

**SAMSUNG**

**GSM TELEPHONE  
SGH-E310**

# ***SERVICE*** *Manual*

**GSM TELEPHONE**



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# 1. SGH-E310 Specification

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## 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~13dBm	33dBm~5dBm	30dBm~0dBm	30dBm~0dBm
Power Class	5pcl ~ 15pcl	5pcl ~ 19pcl	0pcl ~ 15pcl	0pcl ~ 15pcl
Sensitivity	-102dBm	-102dBm	-100dBm	-100dBm
TDMA Mux	8	8	8	8
Cell Radius	35Km	35Km	2Km	-

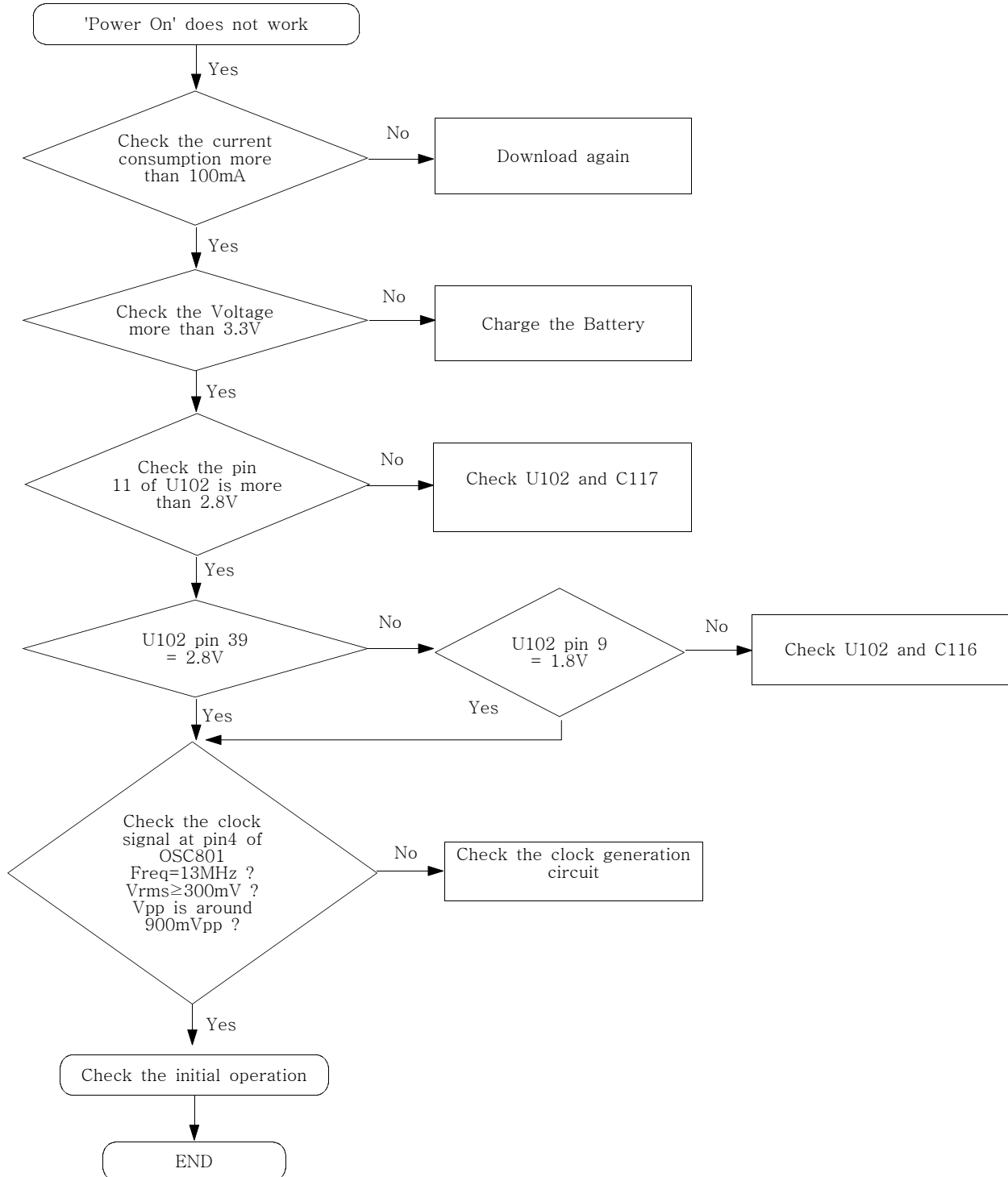
2. GSM TX power class

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

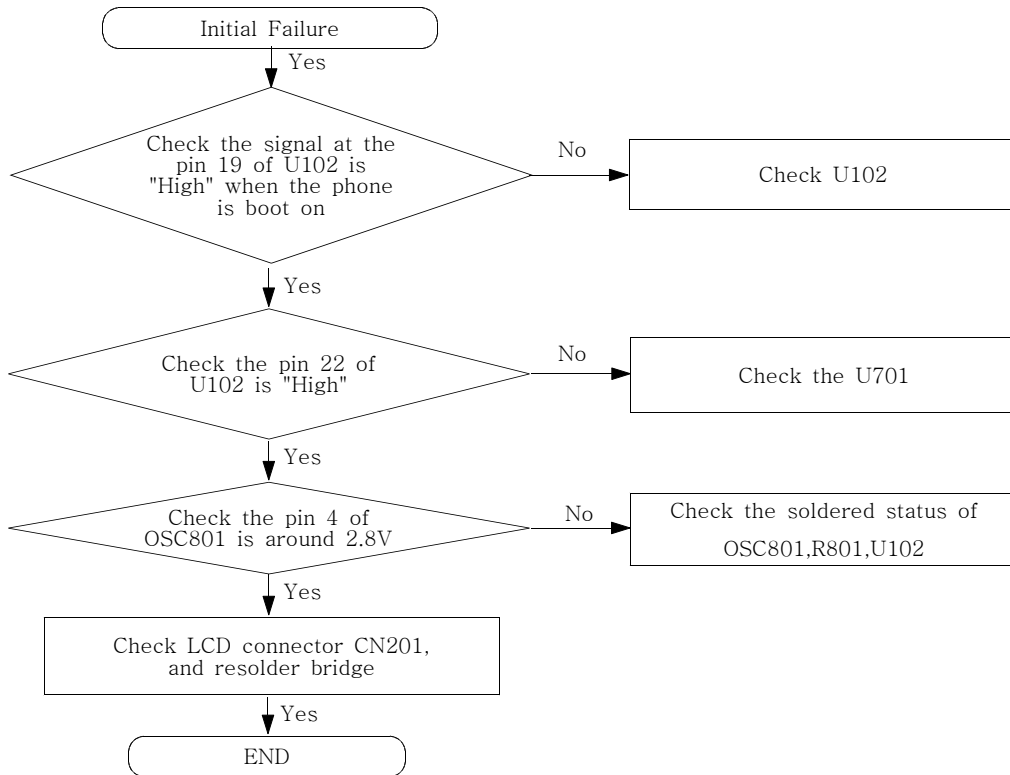
## 2. SGH-E310 Flow Chart of Troubleshooting

### 1. Baseband

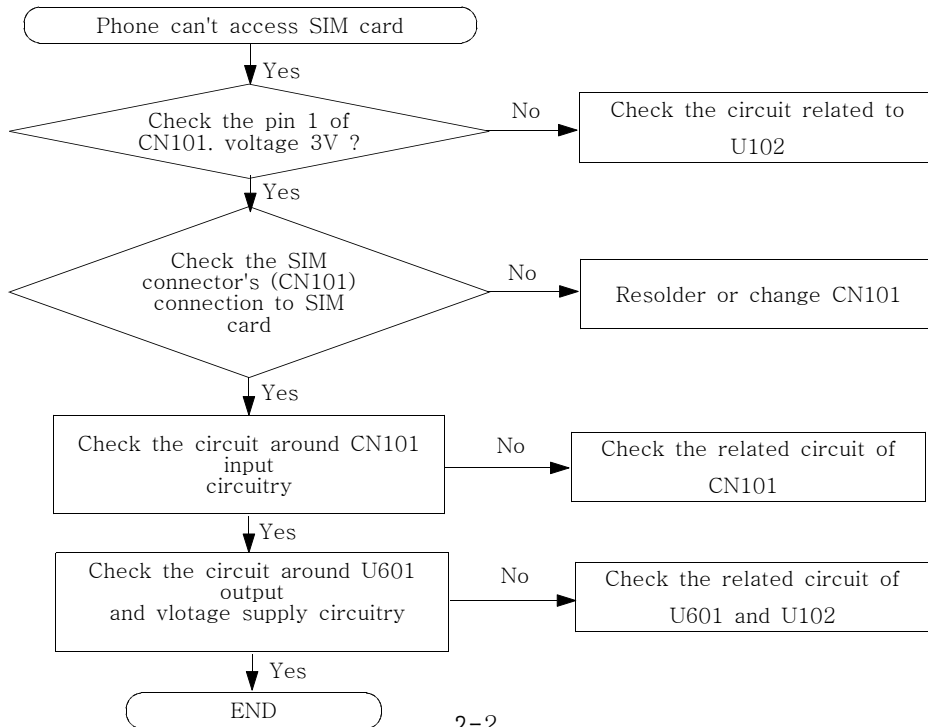
#### 1. Power ON



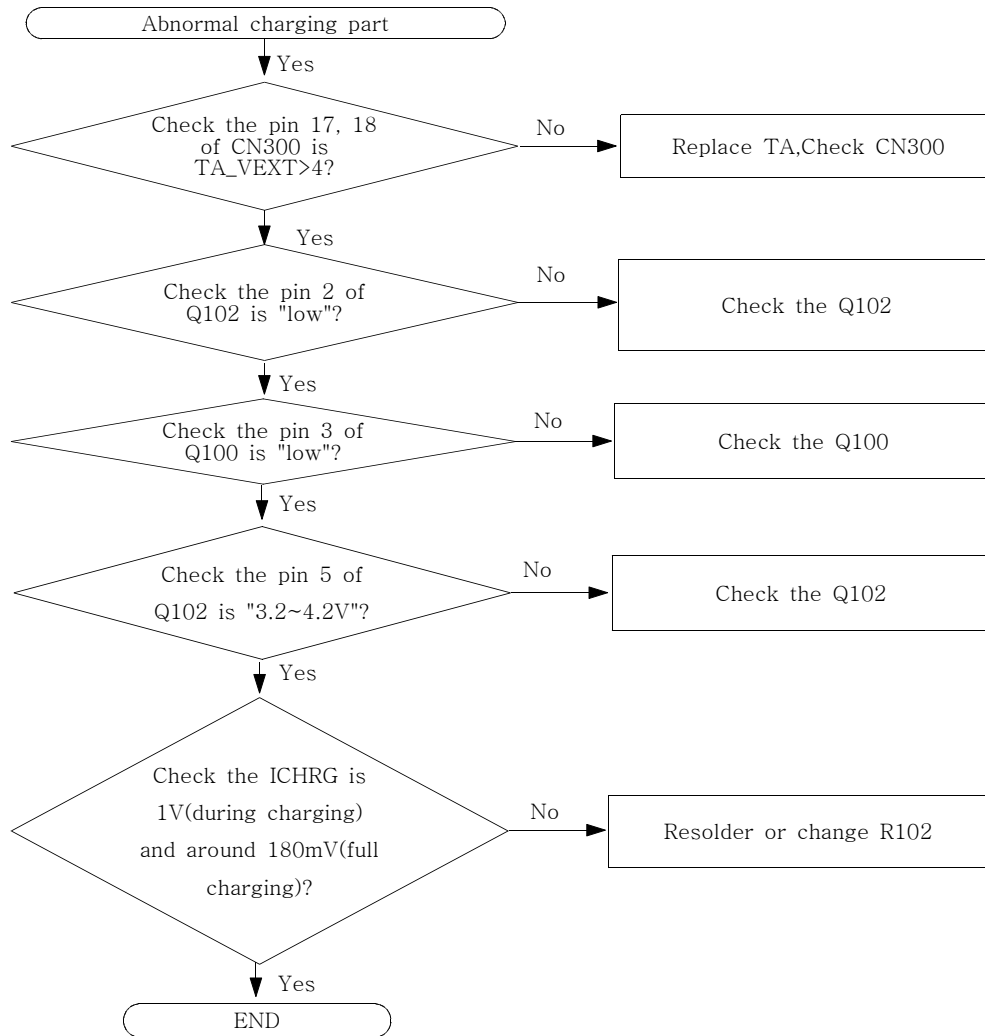
**2. Initial**



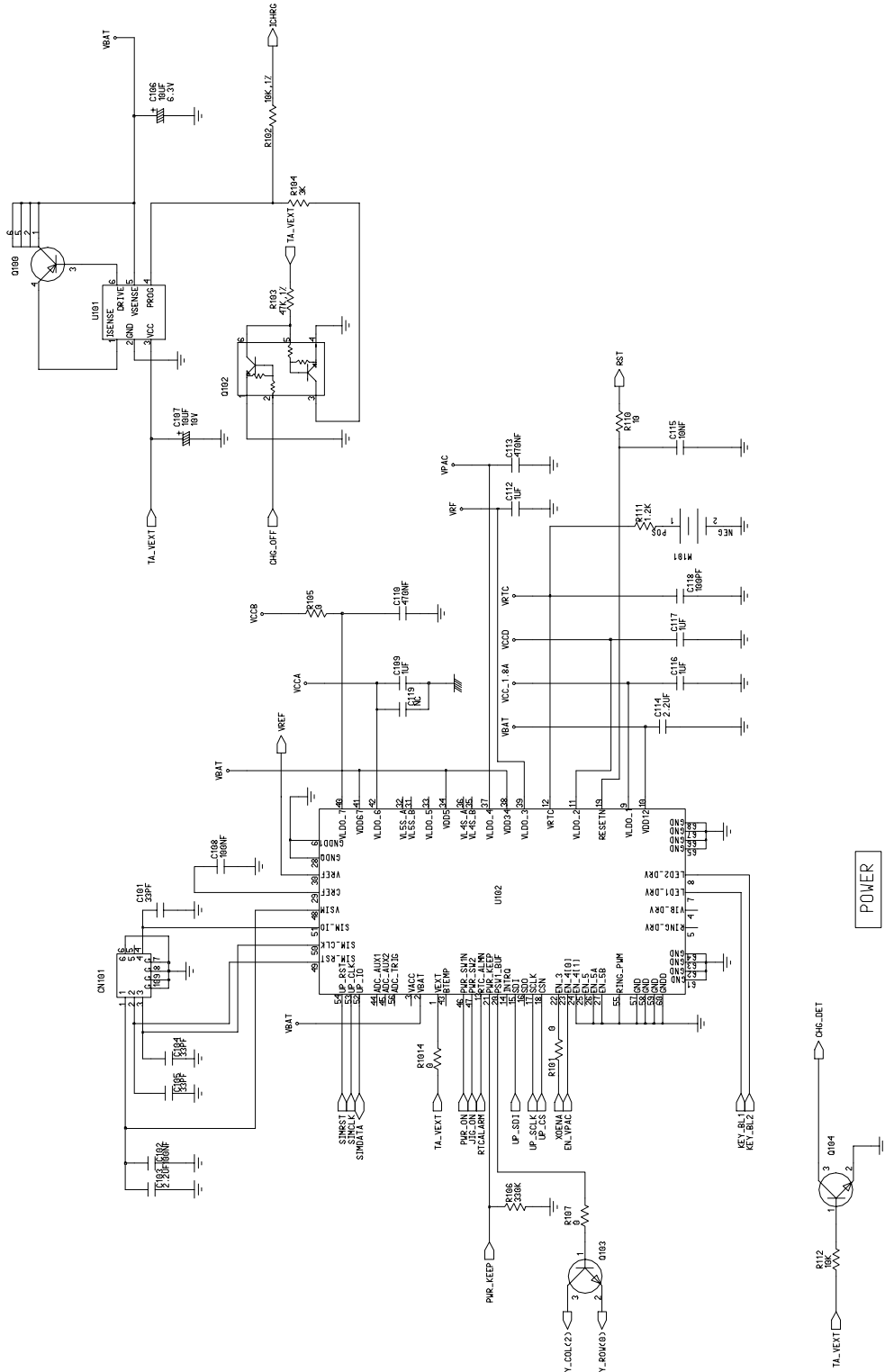
**3. Sim Part**



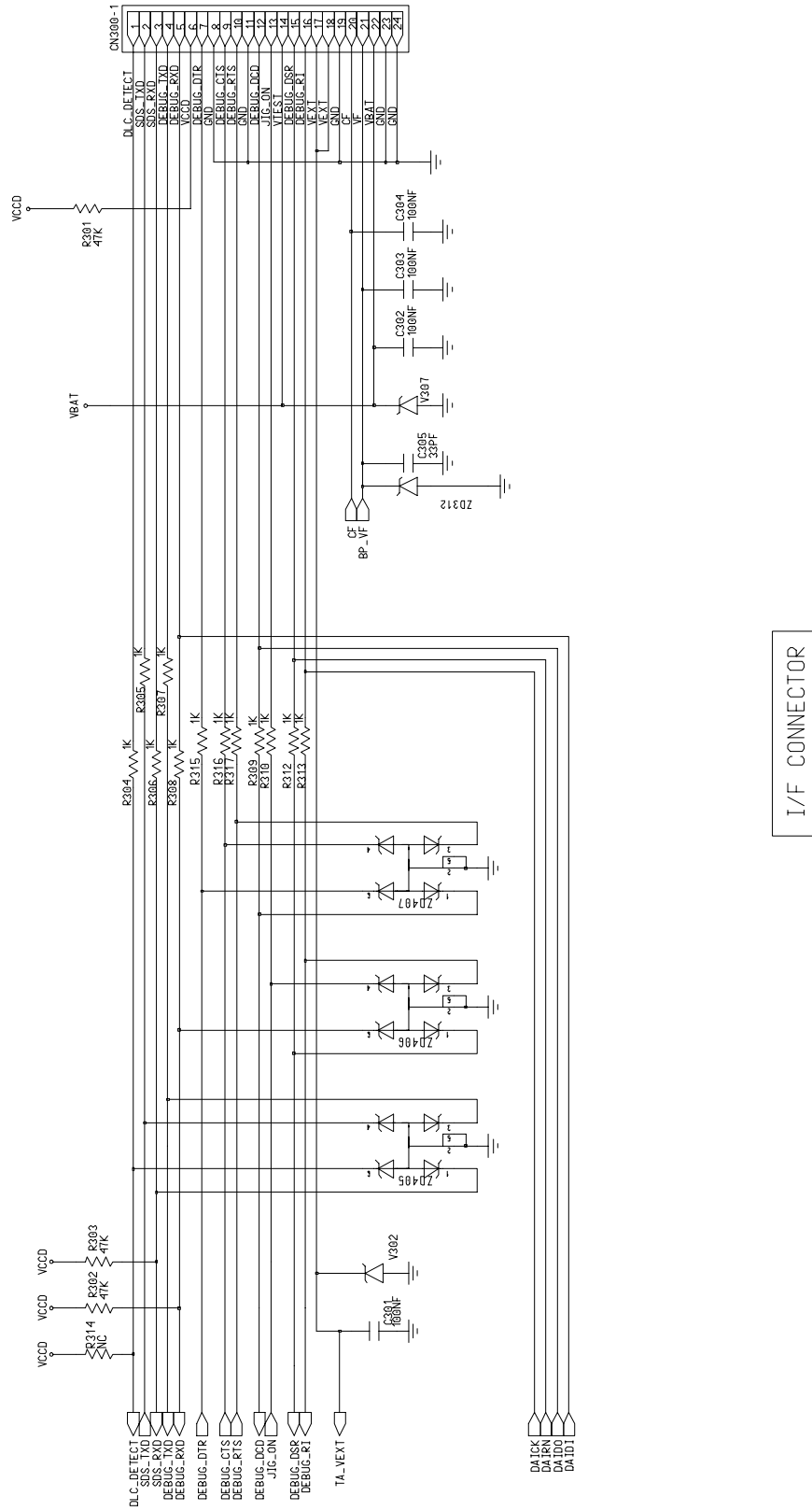
### 4. Charging Part



# SGH-E310 Flow Chart of Troubleshooting and Circuit Diagrams

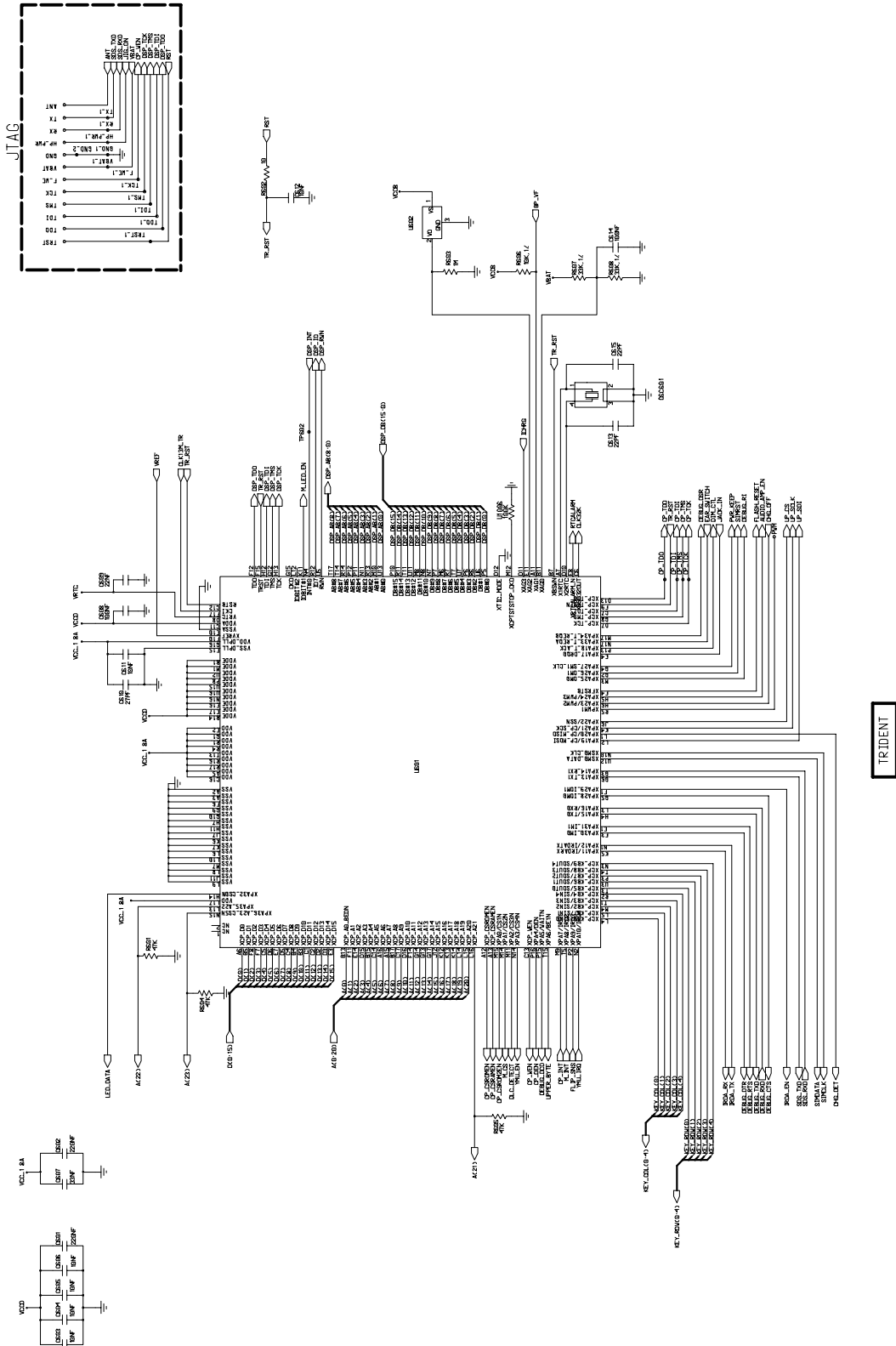


(Picture 1)



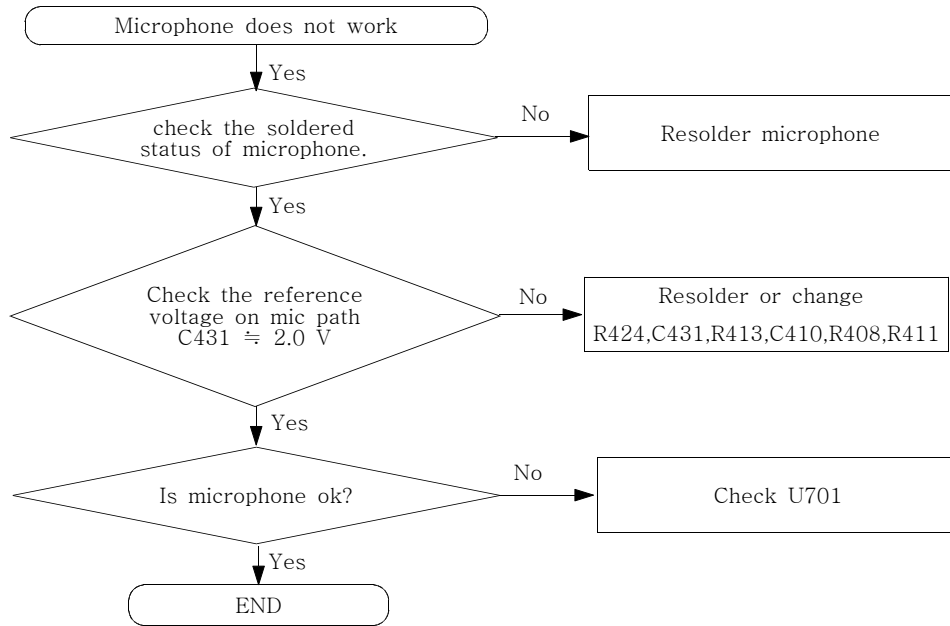
(Picture 2)



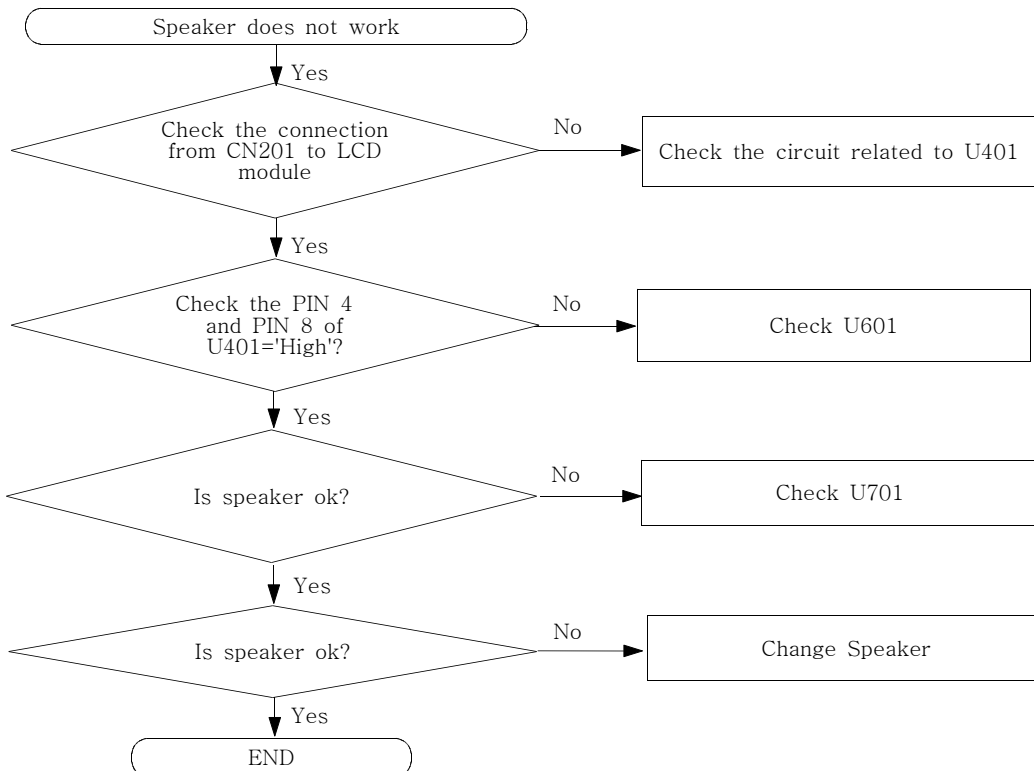


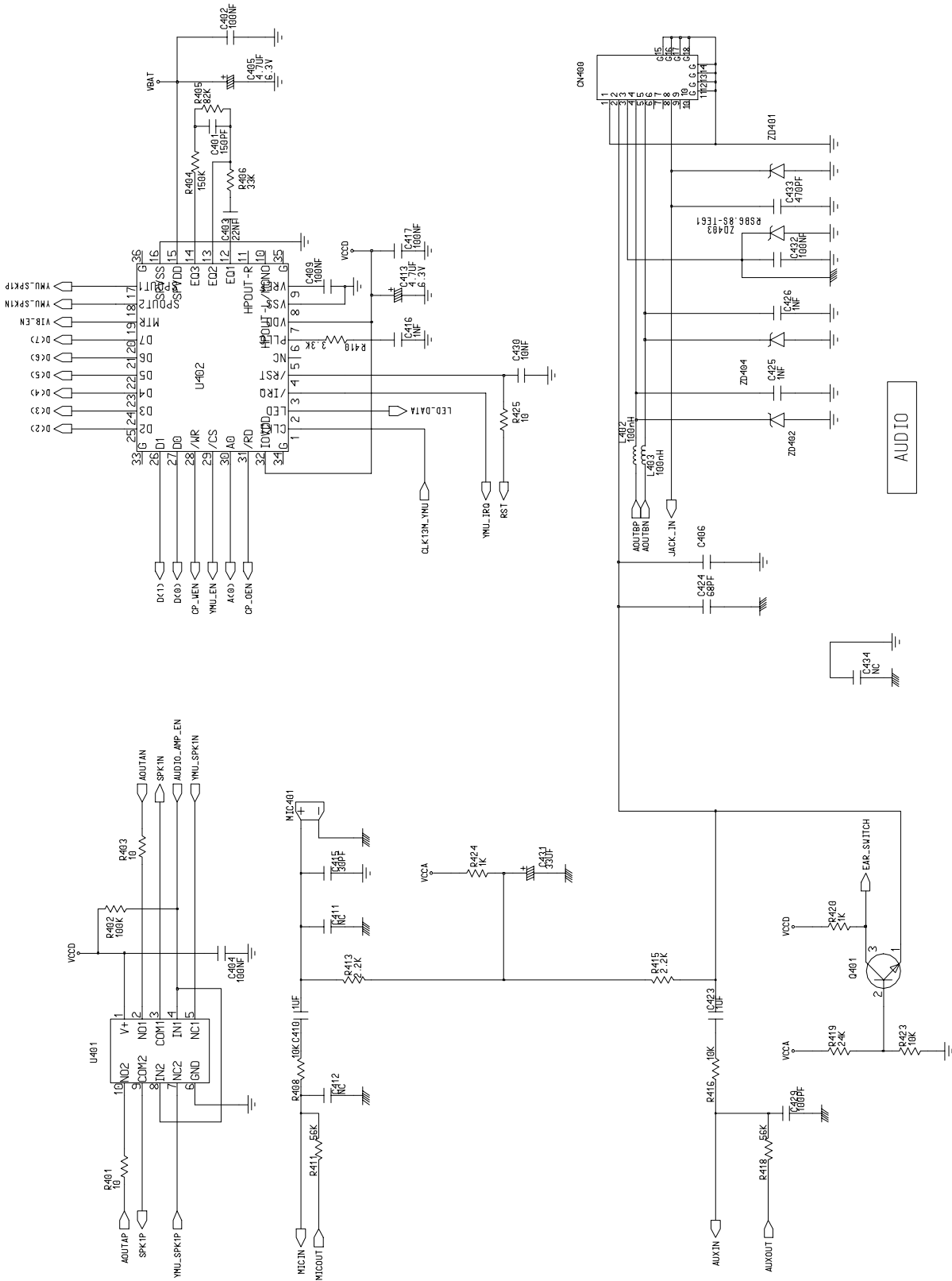
(Picture 3)

### 5. Microphone Part

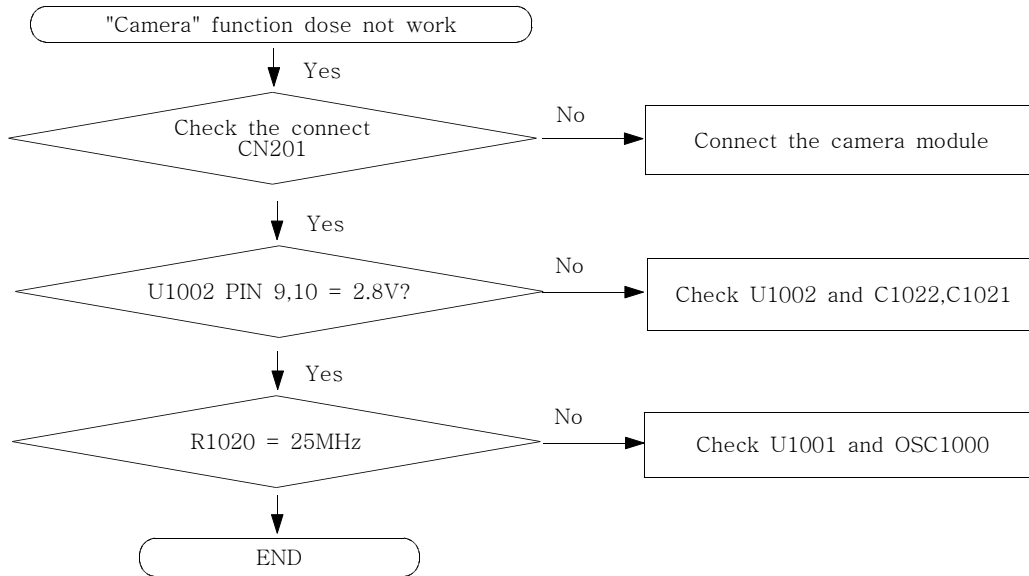


### 6. Speaker Part

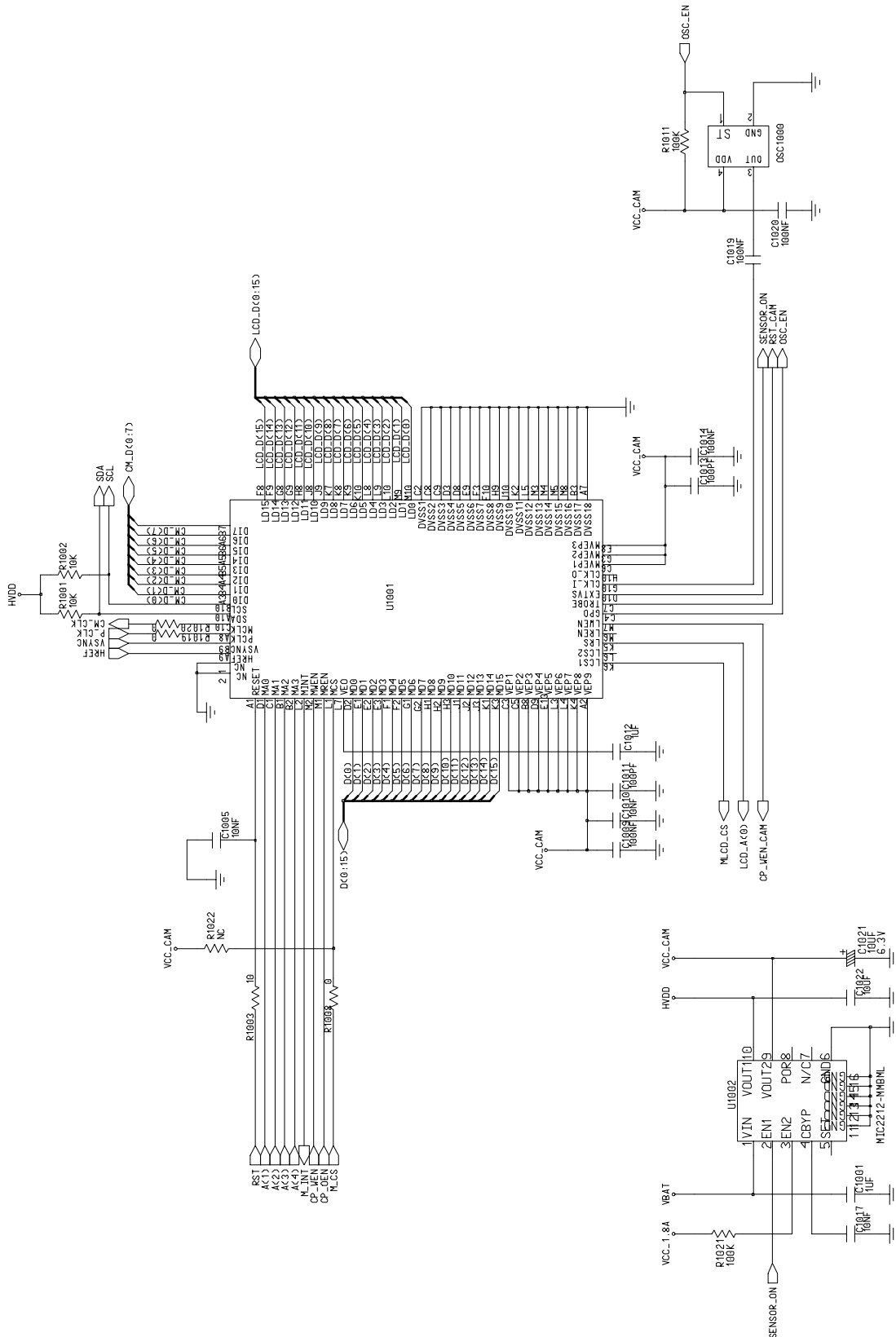




7. Camera Part

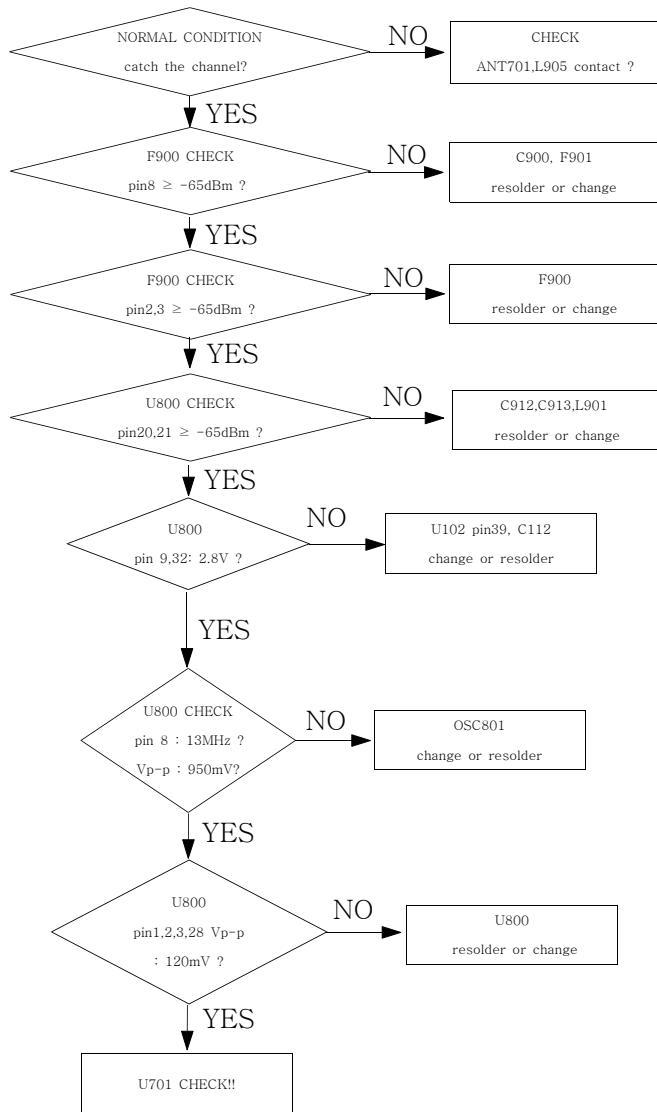


# SGH-E310 Flow Chart of Troubleshooting and Circuit Diagrams



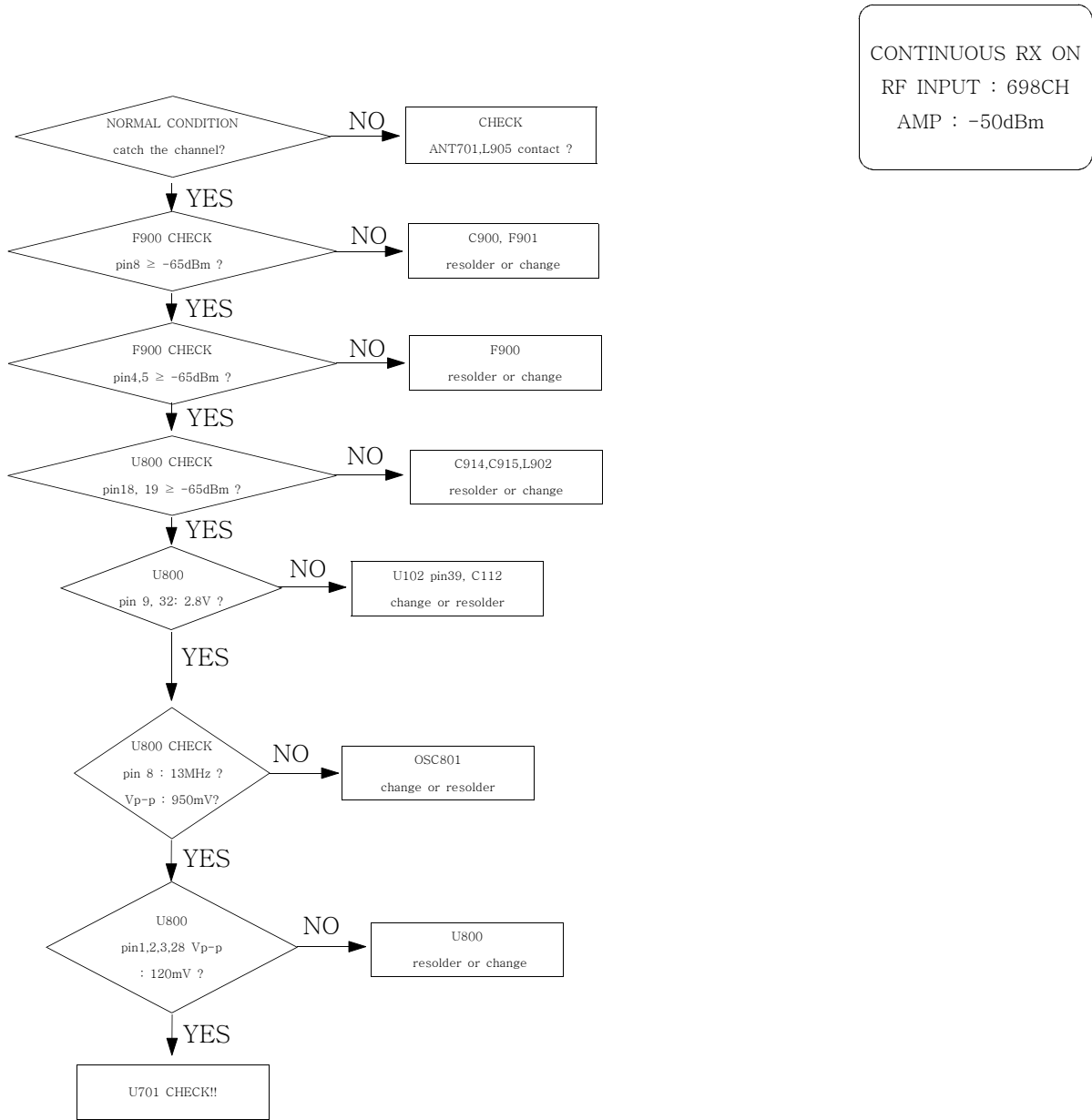
## 2.RF

### 1. EGSM RX

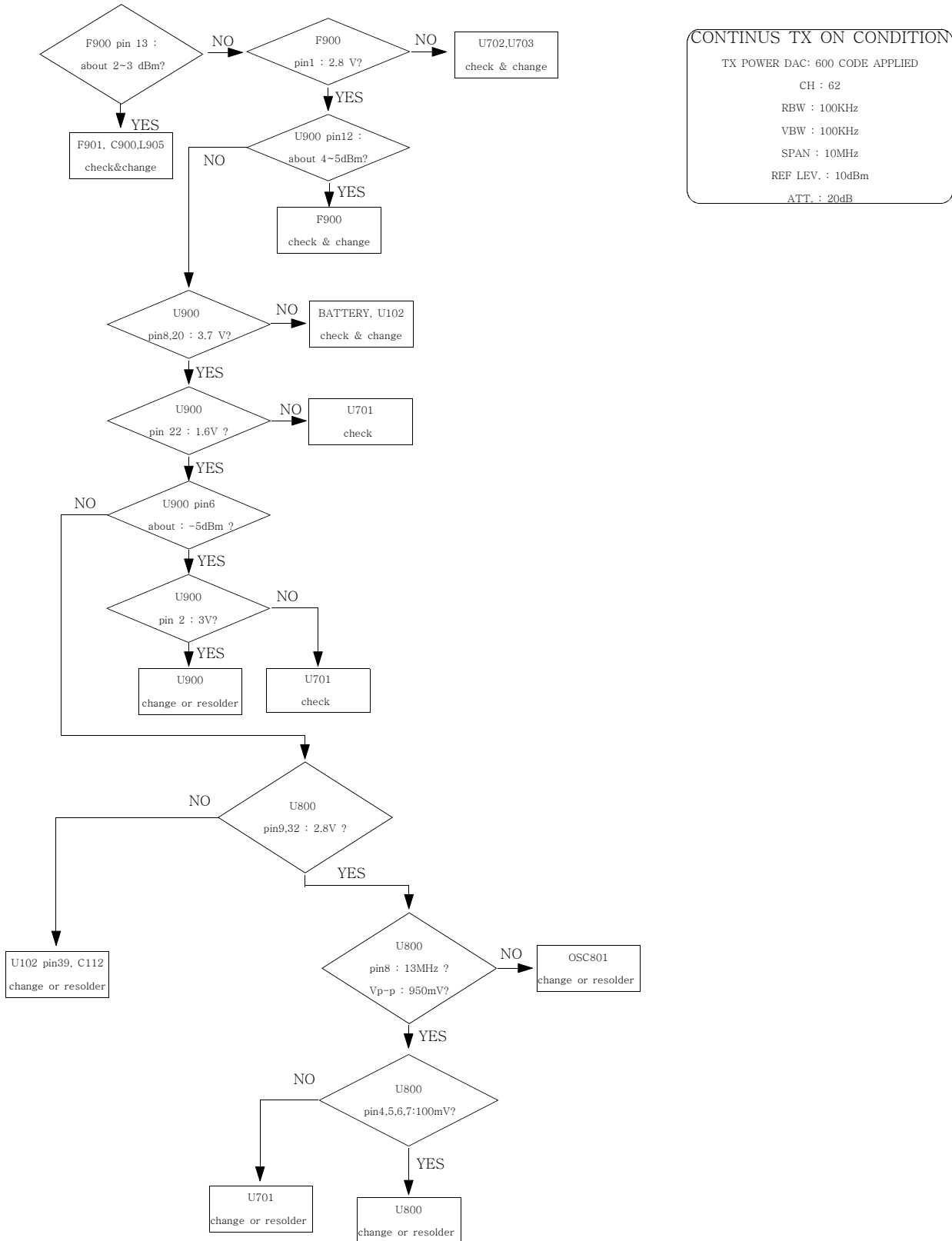


CONTINUOUS RX ON  
RF INPUT : 62CH  
AMP : -50dBm

2. DCS RX

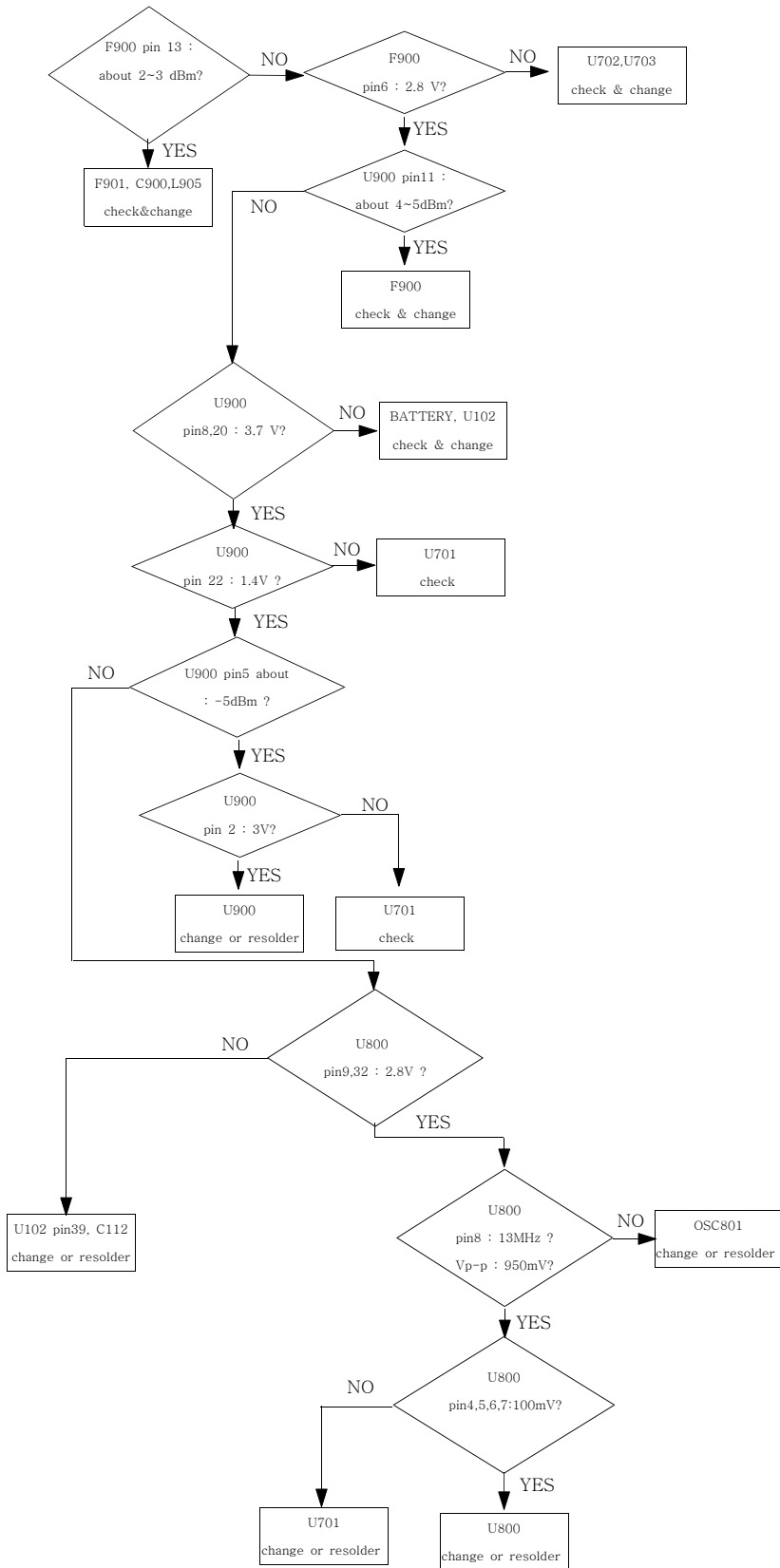


3. EGSM TX

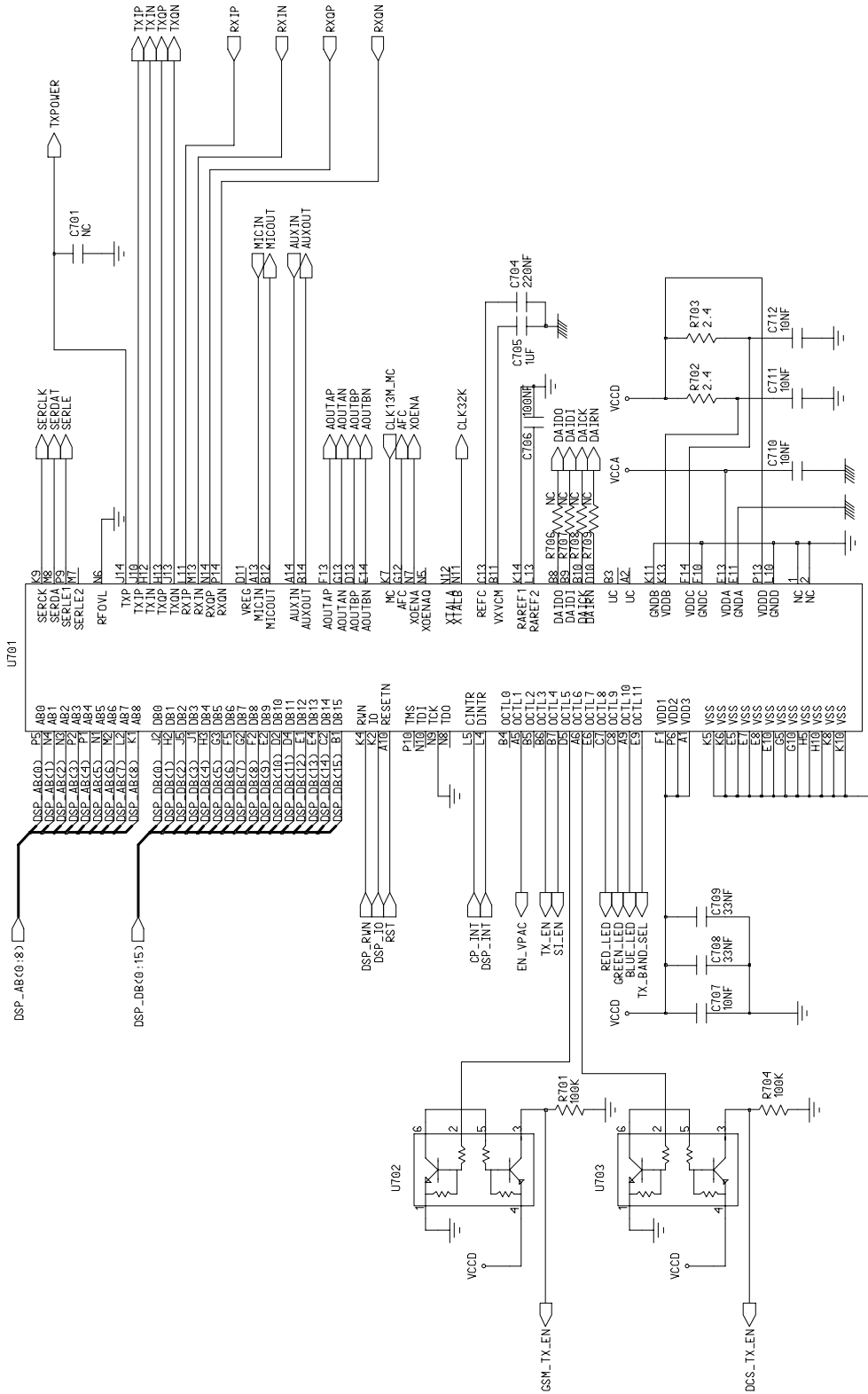




5. DCS TX

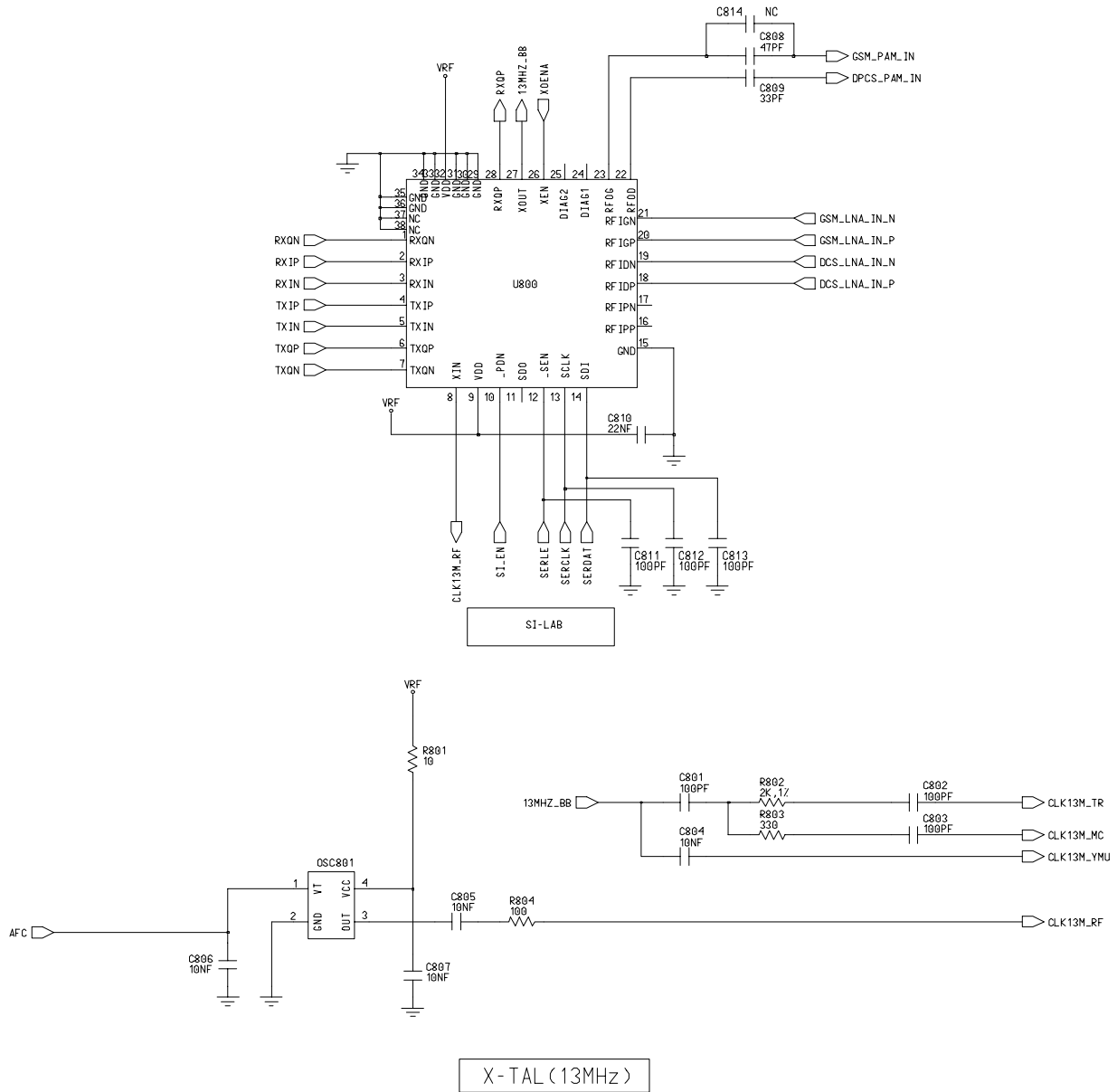


CONTINUOUS TX ON CONDITION  
 CH : 698CH(DCS)  
 TX POWER CODE: 520 CODE Applied  
 RBW : 100KHz  
 VBW : 100KHz  
 SPAN : 10MHz  
 REF LEV. : 10dBm  
 ATT. : 20dB

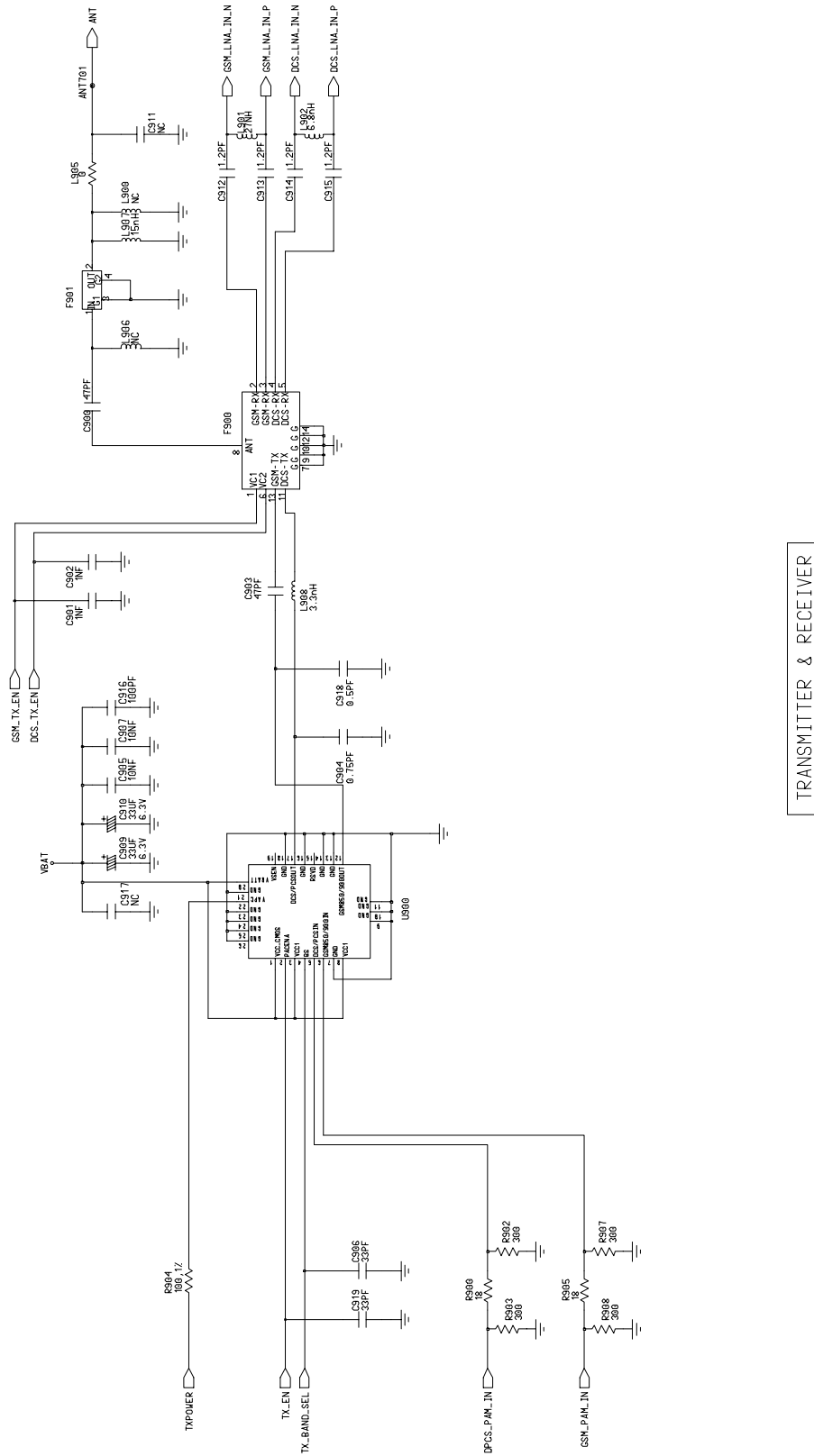


CSP1093

(Picture 1)



(Picture 2)

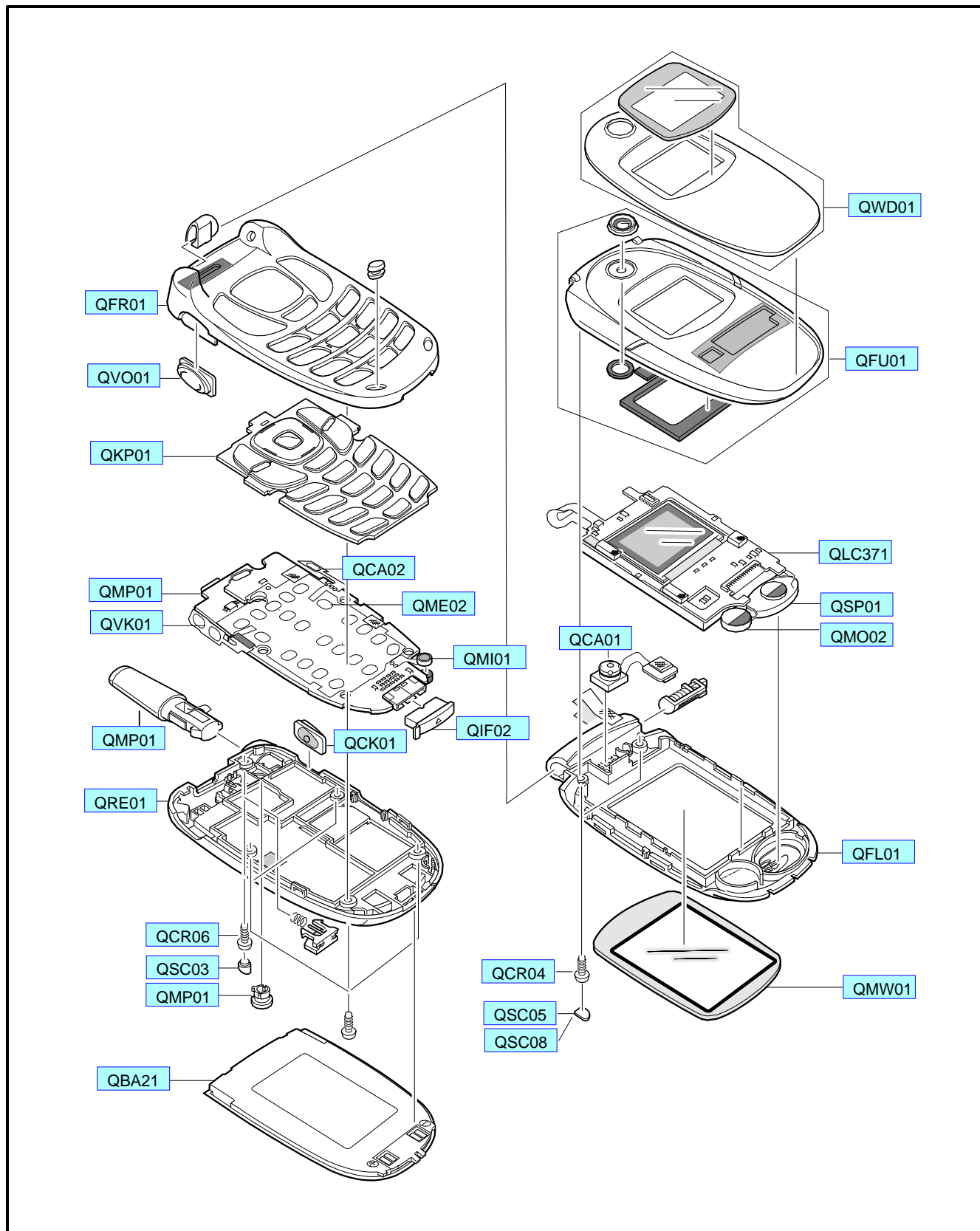


TRANSMITTER & RECEIVER

(Picture 3)

### 3. SGH-E310 Exploded View and its Parts list

#### 1. Cellular phone Exploded View



## 2. Cellular phone Parts list

Location NO.	Description	SEC CODE	Remark
QWD01	DUAL WINDOW ASSY	GH75-03873A	
QFU01	FOLDER UPPER	GH75-03869A	
QLC37	LCD	GH07-00465A	
QSP01	SPEAKER	3001-001484	
QMO02	MOTOR	3101-001328	
QCA01	CAMERA	GH59-01102A	
QFL01	FOLDER LOWER	GH75-04999A	
QMW01	LCD WINDOW ASSY	GH75-03874A	
QCR04	SCREW	6001-001479	
QSC05	SCREW SHEET L	GH74-06886A	
QSC08	SCREW SHEET R	GH74-06867A	
QFR01	FRONT COVER	GH75-03867A	
QVO01	VOLUME KEY	GH75-04736A	
QKP01	KEYPAD	GH75-03939A	
QMP01	PBA MAIN	GH92-01746A	
QVK01	UNIT VOLKEY	GH59-01016A	
QCA02	CAMERA KEY	GH59-01458A	
QME02	METAL DOME	GH59-01097A	
QMI01	MICROPHONE	GH30-00062A	
QIF02	IF COVER	GH73-01394F	
QCK01	CAMERA KEY	GH75-04735A	
QAN01	ANTENNA	GH42-00362A	
QRE01	REAR COVER	GH75-03868A	
QRF01	RF COVER	GH72-10977A	
QCR06	SCREW	6001-001155	
QSC03	SCREW COVER	GH72-10978A	
QBA21	BATTERY	GH43-01277A	

**3. Test Jig (GH80-00865A)**



**3-1. RF Test Cable  
(GH39-00090A)**



**3-2. Test Cable  
(GH39-00127A)**



**3-3. Serial Cable**



**3-4. Power Supply Cable**



**3-5. DATA CABLE  
(GH39-00159A)**



**3-6. TA  
(GH44-00184A)**



## 4. SGH-E310 MAIN Electrical Parts List

SEC Code	Design LOC
2203-006053	C1001
2203-000254	C1005
2203-005482	C1009
2203-000812	C101
2203-000254	C1010
2203-000233	C1011
2203-006053	C1012
2203-000233	C1013
2203-005482	C1014
2203-000254	C1017
2203-005482	C1019
2203-005061	C102
2203-005482	C1020
2404-001225	C1021
2203-005571	C1022
2203-001598	C103
2203-000812	C104
2203-000812	C105
2404-001105	C106
2404-001268	C107
2203-005482	C108
2203-006053	C109
2203-001652	C110
2203-006053	C112
2203-001652	C113
2203-001598	C114
2203-000254	C115
2203-006053	C116
2203-006053	C117
2203-000233	C118
2203-000254	C201
2203-000254	C202
2203-005509	C203
2203-006257	C204
2203-005061	C205
2203-005061	C206

SEC Code	Design LOC
2203-005393	C207
2203-000812	C208
2203-005682	C209
2203-005682	C211
2203-005682	C212
2203-005682	C213
2203-000812	C214
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2203-005682	C223
2203-005682	C225
2203-005682	C226
2203-005682	C227
2203-005682	C230
2203-000812	C231
2203-005682	C232
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2203-005682	C234
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2203-005682	C237
2203-005682	C238
2203-005682	C239
2203-005682	C240
2203-005682	C241
2203-000812	C242
2203-005682	C243
2203-005682	C244
2203-005682	C246
2203-005682	C247

SEC Code	Design LOC
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2203-005682	C249
2203-000812	C250
2203-005682	C251
2203-005682	C252
2203-000812	C253
2203-005682	C254
2203-000812	C255
2203-005682	C256
2203-005061	C301
2203-005061	C302
2203-005061	C303
2203-005061	C304
2203-000812	C305
2203-000359	C401
2203-005061	C402
2203-001405	C403
2203-005061	C404
2404-001086	C405
1405-001082	C406
2203-005061	C409
2203-005065	C410
2404-001086	C413
2203-001412	C415
2203-000438	C416
2203-005061	C417
2203-005065	C423
2203-001153	C424
2203-000438	C425
2203-000438	C426
2203-000233	C429
2203-000254	C430
2404-001151	C431
2203-005061	C432
2203-000940	C433
2203-000254	C502



**SGH-E310 Electrical Parts List**

SEC Code	Design LOC
2203-005509	C503
2203-005509	C504
2203-005509	C505
2203-005509	C506
2203-005061	C507
2203-005496	C601
2203-005496	C602
2203-000254	C603
2203-000254	C604
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2203-005480	C607
2203-005061	C608
2203-001405	C609
2203-000679	C610
2203-000254	C611
2203-000254	C612
2203-000628	C613
2203-005482	C614
2203-000628	C615
2203-005496	C704
2203-005065	C705
2203-005061	C706
2203-000254	C707
2203-005480	C708
2203-005480	C709
2203-000254	C710
2203-000254	C711
2203-000254	C712
2203-000233	C801
2203-000233	C802
2203-000233	C803
2203-000254	C804
2203-000254	C805
2203-000254	C806
2203-000254	C807

SEC Code	Design LOC
2203-000995	C808
2203-000812	C809
2203-001405	C810
2203-000233	C811
2203-000233	C812
2203-000233	C813
2203-000995	C900
2203-000438	C901
2203-000438	C902
2203-000995	C903
2203-002677	C904
2203-000254	C905
2203-000812	C906
2203-000254	C907
2404-001151	C909
2404-001151	C910
2203-005234	C912
2203-005234	C913
2203-005234	C914
2203-005234	C915
2203-000233	C916
2203-001383	C918
2203-000812	C919
3709-001229	CN101
3711-005490	CN201
3710-001673	CN300
3722-002082	CN400
2909-001225	F900
3705-001287	F901
2703-001513	L402
2703-001513	L403
2703-002485	L901
2703-002608	L902
2007-000070	L905
2703-002203	L907
2703-002207	L908

SEC Code	Design LOC
0601-001790	LED201
0601-001790	LED202
0601-001790	LED203
0601-001790	LED204
0601-001790	LED205
0601-001790	LED207
0601-001790	LED208
0601-001790	LED210
0601-001790	LED211
0601-001790	LED212
0601-001790	LED213
0601-001790	LED214
0604-001261	LED217
0601-001790	LED218
0601-001790	LED219
0601-001790	LED220
0601-001790	LED221
0601-001790	LED222
4302-001130	M101
2804-001577	OSC1000
2801-003856	OSC601
2809-001260	OSC801
0502-001201	Q100
0506-001052	Q102
0504-000168	Q103
0504-000168	Q104
0501-000225	Q401
2007-000148	R1001
2007-000148	R1002
2007-000172	R1003
2007-000171	R1008
2007-000171	R101
2007-000162	R1011
2007-000171	R1014
2007-000171	R1019
2007-007142	R102

SEC Code	Design LOC
2007-000171	R1020
2007-000162	R1021
2007-007139	R103
2007-001323	R104
2007-000171	R105
2007-000758	R106
2007-000171	R107
2007-000172	R110
2007-001319	R111
2007-000148	R112
2007-000172	R201
2007-000172	R202
2007-001291	R203
2007-000157	R301
2007-000157	R302
2007-000157	R303
2007-000140	R304
2007-000140	R305
2007-000140	R306
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2007-000140	R308
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2007-000140	R310
2007-000140	R312
2007-000140	R313
2007-000140	R315
2007-000140	R316
2007-000140	R317
2007-000172	R401
2007-000162	R402
2007-000172	R403
2007-000164	R404
2007-000161	R405
2007-000775	R406
2007-000148	R408
2007-001325	R410

SEC Code	Design LOC
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2007-000141	R413
2007-000141	R415
2007-000148	R416
2007-000159	R418
2007-000154	R419
2007-000140	R420
2007-000148	R423
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2007-000172	R425
2007-000171	R500
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2007-000171	R502
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2007-000157	R601
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2007-007142	R606
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2007-007308	R608
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2007-000162	R704
2007-000172	R801
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2007-001313	R803
2007-000138	R804
2007-001288	R900
2007-007008	R902
2007-007008	R903
2007-007306	R904
2007-001288	R905
2007-007008	R907

SEC Code	Design LOC
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GH13-00020A	U1001
1203-002861	U1002
2203-005682	U1005
2007-000162	U1006
0601-001790	U1008
0601-001790	U1009
1203-002127	U101
1203-002902	U102
1009-001010	U202
1001-001183	U401
1204-002161	U402
1109-001281	U500
GH09-00025A	U601
1209-001219	U602
1204-001984	U701
0504-001042	U702
0504-001042	U703
1205-002433	U800
1201-002078	U900
0403-001427	V302
0406-001152	V307
0403-001427	ZD205
0406-001169	ZD206
0406-001169	ZD207
0406-001150	ZD312
0406-001150	ZD401
0406-001150	ZD402
0406-001150	ZD403
0406-001150	ZD404
0406-001169	ZD405
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GH92-01746A	
GH41-00501A	
GH96-01493A	

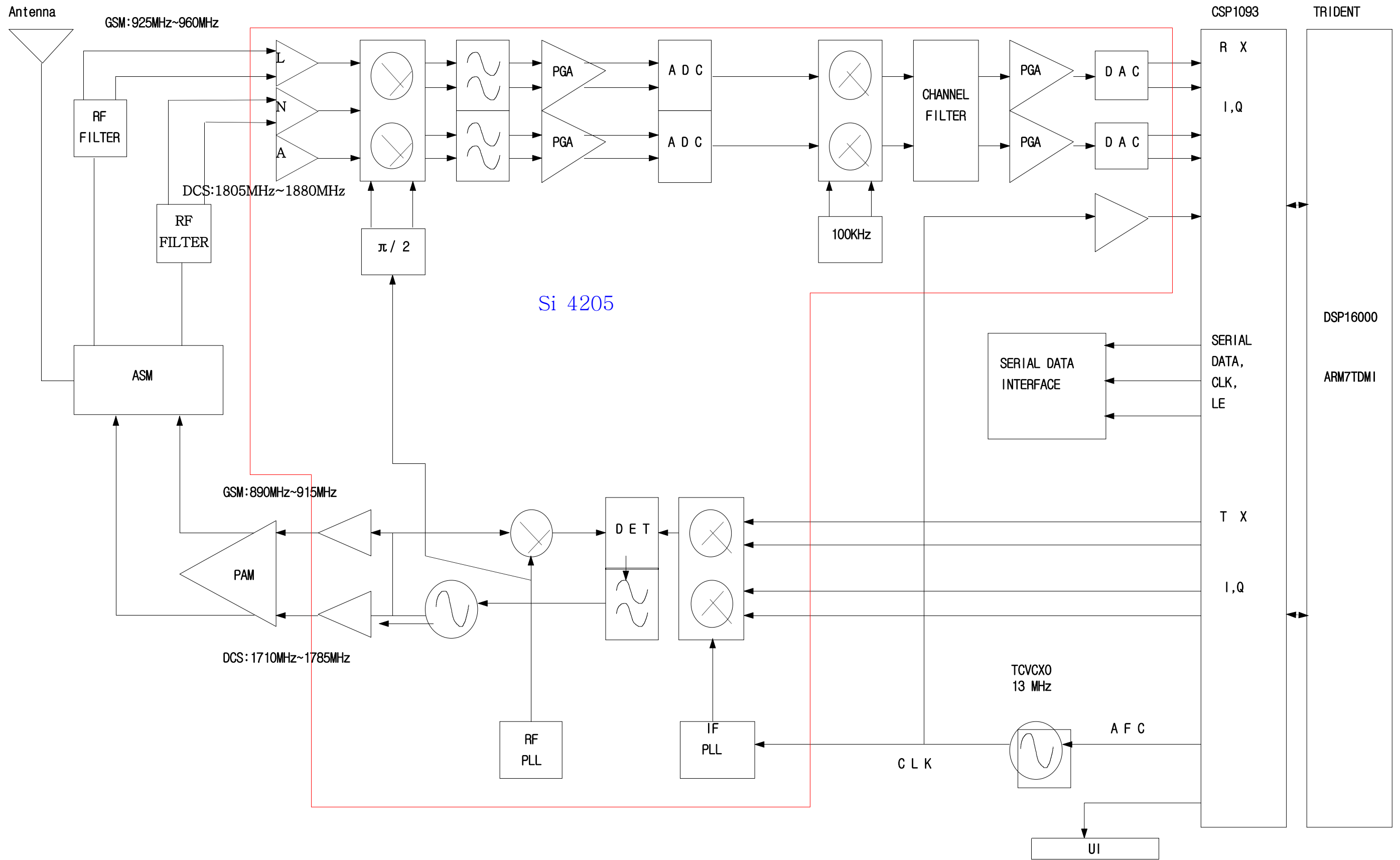
## SGH-E310 Electrical Parts List

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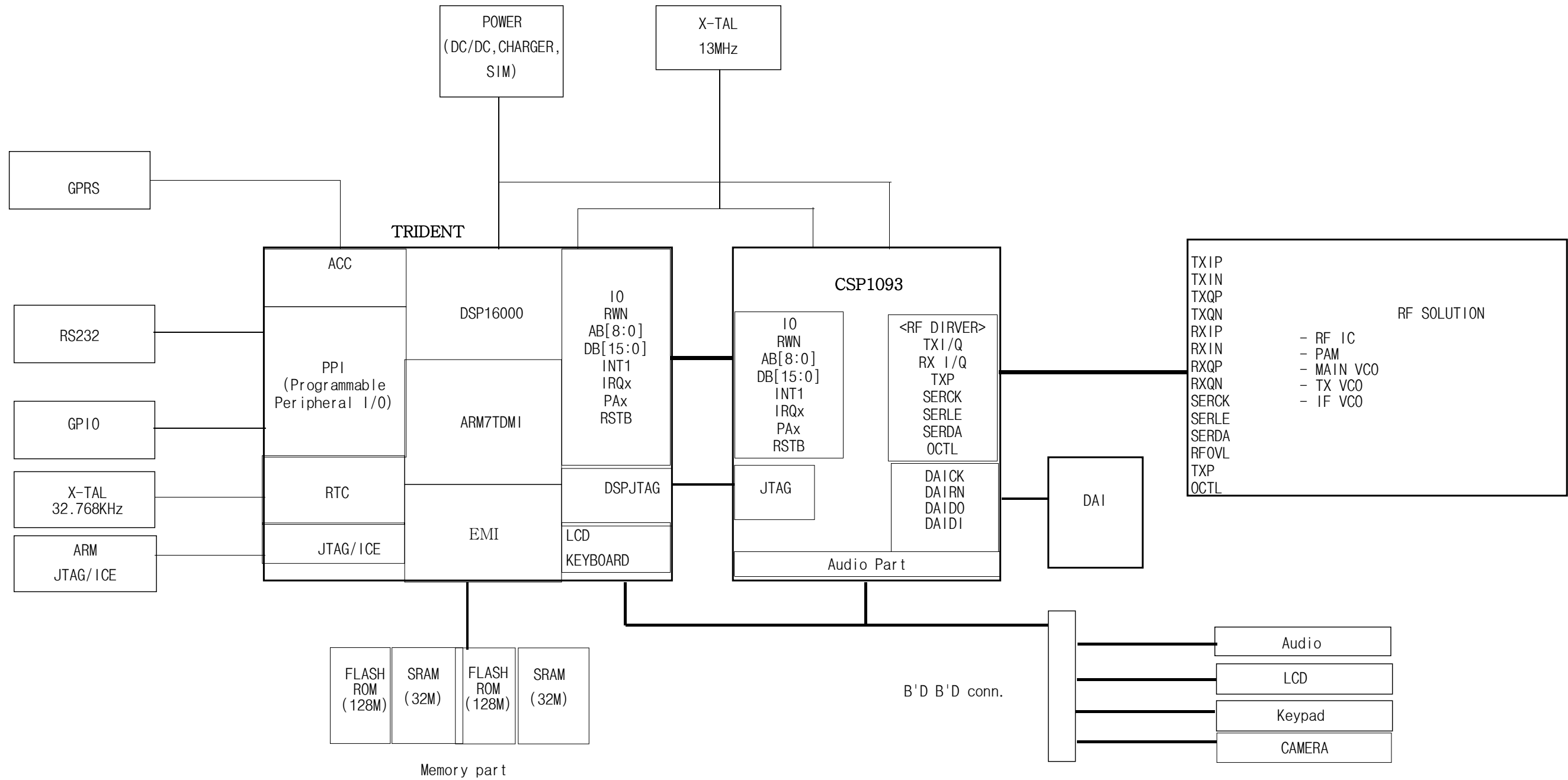
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GH59-01016A	
GH59-01097A	
GH59-01458A	
GH68-02026A	
GH73-03030A	
GH73-03033A	
GH74-07565A	
GH74-07566A	
GH74-07567A	
GH74-08170A	

# 5. SGH-E310 Block Diagrams

## 1. RF Solution Block Diagram

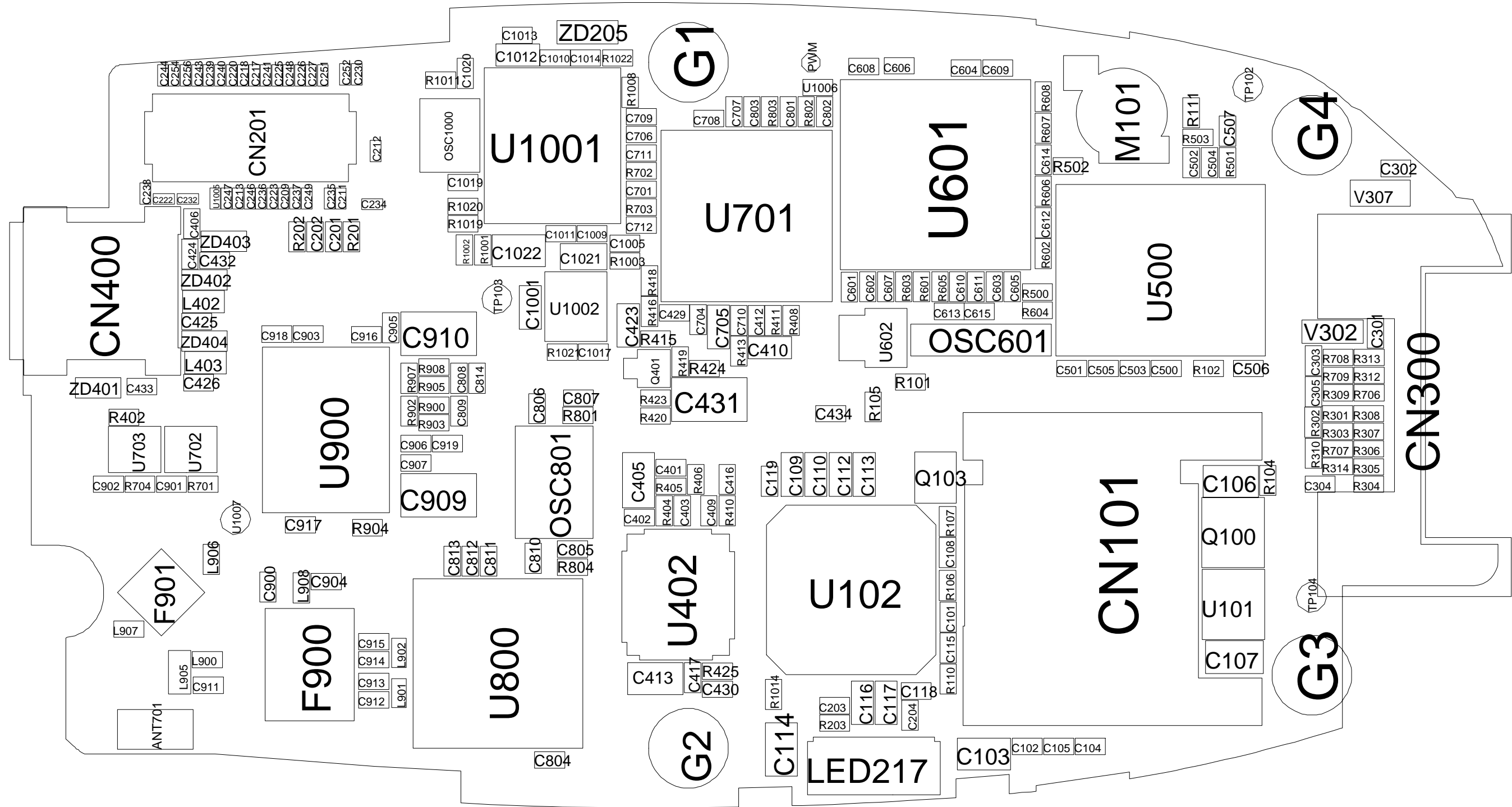


2. Base Band Solution Block Diagram

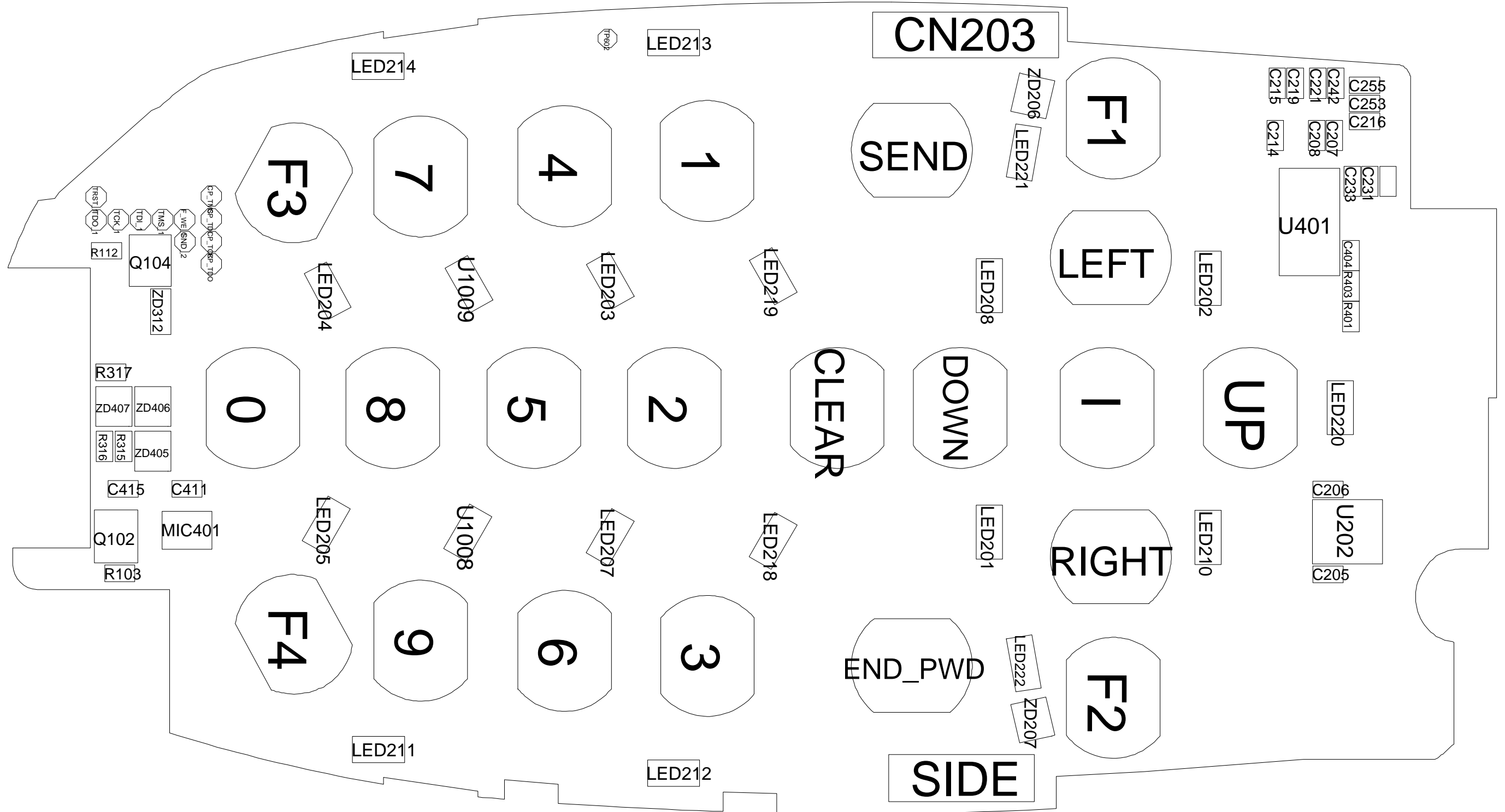


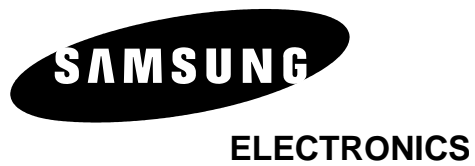
# 6. SGH-E310 PCB Diagrams

## 1. Main Top Diagram



2. Main Bottom Diagram





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