



# Trouble Shooting Guide, Additional Soldering Process/, Electrical

Applicable for W910i and W908c

## Contents

<b>1</b>	<b>General .....</b>	<b>2</b>
<b>2</b>	<b>Repair Actions for Manual Test Failures.....</b>	<b>3</b>
2.1	Power On / Off.....	3
2.2	Software Flash .....	3
2.3	Charging.....	3
2.4	Hands-Free connection .....	3
2.5	SIM .....	3
2.6	Charging indicator (RED LED) .....	3
2.7	Display.....	3
2.8	Display Illumination .....	3
2.9	Keypad LEDs .....	3
2.10	Tally Led.....	3
2.11	Keypad Keys .....	3
2.12	Volume Up Key .....	3
2.13	Volume Down Key .....	4
2.14	WM Key .....	4
2.15	Real Time clock.....	4
2.16	Earphone (Receiver, Flip speaker).....	4
2.17	Polyphonic Speaker (Loudspeaker, Base Speaker).....	4
2.18	Hands-free (PHF) Aux Earphone .....	4
2.19	Microphone.....	4
2.20	Hands-Free (PHF) Aux Microphone.....	4
2.21	Camera.....	4
2.22	Opto Sensor .....	4
2.23	VGA camera .....	4
2.24	Flip Sensor .....	4
2.25	Accelerometer .....	4
2.26	Memory card .....	4
2.27	Bluetooth .....	4
<b>3</b>	<b>Repair Actions for Go/No Go Test Failures .....</b>	<b>5</b>
<b>4</b>	<b>Repair Actions for Calibration Failures.....</b>	<b>5</b>
<b>5</b>	<b>Revision History .....</b>	<b>5</b>

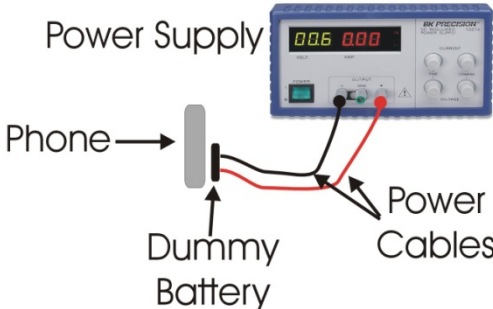


# 1 General

The purpose of this document is to indicate the electrical level repair actions associated with the different failure symptoms.

For symptoms that have multiple repair actions, the repair actions are listed in order of their probability of creating a successful repair. The first action has the highest probability, and subsequent actions have lower probabilities. The intention is for the repair technician to implement the first repair action and then retest the phone. If the phone continues to fail the same test, then the technician should continue to the second repair action. If the phone continues to fail the same test after all of the repair actions are exhausted, then the phone will be considered not reparable at this level.

This document should be used only after the actions from the Mechanical Trouble Shooting Guide have been exhausted for the specific symptom.

Voltage, current, and resistance information is provided for some symptoms to enable faster repairs. Perform current measurements using a dummy battery and power supply with digital current display. The phone should be fully assembled. Perform voltage and resistance measurements with a multimeter. Purchasing this equipment and performing these measurements is optional but recommended.

<p>Measure Current in Milliamps (mA)</p>  <p>Power Supply</p> <p>Phone</p> <p>Dummy Battery</p> <p>Power Cables</p>	<p>Perform current measurements using a dummy battery and power supply with digital current display. The phone should be fully assembled.</p>
<p>Measure Diode Voltage (VDC →)</p>  <p>Multimeter</p>	<p>Perform voltage measurements with a multimeter.</p>
<p>Measure Resistance in Ohms (<math>\Omega</math>)</p>  <p>Multimeter</p>	<p>Perform resistance measurements with a multimeter.</p>



## 2 Repair Actions for Manual Test Failures

Failure	Failure Symptom	Repair Action
<b>2.1 Power On / Off</b>	Current draws more than 300mAmps	N1002 inside module N1200
	Current draw when powered off	N1002 inside module N1200
	Using no current when On/Off button is pressed and will not start	S2400
	Using current when On/Off button is pressed and will not start.	<b>C4203</b> if short circuit <b>C4200</b> if short circuit N2202
	To high power consumption	<b>C4203</b> if short circuit <b>C4200</b> if short circuit
	Other symptoms	X2200 if damaged
<b>2.2 Software Flash</b>		X2400 if damaged N2424 if pin 10 or pin 11 at X2400 are short circuit to Pin 9 <b>Z2400</b> V2405
<b>2.3 Charging</b>	Charging from power outlet	X2400
	Charging from computer via USB	X2400 V2422 if short circuit
<b>2.4 Hands-Free connection</b>	Phone stuck in PHF mode when PHF is not attached	V2420 if short circuit N2400
<b>2.5 SIM</b>		X2403 if damaged
<b>2.6 Charging indicator (RED LED)</b>		X4200 if damaged
<b>2.7 Display</b>		X4200 if damaged
<b>2.8 Display Illumination</b>		<b>C4203</b> if short circuit <b>C4200</b> if short circuit N4201 X4200 if damaged
<b>2.9 Keypad LEDs</b>		X4200 if damaged
<b>2.10 Tally Led</b>		V4208
<b>2.11 Keypad Keys</b>		X4200 if damaged
<b>2.12 Volume Up Key</b>		S2403



Failure		Failure Symptom	Repair Action
2.13	Volume Down Key		S2402
2.14	WM Key		S2404
2.15	Real Time clock	<i>The clock has to be set after the battery has been detached</i>	X4200 if damaged
2.16	Earphone (Receiver, Flip speaker)		X4200 if damaged
2.17	Polyphonic Speaker (Loudspeaker, Base Speaker)		C3137 if short circuit N3100 X3100
2.18	Hands-free (PHF) Aux Earphone		X2400 L2403 if more than 1 Ohm L2404 if more than 1 Ohm
2.19	Microphone		X4200 if damaged
2.20	Hands-Free (PHF) Aux Microphone		X2400 L2401 if more than 1 Ohm L2402 if more than 1 Ohm
2.21	Camera		X4300 if damaged N2203
2.22	Opto Sensor		X4200 if damaged
2.23	VGA camera		X4200 if damaged
2.24	Flip Sensor		B4410
2.25	Accelerometer		N4410
2.26	Memory card		X2405 if damaged
2.27	Bluetooth	<i>Works but only very short distance</i>	X1400 if damaged X1401 if damaged



### 3 Repair Actions for Go/No Go Test Failures

Failure	Repair Action
Fails any part of Go/No Go testing	Run the calibration routine
Fails Go/No Go test, but passes calibration	Replace the <b>antenna</b> Check <b>X1201</b> , <b>X1202</b> for damage and replace if necessary Rerun the phone through Go/No Go testing
Fails Go/No Go test after passing calibration	Change <b>X1200</b> and retest

### 4 Repair Actions for Calibration Failures

Failure	Repair Action
Fails any part of the calibration routine	Replace <b>X1200</b> if damaged N1002 GSM

### 5 Revision History

Rev.	Date	Changes / Comments
1	2008-01-15	Initial Release
2	2009-03-12	Z2400 added to Software Flash
3	2009-04-08	C4203 added to 2.1 and 2.8
4	2009-10-15	C4200 added to 2.1 and 2.8
5	2009-12-03	N1002 Added