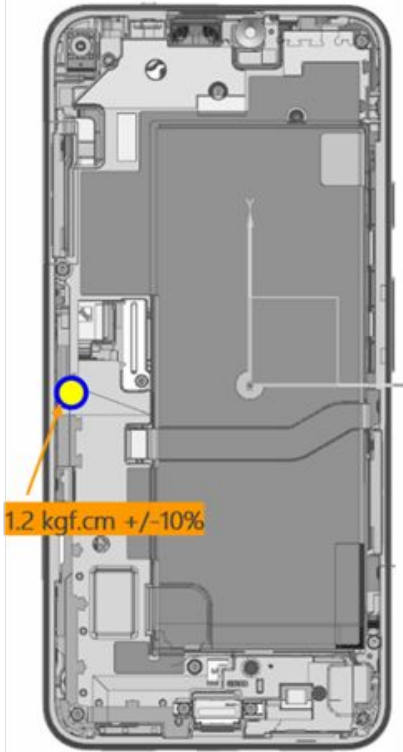
1.2 kgf.cm +/-10%

1.1 kgf.cm +/-10%

1.2 kgf.cm +/-10%

red-long

blue-long

blue-short

- Attach the Pixel 5a screw cover on Enclosure Holder Fixture.
- Fasten 1 pcs screw on middle frame with Screwdriver Torx Plus 3IP.

-------------------------------------------------------

1. Make sure the screw head is not tilted during installation, and ensure the screw is fully seated.
2. Do NOT reuse screws.

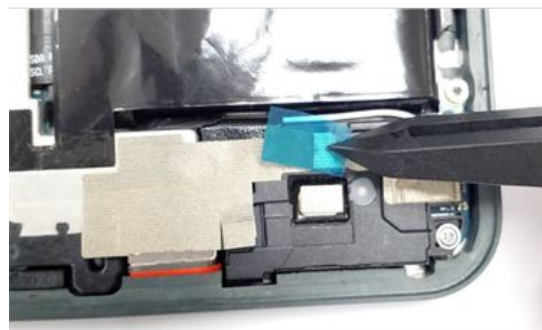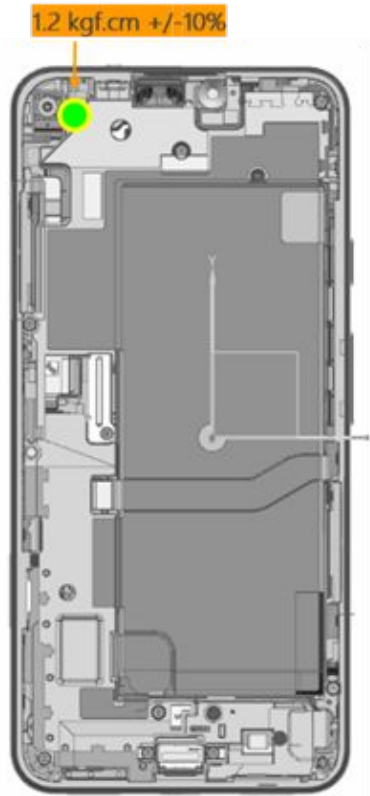Display | Mid-frame | Rear Camera | Bottom Speaker | Audio jack FPC | Logic board | ANT2 board | Front Camera | Mic1 Bracket | Top Speaker | Side key FPC | Battery

Pixel 5a Repair Manual v4.0 ©Google 2024  |  Page  72

## 09. Install USB plate



| NG: protective cover face up | OK: protective cover face down |
|---|---|
|  |  |

- Assemble the **USB stamping plate** following the designated position.

## 10. Fasten the screw



| ● | G250-05341-00 M1.4x4.1 ; Head D 2.7 (Torque force: 1.1 kgf.cm +/-10%) | 2 |
|---|---|---|

| NG: screw head with title |
|---|
|  |

red-long



1.1 kgf.cm +/-10%
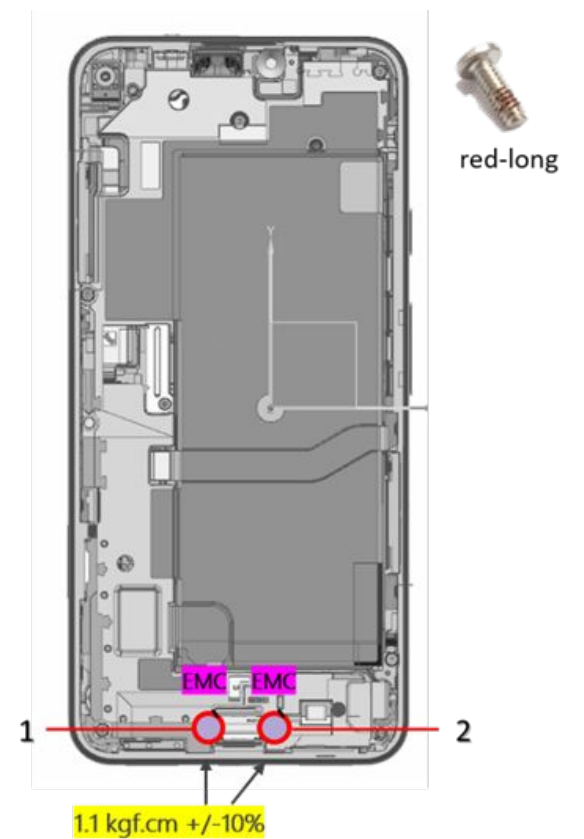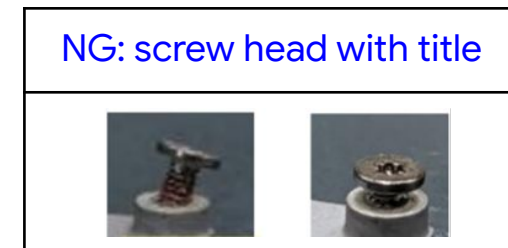
- Attach the Pixel 5a screw cover on Enclosure Holder Fixture.
- Fasten 2 pcs screw on USB with Screwdriver Torx Plus 3IP.

---

1. Make sure the screw head is not tilted during installation, and ensure the screw is fully seated.
2. Do NOT reuse screws.

Display | Mid-frame | Rear Camera | Bottom Speaker | Audio jack FPC | Logic board | ANT2 board | Front Camera | Mic1 Bracket | Top Speaker | Side key FPC | Battery
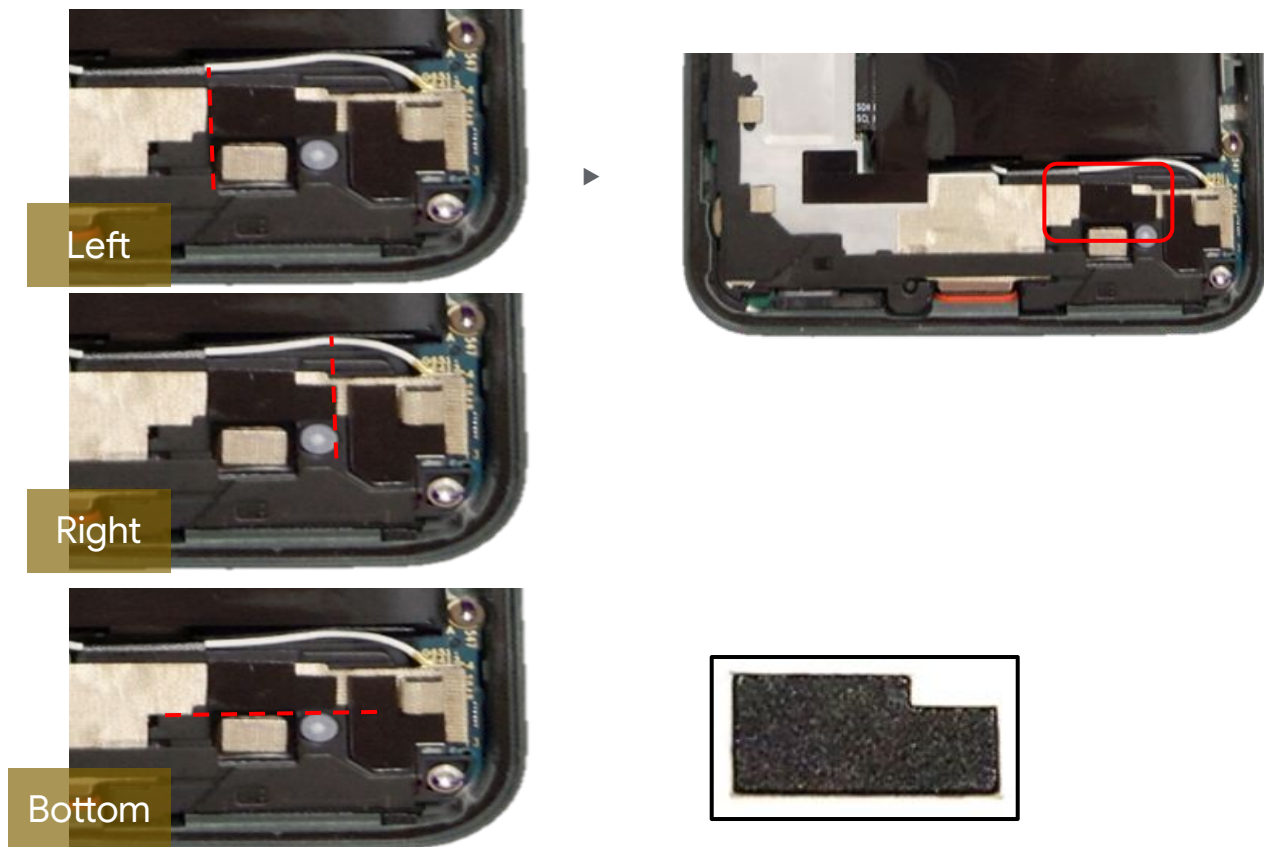
Pixel 5a Repair Manual v4.0 ©Google 2024 I Page    73

## 11. Paste conductive fabric

*Remove Liner 3 & Paste*



▶

*Remove Liner 1 & Paste*



▼

*Remove Liner 2 & Paste*



▼

*Final view*



Liner 2          Liner 1



Liner 3
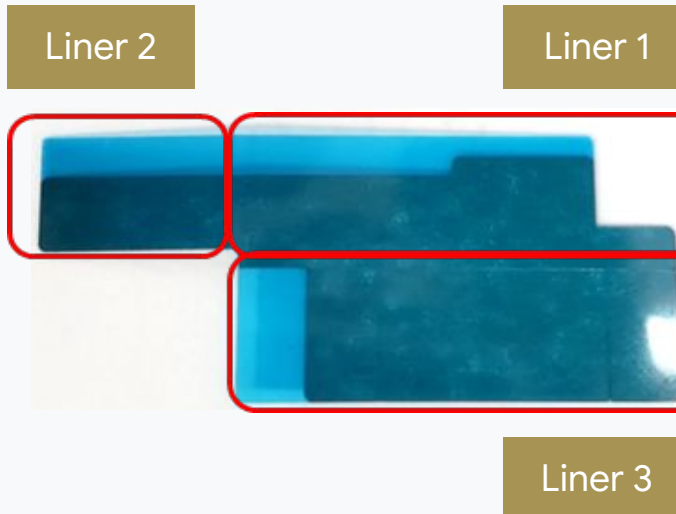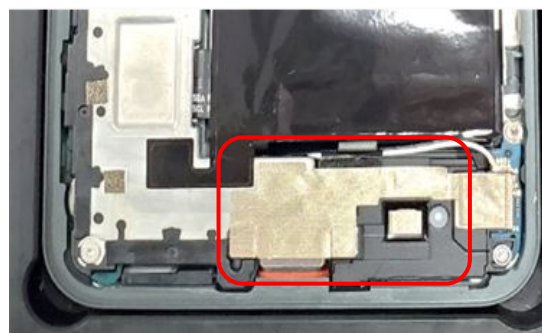
- Paste 1 pcs of **conductive fabric** following the designated order.

---

Conductive fabric must cover screws.          ⚠

Display  ›  **Mid-frame**  ›  Rear Camera  ›  Bottom Speaker  ›  Audio jack FPC  ›  Logic board  ›  ANT2 board  ›  Front Camera  ›  Mic1 Bracket  ›  Top Speaker  ›  Side key FPC  ›  Battery

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## 12. Fasten the screw



1.2 kgf.cm +/-10%

| | G250-04528-00<br>M1.4x3.5 ; Head D 2.7<br>(Torque force:<br>1.2kgf.cm +/-10%) | 1 |
|---|---|---|

yellow-long

- Attach the Pixel 5a screw cover on Enclosure Holder Fixture.
- Fasten 1 pcs screw on middle frame with Screwdriver Torx Plus 3IP.

1. Make sure the screw head is not tilted during installation, and ensure the screw is fully seated.
2. Do NOT reuse screw.

## 13. Install spacer 1

TOP
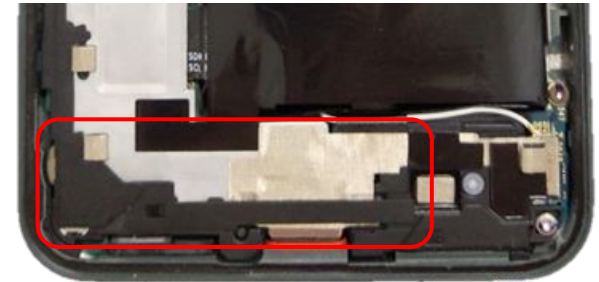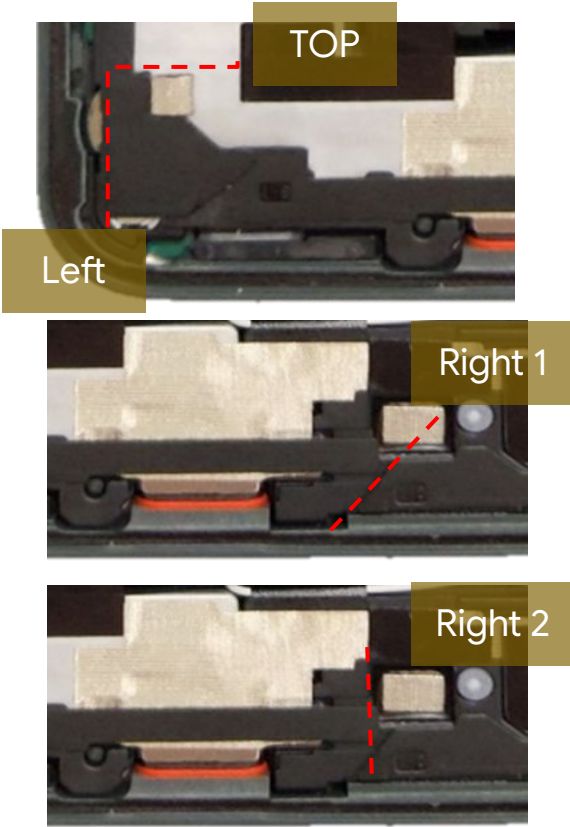
Left

Right 1

Right 2

- Paste 1 pcs of **spacer** following alignment line.
  - Top: Align the square conductive foam
  - Left: Align side of the middle frame.
  - Right 1: Do not stack to the bottom speaker spacer after assembly.

  - Right 2: Align the rectangular conductive foam.

| Display | Mid-frame | Rear Camera | Bottom Speaker | Audio jack FPC | Logic board | ANT2 board | Front Camera | Mic1 Bracket | Top Speaker | Side key FPC | Battery |
|---|---|---|---|---|---|---|---|---|---|---|---|

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## 14. Install spacer 2



Left

Right

Bottom

- Paste 1 pcs of **spacer** following alignment line.
  - Left: Align the end of conductive fabric.
  - Right: Do not stack to the bottom speaker spacer.

  

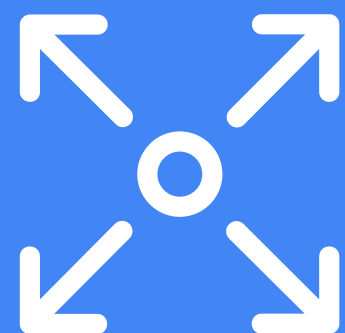  - Bottom: Align the rectangular conductive foam.

## 15. Install bumper R2
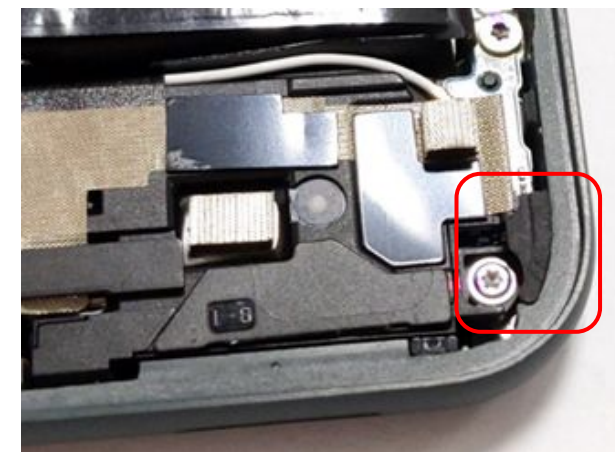


- Take 1 pcs of **Bumper R2** with **plastic ESD tweezers.**
- Align with enclosure inside profile and insert it between the bottom speaker and enclosure.

---

The bumper should be below the edge of the midframe. ⚠️

Display → **Mid-frame** → Rear Camera → Bottom Speaker → Audio jack FPC → Logic board → ANT2 board → Front Camera → Mic1 Bracket → Top Speaker → Side key FPC → Battery

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Disassembly instructions

# Rear camera

# Rear camera replacement

## Prerequisites

The following components must be removed first:

- Display module
- Mid-frame

## Tools

Ionizing air fan
Enclosure & ANT2 Holder (Button)
ESD tweezers
Universal Fish line
Universal Cap Removal
Rear Camera FPC Reshaping
**(*Depot only)**

## Parts

G949-00145-01
Rear Camera FPC Module Assembly, 5a (12M)

G949-00146-01
Rear Camera FPC Module Assembly, 5a (16M)

G80-04714-01
2 x RCAM protective films

G806-04548-01
12M RCAM protective cap
G806-04547-01
16M RCAM protective cap

**Caution!**
Review all **safety precautions** before beginning work.

## 01. Disconnect the Battery FPC
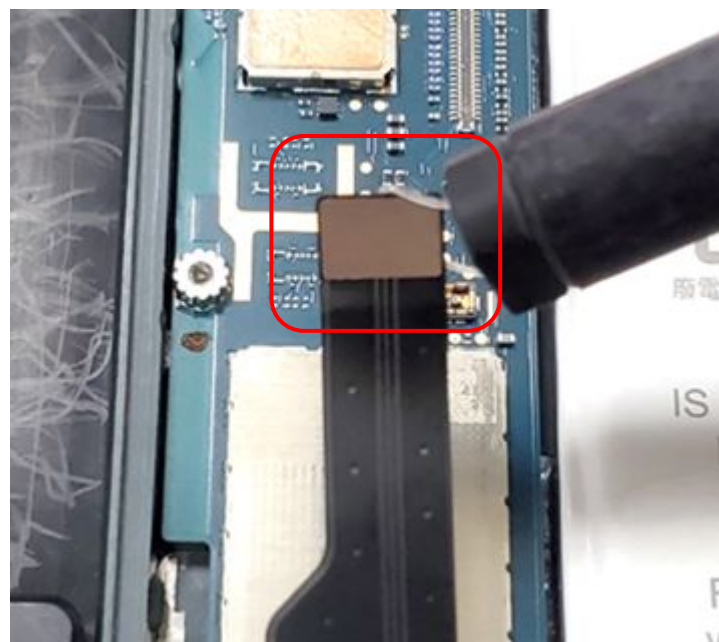


- Use **universal fish line tool** to disconnect the **Battery FPC** from Logic board, and then lift up the FPC from shield.

---

Caution: do not damage the nearby components ⚠️

## 02. Remove 12M rear camera
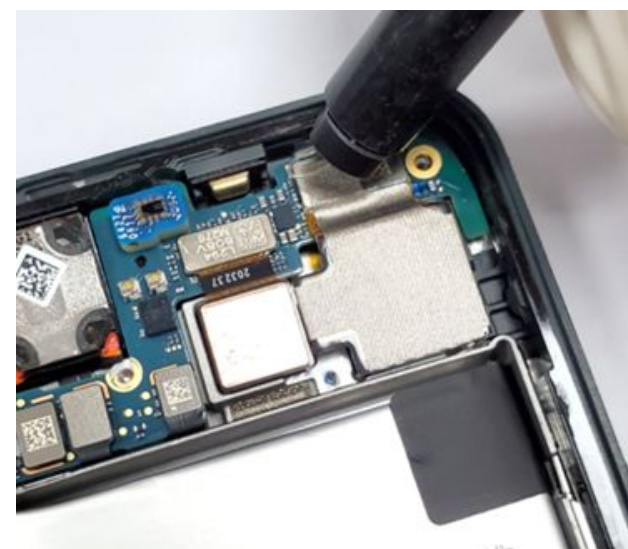


- Use **universal fish line tool** to disconnect **12M Rear Camera** from Logic board.
- Use a plastic ESD tweezers to remove it.

---

The camera may fly off once it's disconnected. ⚠️

Display  |  Mid-frame  |  **Rear Camera**  |  Bottom Speaker  |  Audio jack FPC  |  Logic board  |  ANT2 board  |  Front Camera  |  Mic1 Bracket  |  Top Speaker  |  Side key FPC  |  Battery

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## 03. Stick protective film



- Stick the **protective film** onto 12M Rear Camera with plastic **ESD tweezers**.

**Part**: G80-04714-01 (Protective film)

---

1. Ensure there is no dust or debris in the camera lens before attaching the protective film
2. Apply the protective film gently and do NOT damage the sponge.
3. Do NOT reuse this part.

## 04. Cover the protective cap
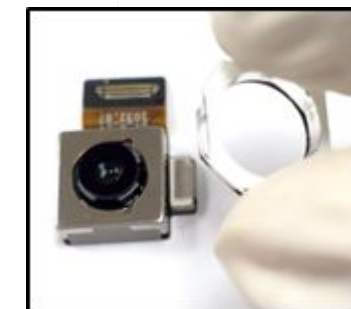


- Carefully assemble the **protective cap** on the camera to avoid dust.

**Part**: G806-04548-01 (12M RCAM protective cap)

---

1. Protective cap is a reusable part. If the protective is lacking adhesive or has dust, please use a new protective cap.
2. Do not damage the camera lens.

## 05. Remove 16M rear camera



- Use **universal fish line tool** to disconnect **16M Rear Camera** from Logic board.
- Use a **plastic ESD tweezers** to remove it.

---

The camera may fly off once it's disconnected.

⚠️

## 06. Stick protective film
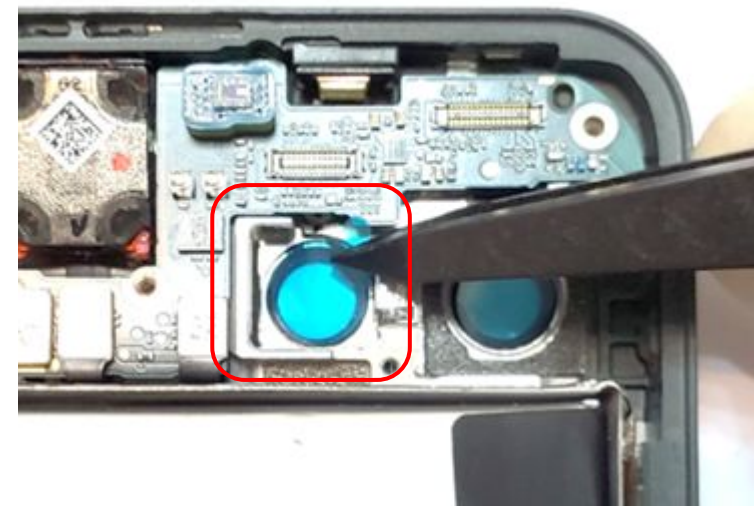


- Stick the **protective film** onto **16M Rear Camera** with plastic ESD tweezers.

**Part**: G806-04714-01 (Protective film)

---

1. Please make sure there is no any dust or debris on the camera area before attaching the protective film.
2. Apply the protective film gently and do NOT damage the sponge.
3. Do NOT reuse this part.

⚠️

Display | Mid-frame | **Rear Camera** | Bottom Speaker | Audio jack FPC | Logic board | ANT2 board | Front Camera | Mic1 Bracket | Top Speaker | Side key FPC | Battery

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## 07. Cover the protective cap



- Carefully assemble the **protective cap** on the camera to avoid dust.

**Part**: G806-04547-01 (16M RCAM protective cap)

1. Protective cap is a reusable part.
   If the protective is lacking adhesive or has dust, please use a new protective cap.
2. Do not damage the camera lens.

Display | Mid-frame | **Rear Camera** | Bottom Speaker | Audio jack FPC | Logic board | ANT2 board | Front Camera | Mic1 Bracket | Top Speaker | Side key FPC | Battery

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Assembly instructions

# Rear camera

## 01. Remove protective films
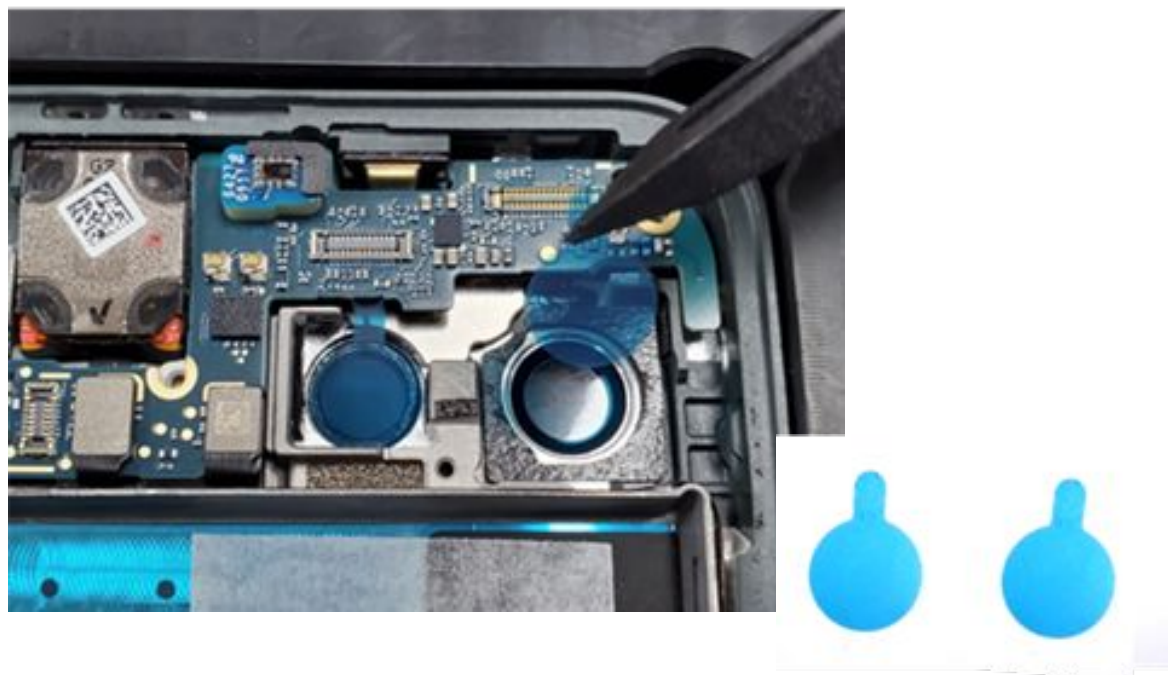


- Gently and slowly remove **2 pcs protective films** from rear camera socket with **plastic ESD tweezer**s.

## 02. Remove protective films (for new enclosure)
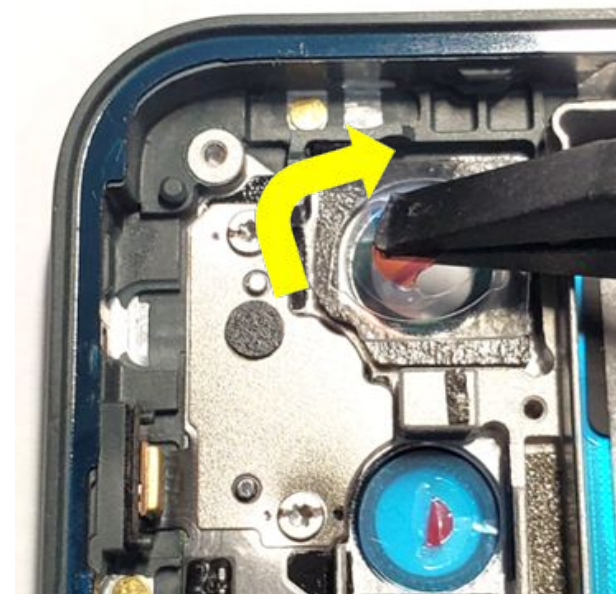


NG: only 1 layer, clearly see the tweezer in the light.

OK: : 2 layers, can NOT see the tweezer in the light.
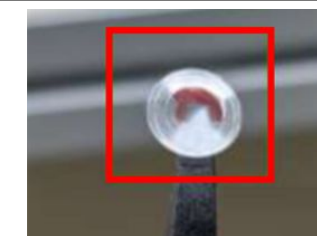
- Gently and slowly flipping up way to remove **2 pcs protective films** as arrow mark from rear camera socket with **plastic ESD tweezers**.

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

Make sure that the protective film you tear off has 2 layers.

## 03. Install 12M RCAM
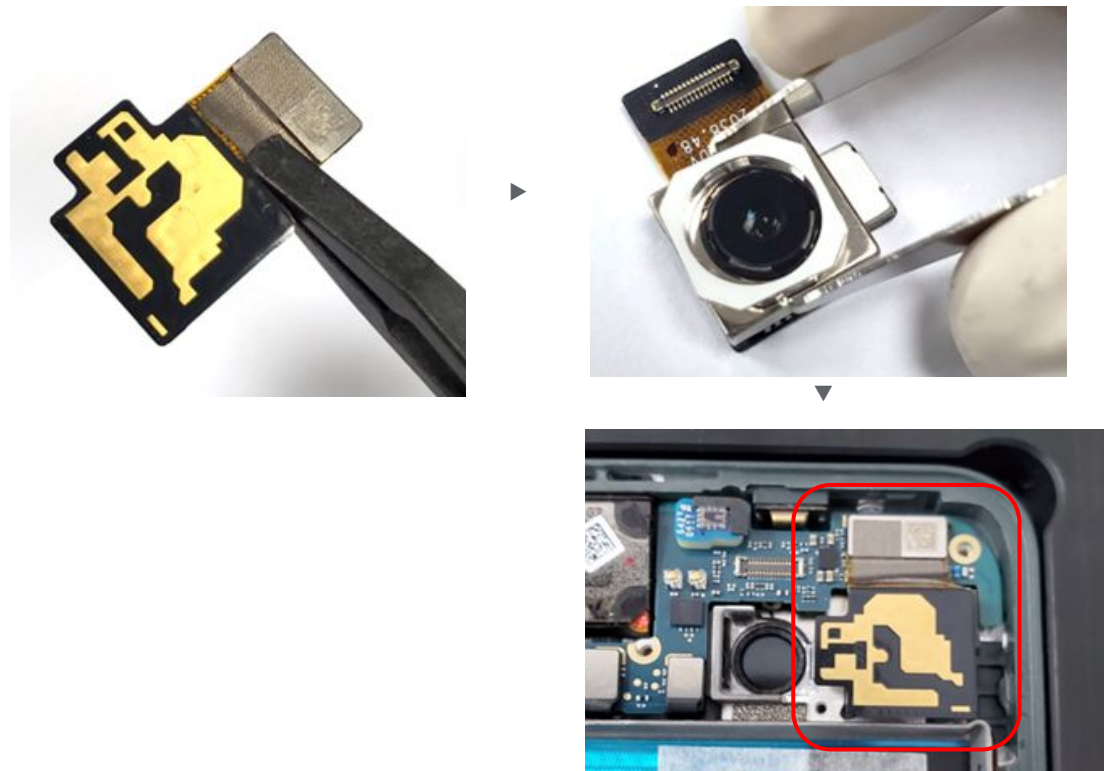


- Hold the camera from the FPC area.
  Do NOT touch the lens.
- Remove camera protective cap with **Universal Cap Removal tool**.
- Assemble **12M Rear camera** and connect it on Logic board.

---

Check every connector is properly connected to the Logic board, else the product may not function as intended. ⚠️

## 04. Install 16M RCAM



| NG: press camera body | OK: press BTB position |
|---|---|
|  |  |
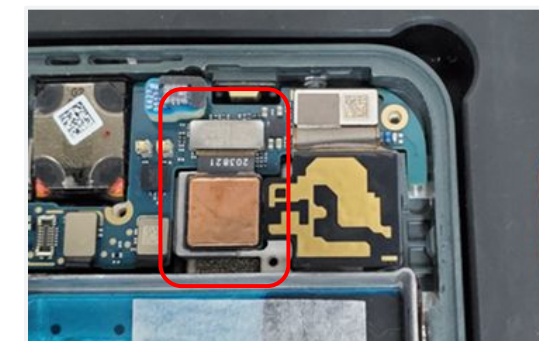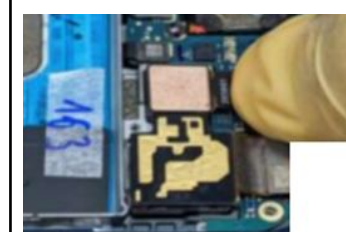
- Take the camera from the FPC area.
  **Do NOT touch the lens.**
- Twist and turn the protective cap clockwise.
- Assemble **16M Rear camera** and connect it on Logic board.

---

1. Check every connector totally buckled to the Logic board.
2. Do NOT press camera body. (refer pic. above) ⚠️

---

Display → Mid-frame → **Rear Camera** → Bottom Speaker → Audio jack FPC → Logic board → ANT2 board → Front Camera → Mic1 Bracket → Top Speaker → Side key FPC → Battery

## 05. Inspect back cover



**NG: Not remove protective film**



---
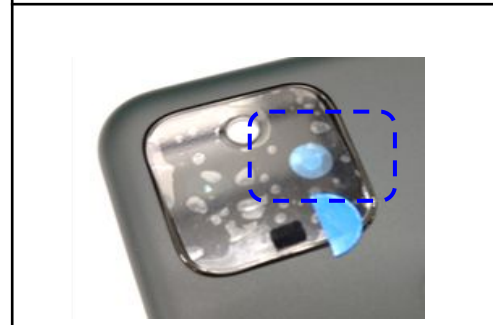
1. Check every protective film has been removed from the camera lens (refer pic. above)
2. Ensure there is no dust of debris on the camera area of the enclosure before camera installation.

⚠️

## 06. Reshape 12M RCAM



**NG: Not fully buckled**
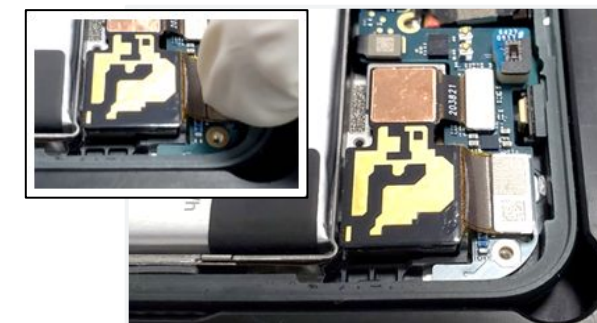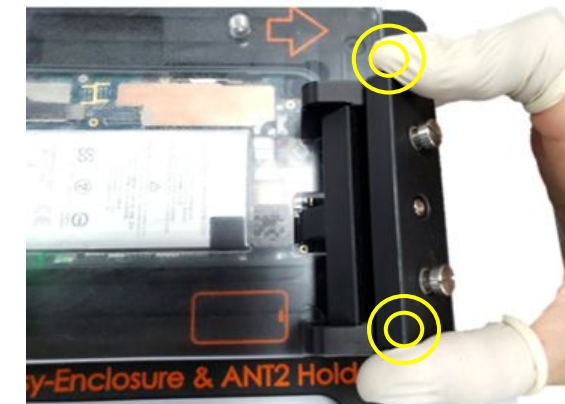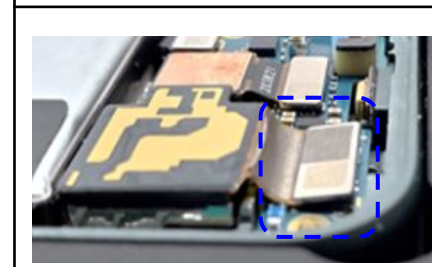


- Mount the **Rear Camera FPC Reshaping Fixture** on the top.
- Press the 12M rear camera module.
  **Keeping time: 10s**
- Buckle connector to the Logic board again.

---

Check every connector is properly connected to the Logic board, else the product may not function as intended..
(refer pic. above)

⚠️

Disassembly instructions

# Bottom speaker

# Bottom speaker replacement

## Prerequisites

The following components must be removed first:

- Display module
- Mid-frame
- ANT2 board

## Tools

Ionizing air fan
Torx Plus 3IP screwdriver
Universal Fish line
Enclosure & ANT2 Holder (Button)
Screw Cover
ESD tweezers

## Parts

G863-00395-01
SPEAKER, BOTTOM, MP, 5a

G806-04406-01
DIECUT, KAPTON, BOTTOM
SPEAKER CABLE FIXING, 5a

G250-04528-00
2x screw

G250-05371-00
3 x screw

**Caution!**
Review all **safety precautions** before beginning work.

## 01. Remove the screw
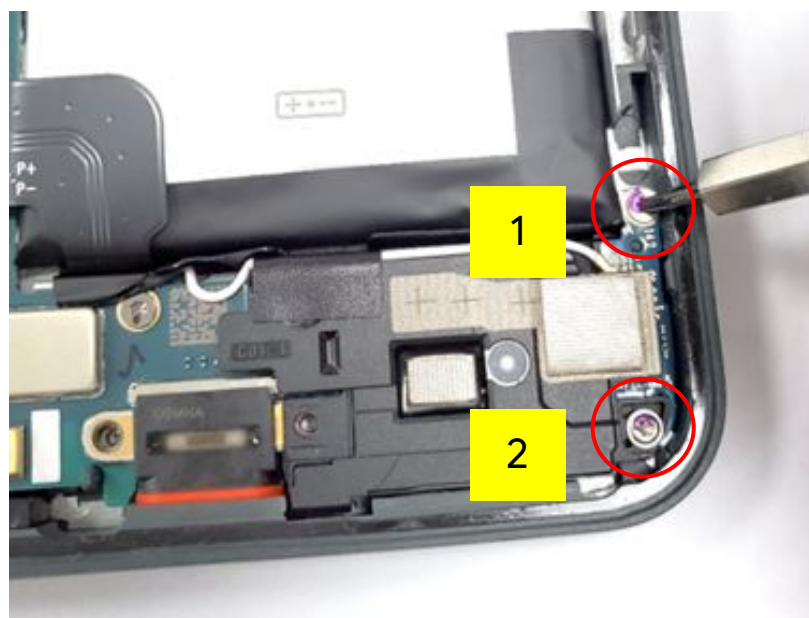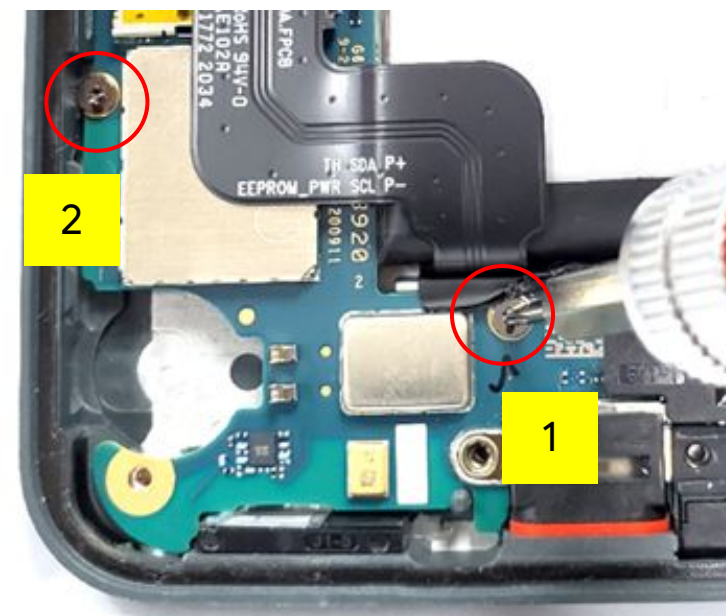


- Use a Screwdriver Torx Plus 3IP to remove 2 screws securing bottom speaker and ANT2 Board.

---

Do NOT reuse screws.

## 02. Remove the screw



- Use a Screwdriver Torx Plus 3IP to remove 2 screws securing Logic board.

---

Do NOT reuse screws.

Display  >  Mid-frame  >  Rear Camera  >  **Bottom Speaker**  >  Audio jack FPC  >  Logic board  >  ANT2 board  >  Front Camera  >  Mic1 Bracket  >  Top Speaker  >  Side key FPC  >  Battery

## 03. Loose bottom speaker
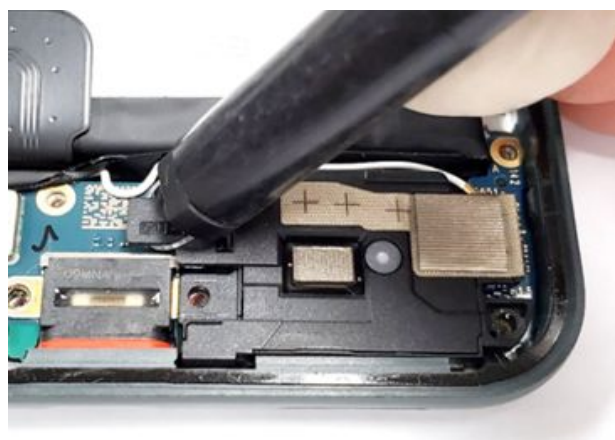


- Use a **universal fish line tool** to loose **Bottom Speaker**.

Display | Mid-frame | Rear Camera | **Bottom Speaker** | Audio jack FPC | Logic board | ANT2 board | Front Camera | Mic1 Bracket | Top Speaker | Side key FPC | Battery

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Assembly instructions
# Bottom speaker

**Bottom speaker**

## 01. Fasten the screw
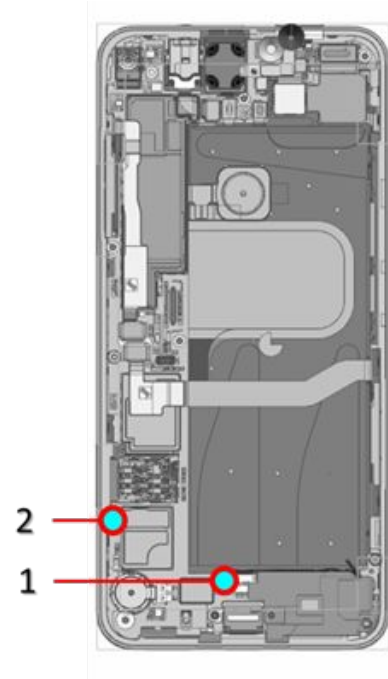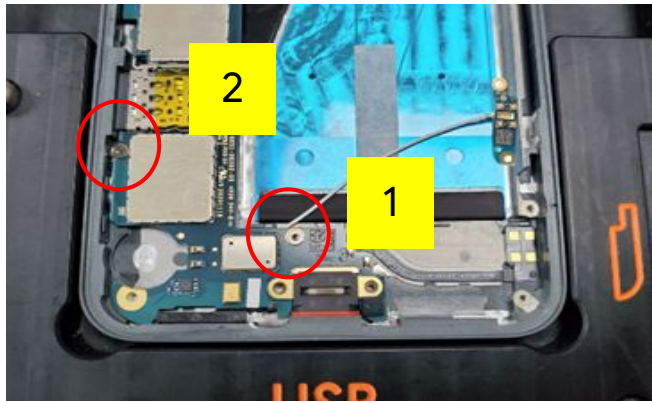


| | G250-05371-00 M1.4x2.4 ; Head D 2.7 (Torque force: 1.0kgf.cm +/-10%) | 2 |
|---|---|---|



red-short

- Attach the Pixel 5a screw cover on Enclosure Holder Fixture.
- Fasten 2 pcs screws on Logic board with Screwdriver Torx Plus 3IP.

----

1. Make sure screw head is not tilted during installation, and that the screw is properly seated.
2. Do NOT reuse screws.

## 02. Attach cable fixing kapton



*Do NOT touch the mesh.*

- Attach 1 pcs of **cable fixing kapton** on the top of bottom speaker.
- **Do NOT cover entire bottom speaker.**

NG

----

Do NOT touch the mesh. (refer pic. above)

Bottom speaker

## 03. Assemble ANT2 board to Bottom speaker
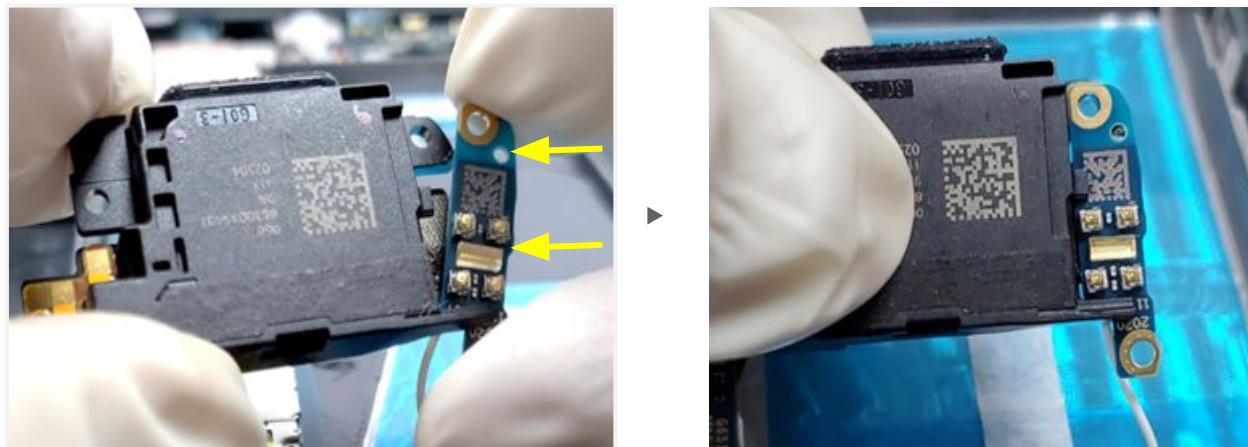


- Assemble **ANT2 Board** to **Bottom Speaker**.

---

Do NOT damage any components on ANT2 Board. ⚠️

## 04. Install Bottom speaker



| NG: pull tab overlap the screw hole | OK |
|---|---|
|  |  |

- Align the slots and assemble to the enclosure.
- Organize the cables with **plastic ESD tweezers**.
- Apply the **cable fixing kapton** to secure cable.

---

Make sure battery pull tab does NOT cover the screw hole. ⚠️

## 05. Fasten the screw
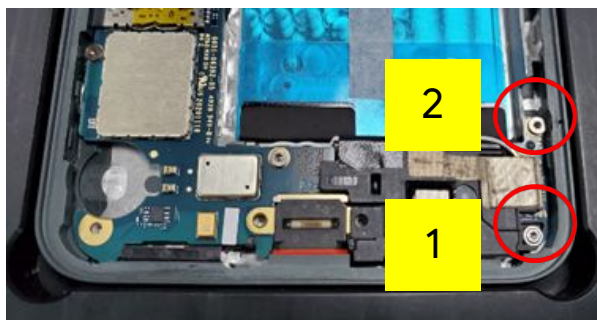


| | G250-04528-00 M1.4x3.5 ; Head D 2.7 (Torque force: 1.0kgf.cm +/-10%) | 1 |
|---|---|---|
| | G250-05371-00 M1.4x2.4 ; Head D 2.7 (Torque force: 1.0kgf.cm +/-10%) | 1 |
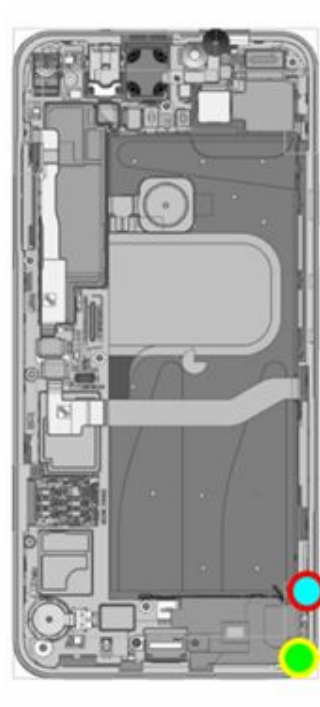


red-short

yellow-long

- Attach the Pixel 5a screw cover on Enclosure Holder Fixture.
- Fasten 2 pcs screws on ANT2 Board and bottom speaker with Screwdriver Torx Plus 3IP.

---

1. Make sure screw head is not tilted during installation, and that the screw is properly seated.
2. Do NOT reuse screws.

Display → Mid-frame → Rear Camera → **Bottom Speaker** → Audio jack FPC → Logic board → ANT2 board → Front Camera → Mic1 Bracket → Top Speaker → Side key FPC → Battery

Disassembly instructions

# Audio jack FPC

# Audio jack FPC replacement

## Prerequisites

The following components must be removed first:

- Display module
- Mid-frame

## Tools

Ionizing air fan
Universal Fish line
Enclosure & ANT2 Holder (Button)
Universal Disassembly ESD stick
ESD tweezers

## Parts

G949-00142-01
HSJ FPC Assembly, 5a

---

⚠️ **Caution!**
Review all **safety precautions** before beginning work.

## 01. Disconnect flash FPC



- Use **universal fish line tool** to disconnect **Flash FPC** from Logic board.

## 02. Disconnect FPS FPC



- Use **universal fish line tool** to disconnect **Fingerprint FPC** from Logic board.

Display | Mid-frame | Rear Camera | Bottom Speaker | **Audio jack FPC** | Logic board | ANT2 board | Front Camera | Mic1 Bracket | Top Speaker | Side key FPC | Battery

## 03. Disconnect audio jack FPC



- Use **universal fish line tool** to disconnect **Audio Jack FPC** from Logic board.

## 04. Remove audio jack FPC



- Use a **plastic Universal Disassembly ESD stick** to remove **Audio Jack FPC** from enclosure.



--------------------------------------------------
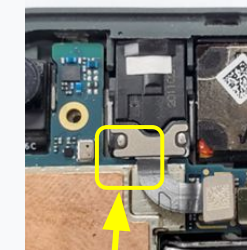
1. The Audio Jack FPC will fly off once it's removed.
2. Do NOT damage nearly components.

⚠️

Display → Mid-frame → Rear Camera → Bottom Speaker → **Audio jack FPC** → Logic board → ANT2 board → Front Camera → Mic1 Bracket → Top Speaker → Side key FPC → Battery

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Assembly instructions

# Audio jack FPC

## 01. Install audio jack FPC
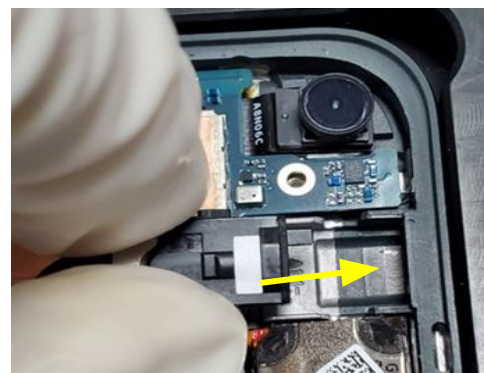


NG: Not fully buckled
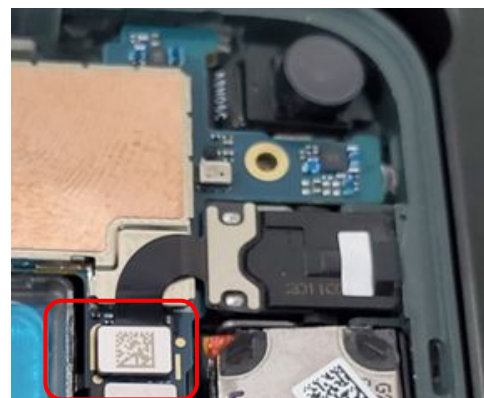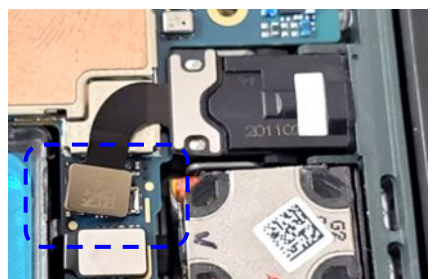


- Take the audio jack FPC from FPC area.
- Install **audio jack FPC** and connect it on Logic board.

---

Check every connector is properly connected to the Logic board, else the product may not function as intended. ⚠️
(refer pic. above)

Display → Mid-frame → Rear Camera → Bottom Speaker → **Audio jack FPC** → Logic board → ANT2 board → Front Camera → Mic1 Bracket → Top Speaker → Side key FPC → Battery

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Disassembly instructions

# Logic board

# Logic board replacement

## Prerequisites

The following components must be removed first:

- Display module
- Mid-frame
- Rear camera 12M/16M
- Bottom speaker
- Front camera

## Tools

Ionizing air fan
ESD tweezers
Universal Disassembly ESD stick
Enclosure & ANT2 Holder (Button)
Coaxial Cable Tool

**Caution!**
Review all **safety precautions** before beginning work.

# Logic board replacement

The **Logic board** consists of memory, storage, the processor, and communication components such as Wi-Fi and 5G.
Be aware that a replacement **SIM tray** will not have the IMEI number present.

## Parts

G949-00123-01
Logic board: US - FI 128G

G949-00125-01
Logic board: NA_US

G949-00131-01
Logic board: JP 128G

G806-04934-01
DIECUT,MYLAR,USB,COMP,5a

G806-04755-01
DIECUT,KAPTOP,2ND MIC HOLE,5a

G806-04498-01
DIECUT, ADHESIVE,SHIELDING,
BATTERY PROTECT, 5a

G821-00703-01
Cable, coax, Logic board top, 5a

G821-00704-01
Cable, coax, Logic board Mid, 5a

G852-01766-01
TRAY, SIM, BLACK, 5a

## 01. Remove Logic board
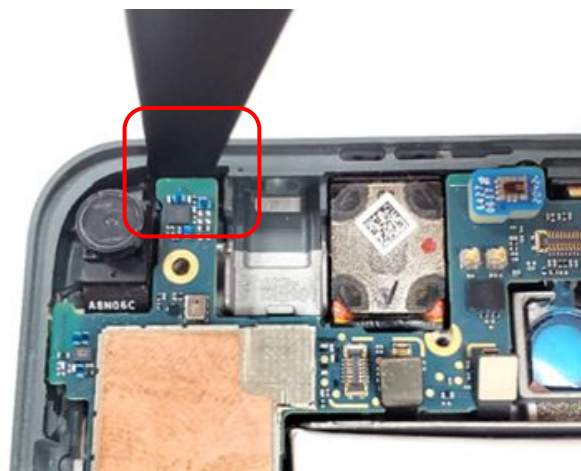




- Use a **plastic Universal Disassembly ESD stick** to lift the **Logic board** following the designated position.
- Take out the Logic board at an angle of 45 degrees.

1. Do NOT damage nearly components.

2. Do NOT damage any IC in the back of Logic board.

OK: IC is good



3. Make sure the USB mylar is attached to the components.

| NG1: mylar is disappear | NG2: mylar is NOT attached well | OK: good to cover |
|---|---|---|
|  |  |  |

Display   Mid-frame   Rear Camera   Bottom Speaker   Audio jack FPC   Logic board   ANT2 board   Front Camera   Mic1 Bracket   Top Speaker   Side key FPC   Battery

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## 02. Inspect Mic1 bracket
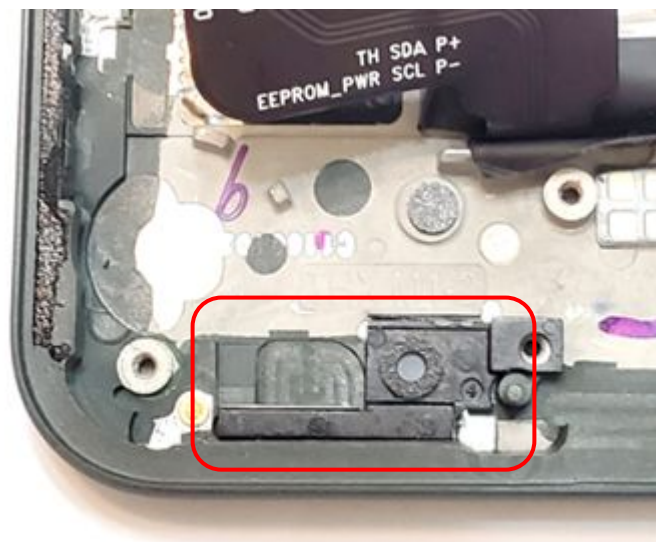


- Please make ensure the **Mic1 Bracket** is not damaged.

-----------------------------------------

If there is any damage of Mic1 Bracket, please change a new one.
For example: sponge broken, sponge shift or foreign material. ⚠️

## 03. Paste protect kapton
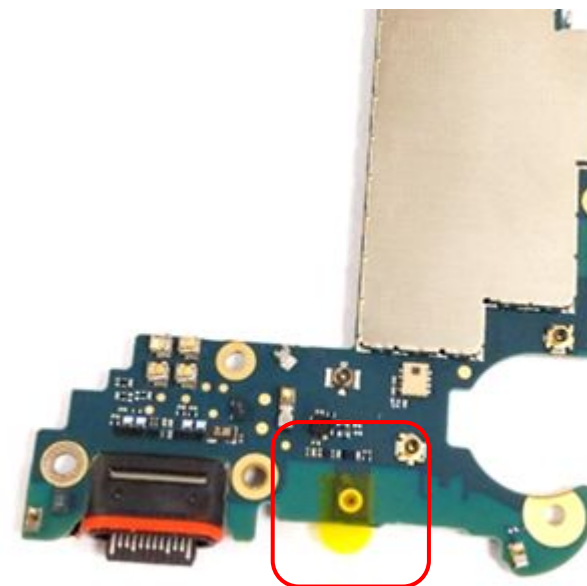


- Stick 1 pcs of yellow **Mic. protect kapton** onto the MIC. hole of the Logic board.

**Part:** G806-04755-01 (Mic.hole kapton)

Display | Mid-frame | Rear Camera | Bottom Speaker | Audio jack FPC | Logic board | ANT2 board | Front Camera | Mic1 Bracket | Top Speaker | Side key FPC | Battery

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**Logic board**

- Push the **plunger sim** back with **plastic Universal Disassembly ESD stick** .

*Before*          *After*
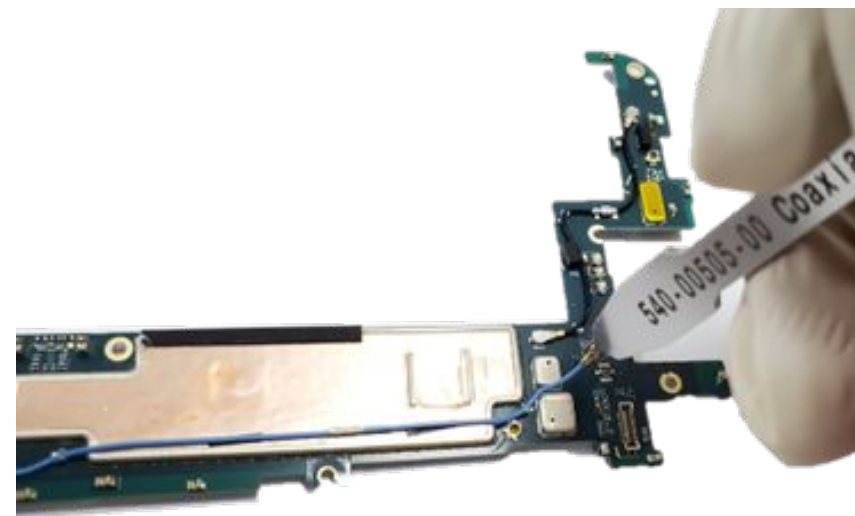
- Remove the **Logic board mid coaxial cable** connector and tunnel from the Logic board with coaxial cable tool.



Caution: Do not  damage nearby components.

⚠️

Display → Mid-frame → Rear Camera → Bottom Speaker → Audio jack FPC → **Logic board** → ANT2 board → Front Camera → Mic1 Bracket → Top Speaker → Side key FPC → Battery

## 06. Remove Coaxial Cable



- Remove the **Logic board top coaxial cable** connector and tunnel from the Logic board with coaxial cable tool.

---

Caution: Do not damage nearby components.

Display | Mid-frame | Rear Camera | Bottom Speaker | Audio jack FPC | **Logic board** | ANT2 board | Front Camera | Mic1 Bracket | Top Speaker | Side key FPC | Battery

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Assembly instructions

# Logic board

## 01. Re-using Logic board Clean battery FPC area
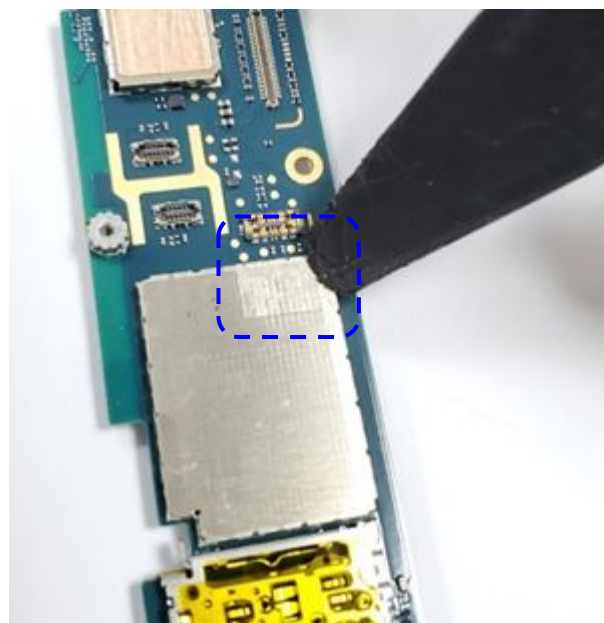


- Use IPA and dust free cloth to clean the Logic board surface at battery FPC position.

## 02. Paste adhesive



- Paste a new adhesive on enclosure.

Display › Mid-frame › Rear Camera › Bottom Speaker › Audio jack FPC › **Logic board** › ANT2 board › Front Camera › Mic1 Bracket › Top Speaker › Side key FPC › Battery
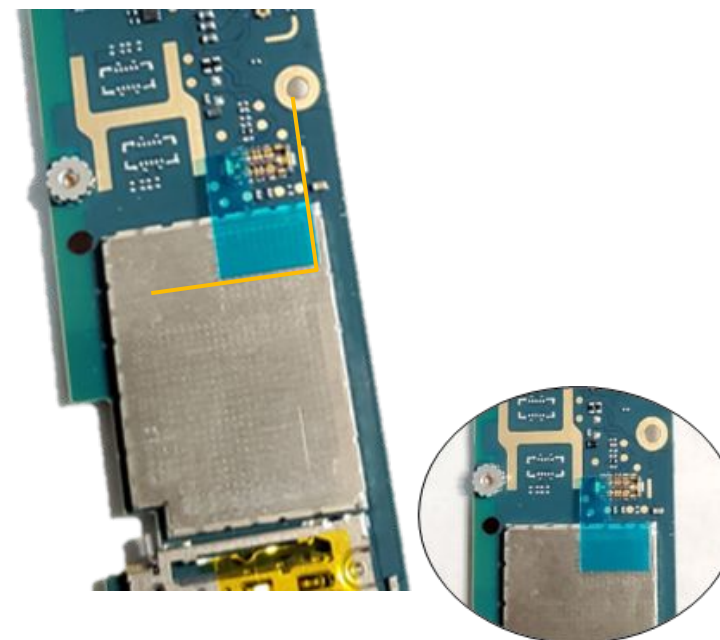
## 03. Connect coaxial cable



## 04. Connect coaxial cable
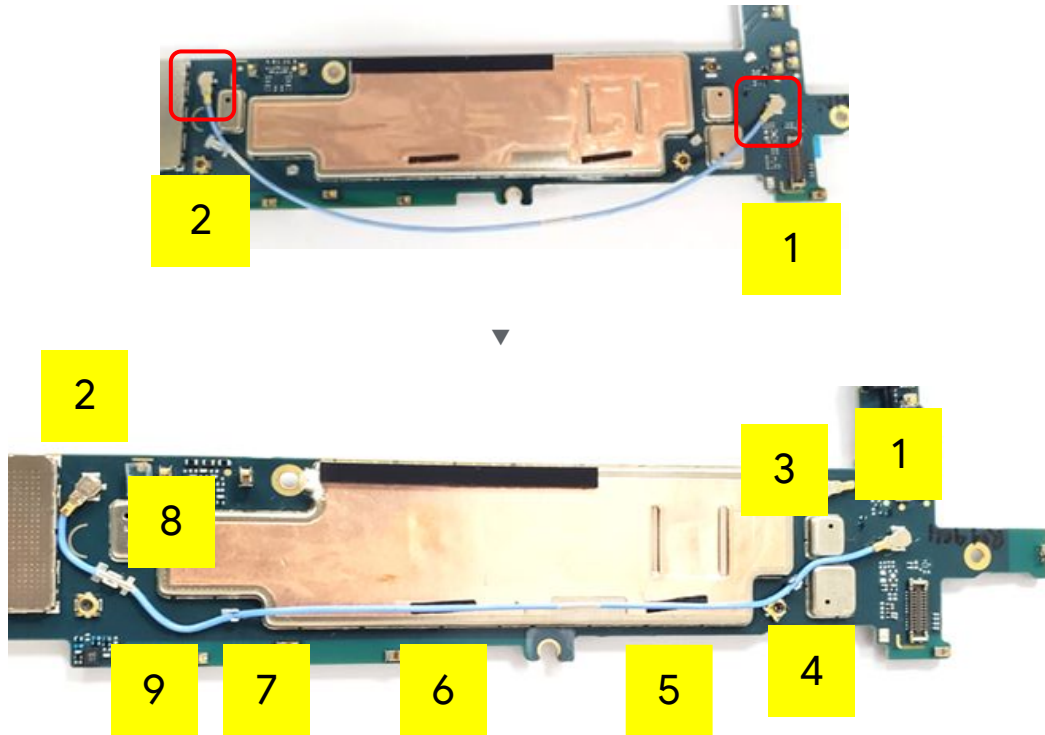


- Connect the **Logic board mid cable** to the Logic board with **coaxial cable tool**.



----

1. Ensure all connectors are properly connected to the logic board, else the product may not function as intended.
2. Do not damage nearby springs.
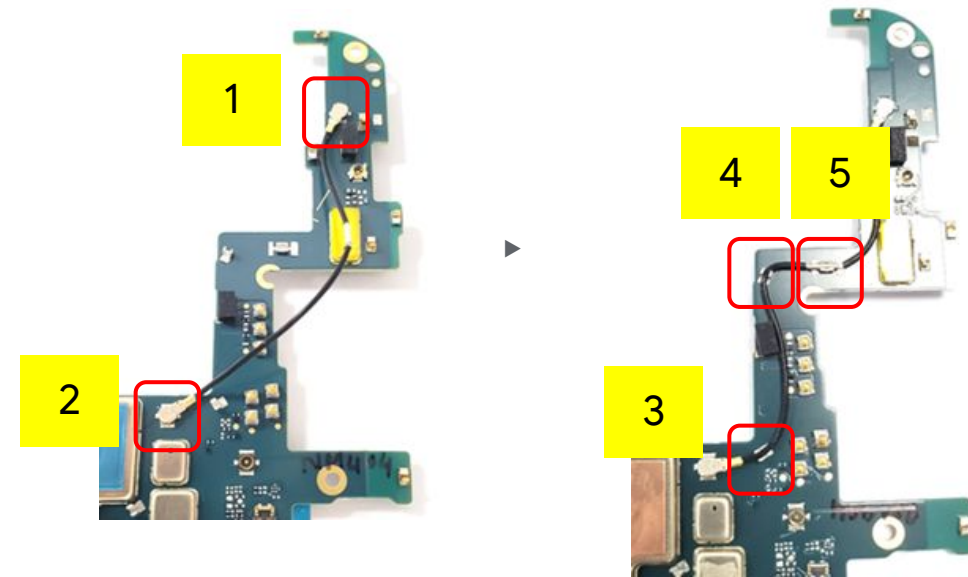
- Connect the **Logic board top cable** to the Logic board with **coaxial cable tool**.



----

1. Cable must go around the rubber.
2. Check every cable connector totally buckled to the Logic board board.
3. Do not damage nearby springs.



| Display | Mid-frame | Rear Camera | Bottom Speaker | Audio jack FPC | **Logic board** | ANT2 board | Front Camera | Mic1 Bracket | Top Speaker | Side key FPC | Battery |

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## 05. Connect coaxial cable



2

1
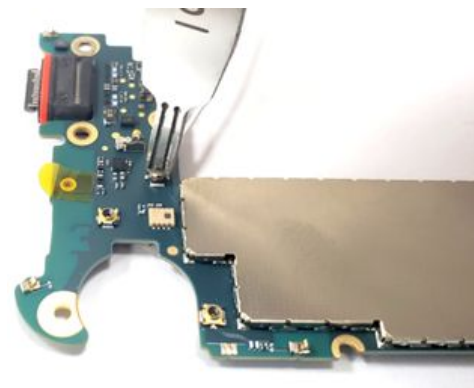
### NG: poor connect
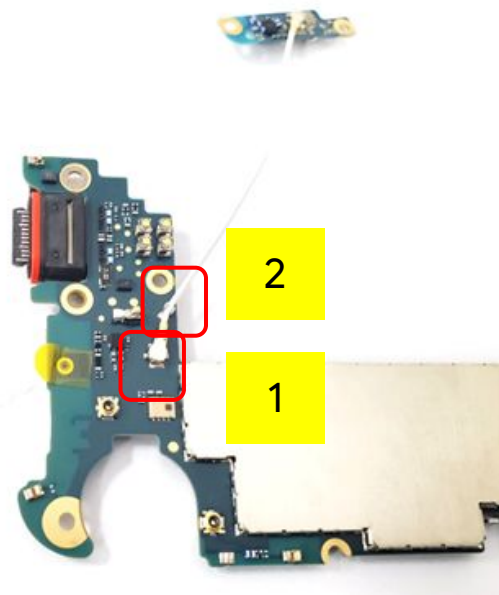


- Connect the **ANT-2 cable** to the Logic board with **coaxial cable tool**.

---

Check every connector is properly connected to the Logic board, else the product may not function as intended. ⚠️
(refer pic. above)

## 06. Place enclosure on fixture
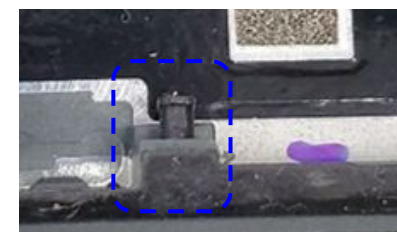


| NG: with head tilt | OK: without head tilt |
|---|---|
|  |  |
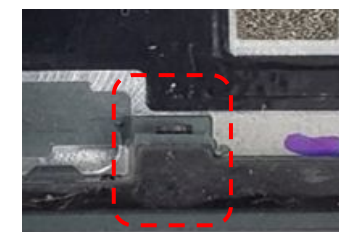
- Place **enclosure** on the **Holder Fixture**.

---

Make sure SIM tray plunger head no tilted. (refer pic. above) ⚠️

Display | Mid-frame | Rear Camera | Bottom Speaker | Audio jack FPC | Logic board | ANT2 board | Front Camera | Mic1 Bracket | Top Speaker | Side key FPC | Battery

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## 07. Remove protective film



1
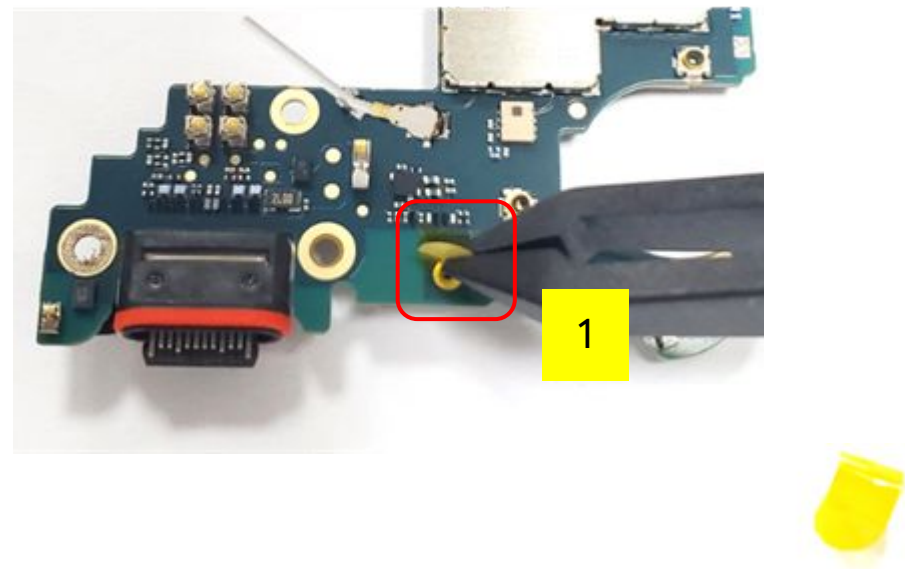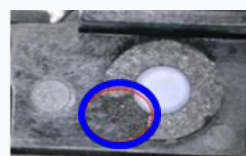
- Tear off 1 pcs of **yellow kapton** from Logic board.

## 08. Remove liners



2

3

For picking up part from base liner
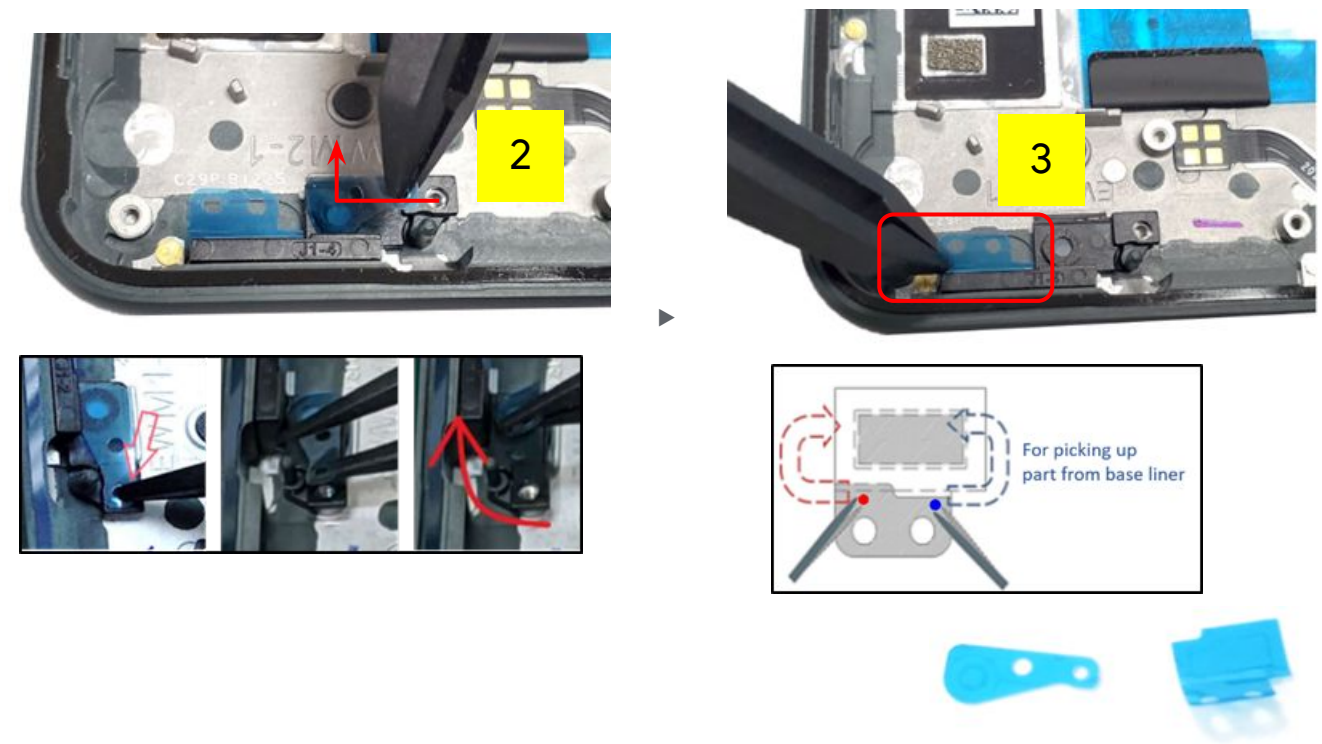
- Tear off 2 liners from Mic.1 following the designated order.

Remove all liners carefully and slowly.

| NG: sponge is damaged | OK |
|---|---|
|  |  |

| Display | Mid-frame | Rear Camera | Bottom Speaker | Audio jack FPC | **Logic board** | ANT2 board | Front Camera | Mic1 Bracket | Top Speaker | Side key FPC | Battery |

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## 09. Install logic board
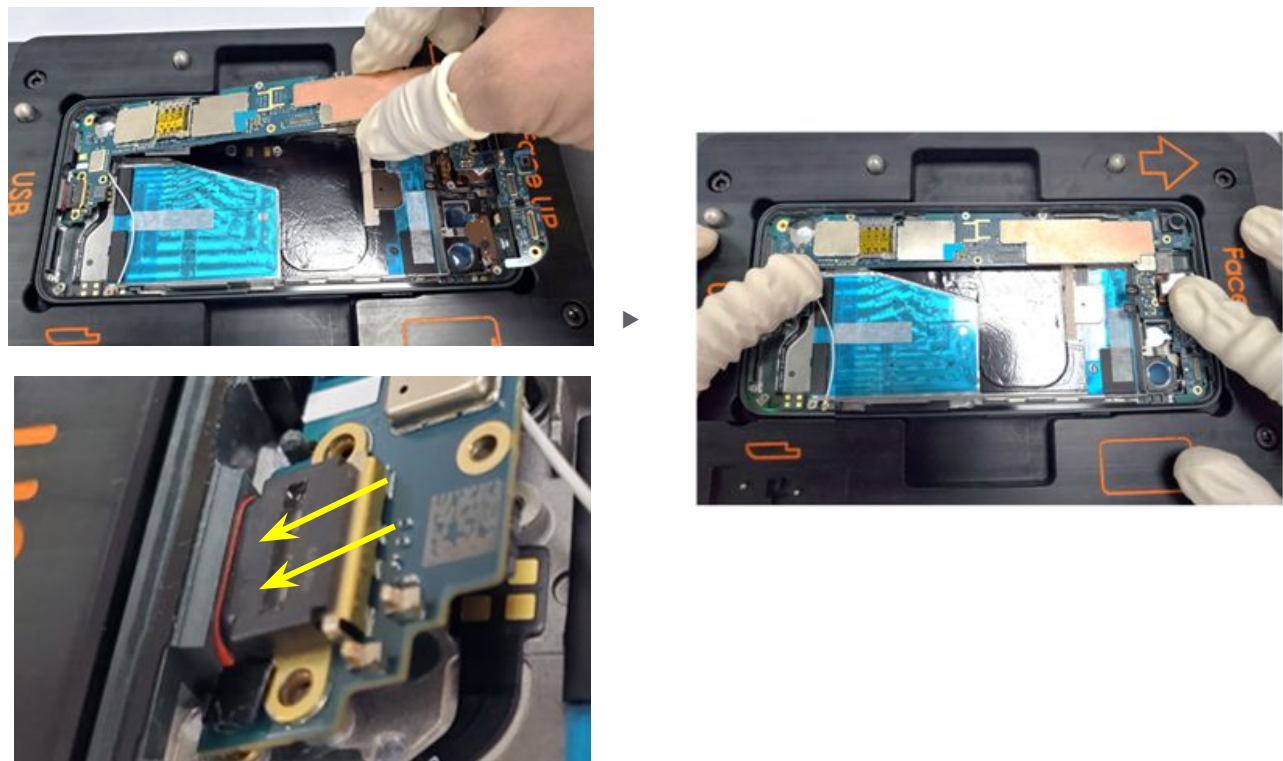




- Secure the Logic board using the 3 hooks, 1 slot and 1 rib on the enclosure.

**#1 Slot**

Logic board must be assembled into the slot.



Slot

OK          NG
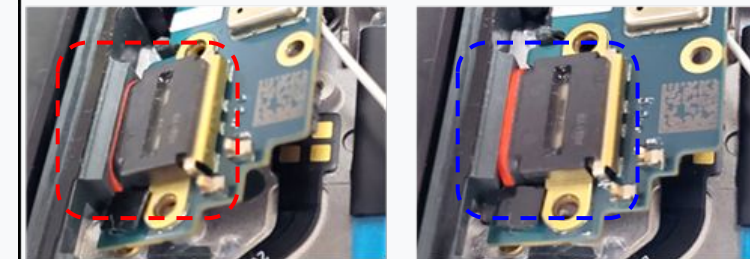
**#2 Hook 1**

Logic board must be assembled into the hook 1.
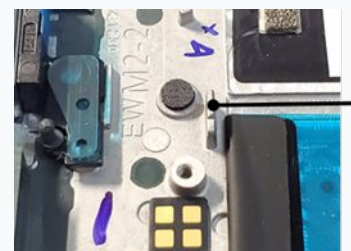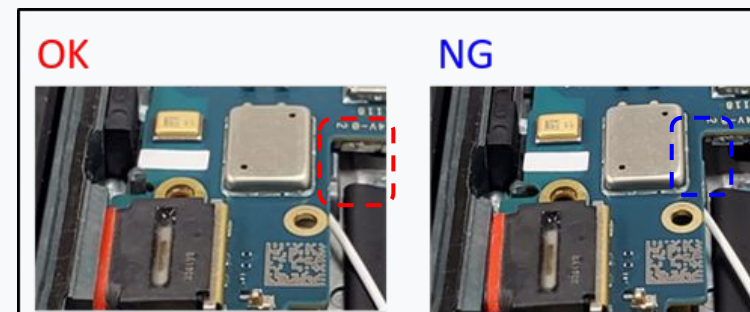


Hook 1

OK          NG

| Display | Mid-frame | Rear Camera | Bottom Speaker | Audio jack FPC | Logic board | ANT2 board | Front Camera | Mic1 Bracket | Top Speaker | Side key FPC | Battery |
|---------|-----------|-------------|----------------|----------------|-------------|------------|--------------|--------------|-------------|--------------|---------|

### #3 Hook 2

Logic board must be assembled into the hook 2.



Hook 2

OK    NG
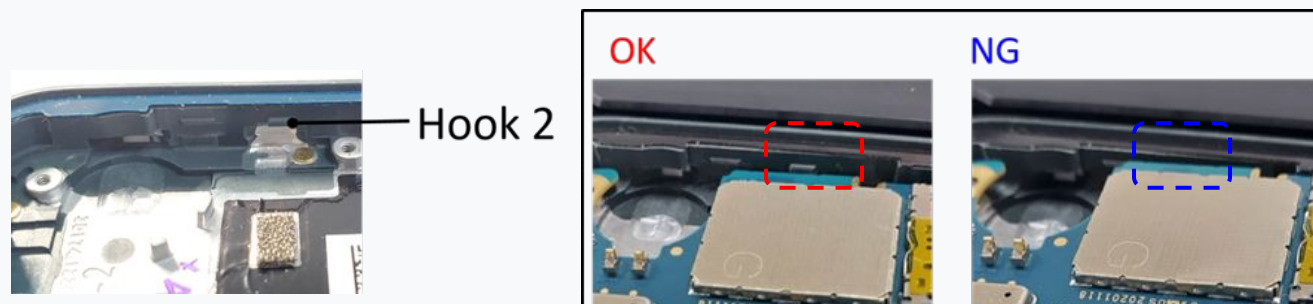
### #4 Hook 3

Logic board must be assembled into the hook 3.



Hook 3

OK    NG
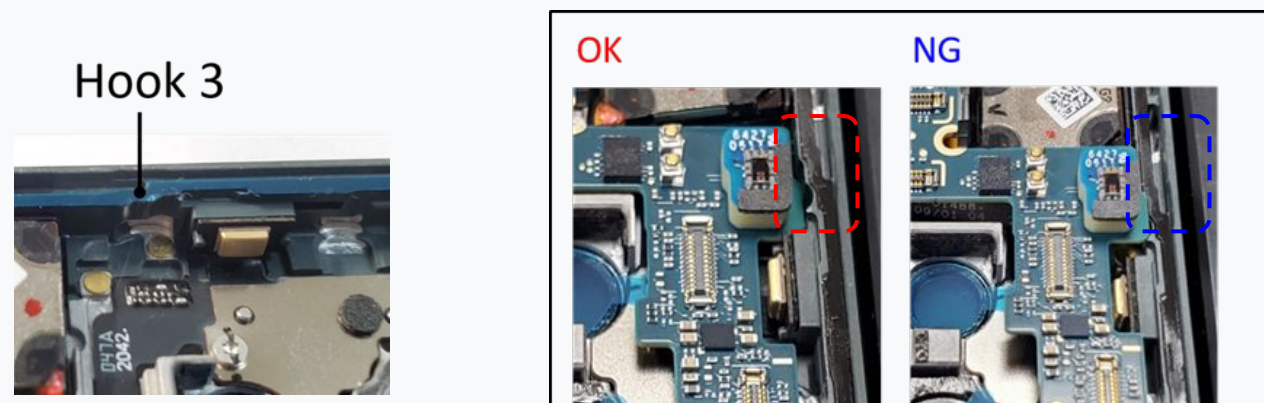
### #5 Rib

Front camera must be assembled into the rib.
Front camera float is NG!



Rib

OK    NG
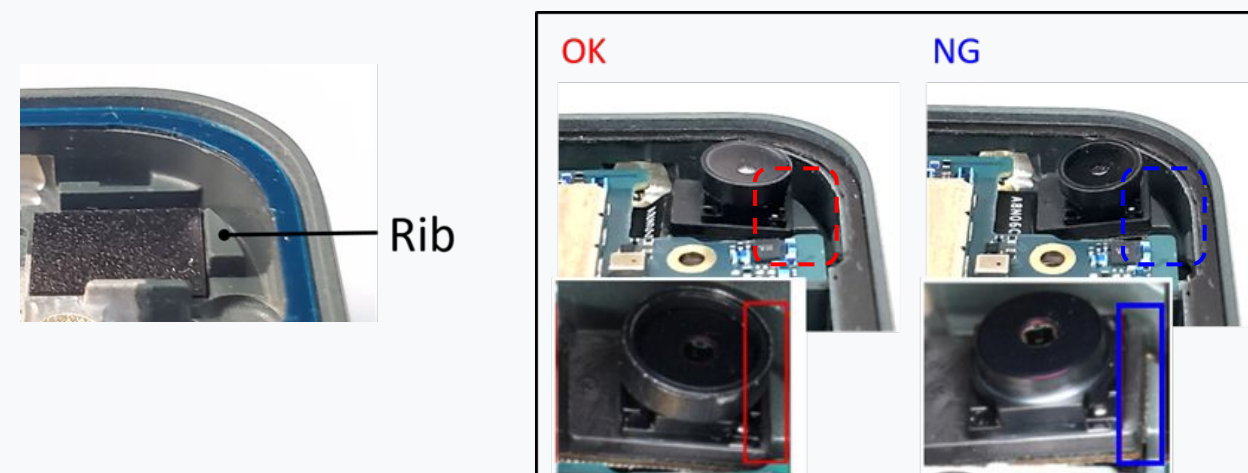
| Display | Mid-frame | Rear Camera | Bottom Speaker | Audio jack FPC | Logic board | ANT2 board | Front Camera | Mic1 Bracket | Top Speaker | Side key FPC | Battery |
|---|---|---|---|---|---|---|---|---|---|---|---|

1. Do not damage nearby components.
2. Do not damage the IC on the back of Logic board.



| OK: IC is good |
| --- |

3. Make sure the USB mylar is attached to the components.
   **Part:** G806-04934-01 (USB component mylar)

| NG 2: mylar is disappear | NG 2: mylar cover the screw hole | OK: good to cover |
| --- | --- | --- |
| | | |

## 10. Install SIM tray



- Install the **SIM Tra**y.

---

Please insert the SIM tray in the correct direction.

| Display | Mid-frame | Rear Camera | Bottom Speaker | Audio jack FPC | **Logic board** | ANT2 board | Front Camera | Mic1 Bracket | Top Speaker | Side key FPC | Battery |

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## 11. Connect FLAM and FPS FPC
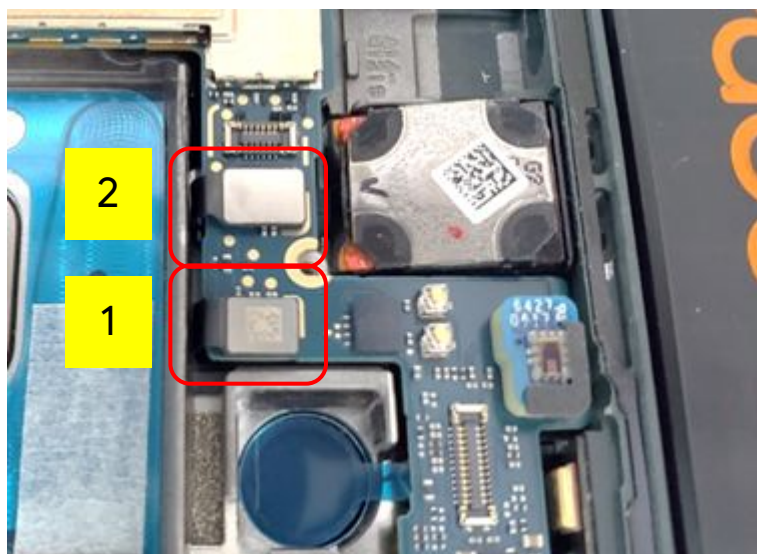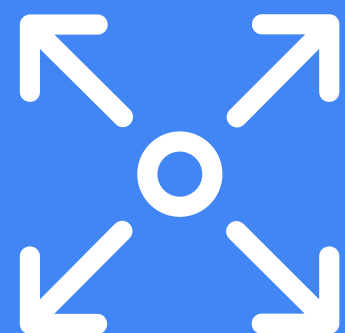


- Connect F**LAM FPC (No.1)** on Logic board first, followed by **Fingerprint FPC (No.2)**.



----

Check every connector is properly connected to the Logic board, else the product may not function as intended. ⚠

Display | Mid-frame | Rear Camera | Bottom Speaker | Audio jack FPC | **Logic board** | ANT2 board | Front Camera | Mic1 Bracket | Top Speaker | Side key FPC | Battery

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Disassembly instructions
# ANT2 board

# ANT2 board replacement

## Prerequisites

The following components must be removed first:

- Display module
- Mid-frame
- Rear camera 12M/16M
- Bottom speaker
- Logic board

## Tools

Ionizing air fan
Coaxial Cable Tool
ESD tweezers
Enclosure & ANT2 Holder (Button)

## Parts

G949-00141-01
ANT2 Board Assembly, 5a

G821-00705-01
Cable, coax, Logic board btm, 5a

**Caution!**
Review all **safety precautions** before beginning work.

## 01. Remove ANT-2 RF cable



## 02. Lift up the fixed mylar
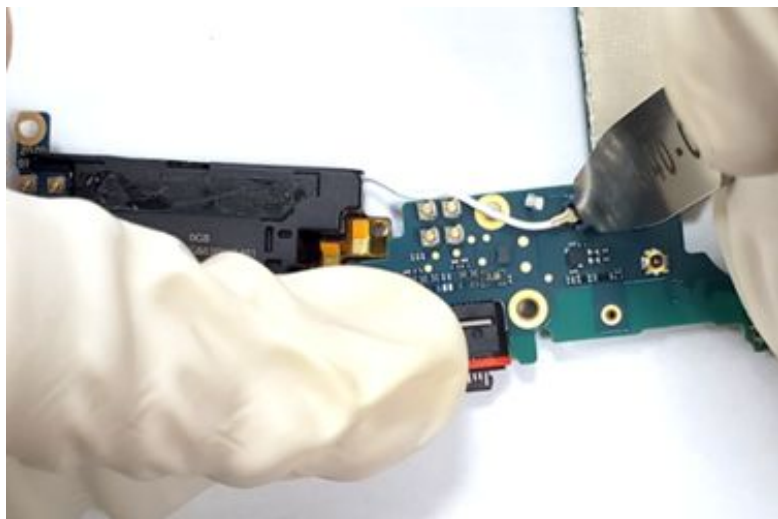


- Use a coaxial cable tool to **remove ANT-2 RF cable connector** from the ANT boar.

---

Caution: do not damage any components on ANT board. ⚠️
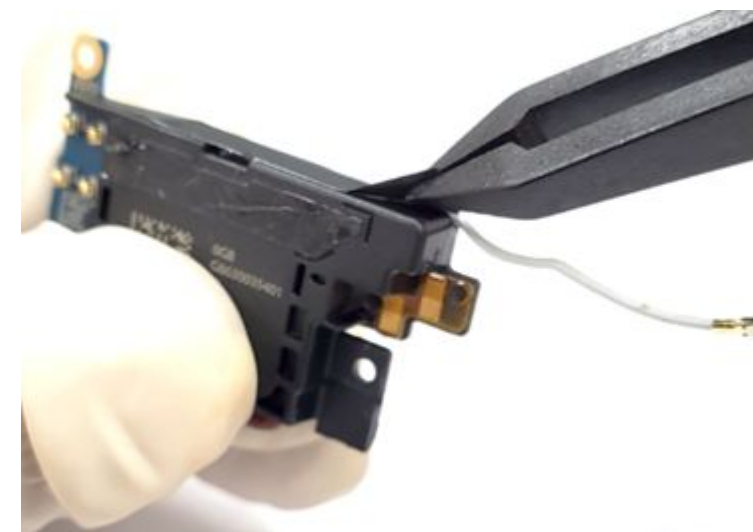
- Use plastic ESD tweezers to **lift up the fixed mylar** of coaxial cable.

---

If this mylar is lacking adhesive or damage, please change to a new one. ⚠️
**Part:** G806-04406-01 (Bottom speaker cable fixing kapton)

Display → Mid-frame → Rear Camera → Bottom Speaker → Audio jack FPC → Logic board → **ANT2 board** → Front Camera → Mic1 Bracket → Top Speaker → Side key FPC → Battery

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## 03. Remove ANT2 board
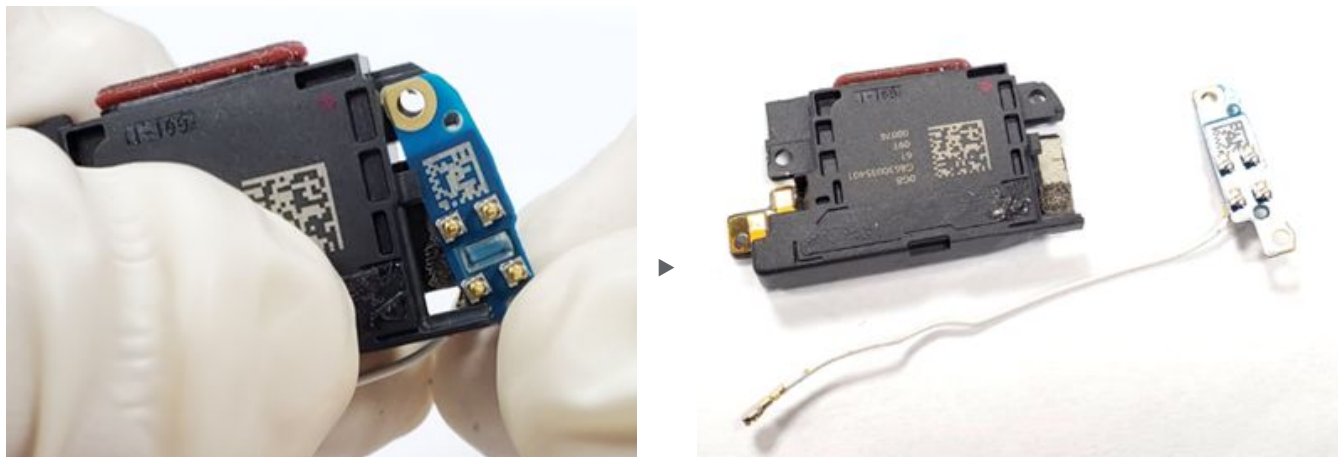


| NG: pin is broken | OK: pin is good |
|---|---|
|  |  |

- Remove Bottom Speaker and ANT2 Board from the enclosure by hand.

---

Do not damage the alignment pin of bottom speaker.
(refer pic. above) ⚠️

## 04. Separate ANT2 board and cable



G980-08631-00 B9-As
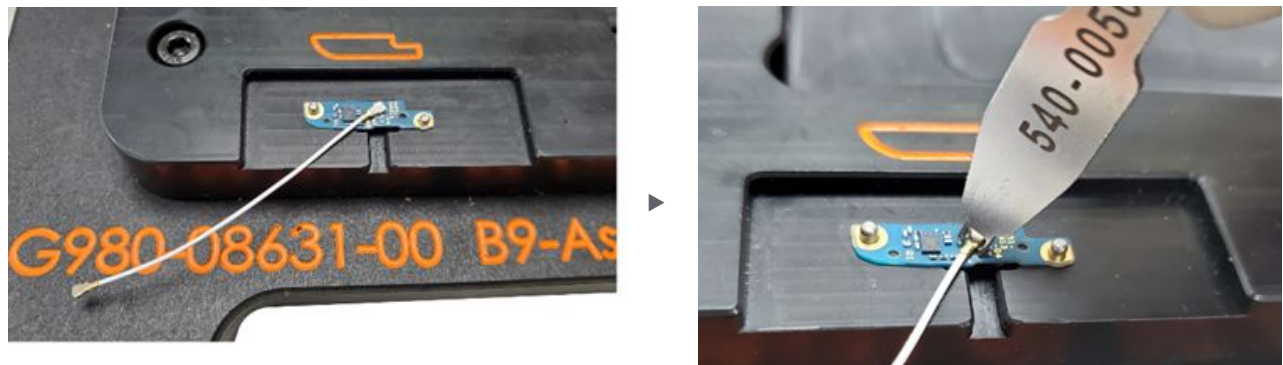


- Place ANT2 Board with coaxial cable on the Enclosure Holder Fixture.
- Remove the ANT-2 coaxial cable connector from the ANT2 Board with coaxial cable tool.

---

Caution: do not damage the nearby components. ⚠️

Display → Mid-frame → Rear Camera → Bottom Speaker → Audio jack FPC → Logic board → **ANT2 board** → Front Camera → Mic1 Bracket → Top Speaker → Side key FPC → Battery

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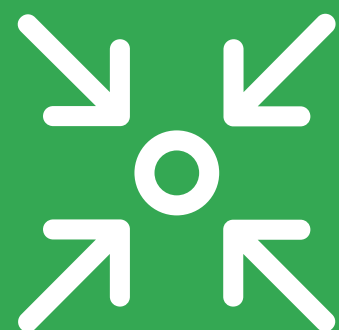
Assembly instructions
# ANT2 board

## 01. Connect cable to ANT2 board
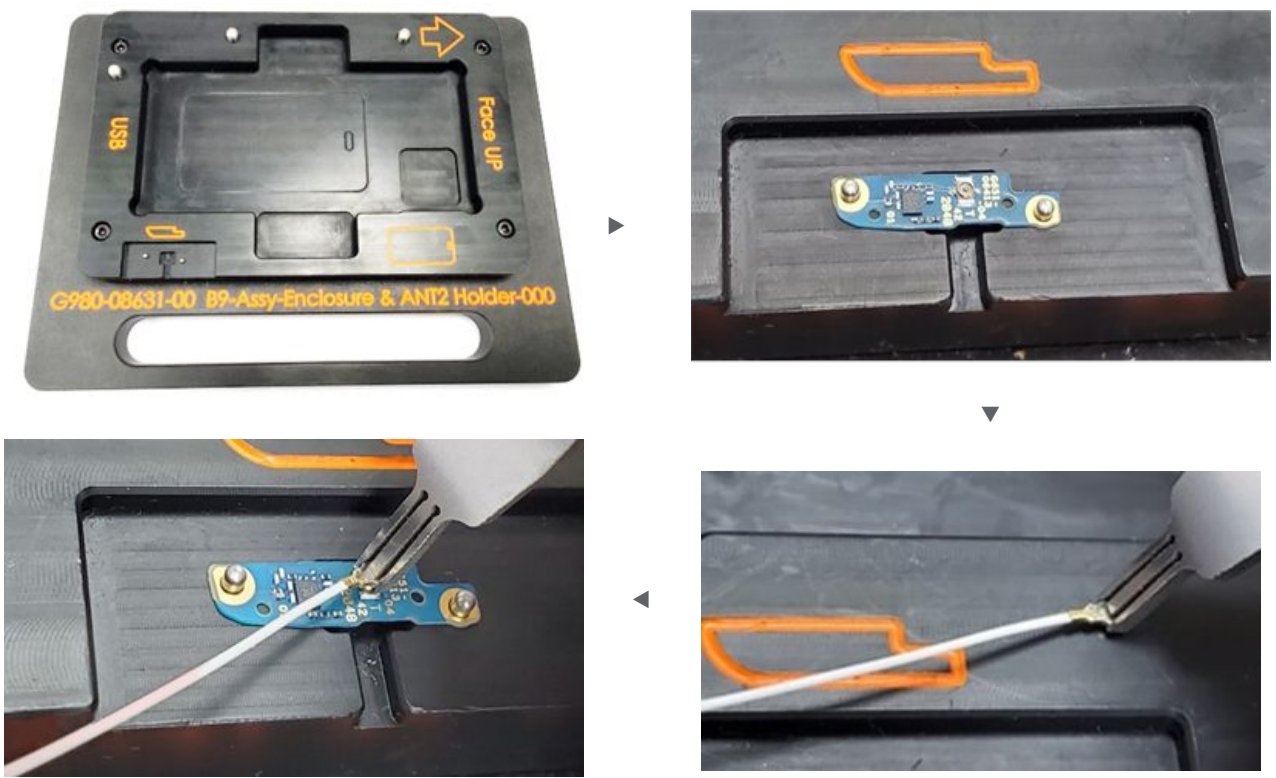




- Place the **ANT2 board** in the socket on the **enclosure holder**.
- Buckle the **ANT-2 cable** and the **coaxial cable tool** on the top of enclosure holder.
- Connect the ANT2 cable to the ANT2 board.



1. Check every cable connector is properly fastened to the ANT board.
2. Do not damage nearly springs.
3. Make sure PC block is in the correct position.

| NG: skew | OK |
|---|---|
|  |  |

Display | Mid-frame | Rear Camera | Bottom Speaker | Audio jack FPC | Logic board | ANT2 board | Front Camera | Mic1 Bracket | Top Speaker | Side key FPC | Battery

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Disassembly instructions

# Front camera

# Front camera replacement

## Prerequisites

The following components must be removed first:

- Display module
- Mid-frame
- Rear camera 12M/16M
- Bottom speaker
- Logic board

## Tools

Ionizing air fan
Universal Fish line
ESD tweezers
L-shape Holder for Bending Front FPC **(*Depot only)**

## Parts

G949-00144-01
Front Camera FPC Module Assembly, 5a

G806-04418-01
DIECUT, CONDUCTIVE FABRIC, CAMERA, FRONT, 5a

**Caution!**
Review all **safety precautions** before beginning work.

## 01. Peel the conductive fabric
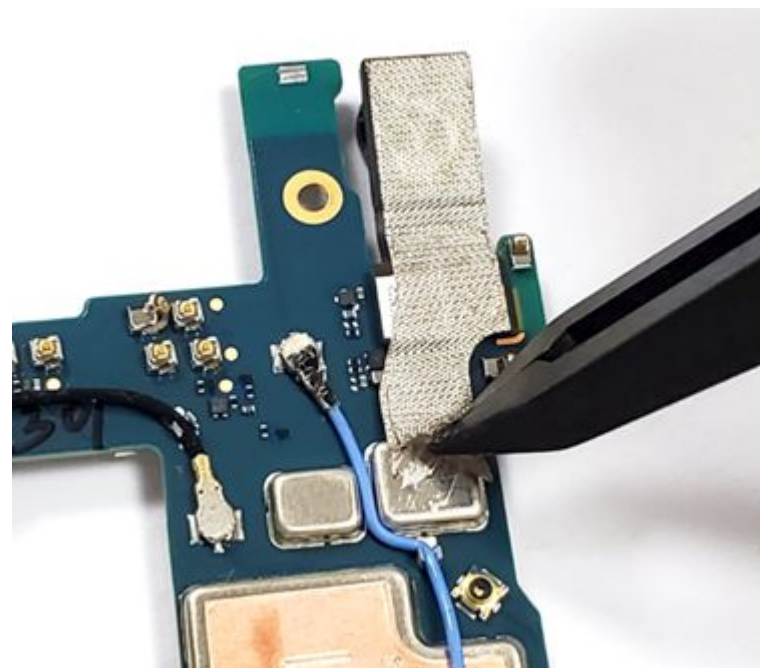


- Use a **plastic ESD tweezers** to peel the **Conductive Fabric** off.

---

Do not reuse the conductive fabric.

## 02. Remove front camera
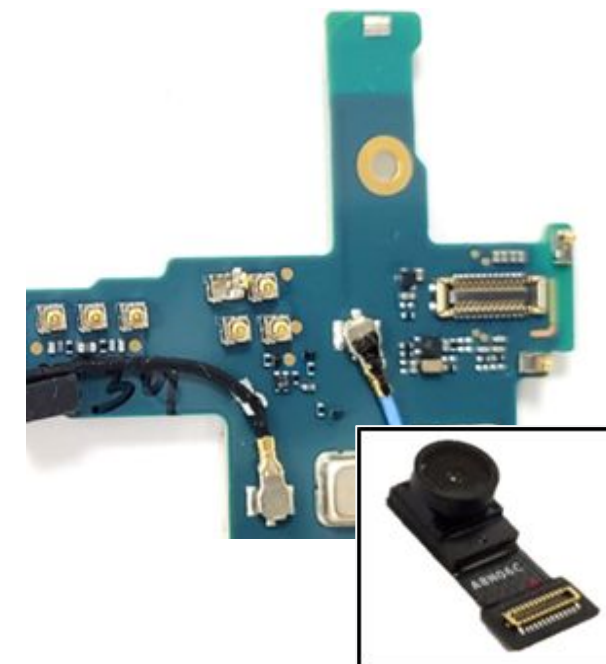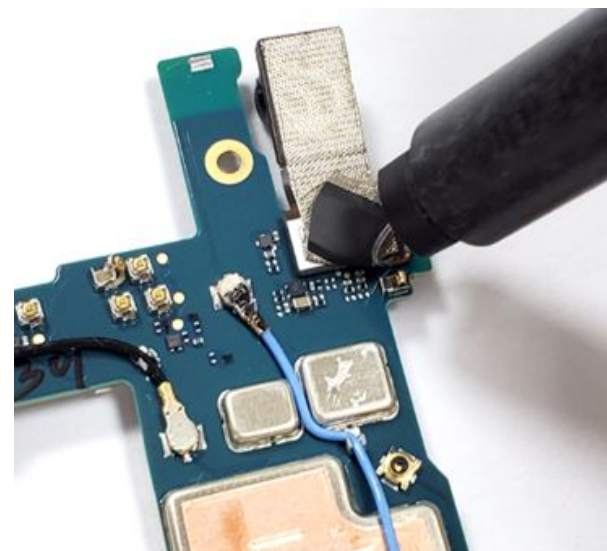


- Use a **universal fish line tool** to disconnect **Front Camera**.
- Remove front camera.

---

The camera may fly off once it's disconnected.

Display | Mid-frame | Rear Camera | Bottom Speaker | Audio jack FPC | Logic board | ANT2 board | **Front Camera** | Mic1 Bracket | Top Speaker | Side key FPC | Battery

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Assembly instructions

# Front camera

## 01. Tear off the liner
## (for new Logic board)
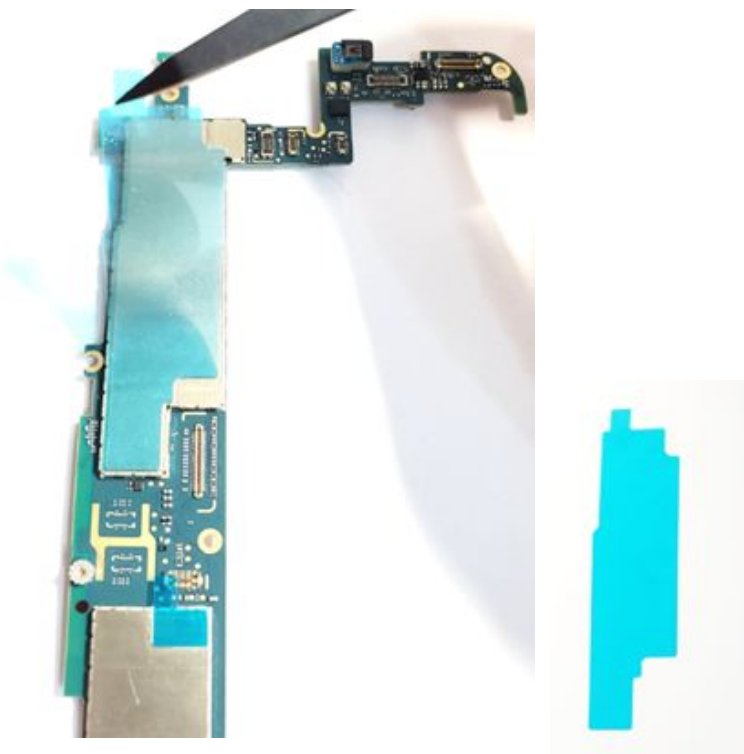


- Tear off the liner from shielding on Logic board.

---

Tear off the liner as illustrated in the photo when preparing to connect Battery FPC on Logic board.
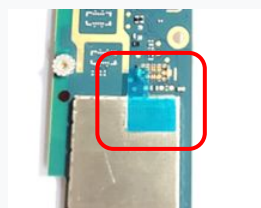


## 02. Install front camera to Logic board
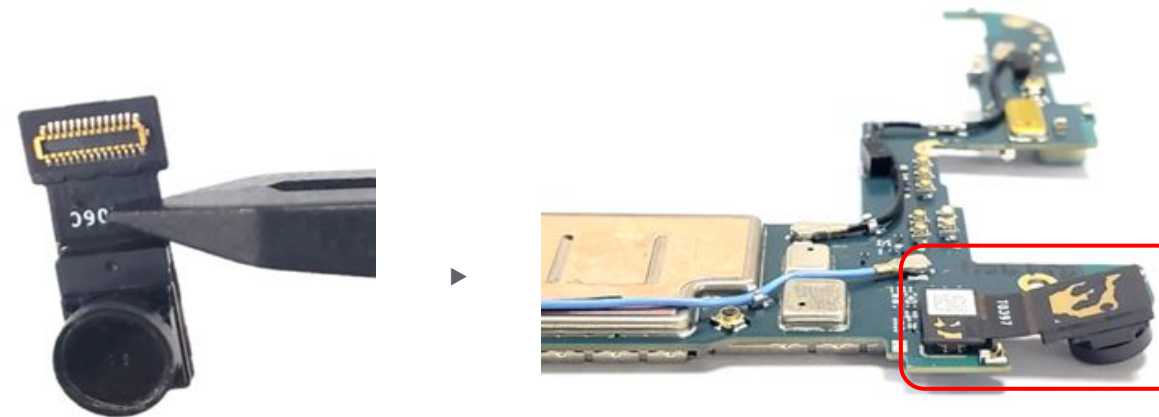


| NG: NOT full buckle the connecter to Logic board well | OK |
|---|---|
|  |  |
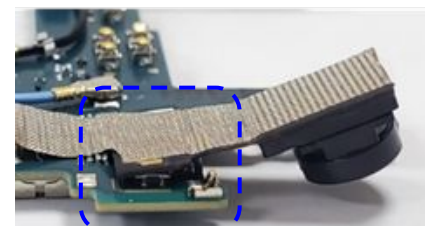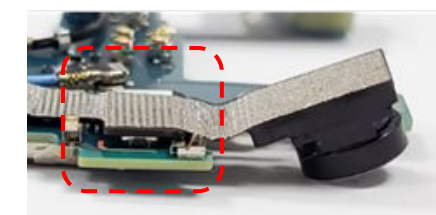
- Take **Front Camera** with **plastic ESD tweezers**.
- Install the Front Camera to the designated location on the Logic board.
- Press gently to confirm alignment.

---

Check every connector is properly connected to the Logic board, else the product may not function as intended. (refer pic. above)

Display | Mid-frame | Rear Camera | Bottom Speaker | Audio jack FPC | Logic board | ANT2 board | Front Camera | Mic1 Bracket | Top Speaker | Side key FPC | Battery

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## 03. Paste conductive fabric
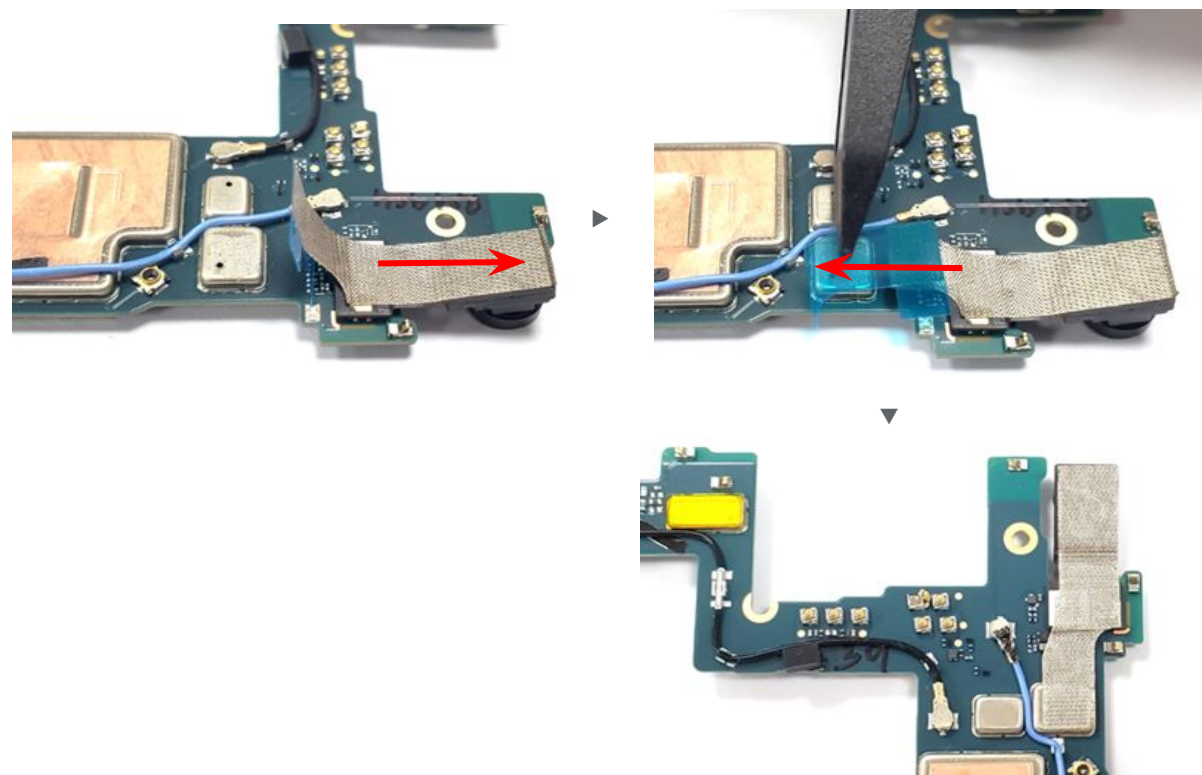


- Paste 1 pcs of the **Conductive Fabric** on **front camera** following the designated order.

**Part**: G806-04418-01 (Conductive fabric, front camera)

## 04. Bend front camera FPC
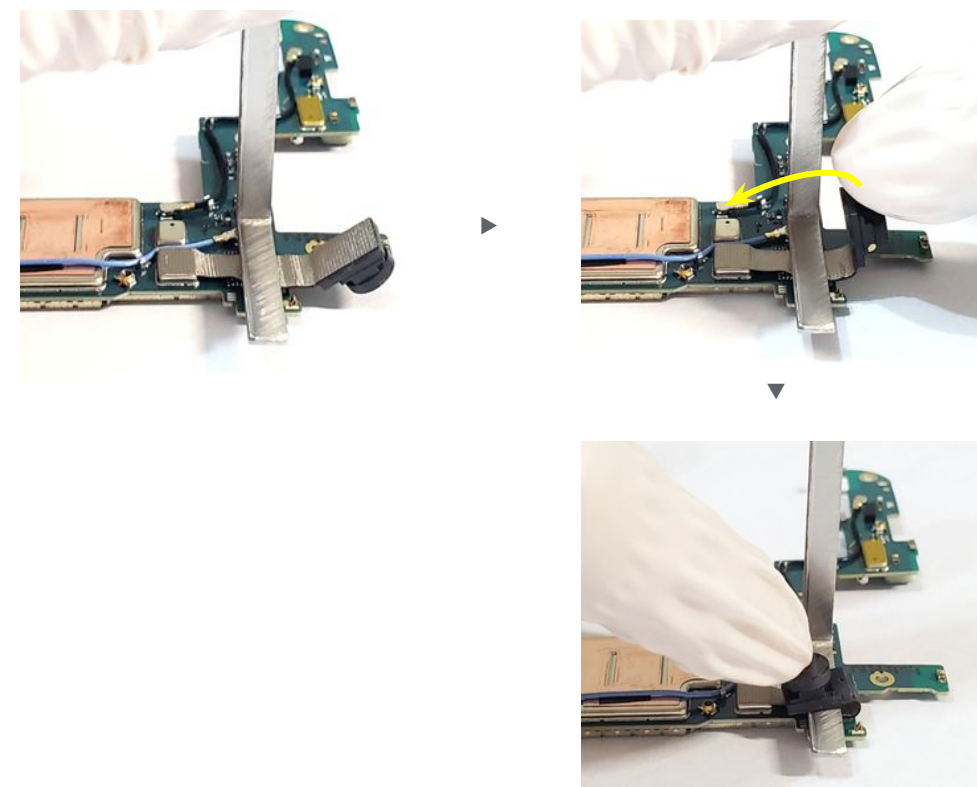


- Using **L-shape Holder** for bending front camera FPC.
    - Place L-shape on FPC.
    - Bend front camera FPC **backward 180 degree.**

--------------------------------------------------------------

1. Bend front camera FPC backward 180 degree.
2. Do NOT damage any components on Logic board.

Disassembly instructions

# Mic1 Bracket

# Mic1 Bracket replacement

## Prerequisites

The following components must be removed first:

- Display module
- Mid-frame
- Rear camera 12M/16M
- Bottom speaker
- Logic board

## Tools

Ionizing air fan
Enclosure & ANT2 Holder (Button)
Universal Fish line
ESD tweezers

## Parts

G730-05667-06
ASSY, MECH, MIC1, BRACKET, DOE5, 5a

**Caution!**
Review all **safety precautions** before beginning work.

## 01. Remove mic1 bracket
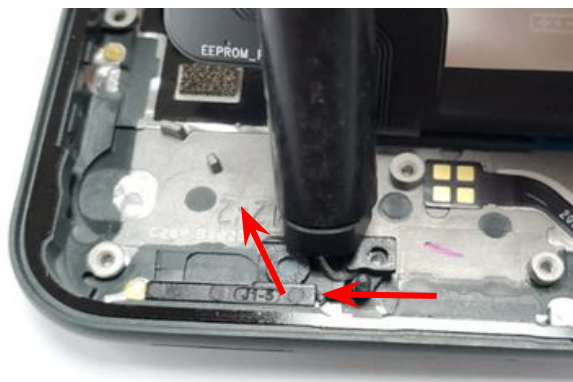


| It will difficult to remove from here | Easy to remove |
|---|---|
|  |  |

- Use a **universal fish line tool** to life up **Mic1 bracket** from bottom up.
- Use a **plastic ESD tweezers** to remove it.

--------------------------------------------------------

Do NOT reuse this part.

Display    Mid-frame    Rear Camera    Bottom Speaker    Audio jack FPC    Logic board    ANT2 board    Front Camera    **Mic1 Bracket**    Top Speaker    Side key FPC    Battery

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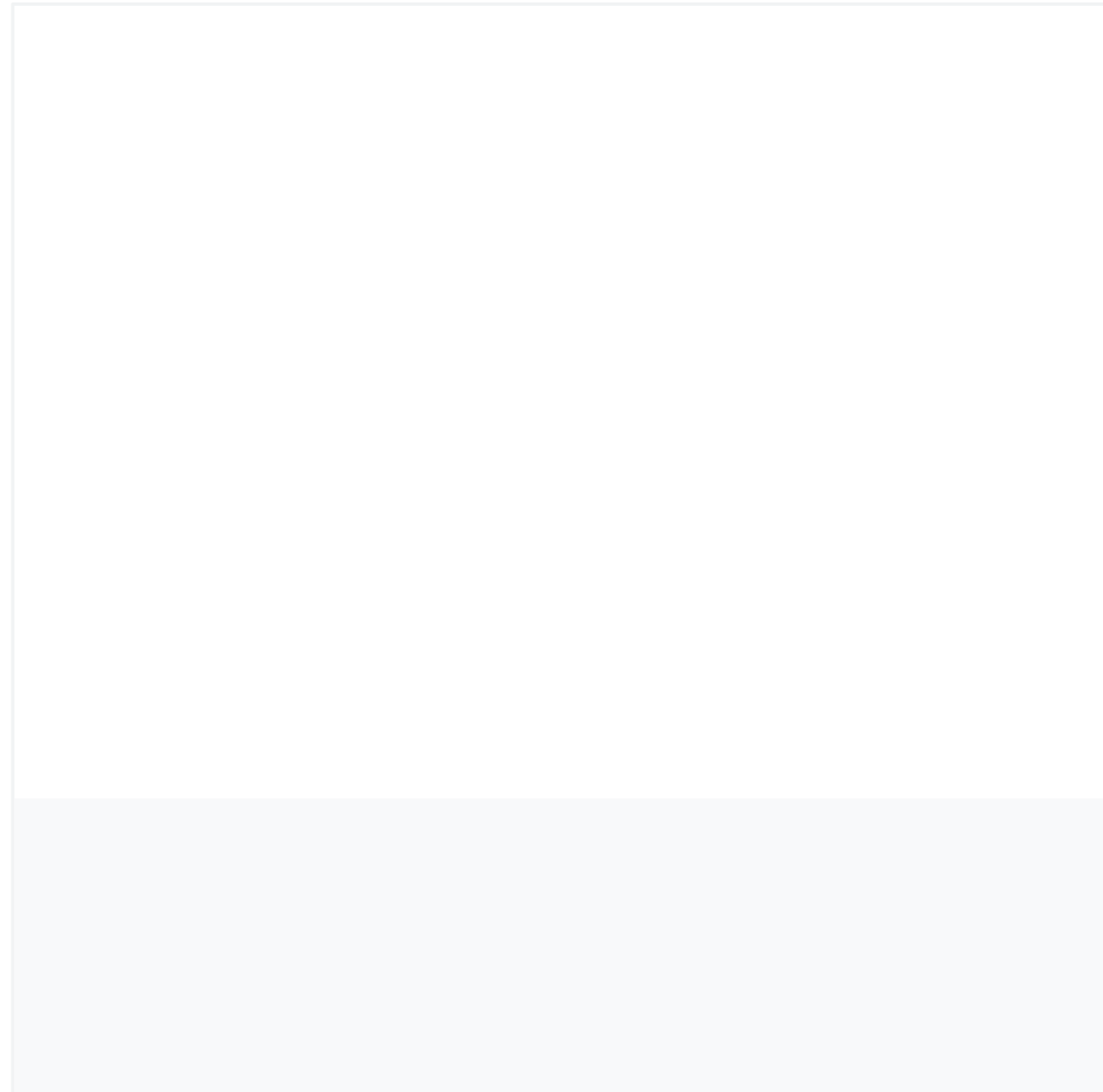
Assembly instructions

# Mic1 Bracket

## 01. Install mic1 bracket



Liner #3
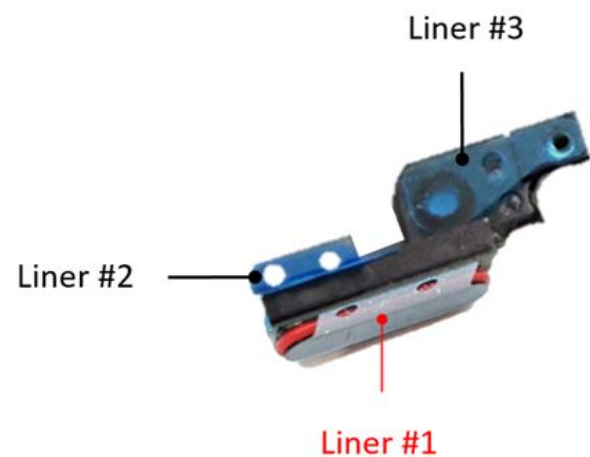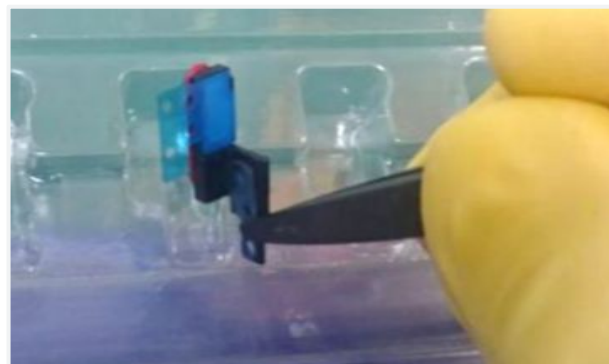
Liner #2

Liner #1

- Use a **plastic ESD tweezers** to take 1 pcs of Mic1 Bracket.
  Do NOT touch the mesh and sponge. ⚠️

- Use a **plastic ESD tweezers** to remove the liner #1 from Mic1. (refer pic. above)
  Do NOT remove liner #2 and #3 before installing on enclosure. ⚠️

- Install **the Mic1 bracket** on enclosure.
  Make sure Mic1 bracket installed in the proper position. ⚠️
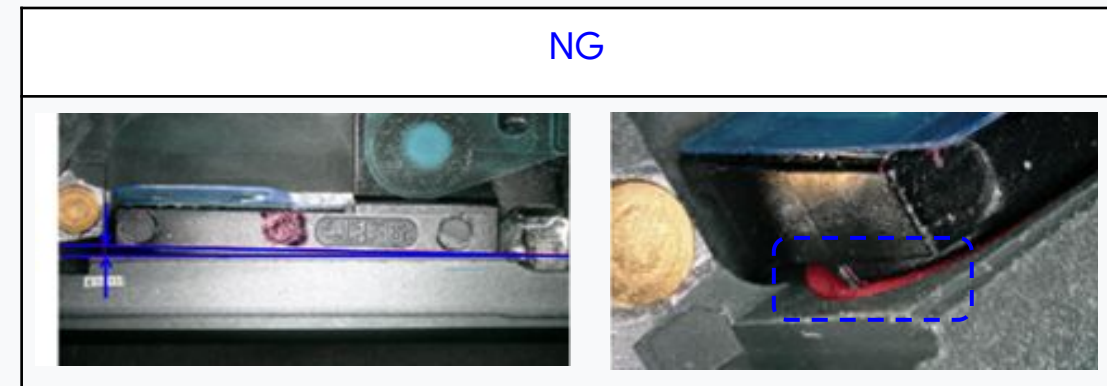
NG

Display | Mid-frame | Rear Camera | Bottom Speaker | Audio jack FPC | Logic board | ANT2 board | Front Camera | Mic1 Bracket | Top Speaker | Side key FPC | Battery

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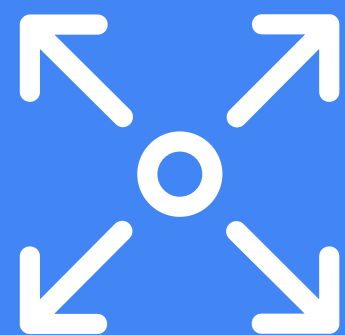
Disassembly instructions

# Top speaker

# Top speaker replacement

## Prerequisites

The following components must be removed first:

- Display module
- Mid-frame
- Rear camera 12M/16M
- Bottom speaker
- Logic board

## Tools

Ionizing air fan
Enclosure & ANT2 Holder (Button)
ESD tweezers
Pixel 5a Press Pen

## Parts

G949-00154-01
Top Speaker with Holder
Assembly, 5a

**Caution!**
Review all **safety precautions** before beginning work.

## 01. Remove top speaker
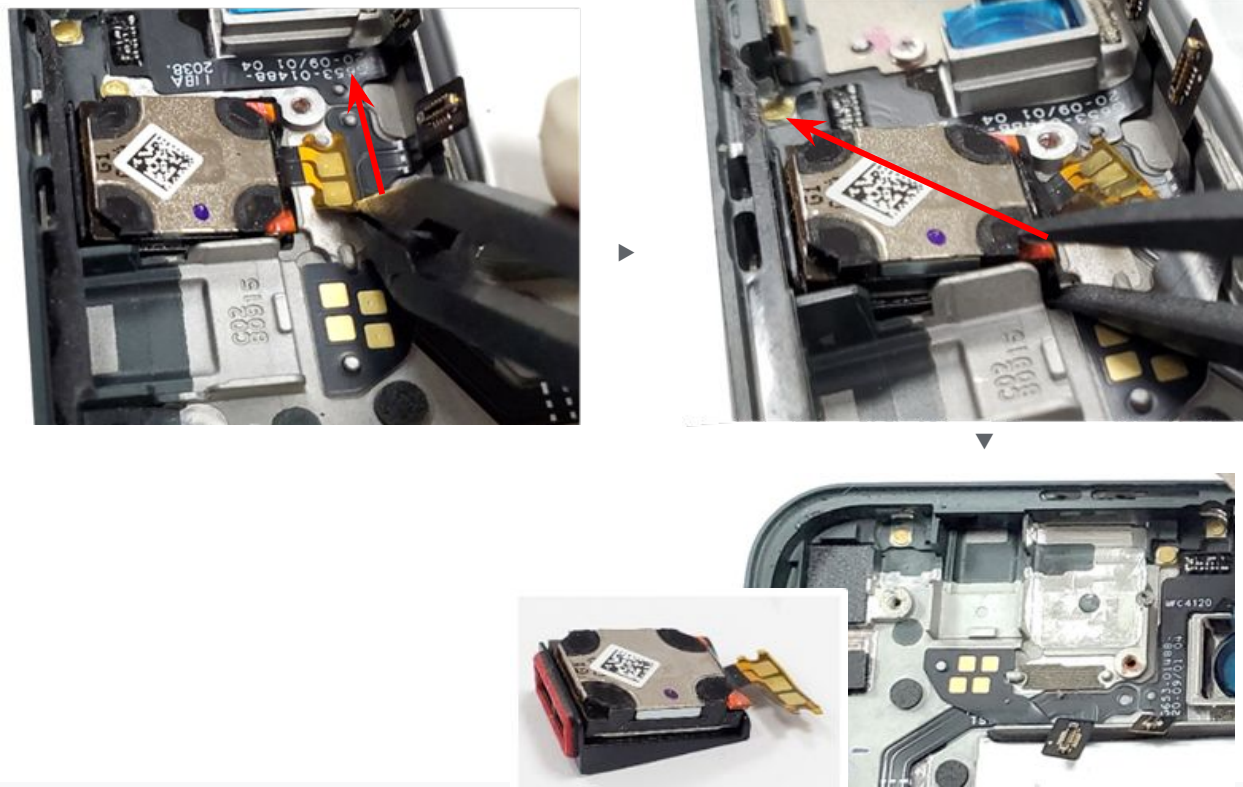


- Use a **ESD tweezers** to remove **TOP SPK** and **TOP SPK Holder** from enclosure.

-----------------------------------------------------------------

Do NOT reuse this part..

| Display | Mid-frame | Rear Camera | Bottom Speaker | Audio jack FPC | Logic board | ANT2 board | Front Camera | Mic1 Bracket | **Top Speaker** | Side key FPC | Battery |

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Assembly instructions
# Top speaker

## 01. Install top speaker
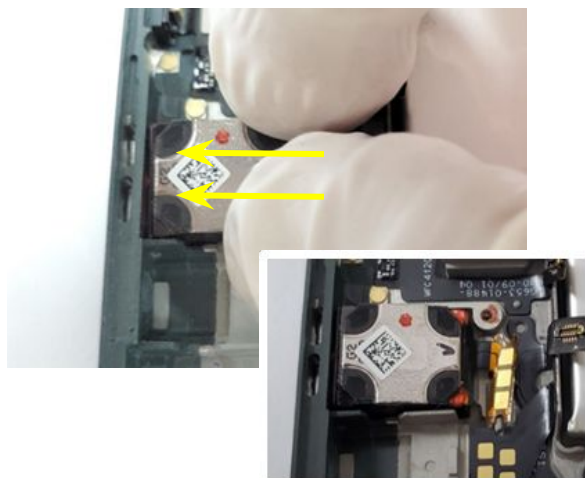


- Use **plastic ESD tweezers** to peel off the liner on enclosure.
- Install the **TOP SPK** with holder in the designated location on enclosure.
- Use plastic **ESD tweezers** to peel off the liner on top speaker FPC.
- Align the FPC pad with positioning pin and attach it on enclosure.

1. Make sure TOP SPK does NOT exceed the rib.

| NG: exceeds rib | OK |
|---|---|
|  |  |

2. Make sure TOP SPK insert to the slot completely.

| NG: exceeds rib | OK |
|---|---|
|  |  |

Display › Mid-frame › Rear Camera › Bottom Speaker › Audio jack FPC › Logic board › ANT2 board › Front Camera › Mic1 Bracket › Top Speaker › Side key FPC › Battery

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## 02. Press top speaker



- Use the **Pixel 5a Press Pen** and press the top speaker.
  **Pressing time: 10s**
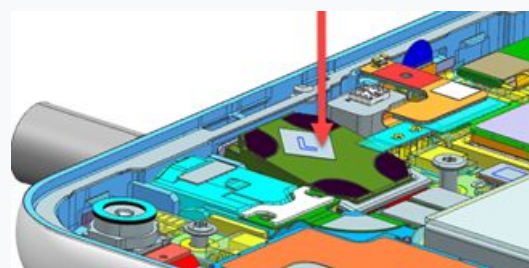


Display | Mid-frame | Rear Camera | Bottom Speaker | Audio jack FPC | Logic board | ANT2 board | Front Camera | Mic1 Bracket | Top Speaker | Side key FPC | Battery
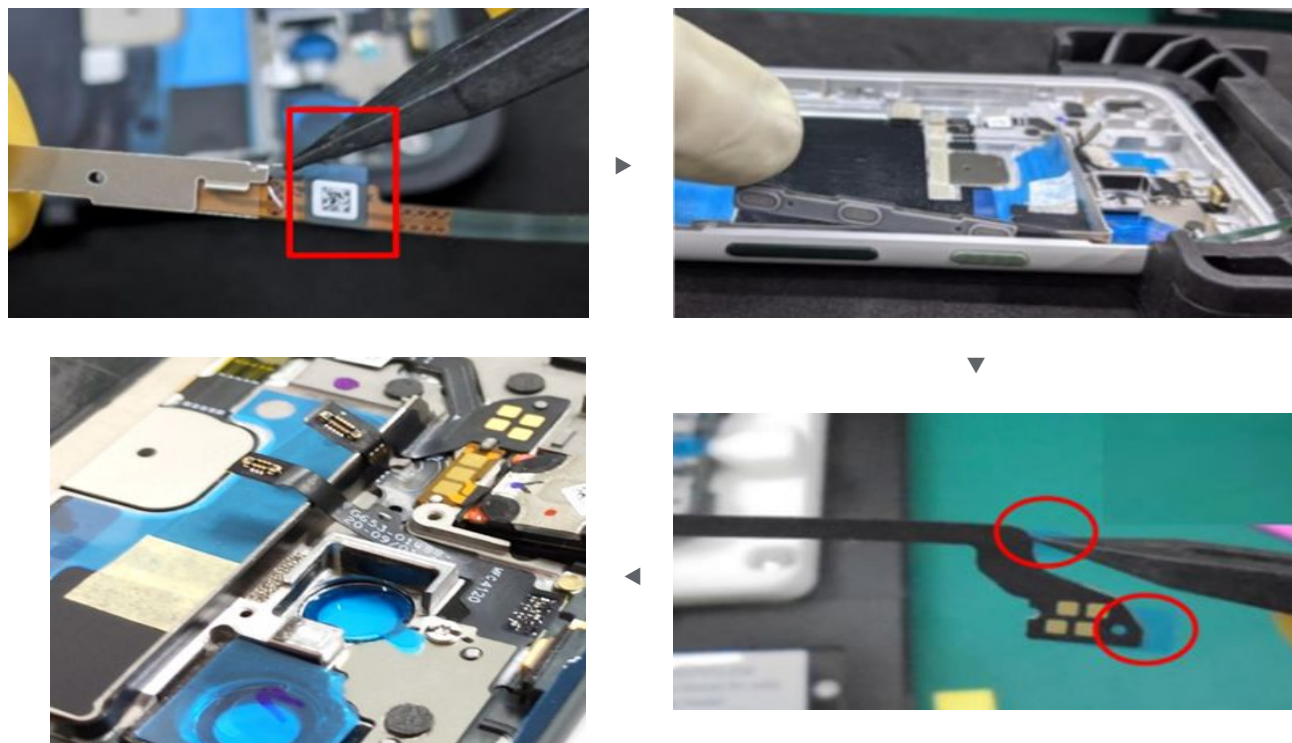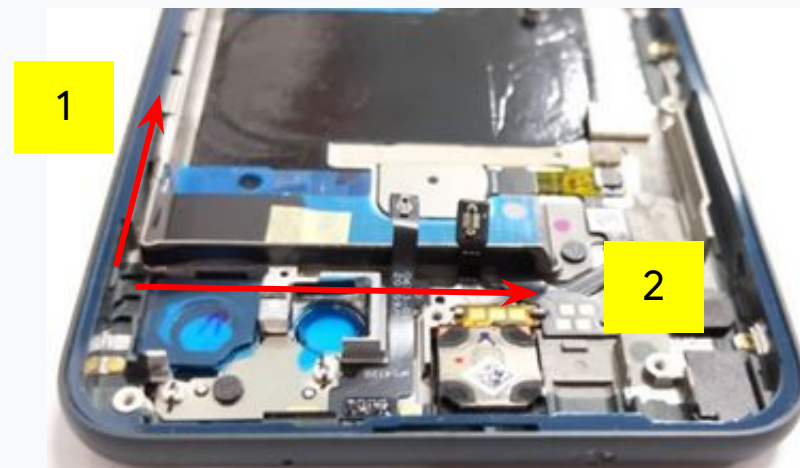
Pixel 5a Repair Manual v4.0 ©Google 2024 | Page 139
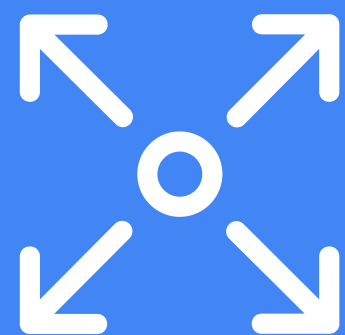
Disassembly instructions

# Side key FPC

# Side key FPC replacement

## Prerequisites

The following components must be removed first:

- Display module
- Mid-frame
- Rear camera 12M/16M
- Bottom speaker
- Audio jack FPC
- Logic board

## Tools

Ionizing air fan
Enclosure & ANT2 Holder (Button)
ESD tweezers
Screw Cover
Universal Disassembly ESD stick

## Parts

G949-00143-01
SIDE KEY FPC Assembly, 5a

**Caution!**
Review all **safety precautions** before beginning work.

## 01. Remove side key FPC
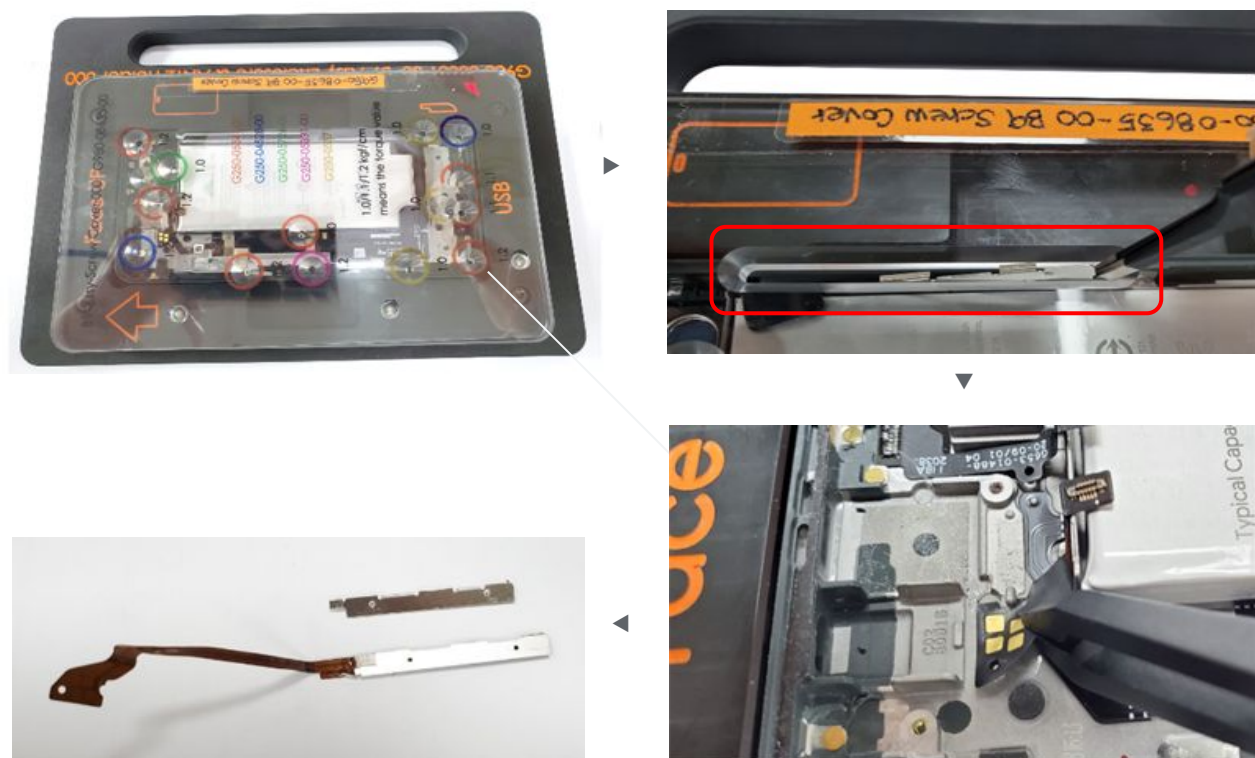








- Remove Side Key FPC from enclosure.
  - Attach the Pixel 5a screw cover on **Enclosure Holder Fixture**.
  - Use a ESD tweezers to remove **Shim Bracket**.
  - Use a ESD tweezers to remove **Side Key FPC Assembly**.

Do not reuse side key FPC.

Side Key FPC

Display  Mid-frame  Rear Camera  Bottom Speaker  Audio jack FPC  Logic board  ANT2 board  Front Camera  Mic1 Bracket  Top Speaker  Side key FPC  Battery

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Assembly instructions

# Side key FPC

## 01. Install side key FPC





- Remove the liners from side key FPC.
- Install the **Side Key FPC** on enclosure following designated order.
- Paste the connector end and align it with posts on the enclosure.

The Side Key FPC should be behind the flam FPC and FPS FPC.



Flam FPC

FPS FPC

Side Key FPC

Display | Mid-frame | Rear Camera | Bottom Speaker | Audio jack FPC | Logic board | ANT2 board | Front Camera | Mic1 Bracket | Top Speaker | Side key FPC | Battery

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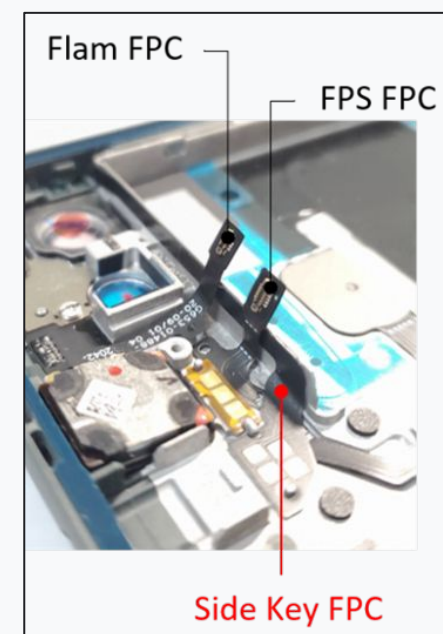
## 02. Flatten the surface



- Flatten the surface using **ESD plastic bar.**

| NG: NOT flat | OK: flat |
|---|---|
|  |  |
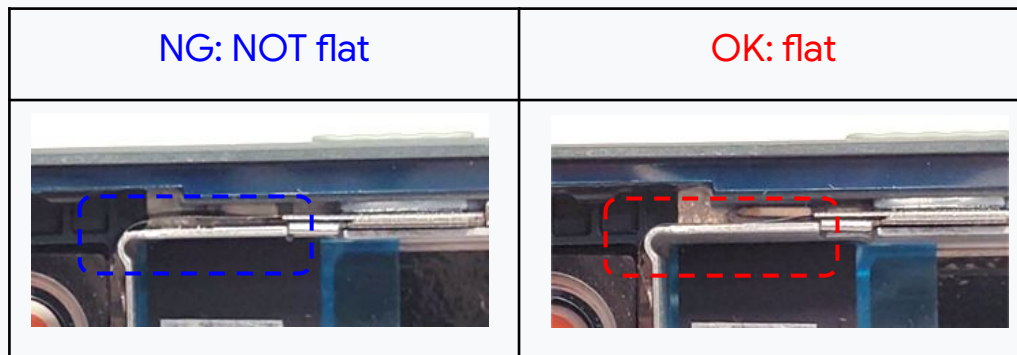
## 03. Install shim bracket
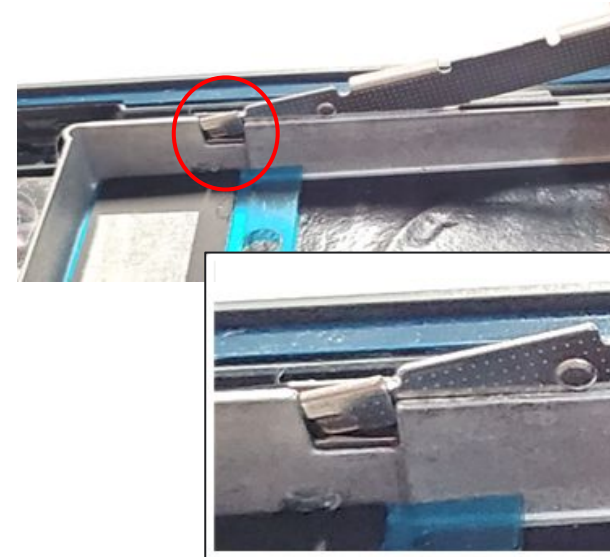


(outside) Side Key FPC Assembly

(inside) Bracket

- Install **Shim Bracket** to fix the side key FPC.
- Use the handle of the **ESD plastic tweezers** to press the shim bracket to the bottom.



Display | Mid-frame | Rear Camera | Bottom Speaker | Audio jack FPC | Logic board | ANT2 board | Front Camera | Mic1 Bracket | Top Speaker | **Side key FPC** | Battery

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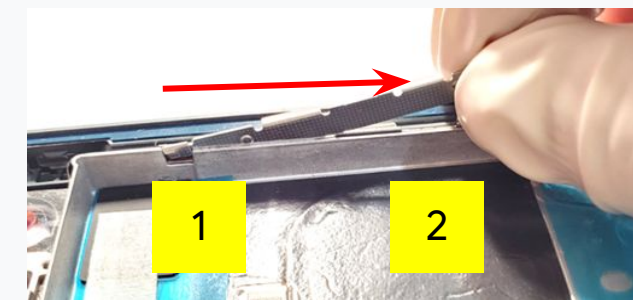
Disassembly instructions

# Battery

# Battery replacement

## Prerequisites

The following components must be removed first:

- Display module
- Mid-frame
- Rear camera 12M/16M
- Bottom speaker
- Logic board

## Tools

Heating plate
Ionizing air fan
Universal Disassembly Fixture &
Universal Device Clips
C-Clamp
Pixel 5a Enclosure & ANT2 Holder
ESD tweezers
Universal adsorption bulb
Universal Battery Alignment Jig
Pixel 5a Battery Press Block
Universal Press Fixture

## Parts

G949-00268-01
ASSY, BATTERY, SWD PACK, ATL
CELL, 5a

**Caution!**
Review all **safety precautions** before beginning work.

## 01. Soften glue



- Place the enclosure by **heating plate** with **176°F/ 80°C for 600 seconds** to soften the glue.

---

**Heat plate is a hot surface.**
**Use caution as it could cause burns.**

⚠️

## 02. Pull out tabs
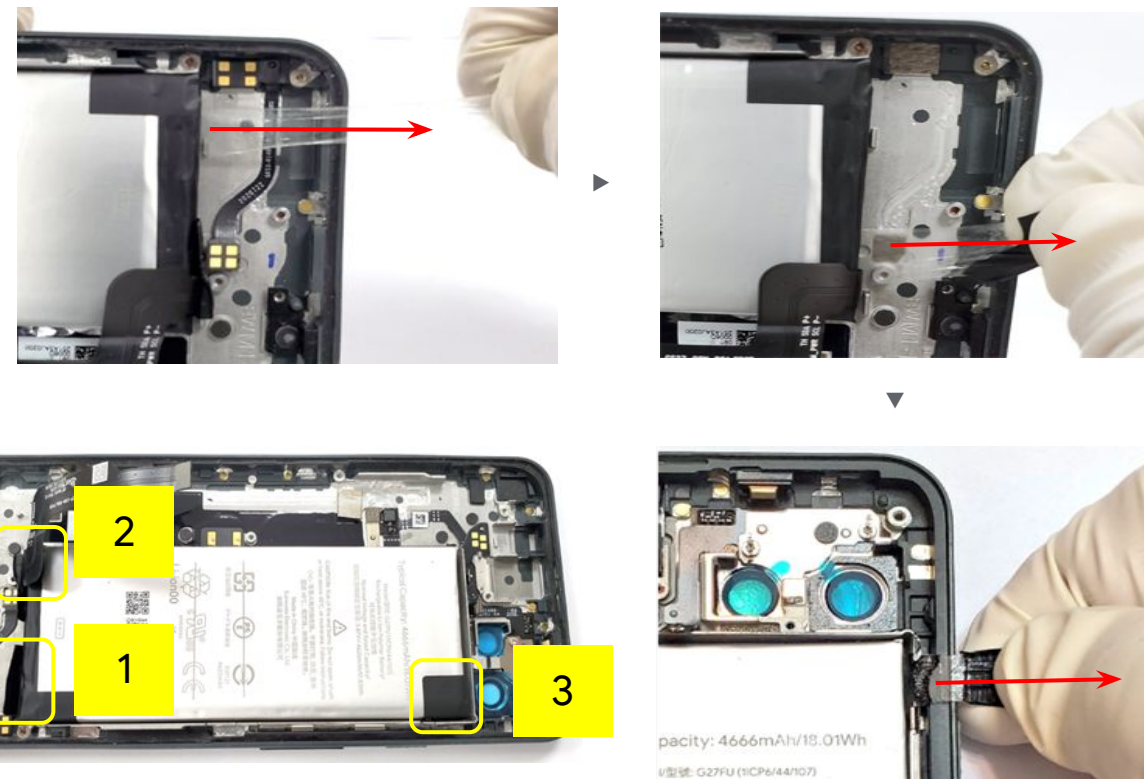


- There are 3 pull tabs between battery and enclosure, to pick up them by hand.
  Pull out the front tab part out horizontally and slightly. Do not break the tab, otherwise the adhesive may not be able to be pulled out.

---

Do NOT reuse this part.

Display | Mid-frame | Rear Camera | Bottom Speaker | Audio jack FPC | Logic board | ANT2 board | Front Camera | Mic1 Bracket | Top Speaker | Side key FPC | **Battery**

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## 03. Clamp fixture
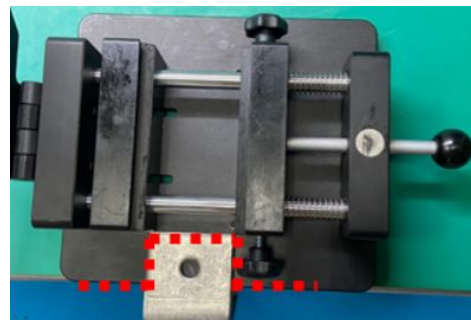




- Place the **Universal Disassembly Fixture & Universal Device Clips** in the desktop and clip the table **c-clamp** to the fixture.

  Please make sure it as tight as possible.

  The table must to be quite heavy.
  Align the table c-clamp to the Universal Disassembly Fixture by the above dotted line.

## 04. Secure device



- Place device on **Universal Disassembly Fixture & Universal Device Clips** and adjust the position in the middle area.

- Fix the device and lock by the screws.

Display | Mid-frame | Rear Camera | Bottom Speaker | Audio jack FPC | Logic board | ANT2 board | Front Camera | Mic1 Bracket | Top Speaker | Side key FPC | Battery

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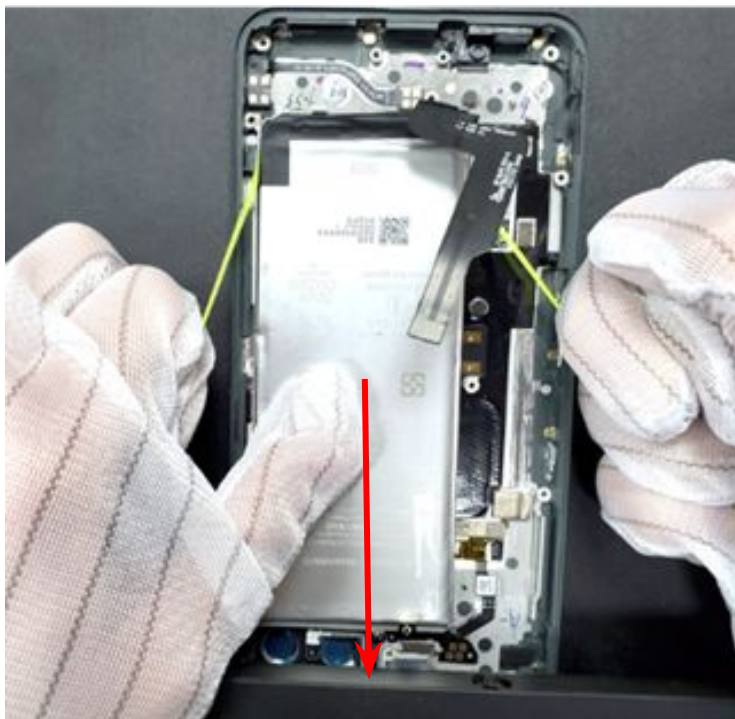
## 05. Remove battery



- Remove Battery with **fishing line**.
  **(thickness 0. 4mm, 13.9kg/30lb)**

--------------------------------------------------

1. **Please wear gloves to protect your hands.**
2. **Once the battery is removed. DO NOT reuse it.**
3. Place the scrap battery back into the original packaging.

Display | Mid-frame | Rear Camera | Bottom Speaker | Audio jack FPC | Logic board | ANT2 board | Front Camera | Mic1 Bracket | Top Speaker | Side key FPC | Battery

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Assembly instructions

# Battery

## 01. Tear off liners

*Upper*
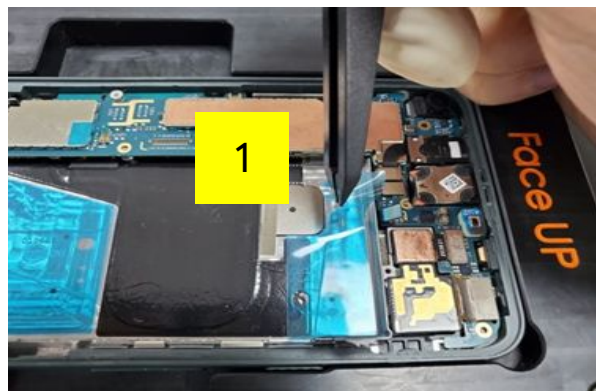


*Upper Side*
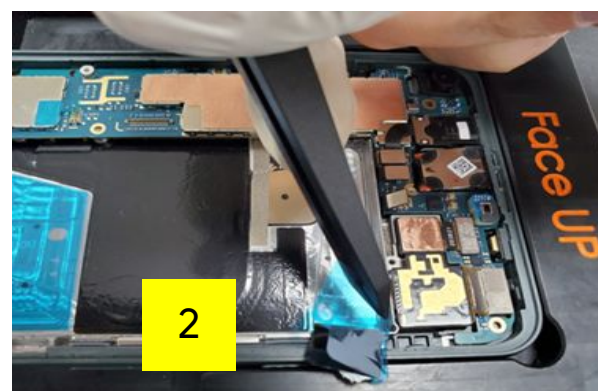


*Lower*
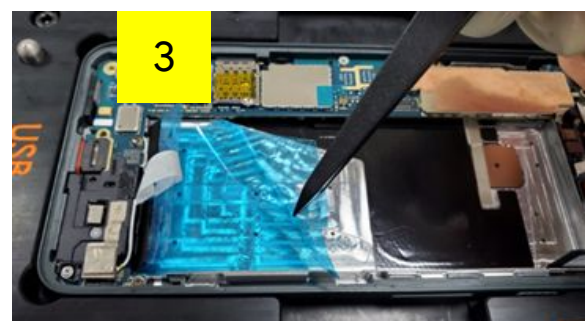


- Tear off 3 pcs **battery liners** from enclosure with **plastic ESD tweezers**.

## 02. Align battery and install
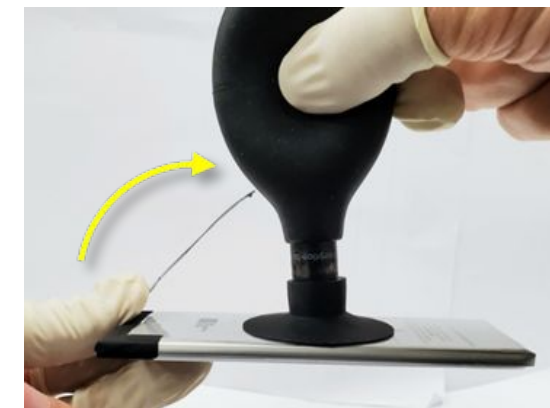


- Take battery with **Universal Adsorption-Bulb**.
- Fold Battery FPC inward.
- Place the **Universal Battery Alignment tool** at the lower right hand corner.

---

Ensure the 3 pull tabs are accessible, and not buried under the battery. ⚠️

Display → Mid-frame → Rear Camera → Bottom Speaker → Audio jack FPC → Logic board → ANT2 board → Front Camera → Mic1 Bracket → Top Speaker → Side key FPC → **Battery**

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## 03. Install battery
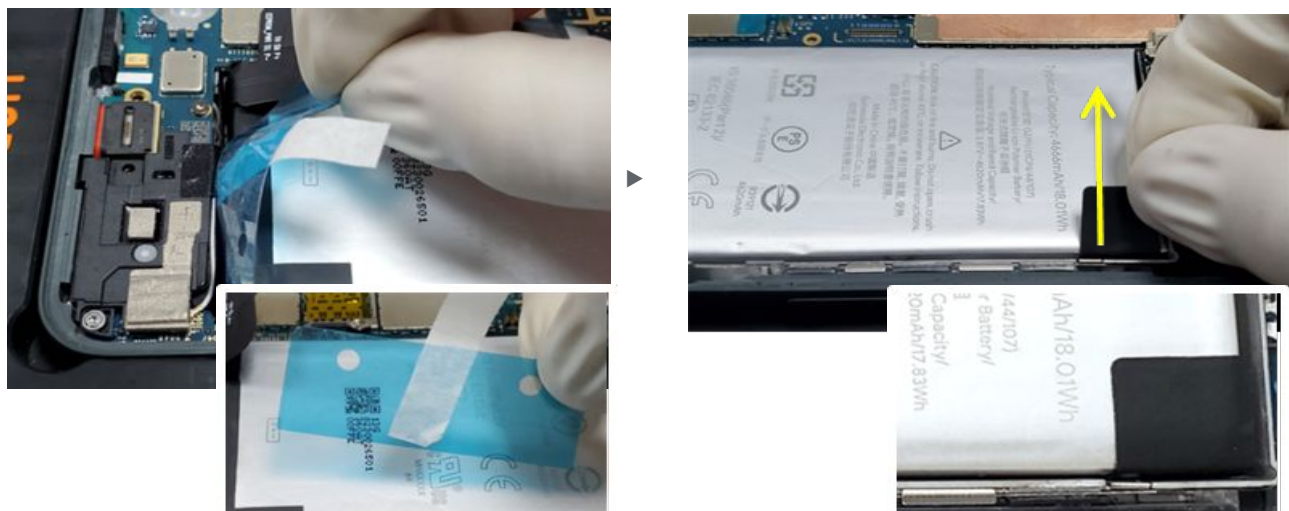


- Tear off the liner on the left.
- **Attach pull tab** to the battery.

## 04. Prepare to press



*Protective cap is still covered*
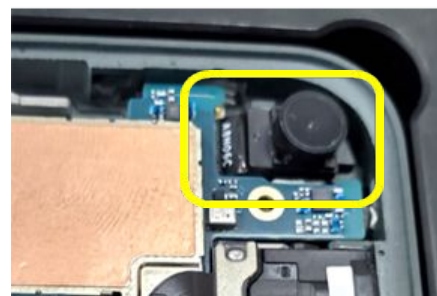


- Move the battery FPC backwards before adding the **Pixel 5a Battery Press Block.**
- Stack the **Pixel 5a Battery Press Block** on the top.
- Deliver the setup onto the **Universal Press Fixture**.

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

Make sure the protective cap on front camera is still covered. (refer pic. above) ⚠️

Display ▷ Mid-frame ▷ Rear Camera ▷ Bottom Speaker ▷ Audio jack FPC ▷ Logic board ▷ ANT2 board ▷ Front Camera ▷ Mic1 Bracket ▷ Top Speaker ▷ Side key FPC ▷ **Battery**

## 05. Press battery in fixture
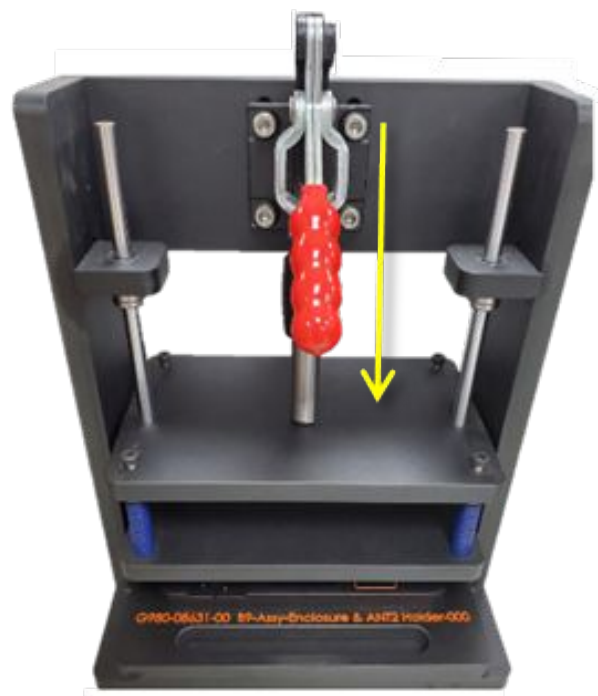


- Press the handle to keep pressing.
  **Keeping time: 12s**

---

Pinch point. Keeps hands clear during operation. ⚠️

## 06. Connect FPC to Logic board
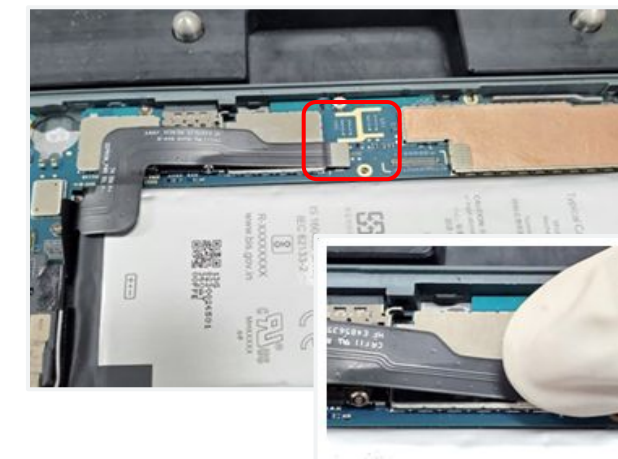


NG: NOT buckle to Logic board
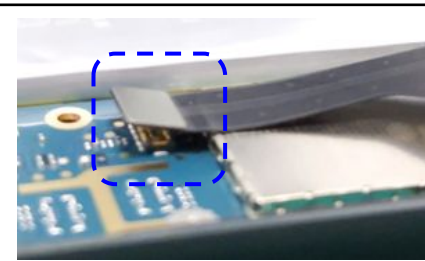


- Tear off the liner from Logic board shielding.
- **Connect Battery FPC** on Logic board.

---

Check every connector is properly connected to the Logic board, else the product may not function as intended.(refer pic. above) ⚠️
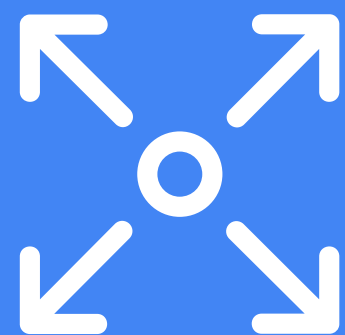
Disassembly instructions
# Enclosure

# Enclosure replacement

## Prerequisites

The following components must be removed first:

- Display module
- Mid-frame
- Rear camera 12M/16M
- Bottom speaker
- Audio jack FPC
- Logic board
- Battery

## Tools

ESD stick
Dust-free  Cotton swabs
IPA and cloth

## Parts

G949-00139-01
Enclosure Assembly, BLK, 5a

G806-04416-01
DIECUT, ADHESIVE, BATTERY, TOP, 0.15MM pull tape, 5a

G806-04417-01
DIECUT, ADHESIVE, BATTERY, BOTTOM, 0.15MM pull tape, 5a

G806-04473-01
DIECUT, PSA,TOP SPK HOLDER, 5a

**Caution!**
Review all **safety precautions** before beginning work.

Assembly instructions
# Enclosure

## 01. Re-using the Enclosure Clean battery area
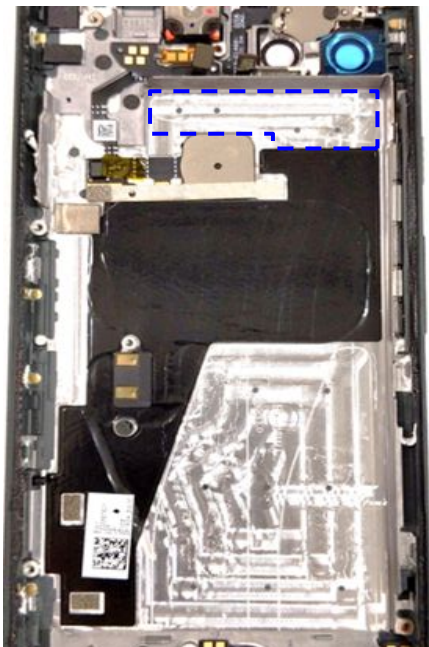
*Upper area:*          *Lower area:*
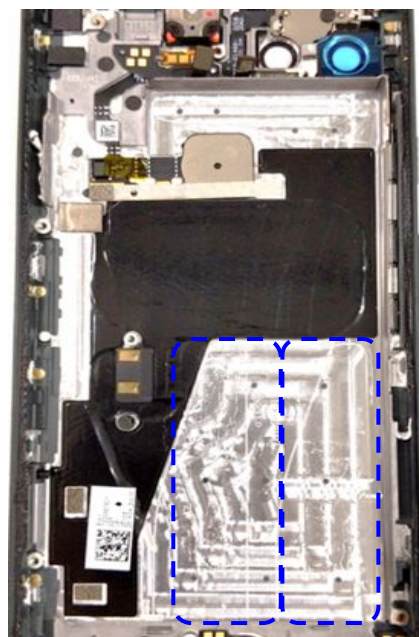


- Use IPA and dust free cloth to clean the enclosure surface at Battery position.

---

Do NOT damage the FPS and nearly graphite sheet. ⚠️

## 02. Paste adhesive
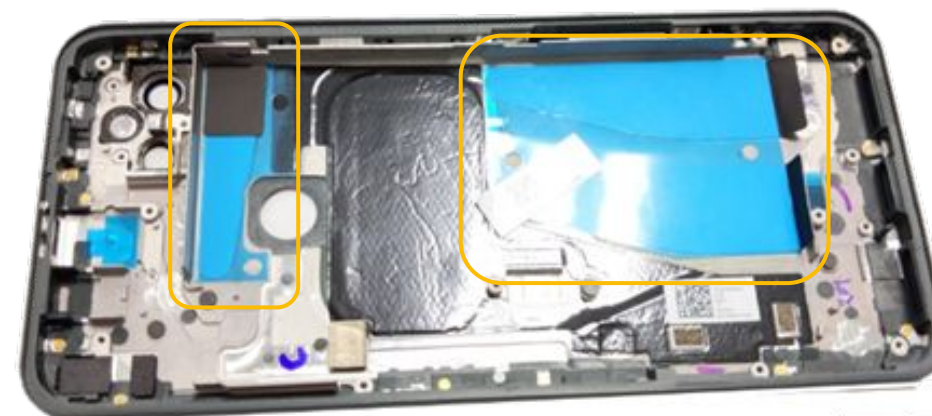


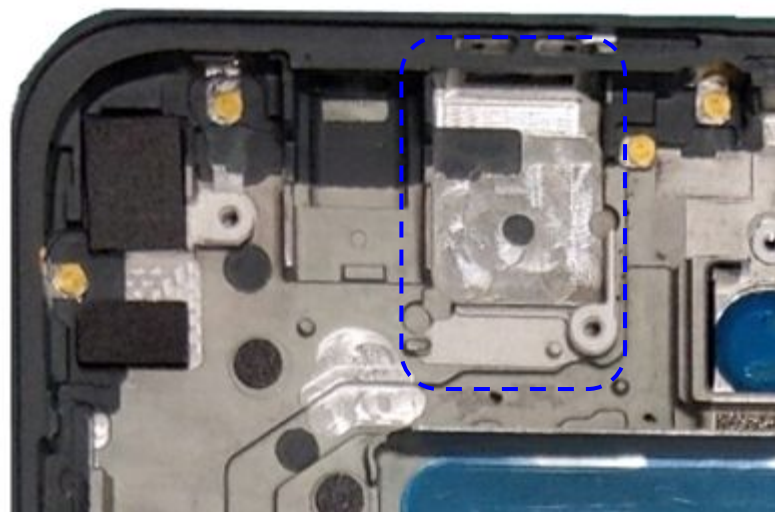| NG: pull tab overlap the screw hole | OK |
|---|---|
|  |  |

- Paste new adhesives on enclosure.

---

Make sure battery pull tab does NOT cover the screw hole. (refer pic. above) ⚠️

Display  >  Mid-frame  >  Rear Camera  >  Bottom Speaker  >  Audio jack FPC  >  Logic board  >  ANT2 board  >  Front Camera  >  Mic1 Bracket  >  Top Speaker  >  Side key FPC  >  Battery

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## 03. Clean top speaker area



## 04. Paste adhesive



- Use IPA and dust free cloth to clean the enclosure surface at TOP SPK position.
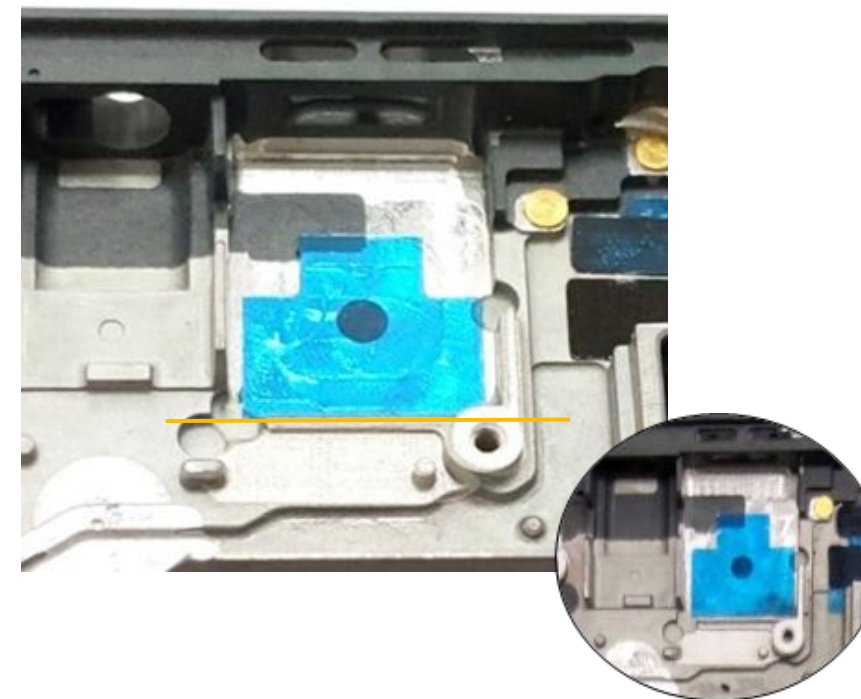
- Paste a new adhesive on enclosure.
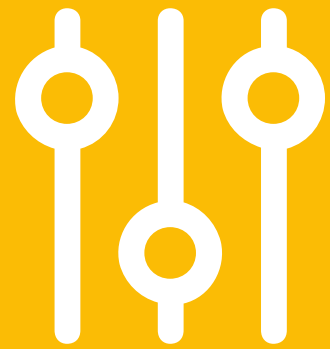
# 4. Troubleshooting

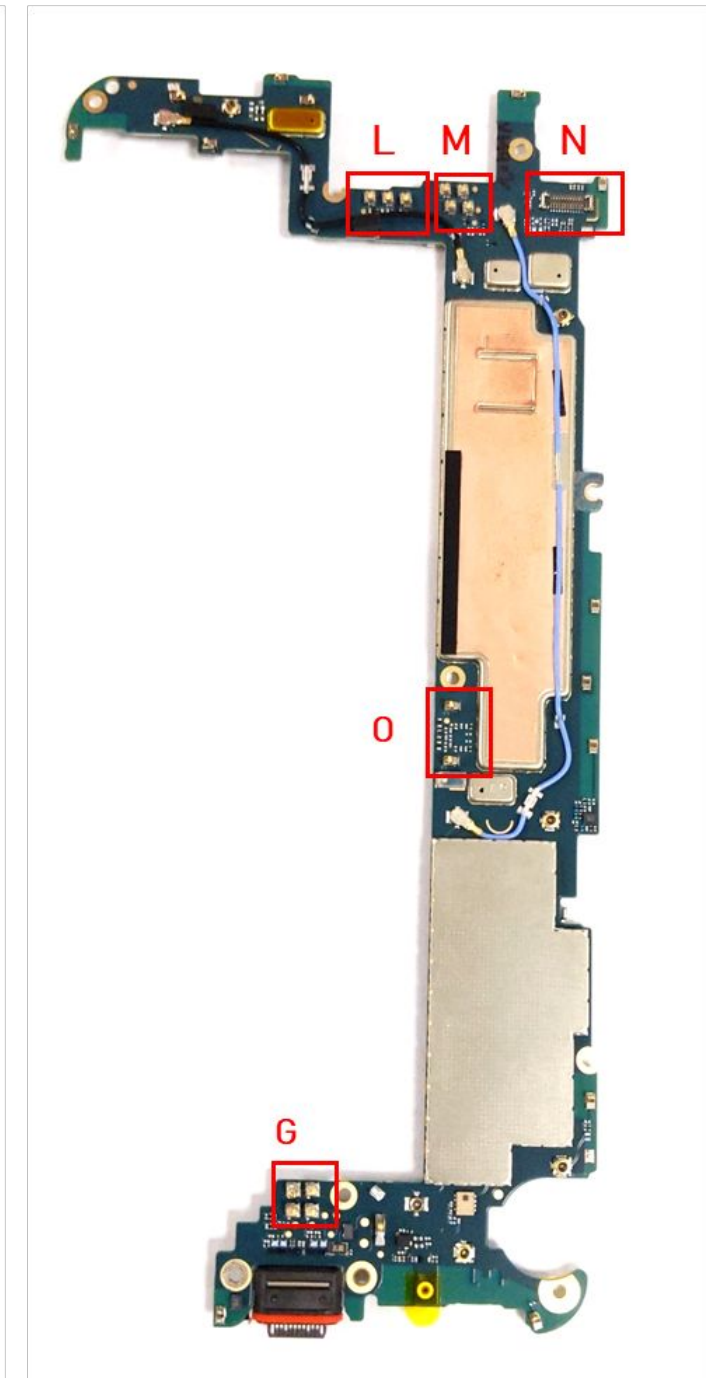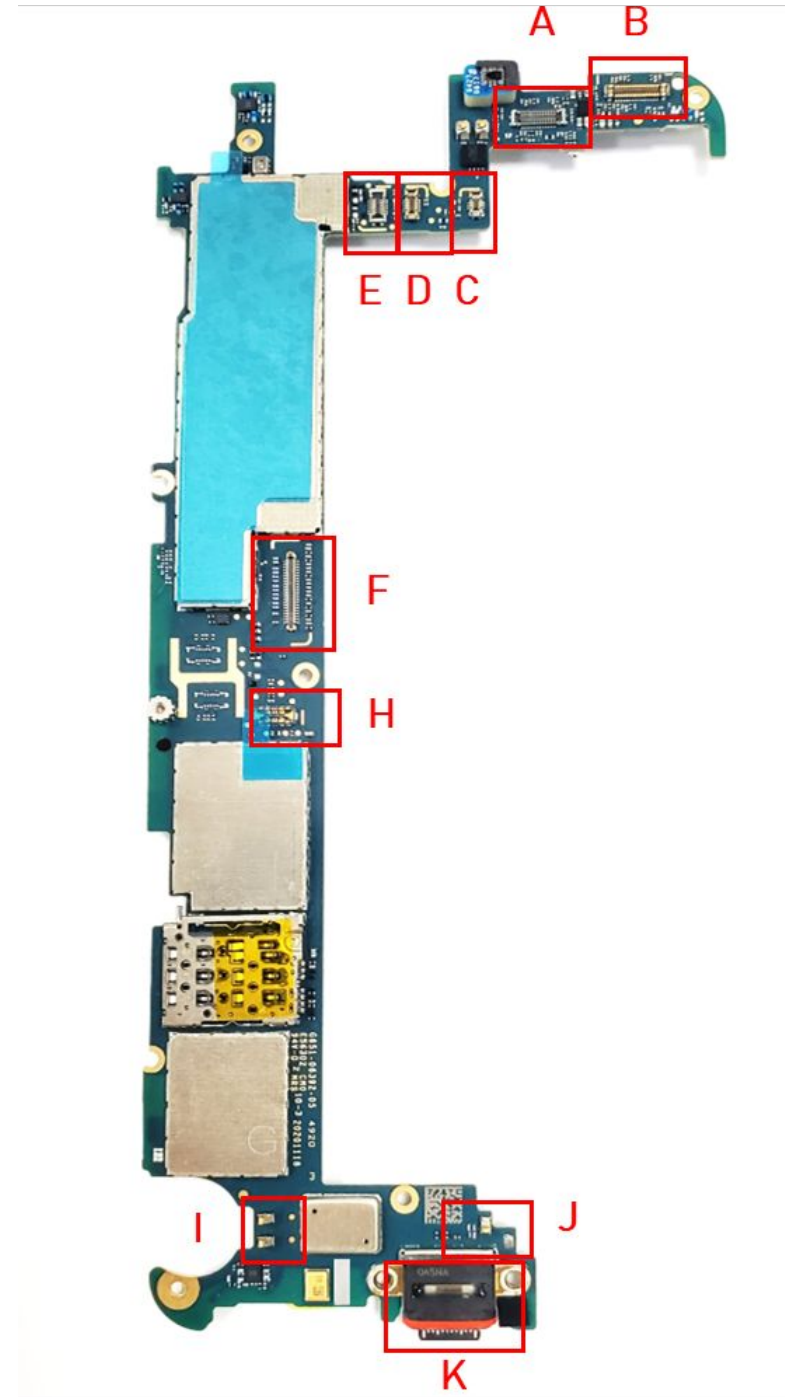# Connectors Location

| Location & Description | |
|---|---|
| **A** | REAR CAMERA(ULTRA WIDE) connector |
| **B** | REAR CAMERA(WIDE) connector |
| **C** | FLAM CONN(MIC & Flash LED) connector |
| **D** | FINGER PRINT connector |
| **E** | AUDIO JACK connector |
| **F** | Display connector |
| **G** | ANT2 spring connector |
| **H** | BATTERY connector |
| **I** | Vibrator spring connector |
| **J** | USB connector |
| **K** | BOTTOM SPEAKER spring connector |
| **L** | TOP SPEAKER  spring connector |
| **M** | KEY spring connector |
| **N** | FRONT CAMERA connector |
| **O** | NFC spring connector |

# Mic1

| Symptom | Potential Root Cause | Procedure | |
|---|---|---|---|
| T010: Mic 1 - no sound<br>T011: Mic 1 - low sound<br>T012: Mic 1 - distorted sound | Mesh not clean | ● Take a microscope to check the **mesh** is damage/ block/ shift, foreign substance on it or liner remain there.<br><br>If yes, change a new **Mic1 bracket**. If not, go to the next step. | |
| | SW Problem | ● Reflash to last ver shipping ROM. | |
| | Module Problem | ● Use a good **Logic board** to cross check with failure ones. | **Disassembly**<br><br>● Logic board<br><br>● Mic1 bracket |

# Mic2

| Symptom | Potential Root Cause | Procedure | |
|---------|---------------------|-----------|---|
| T013: Mic 2 - no sound<br>T014: Mic 2 - low sound<br>T015: Mic 2 - distorted sound | Connectivity Problem | • Check if connectivity between **flash FPC** and **Logic board** are normal.<br><br>• If they are not fully buckled, re-assemble and then retest.<br><br>If fail, go to the next step; if pass, repair process is done. | |
| | Module Problem | • Use a good **Enclosure** and **Logic board** to cross check with original ones. | **Disassembly**<br><br>• Logic board<br><br>• Enclosure |

# Top Speaker

| Symptom | Potential Root Cause | Procedure | |
|---|---|---|---|
| T019: Top Speaker no sound<br>T020:Top Speaker low sound<br>T021: Top Speaker distorted sound | Mesh Problem | • If there is a noise, please disassemble the **CG** to check if the **mesh of top speaker** on the CG is damaged.<br><br> If yes, change a new **CG**. If not, go to the next step. | |
| | Component Problem | • If all the failure symptoms are not present. Use a good **top speaker module** and **Logic board** to cross check with corresponding failure ones. | **Disassembly**<br><br>• Logic board<br><br>• Top speaker |

# Bottom Speaker

| Symptom | Potential Root Cause | Procedure | |
|---------|---------------------|-----------|---|
| T023: Bottom Speaker no sound<br>T024: Bottom Speaker low sound<br>T025: Bottom Speaker distorted sound | Connectivity Problem | ● Check if **bottom speaker** assembly shift; or disassembly **bottom speaker** and check if membrane damaged, got foreign items.<br><br>● Change a new **bottom speaker** and **Logic board** if unit condition does not meet any of the above statement.<br><br>If not, go to the next step. | |
| | Component Problem | ● If all the failure symptoms are not present. Use a good **bottom speaker** and **Logic board** to cross check with corresponding failure ones. | **Disassembly**<br><br>● Logic board<br><br>● Bottom Speaker |

# Display

| Symptom | Potential Root Cause | Procedure | |
|---------|---------------------|-----------|---|
| T027: Display blank<br>T028: Display dead pixel, dark spots or foreign material<br>T029: Display bright pixel, bright or colored spots<br>T030: Display vertical or horizontal lines<br>T031: Display black, white or colored screen<br>T032: Display flickering/abnormal<br>T033: Display image quality<br>T034: Display color mura<br>T035: Display light leakage<br>T036: Display backlight issue<br>T037: Display shadow<br>T038: Display permanent burnin<br>T039: Display temporary burnin<br>T040: Display single crack<br>T041: Display multiple cracks<br>T042: Display to Enclosure gap<br>T043: Display cosmetic defects | Damage | ● Inspect & replace display if damage or out of SPEC. | |
| | Connectivity issue | ● Check if connectivity between **Display connector** and **Logic board** are normal.<br>● If they are not fully buckled, re-assemble and then retest. | Connectors Location |
| | Dead pixels<br>Distorted graphics<br>Flickering<br>Color issues | ● Remove **Display module**, fit a replacement part without adhesive and test.<br>● If issue is resolved, apply adhesive and fit new **Display module.** | **Disassembly**<br><br>● Display |
| | Component issue | ● Use a good **Display** and **Logic board** to cross check with original ones.<br>● Replace the defective component. | **Disassembly**<br><br>● Logic board<br><br>● Display |

# Vibrator

| Symptom | Potential Root Cause | Procedure | |
|---------|---------------------|-----------|---|
| T026: Vibrator failure | Module Problem | • If all the failure symptoms are not present. Use a good **Logic board** and **Middle frame (vibrator on it)** to cross check with corresponding failure ones. | **Disassembly**<br><br>• Logic board<br><br>• Mid-frame |

# Power

| Symptom | Potential Root Cause | Procedure | |
|---|---|---|---|
| ![battery icon]<br><br>T001: Does not power on<br>T002: Powers off suddenly<br>T004: Wired charging failure | Battery Capacity Problem | • Insert the **USB cable** and try to charge the device at least 10 minutes or dummy **battery** to see if the device is out of **battery** capacity.<br><br>If not, go to the next step. | |
| | Connectivity Problem | • Disassembly the **Enclosure**, re-connect the **battery**, **USB** and **CG** connector to confirm if it can be charged or power on.<br><br>If not, go to the next step. | |
| | Module Problem | • If all the failure symptoms are not present.<br><br>Use a good **Logic board** and **Battery** to cross check with corresponding failure ones. | **Disassembly**<br><br>• Logic board<br><br>• Battery |

# Battery

| Symptom | Potential Root Cause | Procedure | |
|---|---|---|---|
| <br><br>T053: Battery damage<br>T054: Battery draining fast<br>T055: Device overheats | Connectivity issue | • Check if connectivity between **Battery connector** and **Logic board** are normal.<br>• If they are not fully buckled, re-assemble and then retest. | Connectors Location |
| | Component issue | • Use a good **Battery** and **Logic board** to cross check with original ones.<br>• Replace the defective component. | **Disassembly**<br>• Logic board<br>• Battery |

# Sensor

| Symptom | Potential Root Cause | Procedure | |
|---|---|---|---|
| T059: Proximity sensor failure<br>T060: Ambient light sensor failure<br>T061: Accelerometer sensor failure<br>T062: Gyroscope sensor failure | SW Problem | ● Make sure SW already updated to lastly ver. | |
| | Connectivity Problem | ● Check the function by triage test. (Make sure there is no foreign substance cover the **P-sensor** area) | |
| | Module Problem | ● If all the failure symptoms are not present. Use a good **Logic board** and **Middle frame (P-sensor on it)** to cross check with corresponding failure ones. | **Disassembly**<br>● Logic board<br>● Middle frame |

# Touch panel

| Symptom | Potential Root Cause | Procedure | |
|---------|----------------------|-----------|---|
| <br><br>T044: Multi-touch poor response<br>T045: Multi-touch no response<br>T046: Multi-touch erratic response | SW Problem | • Make sure SW already updated to lastly ver. | |
| | Connectivity Problem | • Check the function by triage test.<br>• If fail, disassemble the device and check the assembly condition of **display BTB** connector.<br><br> If connectivity is poor or tilt, re-assemble and retest. | |
| | Module Problem | • If all the failure symptoms are not present. Use a good **Logic board** and **CG** to cross check with corresponding failure ones. | **Disassembly**<br><br>• Logic board<br><br>• Display |

# Camera

| Symptom | Potential Root Cause | Procedure | |
|---|---|---|---|
| T070:Camera crashes<br>T071 :Camera no preview<br>T072 :Camera AR failure<br>T073 :Camera Rear Photo quality<br>T074 :Camera Rear Video quality<br>T075 :Camera Front Photo quality<br>T076 :Camera Front Video quality<br>T077 :Camera flash not working<br>T078 :Cannot switch between cameras<br>T079 :Camera damage | Cosmetic Problem | • Check the function by triage test.<br>• Power on unit and check **camera** fail symptom, disassembly the device to check appearance is deformed. Power on unit and check camera fail symptom again. | |
| | Connectivity Problem | • Check **camera BTB** and **Logic board** side for identify if assy well/ deform or flex crack and reboot device again to check if fail symptom exists. | |
| | Module Problem | • If fail symptom is still exists, cross check **Logic board** itself or **camera module** to determine if fail symptom caused by camera module or Logic board. | **Disassembly**<br><br>• Logic board<br><br>• Rear Camera |

# Audio Jack

| Symptom | Potential Root Cause | Procedure | |
|---|---|---|---|
| T022:Audio Jack failure | Connectivity Problem | • Inspect the Audio Jack LDI label<br>• Check if connectivity between **audio jack** connector and **Logic board** are normal.<br>• If they are not fully buckled, re-assemble and then retest | |
| | Component Problem | • Use a good **audio jack** & **Logic board** to cross check with failure ones. | **Disassembly**<br><br>• Logic board<br><br>• Audio jack FPC |

# FPS

| Symptom | Potential Root Cause | Procedure | |
|---------|---------------------|-----------|---|
| T064: Fingerprint sensor failure | Connectivity Problem | ● Disassemble the device and check the assembly condition of **FPS** connector.<br>● If connectivity are poor or tilt, reassemble and retest.<br>If not, go to the next step. | |
| | Module Problem | ● If all the failure symptoms are not present.<br>Use a good **Logic board** and **Enclosure** to cross check with corresponding failure ones. | **Disassembly**<br><br>● Logic board<br><br>● Enclosure |

# RF (BT, WiFi, GPS, NFC)

| Symptom | Potential Root Cause | Procedure | |
|---------|---------------------|-----------|---|
| <br>T047: RF failure<br>T048: Wi-Fi connectivity issues<br>T049: Bluetooth connectivity<br>T050: GPS failure<br>T051: NFC connectivity Issues | Connectivity Problem | • Check if the **coaxial cable, screws, springs** is damaged or unbuckled.<br>If not, go to the next step. | |
| | Module Problem | • Use a good **Ant board**, **Logic board**, **Enclosure, Coaxial cable** to cross check with corresponding failure ones. | **Disassembly**<br><br>• Logic board<br><br>• Enclosure |

# Testing

# Software resources

| Description | Documentation |
|---|---|
| Update or reinstall the software on Pixel devices | Link |

# Glossary

# Terminology and definitions

| Acronym / Term | Definition |
|---|---|
| ESD | **Electro Static Discharge**<br>The sudden flow of electricity through two electrically charged objects. |
| IPA | **Isopropyl Alcohol (99.8%)**<br>Used for cleaning components and enclosures. Comes as pads or a solution. |
| EHS | **Environmental Health and Safety**<br>Requirements for keeping technicians and customers safe. |
| LCD | **Liquid Crystal Display**<br>A type of flat panel display which uses liquid crystals to show images. |
| mmWave | **Millimeter Wave**<br>The radio waves used to build a 5G network, providing fast, reliable mobile data. |
| LDI | **Liquid Damage Indicator**<br>An indicator that turns from white into another color, typically red, after contact with water.<br><br>**Also known as:** Liquid damage indicator · LCI |

# Terminology and definitions

| Acronym / Term | Definition |
|---|---|
| Display module | The cover glass, and sometimes other components such as the fingerprint sensor.<br><br>**Also known as**: cover glass (CG)  screen  display |
| Logic board | The main electronic component in the device with the processor, memory, storage, and often Wi-Fi and Bluetooth components all soldered on.<br><br>**Also known as**: main logic board  main board  motherboard  PCBA |
| Microphone | The component used for capturing audio to make a call, video or dictate some notes.<br><br>**Also known as**: mic |
| Enclosure | The housing that contains the buttons and provides protection for the logic board and other components.<br><br>**Also known as**: Housing (HSG)  rear cover  back cover (BC)  back glass (BG) |

# Terminology and definitions

| Acronym / Term | Definition |
|---|---|
| RCAM | Rear Camera modules.<br><br>**Also known as:** Rear Camera |
| FCAM | Front Camera modules.<br><br>**Also known as:** Front Camera |
| PSA | The adhesive that are used to bond enclosure and display module, battery and enclosure, or other parts.<br><br>**Also known as:** Pressure Sensitive Adhesive |
| Audio Jack | Handset Jack<br><br>**Also known as:** HSJ |

# Terminology and definitions

| Acronym / Term | Definition |
| --- | --- |
| FRP | Factory Reset Protection |
| FDR | Factory Data Reset |
| SUR | Same Unit Repair |
| RTV | Return To Vendor |
| SBOM | Service Bill of Materials |