



Troubleshooting Guide

- electrical -



*ST18i, ST18a, SO-03c,
Xperia™ Ray*



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



1 Troubleshooting Flow

1.1 Display

Symptom:	Display problem
Replace:	X7002 , if damaged vision check all pins Z9800, Z9801 or Z9802 R9876



Troubleshooting Flow

1.2 Illumination

Symptom:	No Display illumination	
Replace:	X7002 , if damaged	vision check pin B1,B2 and B7
	L7600 , if more than 1 Ω	
	V7601	
	R9876	
	N7600	
Symptom:	No Key Back Light	
Replace:	X9800 , if damaged	vision check pins B7-B9 and A8-A9
	N7600	
Symptom:	No Flash LED	
Replace:	X9800 , if damaged	vision check pins B28 and A8-A9



Troubleshooting Flow

1.3 Keys & Sensors

Symptom: On / Off key problem

Replace: **X9800**, if damaged vision check pin B29-B30

Symptom: Home Key problem

Replace: **X9800**, if damaged vision check pin B11

Symptom: Back Key, Menu Key Display Touch Sensor problem

Replace: **X7002**, if damaged vision check pins A13-A17, B13-B17

Symptom: Volume Up key problem

Replace: **X9800**, if damaged vision check pin B12, B14

Symptom: Volume Down key problem

Replace: **X9800**, if damaged vision check pin B13, B14

Symptom: Proximity sensor problem

Replace: **X9800**, if damaged vision check pins B19-B22
N5500

Symptom: Ambient Light Sensor problem

Replace: **X9800**, if damaged vision check pins A21-A22
N7600

Symptom: Compass problem

Replace: **N5400**



Troubleshooting Flow

1.4 Alert

Symptom:	Vibrator problems
Replace:	R9805 , if more than 1 Ω X9800 , if damaged vision check pin A11-A12



Troubleshooting Flow

1.5 Audio

Symptom:	No audio
Replace:	L1001 , if more than 1 Ω
Symptom:	No Primary Microphone
Replace:	X9800 , if damaged vision check pin A2, A4 and A5
Symptom:	No Secondary Microphone
Replace:	L2852 or L2853 , if more than 3 Ω B3502
Symptom:	No or bad Earphone / Ear speaker
Replace:	X9800 , if damaged vision check pin A28 and A29
Symptom:	No or bad Loudspeaker
Replace:	X9800 , if damaged vision check pins B2-B5 V3500 , if pin1 or pin 2 is short circuit to GND N3501
Symptom:	No or bad Hands-free (PHF) Microphone
Replace:	X9800 , if damaged vision check pin A19,B15,B17 L3100 or L3604 , if more than 2 Ω
Symptom:	No or bad Hands-free (PHF) Aux Earphone / Ear speaker
Replace:	X9800 , if damaged vision check pin A15, A17, B15 L3602 or L3603 , if more than 2 Ω
Symptom:	No Hands-free (PHF) Microphone – Phone not recognizes PHF set
Replace:	X9800 , if damaged vision check pin B16, B17 L3100 , if more than 2 Ω
Symptom:	No or bad FM Radio
Replace:	X9800 , if damaged vision check pin B15 V3100 N8102



Troubleshooting Flow

1.6 On/Off

Symptom:	Current draw greater than 300 mA
Replace:	N2801 , if getting hot N2903, N2900 or N2902 , if getting hot

Symptom:	Current draw when powered off
Replace:	N2801 , if getting hot N2903, N2900 or N2902 , if getting hot

Symptom:	Using no current when On/Off key is pressed and will not start.
Replace:	X9800 , if damaged vision check pin B29-B30

Symptom:	Draws current when On/Off key is pressed, returns to zero
Replace:	L1000, L1003, L1004 or L2400 , if more than 1 Ω

Symptom:	Other
Replace:	X1300 , if damaged vision check all pins



Troubleshooting Flow

1.7 Charging & Capacity

Symptom:	No or bad Charging from USB
Replace:	X2200 , if damaged vision check pin 1 and 5 C2200 , if X2200 pin 1 is short circuit to GND X1300 , if damaged vision check all pins N1310 N1303



Troubleshooting Flow

1.8 SIM

Symptom:	SIM not detected
Replace:	X9800 , if damaged vision check pin A24, A26, B24 and B26 V4001 , V4002 or V4003 , if short circuit to GND



Troubleshooting Flow

1.9 Camera

Symptom:	Main Camera problems
Replace:	X7301 , if damaged vision check all pins L1002 , if more than 1 Ω Z9803 , Z9804 or Z9805



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 N2200 or Z2200 if damaged

Symptom:	Bad Bluetooth ,WLAN and no GPS connection
Replace:	X8402 , if damaged X8401 , if more than 1 Ω between term A and C

Symptom:	Bad Bluetooth and WLAN connection
Replace:	Z8001 or Z8402

Symptom:	No Bluetooth and / or WLAN connection
Replace	N8102

Symptom:	No GPS connection
Replace:	Z8401 , Z8402



Troubleshooting Flow

1.11 Memory Stick / Card

Symptom:	Memory stick / Card (micro SD) not detected
Replace:	X4100 , if damaged vision check pin all pins V4100



Troubleshooting Flow

1.12 Network & Signal

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:	X2802, X8404, X8405, X8406 and X8407 for damage and replace, if necessary X2801 for damage and replace, if the more than 1 Ω between A and C term
Replace:	RF Antenna ,Sub PCB or Antenna RF Cable
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
Check:	X2801 for damage and replace, if the more than 1 Ω between RF probe and C term or A and C term is short circuit when the probe is inserted.
Replace:	N2803 , if GSM Rx fault N2803 , if WCDMA Rx fault V9830, N2801 or N2803 , if GSM Tx fault N2900 or N2803 , if WCDMA Tx band 5 or 8 fault N2903 or N2803 , if WCDMA Tx band 1 fault N2902 or N2803 , if WCDMA Tx band 2 fault



2 Revision History

Rev.	Date	Changes / Comments
1	2011-Aug-11	Released
2	2012-Mar-01	R9805 Added
3	2012-April-25	R9876 Added
4	2012-April-26	N7600 Added