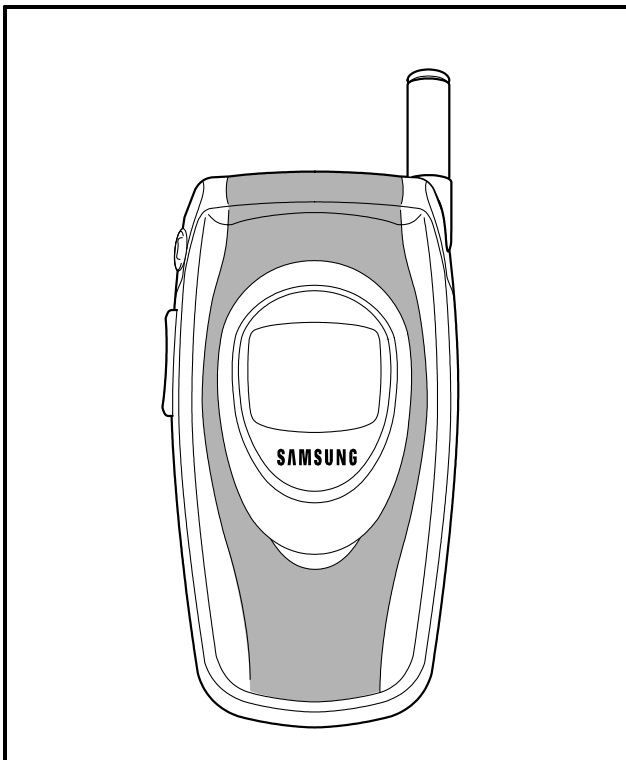


SAMSUNG

**GSM TELEPHONE
SGH-E400**

***SERVICE* Manual**

GSM TELEPHONE



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1. Specification
2. Exploded Views and Parts List
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6. PCB Diagrams

1. SGH-E400 Specification

1. GSM General Specification

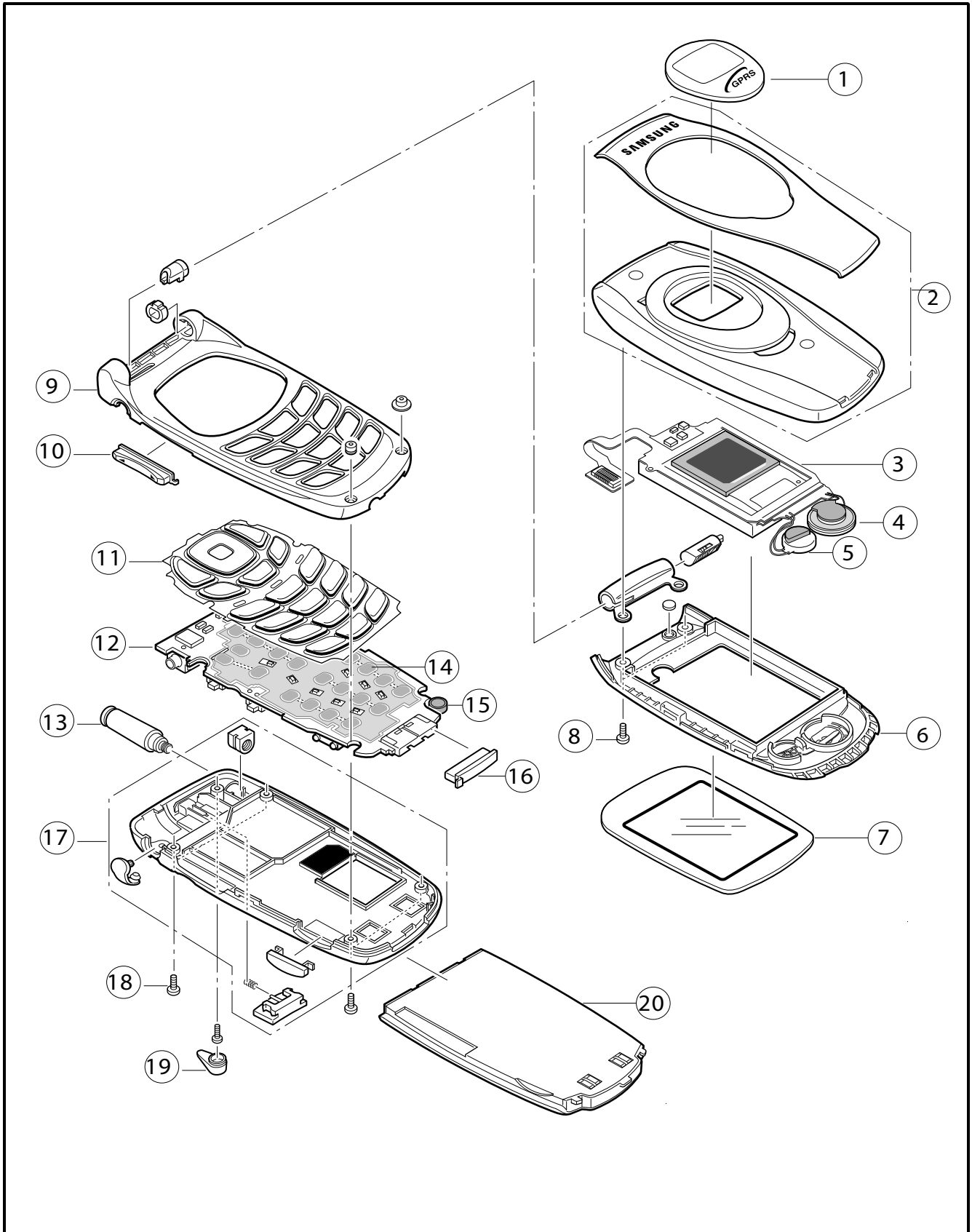
	GSM900 Phase 1	EGSM 900 Phase 2	DCS1800 Phase 1	PCS1900
Freq. Band[MHz] Uplink/Downlink	890~915 935~960	880~915 925~960	1710~1785 1805~1880	1850~1910 1930~1990
ARFCN range	1~124	0~124 & 975~1023	512~885	512~810
Tx/Rx spacing	45MHz	45MHz	95MHz	80MHz
Mod. Bit rate/ Bit Period	270.833kbps 3.692us	270.833kbps 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~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

TX Power control level	GSM900	TX Power control level	DCS1800	TX Power control level	PCS1900
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-E400 Exploded View and its Parts list

1. Cellular phone Exploded View



2. Cellular phone Parts list

NO	Description	SEC.CODE	REMARK
1	DUAL WINDOW LCD	GH72-07016A	
2	FOLDER UPPER	GH75-02792D	
3	LCD	GH07-00303A	
4	SPEAKER	3001-001402	
5	MOTOR	GH31-00051A	
6	FOLDER LOWER	GH75-02791A	
7	MAIN WINDOW LCD	GH72-07015A	
8	SCREW	6001-001478	
9	FRONT COVER	GH75-02790E	
10	VOLUME KEY	GH75-02795A	
11	KEYPAD	GH75-02794A	
12	MAIN PBA	GH92-01465A	
13	ANTENNA	GH42-00274A	
14	DOME SHEET	GH59-00724A	
15	MIC	GH30-00047A	
16	CONNECTOR COVER	GH72-07032A	
17	REAR COVER	GH75-02796A	
18	SCREW	6001-001478	
19	RF COVER	GH73-01819A	
20	BATTERY	GH43-00826A	900MAH
		GH43-00827A	700MAH

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-E400 MAIN Electrical Parts List

SEC Code	Design LOC
GH71-00734A	ANT1
2203-002668	C1003
2203-002677	C1007
2203-001598	C101
2203-002677	C1011
2203-005552	C1012
2203-002677	C1014
2203-005234	C1015
2203-000812	C1016
2203-002677	C1017
2203-005234	C1019
2203-000654	C1026
2203-000438	C1027
2203-000812	C103
2203-000254	C1038
2203-005061	C104
2404-001134	C1043
2404-001087	C1044
2404-001087	C1045
2203-001598	C105
2203-000812	C106
2203-000812	C107
2203-005061	C108
2203-005481	C109
2203-001598	C111
2203-001598	C112
2404-001268	C113
2203-001598	C114
2203-001598	C115
2203-001598	C116
2203-001598	C117
2203-000233	C118
2203-005061	C119
2203-001598	C120
2203-001598	C123
2203-005061	C124

SEC Code	Design LOC
2203-005061	C125
2404-001105	C126
2404-001268	C127
2404-001105	C128
2203-000995	C129
2203-006093	C130
2404-001268	C131
2203-005480	C200
2203-005061	C203
2203-005065	C204
2203-005509	C205
2203-000233	C207
2404-001087	C208
2203-005061	C302
2203-005509	C400
2203-000654	C401
2203-005061	C402
2203-001405	C403
2404-001086	C404
2203-005061	C408
2404-001151	C409
2404-001268	C410
2203-000438	C411
2203-005061	C412
2203-005065	C414
2203-000233	C415
2203-000278	C416
2203-005056	C417
2203-000278	C450
2203-000812	C451
2203-000278	C452
2404-001105	C453
2203-000679	C457
2203-002668	C458
2203-005503	C459
2203-000854	C461

SEC Code	Design LOC
2404-001105	C462
2203-000386	C464
2203-000679	C465
2203-000278	C490
2203-000278	C492
2404-001151	C494
2203-000278	C495
2203-005480	C504
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2203-005496	C601
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2203-001405	C611
2203-005061	C612
2203-005061	C613
2203-000233	C614
2203-000628	C615
2203-000628	C616
2203-000679	C617
2203-005482	C618
2203-000995	C619
2203-005496	C709
2203-005065	C710
2203-005061	C711

SEC Code	Design LOC
2203-000254	C712
2203-000254	C713
2203-000254	C714
2203-000254	C715
2203-000254	C716
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2203-000254	C718
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2203-000233	C721
2203-000233	C722
2203-000278	C800
2203-000438	C802
2203-000438	C803
2203-000254	C805
2203-000438	C806
2203-000254	C807
2203-000254	C808
2203-000254	C809
2203-001405	C903
2203-001405	C905
2203-001405	C906
2203-001405	C908
2203-001405	C910
2203-000233	C911
2203-000278	C914
2203-001405	C915
2203-000233	C916
2203-000278	C917
2203-001405	C921
2203-000995	C922
2203-000812	C923
2203-000233	C924
3709-001244	CN100
3705-001226	CN1001
3711-005078	CN200

SEC Code	Design LOC
3710-001816	CN302
3722-001715	CN401
1405-001018	D300
0407-000115	D301
2909-001191	F1002
2904-001410	F1005
2901-001193	F200
2901-001193	F201
2901-001193	F202
2901-001193	F203
2901-001193	F204
2703-001907	L1001
2703-002165	L1002
2703-002547	L1006
2703-001543	L1007
2203-005056	L1011
2703-001730	L1013
2703-001992	L1014
2703-001751	L1016
2703-002313	L400
3301-001105	L801
2703-001751	L900
0604-001261	LED200
0601-001547	LED201
0601-001547	LED202
0601-001547	LED203
0601-001547	LED204
0601-001547	LED205
0601-001547	LED206
0601-001547	LED207
0601-001547	LED208
0601-001547	LED209
0601-001547	LED210
0601-001547	LED211
0601-001547	LED212
0601-001547	LED213

SEC Code	Design LOC
0601-001547	LED214
0601-001547	LED215
0601-001547	LED216
0601-001547	LED217
0601-001547	LED218
4302-001130	M1
2801-004025	OSC601
2809-001260	OSC801
0504-001113	Q100
0502-001201	Q101
0504-000168	Q400
0504-000167	Q700
0504-000167	Q701
2007-001319	R100
2007-000171	R101
2007-002965	R1010
2007-000139	R1011
2007-001311	R1012
2007-000172	R1014
2007-001316	R1015
2007-001316	R1016
2007-000167	R102
2007-007200	R103
2007-000162	R1038
2007-000171	R106
2007-000171	R109
2007-000758	R110
2007-000171	R111
2007-007139	R112
2007-001323	R113
2007-000172	R200
2007-001292	R201
2007-001292	R202
2007-001307	R203
2007-001307	R204
2007-001307	R205

SGH-E400 Electrical Parts List

SEC Code	Design LOC
2007-001307	R206
2007-001307	R207
2007-001307	R208
2007-001307	R209
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2007-001307	R211
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2007-001307	R216
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2007-000171	R221
2007-002970	R222
2007-000174	R223
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2007-000174	R225
2007-000174	R226
2007-000174	R227
2007-000174	R228
2007-000174	R229
2007-000174	R230
2007-000174	R231
2007-000174	R232
2007-001301	R233
2007-002970	R234
2007-000140	R303
2007-000157	R305
2007-000157	R306
2007-000140	R307
2007-000140	R308
2007-000140	R309
2007-000140	R310

SEC Code	Design LOC
2007-000171	R399
2007-000171	R403
2007-000775	R404
2007-000148	R405
2007-000159	R406
2007-000775	R407
2007-001119	R408
2007-000143	R409
2007-001284	R410
2007-001325	R413
2007-000143	R414
2007-000171	R416
2007-000147	R420
2007-000159	R421
2007-007529	R422
2007-000165	R423
2007-000758	R424
2007-000171	R426
2007-000140	R427
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2007-000171	R433
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2007-000171	R470
2007-000171	R499
2007-000162	R506
2007-000171	R507
2007-000148	R599
2007-000171	R606
2007-000157	R608
2007-000157	R609
2007-000170	R610
2007-007142	R611
2007-007308	R612
2007-007308	R613

SEC Code	Design LOC
2007-000162	R615
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2007-000171	R700
2007-007200	R709
2007-007200	R710
2007-000162	R713
2007-000162	R714
2007-000162	R715
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2007-001307	R717
2007-000242	R801
2007-002797	R802
2007-000172	R803
02007-000138	R805
2007-000148	R810
2007-000171	R999
3404-001152	SW201
3404-001152	SW202
1203-002568	U100
1201-001889	U1001
1109-001273	U1003
0504-001042	U1004
1009-001010	U1009
1203-001720	U1017
2007-000164	U1018
1203-002127	U102
0506-001052	U103
1204-002161	U401
GH09-00020A	U601
1209-001219	U602
1204-001984	U700
0504-001042	U701
0504-001042	U702
0504-001042	U703
0801-002345	U800
1205-002185	U900

SEC Code	Design LOC
1205-002268	U901
1209-001434	U902
1405-001082	ZD201
1405-001082	ZD203
1405-001082	ZD204
1405-001082	ZD205
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1405-001082	ZD210
1405-001082	ZD211
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1405-001082	ZD302
1405-001082	ZD303
1405-001082	ZD309
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1405-001082	ZD312
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1405-001082	ZD314
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1405-001082	ZD316
1405-001082	ZD317
1405-001082	ZD318
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1405-001082	ZD404
1405-001082	ZD409
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GH72-07032A	
GH73-01819A	
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SEC Code	Design LOC
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GH75-00223A	
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GH73-01817A	
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GH92-01465A	
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GH96-01277A	
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GH59-00724A	
GH68-02026A	
GH74-01242A	
GH97-02644A	
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GH07-00303A	
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GH31-00051A	
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GH72-07016A	
GH74-04381A	
GH74-04389A	
GH74-04713A	
GH74-04719A	
GH74-05297A	
GH74-05298A	
GH74-05299A	
GH74-05306A	
GH74-05308A	
GH74-06625A	
GH75-02790A	

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GH71-01957A	
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GH72-07010A	
GH72-08489A	
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GH74-04734A	
GH74-05300A	
GH74-05307A	
GH74-05310A	
GH75-02791A	
GH71-01507A	
GH72-07011A	
GH74-03235A	
GH74-04382A	
GH74-04383A	
GH74-04384A	
GH74-04388A	
GH74-06043A	
GH74-06044A	
GH75-02792A	
GH72-07012A	
GH72-07013A	
GH72-07014A	
GH74-04385A	
GH74-04386A	
GH74-04387A	
GH75-02793A	
GH71-01508A	
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GH71-00256A	
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GH75-02794A	
GH72-07017A	

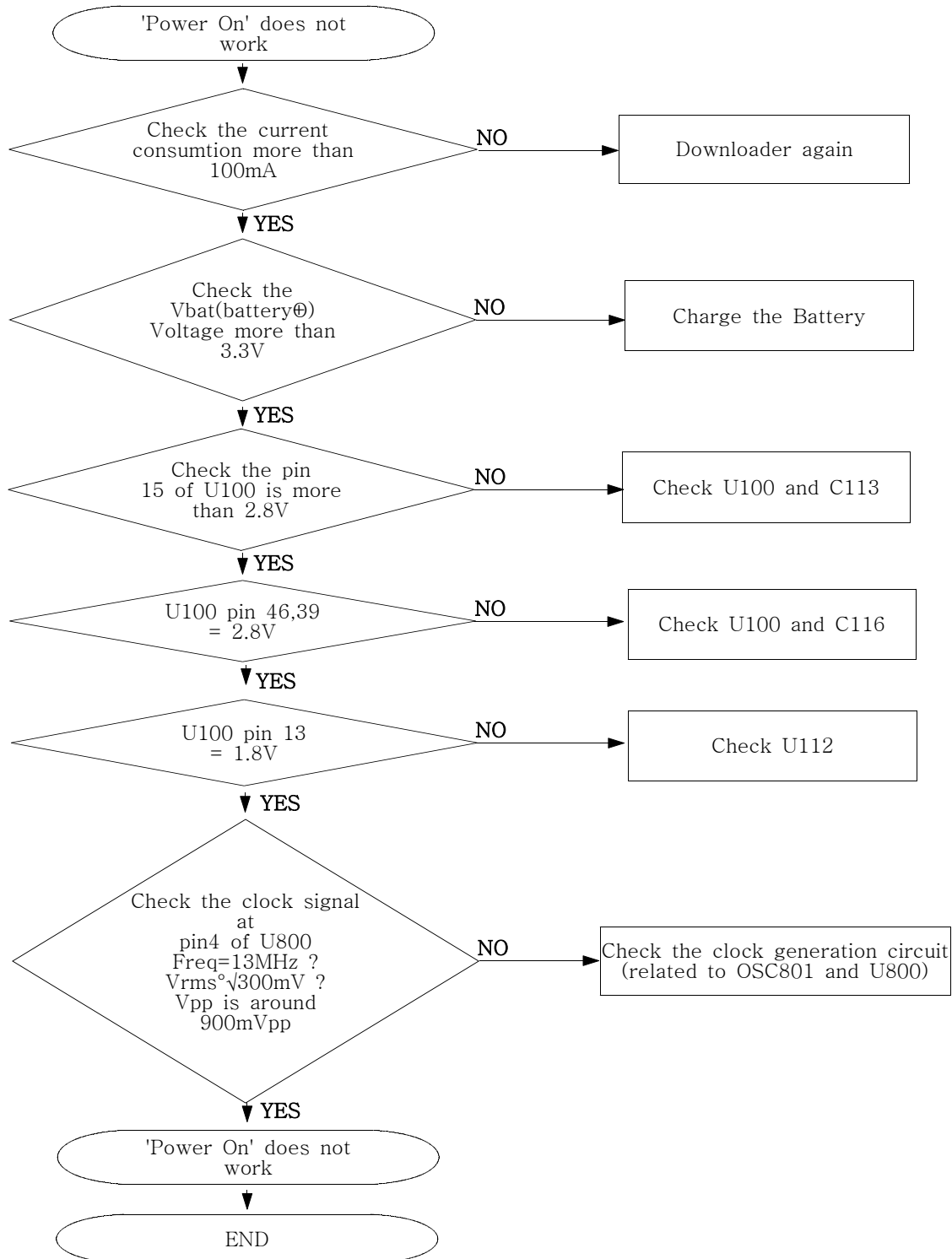
SGH-E400 Electrical Parts List

SEC Code	Design LOC
GH72-07018A	
GH72-07019A	
GH72-07020A	
GH73-01816A	
GH97-02645A	
GH42-00274A	
GH75-02796A	
GH68-02026A	
GH70-00021A	
GH71-01510A	
GH72-07028A	
GH72-07029A	
GH72-07030A	
GH72-07031A	
GH73-01818A	
GH74-03618A	
GH74-05307A	
GH99-03311A	
6902-000295	
GG68-10705A	
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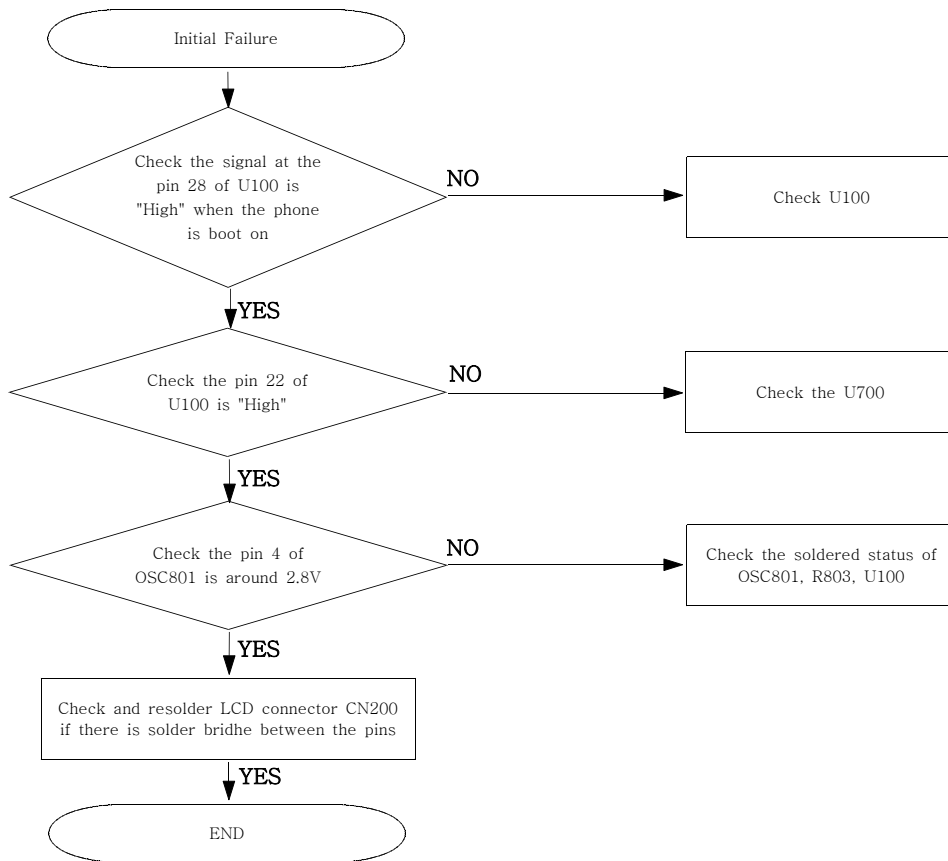
4. SGH-E400 Flow Chart of Troubleshooting and Circuit Diagrams

1. Baseband

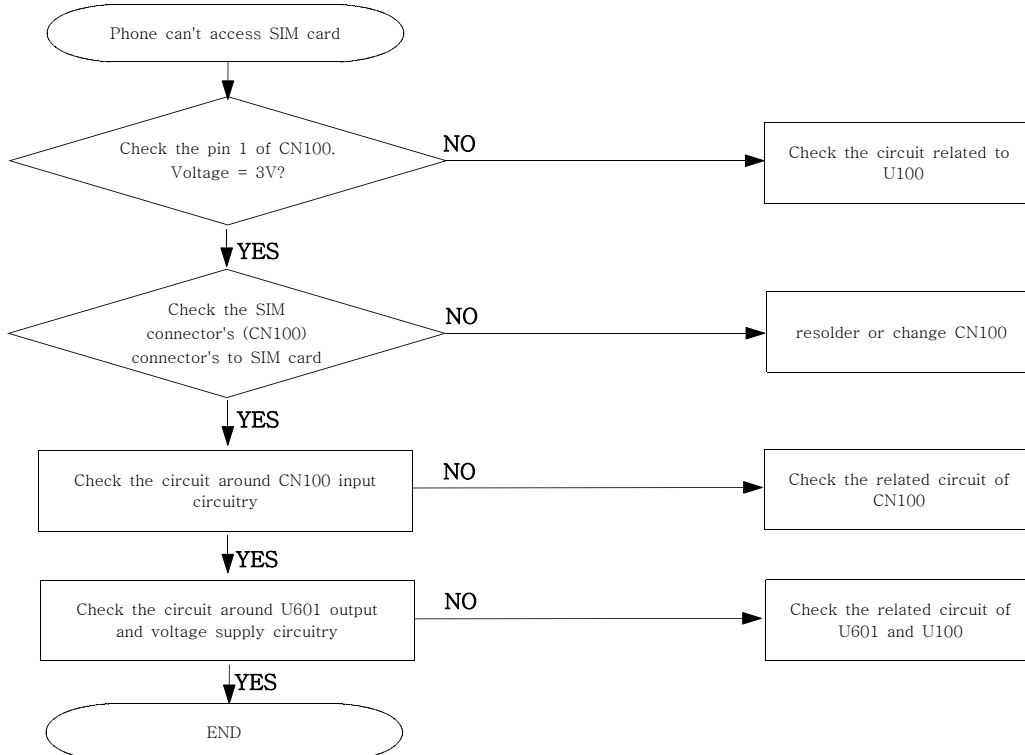
1. Power ON



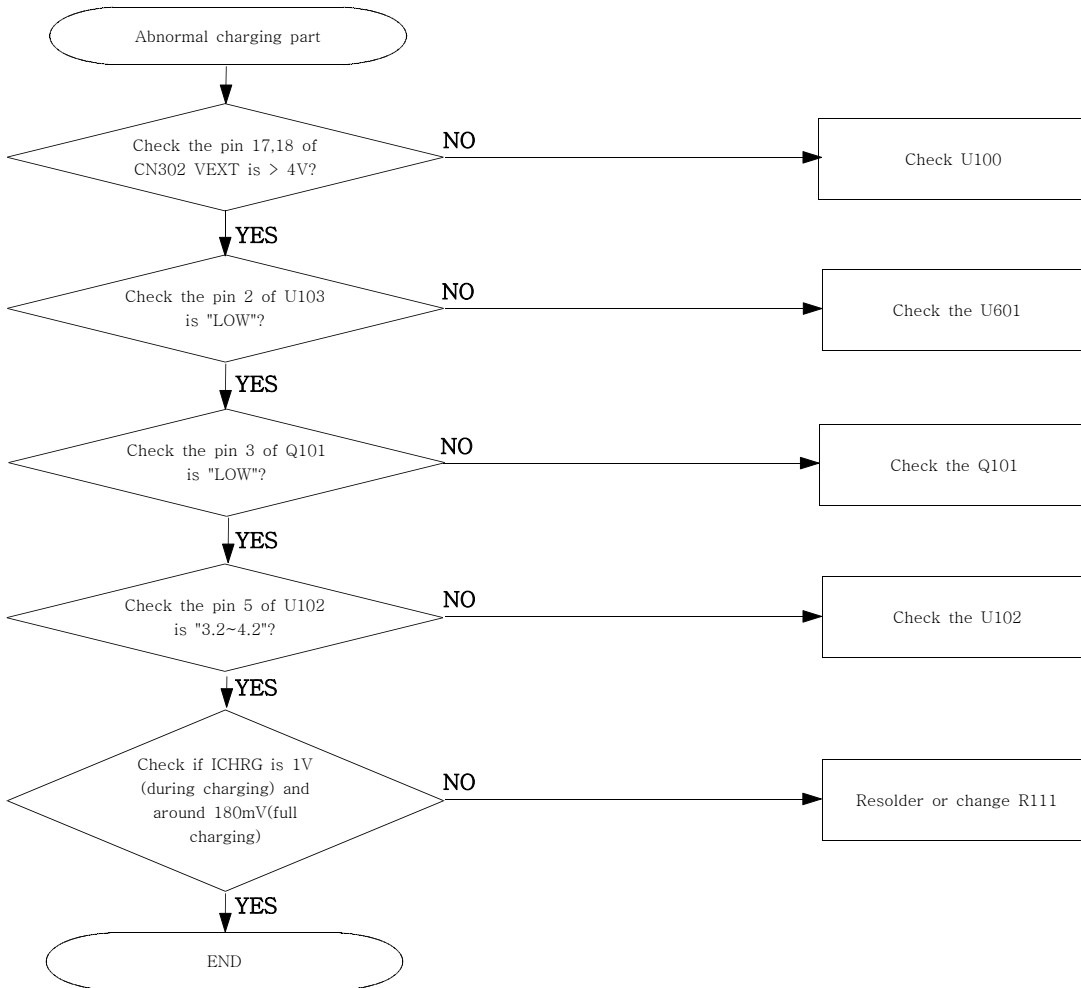
2. Initial



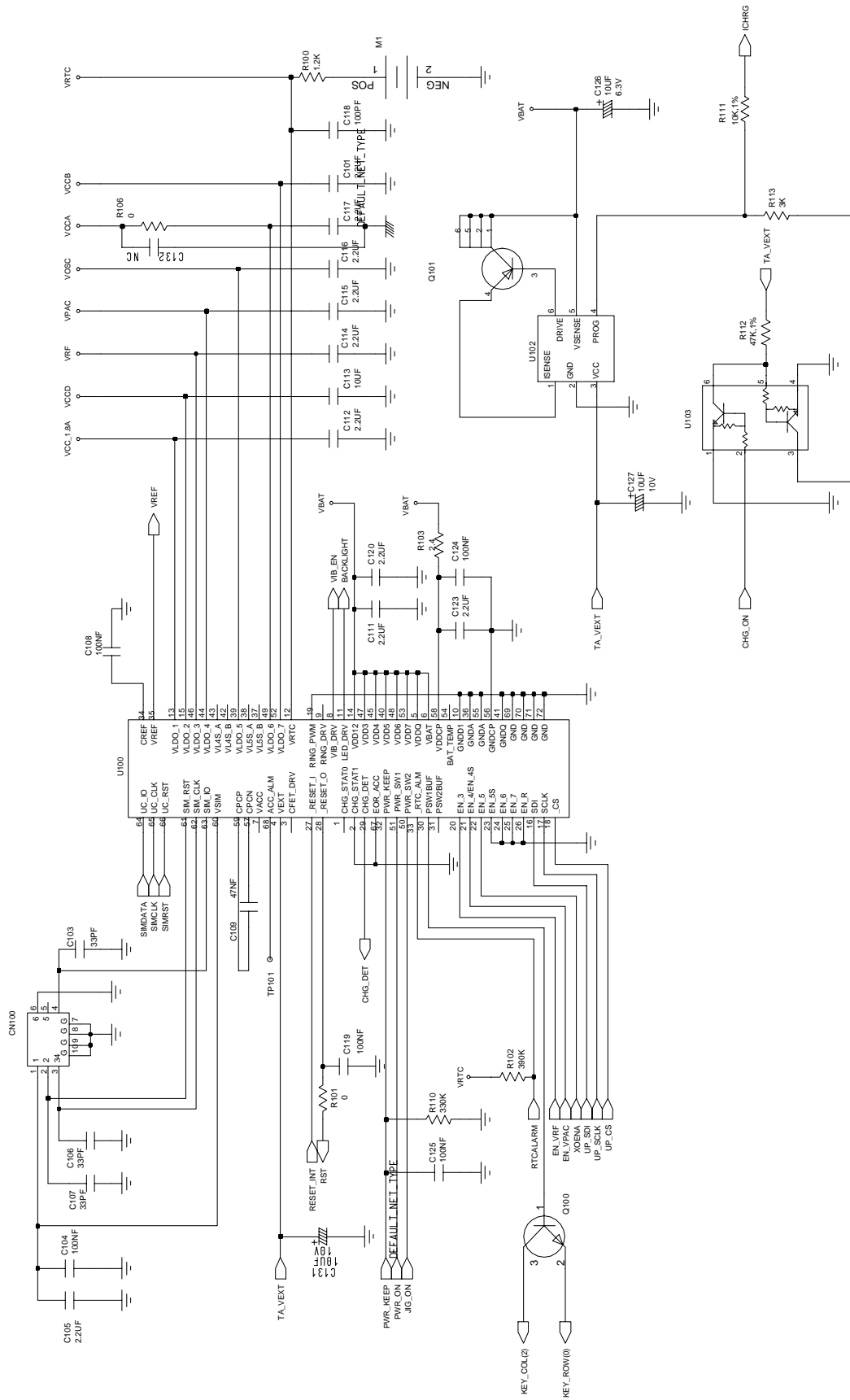
3. Sim Part



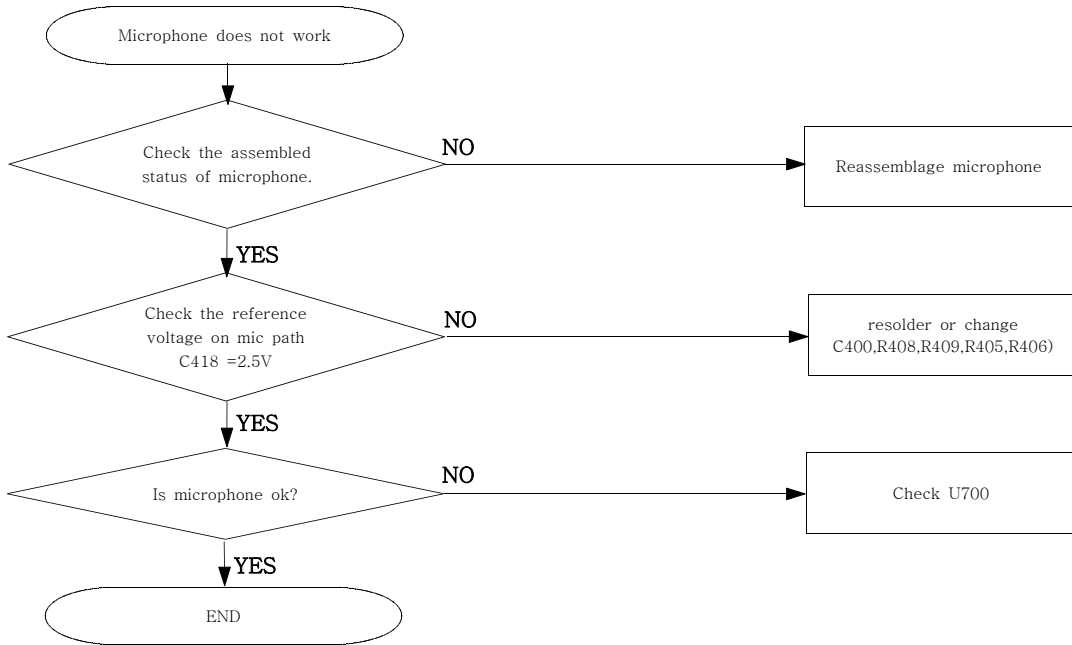
4. Charging Part



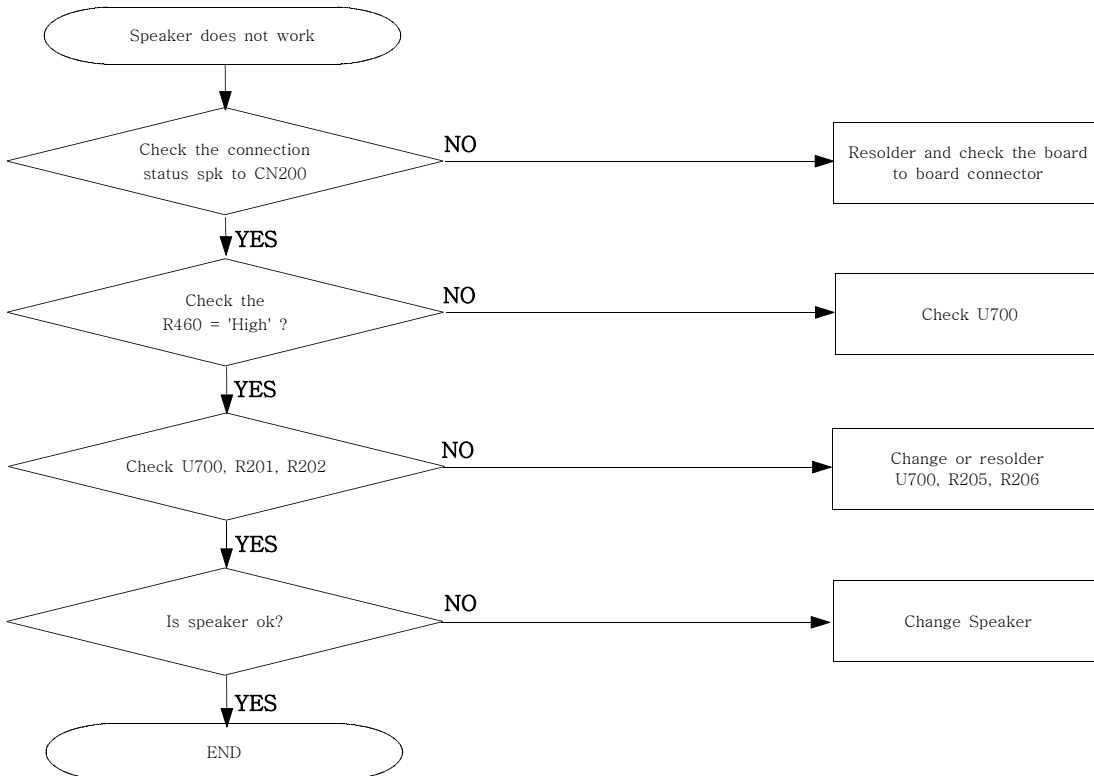
SGH-E400 Flow Chart of Troubleshooting and Circuit Diagrams

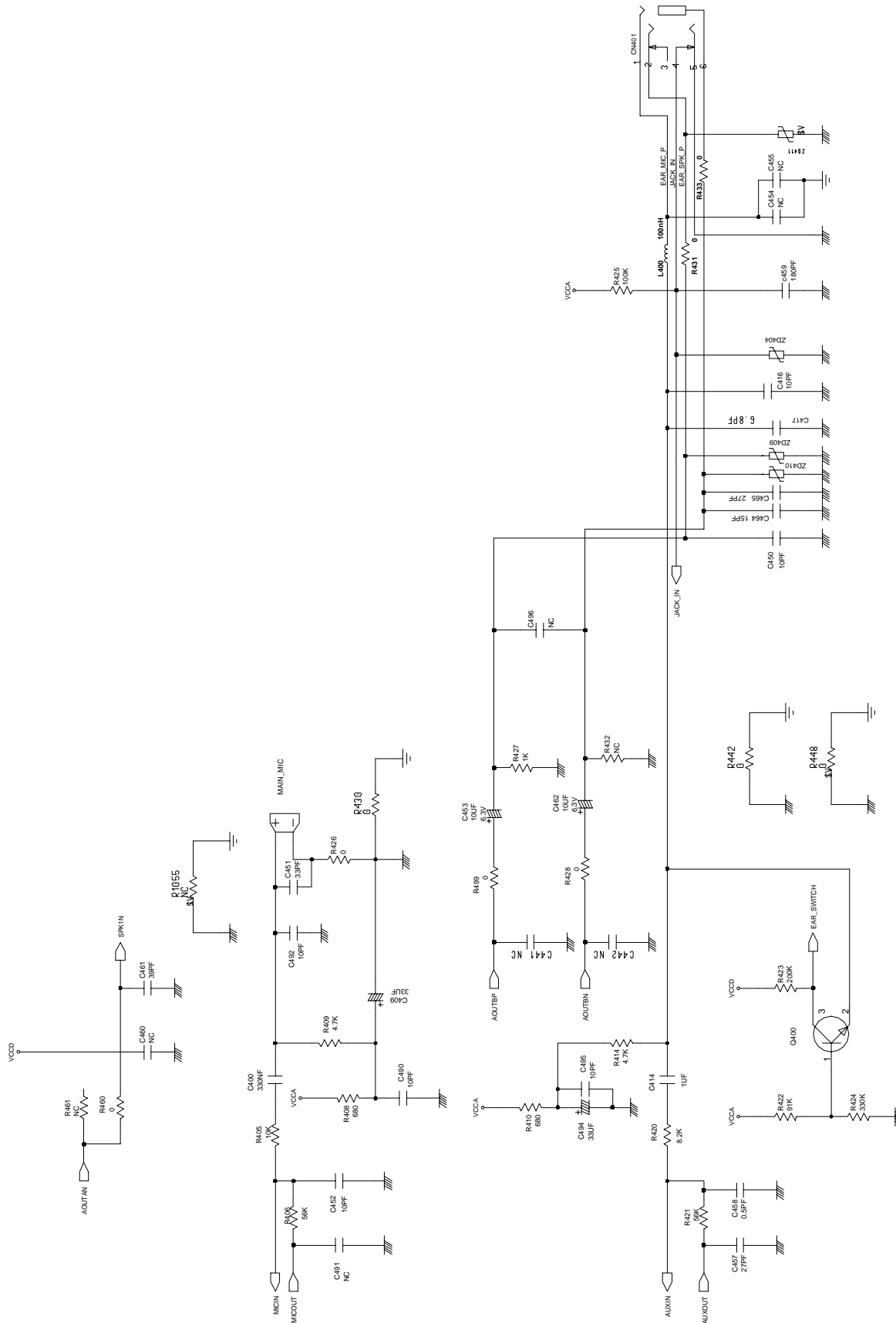


5. Microphone Part

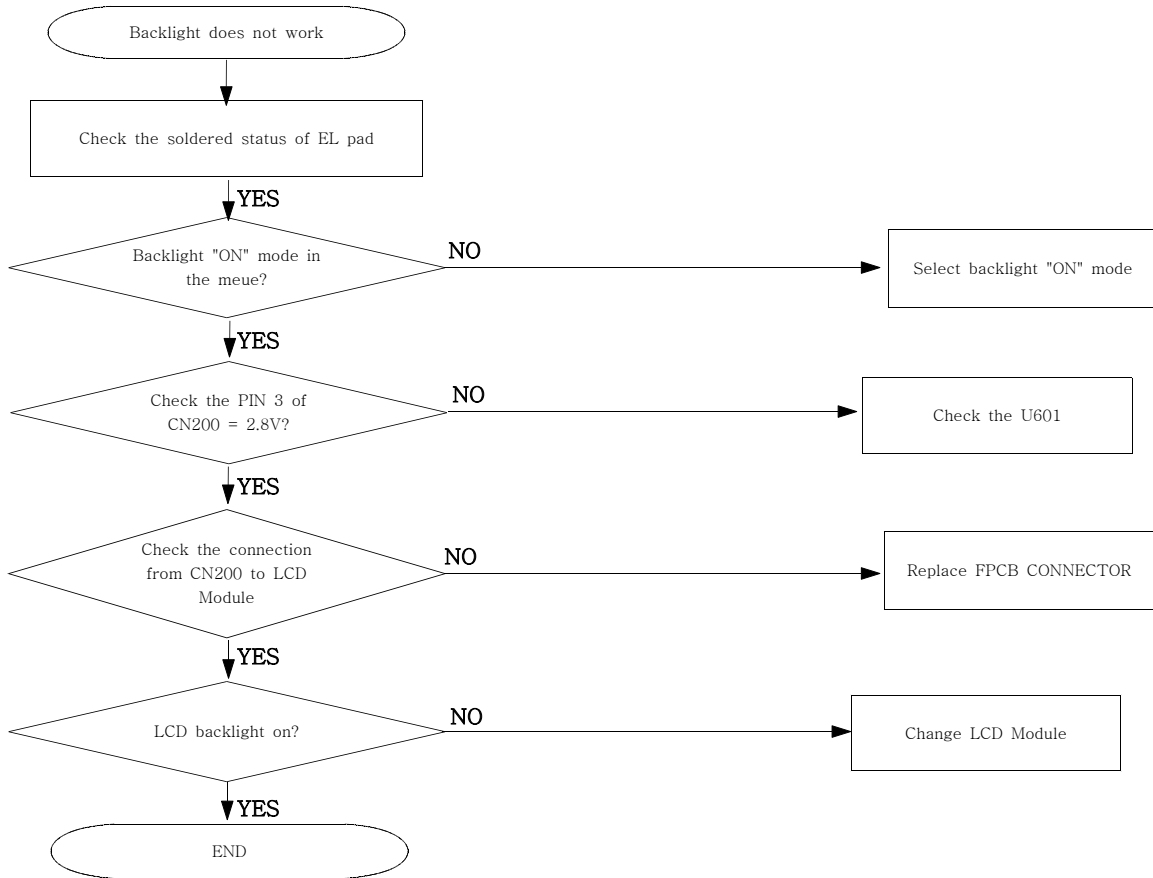


6. Speaker Part

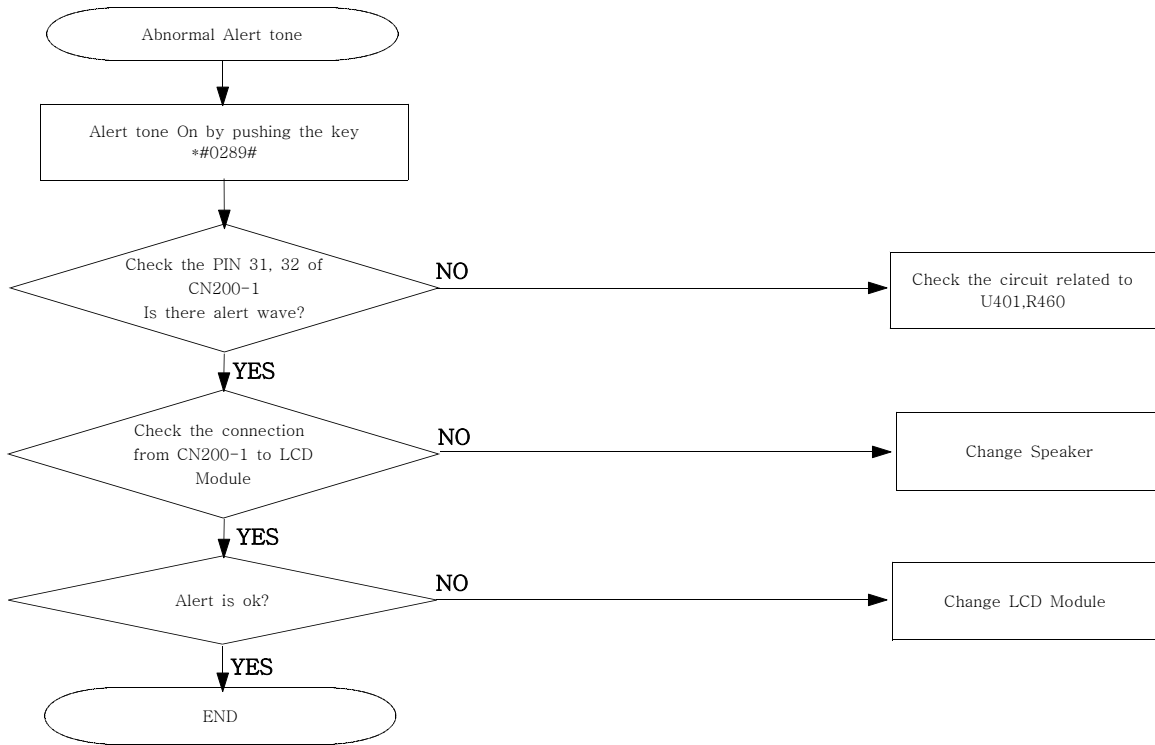


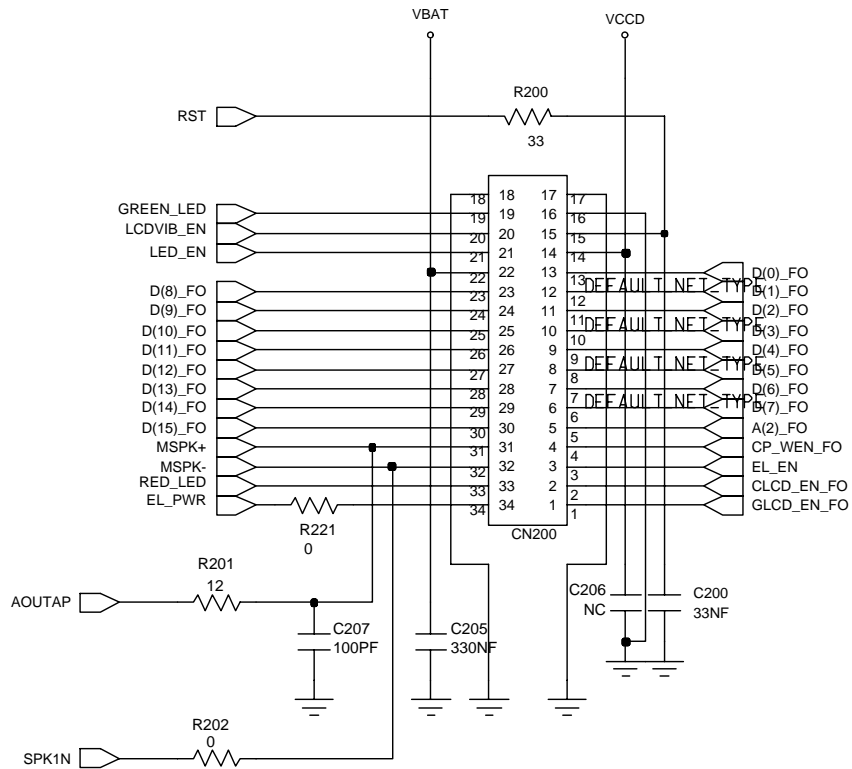


7. Back Light

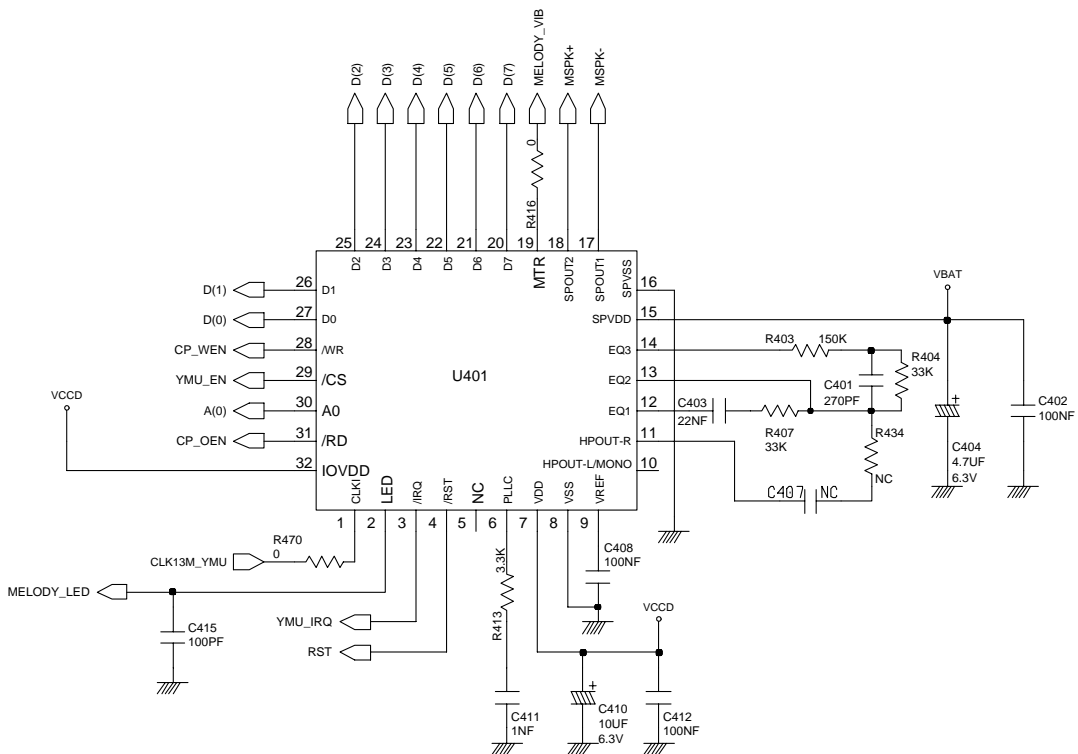


8.Alert Tone





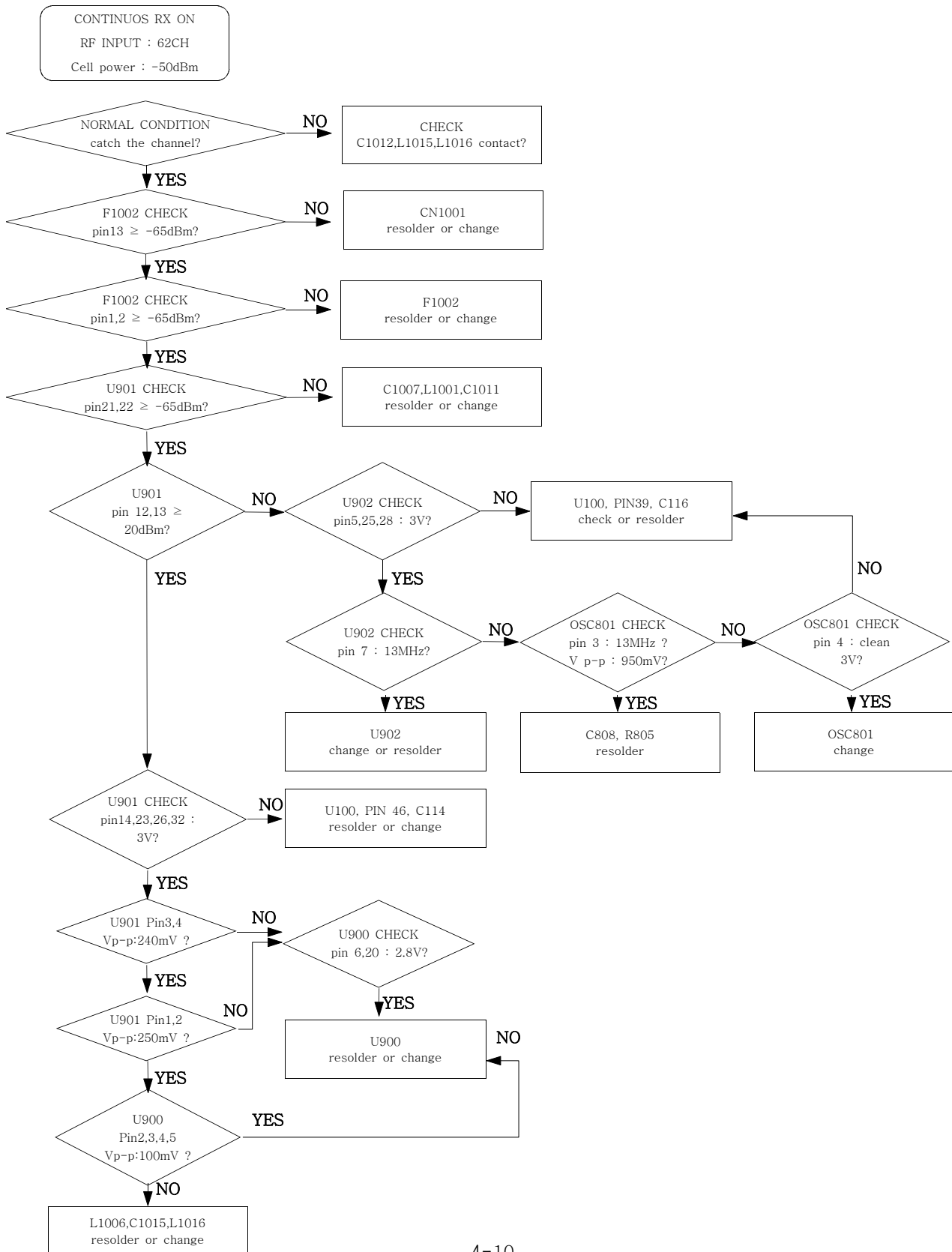
(Picture 1)



(Picture 2)

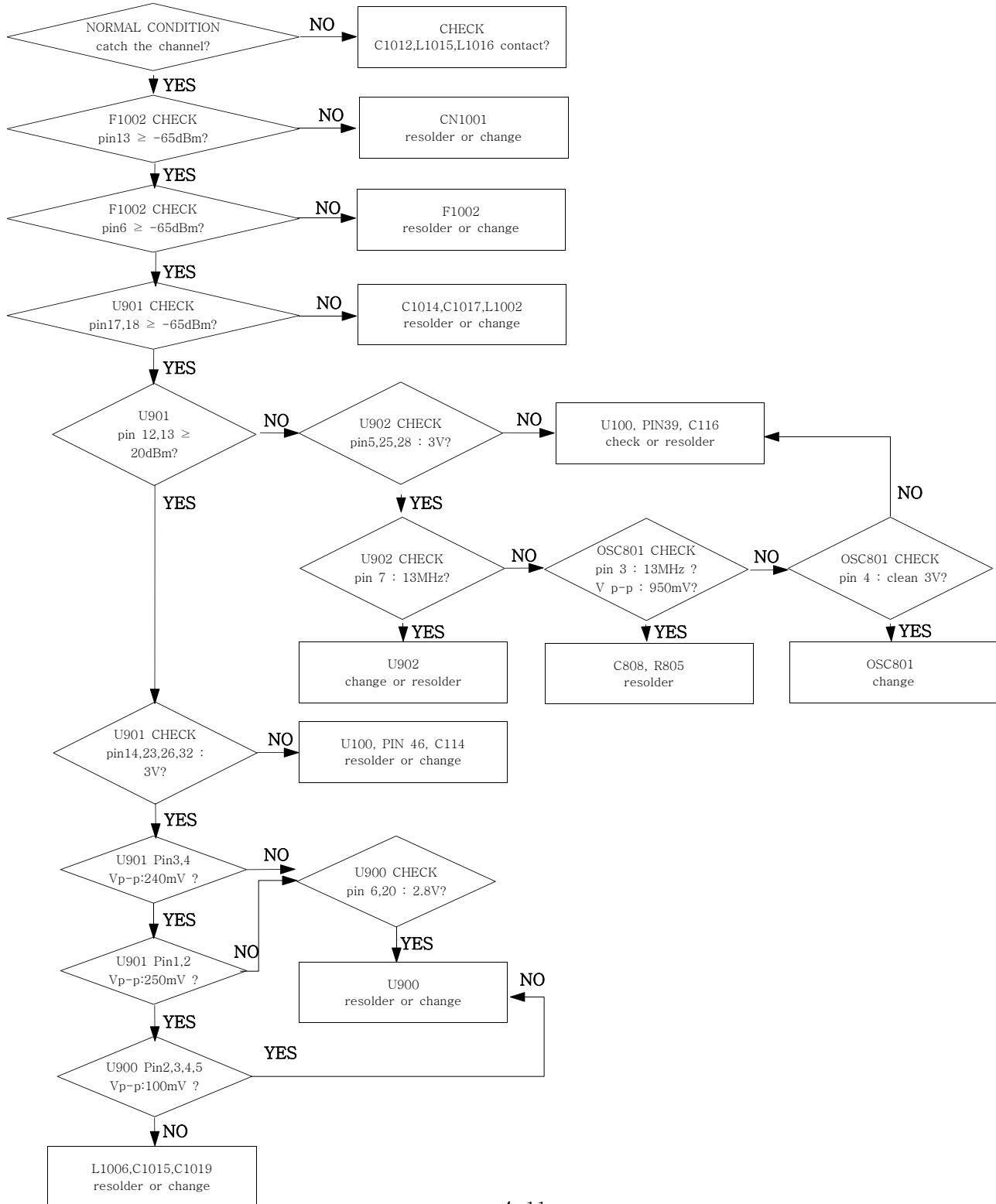
2.RF

1. GSM Receiver



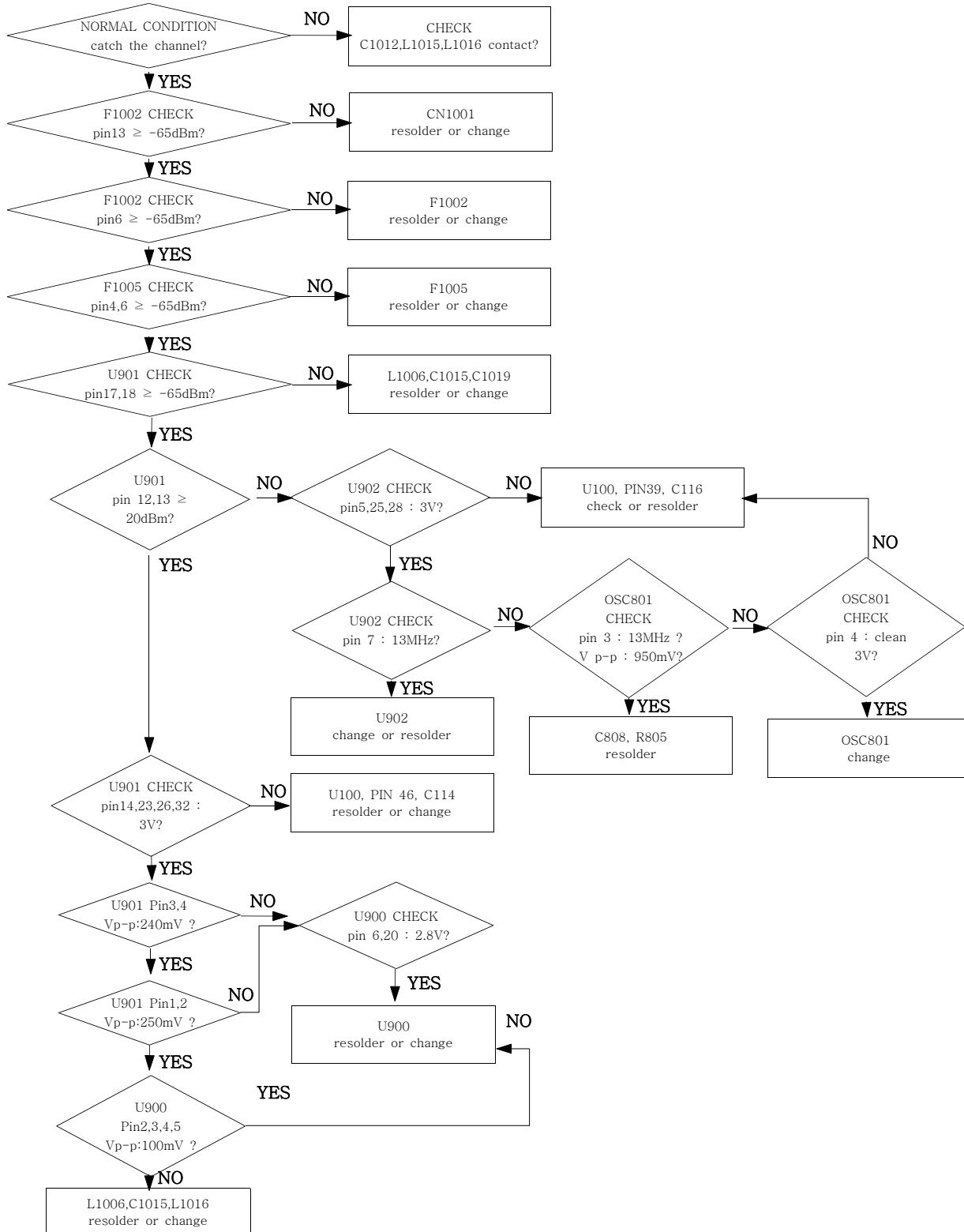
2. DCS Receiver

CONTINUOUS RX ON
 RF INPUT : 698CH
 Cell power : -50dBm

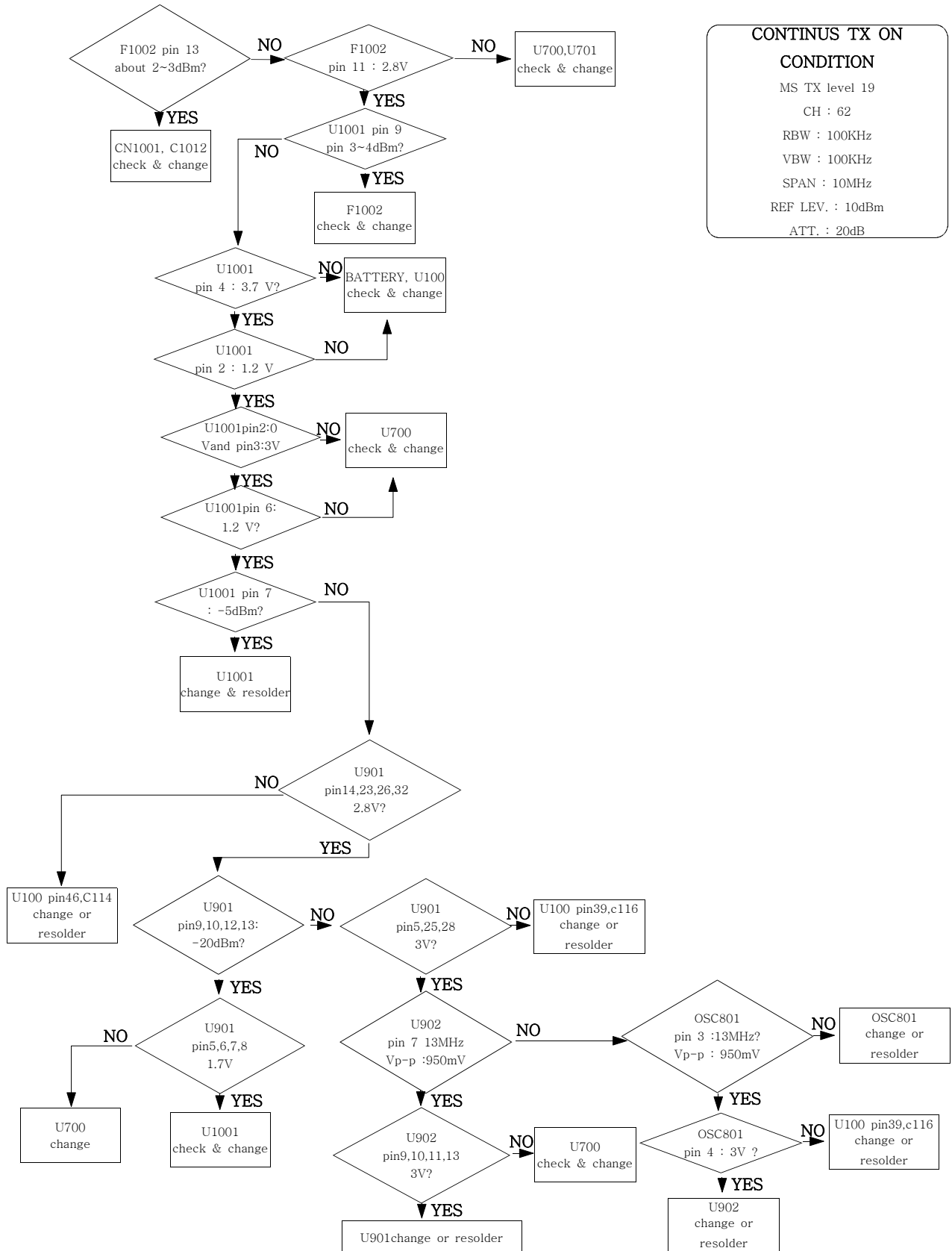


3. PCS Receiver

CONTINUOUS RX ON
 RF INPUT : 698CH
 Cell power : -50dBm

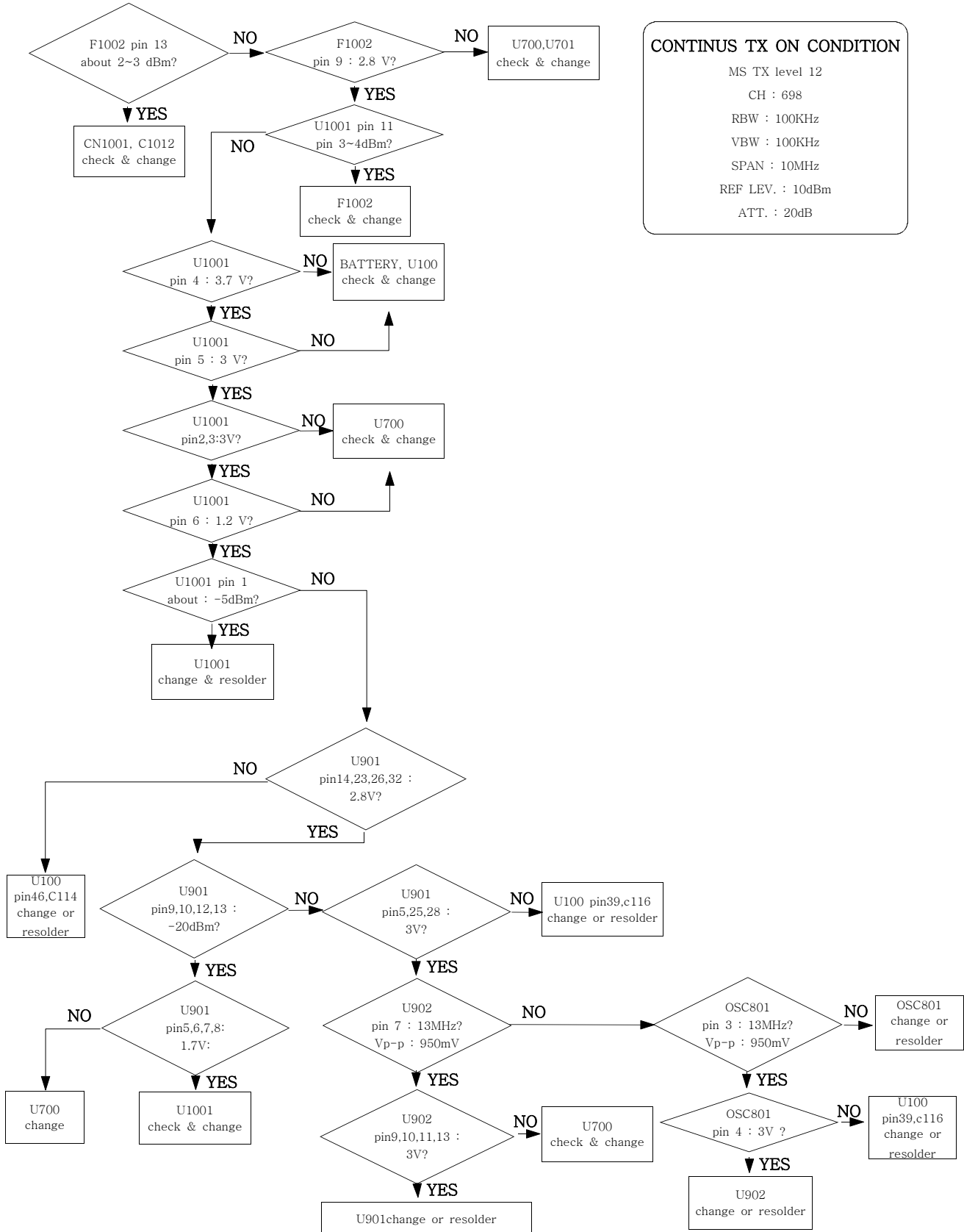


4. GSM Transmitter



**CONTINUS TX ON
CONDITION**
 MS TX level 19
 CH : 62
 RBW : 100KHz
 VBW : 100KHz
 SPAN : 10MHz
 REF LEV. : 10dBm
 ATT. : 20dB

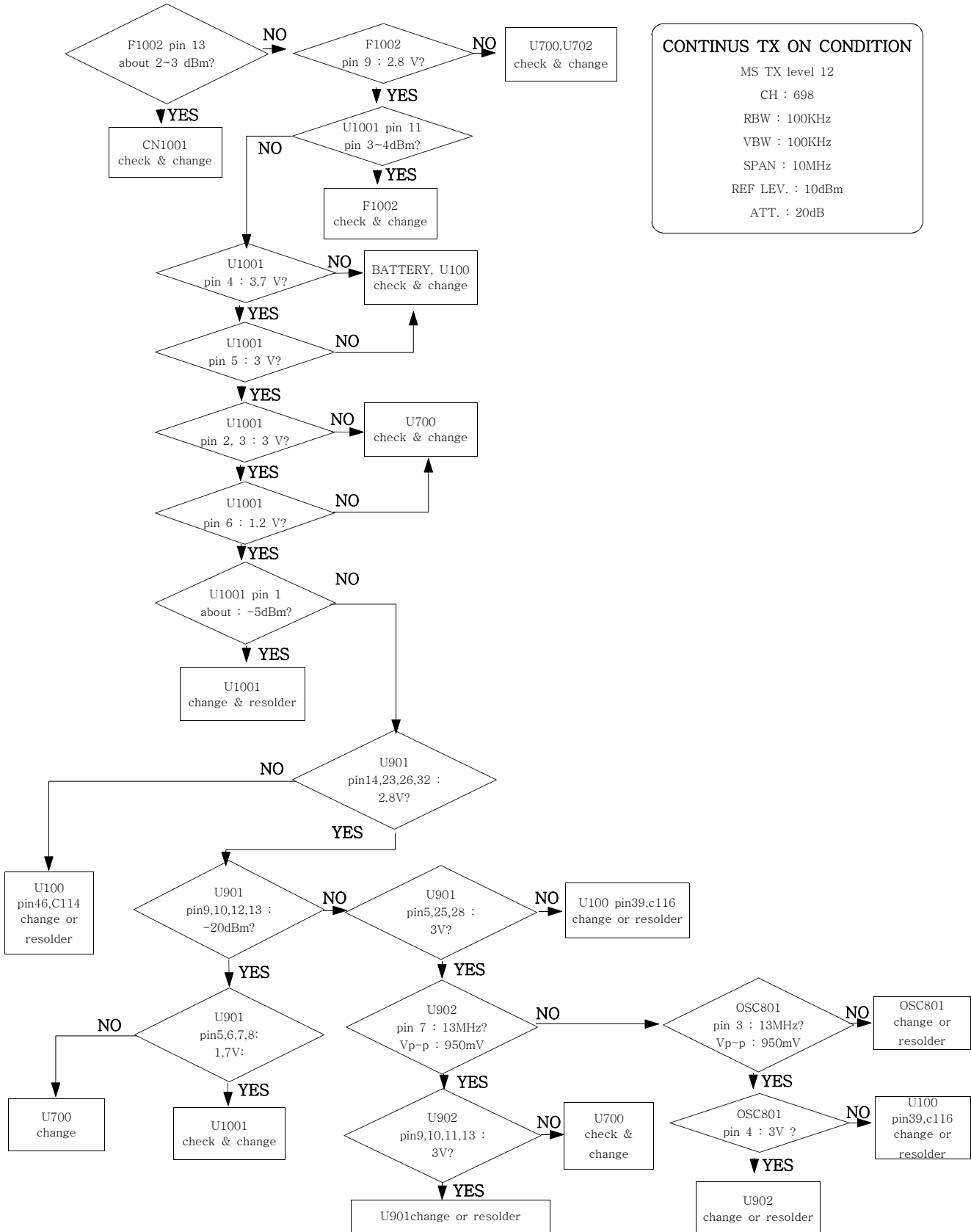
5. DCS Transmitter

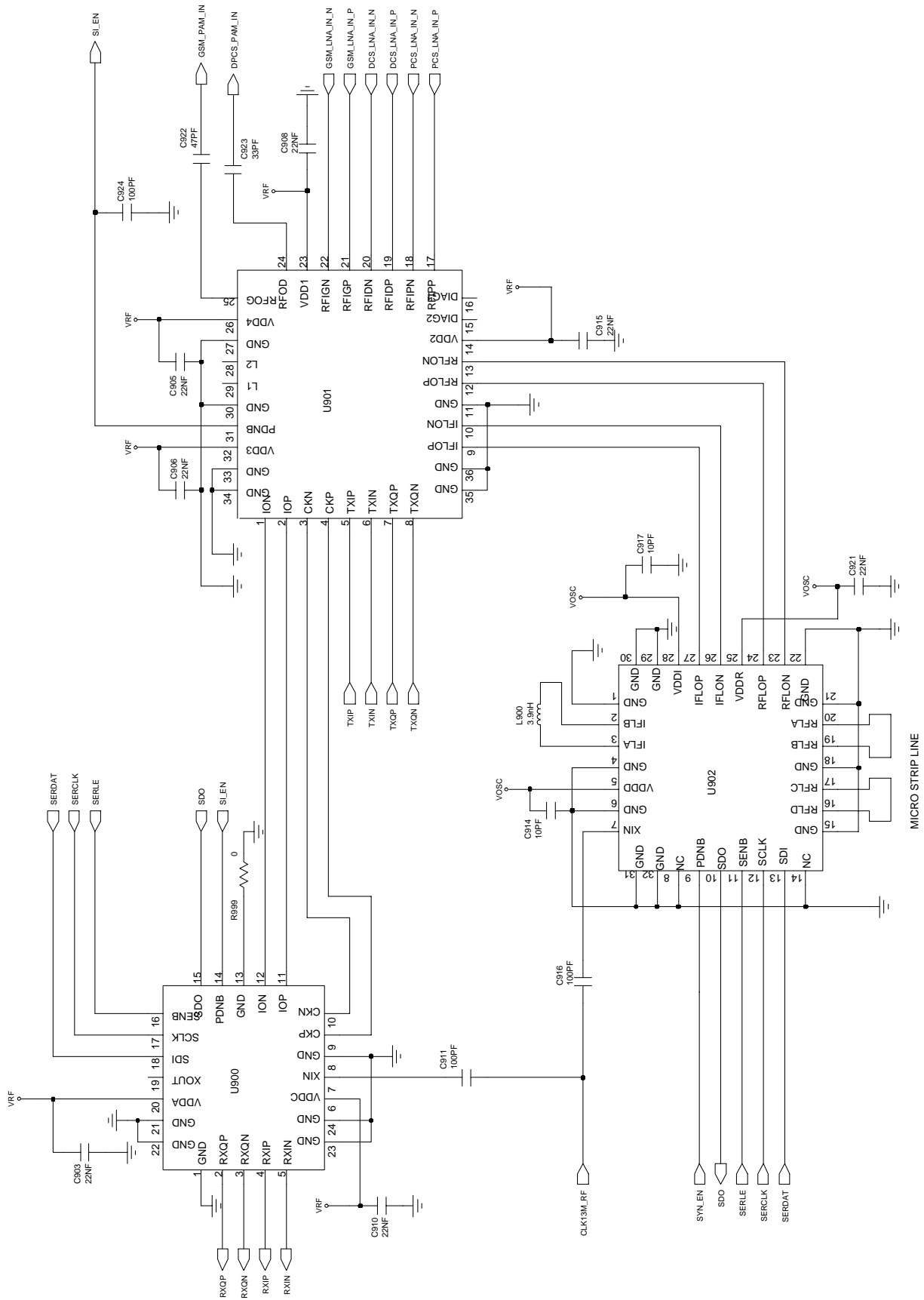


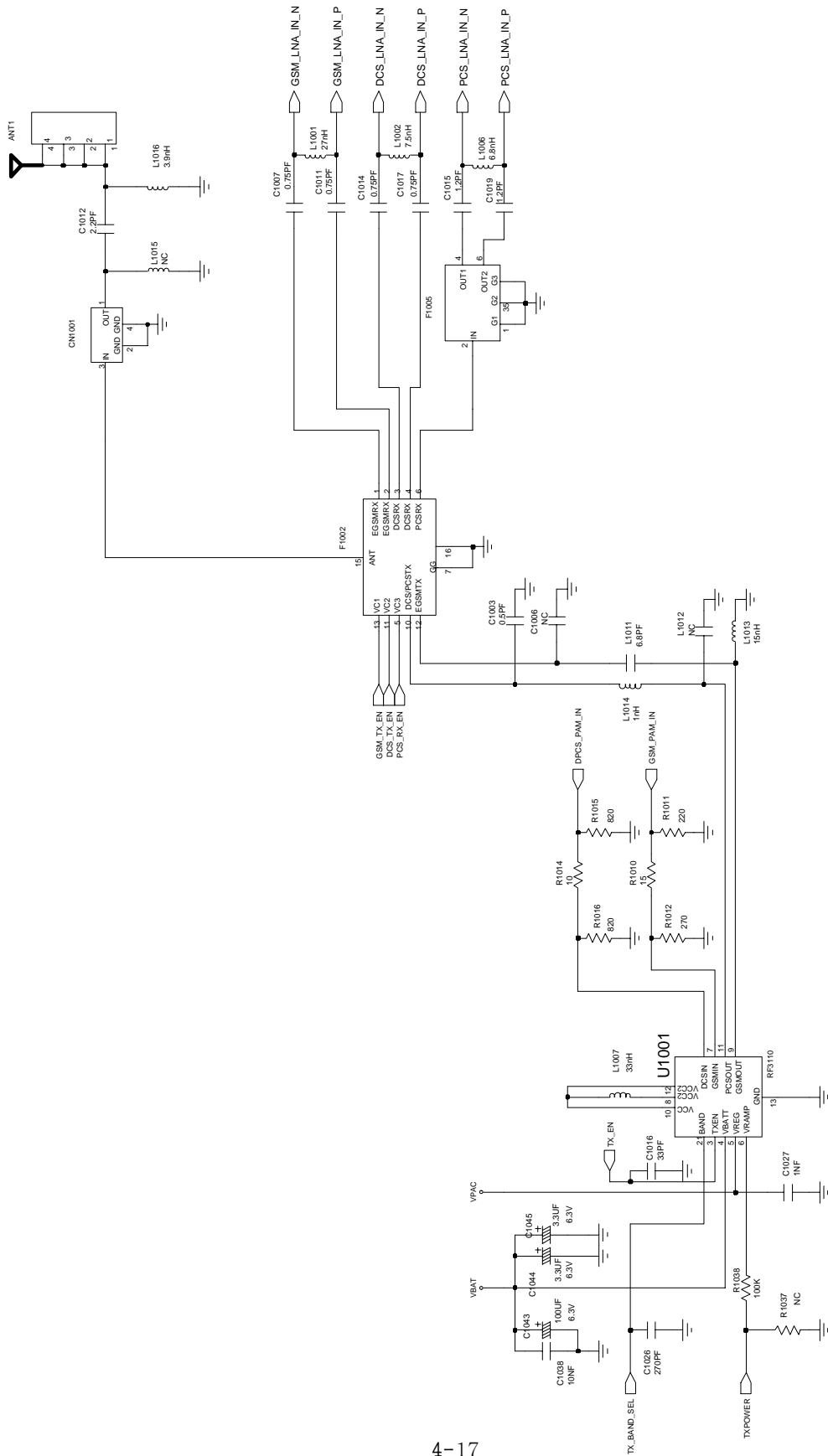
CONTINUS TX ON CONDITION

MS TX level 12
 CH : 698
 RBW : 100KHz
 VBW : 100KHz
 SPAN : 10MHz
 REF LEV. : 10dBm
 ATT. : 20dB

6. PCS Transmitter



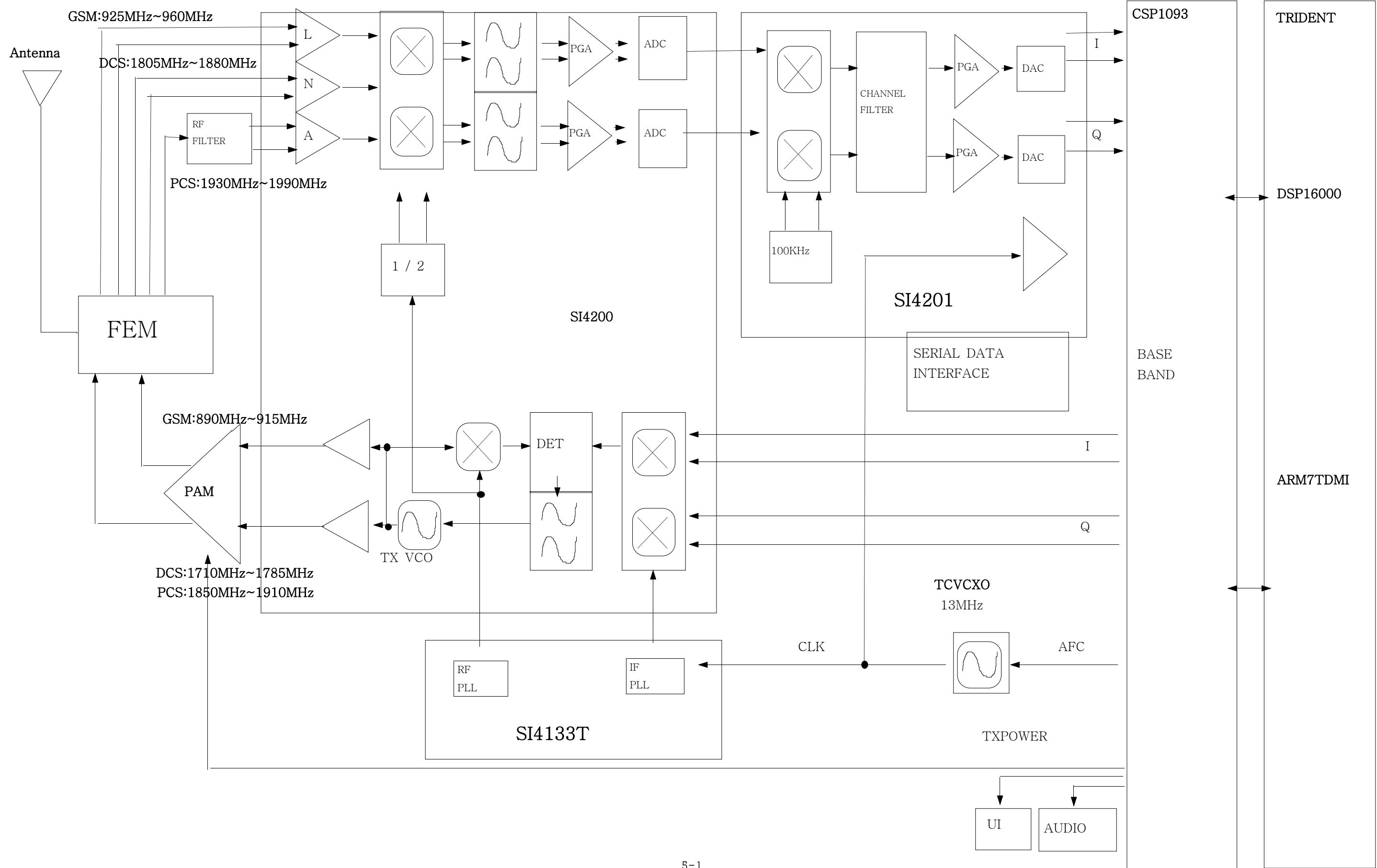


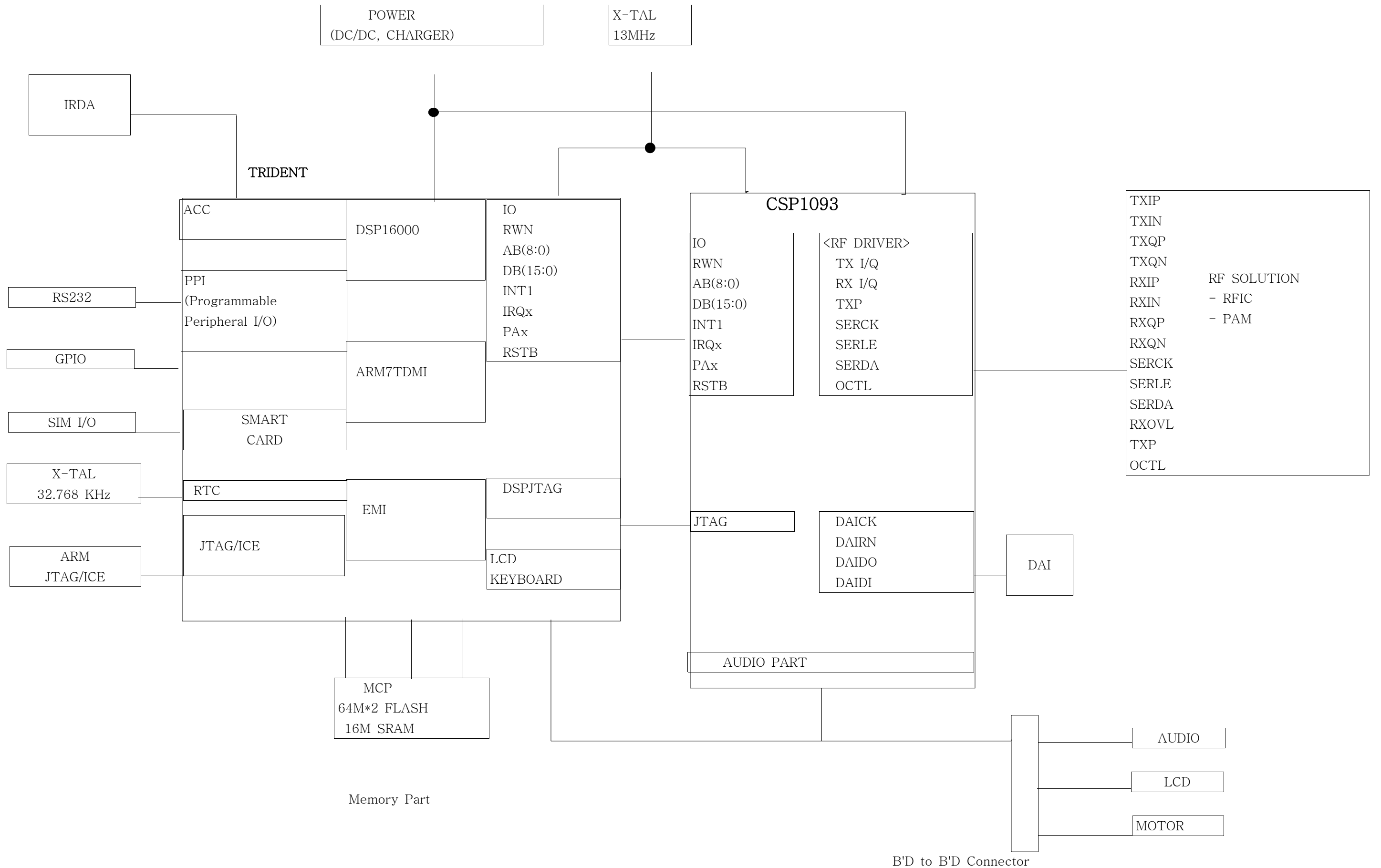


MEMO

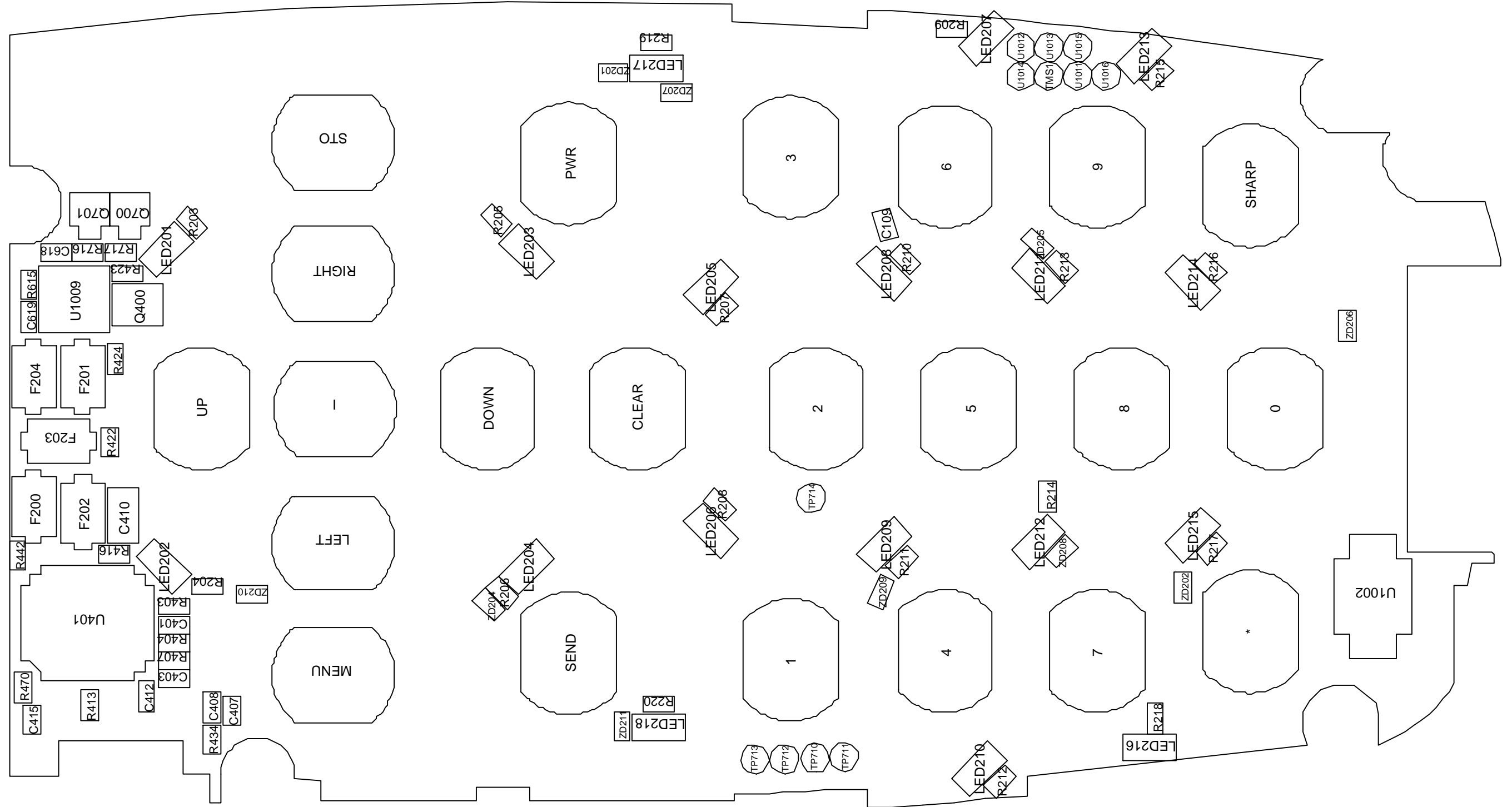
A series of horizontal dashed lines for writing a memo.

5. SGH-E400 Block Diagrams





2. Main PCB Bottom Diagram





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Code No.: GH68-03771A
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