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Motorola GmbH, CSS Center, Mobile Devices

Title: Troubleshooting-Guide V3xx

Doc. No: TSG_3G_V3xx

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Troubleshooting Guide MotoRAZR V3xx Level 3





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Revision History

Date	Version	Comment
2007-03-29	1.0	Initial release of document
2007-06-20	1.1	Added hyperlinks for MotoPCB

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Introduction

Audience

This document aids service personnel in testing and repairing V3xx telephones. Service personnel should be familiar with electronic assembly, testing, and troubleshooting methods, and with the operation and use of associated test equipment.

Requirements

Follow the current Technical Requirements for servicing Motorola products as described in the [Requirement List for Motorola Authorized Service Centers](#).

About this Troubleshooting Guide

This document was created to assist analyzers troubleshooting Motorola 3G Phones. All information was collected during the repair in the Repair Entitlement Group Flensburg.

Related Documents

[V3xx service manual](#)

[V3xx Mechanical Overview](#)

[Parts List EMEA](#)

[V3xx Disassembly Video](#)

[8471829E07 schematics and layouts](#)

[V3xx Global Block Diagram](#)

Basic information on troubleshooting Motorola 3G phones

Make sure on any problem, that it is not a software related one by simply doing a 1FF reflash with a Master Reset/Master Clear afterwards. In many cases a simple Master Reset can already fix the problem.

Make sure all contacts are clean.

Use latest approved Software.

Do a visual inspection on customer abuse/liquid contamination.



Top Ten defective parts

Following is an analysis summary of the V3xx repaired during NPI process by the Repair Entitlement Group CSS Flensburg

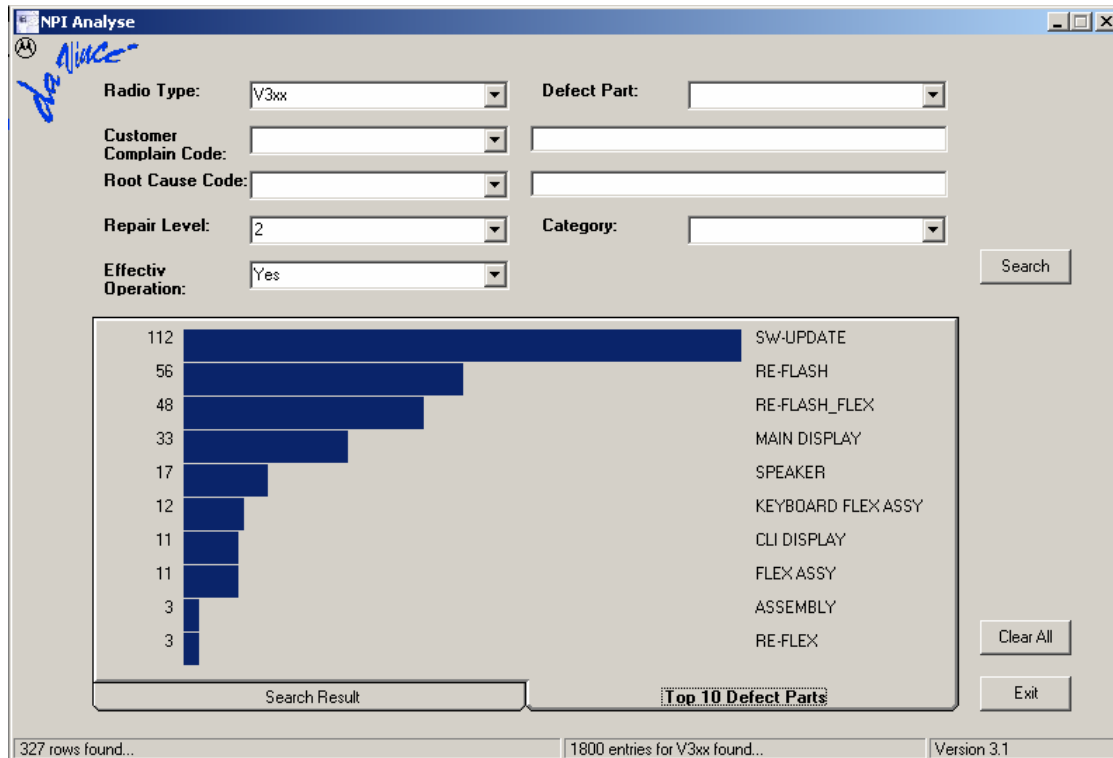


Figure 1
Level 2 parts

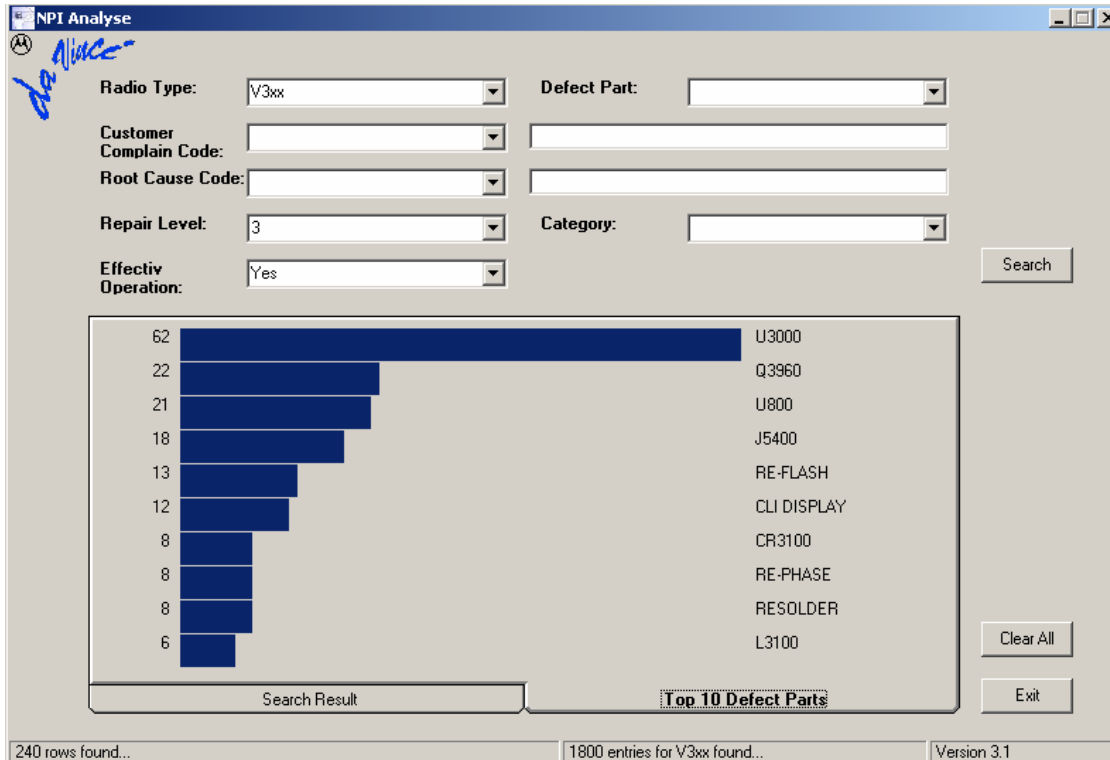


Figure 2
Level 3 parts

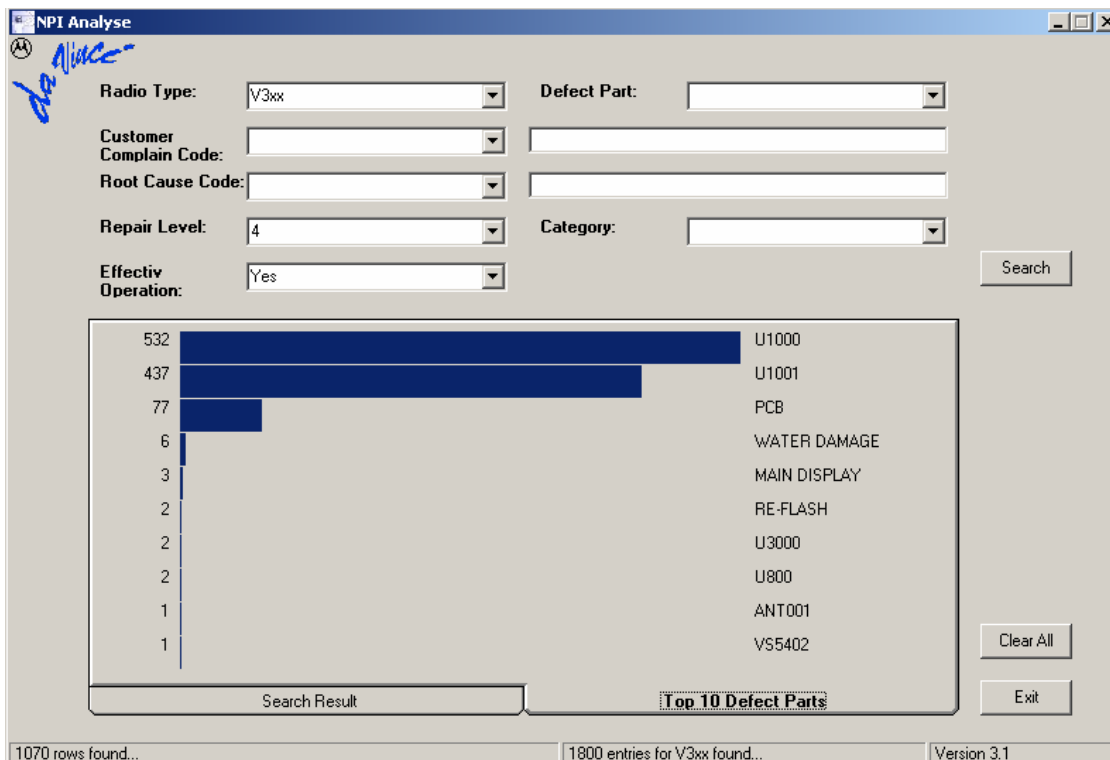


Figure 3
Level 4 parts



Troubleshooting Level 2

No speaker audio

Probable cause:

a) Transceiver board assembly defective

Verification: Temporarily replace the flip assembly with a known good flip assembly. If the fault has not been cleared, it is because of a defective transceiver board assembly. Forward to an authorized level 3 service center or proceed to [Level 3 Troubleshooting](#).

b) Speaker bad soldered/defective

Remove flip cover and visually inspect soldered contacts at speaker. If not ok, resolder speaker. Otherwise replace speaker with a new one.

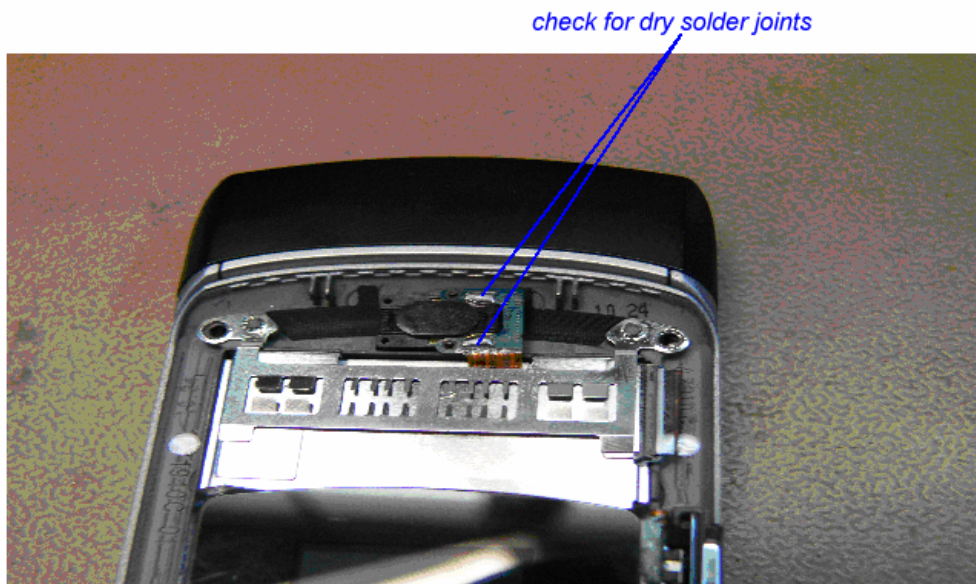
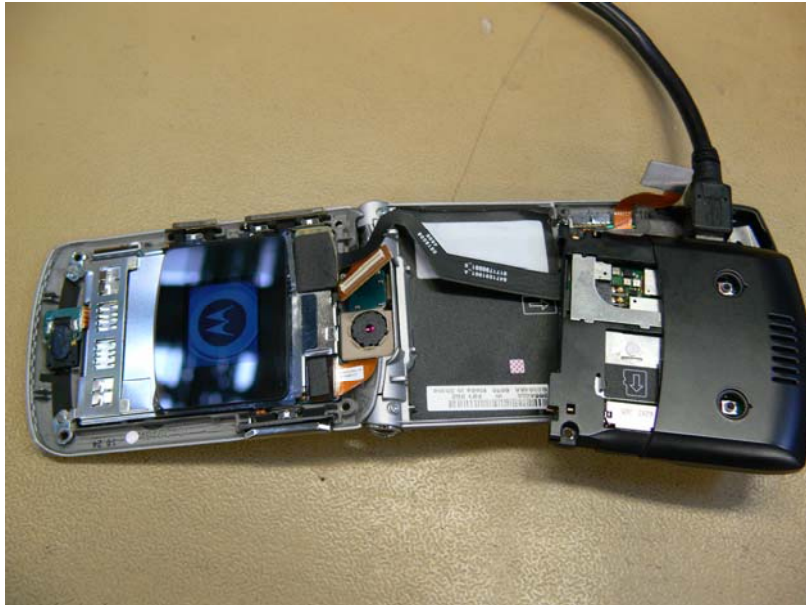


Figure 4

c) Flex assy defective

Remove flip cover. Unseat the display module assembly flex connector from its socket and temporarily connect the display module assembly and transceiver board assembly with a known good flex assy as shown on figure 5. Check speaker function by turning on a 1 kHz test tone via RepairStudio/Radiocomm. If the fault has been cleared, reassemble flip assy with new flex assy.

**Figure 5****d) Flex side button faulty**

If the fault has not been cleared with one of the previous steps a), b) or c), it is most likely a defective flex side button.

No microphone audio

Probable Cause:

a) Dust/foreign particles on microphone

Gain access to the transceiver board assembly and make sure that no dust/foreign particles are on microphone/speaking hole in flip assembly

b) Transceiver board assembly defective

Forward to an authorized level 3 service center or proceed to [level 3 troubleshooting](#).

No ring tone/alert function

Probable cause:

a) Faulty alert speaker

Verification: remove antenna assembly and temporarily replace the alert speaker with a known good one. If the fault has been cleared, reassemble with a new alert speaker.

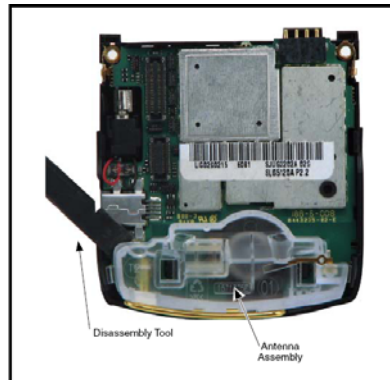


Figure 6

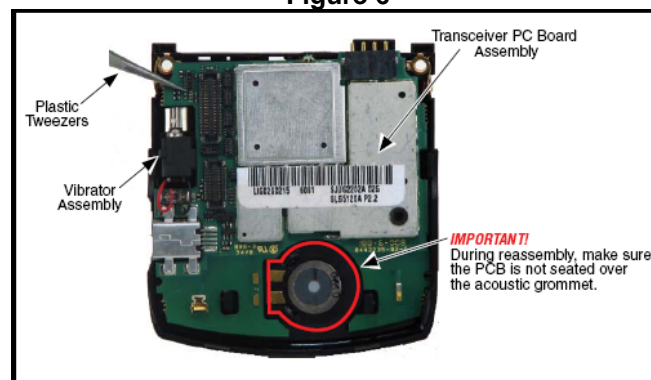


Figure 7

b) Faulty connection transceiver board assembly to alert speaker
Remove antenna assembly and check contacts. Temporarily replace antenna assy with a known good one. If the fault has been cleared, reassemble with a new antenna assy.

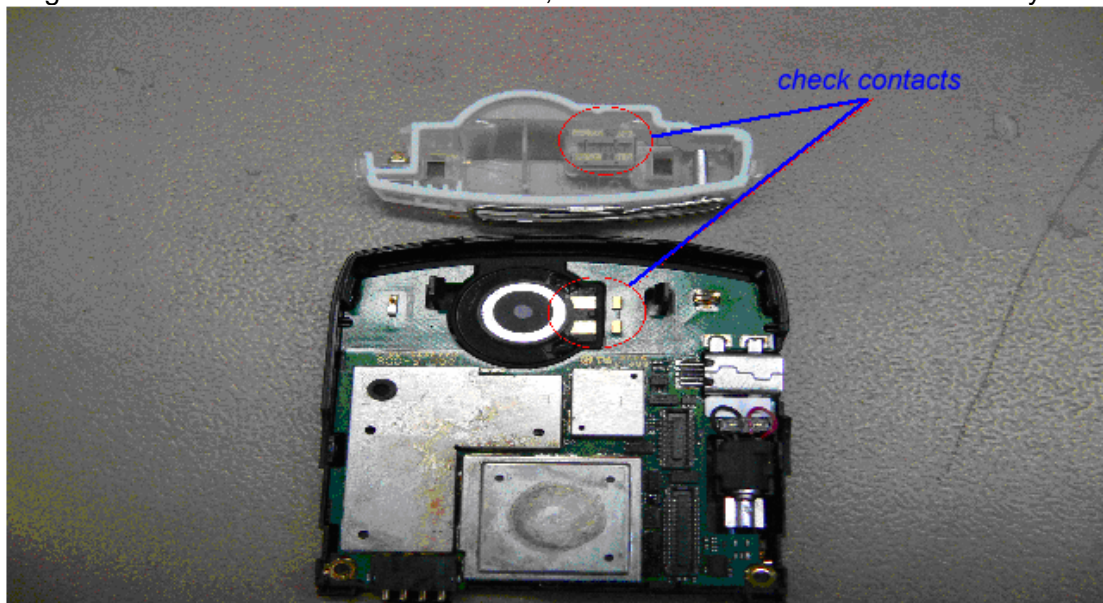


Figure 8

c) Faulty transceiver board assembly
Verification: Temporarily replace the transceiver board assembly with a known good one. If the fault has been cleared forward to authorized Level 3 Service Center or proceed to [Level 3 troubleshooting.](#)

**No vibrator function**

Probable cause:

a) Vibrator defective

Temporarily replace vibrator with a known good one and check if the fault has been cleared. Check additionally connector/contacts.

b) Transceiver board assembly defective

Forward to an authorized level 3 service center or proceed to [Level 3 troubleshooting](#)

No display/-backlight/poor picture quality

Probable Cause:

a) Transceiver board assembly defective

Verification: Temporarily replace the flip assembly with a known good flip assembly. If the fault has not been cleared, it is because of a defective transceiver board assembly. Forward to an authorized level 3 service center or proceed to [Level 3 troubleshooting](#).

b) Transceiver board connections faulty

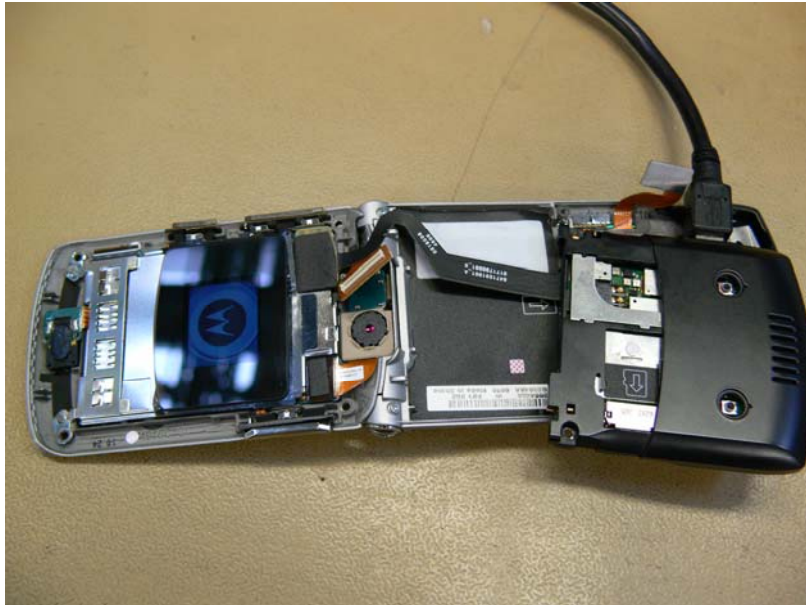
Remove rear chassis assembly from unit, check general condition of flexible printed cable (flex assy). If the flex is good, check that the flex connector is fully pressed down.



Figure 9

c) Flex assy faulty

Remove flip cover. Unseat the display module assembly flex connector from its socket and temporarily connect the display module assembly and transceiver board assembly with a known good flex assy (see figure 10). If the fault has been cleared, reassemble flip assy with new Flex Assy.

**Figure 10****d) Main display or CLI display faulty**

Check function of both displays. If just one of them has no function, most likely that display itself is faulty.

e) Flex side button faulty

If the fault has not been cleared with one of the previous steps a), b) c) or d), it is most likely a defective flex side button.

Telephone will not turn on or stay on

Probable cause:

a) Battery either discharged or defective

Try to switch on telephone with a known good battery. If the telephone turns on, make sure that the phone is able to charge the battery. If ok, replace battery with a new one. If the phone does not charge the battery, forward to [Level 3 Service Center](#) or proceed to [Level 3 troubleshooting](#).

b) Battery contacts open or misaligned

Visually inspect the battery connectors on both the battery and the telephone. Realign and clean contacts, if necessary. For battery connector replacement forward to an authorized Level 3 Service Center.

c) Keyboard flex assy defective

If the telephone turns on via EMU USB cable and is unable to power down after pressing the ON/OFF button, it could be because of a faulty keyboard flex assy. For verification reassemble the unit with a known good flip assy. If the fault has been cleared, replace keyboard flex assy with a new one.



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d) Software corrupt

If the telephone shows a bootloader menu as shown in Figure 10 or is able to enter the bootloader menu by holding "*" + "#" keys while turning on, the phone software possibly can be recovered by a 1FF software reflash. Proceed to [recovering flash memory in forced flash mode](#).



Figure 11

e) Transceiver board assembly defective

If none of the previous issues fixed the problem it is most likely a defect on the transceiver board assembly – forward to an authorized Level 3 Service Center or proceed to [level 3 troubleshooting](#).

**Can't make voice call/no service**

Probable cause:

a) Antenna assembly defective

Check to make sure that the antenna pin is properly connected to the transceiver board assembly. If connected properly, substitute a known good antenna. If the fault is still present, proceed to b).

check if WCDMA/Bluetooth antenna is properly connected to antenna contact on pcb

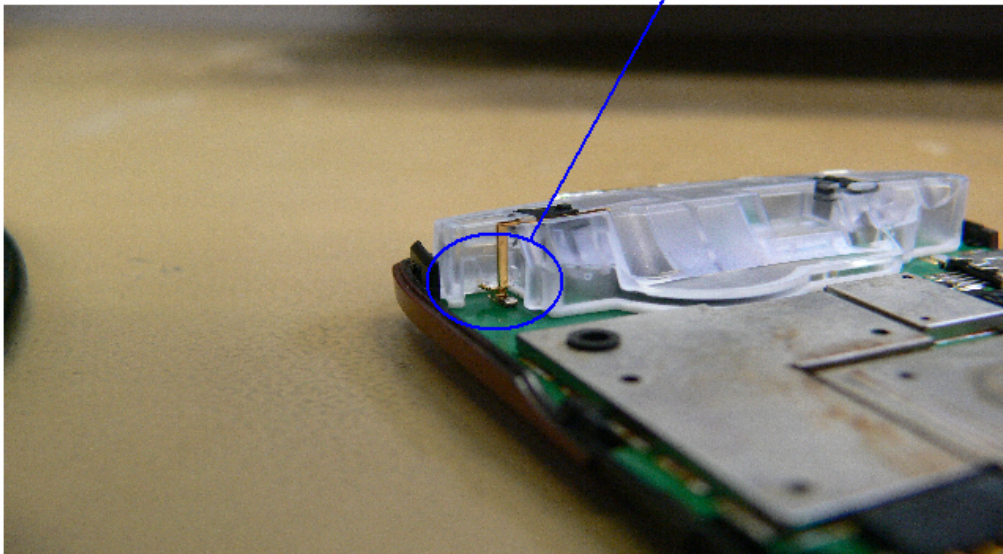


Figure 12

check antenna contacts for any damage

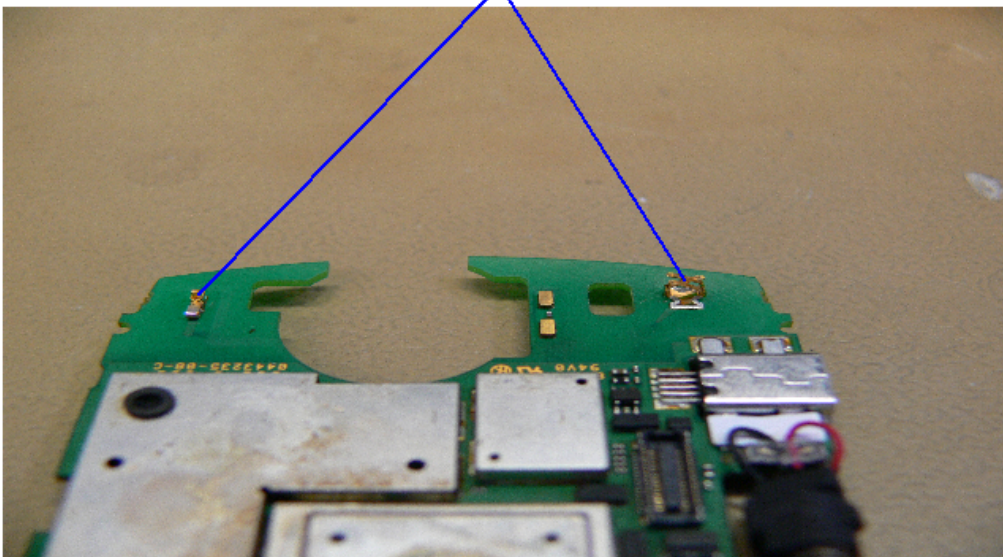


Figure 13

b) Transceiver board assembly defective

Forward to an authorized level 3 service center or proceed to [level 3 troubleshooting](#).



Troubleshooting Level 3

Audio problems

First step on every audio related problem is to identify which audio paths are affected.

If audio signals in loop are ok, there could be an audio problem in a network call. Then it is most likely a problem with the ARGON – forward to an authorized level 4 service center.

No speaker audio

Check [EAR_SP+](#) and [EAR_SP-](#) at [D2302](#), both should have around 1.5Vdc offset voltage, if audio loop is switched on, and additional up to 3Vpp at 1kHz, if test tone is switched on via RepairStudio/Radiocomm.

- if not: check [J2500/D2302](#) and 0Ohm Resistors [R4000/R4001](#)
- if ok, change ATLAS IC [U3000](#)

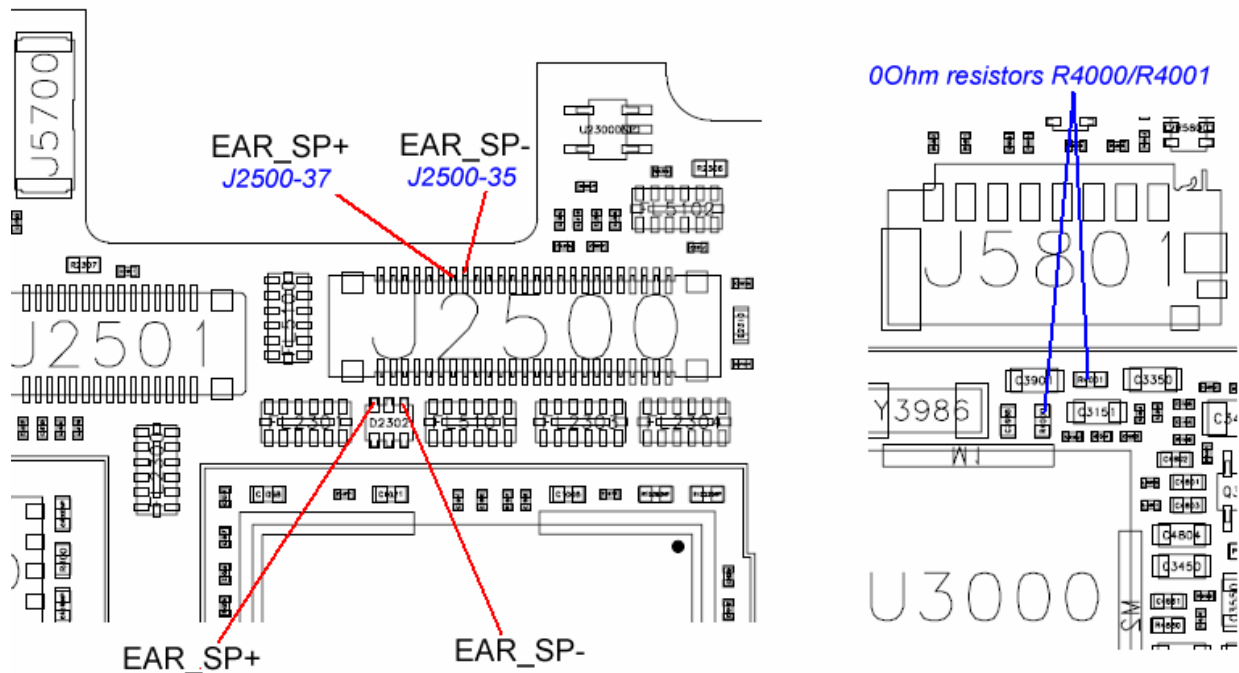


Figure 14

No microphone audio

Set radio in audio loop using RepairStudio/Radiocomm

- check Mic BIAS at [C4110](#) – should be around 2.1Vdc
- if not check [C4110/C4106/C4107](#) for low resistance to GND, if they are ok, replace ATLAS IC [U3000](#)
- if ok check MIC_INPUT at [C4100](#) while blowing into the microphone to see the audio signal caused by the blowing
- if there is no audio signal, replace microphone
- If ok, replace ATLAS IC [U3000](#)

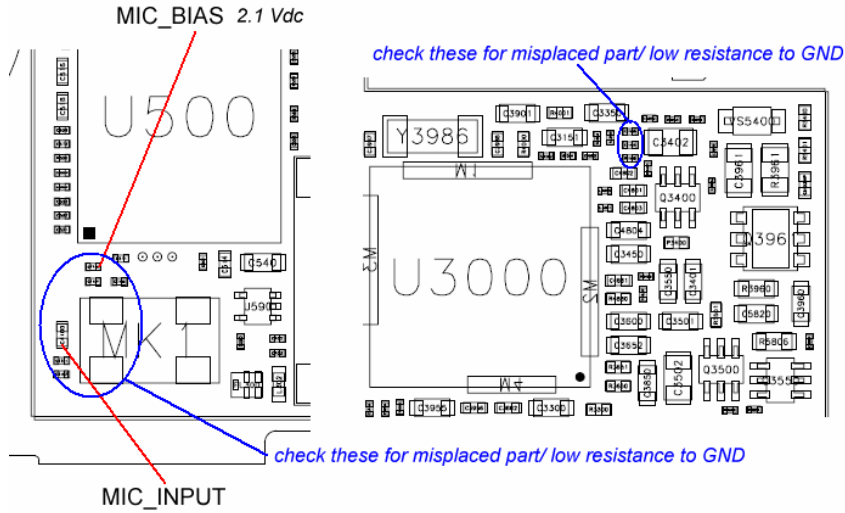


Figure 15

No ring tone/alert function

Check LOUD_SPM ([M4000](#)) and LOUD_SPP ([M4001](#)), both should have around 2.2Vdc.

c) if not, check for misplaced/defective parts as shown in *Figure 15*.

d) If ok, change ATLAS IC [U3000](#)

The alert signal is amplified by the ATLAS IC and generated by the ARGON IC, so if the ATLAS alert audio path is ok, there could be a problem with the ARGON not generating the alert signals.

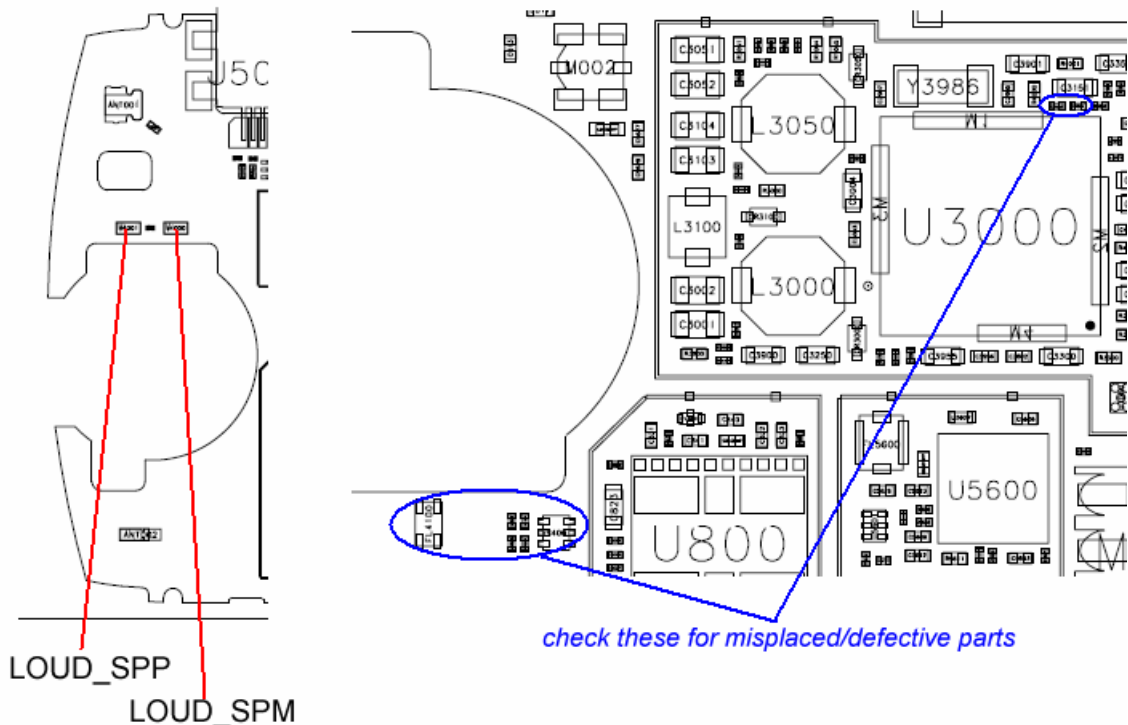
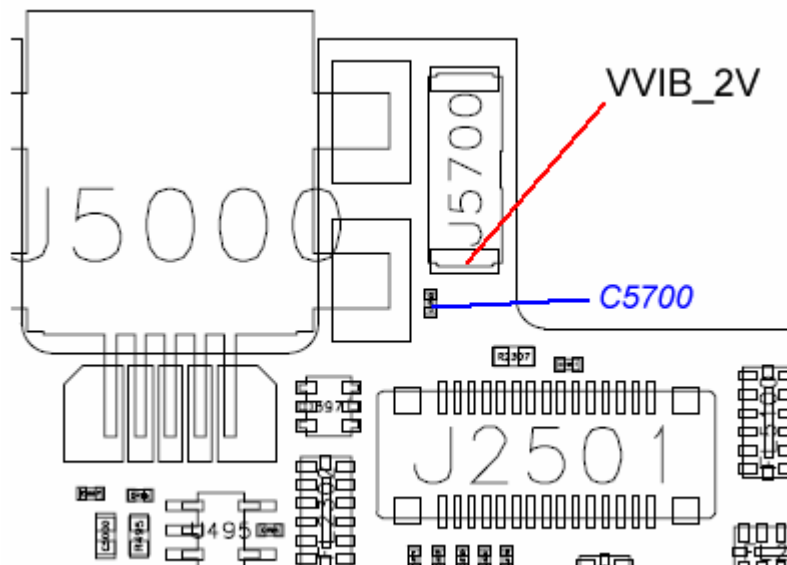


Figure 16

**No vibrator function**

Turn on vibrator using RepairStudio/Radiocomm. Measure [VVIB_2V](#) at [J5700-1](#), should be 2Vdc.

- e) if not check [C5700](#) for low resistance to GND
- f) if ok, change ATLAS IC [U3000](#)

**Figure 17****No display/-backlight/poor picture quality**

Make sure that the problem is not located in the Flip Assembly, by testing PCB with a good one and do an visual check of [J2500](#).

The following supply voltages for the flip assembly should be present:

- [VCAM](#)
- [B+](#)
- [VLVIO 1 8V IPU](#)
- [VHVIO 2 775V](#)
- [VGPU CORE 1 5V](#)

The voltages can be ok without a flip connected, but can break down, if a flip is plugged in, although the flip is ok! Additionally check the clock signal:

- [APPS_CLK](#) at [E2310](#) (should be 26 MHz)
only present the first seconds after power on!

If ok check:

- Filters [FL2301](#), [FL2303](#), [FL2304](#), [FL5101](#), [FL5102](#)

You can check the function of these parts by using an Ohm Meter to check the resistance to GND for verification, which line is affected. By using the FLViewer it can be tracked which filters the signal passes until it reaches the ARGON.

If all of these are ok, it should most likely be a problem with the ARGON – forward to an authorized level 4 service center.

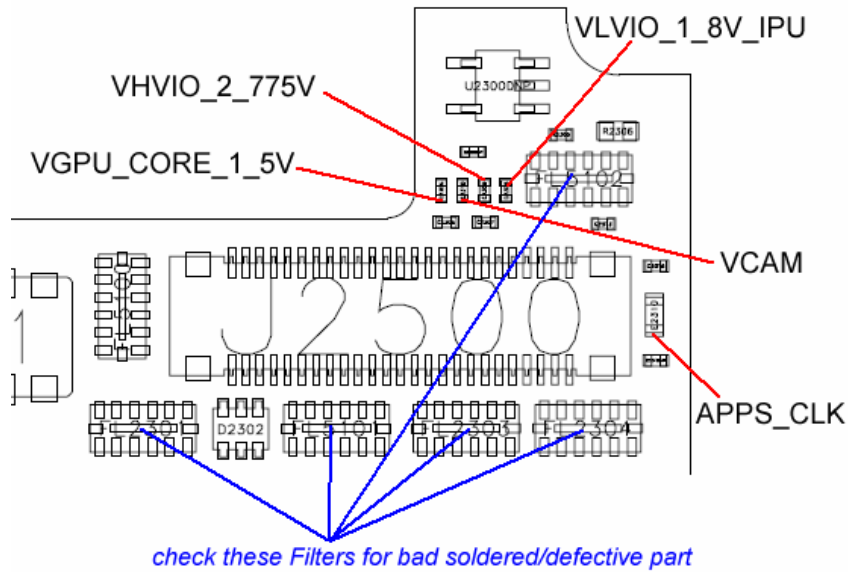


Figure 18

Flip detect problem

Units with a flip detect problem will show following symptoms:

- no power on via battery
- no main display via EMU connector supply
- CLI display is not switching on open/close flip
- no keypad function

Check [FLIP_DETECT_C](#) at [R2307-2](#) – should be 1.8Vdc (High), if it is low check

- [VLvio_1_8V_IPU](#) at [R2307-1](#) , if 1.8Vdc are present check [C2311/C2314](#) for low resistance to GND, if ok it is most likely a problem with the Argon – forward to an authorized level 4 service center.

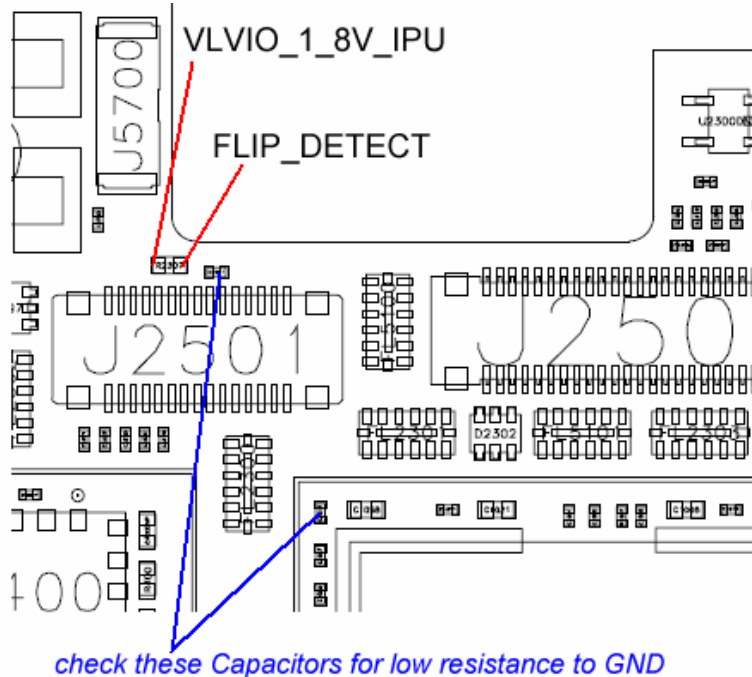
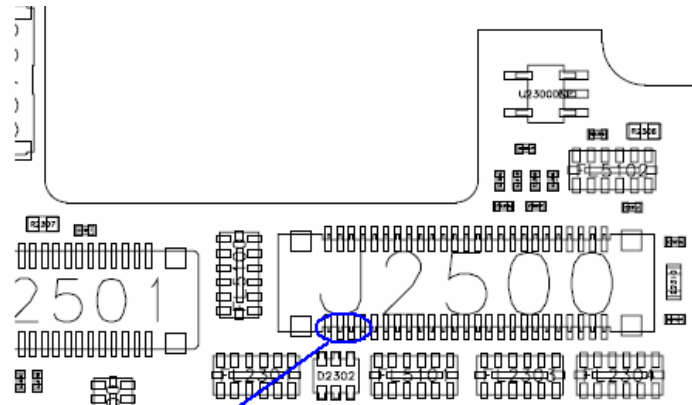


Figure 19

**Flip indicator LED's – no function**

Sign of Life/Battery Charging Status, Bluetooth Signal Light and Camera Notification Light – if any of these is/are not working:

- make sure the fault is not in the flip assembly itself by testing pcb with a known good flip assembly
- check [J2500](#) for solder shorts/dry solder joints/damage
- if ok, change ATLAS IC



check J2500 for solder shorts/dry solder joints/damage

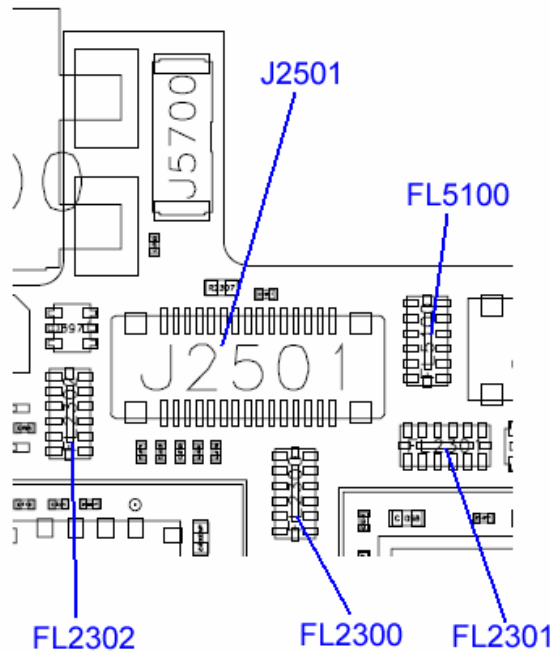
Figure 20**Keypad / side keys – no function/hangs**

Due to the keypad matrix architecture with 8 rows in 4 columns it is quite useful to verify which keys (if not all) are affected. By knowing which keys are not working, it is possible to find out which row or column is affected. You can either use an Ohm Meter to check the resistance to GND for verification, which line is affected. By using the MotoPCB it can be tracked which filters the signal passes until it reaches the ARGON.

In practice the defective part can very often be found by doing a visual inspection. Check:

- [J2501](#)
- [FL2300](#)
- [FL2301](#)
- [FL2302](#)
- [FL5100](#) for solder shorts/bad soldered/defective part

If the keypad connector/filters are ok it's probably a problem with the ARGON – forward to an authorized level 4 service center.



check all of these for solder shorts/ bad soldered/defective part

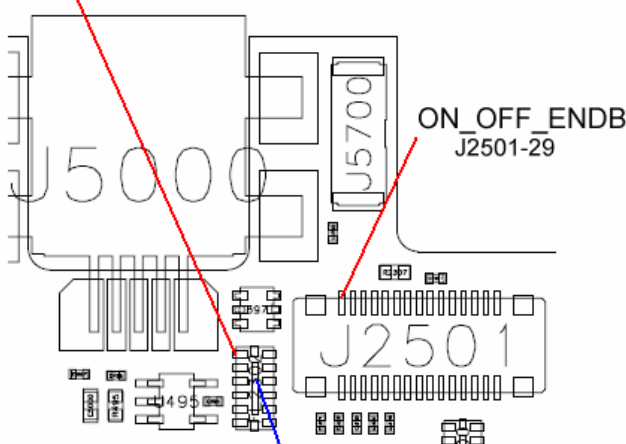
Figure 21

On/Off switch not working

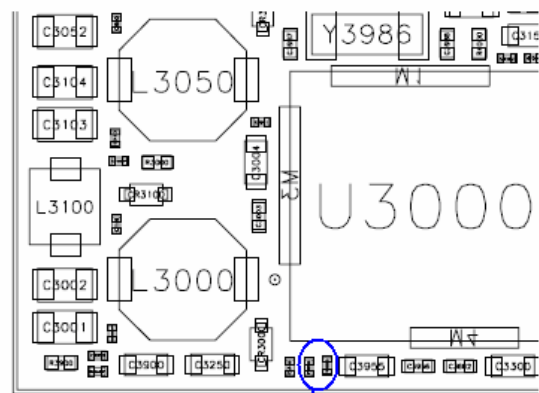
The On/Off Button function can easily be checked by attaching a known good flip assembly to the PCB. By inserting an EMU Bus USB cable the phone should turn on. Check ON_OFF_END_B at FL2302-7. It should be a HIGH signal of 2.8Vdc and LOW signal if ON/OFF Button is pressed.

- If signal is at High Level and not switching down when On/Off Button is pressed check J2501 and FL2302
- If signal is always at Low Level or Down (below 2.8Vdc) check C3990/R3993. If they are ok it is most likely a problem with the ATLAS IC, change U3000.

ON_OFF_END_B



check for bad soldered/defective part



check these for tombstoned/misplaced parts

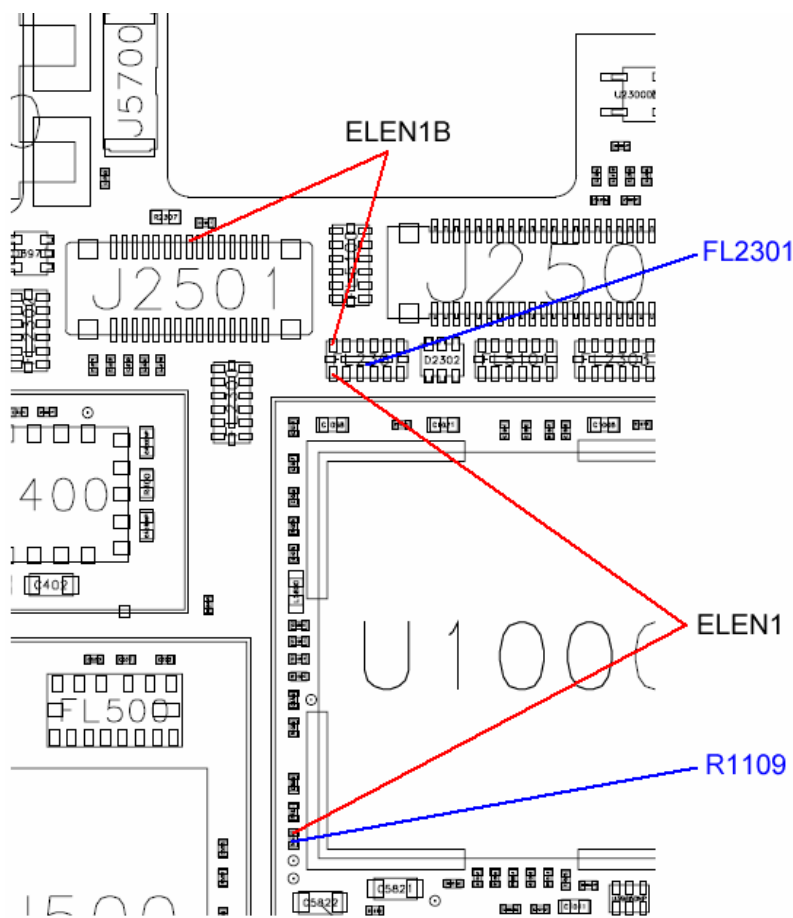
Figure 22

**No keypad backlight**

Keypad Lighting is done by EL. The EL driver is located on the keyboard pcb.

Turn on keypad backlight via RepairStudio/Radiocomm. Check [ELEN1B](#)

- If High check [J2501](#)
- If Low check [ELEN1](#).
- If ELEN1 is High (2.8Vdc) change [FL2301](#)
- If ELEN1 is Low it is most likely a problem with the ARGON – forward to an authorized level 4 service center.

**Figure 23**

**SIM card – check card/insert SIM**

Measurement on the SIM interface is a little bit difficult, as not all signals will be present until a SIM card and a battery are inserted. As far as I know there is still no SIM feature implementation in Repair Studio or Radiocomm. In the most cases it should be possible to figure out which part is defective by simply using the Ohm Meter to measure the following signals to GND:

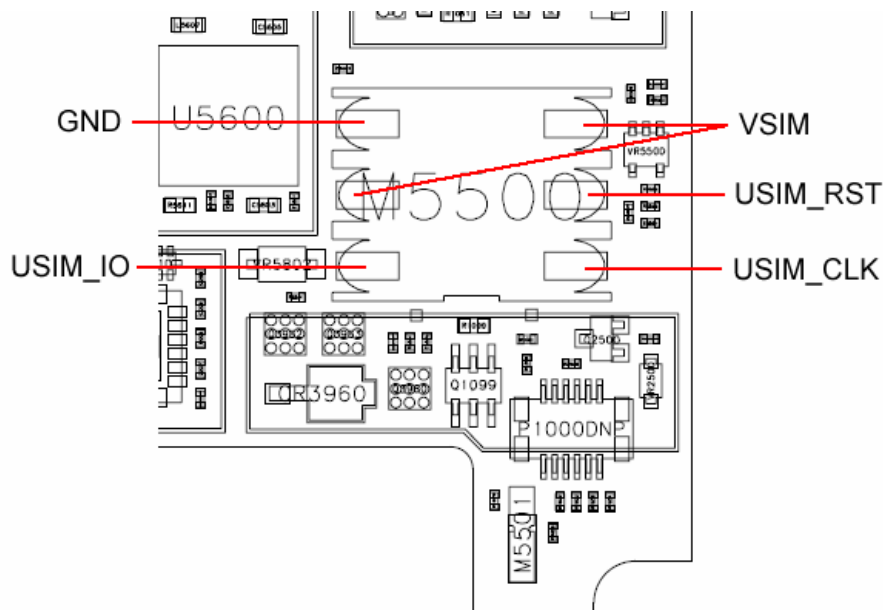
- [VSIM](#) at [M5500-3](#), [M5500-6](#)

If far less than 30 kOhm to GND, it could be a defective ATLAS IC ([U3000](#))

- [USIM_CLK](#) at [M5500-2](#)
- [USIM_IO](#) at [M5500-1](#)
- [USIM_RST](#) at [M5500-4](#)

If any of these has far less than 30 kOhm to GND, it could be a defective ARGON IC ([U1000](#)) – forward to an authorized level 4 service center.

Before replacing the ATLAS IC ([U3000](#)) or the ARGON IC ([U1000](#)) make sure that none of the associated capacitors/diodes have low resistance to GND.

**Figure 24**



Transflash Memory Card– no function

Insert a known good TransFlash card.

Under **Menu – Settings – Phone Status – Storage Devices** the Memory Card should appear next to the internal Phone Memory.

If not, disassemble the phone and do a visual inspection of the TransFlash Connector [J5801](#) itself. If there are any visible damages/bent contacts/solder shorts or dry joints, change it.

Check [SD1_DET_B](#) at [R5810](#):

- without TransFlash card inserted there should be a High signal of 1.9Vdc, if not check [R5810](#) for dry joints/tombstoned part
- with TransFlash card inserted the signal should change to Low signal (0V)

If [SD1_DET_B](#) without TransFlash card inserted is ok (High/1.9Vdc), but is not switching down to 0V with inserted TransFlash card, change TransFlash Connector [J5801](#).

Check [VMMC_2_9V](#) at [R5802](#) (2.9Vdc). If low, check [Q3550/VR5800/VR5801](#) for internal shorts to GND. If ok, change ATLAS IC [U3000](#).

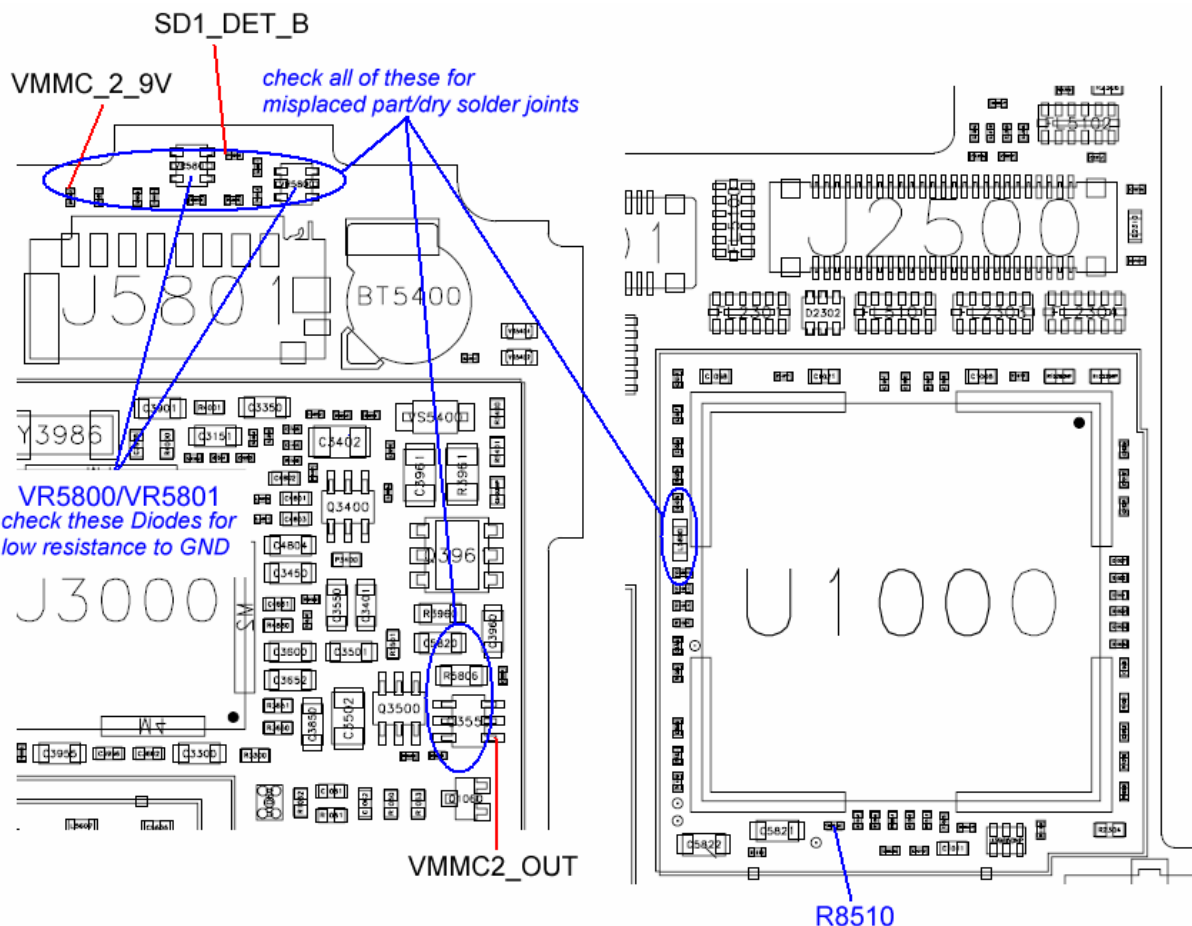


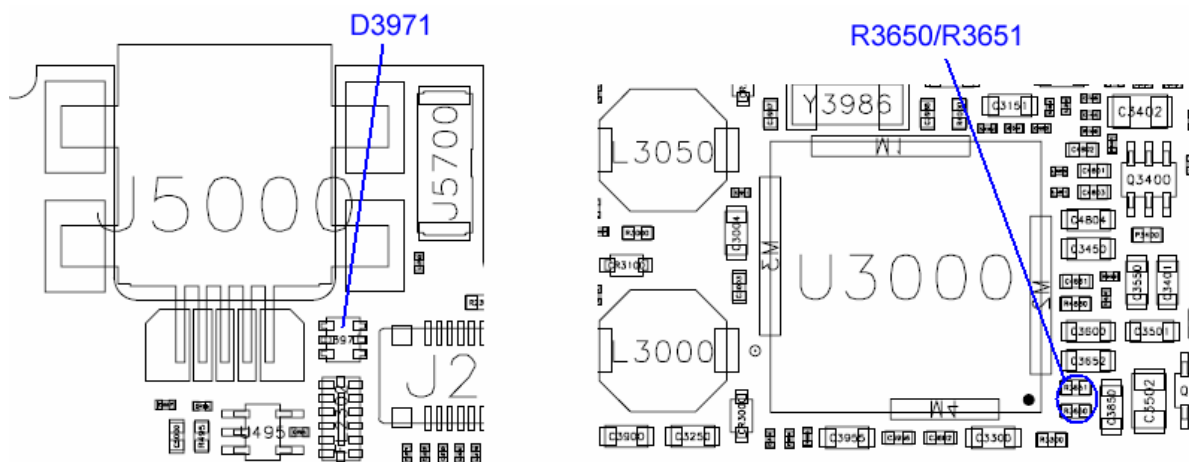
Figure 25

**No turn on**

Verify if radio doesn't turn on (assembled with display). If it does, but doesn't enumerate via EMU-Connector at RSD/Repair studio there should be a problem with the USB connection. In some cases a 1FF SW reflash in FORCED FLASH MODE (by connecting EMU-Connector to radio while "*" and "#" are pressed) can fix this issue.

- If not, visually check EMU Connector [J5000](#) for mechanical defects or contamination on contacts, bad soldered pins or solder shorts
- Check [D3971](#), [R3650/R3651](#) (22 Ohm)
- If ok, change ATLAS IC ([U3000](#))

If the problem remains, it could be a problem with the ARGON IC – forward to an authorized level 4 service center.

**Figure 26**

If radio doesn't turn on, but draws high current (>500 mA)

- Please follow troubleshooting instructions as described in the [Battery life short/Charging problems/No turn on due to excessive current drain](#) section of this document.

Note: Watchdog

In case the phone draws current but switches off after a few seconds, you can force the phone not to switch off, by setting the [Watchdog R3991DNP](#). By placing a short resistor as R3991, or by just solder across the pads of R3991 the WATCHDOG signal will be pulled to HIGH level (VIOL0_REG_1_8V) and the ATLAS IC will not switch off its power regulators. Thereby you will be able to measure or to do a thermal troubleshooting using a coolant spray as described in the [Battery life short/charging problems/no turn on due to excessive current drain](#) section of this document.

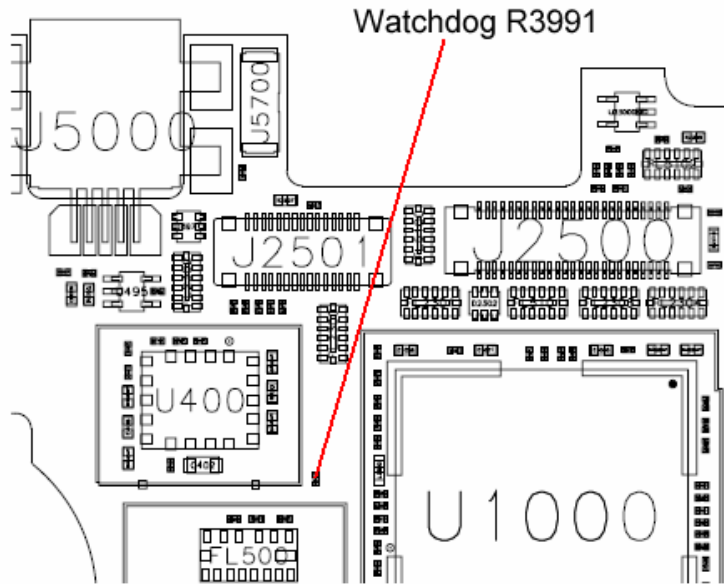


Figure 27

If radio draws no current it's most likely a problem with the 32.768 KHz clock generated by [Y3986](#).

- change Crystal [Y3986](#)
- if unsuccessful change ATLAS IC ([U3000](#))

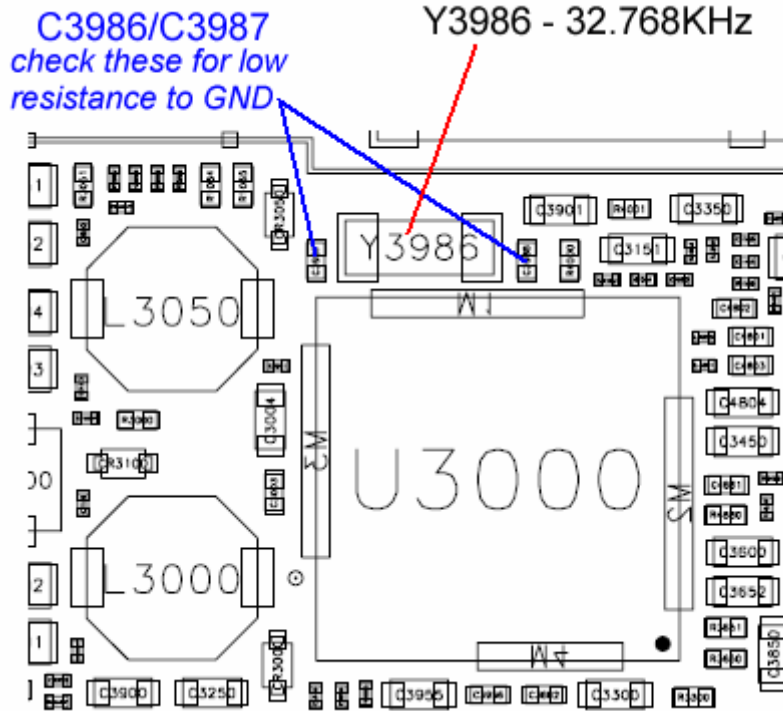


Figure 28



If the current consumption is in normal range (40mA to 300mA)

- try doing a 1FF SW reflash in FORCED FLASH MODE. *If radio enters the forced flash mode or starts in flash mode by itself the main supply voltages for the logic section should be ok – Most likely the trouble can be found in the logic section (ARGON/Flash Memory) – forward to an authorized level 4 service center.*
- if unsuccessful, a flash log file generated by Repair Studio/RSD can be viewed. There you will find the reason why the flash operation failed. However, this information can be ignored, as in almost every case the ARGON IC together with the FLASH POP IC has to be changed – forward to an authorized level 4 service center.

Turn off – powers down in standby

If radio stores panic: DSM_MEASUREMENT_ERROR there is most likely a problem with the 32.768 KHz clock, on which the radio is running when entering the deep sleep mode.

- change [Y3986](#) and test radio with a network SIM card and let radio entering deep sleep mode
- if radio still powers down, change ATLAS IC ([U3000](#)).

If radio soft resets/ power cycles and turns on again (possibly with a blank/white screen) try doing a Software upgrade with newest operator approved Software. If the trouble remains, it could be a problem with the ATLAS IC or with the ARGON – forward to an authorized level 4 service center.

Battery life short/charging problems/no turn on due to excessive current drain

In probably most cases these problems are caused by an off current. First verify whether there is an off current. If there is an off current, it should be checked whether the device draws current via battery and/or via external connector.

In case of an off current via battery there should be a low resistance (less than ~200 Ohm)/ or a short from [BATT+ RAW \(J5400-1\)](#) to GND.

To localize the defective part causing the short/ low resistance a simple way is to freeze the board with a coolant-spray, supply a battery voltage from a power supply using micro clamp-type test probes, and see which parts are getting warm. **This is a very basic and essential method to troubleshoot off current / high current consumption failures.**

The power supply (for [BATT+ RAW](#)) should be set to 3.8V with current limitation to 2A. We strictly recommend using the Power Supply Unit Current Drain Meter to check the current drain of the PCB.

Shields covering suspected parts should be removed before freezing the PCB.

The PCB should be handled with care. After removing the shields the PCB should be given some time to cool down slowly before freezing it to far below zero to avoid physical stress to the multilayer PCB with lead free soldered parts.

In some cases the part, which is getting warm has an internal short itself. After removing this part, the off current should be fixed. For verification, check off current or measure resistance [BATT+ RAW \(J5400-1\)](#) to GND. A new part can be placed.

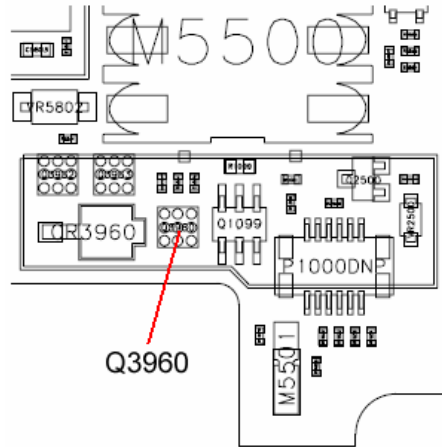


Figure 30

Does not charge

If the phone seems to charge, but battery meter stays at low level, check whether there is a high current consumption or an off current via battery. If so please follow troubleshooting as described in the [Battery life short/charging problems/no turn on due to excessive current drain](#) section of this document.

If there is no off current, check the whole path for the charging current. Make a battery/charger phasing to see, if only the charger current or also the battery-phasing is affected. For a charger current problem only:

- Check the whole charger path for misplaced parts/solder shorts/defective parts
- **If ok** replace ATLAS IC [U3000](#)

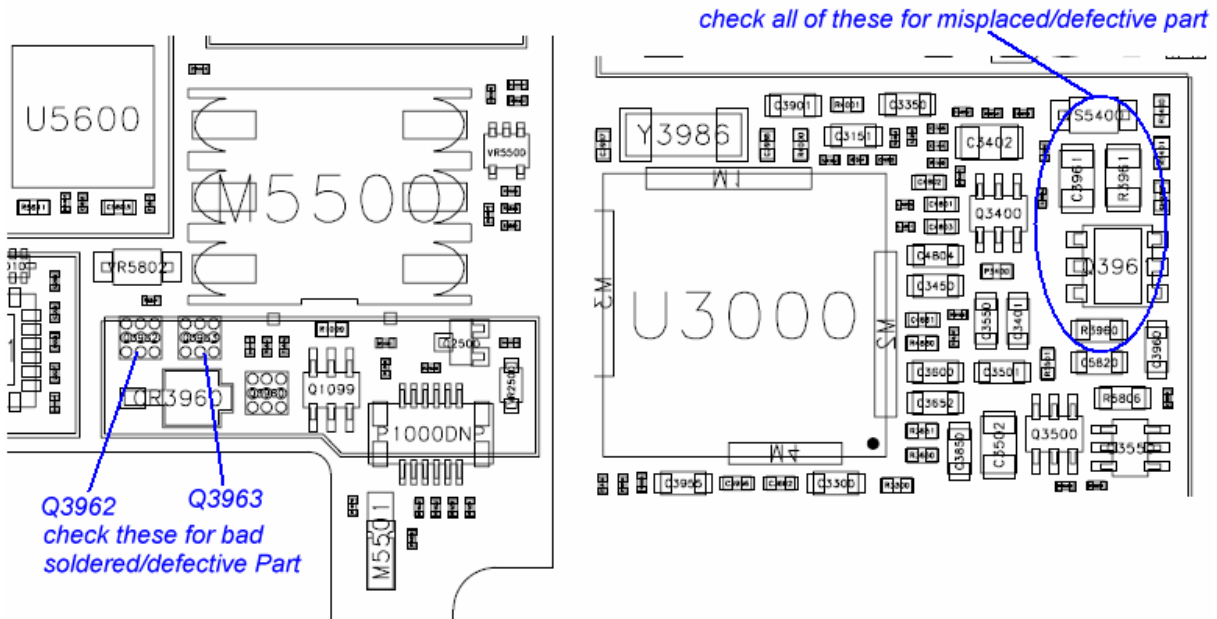


Figure 31



Invalid Battery

Verify [BATT_DAT \(J5400-2\)](#) while PCB is connected to EMU-USB cable. It should be 2.775V.

- If it is low, check [BATT_DAT](#) at Diode [VS5404-1](#). If 2.775Vdc are present here, it is most likely a problem with broken solder connection/bad soldering at [J5400](#)
- check [VS5404](#), [R5400](#) (100 Ohm) and [R5401](#) (4k7 Ohm). If they are ok it should be a problem with the ARGON [U1000](#) – forward to an authorized level 4 service center.

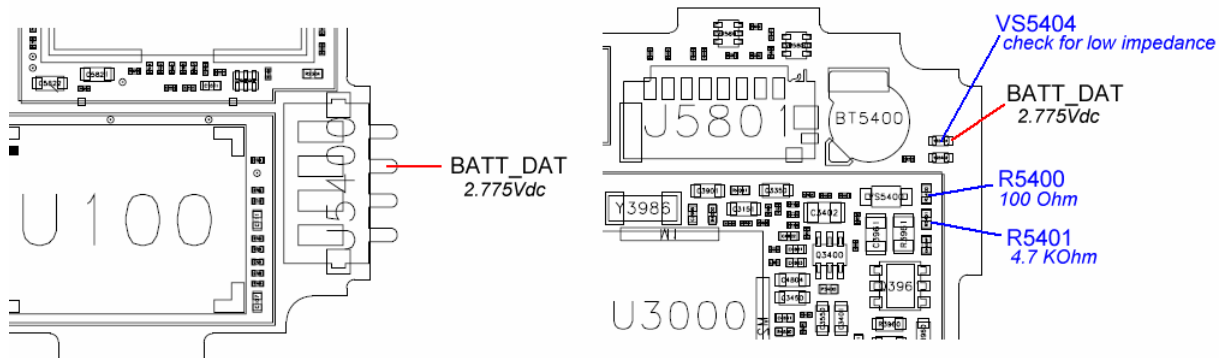


Figure 32

Battery Thermistor problem

Check [BATT_TEMP_SENSE](#) at [J5400-3](#), it should be 2.7Vdc.

- If it is not check [BATT_TEMP_SENSE](#) at [VS5402](#). If 2.7Vdc are present here, it is most likely a problem with broken solder connection/bad soldering at [J5400](#)
- Check [R4850/R4851](#) for tombstoned/misplaced part. If they are ok it should be a problem with the ATLAS IC.

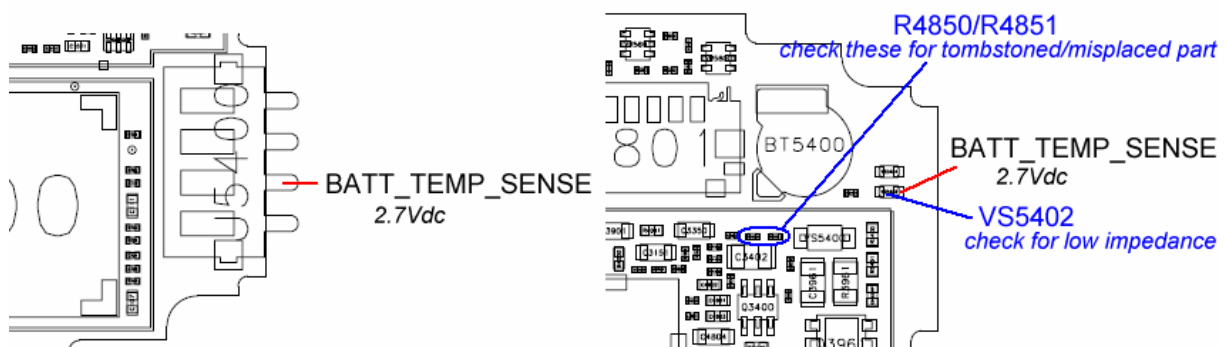
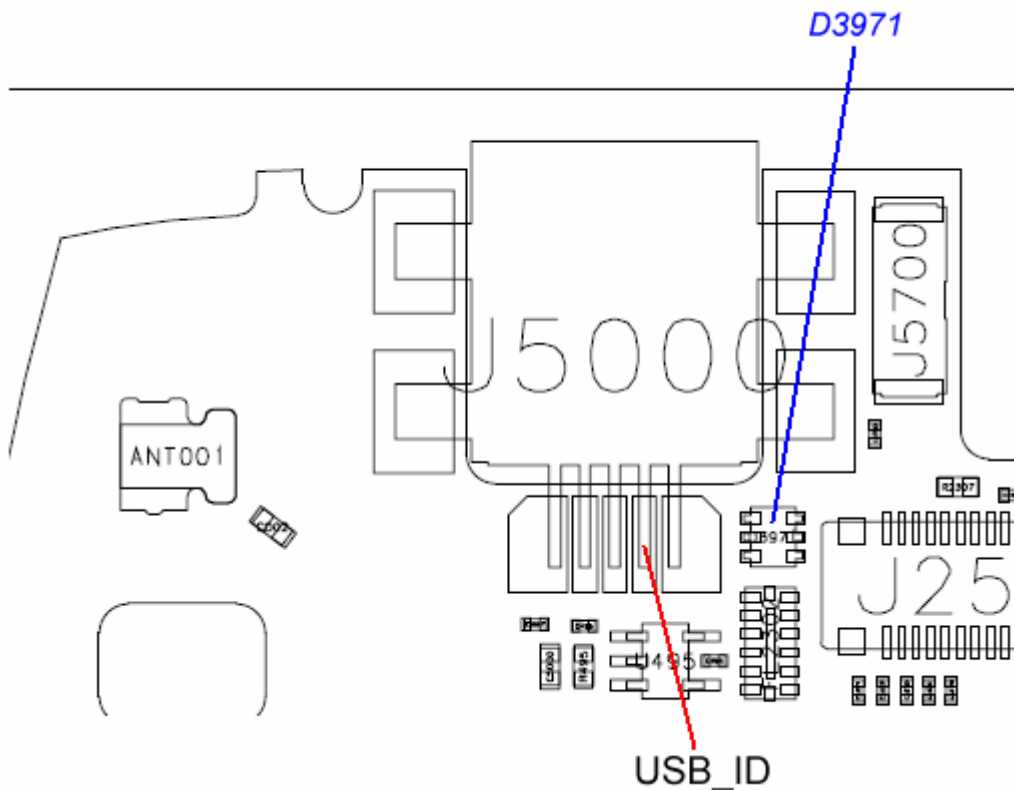


Figure 33

**Accessory detection problem**

Some phones do not detect connected accessories (Charger/Headset). Those phones will turn on if connected to a charger (instead of entering charging mode). If so

- check [USB_ID \(J5000-4\)](#) to GND with an ohmmeter
 - if less than 1M Ω [D3971](#) should be removed
 - if still less than 1M Ω it should be because of a defective ATLAS IC, change [U3000](#)
- A new Diode Array [D3971](#) has to be placed after successful repair.

**Figure 34****Can't make voice call/no service**

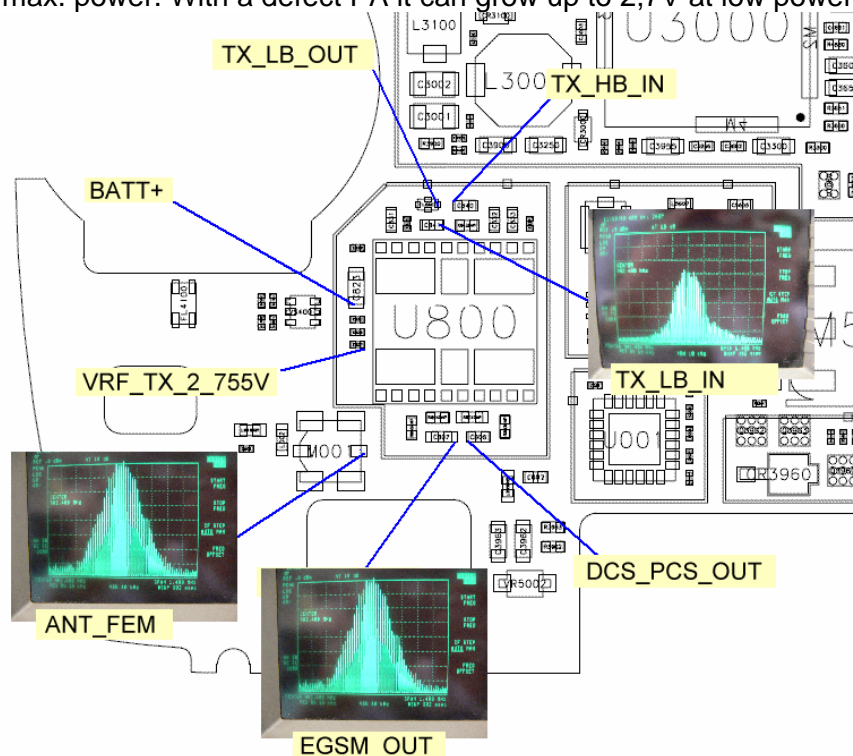
First step in every call related problem should be to figure out whether there is a receiving problem or a transmitting problem and which bands are affected.

Make sure, that the RF connector ([M001](#)) is cleaned (with cleaner or alcohol) before making a phasing/call-processing test or if the test fails!

**No TX GSM900 (1800/1900)**

Let radio transmit on GSM900 using Repair Studio/Radiocomm. Make sure to provide a battery voltage via micro clamp-type test probes to battery contacts [J5400](#).

- Check TX output signal ANT_FEM at [M001](#)
- if ok in size and form (if unsure compare to good radio) check [M001](#)
- Check [EGSM_OUT](#) at [C807](#)
- If ok in size and form (if unsure compare to good radio) change FEM [U001](#)
- Check [TX_LB_IN](#) – if missing check additionally [TX_LB_OUT](#), if TX_LB_OUT is present replace/resolder [FL5601](#), if TX_LB_OUT is missing check [TransAAM](#) /[ARGON](#)
- If ok in size and form following signals should be present:
- [VRF_TX_2_775V](#)
- [BATT+](#)
- [TX_EN](#) at [C531](#) (pulsed 3V at 217Hz) – signal from TransAAM [U500](#)
- [GSM_TCXO](#) (26MHz clock from [Y190](#))
- [LVDD](#) at [C509](#) (from ATLAS IC [U3000](#)/check [C3602](#) for low resistance to GND if low)
- [JVDD](#) at [C501](#) (from ATLAS IC, supplies also [U100](#) and ARGON IC [U1000](#))
- [VDDA_2_7](#) at [C513](#) ([VRF_RX_2_775V](#))
- [VDDA_CP_2_7](#) at [C505](#) (from ATLAS IC/check [C3600](#) for low resistance to GND if low)
- [VDD_ACE_2_7](#) at [C507](#) ([VRF_TX_2_775V](#) from ATLAS)
- [VRAMP](#) at [C534](#) (pulsed at 217 Hz from SYMPHONY [U100](#)) is proportional to the expected amplification of the PA. Normal values are about 750mV at low power and 2,1V at max. power. With a defect PA it can grow up to 2,7V at low power!

**Figure 35**

- [PAC_DET](#) at [C530](#)
- [IPC_BCM](#) at [C532](#)
- [TX_LB_HB_OUT](#) at [C533](#)



If [VRF_TX_2.775V](#) is missing or low, it's probably not correctly generated by the ATLAS IC or is being pulled down by a defective part which most probably will get warm – and can easily be found by a thermal troubleshooting as described in the [Battery life short/charging problems/no turn on due to excessive current drain](#) section of this document.

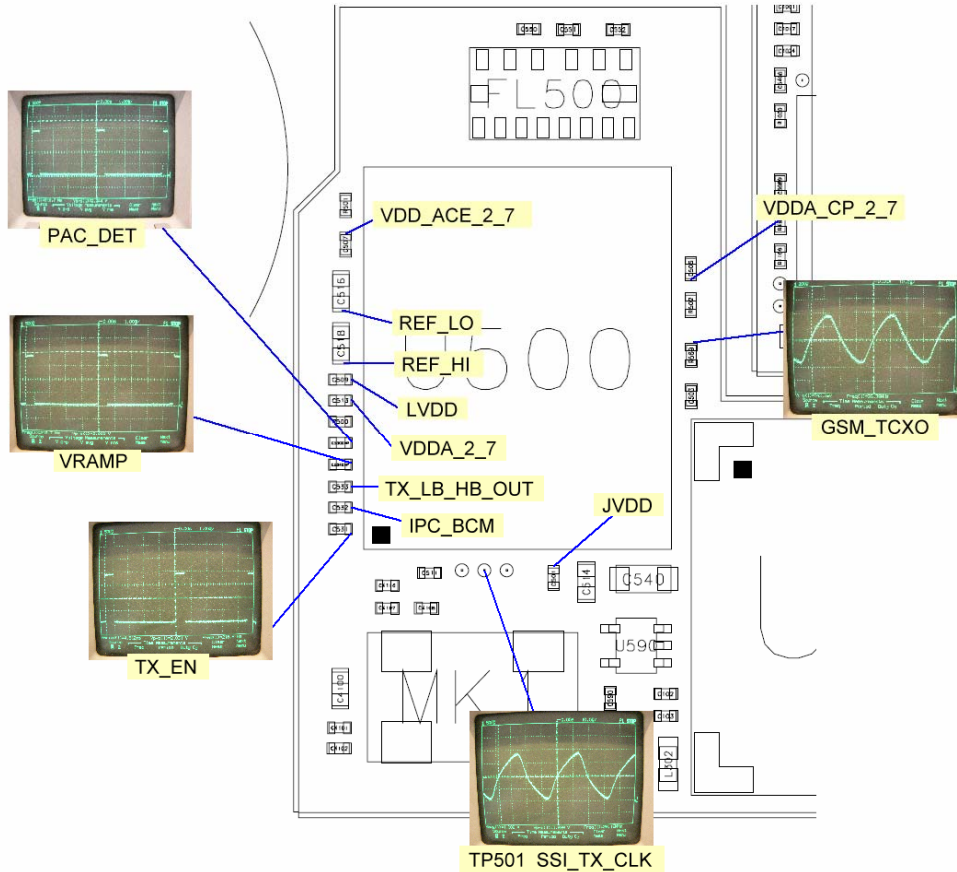
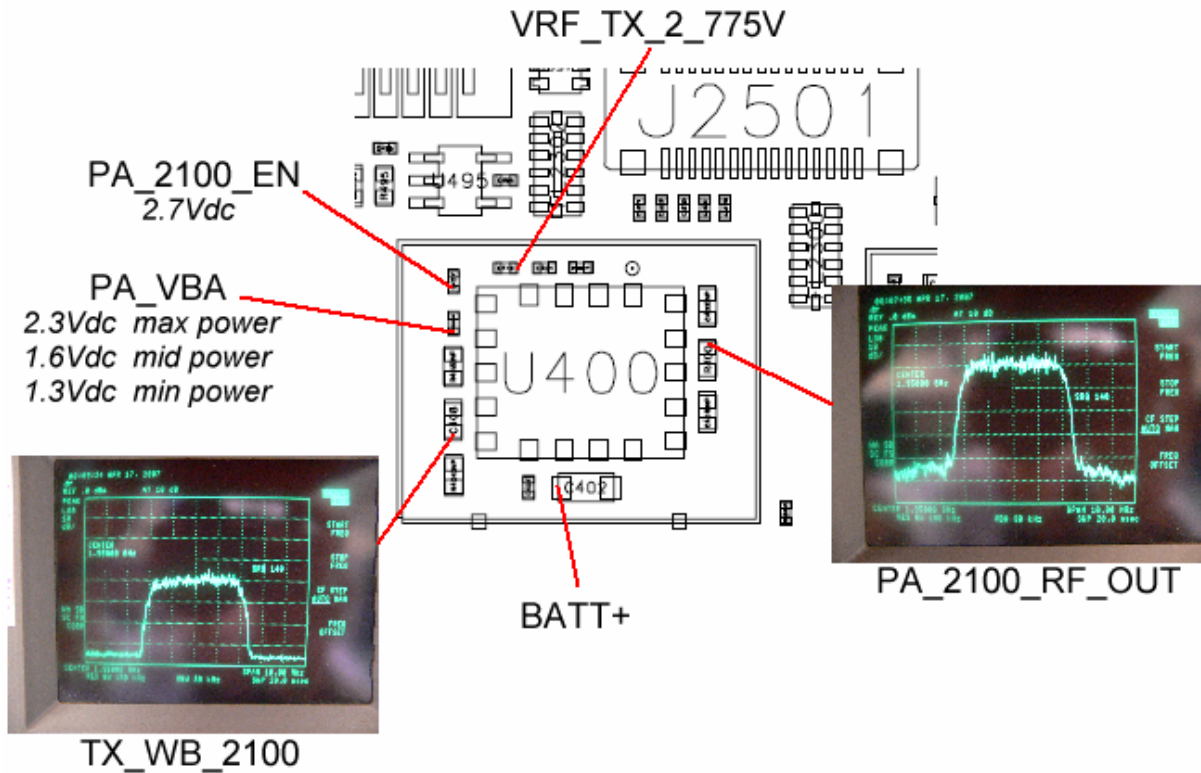


Figure 36

No TX WCDMA

Let radio transmit on WCDMA using Repair Studio/Radiocomm. Make sure to provide a battery voltage via micro clamp-type test probes to battery contacts [J5400](#).

- Check PA output [PA2100_RF_OUT](#) at [R400](#) – if ok in size and form (if unsure compare to good radio) check replace FEM [U001](#)

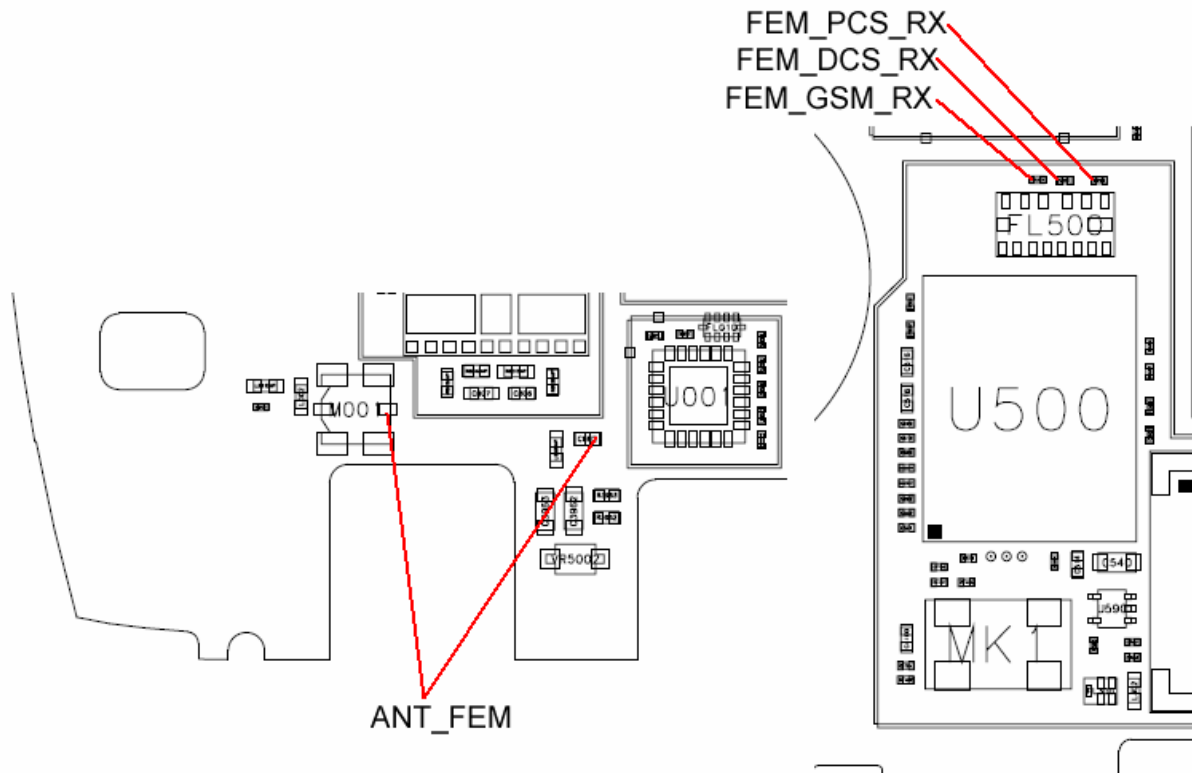
**Figure 37**

- If not ok check PA input [TX_WB_2100](#) at [C408](#)
- If PA input is good, check supply voltages [VRF_TX_2_775V](#) at [C410](#) and BATT+ at [C402](#), [PA_2100_EN](#) at [C407](#) about 2.7Vdc (WCDMA TX Enable signal from SYMPHONY [U100](#)). If all of these signals are present, WCDMA PA [U400](#) is most properly defective.
- If [PA input](#) is bad, it is most likely a problem with the SYMPHONY [U100](#) or the ARGON IC

No RX GSM900 (1800/1900)

Inject a RF from Test Set. Check ANT_FEM at antenna switch [M001-1](#). Check for presence of [FEM_GSM_RX](#) at [C550](#) ([FEM_DCS_RX](#) at [C551](#)/ [FEM_PCS_RX](#) at [C552](#)).

- **If not ok** replace FEM [U001](#)
- **If ok** there is most likely a problem with the SAW Filter [FL500](#), the TransAAM [U500](#) or the ARGON IC [U1000](#) – forward to an authorized level 4 service center.

**Figure 38****No RX WCDMA**

Inject a RF from Test Set.

- Check [BT_RF_IN](#) at antenna switch [M002-1](#). If bad, replace [M002](#).
- Check for presence of [2100_PREFILT_OUT](#) at [FL001](#), if bad replace [FL001](#).
- Check RX_WB_2100_NEG/RX_WB_2100_POS at [L302](#), if ok in size and form (if unsure compare with a known good pcb) the SYMPHONY [U100](#) or the ARGON [U1000](#) will be most likely the issue.
- If RX_WB_2100_NEG/RX_WB_2100_POS are not ok, check [VRF_RX_2_775](#) at [L301](#), if ok check/replace [U300/FL300](#)

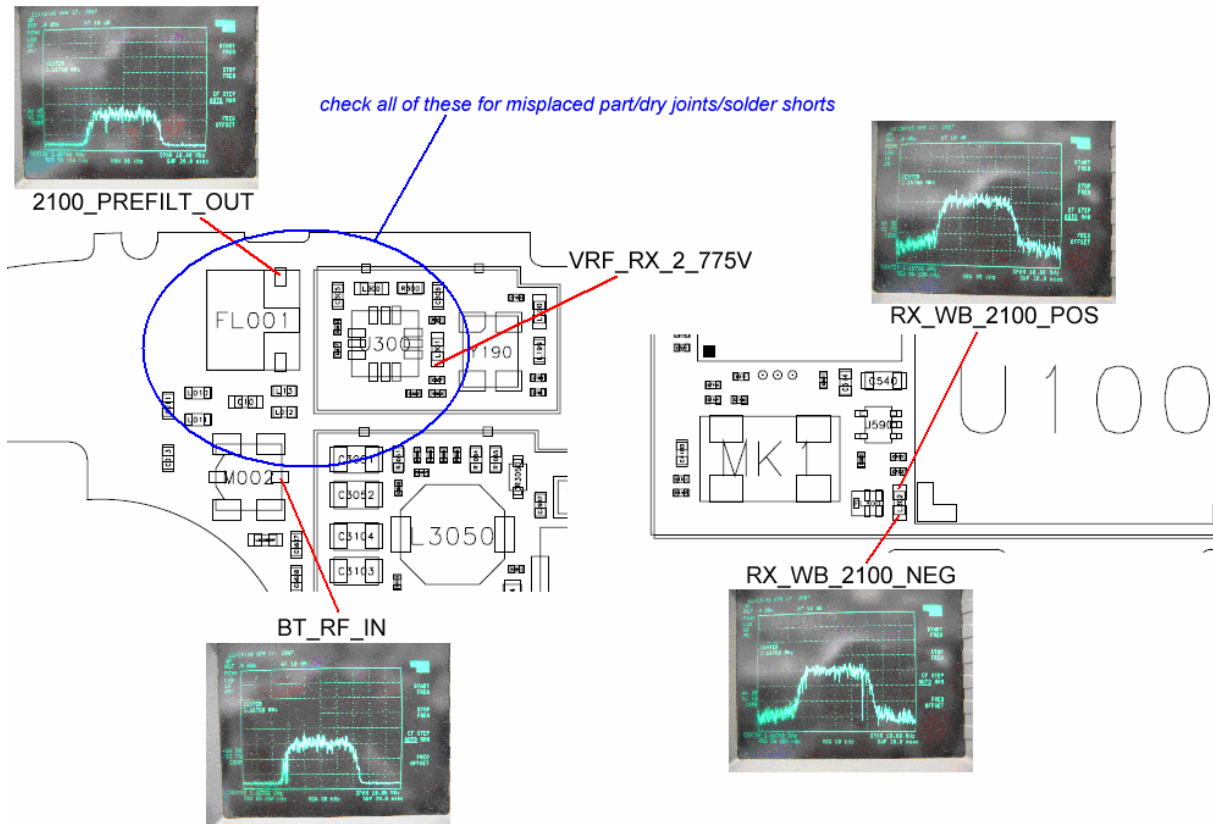


Figure 39

Note: For AFC phasing the receiver is used. So, if there is any RX fail, the AFC phasing on that frequency band also fails. If the RX phasing is ok, but only AFC phasing fails, a bad crystal is the most likely cause.

- replace Y190



Flash procedures

Note: It is very important to do a restart after every flash process! Otherwise the phone may start in flash mode again.

Software update

Following steps are necessary to update the Software to latest approved Software:

- unlock phone (if subsidy locked)
- flash customer specific 1FF superfile (example: DC One File Flash:
[R26111LD_U_96.71.80R_LP0039_DRM0008_VSTU_207_0B0C_JPES_R26111_TLF_IZAR_2_USIZR_GBLTELESR26111029_1FF.sbf](#))
- after restart:
- take out of "In Factory" – if necessary
- do Master Reset/Master Clear

Recovering Flash Memory in Forced Flash Mode

If the phone doesn't start because of corrupted software it might be possible to recover it:

- connect phone to EMU-cable while pressing "*" and "#"

The phone should start in flash mode now: *S Flash Argon.*

- flash 1FF superfile (example: DC One File Flash:
[R26111LD_U_96.71.80R_LP0039_DRM0008_VSTU_207_0B0C_JPES_R26111_TLF_IZAR_2_USIZR_GBLTELESR26111029_1FF.sbf](#))
- after restart:
- do Master Reset/Master Clear

If the phone doesn't start in flash mode, there is a problem. Please follow troubleshooting instructions as described in the [No turn on](#) section of this document.