

## Troubleshooting Guide

- mechanical -



*Xperia<sup>TM</sup> E-Dual, C1605, C1604*

*Xperia<sup>TM</sup> E, C1505, C1504*

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## 1 Problem Areas

### 1.1 Power

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

**Check:**

Inspect whether the phone vibrates after the on/off key is pressed.

**Action:**

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



**Check:**

Inspect the contact pads on the battery.

**Action:**

1. If dirty or oxidized – clean the pads.
2. If damaged – replace the battery.



**Check:**

Inspect the battery contact pins.

**Action:**

1. If dirty or oxidized – clean the contact pins.
2. If adhesive is detected on the contact pins, use an eraser to gently rub off the adhesive.
3. If damaged – replace main PBA.

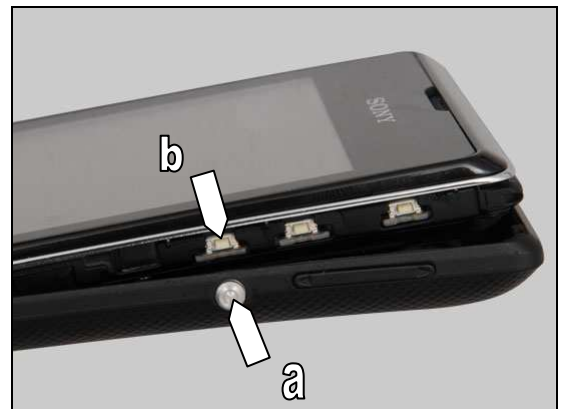


**Check:**

Inspect the on/off key (a) and the on/off switch (b).

**Action:**

Refer to section 1.2.4 'On/Off Key'.



## Problem Areas

### 1.2 Keys

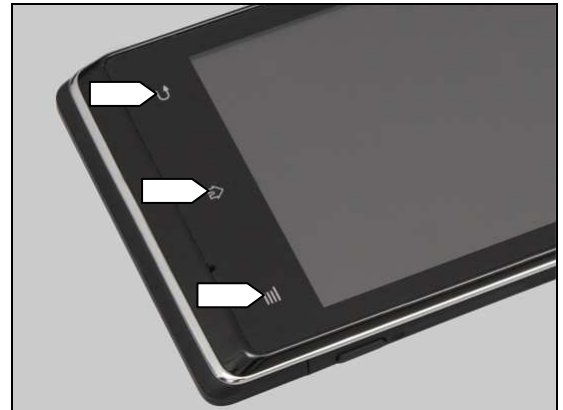
#### 1.2.1 Menu, Home and Back Keys

**Check:**

Inspect the touch area of the menu key, home key and back keys on the Touch Panel.

**Action:**

Refer to section 1.3 'Touch Screen'.



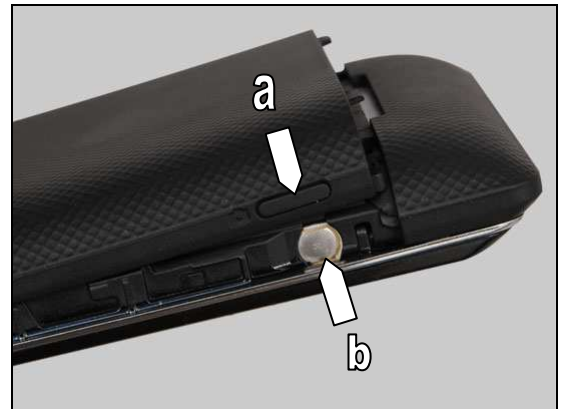
#### 1.2.2 Camera Key

**Check:**

Inspect the camera key (a) on the Battery Cover and the camera switch (b).

**Action:**

1. If the camera key (a) or the camera key dome (b) is dirty or clogged – clean it.



2. If the camera key (a) is damaged – replace the Battery Cover.



**Check:**

Inspect the camera key gasket.

**Action:**

1. If dirty – clean it.



## Problem Areas: Keys

2. If the camera key gasket is damaged – replace the Battery Cover.



### Check:

Inspect the BtB connector of the FPC SUB PBA to the 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 key dome of the FPC SUB PBA is damaged – replace the FPC SUB PBA.
4. Replace main PBA.



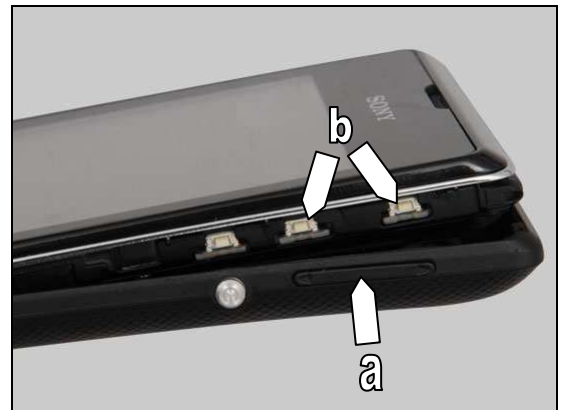
## 1.2.3 Volume Key

### Check:

Inspect the volume key (a) on the Battery Cover and the volume switch (b) on the main PBA.

### Action:

1. If the volume key (a) or the volume switch (b) is dirty or clogged – clean it.



## Problem Areas: Keys

2. If the volume key (a) is damaged – replace the Battery Cover.

### Check:

Inspect the volume key gasket.

### Action:

1. If dirty – clean it.



2. If the volume key gasket is damaged – replace the Battery Cover.

3. Replace main PBA.



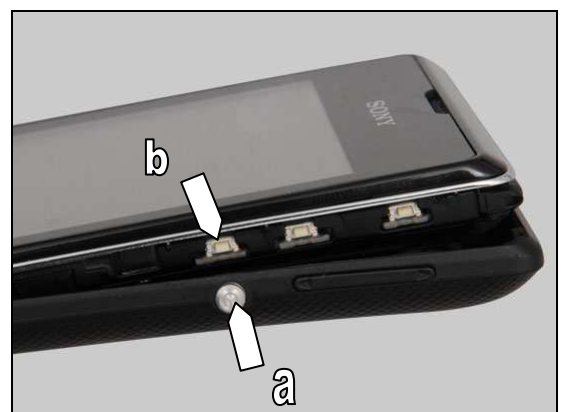
### 1.2.4 On/Off key

### Check:

Inspect the on/off key (a) on the Battery Cover and the on/off switch (b) on the main PBA.

### Action:

1. If the on/off key (a) or the on/off switch (b) is dirty or clogged – clean it.



## Problem Areas: Keys

2. If the on/off key (a) is damaged – replace the Battery Cover.

**Check:**

Inspect the on/off key gasket.

**Action:**

1. If dirty – clean it.

2. If the on/off key gasket is damaged – replace the Battery Cover.

3. Replace main PBA.





## Problem Areas

### 1.3 Touch Screen

#### 1.3.1 Touch Screen malfunction

**Check:**

Inspect the touch screen.

**Action:**

If dirty – clean it.

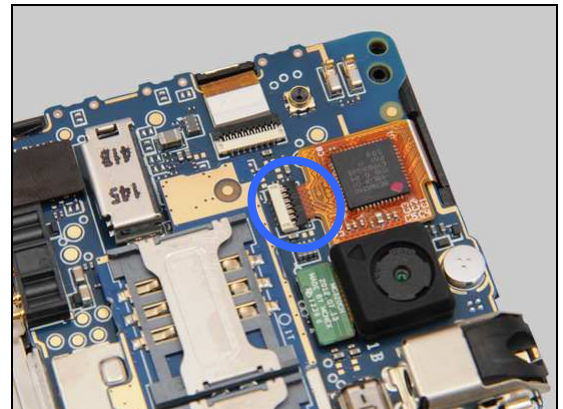


**Check:**

Inspect the ZIF connector of the Touch Panel to the main PBA.

**Action:**

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



**Check:**

Inspect the FPC of the Touch Panel.



**Action:**

1. If the FPC or the touch screen is damaged – replace the Touch Panel.
2. Replace main PBA.

**Note: Calibration required after replacing Touch Panel!**



## Problem Areas

### 1.4 Display

#### 1.4.1 Graphics & Illumination

**Check:**

Inspect 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'.

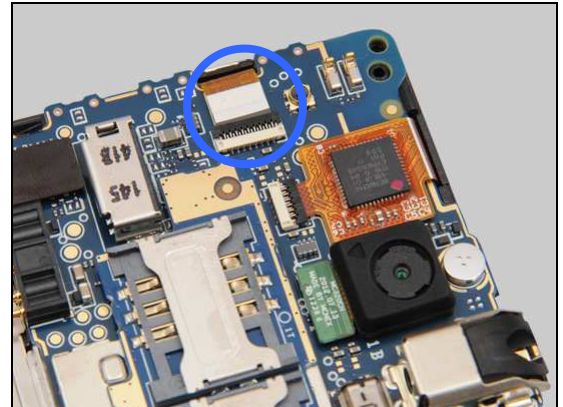


**Check:**

Inspect the ZIF connector of the LCD TFT to the main PBA.

**Action:**

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



**Check:**

Inspect the LCD TFT and its FPC.

**Action:**

1. If dirty – clean it.
2. If the LCD TFT or its FPC is damaged – replace the LCD TFT.
3. Replace main PBA.



## Problem Areas

### 1.5 LED/Illumination

#### 1.5.1 LED/Illumination

**Check:**

Inspect the external window area of the RGB LED on the Touch Panel.

**Action:**

1. If dirty – clean it.



2. If the external window area is damaged – replace the Touch Panel.

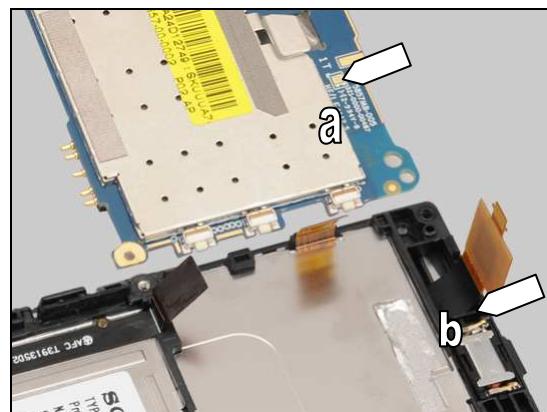


**Check:**

Inspect the RGB LED (a) on the main PBA and the backside of the RGB window (b).

**Action:**

1. If dirty – clean them.
2. Replace main PBA.



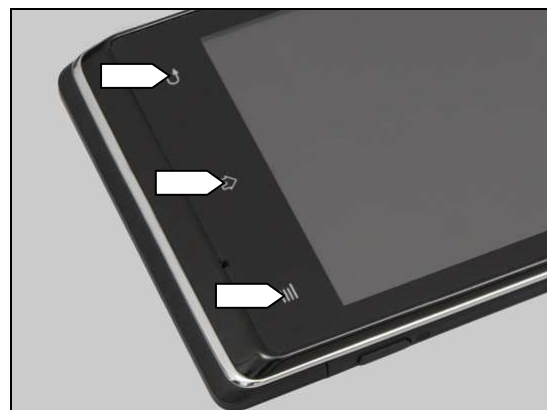
#### 1.5.2 Menu key, Home key and Back key Illumination

**Check:**

Inspect the illumination window of the menu key, home key and back key on the Touch Panel.

**Action:**

1. If dirty – clean it.



## Problem Areas: Illumination

2. If scratched – replace the Touch Panel.



### Check:

Inspect the BtB connector of the FPC SUB PBA to the Sub PBA.

### Action:

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



### Check:

Inspect the BtB connector of the FPC SUB PBA to the main PBA.

### Action:

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



3. If either of the two BtB connectors or the FPC of the FPC SUB PBA is damaged – replace the FPC SUB PBA.



## Problem Areas: Illumination

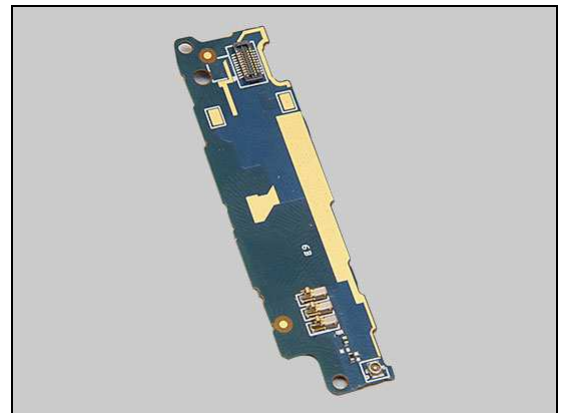
### Check:

Inspect the three LEDs on the Sub PBA.

### Action:

1. If dirty – clean them.

2. If the three LEDs or the BtB connector of the Sub PBA is damaged – replace the Sub PBA.
3. Replace main PBA.



### 1.5.3 SMS LED Illumination

### Check:

Inspect the BtB connector of the FPC SUB PBA to the Sub PBA.

### Action:

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



### Check:

Inspect the BtB connector of the FPC SUB PBA to the main PBA.

### Action:

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





## Problem Areas: Illumination

3. If either of the two BtB connectors or the FPC of the FPC SUB PBA is damaged – replace the FPC SUB PBA.



### Check:

Inspect the SMS LED on the Sub PBA.

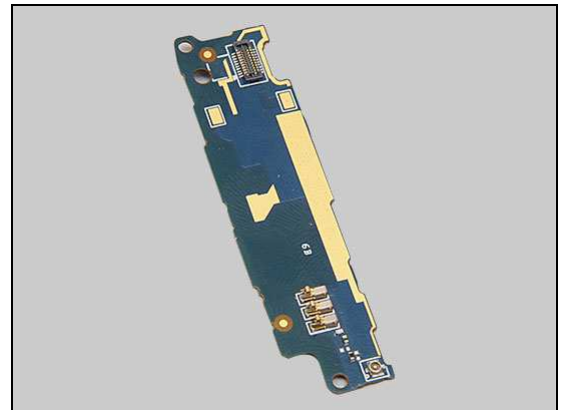
### Action:

1. If dirty – clean it.



2. If the SMS LED or the BtB connector of the Sub PBA is damaged – replace the Sub PBA.

3. Replace main PBA.



## Problem Areas

### 1.6 Speaker

#### 1.6.1 Loudspeaker

**Check:**

Inspect the Loudspeaker's external port on the Battery Lower Cover.

**Action:**

1. If clogged – clean it.

2. If the port is damaged – replace the Battery Lower Cover.



**Check:**

Inspect the cushion on the Rear Cover Sub Assembly.

**Action:**

1. If dirty – clean it.

2. If the cushion is damaged – replace the Rear Cover Sub Assembly.



## Problem Areas: Speaker

### Check:

Inspect the contact pins (a) on the Loudspeaker and the contact pads (b) on the Sub PBA.

### Action:

1. If dirty – clean them.

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

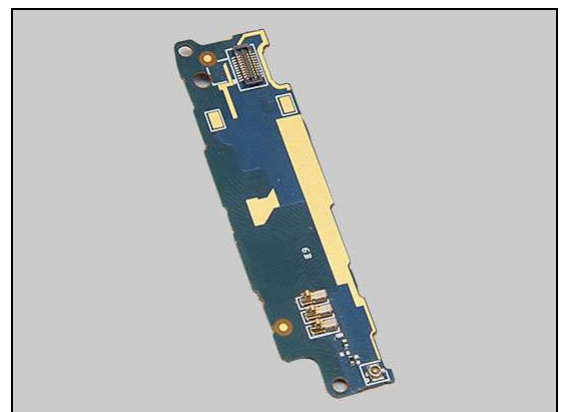
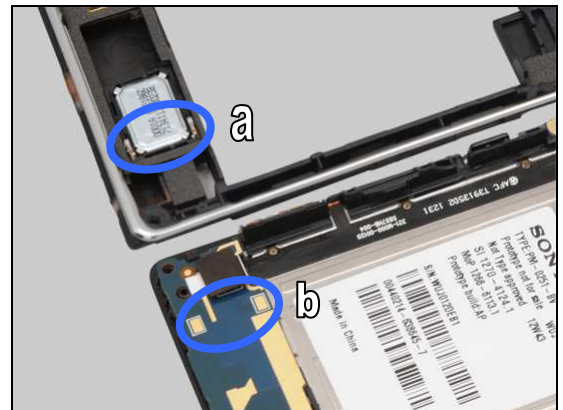
### Check:

Inspect the BtB connector of the FPC SUB PBA to the Sub PBA.

### Action:

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

3. If the contact pads or the BtB connector of the Sub PBA is damaged – replace the Sub PBA.





## Problem Areas: Speaker

### Check:

Inspect the BtB connector of the FPC SUB PBA to the main PBA.

### Action:

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



3. If either of the two BtB connectors or the FPC of the FPC SUB PBA is damaged – replace the FPC SUB PBA.
4. Replace main PBA.



## Problem Areas

### 1.7 Earphone

#### 1.7.1 Receiver

**Check:**

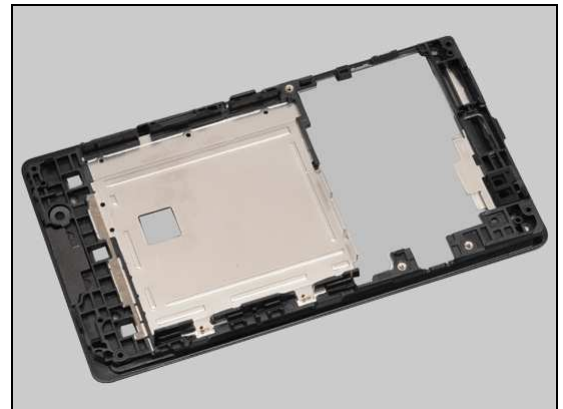
Inspect the Receiver's external port on the Front Cover Sub Assembly.

**Action:**

1. If clogged – clean it.



2. If the port or the mesh is damaged – replace the Front Cover Sub Assembly.

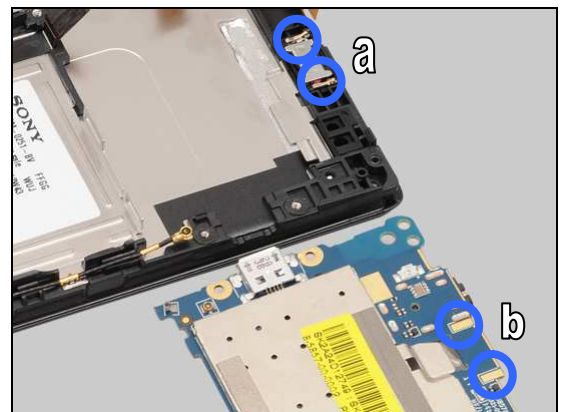


**Check:**

Inspect the contact pins (a) of the Receiver and the contact pads (b) on the main PBA.

**Action:**

1. If dirty – clean them.



2. If the Receiver or its contact pins are damaged – replace it.

3. Replace main PBA.



## Problem Areas

### 1.8 Microphone

#### 1.8.1 Microphone

**Check:**

Inspect the microphone's external port on the Touch Panel.

**Action:**

1. If clogged – clean the port.

2. If the port is damaged – replace the Touch Panel.



**Check:**

Inspect the BtB connector of the FPC SUB PBA to the Sub PBA.

**Action:**

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

2. If dirty or oxidized – clean it.



**Check:**

Inspect the BtB connector of the FPC SUB PBA to the main PBA.

**Action:**

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

2. If dirty or oxidized – clean it.



## Problem Areas: Microphone

3. If either of the two BtB connectors or the FPC of the FPC SUB PBA is damaged – replace the FPC SUB PBA.



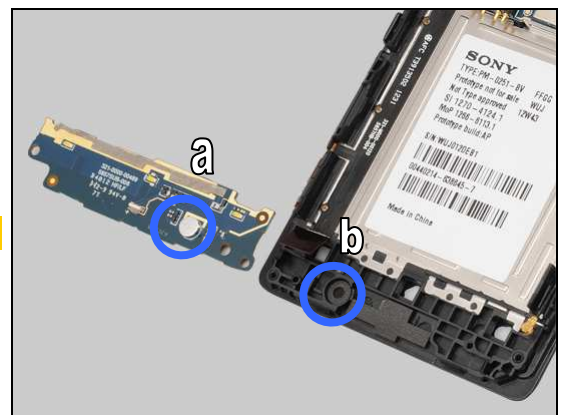
### Check:

Inspect the microphone (a) on the Sub PBA and the cushion (b) on the Front Cover Sub Assembly.

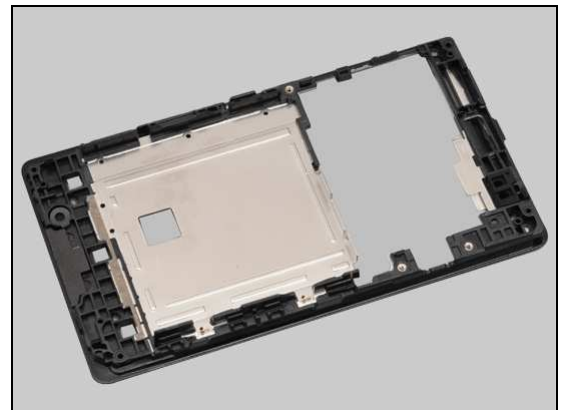
**Liquid is not allowed!**

### Action:

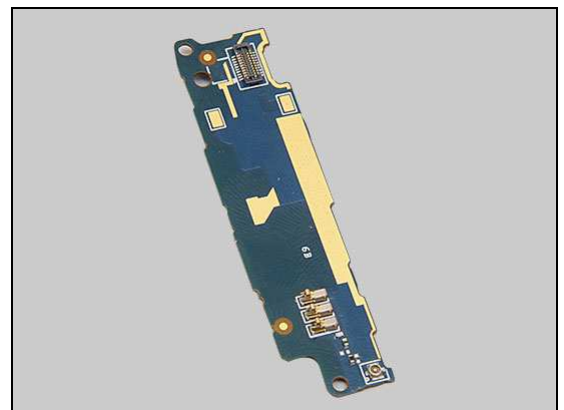
1. If dirty or clogged – clean them.



2. If the cushion of microphone is damaged – replace the Front Cover Sub Assembly.



3. If the microphone or the BtB connector of the Sub PBA is damaged – replace the Sub PBA.  
4. Replace main PBA.



## Problem Areas: Microphone

### 1.8.2 Secondary Microphone

**Check:**

Inspect the secondary microphone's external port on the Battery Cover.

**Action:**

1. If clogged – clean the port.

2. If the port is damaged – replace the Battery Cover.



**Check:**

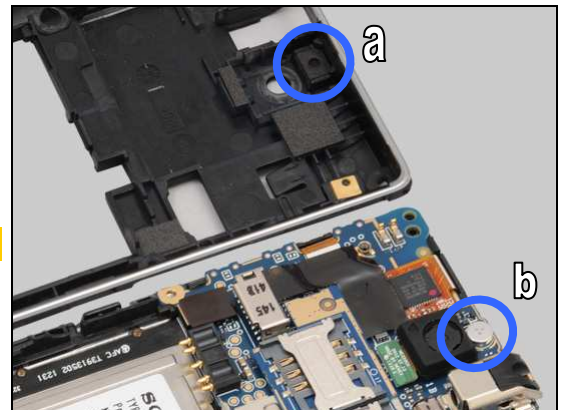
Inspect the secondary microphone (b) on the main PBA and the secondary microphone cushion (a) and mesh on the Rear Cover Sub Assembly.

**Liquid is not allowed!**

**Action:**

1. If dirty – clean them.

2. If the secondary microphone cushion or mesh is damaged – replace the Rear Cover Sub Assembly.  
3. Replace main PBA.



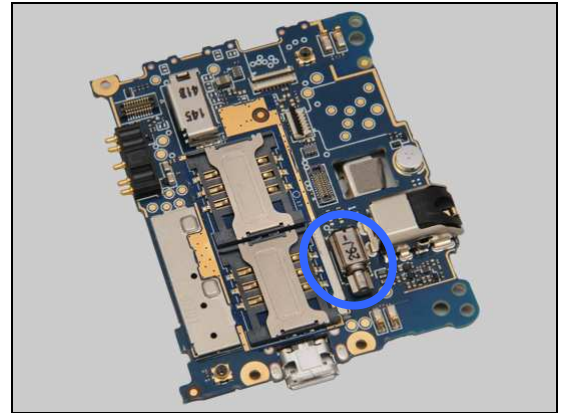
## Problem Areas

### 1.9 Vibrator

#### 1.9.1 Vibrator not generating alerts

**Action:**

Replace main PBA.





## Problem Areas

### 1.10 Camera

#### 1.10.1 Camera defects

**Check:**

Inspect the external area of the camera window.

**Action:**

1. If dirty – clean it.



2. If scratched or damaged – replace the Rear Cover Sub Assembly.

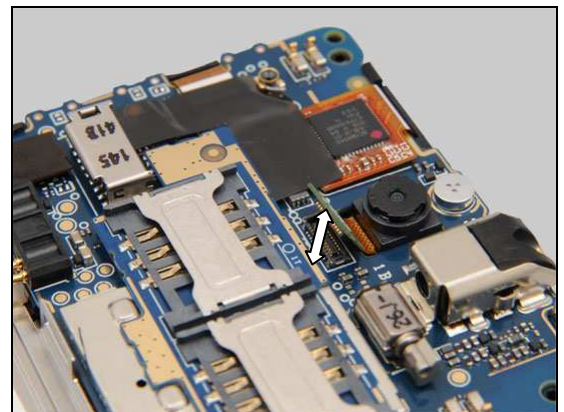


**Check:**

Inspect the BtB connector of the Camera to the main PBA.

**Action:**

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

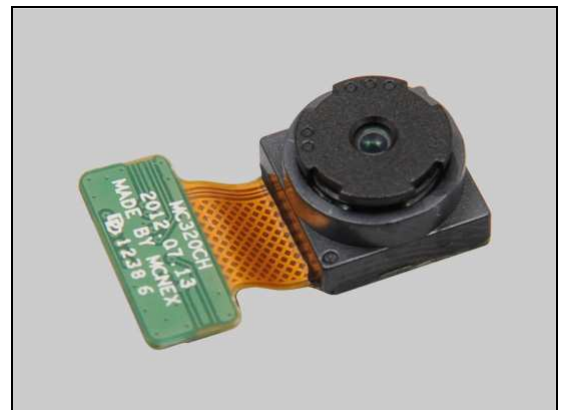


**Check:**

Inspect the Camera.

**Action:**

1. If the Camera or its BtB connector is damaged – replace the Camera.
2. Replace main PBA.



## Problem Areas

### 1.11 Bluetooth and WLAN

#### 1.11.1 Bluetooth or WLAN connection failure

**Check:**

Inspect the Bluetooth and WLAN antenna on the Rear Cover Sub Assembly.



**Action:**

If the antenna is damaged – replace the Rear Cover Sub Assembly.

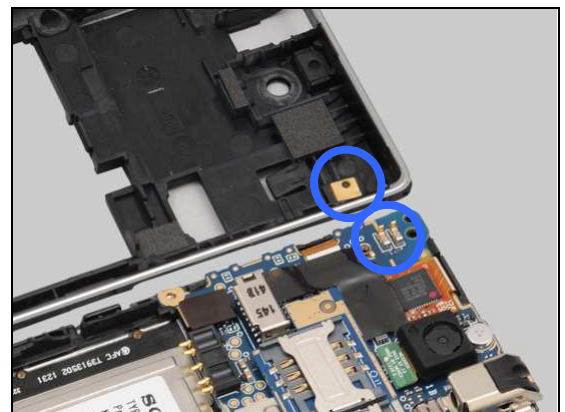


**Check:**

Inspect the Bluetooth and WLAN antenna contact pad on the Rear Cover Sub Assembly and the contact pins on the main PBA.

**Action:**

1. If dirty – clean the pad and pins.



2. If the contact pad is damaged – replace the Rear Cover Sub Assembly.

3. Replace main PBA.





## Problem Areas

### 1.12 GPS

#### 1.12.1 GPS malfunctions

**Check:**

Inspect the GPS antenna on the Rear Cover Sub Assembly.



**Action:**

If the antenna is damaged – replace the Rear Cover Sub Assembly.

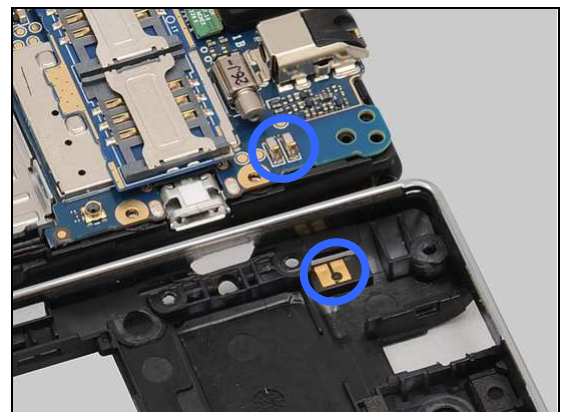


**Check:**

Inspect the GPS antenna contact pads on the Rear Cover Sub Assembly and the contact pins on the main PBA.

**Action:**

1. If dirty – clean the pads and pins.



2. If the contact pads are damaged – replace the Rear Cover Sub Assembly.

3. Replace main PBA.



## Problem Areas

### 1.13 Compass

#### 1.13.1 Compass fails

**Action:**

Replace main PBA.

## Problem Areas

### 1.14 Accelerometer

#### 1.14.1 Accelerometer test fails

**Action:**

Replace main PBA.

## Problem Areas

### 1.15 Pressure Sensor

#### 1.15.1 Pressure Sensor test fails

**Action:**

N/A. No Pressure Sensor in this product.

## Problem Areas

### 1.16 Ambient Light Sensor

#### 1.16.1 Light Sensor malfunctions

**Action:**

N/A. No Ambient Light Sensor in this product.

## Problem Areas

### 1.17 Proximity switch

#### 1.17.1 Proximity switch malfunctions

**Check:**

Inspect the proximity switch and proximity sensor window area on the Touch Panel.

**Action:**

1. If dirty – clean it.



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

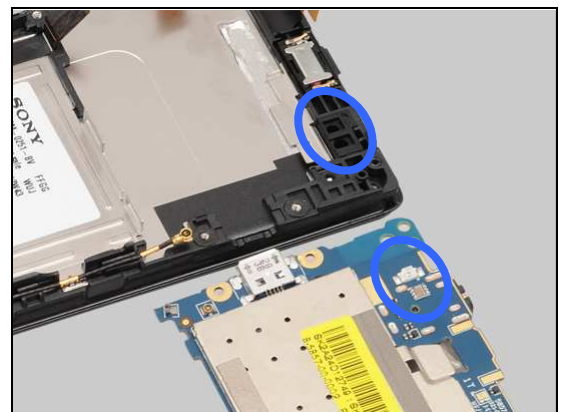


**Check:**

Inspect the rubber on the Front Cover Sub Assembly and the proximity switch and proximity sensor on the main PBA.

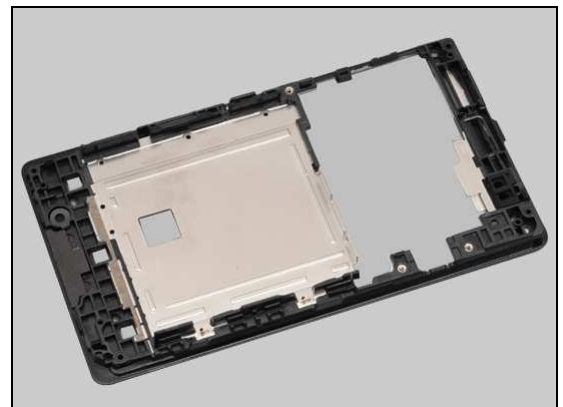
**Action:**

1. If dirty – clean them.



2. If the rubber is damaged – replace the Front Cover Sub Assembly.

3. Replace main PBA.



## Problem Areas

### 1.18 Real Time Clock

#### 1.18.1 Real Time Clock test fails

**Action:**

Replace main PBA.

## Problem Areas

### 1.19 Total call time

#### 1.19.1 Total call time fails

**Action:**

Replace main PBA.



## Problem Areas

### 1.20 External Memory

#### 1.20.1 Memory Card not detected

**Check:**

Inspect the external area of the memory card holder and check if a memory card can be properly inserted.

**Action:**

1. If dirty or clogged – clean the holder.

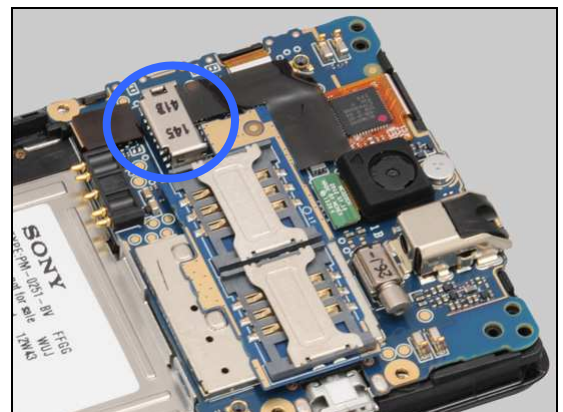
2. If the port of the memory card is damaged – replace the Rear Cover Sub Assembly.

**Check:**

Inspect the memory card holder.

**Action:**

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



## Problem Areas

### 1.21 Security

#### 1.21.1 Security fails

**Action:**

Replace main PBA.

## Problem Areas

### 1.22 FM Radio

#### 1.22.1 No/Poor FM Radio reception

**Use a CTIA type headset to do the test!**

**Check:**

Inspect the external area of the audio jack.

**Action:**

If dirty or oxidized – clean it.



**Check:**

Inspect the audio jack.

**Action:**

If dirty or oxidized – clean it.

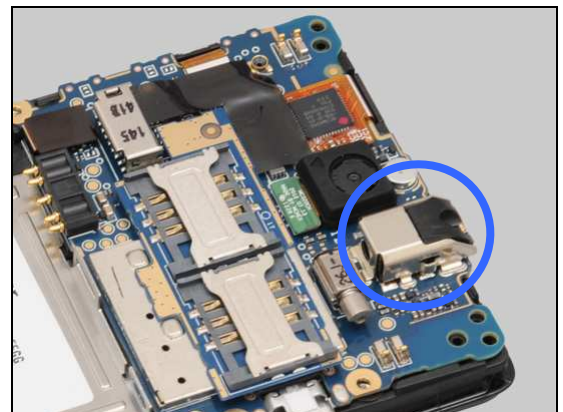


**Check:**

Inspect the audio jack on the main PBA.

**Action:**

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



## Problem Areas

### 1.23 Battery test

#### 1.23.1 Battery test fails

**Action:**

Replace battery.

## Problem Areas

### 1.24 Verify Certificates

#### 1.24.1 Verify certificates fails

**Action:**

Replace main PBA.

## Problem Areas

### 1.25 Network & Signal

#### 1.25.1 No/Poor signal

**Check:**

Inspect the main antenna on the Rear Cover Sub Assembly.

**Action:**

If the antenna is damaged – replace the Rear Cover Sub Assembly.

**Check:**

Inspect the main antenna contact pads on the Rear Cover Sub Assembly and contact pins on the Sub PBA.

**Action:**

1. If dirty – clean the pads and pins.

2. If the contact pads are damaged – replace the Rear Cover Sub Assembly.



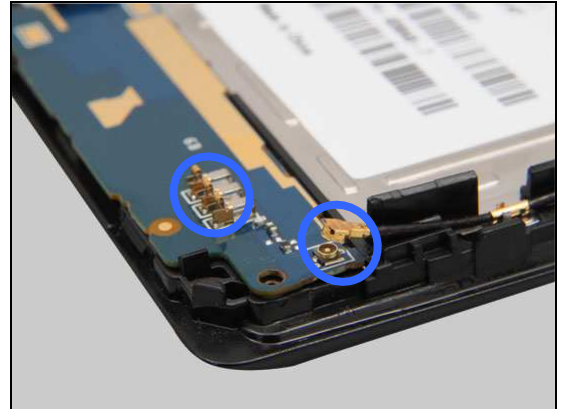
## Problem Areas: Network & Signal

### Check:

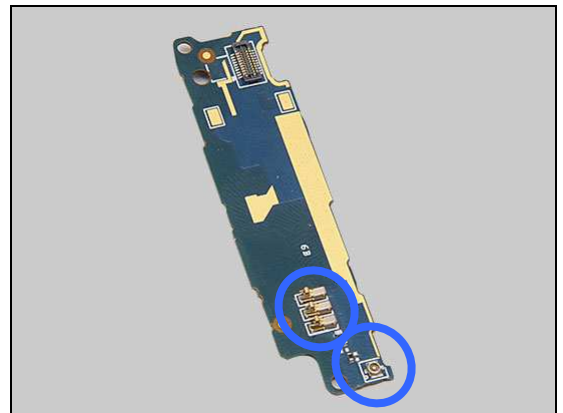
Inspect the connector of the RF Cable to the Sub PBA.

### Action:

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



3. If the contact pins or the connector is damaged – replace the Sub PBA.

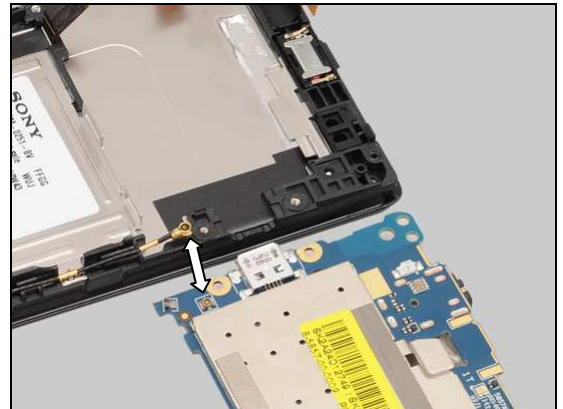


### Check:

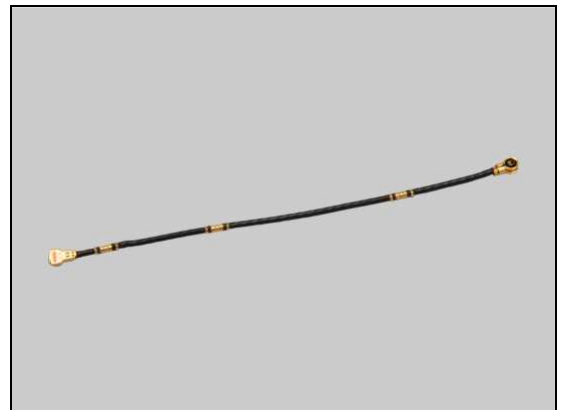
Inspect the connector of the RF Cable to the main PBA.

### Action:

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



3. If the RF Cable or either of its two connectors is damaged – replace the RF Cable.
4. Replace Sub PBA.
5. Replace main PBA.





## Problem Areas

### 1.26 SIM

#### 1.26.1 SIM not detected

**Check:**

Inspect the external area of the SIM card holders and check if the SIM cards can be properly inserted.

**Action:**

1. If dirty or clogged – clean the holders.



2. If the ports of the SIM cards are damaged – replace the Rear Cover Sub Assembly.

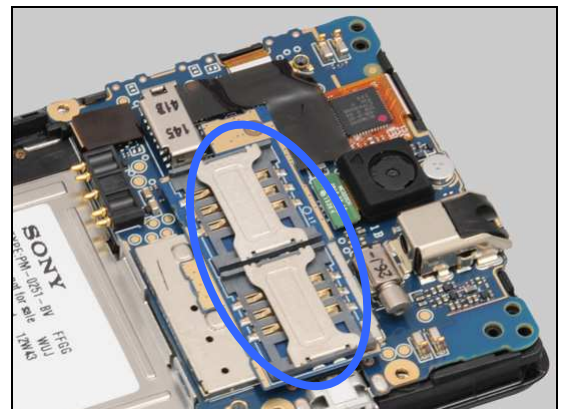


**Check:**

Inspect the SIM card holders of the SIM PBA Assy.

**Action:**

If dirty or clogged – clean the holders.

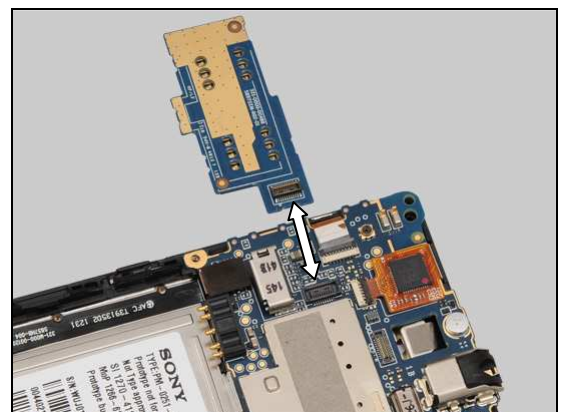


**Check:**

Inspect the BtB connector of the SIM PBA Assy to the main PBA.

**Action:**

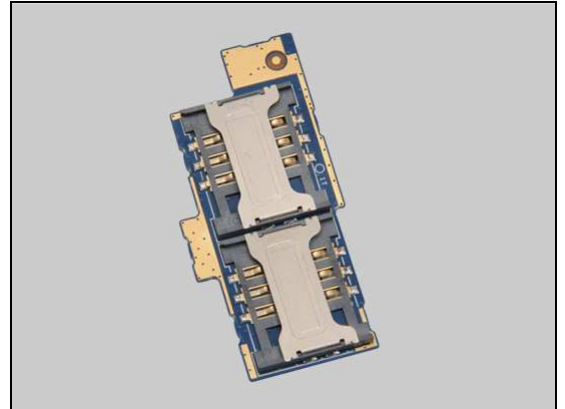
1. If not properly connected – disconnected and reconnected it.
2. If dirty or oxidized – clean it.





## Problem Areas: SIM

3. If the connector or the SIM card holders of the SIM PBA Assy is damaged – replace the SIM PBA Assy.
4. Replace main PBA.



### 1.26.2 Incorrect SIM indicated

**Check:**

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

**Action:**

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



## Problem Areas

### 1.27 Charging

#### 1.27.1 Battery will not charge

**Check:**

Inspect the contact pads of the battery.

**Action:**

1. If dirty or oxidized – clean the pads.
2. If damaged – replace the battery.



**Check:**

Inspect the battery contact pins.

**Action:**

1. If dirty or oxidized – clean the contact pins.
2. If adhesive is detected on the contact pins – use an eraser to gently rub off the adhesive.
3. If the contact pins are damaged – replace main PBA.



**Check:**

Inspect the USB connector.

**Action:**

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



## Problem Areas

### 1.28 HandsFree by Wire

#### 1.28.1 Connection to Portable HandsFree fails

**Use a CTIA type headset to do the test!**

**Check:**

Inspect the external area of the audio jack.

**Action:**

If dirty or oxidized – clean it.



**Check:**

Inspect the audio jack.

**Action:**

If dirty or oxidized – clean it.

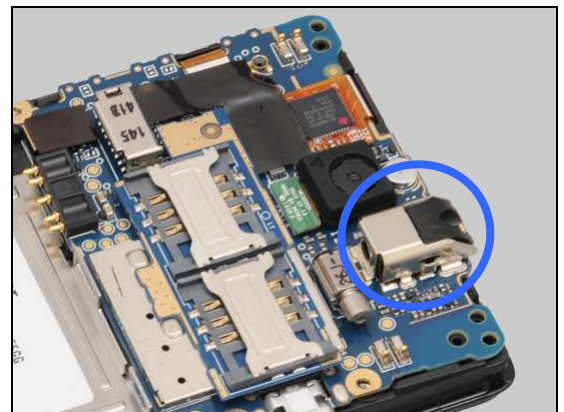


**Check:**

Inspect the audio jack on the main PBA.

**Action:**

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



## Problem Areas

### 1.29 Data Communication

#### 1.29.1 Data transfer via System Connector fails

**Check:**

Inspect the external area of the USB connector.

**Action:**

If dirty or oxidized – clean the connector.



**Check:**

Inspect the USB connector.

**Action:**

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



## 2 Revision History

Rev.	Date	Changes / Comments
1	2013-Jan-11	Initial release
2	2013-March-05	Single SIM added to front page