

SAMSUNG

GSM TELEPHONE SGH-E310

SERVICE *Manual*

GSM TELEPHONE



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1. SGH-E310 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	-

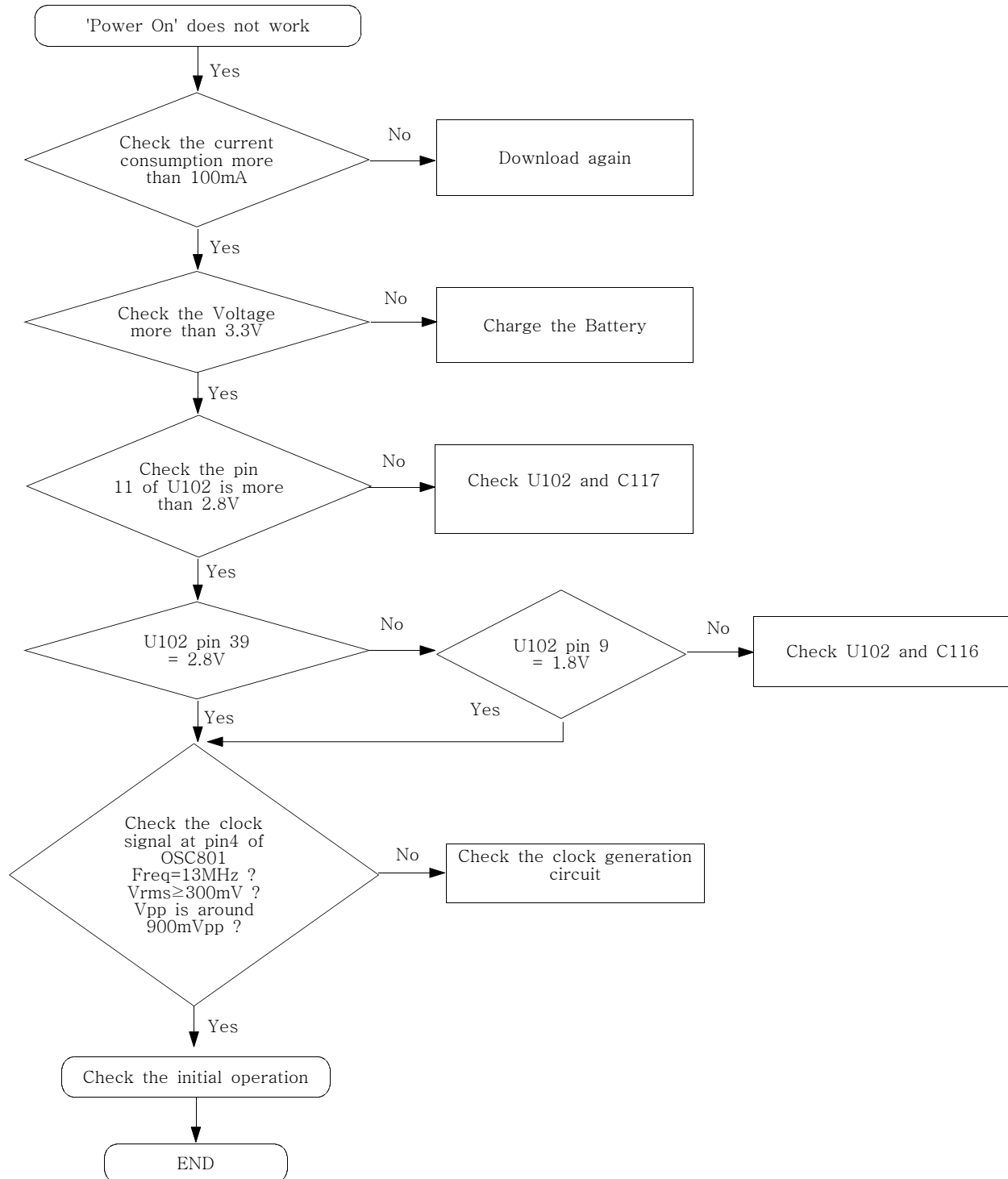
2. GSM TX power class

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

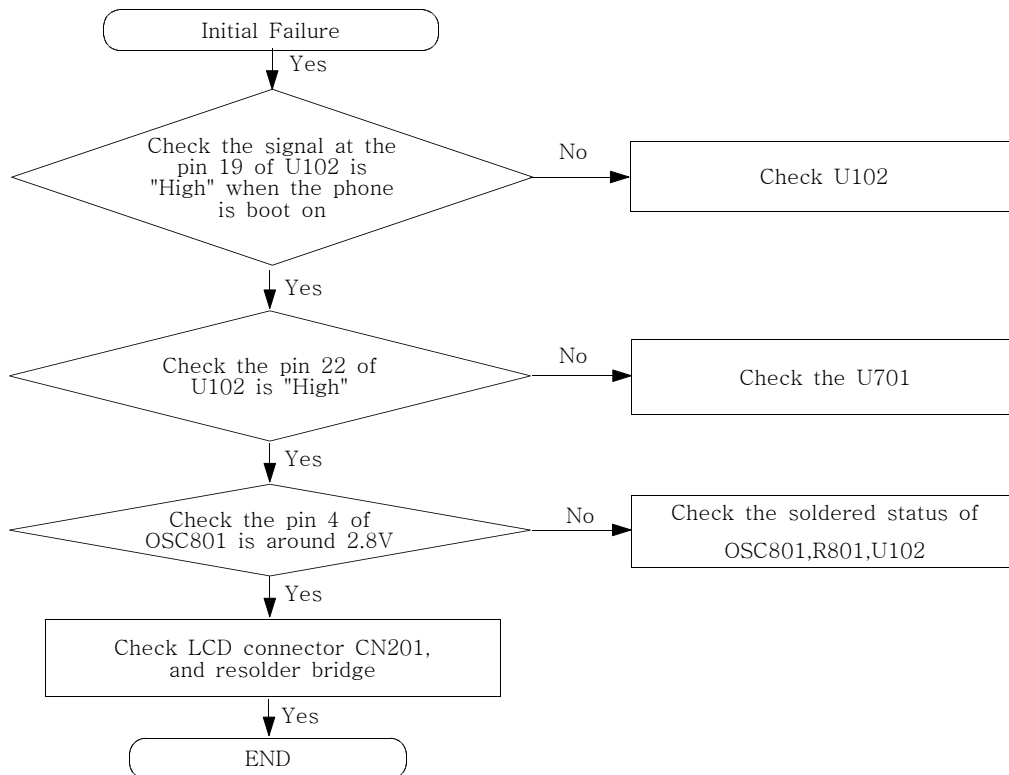
2. SGH-E310 Flow Chart of Troubleshooting

1.Baseband

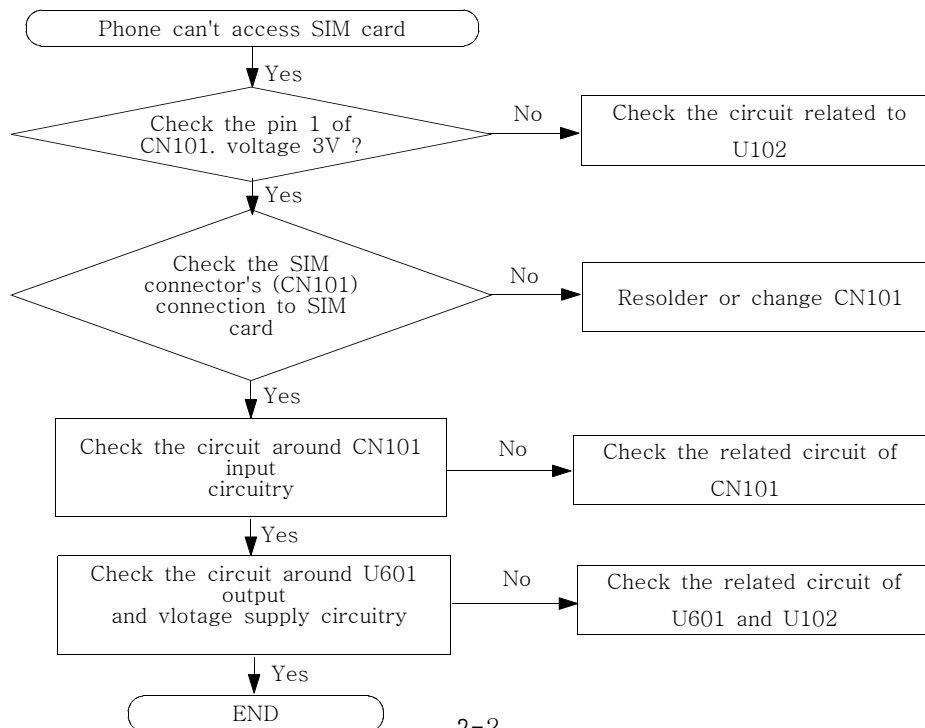
1. Power ON



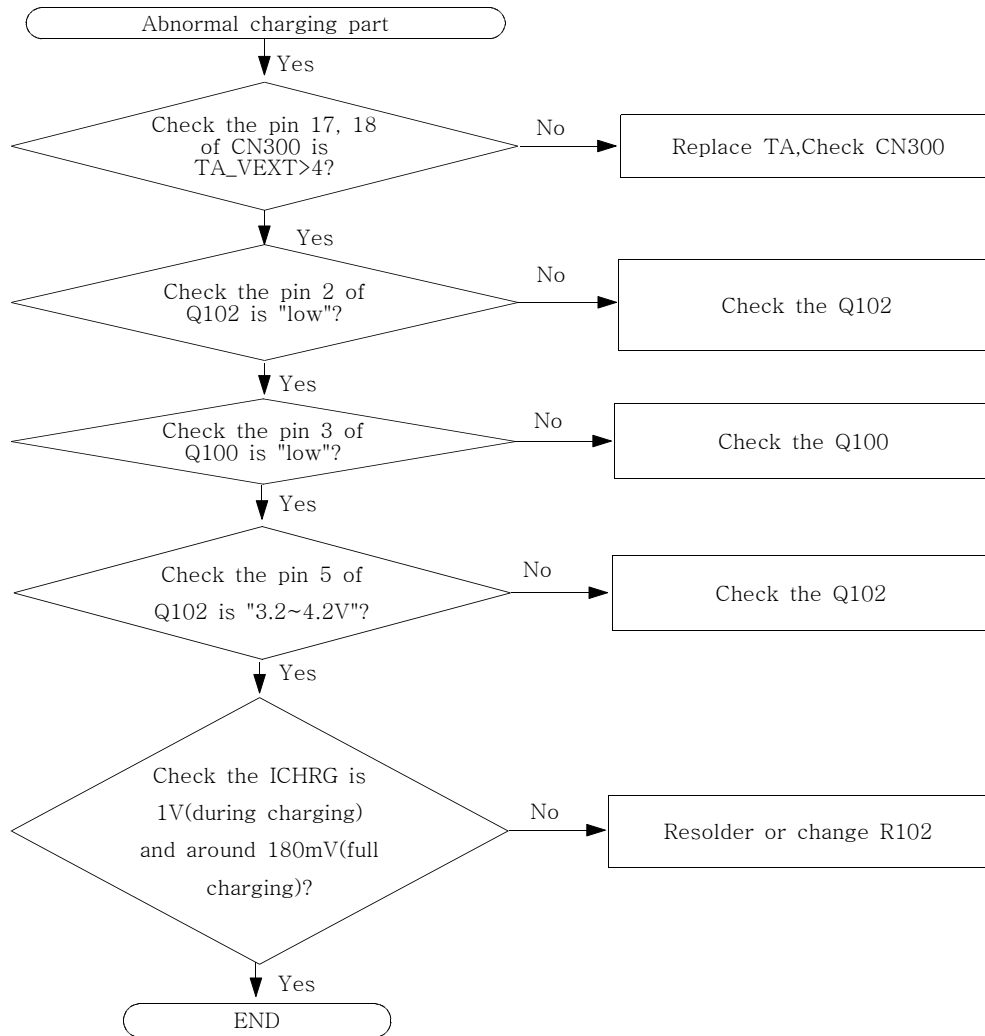
2. Initial

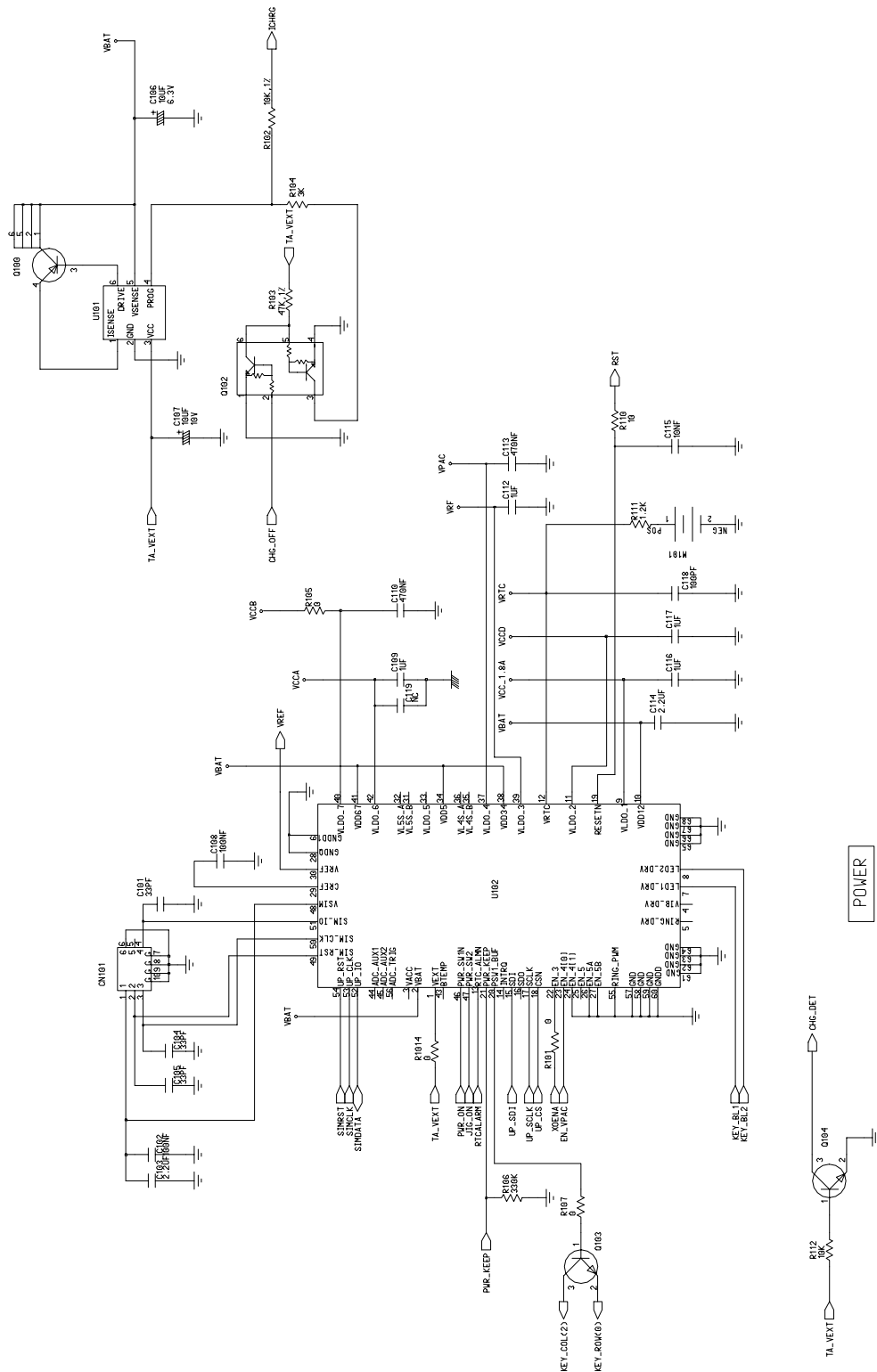


3. Sim Part

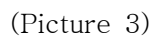


4. Charging Part

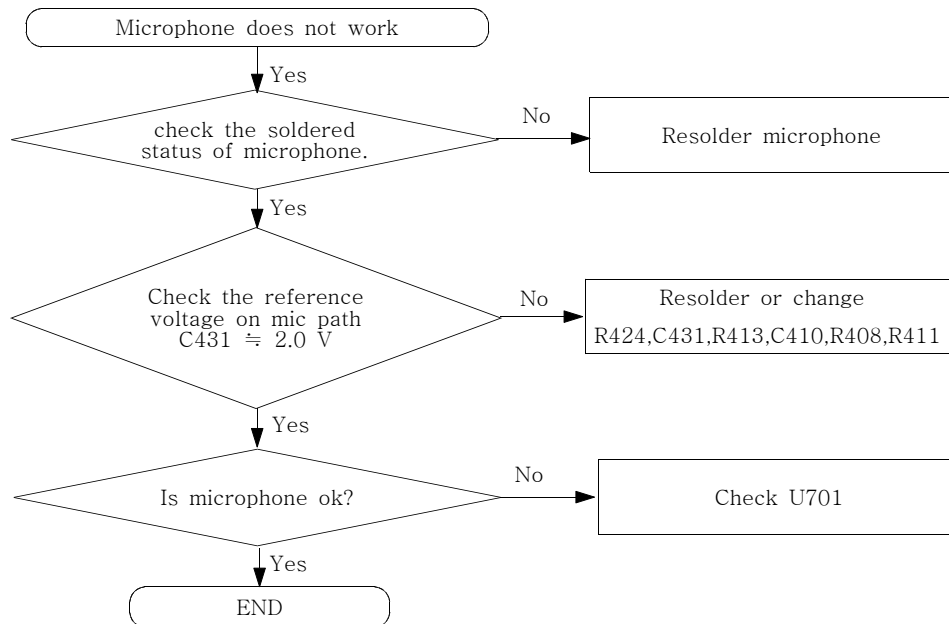




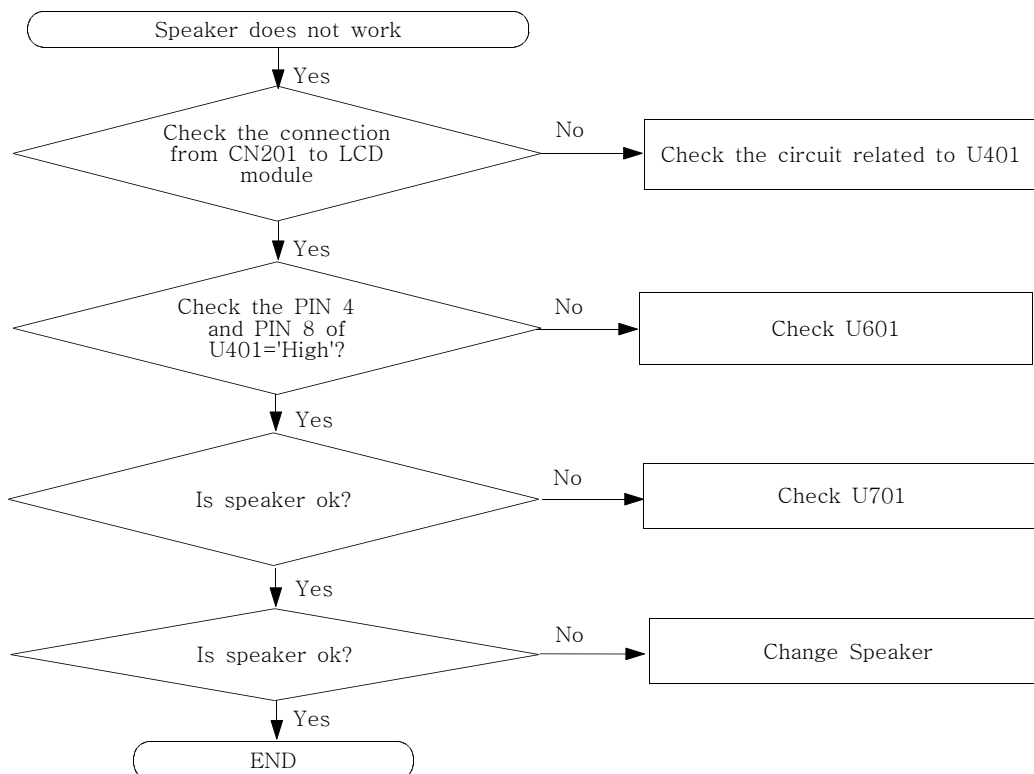
(Picture 1)

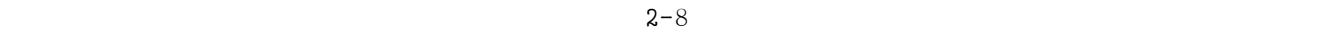


5. Microphone Part

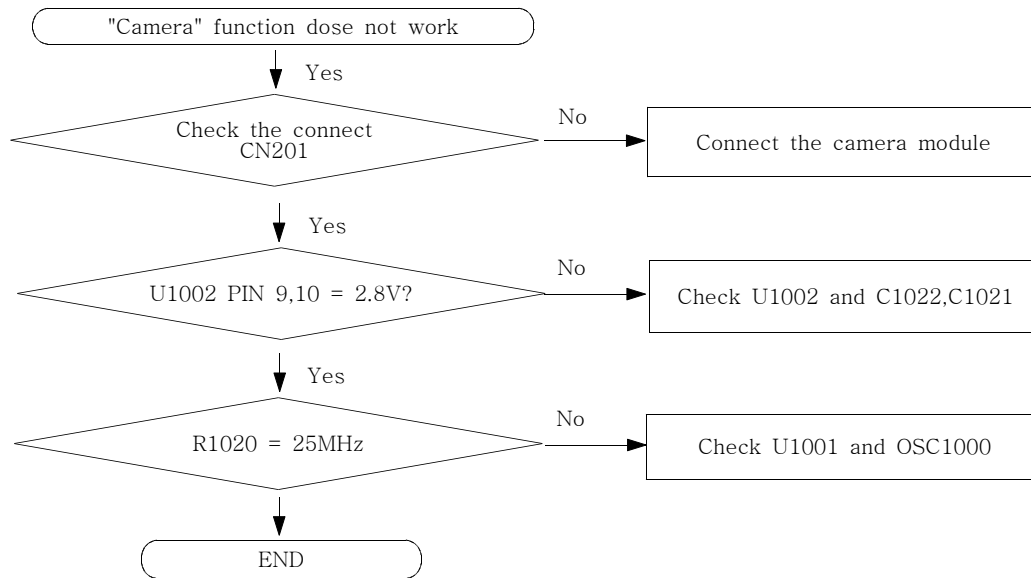


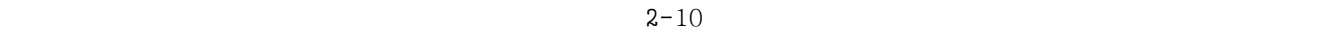
6. Speaker Part





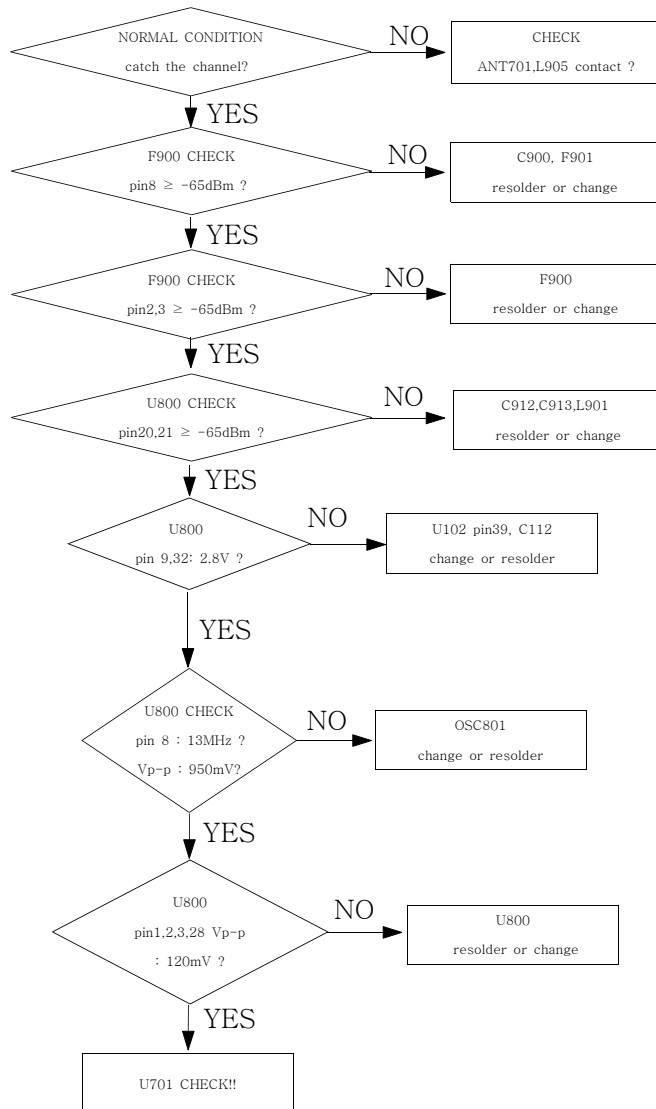
7. Camera Part





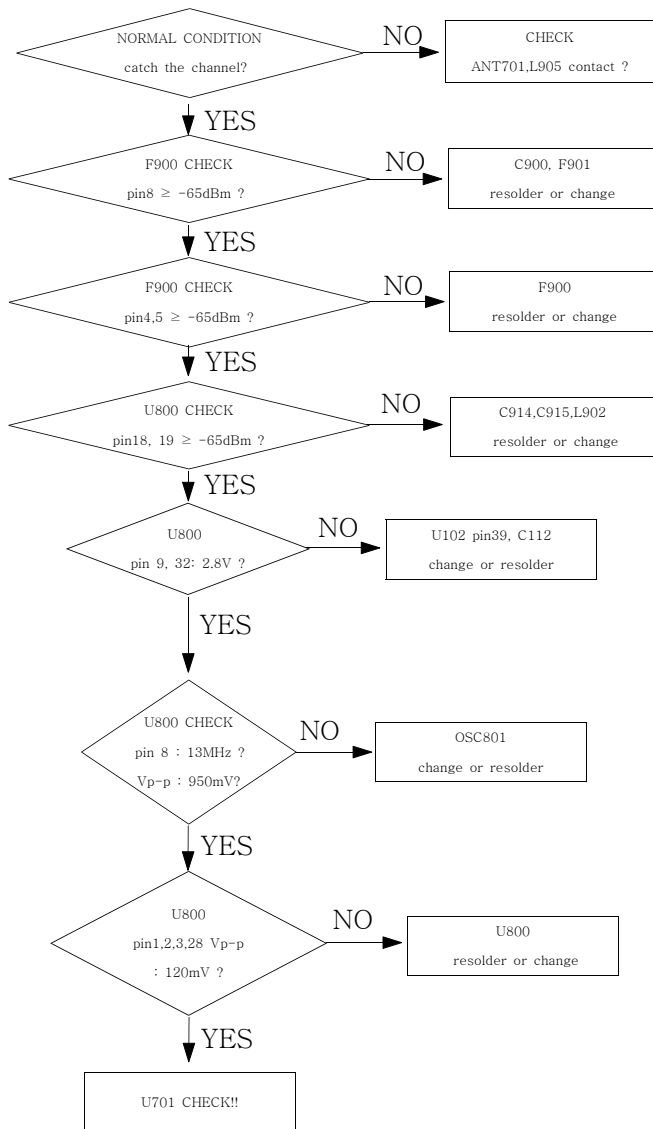
2.RF

1. EGSM RX



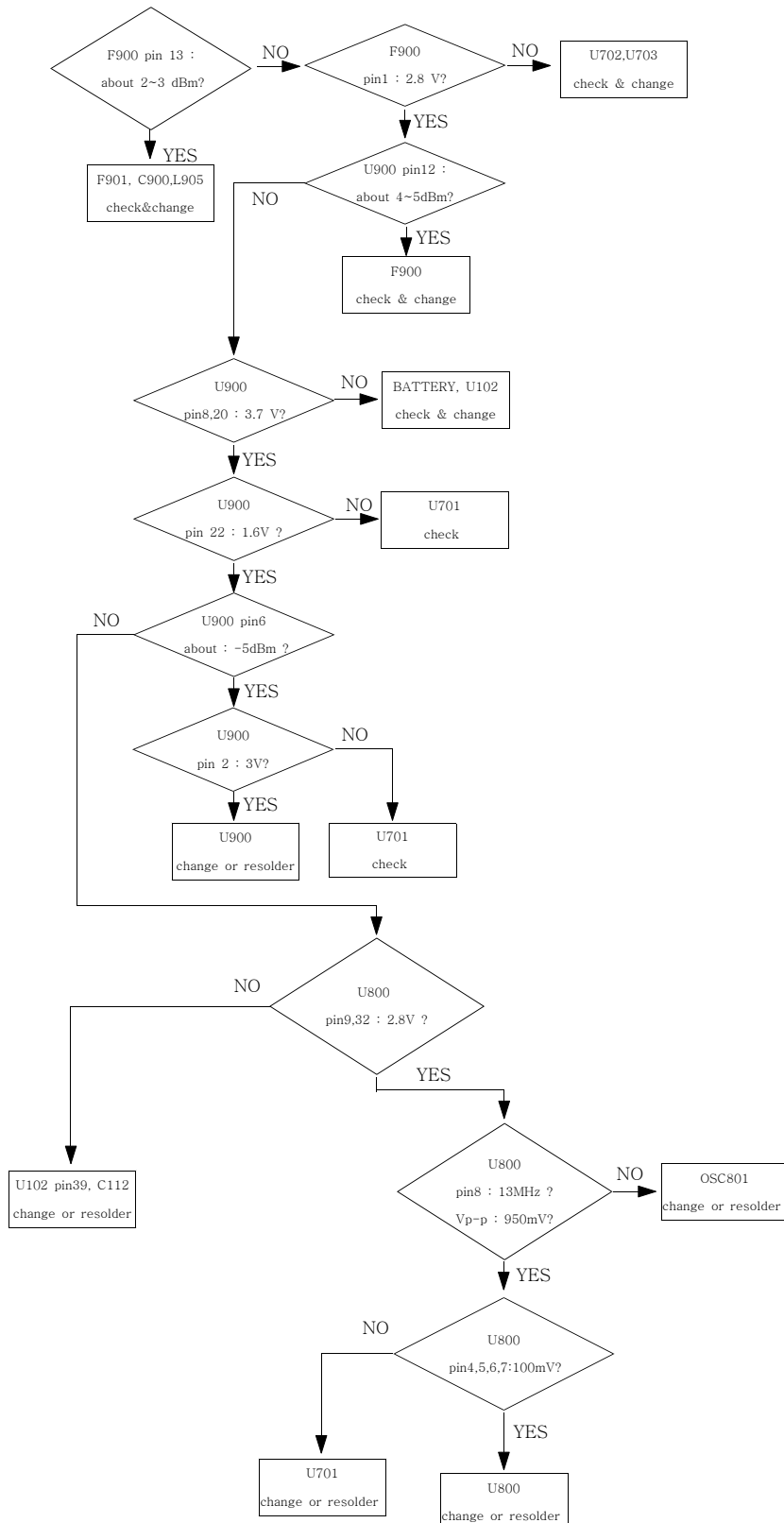
CONTINUOUS RX ON
RF INPUT : 62CH
AMP : -50dBm

2. DCS RX



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

3. EGSM TX



CONTINUS TX ON CONDITION

TX POWER DAC: 600 CODE APPLIED

CH : 62

RBW : 100KHz

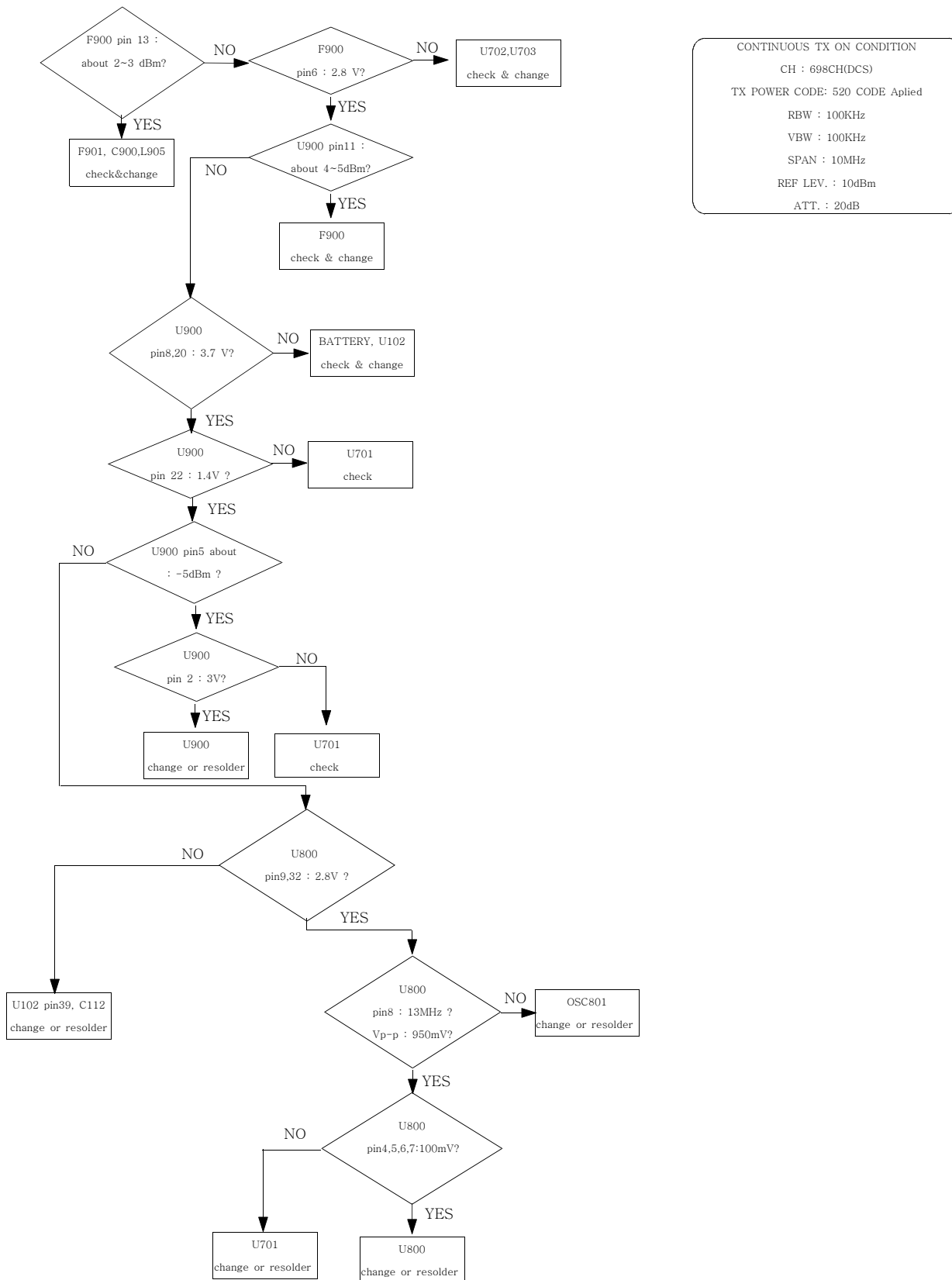
VBW : 100KHz

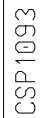
SPAN : 10MHz

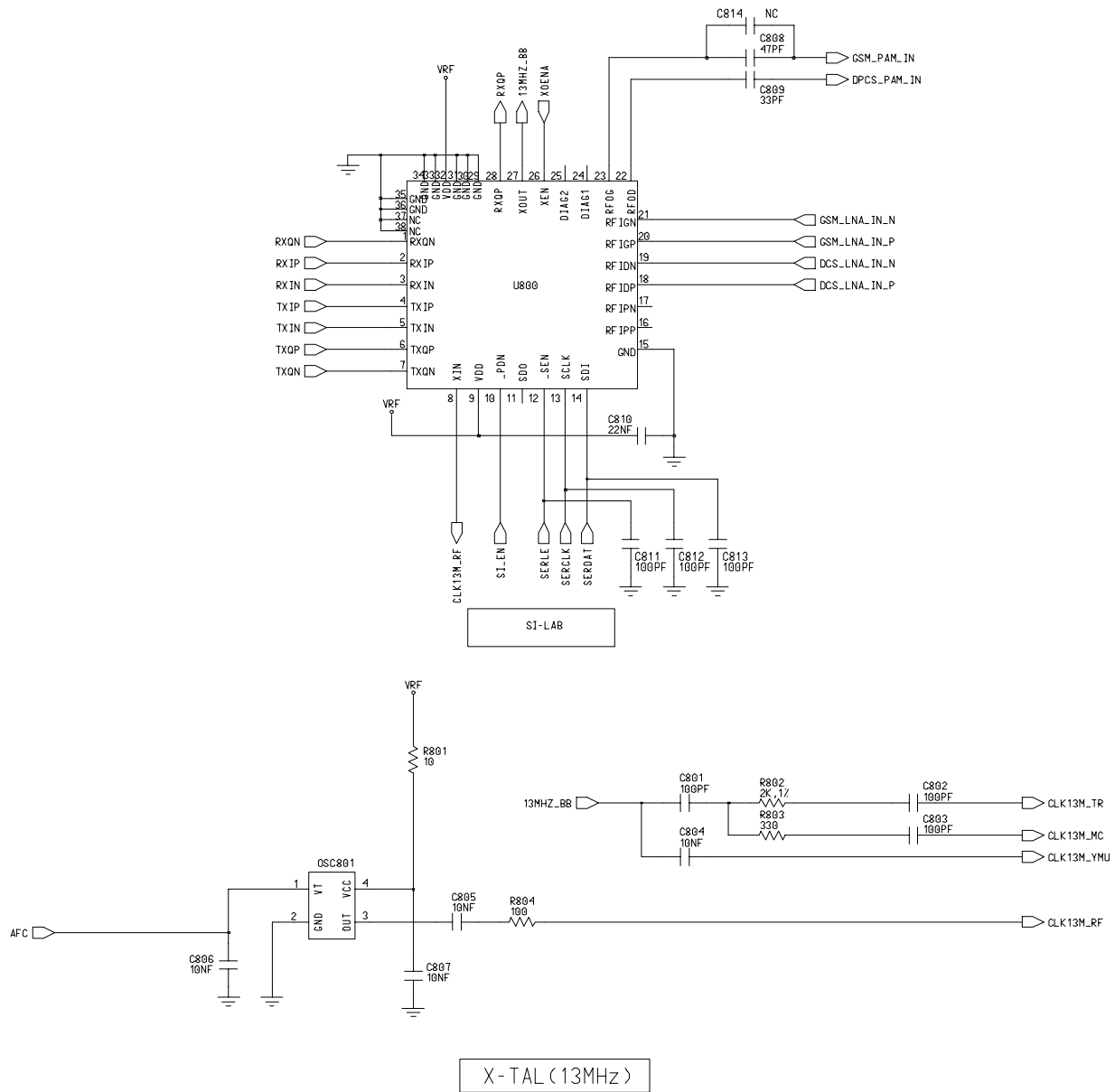
REF LEV. : 10dBm

ATT. : 20dB

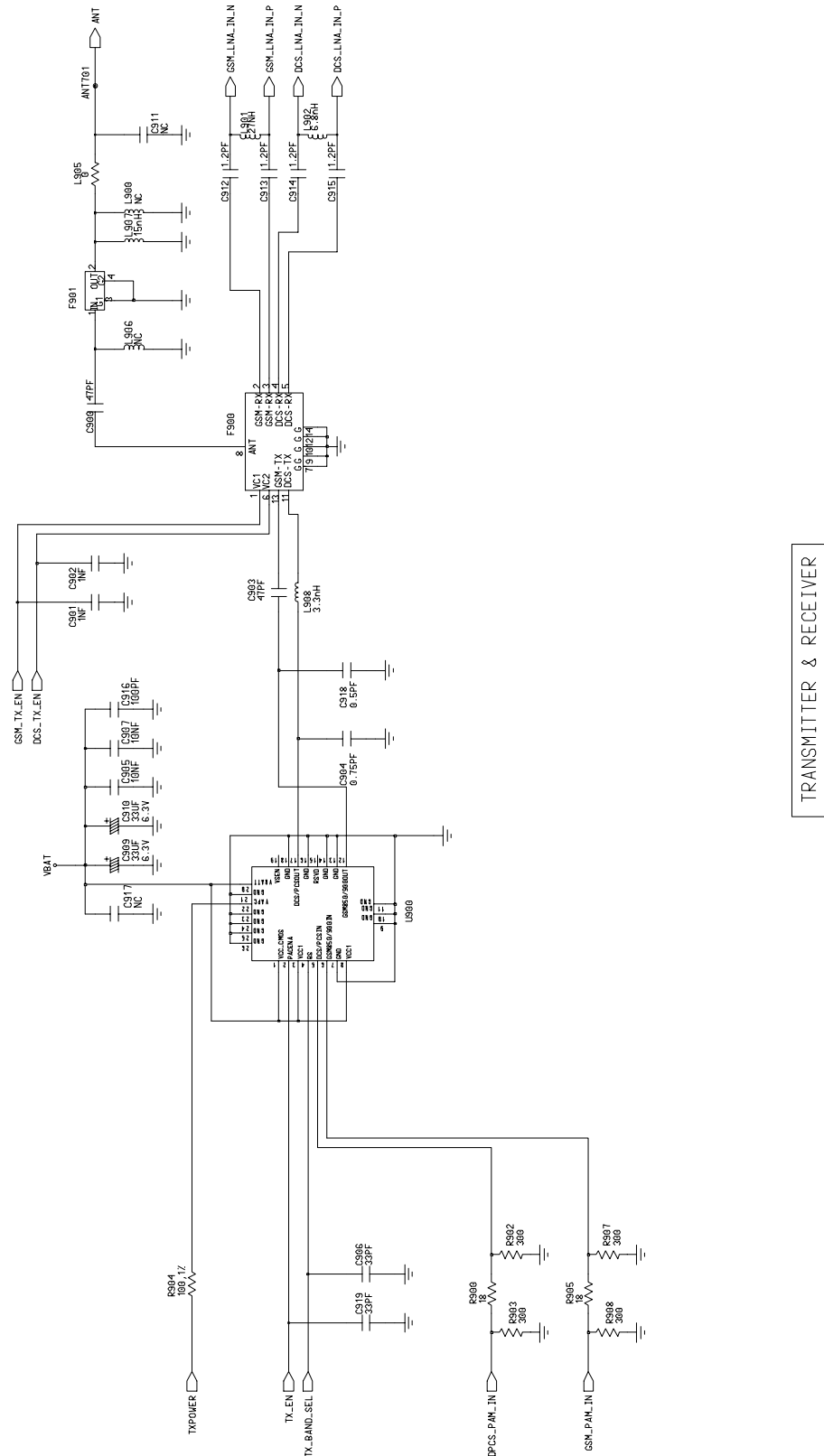
5. DCS TX







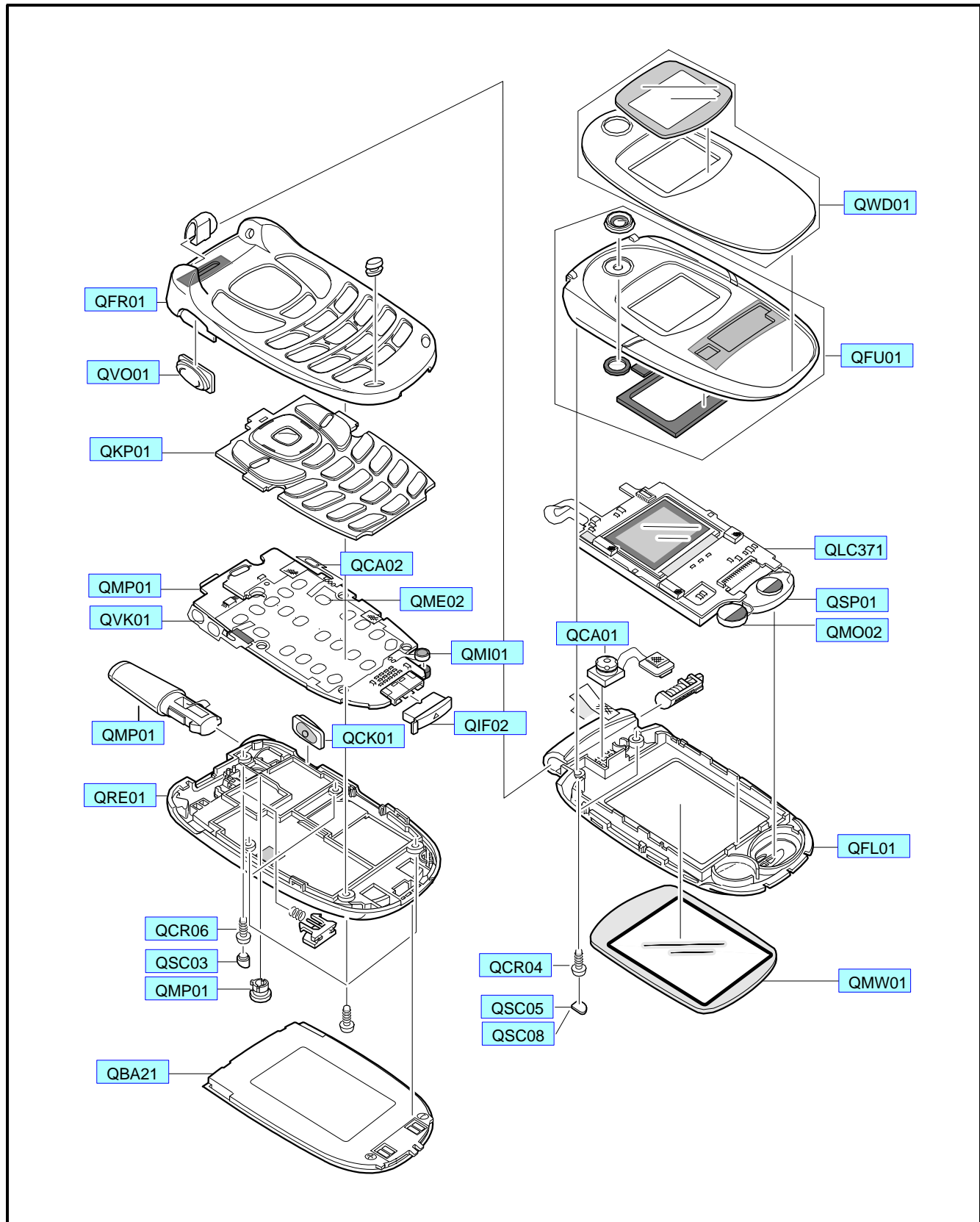
(Picture 2)



(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
2203-000812	C215
2203-000812	C216
2203-005682	C217
2203-005682	C218
2203-000812	C219
2203-005682	C220
2203-000812	C221
2203-005682	C222
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
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2203-005682	C244
2203-005682	C246
2203-005682	C247

SEC Code	Design LOC
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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

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
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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
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2007-000162	R1021
2007-007139	R103
2007-001323	R104
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2007-000758	R106
2007-000171	R107
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2007-001319	R111
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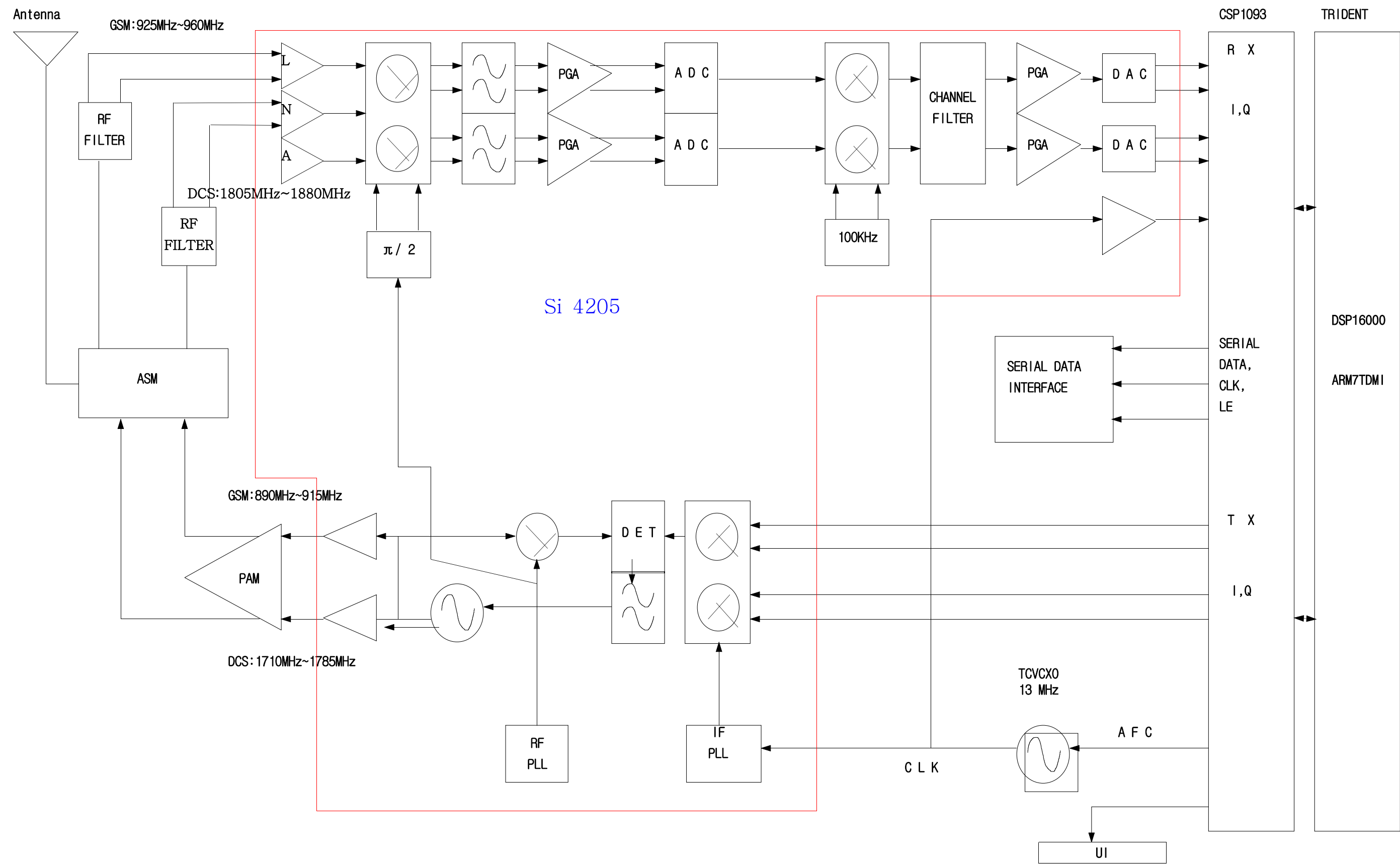
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2007-001313	R803
2007-000138	R804
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2007-007008	R902
2007-007008	R903
2007-007306	R904
2007-001288	R905
2007-007008	R907

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2203-005682	U1005
2007-000162	U1006
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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
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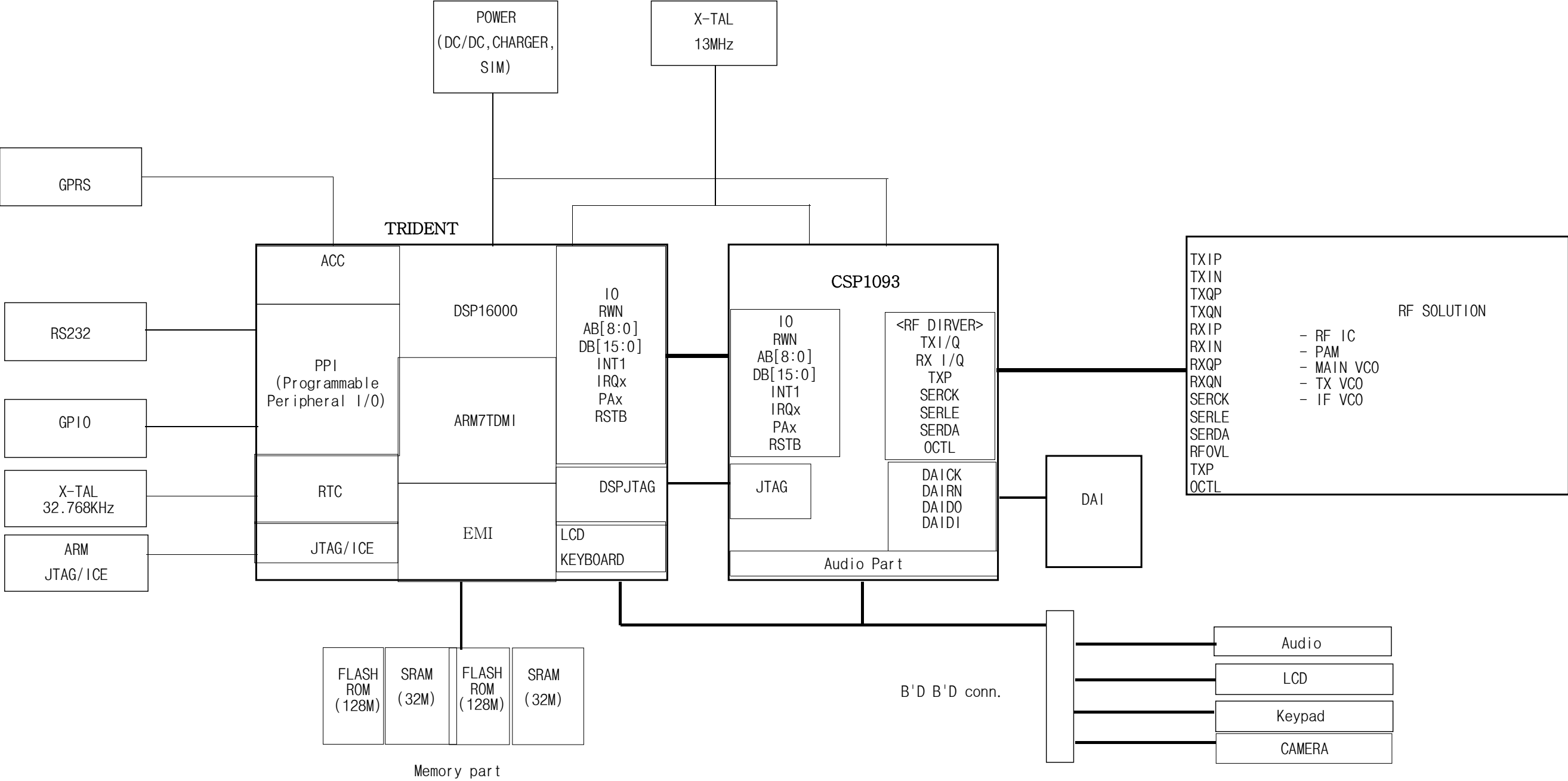
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GH73-03030A	
GH73-03033A	
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GH74-07567A	
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5. SGH-E310 Block Diagrams

1. RF Solution Block Diagram



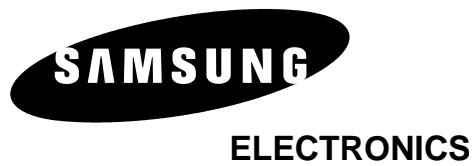
2. Base Band Solution Block Diagram



1. Main Top Diagram







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