

SAMSUNG

GSM TELEPHONE SGH-D100/D100A

SERVICE *Manual*

GSM TELEPHONE



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1. SGH-D100/D100A 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	-

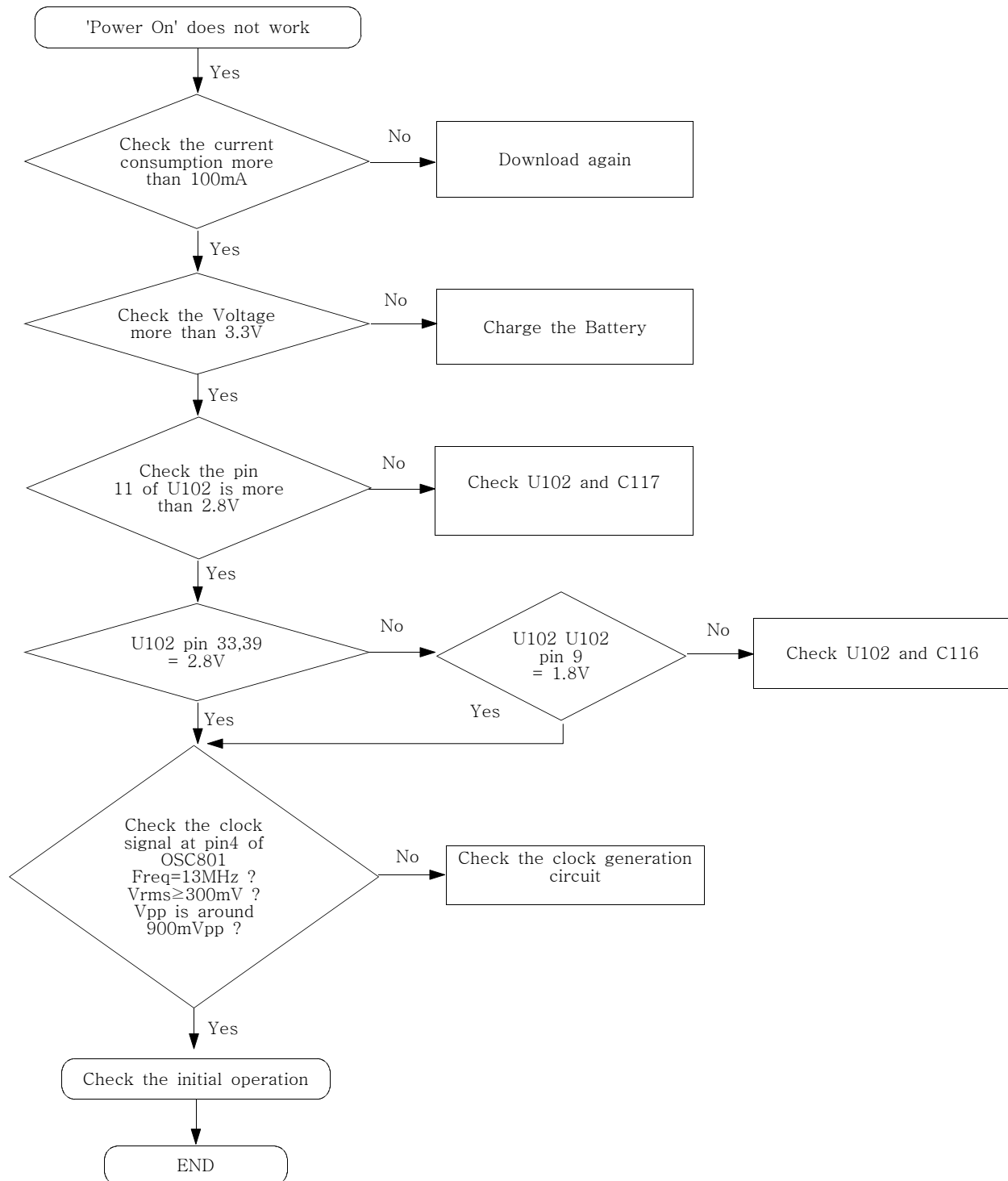
2. GSM TX power class

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

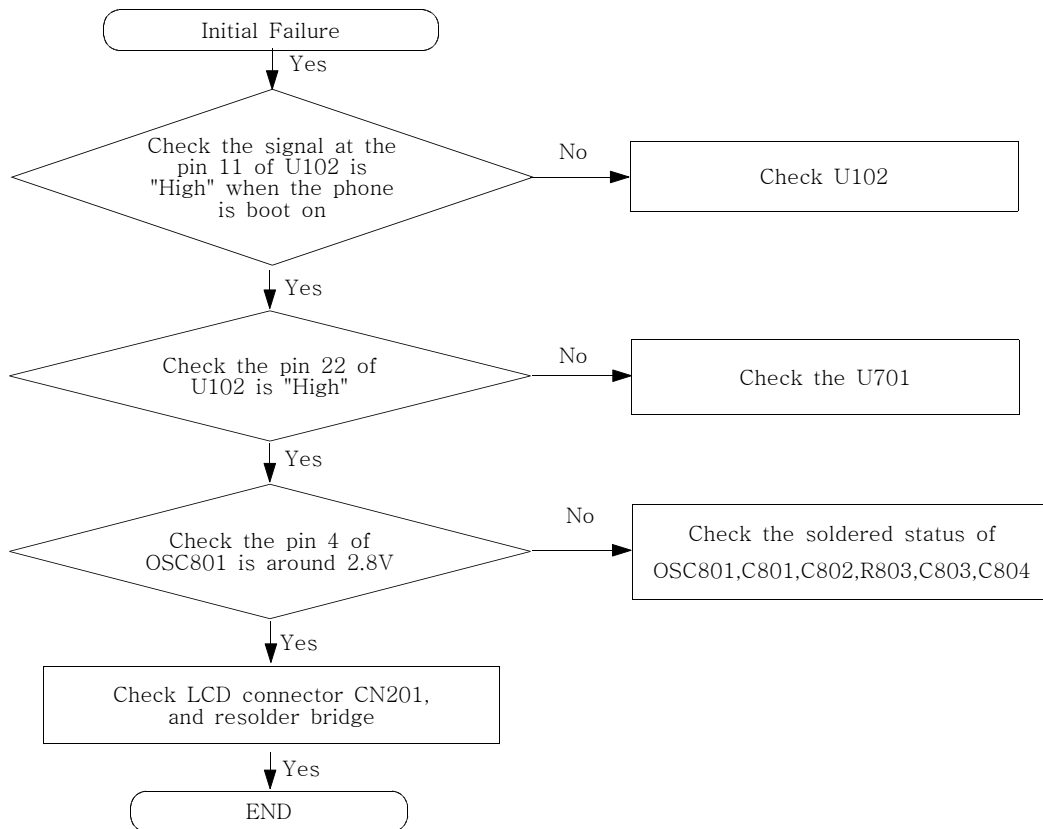
2. SGH-D100/D100A Flow Chart of Troubleshooting

1. Baseband

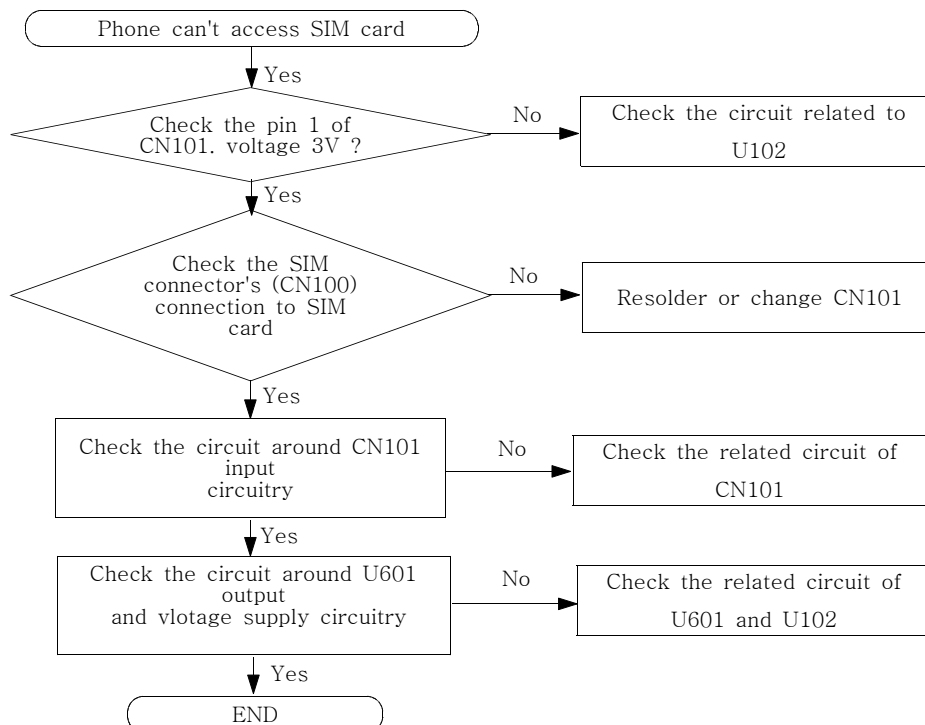
1. Power ON



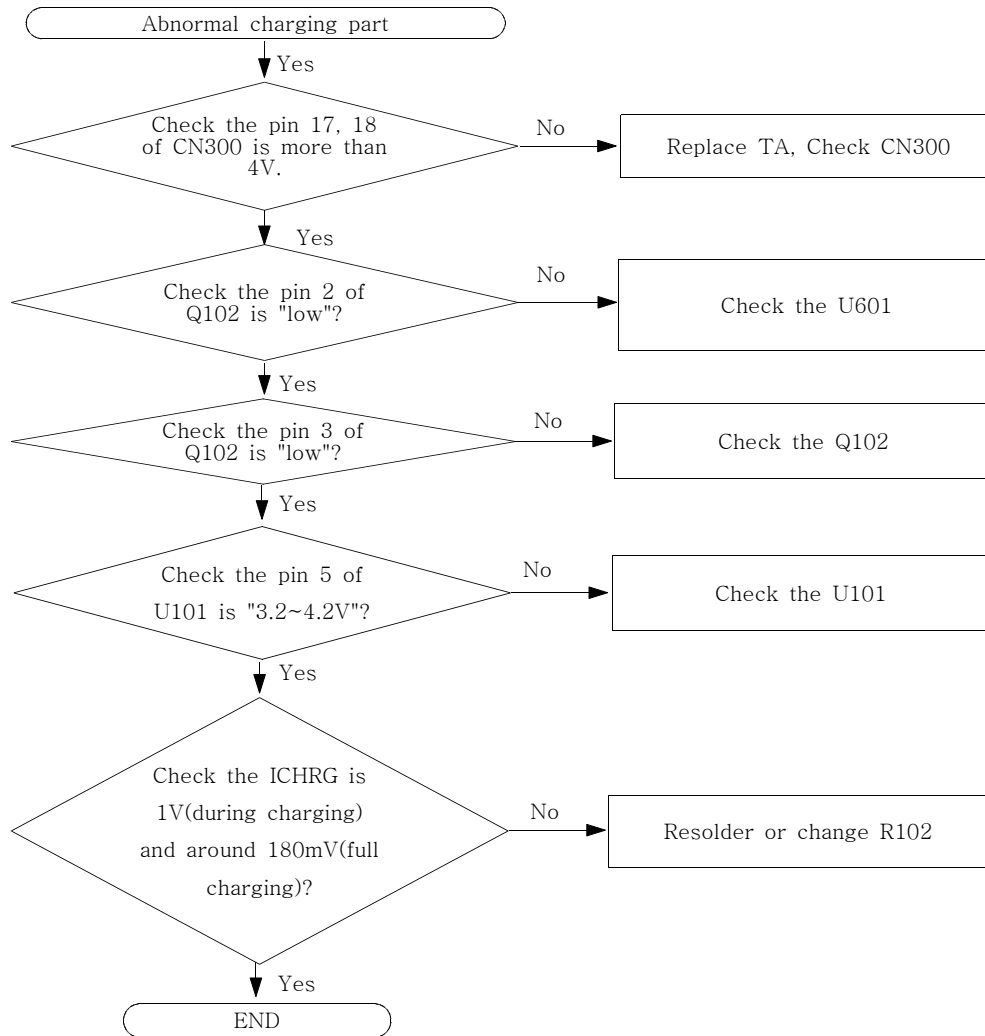
2. Initial

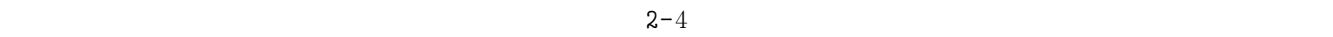


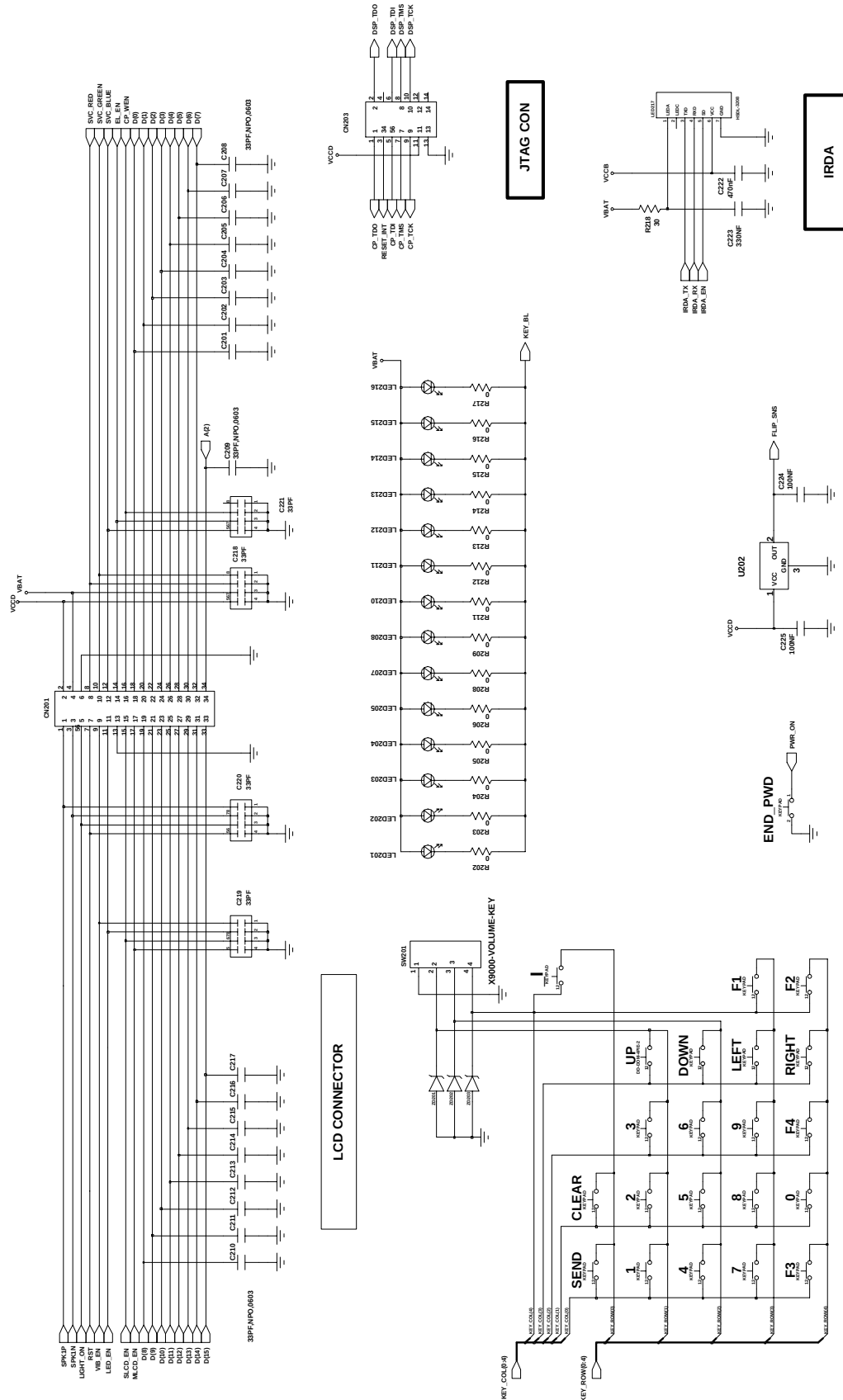
3. Sim Part

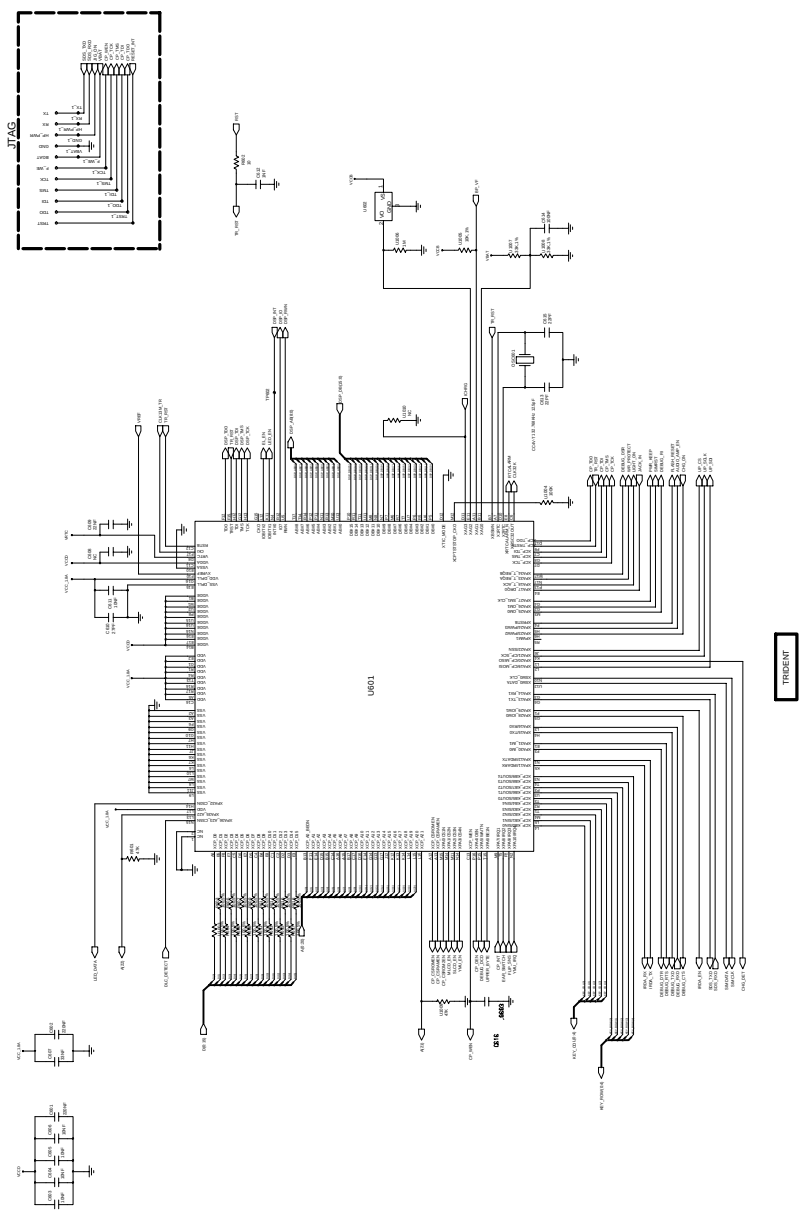


4. Charging Part

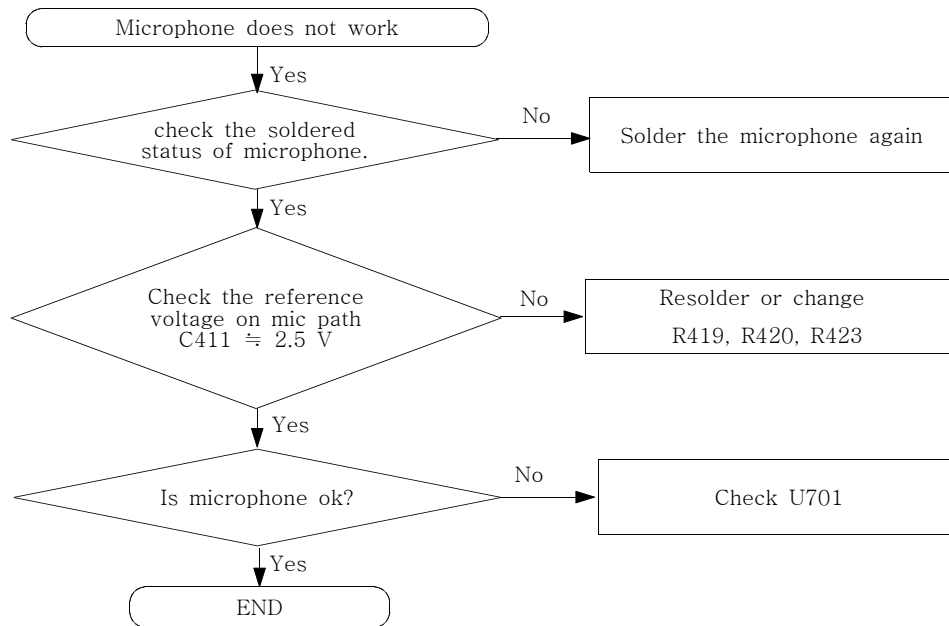




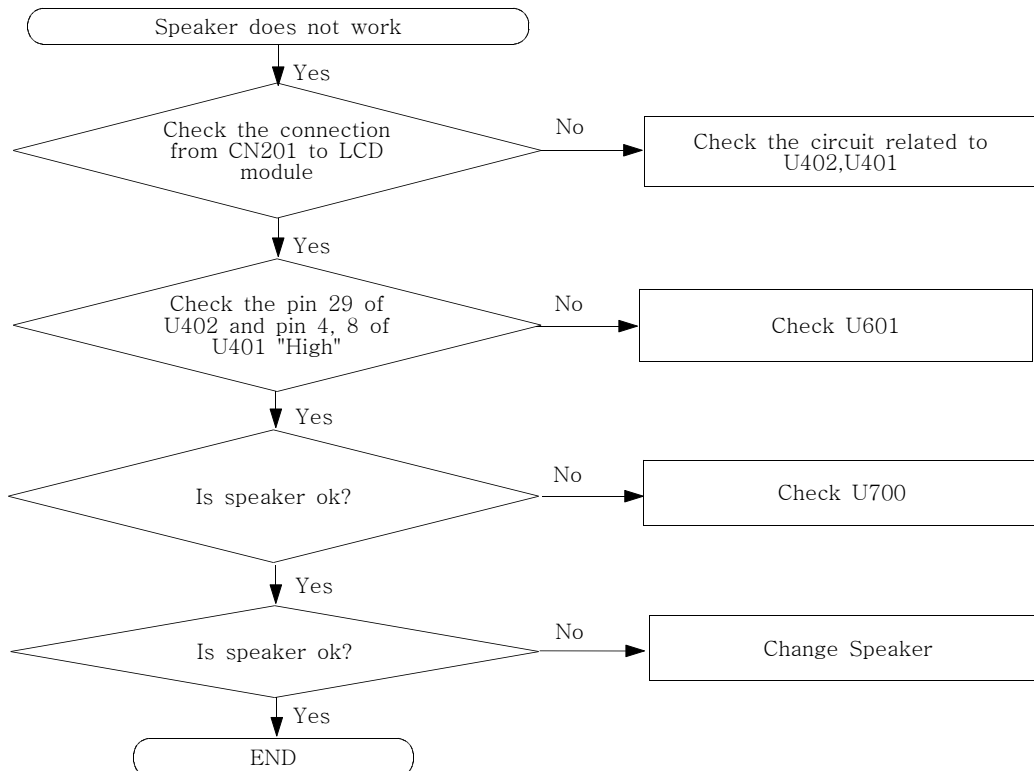


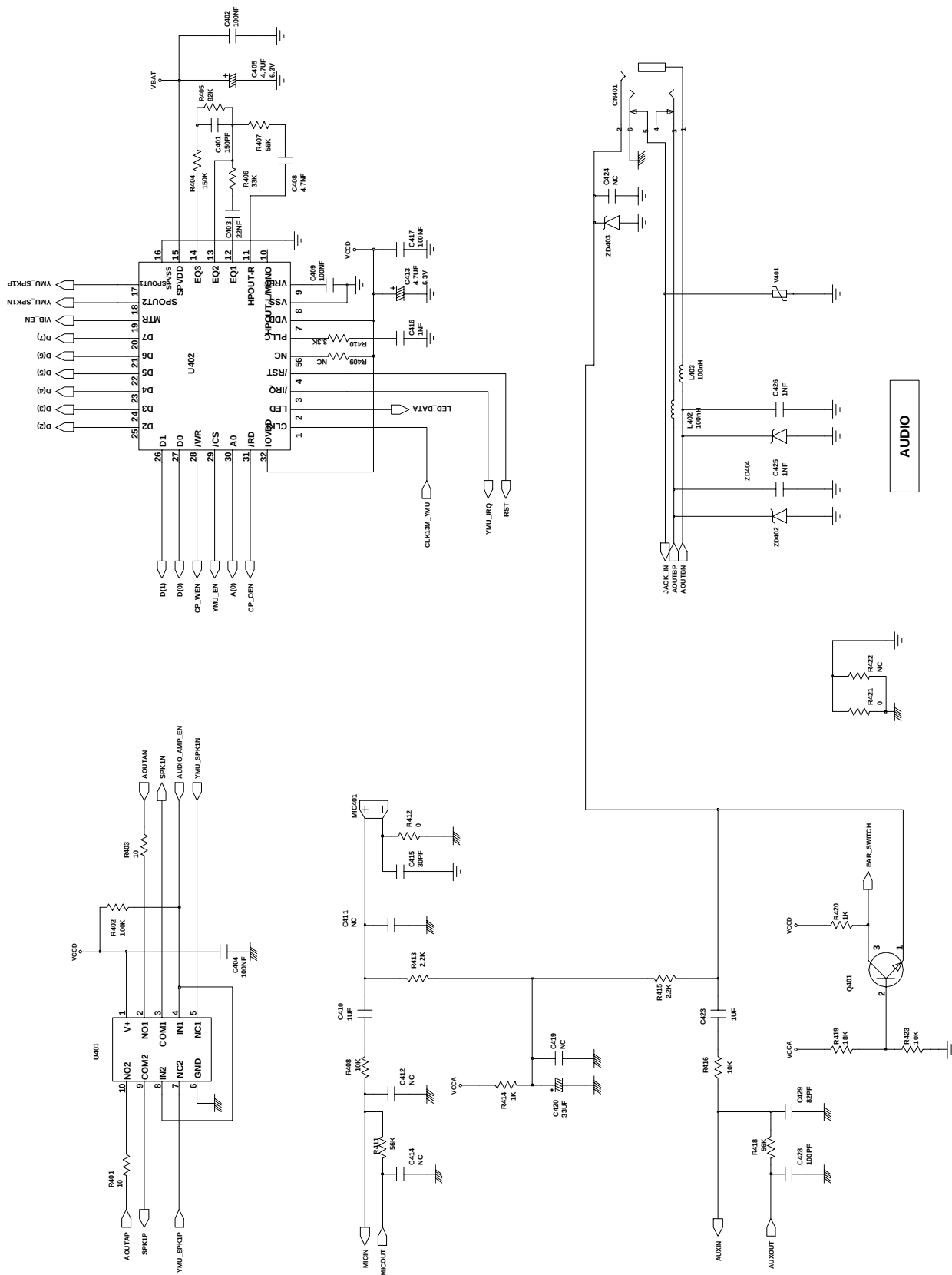


5. Microphone Part



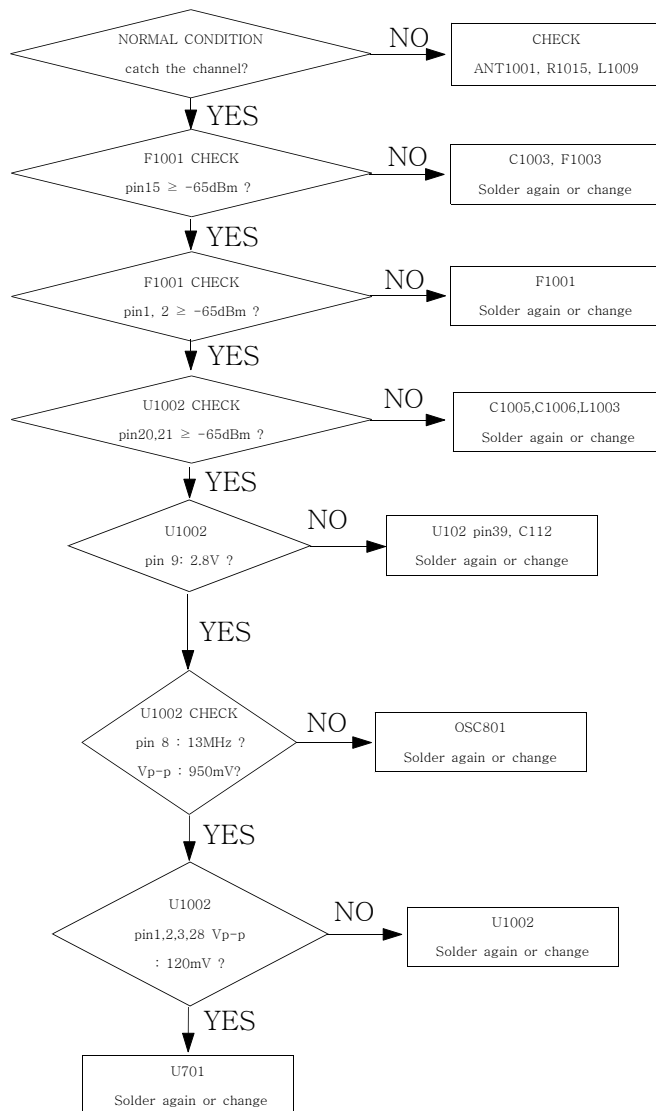
6. Speaker Part





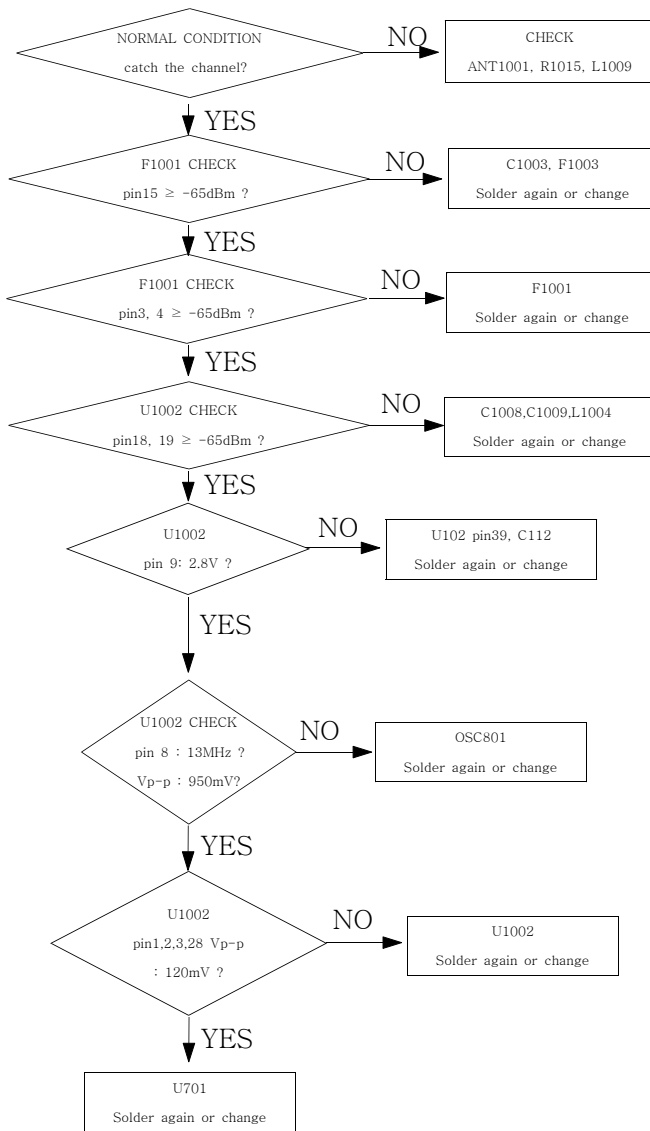
2.RF

1. EGSM RX



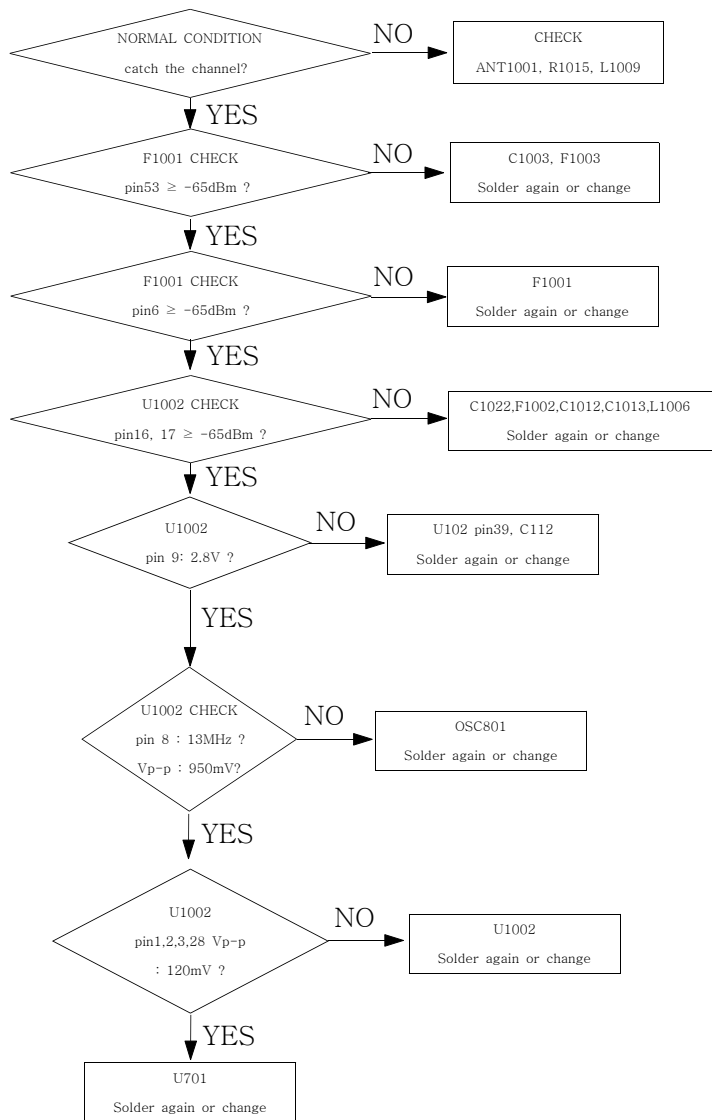
CONTINUOUS RX ON
RF INPUT : 62CH
AMP : -50dBm

2. DCS RX

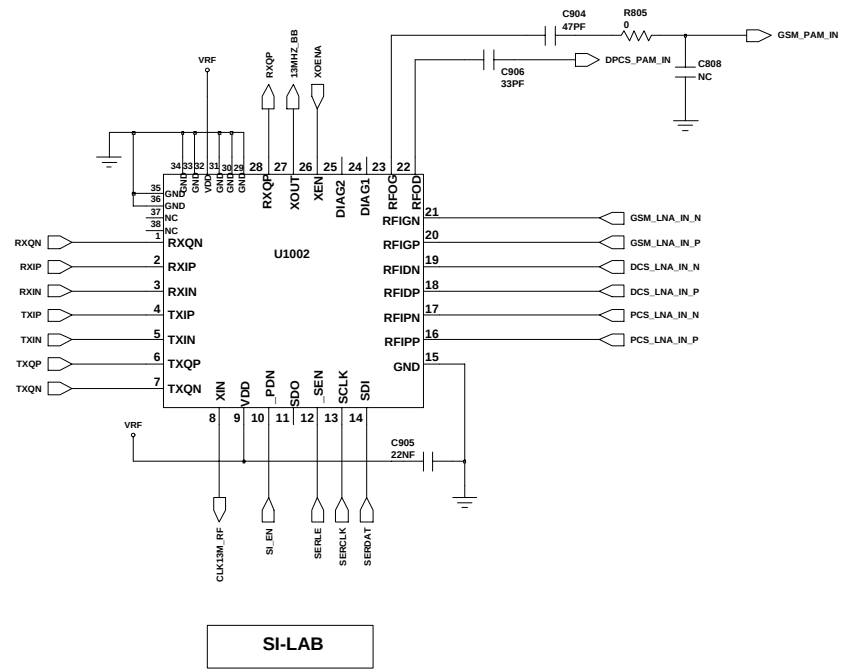


CONTINUOUS RX ON
RF INPUT : 698CH
AMP : -50dBm

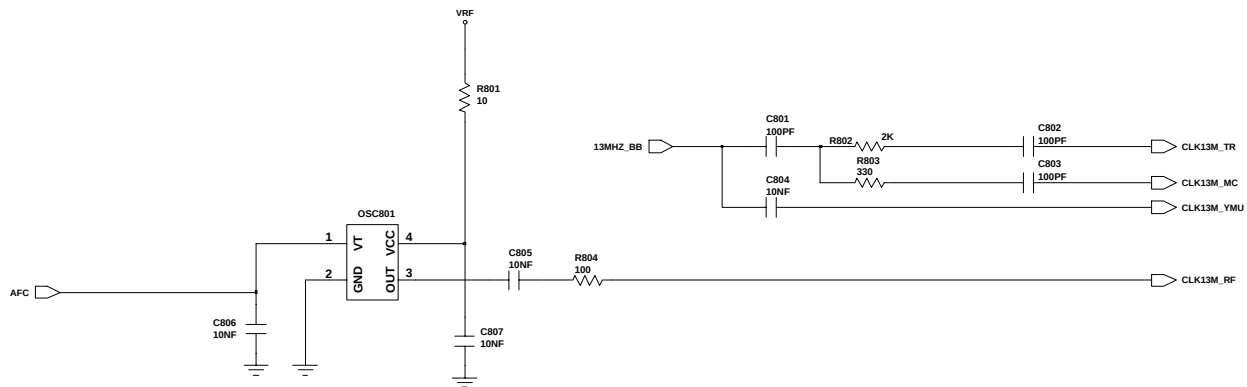
3. PCS RX



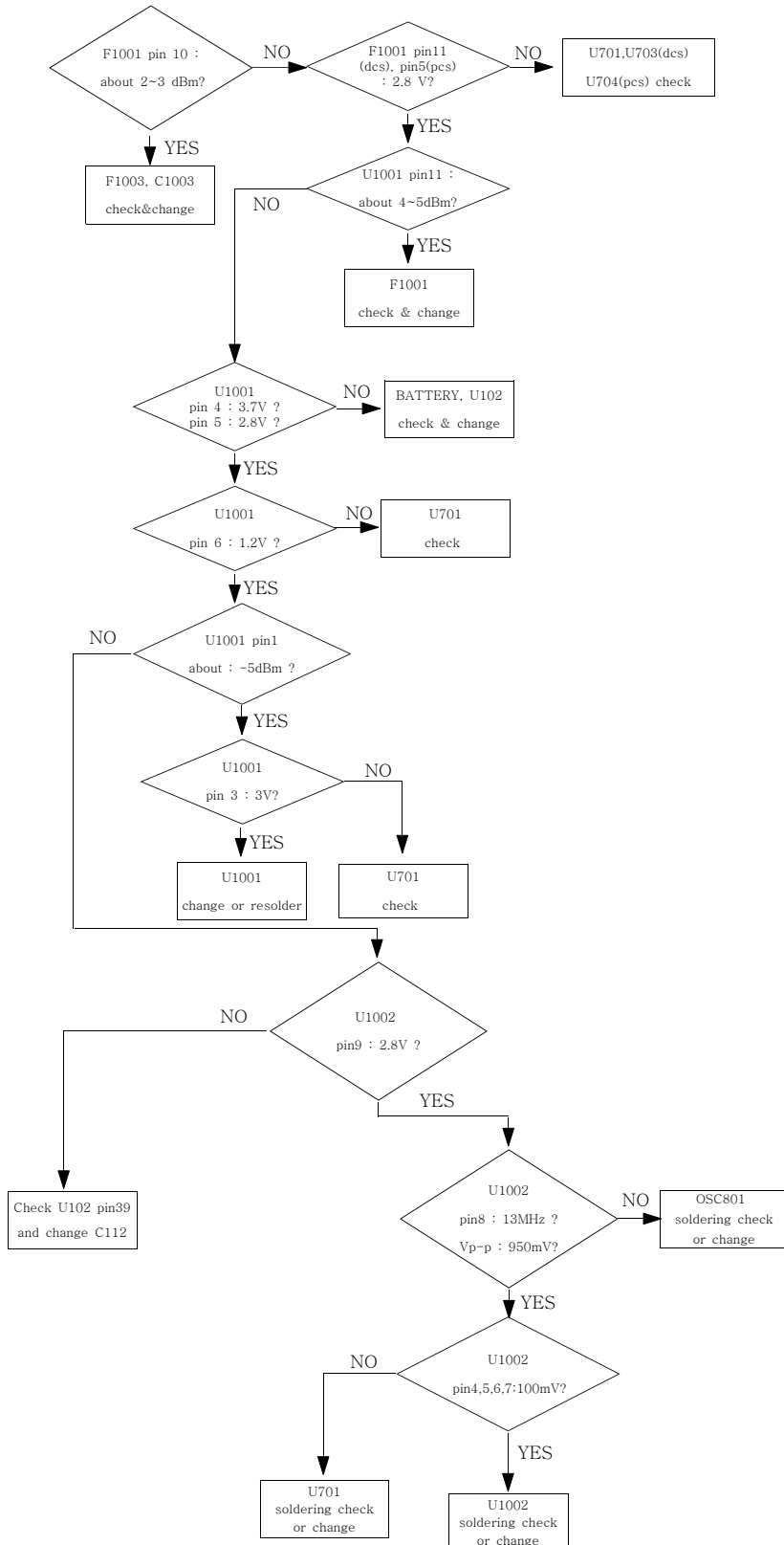
CONTINUOUS RX ON
RF INPUT : 660CH
AMP : -50dBm



SI-LAB



5. DCS/PCS TX

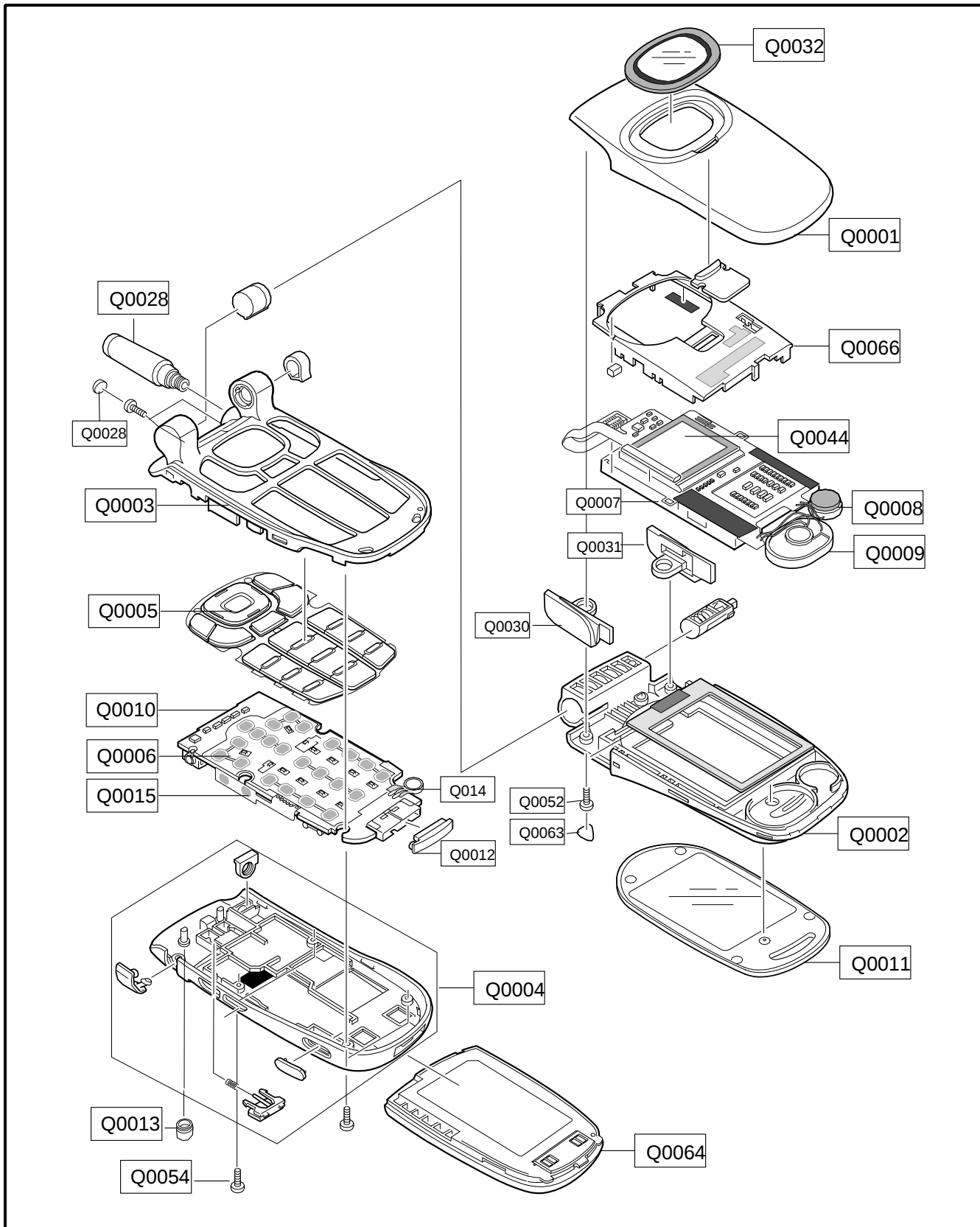


CONTINUOUS TX ON CONDITION
 CH : 698CH(DCS), 660CH(PCS)
 Tx Power DAC Value: 500 Code Applied(DCS)
 550 Code Applied(PCS)
 RBW : 100KHz
 VBW : 100KHz
 SPAN : 10MHz
 REF LEV. : 10dBm
 ATT. : 20dB



3. SGH-D100/D100A Exploded View and its Parts list

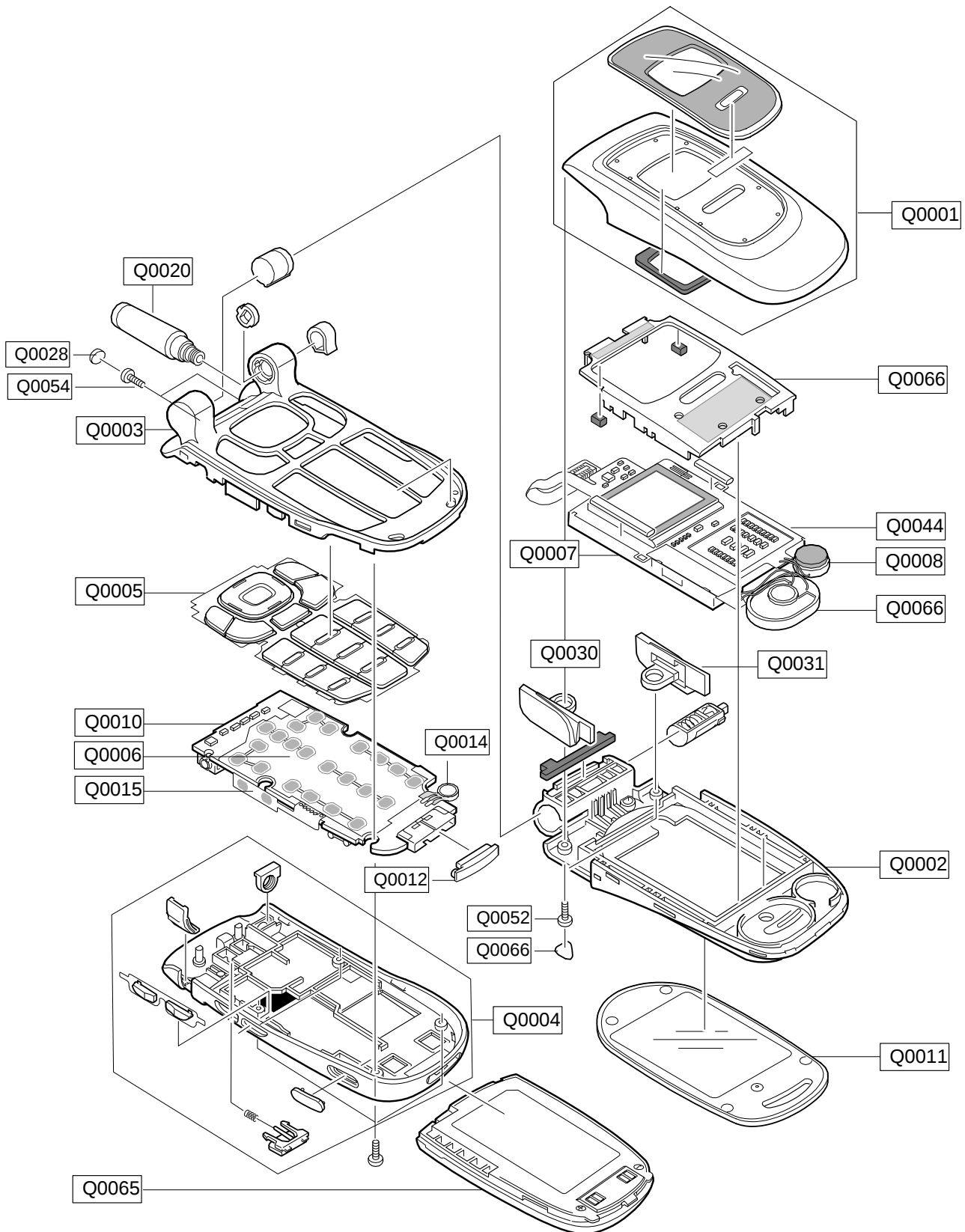
1. Cellular phone Exploded View (SGH-D100)



2. Cellular phone Parts list (SGH-D100)

Location NO.		Description	SEC CODE	Remark
Q0001		MEC-F/ UPPER	GH75-03165A	
Q0002		MEC-F/ LOWER	GH75-03164A	
Q0003		MEC-FRONT COVER	GH75-03163A	
Q0004		MEC-REAR COVER	GH75-03166A	
Q0005		MEC-KEYPAD	GH75-03246A	
Q0006		UNIT-METAL DOME	GH59-00897A	
Q0007		LCD	GH07-00190A	
Q0008		MOTOR DC	GH31-00036A	
Q0009		MICRO SPEAKER	3001-001429	
Q0010		PBA MAIN	GH92-01486A	
Q0011		PMO WINDOW MAIN	GH72-06272A	
Q0012		RMO NEW IF CONN COVER	GH72-02504A	
Q0013		PMO NEW RF JACK COVER	GH72-09753A	
Q0014		MICROPHONE-ASSY	GH30-00033A	
Q0015		UNIT-VOL KEY	GH59-01025A	
Q0020		ANTENNA	GH42-00305A	
Q0028		MPR FRONT SCREW CAP	GH74-06303A	
Q0030		PMO SIDE DUMMY L	GH72-08210A	
Q0031		PMO SIDE DUMMY R	GH72-08209A	
Q0032		PMO DUAL WINDOW	GH72-08492A	
Q0044		SUB LCD	GH07-00447A	
Q0052		SCREW-MACHINE;PH,+ ,M1.4,L5	6001-001633	
Q0054		SCREW-MACHINE;PH(P12.5),+ ,M1.4	6001-001155	
Q0063		MPR F/LOWER SCREW CAP	GH74-05770A	
Q0064		BATTERY-600MA	GH43-00955A	
Q0065		BATTERY-800MAH	GH43-00956A	
Q0066		MEC-FOLDER BRACKET	GH75-03247A	

3. Cellular phone Exploded View (SGH-D100A)



4.Cellular phone Parts list (SGH-D100A)

Location NO.		Description	SEC CODE	Remark
Q0001		MEC-F/ UPPER	GH75-04126A	
Q0002		MEC-F/ LOWER ASS'Y	GH75-04434A	
Q0003		MEC-FRONT COVER	GH75-03163A	
Q0004		MEC-REAR COVER	GH75-03166A	
Q0005		MEC-KEYPAD	GH75-03246A	
Q0006		UNIT-METAL DOME	GH59-00897A	
Q0007		LCD	GH07-00190A	
Q0008		MOTOR DC	GH31-00036A	
Q0009		MICRO SPEAKER	3001-001429	
Q0010		PBA MAIN	GH92-01486A	
Q0011		PMO WINDOW MAIN	GH72-06272A	
Q0012		RMO NEW IF CONN COVER	GH72-02504A	
Q0013		PMO NEW RF JACK COVER	GH72-09753A	
Q0014		MICROPHONE-ASSY	GH30-00033A	
Q0015		UNIT-VOL KEY	GH59-01025A	
Q0020		ANTENNA	GH42-00305A	
Q0028		MPR FRONT SCREW CAP	GH74-06303A	
Q0030		PMO SIDE DUMMY L	GH72-08210A	
Q0031		PMO SIDE DUMMY R	GH72-08209A	
Q0044		SUB LCD	GH07-00447A	
Q0052		SCREW-MACHINE;PH,+ ,M1.4,L5	6001-001633	
Q0054		SCREW-MACHINE;PH(P12.5),+ ,M1.4	6001-001155	
Q0063		MPR F/LOWER SCREW CAP	GH74-05770A	
Q0064		BATTERY-600MA	GH43-00955A	
Q0065		BATTERY-800MAH	GH43-00956A	
Q0066		MEC-FOLDER BRACKET	GH75-04127A	

5.. Test Jig [GH80-00865A]



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



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-D100/D100A MAIN Electrical Parts List

SEC Code	Design LOC
GH71-00734A	ANT1001
2203-000995	C1003,C904
2203-000233	C1004,C1007,C1010
2203-002677	C1005,C1006,C1008
2203-002677	C1009,C1012,C1013
2203-000812	C101,C1014,C1016
2703-002207	C1015
2404-001151	C1017,C1021,C420
2203-000438	C1018,C416,C425,C426
2203-000812	C1019,C1020,C104
2203-005061	C102,C224,C225,C301
2203-005446	C1022
2203-001598	C103,C114
2203-000278	C1039
2203-000812	C105,C305,C906
2404-001105	C106
2404-001268	C107
2203-005482	C108
2203-005065	C110,C116,C117
2203-006053	C112
2203-001652	C113
2203-000438	C115,C612
2203-000233	C118,C428,C801
2203-005682	C201,C202,C203,C204
2203-005682	C205,C206,C207,C208
2203-005682	C209,C210,C211,C212
2203-005682	C213,C214,C215,C216
2203-005682	C217
2203-006113	C218,C219,C220,C221
2203-006257	C222
2203-005509	C223,C501,C502,C503
2203-005061	C302,C303,C304,C402
2203-000359	C401
2203-001405	C403,C609,C905
2203-005061	C404,C409,C417,C505
2404-001086	C405,C413
2203-000885	C408

SEC Code	Design LOC
2203-005065	C410,C423,C705,C109
2203-001412	C415
2203-001239	C429
2203-005509	C504
2203-000254	C506,C603,C604
2203-005496	C601,C602,C704
2203-000254	C605,C606,C611,C707
2203-005480	C607,C708,C709
2203-000679	C610
2203-000628	C613,C615
2203-005482	C614
2203-005393	C703
2203-005061	C706
2203-000254	C710,C711,C712,C804
2203-000233	C802,C803
2203-000254	C805,C806,C807
3709-001229	CN101
3711-005078	CN201
3710-001673	CN300
3722-001880	CN401
2909-001191	F1001
2904-001410	F1002
3705-001287	F1003
2703-002485	L1003
2703-002484	L1004
2703-002608	L1006
2703-002170	L1007
2203-005234	L1008
2703-002200	L1009
2703-001513	L402,L403
0601-001790	LED201,LED202,LED203
0601-001790	LED204,LED205,LED207
0601-001790	LED208,LED210,LED211
0601-001790	LED212,LED213,LED214
0601-001790	LED215,LED216
0604-001261	LED217
4302-001130	M101

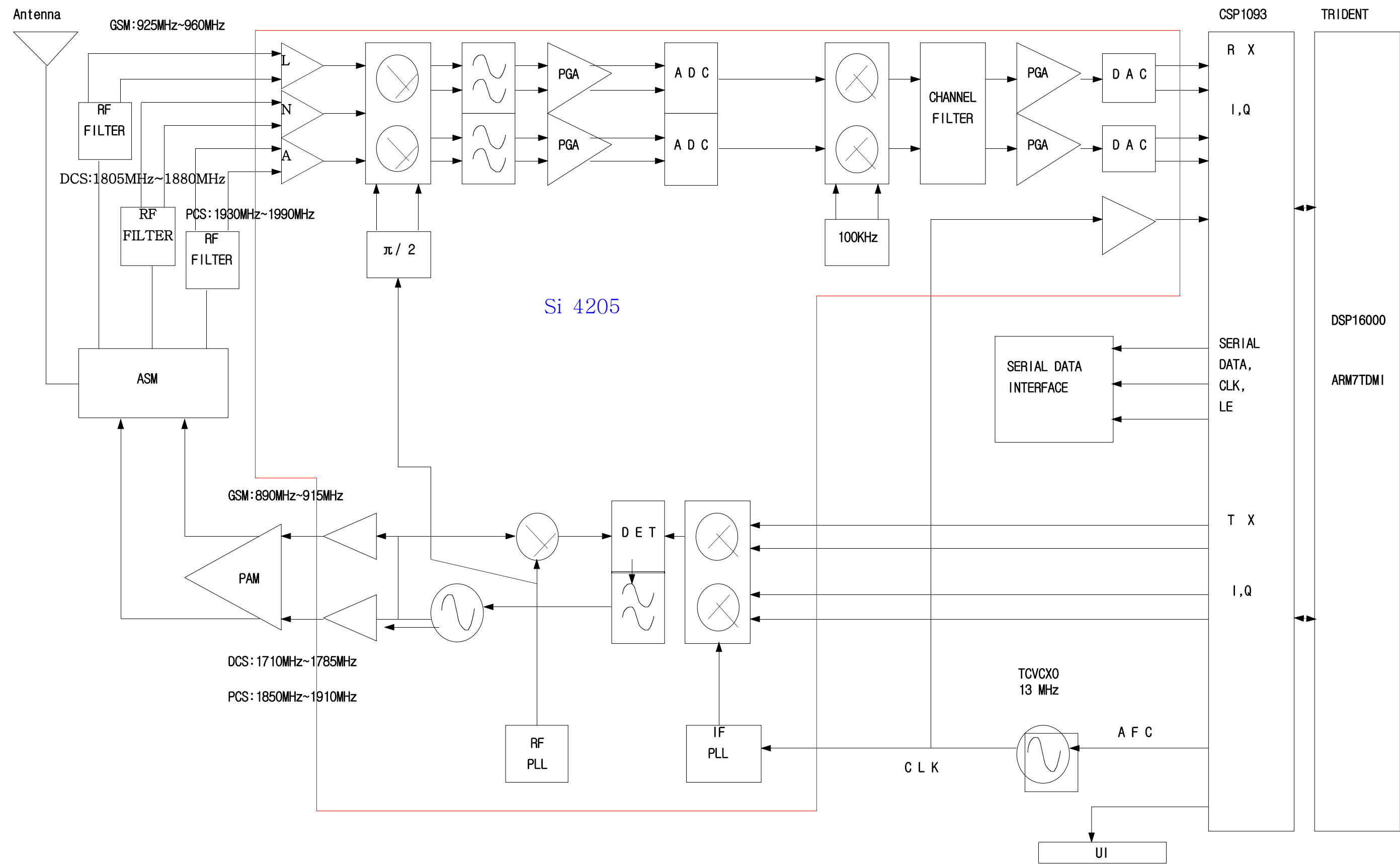
SEC Code	Design LOC
2801-004025	OSC601
2809-001260	OSC801
0502-001201	Q101
0506-001052	Q102
0504-000168	Q103,Q104
0501-000225	Q401
2007-001288	R1001,R1005
2007-001307	R1002,R1006
2007-007008	R1003,R1004,R1007
2007-007008	R1008
2007-000162	R1009,R402,R701
2007-000171	R101,R1010
2007-000171	R1012,R1014
2007-000070	R1015
2007-007139	R103
2007-001323	R104
2007-000171	R105,R107,R108
2007-000758	R106
2007-000171	R109,R202,R203,R204
2007-001319	R111
2007-000148	R112,R408,R416,R423
2007-000171	R205,R206,R208,R209
2007-000171	R211,R212,R213,R214
2007-000171	R215,R216,R217,R412
2007-001291	R218
2007-000157	R301,R302,R303,R601
2007-000140	R304,R305,R306,R307
2007-000140	R308,R309,R310,R312
2007-000140	R313,R414,R420,R314
2007-000140	R315
2007-000172	R401,R403,R504
2007-000164	R404
2007-000161	R405
2007-000775	R406
2007-000159	R407,R411,R418
2007-001325	R410
2007-000141	R413,R415

SEC Code	Design LOC
2007-001333	R419
2007-000171	R421
2007-000160	R503
2007-008579	R603,R604,R605,R606
2007-008579	R607,R608,R609,R611
2007-008579	R612,R613,R614,R615
2007-008579	R616,R617,R618
2007-007200	R702,R703
2007-000162	R704,R705
2007-000172	R801,R602
2007-000137	R802
2007-001313	R803
2007-000138	R804
2007-000171	R805
1201-001889	U1001
1205-002433	U1002
2007-008579	U1003
2007-000162	U1004
2007-007142	U1005,R102,R110
2007-000170	U1006
2007-007308	U1007,U1008
2007-000157	U1009
1203-002127	U101
1203-002902	U102
1009-001010	U202
1001-001183	U401
1204-002161	U402
1109-001278	U500
GH09-00025A	U601
1209-001219	U602
1204-001984	U701
0504-001042	U702,U703,U704
1405-001019	V301
1405-001082	V401
0406-001150	ZD201,ZD202,ZD203
0406-001084	ZD301,ZD302,ZD303
0406-001152	ZD304

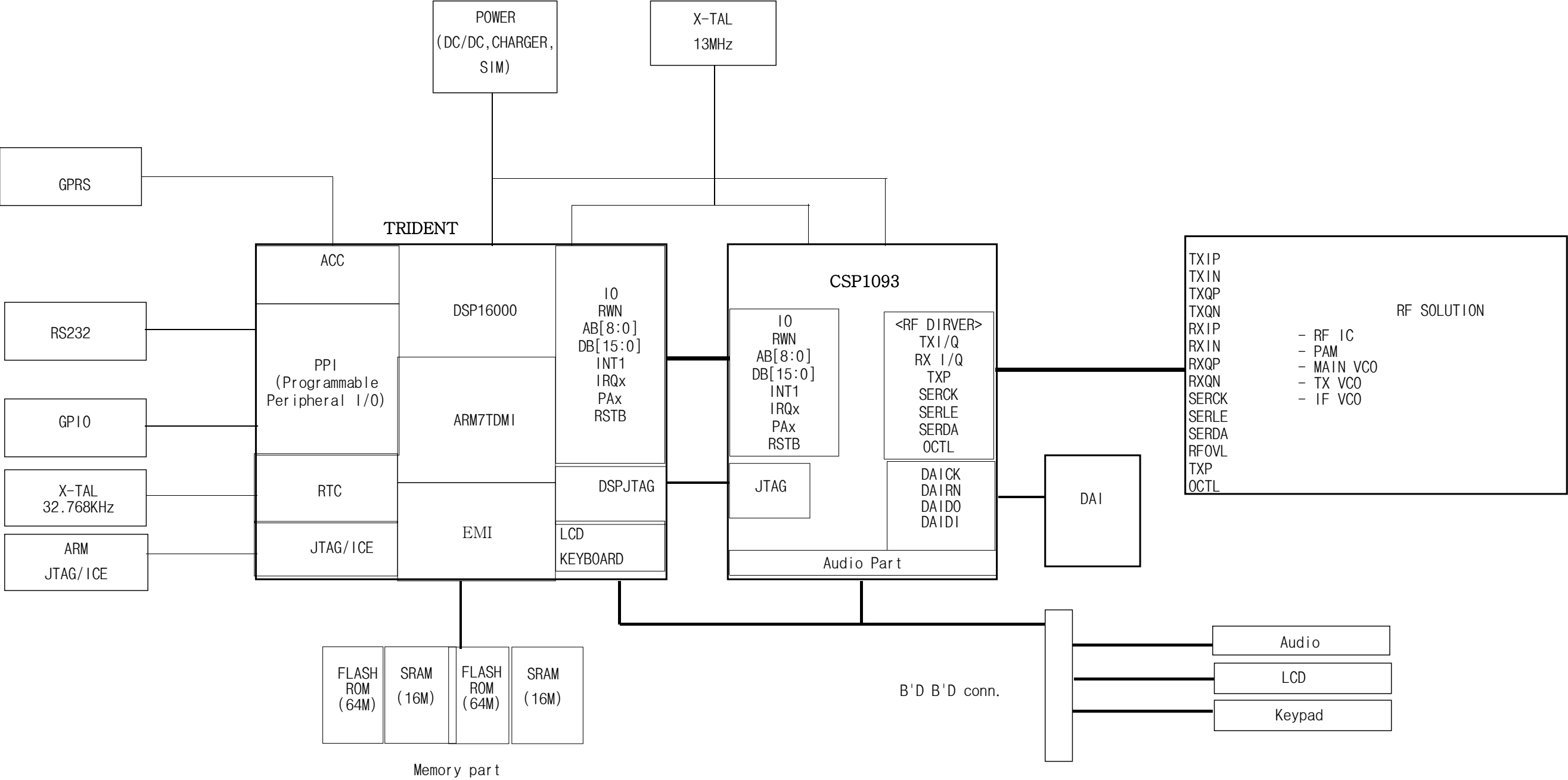
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0403-001427	ZD305
0406-001150	ZD402,ZD403,ZD404

5. SGH-D100/D100A Block Diagrams

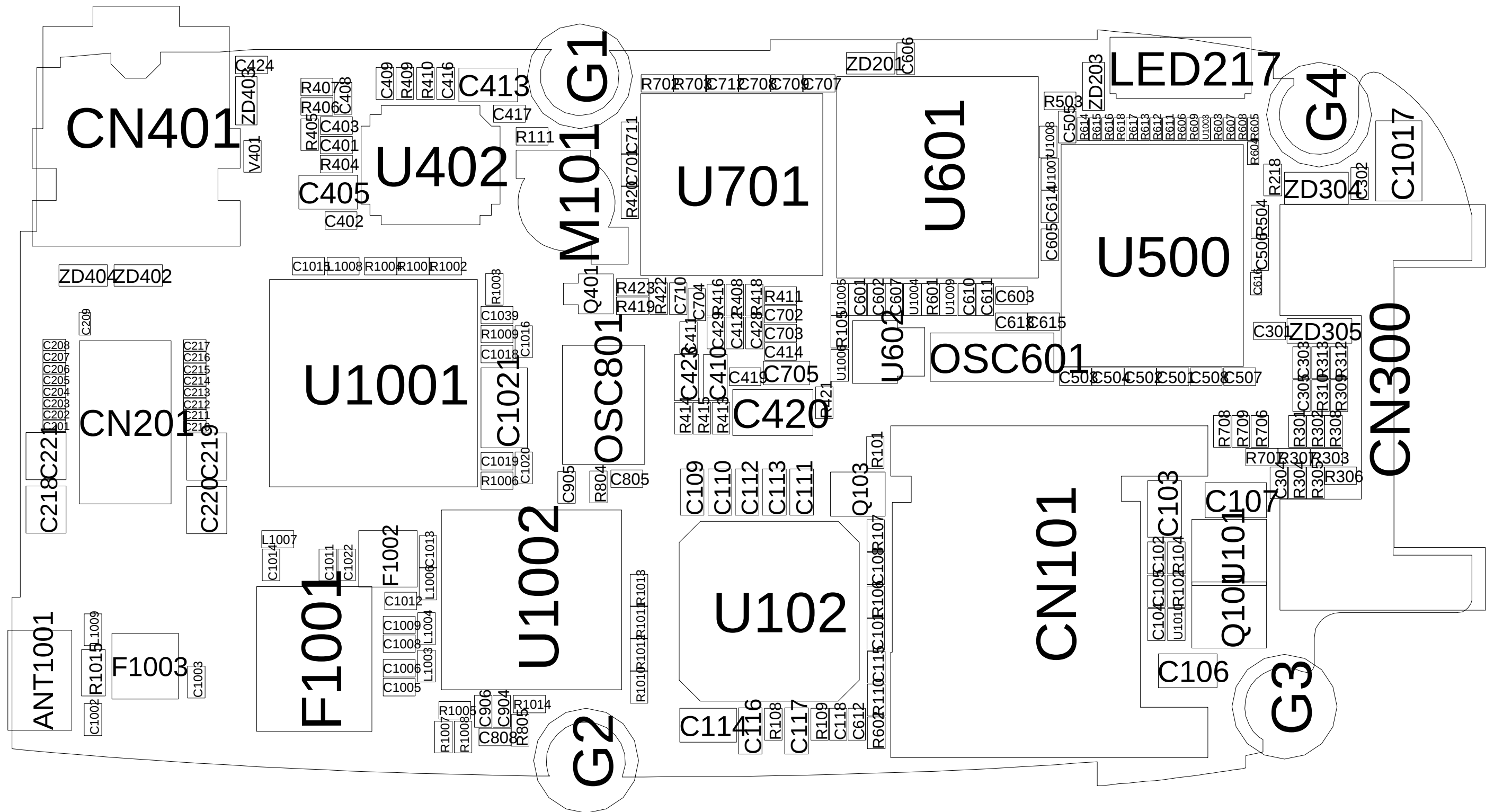
1. RF Solution Block Diagram



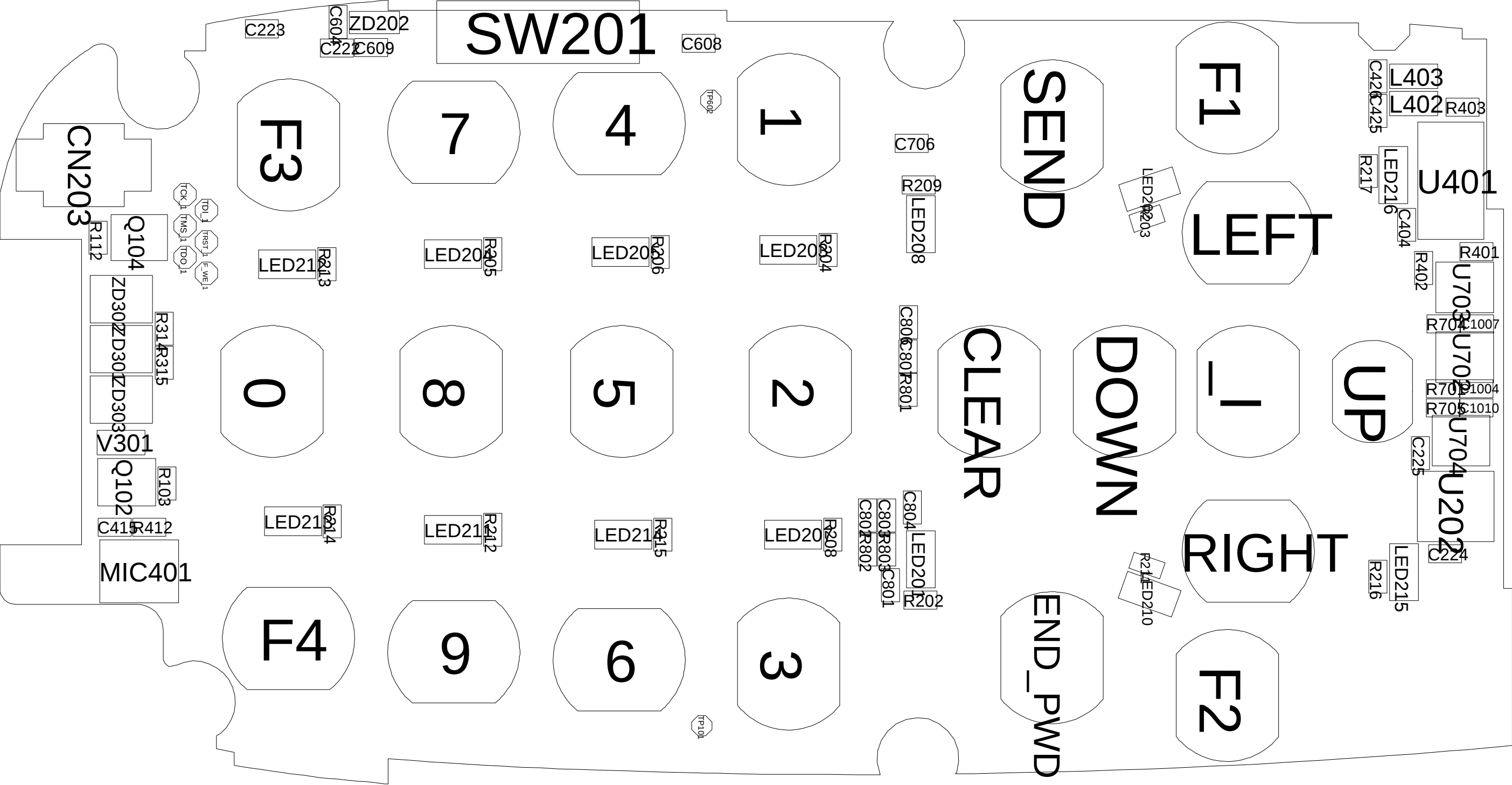
2. Base Band Solution Block Diagram



1. TOP Diagram



2. Bottom Diagram





ELECTRONICS

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