



Sony Ericsson

Troubleshooting Guide

- electrical -



Xperia™ X10 mini

E10a, E10i



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***For general information about electrical repair related issues, refer to
1220-1336: Generic Repair Manual - electrical***



1 Troubleshooting Flow

1.1 Display & Touch

Symptom: Display problem

Replace: **X7000**, if damaged
Z7000 or **Z7001**

vision check all pins

Symptom: Touch Screen problems

Replace: **X5300**, if damaged

vision check pin A1-A2 and B1-B2

1.2 Illumination

Symptom: No Display illumination

Replace: **X7000**, if damaged
L7100, if more than 1 Ω
C7103, if short circuit
V7100
N7100

vision check pin 2, 3 and 7

Symptom: No Flash LED

Replace: **X4000**, if damaged
L1004, if more than 1 Ω
V1001

vision check pin B2-B5

Symptom: R G B MMI LED s

Replace: **V5101**

Troubleshooting Flow

1.3 Keys & Sensors

Symptom: On / Off key problems

Replace: **S5200**

Symptom: Back, Home, Menu Keys problems

Replace: **X5300**, if damaged vision check pin A4-A5 and B4-B5

Symptom: Volume Up key problems

Replace: **S5201**

Symptom: Volume Down key problems

Replace: **S5202**

Symptom: Camera AF and Snap key problems

Replace: **S5203**

Symptom: Proximity sensor

Replace: **N5600/C**

N5600/B

N5500

Symptom: Light Sensor

Replace: **N5600/A**

Symptom: Compass problems

Replace: **N5401**

1.4 Alert & RTC

Symptom: Vibrator problems

Replace: **B5100**

Symptom: The clock gain or lose time when the phone is powered off

Replace: **B2000**



Troubleshooting Flow

1.5 Audio

Symptom: No Microphone

Replace: **B3500**

Symptom: No or bad Earphone / Ear speaker

Replace: **X3502** or **X3503**, if damaged
V3500, if short circuit

Symptom: No or bad Loudspeaker

Replace: **L3503** or **L3504**, if more than 2 Ω
V3501, if short circuit

Symptom: No or bad Hands-free (PHF) Microphone

Replace: **L3600**, if more than 2 Ω
N3600

Symptom: No or bad Hands-free (PHF) Aux Earphone / Ear speaker

Replace: **L3601** or **L3602**, if more than 2 Ω
N3600
N3500

Symptom: No Hands-free (PHF) audio – Phone not recognizes PHF set

Replace: **L3102**, if more than 2 Ω

Symptom: Phone recognizes wrong accessory

Replace: **N3600**
V3602

Symptom: No or bad FM Radio

Replace: **N8100**

Troubleshooting Flow

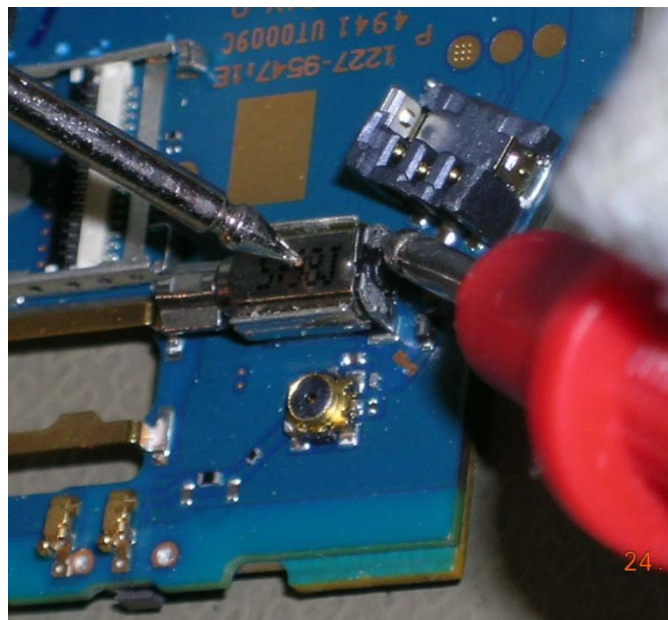
1.6 On/Off

Performing

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



Symptom: Current draw when powered off

Replace: **N2901**

If VBAT measurement is less than 20 K Ω . Typical 50 Ω -700 Ω

C8140

N2810, if getting hot

N2904 or **N2905**, if getting hot

C1040 or **N7100**, if getting hot

Symptom: Current draw greater than 300 mA

Replace: **N2901**, if getting hot

C8140, if getting hot

N2810, if getting hot

N2904 or **N2905**, if getting hot

Symptom: Using no current when On/Off key is pressed and will not start.

Replace: **S5200**

Symptom: Draws current when On/Off key is pressed, returns to zero

Replace: **L1000**, **L1001** or **L1003**, if more than 1 Ω

N5290

Symptom: Will not power off

Replace: **N5290**

Symptom: Other

Replace: **X1300** if damaged



Troubleshooting Flow

1.7 Charging & Capacity

Symptom: Bad Capacity

Replace: **N2901**, if VBAT measurement is less than 20K Ω

Symptom: No Charging from USB

Replace: **X2200**, if damaged vision check pin 1 and 5

C1306, if short circuit

L1350, if more than 1 Ω

1.8 SIM

Symptom: SIM not detected

Replace: **X4000**, if damaged vision check pin A1-A5 and B1

V4000

1.9 Camera

Symptom: Main Camera problems

Replace: **X7300**, if damaged vision check all pins

N7401

Troubleshooting Flow

1.10 Data Communication

Symptom: No communication via the USB Connector, charging via USB connector is working

Replace: **X2200**, if damaged vision check pin 2 and 3
V2200, if short circuit
Z2200, if more than 3 Ω
N1000

Symptom: Bad Bluetooth and WLAN connection

Replace: **X8001**, if damaged vision check
X8000, if more than 1 Ω between pin 1 and 2 (in / out)
Z8000
N8000

Symptom: No Bluetooth and WLAN connection

Replace: **L8140**, if more than 1 Ω
N8101
B8100
N8100
N8300

Symptom: No GPS connection

Replace: **X8400**, if damaged vision check
L8402, if more than 1 Ω
Z8400
N8400
N2800

1.11 Memory Card

Symptom: Memory Card (micro SD) not detected

Replace: **X4100**, if damaged vision check pin all pins

Troubleshooting Flow

1.12 Network & Signal

Symptom: Bad WCDMA network

Action: Perform VBAT measurement, if less than 20K Ω

Replace: **N2901**

Symptom: Phone fails to lock on to network during radiated (wireless) Go/NoGo test

Action: Use RF probe to perform conducted Go/NoGo test

Symptom: Phone passes conducted (RF cable) Go/NoGo test but fails radiated (wireless) Go/NoGo test

Check: **X1000, X1001, X1002, X1003, X1004, X2800 and X2801** for damage and replace, if necessary

Replace: **X2802** for damage and replace, if necessary

Action: Antenna

Rerun the phone through radiated (wireless) Go/NoGo testing

Symptom: Phone fails conducted (RF probe) Go/NoGo test

Action: Run the calibration routine

Symptom: Fails conducted (RF probe) Go/NoGo test, but passes calibration

Action: Rerun the phone through Go/NoGo testing

Symptom: Fails any part of the calibration routine

Replace: **X2802**, if damaged

L1002, if more than 1 Ω

N2800 or **N2801**, if GSM or WCDMA RX fault

N2810 or **N2801**, if GSM TX fault

N2803, if GSM 850 or 900 TX fault

N2904 or **N2801**, if WCDMA TX band 5 or 8 fault

N2901 or **N2801**, if WCDMA TX band 1 fault

N2905 or **N2801**, if WCDMA TX band 2 or 4 fault



2 Revision History

Rev.	Date	Changes / Comments
1	2010-May-24	Initial release
2	2010-Sep-24	L3503 and L3504 added to 1.5 Audio Symptom :No or bad Loudspeaker
3	2010-Nov-24	Added VBAT measurement to 1.6 On/Off Added N2901 to 1.7 Charging & Capacity Added perform VBAT measurement and N2901 to 1.12 Network & Signal
4	2011-Sep-20	Added C8140 to 1.6 on/off