



# Motorola edge 2024

## Level 2 – Service and Repair Manual





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## Revision History

Revision	Date	Notes
1	05/17/2024	Initial Release.





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## Chapter 1. Safety Information

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### Important

This manual includes technical instructions for replacing genuine parts in this product.

Read the entire manual before your repair.

Always use the latest version of this product service manual for repair.

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### Cautions and Warnings

Failure to follow the repair instructions or not to use genuine parts or proper tools may damage the device or compromise the device's functionality or water resistance.

The phone components may be damaged by electrostatic discharge (ESD). Always use an ESD mat and ground strap when working with internal components.

Turn off the device before repair.

Loose screws, extra screws, or small parts inside the device can cause safety issue. Set aside all parts and screws removed during repair.





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## Chapter 2. Introduction

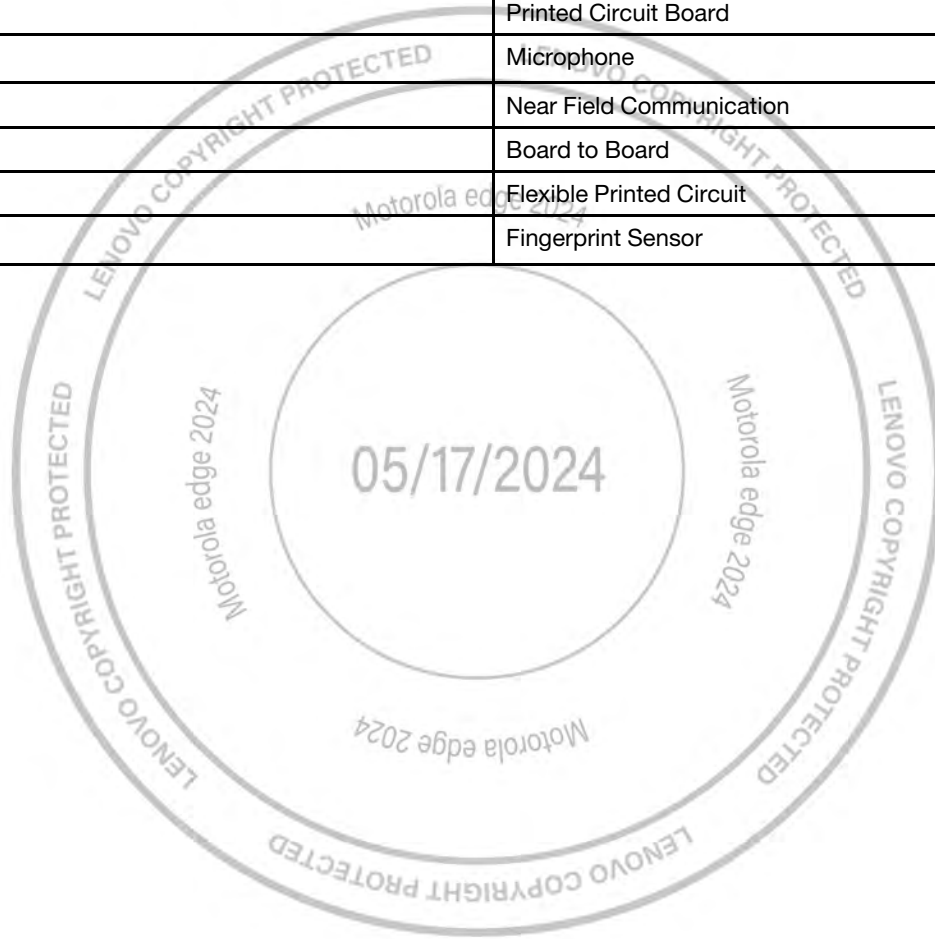
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### Acronyms and Abbreviations

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Table 1. Acronyms and Abbreviations

Abbreviation	Meaning
PU	Polyurethane
PMMA	Polymethylmethacrylate
PCB	Printed Circuit Board
MIC	Microphone
NFC	Near Field Communication
BTB	Board to Board
FPC	Flexible Printed Circuit
FPS	Fingerprint Sensor



## External Views

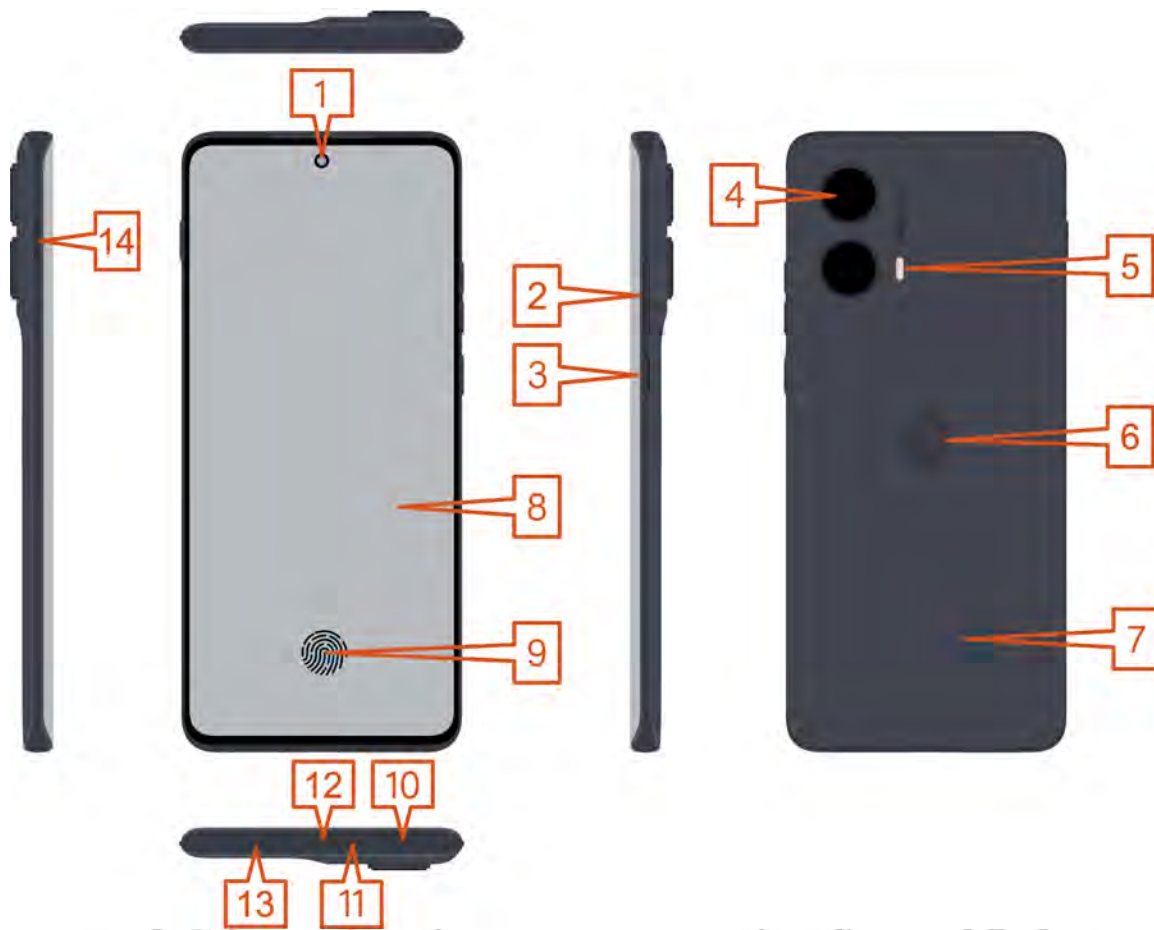


Figure 1. External Views

Table 2. External Views Parts List

Reference #	Description
1	Front-Facing Camera
2	Volume Key
3	Power Key
4	Rear-Facing Camera
5	Flashlight
6	Batwing Logo
7	Rear Inlay
8	Display Lens
9	FOD
10	Loudspeaker
11	MIC

Table 2. External Views Parts List (continued)

Reference #	Description
12	USB Type-C
13	Sim Door
14	Action Key



## Main Exploded Views

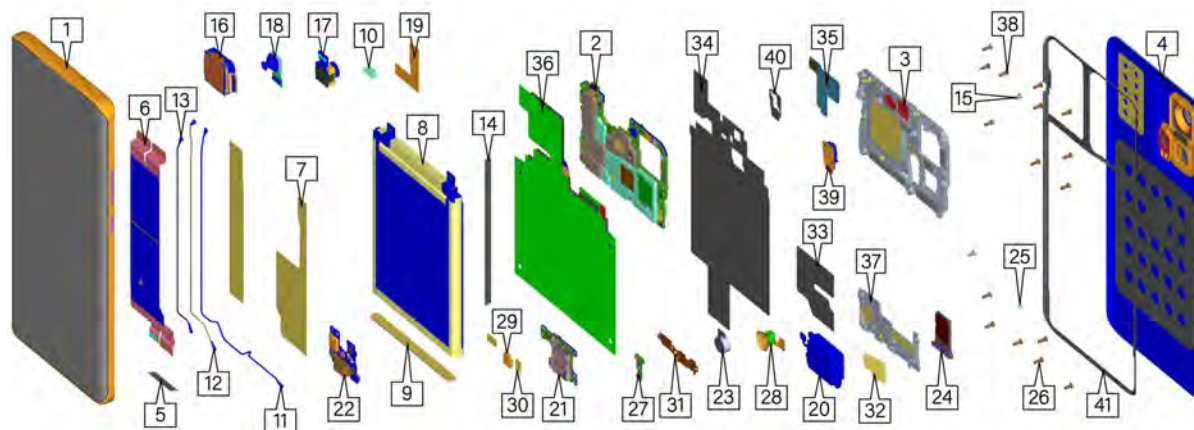


Figure 2. Assembly Exploded View

Table 3. Assembly Exploded View Parts List

Reference #	Description	Recovery Part
1	XT2405 TP LCM ASSY Outer Space CS	Yes
2	XT2405-1 MB 8+256G Retail DS CS XT2405-1 MB 8+256G TMO DL CS XT2405-1 MB 8+256G CC DL CS XT2405-1 MB 8+256G DISH DL CS XT2405V MB 8+256G TF DL CS	Yes
3	XT2405 Top Bracket CS	Yes
4	XT2405 Inlay ASSY Outer Space CS	Yes
5	DICUT,ADHS,NIO_SPK_HOLE_GASKET	No
6	ASSY,FLX - MN,ASSY_MAIN_FLEX_ManauSNA	No
7	DICUT,FOAM,AVATR_NA_BATTERY_ADH	No
8	ACCY,BAT,5000mAh,QC50,ATL516384, NVT	Yes
9	DICUT,ADHS,NIO_BATTERY_SUP_GAS	No
10	GROM,CUST,SENSOR_GROMMET_ORA	Yes
11	CBL,COAX,CABLE9_AVATR_NA	Yes
12	CBL,COAX,CABLE2_AVATR_NA	Yes
13	CBL,COAX,CABLE0_AVATR_NA	Yes
14	DICUT,ADHS,NIO_CABLE_MYLAR	No
15	HDW,SCR,STL,M1.4x0.30x2.5mm_Clear	No
16	MDL,CAMR,50M,rear,C3PS68;Q Tech,OIS:Mana	Yes
17	MDL,CAMR,13M,rear,L13A2A10;O-film,AF:Wra	Yes
18	MDL,CAMR,32M,FRNT,LJD1F00;O-film,FF:Chic	Yes
19	THRM,COND,AVATR_NA_CAMERA_GRAPHITE	No

Table 3. Assembly Exploded View Parts List (continued)

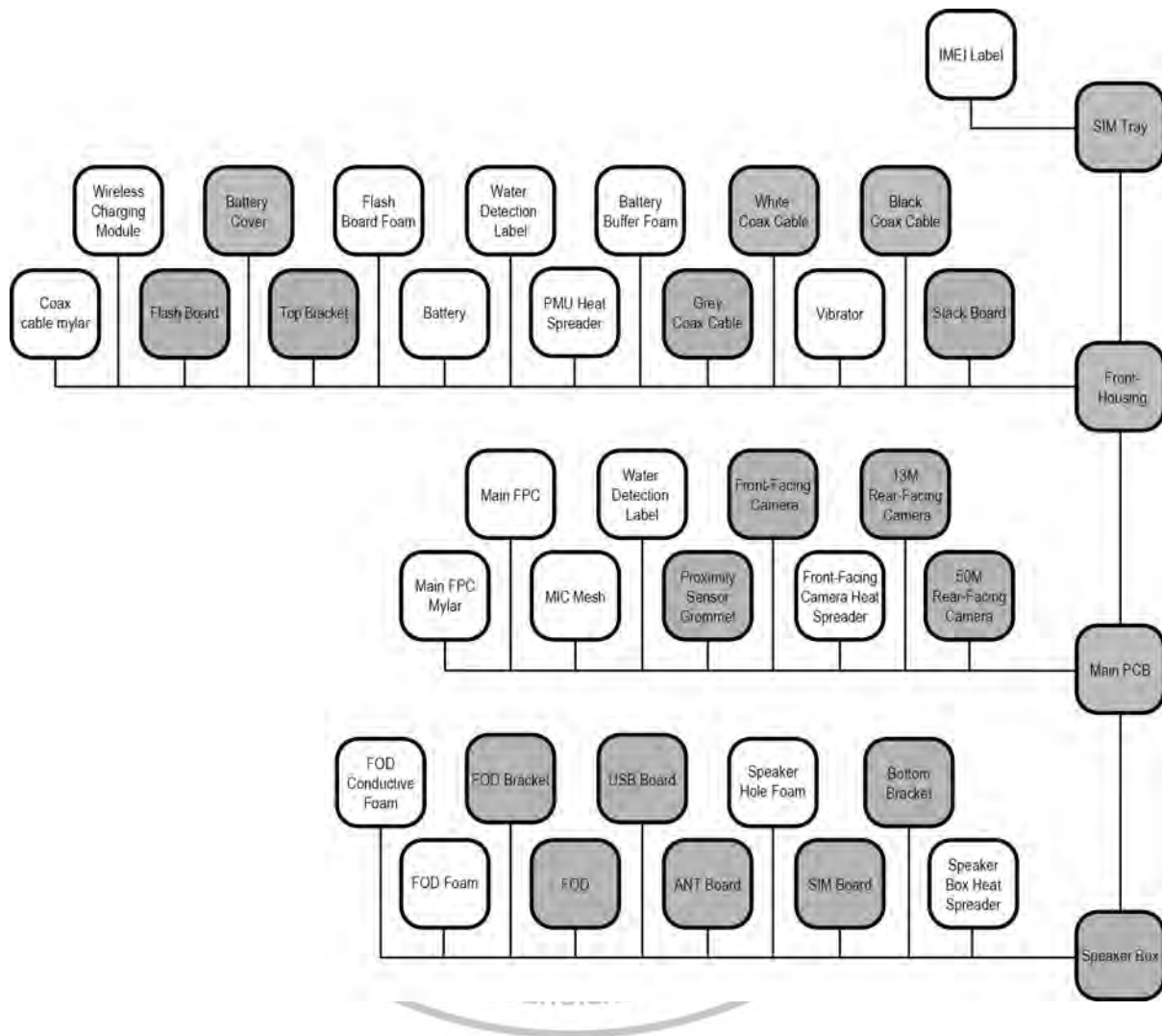
Reference #	Description	Recovery Part
20	AU,SPKR,11x15x2.48mm,8Ohms,Fpc CONT,GP C	Yes
21	XT2405 SIM Board P+E CS	Yes
22	XT2405 USB Board CS	Yes
23	Vibrator,235Hz,D8xH3.25,L0832F-0012	No
24	HDW,SIM TRAY - PLAS,ASSY_SINGLE_AVATR_NA	Yes
25	ZEEKR SCREW_M1P2_1P55_H03_CROSS	No
26	DUBAI Screw2_M1.4x3,Silver	No
27	XT2405 ANT Board CS	Yes
28	FNGRPRT MDL,FOD,Ofilm, G3S	Yes
29	DICUT,ADHS,NIO_FOD_GASKET	No
30	DICUT,FOAM,AVATR_NA_FOD_CON_GASKET	No
31	HDW,OTHR,NIO_FOD_METAL_BRACKET	Yes
32	DICUT,ADHS,NIO_MAIN_FPC_MYLAR	No
33	THRM,COND,AVATR_NA_SPK_GRAPHITE	No
34	THRM,COND,AVATR_NA_PMU_GRAPHITE	No
35	XT2405 Stack Board CS	Yes
36	ANT,WIRELESS ANT,WLC_AVATR_NA	Yes
37	ANT,LDS CAR ANT,ASSY_BOTTOM_BRACKET_AVAT	Yes
38	HDW,SCR,Tooth_screw_M1.4x0.30x3.6mm	No
39	XT2405 Flash Board CS	Yes
40	DICUT,FOAM,AVATR_NA_FLASH_PCB_ADH	No
41	XT2405 BattCover Adhesive&61040-0062A CS	No
-	DICUT,WATERPROOF,Waterproof LBL TMO	No
-	LBL,IMEI,9X1.3mm,Full Size 35.6x27.6mm	No
-	DICUT,ADHS,NIO_FLASH_PCB_GASKET	No
-	DICUT,FOAM,IP68_MIC1_GASKET_ALL	No
-	DICUT,FOAM,AVATR_NA_PCB2_PSA	No
-	DICUT,ADHS,NIO_SPK_FPC_ADH	No
-	DICUT,ADHS,NIO_FOD_ADH	No
-	DICUT,FOAM,AVATR_NA_FRT_CAM_GAS	No



## Chapter 3. Disassembly and Recovery

### Disassembly and Recovery Map

\*Shaded parts may be eligible for parts recovery.












## Tools Required for Disassembly

The following tools are required to disassemble the Motorola edge 2024 phone.

NOTE
Improper tools may cause damage to components.

Description	Part #	Picture/Drawing
3 mm Allen Wrench	--	
Anti-static foam pad Pad thickness : ≥5mm Pad Material : silicone rubber, as reference Silicone Clean Matt (RG-400)	--	
Hot Plate	--	
SIM/SD Tray Removal Tool	--	
Black Stick	--	

Description	Part #	Picture/Drawing
Torque Driver	--	
PH00 Bit	--	
BtB	--	
MINI Desktop LCD Freezing Separator	TBK-578	
Sealed Bag	--	
Plastic Tweezers	--	

Description	Part #	Picture/Drawing
Oven	RG-202F	
Thin Plastic Spudger	0-00-00-40826	
PU Inlay Disassembly Tool	Motorola edge 2024 30007085	
ESD Mat	--	--
Wrist Strap	--	--
Gloves	--	--

## SIM Tray Removal

### NOTE

The SIM Tray can be recovered and reused after removal.

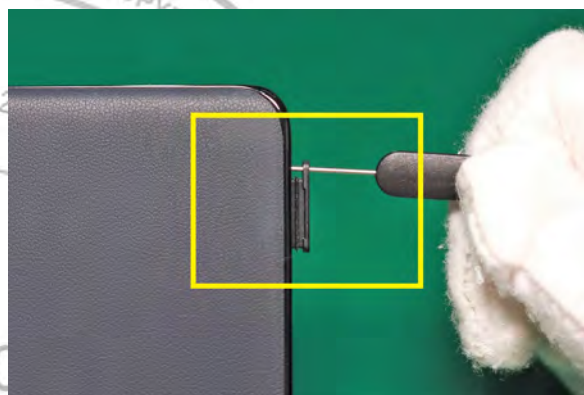


1. Power off the device before beginning with the procedure. Use the SIM Tray Removal pin to push into the SIM Tray hole.

### WARNING

Disassembling the device without turning it off may cause data loss.

2. Press the SIM Tray removal tool to make it pop-out as shown.



3. Use fingers to take out the SIM Tray.

### NOTE

Remove the SIM Tray vertically outwards to avoid deformation.

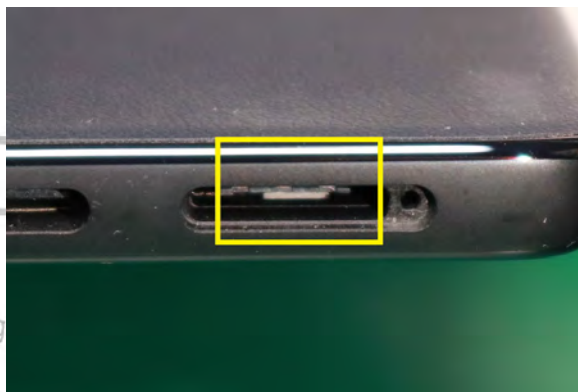


## Water Detection Label Inspection

### NOTE

If the Water Detection Label (WDL) has been activated, follow Return Un-Repaired (RUR) guidelines for further instructions.

Inspect the WDL inside the SIM Tray Slot for signs of activation. Use external light if needed.



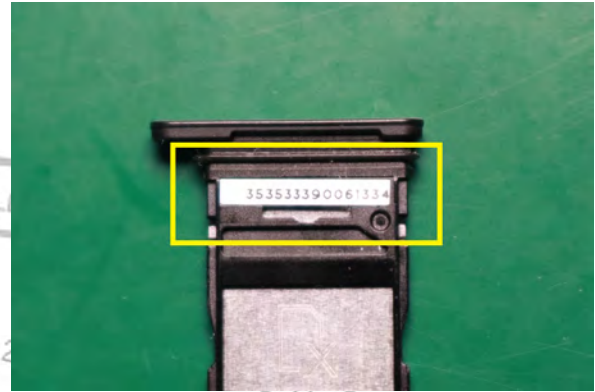
## IMEI Label Removal

### NOTE

Remove the IMEI Label only if necessary.  
After you remove it, you cannot reuse it.




Use the Plastic Tweezer to remove the IMEI Label from the SIM tray.



## Battery Cover Removal

### Preheating for Battery Cover Removal

NOTE
The Battery Cover can be recovered and reused after removal. 

// CAUTION //
Do not set the Oven temperature higher than 80°C (176°F). Damage to the phone may occur.

1. Place the phone in the Oven, with the Battery Cover side down.



2. Wait 10 minutes for the Battery Cover Adhesive to warm up.

NOTE
If the phone is not heated sufficiently, the disassembly could damage the part.

3. Remove the phone from the oven.

// CAUTION //
Wear protective gloves when handling heated phones.

NOTE
Perform the Battery Cover removal procedure before the phone starts to cool off.

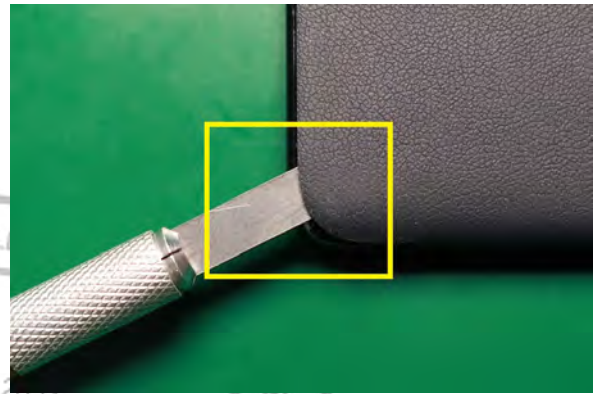
## Battery Cover Removal

### NOTE

The Battery Cover can be recovered and reused after removal if it is undamaged.



1. Use the PU Inlay Disassembly Tool to create a gap between the Battery Cover and the Front-Housing.



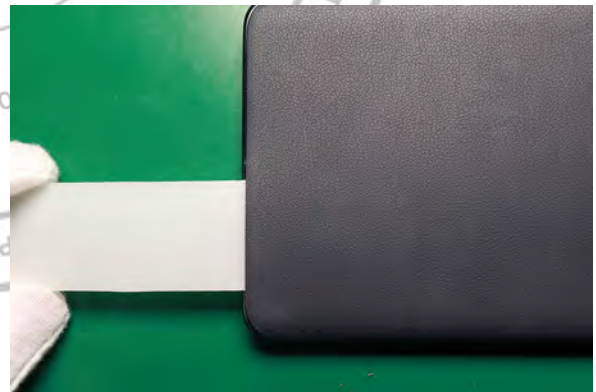
2. Use the Thin Plastic Spudger to disengage the Battery Cover from all the sides of the phone. Start at the point as shown.

### //CAUTION//

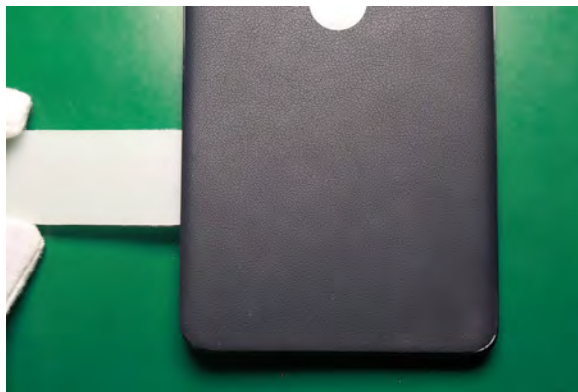
Do not insert the Thin Plastic Spudger more than 10 mm to prevent damaging internal components.



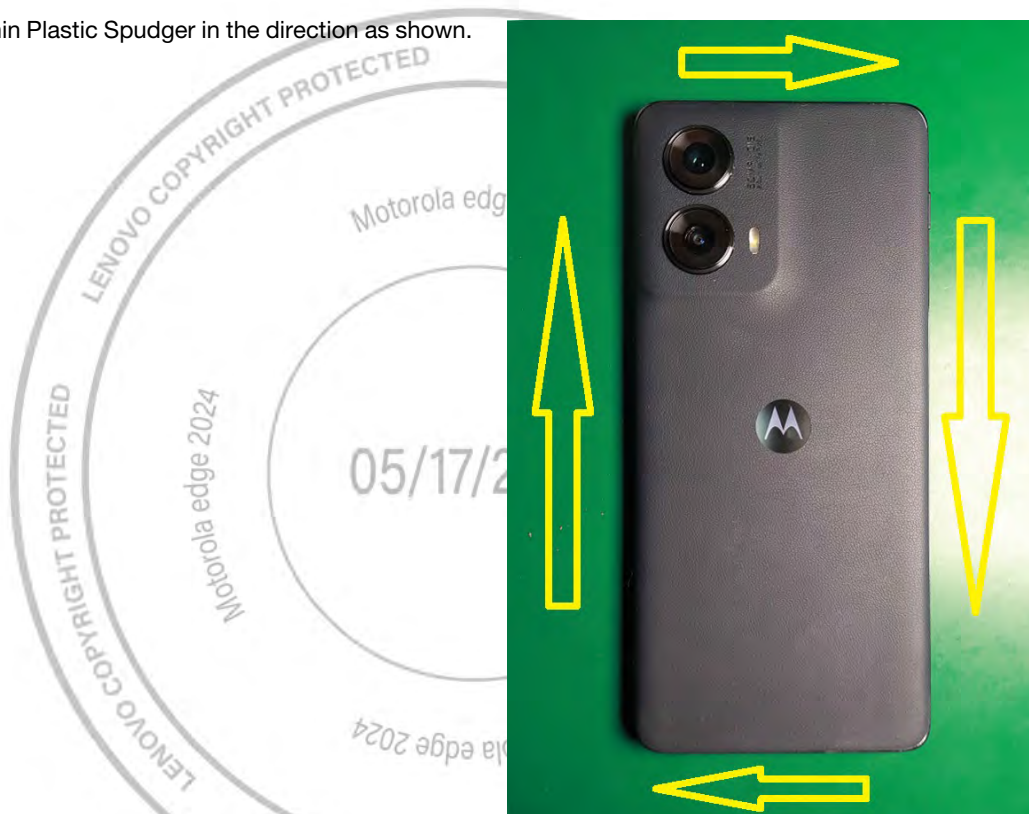
3. Use the Thin Plastic Spudger to disengage the Battery Cover from all the sides of the phone.



4. Use the Thin Plastic Spudger to disengage the Battery Cover from all the sides of the phone.



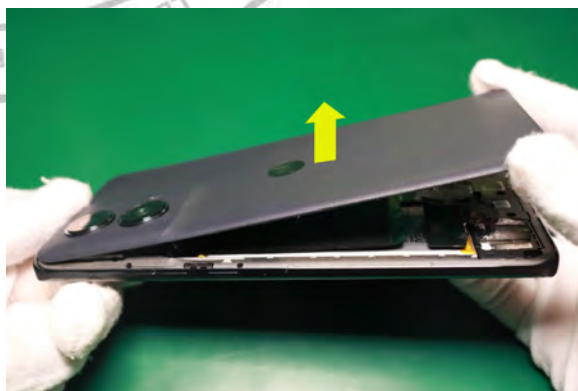
5. Move the Thin Plastic Spudger in the direction as shown.



6. Pull the Battery Cover up toward bottom and upper side.

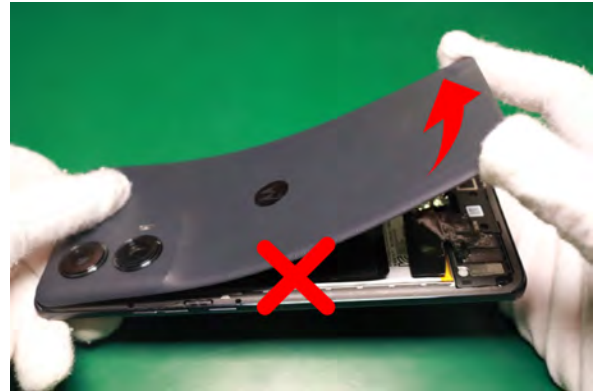
**NOTE**

Make sure to pry Battery Cover up slowly and keep Battery Cover be flat when separate Battery Cover with Front-Housing.



**NOTE**

Make sure not to rotate the Battery Cover too much,  
it will cause Battery Cover crack.



7. Split the Battery Cover from the phone.



## Flash Board Removal

### NOTE

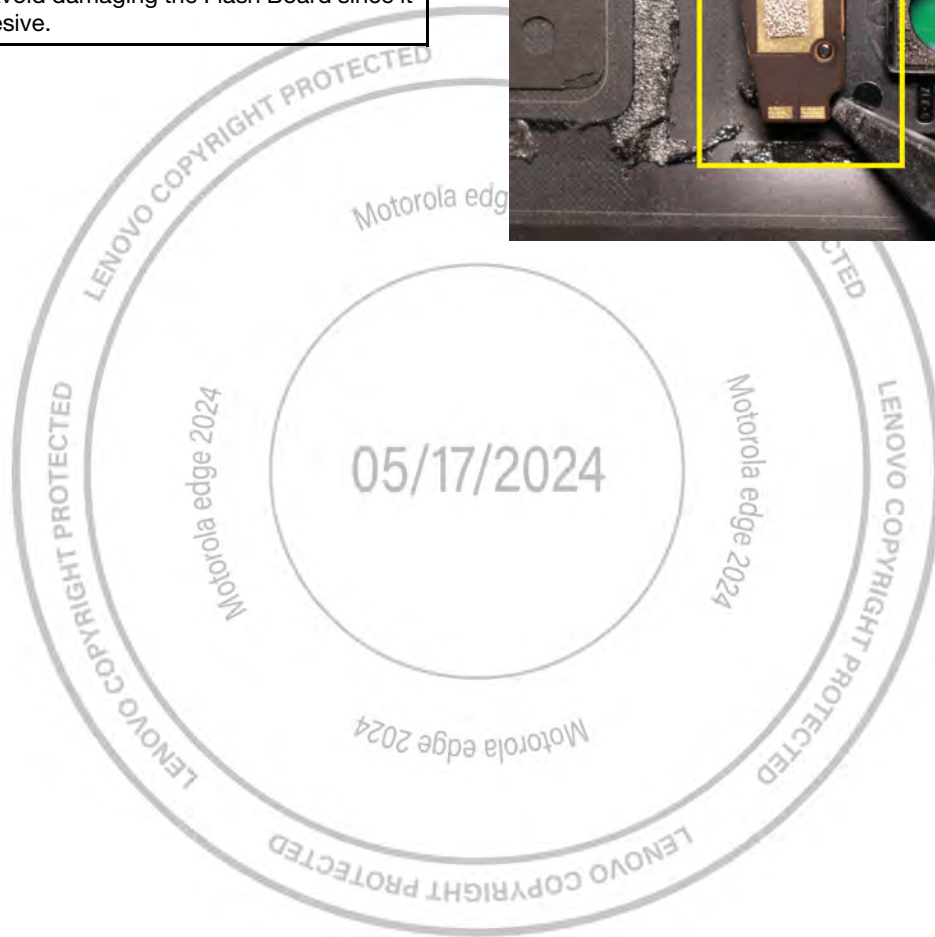
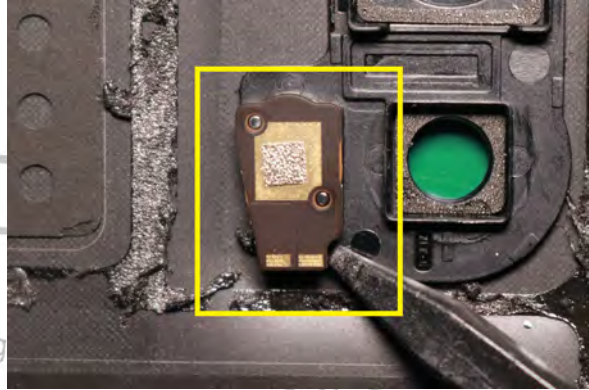
The Flash Board can be recovered and reused after removal.



Use the Pointed end of the Black Stick to disengage and remove the Flash Board from the location as shown.

### NOTE

Be careful to avoid damaging the Flash Board since it has back adhesive.



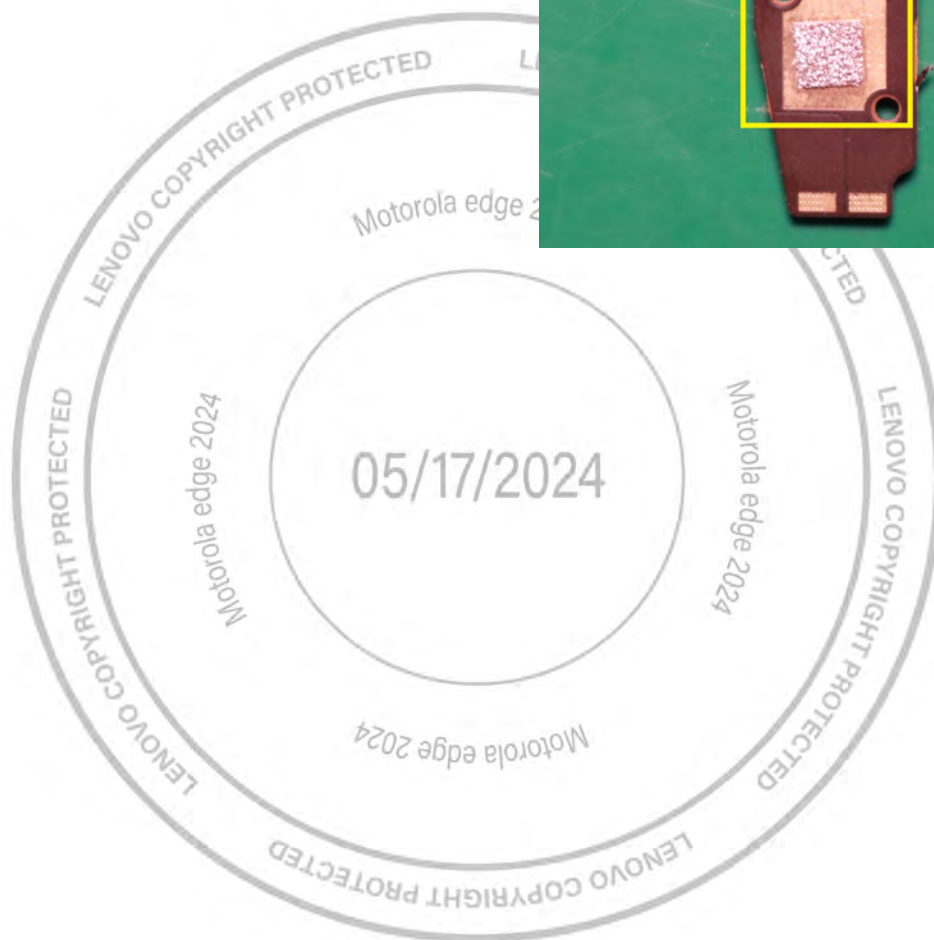
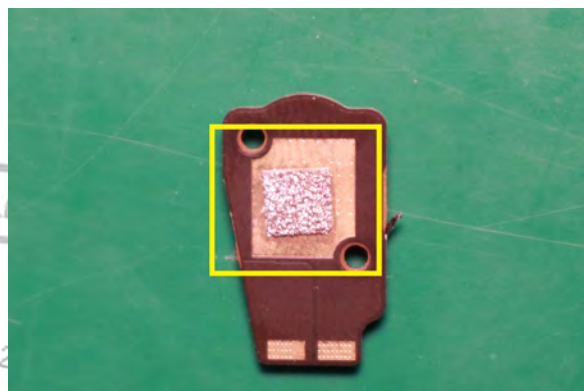
## Flash Board Foam Removal

### NOTE

After you remove the Flash Board Foam, you cannot reuse it.



Use the Plastic Tweezer to remove the Flash Board Foam from the location as shown.



## Top Bracket Removal

### NOTE

The Top Bracket can be recovered and reused after removal.



1. Use the Torque Driver with PH00 Bit to remove ten screws as shown.

Screw Reuse Policy	
North America	No
Latin America & Caribbean	Yes
East Europe	Yes
West Europe	Yes
Middle East & Africa	Yes
Southern & Pacific Asia	Yes
Oceania & Japan	No

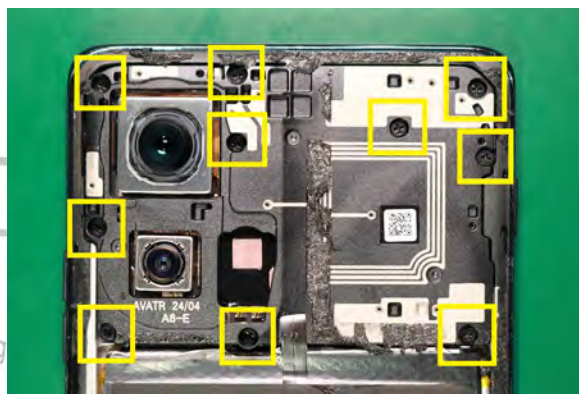
### WARNING

The screwdriver tip should be of the correct size for the screw head. Misuse of the screwdriver may cause damage. Keep the screws properly.

2. Use the pointed end of the Black Stick to lift and remove the Top Bracket from the location as shown.

### NOTE

Be careful to avoid damaging the Top Bracket.



## Wireless Charging Module Removal

### NOTE

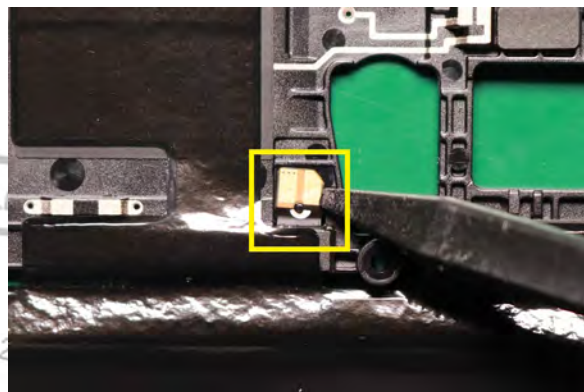
After you remove the Wireless Charging Module, you cannot reuse it.



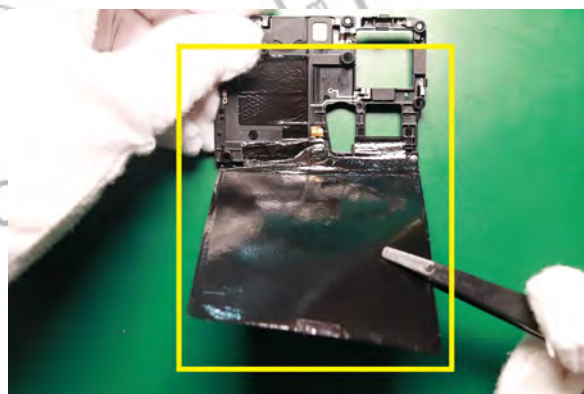
1. Use the pointed end of the Black Stick to disengage the Wireless Charging Module FPC from the back side of the Top Bracket as shown.

### NOTE

Be careful to avoid damaging the Top Bracket.



2. Use the Plastic Tweezer to peel off the Wireless Charging Module from the locations as shown.



## Water Detection Label Inspection

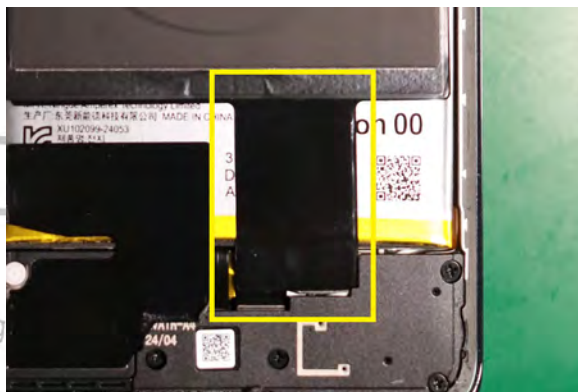
### NOTE

If the Water Detection Label (WDL) has been activated, follow Return Un-Repaired (RUR) guidelines for further instructions.

1. Use the Plastic Spudger to disengage the adhesive on the location as shown.

### NOTE

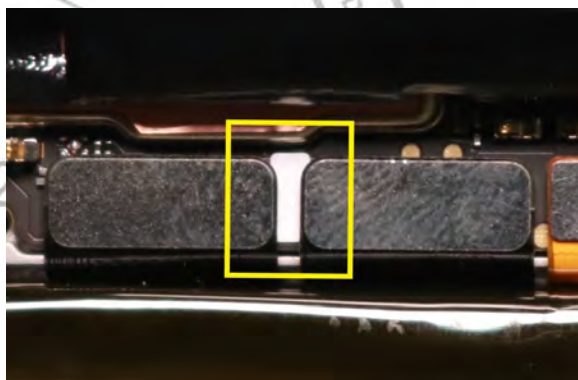
Be careful to avoid damaging the heat spreader.



2. Inspect the WDL on the Main PCB for signs of activation.

### NOTE

The Water Detection Label (WDL) on the Main PCB is under the PMU heat spreader.



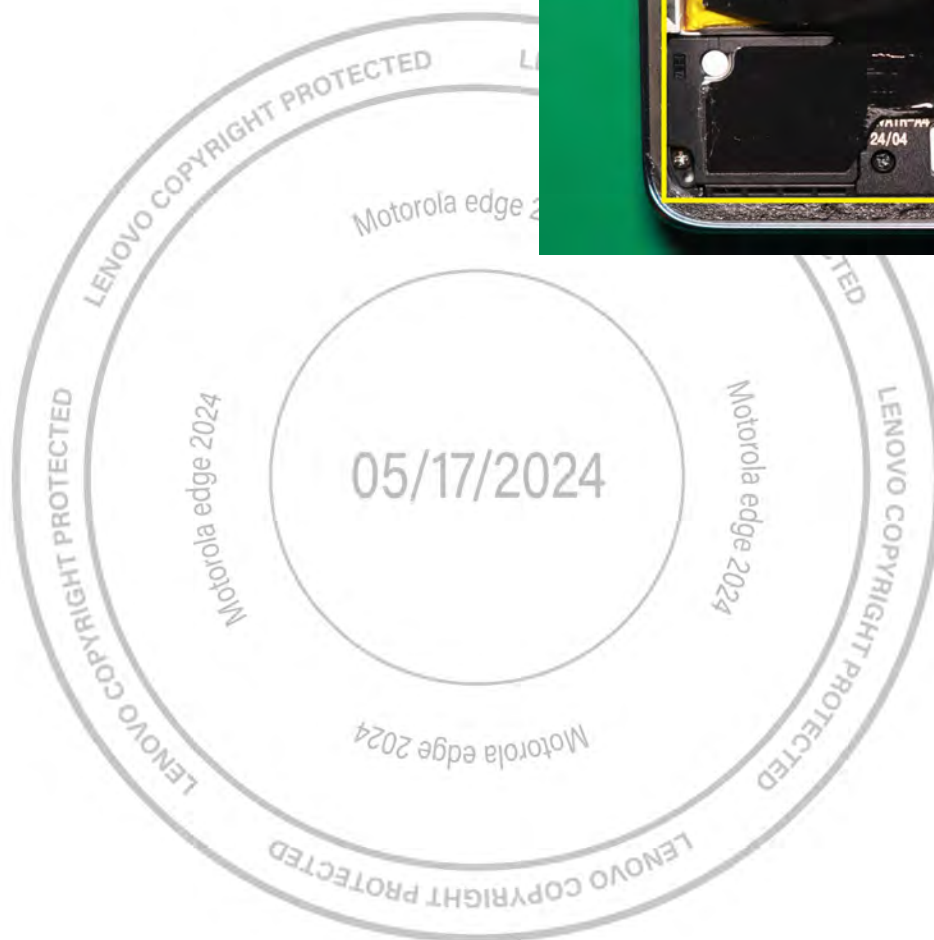
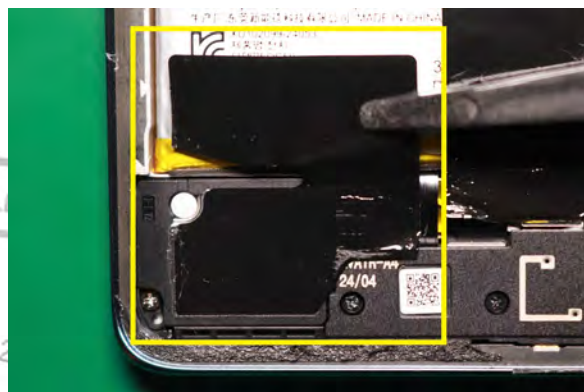
## Speaker Box Heat Spreader Removal

### NOTE

After you remove the Speaker Box Heat Spreader, you cannot reuse it.



Use the Plastic Tweezer to remove the Speaker Box Heat Spreader from the location as shown.



## Bottom Bracket Removal

### NOTE

The Bottom Bracket can be recovered and reused after removal.



1. Use the Torque Driver with PH00 Bit to remove five screws as shown.

Screw Reuse Policy	
North America	No
Latin America & Caribbean	Yes
East Europe	Yes
West Europe	Yes
Middle East & Africa	Yes
Southern & Pacific Asia	Yes
Oceania & Japan	No

### NOTE

Keep the screws properly.

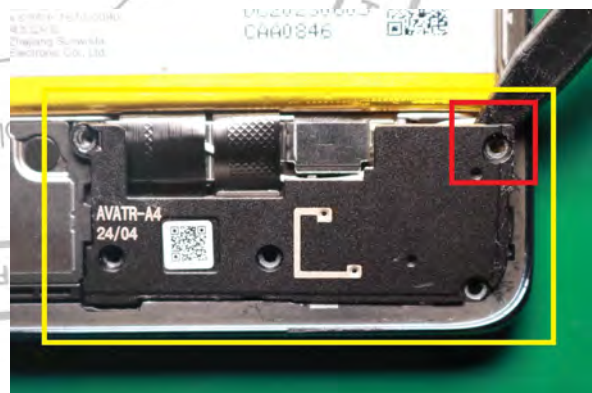
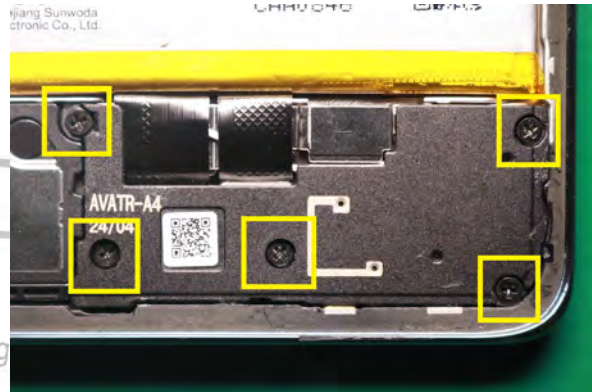
### WARNING

The screwdriver tip should be of the correct size for the screw head. Misuse of the screwdriver may cause damage.

2. Use the pointed end of the Black Stick to lift and remove the Bottom Bracket from the location as shown.

### NOTE

Be careful to avoid damaging the Bottom Bracket.

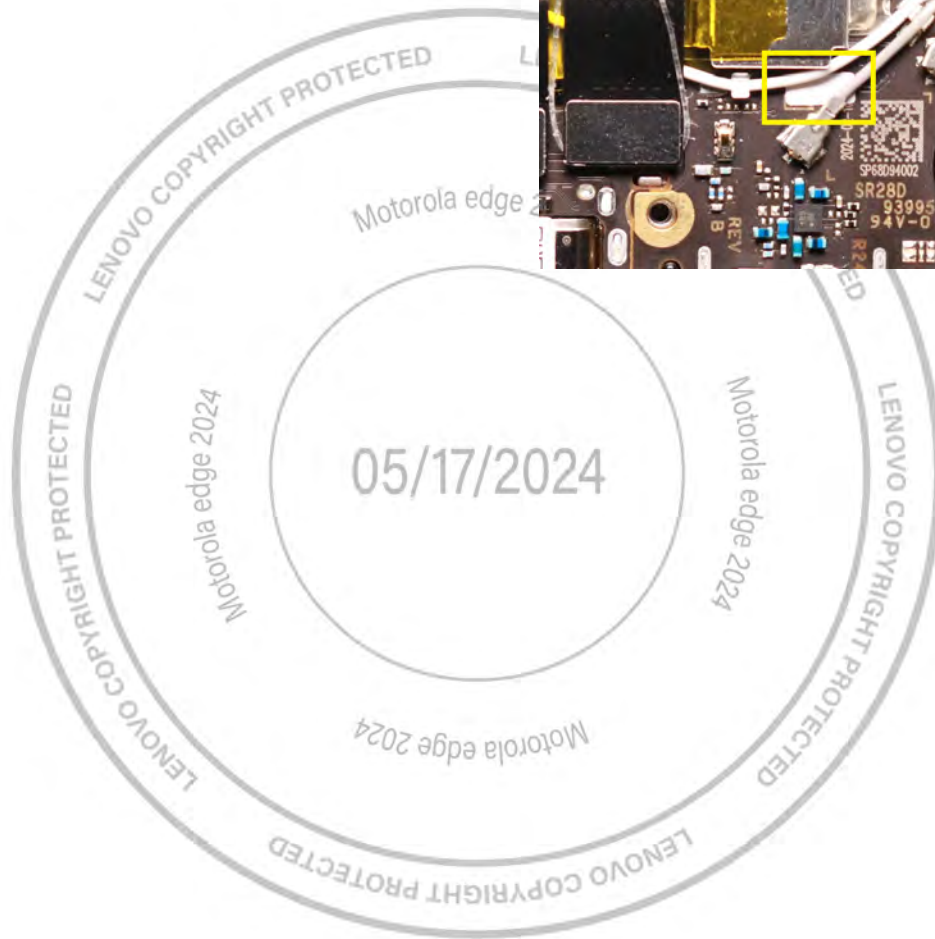
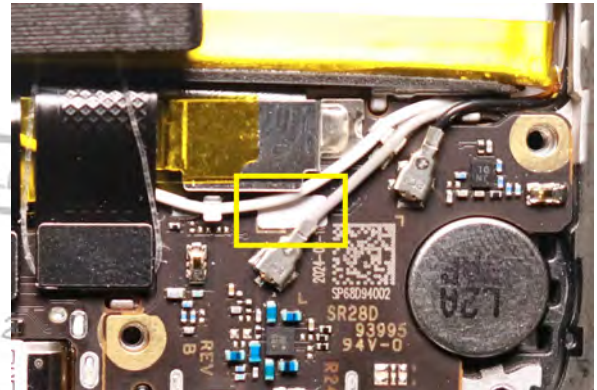


## Water Detection Label Inspection

### NOTE

If the Water Detection Label (WDL) has been activated, follow Return Un-Repaired (RUR) guidelines for further instructions.

Inspect the WDL on the SIM Board for signs of activation.



## Stack Board Removal

### NOTE

The Stack Board can be recovered and reused after removal.



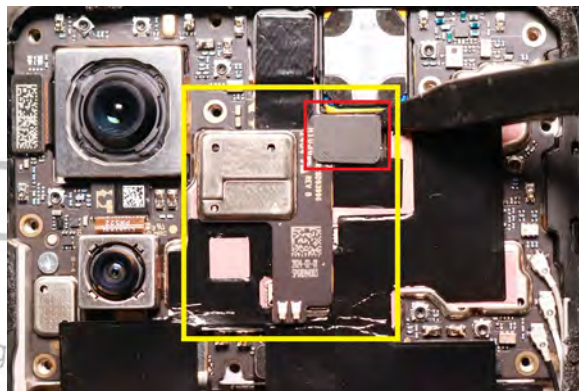
1. Use the pointed end of the Black Stick to disengage the Stack Board BtB Connector from the location as shown.

### NOTE

Be careful to avoid damaging the BtB connector.

### NOTE

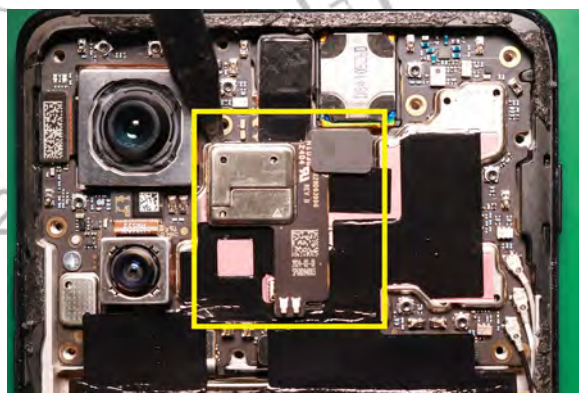
Be careful to avoid damaging Stack Board since it has back adhesive.



2. Use the pointed end of the Black Stick to lift and remove the Stack Board from the location as shown.

### NOTE

Do not lift too hard to damage the Stack Board.



## 13M Rear-Facing Camera Removal

### NOTE

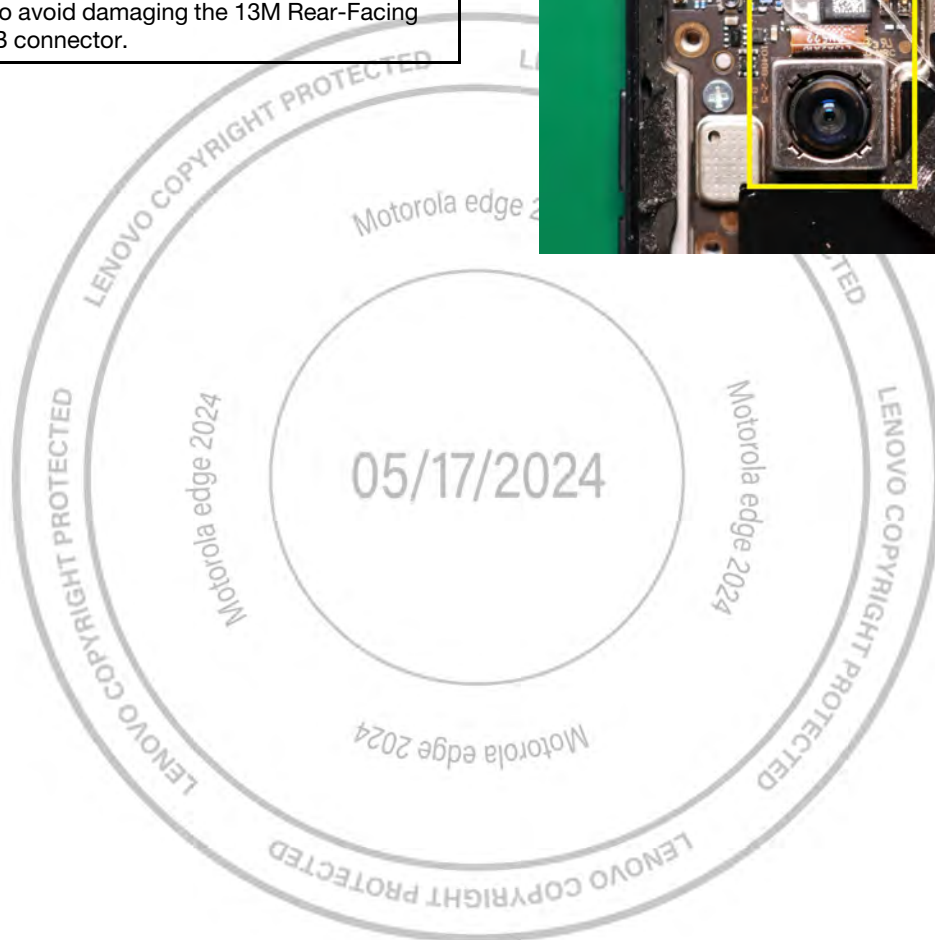
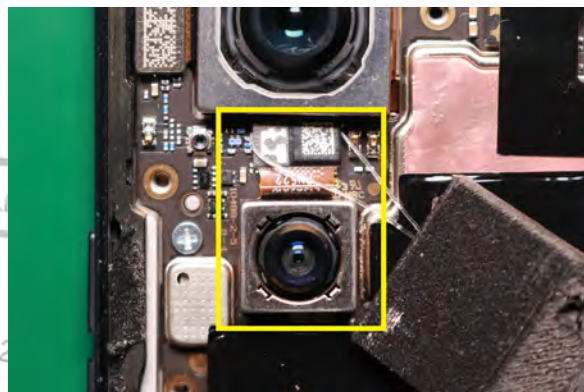
The 13M Rear-Facing Camera can be recovered and reused after removal.



Use the BtB tool to disengage and remove the 13M Rear-Facing Camera from the location as shown.

### NOTE

Be careful to avoid damaging the 13M Rear-Facing Camera BtB connector.



## Front-Facing Camera Heat Spreader Removal

### NOTE

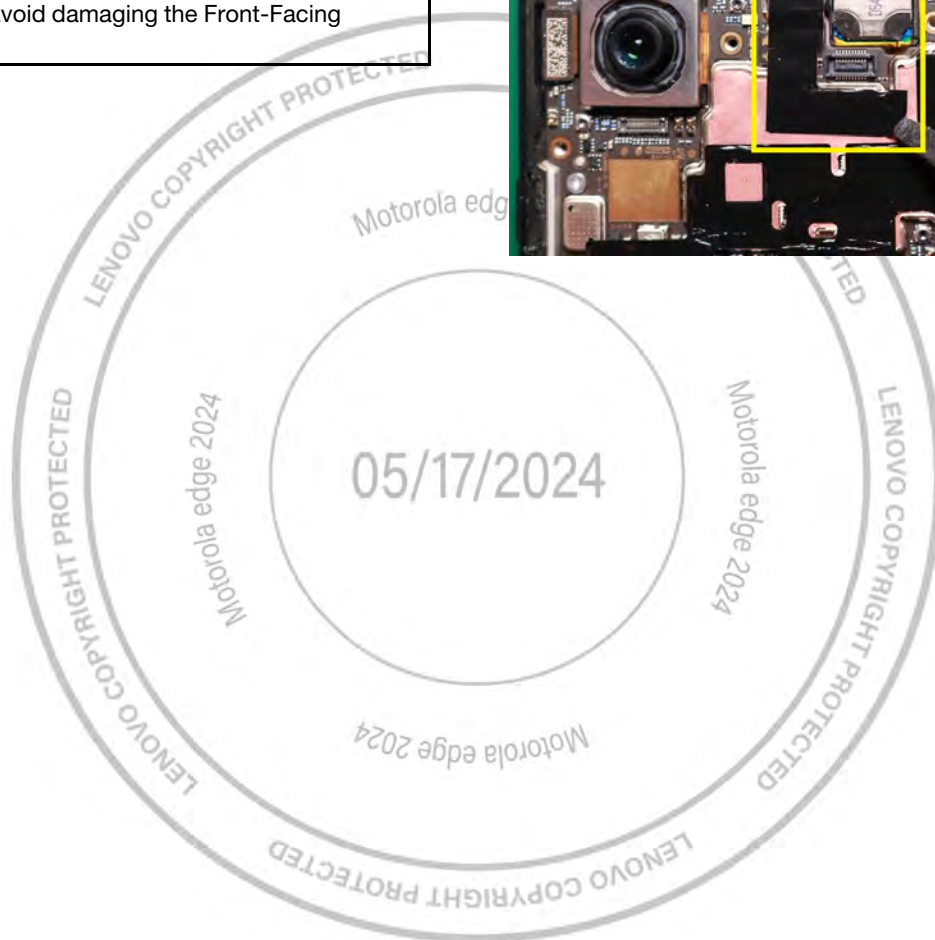
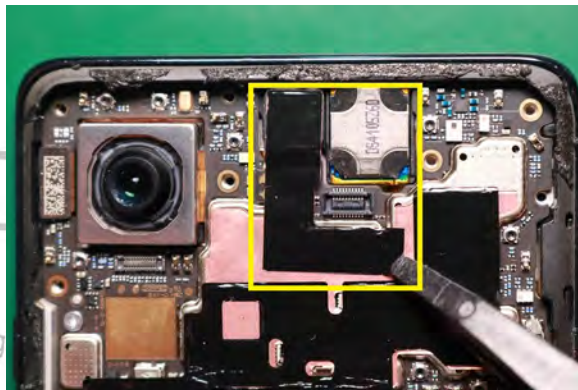
After you remove the Front-Facing Camera Heat Spreader, you cannot reuse it.



Use the Plastic Tweezer to remove the Front-Facing Camera Heat Spreader from the location as shown.

### NOTE

Be careful to avoid damaging the Front-Facing Camera.



## Front-Facing Camera Removal

### NOTE

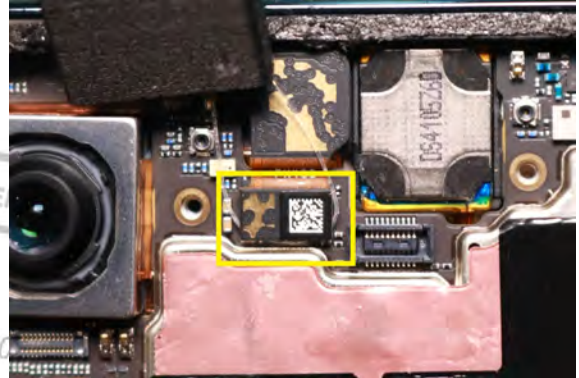
The Front-Facing Camera can be recovered and reused after removal.



1. Use the BtB tool to disengage and remove the Front-Facing Camera BtB connector from the location as shown.

### NOTE

Be careful to avoid damaging the Front-Facing Camera BtB connector.



2. Use the pointed end of the Black Stick to lift and remove the Front-Facing Camera from the location as shown.

### NOTE

Be careful to avoid damaging the Front-Facing Camera.



## Main PCB Removal

### NOTE

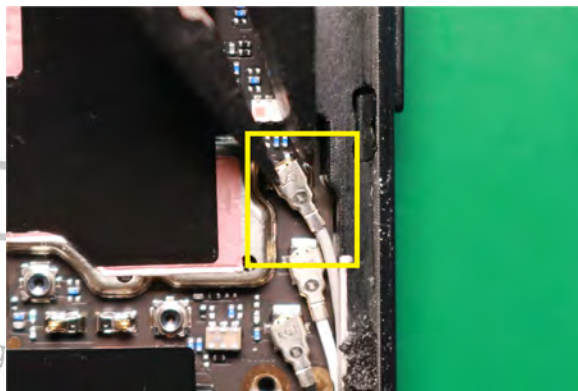
The Main PCB can be recovered and reused after removal.



1. Use the Plastic Tweezer to disconnect the Grey Coax Cable from the location as shown.

### NOTE

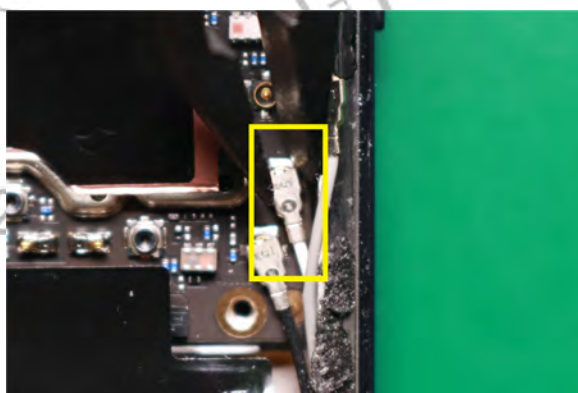
Be careful to avoid damaging the metal ring of the Grey Coax Cable.



2. Use the Plastic Tweezer to disconnect the White Coax Cable from the location as shown.

### NOTE

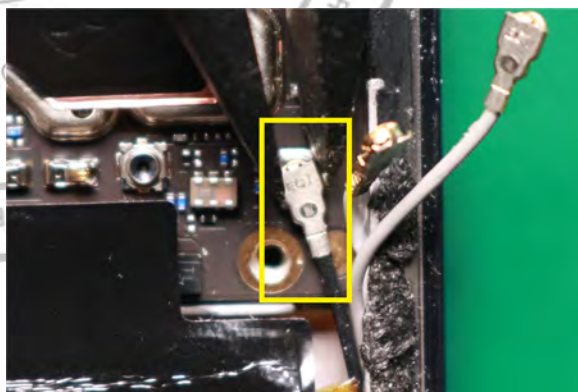
Be careful to avoid damaging the metal ring of the White Coax Cable.



3. Use the Plastic Tweezer to disconnect the Black Coax Cable from the location as shown.

### NOTE

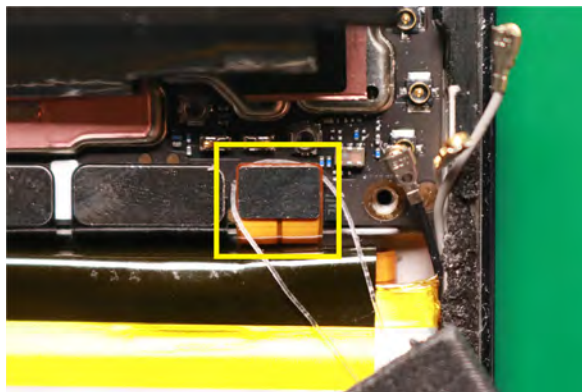
Be careful to avoid damaging the metal ring of the Black Coax Cable.



4. Use the BtB tool to disengage the Battery Flex BtB Connector from the Main PCB as shown.

**NOTE**

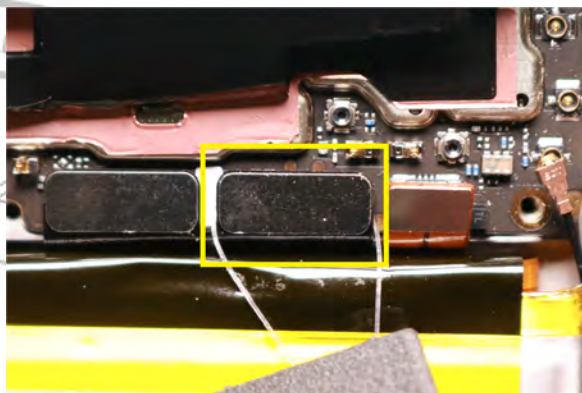
Be careful to avoid damaging the BtB connector.



5. Use the BtB tool to disengage the Main FPC BtB Connector from the Main PCB as shown.

**NOTE**

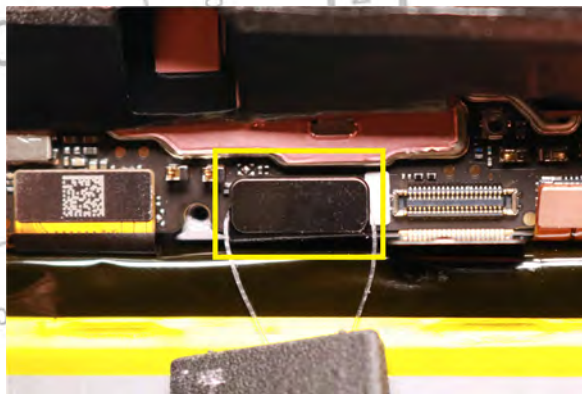
Be careful to avoid damaging the BtB connector.



6. Use the BtB tool to disengage the Main FPC BtB Connector from the Main PCB as shown.

**NOTE**

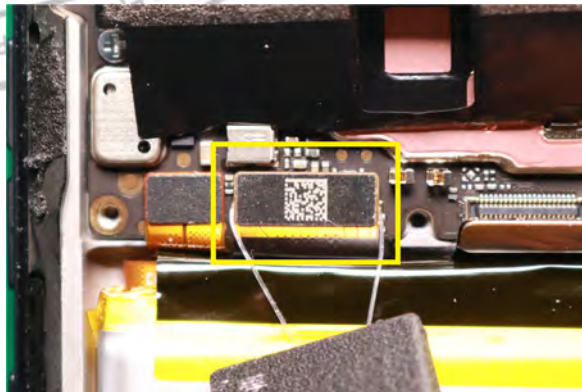
Be careful to avoid damaging the BtB connector.



7. Use the BtB tool to disengage the TP FPC BtB Connector from the Main PCB as shown.

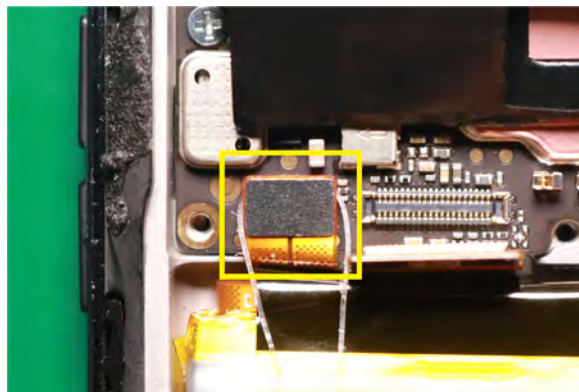
**NOTE**

Be careful to avoid damaging the BtB connector.



- Use the BtB tool to disengage the Battery Flex BtB Connector from the Main PCB as shown.

**NOTE**  
Be careful to avoid damaging the BtB connector.

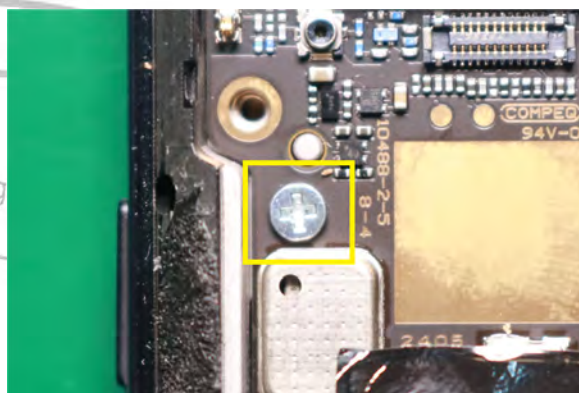


- Use the Torque Driver with PH00 Bit to remove the screw as shown.

Screw Reuse Policy	
North America	No
Latin America & Caribbean	Yes
East Europe	Yes
West Europe	Yes
Middle East & Africa	Yes
Southern & Pacific Asia	Yes
Oceania & Japan	No

**NOTE**  
Keep the screw properly.

**WARNING**  
The screwdriver tip should be of the correct size for the screw head. Misuse of the screwdriver may cause damage.



- Use the pointed end of the Black Stick to lift the Main PCB from the location as shown.

**NOTE**  
Do not lift too hard to damage the Main PCB.



## 50M Rear-Facing Camera Removal

### NOTE

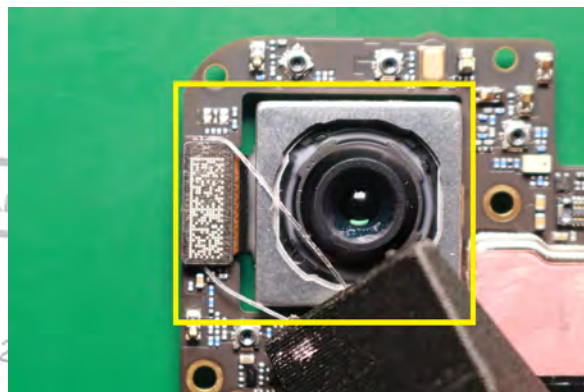
The 50M Rear-Facing Camera can be recovered and reused after removal.



Use the BtB tool to disengage and remove the 50M Rear-Facing Camera from the location as shown.

### NOTE

Be careful to avoid damaging the 50M Rear-Facing Camera BtB connector.



## Proximity Sensor Grommet Removal

### NOTE

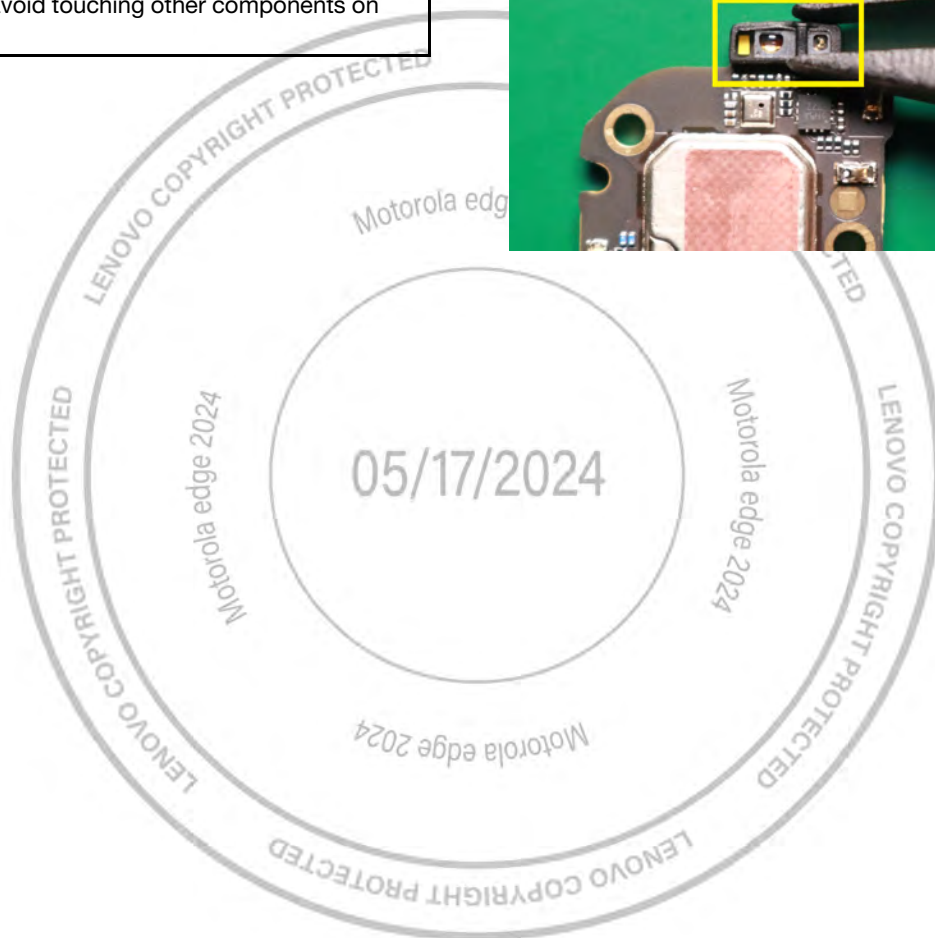
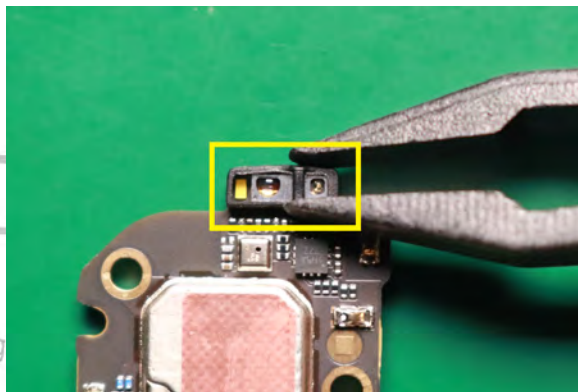
The Proximity Sensor Grommet can be recovered and reused after removal.



Use the Plastic Tweezer to remove the Proximity Sensor Grommet from the location as shown.

### NOTE

Be careful to avoid touching other components on the Main PCB.



## PMU Heat Spreader Removal

### NOTE

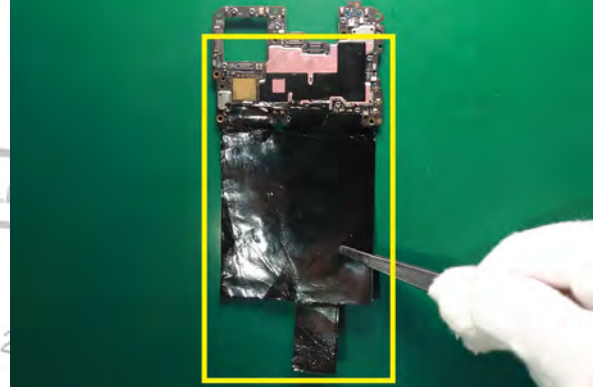
After you remove the PMU Heat Spreader, you cannot reuse it.



Use the Plastic Tweezer to remove the PMU Heat Spreader from the location as shown.

### NOTE

Be careful to avoid touching other components on the Main PCB.



## Main FPC Mylar Removal

### NOTE

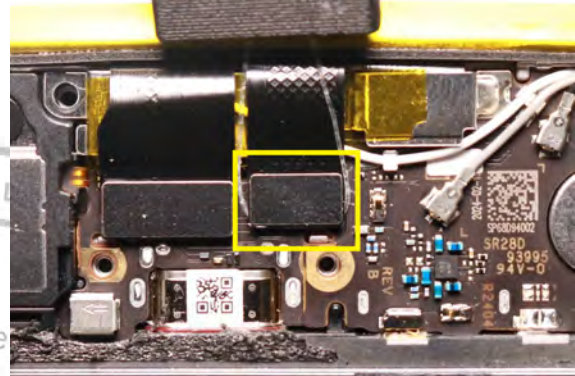
After you remove the Main FPC Mylar, you cannot reuse it.



1. Use the BtB tool to disengage the Main FPC BtB Connector from the USB Board as shown.

### NOTE

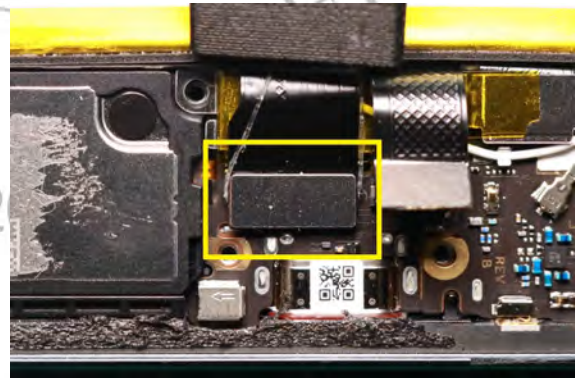
Be careful to avoid damaging the BtB connector.



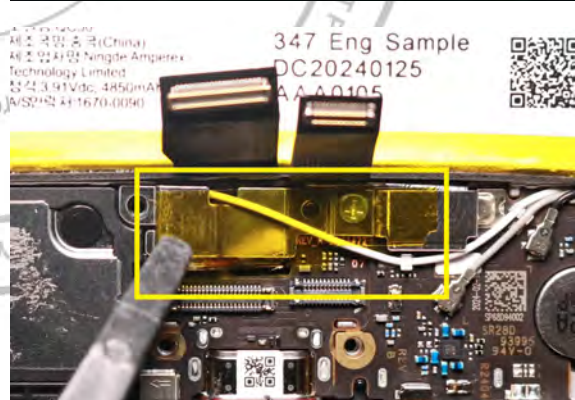
2. Use the BtB tool to disengage the Main FPC BtB Connector from the USB Board as shown.

### NOTE

Be careful to avoid damaging the BtB connector.



3. Use the Plastic Tweezer to remove the Main FPC Mylar from the location as shown.



## FOD Bracket Removal

### NOTE

The FOD Bracket can be recovered and reused after removal.



1. Use the Plastic Tweezer to remove the White Coax Cable from the metal cable guide as shown.

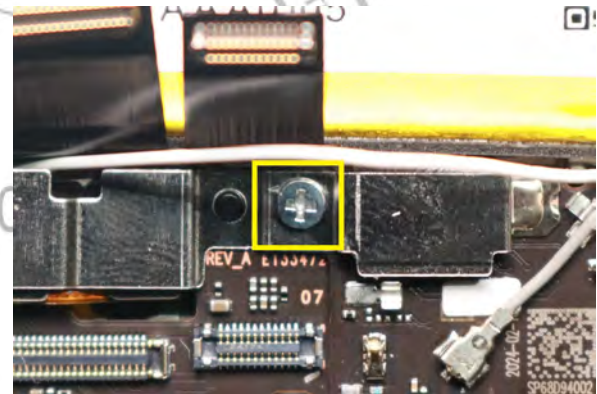
### NOTE

Be careful to avoid damaging the White Coax Cable.



2. Use the Torque Driver with PH00 Bit to remove the screw as shown.

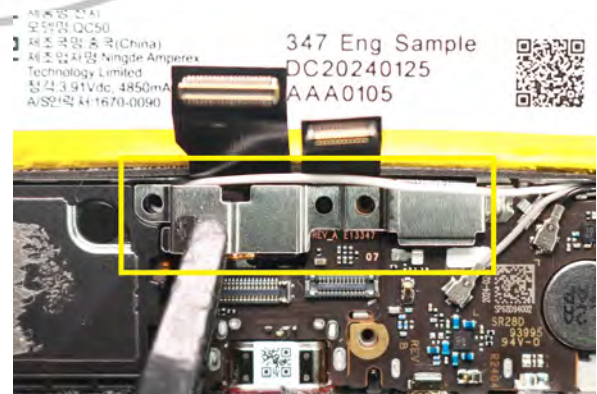
Screw Reuse Policy	
North America	No
Latin America & Caribbean	Yes
East Europe	Yes
West Europe	Yes
Middle East & Africa	Yes
Southern & Pacific Asia	Yes
Oceania & Japan	No



### WARNING

The screwdriver tip should be of the correct size for the screw head. Misuse of the screwdriver may cause damage. Keep the screw properly.

3. Use the Plastic Tweezer to remove the FOD Bracket from the location as shown.



## FOD Removal

### NOTE

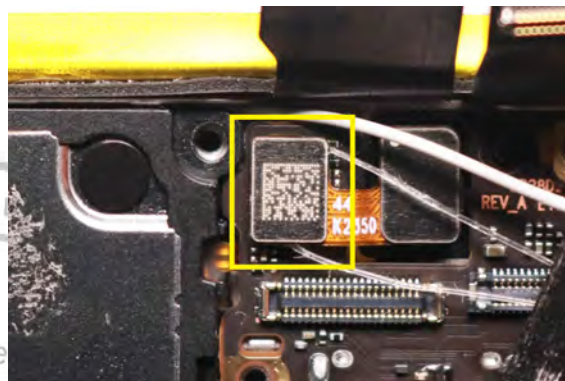
The FOD can be recovered and reused after removal.



1. Use the BtB tool to disengage and remove FOD BtB connector from the location as shown.

### NOTE

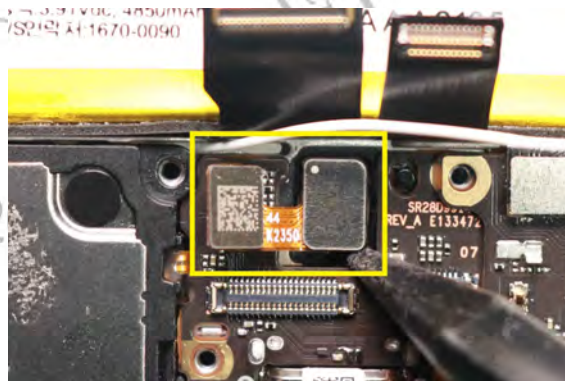
Be careful to avoid damaging the FOD BtB connector.



2. Use the pointed end of the Black Stick to lift and remove the FOD from the location as shown.

### NOTE

Be careful to avoid damaging the FOD since it has back adhesive.



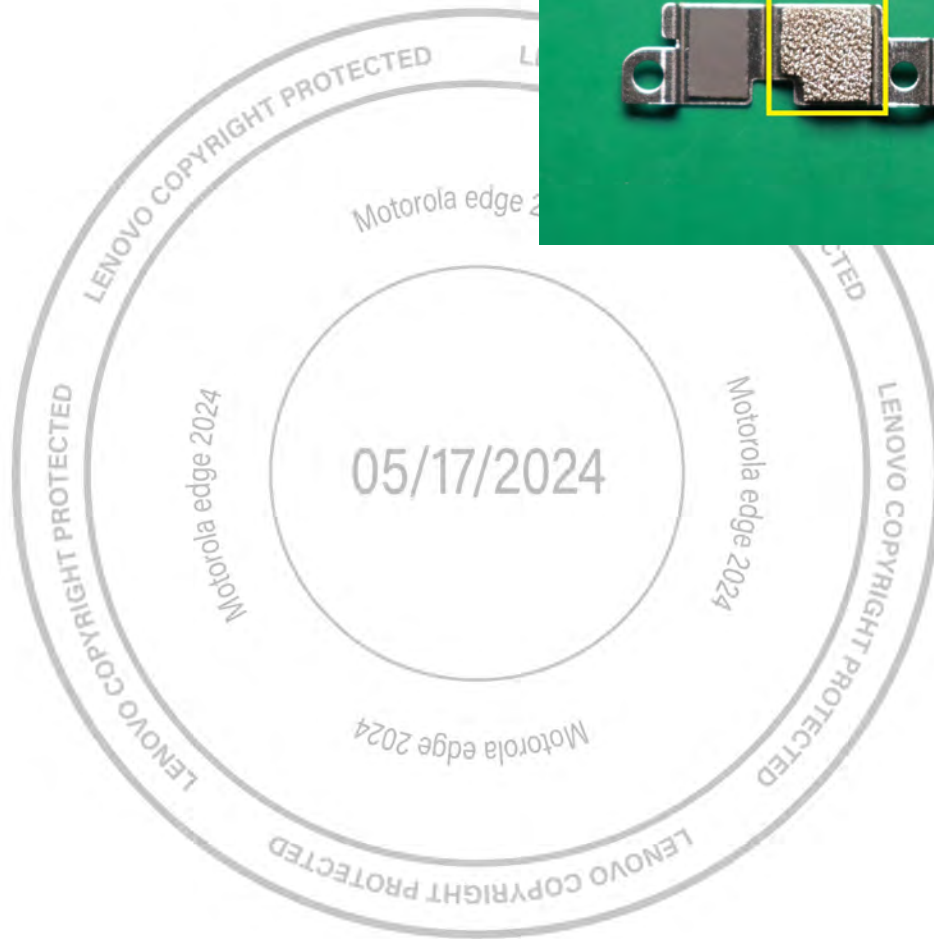
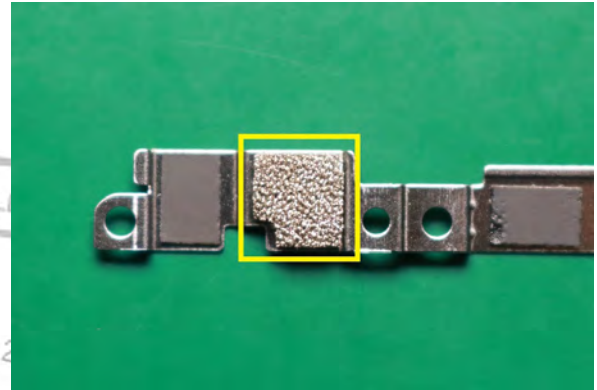
## FOD Foam Removal

### NOTE

After you remove the FOD Foam, you cannot reuse it.



Use the Plastic Tweezer to remove the FOD Foam from the location as shown.



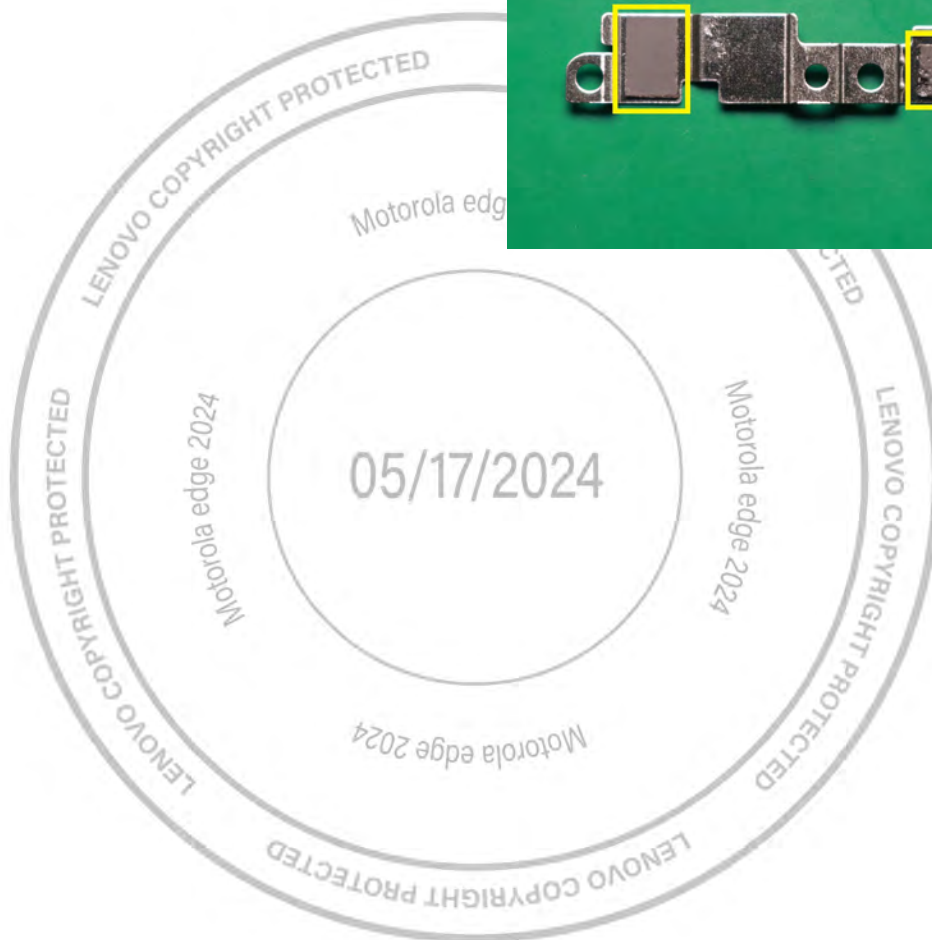
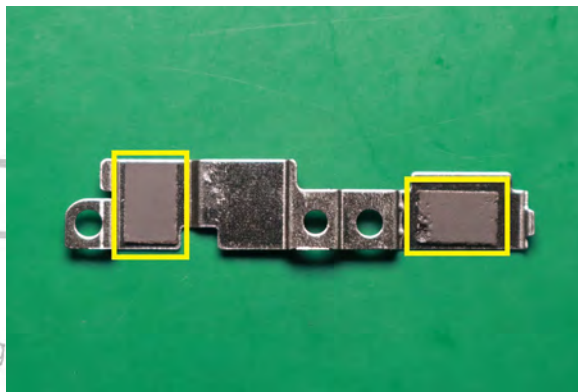
## FOD Conductive Foam Removal

### NOTE

After you remove the FOD Conductive Foam, you cannot reuse it.



Use the Plastic Tweezer to remove the two pieces of FOD Conductive Foam from the location as shown.



## SIM Board Removal

### NOTE

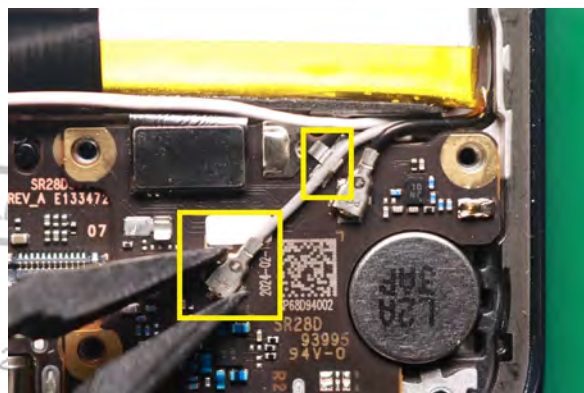
The SIM Board can be recovered and reused after removal.



1. Use the Plastic Tweezer to disconnect the Grey Coax Cable from the location as shown.

### NOTE

Be careful to avoid damaging the metal ring of the Grey Coax Cable.



2. Use the Plastic Tweezer to disconnect the Black Coax Cable from the location as shown.

### NOTE

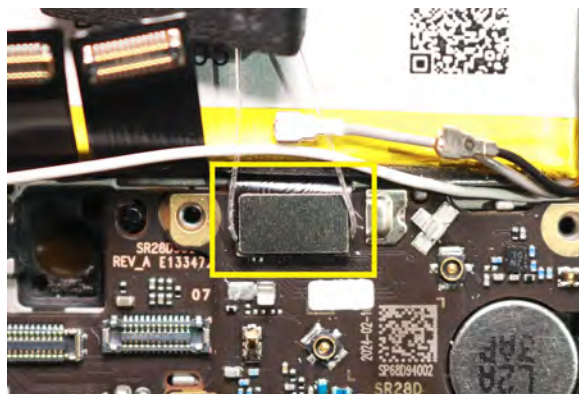
Be careful to avoid damaging the metal ring of the Black Coax Cable.



3. Use the BtB tool to disengage the Main FPC BtB Connector from the location as shown.

**NOTE**

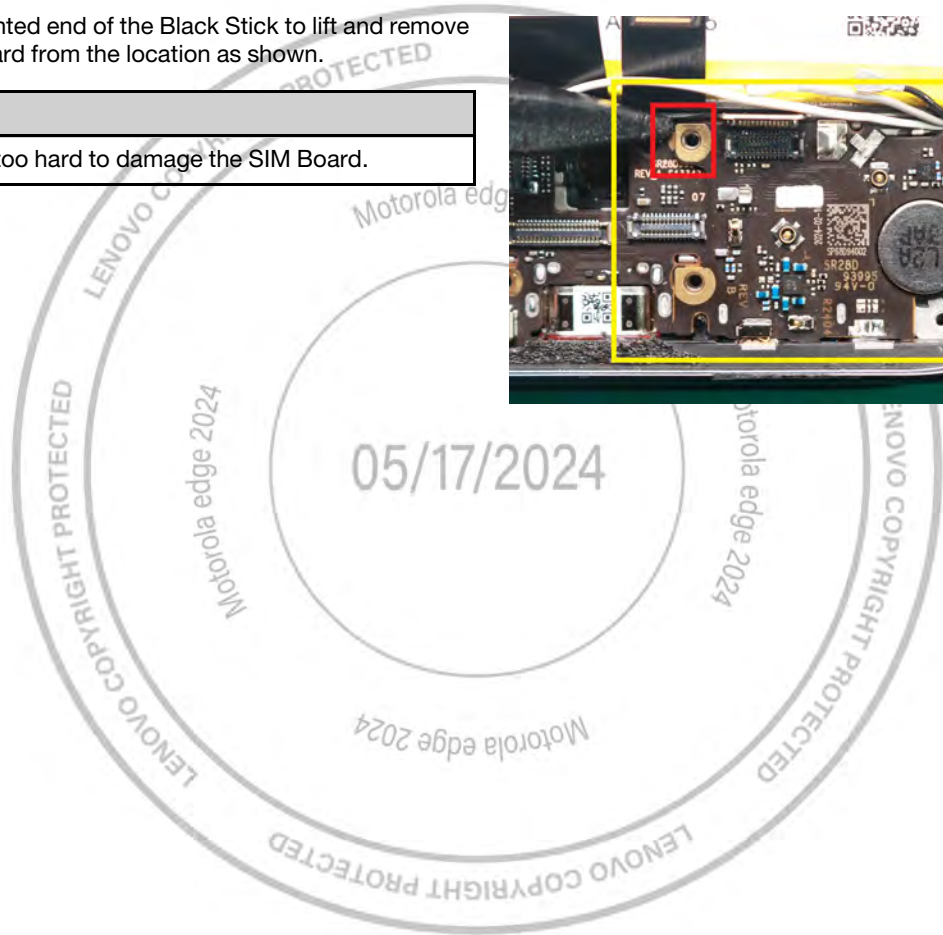
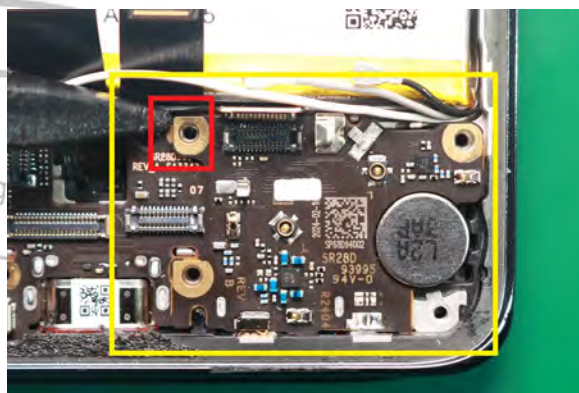
Be careful to avoid damaging the BtB connector.



4. Use the pointed end of the Black Stick to lift and remove the SIM Board from the location as shown.

**NOTE**

Do not lift too hard to damage the SIM Board.



## USB Board Removal

### NOTE

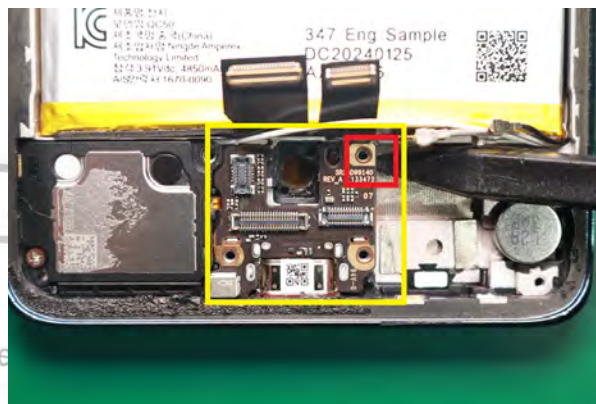
The USB Board can be recovered and reused after removal.



Use the pointed end of the Black Stick to lift and remove the USB Board from the location as shown.

### NOTE

Do not lift too hard to damage the USB Board.



## Speaker Box Removal

### NOTE

The Speaker Box can be recovered and reused after removal.



1. Use the Torque Driver with PH00 Bit to remove the screw as shown.

Screw Reuse Policy	
North America	No
Latin America & Caribbean	Yes
East Europe	Yes
West Europe	Yes
Middle East & Africa	Yes
Southern & Pacific Asia	Yes
Oceania & Japan	No

### WARNING

The screwdriver tip should be of the correct size for the screw head. Misuse of the screwdriver may cause damage. Keep the screw properly.

2. Use the pointed end of the Black Stick to disengage the Speaker Box from the location as shown.

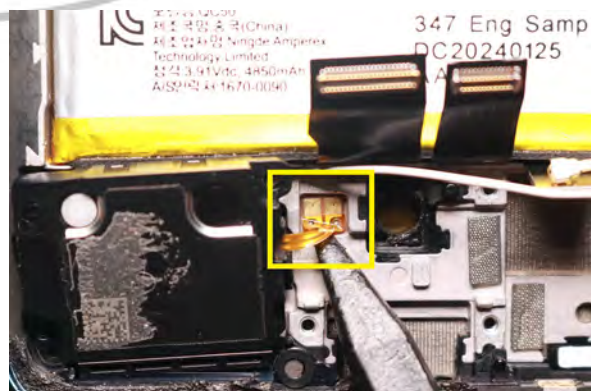
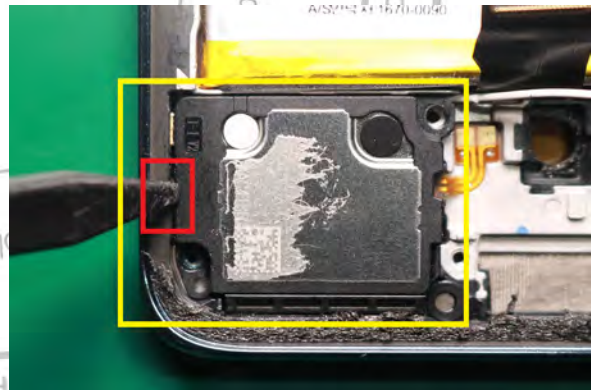
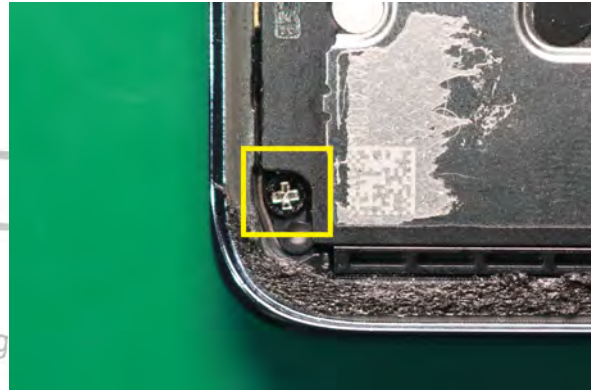
### NOTE

Do not lift too hard to damage the Speaker Box.

3. Use the pointed end of the Black Stick to disengage the Speaker Box FPC from the location as shown.

### NOTE

Be careful to avoid damaging the Speaker Box FPC.



## ANT Board Removal

### NOTE

The ANT Board can be recovered and reused after removal.



1. Use the Torque Driver with PH00 Bit to remove the screw as shown.

Screw Reuse Policy	
North America	No
Latin America & Caribbean	Yes
East Europe	Yes
West Europe	Yes
Middle East & Africa	Yes
Southern & Pacific Asia	Yes
Oceania & Japan	No

### WARNING

The screwdriver tip should be of the correct size for the screw head. Misuse of the screwdriver may cause damage. Keep the screw properly.

2. Use the pointed end of the Black Stick to lift and remove the ANT Board from the location as shown.

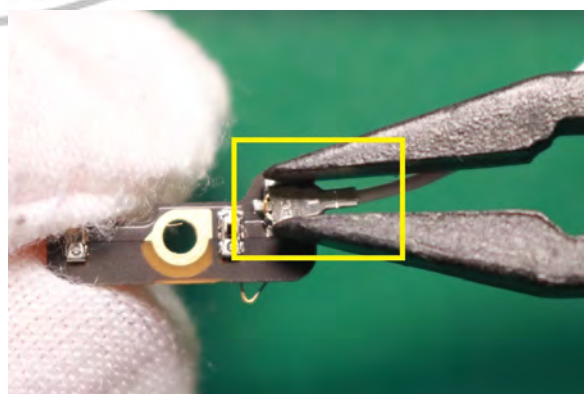
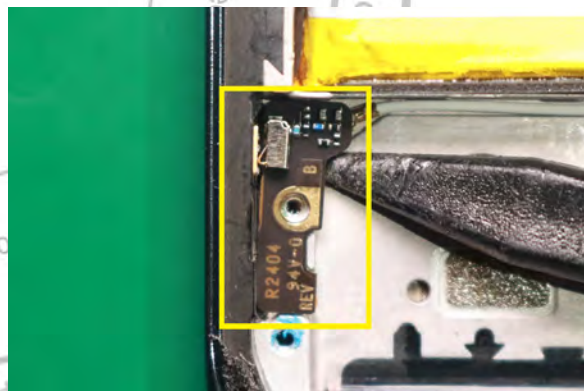
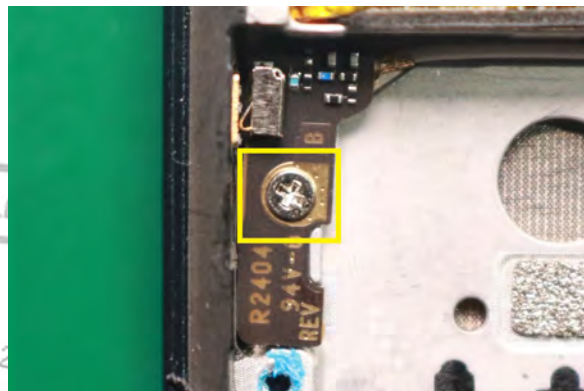
### NOTE

Do not lift too hard to damage the ANT Board.

3. Use the Plastic Tweezer to disconnect the White Coax Cable from the location as shown.

### NOTE

Be careful to avoid damaging the connector of the White Coax Cable.



## Battery Removal

### Battery Removal Method A

#### /// WARNING ///

Failure to adhere to Safety Critical Note(s) may increase risk of rupture, burning, or failure to function safely when used by the customer. Refer to the Battery Safety Guidelines.

#### NOTE

Remove the Battery only if it is defective or damaged. After you remove it, you cannot reuse it.



#### // CAUTION //

Handle the Battery Pack with care. If dropped on the floor, it may be internally damaged and must be scrapped.

Ensure Battery and its insulation are not damaged (e. g. scratched, dented, punctured) prior to and through assembly.

Prior to assembly, ensure Battery edges and surfaces are not dented or deformed, and that fixtures and parts that will contact the Battery are free of foreign material.

Ensure screws and screwdrivers do not contact the Battery.

1. Set the temperature of the Hot Plate to 80°C (176°F).

#### // CAUTION //

Do not set the Hot Plate temperature higher than 80°C (176°F). Damage to the phone may occur.

#### NOTE

Preheating with an oven is also acceptable if the oven is set to the same temperature.

2. Place the phone on the Hot Plate, with the Display side down.



3. Wait 10 minutes for the adhesive to warm up.

#### NOTE

Heat the phone sufficiently to avoid damaging the part.

4. Use the Thin Plastic Spudger to cut the adhesives from the top of the Battery.



5. Use the Thin Plastic Spudger to cut the adhesives from the side of the Battery.



6. Use the Thin Plastic Spudger to cut the adhesives from the bottom of the Battery.



7. Use fingers to carefully lift the Battery.



## Battery Removal Method B

### /// WARNING ///

Failure to adhere to Safety Critical Note(s) may increase risk of rupture, burning, or failure to function safely when used by the customer. Refer to the Battery Safety Guidelines.

### NOTE

Ensure the display assembly is fully dried before reuse to avoid any potential liquid damage after assembled.

### NOTE

Drying the display assembly in an oven with 60°C for 2-3 mins is needed prior to using.

### // CAUTION //

Handle the Battery Pack with care. If dropped on the floor, it may be internally damaged and must be scrapped.

Ensure Battery and its insulation are not damaged (e. g. scratched, dented, punctured) prior to and through assembly.

Prior to assembly, ensure Battery edges and surfaces are not dented or deformed, and that fixtures and parts that will contact the Battery are free of foreign material.

Ensure screws and screwdrivers do not contact the Battery.

1. The power supply line is more than 2.5 meters away.
2. Allow enough space for heat dissipation, more than 1 meter is recommended.



3. Avoid more than 2 hours idle time and turn off overnight.



- Turn on the Freezing Separator.

**NOTE**

The switch is on the back.



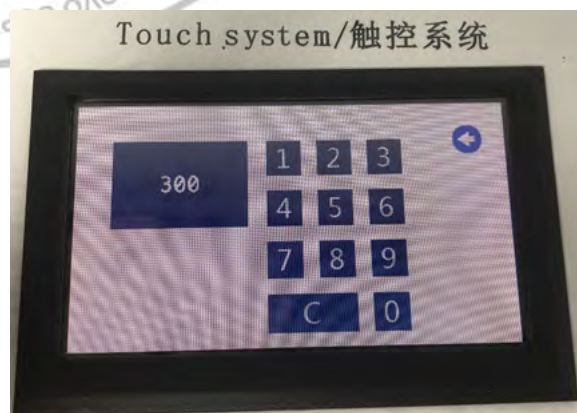
- Select the Language menu and set the desired language.



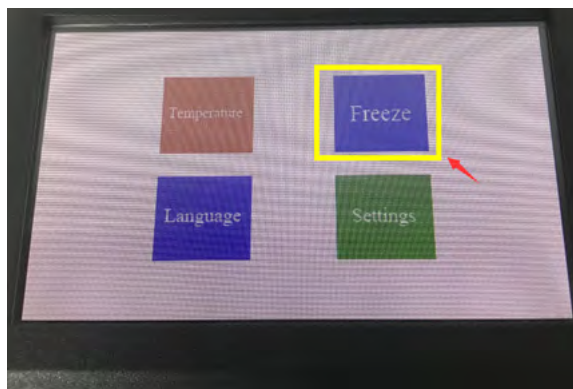
- Select the settings menu, set the temperature and Freezing times.  
Set the temperature to -40 °C: Click the temperature menu, enter 40 on the screen number. Then press the arrow in the upper right corner to return.



- Set the Freezing time to 300 seconds (5 Minutes): Click the time menu, enter 300 on the screen number. Then press the arrow in the upper right corner to return to the main menu.



8. Click Freeze menu, then click the start menu.



9. Verify the temperature reaches the setting value. When the temperature reaches -40 degrees, the compressor will stop, then open the door.



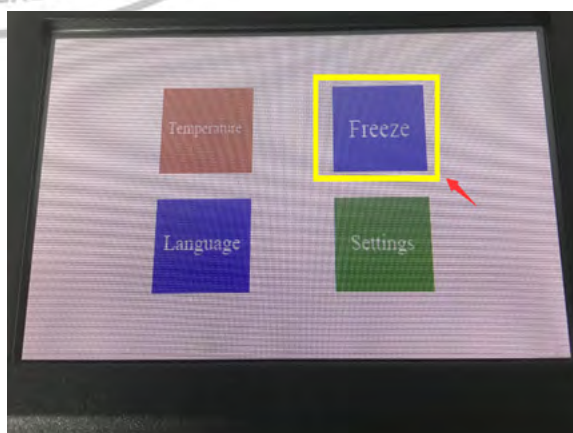
10. Put display into sealing bag and seal then put 1~2 Display into cold plate and close the door.

**NOTE**

Please wear cotton gloves during placement to avoid contact with frozen surface and injury to hands. Phone or display need face down.



11. Click Freeze menu.



12. Click the start menu.

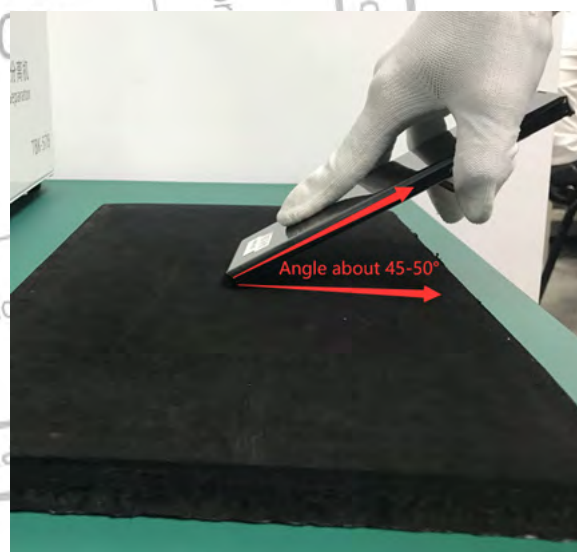


13. After clicking the Start menu, Start the countdown, and freeze it for 5 minutes. When the countdown time reaches, the device will alarm and ring three times.
14. Open the door. Take out one Display at the time with wearing cotton gloves. Take out the Display in the order it was put in.

**NOTE**

Please wear cotton gloves during taking to avoid contact with frozen surface and injury to hands.

15. Remove the Battery.
16. Take out the frozen assembly from the bags.
17. Holding the Display place the Battery face down with the ESD sponge pad at an angle of about 45-50 degrees, and hit on the pad 3-4 times, the Battery will fall off automatically.
18. After the Battery removed. Immediately put the Batteries and Display into two different sealed bag and sealed into bags for temperature return.



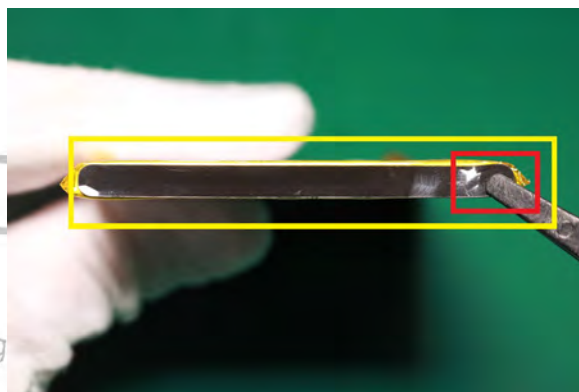
## Battery Buffer Foam Removal

### NOTE

After you remove the Battery Buffer Foam, you cannot reuse it.



Use the Plastic Tweezer to remove the Battery Buffer Foam from the location as shown.



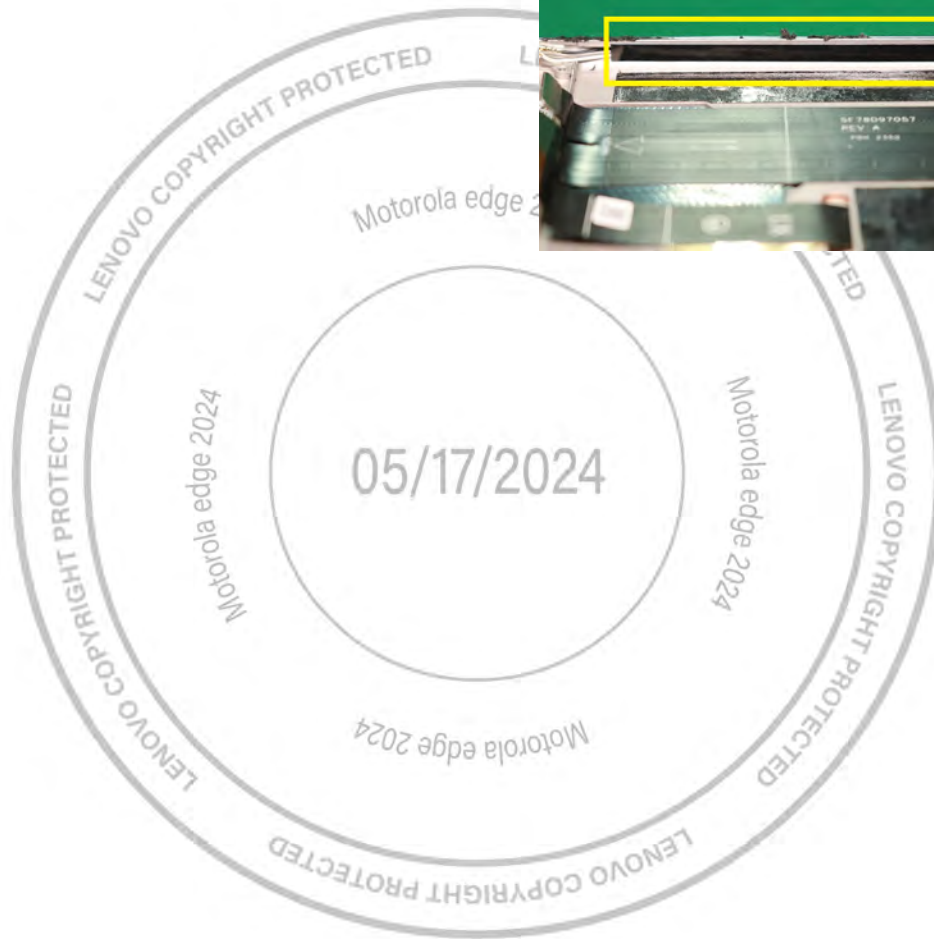
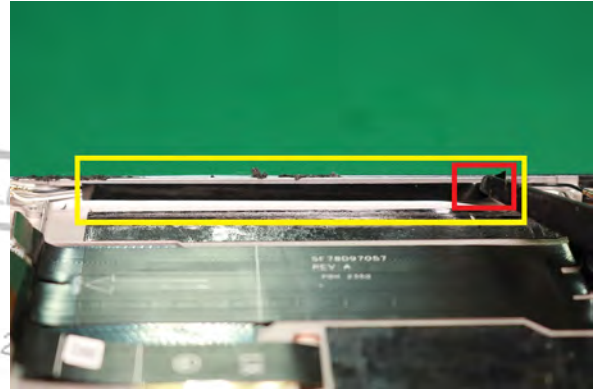
## Coax Cable Mylar Removal

### NOTE

After you remove the Coax Cable Mylar, you cannot reuse it.



Use the Plastic Tweezer to remove the Coax Cable Mylar from the location as shown.



## Black Coax Cable Removal

### NOTE

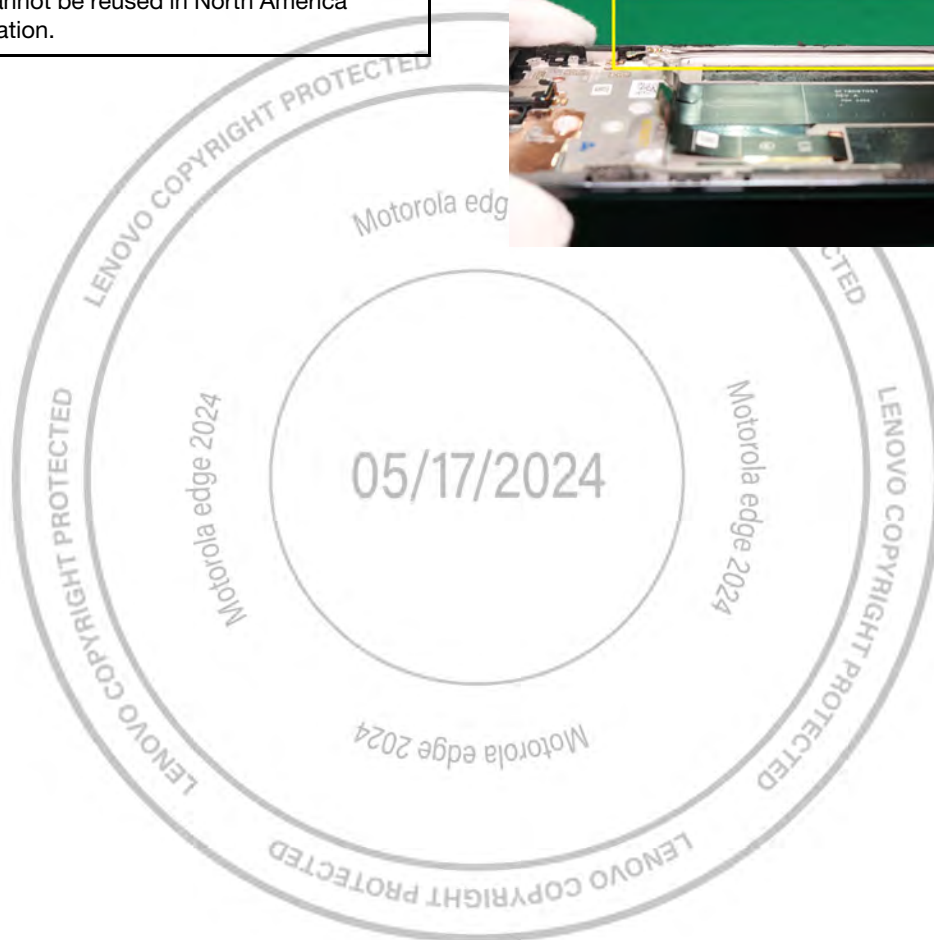
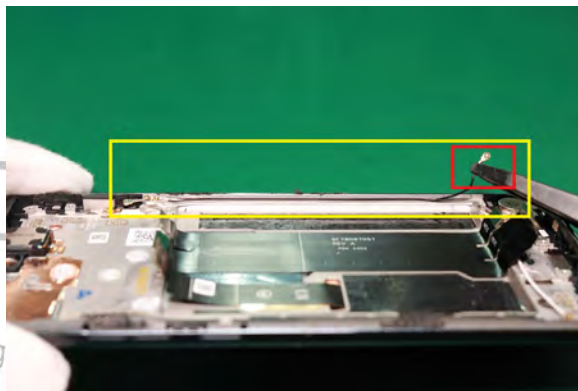
The Black Coax Cable can be recovered and reused after removal.



Use the Plastic Tweezer to remove the Black Coax Cable from the location as shown.

### NOTE

Coax Cable cannot be reused in North America refurbish operation.



## Grey Coax Cable Removal

### NOTE

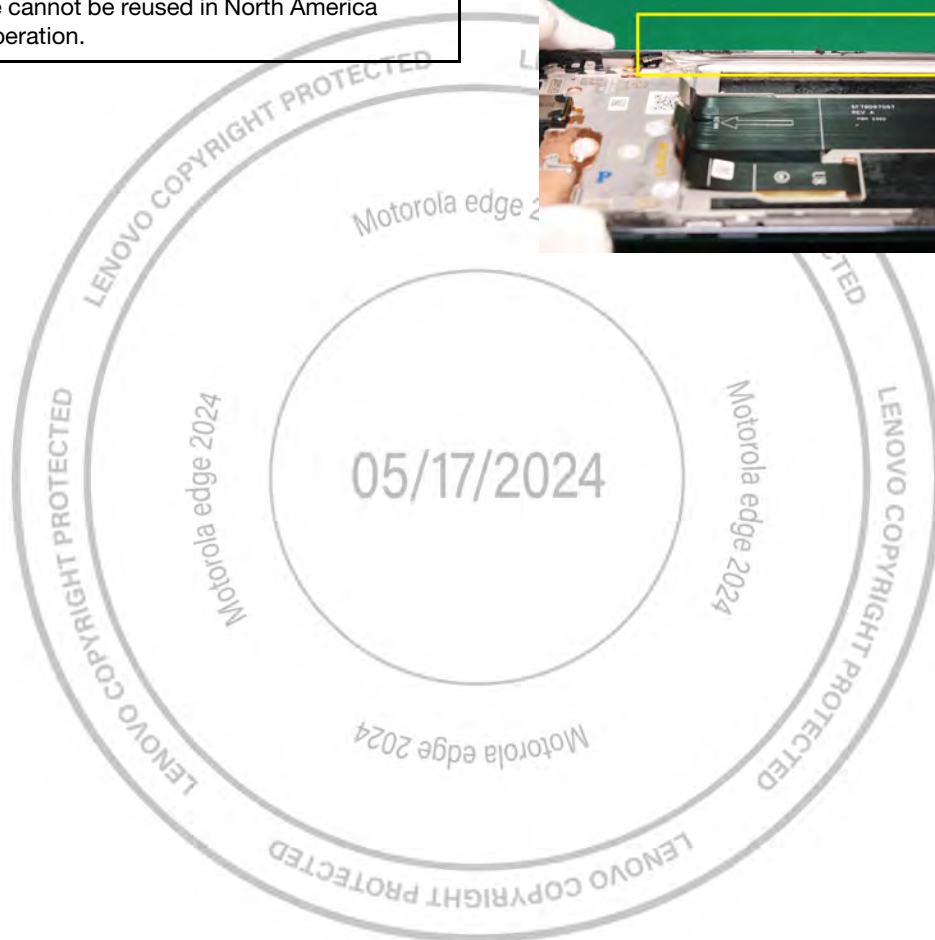
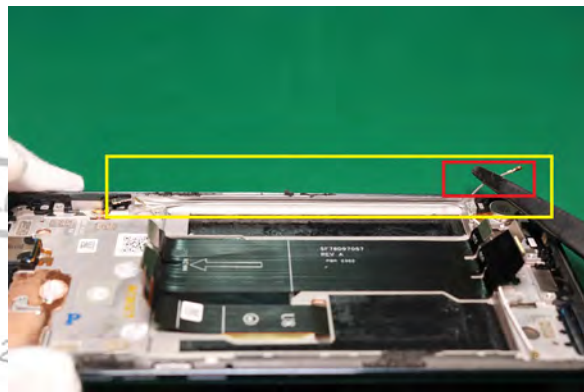
The Grey Coax Cable can be recovered and reused after removal.



Use the Plastic Tweezer to remove the Grey Coax Cable from the location as shown.

### NOTE

Coax Cable cannot be reused in North America refurbish operation.



## White Coax Cable Removal

### NOTE

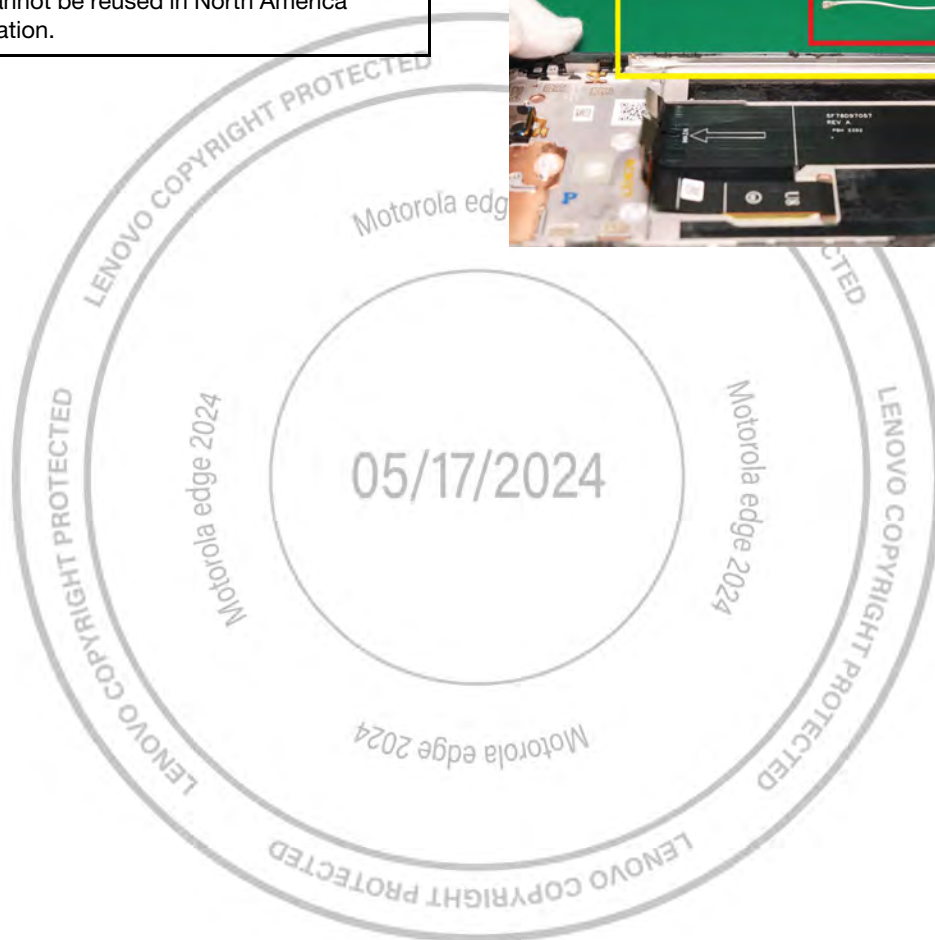
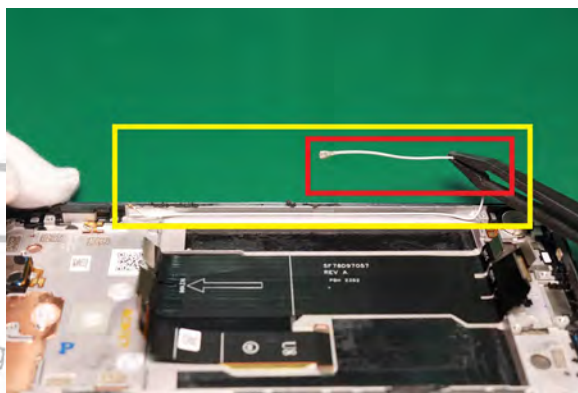
The White Coax Cable can be recovered and reused after removal.



Use the Plastic Tweezer to remove the White Coax Cable from the location as shown.

### NOTE

Coax Cable cannot be reused in North America refurbish operation.



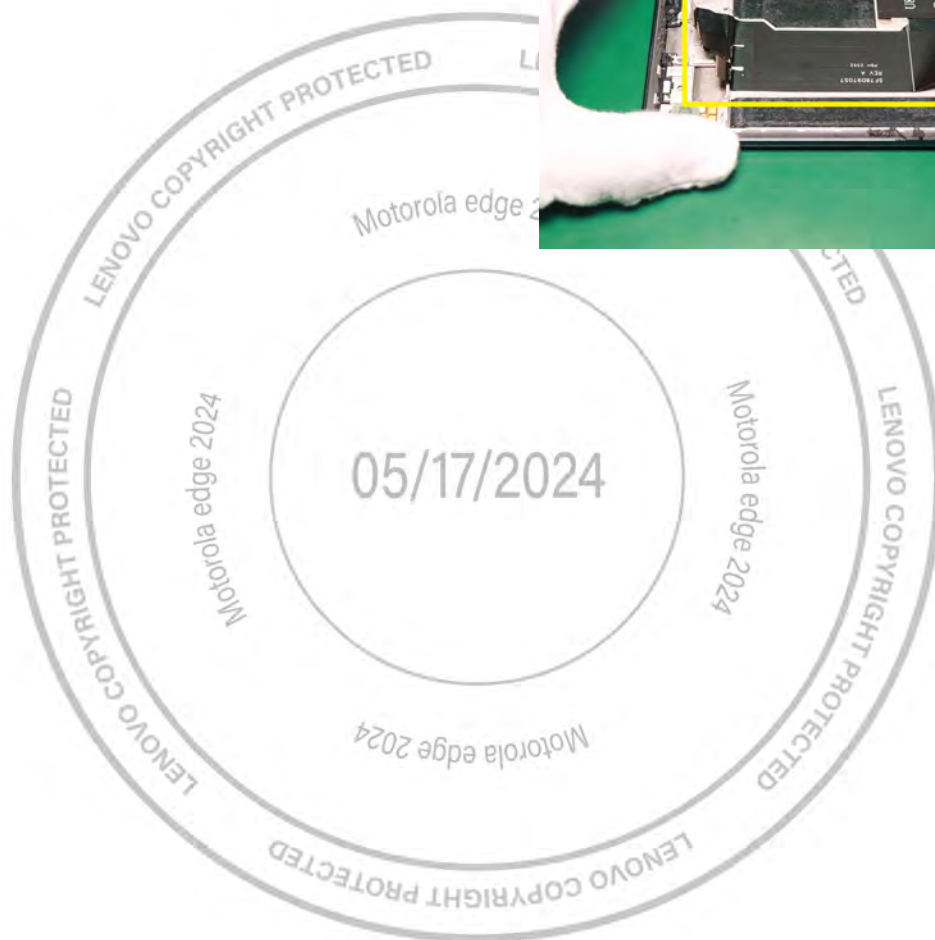
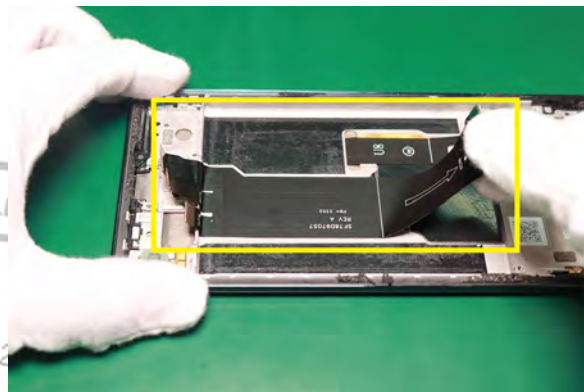
## Main FPC Removal

### NOTE

After you remove the Main FPC, you cannot reuse it.



Use fingers to remove the Main FPC from the location as shown.



## Vibrator Removal

### NOTE

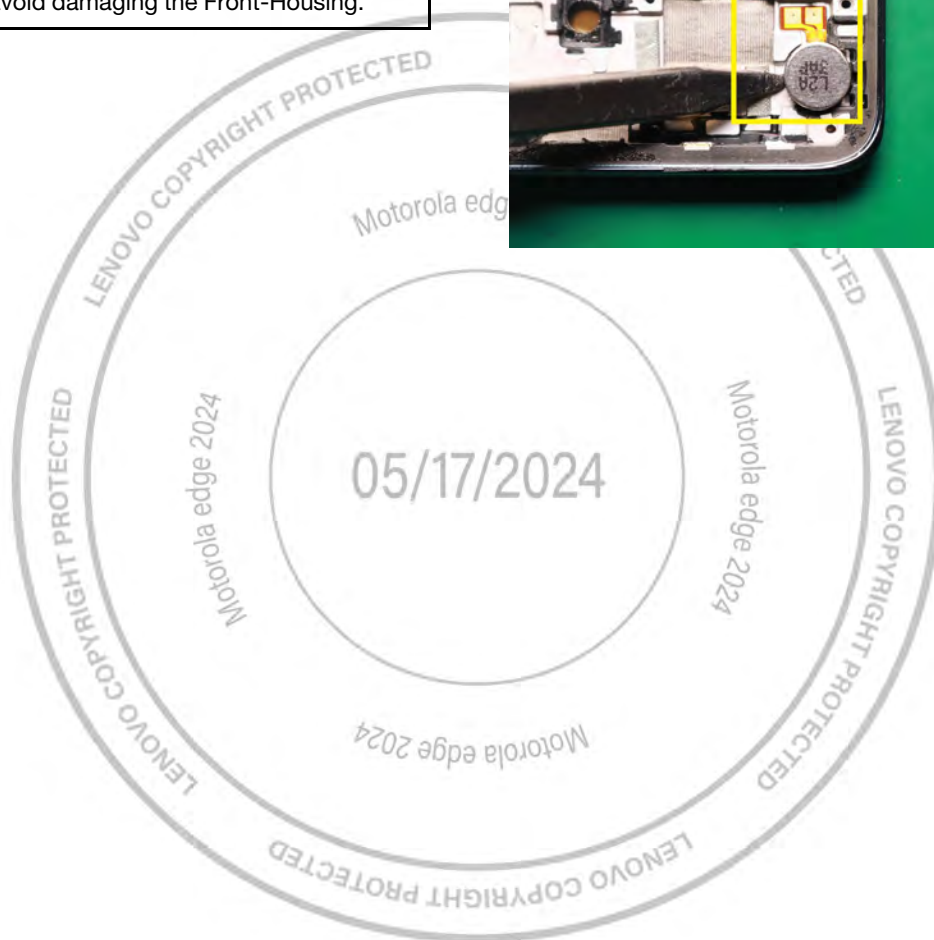
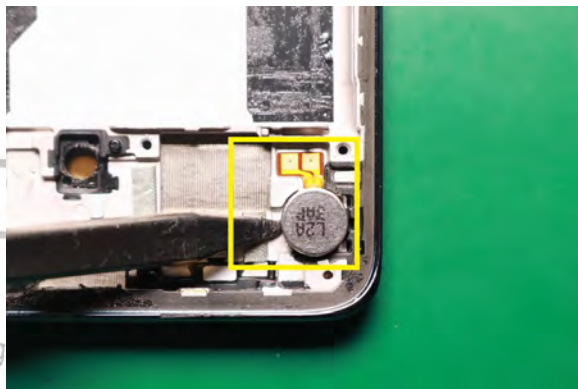
After you remove the Vibrator, you cannot reuse it.



Use the pointed end of the Black Stick to disengage and remove the Vibrator from the location as shown.

### NOTE

Be careful to avoid damaging the Front-Housing.



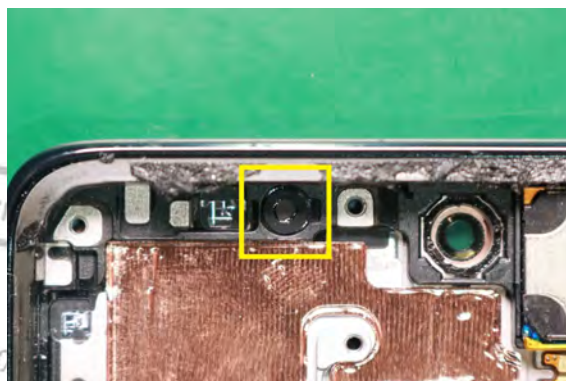
## MIC Mesh Removal

### NOTE

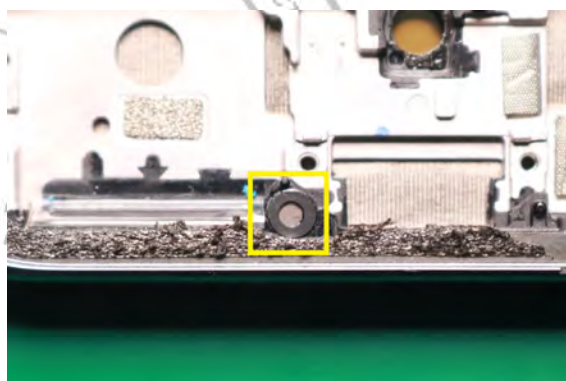
After you remove the MIC Mesh, you cannot reuse it.



1. Use the Plastic Tweezer to remove the Secondary MIC Mesh from the location as shown.



2. Use the Plastic Tweezer to remove the Primary MIC Mesh from the location as shown.



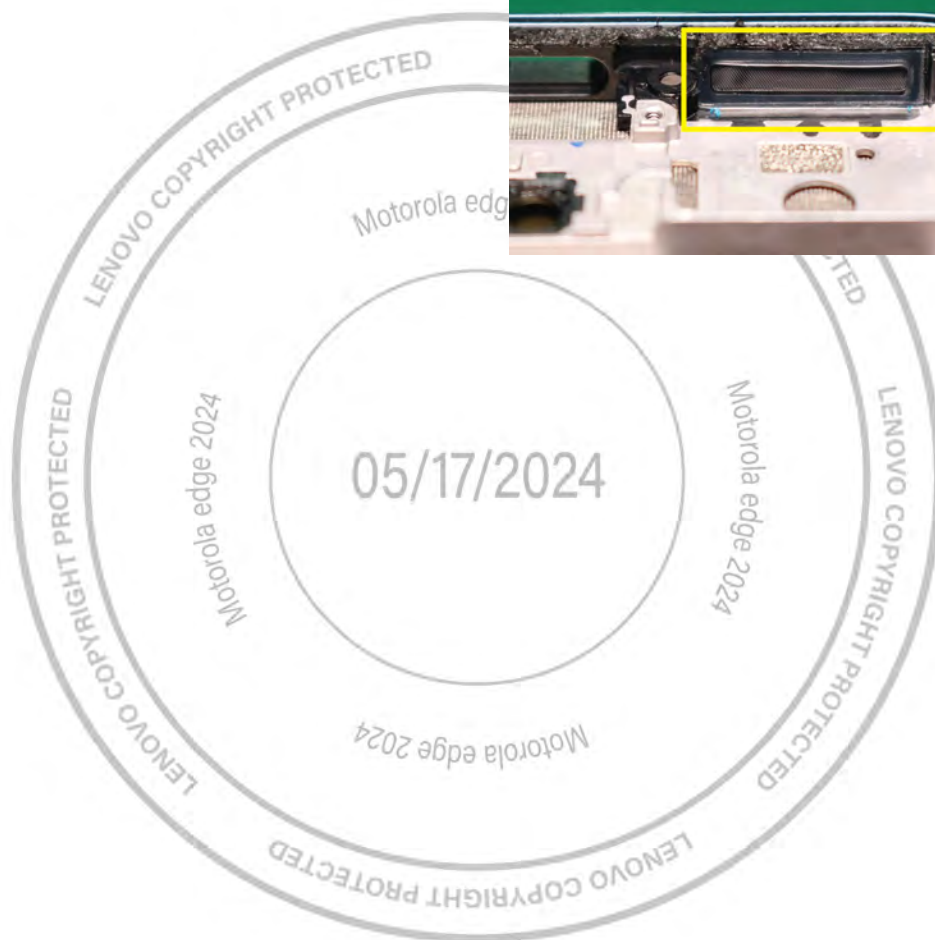
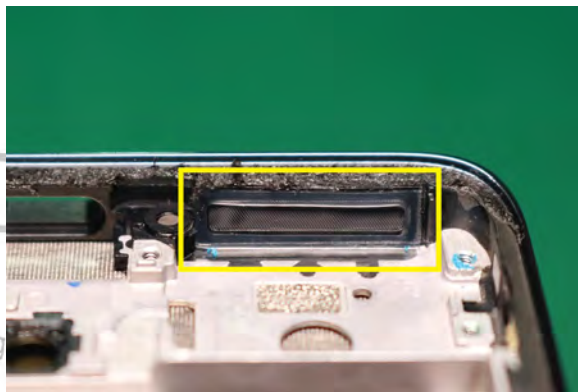
## Speaker Hole Foam Removal

### NOTE

After you remove the Speaker Hole Foam, you cannot reuse it.




Use the Plastic Tweezer to remove the Speaker Hole Foam from the location as shown.



## Chapter 4. Parts Refresh

### Tools Required for Parts Refresh

The following tools are required for parts refresh of the Motorola edge 2024 phone.

Description	Part #	Image
Plastic Tweezers	--	--
Black Stick	--	
ESD Mat	--	--
Wrist Strap	--	--
Isopropyl (ISP) Alcohol	--	--
Cotton Swabs	--	--
Cleaning Pads	--	--
Gloves or Finger Collets	--	--

## Battery Cover Cleaning

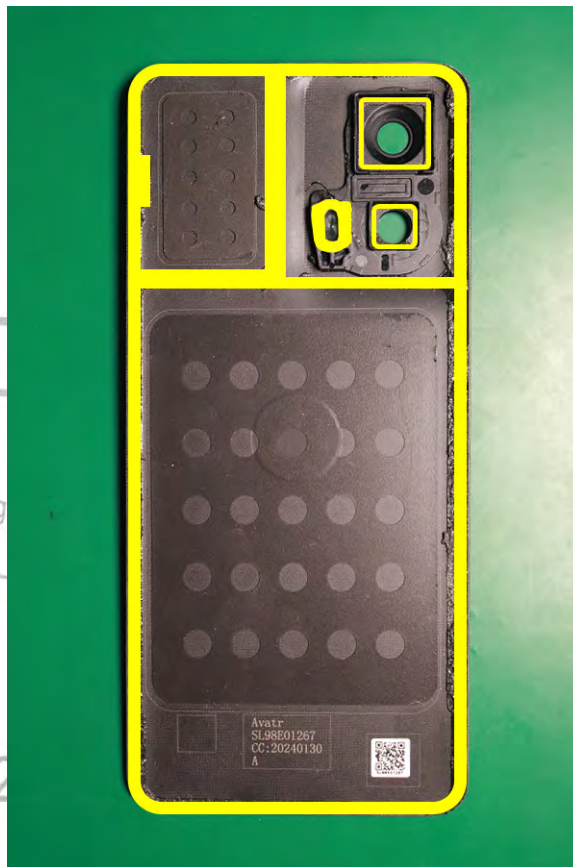
Use the ISP Alcohol and Cotton Swabs to remove all the adhesives on the Battery Cover as shown.

**/// CAUTION ///**

Remove the adhesive carefully to avoid damage to the Battery Cover.

**/// CAUTION ///**

Inadequate cleaning will result in degraded assembly quality.



## Front-Housing Cleaning

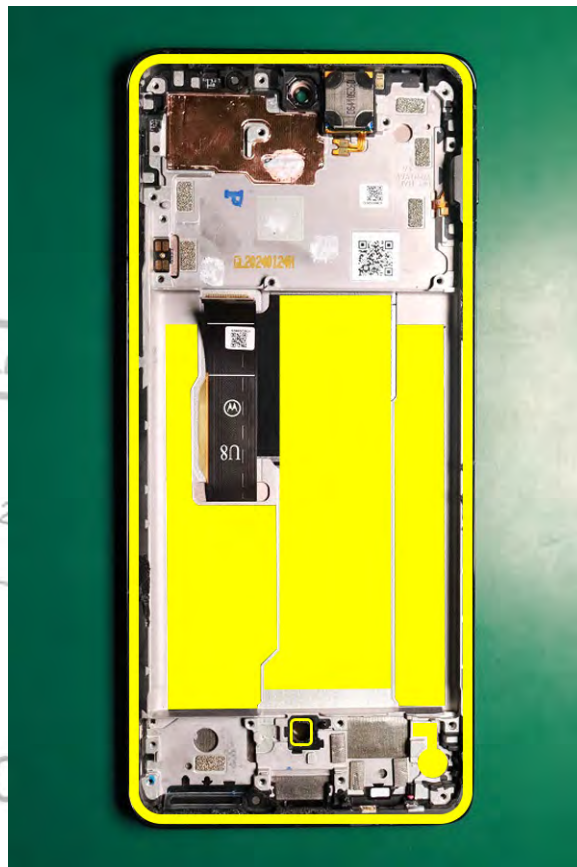
Use the Cotton Swabs with ISP Alcohol to remove all the adhesives from the location as shown.

**/// CAUTION ///**

Remove the adhesive carefully to avoid damage to the Front-Housing.

**/// CAUTION ///**

Inadequate cleaning will result in degraded assembly quality.



## Speaker Box Cleaning

Use the ISP Alcohol and Cotton Swabs to remove all the adhesives on the Speaker Box as shown.

**/// CAUTION ///**

Remove the adhesive carefully to avoid damage to the Speaker Box.

**/// CAUTION ///**

Inadequate cleaning will result in degraded assembly quality.



## Front-Housing Cleaning

Use Plastic Scraper to remove the most part of Thermal putty from the Front-Housing.

**/// CAUTION ///**

Remove the Thermal putty carefully to avoid damage to the Front-Housing.

**/// CAUTION ///**

Inadequate cleaning will result in degraded assembly quality.

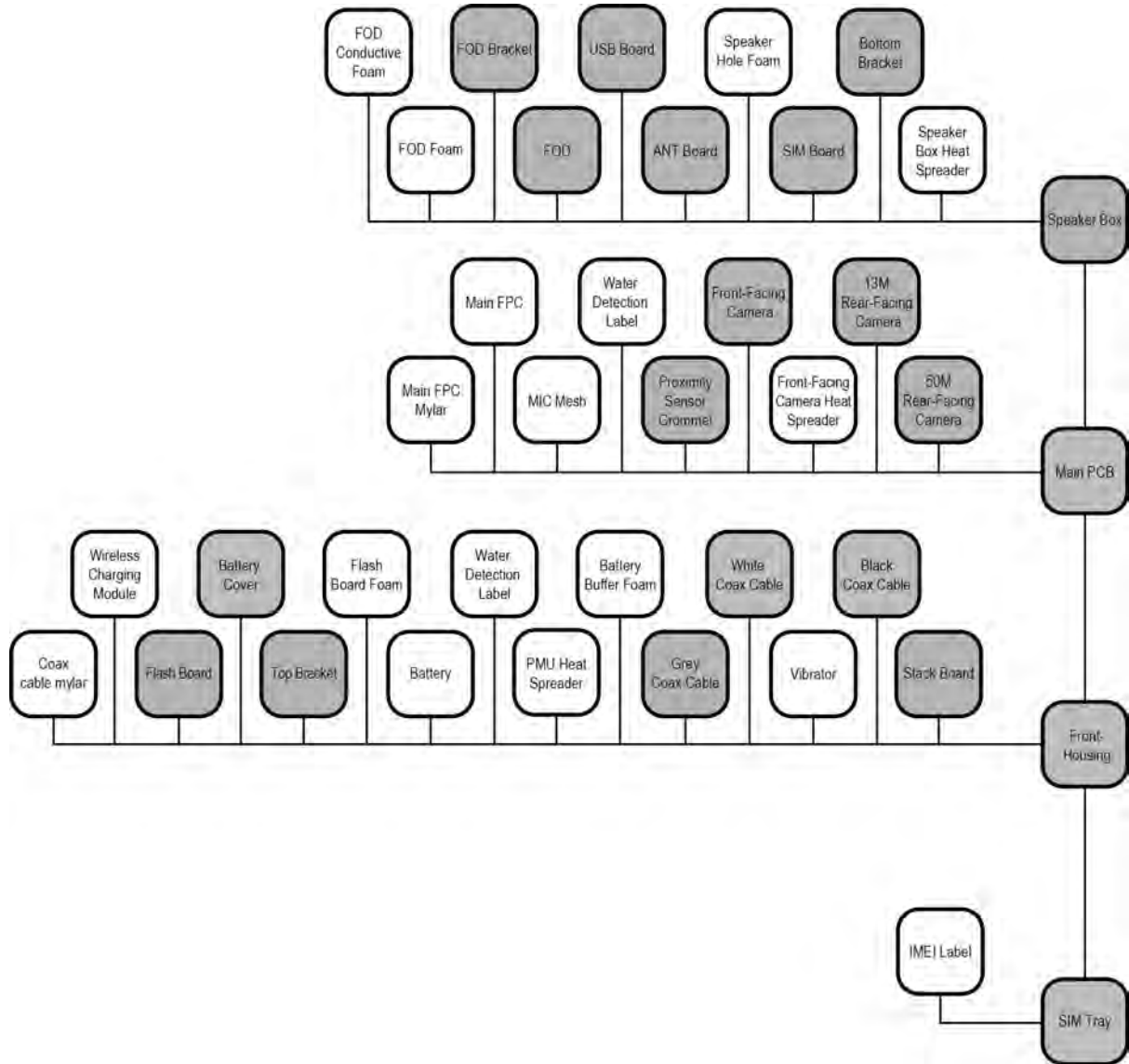




## Chapter 5. Assembly

### Assembly Map


\*Shaded parts may be eligible for parts recovery

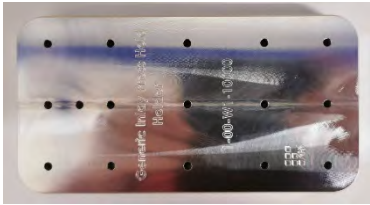




## Tools Required for Assembly

The following tools are required to assemble the Motorola edge 2024 phone.

NOTE
Improper tools may cause damage to components.

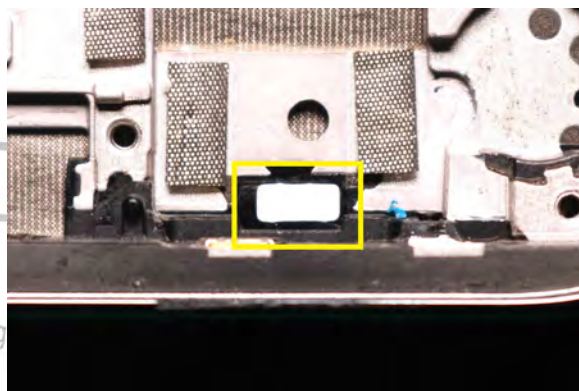
Description	Part #	Picture/Drawing
Black Stick	--	
Torque Driver	--	
PH00 Bit	--	
Regen-I Pneumatic Press System <a href="https://www.regeni.com/">https://www.regeni.com/</a>	RG262	
Manaus 5G NA inlay adhesive alignment Supplier: AMS Email: andrea.arhelger@amsde.com	1-00-T2-10000	
Manaus 5G NA inlay press - rubber pad Supplier: AMS Email: andrea.arhelger@amsde.com	1-00-W8-10000	

Description	Part #	Picture/Drawing
Generic inlay press – holder Supplier: AMS Email: andrea.arhelger@amsde.com	1-00-W1-10000	 A rectangular metal holder with a grid of eight circular holes, used for pressing inlays.
Manual Roller	--	 A manual roller with a white cylindrical handle and a metal frame.
AP-111 <b>Note:</b> 3M N200 or 3M K500 can be alternative material for 3M AP-111.	--	 A small, clear plastic bottle of 3M AP-111 adhesive.
Plastic Tweezers	--	--
Tweezers	--	--
Gloves or Finger Collets	--	--

## Water Detection Label Assembly

Description	Reference #
XT2405 TP LCM ASSY Outer Space CS	1
DICUT,WATERPROOF,Waterproof LBL TMO	-

Use the Plastic Tweezer to place the Water Detection Label (WDL) on the Front-Housing as shown.



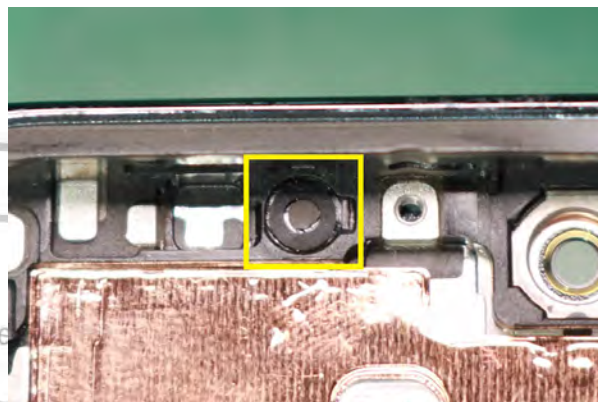
## MIC Mesh Assembly

Description	Reference #
XT2405 TP LCM ASSY Outer Space CS	1
DICUT,FOAM,IP68_MIC1_GASKET_ALL	-

Use the Plastic Tweezer to place two pieces of the MIC Mesh on the locations as shown.

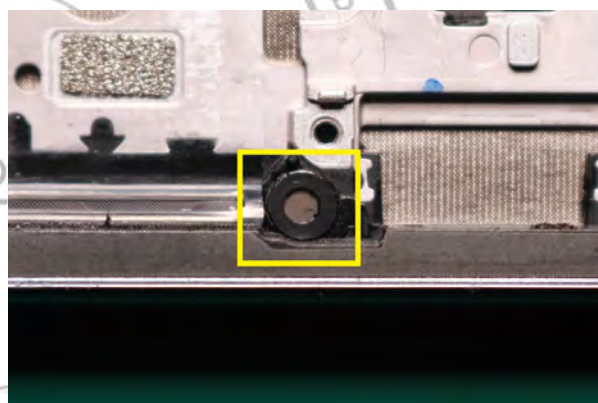
### NOTE

Press firmly for seconds 3 times to activate the adhesive.



### NOTE

The MIC Mesh should be pasted strictly in place, otherwise, it will affect the waterproof function of the phone.



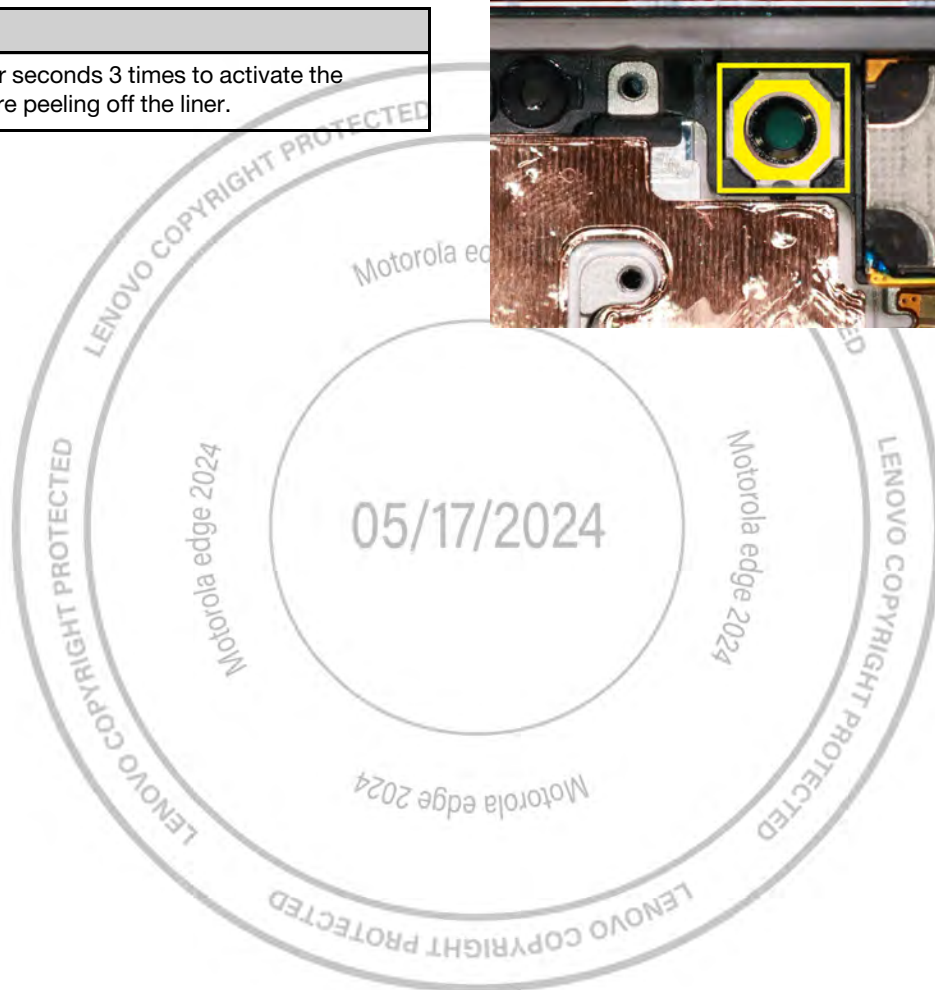
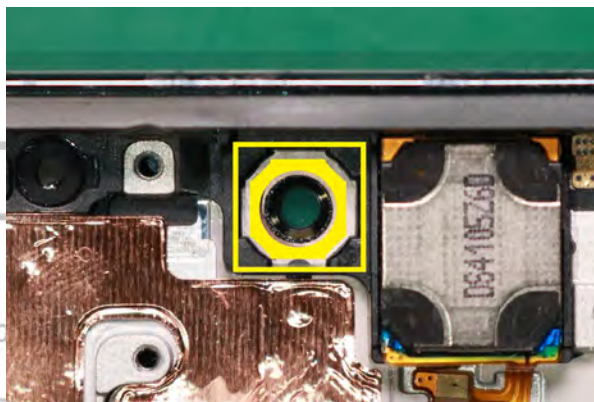
## Front-Facing Camera Adhesive Assembly

Description	Reference #
XT2405 TP LCM ASSY Outer Space CS	1
DICUT,FOAM,AVATR_NA_FRT_CAM_GAS	-

Use the Plastic Tweezer to place the Front-Facing Camera Adhesive on the location as shown and peel off the liner.

### NOTE

Press firmly for seconds 3 times to activate the adhesive before peeling off the liner.



## Vibrator Assembly

Description	Reference #
XT2405 TP LCM ASSY Outer Space CS	1
Vibrator,235Hz,D8xH3.25,L0832F-0012	23

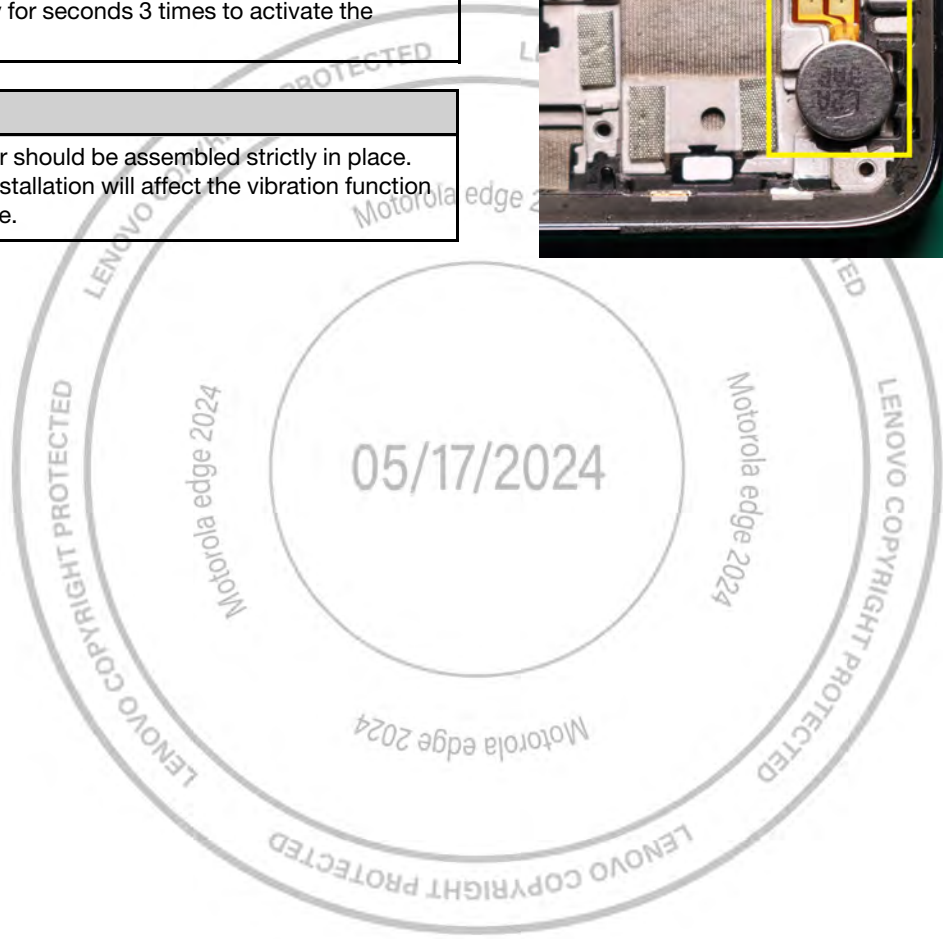
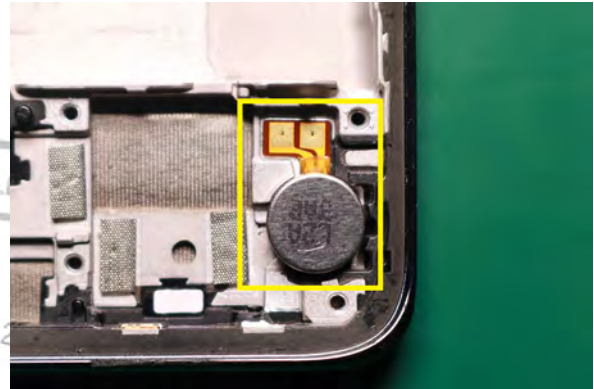
Use the Plastic Tweezer to place the Vibrator on the location as shown.

**NOTE**

Press firmly for seconds 3 times to activate the adhesive.

**NOTE**

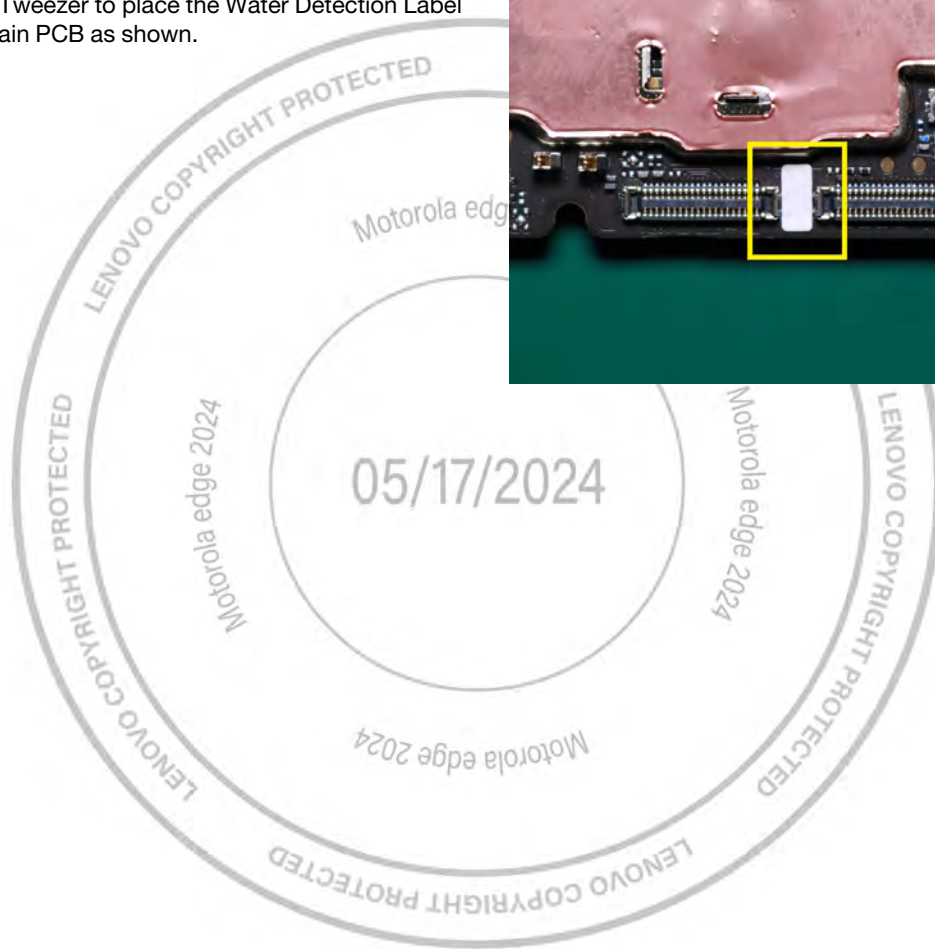
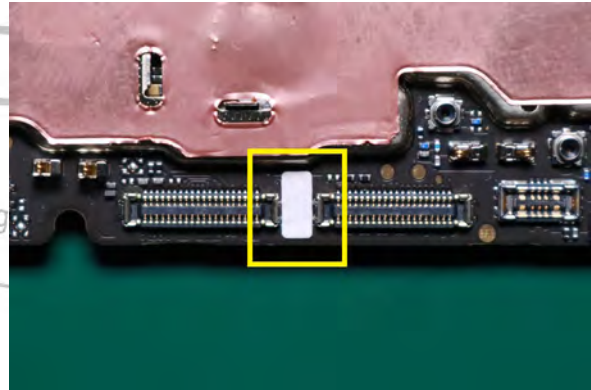
The Vibrator should be assembled strictly in place. Improper installation will affect the vibration function of the phone.



## Water Detection Label Assembly

Description	Reference #
XT2405-1 MB 8+256G Retail DS CS XT2405-1 MB 8+256G TMO DL CS XT2405-1 MB 8+256G CC DL CS XT2405-1 MB 8+256G DISH DL CS XT2405V MB 8+256G TF DL CS	2
DICUT,WATERPROOF,Waterproof LBL TMO	-

Use the Plastic Tweezer to place the Water Detection Label (WDL) on the Main PCB as shown.



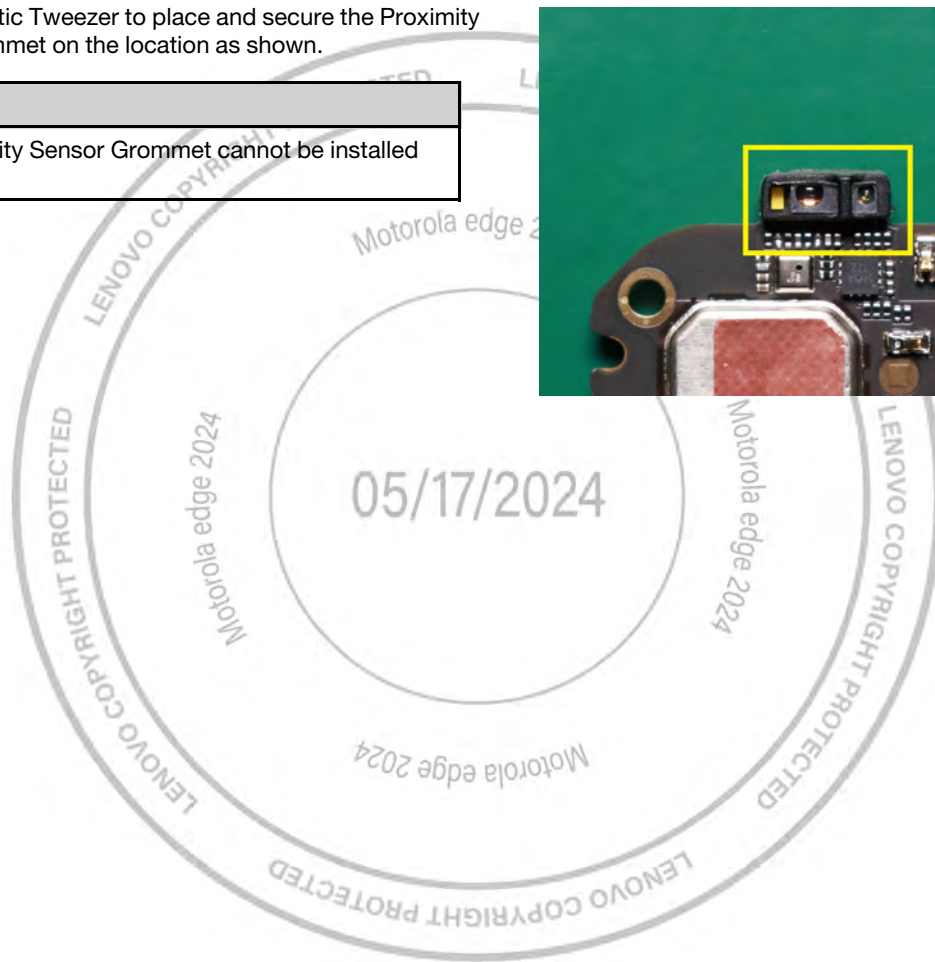
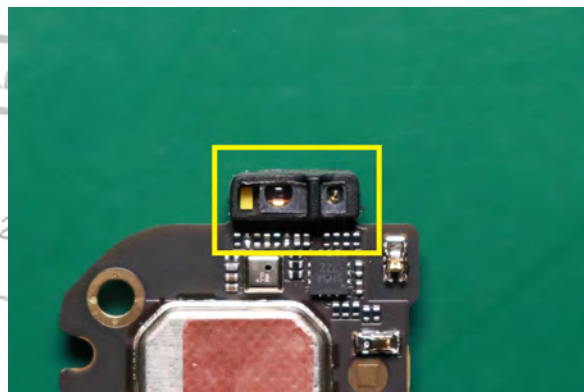
## Proximity Sensor Grommet Assembly

Description	Reference #
XT2405-1 MB 8+256G Retail DS CS XT2405-1 MB 8+256G TMO DL CS XT2405-1 MB 8+256G CC DL CS XT2405-1 MB 8+256G DISH DL CS XT2405V MB 8+256G TF DL CS	2
GROM,CUST,PSENSOR_GROMMET_ORA	10

Use the Plastic Tweezer to place and secure the Proximity Sensor Grommet on the location as shown.

### NOTE

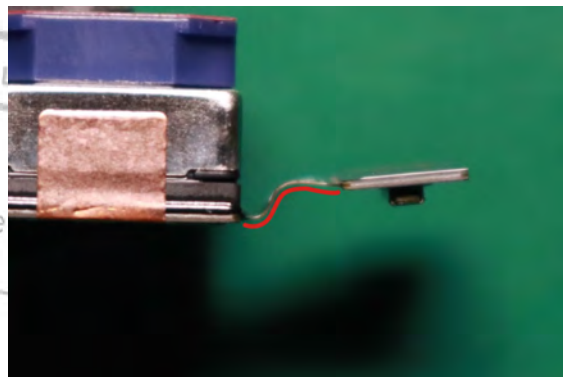
The Proximity Sensor Grommet cannot be installed backwards.



## 13M Rear-Facing Camera Assembly

Description	Reference #
XT2405-1 MB 8+256G Retail DS CS XT2405-1 MB 8+256G TMO DL CS XT2405-1 MB 8+256G CC DL CS XT2405-1 MB 8+256G DISH DL CS XT2405V MB 8+256G TF DL CS	2
MDL,CAMR,13M,rear,L13A2A10;O-film,AF:Wra	17

1. Use fingers to pre-bend the 13M Rear-Facing Camera FPC before assembling it as shown.



2. Use fingers to place and secure the 13M Rear-Facing Camera on the Main PCB as shown.

### NOTE

Align the interface before securing to avoid damaging the contacts.

### NOTE

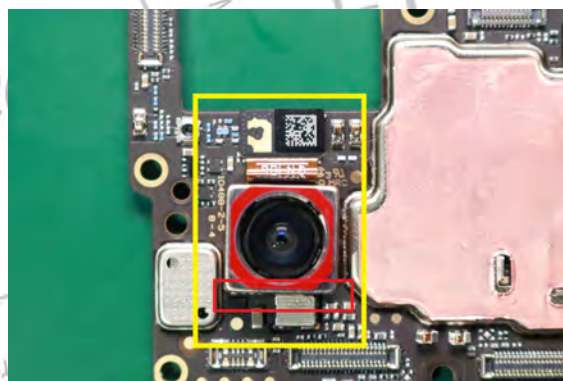
The 13M Rear-Facing Camera should be assembled strictly in place. Improper installation will affect the photograph function of the phone.

### NOTE

The Camera can not overlap components on Main PCB.

### NOTE

Do not remove the protective cover before assembling the Battery cover.



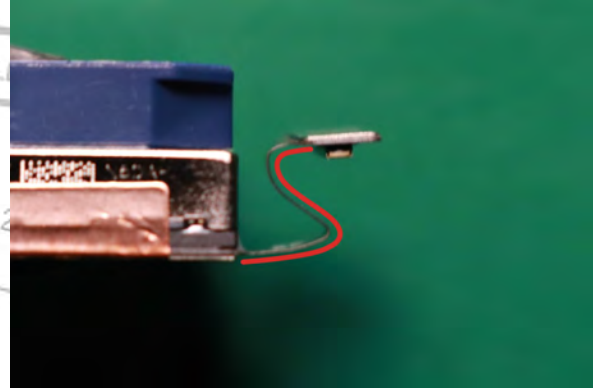
## 50M Rear-Facing Camera Assembly

Description	Reference #
XT2405-1 MB 8+256G Retail DS CS XT2405-1 MB 8+256G TMO DL CS XT2405-1 MB 8+256G CC DL CS XT2405-1 MB 8+256G DISH DL CS XT2405V MB 8+256G TF DL CS	2
MDL,CAMR,50M,rear,C3PS68;Q Tech,OIS:Mana	16

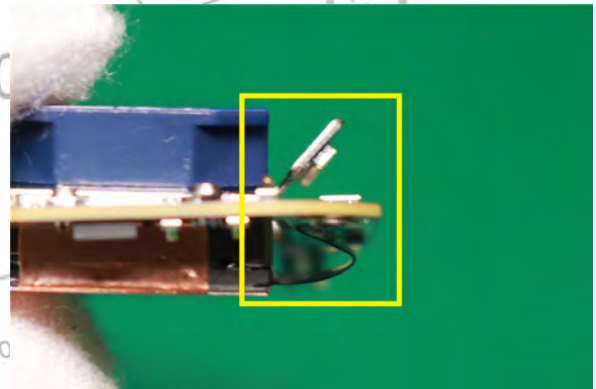
1. Use fingers to pre-bend the 50M Rear-Facing Camera FPC before assembling it as shown.

**NOTE**

Be careful to not damage the Camera FPC.



2. Use fingers to place the 50M Rear-Facing Camera FPC through the slot and place the 50M Rear-Facing Camera into the camera slot as shown.



3. Use fingers to place and secure the 50M Rear-Facing Camera on the Main PCB BtB connector as shown.

**NOTE**

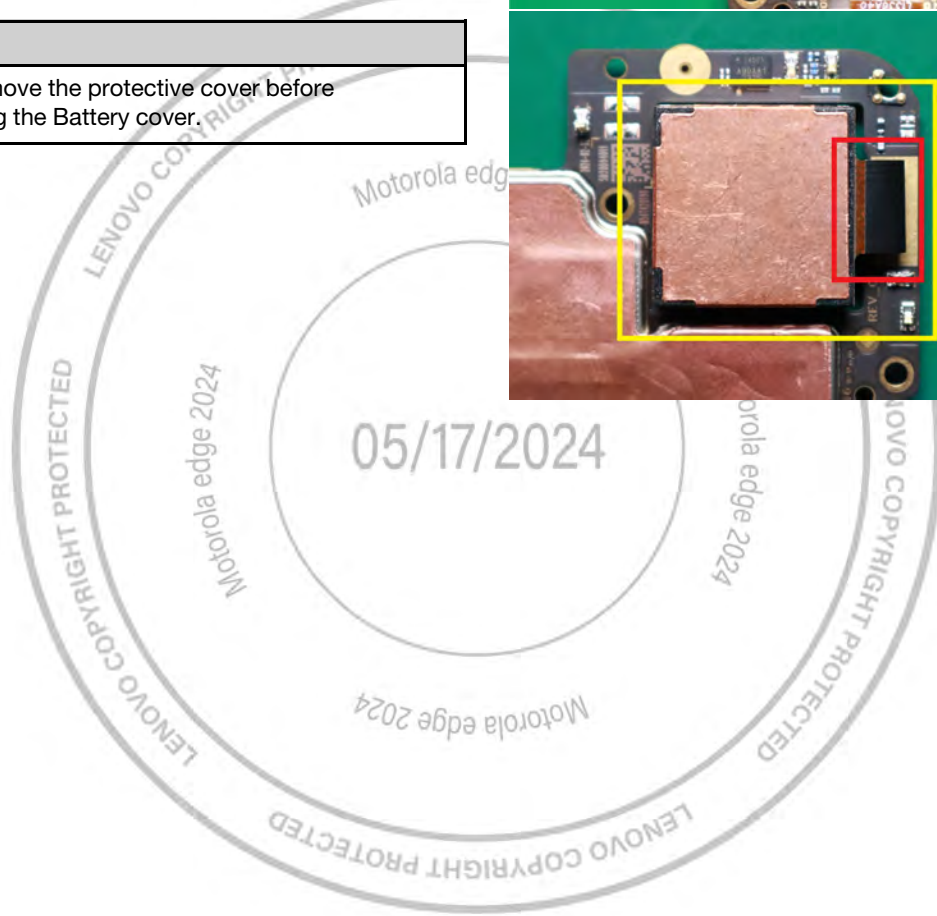
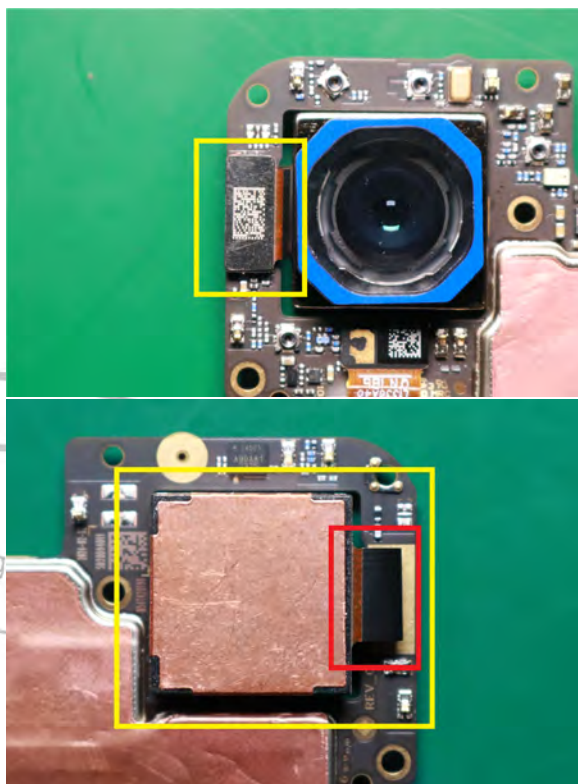
Align the interface before securing to avoid damaging the contacts.

**NOTE**

The 50M Rear-Facing Camera should be assembled strictly in place. Improper installation will affect the photograph function of the phone.

**NOTE**

Do not remove the protective cover before assembling the Battery cover.



## Thermal Gel Assembly

### NOTE

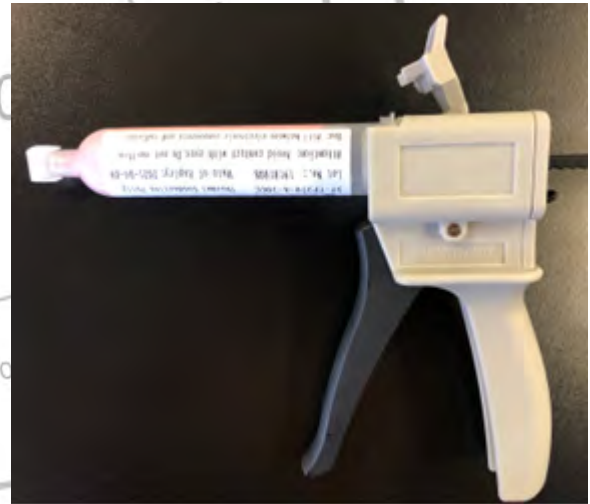
This procedure is only required when replacing the Main PCB or Front Housing.

## Thermal Gel Syringe size package and Needle Gauges description

1. TDS SY-TP350 5ml can operate without dispensing tool.



2. TDS SY-TP350 30ml operate with dispensing tool.



3. Henkel LF350 30ml operate with dispensing tool.



- 4. Cooler Master and Artic Thermal Gel syringe package.



- 5. When use Artic and Cooler Master 30ml package suggest using 18-gauge needle.

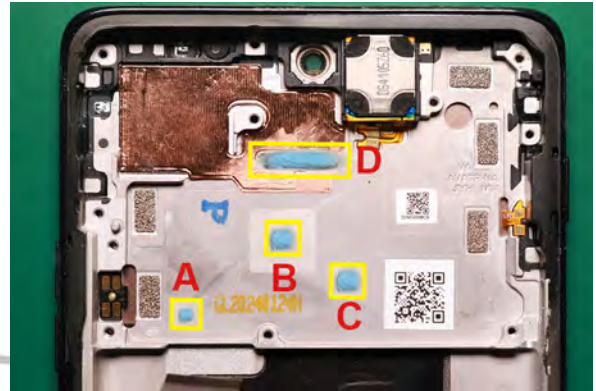


- 6. When use SY-TP350 or Henkel LF350 30ml package suggest using 14- or 15-gauge needle.



## Front-Housing Thermal Gel Location Assembly

Noticing on the Front-Housing and refer to Thermal Gel shape as shown.



## Front-Housing Thermal Gel Assembly by Weight

Add Thermal Conductive Gel on the visual block as shown.

A :  $20 \pm 5$  mg

B :  $20 \pm 5$  mg

C :  $20 \pm 5$  mg

D :  $31 \pm 5$  mg



## Thermal Gel list that can be acceptable substitutes

Brand	Model	URL
Cool Master	MGY-OSSG-N15M-R1	<a href="https://www.coolermaster.com/catalog/coolers/thermal-grease/mastergel-pro/">https://www.coolermaster.com/catalog/coolers/thermal-grease/mastergel-pro/</a>
	MGZ-NDSG-N15M-R1	<a href="https://www.coolermaster.com/catalog/coolers/thermal-grease/mastergel-maker/">https://www.coolermaster.com/catalog/coolers/thermal-grease/mastergel-maker/</a>
	RG-ICE1-TG15-R1	<a href="https://www.coolermaster.com/catalog/coolers/thermal-grease/ic-essential-e1/">https://www.coolermaster.com/catalog/coolers/thermal-grease/ic-essential-e1/</a>
	RG-ICE2-TA15-R1	<a href="https://www.coolermaster.com/catalog/coolers/thermal-grease/ic-essential-e2/">https://www.coolermaster.com/catalog/coolers/thermal-grease/ic-essential-e2/</a>
	RG-EFX1-TG15-R1	<a href="https://www.coolermaster.com/catalog/coolers/thermal-grease/extreme-fusion-x1/">https://www.coolermaster.com/catalog/coolers/thermal-grease/extreme-fusion-x1/</a>
Electrolube	TCP400	N/A N/A
Henkel	LF3500	N/A N/A



## Main PCB Assembly

Description	Reference #
XT2405 TP LCM ASSY Outer Space CS	1
XT2405-1 MB 8+256G Retail DS CS XT2405-1 MB 8+256G TMO DL CS XT2405-1 MB 8+256G CC DL CS XT2405-1 MB 8+256G DISH DL CS XT2405V MB 8+256G TF DL CS	2
HDW,SCR,STL,M1.4x0.30x2.5mm_Clear	15

1. Make sure to place the Main PCB on the Front-Housing aligning with the pin as shown.

### NOTE

Be careful to not touch other components on the Main PCB.



### NOTE

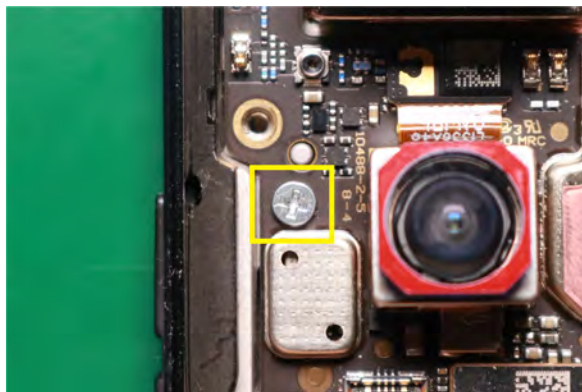
Incline the Main PCB and insert the Proximity Sensor first and insert the Main PCB into the Front-Housing at about 20–30 degrees.



2. Use Torque Driver with PH00 Bit to tighten the screw as shown ( $0.7 \pm 0.06$  kgf-cm).

**NOTE**

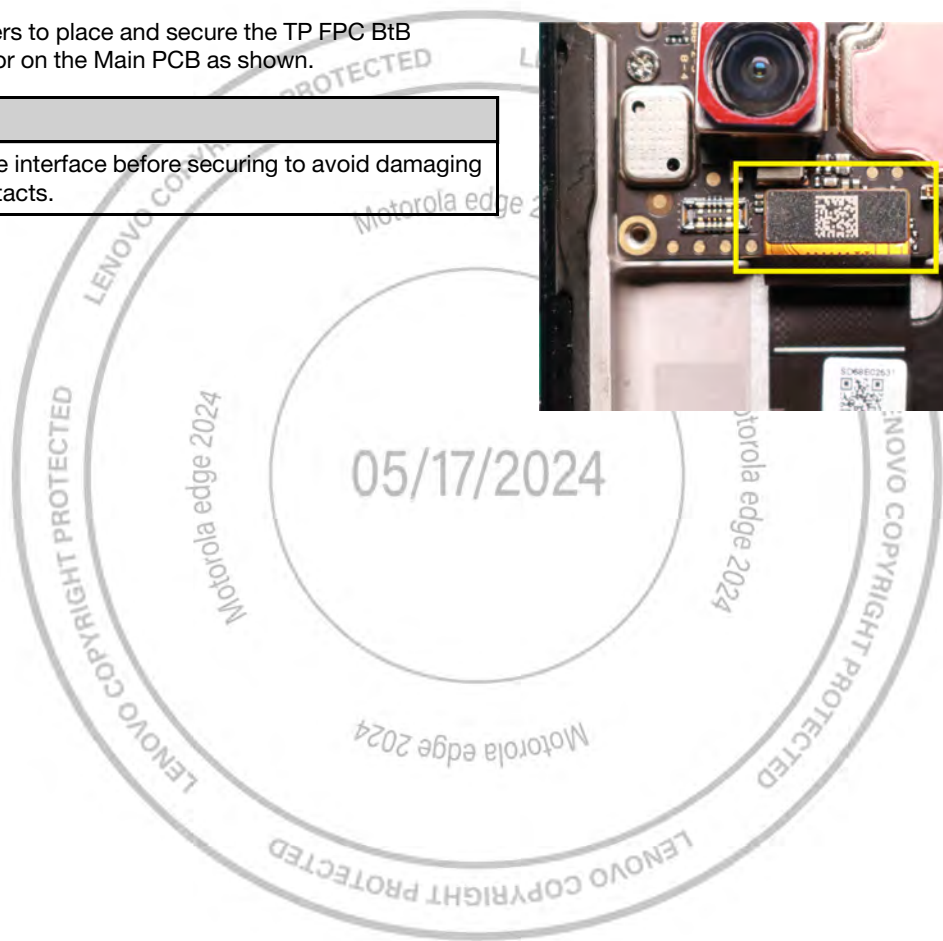
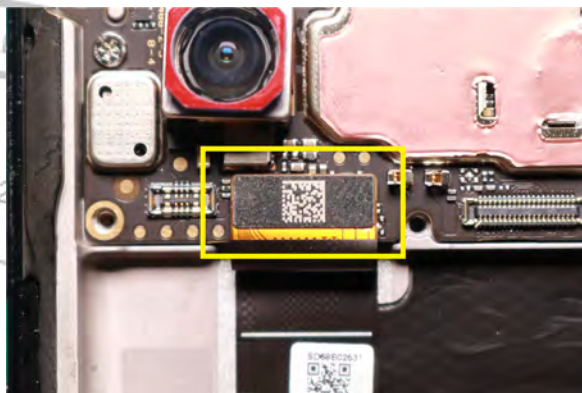
The screw should not be over tightened or loosened. Improper twisting force may cause damage or components to fall out.



3. Use fingers to place and secure the TP FPC BtB Connector on the Main PCB as shown.

**NOTE**

Align the interface before securing to avoid damaging the contacts.



## Front-Facing Camera Assembly

Description	Reference #
XT2405 TP LCM ASSY Outer Space CS	1
XT2405-1 MB 8+256G Retail DS CS XT2405-1 MB 8+256G TMO DL CS XT2405-1 MB 8+256G CC DL CS XT2405-1 MB 8+256G DISH DL CS XT2405V MB 8+256G TF DL CS	2
MDL,CAMR,32M,FRNT,LJD1F00;O-film,FF:Chic	18

Remove the protect cover of the Front-Facing Camera and use fingers to place and secure the Front-Facing Camera on the location as shown.

### NOTE

Align the interface before securing to avoid damaging the contacts.

### NOTE

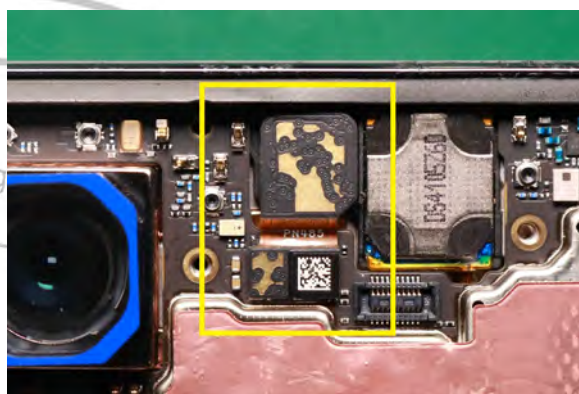
Make sure the Front-Facing Camera is installed into the recess of the Front-Housing.

### NOTE

The Front-Facing Camera should be assembled strictly in place. Improper installation will affect the photograph function of the phone.

### NOTE

First place the Front-Facing Camera into the camera slot, then secure the Front-Facing Camera BtB connector.



## Front-Facing Camera Heat Spreader Assembly

Description	Reference #
XT2405-1 MB 8+256G Retail DS CS XT2405-1 MB 8+256G TMO DL CS XT2405-1 MB 8+256G CC DL CS XT2405-1 MB 8+256G DISH DL CS XT2405V MB 8+256G TF DL CS	2
MDL,CAMR,32M,FRNT,LJD1F00;O-film,FF:Chic	18
THRM,COND,AVATR_NA_CAMERA_GRAPHITE	19

Use the Plastic Tweezer to place the Front-Facing Camera Heat Spreader on the location aligning with the red lines as shown.

### NOTE

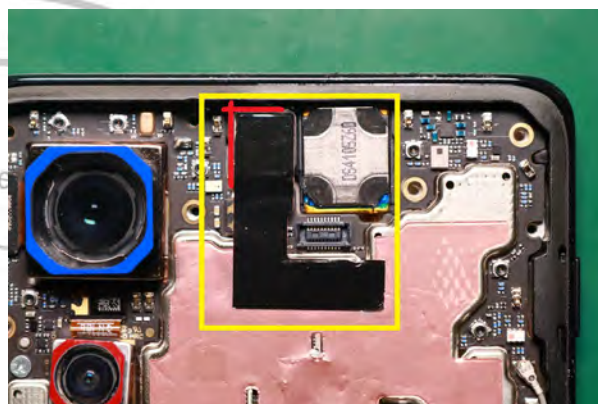
Press firmly for seconds 3 times to activate the adhesive.

### NOTE

Improper installation will affect the heat dissipation of the phone.

### NOTE

Be careful to not touch other components on the Main PCB.



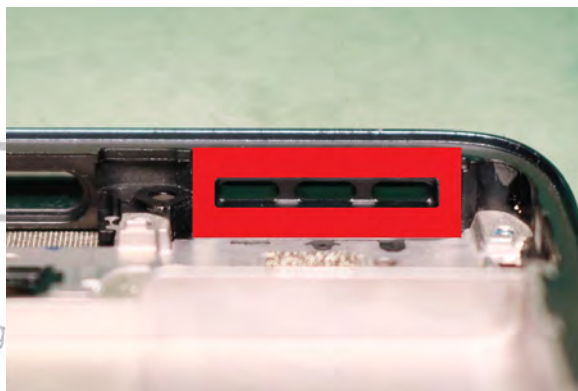
## Speaker Box Mesh Assembly

Description	Reference #
XT2405 TP LCM ASSY Outer Space CS	1
DICUT,ADHS,NIO_SPK_HOLE_GASKET	5

1. Use the cotton swabs and ISP Alcohol to clean the Front Housing as shown.

**//CAUTION//**

Front-Housing cleaning is critical to the phone's water resistance. You must thoroughly clean the surface with ISP Alcohol and allow it to dry completely before applying 3M AP-111 Adhesion Promoter.



2. Wait for the ISP Alcohol to dry completely.

**//CAUTION//**

Do not use the same cotton swabs to clean with ISP Alcohol and apply 3M AP-111 Adhesion Promoter. The Speaker Box Mesh will not properly adhere to the Front-Housing if the cotton swabs are reused. The cotton swabs may be used for two applications of the same chemical, but then must be discarded.

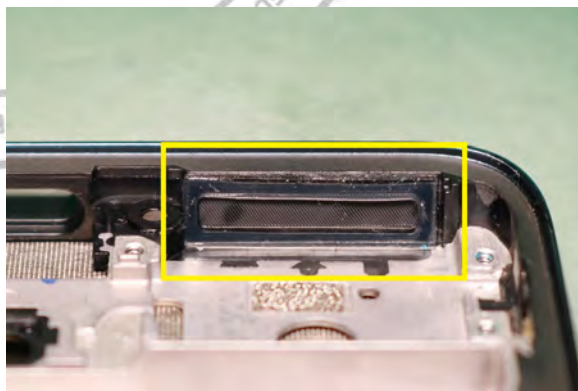
3. Repeat step 1 – 2 one time.
4. Use clean cotton swabs to apply 3M AP-111 Adhesion Promoter to the Front Housing.
5. Wait for the 3M AP-111 Adhesion Promoter to dry.
6. Use the Plastic Tweezer to place the Speaker Box Mesh on the location as shown.

**NOTE**

Improper installation will affect the waterproof function of the phone.

**NOTE**

Press firmly for seconds 3 times to activate the adhesive.



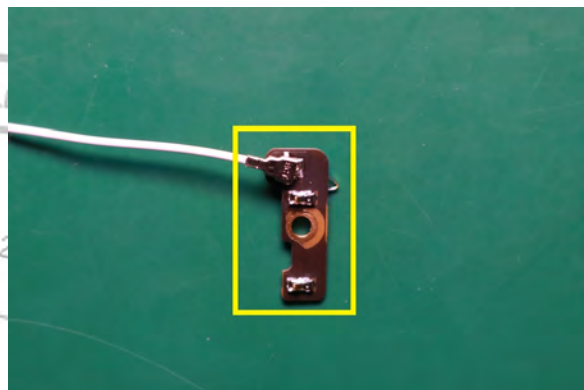
## ANT Board Assembly

Description	Reference #
XT2405 TP LCM ASSY Outer Space CS	1
CBL,COAX,CABLE9_AVATR_NA	11
ZEEKR SCREW_M1P2_1P55_H03_CROSS	25
XT2405 ANT Board CS	27

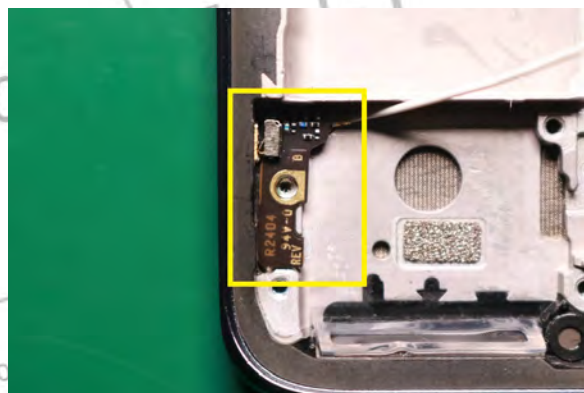
1. Use the Plastic Tweezer to place and secure the White Coax Cable on the ANT Board as shown.

**NOTE**

Align the interface before securing to avoid damaging the contacts.



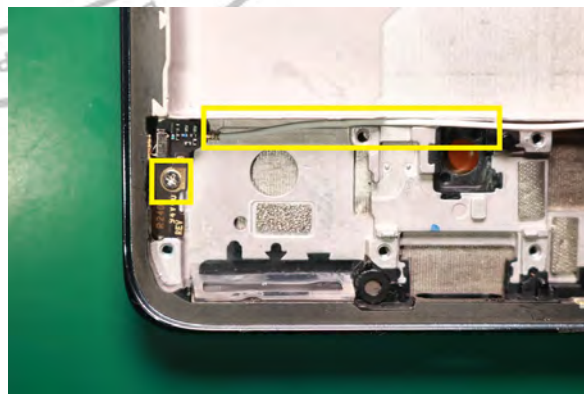
2. Use the Plastic Tweezer to place and secure the ANT Board on the location as shown.



3. Use Torque Driver with PH00 Bit to tighten the one screw as shown ( $0.5 \pm 0.04$  kgf-cm) and place the White Coax Cable into the slot of the Front-Housing.

**NOTE**

The screw should not be over tightened or loosened. Improper twisting force may cause damage or components to fall out.



## Speaker Box FPC Adhesive Assembly

Description	Reference #
XT2405 TP LCM ASSY Outer Space CS	1
DICUT,ADHS,NIO_SPK_FPC_ADH	-

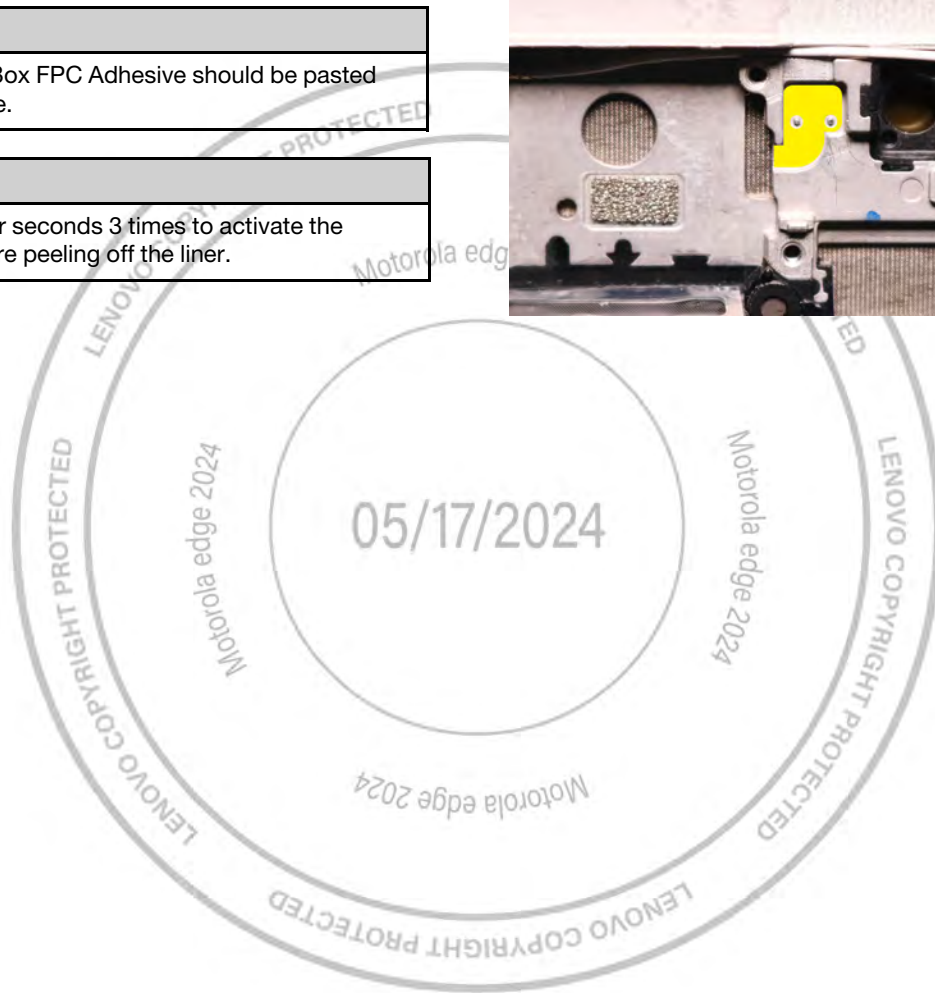
Use the Plastic Tweezer to place the Speaker Box FPC Adhesive on the location as shown and peel off the liner.

### NOTE

The Speaker Box FPC Adhesive should be pasted strictly in place.

### NOTE

Press firmly for seconds 3 times to activate the adhesive before peeling off the liner.



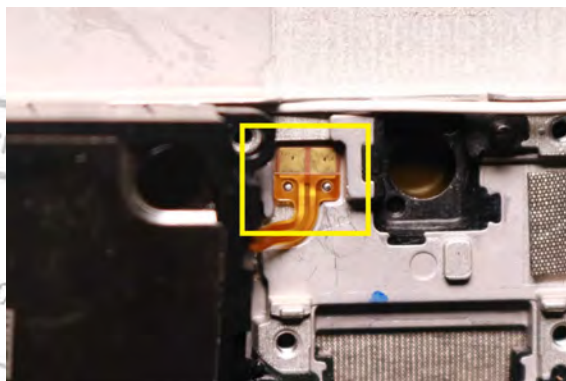
## Speaker Box Assembly

Description	Reference #
XT2405 TP LCM ASSY Outer Space CS	1
AU,SPKR,11x15x2.48mm,80hms,Fpc CONT,GP C	20
DUBAI Screw2_M1.4x3,Silver	26

1. Use the Plastic Tweeze to place and secure the Speaker Box FPC on the location as shown.

### NOTE

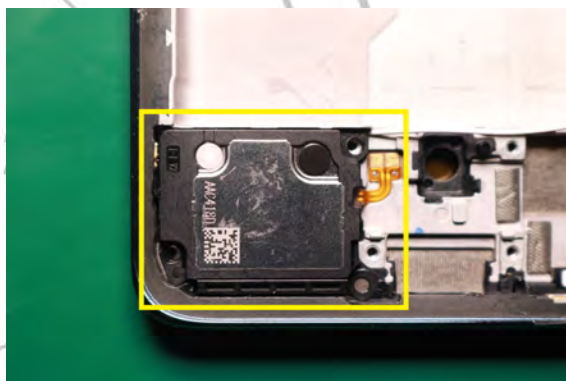
The Speaker Box FPC should be assembled strictly in place. Improper installation will affect the sound function of the phone.



2. Use the Plastic Tweeze to place and secure the Speaker Box on the location as shown.

### NOTE

The Speaker Box should be assembled strictly in place. Improper installation will affect the sound function of the phone.



**NOTE**

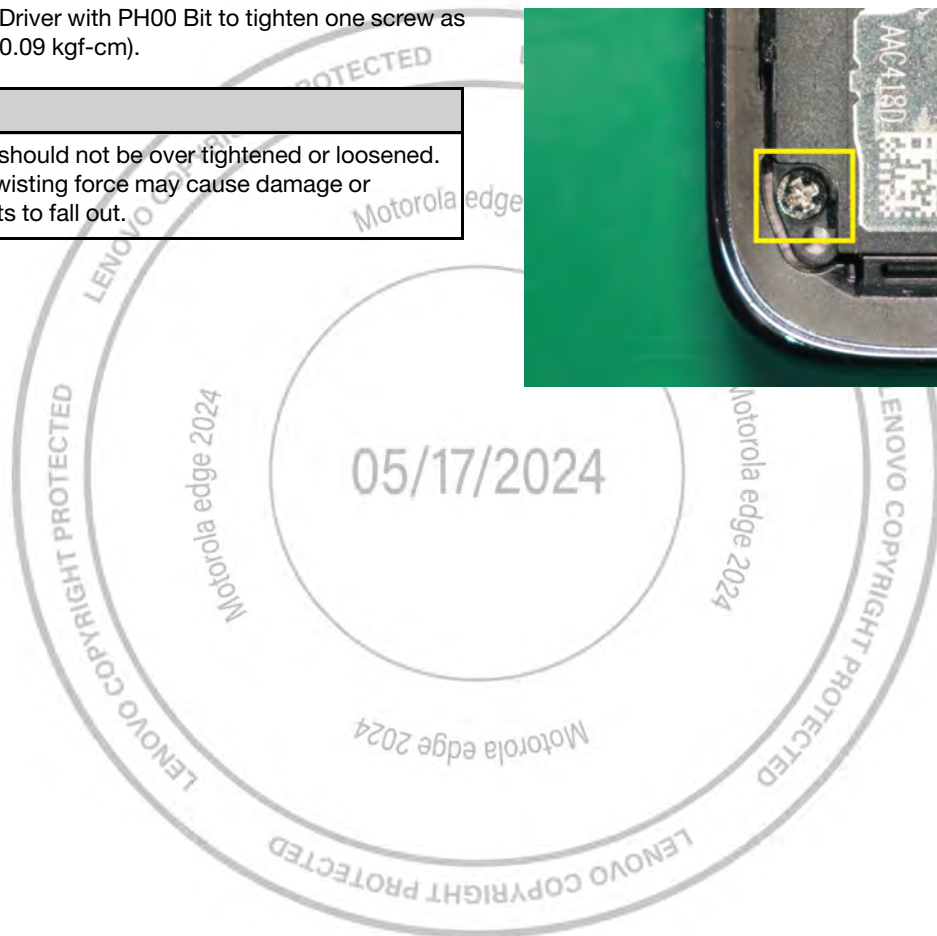
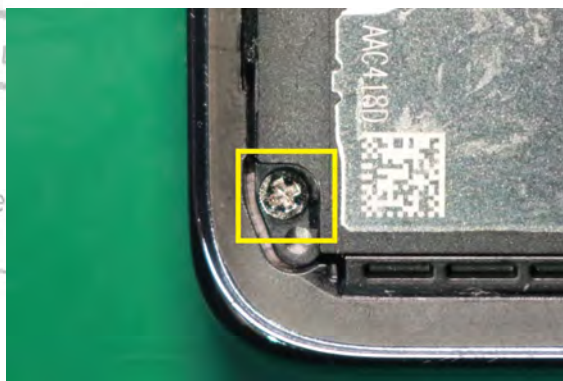
Align the Speaker Box with the Front-Housing from the right side. Then push the Speaker Box down to engage with Front-Housing.



3. Use Torque Driver with PH00 Bit to tighten one screw as shown ( $1.1 \pm 0.09$  kgf-cm).

**NOTE**

The screw should not be over tightened or loosened. Improper twisting force may cause damage or components to fall out.



## FOD Adhesive Assembly

Description	Reference #
XT2405 TP LCM ASSY Outer Space CS	1
DICUT,ADHS,NIO_FOD_ADH	-

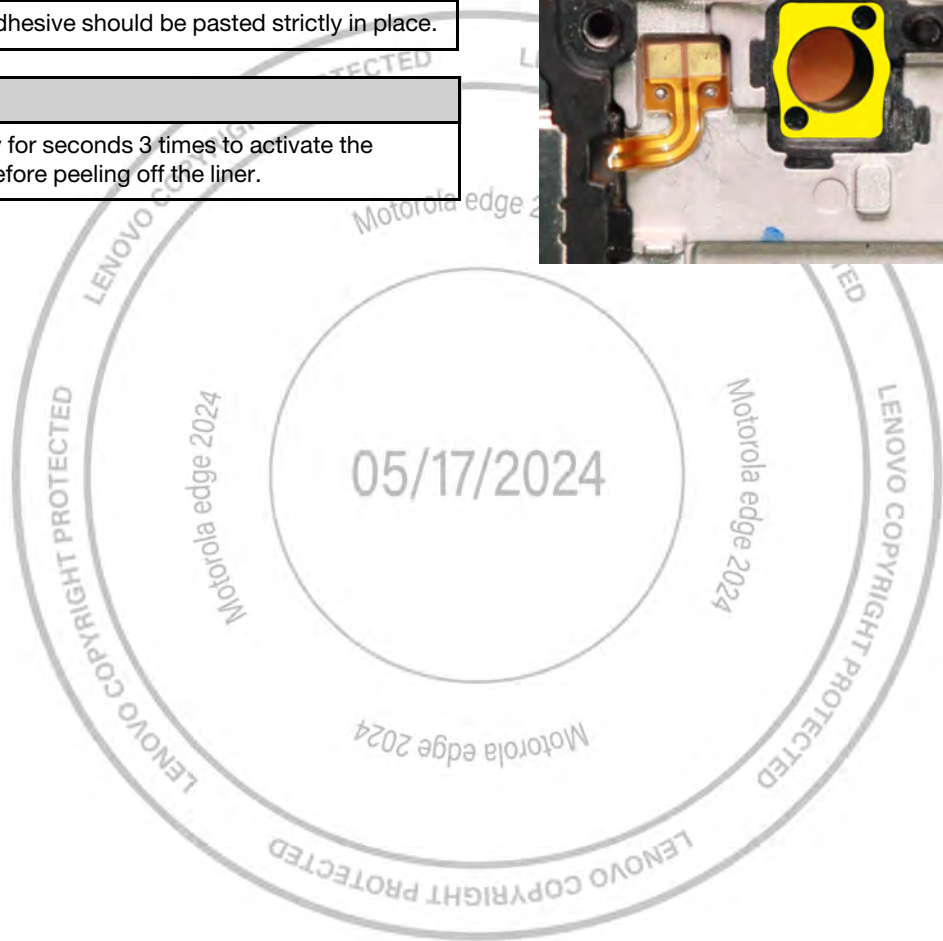
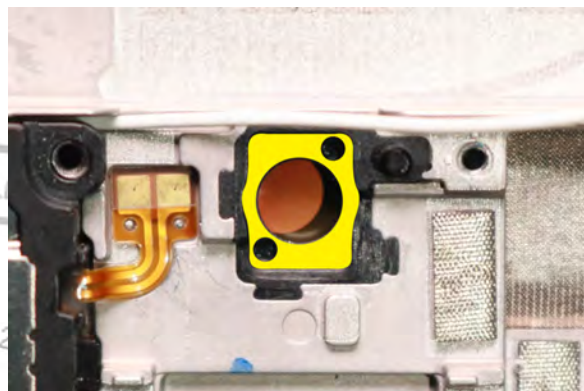
Use the Plastic Tweezer to place the FOD Adhesive on the location as shown and peel off the liner.

**NOTE**

The FOD Adhesive should be pasted strictly in place.

**NOTE**

Press firmly for seconds 3 times to activate the adhesive before peeling off the liner.



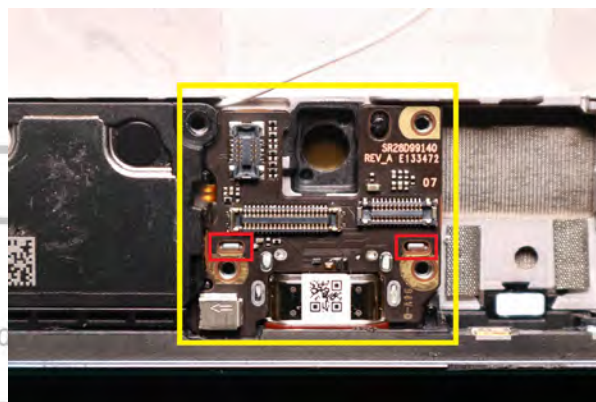
## USB Board Assembly

Description	Reference #
XT2405 TP LCM ASSY Outer Space CS	1
XT2405 USB Board CS	22

Use fingers to place the USB Board on the location aligning with the pins as shown.

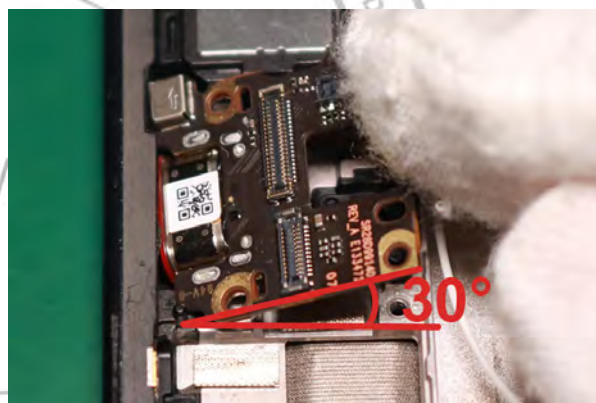
### NOTE

Be careful to not touch other components on the USB Board.



### NOTE

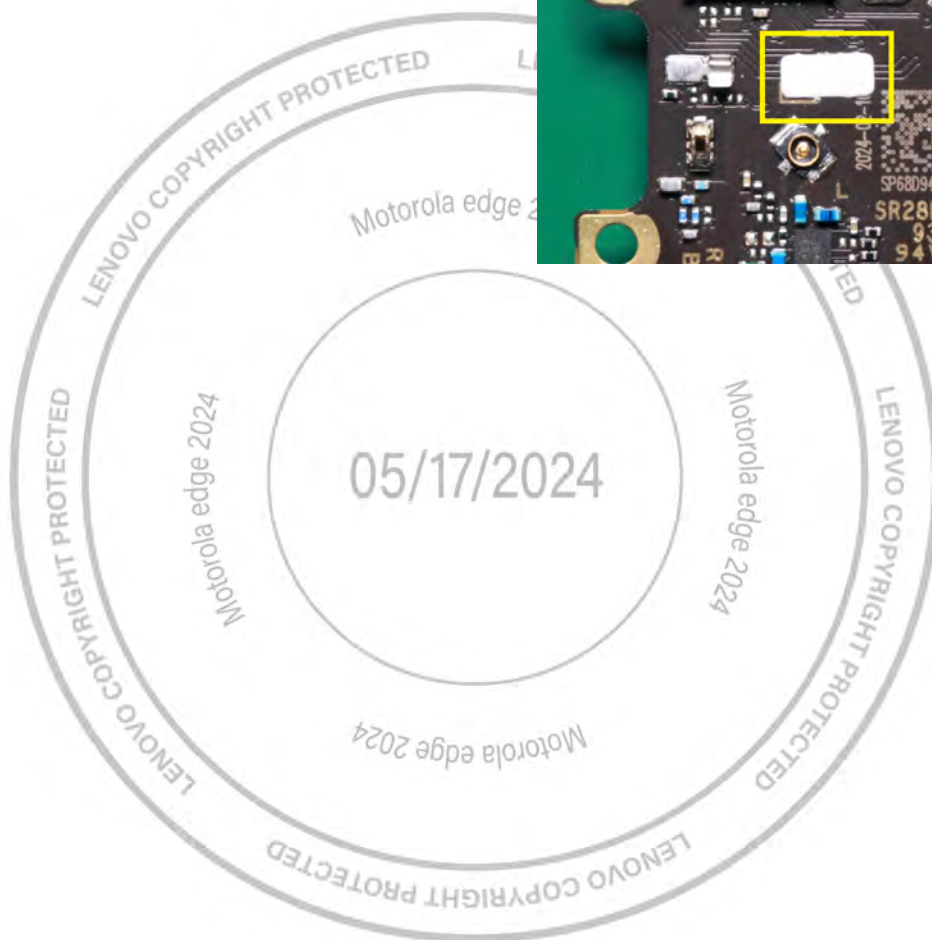
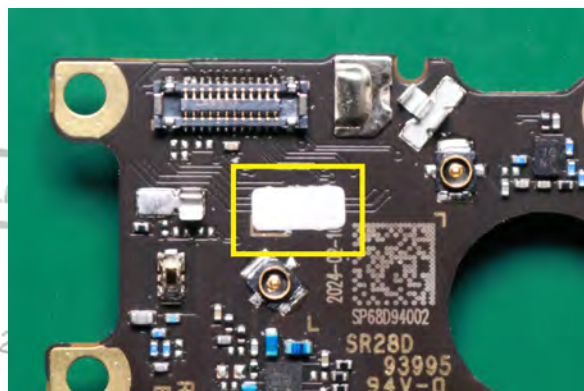
Make sure to insert the USB Board at about 30 degrees as shown.



## Water Detection Label Assembly

Description	Reference #
XT2405 SIM Board P+E CS	21
DICUT,WATERPROOF,Waterproof LBL TMO	-

Use the Plastic Tweezer to place the Water Detection Label (WDL) on the SIM Board as shown.



## SIM Board Assembly

Description	Reference #
XT2405 TP LCM ASSY Outer Space CS	1
XT2405 SIM Board P+E CS	21

Use fingers to place the SIM Board on the location as shown.

### NOTE

Be careful to not touch other components on the SIM Board.

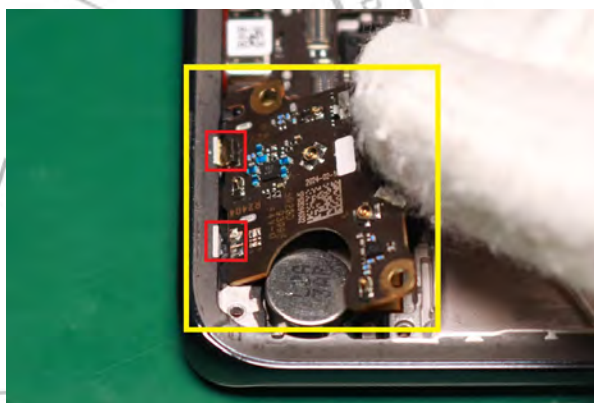


### NOTE

Align the metal springs with the Front-Housing marked in red before placing down the Sub Board.

### NOTE

Make sure to insert the SIM Board at some degrees as shown.



## FOD Assembly

Description	Reference #
XT2405 TP LCM ASSY Outer Space CS	1
XT2405 USB Board CS	22
FNGRPRT MDL,FOD,Ofilm, G3S	28

Use fingers to place and secure the FOD on the location as shown.

### NOTE

Align the interface before securing to avoid damaging the contacts.

### NOTE

Carefully press the FOD sensor area to activate the adhesive.

### NOTE

The FOD should be assembled strictly in place. Improper installation will affect the fingerprint recognition function of the phone.

### NOTE

First place the FOD Sensor into the FOD slot, then secure the FOD BtB connector.



## Main FPC Assembly

Description	Reference #
XT2405 TP LCM ASSY Outer Space CS	1
XT2405-1 MB 8+256G Retail DS CS XT2405-1 MB 8+256G TMO DL CS XT2405-1 MB 8+256G CC DL CS XT2405-1 MB 8+256G DISH DL CS XT2405V MB 8+256G TF DL CS	2
ASSY,FLX - MN,ASSY_MAIN_FLEX_ManauSNA	6
XT2405 SIM Board P+E CS	21

1. Use fingers to place and secure the Main FPC on the Main PCB as shown.

### NOTE

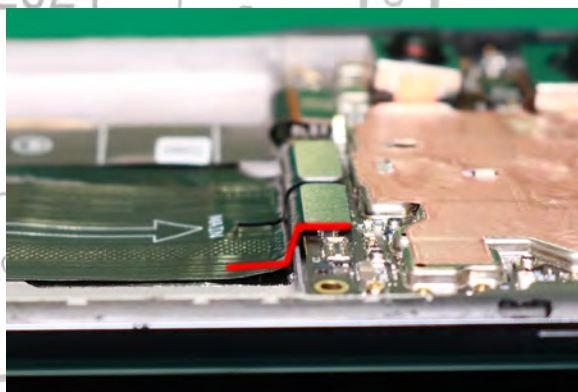
Make sure the Main FPC is buckled up on the Main PCB end with the font MAIN at one end.

### NOTE

Align the interface before securing to avoid damaging the contacts.

### NOTE

Fold the Main FPC connector end into a "Z" shape and fit to the Front-Housing



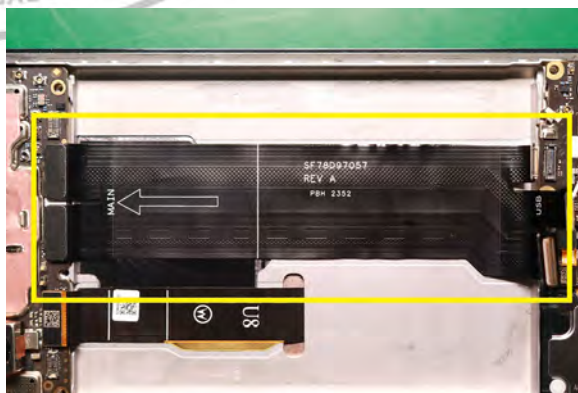
2. Peel off the liner of Main FPC Adhesive and paste the Main FPC from the Main PCB side to USB Board side.

### NOTE

Press firmly for seconds 3 times to activate the adhesive.

### WARNING

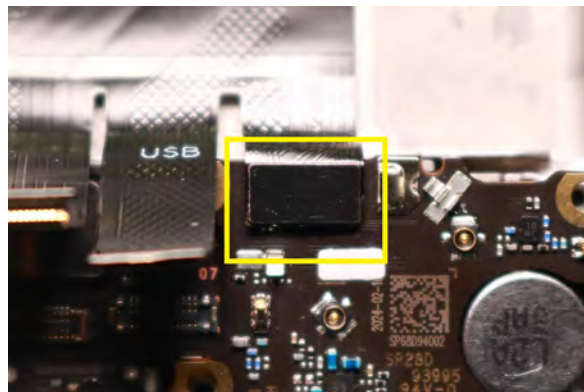
The Main FPC must be parallel to the mark line on the Front-Housing, not offset.



3. Use fingers to place and secure the Main FPC on the SIM Board as shown.

**NOTE**

Align the interface before securing to avoid damaging the contacts.



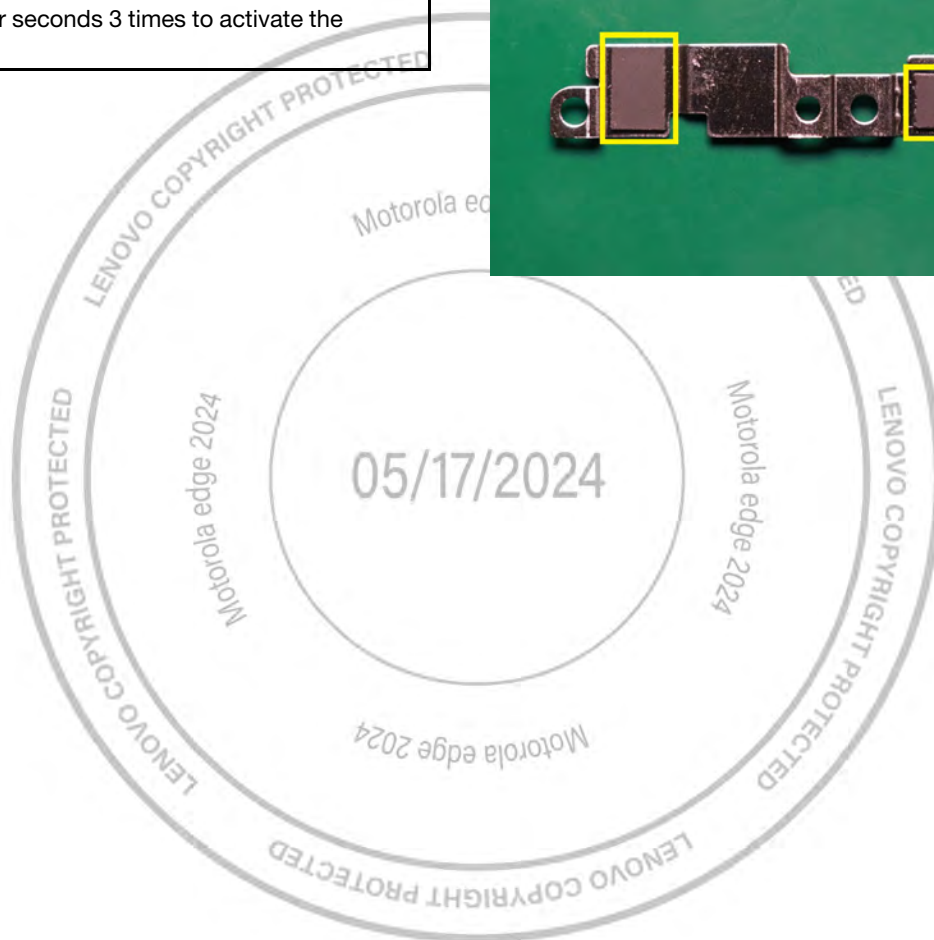
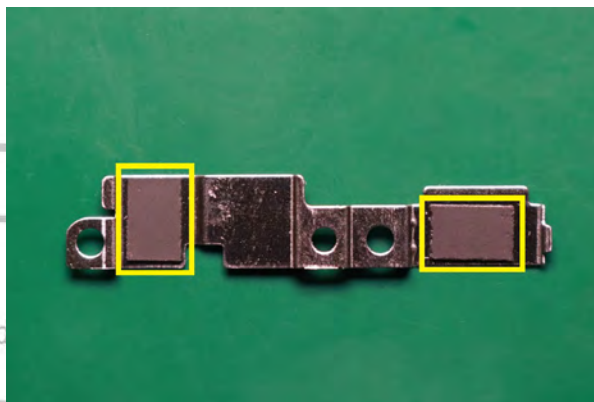
## FOD Conductive Foam Assembly

Description	Reference #
DICUT,FOAM,AVATR_NA_FOD_CON_GASKET	30
HDW,OTHR,NIO_FOD_METAL_BRACKET	31

Use the Plastic Tweezer to place two pieces of the FOD Conductive Foam on the location as shown.

### NOTE

Press firmly for seconds 3 times to activate the adhesive.



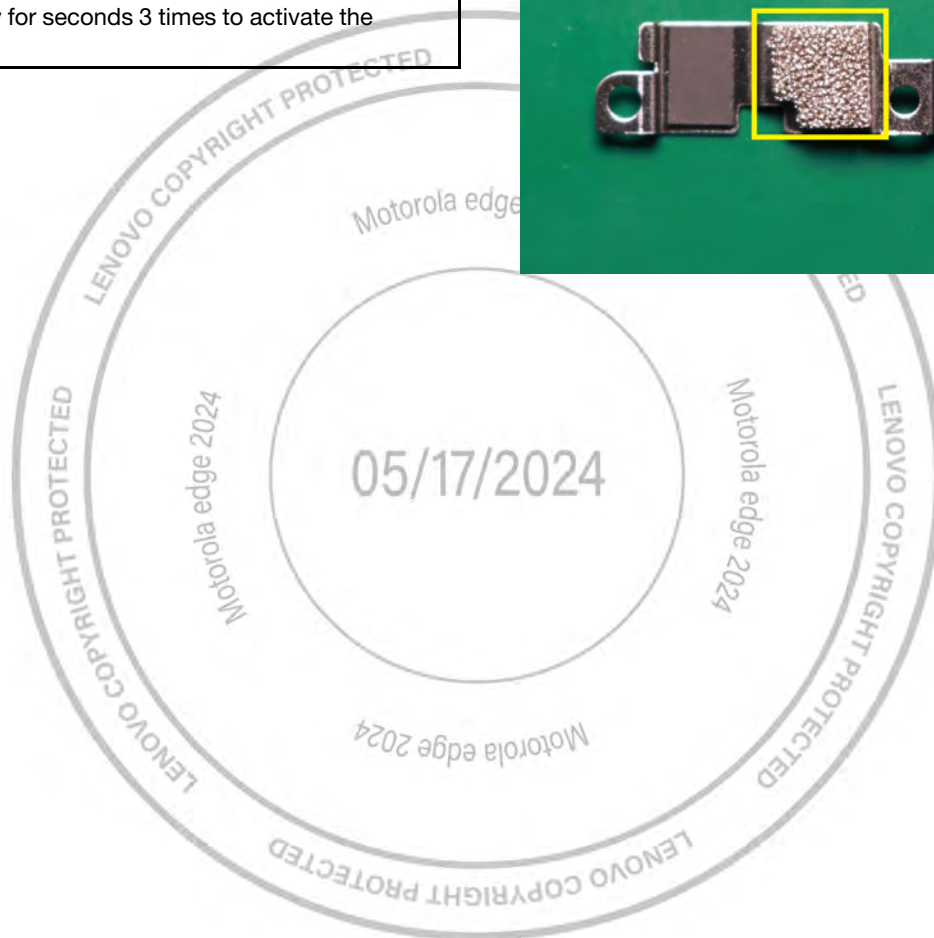
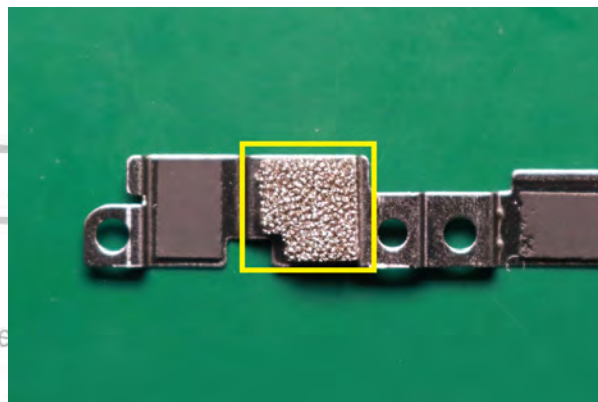
## FOD Foam Assembly

Description	Reference #
DICUT,ADHS,NIO_FOD_GASKET	29
HDW,OTHR,NIO_FOD_METAL_BRACKET	31

Use the Plastic Tweezer to place the FOD Foam on the location as shown.

### NOTE

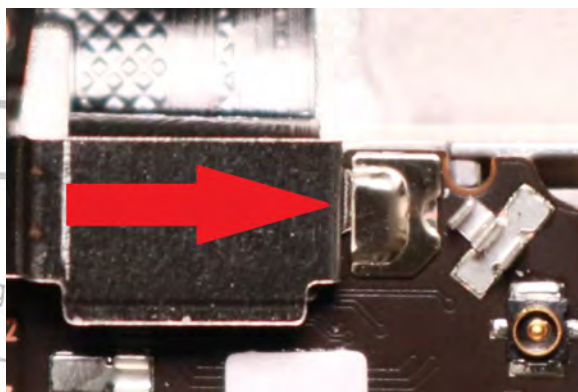
Press firmly for seconds 3 times to activate the adhesive.



## FOD Bracket Assembly

Description	Reference #
HDW,SCR,STL,M1.4x0.30x2.5mm_Clear	15
XT2405 USB Board CS	22
HDW,OTHR,NIO_FOD_METAL_BRACKET	31

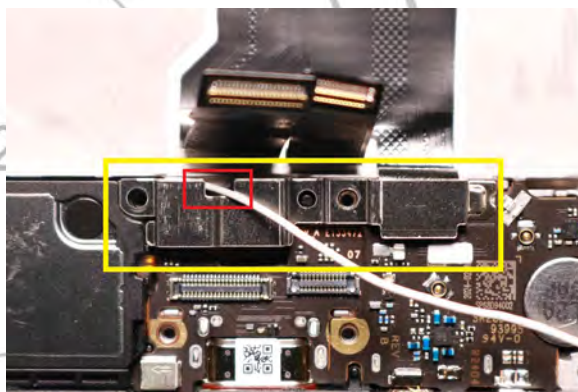
1. Use the Plastic Tweezer to incline and insert the right end of the FOD Bracket into the metal slot on the USB Board.



2. Use the Plastic Tweezer to place the FOD Bracket on the location as shown.

**NOTE**

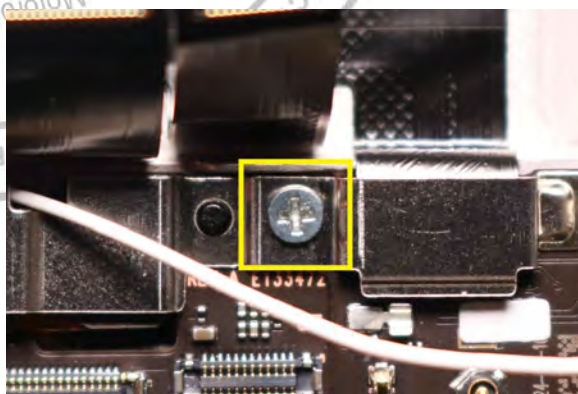
Make sure the White Coax Cable come through the hole on the FOD Bracket.



3. Use Torque Driver with PH00 Bit to tighten one screw as shown ( $0.7 \pm 0.06$  kgf-cm).

**NOTE**

The screw should not be over tightened or loosened. Improper twisting force may cause damage or components to fall out.



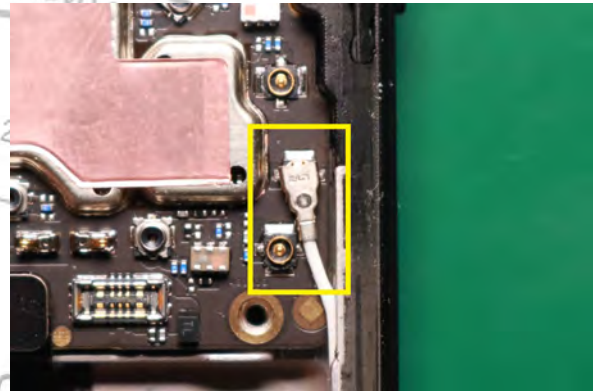
## White Coax Cable Assembly

Description	Reference #
XT2405 TP LCM ASSY Outer Space CS	1
XT2405-1 MB 8+256G Retail DS CS XT2405-1 MB 8+256G TMO DL CS XT2405-1 MB 8+256G CC DL CS XT2405-1 MB 8+256G DISH DL CS XT2405V MB 8+256G TF DL CS	2
CBL,COAX,CABLE9_AVATR_NA	11
XT2405 SIM Board P+E CS	21

1. Use the Plastic Tweezer to place and secure the White Coax Cable on the Main PCB as shown.

**NOTE**

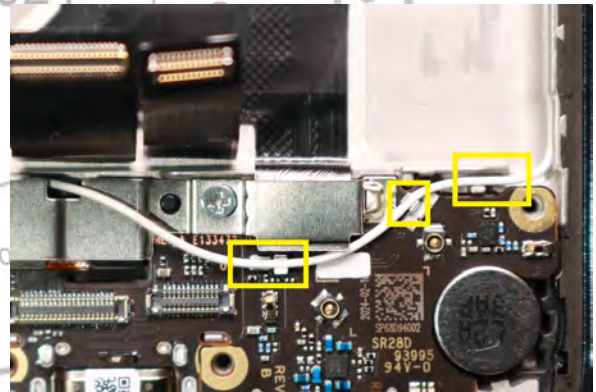
Align the interface before securing to avoid damaging the contacts.



2. Use the Plastic Tweezer to place the White Coax Cable into the cable guide on the SIM Board as shown.

**NOTE**

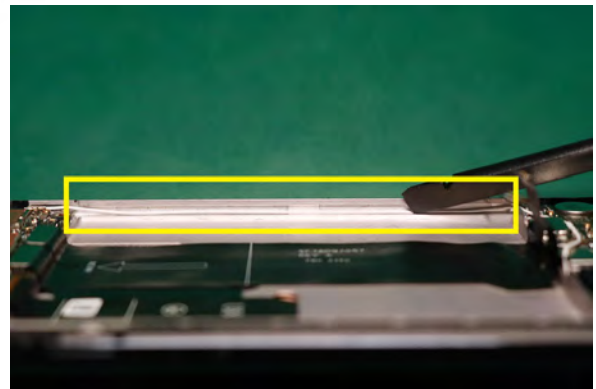
Be careful to avoid damaging the White Coax Cable.



3. Use the flat end of the Black Stick to place the White Coax Cable on the pocket of the recess of the phone.

**NOTE**

Use the flat end of the Black Stick to place the White Coax Cable on the pocket from the Main PCB side to Bottom Board side as shown.



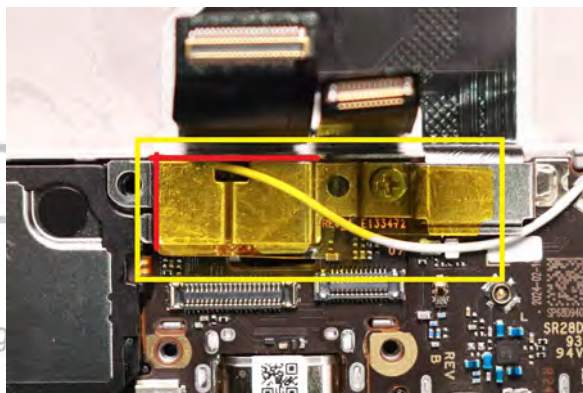
## Main FPC Mylar Assembly

Description	Reference #
HDW,OTHR,NIO_FOD_METAL_BRACKET	31
DICUT,ADHS,NIO_MAIN_FPC_MYLAR	32

1. Use the Plastic Tweezer to place the Main FPC Mylar on the location aligning with the red lines as shown.

**NOTE**

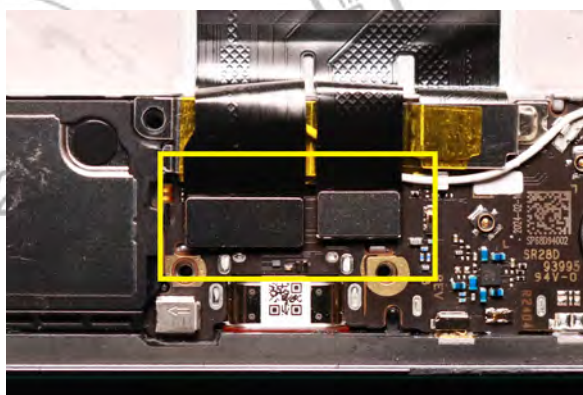
Press firmly for seconds 3 times to activate the adhesive.



2. Use fingers to place and secure the Main FPC BtB connectors on the USB Board as shown.

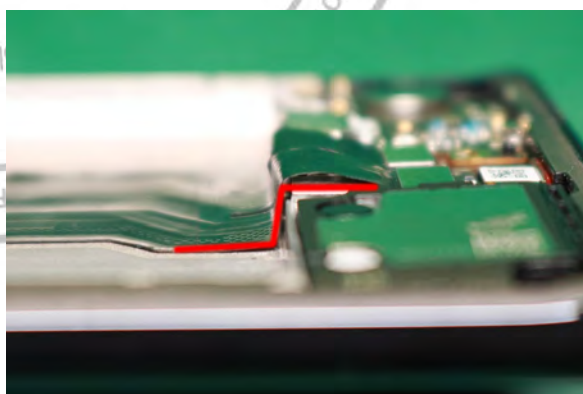
**NOTE**

Align the interface before securing to avoid damaging the contacts.



**NOTE**

Fold the Main FPC connector end into a "Z" shape and fit to the Front-Housing



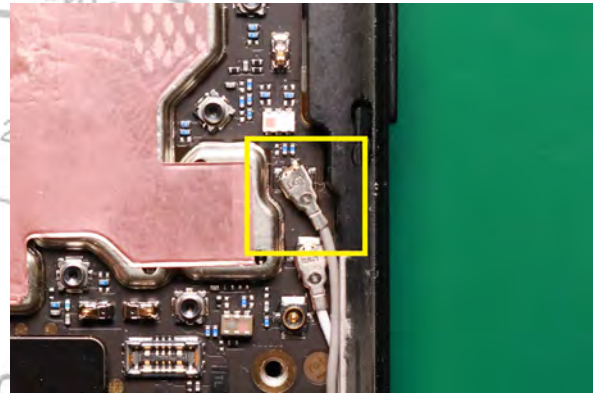
## Grey Coax Cable Assembly

Description	Reference #
XT2405 TP LCM ASSY Outer Space CS	1
XT2405-1 MB 8+256G Retail DS CS XT2405-1 MB 8+256G TMO DL CS XT2405-1 MB 8+256G CC DL CS XT2405-1 MB 8+256G DISH DL CS XT2405V MB 8+256G TF DL CS	2
CBL,COAX,CABLE2_AVATR_NA	12
XT2405 SIM Board P+E CS	21

1. Use the Plastic Tweezer to place and secure the Grey Coax Cable on the Main PCB as shown.

**NOTE**

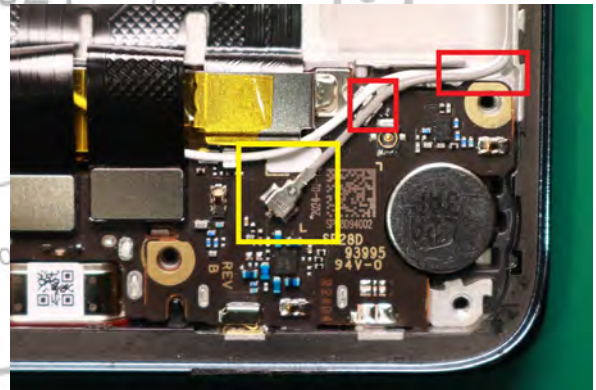
Align the interface before securing to avoid damaging the contacts.



2. Use the Plastic Tweezer to place and secure the Grey Coax Cable on the SIM Board as shown.

**NOTE**

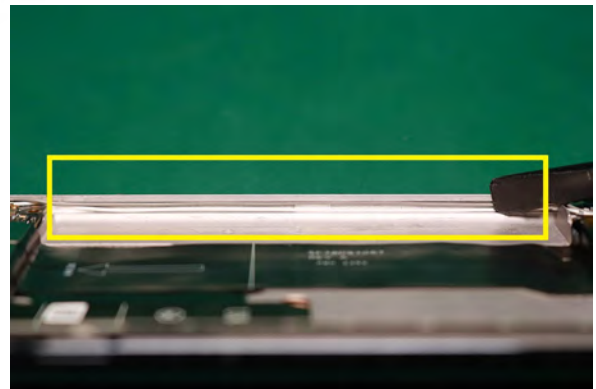
Be careful to avoid damaging the Grey Coax Cable.



3. Use the flat end of the Black Stick to place the Grey Coax Cable on the pocket of the recess of the phone.

**NOTE**

Use the flat end of the Black Stick to place the Grey Coax Cable on the pocket from the Main PCB side to Bottom Board side as shown.



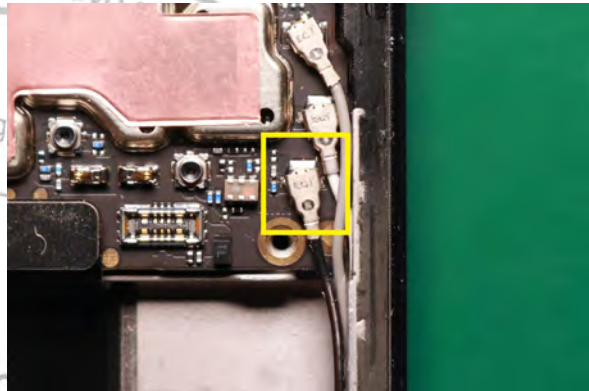
## Black Coax Cable Assembly

Description	Reference #
XT2405 TP LCM ASSY Outer Space CS	1
XT2405-1 MB 8+256G Retail DS CS XT2405-1 MB 8+256G TMO DL CS XT2405-1 MB 8+256G CC DL CS XT2405-1 MB 8+256G DISH DL CS XT2405V MB 8+256G TF DL CS	2
CBL,COAX,CABLE0_AVATR_NA	13
XT2405 SIM Board P+E CS	21

1. Use the Plastic Tweezer to place and secure the Black Coax Cable on the Main PCB as shown.

**NOTE**

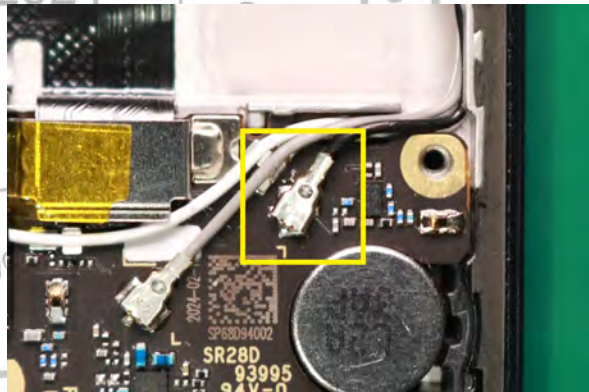
Align the interface before securing to avoid damaging the contacts.



2. Use the Plastic Tweezer to place and secure the Black Coax Cable on the SIM Board as shown.

**NOTE**

Align the interface before securing to avoid damaging the contacts.



4. Use the flat end of the Black Stick to place the Black Coax Cable on the pocket of the recess of the phone.

**NOTE**

Use the flat end of the Black Stick to place the Black Coax Cable on the pocket from Main PCB side to SIM Board side as shown.

**NOTE**

The White Coax Cable is at the bottom, the Grey Coax Cable is in the middle, and the Black Coax Cable is on top.



## Coax Cable Mylar Assembly

Description	Reference #
XT2405 TP LCM ASSY Outer Space CS	1
DICUT,ADHS,NIO_CABLE_MYLAR	14

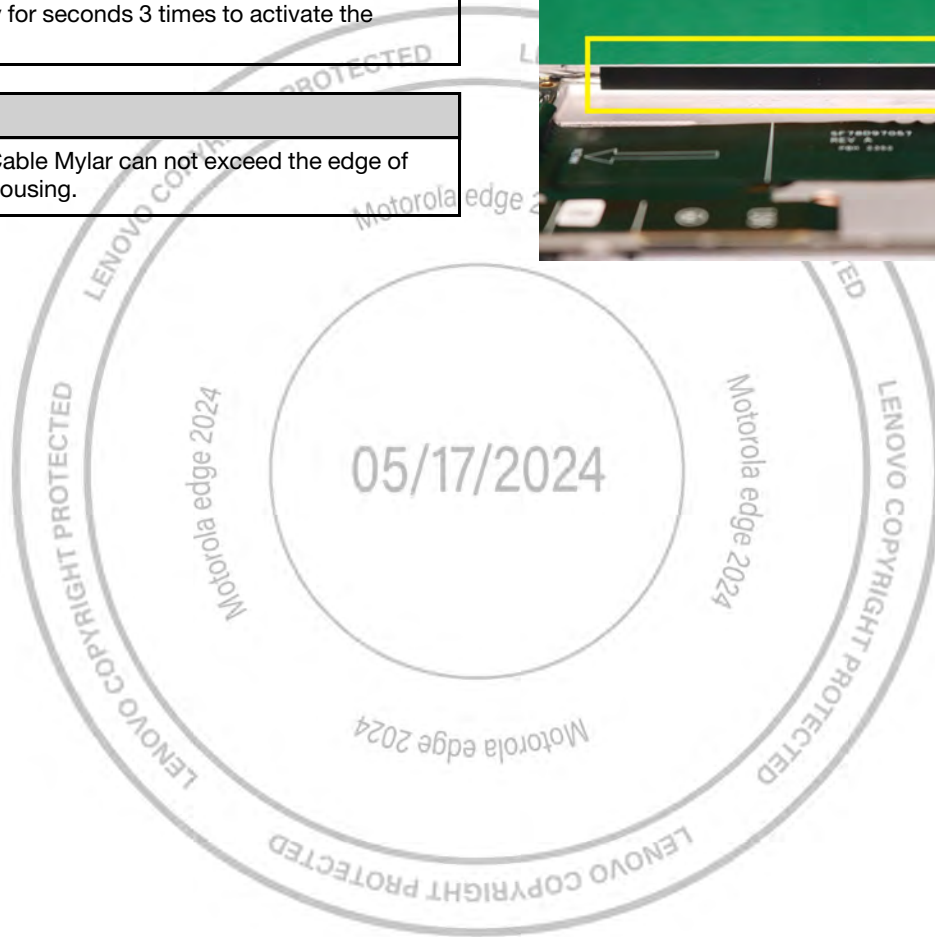
Use the Plastic Tweezer to place the Coax Cable Mylar on the location as shown.

**NOTE**

Press firmly for seconds 3 times to activate the adhesive.

**NOTE**

The Coax Cable Mylar can not exceed the edge of the Front-Housing.



## Battery Buffer Foam Assembly

Description	Reference #
ACCY,BAT,5000mAh,QC50,ATL516384, NVT	8
DICUT,ADHS,NIO_BATTERY_SUP_GAS	9

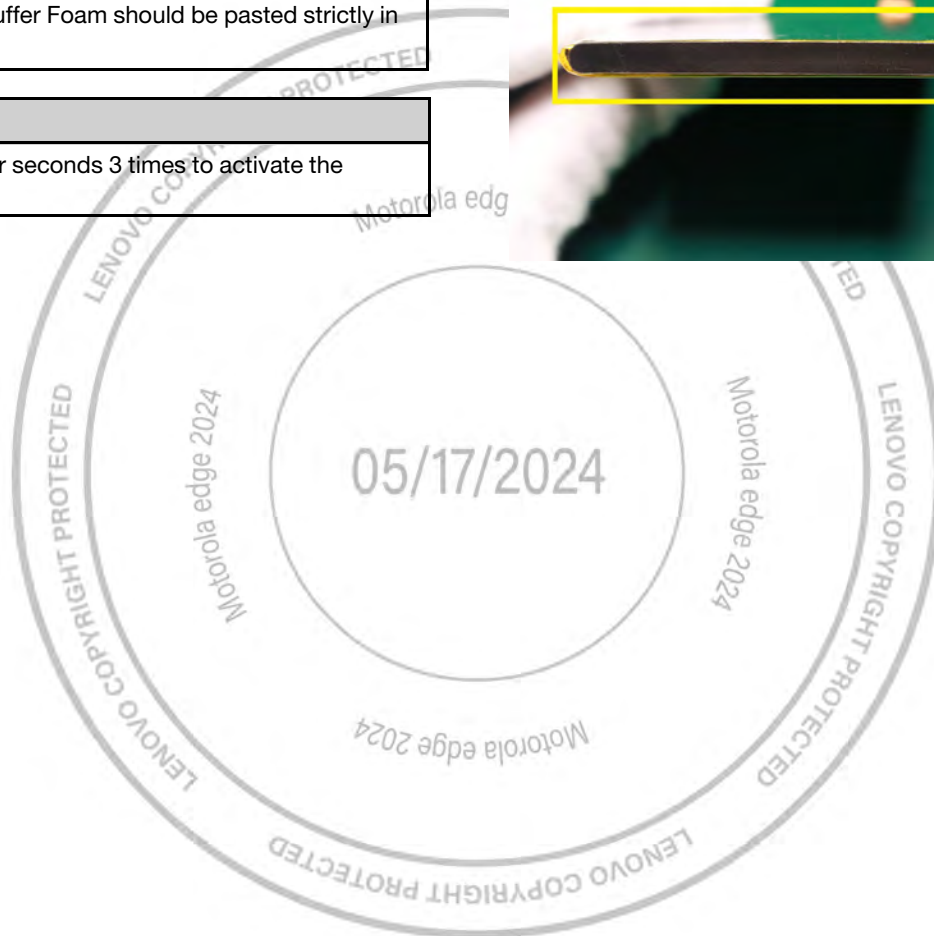
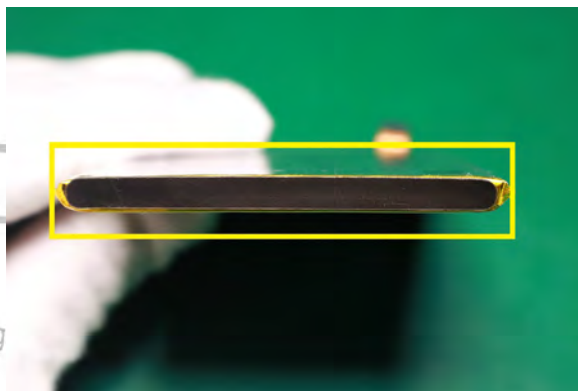
Use the Plastic Tweezer to place the Battery Buffer Foam on the location as shown.

**NOTE**

The Battery Buffer Foam should be pasted strictly in place.

**NOTE**

Press firmly for seconds 3 times to activate the adhesive.



## Battery Adhesive Assembly

Description	Reference #
XT2405 TP LCM ASSY Outer Space CS	1
DICUT,FOAM,AVATR_NA_BATTERY_ADH	7

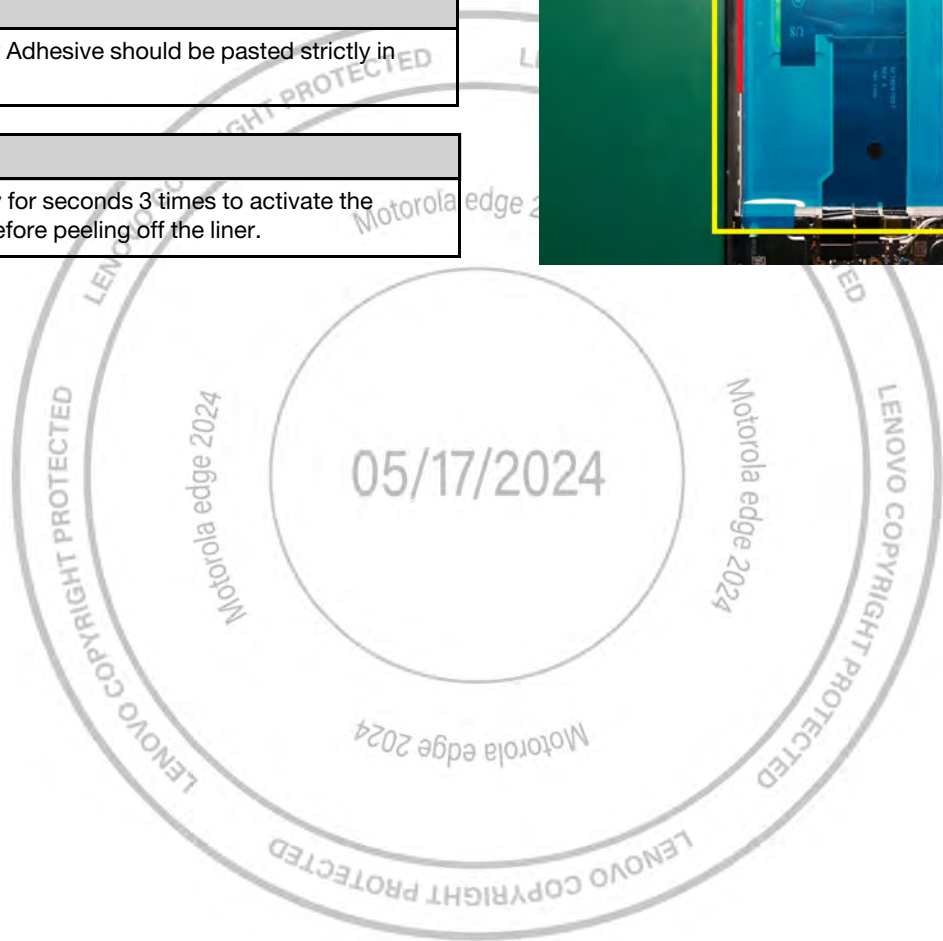
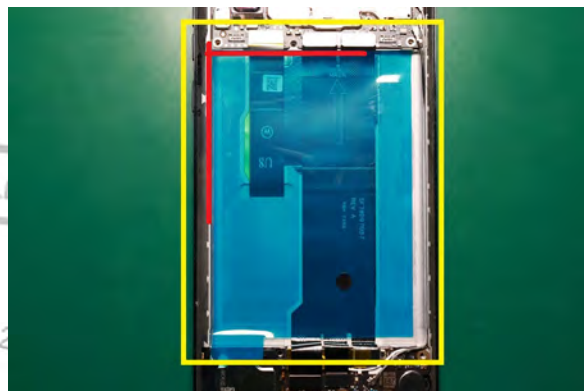
Use the Plastic Tweezer to place the Battery Adhesive on the Front-Housing following the indication line as shown and peel off the liner.

### NOTE

The Battery Adhesive should be pasted strictly in place.

### NOTE

Press firmly for seconds 3 times to activate the adhesive before peeling off the liner.



## Battery Assembly

Description	Reference #
XT2405 TP LCM ASSY Outer Space CS	1
XT2405-1 MB 8+256G Retail DS CS XT2405-1 MB 8+256G TMO DL CS XT2405-1 MB 8+256G CC DL CS XT2405-1 MB 8+256G DISH DL CS XT2405V MB 8+256G TF DL CS	2
ACCY,BAT,5000mAh,QC50,ATL516384, NVT	8

### /// WARNING ///

Failure to adhere to Safety Critical Note(s) may increase risk of rupture, burning, or failure to function safely when used by the customer. Refer to the Battery Safety Guidelines.

### // CAUTION //

Handle the Battery Pack with care. If dropped to the floor, it may be internally damaged and must be scrapped.

Ensure Battery and its insulation are not damaged (e. g. scratched, dented, punctured) prior to and throughout assembly.

Prior to assembly, ensure Battery edges and surfaces are not dented or deformed, and that fixtures and parts that will contact the Battery are free of foreign material.

Ensure screws and screwdrivers do not contact the Battery.

1. Peel off the liners of the Battery Adhesive. Then, use fingers to place and secure the Battery on the location as shown.

### NOTE

Make sure to assembly the Battery using the bottom of the Battery compartment as marked in red.



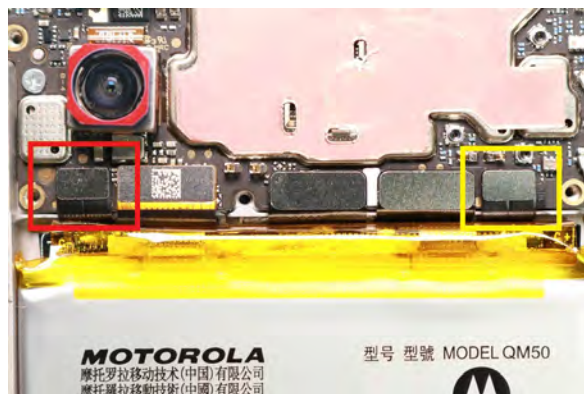
2. Use fingers to place and secure Battery BtB Connectors on the location as shown.

**NOTE**

Align the interface before securing to avoid damaging the contacts.

**NOTE**

Secure the left Battery BtB Connector marked in red first, then secure the right Battery BtB Connector marked in yellow.



3. Use the Manual Roller to roll over the Battery for 10 cycles to secure the Battery as shown.

**NOTE**

For each cycle roll the Manual Roller from top to bottom of the Battery and vice versa.

**NOTE**

Each cycle should last for 3 seconds.



## Bottom Bracket Assembly

Description	Reference #
XT2405 TP LCM ASSY Outer Space CS	1
ANT,LDS CAR ANT,ASSY_BOTTOM_BRACKET_AVAT	37
HDW,SCR,Tooth_screw_M1.4x0.30x3.6mm	38

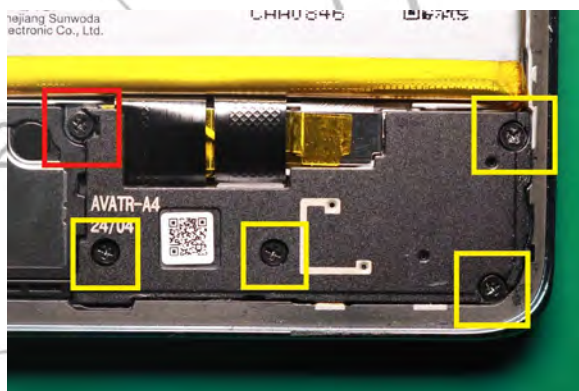
1. Use the Plastic Tweezer to place and secure the Bottom Bracket on the location as shown.



2. Use Torque Driver with PH00 Bit to tighten five screws as shown ( $0.9 \pm 0.07$  kgf-cm for the screw marked in red,  $0.85 \pm 0.07$  kgf-cm for the screws marked in yellow).

### NOTE

The screws should not be over tightened or loosened. Improper twisting force may cause damage or components to fall out.



## Speaker Box Heat Spreader Assembly

Description	Reference #
ACCY,BAT,5000mAh,QC50,ATL516384, NVT	8
AU,SPKR,11x15x2.48mm,8Ohms,Fpc CONT,GP C	20
THRM,COND,AVATR_NA_SPK_GRAPHITE	33

Use the Plastic Tweezer to place the Speaker Box Heat Spreader on the location as shown.

**NOTE**

Improper installation will affect the heat dissipation of the phone.

**NOTE**

Press firmly for seconds 3 times to activate the adhesive.



## PMU Heat Spreader Assembly

Description	Reference #
XT2405-1 MB 8+256G Retail DS CS XT2405-1 MB 8+256G TMO DL CS XT2405-1 MB 8+256G CC DL CS XT2405-1 MB 8+256G DISH DL CS XT2405V MB 8+256G TF DL CS	2
ACCY,BAT,5000mAh,QC50,ATL516384, NVT	8
THRM,COND,AVATR_NA_PMU_GRAPHITE	34
ANT,LDS CAR ANT,ASSY_BOTTOM_BRACKET_AVAT	37

1. Use the Plastic Tweezer to place the PMU Heat Spreader on the location as shown.

**NOTE**

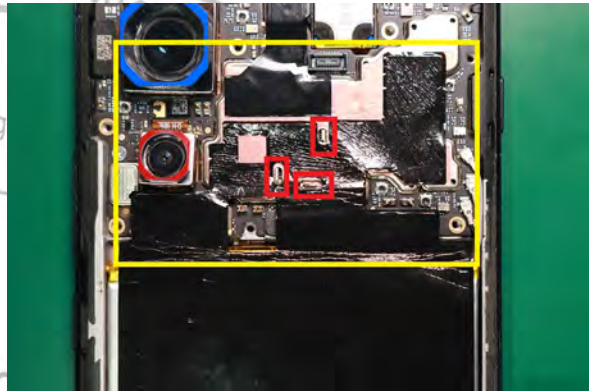
Press firmly for seconds 3 times to activate the adhesive.

**NOTE**

Improper installation will affect the heat dissipation of the phone.

**NOTE**

The PMU Heat Spreader can not cover the metal spring marked in red.



2. Use the Plastic Tweezer to paste the lower part of the PMU Heat Spreader on the location as shown.

**NOTE**

Press firmly for seconds 3 times to activate the adhesive.

**NOTE**

Improper installation will affect the heat dissipation of the phone.



## Stack Board Adhesive Assembly

Description	Reference #
XT2405 Stack Board CS	35
DICUT,FOAM,AVATR_NA_PCB2_PSA	-

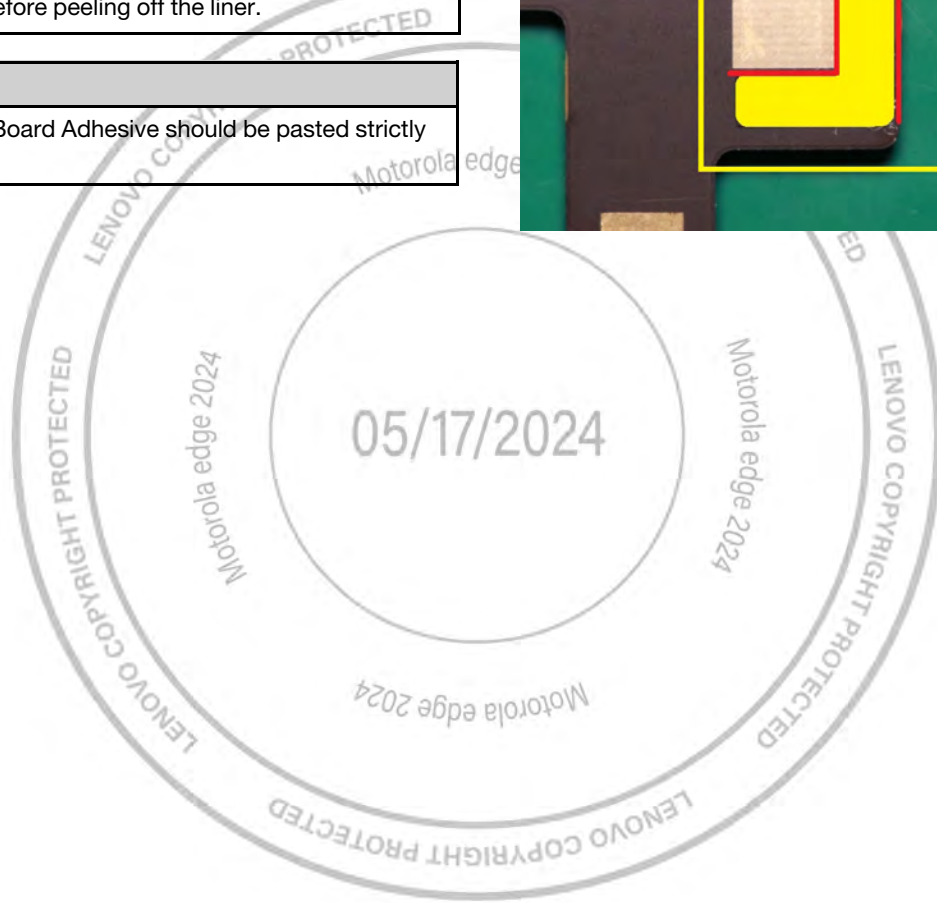
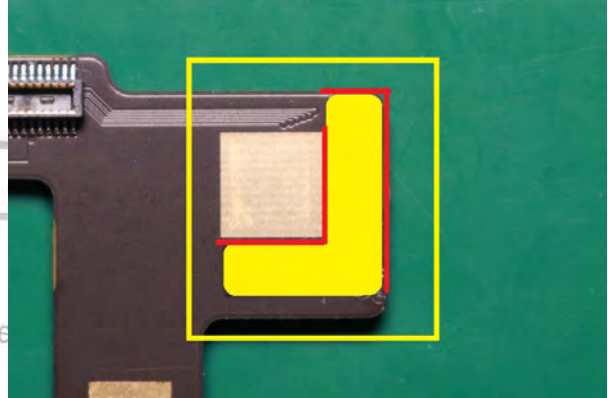
Use the Plastic Tweezer to place the Stack Board Adhesive on the location as shown and peel off the liner.

**NOTE**

Press firmly for seconds 3 times to activate the adhesive before peeling off the liner.

**NOTE**

The Stack Board Adhesive should be pasted strictly in place.



## Stack Board Assembly

Description	Reference #
XT2405-1 MB 8+256G Retail DS CS XT2405-1 MB 8+256G TMO DL CS XT2405-1 MB 8+256G CC DL CS XT2405-1 MB 8+256G DISH DL CS XT2405V MB 8+256G TF DL CS	2
MDL,CAMR,32M,FRNT,LJD1F00;O-film,FF:Chic	18

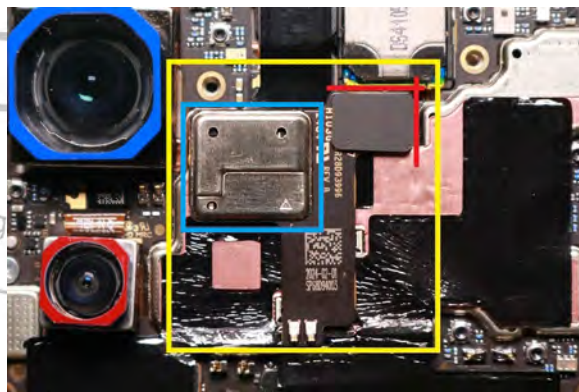
Use fingers to place and secure the Stack Board on the location as shown.

**NOTE**

Align the interface before securing to avoid damaging the contacts.

**NOTE**

Press the area marked in blue to secure the assemble.



05/17/2024

## Wireless Charging Module Assembly

Description	Reference #
XT2405 Top Bracket CS	3
ANT,WIRELESS ANT,WLC_AVATR_NA	36

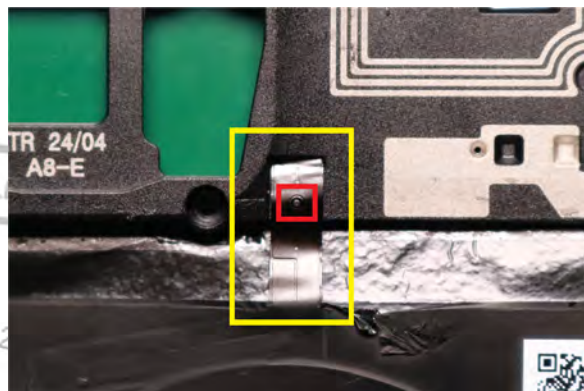
1. Use the Plastic Tweezer to place the Wireless Charging Module FPC on the location aligning with the pin and make the FPC pass through the Top Bracket as shown.

**NOTE**

The Wireless Charging Module should be assembled strictly in place. Improper installation will affect the wireless charging function of the phone.

**NOTE**

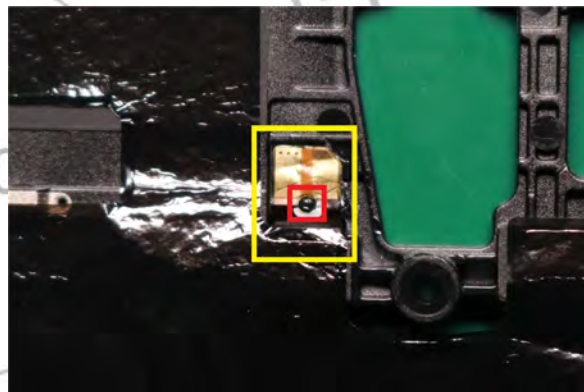
Press firmly for seconds 3 times to activate the adhesive.



2. Use the Plastic Tweezer to place the Wireless Charging FPC on the location aligning with the pin as shown.

**NOTE**

Press firmly for seconds 3 times to activate the adhesive.



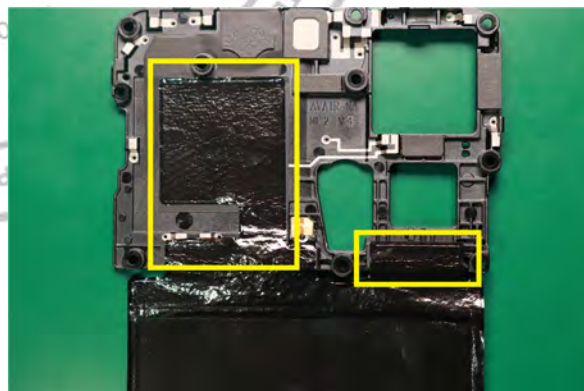
3. Use the Plastic Tweezer to place the Wireless Charging Module on the locations as shown.

**NOTE**

The Wireless Charging Module should be assembled strictly in place. Improper installation will affect the wireless charging function of the phone.

**NOTE**

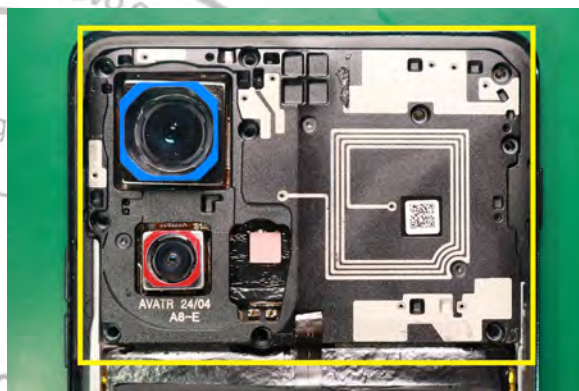
Press firmly for seconds 3 times to activate the adhesive.



## Top Bracket Assembly

Description	Reference #
XT2405 TP LCM ASSY Outer Space CS	1
XT2405-1 MB 8+256G Retail DS CS XT2405-1 MB 8+256G TMO DL CS XT2405-1 MB 8+256G CG DL CS XT2405-1 MB 8+256G DISH DL CS XT2405V MB 8+256G TF DL CS	2
XT2405 Top Bracket CS	3
HDW,SCR,Tooth_screw_M1.4x0.30x3.6mm	38

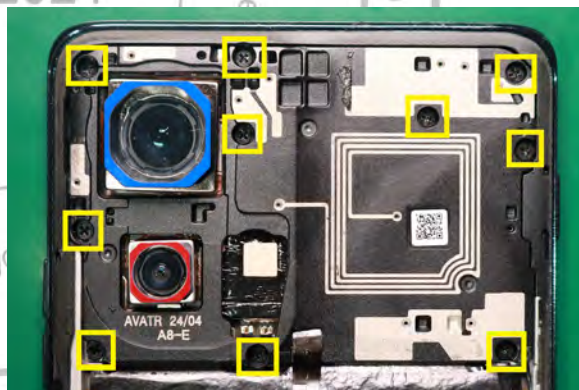
1. Use the Plastic Tweezer to place and secure the Top Bracket on the location as shown.



2. Use Torque Driver with PH00 Bit to tighten ten screws as shown (0.85±0.07 kgf-cm).

### NOTE

The screws should not be over tightened or loosened. Improper twisting force may cause damage or components to fall out.



## Flash Board Adhesive Assembly

Description	Reference #
XT2405 Flash Board CS	39
DICUT,FOAM,AVATR_NA_FLASH_PCB_ADH	40

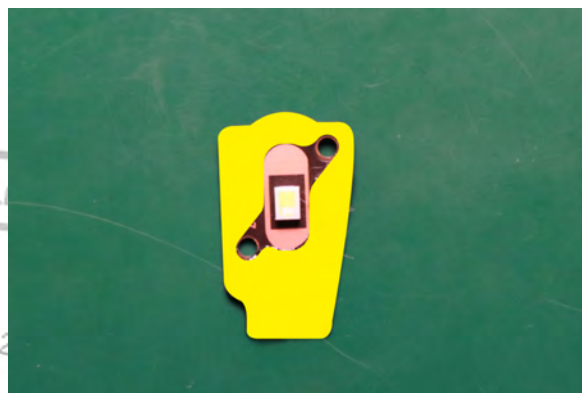
Use the Plastic Tweezer to place the Flash Board Adhesive on the location as shown and peel off the liner.

**NOTE**

The Flash Board Adhesive should be pasted strictly in place.

**NOTE**

Press firmly for seconds 3 times to activate the adhesive before peeling off the liner.



## Flash Board Assembly

Description	Reference #
XT2405 Inlay ASSY Outer Space CS	4
XT2405 Flash Board CS	39

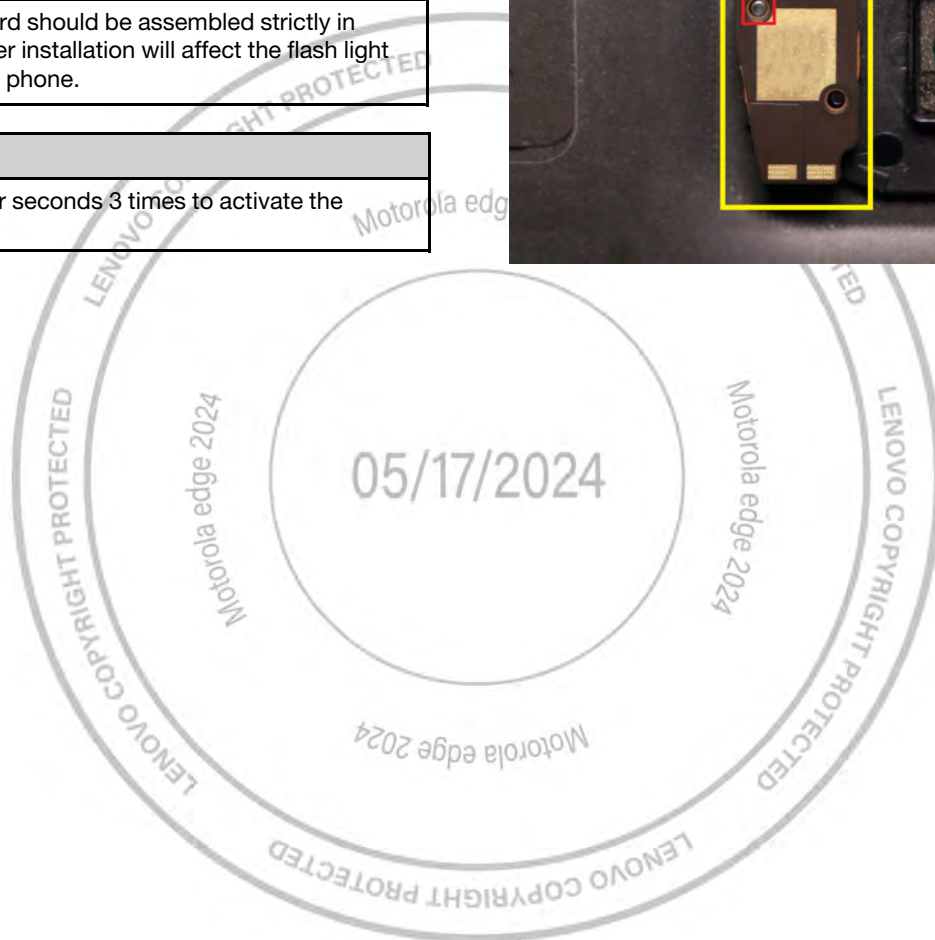
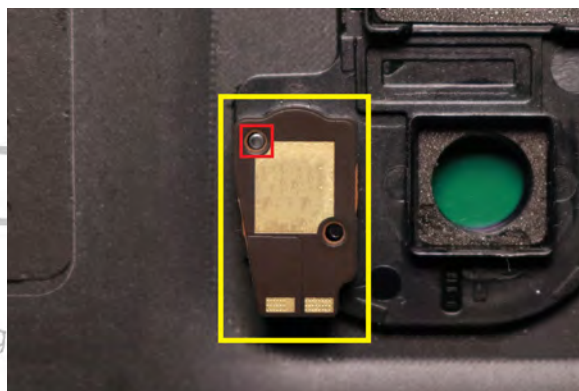
Use the Plastic Tweezer to place the Flash Board on the location aligning with the pin as shown.

### NOTE

The Flash Board should be assembled strictly in place. Improper installation will affect the flash light function of the phone.

### NOTE

Press firmly for seconds 3 times to activate the adhesive.



## Flash Board Foam Assembly

Description	Reference #
XT2405 Flash Board CS	39
DICUT,ADHS,NIO_FLASH_PCB_GASKET	-

Use the Plastic Tweezer to place the Flash Board Foam on the location as shown and peel off the liner.

### NOTE

Press firmly for seconds 3 times to activate the adhesive.



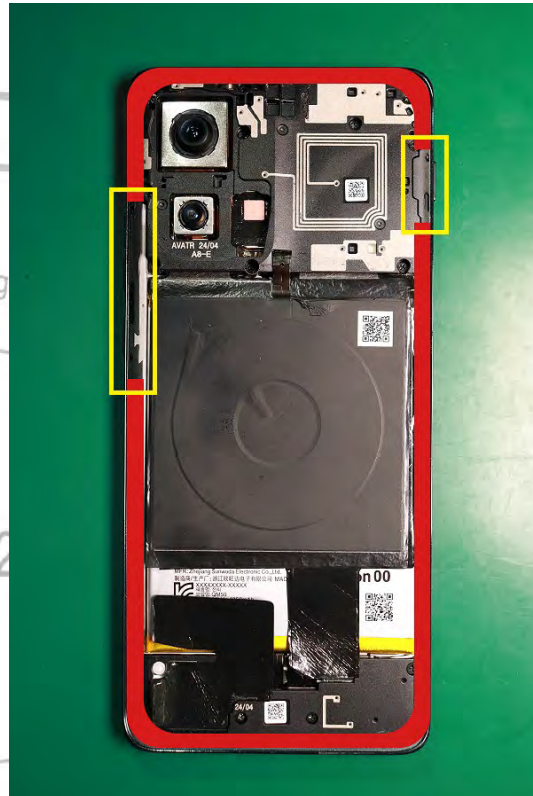
## Battery Cover Assembly

Description	Reference #
XT2405 TP LCM ASSY Outer Space CS	1
XT2405 Inlay ASSY Outer Space CS	4
XT2405 BattCover Adhesive&61040-0062A CS	41

1. Use the cotton swabs and ISP Alcohol to clean the Front Housing and Battery Cover as shown.

**//CAUTION//**

Front-Housing cleaning is critical to the phone's water resistance. You must thoroughly clean the surface with ISP Alcohol and allow it to dry completely before applying 3M AP-111 Adhesion Promoter.



2. Wait for the ISP Alcohol to dry completely.

**//CAUTION//**

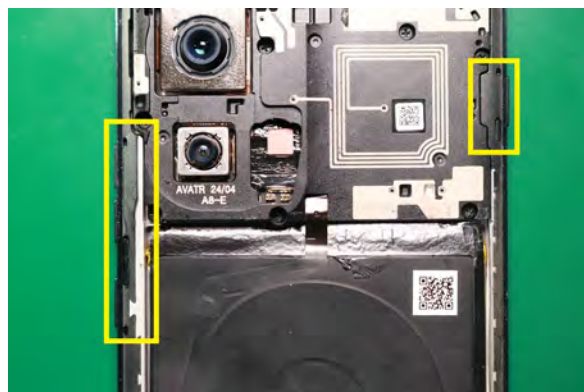
Do not use the same cotton swabs to clean with ISP Alcohol and apply 3M AP-111 Adhesion Promoter. The Battery Cover will not properly adhere to the Front-Housing if the cotton swabs are reused. The cotton swabs may be used for two applications of the same chemical, but then must be discarded.

3. Repeat step 1 – 2 one time.

4. Use clean cotton swabs to apply 3M AP-111 Adhesion Promoter to the Front Housing.

**//CAUTION//**

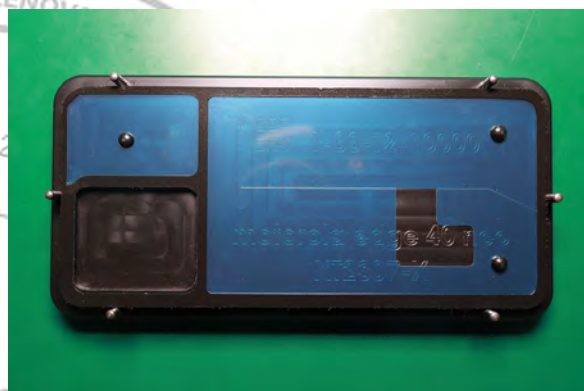
The application of the AP-111 should avoid the areas marked in yellow.



5. Wait for the 3M AP-111 Adhesion Promoter to dry.
6. Peel off the liner of the Battery Cover Adhesive and use the Plastic Tweezer to position the Battery Cover Adhesive on the Battery Cover Adhesive Alignment as shown.

**NOTE**

The Battery Cover Adhesive liner is blue.



6. Use fingers to place the Battery Cover on the Battery Cover Adhesive Alignment as shown.



7. Use fingers to press down the Battery Cover with the Battery Cover Adhesive Alignment as shown.

**NOTE**

Make sure to press the Battery Cover and the alignment at the same time.



- Use fingers to place the Battery Cover on the Front-Housing as shown.



- Power on pneumatic press system by press power switch to "ON" position.

**NOTE**

Please read pneumatic press system user manual prior to operation.



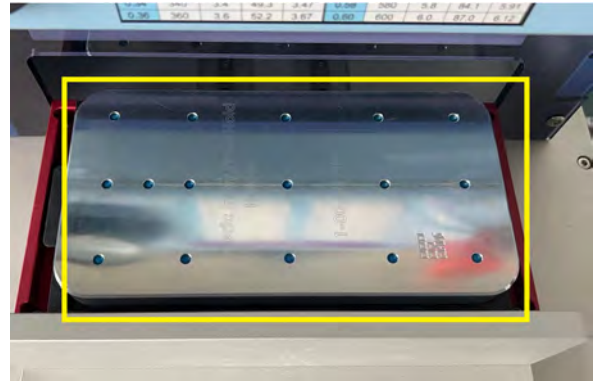
- Assemble press rubber pad and generic inlay press holder to inlay press fixture.



- Pull out press drawer from chamber and place the phone onto the base rubber pad in pneumatic press system as shown.



- Place the Inlay press fixture on top of the phone as shown.



- Push the press system drawer into the chamber and set program to No.9 by press "Program" button repeatedly, check the "Pressure" (Mpa) shows "0.40" and "Time" (sec) shows "60" as shown.



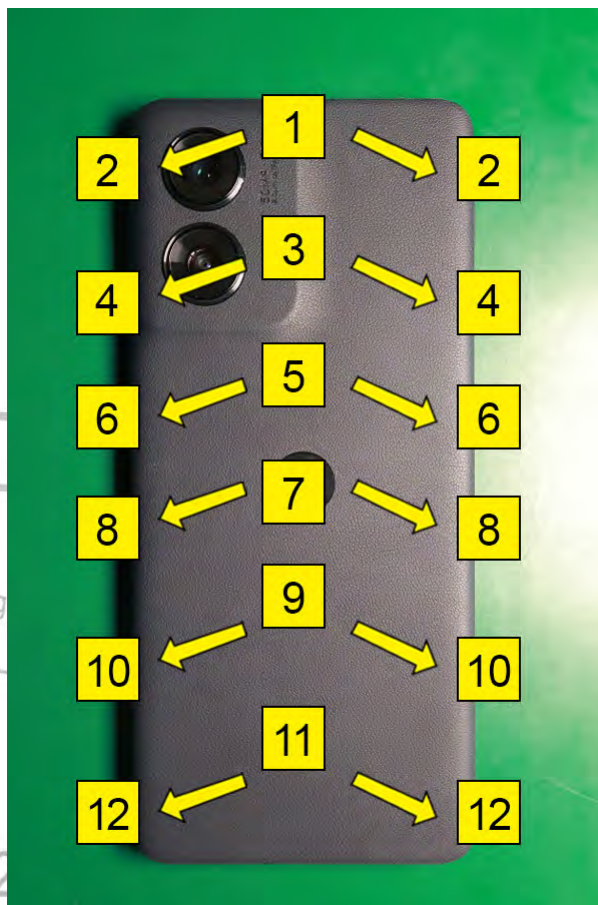
- Press both of "Start" on the left and right side to initiate press process. Wait 30 seconds until process is finished.



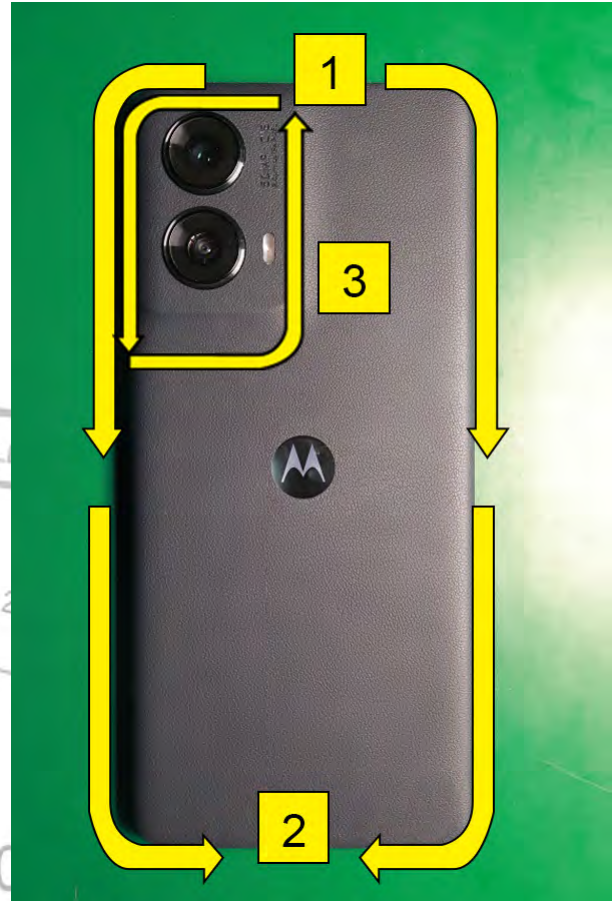
- Pull out the drawer from the press chamber, remove the Inlay press fixture, then take out the phone.



16. Apply manual pressure to the Battery Cover as follows:
17. Place both thumbs on point 1 (in middle of the Battery Cover) and slide them out to point 2.
18. Place both thumbs on point 3 and slide them out to point 4.
19. Place both thumbs on point 5 and slide them out to point 6.
20. Place both thumbs on point 7 and slide them out to point 8.
21. Place both thumbs on point 9 and slide them out to point 10.
22. Place both thumbs on point 11 and slide them out to point 12.



23. Place both thumbs on point 1 and slide them around the perimeter of the Battery Cover to point 2. Use fingers to press around the perimeter of the Camera bezel point 3 as shown.



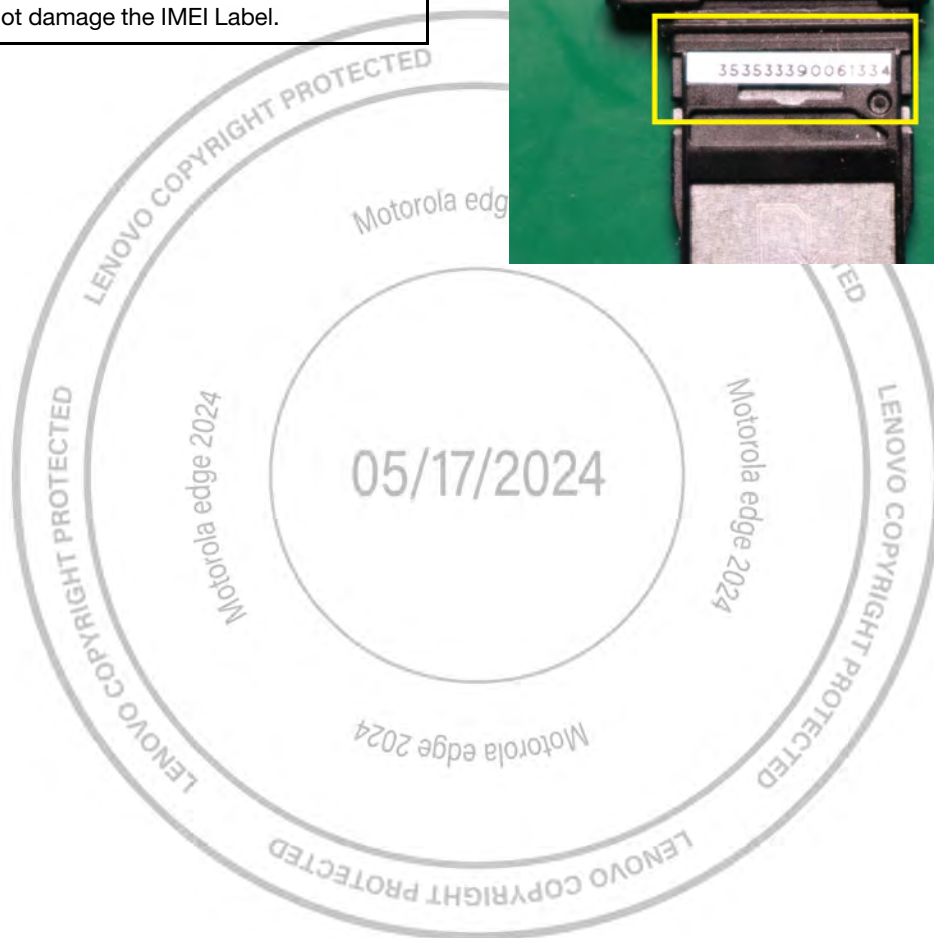
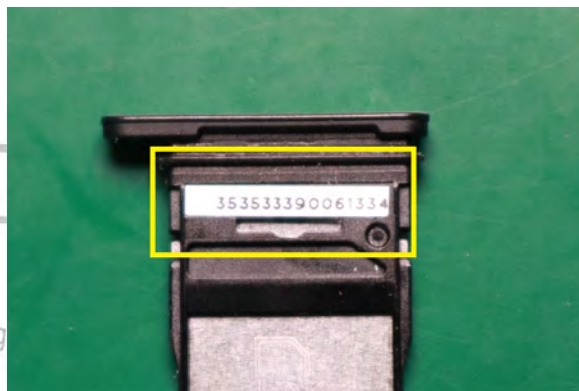
## IMEI Label Assembly

Description	Reference #
HDW,SIM TRAY - PLAS,ASSY_SINGLE_AVATR_NA	24
LBL,IMEI,9X1.3mm,Full Size 35.6x27.6mm	-

Use the Plastic Tweezer to place the IMEL Label on the location as shown.

### NOTE

Be careful to not damage the IMEI Label.



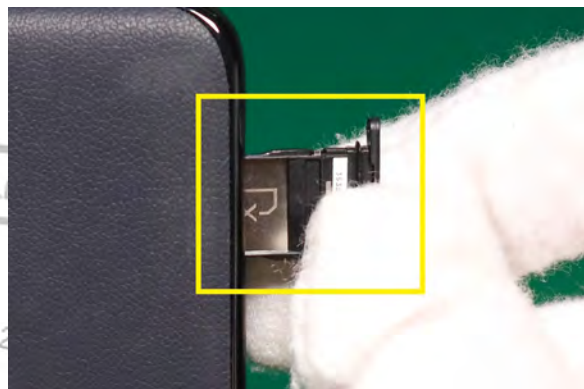
## SIM Tray Assembly

Description	Reference #
XT2405 TP LCM ASSY Outer Space CS	1
HDW,SIM TRAY - PLAS,ASSY_SINGLE_AVATR_NA	24

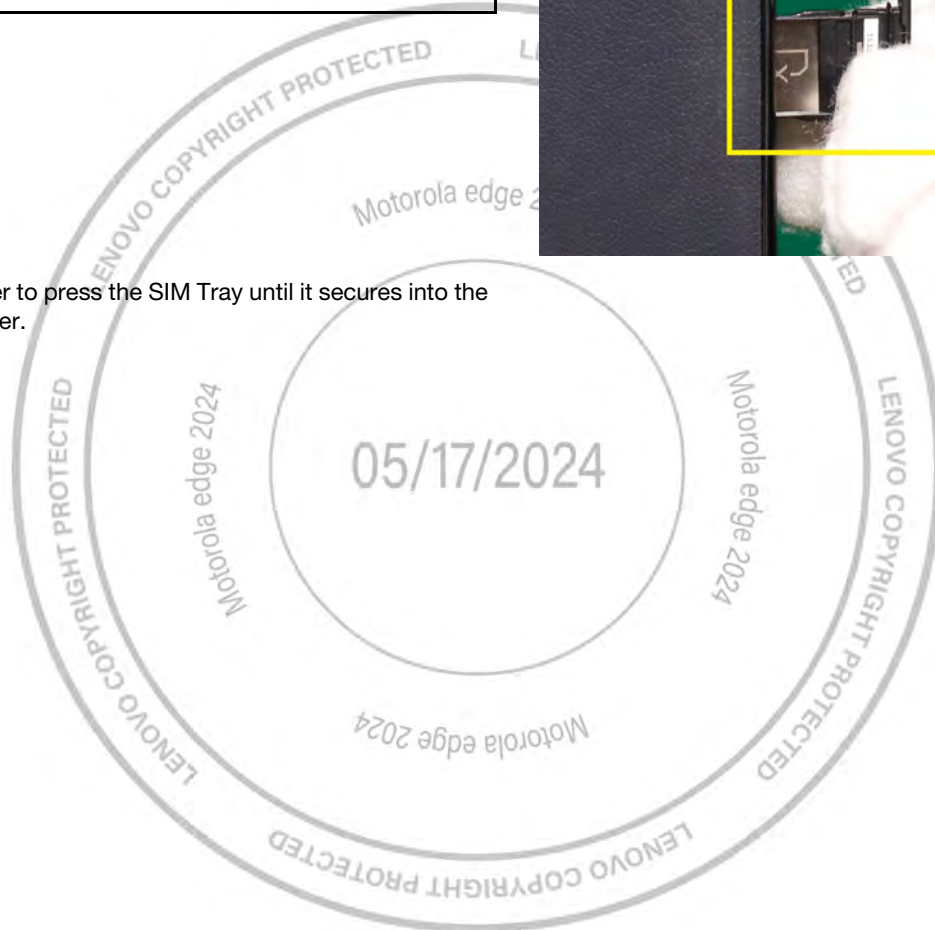
1. Insert the SIM Tray in the transceiver as shown.

**NOTE**

Do not shake the SIM Tray during the insertion.



2. Use finger to press the SIM Tray until it secures into the transceiver.





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## Chapter 6. Assembly Quality check

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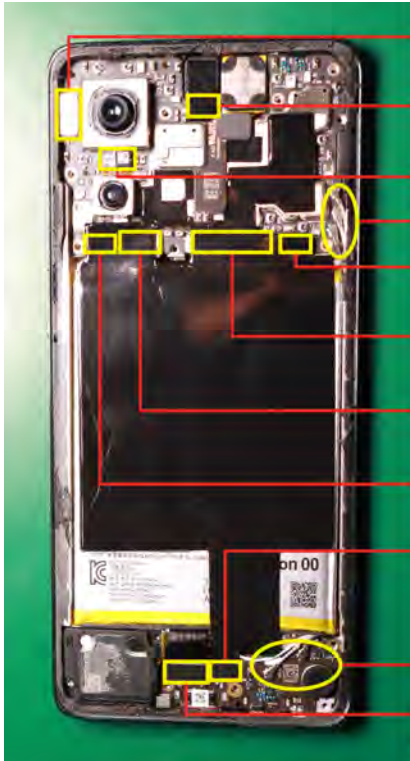
### Battery Quality Check



Check if battery adhesive is reused or with residue from the old one



## Connectors Quality Check



Check if the rear facing camera connector is well-seated and there's no sign of damage.

Check if the front facing camera connector is well-seated and there's no sign of damage.

Check if the rear facing camera connector is well-seated and there's no sign of damage.

Check if the battery connector is well-seated and there's no sign of damage.

Check if the main flex connector is well-seated and there's no sign of damage.

Check if the LCD connector is well-seated and there's no sign of damage.

Check if the battery connector is well-seated and there's no sign of damage.

Check if the main flex connector is well-seated and there's no sign of damage.

Check if the coax cable connector is well-seated and there's no sign of damage.

Check if the main flex connector is well-seated and there's no sign of damage.



## Screws Quality Check



Check if any missing/unseated screws.

Check if any missing/misaligned heat spreader.

Check if any missing/misaligned heat spreader.

Check if any missing/unseated screws.





## Chapter 7. FOD Calibration Solution 1/2

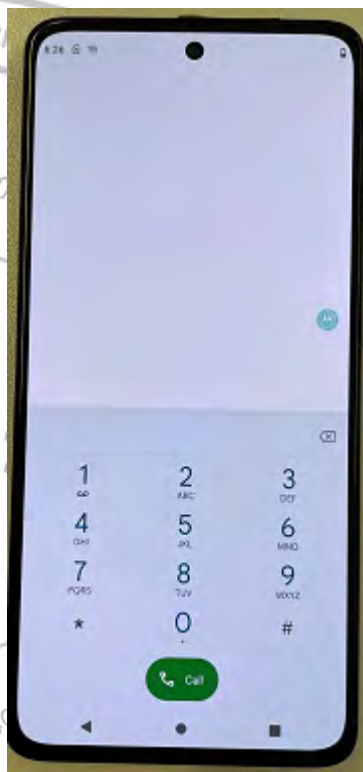
### FOD Calibration Solution 1

**NOTE**

Use LMST (Motorola Software Test Tool) to perform the FOD calibration with the tool.

For the manual FOD calibration, follow below processes:

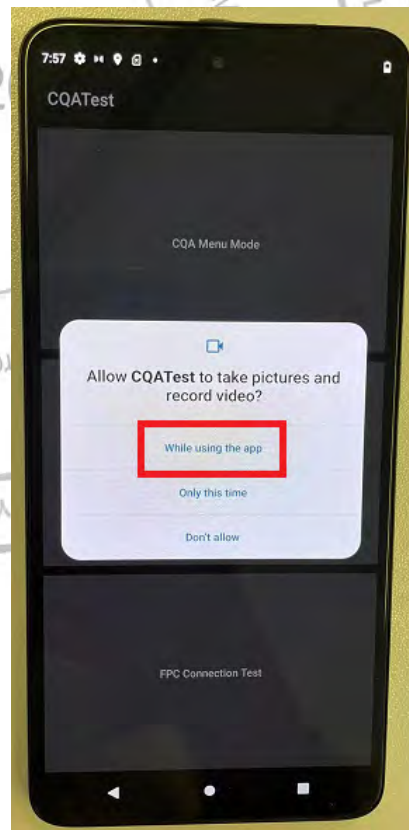
1. Open the phone Dial Screen.



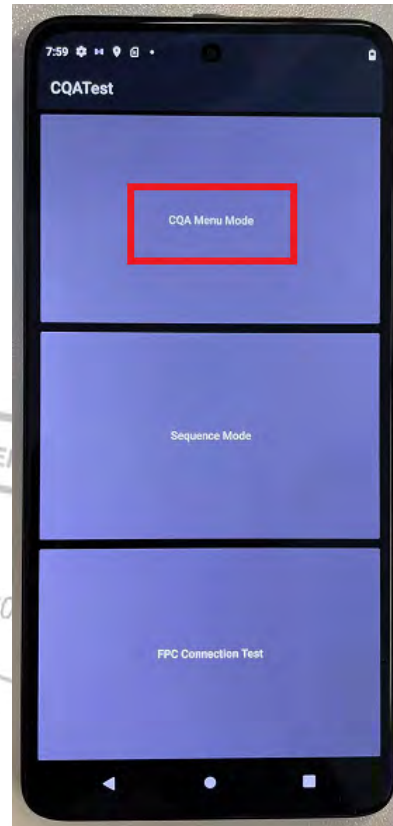
2. Enter **\*##2486##\*** on the Dial Pad and press Call.



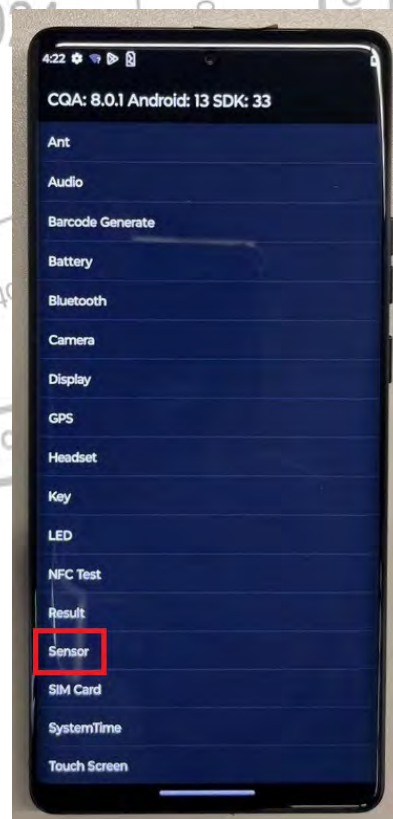
3. Select **Allow to all pop-ups prompts**.



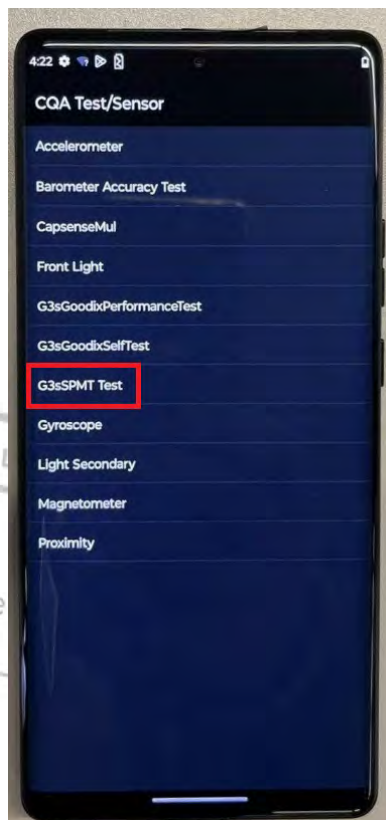
4. Select the "CQA Menu Mode".



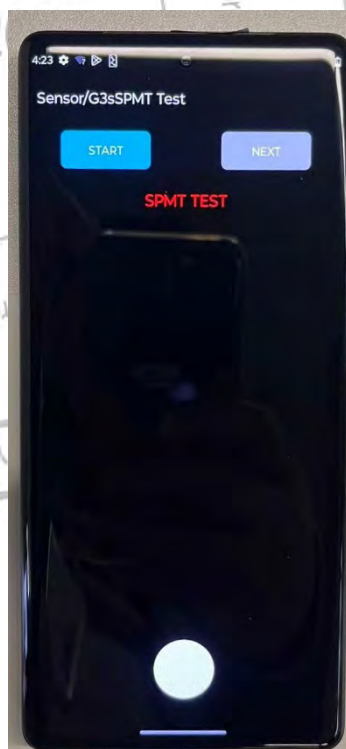
5. Select "Sensor" from the options.



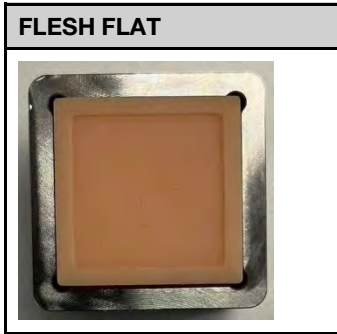
6. Select “G3sSPMT Test” from the options.



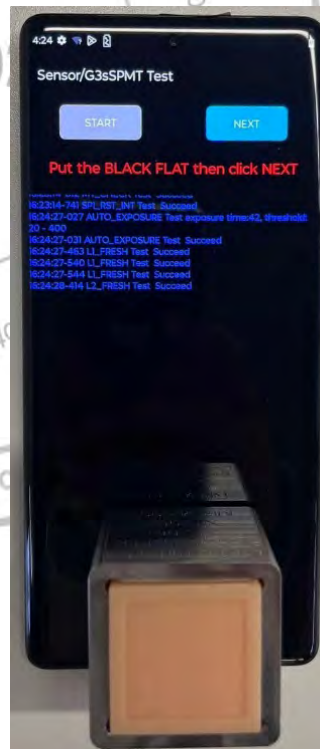
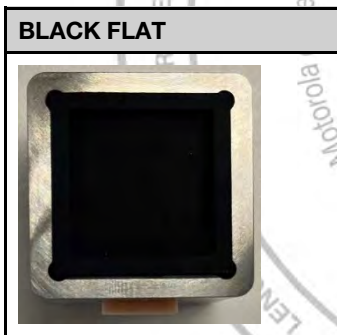
7. Press Start.



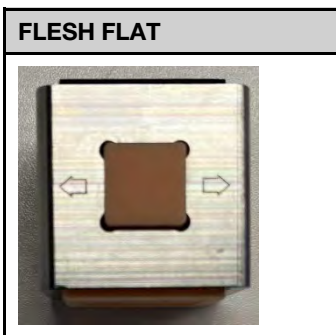
- Place "Flesh Flat" side onto FOD area and press "Next".



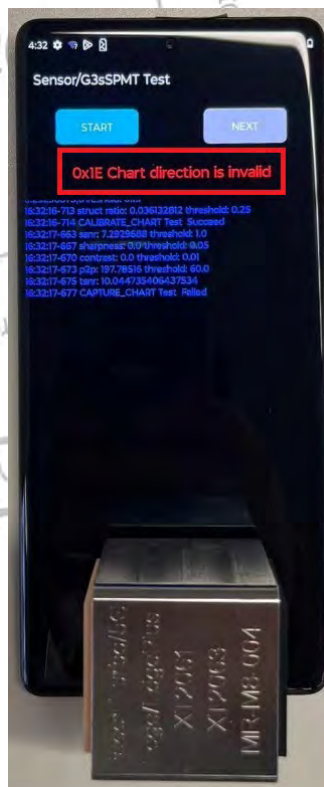
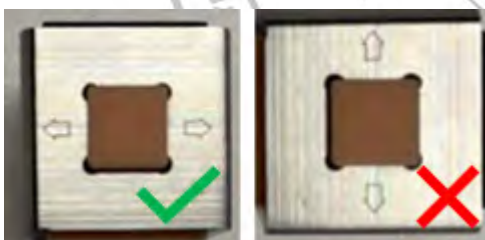
- Place "Black Flat" side onto FOD area and press "Next".



10. Place “Flesh Chart” side onto FOD area and press “Next”.



**FLESH FLAT**  
Place “Flesh chart” side with pattern lines horizontal, NOT Vertical. Fail to do so will result in “Chart direction is invalid” error.



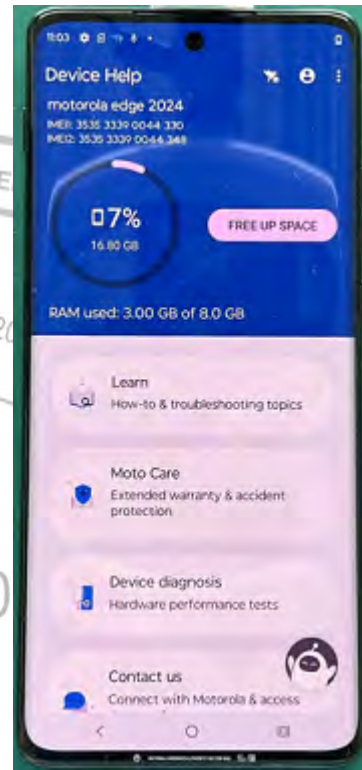
## FOD Calibration Solution 2

### NOTE

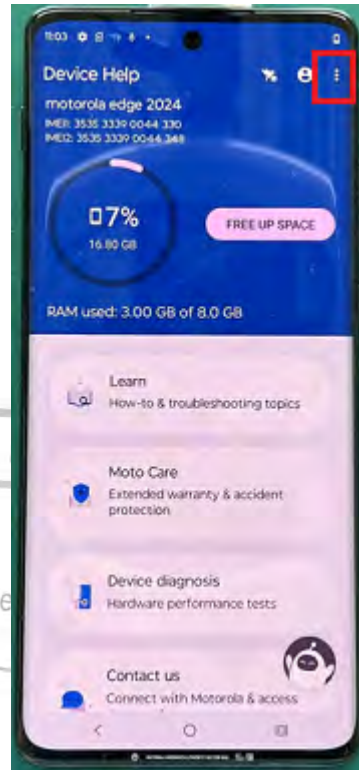
Use Help Device App to perform the FOD calibration.

For the manual FOD calibration, follow below processes:

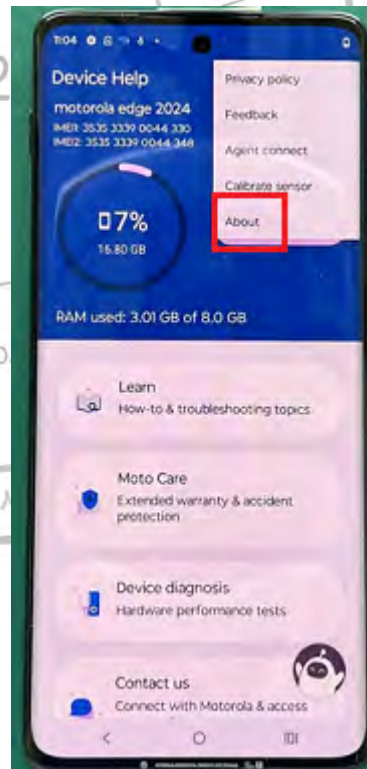
1. Open the Device Help App.



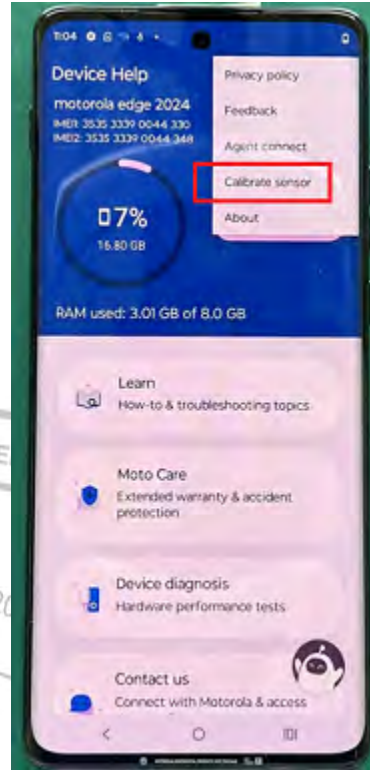
2. Click the three dots on the upper right.



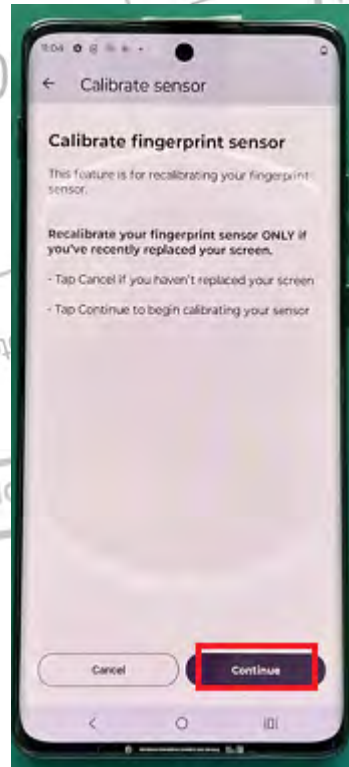
3. Select "About" to verify the App version. Make sure the App version is 12.6.1 or above.



4. Select "Calibrate sensor".



5. Select "Continue".



6. Select “Continue”.



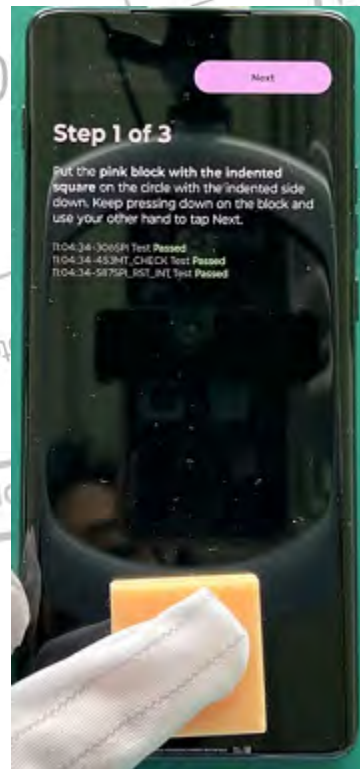
7. Select “Start” to begin the test.



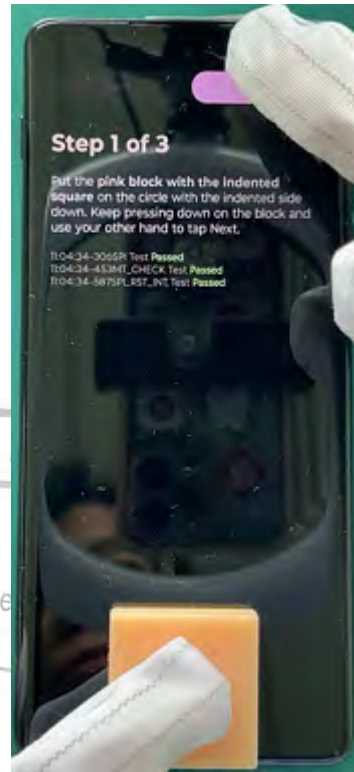
- Put the Pink Block with the indented square on the circle with the indented side down.



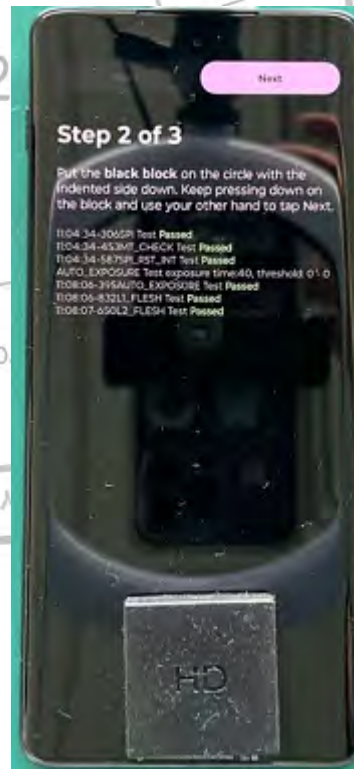
- Use hand to keep pressing on the block.



10. Use your other hand to tap “Next”.



11. Put the Black Block on the circle with the indented side down.



12. Use hand to keep pressing on the block.



13. Use your other hand to tap "Next".



14. Put the Pink Block with grooves on the circle with the grooves side down.

**NOTE**

Place Pink Block side with pattern lines horizontal, **NOT** Vertical. Fail to do so will result in "Chart direction is invalid" error.



15. Use hand to keep pressing on the block.



16. Use your other hand to tap "Next".



17. Calibration complete, Select "Exit".





## Chapter 8. Battery Safety Guidelines

Handle Battery with care. If the Battery Pack is dropped to the floor, it may be internally damaged and must be scrapped.

Ensure all surfaces, fixtures, and phone components contacting the Battery are smooth and clean.

Ensure Battery and its insulation are not damaged (e.g., scratched, dented, punctured) prior to and throughout assembly.

Prior to assembly, ensure Battery edges and surfaces are not dented or deformed, and that fixtures and parts that will contact the Battery are free of foreign material.

Ensure screws or screwdrivers or any sharp tools do not contact the Battery.

Failure to adhere to Safety Critical Note(s) may increase risk of rupture, burning, or failure to function safely when used by the customer.

Batteries should be handled with care to avoid damage to the cell (example: scratch, dent, puncture), insulation or protective circuit.

Mishandling or contact with foreign material may increase risk of swelling, rupture, burning, or other failure to function safely when used by the customer.

Do not puncture, deform, crush, or disassemble battery.

Do not shorten the connector leads, do not submerge in water, or expose to extreme temperatures.

If battery pack has leaking fluids, do not touch any fluids.



## Chapter 9. Guidance for Handling Lithium Ion Batteries

When handling devices with Li-Ion batteries, it is imperative to take basic precautionary measures and follow best practices. This guidance does not contain device-specific training procedures. Please refer to your internal organizational procedures or OEM training materials for device-specific battery replacement procedures.

Batteries that are swollen and/or have a crease, dent, puncture or other deformation shall be removed and replaced with a new battery. These batteries shall not be reused.

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### Background

Like many consumer electronics devices, mobile devices contain Li-Ion batteries and sensitive electronic components that are designed to be serviced by qualified technicians. Li-Ion batteries are a safety-critical component of these devices and must be handled with care.

When fully or partially charged, Li-Ion batteries can combust if punctured, bent, dented or damaged. Basic best practices can minimize incidents with Li-Ion batteries. All appropriate measures to protect personnel against possible chemical, thermal, and/or explosion hazards shall be taken.

It is important to note that consumer do-it-yourself (DIY) battery replacement or repair kits, often made available via third parties, do not ensure safety-critical best practices. Some may not adhere to basic lithium battery design requirements, although form and fit criteria are met. It is very important to use battery packs approved by the OEM.

Technicians who perform device repairs shall be properly trained and provided with the appropriate tools, components and work instructions. Careless work during a repair, or the use of improper components, can lead to safety risks including battery thermal events.

The batteries used in most modern devices are contained in a soft pouch protected by the outer enclosure of the device. When the device enclosure is opened for a repair, the battery can be damaged by tools or other components making contact with the battery. Damaging the battery can create a safety risk.

It is highly recommended and in many cases an OEM requirement to replace a soft pouch battery that has been removed from a device, as the removal process could damage the battery. A removed battery, including those "harvested" from other devices, does not provide the same guarantee of quality and safety as a new battery.

Use the highest quality components/batteries available along with proper tools.

Any repair requiring the removal of screws or other components shall be carefully performed to ensure that loose screws or misaligned components are not left inside a device. Loose screws or misaligned components can damage the battery and potentially lead to a battery thermal event.

Appropriate final testing according to each organization's internal processes and procedures shall be done to ensure the quality and safety of any repair. Best practices including checking and re-checking your work will ensure these standards are met.

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### Battery Service: Required Equipment

Technicians shall possess the following equipment for working on Li-Ion batteries:

- Neoprene or nitrile gloves (EN 374) or equivalent
- Heat-resistant gloves
- Safety glasses
- Cleaning wipes (to clean safety glasses)
- 8-10 cups of clean, dry, untreated sand, stored in a container as specified below
- Wide-mouth non-breakable plastic quick-pour sand container with a flip-top lid
  - The sand container shall be within arm's reach (2 ft. or 0.6 m), on either side of the workstation, for immediate access during an unexpected thermal event. It shall not be stored above or below the workstation.
- Hand broom with dustpan
- Existing ESD bags or re-sealable, plastic disposal bags, and boxes
- Yellow fireproof safety cabinet
- Re-sealable aluminized bags
- Voltmeter and appropriate wiring

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## Battery Service: Precautions, Training and Handling Guidelines

Technicians shall follow these precautions and guidelines when working on Li-Ion batteries:

- Wear safety glasses whenever handling batteries.
- Remove jewelry items such as rings, wristwatches, pendants or any other loose wearable items that could come in contact with the battery terminals.
- Always inspect Standard Operating Procedures (SOP) prior to disassembly to ensure the proper temperature guidelines are followed when disassembling devices.
- Do not handle battery packs if they feel warm or hot to the touch or look deformed, included, but not limited to, swollen, crushed, have breached.
- Do not attempt to handle a venting battery or device containing one.
- All swollen, creased, dented, punctured or otherwise deformed batteries shall be processed in accordance with appropriate SOP.
- Handle batteries with signs of leakage in a well-ventilated area.
- Always have all safety equipment available (quick-pour sand container, ABC fire extinguisher, fire safety gloves and dedicated Li-Ion battery containment device) when disassembling or processing devices with internal soft-pouch batteries.
- Cover all metal work surfaces with an insulating material (ESD mat). Work areas shall be kept clean and free of metal or sharp objects that could short the contacts, or puncture or damage the cover to the battery.
- All tools shall be made of ESD material with no sharp edges in order to prevent dents and punctures.
- Promptly dispose of used batteries in accordance with local regulations.

## Battery Safety Training

Every technician handling batteries, regardless of their skill level, shall complete battery safety training that includes the best practices described in this document. Training shall take place on a regular basis, with the recommended frequency being once a year. It is also recommended to undergo training if and when an unfamiliar battery pack design or chemistry is to be handled.

## Battery Handling

Technicians shall follow these key handling and safety points when working on Li-Ion batteries. Some can be dangerous to the persons carrying them out. All appropriate measures to protect personnel against possible chemical, thermal, and/or explosion hazards shall be taken.

- Do not subject batteries or battery-powered devices to high levels of force.
- All appropriate measures to protect personnel against possible chemical, thermal, and/or explosion hazards shall be taken.
- Excessive force shall not be used to free a battery lodged inside the housing.
- Check for proper fit before inserting the battery into any type of housing.
- Batteries shall not be forced into the battery cavity.
- Do not expose Li-Ion batteries to liquids.
- Only use inspection tools (such as calipers and rulers) that are made from, or covered with, a non-conductive material.
- Properly connect the battery in the electronic device, charger or testing equipment.
- Use only certified chargers. Non-certified chargers may not properly charge or may over-charge a battery, causing swelling.
- Discharge battery only in an approved device.
- Do not short circuit the battery.
- Do not directly solder a battery.
- Never attempt to open a battery.
- Never attempt to repair a battery.
- Remove batteries from a device that will not be used for an extended period of time (if possible).
- Do not reuse soft-pouch batteries.

If something unusual is noticed, stop using the battery. If the battery or battery-powered device gives off an unusual odor, overheats, vents, sparks, is discolored, deformed or reacts unusually in any way during use, recharging or storage, remove it from the device or battery charger and discontinue use.

- Never use a battery if it is swollen, dented, creased, punctured.
- Keep metal tools away from batteries.
- **NEVER USE WATER TO PUT OUT A BATTERY FIRE.** Only use an ABC fire extinguisher and Li-Ion battery containment device with sand.
- **The most effective way to stop a thermal runaway (battery fire) is by smothering the battery or device immediately with plenty of clean, dry sand, dumped all at once from the quick-pour container. Also have immediate access to an ABC-type fire extinguisher in the event the reaction is not contained by the sand.**

## New Battery Installation

The service provider shall follow this guidance when working with new Li-Ion battery assemblies:

- Follow the provided work instructions.
- When required to remove a battery that is installed in a device using adhesive, always use new battery adhesives to install the replacement battery. Reusing the adhesive left on the housing could lead to the battery coming loose and may cause safety issues.
- Before placing new adhesive, completely remove and clean any residue left on the housing using isopropyl alcohol or other suitable solvent before placing new adhesive.

- Never place a new adhesive on top of existing adhesive since it increases the height and could cause interference with the internal space or battery cavity.
- Ensure proper alignment of the adhesive to the housing surface is critical for proper bonding strength.
- Do not use clamps to hold the battery pack in place during the rework process.
- Ensure proper use of press and hand roller so that adhesive properly bonds to the housing and battery. Insufficient bonding may cause the battery to loosen, resulting in safety issues.
- Some batteries may require application of pads and/or tape after assembly; follow provided work instructions to attach protective materials.
- Inspect the housing to ensure no sharp edges contact the battery.
- Inspect battery flex or cable for signs of damage.
- Inspect the connectors on the battery flex/cables and board to ensure they are not damaged or corroded.
- Proper alignment of the battery to the housing surface is critical for safety.
- Do not place labels on the battery unless required by the OEM.
- Ensure the battery connector is properly connected to the board.
- Secure all battery connectors and the battery pack itself by using properly placed adhesive tape and wraps. This should be clearly explained in the work instruction.

## Storage Guidelines

Technicians shall follow these Li-Ion battery storage guidelines:

- Store batteries in a well-ventilated, dry area. The storage temperature shall be between -4° F (-20° C) and 113° F (-45° C), or according to the battery manufacturer's guidelines.
  - Lithium ion batteries function best in the temperature range of 32° to 95° F (0° to 35° C)
- Store batteries in an isolated area, away from combustible materials and preferably in a fireproof safety container.
- Store lithium batteries in their original protective cases, padding and boxes.
- Do not compress or force batteries into boxes if they do not fit.
- Store used batteries in a separate location from new batteries.
- Make sure to place only one battery in each box or pad, exactly as provided by the manufacturer.
- Any Li-Ion battery storage area shall have immediate access to a quick-pour sand container with sand, an ABC fire extinguisher and a Li-Ion battery containment device.
- Never stack heavy objects on top of boxes containing Li-Ion batteries and take necessary precautions to avoid crushing or puncturing the cell case. Severe damage may potentially lead to hazardous chemical release or a battery thermal event.
- Minimize the number of Li-Ion battery boxes that are stacked on top of each other.
- Do not allow excessive quantities of batteries to accumulate in any storage area.

## Battery Recycling and Shipment

Technicians shall source a recycling provider and adhere to their prescribed shipping procedures. The recycler shall have appropriate certifications including R2.

To find the list of R2 recyclers, reference <https://sustainableelectronics.org/recyclers>.

Li-Ion batteries are dangerous goods and can pose a safety risk if not prepared and shipped in compliance with international transport regulations. Technicians shall follow the IATA Lithium Battery Shipping Regulations (LBSR) Guide when shipping Li-Ion batteries.

## Employee Emergency Action Plan

The service provider shall have an employee emergency action plan documented and communicated to technicians. Technicians shall be familiar with their organization's employee emergency action plan.

## First Aid Procedures

The service provider shall have first aid equipment on-hand at all times and documented procedures for handling incidents.





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## Chapter 10. Broken Glass Handling Guide

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### Important

The displays and some of inlay are made of glass. The glass could break if the phone is dropped on a hard surface, receives a substantial impact, or is crushed, bent, or deformed.

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### Cautions and Warnings

Don't attempt to remove chipped or cracked glass shards.

Put on safety glasses with side shields and the cut-resistant gloves.

Use a vacuum cleaner to remove glass pieces from your workspace and phone.

