

SAMSUNG

# CDMA TELEPHONE

## SCH-i830

# SERVICE *Manual*

CDMA TELEPHONE

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**SAMSUNG  
ELECTRONICS**



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BASIC.

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## 1. General Introduction

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### 1-1 General Instruction

The SCH-i830 enable mobile users to communicate 3G CDMA2000 1X, 1X EVDO 2G GSM service into a single handset.

For CDMA/PCS mode, The SCH-i830 supports Release A of the CDMA2000 1X standard, offering data rates of up to 307 kilobits per second (kbps) on both the forward and reverse links, along with simultaneous voice and data services.

For The GSM/DCS/GPRS mode, The SCH-i830 supports voice service, data service and SMS in EGSM900 and DCS1800.

So, The SCH-i830 may be the first PDA phone in the world that works on North American CDMA networks and also GSM networks overseas. This stylish bar phone also supports a VGA color displays, Bluetooth, SMS, Email, voice dialing, and airplane mode.



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## 2. Circuit Description

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### 2-1. Logic Section

#### 2-1-1. Power Supply

For the POWER ON, the PHONE\_ON pulse signal for 1 second from PDA turns on U900(PM6650). The pin 29, 33, 35, 41, 52, 54, 65, 71, 83 of U900(PM6650) are the inputs of all regulators on the phone. Simultaneously, MSM sends out PS\_HOLD(logical HIGH) to turn on the pin 57 of U900(PM6650) even after the PHONE\_ON signal is released. For the POWER OFF, by pressing POWER KEY of the phone application, the MSM output LOW on the PS\_HOLD.

The regulated voltage(U900,VREG\_MSMC, VRGE\_MSME, VREG\_MSMP ) is used in the digital part of MSM

The regulated voltage(U900,VREG\_MSMA) is used in the analog part of MSM.

The regulated volgtage(U900, VREG\_RFTX) is used in the TX RF

The regulated voltage(U900,VREG\_RFRX) is used in the Rx RF part.

The regulated voltage(U900,VREG\_TCXO) is used in the TCXO

The regulated Voltage(U900,VREG\_SYNTH) is used in the PLL part.

#### 2-1-2. Logic Part

The logic part consists of internal CPU of MSM, Memory.

#### **MOBILE SYSTEM MODEM(UCP800:MSM6500)**

Industry standard ARM926EJ-S microprocessor is embedded. The MSM6500 chipset integrates CDMA2000 1x and 1xEVDO service. The 1xEVDO solution can support High-speed peak data rates of 2.4Mbps on forward link and 153kbps on reverse link.

The MSM6500 device is offered in a 409 ball, 0.5mm pitch, CSP production package. Subsystems within the MSM6500 device include a CDMA processor, a QDSP for voice compression, an ARM9TDMI microprocessor. Also integrated in the MSM6500 device are analog functions such as an audio voice codec, PLL, transmit DAC<sub>s</sub>, ADC<sub>s</sub>, memories, USB controller, peripheral interfaces, and an enhanced clock. It is one of the most important components of the CDMA cellular phone.

The interface circuitry consists of reset circuit, dual address/data bus and memory controls. The TCXO clock of 19.2Mhz is used as the clock of SCH-i830 model.

#### **MCP : FLASH ROM and SDRAM (UME802:K5D5657DCM)**

MCP is consist of 256Mbit NAND FALSH and 256Mbit SDRAM. MCP is used to store the cellular phone's executable program ,necessary data files and temporary data space and efs area is used to store ESN, NAM information, telephone directory, SMS messages and other important information of the phone. MCP is also used to execute the DMSS(Dual Mode Subscriber system) software.

## Clock

- CPU clock : 19.2MHz. This clock signal from the TCXO
- Sleep clock : 32.768KHz. This clock signal is used for sleep.
- TCXO/N : 19.2/N MHz. This clock source is used by various blocks of the MSM6500 device, such as the ARM9CORE, UARTs, general-purpose PDMs and TCXO is also used by the MSM6500 device to produce CHIPX8.
- USB clock : 48MHz. This clock signal is used to drive the USB interface

## 2-1-3. RF Interface Part

### CDMA Data Interface

- TX\_Q\_P, TX\_Q\_N, TX\_I\_P, TX\_I\_N (UCP800) : Tx analog signal used during CDMA
- RX\_I\_P, RX\_Q\_P, RX\_I\_N, RX\_Q\_N (UCP800): RX analog signal used during CDMA

### RF Interface

- TX : TX\_AGC\_ADJ(UCP100) is used to control the TX power,  
PA\_ON\_PCS(UCP100) is used to control the PCS power amplifier and  
PA\_ON\_CELL(UCP100) is used to control the CDMA power amplifier.
- RX : TRK\_LO\_ADJ(UCP100) is used to compensate the TCXO module.

## 2-1-4. Audio Part

The MSM6500 integrates an audio voiceband Codec into Mobile Station Modem.

The integrated Codec contains all of the required conversion and amplification stages for the audio front end.

The Codec operates as a 13bit linear Codec with the transmit(TX) and receive(RX) filters designed to meet ITU-TG.712 requirement. The CODEC contains the software controller amplifier for both the receiving and transmitting sections. Also, the vocoding schemes used will be 13kbps QCELP and 8Kbps EVRC. The QCELP vocoder is based in the MSM internally.

## Tx Audio Path

The voice signal from the microphone is inputted to the internal CODEC. The voice signal is then amplified by the internal amplifier and is converted to PCM data to be outputted to the MSM as 13bit data. This data is then processed by the MSM(UCP800)'s internal.

## Rx Audio Path

The PCM data from the MSM(UCP800)'s internal is inputted to the internal CODEC and the data will be decoded by the internal DAC and audio levels are adjusted by the amplifier. The final audio is then sent to the audio receiver.

## 2-2. PCS Section

### 2-2-1. Receiver

#### **LOW NOISE AMPLIFIER (U1000)**

The low noise amplifier(It is included in FC7510:U1000) amplifies a weak signal received from the base station to obtain the optimum signal level.

#### **RF BAND PASS FILTER (F1001)**

The RF BPF(F1001) passes only a specific frequency( $1960\pm30$  MHz) from the signal received from the mobile station. The bandwidth is 60 MHz.

#### **VOLTAGE CONTROLLED OSCILLATOR(VCO1000)**

The VCO(VCO1000) generates the signal having center frequency  $1715 \sim 1788$ MHz frequency range with the voltage control. The PLL in RTR6300(U1102) controls this signal.

#### **Frequency Synthesizer Circuit**

The PLL(Phased Locked Loop) block consists of VC-TCXO(TCX1001), PLL in RTR6300 and VCO(VCO1000). Input reference frequency is generated at VC-TCXO(TCX1001) and the RF local signal is generated at VCO. PLL compares the two signals and generates the desired signal with a preprogrammed counter which controls voltage.

#### **VOLTAGE CONTROLLED TEMPERATURE COMPENSATED CRYSTAL OSCILLATOR (TCX1001)**

The VC-TCXO (TCX1001) is a reference source of the frequency synthesizer. It provides 19.2MHz reference frequency to PLL-IC. It is a voltage controlled temperature compensated crystal oscillator having  $19.2\text{MHz} \pm 2.5\text{ppm}$  frequency stability over all useful temperature range. A correct frequency tuning is made by the control voltage.

|

## 2-2-2. Transmitter

### **Antenna(ANT1)**

Antenna(ANT1) sends signal to the base station and receives the signal from the base station. It is a multi-band Antenna and covers PCS band, CDMA band DCS band, GSM Tx band and GPS band.

### **RF Switch(U1201)**

It(U1201) is used to switch the PCS path, the CDMA path the GPS path and the GSM path, The RF signal pass through PCS path when PCS\_SW is high.

PCS\_SW, CDMA\_SW, GPS\_SW and GSM\_SW are digital signals from MSM6500 via Decoder(U1200).

### **Duplexer(F1103)**

Duplexer(F1103) allows to transmit only the signals within acceptable Tx frequency range ( $1880 \pm 30$  MHz) through the antenna.

### **Power Amp(PAM1103)**

Power amplifier module(PAM1103:CX77107) amplifies signals to be sent to the base station through the antenna.

### **RF Band Pass Filter(Tx RF SAW Filter)**

The RF BPF(F1101) pass only specific frequency( $1880 \pm 30$ MHz) to send it to power amp(PAM1103:CX77107).

### **Direct Conversion Transmitter(U1102)**

The Direct Conversion Transmitter(U1102: RTR6300) allows the signal to be inputted to the power amp(PAM1103) as a specified level from I, Q base band signals.

### **Automatic Gain Control Amp**

The TX AGC amp (in RTR6300) controls gain of AGC to deliver power level needed at driver amp. Its control voltage varies from 0.2V to 2.5V.

## 2-3. CDMA Section

### 2-3-1. Receiver

#### **Low Noise Amplifier(U1000)**

The low noise amplifier(It is included FC7510: U1000) amplifies a weak signal received from the base station to obtain the optimum signal level.

#### **RF Band Pass Filter(F1000)**

The RF BPF(F1000) passes only a specific frequency( $881.49\pm12.5$  MHz) from the signal received from the mobile station. The bandwidth is 25 MHz.

#### **Voltage Controlled Oscillator(VCO1000)**

The VCO(VCO1000) generates the signal having center frequency 1715 ~ 1788MHz frequency range with the voltage control. The PLL in RTR6300 controls this signal.

#### **Frequency Synthesizer Circuit**

The PLL(Phased Locked Loop) block consists of VC-TCXO(TCX1001), PLL in RTR6300 and VCO(VCO1000). Input reference frequency is generated at VC-TCXO(TCX1001) and the RF local signal is generated at VCO. PLL compares the two signals and generates the desired signal with a preprogrammed counter which controls voltage.

#### **VC-TCXO(TCX1001)**

The VC-TCXO (TCX1001) is a reference source of the frequency synthesizer. It provides 19.2MHz reference frequency to PLL-IC. It is a voltage controlled temperature compensated crystal oscillator having  $19.2\text{MHz} \pm 2.5\text{ppm}$  frequency stability over all useful temperature range. A correct frequency tuning is made by the control voltage.

## 2-3-2. Transmitter

### **Antenna(ANT1)**

Antenna(ANT1) sends signal to the base station and receives the signal from the base station. It is a multi-band Antenna and covers PCS band, CDMA band DCS band, GSM Tx band and GPS band.

### **RF Switch(U1201)**

It(U1201) is used to switch the PCS path, the CDMA path the GPS path and the GSM path, The RF signal pass through PCS path when PCS\_SW is high.

PCS\_SW, CDMA\_SW, GPS\_SW and GSM\_SW are digital signals from MSM6500 via Decoder(U1200).

### **Duplexer(DUF1107)**

Duplexer(DUF1107) allows Rx frequency range( $881.49 \pm 12.5$  MHz) and Tx frequency range ( $836.49 \pm 12.5$  MHz) from the antenna to pass through LNA. It also matches LNA input in receiving part and PAM(PAM1104:CX77105) output in transmitter part with the antenna.

### **Power Amp(PAM1104)**

Power amplifier module(PAM1104:CX77105) amplifies signal to be sent to the base station through the antenna.

### **RF Band Pass Filter(Tx RF SAW Filter)**

The RF BPF(F901) pass only specific frequency( $836.49 \pm 12.5$ MHz) to send it to power amp(U903:CX77105).

### **Direct Conversion Transmitter(U1102)**

The Direct Conversion Transmitter(U1102: RTR6300) allows the signal to be inputted to the power amp(PAM1103) as a specified level from I, Q base band signals.

### **Automatic Gain Control Amp**

The TX AGC amp in RTR6300 controls gain of AGC to deliver power level to be needed at Driver amp. Its control voltage varies from 0.2V to 2.5V.

## 2-4. GSM/DCS Section

### 2-4-1. Receiver

#### **Low Noise Amplifier(U1102)**

The low noise amplifier(It is included in RTR6300 : U1102) amplifies a weak signal received from the base station to obtain the optimum signal level.

#### **Voltage Controlled Oscillator(VCO1000)**

The VCO(VCO1000) generates the signal having center frequency 1715 ~ 1788MHz frequency range with the voltage control. The PLL in RFR6000 controls this signal.

#### **Frequency Synthesizer Circuit**

The PLL(Phased Locked Loop) block consists of VC-TCXO(TCX1001), PLL in RFR6000 and VCO(VCO1000). Input reference frequency is generated at VC-TCXO(TCX1001) and the RF local signal is generated at VCO. PLL compares the two signals and generates the desired signal with a preprogrammed counter which controls voltage.

#### **VC-TCXO(TCX1001)**

The VC-TCXO (TCX1001) is a reference source of the frequency synthesizer. It provides 19.2MHz reference frequency to PLL-IC. It is a voltage controlled temperature compensated crystal oscillator having 19.2MHz  $\pm 2.5\text{ppm}$  frequency stability over all useful temperature range. A correct frequency tuning is made by the control voltage.

## 2-4-2. Transmitter

### **Antenna(ANT1)**

Antenna(ANT1) sends signal to the base station and receives the signal from the base station.  
It covers GSM TX band, CDMA RTX band, GPS band, DCS RTX band.

### **RF Switch(U1201)**

It(U902) is used to switch the PCS path, the CDMA path GSM/DCS path and the GPS path,  
The RF signal pass through CDMA path when CELL\_MODE is high.  
PCS\_MODE, CELL\_MODE and GPS\_MODE are digital signals from MSM6500 GPIO.

### **ASM(DUF1200)**

Antenna Switch Module(DUF1200) allows Rx frequency range( $881.49 \pm 12.5$  MHz)  
to come to the RX path and also allows Tx frequency range to go out to antenna  
by switching between RX block and TX block..

### **Power Amp(PAM1101)**

Power amplifier module(PAM1101) amplifies signal to be sent to the base station  
through the antenna.

### **Up-Converter(VCO1101)**

The up-converter(VCO1101) generate Tx RF signal by receiving the tune voltage  
that correspond proper frequency.

## 2-5. GPS Section

### **Antenna**

Antenna receives signal from GPS satellites.

It is a tri-band Antenna and covers GSM band, PCS band, CDMA band and GPS band.

### **RF Switch(U1201)**

It(U1201:NJG1519KC1) is used to switch the GSM Path, PCS path, CDMA path and the GPS path. The RF signal pass through PCS path when PCS\_SW is high. The RF signal pass through CDMA path when CDMA\_SW is high. The RF signal pass through GPS path when GPS\_SW is high. The RF signal pass through GSM path when GSM\_SW is high. GSM\_SW, PCS\_SW, CDMA\_SW and GPS\_SW are digital signals from MSM6500 GPIO.

### **RF Band Pass Filter(F1002)**

The RF BPF(F1002) passes only a specific frequency( $1575.42\pm2$  MHz) from the signal received from the satellites. The bandwidth is 2 MHz.

### **Low Noise Amplifier(TR1001)**

The low noise amplifier(TR1001) amplifies a weak signal received from the satellites to obtain the optimum signal level.

### **Low Noise Amplifier(U1001)**

The low noise amplifier(It is included in RFR6000 : U1001) amplifies a weak signal received from the satellites to obtain the optimum signal level.

## 2-6. PDA PART

The PDA logic part consists of power supply part, MPU & memory part, LCD part, audio part and all the peripherals.

### 2-6-1. POWER SUPPLY

When the battery is inserted to the handset,

VBAT makes VCC\_BATT, VCORE14, VPLL13, VSRAM11 via U405(MAX1587) which is a CPU voltage  
VCC30 via U405(MAX1587) which is CPU & peripheral voltage,  
VCC28 via U414(MIC5219-2.8BML) which is a DPRAM voltage,  
VLCD33 via U413(MIC2211-SSBML) which is a LCD logic voltage,  
VBT30 via U416(MIC2211-PPBML) which is a Buletooth voltage.  
VBAIS30 via U416(MIC2211-PPBML) which is a MIC vias voltage.

VBAT33 via U413MIC2211-SSBML) which is a backup battery charging voltage,  
VSD30 via U410(MIC2212) which is a SD-Card voltage.

VCC30 makes VCC18 via U412(MIC2211-JGBML) which is a M-DOC voltage,

VDD30 makes VDD18 via U411(MIC2211-JGBML) which is a SDRAM voltage,

VLCD33 makes AVDD5V, VON, VOFF via U1000(MAX1779) which is LCD pannel voltage.

### Backup Battery

The SPH-i830 has a back-up battery(ML1220) that stores data of SDRAM when the battery removed or becomes low battery state that is below 3.1V.

The low battery state is checked by voltage detector or R3111Q311C(U400).

If the battery level is below 3.1V, nPOWER\_FAIL signal is asserted. Then the backup DC/DC converter(U405, MAX1676) output path is connected to VDD30 which is MPU, SDRAM voltage. Backup battery supply main voltage or VDD30. If backup battery voltage is below 2V, discharging path is disabled.

## 2-6-2. MPU & Memory part

### **MCP(UCP201:LVPXA272FC5520)**

ARM Architecture

Built in Memory Controller, LCD Controller, AC97 Controller and MMC Controller

Intel® PXA272 processor with 64 Mbytes of Intel StrataFlash® memory

Flash memory is used to store the PDA executable program and necessary data files.

Clock and Power Controllers

It has a variety of different system peripherals and controls all the peripheral circuitry.

13x13mm VFBGA package

### **NAND FLASH Memory(UME301:MD4832D512)**

High capacity: single die - 512Mbit (64MB)

Nand Flash memory is used to user data files.

### **SDRAM Memory(UME305:K4S51323PF)**

Samsung CMOS technology

64MByte capacity Mobile Synchronous Dynamic RAM.

It is used as a application program execution space, temporary data space to store the internal flag information, timer data, and user data files.

### **DPRAM Memory(UME300:IDT70P248L55)**

4Kx16bit dual port RAM

It is accessed by Phone and PDA, but not accessed simultaneously.

Generally, Instructions and data used by Phone and PDA are stored.

## 2-6-3. LCD part

PXA272 has a LCD controller.

### **LCD module**

a transreflective type color active matrix TFT

It is composed of a TFT LCD module(TFT LCD panel, driver ICs), a Backlight unit and a touch screen panel.

The resolution of 2.8inch contains 240x320 pixels and can display 65K colors.

## 2-6-4. Audio part

PDA plays audio files via WM9712 and the voice of the phone is connected to the WM9712.  
WM9712(U400)

The WM9712 is a high quality stereo codec with an integrated touch screen controller.  
Interfaced to PXA272 via AC'97 protocol.

- AC'97 Rev 2.2 specification
- headphone outputs
- a complete 4-wire touch screen controller

## 2-6-5. Wireless Part

### — Bluetooth

#### Antenna

Antenna receives signal from AP(Access Point) or other devices.  
It is a ISM(industrial, Scientific, Medical frequencies) Band Antenna that covers only 2.4 GHz.

#### Module

The Bluetooth Module which uses CSR's BC02-Audio is manufactured by SEMCO. It only supports 802.15 Specification(Bluetooth Specification 1.1) and communicates with CPU through UART Interface. The data throughput is up to 1 Mbps in the abstractly but typically supports 723 / 57.6 Kbps in an asynchronous mode and 432.6 kbps in a synchronous mode.

Modulation method is FHSS(Frequency hopping spread spectrum) and it hops 1600 times a second. Its channel spacing is 1MHz and bandwidth is 1MHz.

## 2-6-6. All the Peripherals

### **Memory card**

The MultiMediaCard Controller on the Intel PXA272 can communicate with either:

- a MultiMediaCard (MMC)
- a Secure Digital (SD) Memory Card
- a Secure Digital I/O (SDIO) Card

### **IrDA(U200:HSDL-3003)**

IrDA Data Compliant 115.2kbit/s with Remote Control Transmission Infrared Transceiver.

a small form factor single enhanced infrared transceiver module that provides the combination of interface between logic and IR signals for through-air, serial, half-duplex IR data link, and IR remote control transmission operating at 940nm for universal remote control applications.

### **USB**

There is a USB Client in the Phone part and PDA part each.

The USB signals are switched to the interface connector via MUX(U604, MAX4636).

The USB interface of the Phone part is used for downloading and data service.

The USB of the PDA part is used for downloading user files and application programs by Active Sync to PC.

### **UART**

There is a UART port in the Phone part and PDA part each.

The UART signals are switched to the via the MUX(U601, MAX4684).

### **KEYPAD**

For user interface, a keypad is used for function. For key recognition, a key matrix is set up using signals KBC\_(0)~(6) and KBR\_(0)~(7) of the PXA272.



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### 3. Installation

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#### 3-1. Installing and Removing the Battery

**To install**

1. Place the battery on the back of the phone, making sure the plastic tabs are aligned with the corresponding holes in the phone
2. Gently push the battery up until it snaps into place

**To remove**

Push the battery release latch, then slide the battery toward the bottom end of the phone

#### 3-2. Using the Desktop Charger

1. Plug the AC cord from the charger into the electrical outlet.
2. Insert the phone into the slot.

- ◊ A red light on the charger lets you know the battery is charging.
- ◊ A green light lets you know that the battery is at least 90 percent charged.
- ◊ A orange light indicates that the battery is operating at a temperature that is too high or low, or that the charger is not plugged in correctly. Please check the charger and the battery.

#### Specifications using DTC (Desktop Charger)

Battery Type	Standard Battery (Li-ion, 1100mAh)	Extended Battery (Li-ion, 1700mAh)
Charging	< 5 hours	< 5 hours
SEC Code	GH43-02529A	GH43-02518A



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## 4. NAM Programming

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### 4.1 Programming of MDN and MSID

MDN and MSID can be programmed as follows:

Notes:

Press ##MSL#(ex: ##222222#) to enter Service Menu.

- 1) To view press View or to edit press Edit.
- 2) While editing, press OK to save. When OK is pressed after editing MDN, MSID will change to all 0's. Need to input a valid MSID and press OK to save the changes.
- 3) Press Done to save and exit programming

MDN and MSID Setting Flow:

LCD Display	change	Function
Service Menu		
Phone Number	Enter the number	This screen allows you to view and modify the phone number(MDN).
MSID	Enter the number	This screen allows you to view and modify the Mobile Station ID Number(MIN).

### 4.2 Programming of the NAM parameters (Advanced)

NAM parameters can be programmed as follows:

Notes:

Press ##3282#. Select 'Advanced' button.

- 1) Screen will prompt for entering SVC code.
- 2) Enter the 6-digit MSL(ex: 222222) and then press OK.
- 3) To view press Advanced View or to edit press Advanced Edit.
- 4) Choose up/down to choose and press OK to save.
- 5) Some parameters press left/right key to change value.
- 6) Press Done to save and exit programming

## NAM SETTING FLOW:

LCD Display	change	Function
Service Menu		
Home SID (4139)	Enter the number	This screen allows you to view and modify the home system ID (SID).
Home NID (65535)	Enter the number	This screen allows you to view and modify the home Network ID (NID).
MCC (310)	Enter the number	The MCC screen allows you to view and modify the mobile country code.
MNC (00)	Enter the number	The MNC screen allows you to view and modify the mobile network code.
ACCOLC	Enter the number	The ACCOLC screen allows you to view and modify the access overload class.
CDMA Home Reg (YES)	Toggle Yes or No by press ← → and select by press enter key	Home SID Registration.
CDMA fSID Reg (YES)	Toggle Yes or No by press ← → and select by press enter key	Foreign SID Registration.
CDMA fNID Reg (YES)	Toggle Yes or No by press ← → and select by press enter key	Foreign NID Registration.
ESN (Hexa Number)	Cannot change	Electronic Serial Number of the phone is displayed.
P_REV (6)	Cannot change	Protocol Revision of the phone is displayed.
VOCODER (EVRC)	Toggle the item by press ← → and select by press enter key	Select vocoder option between EVRC and 13K Vocoder.
SCM (00101010)	Cannot change	Station Class Mark of the phone is displayed.
Lock Code	Enter the number	This screen allows you to view and modify the lock code.
SLOT MODE (YES)	Toggle Yes or No by press ← → and select by press enter key	This screen allows you to view and modify the slotted mode.
SLOT CYCLE INDEX (2)	Enter the number	This screen allows you to view and modify the slot cycle index.

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## 5. Product Support Tools

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### 5-1. General

#### **IMPORTANT INFORMATION**

##### **Purpose**

The Product Support Tool (PST) offers you the ability to interface with the SAMSUNG mobile phone using a PC. With this tool you can program the phones network system requirements and functionality, data, and download software upgrades. This document supports UniPST(Universal Product Support Tool).

#### **EQUIPMENT REQUIRED**

Make sure you have the following equipment setup:

1. Minimum PC configuration: 586 CPU, 64MB RAM, Windows2000/XP and above, 5MB of disk space free for software upgrade.
2. PST Software with appropriate cable (USB Cable for SAMSUNG mobile phone).
3. USB Port.
4. Power Supply (4.3 V) or Battery.

#### **INSTALLATION**

1. Insert the SCH-i830 CDROM into your CD-Rom drive.
2. Run the file explorer and run the Setup.exe file.
3. After UniPST is installed on a computer, connect the phone, cable, and PC .

## 5-2. PST (Product Support Tool)

### 5-2-1. Getting Started

#### MAIN MENU SCREEN

1. Double Click on your "UniPst" on UniPst-Sprint folder.
2. Select SCH-i830

The Main Menu Screen shows the basic tasks that are available.

**CAUTION: DO NOT attempt to program phone with a low battery.**

#### PST SETUP

UniPst supports SAMSUNG Mobile phone. You can select virtual USB port.

### 5-2-2. Operation Procedure

#### **Service Programming**

Before start service programming, you must change phone mode of SCH-i830

The Service Programming screens enable you to set and change the service activation parameters of the phones.

#### **Read Data from File**

Click "Open mmc" icon to select the name of a file whose extension is "mmc". The values will be read from the named file, and will initialize the parameter values seen on the Service programming screen

#### **Read Data from Phone**

Click Read from the Phone icon to upload the current programmable parameters of the phone. The values are read from the phone, so the phone must have the power ON and be properly connected to the PST.

**NOTE: To actually view the data you need to go to the Edit Items screens.**

#### **Edit Items**

Click this icon to edit Number Assignment Module (NAM) items or UI items.

1. General : Slot Cycle Index, Service Code
2. NAM1

#### **Save Data to File**

Click this icon to save the current parameters to a file. Once you enter a filename, Click <OK> button to write all current parameters to that file. This way the same information can be downloaded into multiple phones.

## Write to Phone

Click this icon to write the selected parameter values to the phone. Writing the selected values to the phone may take up to a minute. If there are dependencies in a field you can make all the changes in the proper fields and download the information all together.

If you intend to use this write to Phone? feature, it is recommended that you do a "Read Data from Phone" first, and then make the changes, so that nothing gets inadvertently overwritten.

**NOTE: DO NOT TOUCH THE PHONE WHILE WRITING IS IN PROGRESS.**

## Software Download

### – Performing Software Upgrade

- HW version : 1.2
- SW version : ZH21 or later
- Please use SamsungPST FW Setup1.0.002\_MSI 2ndEdition and PSTI830.dll ( Universal PST For Sprint 1.723 - [SCH-i830] or higher)

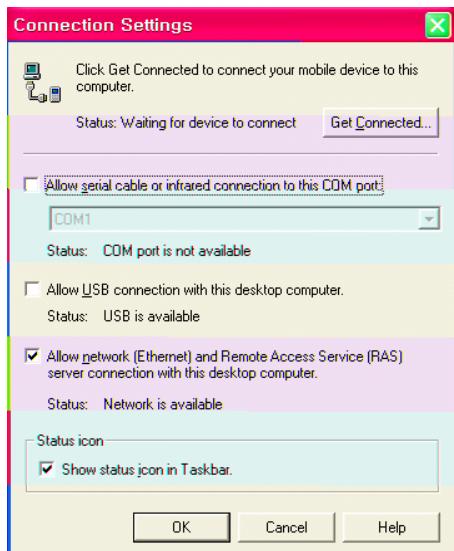
When the user downloads the S/W on the SCH-i830 device the user may use external power removing battery from the device or a fully charged battery.

Install USB drivers (use MCCI USB driver version 4.16)

For data call test and downloading new s/w,

install two setup programs which located in the / USB\_Driver directory.

- A. SAMSUNG USB Modem driver\_V4.16.zip (Phone USB)
- B. MSASYNC.EXE (Active sync 4.1, it also install PDA USB driver)



**FIG 1. Active sync connection setting**

From fig 1. Showing above is the correct configuration of active sync for data call and downloading.

When the user downloads the s/w on the i830 device the user may use travel charger, fully charged battery or JIG ( refer to 15) connections.

**IMPORTANT :**

- Please proceed following steps prior to
- i Download the PRL and ERI
  - ii Read/Write the settings
  - iii Download software (.img)

1. Start -> Settings -> Choose "System tab" -> Data Connection
  2. Choose "As the modem through USB". Press "ok": USB path will be changed to phone.
  3. Now the hand set is ready to download, please follow the steps below.
    - A. Make sure that USB DATA cable plugged into the user PC properly.
    - B. Run the "UniPst" and select SCH-i830. Press "**RUN**".
    - C. Choose "Download Mode" which is below main menu.
    - D. Go to "Setup" > "COMM Setting". Make sure that correct COM port is selected.
    - E. Go to "File" > "Open Bin" to locate image file (For example, i830WM5.1.2S.ZH21.img) to download.
    - D. Click "Phone + PDA" icon to download both phone and PDA images.
- (If the user need to download “PHONE ONLY” or “PDA ONLY” the user must pick the re-set hole for more than 3 seconds.)*
- E. Select "OK" in next below message  
"Is Current CDMA USB Modem Port X ?"
  - F. Select "OK" again, and then do hard reset the phone as described in the dialog window.
  - G. After downloading is complete, please verify handset.
- Press Start Menu and go to "Start" >"Settings" > "System" tab > "Phone Info" to make sure that appropriate PDA and phone versions are shown.

**Trouble shooting for the following message:**

Ø “Error in changing USB DM”

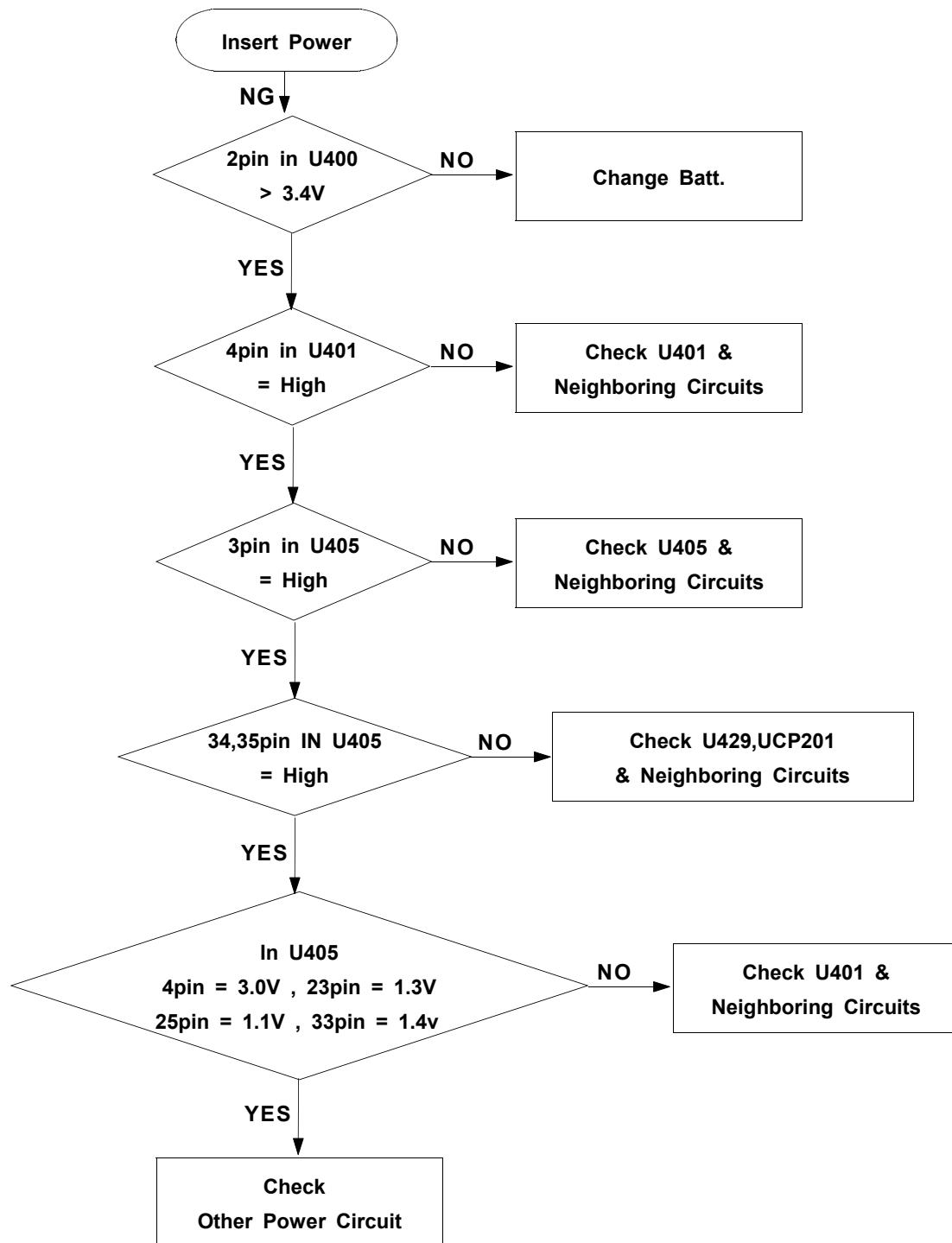
1. TEST MODE ( 6 5 4 8 # 0 \* 4 5 6 8 0 )
2. Press 001
3. Press 100
4. Change Port map to **U1\_HFK USB\_DS** by using up, down arrow
5. Press enter
6. Press 002
7. Change USB path “as the modem through USB” by (Start -> Settings -> Choose "System tab" -> Data Connection)

## 7. Flow Chart of TroubleShooting

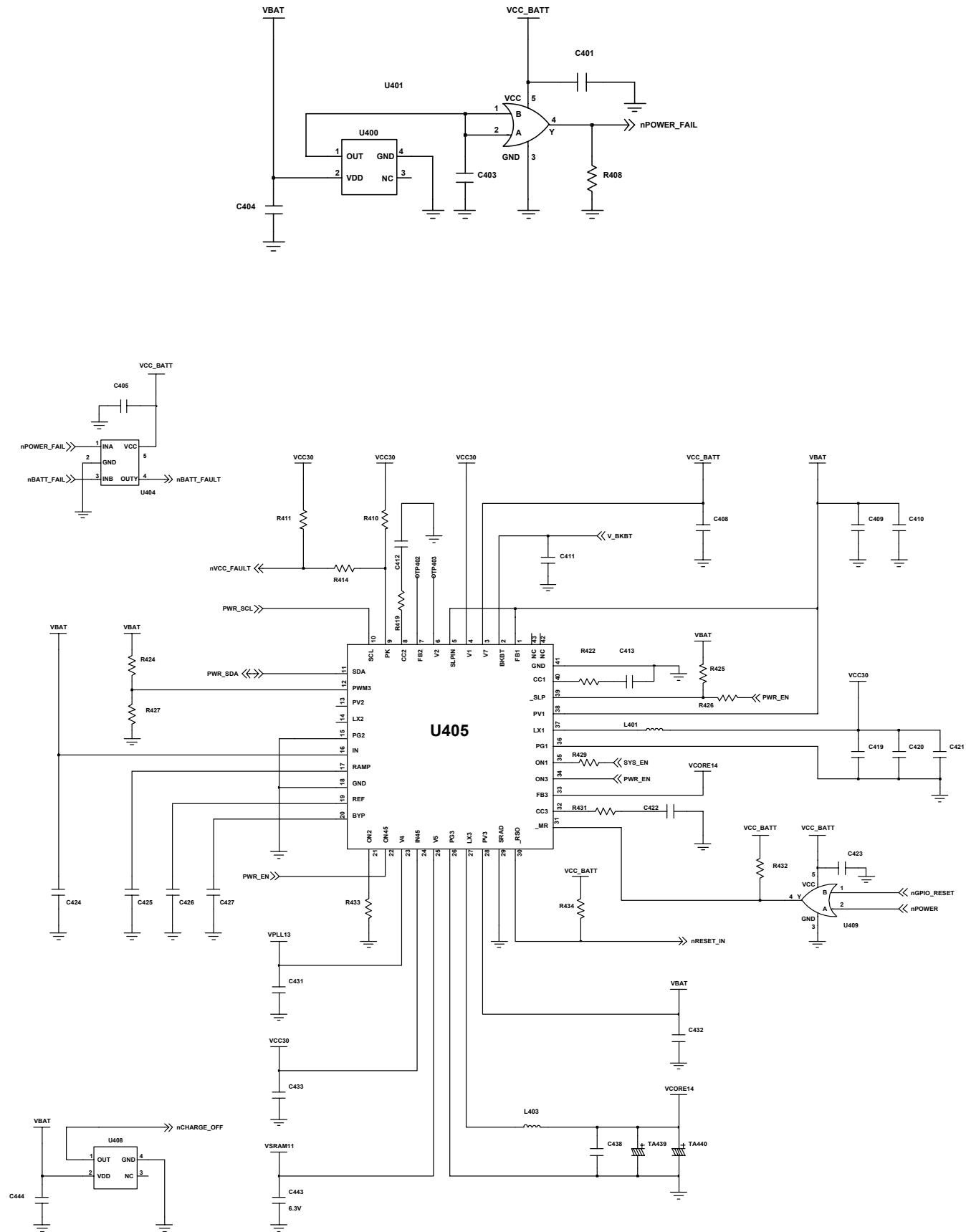
### 7-1. Logic Section

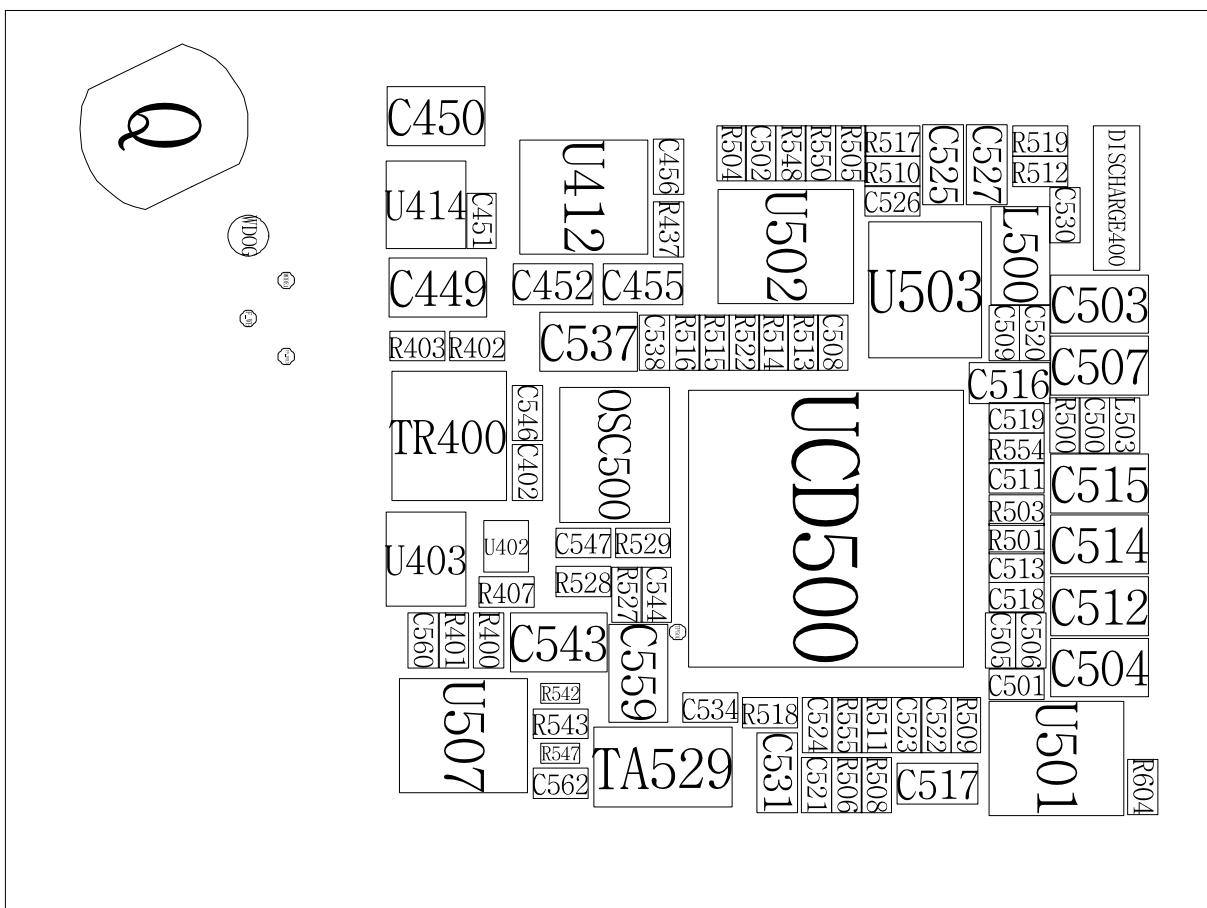
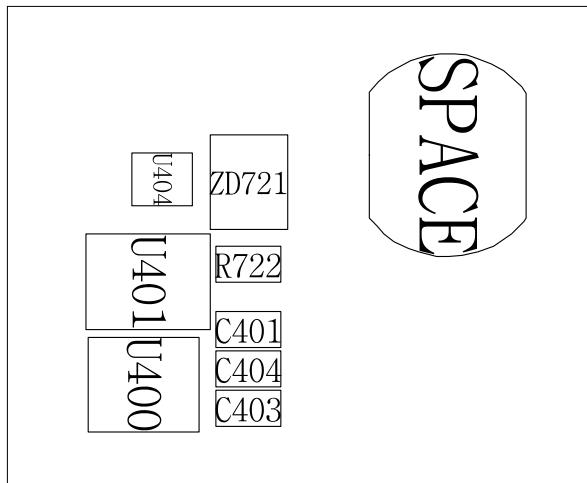
#### 7-1-1. Power On

##### PDA Part



## **Flow Chart of Troubleshooting**

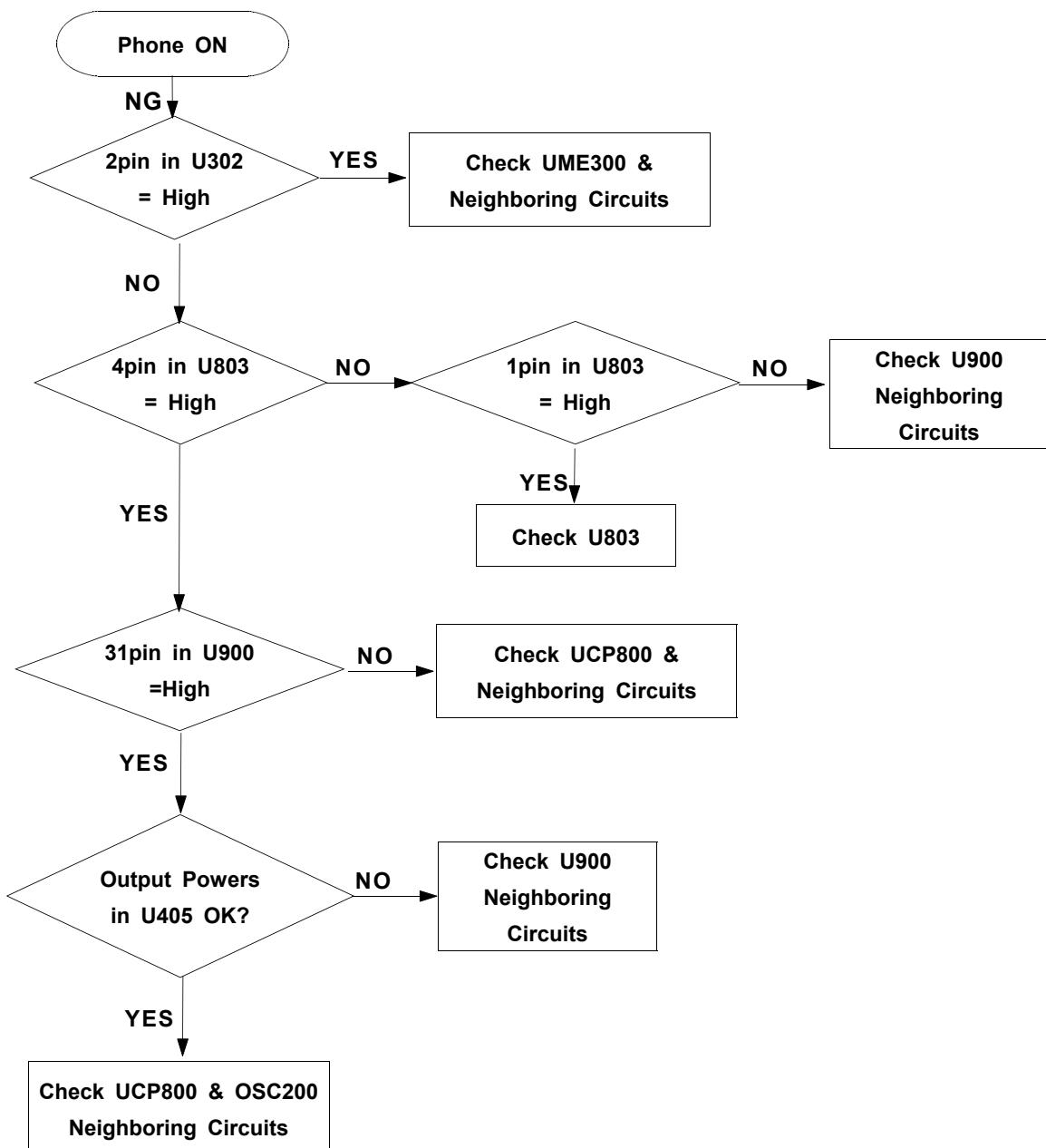


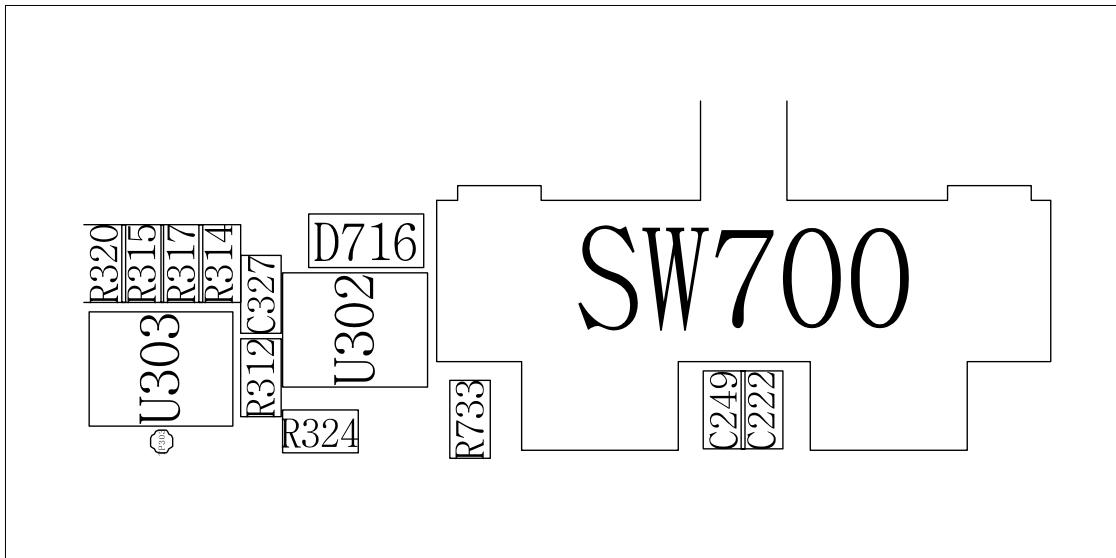
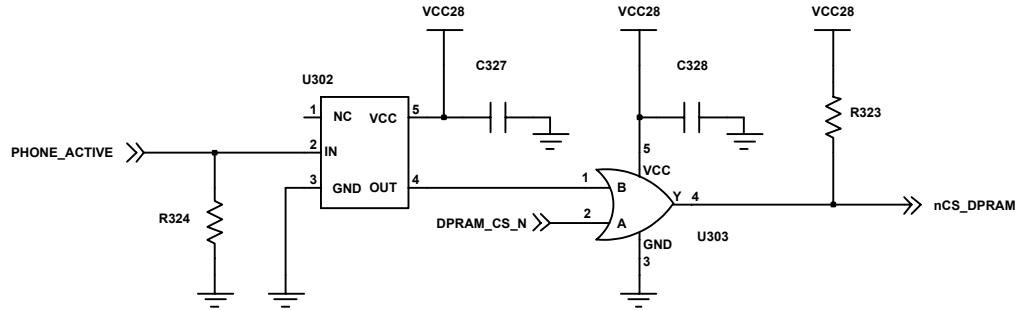


## Flow Chart of Troubleshooting

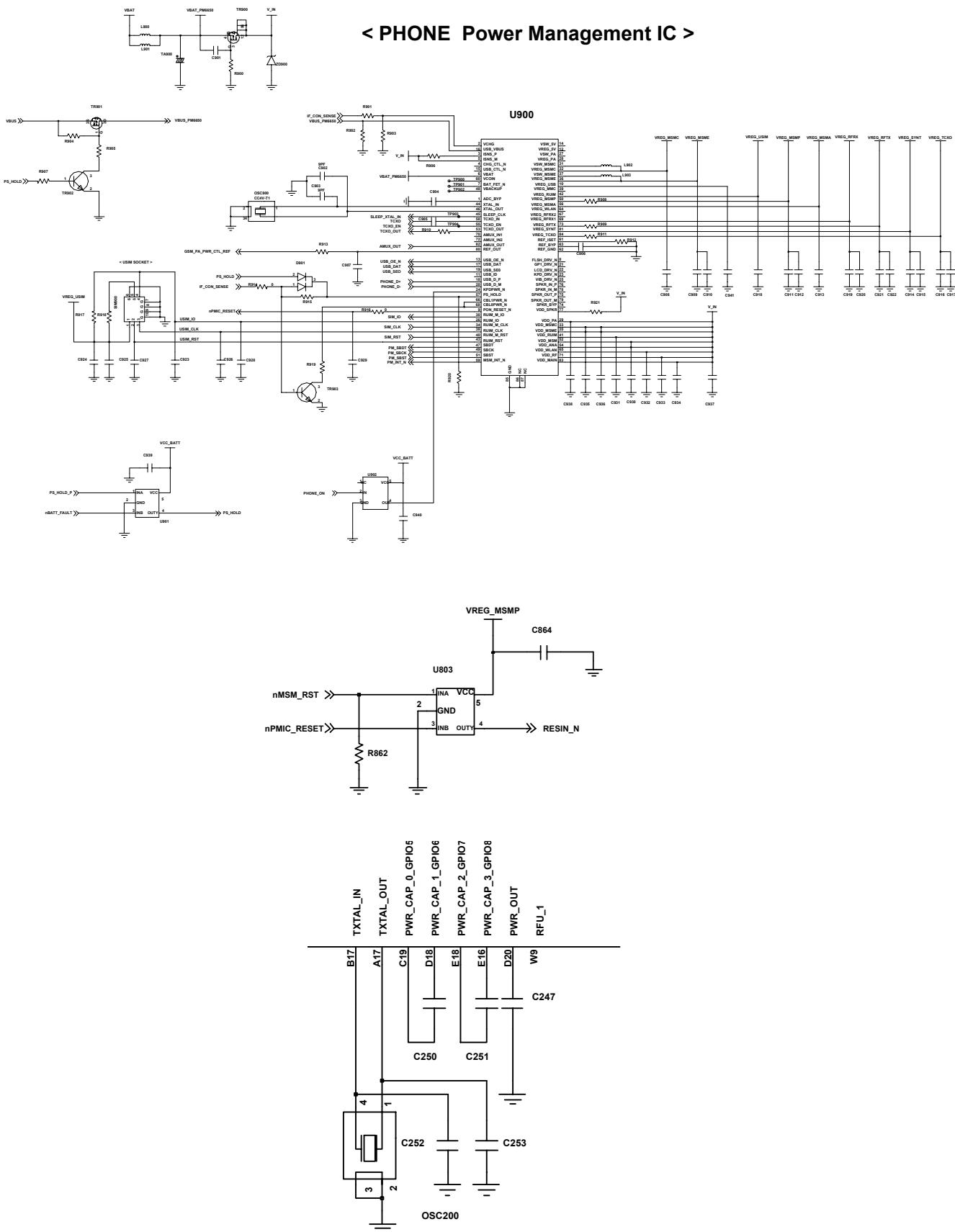
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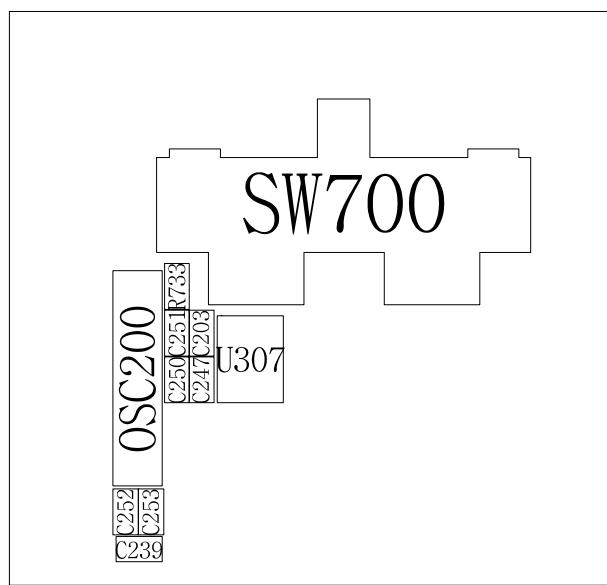
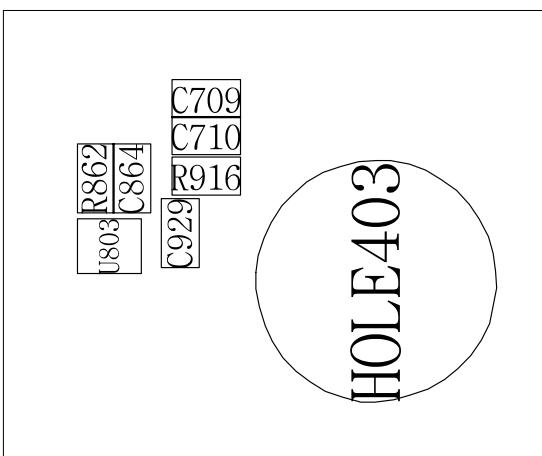
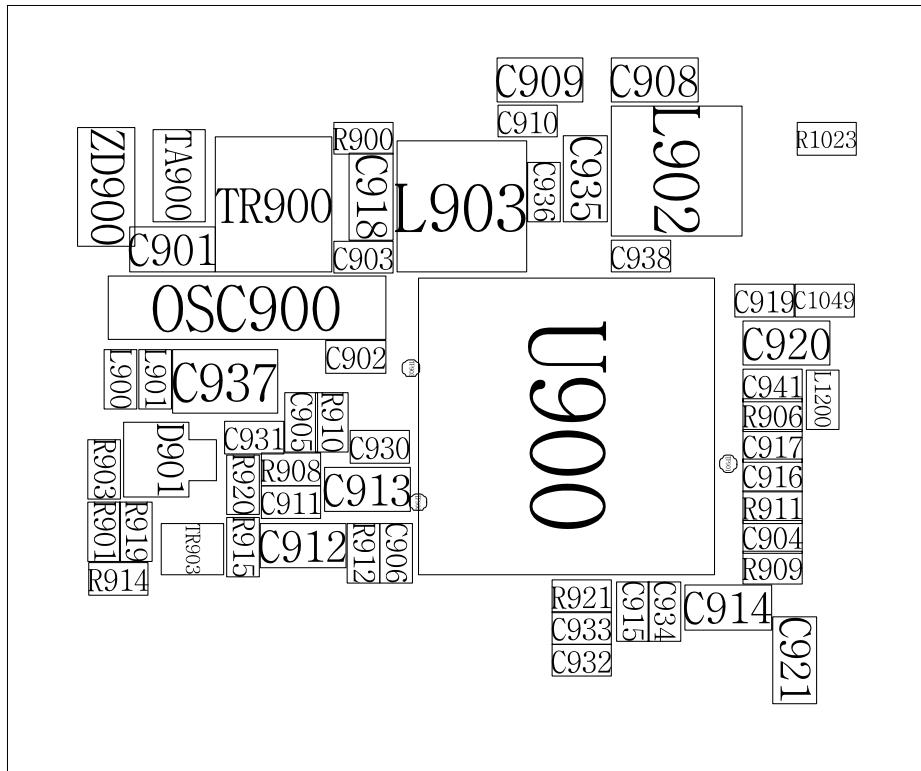
### PHONE Part



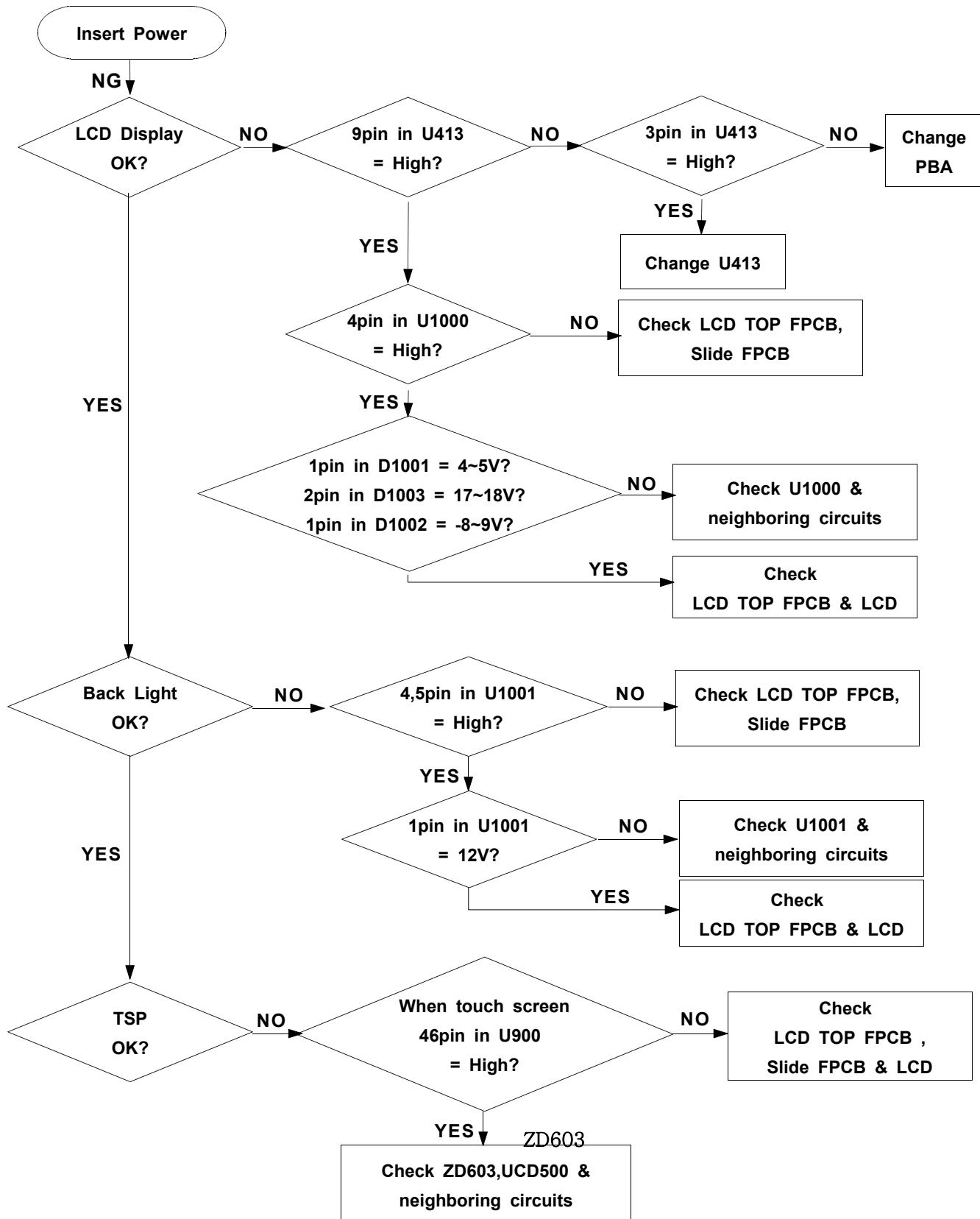


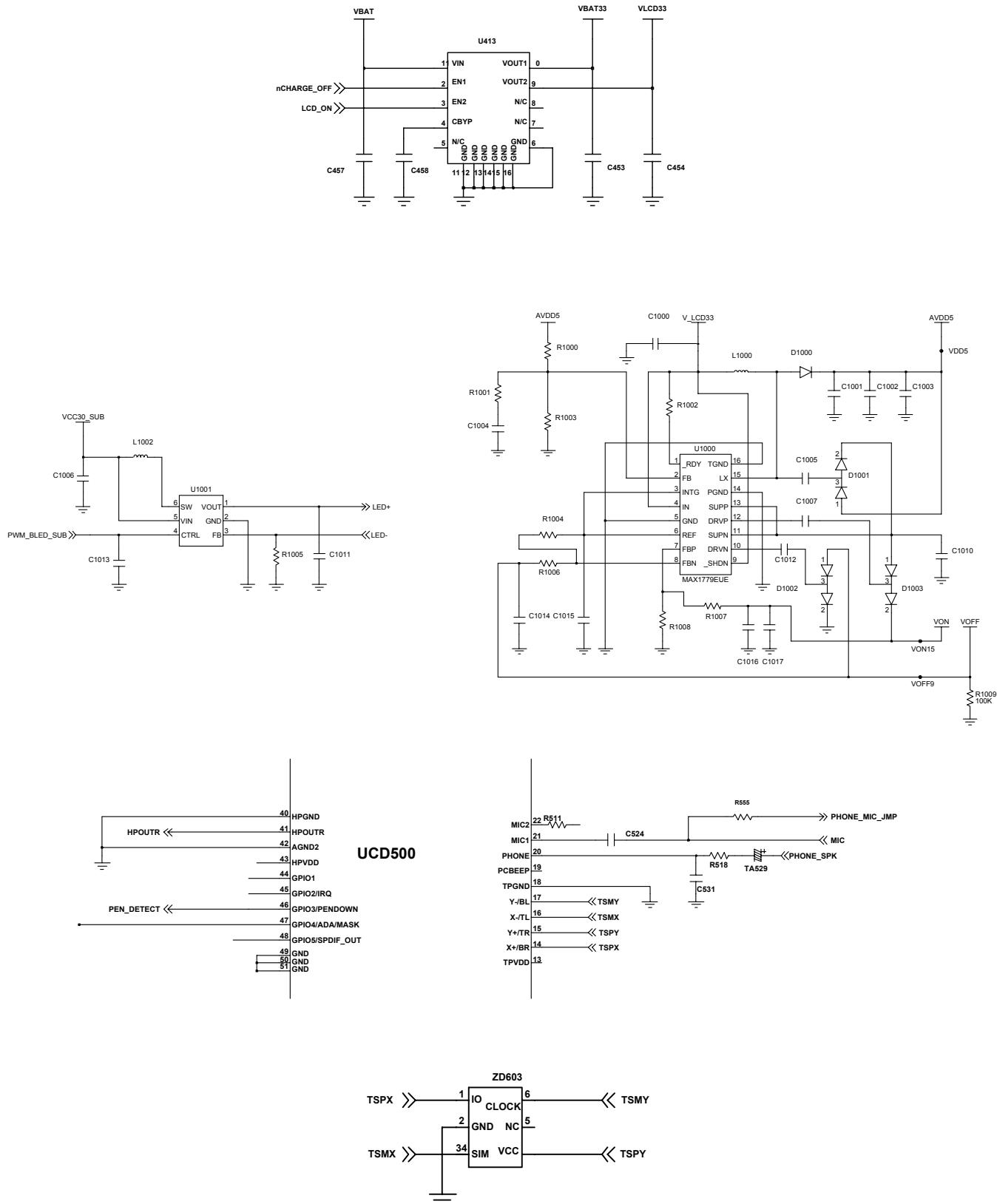
## Flow Chart of Troubleshooting





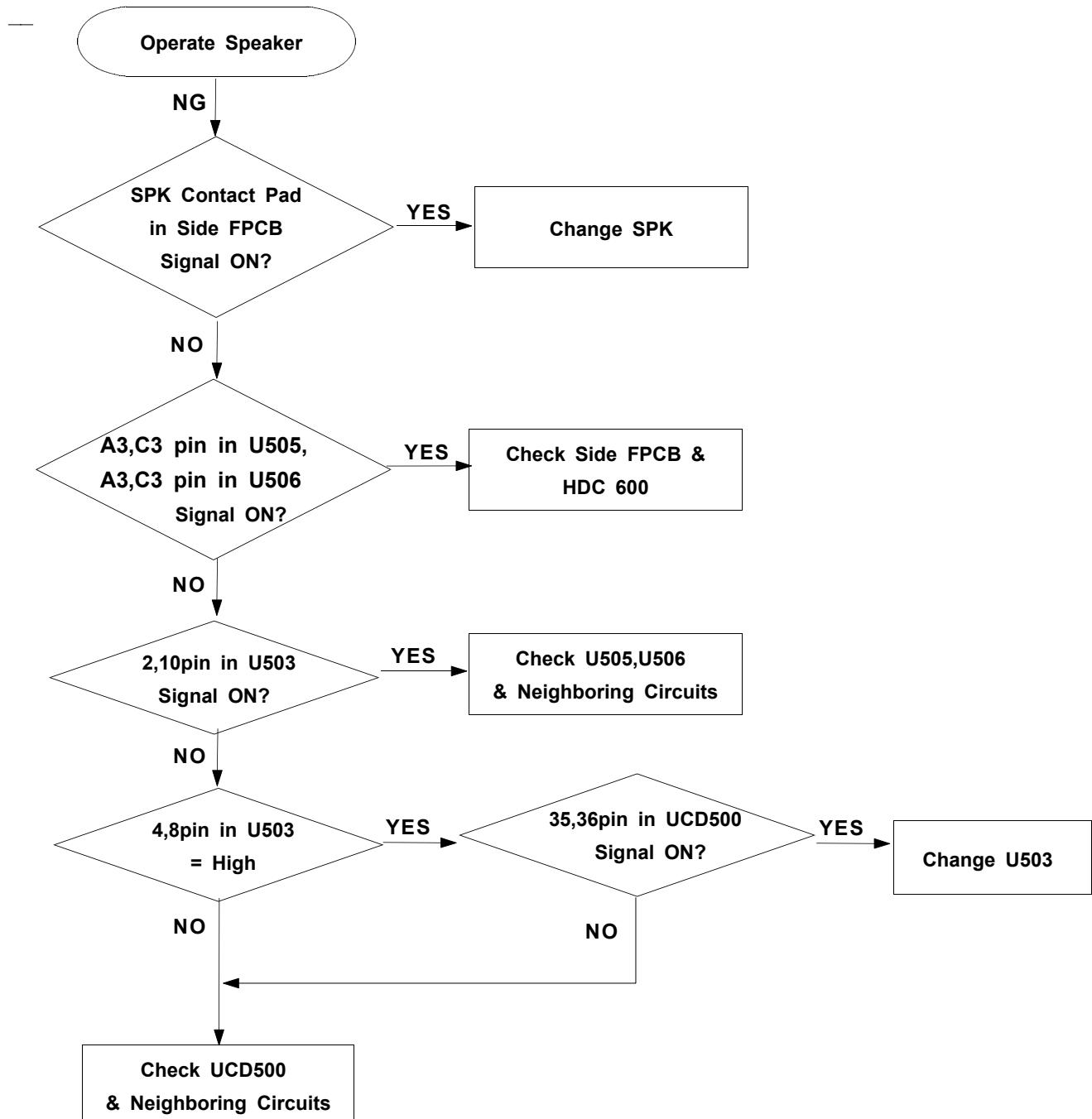
### 7-1-2. LCD Working

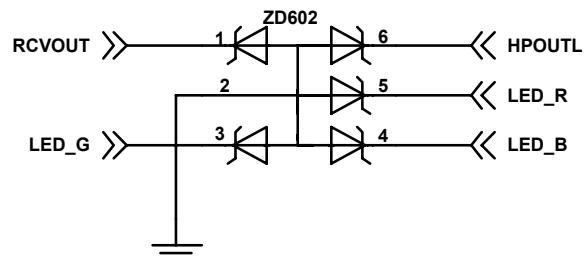
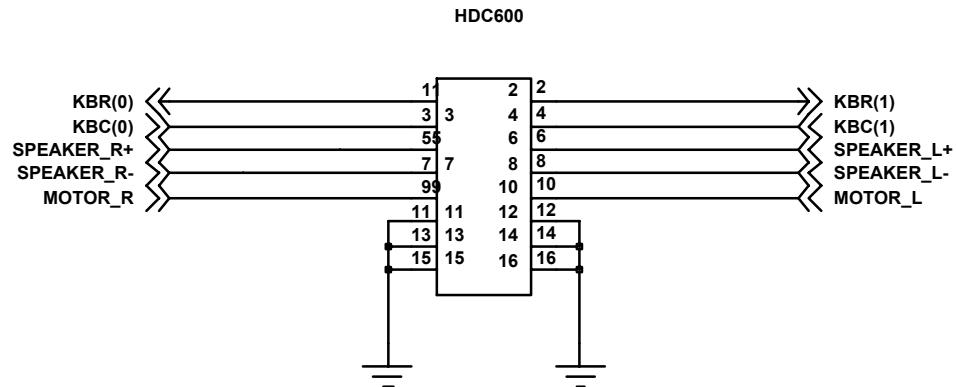




### 7-1-3. Audio Working

#### Speaker Working

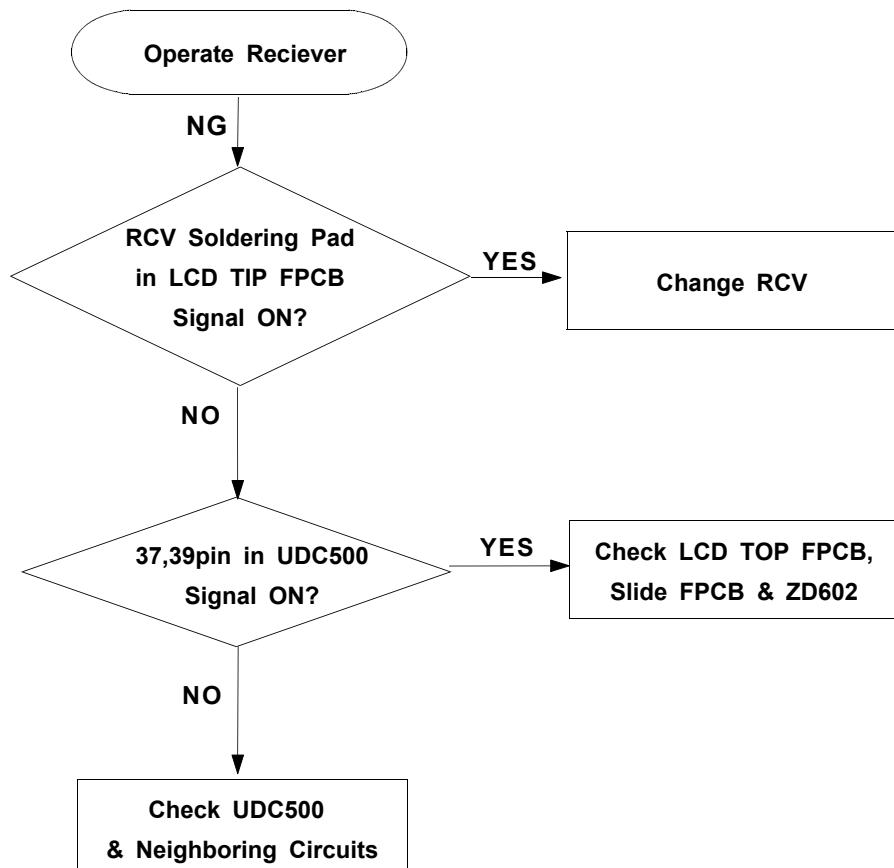


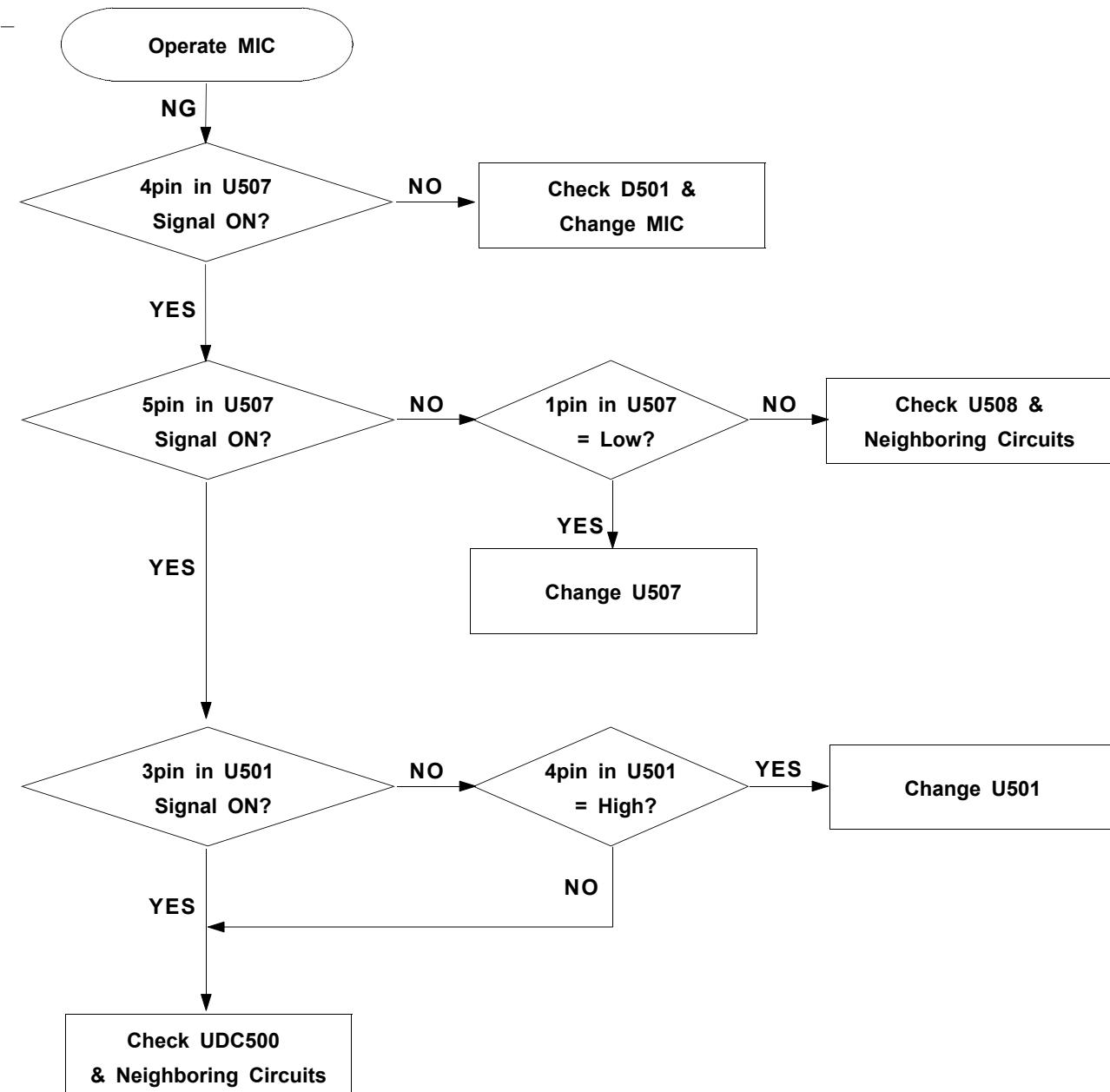


## Flow Chart of Troubleshooting

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### Reciever Working

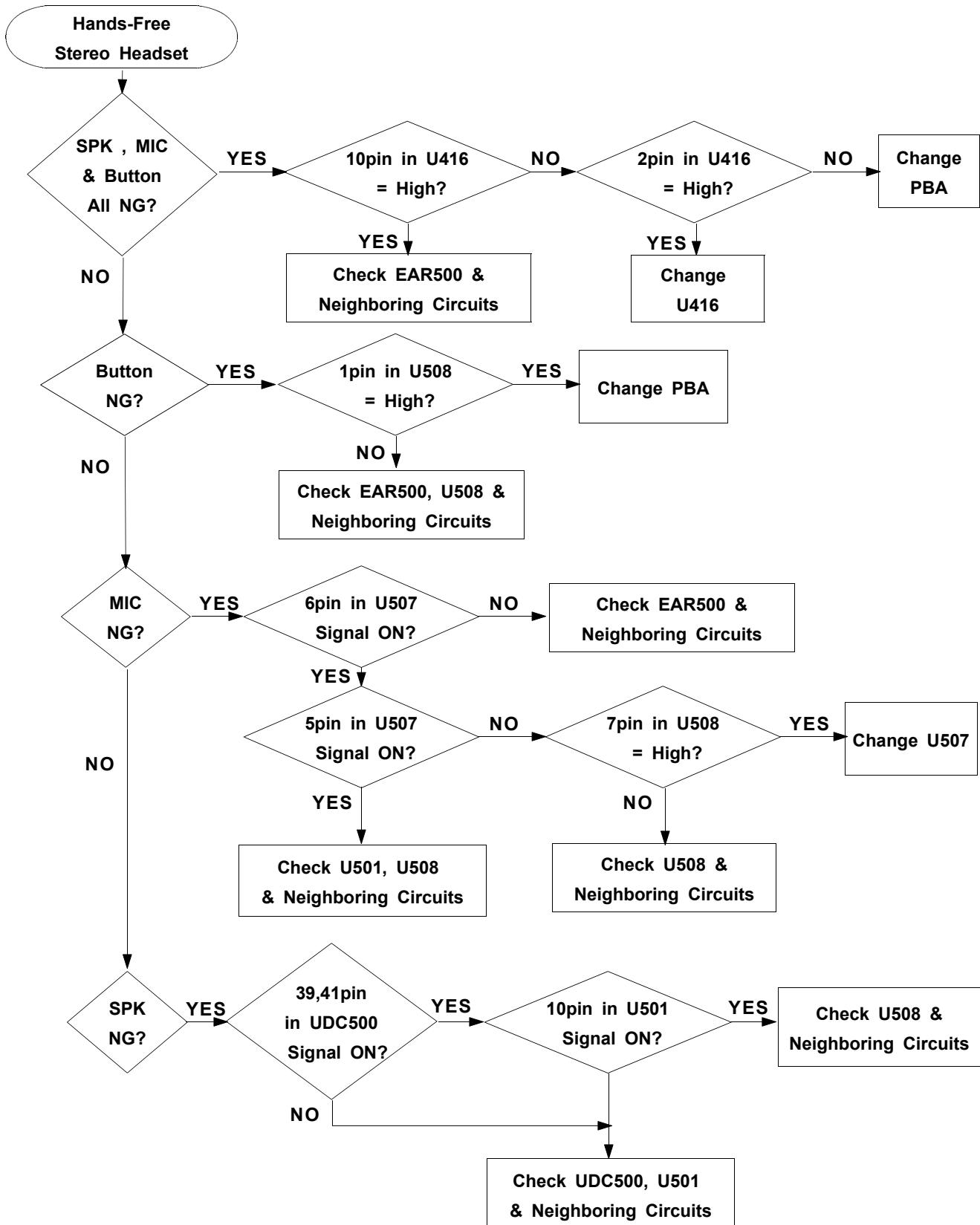


Mic Working

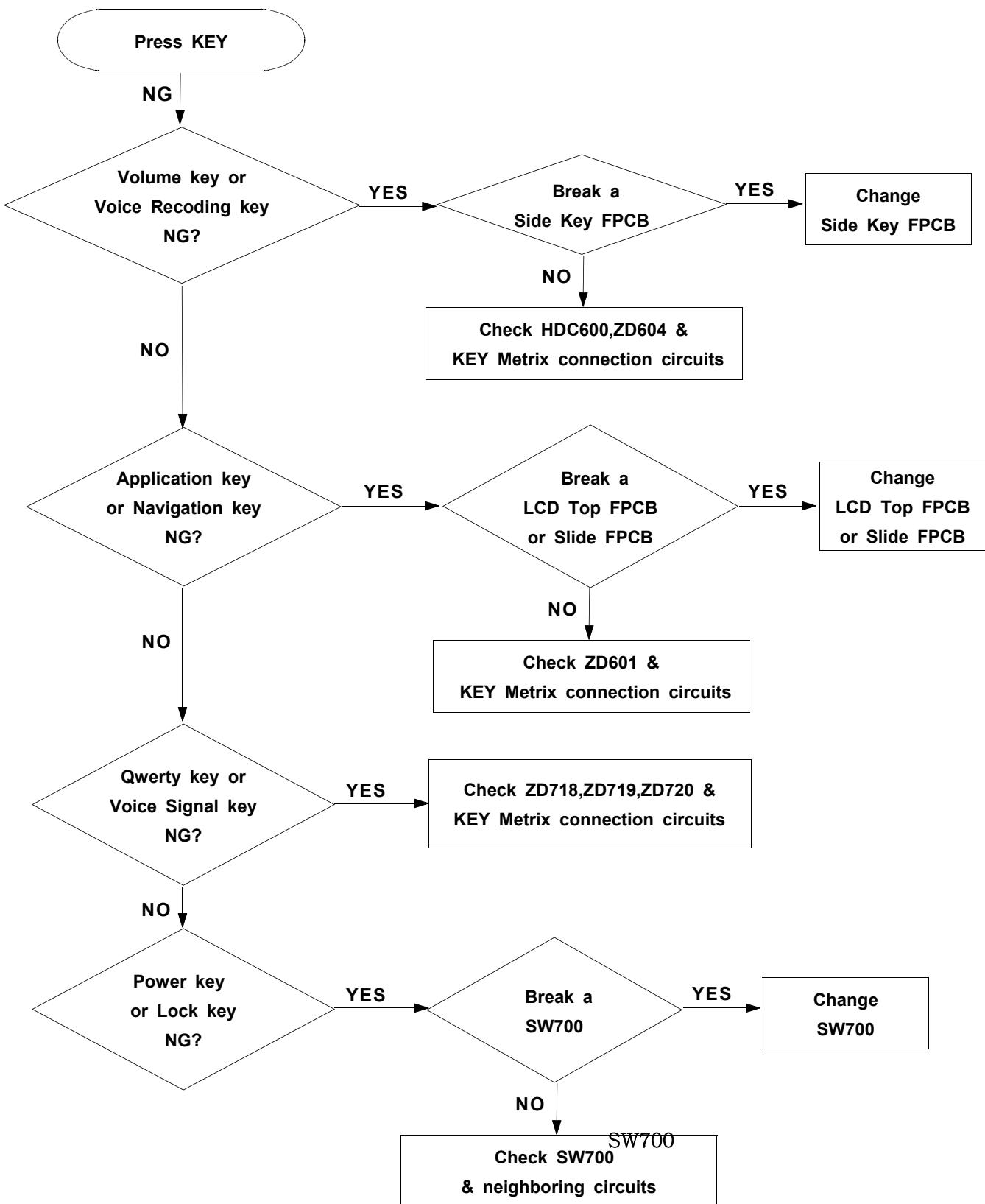
## Flow Chart of Troubleshooting

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### Hands-Free Stereo Headset Working

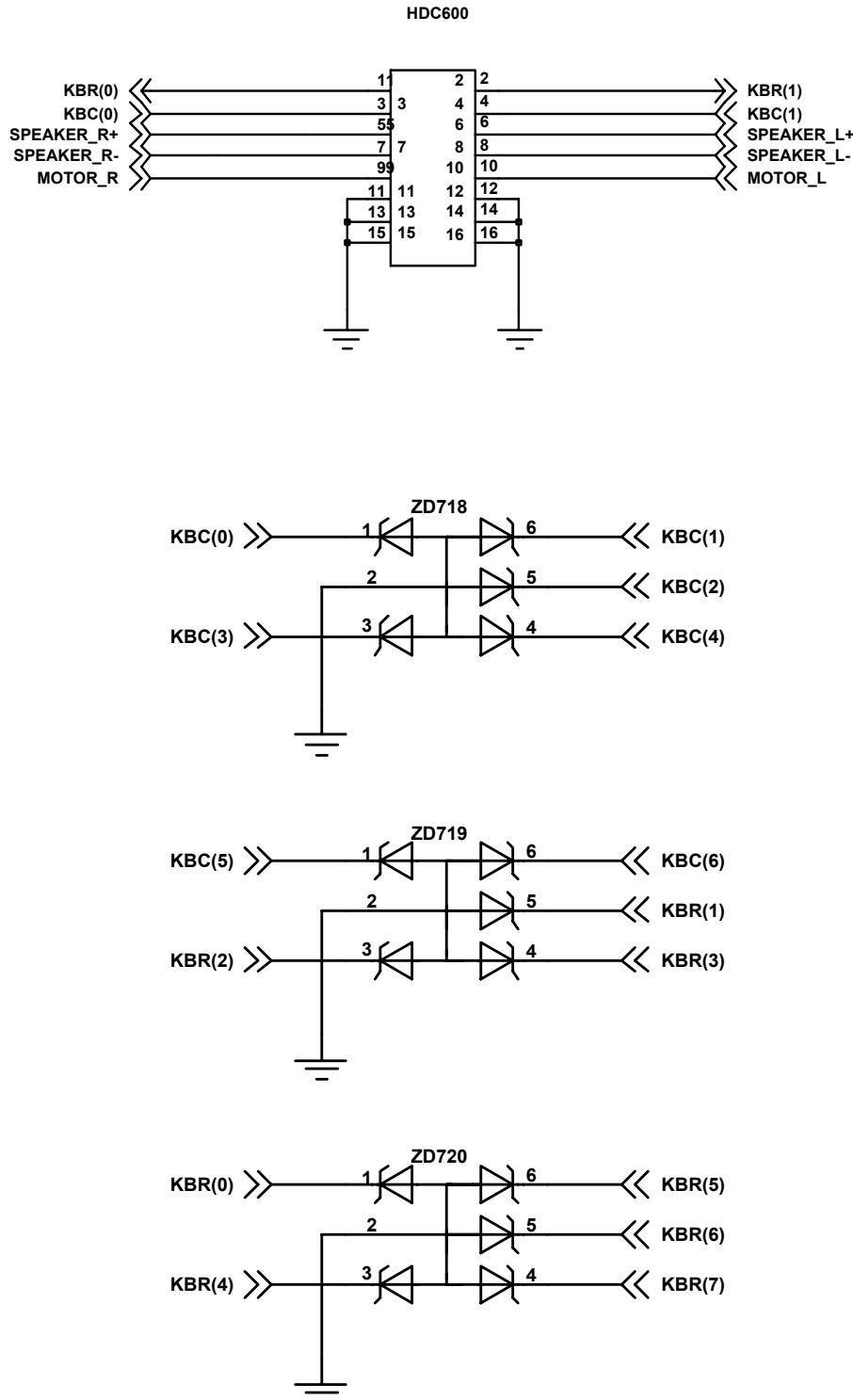


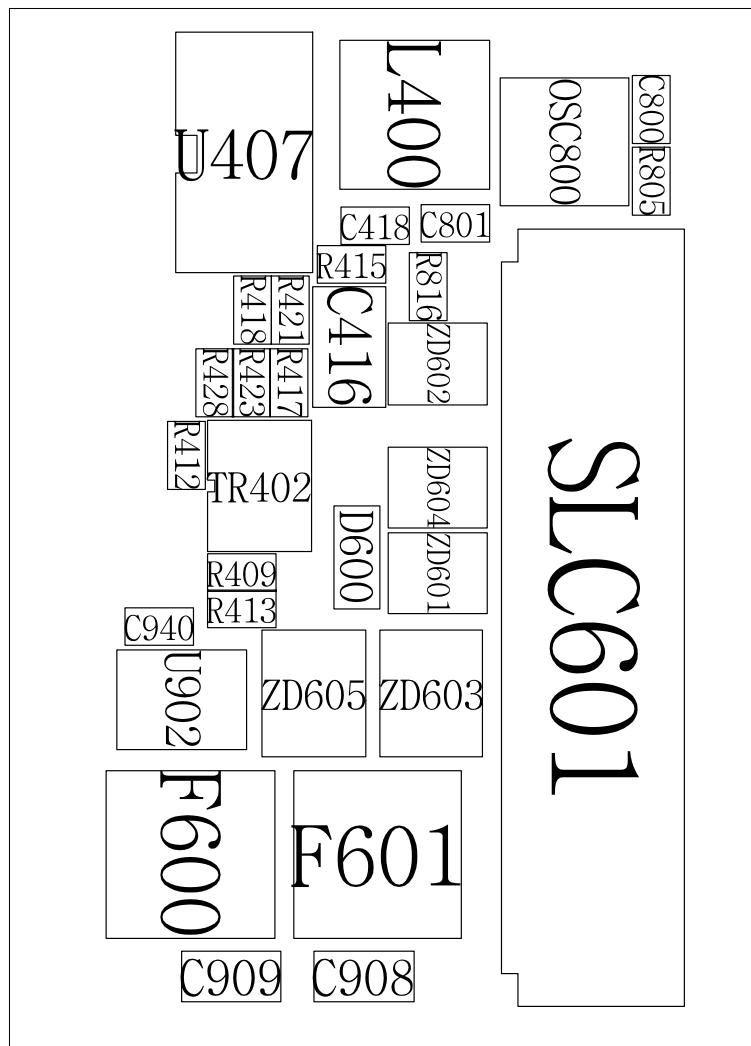
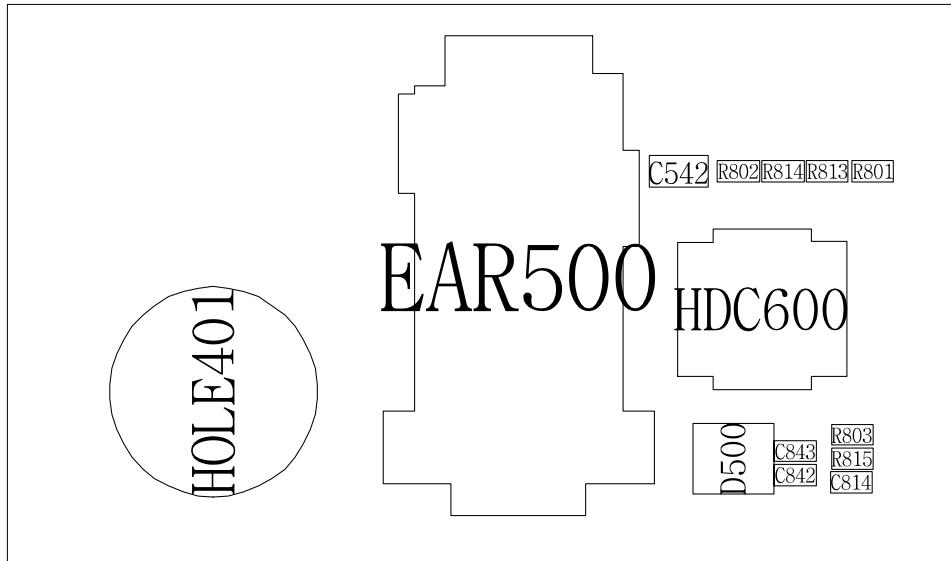
## 7-1-4. KEY Working



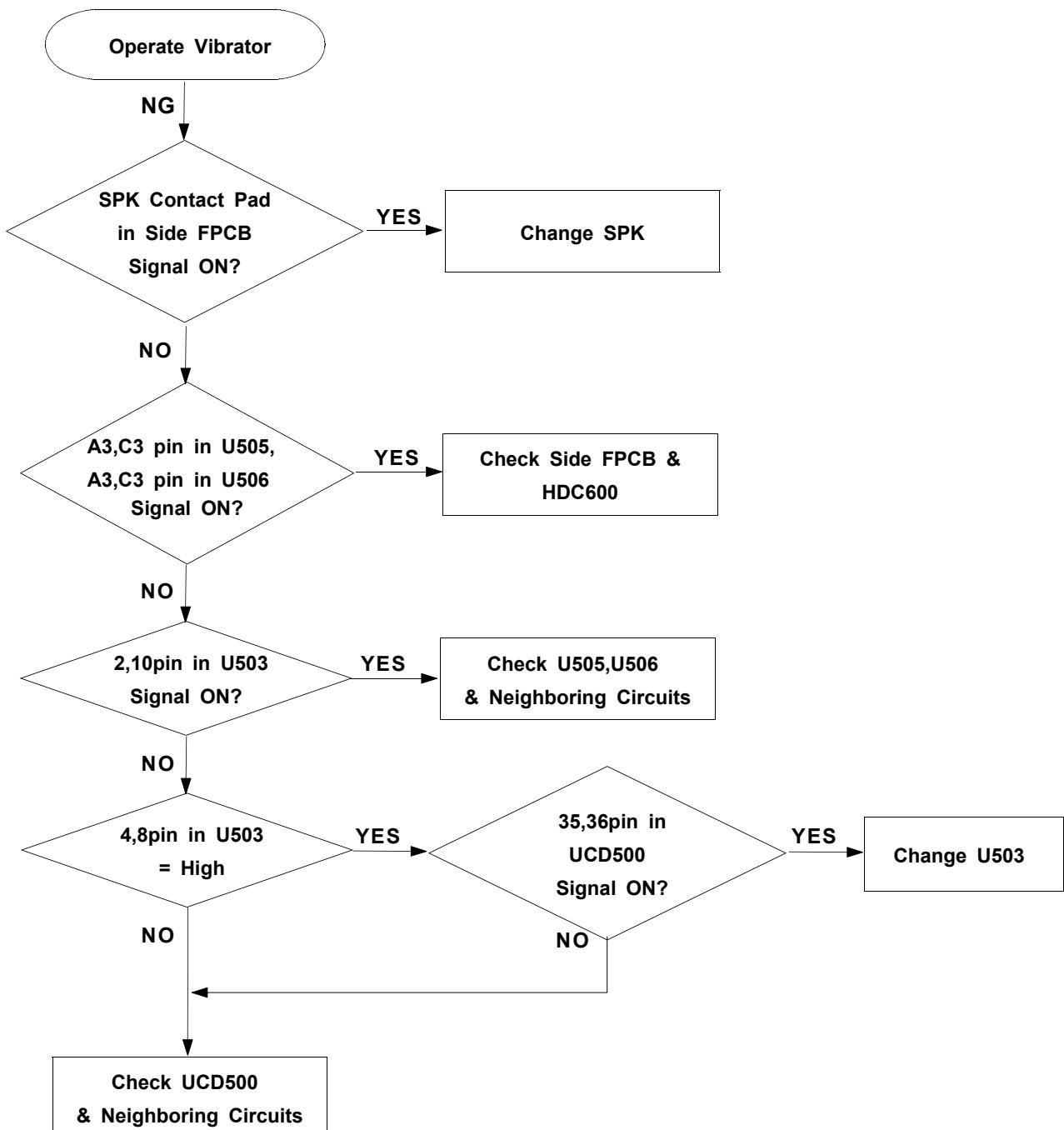
## Flow Chart of Troubleshooting

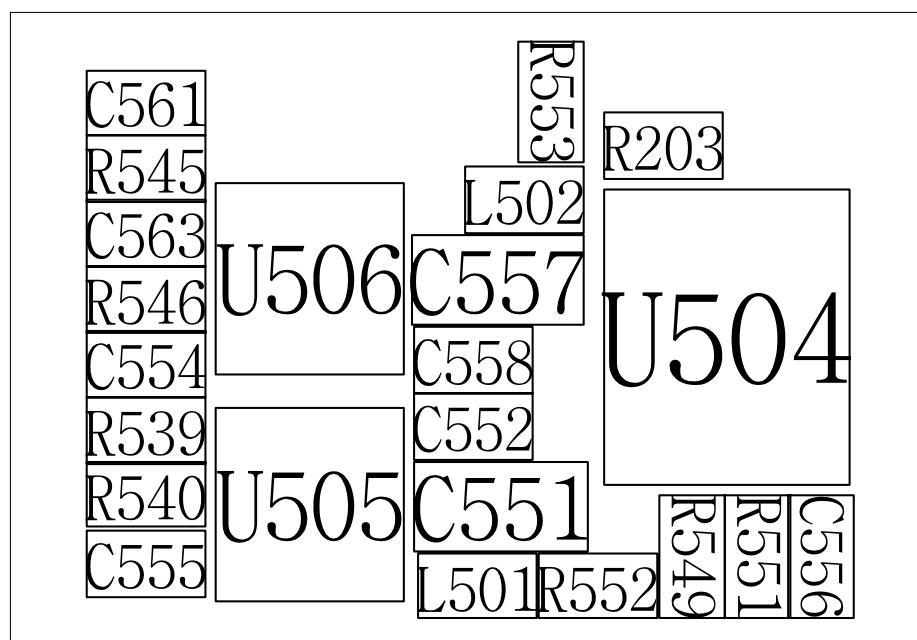
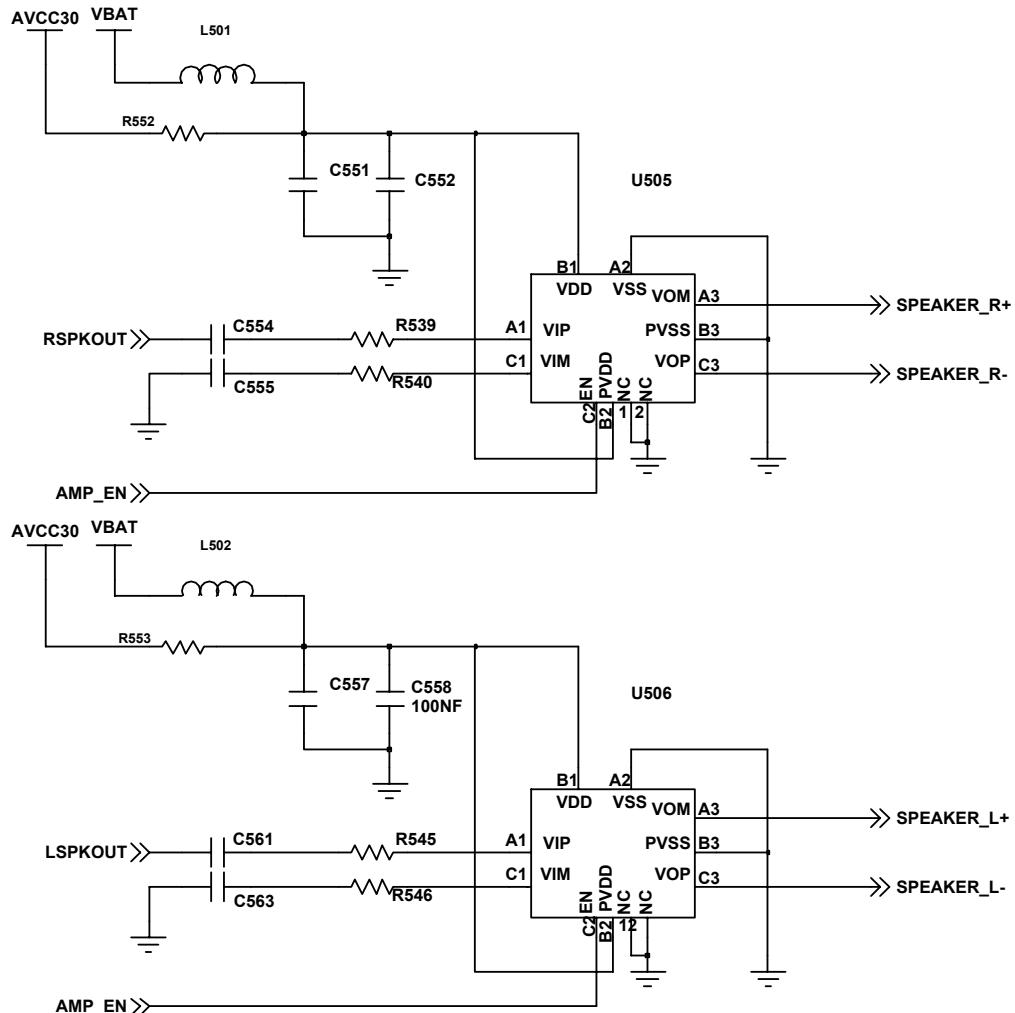
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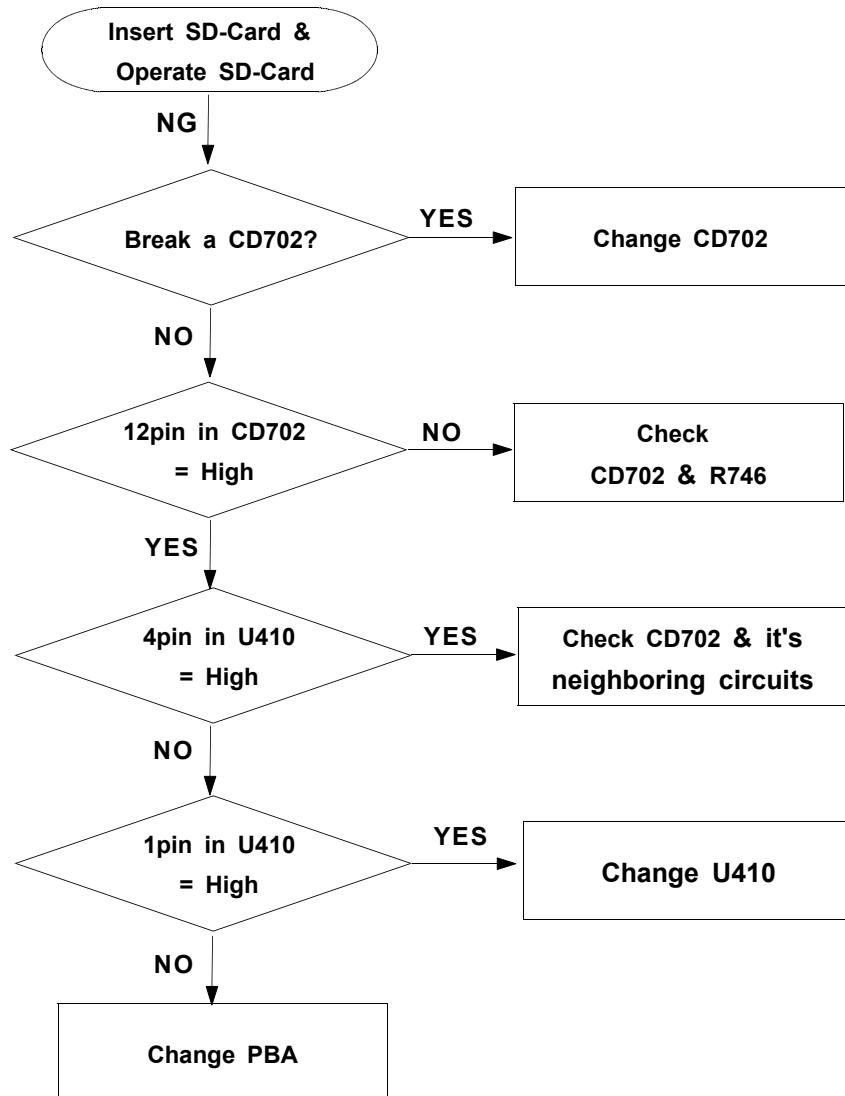


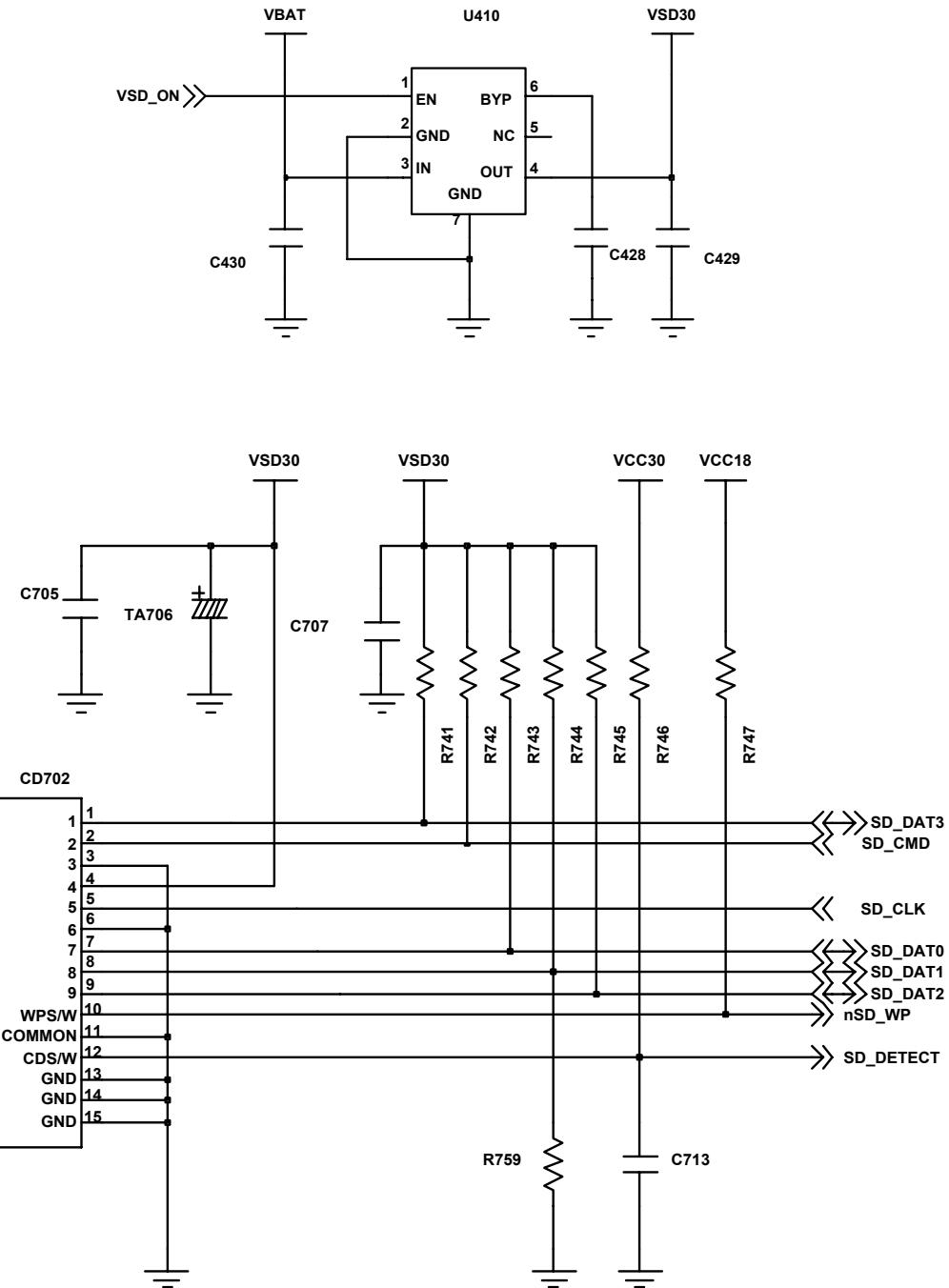
### 7-1-5. Vibrator Working





### 7-1-6. SD-Card Working

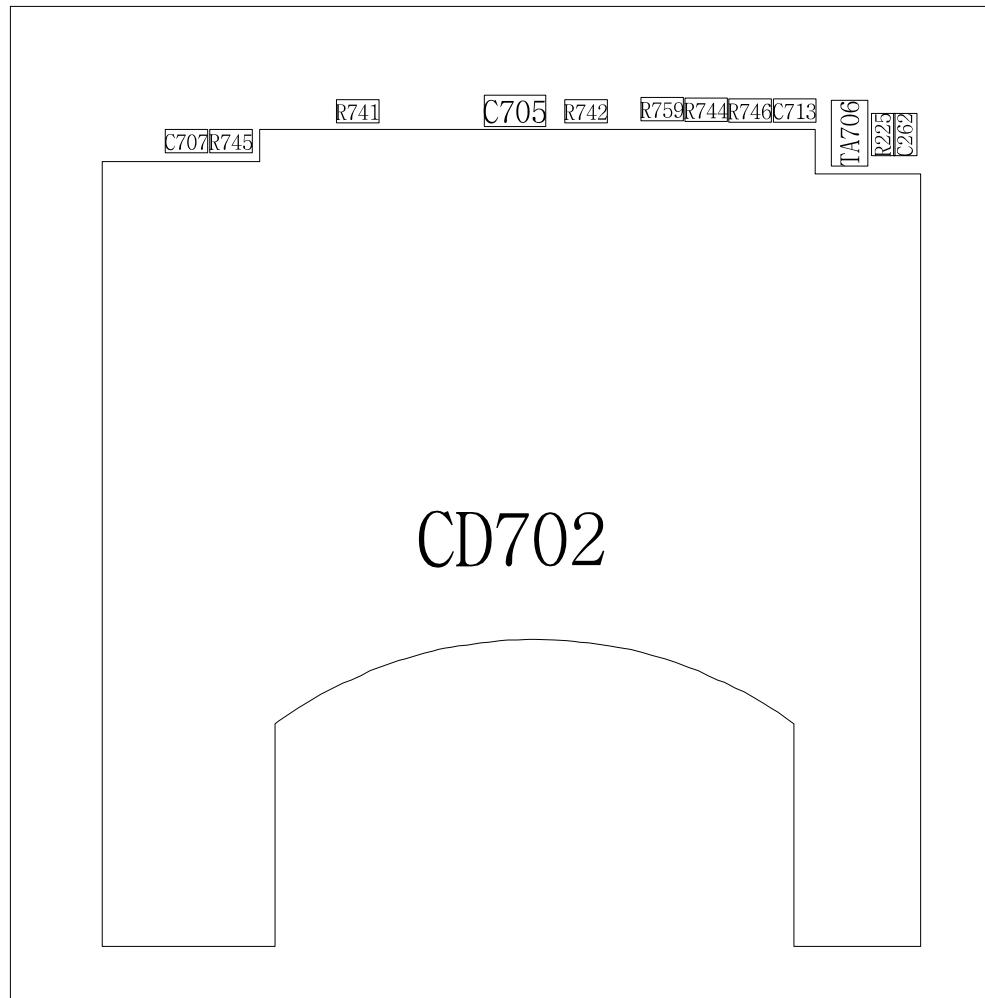
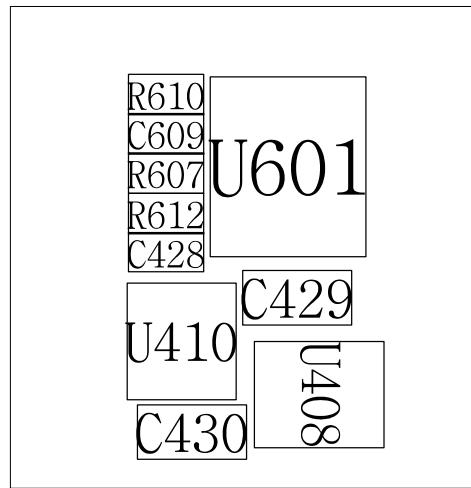




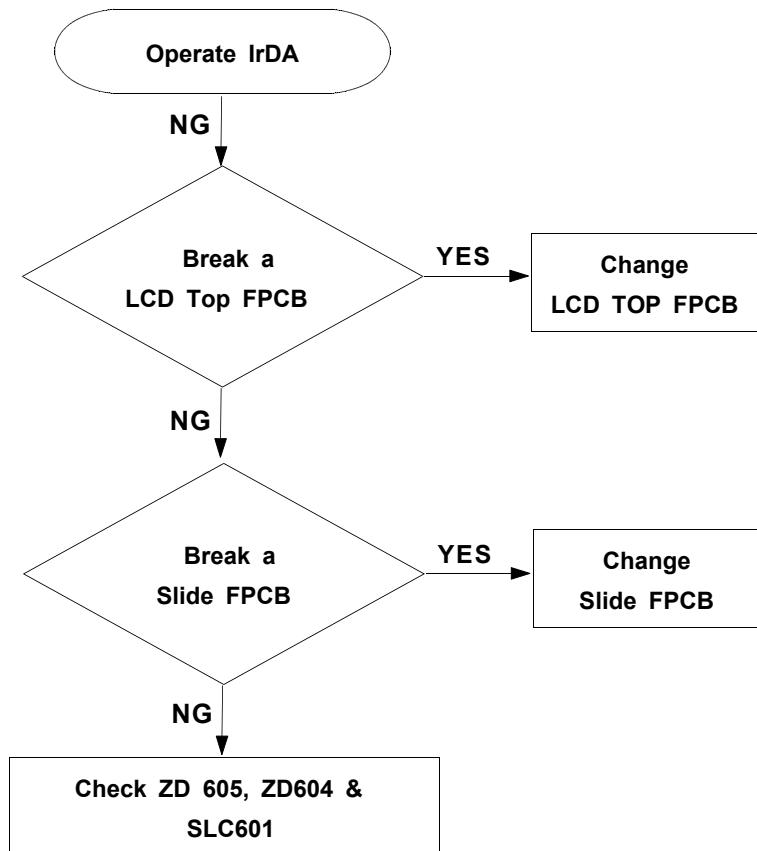
## SD\_CARD

## Flow Chart of Troubleshooting

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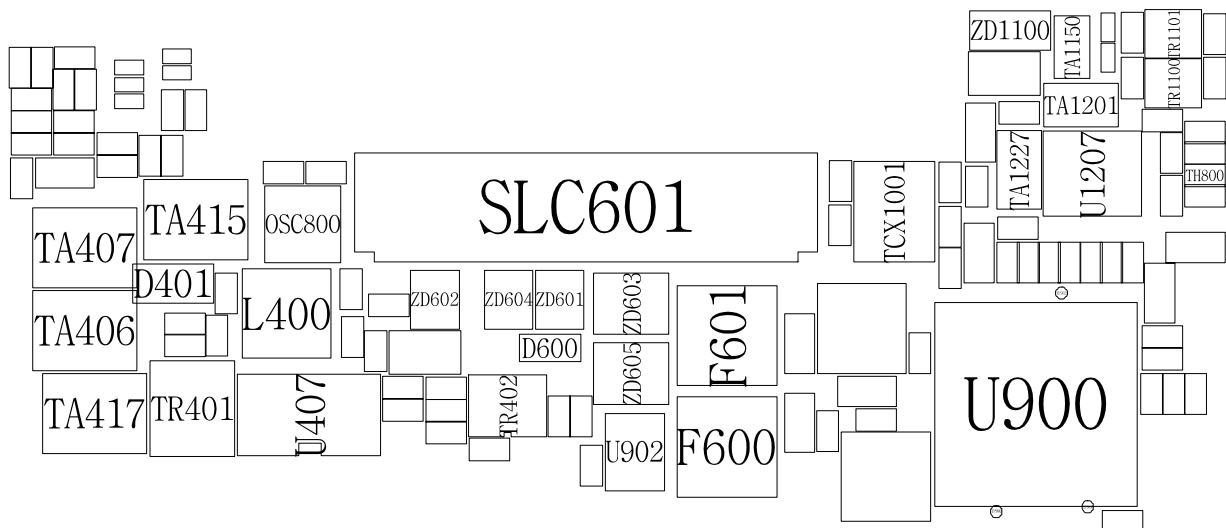
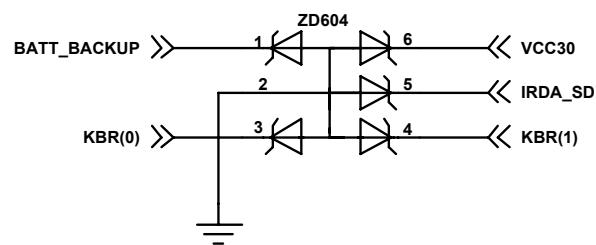
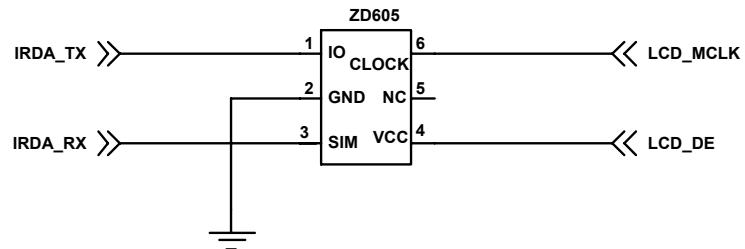


### 7-1-7. IrDA Working

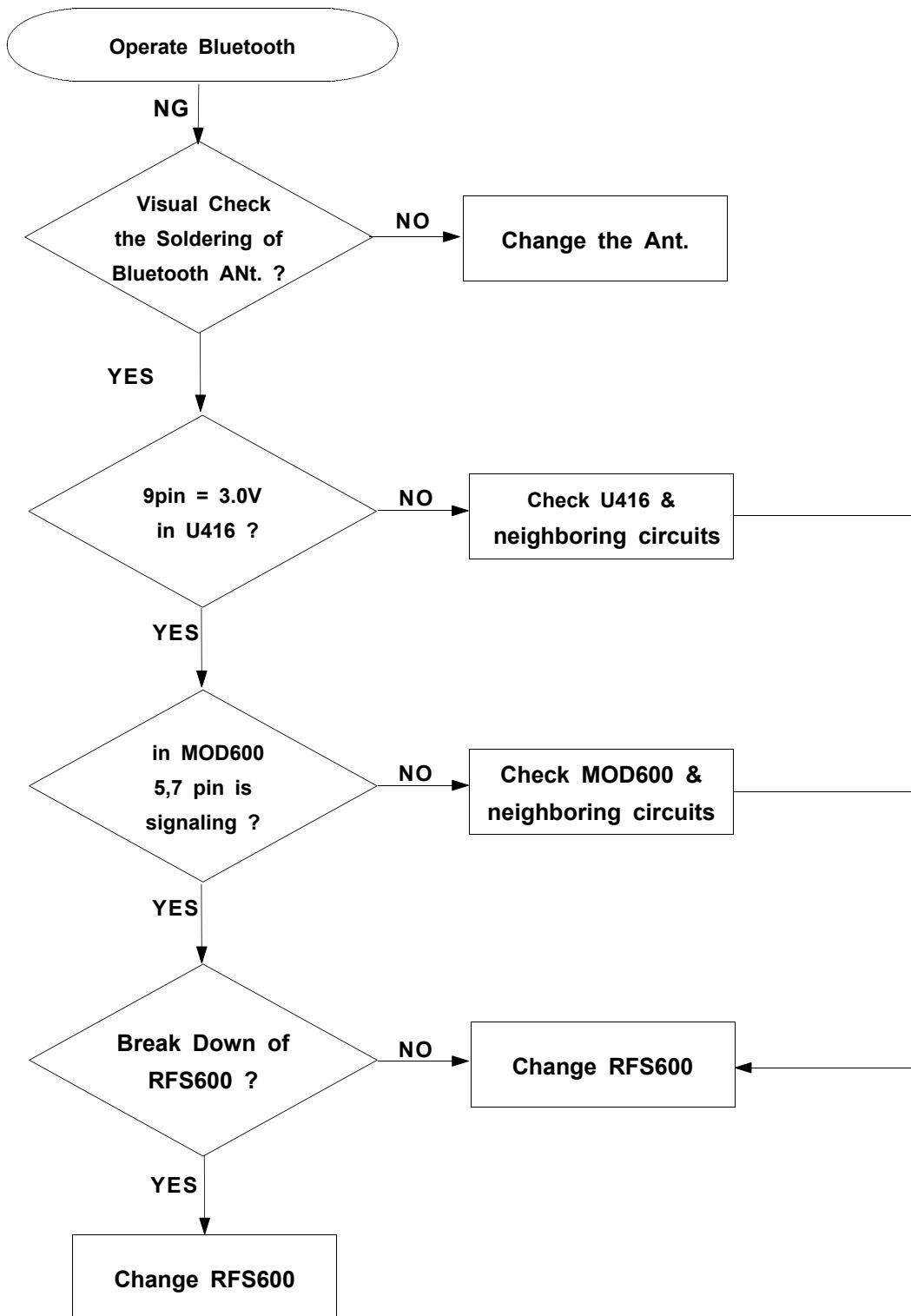


## Flow Chart of Troubleshooting

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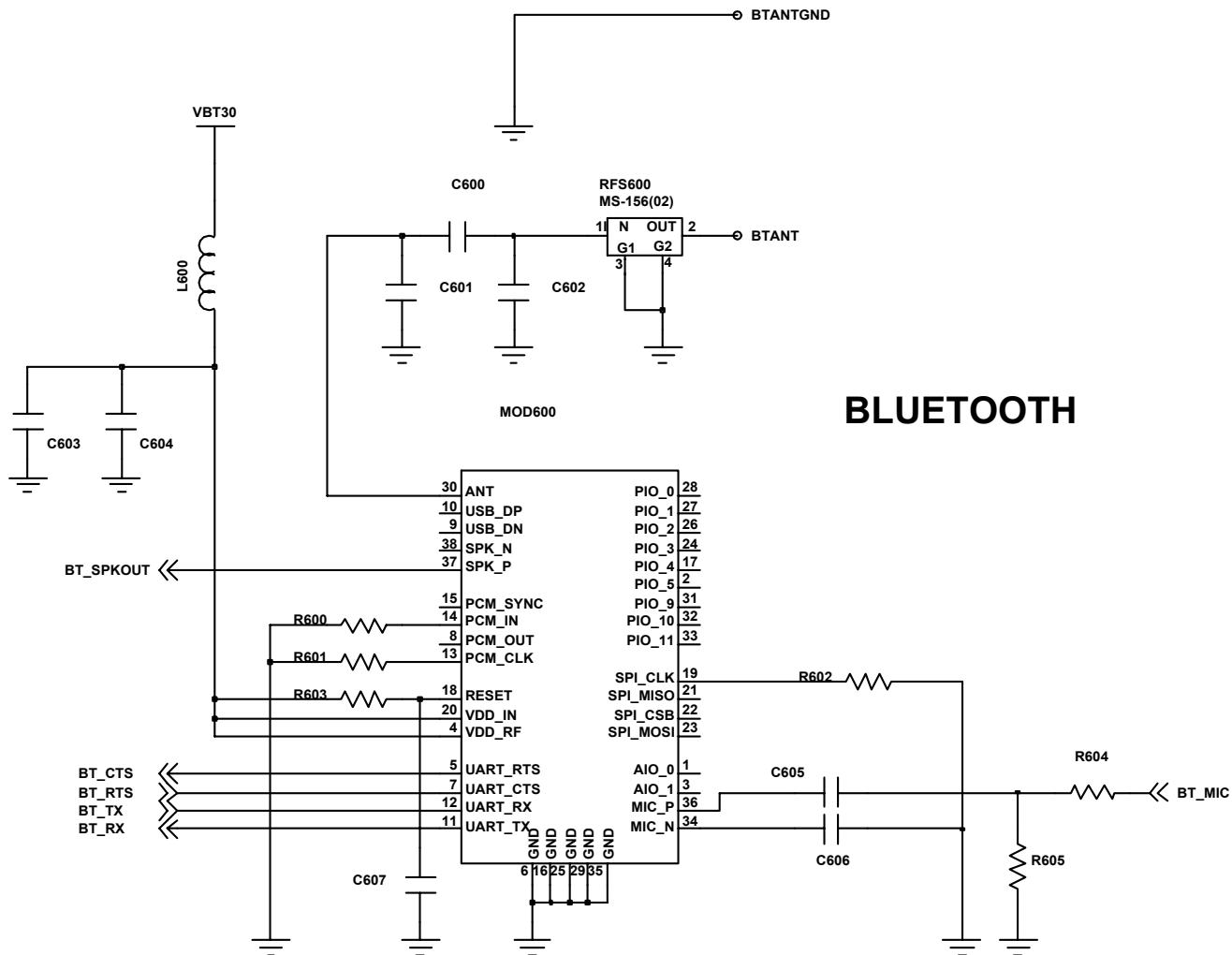
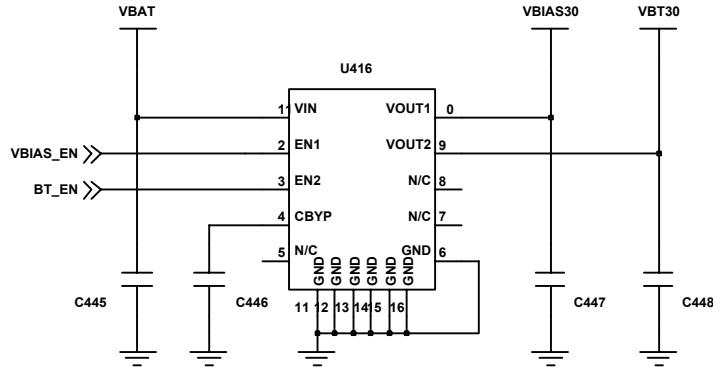


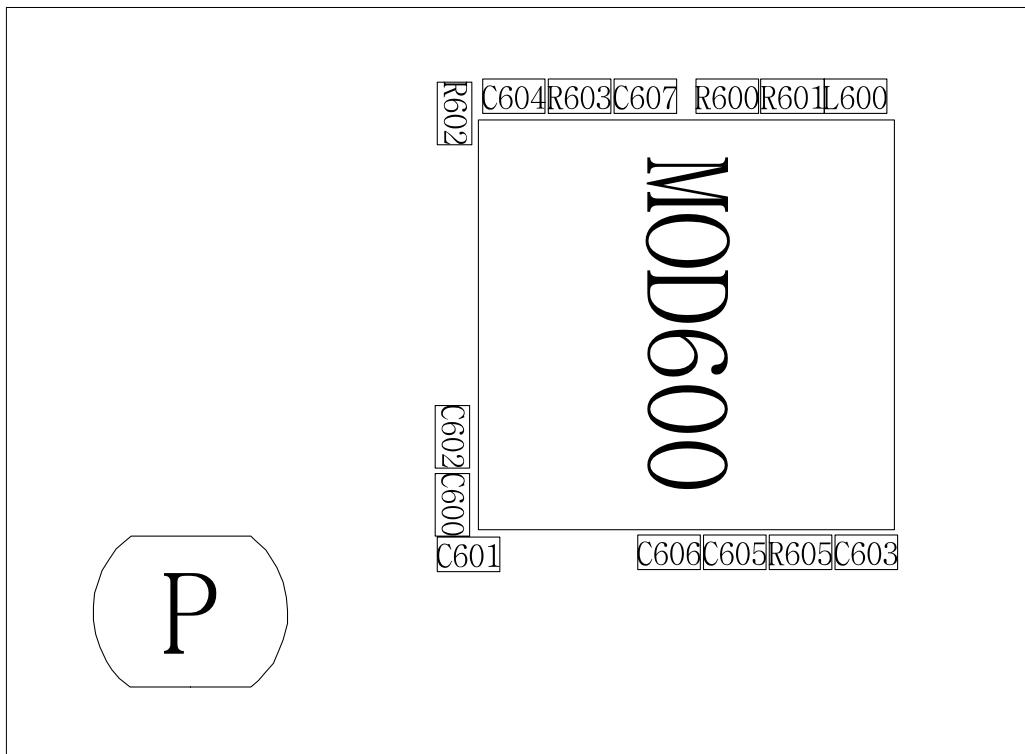
### 7-1-9. Bluetooth Working



## Flow Chart of Troubleshooting

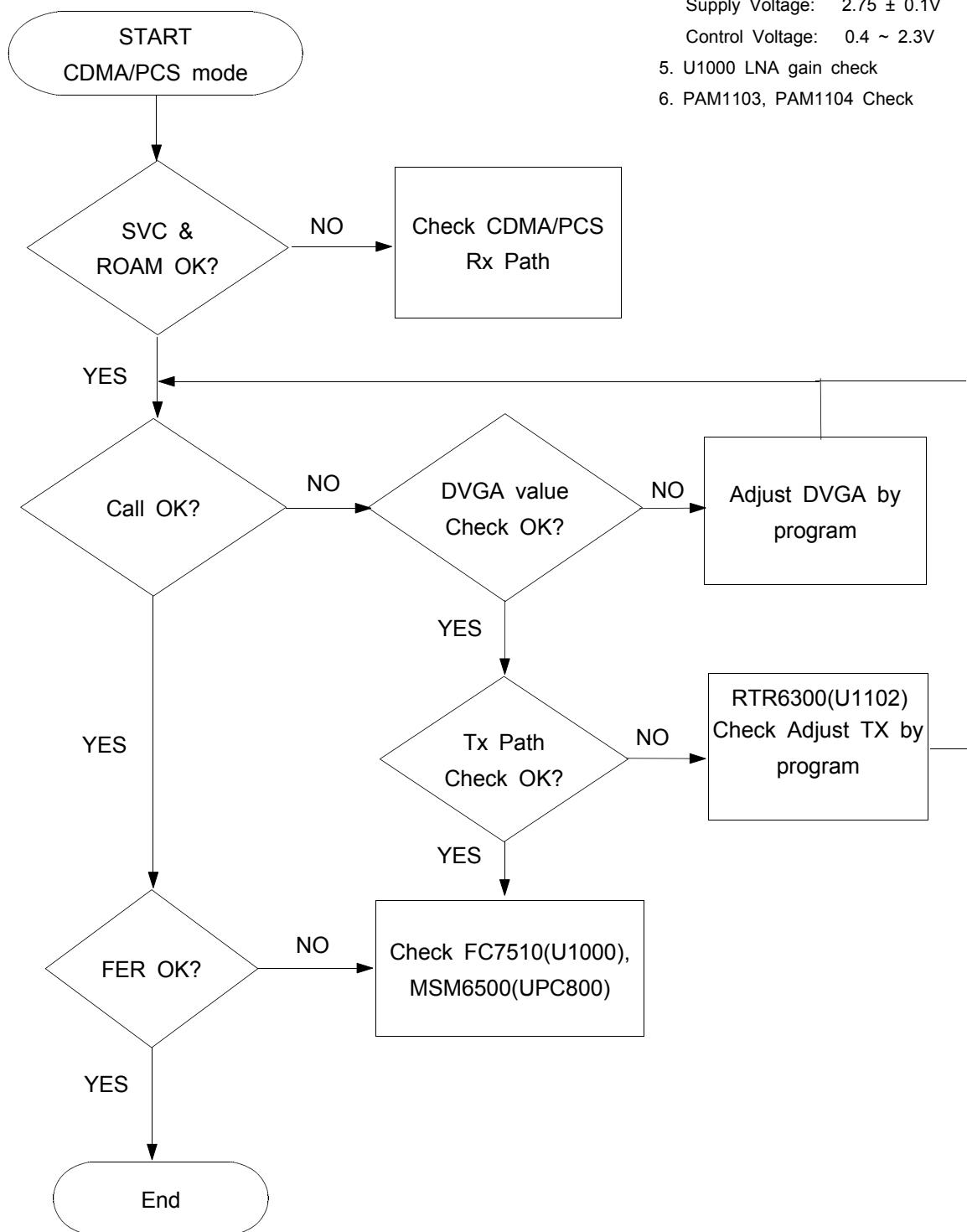
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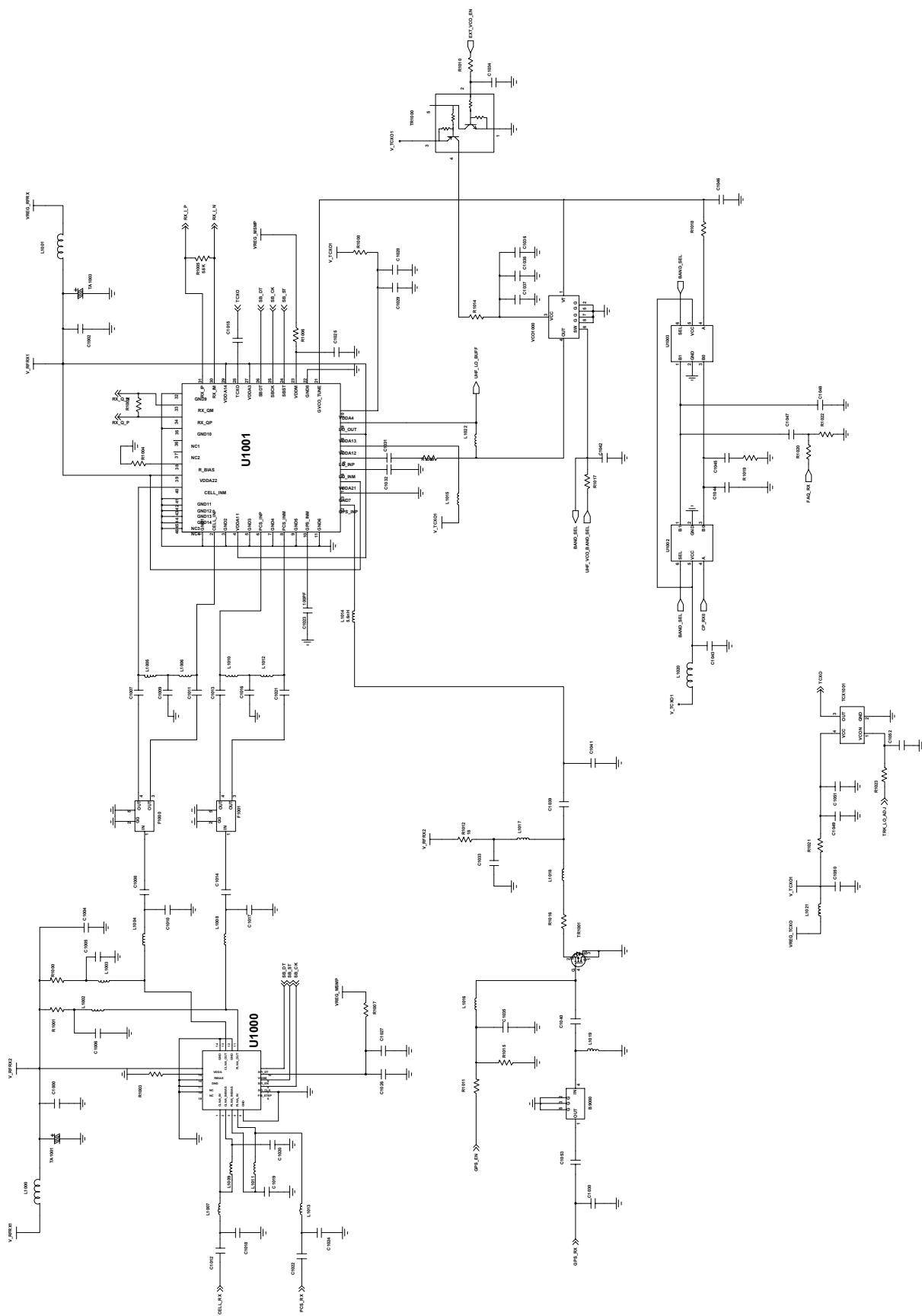


## 7-2. RX

### 7-2-1. CDMA/PCS mode

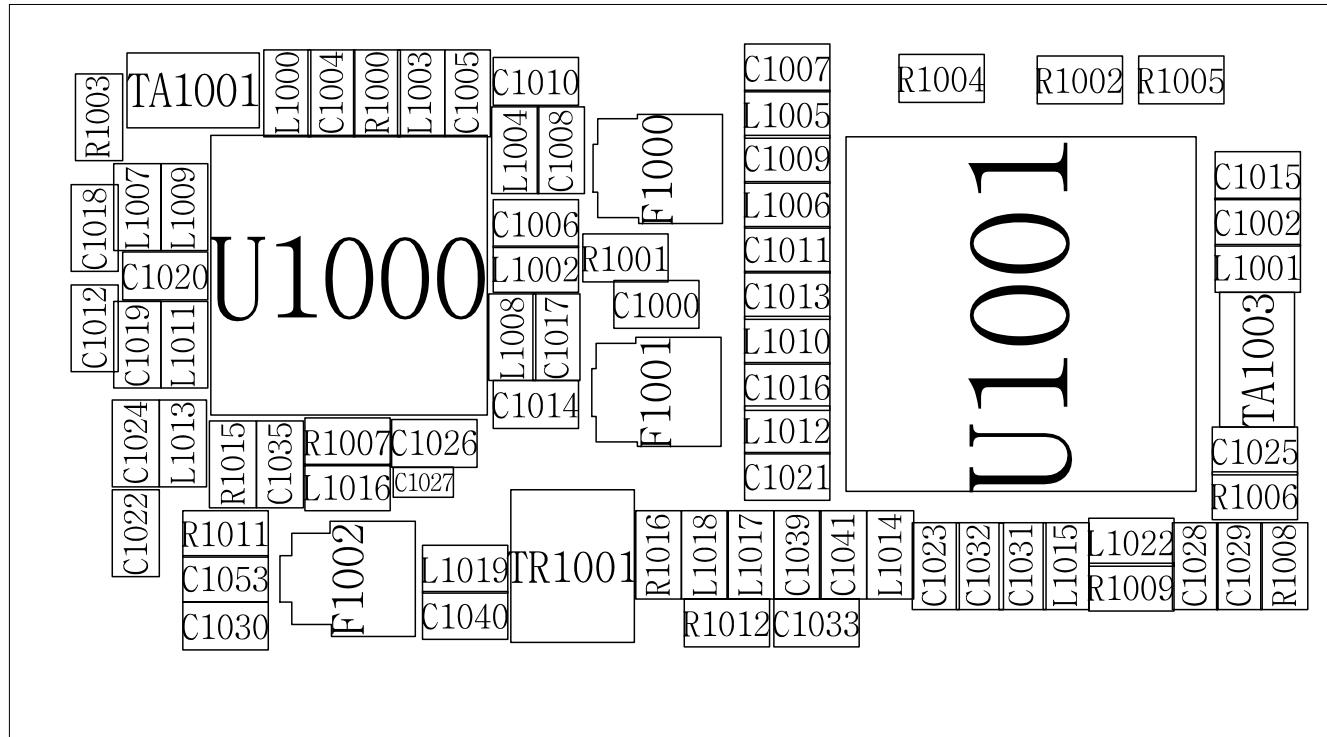


## **Flow Chart of Troubleshooting**



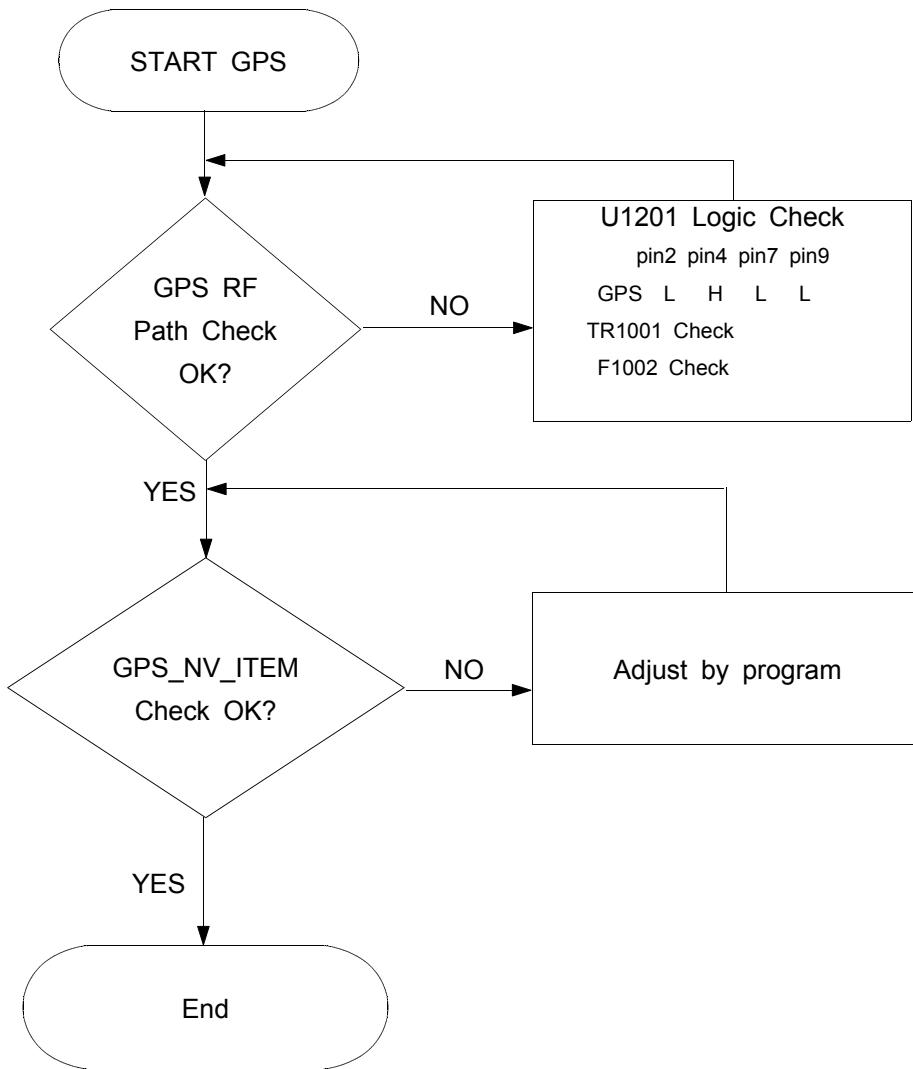
## Flow Chart of Troubleshooting

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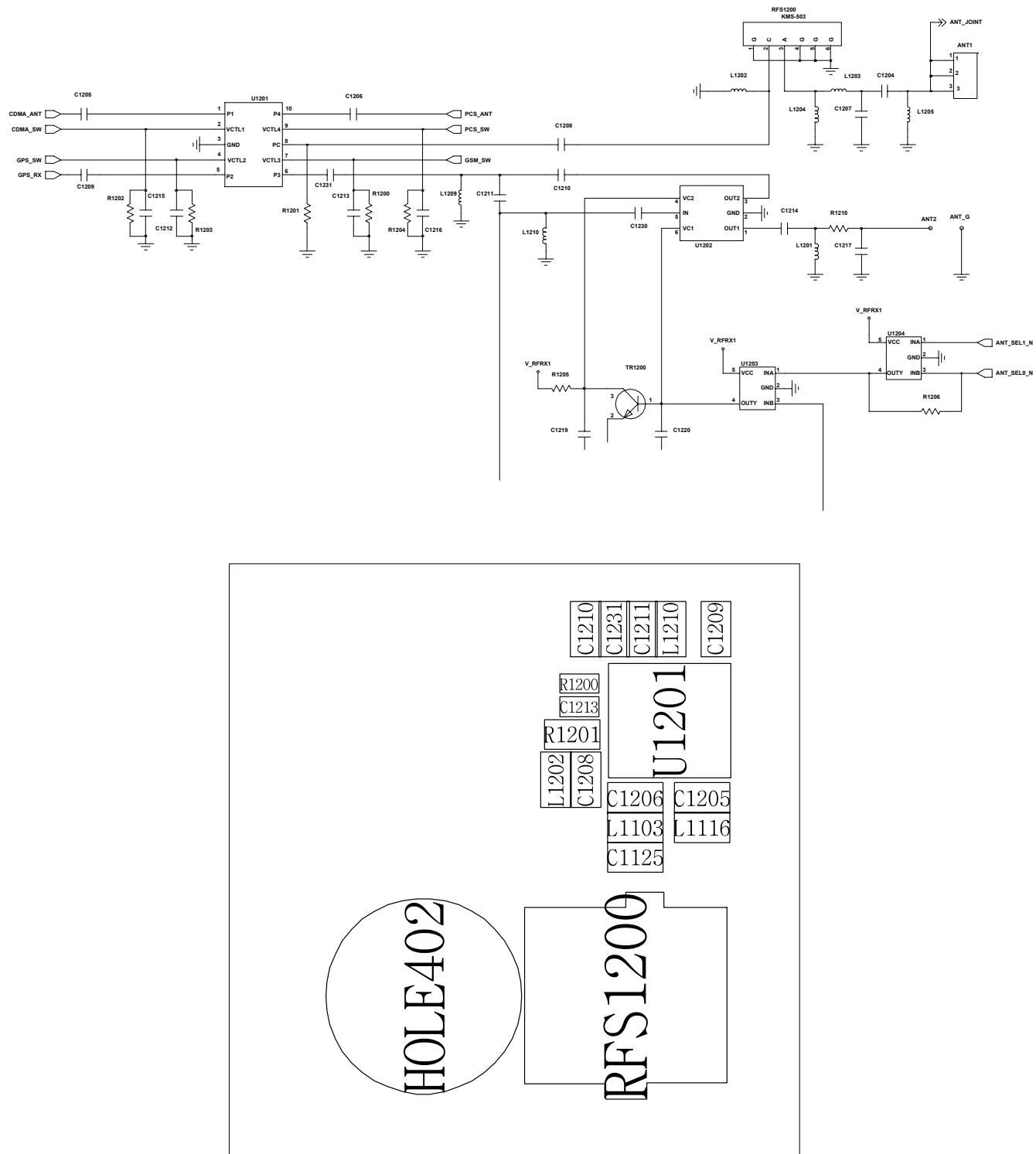


**7-2-2. GPS Mode**

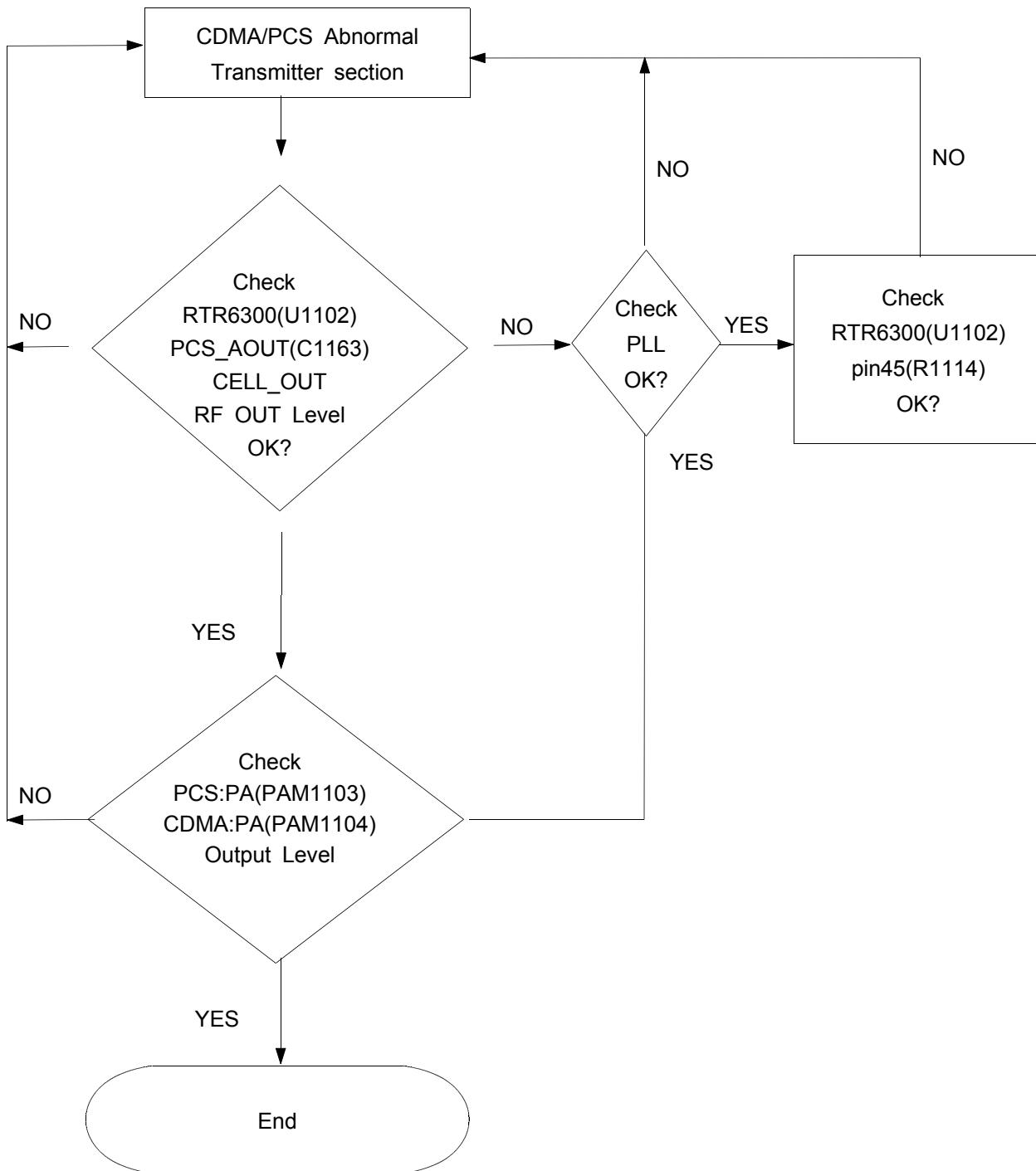
1. visual check! (soldering)
2. OSC800 Check : 19.2MHz



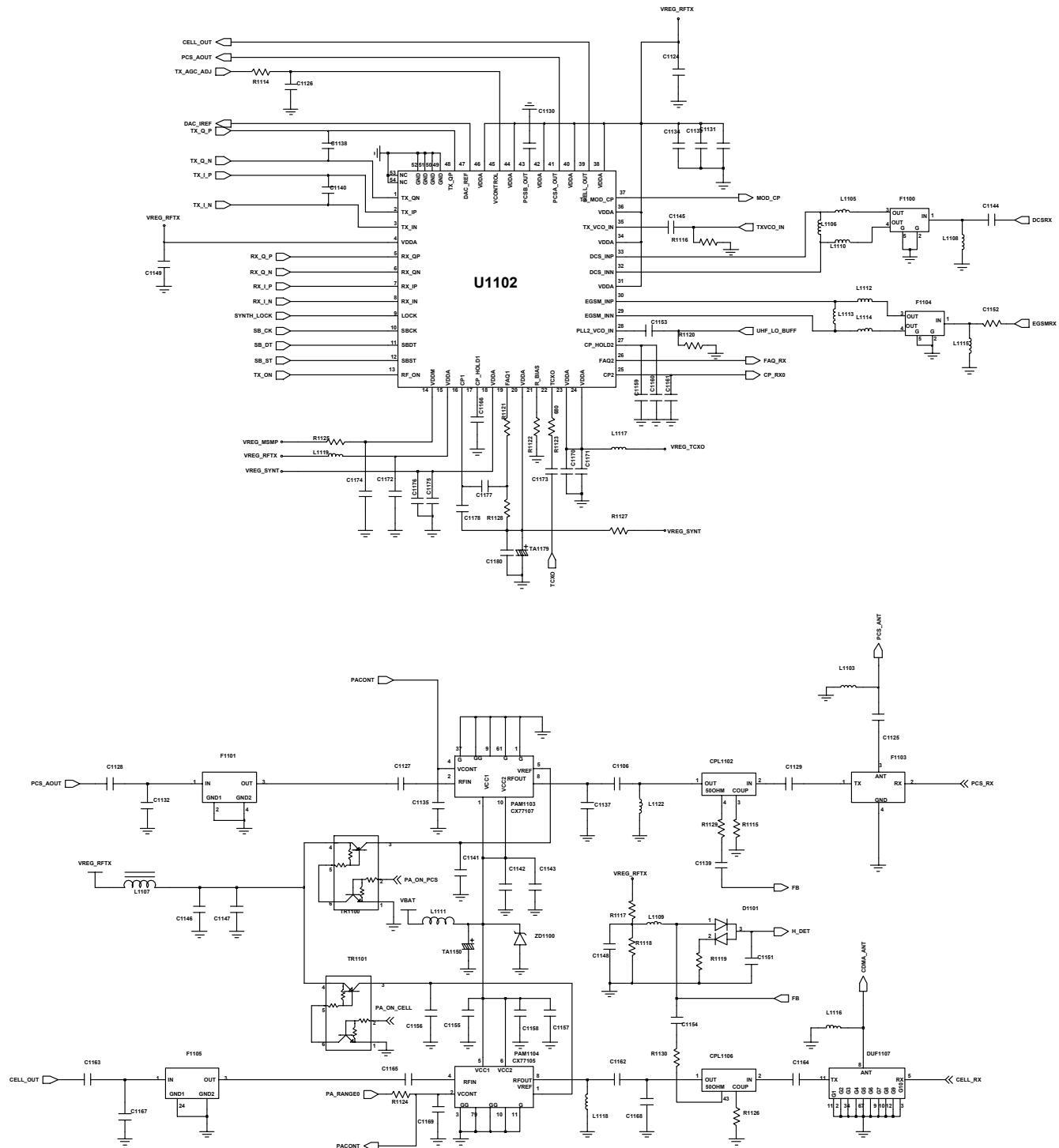
## Flow Chart of Troubleshooting

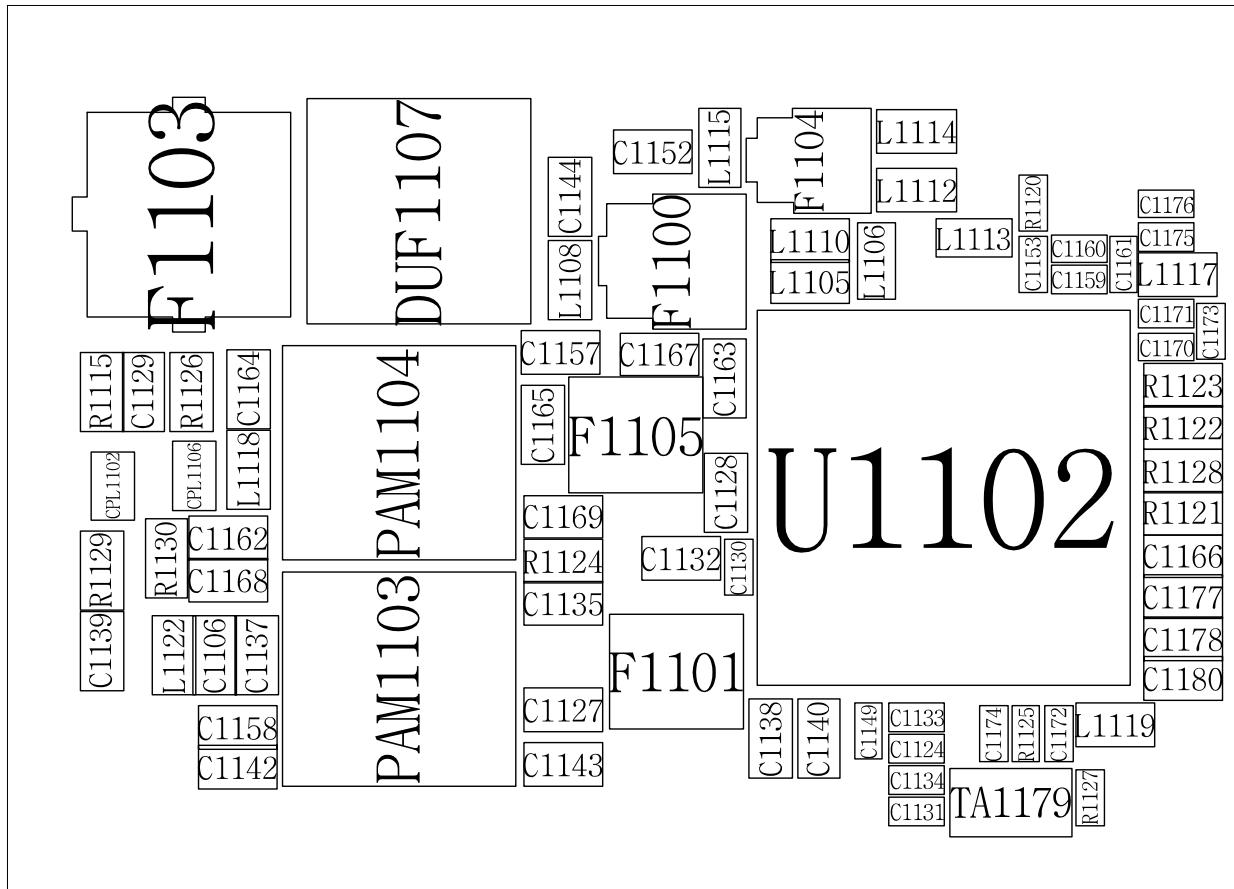


## 7-3. Tx

**CDMA/PCS mode**

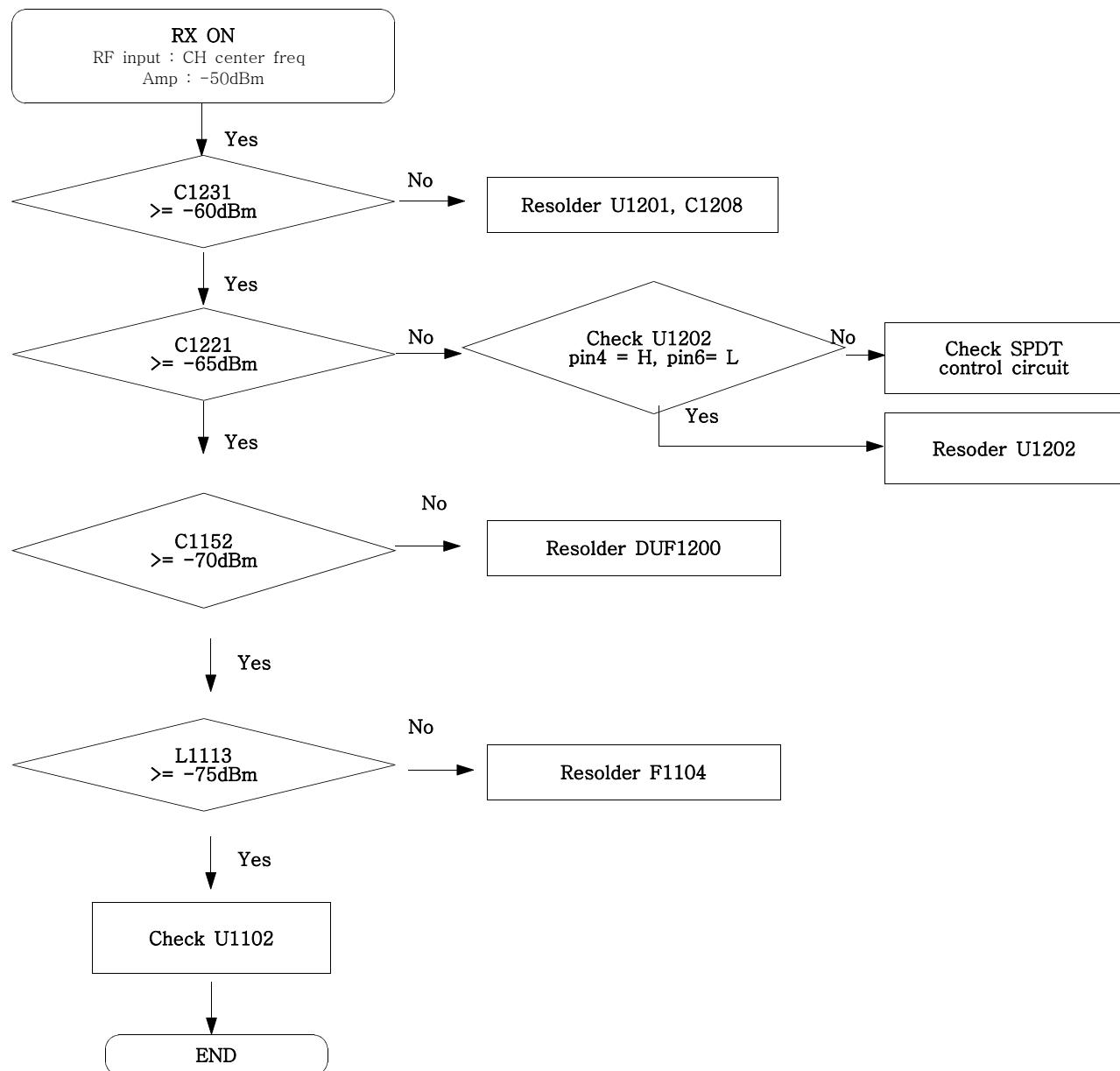
## **Flow Chart of Troubleshooting**



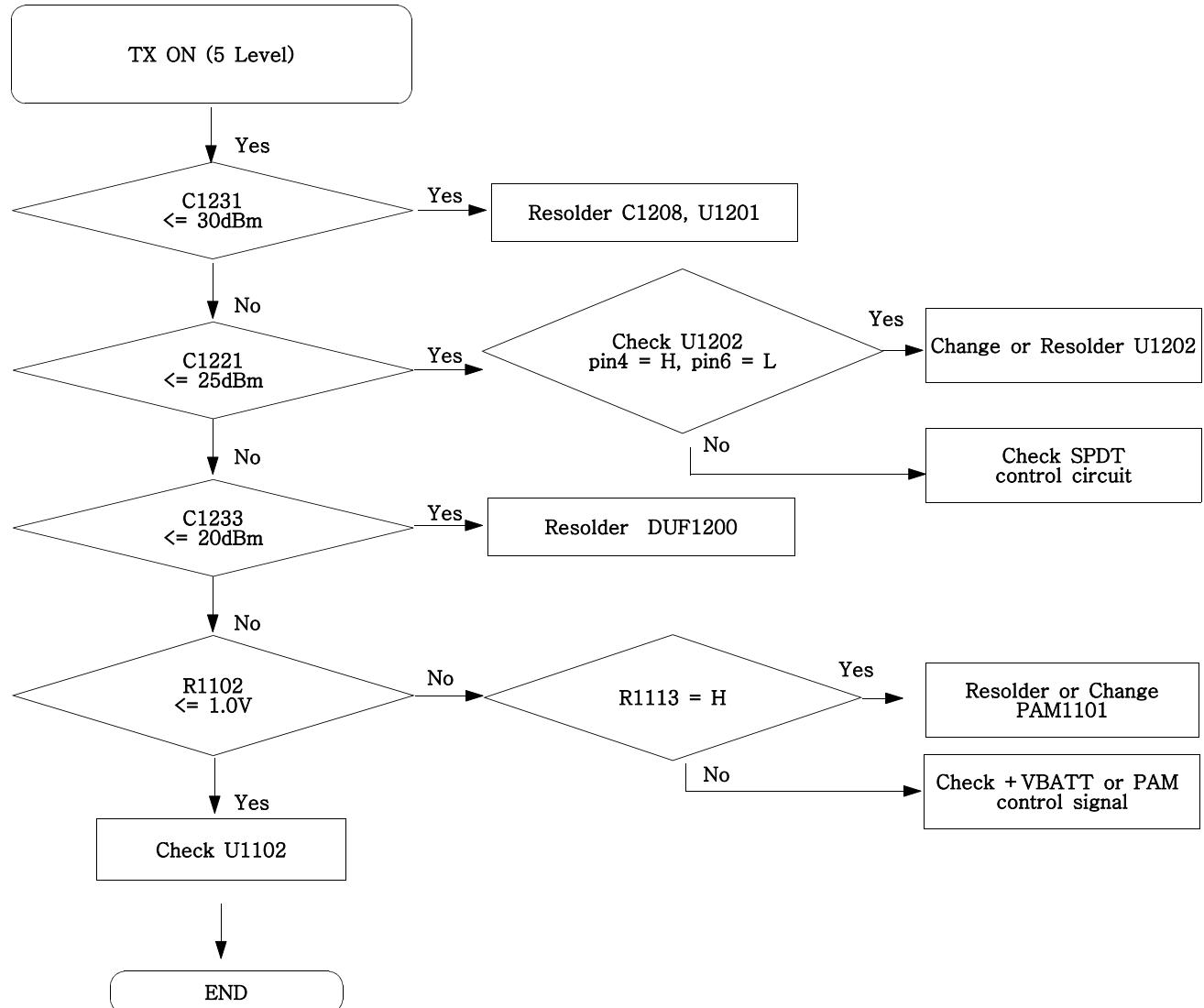


## 7-4. GSM/DCS

### 7-4-1. GSM Receiver



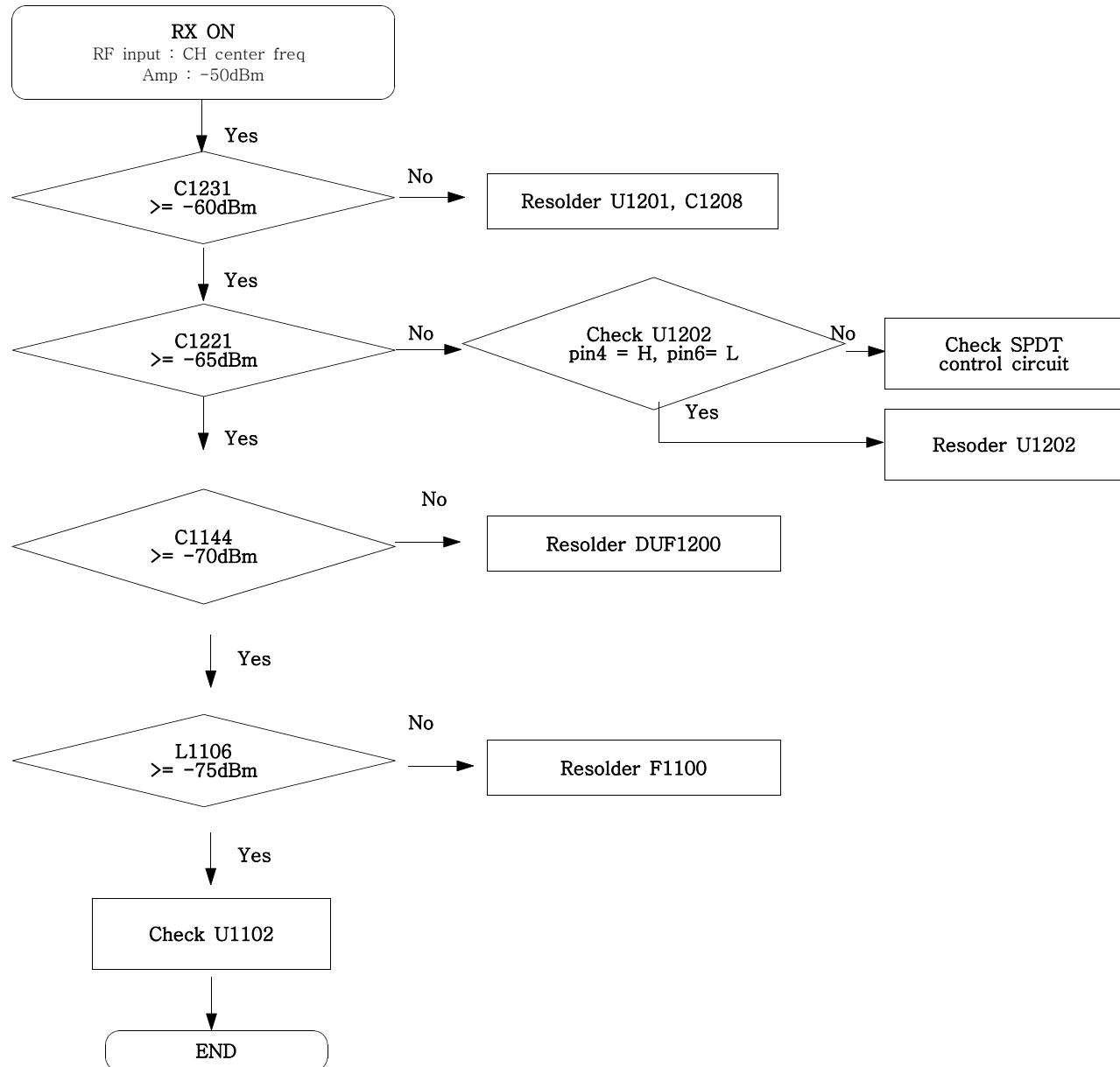
### 7-4-2. GSM Transmitter



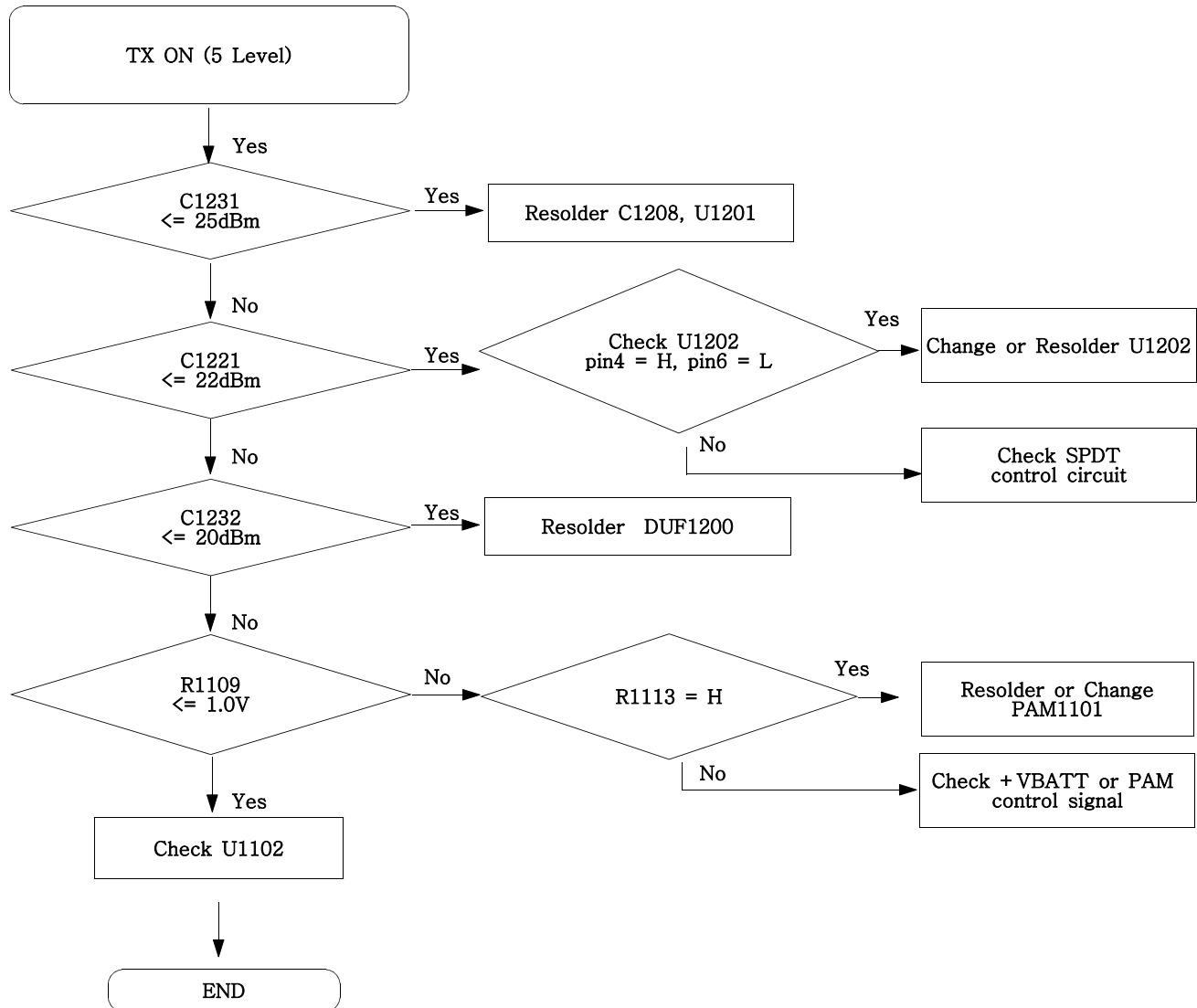
## Flow Chart of Troubleshooting

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### 7-4-3. DCS Receiver



## 7-4-4. DCS Transmitter

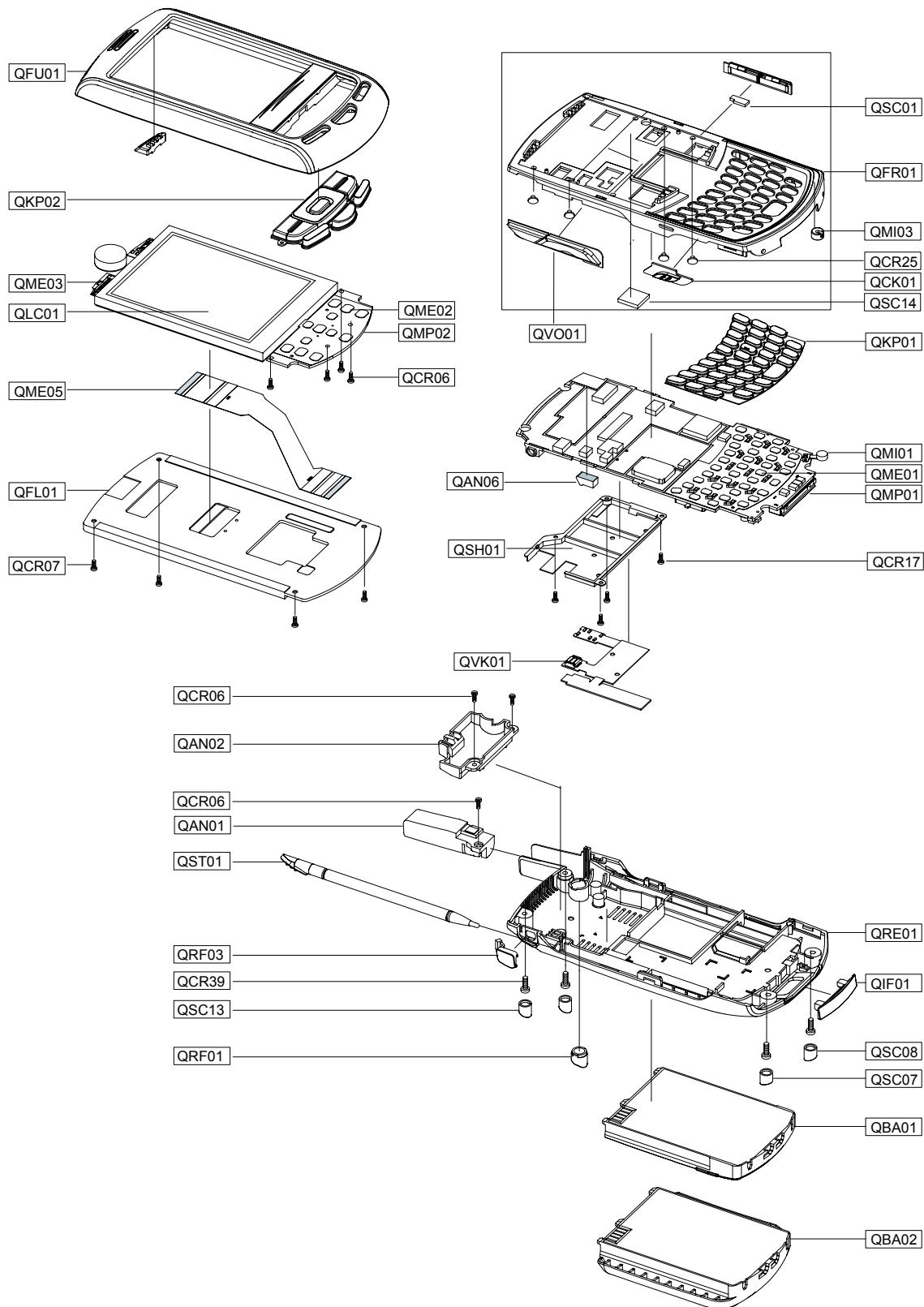


## Flow Chart of Troubleshooting

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## 8. Exploded View/Disassembly and Assembly Instructions

### 8-1. Exploded View



## 8-2. Parts list

<b>Location NO.</b>	<b>Description</b>	<b>SEC CODE</b>
QAN01	ANTENNA-SCHI730 BLACK	GH42-00540A
QAN02	INTENNA-SCHI830	GH42-00643A
QAN06	RMO-ANT CONTACT RUBBER	GH73-03121A
QBA01	BATTERY-1700MAH,ENG,MGRAY,M	GH43-02518A
QBA02	BATTERY-1100MAH,ENG,MGRAY,M	GH43-02529A
QCK01	PMO-SWITCH KEY	GH72-20053A
QCR06	SCREW-MACHINE	6001-001155
QCR06	SCREW-MACHINE	6001-001155
QCR07	SCREW-MACHINE	6001-001691
QCR17	SCREW-MACHINE	6001-001460
QCR25	SCREW-MACHINE	6001-001893
QCR39	SCREW-MACHINE	6001-001606
QFL01	ASSY MEC-SLIDE LOWER	GH75-04632A
QFR01	ASSY MEC-FRONT COVER	GH75-06385A
QFU01	ASSY CASE-SLIDE UPPER(SPRINT)	GH98-01434A
QIF01	RMO-IF COVER	GH73-04597A
QKP01	ASSY MEC-KEY QWERTY	GH75-06486A
QKP02	ASSY KEYPAD-SUB(SPR/SIL)	GH98-01437A
QLC01	LCD-SCHI730 LCD	GH07-00574A
QME01	UNIT-METAL DOME(MAIN)	GH59-02233A
QME02	UNIT-METAL DOME(SUB)	GH59-02177A
QME03	UNIT-TOP FPC ASSY	GH59-02458A
QME05	MEA-SLID FPCB KIT	GH97-05290A
QMI01	MICROPHONE-ASSY	GH30-00132A
QMI03	RMO-MIC RUBBER	GH73-03120A
QMP01	PBA MAIN-SCHI830 SPRINT	GH92-02816A
QMP02	PBA MAIN-SCHI830 SPRINT SUB	GH92-02829A
QRE01	ASSY MEC-REAR COVER	GH75-06386A
QRF01	RMO-RF COVER	GH73-04596A
QRF03	PMO-EAR COVER	GH72-20918A
QSC01	RMO-RUBBER SD DOOR	GH73-04860A
QSC07	RMO-SCREW CAP BOTTOM(L)	GH73-03372A
QSC08	RMO-SCREW CAP BOTTOM(R)	GH73-03373A
QSC13	RMO-RUBBER SCREW CAP UP	GH73-04247A
QSC14	RMO-RUBBER FRONT 2	GH73-05101A
QSH01	ASSY MEC-SHIELD CAN	GH75-07290A
QST01	ASSY MEC-STYLUS	GH75-06210A
QVK01	UNIT-SIDE FPCB	GH59-02295A
QVO01	ASSY MEC-VOLUME KEY	GH75-06488A

<b>Description</b>	<b>SEC CODE</b>
PLUG-CONVERSION	3721-001057
PLUG-CONVERSION	3721-001077
ANTENNA-CHIP	4202-001040
BAG PE	6902-000297
BAG PE	6902-000461
BAG PE	6902-000643
CBF INTERFACE-PC DATA LINK CAB	GH39-00567A
CHARGER-TRAVER CHARGER	GH44-00933A
S/W CD-SCH-I830 MPROJECTOR 2.0	GH46-00311A
UNIT-EARPHONE	GH59-01538A
UNIT-SIM CARD	GH59-03667A
LABEL(P)-GUIDE(SPRINT)	GH68-02023A
LABEL(P)-WATER SOAK	GH68-02026A
LABEL-MAIN(SPR)	GH68-06548B
LABEL(R)-MAIN(SER CKD)	GH68-10705D
MANUAL USERS-NOA ENGLISH	GH68-11558A
MANUAL USERS-NOA ENGLISH	GH68-12202A
MANUAL USERS-NOA ENGLISH	GH68-12260A
BOX-UNIT(SPR)	GH69-02742B
CUSHION-CASE MAIN(VER)	GH69-03365A
RMO-RUBBER REAR 4	GH73-05481A
MPR-TAPE LCD 1	GH74-13066A
MPR-TAPE LCD 3	GH74-13068A
MPR-BOHO VINYL LCD 1	GH74-13069A
MPR-VINYL BOHO OTA(SPRINT)	GH74-13264B
MPR-GASKET FRONT 1	GH74-15356A
MPR-GASKET FRONT 2	GH74-15357A
MPR-TAPE FRONT	GH74-15360A
MPR-FLEX SUPPRESSOR	GH74-15939A
MPR-BOHO VINYL KEY	GH74-16032A
MPR-FRONT GASKET 3	GH74-16583A
MPR-PCB GASKET 2	GH74-16585A
MPR-TAPE MAIN ACTURATOR	GH74-17682A
MPR-TAPE SUB ACTURATOR B	GH74-17683A
MPR-TAPE SUB ACTURATOR G	GH74-17684A
MPR-TAPE MAIN BASE	GH74-17686A
MPR-TAPE EAR	GH74-19716A

8-3. DM Cable(GH39-00272A)



8-4. Test Jig



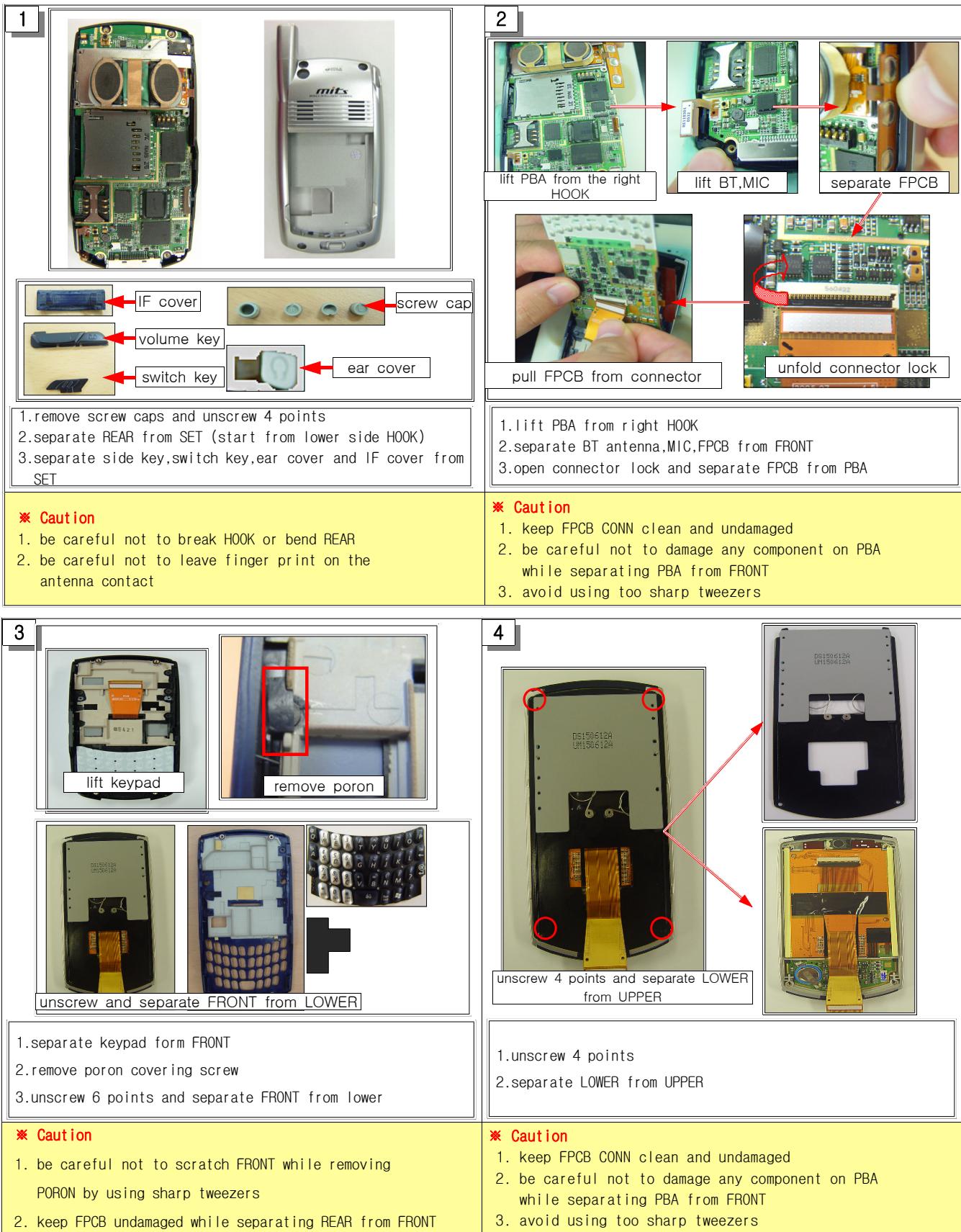
8-5. RF Cable(GH39-00105A)



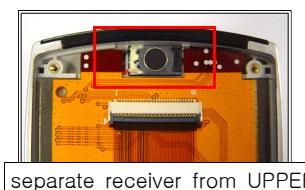
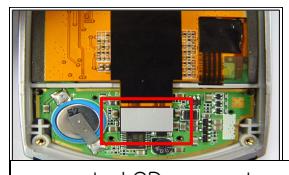
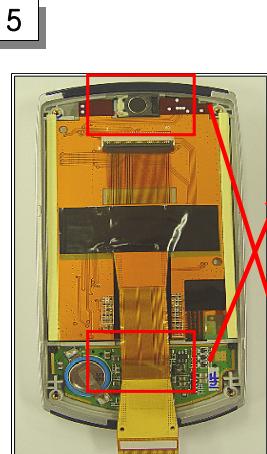
8-6. Test Jig Cable(GH39-00122A)



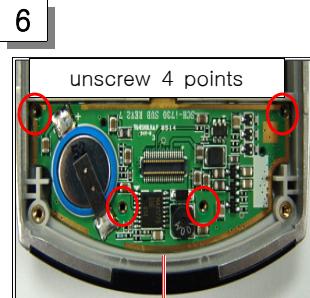
## 8-7. Disassembly



## Exploded View/Disassembly and Assembly Instructions



1. separate LCD connector from SUB PBA
2. separate receiver from UPPER



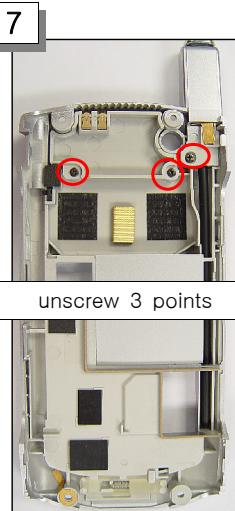
1. unscrew 4 points and separate SUB PBA from UPPER.
2. separate sub key pad

**\* Caution**

1. be careful not to scratch FRONT while removing receiver by using sharp tweezers
2. keep connector clean and undamaged

**\* Caution**

1. be careful not to give excessive pressure while separating SUB PBA
2. be careful not to scratch any component on the PBA by sharp tweezers' end

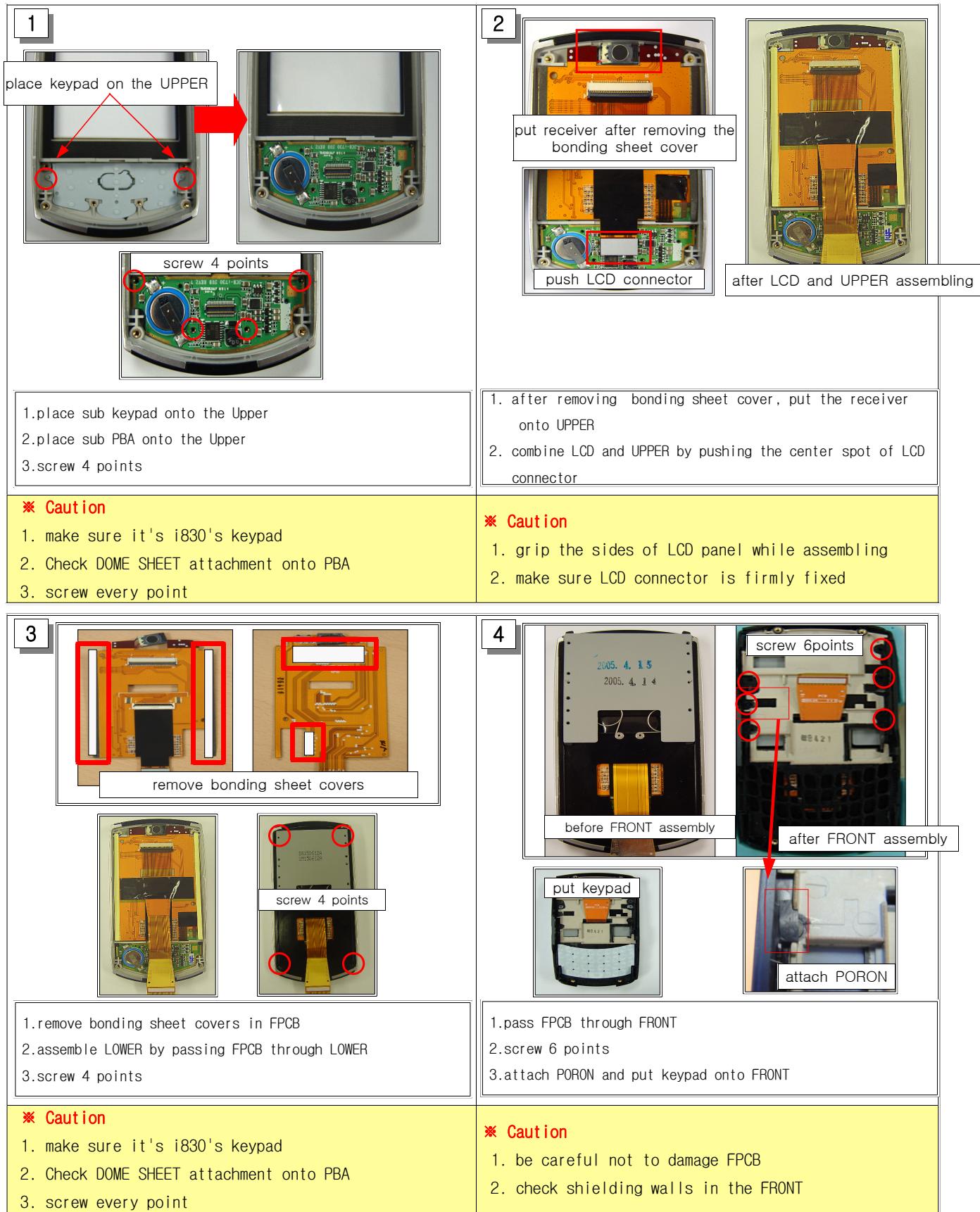


1. unscrew 3 points
2. separate intenna from REAR
3. separating antenna from REAR by pulling antenna's upper par .

**\* Caution**

1. be careful not to leave finger print on the antenna/intenna contact
2. be careful not to bend tube while separating antenna.

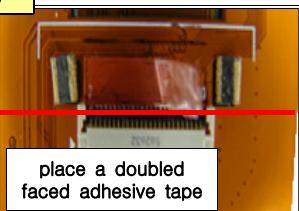
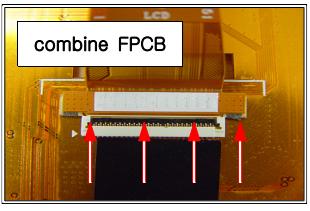
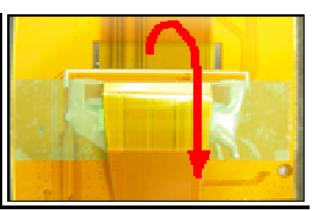
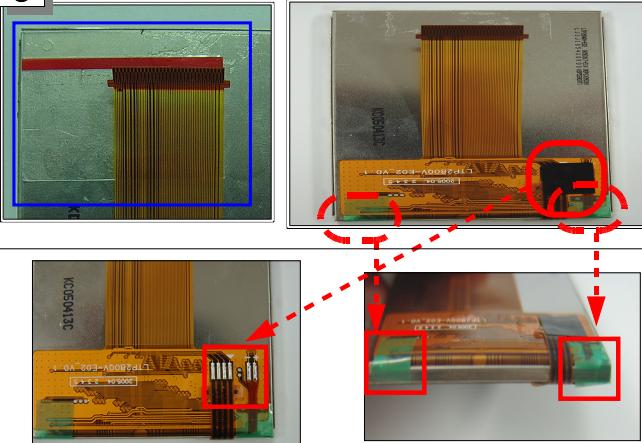
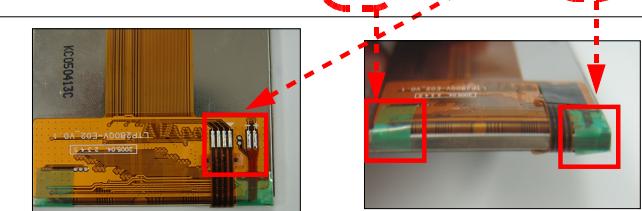
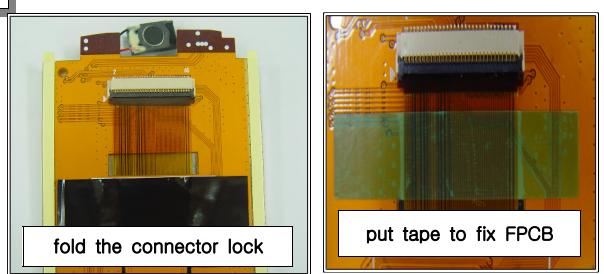
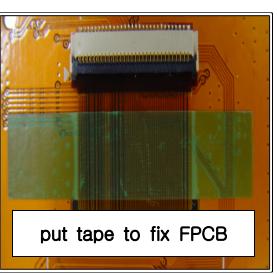
## 8-8. Assembly

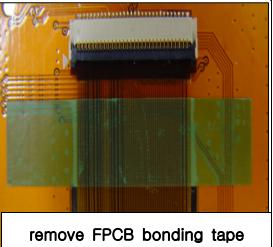
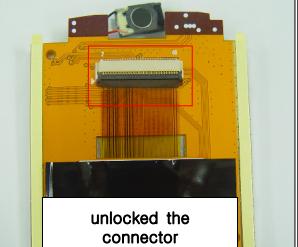
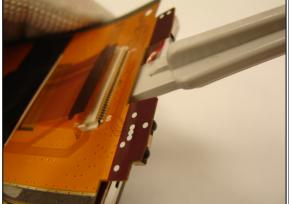
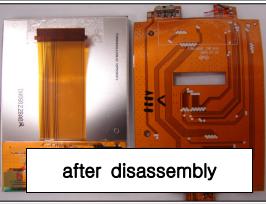


## Exploded View/Disassembly and Assembly Instructions

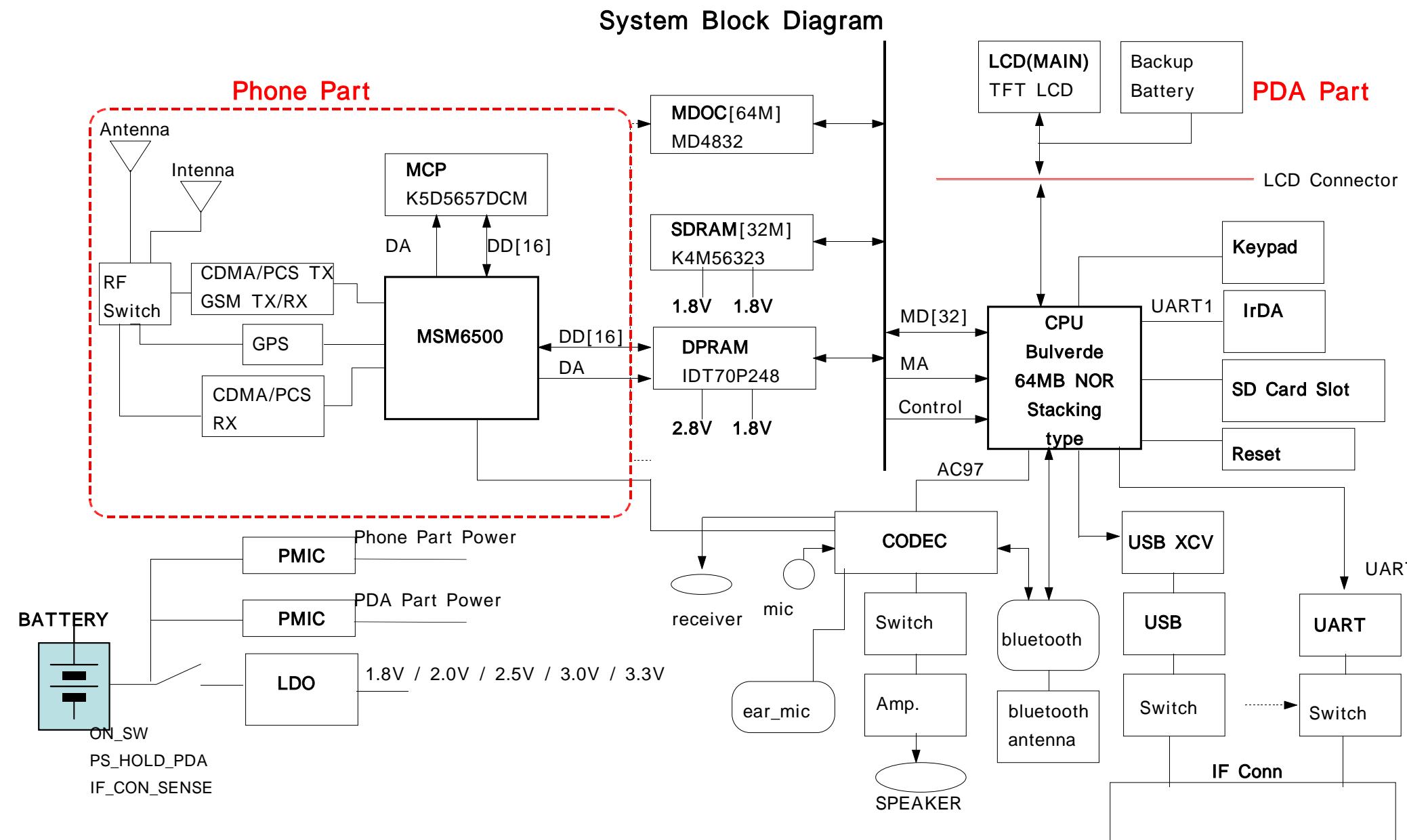


## 8-9. LCD KIT Assembly &amp; Disassembly

<p><b>LCD Assembly</b></p> <p><b>1</b></p>  <p>place a doubled faced adhesive tape</p>  <p>combine FPCB</p> <p>1.remove the transparent cover on the gasket tape 2.place a double faced adhesive tape on the front of the connector in parallel with the guide line. 3.remove the cover of a double faced adhesive tape 4.push SLIDE FPCB into TOP FPCB's connector until the white guide line meets connector 5.press SLIDE FPCB over the adhesive tape</p>	<p><b>2</b></p>  <p>put an insulating tape</p>  <p>put an insulating tape</p> <p>1.place a green colored insulating tape over connector belong the guide line 2.fold FPCB downward 3.align a black colored insulating tape along the guide line of TOP FPCB and put it onto a green colored insulating tape</p>
<p><b>* Caution</b></p> <ol style="list-style-type: none"> <li>1. there should be no adhesive agent on the Connector</li> <li>2. make sure the FPCB is completely locked to the connector .</li> </ol>	<p><b>* Caution</b></p> <ol style="list-style-type: none"> <li>1. make sure the FPCB and connector are completely bonded</li> <li>2. place the adhesive tape along the guide line and make sure no vapor in the bonding part .</li> </ol>
<p><b>3</b></p>   <p>1.remove the transparent cover which protects FPCB on the LCD panel 2.cover LCD TSP soldered place with an insulating tape. 3.cover the two places which are described in the photo with tape to prevent moisture inflow</p>	<p><b>4</b></p>  <p>fold the connector lock</p>  <p>put tape to fix FPCB</p> <p>1.push the FPCB until the end of FPCB is completely inserted into connector lock and shut down the lock 2.remove LCD cover and place TOP FPCB onto LCD panel 3.put the tape in parallel to guide line at the end of FPCB bond</p>
<p><b>* Caution</b></p> <ol style="list-style-type: none"> <li>1. use tools carefully not to scratch LCD panel</li> <li>2. when lifting the LCD panel ,grab the sides of LCD panel</li> </ol>	<p><b>* Cautions</b></p> <ol style="list-style-type: none"> <li>1.be careful not to give any stress to FPCB</li> <li>2.when lifting the LCD panel ,grab the sides of LCD panel</li> </ol>

1 LCD Disassembly	
 remove FPCB bonding tape  unlocked the connector   after disassembly	<p>1. remove FPCB bonding tape 2. unlocked the connector and pull out the FPCB 3. separate FPCB from LCD panel</p> <p><b>* Caution</b> 1. use tools carefully not to scratch LCD panel 2. when lifting the LCD panel ,grab the sides of LCD panel</p> <p><b>* Cautions</b> 1. be careful not to give any stress to FPCB 2. when lifting the LCD panel ,grab the sides of LCD panel</p>

## 9. Block Diagram



## 10. Electrical Parts List

Design LOC	Description	SEC CODE	STATUS
ANT1	NPR-CONTACT ANT	GH71-00734A	SA
BAT30	BATTERY-LI(2ND)	4302-001176	SA
BTC40	HEADER-BATTERY	3711-006035	SA
C1000	C-CER,CHIP	2203-005482	SA
C1000	C-CER,CHIP	2203-006646	SA
C1001	C-CER,CHIP	2203-006646	SA
C1002	C-CER,CHIP	2203-000995	SA
C1002	C-CER,CHIP	2203-006646	SA
C1003	C-CER,CHIP	2203-006646	SA
C1004	C-CER,CHIP	2203-000233	SA
C1004	C-CER,CHIP	2203-002443	SA
C1005	C-CER,CHIP	2203-000233	SA
C1005	C-CER,CHIP	2203-001598	SA
C1006	C-CER,CHIP	2203-000233	SA
C1006	C-CER,CHIP	2203-005664	SA
C1007	C-CER,CHIP	2203-001598	SA
C1007	C-CER,CHIP	2203-005382	SA
C1008	C-CER,CHIP	2203-000438	SA
C1008	C-CER,CHIP	2203-006646	SA
C1009	C-CER,CHIP	2203-005061	SA
C1010	C-CER,CHIP	2203-005065	SA
C1011	C-CER,CHIP	2203-005382	SA
C1011	C-CER,CHIP	2203-006307	SA
C1012	C-CER,CHIP	2203-000438	SA
C1012	C-CER,CHIP	2203-006307	SA
C1013	C-CER,CHIP	2203-005482	SA
C1013	C-CER,CHIP	2203-005552	SA
C1014	C-CER,CHIP	2203-000438	SA
C1014	C-CER,CHIP	2203-006307	SA
C1015	C-CER,CHIP	2203-000438	SA
C1015	C-CER,CHIP	2203-005482	SA
C1016	C-CER,CHIP	2203-005061	SA
C1016	C-CER,CHIP	2203-006307	SA
C1017	C-CER,CHIP	2203-006307	SA
C1018	C-CER,CHIP	2203-000233	SA
C1019	C-CER,CHIP	2203-006646	SA
C1020	C-CER,CHIP	2203-000233	SA
C1021	C-CER,CHIP	2203-005061	SA
C1021	C-CER,CHIP	2203-005552	SA
C1022	C-CER,CHIP	2203-000438	SA
C1022	C-CER,CHIP	2203-006646	SA
C1023	C-CER,CHIP	2203-000233	SA
C1023	C-CER,CHIP	2203-006646	SA
C1024	C-CER,CHIP	2203-000233	SA
C1025	C-CER,CHIP	2203-005482	SA
C1026	C-CER,CHIP	2203-005482	SA
C1027	C-CER,CHIP	2203-005736	SA
C1028	C-CER,CHIP	2203-000995	SA
C1029	C-CER,CHIP	2203-005061	SA
C1031	C-CER,CHIP	2203-000995	SA

## Electrical Parts List

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Design LOC	Description	SEC CODE	STATUS
C1032	C-CER,CHIP	2203-000995	SA
C1033	C-CER,CHIP	2203-000278	SA
C1034	C-CER,CHIP	2203-005482	SA
C1035	C-CER,CHIP	2203-005482	SA
C1036	C-CER,CHIP	2203-006646	SA
C1037	C-CER,CHIP	2203-005061	SA
C1038	C-CER,CHIP	2203-000995	SA
C1039	C-CER,CHIP	2203-005552	SA
C1040	C-CER,CHIP	2203-005393	SA
C1042	C-CER,CHIP	2203-000254	SA
C1043	C-CER,CHIP	2203-000254	SA
C1044	C-CER,CHIP	2203-000254	SA
C1045	C-CER,CHIP	2203-005061	SA
C1046	C-CER,CHIP	2203-000585	SA
C1047	C-FILM,SMD-PPS	2301-001213	SA
C1048	C-CER,CHIP	2203-001124	SNA
C1049	C-CER,CHIP	2203-005482	SA
C1050	C-CER,CHIP	2203-006201	SA
C1051	C-CER,CHIP	2203-000254	SA
C1052	C-CER,CHIP	2203-000254	SA
C1053	C-CER,CHIP	2203-000233	SA
C1101	C-CER,CHIP	2203-000438	SA
C1102	C-CER,CHIP	2203-005482	SA
C1103	C-CER,CHIP	2203-005736	SA
C1104	C-CER,CHIP	2203-005736	SA
C1105	C-CER,CHIP	2203-005383	SA
C1106	C-CER,CHIP	2203-005446	SA
C1107	C-CER,CHIP	2203-000438	SA
C1108	C-CER,CHIP	2203-000311	SA
C1109	C-CER,CHIP	2203-001072	SA
C1110	C-CER,CHIP	2203-000609	SA
C1112	C-CER,CHIP	2203-000812	SA
C1114	C-CER,CHIP	2203-000254	SA
C1115	C-CER,CHIP	2203-005503	SA
C1116	C-CER,CHIP	2203-005234	SA
C1117	C-CER,CHIP	2203-006194	SA
C1118	C-CER,CHIP	2203-006194	SA
C1119	C-CER,CHIP	2203-006121	SA
C1120	C-CER,CHIP	2203-006379	SA
C1121	C-CER,CHIP	2203-002759	SA
C1123	C-CER,CHIP	2203-006379	SA
C1124	C-CER,CHIP	2203-006423	SA
C1125	C-CER,CHIP	2203-000233	SA
C1126	C-CER,CHIP	2203-006379	SA
C1127	C-CER,CHIP	2203-000233	SA
C1128	C-CER,CHIP	2203-001178	SNA
C1129	C-CER,CHIP	2203-000233	SA
C1130	C-CER,CHIP	2203-005736	SA
C1131	C-CER,CHIP	2203-005806	SNA
C1133	C-CER,CHIP	2203-005682	SA

Design LOC	Description	SEC CODE	STATUS
C1134	C-CER,CHIP	2203-006423	SA
C1135	C-CER,CHIP	2203-000438	SA
C1138	C-CER,CHIP	2203-002443	SA
C1139	C-CER,CHIP	2203-000812	SA
C1140	C-CER,CHIP	2203-002443	SA
C1141	C-CER,CHIP	2203-000438	SA
C1142	C-CER,CHIP	2203-002443	SA
C1143	C-CER,CHIP	2203-000438	SA
C1144	C-CER,CHIP	2203-000854	SA
C1145	C-CER,CHIP	2203-000812	SA
C1146	C-CER,CHIP	2203-000995	SA
C1147	C-CER,CHIP	2203-005061	SA
C1148	C-CER,CHIP	2203-000254	SA
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C1151	C-CER,CHIP	2203-000254	SA
C1152	R-CHIP	2007-000171	SA
C1153	C-CER,CHIP	2203-005725	SA
C1154	C-CER,CHIP	2203-000233	SA
C1155	C-CER,CHIP	2203-006141	SA
C1156	C-CER,CHIP	2203-000438	SA
C1157	C-CER,CHIP	2203-000438	SA
C1158	C-CER,CHIP	2203-002443	SA
C1159	C-CER,CHIP	2203-006194	SA
C1160	C-CER,CHIP	2203-005682	SA
C1161	C-CER,CHIP	2203-005682	SA
C1162	C-CER,CHIP	2203-000278	SA
C1163	C-CER,CHIP	2203-001259	SA
C1164	C-CER,CHIP	2203-000233	SA
C1165	C-CER,CHIP	2203-000438	SA
C1166	C-CER,CHIP	2203-000254	SA
C1169	C-CER,CHIP	2203-000438	SA
C1170	C-CER,CHIP	2203-005682	SA
C1171	C-CER,CHIP	2203-006423	SA
C1172	C-CER,CHIP	2203-006423	SA
C1173	C-CER,CHIP	2203-005682	SA
C1174	C-CER,CHIP	2203-006423	SA
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C1176	C-CER,CHIP	2203-006423	SA
C1177	C-CER,CHIP	2203-001033	SA
C1178	C-CER,CHIP	2203-000940	SA
C1180	C-CER,CHIP	2203-005061	SA
C1182	C-CER,CHIP	2203-001072	SA
C1183	C-CER,CHIP	2203-000233	SA
C1200	C-CER,CHIP	2203-005806	SNA
C1202	C-CER,CHIP	2203-005736	SA
C1203	C-CER,CHIP	2203-005736	SA
C1204	C-CER,CHIP	2203-000278	SA
C1205	C-CER,CHIP	2203-000233	SA
C1206	C-CER,CHIP	2203-001072	SA
C1208	C-CER,CHIP	2203-001072	SA

## Electrical Parts List

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Design LOC	Description	SEC CODE	STATUS
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C1210	C-CER,CHIP	2203-001072	SA
C1212	C-CER,CHIP	2203-005736	SA
C1213	C-CER,CHIP	2203-005736	SA
C1214	C-CER,CHIP	2203-001072	SA
C1215	C-CER,CHIP	2203-005736	SA
C1216	C-CER,CHIP	2203-005736	SA
C1218	C-CER,CHIP	2203-006562	SA
C1219	C-CER,CHIP	2203-005736	SA
C1220	C-CER,CHIP	2203-005736	SA
C1221	C-CER,CHIP	2203-001072	SA
C1222	C-CER,CHIP	2203-000386	SA
C1223	C-CER,CHIP	2203-000386	SA
C1224	C-CER,CHIP	2203-005736	SA
C1225	C-CER,CHIP	2203-005736	SA
C1226	C-CER,CHIP	2203-005482	SA
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C1231	C-CER,CHIP	2203-001072	SA
C1232	C-CER,CHIP	2203-000386	SA
C1233	C-CER,CHIP	2203-000233	SA
C200	C-CER,CHIP	2203-005061	SA
C201	C-CER,CHIP	2203-001437	SA
C202	C-CER,CHIP	2203-000550	SA
C203	C-CER,CHIP	2203-006562	SA
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C206	C-CER,CHIP	2203-005482	SA
C207	C-CER,CHIP	2203-005482	SA
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C218	C-CER,CHIP	2203-006562	SA
C219	C-CER,CHIP	2203-005482	SA
C220	C-CER,CHIP	2203-005482	SA
C221	C-CER,CHIP	2203-006562	SA
C222	C-CER,CHIP	2203-006562	SA
C223	C-CER,CHIP	2203-005482	SA
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C229	C-CER,CHIP	2203-005482	SA
C230	C-CER,CHIP	2203-005482	SA
C231	C-CER,CHIP	2203-006562	SA

Design LOC	Description	SEC CODE	STATUS
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C234	C-CER,CHIP	2203-006562	SA
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C236	C-CER,CHIP	2203-005482	SA
C237	C-CER,CHIP	2203-006562	SA
C238	C-CER,CHIP	2203-005482	SA
C239	C-CER,CHIP	2203-005482	SA
C240	C-CER,CHIP	2203-005482	SA
C241	C-CER,CHIP	2203-005482	SA
C242	C-CER,CHIP	2203-006562	SA
C243	C-CER,CHIP	2203-006562	SA
C244	C-CER,CHIP	2203-006562	SA
C245	C-CER,CHIP	2203-005482	SA
C246	C-CER,CHIP	2203-005482	SA
C247	C-CER,CHIP	2203-005061	SA
C248	C-CER,CHIP	2203-006562	SA
C249	C-CER,CHIP	2203-005482	SA
C250	C-CER,CHIP	2203-005061	SA
C251	C-CER,CHIP	2203-005061	SA
C254	C-CER,CHIP	2203-005482	SA
C255	C-CER,CHIP	2203-006562	SA
C256	C-CER,CHIP	2203-005482	SA
C257	C-CER,CHIP	2203-005482	SA
C260	C-CER,CHIP	2203-006562	SA
C261	C-CER,CHIP	2203-006626	SA
C262	C-CER,CHIP	2203-005482	SA
C300	C-CER,CHIP	2203-005061	SA
C301	C-CER,CHIP	2203-005061	SA
C302	C-CER,CHIP	2203-005065	SA
C303	C-CER,CHIP	2203-005061	SA
C304	C-CER,CHIP	2203-005061	SA
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C318	C-CER,CHIP	2203-005061	SA
C319	C-CER,CHIP	2203-005061	SA
C320	C-CER,CHIP	2203-005061	SA
C321	C-CER,CHIP	2203-005061	SA
C322	C-CER,CHIP	2203-006562	SA

## Electrical Parts List

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Design LOC	Description	SEC CODE	STATUS
C323	C-CER,CHIP	2203-006562	SA
C324	C-CER,CHIP	2203-005061	SA
C325	C-CER,CHIP	2203-005061	SA
C326	C-CER,CHIP	2203-005061	SA
C327	C-CER,CHIP	2203-005061	SA
C328	C-CER,CHIP	2203-005061	SA
C329	C-CER,CHIP	2203-005061	SA
C330	C-CER,CHIP	2203-005061	SA
C400	C-CER,CHIP	2203-002525	SA
C401	C-CER,CHIP	2203-005061	SA
C402	C-CER,CHIP	2203-005061	SA
C403	C-CER,CHIP	2203-005061	SA
C404	C-CER,CHIP	2203-000438	SA
C405	C-CER,CHIP	2203-005061	SA
C408	C-CER,CHIP	2203-006208	SA
C409	C-CER,CHIP	2203-006646	SA
C410	C-CER,CHIP	2203-006646	SA
C411	C-CER,CHIP	2203-006562	SA
C413	C-CER,CHIP	2203-002443	SA
C414	C-CER,CHIP	2203-005065	SA
C416	C-CER,CHIP	2203-006646	SA
C418	C-CER,CHIP	2203-005061	SA
C419	C-CER,CHIP	2203-006646	SA
C420	C-CER,CHIP	2203-006646	SA
C421	C-CER,CHIP	2203-006646	SA
C422	C-CER,CHIP	2203-002443	SA
C423	C-CER,CHIP	2203-005482	SA
C424	C-CER,CHIP	2203-006646	SA
C425	C-CER,CHIP	2203-000138	SA
C426	C-CER,CHIP	2203-005482	SA
C427	C-CER,CHIP	2203-005482	SA
C428	C-CER,CHIP	2203-000940	SA
C429	C-CER,CHIP	2203-006208	SA
C430	C-CER,CHIP	2203-006208	SA
C431	C-CER,CHIP	2203-006208	SA
C432	C-CER,CHIP	2203-006208	SA
C433	C-CER,CHIP	2203-006208	SA
C434	C-CER,CHIP	2203-005061	SA
C435	C-CER,CHIP	2203-006562	SA
C436	C-CER,CHIP	2203-006646	SA
C437	C-CER,CHIP	2203-006646	SA
C438	C-CER,CHIP	2203-006646	SA
C441	C-CER,CHIP	2203-005482	SA
C442	C-CER,CHIP	2203-005482	SA
C443	C-CER,CHIP	2203-006208	SA
C444	C-CER,CHIP	2203-005482	SA
C445	C-CER,CHIP	2203-006646	SA
C446	C-CER,CHIP	2203-005061	SA
C447	C-CER,CHIP	2203-006646	SA
C448	C-CER,CHIP	2203-006646	SA

Design LOC	Description	SEC CODE	STATUS
C449	C-CER,CHIP	2203-006646	SA
C450	C-CER,CHIP	2203-006646	SA
C451	C-CER,CHIP	2203-005482	SA
C452	C-CER,CHIP	2203-006208	SA
C453	C-CER,CHIP	2203-006646	SA
C454	C-CER,CHIP	2203-006646	SA
C455	C-CER,CHIP	2203-006208	SA
C456	C-CER,CHIP	2203-005482	SA
C457	C-CER,CHIP	2203-006646	SA
C458	C-CER,CHIP	2203-005482	SA
C500	C-CER,CHIP	2203-006626	SA
C501	C-CER,CHIP	2203-006562	SA
C502	C-CER,CHIP	2203-006562	SA
C503	C-CER,CHIP	2203-006646	SA
C504	C-CER,CHIP	2203-006646	SA
C505	C-CER,CHIP	2203-005061	SA
C506	C-CER,CHIP	2203-005061	SA
C507	C-CER,CHIP	2203-006646	SA
C508	C-CER,CHIP	2203-005061	SA
C509	C-CER,CHIP	2203-005061	SA
C510	C-CER,CHIP	2203-005061	SA
C511	C-CER,CHIP	2203-005061	SA
C512	C-CER,CHIP	2203-006646	SA
C513	C-CER,CHIP	2203-005061	SA
C514	C-CER,CHIP	2203-006646	SA
C515	C-CER,CHIP	2203-006646	SA
C516	C-CER,CHIP	2203-006201	SA
C517	C-CER,CHIP	2203-005065	SA
C518	C-CER,CHIP	2203-005061	SA
C520	C-CER,CHIP	2203-006562	SA
C521	C-CER,CHIP	2203-000585	SA
C522	C-CER,CHIP	2203-006626	SA
C523	C-CER,CHIP	2203-006626	SA
C524	C-CER,CHIP	2203-005482	SA
C525	C-CER,CHIP	2203-006201	SA
C526	C-CER,CHIP	2203-000585	SA
C527	C-CER,CHIP	2203-006201	SA
C530	C-CER,CHIP	2203-000585	SA
C531	C-CER,CHIP	2203-005065	SA
C533	C-CER,CHIP	2203-000585	SA
C534	C-CER,CHIP	2203-005061	SA
C536	C-CER,CHIP	2203-000585	SA
C537	C-CER,CHIP	2203-006646	SA
C538	C-CER,CHIP	2203-005061	SA
C539	C-CER,CHIP	2203-000585	SA
C540	C-CER,CHIP	2203-000585	SA
C541	C-CER,CHIP	2203-000585	SA
C542	C-CER,CHIP	2203-000585	SA
C543	C-CER,CHIP	2203-006646	SA
C544	C-CER,CHIP	2203-005061	SA

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Design LOC	Description	SEC CODE	STATUS
C545	C-CER,CHIP	2203-006562	SA
C546	C-CER,CHIP	2203-000628	SA
C547	C-CER,CHIP	2203-000628	SA
C548	C-CER,CHIP	2203-006646	SA
C549	C-CER,CHIP	2203-006423	SA
C551	C-CER,CHIP	2203-005065	SA
C552	C-CER,CHIP	2203-005061	SA
C553	C-CER,CHIP	2203-006423	SA
C554	C-CER,CHIP	2203-006562	SA
C555	C-CER,CHIP	2203-006562	SA
C556	C-CER,CHIP	2203-006562	SA
C557	C-CER,CHIP	2203-005065	SA
C558	C-CER,CHIP	2203-005061	SA
C559	C-CER,CHIP	2203-006646	SA
C560	C-CER,CHIP	2203-006562	SA
C561	C-CER,CHIP	2203-006562	SA
C562	C-CER,CHIP	2203-000628	SA
C563	C-CER,CHIP	2203-006562	SA
C600	C-CER,CHIP	2203-000438	SA
C603	C-CER,CHIP	2203-006562	SA
C604	C-CER,CHIP	2203-006562	SA
C605	C-CER,CHIP	2203-002759	SA
C606	C-CER,CHIP	2203-002759	SA
C608	C-CER,CHIP	2203-005061	SA
C609	C-CER,CHIP	2203-005061	SA
C610	C-CER,CHIP	2203-005061	SA
C611	C-CER,CHIP	2203-005061	SA
C612	C-CER,CHIP	2203-005061	SA
C613	C-CER,CHIP	2203-005061	SA
C700	C-CER,CHIP	2203-006137	SA
C701	C-CER,CHIP	2203-005482	SA
C703	C-CER,CHIP	2203-005065	SA
C704	C-CER,CHIP	2203-005061	SA
C705	C-CER,CHIP	2203-006208	SA
C707	C-CER,CHIP	2203-005482	SA
C709	C-CER,CHIP	2203-000233	SA
C710	C-CER,CHIP	2203-000233	SA
C712	C-CER,CHIP	2203-005061	SA
C714	C-CER,CHIP	2203-000233	SA
C715	C-CER,CHIP	2203-005065	SA
C717	C-CER,CHIP	2203-002443	SA
C800	C-CER,CHIP	2203-000466	SA
C801	C-CER,CHIP	2203-000466	SA
C805	C-CER,CHIP	2203-006423	SA
C806	C-CER,CHIP	2203-006423	SA
C807	C-CER,CHIP	2203-006423	SA
C808	C-CER,CHIP	2203-006423	SA
C809	C-CER,CHIP	2203-006423	SA
C810	C-CER,CHIP	2203-006423	SA
C811	C-CER,CHIP	2203-006423	SA

Design LOC	Description	SEC CODE	STATUS
C812	C-CER,CHIP	2203-006423	SA
C813	C-CER,CHIP	2203-006423	SA
C814	C-CER,CHIP	2203-006423	SA
C815	C-CER,CHIP	2203-006423	SA
C816	C-CER,CHIP	2203-006423	SA
C817	C-CER,CHIP	2203-006423	SA
C818	C-CER,CHIP	2203-006423	SA
C819	C-CER,CHIP	2203-006423	SA
C820	C-CER,CHIP	2203-006423	SA
C821	C-CER,CHIP	2203-005482	SA
C822	C-CER,CHIP	2203-000254	SA
C823	C-CER,CHIP	2203-000254	SA
C824	C-CER,CHIP	2203-000254	SA
C825	C-CER,CHIP	2203-000254	SA
C826	C-CER,CHIP	2203-006053	SA
C827	C-CER,CHIP	2203-005482	SA
C828	C-CER,CHIP	2203-006423	SA
C829	C-CER,CHIP	2203-006423	SA
C830	C-CER,CHIP	2203-006423	SA
C831	C-CER,CHIP	2203-006423	SA
C832	C-CER,CHIP	2203-006423	SA
C833	C-CER,CHIP	2203-006423	SA
C834	C-CER,CHIP	2203-006423	SA
C835	C-CER,CHIP	2203-006423	SA
C836	C-CER,CHIP	2203-006423	SA
C837	C-CER,CHIP	2203-006423	SA
C838	C-CER,CHIP	2203-006423	SA
C839	C-CER,CHIP	2203-006423	SA
C840	C-CER,CHIP	2203-006423	SA
C841	C-CER,CHIP	2203-006423	SA
C842	C-CER,CHIP	2203-006423	SA
C843	C-CER,CHIP	2203-006423	SA
C844	C-CER,CHIP	2203-006423	SA
C845	C-CER,CHIP	2203-006423	SA
C846	C-CER,CHIP	2203-006194	SA
C847	C-CER,CHIP	2203-001072	SA
C848	C-CER,CHIP	2203-001072	SA
C849	C-CER,CHIP	2203-001405	SA
C850	C-CER,CHIP	2203-001405	SA
C852	C-CER,CHIP	2203-001405	SA
C853	C-CER,CHIP	2203-005065	SA
C854	C-CER,CHIP	2203-005061	SA
C855	C-CER,CHIP	2203-006091	SA
C856	C-CER,CHIP	2203-005061	SA
C857	C-CER,CHIP	2203-005061	SA
C858	C-CER,CHIP	2203-006091	SA
C859	C-CER,CHIP	2203-005061	SA
C860	C-CER,CHIP	2203-005061	SA
C861	C-CER,CHIP	2203-000233	SA
C862	C-CER,CHIP	2203-000254	SA

## Electrical Parts List

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Design LOC	Description	SEC CODE	STATUS
C863	C-CER,CHIP	2203-000254	SA
C864	C-CER,CHIP	2203-005061	SA
C865	C-CER,CHIP	2203-006562	SA
C866	C-CER,CHIP	2203-005483	SA
C867	C-CER,CHIP	2203-006194	SA
C901	C-CER,CHIP	2203-001652	SA
C902	C-CER,CHIP	2203-003054	SA
C903	C-CER,CHIP	2203-003054	SA
C904	C-CER,CHIP	2203-005482	SA
C905	C-CER,CHIP	2203-000233	SA
C906	C-CER,CHIP	2203-005482	SA
C907	C-CER,CHIP	2203-006423	SA
C908	C-CER,CHIP	2203-006208	SA
C909	C-CER,CHIP	2203-006208	SA
C910	C-CER,CHIP	2203-005482	SA
C911	C-CER,CHIP	2203-000278	SA
C912	C-CER,CHIP	2203-006208	SA
C913	C-CER,CHIP	2203-006208	SA
C914	C-CER,CHIP	2203-006208	SA
C915	C-CER,CHIP	2203-000278	SA
C916	C-CER,CHIP	2203-006562	SA
C917	C-CER,CHIP	2203-000278	SA
C918	C-CER,CHIP	2203-006201	SA
C919	C-CER,CHIP	2203-000278	SA
C920	C-CER,CHIP	2203-006201	SA
C921	C-CER,CHIP	2203-006201	SA
C922	C-CER,CHIP	2203-000278	SA
C924	C-CER,CHIP	2203-005482	SA
C925	C-CER,CHIP	2203-000812	SA
C927	C-CER,CHIP	2203-000812	SA
C929	C-CER,CHIP	2203-000254	SA
C930	C-CER,CHIP	2203-005482	SA
C931	C-CER,CHIP	2203-005482	SA
C932	C-CER,CHIP	2203-005482	SA
C933	C-CER,CHIP	2203-005482	SA
C934	C-CER,CHIP	2203-005482	SA
C935	C-CER,CHIP	2203-006208	SA
C936	C-CER,CHIP	2203-005482	SA
C937	C-CER,CHIP	2203-006646	SA
C938	C-CER,CHIP	2203-005482	SA
C939	C-CER,CHIP	2203-005061	SA
C940	C-CER,CHIP	2203-005061	SA
C941	C-CER,CHIP	2203-006562	SA
CD702	CONNECTOR-CARD EDGE	3709-001251	SA
CN1000	HEADER-BOARD TO BOARD	3711-005394	SA
CPL1102	COUPLER-DIRECTION	4709-001361	SA
CPL1106	COUPLER-DIRECTION	4709-001361	SA
D1000	DIODE-RECTIFIER	0402-001329	SA
D1001	DIODE-SCHOTTKY	0404-001152	SA
D1002	DIODE-SCHOTTKY	0404-001152	SA

Design LOC	Description	SEC CODE	STATUS
D1003	DIODE-SCHOTTKY	0404-001152	SA
D1101	DIODE-SCHOTTKY	0404-001093	SA
D400	DIODE-SCHOTTKY	0404-001089	SA
D401	DIODE-SCHOTTKY	0404-001089	SA
D500	DIODE-TVS	0406-001169	SA
D501	DIODE-TVS	0406-001150	SA
D600	DIODE-TVS	0406-001150	SA
D715	DIODE-TVS	0406-001150	SA
D716	DIODE-TVS	0406-001150	SA
D717	DIODE-TVS	0406-001150	SA
D723	DIODE-SWITCHING	0401-001110	SA
D724	DIODE-TVS	0406-001150	SA
D901	DIODE-ARRAY	0407-001002	SA
DUF1107	DUPLEXER-SAW	2909-001255	SA
DUF1200	DUPLEXER-ASM	2909-001197	SA
EAR500	JACK-EAR PHONE	3722-002067	SA
F1000	FILTER-SAW	2904-001533	SA
F1001	FILTER-SAW	2904-001494	SA
F1002	FILTER-SAW	2904-001414	SA
F1100	FILTER-SAW	2904-001424	SA
F1101	FILTER-SAW	2904-001499	SA
F1103	DUPLEXER-FBAR	2910-000009	SA
F1104	FILTER-SAW	2904-001417	SA
F1105	FILTER-SAW	2904-001502	SA
F600	FILTER-EMI/ESD	2901-001294	SA
F601	FILTER-EMI/ESD	2901-001294	SA
HDC600	HEADER-BOARD TO BOARD	3711-005578	SA
IFC703	SOCKET-INTERFACE	3710-001732	SA
L1000	INDUCTOR-SMD	2703-002829	SA
L1000	BEAD-SMD	3301-001729	SA
L1001	BEAD-SMD	3301-001336	SA
L1001	BEAD-SMD	3301-001729	SA
L1002	INDUCTOR-SMD	2703-002200	SA
L1002	INDUCTOR-SMD	2703-002856	SA
L1003	INDUCTOR-SMD	2703-002204	SA
L1004	INDUCTOR-SMD	2703-002205	SA
L1005	INDUCTOR-SMD	2703-002268	SA
L1006	INDUCTOR-SMD	2703-002268	SA
L1007	INDUCTOR-SMD	2703-002205	SA
L1008	INDUCTOR-SMD	2703-002207	SA
L1009	INDUCTOR-SMD	2703-002314	SA
L1010	INDUCTOR-SMD	2703-002176	SA
L1011	INDUCTOR-SMD	2703-002200	SA
L1012	INDUCTOR-SMD	2703-002176	SA
L1013	INDUCTOR-SMD	2703-002365	SA
L1014	INDUCTOR-SMD	2703-002281	SA
L1015	INDUCTOR-SMD	2703-002309	SA
L1016	INDUCTOR-SMD	2703-002176	SA
L1017	INDUCTOR-SMD	2703-002198	SA
L1018	INDUCTOR-SMD	2703-001737	SA

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Design LOC	Description	SEC CODE	STATUS
L1019	INDUCTOR-SMD	2703-002308	SA
L1020	BEAD-SMD	3301-001729	SA
L1021	INDUCTOR-SMD	2703-002309	SA
L1022	INDUCTOR-SMD	2703-001747	SA
L1102	BEAD-SMD	3301-001342	SA
L1105	INDUCTOR-SMD	2703-002281	SA
L1106	INDUCTOR-SMD	2703-002485	SA
L1107	BEAD-SMD	3301-001342	SA
L1109	INDUCTOR-SMD	2703-002206	SA
L1110	INDUCTOR-SMD	2703-002281	SA
L1111	BEAD-SMD	3301-001120	SA
L1112	INDUCTOR-SMD	2703-002208	SA
L1113	INDUCTOR-SMD	2703-002596	SA
L1114	INDUCTOR-SMD	2703-002208	SA
L1116	INDUCTOR-SMD	2703-001938	SA
L1117	INDUCTOR-SMD	2703-002314	SA
L1118	INDUCTOR-SMD	2703-001409	SA
L1119	INDUCTOR-SMD	2703-002314	SA
L1121	INDUCTOR-SMD	2703-002204	SA
L1122	INDUCTOR-SMD	2703-002281	SA
L1200	BEAD-SMD	3301-001342	SA
L1202	INDUCTOR-SMD	2703-001938	SA
L1203	INDUCTOR-SMD	2703-002368	SA
L1205	INDUCTOR-SMD	2703-002281	SA
L1209	INDUCTOR-SMD	2703-001990	SA
L1211	BEAD-SMD	3301-001756	SA
L200	BEAD-SMD	3301-001729	SA
L400	INDUCTOR-SMD	2703-002856	SA
L401	INDUCTOR-SMD	2703-002803	SA
L402	BEAD-SMD	3301-001342	SA
L403	INDUCTOR-SMD	2703-002829	SA
L500	BEAD-SMD	3301-001336	SA
L501	BEAD-SMD	3301-001756	SA
L502	BEAD-SMD	3301-001756	SA
L503	BEAD-SMD	3301-001756	SA
L600	BEAD-SMD	3301-001756	SA
L800	BEAD-SMD	3301-001729	SA
L900	INDUCTOR-SMD	2703-001868	SA
L901	INDUCTOR-SMD	2703-001868	SA
L902	INDUCTOR-SMD	2703-002653	SA
L903	INDUCTOR-SMD	2703-002653	SA
LED700	LED	0601-001602	SA
LED701	LED	0601-001602	SA
LED702	LED	0601-001602	SA
LED703	LED	0601-001602	SA
LED704	LED	0601-001602	SA
LED705	LED	0601-001602	SA
LED706	LED	0601-001602	SA
LED707	LED	0601-001602	SA
LED708	LED	0601-001602	SA

Design LOC	Description	SEC CODE	STATUS
LED709	LED	0601-001602	SA
LED710	LED	0601-001602	SA
LED711	LED	0601-001602	SA
LED712	LED	0601-001602	SA
LED713	LED	0601-001602	SA
LED714	LED	0601-001602	SA
MOD600	BLUETOOTH MODULE	4709-001354	SA
OSC200	CRYSTAL-SMD	2801-003856	SA
OSC201	CRYSTAL-SMD	2801-004189	SA
OSC500	CRYSTAL-SMD	2801-004225	SA
OSC800	RESONATOR-CERAMIC	2802-001182	SA
OSC900	CRYSTAL-SMD	2801-003856	SA
PAM1101	IC-POWER AMP	1201-002174	SA
PAM1103	IC-POWER AMP	1201-001957	SA
PAM1104	IC-POWER AMP	1201-001894	SA
R1000	R-CHIP	2007-001290	SA
R1000	R-CHIP	2007-007489	SA
R1001	R-CHIP	2007-000148	SA
R1001	R-CHIP	2007-001290	SA
R1002	R-CHIP	2007-000162	SA
R1002	R-CHIP	2007-000982	SA
R1003	R-CHIP	2007-007014	SA
R1003	R-CHIP	2007-007311	SA
R1004	R-CHIP	2007-007014	SA
R1004	R-CHIP	2007-007491	SA
R1005	R-CHIP	2007-000172	SA
R1005	R-CHIP	2007-000982	SA
R1006	R-CHIP	2007-000138	SA
R1006	R-CHIP	2007-000167	SA
R1007	R-CHIP	2007-000138	SA
R1007	R-CHIP	2007-007943	SA
R1008	R-CHIP	2007-000172	SA
R1008	R-CHIP	2007-007014	SA
R1009	R-CHIP	2007-000162	SA
R1009	R-CHIP	2007-001291	SA
R1010	R-CHIP	2007-000140	SA
R1010	R-CHIP	2007-000171	SA
R1011	R-CHIP	2007-000143	SA
R1011	R-CHIP	2007-007488	SA
R1012	R-CHIP	2007-000171	SA
R1012	R-CHIP	2007-001288	SA
R1013	R-CHIP	2007-008275	SA
R1014	R-CHIP	2007-000172	SA
R1014	R-CHIP	2007-007095	SA
R1015	R-CHIP	2007-000174	SA
R1015	R-CHIP	2007-007092	SNA
R1016	R-CHIP	2007-003010	SA
R1016	R-CHIP	2007-003030	SA
R1017	R-CHIP	2007-007092	SNA
R1018	R-CHIP	2007-000140	SA

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Design LOC	Description	SEC CODE	STATUS
R1019	R-CHIP	2007-007588	SA
R1020	R-CHIP	2007-000142	SA
R1021	R-CHIP	2007-001298	SA
R1022	R-CHIP	2007-007698	SA
R1023	R-CHIP	2007-000138	SA
R1100	R-CHIP	2007-008045	SA
R1101	R-CHIP	2007-008045	SA
R1102	R-CHIP	2007-001291	SA
R1103	R-CHIP	2007-001217	SA
R1104	R-CHIP	2007-007699	SA
R1105	R-CHIP	2007-007699	SA
R1106	R-CHIP	2007-000174	SA
R1107	R-CHIP	2007-000139	SA
R1108	R-CHIP	2007-007306	SA
R1109	R-CHIP	2007-007798	SA
R1110	R-CHIP	2007-007133	SA
R1111	R-CHIP	2007-007133	SA
R1112	R-CHIP	2007-007318	SA
R1113	R-CHIP	2007-007310	SA
R1114	R-CHIP	2007-008419	SA
R1115	R-CHIP	2007-001298	SA
R1116	R-CHIP	2007-001298	SA
R1117	R-CHIP	2007-008263	SA
R1118	R-CHIP	2007-000145	SA
R1119	R-CHIP	2007-007311	SA
R1120	R-CHIP	2007-008806	SA
R1121	R-CHIP	2007-000148	SA
R1122	R-CHIP	2007-007491	SA
R1123	R-CHIP	2007-001119	SA
R1124	R-CHIP	2007-000174	SA
R1125	R-CHIP	2007-008045	SA
R1126	R-CHIP	2007-001298	SA
R1127	R-CHIP	2007-008531	SA
R1128	R-CHIP	2007-000148	SA
R1129	R-CHIP	2007-001307	SA
R1130	R-CHIP	2007-003112	SA
R1200	R-CHIP	2007-008483	SA
R1202	R-CHIP	2007-008483	SA
R1203	R-CHIP	2007-008483	SA
R1204	R-CHIP	2007-008483	SA
R1205	R-CHIP	2007-000143	SA
R1208	R-CHIP	2007-008483	SA
R1209	R-CHIP	2007-008483	SA
R1210	R-CHIP	2007-000171	SA
R200	R-CHIP	2007-001308	SA
R201	R-CHIP	2007-001303	SA
R202	R-CHIP	2007-000168	SA
R203	R-CHIP	2007-000171	SA
R207	R-CHIP	2007-000148	SA
R208	R-CHIP	2007-000171	SA

Design LOC	Description	SEC CODE	STATUS
R210	R-CHIP	2007-000171	SA
R211	R-CHIP	2007-000172	SA
R212	R-CHIP	2007-000171	SA
R214	R-CHIP	2007-000171	SA
R215	R-CHIP	2007-000172	SA
R216	R-CHIP	2007-000171	SA
R217	R-CHIP	2007-000144	SA
R218	R-CHIP	2007-000144	SA
R219	R-CHIP	2007-000148	SA
R220	R-CHIP	2007-000162	SA
R221	R-CHIP	2007-000162	SA
R222	R-CHIP	2007-000162	SA
R223	R-CHIP	2007-000148	SA
R224	R-CHIP	2007-000171	SA
R225	R-CHIP	2007-000148	SA
R226	R-CHIP	2007-001341	SA
R300	R-CHIP	2007-000148	SA
R301	R-CHIP	2007-000171	SA
R302	R-CHIP	2007-000162	SA
R303	R-CHIP	2007-000162	SA
R304	R-CHIP	2007-000162	SA
R305	R-CHIP	2007-000162	SA
R309	R-CHIP	2007-000171	SA
R310	R-CHIP	2007-000148	SA
R311	R-CHIP	2007-000162	SA
R313	R-CHIP	2007-000148	SA
R314	R-CHIP	2007-000162	SA
R315	R-CHIP	2007-000162	SA
R316	R-CHIP	2007-000162	SA
R317	R-CHIP	2007-000162	SA
R318	R-CHIP	2007-000162	SA
R319	R-CHIP	2007-000162	SA
R320	R-CHIP	2007-000162	SA
R321	R-CHIP	2007-000162	SA
R322	R-CHIP	2007-000162	SA
R323	R-CHIP	2007-000148	SA
R324	R-CHIP	2007-000168	SA
R325	R-CHIP	2007-001291	SA
R326	R-CHIP	2007-000173	SA
R401	R-CHIP	2007-000171	SA
R402	R-CHIP	2007-000758	SA
R403	R-CHIP	2007-001325	SA
R404	R-CHIP	2007-000758	SA
R405	R-CHIP	2007-001325	SA
R406	R-CHIP	2007-000173	SA
R408	R-CHIP	2007-000168	SA
R409	R-CHIP	2007-000171	SA
R410	R-CHIP	2007-000162	SA
R411	R-CHIP	2007-000162	SA
R412	R-CHIP	2007-000168	SA

## Electrical Parts List

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Design LOC	Description	SEC CODE	STATUS
R413	R-CHIP	2007-000168	SA
R417	R-CHIP	2007-007592	SA
R420	R-CHIP	2007-001308	SA
R421	R-CHIP	2007-000171	SA
R422	R-CHIP	2007-000566	SA
R423	R-CHIP	2007-000171	SA
R424	R-CHIP	2007-000148	SA
R425	R-CHIP	2007-000171	SA
R428	R-CHIP	2007-007334	SA
R429	R-CHIP	2007-000171	SA
R431	R-CHIP	2007-000566	SA
R432	R-CHIP	2007-000148	SA
R433	R-CHIP	2007-000148	SA
R434	R-CHIP	2007-000148	SA
R435	R-CHIP	2007-000164	SA
R436	R-CHIP	2007-000148	SA
R437	R-CHIP	2007-000148	SA
R500	R-CHIP	2007-007528	SA
R501	R-CHIP	2007-000171	SA
R506	R-CHIP	2007-007310	SA
R508	R-CHIP	2007-007310	SA
R510	R-CHIP	2007-000139	SA
R511	R-CHIP	2007-000171	SA
R512	R-CHIP	2007-000139	SA
R513	R-CHIP	2007-000162	SA
R514	R-CHIP	2007-000162	SA
R517	R-CHIP	2007-000157	SA
R518	R-CHIP	2007-001284	SA
R519	R-CHIP	2007-000157	SA
R521	R-CHIP	2007-000171	SA
R522	R-CHIP	2007-000162	SA
R523	R-CHIP	2007-000157	SA
R525	R-CHIP	2007-000171	SA
R526	R-CHIP	2007-000157	SA
R527	R-CHIP	2007-000171	SA
R529	R-CHIP	2007-000174	SA
R530	R-CHIP	2007-008055	SA
R531	R-CHIP	2007-008478	SA
R532	R-CHIP	2007-008052	SA
R533	R-CHIP	2007-008588	SA
R534	R-CHIP	2007-008055	SA
R535	R-CHIP	2007-008055	SA
R536	R-CHIP	2007-008055	SA
R537	R-CHIP	2007-008052	SA
R538	R-CHIP	2007-008055	SA
R539	R-CHIP	2007-007134	SA
R540	R-CHIP	2007-007134	SA
R541	R-CHIP	2007-008055	SA
R542	R-CHIP	2007-008478	SA
R543	R-CHIP	2007-008117	SA

Design LOC	Description	SEC CODE	STATUS
R544	R-CHIP	2007-000171	SA
R545	R-CHIP	2007-007134	SA
R546	R-CHIP	2007-007134	SA
R547	R-CHIP	2007-008055	SA
R548	R-CHIP	2007-000171	SA
R549	R-CHIP	2007-000171	SA
R600	R-CHIP	2007-000148	SA
R601	R-CHIP	2007-000148	SA
R602	R-CHIP	2007-000148	SA
R603	R-CHIP	2007-000148	SA
R604	R-CHIP	2007-000171	SA
R606	R-CHIP	2007-000171	SA
R607	R-CHIP	2007-000171	SA
R608	R-CHIP	2007-000168	SA
R609	R-CHIP	2007-000242	SA
R610	R-CHIP	2007-000171	SA
R612	R-CHIP	2007-000171	SA
R613	R-CHIP	2007-000168	SA
R700	R-CHIP	2007-000162	SA
R701	R-CHIP	2007-002970	SA
R702	R-CHIP	2007-002970	SA
R703	R-CHIP	2007-002970	SA
R704	R-CHIP	2007-002970	SA
R705	R-CHIP	2007-002970	SA
R706	R-CHIP	2007-002970	SA
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R712	R-CHIP	2007-002970	SA
R713	R-CHIP	2007-002970	SA
R714	R-CHIP	2007-002970	SA
R715	R-CHIP	2007-002970	SA
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R717	R-CHIP	2007-000162	SA
R718	R-CHIP	2007-000162	SA
R719	R-CHIP	2007-000162	SA
R720	R-CHIP	2007-000162	SA
R721	R-CHIP	2007-000162	SA
R722	R-CHIP	2007-000162	SA
R723	R-CHIP	2007-000162	SA
R724	R-CHIP	2007-000171	SA
R725	R-CHIP	2007-000171	SA
R728	R-CHIP	2007-000168	SA
R729	R-CHIP	2007-000171	SA
R730	R-CHIP	2007-007311	SA
R731	R-CHIP	2007-007107	SA
R732	R-CHIP	2007-000162	SA
R733	R-CHIP	2007-000162	SA

## Electrical Parts List

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Design LOC	Description	SEC CODE	STATUS
R734	R-CHIP	2007-008055	SA
R735	R-CHIP	2007-000171	SA
R736	R-CHIP	2007-007107	SA
R737	R-CHIP	2007-007312	SA
R740	R-CHIP	2007-000171	SA
R741	R-CHIP	2007-000157	SA
R742	R-CHIP	2007-000148	SA
R743	R-CHIP	2007-000157	SA
R744	R-CHIP	2007-000157	SA
R745	R-CHIP	2007-000157	SA
R746	R-CHIP	2007-000162	SA
R747	R-CHIP	2007-000162	SA
R754	R-CHIP	2007-007092	SNA
R756	R-CHIP	2007-007092	SNA
R757	R-CHIP	2007-000162	SA
R760	R-CHIP	2007-000242	SA
R805	R-CHIP	2007-001313	SNA
R808	R-CHIP	2007-008516	SA
R816	R-CHIP	2007-000171	SA
R818	R-CHIP	2007-008483	SA
R819	R-CHIP	2007-008542	SA
R820	R-CHIP	2007-008542	SA
R821	R-CHIP	2007-008542	SA
R822	R-CHIP	2007-008542	SA
R823	R-CHIP	2007-000171	SA
R824	R-CHIP	2007-000171	SA
R825	R-CHIP	2007-008542	SA
R826	R-CHIP	2007-000143	SA
R827	R-CHIP	2007-001292	SA
R828	R-CHIP	2007-001292	SA
R829	R-CHIP	2007-001292	SA
R830	R-CHIP	2007-001292	SA
R831	R-CHIP	2007-001292	SA
R832	R-CHIP	2007-000141	SA
R833	R-CHIP	2007-000171	SA
R834	R-CHIP	2007-000171	SA
R835	R-CHIP	2007-000171	SA
R837	R-CHIP	2007-001319	SA
R838	R-CHIP	2007-001339	SA
R839	R-CHIP	2007-000148	SA
R840	R-CHIP	2007-000169	SA
R841	R-CHIP	2007-000148	SA
R842	R-CHIP	2007-008542	SA
R843	R-CHIP	2007-001339	SA
R844	R-CHIP	2007-008516	SA
R845	R-CHIP	2007-008542	SA
R847	R-CHIP	2007-000171	SA
R848	R-CHIP	2007-000171	SA
R849	R-CHIP	2007-000171	SA
R853	R-CHIP	2007-007529	SA

Design LOC	Description	SEC CODE	STATUS
R854	R-CHIP	2007-007107	SA
R855	R-CHIP	2007-000171	SA
R856	R-CHIP	2007-008052	SA
R858	R-CHIP	2007-000775	SA
R859	R-CHIP	2007-007313	SA
R861	R-CHIP	2007-008419	SA
R862	R-CHIP	2007-000168	SA
R863	R-CHIP	2007-008045	SA
R900	R-CHIP	2007-000162	SA
R902	R-CHIP	2007-000157	SA
R903	R-CHIP	2007-007142	SA
R904	R-CHIP	2007-007943	SA
R905	R-CHIP	2007-000162	SA
R906	R-CHIP	2007-000171	SA
R907	R-CHIP	2007-000155	SNA
R908	R-CHIP	2007-000171	SA
R909	R-CHIP	2007-000171	SA
R910	R-CHIP	2007-001298	SA
R911	R-CHIP	2007-000171	SA
R912	R-CHIP	2007-007468	SA
R913	R-CHIP	2007-008542	SA
R914	R-CHIP	2007-000171	SA
R915	R-CHIP	2007-000140	SA
R916	R-CHIP	2007-000171	SA
R917	R-CHIP	2007-000143	SA
R919	R-CHIP	2007-000171	SA
R920	R-CHIP	2007-007014	SA
R921	R-CHIP	2007-000171	SA
RFS12	CONNECTOR-COAXIAL	3705-001273	SA
RFS50	CONNECTOR-COAXIAL	3705-001287	SA
SIM900	CONNECTOR-CARD EDGE	3709-001336	SA
SLC601	CONNECTOR-FPC/FFC/PIC	3708-001853	SA
SW700	SWITCH-SLIDE	3408-001109	SA
SW701	SWITCH-DETECTOR	3409-001183	SA
TA1001	C-TA,CHIP	2404-001225	SA
TA1003	C-TA,CHIP	2404-001225	SA
TA1100	C-TA,CHIP	2404-001274	SA
TA1113	C-TA,CHIP	2404-001394	SA
TA1150	C-TA,CHIP	2404-001394	SA
TA1179	C-TA,CHIP	2404-001394	SA
TA1201	C-TA,CHIP	2404-001087	SA
TA1227	C-TA,CHIP	2404-001268	SA
TA406	C-TA,CHIP	2404-001366	SA
TA407	C-TA,CHIP	2404-001366	SA
TA415	C-TA,CHIP	2404-001366	SA
TA417	C-TA,CHIP	2404-001366	SA
TA439	C-TA,CHIP	2404-001333	SA
TA440	C-TA,CHIP	2404-001333	SA
TA529	C-TA,CHIP	2404-001274	SA
TA532	C-TA,CHIP	2404-001366	SA

## Electrical Parts List

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Design LOC	Description	SEC CODE	STATUS
TA535	C-TA,CHIP	2404-001366	SA
TA706	C-TA,CHIP	2404-001394	SA
TA716	C-TA,CHIP	2404-001164	SA
TA900	C-TA,CHIP	2404-001394	SA
TAC700	SWITCH-TACT	3404-001152	SA
TCX1001	OSCILLATOR-VCTCXO	2809-001277	SA
TH800	THERMISTOR-NTC	1404-001165	SA
TR1000	TR-SMALL SIGNAL	0501-000225	SA
TR1000	TR-ARRAY	0506-001004	SA
TR1001	TR-SMALL SIGNAL	0501-000225	SA
TR1001	FET-SILICON	0505-001670	SA
TR1002	TR-SMALL SIGNAL	0501-000225	SA
TR1100	TR-DIGITAL	0504-001176	SA
TR1101	TR-DIGITAL	0504-001176	SA
TR1200	TR-DIGITAL	0504-001113	SA
TR1201	TR-DIGITAL	0504-001140	SA
TR1202	TR-DIGITAL	0504-001140	SA
TR400	FET-SILICON	0505-001376	SA
TR401	FET-SILICON	0505-001376	SA
TR402	FET-SILICON	0505-001462	SA
TR700	FET-SILICON	0505-001802	SA
TR701	FET-SILICON	0505-001469	SA
TR702	TR-SMALL SIGNAL	0501-000225	SA
TR900	FET-SILICON	0505-001165	SA
TR901	FET-GAAS	0505-001217	SA
TR902	TR-DIGITAL	0504-001113	SA
TR903	TR-DIGITAL	0504-001113	SA
U1000	IC-DC/DC CONVERTER	1203-002740	SA
U1000	IC-RECEIVER	1205-002721	SA
U1001	IC-DC/DC CONVERTER	1203-003328	SA
U1001	IC-RECEIVER	1205-002265	SA
U1002	IC-ANALOG MULTIPLEX	1001-001215	SA
U1003	IC-ANALOG MULTIPLEX	1001-001215	SA
U1102	IC-TRANSCEIVER	1205-002451	SA
U1200	IC-ANALOG SWITCH	1001-001271	SA
U1201	IC-RF SWITCH	1001-001270	SA
U1202	IC-ANALOG SWITCH	1001-001262	SA
U1203	IC-CMOS LOGIC	0801-002970	SA
U1204	IC-CMOS LOGIC	0801-002970	SA
U1205	IC-CMOS LOGIC	0801-002970	SA
U1206	IC-CMOS LOGIC	0801-002345	SA
U1207	IC-DC/DC CONVERTER	1203-001788	SA
U200	IC-CMOS LOGIC	0801-002628	SA
U202	IC-CMOS LOGIC	0801-002644	SA
U203	IC-CMOS LOGIC	0801-002970	SA
U302	IC-CMOS LOGIC	0801-002237	SA
U303	IC-CMOS LOGIC	0801-002529	SA
U304	IC-CMOS LOGIC	0801-002628	SA
U306	IC-CMOS LOGIC	0801-002628	SA
U307	IC-CMOS LOGIC	0801-002628	SA

Design LOC	Description	SEC CODE	STATUS
U400	IC-VOL. DETECTOR	1203-002832	SA
U401	IC-CMOS LOGIC	0801-002529	SA
U402	IC-CMOS LOGIC	0801-002970	SA
U403	IC-RESET	1203-002895	SA
U404	IC-CMOS LOGIC	0801-002970	SA
U405	IC-DC/DC CONVERTER	1203-003500	SA
U406	IC-VOL. DETECTOR	1203-002617	SA
U407	IC-DC/DC CONVERTER	1203-001702	SA
U408	IC-VOL. DETECTOR	1203-002250	SA
U409	IC-CMOS LOGIC	0801-002529	SA
U410	IC-POSI.FIXED REG.	1203-003973	SA
U411	IC-MULTI REG.	1203-003322	SA
U412	IC-MULTI REG.	1203-003322	SA
U413	IC-MULTI REG.	1203-002965	SA
U414	IC-POSI.FIXED REG.	1203-003878	SA
U415	IC-HALL EFFECT S/W	1009-001010	SA
U416	IC-MULTI REG.	1203-002862	SA
U501	IC-ANALOG SWITCH	1001-001261	SA
U502	IC-ANALOG SWITCH	1001-001261	SA
U503	IC-ANALOG SWITCH	1001-001261	SA
U504	IC-ANALOG SWITCH	1001-001261	SA
U505	IC-AUDIO AMP	1201-002233	SA
U506	IC-AUDIO AMP	1201-002233	SA
U507	IC-ANALOG MULTIPLEX	1001-001152	SA
U508	IC-VOLTAGE COMP.	1202-001022	SA
U601	IC-ANALOG SWITCH	1001-001261	SA
U602	IC-CMOS LOGIC	0801-002970	SA
U603	IC-CMOS LOGIC	0801-002970	SA
U604	IC-ANALOG SWITCH	1001-001209	SA
U605	IC-VOL. DETECTOR	1203-002716	SA
U606	IC-CMOS LOGIC	0801-002970	SA
U700	IC-OP AMP	1201-001999	SA
U702	IC-ANALOG SWITCH	1001-001145	SA
U803	IC-CMOS LOGIC	0801-002970	SA
U900	IC-POWER SUPERVISOR	1203-003335	SA
U901	IC-CMOS LOGIC	0801-002970	SA
U902	IC-CMOS LOGIC	0801-002345	SA
UCD500	IC-CODEC	1205-002321	SA
UCP201	IC-MICROPROCESSOR	0902-001848	SA
UCP800	IC-MODEM	1205-002521	SA
UME300	IC-SRAM	1106-001489	SA
UME301	IC-ETC. MEMORY	1109-001320	SA
UME305	IC-DRAM	1105-001617	SA
UME802	IC-MCP	1109-001293	SA
VCO1000	OSCILLATOR-VCO	2806-001332	SA
VCO1100	OSCILLATOR-VCO	2806-001333	SA
ZD1100	DIODE-ZENER	0403-001387	SA
ZD601	DIODE-TVS	0406-001167	SA
ZD602	DIODE-TVS	0406-001167	SA
ZD603	DIODE-TVS	0406-001200	SA

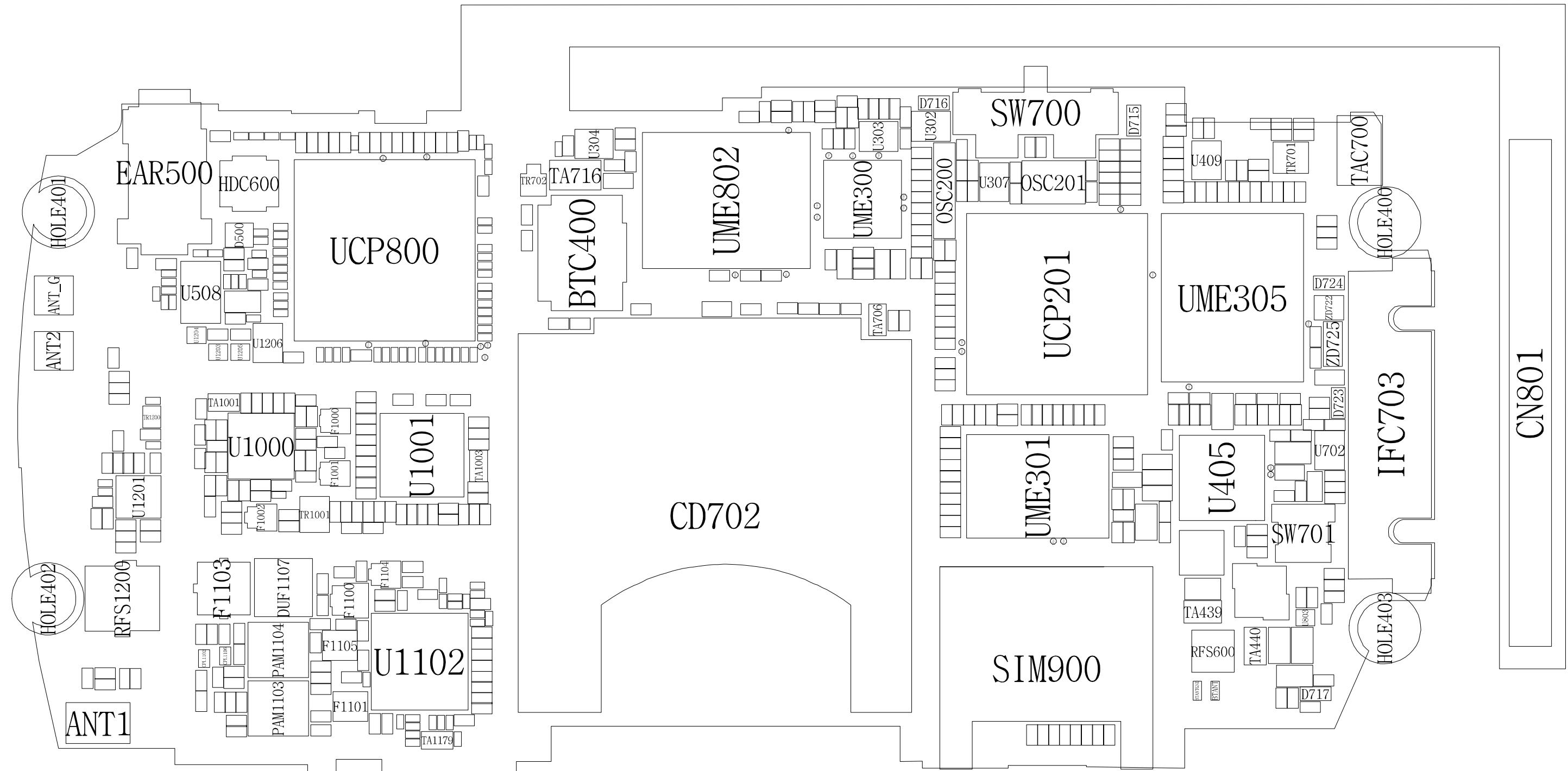
## Electrical Parts List

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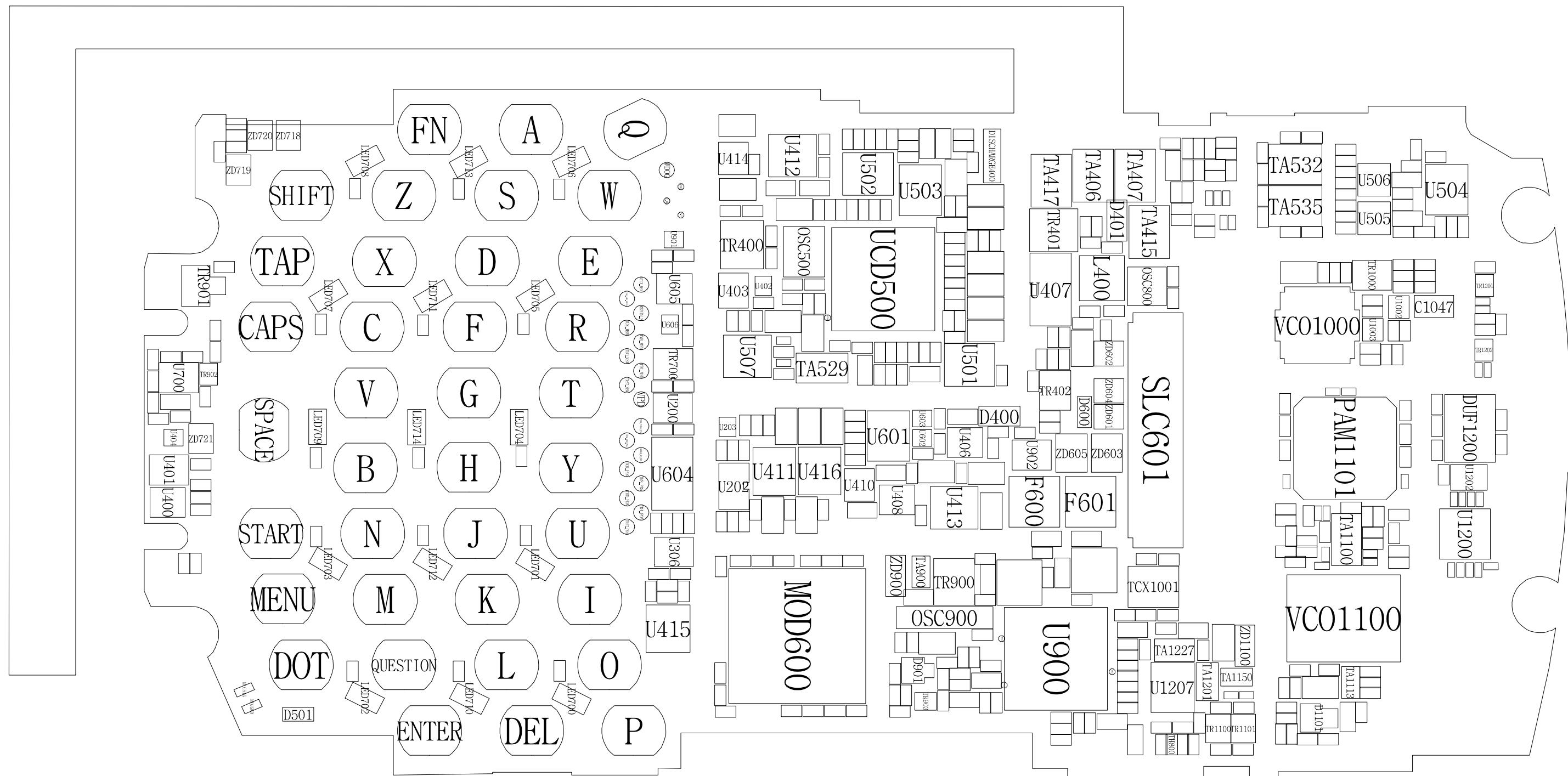
Design LOC	Description	SEC CODE	STATUS
ZD604	DIODE-TVS	0406-001167	SA
ZD605	DIODE-TVS	0406-001200	SA
ZD718	DIODE-TVS	0406-001167	SA
ZD719	DIODE-TVS	0406-001167	SA
ZD720	DIODE-TVS	0406-001167	SA
ZD721	DIODE-TVS	0406-001167	SA
ZD722	DIODE-TVS	0406-001167	SA
ZD725	DIODE-ZENER	0403-001547	SA
ZD900	DIODE-ZENER	0403-001387	SA

## 11. PCB Diagrams

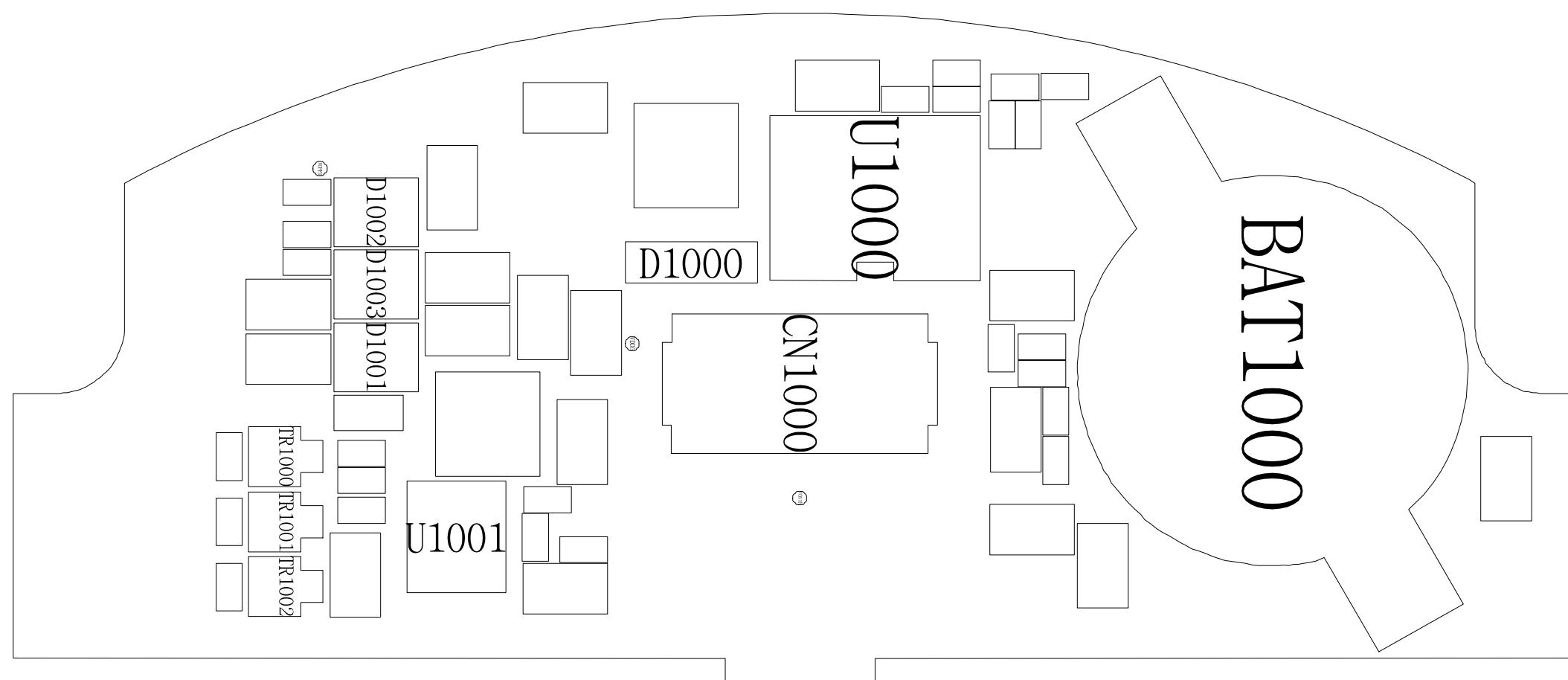
## 11-1. Main PCB Top Diagram



## 11-2. Main PCB Bottom Diagram



## 11-3. SUB PCB Top Diagram



11-4. SUB PCB Bottom Diagram

