



Sony Ericsson

Troubleshooting Guide

- mechanical -



Xperia™ X10 mini

E10i, E10a



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1 Problem Areas

1.1 Power

1.1.1 Will not power on or will switch off randomly

Check:

Check whether the phone vibrates after the on/off key is depressed

Action:

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

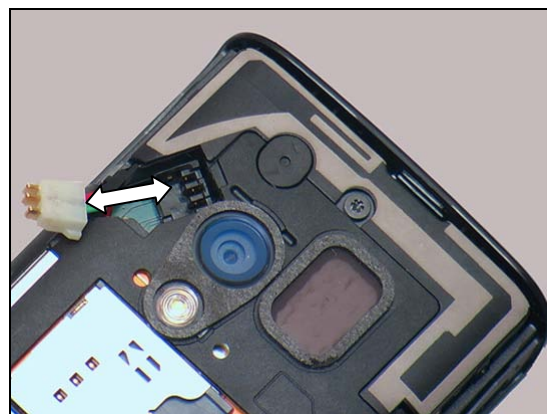


Check:

Inspect whether the Battery Assy is properly connected to the PBA.

Action:

1. If the connector is not properly connected – disconnect and reconnect it.
2. If the pins of the Battery Assy are dirty or oxidized – clean them.
3. If the pins Battery Assy are damaged – replace the Battery Assy.

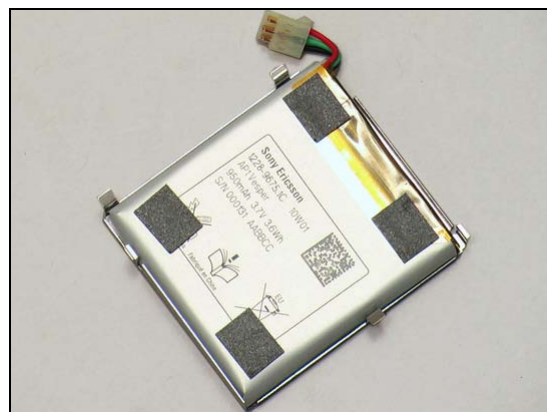


Check:

Inspect the Battery Assy.

Action:

1. If the Battery Assy is swollen or punctured – replace it.
2. Send to higher level of repair.



If the consumer complains on low battery performance:

Action:

1. Perform **VBAT measurement** if possible.
Instructions next page.
2. Follow the Battery instruction in the Generic Repair Manual – mechanical 1220-1333 or
3. Execute the Battery test in the Service tests, see Test Instruction 1233-9014.

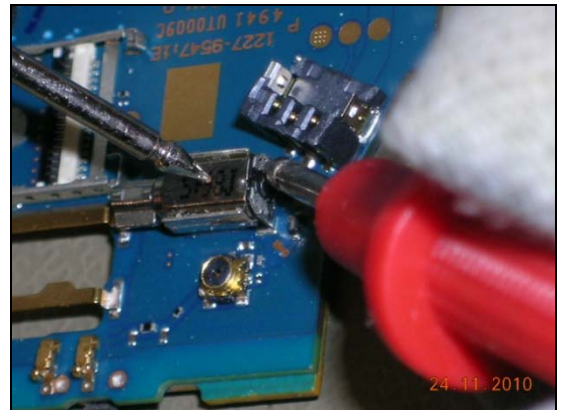


Problem Areas: Power

VBAT Measurement:

Set Instrument to Ohm measurement
Connect Red probe to Vibrator +
Connect Black probe to Vibrator GND.

If less than 20 K Ω the PBA is faulty
Send to higher level of repair.

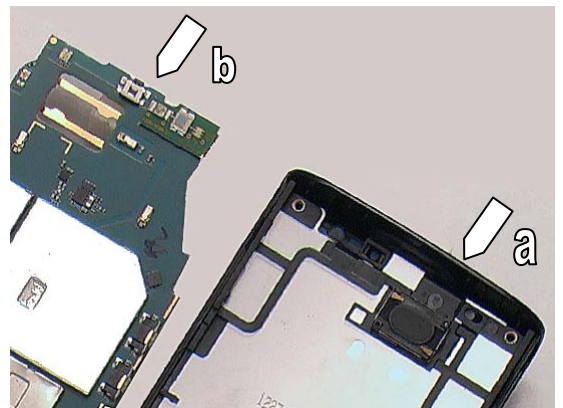


Check:

Inspect the on/off key (a) in the Cover Front and the input switch (b) on the PBA.

Action:

1. If (a) or (b) is dirty or clogged – clean them.
2. If (a) is damaged – replace the Cover Front.
3. Send to higher level of repair.





Problem Areas

1.2 Keys

1.2.1 Menu, Home and Back Keys

Check:

Inspect the menu, home and back keys in the Cover Front.

Action:

1. If the menu, home and back keys are clogged – clean them.
2. If menu, home and back keys are damaged – replace the Cover Front.

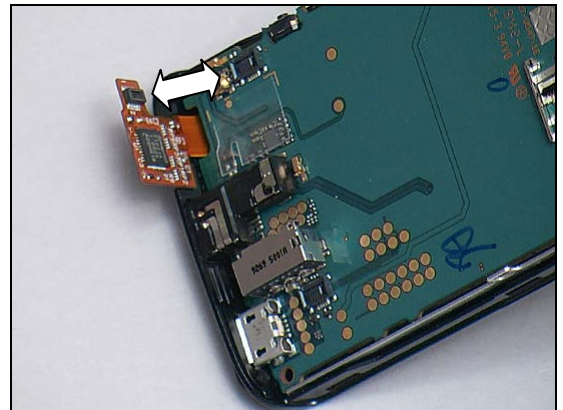


Check:

Inspect the BtB connection of the Cover Front to the PBA.

Action:

1. If the BtB connectors are not properly connected – disconnect and reconnect the connectors.
2. If the BtB connectors are dirty or oxidized – clean them.



3. If the BtB connector of the Cover Front is damaged – replace the Cover Front.
4. Send to higher level of repair.



Problem Areas: Keys

1.2.2 Camera Key

Check:

Inspect the camera key in the Cover Back.

Action:

1. If the camera key is clogged – clean it.
2. If the camera key is damaged – replace the Cover Back.

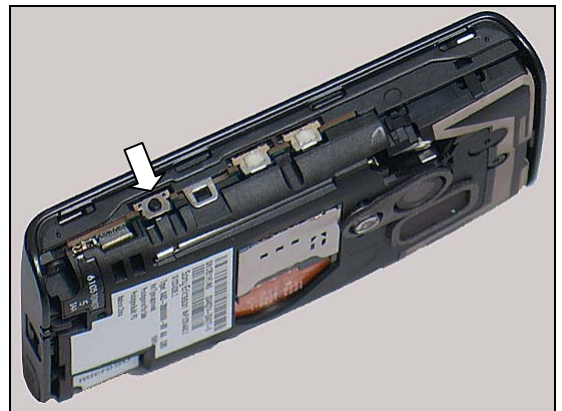


Check:

Inspect the input switch side push dual on the PBA.

Action:

1. If the input switch side push dual is clogged – clean it.
2. Send to higher level of repair.



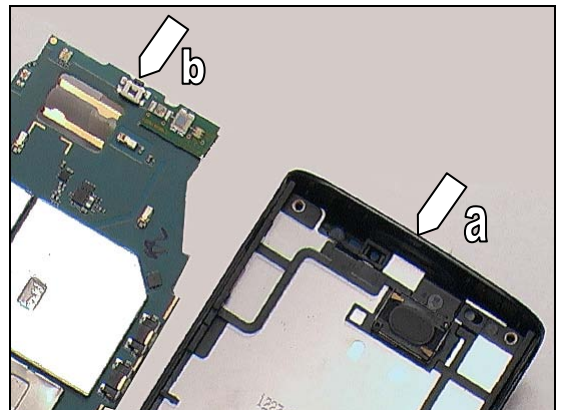
1.2.3 On/Off Key

Check:

Inspect the on/off key (a) in the Cover Front and the input switch (b) on the PBA.

Action:

1. If (a) or (b) is clogged – clean them.
2. If (a) is damaged – replace the Cover Front.
3. Send to higher level of repair.



1.2.4 Volume Key

Check:

Inspect the volume key in the Cover Back.

Action:

1. If the volume key is clogged – clean it.
2. If the volume key is damaged – replace the Cover Back.



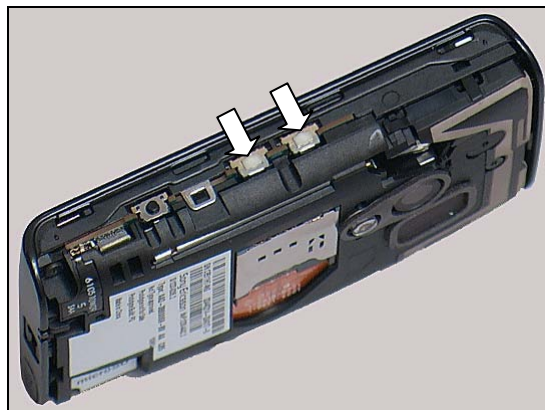
Problem Areas: Keys

Check:

Inspect the two side push switches on the PBA.

Action:

1. If the side push switches are clogged – clean them.
2. Send to higher level of repair.





Problem Areas

1.3 Illumination

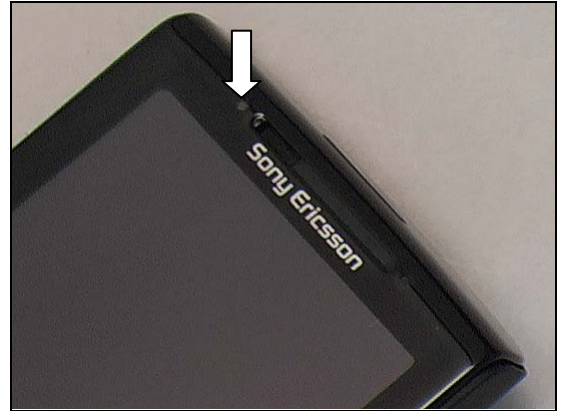
1.3.1 LED Red/Green/Blue

Check:

Inspect the window of LED red/green/blue on the Cover Front.

Action:

1. If dirty – clean it.
2. If the window is damaged – replace the Cover Front.

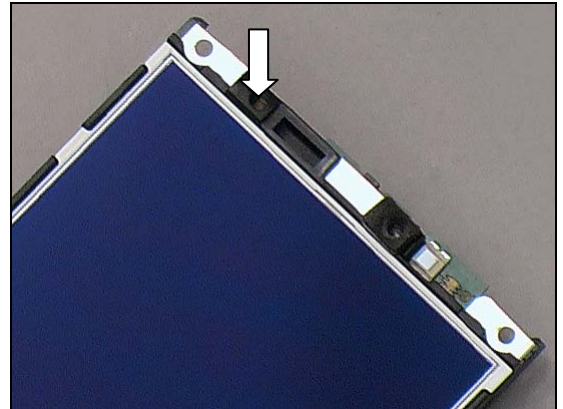


Check:

Inspect the LED red/green/blue port on the LCD Support.

Action:

1. If the LED red/green/blue port is clogged – clean it.
2. Send to higher level of repair.





Problem Areas

1.4 Display

1.4.1 Graphics & Illumination

Check:

Check whether the phone vibrates after the on/off key is depressed

Action:

If activation of the vibrator is not detected, refer to section 1.1 'Power'.

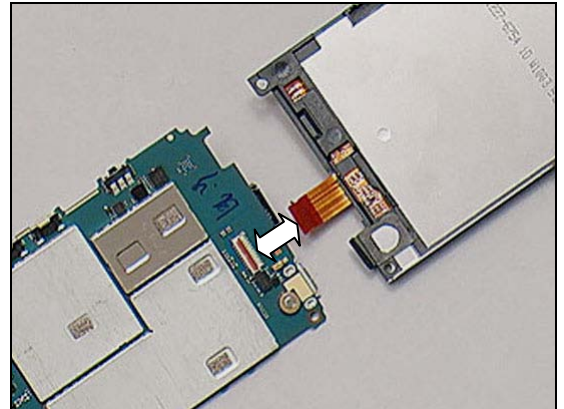


Check:

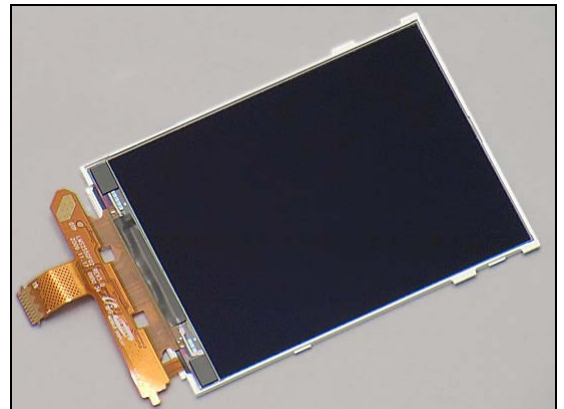
Inspect the connection between Display and Main PBA.

Action:

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



3. If the Display is damaged – replace the Display
4. Send to higher level of repair.



1.4.2 Touch Screen malfunction

Check:

Inspect the touch screen of Cover Front.

Action:

1. If the touch screen of the Cover Front is damaged – replace the Cover Front.





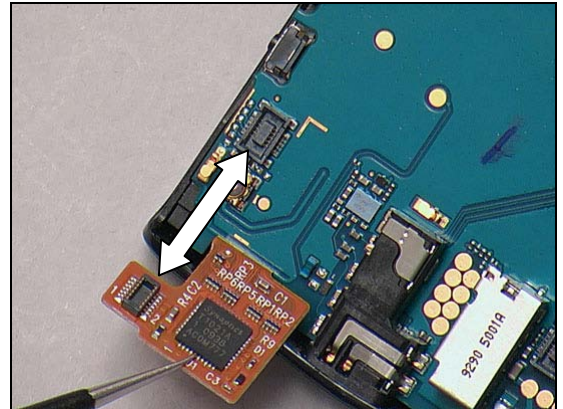
Problem Areas

Check:

Check the BtB connectors of the Cover Front and the PBA.

Action:

1. If the BtB connectors are not properly connected – disconnect and reconnect the connection.
2. If the BtB connectors are dirty or oxidized – clean them.



3. Replace the Cover Front.
4. Send to higher level of repair.





Problem Areas

1.5 Audio

1.5.1 Microphone

Check:

Inspect the microphone's external port on the Cover Front.

Action:

If clogged – clean the port.

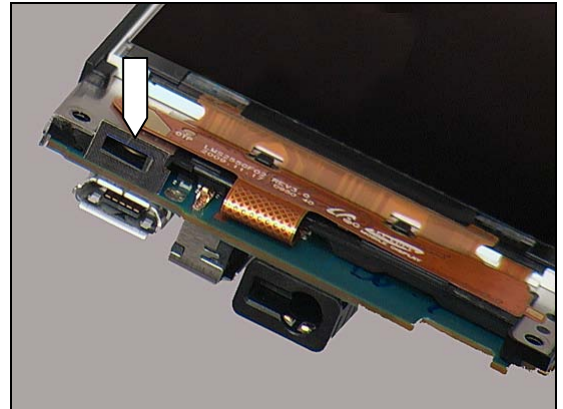


Check:

Inspect the Gasket Mic Channel and the port underneath.

Action:

1. If the port is clogged – clean the port.
2. If the Gasket Mic Channel is in wrong position or damaged – replace the Gasket Mic Channel.

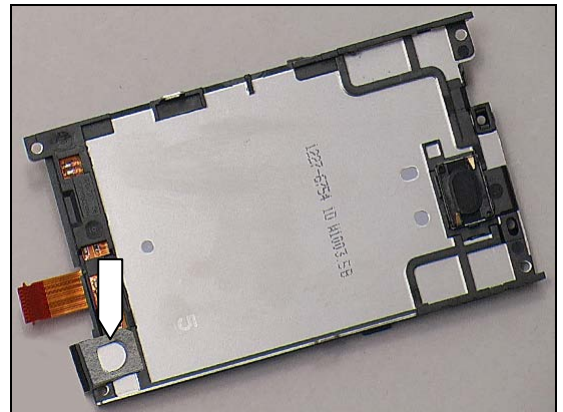


Check:

Inspect the Gasket Mic on the LCD Support.

Action:

1. If the Gasket Mic is damaged – replace the Gasket Mic.
2. Send to higher level of repair.





Problem Areas: Audio

1.5.2 Ear Speaker

Check:

Inspect the Ear Speaker's external port on the Cover Front

Action:

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

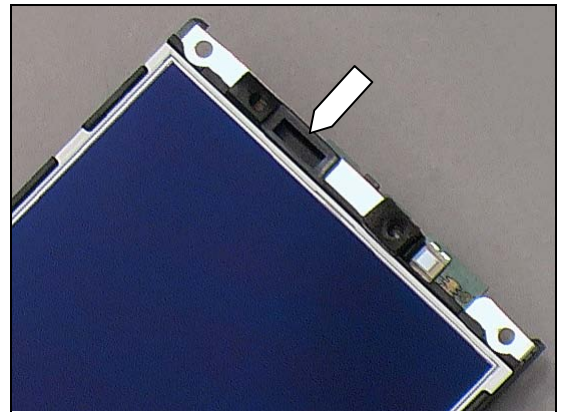


Check:

Inspect the Ear Speaker port on the LCD Support.

Action:

1. If clogged – clean it.
2. If the port is damaged – replace the LCD Support.

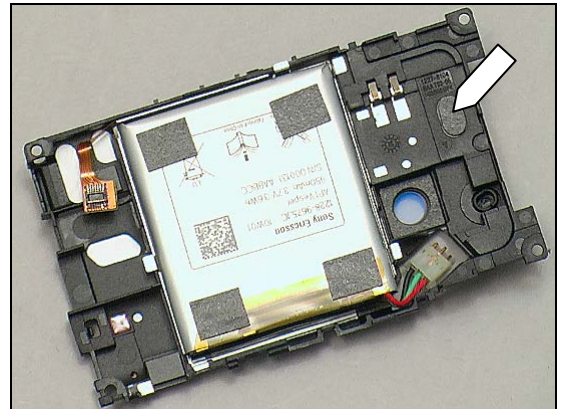


Check:

Check the Gasket Earspeaker.

Action:

If the Gasket Earspeaker is in wrong position or damaged – replace it.

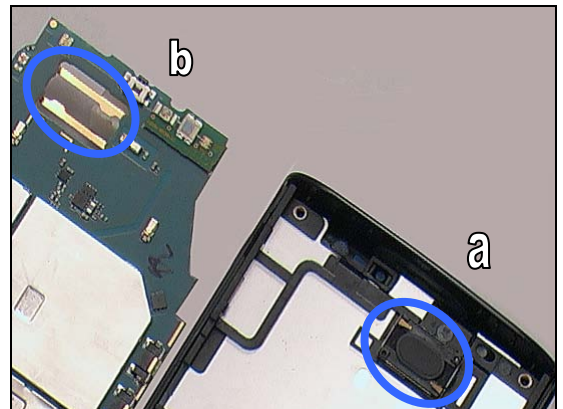


Check:

Check the two contact pins (a) on the Ear Speaker and the clip earspeaker contacts (b) on the PBA

Action:

1. If the pins or the clip earspeaker contacts are dirty or oxidized – clean them.
2. If the Ear Speaker is damaged – replace it.
3. Send to higher level of repair.





Problem Areas: Audio

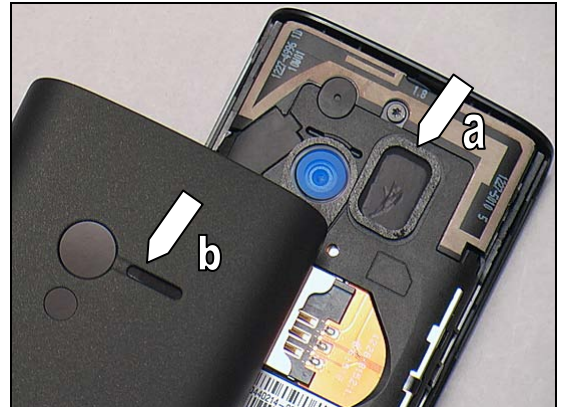
1.5.3 Loudspeaker

Check:

Inspect the Gasket Loudspeaker (a) and the Mesh Back Cover (b).

Action:

1. If (a) or (b) is dirty or clogged – clean them.
2. If (a) or (b) is damaged – replace them.

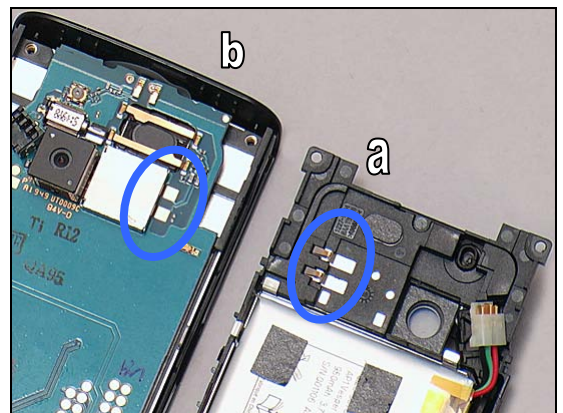


Check:

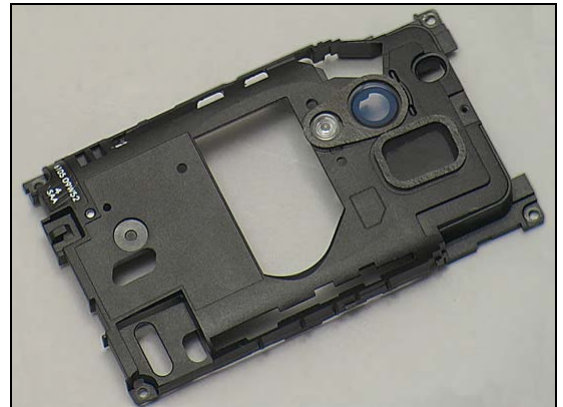
Inspect the contact pins (a) of the loudspeaker and the pads (b) on the PBA.

Action:

1. If (a) or (b) is dirty or oxidized – clean them.



2. If the loudspeaker is damaged – replace the Inner Frame.
3. Send to higher level of repair.



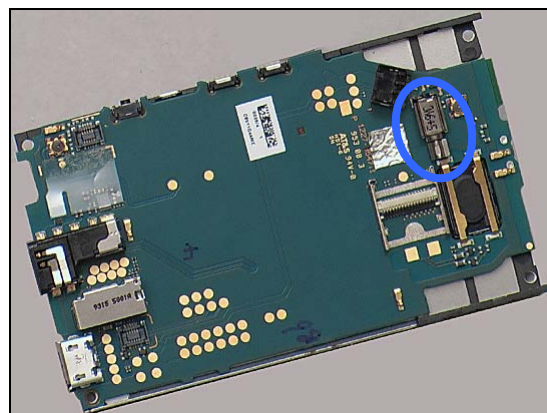
Problem Areas

1.6 Vibrator

1.6.1 Vibrator not generating alerts

Action:

Send to higher level of repair





Problem Areas

1.7 Camera

1.7.1 Camera defects

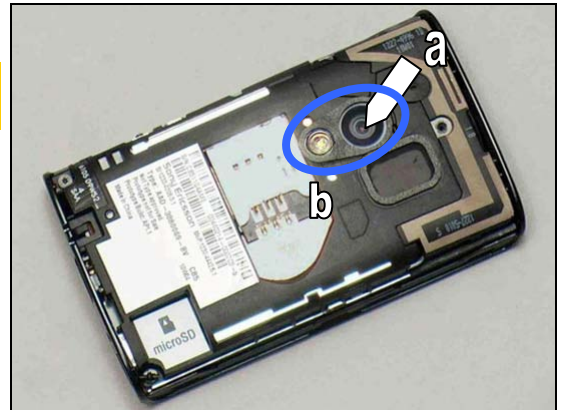
The Camera doesn't work without a Memory Card installed properly.

Check:

Inspect the Window Camera (a) and the Gasket Camera & Flash (b) on the Inner Frame.

Action:

1. If the Window Camera is dirty – clean it.
2. If the Window Camera is scratched or damaged – replace it.
3. If the Gasket Camera & Flash is damaged – replace it

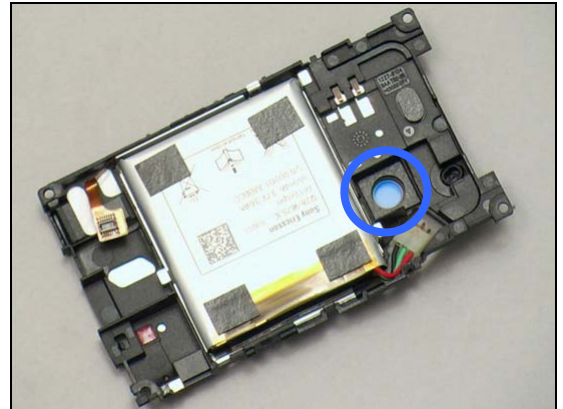


Check:

Inspect the Gasket Camera.

Action:

1. If the Gasket Camera is damaged – replace it.

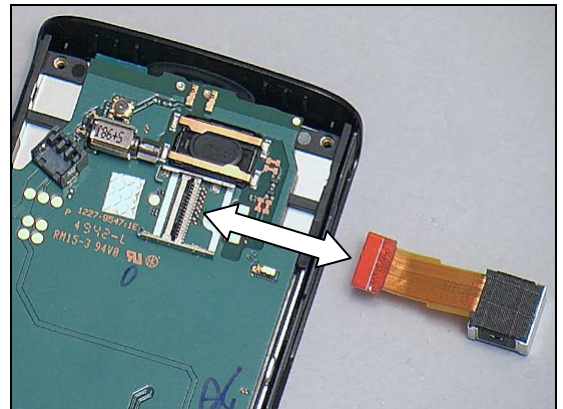


Check:

Inspect the Camera and its connection to the PBA.

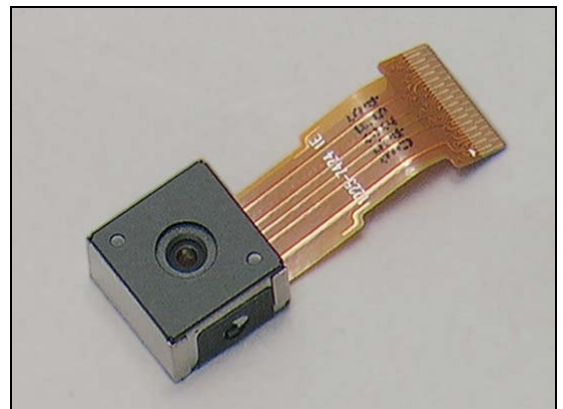
Action:

1. If the connection is not properly established – disconnect and reconnect it.
2. If the ZIF connector is dirty or oxidized – clean it.



3. If the Camera is damaged – replace it.
4. Send to higher level of repair.

If the Memory Card is not detected, refer to section 1.9 'Memory Card'.





Problem Areas

1.8 Flash LED

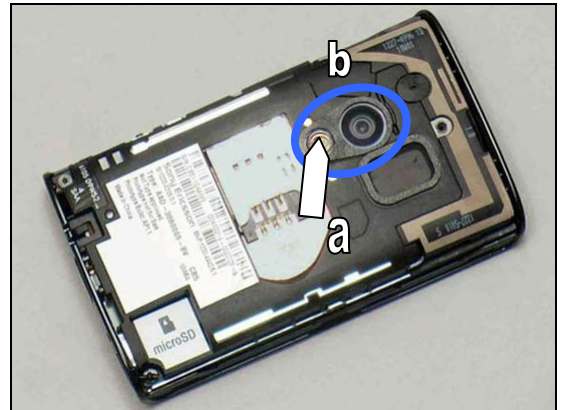
1.8.1 Flash LED defects

Check:

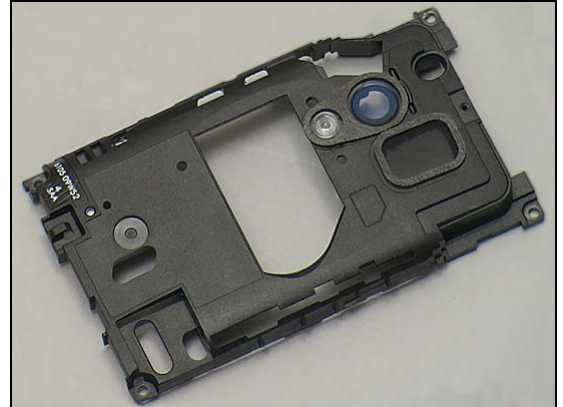
Inspect Flash LED len (a) and the Gasket Camera & Flash (b) in the Inner Frame.

Action:

1. If the Flash LED len is dirty – clean it.
2. If the Gasket Camera & Flash is damaged – replace the Gasket Camera & Flash.



3. If the Flash LED len is damaged – replace the Inner Frame.

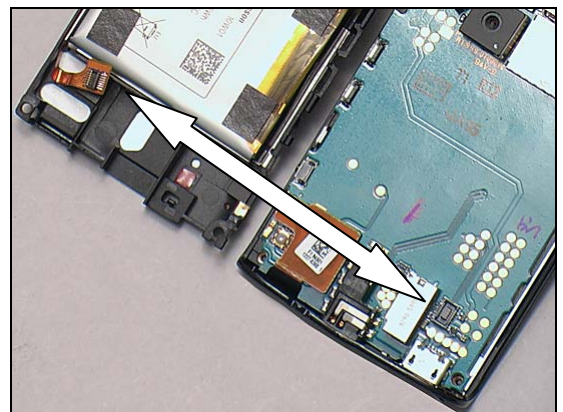


Check:

Inspect the connection between the SIM FPC and the PBA.

Action:

1. If the connection is not properly connected – disconnect and reconnect it.
2. If the connectors are dirty or oxidized – clean the BtB connectors.

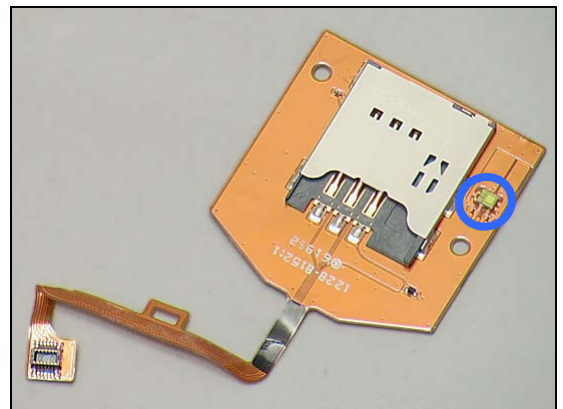


Check:

Inspect Flash LED on the SIM FPC.

Action:

1. If the Flash LED on the SIM FPC is damaged – replace the SIM FPC.
2. Send to higher level of repair.





Problem Areas

1.9 Memory Card

1.9.1 Memory Card not detected

Check:

Inspect the memory card holder and if the Memory Card can be properly inserted.

Action:

1. If the memory card holder is dirty or clogged – clean it.
2. Send to higher level of repair.





Problem Areas

1.10 SIM

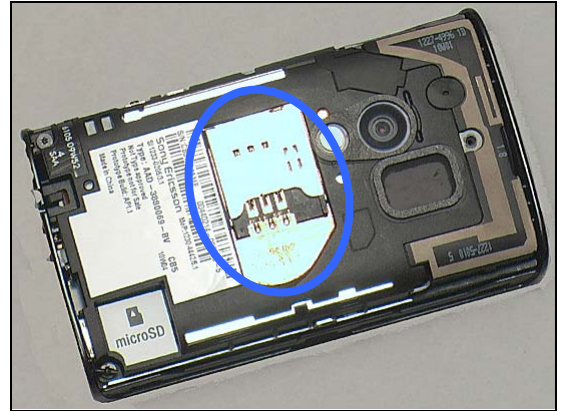
1.10.1 SIM not detected

Check:

Inspect the SIM Card holder.

Action:

1. If dirty or oxidized – clean the holder
2. If adhesive is detected - use an eraser to gently rub off the adhesive.

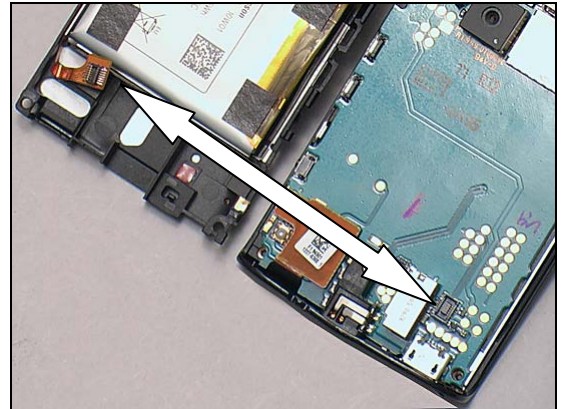


Check:

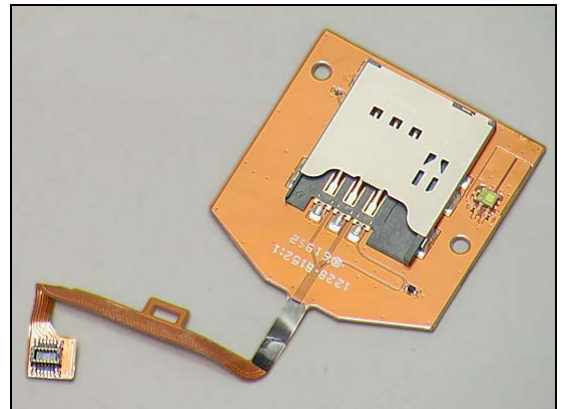
Inspect the connection between the SIM FPC and the PBA.

Action:

1. If not properly connected – disconnect and reconnect it.
2. If the BtB connectors are dirty or oxidized – clean them.



3. If the connector of the SIM FPC is damaged – replace the SIM.
4. Send to higher level of repair.



1.10.2 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. Send to higher level of repair





Problem Areas

1.11 Bluetooth and W-LAN

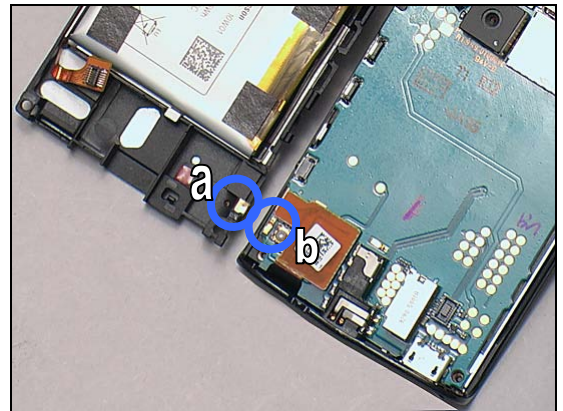
1.11.1 Bluetooth and W-LAN malfunctions

Check:

1. Inspect the antenna foil on the Inner Frame.

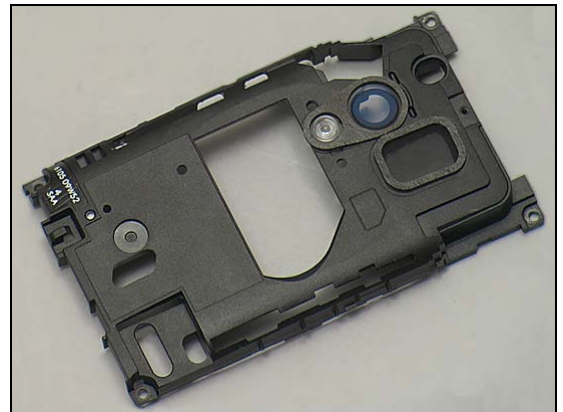


2. Inspect the contact pad (a) on the antenna foil and the pin (b) on the PBA.



Action:

1. If the antenna foil or the contact pad (a) is damaged – replace the Inner Frame.
2. Send to higher level of repair.



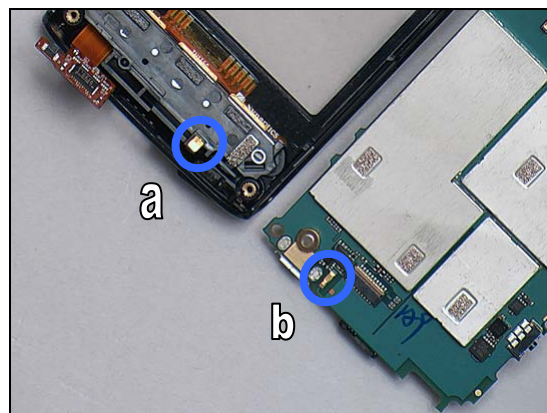
Problem Areas

1.12 GPS

1.12.1 GPS malfunctions

Check:

Inspect the contact pad (a) on the antenna foil and the pin (b) on the PBA.



Action:

1. If the antenna foil or the contact pad is damaged – replace the Cover Front.
2. Send to higher level of repair.





Problem Areas

1.13 Accelerometer

1.13.1 Accelerometer test fails

Action:

Send to higher level of repair.

Problem Areas

1.14 FM Radio

1.14.1 No/Poor FM Radio Reception

Check:

1. Inspect the audio jack.

Action:

1. If the audio jack is dirty or oxidized – clean it.
2. Send to higher level of repair.



Problem Areas

1.15 Compass

1.15.1 Compass fails

Action:

Send to higher level of repair.



Problem Areas

1.16 Sensor

1.16.1 Proximity Sensor malfunctions

Check:

Inspect the sensor window on the Front Cover

Action:

1. If dirty – clean it.
2. If the sensor window is scratched or damaged – replace the Cover Front.

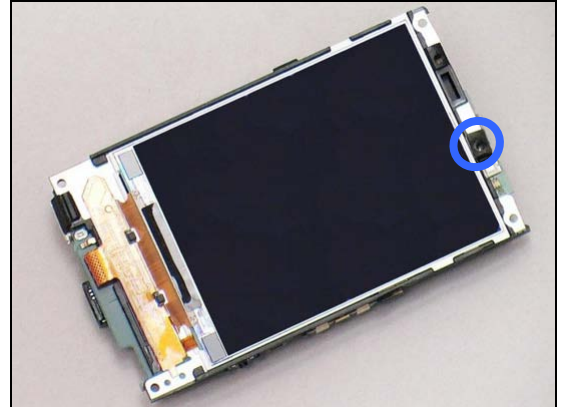


Check:

Inspect the Gasket Proxi.

Action:

1. If the Gasket Proxi is not properly positioned or damaged – replace it.

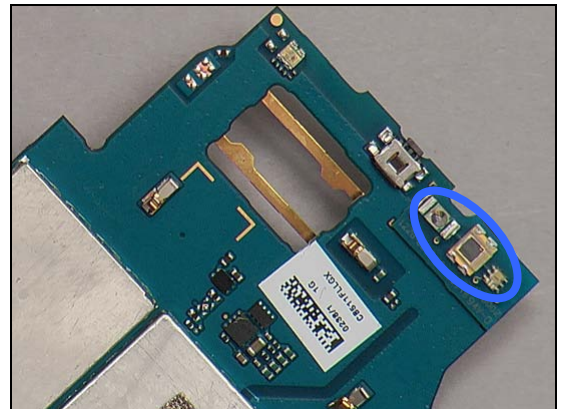


Check:

Inspect the lighter sensor on the PBA.

Action:

1. If the light sensor is dirty – clean it.
2. Send to higher level of repair.



Problem Areas

1.17 Real Time Clock

1.17.1 Real Time Clock test fails

Action:

Send to higher level of repair.

Problem Areas

1.18 Charging

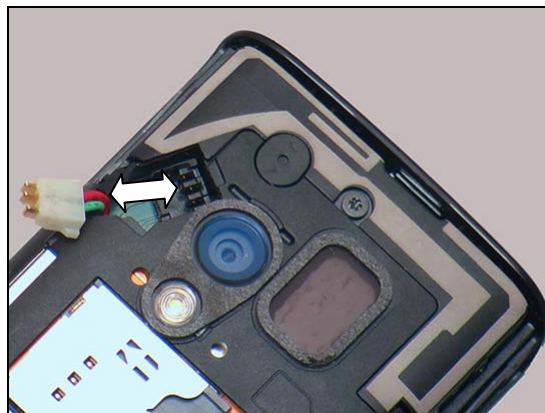
1.18.1 Battery Assy will not charge

Check:

Inspect the Battery Assy and its connection to the PBA.

Action:

1. If the Battery Assy is not properly connected – disconnect and reconnect it.
2. If the connector is dirty or oxidized – clean it.
3. If the Battery Assy is swollen or punctured – replace a Battery Assy.
4. Send to higher level of repair.



Problem Areas

1.19 Network & Signal

1.19.1 No/Poor signal

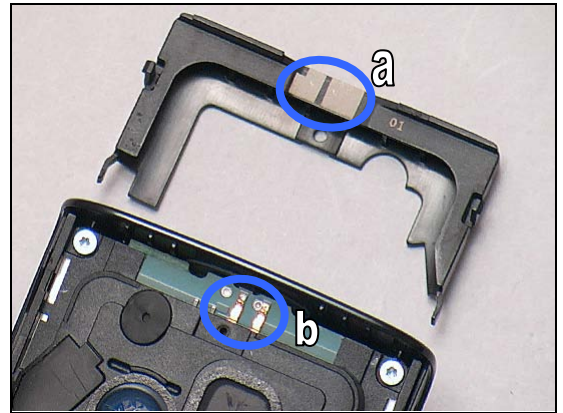
Check:

Ensure that a correct SIM is installed

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

Action:

1. If dirty or oxidized – clean them.
2. If adhesive is detected - use an eraser to gently rub off the adhesive.



3. Replace the Antenna Main.
4. Send to higher level of repair.



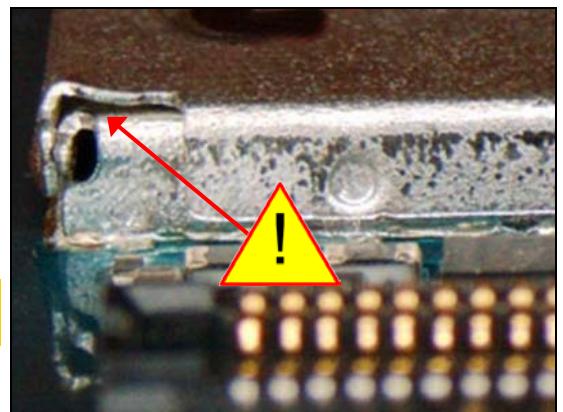
Check:

Inspect the shielding can lids and secure that all sides are completely sealed and that there aren't any gaps.

Action:

1. If there is a gap on any side, replace the shield can lid.

If you remove a shield can lid you must always replace the lid with a new lid.



Perform **VBAT measurement** if possible.

VBAT Measurement:

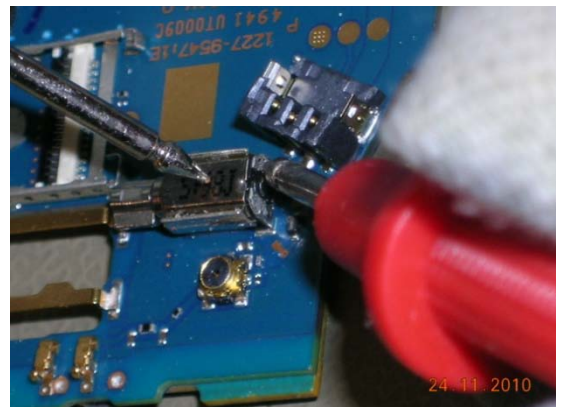
Set Instrument to Ohm measurement

Connect Red probe to Vibrator +

Connect Black probe to Vibrator GND.

If less than 20 K Ω the PBA is faulty

Send to higher level of repair.



Problem Areas

1.20 HandsFree by Wire

1.20.1 Connection to Portable HandsFree fails

Check:

Inspect the audio jack connector.

Action:

1. If dirty or oxidized – clean the connector.





Problem Areas

1.21 Data Communication

1.21.1 Data transfer via USB Connector fails

Check:

Inspect the USB connector.

Action:

1. If dirty or oxidized – clean the connector.
2. Send to higher level of repair.





2 Revision History

Rev.	Date	Changes / Comments
1	2010-May-24	Initial release
2	2010-Nov-11	Instruction regarding shield can lids added to Network & Signal. Added a reminder how to judge the performance of a Battery in the chapter Power.
3	2010-Nov-24	Added Instruction regarding VBAT measurement in the chapter Power Added Instruction regarding VBAT measurement in chapter Network & Signal