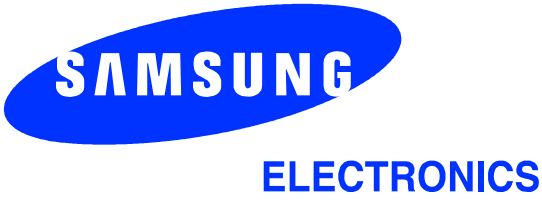
SAMSUNG

UMTS TELEPHONE
SGH-Z110V

SERVICE Manual

UMTS TELEPHONE

CONTENTS



Code No.: GH68-05795A
BASIC.

1. SGH-Z110V Specification

1. GSM General Specification

	GSM900 Phase 1	EGSM 900 Phase 2	DCS1800 Phase 1
Freq. Band[MHz] Uplink/Downlink	890~915 935~960	880~915 925~960	1710~1785 1805~1880
ARFCN range	1~124	0~124 & 975~1023	512~885
Tx/Rx spacing	45MHz	45MHz	95MHz
Mod. Bit rate/ Bit Period	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
Modulation	0.3GMSK	0.3GMSK	0.3GMSK
MS Power	33dBm~13dBm	33dBm~5dBm	30dBm~0dBm
Power Class	5pcl ~ 15pcl	5pcl ~ 19pcl	0pcl ~ 15pcl
Sensitivity	-102dBm	-102dBm	-100dBm
TDMA Mux	8	8	8
Cell Radius	35Km	35Km	2Km

2. GSM TX power class

TX Power control level	GSM900
5	33±2 dBm
6	31±2 dBm
7	29±2 dBm
8	27±2 dBm
9	25±2 dBm
10	23±2 dBm
11	21±2 dBm
12	19±2 dBm
13	17±2 dBm
14	15±2 dBm
15	13±2 dBm
16	11±3 dBm
17	9±3dBm
18	7±3 dBm
19	5±3 dBm

TX Power control level	DCS1800
0	30±3 dBm
1	28±3 dBm
2	26±3 dBm
3	24±3 dBm
4	22±3 dBm
5	20±3 dBm
6	18±3 dBm
7	16±3 dBm
8	14±3 dBm
9	12±4 dBm
10	10±4 dBm
11	8±4dBm
12	6±4 dBm
13	4±4 dBm
14	2±5 dBm
15	0±5 dBm

2. SGH-Z110V Circuit Description

1. SGH-Z110V RF Circuit Description

1. Antenna Switch Module (U100)

The antenna switch module allows multiple operating bands and modes to share the same antenna. A common antenna connects to one of five paths: 1) UMTS-2100 Rx/Tx, 2) EGSM-900 Rx, 3) EGSM-900 Tx, 4) DCS-1800 Rx, and 5) DCS-1800 Tx. UMTS operation requires simultaneous reception and transmission.

2. Filter

To convert Electromagnetic Field Wave to Acoustic Wave and then pass the specific frequency band.

- GSM Rx FILTER (F100) → For filtering the frequency band between 925 ~ 960 MHz.
- DCS Rx FILTER (F101) → For filtering the frequency band 1805 and 1880 MHz.
- WCDMA Rx FILTER (F200) → For filtering the frequency band 2110 and 2170 MHz.
- WCDMA Tx FILTER (F201) → For filtering the frequency band 1920 and 1980 MHz.

3. VCTCXO (OSC200)

To generate the 19.2MHz reference clock to drive the logic and RF.

4. Duplexer (F202)

A duplexer splits a single operating band into receive and transmit paths.

5. WCDMA PAM (U201)

This is a key component in the transmitter chain and must complement the RTR6200 IC precisely; jointly they dominate the UMTS transmitter performance characteristics. Parameters such as gain, output power level, ACLR, harmonics, Rx-band noise, and power supply current are critical.

6. GSM/DCS PAM (U102)

The PAM is a key component in any transmitter chain and must complement the rest of the transmitter precisely. For GSM and DCS operation, the closed-loop transmit power control functions add even more requirements relative to the UMTS PA. In addition to gain control and switching requirements, the usual RF parameters such as gain, output power level, several output spectrum requirements, and power supply current are critical.

7. GSM/DCS Dual Tx VCO (OSC100)

The dual Tx VCO outputs, one for EGSM and one for DCS, drive a resistive network that splits the active signal into two signals: 1) the input to the active PAM – this is the low loss path, and 2) the OPLL feedback signal.

8. Dual VCO (OSC201)

The dual-band UHF VCO is a key component within its phase-locked loop; VCO performance directly impacts PLL and transceiver performance. GSM/DCS Rx/Tx LO & UMTS Rx LO signal is generated from this dual VCO's output.

9. RFL6200 (U200)

The RFL6200 includes an LNA circuit optimized for UMTS-2100 operation. The LNA is separated from all other receive functions contained within the RFR6200 receiver IC to improve mixer LO to RF isolation – a critical parameter in the Zero-IF architecture.

10. RFR6200 (U203)

The RFR6200 provides the Zero-IF receiver signal path, from RF to analog baseband, for UMTS-2100 applications. The RFR6200 accepts its UMTS input signal from the handset RF front-end design. The UMTS input is configured differentially to optimize second-order inter-modulation and common mode rejection performance, and implements MSM-controlled gain adjustments to extend the receiver dynamic range.

11. RTR6200 (U101)

The RTR6200 supports multi-band, multi-mode phones with two receiver signal paths and three transmitter signal paths:

1) Receiver paths
- EGSM-900
- DCS-1800

2) Transmitter paths
- EGSM-900 (using OPLL technique)
- DCS-1800 (using OPLL technique)
- UMTS-2100

Numerous secondary functions are integrated on-chip as well:

3) Phase-locked loop circuits
- PLL#1 and an on-chip VCO supports UMTS Tx
- PLL#2 and an external VCO supports EGSM Rx and Tx, DCS Rx and Tx, and UMTS Rx

4) Transceiver LO generation and distribution circuits
- EGSM-900 Rx and Tx
- DCS-1800 Rx and Tx
- UMTS-2100 Tx

2. Baseband Circuit description of SGH-Z110V

1. PM6050

1.1. Power Management

Ten low-dropout regulators designed specifically for GSM applications power the terminal and help ensure optimal system performance and long battery life. It provides seven LDO support for 2.6V, 2.8V while a self-resetting, electronically fused switch supplies power to external accessories. Ancillary support functions, such as RTC module and RTC charger, Clock Buffer, aid in reducing both board area and system complexity.

SBI BUS serial interface provides access to control and configuration registers. This interface gives full control of the MSM6200 and enables system designers to maximize both standby and talk times.

Supervisory functions. including a reset generator, an input voltage monitor, and a ADC 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 TCXO Controller and Buffers

The PM6050 IC includes circuits for controlling the TCXO warm-up and buffering its signal for distribution throughout the handset. Performance specifications are presented below.

2. Connector

2-1. LCD Connector

LCD is consisted of main LCD(color 262K TFT LCD) and small LCD(color 65K TFT LCD). Chip select signals in the MA55141(U501), SLCD_CS can enable small LCD and DEN for main LCD. I2C buses in MSM6200 (U301) control white-LED of LCDs.

"SLCD_RESET, MLCD_RESET" signals initiate the Reset process of LCDs.

8-bit data lines(RGB[10:17]) transfers data and commands to Small LCD through bypass capacitor. Data and commands use "SCLD_RS" signal. If this signal is high, Inputs to Small LCD are commands. If it is low, Inputs to Small LCD are data. The signal which informs the input or output state to Small LCD, is required.

Main LCD interface is 18bit data lines(RGB[0:17]) CPU Interface.

"RGB_VSYNC","RGB_HSYNC","RGB_DE",and,"RGB_CLK" are the signal for transferring data.

Power signals for LCD are "2.8VDV" and "VBATT". "SPKR_P","SPKL_P", "SPKR_N" and "SPKL_N" from U602 are used for dual audio speaker.

2-2. Key

This is consisted of key interface pins among U301, KEY_0~3 and SCAN_0~6. These signals compose the matrix. Result of the matrix informs the key status to key interface in U301. Power on/off key is seperated from the matrix. So power on/off signal is connected with U301 to enable U400. Eighteen key LED use the "VCC_BK" supply voltage from U304. "HALL_SW" informs the status of folder (open or closed) to modem. This uses the hall effect IC,EM1681. A magnet under main LCD enables EM1681. It has additional two hall-effect ICs, that are needed for camera sensing.

One senses the rotation of Z110V camera, and the other senses the Push-pull of the camera.

2-3. EMI ESD Filter

This system uses the EMI ESD filter, GMF05LC to protect ESD and Noise from IF CONNECTOR part, LCD, Camra, and KEY PCB.

2-4. IF connetor

It is 24-pin connector. They are designed to use VBATT, VF, Q_TXD0, Q_RXD0, JIG_ON, M_RXD0, M_TXD0, USB signal(D+,D-,USB_VCC) and GND. They connected to power supply IC, microprocessor and signal processor IC.

3. Audio

RCV_P and RCV_N from U601 are connected to the main receiver. EAR10P and EAR10N are connected to the Earphone receiver. MIC1P and MIC1N are connected to the main MIC. And MIC2P and MIC2N are connected to the Earphone.

YMU769 has a virtual speaker image function, so that it is the most suitable LSI as a sound source output device which is used in mobile phones for high functional game sounds or high quality ringing melodies, and so on.

Synthesizer section in YMU769 adopts the “Stereophonic Hybrid Synthesizer System” that is given the advantages of both FM Synthesizers and Wave Table Synthesizers, makes it possible to generate up to 32 FM voices and 32 wave table voices simultaneously.

YMU769 is a LSI for portable telephone that is capable of playing high quality music by utilizing FM synthesizer and ADPCM decoder that are included in this device.

As a synthesis, YMU769 is equipped 32 voices with different tones. Since the device is capable of simultaneously generating up to synchronous with the play of the FM synthesizer, various sampled voices can be used as sound effects. Since the play data of YMU769 is interpreted at anytime through data bus, the length of the data(playing period) is not limited, so the device can flexibly support application such as incoming call melody music distribution service.

The hardware sequence built in this device allows playing of the complex music without giving excessive load to the CPU of the portable telephones. Moreover, the registers of the FM synthesizer can be operated directly for real time sound generation, allowing, for example, utilization of various sound effects when using the game software installed in the portable telephone.

YMU769 includes a speaker amplifier with high ripple removal rate whose maximum output is 550mW (SPVDD=3.6V). For the headphone, it is provided with a stereophonic output terminal.

4. Memory

The signals in the MSM6200 enable two memories. They use only one volt supply voltage, VDD_LP from the PM6050. This system uses SPANSION's memory, S99PL129JCOBAWUC. It is consisted of 128M bits flash NOR memory and 32M bits SRAM memory. It has 16 bit data line, AD[0~15] which is connected to MSM6200. It has 22 bit address lines, A[1~22]. ROM_CS and RAM_CS signals is chip select.

In the multi-media processor, it has two type of memories. One is 1GMbit NAND Flash memory and the other is 512Mbit SDRAM memory. Multi-media processor doesn't have a NAND memory interface. But we make a software algorithm use for NAND memory.

5. Multi-media processor MA55141

MA55141 is an LSI, which is designed on 3GPP 3G-324M Standard for a video telephone system.
Since protocol software is external, MA55141 can run with another protocol like H.323 by changing its software.
MA55141 has ARM9 CPU, so supports more various application.

Feature

- Based on 3GPP 3G-324M standard
- Video MPEG-4 (simple profile level1) or H263 (baseline)
- Audio AMR, G723.1, MP3 or AAC (program downloadable)
- Multiplexing H.223 (Level 0, 1, 2, processed by CPU with assistant hardware)
- Control H.245 (Processed all by CPU)
- Built-in 32bit RISC CPU(ARM926EJ) for control. (Max 133MHz, I-cache 16KB, D-cache 8KB, MMU and JAVA accelerator (Jazelle) included.)
- Built-in 16bit DSP for audio CODEC
- Built-in SD/MMC/Memory Stick I/F
- Video input Rec601/656 YUV = 4:2:2, 8 bit I/F
- Video output Rec601 YUV = 4:2:2(8bit) / RGB 18bit
  Built-in Picture-In-Picture Image Displaying Functions
  Built-in On Screen Display(OSD) Functions with alpha blending
- Video CODEC
  Encoding and decoding : QCIF 40fps, CIF 10fps
  Encoding only : QCIF 68fps, CIF 17fps
  Decoding only : QCIF 96fps, CIF 24fps
  Deblocking filter is built-in.
  Max output image size : 2032×2032
- Program on SDRAM is executable without ROM (optional).
- Power supply

VDDI1=1.425V to 1.65V	(For internal circuit. Please power off during stand-by)
VDDI2=VDDI1	(For internal circuit. Please provide during stand-by)
VDDP0, VDDP1=1.425V to 1.65V	(For internal PLL0 and PLL1)
VDDO, VDDOD=2.7V to 3.0V	(For I/O)

- Max operating frequency
  CPU clock = 133MHz
  DSP clock = 100MHz
  SDRAM clock = 100MHz
  Video clock = SDRAM clock/2

6. MIC2211 (U604/U605)

This LDO is the voltage source of Multimedia part. The MIC2211 is a dual-output LDO regulator.
The one of dual is capable of sourcing 150mA, while the another one can supply up to 300mA.
Ideal for battery operated applications, the MIC2211 offers 1% accuracy, extremely low dropout voltage (80mV @ 100mA), and extremely low ground current (only 48mA total). Equipped with TTL logic compatible enable pins, the MIC2211 can be put into a zero-off-mode current state, drawing no current when disabled. Separate enable pins allow individual control of each output voltage.

7. Camera (HV7151SP)

The HV7151SP is a highly integrated single chip CMOS color image sensor implemented by proprietary Hynix 0.35um COMS sensor process realizing high sensitivity and wide dynamic range.

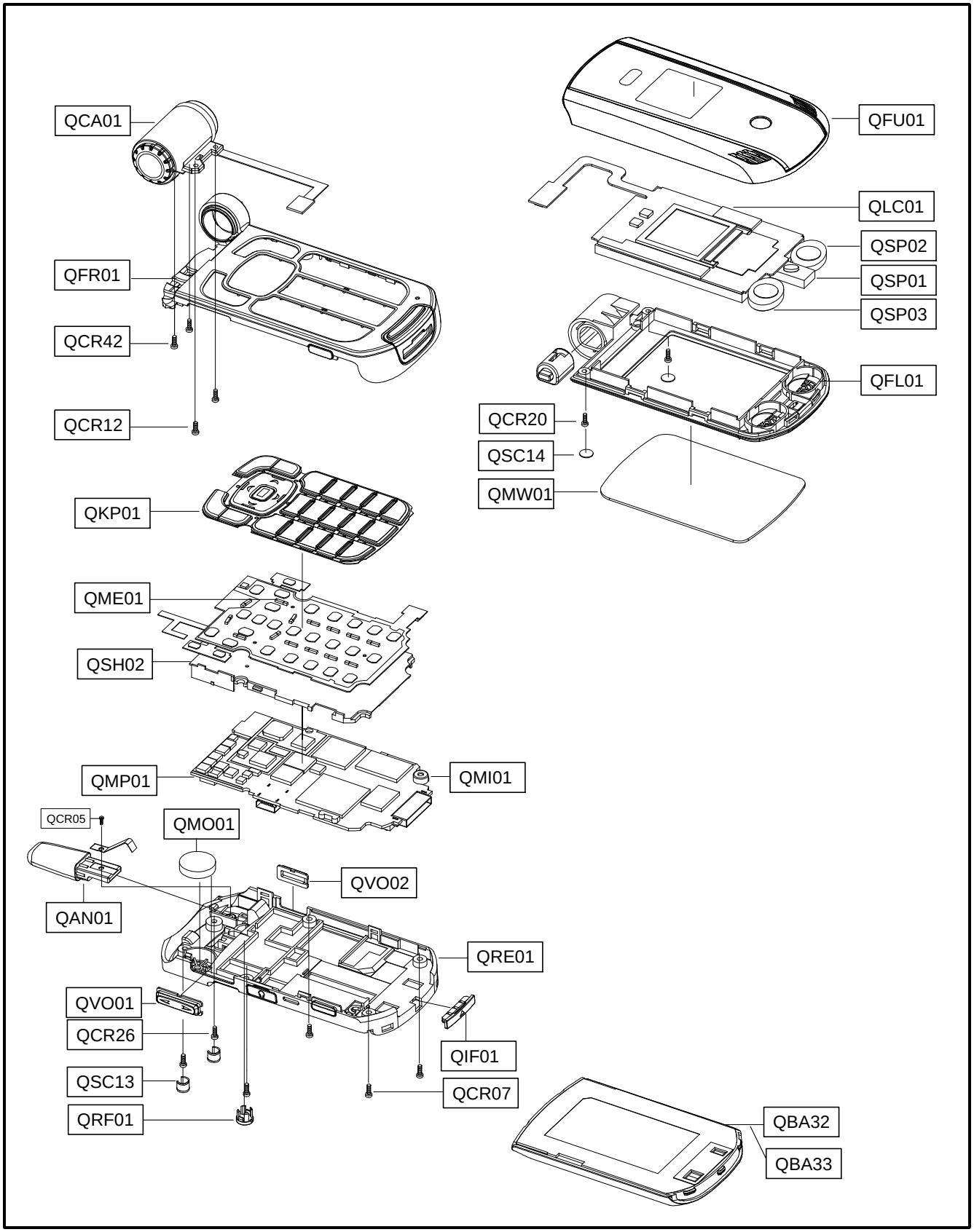
Total pixel array size is 1170 x 880 pixels are active. So, It can supports the picture below 1Mega-pixel snap shot. Each active pixel composed of 4 transistors has a micro-lens to enhance sensitivity, and converts photon energy to analog pixel voltage. On-chip 10bit Analog to Digital Converter(ADC) ditgitizes analog pixel voltage, and on-chip Correlated Double Sampling(CDS) scheme reduces Fixed Pattern Noise(FPN) dramatically. The integration of sensor function and image processing functions make HV7151SP especially very suitable for mobile imaging systems such as IMT-2000.

8. Irda

This system uses IRDA module, HSDL_3208, Agilent's. This has signals, Input data and output data. These signals are connected to MSN6200.

3. SGH-Z110V Exploded View and its Parts list

1. Cellular phone Exploded View



2. Cellular phone Parts list

Location NO.		Description	SEC CODE	Remark
QFU01		FOLDER UPPER	GH75-05245A	
QLC01		LCD	GH07-00614A	
QSP01		SPEAKER	3001-001540	
QSP02		SPEAKER	3001-001622	
QSP03		SPEAKER	3001-001623	
QFL01		FOLDER LOWER	GH75-05246A	
QCR20		SCREW	6001-001429	
QSC14		FOLDER SCREW SHEET	GH74-10909A	
QMW01		MAIN WINDOW LCD	GH72-16368A	
QFR01		FRONT COVER	GH75-05243A	
QCA01		CAMERA	GH59-01767A	
QCR12		SCREW	6001-001530	
QKP01		KEYPAD	GH75-05247A	
QME01		UNIT KEYPAD	GH59-01768A	
QSH02		SHIELD COVER	GH71-04036A	
QMP01		MAIN PBA	GH92-01730A	
QMI01		MICROPHONE ASSY	GH30-00143A	
QCR05		SCREW	6001-001478	
QMO01		MOTOR	3101-001415	
QVO02		KEY REJECT	GH72-15405A	
QVO01		KEY VOL	GH72-15407A	
QAN01		ANTENNA	GH42-00488A	
QRE01		REAR COVER	GH75-05244A	
QSC13		REAR SCREW CAP	GH72-17726A	
QRF01		RF COVER	GH72-15400A	
QIF01		IF COVER	GH72-15401A	
QCR07		SCREW	6001-001691	
QCR26		SCREW	6001-001850	
QCR42		SCREW	6001-001300	
QBA32		BATTERY-860MAH	GH43-01529A	
QBA33		BATTERY-1360MAH	GH43-01530A	

3. Test Jig (GH80-03308A)

3-1. RF Test Cable
(GH39-00105A)

3-2. Test Cable
(GH39-00337E)

3-3. Serial Cable

3-4. Power Supply Cable

3-5. DATA CABLE
(GH39-00326A)

3-6. TC
(GH44-00701A)

4. SGH-V110V MAIN Electrical Parts List

SEC Code	Design LOC
0403-001387	ZD303
0403-001427	ZD304
0404-001153	ZD401
0404-001167	ZD308
0406-001178	ZD307
0406-001197	ZD300
0406-001197	ZD301
0406-001197	ZD302
0406-001197	ZD305
0406-001197	ZD400
0406-001197	ZD403
0406-001197	ZD404
0406-001197	ZD700
0406-001197	ZD701
0406-001197	ZD702
0406-001197	ZD703
0406-001197	ZD704
0406-001197	ZD705
0406-001197	ZD706
0406-001197	ZD707
0406-001197	ZD708
0406-001197	ZD709
0406-001197	ZD710
0406-001197	ZD711
0406-001197	ZD712
0406-001197	ZD713
0406-001197	ZD714
0406-001197	ZD715
0406-001197	ZD716
0406-001197	ZD717
0407-001002	ZD306
0407-001002	ZD402
0407-001038	U307
0504-001060	U202
0504-001113	Q201
0505-001423	U303
0505-001423	U305
0505-001423	U313
0505-001423	U608

SEC Code	Design LOC
0505-001464	Q200
0505-001464	Q300
0604-001261	LED700
1001-001231	U205
1001-001231	U312
1001-001231	U402
1001-001288	U100
1001-001296	U306
1001-001296	U503
1001-001296	U601
1001-001306	U404
1109-001302	U300
1109-001317	U500
1201-001984	U200
1201-002174	U102
1201-002196	U201
1203-003007	U400
1203-003105	U302
1203-003105	U304
1203-003137	U403
1203-003275	U605
1203-003322	U604
1203-003359	U607
1203-003501	U401
1203-003563	U310
1203-003585	U700
1203-003591	U204
1204-002316	U602
1204-002354	U501
1205-002295	U301
1205-002297	U203
1205-002300	U101
1205-002530	U606
1205-002592	U308
1404-001224	TH300
1405-001082	V602
1405-001082	V603
2007-000138	R123
2007-000138	R202

SEC Code	Design LOC
2007-000138	R209
2007-000140	R351
2007-000147	R125
2007-000148	R105
2007-000148	R111
2007-000148	R331
2007-000149	R352
2007-000160	R631
2007-000168	R321
2007-000171	R204
2007-000171	R205
2007-000171	R220
2007-000171	R628
2007-000171	R633
2007-000172	R112
2007-000173	R201
2007-000174	R733
2007-000242	R348
2007-000775	R408
2007-001119	R353
2007-001217	R113
2007-001217	R127
2007-001217	R128
2007-001284	R212
2007-001291	R114
2007-001291	R115
2007-001291	R224
2007-001291	R225
2007-001295	R116
2007-001298	R210
2007-001298	R211
2007-001301	R122
2007-001305	R121
2007-001307	R117
2007-001307	R118
2007-001307	R119
2007-001307	R120
2007-001313	R316
2007-001325	R109

SEC Code	Design LOC
2007-001325	R607
2007-001339	R320
2007-001339	R322
2007-002796	R410
2007-002796	R514
2007-003006	R420
2007-003022	R731
2007-003022	R732
2007-007107	R219
2007-007107	R412
2007-007135	R334
2007-007137	R218
2007-007142	R126
2007-007314	R200
2007-007314	R206
2007-007314	R208
2007-007314	R333
2007-007318	R330
2007-007318	R615
2007-007318	R616
2007-007491	R110
2007-007491	R207
2007-007538	R327
2007-007698	R216
2007-007981	R421
2007-008045	R107
2007-008045	R124
2007-008045	R129
2007-008045	R306
2007-008045	R307
2007-008045	R308
2007-008045	R309
2007-008045	R700
2007-008045	R701
2007-008045	R702
2007-008045	R703
2007-008045	R704
2007-008045	R705
2007-008045	R706

SEC Code	Design LOC
2007-008045	R707
2007-008045	R708
2007-008045	R709
2007-008045	R710
2007-008045	R711
2007-008045	R712
2007-008045	R713
2007-008045	R714
2007-008045	R715
2007-008045	R716
2007-008045	R717
2007-008045	R718
2007-008045	R719
2007-008045	R720
2007-008045	R721
2007-008045	R722
2007-008045	R723
2007-008045	R724
2007-008045	R725
2007-008055	R405
2007-008055	R415
2007-008055	R618
2007-008055	R621
2007-008055	R622
2007-008055	R626
2007-008055	R727
2007-008117	R215
2007-008117	R612
2007-008117	R613
2007-008213	R510
2007-008213	R511
2007-008401	R419
2007-008419	R100
2007-008419	R103
2007-008419	R106
2007-008419	R108
2007-008419	R214
2007-008419	R217
2007-008419	R305

SEC Code	Design LOC
2007-008419	R328
2007-008419	R350
2007-008419	R400
2007-008419	R404
2007-008419	R413
2007-008419	R417
2007-008419	R629
2007-008419	R630
2007-008483	R213
2007-008483	R301
2007-008483	R302
2007-008483	R346
2007-008483	R347
2007-008483	R349
2007-008483	R358
2007-008483	R502
2007-008483	R728
2007-008483	R729
2007-008483	R730
2007-008516	R300
2007-008516	R317
2007-008516	R318
2007-008516	R354
2007-008516	R356
2007-008516	R406
2007-008516	R418
2007-008516	R517
2007-008516	R518
2007-008516	R519
2007-008531	R101
2007-008542	R221
2007-008542	R303
2007-008542	R304
2007-008542	R310
2007-008542	R311
2007-008542	R312
2007-008542	R313
2007-008542	R314
2007-008542	R315

SEC Code	Design LOC
2007-008542	R323
2007-008542	R324
2007-008542	R326
2007-008542	R332
2007-008542	R335
2007-008542	R336
2007-008542	R337
2007-008542	R340
2007-008542	R341
2007-008542	R345
2007-008542	R355
2007-008542	R357
2007-008542	R360
2007-008542	R409
2007-008542	R500
2007-008542	R504
2007-008542	R507
2007-008542	R508
2007-008542	R509
2007-008542	R512
2007-008542	R513
2007-008542	R601
2007-008542	R603
2007-008542	R606
2007-008542	R608
2007-008542	R609
2007-008542	R610
2007-008542	R625
2007-008542	R632
2007-008542	R739
2007-008548	R401
2007-008548	R403
2007-008548	R414
2007-008548	R416
2007-008648	R407
2007-008648	R619
2007-008648	R620
2007-008648	R623
2007-008648	R624

SEC Code	Design LOC
2007-009081	R223
2007-009122	R222
2203-000138	C162
2203-000233	C200
2203-000233	C209
2203-000233	C228
2203-000233	C653
2203-000254	C101
2203-000254	C348
2203-000254	C350
2203-000254	C426
2203-000254	C620
2203-000254	C621
2203-000254	C638
2203-000254	C659
2203-000311	C163
2203-000330	C208
2203-000330	C210
2203-000330	C214
2203-000330	C242
2203-000359	C107
2203-000359	C109
2203-000359	C112
2203-000359	C113
2203-000386	C104
2203-000386	C327
2203-000386	C329
2203-000438	C103
2203-000438	C135
2203-000438	C160
2203-000438	C231
2203-000438	C448
2203-000489	C325
2203-000530	C141
2203-000628	C472
2203-000654	C148
2203-000679	C341
2203-000696	C146
2203-000696	C151

SEC Code	Design LOC
2203-000812	C102
2203-000812	C108
2203-000812	C150
2203-000812	C213
2203-000812	C248
2203-000854	C117
2203-000854	C122
2203-000854	C123
2203-000854	C134
2203-000885	C205
2203-000995	C211
2203-001124	C250
2203-001178	C212
2203-001259	C249
2203-001383	C221
2203-001405	C660
2203-002443	C172
2203-002677	C147
2203-005050	C256
2203-005050	C257
2203-005050	C410
2203-005234	C173
2203-005234	C178
2203-005288	C230
2203-005288	C236
2203-005393	C317
2203-005393	C318
2203-005480	C647
2203-005482	C100
2203-005482	C118
2203-005496	C658
2203-005503	C171
2203-005682	C114
2203-005682	C120
2203-005682	C124
2203-005682	C125
2203-005682	C126
2203-005682	C129
2203-005682	C130

SEC Code	Design LOC
2203-005682	C138
2203-005682	C139
2203-005682	C140
2203-005682	C142
2203-005682	C144
2203-005682	C153
2203-005682	C169
2203-005682	C353
2203-005682	C354
2203-005682	C465
2203-005682	C478
2203-005682	C480
2203-005682	C666
2203-005682	C667
2203-005682	C668
2203-005682	C669
2203-005682	C670
2203-005682	C671
2203-005682	C672
2203-005682	C701
2203-005682	C708
2203-005682	C719
2203-005682	C720
2203-005682	C721
2203-005682	C722
2203-005717	C131
2203-005717	C132
2203-005717	C206
2203-005717	C485
2203-005717	C487
2203-005717	C488
2203-005717	C489
2203-005717	C491
2203-005717	C492
2203-005717	C494
2203-005717	C495
2203-005717	C498
2203-005717	C499
2203-005717	C700

SEC Code	Design LOC
2203-005717	C709
2203-005729	C158
2203-005729	C170
2203-005729	C175
2203-005729	C247
2203-005729	C258
2203-005729	C401
2203-005729	C403
2203-005729	C413
2203-005729	C415
2203-005729	C417
2203-005729	C450
2203-005729	C451
2203-005729	C453
2203-005729	C455
2203-005729	C458
2203-005729	C462
2203-005729	C467
2203-005729	C469
2203-005729	C477
2203-005729	C479
2203-005729	C481
2203-005729	C483
2203-005729	C603
2203-005729	C606
2203-005729	C609
2203-005736	C133
2203-005736	C176
2203-005736	C201
2203-005736	C223
2203-005736	C227
2203-005736	C238
2203-005736	C241
2203-005736	C244
2203-005736	C335
2203-005736	C344
2203-005736	C345
2203-005736	C346
2203-005736	C442

SEC Code	Design LOC
2203-005736	C627
2203-005736	C628
2203-005736	C631
2203-005736	C635
2203-005779	C326
2203-005779	C328
2203-005779	C400
2203-005779	C405
2203-005779	C412
2203-005779	C414
2203-005779	C416
2203-005779	C452
2203-005779	C454
2203-005779	C459
2203-005779	C463
2203-005779	C468
2203-005779	C470
2203-005779	C476
2203-005779	C482
2203-005779	C604
2203-005779	C607
2203-005779	C611
2203-005806	C116
2203-005806	C119
2203-005806	C143
2203-005806	C155
2203-005806	C168
2203-005806	C174
2203-005806	C235
2203-005806	C253
2203-005806	C306
2203-005806	C314
2203-005806	C614
2203-006053	C342
2203-006053	C347
2203-006090	C474
2203-006090	C640
2203-006090	C652
2203-006093	C305

SEC Code	Design LOC
2203-006093	C310
2203-006093	C313
2203-006093	C331
2203-006093	C339
2203-006093	C427
2203-006093	C428
2203-006093	C432
2203-006093	C435
2203-006093	C456
2203-006093	C629
2203-006093	C630
2203-006093	C641
2203-006093	C651
2203-006093	C656
2203-006093	C703
2203-006120	C251
2203-006137	C167
2203-006190	C625
2203-006190	C626
2203-006194	C128
2203-006194	C137
2203-006194	C156
2203-006194	C159
2203-006194	C161
2203-006194	C177
2203-006194	C229
2203-006194	C233
2203-006194	C319
2203-006194	C321
2203-006194	C334
2203-006194	C338
2203-006201	C340
2203-006201	C352
2203-006201	C420
2203-006201	C433
2203-006201	C446
2203-006201	C457
2203-006201	C718
2203-006208	C154
2203-006208	C239

SEC Code	Design LOC
2203-006208	C245
2203-006208	C254
2203-006208	C255
2203-006208	C351
2203-006208	C421
2203-006208	C422
2203-006208	C439
2203-006208	C473
2203-006208	C707
2203-006208	C713
2203-006208	C717
2203-006257	C706
2203-006305	C105
2203-006305	C203
2203-006305	C225
2203-006305	C304
2203-006305	C309
2203-006305	C312
2203-006305	C337
2203-006305	C423
2203-006305	C424
2203-006305	C425
2203-006305	C431
2203-006305	C434
2203-006305	C436
2203-006305	C440
2203-006305	C441
2203-006305	C447
2203-006305	C497
2203-006324	C207
2203-006379	C106
2203-006423	C115
2203-006423	C121
2203-006423	C127
2203-006423	C136
2203-006423	C145
2203-006423	C157
2203-006423	C165
2203-006423	C202

SEC Code	Design LOC
2203-006423	C224
2203-006423	C226
2203-006423	C232
2203-006423	C234
2203-006423	C237
2203-006423	C240
2203-006423	C243
2203-006423	C246
2203-006423	C300
2203-006423	C301
2203-006423	C302
2203-006423	C303
2203-006423	C307
2203-006423	C308
2203-006423	C311
2203-006423	C316
2203-006423	C320
2203-006423	C322
2203-006423	C323
2203-006423	C324
2203-006423	C330
2203-006423	C333
2203-006423	C336
2203-006423	C343
2203-006423	C349
2203-006423	C406
2203-006423	C407
2203-006423	C411
2203-006423	C419
2203-006423	C429
2203-006423	C430
2203-006423	C438
2203-006423	C445
2203-006423	C461
2203-006423	C466
2203-006423	C484
2203-006423	C486
2203-006423	C490
2203-006423	C500

SEC Code	Design LOC
2203-006423	C501
2203-006423	C502
2203-006423	C503
2203-006423	C504
2203-006423	C505
2203-006423	C506
2203-006423	C507
2203-006423	C510
2203-006423	C515
2203-006423	C516
2203-006423	C517
2203-006423	C518
2203-006423	C519
2203-006423	C520
2203-006423	C523
2203-006423	C612
2203-006423	C615
2203-006423	C616
2203-006423	C618
2203-006423	C632
2203-006423	C633
2203-006423	C634
2203-006423	C636
2203-006423	C639
2203-006423	C642
2203-006423	C643
2203-006423	C644
2203-006423	C645
2203-006423	C646
2203-006423	C648
2203-006423	C654
2203-006423	C655
2203-006423	C657
2203-006423	C661
2203-006423	C704
2203-006423	C705
2203-006423	C710
2203-006423	C712
2203-006423	C714

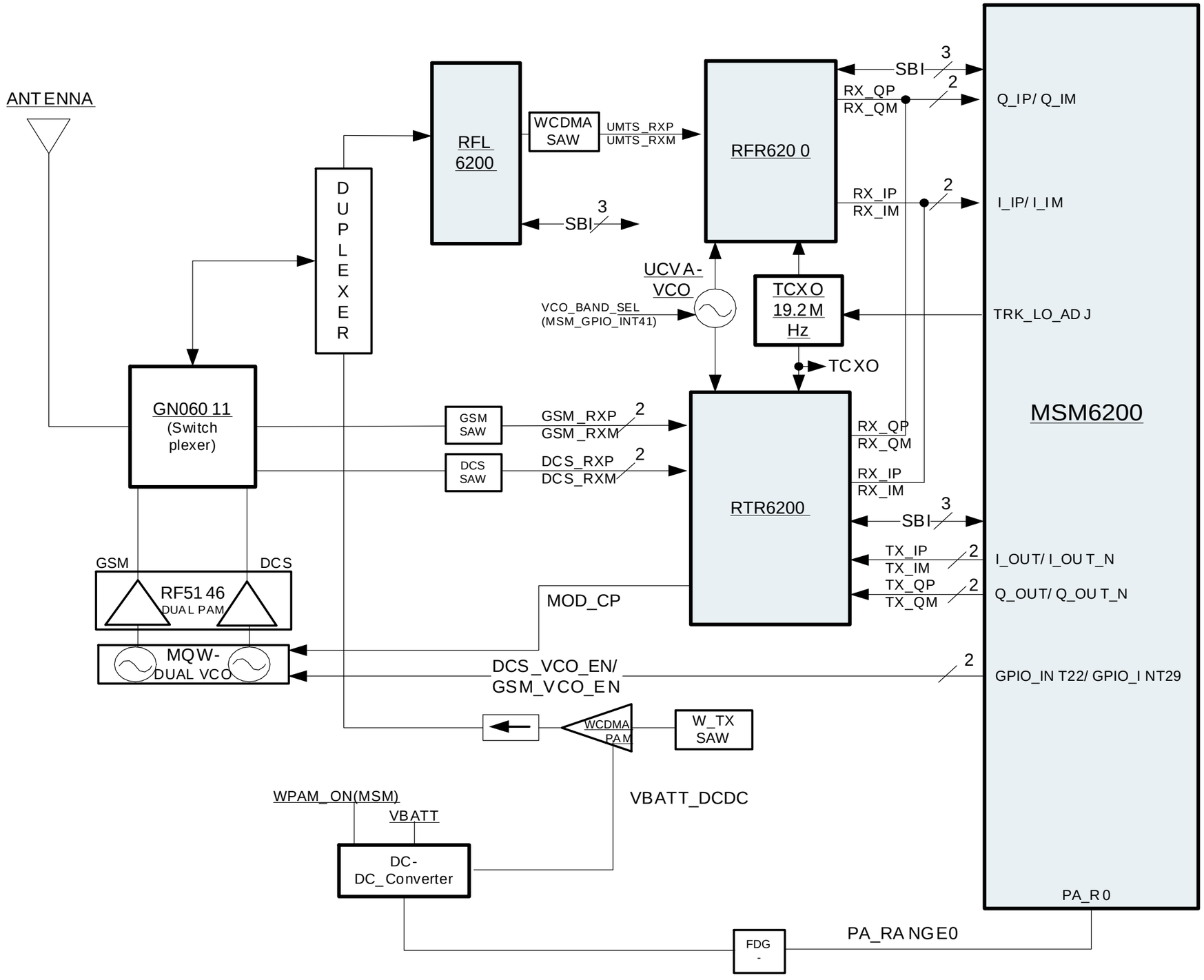
SEC Code	Design LOC
2203-006423	C715
2203-006423	C716
2203-006556	C166
2203-006556	C508
2203-006556	C509
2203-006556	C511
2203-006556	C512
2203-006556	C513
2203-006556	C514
2203-006556	C702
2203-006556	C711
2301-001214	C252
2404-001105	C149
2404-001268	C332
2404-001274	C315
2404-001281	C404
2404-001281	C418
2404-001281	C437
2404-001305	C402
2404-001305	C622
2404-001333	C460
2404-001348	C164
2404-001348	C471
2404-001348	C475
2404-001348	C637
2404-001348	C649
2404-001348	C650
2404-001348	C664
2404-001348	C665
2703-001750	L205
2703-002170	L116
2703-002198	L104
2703-002198	L107
2703-002198	L112
2703-002198	L201
2703-002200	L106
2703-002201	L102
2703-002203	L117
2703-002205	L202

SEC Code	Design LOC
2703-002207	L101
2703-002208	L109
2703-002208	L111
2703-002267	L105
2703-002267	L203
2703-002267	L211
2703-002268	L115
2703-002268	L204
2703-002281	L110
2703-002285	L406
2703-002314	L200
2703-002368	L207
2703-002368	L208
2703-002782	L602
2801-004339	OSC400
2802-001182	OSC300
2804-001610	U502
2806-001315	OSC201
2806-001329	OSC100
2809-001291	OSC200
2901-001256	F300
2901-001311	F700
2901-001311	F701
2901-001311	F702
2901-001311	F703
2901-001311	F704
2901-001311	F705
2901-001311	F706
2901-001311	F707
2901-001311	F708
2901-001311	F709
2901-001311	F710
2901-001311	F711
2901-001311	F712
2904-001438	F201
2904-001439	F200
2904-001549	F101
2904-001550	F100
2909-001261	F202

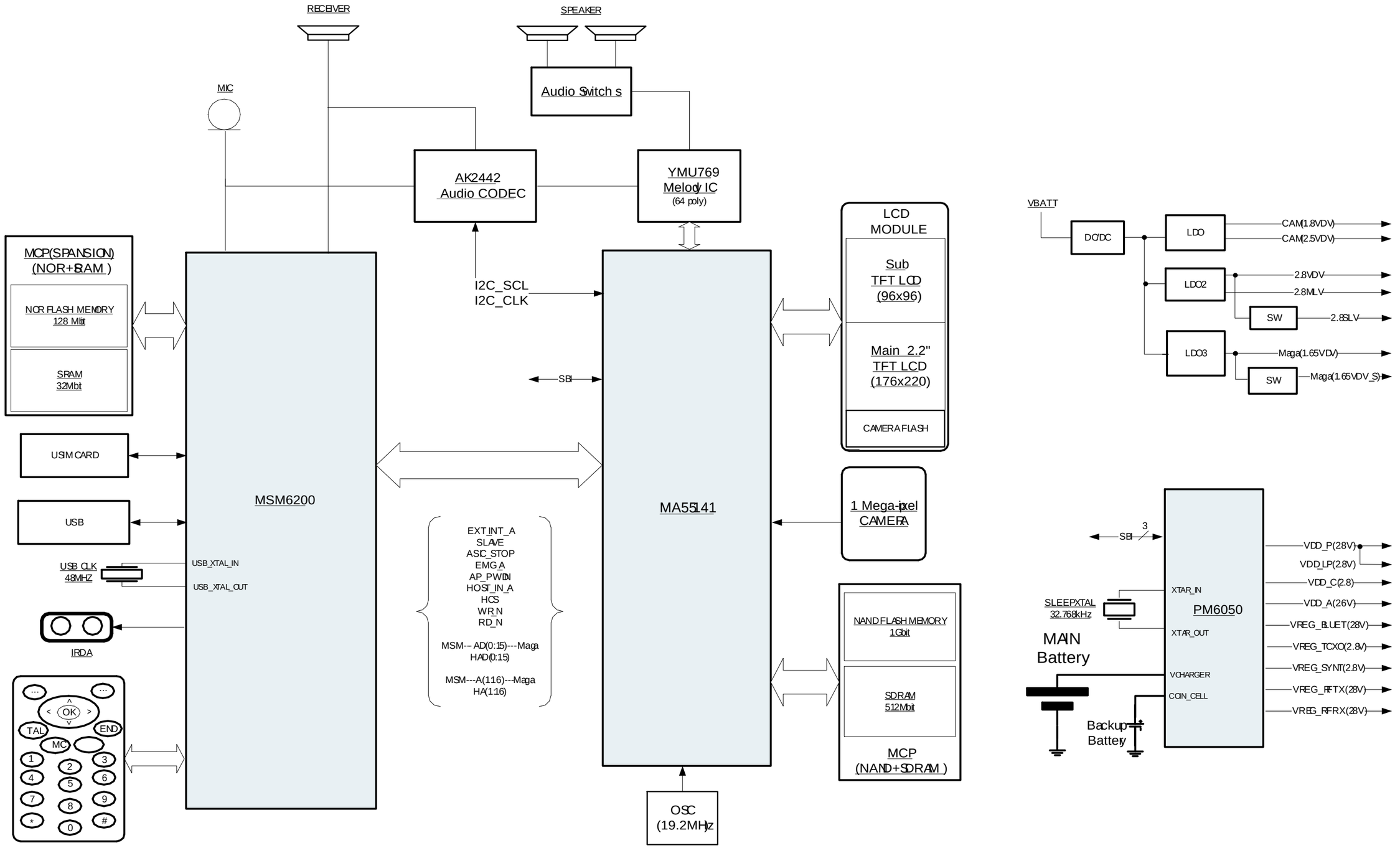
SEC Code	Design LOC
3301-001341	L300
3301-001341	L301
3301-001438	L400
3301-001438	L401
3301-001438	L402
3301-001438	L403
3301-001756	L100
3301-001756	L113
3301-001756	L114
3301-001756	L206
3301-001756	L209
3301-001756	L210
3301-001756	L404
3301-001756	L405
3301-001756	L407
3301-001756	L500
3301-001756	L501
3301-001756	L502
3301-001756	L503
3301-001756	L601
3301-001756	L700
3301-001756	L701
3301-001756	L702
3301-001756	L703
3705-001255	CN100
3709-001298	U311
3709-001352	CN703
3710-001105	CN301
3710-002177	CN300
3711-005212	CN701
3711-005296	CN702
3711-005296	CN704
3722-002010	CN400
4302-001177	BAT400
GH41-00695A	

5. SGH-Z110V Block Diagrams

1. RF Solution Block Diagram

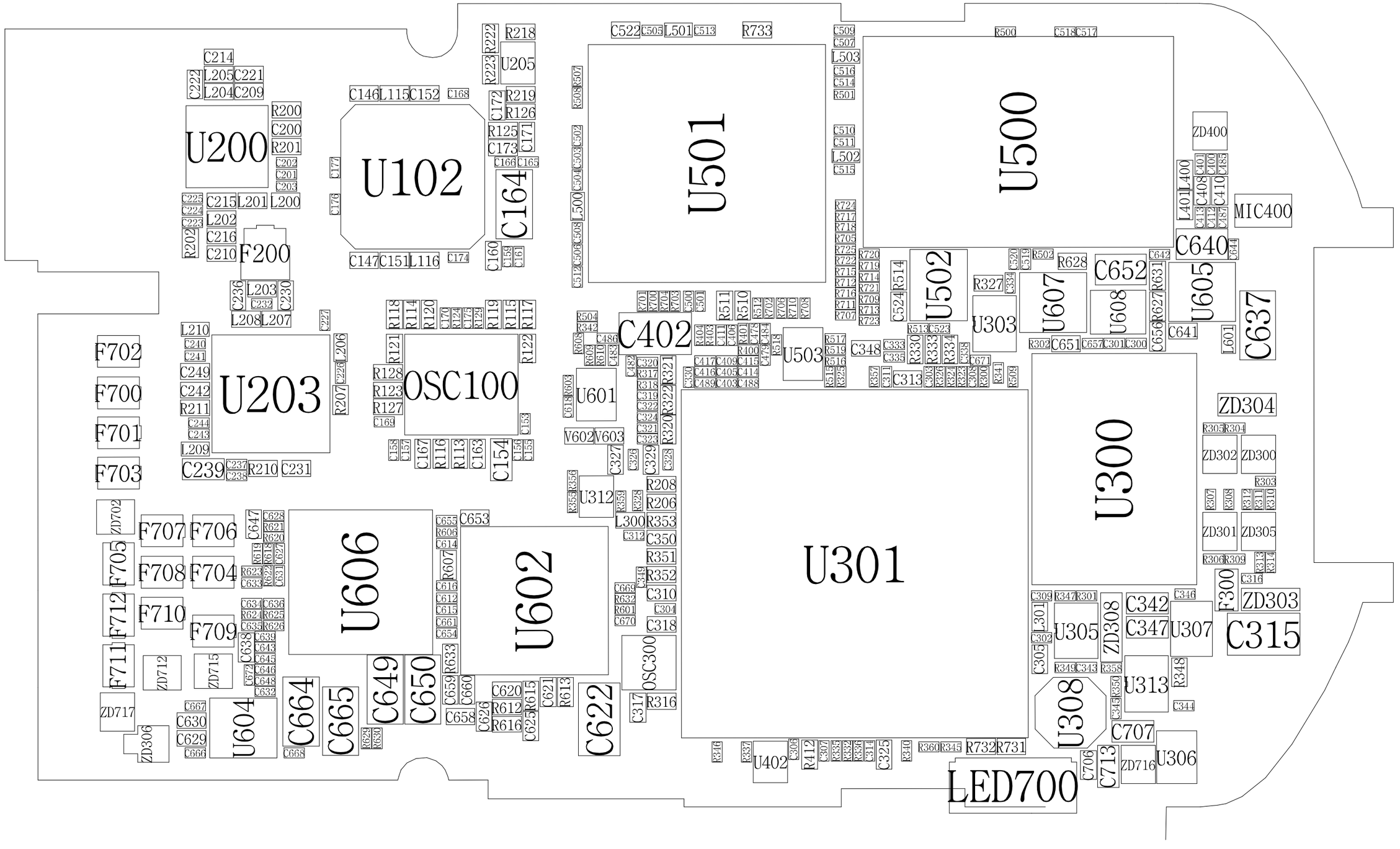


2. Base Band Solution Block Diagram

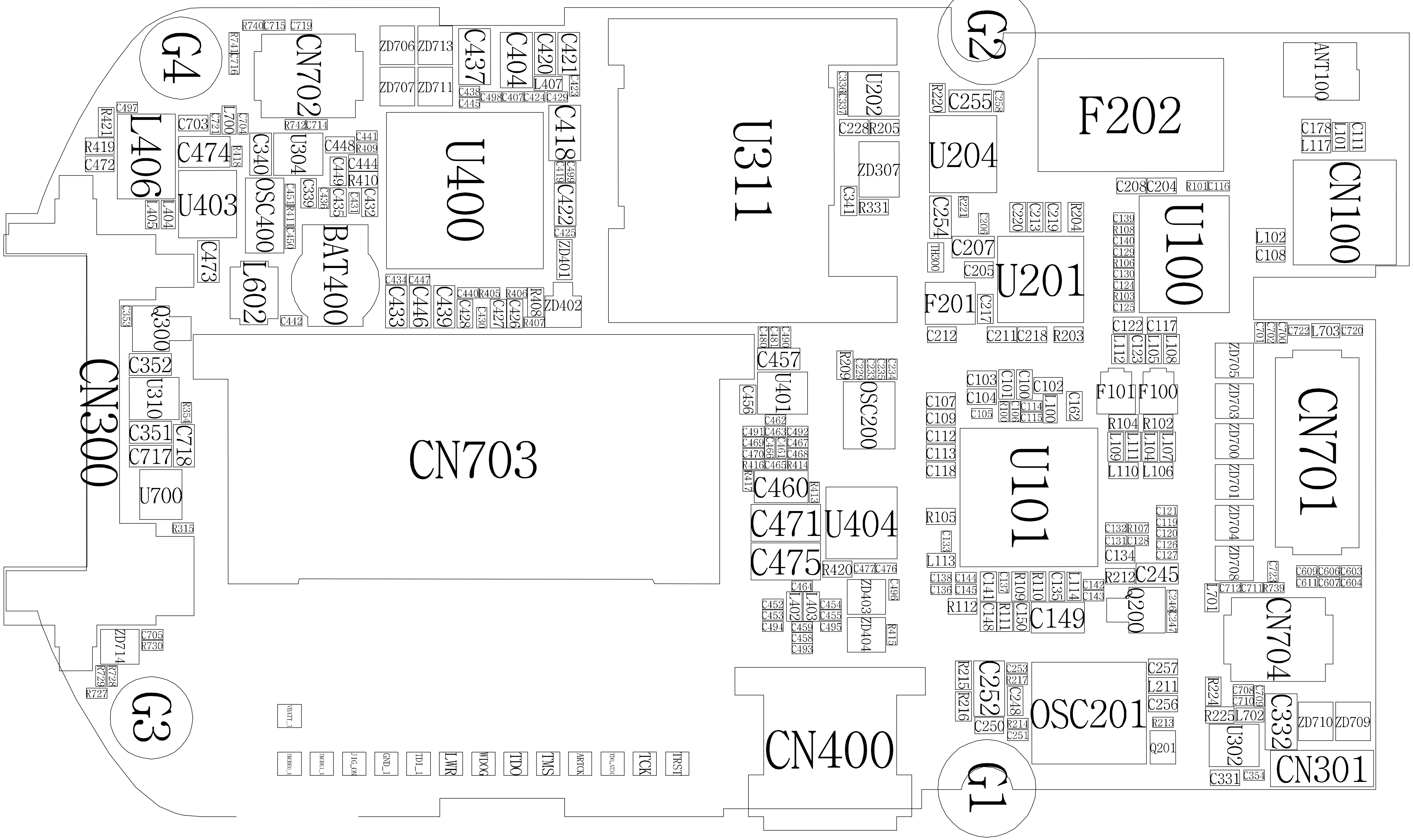


6. SGH-Z110V PCB Diagrams

1. Main PCB Top Diagram

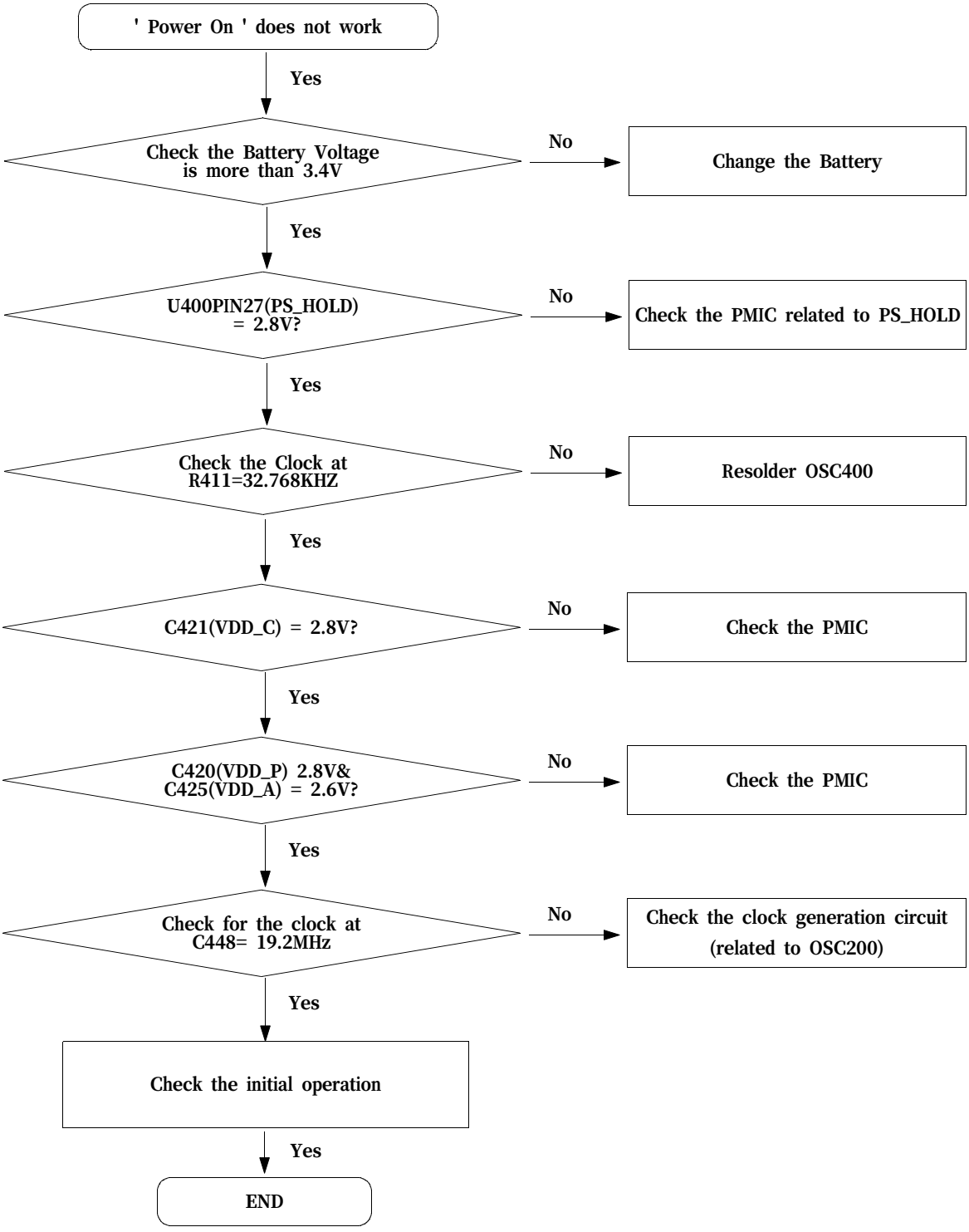


2. Main PCB Bottom Diagram

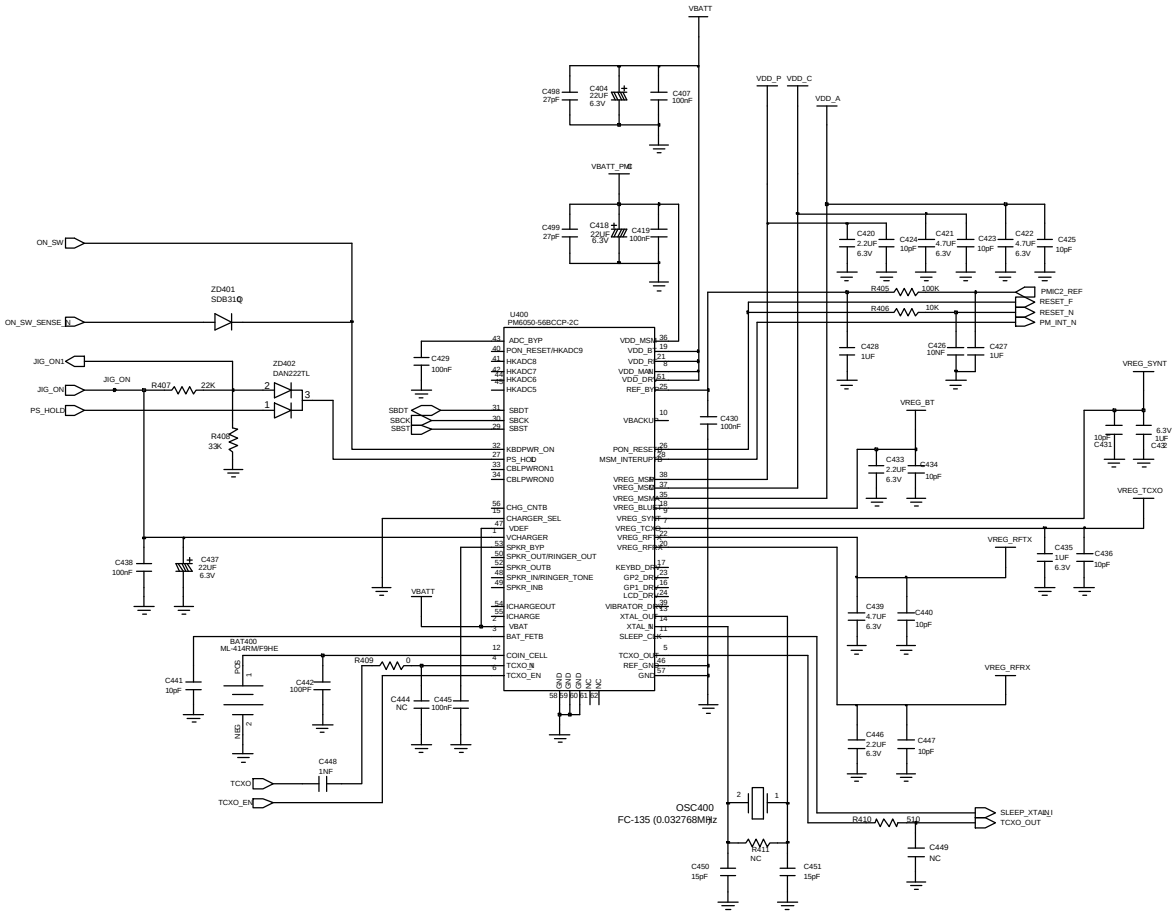


7. SGH-Z110V Flow Chart of Troubleshooting

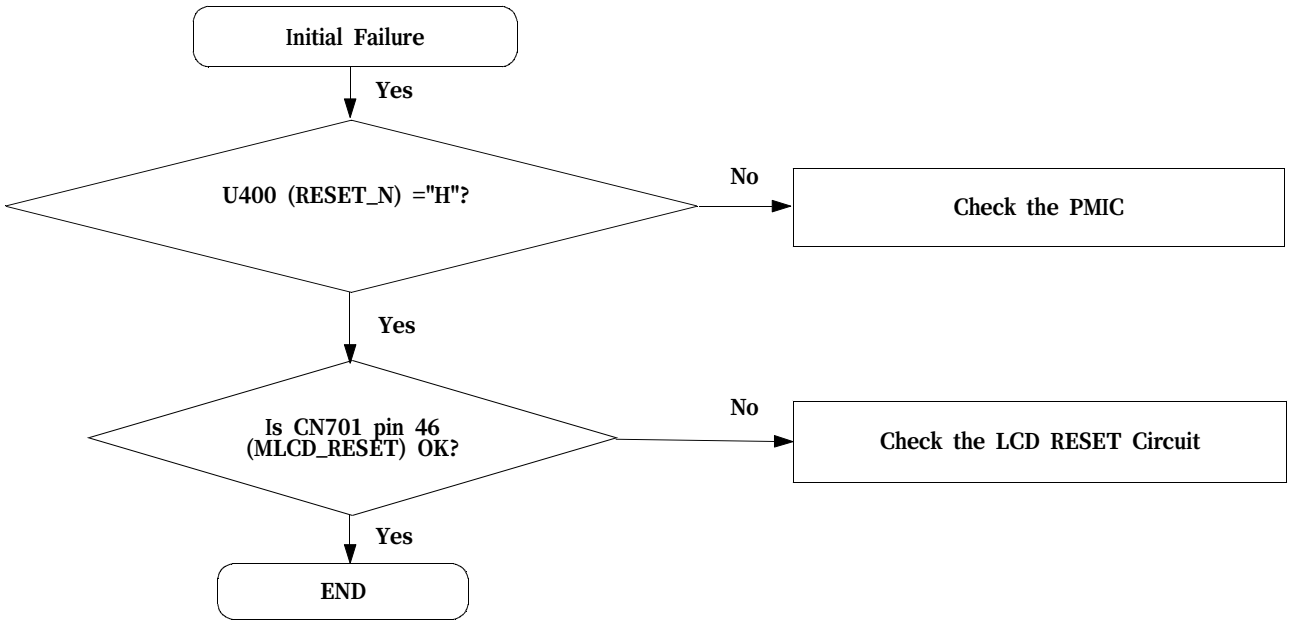
1. Power On



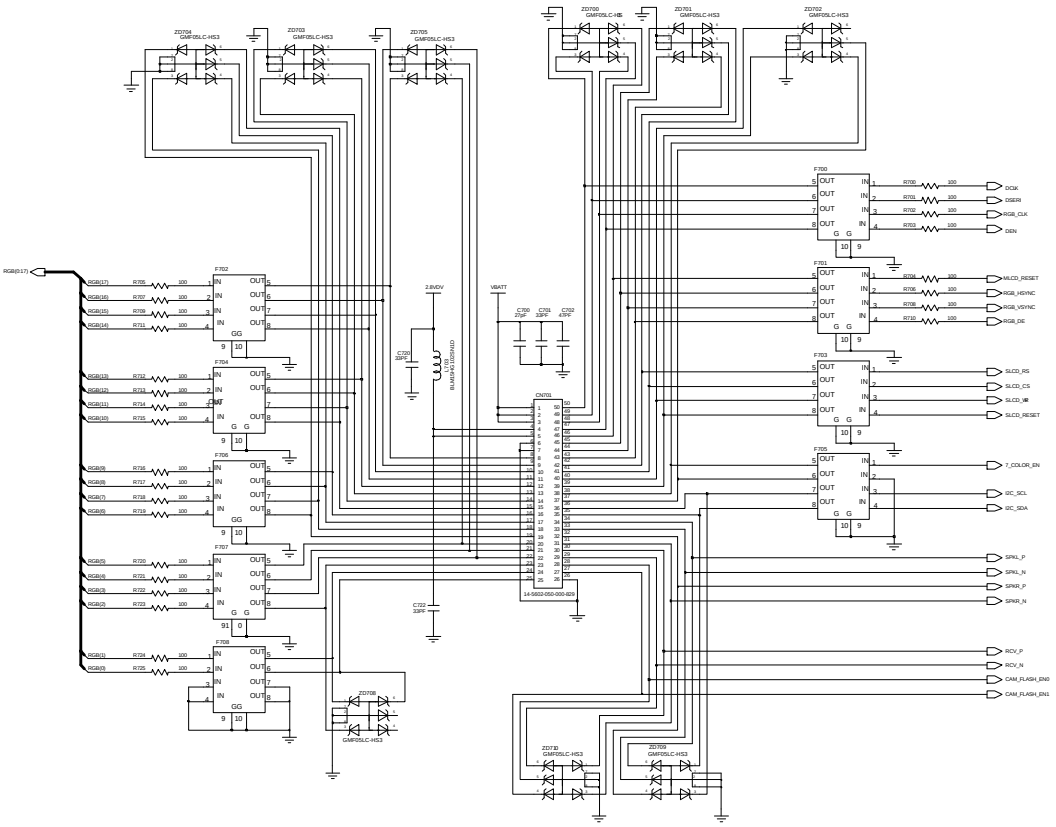
Power On



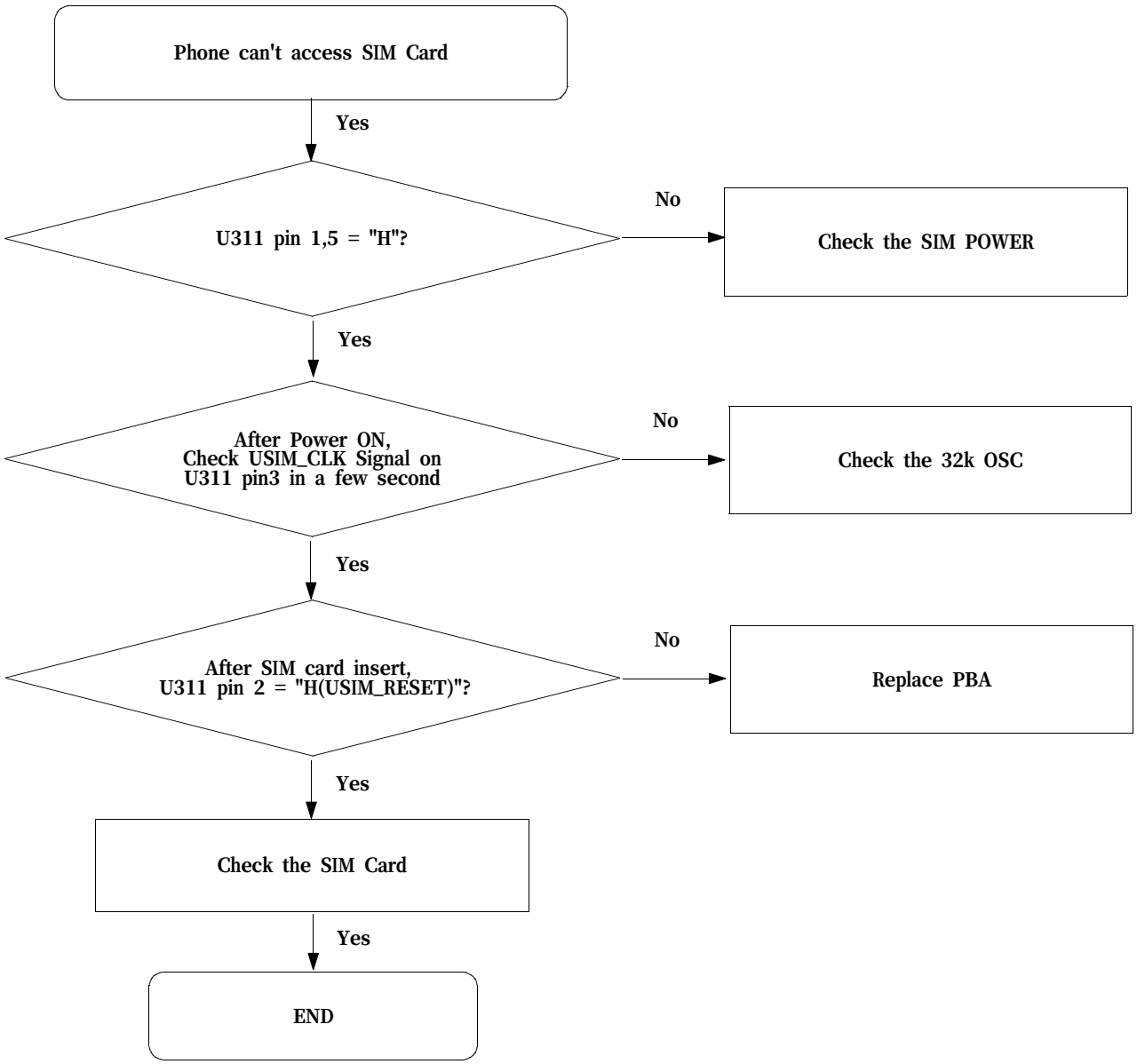
2. Initial



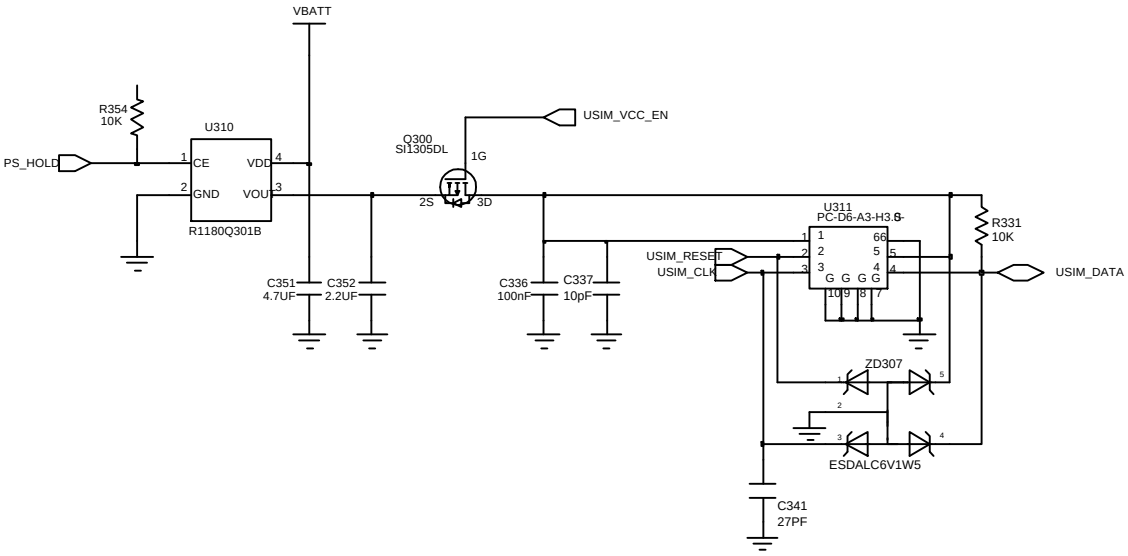
Initial



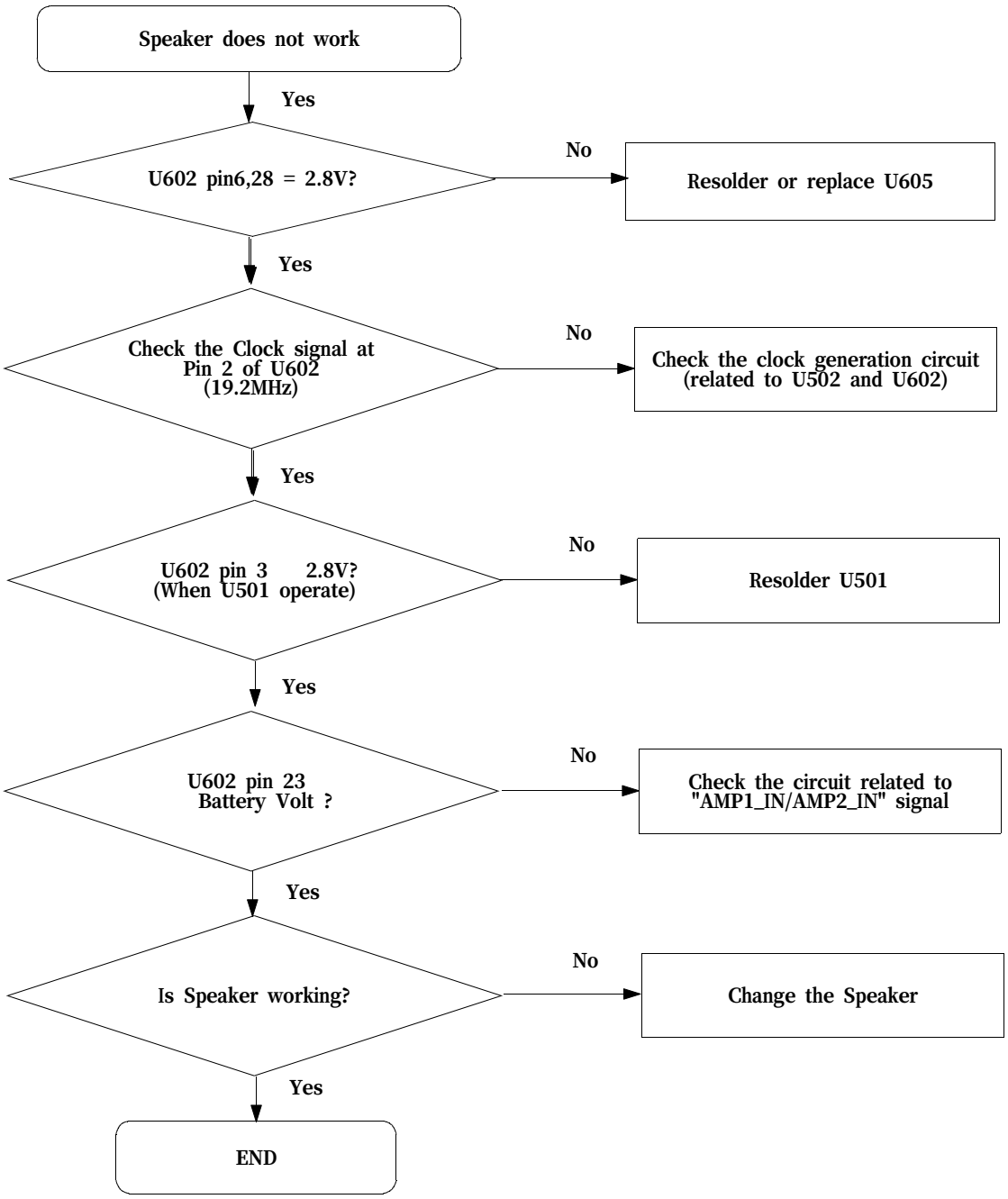
3. Sim Part



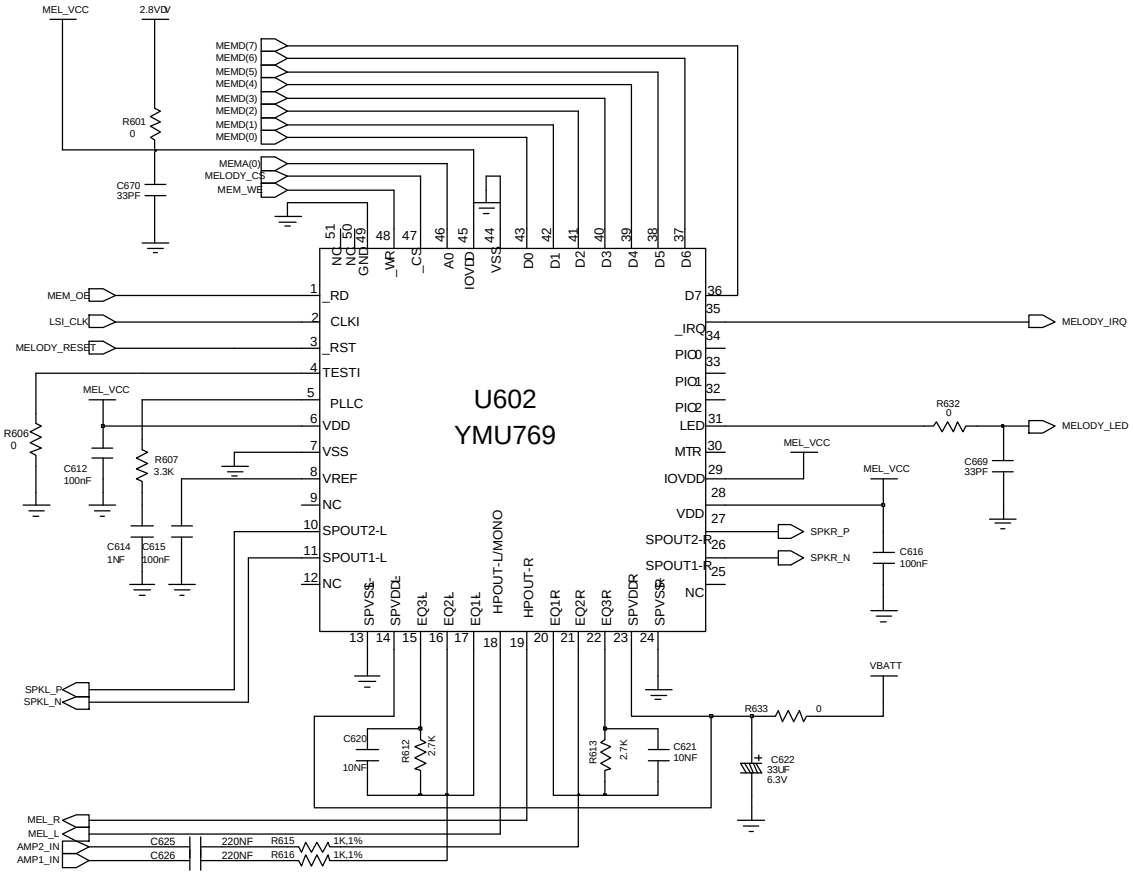
SIM



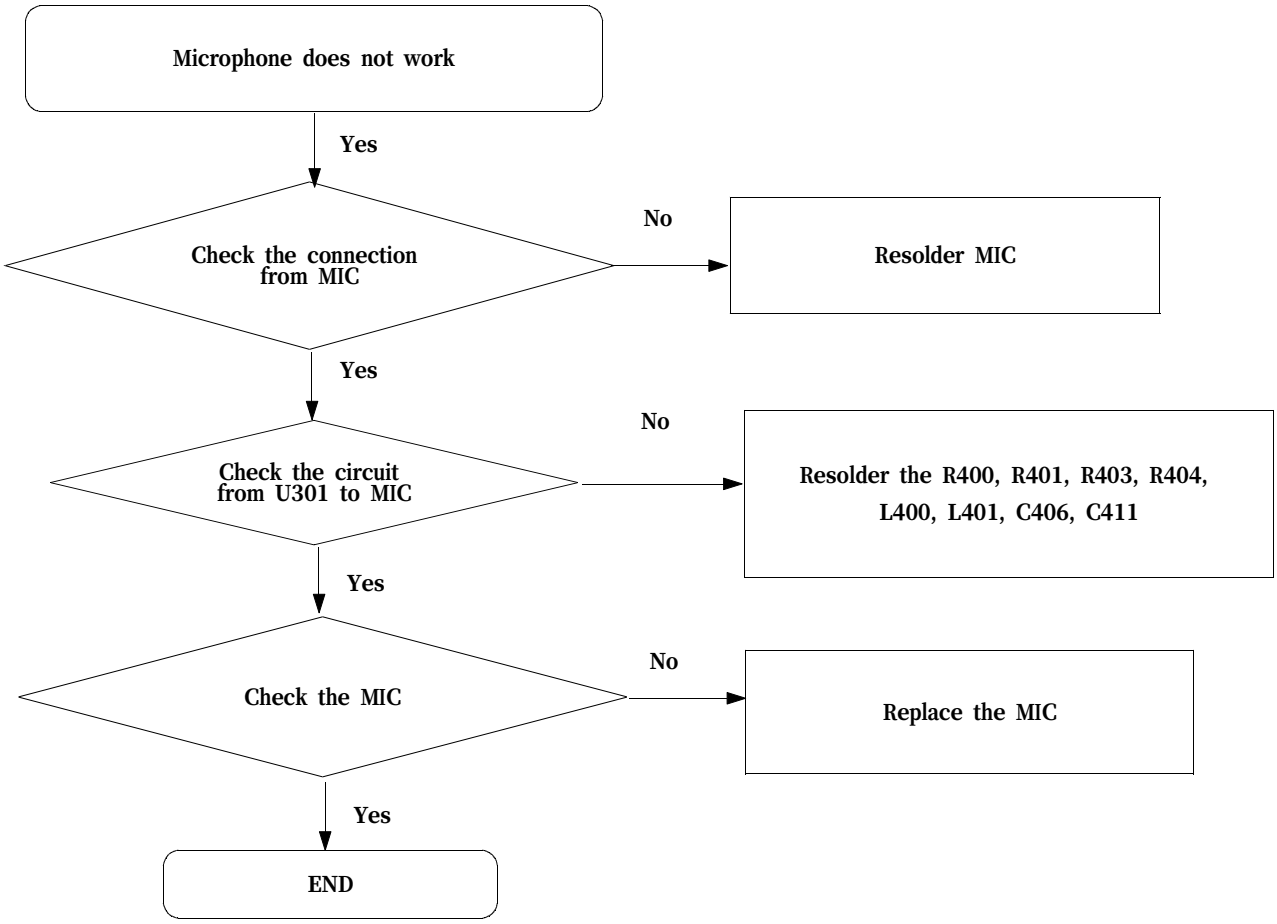
4. Speaker Part (Melody)



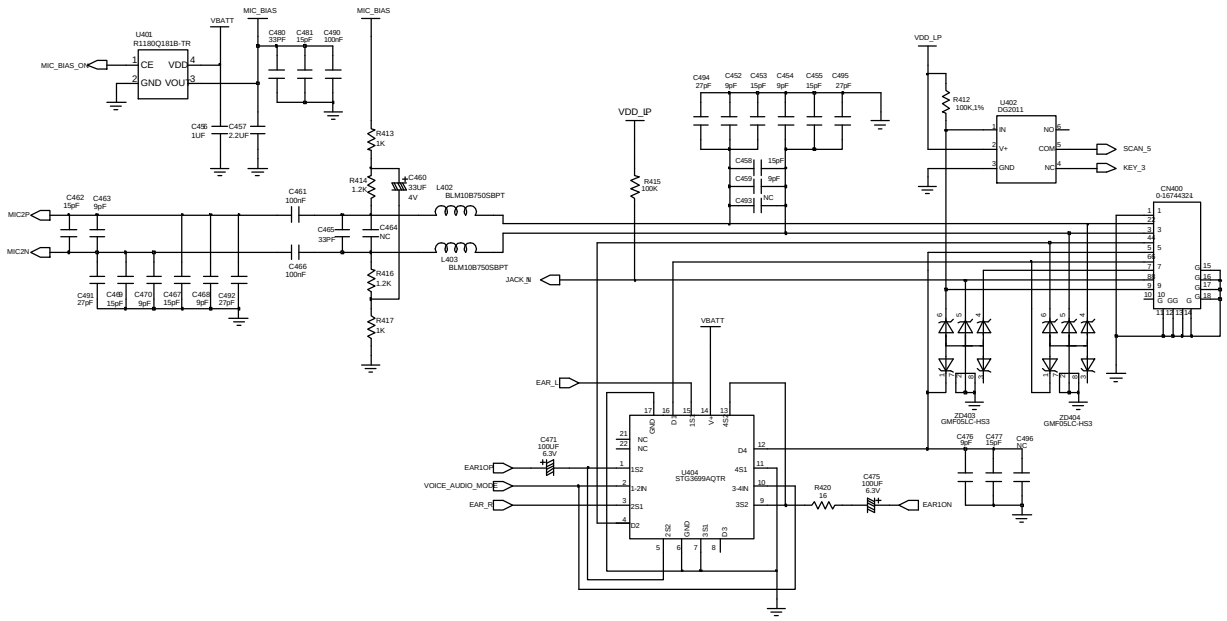
Speaker



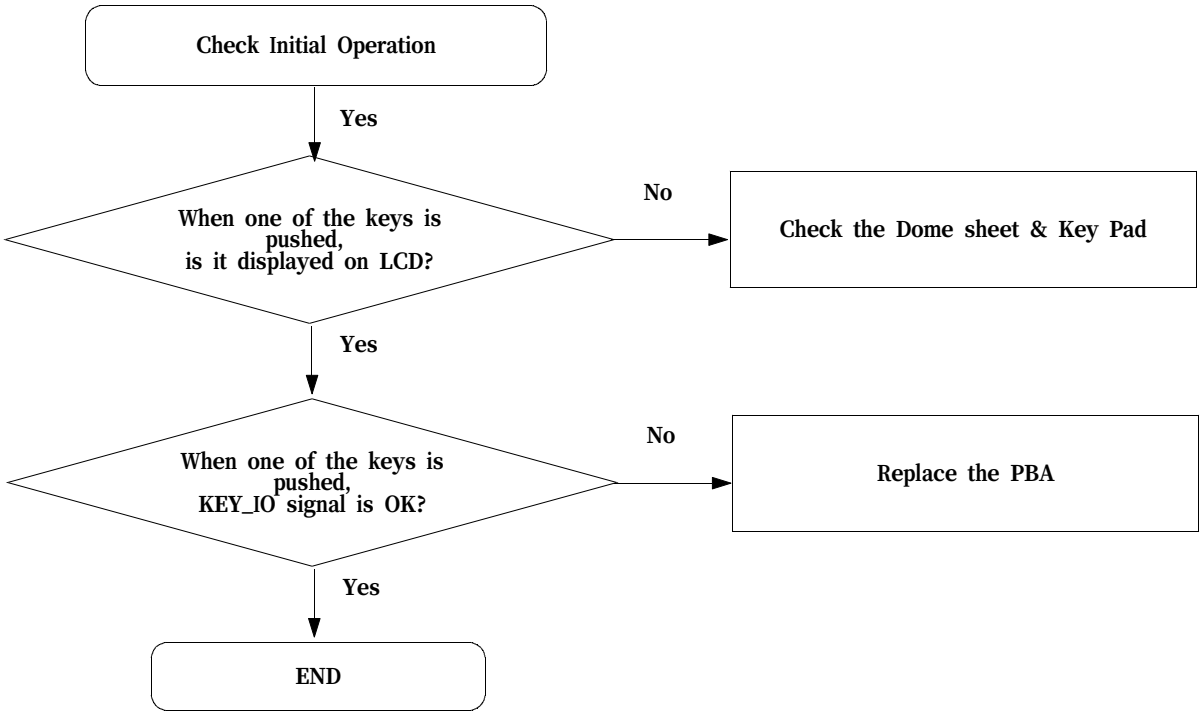
5. Microphone part



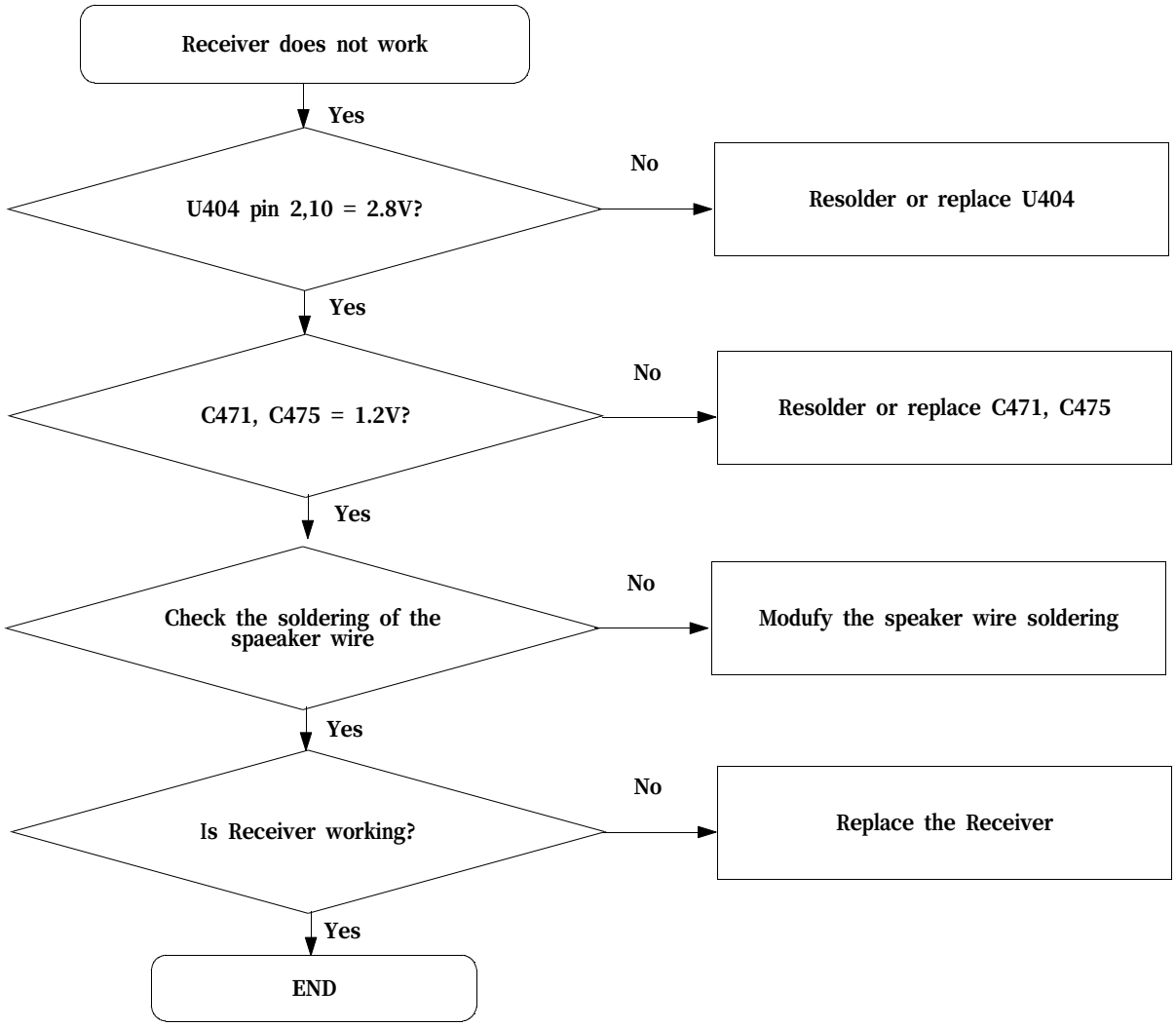
Microphone



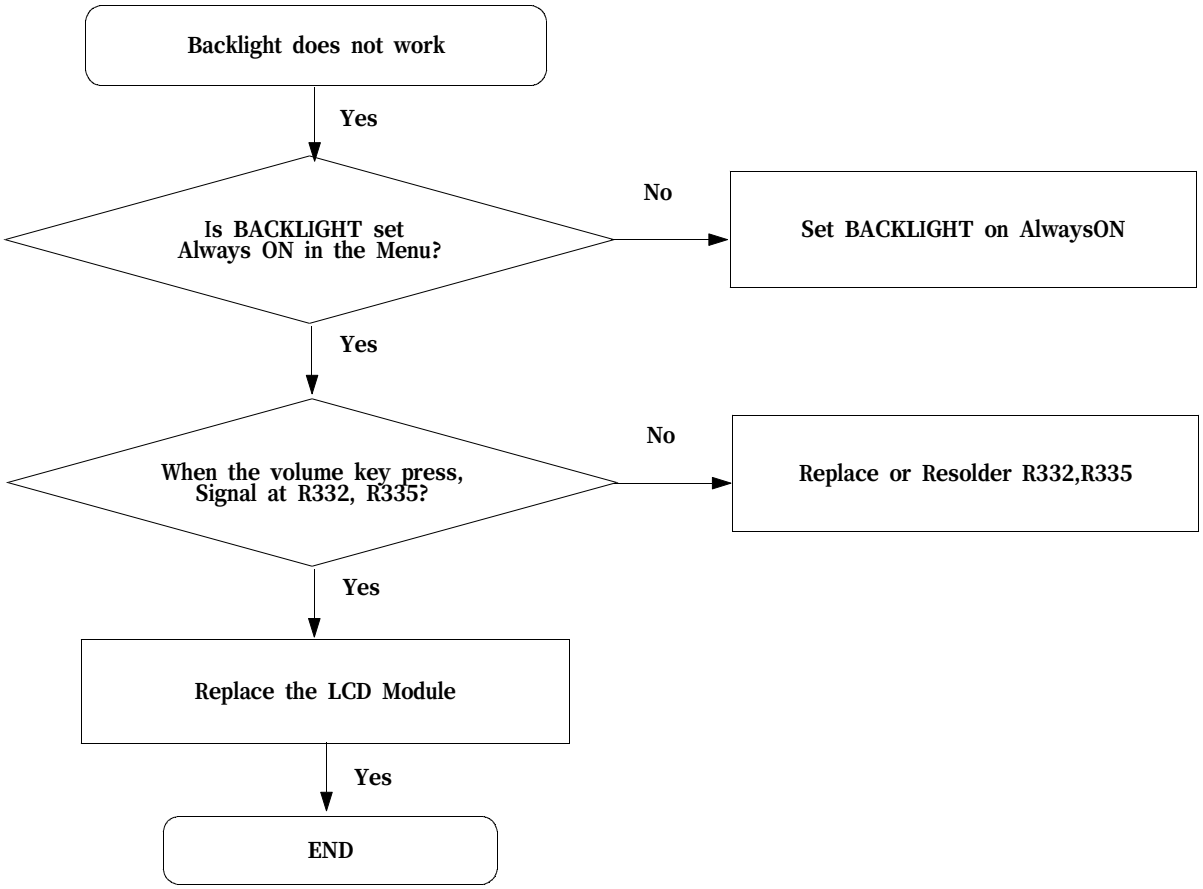
6. Key Data Input



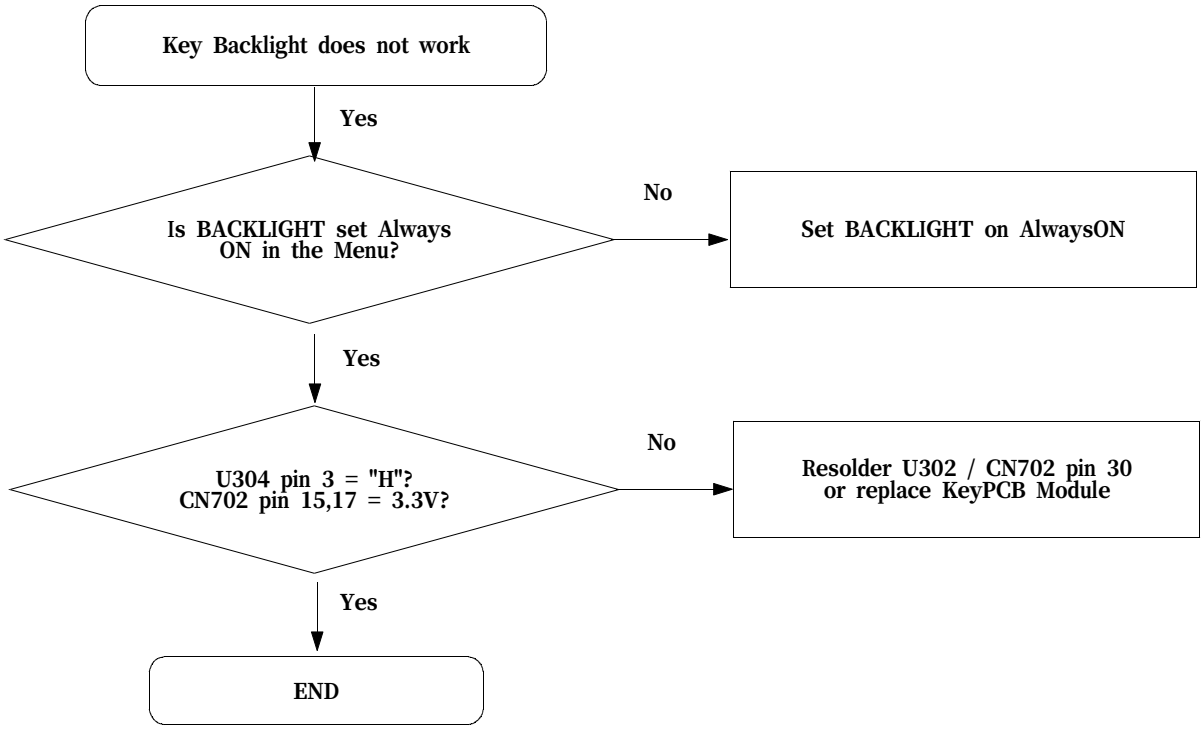
7. Receiver Part



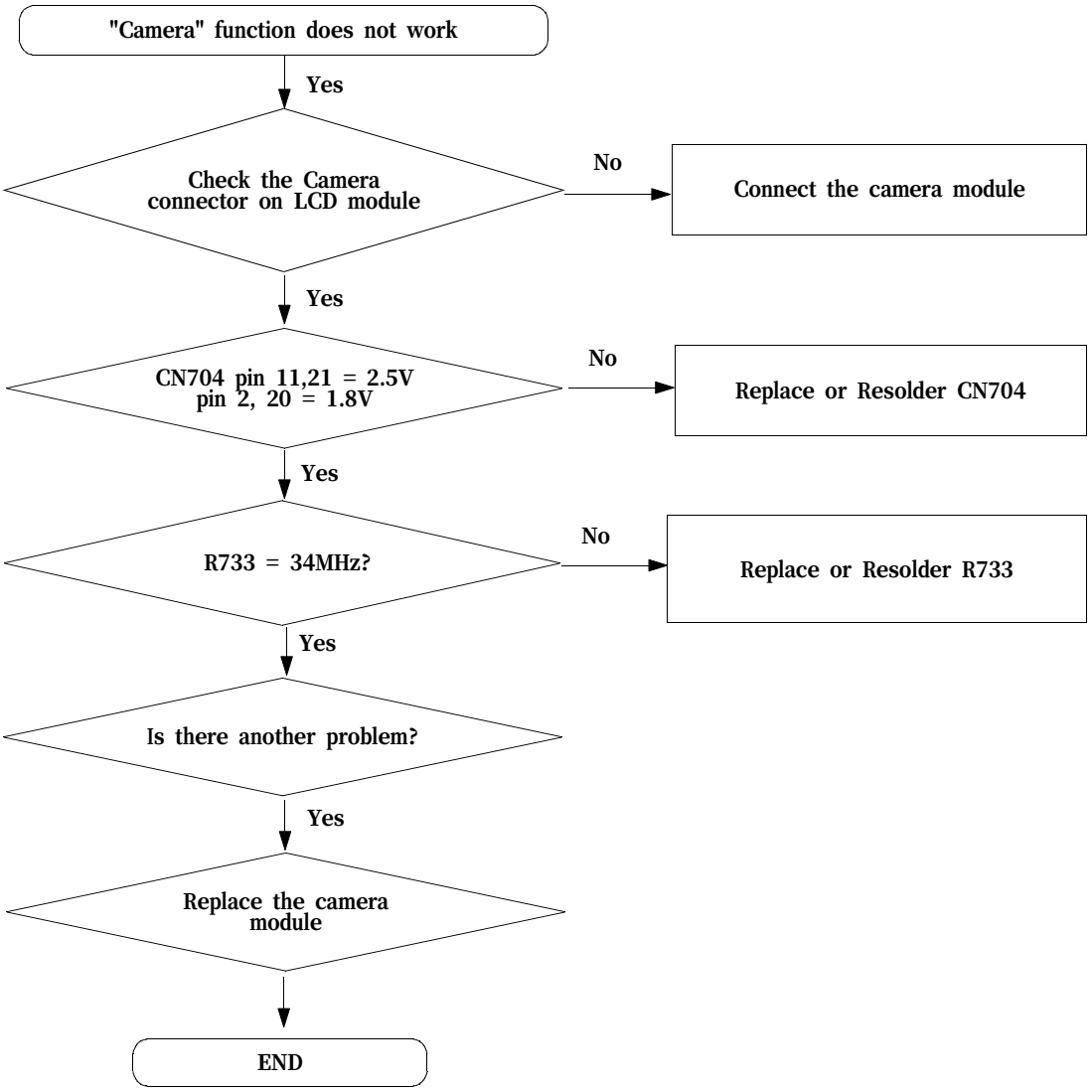
8. Back Light (for Color Main LCD)



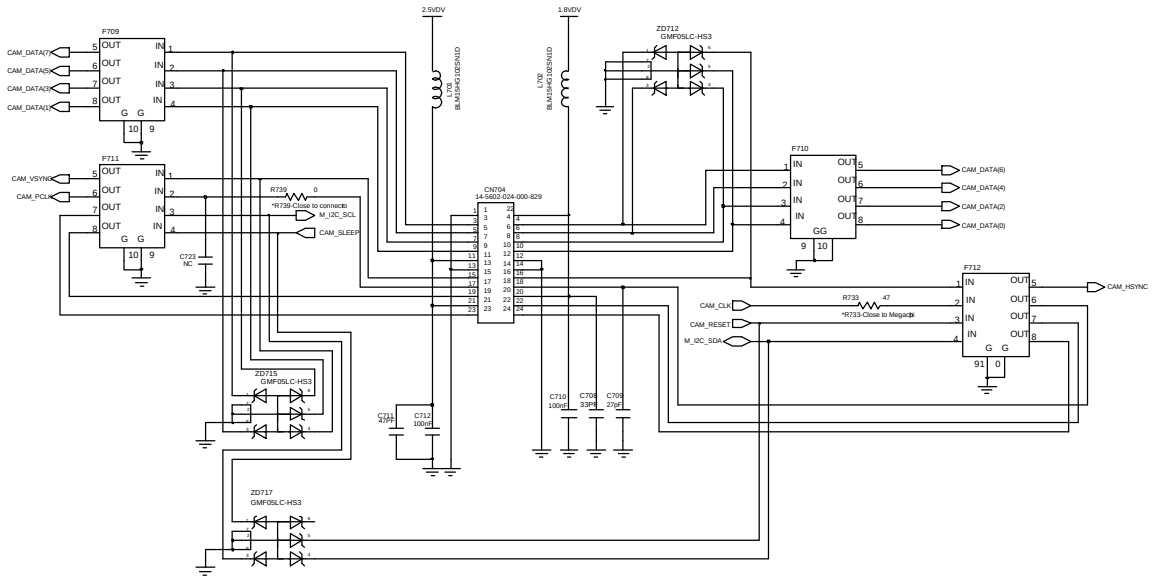
9. Key Back Light



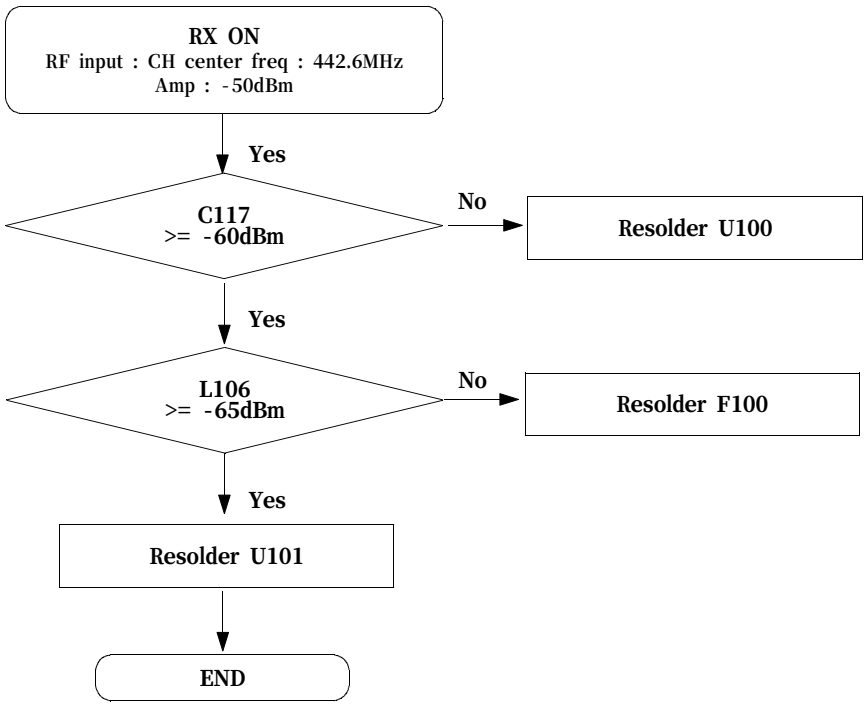
10. Camera part



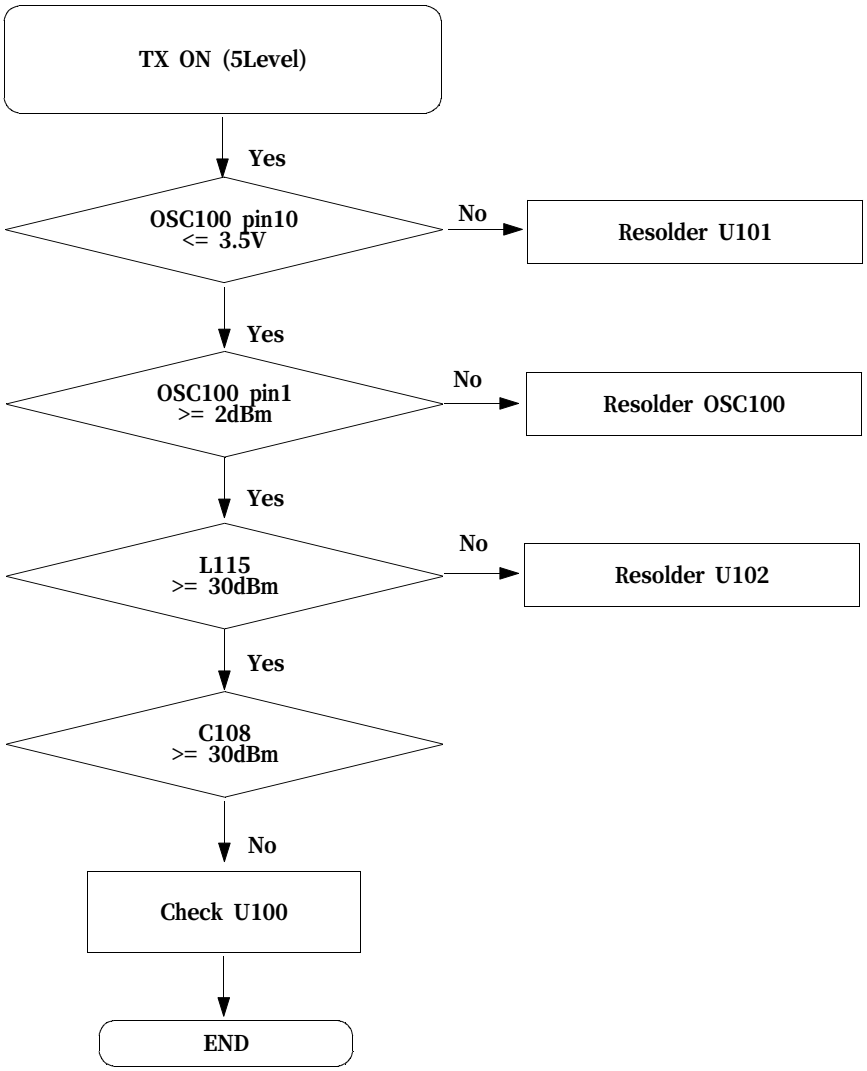
Camera



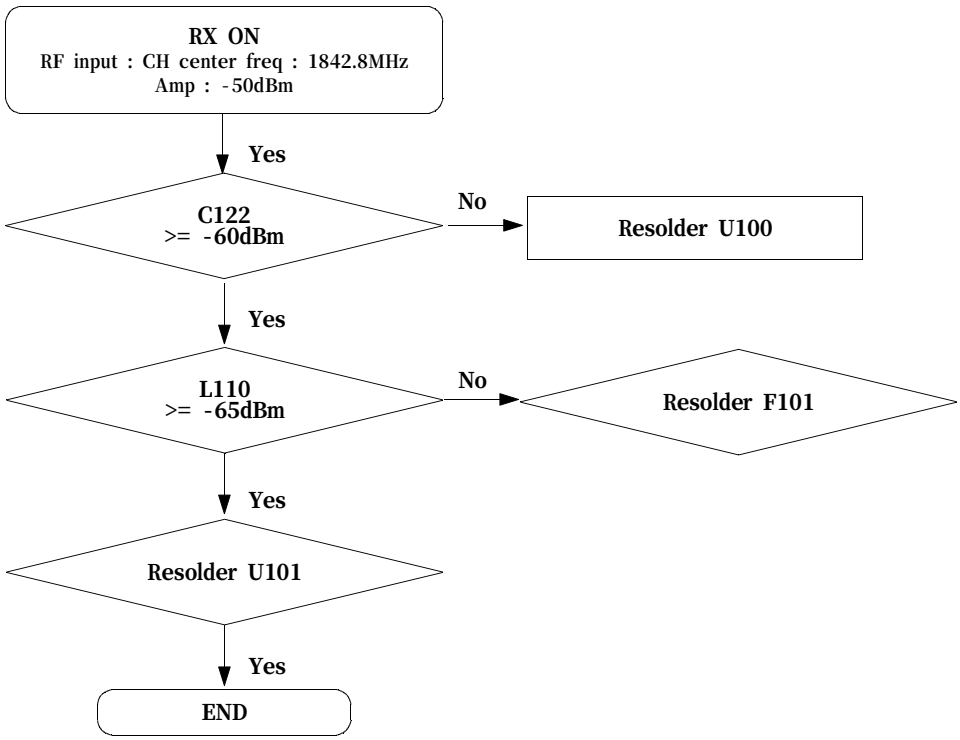
11. GSM Receiver



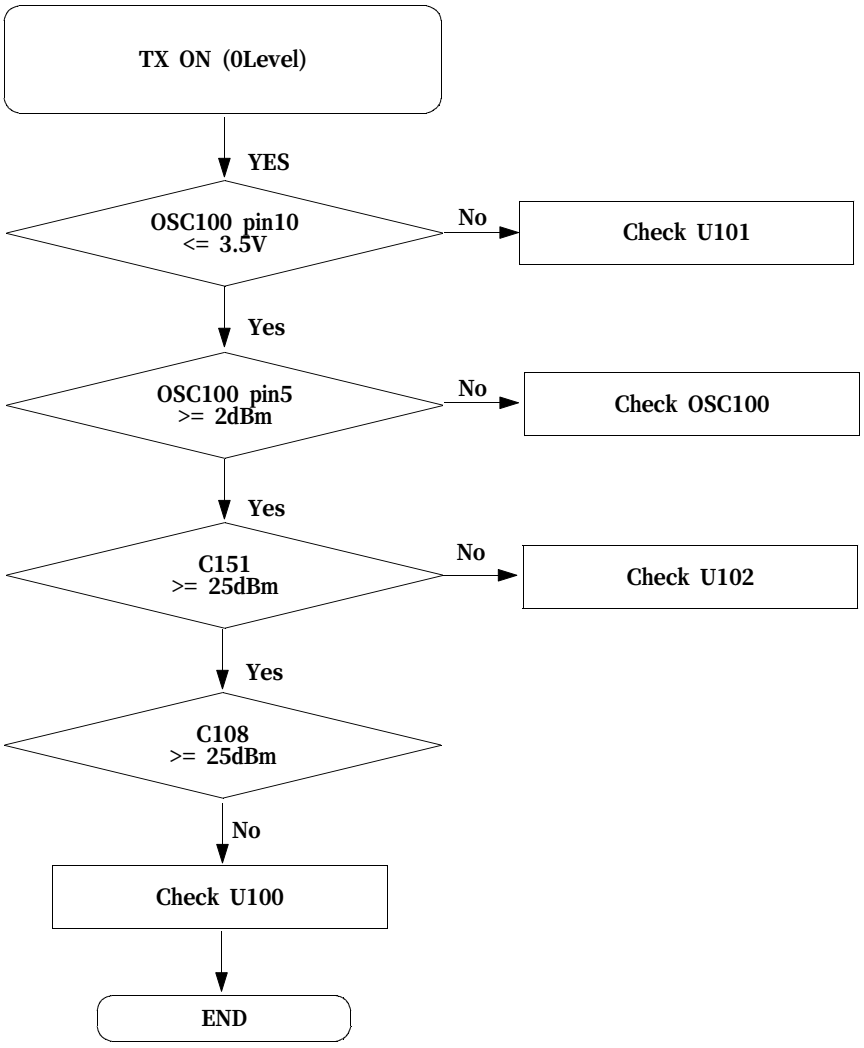
12. GSM Transmitter



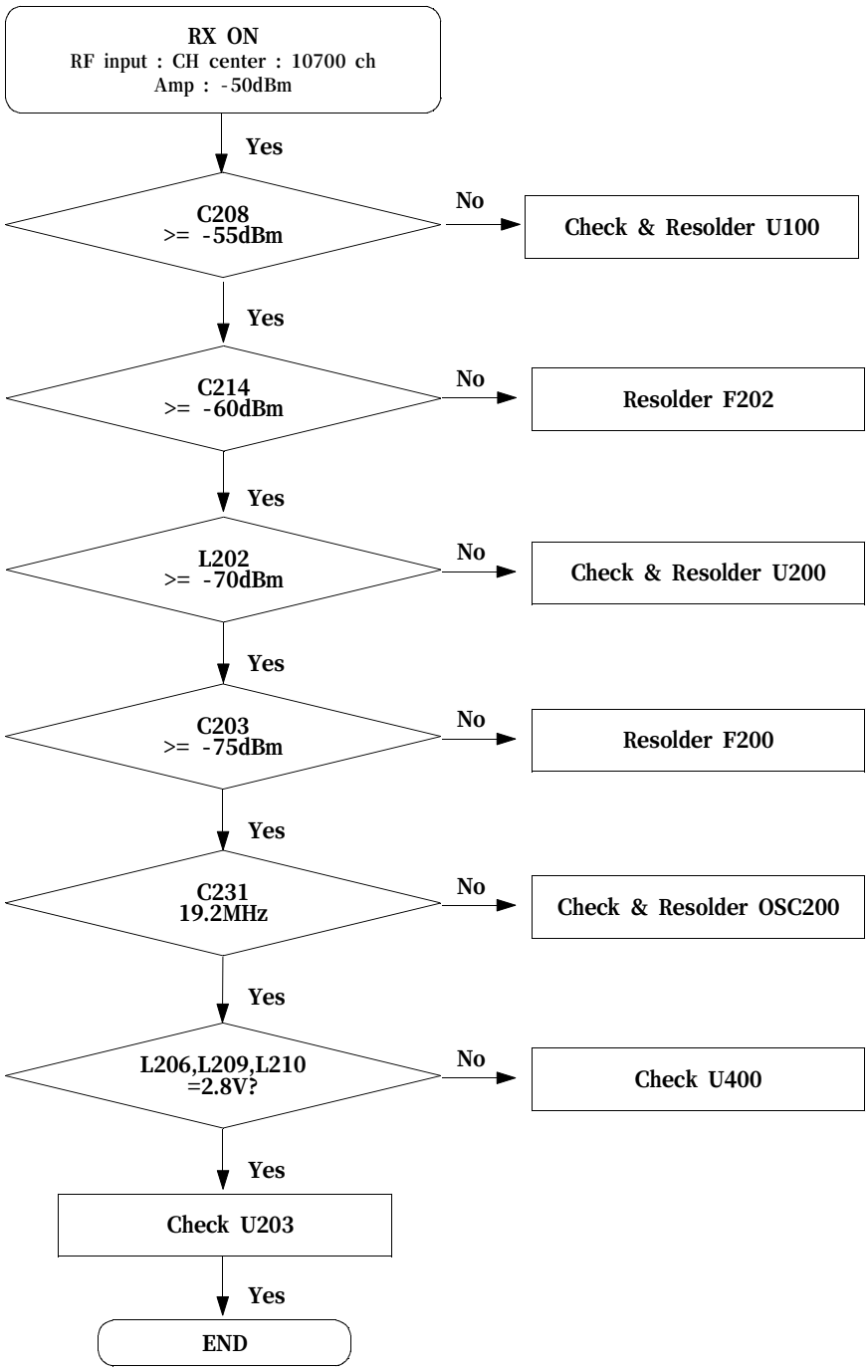
13. DCS Receiver



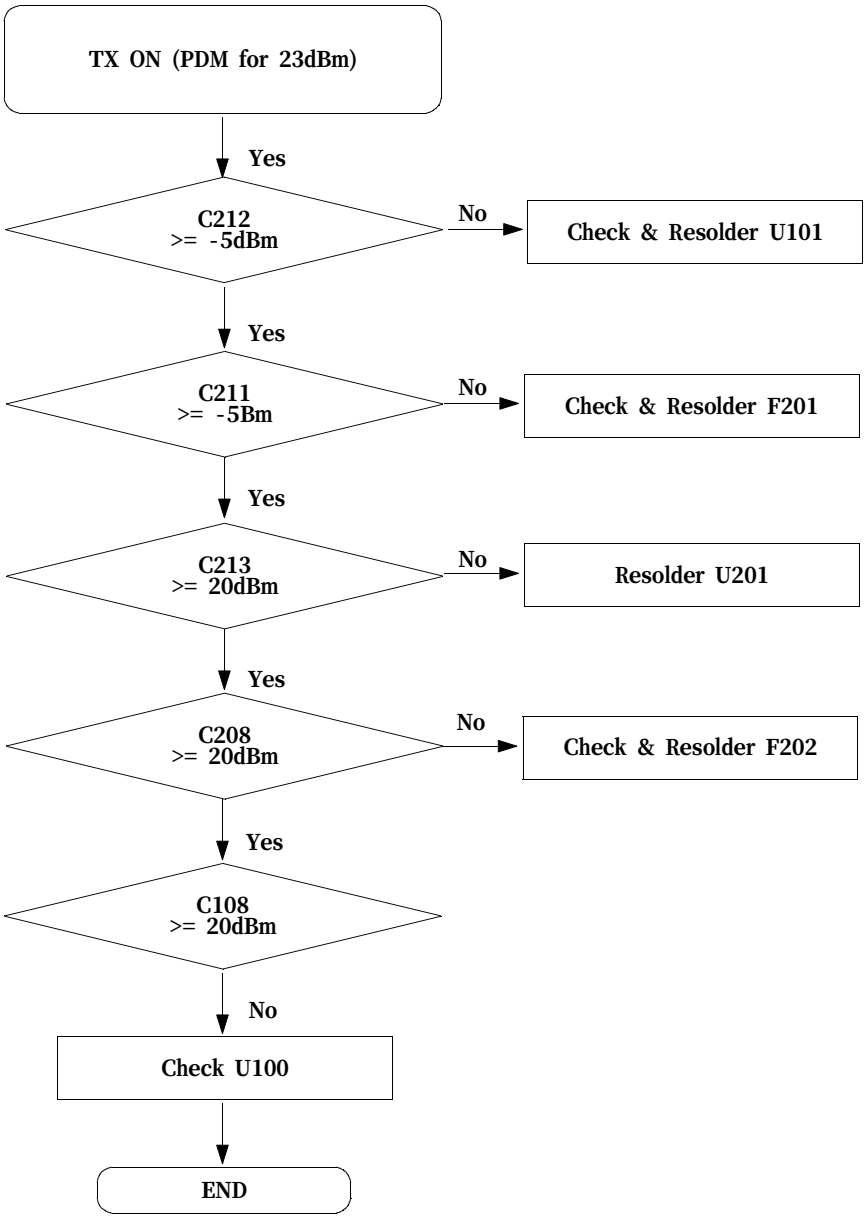
14. DCS Transmitter



15. WCDMA Receiver



16. WCDMA Transmitter



Transmitter