

Troubleshooting Guide

- mechanical -



Xperia™ X
F5121, F5122 (Dual SIM)

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Always firstly disconnect the Embedded Battery BtB connector to cut off power supply when the Panel Rear is disassembled.

Always finally connect the Embedded Battery BtB connector before the Panel Rear is reassembled.

Note: Proximity Calibration always must be performed when Front Assy and Main PBA reassembly, or Front Assy replacement, or Board Swap, or proximity malfunctions; 1289-2983 Sony Mobile Repair Application-mechanical.

Note: Noise Cancelling Calibration always must be performed when FPC Top replacement or Board Swap; 1289-2983 Sony Mobile Repair Application-mechanical.

Note: Gyroscope and Accelerometer Calibration always must be performed when Main PBA reassembly, or Board Swap, or wrong Gyroscope or Accelerometer readouts; 1289-2983 Sony Mobile Repair Application-mechanical.

Note: Color ID Flashing always must be performed when Board Swap or Front Assy replacement; 1289-2983 Sony Mobile Repair Application-mechanical.

Note: Flashing Customize or Refurbish or SUCE script (SU script cannot be used!) in Emma must be performed when replace Loudspeaker (Top) and/or Speaker (Bottom).

Note: Aged Battery Reset in EMMA must be performed when Battery embedded replacement in order to delete battery log data.

If there are no special indications of 'F5122', F5121 and F5122 share the same trouble shooting guide as common sections.

1 Problem Areas

1.1 Power

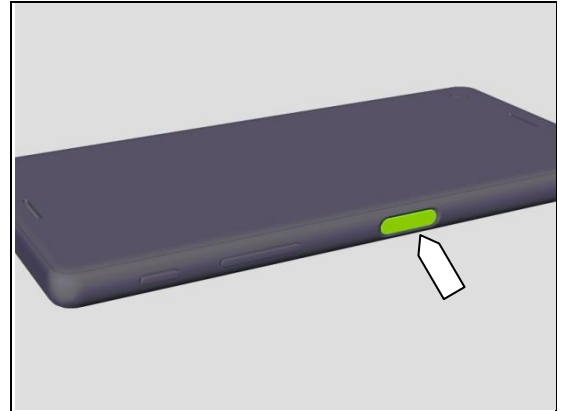
1.1.1 Will not power on or will switch off randomly

Check:

Check whether the Notification LED blinks by pressing the on/off key.

Action:

If NO Notification LED blink is detected, perform a force shut down, press power key and volume up key for 8 seconds (with three vibrations) and then power on the unit again.

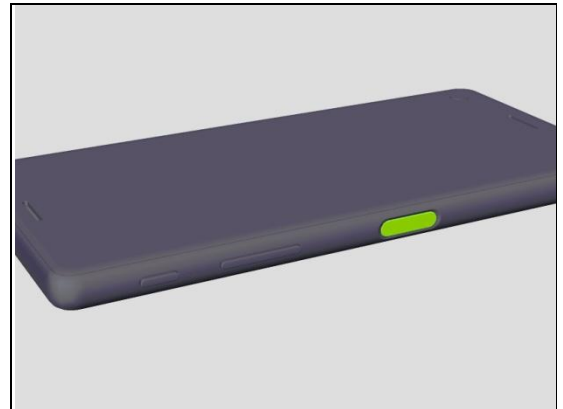


Check:

Check whether the phone vibrates by pressing the on/off key.

Action:

1. If activation of the vibrator is detected, refer to section 1.4 'Display'.



2. If NO activation of the Vibrator is detected and the Notification LED blinks by pressing the on/off key, check that the battery is charging when connected to a charger.

Follow Test Instruction - mechanical chapter 2.3.5 (Charging via Charger or Computer), Diagnostic Battery / Charging status.

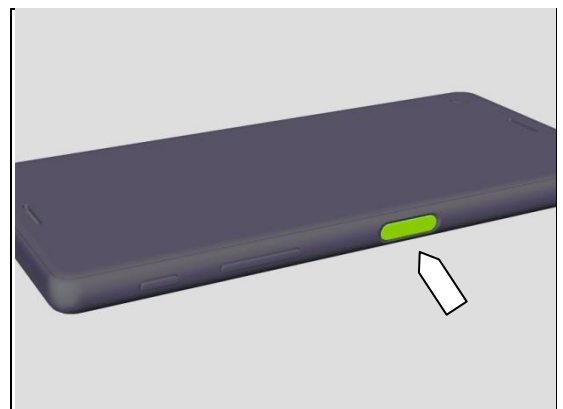


Check:

Inspect the on/off key.

Action:

Refer to section 1.2.3 'On/Off Key'.



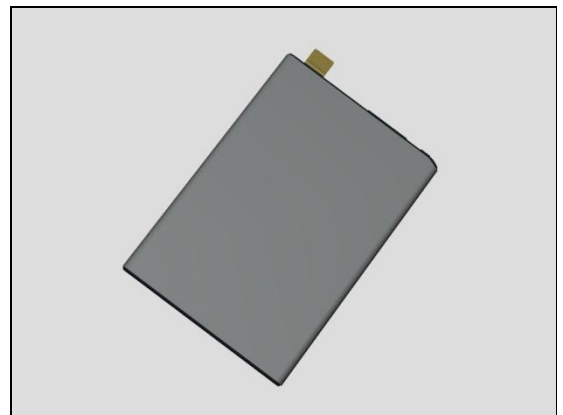
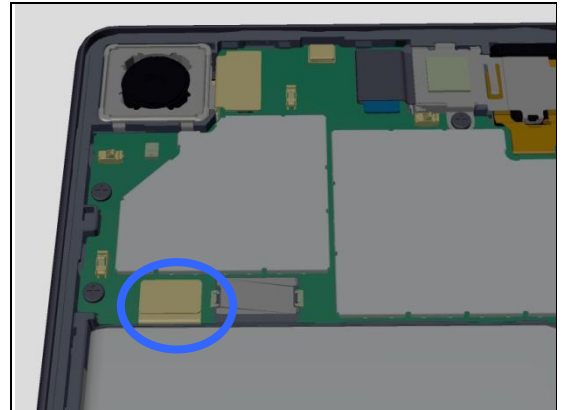
Problem Areas: Power

Check:

Inspect the BtB connector of the Battery to Main PBA.

Action:

1. If not properly connected – disconnect and reconnect it.
2. If dirty or oxidized – clean the both sides of the BtB connector.
3. If the BtB connector, the FPC or the Battery is damaged – replace the Battery.
4. Replace Main PBA.



Problem Areas

1.2 Keys

1.2.1 Back, Menu, Home and Multitask Keys

Action:

1. Refer to section 1.3 'Touch Screen'.
2. Replace Main PBA.



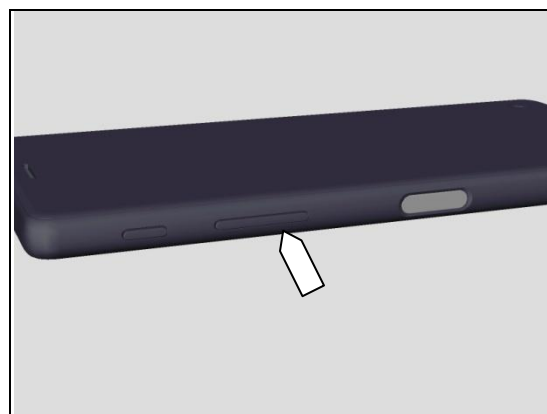
1.2.2 Key Volume

Check:

Inspect the external area of the Key Volume.

Action:

1. If dirty – clean it.
2. If damaged – replace the Key Volume.

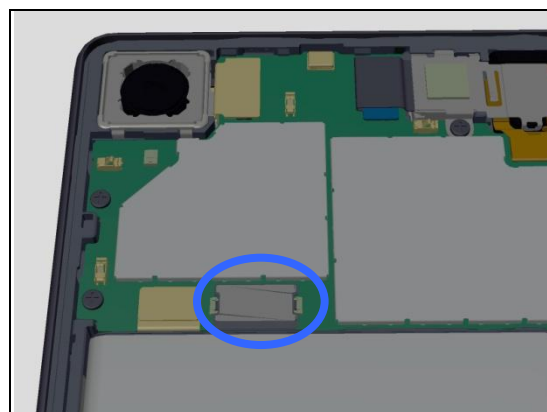


Check:

Inspect the BtB connector of FPC Side Key to Main PBA.

Action:

1. If not properly connected – disconnect and reconnect it.
2. If dirty or oxidized – clean it.



3. If the FPC Side Key is damaged – replace it.
4. Replace Main PBA.



Problem Areas: Keys

Check:

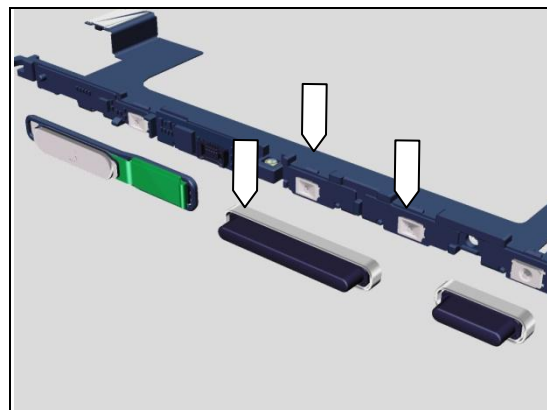
Inspect the condition of Key Volume rubber and FPC Side Key switch.

Action:

1. If dirty – clean them.

2. If the Key Volume or its rubber is damaged – replace the Key Volume.

3. If the volume key switch on FPC Side Key is damaged – replace the FPC Side Key.



1.2.3 On/Off Key

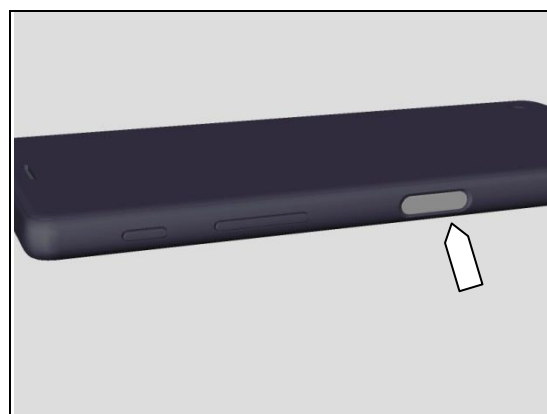
Check:

Inspect the external area of the On/Off Key.

Action:

1. If dirty – clean it.

2. If damaged – replace the FP Sensor Assy.



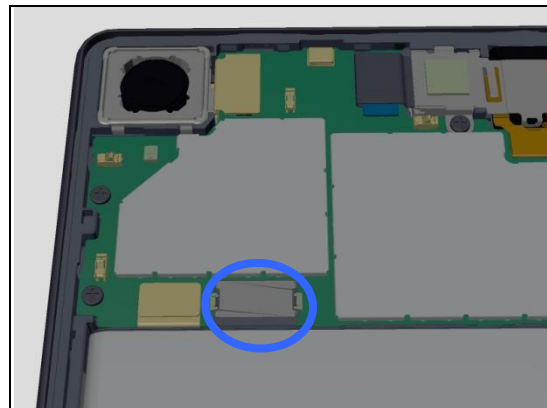
Problem Areas: Keys

Check:

Inspect the BtB connector of FPC Side Key to Main PBA.

Action:

1. If not properly connected – disconnect and reconnect it.
2. If dirty or oxidized – clean it.



3. If the FPC Side Key is damaged – replace it.
4. Replace Main PBA.

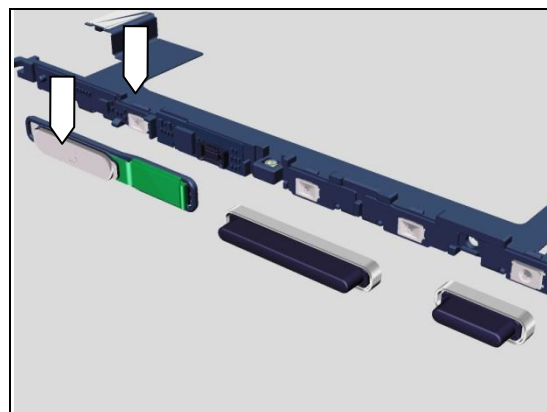


Check:

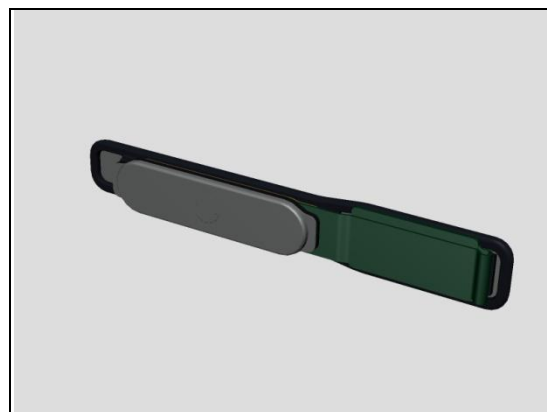
Inspect the condition of the On/Off Key rubber and switch.

Action:

1. If dirty – clean them.



2. If the On/Off Key or its rubber is damaged – replace the FP Sensor Assy.



Problem Areas: Keys

3. If the On/Off key switch is damaged – replace the FPC Side Key.

1.2.4 Key Camera

Check:

Inspect the external area of the Key Camera.

Action:

1. If dirty – clean it.
2. If damaged – replace the Key Cam.

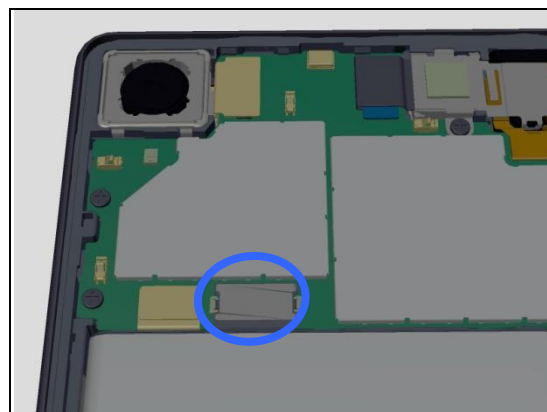
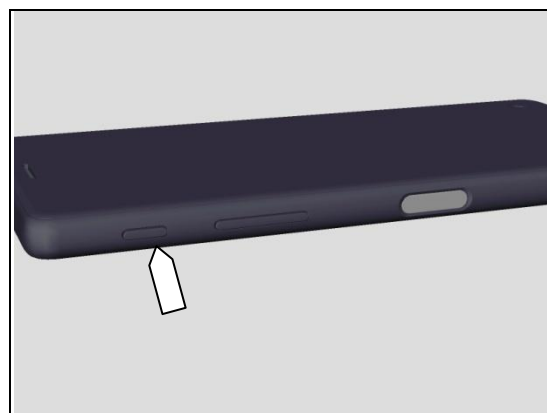
Check:

Inspect the BtB connector of FPC Side Key to Main PBA.

Action:

1. If not properly connected – disconnect and reconnect it.
2. If dirty or oxidized – clean it.

3. If the FPC Side Key is damaged – replace it.
4. Replace Main PBA.



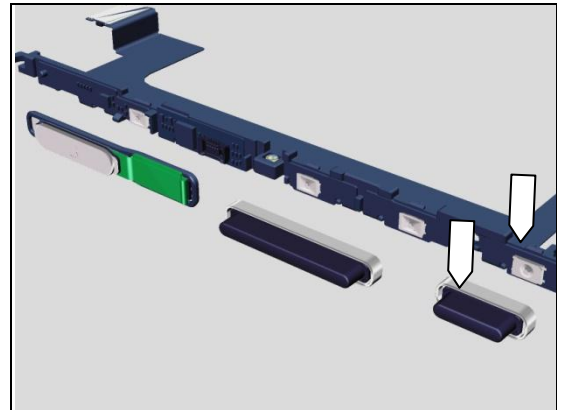
Problem Areas: Keys

Check:

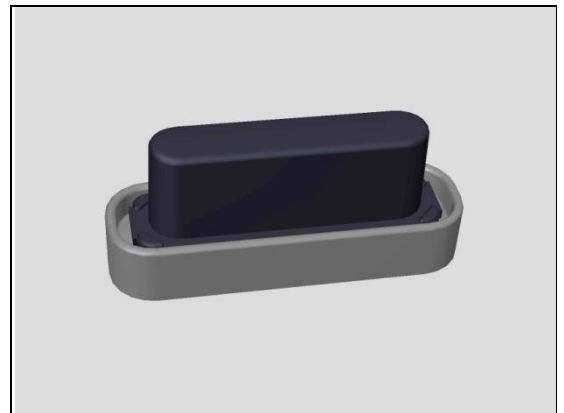
Inspect the condition of the Camera Key rubber and switch.

Action:

1. If dirty – clean them.



2. If the Camera Key or its rubber is damaged – replace the Key Cam.



3. If the Camera key switch is damaged – replace the FPC Side Key



Problem Areas

1.3 Touch Screen

1.3.1 Touch Screen malfunction

Check:

Inspect the touch screen of the Front Assy.

Action:

1. If dirty – clean it.



2. If scratched or damaged – replace the Front Assy.

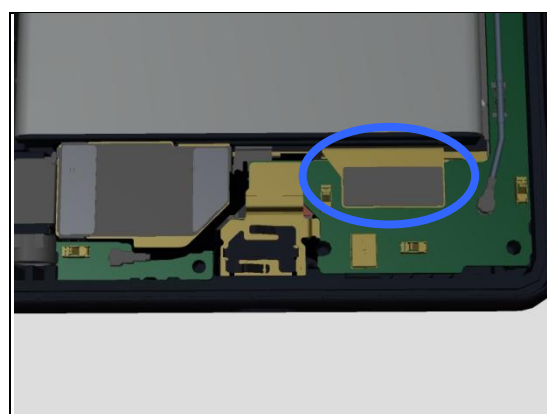


Check:

Inspect the BtB connector of FPC LCD (in Front Assy) to Main PBA.

Action:

1. If not properly connected – disconnect and reconnect it.
2. If dirty or oxidized – clean it.



3. If the FPC LCD is damaged – replace Front Assy.



Problem Areas

1.4 Display

1.4.1 Graphics & Illumination

Check:

Check whether the phone vibrates after the on/off key has been pressed.

Action:

1. If the activation described above is not detected, refer to section 1.1 'Power'.

2. If the Front Assy is damaged – replace it.

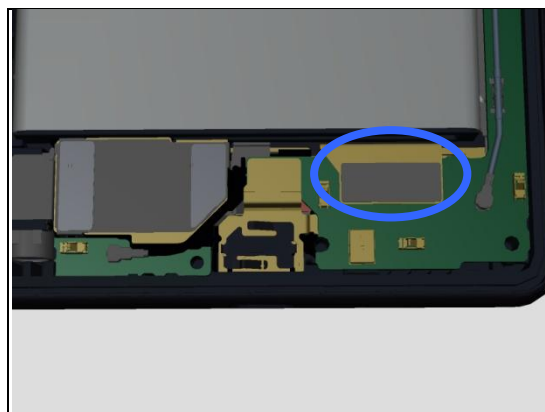
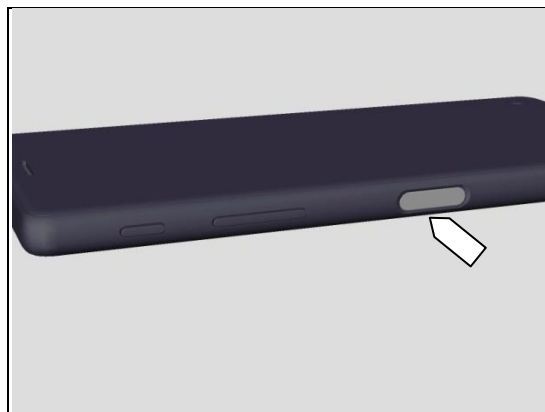
Check:

Inspect the BtB connector of FPC LCD to Main PBA.

Action:

1. If not properly connected – disconnect and reconnect it.
2. If dirty or oxidized – clean it.

3. If the FPC LCD is damaged – replace Front Assy.



Problem Areas

1.5 LED/Illumination

1.5.1 LED/Illumination

Check:

Inspect external window area of Notification LED on the Front Assy.

Action:

1. If dirty – clean it.

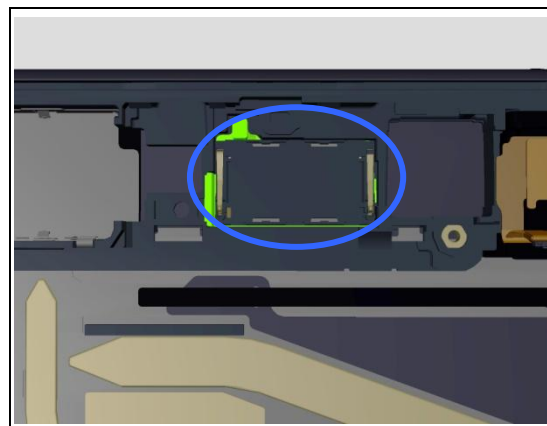


Check:

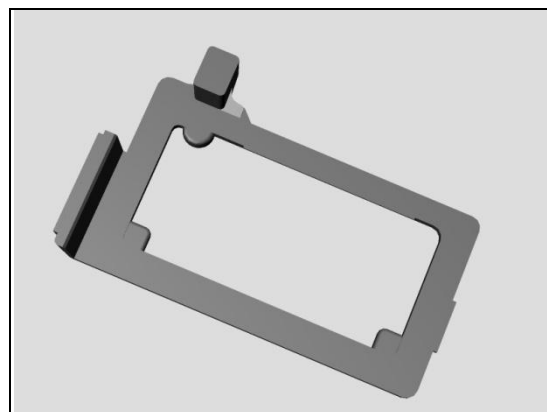
Inspect the LightGuide 3LED.

Action:

1. If not properly assembled – reassemble it.
2. If dirty – clean it.



3. If damaged – replace it.

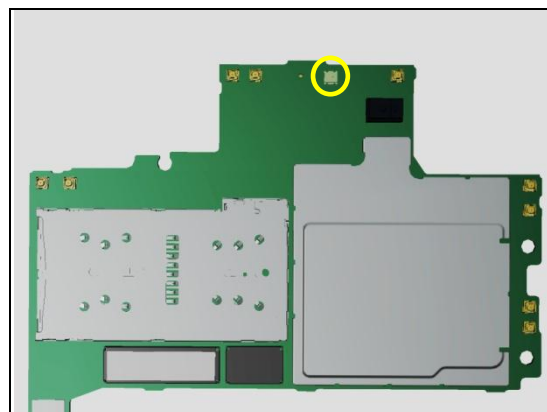


Check:

Inspect the LED on Main PBA.

Action:

1. If dirty or oxidized – clean it.
2. Replace Main PBA



Problem Areas

1.6 Speaker

1.6.1 Speaker

Check:

Inspect the Speaker external port on the Front Assy.

Action:

1. If clogged – clean it.



2. If damaged – replace the Front Assy.



Check:

Inspect the Speaker is assembled well into place.

Action:

1. If not assembled well – reassemble it.

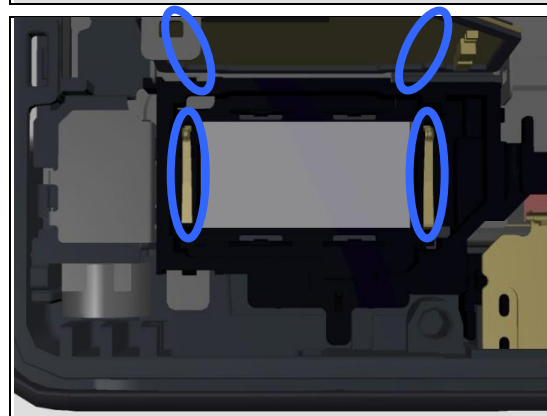


Check:

Inspect the contact pins on the Speaker and FPC Side Key.

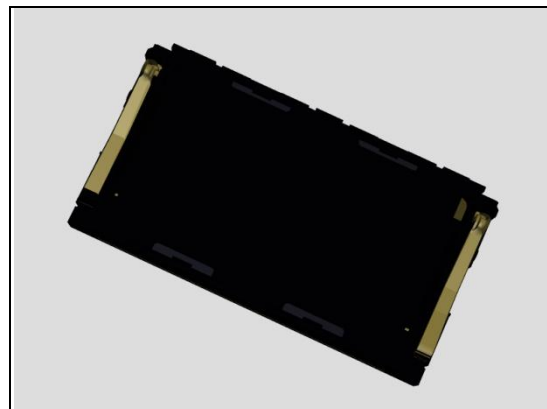
Action:

1. If dirty – clean them.



Problem Areas: Speaker

2. If contact pins on the Speaker are damaged – replace it.

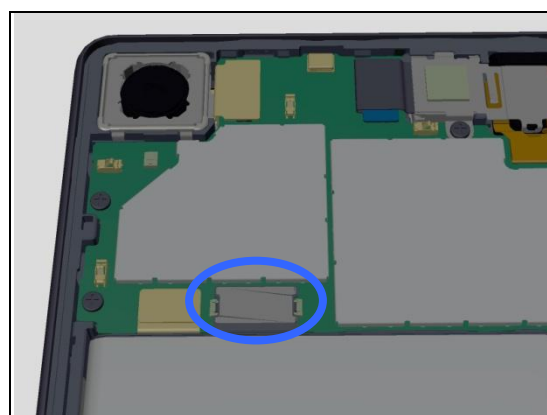


Check:

Inspect the BtB connector of FPC Side Key to Main PBA.

Action:

1. If not properly connected – disconnect and reconnect it.
2. If dirty or oxidized – clean it.



3. If the FPC Side Key is damaged – replace it.
4. Replace Main PBA.



Problem Areas

1.7 Earphone

1.7.1 Loudspeaker

Check:

Inspect the external port of Loudspeaker on the Front Assy.

Action:

1. If clogged – clean it.

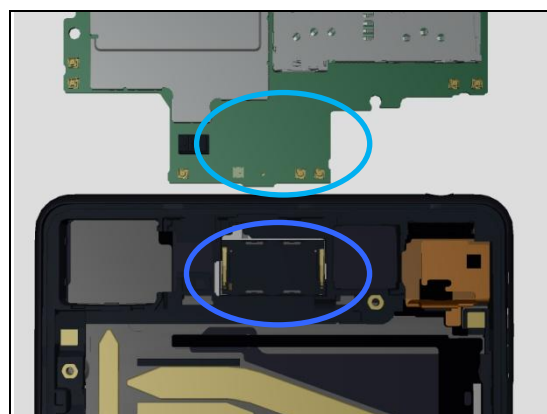


Check:

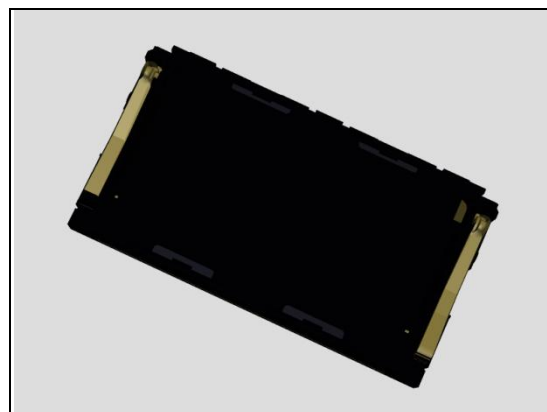
Inspect the contact pads on the Main PBA and the contact pins on the Loudspeaker.

Action:

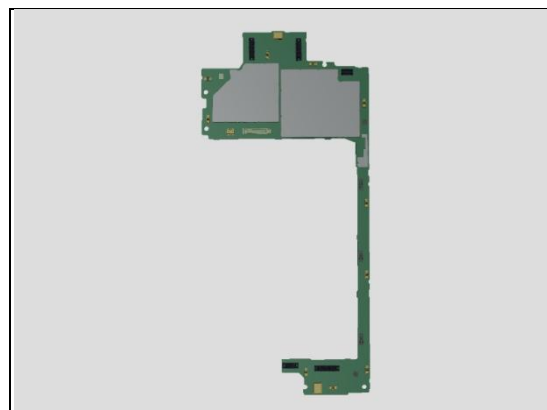
1. If dirty – clean them.



2. If the contact pins of the Loudspeaker or the Loudspeaker are damaged – replace it.



3. Replace Main PBA.



Problem Areas

1.8 Microphone

1.8.1 Primary Microphone

Check:

Inspect the Primary Microphone's external port on the Front Assy.

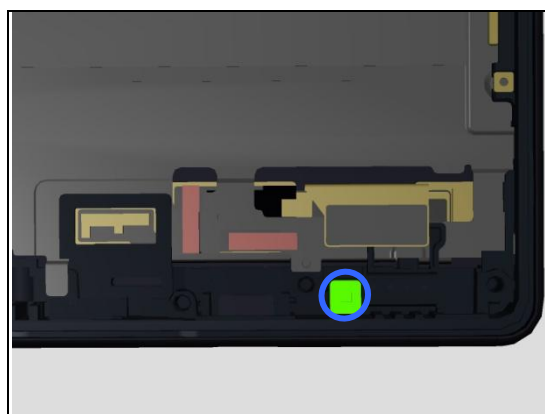
Action:

1. If clogged – clean it.



Check:

Inspect condition of the Cushion 1st Mic.



Action:

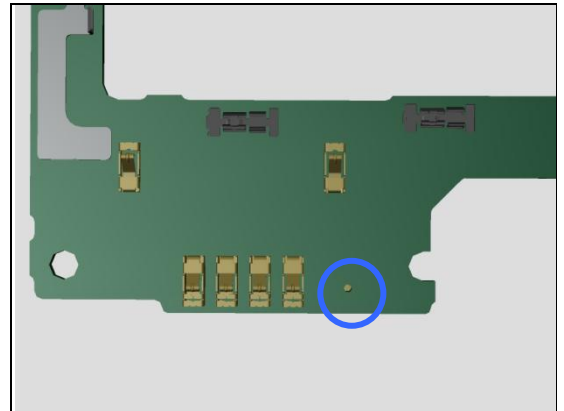
1. If not assembled well or damaged – replace the Cushion 1st Mic.



Problem Areas: Microphone

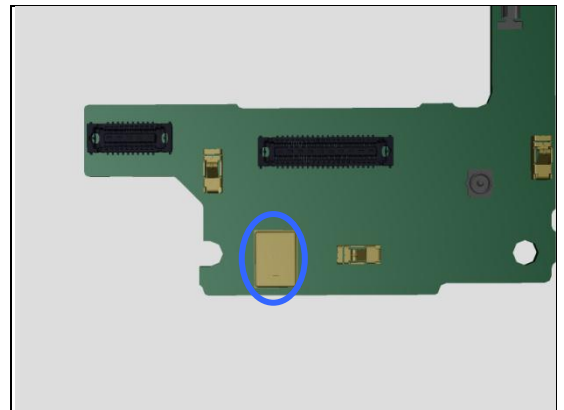
Check:

Inspect the Mic hole and 1st Mic on the Main PBA.



Action:

1. If clogged or dirty or oxidized – clean it.
2. If the 1st Mic on Main PBA is damaged – replace Main PBA.



Problem Areas: Microphone

1.8.2 Secondary Microphone

Check:

Inspect the external port of secondary microphone on the Front Assy.

Action:

1. If clogged – clean it.

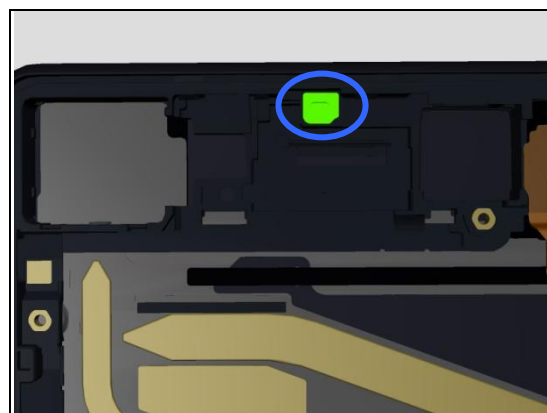


Check:

Inspect condition of the Cushion 2nd Mic.

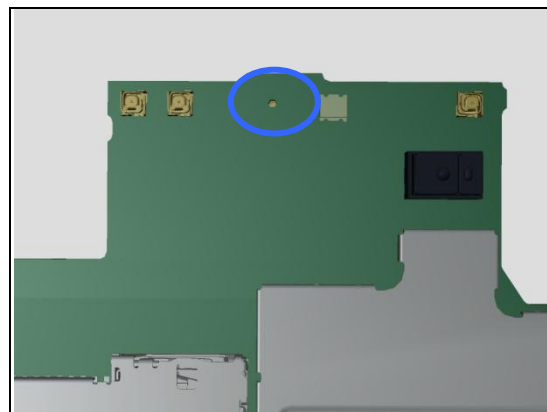
Action:

1. If not assembled well or damaged – replace the Cushion 1st Mic.



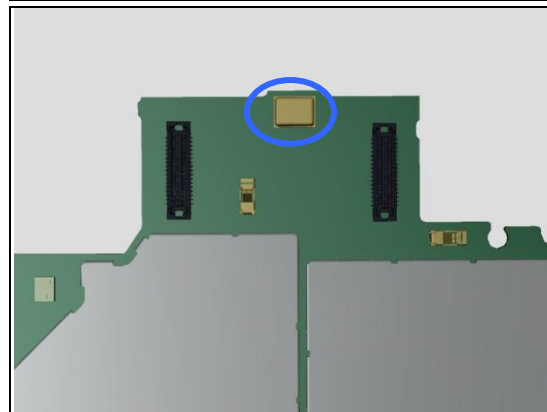
Check:

Inspect the Mic hole and 2nd Mic on the Main PBA.



Action:

1. If clogged or dirty or oxidized – clean it.
2. If the 1st Mic on Main PBA is damaged – replace Main PBA.



Problem Areas

1.9 Vibrator

1.9.1 Vibrator not generating alerts

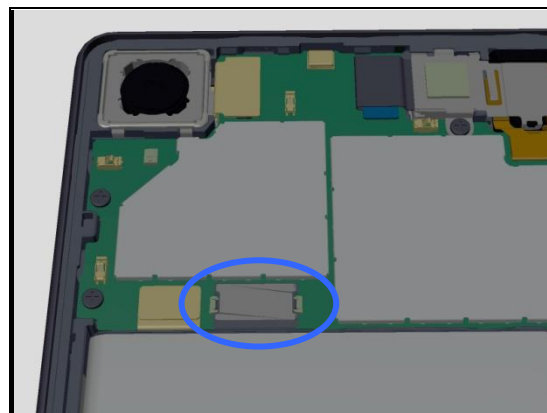
Check:

Inspect the BtB connector of FPC Side Key to Main PBA.

Action:

1. If not properly connected – disconnect and reconnect it.
2. If dirty or oxidized – clean it.

3. If the connector of FPC Side Key or Vibrator is damaged – replace the FPC Side Key.
4. Replace Main PBA.



Problem Areas

1.10 Camera

1.10.1 Main Camera

Check:

Inspect the external area of camera window.

Action:

1. If dirty – clean it.

2. If scratched or damaged – replace the Panel Rear.

Check:

Inspect the BtB connector of Main Camera to Main PBA.

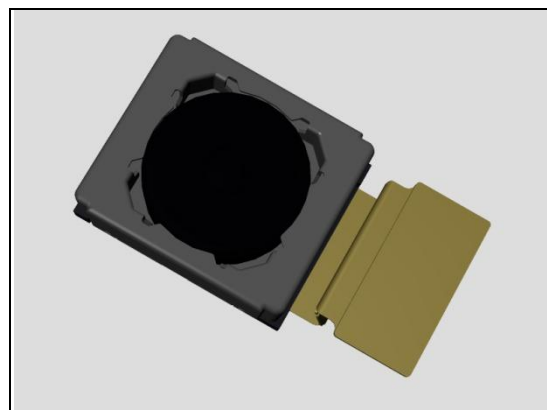
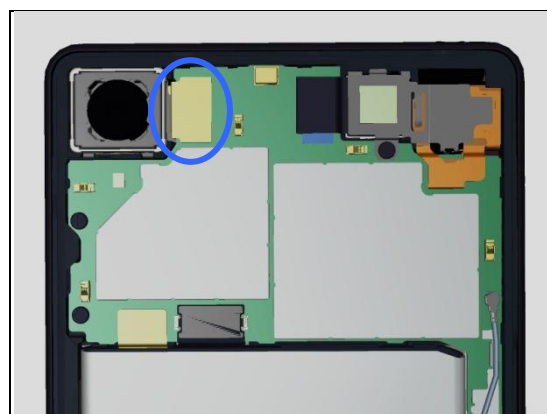
Action:

1. If not properly connected – disconnect and reconnect it.

2. If dirty or oxidized – clean it.

3. If the BtB connector or the Main Camera is damaged – replace the Main Camera.

4. Replace Main PBA.



Problem Areas: Camera

1.10.2 Video Call Camera defects

Check:

Inspect the external area of the Front Camera window.

Action:

1. If dirty – clean it.

2. If scratched or damaged – replace the Front Assy.

Check:

Inspect the BtB connector of Front Camera to Main PBA.

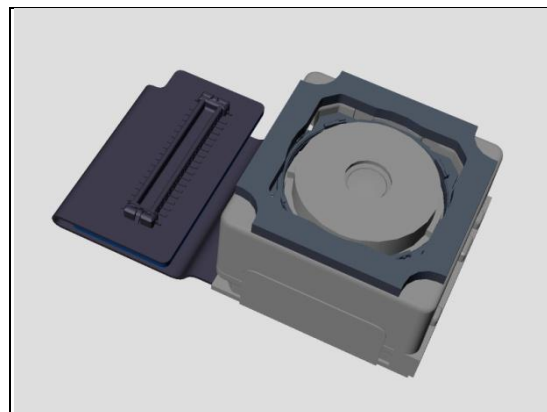
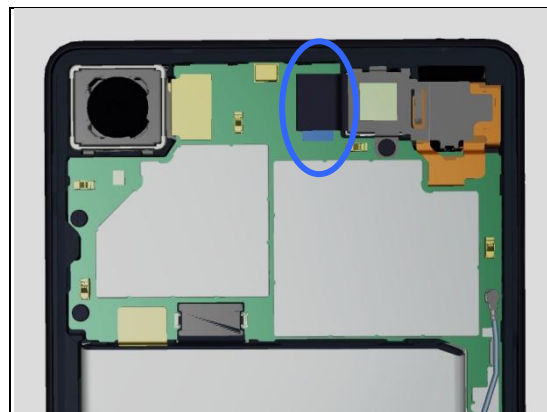
Action:

1. If not properly connected – disconnect and reconnect it.

2. If dirty or oxidized – clean it.

3. If the Front Camera is damaged – replace the Front Camera.

4. Replace Main PBA.



Problem Areas

1.11 Flash LED

1.11.1 Flash LED not flashing

Check:

Inspect the external area of the flash LED.

Action:

1. If dirty – clean it.

2. If scratched or damaged – replace the Panel Rear.

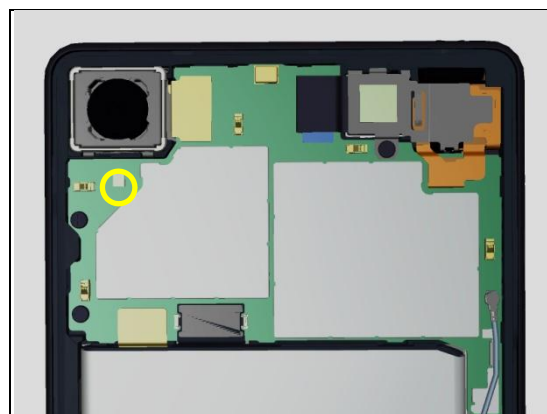
Check:

Inspect the Flash LED on Main PBA.

Action:

1. If dirty – clean it.

2. Replace Main PBA.



Problem Areas

1.12 Bluetooth and WLAN

1.12.1 Bluetooth or WLAN connection failure

Check:

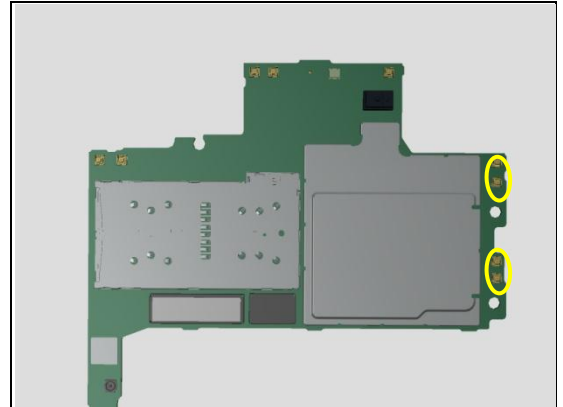
Inspect the WLAN contact pads on Front Assy and the contact pins on main PBA.

Action:

1. If dirty or oxidized – clean the pads and pins.

2. If the contact pads on Front Assy are damaged – replace the Front Assy.

3. If the contact pins on Main PBA is damaged – replace Main PBA.



Problem Areas

1.13 NFC

1.13.1 NFC malfunctions

Check:

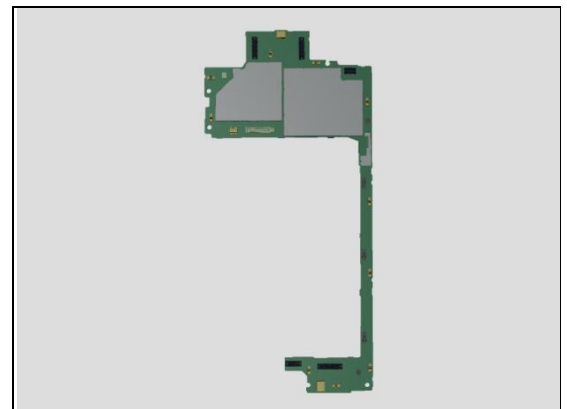
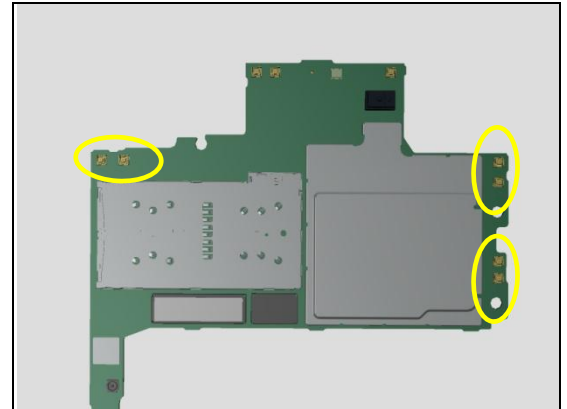
Inspect the Antenna NFC contact pads on Front Assy and the contact pins on Main PBA.

Action:

1. If dirty or oxidized – clean the pads and pins.

2. If the contact pads on Front Assy are damaged – replace the Front Assy.

3. If the contact pins on main PBA are damaged – replace Main PBA.



Problem Areas

1.14 GPS

1.14.1 GPS malfunctions

Check:

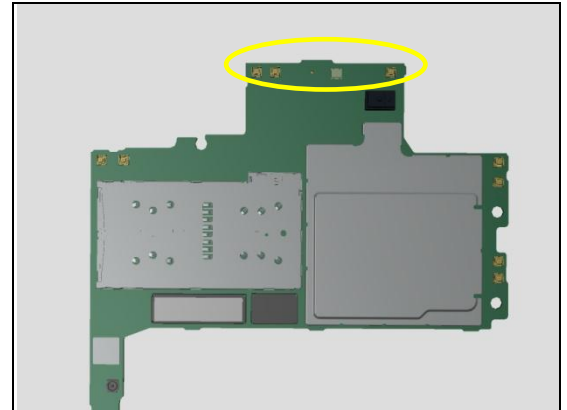
Inspect the contact pads of Front Assy and the contact pins on main PBA.

Action:

1. If dirty or oxidized – clean the pads and pins.

2. If the contact pads on Front Assy are damaged – replace the Front Assy.

3. If the contact pins on main PBA are damaged – replace Main PBA.



Problem Areas

1.15 Compass

1.15.1 Compass fails

Check:

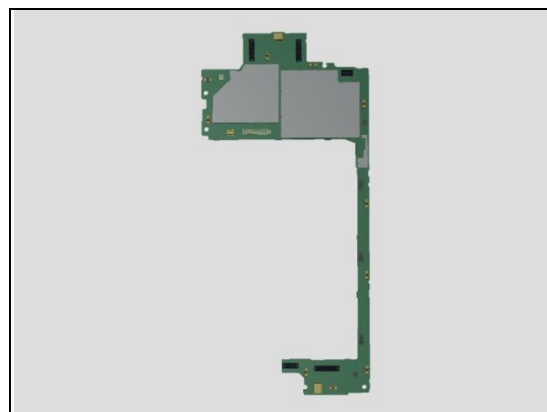
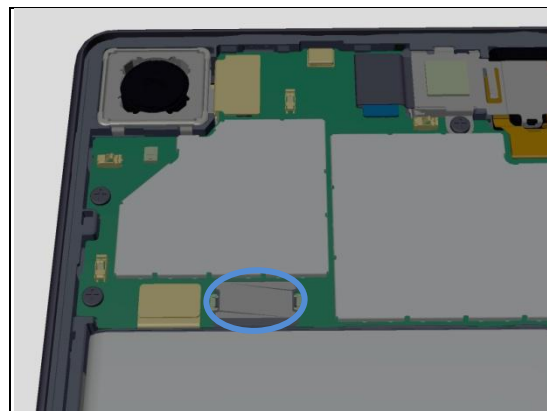
Inspect the BtB connector of FPC Side Key to Main PBA.

Action:

1. If not properly connected – disconnect and reconnect it.
2. If dirty or oxidized – clean it.

3. If the FPC Side Key is damaged – replace it.

4. Replace Main PBA.



Problem Areas

1.16 Accelerometer

1.16.1 Accelerometer test fails

Action:

1. Follow the 1289-2983 Sony Mobile Repair Application – mechanical to run the Accelerometer Calibration.
2. Replace Main PBA.

Problem Areas

1.17 Gyroscope

1.17.1 Gyroscope test fails

Action:

1. Follow the 1289-2983 Sony Mobile Repair Application – mechanical to run the Gyroscope Calibration.
2. Replace Main PBA.

Problem Areas

1.18 Ambient Light Sensor

1.18.1 Light Sensor malfunctions

Check:

Inspect the external window area of light sensor on the Front Assy.

Action:

1. If dirty – clean it.

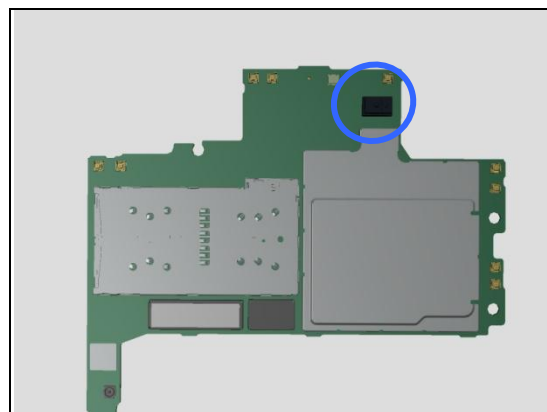
2. If scratched or damaged – replace the Front Assy.

Check:

Inspect the Light Sensor on Main PBA.

Action:

1. If not properly mounted – replace Main PBA.



Problem Areas

1.19 Proximity Switch

1.19.1 Proximity switch malfunctions

Action:

1. Follow the 1289-2983 Sony Mobile Repair Application – mechanical to run the Proximity Switch Calibration.

Check:

Inspect the external window area of proximity switch.

Action:

1. If dirty – clean it.

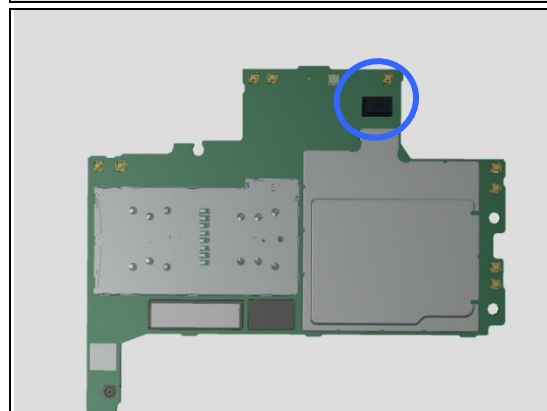
2. If scratched or damaged – replace the Front Assy.

Check:

Inspect the Proximity switch on Main PBA.

Action:

1. If not properly mounted – replace Main PBA.



Problem Areas

1.20 Pressure Sensor

1.20.1 Pressure Sensor test fails

Replace Main PBA.

Problem Areas

1.21 WRT

1.21.1 WRT fails

N/A. This is not a waterproof phone.

Problem Areas

1.22 Real Time Clock

1.22.1 Real time clock test fails

Action:

Replace Main PBA.

Problem Areas

1.23 Total call time

1.23.1 Total call time fails

Action:

Replace Main PBA.

Problem Areas

1.24 External Memory

1.24.1 Memory Card not detected

Check:

Inspect that if a memory card is properly inserted.

Action:

If not properly inserted – insert the memory card correctly.



Check:

Inspect the memory card holder.

Action:

1. If dirty or clogged – clean the Tray Combo.
2. Replace Cap Tray Assy.

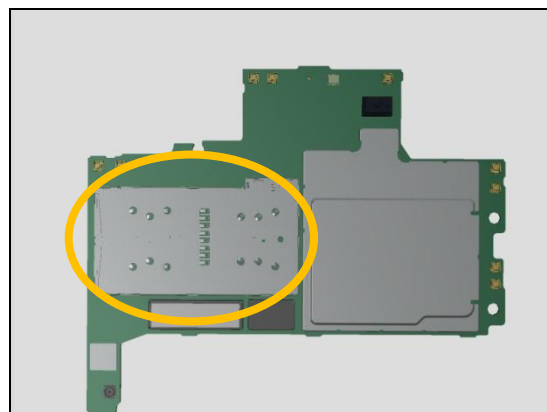


Check:

Inspect the SIM/SD card connector on Main PBA.

Action:

1. If dirty or clogged – clean the connector.
2. Replace Main PBA.



Problem Areas

1.25 Security

1.25.1 Security fails

Action:

Replace Main PBA.

Problem Areas

1.26 FM Radio

1.26.1 No/Poor FM Radio reception

Check:

Inspect the Audio Jack hole.

Action:

1. If dirty or oxidized – clean it.

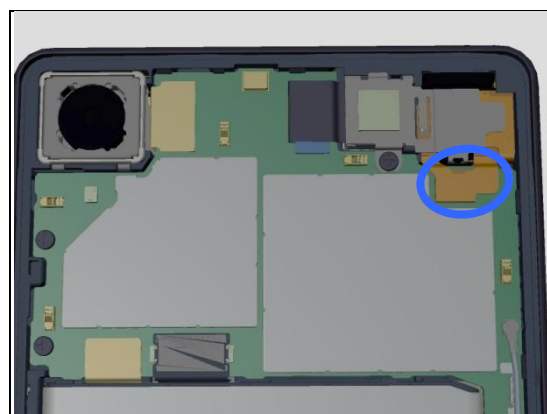


Check:

Inspect the BtB connector of FPC Top to Main PBA.

Action:

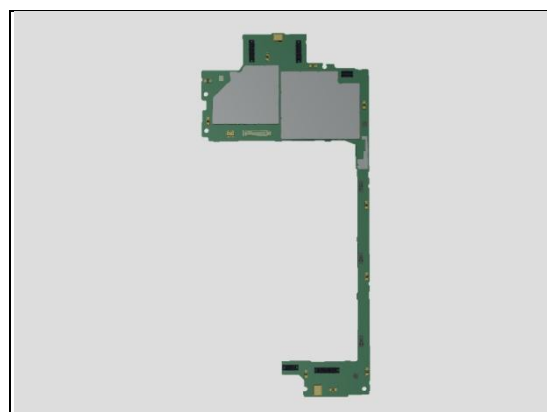
1. If not properly connected – disconnect and reconnect it.
2. If dirty or oxidized – clean it.



3. If the BtB connector or Audio Jack is damaged – replace the Front Assy.



4. Replace Main PBA.



Problem Areas

1.27 Verify Certificates

1.27.1 Verify Certificates fails

Action:

N/A.

Problem Areas

1.28 IrDA Test

1.28.1 IrDA test fails

N/A. No IrDA functionality in the phone.

Problem Areas

1.29 TV-Out Test

1.29.1 TV-Out test fails

N/A

Problem Areas

1.30 Network & Signal

1.30.1 No/Poor signal

Check:

Inspect the RF connector of RF Cable P and S to the Main PBA.

Action:

1. If not properly connected – disconnect and reconnect it.
2. If dirty or oxidized – clean it.

3. If the RF cable P or S is damaged – replace them.

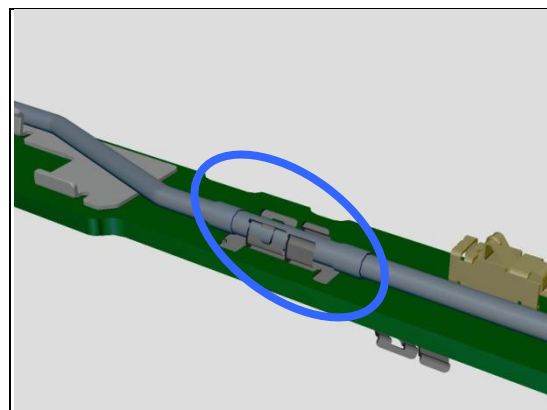
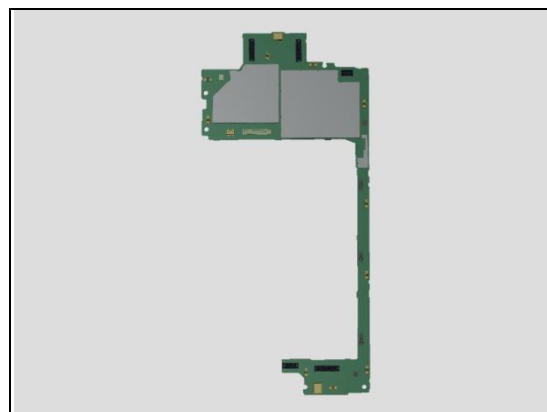
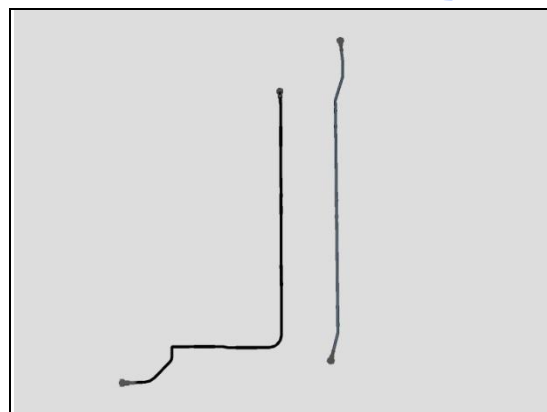
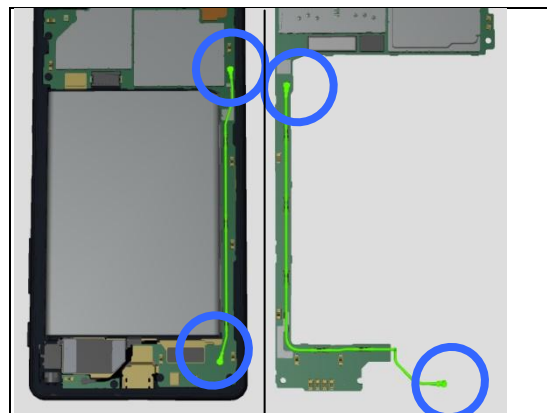
4. If the connector on the main PBA is damaged – replace Main PBA.

Check:

Inspect if the RF Cable is mounted into its clips.

Action:

If not properly assembled – reassemble it.



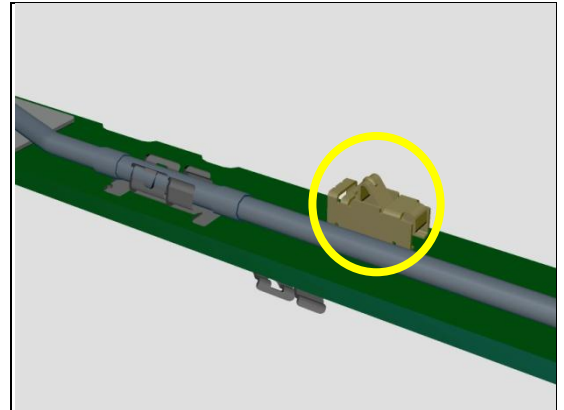
Problem Areas: Network & Signal

Check:

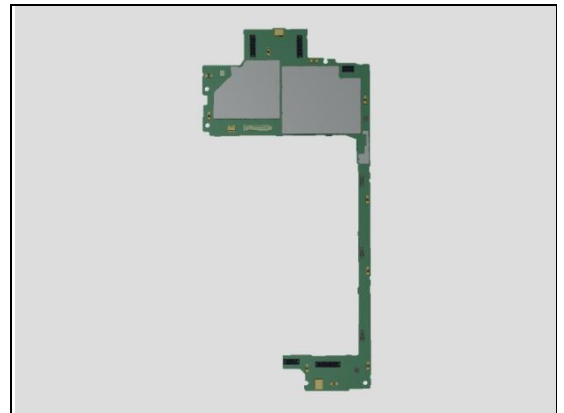
Inspect the contact pins on the Main PBA to Front Assy or Panel Rear.

Action:

1. If not properly contacted – reassemble the Main PBA.
2. If dirty or oxidized – clean them



4. If the contact pins/pads on the Main PBA are damaged – replace the Main PBA



Check:

Inspect the contact pads on Front Assy and the contact pins on Main PBA.

Action:

1. If dirty or oxidized – clean the pads and pins.

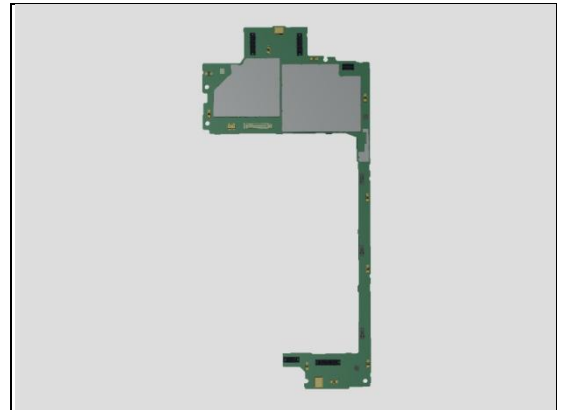


Problem Areas: Network & Signal

2. If the contact pad on the Front Assy is damaged – replace it.



3. If the contact pin is damaged – replace Main PBA.



Problem Areas

1.31 SIM

1.31.1 SIM not detected

Check:

Check if Nano SIM is properly mounted into the Cap Tray Assy and if Cap Tray Assy can be properly inserted.

Action:

1. If not properly assembled – reassemble it.
2. If damaged – Replace Cap Tray Assy.

For F5122, SIM 2 slot shares the common space with Memory Card.

Note. You cannot use SIM 2 and Memory Card at the same time.

Check:

Inspect the SIM/SD card holder on Main PBA.

Action:

1. If dirty or clogged – clean the holder.
2. Replace Main PBA.

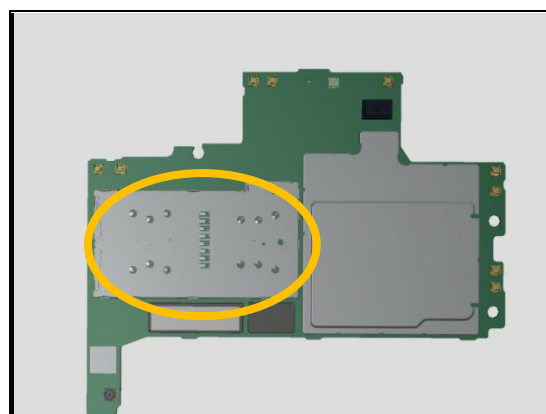
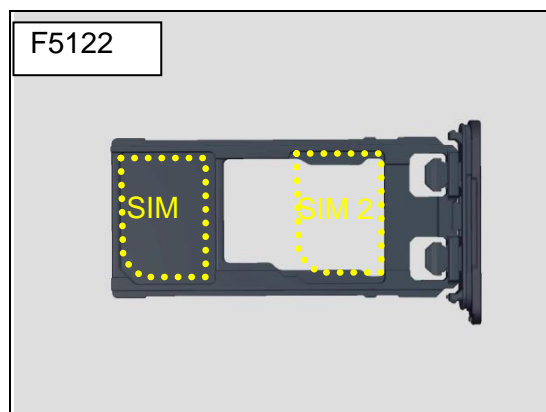
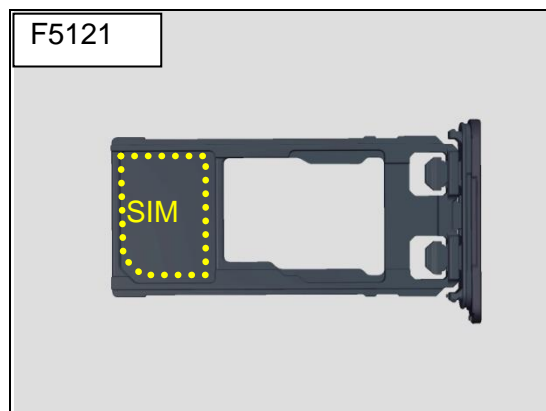
1.31.2 Incorrect Nano SIM indicated

Check:

Check whether the phone is locked to a particular operator and whether the correct operator Nano SIM is being used.

Action:

1. Use a proper operator Nano SIM or test Nano SIM.
2. Replace Main PBA.



Problem Areas

1.32 Charging

1.32.1 Battery will not charge by USB connector

Check:

Inspect the USB connector.

Action:

1. If dirty or oxidized – clean the connector.

2. If USB connector is damaged – replace FPC USB.

Check:

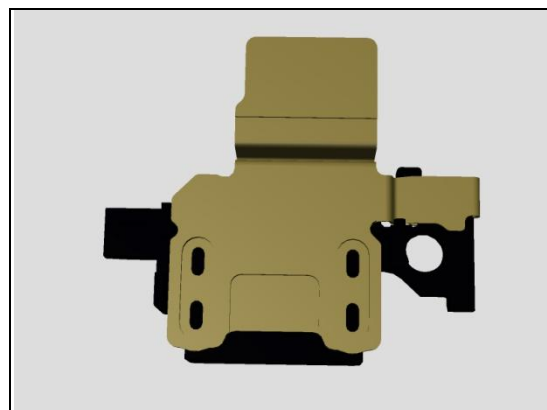
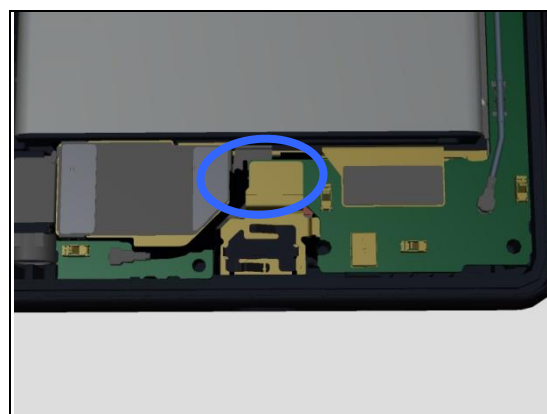
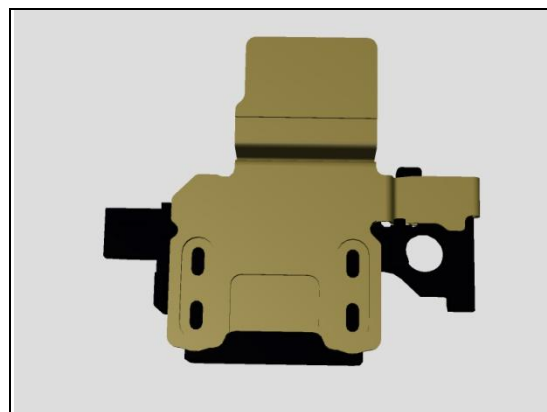
Inspect the BtB connector of FPC USB to Main PBA.

Action:

1. If not properly connected – disconnect and reconnect it.

2. If dirty or oxidized – clean it.

3. If USB connector is damaged – replace FPC USB.



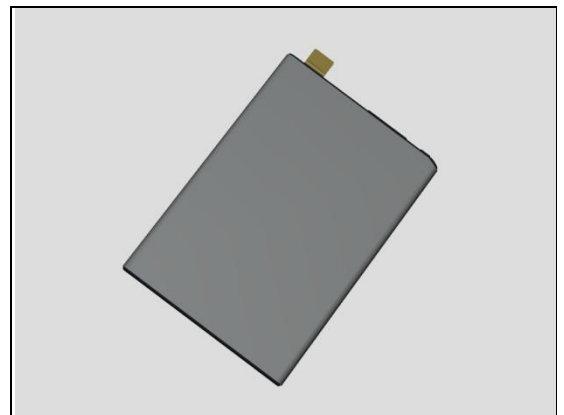
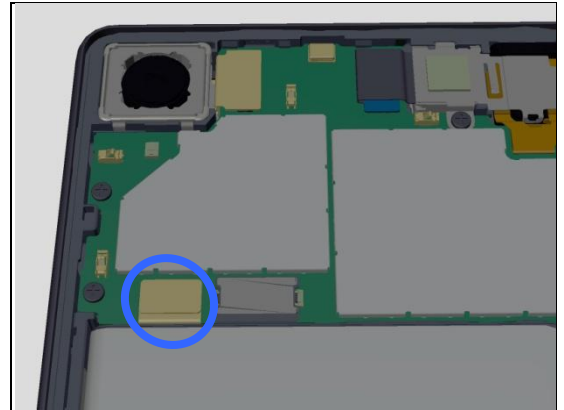
Problem Areas: Charging

Check:

Inspect the BtB connector of the Battery to Main PBA.

Action:

1. If not properly connected – disconnect and reconnect it.
2. If dirty or oxidized – clean the both sides of the BtB connector.
3. If the BtB connector, the FPC or the Battery is damaged – replace the Battery.
4. Replace Main PBA.



Problem Areas

1.33 Audio Jack test

1.33.1 Connection to headset fails

Check:

Inspect the Audio Jack hole.

Action:

1. If dirty or oxidized – clean it.

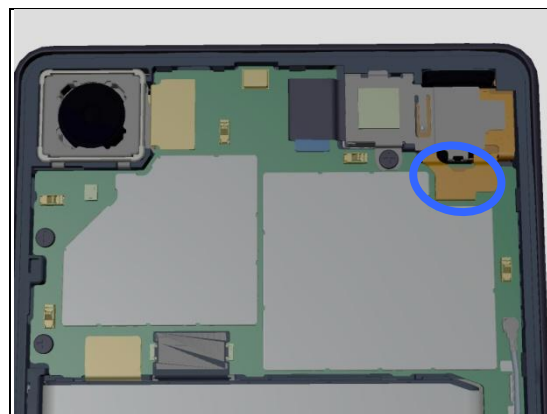


Check:

Inspect the BtB connector of FPC Top to Main PBA.

Action:

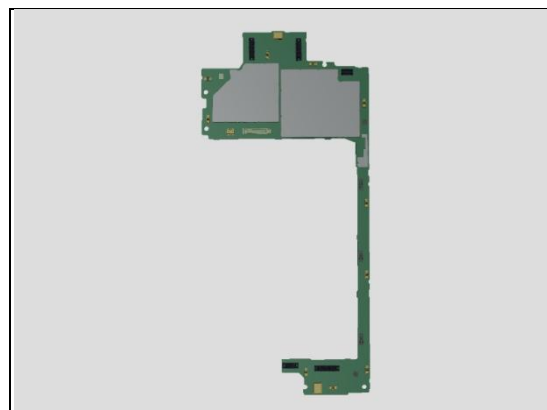
1. If not properly connected – disconnect and reconnect it.
2. If dirty or oxidized – clean it.



3. If the BtB connector or Audio Jack is damaged – replace the FPC Top.



4. Replace Main PBA.



Problem Areas

1.34 Finger Print Sensor test

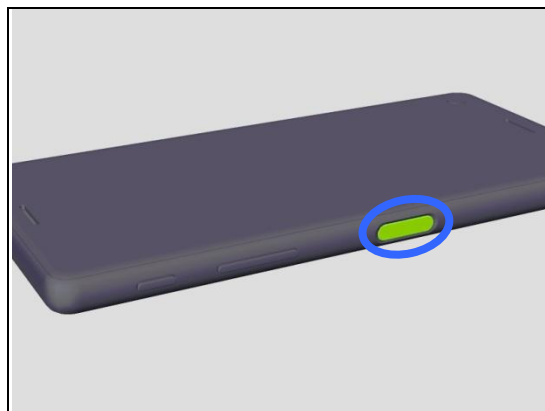
1.34.1 Finger Print Sensor test fails

Check:

Inspect the power button of the Front Assy.

Action:

1. If dirty or oxidized – clean it.
2. If the power button is damaged – replace the Front Assy.

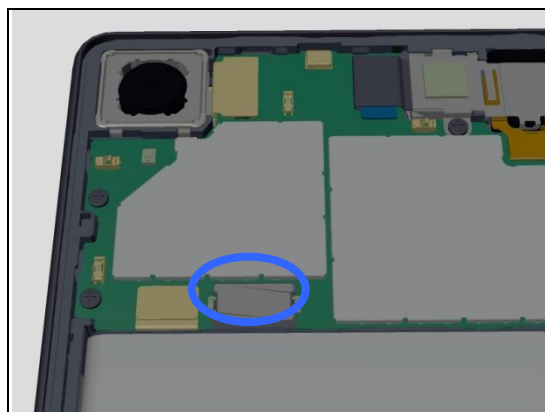


Check:

Inspect the BtB connector of FPC Side Key to Main PBA.

Action:

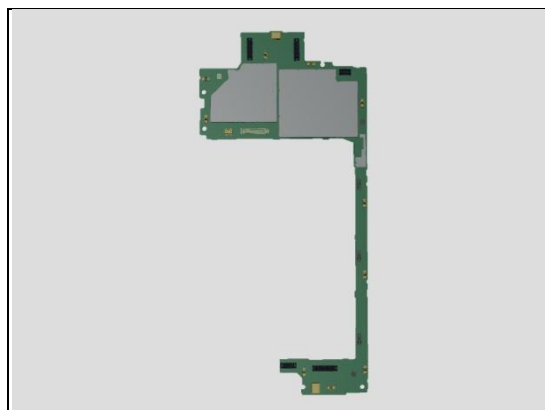
1. If not properly connected – disconnect and reconnect it.
2. If dirty or oxidized – clean it.



3. If the BtB connector or FPC Side Key is damaged – replace the FPC Side Key.



4. Replace Main PBA.



Problem Areas

1.35 Data Communication

1.35.1 Data transfer via System Connector fails

Check:

Inspect the USB connector.

Action:

1. If dirty or oxidized – clean the connector.

2. If USB connector is damaged – replace FPC USB.

Check:

Inspect the BtB connector of FPC USB to Main PBA.

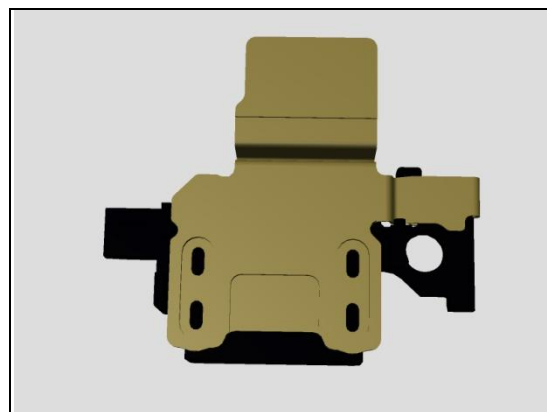
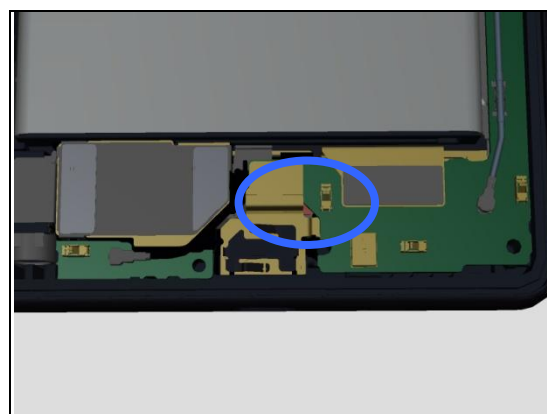
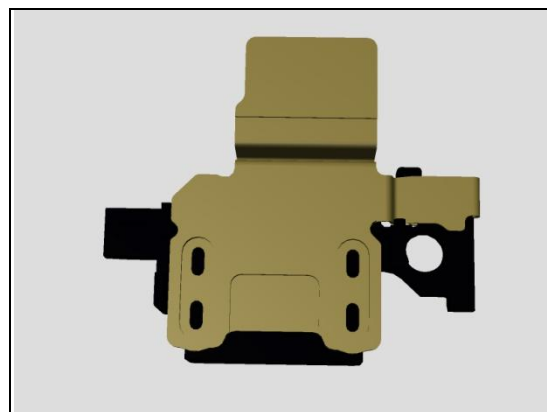
Action:

1. If not properly connected – disconnect and reconnect it.

2. If dirty or oxidized – clean it.

3. If FPC USB is damaged – replace it.

4. Replace Main PBA.



2 Revision History

Rev.	Date	Changes / Comments
1	2016-05-13	Initial release