



Troubleshooting Guide

- electrical -



XPERIA X10 Mini Pro

U20i, U20a,



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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

Symptom:	Display problem	
Replace:	X5100 , if damaged Z7000 or Z7001	vision check pin A5-A14 and B8-B15



Troubleshooting Flow

1.2 Illumination

Symptom:	No Display illumination
Replace:	X5100 , if damaged vision check pin A6, A7 and B12 L7100 , if more than 1 Ω C7103 , if short circuit V7100 N7100

Symptom:	No QWERTY illumination
Replace:	X5200 , if damaged vision check pin 2 and 3

Symptom:	No Flash LED
Replace:	C1040 , if short circuit L1004 , if more than 1 Ω V7800 V1001

Symptom:	R G B MMI Topfire LED s
Replace:	X5100 , if damaged vision check pin A15-A16 ,B16 and B7

**Troubleshooting Flow****1.3 Keys & Sensors****Symptom:** On / Off key problems**Replace:** **S5200****Symptom:** Back, Home, Menu Keys problems**Replace:** **X5100**, if damaged vision check pin A1-A5**Symptom:** Touch Screen problems**Replace:** **X5100**, if damaged vision check pin B1-B6 and B9-B10**Symptom:** QWERTY keys problems**Replace:** **X5200**, if damaged vision check pin 5-15 and 18-25
N5200**Symptom:** Volume Up key problems**Replace:** **X5200**, if damaged vision check pin 5 and 11
N5200**Symptom:** Volume Down key problems**Replace:** **X5200**, if damaged vision check pin 5 and 9
N5200**Symptom:** Camera AF and Snap key problems**Replace:** **X5200**, if damaged vision check pin 21-23
N5200**Symptom:** MR / Flip Sensor**Replace:** **X5200**, if damaged vision check pin 15-18**Symptom:** Proximity sensor**Replace:** **X5100**, if damaged vision check pin A17-A21 and B19-B22**Symptom:** Light Sensor**Replace:** **X5100**, if damaged vision check pin B22-B25**Symptom:** Compass problems**Replace:** **N5400**

Troubleshooting Flow

1.4 Alert & RTC

Symptom:	Vibrator problems
Replace:	L3506 or L3507 , if more than 1 Ω Note replace both with 0 Ω resistor 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:	L3500 or L3501 ,if more than 3 Ω B3500
Symptom:	No or bad Earphone / Ear speaker
Replace:	X5100 , if damaged vision check pin A23 and A24 V3500 , if short circuit
Symptom:	No or bad Loud Speaker
Replace:	X3500 or X3501 if damaged L3504 or L3505 if more than 3 Ω
Symptom:	No or bad Hands-free (PHF) Microphone
Replace:	X3600 , if damaged vision check pin 3 and 4 L3600 or L3102 if more than 2 Ω N3600
Symptom:	No or bad Hands-free (PHF) Aux Earphone / Ear speaker
Replace:	X3600 , if damaged vision check pin 1 , 2 and 5 L3601 , L3602 or L3102 if more than 2 Ω N3600 N3500
Symptom:	No Hands-free (PHF) audio – Phone not recognizes PHF set
Replace:	X3600 , if damaged vision check pin 4 and 8 R3601 , if more than 33 K Ω L3102 ,if more than 2 Ω
Symptom:	Phone recognizes wrong accessory
Replace:	X3600 , if damaged vision check pin 6 and 7 N3600 V3602
Symptom:	No or bad FM Radio
Replace:	X3600 , if damaged vision check pin 4 and 8 V3601 N8100



Troubleshooting Flow

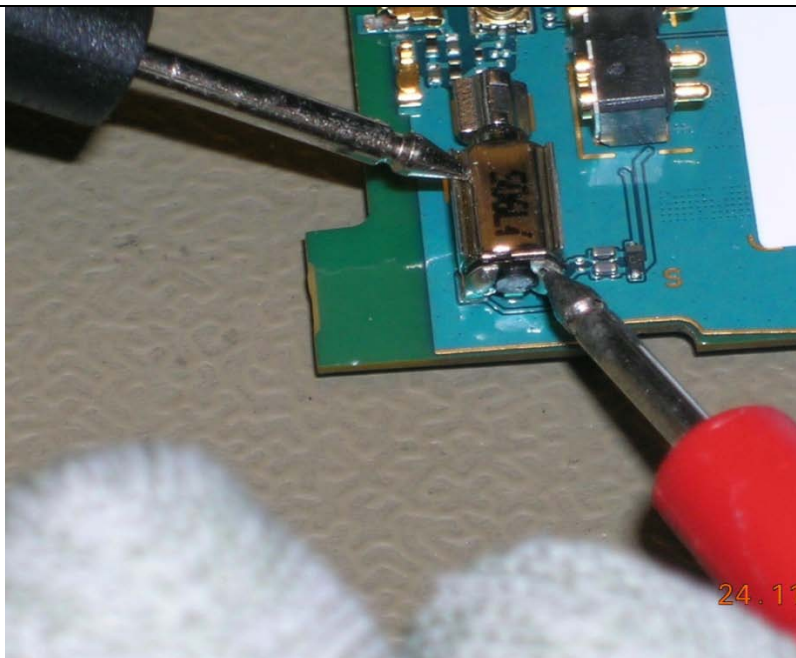
1.6 On/Off

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
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

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 , C1352 or C1354 if short circuit L1350 , if more than 1 Ω N1350

Troubleshooting Flow**1.8 SIM**

Symptom:	SIM not detected	
Replace:	X4000 , if damaged	vision check all pins
	V4000	



Troubleshooting Flow

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:	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 old PBA version
Replace:	L8402 if more than 1 Ω Z8400 N8400 N2800

Symptom:	No GPS connection new PBA version
Replace:	Z8400 N8401 N2800

Troubleshooting Flow**1.11 Memory Stick / Card**

Symptom:	Memory stick / 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/ No Go test
Action:	Use RF probe to perform conducted Go / No Go test
Symptom:	Phone passes conducted (RF cable) Go / No Go test but fails radiated (wireless) Go / No Go test
Check:	X2800, X2801, X2812, X1020 or X1021 for damage and replace, if necessary X2802 for damage and replace, if necessary
Replace:	Antenna
Action:	Rerun the phone through radiated (wireless) Go / No Go testing
Symptom:	Phone fails conducted (RF probe) Go / No Go test
Action:	Run the calibration routine
Symptom:	Fails conducted (RF probe) Go/No Go test, but passes calibration
Action:	Rerun the phone through Go/No Go 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 fault



2 Revision History

Rev.	Date	Changes / Comments
1	2010-06-28	Initial Release
2	2010-08-30	Added L3506 and L3507 to 1.4 Vibrator problems
3	2010-12-01	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	2011-02-04	Added to 1.4 Vibrator problems : L3506 or L3507 , if more than 1 Ω Note replace both with 0 Ω resistor
5	2011-09-19	Added new PBA version to 1.10 Data Communication /GPS. Added C8140 to 1.6 On/Off