



Trouble Shooting Guide Repair Instruction Electrical/, Electrical

Applicable for G502

Contents

1	General	2
2	Repair Actions for Manual Test Failures.....	3
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	Main Display.....	3
2.7	Main LCD LED:	3
2.8	Keypad LEDs	3
2.9	Keypad Keys	3
2.10	Volume Up/Down Key	3
2.11	Real Time clock.....	3
2.12	Polyphonic Speaker (Loudspeaker, Bas Speaker)	3
2.13	Hands-Free (PHF) Aux Earphone	4
2.14	Microphone	4
2.15	Hands-Free (PHF) Aux Microphone.....	4
2.16	Camera	4
2.17	Memory Card	4
2.18	Bluetooth	4
2.19	Fm Radio.....	4
2.20	USB.....	4
2.21	Camera Video LED	4
3	Repair Actions for Go/NoGo Test Failures	5
4	Repair Actions for Calibration Routine Failures	5
5	Revision History	5

1 General

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

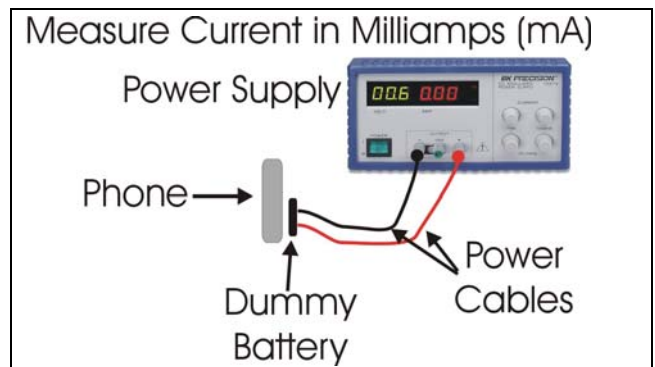
For symptoms that have multiple repair actions, the repair actions are listed in order of their probability of creating a successful repair. The first action has the highest probability, and subsequent actions have lower probabilities. The intention is for the repair technician to implement the first 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 repairable 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.

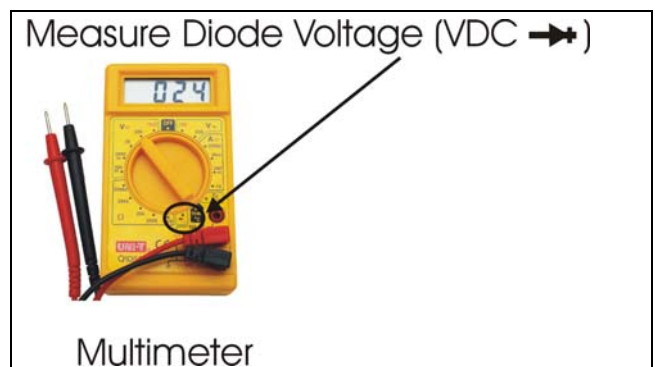
Voltage, current, and resistance information is provided for some symptoms to enable faster repairs. Perform current measurements using a dummy battery and power supply with digital current display. The phone should be fully assembled. Perform voltage and resistance measurements with a multimeter. Purchasing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

Perform current measurements using a dummy battery and power supply with digital current display.

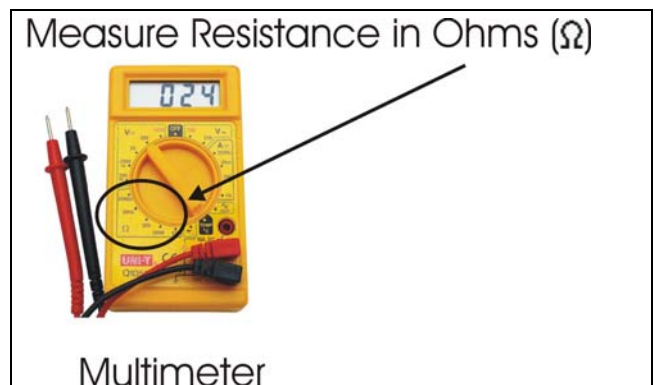
The phone should be fully assembled.



Perform voltage measurements with a multimeter.



Perform resistance measurements with a multimeter.





2 Repair Actions for Manual Test Failures

Failure	Failure Symptom	Repair Action
2.1 Power On/Off	Current draw greater than 300 mAmps	<ul style="list-style-type: none"> • N1200 • N1210 • D2404
	Current draw when powered off	<ul style="list-style-type: none"> • N1200 • N1210 • D2404
	Using no current when On/Off button is pressed and will not start	<ul style="list-style-type: none"> • X2402
	Will not power off	<ul style="list-style-type: none"> • X2402
	Other symptoms	<ul style="list-style-type: none"> • X2200 if damage • V4201 if short circuit • V4200 if short circuit
2.2 Software Flash		<ul style="list-style-type: none"> • V2405
2.3 Charging	Charging from power outlet	<ul style="list-style-type: none"> • X2400 if Damaged (Mech Part List) • V2421 if short circuit • V2202
	Charging from computer via USB	<ul style="list-style-type: none"> • D2404
2.4 Hands-Free connection	Phone stuck in PHF mode when PHF is not attached	<ul style="list-style-type: none"> • V2420 if short circuit • N2400
2.5 SIM		<ul style="list-style-type: none"> • X2403 if damaged
2.6 Main Display		<ul style="list-style-type: none"> • X4200 if damaged
2.7 Main LCD LED:		<ul style="list-style-type: none"> • X4200 if damaged • V4200
2.8 Keypad LEDs		<ul style="list-style-type: none"> • X2402 if damaged
2.9 Keypad Keys		<ul style="list-style-type: none"> • X2402 if damaged
2.10 Volume Up/Down Key		<ul style="list-style-type: none"> • S2402, S2403 if damaged.
2.11 Real Time clock	The clock has to be set after the battery has been detached	<ul style="list-style-type: none"> • B2100
2.12 Polyphonic Speaker (Loudspeaker, Bas Speaker)		<ul style="list-style-type: none"> • L2400 • N3100



Failure	Failure Symptom	Repair Action
2.13 Hands-Free (PHF) Aux Earphone		<ul style="list-style-type: none">• N3101• L2403 if more than 1 Ohm• L2404 if more than 1 Ohm
2.14 Microphone		<ul style="list-style-type: none">• B3100• C3113, C3120
2.15 Hands-Free (PHF) Aux Microphone		<ul style="list-style-type: none">• N3101• L2401 if more than 1 Ohm• L2402 if more than 1 Ohm
2.16 Camera		<ul style="list-style-type: none">• X4310 if damaged
2.17 Memory Card		<ul style="list-style-type: none">• X2490 if damaged
2.18 Bluetooth		<ul style="list-style-type: none">• N1400• D2105
2.19 Fm Radio		<ul style="list-style-type: none">• N1400• N2203• C3145, C3146
2.20 USB		<ul style="list-style-type: none">• V2405
2.21 Camera Video LED		<ul style="list-style-type: none">• V2201



3 Repair Actions for Go/NoGo Test Failures

Failure	Repair Action
<i>Fails any part of Go/No Go testing</i>	<ul style="list-style-type: none">• Run the calibration routine
<i>Fails Go/No Go test, but passes calibration</i>	<ul style="list-style-type: none">• Check X1200 for damage and replace it necessary• Replace Antenna• Replace X1201, X1202, X1203 if damaged• Return the phone through Go/No Go testing
<i>Fails Go/No Go test after passing calibration</i>	<ul style="list-style-type: none">• Change X1200 and retest• Check LCM gasket is missing or not.

4 Repair Actions for Calibration Routine Failures

Failure	Repair Action
<i>Fails any part of the calibration routine</i>	<ul style="list-style-type: none">• Replace X1200 if damaged• Replace X1201, X1202, X1203 if damaged• N1210 UMTS – Approved Centers Only• N1200 GSM – Approved Centers Only

5 Revision History

Rev.	Date	Changes / Comments
1	2008-05-26	1 st version
2	2008-06-17	V2405 added
3	2008-08-25	Update repair action
4	2009-03-16	Add V4200, V4201
5	2009-04-27	D2404 added to 2.1 Power On/Off