



Troubleshooting Guide

- mechanical -



XPERIA X10 Mini Pro
U20i, U20a,

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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 and the Keyboard illuminates after the Key lock/onoff is depressed.

Action:

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

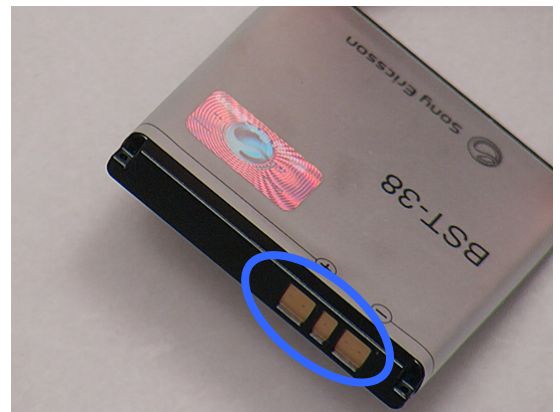


Check:

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.

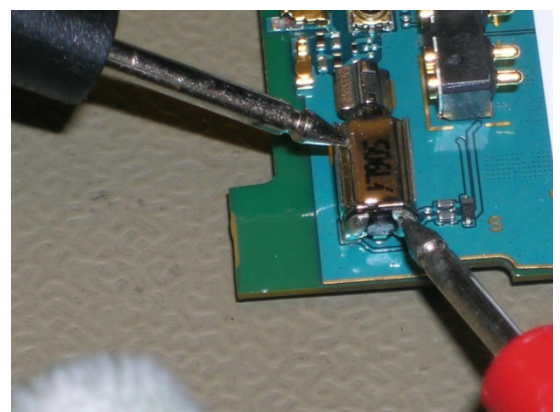


Perform VBAT Measurement if possible.

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.





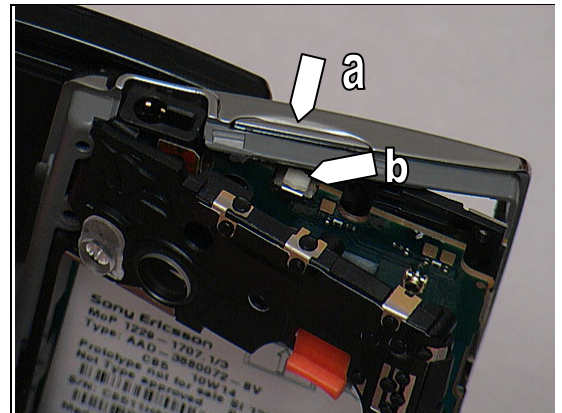
Problem Areas: Power

Check:

Inspect the Key lock/onoff (a) on the Base Cover Middle Deco belt and the input switch (b) on the PBA.

Action:

1. If Key lock/onoff (a) or input switch (b) is dirty or clogged – clean them.



2. If Key lock/onoff (a) is damaged – replace the Key lock/onoff.

3. Send to higher level of repair.



Problem Areas

1.2 Phone hang

1.2.1 Touch screen hang after sleep mode.

Check:

1. Start the phone, press Lock/onoff key again to put the phone to sleep >1 minute (black screen)
2. Press Lock/onoff key to activate the phone and test the Touch Screen by moving a finger across the screen and start some of the applications.

Action:

If no response from Touch Screen, test with another front.





Problem Areas

1.3 Keys

1.3.1 Keyboard Keys

Check:

Inspect the Keyboard.

Action:

If damaged – Replace the Keyboard.

Check:

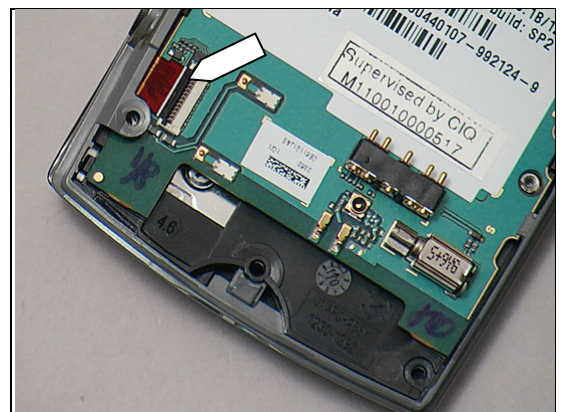
Inspect the ZIF connector of the PBA Dome, Complete to the PBA.

Action:

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

Check:

Inspect the PBA Dome, Complete.

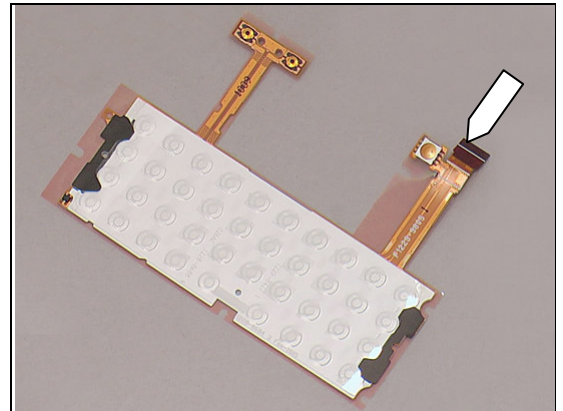




Problem Areas: Keys

Action:

1. If the PBA Dome, Complete or the ZIF connector is damaged – replace the PBA Dome, Complete.
2. Send to higher level of repair.



1.3.2 Menu, Home and Back Keys

Check:

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

Action:

1. If the menu, home and back keys are clogged – clean them.



2. If menu, home and back keys are damaged – replace the Front Cover Assembly.

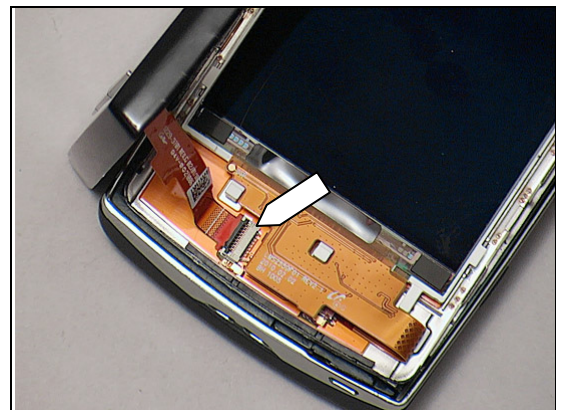


Check:

Inspect the ZIF connector of the Front Key FPC to the PBA H2H Flex.

Action:

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





Problem Areas: Keys

Check:

Inspect the Front Key FPC on the Front Cover Assembly.

Action:

If the Front Key FPC or its ZIF connector is damaged – replace the Front Cover Assembly.

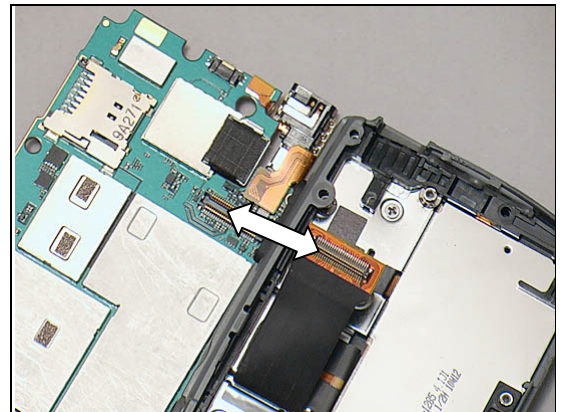


Check:

Check the BtB connector of the PBA H2H Flex to the PBA.

Action:

1. If not properly connected – disconnect and reconnect
2. If dirty or oxidized – clean both sides of the BtB connector.

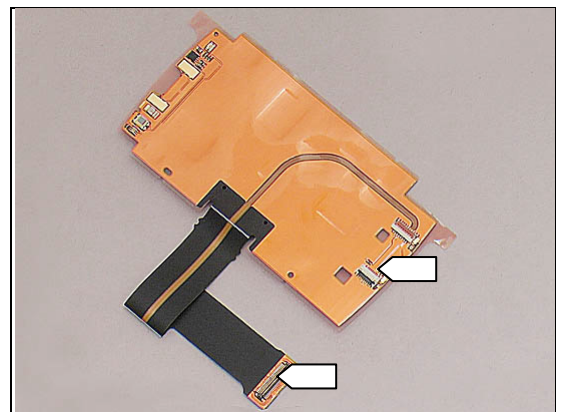


Check:

Inspect the PBA H2H Flex.

Action:

1. If the PBA H2H Flex or its ZIF connector is damaged – replace the PBA H2H Flex.
2. Send to higher level of repair.





Problem Areas: Keys

1.3.3 Camera Key

Check:

Inspect the Camera Key on the Base Cover Middle Deco belt.



Action:

If the Camera key is damaged – replace the Camera Key.

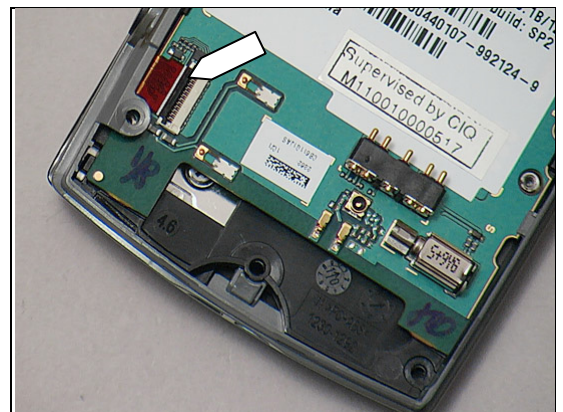


Check:

Inspect the ZIF connector of the PBA Dome, Complete to the PBA.

Action:

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



Check:

Inspect the camera key side push switches on the PBA Dome, Complete.

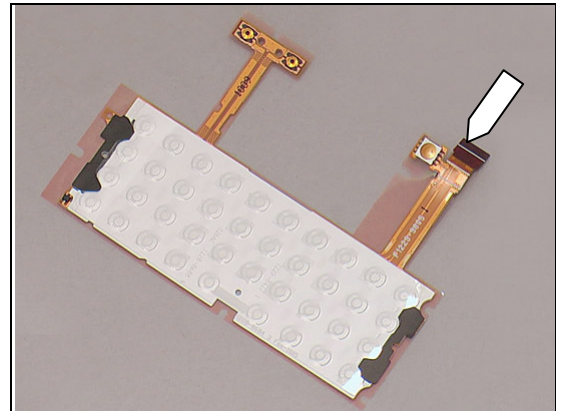




Problem Areas: Keys

Action:

1. If the PBA Dome, Complete or its ZIF connector is damaged – replace the PBA Dome, Complete.
2. Send to higher level of repair.



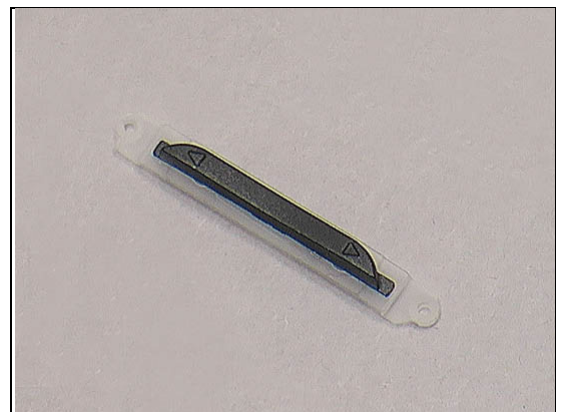
1.3.4 Volume Key

Check:

Inspect the Volume Key on Base Cover Middle Deco belt.



If the Volume key is damaged – replace the Volume Key.

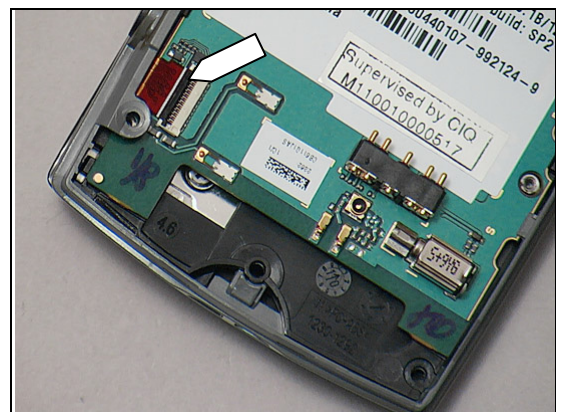


Check:

Inspect the ZIF connector of the PBA Dome, Complete to the PBA.

Action:

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

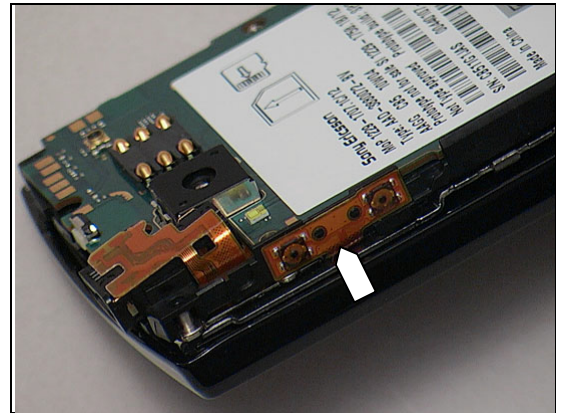




Problem Areas: Keys

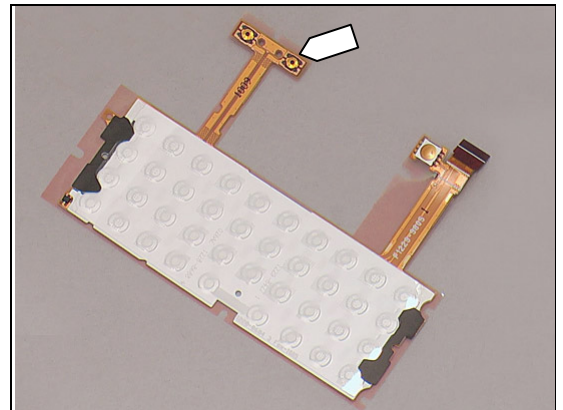
Check:

Inspect the volume key side push switches on the PBA Dome, Complete



Action:

1. If the PBA Dome, Complete or its ZIF connector is damaged – replace the PBA Dome, Complete.
2. Send to higher level of repair.



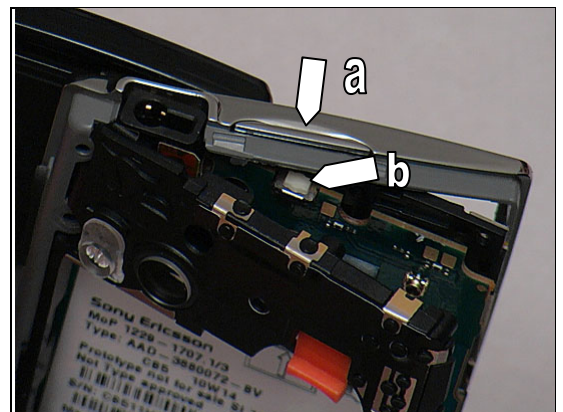
1.3.5 Key lock/OnOff key

Check:

Inspect the Key lock/OnOff key (a) on the Base Cover Middle Deco belt 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 Keyboard/OnOff Key.
3. Send to higher level of repair.



Problem Areas

1.4 Touch Screen

1.4.1 Touch Screen malfunction

Check:

Inspect the touch screen of the Front Cover Assembly.

Action:

1. If dirty – clean it.

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

Check:

1. Start the phone, press Lock/onoff key again to put the phone to sleep >1 minute (black screen)
2. Press Lock/onoff key to activate the phone and test the Touch Screen by moving a finger across the screen and start some of the applications.

Action:

If no response from Touch Screen, test with another front.

Check:

Inspect the ZIF connector of the Front Key FPC to the PBA H2H Flex.

Action:

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



Problem Areas: Touch Screen

Check:

Inspect the Front Key FPC on the Front Cover Assembly.

Action:

If the Front Key FPC or its ZIF connector is damaged – replace the Front Cover Assembly.

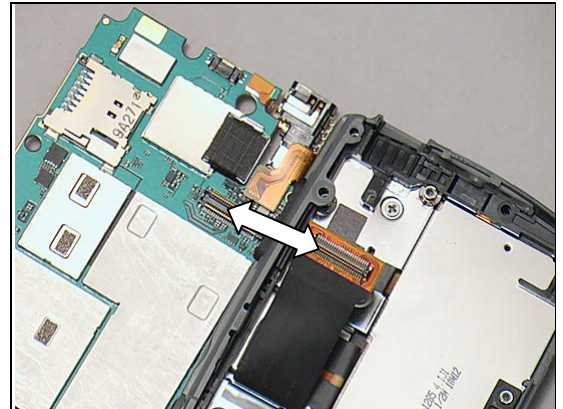


Check:

Inspect the BtB connector of the PBA H2H Flex to the PBA.

Action:

1. If not properly connected – disconnect and reconnect
2. If dirty or oxidized – clean both sides of the BtB connector.

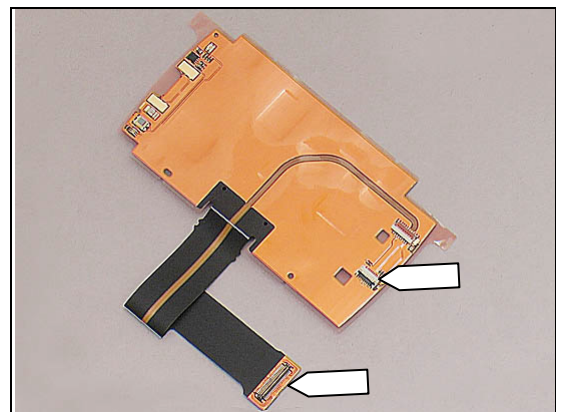


Check:

Inspect the PBA H2H Flex.

Action:

1. If the PBA H2H Flex or its ZIF connector is damaged – replace the PBA H2H Flex.
2. Send to higher level of repair.





Problem Areas

1.5 Display

1.5.1 Graphics & Illumination

Check:

Check whether the phone vibrates after the Key lock/OnOff key has been pressed.

Action:

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

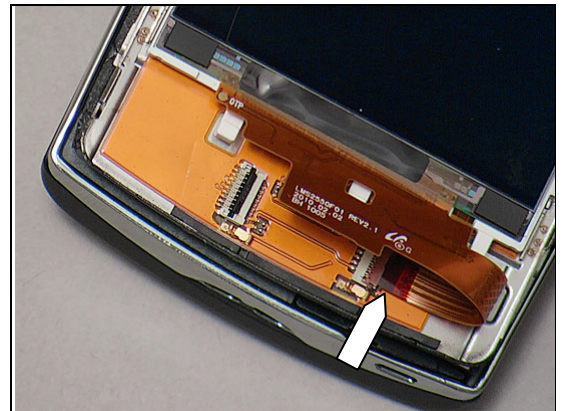


Check:

Inspect the ZIF connector of the Display to the PBA H2H Flex.

Action:

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

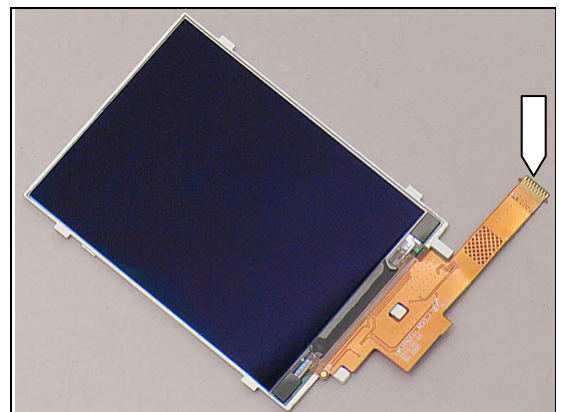


Check:

Inspect the Display.

Action:

If damaged – replace the Display.

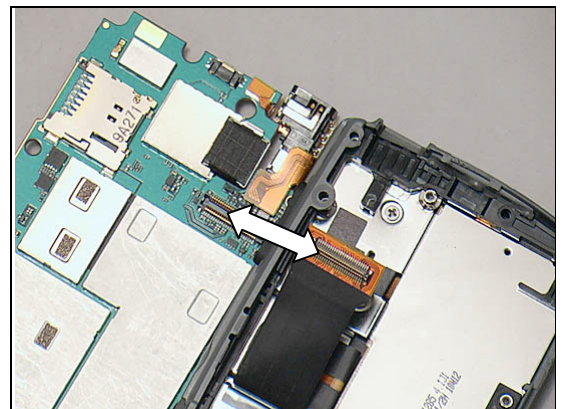


Check:

Inspect the BtB connector of the PBA H2H Flex to the PBA.

Action:

1. If not properly connected – disconnect and reconnect
2. If dirty or oxidized – clean both sides of the BtB connector.





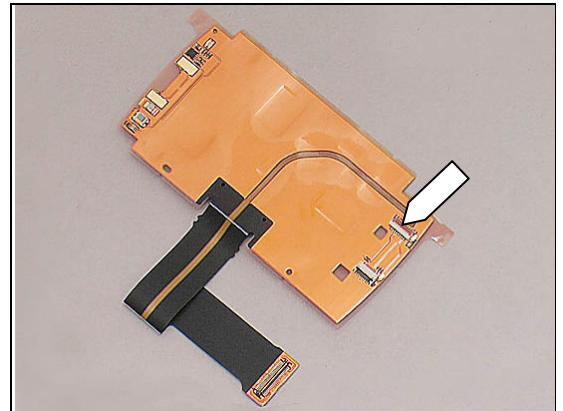
Problem Areas: Display

Check:

Inspect the PBA H2H Flex.

Action:

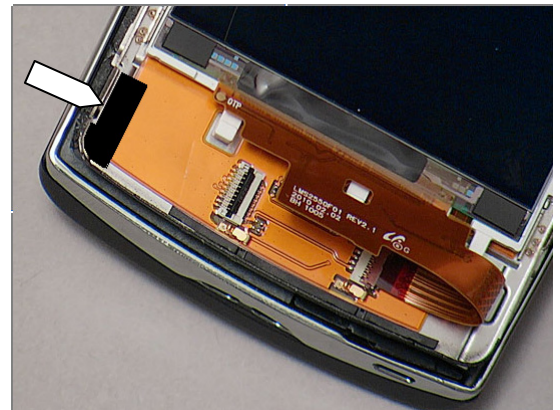
1. If the PBA H2H Flex or its ZIF connector is damaged – replace the PBA H2H Flex.
2. Send to higher level of repair.



1.5.2 Flickering display and Ghost keys

Action:

If missing add the Tape Insulation Sheet.





Problem Areas

1.6 Illumination

1.6.1 LED Illumination

Check:

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



Action:

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

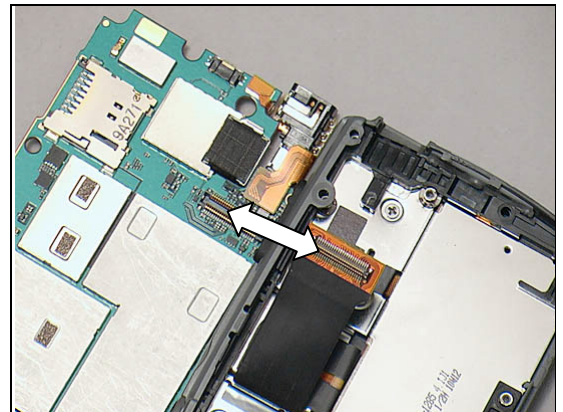


Check:

Inspect the BtB connector of the PBA H2H Flex to the PBA.

Action:

1. If not properly connected – disconnect and reconnect.
2. If dirty or oxidized – clean both sides of the BtB connector.

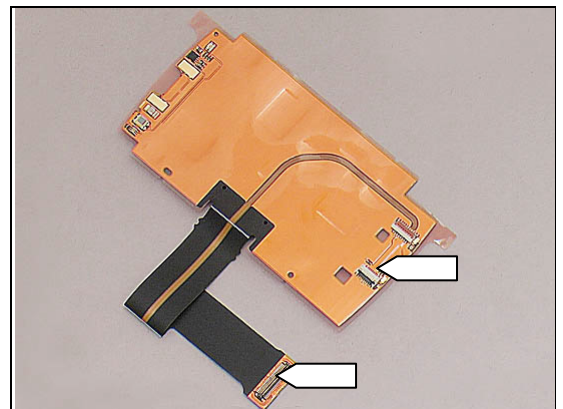


Check:

Inspect the PBA H2H Flex.

Action:

1. If the PBA H2H Flex or its ZIF connector is damaged – replace the PBA H2H Flex.
2. Send to higher level of repair.





Problem Areas: Illumination

1.6.2 Keyboard Illumination

Check:

Inspect the Keyboard.

Action:

If damaged – Replace the Keyboard.

Check:

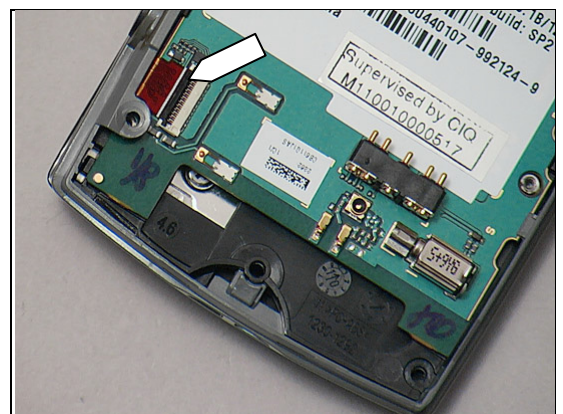
Inspect the ZIF connector of the PBA Dome, Complete to the PBA.

Action:

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

Check:

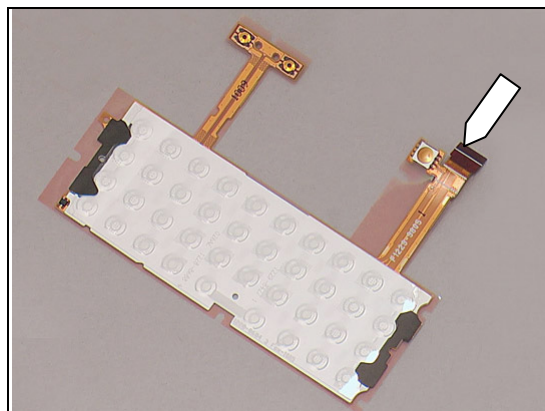
Inspect the PBA Dome, Complete.



Problem Areas: Illumination

Action:

1. If the PBA Dome, Complete or its ZIF connector is damaged – replace the PBA Dome, Complete.
2. Send to higher level of repair.





Problem Areas

1.7 Speaker

1.7.1 Loudspeaker

Check:

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

Action:

If clogged – clean the speaker port or replace the Battery Cover.



Check:

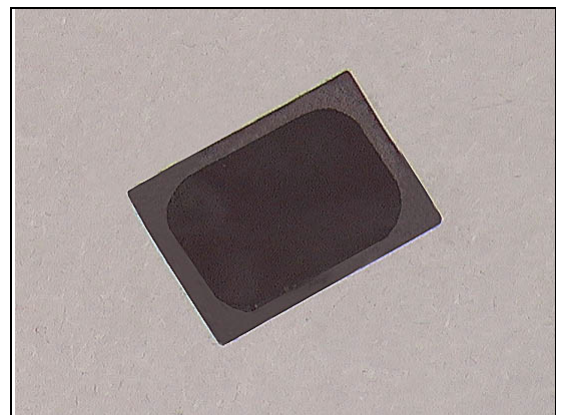
Inspect the Loudspeaker's mesh on the Bottom Carrier Frame Assy.

Action:

1. If clogged – clean the speaker mesh.



2. If the mesh is damaged – replace it.

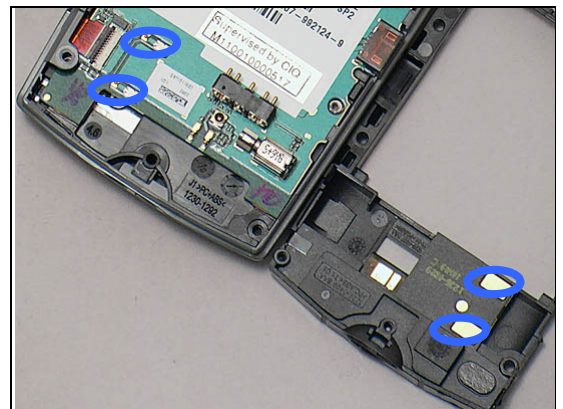


Check:

Inspect the Loudspeaker's pads on the Bottom Carrier Frame Assy and the pins on the Main PBA.

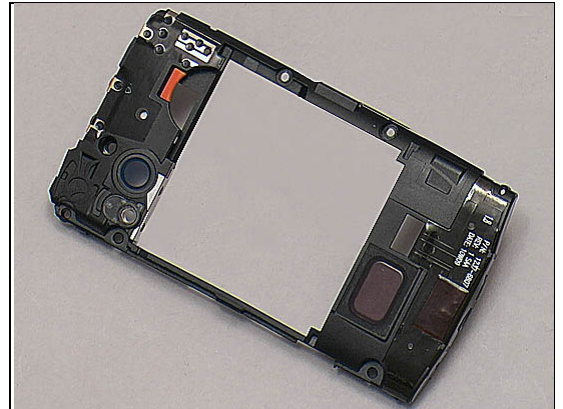
Action:

1. If dirty – clean them.



Problem Areas: Speaker

2. If the pads on the Loudspeaker are damaged – replace the Bottom Carrier Frame Assy.
3. Send to higher level of repair.



Problem Areas

1.8 Earphone

1.8.1 Earphone

Check:

Inspect the Ear Speaker's external port.

Action:

1. If clogged – clean it.

2. If the Gasket Ear Speaker is damaged – replace it.

Check:

Inspect the Ear Speaker pins and the pads on the PBA H2H Flex.

Action:

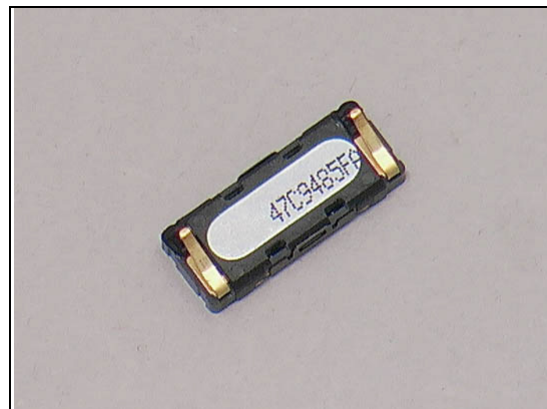
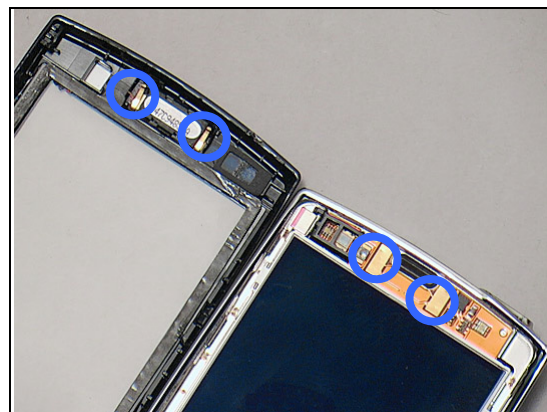
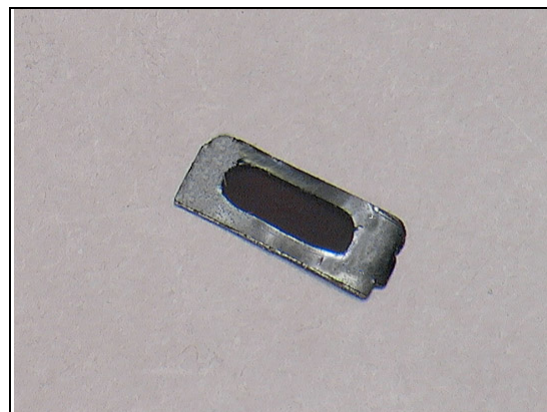
If dirty – clean them.

Check:

Inspect the Ear Speaker.

Action:

If the Ear Speaker is damaged – replace the Ear Speaker.





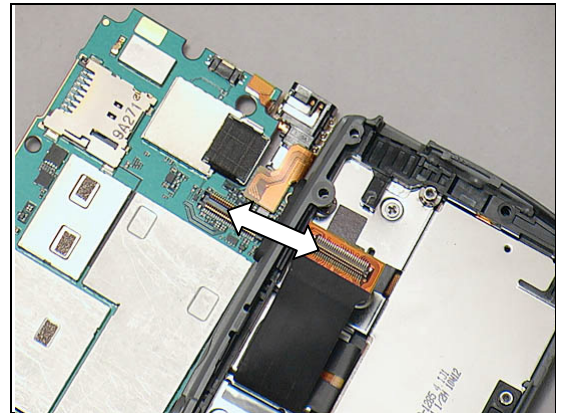
Problem Areas: Earphone

Check:

Inspect the BtB connector of the PBA H2H Flex to the PBA.

Action:

1. If not properly connected – disconnect and reconnect.
2. If dirty or oxidized – clean both sides of the BtB connector.

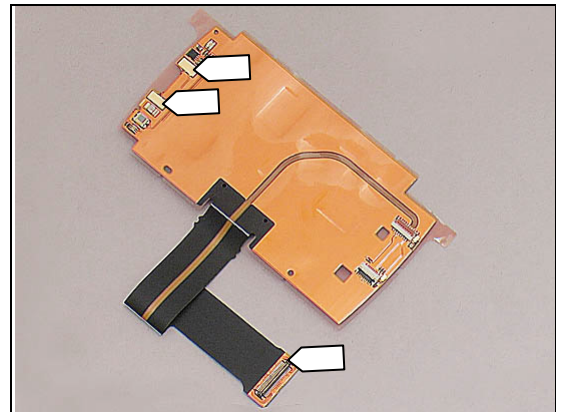


Check:

Inspect the PBA H2H Flex.

Action:

1. If the PBA H2H Flex or its ZIF connector is damaged – replace the PBA H2H Flex.
2. Send to higher level of repair.





Problem Areas

1.9 Microphone

1.9.1 Microphone

Check:

Inspect the Microphone's external port on the Keypad.

Action:

If clogged – clean the port.

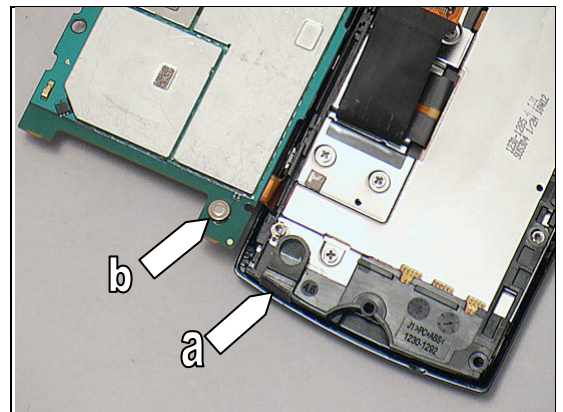


Check:

Inspect the mesh on the Base Cover Middle Deco belt (a) and the Mic (b) on the PBA.

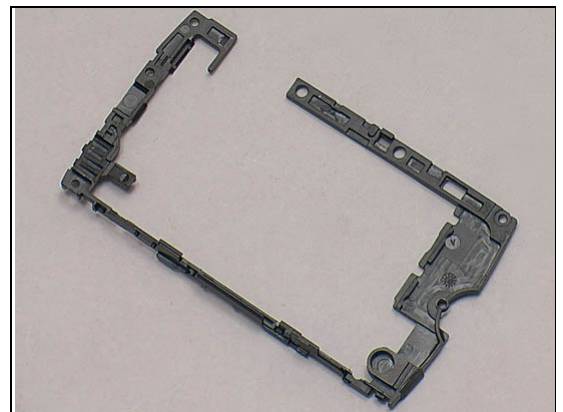
Action:

1. If (a) is clogged – clean the mesh.



2. If (a) is damaged – replace the Carrier Plastic Qwerty Support Assembly.

3. Send to higher level of repair.



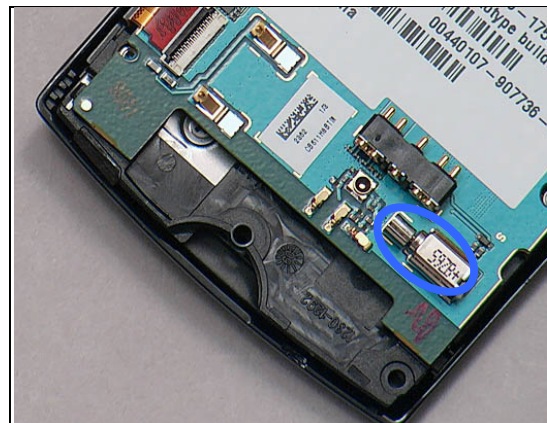
Problem Areas

1.10 Vibrator

1.10.1 Vibrator not generating alerts

Action:

Send to higher level of repair.





Problem Areas

1.11 Camera

1.11.1 Camera defects

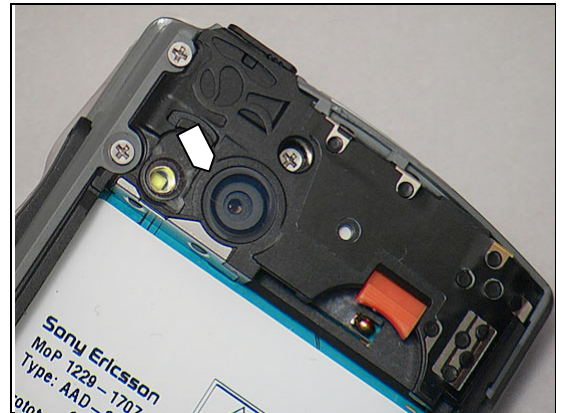
Check:

Inspect the Camera Window on the Bottom Carrier Frame Assy.

Action:

1. If dirty – clean the window.

2. If scratched or damaged – replace the Camera Window and the Camera Gasket.

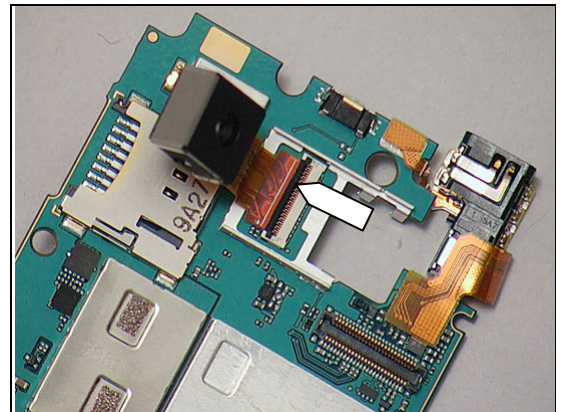


Check:

Inspect the ZIF connector of the Camera to the PBA.

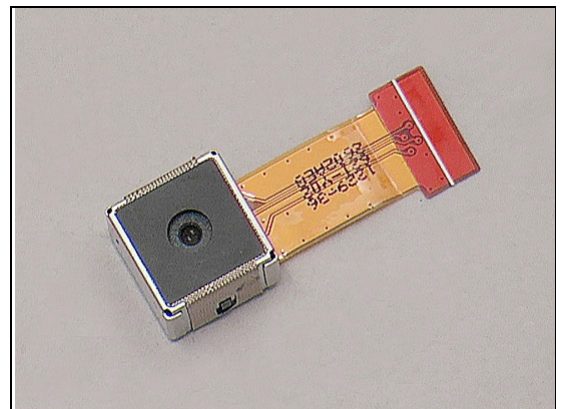
Action:

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



Action:

1. If damaged – replace the Camera.
2. Send to higher level of repair.





Problem Areas

1.12 Flash LED

1.12.1 Flash LED not flashing

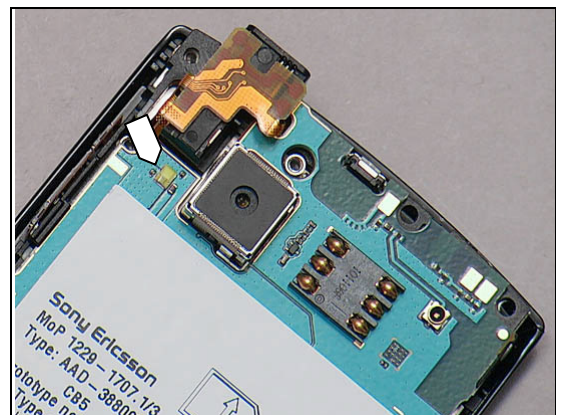
Check:

Inspect Flash Lens Window.

Action:

1. If scratched or damaged – replace the Flash Lens Window and the Flash Lens Foil Adhesive.

2. Send to higher level of repair.



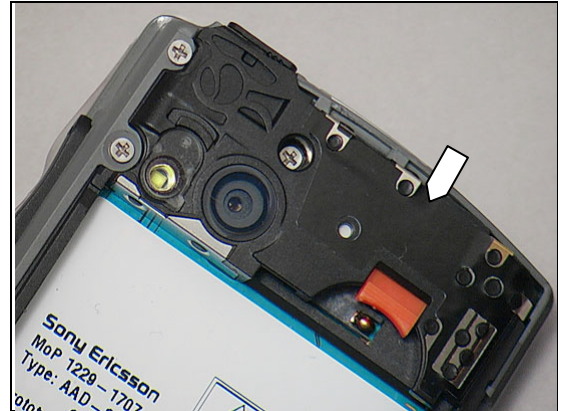
Problem Areas

1.13 Bluetooth and WLAN

1.13.1 Bluetooth or WLAN connection failure

Check:

Inspect the WLAN and Bluetooth antenna on the Bottom Carrier Frame Assy.

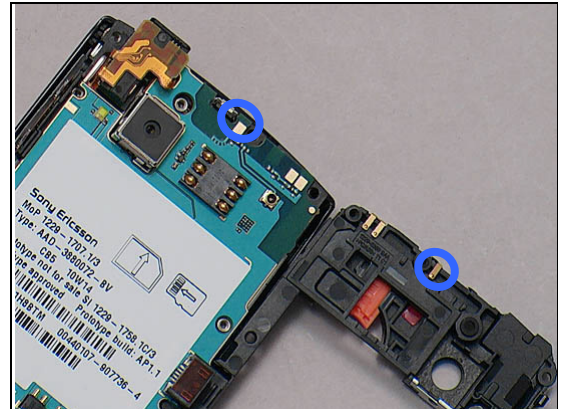


Check:

Inspect the WLAN and Bluetooth antenna contact pads on the Bottom Carrier Frame Assy and the contact pins on the PBA.

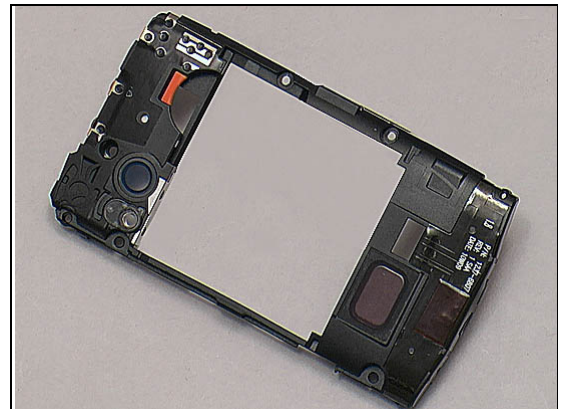
Action:

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



2. If the pads are damaged – replace the Bottom Carrier Frame Assy.

3. Send to higher level of repair.





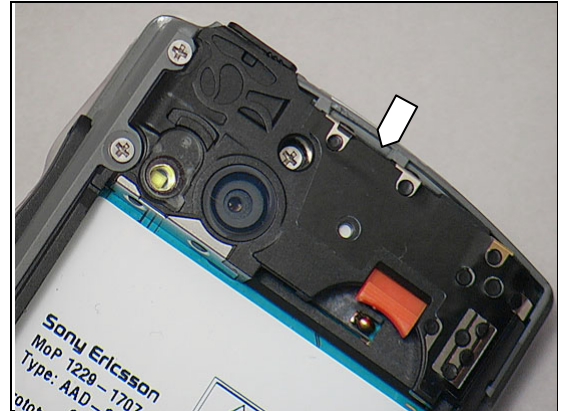
Problem Areas

1.14 GPS

1.14.1 GPS malfunctions

Check:

Inspect the GPS antenna on the Bottom Carrier Frame Assy.

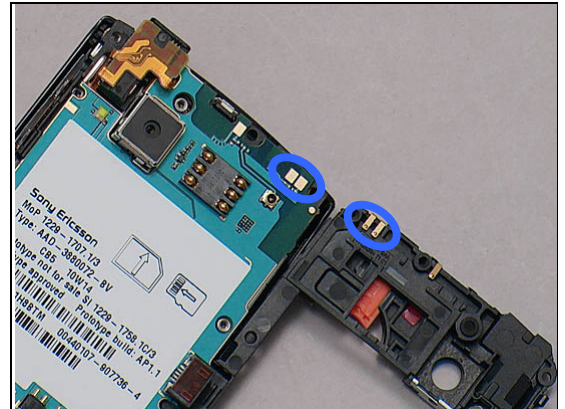


Check:

Inspect the GPS antenna contact pads on the Bottom Carrier Frame Assy and the contact pins on the PBA.

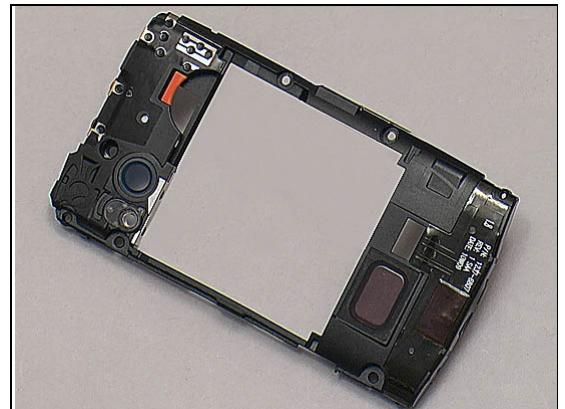
Action:

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



2. If the pads are damaged – replace the Bottom Carrier Frame Assy.

3. 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 Accelerometer

1.16.1 Accelerometer test fails

Action:

Send to higher level of repair.

Problem Areas

1.17 Proximity switch

1.17.1 Proximity switch malfunctions

Check:

Inspect the Proximity switch window on the Front Cover Assembly.

Action:

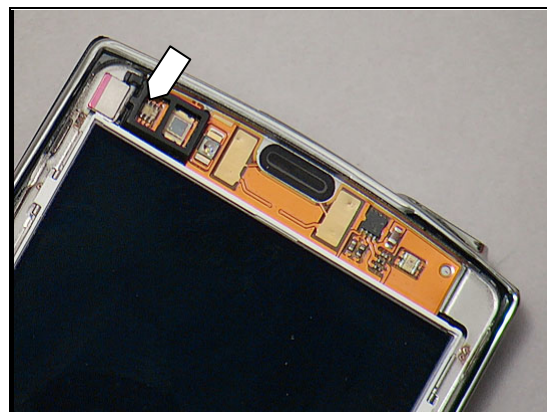
1. If clogged – clean it.

2. If scratched or damaged – replace the Front Cover Assembly.



Check:

Inspect the Proximity switch on the PBA H2H Flex.

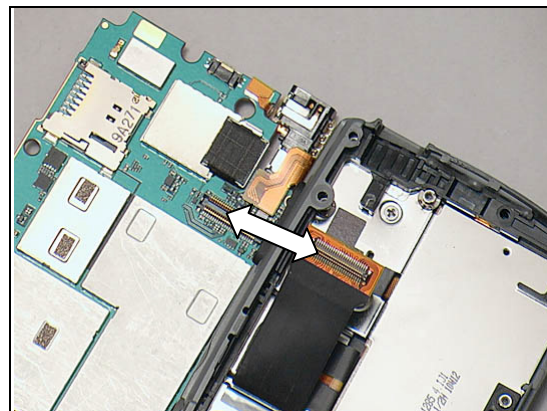


Check:

Inspect the BtB connector of the PBA H2H Flex to the PBA.

Action:

1. If not properly connected – disconnect and reconnect.
2. If dirty or oxidized – clean both sides of the BtB connector.



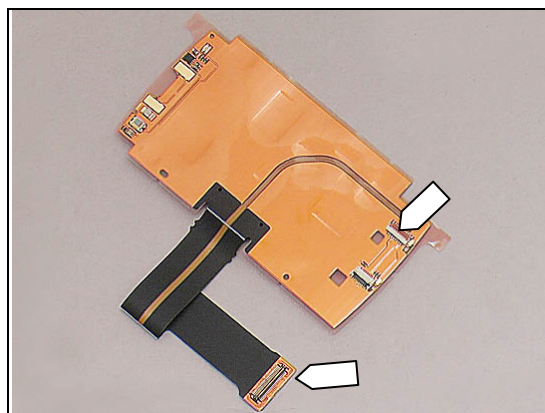
Problem Areas

Check:

Inspect the PBA H2H Flex.

Action:

1. If the PBA H2H Flex or its ZIF connector is damaged – replace the PBA H2H Flex.
2. Send to higher level of repair.





Problem Areas

1.18 Real Time Clock

1.18.1 Real Time Clock test fails

Action:

Send to higher level of repair.

Problem Areas

1.19 Total call time

1.19.1 Total call time fails

Action:

Send to higher level of repair.

Problem Areas

1.20 External Memory Card

1.20.1 Memory Card not detected

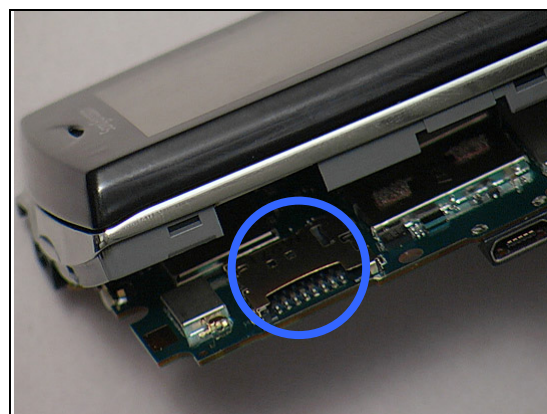
Check the Memory Card Holder.

Check:

Inspect the Memory Card holder.

Action:

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



Problem Areas

1.21 Security

1.21.1 Security fails

Action:

Send to higher level of repair.



Problem Areas

1.22 FM Radio

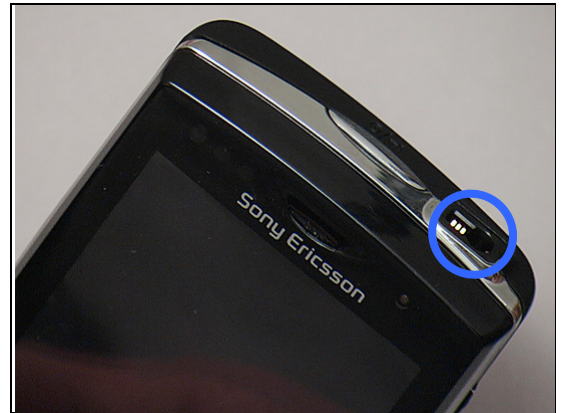
1.22.1 No/Poor FM Radio reception

Check:

Inspect the audio jack.

Action:

If dirty or oxidized – clean the connector.

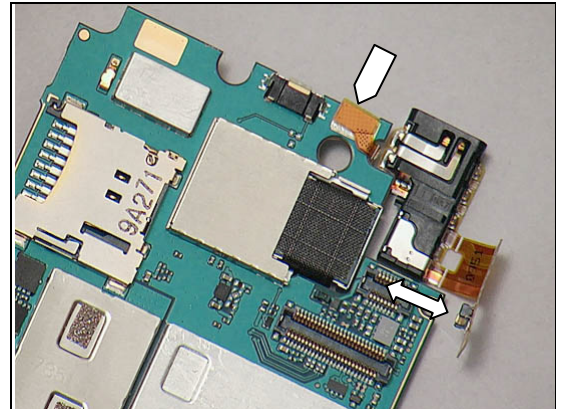


Check:

Inspect the BtB connector and the contact pin of the PBA AVP assy to the PBA.

Action:

1. If not properly connected – disconnect and reconnect.
2. If dirty or oxidized – clean both side of the BtB connector.

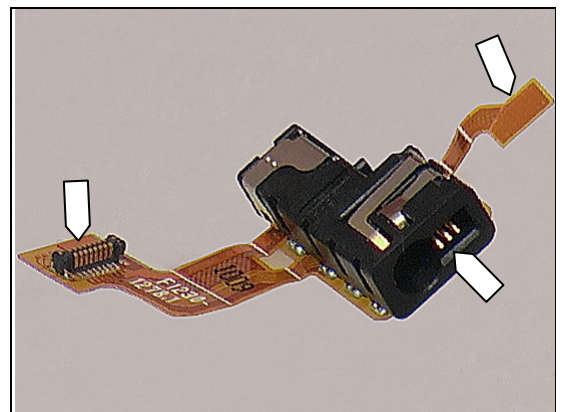


Check:

Inspect the PBA AVP assy.

Action:

1. If the PBA AVP assy or its ZIF connector is damaged – replace the PBA AVP assy.
2. Send to higher level of repair.



Problem Areas

1.23 Network & Signal

1.23.1 No/Poor signal

Check:

Inspect the Main Antenna on the Bottom Carrier Frame Assy.



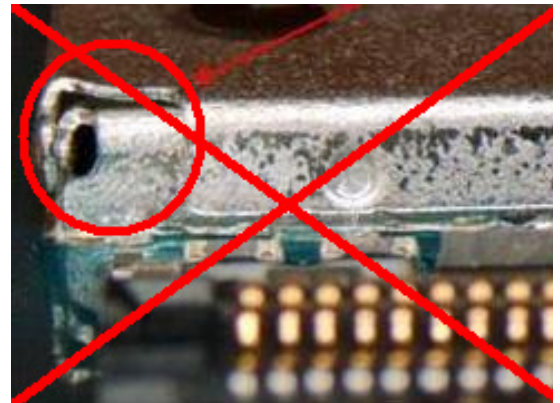
Check:

Inspect the shielding can lids and secure that they completely seal all sides on the shielding can and that there is no gap.

Action:

If there is gap on any side, replace the shielding can lid.

(If you remove a shield can lid you must replace the lid with a new lid!)



Perform **VBAT measurement** if possible.

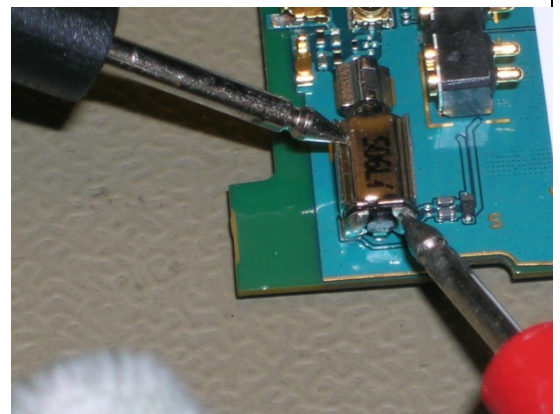
Set Instrument to Ohm measurement

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.

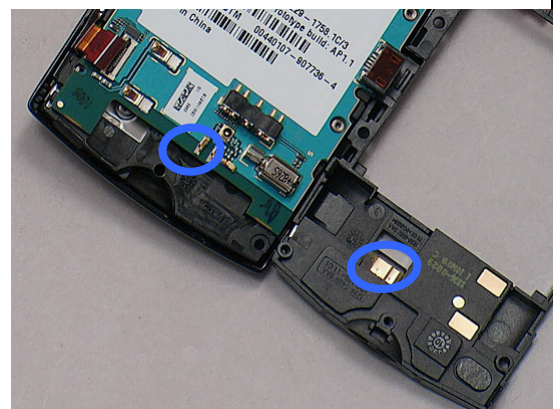


Check:

Inspect the Main Antenna contact pads on the Bottom Carrier Frame Assy and contact pins on the PBA.

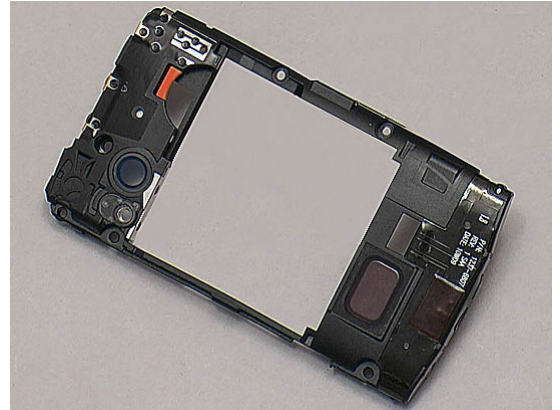
Action:

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



Problem Areas

2. If the pads are damaged – replace the Bottom Carrier Frame Assy.
3. Send to higher level of repair.



Problem Areas

1.24 SIM

1.24.1 SIM not detected

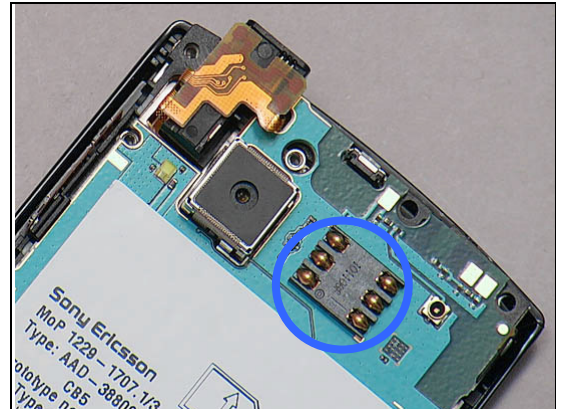
Check the SIM holder.

Check:

Inspect the SIM holder.

Action:

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



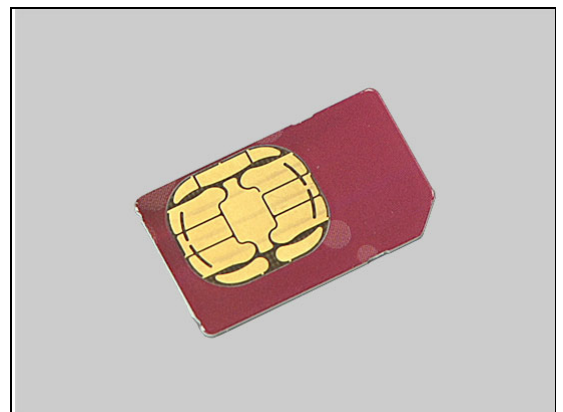
1.24.2 Incorrect SIM indicated

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

1.25 Charging

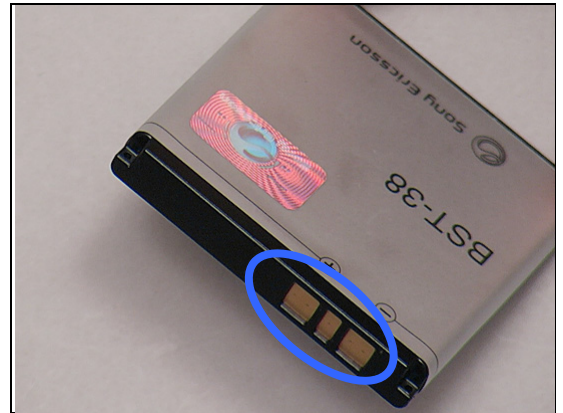
1.25.1 Battery will not charge

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.



Check:

Inspect the USB connector.

Action:

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





Problem Areas

1.26 HandsFree by Wire

1.26.1 Connection to Portable HandsFree fails

Check:

Inspect the audio jack.

Action:

If dirty or oxidized – clean the connector.

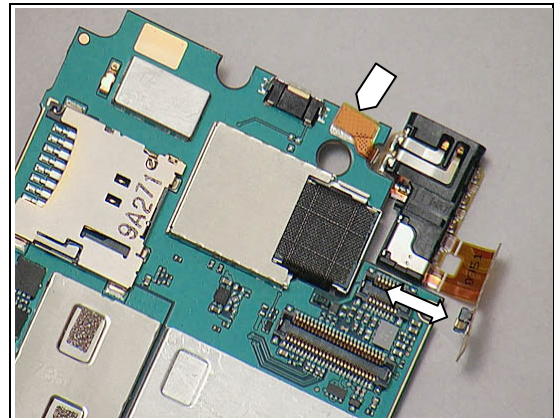


Check:

Inspect the BtB connector of the PBA AVP assy and the contact pin to the PBA.

Action:

1. If not properly connected – disconnect and reconnect.
2. If dirty or oxidized – clean both side of the BtB connector.

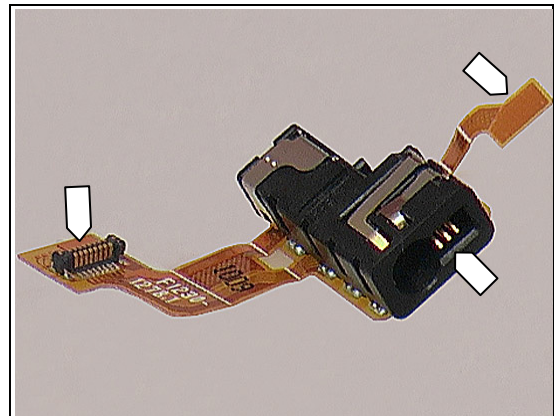


Check:

Inspect the PBA AVP assy.

Action:

1. If the PBA AVP assy or its ZIF connector is damaged – replace the PBA AVP assy.
2. Send to higher level of repair.



Problem Areas

1.27 Data Communication

1.27.1 Data transfer via System Connector fails

Check:

Inspect the USB connector.

Action:

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



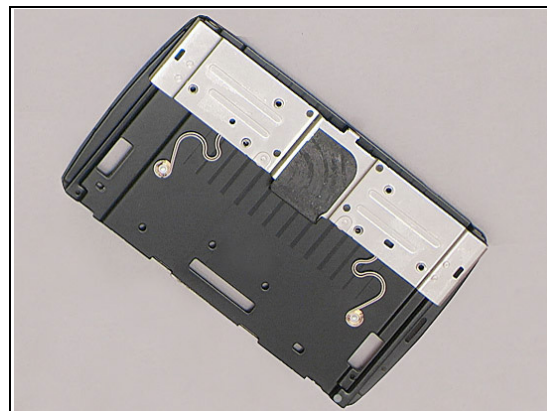
Problem Areas

1.28 Hinge Slider

1.28.1 Slider stiff or stuck

Action:

Replace the Hinge Slider.





Problem Areas

1.29 Sensors

1.29.1 Light Sensor malfunctions

Check:

Inspect the Light Sensor window on the Front Cover Assembly.

Action:

1. If clogged – clean it.

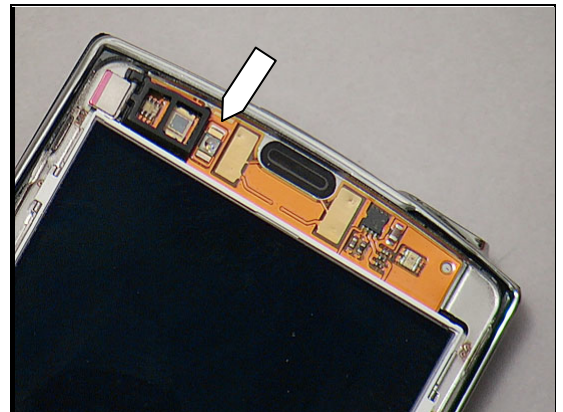


2. If scratched or damaged – replace the Front Cover Assembly.



Check:

Inspect the Light Sensor on the PBA H2H Flex.

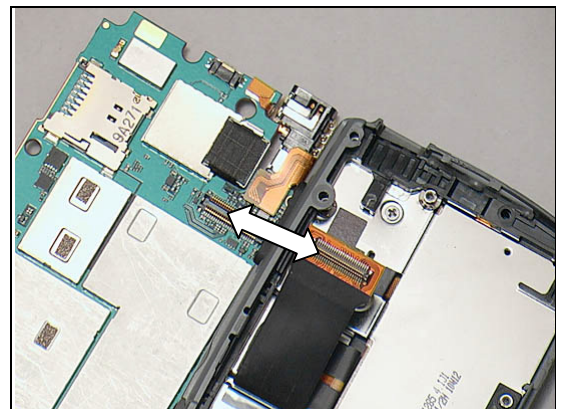


Check:

Inspect the BtB connector of the PBA H2H Flex to the PBA.

Action:

1. If not properly connected – disconnect and reconnect.
2. If dirty or oxidized – clean both side of the BtB connector.





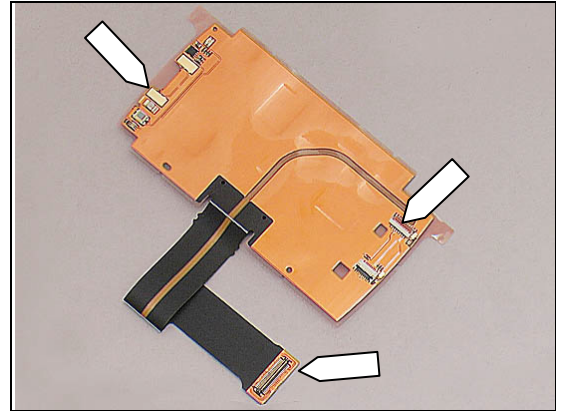
Problem Areas: Sensors

Check:

Inspect the PBA H2H Flex.

Action:

1. If the PBA H2H Flex or its ZIF connector is damaged – replace the PBA H2H Flex.
2. Send to higher level of repair.



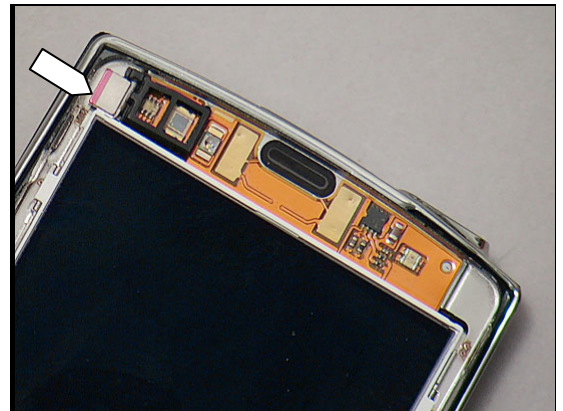
1.29.2 Slide Sensor

Check:

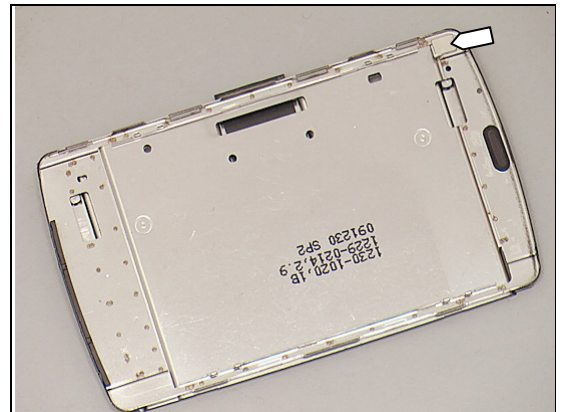
Inspect the magnet on the Hinge assembly.

Action:

1. If dirty – clean it.
2. If not properly positioned – reinstall it.



3. If the magnet is missing or damaged – replace the Hinge assembly.

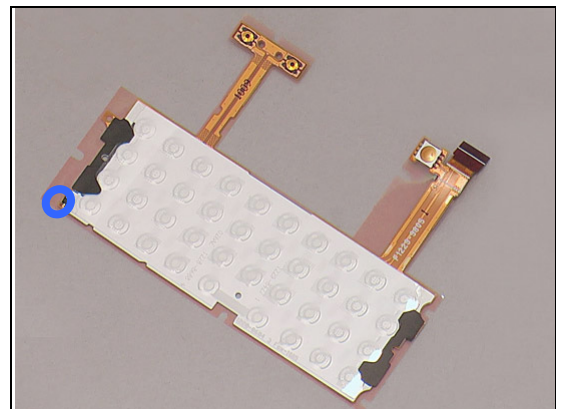


Check:

Inspect the Slider Sensor IC on the PBA Dome, Complete.

Action:

1. If damaged – replace the PBA Dome, Complete.
2. Send to higher level of repair.





2 Revision History

Rev.	Date	Changes / Comments
1	2010-June-22	Initial release
2	2010-Aug-31	Touch screen sleep test added to Touch screen and Phone hang
3	2010-Nov-08	Shielding can lid problem added to Network and Signal
4	2010-Dec -01	Added Instruction regarding VBAT measurement in the chapter Power Added Instruction regarding VBAT measurement in chapter Network & Signal
5	2010-Dec -27	Flickering display and Ghost keys added under Display.