Pixel 7a

Repair Manual

Version 3

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

This manual is organized into sections for easy and intuitive navigation.

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 cleaning 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
V1.0	Mar 2023	1st released
V2.0	June 2023	1. Revised dssy tool from Universal Disassembly ESD stick to pick in Page 54 & 55 2. Revised definition LCD to OLED in Page 39 3. Add G806-09516-01 picture in Page 35, 92 & assy steps and reclaim steps in Page 105 / 109 4. Move the page 95 & 96 to "after" remove inner housing. (P95→P94, P96→P95) 5. Page 115 apply Lubricant on sim tray before insert it in device, also added in it in P29 Standard tool 6. mmWave FOF assy / dssy notice in Page 112 137 7. Running change notice : ~~G806-08604-01~~ to G806-09514-01 in Page 35, 62. 8. page 57, 60: update pic to reflect used BC. Page 62: update pic. This step assembles 1 mylar. Page 63: update description on left picture to reflect new BC
V3	**June 2024**	**1. Removed proprietary references** **2. Added disclaimers** **3. Updated tools and fixtures names and part numbers**

Precautions

Precaution

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 7a 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 Austria. ams AG, Tobelbader Str. 30, 8141 Oberpremstätten, Austria

Precaution

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:

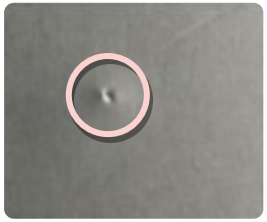
- We don't recommend performing repairs without the specified tools and fixtures.
- Improper use of tools and fixtures may result in injury to yourself, the user of the device or other third parties, as well as damage to the product, tools, fixtures, replacement parts and/or other spare parts.

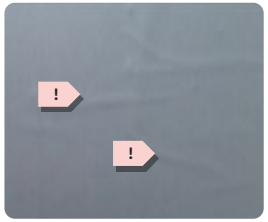
Important: Before Disassembling the Device

- 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.

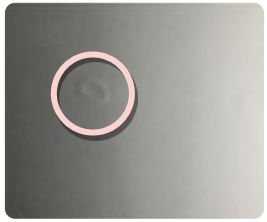
Caution ⚠

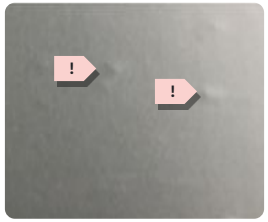
Examples of unacceptable battery conditions - Not suitable for repair*

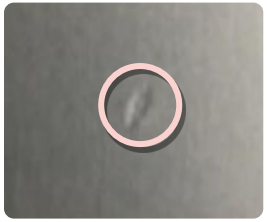

Pouch damage


Line protrusion


Scratch

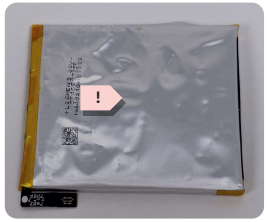

Contamination marking


Dot protrusion

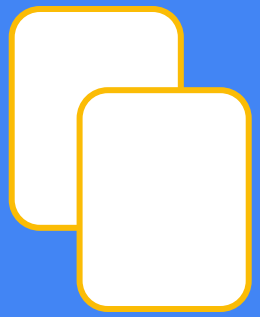

Dent


Bubbling


Imprinted line

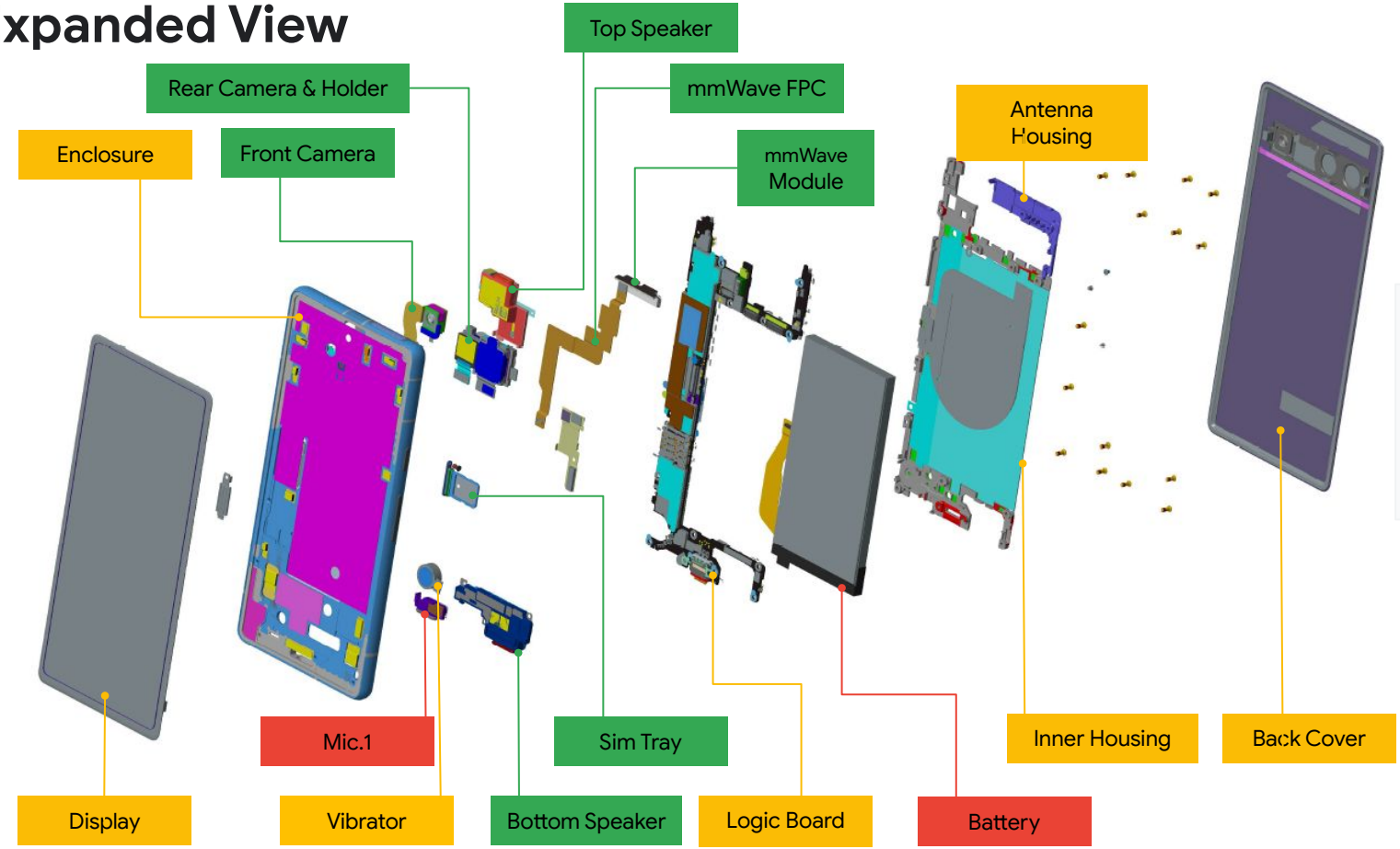

Swelling or electrolyte leakage

*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



Pixel touch screen calibration process

For the Pixel 7a 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.

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.

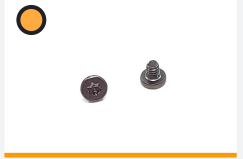
Did you know?

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.

Screw Map - Pixel 7a

M1.2-1.5L HD2.4
G250-06555-00

M1.4x0.3-3.8, D2.5
G250-05370-00



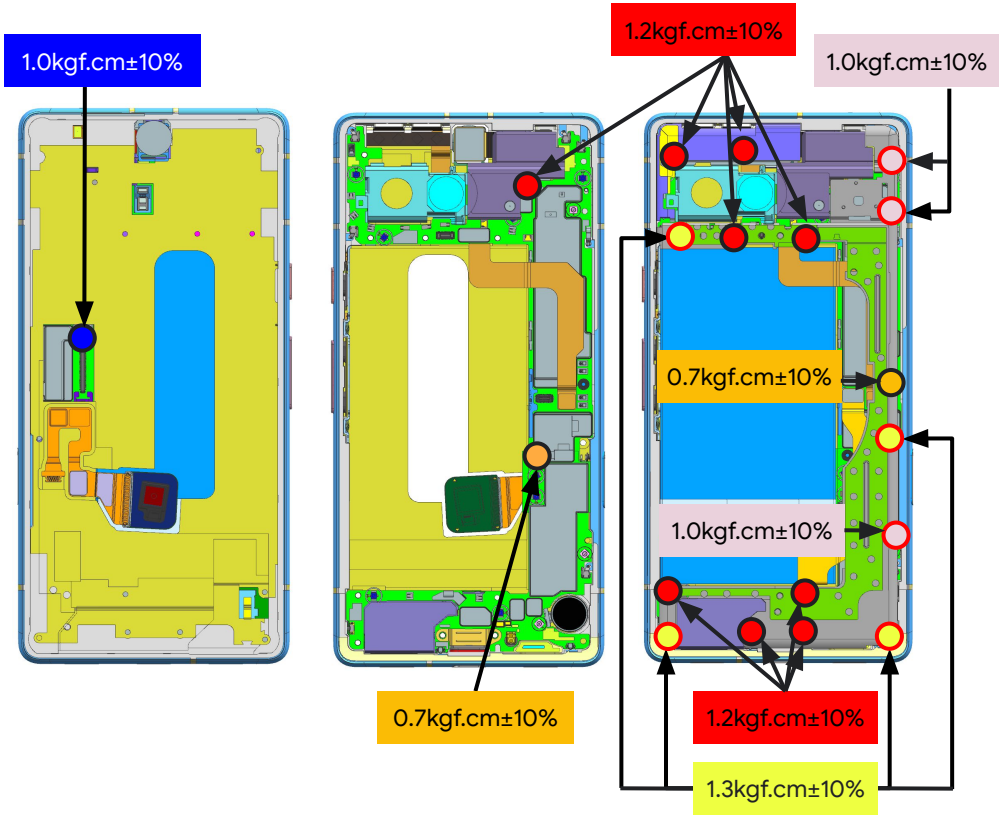
M1.2-1.25L HD2.15
G250-06554-00

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

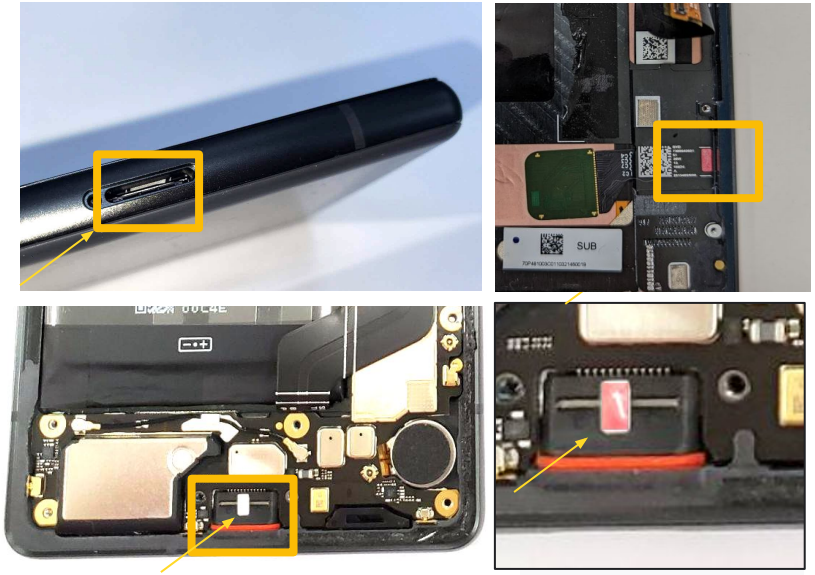
Each screw is critical to the safe continued operation of the phone.
Since thread locking adhesive can't be reactivated, replace each used screw with a new screw after removal.



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 two LDI on this device.



- On the enclosure (visible through SIM slot, without disassemble the device).
- On the USB

Repair Flow Notice

After any repair that opens the phone,
Do not connect any USB cable or OTG adapter at the first time boot up.
After software bootup is complete, then the phone may be plugged in.

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.

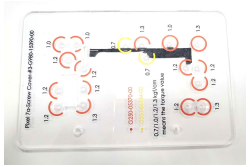
Google-approved fixtures - Pixel 7a

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

Pixel 7a Assembly Enclosure Holder & CG Press
G940-00934-00

Pixel 7a Assembly Enclosure PSA Align & BC Press Cover
G940-00935-00

Pixel 7a Assembly Battery Press
G940-00937-00



Pixel 7a Assembly Screw Cover
G940-00936-00

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

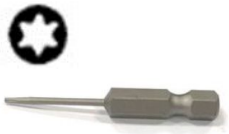
Universal adsorption bulb
G940-00780-00

Universal Press Fixture
G940-00733-00

Universal Battery Alignment Jig
G940-00424-01

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 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

Universal Disassembly ESD stick (Universal Disassembly 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

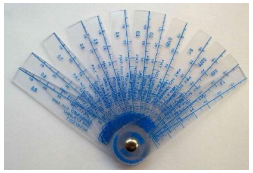
Table C-Clamp

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)

Screwdriver hex shank torx 1IP

Precaution

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

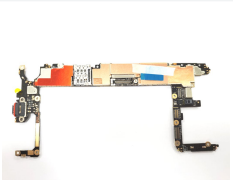
- The use of Google authorized replacement parts is strongly recommended.
- Performance within product specifications cannot be assured if Google authorized replacement parts are not used.

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
Multiple Part Numbers

Display module
G949-00364-00

Enclosure
Multiple Part Numbers

Back Cover
Multiple Part Numbers

Inner housing
G949-00391-00

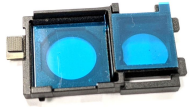
Bottom speaker
G949-00392-00

Top speaker
G949-00393-00

Front camera
G949-00394-00

Wide angle rear camera
G949-00395-00

Ultra wide rear camera
G949-00396-00



Rear camera holder
G949-00397-00

Replacement battery
G949-00398-00

Replacement parts

Reusable without cleaning
Reusable with cleaning
Not reusable after disassembly

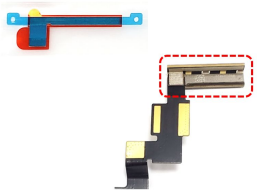
M1.2-1.5L HD2.4
G250-06555-00

M1.4x0.3-3.8, D2.5
G250-05370-00

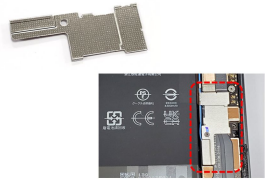
M1.2-1.25L HD2.15
G250-06554-00

mmWave RF module
G345-01202-03

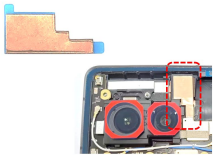
mmWave FPC
G652-01892-02



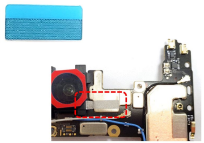
Conductive fabric
5G module
G806-06846-01



Stamping plate
5G/Battery
G730-06399-01

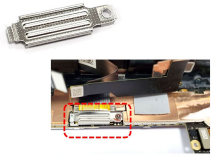


Copper foil
Fcam to MLB shield
G806-07803-01



Conductive fabric
Rcam holder to MLB
G806-06825-01

P-sensor rubber
G804-00855-01

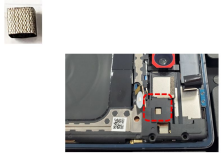


Stamping plate
Display BTB
G730-06398-01

Antenna housing
G730-06410-01

Replacement parts

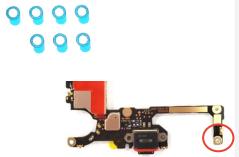
Reusable without cleaning
Reusable with cleaning
Not reusable after disassembly



Shielding FOF Flash FPC
G806-08726-00

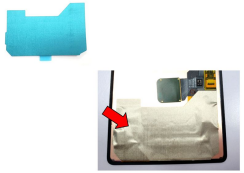
Vibrator
G710-02255-01

Main mic holder
G730-06362-01

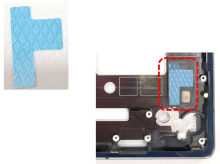


Conductive fabric washer
G806-07457-01

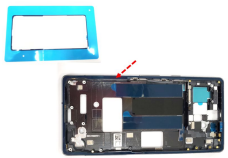
Sim tray
Multiple Part Numbers



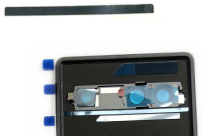
Conductive fabric display one piece
G806-07360-01



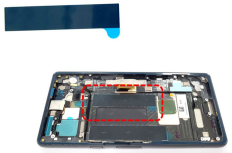
Thermal pad, enclosure
G806-08613-00



Adhesive Enclosure to BC
G806-06861-20

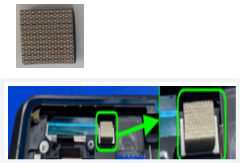


Diecut Mylar Backcover
G806-09514-01



Adhesive battery right
G806-06773-01

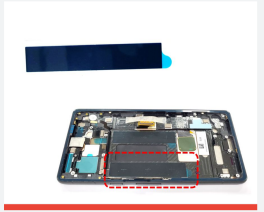
Diecut, MIC1 mylar
G806-09516-01



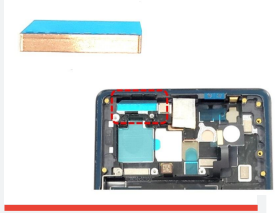
Diecut, conductive foam, 5G module
G806-06776-01

Replacement parts

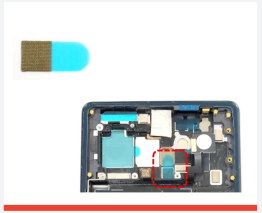
Reusable without cleaning
Reusable with cleaning
Not reusable after disassembly



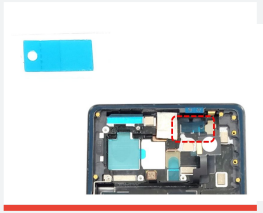
Adhesive
battery left
G806-06774-01



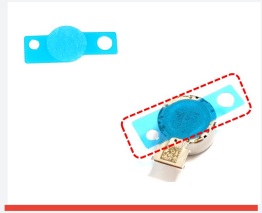
Adhesive
5G module enclosure
G806-06782-01



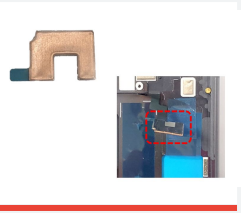
Conductive Adhesive
5G FPC enclosure
G806-06784-01



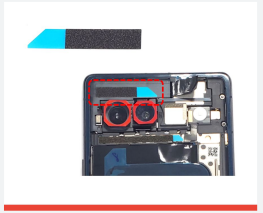
Adhesive
Fcam pre-fix
G806-06785-01



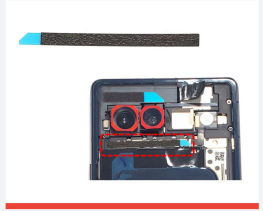
Adhesive vibrator
G806-03299-01



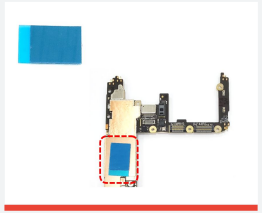
Diecut Cu Foil
Flashlight
G806-06845-01



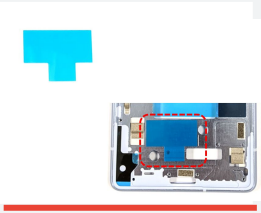
Adhesive, BC-Top
G806-06931-01



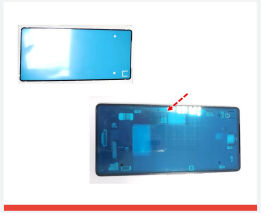
Adhesive, BC-Bottom
G806-06932-01



Thermal pad, MLB
G806-06852-01



Adhesive (small)
Enclosure to Display
G806-07293-01



Adhesive (big)
CG PSA
G806-07307-01

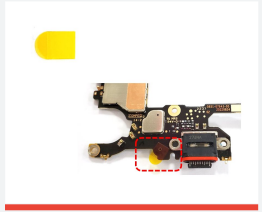
Replacement parts

Reusable without cleaning
Reusable with cleaning
Not reusable after disassembly

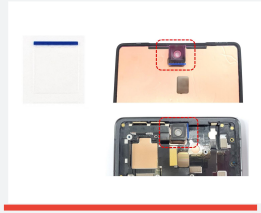
Front camera cap
G852-02360-01

Wide rear camera cap
G806-06619-01

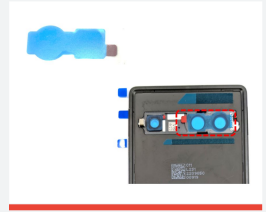
UW rear camera cap
G806-06618-01



Mic. hole kapton tape
G806-01368-01



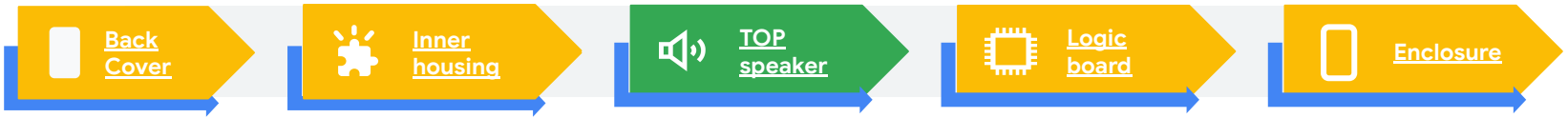
Protective film,
Front camera holder
G806-07329-01



Protective film,
Metal Visor inside
G806-09478-00

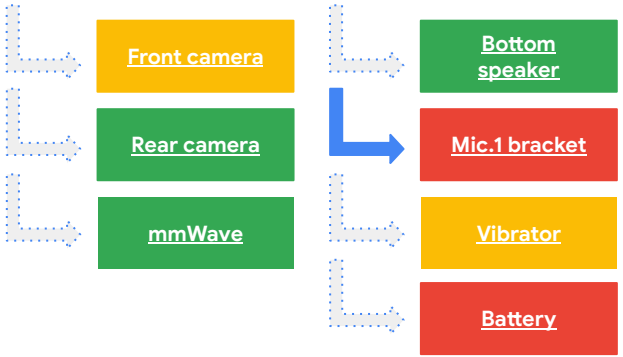
Repair flows

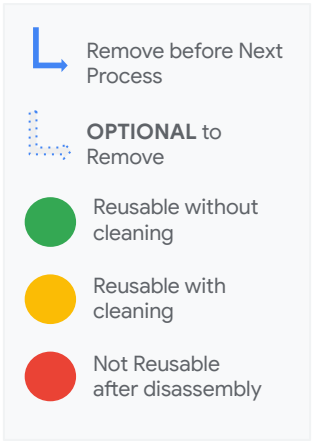
Pixel 7a Disassembly flowchart



Back cover entry: Major components repair flow

Display entry: Display Only repair flow



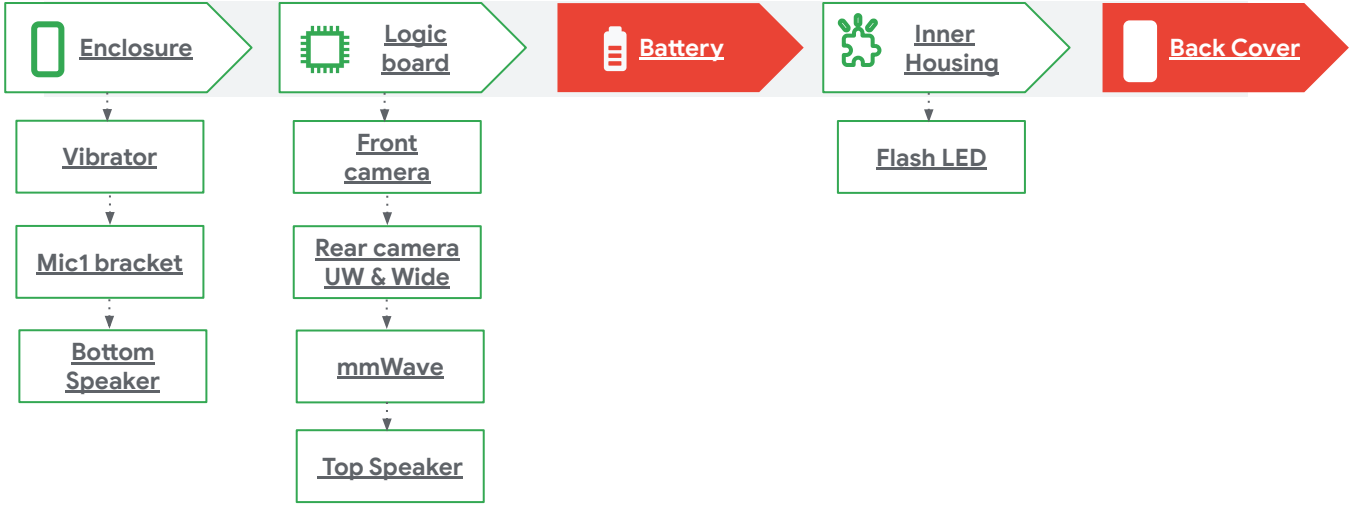


How to read this chart...

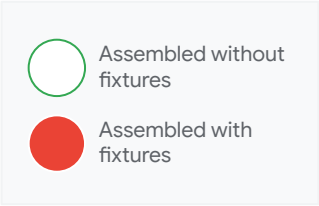
To replace the battery: Remove the back cover, inner housing, then the battery
To remove the logic board: Remove the back cover, inner housing, top speaker, then the logic board

Pixel 7a Assembly flowchart

Back Cover Entry: Major components repair flow



Display Entry: Display only repair flow



How to read this chart...

To replace the battery: Install battery, inner housing, flash LED, then backcover
To replace the logic board: Install logic board, front camera, rear cameras, mmWave, top speaker, inner housing, flash LED, and back cover

Disassembly instructions

Back Cover

Back Cover replacement

Before you begin

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

Tools

Universal Fish line tool
Ionizing air fan
Heating Plate
Universal protective film
Universal disassembly fixture
Universal Disassembly ESD pick
Universal adsorption-bulb
ESD pointed stick
IPA
Cotton swabs
3M primer
ESD tweezers
Pixel 7a Assembly Enclosure PSA Align & BC Press Cover
Pixel 7a Assembly Enclosure Holder & CG Press
Universal press fixture

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

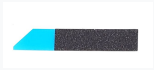
Back Cover replacement

Parts

G949-00379-00
G949-00380-00
G949-00381-00
G949-00382-00
G949-00383-00
G949-00384-00
G949-00385-00
G949-00387-00
G949-00388-00
G949-00389-00
G949-00390-00
Back cover

G806-06861-20
Adhesive Enclosure to BC

G806-06931-01
Adhesive, BC-Top



G806-06932-01
Adhesive, BC-Bottom

G806-09478-00
Protective film,
MetalVisor inside

G806-08604-01
Diecut spacer

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

Back Cover replacement

Parts

G806-06619-01
Wide rear camera cap

G806-06618-01
UW rear camera cap

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

Turn off the device

- Make sure the device is turned off before disassembling.

Remove Sim Tray

- Use the SIM ejection tool to remove the SIM tray from the device.

Set up Ionizing Air Fan

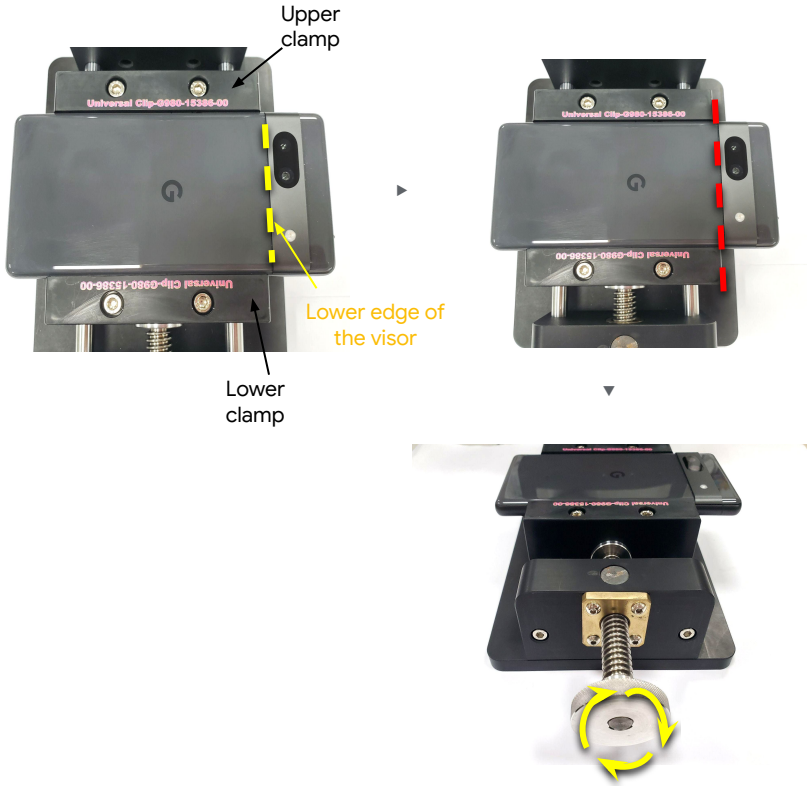
- An Ionizing air fan should be used during the repair to prevent ESD issues.

Soften the Adhesives

- Program the heating plate at **140°F / 60°C.** Set the device on there, back cover facing down, for **10 min / 600 seconds** in order to soften the adhesive.

Caution: Heating plate is a Hot Surface. Use caution as it could cause burns.

Set up the Fixture

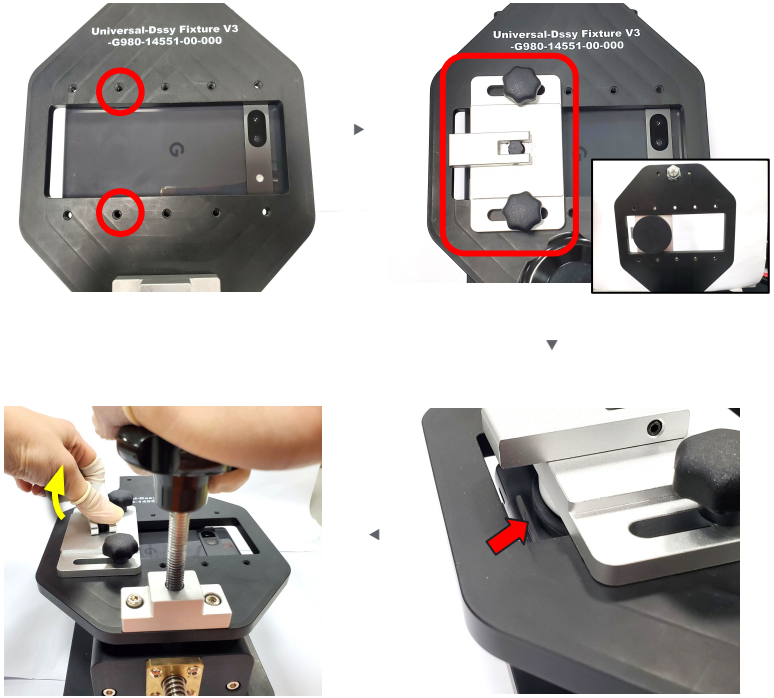


- Place the device into the universal disassembly fixture, with the back cover facing upward.
- Adjust the device position so that the phone is clamped below the camera visor bump-out.
- Turn the metal knob until the device is fixed.

Warning about Phone Placement in fixture: *Do not secure the Rear Camera Bump-out into the clamps. Only use the side clamps to secure the lower back cover area.*

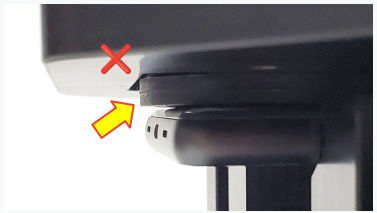
Tip: Clean the suction cup and back cover surface before using the fixture. Dust on screen or suction cups can prevent the suction cups from fully sealing.

Set up the Fixture



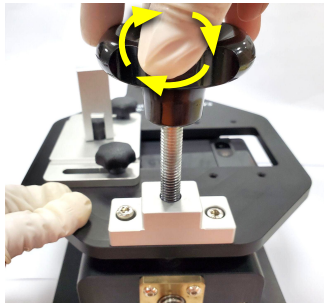
- <u>**Install and use only 1 suction cup**</u> to remove back cover (due to camera visor bump-out).
- *Avoid placing the suction cup beyond the edge of the back-cover, else it may not create a seal.
- Lift the toggle vertically to secure the suction cup to the back cover.

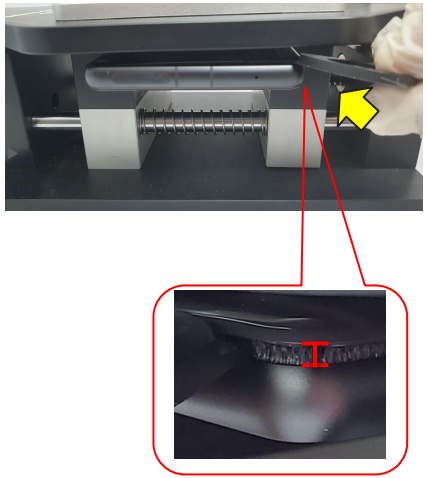
Incorrect:
Suction cup beyond the back-cover



Correct

Separate Back Cover from Mid-frame





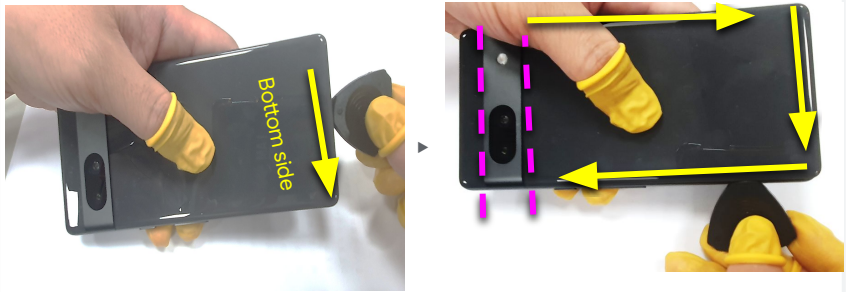
- Slowly turn the knob until you see a small opening between back cover and enclosure.
- Insert the Universal Disassembly ESD pick at the bottom sides of the device to separate the parts

*Inserting pick deeper than 2mm can cause damage.

Use the Fixture

- Release the suction cup toggle.
- Insert Universal Disassembly ESD pick in-between the suction cup and back cover to release the suction cup.
- Remove phone from fixture.

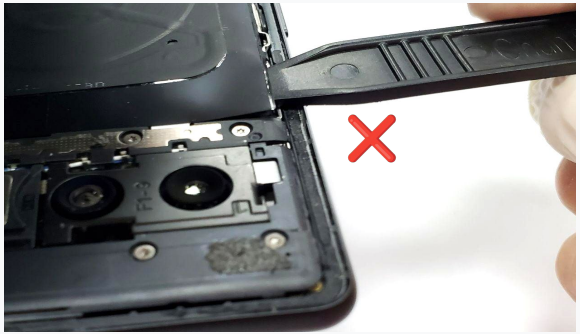
Separate the Back Cover - Part 1



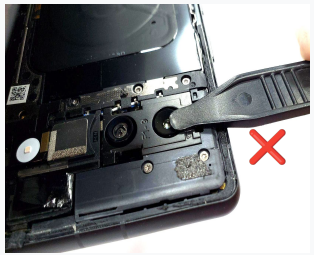
- Insert the Universal Disassembly ESD pick less than 2mm deep into the opening to separate the bottom side.
  *If pick is angled, put the high-side toward the midframe. There are graphite sheets that are easily damaged on the backcover of the phone.

- Slide it clockwise around the bottom side of the device slowly and carefully.
  *Do not slide the pick into the Camera Visor Area (marked in purple) because the camera and connectors are immediately next to the edge.

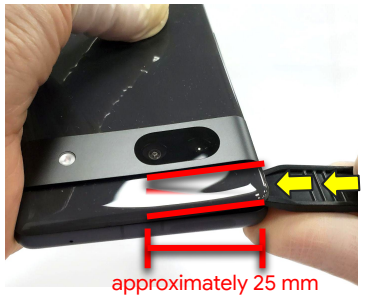
Incorrect 01:
Do not insert the Universal Disassembly ESD stick deeper than the adhesive.



Incorrect 02:
Do not insert Universal Disassembly ESD stick or pick into the visor area, it may damage the rear camera

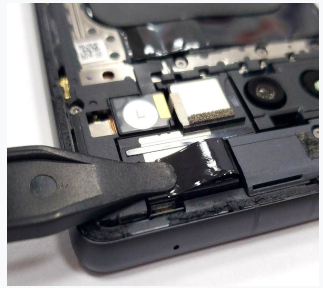


Separate the Back Cover – Part 2



- Insert the Universal Disassembly ESD stick from the right side at an approximately 25mm deep, into the top of back cover to cut the Back Cover-Top adhesive.
- Carefully to continue back cover separation.

Incorrect:
Do not insert tools on the flash-side, it could damage the graphite sheet of antenna housing



Be careful do NOT insert the Universal Disassembly ESD stick too much, or you may damage the graphite sheets, battery, rear cameras or internal components.

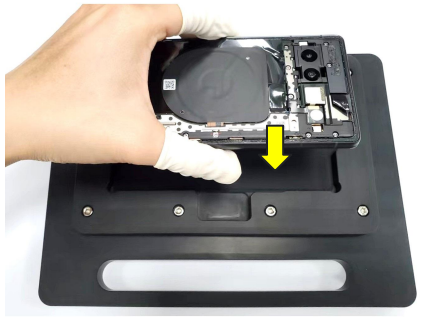
Attach Protective film

- Cover the visor flash with protective film.

Part: G806-09478-00 (Protective film, MetalVisor inside)

Do not reuse this part.

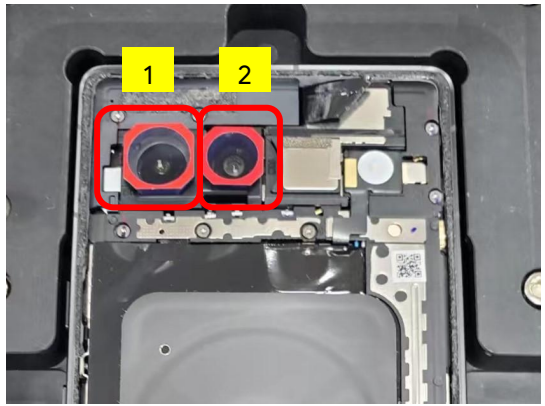
Place Device on Holder



After

- Place the enclosure facing down, in the Pixel 7a Assembly Enclosure Holder & CG Press following the designated direction.

Cover the Protective Cap



- Cover the 2 rear cameras with protective caps.

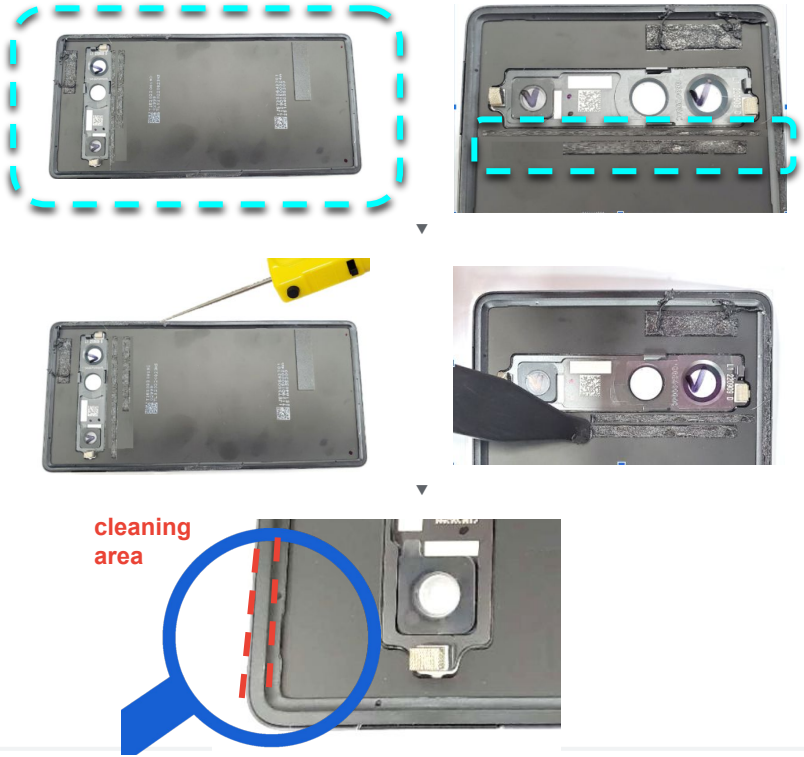
Part: G806-06619-01 (Wide rear camera cap)
Part: G806-06618-01 (UW rear camera cap)

1. Protective cap is a reusable part. If the adhesive has weakened or if there is dust inside the cap, please change to a new one.
2. Do not damage the camera lens.

Assembly instructions

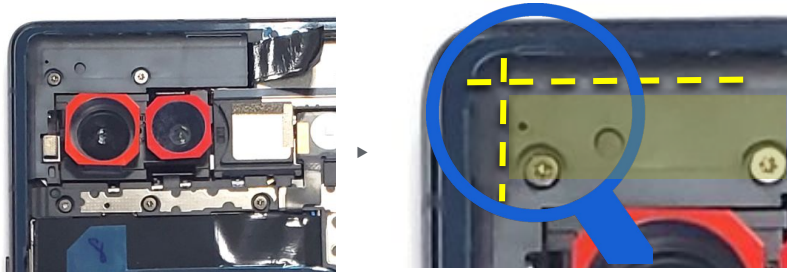
Back Cover

cleaning Back Cover
(for REUSED Back Cover)

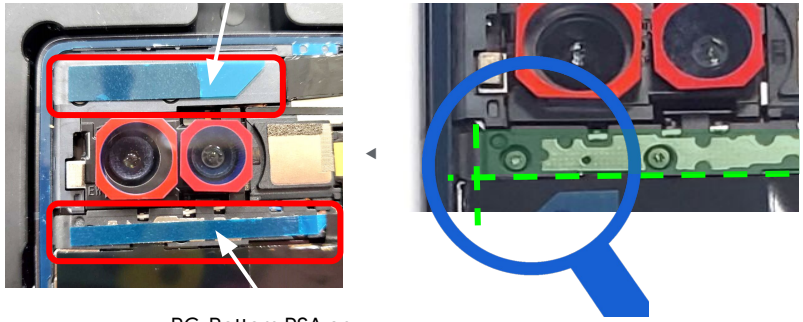


- ***Outer Edge of Back Cover:*** Remove adhesive residue from the outer edge of the back cover using Electric Glue Remover or Universal Disassembly ESD stick.
- ***Near Visor Area:*** Use plastic ESD tweezers to clean up the adhesive residue near visor area.
- **All Areas:** Use cotton swabs with IPA to wipe the surface and remove any residue.

Attach Adhesives to Enclosure
(for REUSED back cover)



BC-Top PSA on antenna housing



BC-Bottom PSA on inner housing

- Attach a new Back Cover-Top adhesive on the antenna housing following yellow alignment lines.

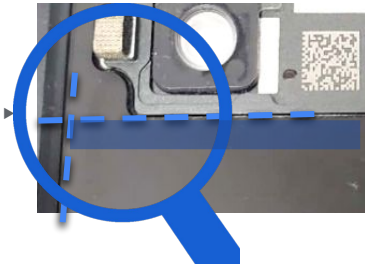
Part: G806-06931-01 (BC-Top adhesive)

- Attach a new Back Cover-Bottom adhesive on the inner housing following green alignment lines.

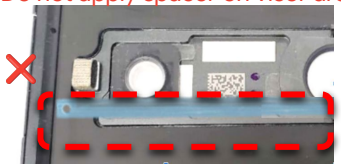
Part: G806-06932-01 (BC-Bottom adhesive)

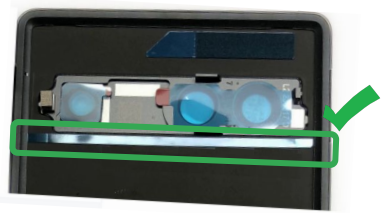
Incorrect:
Do not attach PSA on top of the graphite sheet.

Attach Adhesive to Back Cover
(for REUSED Back Cover)



Incorrect:
Do not apply spacer on visor area



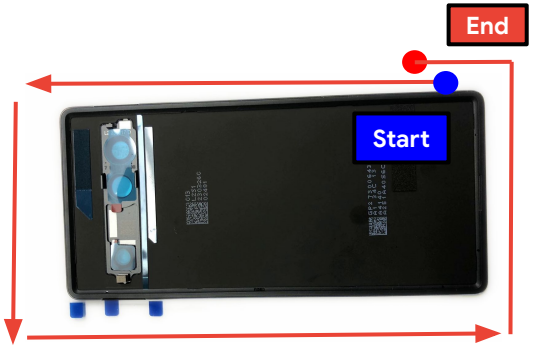


- Paste a new spacer adhesive on the back cover following the blue alignment lines.

Part:

G806-09514-01 (Spacer adhesive)

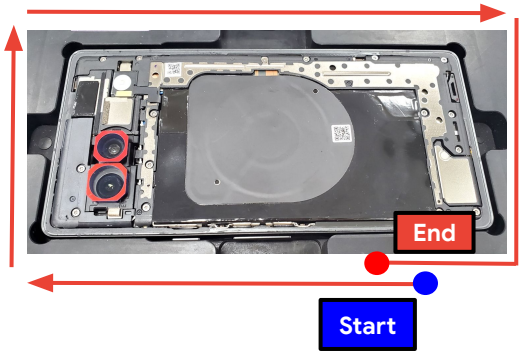
Apply AP111 to the Back Cover
(Both NEW & REUSED Back Cover)

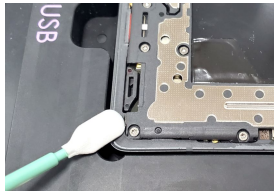


*New BC showed above for demonstration purpose

- Apply **AP111** around the entire back cover **twice** following the designated order shown above.

Apply AP111 to the Enclosure
(for REUSED Enclosure)



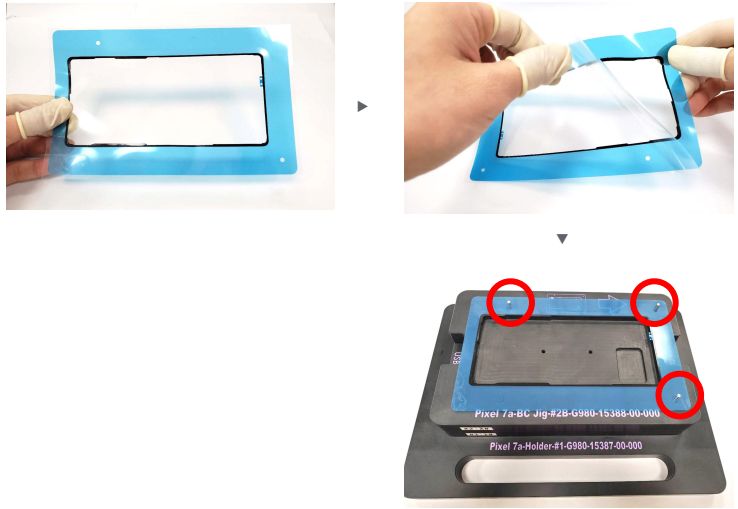


- Apply **AP111** around the entire enclosure **twice** following the designated order shown above.

Enclosure to Adhesive
(for REUSED Enclosure)

- Take enclosure Pixel 7a Assembly Enclosure Holder & CG Press.
- Stack Pixel 7a Assembly Enclosure PSA Align on the top.

Enclosure to Adhesive
(for REUSED Enclosure)

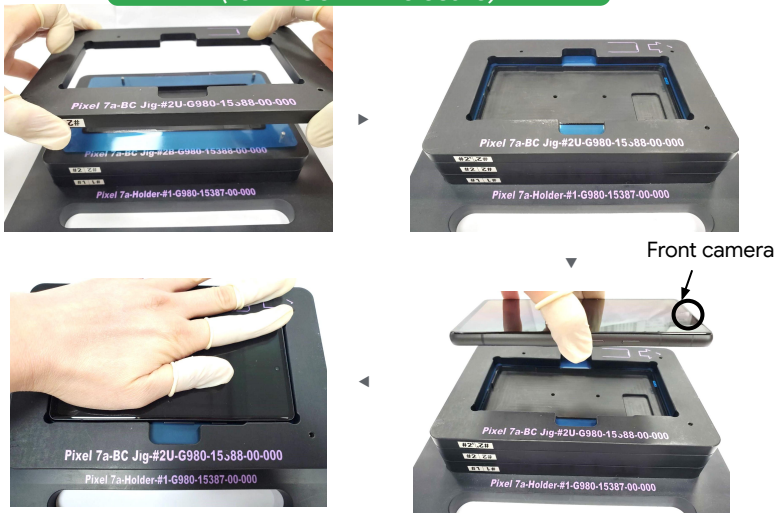


- Take a Enclosure to Back Cover PSA and slowly remove the transparent liner from the adhesive.
- Set the adhesive on the fixture. This fixture is designed to match the pattern of the adhesive.

Part: G806-06861-20 (Adhesive Enclosure to BC)

Do not touch the adhesive. If it gets dirty, change to a new one.

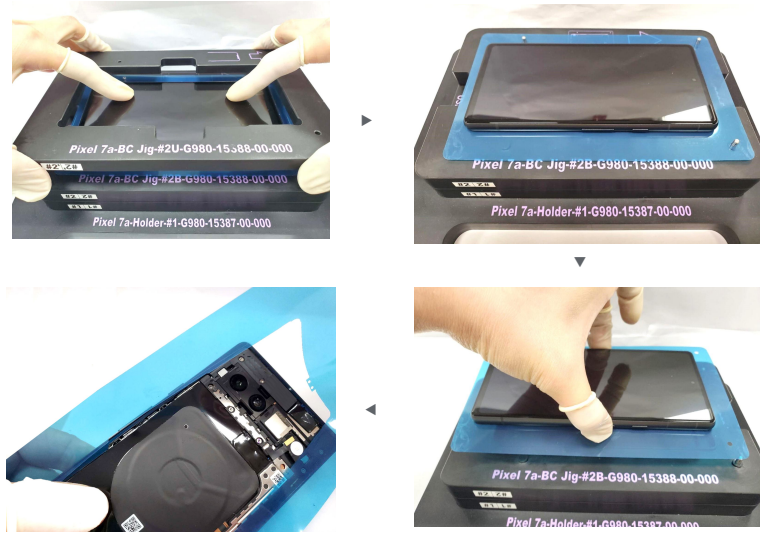
Enclosure to Adhesive
(for REUSED Enclosure)



- Stack Pixel 7a Assembly Enclosure BC Press Cover on the top.
- Place the enclosure on the fixture, display facing up. Firmly apply pressure to attach PSA.

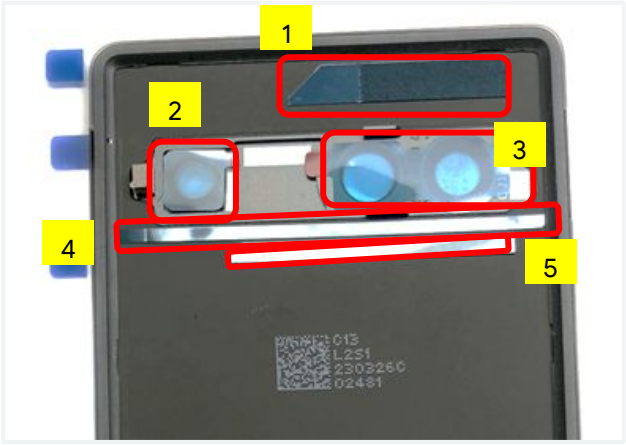
Attach Enclosure to Back Cover PSA after assembling inner housing.

Enclosure to Adhesive
(for REUSED Enclosure)



- Hold the enclosure and remove the BC-jig#2U on the top.
- Release the PSA from the guidance pins and carefully remove the enclosure from jig.
- Slowly remove the large liner from enclosure with plastic ESD tweezers.

Remove Protective Films
(for NEW Back Cover)



- **Remove 5 items:** 2 protective films and 3 PSA liners from the inside of back cover.

Remove Protective Films
(for REUSED Back Cover)

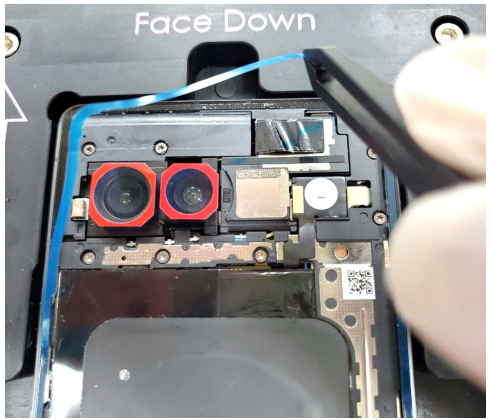
- **Remove 2 items:** Remove 1 protective film and 1 liner from the inside of back cover.

Remove Protective Films

After

- Remove all the protective films from the surface of back cover.

Remove Liners

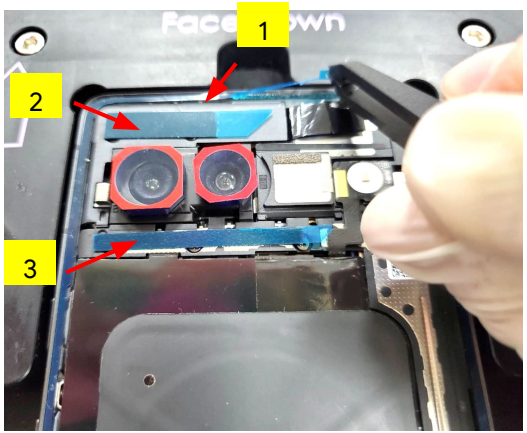


After

- Slowly remove liner from enclosure with plastic ESD tweezers.

Reminder: There are different process when using a NEW Back Cover or REUSED Back Cover.
- New Back Cover : All 3 PSAs are located on the Back Cover
- Reused Back Cover: 1 PSA located on Back Cover and 2 on inner housing

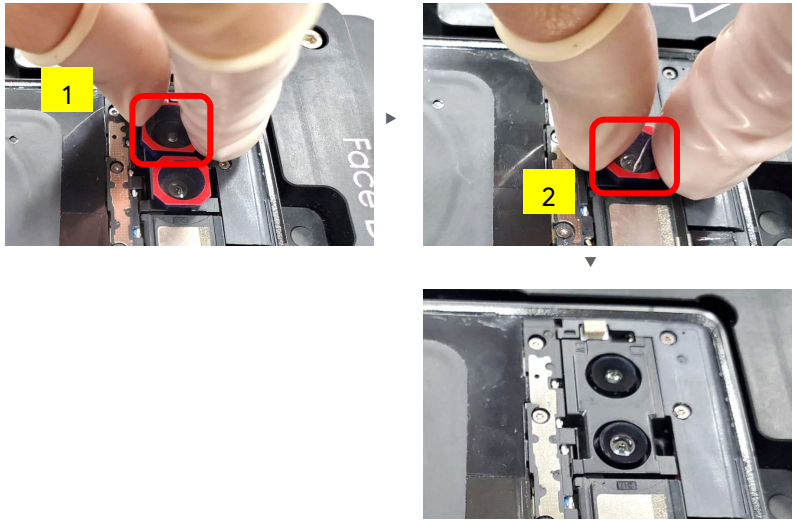
Remove Liners *(for REUSED Back Cover)*



After

- Slowly remove 3 liners from enclosure, antenna housing and inner housing with plastic ESD tweezers.

Remove Protective Caps



- Remove protective caps from UW and Wide camera.
  Caution: Do not touch the lens.

Back Cover & Enclosure Assembly

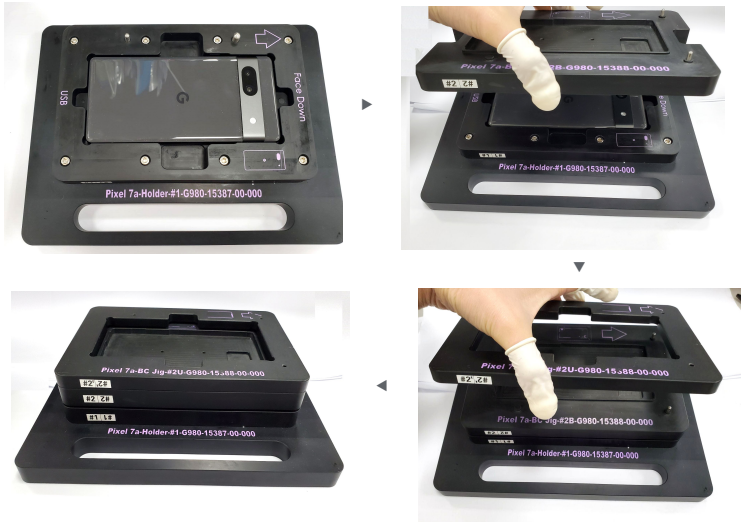
- Hold the back cover above enclosure and align on all four corners.
- Once alignment is confirmed, slowly lower back cover onto the enclosure.

Back Cover & Enclosure Assembly

- Apply pressure to both sides of the device evenly from the top down using hands.

Do not touch the power key.

Press the Device in Fixture



- Place the device on the Pixel 7a Assembly Enclosure Holder & CG Press, **enclosure facing up.**
- Stack on top - Pixel 7a Assembly Enclosure PSA Align **#2B**.
- Stack on top - Pixel 7a Assembly Enclosure BC Press Cover **#2U** on the top.

Press the Device in Fixture

- Lower handle on Universal Press Fixture and press for **60 seconds**

Pinch point. Keeps hands clear during operation.

Disassembly instructions

Inner housing

Inner housing replacement

The **Inner housing** ensures connectors remain engaged with the **Logic board** and acts as a heatsink.

Before you begin

Remove the following items first:

- Back Cover

Tools

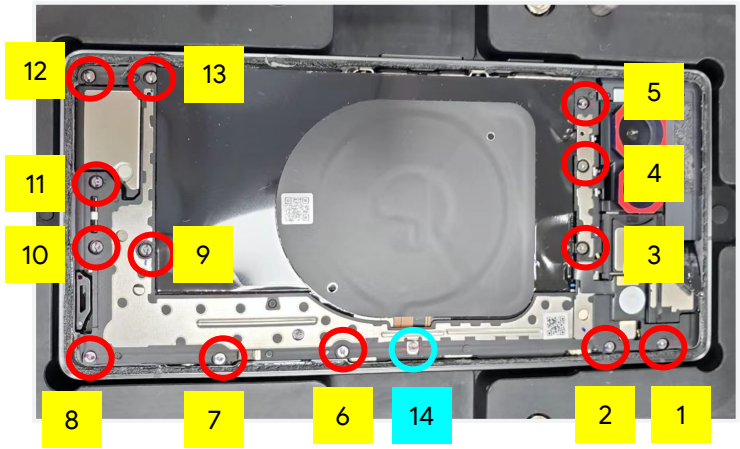
Ionizing air fan
Pixel 7a Assembly Enclosure Holder & CG Press
Pixel 7a Assembly Screw Cover
Torx Plus 3IP screwdriver
Torx Plus 1IP screwdriver
ESD tweezers
Universal Disassembly ESD stick
Universal fish line tool
IPA
Cotton swabs

Parts

G949-00391-00 Inner housing	
G806-08726-00 Shielding FOF, Flash FPC	
G806-06845-01 Diecut Copper Foil Flashlight	
G250-05370-00 Screw*13	
G250-06554-00 Screw*1	

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

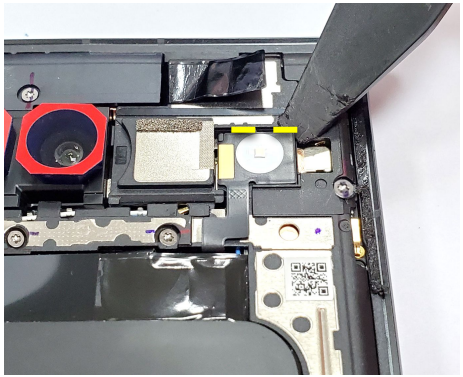
Remove Screws



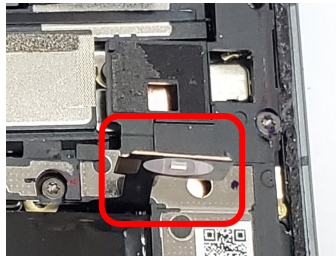
- Use Torx Plus 3IP and 1IP Screwdriver to remove 14 screws that secure mid-frame to the logic board.

Be careful when using the screwdriver, do not accidentally damage the adjacent battery.
Incorrect use of the screw driver could cause injury to you or third persons or damage to the battery and/or the product.

Detach Flash LED FPC

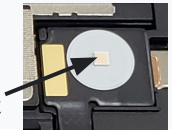


After

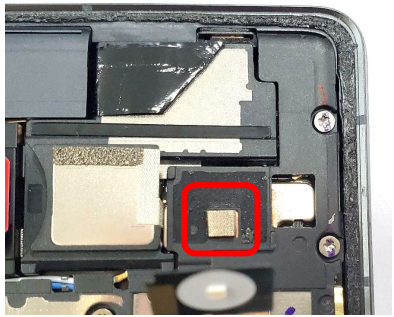


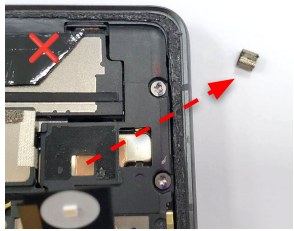
- Using Universal Disassembly ESD stick to detach the Flash LED FPC from the inner housing.

Avoid damaging the flash LED IC.



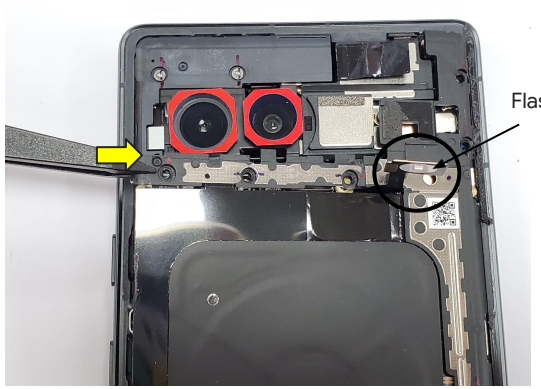
Inspect Flash FOF





Make sure the flash FOF is not damaged, missing, or angled.

Remove Inner Housing

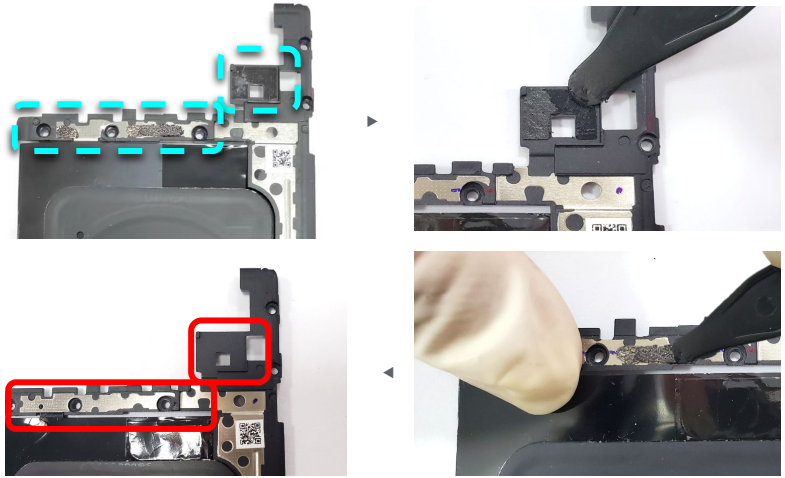


- Use plastic ESD tweezers to lift up the inner housing from the top left hand corner.
- Slide the flash LED through the opening on the inner housing carefully.

Assembly instructions

Inner Housing

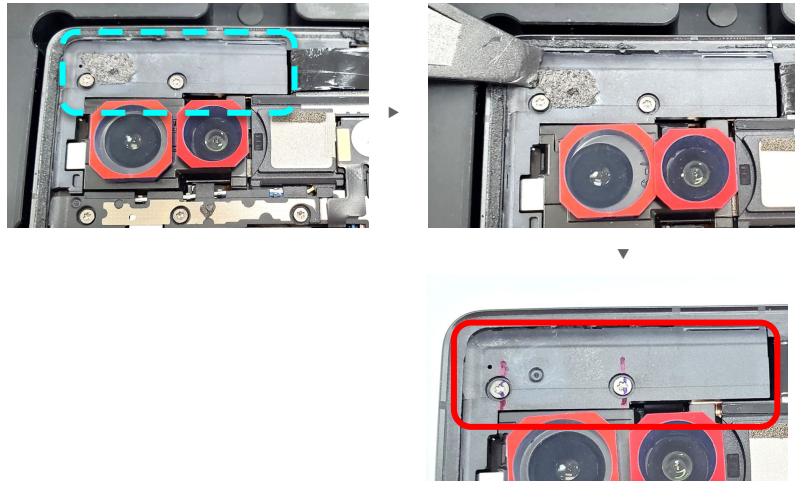
cleaning Inner Housing
(for REUSED Inner housing)



- Use plastic ESD tweezers to clean up the adhesive residue on the inner housing.
- Use cotton swabs with IPA to wipe the surface and remove any residue.

Do not damage the graphite sheet.

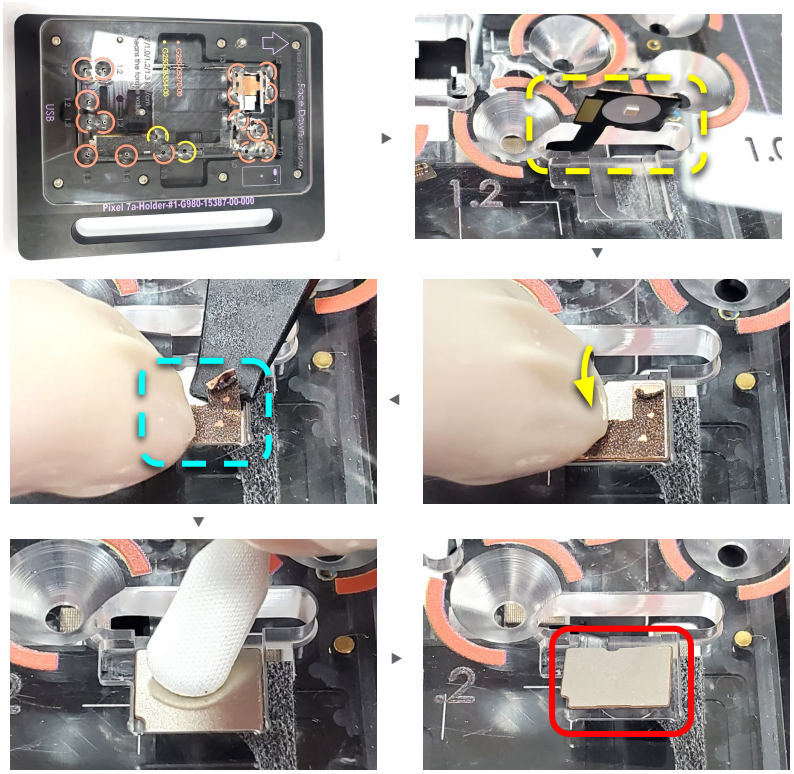
cleaning Antenna Housing
(for REUSED Back Cover)



- Use plastic ESD tweezers to clean up the adhesive residue on the antenna housing.
- Use cotton swabs with IPA to wipe the surface and remove any residue.

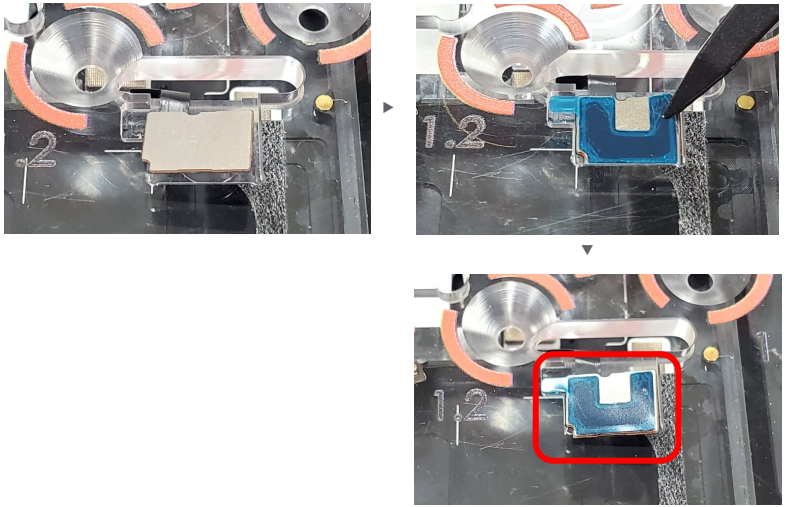
Do not damage the graphite sheet of antenna housing.

cleaning Flash LED
(for REUSED Enclosure)



- Place Pixel 7a Assembly Screw Cover on the enclosure and slide the flash LED FPC through the hole in the middle of Pixel 7a Assembly Screw Cover.
- Fold the flash LED backward and fix it in the fixture nest by hand.
- Use Universal Disassembly ESD stick to clean up the flash LED adhesive.
  Caution: Use appropriate cleaning tools to remove residual to avoid damaging the battery
- Use cotton swabs with IPA to wipe the surface and remove any residue.

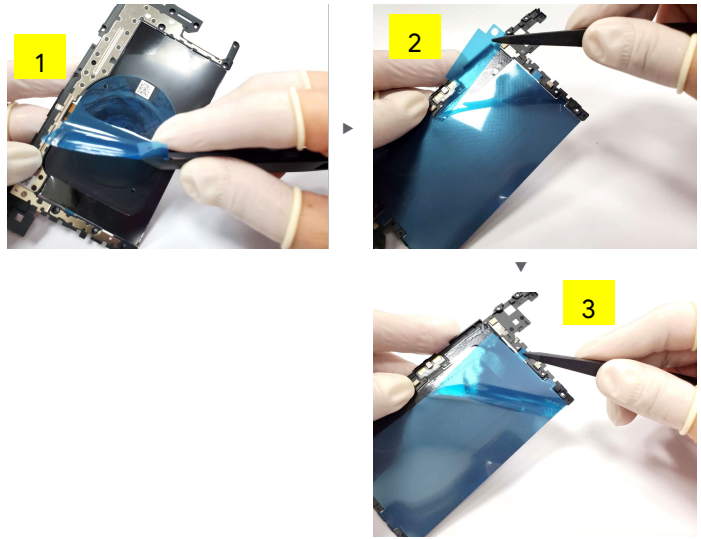
Paste Flash LED Adhesive
(for REUSED Inner Housing)



- Paste a new adhesive on the flash LED

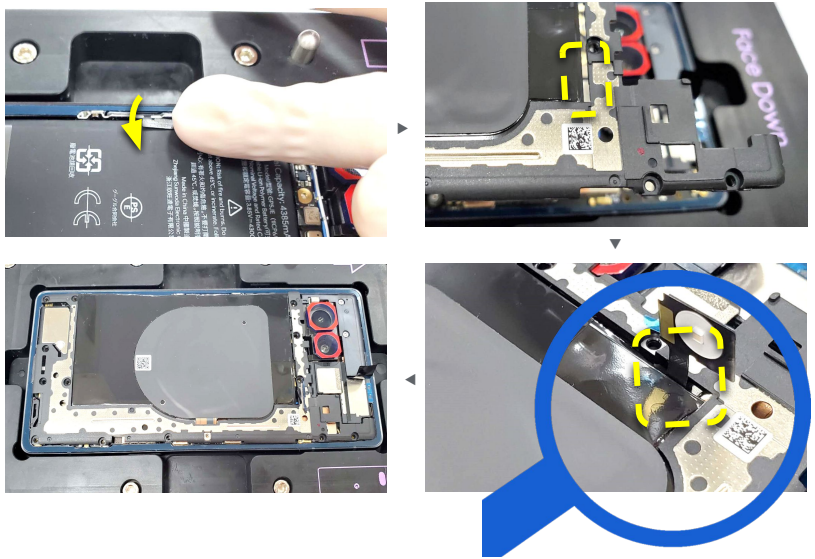
Part: G806-06845-01 (Flashlight adhesive)

Remove Liners



- Remove 3 liners from inner housing

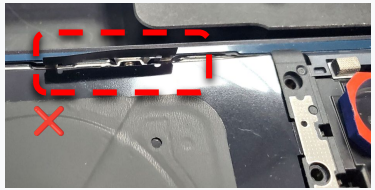
Install Inner Housing



- Fold the side key FPC inward.
- Slide the flash LED FPC through the hole in the middle of inner housing.
- And then assemble the inner housing to the enclosure.

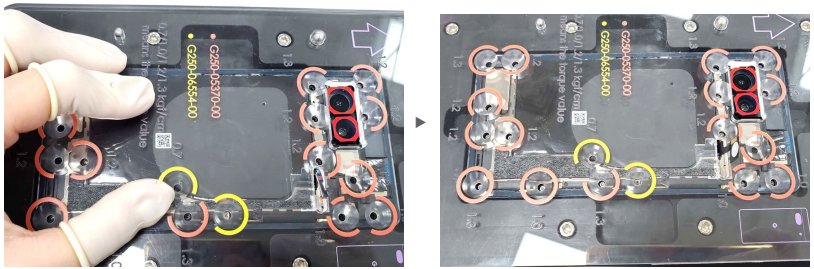
Make sure side key FPC is under the inner housing.

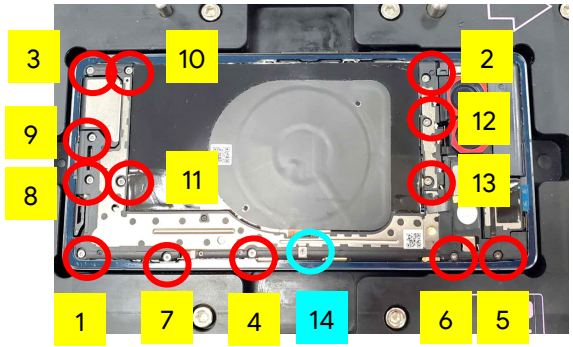
Incorrect:
Side key FPC NOT under the inner housing



Correct

Tighten Screws





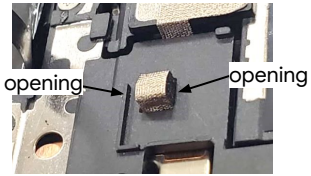
- Use the Pixel 7a Assembly Screw Cover to identify screw type and torque force.
  Tighten 14 screws on inner housing with Torx Plus 3IP & 1IP Screwdriver.

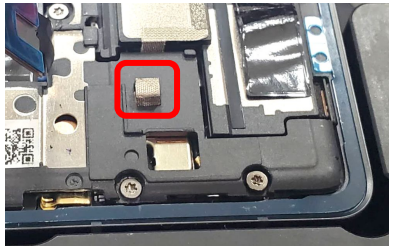
- Tighten screws following designated order while pressing down the Pixel 7a Assembly Screw Cover at the same time.

○	G250-05370-00 (Torque force: refer Pixel 7a Assembly Screw Cover)	13
○	G250-06554-00 (Torque force: 0.7kgf.cm +/-10%)	1

Be careful when using the screwdriver, do not accidentally damage the adjacent battery.
Incorrect use of the screw driver could cause injury to you or third persons or damage to the battery and/or the product.

Attach Flash FOF

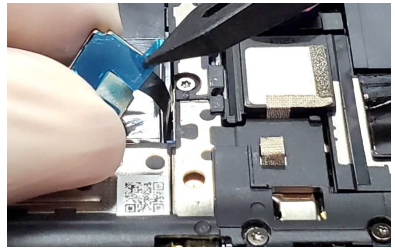


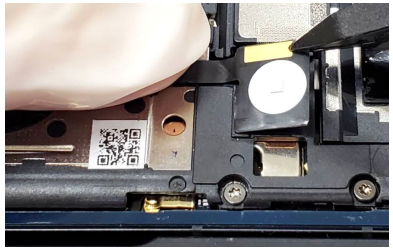


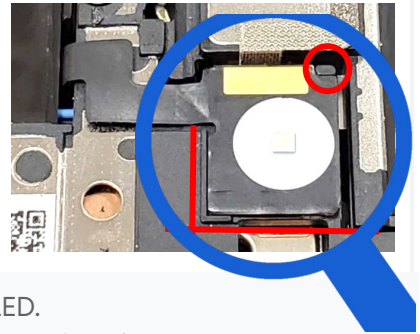
- Use plastic ESD tweezers to transport FOF G806-08726-00.
- Attach the flash FOF directly into the square hole on inner housing.

Caution: Make sure the opening direction of flash FOF is correct.

Attach Flash LED







- Remove the liner from flash LED.
- Align and apply flash LED on inner housing.
- Apply pressure to the flash LED to ensure it is adhered to the inner housing.

1. Make sure flash LED does NOT move.
2. Do not apply and then remove and reapply the flash LED repeatedly. This adhesive is single use.

Disassembly instructions

Top speaker

Top speaker replacement

Before you begin

Remove the following items first:

- Back Cover
- Inner Housing

Tools

Ionizing air fan
Pixel 7a Assembly Enclosure Holder & CG Press
ESD tweezers
Pixel 7a Assembly Screw Cover
Torx Plus 3IP screwdriver

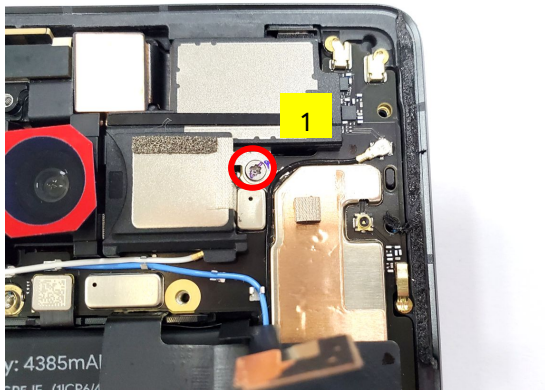
Parts

G949-00393-00
Top speaker

G250-05370-00
Screw*1

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

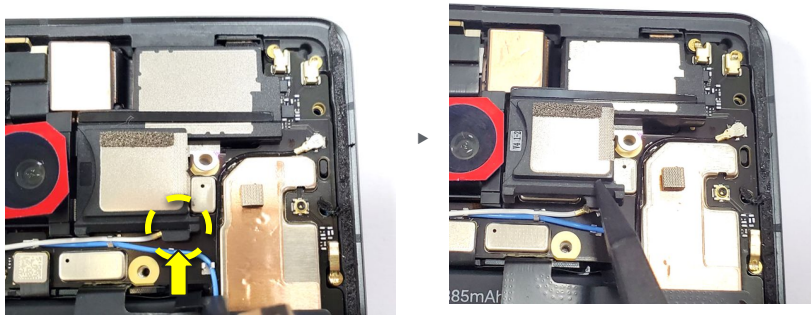
Remove Screws



- Use Torx Plus 3IP Screwdriver to remove 1 screw that secure top speaker to the logic board.

Be careful when using the screwdriver, do not accidentally damage the adjacent battery.
Incorrect use of the screw driver could cause injury to you or third persons or damage to the battery and/or the product.

Remove Top Speaker

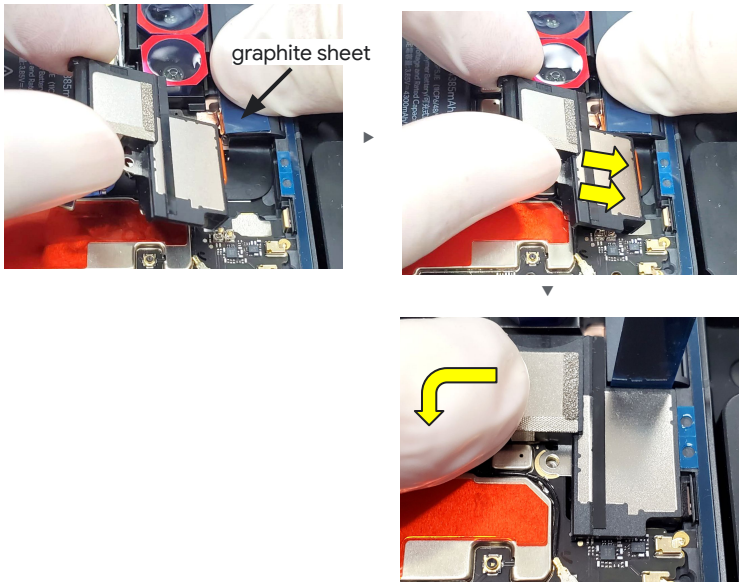


- Use plastic ESD tweezers to lift up the top speaker.

Assembly instructions

Top speaker

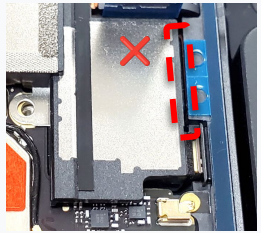
Install Top Speaker



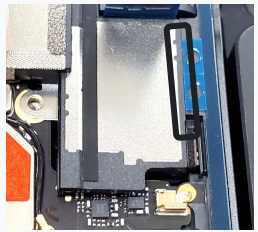
- Flip up the graphite sheet of antenna housing.
- Insert the top speaker using your fingers at an approximately 15 degree and push it against the enclosure wall without any open gap.
  Caution: *Do not insert horizontally. Doing so can damage surrounding electronic components.*

- Lightly press down the top speaker.

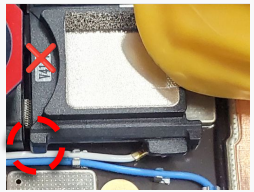
Incorrect: Not firmly installed



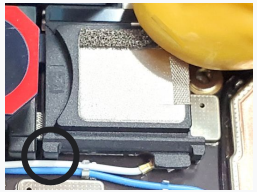
Correct



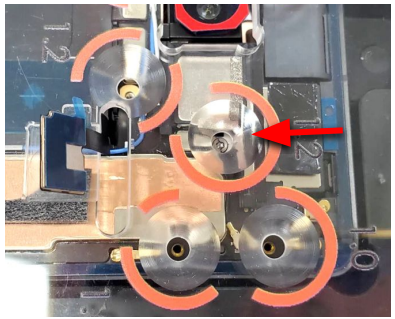
c

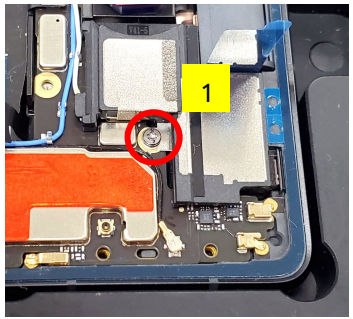


Correct



Tighten Screws



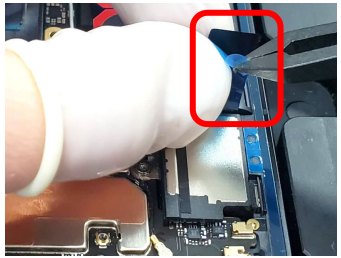


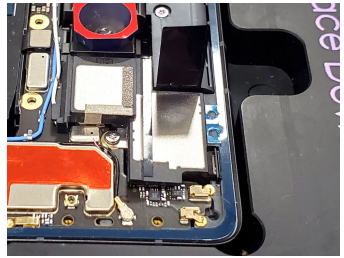
O	G250-05370-00 (Torque force: 1.2kgf.cm +/-10%)	1

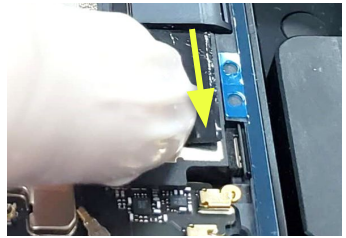
- Use the Pixel 7a Assembly Screw Cover to identify screw type and torque force.
  Tighten 1 screw on top speaker with Torx Plus 3IP Screwdriver.

Be careful when using the screwdriver, do not accidentally damage the adjacent battery.
Incorrect use of the screw driver could cause injury to you or third persons or damage to the battery and/or the product.

Remove Liner







- Remove liner from the antenna housing using plastic ESD tweezers.
- Organize the graphite sheet.

Disassembly instructions

Logic board

Logic board replacement

Before you begin

Remove the following items first:

- Back Cover
- Inner Housing
- Top Speaker

Tools

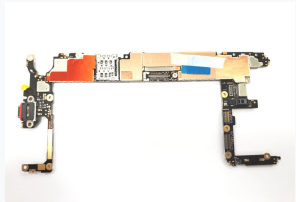
Ionizing air fan
Pixel 7a Assembly Enclosure Holder & CG Press
Pixel 7a Assembly Screw Cover
Torx Plus 3IP screwdriver
Torx Plus 1IP screwdriver
Universal Disassembly ESD stick
ESD tweezers
Universal fish line tool

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

Logic board replacement

Parts

G949-00348-00
G949-00349-00
G949-00350-00
G949-00351-00
G949-00352-00
G949-00353-00
G949-00354-00
Logic board



G852-02479-01
G852-02479-02
G852-02479-03
G852-02479-04
Sim tray

G730-06410-01
Antenna housing

G806-01368-01
Mic. hole kapton tape

G250-05370-00
Screw*2

G250-06555-00
Screw*1

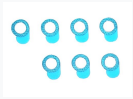
G852-02360-01
Front camera cap

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

Logic board replacement

Parts

G806-07457-01
Conductive fabric washer*7



G806-06852-01
Thermal pad, Logic Board

G806-07329-01
Protective film,
Front camera holder

G730-06398-01
Stamping plate Display BTB

G806-07803-01
Copper foil, Front Camera to Logic Board

G806-06825-01
Conductive fabric
Rear Camera holder to Logic Board

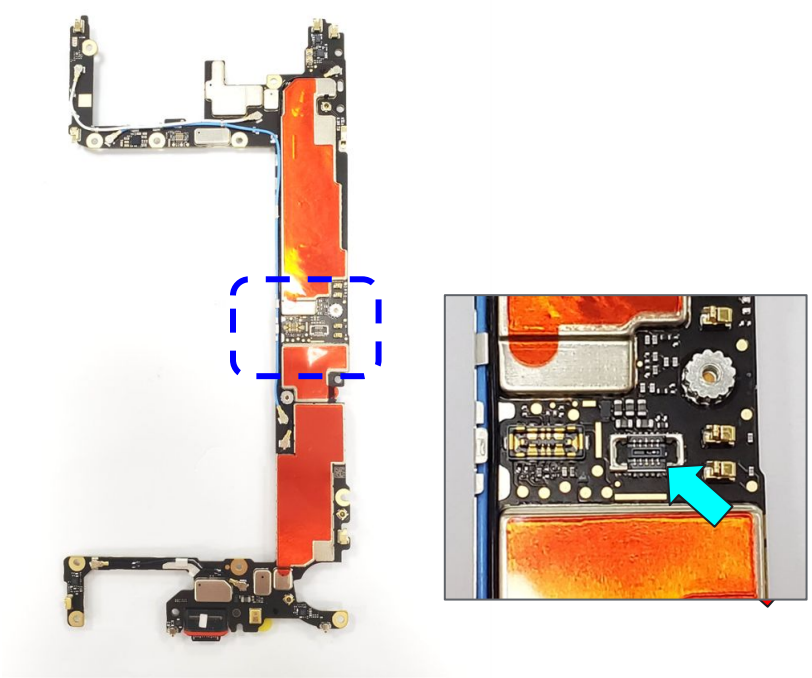
G806-09516-01
Diecut, Mic1 mylar

G806-06776-01
Diecut, conductive foam 5G module

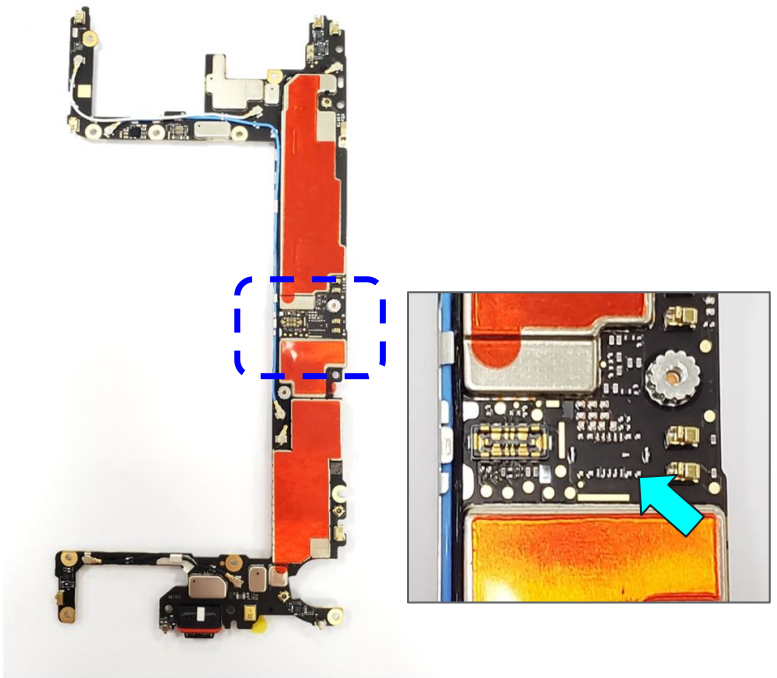
Caution!
Review all **safety precautions** before beginning work.

Logic board difference

mmWave



Sub6



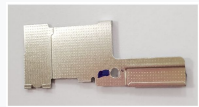
Remove Screws

- Use Torx Plus 1IP Screwdriver to remove 1 screw that secure BTB metal plate to the logic board.

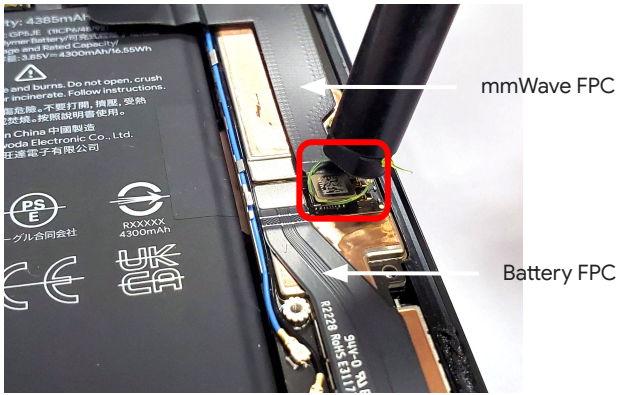
Be careful when using the screwdriver, do not accidentally damage the adjacent battery.
Incorrect use of the screw driver could cause injury to you or third persons or damage to the battery and/or the product.

Remove BTB Metal Plate

- Use plastic ESD tweezers to remove the BTB metal plate from the logic board.



(mmWave) Disconnect mmWave FPC

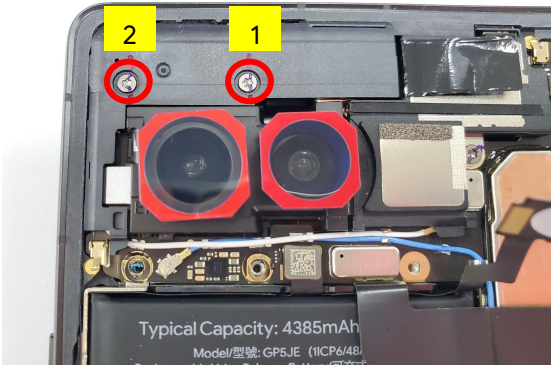


- Use universal fish line tool to disconnect mmWave FPC from the logic board.

Disconnect Battery FPC

- Use the universal fish line tool to disconnect the battery connector from the logic board.

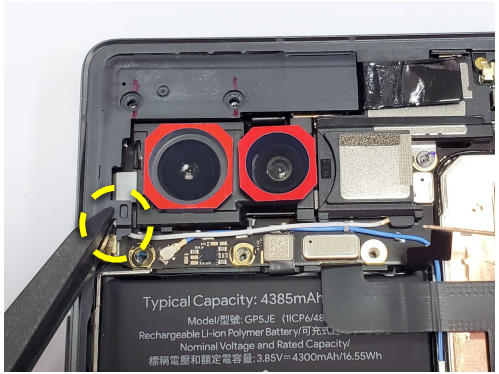
Remove Screws



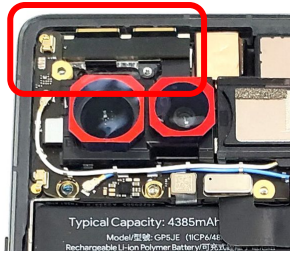
- Use Torx Plus 3IP Screwdriver to remove 2 screws that secure antenna housing to the logic board.

Be careful when using the screwdriver, do not accidentally damage the adjacent battery.
Incorrect use of the screw driver could cause injury to you or third persons or damage to the battery and/or the product.

Remove Antenna Housing



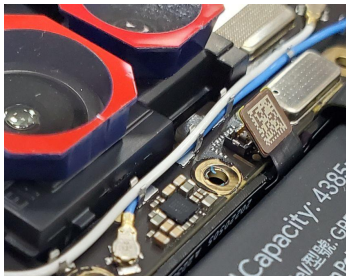
After (mmWave view)



- Use plastic ESD tweezers to remove the antenna housing from the logic board.

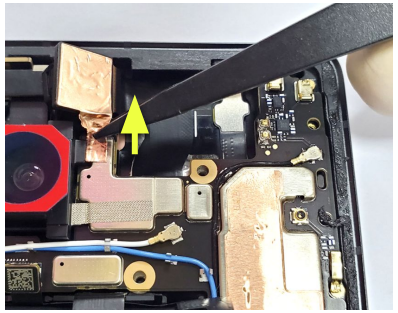
Disconnect SLAM FPC

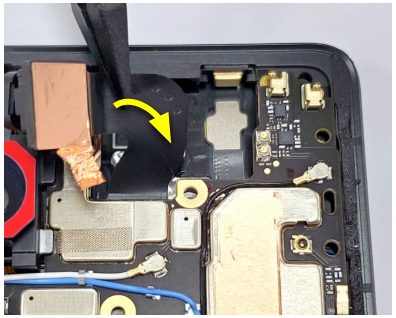
After



- Use universal fish line tool to disconnect SLAM FPC from the logic board.

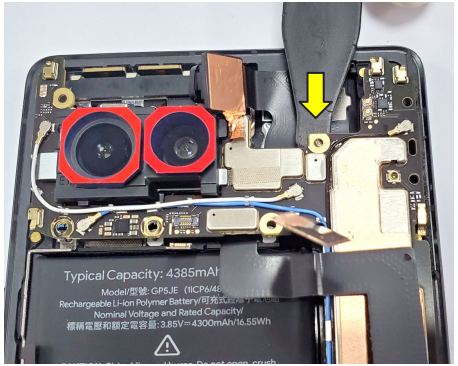
Detach Copper Foil and FPC





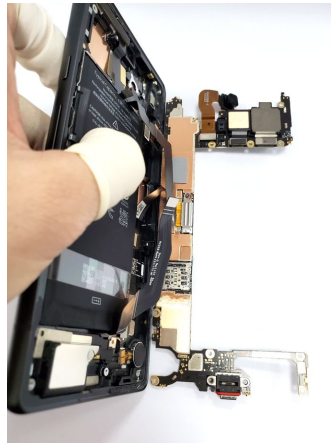
- Use plastic ESD tweezers to remove the foil shielding from the middle.
- Front camera FPC is attached to the enclosure, as shown above. Slowly lift it up halfway using a plastic ESD tweezers.

Raise Logic Board

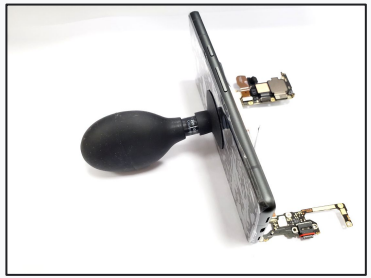


- Insert plastic Universal Disassembly ESD stick underneath logic board to raise it up.

Extract Logic Board



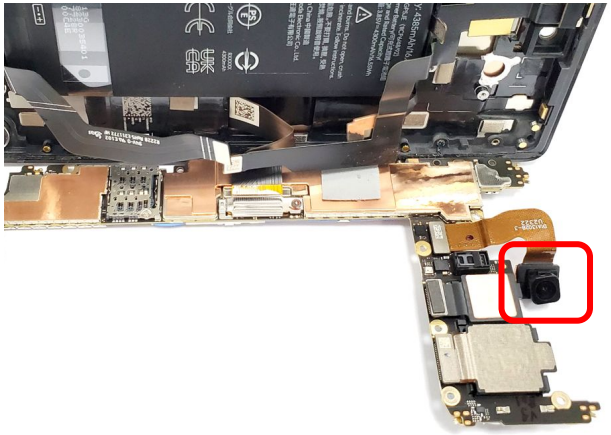
Side view



- Hold the enclosure and flip the logic board to the right and place it carefully.
- Rest enclosure on the side to support enclosure staying in place using Universal Adsorption-Bulb.

Do not attempt to separate logic board by force. It is still attached to the display via a fragile FPC.

Cover the Protective Cap

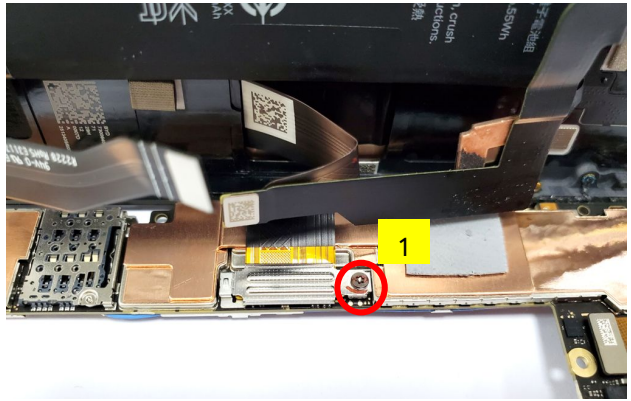


- Cover the front camera with a protective cap.

Part: G852-02360-01 (Front camera cap)

1. Protective cap is a reusable part. If the adhesive has weakened or if there is dust inside the cap, please change to a new one.
2. Do not damage the camera lens.

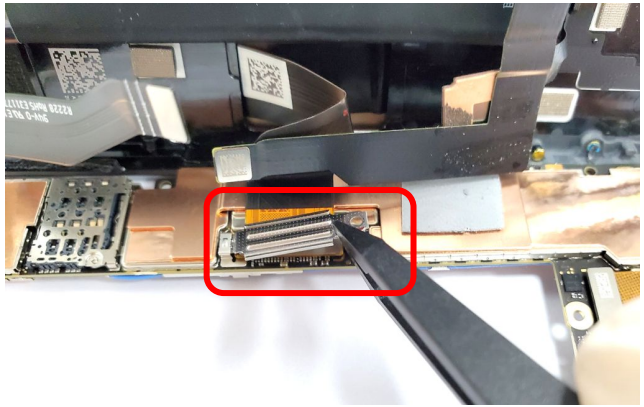
Remove Screws



- Use Torx Plus 3IP Screwdriver to remove 1 screw that secure display metal plate to the logic board.

Be careful when using the screwdriver, do not accidentally damage the adjacent battery.
Incorrect use of the screw driver could cause injury to you or third persons or damage to the battery and/or the product.

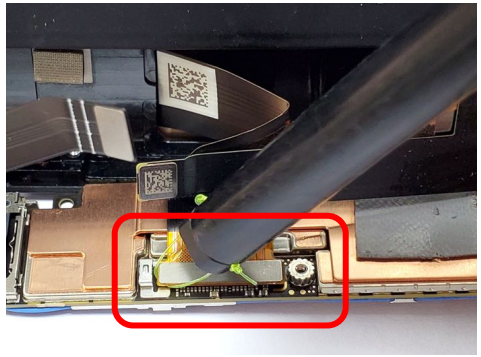
Remove Display Stamping Plate



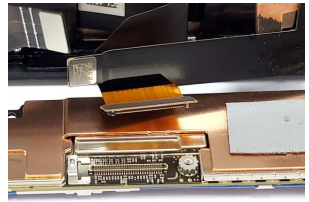
- Use plastic ESD tweezers to remove the display stamping plate from the logic board.

Be careful with the FPC nearby.

Disconnect Display FPC



After



- Use the universal fish line tool to disconnect the display connector from the logic board.
- Remove the display.

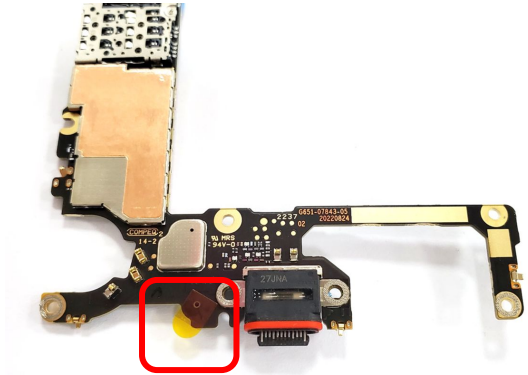
Cover Front Camera Socket

- Use plastic ESD tweezers to take a protective film, and cover the front camera socket completely.

Part: G806-07329-01 (Protective film, Fcam holder)

1. Make sure the camera socket is clear from dust and debris before covering it with protective film.
2. Do not reuse protective film.

Attach Protective Kapton Tape



- Stick 1 pc of yellow Mic. kapton tape onto the Mic. hole on the logic board.

Part: G806-01368-01 (Mic. hole kapton tape)

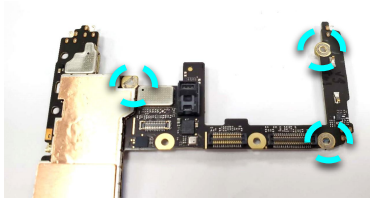
Do not reuse this part.

Assembly instructions

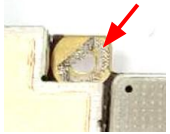
Logic board

cleaning Logic Board
(for REUSED Logic Board)

Upper

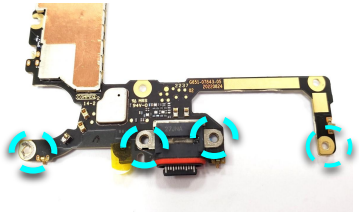


Incorrect:
Washer broken



Correct:
Washer in good condition

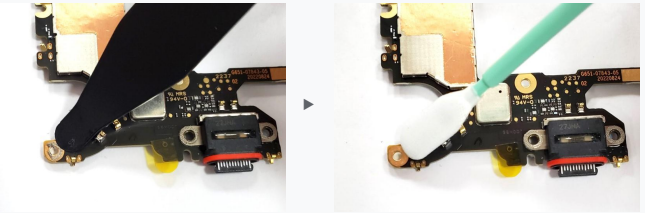
Lower



Incorrect:
Washer broken

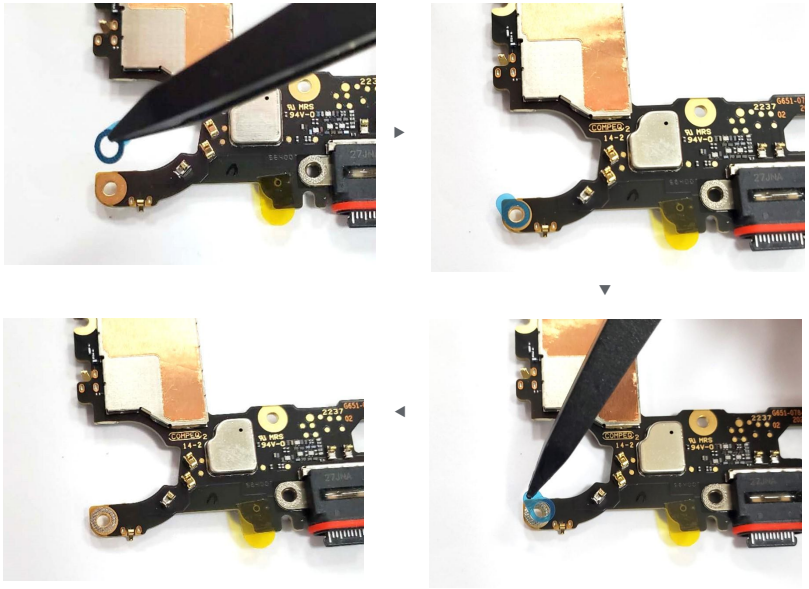
Correct:
Washer in good condition

- Use plastic Universal Disassembly ESD stick to clean up the damaged conductive fabric washers.
- Use cotton swabs with IPA to wipe the surface and remove any residue.



1. Do not damage any nearly springs.
2. If the conductive fabric washer is broken, please clean up the areas and apply a new one.
   If it is still in good condition, no action is needed.

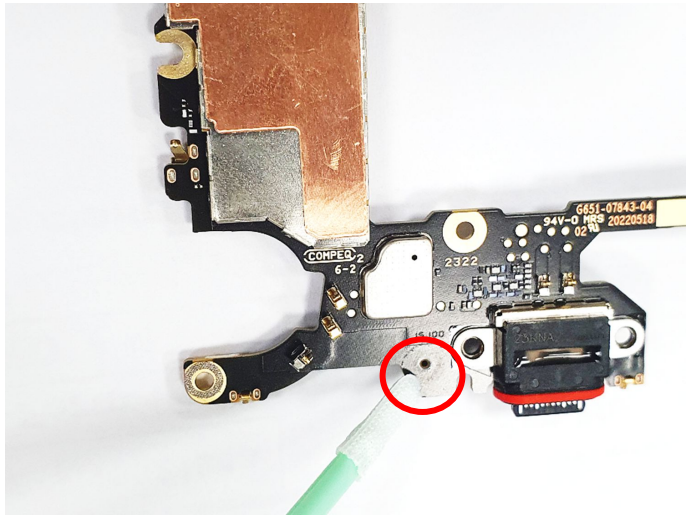
Paste New Washers
(for REUSED Logic Board)



- Paste conductive fabric washers on the logic board then remove the liners from it.

Part: G806-07457-01(Conductive fabric washer)

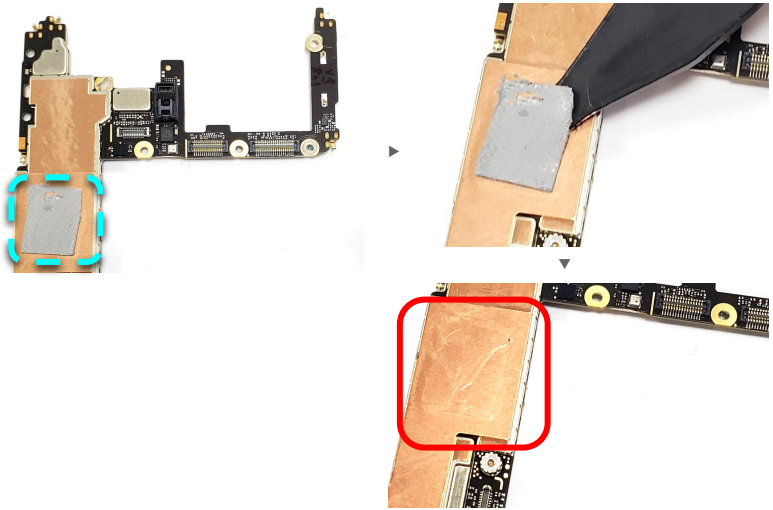
cleaning MIC1 mylar
(for REUSED Logic Board)



- Use cotton swabs to clean off the residues around mic1 hole.

Part: G806-09516-01 (Diecut Mic1 mylar)

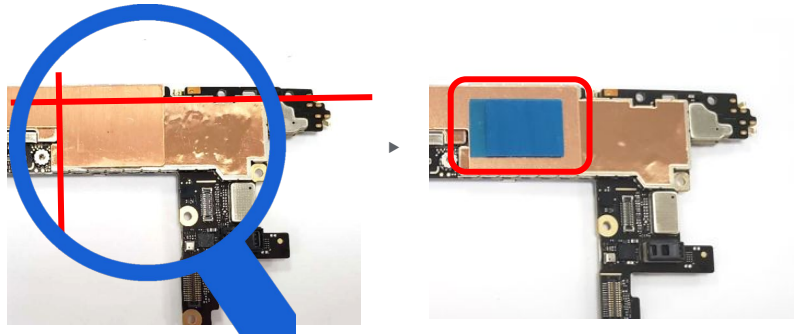
cleaning Logic Board
(for REUSED Logic Board)



- Use plastic Universal Disassembly ESD stick to clean the thermal pad attached on the logic board.
- Use cotton swabs with IPA to wipe the surface and remove any residue.

If the thermal pad is damaged, please clean up the area and apply a new one. If it is still in good condition, no action is needed.

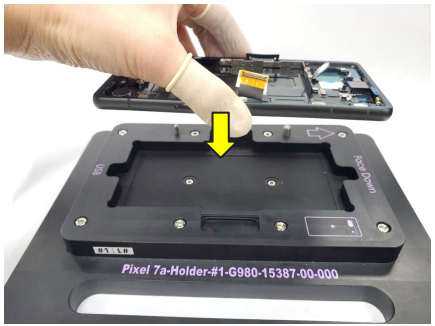
Paste New Thermal Pad
(for REUSED Logic Board)



- Paste a new thermal pad on the logic board following red alignment line.

Part: G806-06852-01 (Thermal pad adhesive)

Place Enclosure on holder

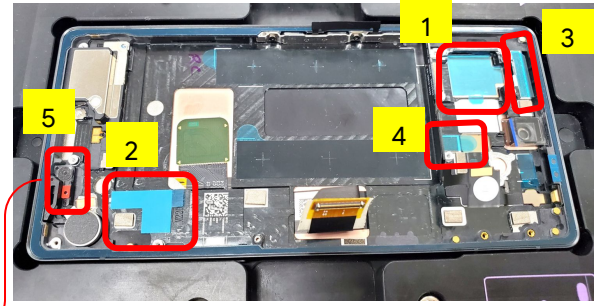


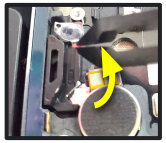
After

- Place enclosure on the fixture holder.

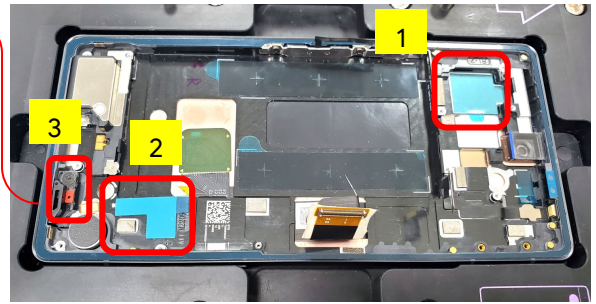
Remove Liners

mmWave



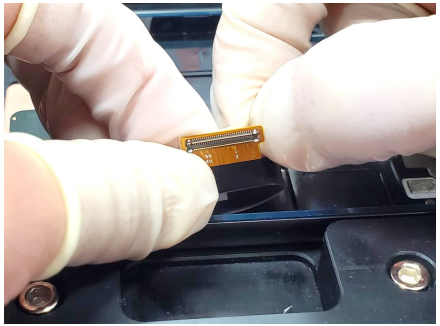


Sub6

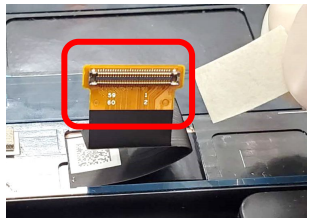


- Remove 5 liners (mmWave) / 3 liners (Sub6) from enclosure.
- Grab the red sections of the liner from mic.1 bracket with plastic ESD tweezers.

Remove Masking Tape

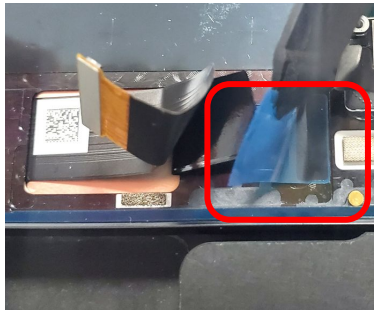


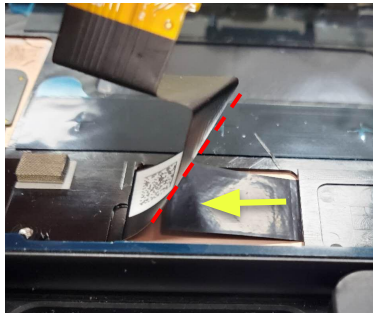
After



- Remove the masking tape from the display FPC.

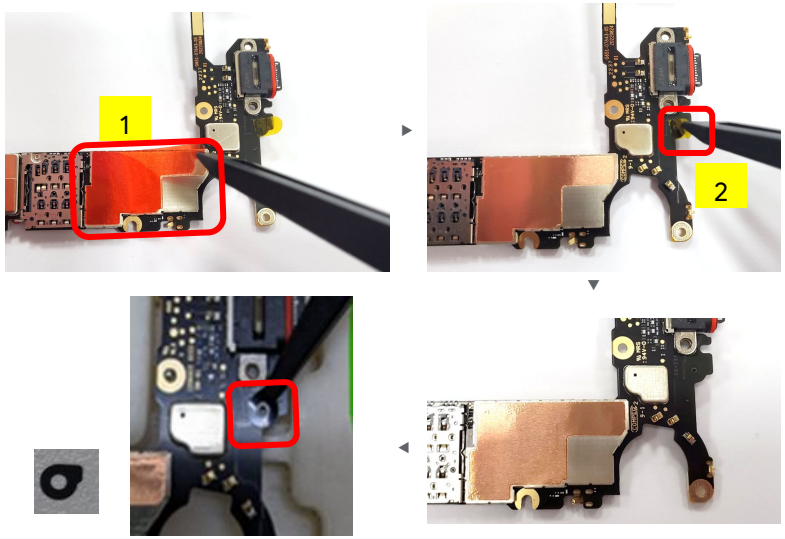
Remove Liners





- Remove the liner from enclosure.
- Organize the graphite sheet, and make sure it's under the display FPC.

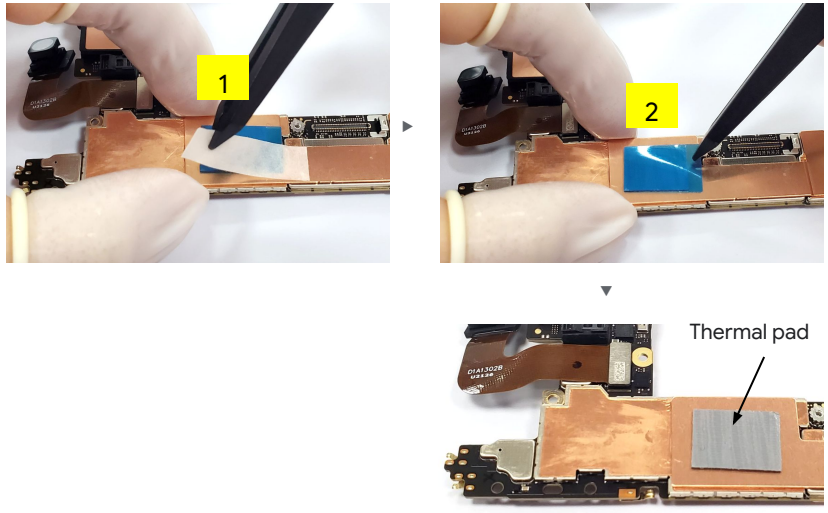
Remove Liners & Paste mylar



- Use plastic ESD tweezers to remove the liner and the yellow kapton from the logic board
- Paste a new diecut MIC1 mylar at the same location.

Do not reuse yellow kapton.

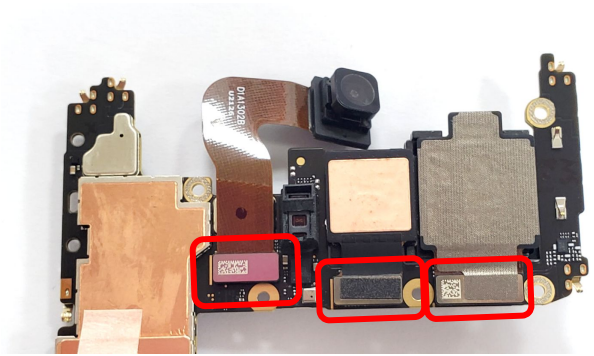
Remove Liners



- Use plastic ESD tweezers to remove the masking tape and a liner from the logic board.

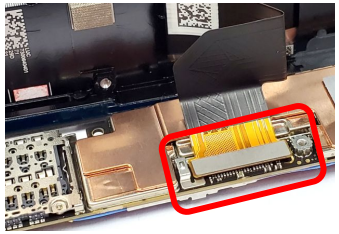
Do not damage the thermal pad.

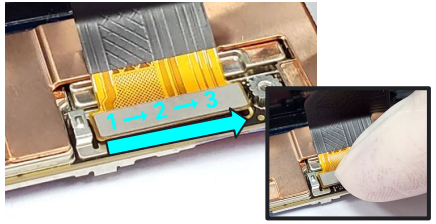
Inspect Camera Connector



Make sure all the camera connectors are fully engaged.

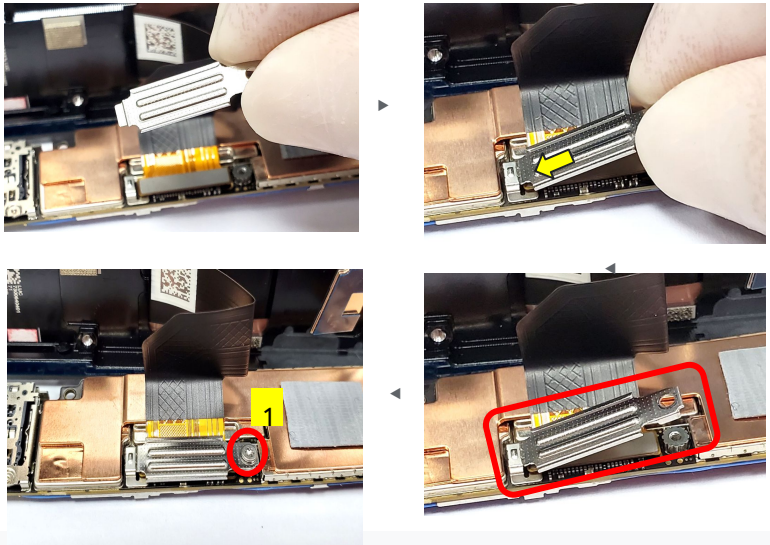
Connect Display Module





- Use the Universal Adsorption-Bulb to transport the enclosure and stand it.
- Attach the display module connector to the logic board, applying even pressure across the connector.
- Pressing 3 points in sequence and slide **twice** to ensure it is fully engaged.

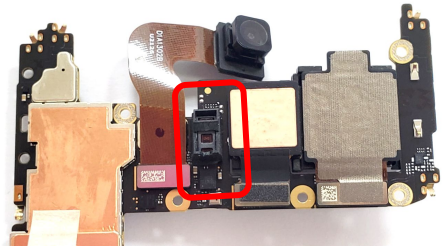
Install Display Stamping



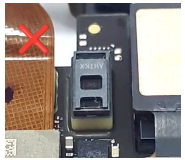
- Insert display stamping following designated direction.
- Tighten 1 screw on display BTB with Torx Plus 3IP Screwdriver.

○	G250-06555-00 (Torque force: 1.0kgf.cm +/-10%)	1

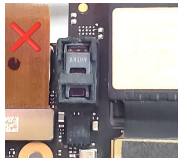
Inspect P-sensor Rubber



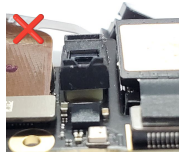
Incorrect: Missing



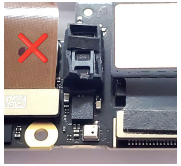
Incorrect: *Wrong direction*



Incorrect: Skewed



Incorrect: Skewed

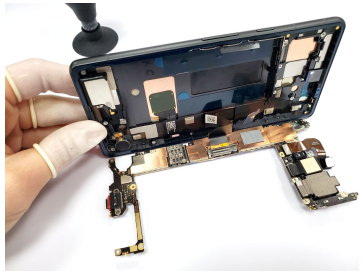


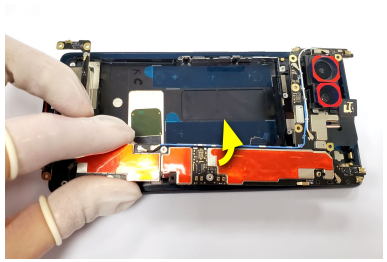
Make sure the p-sensor rubber is not damaged, missing, skewed and is in the correct position.

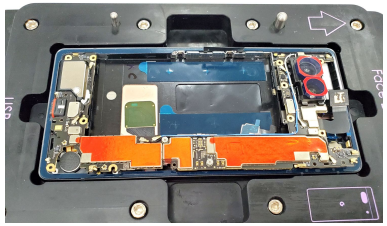
Paste new FOF (mmWave)

- Paste a new conductive foam

Install Logic Board

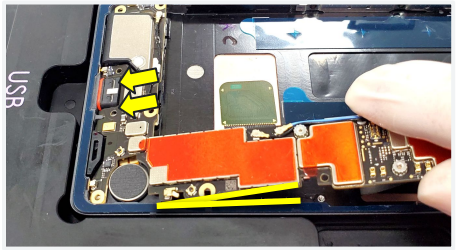


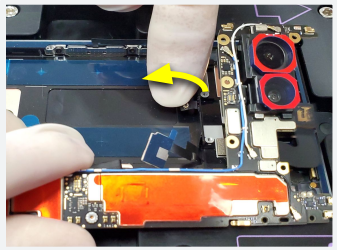


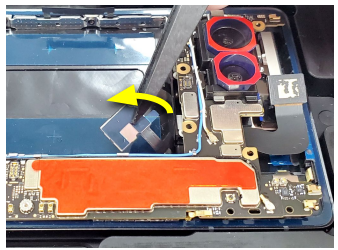


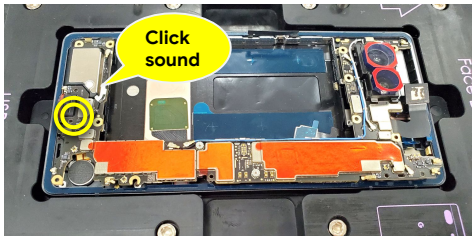
- Release enclosure from Universal Adsorption-Bulb.
- Slightly flip up the logic board and place it on the enclosure.
  Caution: Logic board is attached to the enclosure via a very fragile ribbon.
- Place enclosure on the fixture holder.

Install Logic Board





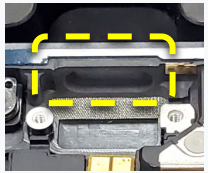


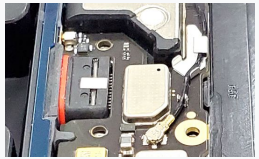


- Insert the logic board to the USB slot with special angle.
- Flip up the SLAM FPC BTB lift with your fingers and flash LED with plastic ESD tweezers while assembling the logic board.
  Caution: To avoid Slam FPC and Flash LED are squashed underneath the logic board.
- Secure the logic board using 1 slot and 1 vertical post on the enclosure.
- Lightly press down the logic board and your should hear a clicking sound.

Slot

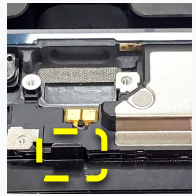
Assemble the USB module into the slot.



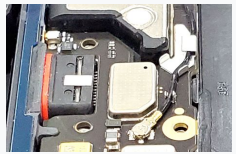


Vertical Post

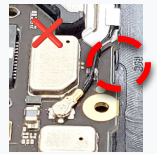
Position the Logic Board correctly behind the vertical post.



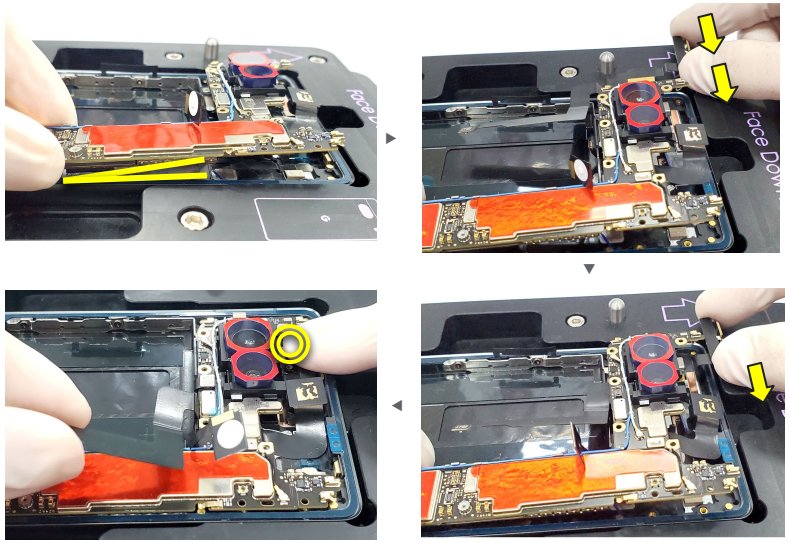
Correct

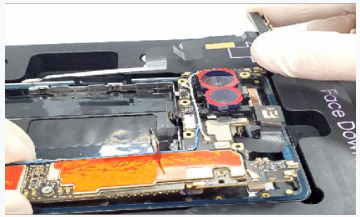


Incorrect

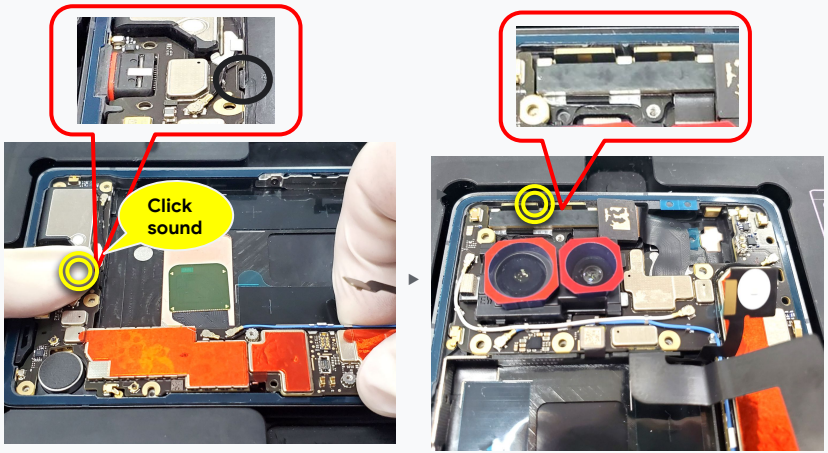


(mmWave) Install mmWave

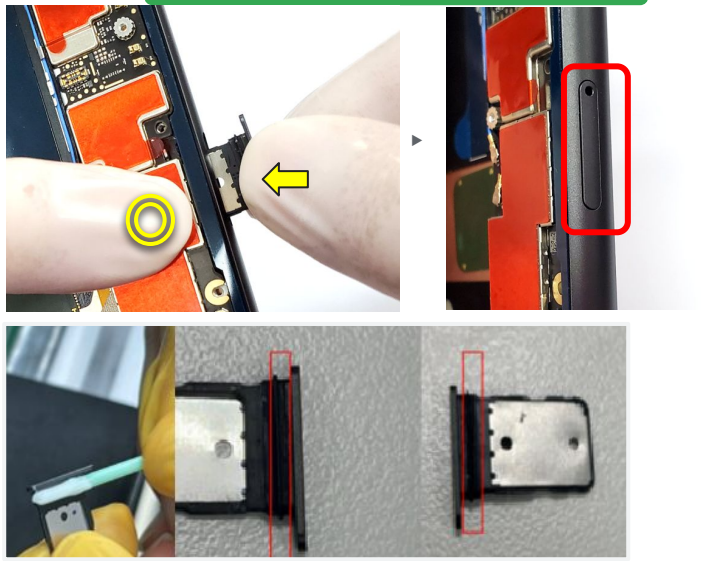




- Lift the logic board slightly as illustrated in yellow line above.
- Put mmWave into the middle of Logic Board and enclosure from the upper side following the designated order.
- Apply pressure to the mmWave module to activate the adhesive.



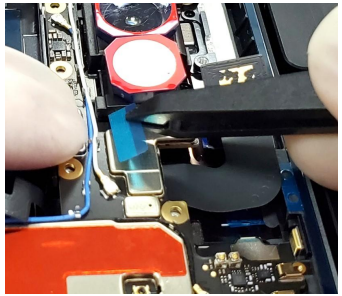
Install Sim Tray

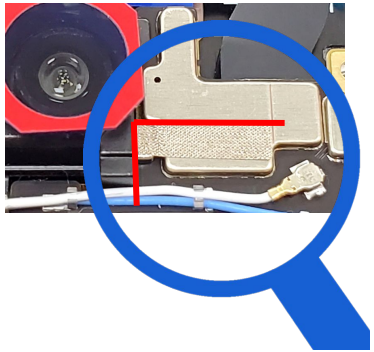


- Lightly press down on the logic board with your finger and insert the sim tray to the enclosure at the same time.
- Apply lubricants on both sides of the sim tray before installation.

Please insert SIM tray following correct direction.

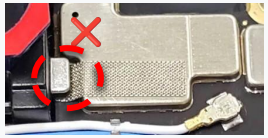
Paste Conductive Fabric



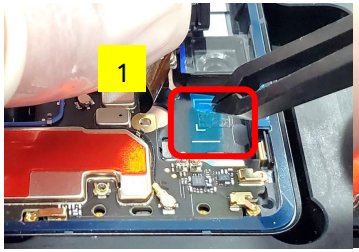


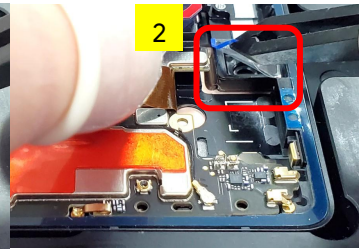
- Use plastic ESD tweezers to transport conductive fabric.
- Align and apply the extension to bridge the RCAM holder and logic board shielding.
- Remove the liner.

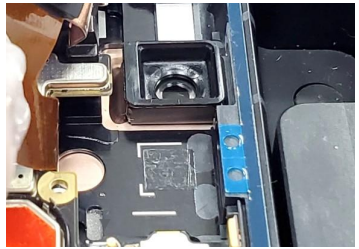
Incorrect Location



Remove Protect Film & Liner

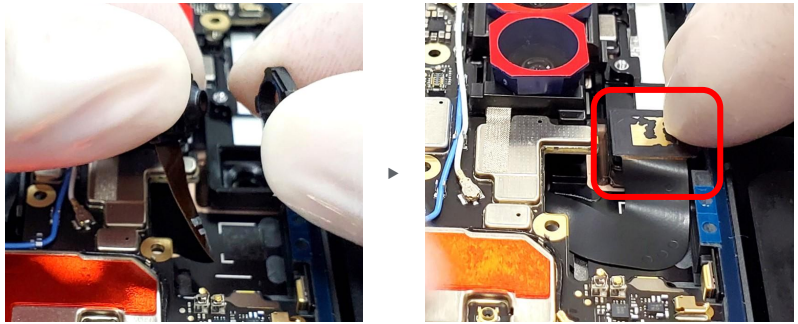






- Use plastic ESD tweezers to remove the liner from the enclosure and protective film from the camera holder.

Install FCAM to Holder

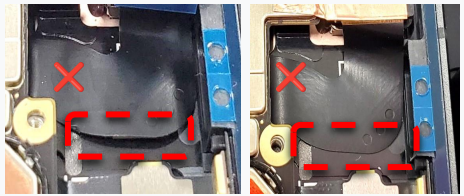


- Remove FCAM protective cap by hand.
  Caution: Do not touch the lens.
- Place the front camera into position, keeping it aligned with the lens in the camera holder.

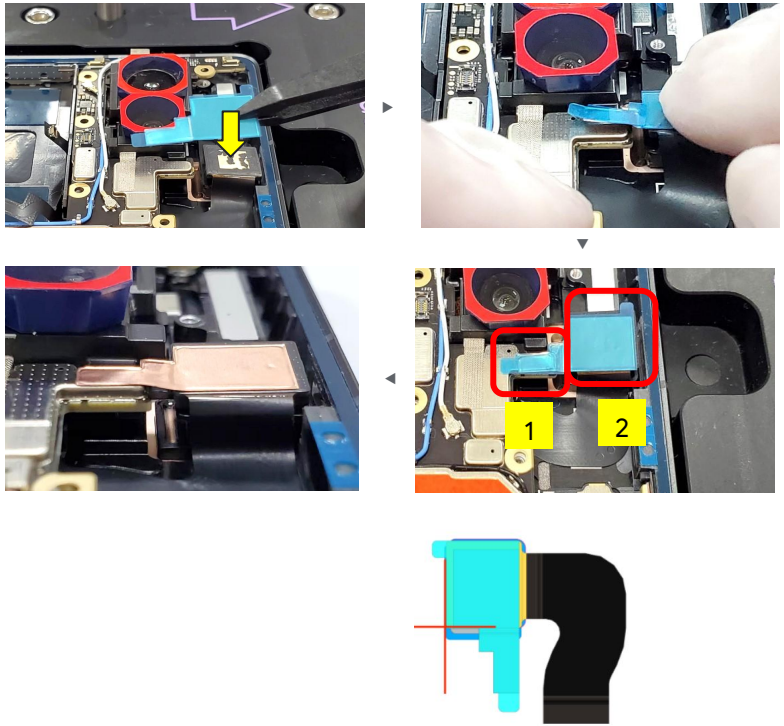
Flatten the FPC

- Using ESD bar to flatten front camera FPC against the enclosure and ensure the edge of the FPC is parallel to the align line.

Incorrect:
FPC NOT lined up with enclosure

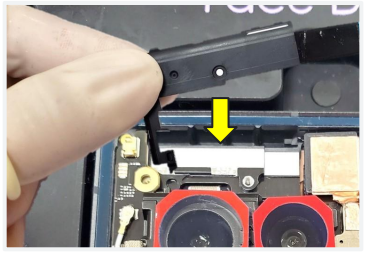


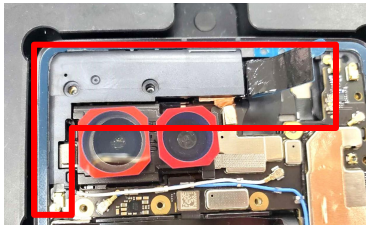
Paste Copper Foil



- Use plastic ESD tweezers to transport copper foil.
- Align and apply the copper foil to bridge the front camera and shielding.
  - Copper foil left edge align with Fcam left edge
  - Copper foil bottom edge align with Fcam bottom edge
- Remove 2 liners from copper foil.

Install Antenna Housing

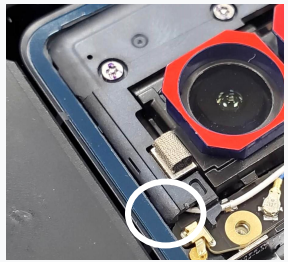




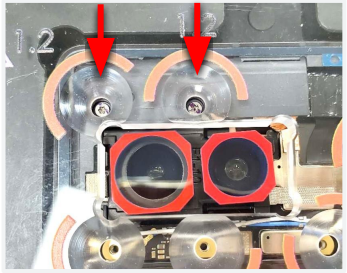
- Take 1 pcs of antenna housing.
- Angle insert Antenna housing and push snap area to assemble into enclosure.
  Caution: Make sure front camera is installed firmly against the holder before you being installation.
- Ensure all the snaps on the antenna housing are securely insert to the enclosure.

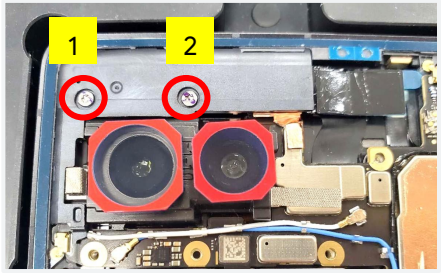
Incorrect:
Snap not insert to the enclosure

Correct



Tighten Screws



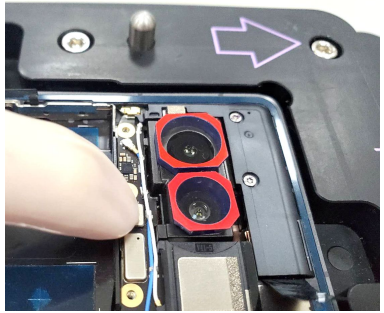


O	G250-05370-00 (Torque force: 1.2kgf.cm +/-10%)	2

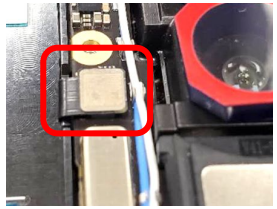
- Use the Pixel 7a Assembly Screw Cover to identify screw type and torque force.
  Tighten 2 screws on antenna housing with Torx Plus 3IP Screwdriver.

Be careful when using the screwdriver, do not accidentally damage the adjacent battery.
Incorrect use of the screw driver could cause injury to you or third persons or damage to the battery and/or the product.

Connect Slam FPC



After



- Connect SLAM FPC on logic board.

Make sure the connector is attached securely to the logic board.

Disassembly instructions

Front camera

Front camera replacement

The **Front camera** is not attached to the enclosure, it is simply connected to the **Logic board**.

Before you begin

Remove the following items first:

- Back Cover
- Inner Housing
- Top Speaker
- Logic Board

Tools

Ionizing air fan
Universal Fish line
ESD tweezers

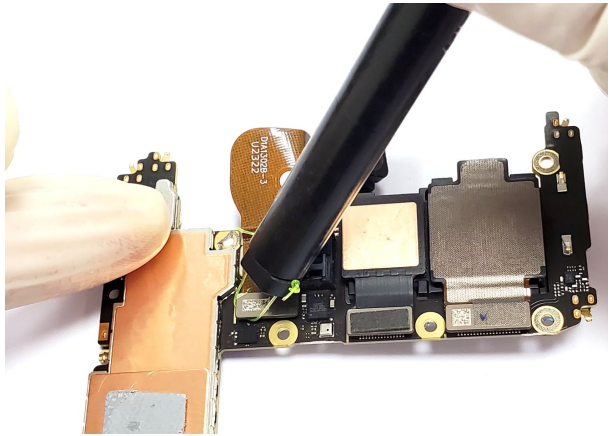
Parts

G949-00394-00
Front camera

G804-00855-01
P-Sensor rubber

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

Remove Front Camera



- Use universal fish line tool to disconnect front camera from the logic board.
- Use plastic ESD tweezers to transport it.

Warning: The camera is light-weight. Only apply as much force to remove as needed, to reduce chance of damage.

Remove Copper Foil

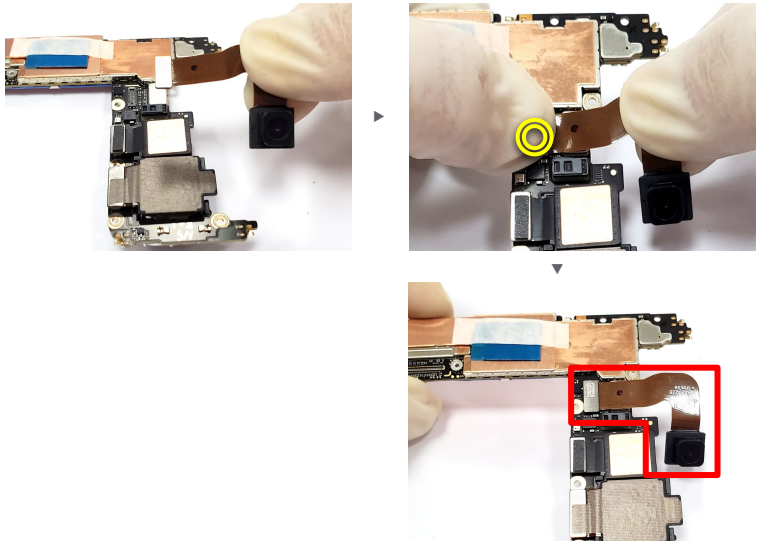
- Use plastic ESD tweezers to remove copper foil attached to the back of front camera.

Do not reuse this part.

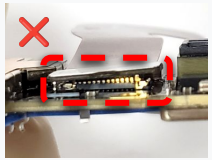
Assembly instructions

Front camera

Install Front Camera

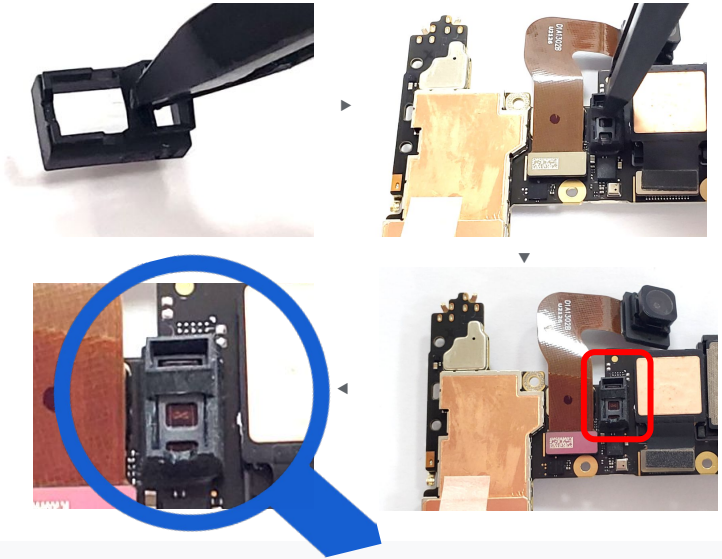


- Install the front camera to the designated location on the logic board.
- Apply pressure to confirm alignment.



Make sure the connector is attached securely to the logic board.

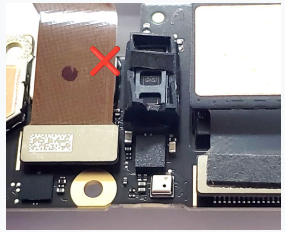
Install P-sensor Rubber



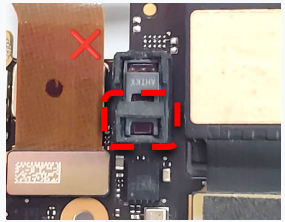
- Transport the P-sensor by holding the middle rib using plastic ESD tweezers.
- Drop the rubber on top of the p-sensor module.
- Make sure p-sensor rubber is assembled to the correct location.
- Lightly press the bottom speaker to complete the installation.

Make sure the rubber is installed correctly.

Incorrect: Skewed



Incorrect: *Upside down*



Disassembly instructions

Rear camera

Rear camera replacement

The **Rear cameras** are not attached to the enclosure, it is simply connected to the **Logic board**.

Before you begin

Remove the following items first:

- Back Cover
- Inner Housing
- Top Speaker
- Logic Board

Tools

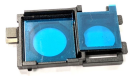
Ionizing air fan
ESD tweezers
Universal Fish line tool
Universal Cap Removal

Parts

G949-00395-00
Wide angle rear camera

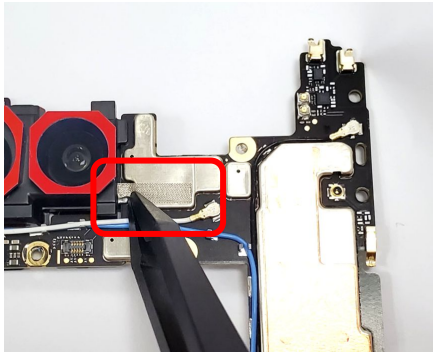
G949-00396-00
Ultra wide rear camera

G949-00397-00
Rear camera holder

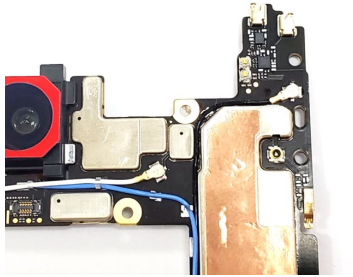


Caution!
Review all **safety precautions** before beginning work.

Remove Conductive Fabric



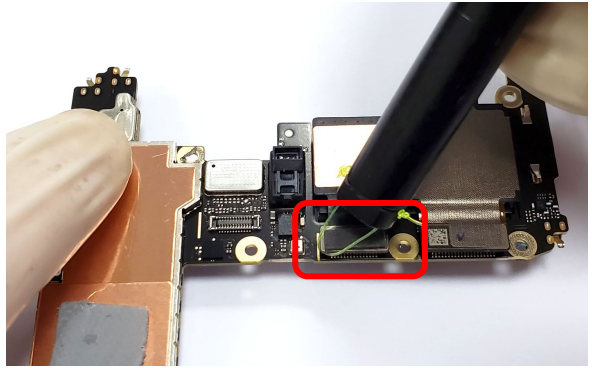
After



- Use plastic ESD tweezers to remove the conductive fabric connecting the rear camera holder and logic board.

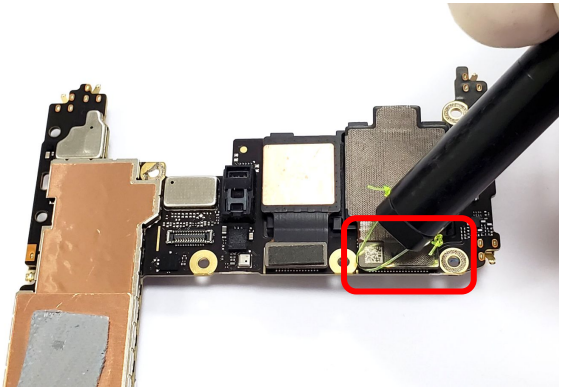
Do not reuse this part.

Remove UW Rear Camera



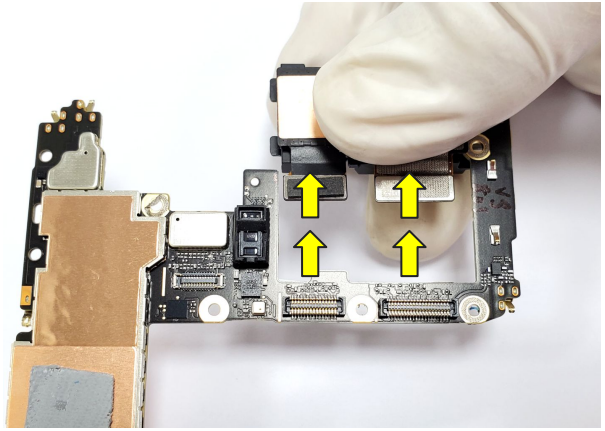
- Use universal fish line tool to disconnect UW camera from the logic board.

Remove Wide Rear Camera



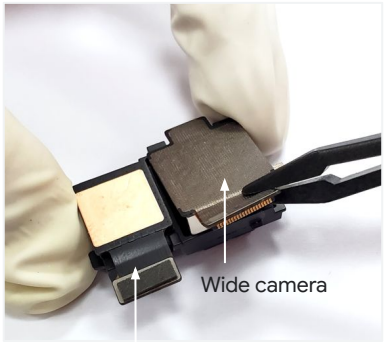
- Use universal fish line tool to disconnect Wide camera from the logic board.

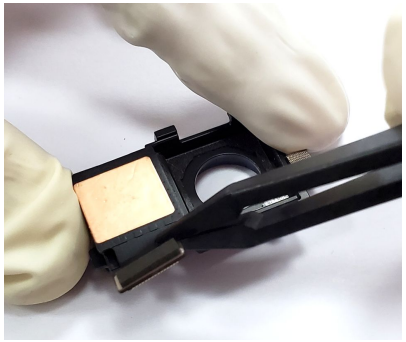
Remove Rear Cameras



- Hold the rear camera modules with metal holder and take them out from the logic board parallel upwards.

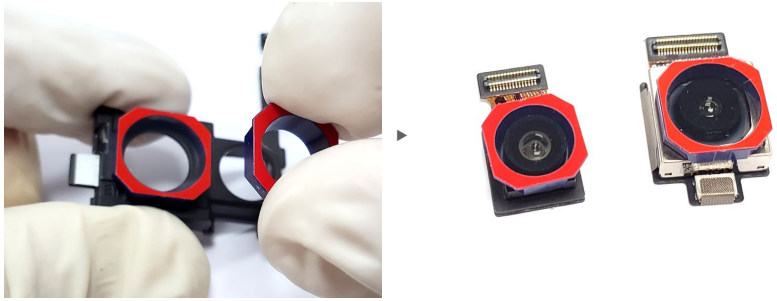
Remove Rear Cameras



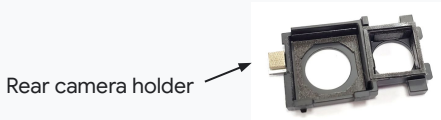


- Use plastic ESD tweezers to remove Wide and UW cameras from metal holder.

Cover the Protective Cap



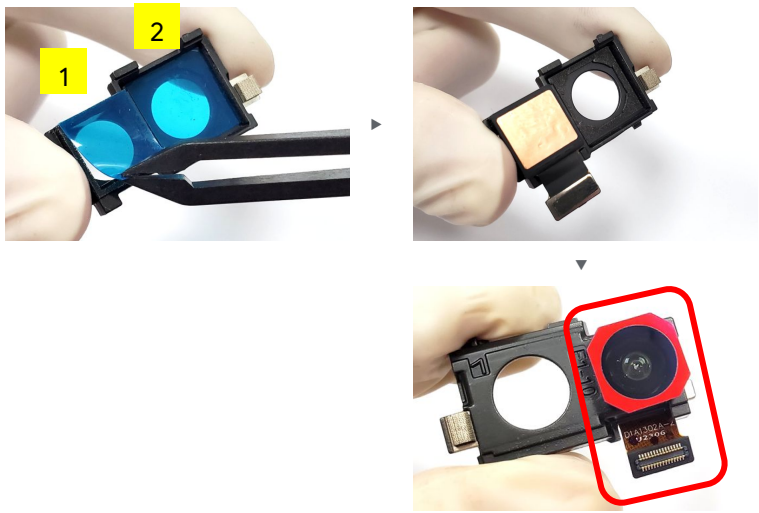
- Remove 2 protective cap that sits on top of the metal holder.
- Carefully assemble the protective cap on the cameras in order to avoid dust.



Assembly instructions

Rear camera

Install UW RCAM to Holder

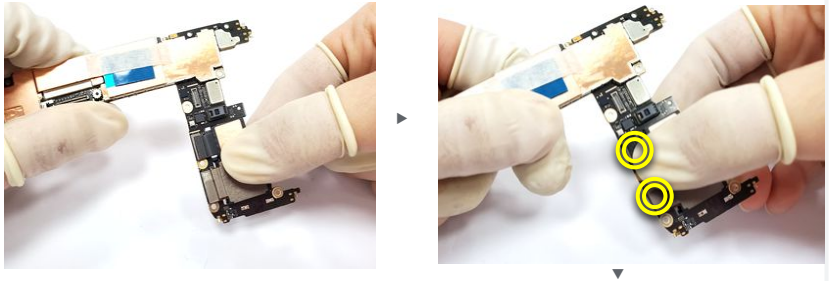


- Remove 2 pcs of protective films from camera holder socket with plastic ESD tweezers.
- Remove camera protective cap with Universal Cap Removal tool. Assemble UW camera following designated direction and location. ***Caution:*** Do not touch the lens.
- Carefully assemble the protective cap on the UW camera in order to avoid dust.

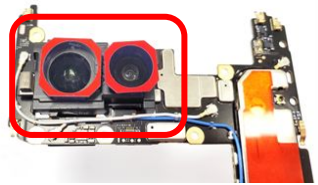
Install Wide RCAM to Holder

- Remove camera protective cap with Universal Cap Removal tool.
  Caution: Do not touch the lens.
- Assemble Wide camera following designated direction and location.
- Carefully assemble the protective cap on the Wide camera in order to avoid dust.

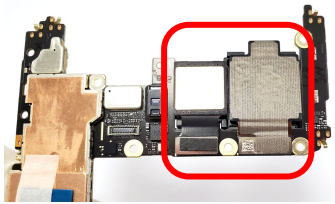
Install RCAM Holder and RCAM to Logic Board



Front view



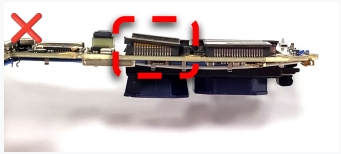
Back view



- Assemble camera holder to logic board.
- Attach the UW and Wide camera BTB connectors to the logic board, and to ensure they are fully engaged.

Make sure the connectors are attached securely to the logic board.

Incorrect:
Not fully buckled



Correct

Disassembly instructions

mmWave

mmWave replacement

Millimeter waves (**mmWave**) are the radio waves used to build a 5G network, providing fast, reliable mobile data with low latency for the latest devices.

Before you begin

Remove the following items first:

- Back Cover
- Inner Housing
- Top Speaker
- Logic Board

Tools

Ionizing air fan
Pixel 7a Assembly Enclosure Holder & CG Press
ESD tweezers
Universal Disassembly ESD stick
Universal Fish line tool

Parts

G652-01892-02
mmWave IF FPC

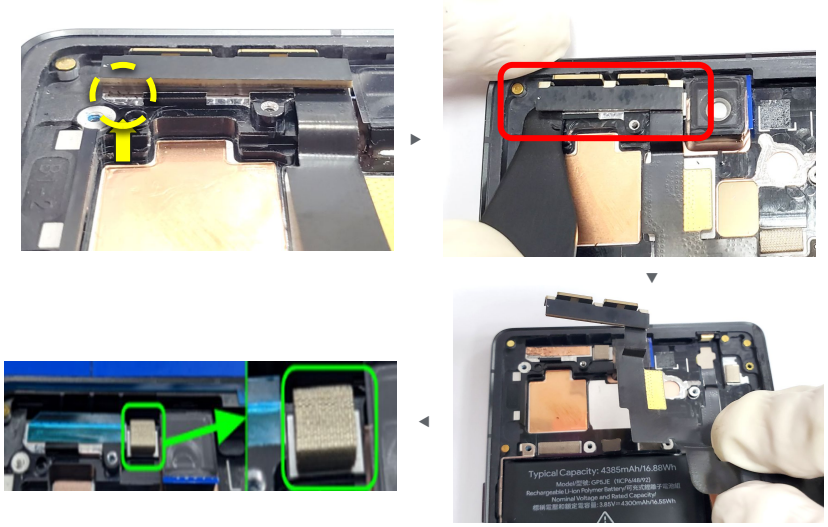
G345-01202-03
mmWave RF module

G806-06846-01
Conductive Adhesive 5G module

G806-06776-01
Diecut, conductive foam 5G module

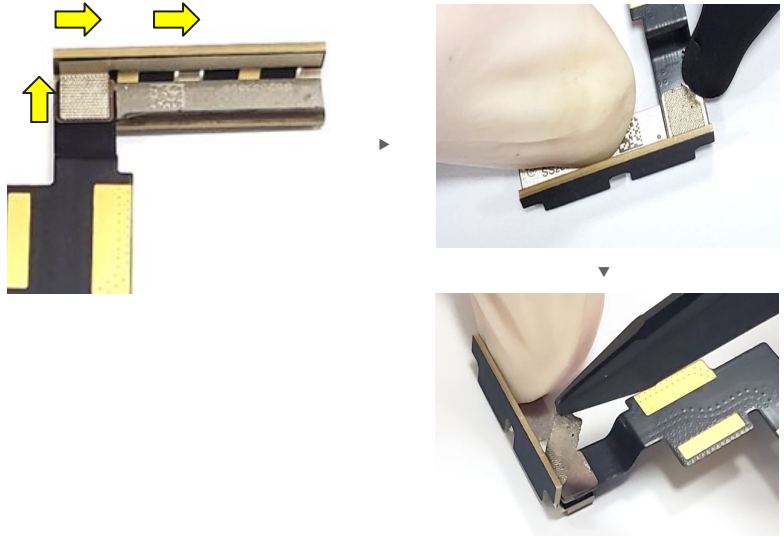
Caution!
Review all **safety precautions** before beginning work.

(mmWave) Remove FPC



- Insert the plastic Universal Disassembly ESD stick at the designated location shown above to remove mr ule.
- Remove mmWave FPC & mmWave module from enclosure.
- (New added)Remove the conductive foam unde the mmWave module

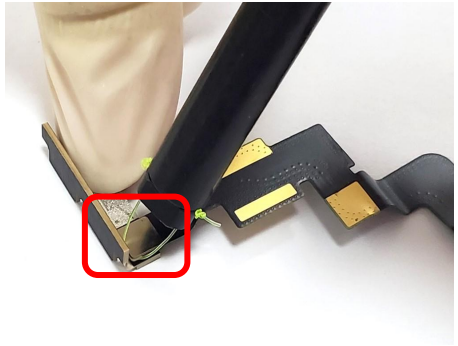
(mmWave) Remove Conductive Fabric



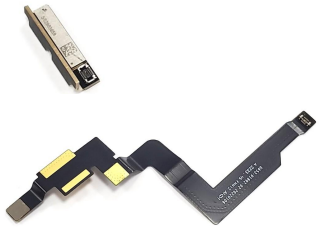
- Use plastic Universal Disassembly ESD stick to remove the conductive fabric connecting the mmWave FPC & mmWave module then take it out with plastic ESD tweezers.

Do not reuse this part.

(mmWave) Separate FPC & Module



After



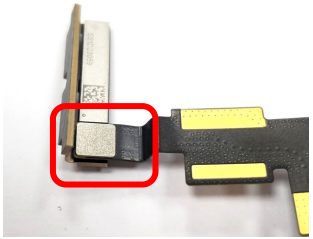
- Hold the mmWave module and use universal fish line tool to disconnect mmWave FPC and module.

Assembly instructions

mmWave

Connect FPC & Module

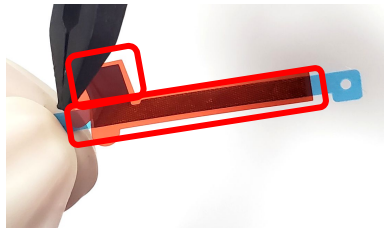
After

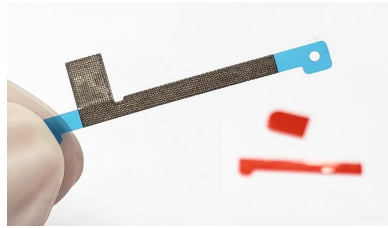


- Connect IF FPC to the mmWave module.

Make sure the connector is attached securely.

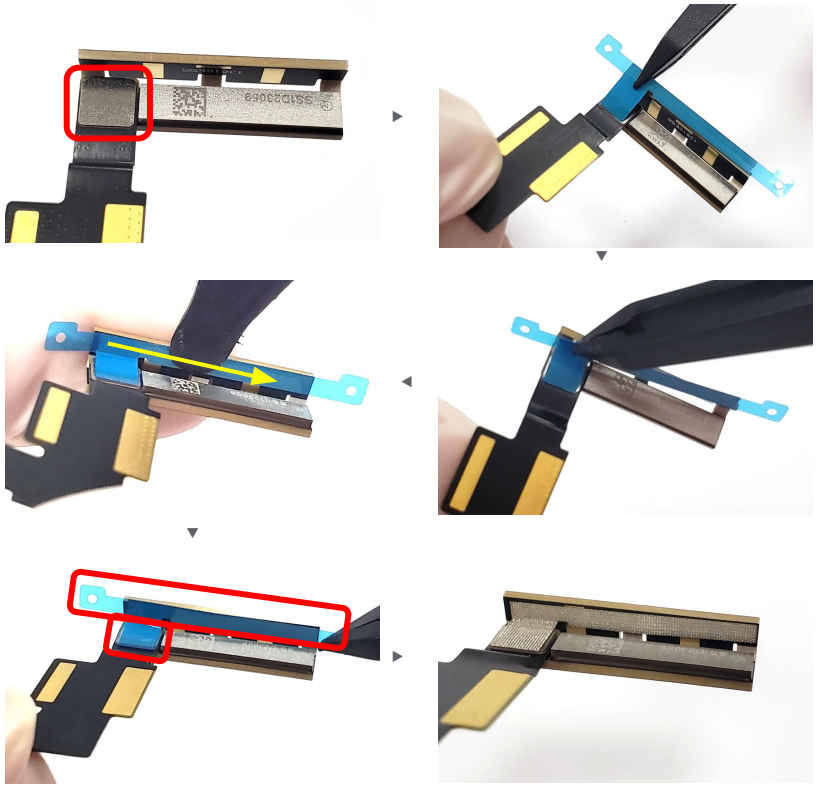
Remove Liners





- Use plastic ESD tweezers to transport conductive fabric.
- Remove 2 liners from conductive fabric.

Attach Conductive Fabric



- Make sure the connectors of IF FPC and mmWave module are attached securely each other.
- Paste a conductive fabric to bridge the IF FPC and mmWave module.
- Using plastic Universal Disassembly ESD stick to smooth the conductive fabric against the side wall of mmWave module before removing liners.
- Remove 2 liners from mmWave module and IF FPC BTB.

Disassembly instructions

Bottom speaker

Bottom speaker replacement

The **Bottom speaker** is adhered to the **Enclosure**. Be careful not to damage the speaker membrane.

Before you begin

Remove the following items first:

- Back Cover
- Inner Housing
- Top Speaker
- Logic Board

Tools

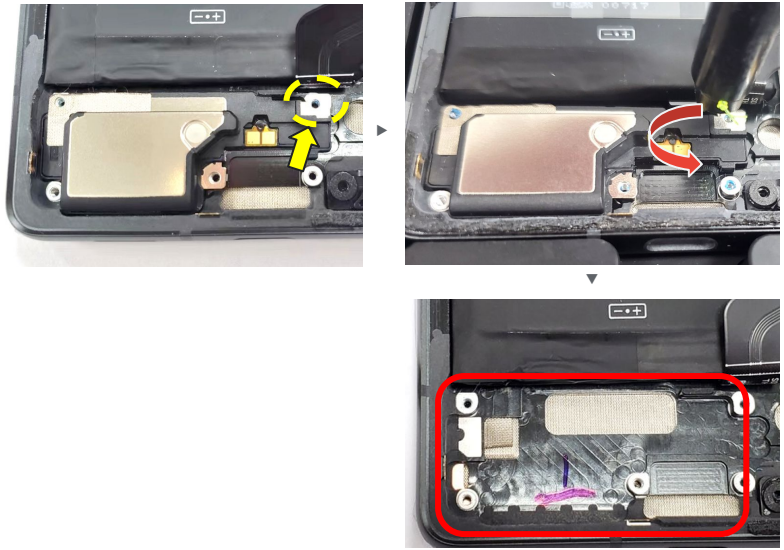
Ionizing air fan
Pixel 7a Assembly Enclosure Holder & CG Press
Universal Fish line tool

Parts

G949-00392-00
Bottom speaker

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

Remove Bottom Speaker



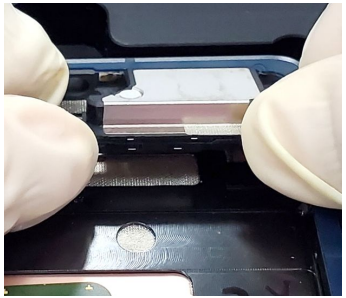
- Use universal fish line tool to remove bottom speaker from enclosure then take it out.

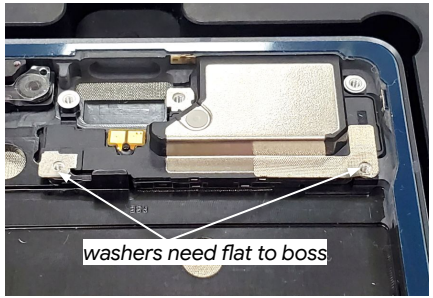
Do not damage the battery during dssy. process

Assembly instructions

Bottom speaker

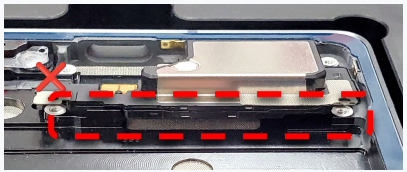
Install Bottom Speaker





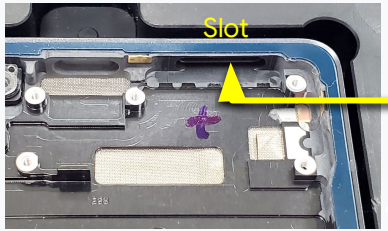
- Install the bottom speaker onto the enclosure.
- Secure the bottom speaker using 1 hook and 1 slot on the enclosure. (please see the pictures on the right.)
- Lightly press the bottom speaker to complete the installation. And make sure the washers are flat to boss surface.

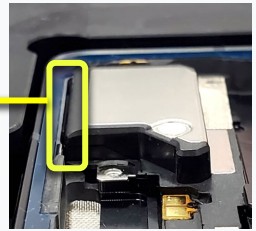
Incorrect:
Not firmly installed on the enclosure



#1 Slot

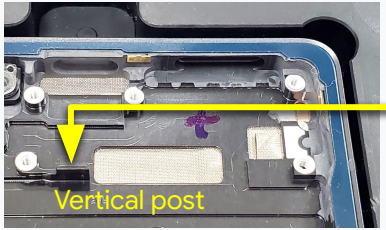
Bottom speaker sealing rubber is fully engaged into the slot.

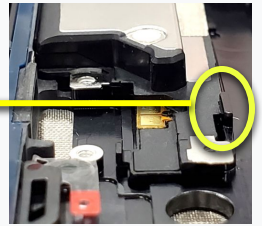




#2 Vertical post

Stack the Bottom speaker correctly behind the vertical post .





Disassembly instructions

Mic.1 bracket

Mic1 bracket replacement

The **Mic** is adhered to the **Enclosure**. This component is not re-used, if it is removed, replace with a new part.

Before you begin

Remove the following items first:

- Back Cover
- Inner Housing
- Top Speaker
- Logic Board

Tools

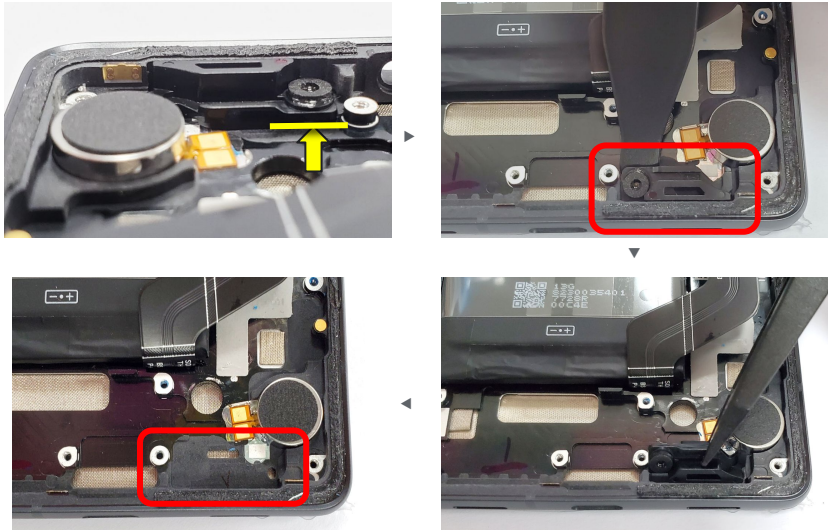
Ionizing air fan
Pixel 7a Assembly Enclosure Holder & CG Press
Universal Disassembly ESD stick
ESD tweezers

Parts

G730-06362-01
Main mic holder

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

Remove Mic.1 Bracket



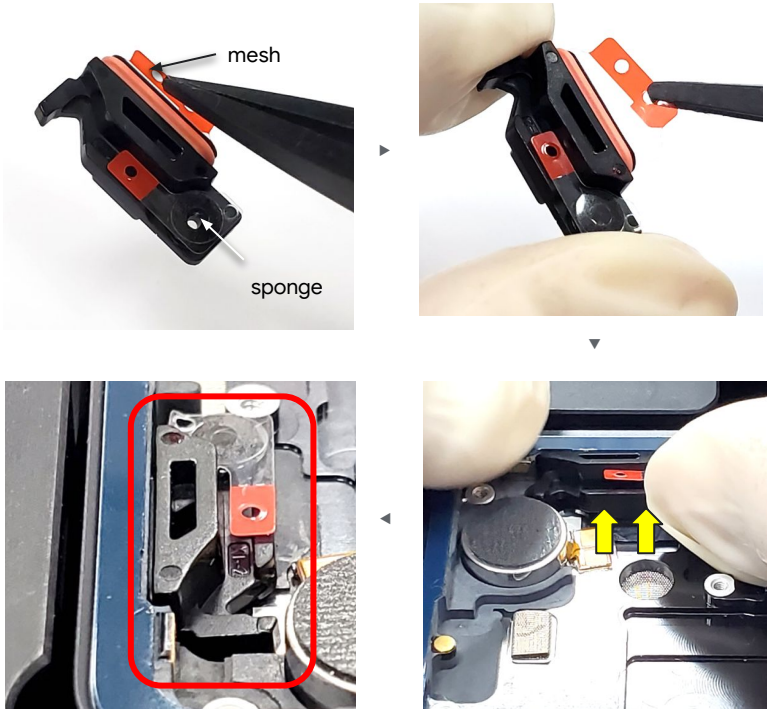
- Insert the plastic Universal Disassembly ESD stick at the designated location shown above then take it out with plastic ESD tweezers.

Once removed, do NOT reuse this part.

Assembly instructions

Mic.1 bracket

Install Mic.1 Bracket



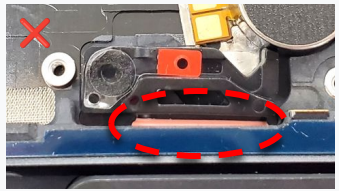
- Use a plastic ESD tweezers to transport Mic1 Bracket.
  Do not touch the mesh or sponge.

- Use a plastic ESD tweezers to remove the liner attached to the mesh prior to installation.
  Do not remove the liner on the sponge until the Mic1 bracket has been installed on the enclosure.

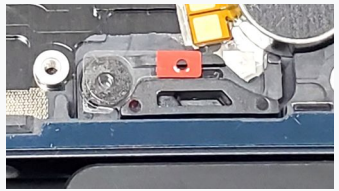
  ***Liner on sponge is removed** at page 101.*

- Install the Mic1 bracket on the enclosure.
  Make sure Mic1 bracket is installed firmly against the wall, without any open gaps.

Incorrect:
Rubber shell not being exposed



Correct



Disassembly instructions

Vibrator

Vibrator replacement

The **Vibrator** is adhered to the **Enclosure**. Be careful not to damage the vibrator membrane.

Before you begin

Remove the following items first:

- Back Cover
- Inner Housing
- Top Speaker
- Logic Board
- Mic.1 Bracket

Tools

Ionizing air fan
Pixel 7a Assembly Enclosure Holder & CG Press
Universal Disassembly ESD stick
ESD tweezers
IPA
Cotton swabs

Parts

G710-02255-01
Vibrator

G806-03299-01
Adhesive vibrator

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

Remove Vibrator

- Insert the Universal Disassembly ESD stick below the vibrator in order to remove it from the enclosure.

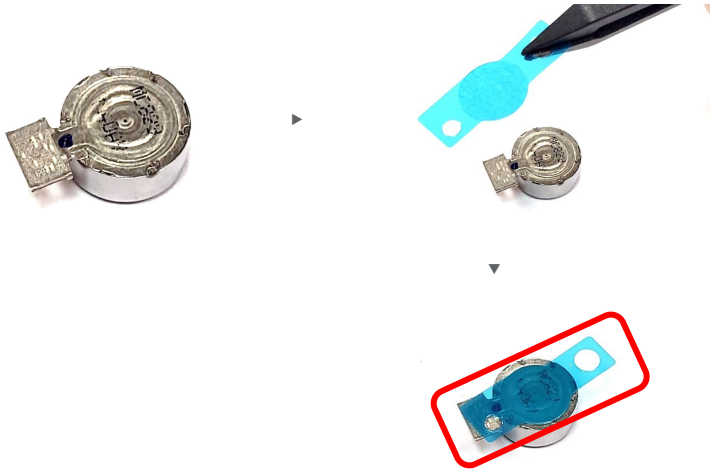
Assembly instructions

Vibrator

cleaning Vibrator
(for REUSED Vibrator)

- Remove the adhesive residue from the vibrator with plastic Universal Disassembly ESD stick.
- Use cotton swabs with IPA to wipe the surface and remove any residue.

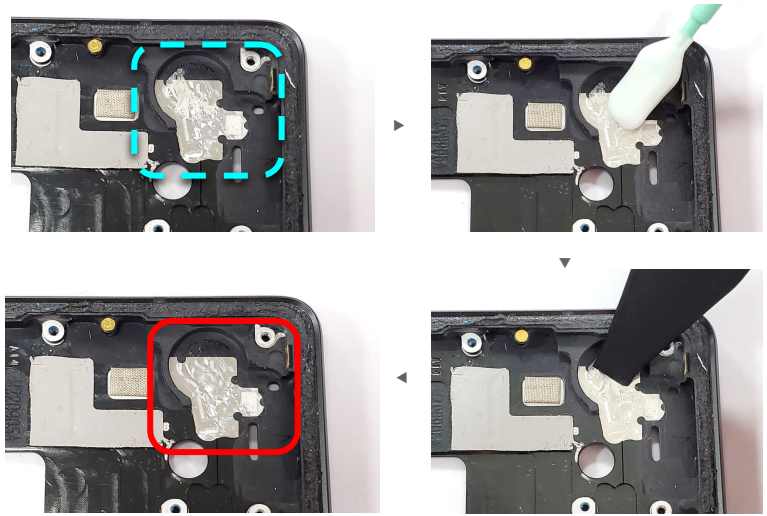
Paste Vibrator Adhesive
(for REUSED Vibrator)



- Paste a new adhesives on the vibrator.

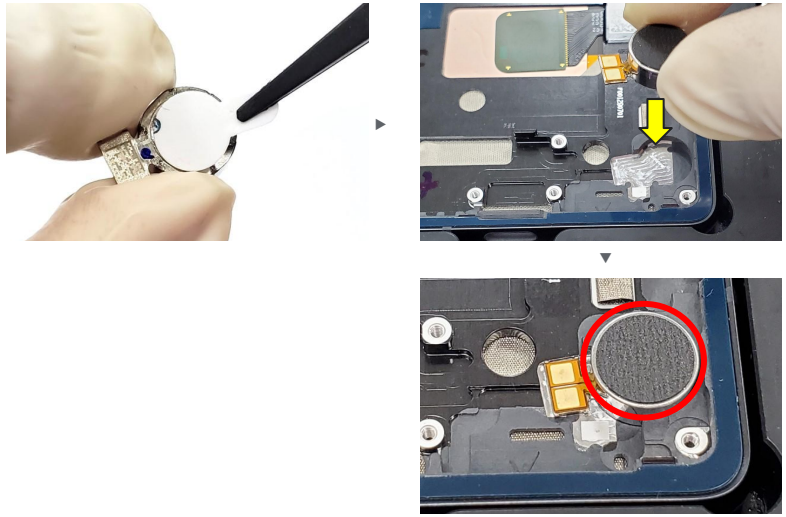
Part: G806-03299-01 (Vibrator adhesive)

cleaning Vibrator Area
(for REUSED Enclosure)

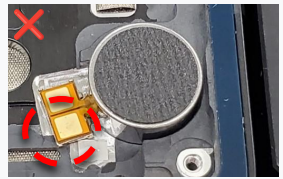


- Use plastic Universal Disassembly ESD stick to remove the vibrator adhesive residue.
- Use cotton swabs with IPA to wipe the surface and remove any residue.

Install Vibrator



- Remove the liner from the vibrator.
- Install vibrator into enclosure by alignment structure outline.
- Apply pressure to the vibrator to ensure it adhered to the enclosure.



Incorrect: skewed

Disassembly instructions

Battery

Battery replacement

There are two methods to removing a **Battery** from this device. Method 1 uses a holder clamped to the bench and the 2nd method involves 2 people. Disconnect the **Battery** as soon as possible during repair.

Before you begin

Remove the following items first:

- Back Cover
- Inner Housing
- Top Speaker
- Logic Board
- mmWave
  (only for VZW device)

Tools

Heating plate
Ionizing air fan
Universal Disassembly Fixture
C-Clamp
Pixel 7a Assembly Enclosure Holder & CG Press
Torx Plus 1IP screwdriver
ESD tweezers
Universal Disassembly ESD stick
Universal Adsorption-Bulb
Pixel 7a Assembly Battery Press
Universal Press Fixture
IPA
Cotton swabs

Parts

G949-00398-00
Replacement Battery

G730-06399-01
5G-Battery stamping plate

G250-06554-00
Screw*1

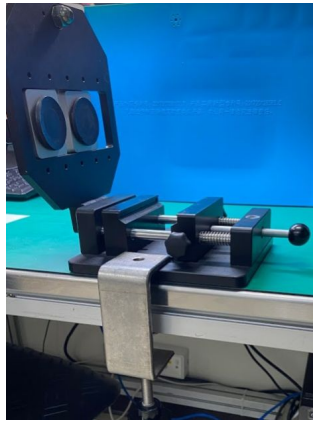
Caution!
Review all **safety precautions** before beginning work.

Soften the Adhesives

- Place the device flat on the Heat plate and set to **140°F/60 °C** for **10 mins** to soften the Battery adhesive equally.
  - Place the camera bump-out off the edge of the plate, so that the back panel where the battery is located can be in full contact with the heating surface.

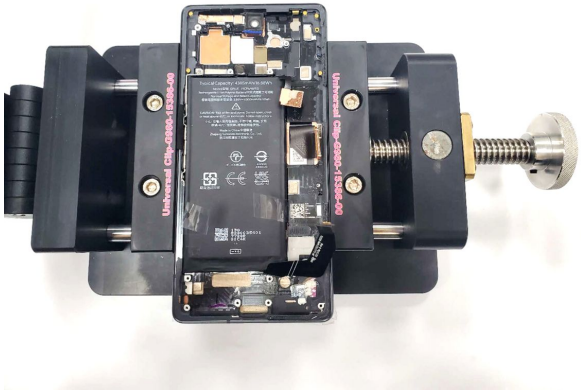
Caution: Heating plate is a Hot Surface. Use caution as it could cause burns.

Secure the Fixture



- Place the Universal disassembly fixture on the desk, use a c-clamp to secure the fixture as needed.

Secure the Enclosure



- Use the Universal disassembly fixture to remove the battery.
- Make sure the device is centered on the fixture.
- Turn the knob as much as possible to lock the enclosure in.

Lift Pull Jacket

- Use plastic Universal Disassembly ESD stick to release the pull jacket.
- Remove the rest by hand.

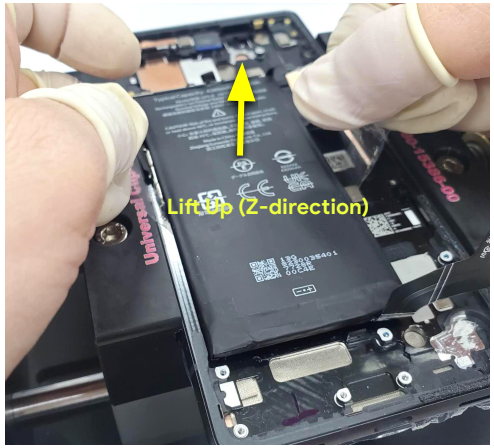
Move pull jacket in Y-direction

- Hold the pull jacket tabs and slide up in the horizontal-direction toward the middle of battery. Stop when coming into contact with the adhesive strips.

Part: G949-00398-00 (Battery)

The intent of the pull jacket is to pull on battery for release, **NOT to cut through the adhesive.**

Pull Up in Z-direction



- Pull up jacket both sides together in the vertical-direction to remove the Battery.

The battery may be easier to remove, if this step is performed soon after the battery leaves the heat plate (before adhesive cools).

Remove Battery

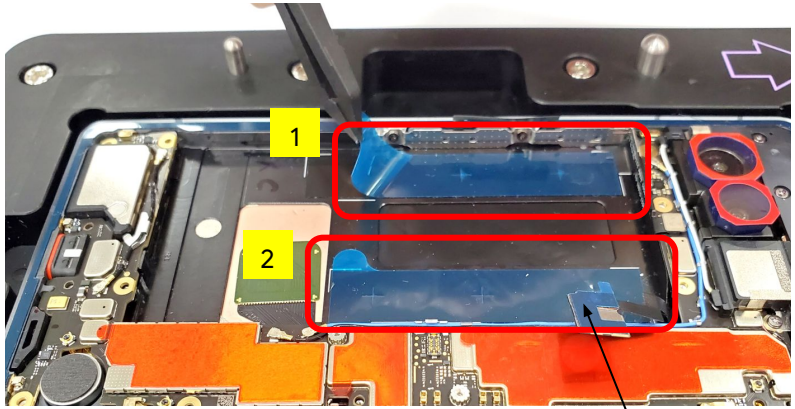
- Gently remove the Battery using Universal Adsorption-Bulb.

1. Keep small screws and sharp objects away from the Battery.
2. Once the battery is removed. Do not reuse it.
3. Place the scrap battery back to the original packaging.

Assembly instructions

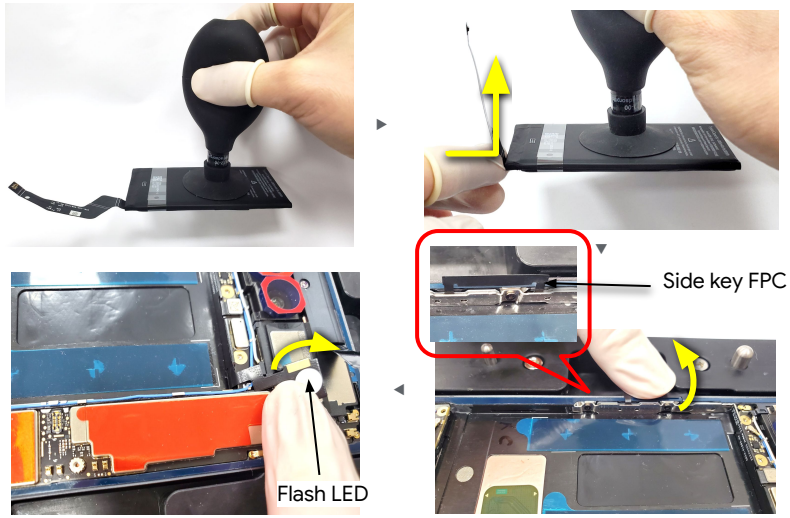
Battery

Remove Liners



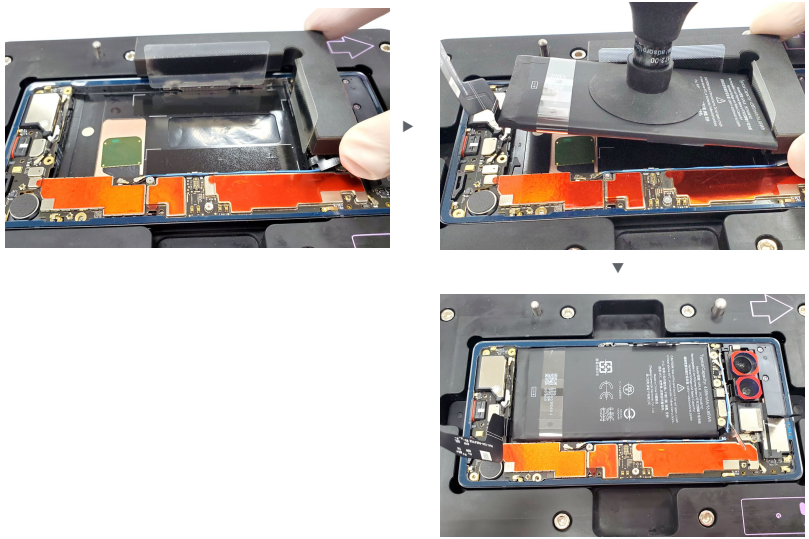
- Before installation...
  - Remove any debris/loose screws from the Enclosure.
  - Ensure Battery cosmetic checks are completed on the replacement battery.
- Remove 2 pcs of liners from the enclosure using plastic ESD tweezers, except liner on slam FPC.

Align Battery



- Transport the battery using Universal Adsorption-Bulb.
- Fold the battery FPC inward.
- Fold the side key FPC backward.
- Fold the flash LED backward.

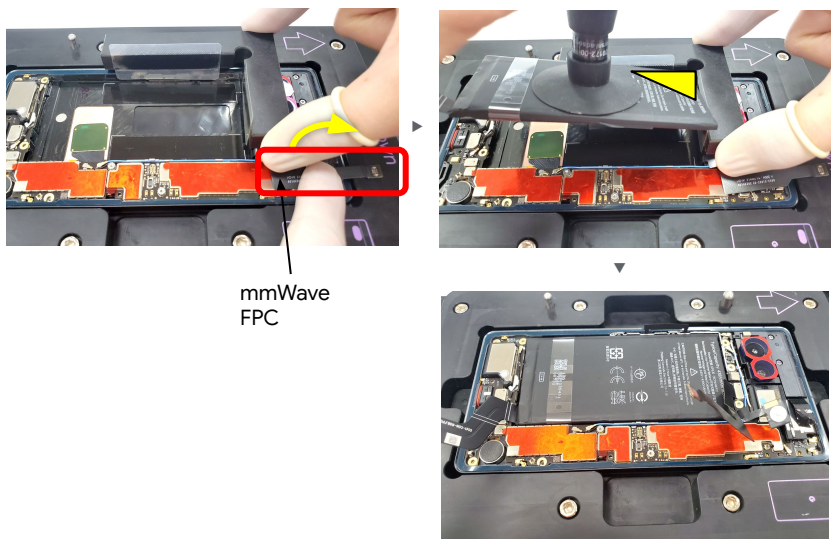
Align Battery and Install *(sub6)*



- Place the Universal Battery Alignment tool at the upper left hand corner first then proceed the battery with installation.

Make sure side FPC and slam FPC are NOT squashed by the battery.

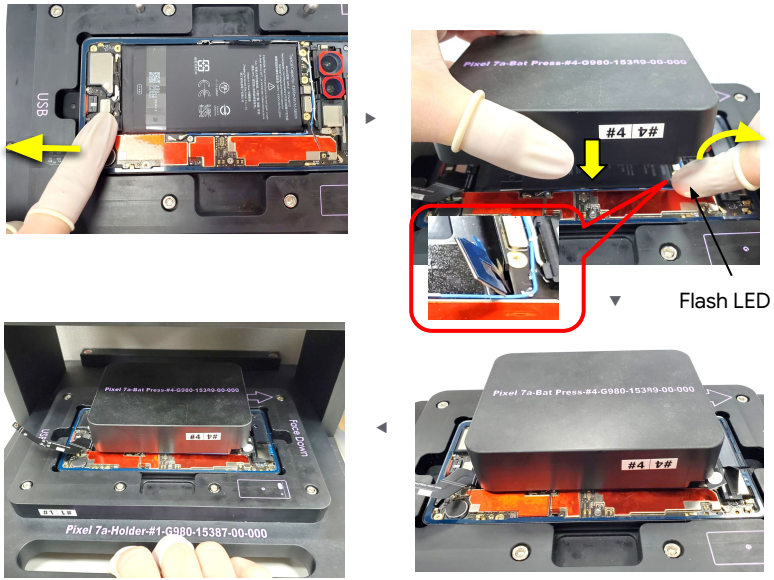
Align Battery and Install *(mmWave)*



- Fold mmWave FPC backwards.
- Place the 5 at the upper left hand corner first then proceed the battery with installation.

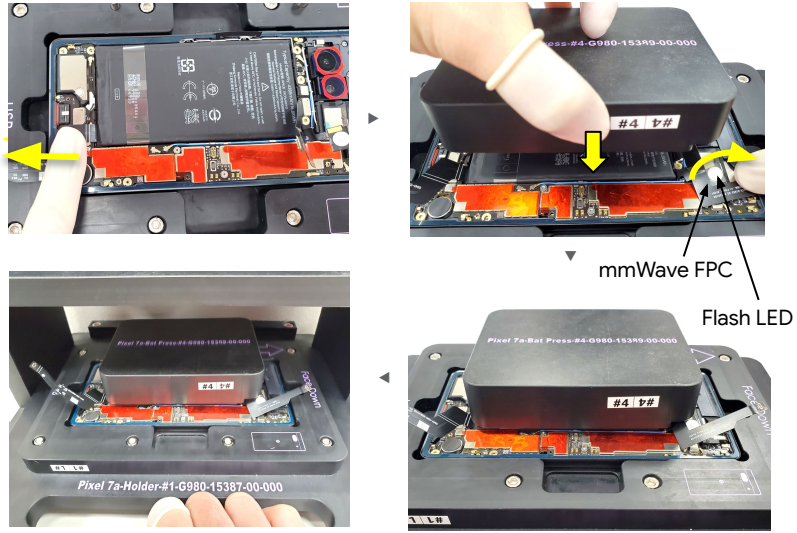
Make sure side FPC and slam FPC are NOT squashed by the battery.

Prepare to Press



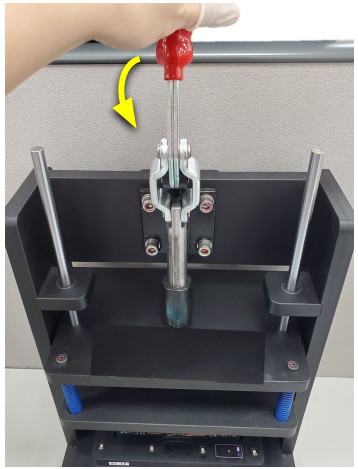
- Move the battery FPC backwards.
- Fold the flash LED backwards.
- Stack the Pixel 7a Assembly Battery Press on the top.
- Deliver the setup onto the Universal Press Fixture.

(mmWave) Prepare to Press



- Move the battery FPC backwards.
- Fold the flash LED and mmWave FPC backwards
- Stack the Pixel 7a Assembly Battery Press on the top.
- Deliver the setup onto the Universal Press Fixture.

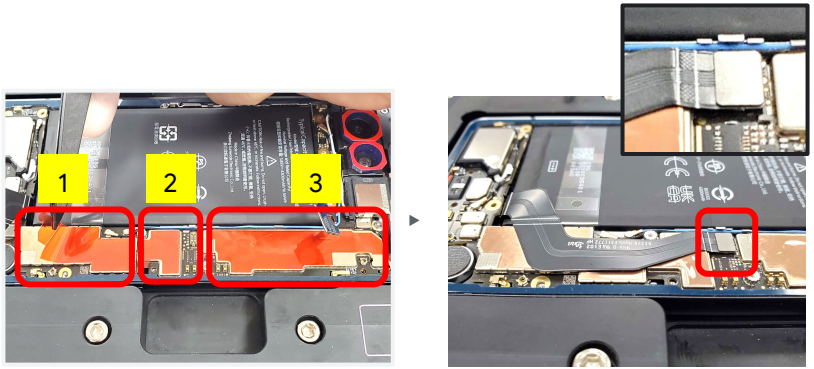
Press Battery in Fixture



- Lower the handle to begin pressing.
  Pressing time: 24s

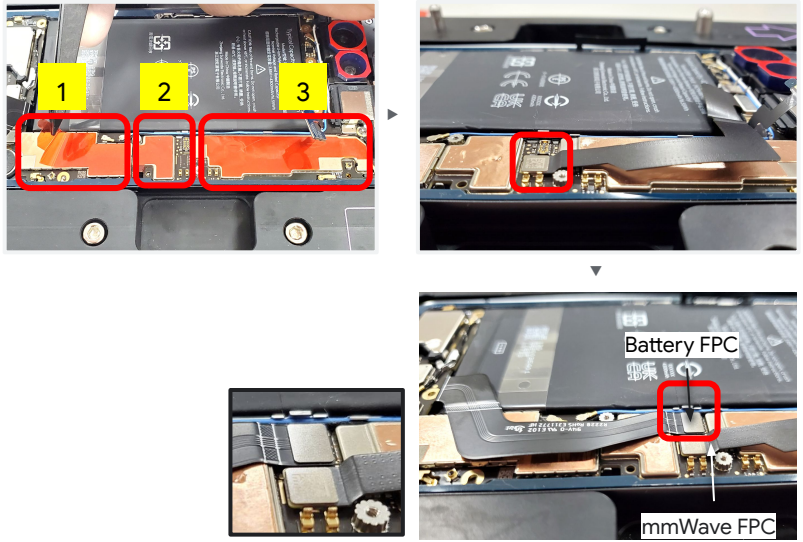
Pinch point. Keeps hands clear during operation.

Attach Battery Connector



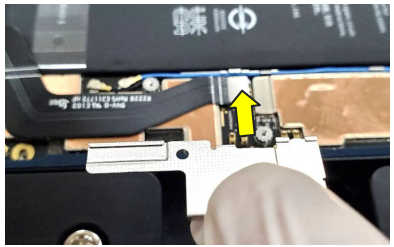
- Remove 3 pcs of liners from the shielding using plastic ESD tweezers.
- Connect Battery FPC to the logic board.

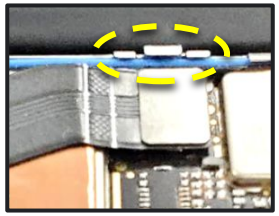
(mmWave) Attach mmWave FPC & Battery Connector



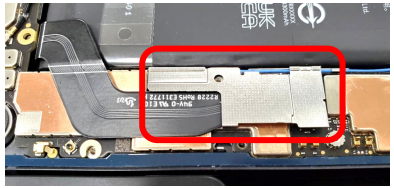
- Remove 3 pcs of liners from the shielding using plastic ESD tweezers.
- Connect mmWave FPC to the logic board.
- Connect Battery FPC to the logic board.

Install BTB Bracket

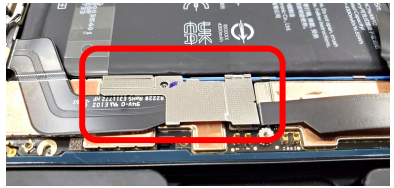




Sub6 View

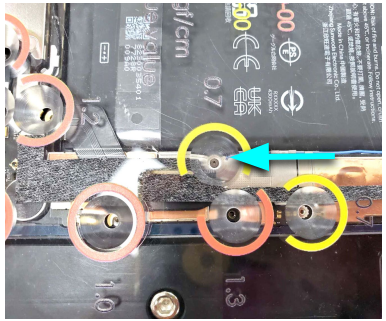


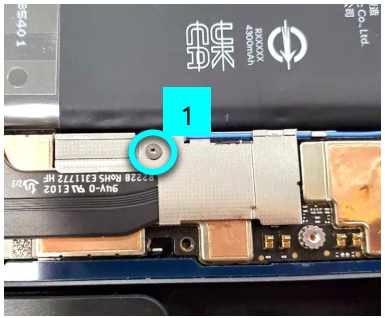
mmWave View



- Take 1 pcs of stamping plate, and install it onto logic board following designated direction.

Tighten Screws





○	G250-06554-00 (Torque force: 0.7kgf.cm +/-10%)	1

- Use the Pixel 7a Assembly Screw Cover to identify screw type and torque force.
  Tighten 1 screw on stamping plate with Torx Plus 1IP Screwdriver.

Be careful when using the screwdriver, do not accidentally damage the adjacent battery.
Incorrect use of the screw driver could cause injury to you or third persons or damage to the battery and/or the product.

Disassembly instructions

Enclosure

Enclosure replacement

If re-using the **Enclosure**, ensure that any thermal paste or adhesive residue is completely removed.

Before you begin

Remove the following items first:

- Back Cover
- Inner Housing
- Top Speaker
- Logic Board
- mmWave
  (only for VZW device)
- Bottom Speaker
- Mic.1 Bracket
- Vibrator
- Battery

Tools

Pixel 7a Assembly Enclosure
Holder & CG Press
ESD tweezers
Universal Disassembly ESD stick
IPA
Cotton swabs
Electric Glue Remover

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

Enclosure replacement

If re-using the **Enclosure**, ensure that any thermal grease or adhesive residue is completely removed.

Parts

G949-00365-00
G949-00366-00
G949-00367-00
mmWave Enclosure

G949-00368-00
G949-00369-00
G949-00370-00
G949-00371-00
Sub6 Enclosure

G806-06773-01
Battery right adhesive

G806-06774-01
Battery left adhesive

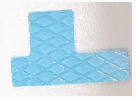
G806-06785-01
Front camera FPC adhesive

G806-06782-01
5G module adhesive

G806-06784-01
5G FPC adhesive

G806-07307-01
Display to enclosure
Adhesive

G806-08613-00
Thermal pad, enclosure

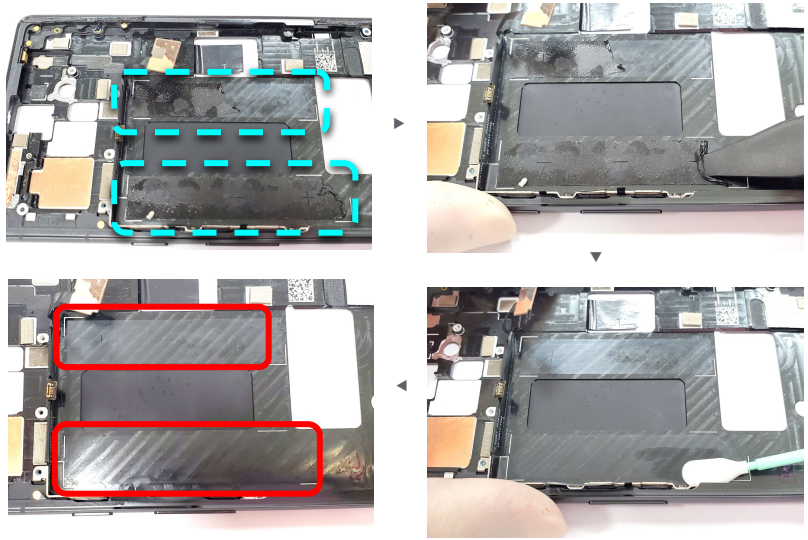


Caution!
Review all **safety precautions** before beginning work.

Assembly instructions

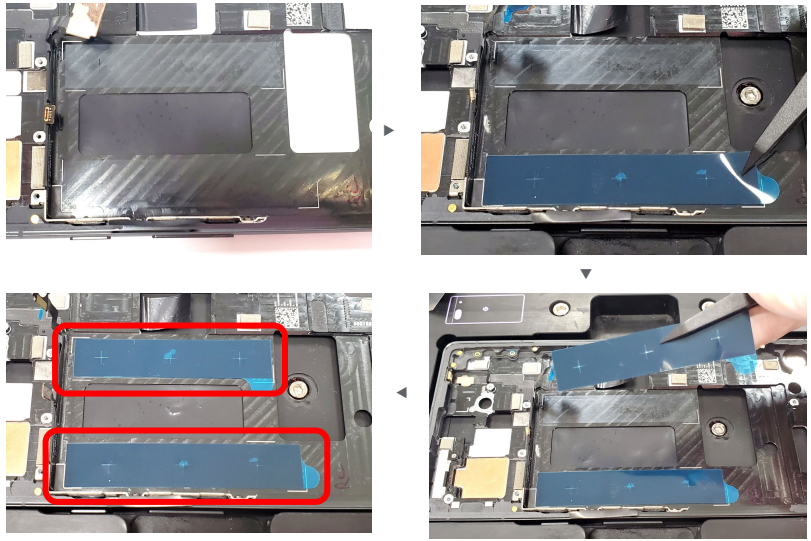
Enclosure

cleaning Battery Area
(for REUSED Enclosure)



- Use plastic Universal Disassembly ESD stick to remove the battery adhesive residues.
- Use cotton swabs with IPA to wipe the surface and remove any residue.

Paste Battery Adhesive
(for REUSED Enclosure)

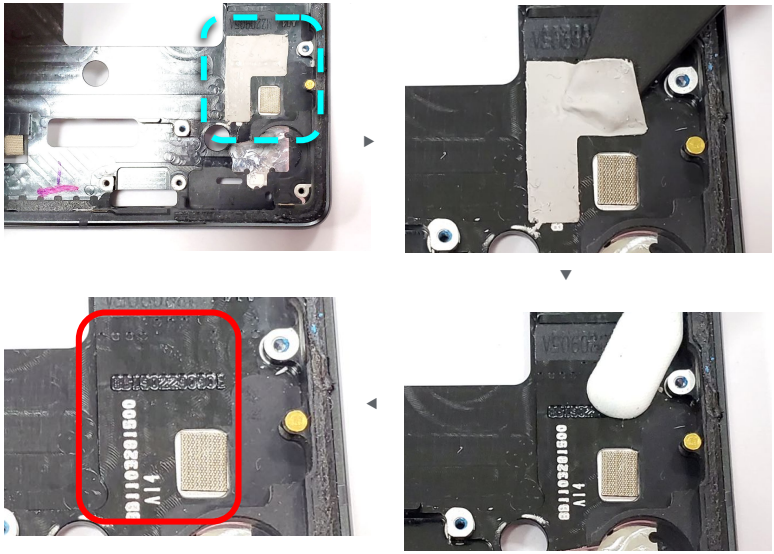


- Paste 2 new Battery adhesives on the enclosure.

Part: G806-06773-01 (Battery right adhesive)

Part: G806-06774-01 (Battery left adhesive)

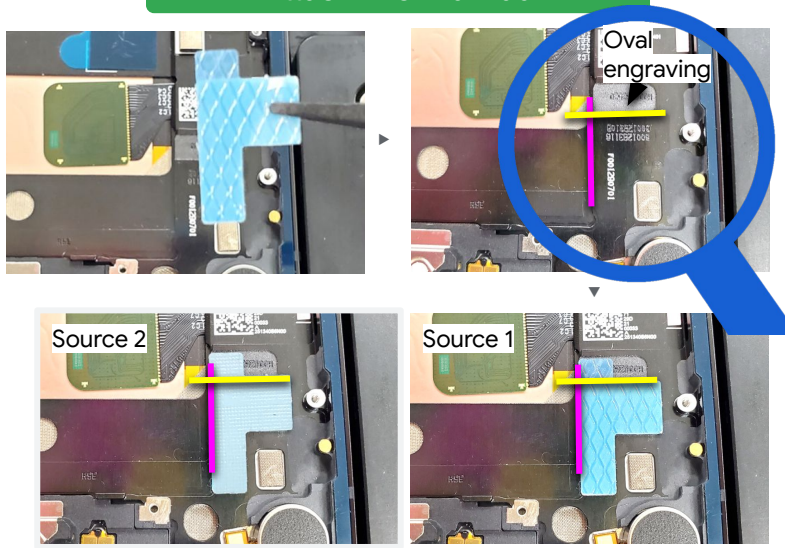
cleaning Thermal Pad Area
(for REUSED Enclosure)



- Use plastic Universal Disassembly ESD stick to clean the thermal pad.
- Use cotton swabs with IPA to wipe the surface and remove any residue.

** If thermal pad locates on logic board, please follow* ***Page 100 Link*** *clean process.*

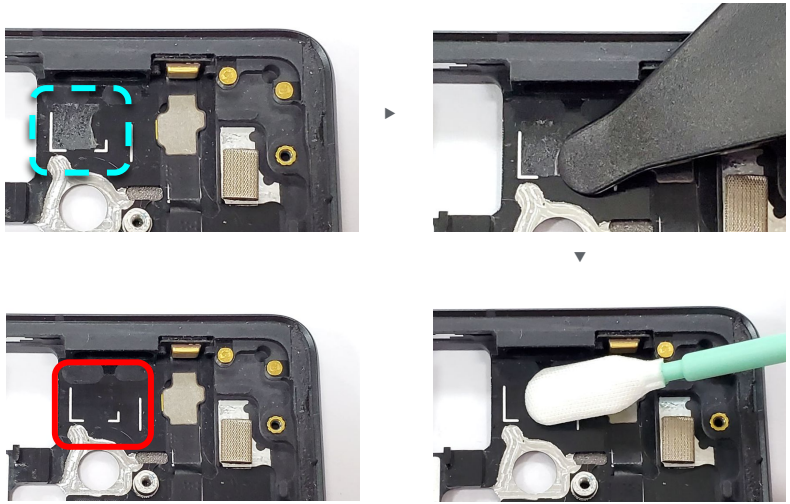
Attach Thermal Pad



- Use plastic ESD tweezers to transport thermal pad.
- Attach thermal pad in the designated location on the enclosure.
  - Align with the lower edge of oval engraving. (yellow line)
  - Align with the left edge of the enclosure rib. (purple line)

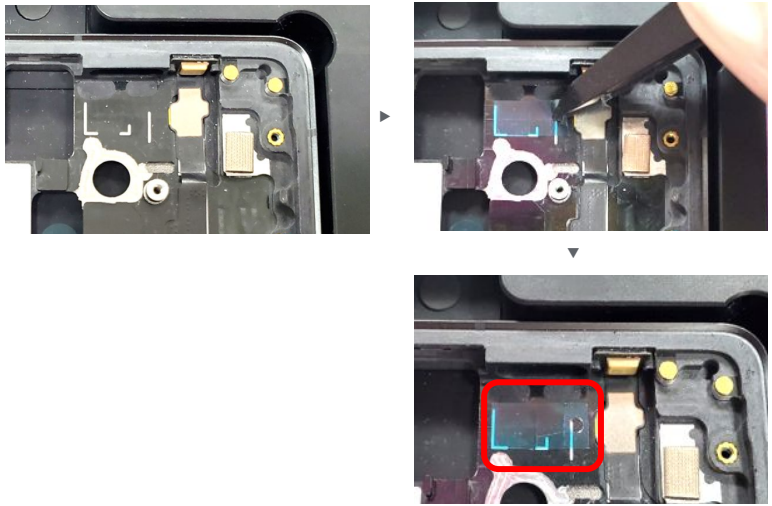
Part: G806-08613-00 (Thermal pad, enclosure)

cleaning FCAM FPC Area
(for REUSED Enclosure)



- Use plastic Universal Disassembly ESD stick to clean the front camera FPC adhesive residues.
- Use cotton swabs with IPA to wipe the surface and remove any residue.

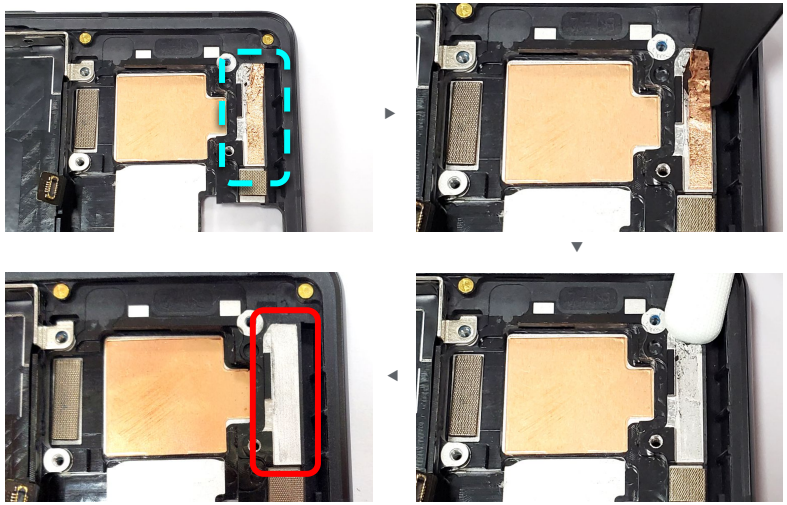
Paste FCAM FPC Adhesive
(for REUSED Enclosure)



- Paste a new front camera FPC adhesives on the enclosure.

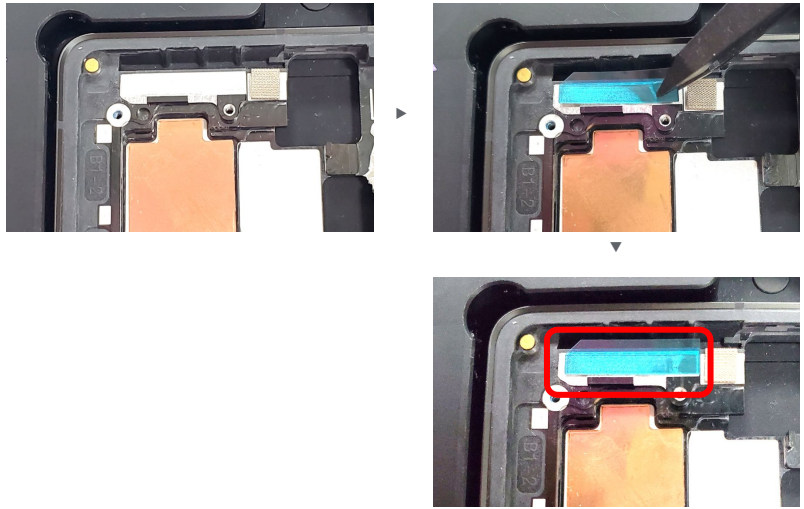
Part: G806-06785-01 (Front camera FPC adhesive)

(mmWave) cleaning 5G Module Area
(for REUSED Enclosure)



- Use plastic Universal Disassembly ESD stick to clean the 5G module adhesive residues.
- Use cotton swabs with IPA to wipe the surface and remove any residue.

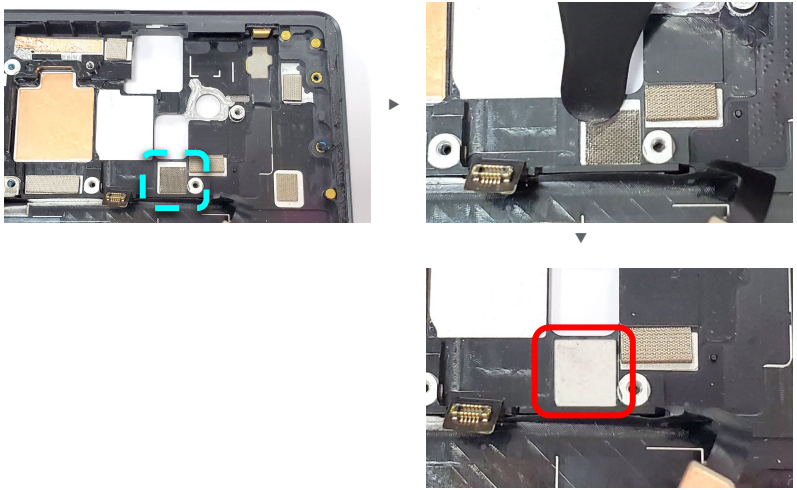
(mmWave) Paste 5G Module Adhesive
(for REUSED Enclosure)



- Paste a new 5G module adhesives on the enclosure.

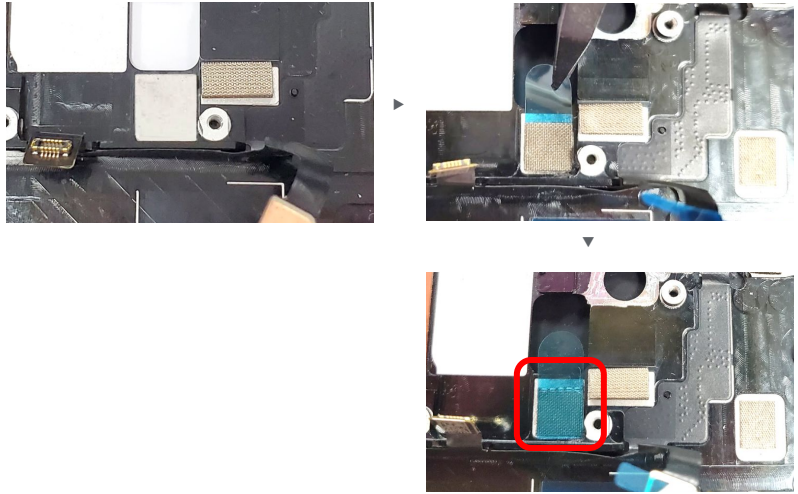
Part: G806-06782-01 (5G module adhesive)

(mmWave) cleaning 5G FPC Area
(for REUSED Enclosure)



- Use plastic Universal Disassembly ESD stick to clean the 5G FPC adhesive residues.

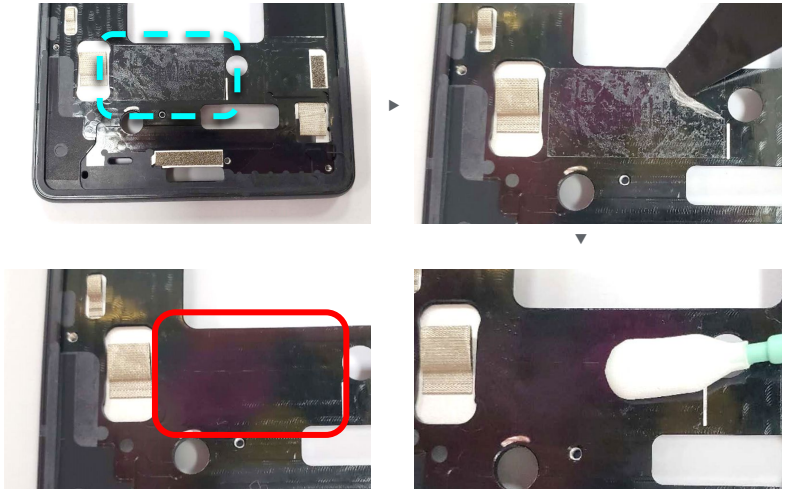
(mmWave) Paste 5G FPC Adhesive
(for REUSED Enclosure)



- Paste a new 5G FPC adhesives on the enclosure.

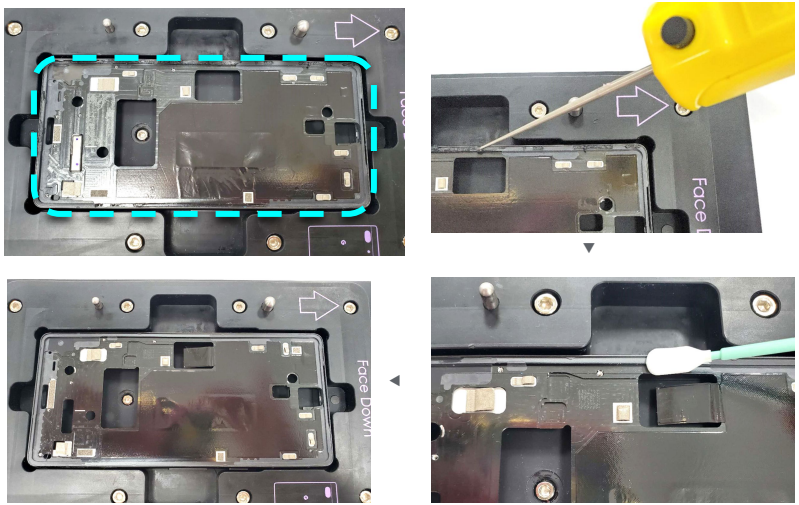
Part: G806-06784-01 (5G FPC adhesive)

cleaning Enclosure
(for REUSED Enclosure)



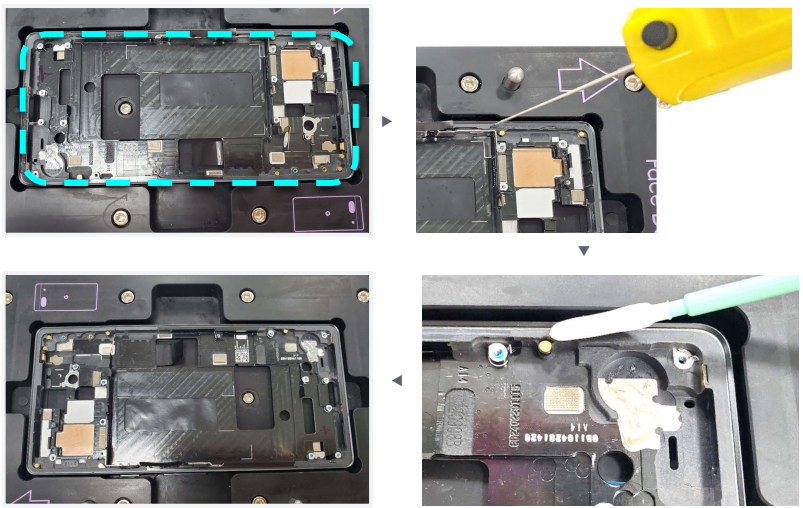
- Use plastic Universal Disassembly ESD stick to clean the enclosure adhesive residues.
- Use cotton swabs with IPA to wipe the surface and remove any residue.

cleaning Enclosure
(for REUSED Enclosure)



- Clean the outer edge of the enclosure using Electric Glue Remover in order to clean up the adhesive residue .
- Use cotton swabs with IPA to wipe the surface and remove any residue.

cleaning Enclosure
(for REUSED Enclosure)



- Clean the outer edge of the enclosure using Electric Glue Remover in order to clean up the adhesive residue .
- Use cotton swabs with IPA to wipe the surface and remove any residue.

Disassembly instructions

Display

Display replacement

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

Before you begin

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

Tools

Ionizing air fan
Pixel 7a Assembly Enclosure Holder & CG Press
Pixel 7a Assembly Screw Cover
Torx Plus 3IP screwdriver
ESD tweezers
Universal Disassembly ESD stick
Universal fish line tool
IPA
Cotton swabs

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

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

Parts

- G949-00364-00 Display Module with PSA 
- G806-07360-01 Conductive Fabric, Display, Onepiece 
- G806-07307-01 Service PSA on enclosure 
- G250-06555-00 1 x screw 
- G730-06398-01 Display stamping BTB 
- G852-02360-01 Front camera cap 
- G806-07329-01 Protective film, Front camera holder 
- G806-07293-01 Adhesive (small) Enclosure to Display 

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.

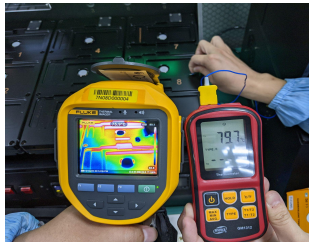
Turn off the device

- Make sure the device is turned off before disassembling

Set up Ionizing Air Fan

- Turn on the “Ionizing air fan” at all times to help prevent ESD issues.

Soften the Adhesives



- Program the heating plate at **176°F/ 80°C.** Set the device on there, display facing down, for **15 min / 900 seconds** in order to soften the glue.

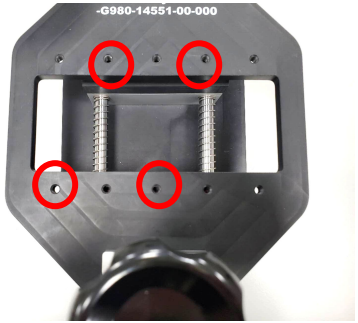
Caution: Heating plate is a Hot Surface. Use caution as it could cause burns.

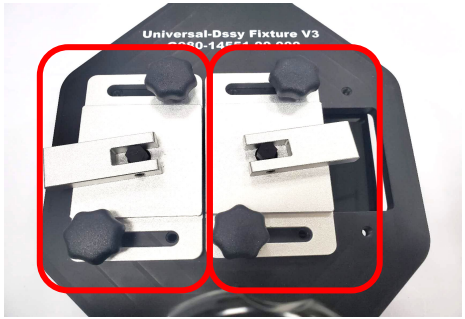
Cover the Enclosure

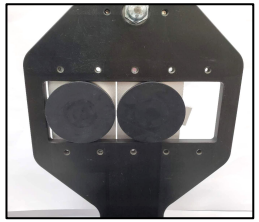
- Cover the back side of the device with universal protective film.

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.

Set up the Fixture

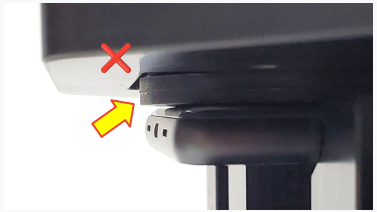






- Use the left 4 sockets to Install 2 pcs of suction cup modules. Do not use the one on the right hand side.
- Secure the knobs using the designated socket shown in the photo below.
- Make sure the suction cups are aligned with the display underneath.

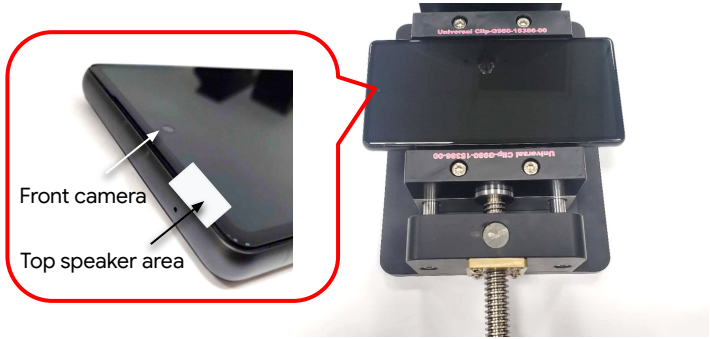
Incorrect:
Suction cup beyond the back-cover

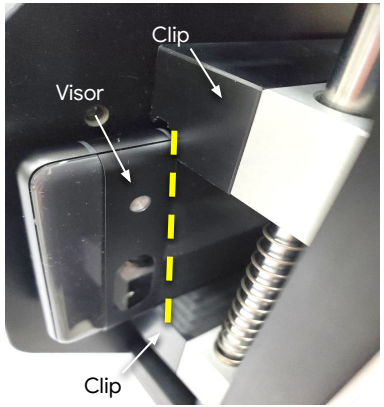


Correct

Tip: Clean the suction cups and display surface before using the fixture. Dust can prevent the suction cups from fully sealing.

Set up the Fixture



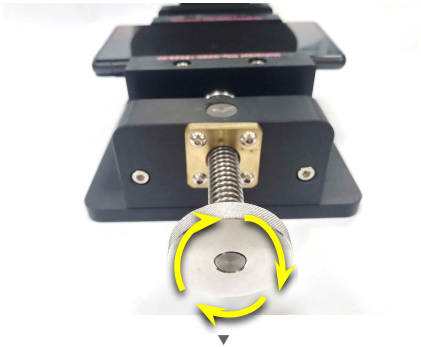


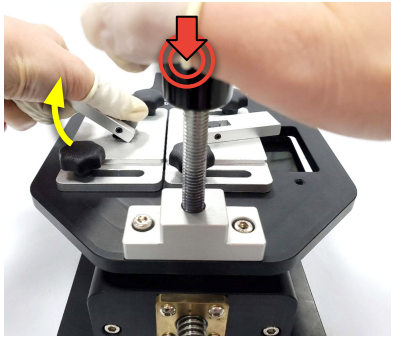
- Place the device into the universal disassy. fixture, display facing upward.
    - Adjust the position of the device so that the front camera faces to the left side.
    - And let the lower edge of the visor align with the clip edges on the bottom of the jig.

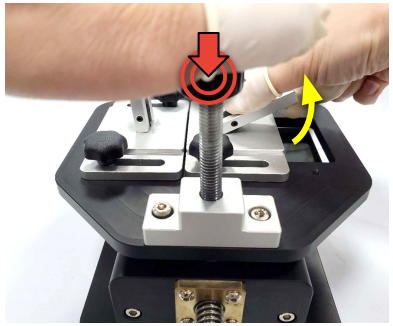
Incorrect: Wrong phone placement

Warning about Phone Placement in fixture: *Do not secure the Rear Camera Bump-out into the clamps. Only use the side clamps to secure the lower back cover area.*

Set up the Fixture



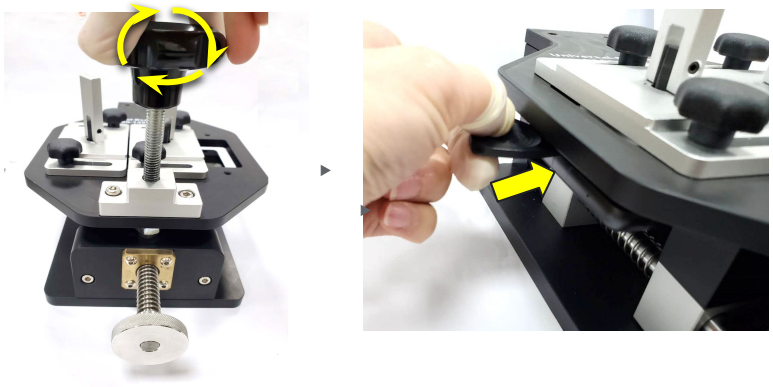




- Turn the metal knob until the device is fixed.
- Press down firmly on the handle and lift the 2 toggles until they are facing upward to secure the suction cups to the display.

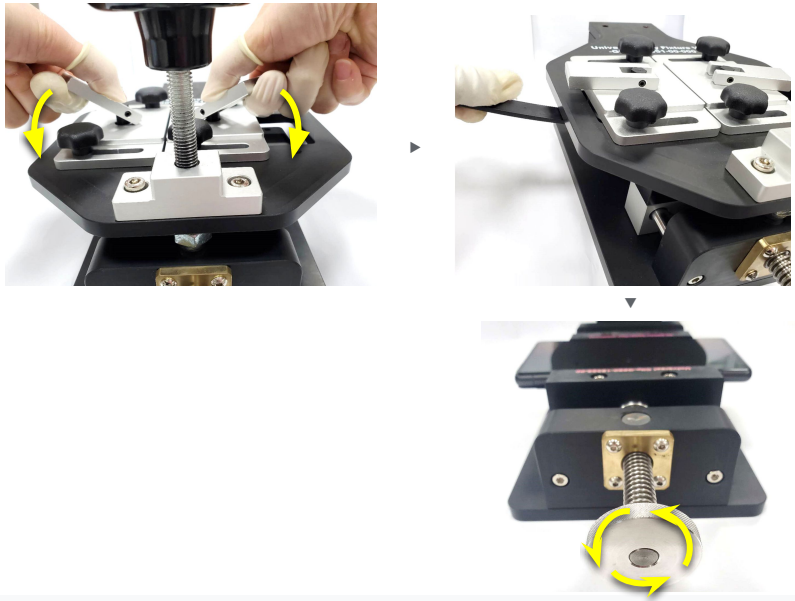
Clean the suction cup and display surface before using the fixture.

Use the Fixture



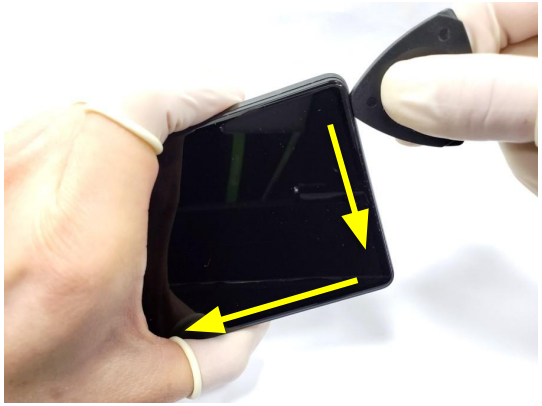
- **SLOWLY** turn the knob until you see an opening between display and enclosure. (Best practice to turn 0.5-1 revolution and then wait 1 second, before repeating the process)
- Once the display has been detached from enclosure, insert the Universal Disassembly ESD pick at the top side of the device. And cut the adhesive immediately to prevent display from re-sealing.

Use the Fixture



- Release the handle at the top.
- Use plastic Universal Disassembly ESD stick to release the suction cup underneath.
- Open the lid and turn the knob to remove the device from the fixture.

Separate the Display

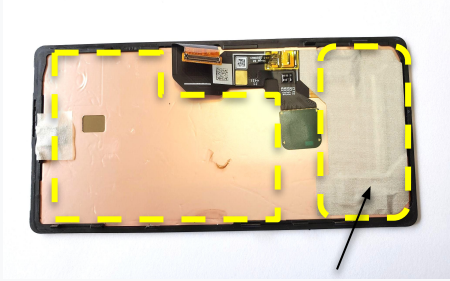


- Insert the Universal Disassembly ESD pick into the opening. Slide it around the entire device slowly and carefully to continue display separation.

Be careful not to push the Universal Disassembly ESD stick beyond the adhesive surface to avoid damaging the screen, battery, or other components.

- Do not insert the Universal Disassembly ESD pick beyond the yellow illustrated line. Doing so may put the FPC, copper foil or front camera at risk.

If display conductive fabric is damaged during removal, replace with a new conductive fabric.



Display conductive fabric

Flip the Display

- Lift up the display using Universal Adsorption-Bulb.
  Rest it on the side to support display staying in place.

Do not attempt to separate display by force. It is still attached to the enclosure via a very fragile ribbon.

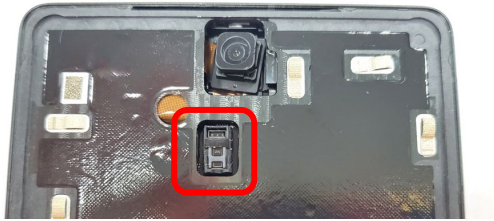
Cover the Protective Cap

- Cover the front camera with protective cap.

Part: G852-02360-01 (Front camera cap)

1. Protective cap is a reusable part. If the adhesive has weakened or if there is dust inside the cap, please change to a new one.
2. Do not damage the camera lens.

Inspect P-sensor Rubber



Incorrect: Missing

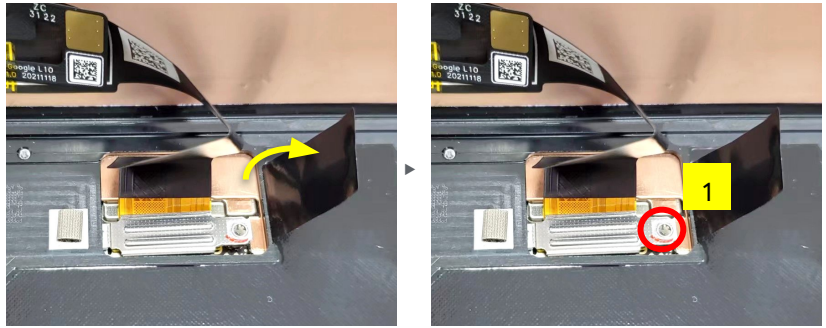
Incorrect: Skewed

Incorrect: Skewed

Incorrect: Skewed

Make sure the p-sensor rubber is not damaged, missing, skewed and is in the correct position.

Remove Screw



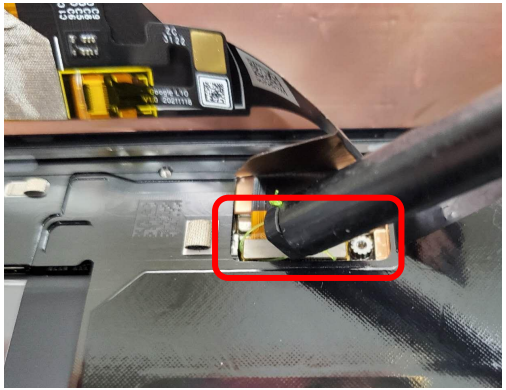
- Lift the graphite sheet.
- Use Torx Plus 3IP Screwdriver to remove 1 screw that secure display metal plate to the logic board.

Be careful when using the screwdriver, do not accidentally damage the adjacent battery.
Incorrect use of the screw driver could cause injury to you or third persons or damage to the battery and/or the product.

Remove Display Metal Plate

- Use plastic ESD tweezers to remove the BTB metal plate from the logic board.

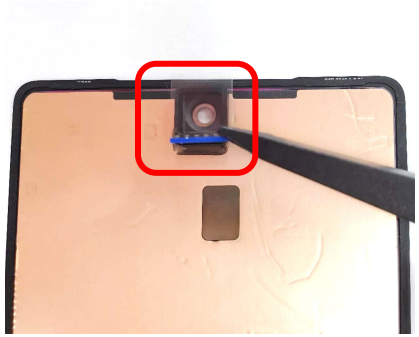
Disconnect Display BTB



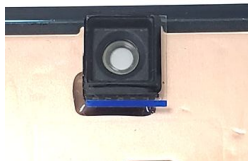
After

- Use the universal fish line tool to disconnect the display connector from the logic board.
- Remove the display.

Cover Front Camera Socket



After



- Use plastic ESD tweezers to take a protective film, and cover the front camera socket completely.

Part: G806-07329-01 (Protective film, Fcam holder)

1. Make sure the camera socket is clear from dust and debris before covering it with protective film.
2. Do not reuse protective film.

Protect Display

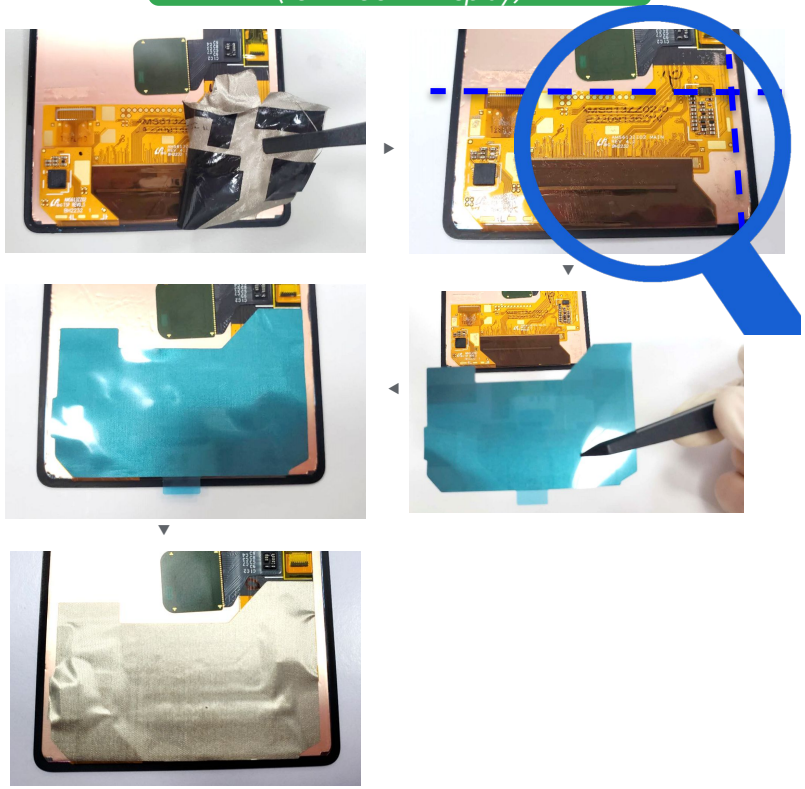
- Protect the front side of the display using universal protective film.

Do not wrap to the back side of the display. It may damage the copper foil, conductive fabric.

Assembly instructions

Display

cleaning Display
(for REUSED Display)

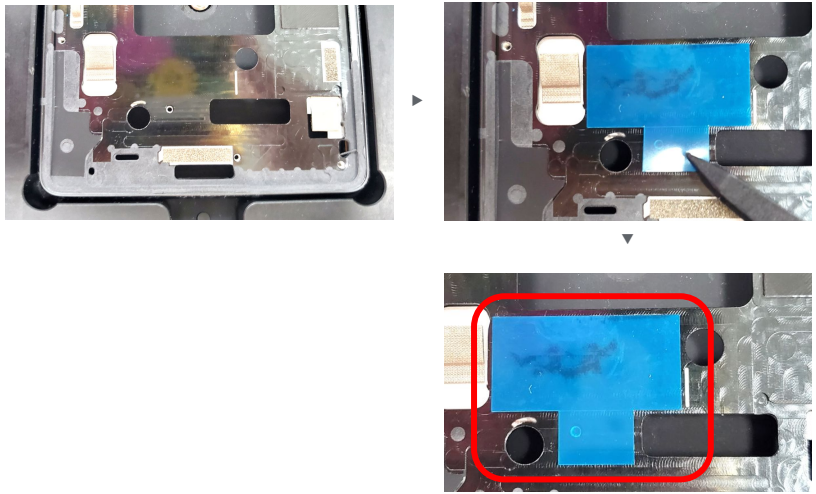


The conductive fabric is damaged during the removal of the display. If for any reason the screen needs to be reused, the following cleaning steps are needed:

- Use plastic ESD tweezers to remove damaged display conductive fabric.
  Caution: Take care to NOT damage any electronic parts under the conductive fabric
- Align and adhere a new conductive fabric onto the display (see Blue line)
- Smooth the conductive fabric after removing liner.

Incorrect: Crooked

Adhere Enclosure Adhesive
(for REUSED Enclosure)



- Adhere a new **Display to Enclosure Adhesive** onto the enclosure.

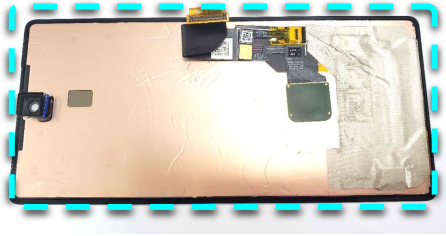
Part: G806-07293-01 (Display to enclosure adhesive)

Apply AP111 on Enclosure
(for REUSED Display)

- Apply **AP111** around the entire enclosure **twice** following the order shown above.

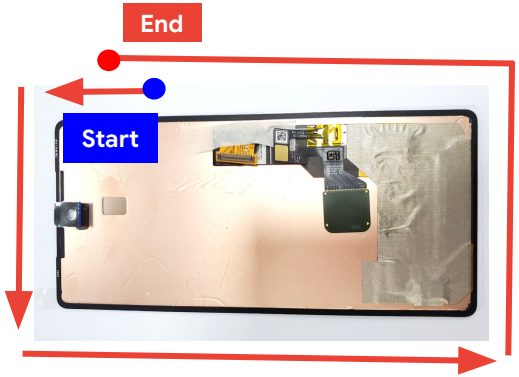
1. Uncoated, overflowing, or excessive primer is not acceptable.
2. Move in one direction. Do not apply AP111 back and forth.

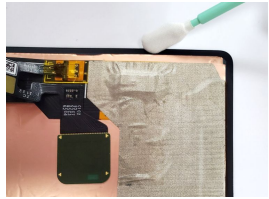
cleaning Display
(for REUSED Display)



- Clean the outer edge of the display (may use Electric Glue Remover) to remove the adhesive.
- Use cotton swabs with IPA to wipe the surface and remove any residue.

Apply AP111 on Display
(for REUSED Display)

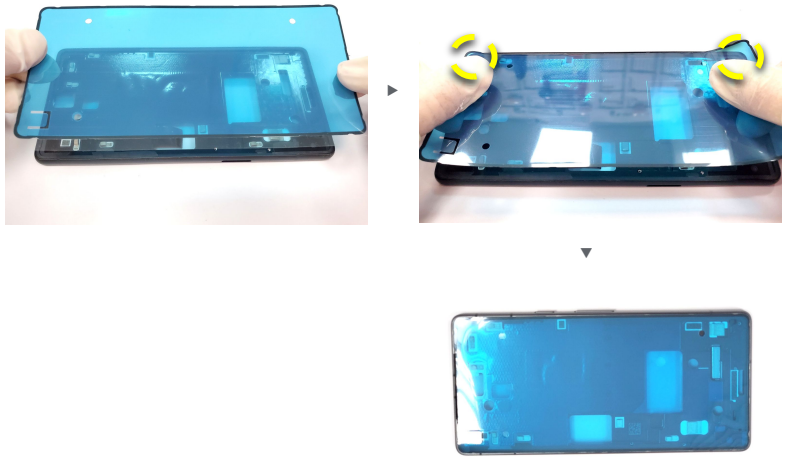




- Apply **AP111** around the entire display **twice** following the designated order shown above.

1. Uncoated, overflowing, or excessive primer is not acceptable.
2. Move in one direction. Do not apply AP111 back and forth.

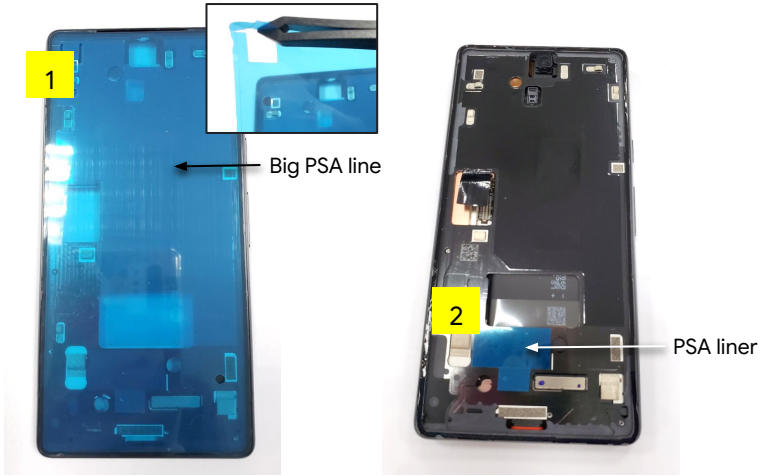
Paste Display PSA to Enclosure
(for REUSED Display)



- Hold the enclosure PSA above enclosure and align with the upper left and upper right corners first.
- Once alignment is confirmed, slowly lower the enclosure PSA onto the enclosure.

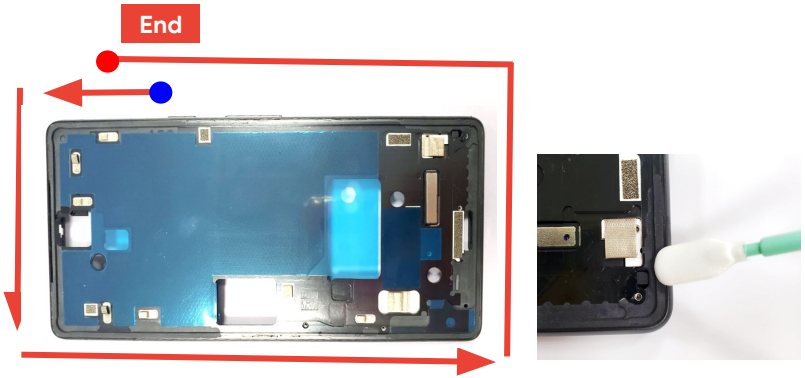
Part: G806-07307-01 (Service PSA on enclosure)

Remove liners
(for REUSED Display)



- Slowly remove 2 liners from enclosure with plastic ESD tweezers.

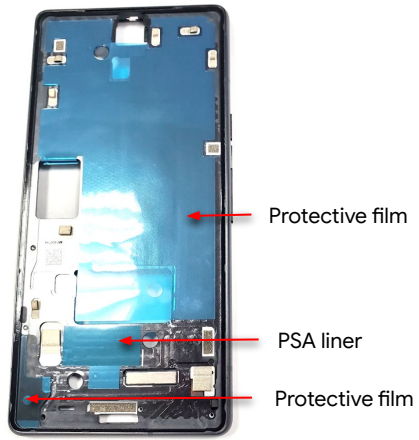
Apply AP111 on Enclosure



- Apply **AP111** around the entire enclosure **twice** following the designated order shown above.

1. Uncoated, overflowing, or excessive primer are not acceptable.
2. Move in one direction. Do not apply AP111 back and forth.

Remove Liners & Protective films

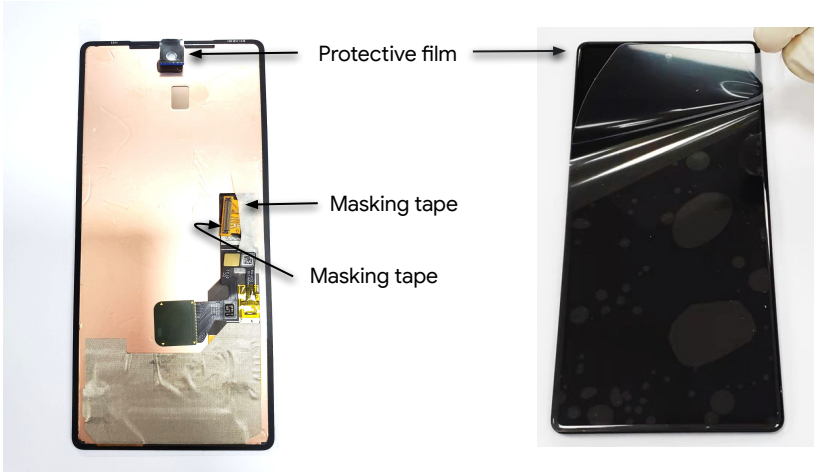


- Slowly remove all the liners and protective film from enclosure with plastic ESD tweezers.

Remove Protective films
(for REUSED Display)

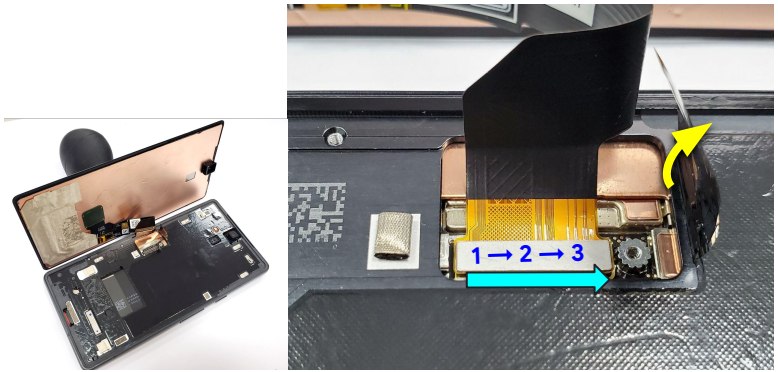
- Slowly remove all the protective films from display with plastic ESD tweezers.

Remove Protective film & Masking Tape



- Slowly remove all the masking tapes and protective films from display with plastic ESD tweezers.

Connect Display BTB

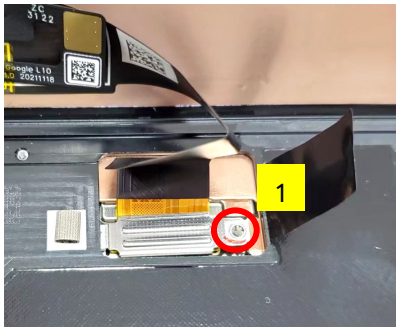


- Lift the graphite sheet.
- Attach the display BTB connector to the logic board, applying even pressure across the connector.
- Pressing 3 points in sequence and slide **twice** to ensure it is fully engaged.

Install Display Stamping

- Insert display stamping plate following designated direction.

Tighten Screws

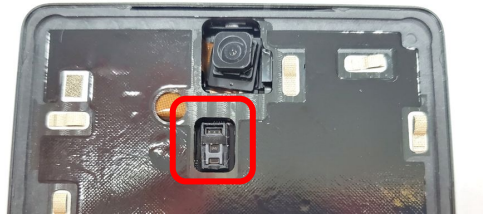


O	G250-06555-00 (Torque force: 1.0kgf.cm +/-10%)	1

- Tighten 1 screw on display BTB with Torx Plus 3IP Screwdriver.

Be careful when using the screwdriver, do not accidentally damage the adjacent battery.
Incorrect use of the screw driver could cause injury to you or third persons or damage to the battery and/or the product.

Inspect P-sensor Rubber



Incorrect: Missing

Incorrect: Skewed

Incorrect: Skewed

Incorrect: Skewed

Make sure the p-sensor rubber is not damaged, missing, skewed and is in the correct position.

Display Touch Calibration

- Remove the Universal Adsorption-Bulb and ensure the display protective film has been removed – **nothing can be touching the display during this process.**
- Power on to check if the device is working and allow display to calibrate during bootup.

1. Do not touch the display until it turns to shipping mode since display self-calibration is in progress.
2. **Display Touch Calibration Details**

Install UDFPS Calibration

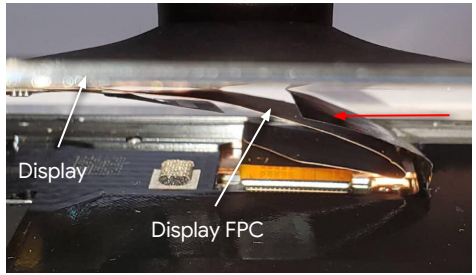
- Reboot device into the Fastboot mode
- Connect the device with USB-C cable to the computer, and visit pixelrepair.withgoogle.com to download the UDFPS calibration software

This step is needed if the display or the mainboard has been replaced

Remove Liner

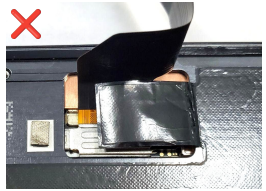
- Slowly remove Display Module PSA liner from display with plastic ESD tweezers.

Organize Graphite Sheet



Ensure the Graphite sheet is on top of the display FPC

Incorrect:
wrong position

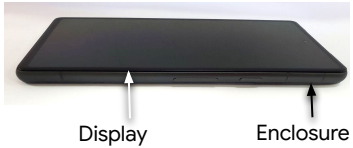


- Organize the graphite sheet to the designated location on the display FPC.

Display & Enclosure Assembly

- Use the Universal Adsorption-Bulb to transport the display module.
- Hold the display above enclosure and align on all four corners.
- Once alignment is confirmed, slowly lower the display onto the enclosure.

Display & Enclosure Assembly



- Apply pressure to the display evenly using your hands.

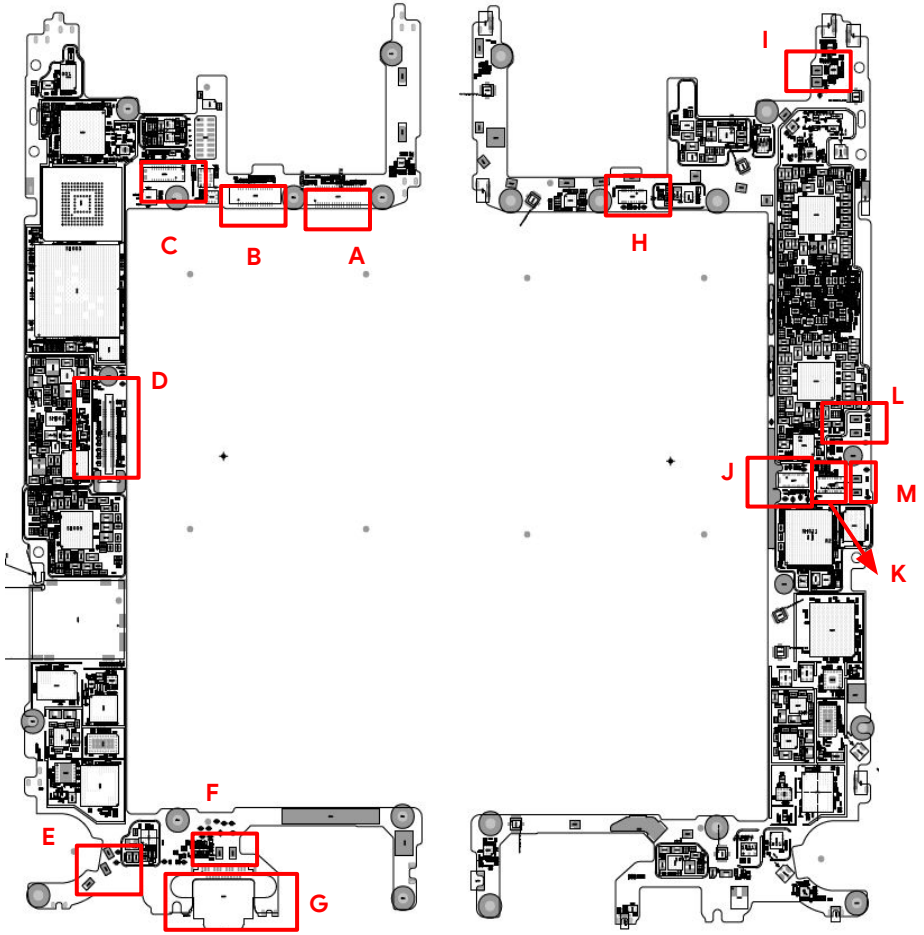
****** If this the end of the repair (no other components need replacement) then proceed to the screen press steps. ******

Do not touch the power key.

Troubleshooting

Connectors Location

Location & Description	
A	WIDE REAR CAMERA(Main) connector
B	UW REAR CAMERA connector
C	FRONT CAMERA connector SLAM CONN(SIdeKey &MIC2& Flash) connector
D	LCM connector
E	Vibrator spring connector
F	BOTTOM SPEAKER spring connector
G	USB connector
H	SLAM CONN(SIdeKey &MIC2& Flash) connector
I	TOP SPEAKER spring connector
J	BATTERY connector
K	MMW connector
L	NFC spring connector
M	WLC spring connector



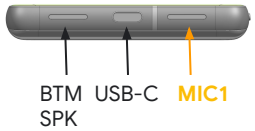
Power

Symptom	Potential Root Cause	Steps	
 T001: Does not power on T002: Powers off suddenly 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. If not, go to the next step.	
	Connectivity Problem	• Disassembly the **Enclosure**, reconnect the **battery**, **USB** and **Display Module** connector to confirm if it can be charged or power on. If not, go to the next step.	
	Module Problem	• If all the failure symptoms are not present. Use a good **Logic board** and **Battery** to cross check with corresponding failure ones.	**Disassembly** • Logic board • Battery

Wireless Charge

Symptom	Potential Root Cause	Steps	
 T003: Wireless charging failure	Connectivity issue	• Check the contact condition between WC and Pin contact pads. If there is no mark on the pin contact pads, it shows poor connectivity. • If marks are observed, clean the contact pad and test again.	
		• Check if connectivity between **WLC & NFC ANT pad** and **Logic board** are normal. • If they are not fully buckled, re-assemble and then retest.	Connectors Location
	Component issue	• Disassemble the main board and find that the (Connectors Location (L & M) pad has fallen off.	Logic board

Mic1

Symptom	Potential Root Cause	Steps	
 T010: Mic 1 - no sound T011: Mic 1 - low sound T012: Mic 1 - distorted sound	Mesh not clean	• Take a microscope to check the **mesh** is damaged, blocked, shifted, another foreign substance is on it, or the liner is still attached. If yes, remove the foreign change a new **Mic1 bracket**. If not, go to the next step.	
	SW Problem	• Reflash to latest version of the shipping ROM.	
	Module Problem	• Use a good **Logic board** to cross check with failed hardware.	**Disassembly** • Logic board • Mic1 bracket

Mic2

<table>
<tr><th>Symptom</th><th>Potential Root Cause</th><th>Steps</th><th></th></tr>
<tr><td rowspan="2"> 
T013: Mic 2 - no sound
T014: Mic 2 - low sound
T015: Mic 2 - distorted sound
  </td><td>Connectivity Problem</td><td>• Check if connectivity between SLAM FPC and Logic board are normal.
• If they are not fully attached, re-assemble and then retest.
If fail, go to the next step; if pass, repair process is done.</td><td>Note: SLAM FPC = Mic2+Flashlight+Key functions</td></tr>
<tr><td>Module Problem</td><td>• Use a good Enclosure and Logic board to cross check with original ones.</td><td>Disassembly
• Logic board
• Enclosure</td></tr>
</table>

Top Speaker

Symptom	Potential Root Cause	Steps	
 T019: Top Speaker no sound T020: Top Speaker low sound T021: Top Speaker distorted sound	Mesh not clean	• Inspect **Top Speaker mesh** and a soft **ESD brush** to remove any debris. • Test audio.	**Top Speaker mesh** located between top Display Module / Mid-Frame.
	Internal debris	• If sound quality is still poor, inspect the mesh and speaker with a **microscope**. • Disassemble the device and inspect the speaker. Use an ionizing air fan to remove any debris and test audio.	
	Connectivity issue	• Check if connectivity between **Top SPK Pad** and **Logic board** are normal. • If they are not fully buckled, re-assemble and then retest.	Connectors Location
	Component issue	• If sound quality is still poor, use a good **Top Speaker** and **Logic board** to cross check with original ones • Replace the defective component.	**Disassembly** • Logic board • Top Speaker

Bottom Speaker

Symptom	Potential Root Cause	Steps	
 T023: Bottom Speaker no sound T024: Bottom Speaker low sound T025: Bottom Speaker distorted sound	Connectivity Problem	• Check if **bottom speaker** assembly shift; or disassembly **bottom speaker** and check if membrane damaged, or if there is debris. • If yes, then clean or change to a new **bottom speaker** and **Logic board**. 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 failed hardware.	**Disassembly** • Logic board • Bottom Speaker

Vibrator

Symptom	Potential Root Cause	Steps	
 T026: Vibrator failure	Module Problem	• If all the failure symptoms are not present. Use a good **Logic board** and **Vibrator** to cross check with corresponding failure ones.	**Disassembly** • Logic board • Vibrator

Display

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

Touch panel

Symptom	Potential Root Cause	Steps	
 T044: Multi-touch poor response T045: Multi-touch no response T046: Multi-touch erratic response	SW Problem	• Make sure SW already updated to latest version. • Ensure Touch Calibration process was followed 100% to the instructions.	
	Connectivity Problem	• Check the function by triage test. • If fail, disassemble the device and check the assembly condition of **display BTB** connector. If connectivity is poor, re-assemble and retest.	Connectors Location
	Module Problem	• If all the failure symptoms are not present. Use a good **Logic board** and **Display Module** to cross check with corresponding failure ones.	**Disassembly** • Logic board • Display

RF (BT, WiFi, GPS, NFC)

Symptom	Potential Root Cause	Steps	
 T047: RF failure T048: Wi-Fi connectivity issues T049: Bluetooth connectivity T050: GPS failure T051: NFC connectivity Issues	Connectivity Problem	• Check if the **screws are loose, springs** are damaged or disconnected. If not, go to the next step.	
	Module Problem	• Use a good **Logic board**, **Enclosure** to cross check with corresponding failure ones.	**Disassembly** • Logic board • Enclosure

Battery

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

Sensor

Symptom	Potential Root Cause	Steps	
 T059: Proximity sensor failure T060: Ambient light sensor failure T061: Accelerometer sensor failure T062: Gyroscope sensor failure	SW Problem	• Make sure SW already updated to latest version.	
	Assembly issue	• Check P-sensor rubber to ensure it is in the correct position.	
	Connectivity Problem	• Check the function by triage test. (Make sure there is no foreign substance covering the **P-sensor** area)	
	Module Problem	• Disassemble and check the appearance of Proximity sensor isn't abnormal. • Use a good **P-sensor rubber** to **Logic board** to cross check with corresponding failure ones. • Replace the defective components.	**Disassembly** • Logic board • Display (P-sensor rubber)

UDFPS

Symptom	Potential Root Cause	Steps	
 T064: Fingerprint sensor failure	Damage	• Inspect display for damage and replace if necessary.	
	SW Problem	• Make sure SW is updated to latest version. • Make sure UDFPS calibration process was followed 100% per instructions.	
	Connectivity issue	• Check if connectivity between **Display connector** and **Logic board** is normal. • If they are not fully attached, re-assemble and then retest.	Connectors Location
	Component issue	• Use a good **Display** and **Logic board** to cross check with original ones. • Replace the defective component.	**Disassembly** • Logic board • Display

Camera

Symptom	Potential Root Cause	Steps	
 T070: Camera crashes T071: Camera no preview T072: Camera AR failure T073: Camera Rear Photo quality T074: Camera Rear Video quality T075: Camera Front Photo quality T076: Camera Front Video quality T077: Camera flash not working T078: Cannot switch between cameras T079: Camera damage	Cosmetic Problem	• Inspect the camera lens area for damage. • Check the function by triage test. • Disassemble the device to check if camera connector is seated properly. Power on unit and check camera fail symptom again.	
	Connectivity Problem	• Check **camera BTB** and **Logic board** side to identify if assy is deformed or flex crack and reboot device again to check if fail symptom exists.	Connectors Location
	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** • Logic board • Rear Camera • Front Camera

USB

Symptom	Potential Root Cause	Steps	
 T085: USB-C failure	Connectivity issue	• Inspect **USB port** if any dust inside • Check device if can detect the USB adaptor • Reconnect the battery and then boot up without charging via USB power cable.	Connectors Location
	Component issue	• Use a good logic board to cross check with original one. • Replace **Logic board** if needed.	**Disassembly** • Logic board

mmWave

Symptom	Potential Root Cause	Steps	
 T105: 5G_low_med_band_failure T106: 5G_high_band_failure	Connectivity issue	• Inspect **Mid-frame** and check **mmWave flex** is correctly seated. • Check if connectivity between **mmWave connector** and **Logic board** is normal. • If they are not fully attached, re-assemble and then retest.	Connectors Location
	Component issue	• Connect a new **mmWave** to test. • If issue is resolved, proceed with **mmWave** replacement and assemble device.	**Disassembly** • mmWave
		• If camera issue remains, replace **Logic board**.	**Disassembly** • Logic board

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** The sudden flow of electricity through two electrically charged objects.
IPA	**Isopropyl Alcohol (99.8%)** Used for cleaning components and enclosures. Comes as pads or a solution.
EHS	**Environmental Health and Safety** Requirements for keeping technicians and customers safe.
LCD	**Liquid Crystal Display** A type of flat panel display which uses liquid crystals to show images.
mmWave	**Millimeter Wave** The radio waves used to build a 5G network, providing fast, reliable mobile data.
LDI	**Liquid Damage Indicator** An indicator that turns from white into another color, typically red, after contact with water. **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. **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. **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. **Also known as:** mic
Enclosure	The housing that contains the buttons and provides protection for the logic board and other components. **Also known as:** Housing (HSG) · rear cover · back cover (BC) · back glass (BG)

Terminology and definitions

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