

Trouble Shooting Guide, Electrical

Applicable for W302 and S302

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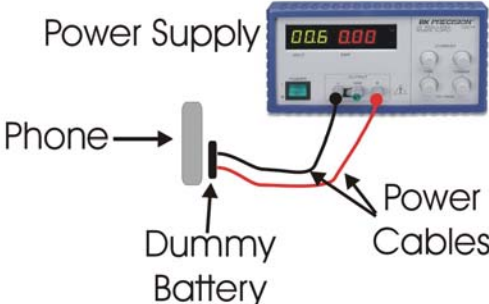


1 General

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. 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 (Ω)</p>  <p>Multimeter</p>	<p>Perform resistance measurements with a multimeter.</p>



2 Repair Actions for Manual Test Failures

Failure	Failure Symptom	Repair Action
2.1 Power On / Off	Current draw when powered off	<ul style="list-style-type: none"> • C753 if short circuit
	Current draw greater than 300 mAmps	<ul style="list-style-type: none"> • C753 if short circuit
	No current draw when on /off is pressed	<ul style="list-style-type: none"> • P500 if damaged
	Will not power on AND will not flash	<ul style="list-style-type: none"> • MN1004
	Draws less than 50 mA, hangs at gray display.	<ul style="list-style-type: none"> • Y101
	Other symptoms	<ul style="list-style-type: none"> • P750 if damaged
2.2 Software Flash	EMMA gives “unrecognized device” error and phone powers on	<ul style="list-style-type: none"> • P520 if damaged • ESD650 • MA650
	EMMA gives no response at all	<ul style="list-style-type: none"> • P520 if damaged • MA660 • ESD650 • MA650
2.3 Charging	Charging from power outlet	<ul style="list-style-type: none"> • P520 if damaged • ESD650 if Pin 12 at the system connector is short circuit to pin 9. • Q551
	Charging from computer via USB	<ul style="list-style-type: none"> • P520 if damaged • MA660 • Q553
2.4 Hands-Free connection	Phone stuck in PHF mode when PHF is not attached	<ul style="list-style-type: none"> • ESD503 if short circuit • ESD504 if short circuit
2.5 SIM		<ul style="list-style-type: none"> • P530 check connecting
2.6 Display		<ul style="list-style-type: none"> • P702 if damaged • ESD700 • ESD701
2.7 Display and Keypad Illumination		<ul style="list-style-type: none"> • D150
2.8 Display Illumination		<ul style="list-style-type: none"> • P702 if damaged
2.9 Keypad LEDs		<ul style="list-style-type: none"> • P500 if damaged



Failure	Failure Symptom	Repair Action
2.10 Flash LED Only S302		<ul style="list-style-type: none"> • P701 if damaged • MA860
2.11 Red LED		<ul style="list-style-type: none"> • P500 if damaged
2.12 Keypad Keys		<ul style="list-style-type: none"> • P500 if damaged
2.13 Vibrator		<ul style="list-style-type: none"> • P701 if damaged
2.14 Real Time clock	The clock has to be set after the battery has been detached	<ul style="list-style-type: none"> • P530 check connecting
	The clock gain or lose time	<ul style="list-style-type: none"> • Y101
2.15 Earphone		<ul style="list-style-type: none"> • P701 if damaged
2.16 Polyphonic Speaker (Loudspeaker, Base Speaker)		<ul style="list-style-type: none"> • P701 if damaged • MN920
2.17 Hands-free (PHF) Aux Earphone		<ul style="list-style-type: none"> • P520 if damaged • L605 if more than 1 Ohm • L606 if more than 1 Ohm • L608 if more than 1 Ohm • ESD602
2.18 Microphone		<ul style="list-style-type: none"> • PC950
2.19 Hands-Free (PHF) Aux Microphone		<ul style="list-style-type: none"> • P520 if damaged • L603 if more than 1 Ohm • L604 if more than 1 Ohm • ESD602
2.20 Camera		<ul style="list-style-type: none"> • P701 if damaged • LR700 • LR701 • LR702
2.21 FM Radio		<ul style="list-style-type: none"> • P520 if damaged • ESD600 if bad signal • MN1200
2.22 Memory Stick		<ul style="list-style-type: none"> • P530 check connecting



3 Repair Actions for Go/No Go Test Failures

Failure	Repair Action
Fails Go/No Go test	<ul style="list-style-type: none">• Replace the antenna Rerun the Go/No Go testing.• Change J1001 and retest

4 Revision History

Rev.	Date	Changes / Comments
1	2008-08-22	First release