

SAMSUNG

GSM TELEPHONE
SGH-E350

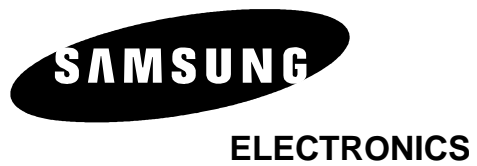
SERVICE *Manual*

GSM TELEPHONE



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BASIC.

1. SGH-E350 Specification

1. GSM General Specification

	GSM900 Phase 1	EGSM 900 Phase 2	DCS1800 Phase 1	PCS1900
Freq. Band[MHz] Uplink/Downlink	890~915 935~960	880~915 925~960	1710~1785 1805~1880	1850~1910 1930~1990
ARFCN range	1~124	0~124 & 975~1023	512~885	512~810
Tx/Rx spacing	45MHz	45MHz	95MHz	80MHz
Mod. Bit rate / Bit Period	270.833kbps 3.692us	270.833kbps 3.692us	270.833kbps 3.692us	270.833kbps 3.692us
Time Slot Period / Frame Period	576.9us 4.615ms	576.9us 4.615ms	576.9us 4.615ms	576.9us 4.615ms
Modulation	0.3GMSK	0.3GMSK	0.3GMSK	0.3GMSK
MS Power	33dBm~5dBm	33dBm~5dBm	30dBm~0dBm	30dBm~0dBm
Power Class	5pcl ~ 19pcl	5pcl ~ 19pcl	0pcl ~ 15pcl	0pcl ~ 15pcl
Sensitivity	-102dBm	-102dBm	-100dBm	-100dBm
TDMA Mux	8	8	8	8
Cell Radius	35Km	35Km	2Km	-

2. GSM TX power class

TX Power control level	GSM900	TX Power control level	DCS1800	TX Power control level	PCS1900
5	33±3 dBm	0	30±3 dBm	0	30±3 dBm
6	31±3 dBm	1	28±3 dBm	1	28±3 dBm
7	29±3 dBm	2	26±3 dBm	2	26±3 dBm
8	27±3 dBm	3	24±3 dBm	3	24±3 dBm
9	25±3 dBm	4	22±3 dBm	4	22±3 dBm
10	23±3 dBm	5	20±3 dBm	5	20±3 dBm
11	21±3 dBm	6	18±3 dBm	6	18±3 dBm
12	19±3 dBm	7	16±3 dBm	7	16±3 dBm
13	17±3 dBm	8	14±3 dBm	8	14±3 dBm
14	15±3 dBm	9	12±4 dBm	9	12±4 dBm
15	13±3 dBm	10	10±4 dBm	10	10±4 dBm
16	11±5 dBm	11	8±4dBm	11	8±4dBm
17	9±5 dBm	12	6±4 dBm	12	6±4 dBm
18	7±5 dBm	13	4±4 dBm	13	4±4 dBm
19	5±5 dBm	14	2±5 dBm	14	2±5 dBm
		15	0±5 dBm	15	0±5 dBm

2. SGH-E350 Circuit Description

1. SGH-E350 RF Circuit Description

1) RX PART

1. FRONT END MODULE(ANTENNA SWITCH MODULE + RX SAW FILTER) (MODULE1)

Switching Tx, Rx path for GSM900, DCS1800 and PCS1900 by logic controlling.

2. FRONT END MODULE Control Logic (MODULE1) Truth Table

	VC1	VC2	VC3
Tx Mode (GSM900)	H	L	L
Tx Mode (DCS1800/1900)	L	H	H(L)
Rx Mode (GSM900)	L	L	L
Rx Mode (DCS1800)	L	L	L
Rx Mode (PCS1900)	L	L	H

3. VC-TCXO (U102)

This module generates the 26MHz reference clock to drive the logic and RF.

It is turned on when the supply voltage +VCC_SYN is applied.

After buffering a reference clock of 26MHz is supplied to the other parts of the system through the transceiver pin OUT.

4. TRANSCEIVER (U100)

This chip is fully integrated GSM GPRS tri-band transceiver with VCO, loop filters and most of the passive component in it.

And also fully integrated fractional N RF synthesizer with AFC control possibility, RF VCO with integrated supply regulator. Semi integrated reference oscillator with integrated supply regulator.

RF Receiver front-end amplifies the E-GSM900, DCS1800 and PCS1900 aerial signal, convert the chosen channel down to a low IF of 100kHz.

In IF section, further amplifies the wanted channel output level to the desired value and rejects DC.

2) TX PART

The transmitter is fully differential using a direct up conversion architecture. It consists of a signal side band power up mixer. Gain is controlled by 6 dB via 3-wire serial bus programming. The fully integrated VCO and power mixer achieve LO suppression, quadrature phase error, quadrature amplitude balance and low noise floor specification. Output matching/balun components drive a standard 50 ohms single ended load.

2. Baseband Circuit description of SGH-E350

1. PCF50603 (U400)

1.1. Power Management

Eight low-dropout regulators designed specifically for GSM applications power the terminal and help ensure optimal system performance and long battery life. A programmable boost converter provides support for 1.8V, 3.0V SIMs, while a self-resetting, electronically fused switch supplies power to external accessories. Ancillary support functions, such as RTC module and High Voltage Charge pump, Clock generator, aid in reducing both board area and system complexity.

I2C BUS serial interface provides access to control and configuration registers. This interface gives a microprocessor full control of the PCF50603 and enables system designers to maximize both standby and talk times.

Supervisory functions, including a reset generator, an input voltage monitor, and a temperature sensor, support reliable system design. These functions work together to ensure proper system behavior during start-up or in the event of a fault condition (low microprocessor voltage, insufficient battery energy, or excessive die temperature).

1.2. Backlight Brightness Modulator

The Backlight Brightness Modulator (BBM) contains a programmable Pulse-width modulator (PWM) and FET to modulate the intensity of a series of LEDs or to control a DC/DC converter that drives LCD backlight.

This phone (SGH-E350) uses PWM control to contrast the backlight brightness.

1.3. Clock Generator

The Clock Generator (CG) generates all clocks for internal and external usage. The 32.768 kHz crystal oscillator provides an accurate low clock frequency for the PCF50603 and other circuitry.

2. LCD Connector

LCD is consisted of main LCD (color 6.5K TFT LCD).

Chip select signals in the U305, LCD_CS, can enable LCD. BACKLIGHT signal enables white LED of main LCD. These signal is from U400.

16-bit data lines (LD(0)~LD(15)) transfers data and commands to LCD. Data and commands use "RS" signal. If this signal is high, Inputs to LCD are commands. If it is low, Inputs to LCD are data. The signal which informs the input or output state to LCD, is required. But this system is not necessary this signal. So "L_WR" signal is used to write data or commands to LCD. Power signals for LCD are "VDD_IO_HIGH".

4. Key

This is consisted of key interface pins KEY_ROW(0:4) and KEY_COL(0:4) in PCF5213EL1. These signals compose the matrix. Result of matrix informs the key status to key interface in the PCF5213EL1. Power on/off key is separated from the matrix. So power on/off signal is connected with PCF50603 to enable PCF50603. Key LED is consisted of sixteen blue LEDs.

key LED use the 3.3V LDO(U606) for a supply voltage. KEY_LED_ON signal enables eight white LED.

"FLIP" informs the status of slide (up or down) to the PCF5213EL1. This uses the hall effect IC, EM-1681-FT(U607).

A magnet under LCD enables EM-1681-FT.

5. EMI ESD Filter(F501,F502)

This system uses the EMI ESD filter, F501,F502 to protect noise from IF CONNECTOR part.

6. IF connetor(IFC500)

It is 18-pin connector. They are designed to use VBAT, V_EXT_CHARGE, USB_D+, +VBUS, USB_D-, TXD1, RXD1, AUX_ON, EXT1, EXT2 and GND. They connected to power supply IC, microprocessor and signal processor IC.

7. Battery Charge Management IC(U501)

A complete constant-current/constant-voltage linear charger for single cell lithium-ion batteries is used.

If TA connected to phone, "V_EXT_CHARGE" enable charger IC and supply current to battery.

When fault condition caused, "CHG_ON" signal level change low to high and charger IC stop charging process.

8. Audio

HFR_P and HFR_N from PCF5213EL1 are connected to the main speaker via analog switches. MIC_P and MIC_N are connected to the main MIC as well. EAR1 is the source of External Speaker. YMU762 is a synthesizer LSI for mobile phones. This LSI has a built-in speaker amplifier for outputting sounds that are used by mobile phones in addition to game sounds and ringing melodies that are replayed by a synthesizer.

The synthesizer section adopts "stereophonic hybrid synthesizer system" that are given advantages of both FM synthesizers and Wave Table synthesizers to allow simultaneous generation of up to 32 FM voices and 32 Wave Table voices.

It provides simultaneous generation of up to 40 tones by stereophonic hybrid synthesizer.

YMU762 has built a speaker amplifier of which maximum out is 580 mW at SPVDD=3.6V in this device.

There is Stereophonic analog output for Headphone.

9. Memory(U303)

This system uses Samsung's memory, KAP17SG00A. The KAP17SG00A is a Multi Chip Package Memory which combines 256Mbit Synchronous Burst Multi Bank NOR Flash Memory and two 512Mbit OneNAND Flash and 128Mbit Synchronous Burst UtRAM.

It has 16 bit data line, HD[1~16] which is connected to PCF5213EL1 and MV3018SAQ, also has 24 bit address lines, HA[1~24]. There are 3 chip select signals, CS0n_FLASH, CS4n_NAND, and CS1n_RAM.

In the Writing process, WEn is fallen to low and it enables writing process to operate. During reading process,

OEn is fallen to low and it enables reading process to operate. Each chip select signals in the PCF5213EL1 choose different memories.

10. PCF5213EL1(U200)

The PCF5213EL1 is mainly composed of embedded DSP and ARM core. The DSP subsystem includes the Saturn DSP core with embedded RAM and ROM, and a set of peripherals. It has 24kx16 bits PRAM, 104k*16 bits, 32k*16 XYRAM and 63k*16 XYROM in the DSP.

The ARM946E-S consists of an ARM9E-S processor core, 8 kbyte instruction cache and 8 kbyte data cache, tightly-coupled ITCM(Instruction Tightly Coupled Memory) and DTCM(Data Tightly Coupled Memory) memories, a memory protection unit, and an AMBA(Advanced Microcontroller Bus Architecture) AHB(Advanced High-performance Bus) bus interface with a write buffer.

HD(0:15), data lines and HA(0:23), address lines are connected to KAP17SG00A (memory), MV3018B (image dsp) and YMU762 (melody IC). It has 64 kbyte SC RAM (0.5 Mbit) and 32 kbyte SC program ROM for bootstrap loader in the ARM core.

HD(0:15), data lines and HA(0:23), address lines are connected to memory and YMU762 to communicate.

MV3018B(Camera DSP Chip) controls the communication between ARM core and DSP core.

OEn, WEn control the access of memory. KROW, and KCOL recognize the key string input status.

It has J-TAG control pins (TDI/TDO/TCK) for ARM and DSP core. J-SEL signal controls different access to ARM and DSP core.

ADC(Analog to Digital Convertor) receives the condition of temperature, battery type and battery voltage.

11. TCO-5871U(26MHz)(U102)

This system uses the 26MHz TCXO, TCO-5871U, Toyocom. AFC control signal from PCF5213EL1 controls frequency from 26MHz x-tal. It generates the clock frequency. This clock is connected to PCF5213EL1, YMU762 and HD155166.

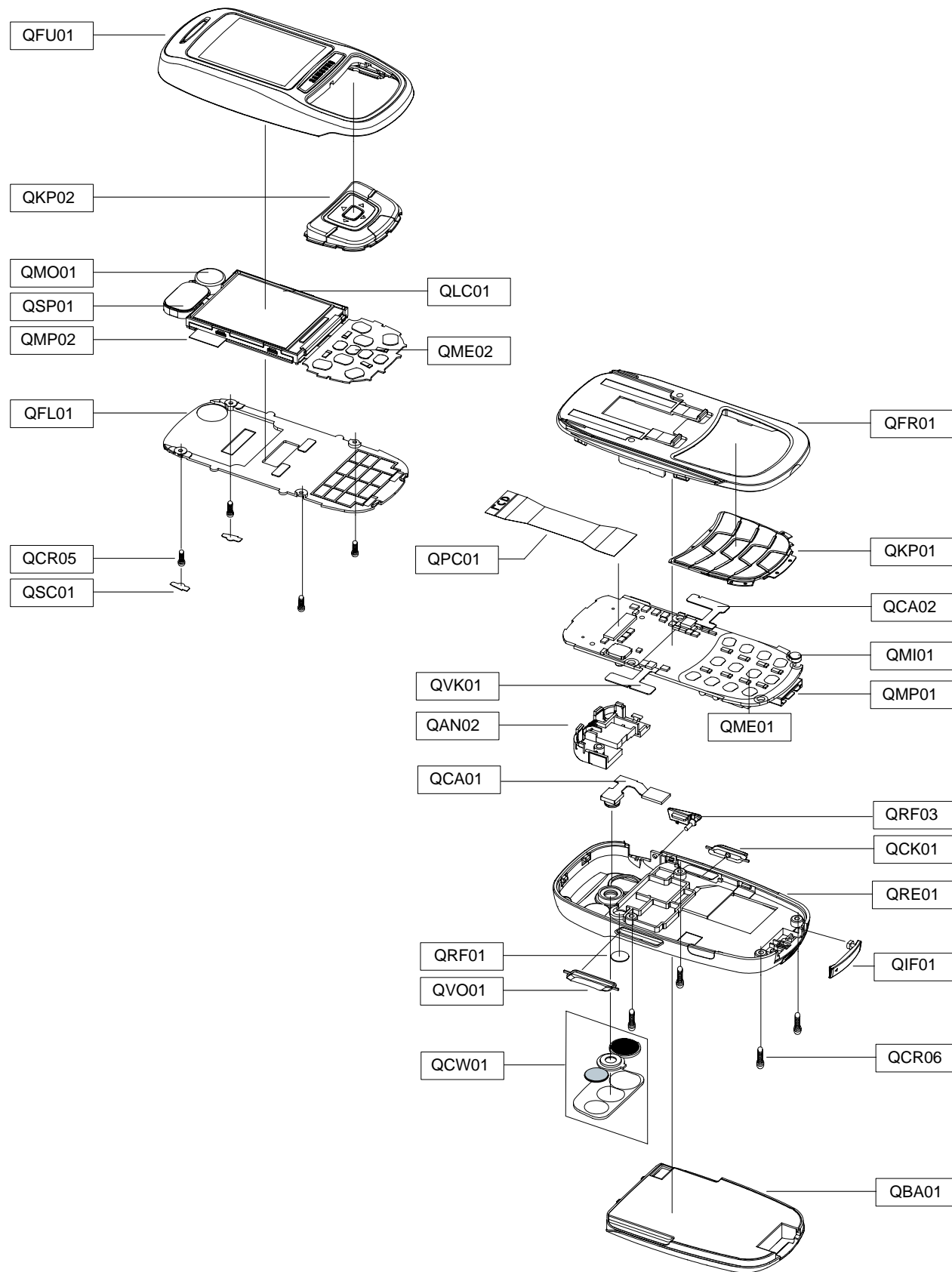
12. Camera DSP(MV3018SAQ)(U305)

MV3018SAQ provides rich video functions up to 30-frame display with minimized tasks in the handset main processor as well as hardware based real-time JPEG compression and decompression. MV3018SAQ directly transmits and previews the RGB data to the LCD graphic memory by processing the sensor output data according to the handset's command. It can save the raw RGB data up to VGA resolution into its image buffer and allows the host processor to download with scalable sized compressed data.

It utilizes 16 bit data bus for communication with the main processor, including bus interface types.

3. SGH-E350 Exploded View and its Parts list

1. Exploded View



2. Parts list

Location NO.		Description	SEC CODE
QAN02		ANTENNA-SGHE350;EWPADF013A,SGH-E350,	GH42-00592A
QBA01		BATTERY-800MAH,B SIL,ORA,M;BST4208SO	GH43-01920C
QCA01		UNIT-CAMERA;SGH-E350,MOMBH150G1A,-,E	GH59-02179A
QCA02		UNIT-CAMERA KEY;SGH-E350,SGH-E350 C/	GH59-02183A
QCR05		SCREW-MACHINE;PH,+,M1.4,L3,ZPC(BLK),	6001-001478
QCR06		SCREW-MACHINE;PH(PI2.5),+,M1.4,L3.5,	6001-001155
QCW01		MEC-CAMERA WINDOW;SGH-E350,EU,-,-,-,-,	GH75-07339A
QFL01		MEC-SLIDE LOWER;SGH-E350,EU,-,-,-,-,-,	GH75-07260A
QFR01		MEC-FRONT COVER;SGH-E350,EU,-,-,-,-,-,	GH75-07261A
QFU01		MEC-SLIDE UPPER;SGH-E350,EU,-,-,-,-,-,	GH75-07259A
QIF01		PMO-IF COVER;SGH-E350,PC(G6656)+URET	GH72-20661A
QKP01		MEC-KEYPAD MAIN;SGH-E350,EU,-,-,-,-,-,	GH75-07285A
QKP02		MEC-KEYPAD SUB;SGH-E350,EU,-,-,-,-,-,B	GH75-07284A
QLC01		LCD-SGHE350;LTS166QQ-F02,SGH-E350,12	GH07-00729A
QME01		UNIT-METAL DOME(MAIN);SGH-E350,SGH-E	GH59-02182A
QME02		UNIT-METAL DOME(SUB);SGH-E350,SGH-E3	GH59-02181A
QMI01		MICROPHONE-ASSY-SGHE350;1,130to500uA	GH30-00203A
QMO01		MOTOR DC-SGHE350;JHV-10A1-F13,SGH-E3	GH31-00176A
QMP01		PBA MAIN-SGHE350EDGE;SCH-E350,TINY,E	GH92-02179A
QMP02		PBA SUB-SGHE350;SGH-E350,TINY,EU,PBA	GH92-02206A
QPC01		PCB-FPCB CABLE;SGH-E350,POLYIMIDE,3L	GH41-00882A
QRE01		MEC-REAR COVER(FTM);SGH-E350E,FTM,-,	GH75-07332A
	QVO01	PMO-VOLUME KEY;SGH-E350,ABS+URETHAN,	GH72-20665A
	QCK01	PMO-CAMERA KEY;SGH-E350,ABS+URETHAN,	GH72-20666A
QRF01		MPR-SHEET RF COVER;SGH-E350,PC SHEET	GH74-16395A
QRF03		PMO-EAR COVER V2;SGH-E350,PC(G71770C	GH72-22634A
QSC01		MPR-SLIDE/L SCREW SHEET;SGH-E350,PC	GH74-16356A
QSP01		SPEAKER;0.7W,8ohmohm,122dB±2dB,850H	3001-001782
QVK01		UNIT-VOLUME KEY;SGH-E350,SGH-E350 V/	GH59-02180A

Description	SEC CODE
BAG PE;LDPE,T0.05,W80,L180,TRP,-,-	6902-000634
ADAPTOR-TAD;TAD137ESE,SGH-P100,-,110	GH44-00482A
UNIT-EARPHONE;SGH-Z107,EM-SS650E-ST,	GH59-01713A
LABEL(P)-WATER SOAK;COMM,NORGE,100G,	GH68-02026A
MANUAL-WEEE CARD;COMM,SEC,ENGLISH,UN	GH68-07013A
LABEL(R)-MAIN(EU);SGH-E350,EU,POLYES	GH68-07204A
MANUAL-USER;SGH-E350E,FTM,FRENCH,FRA	GH68-07302A
MANUAL-QSG;SGH-E350E,FTA,FRENCH,FRAN	GH68-07320A
CUSHION-CASE(1-2);SGH-E350,PULP,T0.8	GH69-03012A
BOX(P)-UINIT(ORANGE);SGH-E350,SC300+	GH69-03026A
PMO-BATT LOCKER;SGH-E350,PC(G6656),S	GH72-20662A
RMO-RUBBER BGA 1;SGH-E350,CR RUBBER,	GH73-05089A
RMO-RUBBER BGA 2;SGH-E350,CR RUBBER,	GH73-05090A
RMO-RUBBER BGA 3;SGH-E350,CR RUBBER,	GH73-05091A
MPR-TAPE SUB FPCB;SGH-E350,3M 851,28	GH74-16170A
MPR-TAPE LCD FPCB CONN;SGH-E350,3M 8	GH74-16171A
MPR-TAPE MAIN FPCB BASE;SGH-E350,PET	GH74-16218A
MPR-TAPE MAIN FPCB;SGH-E350,3M 851,2	GH74-16219A
MPR-BOHO VINYL U/WIN;SGH-E350,3M 418	GH74-16358A
MPR-BOHO VINYL SUB KEY;SGH-E350,3M 4	GH74-16359A
MPR-TAPE EMI LCD R;SGH-E350,EMI TPAE	GH74-16368A
MPR-TAPE EMI LCD L;SGH-E350,EMI TPAE	GH74-16369A
MPR-TAPE EMI MAIN PCB;SGH-E350,EMI T	GH74-16370A
MPR-TAPE EMI SUB PCB TOP;SGH-E350,EM	GH74-16371A
MPR-TAPE SUB PCB BOT;SGH-E350,3M 851	GH74-16373A
MPR-TAPE MAIN PCB A;SGH-E350,3M 851,	GH74-16787A
MEC-HANGER;SGH-Z500,TMN,STRAP,-,BLK,	GH75-03673H

3. Test Jig (GH80-03306A)



3-1. USB JIG Cable



3-2. RF Test Cable
(GH39-00283A)



3-3. Test Cable
(GH39-00337A)



3-4. Serial Cable
(CSA LL64151-A)



3-5. Power Supply Cable



3-6. DATA CABLE
(GH39-00331A)



3-7. TA
(GH44-00482A)



4. Electrical Parts List

SEC CODE	Description	Design LOC
0403-001387	ZD500	DIODE - ZENER
0403-001427	ZD501	DIODE - ZENER
0404-001172	D400	DIODE - SCHOTTKY
0404-001172	D401	DIODE - SCHOTTKY
0406-001208	ZD601	DIODE - TVS
0406-001208	ZD700	DIODE - TVS
0406-001208	ZD701	DIODE - TVS
0406-001208	ZD702	DIODE - TVS
0406-001208	ZD703	DIODE - TVS
0504-001151	U202	TR - DIGITAL
0504-001151	U203	TR - DIGITAL
0504-001151	U204	TR - DIGITAL
0504-001151	U502	TR - DIGITAL
0601-001754	LED600	LED
0601-001754	LED601	LED
0601-001754	LED602	LED
0601-001754	LED603	LED
0601-001754	LED604	LED
0601-001754	LED605	LED
0601-001754	LED606	LED
0601-001754	LED607	LED
0604-001291	U301	PHOTO - IRDA
0801-002958	U302	IC - CMOS LOGIC
0801-002970	U703	IC - CMOS LOGIC
1009-001020	U607	IC - HALL EFFECT S/W
1201-002223	U101	IC - POWER AMP
1202-001068	U600	IC - VOLTAGE COMP
1203-003321	U700	IC - DC/DC CONVERTER
1203-003340	U401	IC - POSI. FIXED REG
1203-003340	U606	IC - POSI. FIXED REG
1203-003432	U701	IC - POSI. FIXED REG
1203-003545	U402	IC - DC/DC CONVERTER
1203-003568	U400	IC - POWER SUPERVISOR
1203-003742	U501	IC - BATTERY
1204-002161	U300	IC - MELODY
1205-002636	U200	IC - COMM. CONTROLLER

SEC CODE	Description	Design LOC
1205-002709	U100	IC-TRANSCEIVER
1404-001221	V500	THERMISTOR-NTC
1405-001082	V400	VARISTOR
1405-001082	V601	VARISTOR
1405-001082	V602	VARISTOR
1405-001082	V700	VARISTOR
1405-001082	V701	VARISTOR
1405-001082	V702	VARISTOR
1405-001082	V703	VARISTOR
1405-001082	V704	VARISTOR
1405-001082	V705	VARISTOR
1405-001082	V706	VARISTOR
1405-001110	V603	VARISTOR
1405-001110	V604	VARISTOR
1405-001110	V707	VARISTOR
1405-001110	V708	VARISTOR
1405-001110	V709	VARISTOR
1405-001110	V710	VARISTOR
1405-001110	V711	VARISTOR
1405-001110	V712	VARISTOR
2007-000070	R303	R-CHIP
2007-000137	R507	R-CHIP
2007-000137	R600	R-CHIP
2007-000137	R602	R-CHIP
2007-000138	R115	R-CHIP
2007-000138	R517	R-CHIP
2007-000138	R518	R-CHIP
2007-000138	R701	R-CHIP
2007-000138	R702	R-CHIP
2007-000138	R703	R-CHIP
2007-000138	R704	R-CHIP
2007-000138	R705	R-CHIP
2007-000143	R104	R-CHIP
2007-000143	R105	R-CHIP
2007-000143	R108	R-CHIP
2007-000143	R109	R-CHIP

SEC CODE	Description	Design LOC
2007-000143	R216	R-CHIP
2007-000143	R307	R-CHIP
2007-000143	R308	R-CHIP
2007-000148	R101	R-CHIP
2007-000148	R200	R-CHIP
2007-000148	R218	R-CHIP
2007-000148	R302	R-CHIP
2007-000148	R309	R-CHIP
2007-000148	R313	R-CHIP
2007-000148	R504	R-CHIP
2007-000151	R305	R-CHIP
2007-000152	R519	R-CHIP
2007-000156	R511	R-CHIP
2007-000162	R201	R-CHIP
2007-000162	R207	R-CHIP
2007-000162	R211	R-CHIP
2007-000162	R212	R-CHIP
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2007-000162	R214	R-CHIP
2007-000162	R215	R-CHIP
2007-000162	R306	R-CHIP
2007-000162	R311	R-CHIP
2007-000162	R401	R-CHIP
2007-000162	R405	R-CHIP
2007-000162	R501	R-CHIP
2007-000162	R503	R-CHIP
2007-000162	R509	R-CHIP
2007-000162	R605	R-CHIP
2007-000162	R607	R-CHIP
2007-000162	R608	R-CHIP
2007-000162	R609	R-CHIP
2007-000162	R617	R-CHIP
2007-000162	R707	R-CHIP
2007-000162	R708	R-CHIP
2007-000170	R203	R-CHIP
2007-000170	R204	R-CHIP

Electrical Parts List

SEC CODE	Description	Design LOC
2007-000170	R205	R-CHIP
2007-000170	R206	R-CHIP
2007-000170	R513	R-CHIP
2007-000170	R514	R-CHIP
2007-000171	C100	R-CHIP
2007-000171	R100	R-CHIP
2007-000171	R102	R-CHIP
2007-000171	R106	R-CHIP
2007-000171	R110	R-CHIP
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2007-000171	R516	R-CHIP
2007-000171	R520	R-CHIP
2007-000172	R103	R-CHIP
2007-000172	R107	R-CHIP
2007-000242	R209	R-CHIP
2007-000242	R210	R-CHIP
2007-000758	R500	R-CHIP
2007-000758	R502	R-CHIP
2007-000831	R304	R-CHIP
2007-000831	R604	R-CHIP
2007-000839	R312	R-CHIP

SEC CODE	Description	Design LOC
2007-001303	R315	R-CHIP
2007-001303	R317	R-CHIP
2007-001316	R408	R-CHIP
2007-001316	R603	R-CHIP
2007-001325	R301	R-CHIP
2007-007001	R208	R-CHIP
2007-007009	R611	R-CHIP
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2007-007009	R614	R-CHIP
2007-007009	R615	R-CHIP
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2007-007009	R618	R-CHIP
2007-007009	R619	R-CHIP
2007-007013	R706	R-CHIP
2007-007014	R314	R-CHIP
2007-007014	R316	R-CHIP
2007-007100	U704	R-CHIP
2007-007310	R700	R-CHIP
2007-007334	R510	R-CHIP
2007-007480	R610	R-CHIP
2007-007489	R512	R-CHIP
2007-007573	R508	R-CHIP
2007-007573	R606	R-CHIP
2203-000233	C122	C-CER,CHIP
2203-000233	C139	C-CER,CHIP
2203-000233	C300	C-CER,CHIP
2203-000233	C409	C-CER,CHIP
2203-000233	C704	C-CER,CHIP
2203-000254	C128	C-CER,CHIP
2203-000254	C131	C-CER,CHIP
2203-000254	C133	C-CER,CHIP
2203-000254	C141	C-CER,CHIP
2203-000254	C200	C-CER,CHIP
2203-000254	C205	C-CER,CHIP
2203-000254	C207	C-CER,CHIP

SEC CODE	Description	Design LOC
2203-000254	C405	C-CER,CHIP
2203-000254	C412	C-CER,CHIP
2203-000254	C617	C-CER,CHIP
2203-000254	C713	C-CER,CHIP
2203-000278	C115	C-CER,CHIP
2203-000278	C116	C-CER,CHIP
2203-000278	C117	C-CER,CHIP
2203-000278	C600	C-CER,CHIP
2203-000278	C611	C-CER,CHIP
2203-000278	C614	C-CER,CHIP
2203-000278	C619	C-CER,CHIP
2203-000278	C626	C-CER,CHIP
2203-000311	C506	C-CER,CHIP
2203-000438	C138	C-CER,CHIP
2203-000438	C140	C-CER,CHIP
2203-000438	C304	C-CER,CHIP
2203-000438	C318	C-CER,CHIP
2203-000438	C321	C-CER,CHIP
2203-000438	C627	C-CER,CHIP
2203-000585	C123	C-CER,CHIP
2203-000628	C127	C-CER,CHIP
2203-000628	C130	C-CER,CHIP
2203-000628	C132	C-CER,CHIP
2203-000628	C135	C-CER,CHIP
2203-000654	C120	C-CER,CHIP
2203-000654	C134	C-CER,CHIP
2203-000679	C301	C-CER,CHIP
2203-000679	C320	C-CER,CHIP
2203-000679	C325	C-CER,CHIP
2203-000679	C326	C-CER,CHIP
2203-000679	C327	C-CER,CHIP
2203-000725	C316	C-CER,CHIP
2203-000812	C102	C-CER,CHIP
2203-000812	C106	C-CER,CHIP
2203-000812	C203	C-CER,CHIP
2203-000812	C210	C-CER,CHIP

SEC CODE	Description	Design LOC
2203-000812	C215	C-CER,CHIP
2203-000812	C218	C-CER,CHIP
2203-000812	C219	C-CER,CHIP
2203-000812	C220	C-CER,CHIP
2203-000812	C700	C-CER,CHIP
2203-000812	C701	C-CER,CHIP
2203-000995	C107	C-CER,CHIP
2203-001259	C105	C-CER,CHIP
2203-001259	C114	C-CER,CHIP
2203-002443	C612	C-CER,CHIP
2203-002525	C313	C-CER,CHIP
2203-002668	C103	C-CER,CHIP
2203-002668	C113	C-CER,CHIP
2203-002668	C118	C-CER,CHIP
2203-003054	C407	C-CER,CHIP
2203-003054	C410	C-CER,CHIP
2203-003054	C621	C-CER,CHIP
2203-003054	C628	C-CER,CHIP
2203-003054	C629	C-CER,CHIP
2203-005056	C606	C-CER,CHIP
2203-005056	C616	C-CER,CHIP
2203-005288	C104	C-CER,CHIP
2203-005288	C119	C-CER,CHIP
2203-005288	C121	C-CER,CHIP
2203-005480	C315	C-CER,CHIP
2203-005480	C402	C-CER,CHIP
2203-005482	C136	C-CER,CHIP
2203-005482	C137	C-CER,CHIP
2203-005482	C201	C-CER,CHIP
2203-005482	C202	C-CER,CHIP
2203-005482	C204	C-CER,CHIP
2203-005482	C206	C-CER,CHIP
2203-005482	C208	C-CER,CHIP
2203-005482	C211	C-CER,CHIP
2203-005482	C217	C-CER,CHIP
2203-005482	C302	C-CER,CHIP

Electrical Parts List

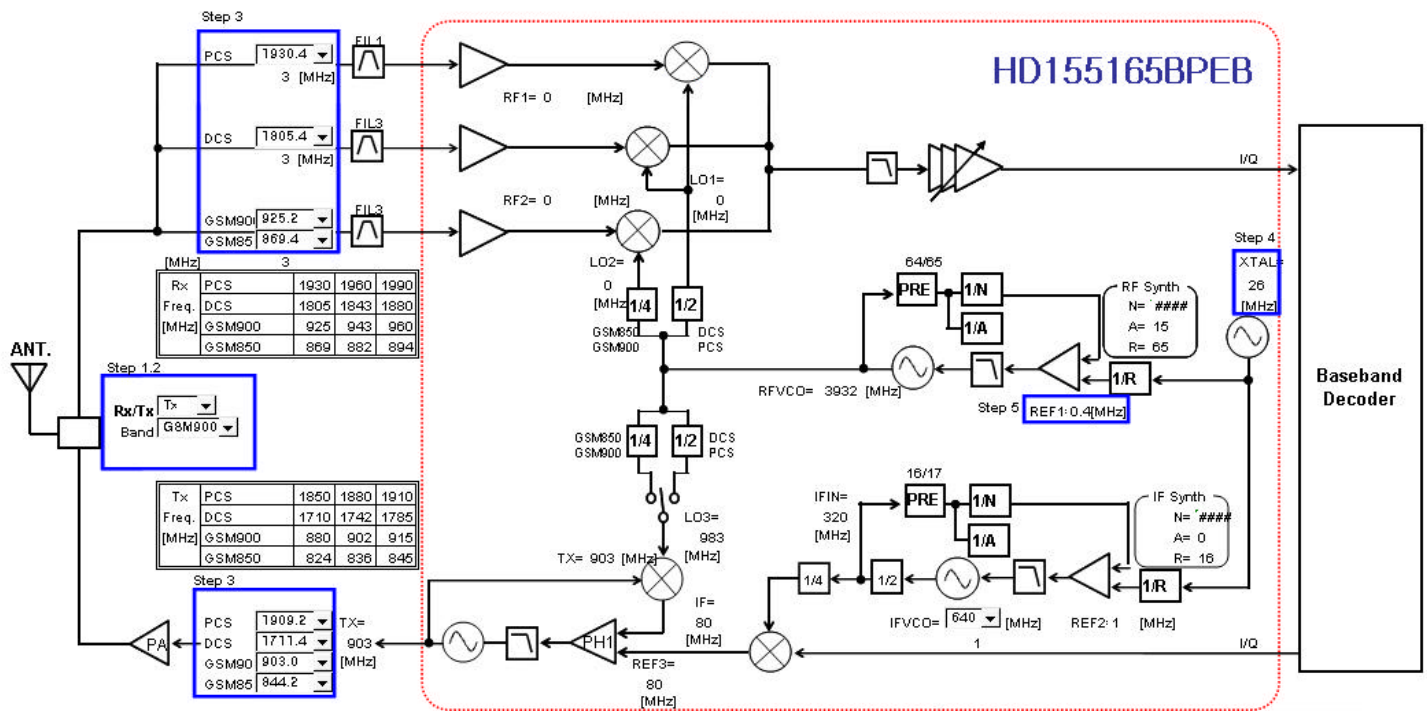
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2203-005482	C308	C-CER,CHIP
2203-005482	C309	C-CER,CHIP
2203-005482	C312	C-CER,CHIP
2203-005482	C314	C-CER,CHIP
2203-005482	C317	C-CER,CHIP
2203-005482	C323	C-CER,CHIP
2203-005482	C406	C-CER,CHIP
2203-005482	C419	C-CER,CHIP
2203-005482	C501	C-CER,CHIP
2203-005482	C503	C-CER,CHIP
2203-005482	C504	C-CER,CHIP
2203-005482	C603	C-CER,CHIP
2203-005482	C604	C-CER,CHIP
2203-005482	C609	C-CER,CHIP
2203-005482	C613	C-CER,CHIP
2203-005482	C624	C-CER,CHIP
2203-005482	C625	C-CER,CHIP
2203-005482	C703	C-CER,CHIP
2203-005482	C706	C-CER,CHIP
2203-005482	C712	C-CER,CHIP
2203-005482	C715	C-CER,CHIP
2203-005482	C716	C-CER,CHIP
2203-005482	C719	C-CER,CHIP
2203-005496	C110	C-CER,CHIP
2203-005512	C311	C-CER,CHIP
2203-006053	C212	C-CER,CHIP
2203-006053	C213	C-CER,CHIP
2203-006053	C214	C-CER,CHIP
2203-006053	C310	C-CER,CHIP
2203-006053	C505	C-CER,CHIP
2203-006053	R324	C-CER,CHIP
2203-006091	C631	C-CER,CHIP
2203-006093	C414	C-CER,CHIP
2203-006137	C623	C-CER,CHIP

SEC CODE	Description	Design LOC
2203-006190	C630	C - CER,CHIP
2203-006201	C710	C - CER,CHIP
2203-006201	C711	C - CER,CHIP
2203-006208	C209	C - CER,CHIP
2203-006208	C418	C - CER,CHIP
2203-006208	C423	C - CER,CHIP
2203-006208	C426	C - CER,CHIP
2203-006208	C705	C - CER,CHIP
2203-006257	C306	C - CER,CHIP
2203-006257	C319	C - CER,CHIP
2203-006257	C322	C - CER,CHIP
2203-006257	C400	C - CER,CHIP
2203-006257	C403	C - CER,CHIP
2203-006257	C408	C - CER,CHIP
2203-006257	C416	C - CER,CHIP
2203-006257	C417	C - CER,CHIP
2203-006257	C424	C - CER,CHIP
2203-006257	C620	C - CER,CHIP
2203-006257	C622	C - CER,CHIP
2203-006257	C708	C - CER,CHIP
2203-006257	C709	C - CER,CHIP
2203-006257	C717	C - CER,CHIP
2203-006257	C718	C - CER,CHIP
2203-006257	C720	C - CER,CHIP
2404-001225	C303	C - TA,CHIP
2404-001225	C404	C - TA,CHIP
2404-001225	C413	C - TA,CHIP
2404-001225	C415	C - TA,CHIP
2404-001225	C425	C - TA,CHIP
2404-001268	C502	C - TA,CHIP
2404-001348	C108	C - TA,CHIP
2404-001352	C401	C - TA,CHIP
2404-001352	C411	C - TA,CHIP
2404-001374	C109	C - TA,CHIP
2404-001374	C126	C - TA,CHIP
2404-001374	C129	C - TA,CHIP

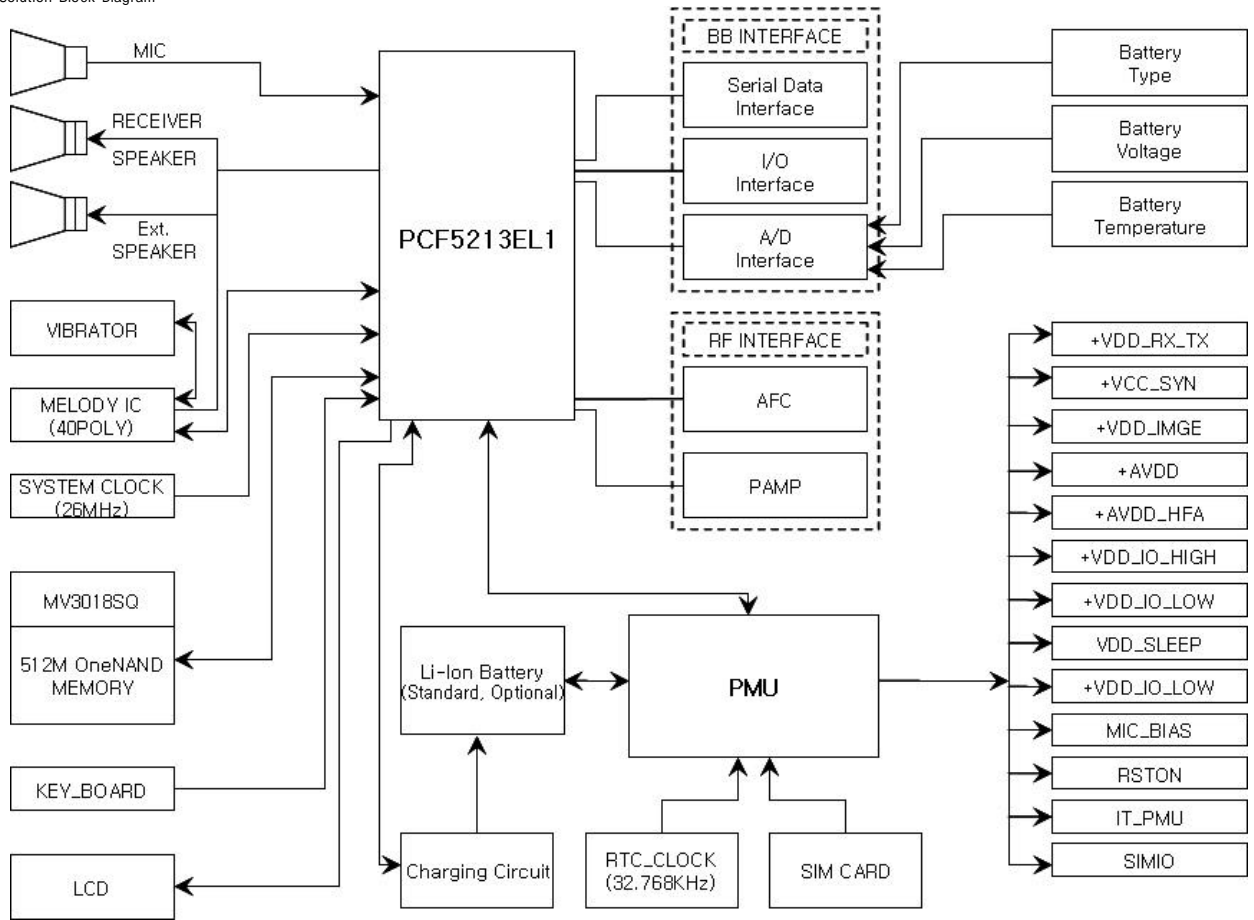
SEC CODE	Description	Design LOC
2703-001723	R402	INDUCTOR -SMD
2703-002155	L101	INDUCTOR -SMD
2703-002313	L200	INDUCTOR -SMD
2703-002313	L201	INDUCTOR -SMD
2703-002313	L202	INDUCTOR -SMD
2703-002365	L102	INDUCTOR -SMD
2703-002365	L103	INDUCTOR -SMD
2703-002365	L107	INDUCTOR -SMD
2703-002365	L108	INDUCTOR -SMD
2703-002586	L100	INDUCTOR -SMD
2703-002596	L105	INDUCTOR -SMD
2801-004339	OSC400	CRYSTAL -SMD
2809-001294	U102	OSCILLATOR -VCTCXO
2901-001283	F500	FILTER -EMI SMD
2901-001319	F700	FILTER -EMI SMD
2901-001319	F701	FILTER -EMI SMD
2901-001319	F702	FILTER -EMI SMD
2901-001319	F703	FILTER -EMI SMD
2901-001319	F704	FILTER -EMI SMD
2901-001319	F705	FILTER -EMI SMD
2901-001319	F706	FILTER -EMI SMD
2901-001322	F501	FILTER -EMI SMD
2901-001322	F502	FILTER -EMI SMD
3301-001120	L400	BEAD -SMD
3301-001534	L600	BEAD -SMD
3301-001729	L700	BEAD -SMD
3301-001729	L701	BEAD -SMD
3705-001355	CN100	CONNECTOR -COAXIAL
3708-001966	CN700	CONNECTOR -FPC/FFC/PIC
3709-001355	SIM400	CONNECTOR -CARD EDGE
3710-001611	IFC500	CONNECTOR -INTERFACE
3711-005801	CN701	CONNECTOR -HEADER
3711-005829	BTC500	CONNECTOR -BATTERY
4302-001177	BAT400	BATTERY -LI(2ND)
GH13-00029A	U305	IC ASIC -SCHN480

5. SGH-E350 Block Diagrams

1. RF Solution Block Diagram

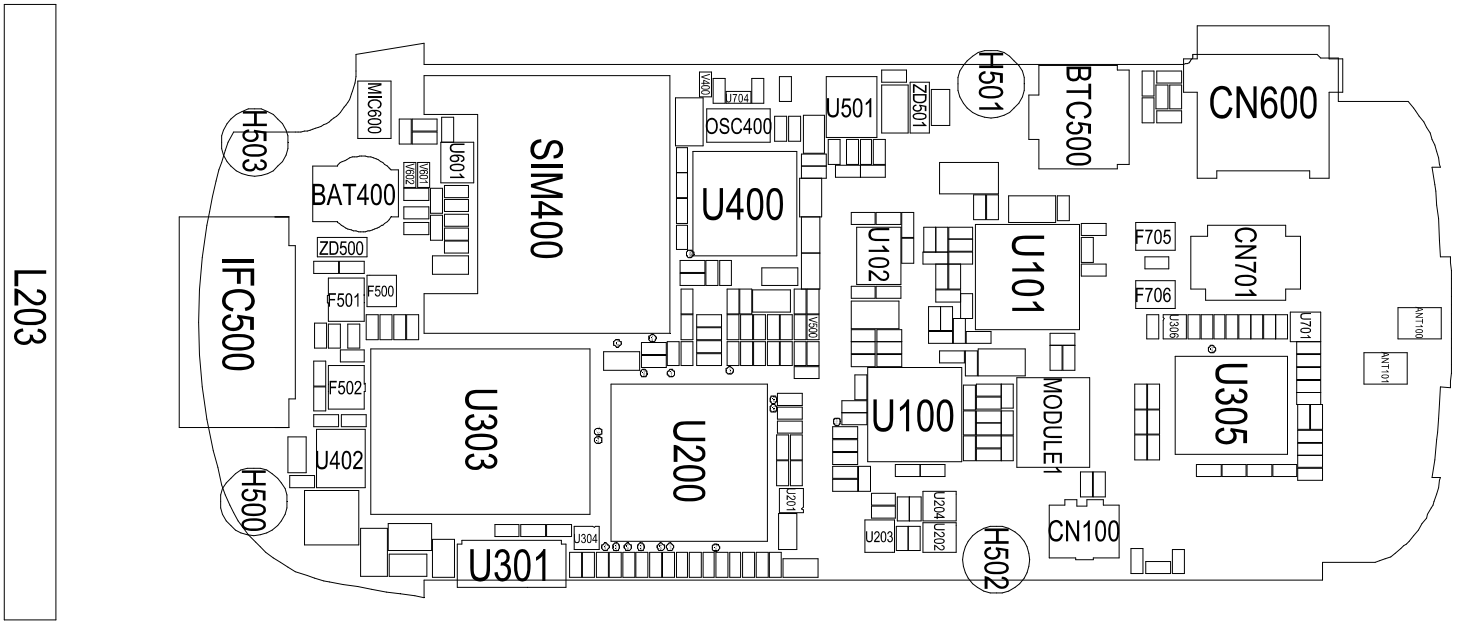


2. Base Band Solution Block Diagram

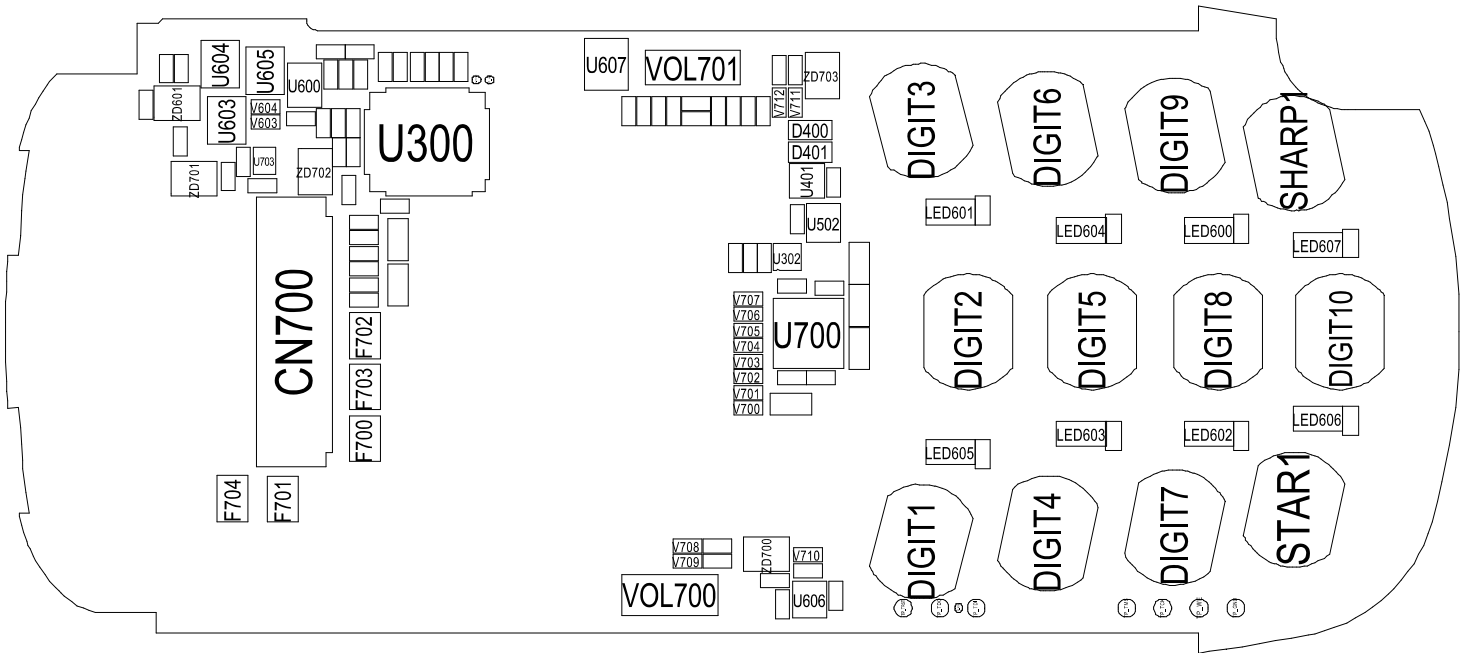


6. SGH-E350 PCB Diagrams

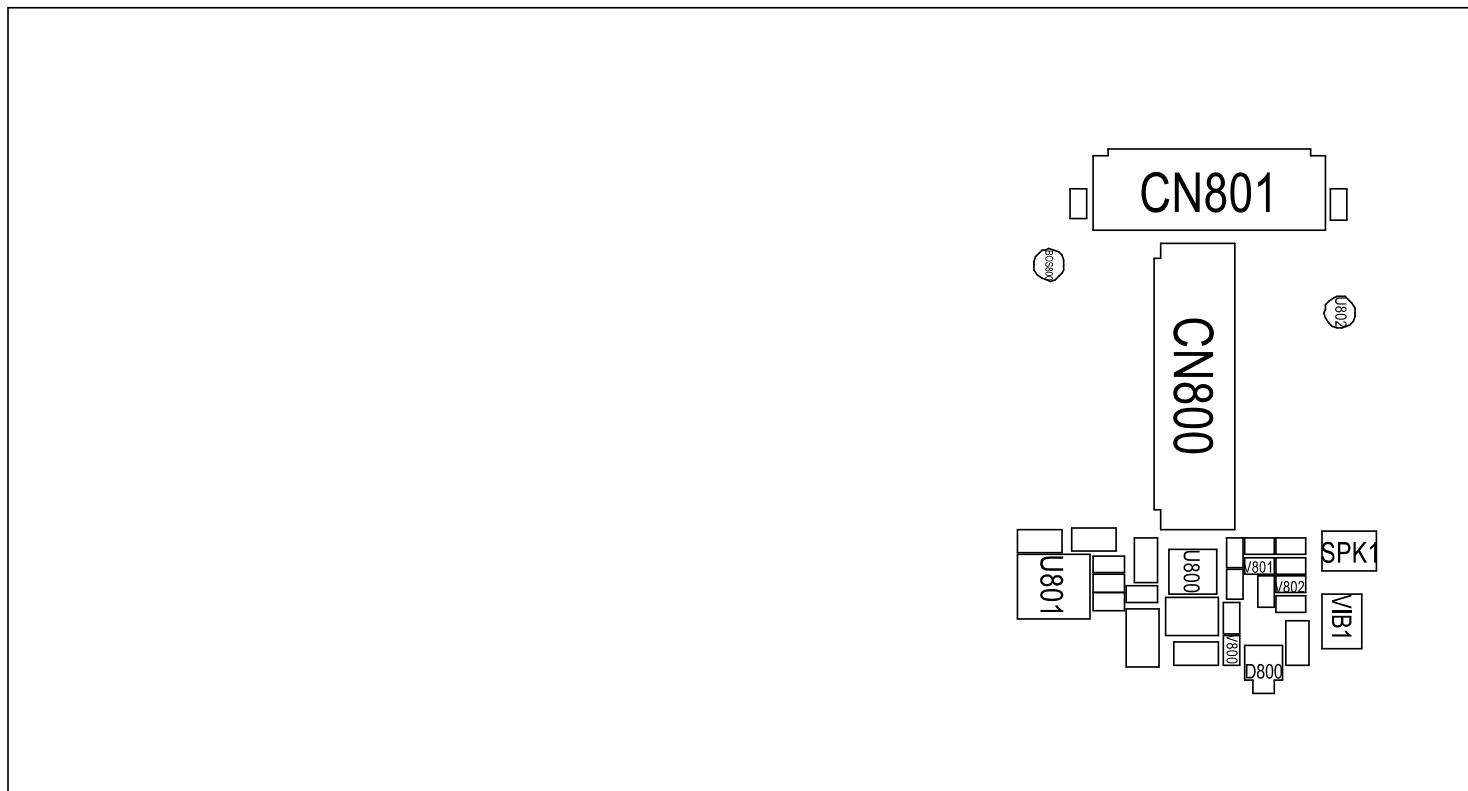
1. MAIN PCB Top Diagram



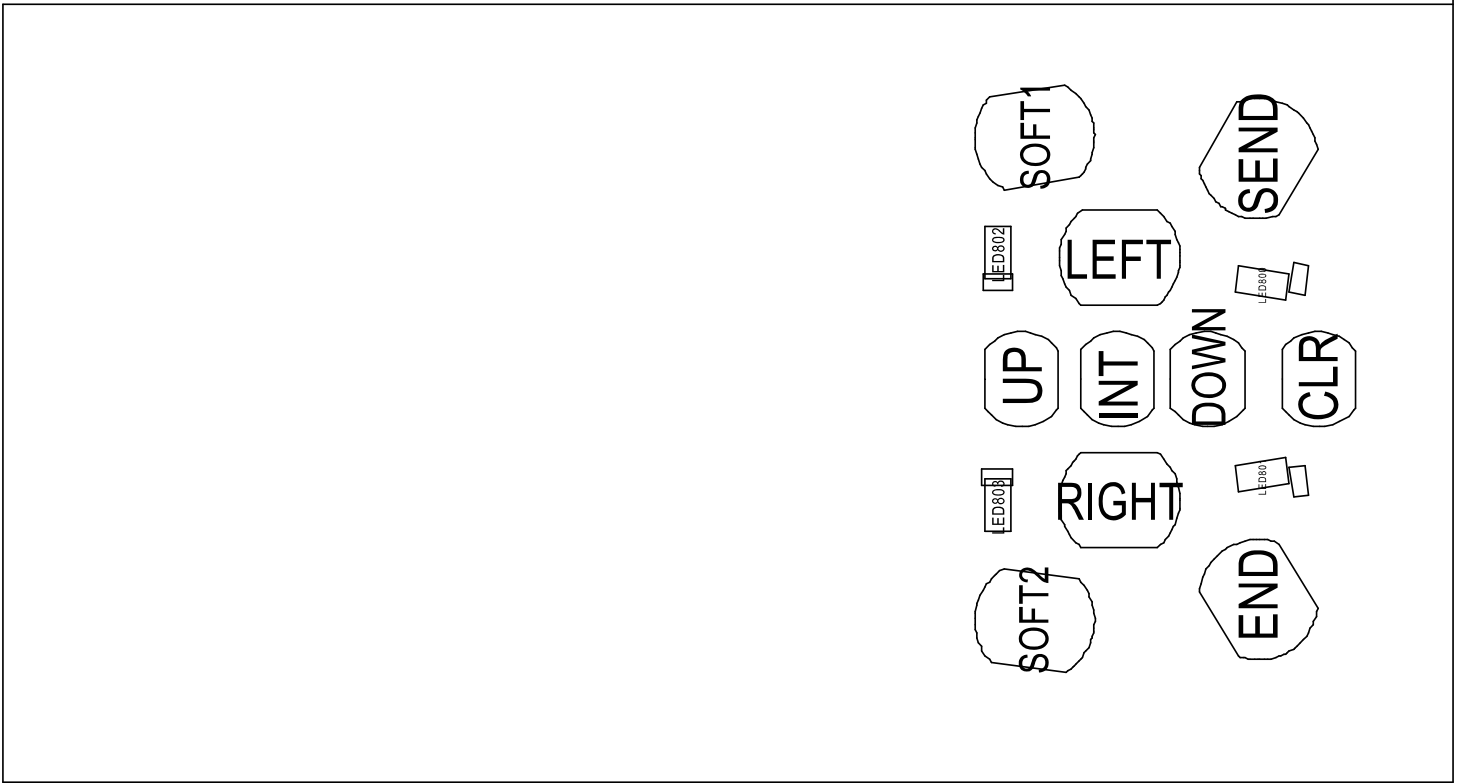
2. MAIN PCB Bottom Diagram



3. SUB Top Diagram

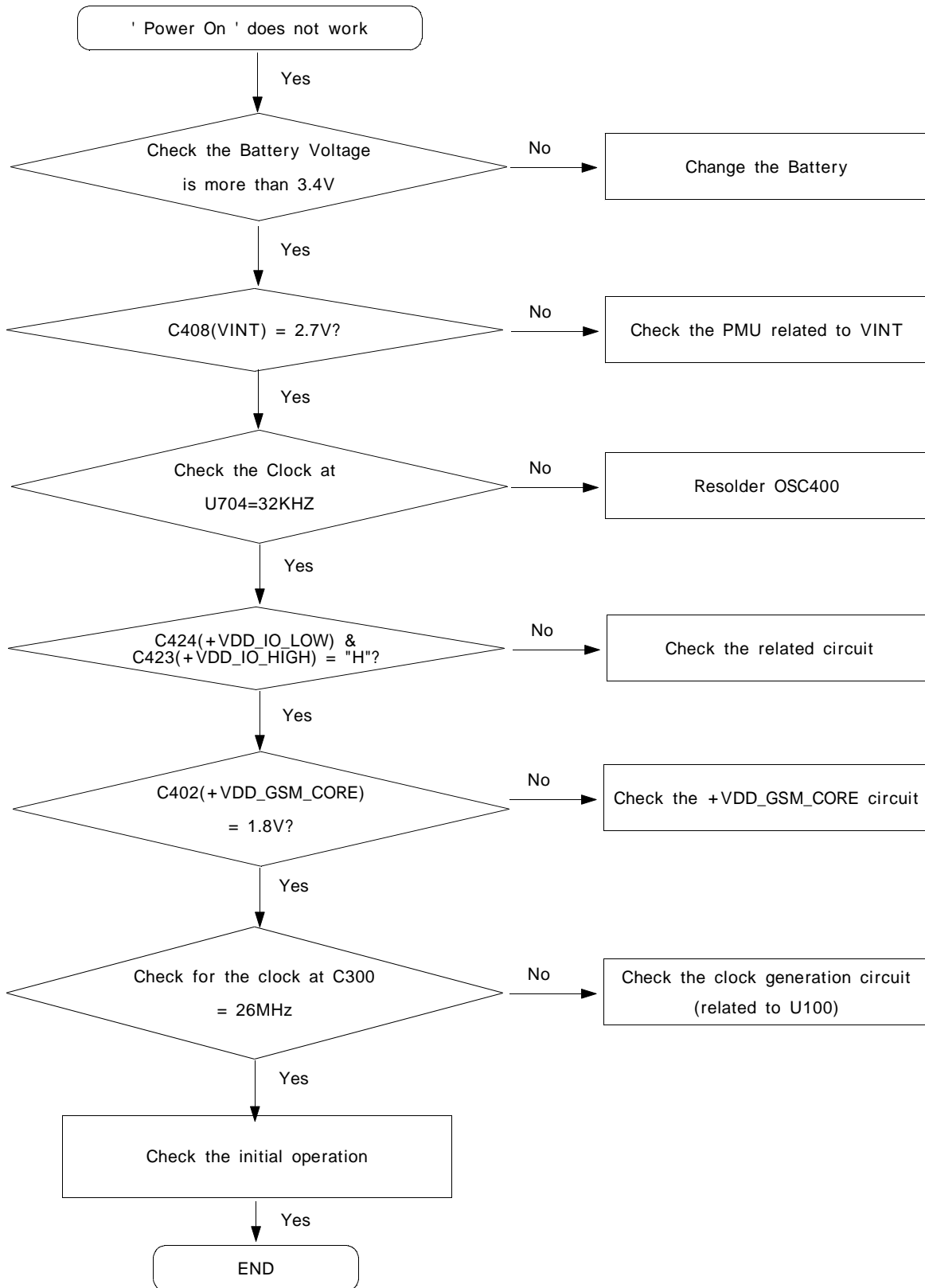


4. SUB Bottom Diagram



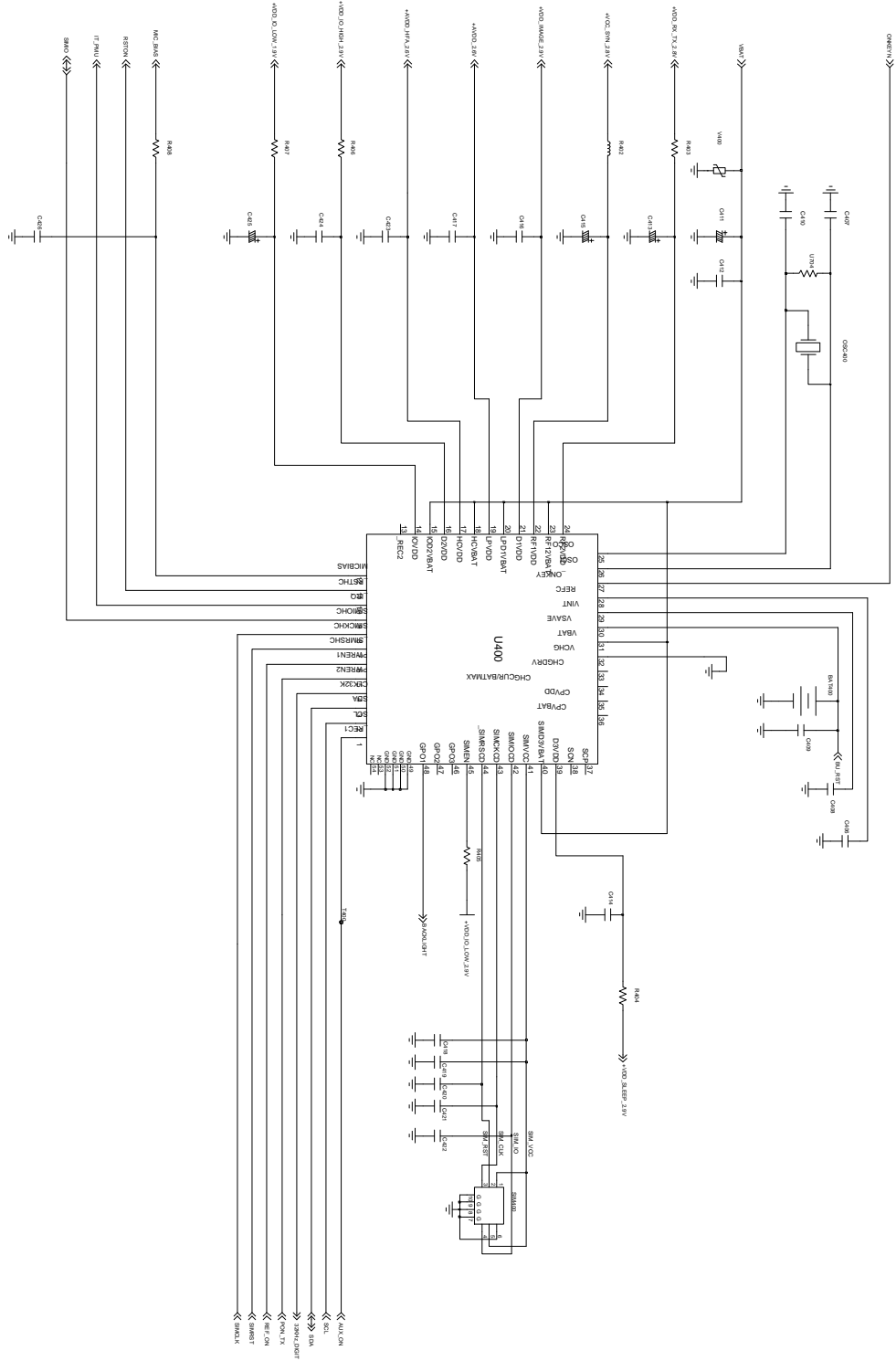
7. SGH-E350 Flow Chart of Troubleshooting

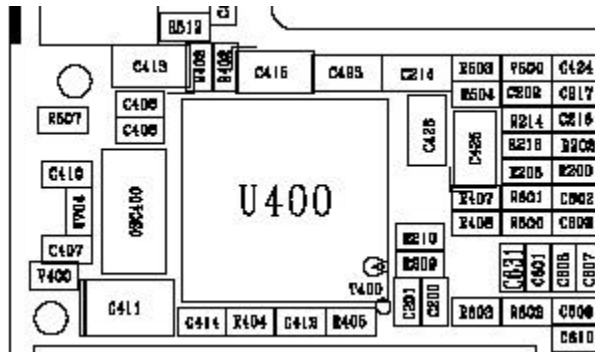
1. Power On



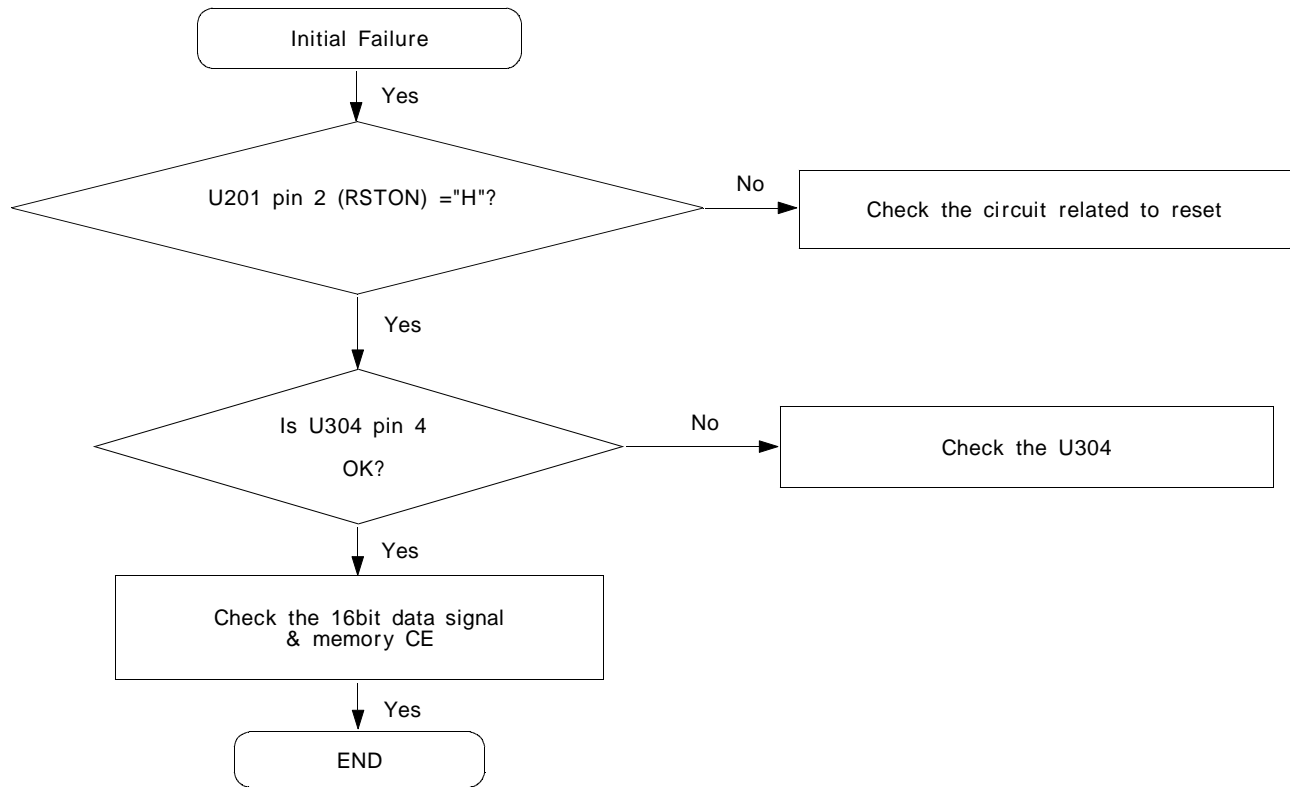
Flow Chart of Troubleshooting

VDD0_0H40	2.0V
VDD0_0L0W	1.5V
VDD0_0V0V	1.5V
VDD0_0H40E	2.0V
VDD0_0H40S	2.0V
VDD0_0H40M	2.0V
VDD0_0H40T	2.0V
VDD0_0H40C	2.0V
VDD0_0H40D	2.0V
VDD0_0H40E	2.0V
VDD0_0H40S	2.0V
VDD0_0H40M	2.0V
VDD0_0H40T	2.0V
VDD0_0H40C	2.0V
VDD0_0H40D	2.0V
VDD0_0H40E	2.0V
VDD0_0H40S	2.0V
VDD0_0H40M	2.0V
VDD0_0H40T	2.0V
VDD0_0H40C	2.0V
VDD0_0H40D	2.0V

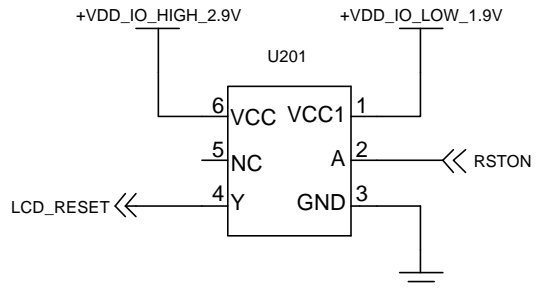
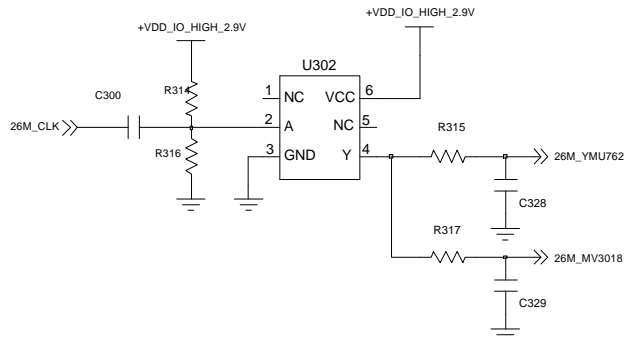
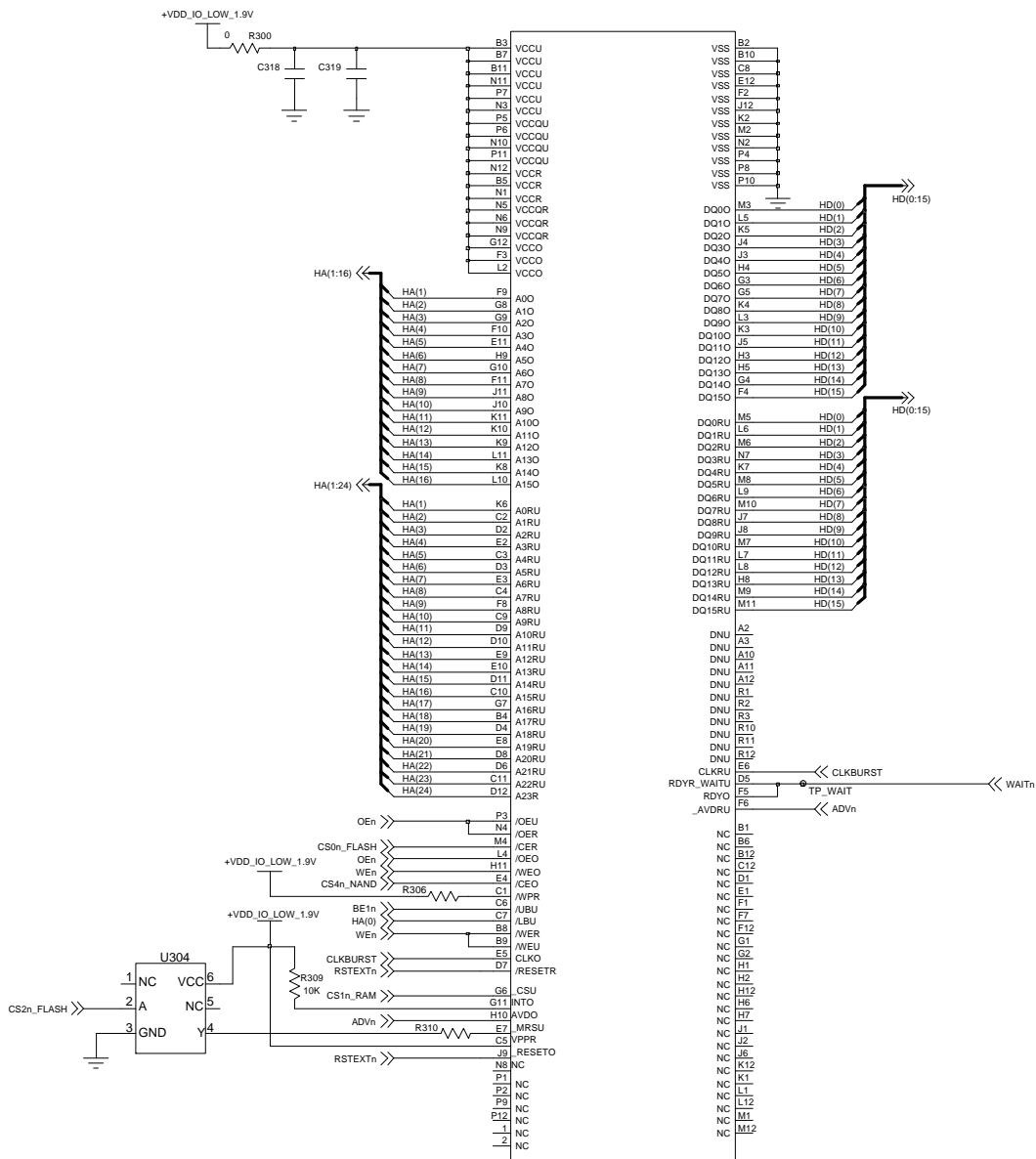




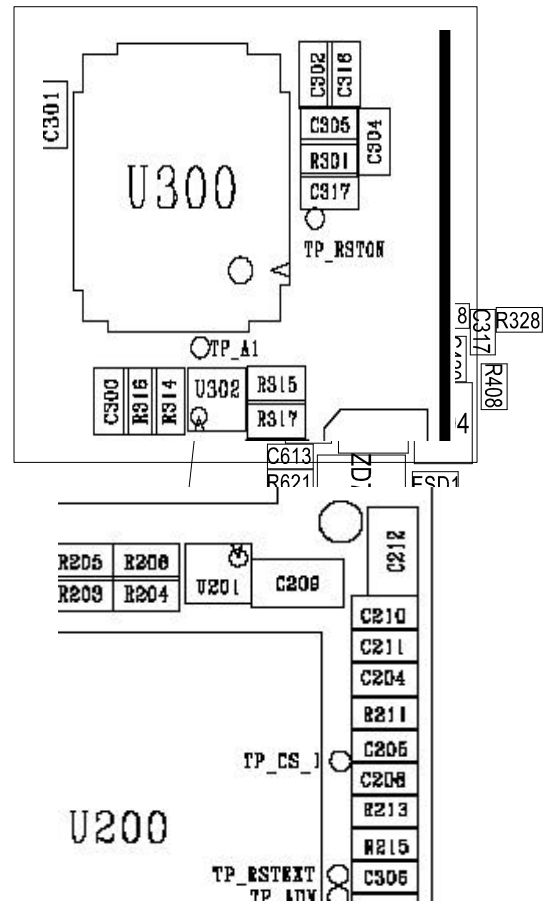
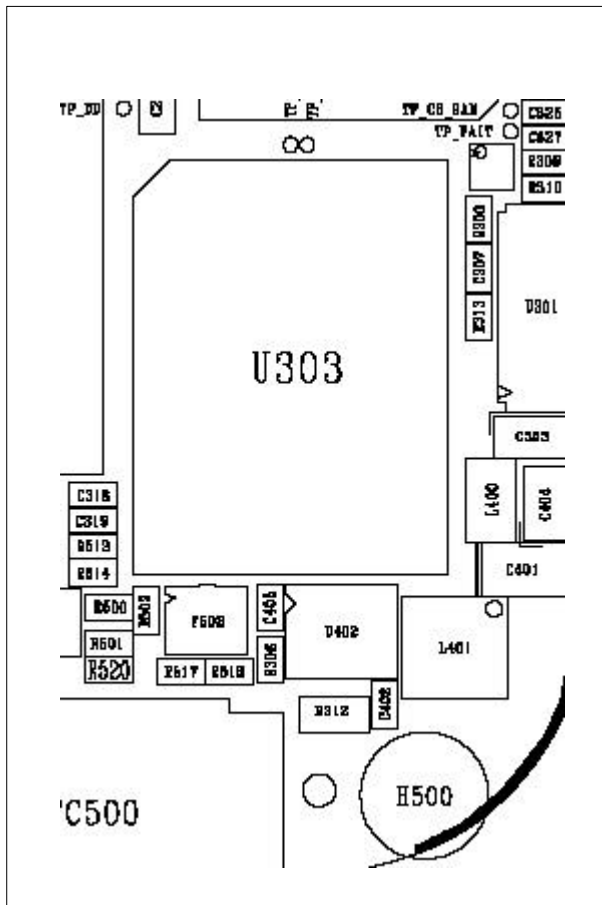
2. Initial



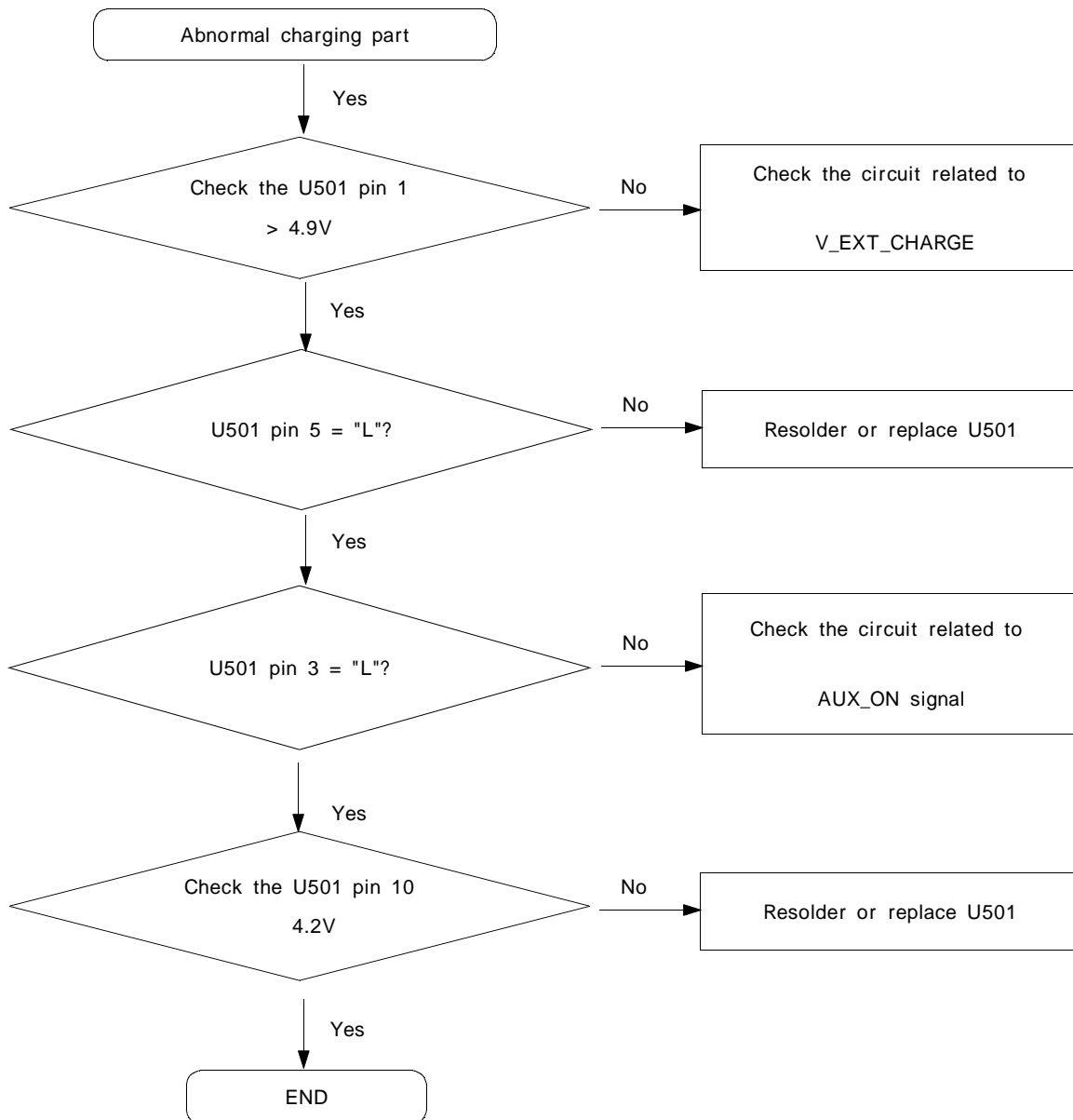
U303

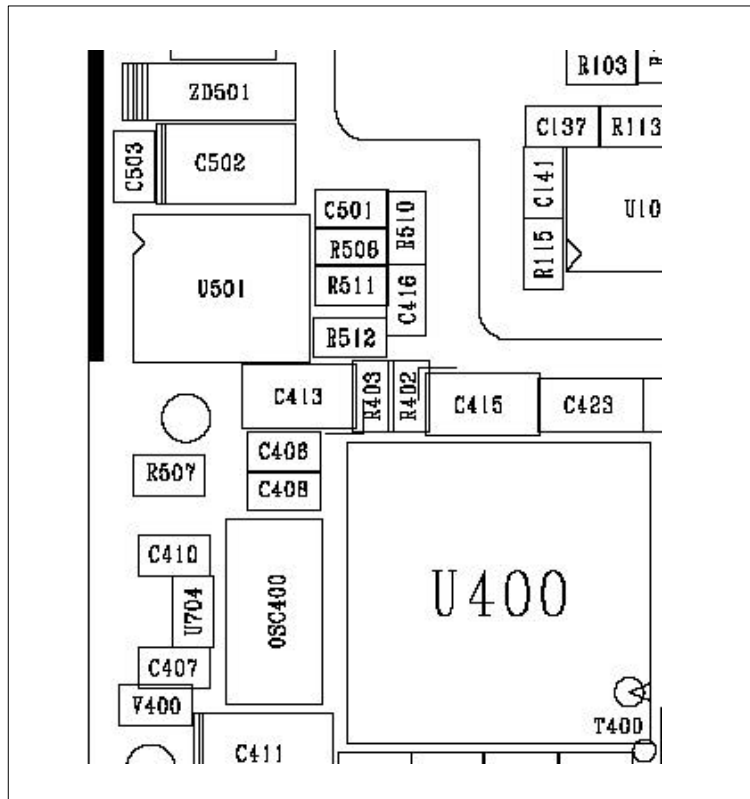
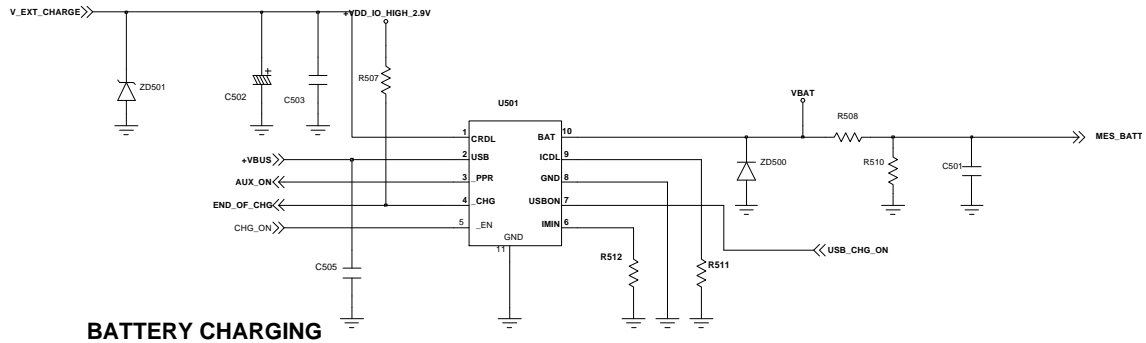


RF 26M TERMINATION & BUFFER

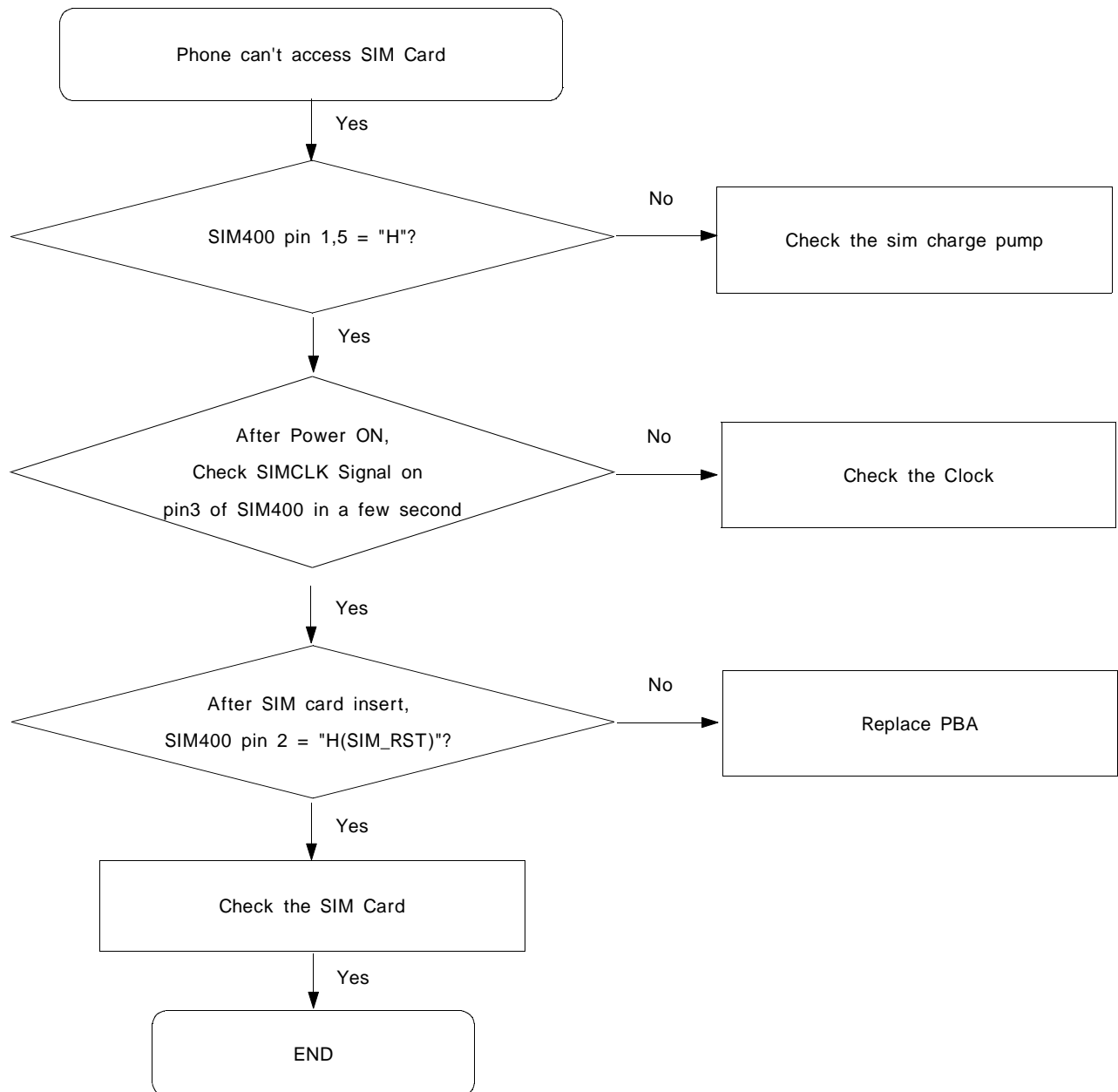


3. Charging Part

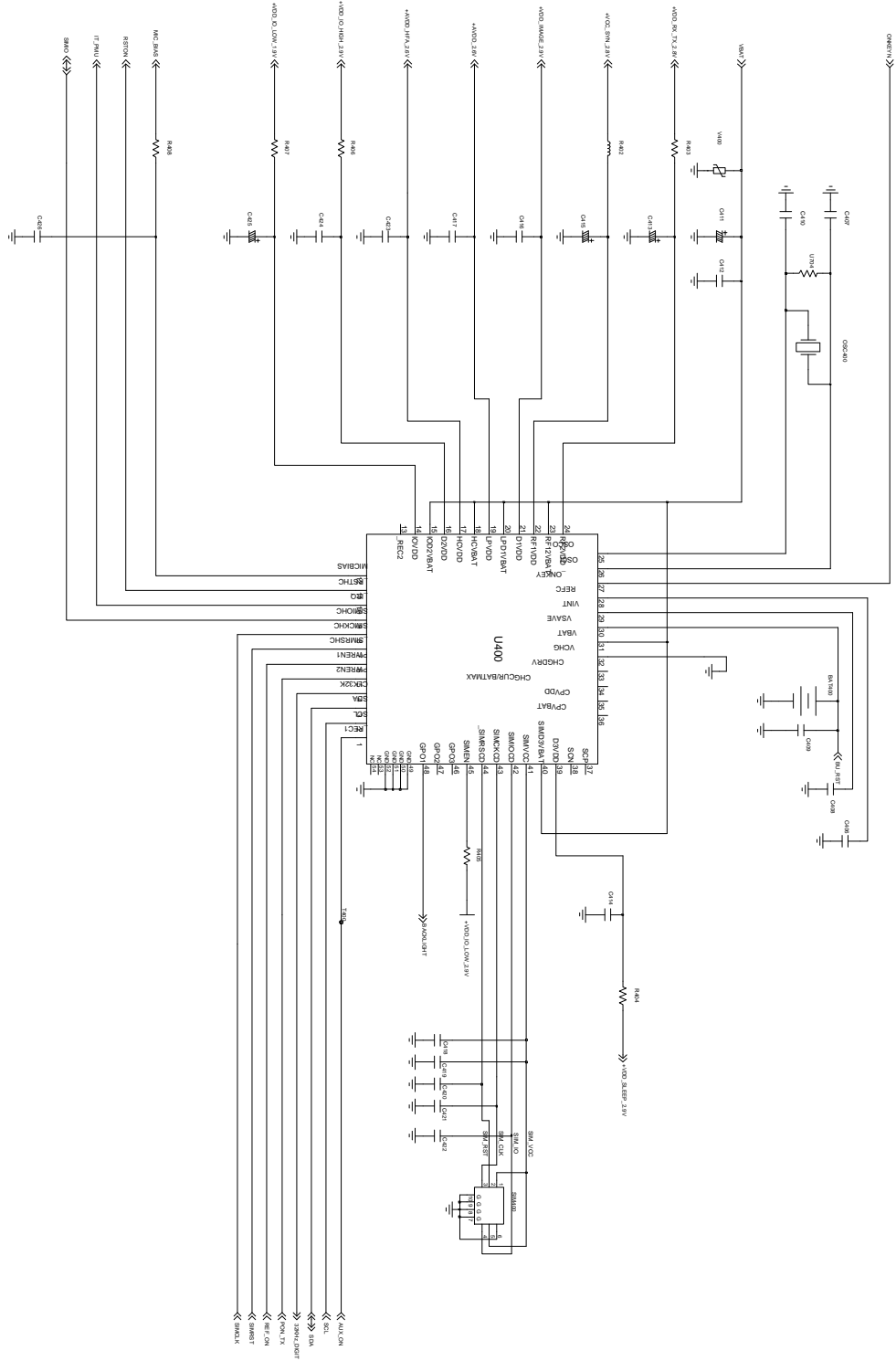


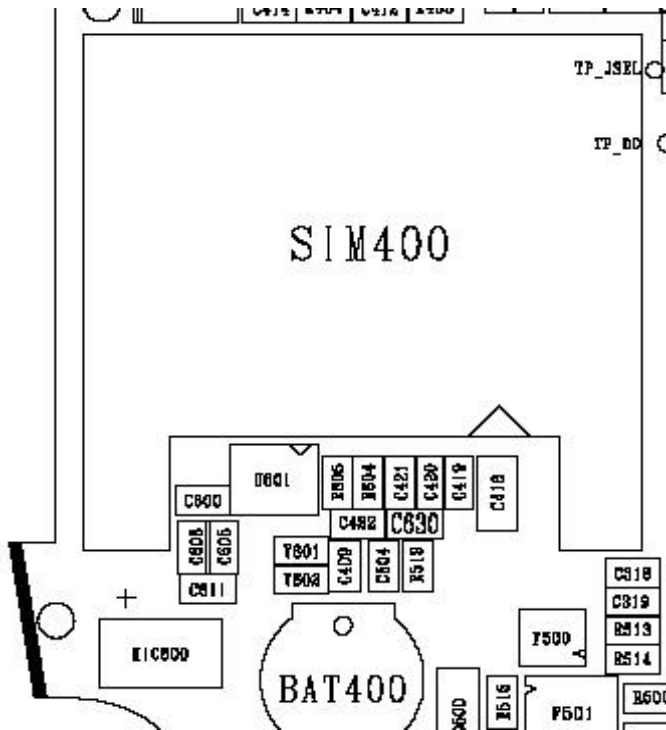


4. Sim Part

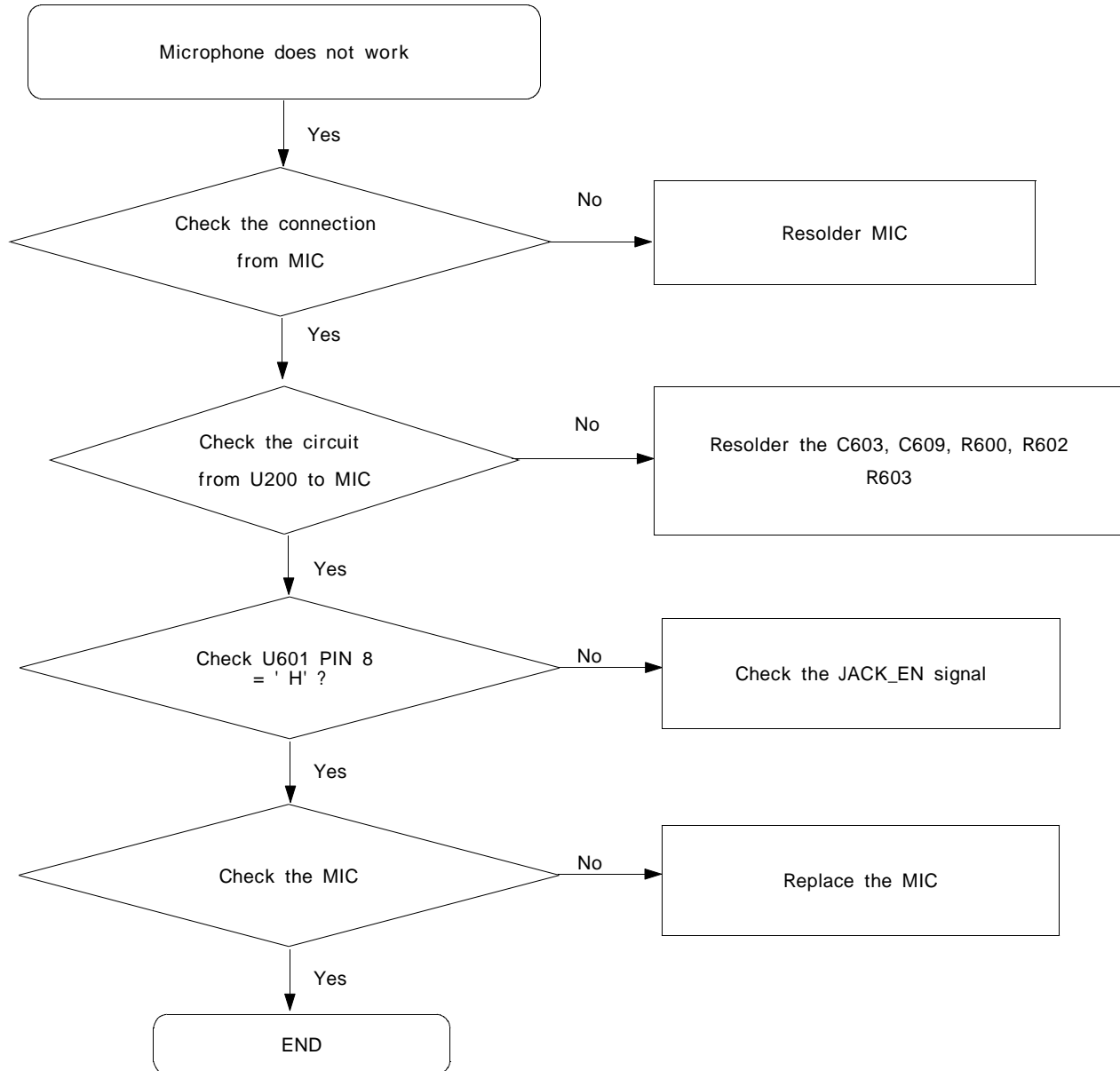


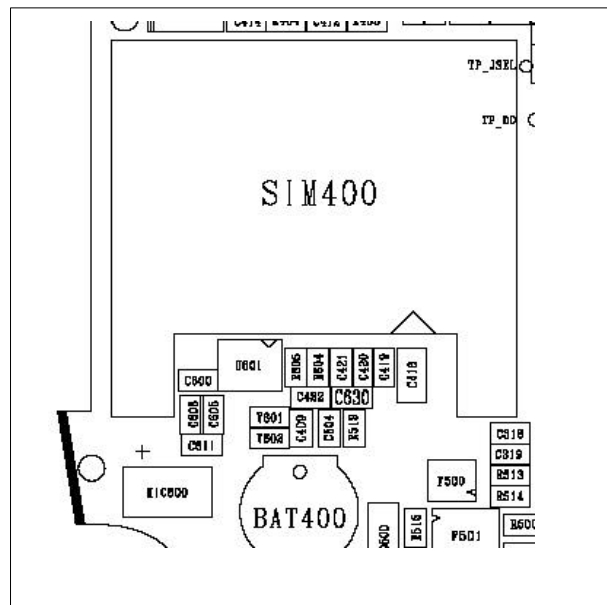
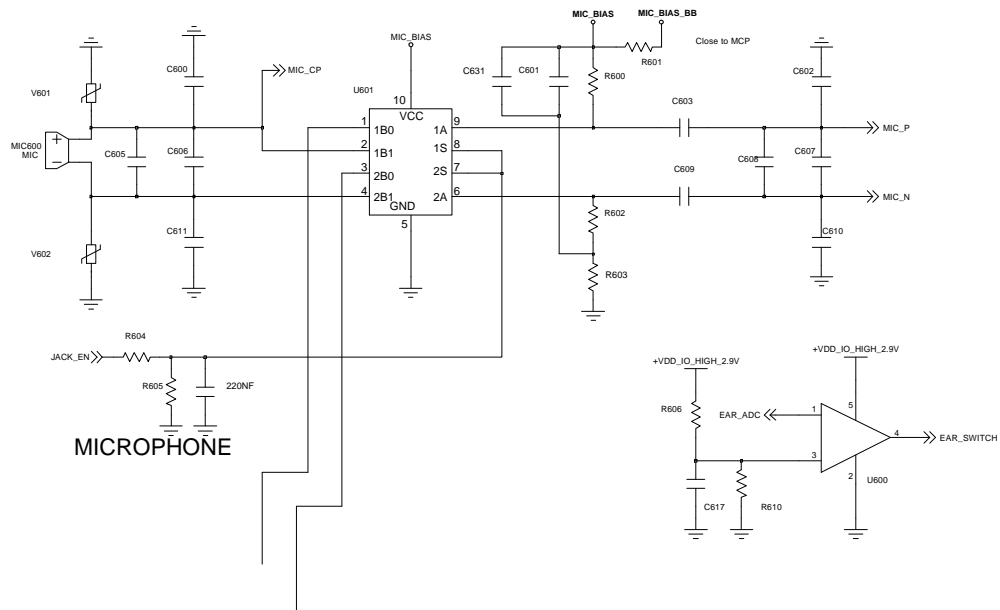
VDD0_0H04	2.0V
VDD0_0L04	1.5V
VDD0_0V04	3.3V
VDD0_0H05	2.5V
VDD0_0L05	1.5V
VDD0_0V05	3.3V
VDD0_0H14	2.5V
VDD0_0L14	1.5V
VDD0_0V14	3.3V
VDD0_0H24	2.5V
VDD0_0L24	1.5V
VDD0_0V24	3.3V
VDD0_0H34	2.5V
VDD0_0L34	1.5V
VDD0_0V34	3.3V



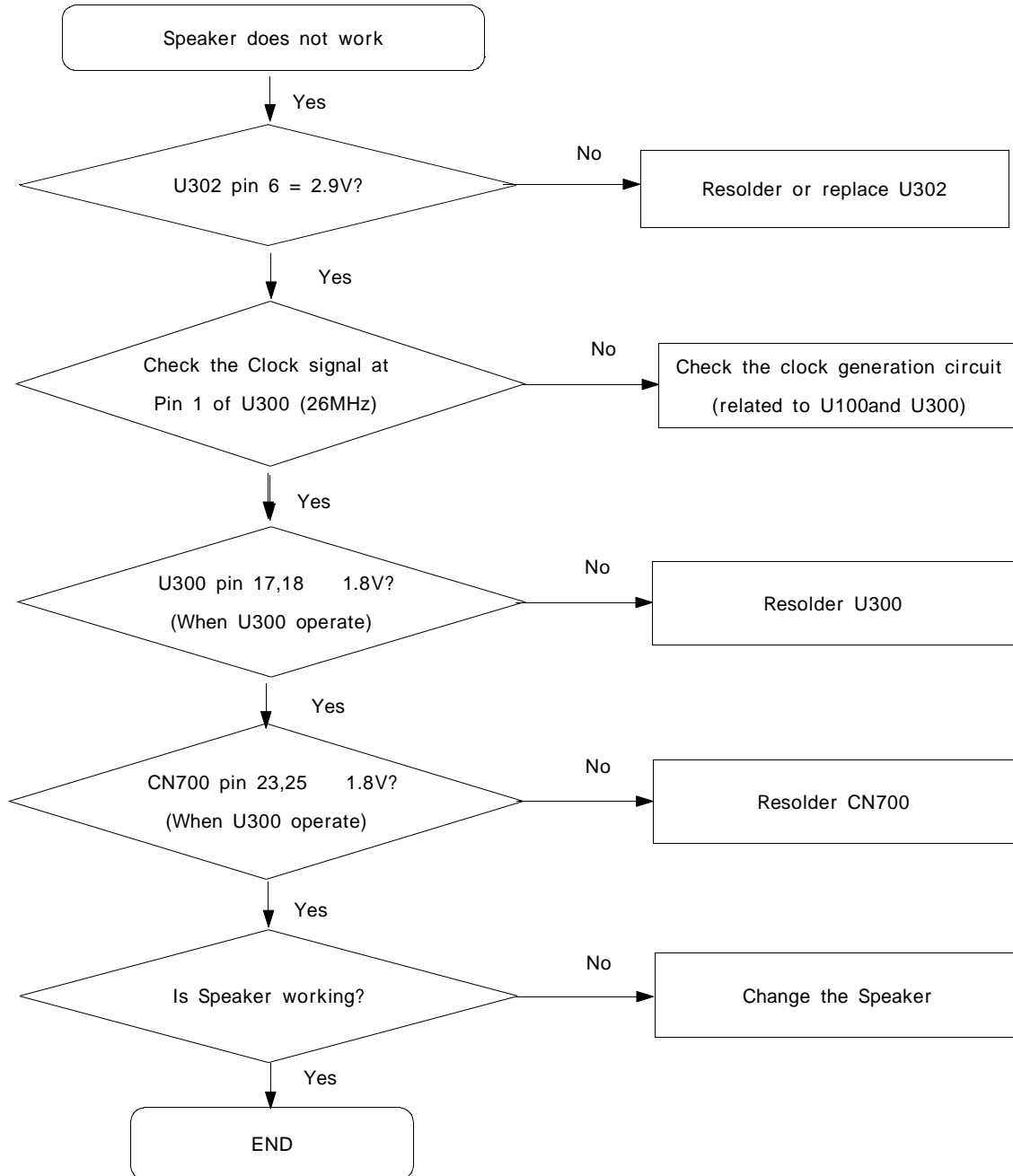


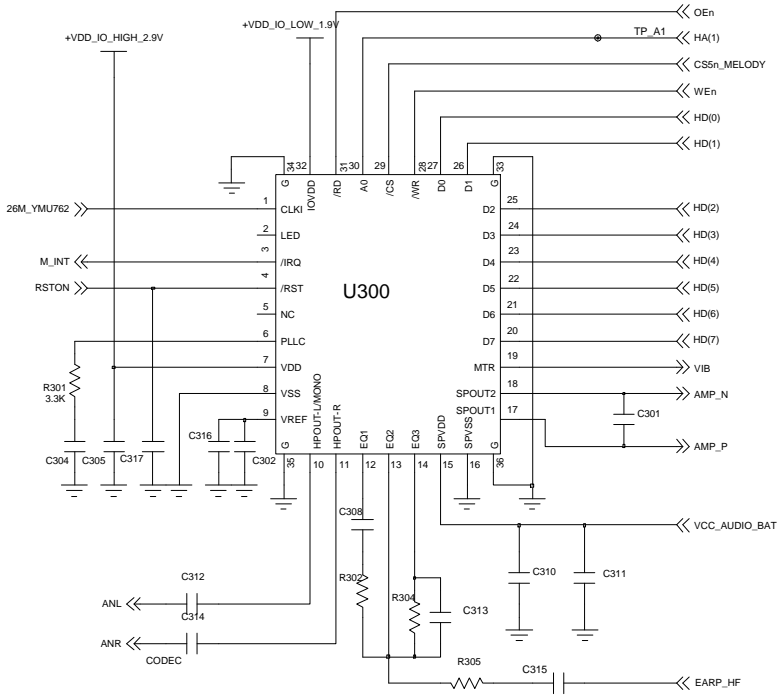
5. Microphone Part



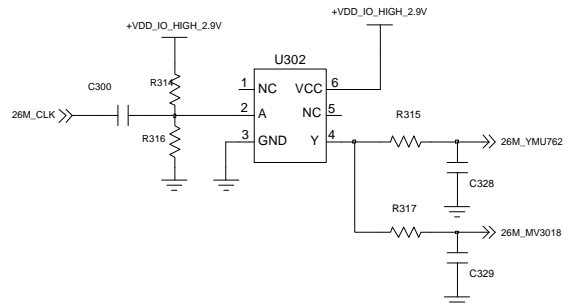


6. Speaker Part(Melody)

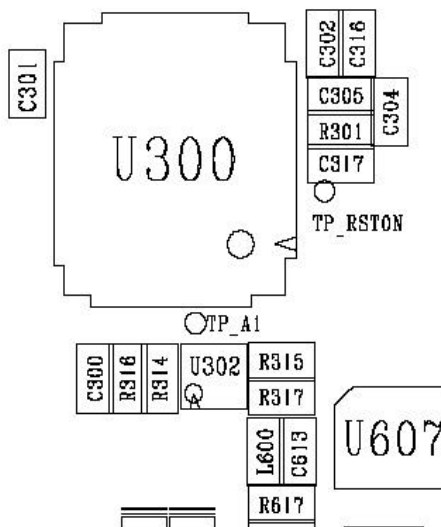




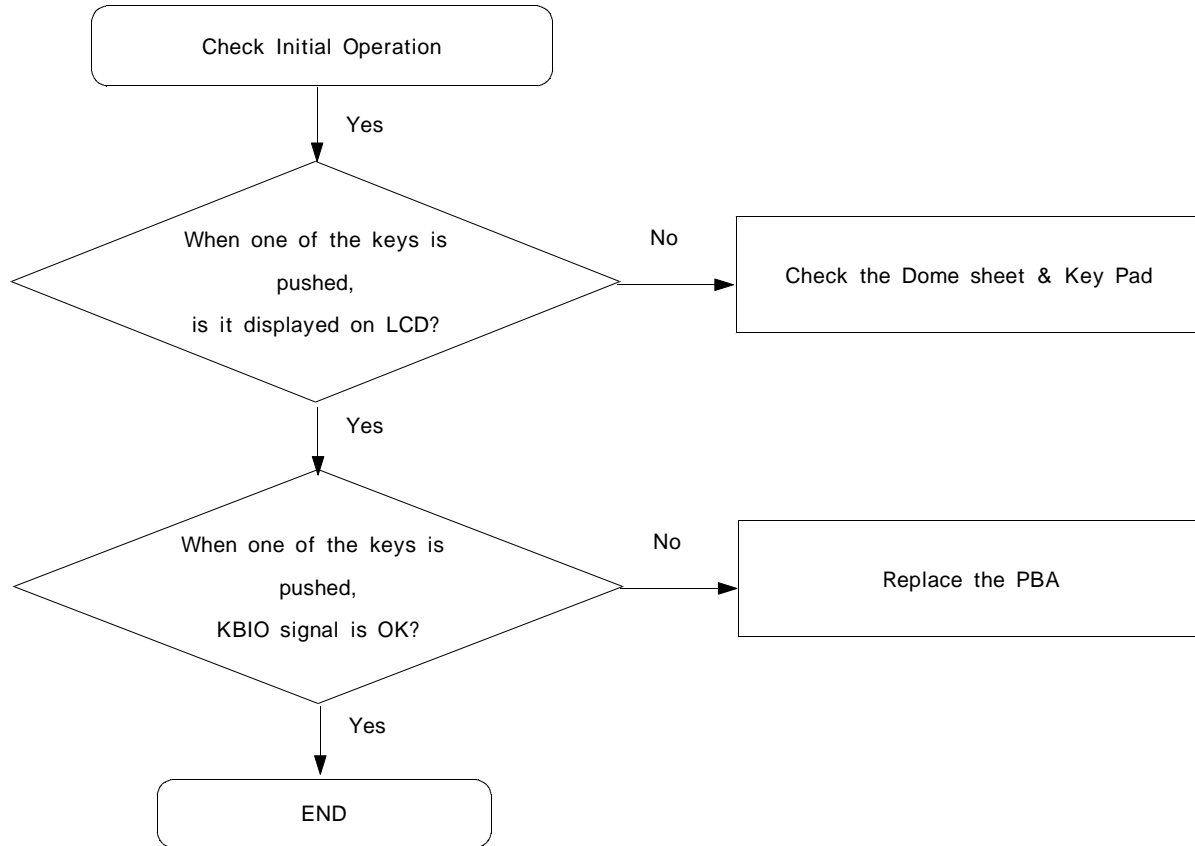
MELODY IC

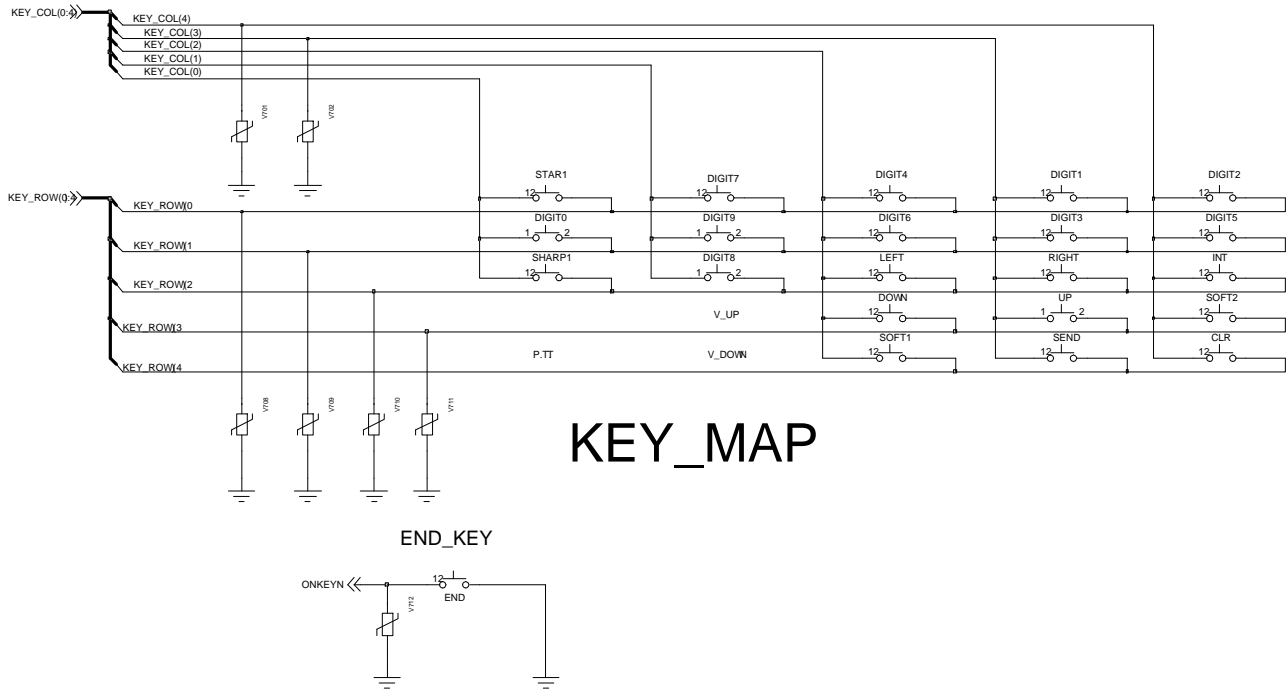


RF 26M TERMINATION & BUFFER

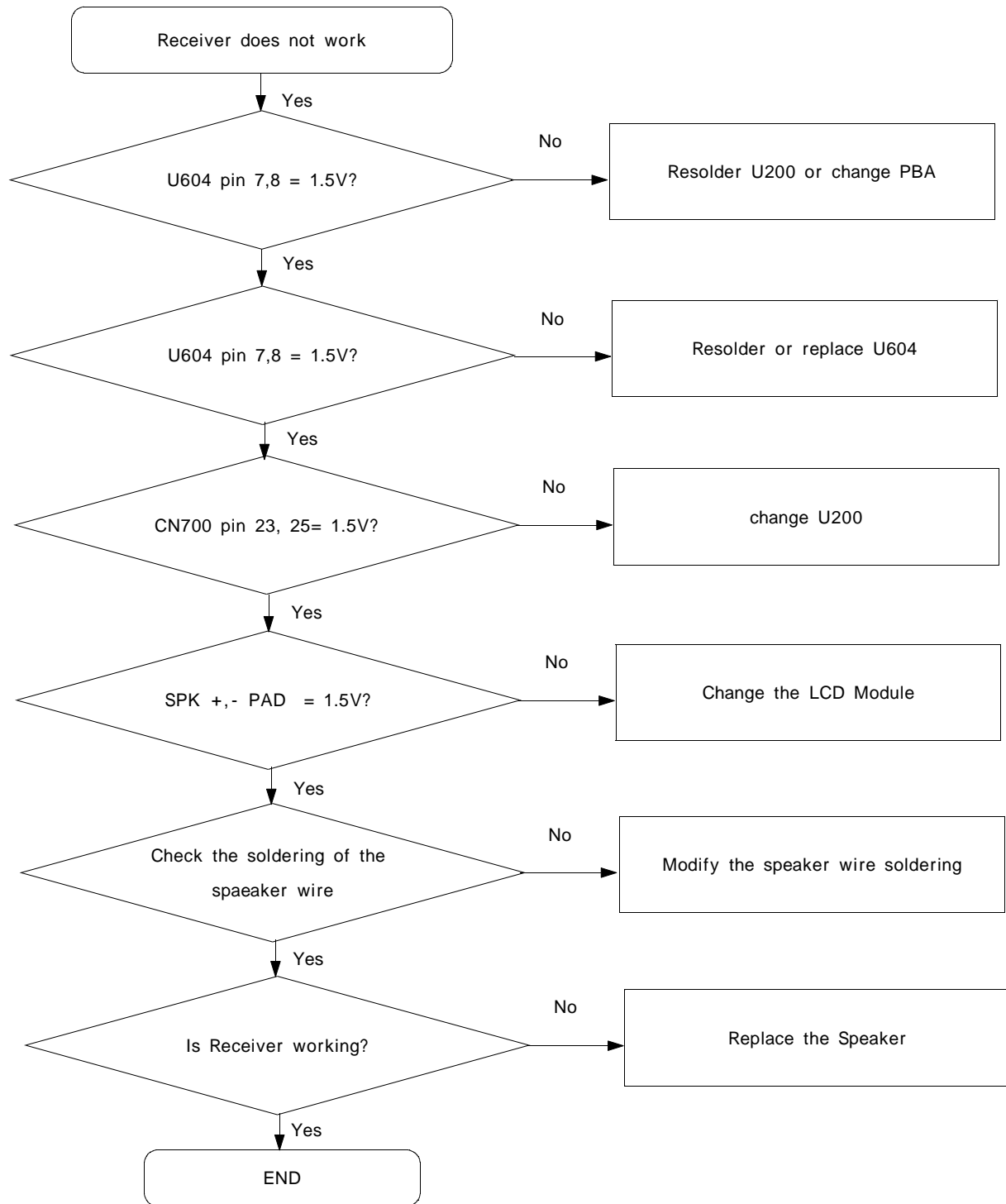


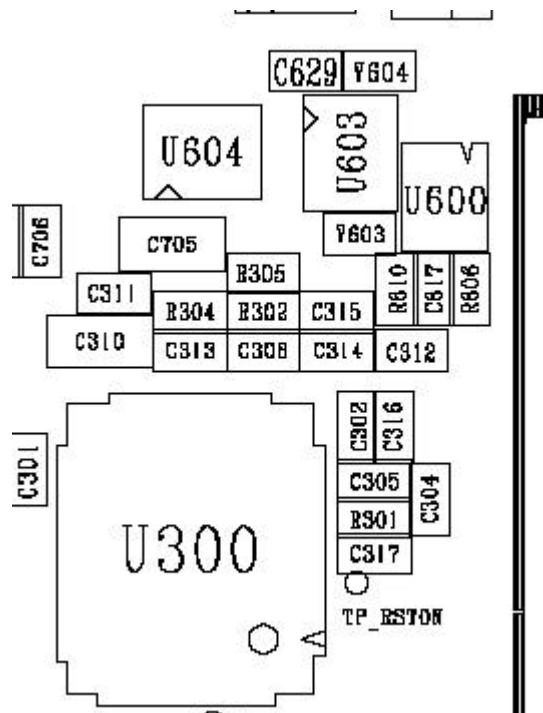
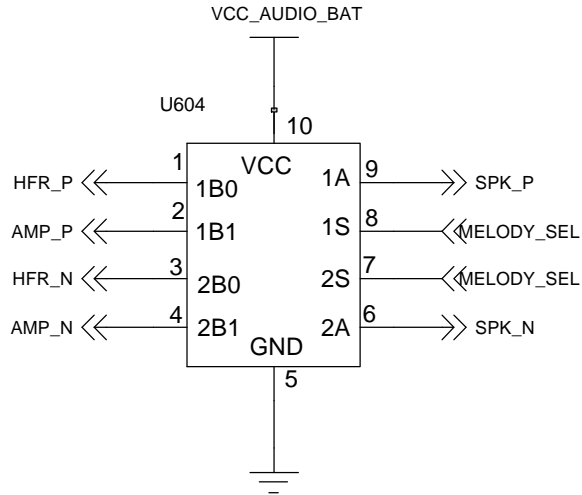
7. Key Data Input



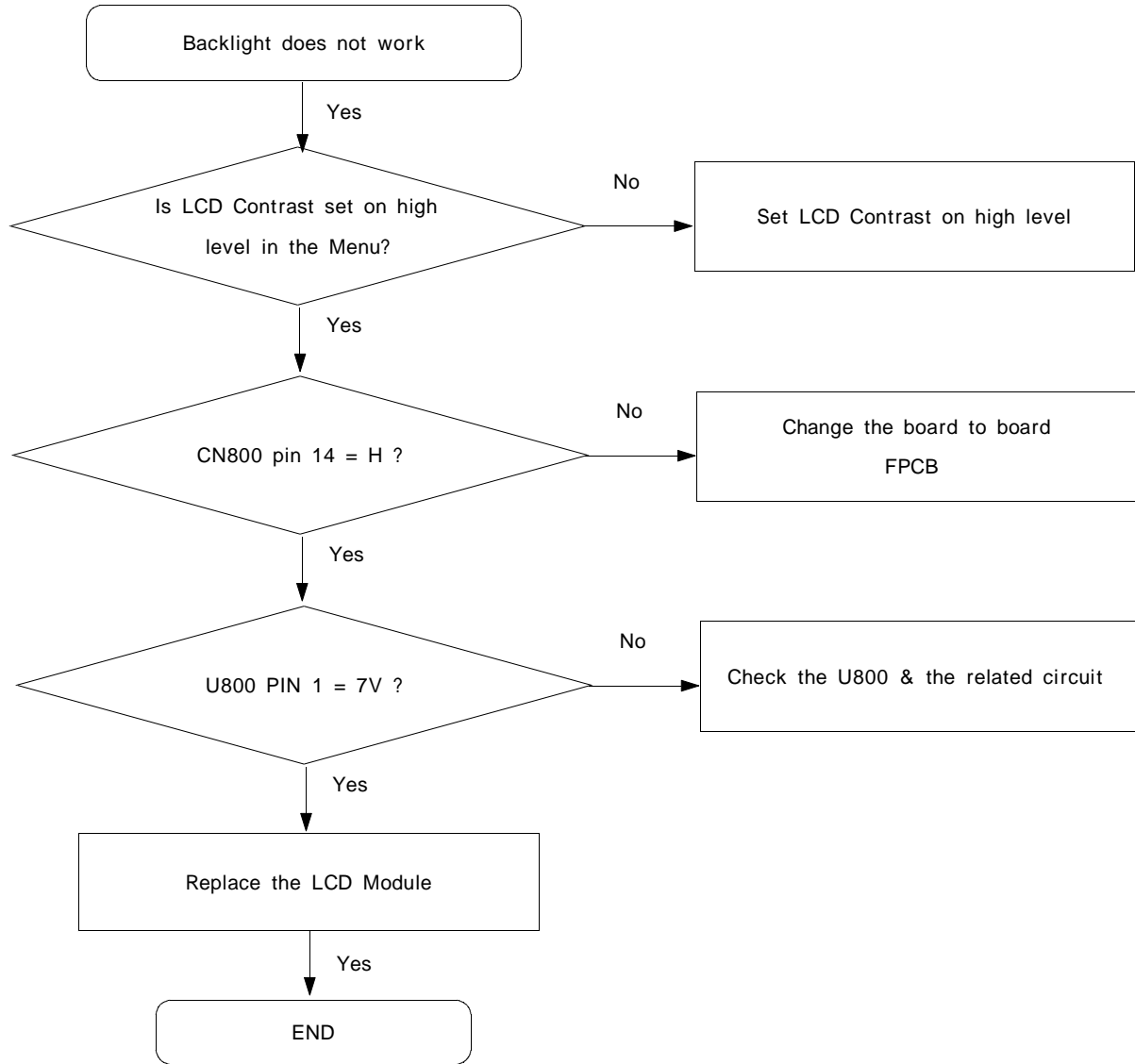


8. Receiver Part

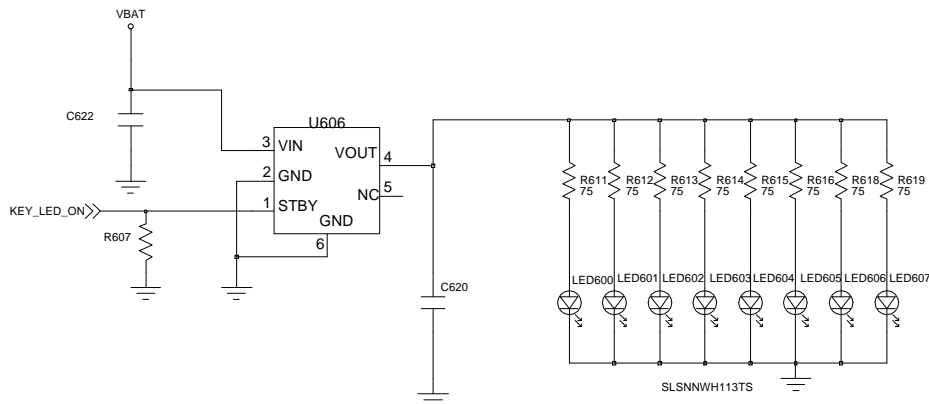
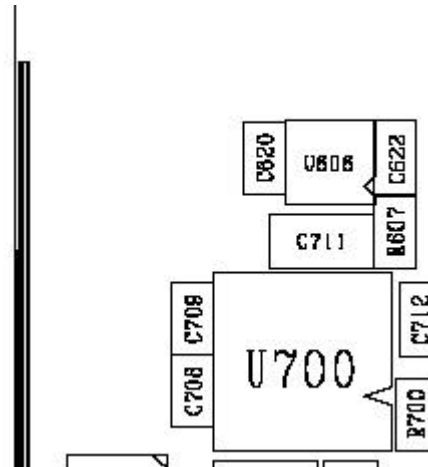
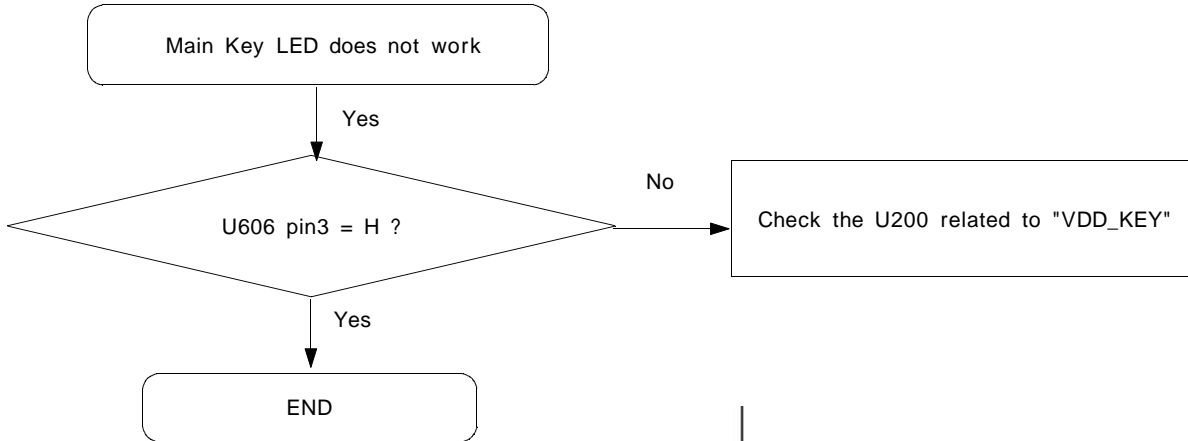




9. Back Light (for Color Main LCD)

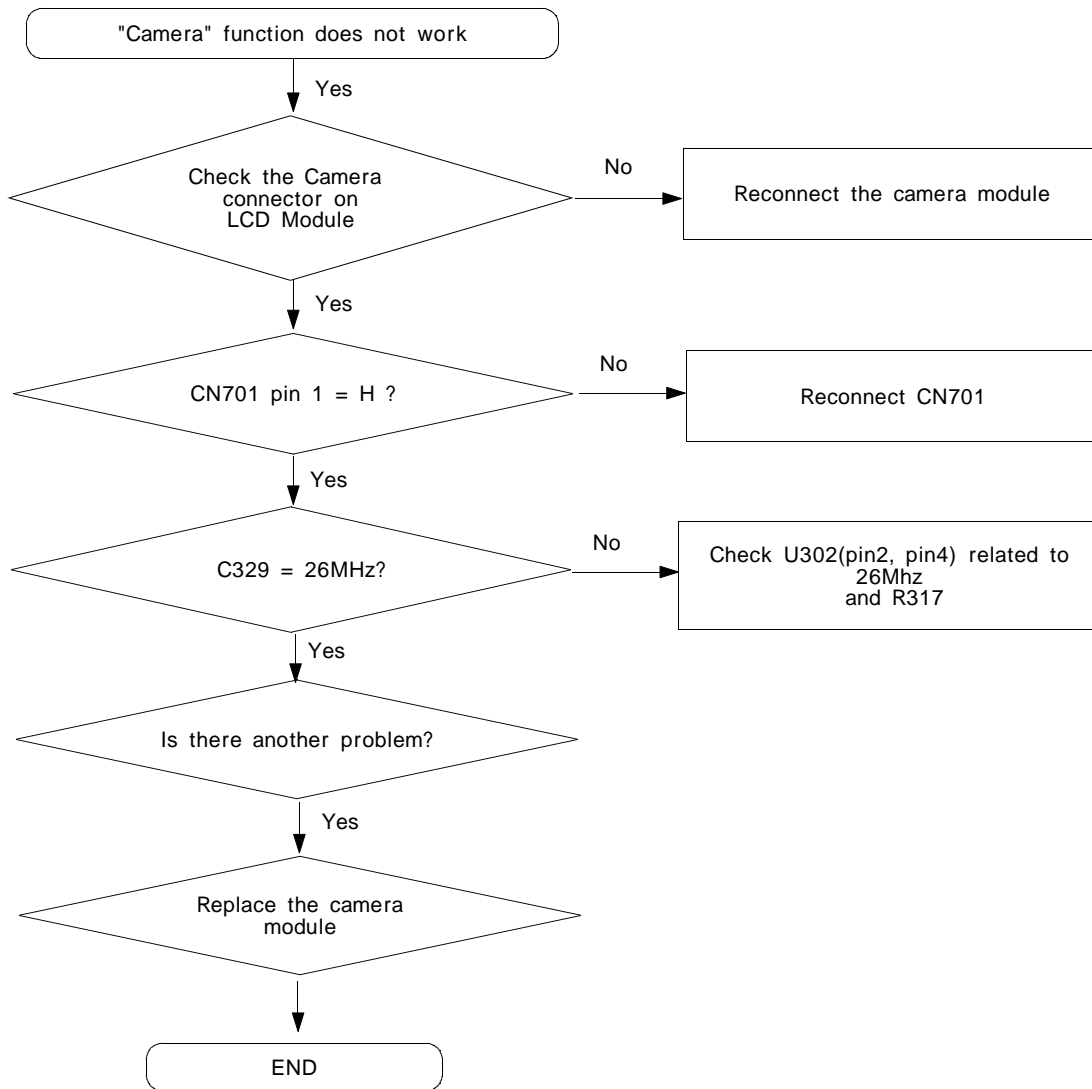


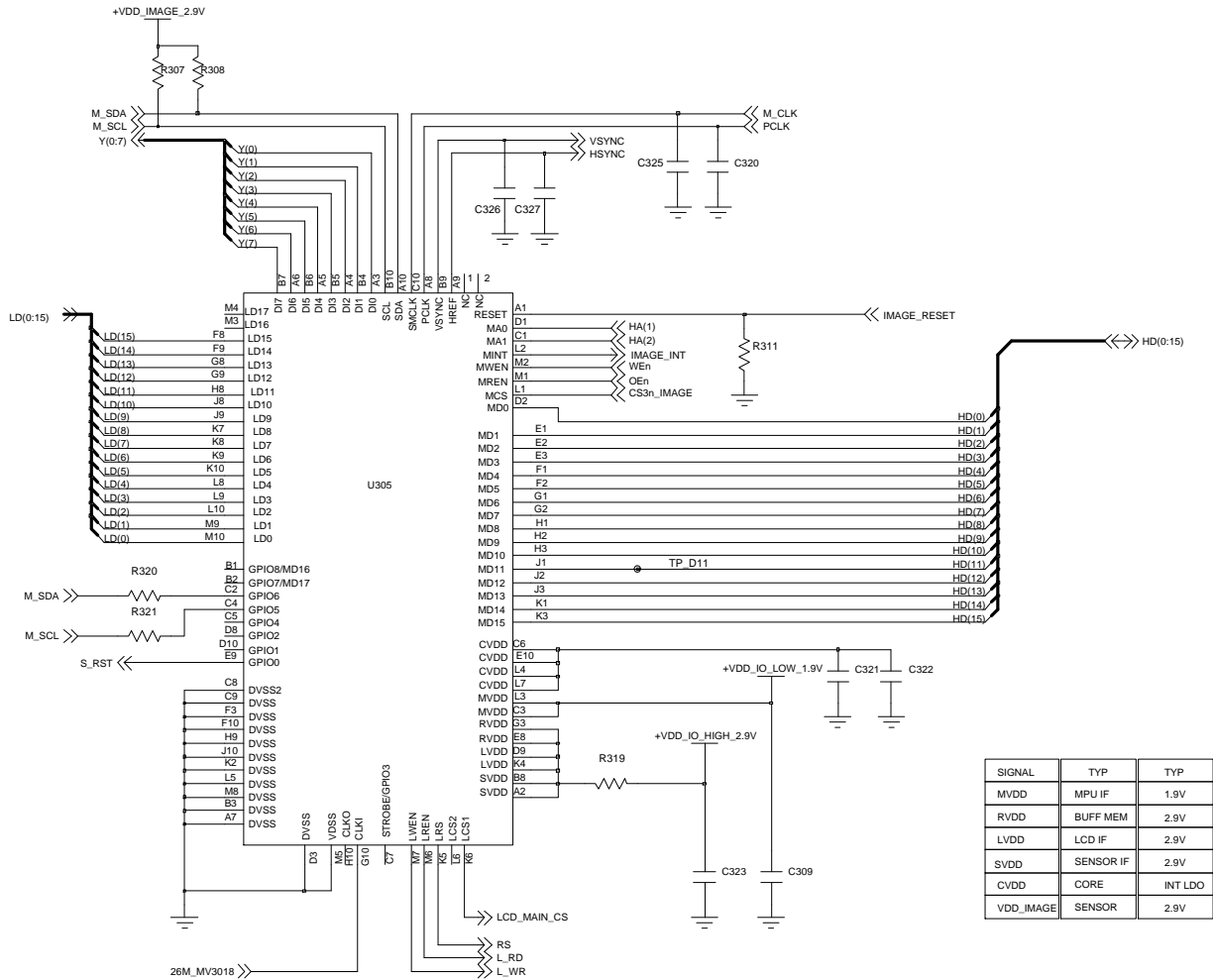
10. Key Back Light



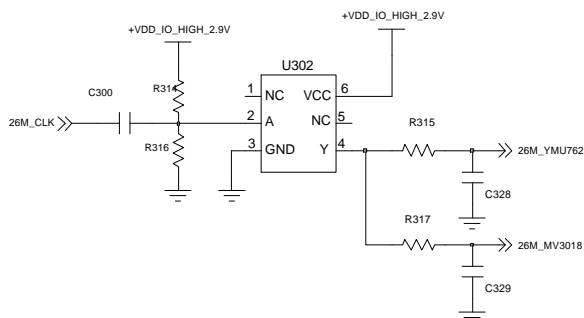
KEY_LED

11. Camera part

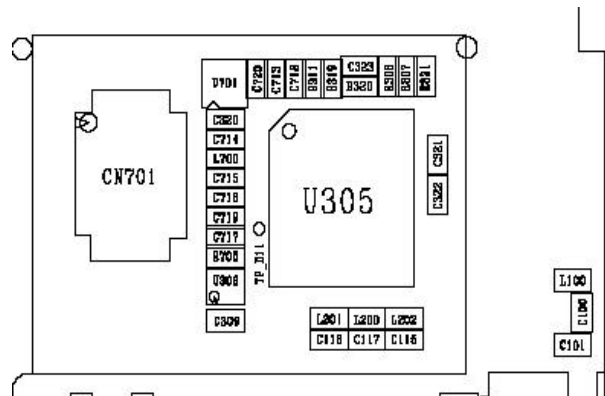




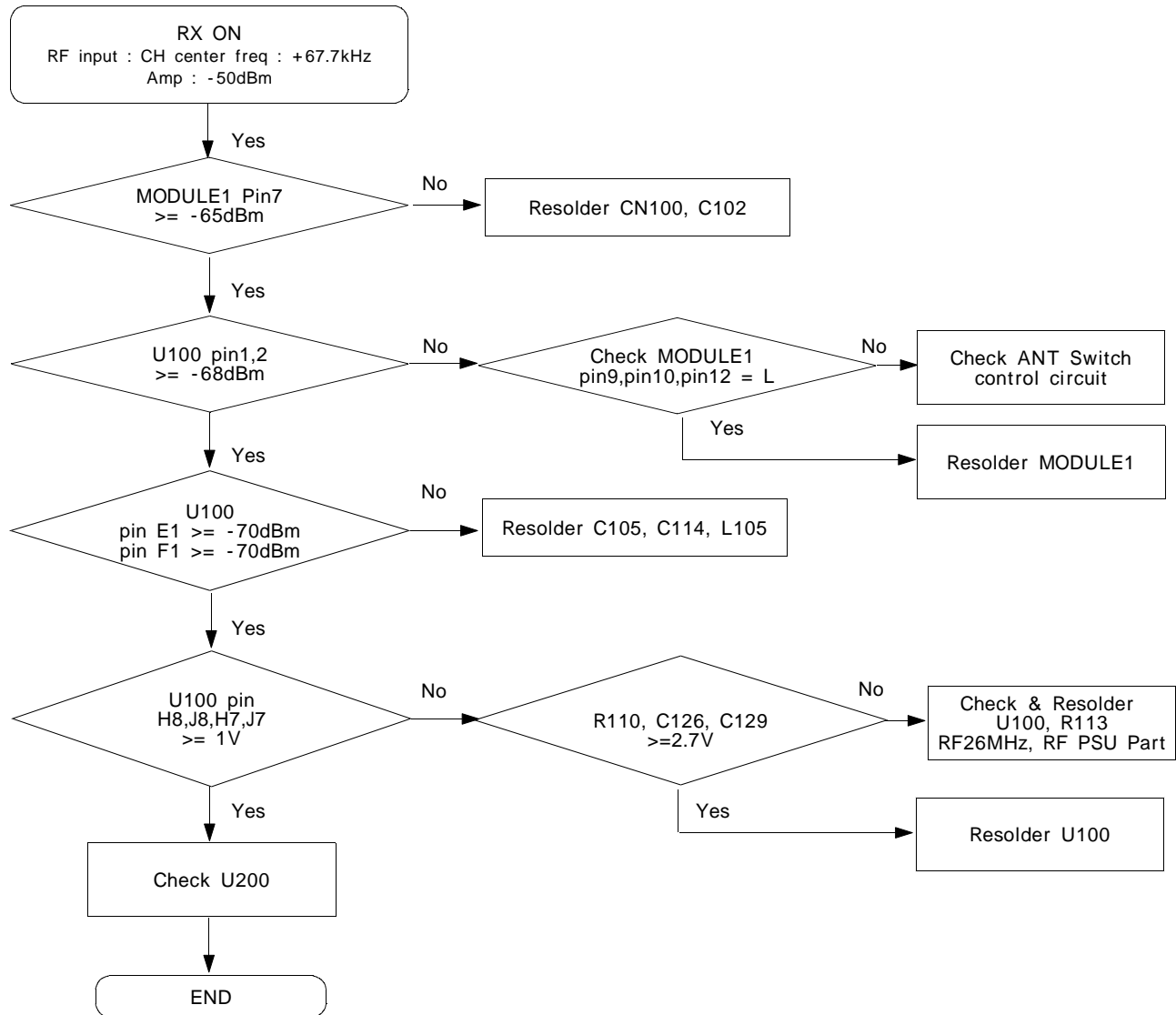
IMAGE_DSP



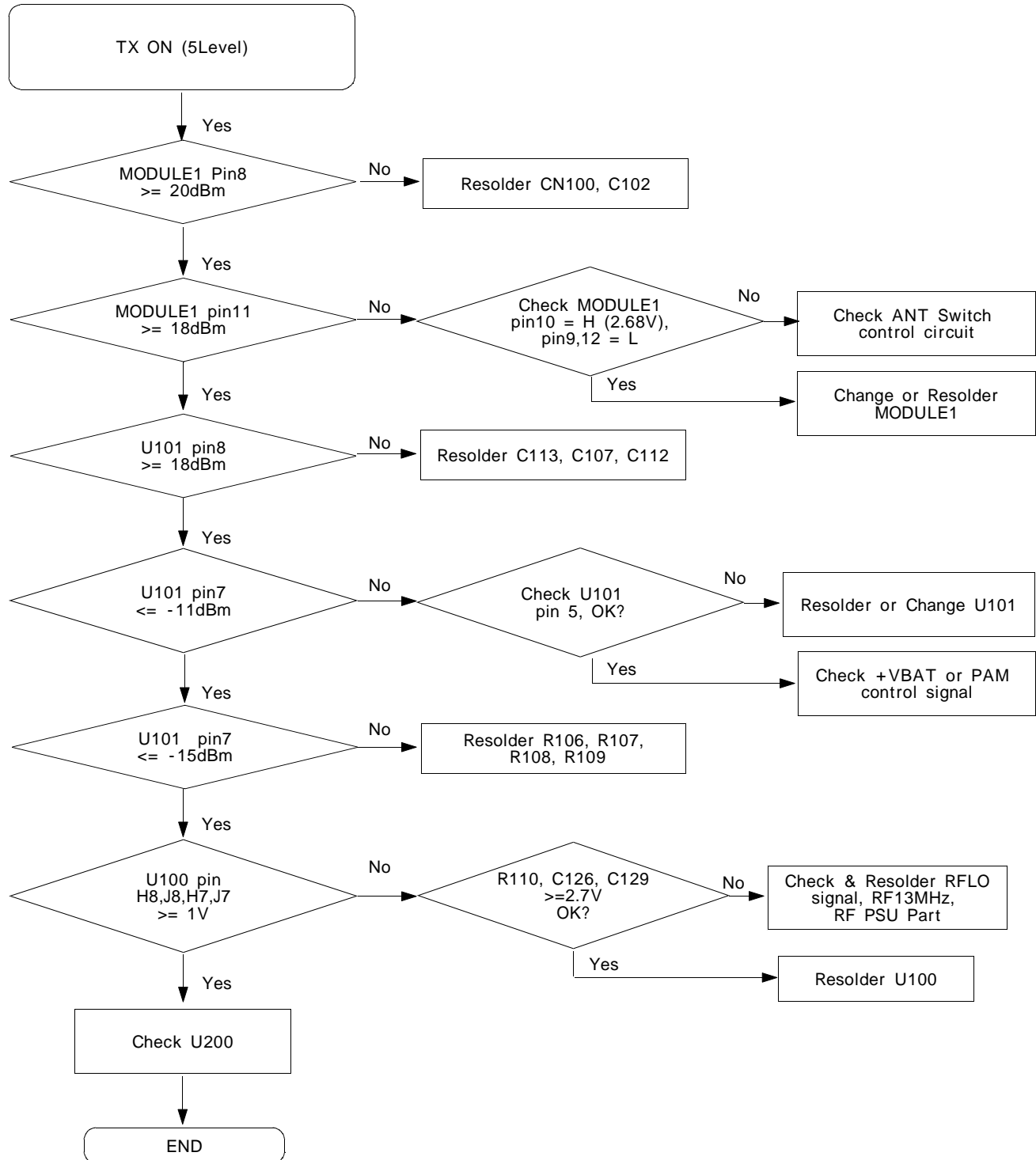
RF 26M TERMINATION & BUFFER



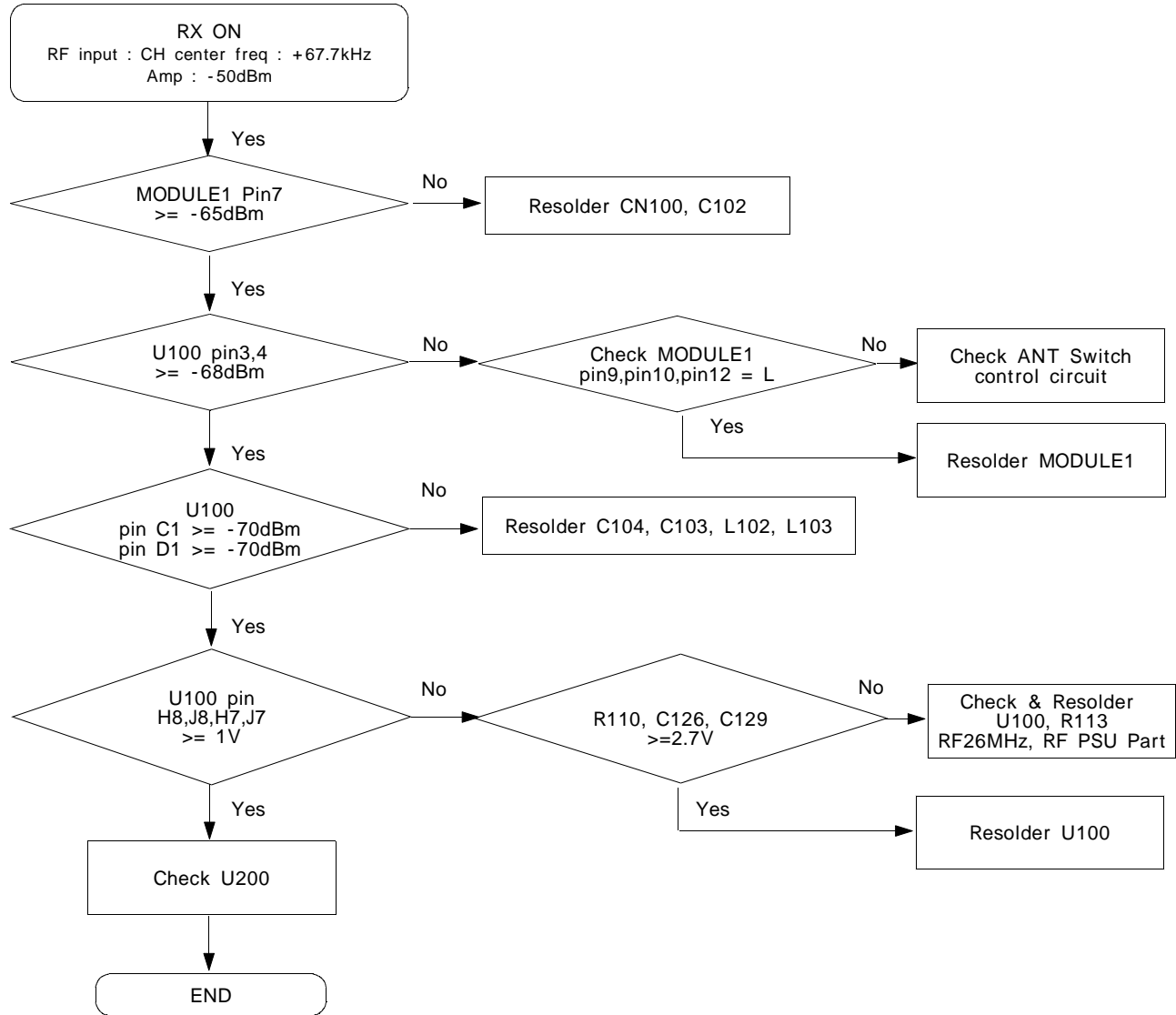
12. GSM Receiver



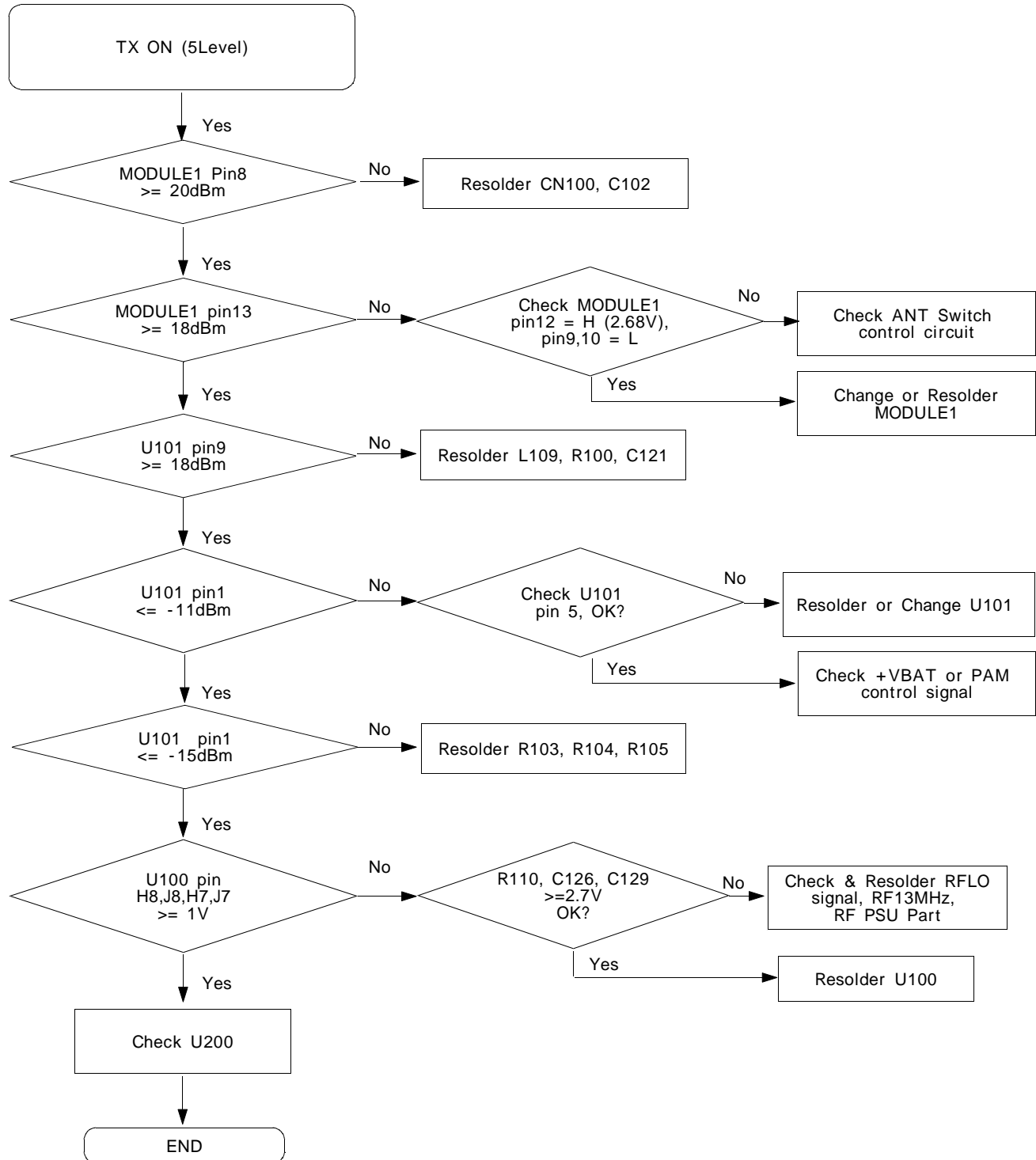
13. GSM Transmitter



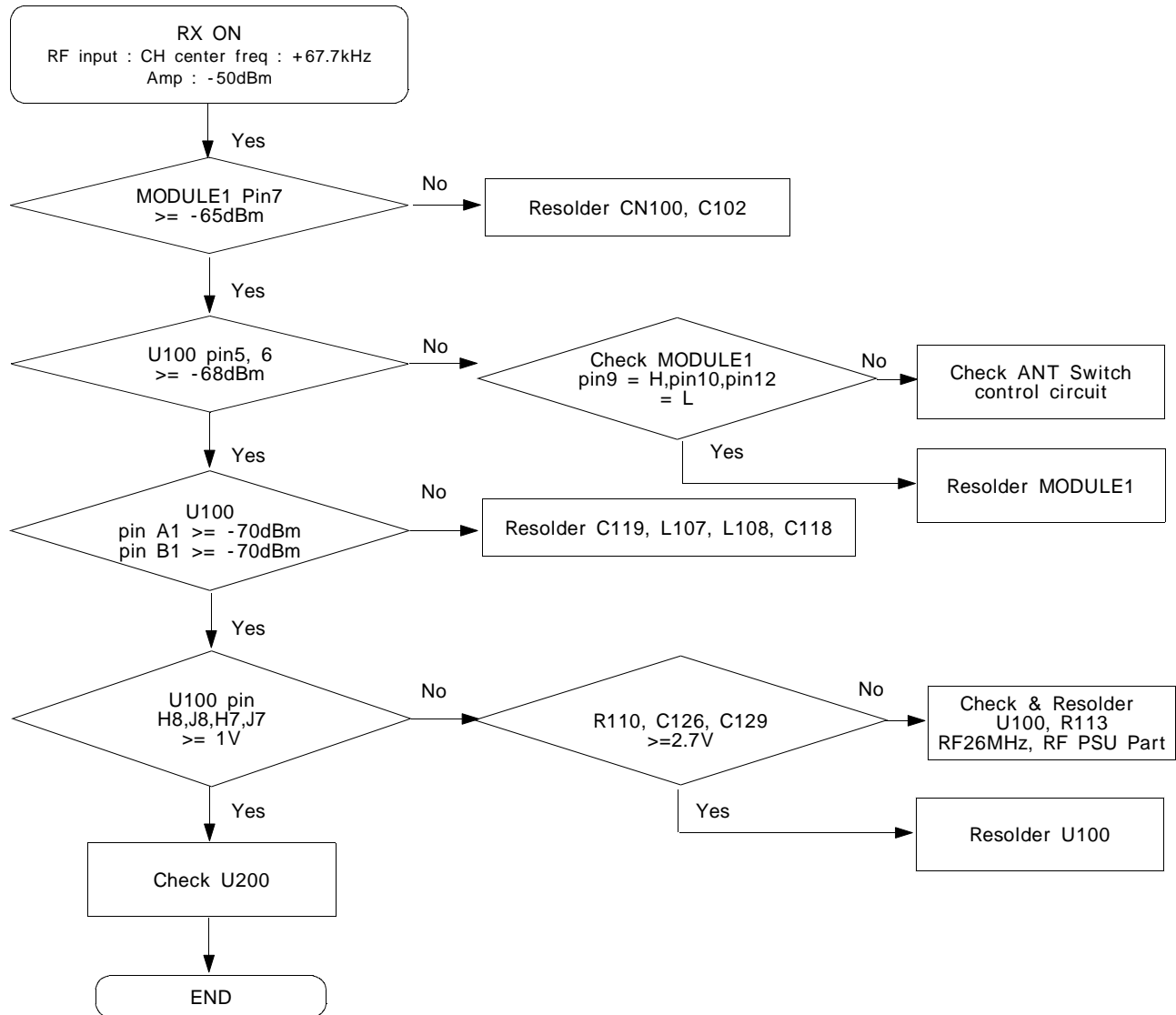
14. DCS Receiver



15. DCS Transmitter



16. PCS Receiver



17. PCS Transmitter

