

**SAMSUNG**

GSM TELEPHONE  
SGH-X105

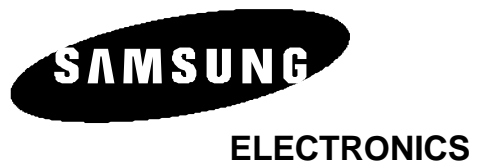
# ***SERVICE*** *Manual*

GSM TELEPHONE



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BASIC.

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# 1. SGH-X105 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	-

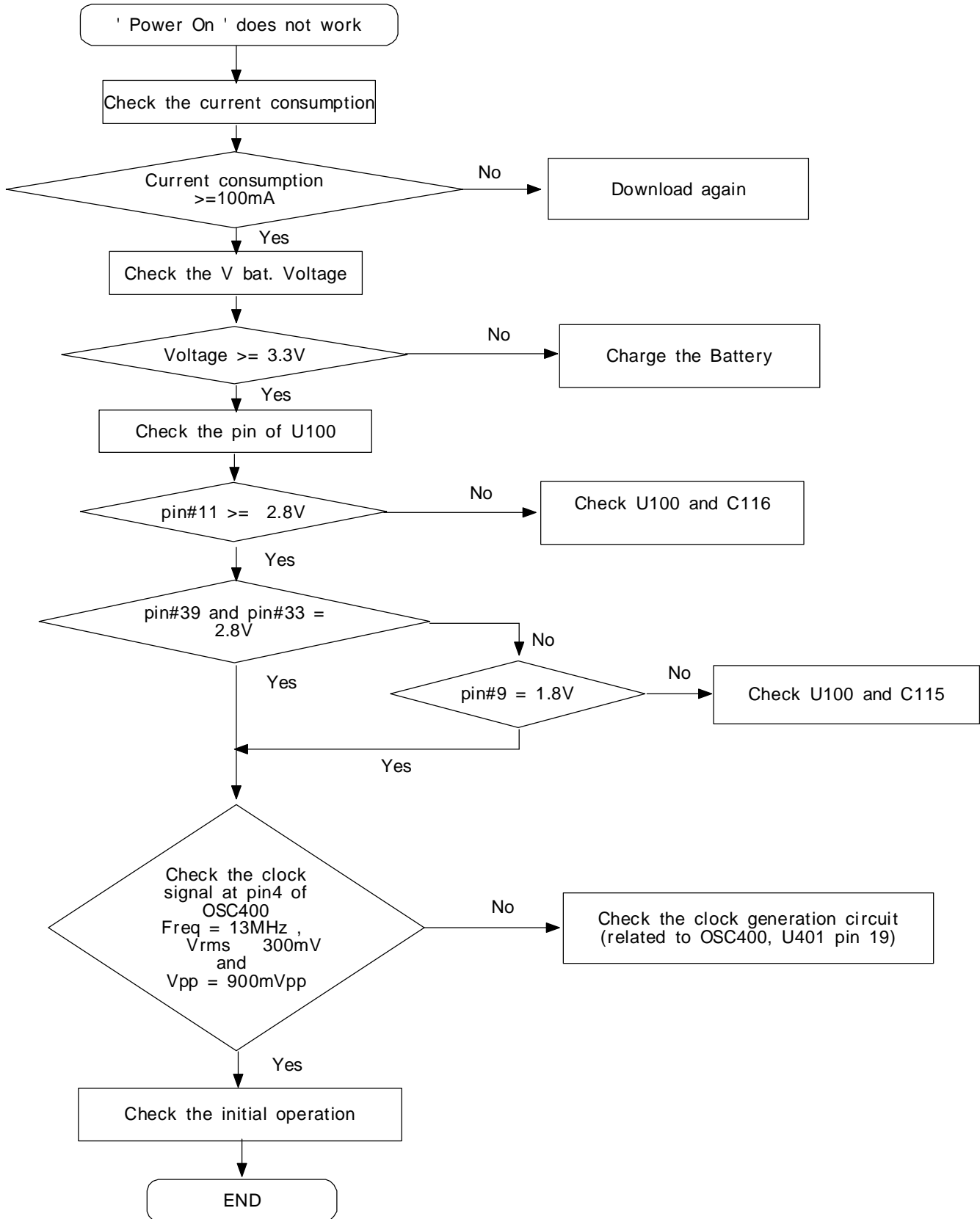
**2. GSM TX power class**

<b>TX Power control level</b>	<b>GSM900</b>
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

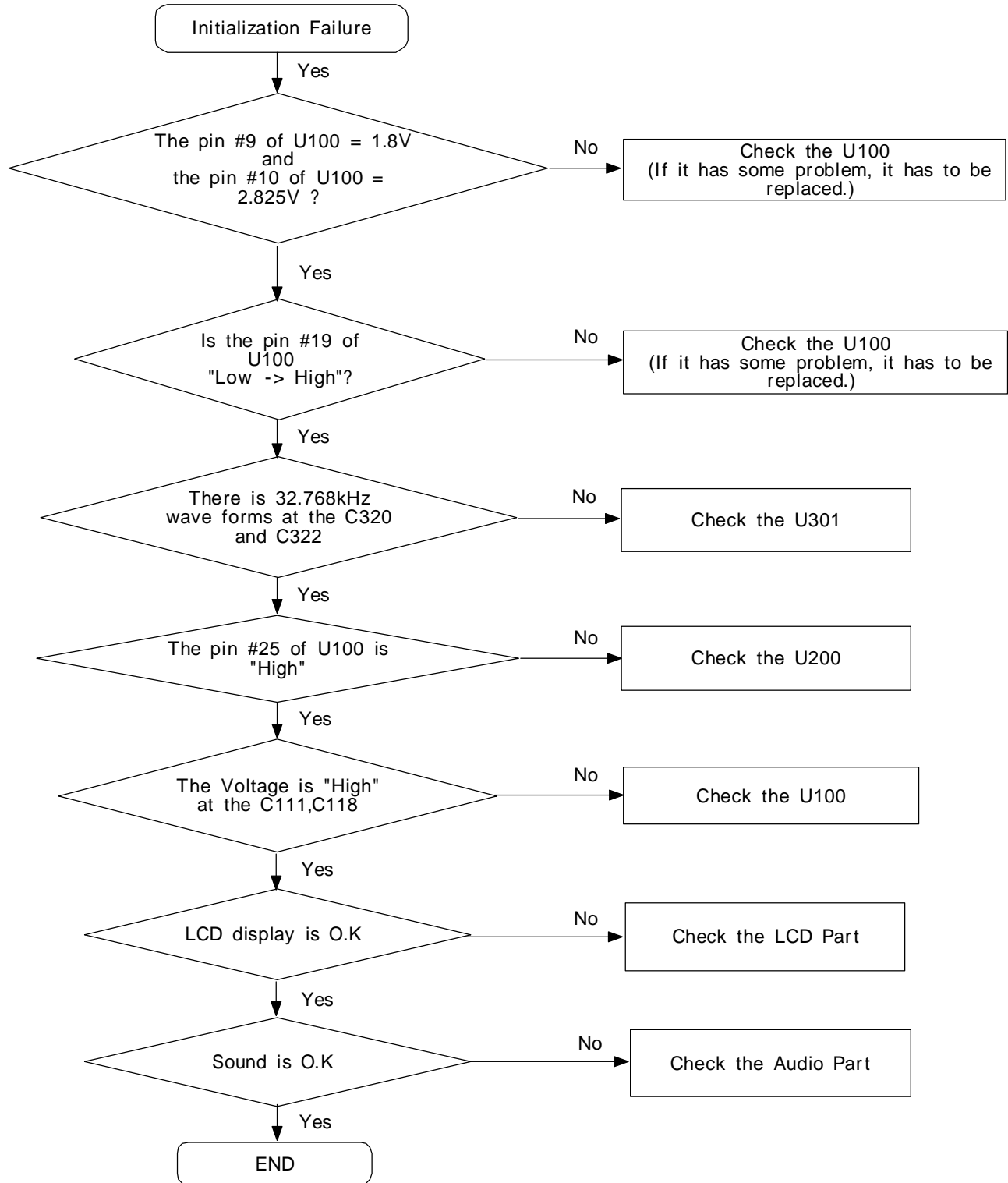
<b>TX Power control level</b>	<b>PCS1900</b>
0	30 ±3 dBm
1	28 ±3 dBm
2	26 ±3 dBm
3	24 ±3 dBm
4	22 ±3 dBm
5	20 ±3 dBm
6	18 ±3 dBm
7	16 ±3 dBm
8	14 ±3 dBm
9	12 ±4 dBm
10	10 ±4 dBm
11	8 ±4dBm
12	6 ±4 dBm
13	4 ±4 dBm
14	2 ±5 dBm
15	0 ±5 dBm

## 4. SGH-X105 Flow Chart of Troubleshooting

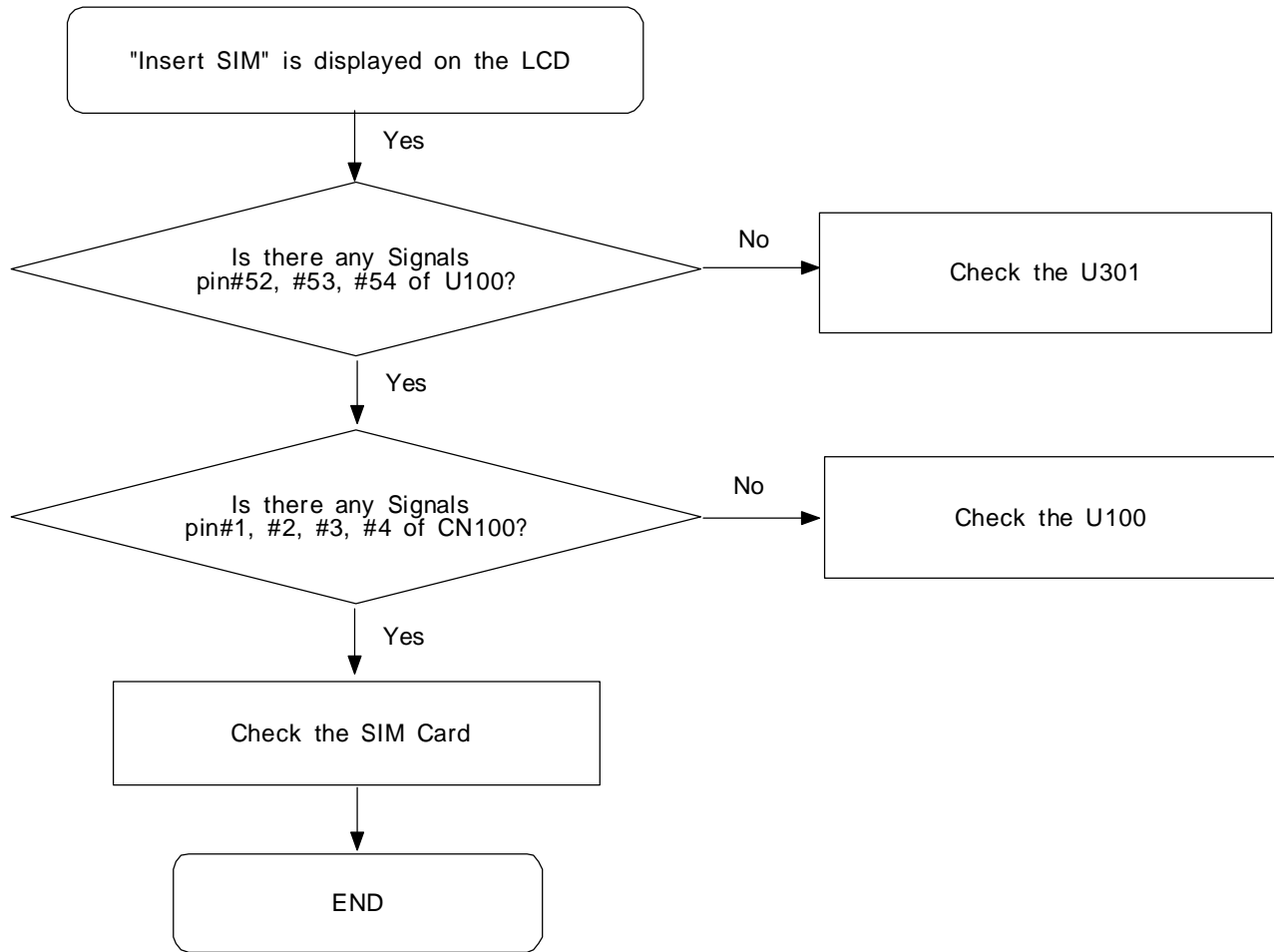
### 1. Power On



2. Initial

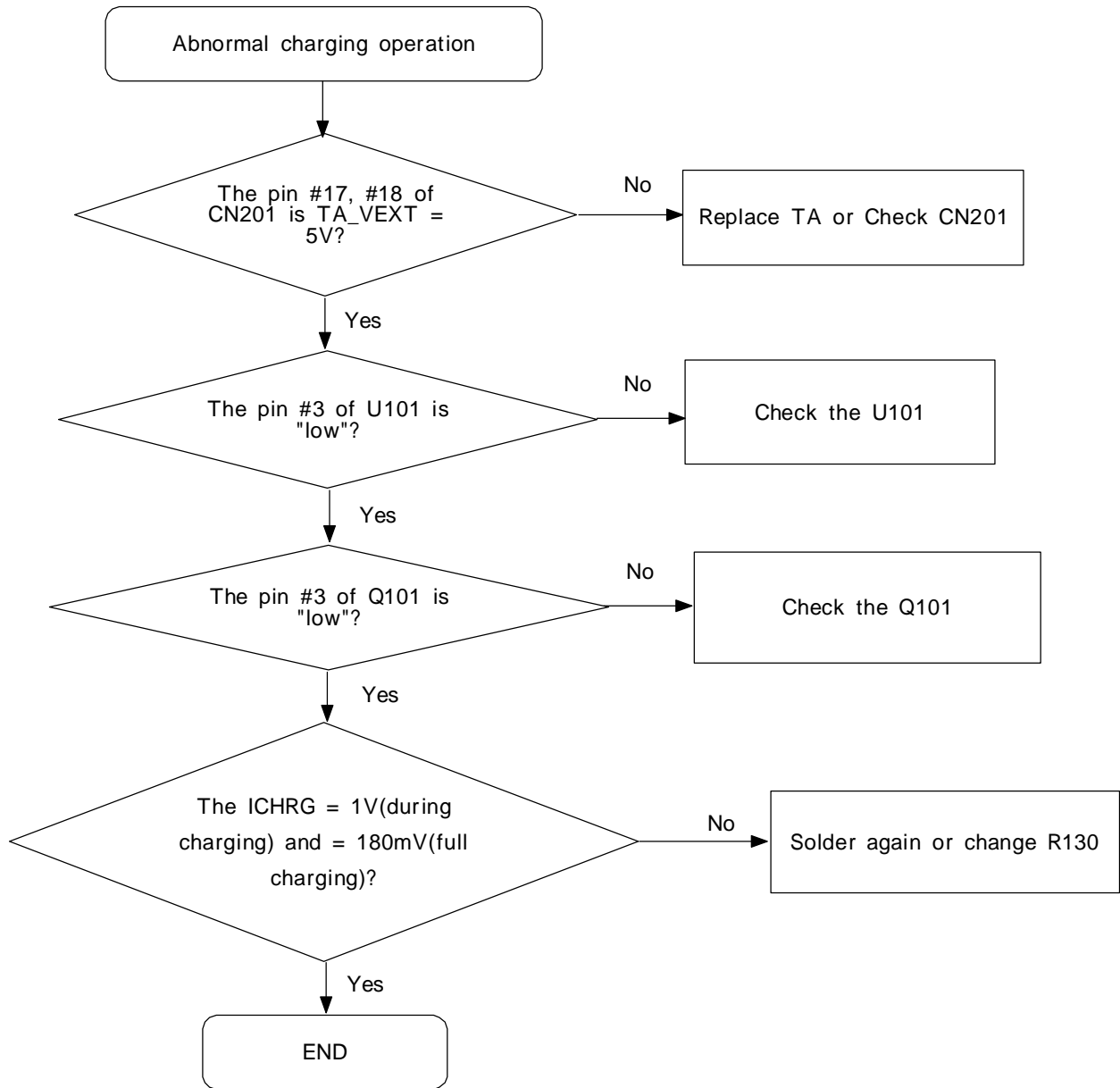


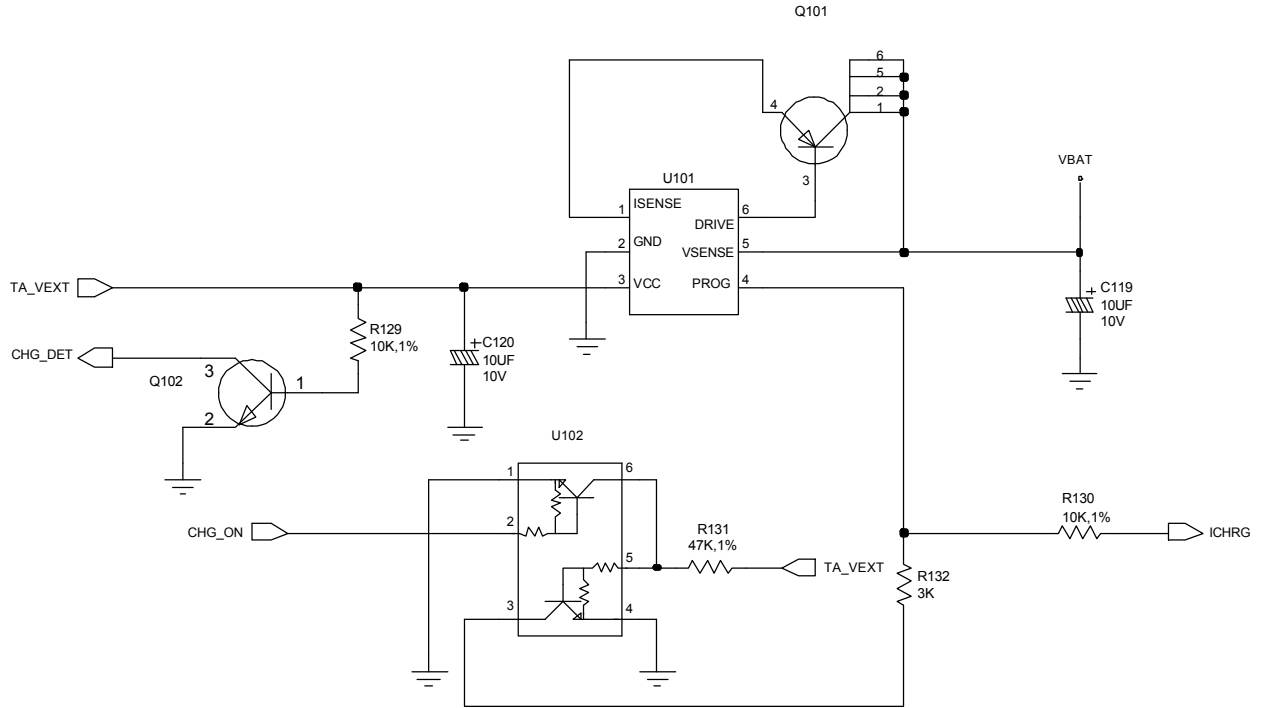
**3. Sim Part**



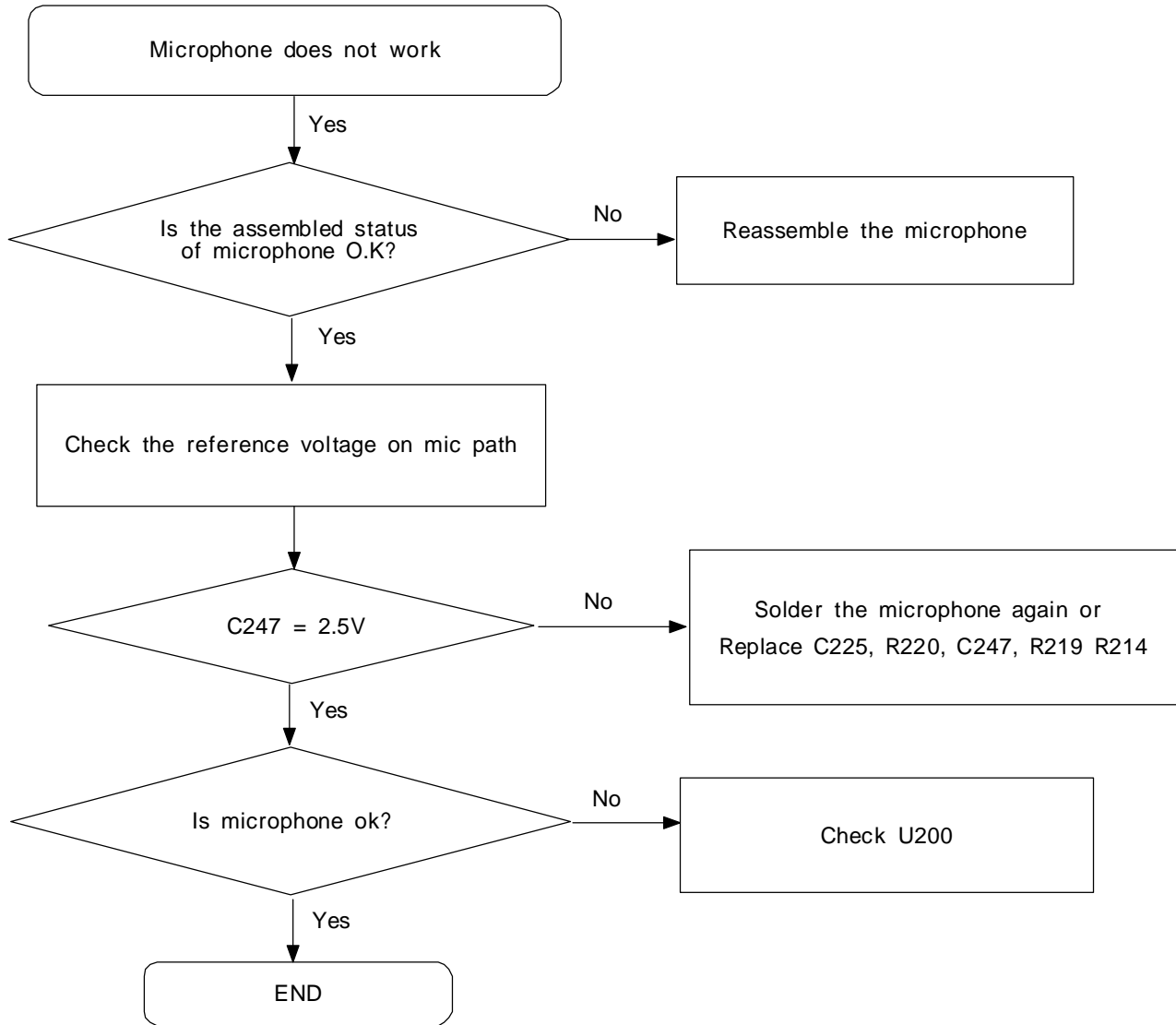


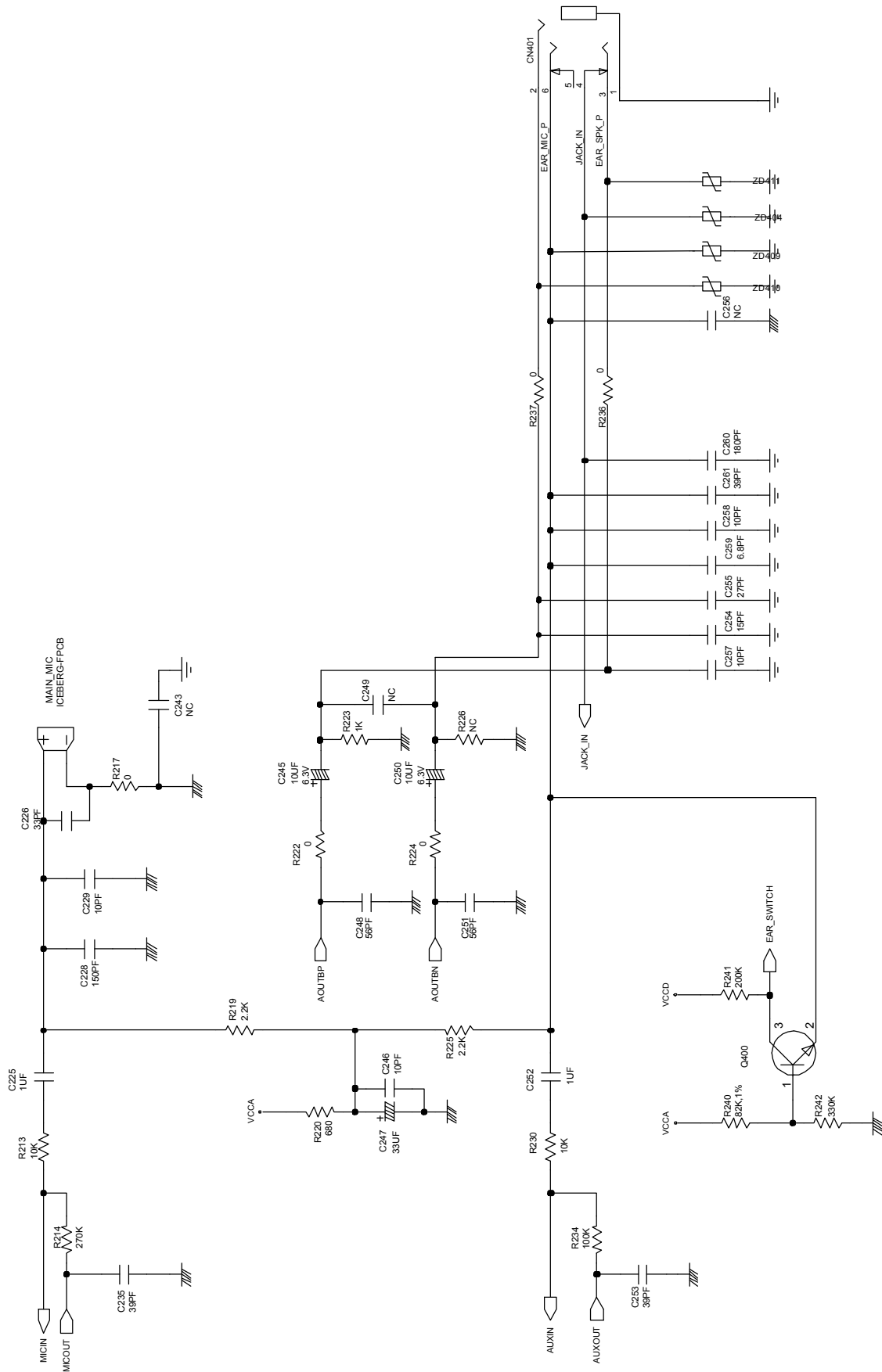
### 4. Charging Part





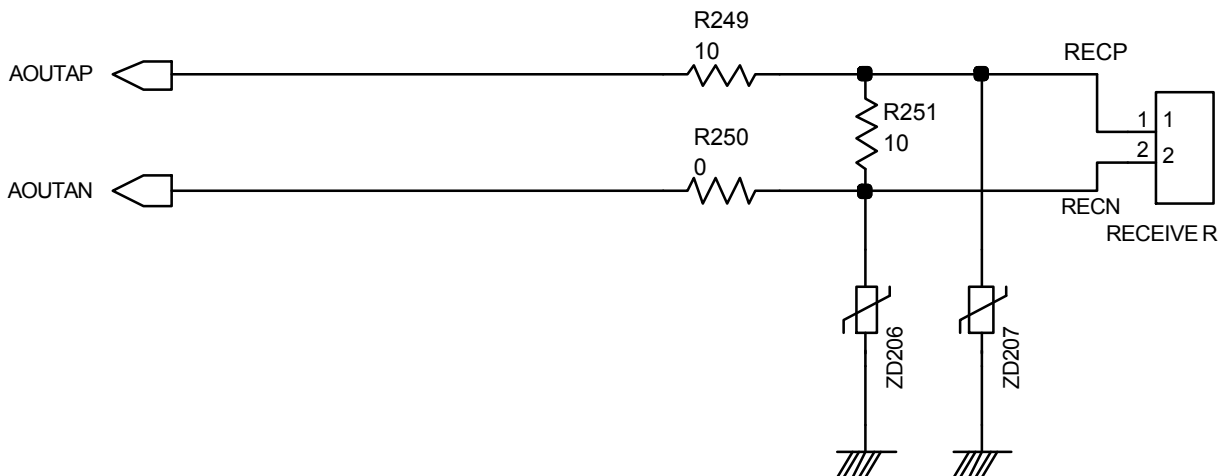
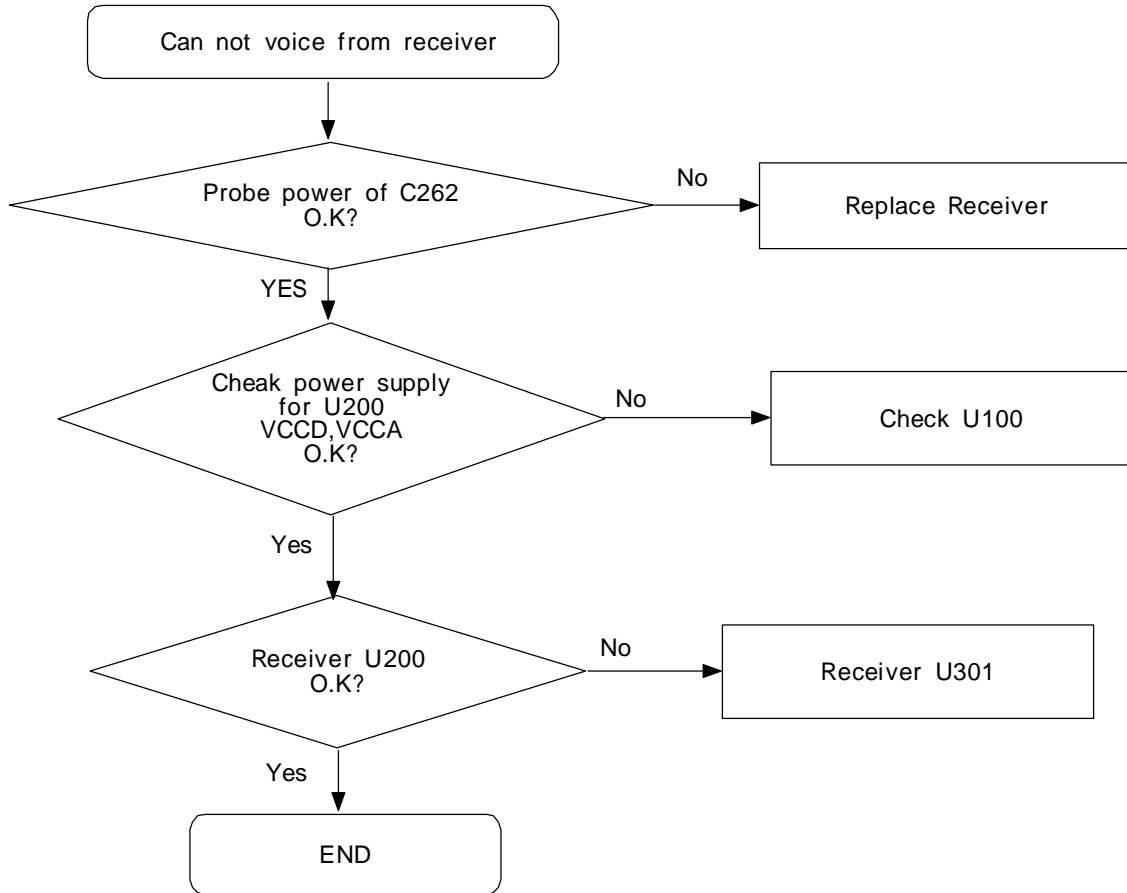
**5. Microphone Part**





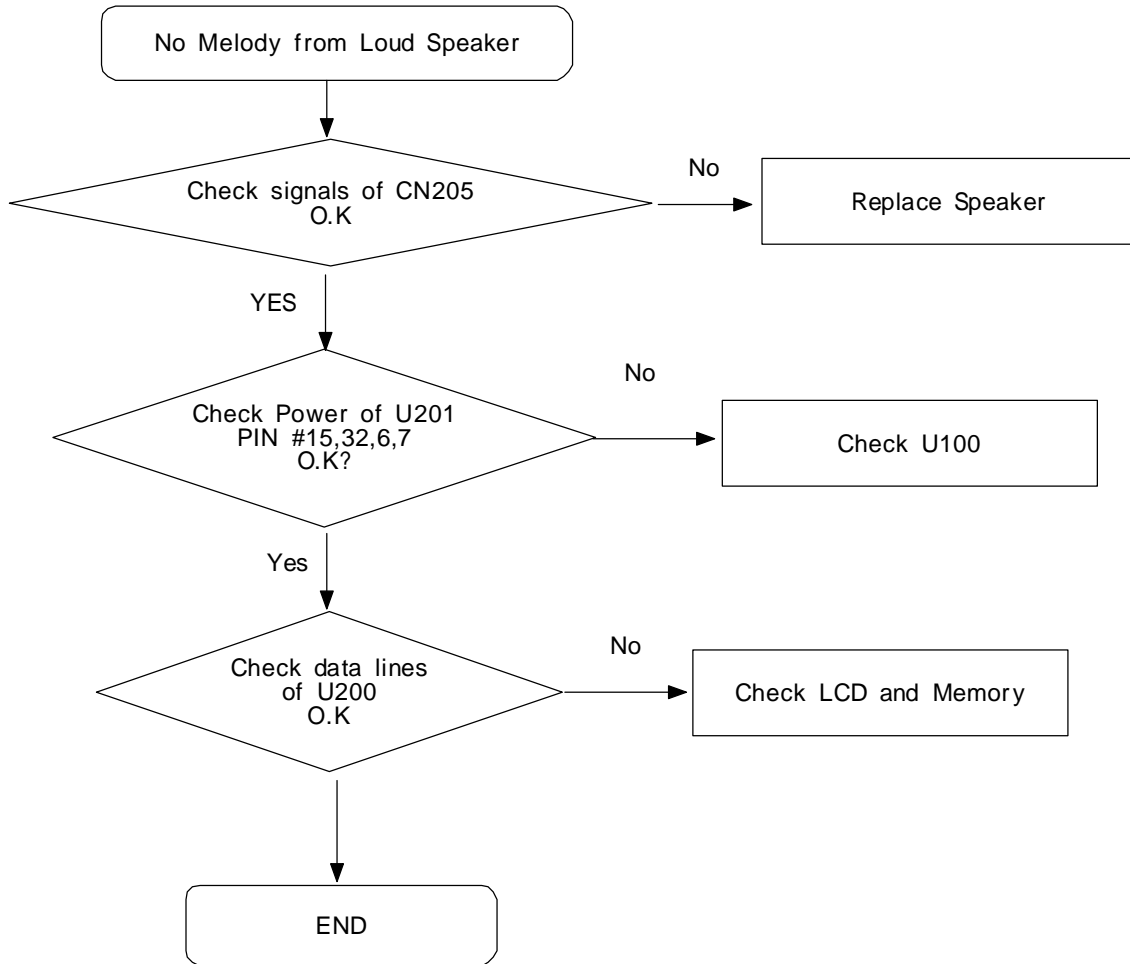
## 6. Speaker Part

Receiver



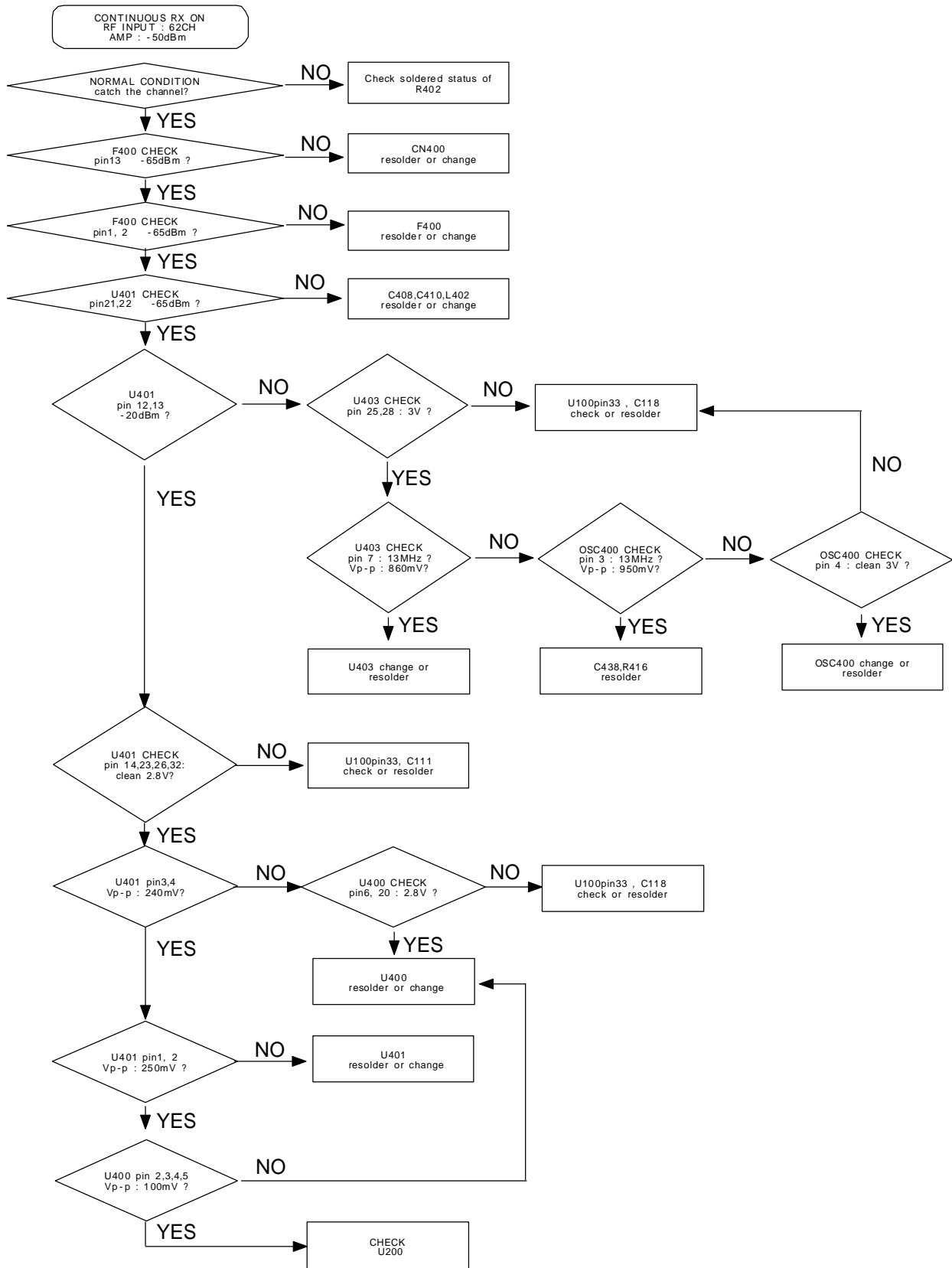
7. Speaker Part

Loud speaker

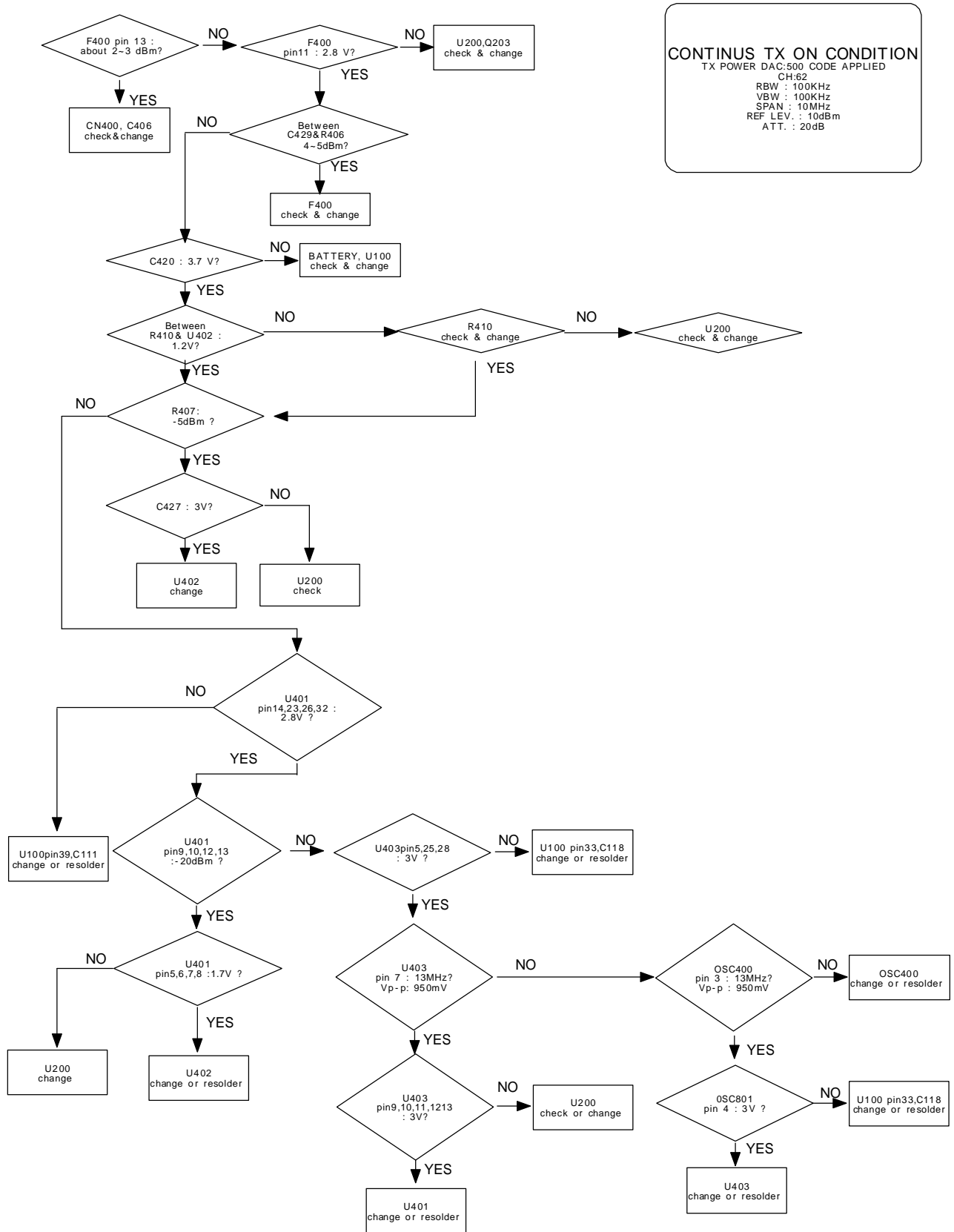




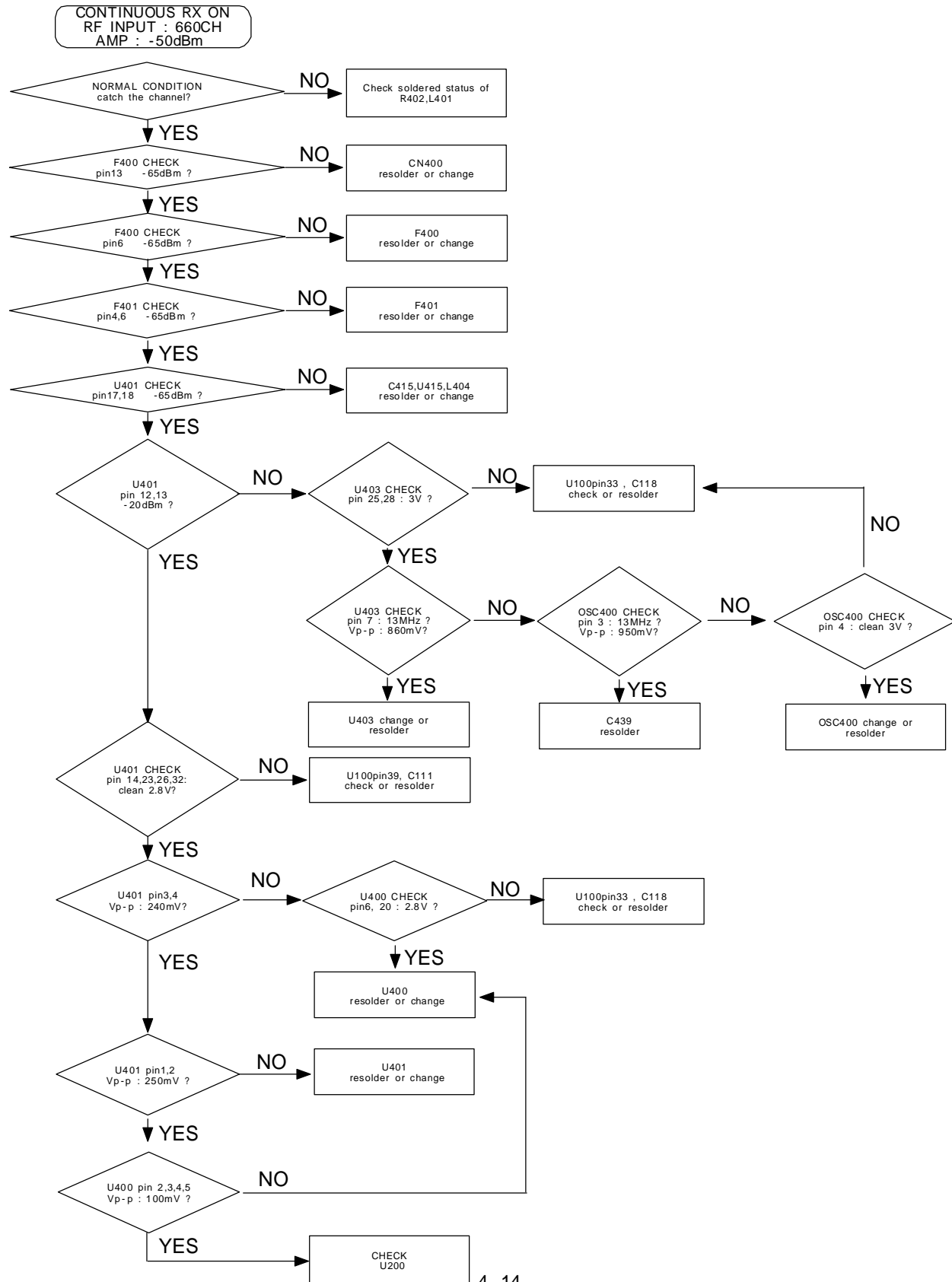
### 8. EGSM Reciever



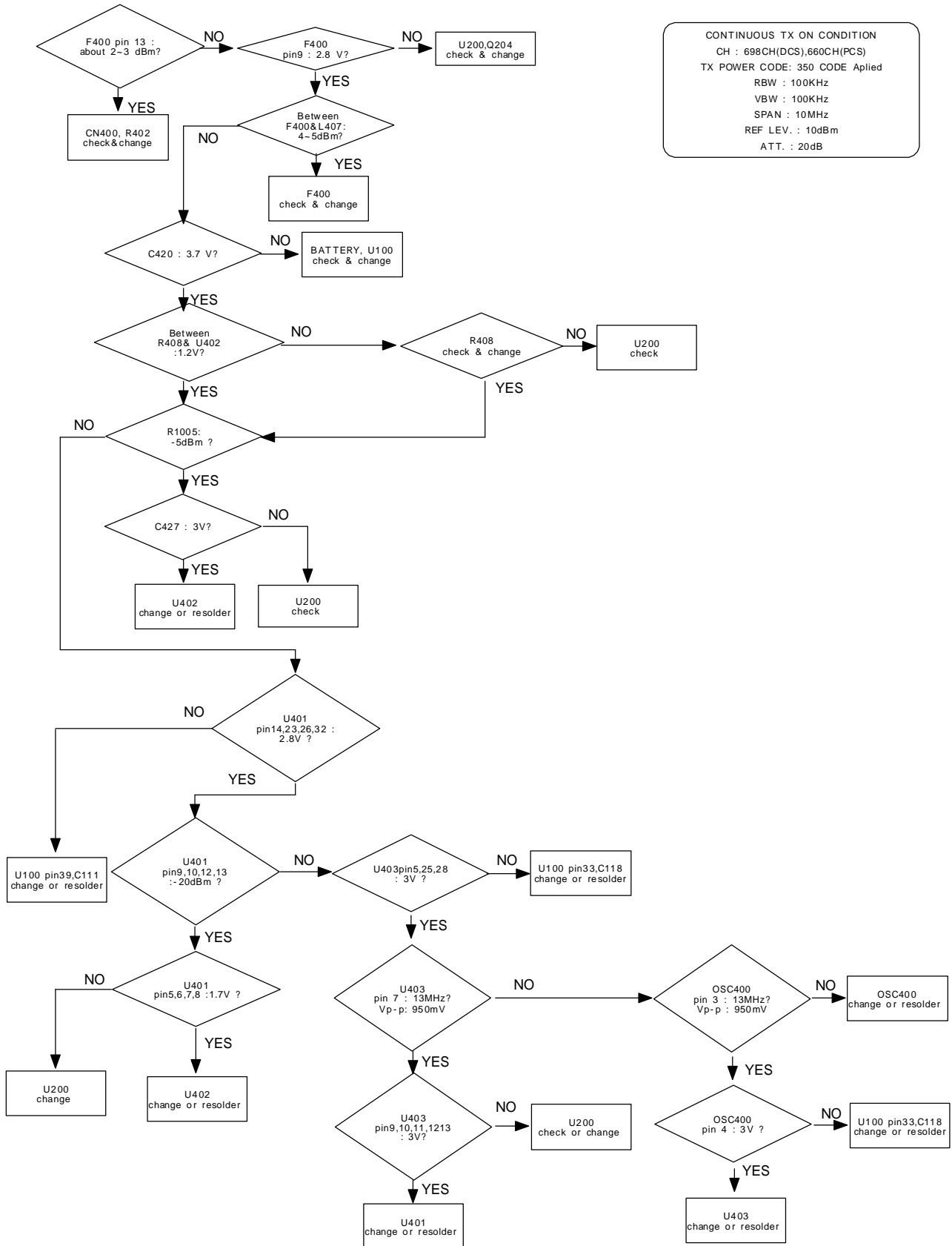
9. EGSM transmitter



### 10. PCS Reciever



### 11. PCS transmitter

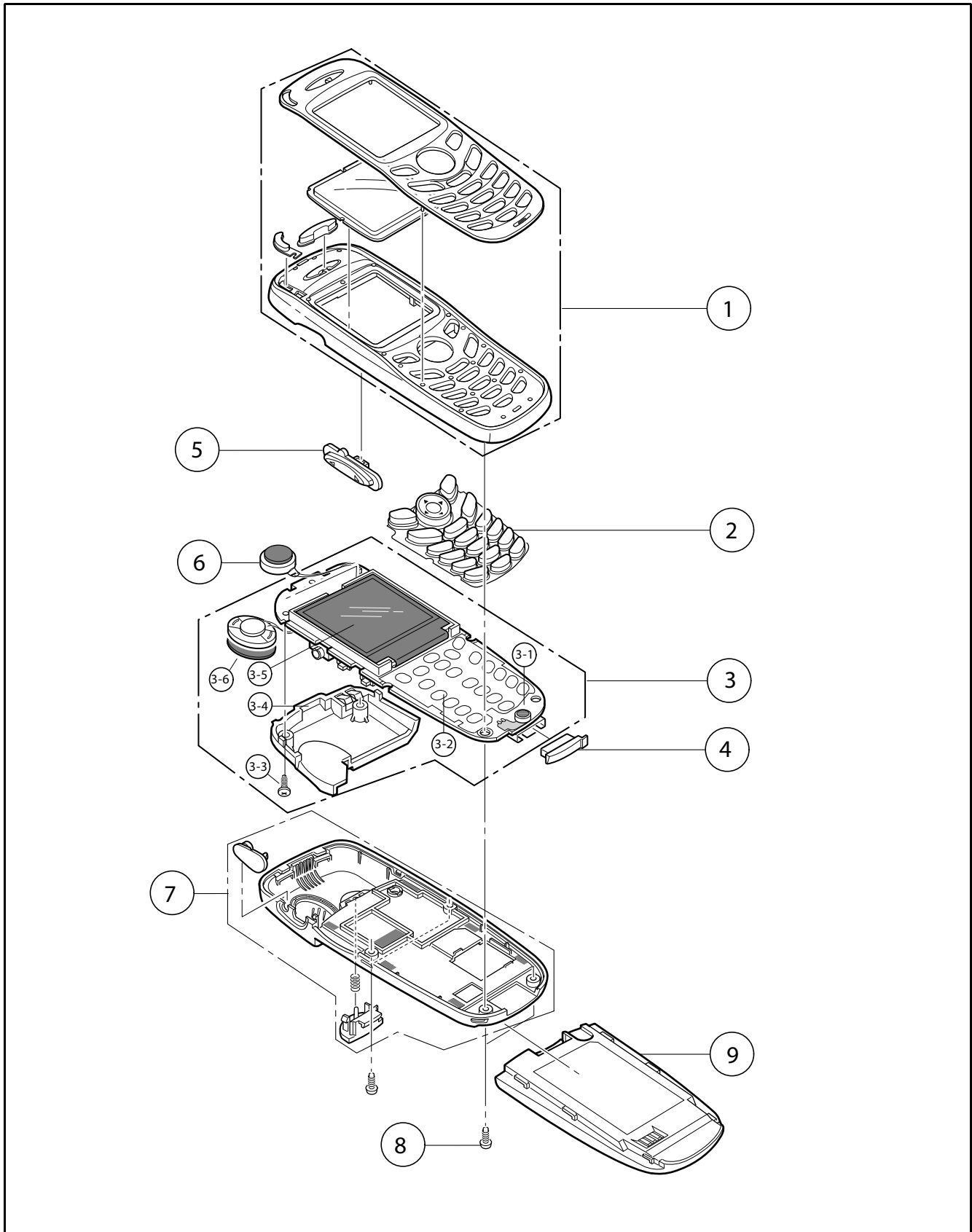


CONTINUOUS TX ON CONDITION  
 CH : 698CH(DCS),660CH(PCS)  
 TX POWER CODE: 350 CODE Applied  
 RBW : 100KHz  
 VBW : 100KHz  
 SPAN : 10MHz  
 REF LEV. : 10dBm  
 ATT. : 20dB



## 2. SGH-X105 Exploded View and its Parts list

### 1. Cellular phone Exploded View



2-1

2. Cellular phone Parts list

Location No.	Description	SEC CODE	Remark
1	FRONT COVER	GH75-03140A	
2	KEYPAD	GH75-03142A	
3	MAIN PBA	GH92-01510A	
3-1	MIC	GH30-00041A	
3-2	DOME SHEET	GH59-00942A	
3-3	SCREW	6001-001479	
3-4	INTENNA	GH42-00314A	
3-5	LCD	GH07-00385A	
3-6	SPEAKER	3001-001442	
4	CONNECTOR COVER	GH73-02097A	
5	VOLUME KEY	GH75-03143A	
6	MOTOR	GH31-00062A	
7	REAR COVER	GH75-03141A	
8	SCREW	6001-001479	
9	BATTERY	GH43-00980A	

3. Test Jig (GH80-00865A)



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



3-2. Test Cable  
(GH00-00127A)



3-3. Serial Cable



3-4. Power Supply Cable



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



3-6. TA  
(GH44-00184A)



### 3. SGH-X105 MAIN Electrical Parts List

SEC Code	Design LOC
2203-000812	C101,C103,C104,C216
2203-005061	C102,C106,C107,C113
2203-001598	C105
2203-006053	C108,C109,C110,C111
2203-006053	C112,C115,C117,C118
2203-006201	C114
2203-000233	C116,C125,C126,C127
2404-001268	C119,C120,C122
2203-000995	C121,C405
2203-005061	C123,C130,C207,C214
2203-000233	C128,C129,C205,C213
2203-006307	C131
2404-001164	C132
2203-005682	C133,C134,C135,C136
2203-005682	C137,C138,C139,C140
2203-005682	C141,C142,C143,C144
2203-005682	C145,C146,C147,C148
2203-005682	C149,C150,C151,C152
2203-001153	C153,C154,C155,C156
2203-001153	C157,C158,C159,C160
2203-001153	C161,C162,C241
2203-000679	C202,C203,C255,C311
2203-000654	C206,C426
2203-001405	C208,C310,C401,C403
2404-001086	C209,C218
2203-000812	C217,C226,C406,C427
2203-000438	C219,C430,C432,C434
2203-005061	C220,C224,C262,C309
2203-000233	C221,C236,C319,C321
2203-005065	C222,C225,C252
2203-005496	C223,C301,C302
2203-000359	C228
2203-000278	C229,C246,C257,C258
2203-000254	C230,C231,C232,C233
2203-000854	C235,C253,C261
2203-000254	C237,C238,C239,C240
2203-005052	C242

SEC Code	Design LOC
2404-001105	C245,C250
2404-001282	C247
2203-001072	C248,C251
2203-000386	C254
2203-005056	C259
2203-005503	C260
2203-000254	C303,C304,C305,C306
2203-000254	C307,C308,C312,C329
2203-005061	C315,C316,C324,C330
2203-000628	C320,C322
2203-002525	C326
2203-000233	C327,C328,C333,C402
2203-005061	C331
2203-005480	C332
2203-001405	C404,C407,C411,C424
2203-002677	C408,C410
2203-000233	C414,C419,C440
2203-005234	C415,C416
2203-000278	C417,C425,C433
2404-001134	C420,C421
2203-000254	C423,C435,C437,C438
2203-002668	C429
2203-001405	C431
2203-000438	C436
2203-000254	C439
3709-001250	CN100
3710-001105	CN101,CN205
3710-001611	CN201
3710-001853	CN202
3705-001287	CN400
3722-001880	CN401
0407-000115	D100
2901-001260	F105,F106,F107,F108
2901-001260	F109
2909-001191	F400
2904-001410	F401
2703-002112	L100

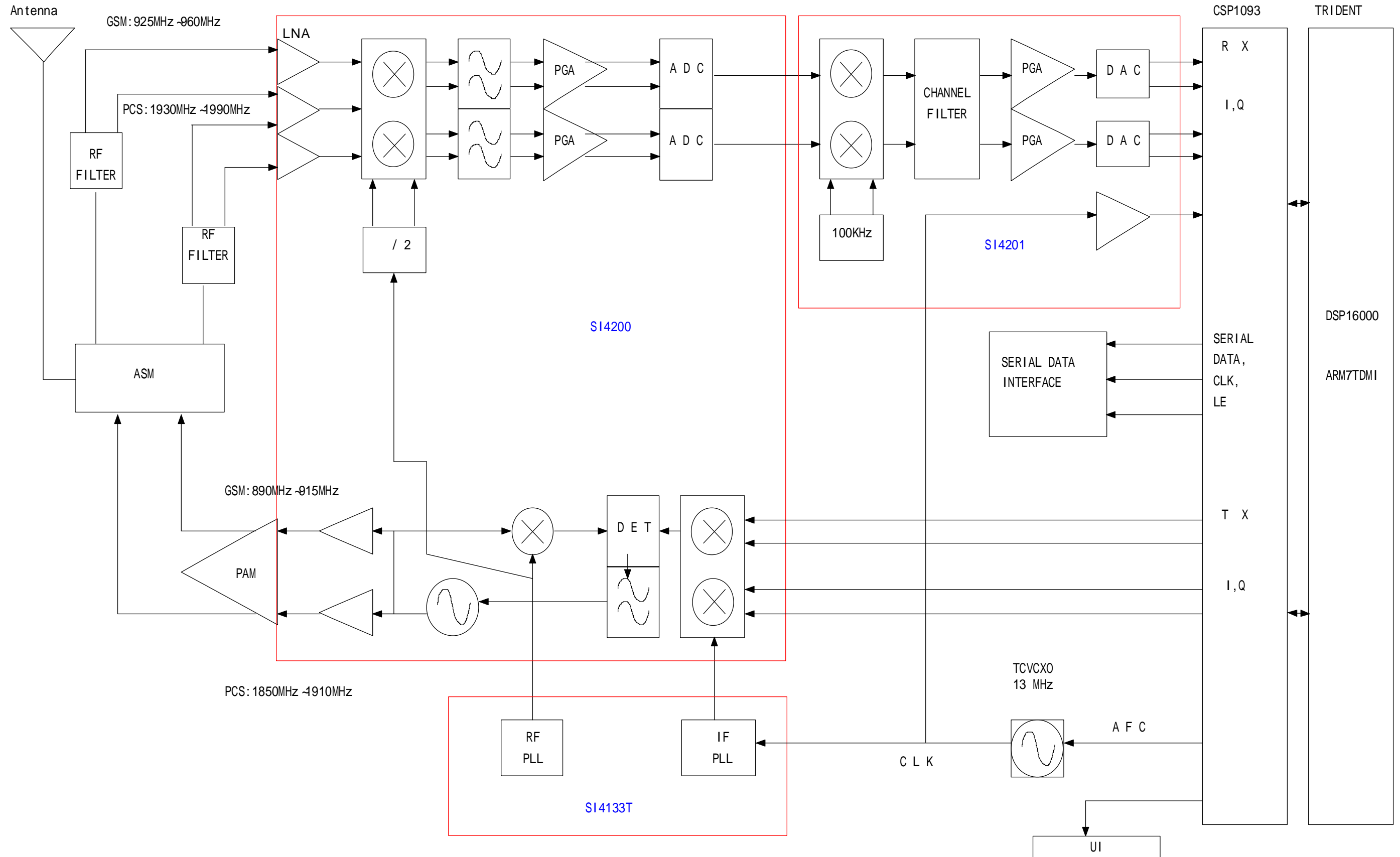
SEC Code	Design LOC
2703-002313	L301
2703-001907	L402
2703-001207	L404
2703-001751	L405
2703-001543	L406
2703-001737	L407
0601-001647	LED100,LED101,LED102
0601-001647	LED103,LED106,LED107
0601-001647	LED108,LED109,LED110
0601-001647	LED111,LED112,LED113
0601-001402	LED200
4302-001130	M1
2801-003856	OSC300
2809-001260	OSC400
0504-001113	Q100
0502-001201	Q101
0504-000168	Q102,Q400
0504-000167	Q200,Q201
0504-001042	Q203,Q204,Q205
2007-000174	R101,R102,R103,R104
2007-000174	R105,R106,R107,R108
2007-000174	R109,R111
2007-000171	R112,R115,R209,R217
2007-000758	R113,R242
2007-007137	R114
2007-003010	R117,R118,R119,R120
2007-003010	R121,R122,R123,R124
2007-003010	R125,R126,R127,R128
2007-007142	R129,R130,R306
2007-007139	R131
2007-001323	R132
2007-002965	R133,R135
2007-000151	R134,R204,R205,R208
2007-000162	R202,R212,R218,R234
2007-007014	R203
2007-000775	R206
2007-001325	R210,R211

SEC Code	Design LOC
2007-000148	R213,R230,R415
2007-000636	R214
2007-007200	R215,R216
2007-000141	R219,R225
2007-001119	R220
2007-000171	R221,R222,R224,R236
2007-000140	R223,R231,R232,R233
2007-000157	R228,R229,R301,R304
2007-000140	R235,R239,R246,R247
2007-000171	R237,R238,R243,R248
2007-007590	R240
2007-000165	R241
2007-000139	R244
2007-000138	R245,R416
2007-000172	R249,R251,R313,R314
2007-000171	R250,R312,R317,R320
2007-000170	R302
2007-007107	R305
2007-007573	R308,R310
2007-000172	R315
2007-000157	R316
2007-000171	R401,R406
2007-000029	R402
2007-003010	R403
2007-001311	R404,R405
2007-001291	R407
2007-001307	R408,R409
2007-000162	R410
2007-001306	R412,R417
2007-000242	R413
2007-002797	R414
3404-001152	SW201,SW202
1203-002902	U100
1203-002127	U101
0506-001052	U102
1203-001518	U103
1203-002633	U105

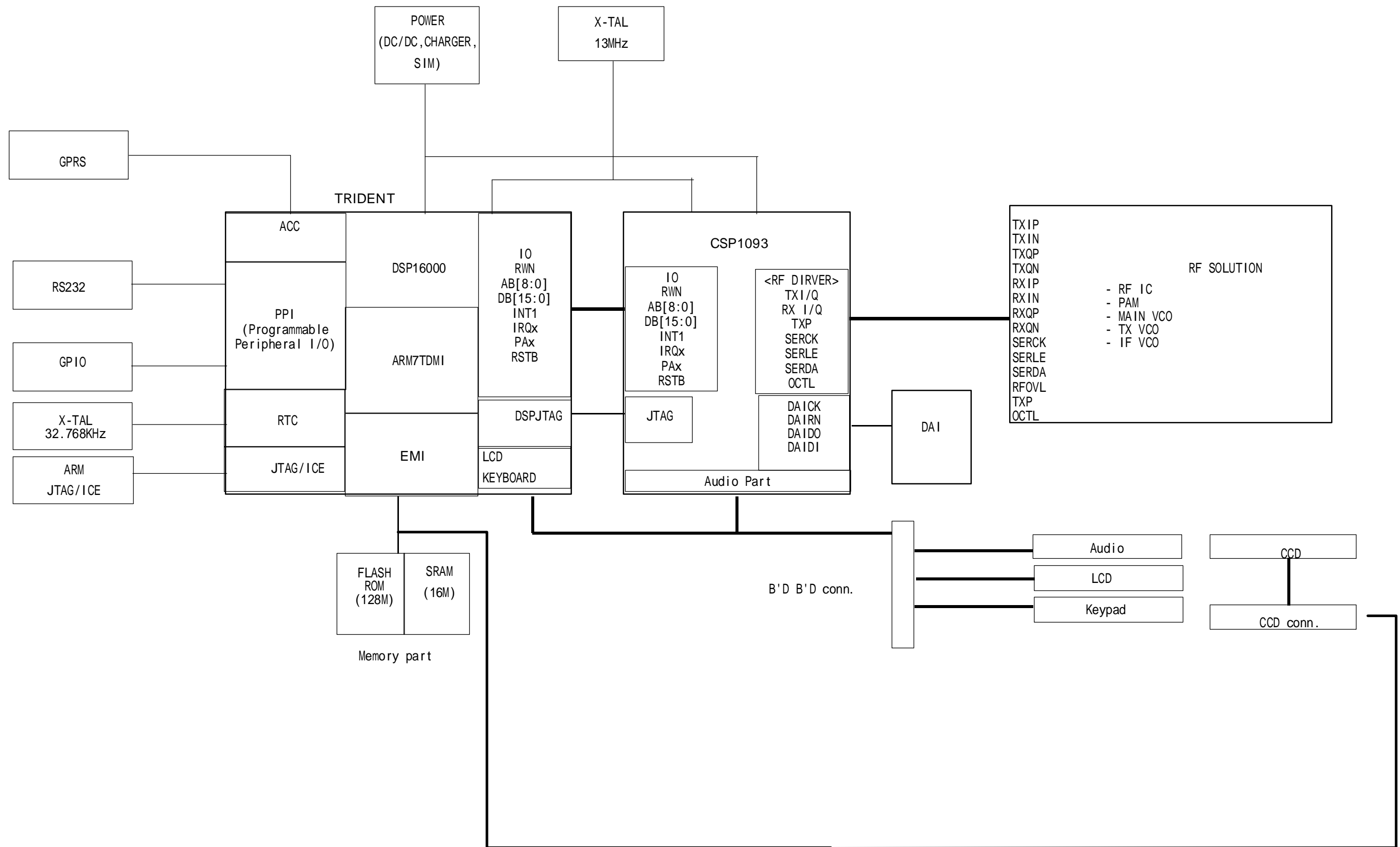
SEC Code	Design LOC
1204-001984	U200
1204-001261	U201
GH09-00024A	U301
1209-001219	U302
1109-001278	U304
1205-002185	U400
1205-002268	U401
1201-001954	U402
1209-001434	U403
0801-002345	U404
1405-001112	ZD101,ZD113
0404-001172	ZD111
0406-001167	ZD112
0403-001446	ZD114
0403-001427	ZD205
1405-001082	ZD206,ZD207,ZD208
1405-001018	ZD209,ZD219
1405-001082	ZD218,ZD404,ZD409
1405-001082	ZD410,ZD411
0406-001083	ZD412,ZD413,ZD414

# 5. SGH-X105 Block Diagrams

## 1. RF Solution Block Diagram

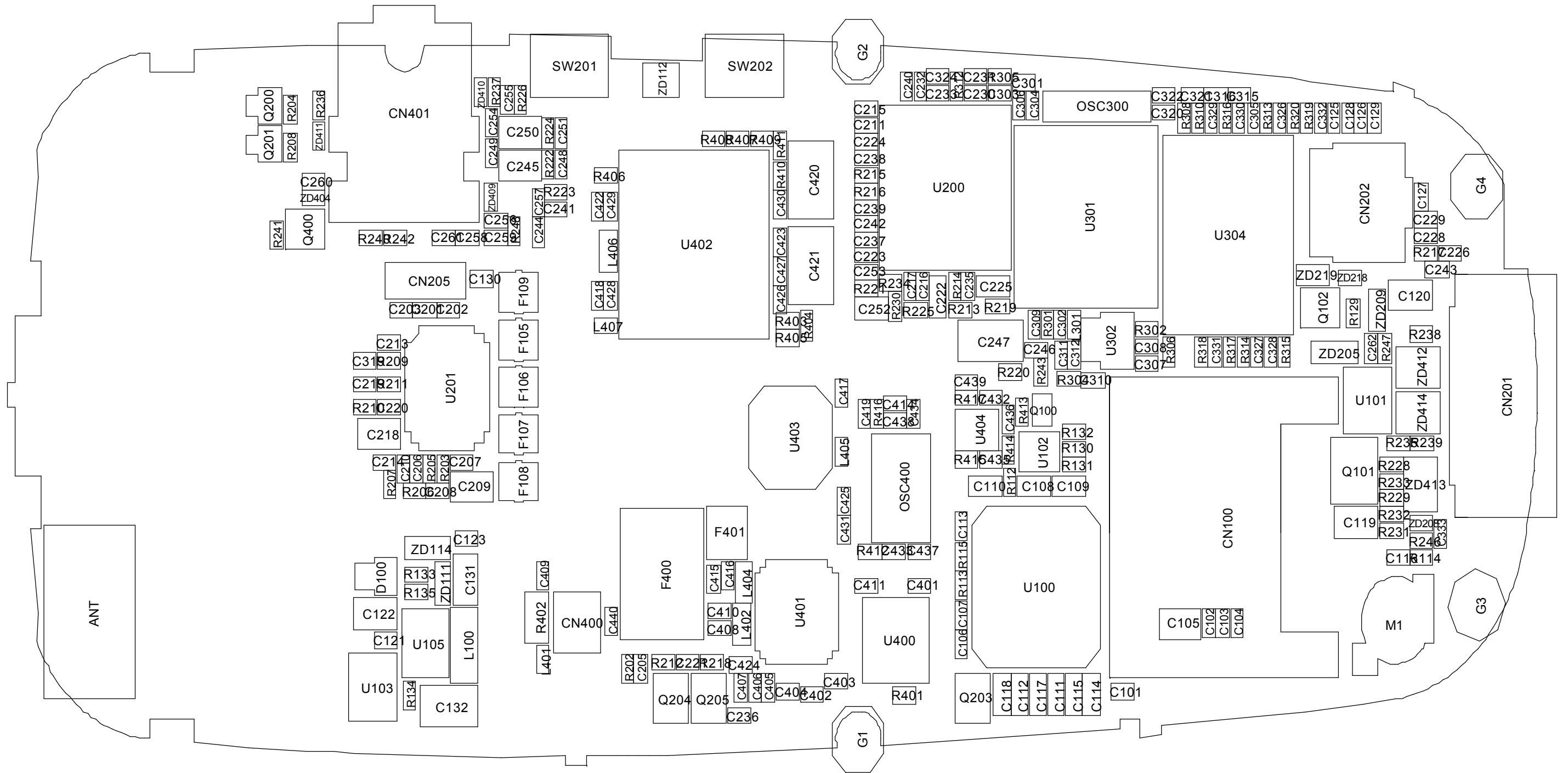


2. Base Band Solution Block Diagram



# 6. SGH-X105 PCB Diagrams

## 1. Main PCB Top Diagram



2. Main PCB Bottom Diagram

