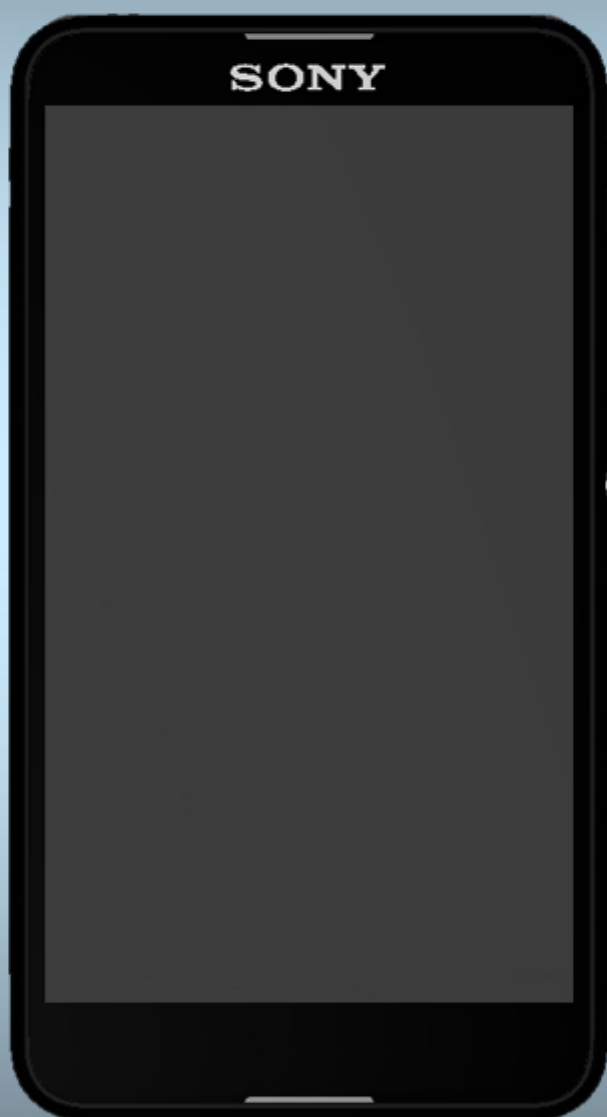


## Troubleshooting Guide

- mechanical -



*Xperia™ E4 & E4 Dual*  
*E2104, E2105, E2115, E2124*

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***Always firstly disconnect the Battery BtB connector to cut off power supply when disassembled.  
Always finally connect the Battery BtB connector last before the Battery Cover is reassembled.***

## 1 Problem Areas

### 1.1 Power

#### 1.1.1 Will not power on or will switch off randomly

**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, check that the battery is charging when connected to a charger and do a HW master reset.

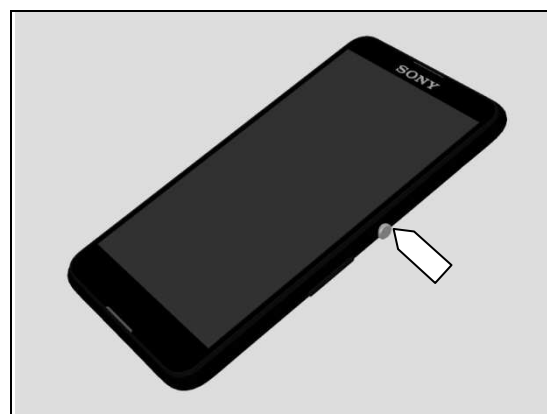
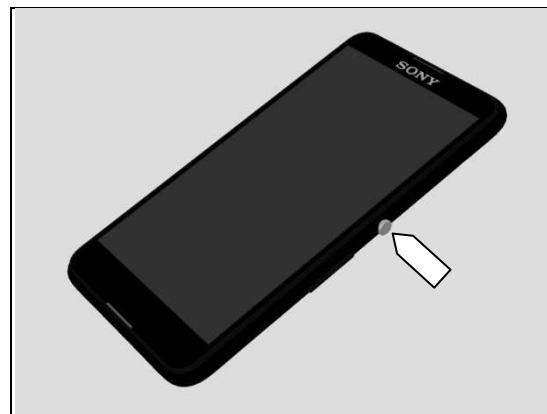
**Follow 1294-4528 Test Instruction - mechanical chapter 2.3.7 (Charging via USB and Easy Charger), Diagnostic Battery / Charging status.**

**Check:**

Inspect the on/off key.

**Action:**

Refer to section 1.2.3 'On/Off Key'.

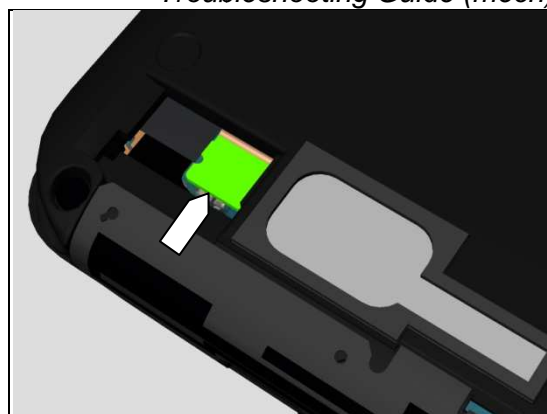


**Check:**

Inspect the BtB connector of the Battery 2300mAh 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.



## Problem Areas: Power

3. If the BtB connector, Battery FPC or the Battery 2300mAh is damaged – replace the Battery 2300mAh.
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'.



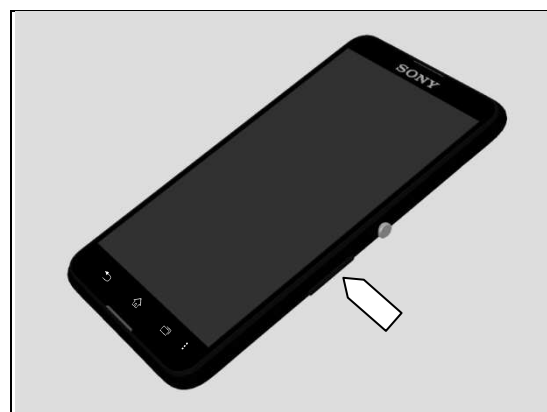
#### 1.2.2 Volume Key

**Check:**

Inspect the external area of the volume key.

**Action:**

If dirty – clean it.



**Check:**

Inspect the Volume Keys of Battery Cover.

**Action:**

1. If dirty or oxidized – clean it.
2. If damaged – replace the Battery Cover.

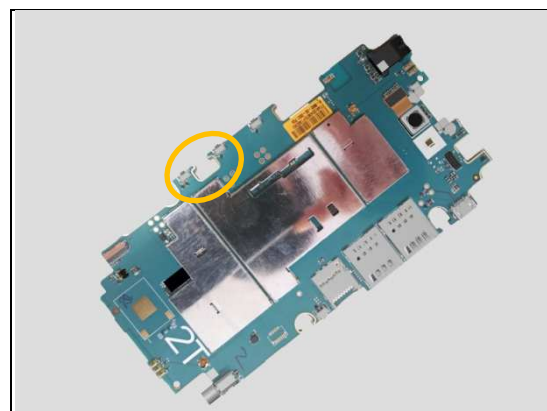


**Check:**

Inspect the Volume Switches on Main PBA.

**Action:**

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



## Problem Areas: Keys

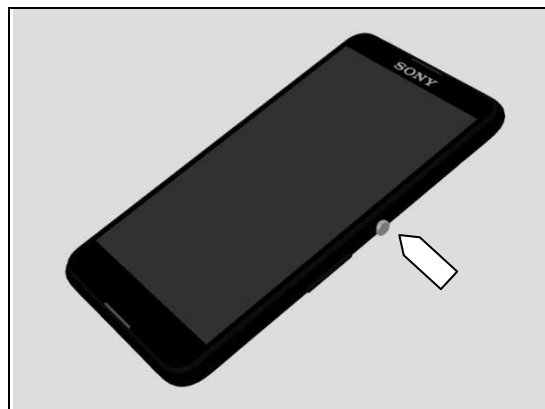
### 1.2.3 On/Off Key

**Check:**

Inspect the external area of the On/Off Key.

**Action:**

If dirty – clean it.



**Check:**

Inspect the Power Key of Battery Cover.

**Action:**

1. If dirty or oxidized – clean it.
2. If damaged – replace the Battery Cover.

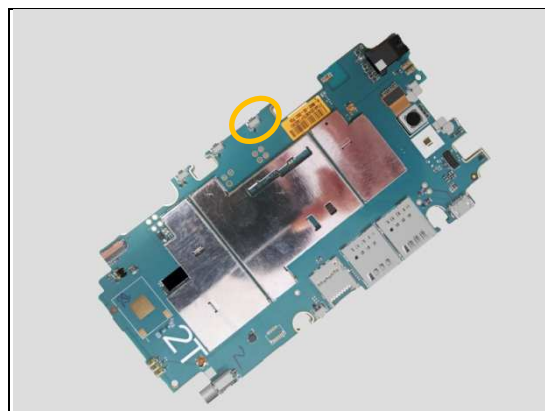


**Check:**

Inspect the Power Switch on Main PBA.

**Action:**

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





## Problem Areas

### 1.3 Touch Screen

#### 1.3.1 Touch Screen malfunction

**Check:**

Inspect the touch screen of the Display.

**Action:**

1. If dirty – clean it.

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

**Check:**

Inspect the Touch Panel FPC to Main PBA Zif connector.

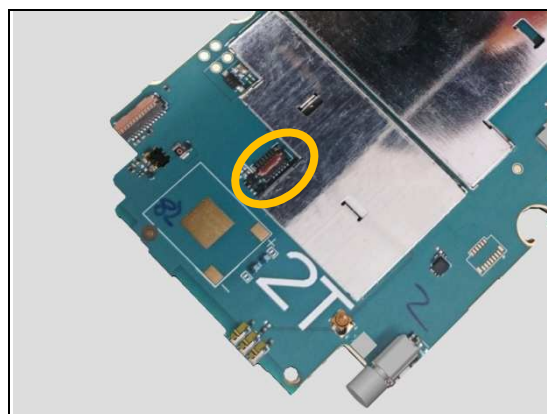
**Action:**

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

2. If dirty or oxidized – clean it.

3. If the Main PBA Zif connector or Touch Panel FPC is damaged – replace the Touch Panel.

4. Replace Main PBA.



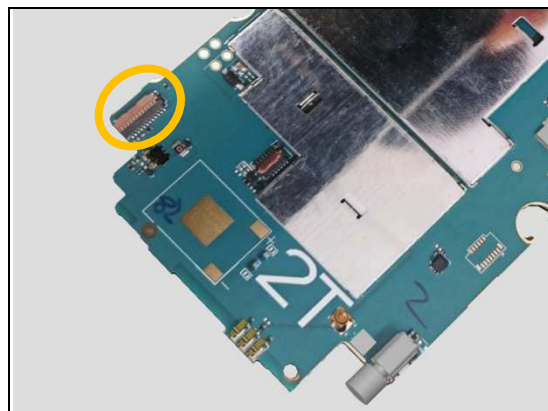
## Problem Areas: Touch Screen

**Check:**

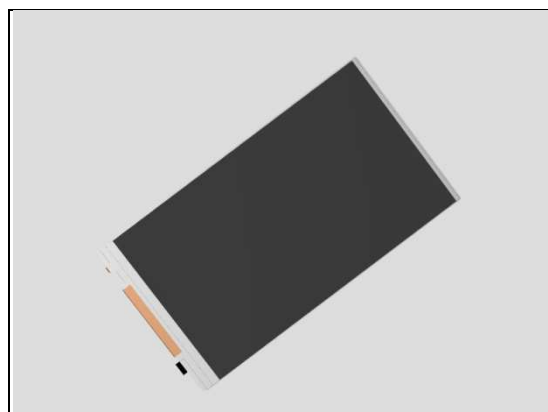
Inspect the LCD FPC to Main PBA Zif connector.

**Action:**

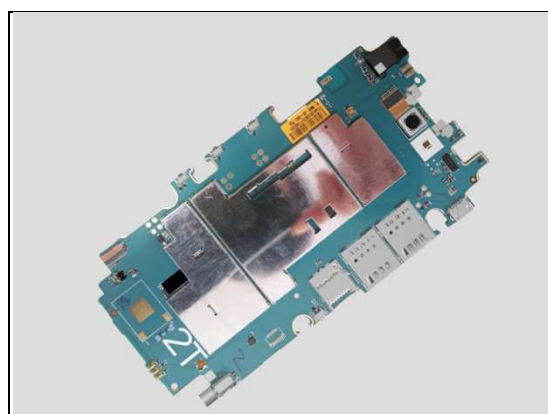
1. If not properly connected – disconnect and reconnect it.
2. If dirty or oxidized – clean it.



3. Replace LCD TFT.



4. Replace Main PBA.



## Problem Areas

### 1.4 Display

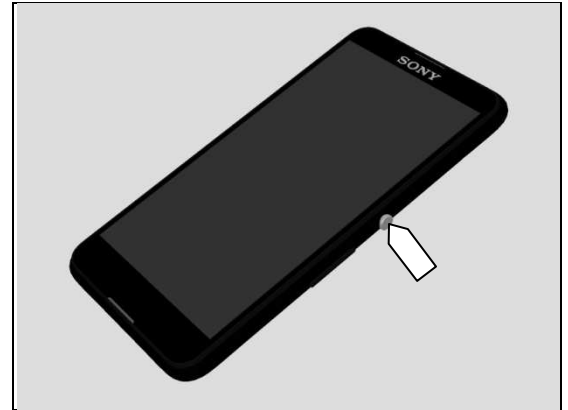
#### 1.4.1 Graphics & Illumination

**Check:**

Check whether the phone vibrates after the On/Off key has been pressed.

**Action:**

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



**Check:**

Inspect the Power Key of Battery Cover.

**Action:**

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

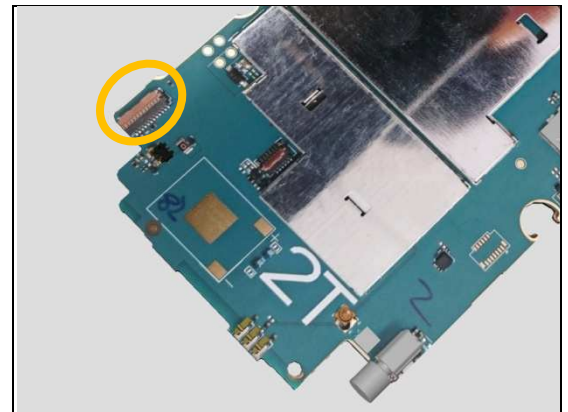


**Check:**

Inspect the LCD FPC to Main PBA Zif connector.

**Action:**

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

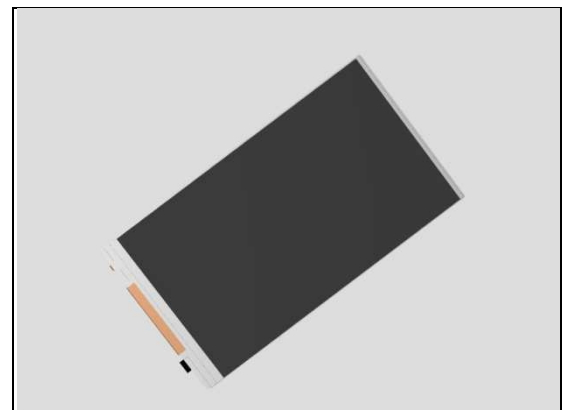


**Check:**

Replace the Main PBA with a known working one and test the Display.

**Action:**

1. If the display is still not working – Replace the LCD TFT.
2. Replace Main PBA.



## Problem Areas

### 1.5 LED/Illumination

#### 1.5.1 LED/Illumination

**Check:**

Inspect external port of LED on the Front of phone.

**Action:**

1. If dirty – clean it.

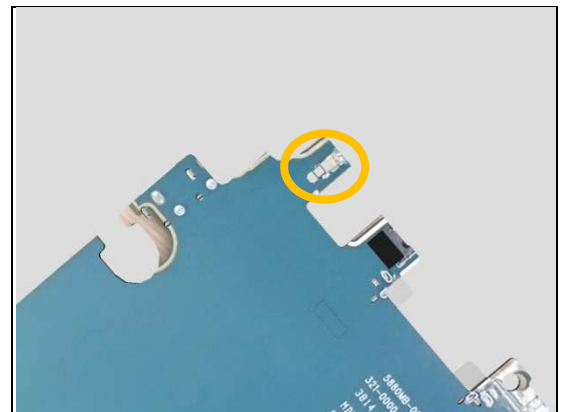


**Check:**

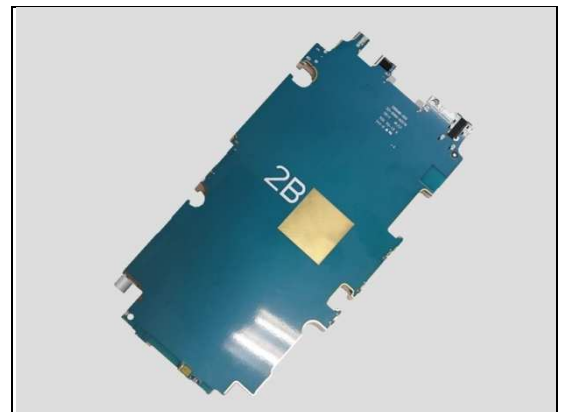
Inspect the LED located on Main PBA.

**Action:**

1. If dirty or oxidized – clean it.



3. Replace Main PBA.



## Problem Areas

### 1.6 Speaker

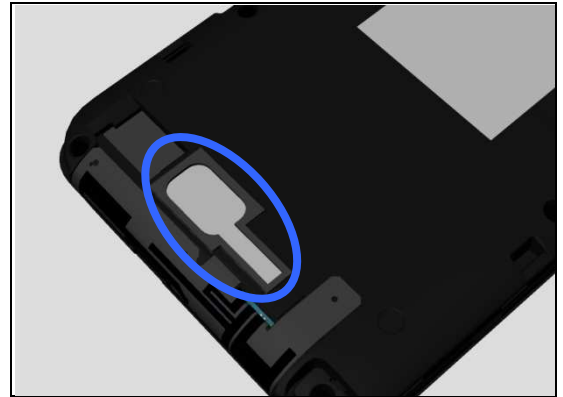
#### 1.6.1 Loudspeaker

**Check:**

Inspect the Speaker Mesh on the Battery Cover.

**Action:**

1. If the Speaker Mesh is clogged – clean it.
2. If the Speaker Mesh is damaged – replace the SPK Sponge Black Mesh.

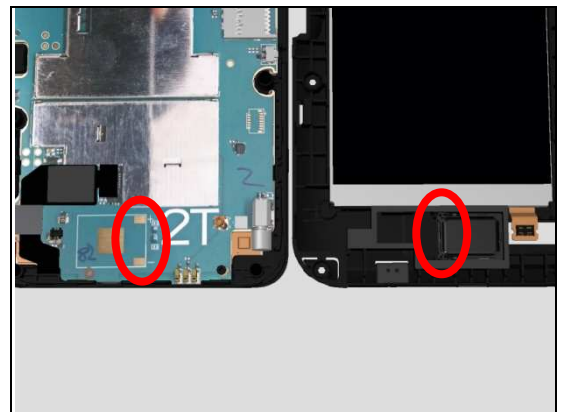


**Check:**

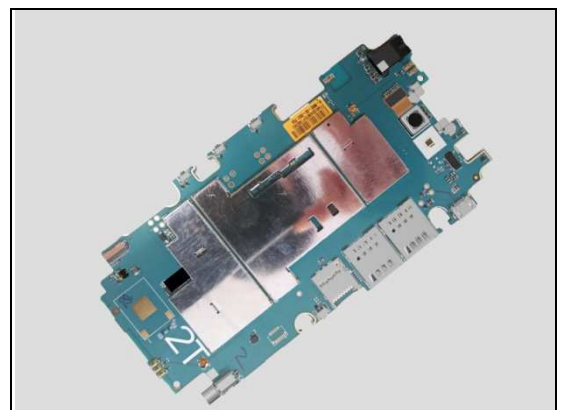
Inspect the contact pins of Loudspeaker and the contact pads on the Main PBA.

**Action:**

1. If dirty – clean them.
2. If the contact pins of Loudspeaker or the Loudspeaker are damaged – replace the Loud Speaker



3. Replace Main PBA.



## Problem Areas

### 1.7 Earphone

#### 1.7.1 Ear Speaker

**Check:**

Inspect the external port of Ear Speaker located on the front of phone.

**Action:**

1. If clogged – clean it.

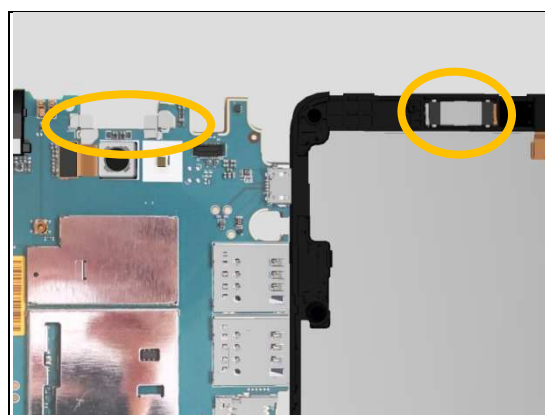


**Check:**

Inspect the contact pins of Receiver and the contact pads on the Main PBA.

**Action:**

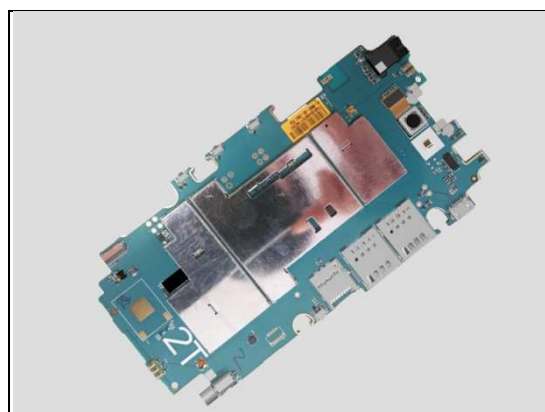
1. If dirty – clean them.



2. If the contact pins of the Receiver or if Receiver is damaged – replace the Receiver.



3. Replace Main PBA.



## Problem Areas

### 1.8 Microphone

#### 1.8.1 Primary Microphone

**Check:**

Inspect the Mic Port located at the bottom of phone.

**Action:**

1. If clogged – clean it.



2. If the Mic Port is damaged – replace the Front Cover Assy.

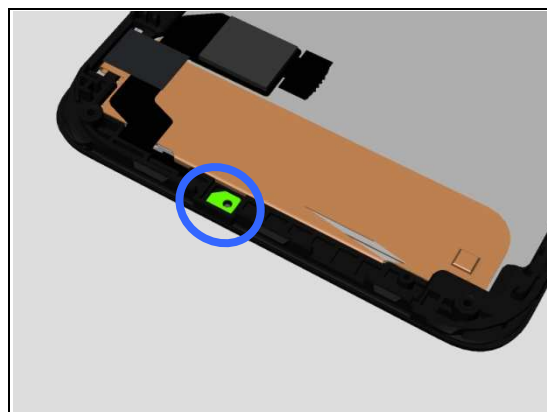


**Check:**

Inspect the Mic Gasket on Front Cover Assy.

**Action:**

1. If dirty – clean.



2. If the Mic Gasket is damaged – replace Front Cover Assy.



## Problem Areas: Microphone

**Check:**

Inspect the Microphone located on the Main PBA.

**Action:**

1. If clogged – clean it.
2. If the Microphone is damaged – replace the Main PBA.



## 1.9 Vibrator

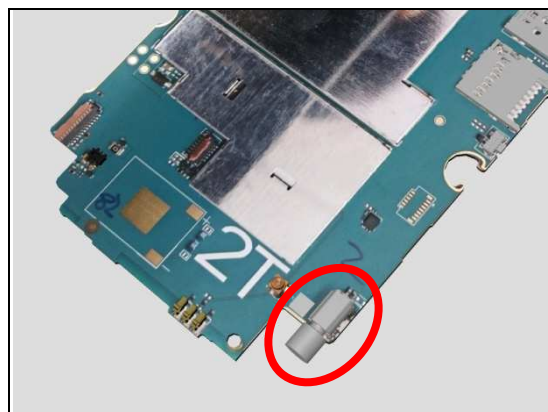
### 1.9.1 Vibrator not generating alerts

**Check:**

Inspect the Vibrator on Main PBA.

**Action:**

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





## Problem Areas

### 1.10 Camera

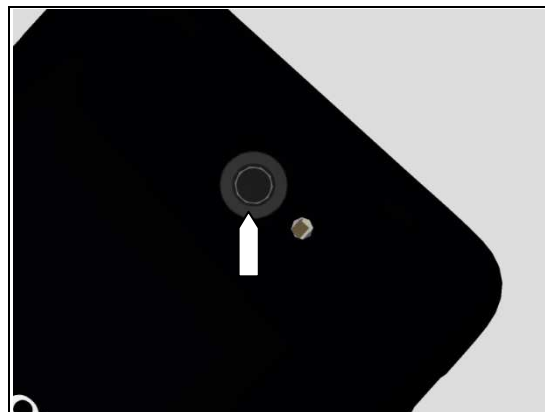
#### 1.10.1 Main Camera

**Check:**

Inspect the external area of camera window.

**Action:**

1. If dirty – clean it.



2. If scratched or damaged – replace the Rear Cover Assy.



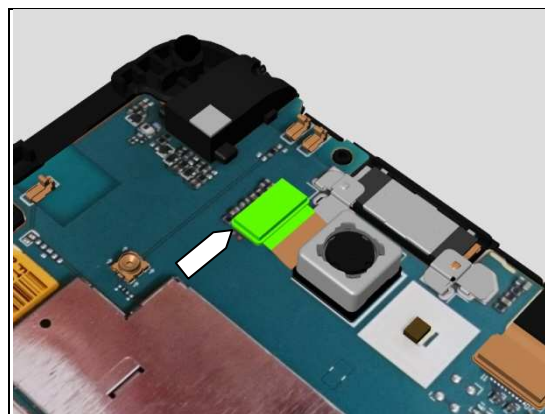
**Check:**

Inspect the BtB connector of Camera Main to Main PBA.

**Action:**

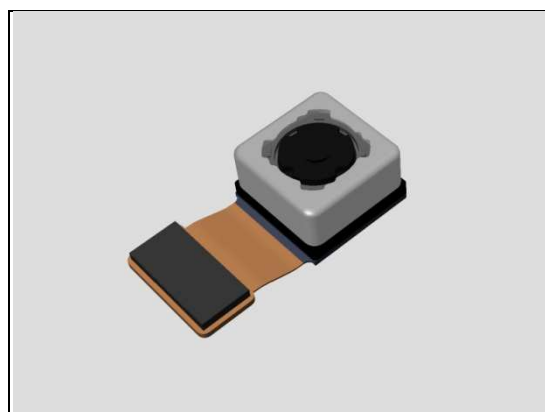
1. If not properly connected – disconnect and reconnect it.

2. If dirty or oxidized – clean it.



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

4. Replace Main PBA.



## Problem Areas: Camera

### 1.10.2 Video Call Camera defects

**Check:**

Inspect the external area of the Camera Chat window.

**Action:**

1. If dirty – clean it.

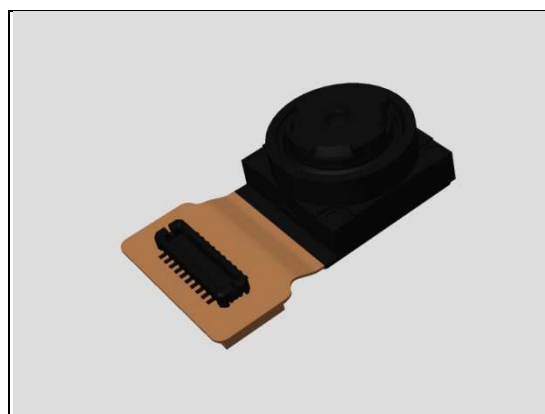
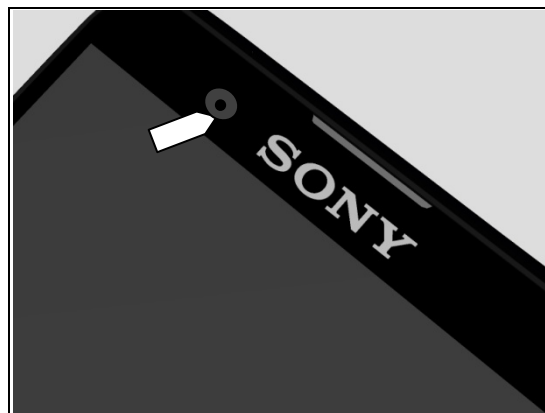
2. If scratched or damaged – replace the Touch Panel.

**Check:**

Inspect the BtB connector of Camera Chat on the Main PBA.

**Action:**

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



## Problem Areas

### 1.11 Flash LED

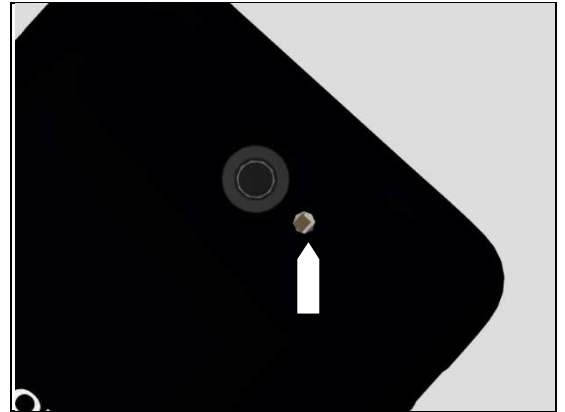
#### 1.11.1 Flash LED not flashing

**Check:**

Inspect the external area of the flash LED window.

**Action:**

1. If dirty – clean it.



2. If scratched or damaged – replace the Rear Cover Assy.

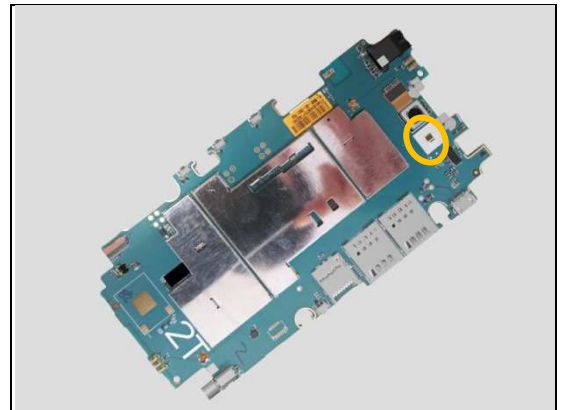


**Check:**

Inspect the flash LED on the Main PBA.

**Action:**

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



## Problem Areas

### 1.12 Bluetooth and WLAN

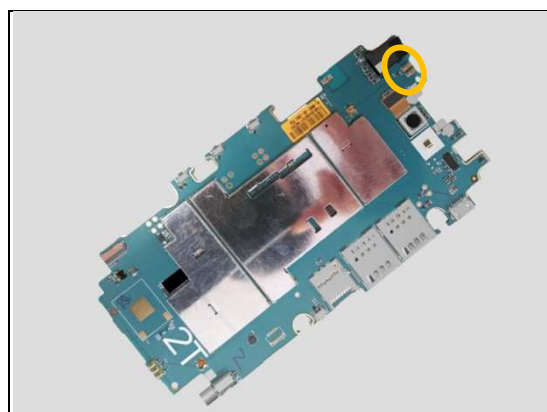
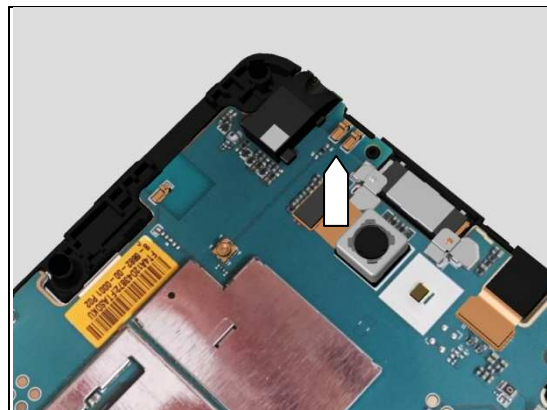
#### 1.12.1 Bluetooth or WLAN connection failure

**Check:**

Inspect the Antenna BT + WLAN contact pins on Main PBA.

**Action:**

1. If dirty or oxidized – clean the pads and pins.
2. If dirty or oxidized clean Antenna BT + WLAN contact pads on Rear Cover Assy.
3. If the antenna is damaged – replace the Rear Cover Assy.
3. If the contact pin on Main PBA is damaged – replace Main PBA.



## Problem Areas

### 1.13 GPS

#### 1.13.1 GPS malfunctions

**Check:**

Inspect the Antenna GPS contact pins on Main PBA.

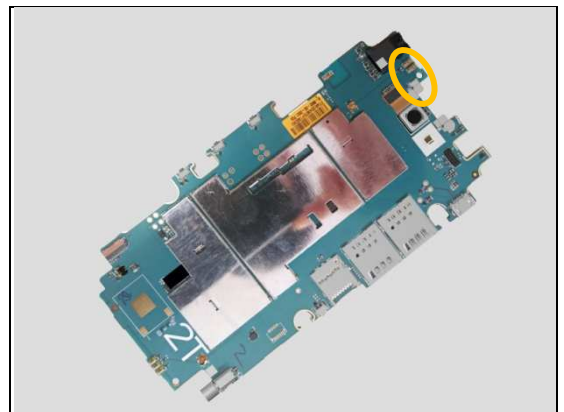
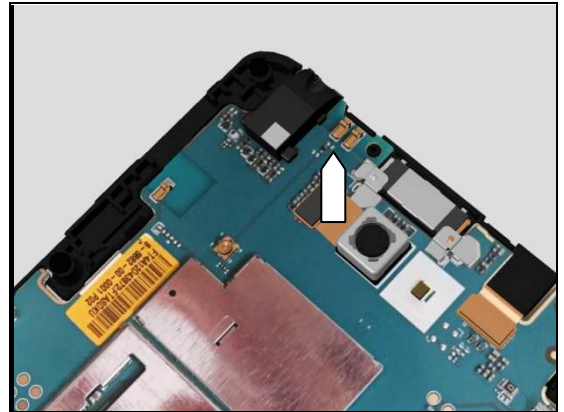
**Action:**

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

2. If dirty or oxidized clean Antenna GPS contact pads on Rear Cover Assy

3. If the antenna is damaged – replace the Rear Cover Assy.

2. Replace the Main PBA.



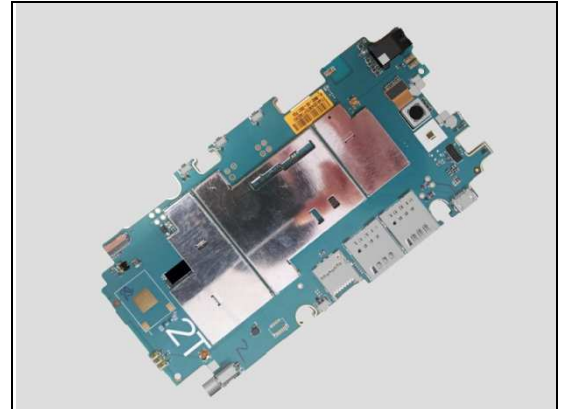
## Problem Areas

### 1.14 Accelerometer

#### 1.14.1 Accelerometer test fails

**Action:**

Replace Main PBA.



## Problem Areas

### 1.15 Ambient Light Sensor

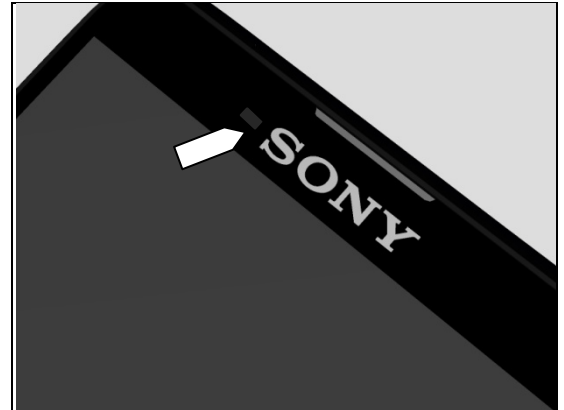
#### 1.15.1 Light Sensor malfunctions

**Check:**

Inspect the external window area of light sensor located on the front of phone.

**Action:**

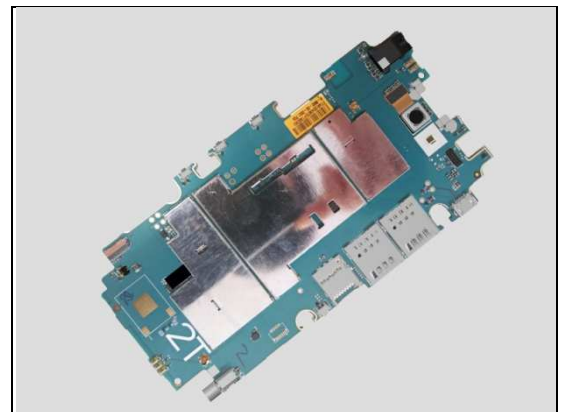
1. If dirty – clean it.



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



3. Replace Main PBA.



## Problem Areas

### 1.16 Proximity Switch

#### 1.16.1 Proximity switch malfunctions

**Check:**

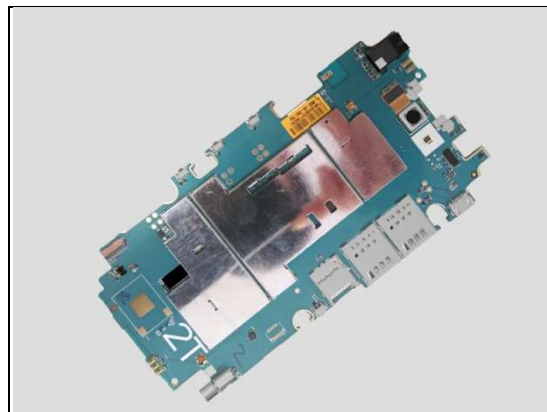
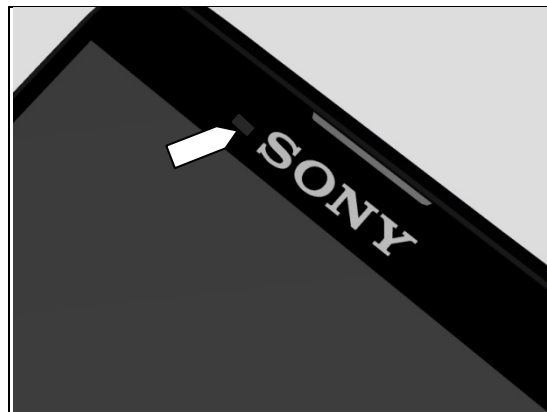
Inspect the external window area of Proximity sensor located on the front of the phone.

**Action:**

1. If dirty – clean it.

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

3. Replace Main PBA





## **Problem Areas**

### **1.17 Pressure Sensor**

#### **1.17.1 Pressure Sensor test fails**

N/A. No Pressure sensor in the phone.

### **1.18 Water Resistance**

#### **1.18.1 Water Resistance fails**

N/A. Not Water Resistant phone.

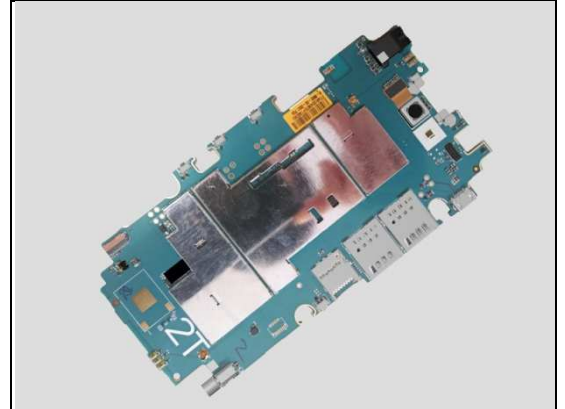
## Problem Areas

### 1.19 Real Time Clock

#### 1.19.1 Real time clock test fails

**Action:**

Replace Main PBA.

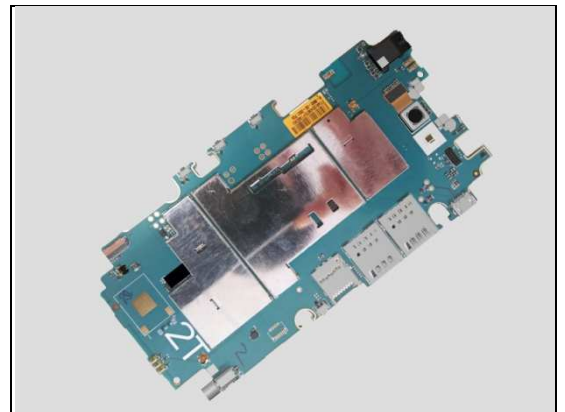


### 1.20 Total call time

#### 1.20.1 Total call time fails

**Action:**

Replace Main PBA.



## Problem Areas

### 1.21 External

#### 1.21.1 Memory Card not detected

**Check:**

Inspect that if a memory card is properly inserted.

**Action:**

If not properly inserted – insert the memory card correctly.

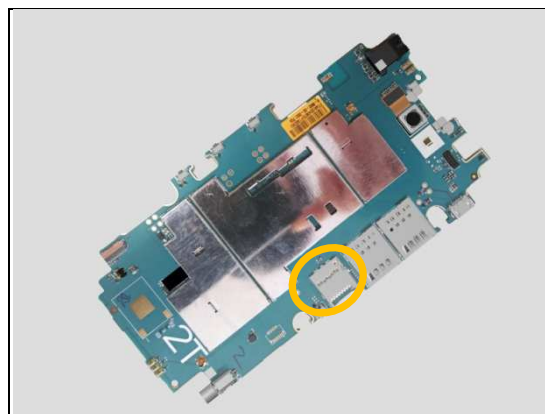


**Check:**

Inspect the memory card holder on Main PBA.

**Action:**

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

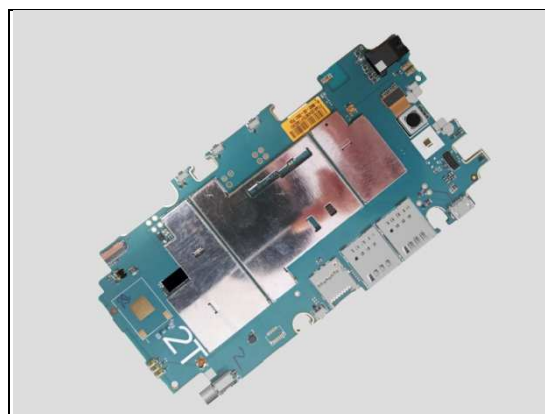


### 1.22 Security

#### 1.22.1 Security fails

**Action:**

Replace Main PBA.



## Problem Areas

### 1.23 FM Radio

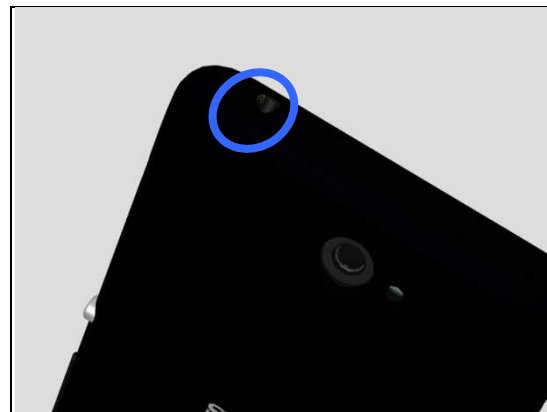
#### 1.23.1 No/Poor FM Radio reception

**Check:**

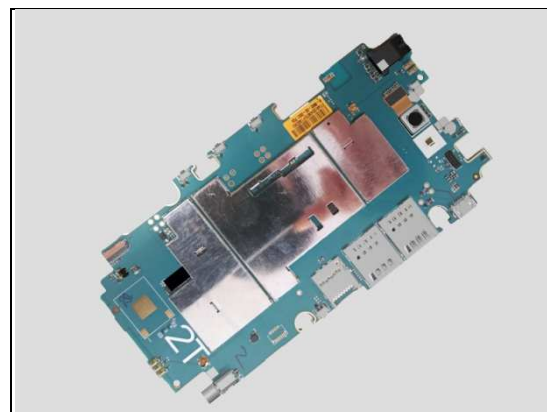
Inspect the external port of the Audio Jack.

**Action:**

1. If dirty or oxidized – clean it.



2. Replace Main PBA.



## Problem Areas

### 1.24 Battery Health test

#### 1.24.1 Battery Health test fails

N/A.

### 1.25 Flip Slider Counter

#### 1.25.1 Flip Slider Counter fails

N/A. Not slider phone.

### 1.26 Verify Certificates

#### 1.26.1 Verify Certificates fails

**Action:**

N/A.

### 1.27 IrDA Test

#### 1.27.1 IrDA test fails

N/A. No IrDA functionality in the phone.

## Problem Areas

### 1.28 TV-Out Test

#### 1.28.1 TV-Out test fails

N/A. No TV Out functionality in this phone.

## Problem Areas

### 1.29 Network & Signal

#### 1.29.1 No/Poor signal

**Check:**

Inspect the Antenna Main RF on Rear Cover Assy is assembled correctly.

**Action:**

1. If not properly connected – disconnect and reconnect it.
2. If dirty or oxidized – clean the pads and pins.
3. If the Antenna Main RF is damaged – replace the Rear Cover Assy

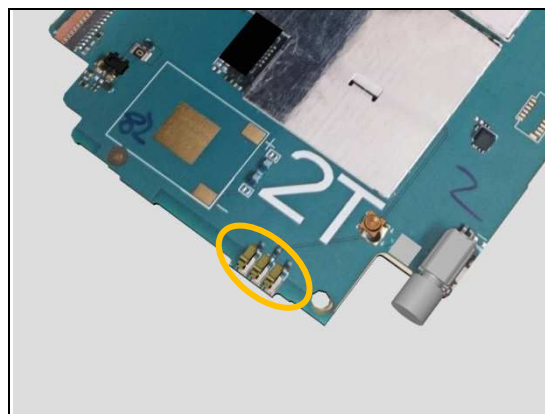


**Check:**

Inspect the Main PBA assembly.

**Action:**

1. If dirty or oxidized – clean the contact pins.  
If the Main PBA is damaged – replace the Main PBA.



## Problem Areas

### 1.30 SIM

#### 1.30.1 SIM not detected

**Check:**

Inspect the external port of the SIM card holder and check if a SIM card can be properly inserted.

*(Picture illustration shown dual SIM variant)*

**Action:**

If dirty or clogged – clean the external port.

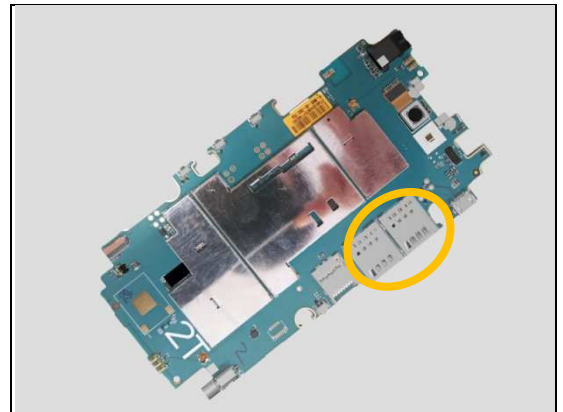


**Check:**

Inspect the SIM card holder on Main PBA.

**Action:**

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



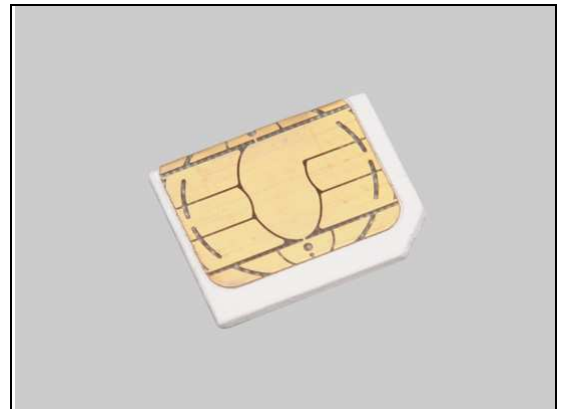
#### 1.30.2 Incorrect UIM or SIM indicated

**Check:**

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

**Action:**

1. Use a proper operator UIM/SIM or test UIM/SIM.
2. Customize in Emma to the correct SI according label.
3. Replace Main PBA.





## Problem Areas

### 1.31 Charging

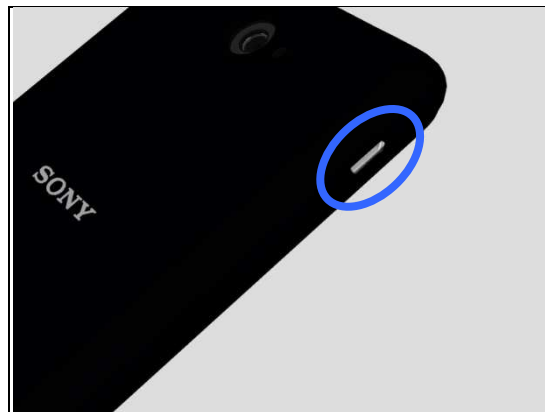
#### 1.31.1 Battery will not charge by USB connector

**Check:**

Inspect the USB connector.

**Action:**

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

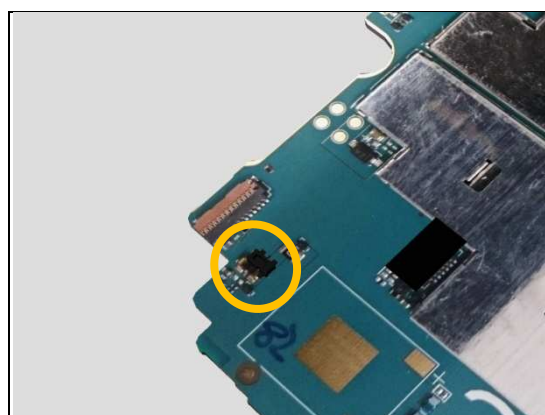


**Check:**

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 on Battery 2300 mAh is damaged – replace the Battery 2300 mAh.

4. Replace Main PBA.



## Problem Areas

### 1.32 Hands-Free by Wire

#### 1.32.1 Connection to portable Hands-free fails

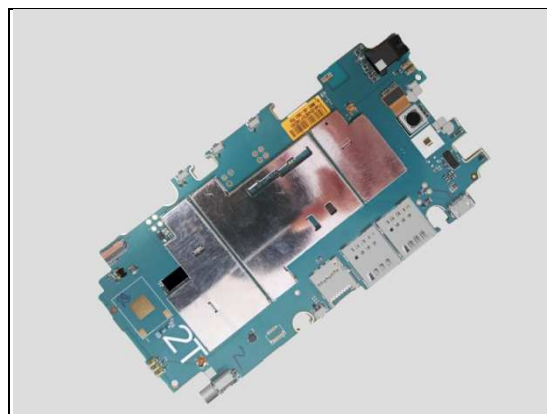
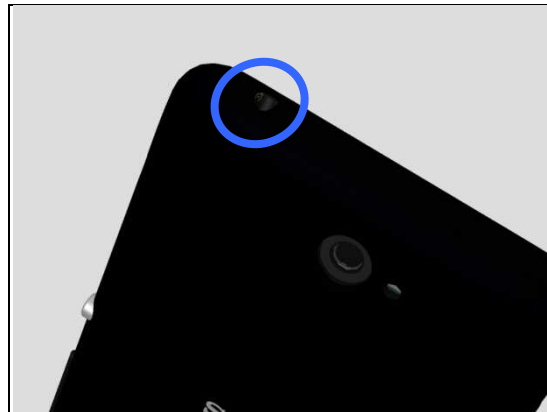
**Check:**

Inspect the external port of the Audio Jack.

**Action:**

1. If dirty or oxidized – clean it.

2. Replace Main PBA.



## Problem Areas

### 1.33 Data Communication

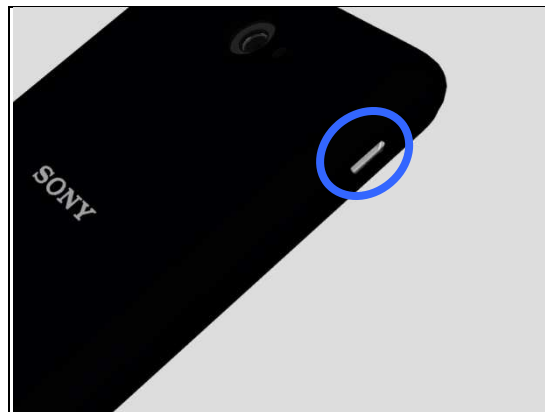
#### 1.33.1 Data transfer via System Connector fails

**Check:**

Inspect the USB connector.

**Action:**

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



## Problem Areas

### 1.34 Mobile TV (only for E2124)

#### 1.34.1 Mobile TV fails

**Check:**

Inspect the external DTV Antenna

**Action:**

If dirty or clogged – clean the DTV Antenna.



**Check:**

Inspect the Battery Cover.

**Action:**

1. If not properly connected – disconnect and reconnect it.
2. Replace Battery Cover (E2124 variant only)

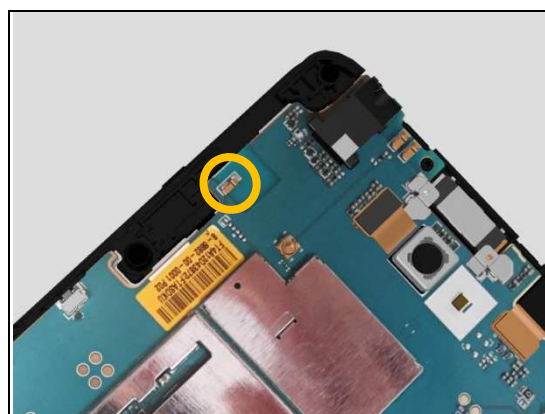


**Check:**

Inspect the contact pin on the Main PBA.

**Action:**

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



## 2 Revision History

Rev.	Date	Changes / Comments
1	2015-Feb-11	Released
2	2015-Feb-27	Front Page Error Fixed.
3	2015-Mar-02	