

Service Manual



Service Manual

MG810c/MG810d



Model : MG810c/MG810d



Date: May, 2006 / Issue 1.0

REVISED HISTORY

DATE	ISSUE	CONTENTS OF CHANGES	S/W VERSION
Mar / 2006	ISSUE 1	Initial Release	

The information in this manual is subject to change without notice and should not be construed as a commitment by LGE Inc. Furthermore, LGE Inc. reserves the right, without notice, to make changes to equipment design as advances in engineering and manufacturing methods warrant.

This manual provides the information necessary to install, program, operate and maintain the KG810

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1. Introduction

1.1 Purpose

This manual provides the information necessary to repair, calibration, description and download the features of the CG225

1.2 Regulatory Information

A. Security

Toll fraud, the unauthorized use of telecommunications system by an unauthorized part (for example, persons other than your company's employees, agents, subcontractors, or person working on your company's behalf) can result in substantial additional charges you're your telecommunications services. System users are responsible for the security of own system. There are may be risks of toll fraud associated with your telecommunications system. System users are responsible for programming and configuring the equipment to prevent unauthorized use. LGE does not warrant that this product is immune from the above case but will prevent unauthorized use of common-carrier telecommunication service of facilities accessed through or connected to it. LGE will not be responsible for any charges that result from such unauthorized use.

B. Incidence of Harm

If a telephone company determines that the equipment provided to customer is faulty and possibly causing harm or interruption in service to the telephone network, it should disconnect telephone service until repair can be done. A telephone company may temporarily disconnect service as long as repair is not done.

C. Changes in Service

A local telephone company may make changes in its communications facilities or procedure. If these changes could reasonably be expected to affect the use of the CG225 or compatibility with the network, the telephone company is required to give advanced written notice to the user, allowing the user to take appropriate steps to maintain telephone service.

D. Maintenance Limitations

Maintenance limitations on the CG225 must be performed only by the LGE or its authorized agent. The user may not make any changes and/or repairs except as specifically noted in this manual. Therefore, note that unauthorized alternations or repair may affect the regulatory status of the system and may void any remaining warranty.

1. Introduction

E. Notice of Radiated Emissions

The CG225 complies with rules regarding radiation and radio frequency emission as defined by local regulatory agencies. In accordance with these agencies, you may be required to provide information such as the following to the end user.

F. Pictures

The pictures in this manual are for illustrative purposes only; your actual hardware may look slightly different.

G. Interference and Attenuation

An CG225 may interfere with sensitive laboratory equipment, medical equipment, etc. Interference from unsuppressed engines or electric motors may cause problems.

H. Electrostatic Sensitive Devices

ATTENTION

Boards, which contain Electrostatic Sensitive Device (ESD), are indicated by the  sign. Following information is ESD handling:

- Service personnel should ground themselves by using a wrist strap when exchange system boards.
- When repairs are made to a system board, they should spread the floor with anti-static mat which is also grounded.
- Use a suitable, grounded soldering iron.
- Keep sensitive parts in these protective packages until these are used.
- When returning system boards or parts like EEPROM to the factory, use the protective package as described.

2. PERFORMANCE

2.1 H/W Features

Item	Feature	Comment
Standard Battery	Li-Ion, 700mAh	
AVG TCVR Current	240mA	
Standby Current	< 5.2mA	
Talk time	Over 3 hour (@GSM Tx Level 7)	
Standby time	Over 200 hour(@ Paging Period 9, RSSI : -85dBm)	
Charging time	3 hours	
RX Sensitivity	GSM900 : -105dBm, DCS/PCS : -105dBm	
TX output power	GSM, EGSM: 32dBm (Level 5) DCS/PCS: 29dBm (Level 0)	
GPRS compatibility	Class 12	
SIM card type	3.0V Only	
Display	Main : 176 x 220 TFT, Sub : 96 x 96 TFT	
Status Indicator	Key Pad(Main) : 0 ~ 9, #, *, Navigation Key, Up/Down Side Key, Camera Side Key, Confirm Key, Send Key, END/PWR Key Key Pad(Folder) : Rewind, Fasten Forward, Play	
ANT	Internal	
EAR Phone Jack	18-pin	
PC Synchronization	Yes	
Speech coding	EFR / FR	
Data and Fax	Yes	
Vibrator	Yes	
Buzzer	No	
Voice Recoding	Yes	
MEMS-Mic	Yes	
Receiver	Yes	
Travel Adapter	Yes	
Options	MLA	

2. PERFORMANCE

2.2 Technical Specification

Item	Description	Specification																																																						
1	Frequency Band	GSM900 • TX: 890 + n x 0.2 MHz (n=1 ~ 124) 890 + (n-1024) x 0.2 MHz (n=975 ~ 1023) • RX: TX + 45 MHz DCS1800 • TX: 1710 + (n-511) x 0.2 MHz (n = 512 ~ 885) • RX: TX + 95 MHz PCS1900 • TX: 1850 + (n-511) x 0.2 MHz • RX: 1930 + (n-511) x 0.2 MHz (n = 512 ~ 810)																																																						
2	Phase Error	RMS < 5 degrees Peak < 20 degrees																																																						
3	Frequency Error	< 0.1 ppm																																																						
4	Power Level	GSM900																																																						
		<table><tr><td>Level</td><td>Power</td><td>Toler.</td><td>Level</td><td>Power</td><td>Toler.</td></tr><tr><td>5</td><td>33 dBm</td><td>±2dB</td><td>13</td><td>17 dBm</td><td>±3dB</td></tr><tr><td>6</td><td>31 dBm</td><td>±3dB</td><td>14</td><td>15 dBm</td><td>±3dB</td></tr><tr><td>7</td><td>29 dBm</td><td>±3dB</td><td>15</td><td>13 dBm</td><td>±3dB</td></tr><tr><td>8</td><td>27 dBm</td><td>±3dB</td><td>16</td><td>11 dBm</td><td>±5dB</td></tr><tr><td>9</td><td>25 dBm</td><td>±3dB</td><td>17</td><td>9 dBm</td><td>±5dB</td></tr><tr><td>10</td><td>23 dBm</td><td>±3dB</td><td>18</td><td>7 dBm</td><td>±5dB</td></tr><tr><td>11</td><td>21 dBm</td><td>±3dB</td><td>19</td><td>5 dBm</td><td>±5dB</td></tr><tr><td>12</td><td>19 dBm</td><td>±3dB</td><td></td><td></td><td></td></tr></table>	Level	Power	Toler.	Level	Power	Toler.	5	33 dBm	±2dB	13	17 dBm	±3dB	6	31 dBm	±3dB	14	15 dBm	±3dB	7	29 dBm	±3dB	15	13 dBm	±3dB	8	27 dBm	±3dB	16	11 dBm	±5dB	9	25 dBm	±3dB	17	9 dBm	±5dB	10	23 dBm	±3dB	18	7 dBm	±5dB	11	21 dBm	±3dB	19	5 dBm	±5dB	12	19 dBm	±3dB			
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		DCS1800/PCS1900																																																						
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7	16 dBm	±3dB	15	0 dBm	±5dB																																																			

2. General Performance

Item	Description	Specification	
5	Output RF Spectrum (due to modulation)	GSM900	
		Offset from Carrier (kHz).	Max. dBc
		100	+0.5
		200	-30
		250	-33
		400	-60
		600~ <1,200	-60
		1,200~ <1,800	-60
		1,800~ <3,000	-63
		3,000~ <6,000	-65
		6,000	-71
		DCS1800/PCS1900	
		Offset from Carrier (kHz).	Max. dBc
		100	+0.5
		200	-30
		250	-33
		400	-60
		600~ <1,200	-60
		1,200~ <1,800	-60
		1,800~ <3,000	-65
		3,000~ <6,000	-65
		6,000	-73
6	Output RF Spectrum (due to switching transient)	GSM900	
		Offset from Carrier (kHz)	Max. (dBm)
		400	-19
		600	-21
		1,200	-21
		1,800	-24

2. General Performance

Item	Description	Specification		
6	Output RF Spectrum (due to switching transient)	DCS1800/PCS1900		
		Offset from Carrier (kHz).		Max. (dBm)
		400		-22
		600		-24
		1,200		-24
		1,800		-27
7	Spurious Emissions	Conduction, Emission Status		
8	Bit Error Ratio	GSM900 BER (Class II) < 2.439% @-102dBm		
		DCS1800/PCS1900 BER (Class II) < 2.439% @-100dBm		
9	RX Level Report Accuracy	± 3 dB		
10	SLR	8 ± 3 dB		
11	Sending Response	Frequency (Hz)	Max.(dB)	Min.(dB)
		100	-12	-
		200	0	-
		300	0	-12
		1,000	0	-6
		2,000	4	-6
		3,000	4	-6
		3,400	4	-9
		4,000	0	-
12	RLR	2 ± 3 dB		
13	Receiving Response	Frequency (Hz)	Max.(dB)	Min.(dB)
		100	-12	-
		200	0	-
		300	2	-7
		500	*	-5
		1,000	0	-5
		3,000	2	-5
		3,400	2	-10
		4,000	2	
		* Mean that Adopt a straight line in between 300 Hz and 1,000 Hz to be Max. level in the range.		

2. General Performance

Item	Description	Specification	
14	STMR	13 ±5 dB	
15	Stability Margin	> 6 dB	
16	Distortion	dB to ARL (dB)	Level Ratio (dB)
		-35	17.5
		-30	22.5
		-20	30.7
		-10	33.3
		0	33.7
		7	31.7
		10	25.5
17	Side Tone Distortion	Three stage distortion < 10%	
18	<Change> System frequency (13 MHz) tolerance	≤ 2.5ppm	
19	<Change>32.768KHz tolerance	≤ 30ppm	
20	Ringer Volume	Standby - Normal ≤ 5.2mA(Mix. power)	
21	Talk Time	GSM900/Lvl 7 (Battery Capacity 700mA):180 min GSM900/Lvl 12(Battery Capacity 700mA):240 min	
22	Antenna Display	Under conditions, at least 200 hours:	
		1. Brand new and full 700mAh battery	
		2. Full charge, no receive/send and keep GSM in idle mode.	
		3. Broadcast set off.	
		4. Signal strength display set at 3 level above.	
		5. Backlight of phone set off.	
23	Ringer Volume	At least 55 dB under below conditions:	
		1. Ringer set as ringer.	
		2. Test distance set as 100 cm	
24	Charge Voltage	Fast Charge : < 500 mA	
		Slow Charge: < 60 mA	

2. General Performance

2.3 S/W Features

Item	Description	Specification
25	Antenna Display	Antenna Bar Number Power
		5 -85 dBm ~
		4 -90 dBm ~ -86 dBm
		3 -95 dBm ~ -91 dBm
		2 -100 dBm ~ -96 dBm
		1 -105 dBm ~ -101 dBm
		0 ~ -105 dBm
26	Battery Indicator	0 3.62V $\pm$ 0.03V
		1 3.70V $\pm$ 0.03V
		2 3.78V $\pm$ 0.03V
		3 3.91V $\pm$ 0.03V
		4 3.92V $\pm$ 0.03V↗
27	Low Voltage Warning	3.62V↘ $\pm$ 0.03V (Call)
		3.50V↘ $\pm$ 0.03V (Standby)
28	Forced shut down Voltage	3.35 $\pm$ 0.03 V
29	Battery Type	1 Li-ion Battery Standard Voltage = 3.7 V Battery full charge voltage = 4.2 V Capacity: 700mAh
30	Travel Charger	Switching-mode charger Input: 100 ~ 240 V, 50/60Hz Out put: 4.8V, 900mA

3. H/W Circuit Description

3.1 RF Transceiver General Description

The RF parts consist of a transmitter part, a receiver part, a frequency synthesizer part, a voltage supply part, and a VCTCXO part.

The SI4210[U401] is a triple band transceiver IC suitable for GSM 900, DCS 1800 and PCS 1900 GPRS class 12 applications. This device integrated a receiver based on a low IF (100KHz) architecture and a transmitter based on modulation loop architecture. And, the synthesizer part are included in the IC, a complete dual band synthesizer with built in VCOs.

The transceiver employed a 3 wire serial interface to allow an external system controller to write the control registers for dividers, receive path gain, power down setting, and other controls.

3.2 Receiver Part

The receiver part uses a low-IF receiver architecture that allows for the on-chip integration of the channel selection filters, eliminating the external RF image reject filters and the IF SAW filter required in conventional super-heterodyne architecture. The SI4210[U401] integrates three differential input LNAs that are matched to the 200 Ohm balanced-output SAW filters through external LC matching networks. A quadrature image-rejection mixer downconverts the RF signal to a 100kHz intermediate frequency (IF) with the RFLO.

The mixer output is amplified with an analog programmable gain amplifier (PGA) and quadrature IF signal is digitized with high resolution A/D converters (ADCs). The SI4210[U401] downconverts the ADC output to baseband with a digital 100kHz quadrature LO signal. Digital decimation and IIR filters perform channel selection to remove blocking and reference interference signals. After channel selection, the digital output is scaled with digital PGA, which is controlled with the DGAIN[5:0] bits in register 05h. The amplified digital output signal go through with DACs that drive a differential analog signal onto the RXIP, RXIN, RXQP and RXQN pins to interface to standard analog ADC input baseband ICx.

	Antenna Bar Number	Rx Power (dBm)
Antenna Display	5	≥-85
	4	≥-90
	3	≥-95
	2	≥-100
	2	≥-105
	1	<-105

Table 3-1. Antenna(RSSI) Display

3. H/W Circuit Description

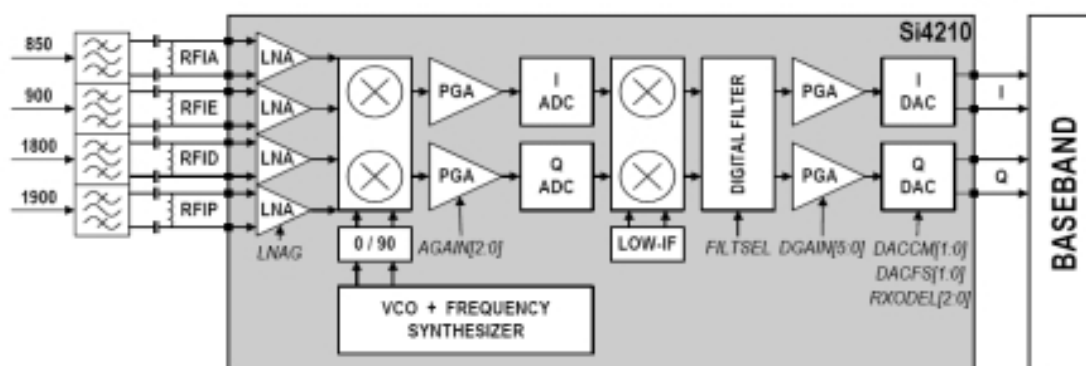


Figure 1. RECEIVER PART Block Diagram

3.2.1. RF Front End

RF front end consists of Antenna Switch Module with SAW filter for triple band(FL400), triple band LNAs integrated in transceiver(U401).

The Received RF signals (EGSM 925MHz ~ 960MHz, DCS 1805MHz ~ 1880MHz, PCS 1850 ~ 1990MHz) are fed into the antenna or mobile switch. An antenna matching circuit is between the antenna and the mobile switch. The Antenna Switch(in FL400) is used for control the Rx and TX paths. And, the input signals ANT1,ANT2 of a FL400 are directly connected to baseband controller to switch either TX or RX path on and select bands. Ant S/W module(FL400) is an antenna switch module for dual band phone. The logic and current is given below.

	ANT_SW1	ANT_SW2
GSM 850_EGSM RX	L	L
GSM-850_EGSM TX	L	H
DCS/PCS RX	H	L
DCS/PCS TX	H	H

Table 3-2. BAND/RTX SELECTION

The receiver part uses a low-IF receiver architecture that allows for the on-chip integration of the channel selection filters, eliminating the external RF image reject filters and the IF SAW filter required in conventional super-heterodyne architecture. The Si4210[U401] integrates three differential input LNAs that are matched to the 200 ohm balanced-output SAW filters through external LC matching networks.

3.2.2. Low IF

A quadrature image-rejection mixer downconverts the RF signal to a 100kHz intermediate frequency (IF) with the RFLO. The RFLO frequency is between 1849.8 and 1918.8 MHz, and is divided by two for EGSM modes. The RFLO frequency is between 1804.9 and 1879.9 MHz, and is divided by one for DCS modes. The RFLO frequency is between 1929.9 and 1989.9 MHz, and is divided by one for PCS modes. The mixer output is amplified with an analog programmable gain amplifier (PGA), which is controlled with the AGAIN[2:0] bits in register 05h. The quadrature IF signal is digitized with high resolution A/D converters (ADCs). The Si4210[U401] down-converts the ADC output to baseband with a digital 100kHz quadrature LO signal. Digital decimation and IIR filters perform channel selection to remove blocking and reference interference signals. The response of the IIR filter is programmable to a high selectivity setting(CSEL=0) or a low selectivity setting (CSEL=1). After channel selection, the digital output is scaled with digital PGA, which is controlled with the DGAIN[5:0] bits in register 05h.

3.2.3. Demodulator and Baseband Processing

The amplified digital output signal go through with DACs that drive a differential analog signal onto the RXIP, RXIN, RXQP and RXQN pins to interface to standard analog ADC input baseband ICs. No special processing is required in the baseband for offset compensation or extended dynamic range. Compared to a direct-conversion architecture, the low-IF architecture has a much greater degree of immunity to dc offsets that can arise from RF local oscillator(RFLO) self-mixing, 2nd order distortion of blockers, and device 1/f noise.

3.3 Synthesizer Part

The Si4210[U401] integrates two complete PLLs including VCOs, varactors, resonators, loop filters, reference and VCO dividers, and phase detectors. The RF PLL uses two multiplexed VCOs. The RF1 VCO is used for receive mode, and the RF2 VCO is used for transmit mode. The IF PLL is used only during transmit mode. All VCO tuning inductors are also integrated. The IF and RF output frequencies are set by programming the N-Divider registers, NRF1, NRF2, and NIF. Programming the N-Divider register for either RF1 or RF2 automatically selects the proper VCO. The output frequency of each PLL is as follows:

$$F_{OUT} = N \times f_{\phi}$$

A programmable divider in the input stage allows either a 13 or 26 MHz reference frequency depending on the choice of crystal. A 26 MHz reference clock can be divided by 2 using the DIV2 bit in Register 31h. The RF PLL phase detector update rate (f_{ϕ}) can be programmed with the RFUP bit in register 31h to either $f_{\phi} = 100$ kHz or $f_{\phi} = 200$ kHz. The IF PLL always uses $f_{\phi} = 200$ kHz. Receive mode should use $f_{\phi} = 100$ kHz in DCS 1800 and PCS 1900 bands, and $f_{\phi} = 200$ kHz in the E-GSM 900 bands. Transmit modes should always use $f_{\phi} = 200$ kHz.

3. H/W Circuit Description

3.3.1. VCTCXO

The VCTCXO module supply 26MHz reference clock and controlled by AFC input to generate a precise system reference clock adjustment.

The 26 MHz clock(X500) consists of a TCXO(Temperature Compensated Crystal Oscillator) which oscillates at a frequency of 13 MHz. It is used within the TRF6151C RF Main Chip, BB Analog chip-set(IOTA), Digital chip-set(Calypso Lite).

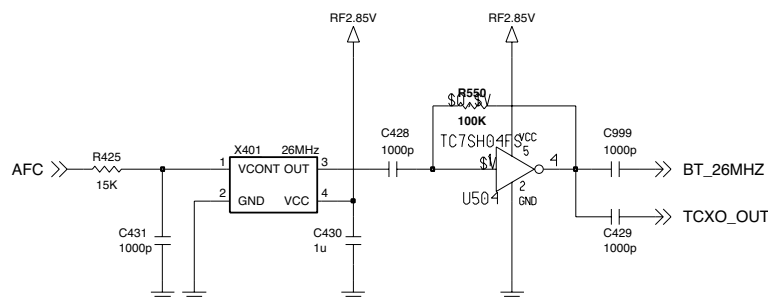


Figure 4. VC-TCXO Circuit

3.4 Transmitter Part

The Transmitter part contains Si4210[U401] active parts, Power Amp Module[U400] and Antenna Switch Module[FL400]. The transmit section of Si4210[U401] consists of an I/Q baseband pconverter, an offset phaselocked loop (OPLL) and two 50 ohm output buffers that can drive external power amplifiers. The RF GMSK outputs from the transmit VCO are fed directly to the RF power amplifiers. The peak output power and the profile of the transmitted burst are controlled by means of incorporated power control circuits inside of PA and DAC output. from the Baseband Controller. The PA outputs pass to the antenna connector via Antenna Switch Module.

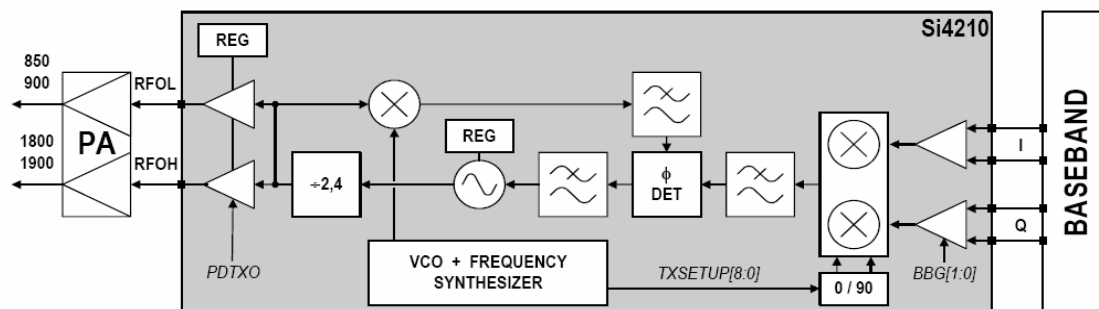


Figure 3. TRANSMITTER PART Block Diagram

3.4.1. IF Modulator

The baseband converter(BBC) within the GSM chipset generates I and Q baseband signals for the Transmit vector modulator. The modulator provides more than 40dBc of carrier and unwanted sideband. Rejection and produces a GMSK modulated signal. The baseband software is able to cancel out differential DC offsets in the I/Q baseband signals caused by imperfections in the D/A converters. The TX-Modulator implements a quadrature modulator. A quadrature mixer upconverts the differential I/Q signals with the IFLO to generate a SSB IF signal, which is filtered and used as the reference input to the OPLL. The Si4210[U401] generates the IFLO frequency. The IFLO is divided by two to generate the quadrature LO signals for the quadrature modulator.

3.4.2. OPLL

The OPLL consists of a feedback mixer, a phase detector, a loop filter, and a fully integrated TXVCO. The TXVCO is centered between the DCS 1800 and PCS 1900 bands, and its output is divided by 2 for the E-GSM 900 bands. The Si4206 generates the RFLO frequency between 1327 and 1402 MHz. To allow a single VCO to be used for the RFLO, high-side injection is used for the E-GSM 900 bands, and low-side injection is used for the DCS 1800 and PCS 1900 bands. Low-pass filters before the OPLL phase detector reduce the harmonic content of the quadrature modulator and feedback mixer outputs. The cutoff frequency of the filters is programmable with the FIF[3:0] bits in register 04h. The OPLL requires no external duplexer to attenuate transmitter noise and spurious signals in the receive band. Additionally, the output of the transmit VCO (TXVCO) is a constant-envelope signal which reduces the problem of spectral spreading caused by non-linearity in the PA

3.4.3. Power Amplifier Module

The RF3166[U400] is a triple-band GSM/DCS/PCS power amplifier module that incorporates an indirect closed loop method of power control. The indirect closed loop is fully self-contained and it does not require loop optimization. It can be driven directly from the DAC output in the baseband circuit. On-board power control provides typical 50 dB of control range with an analog voltage input (Vapc). Efficiency is 53% at GSM, DCS and PCS.

3. H/W Circuit Description

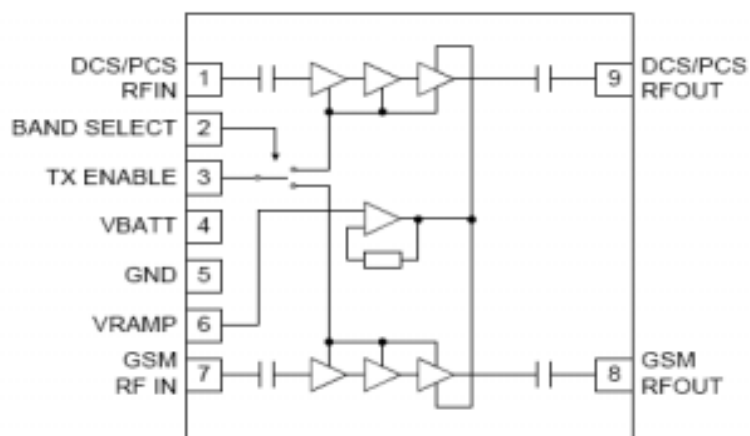


Figure 4. POWER AMP

3.4.4. Power Supplies and Control Signals

An external regulator(U303) is used to provide DC power to RF part. Every RF component except power amp module uses this external regulator.

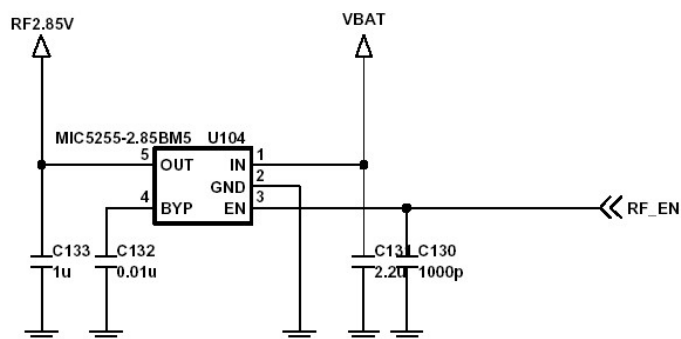


Figure 5 POWER SUPPLIE & CONTROL

3.5 Digital Baseband

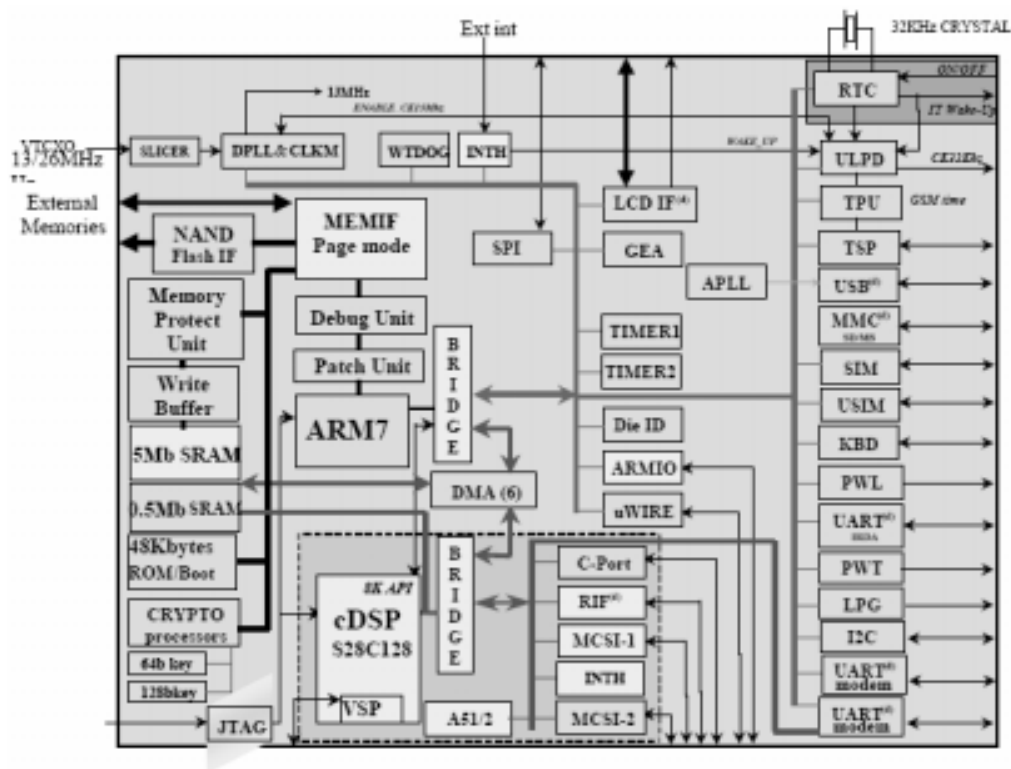


Figure 7. Top level block diagram of the Calypso-Plus

A. General Description

- Calypso-Plus device is an evolution of Calypso(C035) device integrating hardware enhancements targeting the implementation of a new range of user's applications.
- It supports the digital baseband processing of GSM radio signals in switching circuit mode and packet data mode up to class 12 in compliance with the ETSI specification of the GPRS protocol.
- The functional enhancement of the Calypso-Plus offer an increase computing performance of both ARM7 based MCU and C54x based DSP sub-system in addition to numerous new connectivity.

3. H/W Circuit Description

The enhanced computing performances mainly rely on :

[MCU Sub-system]

- 5.5Mbit Internal SRAM (with 0.5Mb shared with DSP)
- DMA to internal SRAM
- Page Mode Memory Interface
- Sizable 6 Chip-Select
- 2 Generic Purpose external interrupts
- Patch Unit

[DSP Sub-system]

- 0.5Mb Program/Data Memory Extension shared with MCU

The new connectivity peripherals are :

- LCD controller parallel physical interface(6800 & 8080 protocol)
- USB client(W2FC)
- Multi Media and Secure Digital Card(MMC/SD) interface
- Memory Stick(MS) interface(using exclusive with MMC/SD)
- Audio and Data interface for external Bluetooth Modem connection
- Audio Codec serial interface(I2S)
- Smart Card physical interface (ISO-7816)
- NAND-Flash Interface
- Enhanced Keyboard controller

B. Memory Interface

Calypso-Plus has 6-sizable chip select port and can configure as follow :

In Mbytes	nCS0	nCS 1	nCS2	nCS 3	nCS4	nCS 5
Config #1	8	8	8	16	16	64
Config #2	8	16	16	16	32	32
Config #3	4	8	16	32	32	32
Config #4	4	8	8	8	32	64

Table 3. Configuration of addressable ranges

3. H/W Circuit Description

MG810C applies configuration #1 as its external memory interface, the external devices are connected to as follow.

nCS	External Device	nCS	External Device
nCS0	N.U.	nCS3	128Mbit NOR Flash
nCS1	128Mbit SRAM	nCS4	Multimedia IC
nCS2	MIDI(MP3/AAC) Chip	nCS5	256Mbit NOR Flash

Table 4. External Device Spec. connected to memory interface

Calypso-Plus has NAND Flash interface and it allows NAND EEPROM as an mass external storage facility. The interface implements a 8-bit parallel data bus in addition to the control signals for selecting chip, writing/Reading, command and address latching, ready/busy status.

(MG810c does not use NAND I/F Ports of Calypso-Plus. NAND Memory is interfaced to MAP)

MG810C uses stacked memory MCP(pSRAM + NOR-Flash) as shown in (Figure 7.)

MEMORY 256Mb NOR & 128 Mb pSRAM

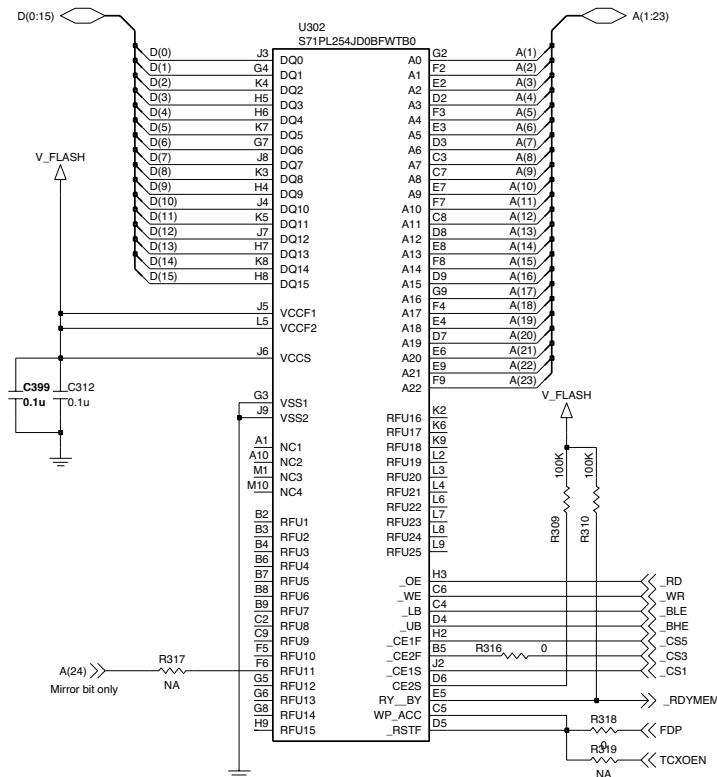


Figure 7. Memory interface scheme

3. H/W Circuit Description

C. RF Interface (TPU, TSP block)

Calypso-Plus uses this interface to control ABB Processor and RF Processor with GSM Time Base.

TSP (Time Serial Port)		
Resource	Interconnection	Description
TSPDO	ABB & RF main Chip	Control Data
TSPEN0	ABB	ABB Control Data Enable Signal
TSPEN1	RF main Chip	RF Control Data Enable Signal
TPU (Time Processing Unit) Parallel Port		
TSPACT00	RESET_RF	RF main Chip Reset Signal
TSPACT01	PA_ON	Power Amp ON signal

Table 5. RF Interface Spec.

D. SIM interface

SIM interface scheme is shown in (Figure 8.). SIM_IO, SIM_CLK, SIM_RST ports are used to communicate DBB with ABB and the Charge Pump in ABB enables 1.8V/3V SIM operation

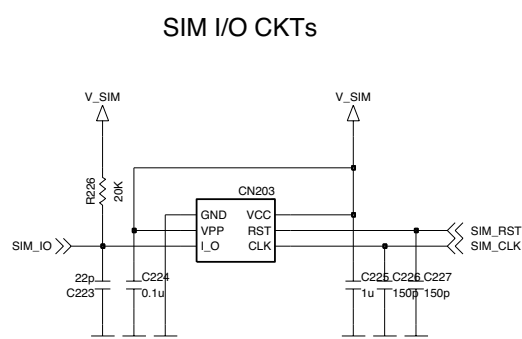


Figure 8. SIM Interface

SIM_CLK : SIM Card reference clock
SIM_RST : SIM Card async/sync reset
SIM_IO : SIM Card bi-directional data line

SIM_PWCTRL : SIM Card power activation
SIM_RnW : SIM Card data line direction
SIM_CD : SIM Card presence detection

E. Serial Interface

Calypso-Plus has UART-IRDA and two UART Modem Drivers.

UART-IrDA (For Debugging Trace)		
Resource	Name	Description
TX_IRDA	TX	Transmit Data
RX_IRDA	RX	Receive Data

UART MODEM1 (For PC-Sync & Download)		
Resource	Name	Description
TX_MODEM1	TXD	Transmit Data
RX_MODEM1	RXD	Receive Data
DSR_MODEM1	DSR	Data Set Ready

UART MODEM2 (for Bluetooth)		
Resource	Name	Description
TX_MODEM2	TXD	Transmit Data
RX_MODEM2	RXD	Receive Data
RTS_MODEM2	RTS	Ready to Send
CTS_MODEM2	CTS	Clear to Send

Table 6. UART Interface Spec.

3. H/W Circuit Description

F. USB Interface

The USB_W2FC module supports the implementation of a "Full-Speed" device fully compliant to USB 1.1 standard. It provides an interface between the MCU and the USB device and handles USB transactions with minimal MCU intervention.

The USB_W2FC module supports one control endpoint (EP0), up-to fifteen (15) IN endpoints and up-to fifteen (15) OUT endpoints. The exact endpoint configuration is software programmable. The specific items configurable for each endpoint are the size in bytes, the direction (IN, OUT), the type (Bulk/Interrupt or ISO), and the associated endpoint number.

The USB_W2FC module also supports three DMA channels for IN endpoints and three DMA channels for OUT endpoints for either Bulk/Interrupt or ISO transactions. In operation, the USB requires a 48MHz clock generated by a dedicated embedded DPLL upon request. The USB module interface is PVICI compliant. Therefore this module interfaces with the TI MCU RHEA bus via a RHEA-PVICI bridge.

Calypso-Plus integrates differential drivers to allow a glue-less connection with any host. The required 3.3V VDD is provided by the VBUS signal taken from the USB connector.

- USB_DP : USB differential (+) line.
- USB_DM : USB differential (-) line.
- USB_PU_EN : USB pull-up enable.
- MAP_USB_P : MAP(Corelogic) USB differential(+) line
- MAP_USB_N : MAP(Corelogic) USB differential(-) line
- USB_PATH_SEL : choice either DBB or MAP(Corelogic)

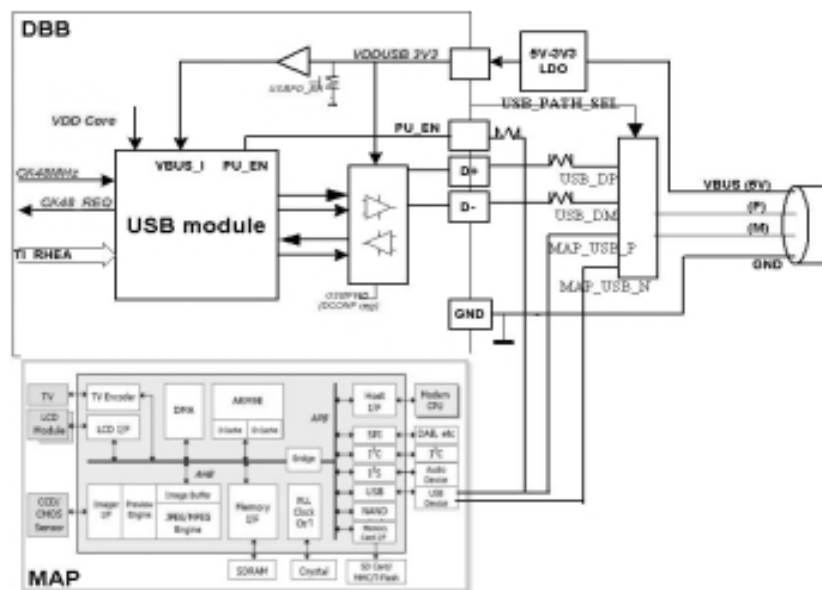


Figure 9. USB interface diagram

G. Audio Circuits

All audio functions are performed in CL8237S4(MAP) and YMU783(MIDI IC). MP3/AAC decoding is performed in CL8237S4 and MIDI ring-tone generation and DAC function of MP3/AAC, MIDI is performed in YMU783. All analog audio signals (including voice signal) are mixed in YMU783 using analog mixer stage and amplified with amplifier stage for headphone and speaker.

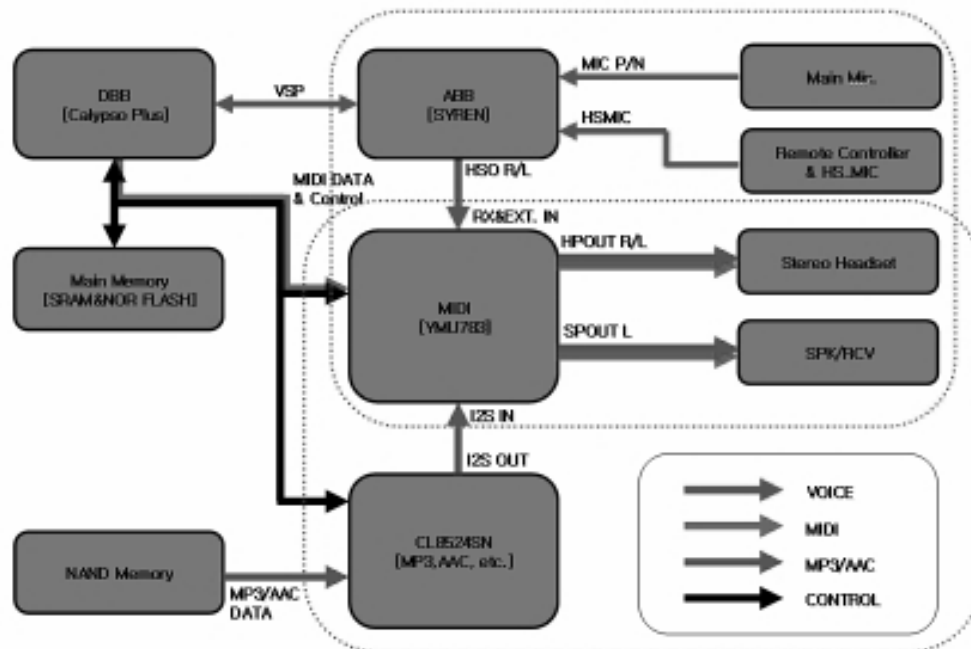


Figure 10. Audio Block Diagram

1) MP3, AAC Decoding (Corelogic, CL8237S4)

CL8237S4 is a multimedia processor. It includes Camera Interface, NAND Interface, LCD Interface, ARM9 Processor, etc. In MG810c, CL8237S4 uses 27MHz X-tal(X201) for system clock. For Audio function of MG810c, CL8237S4 performs storing, decoding MP3/AAC data. MP3/AAC data is stored in NAND-Memory, which is connected to CL8237S4 via NAND Interface(NAND_D(0~7)). The MP3/AAC data are decoded in CL8237S4 and the decoded data is transferred to MIDI IC(YMU783) via I2S bus(I2S_WS, I2S_SCK, I2S_SDO). I2S bus is a standard digital audio bus.



The MIDI IC(YMU783, YAMAHA) has three main functions. The first function is MIDI ring-tone generation. The second function is a digital-to-analog conversion of decoded MP3/AAC data from MAP(CL8237S4, CoreLogic). The third function is a analog mixing and amplifying of voice signal from ABB(TWL3016, TI)



i. MIDI function

ii. MP3/AAC DAC function

In all of cases, the volume control is performed in volume stage of analog mixer and amplifier stage, which is built in YMU783.

3. H/W Circuit Description

3) Acoustic Function

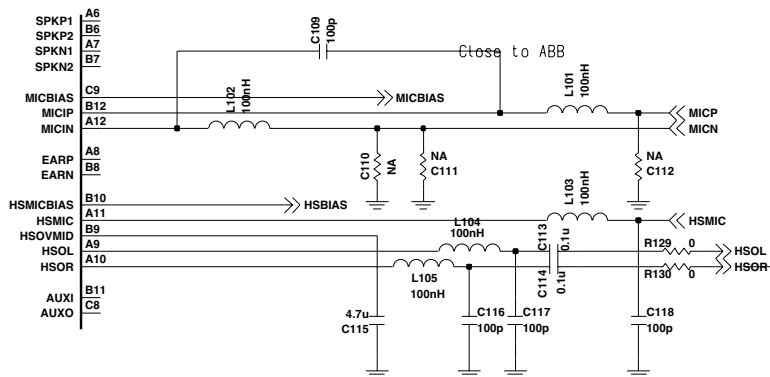


Figure 13. Voice circuits of ABB(TWL3014)

The voice link is composed of two part. One is Up-link. The other is Down-link.

i. Up-link path.

A voice signal is converted to electrical signal with Microphone. The converted electrical voice signal is amplified and converted to digital signal in ABB(TWL3016, TI). The converted digital data is encoded to GSM voice standard in DBB(Calypso +).

The audio signal from main microphone goes to MICP of ABB and the voice signal from head-set to HSMIC of ABB. The bias voltage for microphone is 2V for main mic. and 2.5V for head-set mic, which bias voltage is generated in ABB(MICBIAS, HSBias)

MAIN_MIC_CKTs

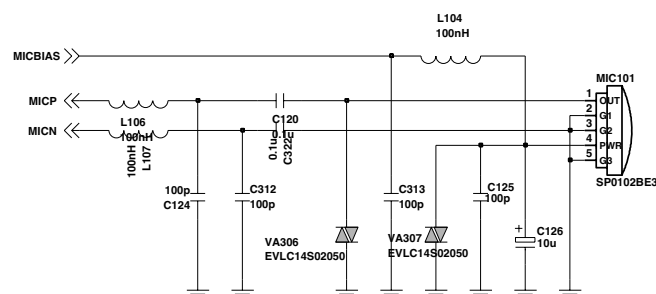


Figure 14. Main Mic. Circuits.

3. H/W Circuit Description

ii. Down-link path

A voice signal from ABB(HSOR, HSOL) goes to RX_IN, EXT_IN of YMU783. which ports are analog voice input of analog mixer block. In case of using head-set, the analog mixer of YMU783 is set to head-phone out path. The voice signal is amplified via head-phone amplifier and goes to ear-phone(HSO_R, HSO_L). In case of using main-receiver, the analog mixer is set to Speaker out path(SPOUT_L) and the voice signal goes to main speaker/receiver(SPK_RCV_P, SPK_RCV_N).

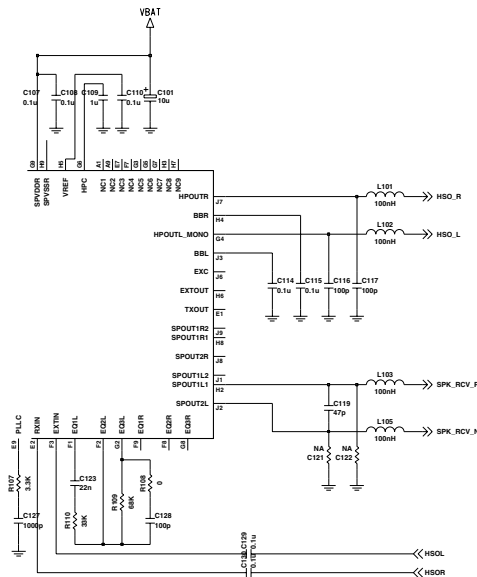


Figure 15. Down-link circuits related with YMU783

H. Keypad Switching & Scanning

Keypad Map

	KBC0	KBC1	KBC2	KBC3	KBC4	KBC5
KBR0	[◀]	[▶]	[▲]	[▼]	[OK]	F3
KBR1	[1]	[2]	[3]	SHUT	CLEAR	
KBR2	[4]	[5]	[6]	[F1]	[Vol Up]	
KBR3	[7]	[8]	[9]	[F2]	[Vol Down]	
KBR4	[*]	[0]	[#]	[SEND]		

Table 7. Keypad Map

DBB supports 6x6 keymap and Switch-ON Key is connected directly to ABB as (Figure16.).



When the folder closed you can control three touch keys , 'PLAY', 'REW', 'FWR' The 'PLAY' key is connected to the TP100, the 'REW' key is connected to the TP103 and the 'FWR' key is connected to the TP103. When you touch one of three keys, the 'CY8C21434' senses a variation of capacitance at the touch pad and the TCH_ACK signal goes to 'LOW' and communicate with DBB by I2C-BUS. Two touch LEDs are controlled by 'CY8C21434', which uses current sink type.



J. Keypad back-light Illumination

The EL backlight is controlled by KEY_BACKLIGHT signal from GPIO_0 of DBB. The EL backlight will be turned on when the port 3 of EL driver 'D381B' goes to HIGH and the 'D381B' drives over 200 Volt to the EL_EN signal. The EL backlight will be turned off when the port 3 of the 'D381B' goes to LOW.

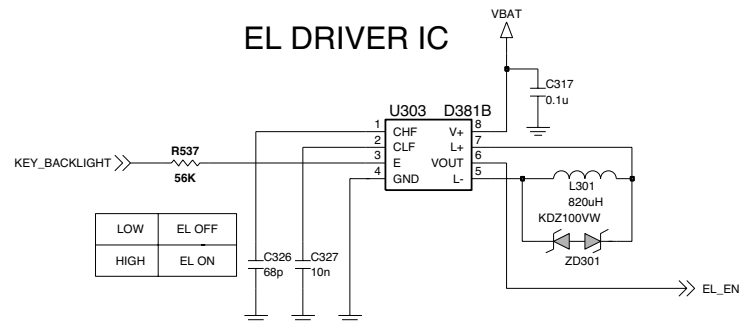


Figure 17. Keypad Back-light ckts

K. LCD back-light Illumination

The charge pump is controlled by high-speed mode I2C interface which is connected to the DBB. The white LED driver provides constant-current drive for 1 to 6 backlight LEDs connected in parallel and 1 torch/strobe LED. We use only 4 white LEDs in LCD Module. The charge pump automatically switches between 1x mode, 1.5x boost mode, and 2x boost mode on response to battery voltage, LED drive current, and VF(LED forward bias voltage drop) conditions in order to extend battery drive life. The SM8150AB-G operating mode settings are accessed using an I2C interface, allowing LED drive current, 2 LDO voltage, output ON/OFF, and other setting to be controlled from the DBB.

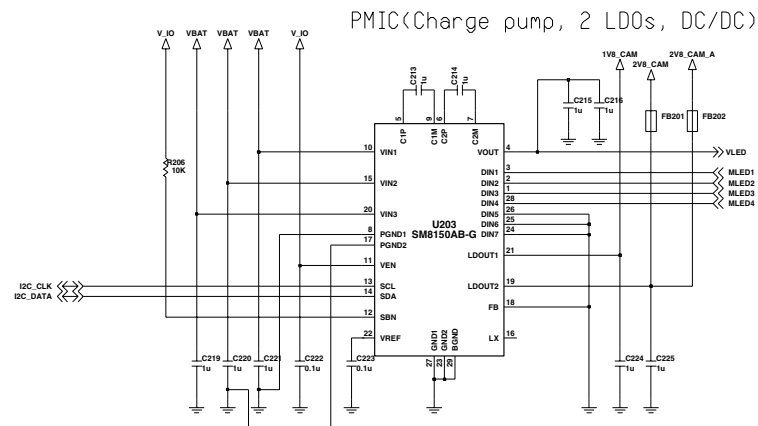
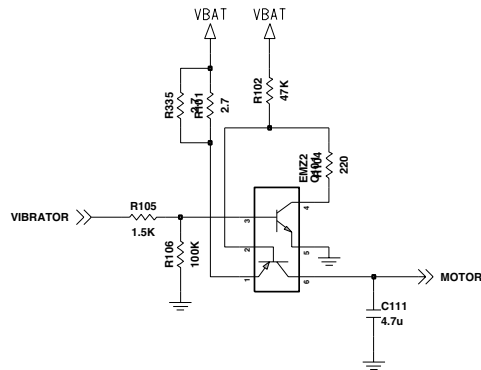


Figure 18. LCD Back-light driving ckts

3. H/W Circuit Description

L. Vibrator ckts

- Vibrator is controlled by MIDI Chip (U506)
- When VIBRATOR signal is high, the vibrator on Folder is enabled



VIBRATOR_CKTs

Figure 19. Vibrator control ckts

G. GPIO Map

In total 16 allowable resources, KG810 is using 16 full resources. MG810c GPIO(General Purpose Input/Output) Map, describing application, I/O state, and enable level, is shown in below table 8.

I/O #	Application	I/O	Resource	Inactive State	Active State
I/O (0)	KEYBACKLIGHT	O	GPIO	Low	High
I/O (1)	USB_EN	O	GPIO	Low(Serial)	High(USB)
I/O (2)	CHG_EN	O	GPIO	High	Low
I/O (3)	_CHG_STAT	I	GPIO	High	Low
I/O (4)	_MIDI_RST	O	GPIO	High	Low
I/O (5)	TOUCH_ACK	I	GPIO	High	Low
I/O (6)	DBB_BT_INT	O	GPIO	High	Low
I/O (7)	BT_LDO_EN	O	GPIO	Low	High
I/O (8)	FOLDER	I	GPIO	Low(close)	High(open)
I/O (9)	I2C_CLK_TCH	O	GPIO	-	-
I/O (10)	I2C_DATA_TCH	I/O	GPIO	-	-
I/O (11)	JACK_DETECT	I	GPIO	High	Low
I/O (12)	REMOTE_INT	I	GPIO	High	Low
I/O (13)	LCD_RST	O	GPIO	High	Low
I/O (14)	BT_DBB_INT	I	GPIO	High	Low
I/O (15)	MAP_HOLD	O	GPIO	Low	High

Table 8. GPIO Map

3.6 Analog Baseband

A. General Description

Syren is Analog Baseband (ABB) Chip supports GSM900, DCS1800, PCS1900, GPRS Class 10 with Digital Basband Chip. Syren processes GSM modulation/demodulation and power management operations.

Block Description

- Audio Signal Processing & Interface
- Baseband in-phase(I), quadrature(Q) Signal Processing
- Auxiliary RF converters
- Five-channel analog-to-digital converters(ADC)
- Six Low-dropout(LDO), linear voltage regulators targeted core, general I/O, memory I/O, SIM I/O
- LDO voltage regulators dedicated to the USB interface
- High voltage(20V) Li-Ion or Ni-MH battery charging control
- Voltage detectors (with power-off delay)
- Voice Codec

B. Audio Signal Processing & Interface

Audio signal processing is divided Uplink path and downlink path.. The uplink path amplifies the audio signal from MIC and converts this analog signal to digital signal and then transmit it to DBB Chip. This transmitted signal is reformed to fit in GSM Frame format and delivered to RF Chip. MICBIAS is 2.0V level. The downlink path amplifies the signal from DBB chip and outputs it to Receiver(or Speaker).

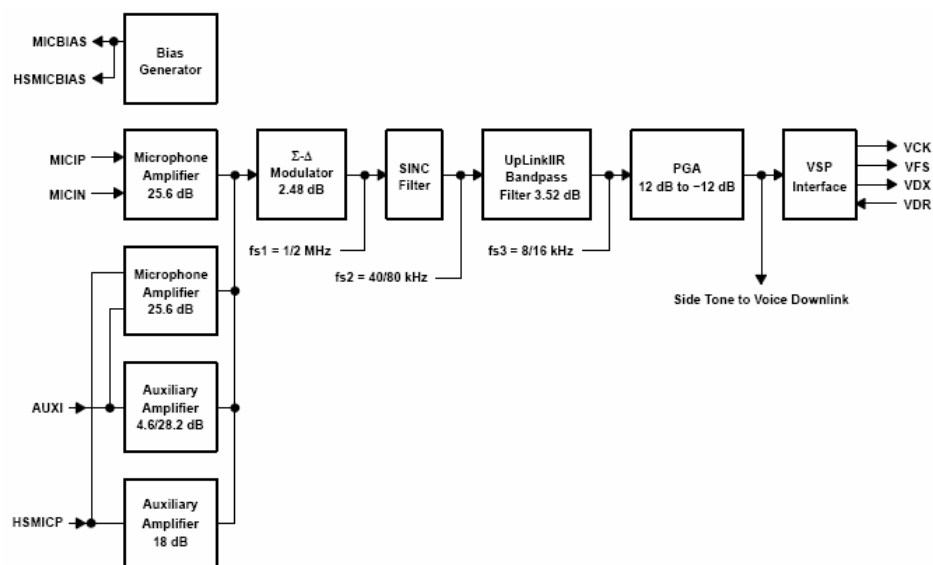


Figure 20. Voice Uplink path Block Diagram

3. H/W Circuit Description

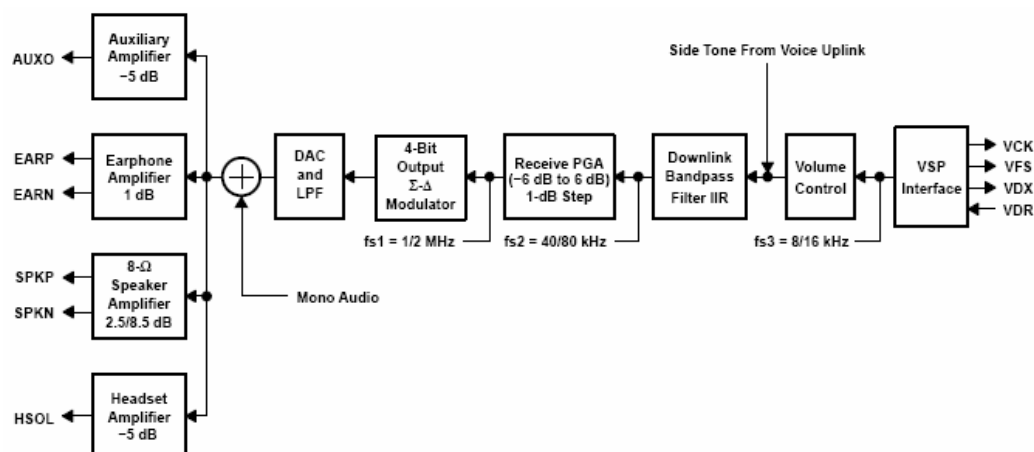


Figure 21. Voice Downlink path Block Diagram

C. Baseband Codec(BBC)

Baseband codec is composed of baseband uplink path(BUL) and baseband downlink path(BDL). BUL makes GMSK(Gaussian Minimum Shift Keying) modulated signal which has In-phase(I) component and quadrature(Q) component with burst data from DBB. This modulated signal is transmitted through RF section via air. BDL process is opposite procedure of BUL. Namely, it performs GMSK demodulation with input analog I&Q signal from RF section, and then transmit it to DSP of DBB chip with 270.833kHz data rate through BSP.

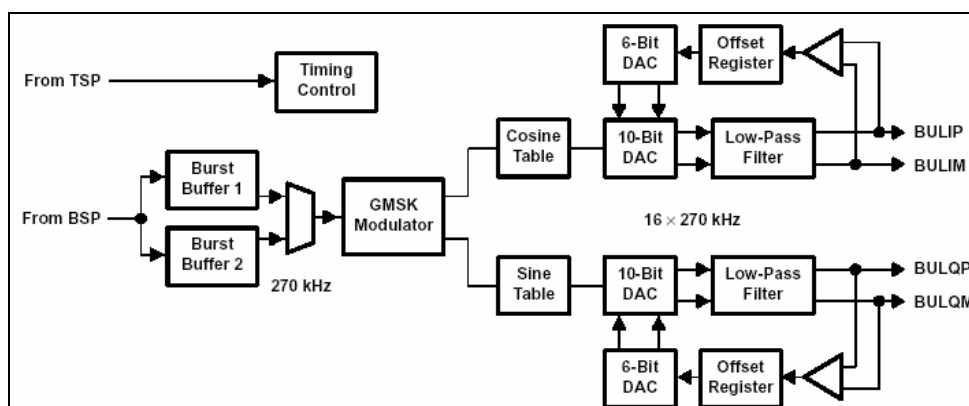


Figure 22. Baseband Codec Block Diagram

3. H/W Circuit Description

D. Voltage Regulation(VREG)

There are 7 LDO(Low Drop Output) regulators in ABB chip.
The output of these 7 LDOs are as following table.

	Output Voltage	Usage
VRDBB	1.5V	Digital Core of DBB
VRIO	2.8V	Peripheral devices
VRMEM	2.8V	External memory
VRRAM	2.8V	LCD & peripheral devices
VRABB	2.8V	Analog Block of ABB
VRSIM	2.85	SIM card driver
VRRTC	1.5V	RTC & 32kHz-crystal

Table 9. LDO Output Table

(Figure 24.) shows the power supply related blocks of DBB/ABB and their interfaces in KG810

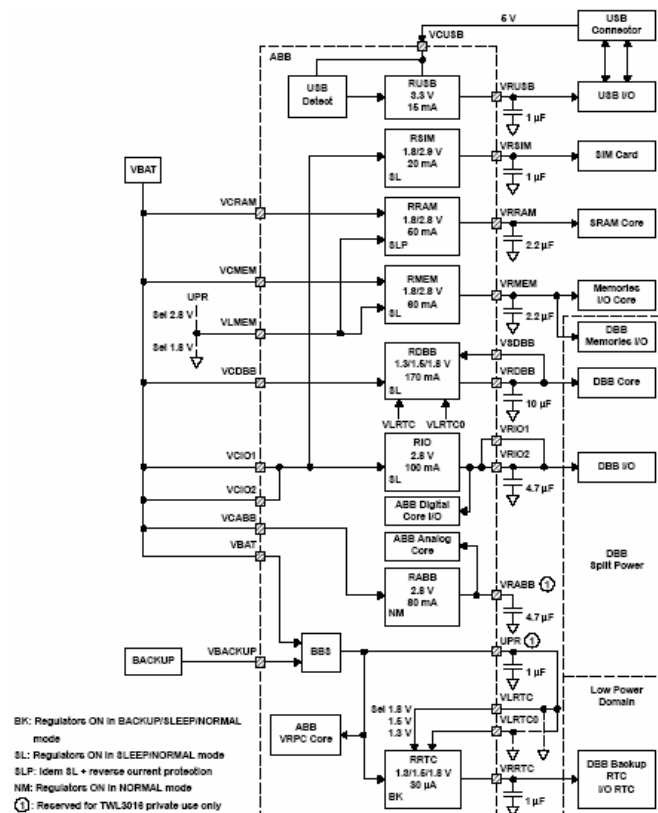


Figure 23. Power Supply Scheme

3. H/W Circuit Description

E. ADC Channels

ABB ADC block is composed of 4 internal ADC(Analog to Digital Converter) channels and 4 external ADC channel. This block operates charging process and other related process by reading battery voltage and other analog values.

ADC 8 channels		
Resource	Na me	Description
VCHG	VCHG	Charging Management
VBAT	VBAT	
ICTL	ICTL	
VBACKUP	VBACKUP	Backup Battery
ADIN1	HOOK_DETECT	Hook Detect
ADIN2	BATT_TEMP	Battery Detect
ADIN3	TEMPSENSE	Temperature Sensing
ADIN4	JACK_TYPE	Detect Ear-Mic type
ADIN5	REMOTE_ADC	Remote Controller Signals

Table 9. ADC Channel Spec.

G. Switch ON/OFF

KG810 Power State : Defined 4cases as follow

- Power-ON : mobile is powered by main battery or backup battery.
- Power-OFF : mobile isn't any battery.
- Switch-ON : mobile is powered and waken up from switch-off state.
- Switch-OFF : mobile is powered to maintain only the permanent function(ULPD).

To enter into Switch-ON state, one of following 4 condition is satisfied.

- PWR-ON pushed after a debouncing time of 30ms.
- ON_REMOTE : After debouncing, when a falling edge is detected on RPWON pin.
- IT_WAKE_UP : When a rising edge is detected on RTC_ALARM pin.
- CHARGER_IC :When a charger voltage is above VBAT+0.4V on VCHG.

3.7 LCD & Camera Interface

A. LCD Interface

In MG810c, main & sub LCD is displayed by memory interface through Camera back-end-chip.

In case that the camera-back-end chip (Hera) is bypass-mode, LCD is operated by DBB and memory. MG810c can display 26200 color according to 18-bit data line. The size of Module is 39*53.8*3.5. The module driver IC is HD66784. The LCD interface has 18-bit data line, CS, reset, Write strobe from DBB and Memory. The signals go to Hera that is by-pass mode that case. The signals go to LCD module through Hera and filters.

The module include: LCD : Main = 2.0" QCIF TFT LCD

Sub = 1.17" 96*96 TFT LCD

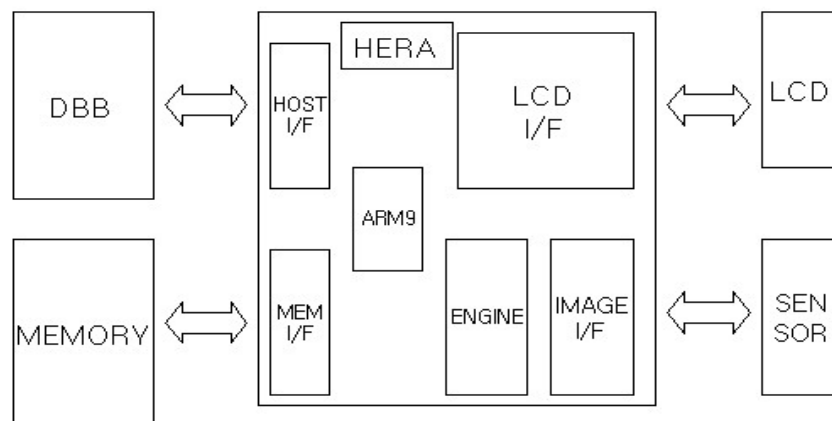


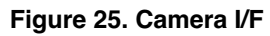
Figure 24. LCD scheme

B. Camera Interface

In MG810c, Camera Back-End-chip is applied for camera flow control and power control respectively.

The full scheme is shown in Figure 26. The camera back end chip (Hera) supports 1-mega pixel camera. The chip has 8-bit data line, clock line and I2C.

The U202 is Camera Application processor(Corelogic's CL8524SN). It also supports 80-type LCD interface. It has 16-bit 80-type Parallel Host I/F and supports up to VGA resolution. Camera power system is supported LDO and the voltage of operating camera is 2.8V & 1.8V. If map_hold go to low, camera-system is operated, the initial code is set and the mode of camera module is done through I2C by U202. C_MCLK and camera power go to Camera module and the module is on. And then C_DATA, C_VS, C_HS and C_PCLK from the module go to U202.



3.8 Bluetooth Interface

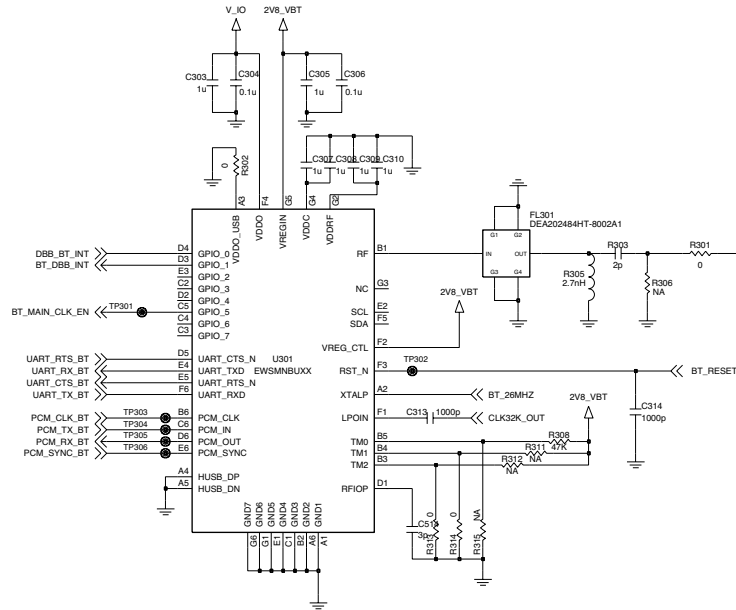


Figure 26. Bluetooth I/F

Pin	Description
GPIO_0	Bluetooth device wake-up.
GPIO_1	Host wake-up..
XTALP	Crystal or oscillator reference input.
VREG_CTL	Internal regulator controller.
RF	RF I/O antenna port.
RST_N	Bluetooth reset
TM0~2	Set test mode.
LPOIN	Low Power Oscillator input.
RFIOP	RF I/O tuning port
VDDO	Digital I/O power supply
GPIO_5	Crystal power-down or crystal power-up.
VREGIN	Unregulated main power supply
VDDC	Baseband core power supply.
HUSB_DP	Host USB differential data.
HUSB_DN	Host USB differential data.
UART_CTS_N	UART clear to send.
UART_TXD	UART Tx data.
UART_RTS_N	UART request to send.
UART_RXD	UART Rx data.
PCM_CLK_BT	PCM bit clock.
PCM_TX_BT	PCM data output.
PCM_RX_BT	PCM data input.
PCM_SYNC_BT	PCM sync signal

One chip Bluetooth Module U301(EWSMNBUXX) supports the following feature.

Adaptive Frequency Hopping (AFH)

Fast connection

Scatter Mode

QoS

ESCO

LMP Improvements

Synchronization

-UART Interface

Baud Rate: 115.2kbps (default) Maximum 3Mbps

-EDR

-USB Interface v.2.0

-PCM Interface

-Point-to-Multipoint

-Encryption

-Hold ,Sniff and Park Mode

-Supported Link Type: ACL and eSCO

It is powered by external regulator U305 and V IO of ABB(U101).

26MHz VCTCXO(X401) and 32kHz from DBB(U402) are used for operating clock.

BT Module interface with DBB(U402) through UART and PCM port and radiate RF signal through BT chip Antenna(ANT 301).



4. TROUBLE SHOOTING

4.1 Baseband Part Troubleshooting

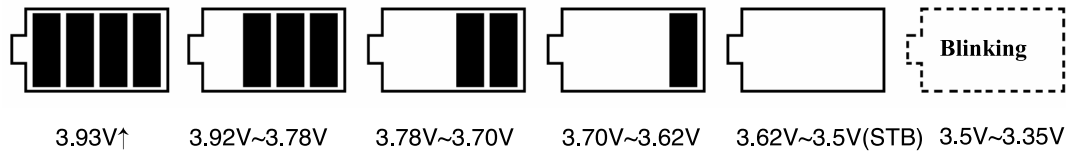
A. Power-On Trouble Troubleshooting

- Power-On Sequence
 - Connecting Battery
 - Power-On Key Detection
 - PWON signal goes to ABB and then ABB resets DBB by ONNOFF signal
 - ONNOFF turns low(0V) to High(2.8V) and it resets DBB(Calypso plus)
 - All LDOs(internal LDOs of ABB and external LDOs) are turned on
- Check Points
 - Battery Voltage
 - Power-On Key Detection(PWON signal)
 - Output of LDOs
- Trouble Shooting Setup
 - Connect PIF-UNION Jig to the phone
 - Set the TI-Remote switch at PIF-UNION Jig off
- Trouble Shooting Procedure
 - Check Battery Voltage
 - END Key Dome switch condition
 - Check the output voltage of all LDOs

4. TROUBLE SHOOTING

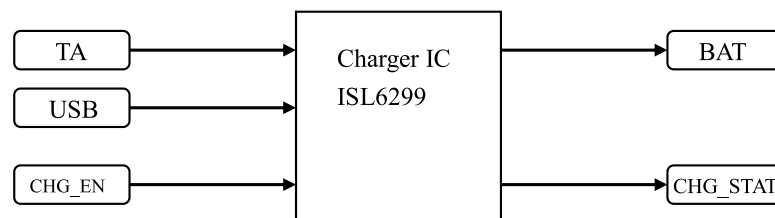
B. Charging Trouble Shooting

- Charging method : CC-CV
- Charger Detection Voltage : over 4.0V
- Charging Time : About 2Hours
- Charging Current : 550mA
- Cut-off Current : 80mA
- Low Battery Alarm
 - Talk mode : 3.62V
 - Standby mode : 3.50V
- Switch-Off Voltage
- Charging Temperature ADC Range
 - ~ -20°C : No Charging operation
 - -20°C ~ 60°C : Charging
 - 60°C ~ : No Charging operation



* STB : Standby mode (When talk mode, the battery icon starts blinking below 3.62V level)

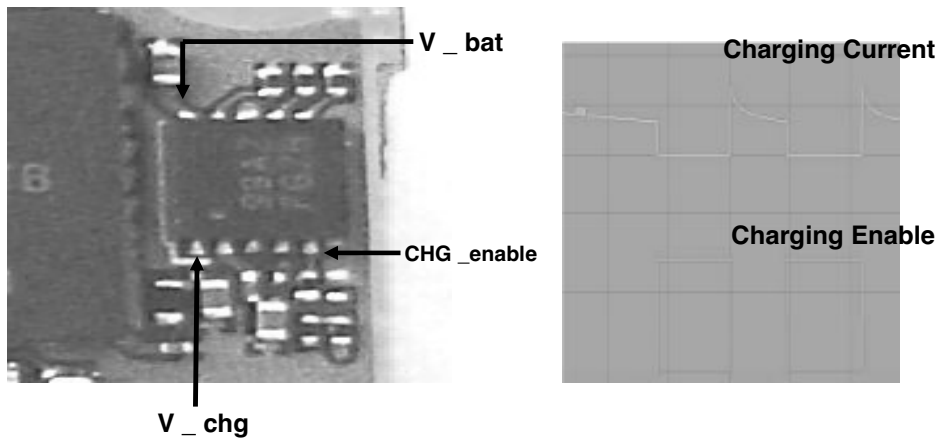
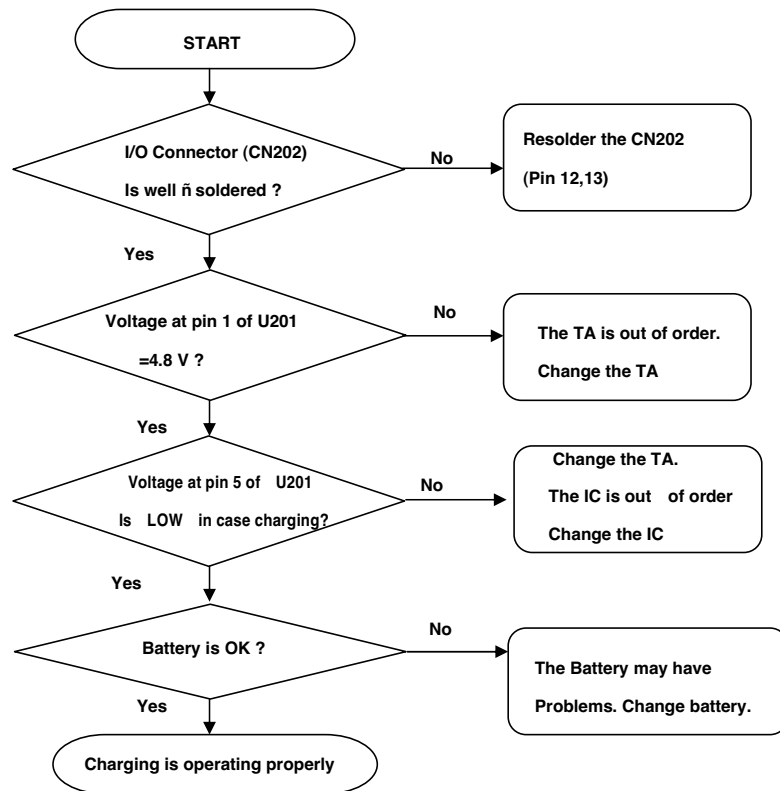
Block Diagram



- Charging Procedure
 - Connecting TA & Charger Detection
 - Control the charging Current by CHARGER_IC
 - Charging Current flow into the Battery
- Check Points
 - Connection of TA
 - Battery
 - Charger IC

4. TROUBLE SHOOTING

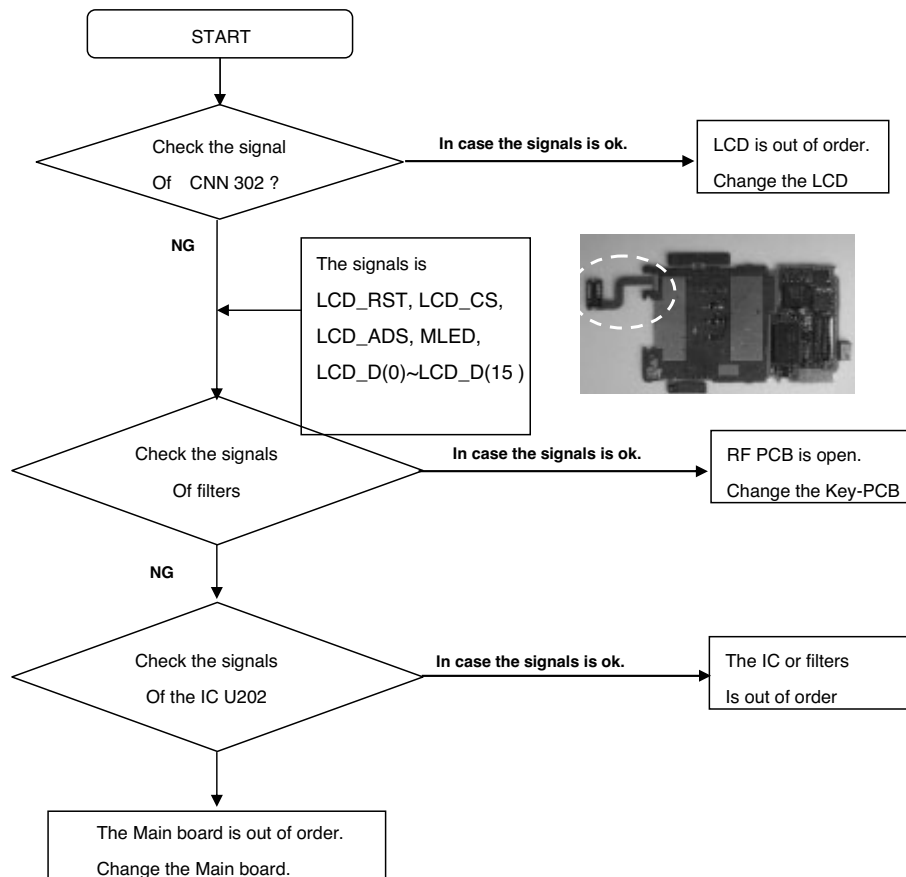
- Trouble Shooting Setup
 - Connect Battery & TA to the handset
- Trouble Shooting Procedure



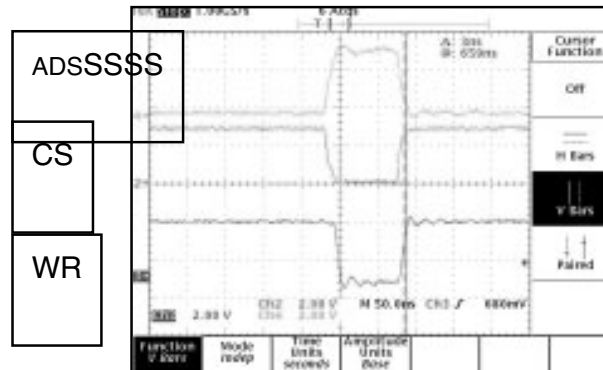
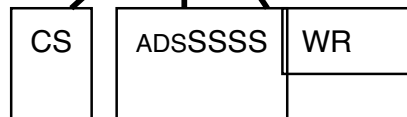
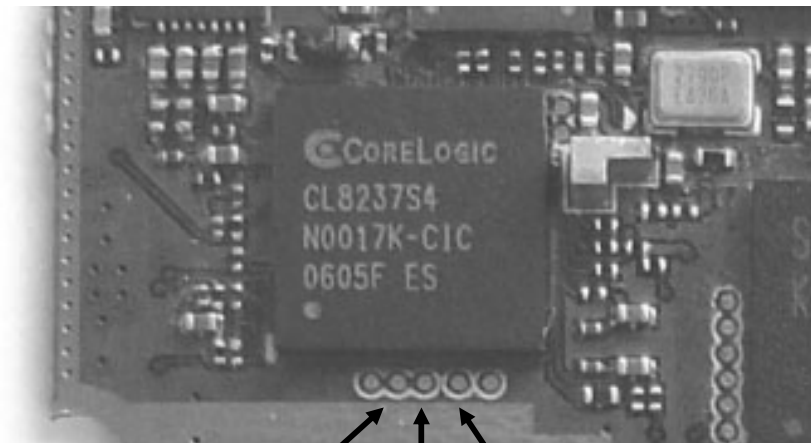
4. TROUBLE SHOOTING

C. LCD Display Trouble

- LCD Control signals from Main Board
 - LCD_RST, LCD_CS, LCD_ADS, MLED, LCD_D(0)~LCD_D(15)
- Check Points
 - The Assembly status of the LCD Module
 - The Soldering of connector
 - The FPCB which connects the LCD Module
- Trouble Shooting Setup
 - Connect PIF Jig, and Power on
- Trouble Shooting Procedure



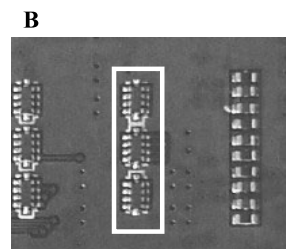
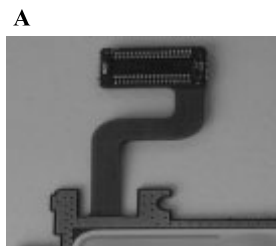
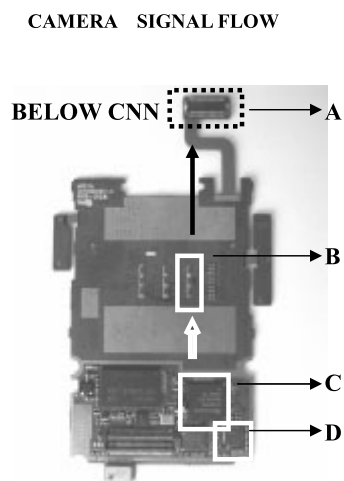
4. TROUBLE SHOOTING



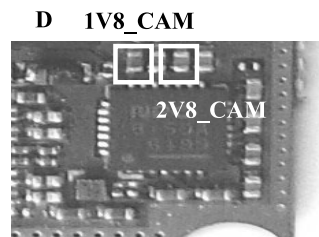
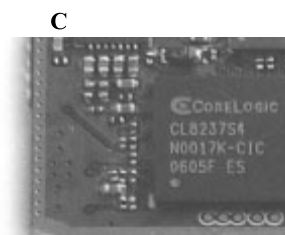
4. TROUBLE SHOOTING

D. Camera Trouble Shooting

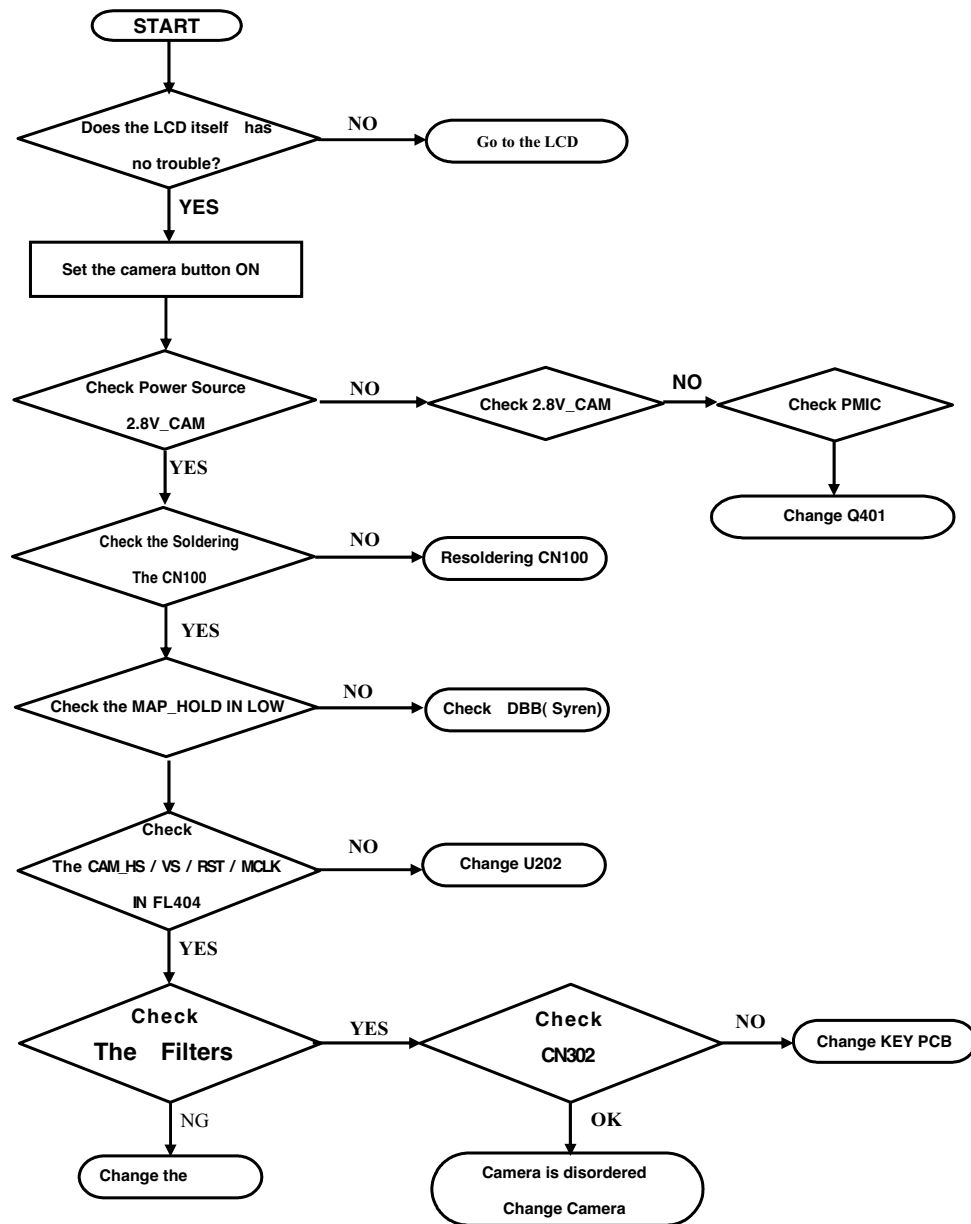
- Check Points
 - Check the power supply.
 - Check the soldering of Components
 - Check the CAMERA signals
- Trouble Shooting Setup
 - Enter the engineering mode.
 - Go to menu 'Baseband → Camera'



FILTER



4. TROUBLE SHOOTING



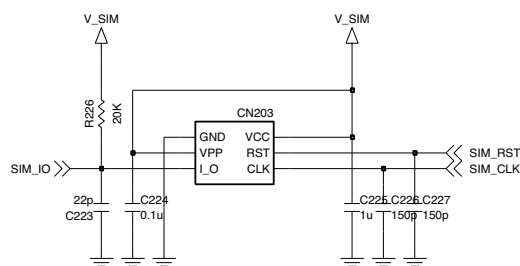
4. TROUBLE SHOOTING

E. SIM Detect Trouble Shooting

SIM interface scheme is shown below.

SIM_IO, SIM_CLK, SIM_RST ports are used to communicate DBB with ABB and the Charge Pump in ABB enables 1.8V/3V SIM operation.

SIM I/O CKTs



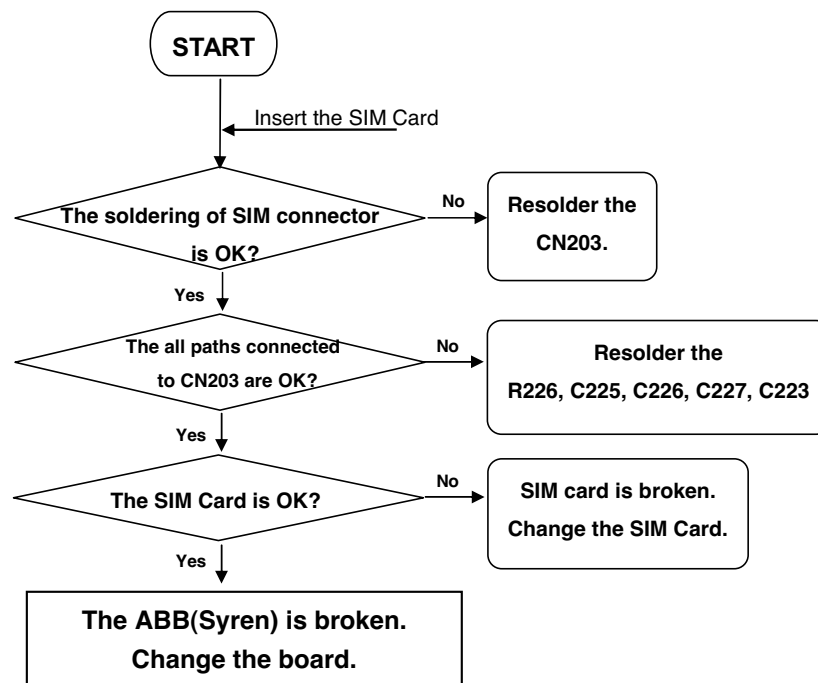
SIM_CLK : SIM Card reference clock
SIM_RST : SIM Card async/sync reset
SIM_IO : SIM Card bi-directional data line

SIM_PWCTRL : SIM Card power activation
SIM_RnW : SIM Card data line direction
SIM_CD : SIM Card presence detection

- Connection between SIM and DBB
 - SIM_CLK, SIM_IO, SIM_RST
- Check Points
 - Contact between SIM and socket
 - Soldering of SIM socket
- Trouble Shooting
 - Insert the SIM into socket
 - Connect PIF_UNION Jig to the phone, and Power on

4. TROUBLE SHOOTING

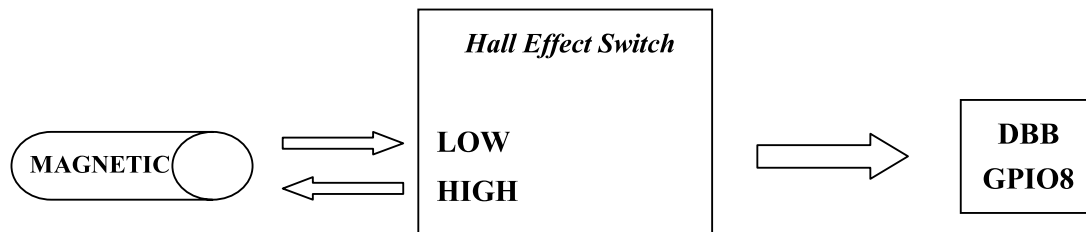
- Trouble Shooting Procedure
 - Check the power supply
 - Check the soldering of SIM socket
 - Check the SIM



4. TROUBLE SHOOTING

F. Folder On/Off and Trouble Shooting

Block Diagram (Folder On/Off)



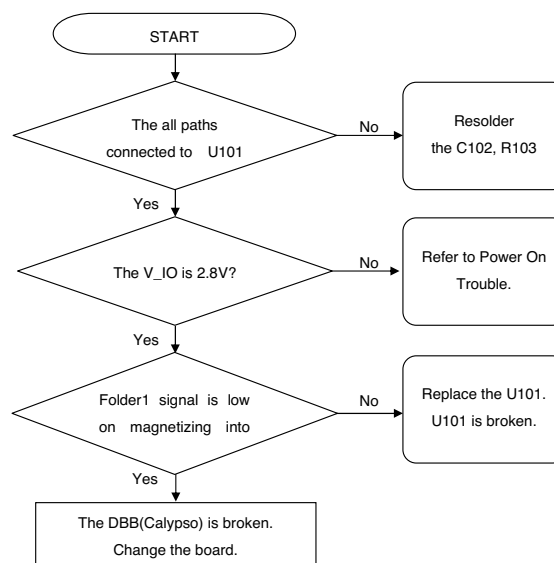
• Folder Operation(ON/OFF)

- There is a magnet to detect the folder status, opened or closed.
- If a magnet is close to the hall-effect switch(U101) the voltage at pin 1 of U101 goes to 0V. Otherwise, 2.8V
- This Folder signal is delivered to DBB, and the status of folder is reported.

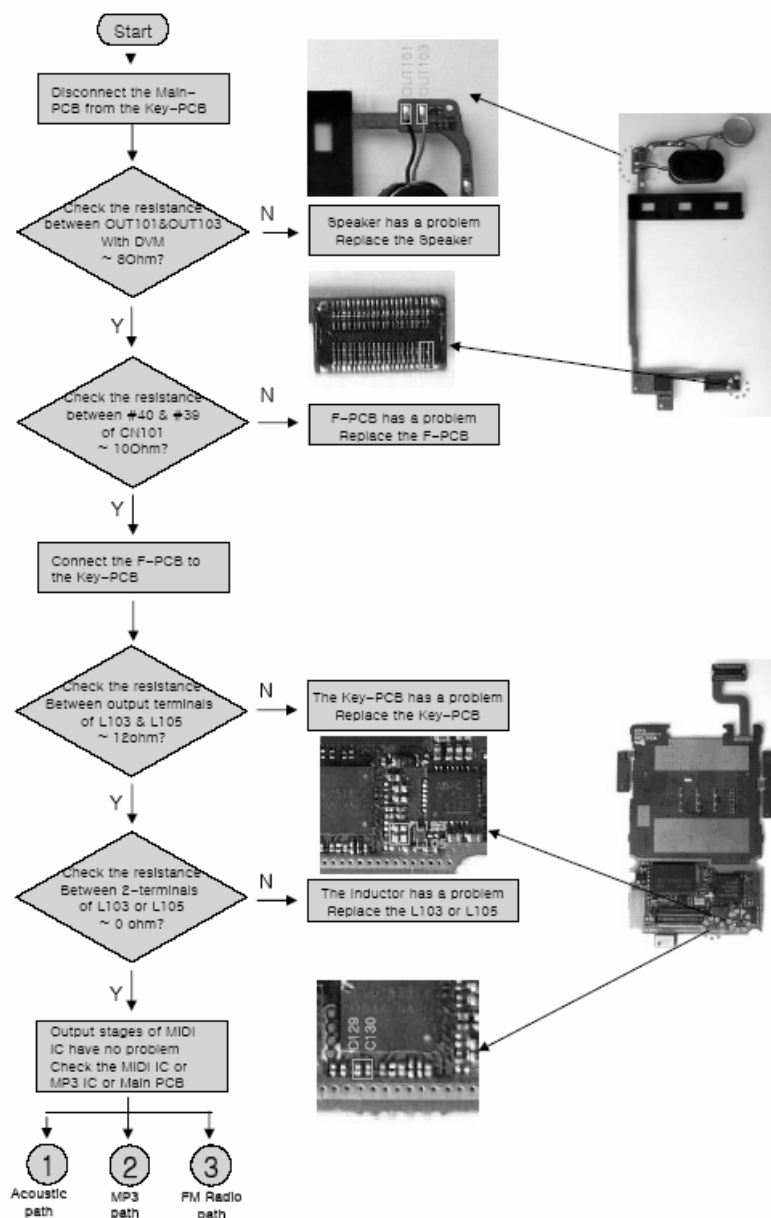
● Folder1 Signal Status

- L : Close(Magnetized) => Folder OFF
- H : Open(Not magnetized) => Folder ON

• Folder Trouble (On/Off)

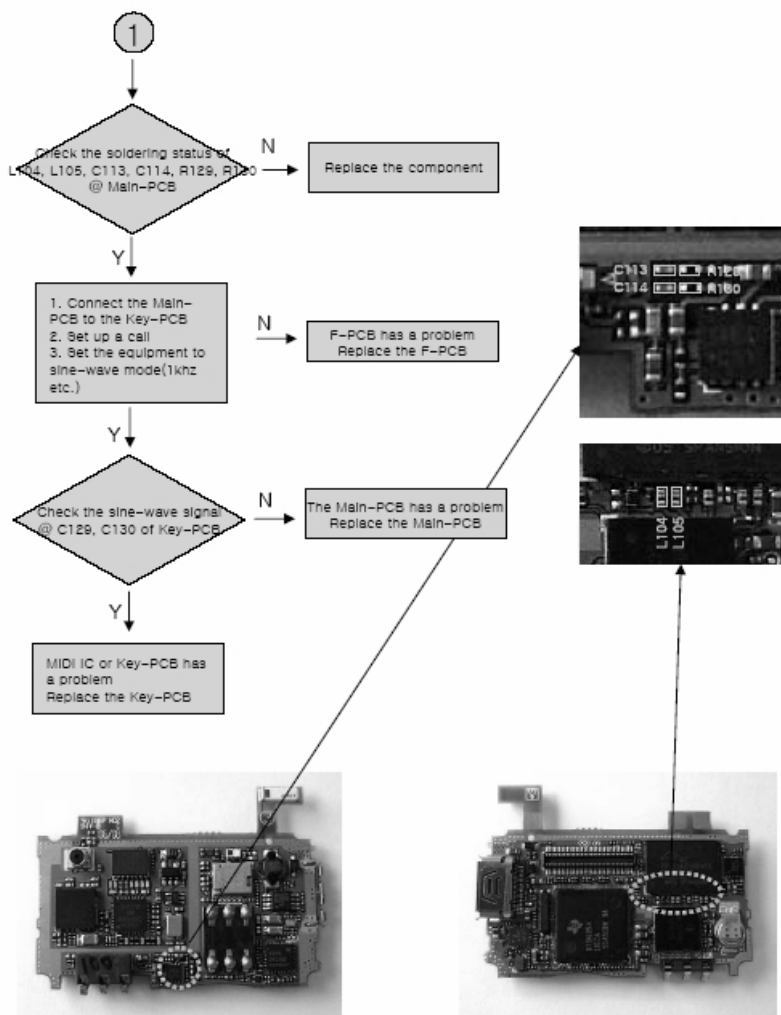


G.1 Speaker/Receiver Trouble Shooting (Common Path)

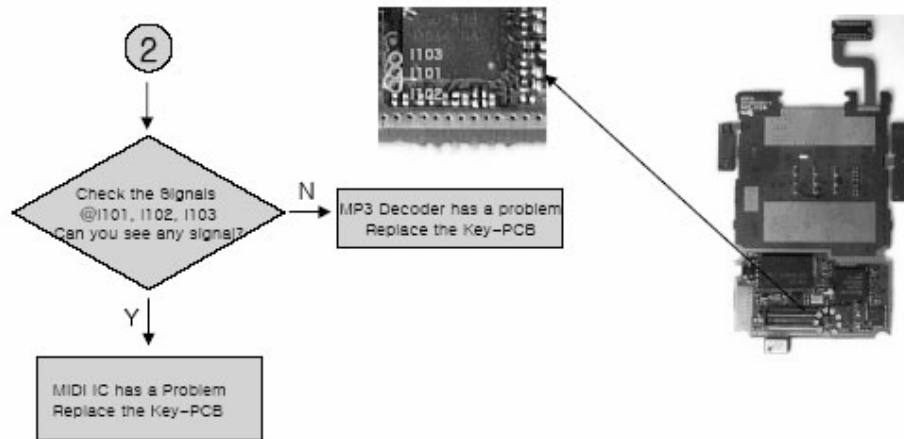


4. TROUBLE SHOOTING

G.2. Speaker/Receiver Trouble Shooting(Acoustic Path)

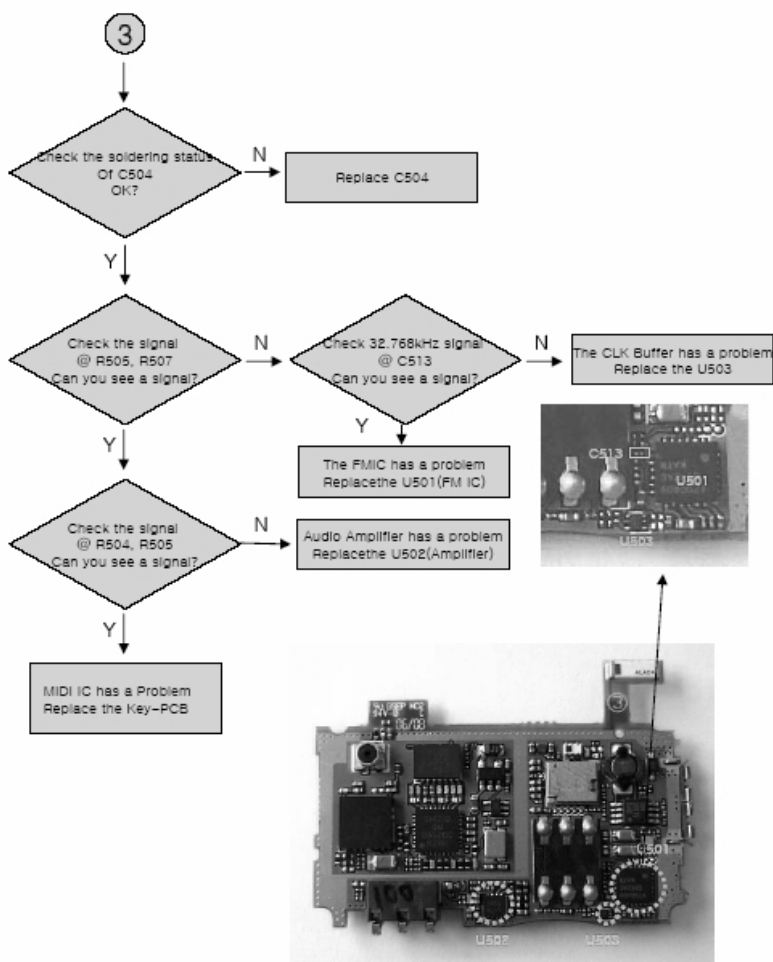


G.3. Speaker/Receiver Trouble Shooting(MP3/AAC Path)

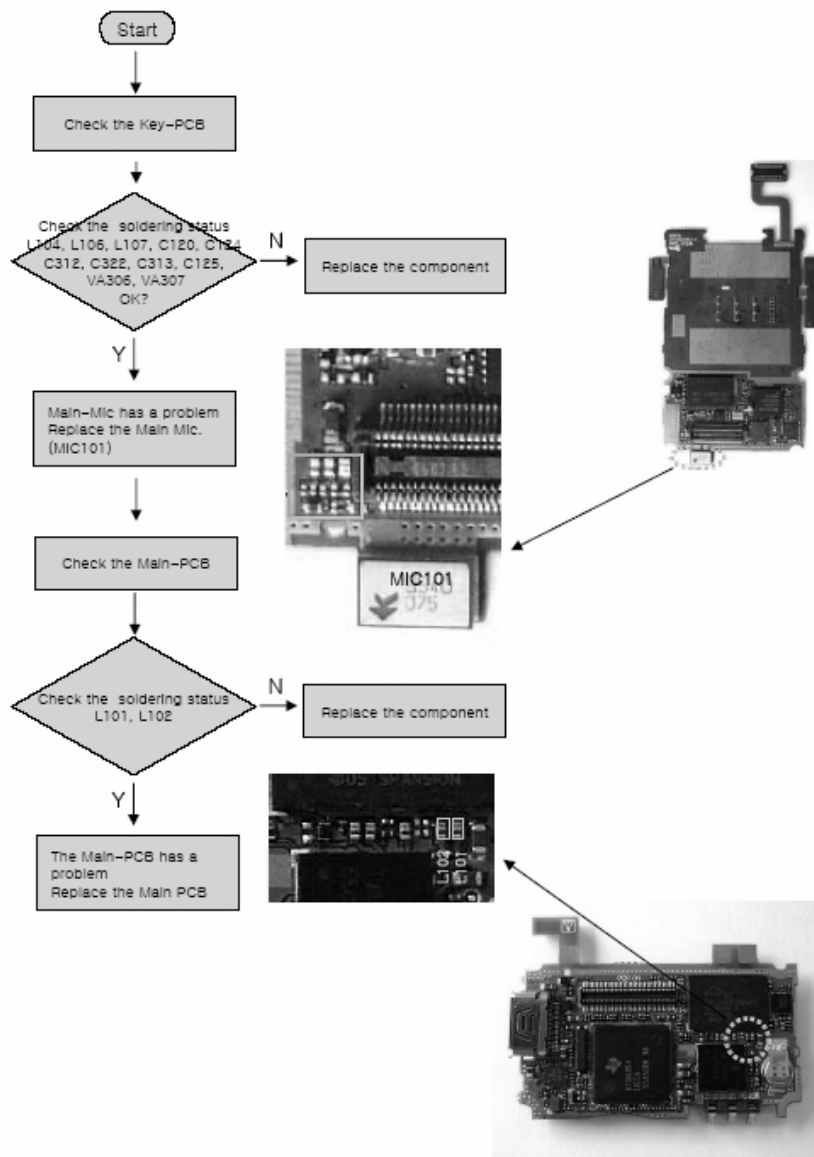


4. TROUBLE SHOOTING

G.4. Speaker/Receiver Trouble Shooting(FM Radio Path)

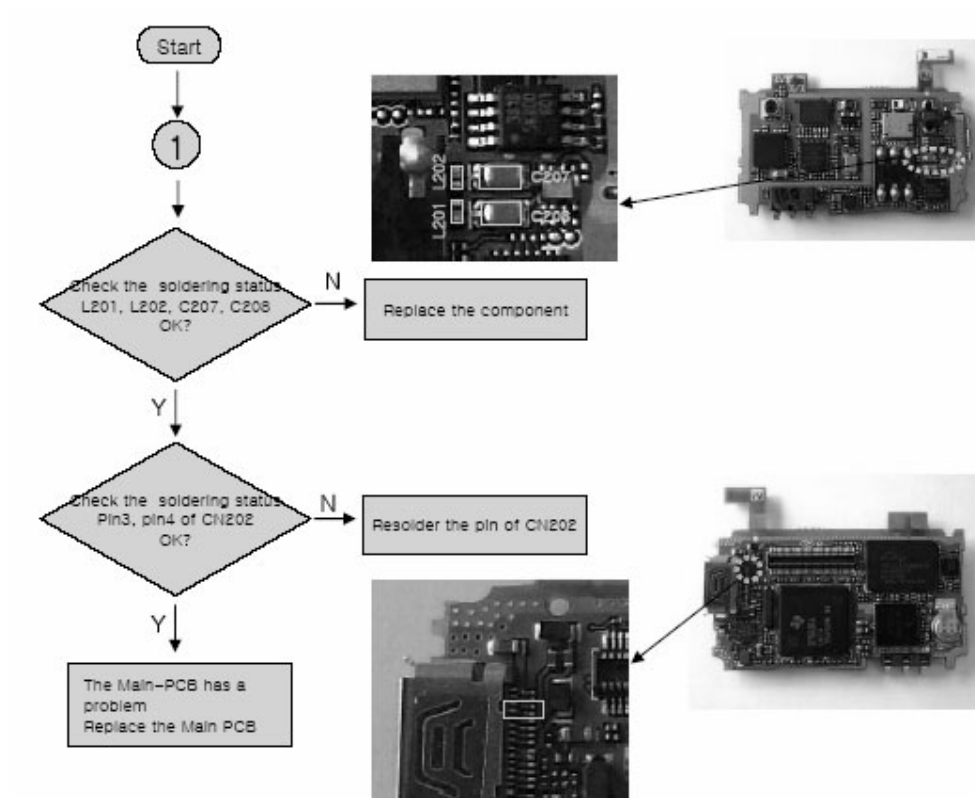


G.5. Main-Mic. Path Trouble Shooting

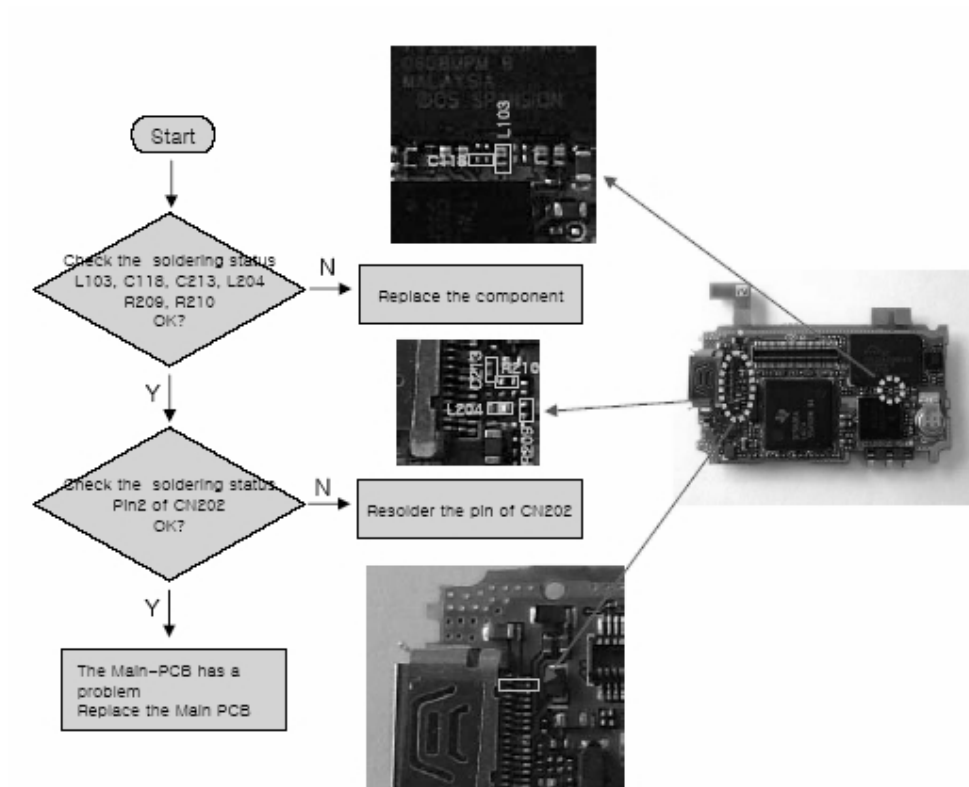


4. TROUBLE SHOOTING

G.6. Ear-Mic. Receiver Path Trouble Shooting

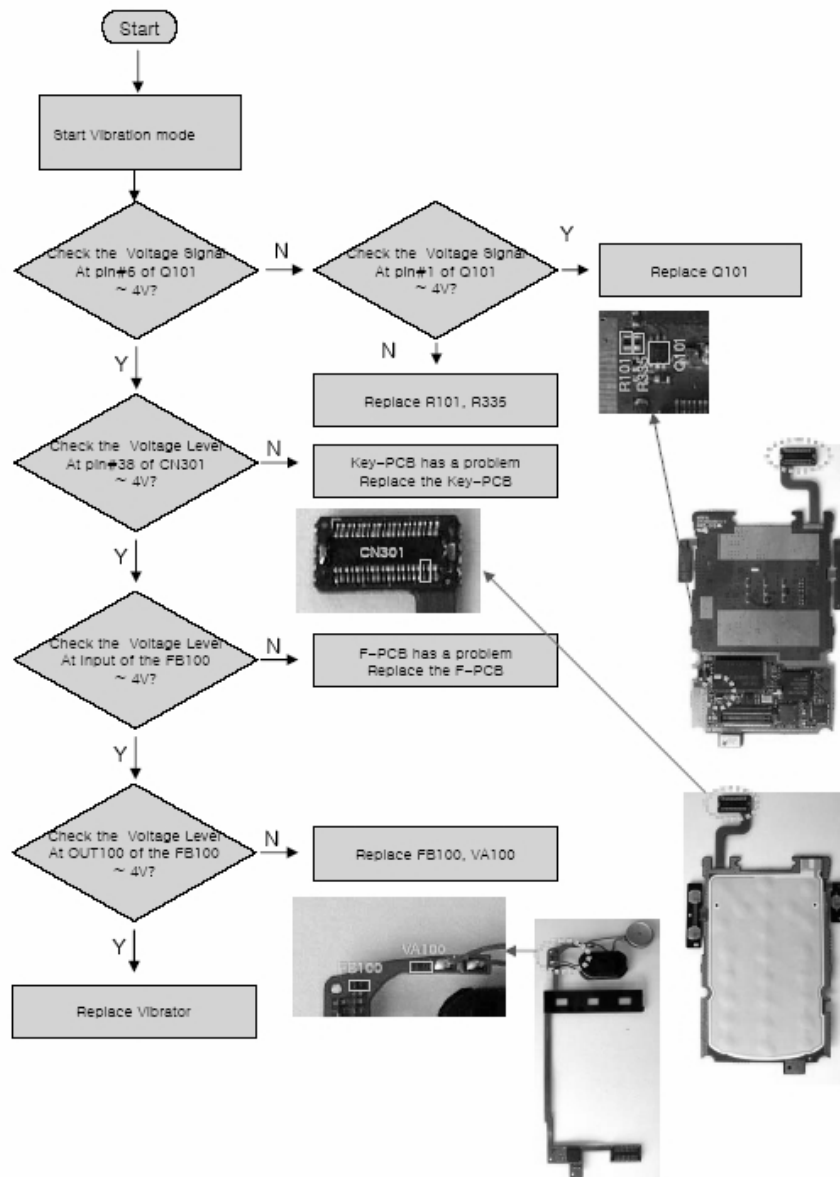


G.7. Ear-Mic. Mic. Path Trouble Shooting



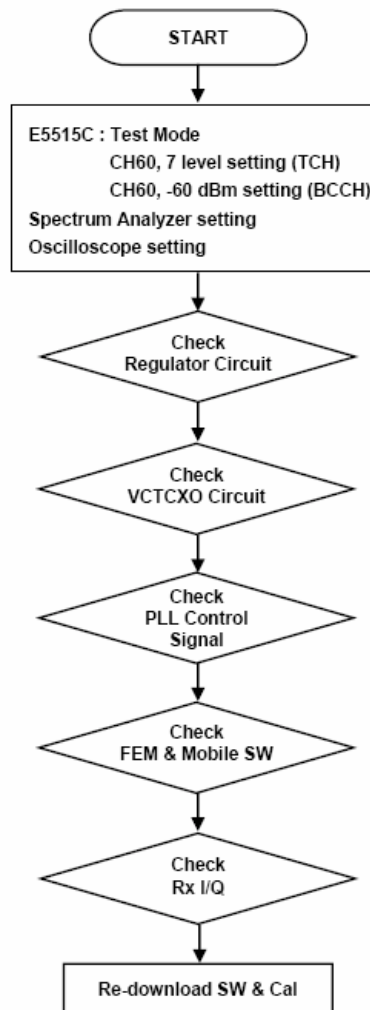
4. TROUBLE SHOOTING

G.8. Vibrator Trouble Shooting



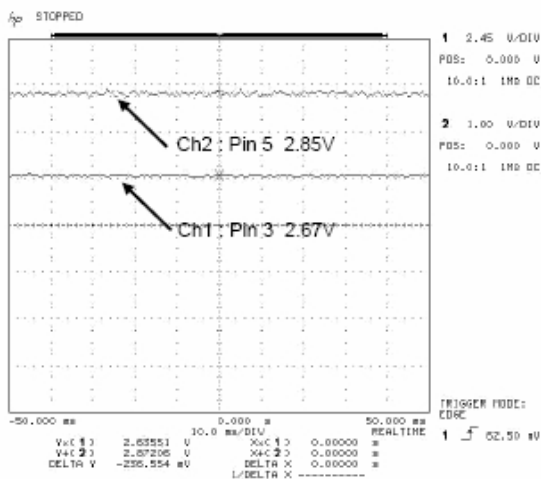
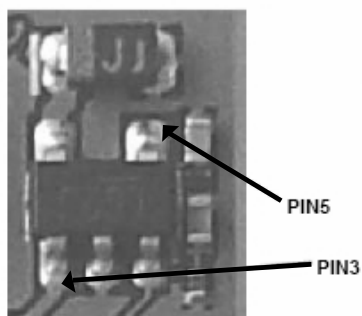
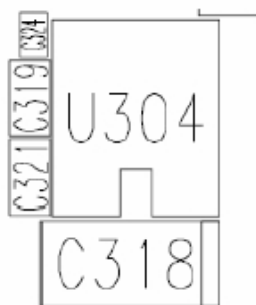
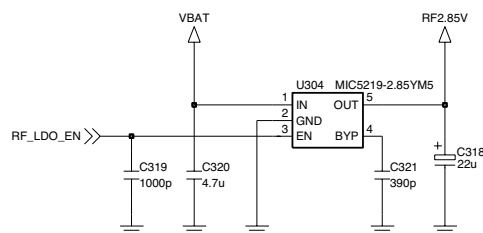
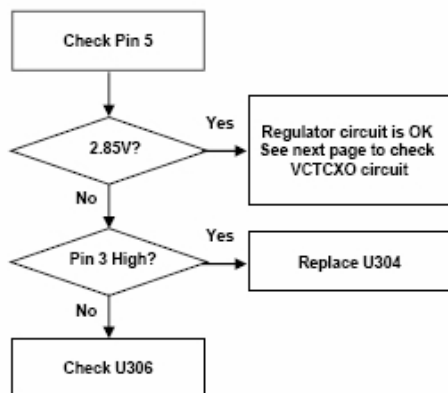
4.2 RF Part Troubleshooting

A. RF Receiving Path Trouble Shooting



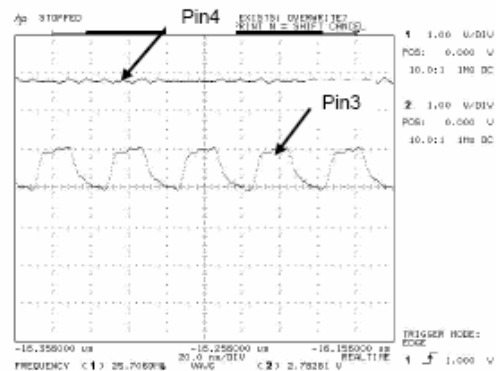
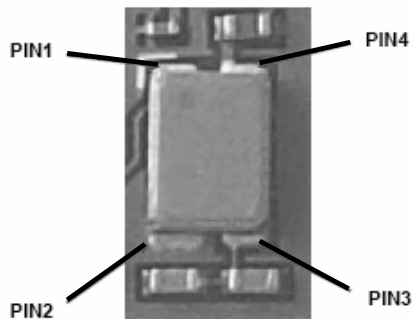
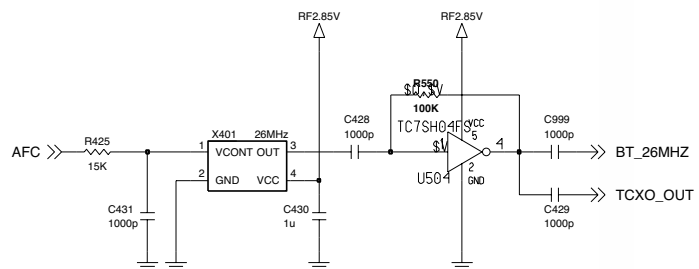
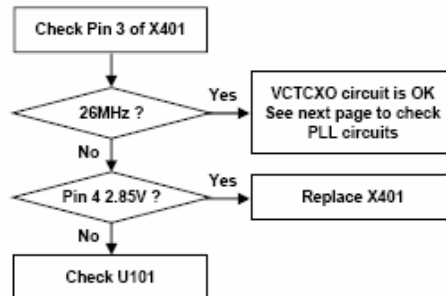
4. TROUBLE SHOOTING

B. RF Receiving Path Trouble Shooting (Regulator Circuits)



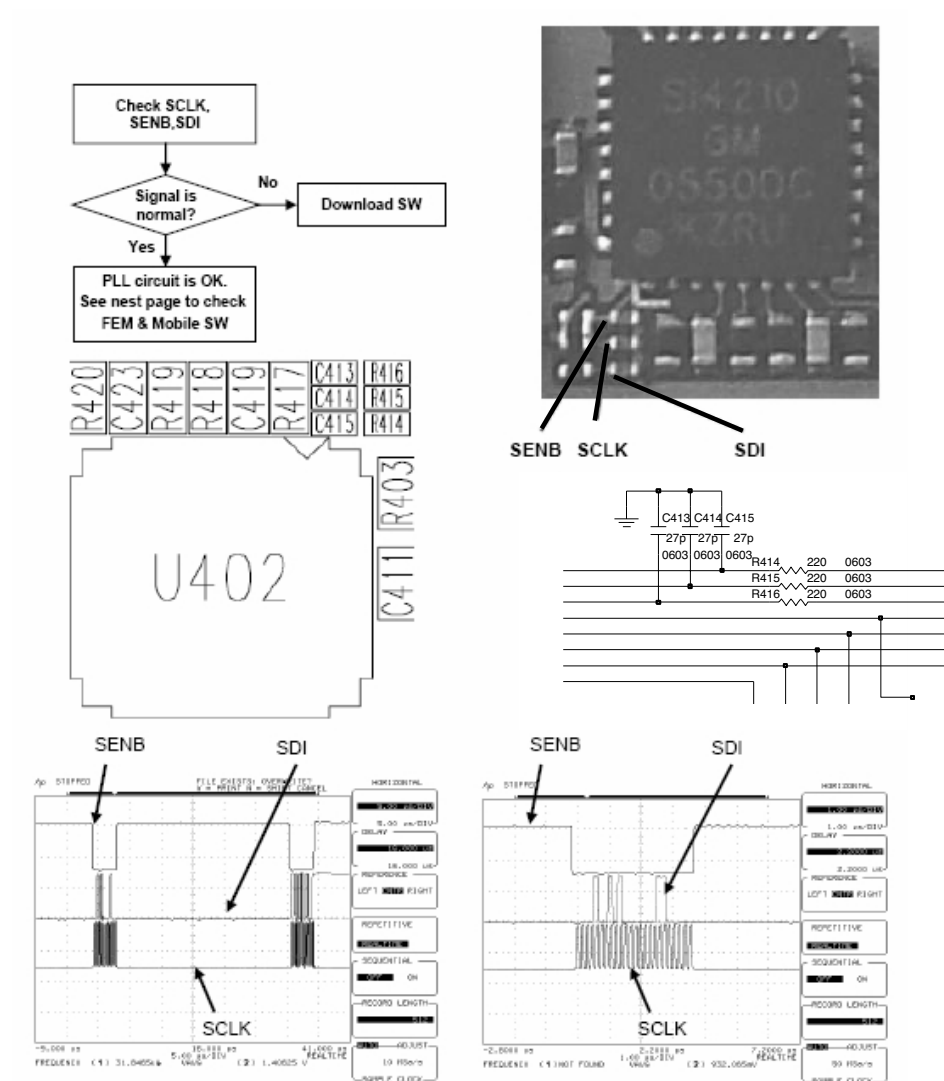
4. TROUBLE SHOOTING

C. RF Receiving Path Trouble Shooting (VCTCXO Circuits)

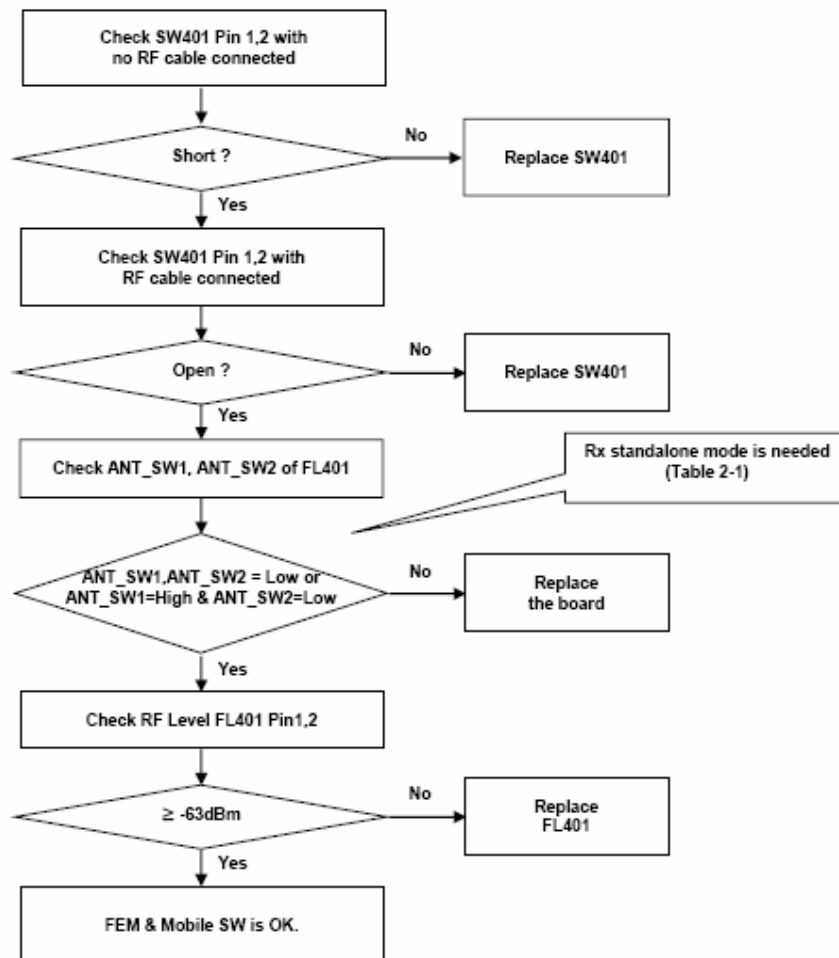


4. TROUBLE SHOOTING

D. RF Receiving Path Trouble Shooting (PLL Circuits)

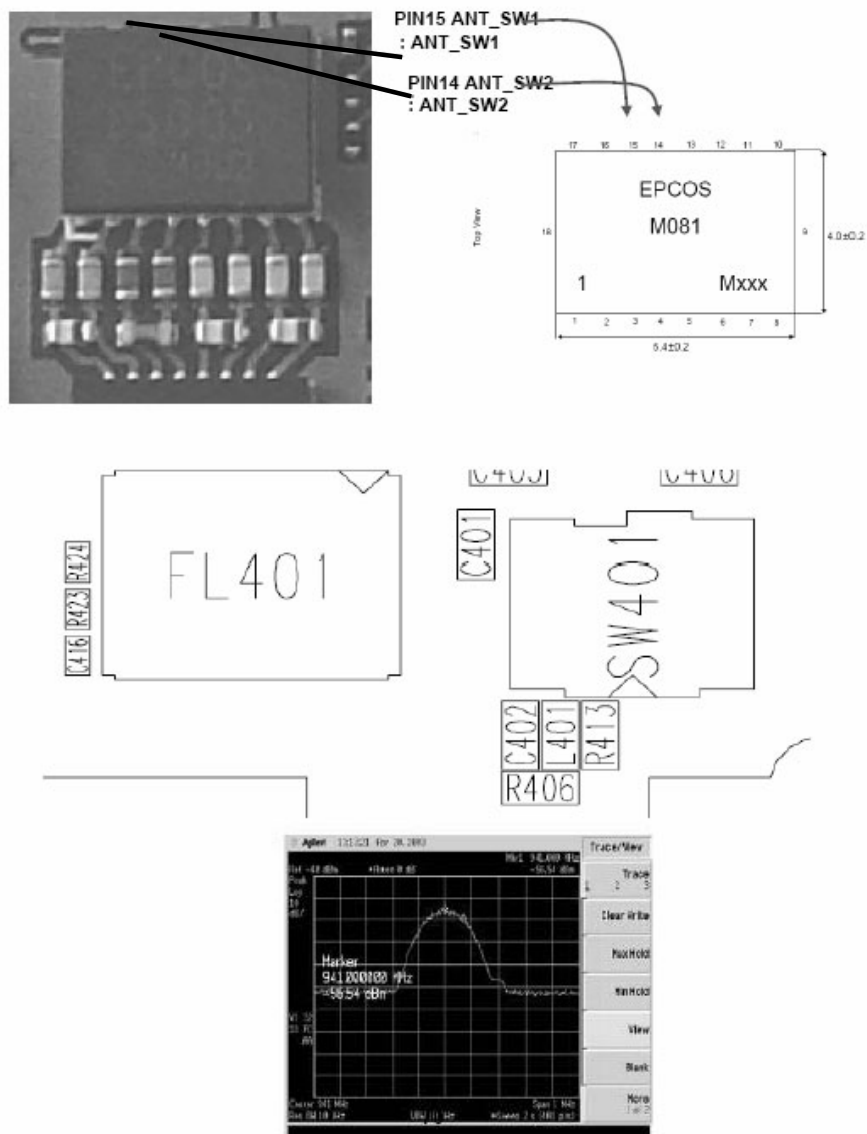


E. RF Receiving Path Trouble Shooting (FEM-1)



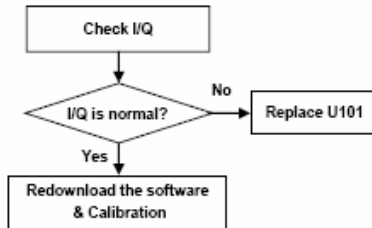
4. TROUBLE SHOOTING

F. RF Receiving Path Trouble Shooting (FEM-2)

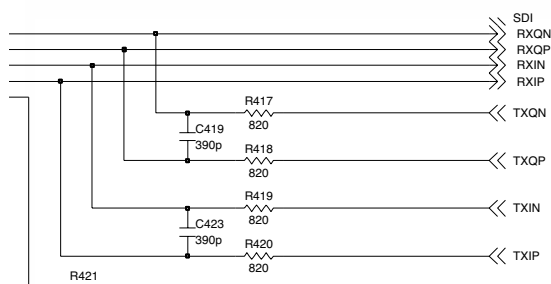
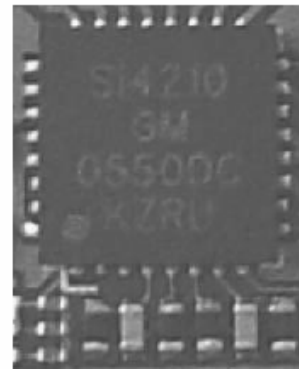
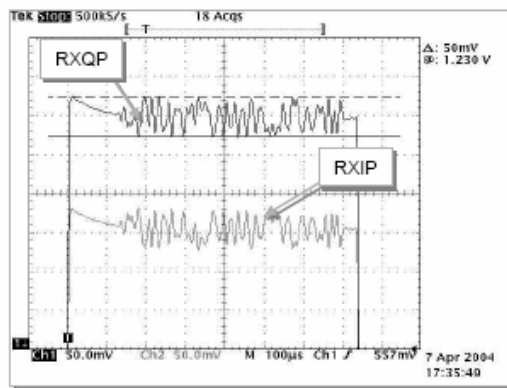
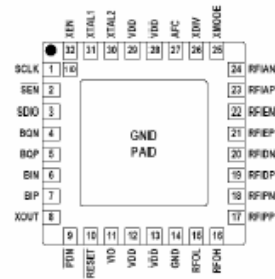


4. TROUBLE SHOOTING

G. RF Receiving Path Trouble Shooting (RX I&Q)

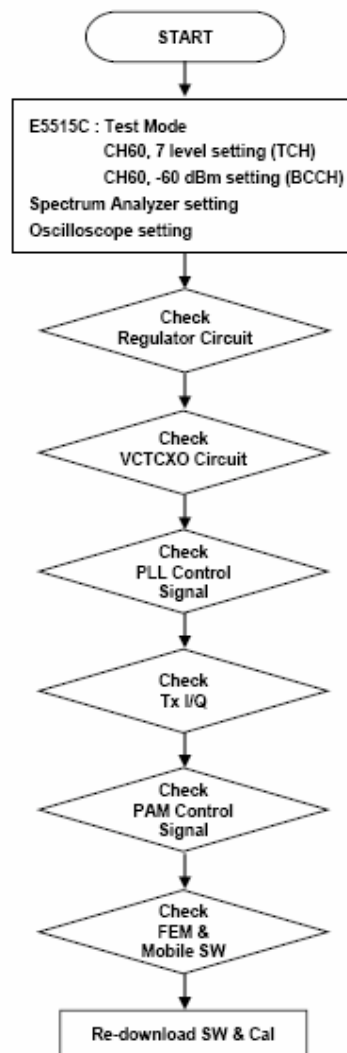


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(Pin descriptions, see page 27)



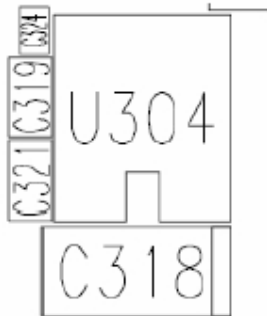
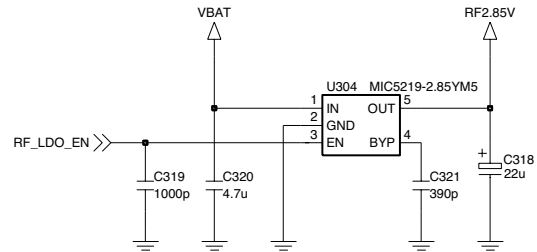
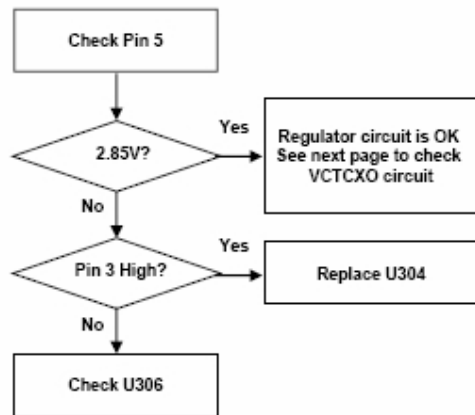
4. TROUBLE SHOOTING

H. RF Transmitter Path Trouble Shooting



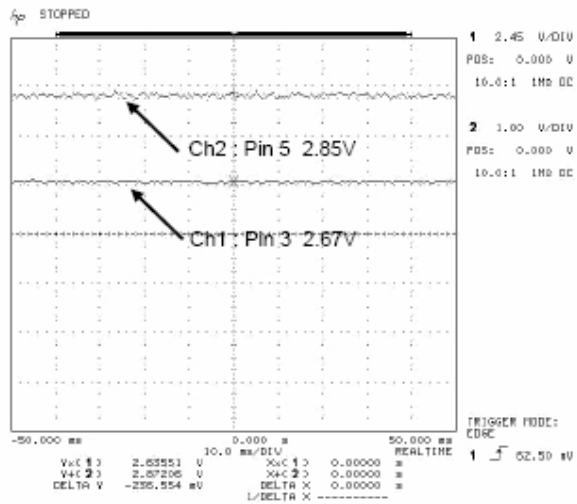
4. TROUBLE SHOOTING

I. RF Transmitter Path Trouble Shooting (Regulator Circuits)



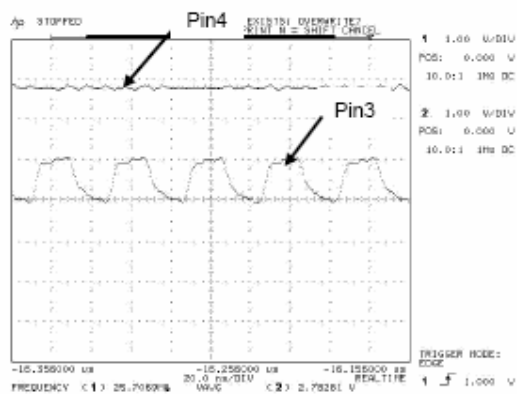
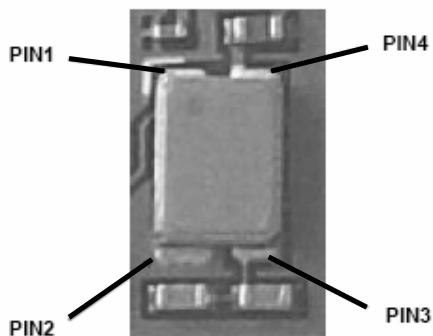
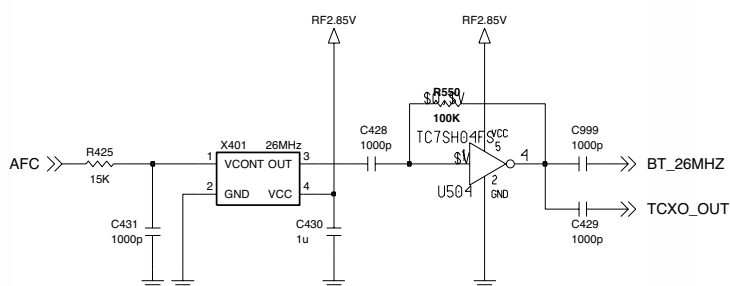
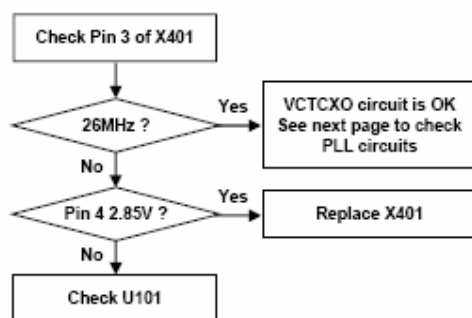
PIN5

PIN3



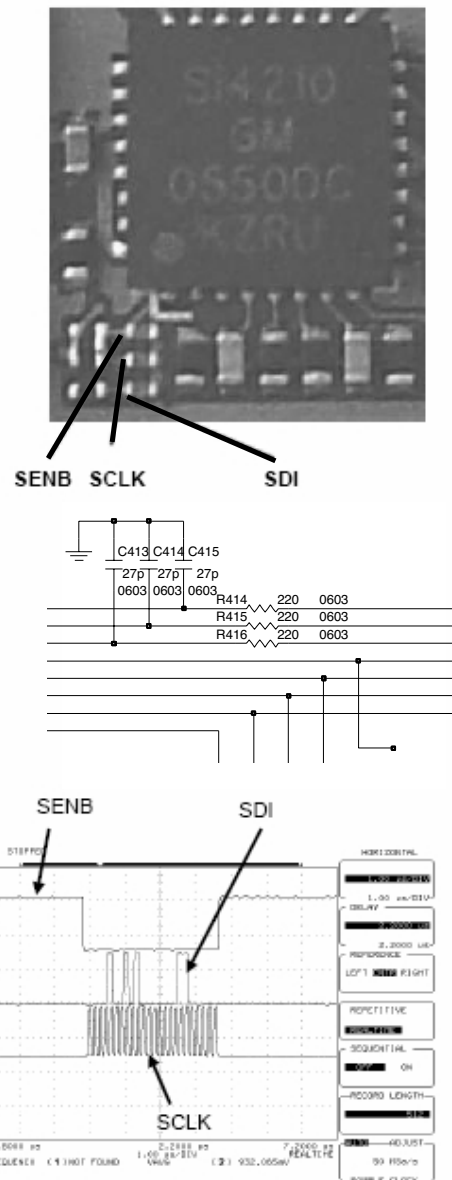
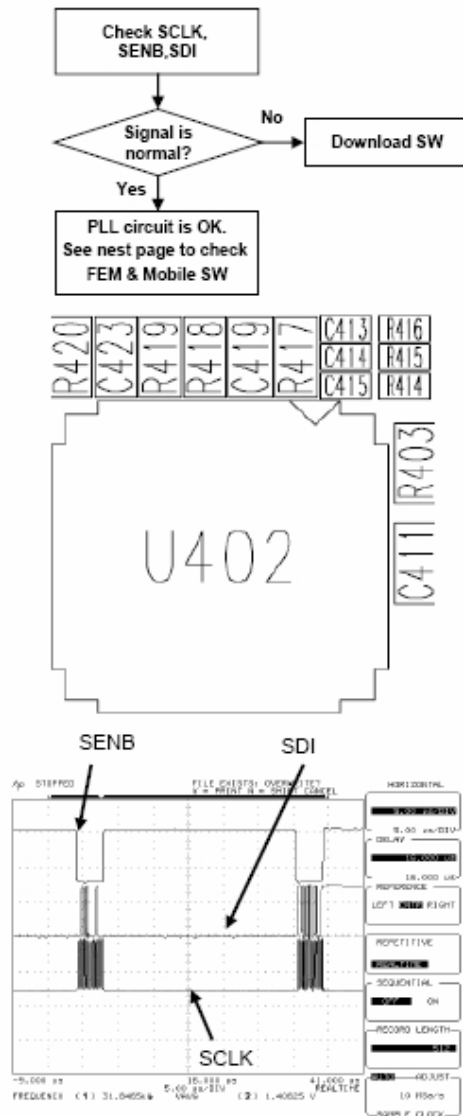
4. TROUBLE SHOOTING

J. RF Transmitter Path Trouble Shooting (VCTCXO Circuits)



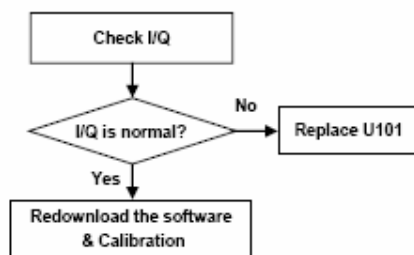
4. TROUBLE SHOOTING

K. RF Transmitter Path Trouble Shooting (PLL Circuits)

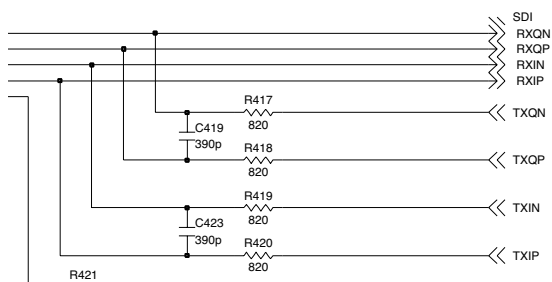
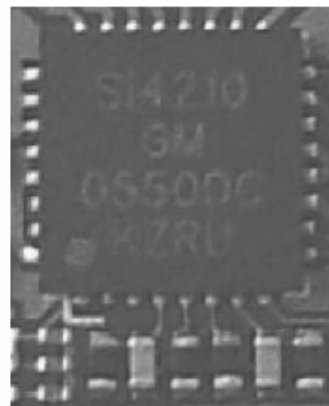
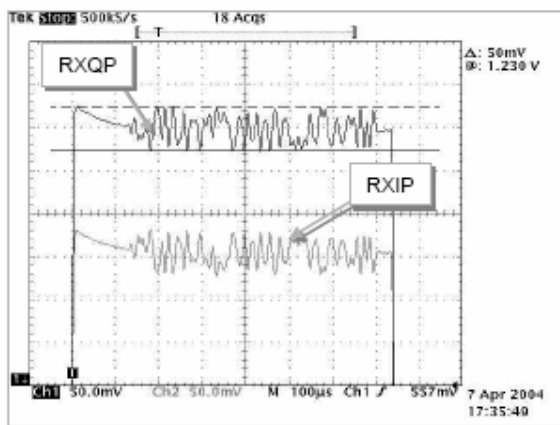
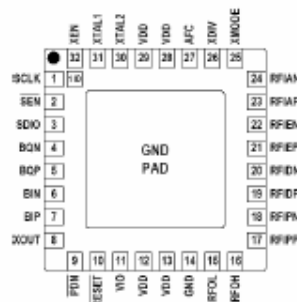


4. TROUBLE SHOOTING

L. RF Transmitter Path Trouble Shooting (I&Q Circuit)

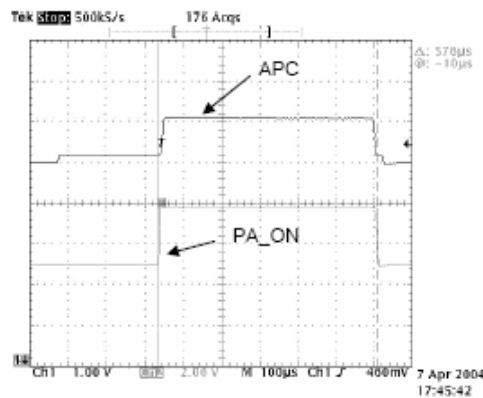
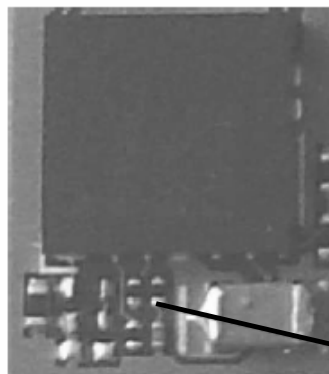
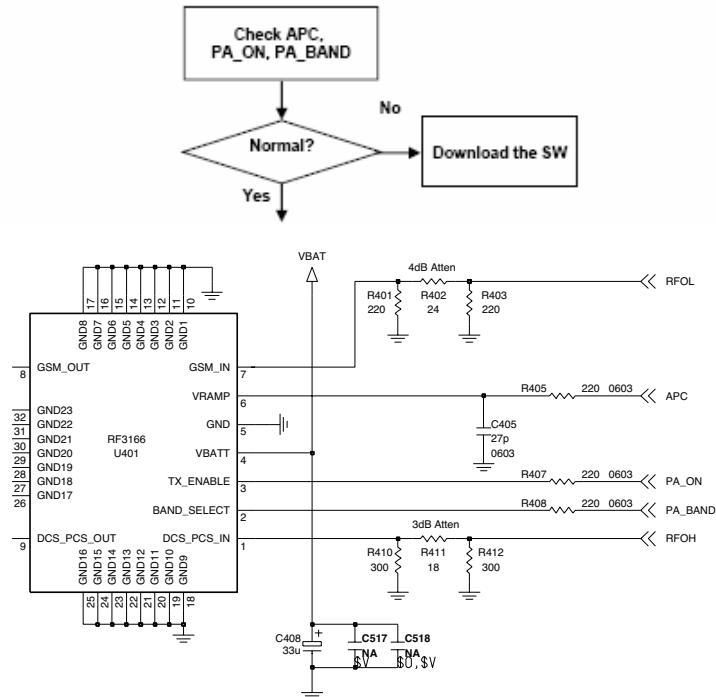


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(Pin descriptions, see page 27)



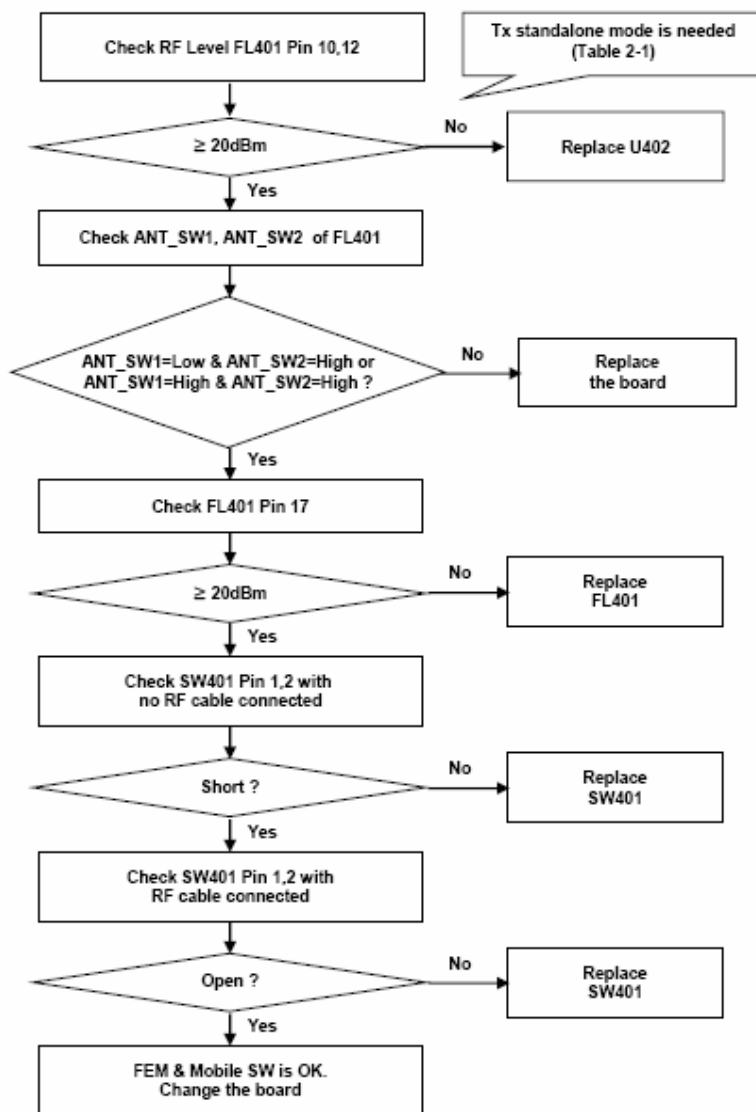
4. TROUBLE SHOOTING

M. RF Transmitter Path Trouble Shooting (PAM Control Signal)



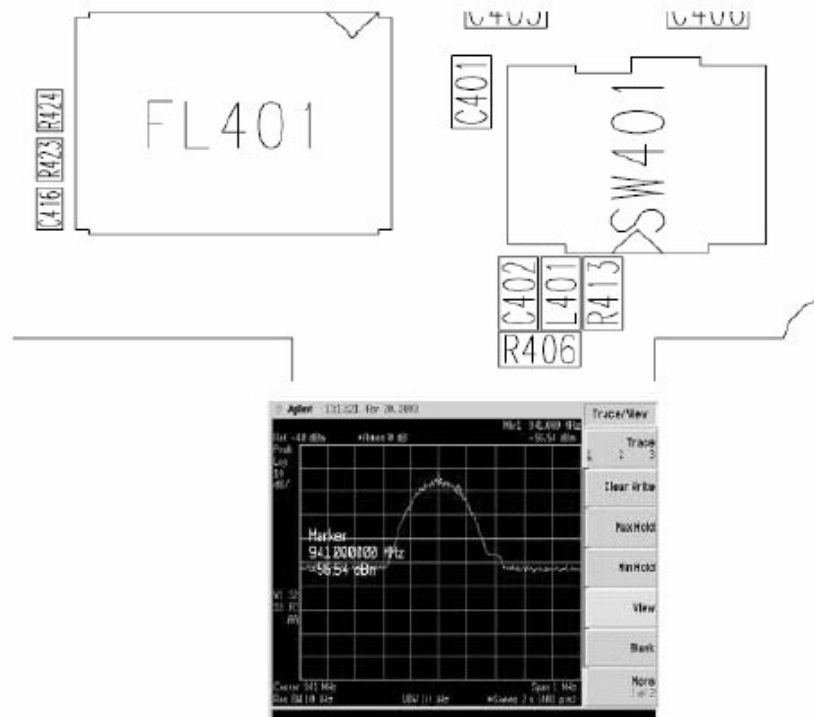
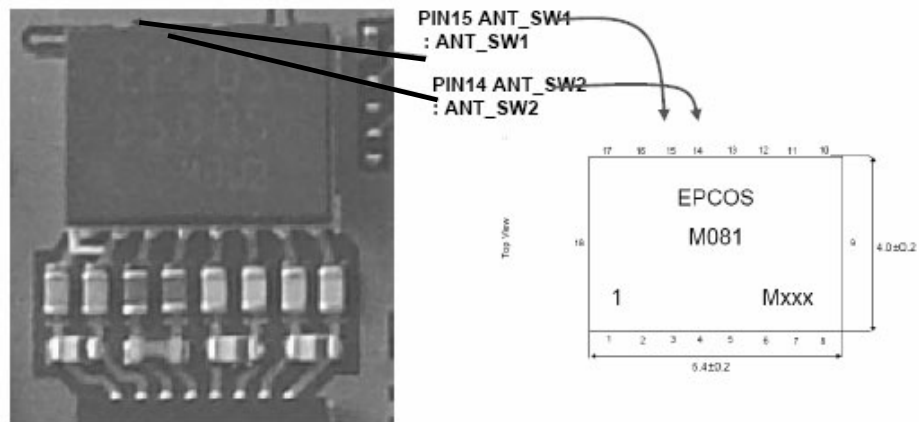
4. TROUBLE SHOOTING

N. RF Transmitter Path Trouble Shooting (FEM -1)



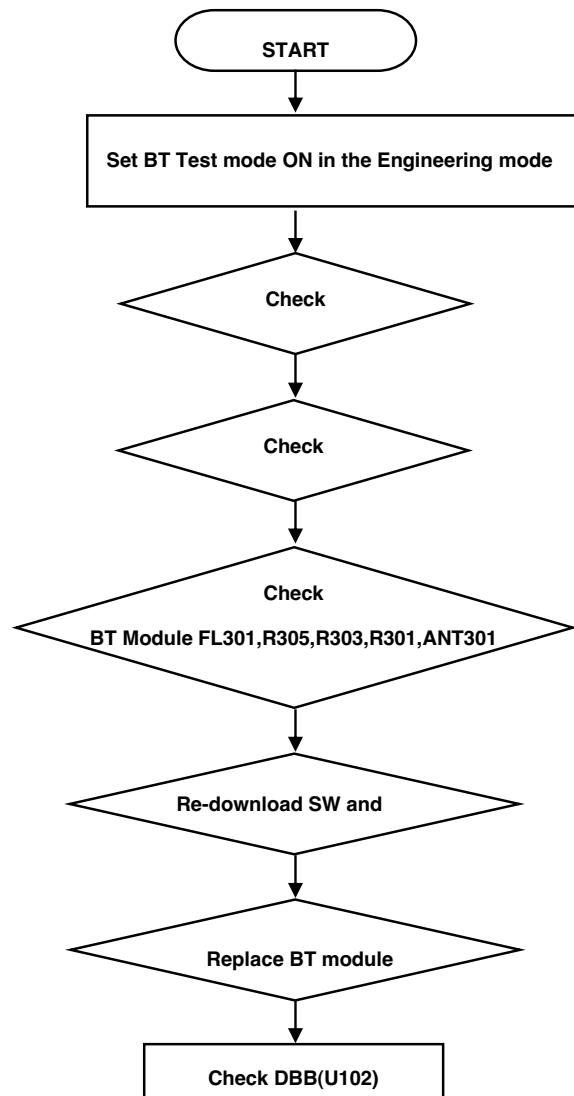
4. TROUBLE SHOOTING

O. RF Transmitter Path Trouble Shooting (FEM -2)

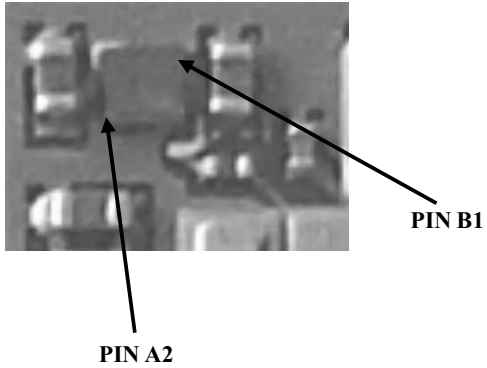
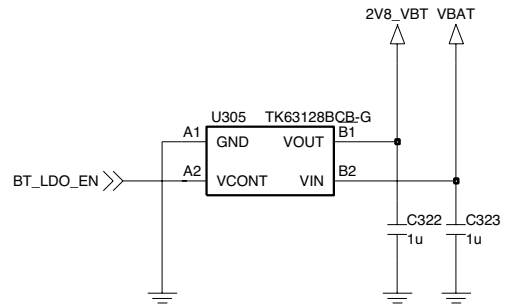
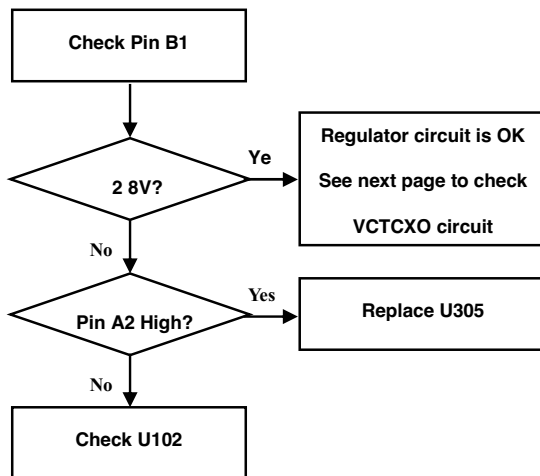


4. TROUBLE SHOOTING

4.3 Bluetooth Trouble

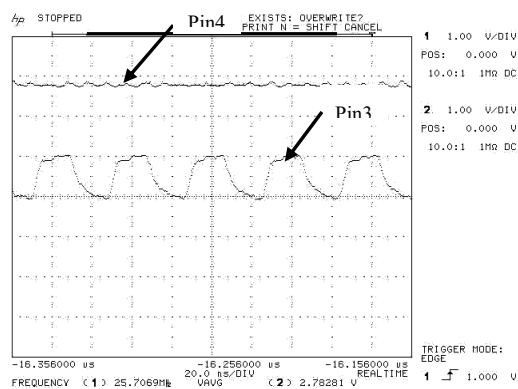
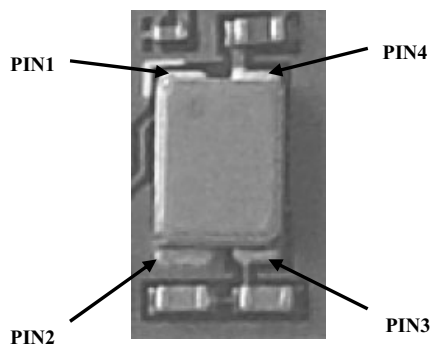
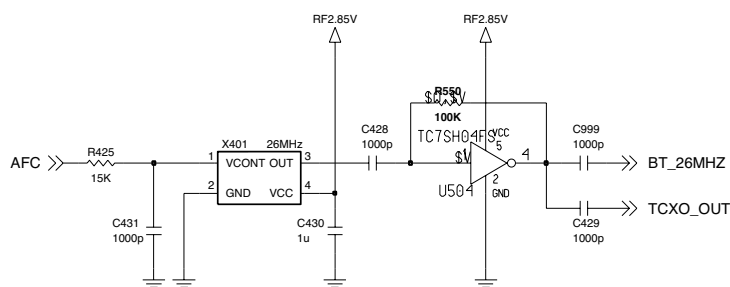
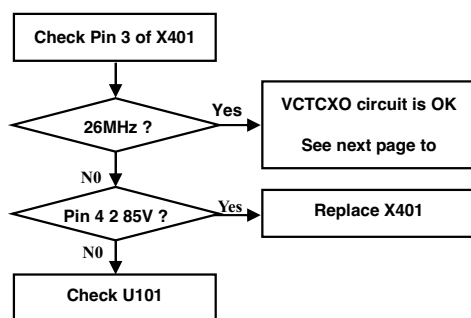


4.3.1 Checking Regulator Circuit



4. TROUBLE SHOOTING

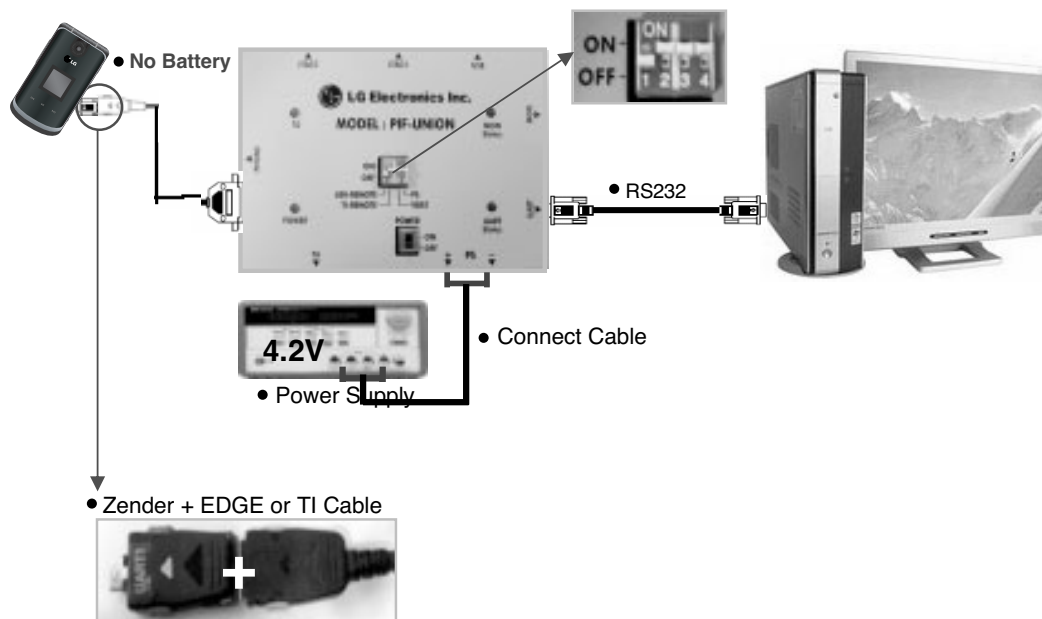
4.3.2 Checking VCTCXO Circuit



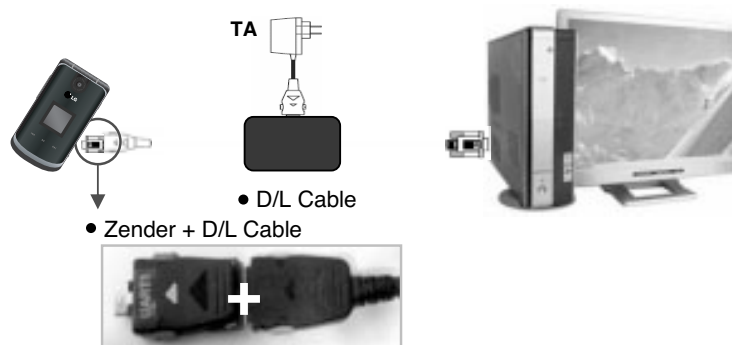
5. DOWNLOAD

5.1 H/W Tool Setup

1) Type 1



2) Type 2



5. DOWNLOAD

5.2 Install & Directory structure

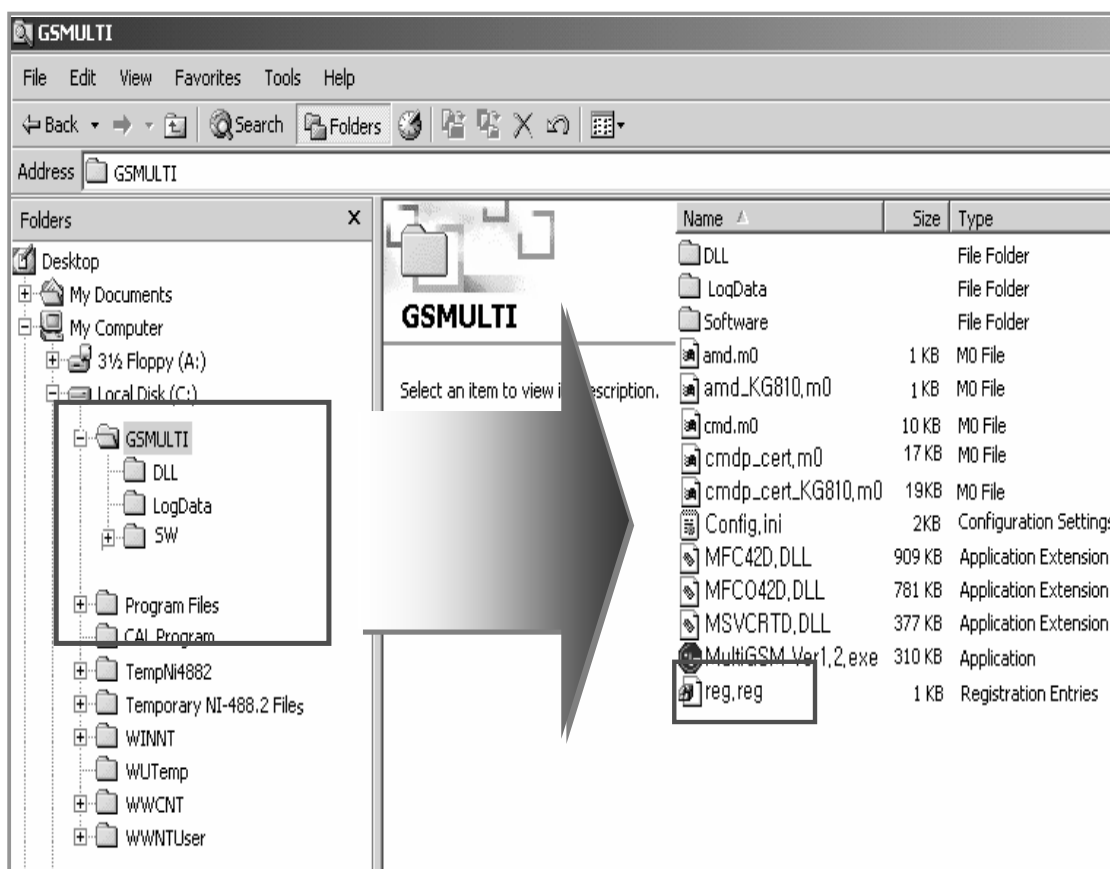
1) Copy. GSMULTI D/L Program in local Disk(C:) only.

- Folder name : Only "GSMULTI"
- * Service Bulletin No : DTAD20063088
- This program and DLL file and SW is on GCSC Website

2) Registry of GSMULTI Program

- Execute by double click :  reg.reg

3) After Install Directory structure



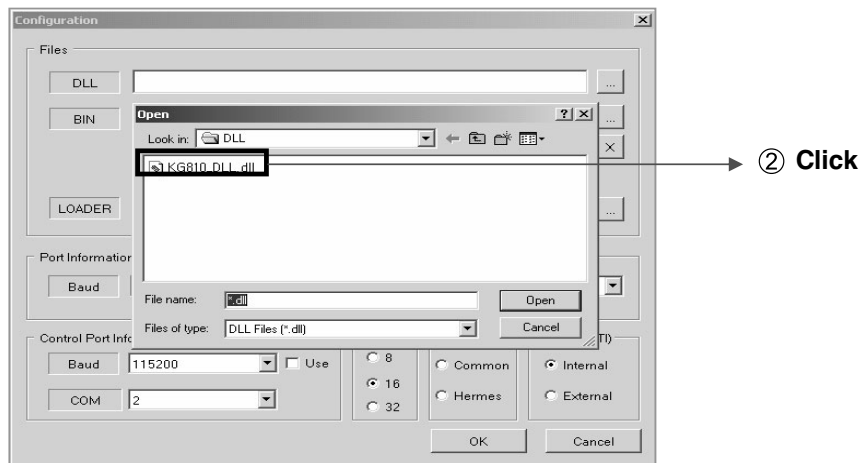
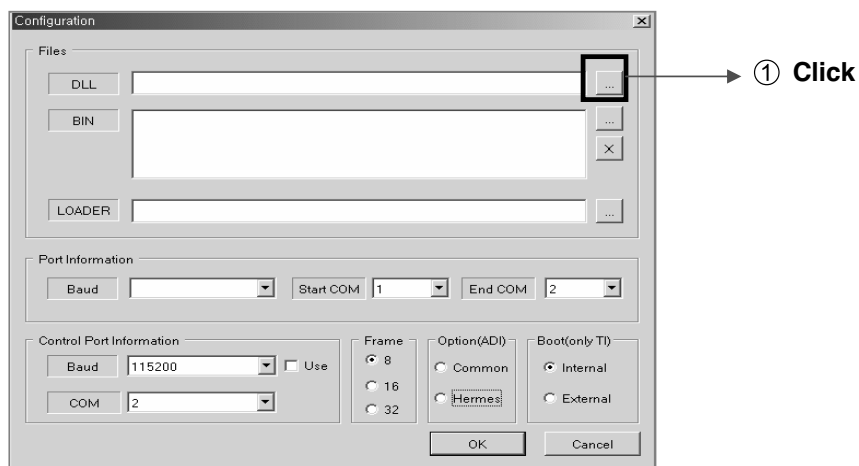
- Use.OS of PC is window2000 or XP

5.3 Configuration setting

1) Choose DLL

Copy! KG810 DLL File in DLL folder

- Path of Dll folder : Local(C:) → GSMULTI Folder→ Dll Folder
- Dll file is on GCSC Website



• Path of Configuration Screen

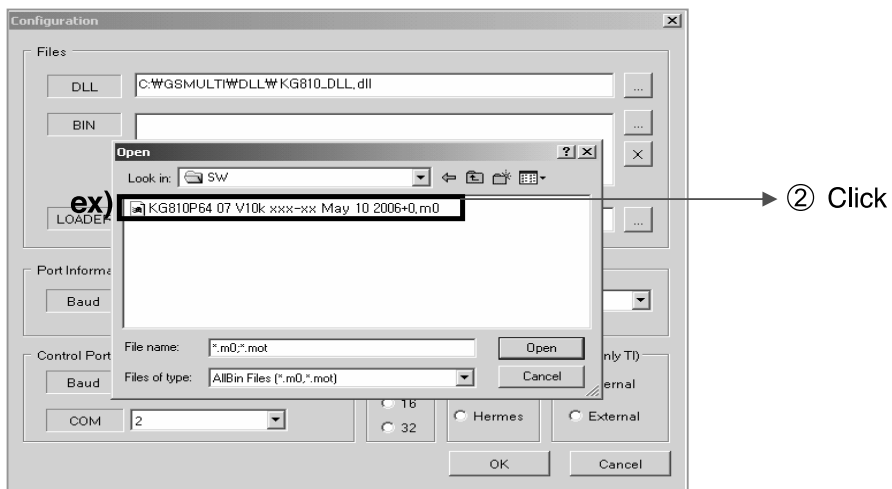
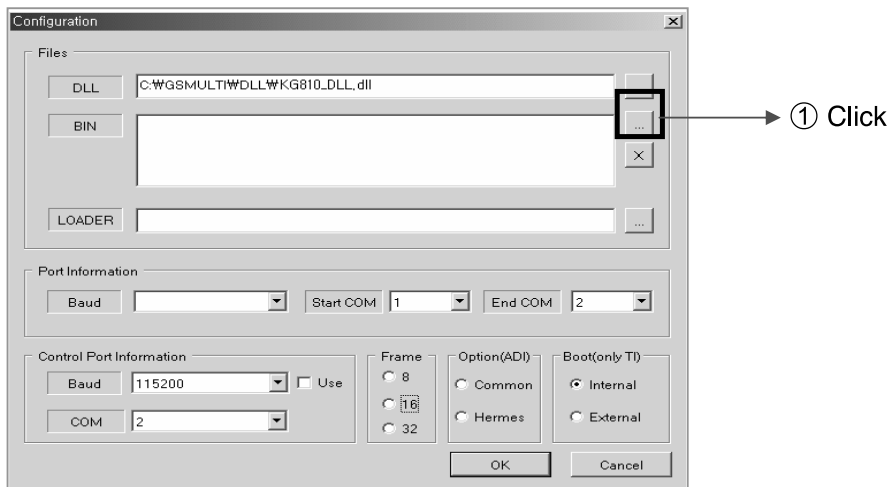
Local(c:) → GSMULTI → MultiGSM Ver1,2.exe → Setting(S) → Configuration

5. DOWNLOAD

2) Choose SW

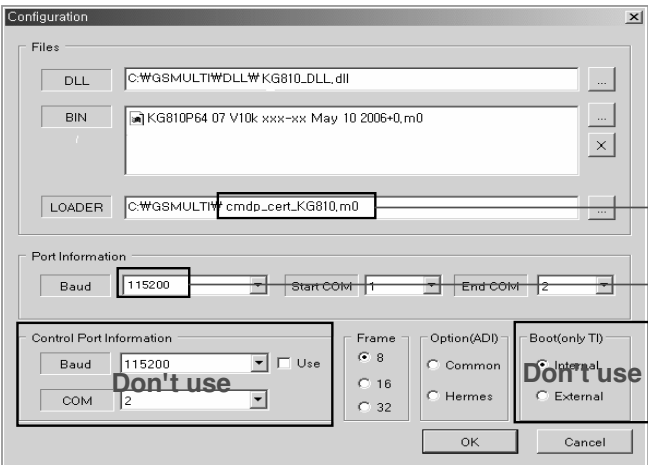
Copy! KG810 SW in SW folder

- Path of SW folder : Local(C:) → GSMULTI Folder → SW Folder
- SW is on GCSC Website



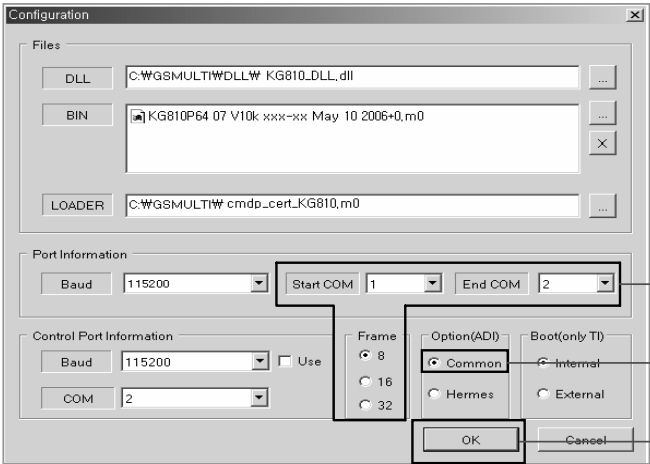
3) Choose Loader & Baud

-Loader file is in GSMULTI Folder
(Path:Local(C:) → GSMULTI Folder)



Loader name is
cmdp_cert_KG810.m0'
Only baud rate is 115,200

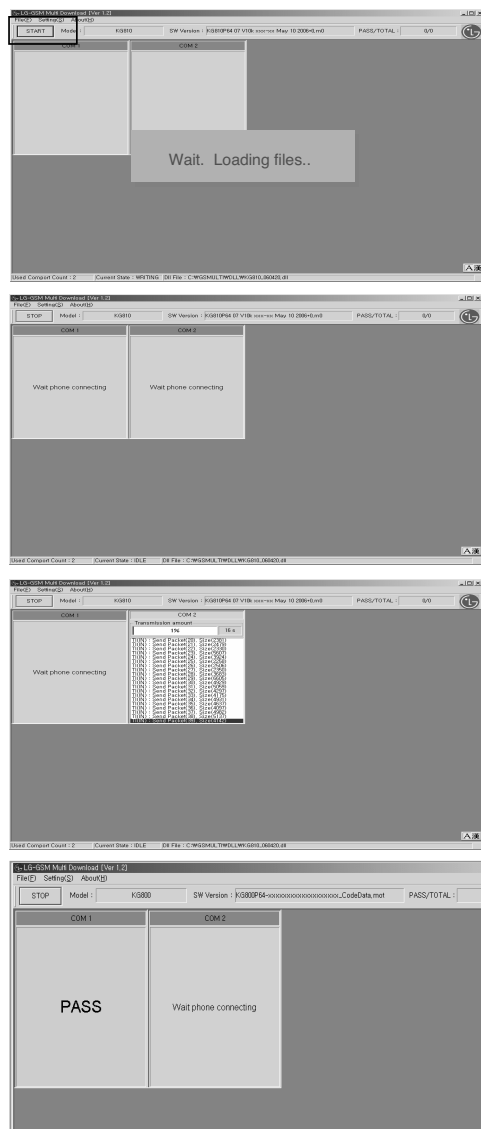
4) Others Setting



Capability
to change necessary condition
Common
After setting completed
"OK" Click.

5. DOWNLOAD

5.4 Download sequence



After connect the phone then click "START"
(Power should be off)

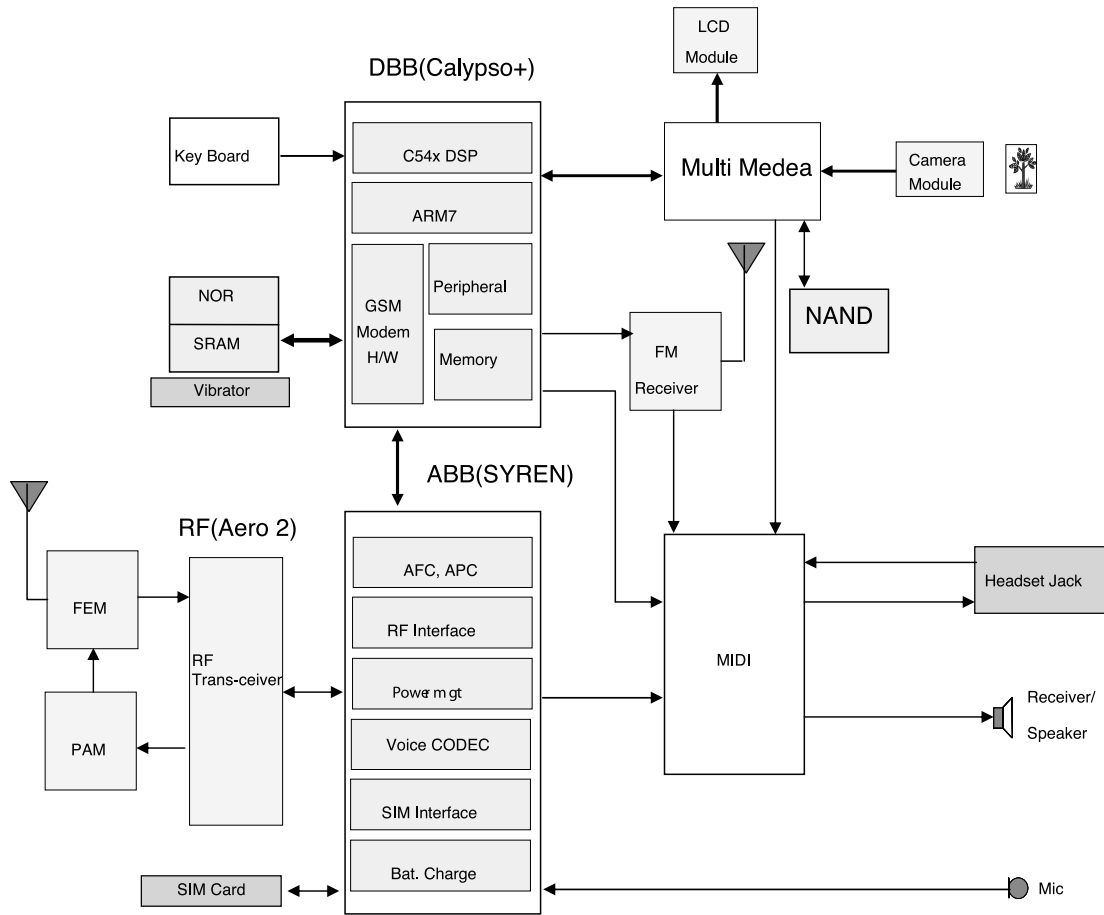
Power supply to phone

Running Time = 1090~1100sec
(Baud is 115,200bps)

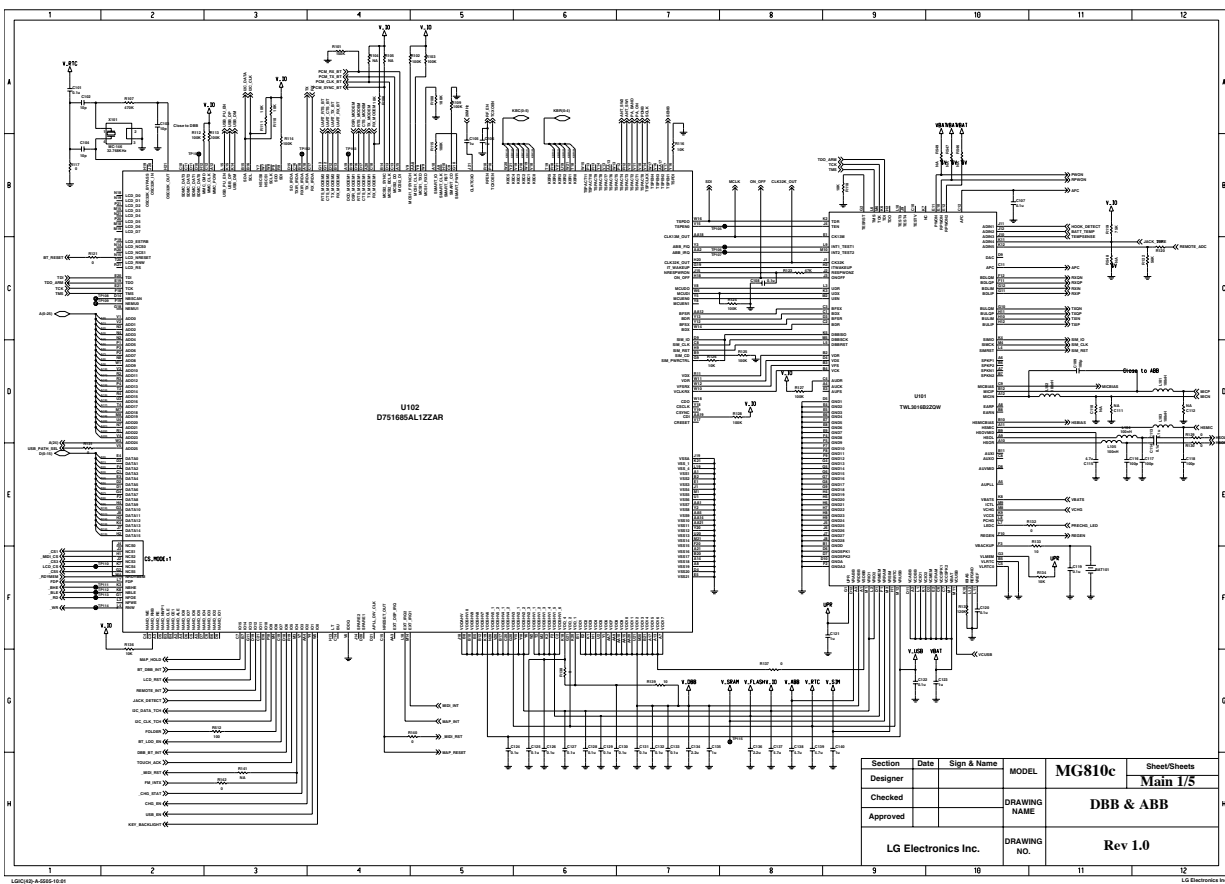
After passing program
and confirming phone power on.
and then disconnect cable from phone.

When you follow up this procedure, If you have some problem, Pls. do again first.

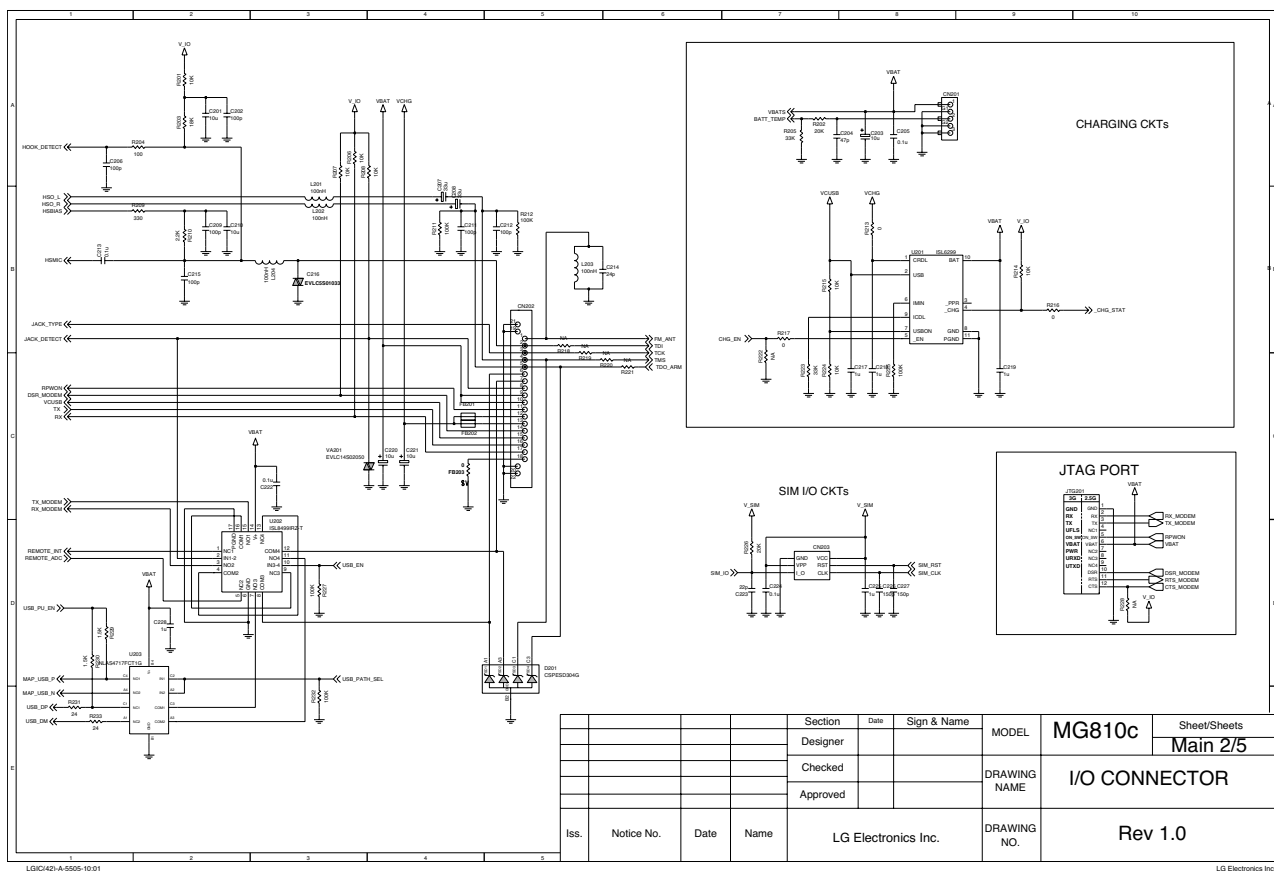
6. Block Diagram



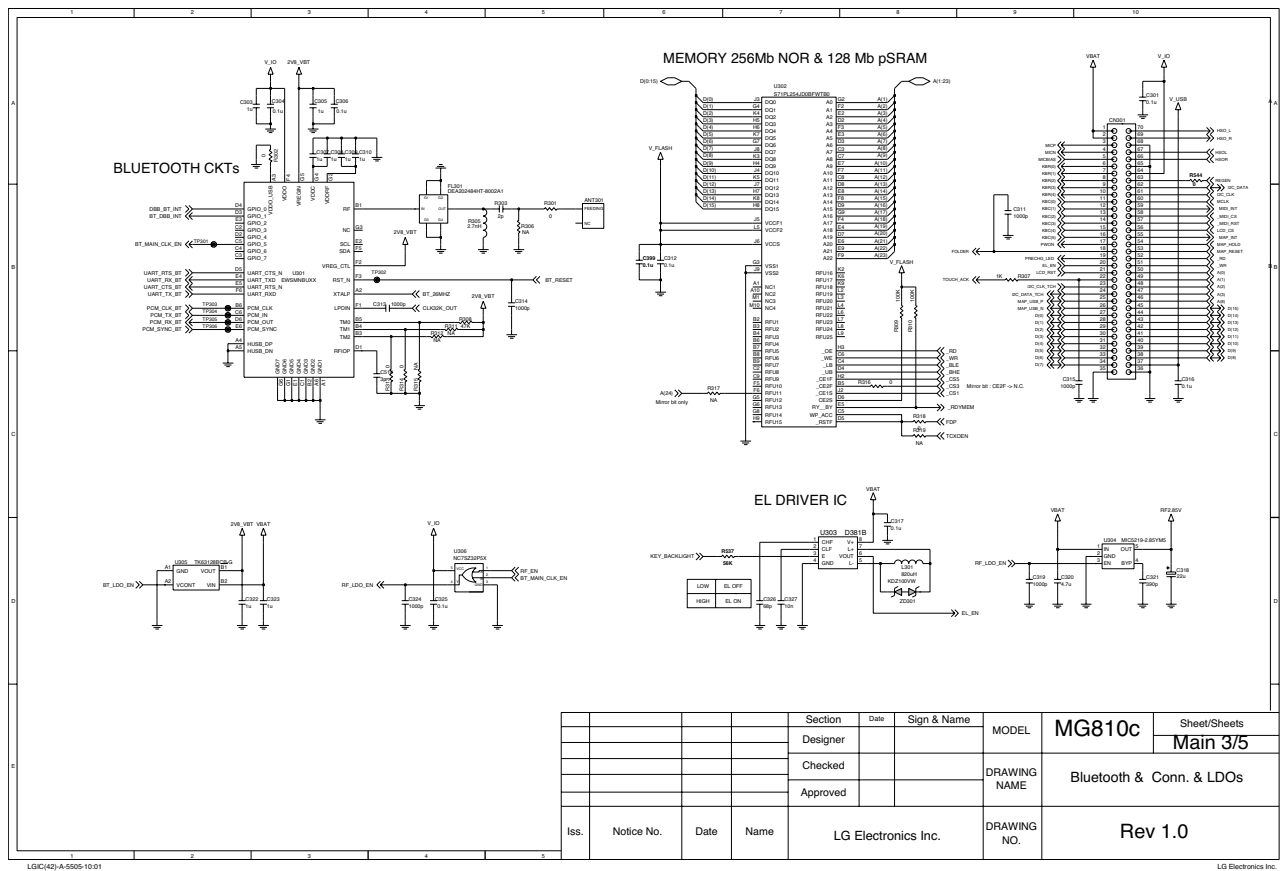
7. CIRCUIT DIAGRAM



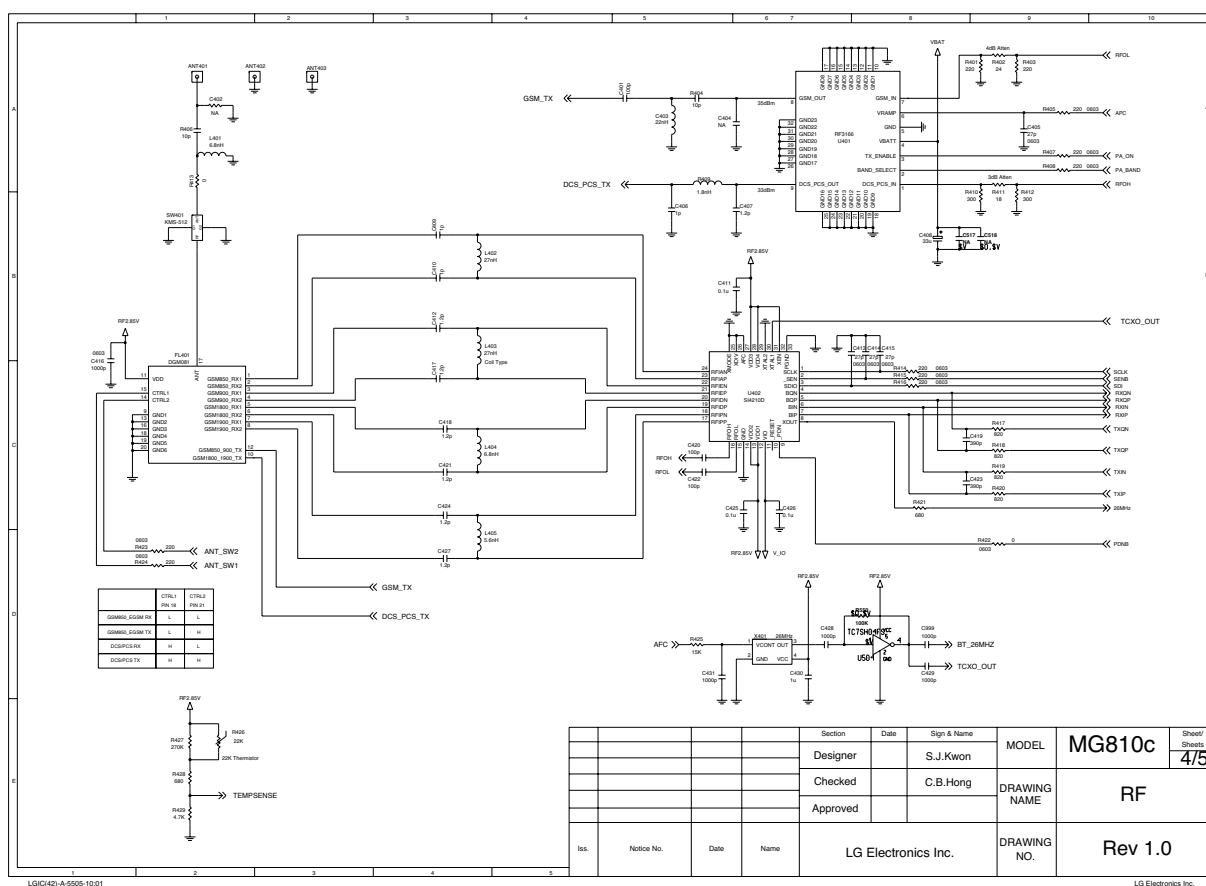
7. CIRCUIT DIAGRAM



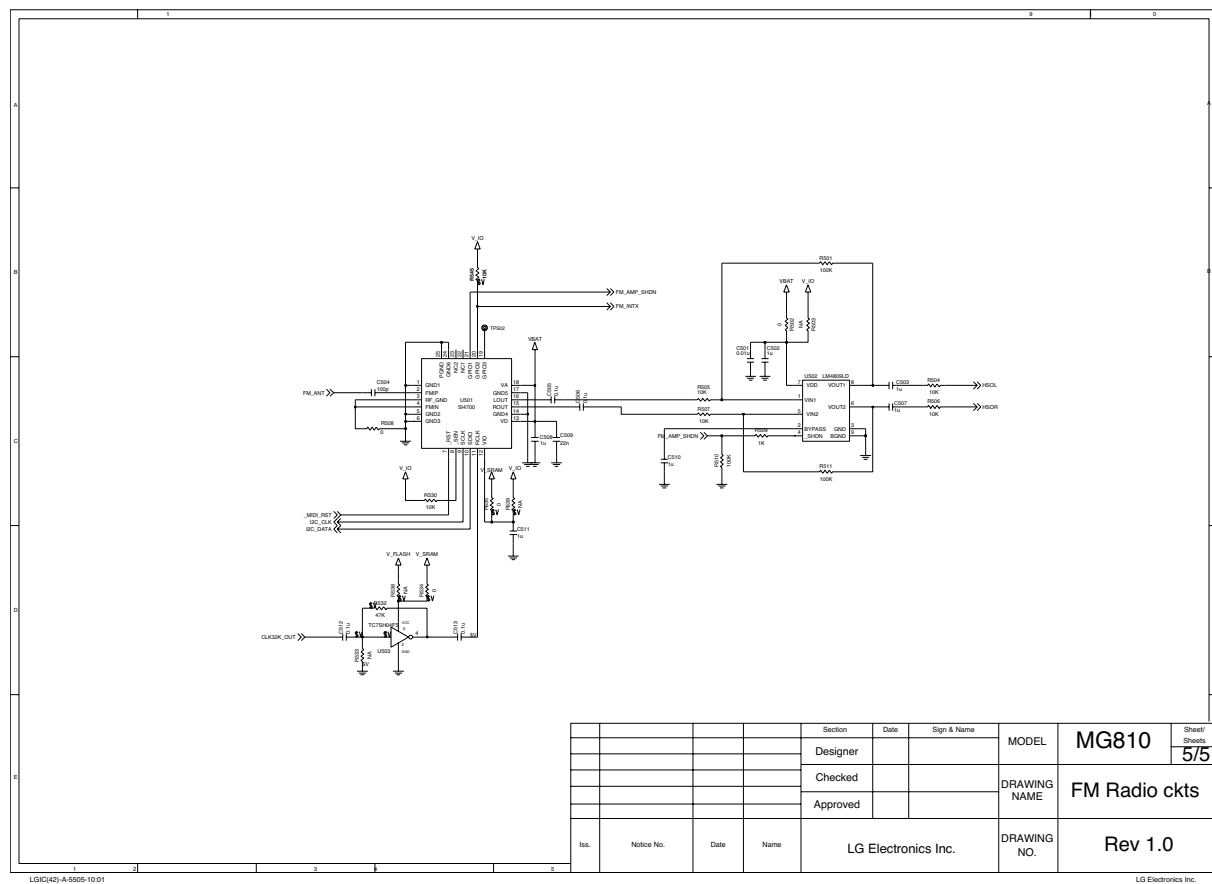
7. CIRCUIT DIAGRAM



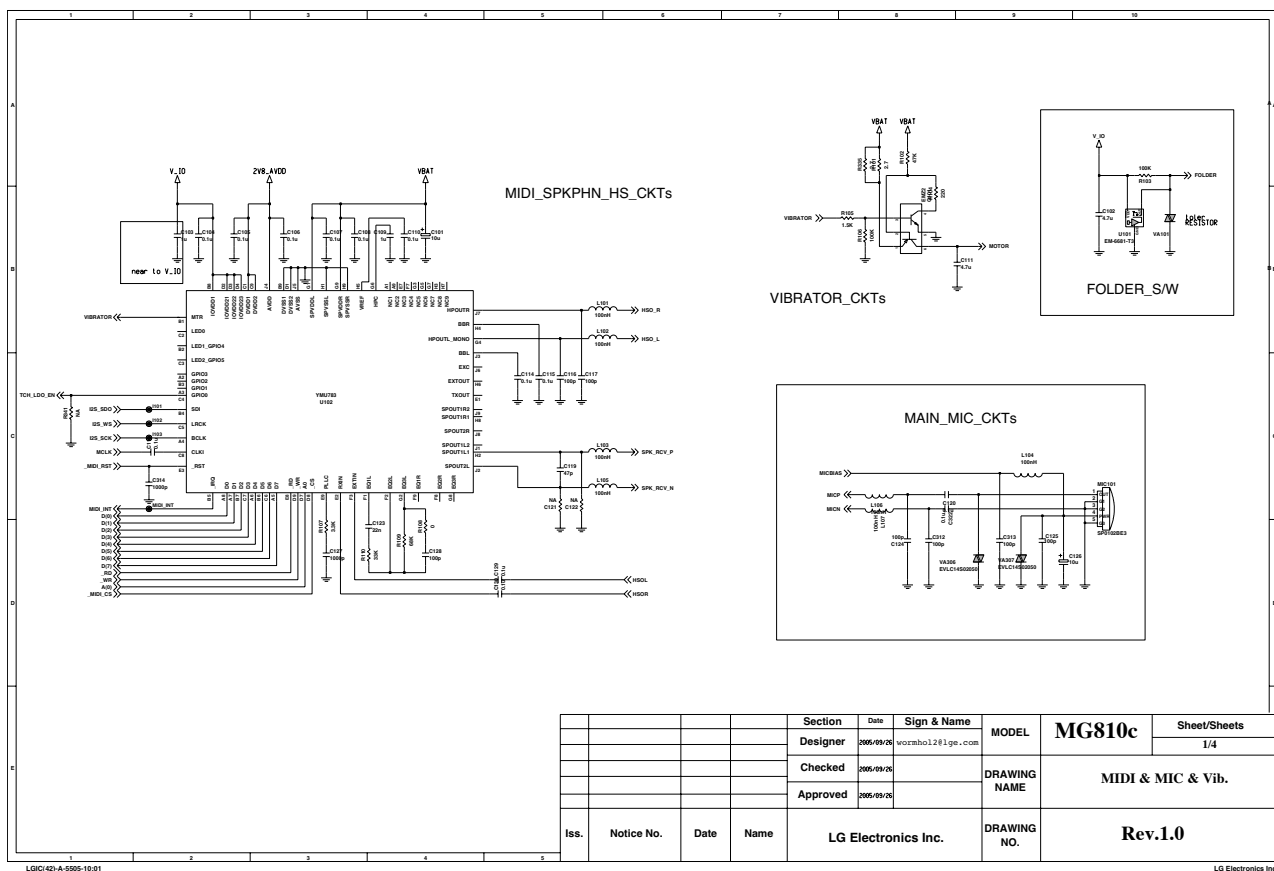
7. CIRCUIT DIAGRAM



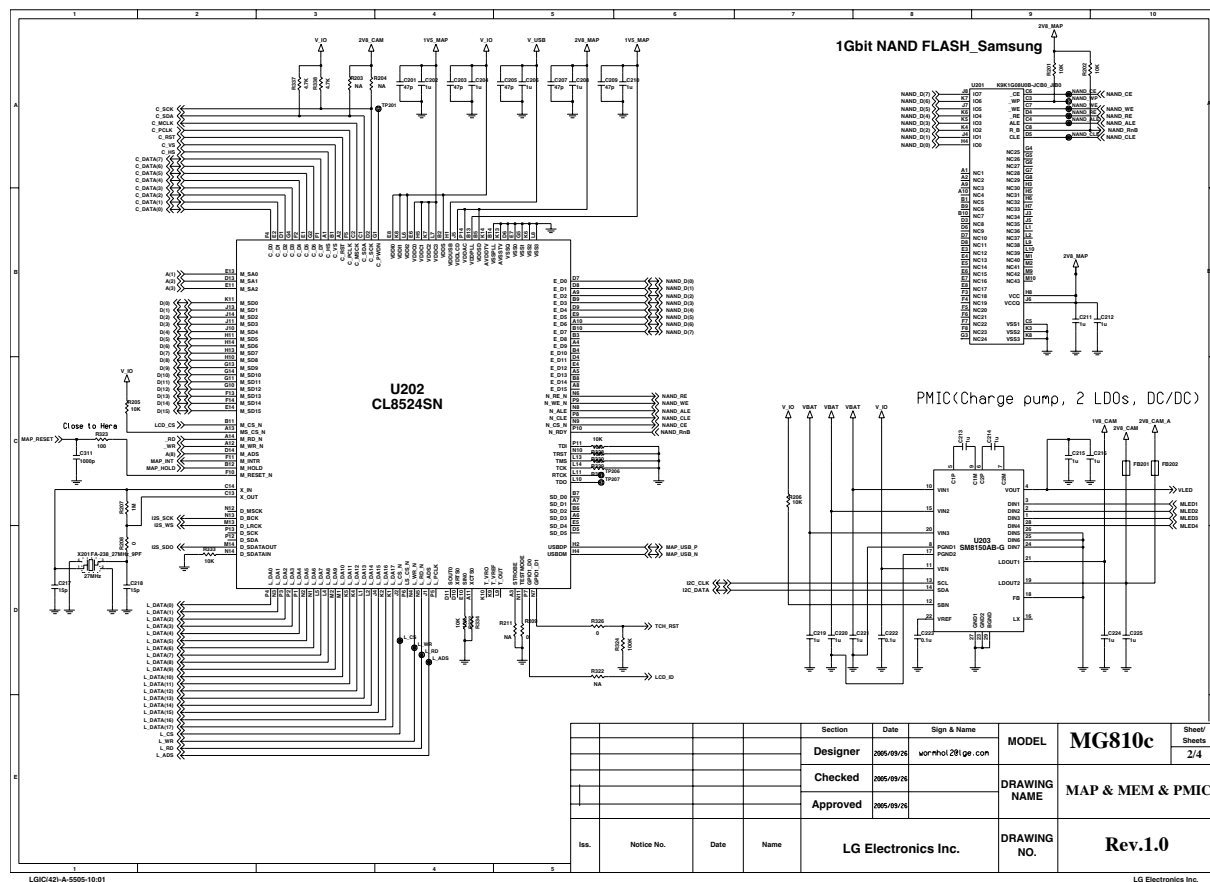
7. CIRCUIT DIAGRAM



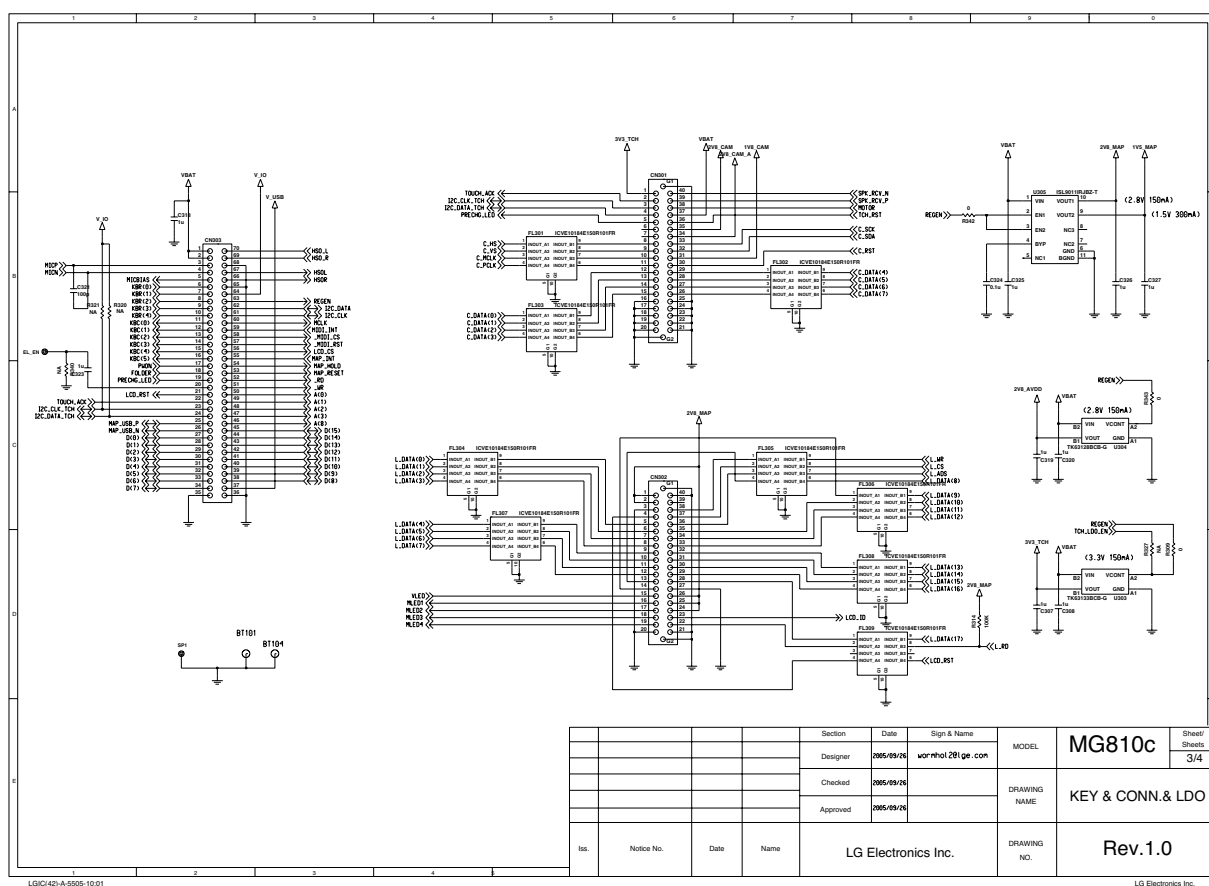
7. CIRCUIT DIAGRAM



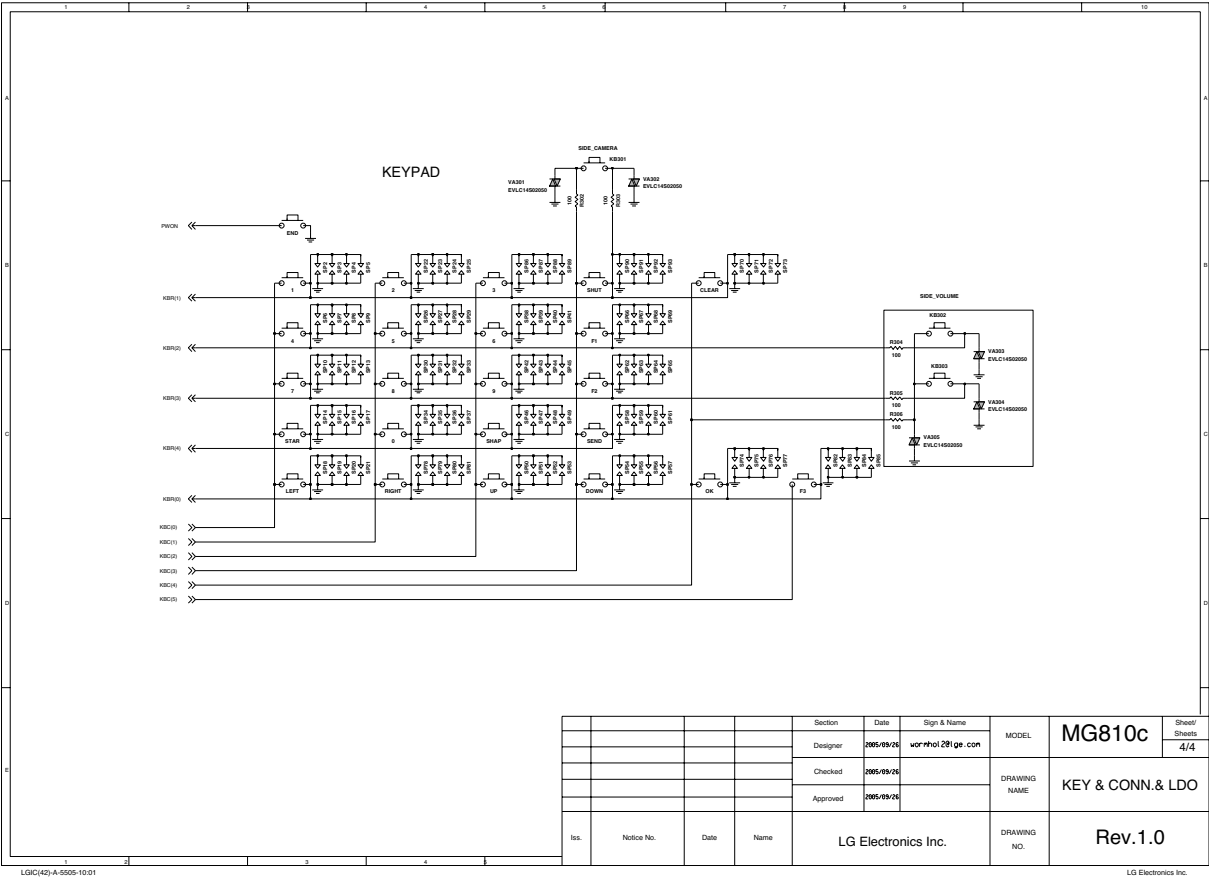
7. CIRCUIT DIAGRAM



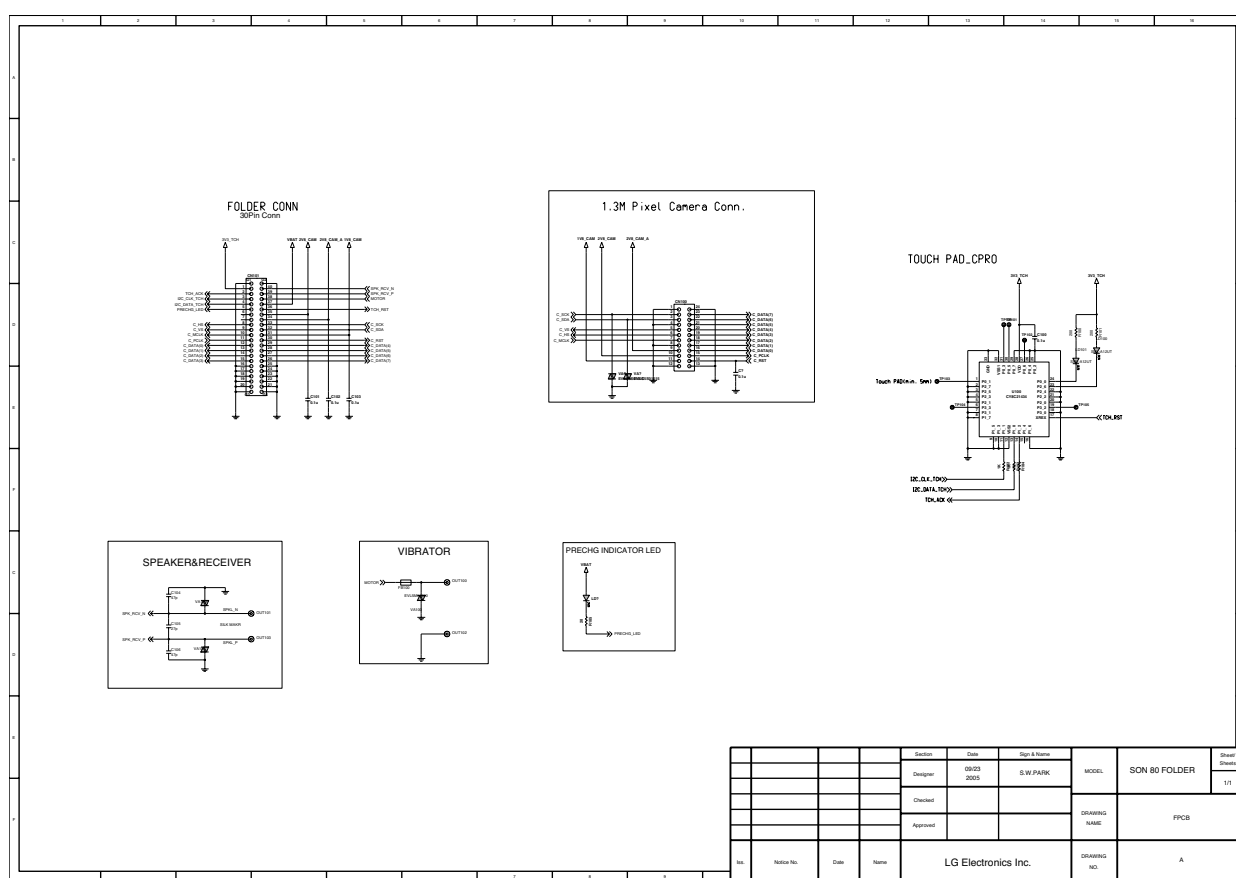
7. CIRCUIT DIAGRAM



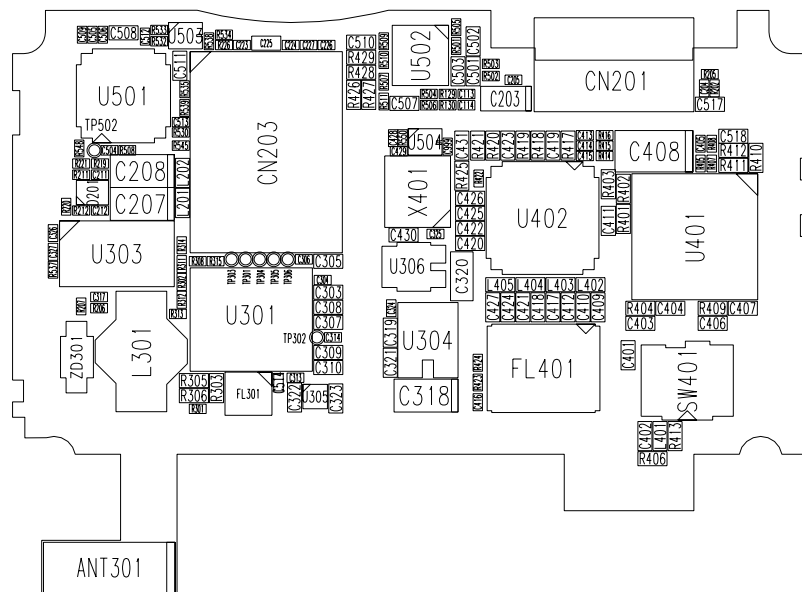
7. CIRCUIT DIAGRAM



7. CIRCUIT DIAGRAM

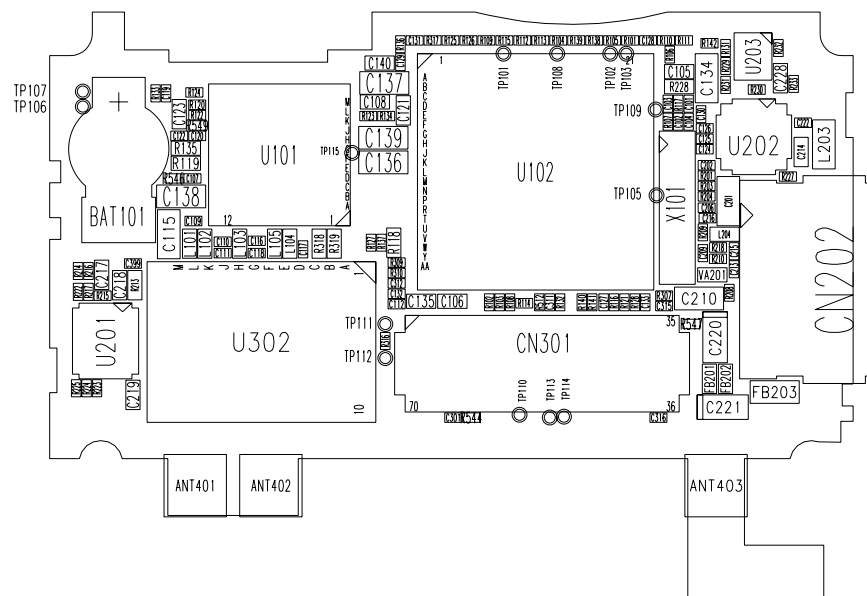


8. PCB LAYOUT



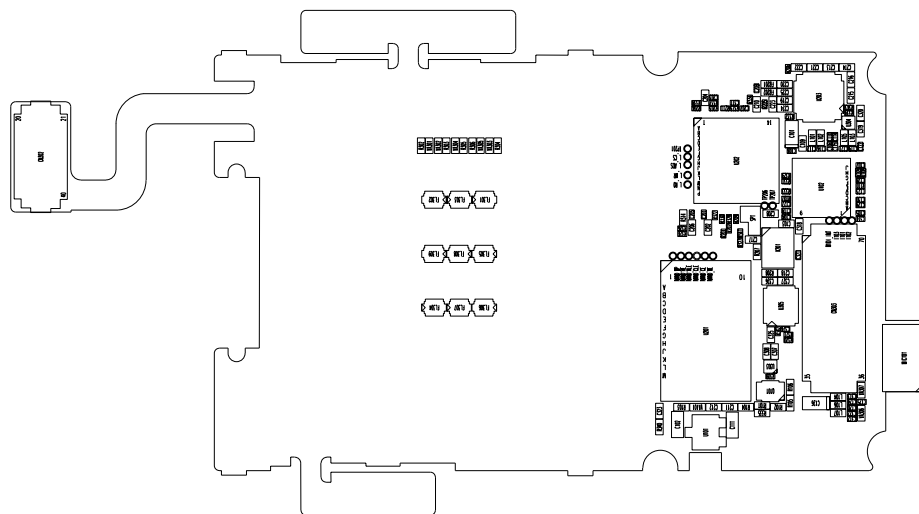
MG810c-SPFY0121101-1.0-TOP

8. PCB LAYOUT



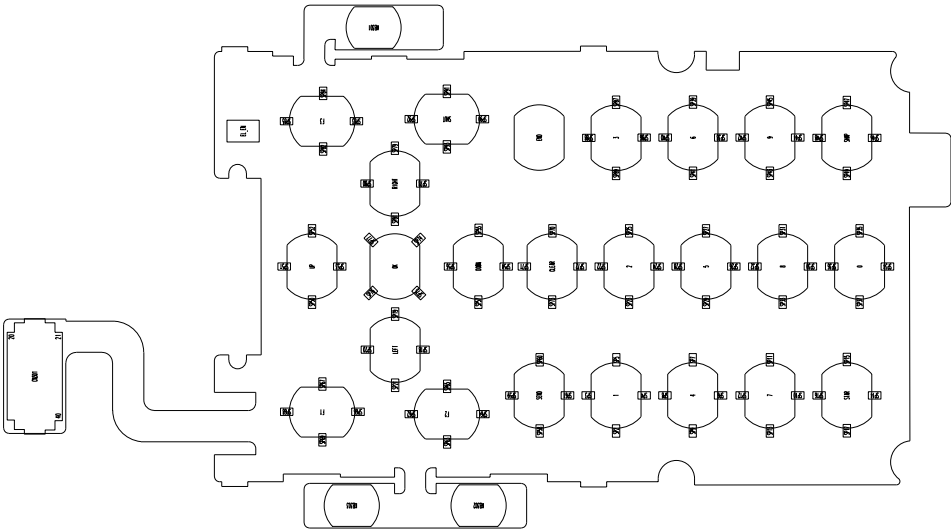
MG810c-SPFY0121101-1.0-BTM

8. PCB LAYOUT



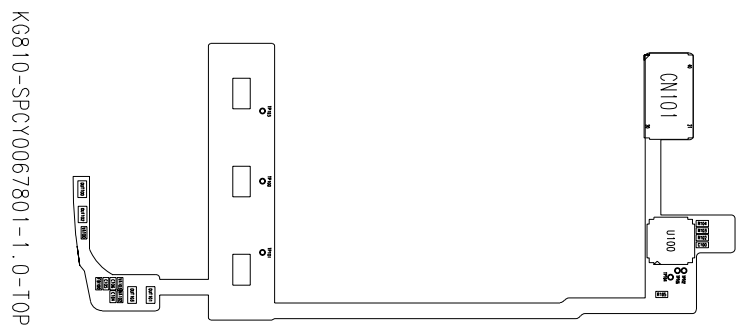
MG810c-SPEY0040801-1.0-T0P

8. PCB LAYOUT

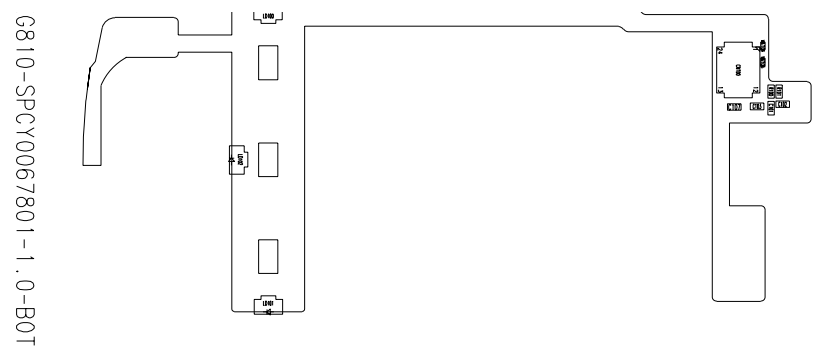


MG810c-SPEY0040801-1.0-B0T

8. PCB LAYOUT

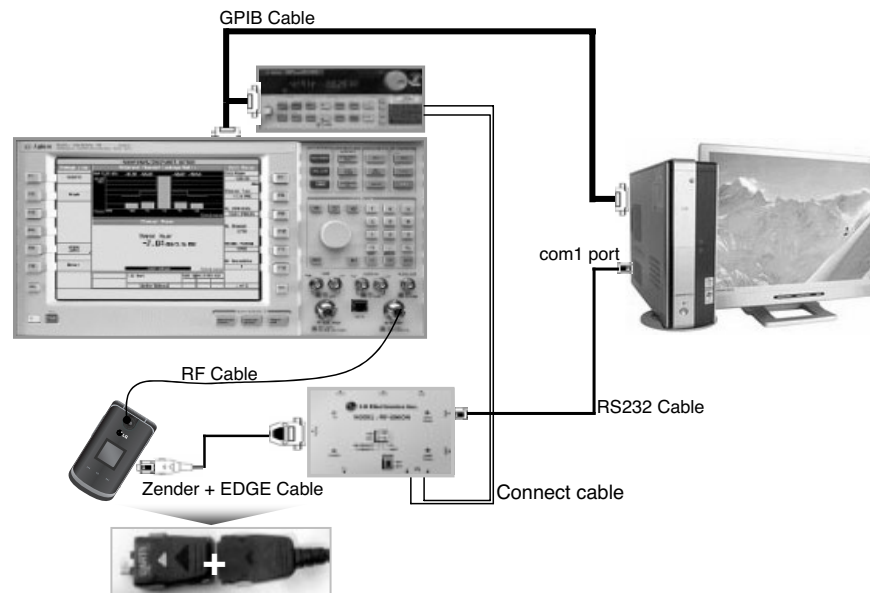


8. PCB LAYOUT



9. Calibration

9.1 H/W Tool Setup



H/W Tool Setup (RF test test : 8960)

Tool List	Option	Reference
RF test set	8960/ Agilent	Address 1
Power Supply	66311B/Agilent	Address 2
PC	Only Windolw2000 or WinXP	English Version
PIF Jig	Dip SW mode =Tl	
GPIB card & Install SW		
GPIB Cable		
RS 232 Cable		
RF Cable	RF400 or RF800	
I/O Cable	EDGE Cable + zender	
Connect cable		

9. Calibration

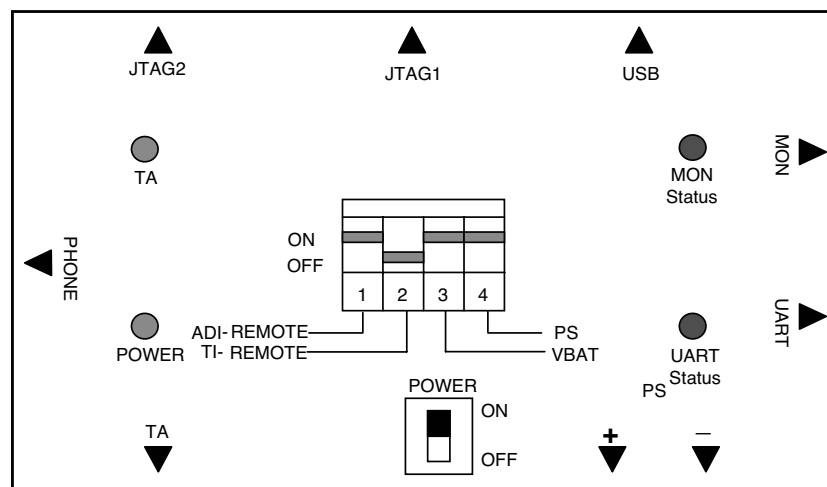


Figure 11-1 The top view of Test JIG

1. Test Jig Operation

Table 11-2 Jig Power

Power Source	Description
Power Supply	usually 4.0V
Travel Adaptor	Use TA, name is TA-20G(24pin)

Table 11-3 Jig DIP Switch

Switch Number	Name	Description
Switch 1	ADI-REMOTE	In ON state, phone is awaked. It is used ADI chipset.
Switch 2	TI-REMOTE	In ON state, phone is awaked. It is used TI chipset.
Switch 3	VBAT	Power is provided for phone from battery
Switch 4	PS	Power is provided for phone from Power supply

Table 11-4 LED Description

LED Number	Name	Description
LED 1	Power	Power is provided for Test Jig
LED 2	TA	Indicate charging state of the phone battery
LED 3	UART	Indicate data transfer state through the UART port
LED 4	MON	Indicate data transfer state through the MON port

1. Connect as Fig 6-2(RS232 serial cable is connected between COM port of PC and MON port of TEST JIG, in general)
2. Set the Power Supply 4.0V
3. Set the 3rd, 4th of DIP SW ON state always
4. Press the Phone power key, if the Remote ON is used, 1st ON state

9. Calibration

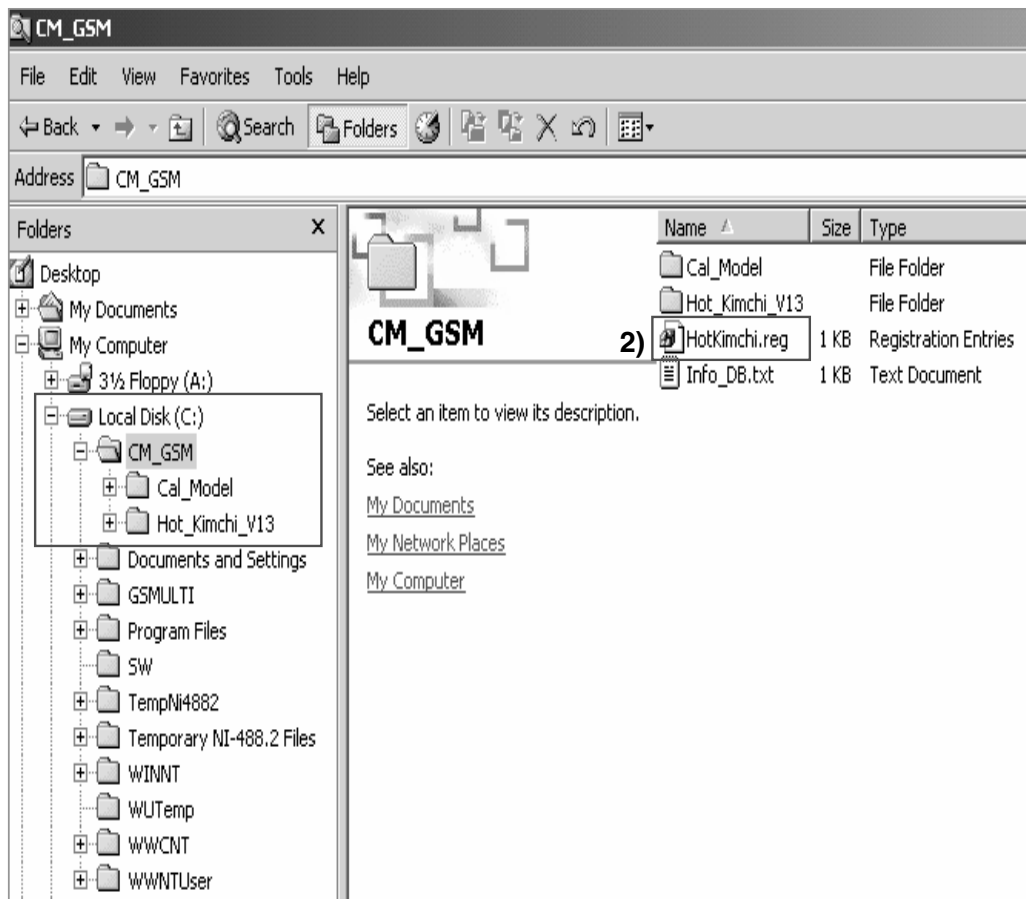
9.2 Install & Directory structure

- 1) Copy a Cal. Program in local Disk(C:). This program name is "Hotkimchi"
 - Folder name : Only "CM_GSM"
 - This Cal.Program is on GCSC Website

- 2) Registry of Calibration Program

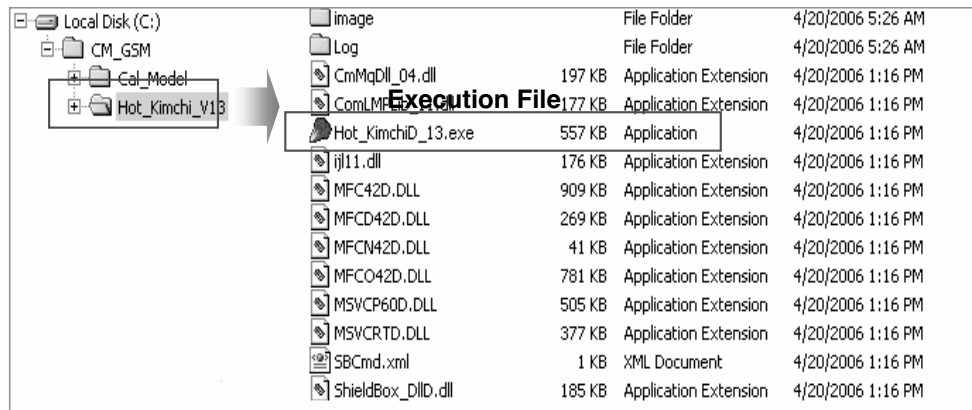
-Execute by double click :  HotKimchi.reg

- 3) Directory structure



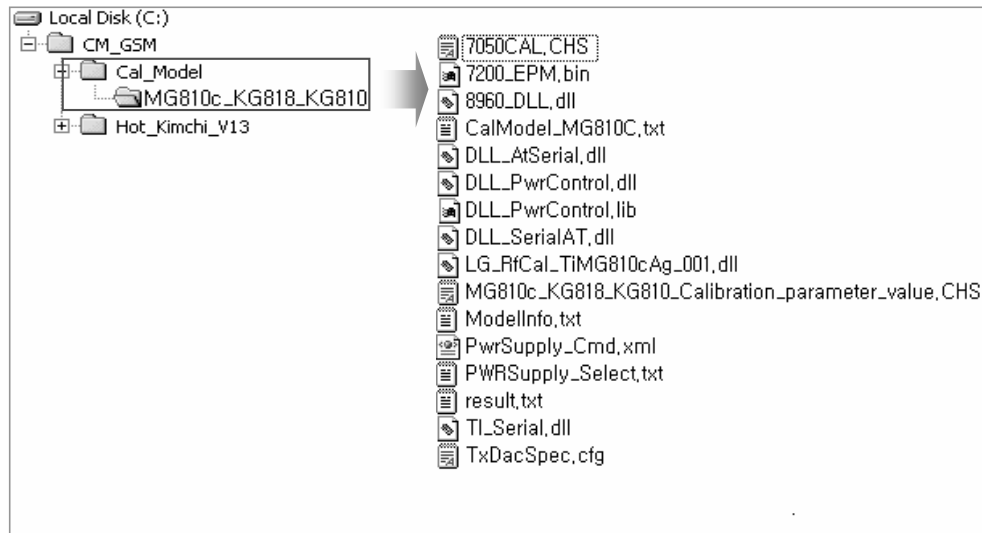
9.3 Others Directory structure of CM_GSM

1)Hot_Kimchi_V13



File Name	Size	Type	Date/Time
image		File Folder	4/20/2006 5:26 AM
Log		File Folder	4/20/2006 5:26 AM
CmMqDll_04.dll	197 KB	Application Extension	4/20/2006 1:16 PM
ComLMF.dll	177 KB	Application Extension	4/20/2006 1:16 PM
Hot_KimchiID_13.exe	557 KB	Application	4/20/2006 1:16 PM
ijl11.dll	176 KB	Application Extension	4/20/2006 1:16 PM
MFC42D.DLL	909 KB	Application Extension	4/20/2006 1:16 PM
MFC42D.DLL	269 KB	Application Extension	4/20/2006 1:16 PM
MFC42D.DLL	41 KB	Application Extension	4/20/2006 1:16 PM
MFC42D.DLL	781 KB	Application Extension	4/20/2006 1:16 PM
MSVCP60D.DLL	505 KB	Application Extension	4/20/2006 1:16 PM
MSVCRD.DLL	377 KB	Application Extension	4/20/2006 1:16 PM
SBCmd.xml	1 KB	XML Document	4/20/2006 1:16 PM
ShieldBox_DLL.dll	185 KB	Application Extension	4/20/2006 1:16 PM

2)Cal_Model & KG810_KG818_MG810C Folder



7050CAL_CHS		
7200_EPM.bin		
8960_DLL.dll		
CalModel_MG810C.txt		
DLL_AtSerial.dll		
DLL_PwrControl.dll		
DLL_PwrControl.lib		
DLL_SerialAT.dll		
LG_RfCal_TiMG810cAg_001.dll		
MG810c_KG818_KG810_Calibration_parameter_value.CHS		
ModelInfo.txt		
PwrSupply_Cmd.xml		
PWRSupply_Select.txt		
result.txt		
TI_Serial.dll		
TxDacSpec.cfg		

3)Info_Db.txt

```
Info_Db.txt - Notepad
File Edit Format Help
/*cal*/[Default]=[KG810_KG818_MG810C]

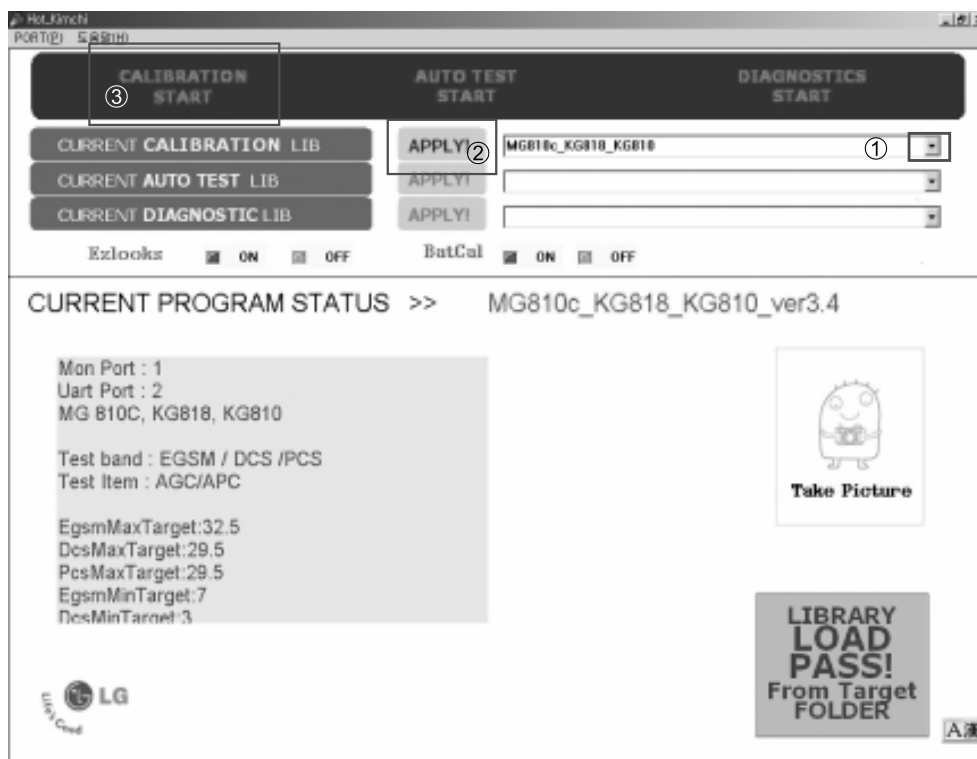
[e2looks]=[off]
[batcal]=[off]
[svc]=[on]
[standalone]=[off]
[tescom]=[off]
[process]=[cal]
```

9. Calibration

9.4 Cal. Procedure

1) Execute.  Hot_KimchiID_13.exe

-Path : Local(C:) → CM_GSM Folder → Hot_Kimchi_V13 →  Hot_KimchiID_13.exe



① Click. And choose “KG810_MC810C_KG818”



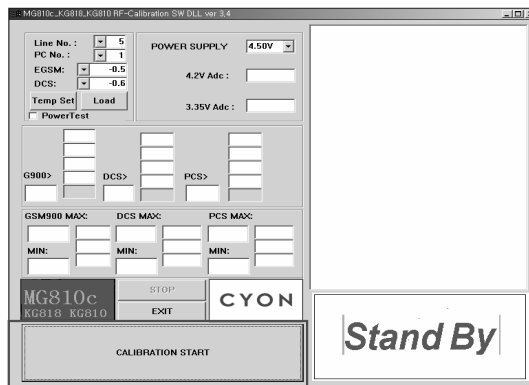
② Click.



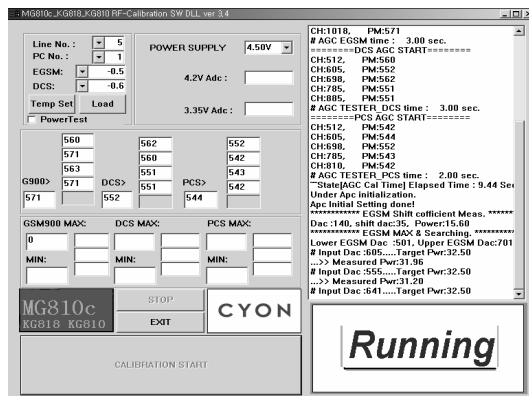
③ Click.



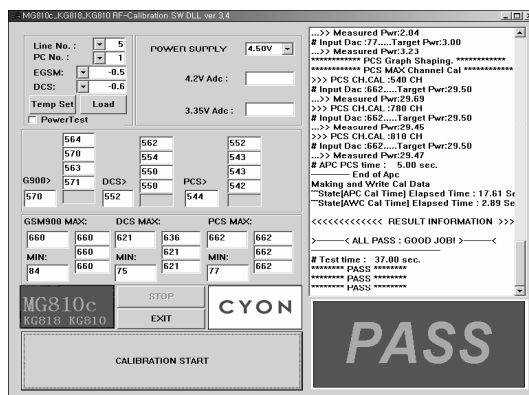
9.5 Cal. sequence



When the left window pop-up, first of all turn on the phone. And then click "Start" button after finishing turn on



The left window is just progress screen.



Phone is being auto re-start after finishing cal.

10. ENGINEERING MODE

10. ENGINEERING MODE

Engineering mode is designed to allow a service man/engineer to view and test the basic functions provided by a handset. The key sequence for switching the engineering mode on is "2945##" "Select. Pressing END will switch back to non-engineering mode operation. Use Up and Down key to select a menu and press 'select' key to progress the test. Pressing 'back key will switch back to the original test menu.

[1] All auto test

[2] Baseband test

[2-1] LED

[2-1-1] BACKLIGHT

[2-1-1-1] MAIN LCD ON/OFF

[2-1-1-2] KEYPAD ON/OFF

[2-2] LCD

[2-2-1] LCD AUTO

[2-2-2] LCD COLOR

[2-2-3] LCD QUALITY

[2-3] CAMERA

[2-3-1] PREVIEW

[2-3-2] VIDEO

[2-3-3] SETTING

[2-4] FONT

[2-5] ALERT

[2-5-1] VIBRATOR

[2-5-2] RING

[2-5-3] EFFECT SOUND

[2-5-4] IMELODY SOUND

[2-5-5] EMS SOUND

[2-6] SERIAL PORT

[2-6-1] MODEM

[2-6-2] IrDA

[2-7] BATTERY INFO1

[2-8] AUDIO GAIN

[2-8-1] RECEIVER

[2-8-2] EAR MIC

[2-8-3] LOUD SPEAKER

[2-8-4] HANDSFREE

[2-8-5] DEFAULT VALUE

[2-8-6] DAI TEST

[2-8-7] LOOPBACK TEST

[2-9] FM RADIO TEST

[2-9-1] ON OFF TEST

[2-9-2] TUNE TEST

[2-9-3] SEEK TEST

[2-0] BT TEST MODE

[2-*] TOUCH[PSOC]

[2-*-1] TOUCH KEY PROGRAM

[2-*-2] TOUCH LED

[3] MG810c VERS

[4] ENG MODE

[4-1] CELL ENVIRON

[4-2] LOCATION INFO

[4-3] LAYER1 INFO

[4-4] BAND SELECTION

[5] CALL TIMER

[6] FACTORY DEFAULT

[7] FACTORY RESULT

11. STANDALONE TEST

11.1 Setting Method

11.1.1 COM Port

In the “Dialog Menu”, select the values as explained below.

- Port : select a correct COM port
- Baudrate : 115200
- Leave the rest as default values

11.1.2 Tx Test

1. Selecting Channel

- Select one of EGSM, DCS Band and input appropriate channel.

2. Selecting APC

- a. Select either Power level or DAC value.
- b. Power level
 - Input appropriate value EGSM (between 5~19) or DCS (between 0~15)
- c. DAC value
 - You may adjust directly the power level with DAC values.

11.1.3 Rx Test

1. Selecting Channel

- Select one of EGSM , DCS Band and input appropriate channel.

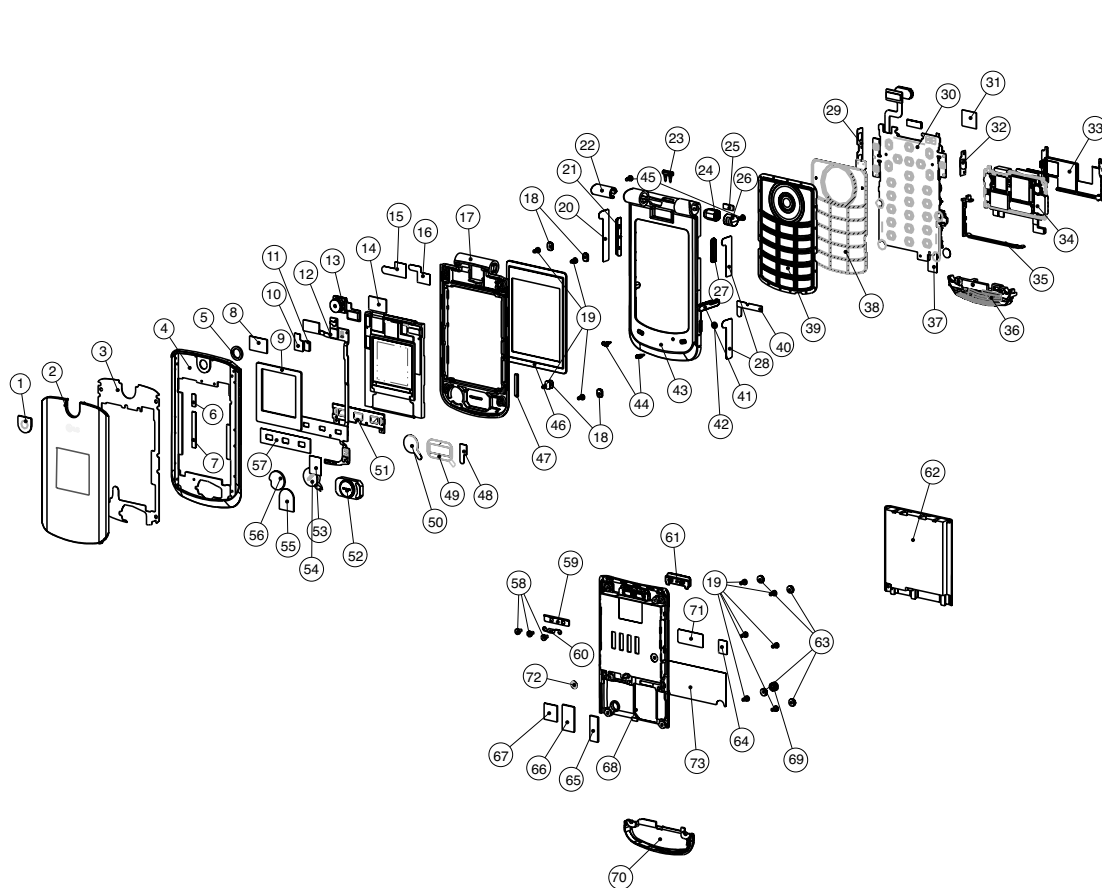
2. Automatic Gain Control and Instrument Power level

See if the value of RSSI is close to -60dBm when setting the value 40 AGC Value Setting.

- Normal phone should indicate the value of RSSI close to -60dBm.

12. EXPLODED VIEW & REPLACEMENT PART LIST

12.1 EXPLODED VIEW



73	TAPE, PROTECTION	WTAR010901	1
72	LABEL, AYS	MLAB000102	1
71	LABEL	MLAB000102	1
70	COVER, BEAR	WCN0048904	1
69	CAP, MIDDLE SWITCH	WCEP0036604	1
68	COVER, BEAR	WCN0048904	1
67	GASKET, SHIELD FORM	WGA0011201	1
66	GASKET, SHIELD FORM	WGA0011201	1
65	GASKET, SHIELD FORM	WGA0011201	1
64	LABEL	WPA0040401	1
63	CAP, ASSY	KAZ0000104	4
62	BATTERY PACK, LTPOLYMER	SBPP0014904	1
61	LOCKER, SWITCH	WTAR001104	1
60	LOCKER, SPRING	WSD0014601	1
59	PLATE	WPT0023001	1
58	SCREW MACHINE, BIND	CMT0014201	3
57	TAPE, PROTECTION	WTAR0104201	1
56	PAD, MOTOR	MPB0031901	1
55	PAD	MPB0000101	1
54	VIBRATOR, MOTOR	SMT0000024	1
53	TAPE, PROTECTION	WTAR0109001	1
52	SPEAKER	WSP0002301	1
51	PLATE, ASSY	APG00001001	1
50	TAP	WTAX0109901	1
49	FILTER, RECEIVER	WTR0011501	1
48	TAP	WTAX0111501	1
47	MAGNET, SWITCH	WMAA0004401	1
46	WINDOW, ASSY, LCO	WMA0000234	1
45	SCREW MACHINE, BIND	CMT0000201	2
44	BUMPER	WHT0011804	2
43	COVER, FRONT	WCN0005304	1
42	PAD, MIC	MPB00018101	1
41	CAP, EARPHONE JACK	WCEC0030204	1
40	TAP	WTAX0111901	1
39	BOTTOM, DIAL	WGA0002044	1
38	DOME, ASSY, METAL	AKCA0046701	1
37	TAP, SHIELD	WTR00025001	1
36	ANTENNA, CON, FIXED	AFBA0004501	1
35	FRAME, SHIELD	AFBA0004501	1
34	PCB, ASSY, MAIN, SMT	WPC00010301	1
33	FRAME, SHIELD	WPC00010301	1
32	DOME, ASSY, METAL	AKCA0052401	1
31	TAP, SHIELD	WTR0002501	1
30	PCB, ASSY, keypad, SMT	AKCA0052401	1
29	DOME, ASSY, METAL	AKCA0052301	1
28	TAP, PROTECTION	WTR0004901	1
27	BOTTOM, SIDE	WMA0000404	1
26	BECCO, HINGE	WMA0000901	1
25	PAD	MPB0117401	1
24	HINGE, FOLDER	WMA0001401	1
23	STOPPER	WSP0014404	1
22	BECCO, HINGE	WMA0000901	1
21	BOTTOM, VOLUME	WMA0000104	1
20	TAPE, PROTECTION	WTAR0104301	1
19	SCREW MACHINE, BIND	CMT0011201	10
18	CAP, ASSY	KAZ0000104	4
17	COVER, FOLDER (LOWER)	WCN0039904	1
16	TAP	WTAX0105201	1
15	PAD	WPA0000401	1
14	LCO, MODULE	SMT0018501	1
13	PCB, CAMERA	SMT0010901	1
12	PCB, ASSY, CAMERA, SMT	AKCA0017601	1
11	PAD	MPB0117601	1
10	TAPE, PROTECTION	WTAR0109001	1
9	PAD, LCO (SUB)	WSP0000201	1
8	GASKET, SHIELD FORM	WGA0011301	1
7	GASKET, SHIELD FORM	WGA0011301	1
6	GASKET, SHIELD FORM	WGA0011301	1
5	PAD, CAMERA	WPT0027201	1
4	COVER, FOLDER (UPPER)	WCN0040401	1
3	TAP, WINDOW (SUB)	WTR0002501	1
2	WINDOW, LCO (SUB)	WMA0000234	1
1	WINDOW, ASSY	WMA0000104	1
No.	PART NAME	CODE	QTY

12. EXPLODED VIEW & REPLACEMENT PART LIST

12.2 Replacement Parts <Mechanic component>

Note: This Chapter is used for reference, Part order is ordered by SBOM standard on GCSC

Level	Location No.	Description	Part Number	Specification	Color	Remark
1		GSM(FOLDER)	TGFF0084301		Black	
2	AAAY00	ADDITION	AAAY0147701		Black	
3	MPBZ00	PAD	MPBZ0132804	Son 80-Pad(Transparency)		
3	MSCY00	SLEEVE	MSCY0002503	Son Folder-Sleeve(MG810cUnitBox Sleeve)		
2	APEY02	PHONE	APEY0259601	MG800 PHONE	Black	
3	ACAZ00	CAP ASSY	ACAZ0005101	MG800 MAIN SCREW CAP ASSY	Black	63
4	MCCH00	CAP,SCREW	MCCH0085401	MG810c MAIN SCREW CAP_RUBBER	Black	
4	MTAZ01	TAPE	MTAZ0105401	MG810c MAIN SCREW CAP TAPE		
3	ACGG00	COVER ASSY,FOLDER	ACGG0071301	MG810c COVER ASSY FOLDER		
4	ACAZ00	CAP ASSY	ACAZ0004901	MG810c FOLDER SCREW CAP ASSY	Black	18
5	MCCH00	CAP,SCREW	MCCH0085301	MG810c FOLDER SCREW CAP_RUBBER	Black	
5	MTAZ01	TAPE	MTAZ0105301	MG810c FOLDER SCREW CAP TAPE		
4	ACGH00	COVER ASSY, FOLDER(LOWER)	ACGH0041201	MG810c FOLDER LOWER ASSY	Black	
5	MCJH00	COVER,FOLDER(LOWER)	MCJH0032901	MG810c LOWER COVER	Black	17
5	MFBB00	FILTER,RECEIVER	MFBB0014501	MG810c RECEIVER FILTER	Black	49
5	MMAA00	MAGNET,SWITCH	MMAA0006401	12 x 1.25 x 1.6 (Nd-Fe-B Magnet)		47
5	MTAZ01	TAPE	MTAZ0105201	MG810c CAMERA FPCB TAPE FOR FIX		16
5	MTAZ02	TAPE	MTAZ0109801	MG810c FOLDER LOWER TAPE FOR CAMERA FIX		15
5	MTAZ03	TAPE	MTAZ0109901	MG810c FOLDER LOWER VIBRATOR TAPE		50
5	MTAZ04	TAPE	MTAZ0117501	MG810c FOLDER LOWER TAPE FOR FPCB FIX		48
4	ACGJ00	COVER ASSY, FOLDER(UPPER)	ACGJ0053801	MG810c FOLDER UPPER ASSY	Black	
5	AWAB00	WINDOW ASSY,LCD	AWAB0022301	MG810c INMOLD ASSY	Black	2
6	BFAA00	FILM,INMOLD	BFAA0039801	MG810c INMOLD FILM	Black	
6	MWAF00	WINDOW,LCD(SUB)	MWAF0033701	MG810c SUB WINDOW (INMOLD)	Black	
5	MCJJ00	COVER,FOLDER(UPPER)	MCJJ0040401	MG810c UPPER COVER	Silver	4
5	MGAD01	GASKET,SHIELD FORM	MGAD0113001	MG810c UPPER GASKET SHIELD FOAM <LCD CNT>	Gold	8
5	MGAD02	GASKET,SHIELD FORM	MGAD0113101	MG810c UPPER GASKET SHIELD FOAM <S>	Gold	6
5	MGAD03	GASKET,SHIELD FORM	MGAD0113201	MG810c UPPER GASKET SHIELD FOAM <L>	Gold	7
5	MPBJ00	PAD,MOTOR	MPBJ0031901	MG810c UPPER VIBRATOR PAD		
5	MPBN00	PAD,SPEAKER	MPBN0026101	MG810c FOLDER SPEAKER PAD		
5	MPBT00	PAD,CAMERA	MPBT0027201		Black	5
5	MTAE00	TAPE,WINDOW(SUB)	MTAE0025901	MG810c UPPER SUB WINDOW TAPE		3

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
4	ACGK00	COVER ASSY,FRONT	ACGK0066501	MG810c MAIN FRONT ASSY	Black	
5	MBHY00	BUMPER	MBHY0017801	MG810c FRONT BUMPER	Black	44
5	MBJL00	BUTTON,SIDE	MBJL0028901	MG810c FRONTSIDE BUTTON < CAMERA >	Black	27
5	MBJN00	BUTTON,VOLUME	MBJN0007601	MG810c FRONT VOLUME BUTTON	Black	21
5	MCCC00	CAP,EARPHONE JACK	MCCC0032501	MG810c FRONT EARPHONE JACK CAP	Black	41
5	MCJK00	COVER,FRONT	MCJK0053801	MG810c FRONT COVER < PC>	Black	43
5	MICA00	INSERT,FRONT	MICA0017201	M14xL3.0	Silver	
5	MICA01	INSERT,FRONT	MICA0020801	MG810c_INSERT FRONT	Gold	
5	MPBH00	PAD,MIKE	MPBH0018701	MG810c FRONT MIKE PAD		42
5	MPBZ01	PAD	MPBZ0122601	MG810c MAIN FRONT PAD <EL>		25
5	MSGY00	STOPPER	MSGY0014401	MG810c FRONT STOPPER	Black	23
5	MTAB00	TAPE,PROTECTION	MTAB0094901	MG810c FRONT PROTECTION TAPE FOR BUTTONS		28
5	MTAB01	TAPE,PROTECTION	MTAB0104301	MG810c MAIN FRONT BUTTON PROTECTION TAPE2		20
5	MTAB02	TAPE,PROTECTION	MTAB0127901	MG810c MAIN PROTECTION TAPE_3		
5	MTAZ01	TAPE	MTAZ0117801	MG810c MAIN FRONT ANTENNA TAPE		40
4	AFBA00	FRAME ASSY,SHIELD	AFBA0004501	MG810c FRAME SHIELD ASSY		35
5	MFEA00	FRAME,SHIELD	MFEA0010201	MG810c MAIN GASKET SHIELD FRAME <L-SHAPED>	Black	
5	MGAD00	GASKET,SHIELD FORM	MGAD0124901	MG810c L FRAME GASKET	Gold	
5	MTAC00	TAPE,SHIELD	MTAC0037401	MG810c FRAME SHIELD GASKET		
4	AWAB00	WINDOW ASSY,LCD	AWAB0020301	MG810c MAIN WINDOW ASSY	Black	46
5	MPBG00	PAD,LCD	MPBG0045101	MG810c FOLDER MAIN WINDOW LCD PAD	Black	
5	MTAD00	TAPE,WINDOW	MTAD0046001	MG810c MAIN WINDOW TAPE		
5	MWAC00	WINDOW,LCD	MWAC0062601	MG810c MAIN WINDOW	Black	
4	AWAZ00	WINDOW ASSY	AWAZ0008101	MG810c CAMERA WINDOW ASSY	Black	1
5	MTAD00	TAPE,WINDOW	MTAD0046101	MG810c CAMERA WINDOW TAPE		
5	MWAE00	WINDOW,CAMERA	MWAE0014501	MG810c CAMERA WINDOW	Black	
4	GMEY00	SCREW MACHINE,BIND	GMEY0009201	1.4 mm,3.5 mm,MSWR3(BK) ,B ,+ ,HEAD D=2.7mm	Black	45
4	GMEY01	SCREW MACHINE,BIND	GMEY0011201	1.4 mm,3 mm,MSWR3(BK) ,N ,+ ,NYLOK		19
4	MBJA00	BUTTON,DIAL	MBJA0020101	MG810c MAIN KEYPAD	Black	37
4	MDAJ00	DECO,HINGE	MDAJ0009801	MG810c HINGE DECO < LEFT >	Silver	22
4	MDAJ01	DECO,HINGE	MDAJ0009901	MG810c HINGE DECO < RIGHT >	Silver	26
4	MHFD00	HINGE,FOLDER	MHFD0012601	MG810c_HINGE		24
4	MLAC00	LABEL,BARCODE	MLAC0003401	EZ LOOKS(user for mechanical)		
4	MPBQ00	PAD,LCD(SUB)	MPBQ0026201	MG810c FOLDER SUB LCD PAD	Black	9
4	MPBZ00	PAD	MPBZ0143601	MG810c KEYPCB PAD		
4	MTAB00	TAPE,PROTECTION	MTAB0095001	MG810c MAIN WINDOW PROTECTION TAPE		
4	MTAB01	TAPE,PROTECTION	MTAB0095101	MG810c SUB WINDOW PROTECTION TAPE		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
4	MTAB02	TAPE,PROTECTION	MTAB0104101	MG810c FOLDER FPCB PROTECTION TAPE		
4	MTAC00	TAPE,SHIELD	MTAC0035501	MG810c TAPE SHIELD <KEY PCB>		
4	MTAC01	TAPE,SHIELD	MTAC0035601	MG810c TAPE, SHIELD <MIC>		31,37
6	APGZ00	PLATE ASSY	APGZ0001801	MG810c FOLDER LGP ASSY	Transparent	51
7	MPFL00	PLATE,LIGHT GUIDE	MPFL0000501	MG810c FOLDER LGP		
7	MSAZ00	SHEET	MSAZ0037701	MG810c TOUCHKEY_REFLECTION SHEET	White	
8	MTAZ00	TAPE	MTAZ0117601	MG810c FOLDER LGP TAPE (UPPER)		
7	MTAZ01	TAPE	MTAZ0117601	MG810c FOLDER LGP TAPE (UPPER)		
7	MTAZ02	TAPE	MTAZ0117701	MG810c FOLDER LGP TAPE (LOWER)		
6	MPBZ01	PAD	MPBZ0126501	MG810c FPCB PAD	Black	11
6	MTAB01	TAPE,PROTECTION	MTAB0104201	MG810c FOLDER PROTECTION TAPE < TOUCH PAD>	Black	57
6	MTAB02	TAPE,PROTECTION	MTAB0109001	MG810c FPCB PROTECTION		10
6	ADCA00	DOME ASSY,METAL	ADCA0046701	MG800 MAIN DOME ASSY (EL)		38
6	ADCA01	DOME ASSY,METAL	ADCA0052301		Black	29
6	ADCA02	DOME ASSY,METAL	ADCA0052401		Black	32
6	MTAB01	TAPE,PROTECTION	MTAB0119201	MG810c KEYPCB PROTECTION TAPE		
3	ACGM00	COVER ASSY,REAR	ACGM0067601	MG810c MAIN REAR ASSY	Black	
4	GMEY00	SCREW MACHINE,BIND	GMEY0014201	1.4 mm,2.5 mm,MSWR3(BK) ,N ,+ ,(ZnB-Nylok)		58
4	MCJN00	COVER,REAR	MCJN0049301	MG810c REAR COVER (HALF MG)	Black	68
4	MGAD01	GASKET,SHIELD FORM	MGAD0112601	MG810c MAIN REAR GASKET SHIELD FOAM 1	Gold	65
4	MGAD02	GASKET,SHIELD FORM	MGAD0112701	MG810c MAIN REAR GASKET SHIELD FOAM 2	Gold	66
4	MGAD03	GASKET,SHIELD FORM	MGAD0112801	MG810c MAIN REAR GASKET SHIELD FOAM 3	Gold	67
4	MLAB00	LABEL,A/S	MLAB0001102	C2000 USASV DIA 4.0	White	72
4	MLAZ00	LABEL	MLAZ0040401	WEEE Marking Label		71
4	MLEA00	LOCKER,BATTERY	MLEA0031801	MG810c REAR BATTERY LOCKER NEW	Black	61
4	MPFZ00	PLATE	MPFZ0023001	MG810c REAR BATTERY LOCKER PLATE	Black	59
4	MSDC00	SPRING,LOCKER	MSDC0006201		LIGHT BLUE	
3	ACGM01	COVER ASSY,REAR	ACGM0078601	MG810c REAR ASSY <PC>	Black	
4	MCJN00	COVER,REAR	MCJN0048901	MG810c REAR COVER <PC>	Black	70
4	MTAB01	TAPE,PROTECTION	MTAB0127901	MG810c MAIN PROTECTION TAPE_3		
3	GMEY00	SCREW MACHINE,BIND	GMEY0011201	1.4 mm,3 mm,MSWR3(BK) ,N ,+ ,NYLOK		
3	MCCF00	CAP,MOBILE SWITCH	MCCF0036601	MG810c MOBILE SW CAP_RUBBER	Black	69
3	MLAK00	LABEL,MODEL	MLAK0006901			

12. EXPLODED VIEW & REPLACEMENT PART LIST

<Main component>

Note: This Chapter is used for reference, Part order is ordered by SBOM standard on GCSC

Level	Location No.	Description	Part Number	Specification	Color	Remark
4	SACY00	PCB ASSY,FLEXIBLE	SACY0043001			
5	SACB00	PCB ASSY, FLEXIBLE,INSERT	SACB0028001			
5	SACE00	PCB ASSY,FLEXIBLE,SMT	SACE0037801			12
6	SACC00	PCB ASSY,FLEXIBLE,SMT BOTTOM	SACC0021201			
7	C101	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
7	C102	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
7	C103	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
7	C107	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
7	CN100	CONNECTOR, BOARD TO BOARD	ENBY0019101	24 PIN,0.4 mm,STRAIGHT , ,H1.5, MALE		
7	LD100	DIODE,LED,CHIP	EDLH0012001	RED ,ETC ,R/TP ,side view(PB-FREE)		
7	LD101	DIODE,LED,CHIP	EDLH0012001	RED ,ETC ,R/TP ,side view(PB-FREE)		
7	LD102	DIODE,LED,CHIP	EDLH0012001	RED ,ETC ,R/TP ,side view(PB-FREE)		
7	R100	RES,CHIP	ERHY0000225	200 ohm,1/16W,J,1005,R/TP		
7	R101	RES,CHIP	ERHY0000225	200 ohm,1/16W,J,1005,R/TP		
7	VA104	VARISTOR	SEVY0008102	5.5 V , ,SMD ,0603		
7	VA105	VARISTOR	SEVY0008102	5.5 V , ,SMD ,0603		
6	SACD00	PCB ASSY,FLEXIBLE,SMT TOP	SACD0030501			
7	C100	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
7	C104	CAP,CERAMIC,CHIP	ECCH0000122	47 pF,50V,J,NP0,TC,1005,R/TP		
7	C105	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
7	C106	CAP,CERAMIC,CHIP	ECCH0000122	47 pF,50V,J,NP0,TC,1005,R/TP		
7	CN101	CONNECTOR, BOARD TO BOARD	ENBY0020301	40 PIN,0.4 mm,ETC , ,H=0.9, Socket		
7	FB100	FILTER,BEAD,CHIP	SFBH0007101	120 ohm,1005 ,Ferrite Bead		
7	R102	RES,CHIP	ERHY0000241	1K ohm,1/16W,J,1005,R/TP		
7	R103	RES,CHIP	ERHY0000241	1K ohm,1/16W,J,1005,R/TP		
7	R104	RES,CHIP	ERHY0000241	1K ohm,1/16W,J,1005,R/TP		
7	R105	RES,CHIP	ERHY0000207	20 ohm,1/16W,J,1005,R/TP		
7	U100	IC	EUSY0277001	Cap sense Inputs device ,32 PIN,R/TP ,5*5 Capsense TrackPad		
7	VA100	VARISTOR	SEVY0003901	5.5 V , ,SMD ,480pF, 1005		
7	VA102	VARISTOR	SEVY0003901	5.5 V , ,SMD ,480pF, 1005		

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Level	Location No.	Description	Part Number	Specification	Color	Remark
7	VA103	VARISTOR	SEVY0003901	5.5 V , SMD ,480pF, 1005		
6	SPCY00	PCB,FLEXIBLE	SPCY0067801	6Layer, SBL, FPCB		
4	SAEY00	PCB ASSY,KEYPAD	SAEY0048301		Black	
5	SAEB00	PCB ASSY,KEYPAD,INSERT	SAEB0014301		Black	
5	SAEE00	PCB ASSY,KEYPAD,SMT	SAEE0015601		Black	30
6	SAEC00	PCB ASSY,KEYPAD,SMT BOTTOM	SAEC0013801		Black	
7	CN301	CONNECTOR,BOARD TO BOARD	ENBY0020201	40 PIN,0.4 mm,ETC , ,H=0.9, Header		
7	SPEY00	PCB,KEYPAD	SPEY0040801	POLYI ,0.55 mm,BUILD-UP 6 ,		
6	SAED00	PCB ASSY,KEYPAD,SMT TOP	SAED0014001		Black	
7	C101	CAP,TANTAL,CHIP,MAKER	ECTZ0005201	10 uF,6.3V ,M ,L_ESR ,1608 ,R/TP		
7	C102	CAP,CERAMIC,CHIP	ECCH0006201	4.7 uF,6.3V ,K ,X5R ,TC ,1608 ,R/TP		
7	C103	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
7	C104	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C105	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C106	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C107	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C108	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C109	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
7	C110	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C111	CAP,CERAMIC,CHIP	ECCH0006201	4.7 uF,6.3V ,K ,X5R ,TC ,1608 ,R/TP		
7	C114	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C115	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C116	CAP,CERAMIC,CHIP	ECCH0009103	100 pF,50V ,J ,X7R ,TC ,0603 ,R/TP		
7	C117	CAP,CERAMIC,CHIP	ECCH0009103	100 pF,50V ,J ,X7R ,TC ,0603 ,R/TP		
7	C118	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C119	CAP,CERAMIC,CHIP	ECCH0009508	47 pF,25V ,J ,NP0 ,TC ,0603 ,R/TP		
7	C120	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C123	CAP,CERAMIC,CHIP	ECCH0009110	22 nF,6.3V ,K ,X7R ,TC ,0603 ,R/TP		
7	C124	CAP,CERAMIC,CHIP	ECCH0009103	100 pF,50V ,J ,X7R ,TC ,0603 ,R/TP		
7	C125	CAP,CERAMIC,CHIP	ECCH0009103	100 pF,50V ,J ,X7R ,TC ,0603 ,R/TP		
7	C126	CAP,TANTAL,CHIP,MAKER	ECTZ0005201	10 uF,6.3V ,M ,L_ESR ,1608 ,R/TP		
7	C127	CAP,CERAMIC,CHIP	ECCH0009512	1000 pF,25V ,K ,X7R ,HD ,0603 ,R/TP		
7	C128	CAP,CERAMIC,CHIP	ECCH0009103	100 pF,50V ,J ,X7R ,TC ,0603 ,R/TP		
7	C129	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C130	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
7	C201	CAP,CERAMIC,CHIP	ECCH0009508	47 pF,25V ,J ,NP0 ,TC ,0603 ,R/TP		
7	C202	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
7	C203	CAP,CERAMIC,CHIP	ECCH0009508	47 pF,25V ,J ,NP0 ,TC ,0603 ,R/TP		
7	C204	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
7	C205	CAP,CERAMIC,CHIP	ECCH0009508	47 pF,25V ,J ,NP0 ,TC ,0603 ,R/TP		
7	C206	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
7	C207	CAP,CERAMIC,CHIP	ECCH0009508	47 pF,25V ,J ,NP0 ,TC ,0603 ,R/TP		
7	C208	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
7	C209	CAP,CERAMIC,CHIP	ECCH0009508	47 pF,25V ,J ,NP0 ,TC ,0603 ,R/TP		
7	C210	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
7	C211	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
7	C212	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
7	C213	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
7	C214	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
7	C215	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
7	C216	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
7	C217	CAP,CERAMIC,CHIP	ECCH0000112	15 pF,50V,J,NP0,TC,1005,R/TP		
7	C218	CAP,CERAMIC,CHIP	ECCH0000112	15 pF,50V,J,NP0,TC,1005,R/TP		
7	C219	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
7	C220	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
7	C221	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
7	C222	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
7	C223	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
7	C224	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
7	C225	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
7	C307	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
7	C308	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
7	C311	CAP,CERAMIC,CHIP	ECCH0009512	1000 pF,25V ,K ,X7R ,HD ,0603 ,R/TP		
7	C312	CAP,CERAMIC,CHIP	ECCH0009103	100 pF,50V ,J ,X7R ,TC ,0603 ,R/TP		
7	C313	CAP,CERAMIC,CHIP	ECCH0009103	100 pF,50V ,J ,X7R ,TC ,0603 ,R/TP		
7	C314	CAP,CERAMIC,CHIP	ECCH0009512	1000 pF,25V ,K ,X7R ,HD ,0603 ,R/TP		
7	C318	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
7	C319	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
7	C320	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
7	C321	CAP,CERAMIC,CHIP	ECCH0009103	100 pF,50V ,J ,X7R ,TC ,0603 ,R/TP		
7	C322	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C323	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		

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Level	Location No.	Description	Part Number	Specification	Color	Remark
7	C324	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C325	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
7	C326	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
7	C327	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
7	CN302	CONNECTOR, BOARD TO BOARD	ENBY0020201	40 PIN,0.4 mm,ETC , ,H=0.9, Header		
7	CN303	CONNECTOR, BOARD TO BOARD	ENBY0032301	70 PIN,0.4 mm,ETC , ,H=2.5, Socket		
7	FB201	FILTER,BEAD,CHIP	SFBH0008101	600 ohm,1005 ,		
7	FB202	FILTER,BEAD,CHIP	SFBH0008101	600 ohm,1005 ,		
7	FL301	FILTER,EMI/POWER	SFEY0010501	SMD ,SMD ,18 V,4ch. EMI_ESD Filter (100Ohm,15pF), Pb-free		
7	FL302	FILTER,EMI/POWER	SFEY0010501	SMD ,SMD ,18 V,4ch. EMI_ESD Filter (100Ohm,15pF), Pb-free		
7	FL303	FILTER,EMI/POWER	SFEY0010501	SMD ,SMD ,18 V,4ch. EMI_ESD Filter (100Ohm,15pF), Pb-free		
7	FL304	FILTER,EMI/POWER	SFEY0010501	SMD ,SMD ,18 V,4ch. EMI_ESD Filter (100Ohm,15pF), Pb-free		
7	FL305	FILTER,EMI/POWER	SFEY0010501	SMD ,SMD ,18 V,4ch. EMI_ESD Filter (100Ohm,15pF), Pb-free		
7	FL306	FILTER,EMI/POWER	SFEY0010501	SMD ,SMD ,18 V,4ch. EMI_ESD Filter (100Ohm,15pF), Pb-free		
7	FL307	FILTER,EMI/POWER	SFEY0010501	SMD ,SMD ,18 V,4ch. EMI_ESD Filter (100Ohm,15pF), Pb-free		
7	FL308	FILTER,EMI/POWER	SFEY0010501	SMD ,SMD ,18 V,4ch. EMI_ESD Filter (100Ohm,15pF), Pb-free		
7	FL309	FILTER,EMI/POWER	SFEY0010501	SMD ,SMD ,18 V,4ch. EMI_ESD Filter (100Ohm,15pF), Pb-free		
7	L101	INDUCTOR,CHIP	ELCH0005009	100 nH,J ,1005 ,R/TP ,		
7	L102	INDUCTOR,CHIP	ELCH0005009	100 nH,J ,1005 ,R/TP ,		
7	L103	INDUCTOR,CHIP	ELCH0005009	100 nH,J ,1005 ,R/TP ,		
7	L104	INDUCTOR,CHIP	ELCH0005009	100 nH,J ,1005 ,R/TP ,		
7	L105	INDUCTOR,CHIP	ELCH0005009	100 nH,J ,1005 ,R/TP ,		
7	L106	INDUCTOR,CHIP	ELCH0005009	100 nH,J ,1005 ,R/TP ,		
7	L107	INDUCTOR,CHIP	ELCH0005009	100 nH,J ,1005 ,R/TP ,		
7	MIC101	MICROPHONE	SUMY0010601	UNIT ,42 dB,6.15*3.76*1.65 ,Bottom Silicon SMD		
7	Q101	TR,BJT,ARRAY	EQBA0002701	EMT6 ,150 mW,R/TP ,NPN, PNP, 150 mA		
7	R101	RES,CHIP	ERHY0013101	2.7 ohm,1/16W ,J ,1005 ,R/TP		
7	R102	RES,CHIP	ERHY0000273	47K ohm,1/16W,J,1005,R/TP		
7	R103	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
7	R104	RES,CHIP	ERHY0000226	220 ohm,1/16W,J,1005,R/TP		
7	R105	RES,CHIP	ERHY0000244	1.5K ohm,1/16W,J,1005,R/TP		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
7	R106	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
7	R107	RES,CHIP	ERHY0009522	3.3 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R108	RES,CHIP	ERHY0009501	0 ohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R109	RES,CHIP	ERHY0009558	68 Kohm,1/20W(0.05W) ,F ,0603 ,R/TP		
7	R110	RES,CHIP	ERHY0009560	33 Kohm,1/20W(0.05W) ,F ,0603 ,R/TP		
7	R201	RES,CHIP	ERHY0009505	10 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R202	RES,CHIP	ERHY0009505	10 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R205	RES,CHIP	ERHY0009505	10 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R206	RES,CHIP	ERHY0009505	10 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R207	RES,CHIP	ERHY0000296	1M ohm,1/16W,J,1005,R/TP		
7	R208	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
7	R209	RES,CHIP	ERHY0009501	0 ohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R302	RES,CHIP	ERHY0000220	100 ohm,1/16W,J,1005,R/TP		
7	R303	RES,CHIP	ERHY0000220	100 ohm,1/16W,J,1005,R/TP		
7	R304	RES,CHIP	ERHY0000220	100 ohm,1/16W,J,1005,R/TP		
7	R305	RES,CHIP	ERHY0000220	100 ohm,1/16W,J,1005,R/TP		
7	R306	RES,CHIP	ERHY0000220	100 ohm,1/16W,J,1005,R/TP		
7	R309	RES,CHIP	ERHY0009501	0 ohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R314	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
7	R323	RES,CHIP	ERHY0009503	100 ohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R324	RES,CHIP	ERHY0009506	100 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R326	RES,CHIP	ERHY0009501	0 ohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R328	RES,CHIP	ERHY0009505	10 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R329	RES,CHIP	ERHY0009505	10 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R330	RES,CHIP	ERHY0009505	10 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R331	RES,CHIP	ERHY0009505	10 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R332	RES,CHIP	ERHY0009505	10 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R333	RES,CHIP	ERHY0009505	10 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R334	RES,CHIP	ERHY0009505	10 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R335	RES,CHIP	ERHY0013101	2.7 ohm,1/16W ,J ,1005 ,R/TP		
7	R337	RES,CHIP	ERHY0009526	4.7 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R338	RES,CHIP	ERHY0009526	4.7 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R342	RES,CHIP	ERHY0009501	0 ohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R343	RES,CHIP	ERHY0009501	0 ohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	U101	IC	EUSY0217901	3.0x3.1x1.0 ,3 PIN,R/TP ,HALL EFFECT SWITCH IC, Pb Free		
7	U102	IC	EUSY0229601	WLCSP ,73 PIN,R/TP ,MA5Si(64POLY MIDI)		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
7	U201	IC	EUSY0275901	BGA ,63 PIN,R/TP ,128Mx8 bit NAND , 8.5x13.5, 0.8pitch, Pb Free, 3.3V Device		
7	U202	IC	EUSY0279101	BGA(8*8) ,144 PIN,R/TP ,2M camera, NAND I/F, MM Chip(Hera NEO)		
7	U203	IC	EUSY0264801	QFN(4x4) ,28 PIN,R/TP ,Charge pump(Main/Sub/Flash), 1 DC/DC, 2 LDO (Pb Free)		
7	U303	IC	EUSY0290201	FC-4 ,4 PIN,R/TP ,3.3V LDO, Pb-Free		
7	U304	IC	EUSY0291801	FC-4 ,4 PIN,R/TP ,2.8V, 1x1x0.6T, LDO Pb-Free		
7	U305	IC	EUSY0277501	DFN ,10 PIN,R/TP ,DUAL(2.8V/150mA , 1.5V/300mA) LDO PBFREE		
7	VA101	VARISTOR	SEVY0001001	14 V , ,SMD ,50pF, 1005		
7	VA301	VARISTOR	SEVY0001001	14 V , ,SMD ,50pF, 1005		
7	VA302	VARISTOR	SEVY0001001	14 V , ,SMD ,50pF, 1005		
7	VA303	VARISTOR	SEVY0001001	14 V , ,SMD ,50pF, 1005		
7	VA304	VARISTOR	SEVY0001001	14 V , ,SMD ,50pF, 1005		
7	VA305	VARISTOR	SEVY0001001	14 V , ,SMD ,50pF, 1005		
7	VA306	VARISTOR	SEVY0001001	14 V , ,SMD ,50pF, 1005		
7	VA307	VARISTOR	SEVY0001001	14 V , ,SMD ,50pF, 1005		
7	X201	X-TAL	EXXY0023301	27 MHz,50 PPM,9 pF,50 ohm,SMD ,3.2*2.5*0.7 ,30ppm at - 20'C ~ +70'C, Pb Free		
4	SJMY00	VIBRATOR,MOTOR	SJMY0008204	3 V,0.1 A,10*2.0 ,BLDC 17mm		
4	SNGF00	ANTENNA,GSM,FIXED	SNGF0014401	5.0 ,0 dBd , GSM900/DCS1800/PCS1800 Internal Pb-Free		
4	SUSY00	SPEAKER	SUSY0021301	ASSY ,8 ohm,88 dB,17 mm,*10mm		52
4	SVCY00	CAMERA	SVCY0010901	CMOS ,MEGA ,1.3M Micon(SOC1320) 1/4", 8*8*5.1t, FPCB		13
4	SVLM00	LCD MODULE	SVLM0018501	MAIN ,176*220+96*96 ,37.4*50.6/27.9*28.6 ,262k ,TFT ,TM ,HD66784 ,		14
3	SAFY01	PCB ASSY,MAIN	SAFY0154601		Black	
4	SAFB00	PCB ASSY,MAIN,INSERT	SAFB0054301		Black	
5	MFEA00	FRAME,SHIELD	MFEA0010301	MG810c MAIN PCB METAL SHIELD		33
4	SAFF00	PCB ASSY,MAIN,SMT	SAFF0076801		Black	
5	MLAB00	LABEL,A/S	MLAB0000601	HUMIDITY STICKER		
5	MLAC00	LABEL,BARCODE	MLAC0003301	EZ LOOKS(use for PCB ASSY MAIN(hardware))		
5	SAFC00	PCB ASSY,MAIN,SMT BOTTOM	SAFC0067901		Black	
6	BAT101	BATTERY,CELL,LITHIUM	SBCL0001305	3 V,1 mAh,COIN ,SMT Temp.260 degree. PB-Free B/B		
6	C101	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
6	C102	CAP,CERAMIC,CHIP	ECCH0009514	10 pF,25V ,D ,X7R ,HD ,0603 ,R/TP		
6	C103	CAP,CERAMIC,CHIP	ECCH0009514	10 pF,25V ,D ,X7R ,HD ,0603 ,R/TP		
6	C104	CAP,CERAMIC,CHIP	ECCH0009514	10 pF,25V ,D ,X7R ,HD ,0603 ,R/TP		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
6	C105	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C106	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C107	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
6	C108	CAP,CERAMIC,CHIP	ECCH0000167	0.1 uF,6.3V,K,X5R,HD,1005,R/TP		
6	C109	CAP,CERAMIC,CHIP	ECCH0009103	100 pF,50V ,J ,X7R ,TC ,0603 ,R/TP		
6	C115	CAP,CERAMIC,CHIP	ECCH0006201	4.7 uF,6.3V ,K ,X5R ,TC ,1608 ,R/TP		
6	C116	CAP,CERAMIC,CHIP	ECCH0009103	100 pF,50V ,J ,X7R ,TC ,0603 ,R/TP		
6	C117	CAP,CERAMIC,CHIP	ECCH0009103	100 pF,50V ,J ,X7R ,TC ,0603 ,R/TP		
6	C118	CAP,CERAMIC,CHIP	ECCH0009103	100 pF,50V ,J ,X7R ,TC ,0603 ,R/TP		
6	C119	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
6	C120	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
6	C121	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C122	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
6	C123	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C124	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
6	C125	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
6	C126	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
6	C127	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
6	C128	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
6	C129	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
6	C130	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
6	C131	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
6	C132	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
6	C133	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
6	C134	CAP,CERAMIC,CHIP	ECCH0005602	2.2 uF,16V ,K ,X5R ,HD ,1608 ,R/TP		
6	C135	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C136	CAP,CERAMIC,CHIP	ECCH0005602	2.2 uF,16V ,K ,X5R ,HD ,1608 ,R/TP		
6	C137	CAP,CERAMIC,CHIP	ECCH0006201	4.7 uF,6.3V ,K ,X5R ,TC ,1608 ,R/TP		
6	C138	CAP,CERAMIC,CHIP	ECCH0006201	4.7 uF,6.3V ,K ,X5R ,TC ,1608 ,R/TP		
6	C139	CAP,CERAMIC,CHIP	ECCH0006201	4.7 uF,6.3V ,K ,X5R ,TC ,1608 ,R/TP		
6	C140	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C201	CAP,CERAMIC,CHIP	ECCH0007901	10 uF,4V ,M ,X5R ,TC ,1608 ,R/TP		
6	C202	CAP,CERAMIC,CHIP	ECCH0009103	100 pF,50V ,J ,X7R ,TC ,0603 ,R/TP		
6	C206	CAP,CERAMIC,CHIP	ECCH0009103	100 pF,50V ,J ,X7R ,TC ,0603 ,R/TP		
6	C209	CAP,CERAMIC,CHIP	ECCH0009103	100 pF,50V ,J ,X7R ,TC ,0603 ,R/TP		
6	C210	CAP,CERAMIC,CHIP	ECCH0007901	10 uF,4V ,M ,X5R ,TC ,1608 ,R/TP		
6	C213	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
6	C214	CAP,CHIP,MAKER	ECZH0000901	24 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C215	CAP,CERAMIC,CHIP	ECCH0009103	100 pF,50V ,J ,X7R ,TC ,0603 ,R/TP		
6	C216	VARISTOR	SEVY0008101	5.5 V , ,SMD ,0603		
6	C217	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C218	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C219	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C220	CAP,TANTAL,CHIP	ECTH0004801	10 uF,6.3V ,M ,STD ,1608 ,R/TP		
6	C221	CAP,TANTAL,CHIP	ECTH0004801	10 uF,6.3V ,M ,STD ,1608 ,R/TP		
6	C222	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
6	C228	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C301	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
6	C311	CAP,CERAMIC,CHIP	ECCH0009512	1000 pF,25V ,K ,X7R ,HD ,0603 ,R/TP		
6	C312	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
6	C315	CAP,CERAMIC,CHIP	ECCH0009512	1000 pF,25V ,K ,X7R ,HD ,0603 ,R/TP		
6	C316	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
6	C399	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
6	CN202	CONNECTOR,I/O	ENRY0006001	18 PIN,0.4 mm,ETC , ,H=2.5		
6	CN301	CONNECTOR, BOARD TO BOARD	ENBY0017301	70 PIN,0.4 mm,STRAIGHT ,AU ,MALE		
6	FB201	FILTER,BEAD,CHIP	SFBH0000903	600 ohm,1005 ,		
6	FB202	FILTER,BEAD,CHIP	SFBH0000903	600 ohm,1005 ,		
6	FB203	RES,CHIP	ERHY0000301	0 ohm,1/16W,F,1608,R/TP		
6	L101	INDUCTOR,CHIP	ELCH0005009	100 nH,J ,1005 ,R/TP ,		
6	L102	INDUCTOR,CHIP	ELCH0005009	100 nH,J ,1005 ,R/TP ,		
6	L103	INDUCTOR,CHIP	ELCH0005009	100 nH,J ,1005 ,R/TP ,		
6	L104	INDUCTOR,CHIP	ELCH0005009	100 nH,J ,1005 ,R/TP ,		
6	L105	INDUCTOR,CHIP	ELCH0005009	100 nH,J ,1005 ,R/TP ,		
6	L203	INDUCTOR,CHIP	ELCH0005009	100 nH,J ,1005 ,R/TP ,		
6	L204	INDUCTOR,CHIP	ELCH0005009	100 nH,J ,1005 ,R/TP ,		
6	R101	RES,CHIP	ERHY0009506	100 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R102	RES,CHIP	ERHY0009506	100 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R103	RES,CHIP	ERHY0009506	100 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R106	RES,CHIP	ERHY0009505	10 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R107	RES,CHIP	ERHY0009307	470 Kohm,1/20W(0.05W) ,F ,0603 ,R/TP		
6	R108	RES,CHIP	ERHY0009506	100 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R109	RES,CHIP	ERHY0009506	100 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R110	RES,CHIP	ERHY0009505	10 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
6	R111	RES,CHIP	ERHY0009505	10 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R112	RES,CHIP	ERHY0009506	100 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R113	RES,CHIP	ERHY0009506	100 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R114	RES,CHIP	ERHY0009506	100 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R115	RES,CHIP	ERHY0009506	100 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R116	RES,CHIP	ERHY0009505	10 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R117	RES,CHIP	ERHY0009501	0 ohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R118	RES,CHIP	ERHY0000261	10K ohm,1/16W,J,1005,R/TP		
6	R119	RES,CHIP	ERHY0000150	75K ohm,1/16W,F,1005,R/TP		
6	R120	RES,CHIP	ERHY0009554	20 Kohm,1/20W(0.05W) ,F ,0603 ,R/TP		
6	R121	RES,CHIP	ERHY0009501	0 ohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R122	RES,CHIP	ERHY0009561	56 Kohm,1/20W(0.05W) ,F ,0603 ,R/TP		
6	R123	RES,CHIP	ERHY0009527	47 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R124	RES,CHIP	ERHY0009506	100 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R125	RES,CHIP	ERHY0009506	100 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R126	RES,CHIP	ERHY0009505	10 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R127	RES,CHIP	ERHY0009506	100 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R128	RES,CHIP	ERHY0009506	100 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R131	RES,CHIP	ERHY0009501	0 ohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R132	RES,CHIP	ERHY0009501	0 ohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R133	RES,CHIP	ERHY0009502	10 ohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R134	RES,CHIP	ERHY0009505	10 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R135	RES,CHIP	ERHY0000154	120K ohm,1/16W,F,1005,R/TP		
6	R136	RES,CHIP	ERHY0009505	10 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R137	RES,CHIP	ERHY0009501	0 ohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R138	RES,CHIP	ERHY0009501	0 ohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R139	RES,CHIP	ERHY0009502	10 ohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R140	RES,CHIP	ERHY0009501	0 ohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R142	RES,CHIP	ERHY0009501	0 ohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R201	RES,CHIP	ERHY0009505	10 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R203	RES,CHIP	ERHY0009538	18 Kohm,1/20W(0.05W) ,F ,0603 ,R/TP		
6	R204	RES,CHIP	ERHY0009503	100 ohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R208	RES,CHIP	ERHY0009505	10 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R209	RES,CHIP	ERHY0009521	330 ohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R210	RES,CHIP	ERHY0009516	2.2 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R213	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R214	RES,CHIP	ERHY0009303	10 Kohm,1/20W(0.05W) ,F ,0603 ,R/TP		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
6	R215	RES,CHIP	ERHY0009303	10 Kohm,1/20W(0.05W) ,F ,0603 ,R/TP		
6	R216	RES,CHIP	ERHY0009501	0 ohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R217	RES,CHIP	ERHY0009501	0 ohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R223	RES,CHIP	ERHY0009560	33 Kohm,1/20W(0.05W) ,F ,0603 ,R/TP		
6	R224	RES,CHIP	ERHY0009303	10 Kohm,1/20W(0.05W) ,F ,0603 ,R/TP		
6	R225	RES,CHIP	ERHY0009536	100 Kohm,1/20W(0.05W) ,F ,0603 ,R/TP		
6	R227	RES,CHIP	ERHY0009506	100 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R229	RES,CHIP	ERHY0009511	1.5 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R230	RES,CHIP	ERHY0009511	1.5 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R231	RES,CHIP	ERHY0009535	24 ohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R232	RES,CHIP	ERHY0009506	100 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R233	RES,CHIP	ERHY0009535	24 ohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R307	RES,CHIP	ERHY0009504	1 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R309	RES,CHIP	ERHY0009506	100 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R310	RES,CHIP	ERHY0009506	100 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R316	RES,CHIP	ERHY0009501	0 ohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R318	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R512	RES,CHIP	ERHY0009503	100 ohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R544	RES,CHIP	ERHY0009501	0 ohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	U101	IC	EUSY0179001	143GQW PBGA ,143 PIN,R/TP ,ANALOG BB CHIP / CODE NAME : SYREN, Pb Free		
6	U102	IC	EUSY0243701	BGA ,293 PIN,R/TP ,T.I. CALYPSO PLUS DBB, Pb Free		
6	U201	IC	EUSY0254701	DFN 3*3*0.9 ,10 PIN,R/TP ,Charger IC, I Max 1A, Wall Adaptor/USB Charger		
6	U202	IC	EUSY0251101	QFN ,16 PIN,R/TP ,Ultra Low Ron Dual DPDT Analog switch, Pb Free		
6	U203	IC	EUSY0235001	Microbump-10 ,10 PIN,R/TP ,Dual SPDT Analog Switch (USB 1.1), Pb Free		
6	U302	IC	EUSY0271001	BGA ,84 PIN,R/TP ,256(128*2)N+128ps IO:3Volt		
6	VA201	VARISTOR	SEVY0001001	14 V ,SMD ,50pF, 1005		
6	X101	X-TAL	EXXY0015601	.032768 MHz,20 PPM,7 pF,65000 ohm,SMD ,6.9*1.4*1.3 ,		
5	SAFD00	PCB ASSY,MAIN,SMT TOP	SAFD0067101		Black	
6	ANT301	ANTENNA,MOBILE,FIXED	SNMF0014501	2.5 ,-1.5 dB,B/T Chip_6x2		
6	C113	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
6	C114	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
6	C203	CAP,TANTAL,CHIP	ECTH0003701	10 uF,6.3V ,M ,L_ESR ,1608 ,R/TP		
6	C204	CAP,CERAMIC,CHIP	ECCH0009508	47 pF,25V ,J ,NP0 ,TC ,0603 ,R/TP		
6	C205	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
6	C207	CAP,TANTAL,CHIP	ECTH0005201	33 uF,6.3V ,M ,STD ,2012 ,R/TP		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
6	C208	CAP,TANTAL,CHIP	ECTH0005201	33 uF,6.3V ,M ,STD ,2012 ,R/TP		
6	C211	CAP,CERAMIC,CHIP	ECCH0009103	100 pF,50V ,J ,X7R ,TC ,0603 ,R/TP		
6	C212	CAP,CERAMIC,CHIP	ECCH0009103	100 pF,50V ,J ,X7R ,TC ,0603 ,R/TP		
6	C223	CAP,CERAMIC,CHIP	ECCH0009505	22 pF,25V ,J ,NP0 ,TC ,0603 ,R/TP		
6	C224	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
6	C225	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C226	CAP,CERAMIC,CHIP	ECCH0009515	150 pF,25V ,K ,X7R ,HD ,0603 ,R/TP		
6	C227	CAP,CERAMIC,CHIP	ECCH0009515	150 pF,25V ,K ,X7R ,HD ,0603 ,R/TP		
6	C303	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C304	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
6	C305	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C306	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
6	C307	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C308	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C309	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C310	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C313	CAP,CERAMIC,CHIP	ECCH0009512	1000 pF,25V ,K ,X7R ,HD ,0603 ,R/TP		
6	C314	CAP,CERAMIC,CHIP	ECCH0009512	1000 pF,25V ,K ,X7R ,HD ,0603 ,R/TP		
6	C317	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
6	C318	CAP,TANTAL,CHIP	ECTH0001703	22 uF,6.3V ,M ,L ,ESR ,2012 ,R/TP		
6	C319	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP		
6	C320	CAP,CERAMIC,CHIP	ECCH0006201	4.7 uF,6.3V ,K ,X5R ,TC ,1608 ,R/TP		
6	C321	CAP,CERAMIC,CHIP	ECCH0000138	390 pF,50V,K,X7R,HD,1005,R/TP		
6	C322	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C323	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C324	CAP,CERAMIC,CHIP	ECCH0009512	1000 pF,25V ,K ,X7R ,HD ,0603 ,R/TP		
6	C325	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
6	C326	CAP,CERAMIC,CHIP	ECCH0009206	68 pF,25V ,J ,X7R ,TC ,0603 ,R/TP		
6	C327	CAP,CERAMIC,CHIP	ECCH0009106	10 nF,16V ,K ,X7R ,TC ,0603 ,R/TP		
6	C401	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C403	INDUCTOR,CHIP	ELCH0004711	22 nH,J ,1005 ,R/TP ,		
6	C405	CAP,CERAMIC,CHIP	ECCH0009506	27 pF,25V ,J ,NP0 ,TC ,0603 ,R/TP		
6	C406	CAP,CHIP,MAKER	ECZH0000802	1 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	C407	CAP,CERAMIC,CHIP	ECCH0000701	1.2 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	C408	CAP,TANTAL,CHIP,MAKER	ECTZ0000406	33 uF,10V ,M ,STD ,3216 ,R/TP		
6	C409	CAP,CHIP,MAKER	ECZH0000802	1 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	C410	CAP,CHIP,MAKER	ECZH0000802	1 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
6	C411	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C412	CAP,CERAMIC,CHIP	ECCH0000173	1.2 pF,16V ,B ,NP0 ,TC ,1005 ,R/TP		
6	C413	CAP,CERAMIC,CHIP	ECCH0009506	27 pF,25V ,J ,NP0 ,TC ,0603 ,R/TP		
6	C414	CAP,CERAMIC,CHIP	ECCH0009506	27 pF,25V ,J ,NP0 ,TC ,0603 ,R/TP		
6	C415	CAP,CERAMIC,CHIP	ECCH0009506	27 pF,25V ,J ,NP0 ,TC ,0603 ,R/TP		
6	C416	CAP,CERAMIC,CHIP	ECCH0009512	1000 pF,25V ,K ,X7R ,HD ,0603 ,R/TP		
6	C417	CAP,CERAMIC,CHIP	ECCH0000173	1.2 pF,16V ,B ,NP0 ,TC ,1005 ,R/TP		
6	C418	CAP,CERAMIC,CHIP	ECCH0000701	1.2 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	C419	CAP,CERAMIC,CHIP	ECCH0000138	390 pF,50V,K,X7R,HD,1005,R/TP		
6	C420	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C421	CAP,CERAMIC,CHIP	ECCH0000701	1.2 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	C422	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C423	CAP,CERAMIC,CHIP	ECCH0000138	390 pF,50V,K,X7R,HD,1005,R/TP		
6	C424	CAP,CERAMIC,CHIP	ECCH0000701	1.2 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	C425	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C426	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C427	CAP,CERAMIC,CHIP	ECCH0000701	1.2 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	C428	CAP,CHIP,MAKER	ECZH0025920	1000 pF,16V ,K ,X7R ,HD ,0603 ,R/TP		
6	C429	CAP,CHIP,MAKER	ECZH0025920	1000 pF,16V ,K ,X7R ,HD ,0603 ,R/TP		
6	C430	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C431	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP		
6	C501	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP		
6	C502	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C503	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C504	CAP,CERAMIC,CHIP	ECCH0009103	100 pF,50V ,J ,X7R ,TC ,0603 ,R/TP		
6	C505	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
6	C506	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
6	C507	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C508	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C509	CAP,CERAMIC,CHIP	ECCH0009110	22 nF,6.3V ,K ,X7R ,TC ,0603 ,R/TP		
6	C510	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C511	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C512	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
6	C513	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
6	C514	CAP,CERAMIC,CHIP	ECCH0009503	3 pF,25V ,C ,NP0 ,TC ,0603 ,R/TP		
6	C999	CAP,CHIP,MAKER	ECZH0025920	1000 pF,16V ,K ,X7R ,HD ,0603 ,R/TP		
6	CN201	CONNECTOR,ETC	ENZY0018101	3 PIN,3.0 mm,ETC , ,Global SON80		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
6	CN203	CONN, SOCKET	ENSY0009401	6 PIN, STRAIGHT , 2.54 mm,		
6	D201	DIODE, TVS	EDTY0006701	CSP , 15 KV, 200 mW, R/TP , 4 CHANNEL ESD ARRAY		
6	FL301	RES, CHIP	ERHY0000401	0 ohm, 1/16W, J, 1608, R/TP		
6	FL401	FILTER, SEPARATOR	SFAY0006902	850.900 , 1800.1900 , 3.8 dB, 4.1 dB, dB, ETC , 5.4*4.0 Size Quad Band FEM		
6	L201	INDUCTOR, CHIP	ELCH0005009	100 nH, J , 1005 , R/TP ,		
6	L202	INDUCTOR, CHIP	ELCH0005009	100 nH, J , 1005 , R/TP ,		
6	L301	INDUCTOR, SMD, POWER	ELCP0006801	820 uH, K , 3.8*3.8*1.3 , R/TP ,		
6	L401	INDUCTOR, CHIP	ELCH0004713	6.8 nH, J , 1005 , R/TP ,		
6	L402	INDUCTOR, CHIP	ELCH0004715	27 nH, J , 1005 , R/TP ,		
6	L403	INDUCTOR, CHIP	ELCH0009112	27 nH, J , 1005 , R/TP , chip coil		
6	L404	INDUCTOR, CHIP	ELCH0004713	6.8 nH, J , 1005 , R/TP ,		
6	L405	INDUCTOR, CHIP	ELCH0004718	5.6 nH, S , 1005 , R/TP ,		
6	R129	RES, CHIP	ERHY0009501	0 ohm, 1/20W(0.05W) , J , 0603 , R/TP		
6	R130	RES, CHIP	ERHY0009501	0 ohm, 1/20W(0.05W) , J , 0603 , R/TP		
6	R202	RES, CHIP	ERHY0009554	20 Kohm, 1/20W(0.05W) , F , 0603 , R/TP		
6	R205	RES, CHIP	ERHY0009560	33 Kohm, 1/20W(0.05W) , F , 0603 , R/TP		
6	R206	RES, CHIP	ERHY0009505	10 Kohm, 1/20W(0.05W) , J , 0603 , R/TP		
6	R207	RES, CHIP	ERHY0009505	10 Kohm, 1/20W(0.05W) , J , 0603 , R/TP		
6	R211	RES, CHIP	ERHY0009506	100 Kohm, 1/20W(0.05W) , J , 0603 , R/TP		
6	R212	RES, CHIP	ERHY0009506	100 Kohm, 1/20W(0.05W) , J , 0603 , R/TP		
6	R226	RES, CHIP	ERHY0009554	20 Kohm, 1/20W(0.05W) , F , 0603 , R/TP		
6	R301	RES, CHIP	ERHY0009501	0 ohm, 1/20W(0.05W) , J , 0603 , R/TP		
6	R302	RES, CHIP	ERHY0009501	0 ohm, 1/20W(0.05W) , J , 0603 , R/TP		
6	R303	CAP, CHIP, MAKER	ECZH0000803	2 pF, 50V , C , NP0 , TC , 1005 , R/TP		
6	R305	INDUCTOR, CHIP	ELCH0005002	2.7 nH, S , 1005 , R/TP ,		
6	R308	RES, CHIP	ERHY0009527	47 Kohm, 1/20W(0.05W) , J , 0603 , R/TP		
6	R313	RES, CHIP	ERHY0009501	0 ohm, 1/20W(0.05W) , J , 0603 , R/TP		
6	R314	RES, CHIP	ERHY0009501	0 ohm, 1/20W(0.05W) , J , 0603 , R/TP		
6	R401	RES, CHIP	ERHY0000226	220 ohm, 1/16W, J, 1005, R/TP		
6	R402	RES, CHIP	ERHY0008201	24 ohm, 1/16W , J , 1005 , R/TP		
6	R403	RES, CHIP	ERHY0000226	220 ohm, 1/16W, J, 1005, R/TP		
6	R404	CAP, CERAMIC, CHIP	ECCH0000110	10 pF, 50V, D, NP0, TC, 1005, R/TP		
6	R405	RES, CHIP	ERHY0009515	220 ohm, 1/20W(0.05W) , J , 0603 , R/TP		
6	R406	CAP, CERAMIC, CHIP	ECCH0000110	10 pF, 50V, D, NP0, TC, 1005, R/TP		
6	R407	RES, CHIP	ERHY0009515	220 ohm, 1/20W(0.05W) , J , 0603 , R/TP		
6	R408	RES, CHIP	ERHY0009515	220 ohm, 1/20W(0.05W) , J , 0603 , R/TP		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
6	R409	INDUCTOR,CHIP	ELCH0004723	1.8 nH,S ,1005 ,R/TP ,		
6	R410	RES,CHIP	ERHY0000229	300 ohm,1/16W,J,1005,R/TP		
6	R411	RES,CHIP	ERHY0000206	18 ohm,1/16W,J,1005,R/TP		
6	R412	RES,CHIP	ERHY0000229	300 ohm,1/16W,J,1005,R/TP		
6	R413	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R414	RES,CHIP	ERHY0009515	220 ohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R415	RES,CHIP	ERHY0009515	220 ohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R416	RES,CHIP	ERHY0009515	220 ohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R417	RES,CHIP	ERHY0000239	820 ohm,1/16W,J,1005,R/TP		
6	R418	RES,CHIP	ERHY0000239	820 ohm,1/16W,J,1005,R/TP		
6	R419	RES,CHIP	ERHY0000239	820 ohm,1/16W,J,1005,R/TP		
6	R420	RES,CHIP	ERHY0000239	820 ohm,1/16W,J,1005,R/TP		
6	R421	RES,CHIP	ERHY0000237	680 ohm,1/16W,J,1005,R/TP		
6	R422	RES,CHIP	ERHY0009501	0 ohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R423	RES,CHIP	ERHY0009515	220 ohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R424	RES,CHIP	ERHY0009515	220 ohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R425	RES,CHIP	ERHY0000263	15K ohm,1/16W,J,1005,R/TP		
6	R426	THERMISTOR	SETY0006501	NTC ,22000 ohm,SMD ,1005, ECTH 1005 Series, Pb Free		
6	R427	RES,CHIP	ERHY0000289	270K ohm,1/16W,J,1005,R/TP		
6	R428	RES,CHIP	ERHY0000237	680 ohm,1/16W,J,1005,R/TP		
6	R429	RES,CHIP	ERHY0000254	4.7K ohm,1/16W,J,1005,R/TP		
6	R501	RES,CHIP	ERHY0009536	100 Kohm,1/20W(0.05W) ,F ,0603 ,R/TP		
6	R502	RES,CHIP	ERHY0009501	0 ohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R504	RES,CHIP	ERHY0009303	10 Kohm,1/20W(0.05W) ,F ,0603 ,R/TP		
6	R505	RES,CHIP	ERHY0009303	10 Kohm,1/20W(0.05W) ,F ,0603 ,R/TP		
6	R506	RES,CHIP	ERHY0009303	10 Kohm,1/20W(0.05W) ,F ,0603 ,R/TP		
6	R507	RES,CHIP	ERHY0009303	10 Kohm,1/20W(0.05W) ,F ,0603 ,R/TP		
6	R508	RES,CHIP	ERHY0009501	0 ohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R509	RES,CHIP	ERHY0009302	1 Kohm,1/20W(0.05W) ,F ,0603 ,R/TP		
6	R510	RES,CHIP	ERHY0009506	100 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R511	RES,CHIP	ERHY0009536	100 Kohm,1/20W(0.05W) ,F ,0603 ,R/TP		
6	R530	RES,CHIP	ERHY0009505	10 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R532	RES,CHIP	ERHY0009527	47 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R534	RES,CHIP	ERHY0009501	0 ohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R535	RES,CHIP	ERHY0009501	0 ohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R537	RES,CHIP	ERHY0009561	56 Kohm,1/20W(0.05W) ,F ,0603 ,R/TP		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
6	R545	RES,CHIP	ERHY0009505	10 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R550	RES,CHIP	ERHY0009506	100 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	SW401	CONN,RF SWITCH	ENWY0002304	STRAIGHT ,SMD ,0.8 dB,MUSE MODEL		
6	U301	MODULE,ETC	SMZY0010201	6.0 * 5.0 * 1.35 mm ,48 PIN,R/TP ,Bluetooth Module v2.0		
6	U303	IC	EUSY0250101	MSOP ,8 PIN,R/TP ,AC_182Vpp EL DRIV		
6	U304	IC	EUSY0045308	SOT-23-5 ,5 PIN,R/TP ,2.85V / 500 MILLI PEAK LDO REGULATOR / PB FREE		
6	U305	IC	EUSY0291801	FC-4 ,4 PIN,R/TP ,2.8V, 1x1x0.6T, LDO Pb-Free		
6	U306	IC	EUSY0100504	SC70 ,5 PIN,R/TP ,UHS 2-INPUT OR GATE		
6	U401	PAM	SMPY0008901	35 dBm,55 %2 A,-50 dBc,25 dB,6.0 * 6.0 * 1.4 ,SMD ,GSM QUAD PAM		
6	U402	IC	EUSY0223202	5.0*5.0 ,32 PIN,R/TP ,AERO11 TRANSCEIVER, D Version		
6	U501	IC	EUSY0303201	QFN ,24 PIN,R/TP ,FM Tuner Chip, No RDS, 4X4mm, Pb-Free		
6	U502	IC	EUSY0142501	LLP ,8 PIN,R/TP ,Dual 105mW Headphone Amplifier		
6	U503	IC	EUSY0278501	SON5-P-0.50 ,5 PIN,R/TP ,INVERTER GATE, Pb Free		
6	U504	IC	EUSY0278501	SON5-P-0.50 ,5 PIN,R/TP ,INVERTER GATE, Pb Free		
6	X401	VCTCXO	EXSK0004901	26 MHz,2 PPM,10 pF,SMD ,3.2*2.5*1.2 ,		
6	ZD301	DIODE,ZENER	EDNY0010401	USC ,100 V,0.2 W,R/TP ,		
5	SPFY01	PCB,MAIN	SPFY0122401	FR-4 ,0.8 mm,LX-BUMP 10 Layer		
5	WSYY00	SOFTWARE	WSYY0348401	MG810cP64FL 55 V10b 724-05 Apr 12 2006+6		

12. EXPLODED VIEW & REPLACEMENT PART LIST

12.3 Accessory

Note: This Chapter is used for reference, Part order is ordered by SBOM standard on GCSC

Level	Location No.	Description	Part Number	Specification	Color	Remark
3	ADEY00	DATA KIT	ADEY0005802	MG810 Data kit for Brazil		
4	MBAZ00	BAG	MBAZ0006201	MG810 CD Bag		
4	MCHZ00	COMPACT DISK	MCHZ0013301		Black	
4	MMBA	MANUAL, INSTALLATION	MMBA0018506	MG810 CD manual for Brazil		
4	MSFG00	STICKER, SEAL	MSFG0000801	Sticker seal of Data kit case		
3	MHBY00	HANDSTRAP	MHBY0003604			
3	SBPP00	BATTERY PACK, LI-POLYMER	SBPP0014901	3.7 V, 700 mAh, 1 CELL, PRISMATIC, SON80 Batt. Pb-Free	Pearl White	62
3	SGDY00	DATA CABLE	SGDY0010901	LG-US03K, 18pin USB DataCable		
3	SGEY00	EAR PHONE/EAR MIKE SET	SGEY0005516	GSM FORDER, KG320(C2EAR PHONE)		
3	SSAD00	ADAPTOR, AC-DC	SSAD0020902	100-240V, 5060 Hz, 4.8 V, 0.9 A, CB & UL & CSA, 18pin plug		

Note
