

**SAMSUNG**

**GSM TELEPHONE  
SGH-E810**

# ***SERVICE*** *Manual*

**GSM TELEPHONE**



**CONTENTS**

1. Specification
2. Flow Chart of Troubleshooting
3. Exploded Views and Parts List
4. Electrical Parts List
5. Block Diagrams
6. PCB Diagrams

---

# 1. SGH-E810 Specification

---

## 1. GSM General Specification

	<b>GSM900 Phase 1</b>	<b>EGSM900 Phase 2</b>	<b>DCS1800 Phase 1</b>
<b>Freq. Band[MHz]</b>	890~915	880~915	1710~1785
<b>Uplink/Downlink</b>	935~960	925~960	1805~1880
<b>ARFCN Range</b>	1~124	0~124 & 975~1023	512~885
<b>Tx/Rx Spacing</b>	45MHz	45MHz	95MHz
<b>Mod. Bit Rate/ Bit Period</b>	270.833KHz 3.692us	270.833KHz 3.692us	270.833KHz 3.692us
<b>Time Slot Period /Frame Period</b>	576.9us 4.615ms	576.9us 4.615ms	576.9us 4.615ms
<b>Modulation</b>	0.3GMSK	0.3GMSK	0.3GMSK
<b>MS Power</b>	33dBm~13dBm	33dBm~13dBm	33dBm~13dBm
<b>Power Class</b>	5pcl~15pcl	5pcl~19pcl	0pcl~15pcl
<b>Sensitivity</b>	-102dBm	-102dBm	-100dBm
<b>TDMA Mux</b>	8	8	8
<b>Cell Radius</b>	35Km	35Km	2Km

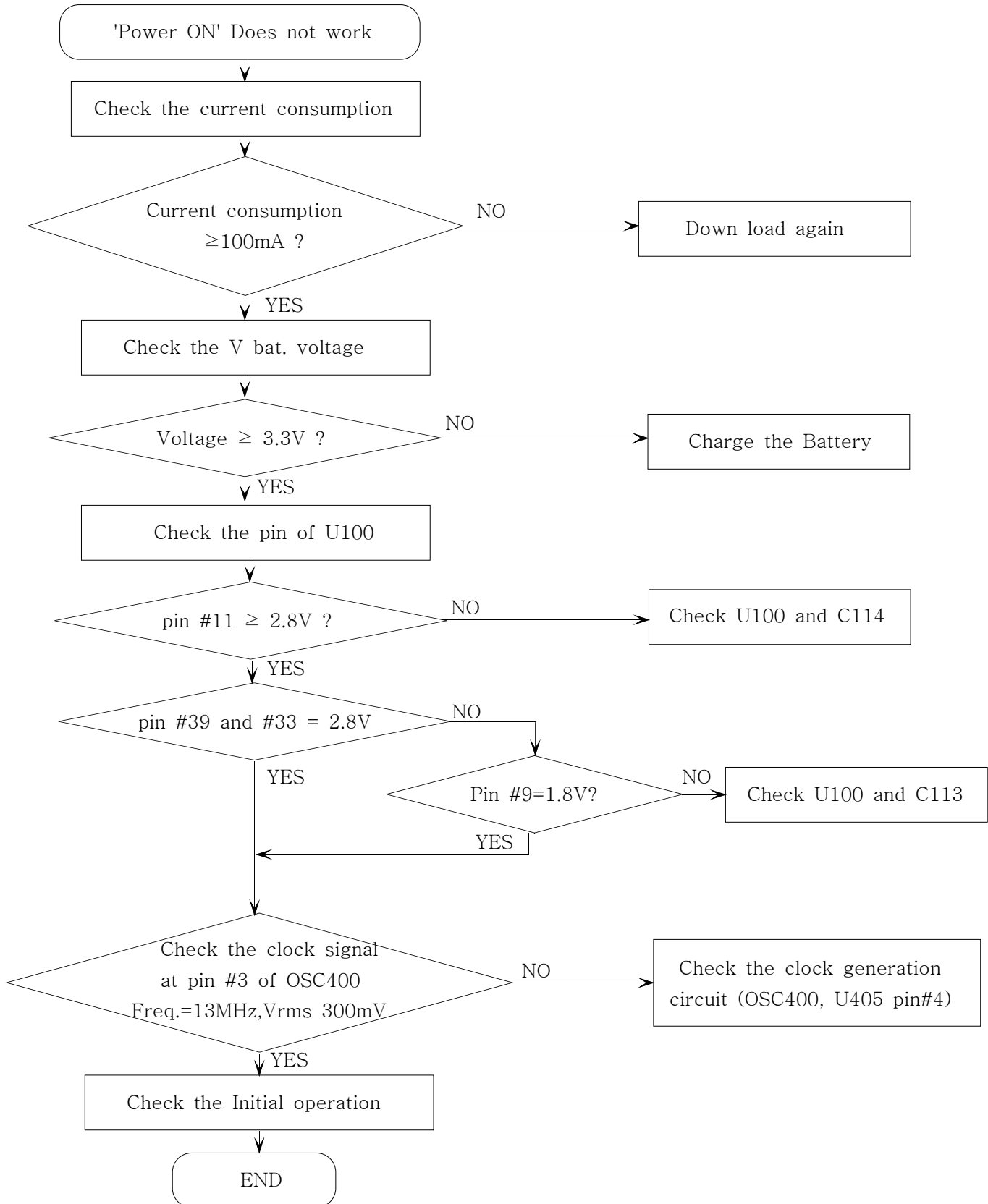
## 2. GSM TX power class

<b>TX Power Control Level</b>	<b>GSM900</b>
5	33±2dBm
6	29±2dBm
7	27±2dBm
8	25±2dBm
9	23±2dBm
10	21±2dBm
11	19±2dBm
12	17±2dBm
13	15±2dBm
14	13±2dBm
15	11±2dBm
16	9±3dBm
17	7±3dBm
18	5±3dBm
19	3±3dBm

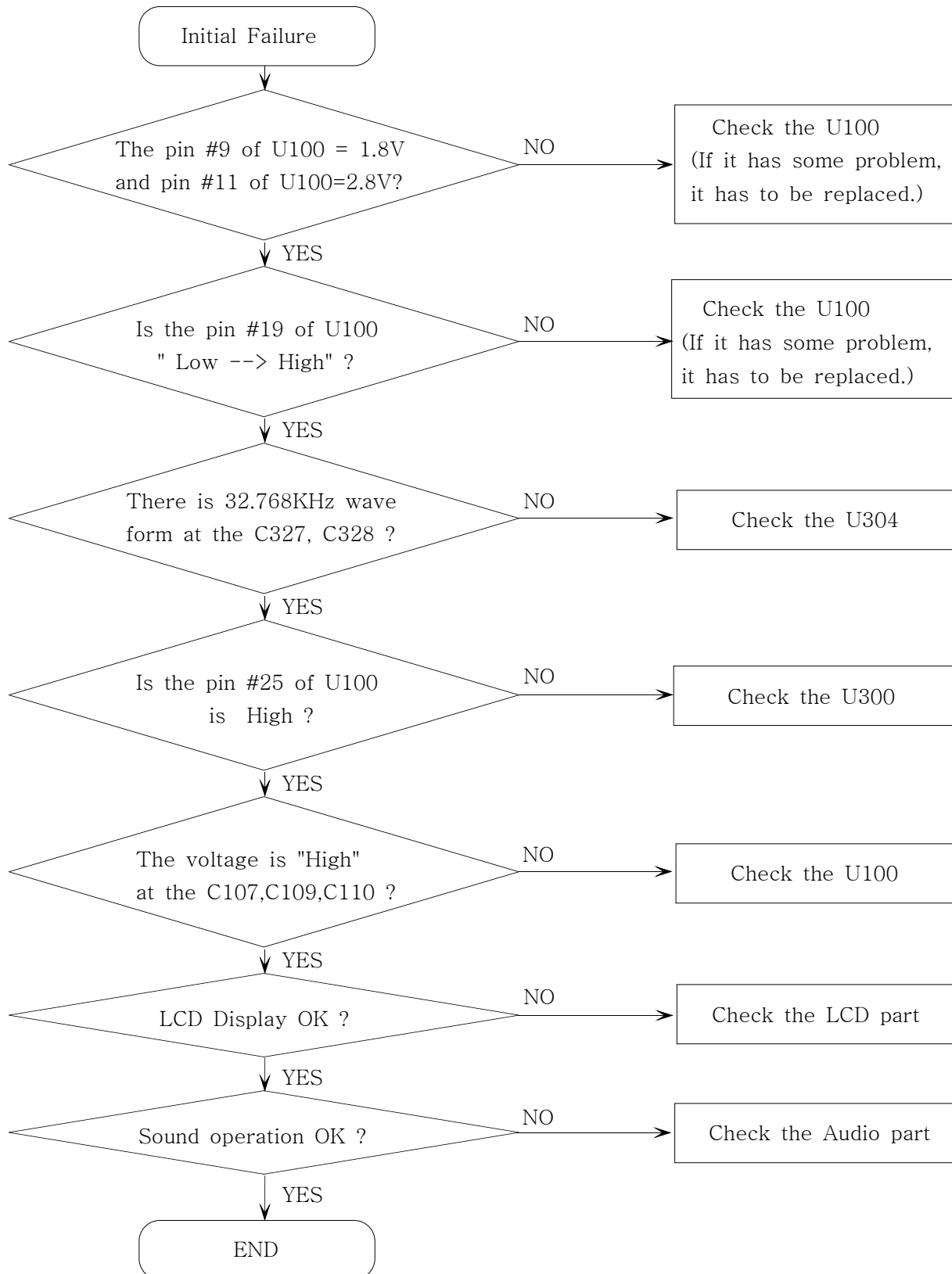
<b>TX Power Control Level</b>	<b>DCS1800</b>
0	30±3dBm
1	28±3dBm
2	26±3dBm
3	24±3dBm
4	22±3dBm
5	20±3dBm
6	18±3dBm
7	16±3dBm
8	14±3dBm
9	12±4dBm
10	10±4dBm
11	8±4dBm
12	6±4dBm
13	4±4dBm
14	2±5dBm
15	0±5dBm

## 2. SGH-E810 Flow Chart of Troubleshooting

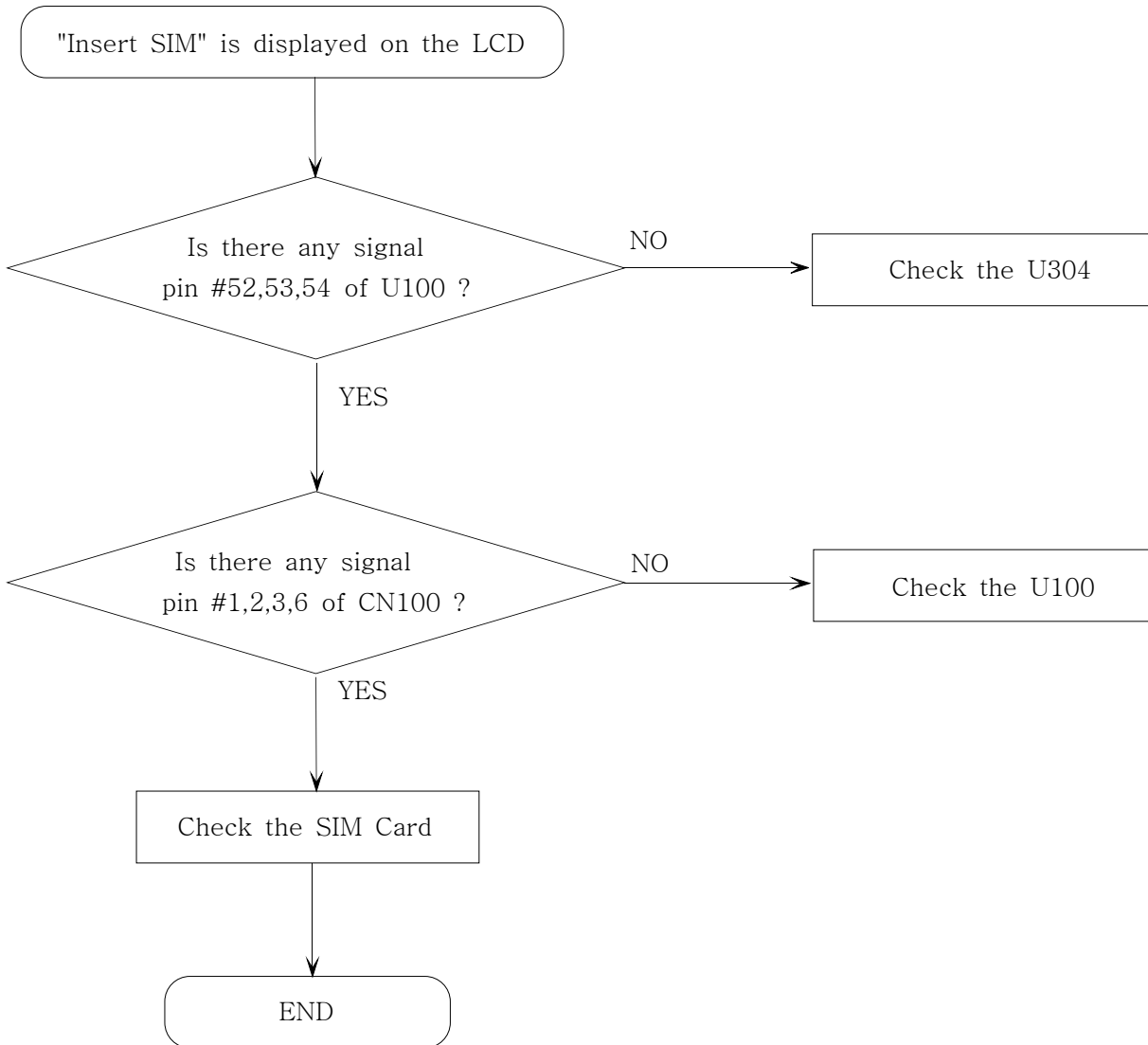
### 1. Power ON



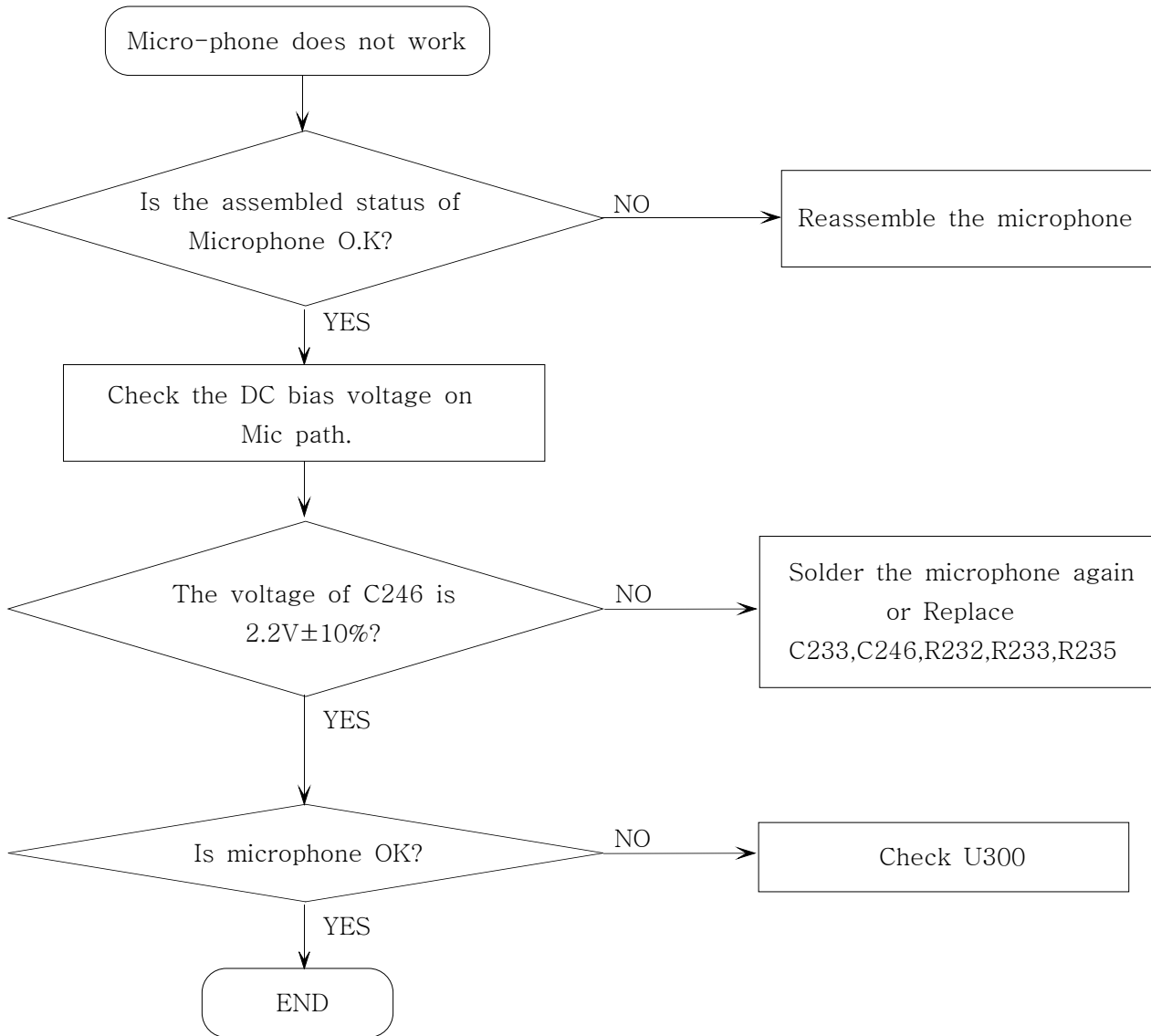
2. System Initial



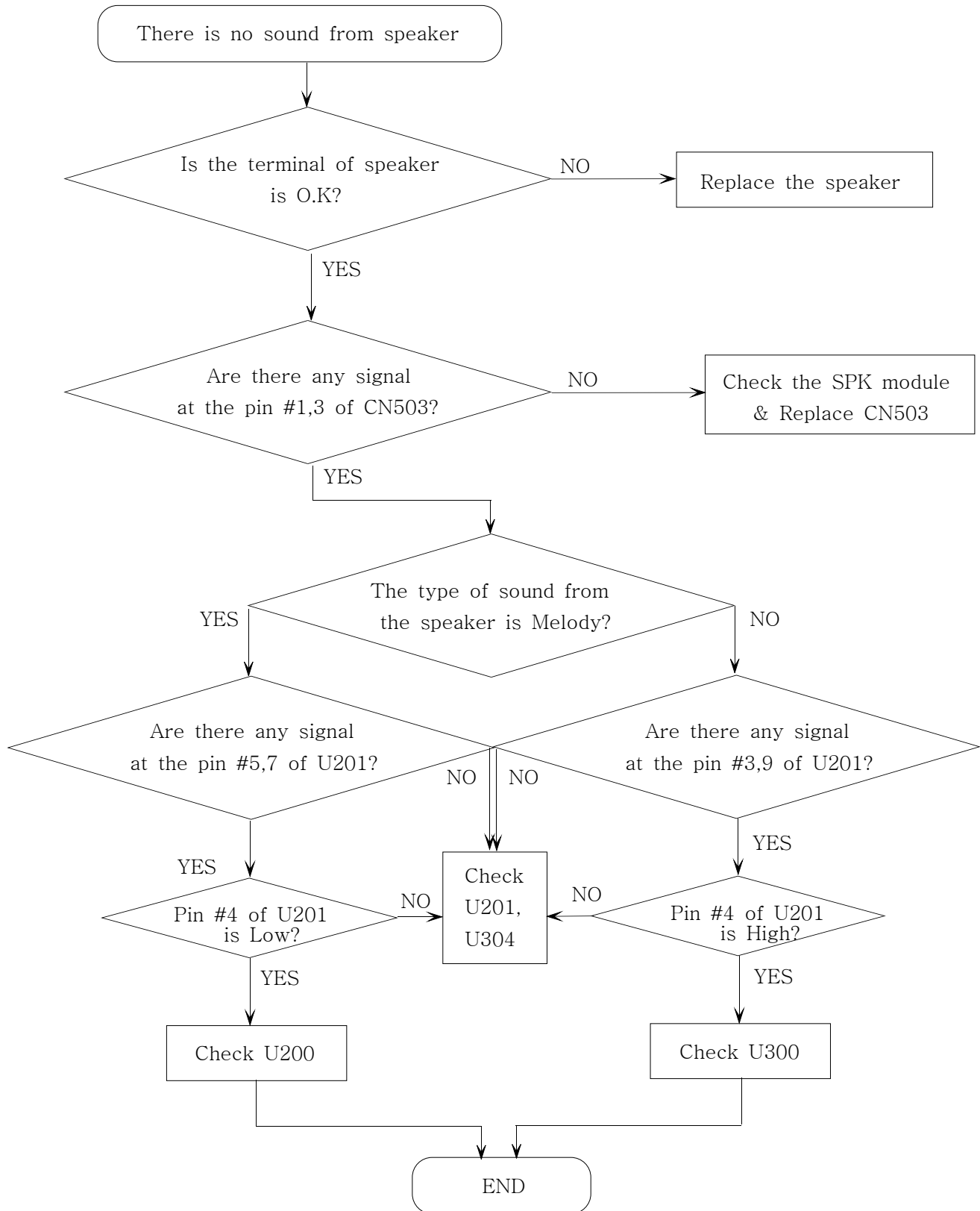
**3. SIM Part**



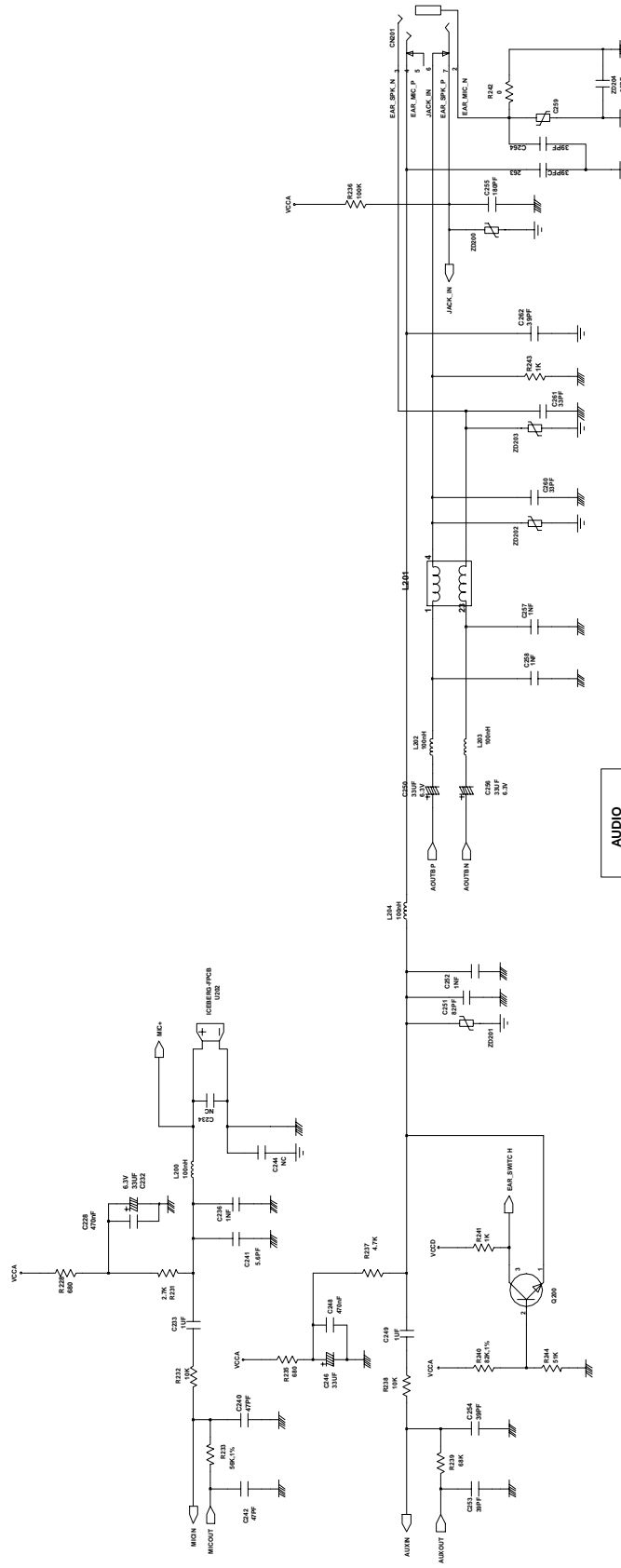
#### 4. Microphone Part



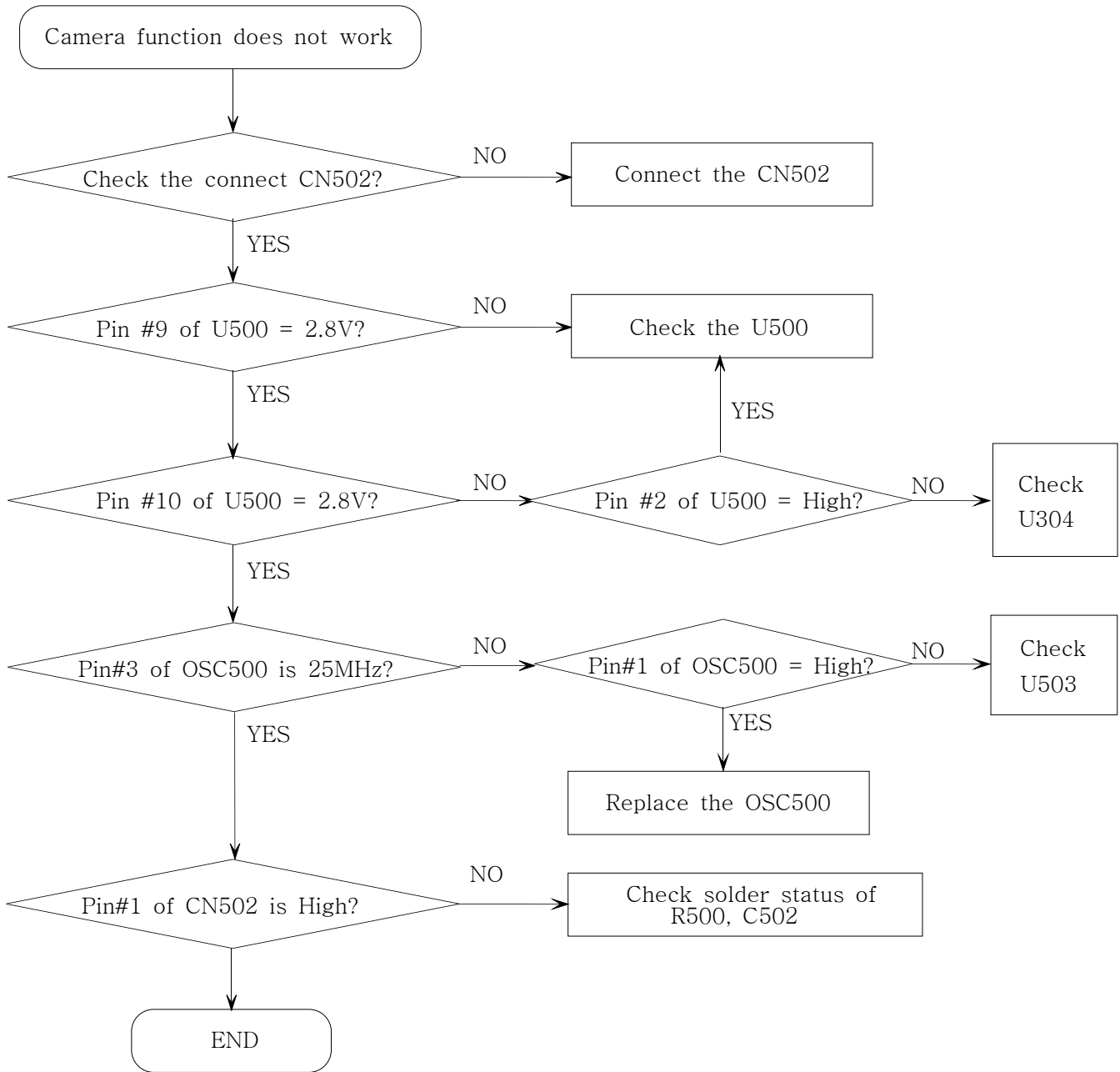
5. Speaker Part



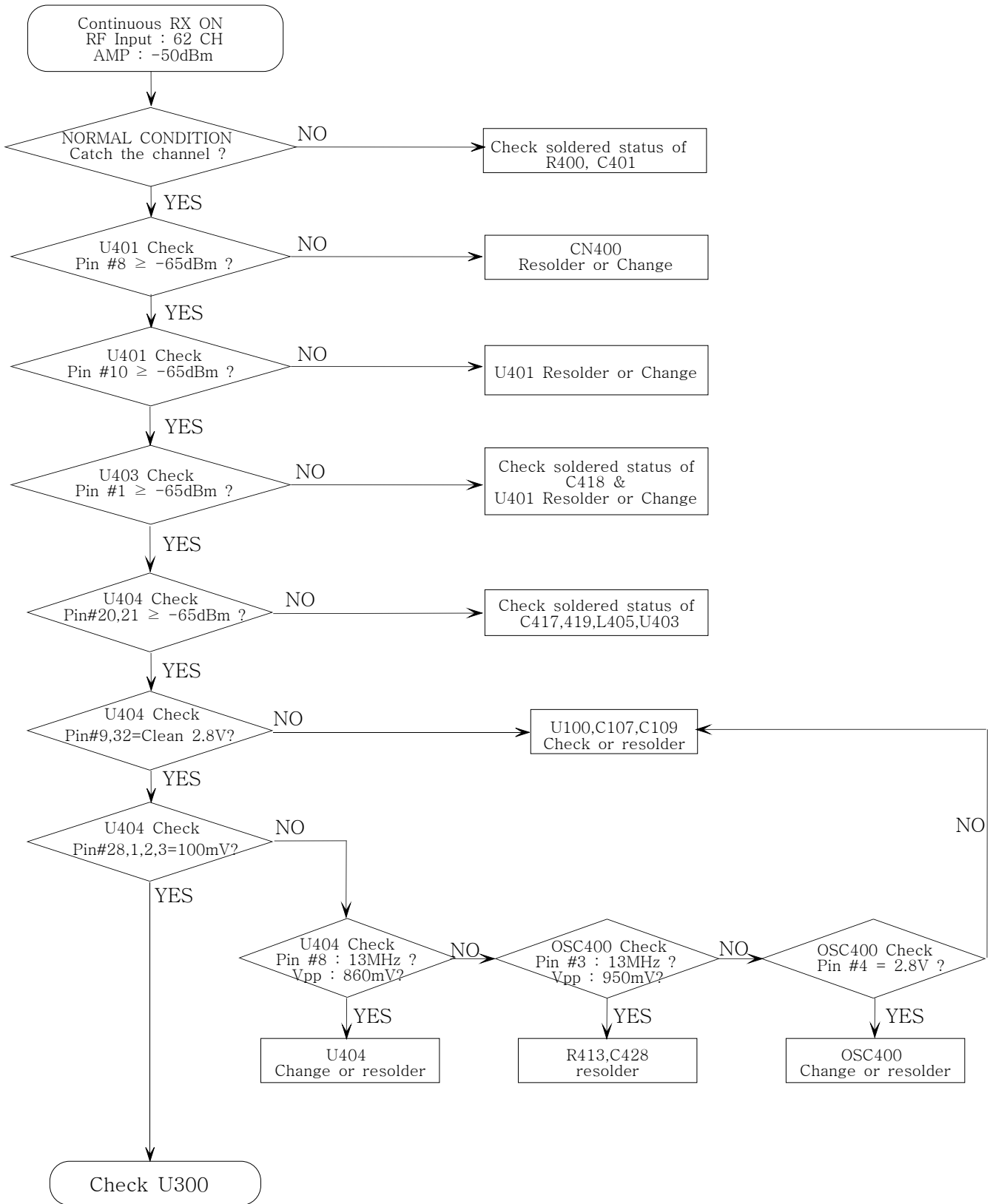




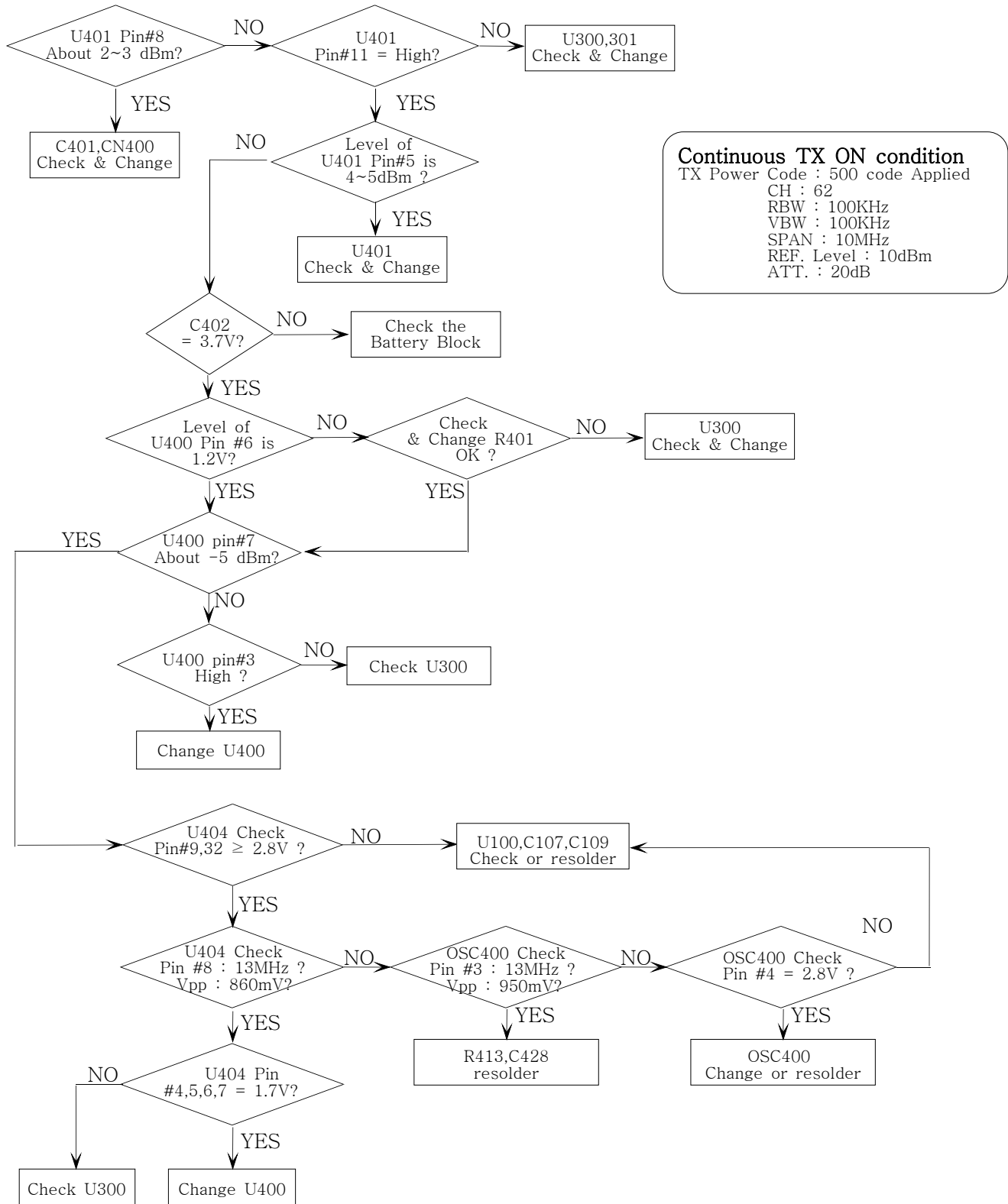
6. Camera Part



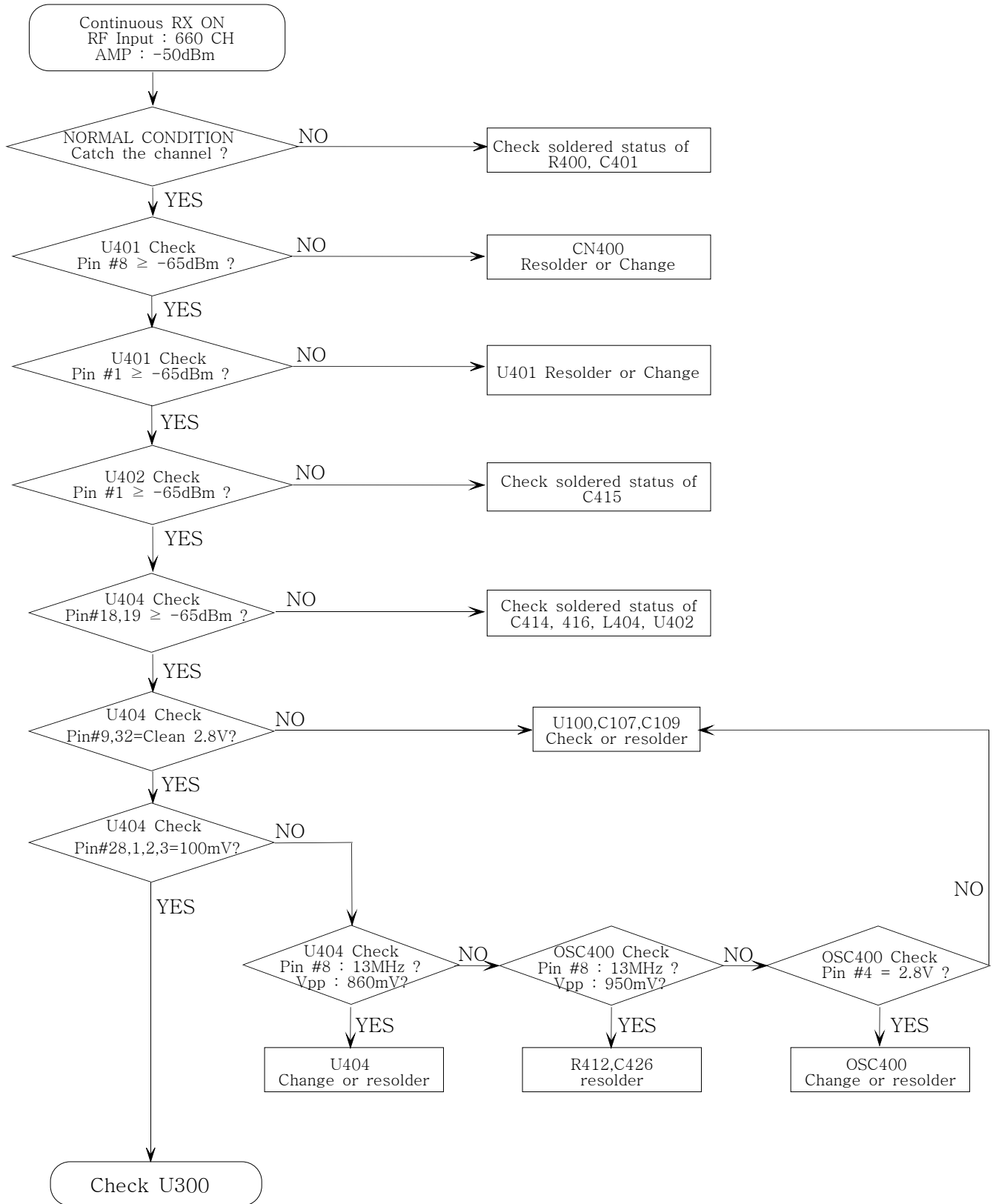
7. EGSM Receiver



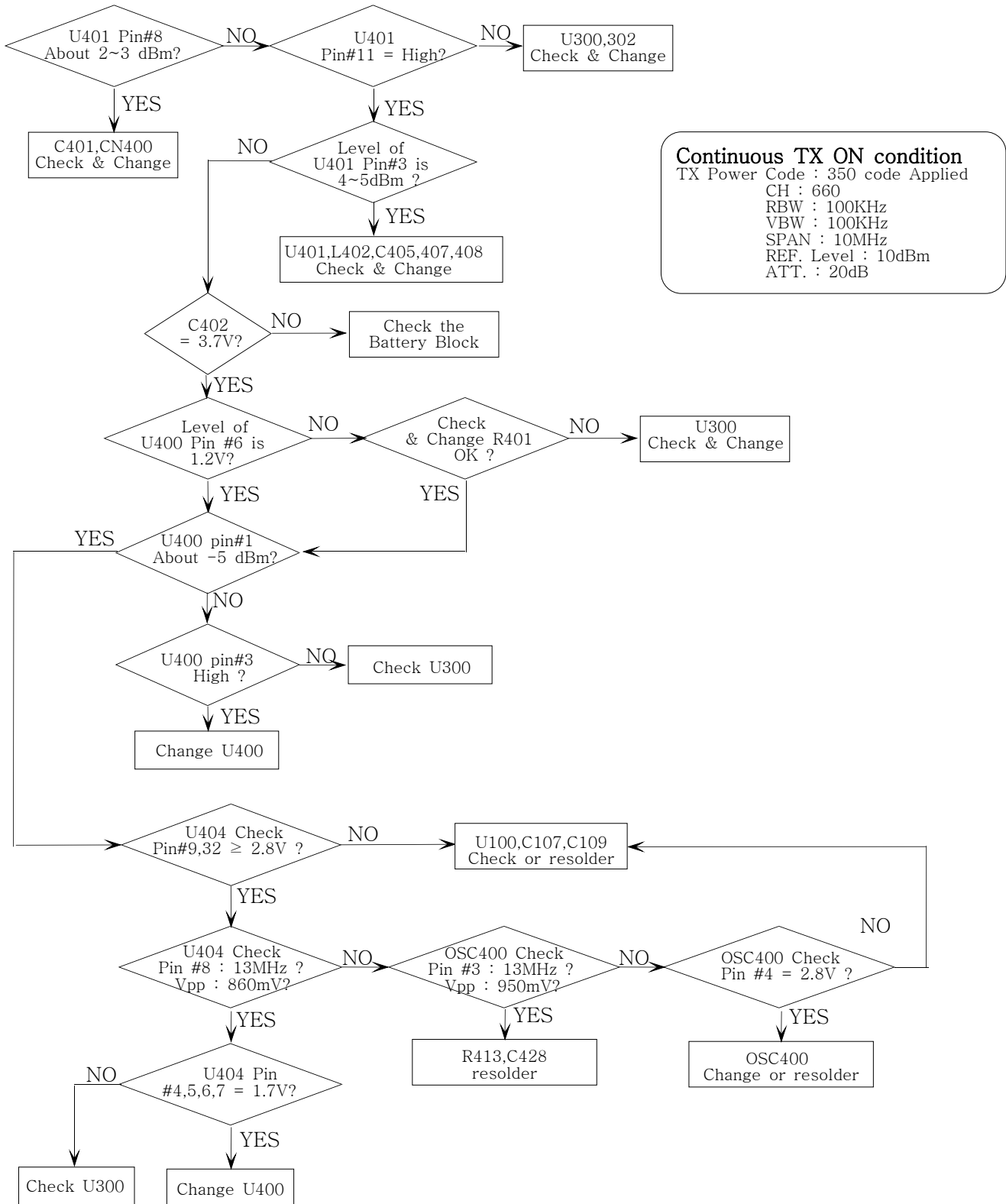
8. EGSM Transmitter



9. DCS Receiver

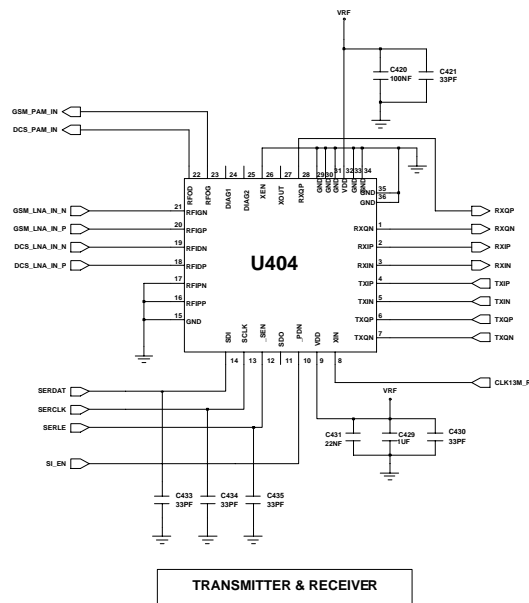
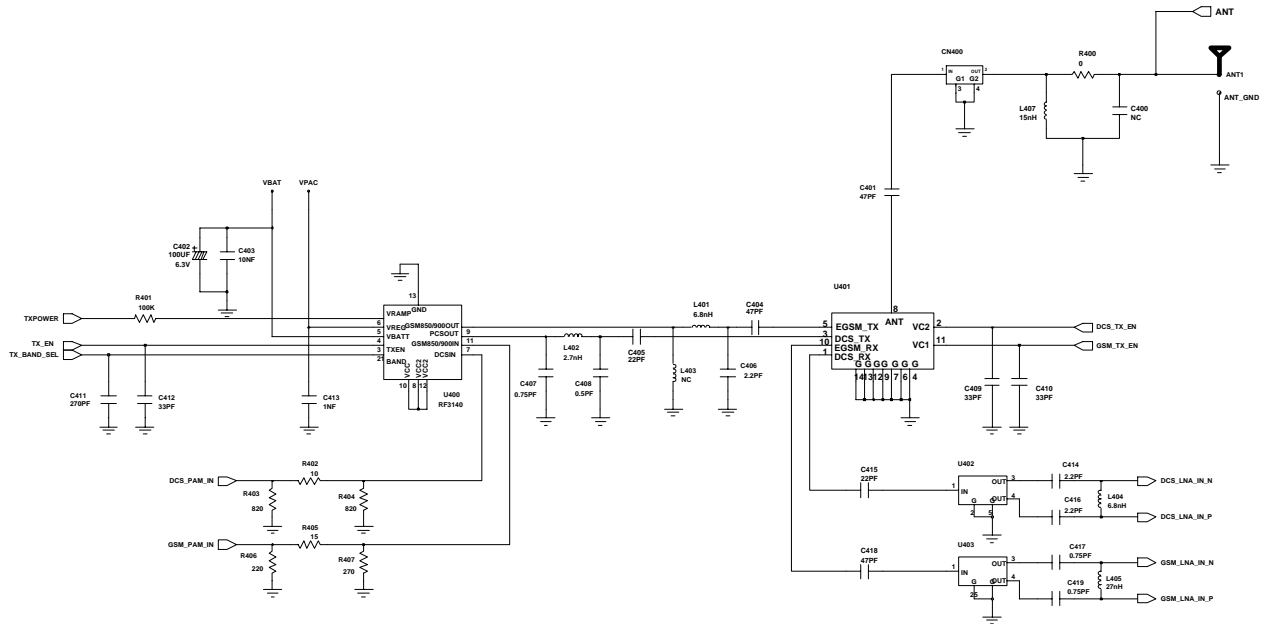


10. DCS Transmitter



**Continuous TX ON condition**  
 TX Power Code : 350 code Applied  
 CH : 660  
 RBW : 100KHz  
 VBW : 100KHz  
 SPAN : 10MHz  
 REF. Level : 10dBm  
 ATT. : 20dB

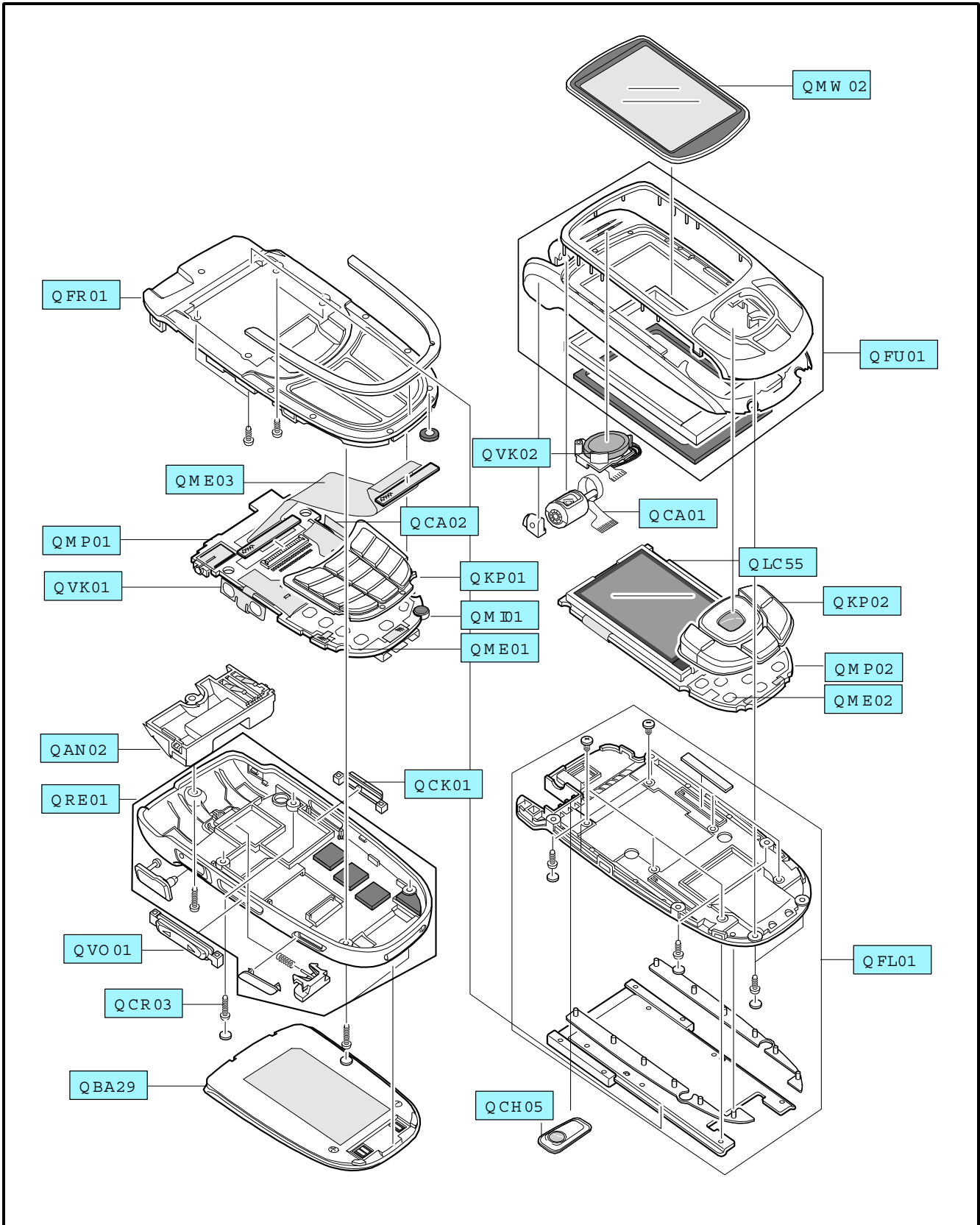
# SGH-E810 Flow Chart of Troubleshooting



TRANSMITTER & RECEIVER

# 3. SGH-E810 Exploded View and Parts list

## 1. Cellular phone Exploded View





2. Cellular phone Parts list

Location NO.		Description	SEC CODE	Remark
QMW02		MAIN WINDOW	GH72-14922A	
QFU01		FOLDER UPPER	GH75-04239A	
QVK02		UNIT FLASH FPCB	GH59-01353A	
QCA01		CAMERA	GH59-01328A	
QLC55		LCD	GH07-00535A	
QKP02		FUNCTION KEY	GH75-04245A	
QMP02		MAIN PBA	GH92-01750A	
QME02		METAL DOME	GH59-01336A	
QME03		UNIT-FPCB	GH59-01408A	
QFL01		FOLDER LOWER	GH75-04743A	
QCH05		FRESH COVER	GH72-12929A	
QFR01		FRONT COVER	GH75-04238A	
QCA02		CAMERA KEY	GH59-01338A	
QKP01		KEYPAD	GH75-04244A	
QMI01		MIC	GH30-00107A	
QME01		METAL DOME	GH59-01335A	
QMP01		MAIN PBA	GH92-01747A	
QVK01		UNIT VOLUME	GH59-01337A	
QAN02		INTENNA	GH42-00415A	
QRE01		REAR COVER	GH75-04246A	
QCK01		CAMERA KEY	GH75-04247A	
QVO01		VOLUME KEY	GH75-04248A	
QCR03		SCREW	6001-001811	
QBA29		BATTERY	GH43-01319A	

**3. Test Jig [GH80-03304A]**



**3-1. RF Test Cable  
[GH39-00182A]**



**3-2. Test Cable  
[GH39-00304A]**



**3-3. Serial Cable**



**3-4. Power Supply Cable**



**3-5. DATA CABLE  
[GH39-00293A]**



**3-6. TC  
[GH44-00701A]**



## 4. SGH-E810 Electrical Parts List

### 1.Main Parts List

SEC Code	Design LOC
4302-001130	BAT1
2203-006257	C100,C119,C228,C248
2203-000812	C101,C102,C103,C260
2203-005061	C104,C105,C225,C227
2203-000233	C106,C116,C235,C239
2203-006201	C107,C108,C109,C113
2404-001268	C110
2404-001305	C111
2203-001652	C112
2203-006201	C114,C115,C237
2203-006208	C117
2404-001225	C118
2203-006093	C200,C201,C233,C249
2203-000643	C202,C203,C204,C205
2203-000643	C206,C207,C208,C209
2203-000643	C210,C211,C212,C213
2203-000643	C214,C215,C216,C217
2203-000643	C218,C219,C220,C221
2203-000643	C222
2203-000654	C223,C411
2404-001086	C224,C229
2203-001405	C226,C301
2203-005061	C230,C300,C310,C317
2203-000438	C231,C236,C252,C257
2404-001151	C232,C246,C250,C256
2203-000995	C240,C242,C324,C401
2203-005055	C241
2203-000585	C243,R234
2007-000171	C245,R242,R245,R316
2203-001239	C251
2203-000854	C253,C254,C262,C263
2203-005503	C255
2203-000438	C258,C413,C423,C424
1405-001082	C259,V1,V10,V11,V12
2203-000812	C261,C409,C410,C412
2203-000854	C264,ZD204

SEC Code	Design LOC
2203-000254	C302,C303,C306,C315
2203-005496	C304,C314,C334
2203-000679	C305,C308,C309
2203-000233	C307,C311,C318,C325
2203-006093	C312,C429
2203-005450	C313
2203-000254	C316,C319,C320,C321
2203-000254	C322,C330,C332,C336
2203-005052	C323
2203-005482	C326
2203-000330	C327,C328
2203-000233	C329,C425,C426
2203-005061	C331,C333,C420
2203-000940	C335
2404-001134	C402
2203-000254	C403,C422,C427,C428
2203-000995	C404,C418
2203-000628	C405,C415
2203-005552	C406,C414,C416
2203-002677	C407,C417,C419
2203-002668	C408
2203-000812	C421,C430,C433,C434
2203-006137	C431
2203-000254	C432
2203-000812	C435
3709-001187	CN100
3710-002128	CN101
3708-001853	CN200
3722-002186	CN201
3705-001287	CN400
0409-001044	D300
2901-001296	F1,F2,F3,F4,F5,F6
2703-002313	L200,L202,L203,L204
2901-001271	L201
3301-001342	L300
2703-002170	L401
2703-001737	L402

SEC Code	Design LOC
2703-002547	L404
2703-001907	L405
3301-001105	L406
2703-001180	L407
0601-001790	LED100,LED101,LED102
0601-001790	LED103,LED104,LED105
2801-003747	OSC300
2809-001264	OSC400
0504-001141	Q100
0501-000225	Q200
0504-001140	Q300
2007-000157	R100,R101,R102,R103
2007-000143	R104,R237
2007-000140	R105,R106,R107,R108
2007-000140	R109,R110,R111,R112
2007-000140	R113,R114,R115,R116
2007-000758	R117
2007-001319	R118
2007-000174	R119,R120,R121,R122
2007-000174	R123,R126,R127,R128
2007-007009	R124,R125
2007-001301	R129,R130,R131,R132
2007-001301	R133,R134
2007-000174	R200,R202,R203,R204
2007-000140	R201,R241,R243,R310
2007-000174	R205,R206,R207,R208
2007-000174	R209,R210,R211,R212
2007-000174	R213,R214,R215,R216
2007-000174	R217,R218,R219,R220
2007-000174	R221,R222,R223
2007-007489	R224
2007-000775	R225,R226
2007-001325	R227
2007-001119	R228,R235
2007-000172	R229,R230,R402,R408
2007-000142	R231,R313
2007-000148	R232,R238,R409,R412

SEC Code	Design LOC
2007-007538	R233
2007-000162	R236,R301,R305,R307
2007-000160	R239
2007-007590	R240
2007-007014	R244
2007-000144	R300
2007-007200	R302,R303
2007-000170	R304
2007-000157	R306
2007-007142	R308
2007-000162	R309,R314,R401
2007-007573	R311,R312
2007-007139	R315
2007-000171	R400
2007-001316	R403,R404
2007-002965	R405
2007-000139	R406
2007-001311	R407
2007-001320	R410
2007-002797	R411
2007-000138	R413
1203-002902	U100
0604-001261	U101
1204-002138	U200
1001-001183	U201
1204-001984	U300
0504-001042	U301,U302
1209-001219	U303
GH09-00025A	U304
1009-001018	U305
1109-001281	U306
1201-001954	U400
2909-001252	U401
2904-001514	U402
2904-001520	U403
1205-002433	U404
0801-000306	U405

## SGH-E810 Electrical Parts List

---

SEC Code	Design LOC
1405-001082	V2,V3,V4,V5,V6,V7,V8
1405-001082	V9,ZD100,ZD101,ZD102
1405-001082	ZD103,ZD104,ZD105
1405-001082	ZD106,ZD107,ZD108
1405-001082	ZD109,ZD110,ZD111
1405-001082	ZD112,ZD113,ZD114
1405-001082	ZD115,ZD116,ZD117
1405-001082	ZD118,ZD119,ZD200
1405-001019	ZD120
0403-001387	ZD121
1405-001082	ZD201,ZD202,ZD203

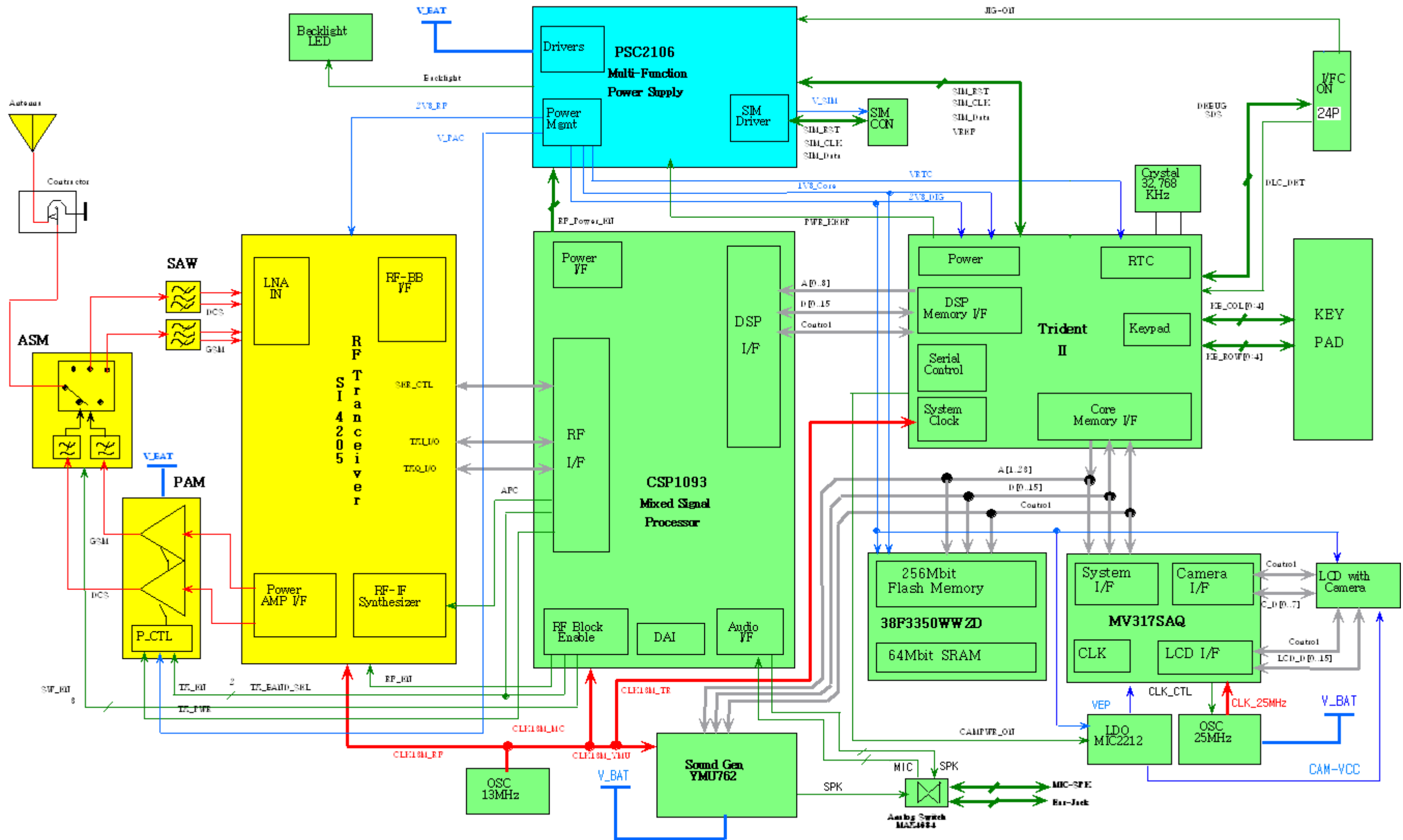
## 2.LCD Parts List

SEC Code	Design LOC
2203-000438	C500
2203-005482	C501,C516
2203-005496	C502
2203-000995	C503
2203-000278	C504
2203-006093	C505,C506,C510,C511
2203-006093	C512,C513,C528
2203-006208	C514,C515,C520,C521
2404-001225	C517,C519,C526
2203-000254	C518,C522,C530,C532
2203-005065	C523
2203-006208	C524
2203-000233	C527,C531
2203-005061	C529,C533,C538
2203-000812	C535,C537
1405-001157	C539,C540
3708-001853	CN500
3708-001890	CN501
3708-001852	CN502
3708-002003	CN503
0404-001172	D500,D502
0403-001446	D501
0402-001617	D503,D504
3301-001342	L500
2703-002736	L501
3301-001105	L502
0601-001654	LED500,LED502,LED503
0601-001654	LED505
2804-001577	OSC500
0504-001141	Q500,Q501,Q502
0505-001518	Q503,Q504
2007-000157	R500
2007-000143	R501
2007-000162	R502,R503,R536
2007-000593	R504
2007-001254	R505,R506

SEC Code	Design LOC
2007-001306	R507,R510,R513,R516
2007-000138	R508,R511,R514,R517
2007-003010	R509,R512,R515,R518
2007-001306	R519,R522
2007-000138	R520,R523
2007-003010	R521,R524
2007-000148	R525,R526
2007-007190	R527
2007-000171	R528,R530,R531,R532
2007-002970	R529
2007-000171	R533,R534,R535
2007-003112	R537
0406-001104	SD500,SD501,SD502
1203-002861	U500
1203-003046	U501
1203-002633	U502
GH13-00020A	U503
1203-002860	U504
1405-001082	ZD500,ZD501,ZD502
1405-001082	ZD503,ZD504,ZD505
1405-001082	ZD506,ZD507,ZD508
1405-001082	ZD509,ZD510,ZD511
1405-001082	ZD512,ZD513,ZD514
1405-001082	ZD515,ZD516,ZD517
1405-001082	ZD518,ZD519,ZD520
1405-001082	ZD521,ZD522

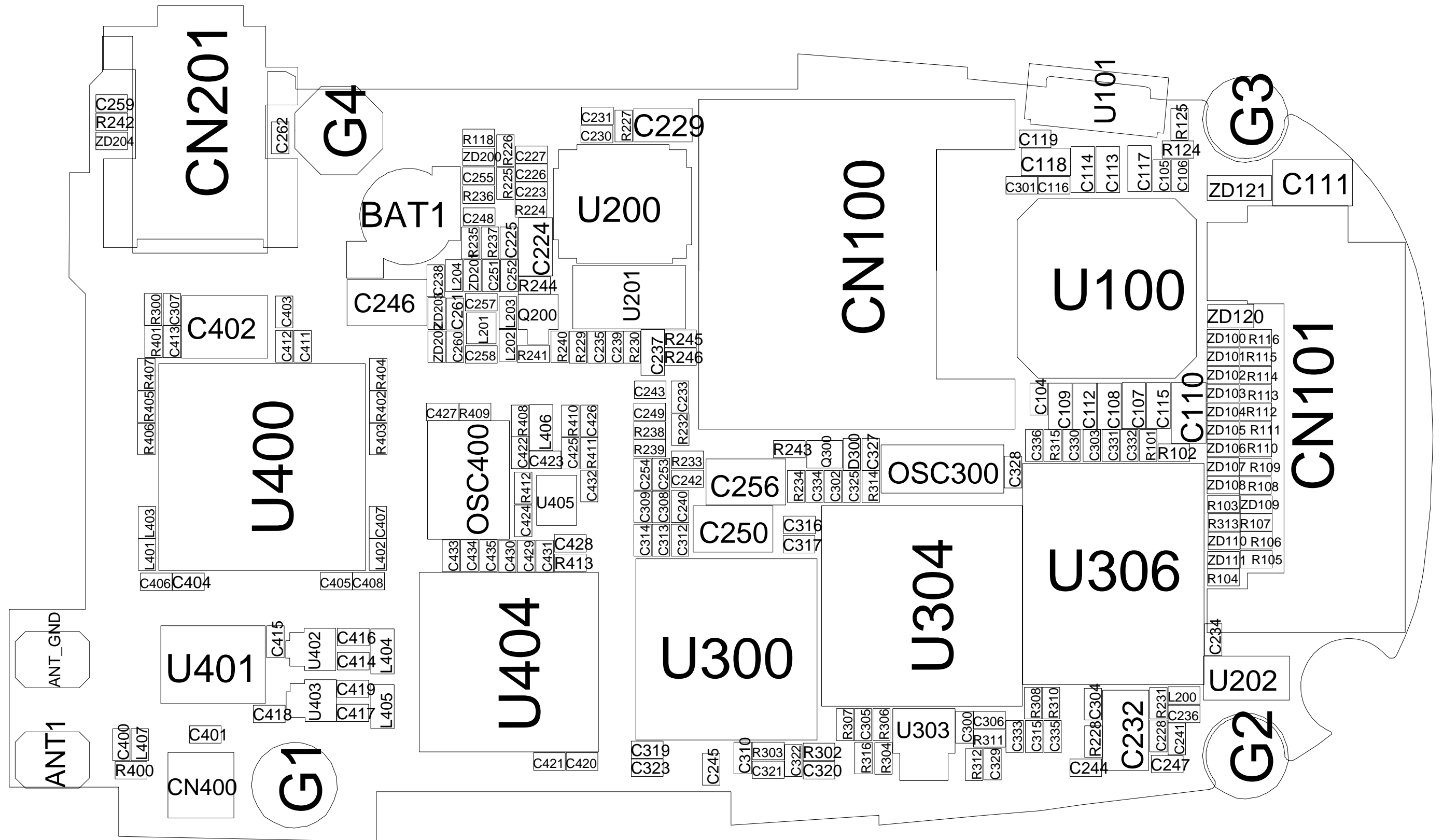
# 5. SGH-E810 Block Diagrams

## 1. RF Solution Block Diagram



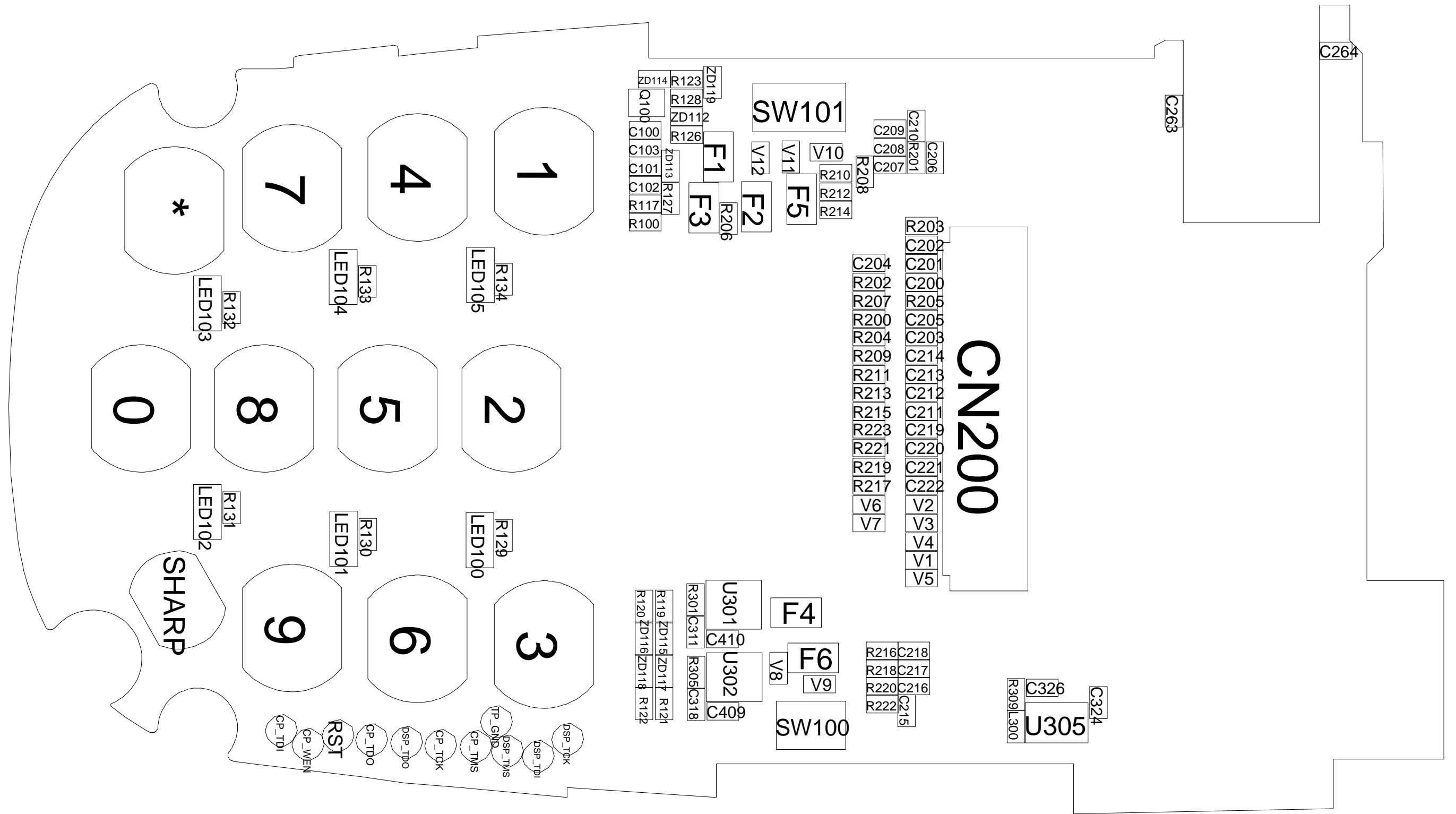
# 6. SGH-E810 PCB Diagrams

## 1.Main TOP Diagram

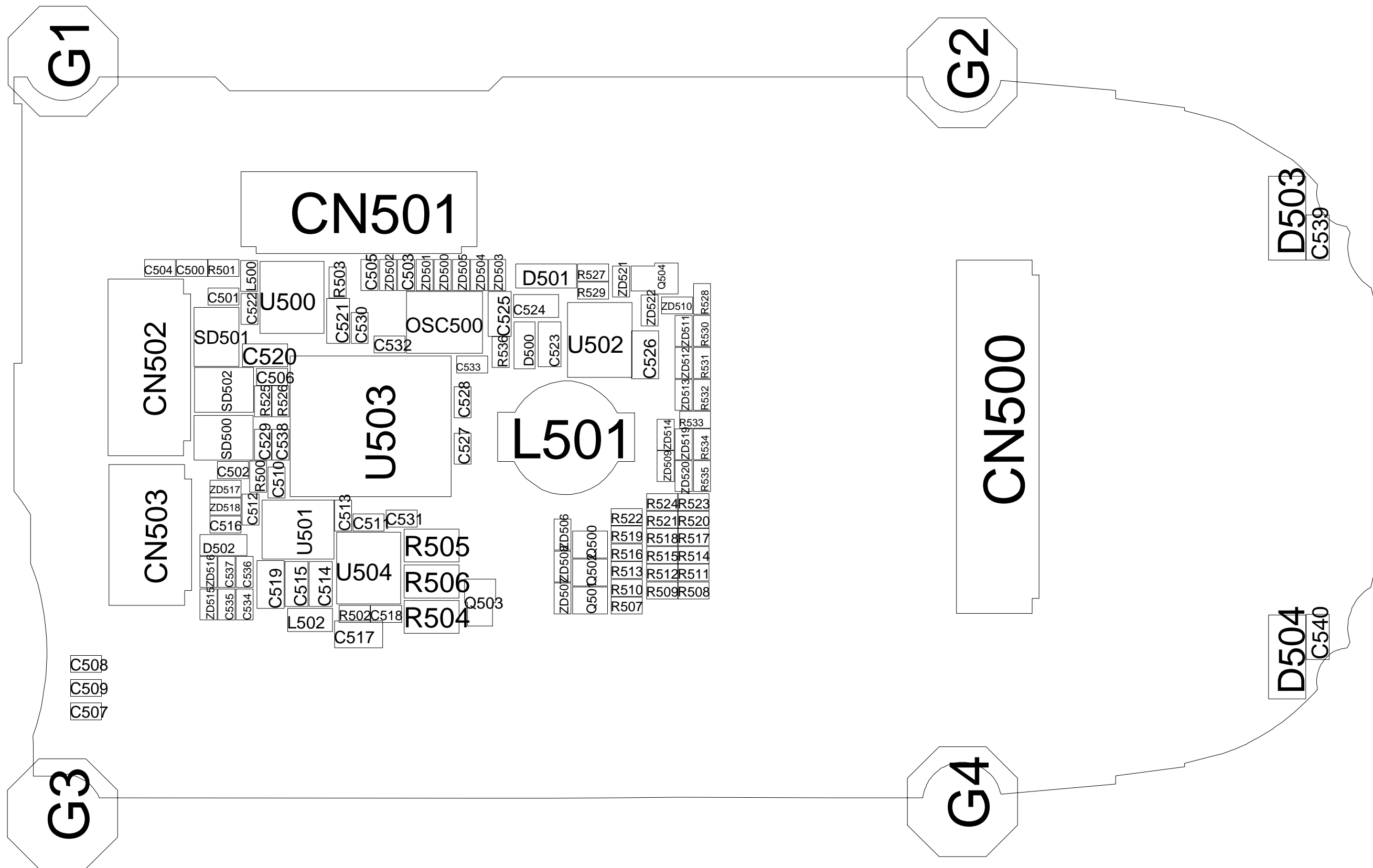




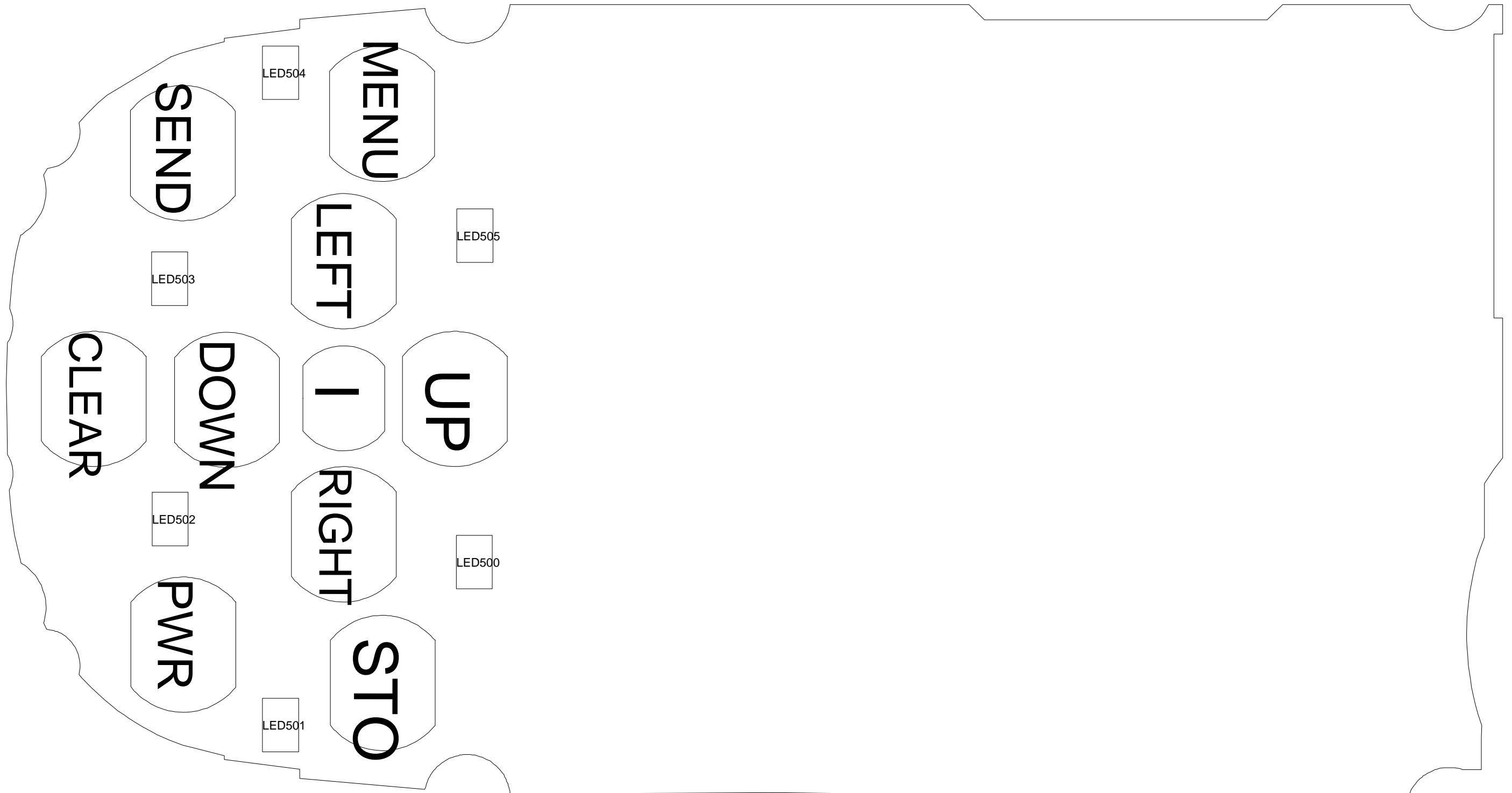
2. Main Bottom Diagram



3.LCD TOP Diagram



4.LCD TOP Diagram





**ELECTRONICS**

© Samsung Electronics Co.,Ltd. JULY. .2004  
Printed in Korea.

This Service Manual is a property of Samsung Electronics Co.,Ltd.  
Any unauthorized use of Manual can be punished under applicable  
international and/or domestic law.

Code No.: GH68-05709A  
BASIC.