



# Troubleshooting Guide

## - electrical -



*MT15i, MT15a*



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# 1 Troubleshooting Flow

## 1.1 Display

Symptom:	Display problem
Replace:	<b>X7002</b> , if damaged          vision check all pins



## Troubleshooting Flow

### 1.2 Illumination

<b>Symptom:</b>	No Display illumination
<b>Replace:</b>	<b>X7002</b> , if damaged vision check pin A1 , A2 and B6 <b>L7600</b> or <b>L7610</b> , if more than 1 $\Omega$ <b>C7603</b> or <b>C7605</b> ,if short circuit <b>V7601</b> <b>N7600</b>

<b>Symptom:</b>	No Key Back Light
<b>Replace:</b>	<b>X5200</b> , if damaged vision check pin B7 , B8 and B9 <b>N7600</b>

<b>Symptom:</b>	R G B MMI LED s
<b>Replace:</b>	<b>V5107</b> <b>N7600</b>

<b>Symptom:</b>	No Flash LED
<b>Replace:</b>	<b>L7801</b> ,if more than 1 $\Omega$



## Troubleshooting Flow

### 1.3 Keys & Sensors

**Symptom:** On / Off key problems

**Replace:** S5207

**Symptom:** Back Key problems

**Replace:** X5200, if damaged vision check pin B3 and B5

**Symptom:** Home Key problems

**Replace:** X5200, if damaged vision check pin B3 and B6

**Symptom:** Menu Key problems

**Replace:** X5200, if damaged vision check pin B3 and B4

**Symptom:** Camera shutter key problems

**Replace:** X5200, if damaged vision check pin A6 , A7 and A8

**Symptom:** Display Touch Sensor problems

**Replace:** X5303, if damaged vision check pin A1- A10

**Symptom:** Volume Up key problems

**Replace:** X5200, if damaged vision check pin A3 and A4

**Symptom:** Volume Down key problems

**Replace:** X5200, if damaged vision check pin A3 and A5

**Symptom:** Proximity sensor problems

**Replace:** X5303, if damaged vision check pin B6 - B9

**Symptom:** Ambient Light Sensor problems

**Replace:** X5303, if damaged vision check pin B3 and B4  
N7600

**Symptom:** Compass problems

**Replace:** N5400



## Troubleshooting Flow

### 1.4 Alert

<b>Symptom:</b>	Vibrator problems
<b>Replace:</b>	<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>X5200</b> , if damaged      vision check pin B1 and B2 <b>N2800</b>
Symptom:	No Secondary Microphone
Replace:	<b>B3503</b> <b>N2800</b>
Symptom:	No or bad Earphone / Ear speaker
Replace:	<b>L3500</b> or <b>L3501</b> , if more than 2 $\Omega$ <b>V3502</b> , if pin1 or pin 2 is short circuit to GND <b>N2800</b>
Symptom:	No or bad Loudspeaker
Replace:	<b>X5200</b> , if damaged      vision check pin A9 - A10 <b>N3501</b> <b>N2800</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 20 K $\Omega$ <b>N3600</b> <b>N2800</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> <b>N2800</b>
Symptom:	No Hands-free (PHF) Microphone – Phone not recognizes PHF set
Replace:	<b>L3100</b> , if more than 2 $\Omega$ <b>R3616</b> , if more than 40 K $\Omega$ <b>N3600</b>
Symptom:	No or bad FM Radio
Replace:	<b>V3100</b> <b>N8102</b>



## Troubleshooting Flow

### 1.6 On/Off

<b>Symptom:</b>	Current draw greater than 300 mA
<b>Replace:</b>	<b>N2801</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>N2801</b> , if getting hot <b>N2903 ,N2900 or N2902</b> , if getting hot <b>C1312</b> , if short circuit

<b>Symptom:</b>	Using no current when On/Off key is pressed and will not start.
<b>Replace:</b>	<b>S5207</b>

<b>Symptom:</b>	Draws current when On/Off key is pressed, returns to zero
<b>Replace:</b>	<b>L1000, L1003 , L1004 or L2400</b> , if more than 1 $\Omega$ <b>N2401</b> <b>N2800</b>

<b>Symptom:</b>	Other
<b>Replace:</b>	<b>X1300</b> , if damaged      vision check all pins





## 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>C1324</b> , if X2200 pin 1 is short circuit to GND <b>X1300</b> , if damaged vision check all pins <b>L1300</b> , if more than 1 $\Omega$ <b>N1303</b> or <b>N1304</b>

<b>Symptom:</b>	Wrong Battery indicator
<b>Replace:</b>	<b>N1302</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

**Symptom:** Main and sub Camera problems

**Replace:** **L1002**, if more than 1  $\Omega$

**Symptom:** Main Camera problems

**Replace:** **X7301**, if damaged vision check all pins



## 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 is short circuit to GND <b>Z2200</b> , if more than 3 $\Omega$ between pin 1 - 2 and 3 - 4
<b>Symptom:</b>	Bad Bluetooth and WLAN connection
<b>Replace:</b>	<b>X8000</b> , if damaged <b>X8001</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>N8102</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> or <b>Z8403</b> <b>N8401</b> <b>N2800</b>
<b>Symptom:</b>	No or bad HDMI
<b>Replace:</b>	<b>X6501</b> , if damaged      vision check all pins <b>N6501</b> or <b>N6504</b> <b>N6505</b> , <b>N6506</b> or <b>N6507</b> <b>N6500</b>



## Troubleshooting Flow

### 1.11 Memory Stick / Card

<b>Symptom:</b>	Memory stick / Card (micro SD) not detected
<b>Replace:</b>	<b>X4100</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> and <b>X1000</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>	Inner Frame Assembly, Key Flex Assembly or Cable coax
<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>Z2800</b> , <b>N2803</b> or <b>N2800</b> , if GSM Rx fault <b>N2803</b> or <b>N2800</b> , if WCDMA Rx fault <b>V1305</b> , <b>N2801</b> , <b>N2803</b> , <b>N2800</b> or <b>V1304</b> , if GSM Tx fault <b>N2900</b> , <b>N2803</b> or <b>N2800</b> ,if WCDMA Tx band 5 or 8 <b>N2903</b> , <b>N2803</b> or <b>N2800</b> ,if WCDMA Tx band 1 fault <b>N2902</b> , <b>N2803</b> or <b>N2800</b> ,if WCDMA Tx band 2 fault



## 2 Revision History

Rev.	Date	Changes / Comments
1	2011-03-23	Initial release