

SONY

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Troubleshooting Guide

- mechanical -



Xperia™ ZL

C6502, C6503, C6506 & L35h

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- You shall always after verifying the problem, start the trouble shooting with the Software service “Refurbish” in Emma.
- Software release information about improvements are found: www.sonymobile.com/

1 Problem Areas

1.1 Power

1.1.1 Will not power on or will switch off randomly

Check:

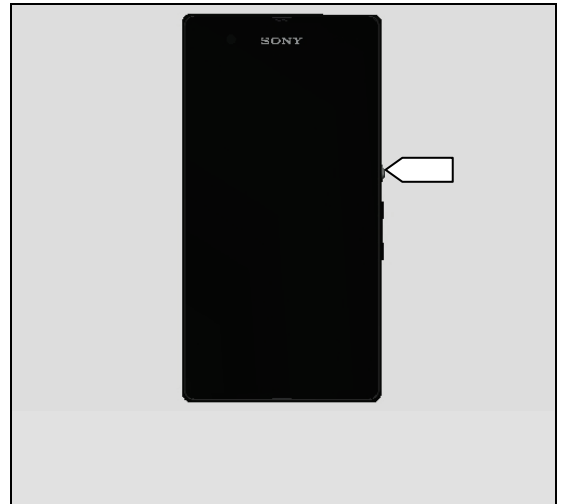
Check whether the phone vibrates by pressing the Power key.

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.

Follow Test Instruction (Charging via USB), Diagnostic Battery / Charging status.



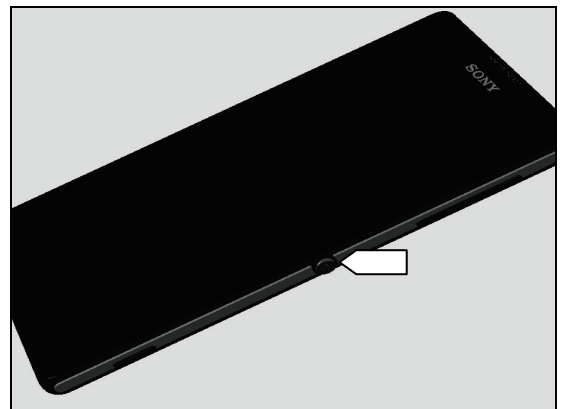
Check:

Inspect the power key

Action:

1. If dirty – clean it.

2. If the power key is damaged – replace the Key Power.



Check:

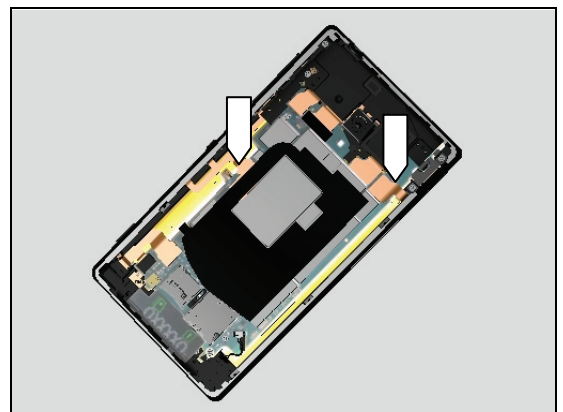
Inspect the two BtB connectors on the PBA Complete.

Action:

1. Remove the Battery BtB connector check the Gasket Battery FPC Support. Reconnect the Battery BtB connector test charging and then test powering on the unit.

2. If not properly connected – disconnect and reconnect connectors.

3. If dirty or oxidized – clean connectors.



Problem Areas: Power

Check:

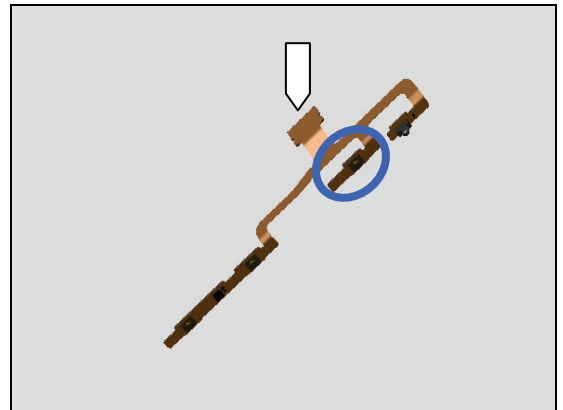
Inspect the Battery Grounding.

Action:

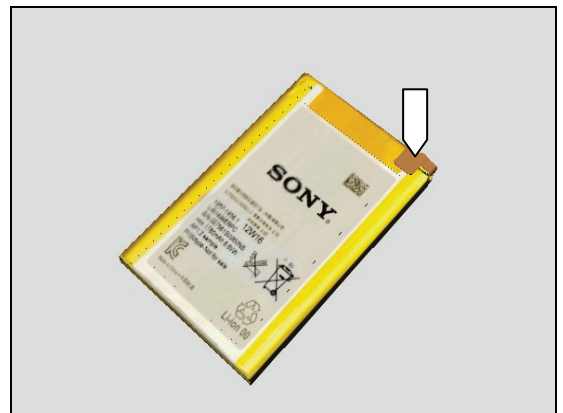
1. Remove and reconnect Battery Grounding, test charging and then test powering on the unit.
2. If not properly connected – disconnect and reconnect connectors.
3. If dirty or oxidized – clean connectors.
4. If the damaged – replace Battery Grounding.



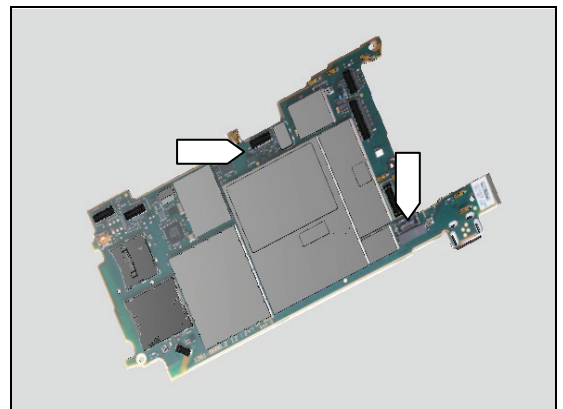
5. If the key dome switch, BtB connector or the FPC Side Key is damaged – replace FPC Side Key.



6. If BtB contact on Battery 2300 mAh or Battery 2300 mAh is damaged – replace Battery 2300 mAh.



7. Replace PBA Complete.



Problem Areas: Keys

1.2 Keys

1.2.1 Back, Home, Menu and Multitask Keys

Action:

1. Refer to the section 1.3 'Touch Screen'.



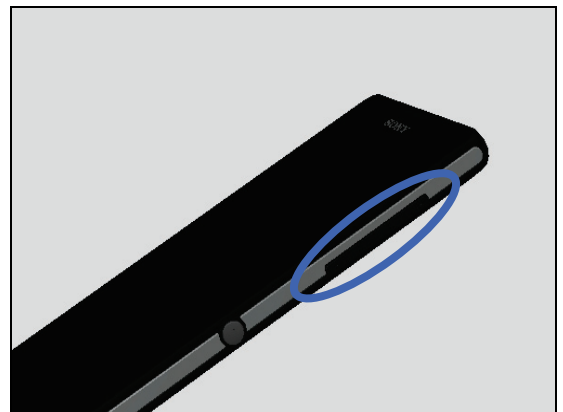
1.2.2 Volume Key

Check:

Inspect the external area of the Keys.

Action:

If dirty – clean it.



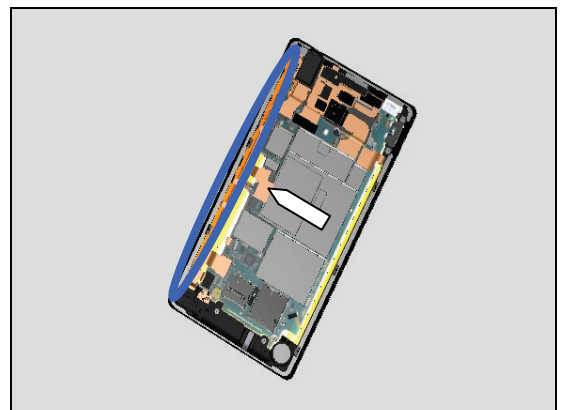
Check:

Inspect the BtB connector and key switches on the FPC Side Key and the BtB connector on the PBA Complete.

Inspect the Carrier Sidekey.

Action:

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

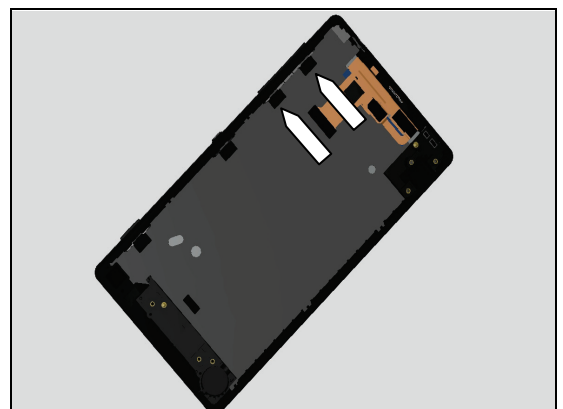


Check:

Inspect the volume keys on Front Assy.

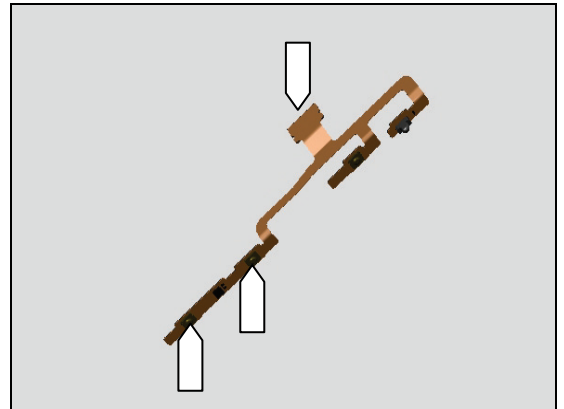
Action:

1. If dirty – clean them.
2. If the keys are damaged – Key Volume.

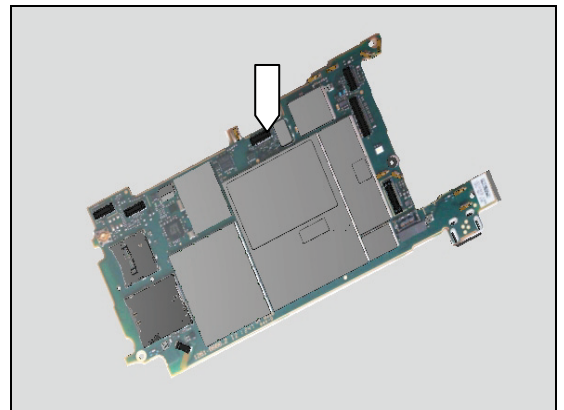


Problem Areas: Keys

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



4. Replace PBA Complete.



Problem Areas

1.3 Touch Screen

1.3.1 Touch Screen malfunction

Check:

Inspect the touch screen.

Action:

If dirty – clean it.

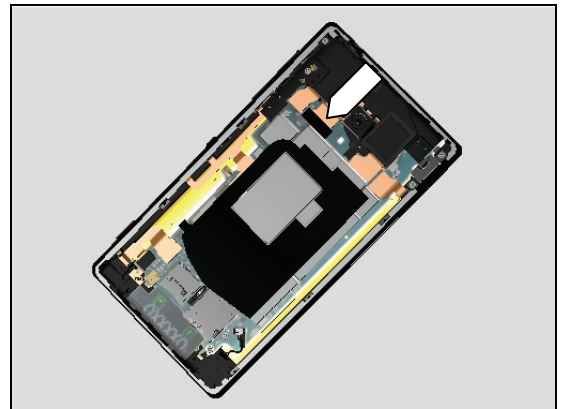


Check:

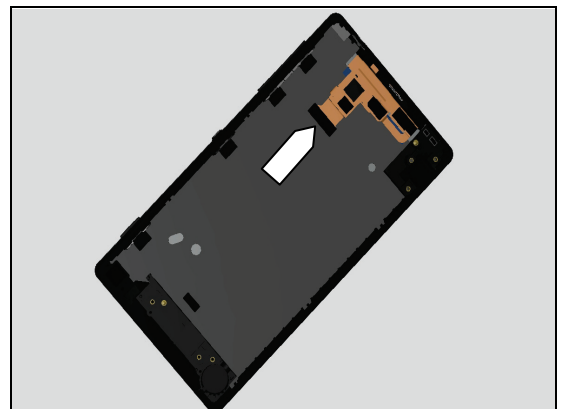
Inspect the BtB connector on the Front Assy and the BtB connector on the PBA Complete.

Action:

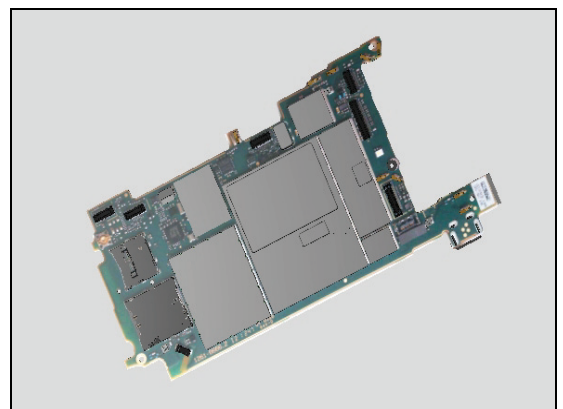
1. If not properly connected – disconnect and reconnect connector.
2. If dirty or oxidized – clean it.



3. If BtB connector on Front Assy is damaged – replace the Front Assy.



4. Replace PBA Complete.



Problem Areas

1.4 Display

1.4.1 Graphics & Illumination

Check:

Check whether the phone vibrates after the Power key has been pressed.

Action:

1. If the phone does not vibrate, refer to section 1.1 'Power'.
2. If the phone vibrates, perform force shut down (Press Power key + Volume Up for 10sec) and try starting the phone again with Power key.

3. Do Software update "Refurbish" (Secure that the battery is charged! Refer to Test Instruction (Charging via USB).

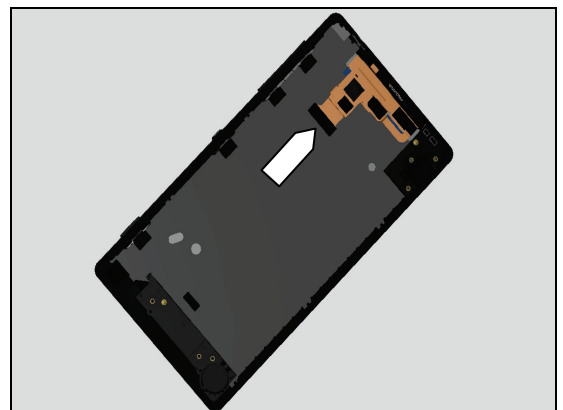
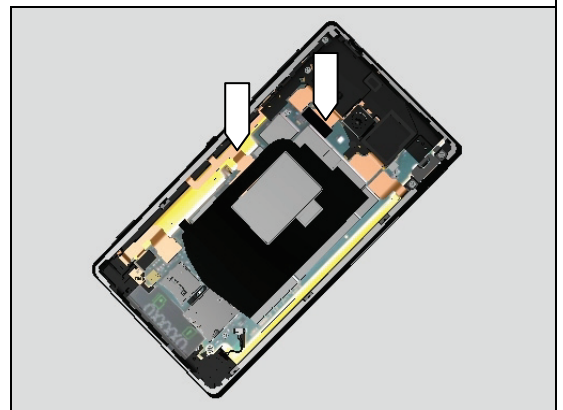
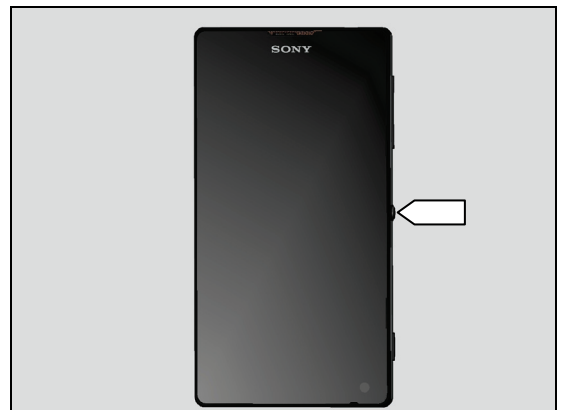
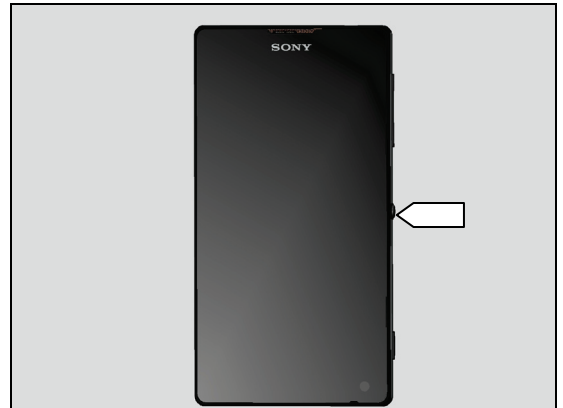
Check:

Inspect the BtB connectors on the Front Assy and the BtB connectors on the PBA Complete.

Action:

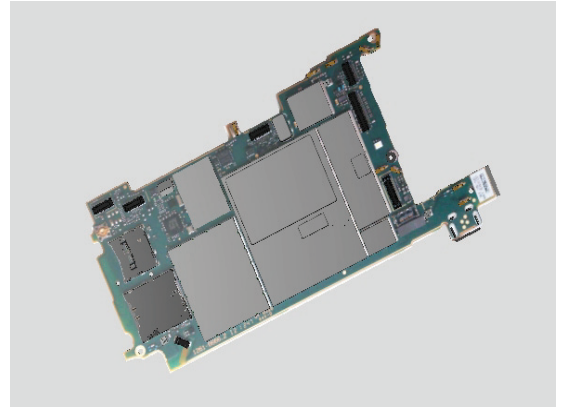
1. Remove and reconnect Front Assy connector, test charging and then test powering on the unit.
2. If not properly connected – disconnect and reconnect connector.
3. If dirty or oxidized – clean connector.

3. If BtB connector on Front Assy is damaged – replace the Front Assy



Problem Areas: Display

4. Replace PBA Complete.



Problem Areas:

1.5 LED/Illumination

1.5.1 LED

Check:

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

Action:

1. If dirty – clean it.
2. If the external window area is damaged – replace the Front Assy.

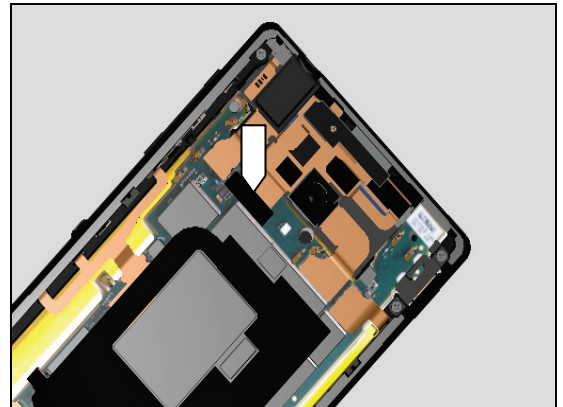


Check:

Inspect the BtB connector on the Front Assy and the BtB connector on the PBA Complete.

Action:

1. If not properly connected- disconnect and reconnect connector.
2. If connectors dirty or clogged – clean it.
3. If FPC is damaged – replace Front Assy.
4. Replace PBA Complete.



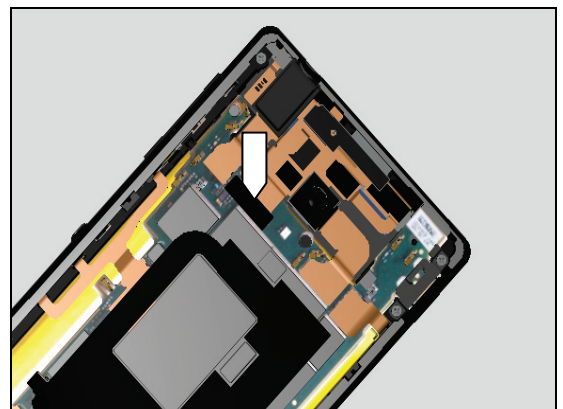
1.5.2 Illumination

Check:

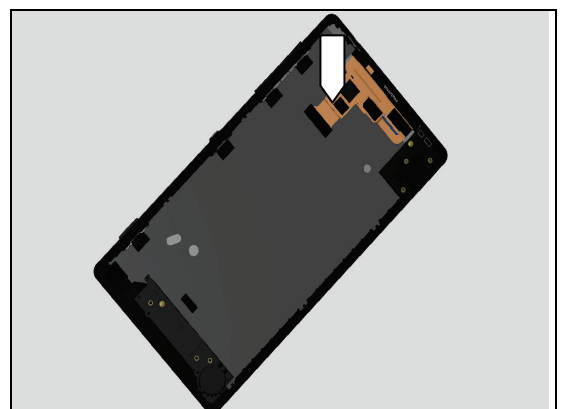
Inspect the BtB connector on the Front Assy and the BtB connector on the PBA Complete.

Action:

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



3. If FPC is damaged – replace Front Assy.
4. Replace PBA Complete



Problem Areas

1.6 Speaker

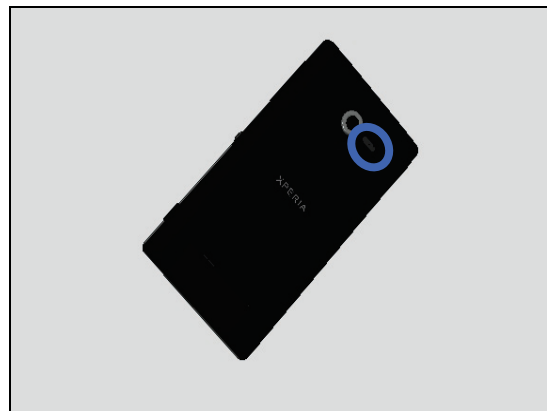
1.6.1 Loudspeaker

Check:

Inspect the loudspeaker's external port on the Back Cover.

Action:

1. If the loudspeaker's external port is clogged – clean it.
2. If the loudspeaker's external port is damaged – replace Back Cover.

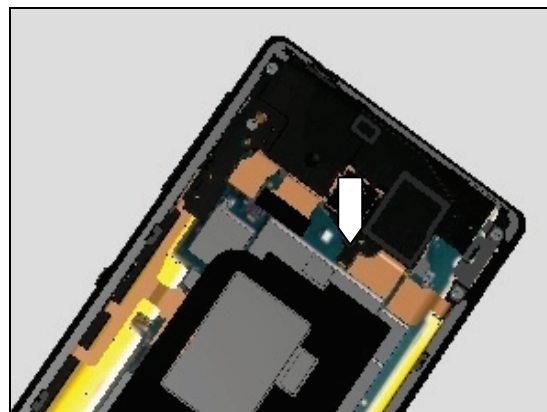


Check:

Inspect the contact pads and Carrier Spbox and the contact pads on the PBA Complete.

Action:

1. If dirty or oxidized – clean them.
2. If not properly connected- disconnect and reconnect Carrier Spbox.

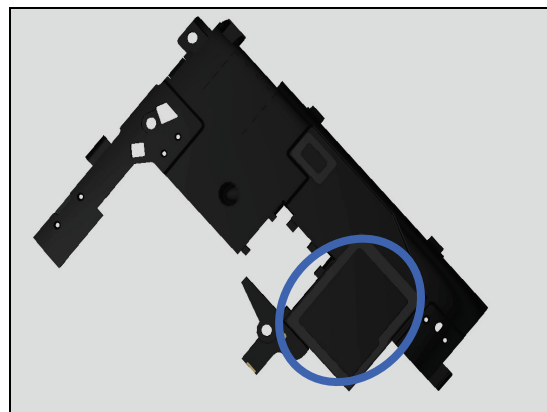


Check:

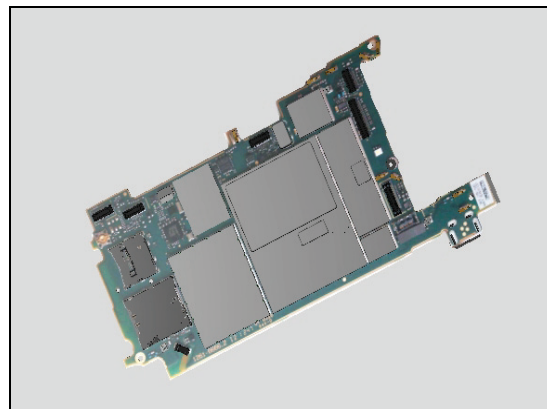
Inspect the loudspeaker's Mesh and acoustic seal on the Carrier Spbox.

Action:

1. If dirty – clean them.
2. If the Carrier Spbox is damaged – replace the Carrier Spbox.



3. Replace PBA Complete.



Problem Areas

1.7 Earphone

1.7.1 Ear speaker

Check:

Inspect the Ear speaker's external port on the Front Assy.

Action:

1. If clogged – clean it.
2. If the port is damaged – replace the Front Assy.
3. If not prompted to insert headphones when you start FM radio without headphones - clean Audio Jack.

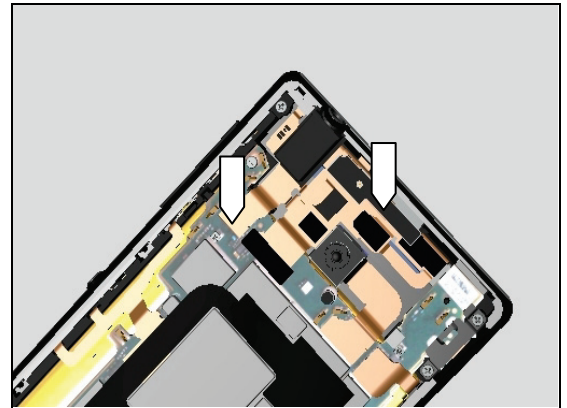


Check:

Inspect the FPC AVP and connector of FPC AVP.

Action:

1. If dirty – clean them.
2. If the connector is damaged – replace the FPC AVP.

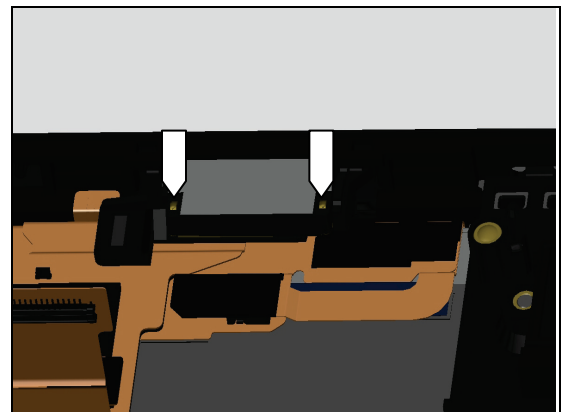


Check:

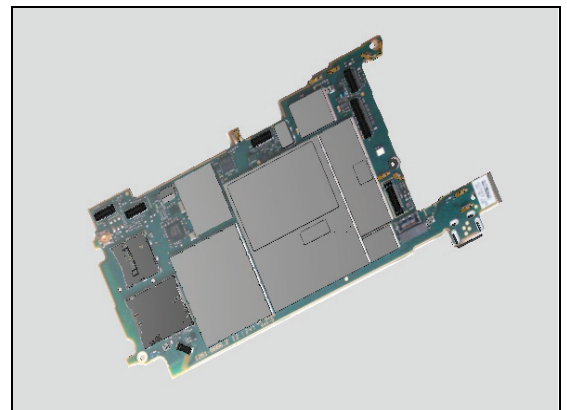
Inspect the contact pins of Earspeaker.

Action:

1. If dirty – clean them.
2. If the contact pins are damaged – replace the Earspeaker.



3. Replace PBA Complete



Problem Areas

1.8 Microphone

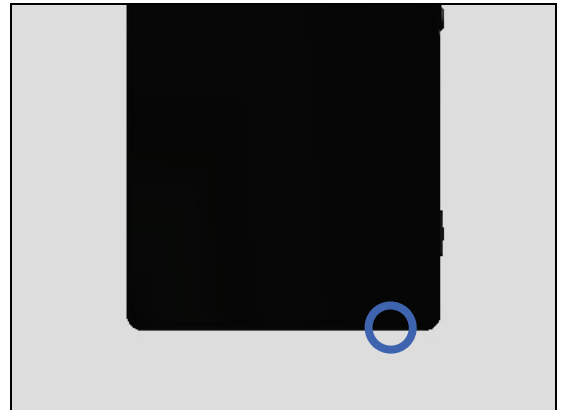
1.8.1 Microphone

Check:

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

Action:

1. If clogged – clean the port.
2. If the port is damaged – replace the Front Assy.



Check:

Inspect the contact pads and BtB connector on the FPC Camera Key PBA and the BtB connector on the PBA Complete.

Action:

1. If dirty or oxidized – clean them.
2. If not properly connected- disconnect and reconnect connector.

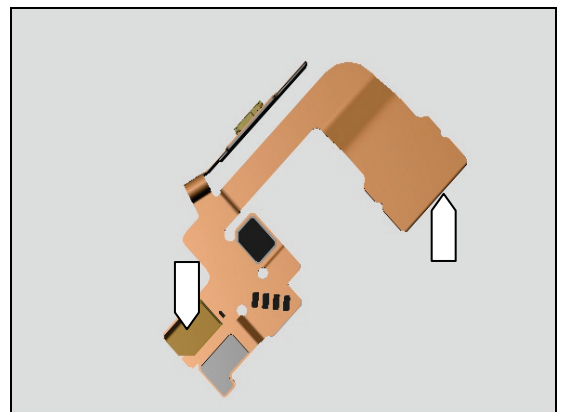


Check:

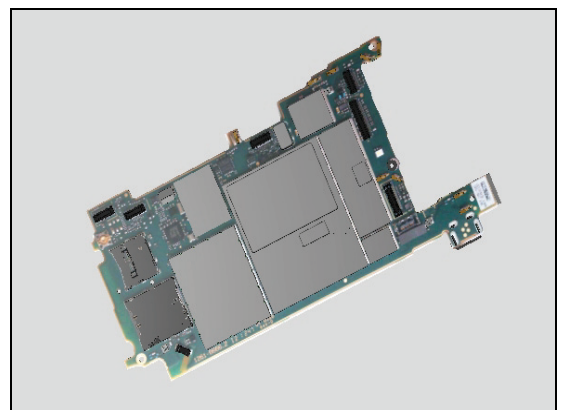
Inspect the Microphone and BtB connector on the FPC Camera Key PBA.

Action:

1. If dirty – clean them.
2. If Microphone or BtB connector is damaged – replace the FPC Camera Key PBA.



3. Replace the PBA Complete.



Problem Areas:

1.8.2 Secondary Microphone

Check:

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

Action:

1. If clogged – clean the port.
2. If the port is damaged – replace the Back Cover.

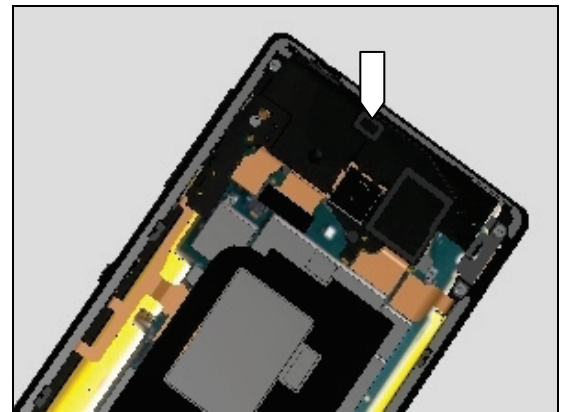


Check:

Inspect the secondary microphone seal and mesh on the Carrier Spbox.

Action:

1. If dirty – clean it.
2. If damaged replace Carrier Spbox.

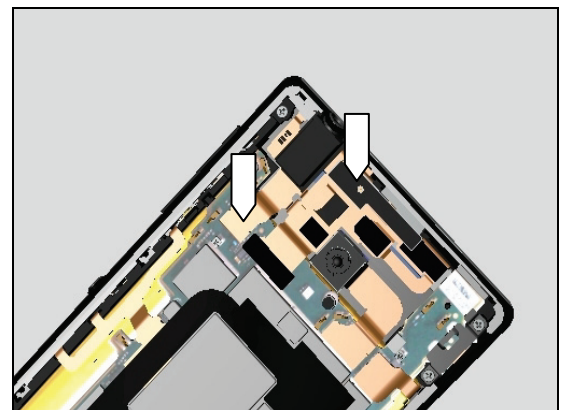


Check:

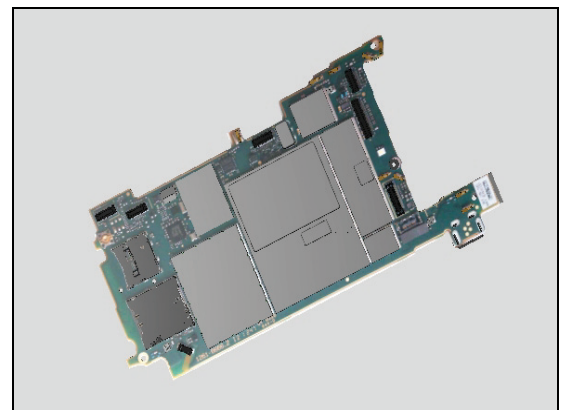
Inspect the secondary microphone on the FPC AVP.

Action:

1. If dirty – clean it.
2. If not properly connected- disconnect and reconnect connector.
3. Replace FPC AVP



4. Replace PBA Complete



Problem Areas

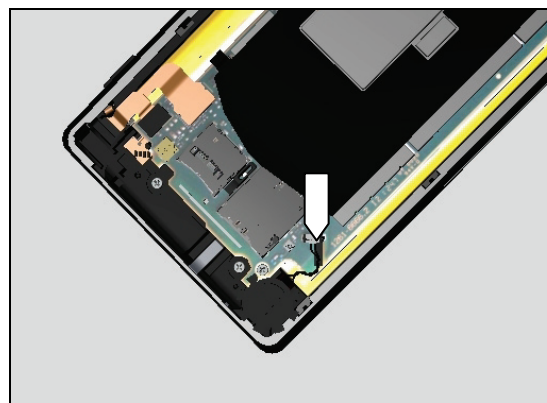
1.9 Vibrator

Check:

Inspect the connector on the Vibrator and the BtB connector on the PBA Complete.

Action:

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

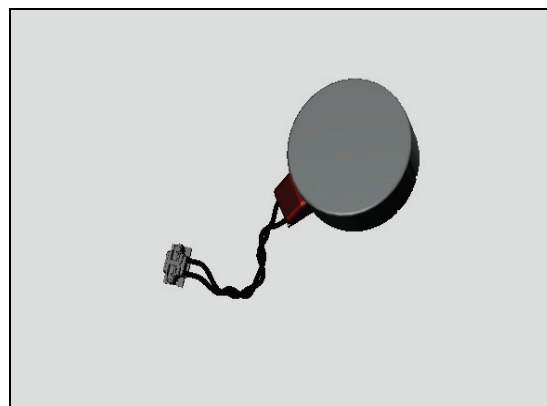


Check:

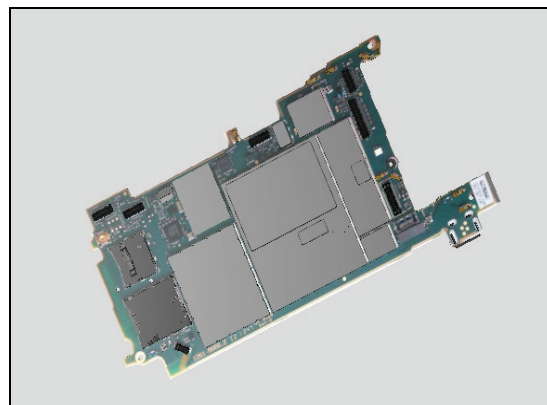
Inspect the Vibrator.

Action:

1. If dirty – clean the Vibrator.
2. If Vibrator or connector is damaged – replace the Vibrator.



3. Replace PBA Complete.



Problem Areas

1.10 Camera

1.10.1 Camera defects

Check:

Inspect the external area of camera window.

Action:

1. If Back Cover window dirty – clean it.
2. If the Back Cover window is damaged – replace the Back Cover.
3. If Camera 13 MP window dirty – clean it.
4. If Camera 13 MP window scratched – replace the Camera 13MP.

Check:

Inspect the BtB connector of Camera 13 MP and the BtB connector on the PBA Complete.

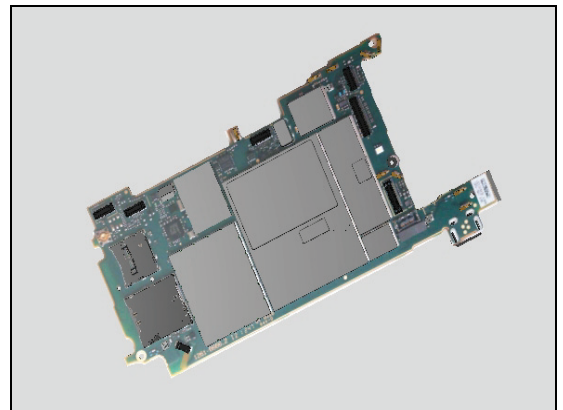
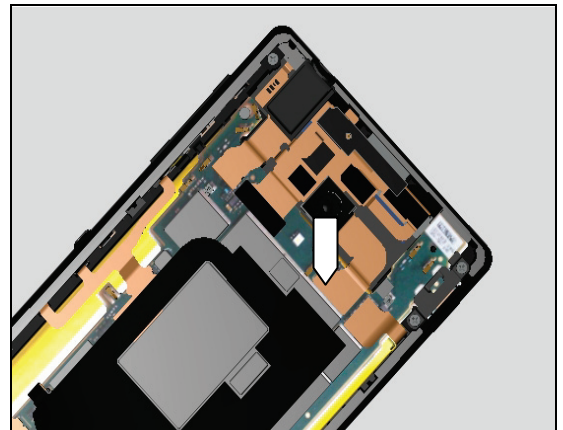
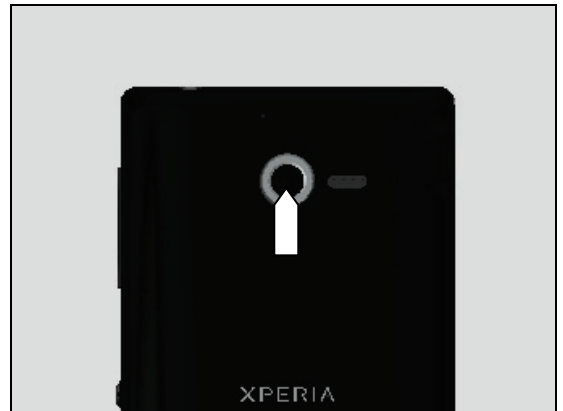
Action:

1. If not properly connected – disconnect and reconnect.
2. If dirty or oxidized – clean both of the BtB connectors.
3. If the Camera 13 MP BtB connector damaged – replace the Camera 13 MP
4. If the Main PBA BtB connector damaged – replace PBA Complete.

Verify with a known functioning Camera:

If working – replace the Camera 13 MP.

If not working – Replace PBA Complete and reuse old Camera 13MP.



Problem Areas

1.10.2 Secondary Camera

Check:

Inspect the external area of the Secondary camera window.

Action:

1. If Front Assy dirty – clean it.
2. If Front Assy scratched or damaged – replace the Front Assy.
3. If Camera 2.2 MP window dirty – clean it.
4. If Camera 2.2 MP scratched – replace the Camera 2.2 MP.

Check:

Inspect the BtB connector of Camera 2.2 MP and the BtB connector on the PBA Complete.

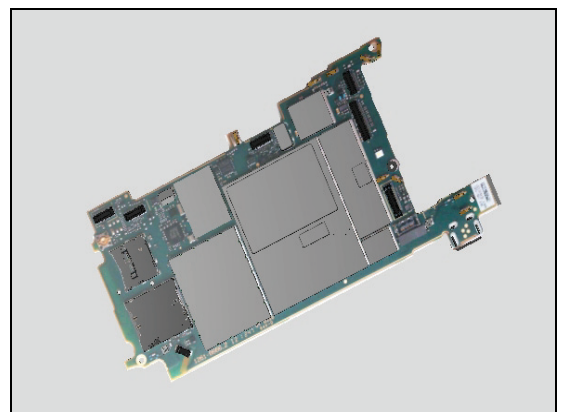
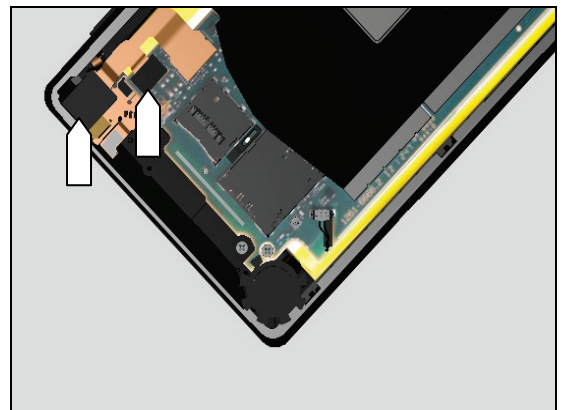
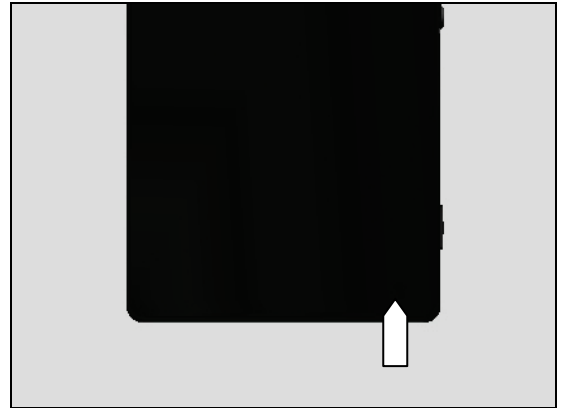
Action:

1. If not properly connected – disconnect and reconnect.
2. If dirty or oxidized – clean both of the BtB connectors.
3. If the Camera 2.2 MP BtB connector damaged – replace the Camera 2.2 MP.
4. If the PBA Complete BtB connector damaged – replace PBA Complete.

Verify with a known functioning Secondary Camera:

If working – replace the Camera 2.2 MP.

If not working – Replace PBA Complete and reuse old Camera 2.2 MP.



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 the flash LED window is dirty – clean it.
2. If the flash LED window scratched or damaged – replace the Back Cover.

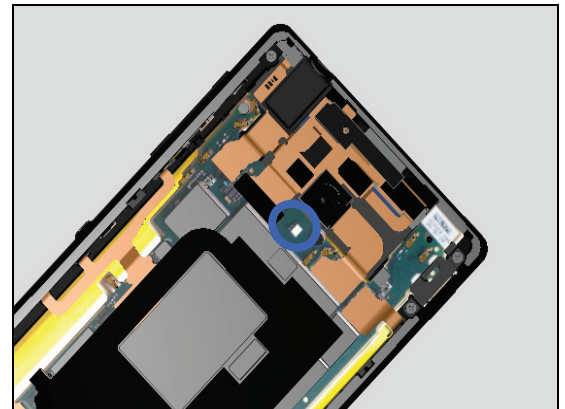


Check:

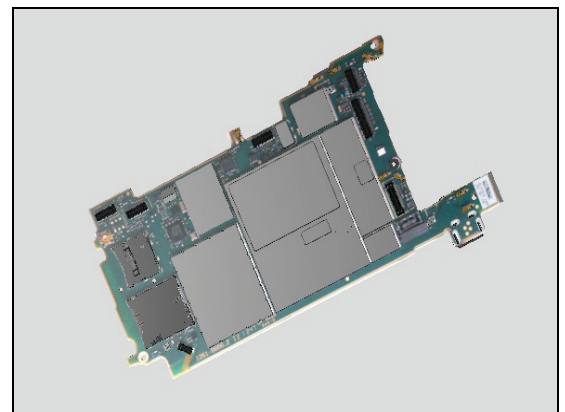
Inspect the flash LED on the PBA Complete.

Action:

1. If dirty – clean it.



2. Replace PBA Complete.



Problem Areas

1.12 Bluetooth.

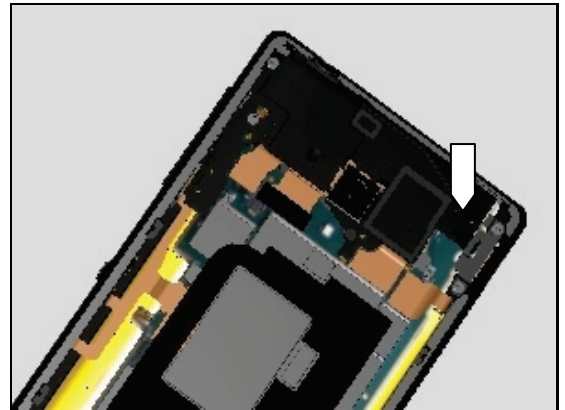
1.12.1 Bluetooth connection failure

Check:

Inspect the Carrier Spbox containing WLAN, Bluetooth and GPS antenna and the connection to the PBA Complete.

Action:

1. If dirty – clean it.
2. If the antenna is damaged – replace the Carrier Spbox.

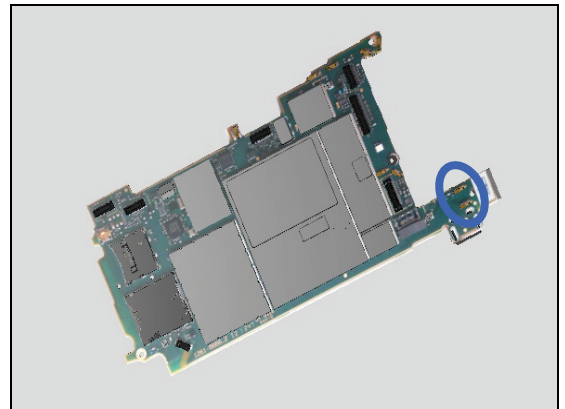


Check:

Inspect the WLAN, Bluetooth and GPS antenna contact pins on the PBA Complete.

Action:

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



Problem Areas

1.13 GPS

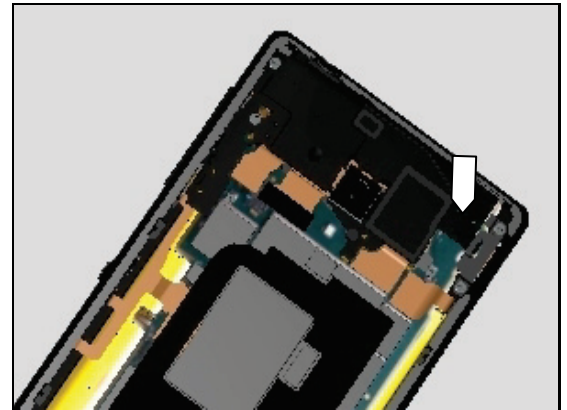
1.13.1 GPS malfunctions

Check:

Inspect the Carrier Spbox containing WLAN, Bluetooth and GPS antenna and the connection to the PBA Complete.

Action:

1. If dirty – clean it.
2. If the antenna is damaged – replace the Carrier Spbox.

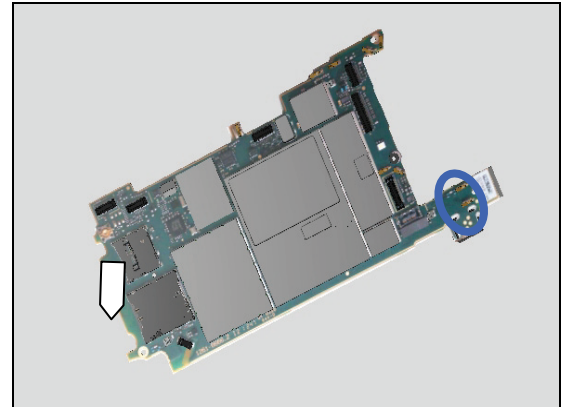


Check:

Inspect the WLAN, Bluetooth and GPS antenna contact pin on the PBA Complete.

Action:

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



Problem Areas

1.14 WLAN

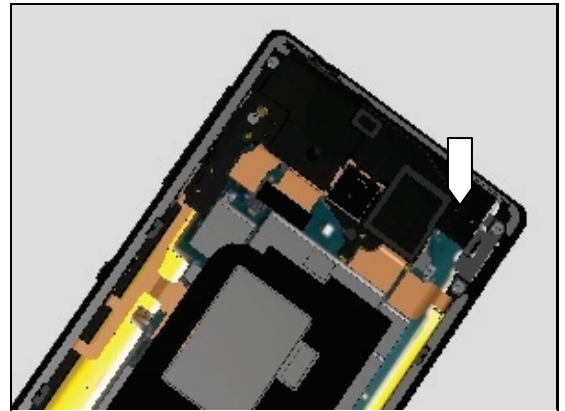
1.14.1 WLAN connection failure

Check:

Inspect the Carrier Spbox containing WLAN, Bluetooth and GPS antenna and the connection to the PBA Complete.

Action:

1. If dirty – clean it.
2. If the antenna is damaged – replace the Carrier Spbox.

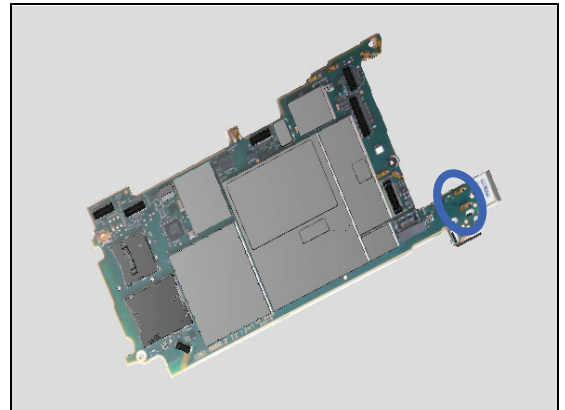


Check:

Inspect the WLAN, Bluetooth and GPS antenna contact pin on the PBA Complete.

Action:

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



Problem Areas

1.15 NFC

1.15.1 NFC malfunctions

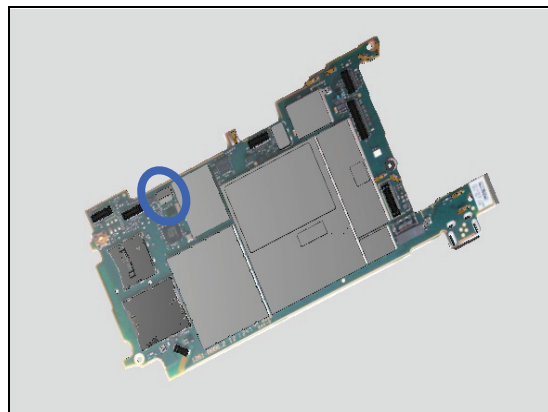
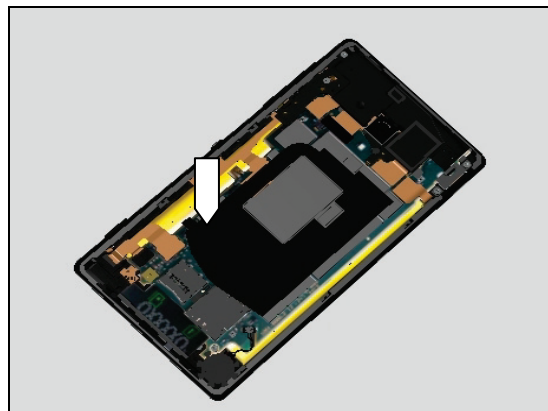
Check:

Inspect the NFC antenna contact pads on the Ant NFC and the contact pins on the PBA Complete.

Action:

1. If dirty or oxidized – clean the pads and pins.
2. If the NFC Antenna is damaged – replace the Ant NFC.

3. Replace PBA Complete.



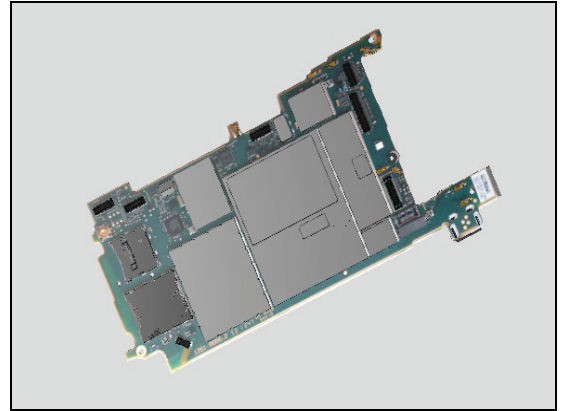
Problem Areas

1.16 Compass

1.16.1 Compass fails

Action:

Replace PBA Complete.



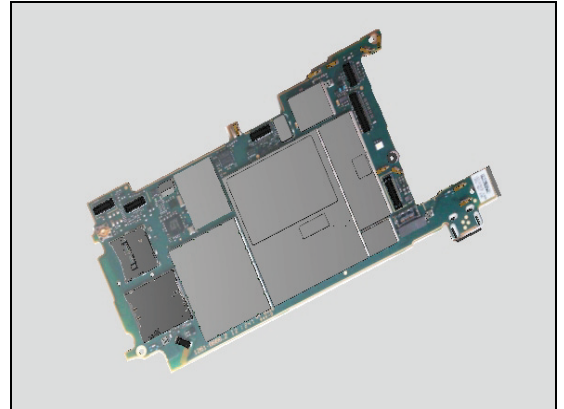
Problem Areas

1.17 Accelerometer

1.17.1 Accelerometer test fails

Action:

Replace PBA Complete.



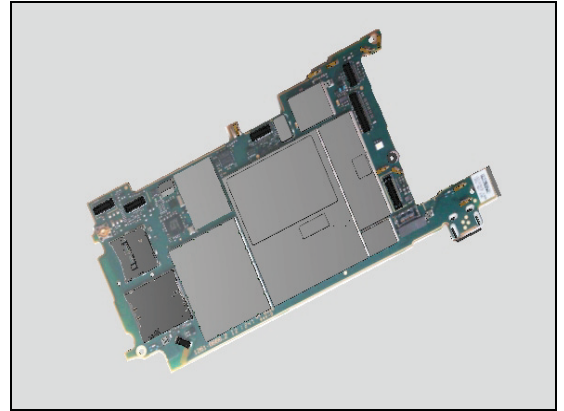
Problem Areas

1.18 Gyroscope

1.18.1 Gyroscope test fails

Action:

Replace PBA Complete.



Problem Areas

1.19 Ambient Light Sensor

1.19.1 Light Sensor malfunctions

Check:

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

Action:

1. If clogged – clean it.
2. If scratched or damaged – replace the Front Assy.

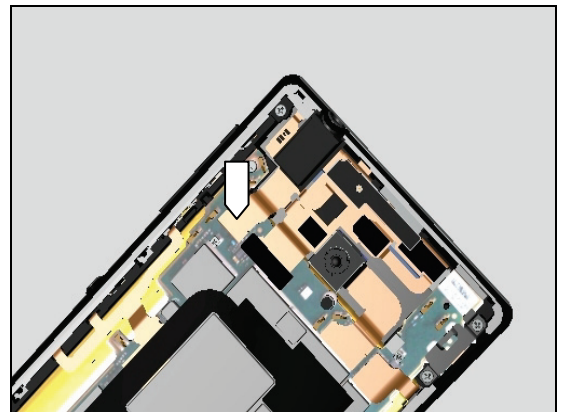


Check:

Inspect the BtB connector of FPC AVP and the BtB connector on the PBA Complete.

Action:

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

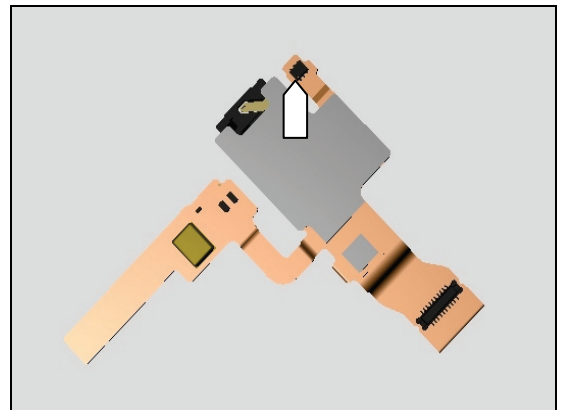


Check:

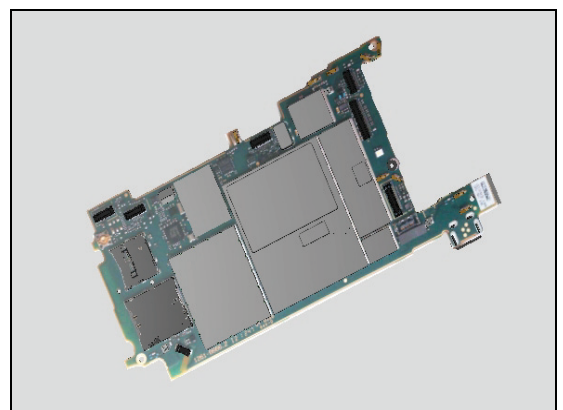
Inspect the FPC AVP.

Action:

1. If the light sensor is dirty – clean it.
2. If the FPC AVP is damaged – replace it.



3. Replace PBA Complete.



Problem Areas

1.20 Proximity Switch

1.20.1 Proximity switch malfunctions

Check:

Inspect the proximity switch window area and the proximity sensor window area on the Front Assy.

Action:

1. If dirty – clean it.
2. If scratched or damaged – replace the Front Assy.

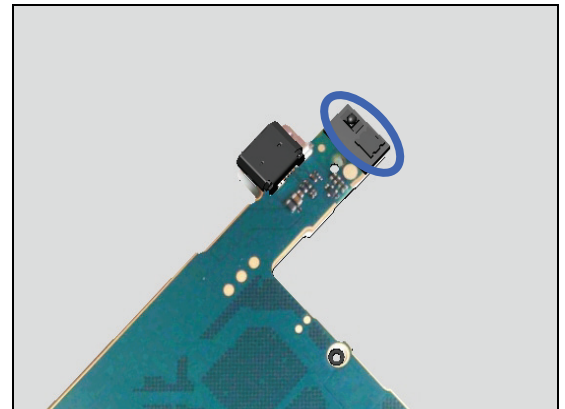


Check:

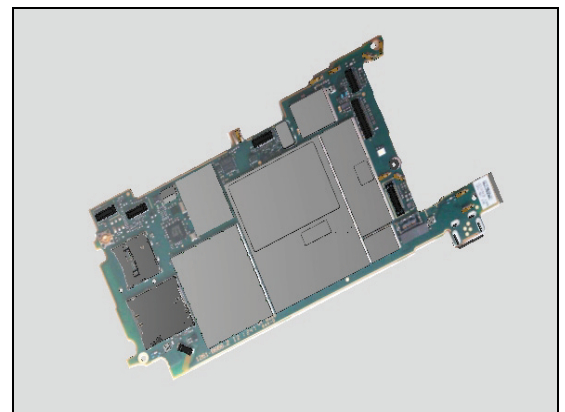
Inspect the Proximity Switch and LED on the PBA Complete.

Action:

1. If dirty or oxidized – clean it.



2. If damaged – replace PBA Complete.



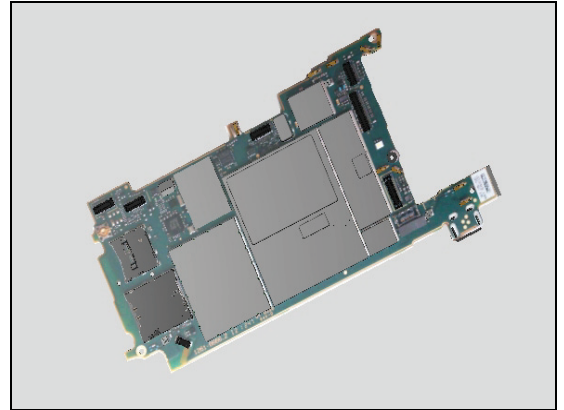
Problem Areas

1.21 Real Time Clock

1.21.1 Real Time Clock test fails

Action:

Replace PBA Complete.



Problem Areas

1.22 Total call time

1.22.1 Total call time fails

Not a test, consumer usage information for the unit.

Problem Areas

1.23 Storage

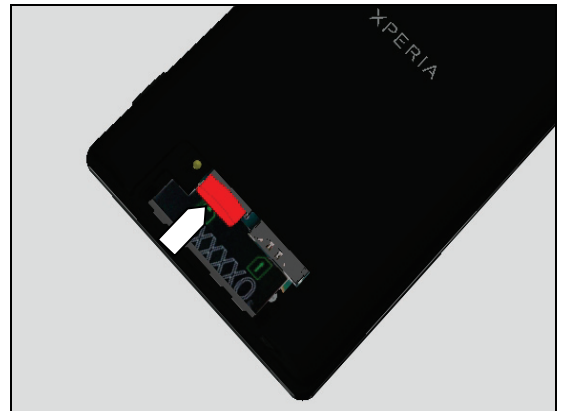
1.23.1 Storage not detected

Check:

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

Action:

If dirty or clogged – clean the external port.

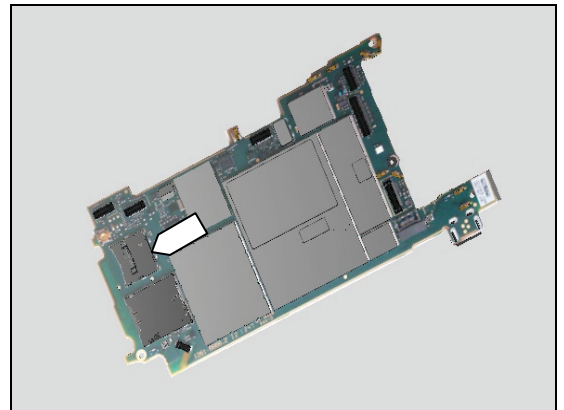


Check:

Inspect the memory card holder on the PBA Complete.

Action:

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



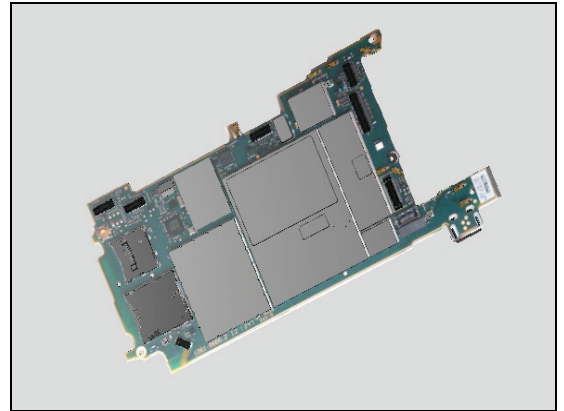
Problem Areas

1.24 Security

1.24.1 Security fails

Action:

Replace PBA Complete.



Problem Areas

1.25 FM Radio

1.25.1 No/Poor FM Radio reception

Check:

Inspect the external port of the Audio Jack.

Action:

If dirty, clogged or oxidized – clean it.

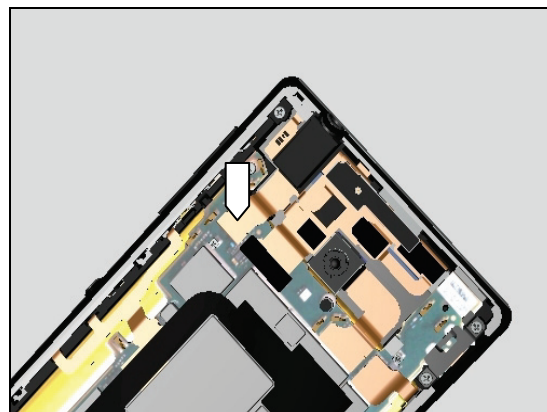


Check:

Inspect the BtB connector of FPC AVP and the BtB connector on the PBA Complete.

Action:

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

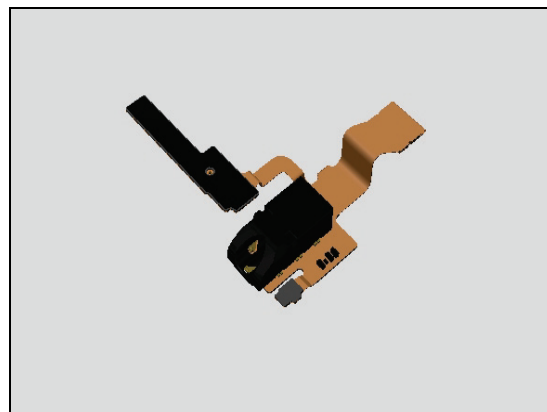


Check:

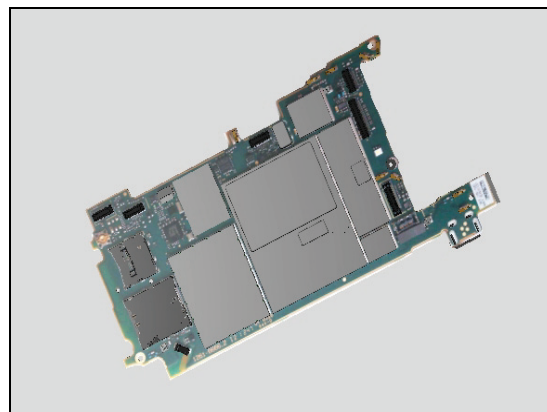
Inspect the FPC AVP.

Action:

1. If the FPC AVP is damaged – replace it.



2. Replace PBA Complete.



Problem Areas

1.26 Remote Control IRDA

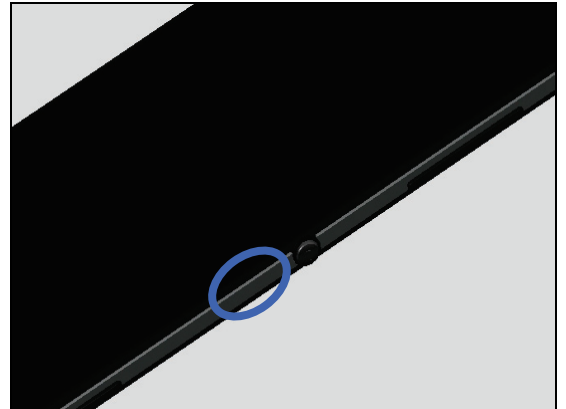
1.26.1 Remote Control test fails

Check:

Inspect the Front Assy Side area below Power Key.

Action:

1. If dirty, clogged– clean the Front Assy

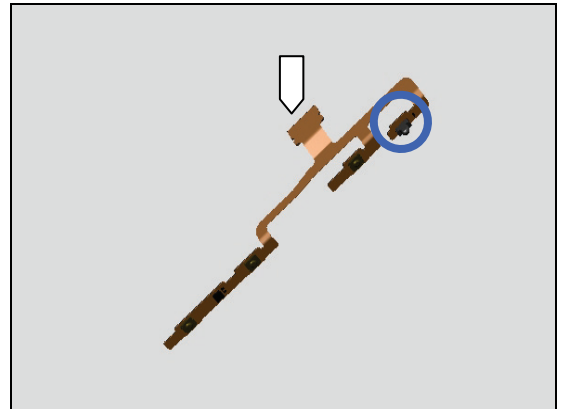


Check:

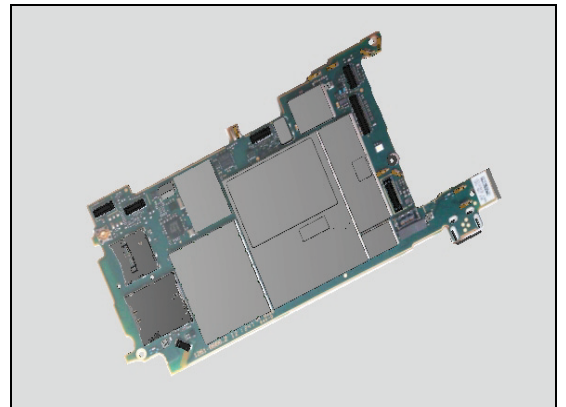
Inspect the FPC Side Key.

Action:

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



2. Replace PBA Complete.



Problem Areas

1.27 TV-Out Test

1.27.1 TV-Out test fails

Check:

Inspect the USB connector.

Action:

1. If dirty, clogged or oxidized – clean the connector.
2. Replace PBA Complete.



Problem Areas

1.28 Audio Jack

1.28.1 Sound or microphone problem with accessory connected to Audio Jack

Check:

Inspect the external port of the Audio Jack.

Action:

If dirty, clogged or oxidized – clean it.

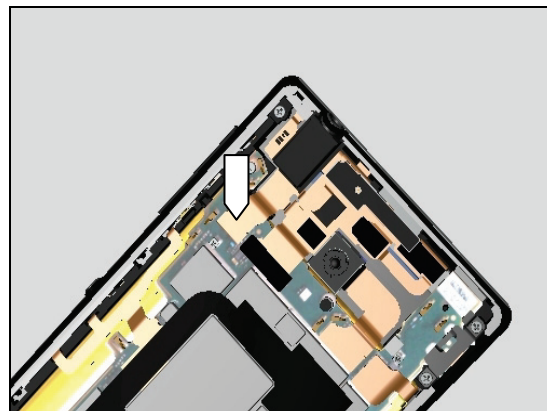


Check:

Inspect the BtB connector of FPC AVP and the BtB connector on the PBA Complete.

Action:

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

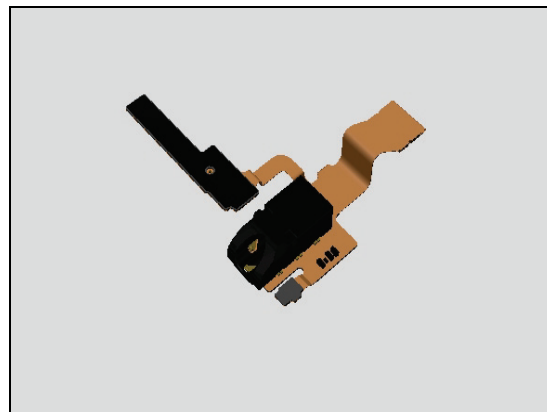


Check:

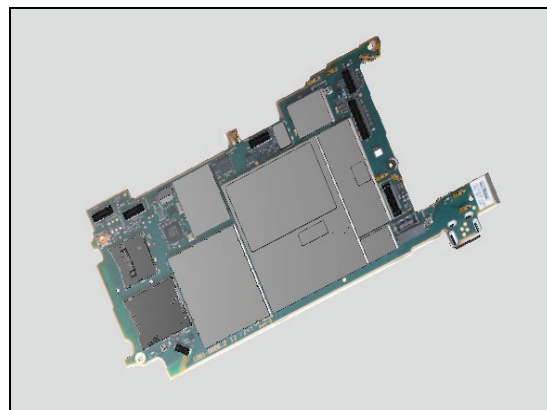
Inspect the FPC AVP.

Action:

1. If the FPC AVP is damaged – replace it.



2. Replace PBA Complete.



Problem Areas

1.29 SIM

1.29.1 SIM not detected

Check:

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

Action:

If dirty or clogged – clean the external port.

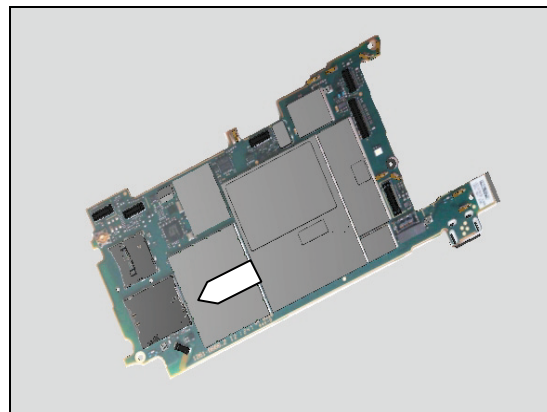


Check:

Inspect the SIM card holder on PBA Complete.

Action:

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



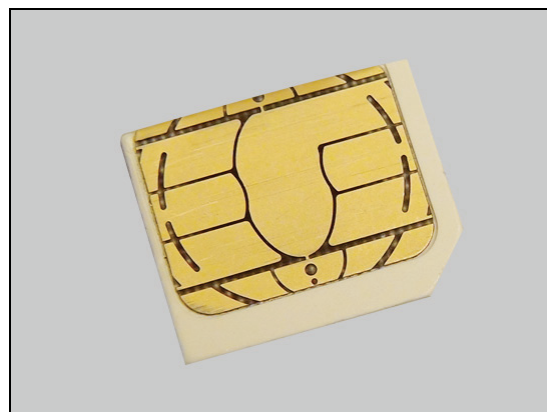
1.29.2 Incorrect SIM indicated

Check:

Check 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. Customize in Emma to the correct SI according label.
3. Replace PBA Complete.



Problem Areas

1.30 Charging

1.30.1 Battery will not charge

Check:

Inspect the USB connector.

Action:

1. If dirty, clogged or oxidized – clean the connector.

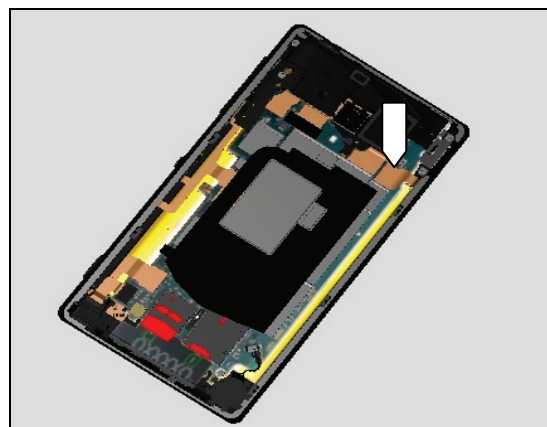


Check:

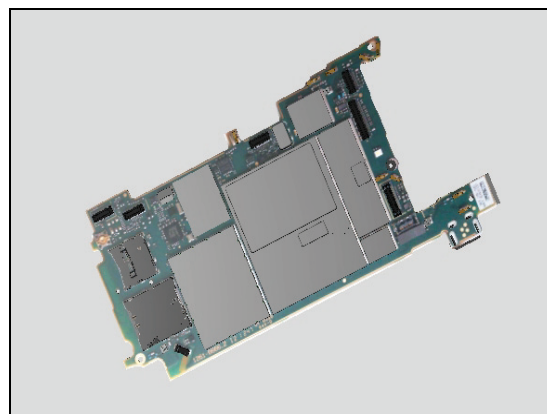
Inspect the BtB connector on the Battery 2300 mAh and on PBA Complete.

Action:

1. Remove and reconnect Battery 2300 mAh BtB connector, test charging and then test powering on the unit.
2. If not properly connected – disconnect and reconnect connectors.
3. If dirty or oxidized – clean connectors
4. If the BtB contact on Battery 2300 mAh is damaged – replace Battery 2300 mAh.



5. Replace PBA Complete.



Problem Areas

1.31 Data Communication

1.31.1 Data transfer via System Connector fails

Check:

Inspect the USB connector.

Action:

1. If dirty, clogged or oxidized – clean the connector.
2. Replace PBA Complete.



Problem Areas

1.32 Network & Signal

1.32.1 No/Poor signal

Check:

Inspect the main antenna on the Carrier Antenna.

Action:

1. If the main antenna is damaged – replace Carrier Antenna.

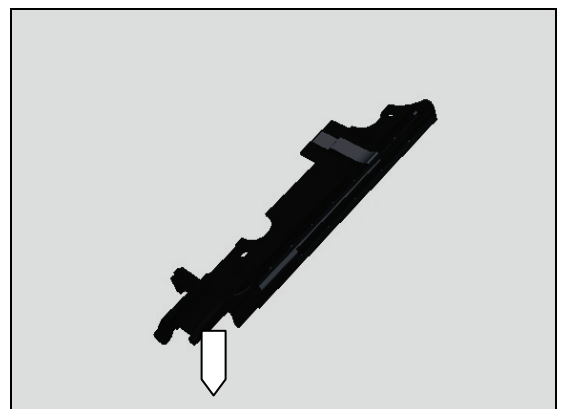
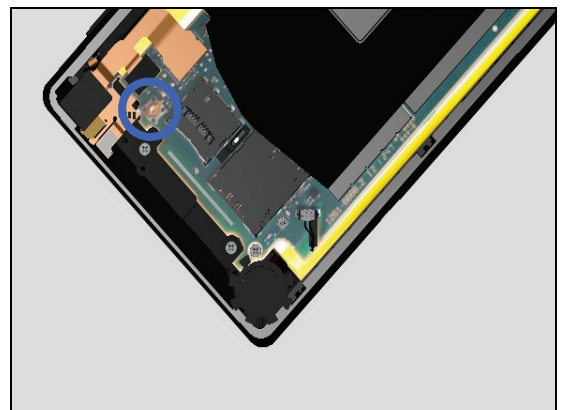
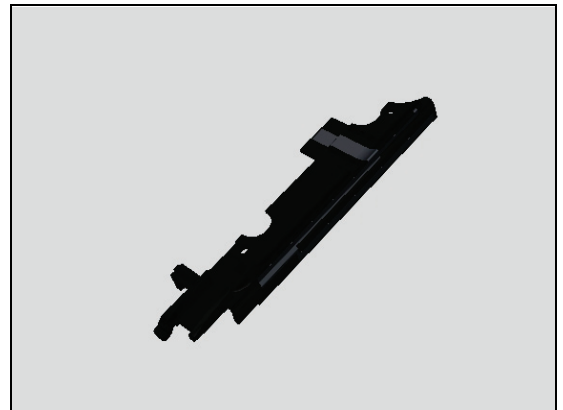
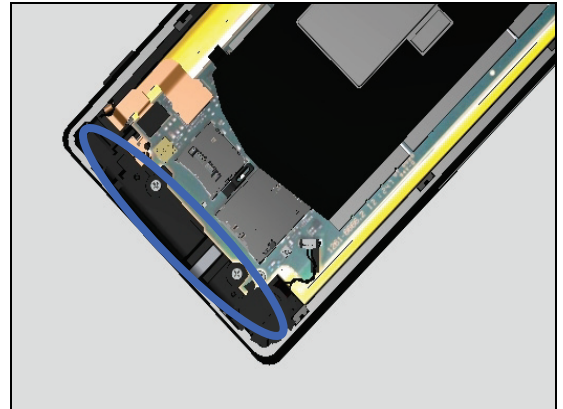
Check:

Inspect the main antenna connector on and connector on the Carrier Antenna.

Action:

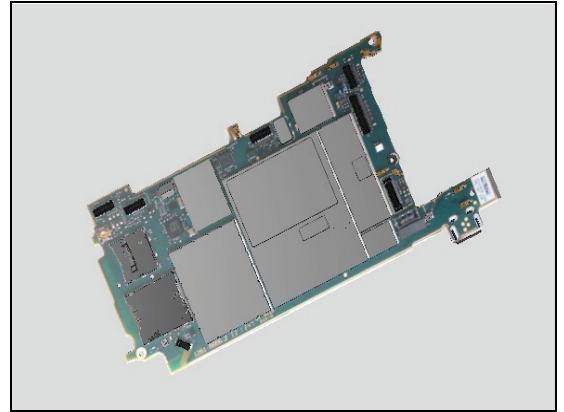
1. If dirty or oxidized – clean the pins and pads.

2. If the connector is damaged – replace the Carrier Antenna.



Problem Areas: Network & Signal

3. If the connector is damaged – replace the PBA Complete.



2 Revision History

Rev.	Date	Changes / Comments
1	2013-Feb-28	Released
2	2013-Jul-03	Update chapter 1.10.1 and 1.10.2