Notice: All functionality, features, specifications, and other product information provided in this document, including but not limited to, benefits, design, pricing, components, performance, availability, and capabilities of the product are subject to change without notice. Samsung reserves the right to alter this document or the product described herein at anytime, without obligation to provide notification of such changes.
## 2. Specification

### 2-1. GSM General Specification

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<th>GSM850</th>
<th>EGSM 900</th>
<th>DCS1800</th>
<th>PCS1900</th>
<th>WCDMA 2100</th>
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Main Function

- Android OS: ICS
- HSPA+ 21Mbps / HSUPA 5.76Mbps
- 8MP AF with LED Flash
- 4.8 Super AMOLED MIPI (C-Type)
- A-GPS / BT v4.0 USB v2.0 / WiFi (802.11 a/b/g/n)
- Recording definition: 1080p / Playback at 1080p resolution
- Sensors: Acceleration, Electromagnetic, Gyro, RGB, Proximity, Barometer
- Additional:
  - 1.4GHz Quad Core CPU
6. Level 6 Repair

6-1. S/W installation

6-1-1. Required items in order to install S/W

- Installation program: Downloader Program (*Odin3 v3.04.exe*)
- GT-I9300 Mobile Phone
- Data Cable
- JIG BOX (GH99-36900B)
- RF TEST CABLE (GH39-00985A)
- OCTA LCD (GH97-13630A)
- JIG Cable (GH81-10631A)
- Adapter (GH99-38251A)
- Serial Cable
- Mobile device specific S/W: Binary files

※

Connect ANYWAY JIG BOX with JIG CABLE (Phone to JIG) or PC to Phone Using Data Cable
6-1-2. S/W Installation Program (Downloader program)

- Open up the S/W Installation Program by executing the "Odin3 v3.04.exe"

1. Enable the check mark by click on the following options,
   - Check Re-Partition, Auto Reboot, and F. Reset Time
   - Check PIT
   - Check PDA, PHONE, and CSC Files

2. Enter into Download Mode
   - Enter into Download Mode by pressing Volume Down button, and ON/OFF Button simultaneously. And then, press Volume UP button in Warning Page to enter the Download Mode.
3. Connect the device to PC via Data Cable. Make sure that the one of communication port [ID:COM] box is highlighted in light blue. The device is now connected with the PC and ready to download the binary file into the device.
4. Start downloading binary file into the device by clicking Start Button on the screen. the green colored "PASS!" sign will appear on the upper-left box if the binary file has been successfully downloaded into the device.

5. Disconnect the device from the Data cable.

6. Once the device boots up, you can check the version of the binary file or name by pressing the following code in sequence;

*#1234#

You can perform full reset by pressing the following code in sequence;

*2767*3855#
9. Reference Abbreviate

Reference Abbreviate

—AAC: AdvancedAudioCoding.
—AVC: AdvancedVideoCoding.
—BER: BitErrorRate
—BPSK: BinaryPhaseShiftKeying
—CA: ConditionalAccess
—CDM: CodeDivisionMultiplexing
—C/I: CarrierToInterference
—DMB: DigitalMultimediaBroadcasting
—두: EuropeanStandard
—ES: ElementaryStream
—ETSI: EuropeanTelecommunicationsStandardsInstitute
—MPEG: MovingPictureExpertsGroup
—PN: Pseudo-randomNoise
—PS: PilotSymbol
—QPSK: QuadraturePhaseShiftKeying
—RS: Reed-Solomon
—SI: ServiceInformation
—TDM: TimeDivisionMultiplexing
—TS: TransportStream
1. Safety Precautions

1-1. Repair Precaution

Before attempting any repair or detailed tuning, shield the device from RF noise or static electricity discharges.

Use only demagnetized tools that are specifically designed for small electronic repairs, as most electronic parts are sensitive to electromagnetic forces.

Use only high quality screwdrivers when servicing products. Low quality screwdrivers can easily damage the heads of screws.

Use only conductor wire of the properly gauge and insulation for low resistance, because of the low margin of error of most testing equipment. We recommend 22-gauge twisted copper wire.

Hand-soldering is not recommended, because printed circuit boards (PCBs) can be easily damaged, even with relatively low heat. Never use a soldering iron with a power rating of more than 100 watts and use only lead-free solder with a melting point below 250°C (482°F).

Prior to disassembling the battery charger for repair, ensure that the AC power is disconnected. Always use the replacement parts that are registered in the SEC system. Third-party replacement parts may not function properly.
1-2. ESD(Electrostatically Sensitive Devices) Precaution

Many semiconductors and ESDs in electronic devices are particularly sensitive to static discharge and can be easily damaged by it. We recommend protecting these components with conductive anti-static bags when you store or transport them.

Always use an anti-static strap or wristband and remove electrostatic buildup or dissipate static electricity from your body before repairing ESDs.

Ensure that soldering irons have AC adapter with ground wires and that the ground wires are properly connected.

Use only desoldering tools with plastic tips to prevent static discharge.

Properly shield the work environment from accidental electrostatic discharge before opening packages containing ESDs.

The potential for static electricity discharge may be increased in low humidity environments, such as air-conditioned rooms. Increase the airflow to the working area to decrease the chance of accidental static electricity discharges.
4. Exploded View and Parts List

4-1. Cellular phone Exploded View
## 5. MAIN Electrical Parts List

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<td>HDC702</td>
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7. Level 2 Repair

7-1. Disassembly and Assembly Instructions

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</tr>
<tr>
<td>2</td>
<td><img src="image2.png" alt="Image 2" /></td>
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</table>

1) Disassembly Screw 10points.  
1) It dismantles an REAR side part.

3 |   |
---|---|
| ![Image 3](image3.png) |
| ![Image 4](image4.png) |

1) It dismantles a speaker connector and Module.  
1) Unscrew 1points.

---

SAMSUNG Proprietary-Contents may change without notice  
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1) Detach the Con to con and then Disassemble PBA

1) It separates PBA.
7-1-2. Assembly

1) Stand all FPCB (LCD, Earjack, Sub Cam, Ant Cable)

4POINT

1) PBA on the front case

3)

4)

Torque: 1.0 ~ 1.2 Kgf·cm
/ Size: 1.4 * 2.5

1) Conect all FPCB (LCD, Earjack, Sub Cam, Ant Cable)

4POINT

1) It assembles screw 1point.
### 7. Level 2 Repair

<table>
<thead>
<tr>
<th><strong>5</strong></th>
<th><strong>6</strong></th>
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</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Image" /></td>
<td><img src="image2.png" alt="Image" /></td>
</tr>
</tbody>
</table>

1) It assembles SPEAKER.

2) It assembles Screw 10 Point.

1) It assembles REAR.

---

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8-2. PCB Diagrams
8-2-1. Top
8-2-2. Bottom
8-3. Flow Chart of Troubleshooting

Equipments

- Oscilloscope
- Digital Multimeter
- Power Supply
- + driver, ESD Safe Tweezer
- 8960 & Spectrum Analyzer
- Soldering iron
8-3-1. Power On

Cell-phone can't power on.

- Check the Battery Voltage. Is it more than 3.4V?
  - Yes
    - Power-on the phone and check the power-on sound or motor bibration. Sound or Biration is ok?
      - Yes
        - Change the MEA FRONT-OCTA LCD ASSY
      - No
        - Abnormal
          - Change the SW600(Power-key) And retry to the power-on operation.
  - No
    - Check the SW600 (soldering crack, open, etc)
      - Yes
        - Check the U500 output voltage (C561 = 1.0V, C559 = 1.1V, C558 = 1.0V, C556 = 1.0V)
          - Yes
            - Check the U500 output signal (AP_PS_HOLD(TP) > 1.8V)
              - Yes
                - Check the Clock OSC500(C505) Is that frequency 32Khz?
                  - Yes
                    - check the initial operation
                  - No
                    - Change the OSC500. If OSC400 does not still work, Change the U501 This problem is internal oscillator of U501.
                      - Test condition (Oscilloscope setting) : 20.0us.div (time division)
                - No
                  - Check the Battery Voltage. Is it more than 3.4V?
                    - Yes
                      - Charging the battery by TA. If its voltage level is extremely low(under 3.0V), Change the battery.
                    - No
                      - Check the U500 output signal (AP_PS_HOLD(TP) > 1.8V)
                        - Yes
                          - Check the Clock OSC500(C505) Is that frequency 32Khz?
                            - Yes
                              - check the initial operation
                            - No
                              - Change the OSC500. If OSC400 does not still work, Change the U501 This problem is internal oscillator of U501.
                                - Test condition (Oscilloscope setting) : 20.0us.div (time division)
                        - No
                          - Charging the battery by TA. If its voltage level is extremely low(under 3.0V), Change the battery.
                      - No
                        - Check the Battery Voltage. Is it more than 3.4V?
                          - Yes
                            - Charging the battery by TA. If its voltage level is extremely low(under 3.0V), Change the battery.
                          - No
                            - Check the U500 output signal (AP_PS_HOLD(TP) > 1.8V)
                              - Yes
                                - Check the Clock OSC500(C505) Is that frequency 32Khz?
                                  - Yes
                                    - check the initial operation
                                  - No
                                    - Change the OSC500. If OSC400 does not still work, Change the U501 This problem is internal oscillator of U501.
                                      - Test condition (Oscilloscope setting) : 20.0us.div (time division)
                              - No
                                - Charging the battery by TA. If its voltage level is extremely low(under 3.0V), Change the battery.
                          - No
                            - Check the Battery Voltage. Is it more than 3.4V?
                              - Yes
                                - Charging the battery by TA. If its voltage level is extremely low(under 3.0V), Change the battery.
                              - No
                                - Check the U500 output signal (AP_PS_HOLD(TP) > 1.8V)
                                  - Yes
                                    - Check the Clock OSC500(C505) Is that frequency 32Khz?
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                                        - check the initial operation
                                      - No
                                        - Change the OSC500. If OSC400 does not still work, Change the U501 This problem is internal oscillator of U501.
                                          - Test condition (Oscilloscope setting) : 20.0us.div (time division)
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8-3-2. Initial

Initial Failure

Yes

Re-download SW the cell-phone.

Abnormal

No

Check the AP Reset

AP_N_RST_IN(R504) = 1.8V(High)

Check the U500 and R504 (crack, open, etc.)

Yes

Check the oscillator clock waveforms.

32.768KHz : OSC500(TP213),
24Mhz : OSC400(C427)

Check the OSC500, OSC400 and R408.
(Crack, open etc.)

Check the output clock waveforms and frequency.

※ Test condition (Oscilloscope setting)
: 20.0us.div (time division)

Abnormal

Normal

Abnormal

Check UCP400, U501

Change PBA

END
## 8-3-3. No Service

### No service

**Check menu setting**

Menu → applications → setting → wireless and network → mobile networks → network mode → setting is auto mode?

**PHONE : I9300XXXX**

- Menu → Phone → Keypad → *

  - Check Phone version → PHONE: I9300XXXX or PHONE: unknown

- PHONE : unknown

**Check the CP_VSD1, CP_VSD2 1.8V**

- CP_VSD1 (C342) = 0.9~1.4V
- CP_VSD2 (C344) = 1.8V

**No**

- Replace the UCP300

**Yes**

- Check VREF
  - VREF (C348) = 600mV

**No**

- Replace the UCP300

**Abnormal**

- Change the board

**Yes**

- END
8-3-4. Sim Part

Insert SIM card

Yes

Check the Pin Soldering of HDC300

Yes

Check the SIM Voltage. (R324) >= 1.8 or 3.0?

No

Resoldering and recheck

Yes

END

Change to the new SIM card. If it doesn't still work SIM card after changing the SIM card, Check the UCP300 (Crack etc)

Check the SIM Voltage. (R324) >= 1.8 or 3.0?

Yes

END
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8-3-5. Charging Part

TA / USB Insert

<table>
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<th>Yes</th>
<th>Charging Sequence Start</th>
<th>V_BUS_5V = 5V</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>Check C563 = 5V, or may not connected TA / USB</td>
<td></td>
</tr>
</tbody>
</table>

| Yes | Check the CHG_IN_5V(C565)=5V |
| No  | Resolder and Replace U502 |

| Yes | Battery is Charging? |
| No  | Resolder or Replace U506 |

END
8-3-6. Microphone Part (Main MIC)

Check main microphone function in voice call receiver mode or in Voice Recording mode

Yes

Check PCB where main MIC is placed for any damage

Yes

Check the voltage at C601 = 2.8V

Yes

Check component soldering statuses of C633, C637

Yes

END

No

Yes

No

Yes

No

No

Resolder or replace C633, C637

Change the PCB module

Resolder or replace U600
8-3-6-1. Microphone Part (Sub MIC)

Check Sub microphone function in voice call loudSPK mode or in camcording mode

Yes

Check PCB where Sub MIC is placed for any damage

No → Replace the PCB module

Yes

Check the voltage at C605 = 2.8V

No → Resolder or replace U603

Yes

Check component soldering statuses of C643, C645

No → Resolder or replace C643, C645

Yes

END
8-3-7. Speaker Part

Check speaker function.
Play MP3 with maximum volume level.

Yes

Check the connection of HDC600

Yes

Check the signals on C665, C666

Yes

Replace the speaker module

Yes

END

No

No

Reconnect HDC600

Resolder or replace C665, C666
8-3-8. Receiver Part

Check receiver function in voice call receiver mode.

Yes

Check the connection of HDC601

No

Reconnect HDC601

Yes

Check RCV module where RCV's placed for any damage

No

Replace the RCV module

Yes

Check the signals on C651,ZD603,ZD608

No

Resolder or replace U605

Yes

END
8-3-9. BT/WIFI

BT/Wifi is not working

Yes

Check BT or WiFi function ON

Yes

Check the Voltage on C220 = 1.8V

Yes

Check 37.4MHz Clock at R200

Yes

Check the Voltage on L205 = 1.35V

Yes

Check the Status of C221, ANT203

Yes

Resolder or Replace U202

Yes

END

No

Enable BT or WiFi Function

Check the U202 (crack, open, damaged, etc.)

No

Check the OSC201 (crack, open, etc.)

No

Resolder or change the L205

No

Resolder or Replace C221, ANT203
8-3-10. GPS

GPS is not working

Yes

Check GPS function ON

No

Enable GPS Function in the setting.

Yes

Check solder condition at C208, C209, C210, C211, L203

No

resolder

Yes

Check 26MHz Clock at OSC200

No

Check OSC200, C200, C201 (short, open, crack, etc.)

Yes

Check the voltage on C206 = 2.8V & C212 > 1.8V

No

Check PMIC(U500) & UCP400 (short, open, crack, etc.)

Yes

Check the Antenna connect ANT200

No

1. Resolder or Replace ANT 200
   2. Replace SPk Module

Yes

END
8-3-11. FM RADIO

FM Radio is not working

Yes

Check the Connection of HDC600

No

Connect Earjack Ass'y correctly to HDC600

Yes

Check the Voltage #10,19(1.8V), 11(2.8V)

No

Check C235, C236 (Crack, short, etc)

Yes

Check Audio Signal at C649, C650

No

Check Audio Codec IC (U605) Switch IC (U608)

Yes

Resold and Replace U203

Yes

END
8-3-12. Sensor Part

1. Magnetic Sensor

Abnormal Magnetic Sensor part

- Yes
  - Check the Voltage
    - C240 = 2.8V
    - C268 = 1.8V
    - No
      - Resolder U204 or heat over U500
    - Yes
  - Check the Voltage
    - R434 = 1.8V
    - R435 = 1.8V
    - No
      - Resolder U500 or heat over UCP400
    - Yes
  - Magnetic Sensor operate correctly?
    - No
      - Apply Heat over or Replace U204 using a Heatgun
    - Yes
      - END

No

Yes
2. Acceleration, Gyro Sensor

Abnormal Acceleration, Gyro Sensor part

Check the Voltage
- C238 = 2.8V
- C239 = 2.8V
- C237 = 1.8V

Yes

No

Resolder U205 or heat over U500

Check the Voltage
- R460 = 1.8V
- R461 = 1.8V

Yes

No

Resolder U500 or heat over UCP400

Yes

No

Acceleration, Gyro Sensor operate correctly?

No

Yes

Apply Heat over or Replace U205 using a Heatgun or change PBA

No

Yes

END
6 Axics Sensor (GYRO, ACCEL)
3. Barometer Sensor

Abnormal Barometer Sensor part

Check the Voltage
C250 = 1.8V
C246 = 1.8V

Yes

Check the Voltage
R432 = 1.8V
R433 = 1.8V

Yes

Barometer Sensor operate correctly?

Yes

No

No

Resolder U206 or heat over U500

Resolder U500 or heat over UCP400

Apply Heat over or Replace U206 using a Heatgun or change PBA

END
4. RGB Sensor

Abnormal RGB Sensor part

Check the Voltage
R703 = 2.8V
C703 = 2.8V

No
Resolder U703, R703 or heat over U500

Yes
Check the Voltage
R451 = 1.8V
R452 = 1.8V

No
Resolder U500 or heat over UCP400

Yes
Barometer Sensor operate correctly?

No
change VT camera assembly

Yes

END
8-3-13. NFC

NFC is not working

Yes

Check the Battery (NFC Antenna is in Battery)

Yes

Check the Voltage on NFC_VEN, NFC_IRQ goes high

No

Check the Voltage on C247, C251 goes high (1.8V)

Yes

END

No

Check the battery (antenna/contact crack, open, damaged)

Yes

Check the R225, TP210

Yes

Check the OSC202 (crack, open, etc.)

Yes

Resolder or Replace U207
8-3-14. MHL

MHL Does not work

Yes

Check if HDMI EN
(U712 PIN 3) goes High

No

Check if HDMI Adaptor is well connected

Yes

Check the voltage of
C763(1.2V), C753(3.3V),
C754(1.8V)

No

Check the LDOs(U712, U710)

Yes

Check the MHL Signal of
F702

No

Resolder or change F702

Yes

Replace U708

Yes

END
MHL PART

Common_FILTER
(Near I/F CON.)
8-3-15. LCD

LCD is still off after PWR ON

- Yes

  Check the connection of HDC 702

  - Yes

    Check VCC_3.3V_LCD = 3.3V(C549)

    - No

      Reconnect the HDC 702

    - Yes

      Check VCC_2.2V_LCD = 2.2V(C735)

    - No

      Resolder or Replace the U707

    - Yes

      Check ELVDD_4.6V = 4.6V(C713), ELVSS_-4.9V = 3.0~4.4V(C712)

      - No

        Resoldering L703, L706, Resoldering U706

      - Yes

        Replace LCD Module

- No

  Resolder or Replace the PMIC(U500)
8-3-16. TSP

Touch Screen does not work

Yes

Check TSP Connector on Main PBA

No

Reconnect the HDC702

Yes

Check TSP Connector on LCD Module

No

Yes

Reconnect TSP Connector

No

Yes

Reconnect TSP Connector

No

No

Reconnect the HDC702

Yes

Check the I2C signal (R466, R467) and int signal (R706)

No

Yes

Resolder or Replace U500

No

Resolder R466, R467, R706

Yes

Replace LCD Module

END
8-3-17. 8M CAM

"Camera" function does not work

Yes

Check the Camera connector on Main PBA

No

Reconnect the HDC701

Abnormal

Check the voltage
C706 = 2.8V
C709 = 2.8V
C710 = 1.8V
C711 = 1.2V
C760 = 1.2V
C743 = 1.2V

No

Resolder U500, U711, U701, U702
Resolder C706, C709, C710, C711, C760, C743

Yes

Resolder R455
Replace the PBA.

Check R455 is 24MHz

Yes

Replace the camera module

No

Replace the PBA.

Yes

END
Level 3 Repair
8-3-18. 1.9M CAM

"Camera" function does not work

Yes

Check the Camera connector on Main PBA

No

Reconnect the HEA700

Abnormal

Check the voltage
C543 = 1.8V
C701 = 2.8V

No

Resolder U500, U701
Resolder C542, C701

Yes

Resolder R704
Replace the PBA.

No

Check R704 is 24MHz

No

Yes

Replace the camera module

Yes

END
8-3-19. GSM1800 RX

NORMAL CONDITION

catch the channel?

NO

Check C117 \( \leq -65\text{dBm} \) ?

YES

CHECK soldered RFS100, L109, C116, C117

NO

Check the Voltage at C110 = VBATT ?

NO

Resolder or change U103, C110

YES

Check C112 \( \geq -65\text{dBm} \) ?

NO

Resolder or change C112

YES

Check component soldering status OK at F100

NO

Resolder or change F100

YES

Check F100 PIN 18, 19 \( \geq -65\text{dBm} \)

NO

Resolder or change F100

YES

Check the voltage at

\{C148 = VOUT_CHARGER ?\}

& \{C156, C159, C160 = VOUT_CHARGER?\}

& \{C147, C172 = 2.85V ?\}

& \{C144, C170 = 2.65V ?\}

& \{C146, C174 = 1.8V?\}

& \{C173, C171, C145 = 1.2V?\}

NO

Resolder or change U108

YES

GSM1800 Receiver is O.K?

NO

End

END
8-3-20. WCDMA Band1 RX

CONTINUOUS RX ON
RF INPUT : 10700CH
AMP : -50dBm

NORMAL CONDITION
catch the channel?

NO

Check C117 ≤ -65dBm ?

NO

Check the Voltage at C110 = VBATT

YES

Check L108, C118 ≥ -65dBm ?

NO

Check component soldering status OK at F100

YES

Check F100 PIN 14, 15 ≥ -65dBm

NO

NO

Resolder or change U103, C110

YES

CHECK soldered RFS100, L109, C116, C117

NO

Resolder or change U108

YES

Resolder or change L108, C118

NO

Resolder or change F100

YES


NO

Resolder or change U108

YES

Check the freq. at OSC100 PIN 1: 26MHz ?

NO

Change or resolder OSC100

YES

WCDMA band1 Receiver is O.K?

NO

Resolder or change UCP300

END
8-3-21. WCDMA Band2 / GSM1900 RX

NORMAL CONDITION
catch the channel?

NO

CHECK C117 ≤ -65dBm ?

YES

C117 ≤ -65dBm?

NO

Check the Voltage at C110 = VBATT ?

YES

Check L105, L107 ≥ -65dBm ?

NO

Check component soldering status OK at F100

YES

Check F100 PIN 16, 17 ≥ -65dBm

NO

NO

NO

YES

NO

YES

Check the voltage at (C148 = VOUT_CHARGER ?)
& (C158, C159, C160 = VOUT_CHARGER ?)
& (C147, C172 = 2.85V ?)
& (C144, C170 = 2.65V ?)
& (C146, C174 = 1.8V ?)
& (C173, C171, C145 = 1.2V ?)

YES

Check the freq. at OSC100 PIN 1: 26MHz?

NO

Change or resolder OSC100

YES

WCDMA band2/GSM1900 Receiver is O.K?

NO

NO

NO

NO

NO

NO

NO

RESOLDER or change U103, C110

RESOLDER or change L105, L107

RESOLDER or change F100

RESOLDER or change F100

RESOLDER or change U108

RESOLDER or change U103

RESOLDER or change UCP300

END

CONTINUOUS RX ON
RF INPUT : 9880CH
AMP : -50dBm
8-3-22. WCDMA Band 5 / GSM 850 RX

NORMAL CONDITION
- catch the channel?

NO

Check C117 ≤ -65dBm?

NO

Check the Voltage at C110 = VBATT?

YES

NO

Check C115, L112 ≥ -65dBm?

YES

Check component soldering status OK at F100

NO

YES

Check F100 PIN 20, 21 ≥ -65dBm

NO

YES

Check the voltage at
- (C148 = VOUT_CHARGER?)
- (C158, C159, C160 = VOUT_CHARGER?)
- (C147, C172 = 2.85V?)
- (C144, C170 = 2.65V?)
- (C146, C174 = 1.8V?)
- (C173, C171, C145 = 1.2V?)

NO

RESOLDER or change U108

YES

Check the freq. at OSC100 PIN 1: 26MHz?

NO

YES

WCDMA band5/GSM850 Receiver is O.K?

NO

RESOLDER or change UCP300

END

CONTINUOUS RX ON
RF INPUT: 4408 CH
AMP: -50dBm

Resolder or change RFS100, L109, C116, C117

Resolder or change U103, C110

Resolder or change F100

Resolder or change C115, L112

Resolder or change F100

Resolder or change U103

Change or resolder OSC100
8-3-23. WCDMA Band8 / GSM900 RX

CONTINUOUS RX ON
RF INPUT : 3013CH
AMP : -50dBm

NORMAL CONDITION
catch the channel?

NO

YES

Check C117 ≤ -65dBm ?

NO

YES

Check the Voltage at C110 = VBATT ?

NO

YES

Check L104, L106 ≥ -65dBm ?

NO

YES

Check component soldering status OK at F100

NO

YES

Check F100 PIN 22, 23 ≥ -65dBm

NO

YES

Check the voltage at
(C148 = VOUT_CHARGER ?)
& (C158, C159, C160 = VOUT_CHARGER ?)
& (C144, C170 = 2.65V ?)
& (C146, C174 = 1.8V ?)
& (C173, C171, C145 = 1.2V ?)

NO

YES

Check the freq. at OSC100 PIN 1 : 26MHz ?

NO

YES

WCDMA band8/GSM900 Receiver is O.K?

NO

YES

END

Check component soldering status OK at F100

Resolder or change F100

Resolder or change U108

Change or resolder OSC100

Resolder or change UCP300

Resolder or change OSC100

Resolder or change F100

Resolder or change U103, C110

Resolder or change U103, C110

Resolder or change L104, L106

Resolder or change L104, L106

Resolder or change U103, C110

Resolder or change U103, C110

Resolder or change U103, C110

Resolder or change U103, C110

Resolder or change U103, C110

Resolder or change U103, C110

Resolder or change U103, C110

Resolder or change U103, C110

Resolder or change U103, C110

Resolder or change U103, C110
8-3-24. GSM850/GSM900 TX

U103 PIN14 : About 30dBm ?

YES

Check the Voltage at C110 = VBATT ?

NO

Resolder or change U103, C110

YES

Check C124, C120, L114 : About 30dBm ?

NO

Resolder or change C124, C120, L114

YES

Check the Voltage at C125, C129, C132

NO

Resolder or change U106, C125, C129, C132

YES

Check C136 About 0dBm ?

NO

Resolder or change C136

YES

Check the voltage at {C148 = VOUT_CHARGER ?} & {C158, C159, C160 = VOUT_CHARGER ?} & {C147, C172 = 2.85V ?} & {C144, C170 = 2.65V ?} & {C146, C174 = 1.8V ?} & {C173, C171, C145 = 1.2V ?}

NO

Resolder or change U108

YES

Check the freq. at OSC100 PIN 1 : 26MHz ?

NO

Change or resolder OSC100

YES

GSM850/900 Transmitter is O.K?

NO

Resolder or change UCP300

END
8-3-25. DCS/PCS TX

- **CHECK soldered**: RFS100, L109, C116, C117, C191, C101, L103, L102, ANT103
- Resolder or change U103, C110
- Resolder or change U106, C125, C129, C132
- Resolder or change U108
- Change or resolder OSC100
- Resolder or change UCP300

**CONTINUOUS TX ON CONDITION**
- **TX POWER IDX1 APPLIED**
  - DCS CH : 685
  - PCS CH : 661
  - RBW : 100KHz
  - VBW : 100KHz
  - SPAN : 10MHz
  - REF LEV. : -10dBm
  - ATT. : 20dB

**DCS/PCS Transmitter is O.K?**

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8-3-26. WCDMA BAND1 TX

- **U103 PIN14**: About 22 dBm?
  - YES
  - NO
  - **Check the Voltage at C110 = VBATT?**
  - **Check L108, C118**: About 22 dBm?
  - **Check component soldering status OK at F100**
  - **Check C140, C127, L116**:
    - About 22 dBm?
    - **Check the U105 PIN2**: About 22 dBm and C143 = VOUT_CHARGER?
    - **Check the Voltage at C114, L132 = VOUT_CHARGER?**
    - **Check C137**: About 0 dBm?
    - **Check the voltage at**
      - (C148 = VOUT_CHARGER?)
      - (C148, C159, C160 = VOUT_CHARGER?)
      - (C147, C172 = 2.85V?)
      - (C144, C170 = 2.65V?)
      - (C146, C174 = 1.8V?)
      - (C173, C171, C145 = 1.2V?)

- **CONTINUOUS TX ON CONDITION**
  - TX POWER DAC 14500 CODE APPLIED
  - WCDMA Band1 CH: 20000
  - RBW: 100KHz
  - VBW: 100KHz
  - SPAN: 10MHz
  - REF LEV: 10dBm
  - ATT: 20dB

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8-3-27. WCDMA BAND2 TX

**CONTINUOUS TX ON CONDITION**
- TX POWER DAC: 23000 CODE APPLIED
- WCDMA Band 2 CH: 9880
- RBW: 100KHz
- VBW: 100KHz
- SPAN: 10MHz
- REF. LEV.: 10dBm
- ATT.: 20dB

**U103 PIN14**
- About 22 dBm?
  - YES
  - NO
  - Check the Voltage at C110 = VBATT?
    - YES
    - NO
    - Resolder or change U103, C110
  - NO
  - Check L105, L107:
    - About 22dBm?
      - YES
      - NO
      - Resolder or change L105, L107
    - YES
    - NO
    - Check component soldering status OK at F100
      - YES
      - NO
      - Resolder or change F100
    - NO
    - Check C141, C135, C139
      - About 22dBm?
        - YES
        - NO
        - Resolder or change C141, C135, C139
      - YES
      - NO
      - Check C114, L132 = VOUT_CHARGER?
        - YES
        - NO
        - Resolder or change C114, L132
      - YES
      - NO
      - Check C137
        - About 0dBm?
          - YES
          - NO
          - Resolder or change C137
        - YES
        - NO
        - Check the Voltage at C114, L132 = VOUT_CHARGER?
          - YES
          - NO
          - Resolder or change C114, L132
        - YES
        - NO
        - Check the U105 PIN2
          - About 22dbm and C143 = VOUT_CHARGER?
            - YES
            - NO
            - Resolder or change U105, C143
          - YES
          - NO
          - Check the Voltage at C114, L132 = VOUT_CHARGER?
            - YES
            - NO
            - Resolder or change C114, L132
          - YES
          - NO
          - Check C137
            - About 0dBm?
              - YES
              - NO
              - Resolder or change C137
            - YES
            - NO
            - Check the voltage at {C148 = VOUT_CHARGER?}
              & {C158, C159, C160 = VOUT_CHARGER?}
              & {C147, C172 = 2.85V?}
              & {C144, C170 = 2.65V?}
              & {C146, C174 = 1.8V?}
              & {C173, C171, C145 = 1.2V?}
            - NO
            - Resolder or change U108
          - YES
          - NO
          - Resolder or change U108

WCDMA band2 Transmitter is O.K?

YES
Check the freq. at OSC100 PIN 1 : 26MHz ?

NO
Change or resolder OSC100

YES
WCDMA band2 Transmitter is O.K?

NO
Resolder or change UCP300

END
8-3-28. WCDMA BAND5 TX

- **U103 PIN14**: About 22 dBm?
  - Yes
  - **Check the Voltage at C110 = VBATT?**
    - No
    - **Resolder or change U103, C110**
    - Yes
  - **Check C115, L112**: About 22 dBm?
    - No
    - **Resolder or change C115, L112**
    - Yes
  - **Check component soldering status OK at F100**
    - No
    - **Resolder or change F100**
    - Yes
  - **Check L117, L115**: About 22 dBm?
    - No
    - **Resolder or change L117, L115**
    - Yes
  - **Check the U105 PIN4**
    - About 22 dBm and C143 = VOUT_CHARGER?
      - No
      - **Resolder or change U105, C143**
      - Yes
    - **Check the Voltage at C114, L132 = VOUT_CHARGER?**
      - No
      - **Resolder or change C114, L132**
      - Yes
    - **Check C136**
      - About 0 dBm?
        - Yes
        - **Resolder or change C130**
        - No
        - **Check the voltage at {C148 = VOUT_CHARGER ?} & {C158, C150, C160 = VOUT_CHARGER?} & {C147, C172 = 2.85V ?} & {C144, C170 = 2.65V ?} & {C148, C174 = 1.8V?} & {C173, C171, C145 = 1.2V?}**
        - No
        - **Resolder or change U108**
        - Yes

---

**CONTINUOUS TX ON CONDITION**
**TX POWER DAC: 23000 CODE APPLIED**
WCDMA Band5 CH: 4408
RBW: 100KHz
VBW: 100KHz
SPAN: 10MHz
REF LEV: 10dBm
ATT: 20dB
Check the freq. at OSC100 PIN 1 : 26MHz ?

WCDMA band2 Transmitter is O.K?

END

YES

NO

Change or resolder OSC100

YES

NO

Resolder or change UCP300
8-3-29. WCDMA BAND8 TX

- **U103 PIN14**: About 22 dBm?
  - **YES**: Check the Voltage at C110 = VBATT?
  - **NO**: Resolder or change U103, C110

- **Check L104, L106**: About 22dBm?
  - **YES**: Check component soldering status OK at F100
  - **NO**: Resolder or change L104, L106

- **Check L118, C138**: About 22dBm?
  - **YES**: Check the U105 PIN4 About 22dBm and C143 = VOUT_CHARGER?
  - **NO**: Resolder or change U105, C143

- **Check the Voltage at C114, L132 = VOUT_CHARGER?**
  - **NO**: Resolder or change C114, L132

- **Check C136 About 0dBm?**
  - **NO**: Resolder or change C130

- **Check the voltage at**
  - {C148= VOUT_CHARGER}?
  - & {C158, C159, C160 = VOUT_CHARGER}?
  - & {C147, C172 = 2.85V}?
  - & {C144, C170 = 2.65V}?
  - & {C146, C174 = 1.8V}?
  - & {C173, C171, C145 = 1.2V}?
  - **NO**: Resolder or change U108

**CONTINUOUS TX ON CONDITION**
- TX POWER DAC: 23000 CODE APPLIED
- WCDMA Band8 CH: 3013
- RBW: 100kHz
- VBW: 100kHz
- SPAN: 10MHz
- REF LEV.: 10dBm
- ATT.: 20dB
WCDMA band2 Transmitter is O.K?

YES

Check the freq. at OSC100 PIN 1 : 26MHz ?

YES

NO

Change or resolder OSC100

WCDMA band2 Transmitter is O.K?

NO

Resolder or change UCP300

END
8-3-30. OTG

OTG does not work

Yes

Check CHG_IN_5V(C565)=5V

No

Change U506

Yes

Check V_BUS_5V(C563) =5V

No

Check U502

Yes

Change the board

Yes

END
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