



# Troubleshooting Guide

## - electrical -



*Xperia Mini Pro*

*SK17i, SK17a*



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# 1 Troubleshooting Flow

## 1.1 Display

**Symptom:** Display problems

**Replace:** **X3501**, if damaged

vision check pin A3, B5, B8, B9, B14, B15, B18 and B19



## Troubleshooting Flow

### 1.2 Illumination

<b>Symptom:</b>	No Display illumination
<b>Replace:</b>	<b>X3501</b> , if damaged                      vision check   pin B6, B10 and B11 <b>L7600 or L7610</b> , if more than 1 $\Omega$ <b>C7603 or C7605</b> , if short circuit <b>V7601</b> <b>N7600</b>

<b>Symptom:</b>	No Key Back Light
<b>Replace:</b>	<b>X3501</b> , if damaged                      vision check pin A15-A17 <b>N7600</b>

<b>Symptom:</b>	No Keyboard Back Light
<b>Replace:</b>	<b>V7602, V7603, V7604 or V7605</b> <b>N7600</b>

<b>Symptom:</b>	No RGB LED
<b>Replace:</b>	<b>X3501</b> , if damaged                      vision check pin A17 and A19-A21 <b>N7600</b>

<b>Symptom:</b>	No Flash LED
<b>Replace:</b>	<b>X4100</b> , if damaged                      vision check   pin A1-A6 <b>L7801</b> , if more than 1 $\Omega$ <b>N7800</b>



## Troubleshooting Flow

### 1.3 Keys & Sensors

**Symptom:** On / Off key problems

**Replace:** **S52**

**Symptom:** Home Key problems

**Replace:** **X3501**, if damaged vision check pin A12 - A13

**Symptom:** Back Key, Menu Key and Display Touch Sensor problems

**Replace:** **X3501**, if damaged vision check pin A4-A5, A7-A10, and B2-B3

**Symptom:** Camera key problems

**Replace:** **X7300** , **X7303** , **X7304** and **X7305** , if damaged

**Symptom:** Volume Up key problems

**Replace:** **X4100** , if damaged vision check pin B2 - B3

**Symptom:** Volume Down key problems

**Replace:** **X4100** , if damaged vision check pin B1 - B2

**Symptom:** Proximity sensor problems

**Replace:** **X3501**, if damaged vision check pin A35 - A36 and B37-B38

**Symptom:** Ambient Light Sensor problems

**Replace:** **X3501**, if damaged vision check pin A38 and A39  
**N7600**

**Symptom:** Compass problems

**Replace:** **N5401**

**Symptom:** MR sensor (open / close detect) problems

**Replace:** **B8000**



## Troubleshooting Flow

### 1.4 Alert

<b>Symptom:</b>	Vibrator problems
<b>Replace:</b>	<b>L3605</b> or <b>L3506</b> , if more than 2 $\Omega$ <b>B5100</b>

**Troubleshooting Flow****1.5 Audio**

Symptom:	No audio
Replace:	<b>L1001</b> ,if more than 1 $\Omega$
Symptom:	No Primary Microphone
Replace:	<b>L3503</b> or <b>L3504</b> ,if more than 3 $\Omega$ <b>B3501</b>
Symptom:	No Secondary Microphone
Replace:	<b>X4100</b> , if damaged vision check pin B4-B6
Symptom:	No or bad Earphone / Ear speaker
Replace:	<b>X3501</b> , if damaged vision check pin B22 and B23
Symptom:	No or bad Loudspeaker
Replace:	<b>L3501</b> or <b>L3502</b> , if more than 2 $\Omega$ <b>V3500</b> , if pin1 or pin 2 is short circuit to GND <b>N3501</b>
Symptom:	No or bad Hands-free (PHF) Microphone
Replace:	<b>L3100</b> or <b>L3604</b> , if more than 2 $\Omega$ <b>R3611</b> , if more than 15 K $\Omega$ <b>N3600</b>
Symptom:	No or bad Hands-free (PHF) Aux Earphone / Ear speaker
Replace:	<b>L3100</b> , <b>L3600</b> , <b>L3601</b> , <b>L3602</b> or <b>L3603</b> if more than 2 $\Omega$ <b>N3600</b>
Symptom:	No Hands-free (PHF) Microphone – Phone not recognizes PHF set
Replace:	<b>R3616</b> , if more than 33 K $\Omega$ <b>L3100</b> , if more than 2 $\Omega$ <b>N3600</b>
Symptom:	No or bad FM Radio
Replace:	<b>V3100</b> <b>N8100</b>



## Troubleshooting Flow

### 1.6 On/Off

<b>Symptom:</b>	Current draw greater than 300 mA
<b>Replace:</b>	<b>N2801C</b> , if getting hot <b>N2903 ,N2900 or N2902</b> , if getting hot

<b>Symptom:</b>	Current draw when powered off
<b>Replace:</b>	<b>N2801C</b> , if getting hot <b>N2903 ,N2900 or N2902</b> , if getting hot

<b>Symptom:</b>	Using no current when On/Off key is pressed and will not start.
<b>Replace:</b>	<b>S52</b>

<b>Symptom:</b>	Draws current when On/Off key is pressed, returns to zero
<b>Replace:</b>	<b>L1000, L1003 or L1004</b> , if more than 1 $\Omega$





## Troubleshooting Flow

### 1.7 Charging & Capacity

<b>Symptom:</b>	No or bad Charging from USB
<b>Replace:</b>	<b>X2200</b> , if damaged vision check pin 1 and 5 <b>C1317</b> or <b>C2200</b> , if X2200 pin 1 is short circuit to GND <b>L1300C</b> , if more than 1 $\Omega$ <b>N1303C</b>



## Troubleshooting Flow

### 1.8 SIM

<b>Symptom:</b>	SIM not detected	
<b>Replace:</b>	<b>X4000</b> , if damaged	vision check all pins



## Troubleshooting Flow

### 1.9 Camera

<b>Symptom:</b>	Main Camera problems	
<b>Replace:</b>	<b>X7302</b> , if damaged	vision check all pins
	<b>L1002</b> , if more than 1 $\Omega$	

<b>Symptom:</b>	Chat Camera problems	
<b>Replace:</b>	<b>X3501</b> , if damaged	vision check pin A23-A34 and B25-B35



## Troubleshooting Flow

### 1.10 Data Communication

<b>Symptom:</b>	No communication via the USB Connector, charging via USB connector is working
<b>Replace:</b>	<b>X2200</b> , if damaged vision check pin 2 and 3 <b>N2200</b> , if X2200 pin 2,3 or 4 are short circuit to GND <b>Z2200</b> , if more than 4 $\Omega$ between pin 1-2 and more than 4 $\Omega$ between pin 3-4

<b>Symptom:</b>	Bad Bluetooth and WLAN connection
<b>Replace:</b>	<b>X8420</b> , if damaged <b>X8401</b> , if more than 1 $\Omega$ between term A and C <b>Z8001</b>

<b>Symptom:</b>	No Bluetooth and / or WLAN connection
<b>Replace</b>	<b>N8100</b> <b>N8101</b>

<b>Symptom:</b>	No GPS connection
<b>Replace:</b>	<b>X8422</b> or <b>X8423</b> , if damaged <b>Z8401</b> <b>N8401</b>



## Troubleshooting Flow

### 1.11 Memory Stick / Card

<b>Symptom:</b>	Memory stick / Card (micro SD) not detected
<b>Replace:</b>	<b>X4101</b> , if damaged                      vision check pin all pins <b>V4100</b>

**Troubleshooting Flow****1.12 Network & Signal**

<b>Symptom:</b>	Phone fails to lock on to network during radiated (wireless) Go/ No Go test
<b>Action:</b>	Use RF probe to perform conducted Go / No Go test
<b>Symptom:</b>	Phone passes conducted (RF cable) Go / No Go test but fails radiated (wireless) Go / No Go test
<b>Check:</b>	<b>X2800</b> , <b>X2802</b> and <b>X2803</b> for damage and replace, if necessary <b>X2801</b> for damage and replace, if more than 1 $\Omega$ between A and C term
<b>Replace:</b>	RF Antenna ,Sub PCB or Antenna RF Cable
<b>Action:</b>	Rerun the phone through radiated (wireless) Go / No Go testing
<b>Symptom:</b>	Phone fails conducted (RF probe) Go / No Go test
<b>Action:</b>	Run the calibration routine
<b>Symptom:</b>	Fails conducted (RF probe) Go/No Go test, but passes calibration
<b>Action:</b>	Rerun the phone through Go/No Go testing
<b>Symptom:</b>	Fails any part of the calibration routine
<b>Check:</b>	<b>X2801</b> for damage and replace, if more than 1 $\Omega$ between RF probe and C term or A and C term is short circuit then the probe is inserted.
<b>Replace:</b>	<b>N2803C</b> , if GSM Rx fault <b>N2803C</b> , if WCDMA Rx fault <b>N2801C</b> or <b>N2803C</b> , if GSM Tx fault <b>N2900</b> or <b>N2803C</b> ,if WCDMA Tx band 5 or 8 <b>N2903</b> or <b>N2803C</b> ,if WCDMA Tx band 1 fault <b>N2902</b> or <b>N2803C</b> ,if WCDMA Tx band 2 fault



## 2 Revision History

Rev.	Date	Changes / Comments
1	2011-Jul-12	Initial release
2	2011-Aug-16	No changes