Service Manual

Model : MG280

Service Manual

MG280

Date: February, 2007 / Issue 1.0

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1. INTRODUCTION

1.1 Purpose

This manual provides the information necessary to repair, calibration, description and download the features of this model.

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 for 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. The manufacturer 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.
The manufacturer 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 this phone 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 this model must be performed only by the manufacturer or its authorized agent. The user may not make any changes and/or repairs expect 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.

E. Notice of Radiated Emissions

This model 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

Phone 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.

1.3 Abbreviations

For the purposes of this manual, following abbreviations apply:

APC	Automatic Power Control
BB	Baseband
BER	Bit Error Ratio
CC-CV	Constant Current - Constant Voltage
DAC	Digital to Analog Converter
DCS	Digital Communication System
dBm	dB relative to 1 milli watt
DSP	Digital Signal Processing
EEPROM	Electrical Erasable Programmable Read-Only Memory
ESD	Electrostatic Discharge
FPCB	Flexible Printed Circuit Board
GMSK	Gaussian Minimum Shift Keying
GPIB	General Purpose Interface Bus
GSM	Global System for Mobile Communications
IPUI	International Portable User Identity
IF	Intermediate Frequency
LCD	Liquid Crystal Display
LDO	Low Drop Output
LED	Light Emitting Diode
OPLL	Offset Phase Locked Loop

PAM	Power Amplifier Module
PCB	Printed Circuit Board
PGA	Programmable Gain Amplifier
PLL	Phase Locked Loop
PSTN	Public Switched Telephone Network
RF	Radio Frequency
RLR	Receiving Loudness Rating
RMS	Root Mean Square
RTC	Real Time Clock
SAW	Surface Acoustic Wave
SIM	Subscriber Identity Module
SLR	Sending Loudness Rating
SRAM	Static Random Access Memory
PSRAM	Pseudo SRAM
STMR	Side Tone Masking Rating
TA	Travel Adapter
TDD	Time Division Duplex
TDMA	Time Division Multiple Access
UART	Universal Asynchronous Receiver/Transmitter
VCO	Voltage Controlled Oscillator
VCTCXO	Voltage Control Temperature Compensated Crystal Oscillator
WAP	Wireless Application Protocol

2. PERFORMANCE

2.1 H/W Features

Item	Feature	Comment
Standard Battery	Li-ion Polymer, 3.7V 800mAh	
Stand by TIME	Up to 200 hrs : Paging Period 5, RSSI 85dBm	
Talk time	Up to 200min : GSM Tx Level 7	
Stand by time	Up to 200 hours (Paging Period: 5, RSSI: -85 dBm)	
Charging time	Approx. 3 hours	
RX Sensitivity	GSM, EGSM: -109dBm, DCS: -109dBm	
TX output power	GSM, EGSM: 32.5dBm(Level 5), DCS , PCS: 29.5dBm(Level 0)	
GPRS compatibility	Class 10	
SIM card type	3V Small	
Display	LCD : TFT 128 × 160 pixel 262K Color	
Status Indicator	Hard icons. Key Pad 0 ~ 9, #, *, Touch Key(Up/Down Navigation Key Menu Key, Clear Key, Back Key, Confirm Key Send Key, Soft Key(Left/Right)) Volume Key, PWR Key, Camera Key	
ANT	Internal	
EAR Phone Jack	Yes (mono)	
PC Synchronization	Yes	
Speech coding	EFR/FR/HR	
Data and Fax	Yes	
Vibrator	Yes	
Loud Speaker	Yes	
Voice Recoding	Yes	
Microphone	Yes	
Speaker/Receiver	One way speaker	
Travel Adapter	Yes	
MIDI	64 Poly (Mono SPK)	
Camera	VGA	

2.2 Technical Specification

<table>
<tr><th>Item</th><th>Description</th><th colspan="6">Specification</th></tr>
<tr><td>1</td><td>Frequency Band</td><td colspan="6">GSM850
• TX: 890 + n x 0.2 MHz
• RX: 935 + n x 0.2 MHz (n=1~124)
PCS
• TX: 1850 + (n-512) x 0.2 MHz
• RX: 1930+ (n-1512) x 0.2 MHz (n=512~810)
DCS
• TX: 1710 + (n-512) x 0.2 MHz
• RX: 1805 + (n-512) x 0.2 MHz (n=512~885)</td></tr>
<tr><td>2</td><td>Phase Error</td><td colspan="6">RMS < 5 degrees
Peak < 20 degrees</td></tr>
<tr><td>3</td><td>Frequency Error</td><td colspan="6">< 0.1 ppm</td></tr>
<tr><td rowspan="20">4</td><td rowspan="20">Power Level</td><td colspan="6">GSM</td></tr>
<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>
<tr><td colspan="6">DCS/PCS</td></tr>
<tr><td>Level</td><td>Power</td><td>Toler.</td><td>Level</td><td>Power</td><td>Toler.</td></tr>
<tr><td>0</td><td>30 dBm</td><td>±2dB</td><td>8</td><td>14 dBm</td><td>±3dB</td></tr>
<tr><td>1</td><td>28 dBm</td><td>±3dB</td><td>9</td><td>12 dBm</td><td>±4dB</td></tr>
<tr><td>2</td><td>26 dBm</td><td>±3dB</td><td>10</td><td>10 dBm</td><td>±4dB</td></tr>
<tr><td>3</td><td>24 dBm</td><td>±3dB</td><td>11</td><td>8 dBm</td><td>±4dB</td></tr>
<tr><td>4</td><td>22 dBm</td><td>±3dB</td><td>12</td><td>6 dBm</td><td>±4dB</td></tr>
<tr><td>5</td><td>20 dBm</td><td>±3dB</td><td>13</td><td>4 dBm</td><td>±4dB</td></tr>
<tr><td>6</td><td>18 dBm</td><td>±3dB</td><td>14</td><td>2 dBm</td><td>±5dB</td></tr>
<tr><td>7</td><td>16 dBm</td><td>±3dB</td><td>15</td><td>0 dBm</td><td>±5dB</td></tr>
</table>

Item	Description	Specification	
5	Output RF Spectrum (due to modulation)	**GSM, EGSM**	
		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
		DCS/PCS	
		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)	**GSM, EGSM**	
		Offset from Carrier (kHz)	Max. (dBm)
		400	-19
		600	-21
		1,200	-21
		1,800	-24

2. PERFORMANCE

Item	Description	Specification		
6	Output RF Spectrum (due to switching transient)	**DCS/PCS**		
		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	**GSM, EGSM** BER (Class II) < 2.439% @-102 dBm **DCS,PCS** BER (Class II) < 2.439% @-100 dBm		
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.		

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	System frequency (13 MHz) tolerance	≤ 2.5ppm	
19	32.768KHz tolerance	≤ 30ppm	
20	Ringer Volume	At least 65 dBspl under below conditions: 1. Ringer set as ringer. 2. Test distance set as 50 cm	
21	Charge Current	Fast Charge : < 430 mA Slow Charge : < 160 mA	
22	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
23	Battery Indicator	Battery Bar Number	Voltage
		0	3.48 ~ 3.63 V
		1	3.63 ~ 3.70 V
		2	3.70 ~ 3.76 V
		3	3.76 ~ 3.89 V
		4	3.89 V ~
24	Low Voltage Warning	3.63 ± 0.03V (Call) every 1 minutes	
		3.48 ± 0.03V (Standby)	

Item	Description	Specification
25	Forced shut down Voltage	3.33 ± 0.03 V
26	Battery Type	1 Li-ion Battery Standard Voltage = 3.7 V Battery full charge voltage = 4.2 V Capacity: 830mAh
27	Travel Charger	Switching-mode charger Input: 100 ~ 240 V, 50/60 Hz Output: 5.2 V, 800 mA

3. TECHNICAL BRIEF

3.1 Power Amplifier (SKY77318, U600)

The SKY77318 Power Amplifier Module (PAM) is designed in a low profile (1.2 mm), compact form factor for quad-band cellular handsets comprising GSM850/900, DCS1800, and PCS1900 operation. The PAM also supports Class 12 General Packet Radio Service (GPRS) multi-slot operation. The module consists of separate GSM850/900 PA and DCS1800/PCS1900 PA blocks, impedancematching circuitry for 50 Ω input and output impedances, and a Power Amplifier Control (PAC) block with an internal current-sense resistor. The custom BiCMOS integrated circuit provides the internal PAC function and interface circuitry. Fabricated onto a single Gallium Arsenide (GaAs) die, one Heterojunction Bipolar Transistor (HBT) PA block supports the GSM850/900 bands and the other supports the DCS1800 and PCS1900 bands. Both PA blocks share common power supply pins to distribute current. The GaAs die, the Silicon (Si) die, and the passive components are mounted on a multi-layer laminate substrate. The assembly is encapsulated with plastic overmold. RF input and output ports of the SKY77318 are internally matched to a 50 Ω load to reduce the number of external components for a quad-band design. Extremely low leakage current (2.5 μA, typical) of the dual PA module maximizes handset standby time. The SKY77318 also contains band-select switching circuitry to select GSM (logic 0) or DCS/PCS (logic 1) as determined from the Band Select (BS) signal. In Figure 1 below, the BS pin selects the PA output (DCS/PCS OUT or GSM850/900 OUT) and the Analog Power Control (VAPC) controls the level of output power. The VBATT pin connects to an internal current-sense resistor and interfaces to an integrated power amplifier control (iPAC™) function, which is insensitive to variations in temperature, power supply, process, and input power. The ENABLE input allows initial turn-on of PAM circuitry to minimize battery drain. Figure 1. Functional Block Diagram

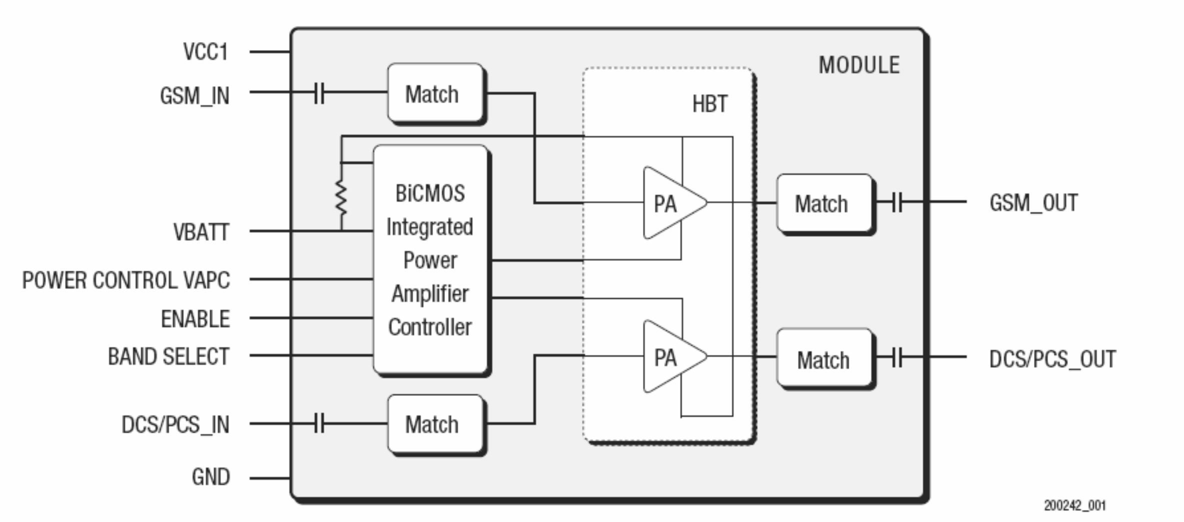
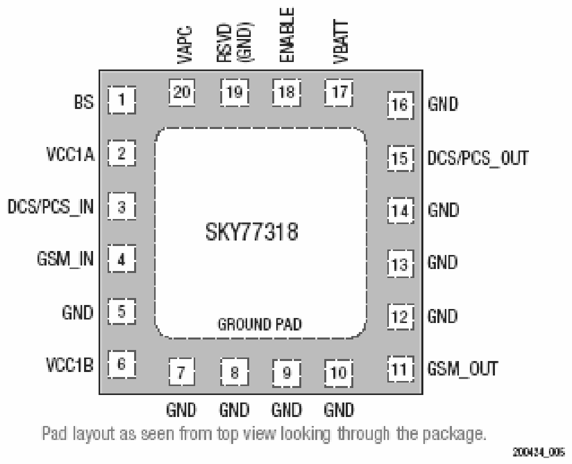


Figure1. Functional Block Diagram



SKY77318 PAM Pin Configuration-20-Pin Leadless (Top View)

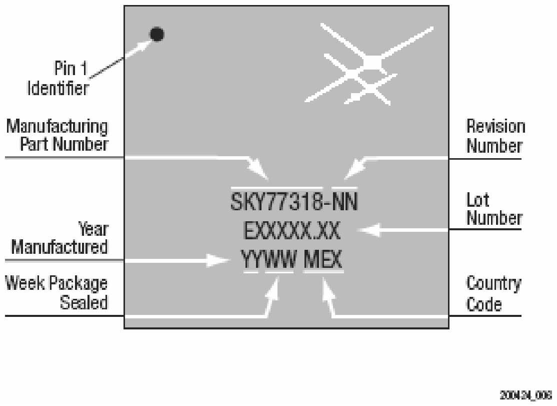


Figure 6. Typical Case Makings

Pin	Mame	Description
1	BS	Band Select
2	VCC1A	VCC (to GSM 1st stage, DCS/PCS 1st stages, BiCMOS PAC)
3	DCS/PCS IN	RF input 1710-1910 MHz (DCS1800, PCS1900)
4	GND IN	RF input 880-915 MHz (GSM)
5	GND	RF and DC Ground
6	VCC1B	VCC (to GSM 2nd stage, DCS/PCS 2nd stages)
7	GND	RF and DC Ground
8	GND	RF and DC Ground
9	GND	RF and DC Ground
10	GND	RF and DC Ground
11	GSM OUT	RF Output 880-915 MHz (GSM)
12	GND	RF and DC Ground
13	GND	RF and DC Ground
14	GND	RF and DC Ground
15	DCS/PCS OUT	RF Output 1710-1910 MHz (DCS 1800, PCS1900)
16	GND	RF and DC Ground
17	VBATT	Battery input to high side of intemal sense resistor
18	ENABLE	BiCMOS Enable
19	RSVD(GND)	RF and DC Ground
20	VAPC	Power Control Bias Voltage
GMD PAD	GND	Ground Pad, device underside

Table 4. SKY77328 Pin Names and Signal Descriptions

3.2 Transceiver (AD6549, U601)

The AD6548/9 provides a highly integrated direct conversion radio solution that combines, on a single chip, all radio and power management functions necessary to build the most com-pact GSM radio solution possible. The only external components required for a complete radio design are the Rx SAWs, PA, Switchplexer and a few passives enabling an extremely small cost effective GSM Radio solution. The AD6548/9 uses the industry proven direct conversion re-ceiver architecture of the OthelloTM family. For Quad band appli-cations the front end features four fully integrated programmable gain differential LNAs. The RF is then downconverted by quad-rature mixers and then fed to the baseband programmable-gain amplifiers and active filters for channel selection. The Receiver output pins can be directly connected to the baseband analog processor. The Receive path features automatic calibration and tracking to remove DC offsets. The transmitter features a translation-loop architecture for di-rectly modulating baseband signals onto the integrated TX VCO. The translation-loop modulator and TX VCO are extremely low noise removing the need for external SAW filters prior to the PA. The AD6548/9 uses a single integrated LO VCO for both the receive and the transmit circuits. The synthesizer lock times are optimized for GPRS applications up to and including class 12. AD6548 incorporates a complete reference crystal calibration system. This allows the external VCTCXO to be replaced with a low cost crystal. No other external components are required. The AD6549 uses the traditional VCTCXO reference source. The AD6548/9 also contains on-chip low dropout voltage regula-tors (LDOs) to deliver regulated supply voltages to the functions on chip, with a battery input voltage of between 2.9V and 5.5V. Comprehensive power down options are included to minimize power consumption in normal use. A standard 3 wire serial interface is used to program the IC. The interface features low-voltage digital interface buffers compatible with logic levels from 1.6V to 2.9V.

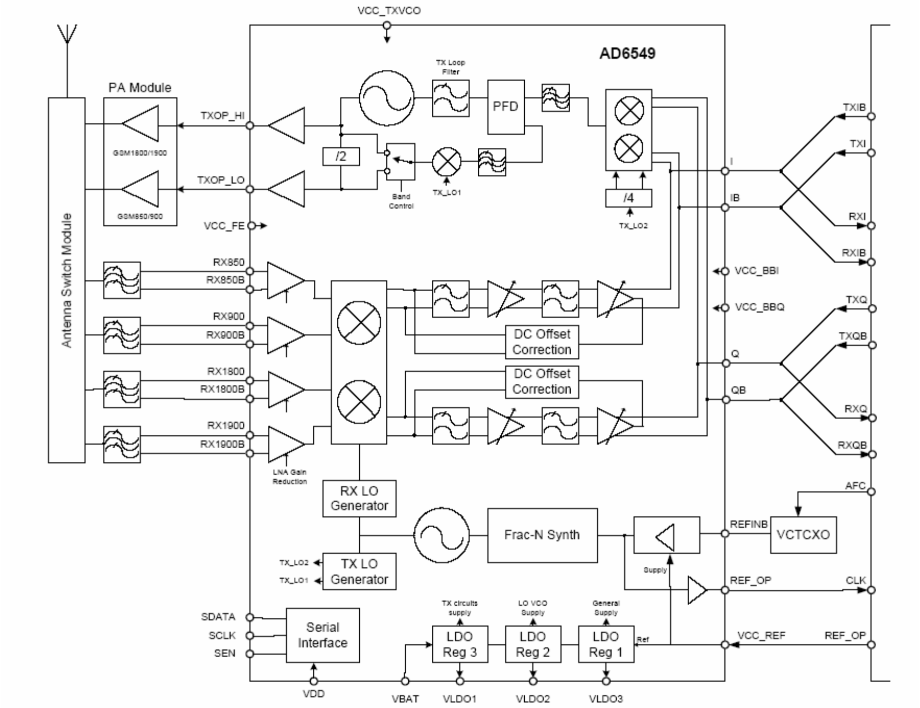
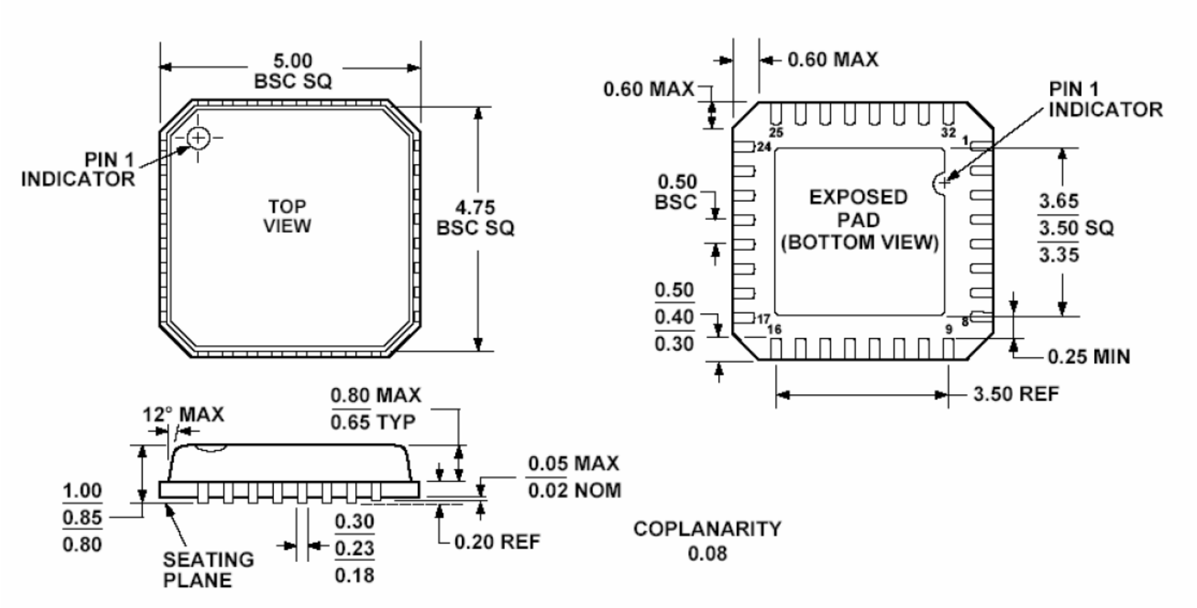


Figure 2 AD6549 Block Diagram



GOMPLIANT TO JEDEC STANDARDS MO-220-VHHD-2

No	Name	Description	No	Name	Description
1	VCC_FE	Front end supply (IP)	17	VCC_REF	Reference Oscillator Supply (IP)
2	I	I baseband input/output	18	VAFC/ N/C	AD6548 Crystal Freq control (IP) AD6549: Spare Pin
3	IB	I baseband input/output	19	REFIN	Crystal Connection
4	VCC_BBI	Baseband I, TX path supply (IP)	20	REFINB	Crystal Connection
5	SDATA	Serial port data	21	REF_OP	Reference Frequency Output
6	SCLK	Serial port clock	22	QB	Q baseband input/output
7	SEN	Serial port enable	23	Q	Q baseband input/output
8	N/C	Not connected	24	VCC_BBQ	Baseband Q supply (IP)
9	VLDO3	TX LDO Output (1)	25	RX1900B	PCS 1900 LNA input
10	TXOP_LO	Transmit O/P (850/900MHz)	26	RX1900	PCS 1900 LNA input
11	TXOP_HI	Transmit O/P (1800/1900MHz)	27	RX1800B	DCS 1800 LNA input
12	VCC_TXVCO	TX VCO supply (1)	28	RX1800	DCS 1800 LNA input
13	VDD	Serial interface supply	29	RX900B	E-GSM LNA input
14	VBAT	Battery I/P for LDO reg’s	30	RX900	E-GSM LNA input
15	VLDO1	LDO regulator Output (2)	31	RX850B	GSM 850 LNA input
16	VLDO2	LO VCO Supply (3)	32	RX850	GSM 850 LNA input

Table 1 AD6548/9 Pin Descriptions

3.3 FEM for Triband(FL600)

	ANT_SW1	ANT_SW2
GSM_TX	High	Low
DCS/PCS_TX	Low	High
GSM_RX	Low	Low
DCS_RX	Low	Low
PCS_RX	Low	Low

Table 3-1 Band SW Logic Table

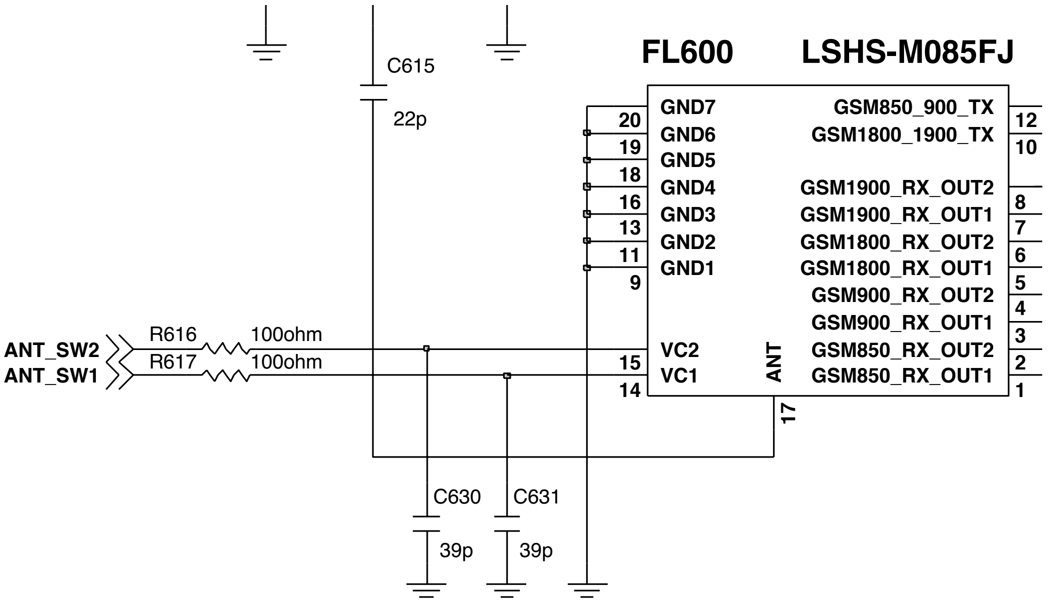


Figure 3- 2 FEM CIRCUIT DIAGRAM

3.4 26 MHz Clock (VCTCXO, X500)

The 26 MHz clock(X600) consists of a TCXO(Temperature Compensated Crystal Oscillator) which oscillates at a frequency of 26 MHz. It is used within the SKY77318, base band processor(AD6720,U101), Midi(U204, YMU792) , CAMERA(U401,AIT701G)

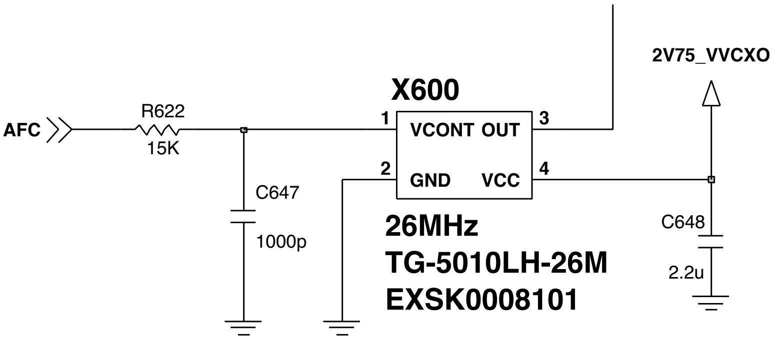


Figure 3-3. VCTCXO CIRCUIT DIAGRAM

3.5 Baseband Processor (AD6720 , U101)

- AD6720 is an ADI designed processor

- AD6720 consists of

1. Control Processor Subsystem including:
   - 32-bit MCU ARM7TDMI® Control Processor
   - 39 MHz operation at 1.8V
   - 1Mb of on-chip System SRAM Memory
2. DSP Subsystem including:
   - 16-bit Fixed Point DSP Processor
   - 91 MIPS[1] at 1.8V
   - Data and Program SRAM
   - Program Instruction Cache
   - Full Rate, Enhanced Full Rate and Half Rate
   - Speech Encoding/Decoding
   - Capable of Supporting AMR & PDC Speech Algorithms
3. Peripheral Functions
   - Parallel and Serial Display Interface
   - Keypad Interface
   - Flash Memory Interface
   - Page-Mode Flash Support
   - 1.8V and 3.0V, 64 kbps SIM Interface
   - Universal System Connector Interface
   - Data Services Interface
   - Battery Interface (e.g. Dallas)
4. Other
   - Supports 13 MHz and 26 MHz Input Clocks
   - 1.8V Typical Core Operating Voltages
   - 289-Ball Package (12x12mm), 0.65mm Ball pitch
5. The AD6720 baseband transmit section supports the following mobile station GMSK modulation power classes:
   - GSM 900/850 power classes 4 and 5,
   - DCS 1800 power classes 1 and 2, and
   - PCS 1900 power classes 1 and 2

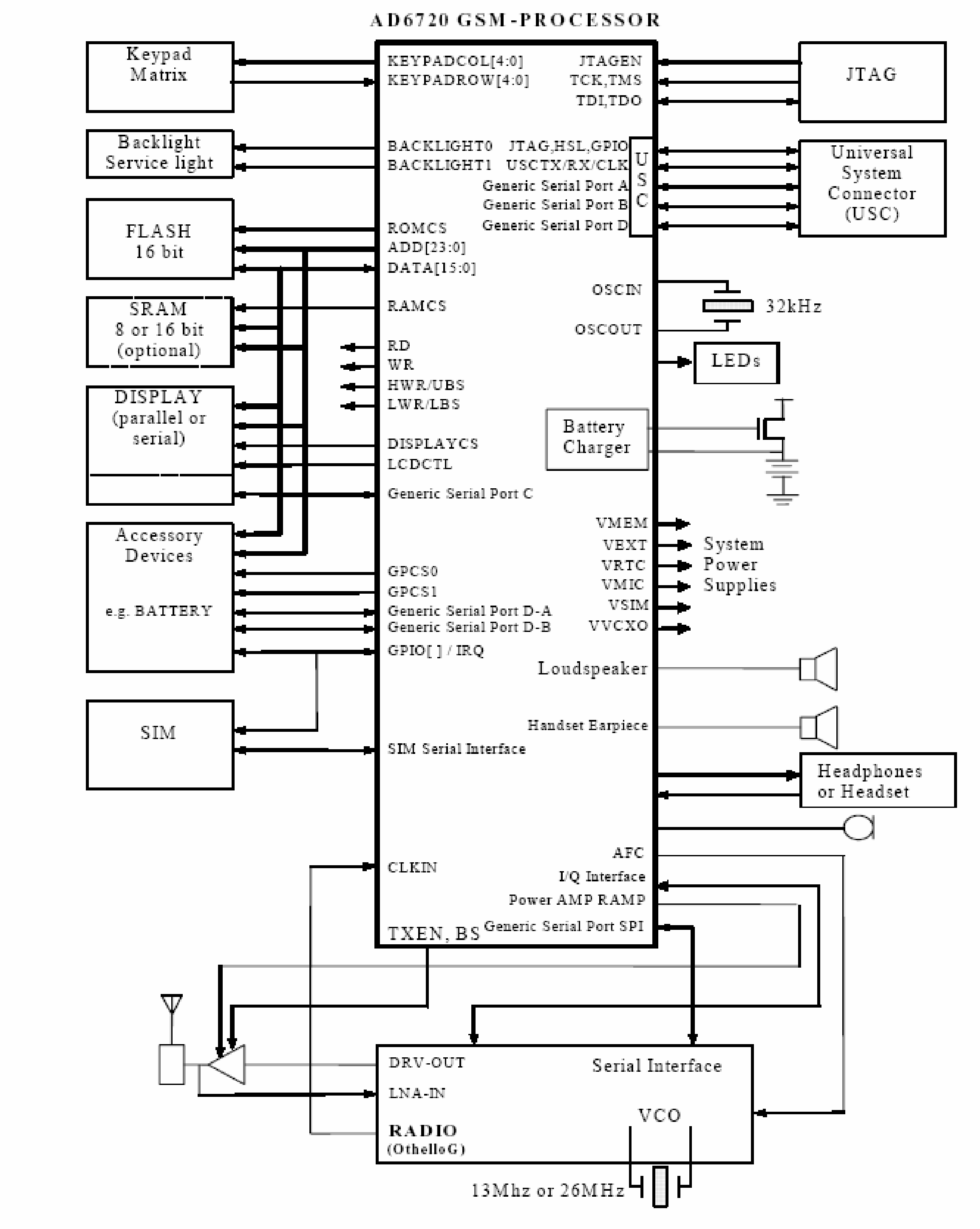


Figure 3-4 SYSTEM INTERCONECTION OF AD6720 EXTERNAL INTERFACE

3.5.1 Interconnection with external devices

A. RTC block interface

Countered by external X-TAL
The X-TAL oscillates 32.768KHz

B. LCD module interface

The LCD module is controlled by CAMERA IC, AIT701G
If AIT701G is in the state of by-pass mode, the LCD control signals from AD6720 are by-passed through AIT701G.
In operating mode, the AIT701G controls the LCD module through L_MAIN_LCD_CS, L_SUB_LCD_CS, LCD_RESET, LCD_RS, LCD_WR, LCD_RD, L_DATA[15-00], 2V85_VCAM, IF_MODE, LCD_ID[1:3].

Signals	Description
L_MAIN_LCD_CS	MAIN LCD driver chip enable. MAIN LCD driver IC has own CS pin
LCD_ID	Select LCD modoule maker(2.4V : BYD, 0V : LGIT)
LCD_RESET	This pin resets LCD module. This signal comes from AD6720 directly.
LCD_WR	Enable writing to LCD Driver.
LCD_RD	Enable reading to LCD Driver.
LCD_RS	This pin determines whether the data to LCD module are display data or control data. LCD_RS can select 16 bit parallel bus.
2V8_VLCD	2.8V voltage is supplied to LCD driver IC.
IF_MODE	Select 16bits or 8bits interface mode for MAIN LCD. For the future

Table 3-2 . LCD CONTRON SIGNALS DISCRIPTION

The backlight of LCD module is controlled by AD6720 via AAT3157, U201. The control signals related to Backlight LED are given bellow.

Signals	Description
MLED	Current source for backlight LED
LCD_DIM_CTL	Control LCD backlight level in 16 steps
MLED[1:3]	This pins are returned-paths for backlight LED current source (MLED)

Table 3-3. DESCRIPTION OF LCD BACKLIGHT LED CONTROL

C. RF interface

The AD6720 control RF parts through PA_BAND, ANT_SW1, ANT_SW2, ANT_SW3, CLKON, PA_EN, S_EN, S_DATA, S_CLK

Signals	Description
PA_BAND (GPO 17)	PAM Band Select
ANT_SW1 (GPO 9)	Antenna switch Band Select
ANT_SW2 (GPO 10)	Antenna switch Band Select
PA_EN (GPO 16)	PAM Enable/Disable
S_EN (GPO 19)	PLL Enable/Disable
S_DATA (GPO 20)	Serial Data to PLL
S_CLK (GPO 21)	Clock to PLL

Table 3-4. RF CONTROL SIGNALS DESCRIPTION

D. SIM interface

The AD6720 provides SIM Interface Module. The AD6720 checks status periodically during established call mode whether SIM card is inserted or not, but it doesn't check during deep Sleep mode. In order to communicate with SIM card, 3 signals SIM_DATA, SIM_CLK, SIM_RST(GPIO_23) are required. The descriptions about the signals are given by bellow Table 3-5 in detail.

Signals	Description
SIM_DATA	This pin receives and sends data to SIM card. This model can support only 3.0 volt interface SIM card.
SIM_CLK	Clock 3.25MHz frequency.
SIM_RST (GPIO_23)	Reset SIM block

Table 3-5. SIM CONTROL SIGNALS DESCRIPTION

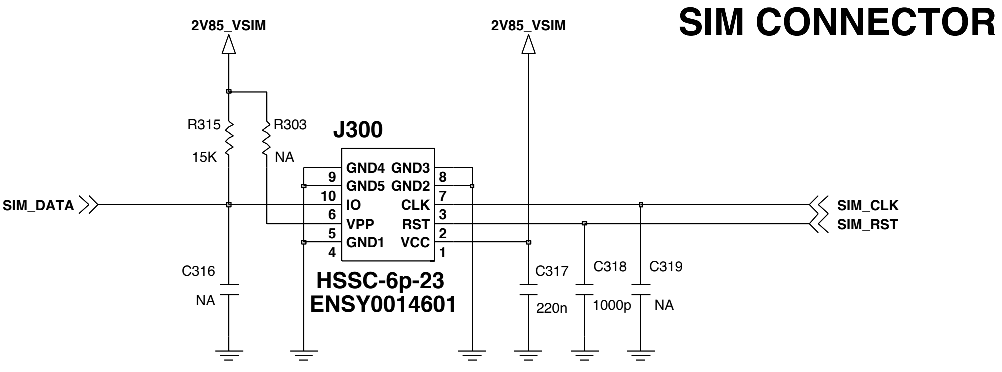


Figure 3-5. SIM Interface of AD6720

E. LDO Block

There are 8 LDOs in the AD6720.

- VCORE : supplies Digital baseband Processor core and AD6720 digital core
- VMEM : supplies external memory and the interface to the external memory on the digital baseband processor (1,8V or 2.8V, 150mA)
- VEXT : supplies Radio digital interface and high voltage interface (2.8V, 170mA)
- VSIM : supplies the SIM interface circuitry on the digital processor and SIM card (2.85V, 20mA)
- VRTC : supplies the Real-Time Clock module (1.8 V, 20 μA)
- VABB : supplies the analog portions of the AD6720
- VMIC : supplies the microphone interface circuitry (2.5 V, 1 mA)
- VVCXO : supplies the voltage controlled crystal oscillator (2.75 V, 10 mA)

3.6 Battery Charging Block

1. It can be used to charge Lithium Ion batteries.
   Charger initialization, trickle charging, and Li-Ion charging control are implemented in hardware.

2. Charging Process
   - Check charger is inserted or not
   - If AD6720 detects that Charger is inserted, the CC-CV charging starts.
   - Exception : When battery voltage is lower than 3.2V, the precharge(low current charge mode) starts firstly.
   - And the battery voltage reach to 3.2V the CC-CV charging starts.

3. Pins used for charging
   - VCHG : charger supply.
   - GATEDRIVE : charge DAC output
   - ISENSE : charge current sense input
   - VBATSENSE : battery voltage sense input.
   - BATTYPE : battery type identification input
   - REFCHG : voltage reference output

4. TA (Travel Adaptor)
   - Input voltage: AC 85V ~ 260V, 50~60Hz
   - Output voltage: DC 5.2V (0.2 V)
   - Output current: Max 800mA (50mA)

5. Battery
   - Li-ion battery (Max 4.2V, Nom 3.7V)
   - Standard battery: Capacity - 830mAh

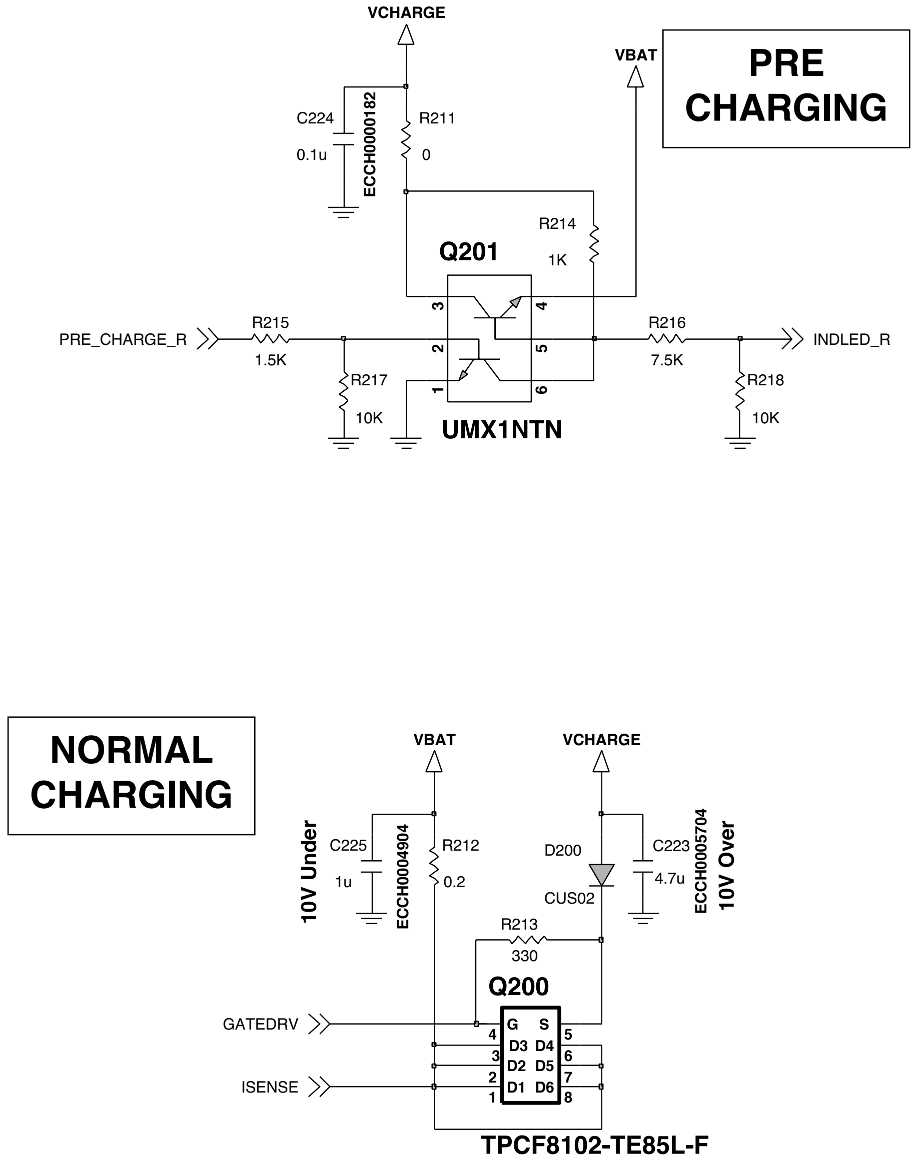


Figure 3-6. CIRCUIT FOR BATTERY CHARGING

3.7 Display and Interface

- Main LCD

Properties	Spec.	Unit
Active Screen Size	28.032*35.04	mm
Color Depth	262,144	colors
Resolution	128 X RGB X 160	dots

Controlled by L_MAIN_LCD_CS, LCD_RESET, LCD_RS, LCD_WR, LCD_RD, IFMODE, L_DATA[00:15] ports

- L_MAIN_LCD_CS : MAIN LCD driver chip enable. MAIN LCD driver IC has own CS pin
- LCD_RST : This pin resets LCD module. This signal comes from AD6720 directly.
- LCD_RS: This pin determines whether the data to LCD module are display data or control data.
- L_WR : Write control Signal
- L_RD : Read control Signal. But this pin used only for debugging.
- L_DATA[00:15] : Parallel data lines.
- LCD_ID[1:2] : LCD type selection signals
  - LCD_ID1 : LCD maker(2.4V is BYD, 0V is LGIT)
  - LCD_ID[2:3] : for the future using
- For using 262K color, data buses should be 16 bits.

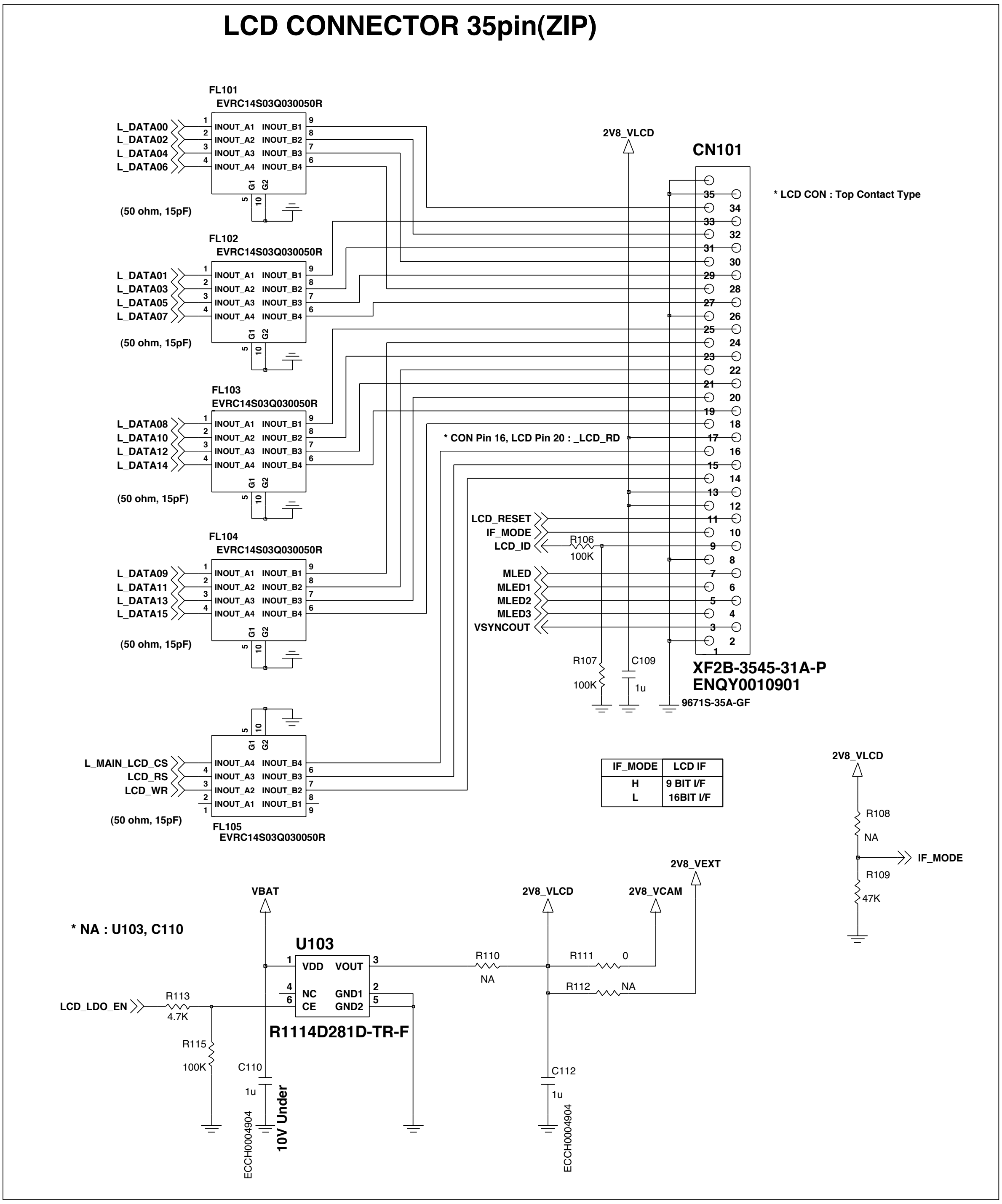


Figure 3-7. LCD INTERFACE CIRCUIT

3.8 Camera IC(AIT701G , U401)

This model has a built-in VGA(640 x 480) camera module. And the camera produces JPG pictures. Camera module is controlled by AIT701G. Interface is done by I2C and YCbCr format. I2C is a control signal and YCbCr is real data interface signal.

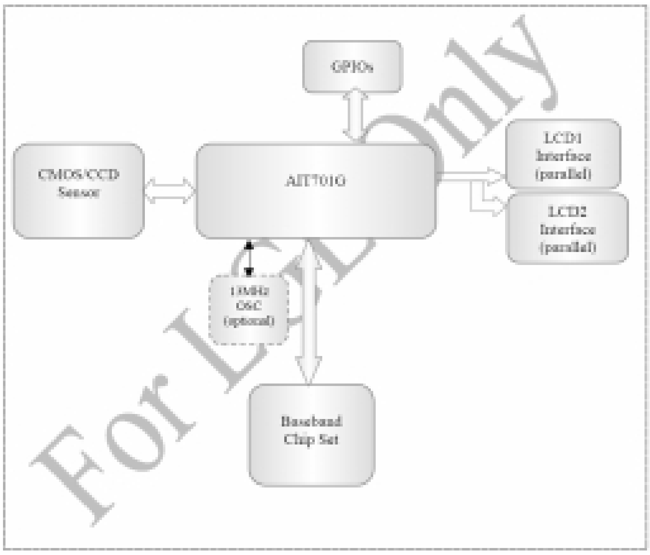


Figure 3-8. AIT701G BLOCK DIAGRAM

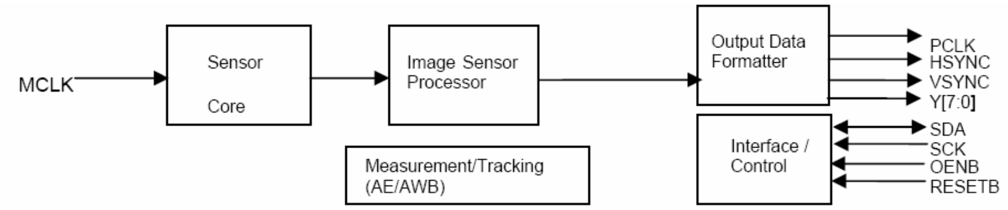
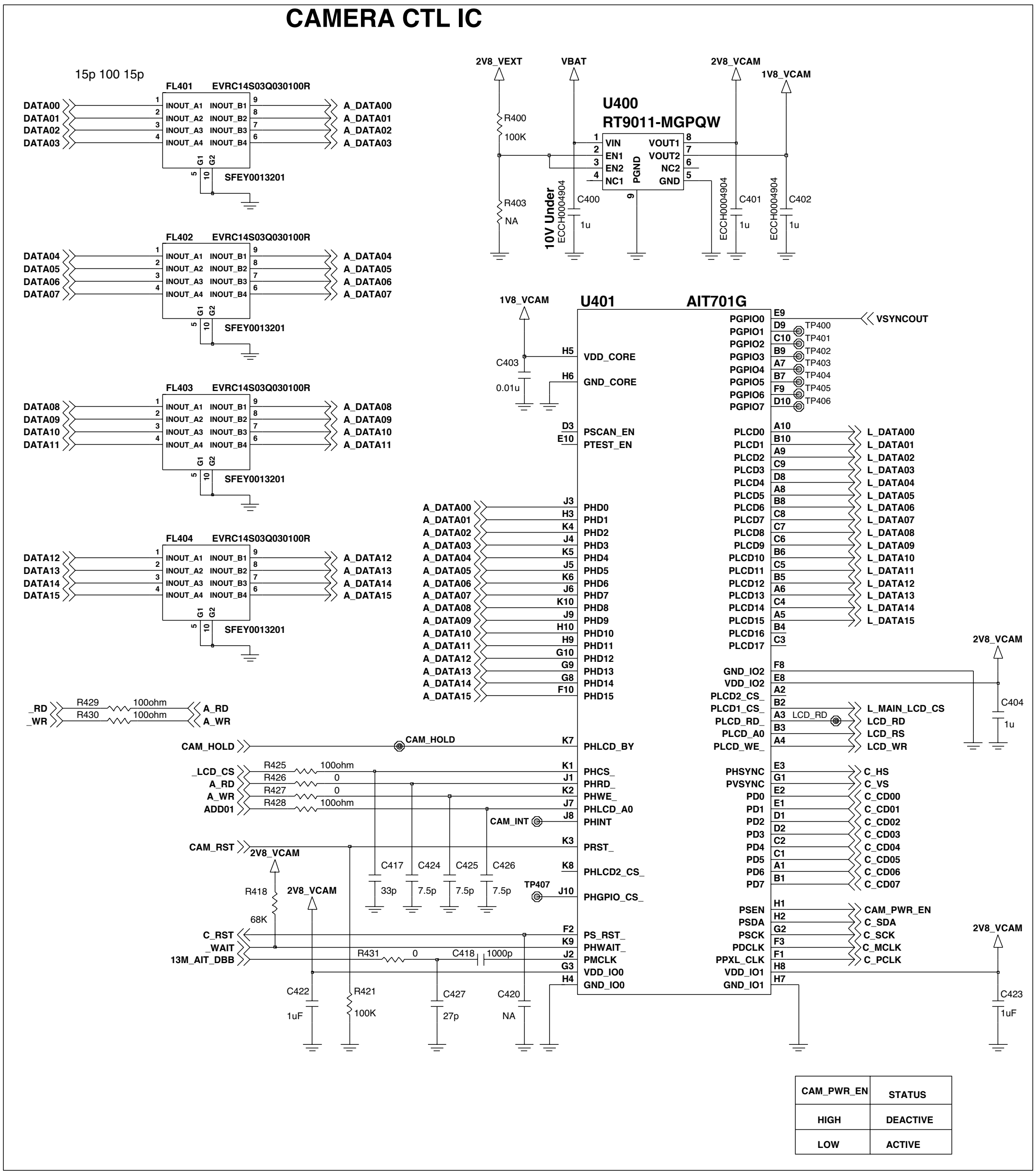


Figure 3-9. SENSOR CHIP BLOCK DIAGRAM



CAM_PWR_EN	STATUS
HIGH	DEACTIVE
LOW	ACTIVE

Figure 3-10. AIT701G CIRCUIT

3.9 Keypad Switches and Scanning

The key switches are metal domes, which make contact between two concentric pads on the keypad layer of the PCB when pressed. There are 14 switches (Normal Key 12EA, Volume up down side key, PWRdown side key), connected in a matrix of 5 rows by 3 columns, as shown in Figure 3-11, except for the power switch (KB1), which is connected independently. Functions, the row and column lines of the keypad are connected to ports of AD6720. The columns are outputs, while the rows are inputs and have pull-up resistors built in. When a key is pressed, the corresponding row and column are connected together, causing the row input to go low and generate an interrupt. The columns/rows are then scanned by AD6720 to identify the pressed key.

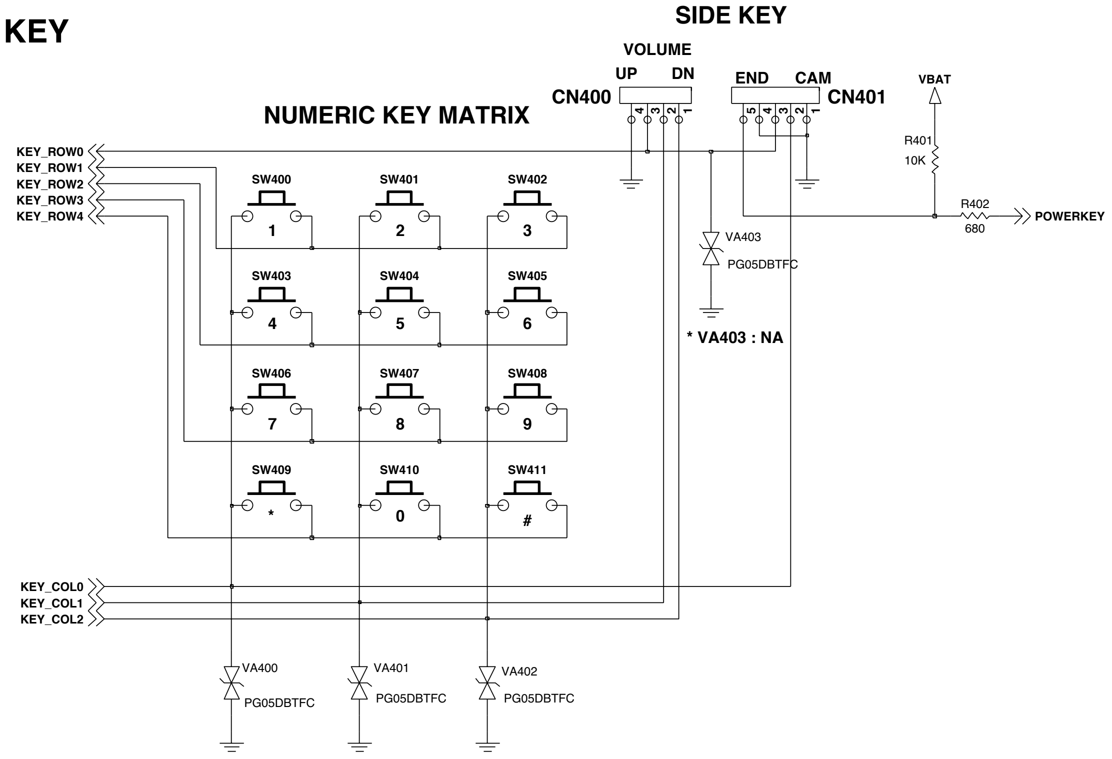


Figure 3-11. Keypad Switches and Scanning

Touch-pad Switches and Scanning

Figure 3-11. Touch-pad Switches and Scanning

3.10 Microphone

The microphone is placed to the Rear cover and contacted to main PCB. The audio signal is passed to VINNORP and VINNORN pins of AD6720. The voltage supply VMIC is output from AD6720, and is a biased voltage for the VINNORP. The VINNORP and VINNORN signals are then A/D converted by the voiceband ADC part of AD6720.The digitized speech (PCM 8KHz ,16KHz) is then passed to the DSP section of AD6720 for processing (coding, interleaving etc).

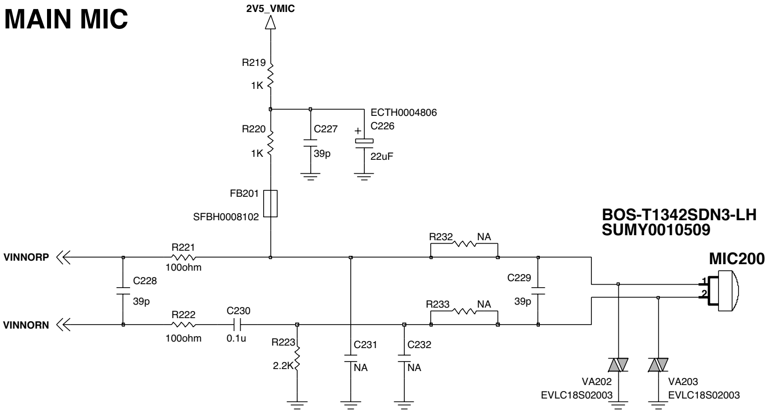
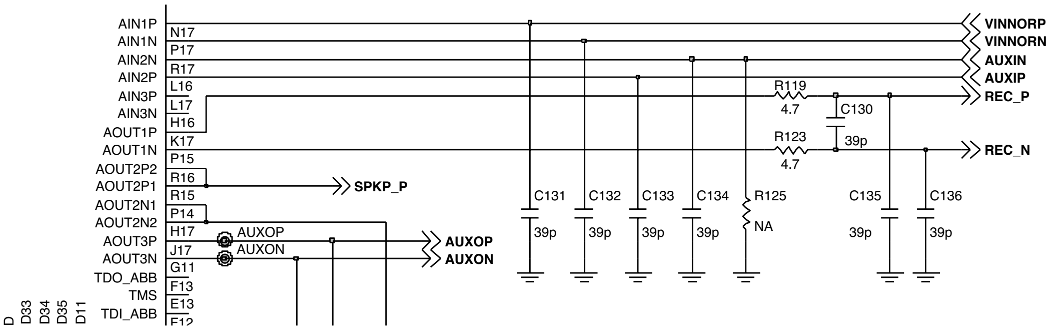


Figure 3-12. Connection between Microphone and AD6720

3.11 Main Speaker



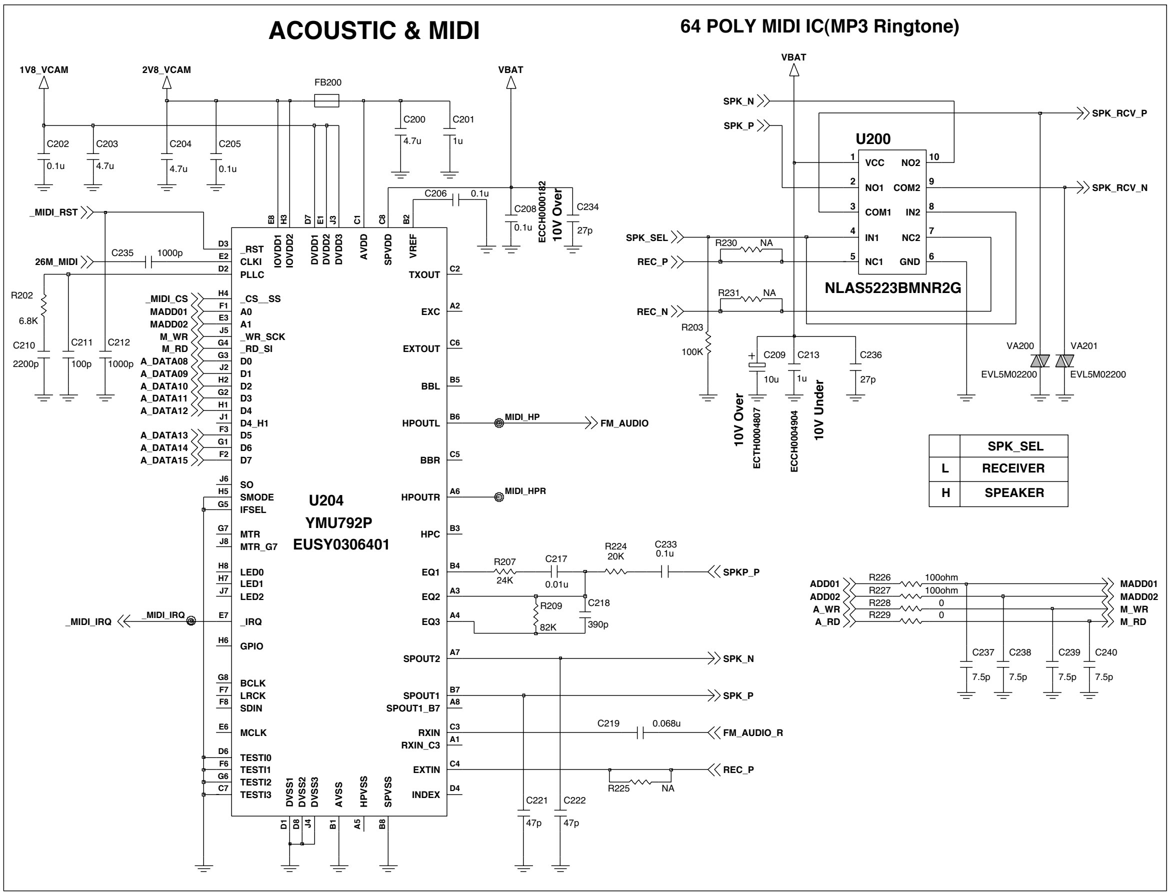


Figure 3-13. MAIN SPEAKER

3.12 Headset Interface

This phone has 6 electrodes such as GND, AUXIP, AUXIN (this pin is floating), AUXOP, JACK_DETECT, HOOK_DETECT. This type supports mono sound

Switching from Receiver to Headset Jack

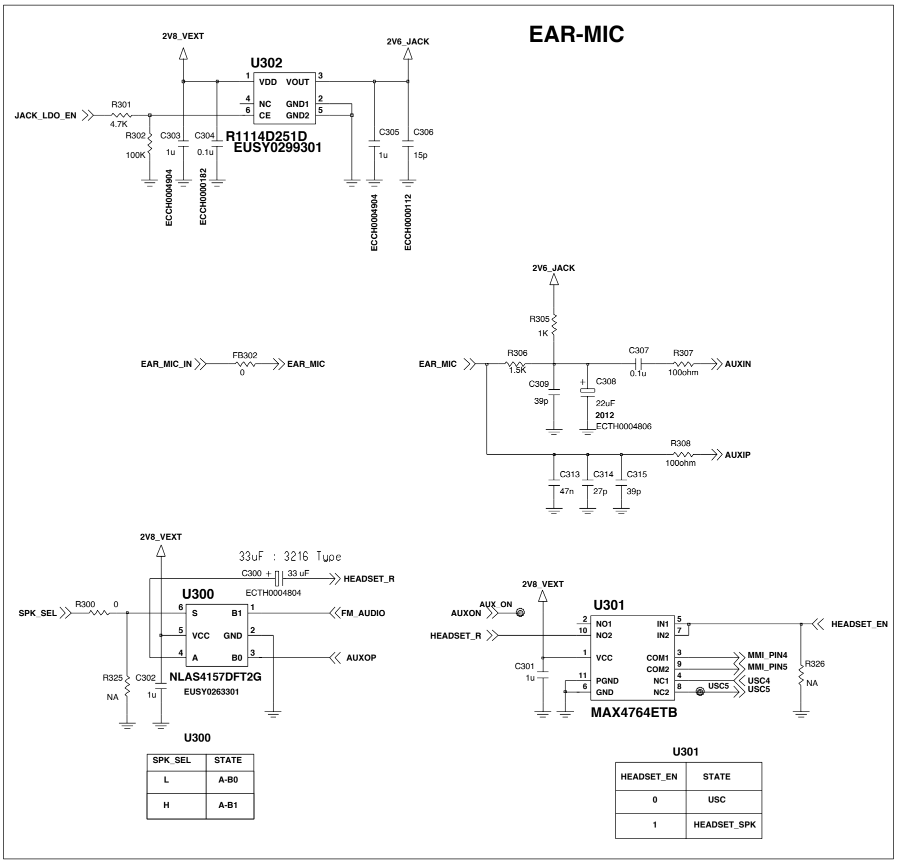
If jack is inserted, JACK_DETECT goes from low to high.
Audio path is switched from receiver to earphone by JACK_DETECT interrupt.

Switching from Headset Jack to Receiver

If jack is removed, JACK_DETECT goes from high to low.
Audio path is switched from earphone to receiver by JACK_DETECT interrupt.

Hook detection

If hook-button is pressed, HOOK_DETECT is changed from high to low.
This is detected by AUXADC2.
And then hook is detected.



U300

SPK_SEL	STATE
L	A-B0
H	A-B1

U301

HEADSET_EN	STATE
0	USC
1	HEADSET_SPK

Figure 3-14. HEADSET JACK INTERFACE

3.13 Key Back-light Illumination

In key back-light illumination, there are 12 Blue LEDs in Main Board, which are driven by KEY_BACKLIGHT signal from AD6720.

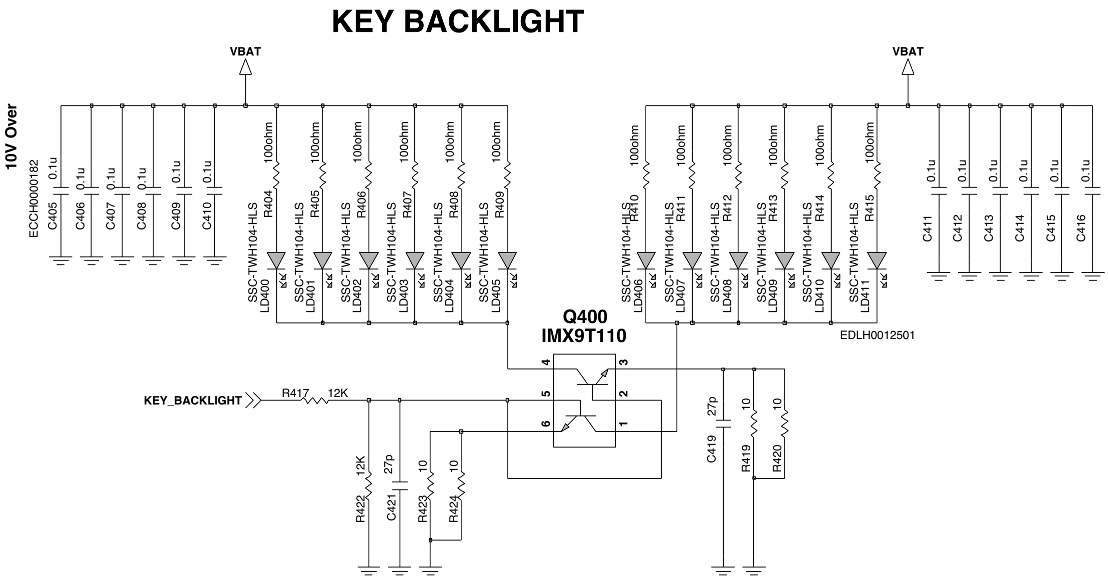


Figure 3-15. KEY BACK-LIGHT ILLUMINTION

3.14 LCD Back-light Illumination

LCD backlight LEDs is controlled by AD6720 via AAT3157, U201.

LCD Backlight

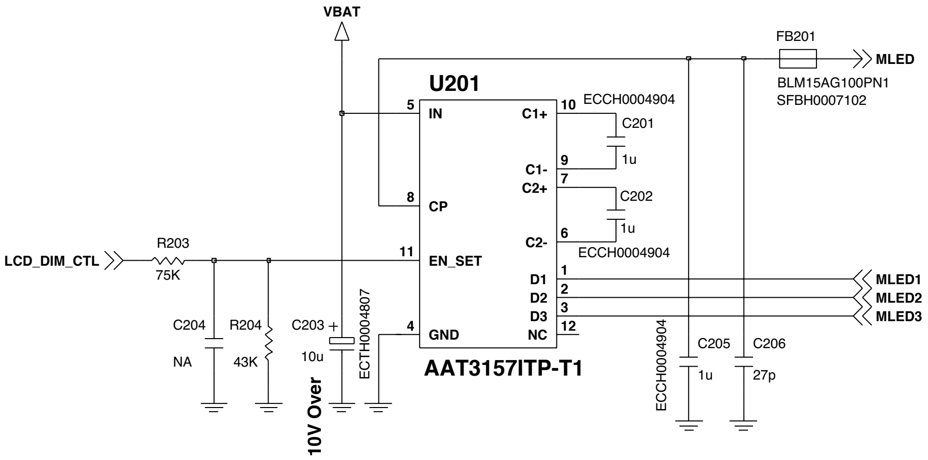


Figure 3-16. MAIN LCD BACKLIGHT ILLUMINATION

3.15 VIBRATOR

The vibrator is placed in the folder cover and contacted to LCD MODULE. The vibrator is driven from VIBRATOR (GPIO_0) of AD6720

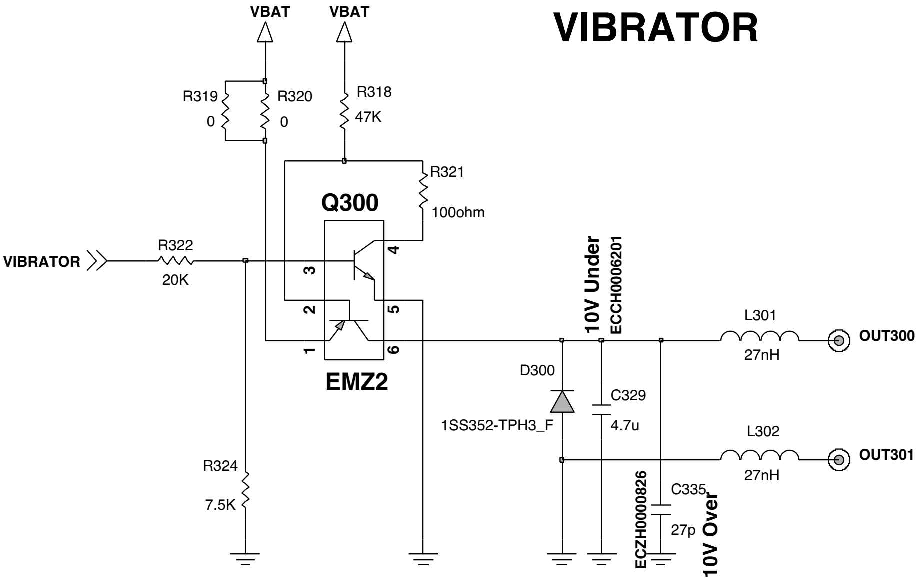


Figure 3-17. MOTOR

3.16 Bluetooth

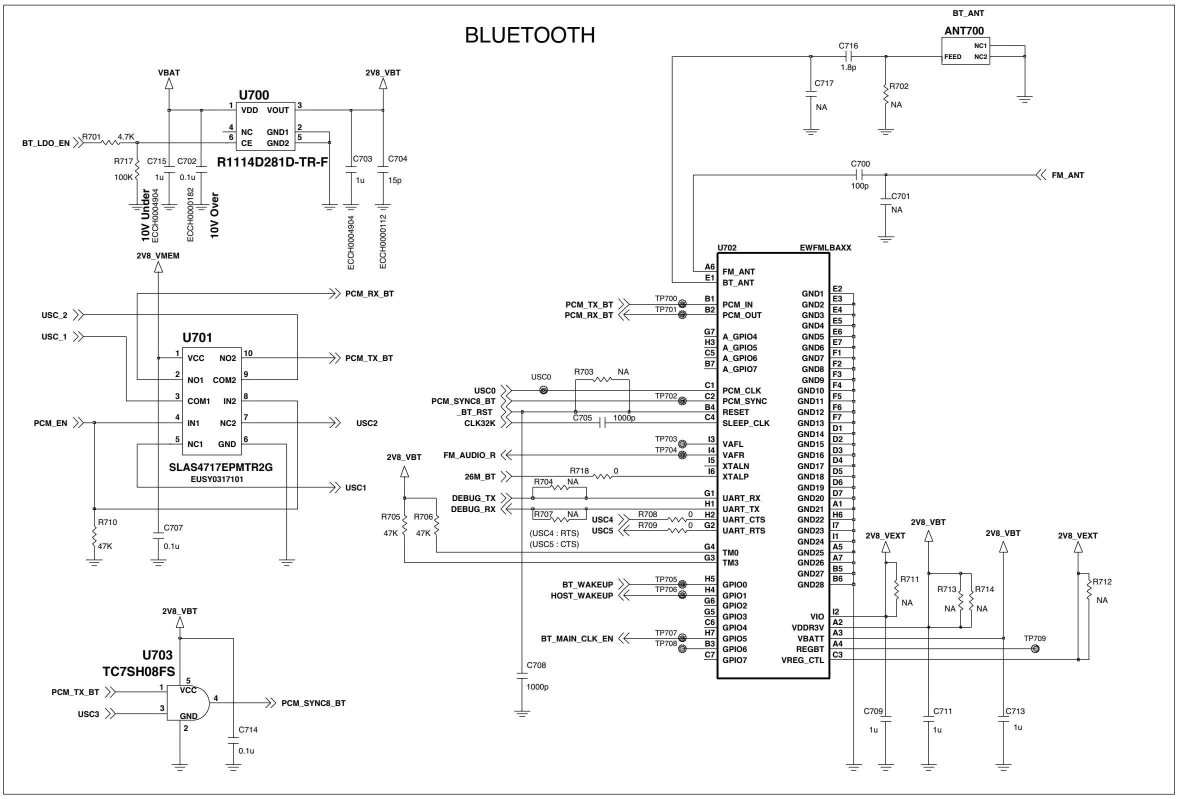


Figure 3-17. Bluetooth circuit

4. TROUBLE SHOOTING

4.1 RF Component

TEST POINT

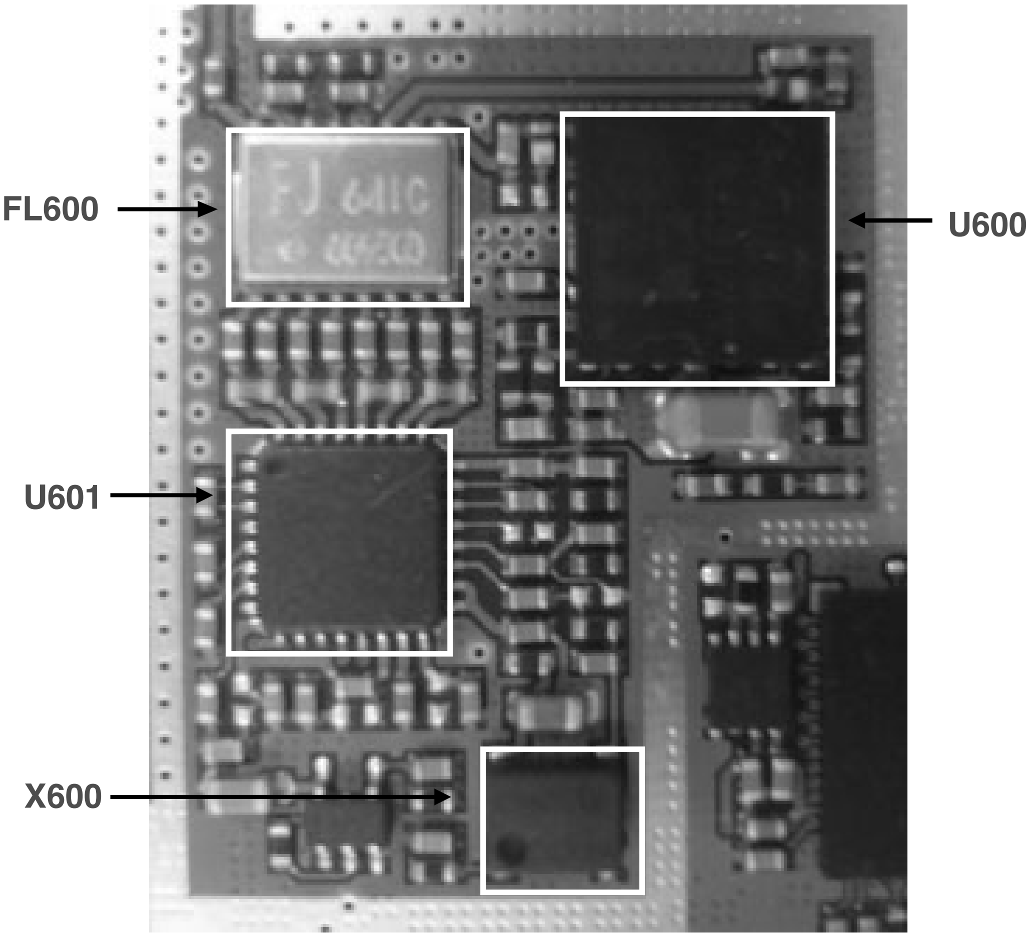
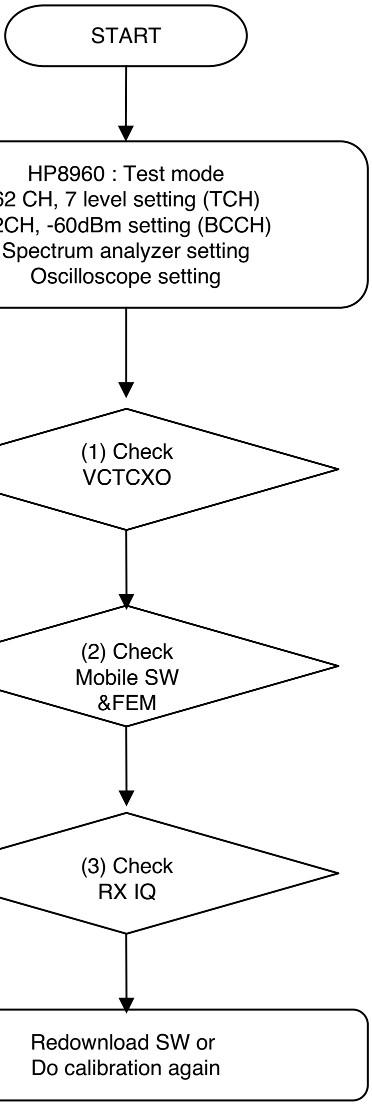


Figure 4-1

U600	Power Amp Module(SKY77318)
U601 (AD6548)	RF Main Chip
X600	VCTCXO, 26MHz Clock
FL600	FEM

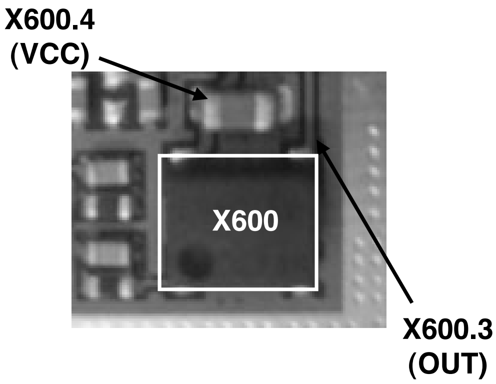
4.2 RX Trouble

CHECKING FLOW

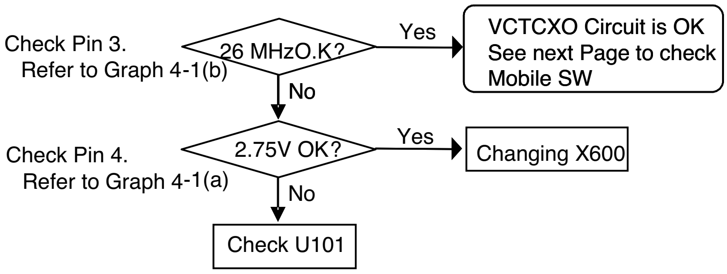


(1) Checking VCTCXO Circuit

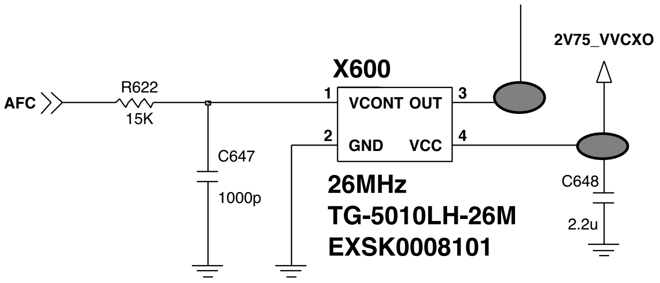
TEST POINT



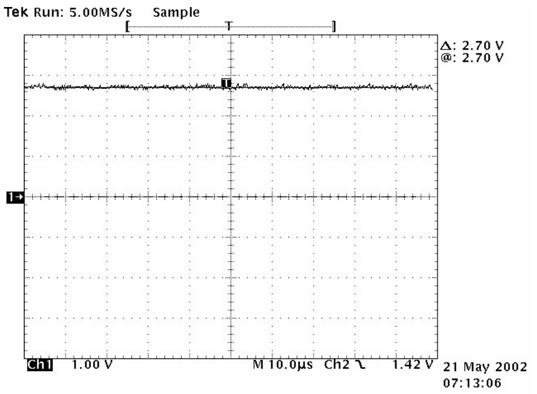
CHECKING FLOW



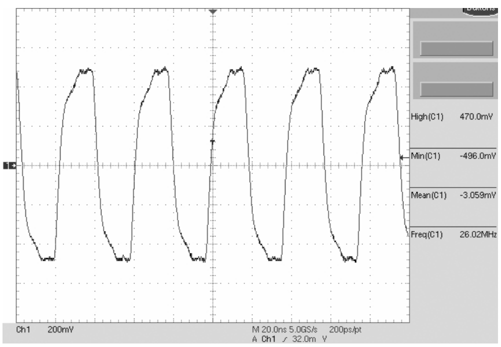
CIRCUIT



WAVEFORM



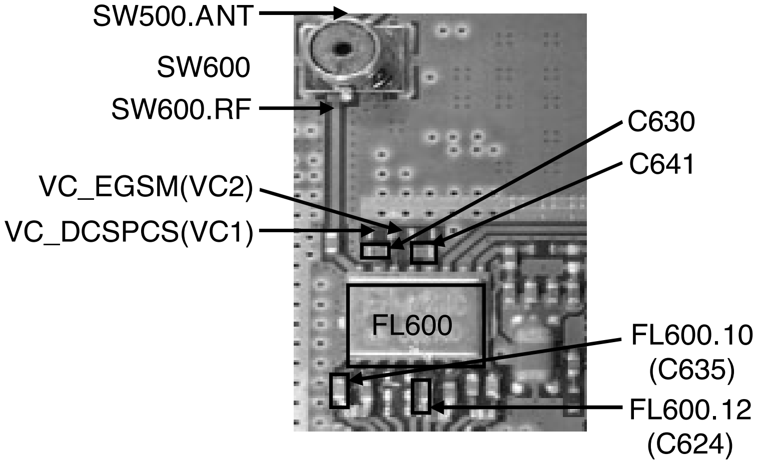
Graph 1(a)



Graph 1(b)

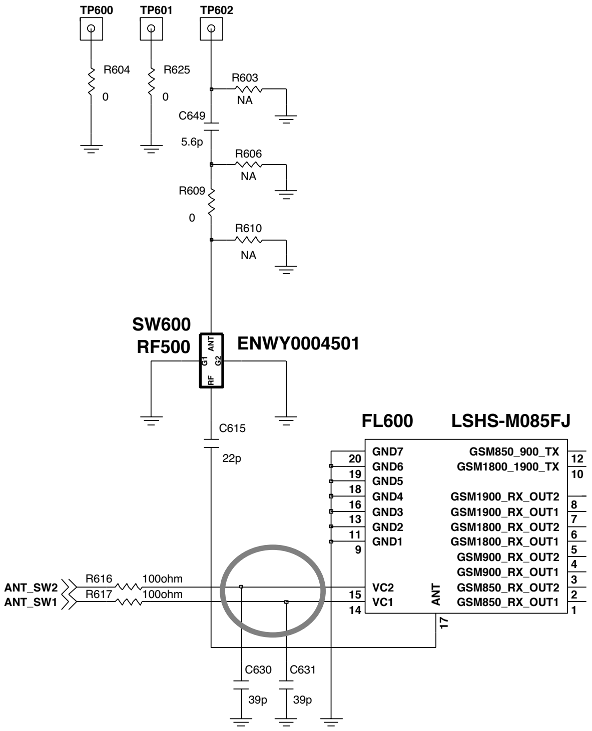
(2) Checking FEM & Mobile SW

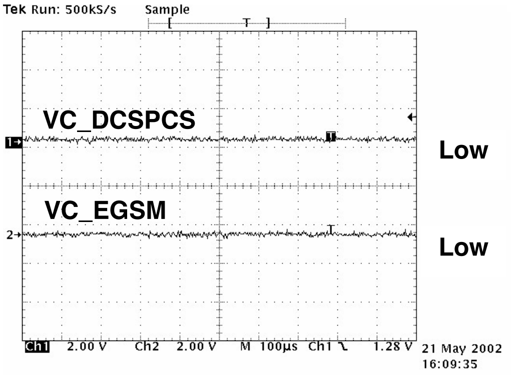
TEST POINT



CIRCUIT

WAVEFORM



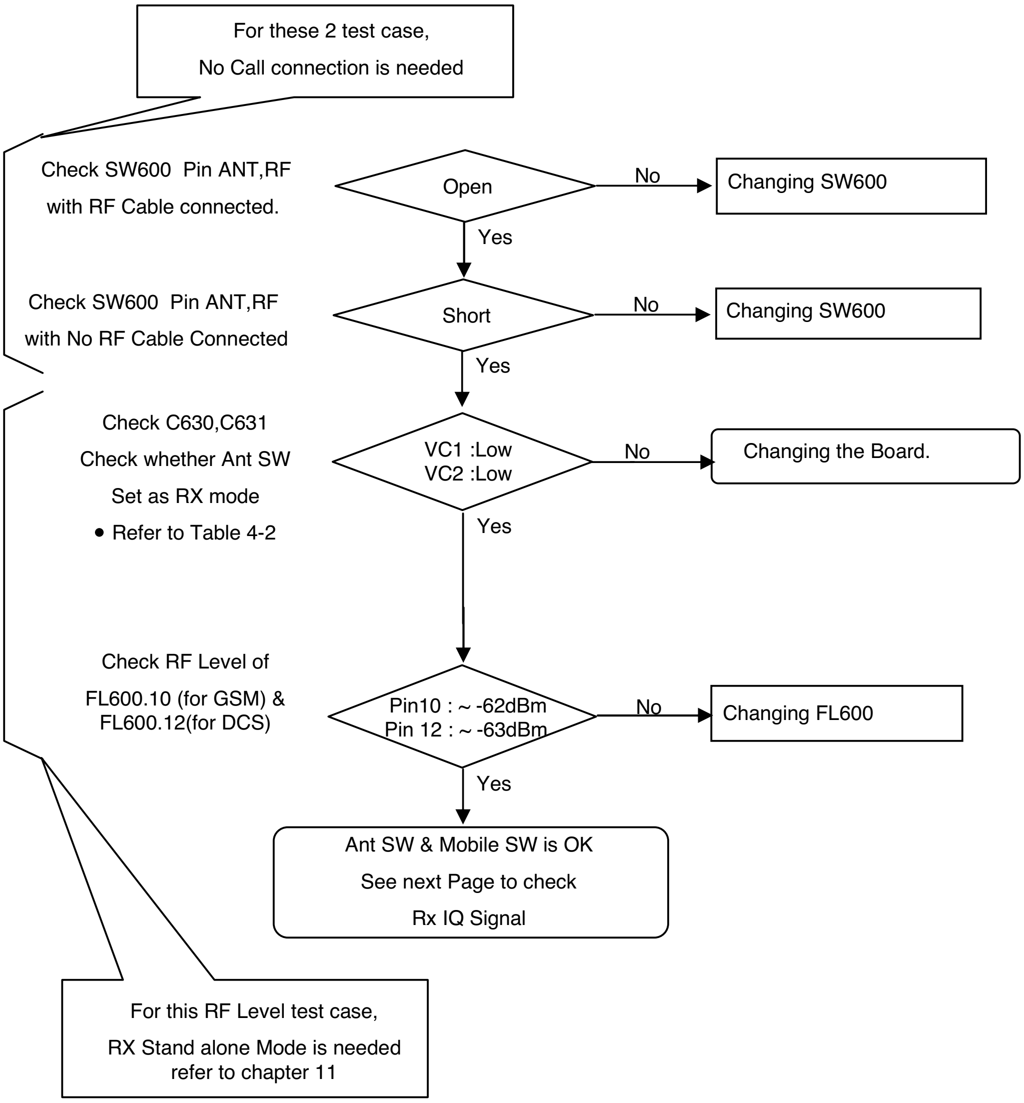


ANT SW Control GSM& DCS RX Mode
Graph 2

Select Mode	Vc(EGSM)	Vc(DCS/PCS)
EGSM-Rx	LOW	LOW
EGSM-Tx	HIGH	LOW
DCS-Rx	LOW	LOW
PCS-Rx	LOW	LOW
DCS/PCS-Tx	LOW	HIGH

Table 1

CHECKING FLOW



	ANT_SW1	ANT_SW2
GSM_TX	HIGH	LOW
DCS_TX	LOW	HIGH
RX	LOW	LOW

Table 4-2

(3) Checking RX IQ

TEST POINT

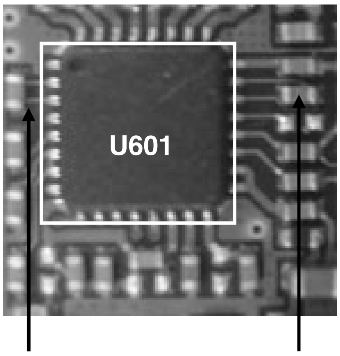
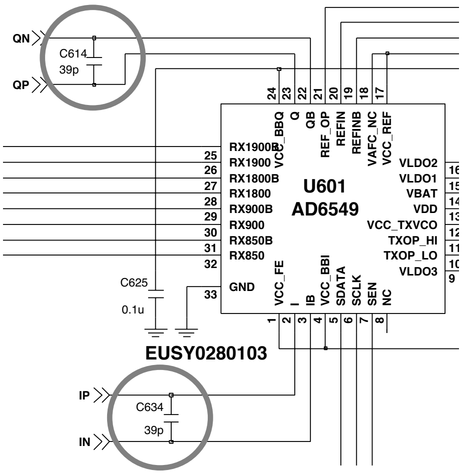
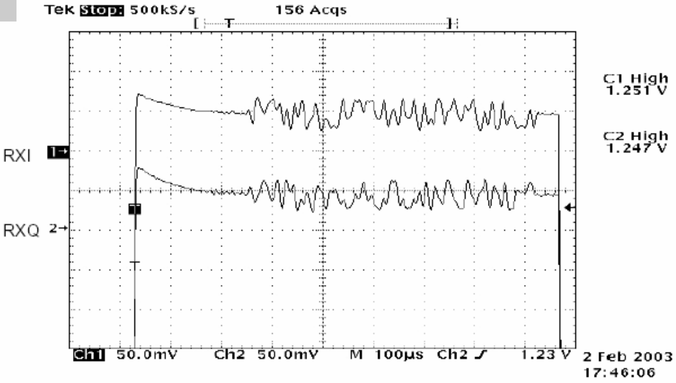


Figure 5

CIRCUIT

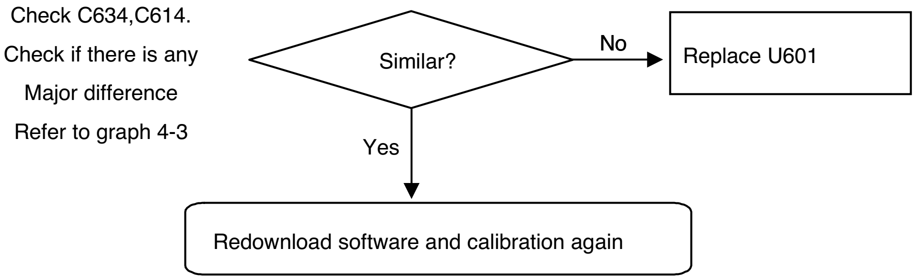


WAVEFORM



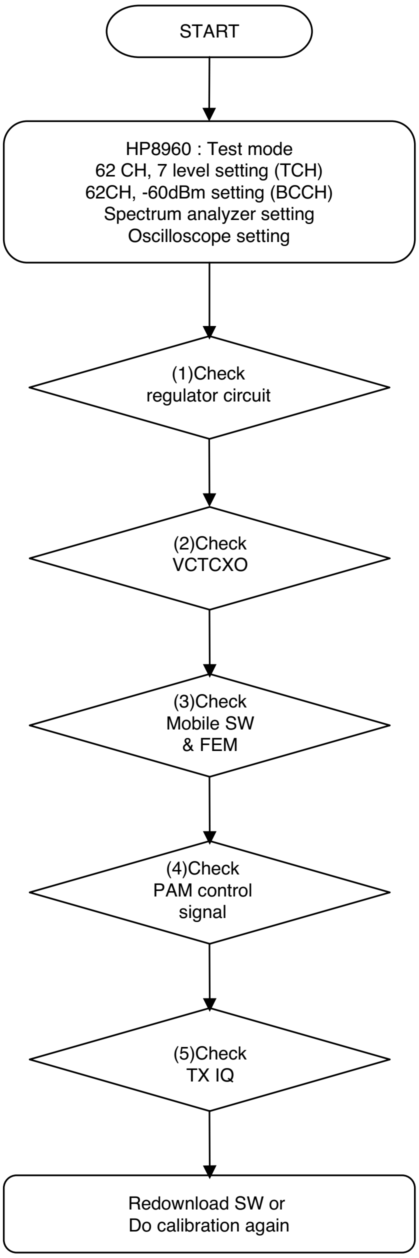
Graph 3

CHECKING FLOW



4.3 TX Trouble

Checking Flow



(1) Checking VCTCXO Circuit

TEST POINT

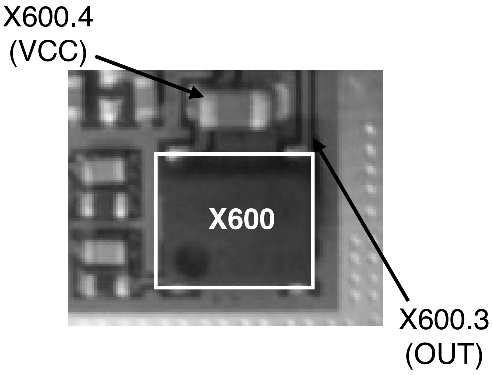
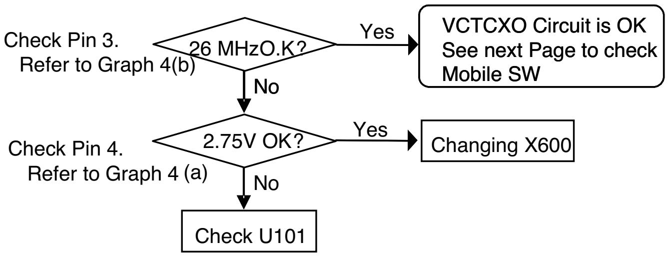
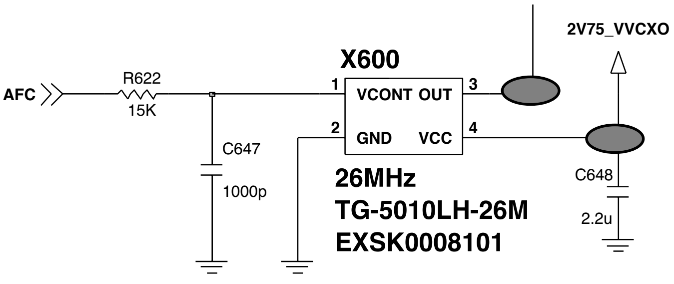


Figure 7

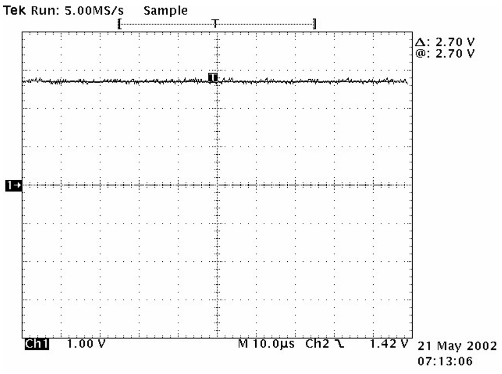
CHECKING FLOW



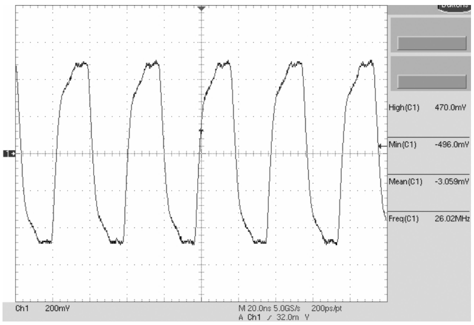
CIRCUIT



WAVEFORM



Graph 4(a)



Graph 4(b)

(2) Checking Mobile SW & FEM

TEST POINT

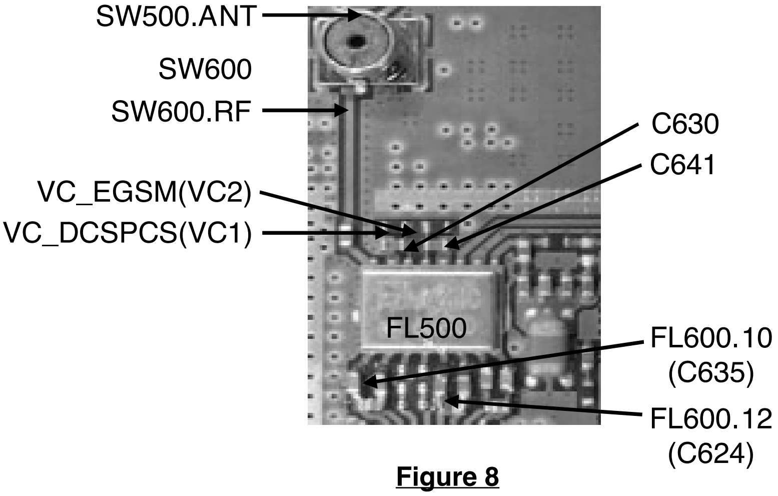
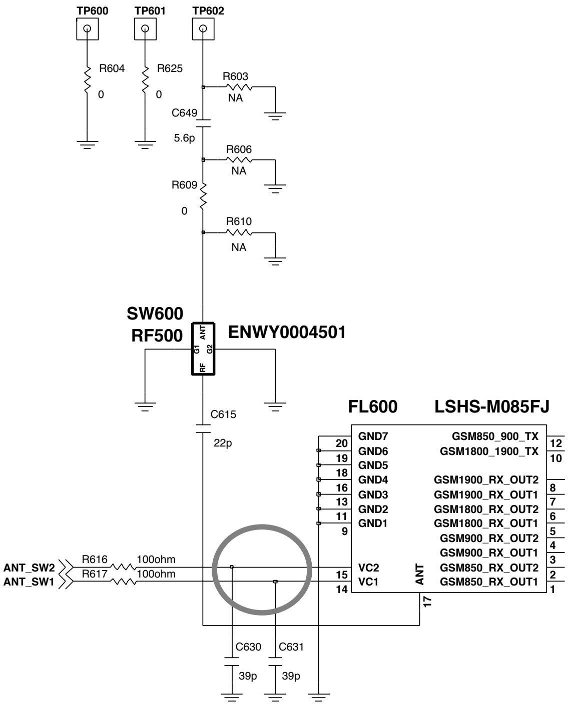
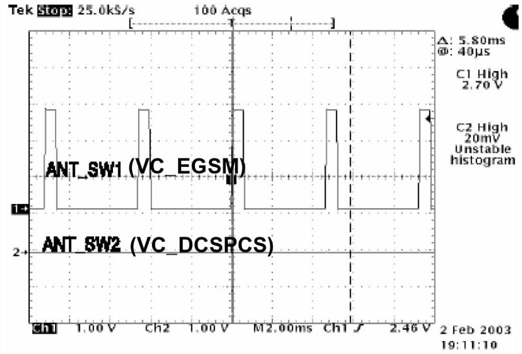


Figure 8

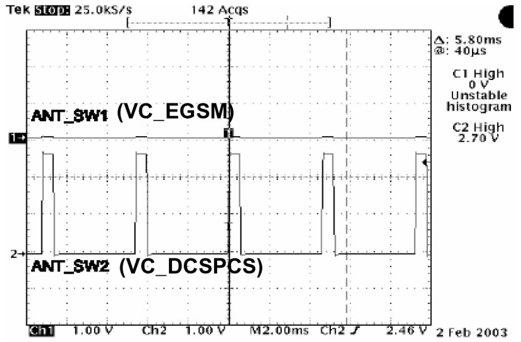
CIRCUIT



Waveform

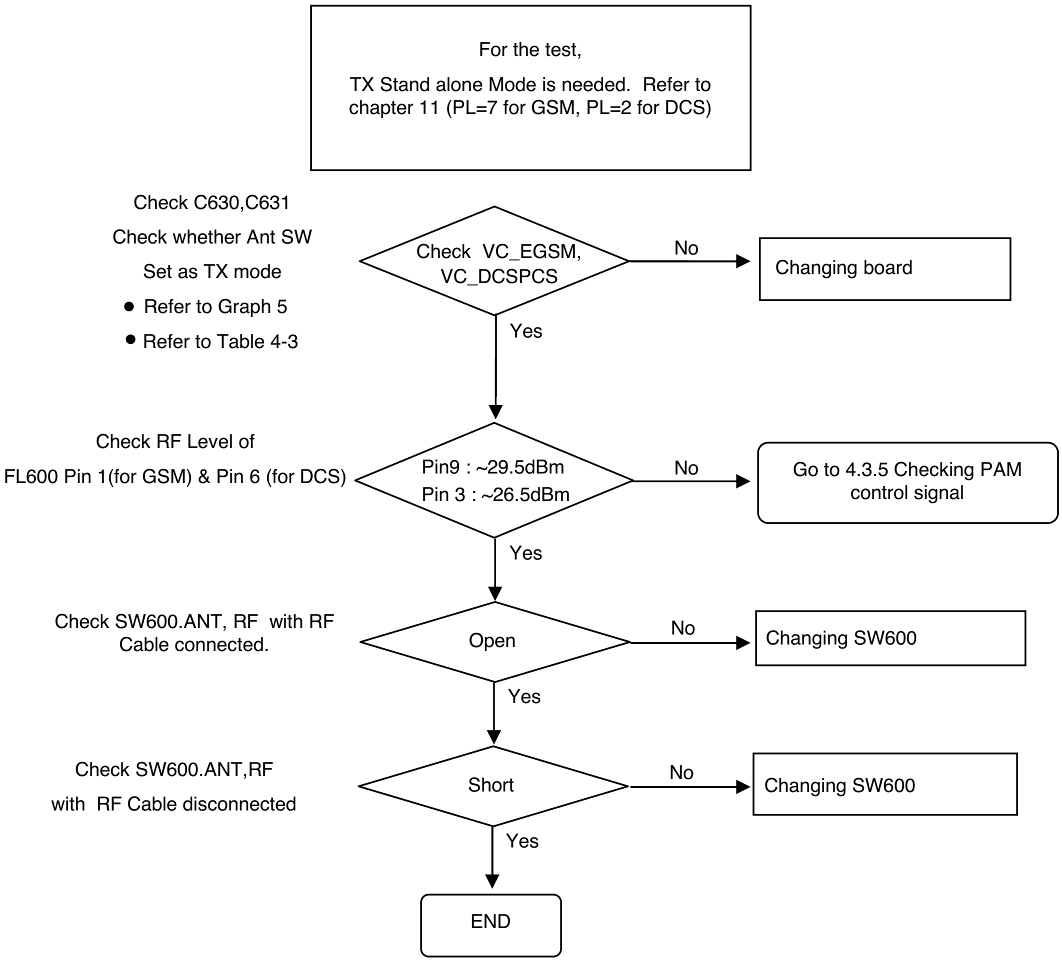


Graph 5(a) GSM Tx mode



Graph 5(b) DCS,PCS Tx mode

Checking Flow



ANT SW	VC_EGSM	VC_CDSPCS
DCS TX	0	1
EGSM TX	1	0
EGSM, DCS RX	0	0

Table 4-3

(3) Checking PAM Control Signal

TEST POINT

CIRCUIT

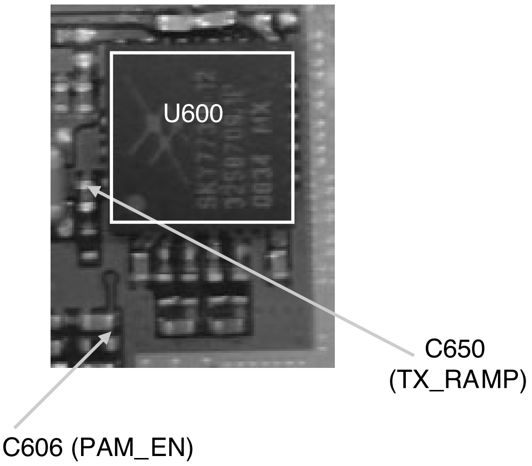
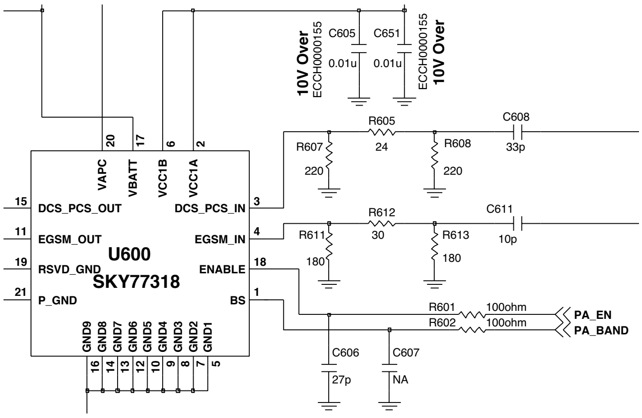
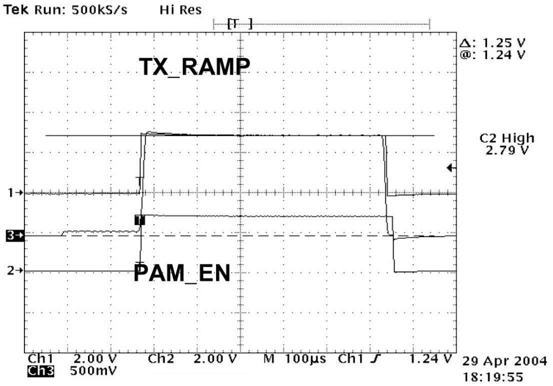


Figure 9

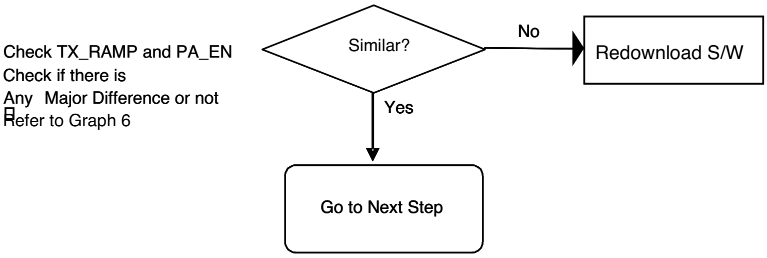


Waveform



Graph 6

Checking Flow



(4) Checking TX IQ

TEST POINT

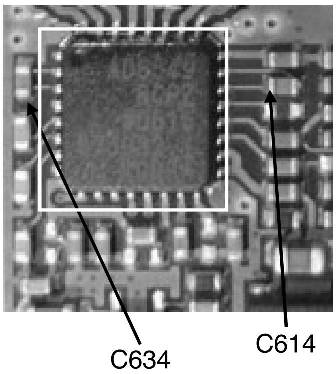
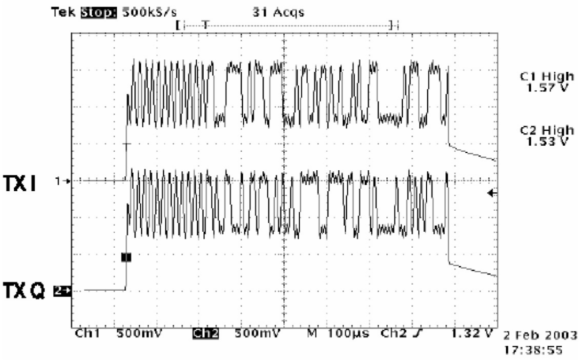


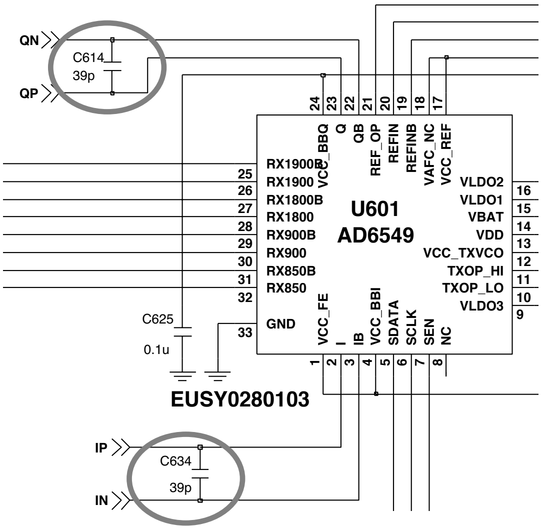
Figure 10

Waveform

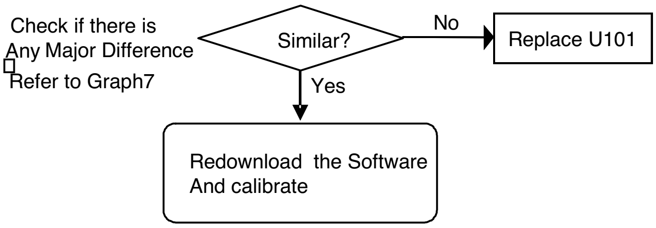


Graph 7

CIRCUIT



Checking Flow



4.4 Power On Trouble

TEST POINT

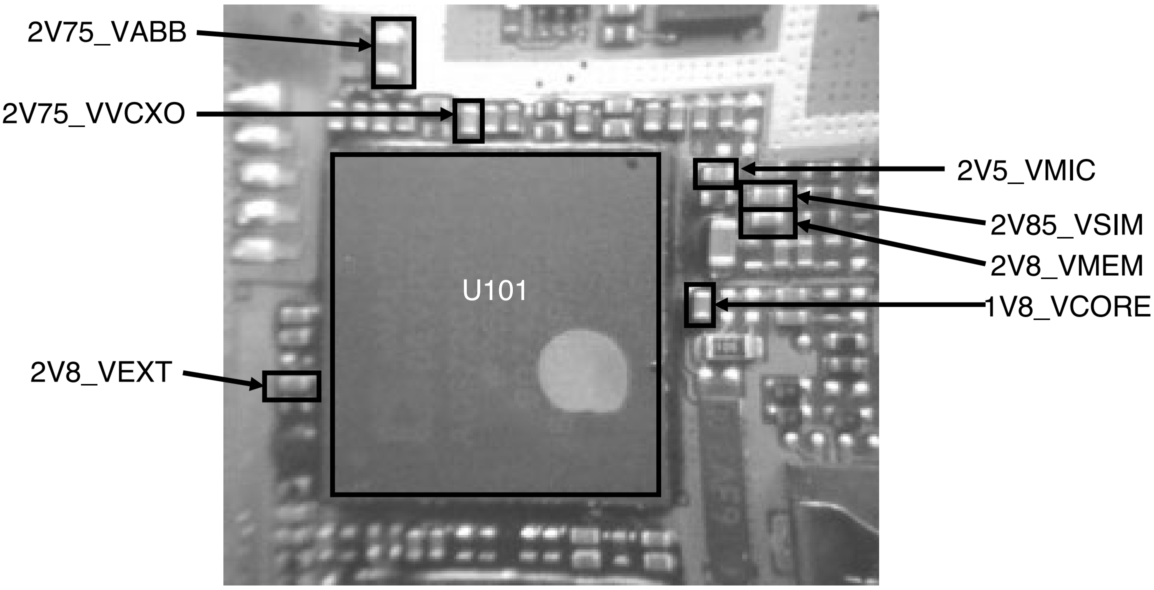
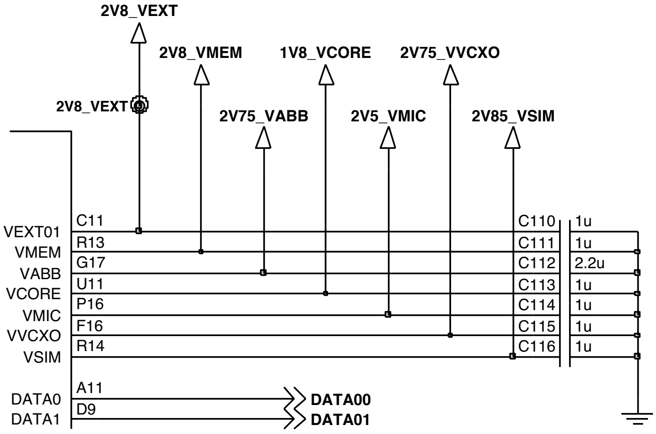
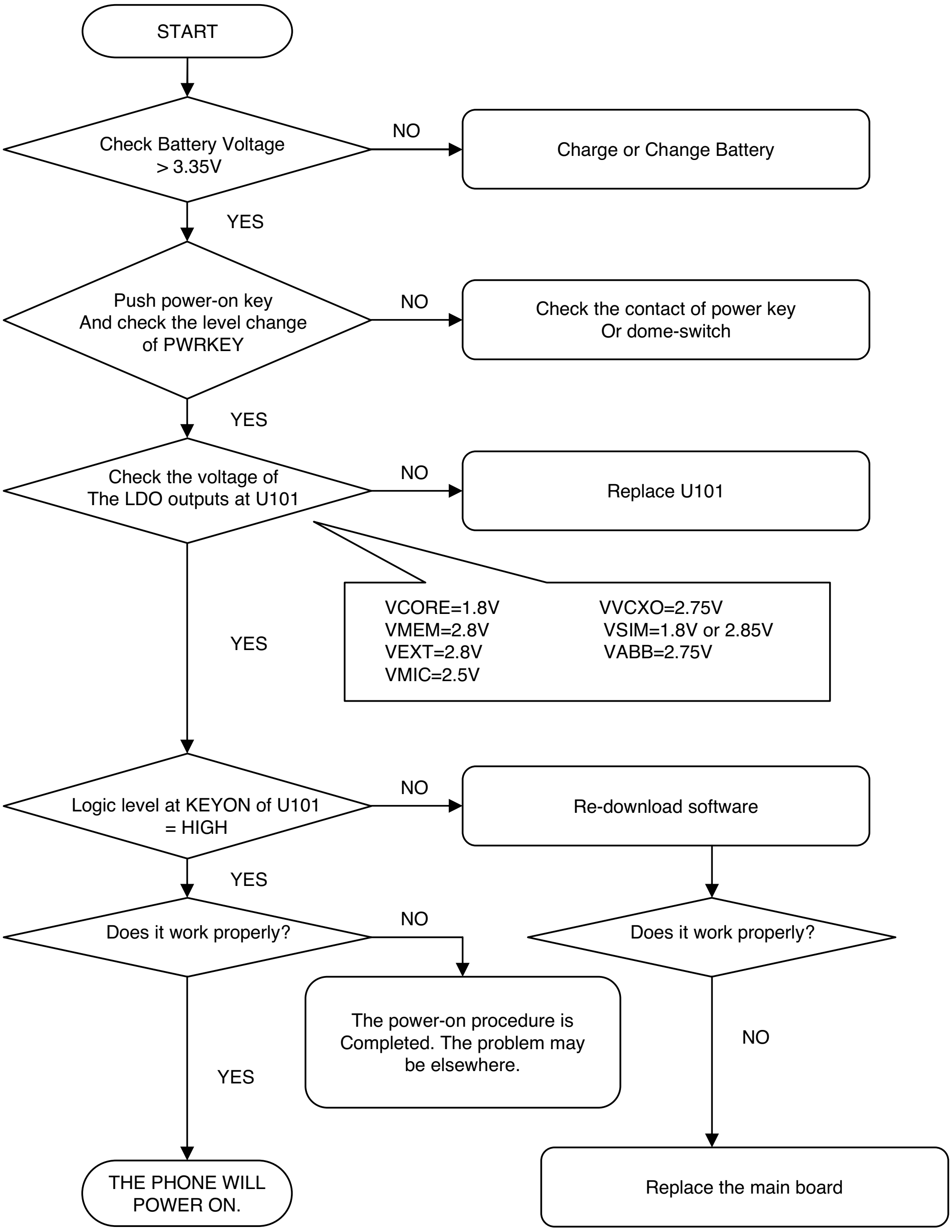


Figure 11

CIRCUIT



Checking Flow



4.5 Charging Trouble

TEST POINT

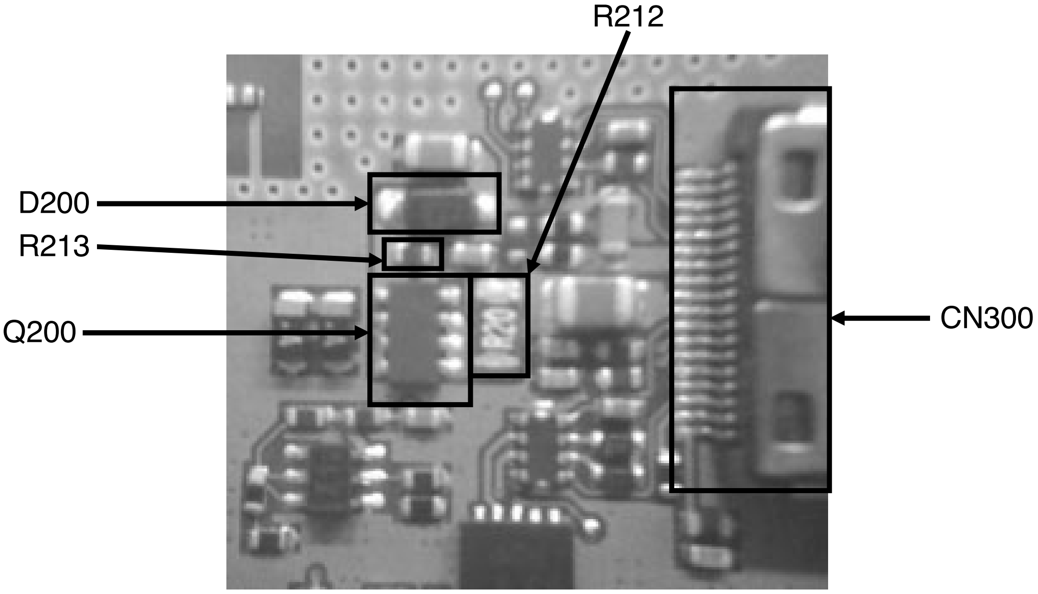
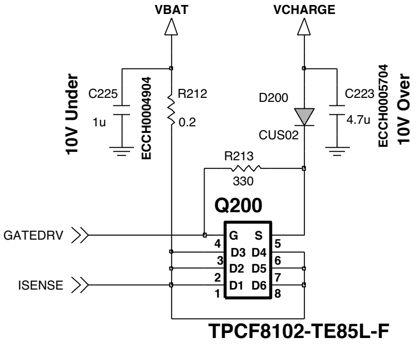
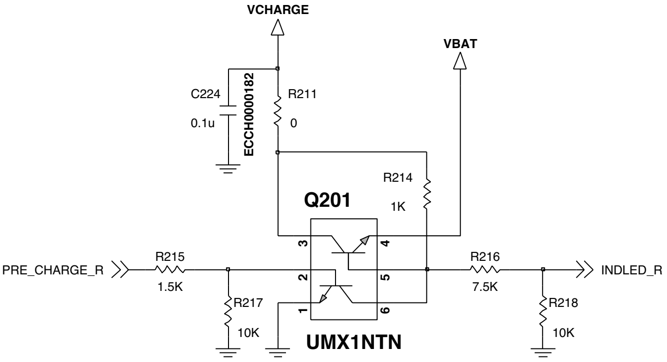


Figure 12

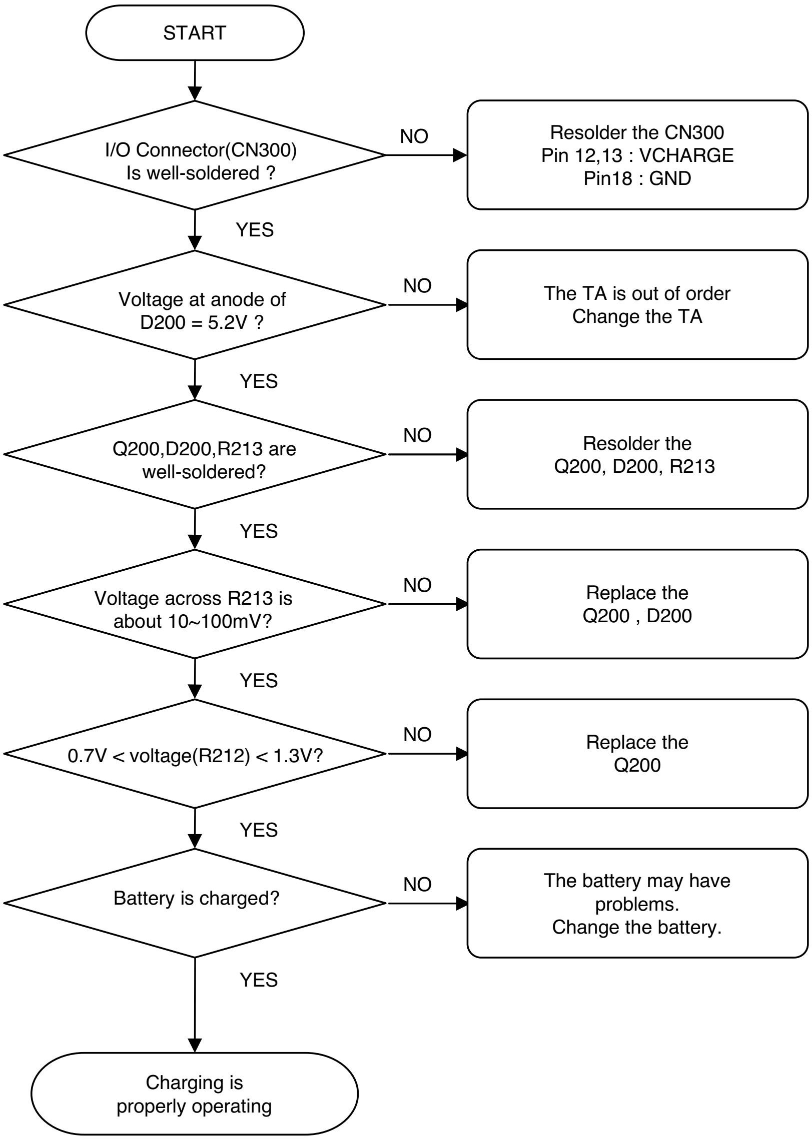
CIRCUIT

Charging IC





Checking Flow



4.6 Vibrator Trouble

TEST POINT

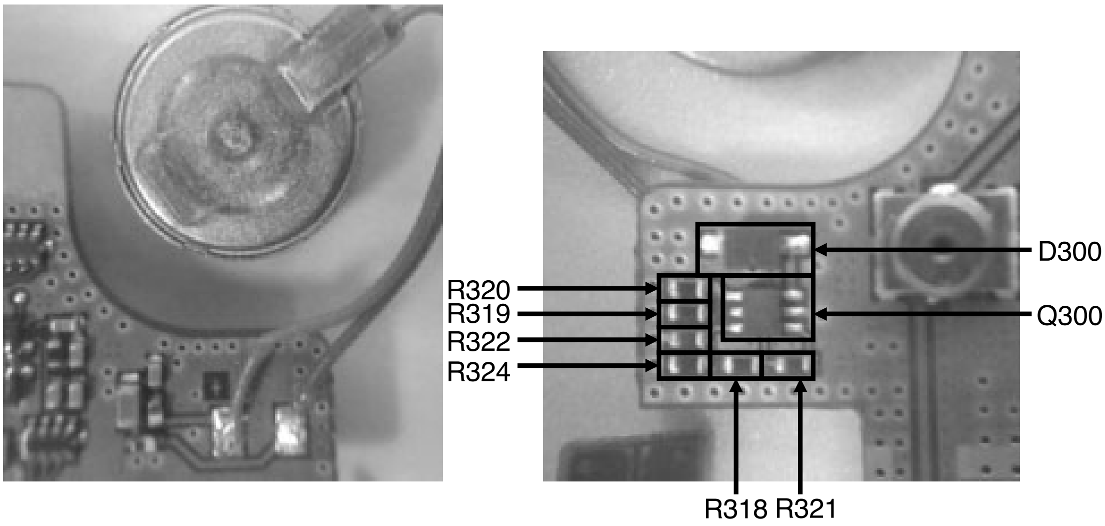
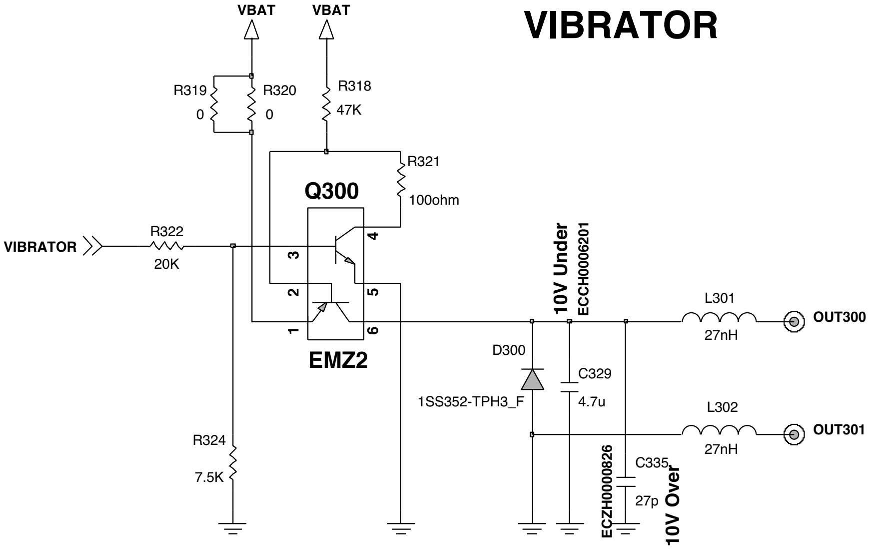


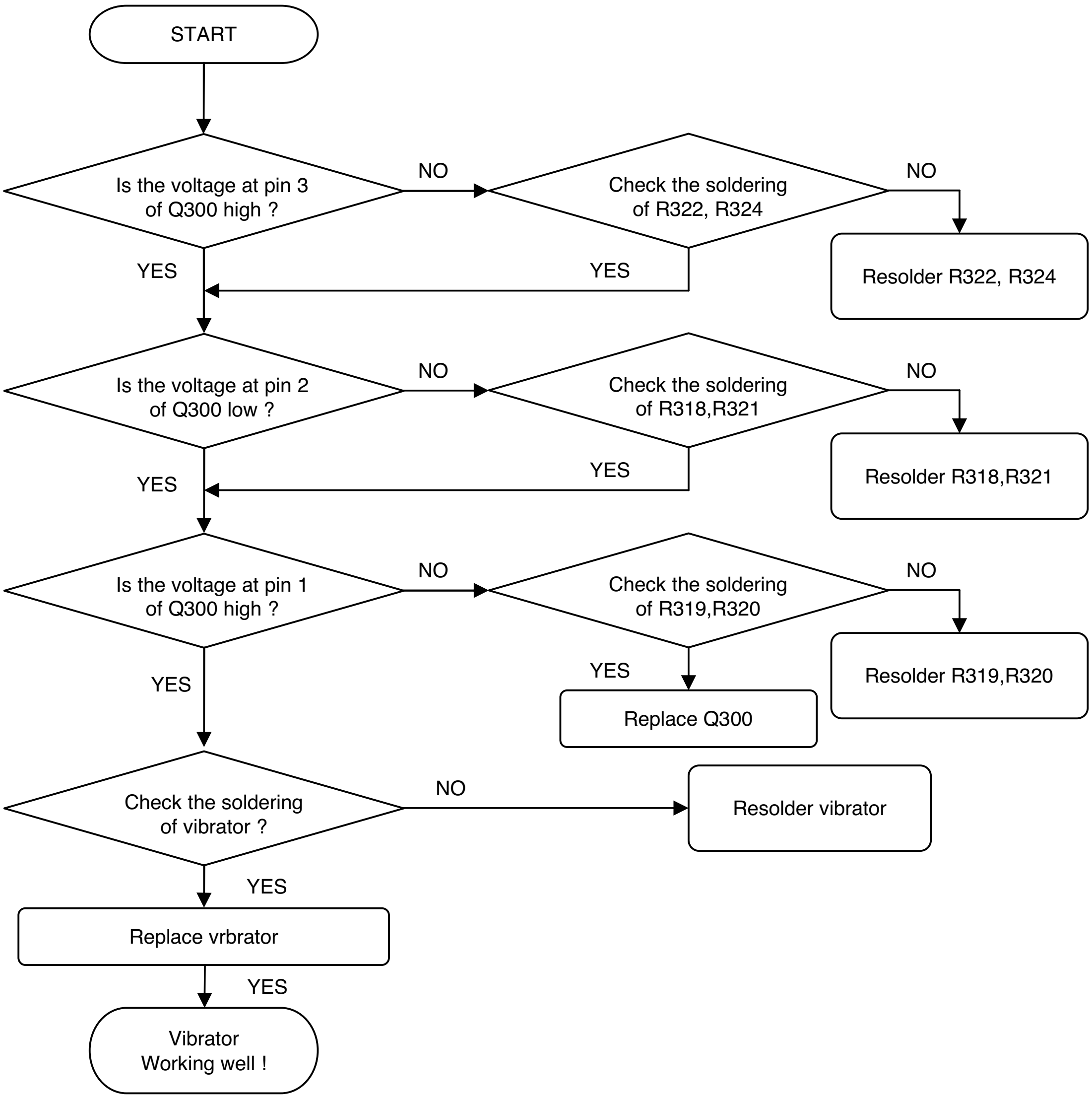
Figure 13

CIRCUIT



Checking Flow

SETTING : Enter the engineering mode, and set vibrator on at vibration of BB test menu



4.7 LCD Trouble

TEST POINT

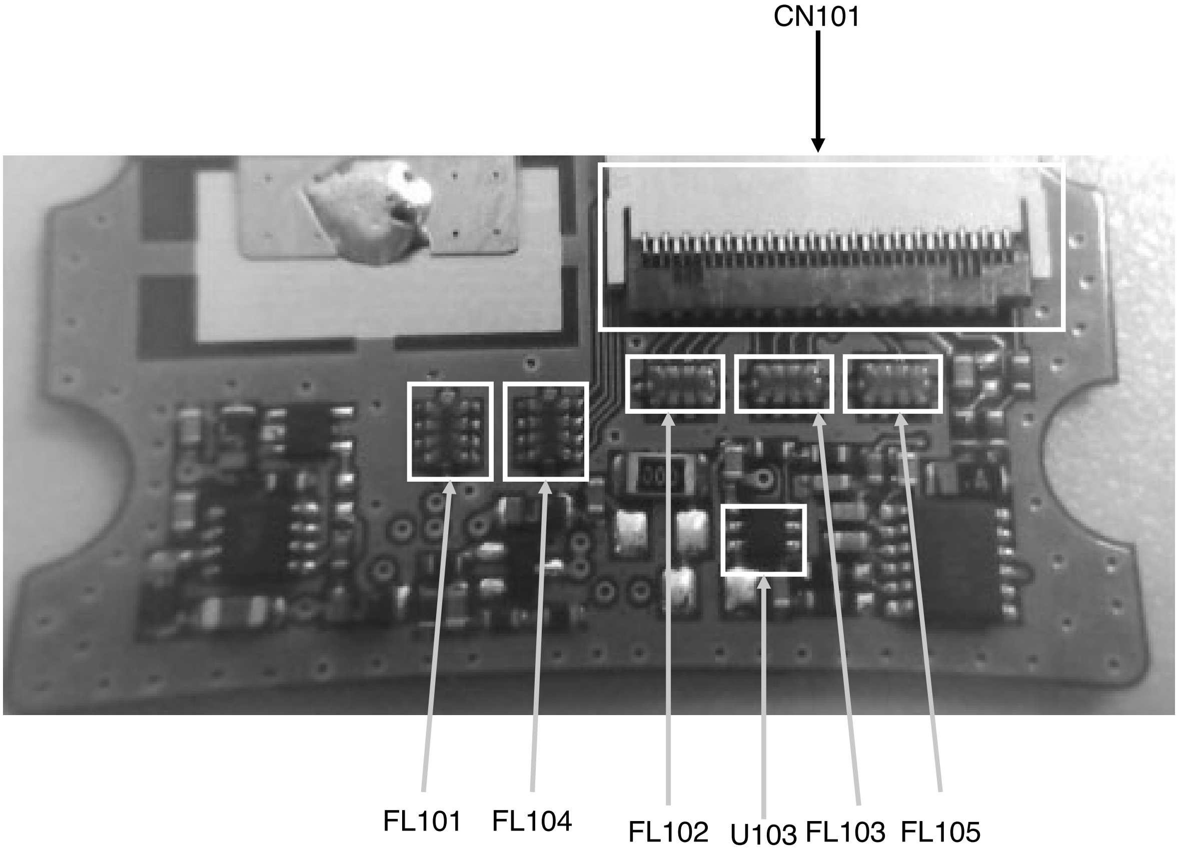
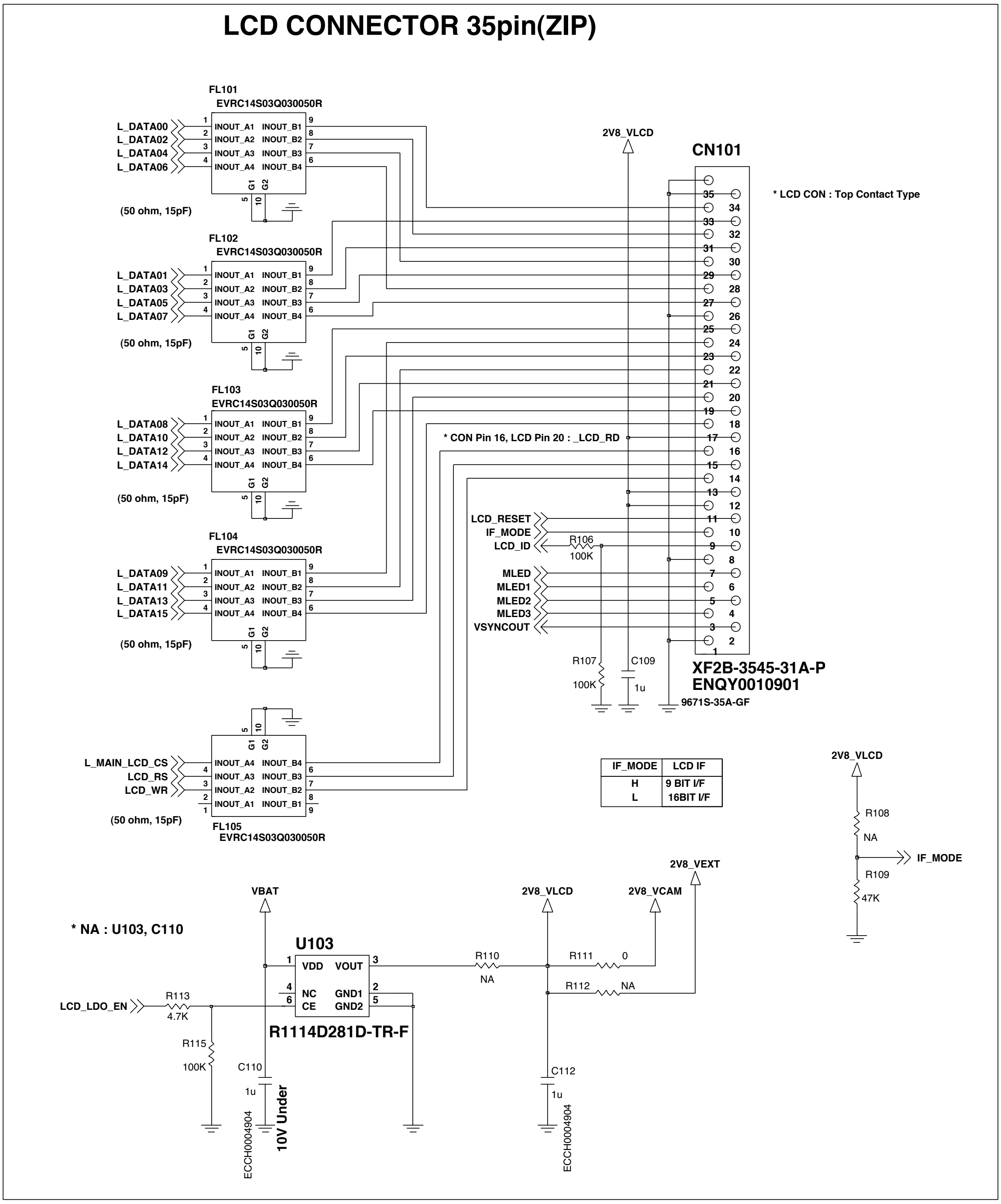


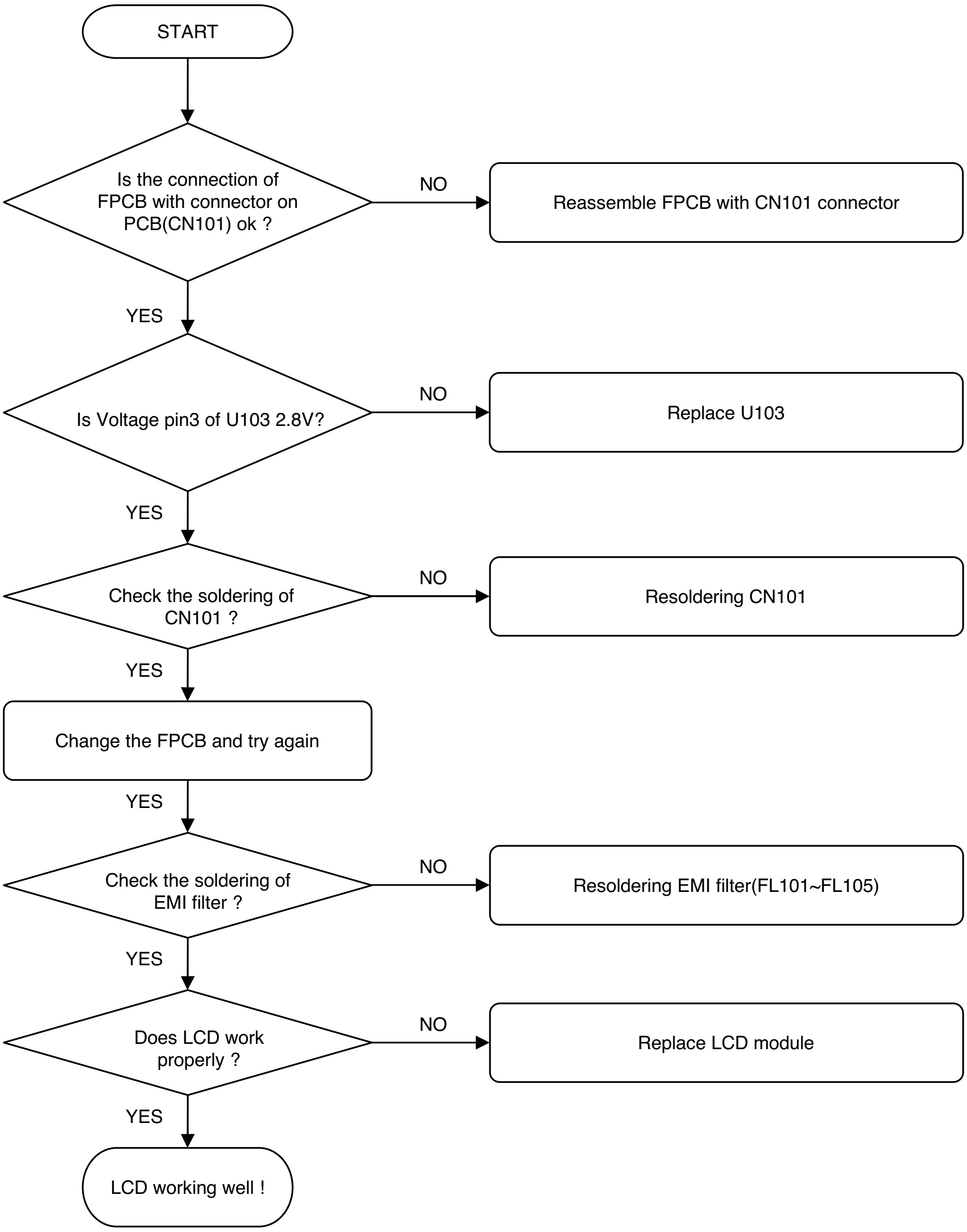
Figure 14

LCD Trouble

CIRCUIT


LCD CONNECTOR 35pin(ZIP)

CHECKING FLOW



4.8 Camera Trouble

TEST POINT

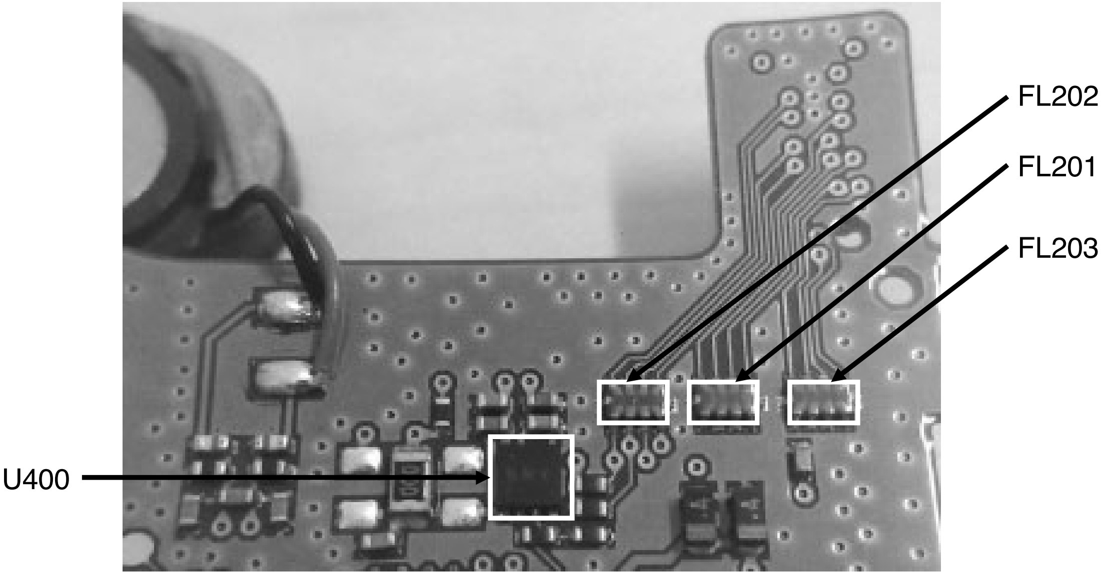


Figure 16

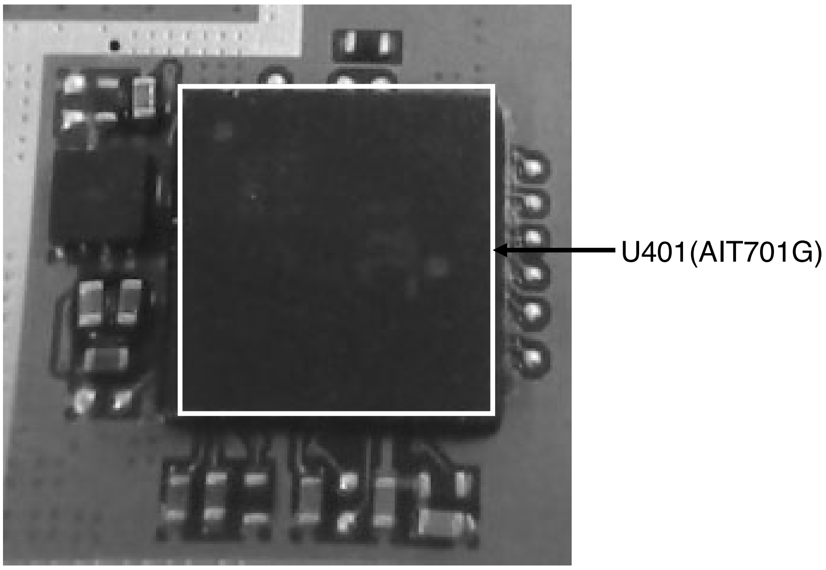
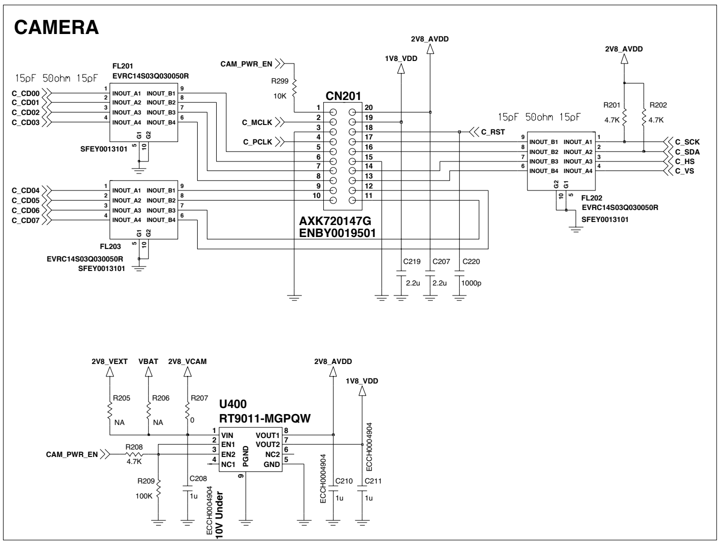


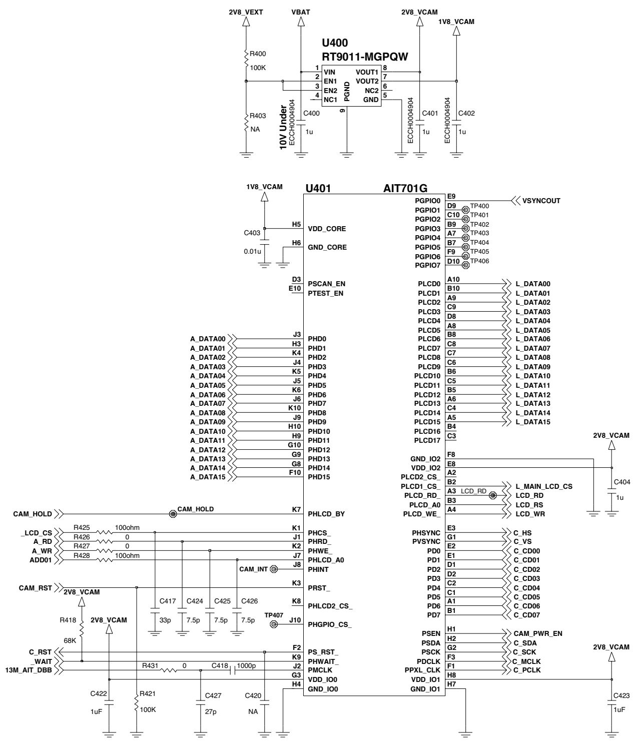
Figure 17

Camera Trouble

CIRCUIT

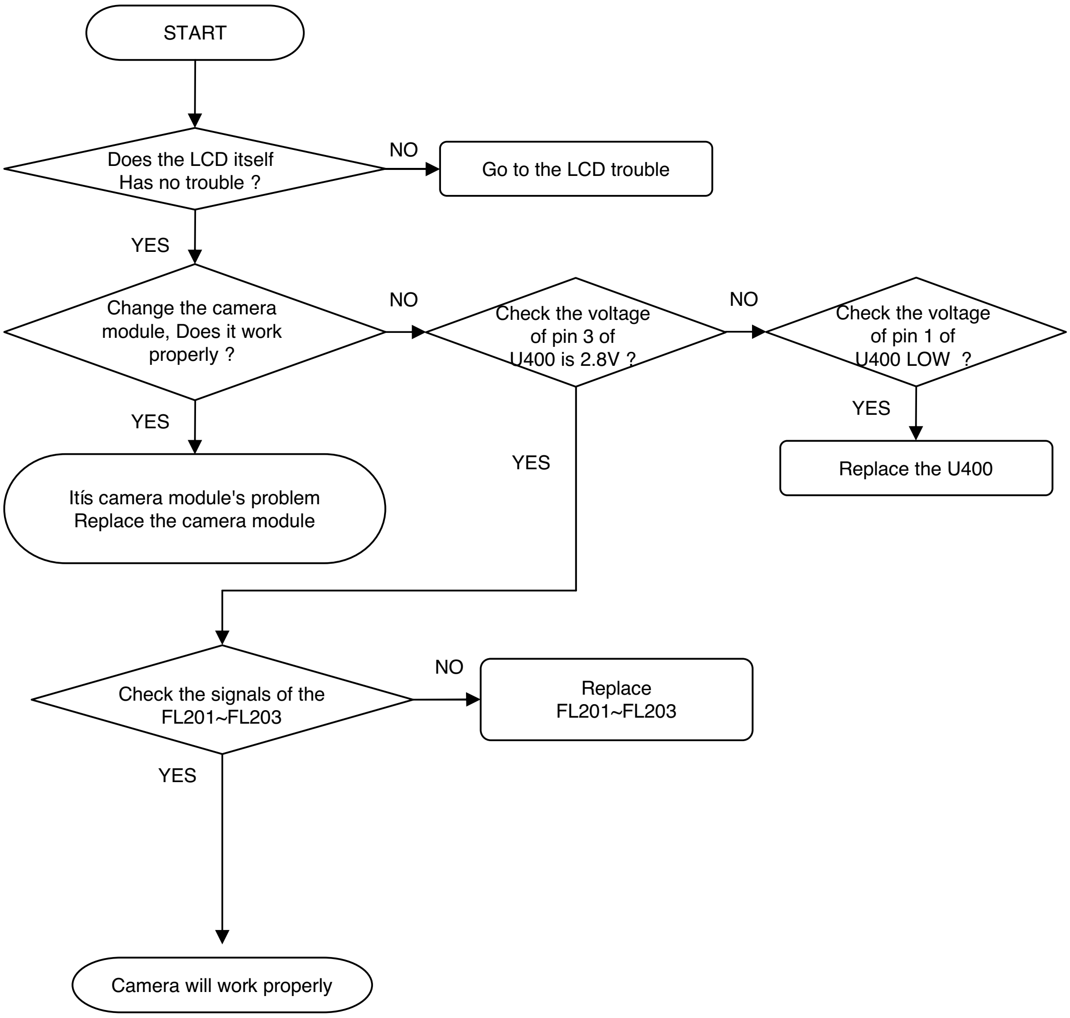


CAMERA CTL IC



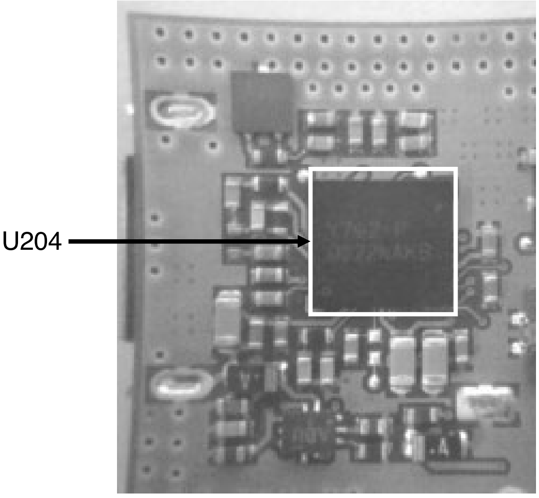
CAM_PWR_EN	STATUS
HIGH	DEACTIVE
LOW	ACTIVE

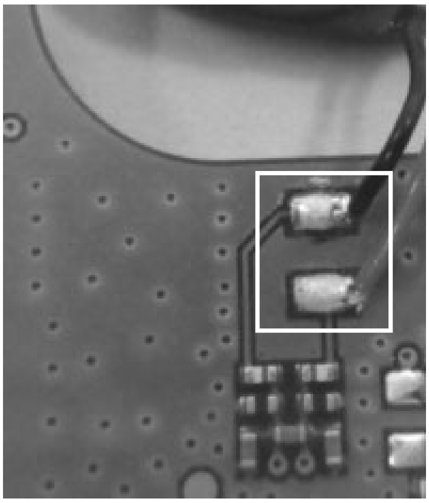
CHECKING FLOW



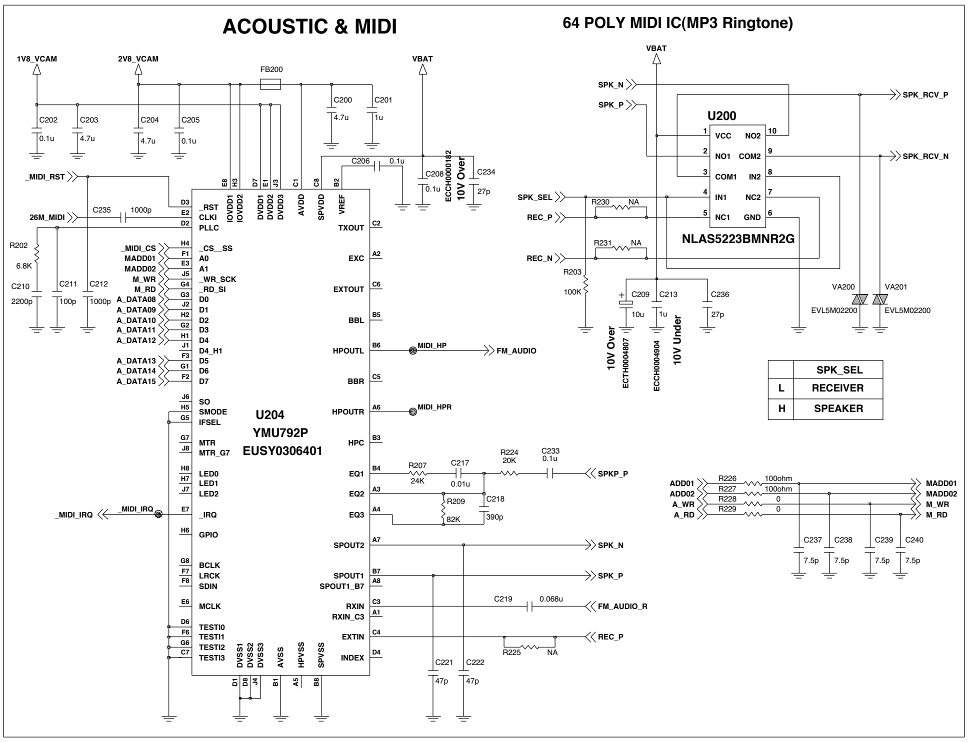
4.9 Speaker Trouble

TEST POINT

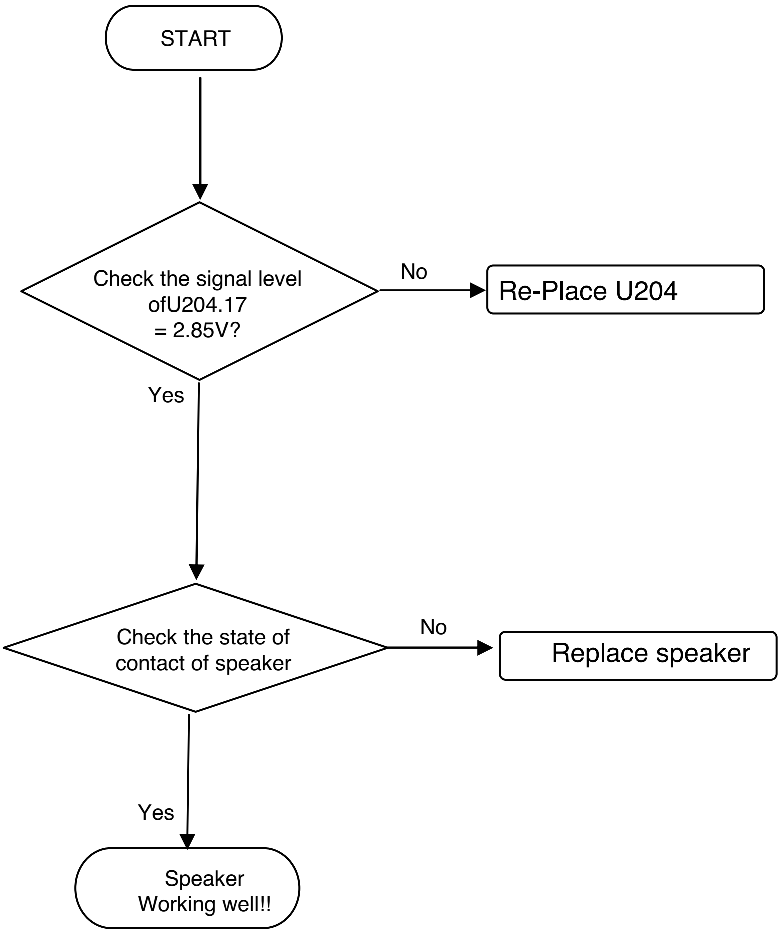




CIRCUIT



CHECKING FLOW



4.10 SIM Card Interface Trouble

TEST POINT

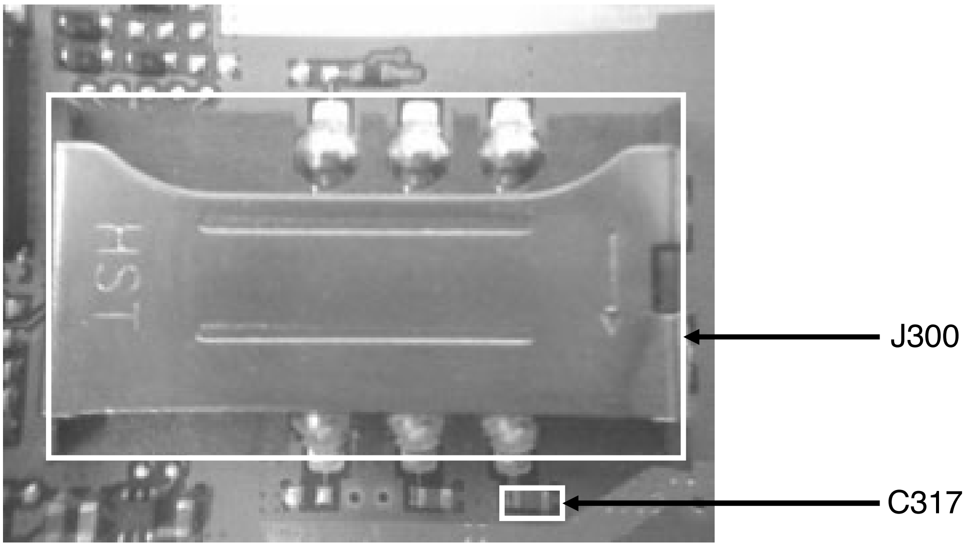
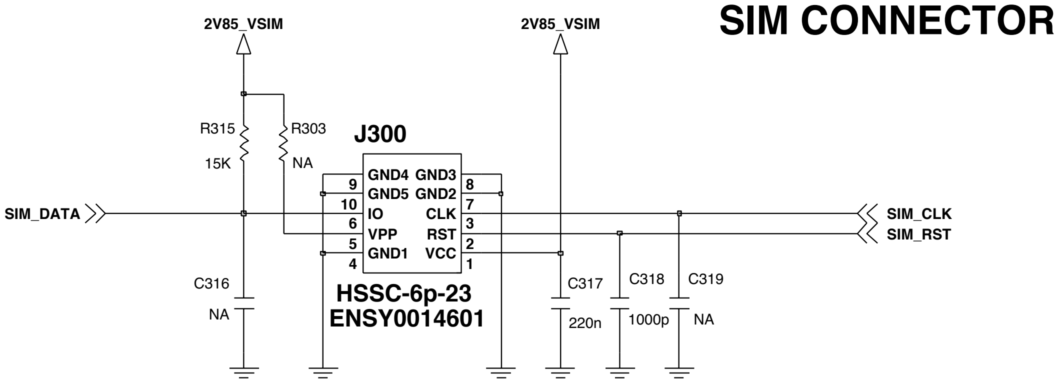
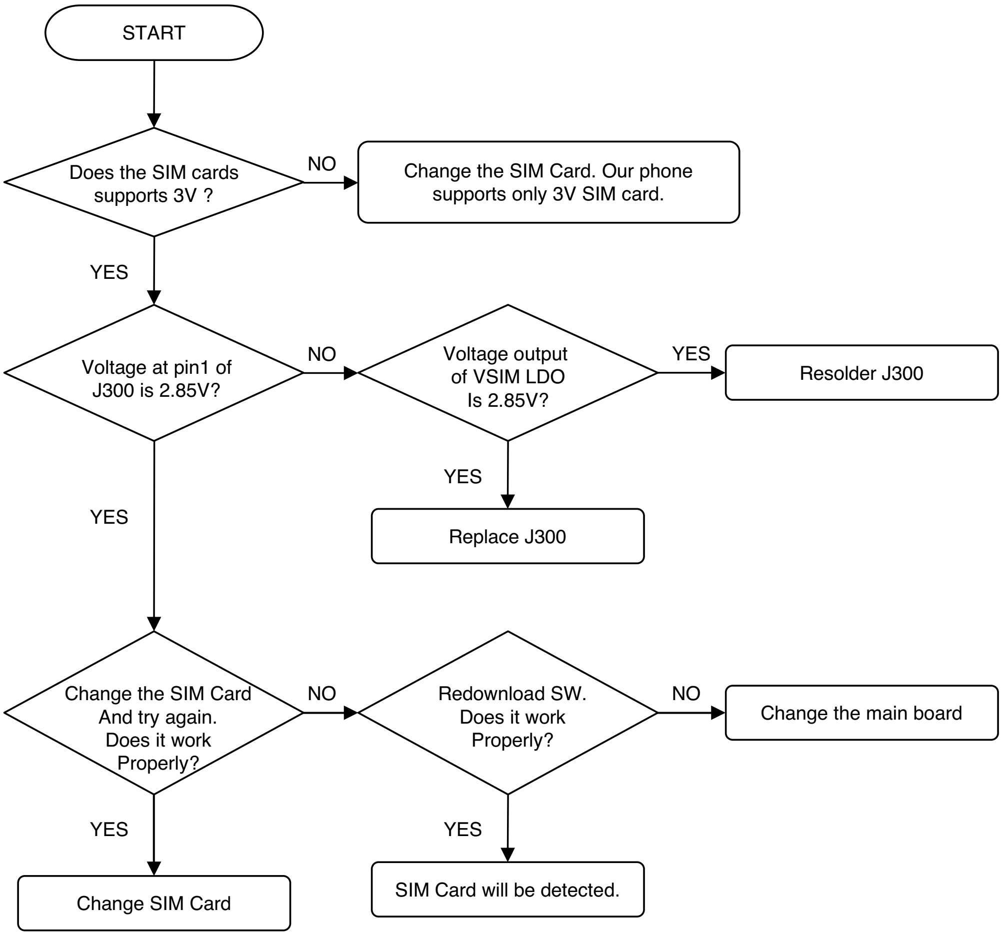


Figure 19

CIRCUIT



CHECKING FLOW



4.11 Earphone Trouble

TEST POINT

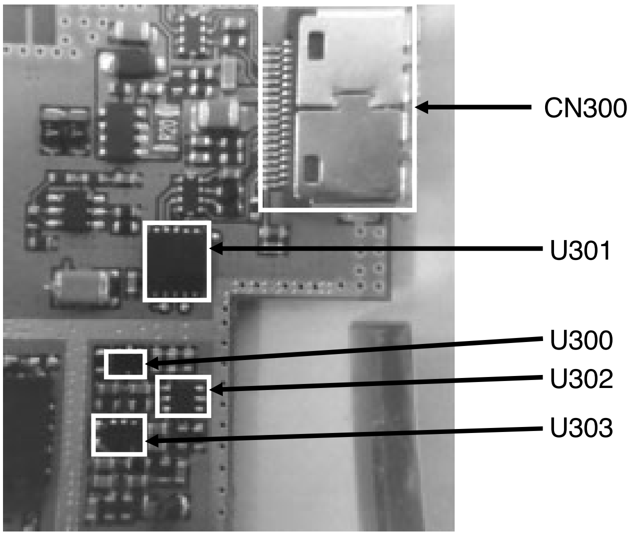
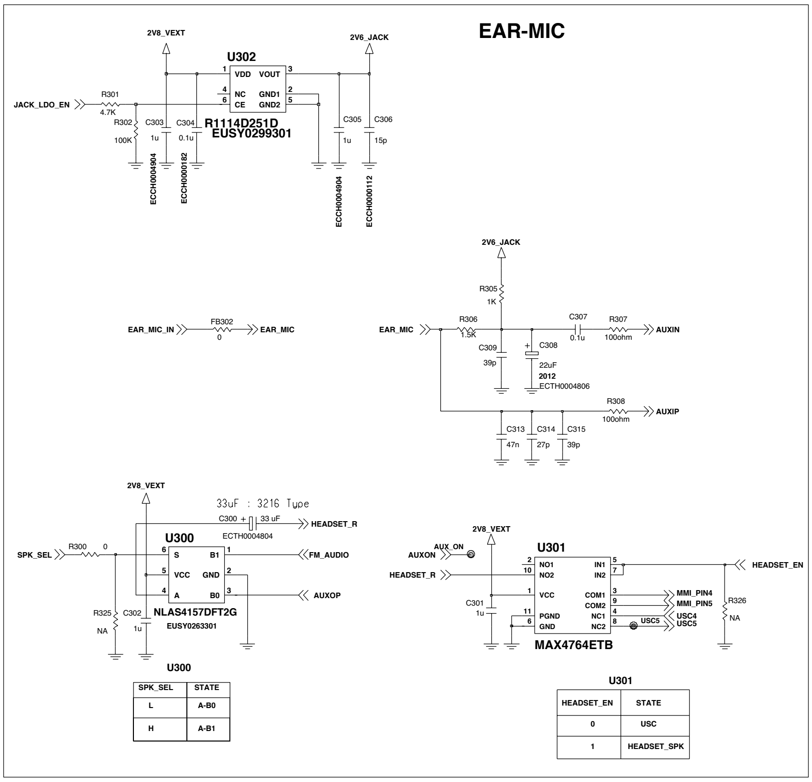


Figure 20

CIRCUIT



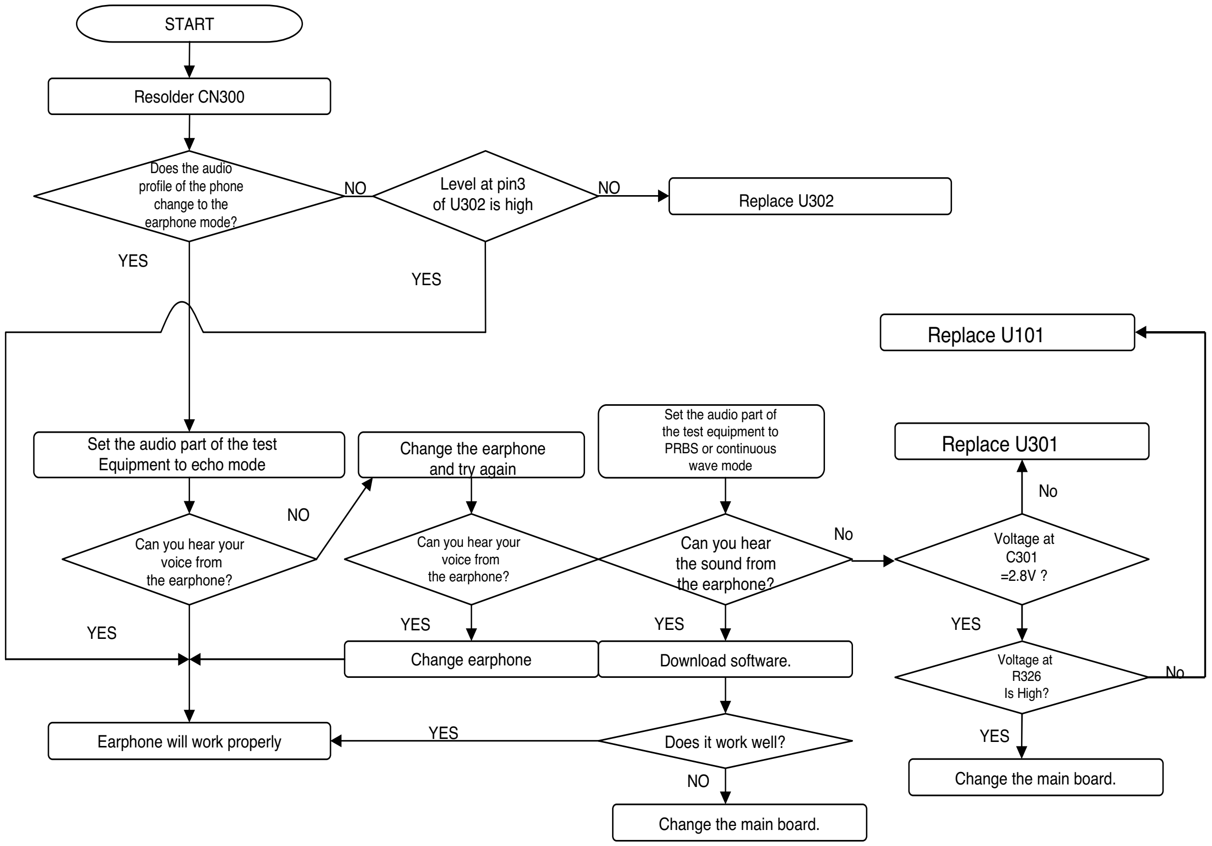
U300

SPK_SEL	STATE
L	A-B0
H	A-B1

U301

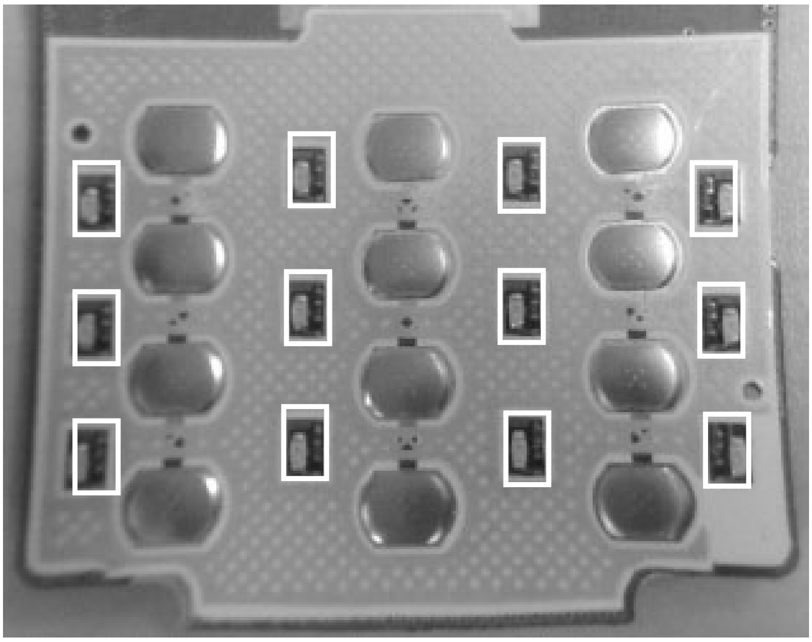
HEADSET_EN	STATE
0	USC
1	HEADSET_SPK

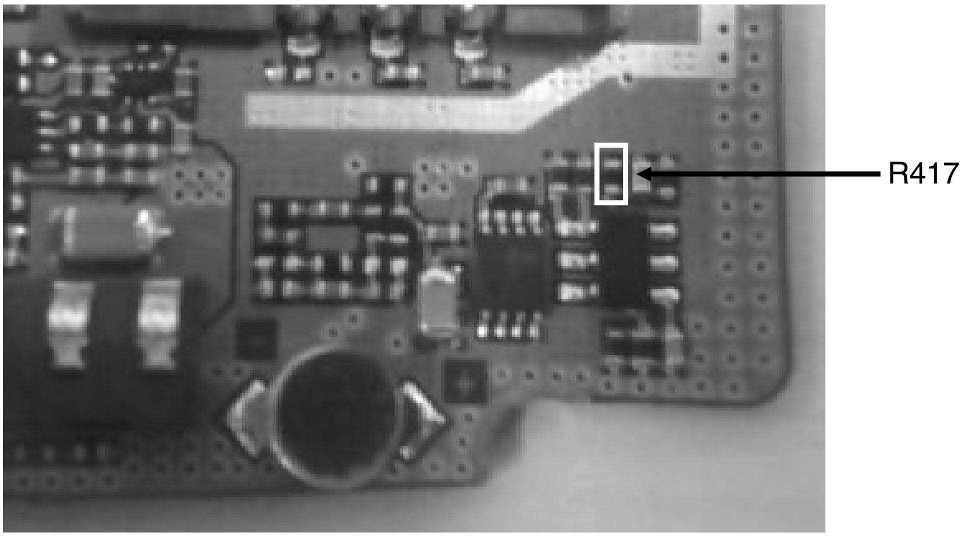
CHECKING FLOW



4.12 KEY backlight Trouble

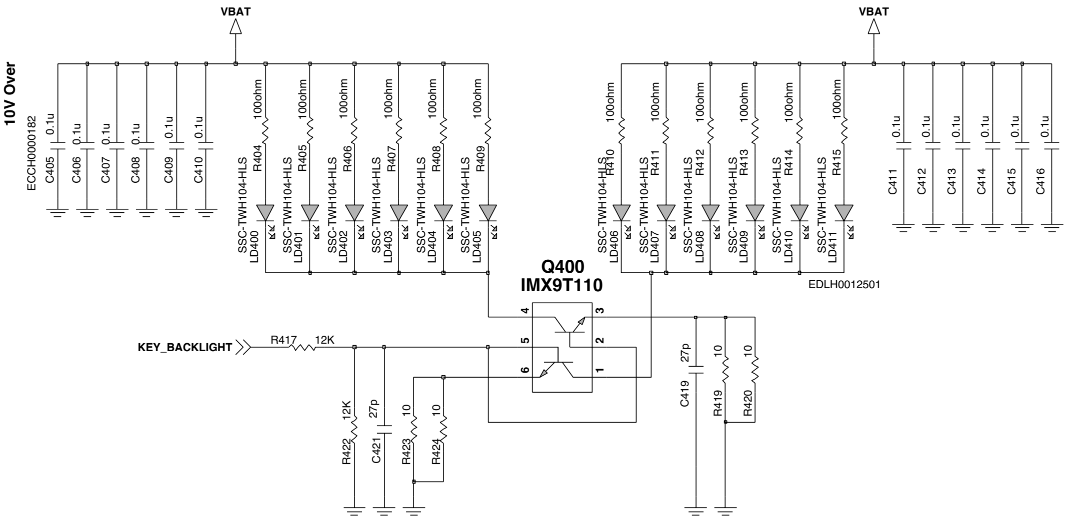
TEST POINT



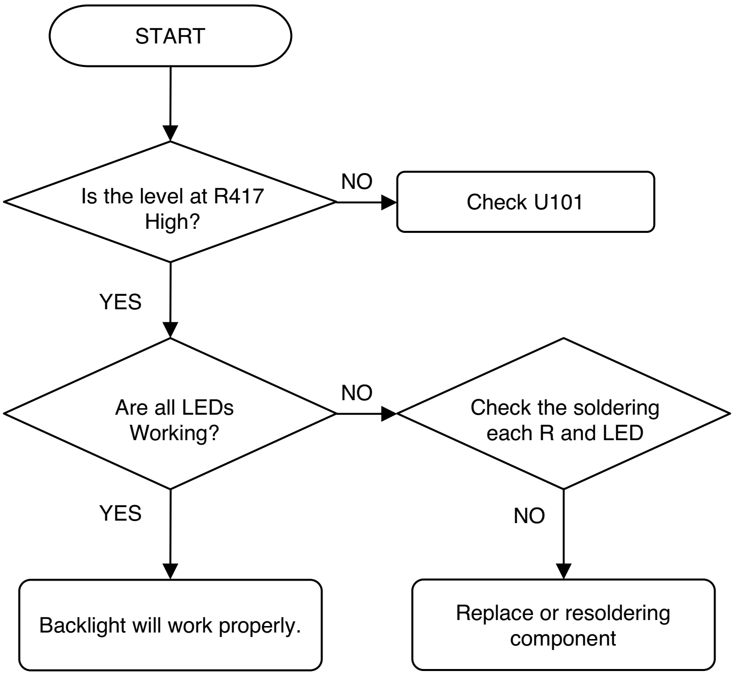


CIRCUIT

KEY BACKLIGHT



CHECKING FLOW



4.13 Receiver Trouble

TEST POINT

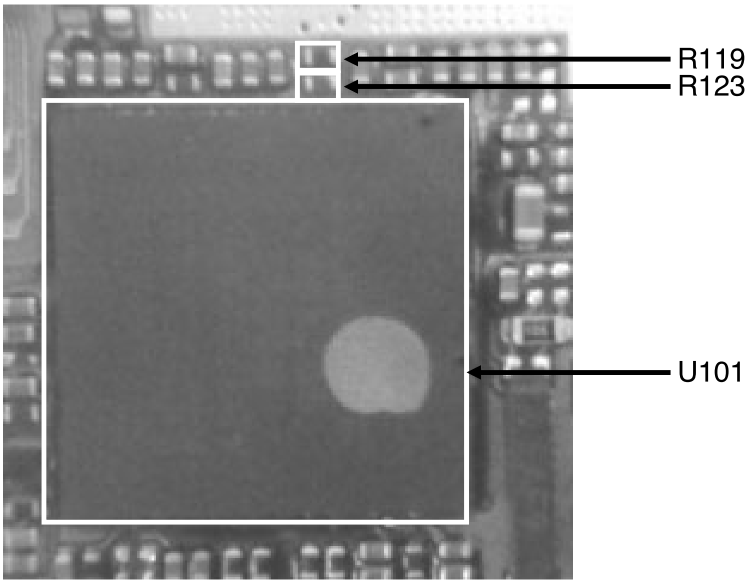
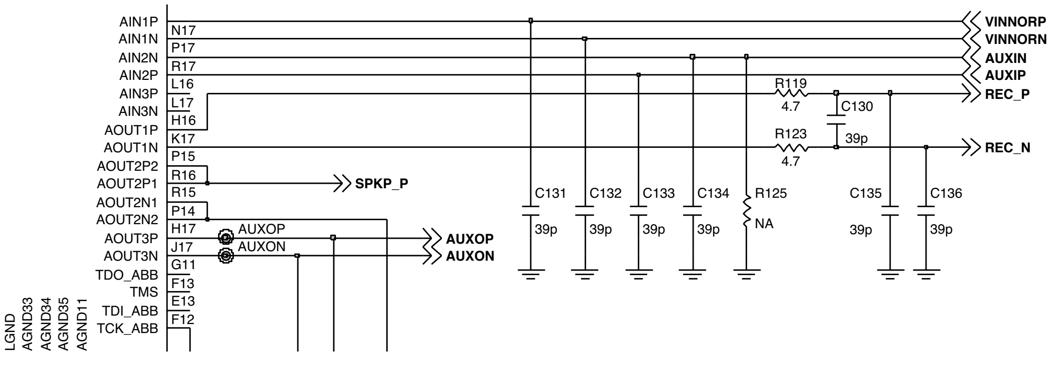


Figure 22

CIRCUIT

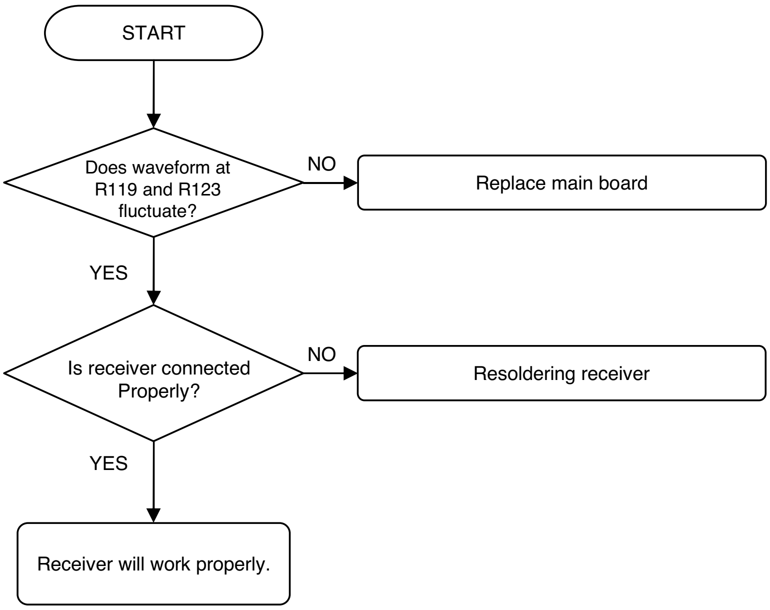


4. TROUBLE SHOOTING

CHECKING FLOW

SETTING : After initialize Agilent 8960, Test EGSM, DCS mode

Set the property of audio as PRBS or continuous wave. Set the receiving volume of mobile as Max.



4.14 Microphone Trouble

TEST POINT

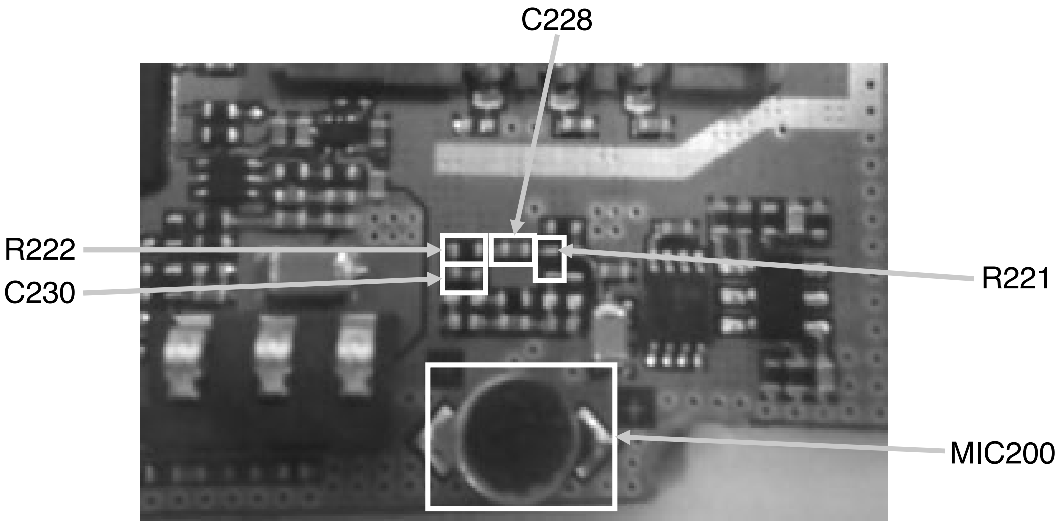
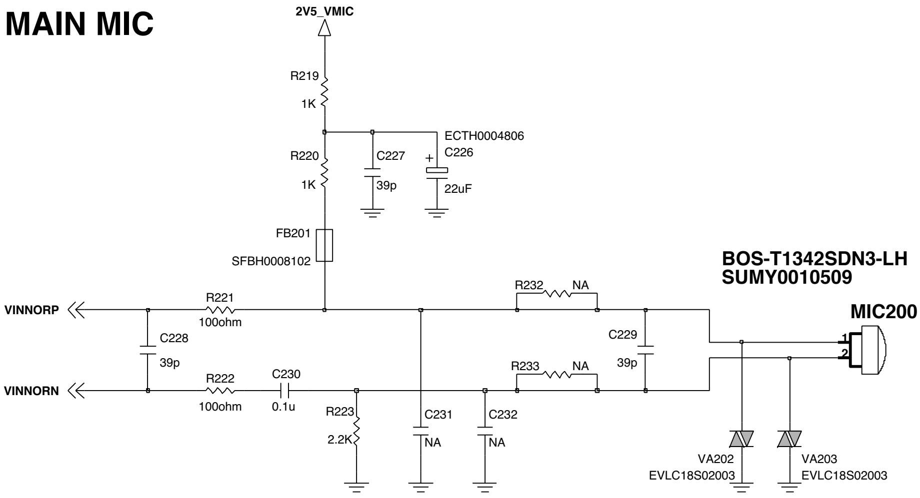


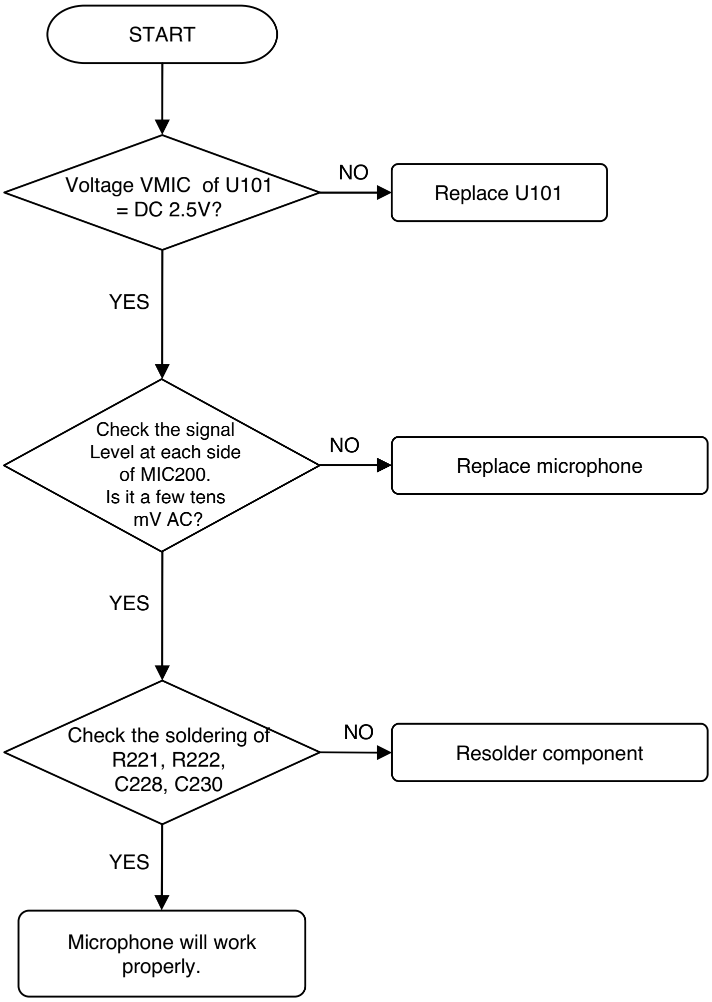
Figure 23

CIRCUIT



CHECKING FLOW

SETTING : After initialize Agilent 8960, Test EGSM, DCS mode



4.15 RTC Trouble

TEST POINT

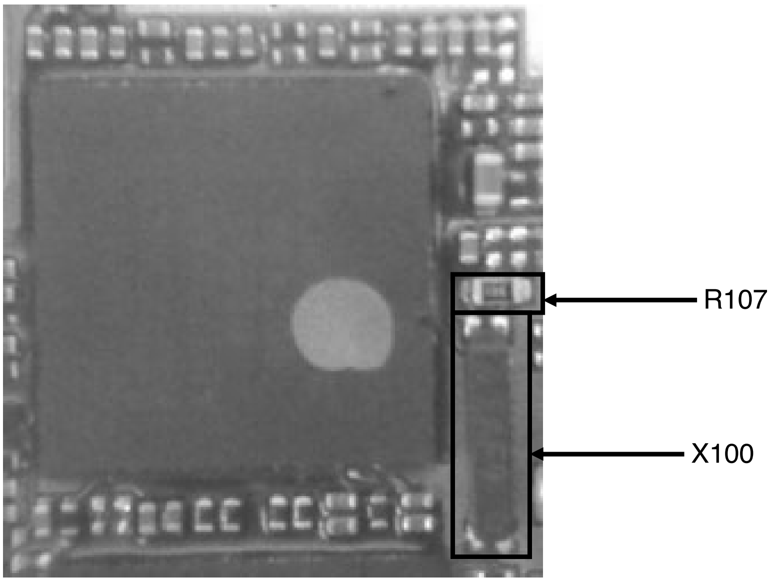
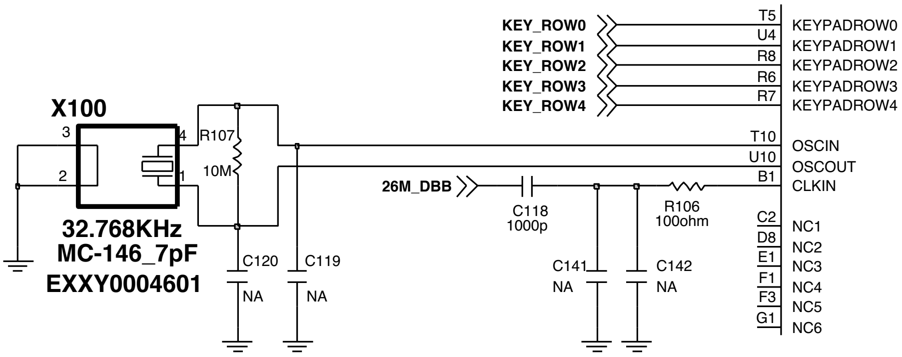
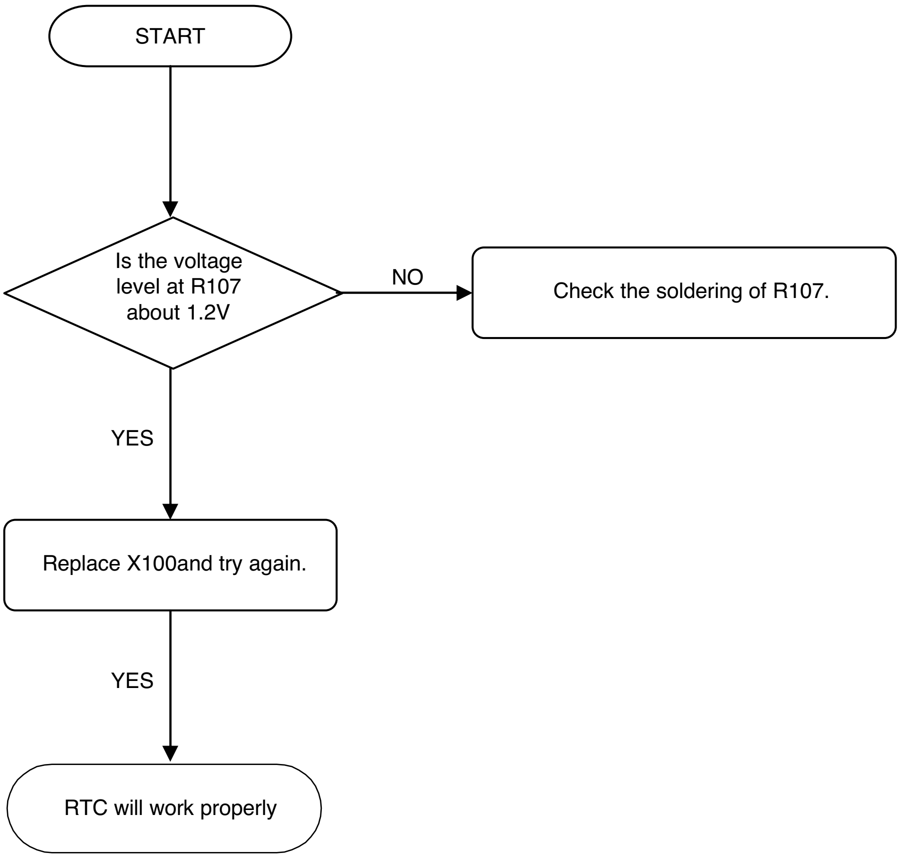


Figure 24

CIRCUIT

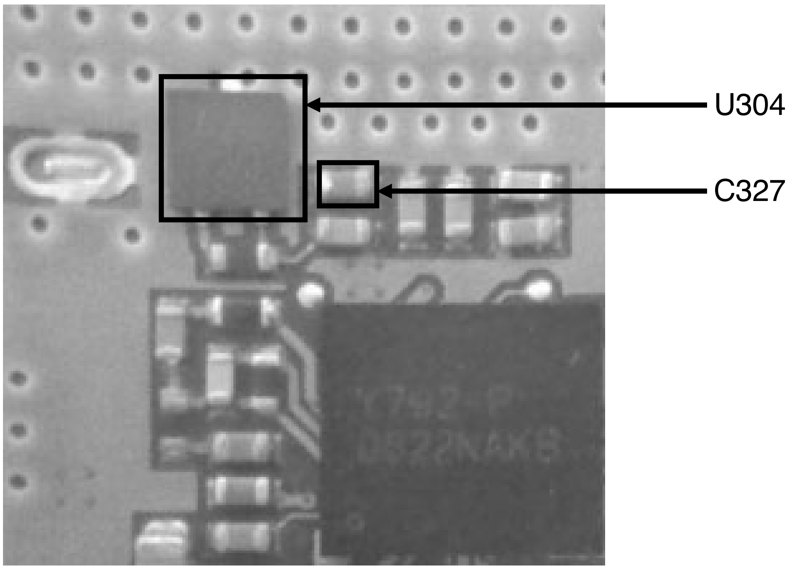


CHECKING FLOW

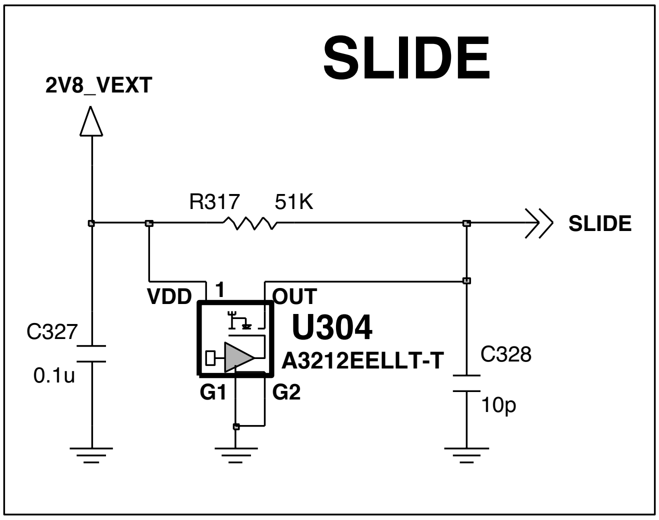


4.16 Slide on/off Trouble

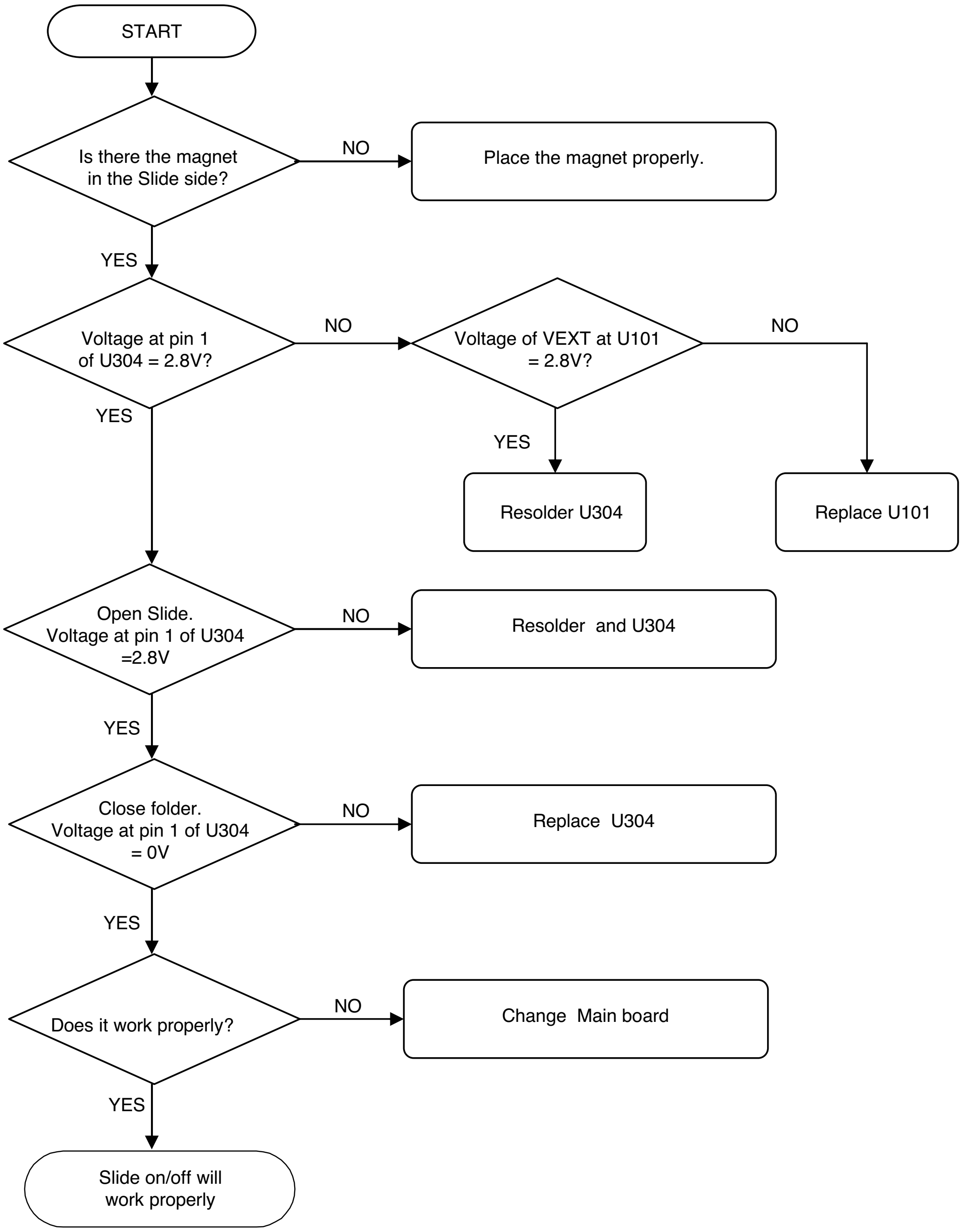
TEST POINT



CIRCUIT



CHECKING FLOW



5. DOWNLOAD

5.1 Download

A. Download Setup

Figure 5-1 describes Download setup

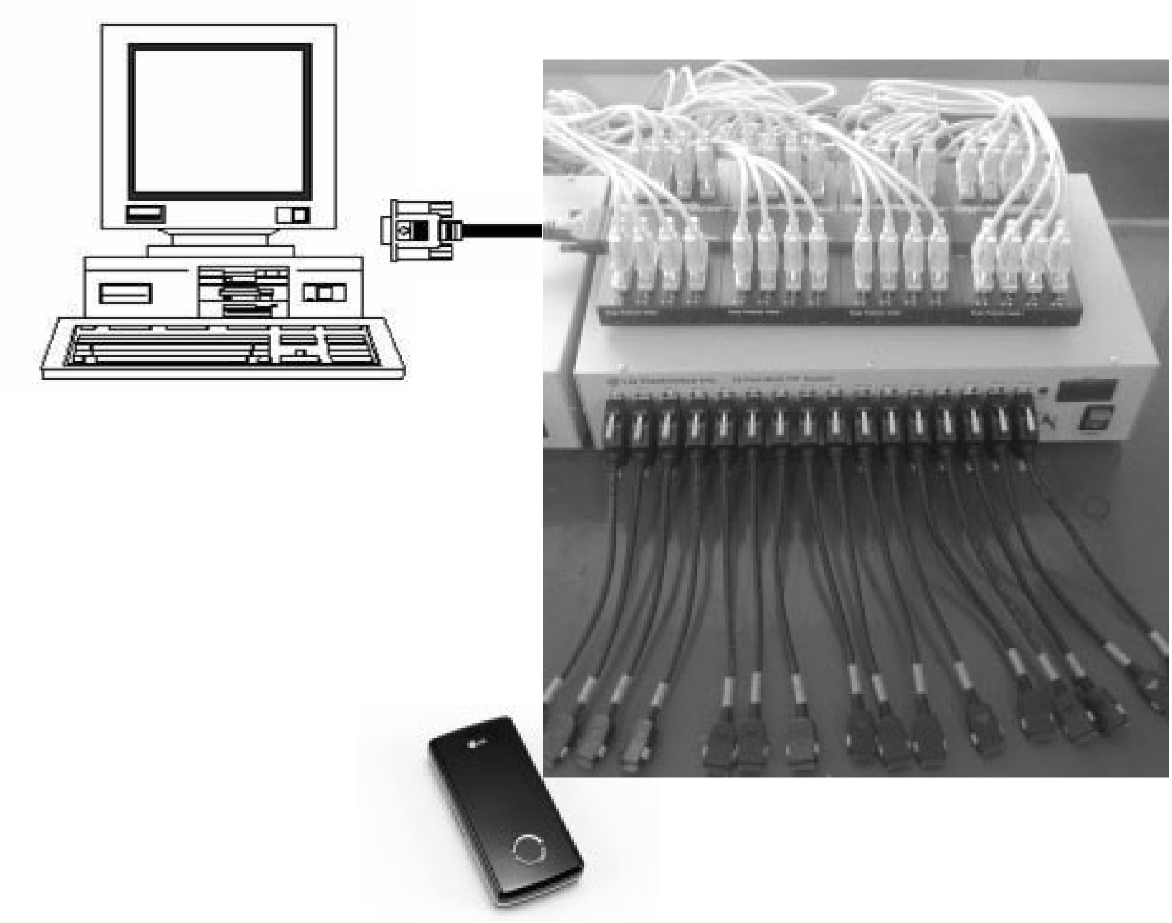
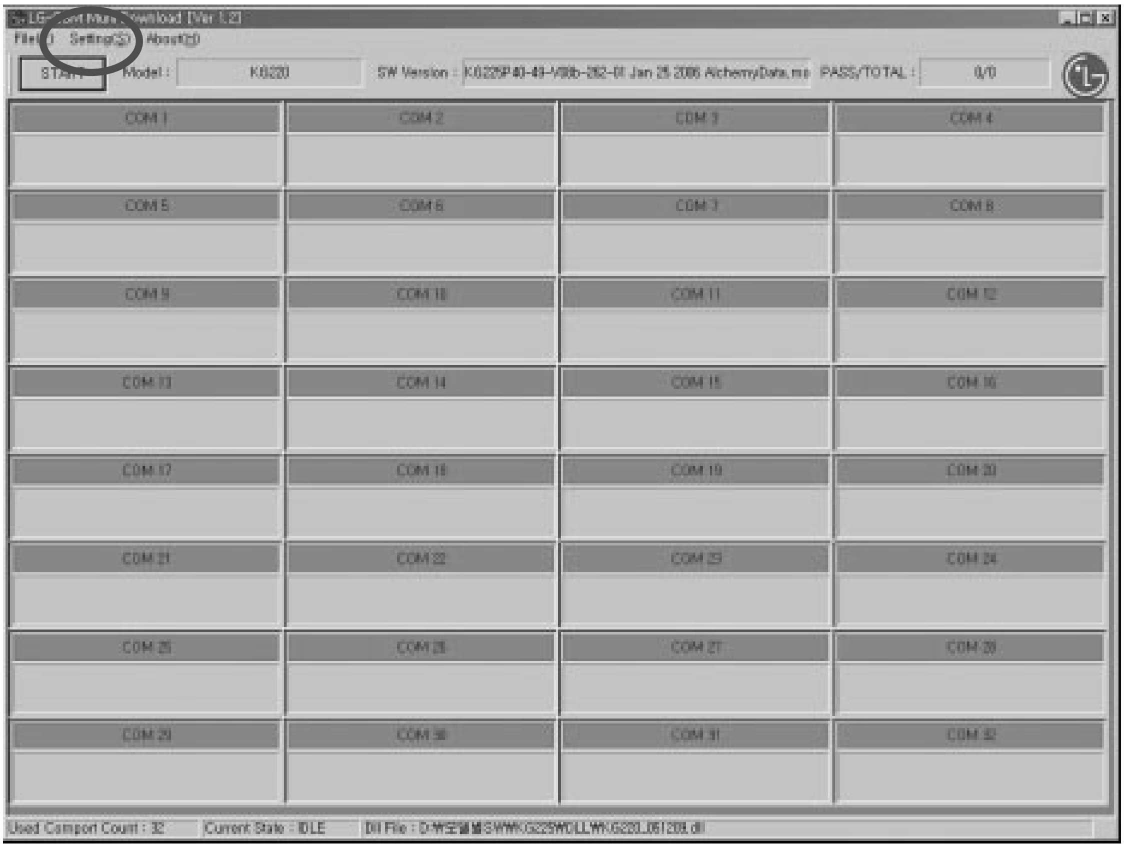


Figure 5-1. Download Setup

B. Multi Download Procedure

1. Run GSM Multi Download program and select Setting



Model : KG220

SW Version : KG225P40-49-V08b-282-01 Jan 25 2006 AlchemyData.mo

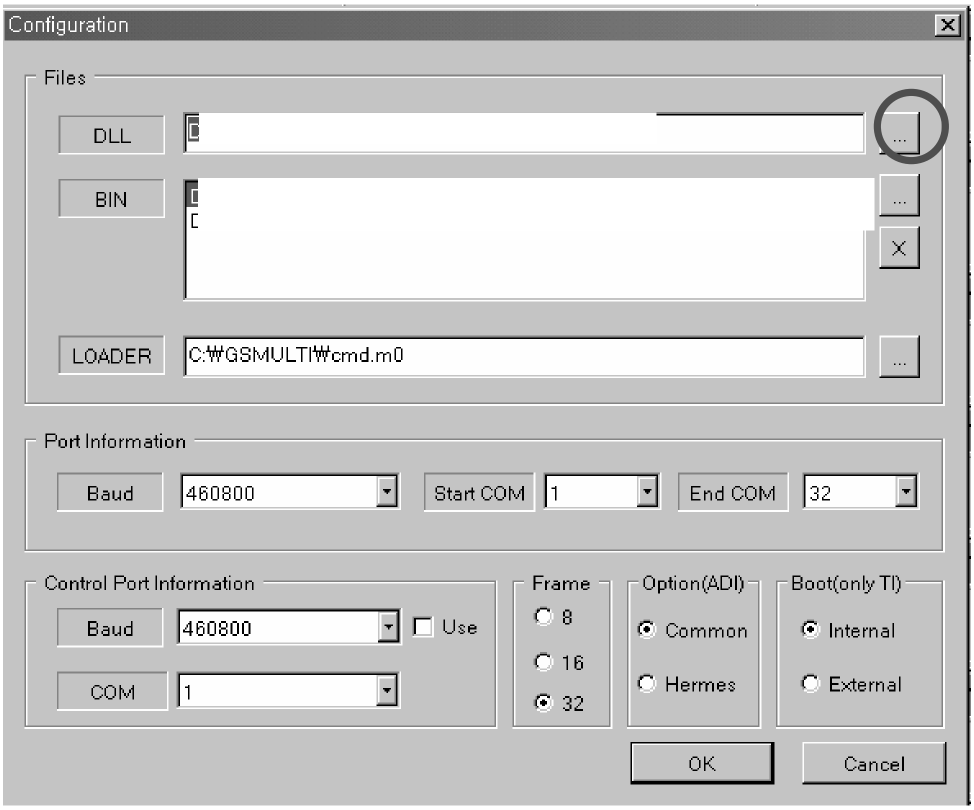
PASS/TOTAL : 0/0

Used Comport Count : 32

Current State : IDLE

Dll File : D:₩모델별SW₩KG225₩DLL₩KG220_051209.dll

2. Select Configuration from the menu and you may see this window



LOADER: C:₩GSMULTI₩cmd.m0

Port Information: Baud 460800, Start COM 1, End COM 32

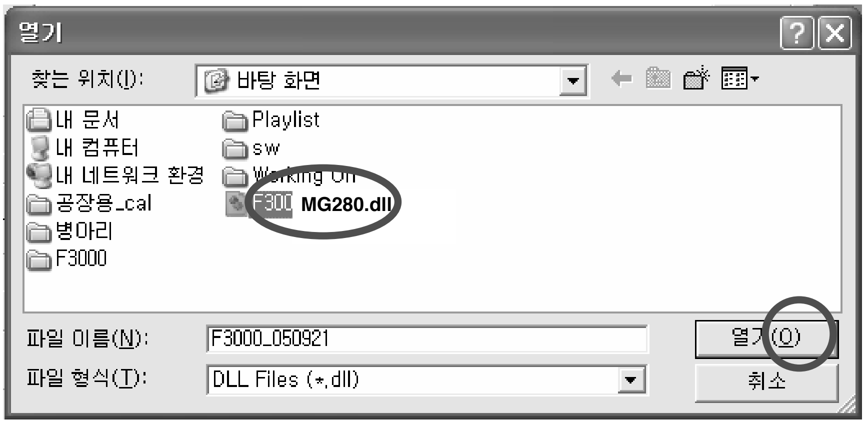
Control Port Information: Baud 460800, ☐ Use, COM 1

Frame: ○ 8 ○ 16 ● 32

Option(ADI): ● Common ○ Hermes

Boot(only TI): ● Internal ○ External

3. Press ... key to select DLL file and press Open

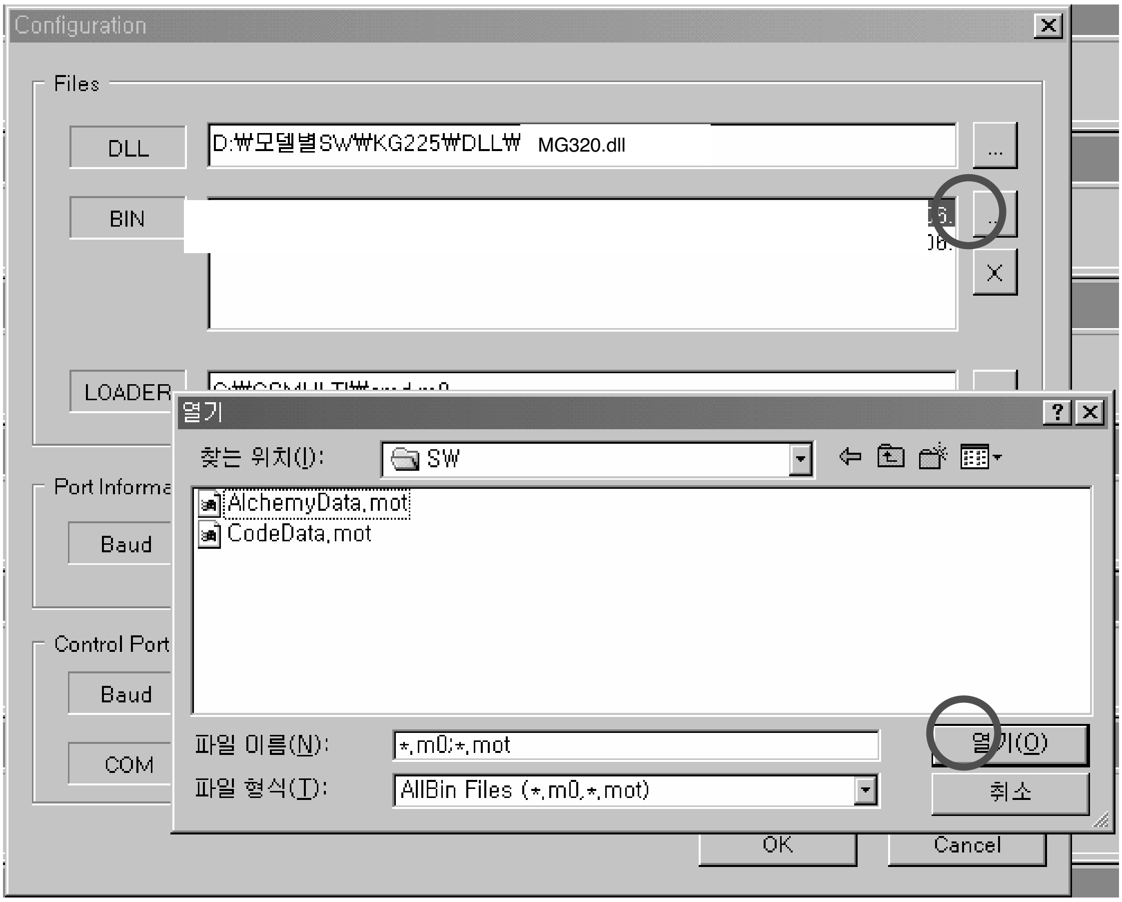


찾는 위치(I): 바탕 화면

파일 이름(N): F3000_050921

파일 형식(T): DLL Files (*.dll)

4. Press ... key to select the mot files
5. Select AlchemyData.mot and press open
6. Repeat step 4-5 to select CodeData.mot



DLL: D:₩모델별SW₩KG225₩DLL₩ MG320.dll

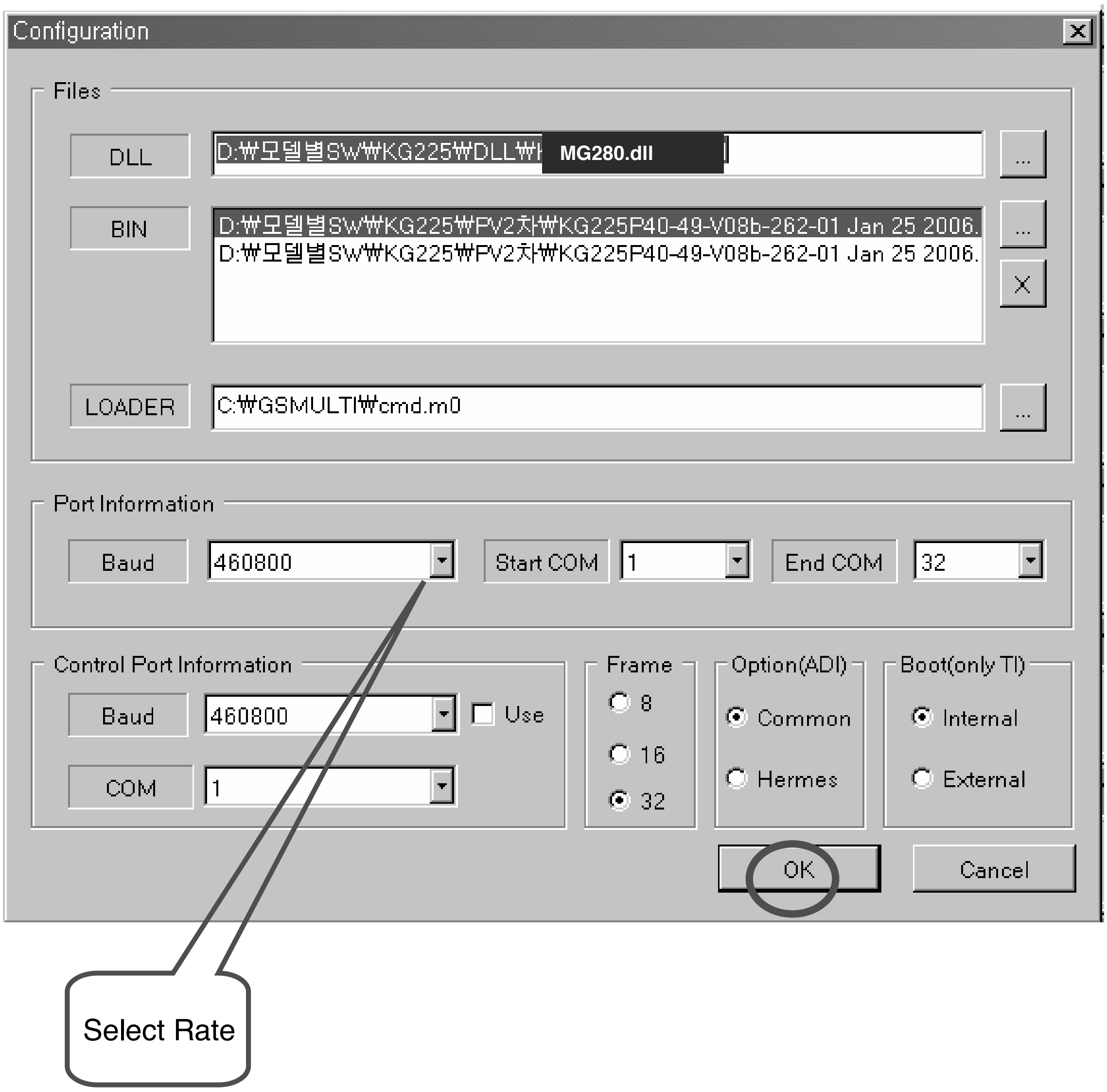
AlchemyData.mot
CodeData.mot

파일 이름(N): *.m0;*.mot

파일 형식(T): AllBin Files (*.m0,*.mot)

7. Check if the ADI option is set to Hermes

8. Press OK to end Configuration



DLL: D:₩모델별SW₩KG225₩DLL₩ MG280.dll

BIN:
D:₩모델별SW₩KG225₩PV2차₩KG225P40-49-V08b-262-01 Jan 25 2006.
D:₩모델별SW₩KG225₩PV2차₩KG225P40-49-V08b-262-01 Jan 25 2006.

LOADER: C:₩GSMULTI₩cmd.m0

Baud: 460800
Start COM: 1
End COM: 32

Baud: 460800 ☐ Use
COM: 1

Frame: ○ 8 ○ 16 ● 32

Option(ADI): ● Common ○ Hermes

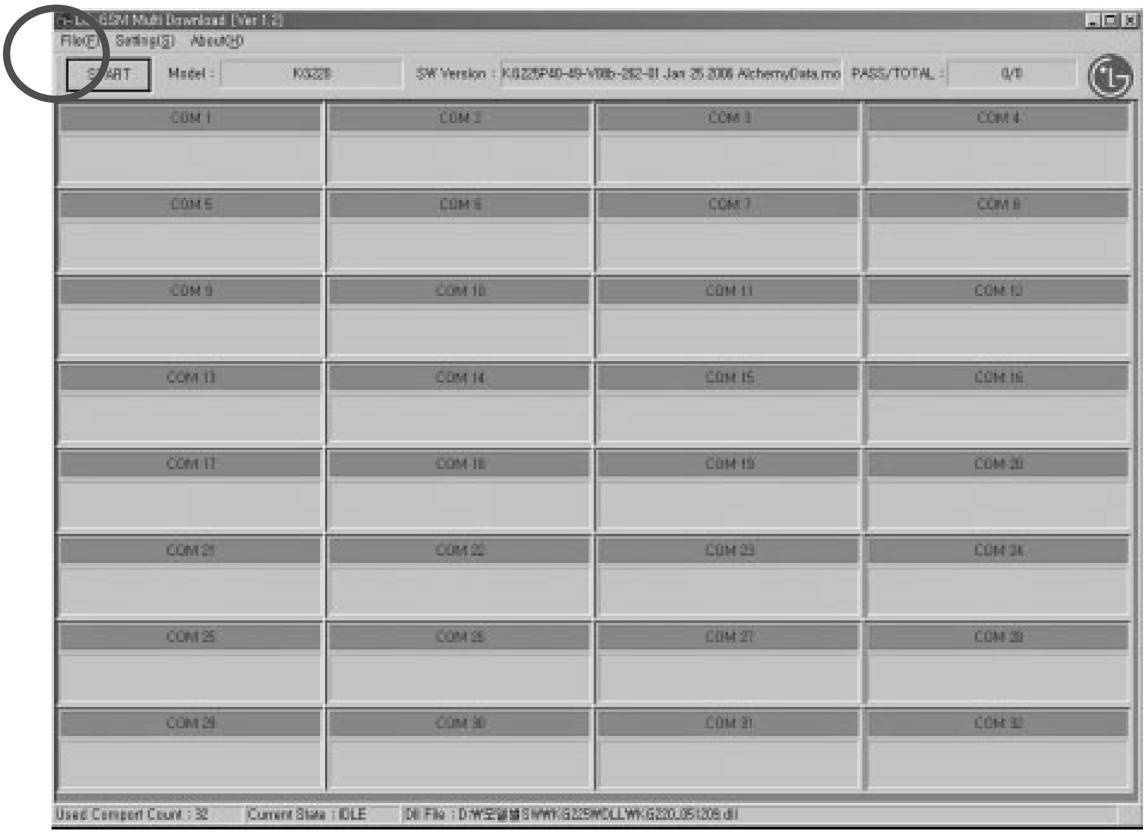
Boot(only TI): ● Internal ○ External

Select Rate

5. DOWNLOAD

9. Press START to execute download

10. Once downloading is started, press STOP button to keep from re-downloading after downloading is completed.



Model : KG220

SW Version : KG225P40-49-V00b-262-01 Jan 25 2006 AlchemyData.mo

PASS/TOTAL : 0/0

Used Comport Count : 32

Current State : IDLE

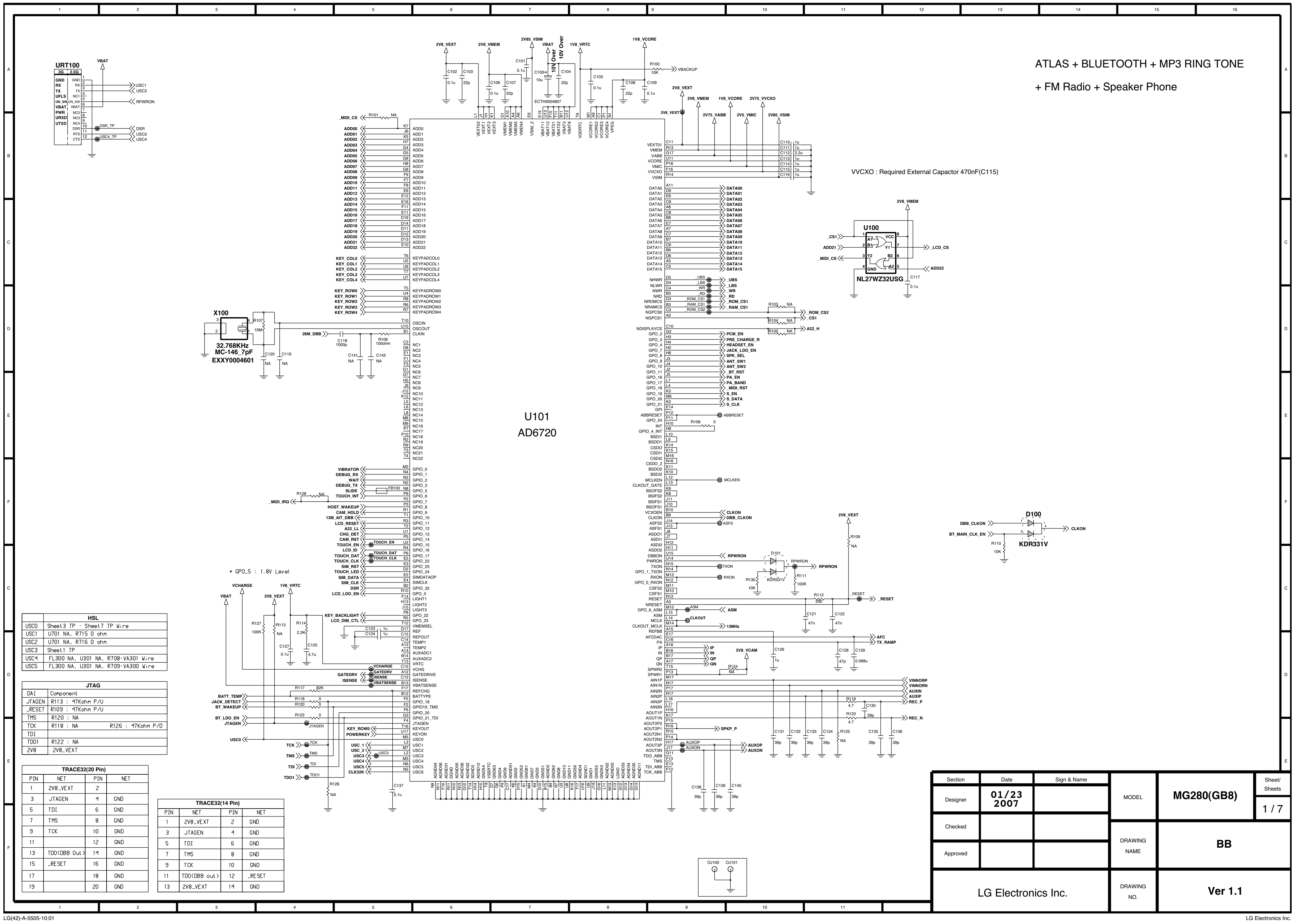
Dll File : D:₩도일불SW₩KG225₩DLL₩KG220_051206.dll

Model :

SW Version : AlchemyData.mot

PASS/TOTAL : 0/0

7. CIRCUIT DIAGRAM



	HSL
USC0	Sheet3 TP - Sheet7 TP Wire
USC1	U701 NA, R715 0 ohm
USC2	U701 NA, R716 0 ohm
USC3	Sheet1 TP
USC4	FL300 NA, U301 NA, R708-VA301 Wire
USC5	FL300 NA, U301 NA, R709-VA300 Wire

JTAG		
DAI	Component	
JTAGEN	R113 : 47Kohm P/U	
_RESET	R109 : 47Kohm P/U	
TMS	R120 : NA	
TCK	R118 : NA	R126 : 47Kohm P/D
TDI		
TDO1	R122 : NA	
2V8	2V8_VEXT	

TRACE32(20 Pin)

PIN	NET	PIN	NET
1	2V8_VEXT	2	
3	JTAGEN	4	GND
5	TDI	6	GND
7	TMS	8	GND
9	TCK	10	GND
11		12	GND
13	TDO(DBB Out)	14	GND
15	_RESET	16	GND
17		18	GND
19		20	GND

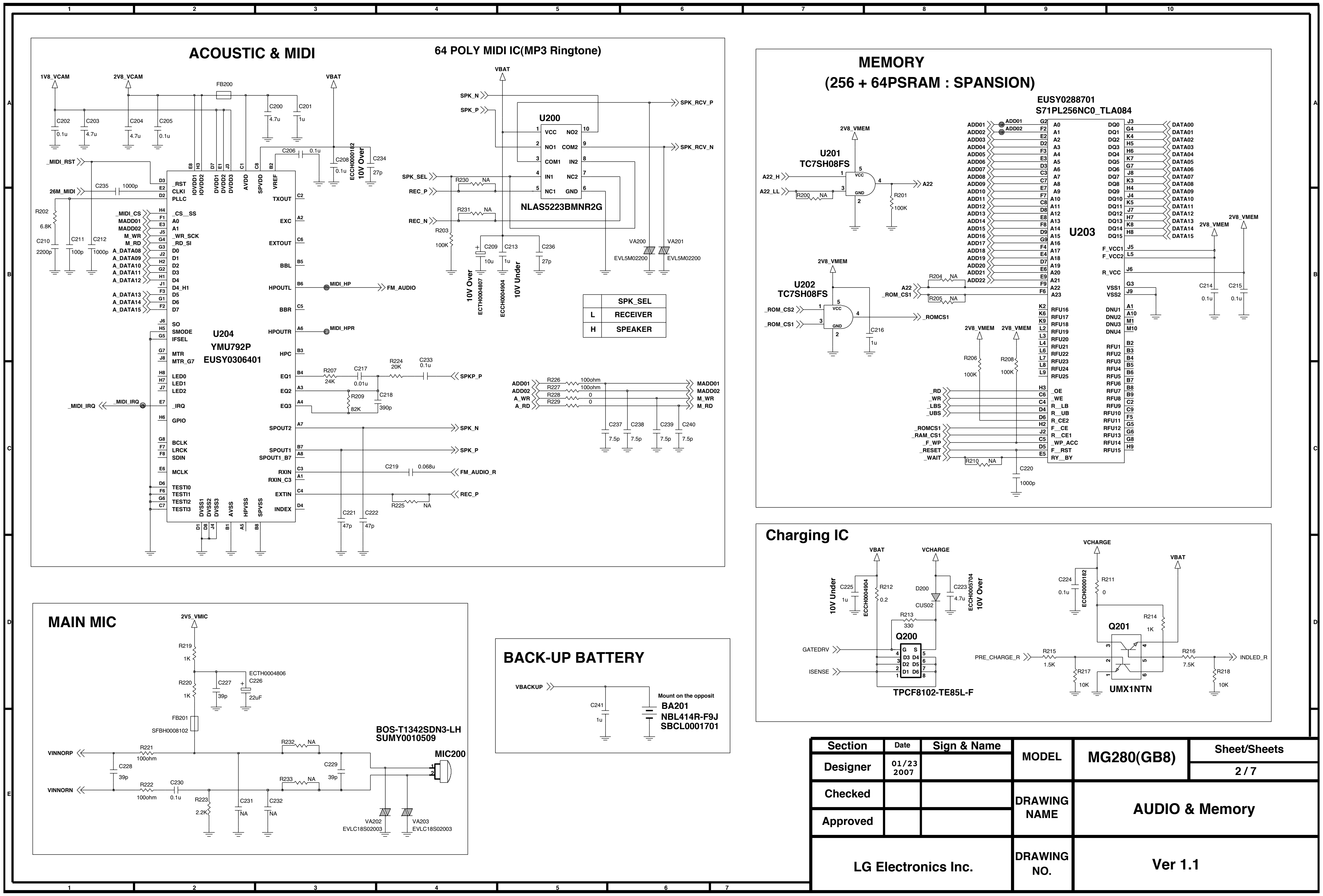
TRACE32(14 Pin)

PIN	NET	PIN	NET
1	2V8_VEXT	2	GND
3	JTAGEN	4	GND
5	TDI	6	GND
7	TMS	8	GND
9	TCK	10	GND
11	TDO(DBB out)	12	_RESET
13	2V8_VEXT	14	GND

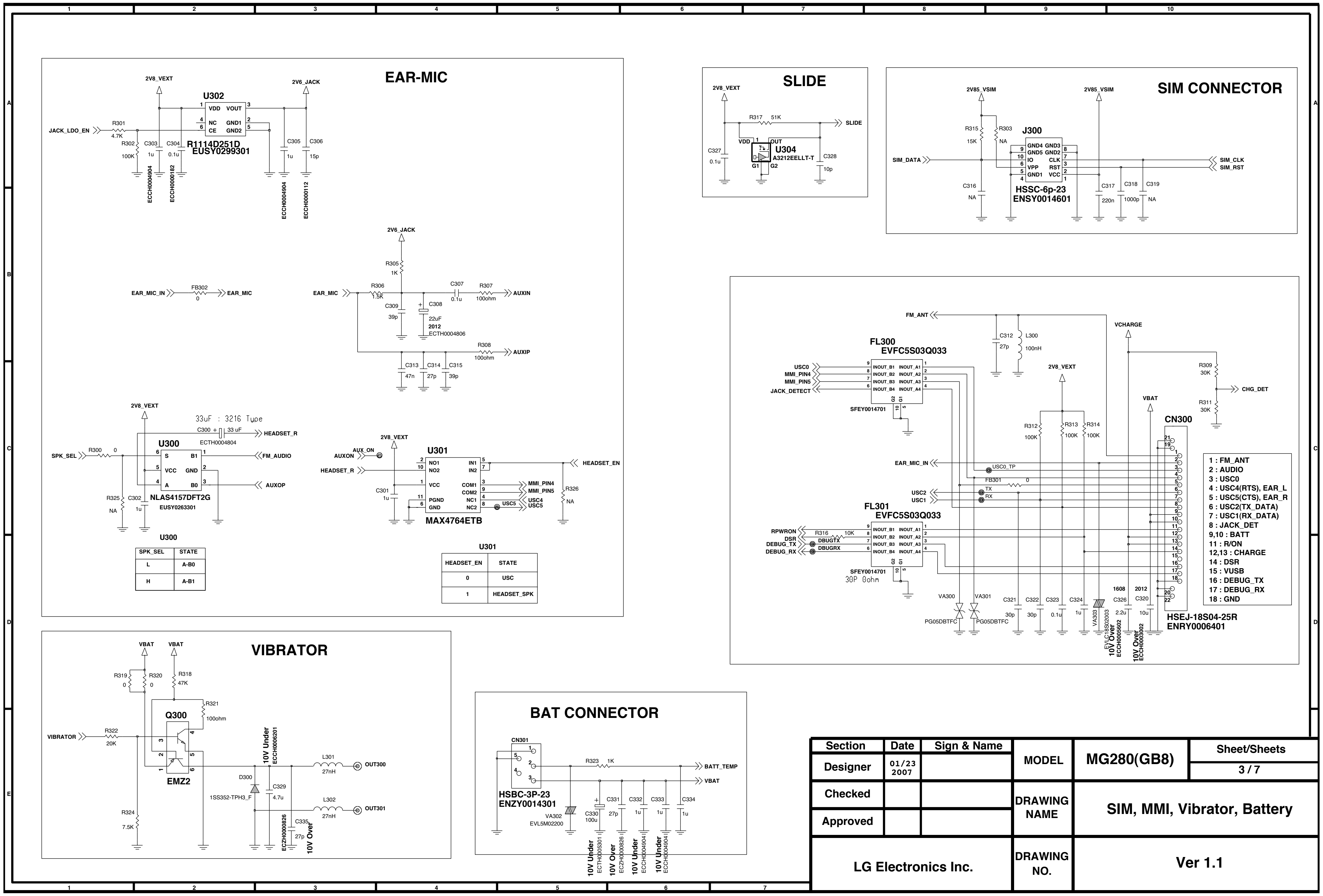
Section	Date	Sign & Name			
Designer	01/23 2007		MODEL	MG280(GB8)	Sheet/ Sheets 1 / 7
Checked			DRAWING NAME	BB	
Approved					
LG Electronics Inc.			DRAWING NO.	Ver 1.1	

LG(42)-A-5505-10:01

7. CIRCUIT DIAGRAM



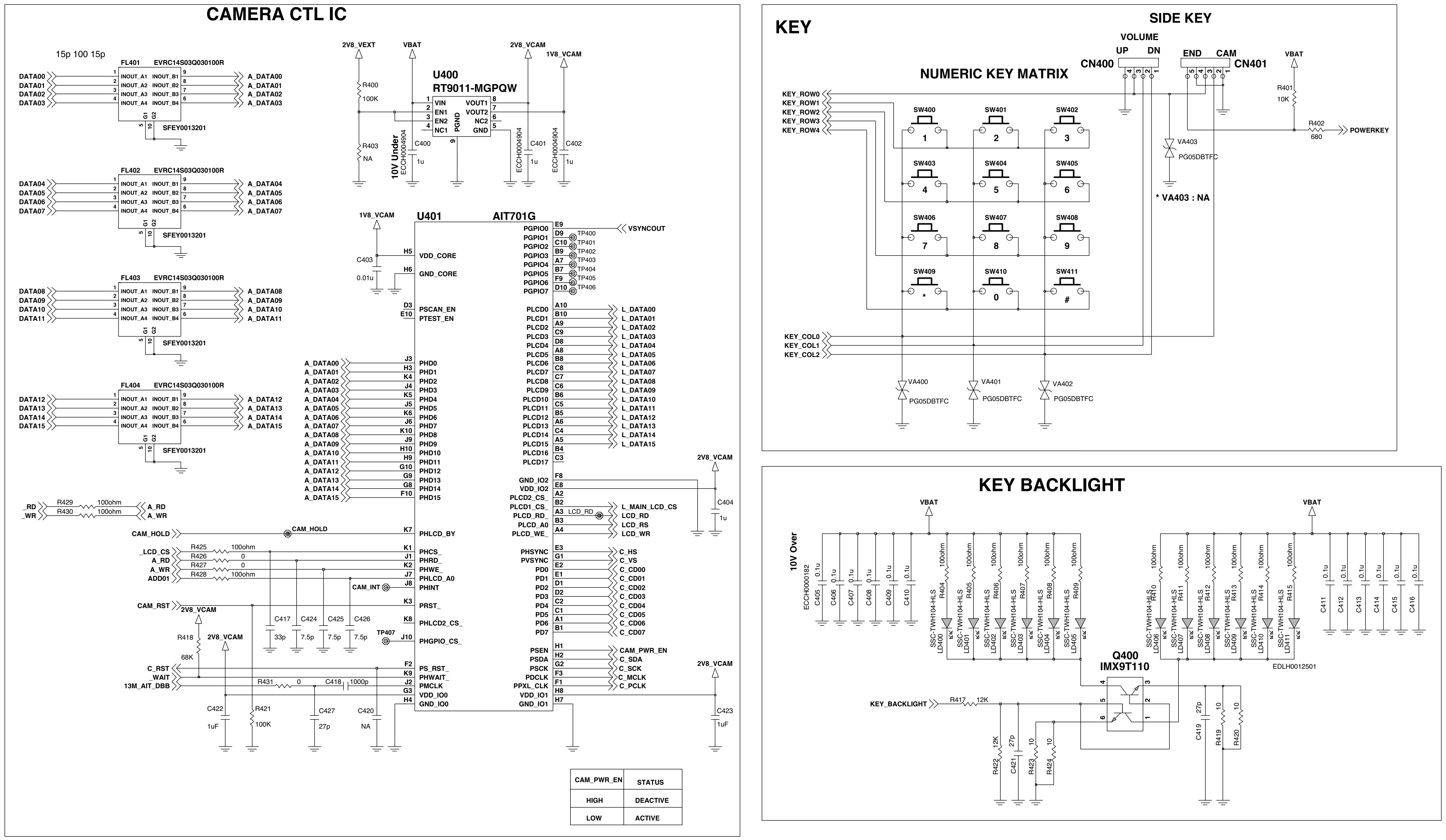
7. CIRCUIT DIAGRAM



LGIC(42)-A-5505-10:01

LG Electronics Inc.

7. CIRCUIT DIAGRAM

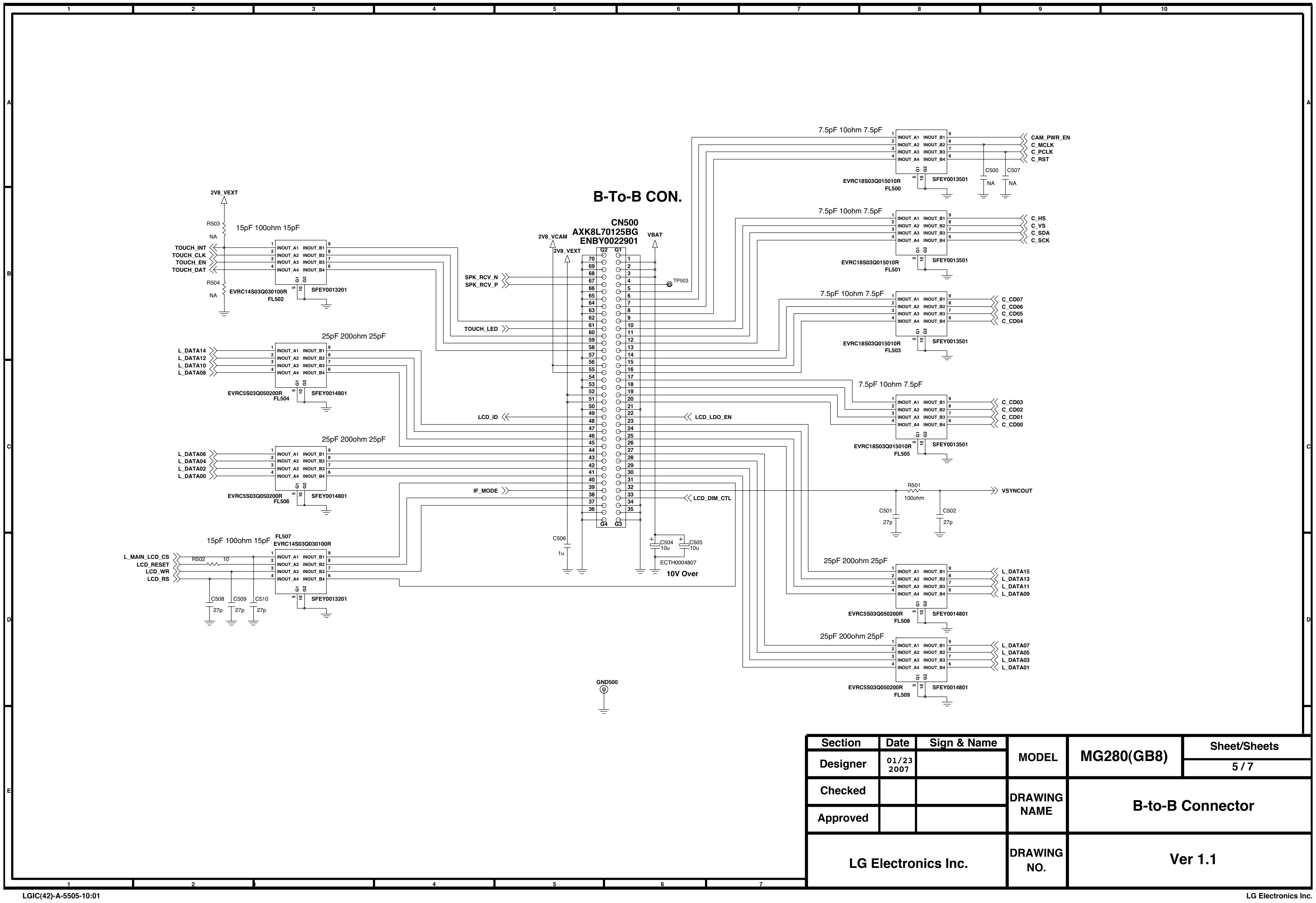


Section	Date	Sign & Name	MODEL	MG280(GB8)	Sheet/ Sheets
Designer	01/23 2007				4 / 7
Checked			DRAWING NAME	CAMERA IC & KEY	
Approved					
LG Electronics Inc.			DRAWING NO.	Ver 1.1	

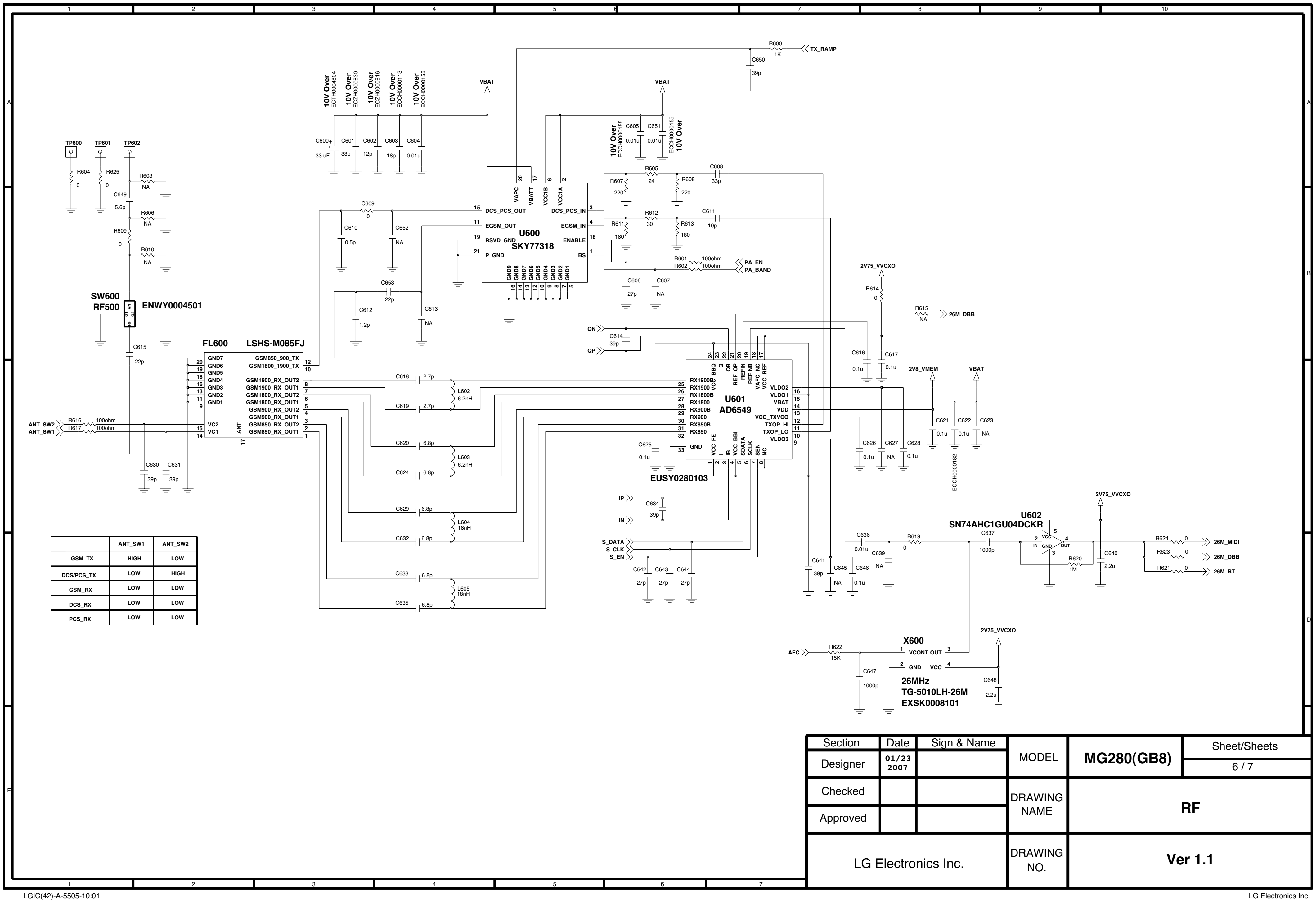
LGIC(42)-A-5505-10:01

LG Electronics Inc.

7. CIRCUIT DIAGRAM



7. Circuit Diagram



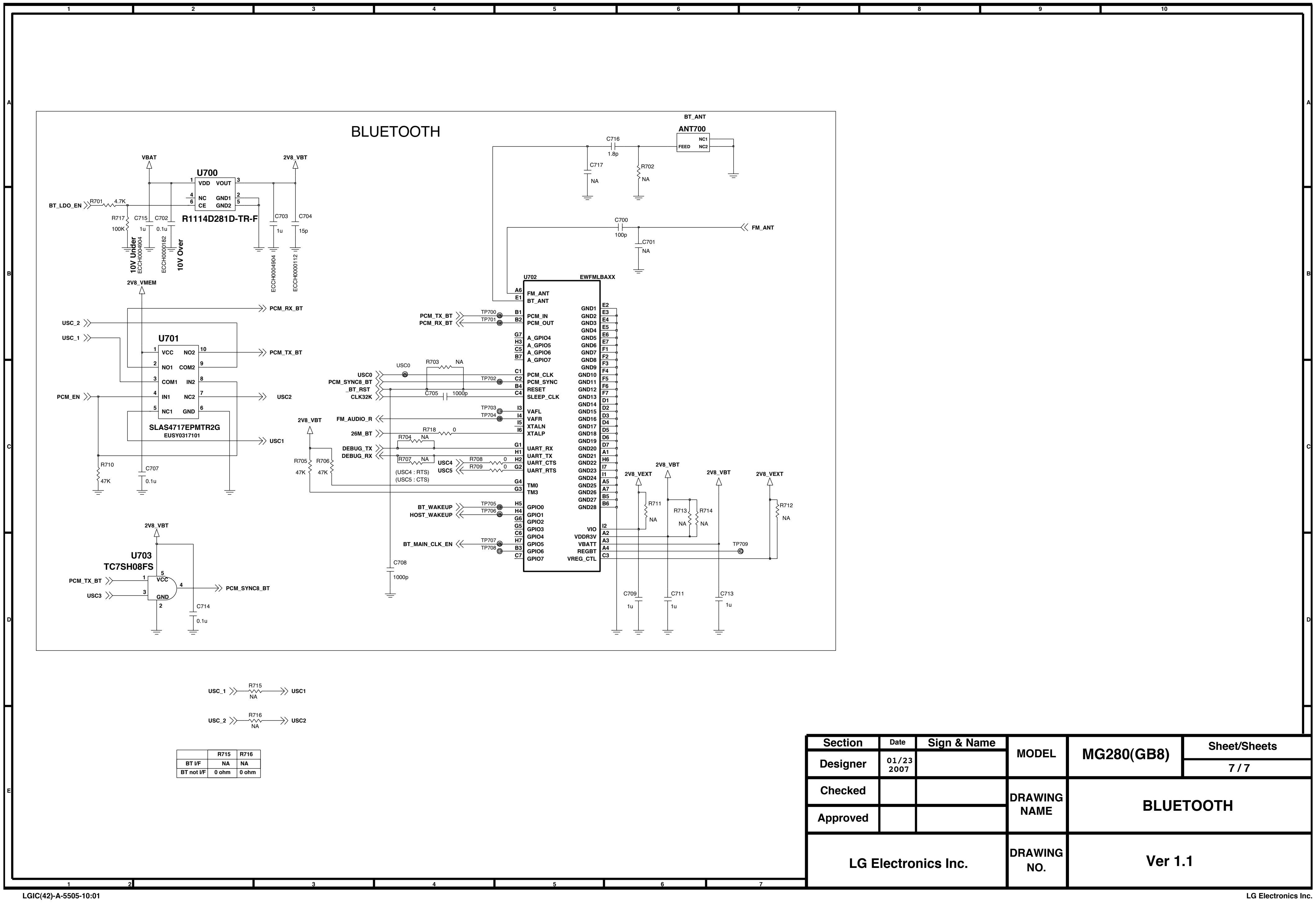
	ANT_SW1	ANT_SW2
GSM_TX	HIGH	LOW
DCS/PCS_TX	LOW	HIGH
GSM_RX	LOW	LOW
DCS_RX	LOW	LOW
PCS_RX	LOW	LOW

Section	Date	Sign & Name	MODEL	MG280(GB8)	Sheet/Sheets
Designer	01/23 2007				6 / 7
Checked			DRAWING NAME	RF	
Approved					
LG Electronics Inc.			DRAWING NO.	Ver 1.1	

LGIC(42)-A-5505-10:01

LG Electronics Inc.

7. Circuit Diagram



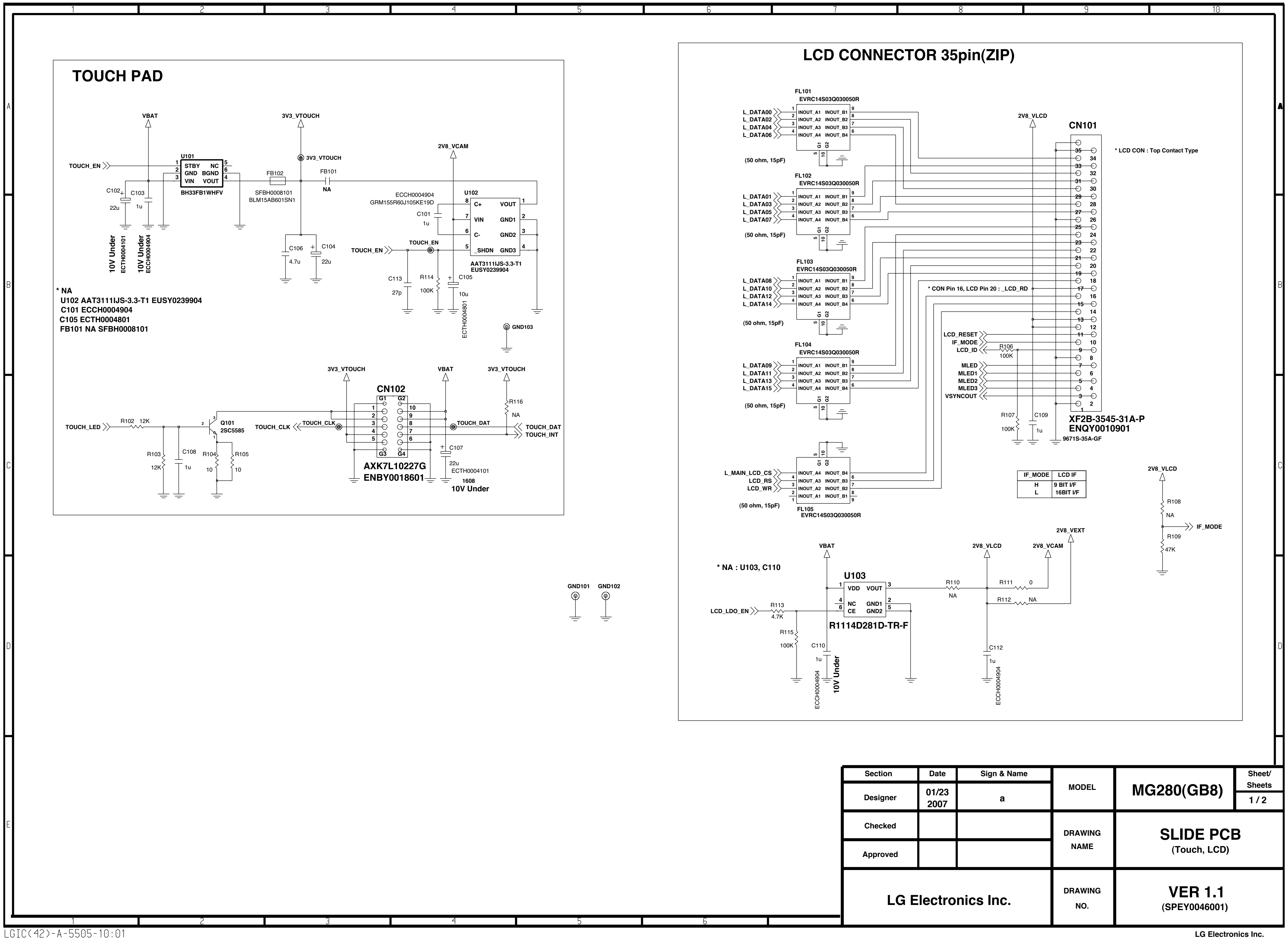
	R715	R716
BT I/F	NA	NA
BT not I/F	0 ohm	0 ohm

Section	Date	Sign & Name	MODEL	MG280(GB8)	Sheet/Sheets
Designer	01/23 2007				7 / 7
Checked			DRAWING NAME	BLUETOOTH	
Approved					
LG Electronics Inc.			DRAWING NO.	Ver 1.1	

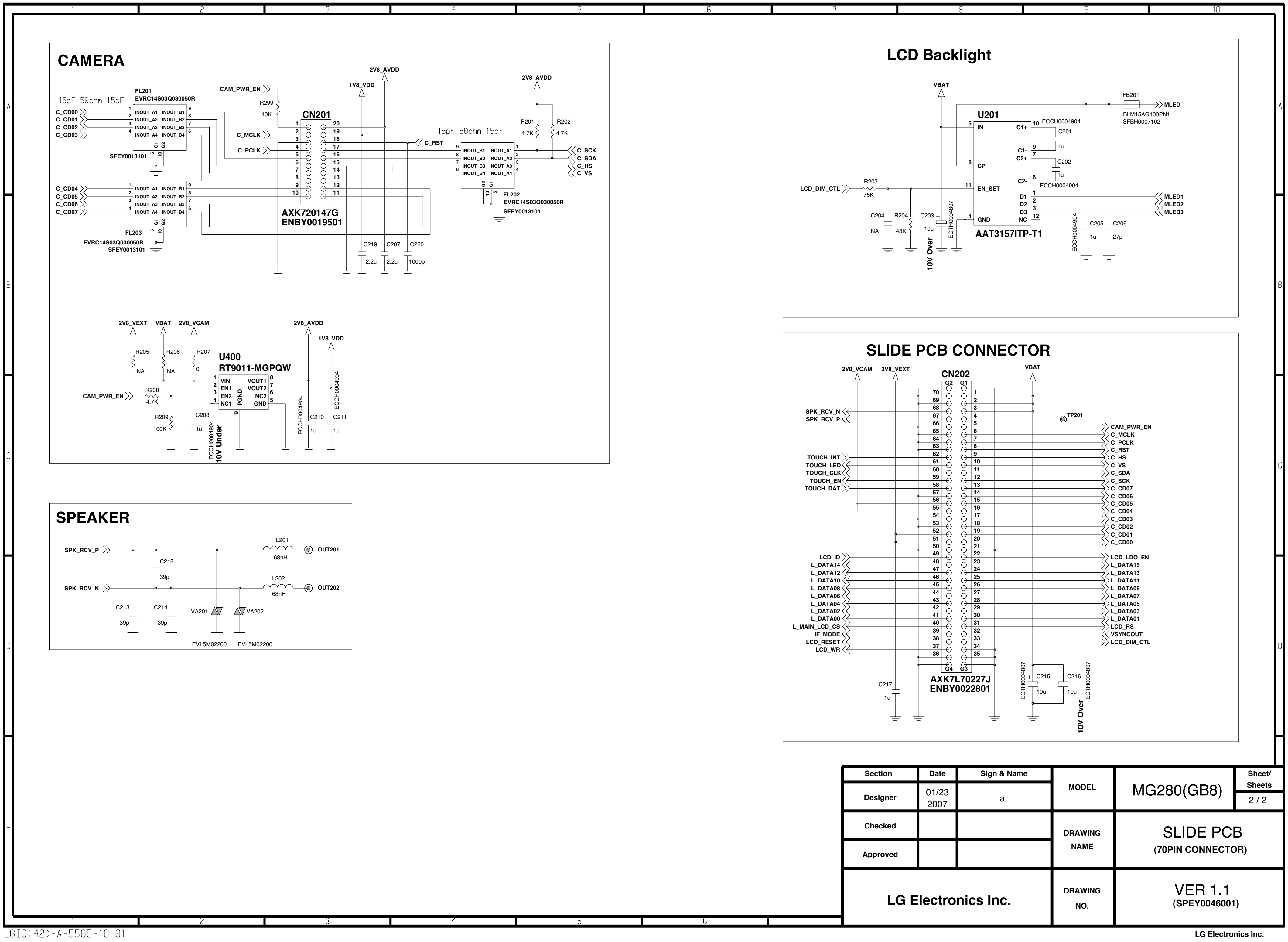
LGIC(42)-A-5505-10:01

LG Electronics Inc.

7. Circuit Diagram

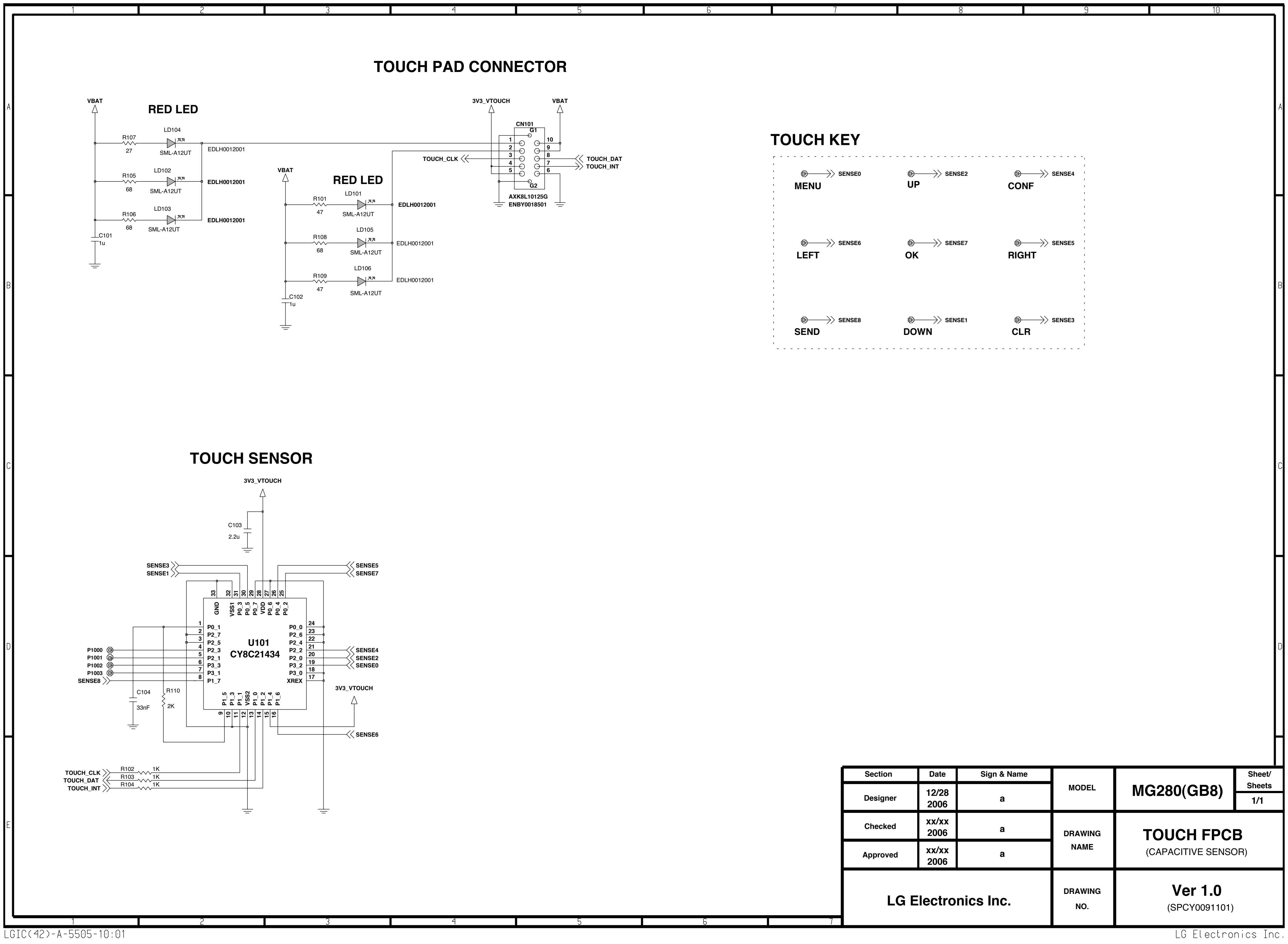


7. Circuit Diagram

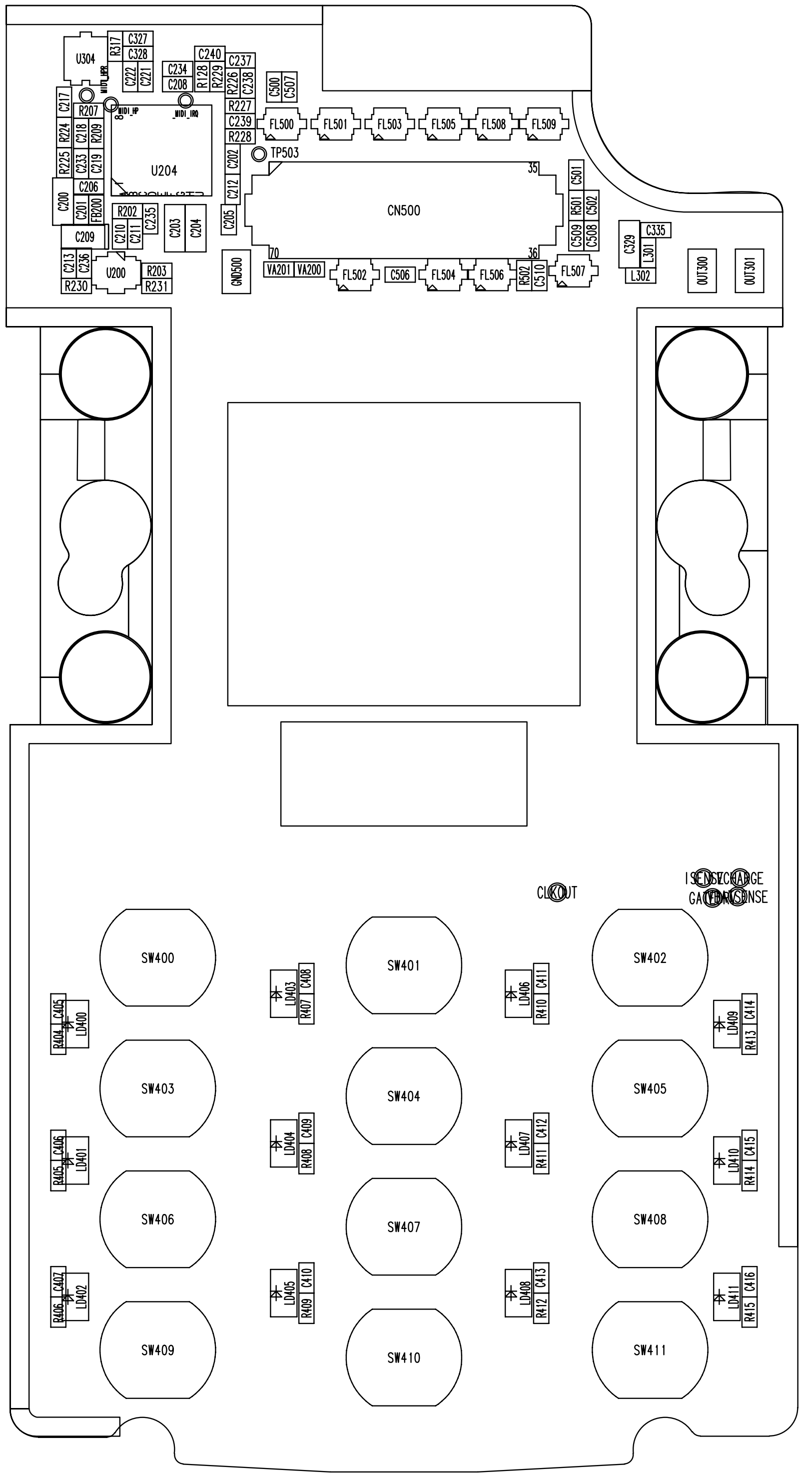


Section	Date	Sign & Name	MODEL	MG280(GB8)	Sheet/ Sheets
Designer	01/23 2007	a			2 / 2
Checked			DRAWING NAME	SLIDE PCB (70PIN CONNECTOR)	
Approved					
LG Electronics Inc.			DRAWING NO.	VER 1.1 (SPEY0046001)	

7. Circuit Diagram

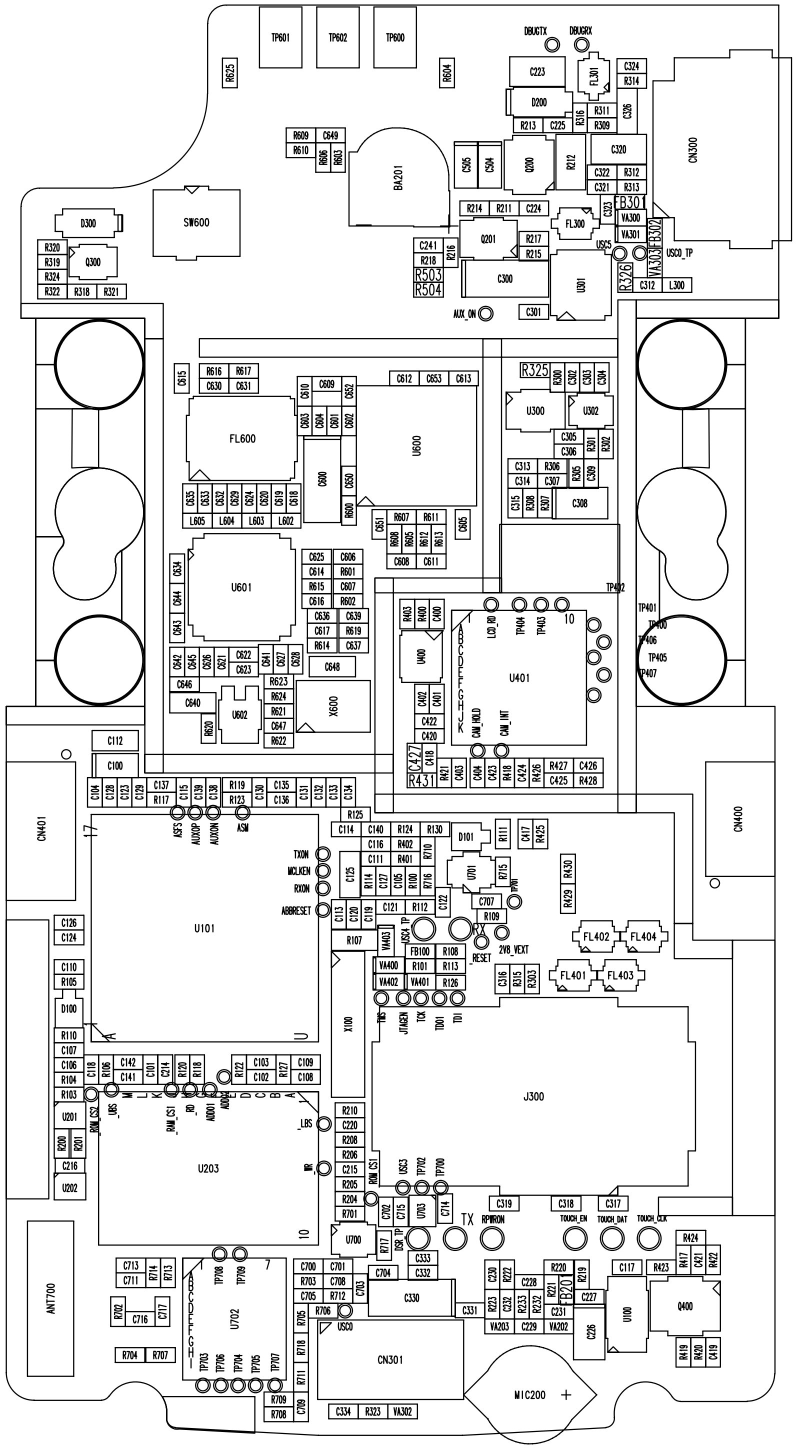


8. pcb layout



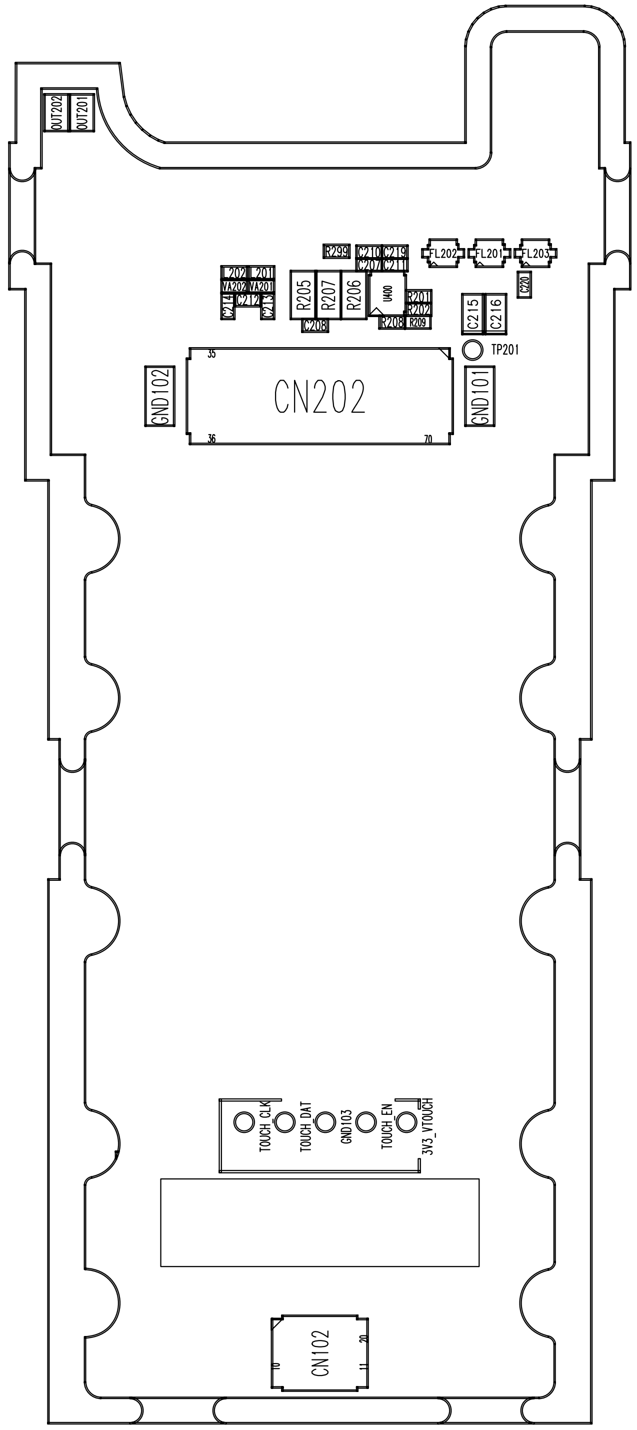
MG280c/d-SPFY0139201-1.1-TOP

8. pcb layout



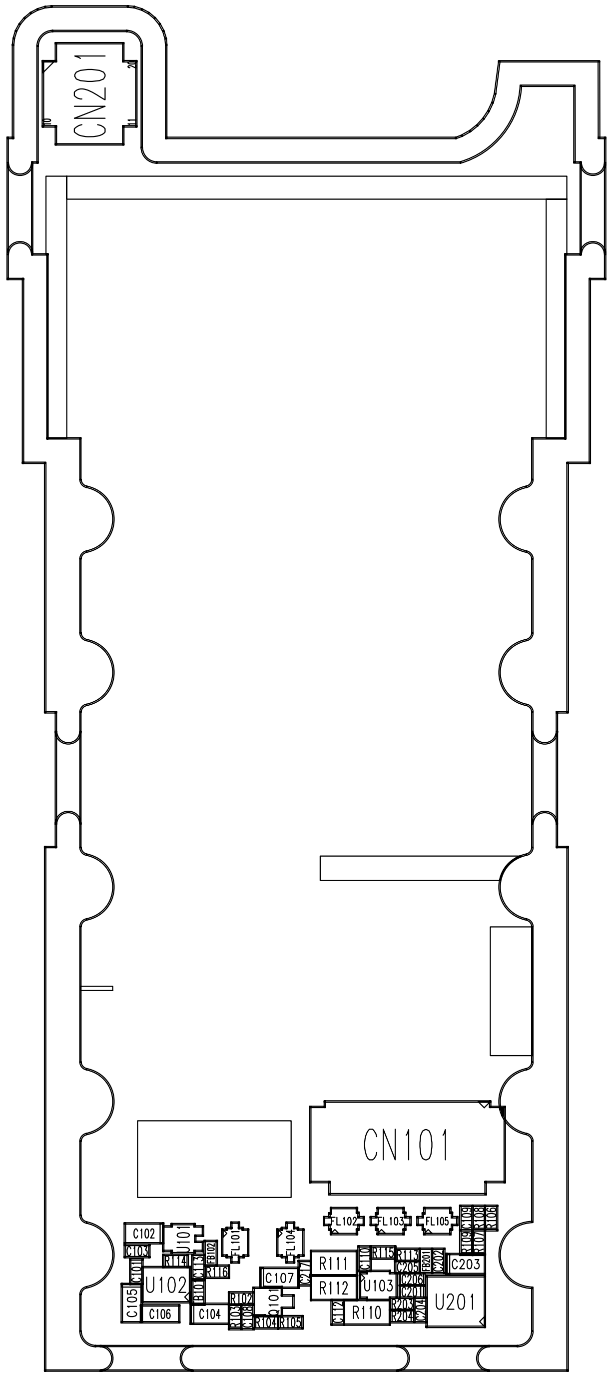
MG280c/d-SPFY0139201-1.1-BTM

8. pcb layout



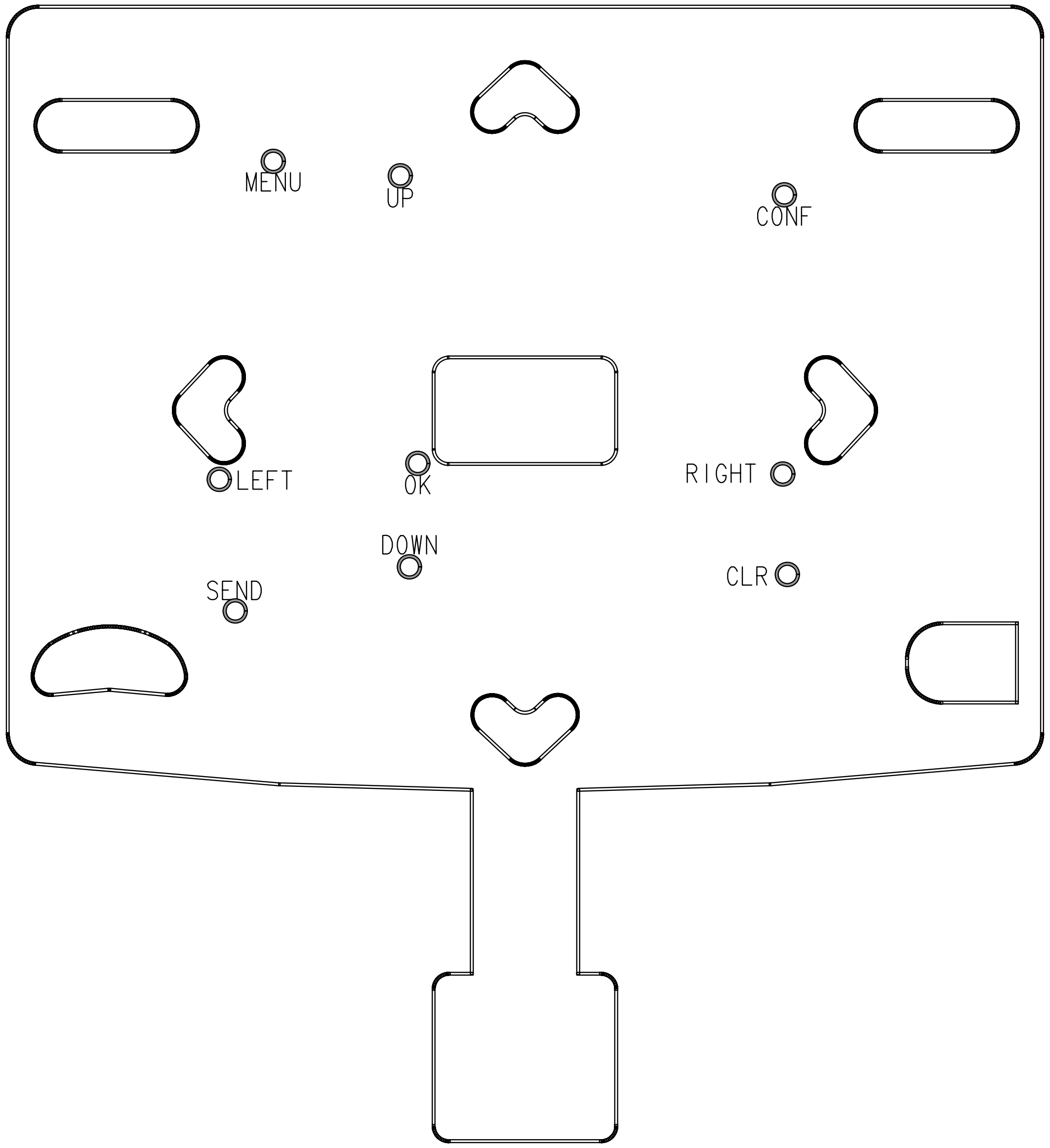
MG280c/d-SUB-SPEY0046001-1.1

8. pcb layout



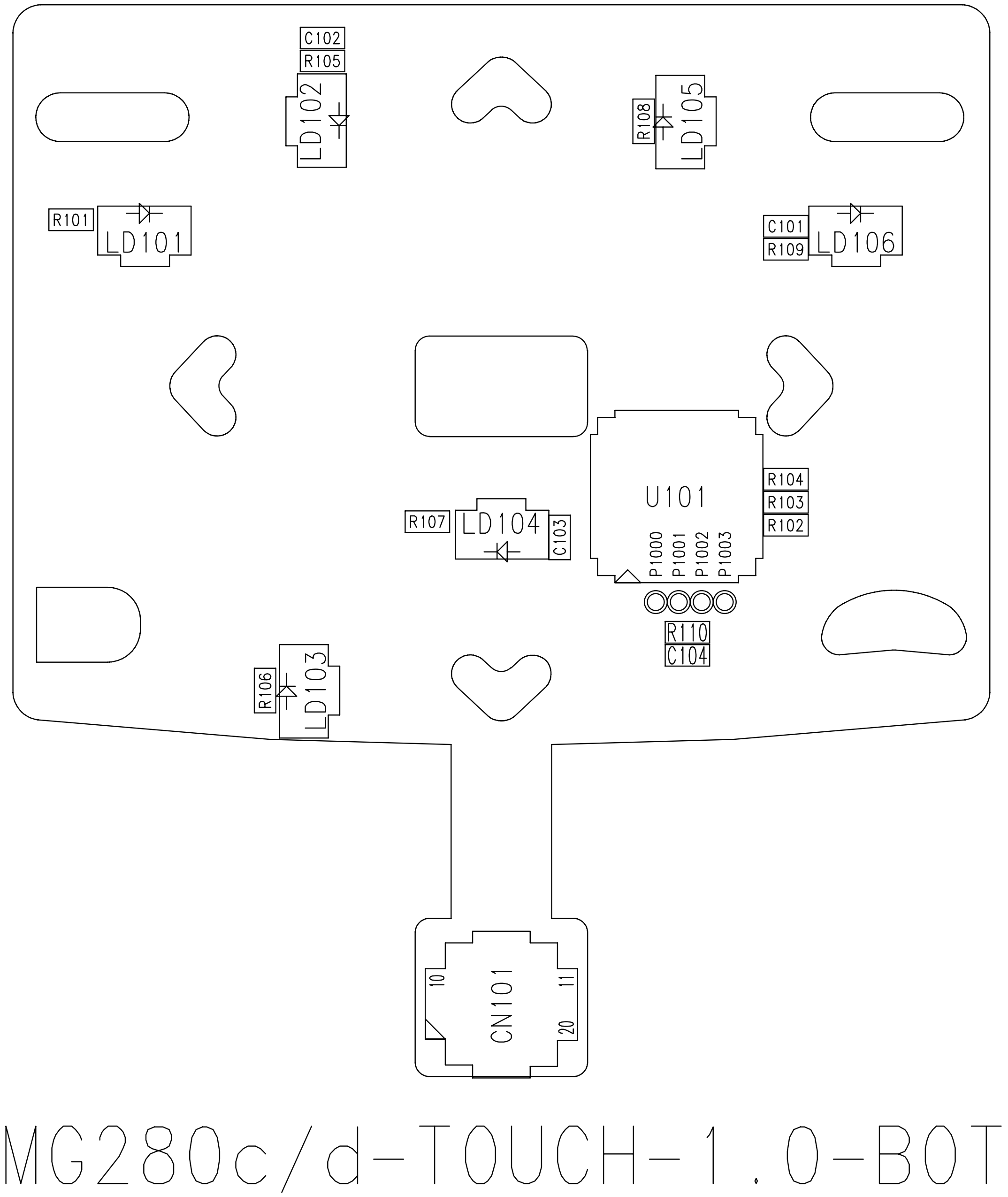
MG280c/d-SUB-SPEY0046001-1.1

8. pcb layout



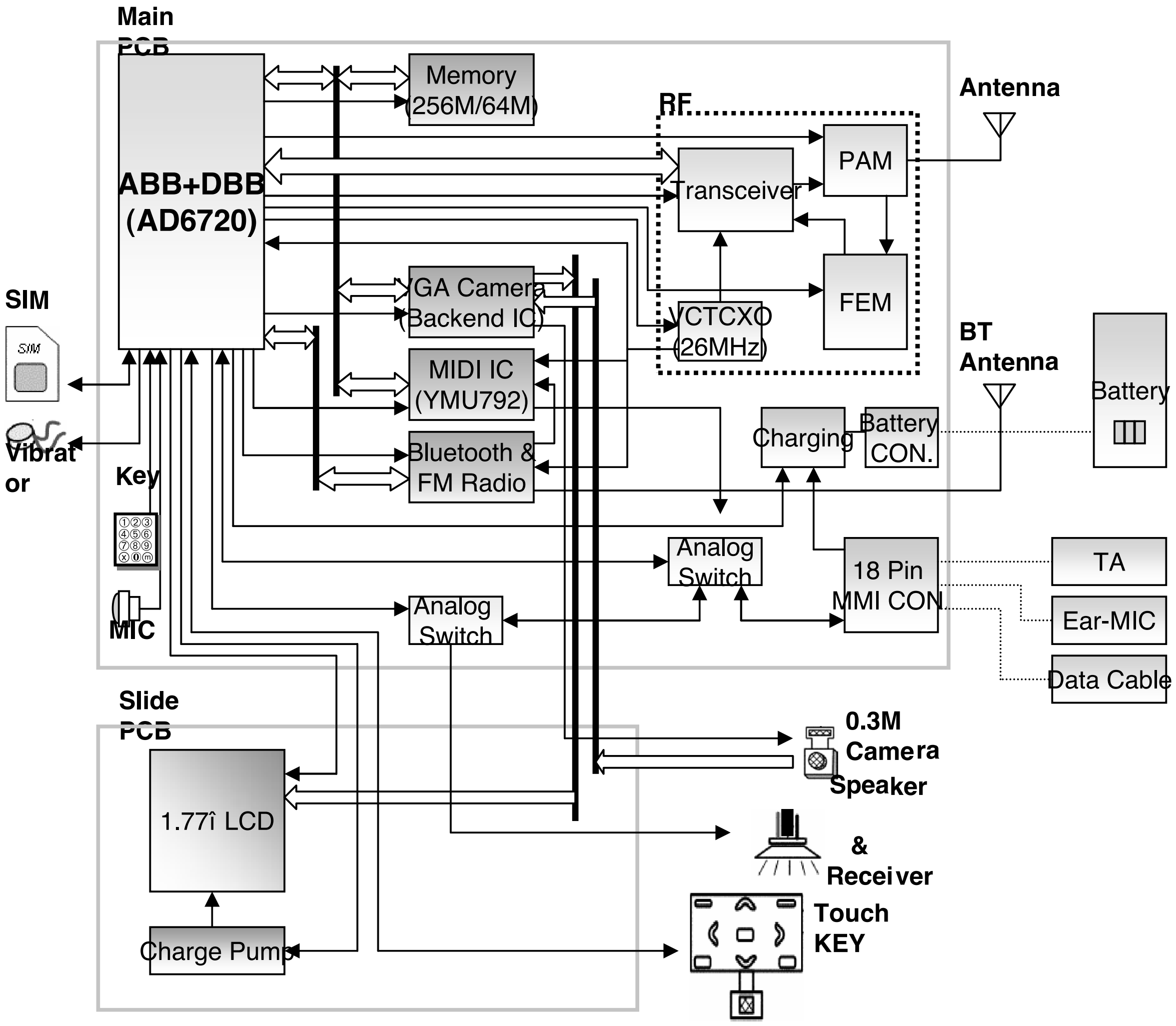
MG280c/d-TOUCH-1.0-TOP

8. pcb layout


C102
R105
LD102
R108
LD105
R101
LD101
C101
R109
LD106
R104
R103
R102
U101
R107
LD104
C103
P1000
P1001
P1002
P1003
R110
C104
R106
LD103
10
11
20
CN101
MG280c/d-TOUCH-1.0-BOT

6. BLOCK DIAGRAM

MG280 Block Diagram



9. ENGINEERING MODE

A. About Engineering Mode

Engineering mode is designed to allow a service man/engineer to view and test the basic functions provided by a handset.

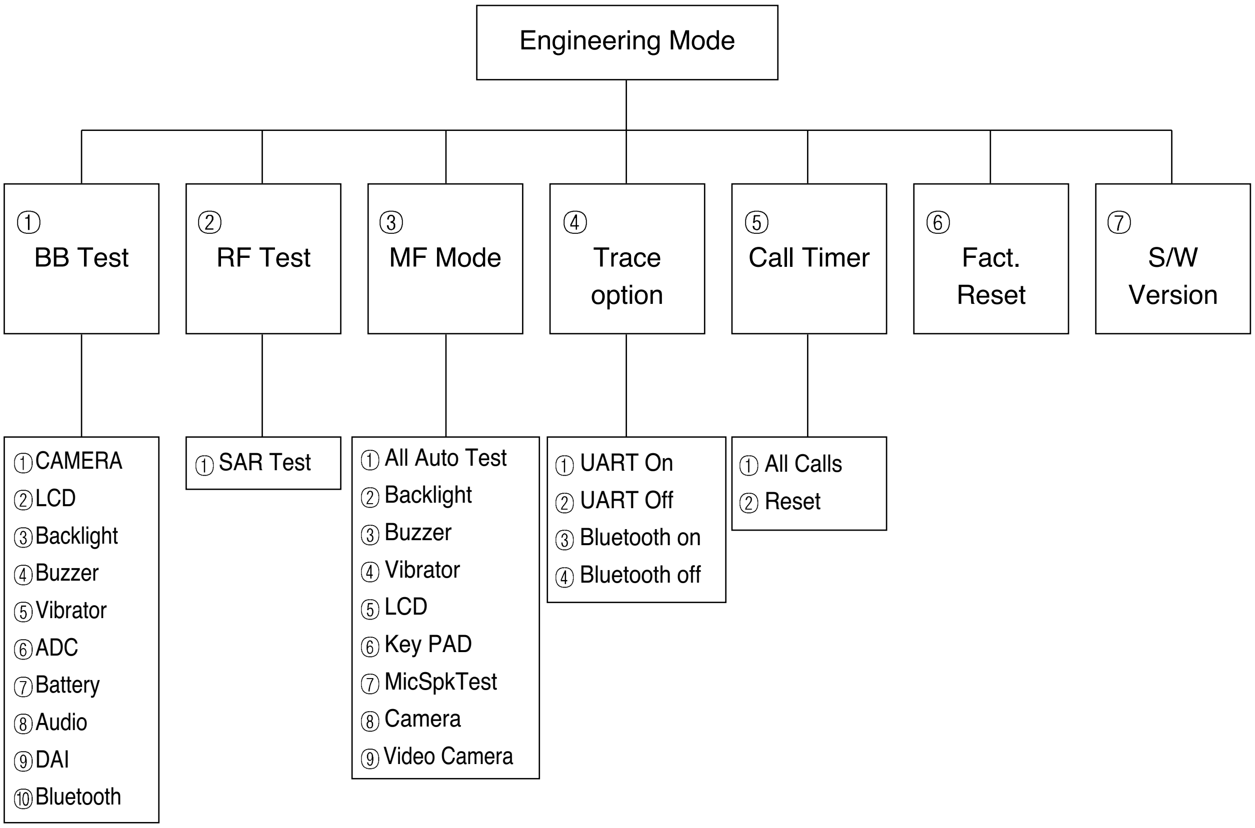
B. Access Codes

The key sequence for switching the engineering mode on is 2945#*#. Pressing END will switch back to non-engineering mode operation.

C. Key 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.

D. Engineering Mode Menu Tree



9. ENGINEERING MODE

9.1 BB Test [MENU 1]

9.1.1 CAMERA

This menu is to test the Camera.
1) Main LCD preview : It shows the picture on Main LCD.

9.1.2 LCD

1) COLOUR : WHITE, RED, GREEN, BLUE, BLACK
2) Contrast Value

9.1.3 Backlight

This menu is to test the LCD Backlight and Keypad EL Backlight.
1) Backlight on : LCD Backlight and Keypad EL Backlight light on at the same time.
2) Backlight off : LCD Backlight and Keypad EL Backlight light off at the same time.
3) Backlight value : This controls brightness of Backlight. When entering into the menu, the present backlight-value in the phone is displayed. Use Left/Right key to adjust the level of brightness. The value of the brightness set at last will be saved in the NVRAM.

9.1.4 Buzzer

This menu is to test the melody sound.
1) Melody on : Melody sound is played through the speaker.
2) Melody off : Melody sound is off.

9.1.5 Vibrator

This menu is to test the vibration mode.
1) Vibrator on : Vibration mode is on.
2) Vibrator off : Vibration mode is off.

9.1.6 ADC (Analog to Digital Converter)

This displays the value of each ADC.

1) MVBAT ADC : Main Voltage Battery ADC
2) AUX ADC : Auxiliary ADC
3) TEMPER ADC : Temperature ADC

9.1.7 BATTERY

1) Bat Cal : This displays the value of Battery Calibration. The following menus are displayed in order : BAT_LEV_4V, BAT_LEV_3_LIMIT, BAT_LEV_2_LIMIT, BAT_LEV_1_LIMIT, BAT_IDLE_LI MIT, BAT_INCALL_LIMIT, SHUT_DOWN_VOLTAGE, BAT_RECHARGE_LMT
2) TEMP Cal : This displays the value of Temperature Calibration. The following menus are displayed in order : TEMP_HIGH_LIMIT, TEMP_HIGH_RECHARGE_LMT, TEMP_LOW_RECHARGE_LMT, TEMP_LOW_LIMIT

9.1.8 Audio

This is a menu for setting the control register of Voiceband Baseband Codec chip.

Although the actual value can be written over, it returns to default value after switching off and on the phone.

1) VbControl1 : VbControl1 bit Register Value Setting
2) VbControl2 : VbControl2 bit Register Value Setting
3) VbControl3 : VbControl3 bit Register Value Setting
4) VbControl4 : VbControl4 bit Register Value Setting
5) VbControl5 : VbControl5 bit Register Value Setting
6) VbControl6 : VbControl6 bit Register Value Setting

9.1.0 DAI (Digital Audio Interface)

This menu is to set the Digital Audio Interface Mode for Speech Transcoder and Acoustic testing.

1) DAI AUDIO : DAI audio mode
2) DAI UPLINK : Speech encoder test
3) DAI DOWNLINK : Speech decoder test
4) DAI OFF : DAI mode off

9.2 RF Test [MENU 2]

9.2.1 SAR test

This menu is to test the Specific Absorption Rate.
1) SAR test on : Phone continuously process TX only. Call-setup equipment is not required.
2) SAR test off : TX process off

9.3 MF mode [MENU 3]

This manufacturing mode is designed to do the baseband test automatically. Selecting this menu will process the test automatically, and phone displays the previous menu after completing the test.

9.3.1 All auto test

LCD, Backlight, Vibrator, Buzzer, Key Pad, Mic&Speaker,

9.3.2 Backlight

LCD Backlight is on for about 1.5 seconds at the same time, then off.

9.3.3 Buzzer

This menu is to test the volume of Melody. It rings in the following sequence. Volume 1, Volume 2, Volume 3, Volume 0 (mute), Volume 4, Volume 5.

9.3.4 Vibrator

Vibrator is on for about 1.5 seconds.

9.3.5 LCD

1)LCD
Main LCD screen resolution tests horizontally and vertically one by one and fills the screen.

9.3.6 Key pad

When a pop-up message shows ‘Press Any Key’, you may press any keys including side keys, but not [Soft2 Key]. If the key is working properly, name of the key is displayed on the screen. Test will be completed in 15 seconds automatically.

9.3.7 MicSpk Test

The sound from MIC is recorded for about 3 seconds, then it is replayed on the speaker automatically.

9.3.8 Camera Test

This menu is to test camera(preview and capture automatically.)

9.3.9 Video Camera Test

This menu is to test video camera(record and play automatically.)

9.4 Trace option [MENU 4]

This is NOT a necessary menu to be used by neither engineers nor users.

9.5 Call timer [MENU 5]

This menu is to set the Digital Audio Interface Mode for Speech Transcoder and Acoustic testing.
1) All calls : This displays total conversation time. User cannot reset this value.
2) Reset settings : This resets total conversation time to this, [00:00:00].

9.6 Fact. Reset [MENU 6]

This Factory Reset menu is to format data block in the flash memory and this procedure set up the default value in data block.

Attention

① Fact. Reset (i.e.Factory Reset) should be only used during the Manufacturing process.
② Servicemen should NOT progress this menu, otherwise some of valuable data such as Setting value, RF Calibration data, etc. cannot be restored again.

9.7 S/W version

This displays software version stored in the phone.

10. STAND ALONE TEST

10.1 Introduction

This manual explains how to examine the status of RX and TX of the model.

A. Tx Test

TX test - this is to see if the transmitter of the phones is activating normally.

B. Rx Test

RX test - this is to see if the receiver of the phones is activating normally.

10.2 Setting Method

A. COM port

a. Move your mouse on the “Connect” button, then click the right button of the mouse and select “Com setting”.
b. In the “Dialog Menu”, select the values as explained below.
  - Port : select a correct COM port
  - Baud rate : 38400
  - Leave the rest as default values

B. Tx

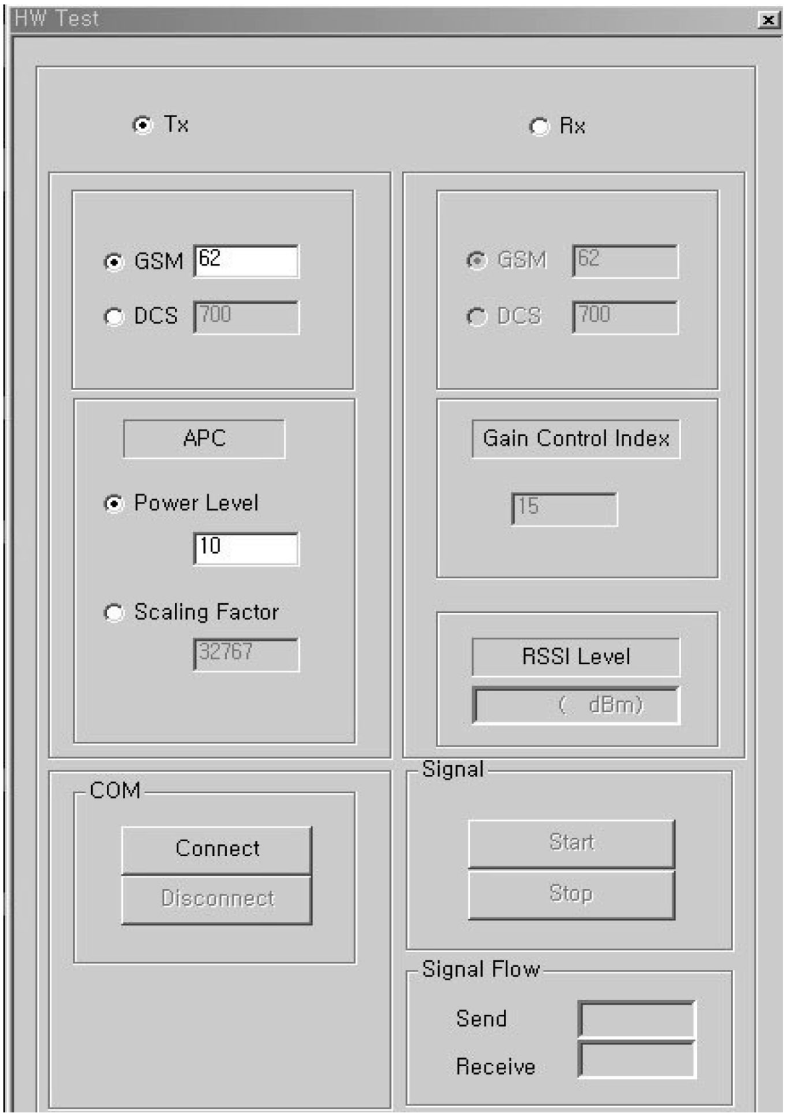
1. Selecting Channel
   - Select one of GSM or DCS Band and input appropriate channel.
2. Selecting APC
   a. Select either Power level or Scaling Factor.
   b. Power level
   - Input appropriate value GSM (between 5~19) or DCS (between 0~15)
   c. Scaling Factor
   - A ‘Ramp Factor’ appears on the screen.
   - You may adjust the shape of the Ramp or directly input the values.

C. Rx

1. Selecting Channel
   - Select one of GSM or DCS Band and input appropriate channel.
2. Gain Control Index (0~ 26) and RSSI level
   - See if the value of RSSI is close to -16dBm when setting the value between 0 ~ 26 in Gain Control Index.
   - Normal phone should indicate the value of RSSI close to -16dBm.

10.3 Means of Test

a. Select a COM port
b. Set the values in Tx or Rx
c. Select band and channel
d. After setting them all above, press connect button.
e. Press the start button



HW Test

● Tx ○ Rx

● GSM 62
○ DCS 700

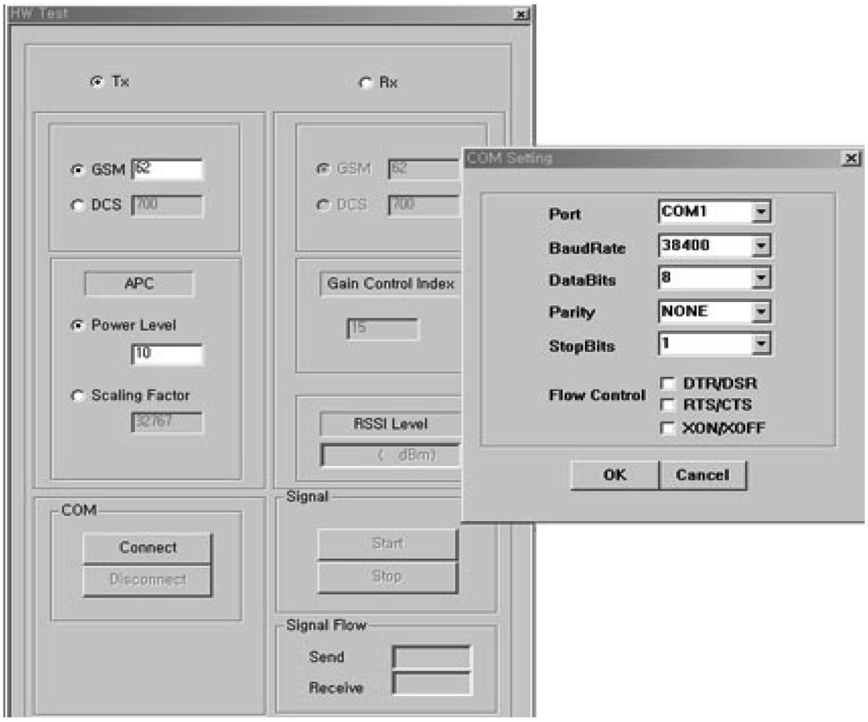
APC
● Power Level 10
○ Scaling Factor 32767

● GSM 62
○ DCS 700

Gain Control Index 15

RSSI Level (dBm)

Figure 10-1. HW test program



● Tx ○ Rx

● GSM 62

○ DCS 700

● Power Level 10

○ Scaling Factor 32767

Gain Control Index 15

RSSI Level (dBm)

Port COM1

BaudRate 38400

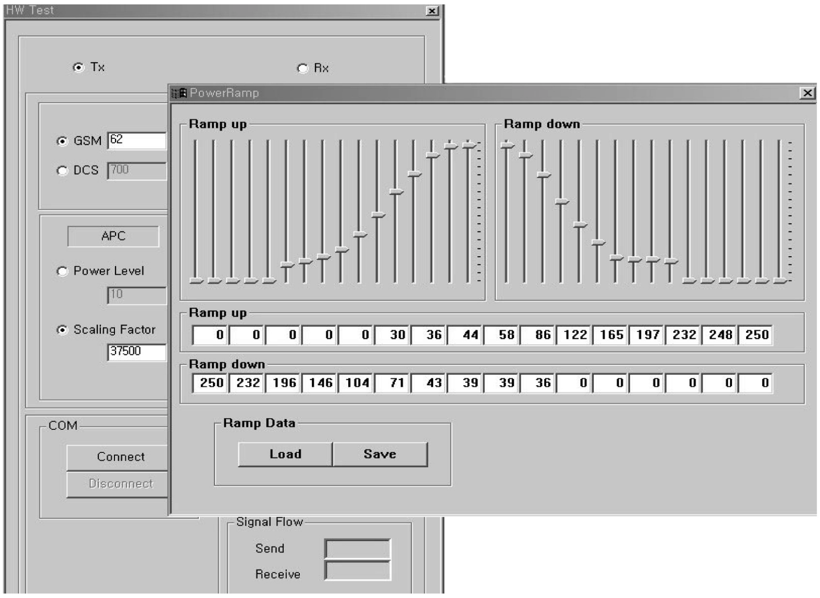
DataBits 8

Parity NONE

StopBits 1

Flow Control ☐ DTR/DSR ☐ RTS/CTS ☐ XON/XOFF

Figure 10-2. HW test setting



● Tx ○ Rx

● GSM 62

○ DCS 700

○ Power Level 10

● Scaling Factor 37500

Ramp up	0	0	0	0	0	30	36	44	58	86	122	165	197	232	248	250
Ramp down	250	232	196	146	104	71	43	39	39	36	0	0	0	0	0	0

Figure 10-3. Ramping profile

11. AUTO CALIBRATION

11.1 Overview

Auto-cal (Auto Calibration) is the PC side Calibration tool that perform Tx, Rx and Battery Calibration with Agilent 8960(GSM call setting instrument) and Tektronix PS2521G(Programmable Power supply). Auto-cal generates calibration data by communicating with phone and measuring equipment then write it into calibration data block of flash memory in GSM phone.

11.2 Equipment List

Equipment for Calibration	Type / Model	Brand
Wireless Communication Test Set	HP-8960	Agilent
RS-232 Cable and Test JIG		LG
RF Cable		LG
Power Supply	HP-66311B	Agilent
GPIO interface card	HP-GPIB	Agilent
Calibration & Final test software		LG
Test SIM Card		
PC (for Software Installation)	Pentium II class above 300MHz	

Table 11-1. Calibration Equipment List.

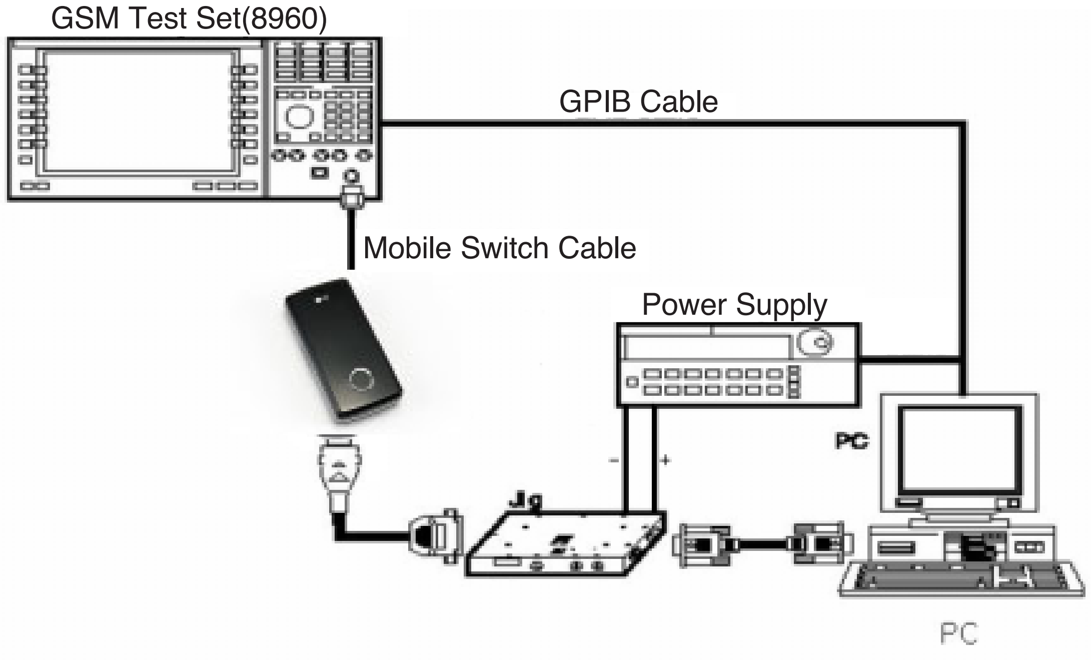


Figure 11-1. Equipment Setup

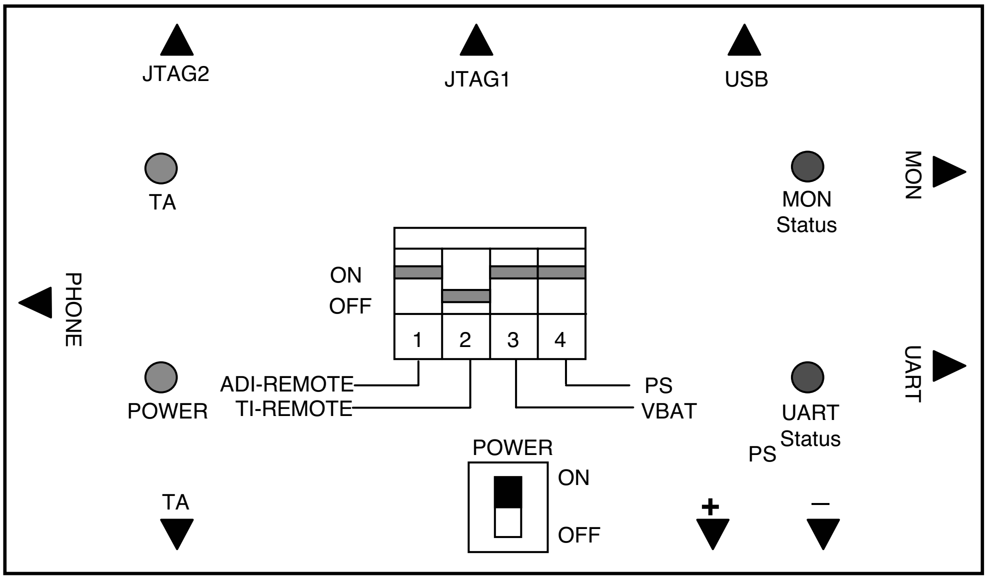


Figure 11-2 The top view of Test JIG

11.3 Test Jig Operation

Power Source	Description
Power Supply	Usually 4.0V

Table 11-2 Jig Power

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 11-3 Jig DIP Switch

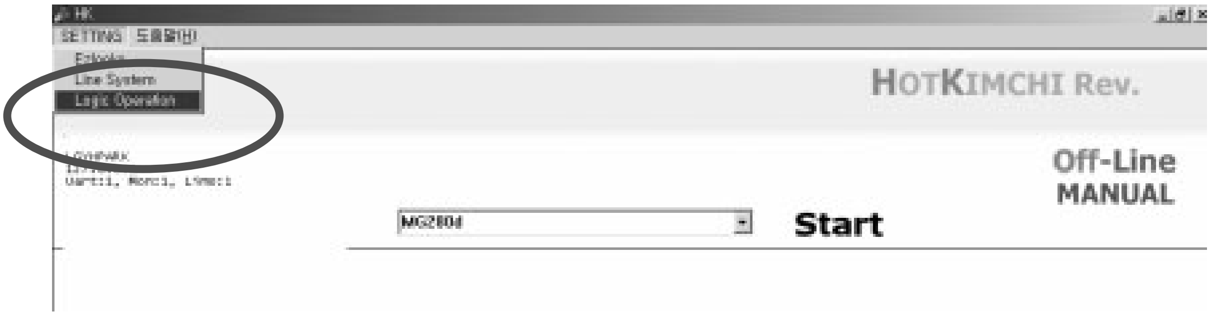
LED Number	Name	Description
LED 1	Power	Power is provided for Test Jig
LED 2	TA	Indicate charging state of the phone battery
LED 3	UART	Indicate data transfer state through the UART port
LED 4	MON	Indicate data transfer state through the MON port

Table 11-4 LED Description

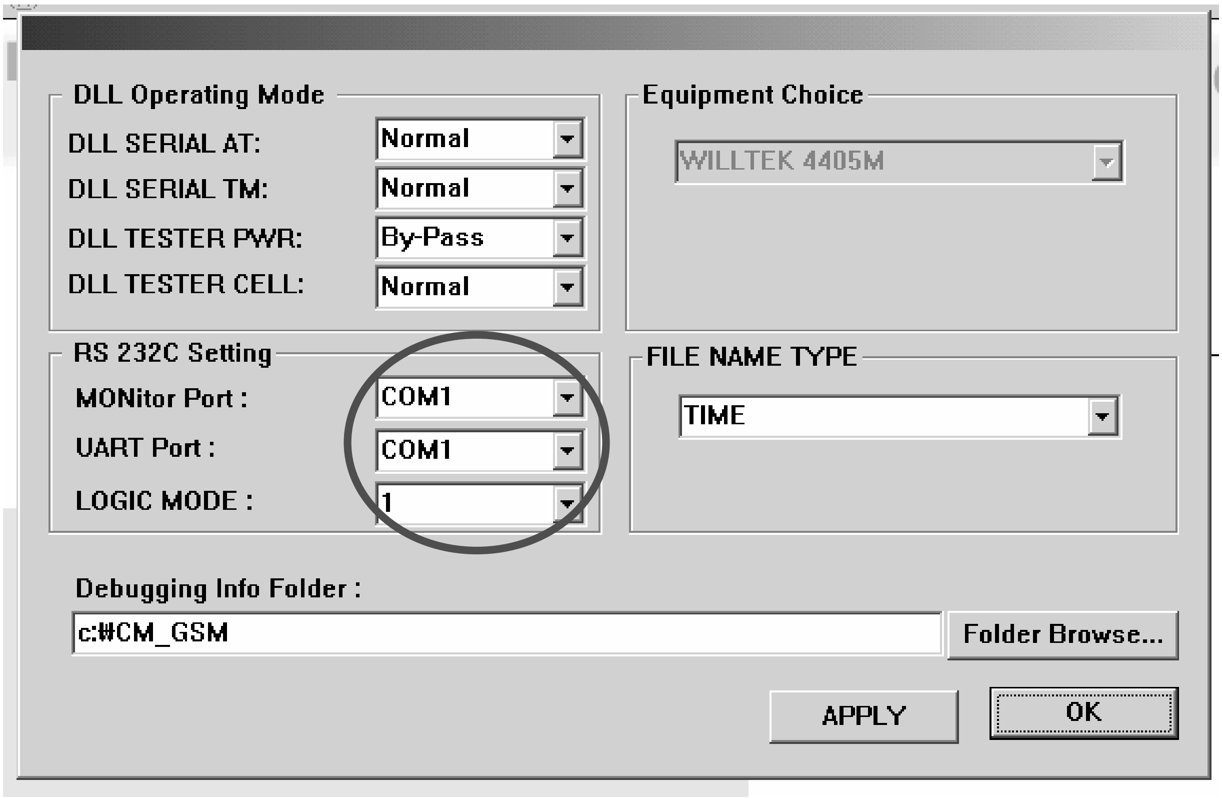
1. Connect as Fig 6-2(RS232 serial cable is connected between COM port of PC and MON port of TEST JIG, in general)
2. Set the Power Supply 4.0V
3. Set the 3rd, 4th of DIP SW ON state always
4. Press the Phone power key, if the Remote ON is used, 1st ON state

11.4 Procedure

1. Connect as Fig 11-2 (RS232 serial cable is connected between COM port of PC and MON port of TEST JIG, in general.)
2. Run *HK_26.exe* to start calibration.
3. From the Calibration SETTING->Logic Operation menu



4. Set PORT COM1(useing RS232 cable) & Logic Mode 1



DLL Operating Mode

DLL SERIAL AT: Normal

DLL SERIAL TM: Normal

DLL TESTER PWR: By-Pass

DLL TESTER CELL: Normal

Equipment Choice: WILLTEK 4405M

RS 232C Setting

MONitor Port : COM1

UART Port : COM1

LOGIC MODE : 1

FILE NAME TYPE: TIME

Debugging Info Folder : c:₩CM_GSM

5. Select MG280 and then Click Start

```
LGYHPARK
127.0.0.1
Uart:1, Mon:1, Limo:1
```

MG280d

11.5 AGC

This procedure is for Rx calibration.
In this procedure, We can get RSSI correction value. Set band EGSM and press Start button the result window will show correction values per every power level and gain code and the same measure is performed per every frequency.

11.6 APC

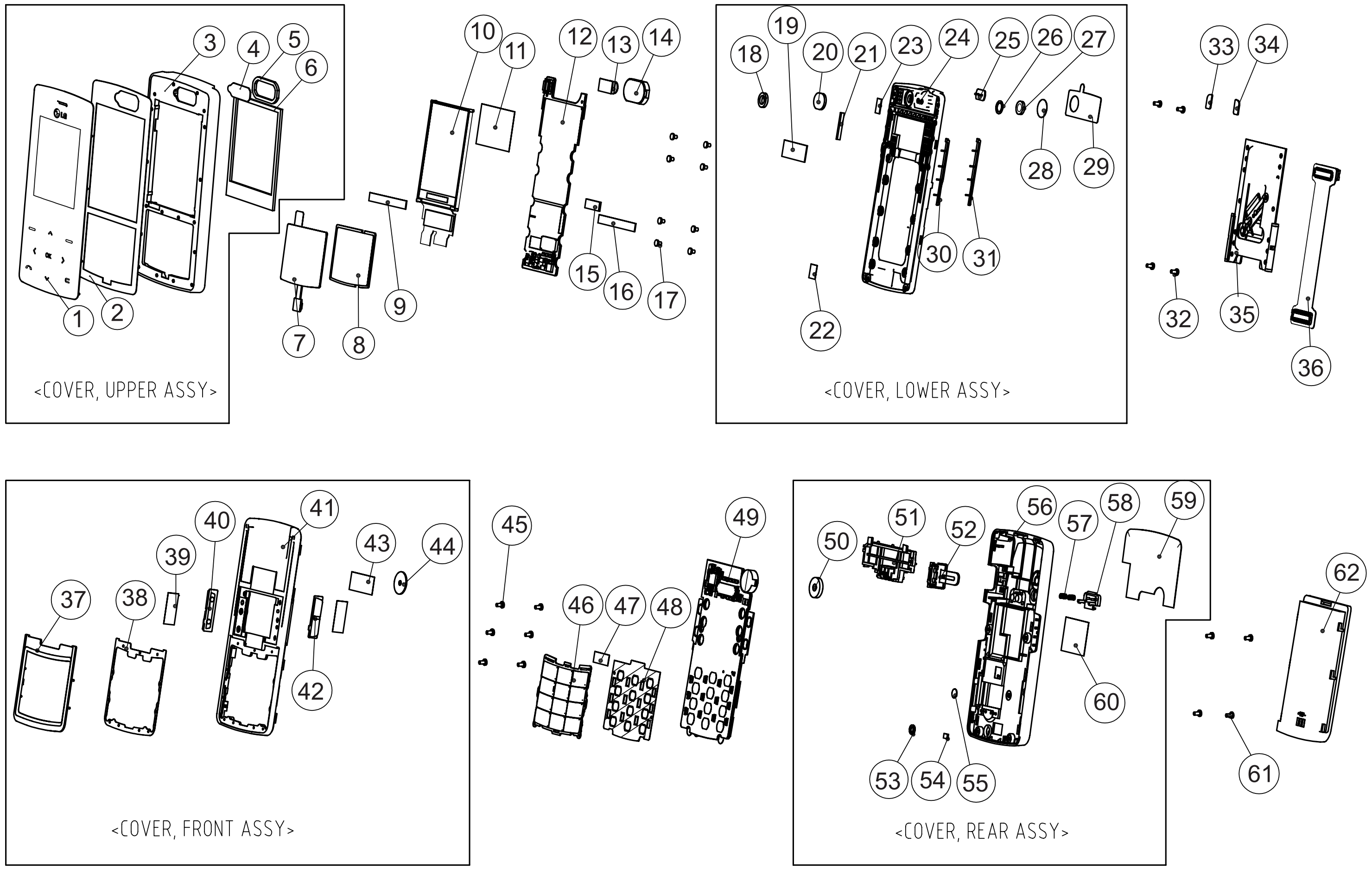
This procedure is for Tx calibration.
In this procedure you can get proper scale factor value and measured power level.

11.7 ADC

This procedure is for battery calibration.
You can get main Battery Config Table and temperature Config Table will be reset.

12. EXPLODED VIEW & REPLACEMENT PART LIST

12.1 EXPLODED VIEW



NO.	PART NAME	Q'TY	DRAWING NO.	REMARK
62	BATTERY PACK, LI-POLYMER	1	SBPP0022101-MP	
61	SCREW MACHINE, BIND	4	GMEY0012901-MP	
60	LABEL, MODEL	1	MLAK0015502-MP	
59	TAPE, PROTECTION	1	MTAB0146201-MP	
58	LOCKER, BATTERY	1	MLEA0036301-MP	
57	SPRING, LOCKER	2	MSDC0015601-MP	
56	COVER, REAR	1	MCJN0061401-MP	
55	A/S LABEL	1	MLAB0001102-MP	
54	REAR GASKET SHIELDFORM	1	MGAD0136101-MP	
53	PAD, MIC	1	MPBH0027401-MP	
52	Cap, Receptacle	1	MCCE0034201-MP	
51	GSM, ANTEN, FIEXD	1	SNGF0021601-MP	
50	PAD, MOTOR	1	MPBJ0038901-MP	
49	PCB ASSY, MAIN	1	SAFY0198701-MP	
48	DOME ASSY, METAL	1	ADCA0060601-MP	
47	GASKET SHIELD FOAM	1	MGAD0138301-MP	
46	BUTTON, DIAL	1	MBJA0022801-MP	
45	SCREW MACHINE, BIND	6	GMEY0010401-MP	
44	PAD, MOTOR	1	MPBJ0038801-MP	
43	INSULATOR	1	MIDZ0132701-MP	
42	BUTTON, FUNCTION	1	MBJC0021201-MP	
41	COVER FRONT	1	MCJK0066101-MP	
40	BUTTON, VOLUME	1	MBJN0010901-MP	
39	INSULATOR	2	MIDZ0116801-MP	
38	TAPE, DECO	1	MTAA0128501-MP	
37	DECO, FRONT	1	MDAG0024401-MP	
36	PCB ASSY, FLEXIBLE	1	SACY0055901-MP	
35	RAIL	1	MIDZ00116801-MP	
34	CAP, SCREW (L)	1	MCCH0098601-MP	
33	CAP, SCREW (R)	1	MCCH0098701-MP	
32	SCREW MACHINE, BIND	4	GMEY0012901-MP	
31	GUIDE, SLIDE L	1	MGDA0006701-MP	
30	GUIDE, SLIDE R	1	MGDB0002701-MP	
29	TAPE, PROTECTION (DECO)	1	MTAB0145601-MP	
28	TAPE, PROTECTION (CAMERA)	1	MTAB0145501-MP	
27	WINDOW, CAMERA	1	MWAE0022601-MP	
26	TAPE, WINDOW	1	MTAD0061901-MP	
25	DECO, CAMERA	1	MDAD0027401-MP	
24	COVER, SLIDE (LOWER)	1	MCJV0009101-MP	
23	PAD (CAMERA CONN.)	1	MPBZ0179201-MP	
22	INSULATOR	1	MIDZ0132601-MP	
21	MAGNET, SWITCH	1	MMAA0005201-MP	
20	PAD (SPEAKER)	1	MPBN0036801-MP	
19	PAD (FPCB CONN.)	1	MPBZ0163701-MP	
18	PAD, CAMERA	1	MPBT0036401-MP	
17	SCREW MACHINE, BIND	8	GMEY0013402-MP	
16	GASKET SHIELD FOAM	1	MGAD0137101-MP	
15	PAD	1	MPBZ0185201-MP	
14	SPEAKER	1	SUSY0025301-MP	
13	CAMERA MODULE	1	SVCY0012601-MP	
12	PCB ASSY, KEYPAD	1	SAEY0053601-MP	
11	INSULATOR	1	MIDZ0126101-MP	
10	LCD, MODULE	1	SVLM0023001-MP	
9	PAD, LCD	1	MPBG0060001-MP	
8	PLATE, LIGHT GUIDE	1	MPFL0001501-MP	
7	PCB ASSY, FLEXIBLE	1	SACY0055801-MP	
6	PAD, LCD	1	MPBG0054601-MP	
5	PAD, SPEAKER	1	MPBN0036901-MP	
4	FILTER, SPEAKER	1	MFBC0027901-MP	
3	COVER, SLIDE (UPPER)	1	MCJW0010801-MP	
2	TAPE, WINDOW	1	MTAD0062101-MP	
1	WINDOW, LCD	1	AWAZ0010001-MP	

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	Spec	Color	Remark
1		GSM(SLIDE)	TGLL0007002		Black	
2	AAAY00	ADDITION	AAAY0167052		Black	
2	APEY00	PHONE	APEY0379601		Black	
3	ACGM00	COVER ASSY,REAR	ACGM0084401		Black	
4	MCCE00	CAP,RECEPTACLE	MCCE0034201	COMPLEX, (empty), , , , ,	Black	51
4	MCJN00	COVER,REAR	MCJN0061401	MOLD, PC LUPOY SC-1004A, , , , ,	Black	55
4	MGAD00	GASKET,SHIELD FORM	MGAD0136101	COMPLEX, (empty), , , , ,	Without Color	53
4	MLAB00	LABEL,A/S	MLAB0001102	C2000 USASV DIA 4.0	White	54
4	MLEA00	LOCKER,BATTERY	MLEA0036301	MOLD, PC LUPOY SC-1004A, , , , ,	Black	57
4	MPBH00	PAD,MIKE	MPBH0027401	COMPLEX, (empty), , , , ,	Without Color	52
4	MPBJ00	PAD,MOTOR	MPBJ0038901		Without Color	39,49
4	MSDC00	SPRING,LOCKER	MSDC0015601	COMPLEX, (empty), , , , ,	Silver	56
4	MTAB00	TAPE,PROTECTION	MTAB0146201		Without Color	98
4	SNGF00	ANTENNA,GSM,FIXED	SNGF0021601	3.0 ,-2.0 dBd,, ,internal, GSM850/900/1800/1900 ,; ,TRIPLE ,-2.0 ,50 ,3.0		50
3	ACGQ00	COVER ASSY,SLIDE	ACGQ0014301		Black	
4	ACGK00	COVER ASSY,FRONT	ACGK0082401		Black	
5	MBJC00	BUTTON,FUNCTION	MBJC0021201	COMPLEX, (empty), , , , ,	Black	42
5	MBJN00	BUTTON,VOLUME	MBJN0010901	COMPLEX, (empty), , , , ,	Black	40
5	MCJK00	COVER,FRONT	MCJK0066101	MOLD, PC LUPOY SC-1004A, , , , ,	Black	41
5	MDAG00	DECO,FRONT	MDAG0024401	MOLD, POM LUCEL FW-700A, , , , ,	Black	37
5	MGAD00	GASKET,SHIELD FORM	MGAD0132201	COMPLEX, (empty), , , , ,	Without Color	43
5	MIDZ00	INSULATOR	MIDZ0116801	COMPLEX, (empty), , , , ,	Without Color	39
5	MPBJ00	PAD,MOTOR	MPBJ0038801	COMPLEX, (empty), , , , ,	Without Color	44
5	MTAA00	TAPE,DECO	MTAA0128501	COMPLEX, (empty), , , , ,	Without Color	38
4	ACGR00	COVER ASSY,SLIDE(LOWER)	ACGR0009001		Black	
5	MCJV00	COVER,SLIDE(LOWER)	MCJV0009101	MOLD, PC LUPOY SC-1004A, , , , ,	Black	28
5	MDAD00	DECO,CAMERA	MDAD0027401	MOLD, ABS AF-308, , , , ,	Black	30
5	MGDA00	GUIDE,LEFT	MGDA0006701	MOLD, POM LUCEL FW-700A, , , , ,	Black	36
5	MGDB00	GUIDE,RIGHT	MGDB0002701	MOLD, POM LUCEL FW-700A, , , , ,	Black	35
5	MMAA00	MAGNET,SWITCH	MMAA0005201		Metal Silver	26
5	MPBN00	PAD,SPEAKER	MPBN0036801	COMPLEX, (empty), , , , ,	Without Color	25
5	MPBT00	PAD,CAMERA	MPBT0036401	COMPLEX, (empty), , , , ,	Without Color	23
5	MPBZ00	PAD	MPBZ0163701	COMPLEX, (empty), , , , ,	Without Color	24
5	MPBZ02	PAD	MPBZ0179201	COMPLEX, (empty), , , , ,	Black	29
5	MPBZ03	PAD	MPBZ0163801	COMPLEX, (empty), , , , ,	Without Color	27
5	MTAB00	TAPE,PROTECTION	MTAB0145501	COMPLEX, (empty), , , , ,	Black	33

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Color	Remark
5	MTAB01	TAPE,PROTECTION	MTAB0145601	COMPLEX, (empty), , , , ,	Black	34
5	MTAD00	TAPE,WINDOW	MTAD0061901	COMPLEX, (empty), , , , ,	Black	31
5	MWAE00	WINDOW,CAMERA	MWAE0022601	CUTTING, PMMA MR 200, , , , ,	Transparent	32
4	ACGS00	COVER ASSY,SLIDE(UPPER)	ACGS0010201		Black	
5	AWAZ00	WINDOW ASSY	AWAZ0010001		Black	
6	BFAA00	FILM,INMOLD	BFAA0049001	; ,[empty] , , ,	Without Color	
6	MWAC00	WINDOW,LCD	MWAC0074501	CUTTING, Quartz Glass, , , , ,	Without Color	1
5	MCJW00	COVER,SLIDE(UPPER)	MCJW0010801	MOLD, PC LUPOY SC-1004A, , , , ,	Black	3
5	MFBC00	FILTER,SPEAKER	MFBC0027901	COMPLEX, (empty), , , , ,	Without Color	6
5	MPBG00	PAD,LCD	MPBG0054601	COMPLEX, (empty), , , , ,	Without Color	5
5	MPBN00	PAD,SPEAKER	MPBN0036901		Without Color	7
5	MTAD00	TAPE,WINDOW	MTAD0062101	COMPLEX, (empty), , , , ,	Without Color	2
5	MWAC00	WINDOW,LCD	MWAC0074501	CUTTING, Quartz Glass, , , , ,	Without Color	1
4	GMEY00	SCREW MACHINE,BIND	GMEY0012901	1.4 mm,2.5 mm,MSWR3 ,B ,+ ,	Silver	20,59
4	GMEY01	SCREW MACHINE,BIND	GMEY0013402	1.4 mm,1.8 mm,MSWR3(BK) ,B ,+ ,HEAD t=0.6, HEAD d2.7 1.4 mm,1.8 mm,MSWR3(SV) ,B ,+ ,HEAD t=0.6, HEAD d2.7	Silver	21
4	GMEY02	SCREW MACHINE,BIND	GMEY0010401	1.4 mm,2 mm,MSWR3(FN) ,N ,+ ,NYLOK	Silver	
4	MCCH00	CAP,SCREW	MCCH0098601	MOLD, PC LUPOY HI-1002ML, , , , ,	Black	19
4	MCCH01	CAP,SCREW	MCCH0098701		Black	18
4	MGAD00	GASKET,SHIELD FORM	MGAD0137101	COMPLEX, (empty), , , , ,	Black	16
4	MIDZ00	INSULATOR	MIDZ0126101	COMPLEX, (empty), , , , ,	Black	10
4	MPBG00	PAD,LCD	MPBG0060001	COMPLEX, (empty), , , , ,	Without Color	14
4	MPBZ00	PAD	MPBZ0185201	COMPLEX, (empty), , , , ,	Without Color	15
4	MPFL00	PLATE,LIGHT GUIDE	MPFL0001501	MOLD, PC LUPOY SC-1004A, , , , ,	Black	8
4	MRAY00	RAIL	MRAY0003501	SLIDE HINGE RAIL	Black	
4	MTAB00	TAPE,PROTECTION	MTAB0146001		Without Color	
3	GMEY00	SCREW MACHINE,BIND	GMEY0012901	1.4 mm,2.5 mm,MSWR3 ,B ,+ ,	Silver	20,59
3	MBJA00	BUTTON,DIAL	MBJA0022801	COMPLEX, (empty), , , , ,	Black	45
3	MCCF00	CAP,MOBILE SWITCH	MCCF0040901	COMPLEX, (empty), , , , ,	Black	
3	MLAK00	LABEL,MODEL	MLAK0015502		White	
5	ADCA00	DOME ASSY,METAL	ADCA0060601		Black	47
5	MGAD00	GASKET,SHIELD FORM	MGAD0138301	COMPLEX, (empty), , , , ,	Without Color	46
5	MLAZ00	LABEL	MLAZ0038301	PID Label 4 Array	Without Color	

<Main component>

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

Level	Location No.	Description	Part Number	Spec	Color	Remark
4	SACY00	PCB ASSY,FLEXIBLE	SACY0055801			4
5	SACE00	PCB ASSY,FLEXIBLE,SMT	SACE0050401			
6	SACC00	PCB ASSY,FLEXIBLE,SMT BOTTOM	SACC0030401			
7	C101	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
7	C102	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
7	C103	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		
7	C104	CAP,CERAMIC,CHIP	ECCH0000161	33 nF,16V,K,X7R,HD,1005,R/TP		
7	CN101	CONNECTOR,BOARD TO BOARD	ENBY0018501	10 PIN,.4 mm,STRAIGHT , ,H=0.9,HEADER		
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	LD103	DIODE,LED,CHIP	EDLH0012001	RED ,ETC ,R/TP ,side view(PB-FREE)		
7	LD104	DIODE,LED,CHIP	EDLH0012001	RED ,ETC ,R/TP ,side view(PB-FREE)		
7	LD105	DIODE,LED,CHIP	EDLH0012001	RED ,ETC ,R/TP ,side view(PB-FREE)		
7	LD106	DIODE,LED,CHIP	EDLH0012001	RED ,ETC ,R/TP ,side view(PB-FREE)		
7	R101	RES,CHIP,MAKER	ERHZ0000483	47 ohm,1/16W ,J ,1005 ,R/TP		
7	R102	RES,CHIP,MAKER	ERHZ0000404	1 Kohm,1/16W ,J ,1005 ,R/TP		
7	R103	RES,CHIP,MAKER	ERHZ0000404	1 Kohm,1/16W ,J ,1005 ,R/TP		
7	R104	RES,CHIP,MAKER	ERHZ0000404	1 Kohm,1/16W ,J ,1005 ,R/TP		
7	R105	RES,CHIP,MAKER	ERHZ0000504	68 ohm,1/16W ,J ,1005 ,R/TP		
7	R106	RES,CHIP,MAKER	ERHZ0000504	68 ohm,1/16W ,J ,1005 ,R/TP		
7	R107	RES,CHIP,MAKER	ERHZ0000451	27 ohm,1/16W ,J ,1005 ,R/TP		
7	R108	RES,CHIP,MAKER	ERHZ0000504	68 ohm,1/16W ,J ,1005 ,R/TP		
7	R109	RES,CHIP,MAKER	ERHZ0000483	47 ohm,1/16W ,J ,1005 ,R/TP		
7	R110	RES,CHIP,MAKER	ERHZ0000236	2000 ohm,1/16W ,F ,1005 ,R/TP		
7	U101	IC	EUSY0277001	Cap sense Inputs device ,32 PIN,R/TP ,5*5 Capsense TrackPad		
6	SPCY00	PCB,FLEXIBLE	SPCY0091101	POLYI ,0.4 mm,MULTI-4 , ,; , , , , , , , , ,		
4	SACY01	PCB ASSY,FLEXIBLE	SACY0055901			17
5	SACE00	PCB ASSY,FLEXIBLE,SMT	SACE0050501			
6	SACD00	PCB ASSY,FLEXIBLE,SMT TOP	SACD0041201			
7	CN101	CONNECTOR,BOARD TO BOARD	ENBY0022901	70 PIN,0.4 mm,ETC , ,H=0.9, Plug		
7	CN102	CONNECTOR,BOARD TO BOARD	ENBY0022801	70 PIN,0.4 mm,ETC , ,H=0.9, Socket		
6	SPCY00	PCB,FLEXIBLE	SPCY0090801	POLYI ,0.2 mm,DOUBLE , ,; , , , , , , , , ,		
4	SAEY00	PCB ASSY,KEYPAD	SAEY0053601			11
5	SAEE00	PCB ASSY,KEYPAD,SMT	SAEE0021501			

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Color	Remark
6	SAEC00	PCB ASSY,KEYPAD,SMT BOTTOM	SAEC0019701			
7	C207	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		
7	C208	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,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	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
7	C213	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
7	C214	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
7	C215	CAP,TANTAL,CHIP	ECTH0004807	10 uF,10V ,M ,STD ,1608 ,R/TP ,; , ,[empty] ,[empty] , ,-55TO+125C , ,[empty] ,[empty] ,[empty] ,[empty]		
7	C216	CAP,TANTAL,CHIP	ECTH0004807	10 uF,10V ,M ,STD ,1608 ,R/TP ,; , ,[empty] ,[empty] , ,-55TO+125C , ,[empty] ,[empty] ,[empty] ,[empty]		
7	C219	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		
7	C220	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP		
7	CN102	CONNECTOR,BOARD TO BOARD	ENBY0018601	10 PIN,.4 mm,STRAIGHT , ,H=0.9, SOCKET		
7	CN202	CONNECTOR,BOARD TO BOARD	ENBY0022801	70 PIN,0.4 mm,ETC , ,H=0.9, Socket		
7	FL201	FILTER,EMI/POWER	SFEY0013101	SMD ,1608 ,EMI-ESD Filter, 4ch, 14V, 15pF, 50ohm		
7	FL202	FILTER,EMI/POWER	SFEY0013101	SMD ,1608 ,EMI-ESD Filter, 4ch, 14V, 15pF, 50ohm		
7	FL203	FILTER,EMI/POWER	SFEY0013101	SMD ,1608 ,EMI-ESD Filter, 4ch, 14V, 15pF, 50ohm		
7	L201	INDUCTOR,CHIP	ELCH0005019	68 nH,J ,1005 ,R/TP ,		
7	L202	INDUCTOR,CHIP	ELCH0005019	68 nH,J ,1005 ,R/TP ,		
7	R201	RES,CHIP,MAKER	ERHZ0000485	4700 ohm,1/16W ,J ,1005 ,R/TP		
7	R202	RES,CHIP,MAKER	ERHZ0000485	4700 ohm,1/16W ,J ,1005 ,R/TP		
7	R207	RES,CHIP	ERHY0008604	0 ohm,1/4W ,J ,2012 ,R/TP		
7	R208	RES,CHIP,MAKER	ERHZ0000485	4700 ohm,1/16W ,J ,1005 ,R/TP		
7	R209	RES,CHIP,MAKER	ERHZ0000406	100 Kohm,1/16W ,J ,1005 ,R/TP		
7	R299	RES,CHIP,MAKER	ERHZ0000405	10 Kohm,1/16W ,J ,1005 ,R/TP		
7	U400	IC	EUSY0319001	WDFN-8L ,8 PIN,R/TP ,300mA/300mA 2.8V/1.8V Dual LDO		
7	VA201	VARISTOR	SEVY0003901	5.5 V, ,SMD ,480pF, 1005		
7	VA202	VARISTOR	SEVY0003901	5.5 V, ,SMD ,480pF, 1005		
6	SAED00	PCB ASSY,KEYPAD,SMT TOP	SAED0019701			
7	C102	CAP,TANTAL,CHIP	ECTH0004101	22 uF,6.3V ,M ,STD ,1608 ,R/TP		
7	C103	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
7	C104	CAP,TANTAL,CHIP	ECTH0004101	22 uF,6.3V ,M ,STD ,1608 ,R/TP		
7	C106	CAP,CERAMIC,CHIP	ECCH0006201	4.7 uF,6.3V ,K ,X5R ,TC ,1608 ,R/TP		
7	C107	CAP,TANTAL,CHIP	ECTH0004101	22 uF,6.3V ,M ,STD ,1608 ,R/TP		
7	C108	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
7	C109	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
7	C112	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Color	Remark
7	C113	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
7	C201	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
7	C202	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
7	C203	CAP,TANTAL,CHIP	ECTH0004807	10 uF,10V ,M ,STD ,1608 ,R/TP ,; , ,[empty] ,[empty] , ,-55TO+125C , ,[empty] ,[empty] ,[empty] ,[empty]		
7	C205	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
7	C206	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
7	C217	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
7	CN101	CONNECTOR,FFC/FPC	ENQY0010901	35 PIN,0.3 mm,ETC , ,H=1.2		
7	CN201	CONNECTOR,BOARD TO BOARD	ENBY0019501	20 PIN,.4 mm,ETC , ,H=1.5, Socket		
7	FB102	FILTER,BEAD,CHIP	SFBH0008101	600 ohm,1005 ,		
7	FB201	FILTER,BEAD,CHIP	SFBH0007102	10 ohm,1005 ,Ferrite Bead		
7	FL101	FILTER,EMI/POWER	SFEY0013101	SMD ,1608 ,EMI-ESD Filter, 4ch, 14V, 15pF, 50ohm		
7	FL102	FILTER,EMI/POWER	SFEY0013101	SMD ,1608 ,EMI-ESD Filter, 4ch, 14V, 15pF, 50ohm		
7	FL103	FILTER,EMI/POWER	SFEY0013101	SMD ,1608 ,EMI-ESD Filter, 4ch, 14V, 15pF, 50ohm		
7	FL104	FILTER,EMI/POWER	SFEY0013101	SMD ,1608 ,EMI-ESD Filter, 4ch, 14V, 15pF, 50ohm		
7	FL105	FILTER,EMI/POWER	SFEY0013101	SMD ,1608 ,EMI-ESD Filter, 4ch, 14V, 15pF, 50ohm		
7	Q101	TR,BJT,NPN	EQBN0007101	EMT3 ,0.15 W,R/TP ,LOW FREQUENCY		
7	R102	RES,CHIP,MAKER	ERHZ0002401	12 Kohm,1/16W ,J ,1005 ,R/TP		
7	R103	RES,CHIP,MAKER	ERHZ0002401	12 Kohm,1/16W ,J ,1005 ,R/TP		
7	R104	RES,CHIP,MAKER	ERHZ0000402	10 ohm,1/16W ,J ,1005 ,R/TP		
7	R105	RES,CHIP,MAKER	ERHZ0000402	10 ohm,1/16W ,J ,1005 ,R/TP		
7	R106	RES,CHIP,MAKER	ERHZ0000406	100 Kohm,1/16W ,J ,1005 ,R/TP		
7	R107	RES,CHIP,MAKER	ERHZ0000406	100 Kohm,1/16W ,J ,1005 ,R/TP		
7	R109	RES,CHIP,MAKER	ERHZ0000486	47 Kohm,1/16W ,J ,1005 ,R/TP		
7	R111	RES,CHIP	ERHY0008604	0 ohm,1/4W ,J ,2012 ,R/TP		
7	R113	RES,CHIP,MAKER	ERHZ0000485	4700 ohm,1/16W ,J ,1005 ,R/TP		
7	R114	RES,CHIP,MAKER	ERHZ0000406	100 Kohm,1/16W ,J ,1005 ,R/TP		
7	R115	RES,CHIP,MAKER	ERHZ0000406	100 Kohm,1/16W ,J ,1005 ,R/TP		
7	R203	RES,CHIP	ERHY0000277	75K ohm,1/16W,J,1005,R/TP		
7	R204	RES,CHIP	ERHY0000272	43K ohm,1/16W,J,1005,R/TP		
7	U101	IC	EUSY0223003	HVSOF5 ,5 PIN,R/TP ,150mA CMOS LDO WITH OUTPUT CONTROL / 3.3V		
7	U201	IC	EUSY0238702	TSOPJW-12 ,12 PIN,R/TP ,3PORT Charge Pump(AAT2154 Low cost version)		
6	SPEY00	PCB,KEYPAD	SPEY0046001	FR-4 ,0.5 mm,BUILD-UP 4 , ,; , , , , , , , , ,		
4	SUSY00	SPEAKER	SUSY0025301	ASSY ,8 ohm,88 dB, mm,Wire 10mm ,; , , , , , ,18*10*3T ,WIRE		13
4	SVCY00	CAMERA	SVCY0012601	CMOS ,VGA ,MAGNACHIP 1/7.4"		12
4	SVLM00	LCD MODULE	SVLM0023001	MAIN ,1.77" (128*160) ,33.8*45.74*1.9 ,262k ,TFT ,TM ,LGDP4513 ,		9
3	SAFY00	PCB ASSY,MAIN	SAFY0198701		Black	48
4	SAFB00	PCB ASSY,MAIN,INSERT	SAFB0070101			

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Color	Remark
5	SJMY00	VIBRATOR,MOTOR	SJMY0008402	3 V,0.08 A,10*2.7 ,25mm		
5	SPKY00	PCB,SIDEKEY	SPKY0042101	POLYI ,0.2 mm,DOUBLE , ,; , , , , , , , , ,		
5	SPKY01	PCB,SIDEKEY	SPKY0042201	POLYI ,0.2 mm,DOUBLE ,F_SK-VOL ,; , , , , , , , , ,		
4	SAFF00	PCB ASSY,MAIN,SMT	SAFF0119801			
5	SAFC00	PCB ASSY,MAIN,SMT BOTTOM	SAFC0085001			
6	ANT700	ANTENNA,GSM,FIXED	SNGF0023801	3.0 ,-2.0 dBd,, ,Chip, bluetooth ,; ,SINGLE ,-2.0 ,50 ,3.0		
6	BA201	BATTERY,CELL,LITHIUM	SBCL0001701	2 V,0.5 mAh,CYLINDER ,Reflow type BB, Max T 1.67, phi 4.8, Pb-Free		
6	C100	CAP,TANTAL,CHIP	ECTH0004807	10 uF,10V ,M ,STD ,1608 ,R/TP ,; , ,[empty] ,[empty] , ,-55TO+125C , ,[empty] ,[empty] ,[empty] ,[empty]		
6	C101	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C102	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C103	CAP,CERAMIC,CHIP	ECCH0000115	22 pF,50V,J,NP0,TC,1005,R/TP		
6	C104	CAP,CERAMIC,CHIP	ECCH0000115	22 pF,50V,J,NP0,TC,1005,R/TP		
6	C105	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C106	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C107	CAP,CERAMIC,CHIP	ECCH0000115	22 pF,50V,J,NP0,TC,1005,R/TP		
6	C108	CAP,CERAMIC,CHIP	ECCH0000115	22 pF,50V,J,NP0,TC,1005,R/TP		
6	C109	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C110	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C111	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C112	CAP,CHIP,MAKER	ECZH0001421	2.2 uF,6.3V ,K ,X5R ,HD ,1608 ,R/TP		
6	C113	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C114	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C115	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C116	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C117	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C118	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP		
6	C121	CAP,CERAMIC,CHIP	ECCH0002002	47000 pF,10V ,K ,B ,HD ,1005 ,R/TP		
6	C122	CAP,CERAMIC,CHIP	ECCH0002002	47000 pF,10V ,K ,B ,HD ,1005 ,R/TP		
6	C123	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C124	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C125	CAP,CERAMIC,CHIP	ECCH0006201	4.7 uF,6.3V ,K ,X5R ,TC ,1608 ,R/TP		
6	C126	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C127	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C128	CAP,CERAMIC,CHIP	ECCH0000122	47 pF,50V,J,NP0,TC,1005,R/TP		
6	C129	CAP,CERAMIC,CHIP	ECCH0000165	68 nF,6.3V,K,X5R,HD,1005,R/TP		
6	C130	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C131	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C132	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C133	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		

Level	Location No.	Description	Part Number	Spec	Color	Remark
6	C134	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C135	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C136	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C137	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C138	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C139	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C140	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C214	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C215	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C216	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C220	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP		
6	C223	CAP,CERAMIC,CHIP	ECCH0005704	4700000 pF,10V ,K ,X5R ,HD ,2012 ,R/TP		
6	C224	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C225	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C226	CAP,TANTAL,CHIP	ECTH0004806	22 uF,6.3V ,M ,STD ,2012 ,R/TP		
6	C227	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C228	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C229	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C230	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C241	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C300	CAP,TANTAL,CHIP	ECTH0004804	33 uF,10V ,M ,L_ESR ,3216 ,R/TP		
6	C301	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C302	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C303	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C304	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C305	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C306	CAP,CERAMIC,CHIP	ECCH0000112	15 pF,50V,J,NP0,TC,1005,R/TP		
6	C307	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C308	CAP,TANTAL,CHIP	ECTH0004806	22 uF,6.3V ,M ,STD ,2012 ,R/TP		
6	C309	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C312	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C313	CAP,CERAMIC,CHIP	ECCH0002002	47000 pF,10V ,K ,B ,HD ,1005 ,R/TP		
6	C314	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C315	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C317	CAP,CHIP,MAKER	ECZH0001211	220 nF,10V ,Z ,Y5V ,HD ,1005 ,R/TP		
6	C318	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP		
6	C320	CAP,CERAMIC,CHIP	ECCH0003002	10 uF,10V ,Z ,Y5V ,HD ,2012 ,R/TP		
6	C321	CAP,CERAMIC,CHIP	ECCH0000118	30 pF,50V,J,NP0,TC,1005,R/TP		
6	C322	CAP,CERAMIC,CHIP	ECCH0000118	30 pF,50V,J,NP0,TC,1005,R/TP		
6	C323	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C324	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		

Level	Location No.	Description	Part Number	Spec	Color	Remark
6	C326	CAP,CERAMIC,CHIP	ECCH0005602	2.2 uF,16V ,K ,X5R ,HD ,1608 ,R/TP		
6	C330	CAP,TANTAL,CHIP	ECTH0005301	100 uF,6.3V ,M ,L_ESR ,3216 ,R/TP ,; , ,[empty] ,[empty] , ,[empty] , ,3.2X1.6X1MM ,[empty] ,[empty] ,[empty]		
6	C331	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C332	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C333	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C334	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C400	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C401	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C402	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C403	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP		
6	C404	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C417	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C418	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP		
6	C419	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C421	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C422	CAP,CHIP,MAKER	ECZH0003202	1 uF,6.3V ,Z ,Y5V ,HD ,1005 ,R/TP		
6	C423	CAP,CHIP,MAKER	ECZH0003202	1 uF,6.3V ,Z ,Y5V ,HD ,1005 ,R/TP		
6	C424	CAP,CERAMIC,CHIP	ECCH0010501	7.5 pF,50V ,D ,X7R ,TC ,1005 ,R/TP ,; ,C0G TYPE(No X7R) ,[empty] ,[empty] ,[empty] ,[empty] ,[empty] ,[empty]		
6	C425	CAP,CERAMIC,CHIP	ECCH0010501	7.5 pF,50V ,D ,X7R ,TC ,1005 ,R/TP ,; ,C0G TYPE(No X7R) ,[empty] ,[empty] ,[empty] ,[empty] ,[empty] ,[empty]		
6	C426	CAP,CERAMIC,CHIP	ECCH0010501	7.5 pF,50V ,D ,X7R ,TC ,1005 ,R/TP ,; ,C0G TYPE(No X7R) ,[empty] ,[empty] ,[empty] ,[empty] ,[empty] ,[empty]		
6	C427	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C504	CAP,TANTAL,CHIP	ECTH0004807	10 uF,10V ,M ,STD ,1608 ,R/TP ,; , ,[empty] ,[empty] , ,-55TO+125C , ,[empty] ,[empty] ,[empty] ,[empty]		
6	C505	CAP,TANTAL,CHIP	ECTH0004807	10 uF,10V ,M ,STD ,1608 ,R/TP ,; , ,[empty] ,[empty] , ,-55TO+125C , ,[empty] ,[empty] ,[empty] ,[empty]		
6	C600	CAP,TANTAL,CHIP	ECTH0004804	33 uF,10V ,M ,L_ESR ,3216 ,R/TP		
6	C601	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C602	CAP,CHIP,MAKER	ECZH0000816	12 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C603	CAP,CERAMIC,CHIP	ECCH0000113	18 pF,50V,J,NP0,TC,1005,R/TP		
6	C604	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP		
6	C605	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP		
6	C606	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C608	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C609	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP		
6	C610	CAP,CERAMIC,CHIP	ECCH0000101	.5 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	C611	CAP,CERAMIC,CHIP	ECCH0000110	10 pF,50V,D,NP0,TC,1005,R/TP		
6	C612	CAP,CERAMIC,CHIP	ECCH0000173	1.2 pF,16V ,B ,NP0 ,TC ,1005 ,R/TP		
6	C614	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		

Level	Location No.	Description	Part Number	Spec	Color	Remark
6	C615	CAP,CERAMIC,CHIP	ECCH0000115	22 pF,50V,J,NP0,TC,1005,R/TP		
6	C616	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C617	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C618	CAP,CERAMIC,CHIP	ECCH0000184	2.7 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	C619	CAP,CERAMIC,CHIP	ECCH0000184	2.7 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	C620	CAP,CERAMIC,CHIP	ECCH0001001	6.8 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	C621	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C622	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C624	CAP,CERAMIC,CHIP	ECCH0001001	6.8 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	C625	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C626	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C628	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C629	CAP,CERAMIC,CHIP	ECCH0001001	6.8 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	C630	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C631	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C632	CAP,CERAMIC,CHIP	ECCH0001001	6.8 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	C633	CAP,CERAMIC,CHIP	ECCH0001001	6.8 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	C634	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C635	CAP,CERAMIC,CHIP	ECCH0001001	6.8 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	C636	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP		
6	C637	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP		
6	C640	CAP,CHIP,MAKER	ECZH0001421	2.2 uF,6.3V ,K ,X5R ,HD ,1608 ,R/TP		
6	C641	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C642	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C643	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C644	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C646	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C647	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP		
6	C648	CAP,CHIP,MAKER	ECZH0001421	2.2 uF,6.3V ,K ,X5R ,HD ,1608 ,R/TP		
6	C649	CAP,CERAMIC,CHIP	ECCH0000185	5.6 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	C650	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C651	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP		
6	C653	CAP,CERAMIC,CHIP	ECCH0000115	22 pF,50V,J,NP0,TC,1005,R/TP		
6	C700	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C702	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C703	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C704	CAP,CERAMIC,CHIP	ECCH0000112	15 pF,50V,J,NP0,TC,1005,R/TP		
6	C705	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP		
6	C707	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C708	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP		
6	C709	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Color	Remark
6	C711	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C713	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C714	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C715	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C716	CAP,CERAMIC,CHIP	ECCH0000183	1.8 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	CN300	CONNECTOR,I/O	ENRY0006401	18 PIN,0.4 mm,ANGLE , ,H=2.5, Reverse Type		
6	CN301	CONNECTOR,ETC	ENZY0014301	3 PIN,2.5 mm,ETC , ,Battery Connector		
6	D100	DIODE,SWITCHING	EDSY0017301	VSM ,15 V,100 mA,R/TP ,PB-FREE		
6	D101	DIODE,SWITCHING	EDSY0017301	VSM ,15 V,100 mA,R/TP ,PB-FREE		
6	D200	DIODE,SWITCHING	EDSY0012101	US-FLAT ,30 V,1 A,R/TP ,2.5*1.25*0.6(t)		
6	D300	DIODE,SWITCHING	EDSY0012301	1-1E1A ,85 V,1 A,R/TP ,P=200mW, IFM=200mA		
6	FB100	FILTER,BEAD,CHIP	SFBH0007102	10 ohm,1005 ,Ferrite Bead		
6	FB201	FILTER,BEAD,CHIP	SFBH0008102	1800 ohm,1005 ,Bead		
6	FB301	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP		
6	FB302	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP		
6	FL300	FILTER,EMI/POWER	SFEY0014701	SMD ,5V, 33pF, 0R 1608		
6	FL301	FILTER,EMI/POWER	SFEY0014701	SMD ,5V, 33pF, 0R 1608		
6	FL401	FILTER,EMI/POWER	SFEY0013201	SMD ,1608 ,EMI-ESD Filter, 4ch, 14V, 15pF, 100ohm		
6	FL402	FILTER,EMI/POWER	SFEY0013201	SMD ,1608 ,EMI-ESD Filter, 4ch, 14V, 15pF, 100ohm		
6	FL403	FILTER,EMI/POWER	SFEY0013201	SMD ,1608 ,EMI-ESD Filter, 4ch, 14V, 15pF, 100ohm		
6	FL404	FILTER,EMI/POWER	SFEY0013201	SMD ,1608 ,EMI-ESD Filter, 4ch, 14V, 15pF, 100ohm		
6	FL600	FILTER,SEPERATOR	SFAY0009004	850. 900 ,1800. 1900 ,2.7 dB,3.0 dB,30 dB,30 dB,ETC ,5.4*4.0*1.2, Quard FEM		
6	J300	CONN,SOCKET	ENSY0014601	6 PIN,ETC , ,2.54 mm,H=2.3		
6	L300	INDUCTOR,CHIP	ELCH0009114	100 nH,J ,1005 ,R/TP ,coil		
6	L602	INDUCTOR,CHIP	ELCH0009106	6.2 nH,J ,1005 ,R/TP ,coil type		
6	L603	INDUCTOR,CHIP	ELCH0009106	6.2 nH,J ,1005 ,R/TP ,coil type		
6	L604	INDUCTOR,CHIP	ELCH0009105	18 nH,J ,1005 ,R/TP ,COIL		
6	L605	INDUCTOR,CHIP	ELCH0009105	18 nH,J ,1005 ,R/TP ,COIL		
6	MIC200	MICROPHONE	SUMY0010509	UNIT ,42 dB,4*1.35 ,JFET		
6	Q200	TR,FET,P-CHANNEL	EQFP0004201	2.9*1.9*0.8(t) ,.7 W,20 V,-6 A,R/TP ,NDC652P upgrade(substitution) item, Pb free		
6	Q201	TR,BJT,ARRAY	EQBA0000406	SC-70 ,0.2 W,R/TP ,CDMA,Common use		
6	Q300	TR,BJT,ARRAY	EQBA0002701	EMT6 ,150 mW,R/TP ,NPN, PNP, 150 mA		
6	Q400	TR,BJT,NPN	EQBN0004801	SMT6 ,0.2 W,R/TP ,		
6	R100	RES,CHIP,MAKER	ERHZ0000405	10 Kohm,1/16W ,J ,1005 ,R/TP		
6	R106	RES,CHIP	ERHY0003301	100 ohm,1/16W ,J ,1005 ,R/TP		
6	R107	RES,CHIP	ERHY0000512	10M ohm,1/16W,J,1608,R/TP		
6	R108	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP		
6	R110	RES,CHIP,MAKER	ERHZ0000405	10 Kohm,1/16W ,J ,1005 ,R/TP		
6	R111	RES,CHIP,MAKER	ERHZ0000406	100 Kohm,1/16W ,J ,1005 ,R/TP		
6	R112	RES,CHIP,MAKER	ERHZ0000527	200 ohm,1/6W ,J ,1005 ,R/TP		

Level	Location No.	Description	Part Number	Spec	Color	Remark
6	R114	RES,CHIP,MAKER	ERHZ0000443	2200 ohm,1/16W ,J ,1005 ,R/TP		
6	R117	RES,CHIP,MAKER	ERHZ0000320	82 Kohm,1/16W ,F ,1005 ,R/TP		
6	R118	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP		
6	R119	RES,CHIP,MAKER	ERHZ0000488	4.7 ohm,1/16W ,J ,1005 ,R/TP		
6	R120	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP		
6	R122	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP		
6	R123	RES,CHIP,MAKER	ERHZ0000488	4.7 ohm,1/16W ,J ,1005 ,R/TP		
6	R127	RES,CHIP,MAKER	ERHZ0000406	100 Kohm,1/16W ,J ,1005 ,R/TP		
6	R130	RES,CHIP,MAKER	ERHZ0000405	10 Kohm,1/16W ,J ,1005 ,R/TP		
6	R201	RES,CHIP,MAKER	ERHZ0000406	100 Kohm,1/16W ,J ,1005 ,R/TP		
6	R206	RES,CHIP,MAKER	ERHZ0000406	100 Kohm,1/16W ,J ,1005 ,R/TP		
6	R208	RES,CHIP,MAKER	ERHZ0000406	100 Kohm,1/16W ,J ,1005 ,R/TP		
6	R211	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP		
6	R212	RES,CHIP	ERHY0001102	0.2 ohm,1/4W ,F ,2012 ,R/TP		
6	R213	RES,CHIP,MAKER	ERHZ0000464	330 ohm,1/16W ,J ,1005 ,R/TP		
6	R214	RES,CHIP,MAKER	ERHZ0000404	1 Kohm,1/16W ,J ,1005 ,R/TP		
6	R215	RES,CHIP,MAKER	ERHZ0000529	1.5 Kohm,1/16W ,J ,1005 ,R/TP		
6	R216	RES,CHIP,MAKER	ERHZ0000533	7.5 Kohm,1/16W ,J ,1005 ,R/TP		
6	R217	RES,CHIP,MAKER	ERHZ0000405	10 Kohm,1/16W ,J ,1005 ,R/TP		
6	R218	RES,CHIP,MAKER	ERHZ0000405	10 Kohm,1/16W ,J ,1005 ,R/TP		
6	R219	RES,CHIP,MAKER	ERHZ0000404	1 Kohm,1/16W ,J ,1005 ,R/TP		
6	R220	RES,CHIP,MAKER	ERHZ0000404	1 Kohm,1/16W ,J ,1005 ,R/TP		
6	R221	RES,CHIP	ERHY0003301	100 ohm,1/16W ,J ,1005 ,R/TP		
6	R222	RES,CHIP	ERHY0003301	100 ohm,1/16W ,J ,1005 ,R/TP		
6	R223	RES,CHIP,MAKER	ERHZ0000443	2200 ohm,1/16W ,J ,1005 ,R/TP		
6	R300	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP		
6	R301	RES,CHIP,MAKER	ERHZ0000485	4700 ohm,1/16W ,J ,1005 ,R/TP		
6	R302	RES,CHIP,MAKER	ERHZ0000406	100 Kohm,1/16W ,J ,1005 ,R/TP		
6	R305	RES,CHIP,MAKER	ERHZ0000404	1 Kohm,1/16W ,J ,1005 ,R/TP		
6	R306	RES,CHIP,MAKER	ERHZ0000529	1.5 Kohm,1/16W ,J ,1005 ,R/TP		
6	R307	RES,CHIP	ERHY0003301	100 ohm,1/16W ,J ,1005 ,R/TP		
6	R308	RES,CHIP	ERHY0003301	100 ohm,1/16W ,J ,1005 ,R/TP		
6	R309	RES,CHIP,MAKER	ERHZ0000460	30 Kohm,1/16W ,J ,1005 ,R/TP		
6	R311	RES,CHIP,MAKER	ERHZ0000460	30 Kohm,1/16W ,J ,1005 ,R/TP		
6	R312	RES,CHIP,MAKER	ERHZ0000406	100 Kohm,1/16W ,J ,1005 ,R/TP		
6	R313	RES,CHIP,MAKER	ERHZ0000406	100 Kohm,1/16W ,J ,1005 ,R/TP		
6	R314	RES,CHIP,MAKER	ERHZ0000406	100 Kohm,1/16W ,J ,1005 ,R/TP		
6	R315	RES,CHIP,MAKER	ERHZ0000422	15 Kohm,1/16W ,J ,1005 ,R/TP		
6	R316	RES,CHIP,MAKER	ERHZ0000405	10 Kohm,1/16W ,J ,1005 ,R/TP		
6	R318	RES,CHIP,MAKER	ERHZ0000486	47 Kohm,1/16W ,J ,1005 ,R/TP		
6	R319	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Color	Remark
6	R320	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP		
6	R321	RES,CHIP	ERHY0003301	100 ohm,1/16W ,J ,1005 ,R/TP		
6	R322	RES,CHIP,MAKER	ERHZ0000438	20 Kohm,1/16W ,J ,1005 ,R/TP		
6	R323	RES,CHIP,MAKER	ERHZ0000404	1 Kohm,1/16W ,J ,1005 ,R/TP		
6	R324	RES,CHIP,MAKER	ERHZ0000533	7.5 Kohm,1/16W ,J ,1005 ,R/TP		
6	R400	RES,CHIP,MAKER	ERHZ0000406	100 Kohm,1/16W ,J ,1005 ,R/TP		
6	R401	RES,CHIP,MAKER	ERHZ0000405	10 Kohm,1/16W ,J ,1005 ,R/TP		
6	R402	RES,CHIP,MAKER	ERHZ0000505	680 ohm,1/16W ,J ,1005 ,R/TP		
6	R417	RES,CHIP,MAKER	ERHZ0002401	12 Kohm,1/16W ,J ,1005 ,R/TP		
6	R418	RES,CHIP,MAKER	ERHZ0000507	68 Kohm,1/16W ,J ,1005 ,R/TP		
6	R419	RES,CHIP,MAKER	ERHZ0000402	10 ohm,1/16W ,J ,1005 ,R/TP		
6	R420	RES,CHIP,MAKER	ERHZ0000402	10 ohm,1/16W ,J ,1005 ,R/TP		
6	R421	RES,CHIP,MAKER	ERHZ0000406	100 Kohm,1/16W ,J ,1005 ,R/TP		
6	R422	RES,CHIP,MAKER	ERHZ0002401	12 Kohm,1/16W ,J ,1005 ,R/TP		
6	R423	RES,CHIP,MAKER	ERHZ0000402	10 ohm,1/16W ,J ,1005 ,R/TP		
6	R424	RES,CHIP,MAKER	ERHZ0000402	10 ohm,1/16W ,J ,1005 ,R/TP		
6	R425	RES,CHIP	ERHY0003301	100 ohm,1/16W ,J ,1005 ,R/TP		
6	R426	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP		
6	R427	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP		
6	R428	RES,CHIP	ERHY0003301	100 ohm,1/16W ,J ,1005 ,R/TP		
6	R429	RES,CHIP	ERHY0003301	100 ohm,1/16W ,J ,1005 ,R/TP		
6	R430	RES,CHIP	ERHY0003301	100 ohm,1/16W ,J ,1005 ,R/TP		
6	R431	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP		
6	R600	RES,CHIP,MAKER	ERHZ0000404	1 Kohm,1/16W ,J ,1005 ,R/TP		
6	R601	RES,CHIP	ERHY0003301	100 ohm,1/16W ,J ,1005 ,R/TP		
6	R602	RES,CHIP	ERHY0003301	100 ohm,1/16W ,J ,1005 ,R/TP		
6	R604	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP		
6	R605	RES,CHIP,MAKER	ERHZ0000522	24 ohm,1/16W ,J ,1005 ,R/TP		
6	R607	RES,CHIP	ERHY0003501	220 ohm,1/16W ,J ,1005 ,R/TP		
6	R608	RES,CHIP	ERHY0003501	220 ohm,1/16W ,J ,1005 ,R/TP		
6	R609	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP		
6	R611	RES,CHIP,MAKER	ERHZ0000429	180 ohm,1/16W ,J ,1005 ,R/TP		
6	R612	RES,CHIP,MAKER	ERHZ0000457	30 ohm,1/16W ,J ,1005 ,R/TP		
6	R613	RES,CHIP,MAKER	ERHZ0000429	180 ohm,1/16W ,J ,1005 ,R/TP		
6	R614	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP		
6	R616	RES,CHIP	ERHY0003301	100 ohm,1/16W ,J ,1005 ,R/TP		
6	R617	RES,CHIP	ERHY0003301	100 ohm,1/16W ,J ,1005 ,R/TP		
6	R619	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP		
6	R620	RES,CHIP,MAKER	ERHZ0000205	1 Mohm,1/16W ,F ,1005 ,R/TP		
6	R621	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP		
6	R622	RES,CHIP,MAKER	ERHZ0000422	15 Kohm,1/16W ,J ,1005 ,R/TP		

Level	Location No.	Description	Part Number	Spec	Color	Remark
6	R623	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP		
6	R624	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP		
6	R625	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP		
6	R701	RES,CHIP,MAKER	ERHZ0000485	4700 ohm,1/16W ,J ,1005 ,R/TP		
6	R705	RES,CHIP,MAKER	ERHZ0000486	47 Kohm,1/16W ,J ,1005 ,R/TP		
6	R706	RES,CHIP,MAKER	ERHZ0000486	47 Kohm,1/16W ,J ,1005 ,R/TP		
6	R708	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP		
6	R709	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP		
6	R710	RES,CHIP,MAKER	ERHZ0000486	47 Kohm,1/16W ,J ,1005 ,R/TP		
6	R717	RES,CHIP,MAKER	ERHZ0000406	100 Kohm,1/16W ,J ,1005 ,R/TP		
6	R718	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP		
6	SW600	CONN,RF SWITCH	ENWY0004501	,SMD , dB,H=3.6, Straight type		
6	U100	IC	EUSY0154001	US8 ,8 PIN,R/TP ,Dual 2-Input OR Gate, Pb Free		
6	U101	IC	EUSY0280001	CSP_BGA ,289 PIN,R/TP ,GSM Onechip Baseband		
6	U201	IC	EUSY0227901	SON5-P-0.35(fSV) ,5 PIN,R/TP ,2-INPUT AND GATE, Pb Free		
6	U202	IC	EUSY0227901	SON5-P-0.35(fSV) ,5 PIN,R/TP ,2-INPUT AND GATE, Pb Free		
6	U203	IC	EUSY0288701	BGA ,84 PIN,ETC ,256(1die flash)*64(PSRAM), 3V, 8x11.6x1.2mm, 84ball, Pb-Free		
6	U300	IC	EUSY0263301	SC-88(2.0x2.1) ,6 PIN,R/TP ,Single SPDT Switch, Pb Free		
6	U301	IC	EUSY0338101	TDFN ,10 PIN,R/TP ,Dual SPDT 0.6ohm Analog Switch		
6	U302	IC	EUSY0299301	SON1612-6 ,6 PIN,R/TP ,2.5V 150mA LDO Pb-Free		
6	U400	IC	EUSY0319001	WDFN-8L ,8 PIN,R/TP ,300mA/300mA 2.8V/1.8V Dual LDO		
6	U401	IC	EUSY0318501	BGA ,84 PIN,R/TP ,7x7, VGA Camera Backend IC		
6	U600	PAM	SMPY0014001	35.5 dBm,56 %, A, dBc, dB,6x6x1.15 ,SMD ,Tri Band		
6	U601	IC	EUSY0280103	LFCSP-32 ,32 PIN,R/TP ,GSM QUAD BAND TRANSCEIVER, Othello G, VCTCXO support		
6	U602	IC	EUSY0077201	SC70 ,5 PIN,R/TP ,Inverter Gate, Pb Free		
6	U700	IC	EUSY0232812	SON1612-6 ,6 PIN,R/TP ,2.8V, 150mA LDO		
6	U701	IC	EUSY0317101	WQFN ,10 PIN,R/TP ,1.8*1.4*0.75		
6	U702	MODULE,ETC	SMZY0015001	6.3 * 5.3 * 1.3mm , 63 PIN, Bluetooth Module(BT+FM)		
6	U703	IC	EUSY0227901	SON5-P-0.35(fSV) ,5 PIN,R/TP ,2-INPUT AND GATE, Pb Free		
6	VA202	VARISTOR	SEVY0004001	18 V, ,SMD ,3pF, 1005		
6	VA203	VARISTOR	SEVY0004001	18 V, ,SMD ,3pF, 1005		
6	VA300	DIODE,TVS	EDTY0008501	TFSC ,5 V,50 W,R/TP ,small size		
6	VA301	DIODE,TVS	EDTY0008501	TFSC ,5 V,50 W,R/TP ,small size		
6	VA302	VARISTOR	SEVY0003901	5.5 V, ,SMD ,480pF, 1005		
6	VA303	VARISTOR	SEVY0004001	18 V, ,SMD ,3pF, 1005		
6	VA400	DIODE,TVS	EDTY0008501	TFSC ,5 V,50 W,R/TP ,small size		
6	VA401	DIODE,TVS	EDTY0008501	TFSC ,5 V,50 W,R/TP ,small size		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Color	Remark
6	VA402	DIODE,TVS	EDTY0008501	TFSC ,5 V,50 W,R/TP ,small size		
6	X100	X-TAL	EXXY0004601	.032768 MHz,20 PPM,7 pF,65000 ohm,SMD ,6.9*1.4*1.3 ,		
6	X600	VCTCXO	EXSK0008101	26 MHz,2.5 PPM,10 pF,SMD ,3.3*2.5*1.0 ,3ppm at -30~+75, AFC 0.1V~2.1V, 2.8V ,; ,26 ,2.5PPM ,2.8V ,3.3 ,2.5 ,1.0 , ,SMD ,R/TP		
5	SAFD00	PCB ASSY,MAIN,SMT TOP	SAFD0083901			
6	C200	CAP,CERAMIC,CHIP	ECCH0006201	4.7 uF,6.3V ,K ,X5R ,TC ,1608 ,R/TP		
6	C201	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C202	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C203	CAP,CERAMIC,CHIP	ECCH0006201	4.7 uF,6.3V ,K ,X5R ,TC ,1608 ,R/TP		
6	C204	CAP,CERAMIC,CHIP	ECCH0006201	4.7 uF,6.3V ,K ,X5R ,TC ,1608 ,R/TP		
6	C205	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C206	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C208	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C209	CAP,TANTAL,CHIP	ECTH0004807	10 uF,10V ,M ,STD ,1608 ,R/TP ,; , ,[empty] ,[empty] , ,-55TO+125C , ,[empty] ,[empty] ,[empty] ,[empty]		
6	C210	CAP,CERAMIC,CHIP	ECCH0000147	2.2 nF,50V,K,X7R,HD,1005,R/TP		
6	C211	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C212	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP		
6	C213	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C217	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP		
6	C218	CAP,CERAMIC,CHIP	ECCH0000138	390 pF,50V,K,X7R,HD,1005,R/TP		
6	C219	CAP,CERAMIC,CHIP	ECCH0000165	68 nF,6.3V,K,X5R,HD,1005,R/TP		
6	C221	CAP,CERAMIC,CHIP	ECCH0000122	47 pF,50V,J,NP0,TC,1005,R/TP		
6	C222	CAP,CERAMIC,CHIP	ECCH0000122	47 pF,50V,J,NP0,TC,1005,R/TP		
6	C233	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C234	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C235	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP		
6	C236	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C237	CAP,CERAMIC,CHIP	ECCH0010501	7.5 pF,50V ,D ,X7R ,TC ,1005 ,R/TP ,; ,C0G TYPE(No X7R) ,[empty] ,[empty] ,[empty] ,[empty] ,[empty] ,[empty]		
6	C238	CAP,CERAMIC,CHIP	ECCH0010501	7.5 pF,50V ,D ,X7R ,TC ,1005 ,R/TP ,; ,C0G TYPE(No X7R) ,[empty] ,[empty] ,[empty] ,[empty] ,[empty] ,[empty]		
6	C239	CAP,CERAMIC,CHIP	ECCH0010501	7.5 pF,50V ,D ,X7R ,TC ,1005 ,R/TP ,; ,C0G TYPE(No X7R) ,[empty] ,[empty] ,[empty] ,[empty] ,[empty] ,[empty]		
6	C240	CAP,CERAMIC,CHIP	ECCH0010501	7.5 pF,50V ,D ,X7R ,TC ,1005 ,R/TP ,; ,C0G TYPE(No X7R) ,[empty] ,[empty] ,[empty] ,[empty] ,[empty] ,[empty]		
6	C327	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C328	CAP,CERAMIC,CHIP	ECCH0000110	10 pF,50V,D,NP0,TC,1005,R/TP		
6	C329	CAP,CERAMIC,CHIP	ECCH0006201	4.7 uF,6.3V ,K ,X5R ,TC ,1608 ,R/TP		
6	C335	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C405	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		

Level	Location No.	Description	Part Number	Spec	Color	Remark
6	C406	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C407	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C408	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C409	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C410	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C411	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C412	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C413	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C414	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C415	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C416	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C501	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C502	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C506	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C508	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C509	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C510	CAP,CHIP,MAKER	ECZH0000826	27 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	CN500	CONNECTOR,BOARD TO BOARD	ENBY0022901	70 PIN,0.4 mm,ETC , ,H=0.9, Plug		
6	FB200	FILTER,BEAD,CHIP	SFBH0007102	10 ohm,1005 ,Ferrite Bead		
6	FL500	FILTER,EMI/POWER	SFEY0013501	SMD ,18V,4ch. EMI_ESD Filter (10 Ohm,7.5pF)		
6	FL501	FILTER,EMI/POWER	SFEY0013501	SMD ,18V,4ch. EMI_ESD Filter (10 Ohm,7.5pF)		
6	FL502	FILTER,EMI/POWER	SFEY0013201	SMD ,1608 ,EMI-ESD Filter, 4ch, 14V, 15pF, 100ohm		
6	FL503	FILTER,EMI/POWER	SFEY0013501	SMD ,18V,4ch. EMI_ESD Filter (10 Ohm,7.5pF)		
6	FL504	FILTER,EMI/POWER	SFEY0014801	SMD ,5V, 50pF 200R 1608		
6	FL505	FILTER,EMI/POWER	SFEY0013501	SMD ,18V,4ch. EMI_ESD Filter (10 Ohm,7.5pF)		
6	FL506	FILTER,EMI/POWER	SFEY0014801	SMD ,5V, 50pF 200R 1608		
6	FL507	FILTER,EMI/POWER	SFEY0013201	SMD ,1608 ,EMI-ESD Filter, 4ch, 14V, 15pF, 100ohm		
6	FL508	FILTER,EMI/POWER	SFEY0014801	SMD ,5V, 50pF 200R 1608		
6	FL509	FILTER,EMI/POWER	SFEY0014801	SMD ,5V, 50pF 200R 1608		
6	L301	INDUCTOR,CHIP	ELCH0004715	27 nH,J ,1005 ,R/TP ,		
6	L302	INDUCTOR,CHIP	ELCH0004715	27 nH,J ,1005 ,R/TP ,		
6	LD400	DIODE,LED,CHIP	EDLH0012501	Snow White ,1608 ,R/TP ,color concept		
6	LD401	DIODE,LED,CHIP	EDLH0012501	Snow White ,1608 ,R/TP ,color concept		
6	LD402	DIODE,LED,CHIP	EDLH0012501	Snow White ,1608 ,R/TP ,color concept		
6	LD403	DIODE,LED,CHIP	EDLH0012501	Snow White ,1608 ,R/TP ,color concept		
6	LD404	DIODE,LED,CHIP	EDLH0012501	Snow White ,1608 ,R/TP ,color concept		
6	LD405	DIODE,LED,CHIP	EDLH0012501	Snow White ,1608 ,R/TP ,color concept		
6	LD406	DIODE,LED,CHIP	EDLH0012501	Snow White ,1608 ,R/TP ,color concept		
6	LD407	DIODE,LED,CHIP	EDLH0012501	Snow White ,1608 ,R/TP ,color concept		
6	LD408	DIODE,LED,CHIP	EDLH0012501	Snow White ,1608 ,R/TP ,color concept		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Color	Remark
6	LD409	DIODE,LED,CHIP	EDLH0012501	Snow White ,1608 ,R/TP ,color concept		
6	LD410	DIODE,LED,CHIP	EDLH0012501	Snow White ,1608 ,R/TP ,color concept		
6	LD411	DIODE,LED,CHIP	EDLH0012501	Snow White ,1608 ,R/TP ,color concept		
6	R202	RES,CHIP,MAKER	ERHZ0000506	6800 ohm,1/16W ,J ,1005 ,R/TP		
6	R203	RES,CHIP,MAKER	ERHZ0000406	100 Kohm,1/16W ,J ,1005 ,R/TP		
6	R207	RES,CHIP,MAKER	ERHZ0000449	24 Kohm,1/16W ,J ,1005 ,R/TP		
6	R209	RES,CHIP,MAKER	ERHZ0000320	82 Kohm,1/16W ,F ,1005 ,R/TP		
6	R224	RES,CHIP,MAKER	ERHZ0000438	20 Kohm,1/16W ,J ,1005 ,R/TP		
6	R226	RES,CHIP	ERHY0003301	100 ohm,1/16W ,J ,1005 ,R/TP		
6	R227	RES,CHIP	ERHY0003301	100 ohm,1/16W ,J ,1005 ,R/TP		
6	R228	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP		
6	R229	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP		
6	R317	RES,CHIP,MAKER	ERHZ0000493	51 Kohm,1/16W ,J ,1005 ,R/TP		
6	R404	RES,CHIP	ERHY0003301	100 ohm,1/16W ,J ,1005 ,R/TP		
6	R405	RES,CHIP	ERHY0003301	100 ohm,1/16W ,J ,1005 ,R/TP		
6	R406	RES,CHIP	ERHY0003301	100 ohm,1/16W ,J ,1005 ,R/TP		
6	R407	RES,CHIP	ERHY0003301	100 ohm,1/16W ,J ,1005 ,R/TP		
6	R408	RES,CHIP	ERHY0003301	100 ohm,1/16W ,J ,1005 ,R/TP		
6	R409	RES,CHIP	ERHY0003301	100 ohm,1/16W ,J ,1005 ,R/TP		
6	R410	RES,CHIP	ERHY0003301	100 ohm,1/16W ,J ,1005 ,R/TP		
6	R411	RES,CHIP	ERHY0003301	100 ohm,1/16W ,J ,1005 ,R/TP		
6	R412	RES,CHIP	ERHY0003301	100 ohm,1/16W ,J ,1005 ,R/TP		
6	R413	RES,CHIP	ERHY0003301	100 ohm,1/16W ,J ,1005 ,R/TP		
6	R414	RES,CHIP	ERHY0003301	100 ohm,1/16W ,J ,1005 ,R/TP		
6	R415	RES,CHIP	ERHY0003301	100 ohm,1/16W ,J ,1005 ,R/TP		
6	R501	RES,CHIP	ERHY0003301	100 ohm,1/16W ,J ,1005 ,R/TP		
6	R502	RES,CHIP,MAKER	ERHZ0000402	10 ohm,1/16W ,J ,1005 ,R/TP		
6	SPFY00	PCB,MAIN	SPFY0139201	FR-4 ,0.8 mm,STAGGERED-8		
6	U200	IC	EUSY0300101	WQFN ,10 PIN,R/TP ,Small package Dual SPDT analog Switch, PB-Free		
6	U204	IC	EUSY0306401	67ball WLCSP, 64Poly+MP3 ,67 PIN,R/TP , ,67 PIN,R/TP ,Epoxy Coating MX51 MIDI CHIP		
6	U304	IC	EUSY0129503	2x2 mm MLPD ,3 PIN,R/TP ,Hall Effect Switch, Pb Free		
6	VA200	VARISTOR	SEVY0003901	5.5 V, ,SMD ,480pF, 1005		
6	VA201	VARISTOR	SEVY0003901	5.5 V, ,SMD ,480pF, 1005		

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	Spec	Color	Remark
3	SBPP00	BATTERY PACK,LI-POLYMER	SBPP0022105	3.7 V,800 mAh,1 CELL,PRISMATIC ,MG280c Mexico Label BATT, Pb-Free ,; ,3.7 ,800mAh ,0.2C ,PRISMATIC ,50x34x38 , ,BLACK ,Hardkpack ,Mexico Label	Black	
3	SGEY00	EAR PHONE/EAR MIKE SET	SGEY0003209	; ,10mW ,16 OHM ,105dB ,10KHZ ,450HZ ,[empty] ,BLACK,EARPHONE HOUSING:SILVER ,18P MMI CONNECTOR ,MONO18P(5P)LOW COST		
3	SSAD00	ADAPTOR,AC-DC	SSAD0022201	100-240V ,5060 Hz,4.8 V,0.9 A,NOM ,AC-DC ADAPTOR		
□□		ADAPTOR,AC-DC	SSAD0022202	100-240V ,5060 Hz,4.8 V,0.9 A,NOM ,AC DC ADAPTOR		

Note

Note