

**SAMSUNG**

# GSM TELEPHONE

## SGH-E610/SGH-E610S

# ***SERVICE*** *Manual*

### GSM TELEPHONE



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# 1. SGH-E610 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

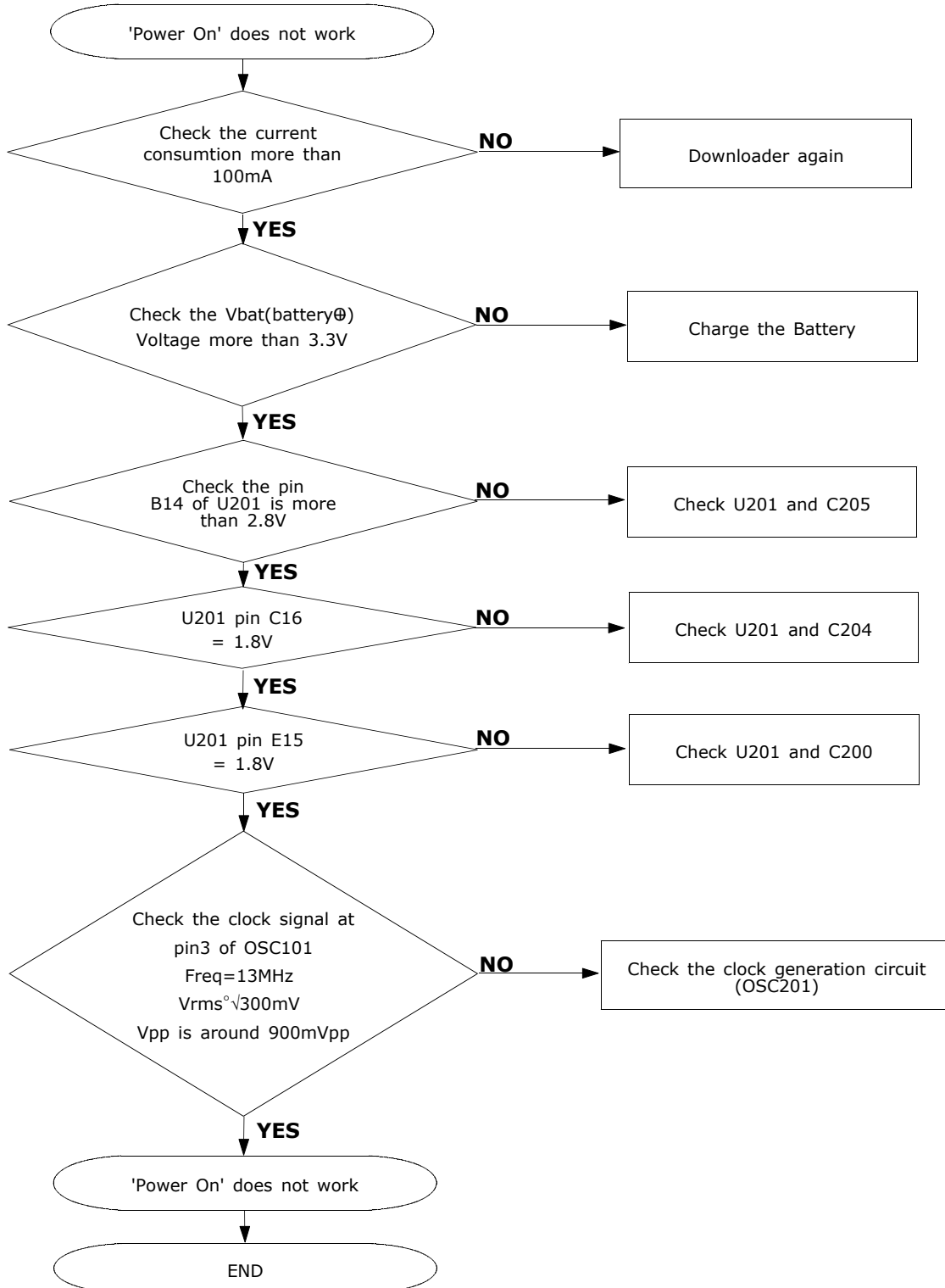
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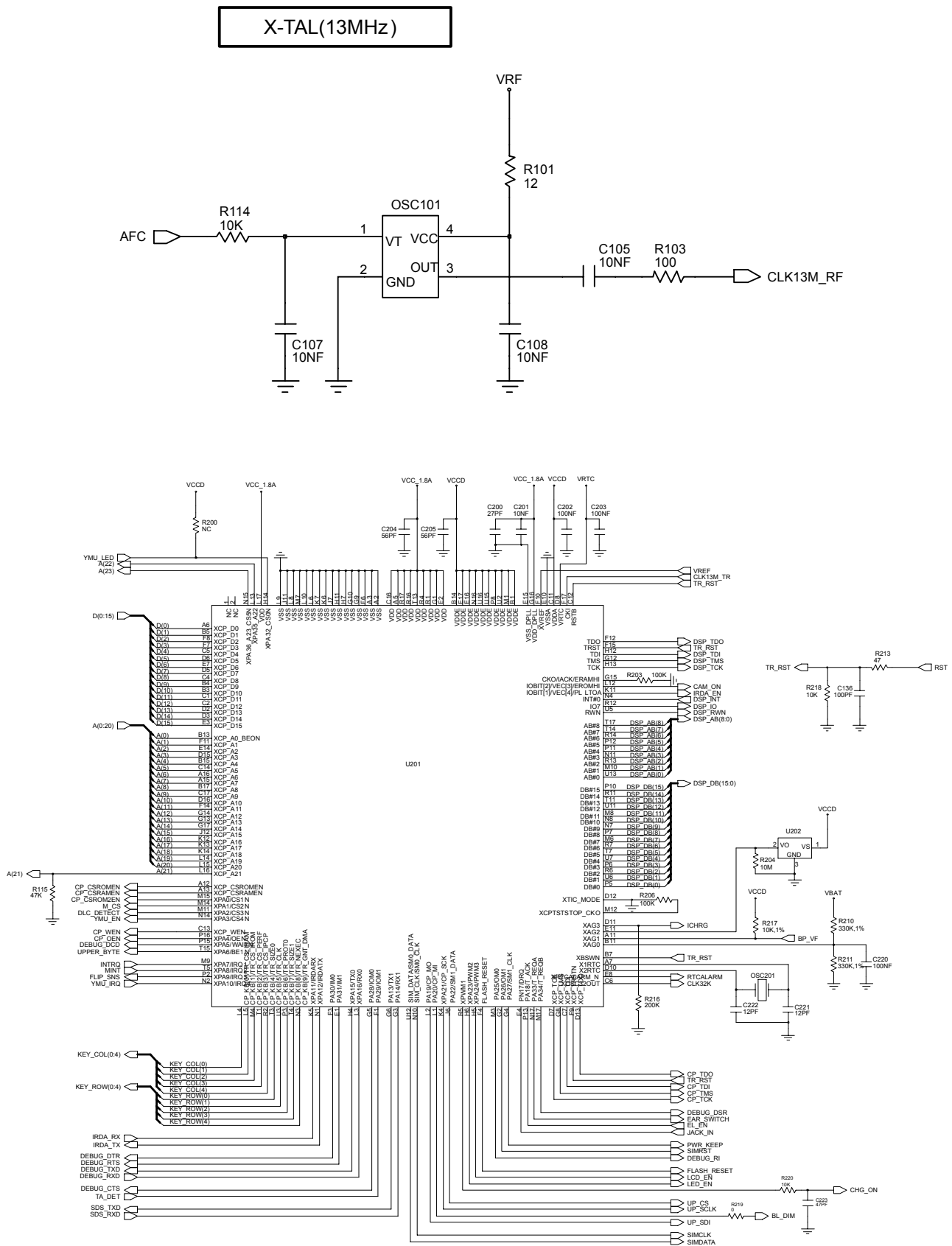
## 2. SGH-E610 Flow Chart of Troubleshooting and Circuit Diagrams

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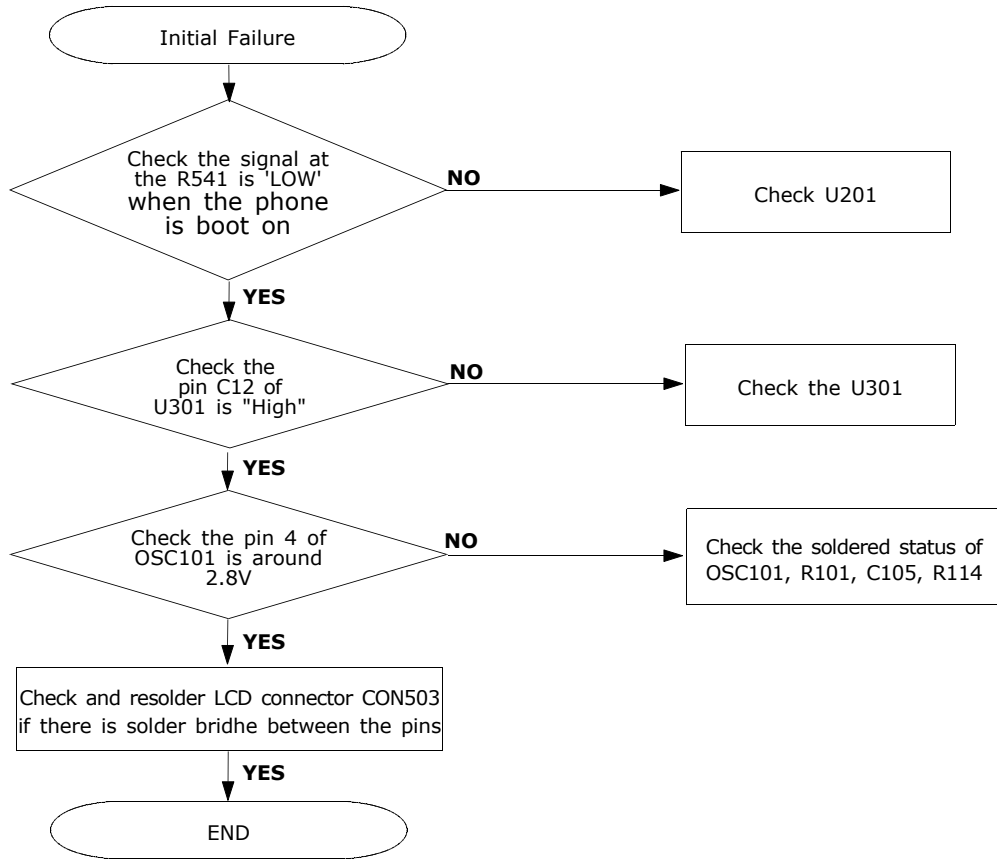
### 1. Baseband

#### 1. Power ON

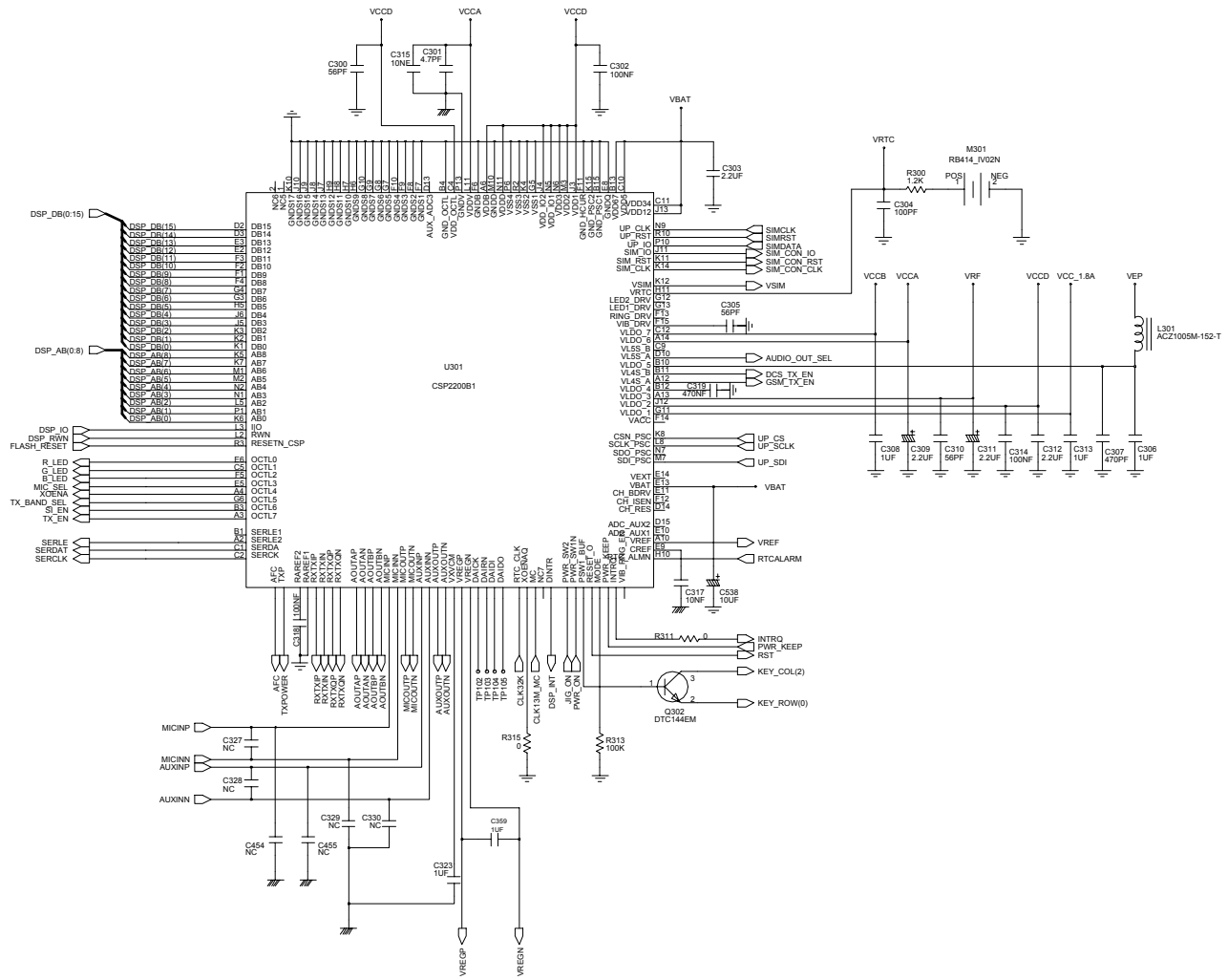




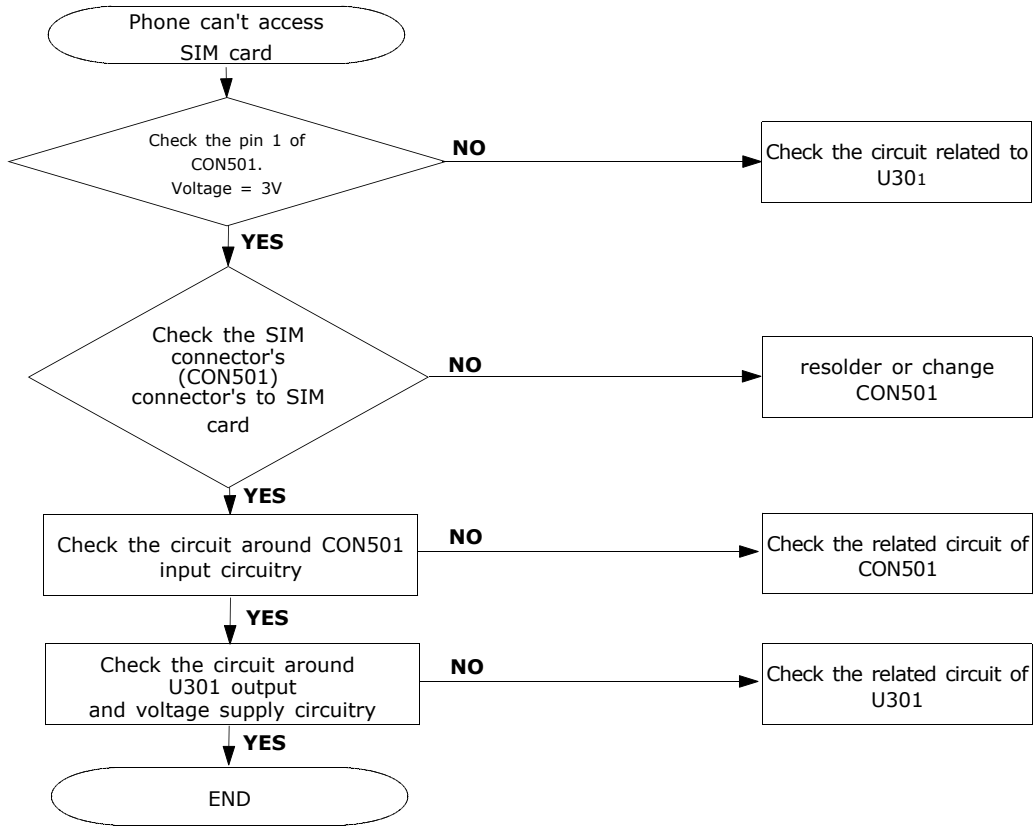
## 2. Initial



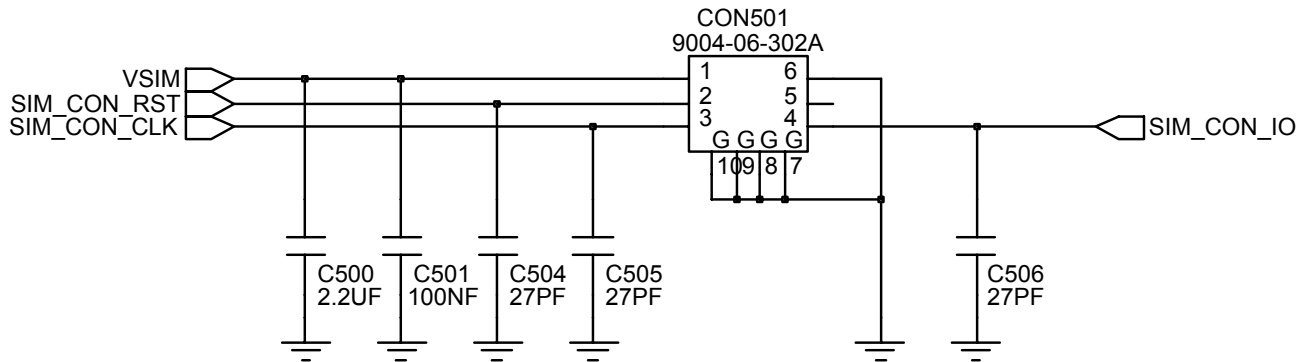
# SGH-E610 Flow Chart of Troubleshooting and Circuit Diagrams



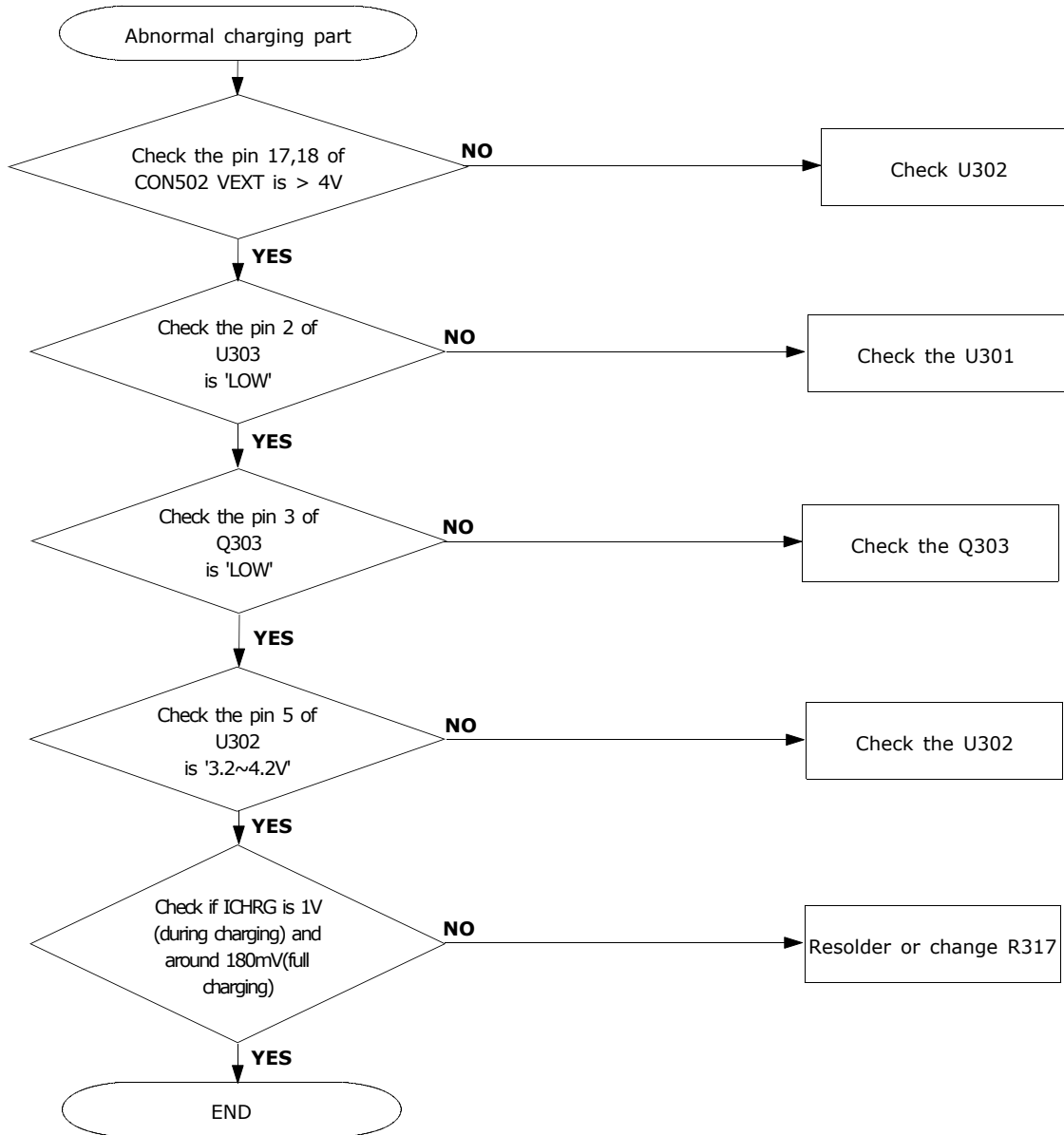
### 3. Sim Part

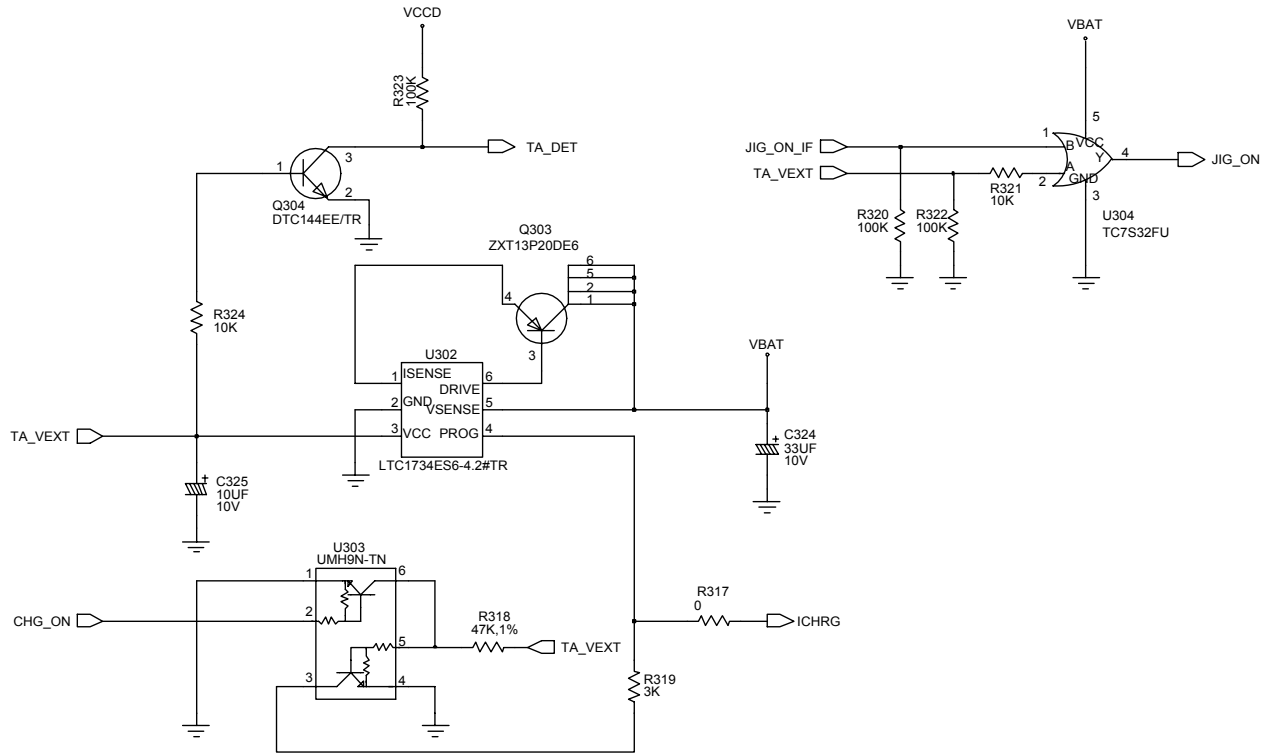




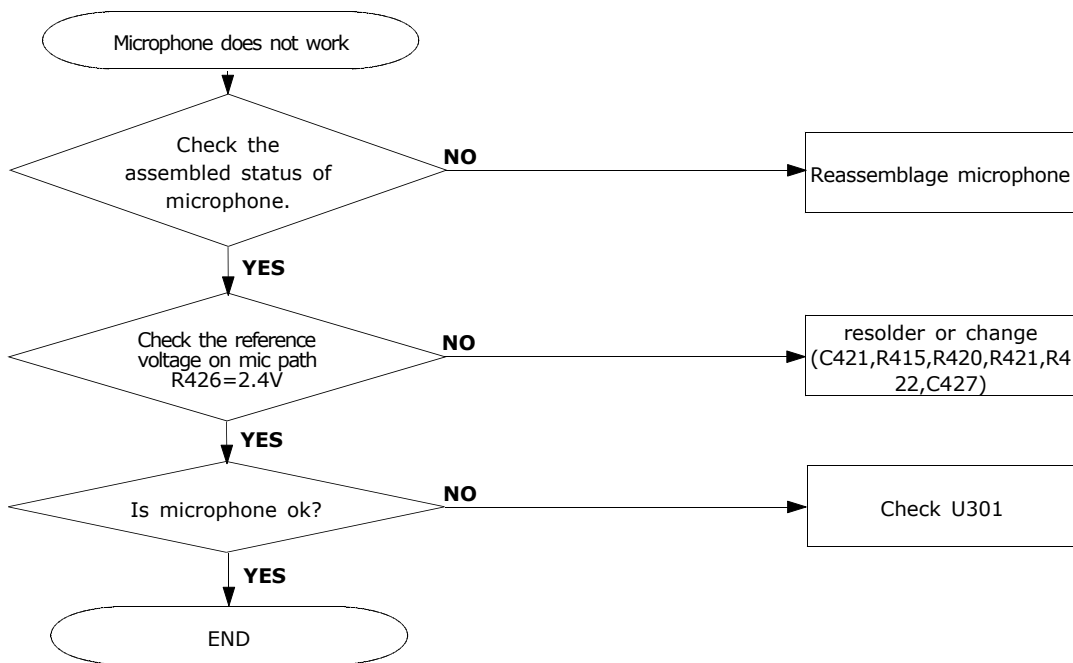


## 4. Charging Part





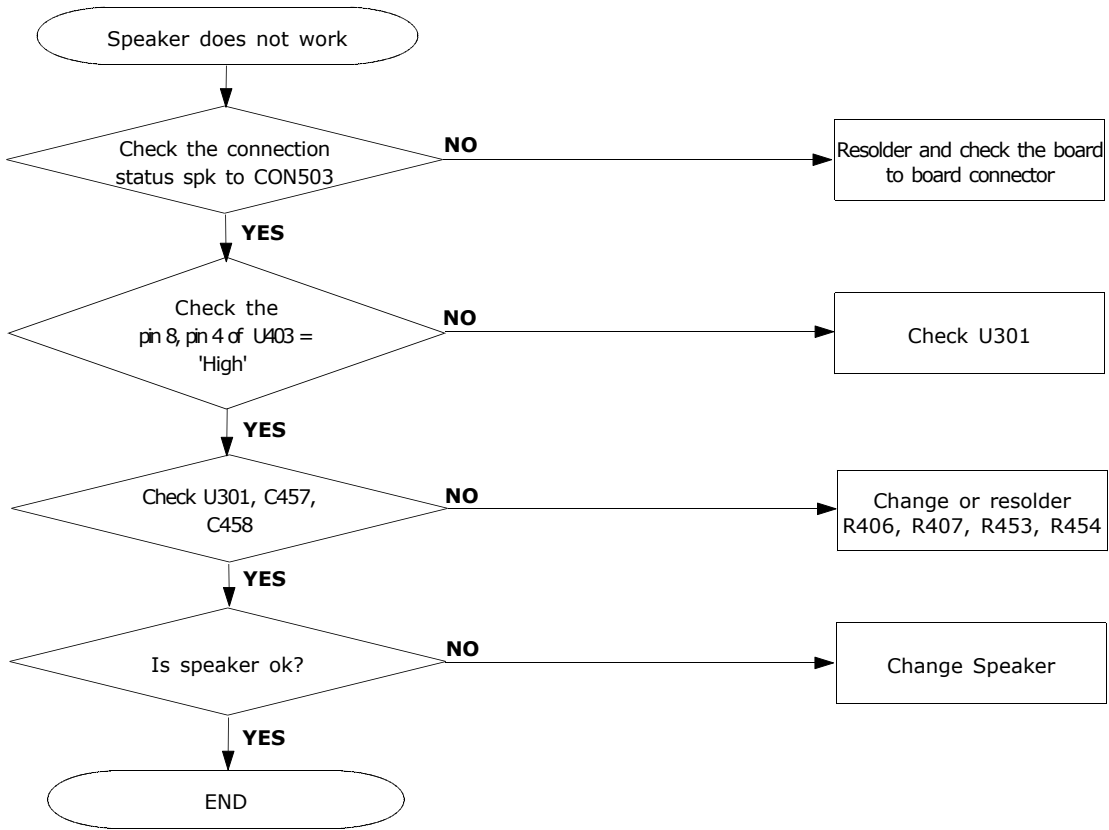
## 5. Microphone Part



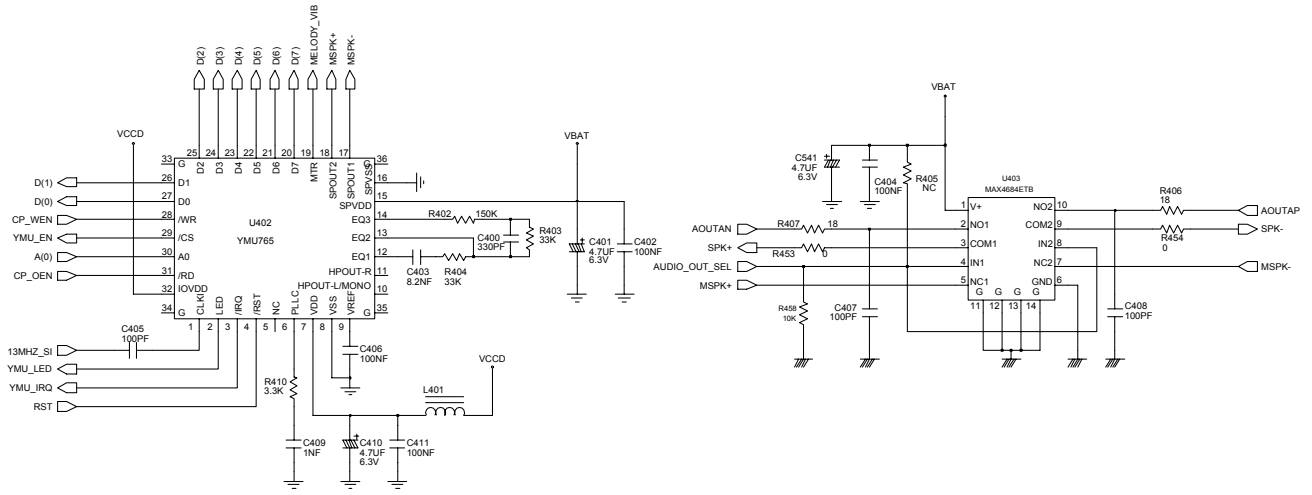
# SGH-E610 Flow Chart of Troubleshooting and Circuit Diagrams



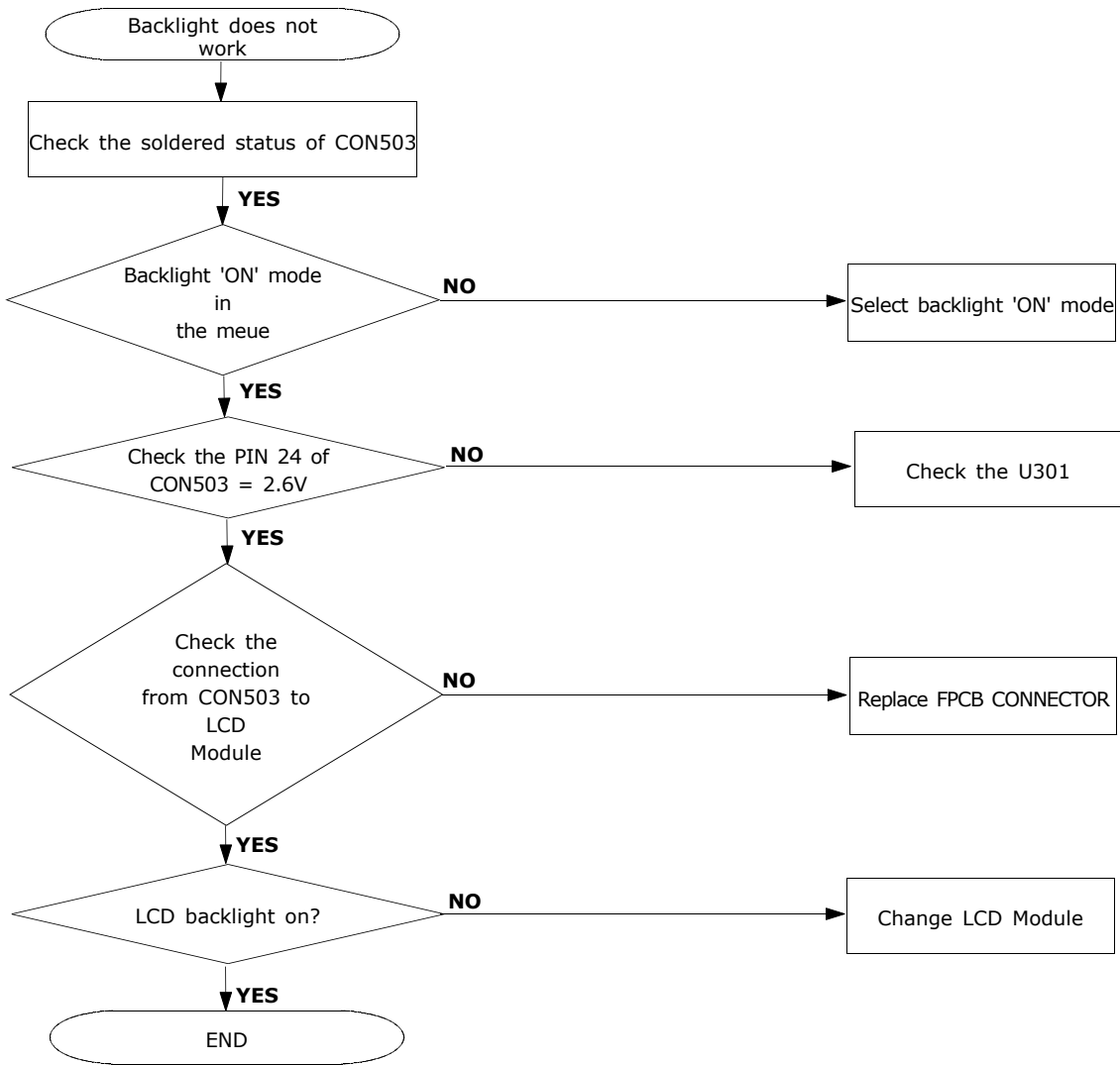
## 6. Speaker Part



SGH-E610 Flow Chart of Troubleshooting and Circuit Diagrams

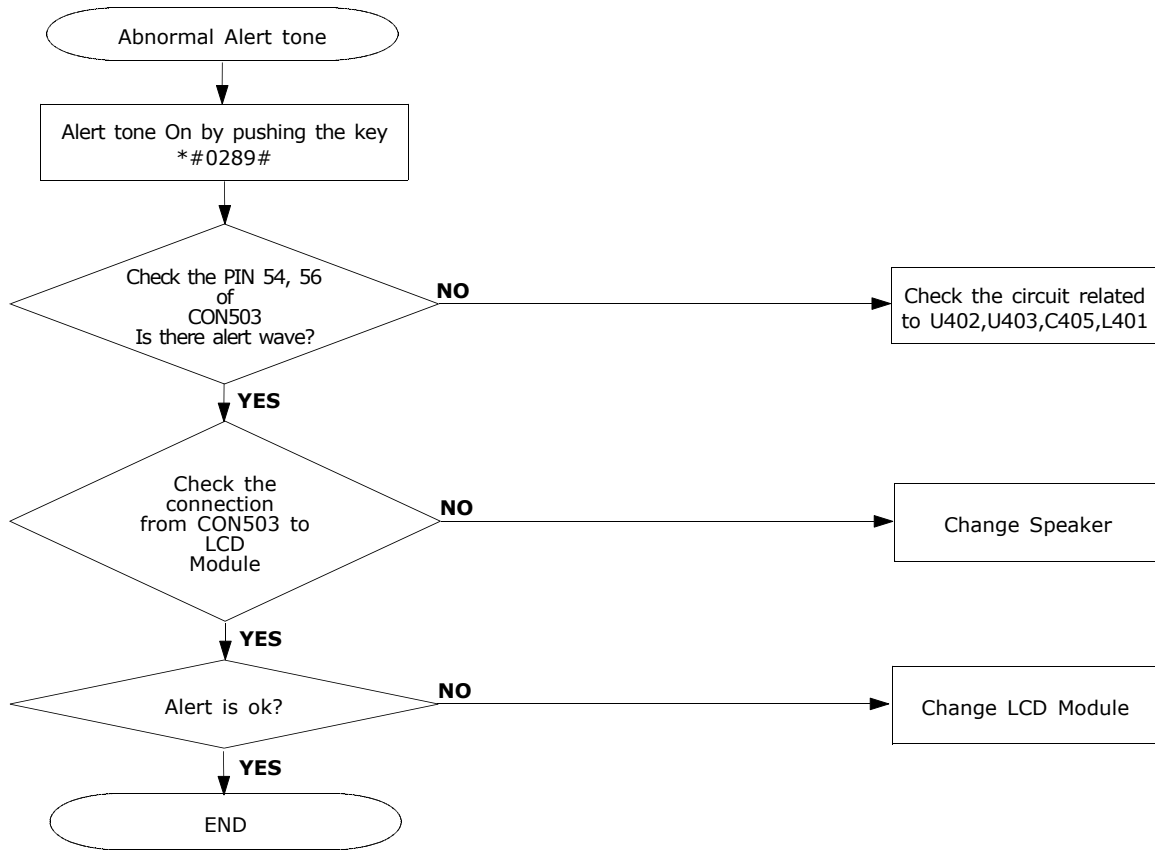


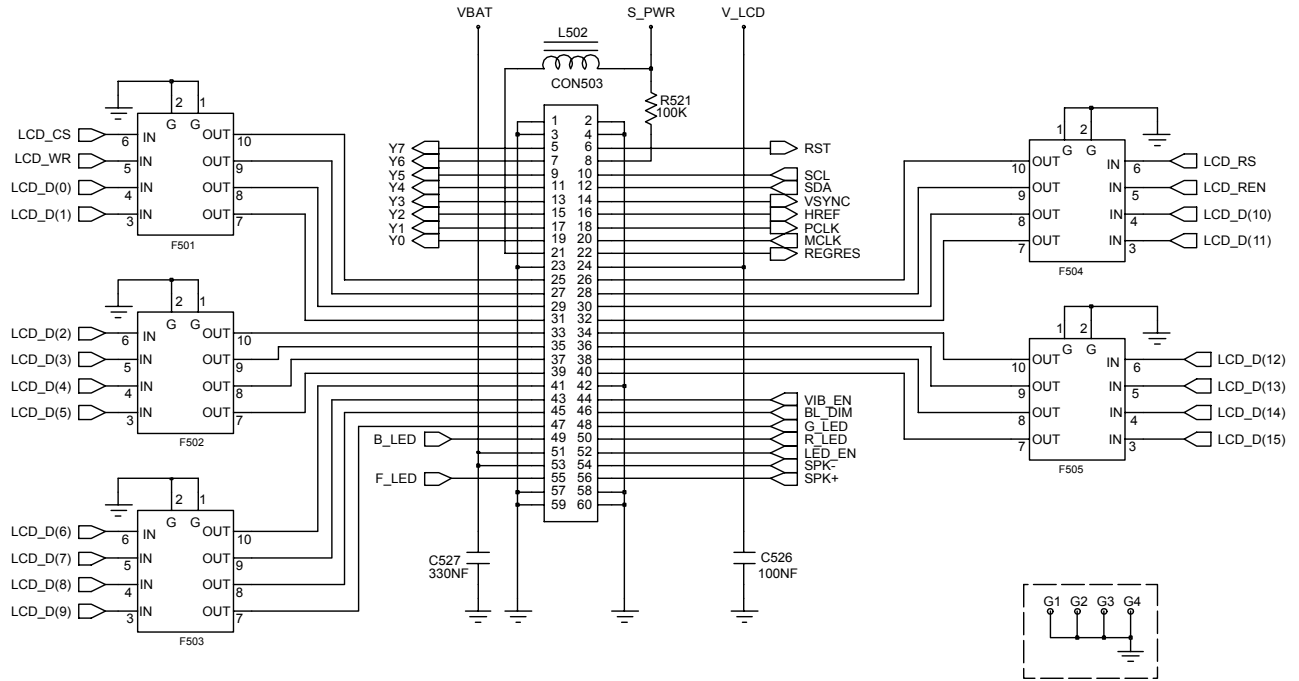
## 7. Back Light





## 8.Alert Tone

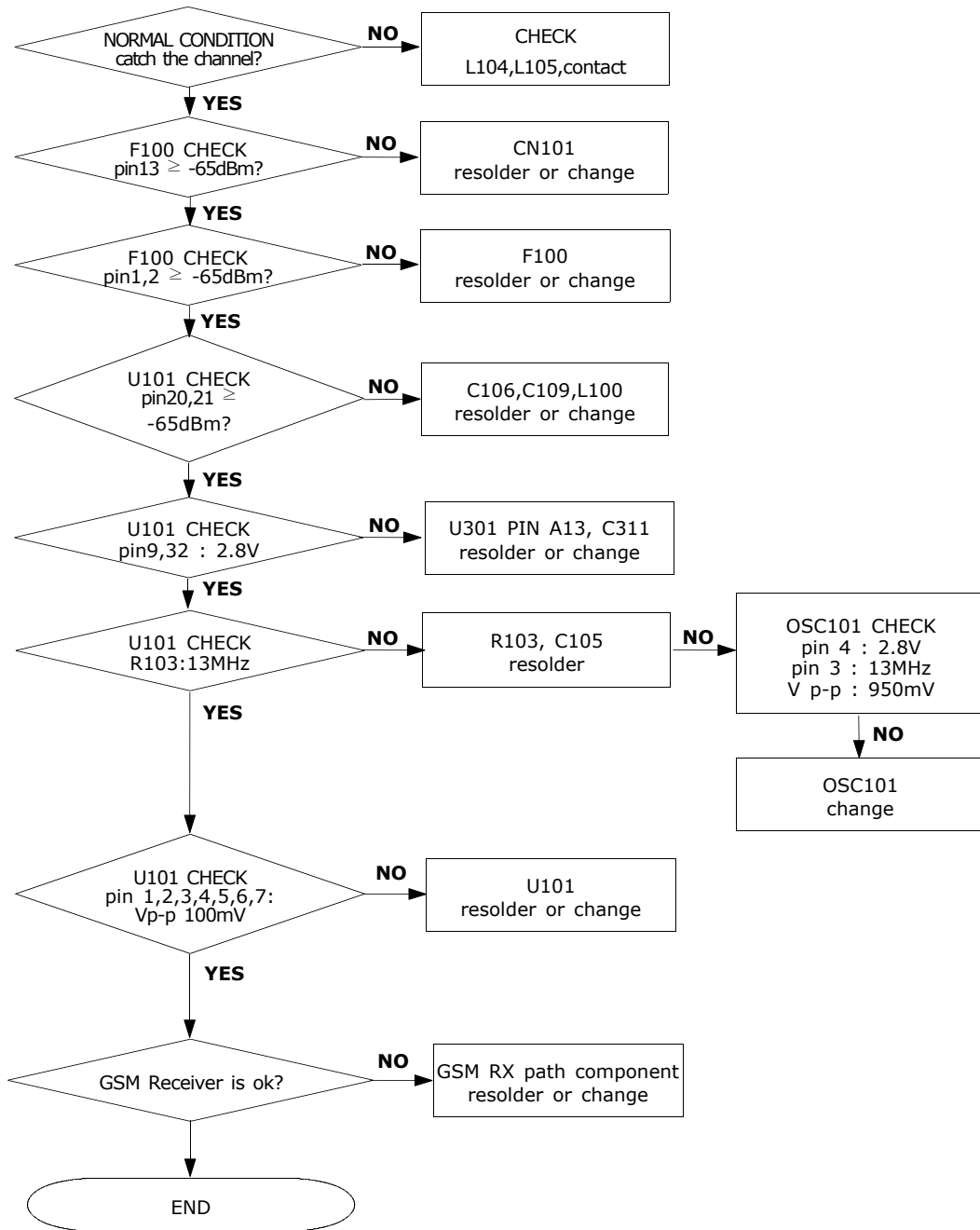




## 2.RF

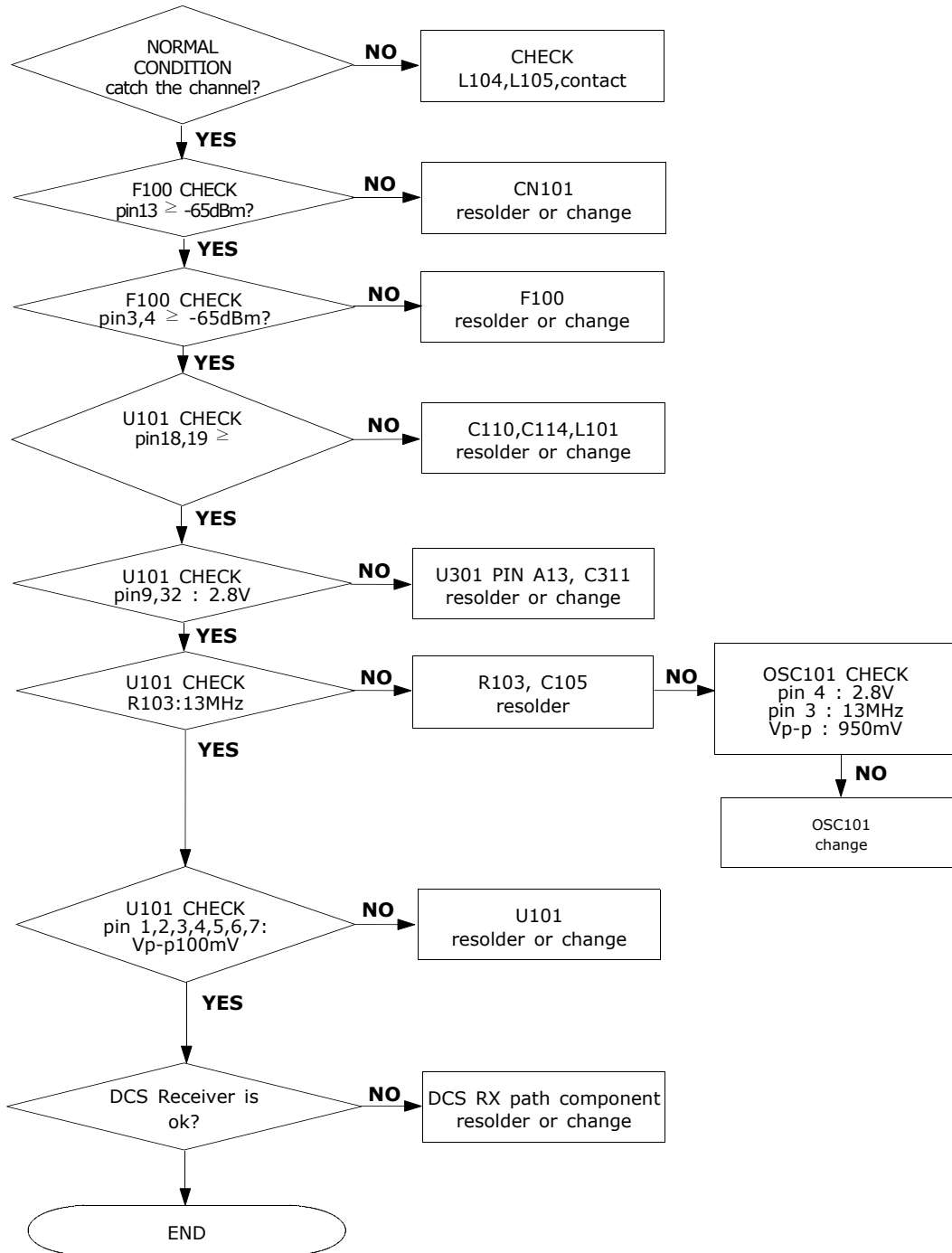
### 1. GSM Receiver

CONTINUOUS RX ON  
RF INPUT : 62CH  
Cell power : -50dBm



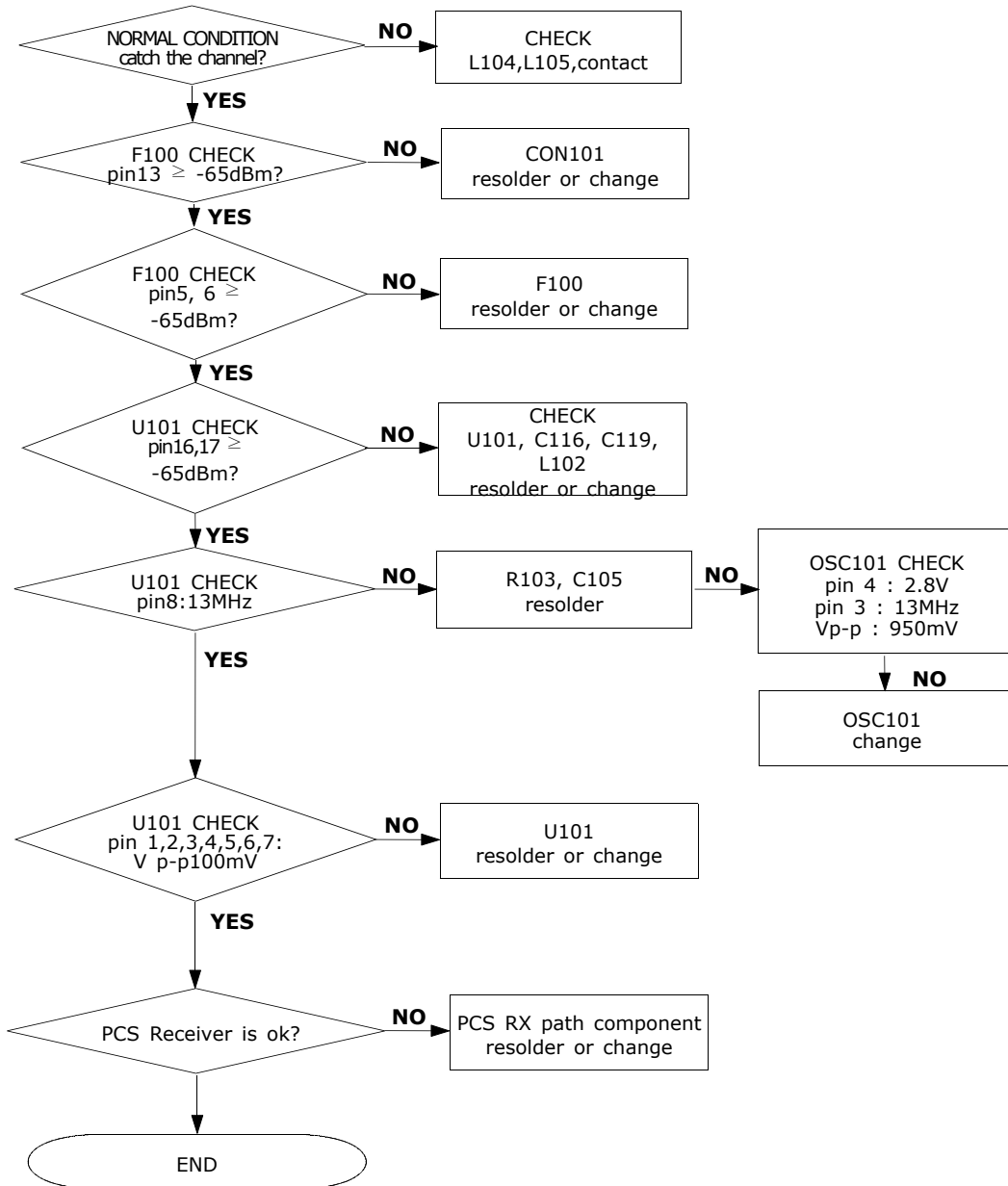
## 2. DCS Receiver

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

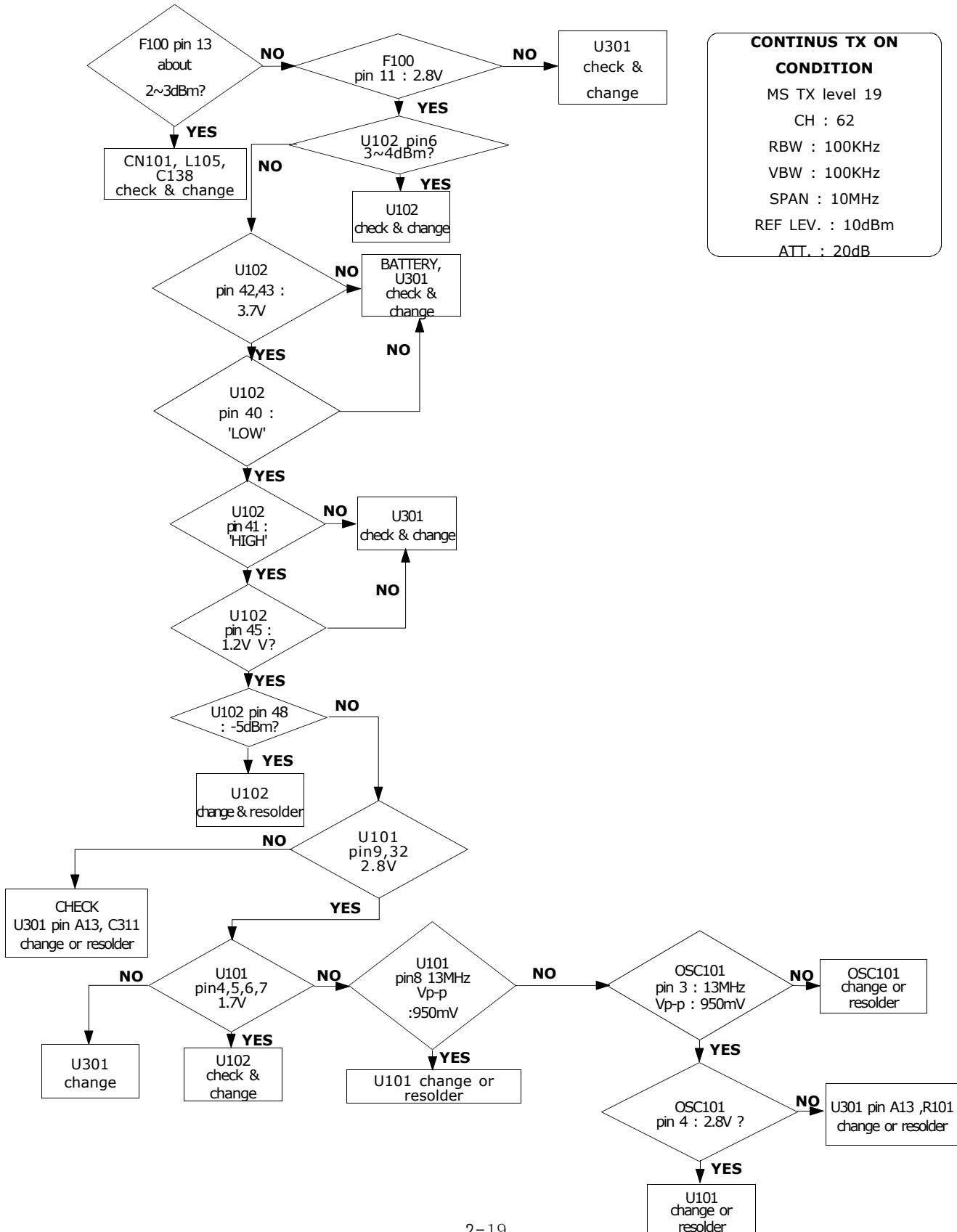


### 3. PCS Receiver

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



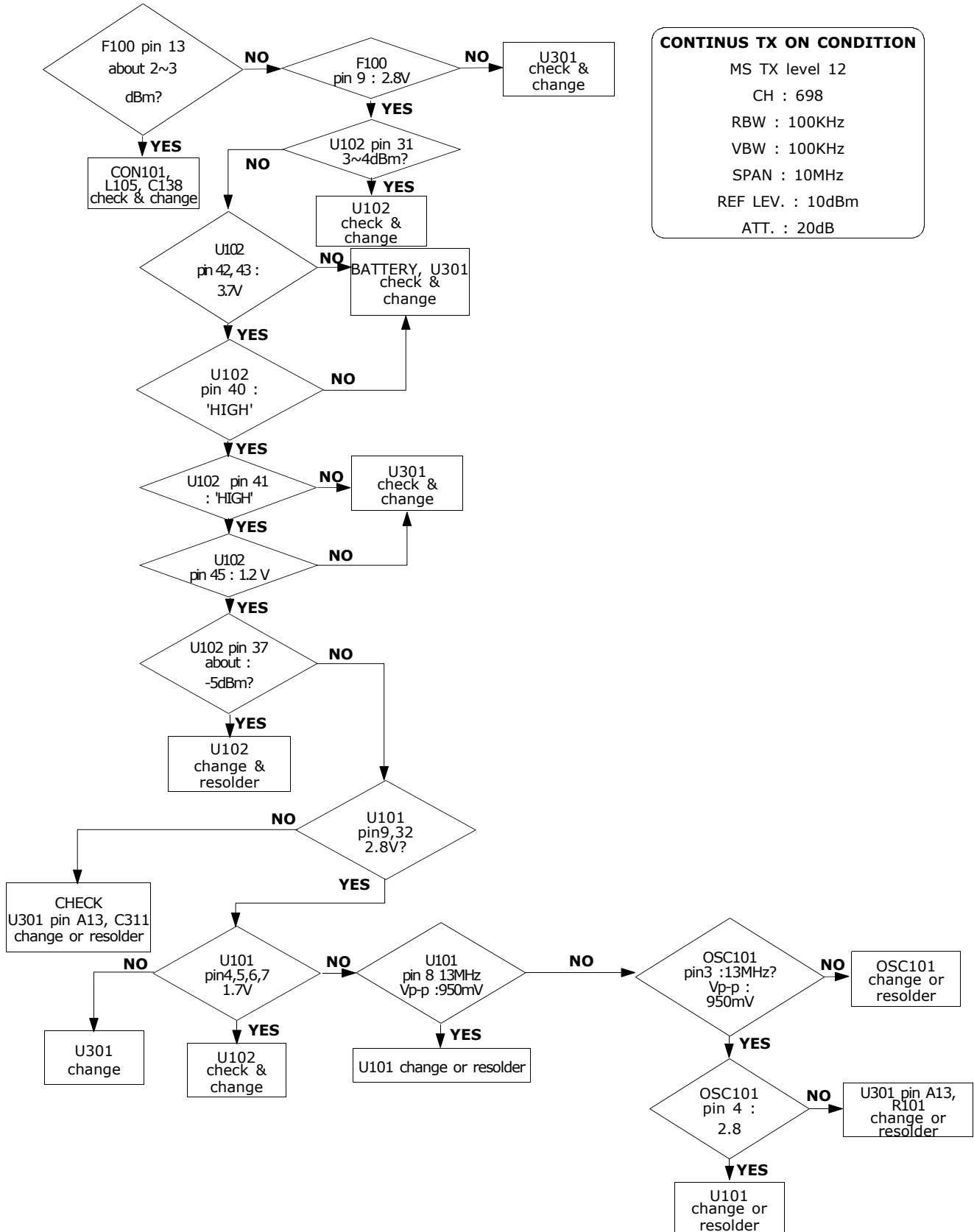
### 4. GSM Transmitter



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



## 6. PCS Transmitter

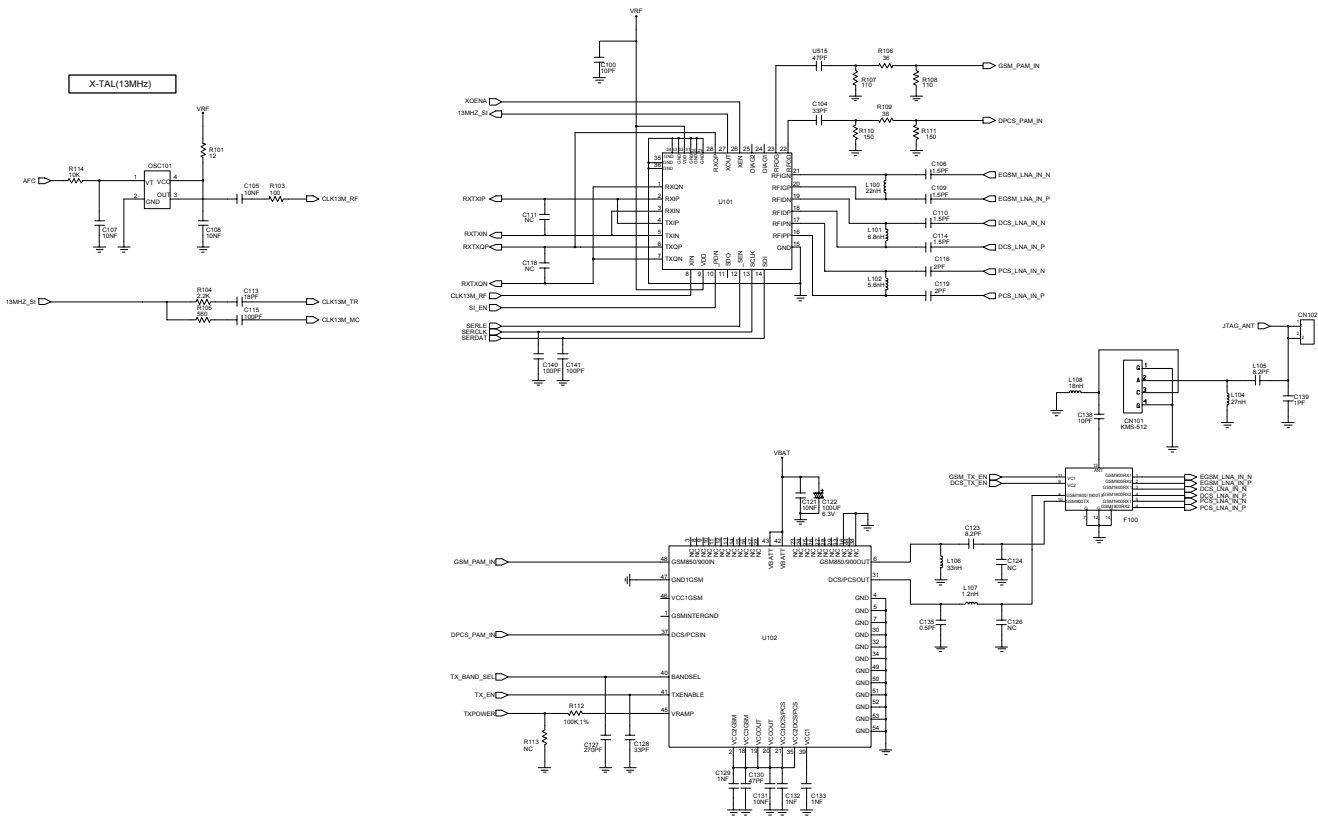


**CONTINUS TX ON CONDITION**

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

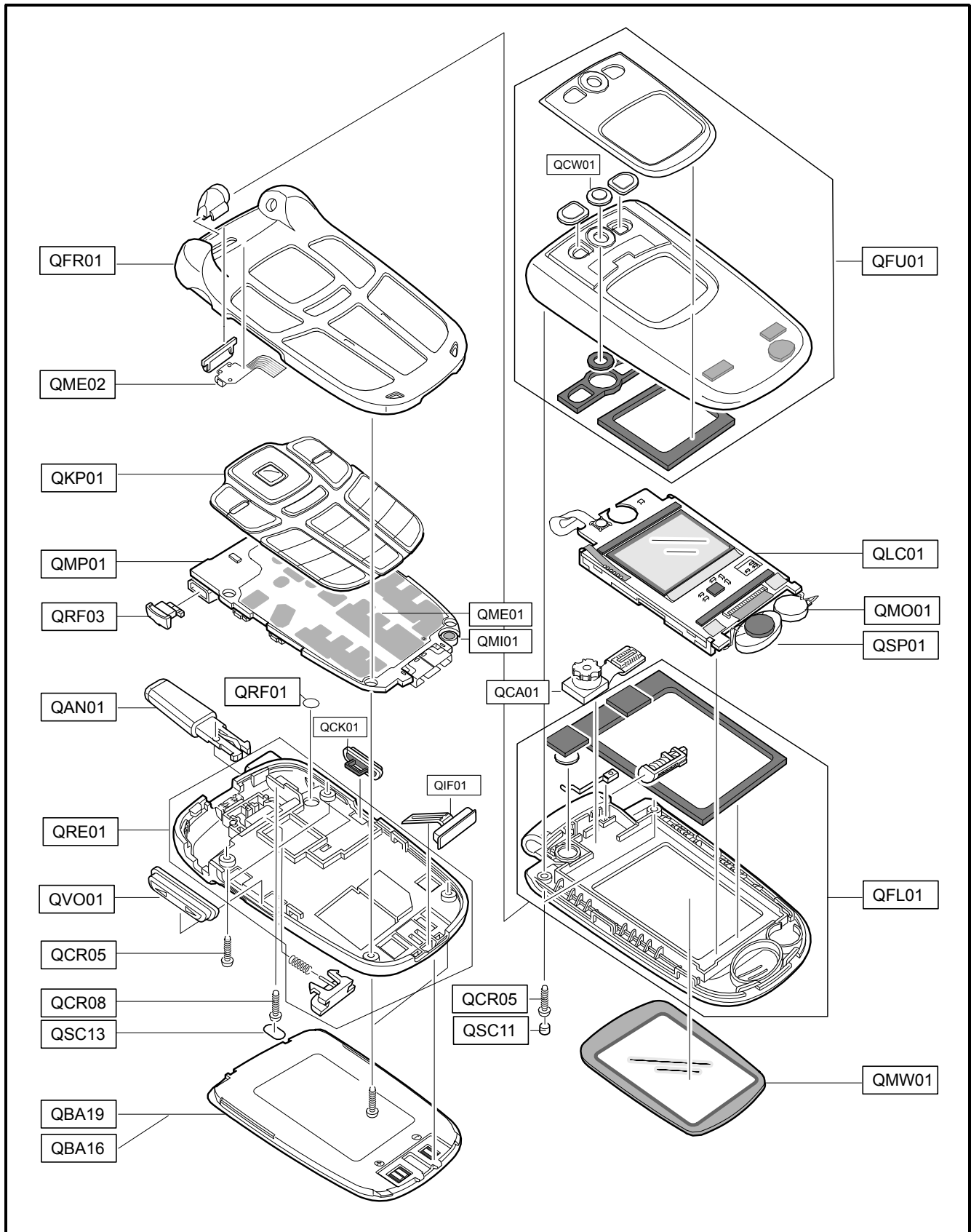


SGH-E610 Flow Chart of Troubleshooting and Circuit Diagrams



### 3. SGH-E610 Exploded View and its Parts list

#### 1. Cellular phone Exploded View



2. Cellular phone Parts list

Location NO.		Description	SEC CODE	Remark
QFU01		SUB F/UPPER	GH75-04262D	
	QCW01	CAMERA WINDOW	GH75-05475A	
QLC01		LCD	GH07-00538A	
QMO01		MOTOR DC	GH31-00079A	
QSP01		SPEAKER	3001-001625	
QCA01		CAMERA	GH59-01294A	
QFL01		F/LOWER ASSY	GH75-04261A	
QCR05		SCREW	6001-001478	
QSC11		F/L SCREW CAP	GH73-02767A	
QMW01		WINDOW DUMMY ASSY	GH75-04260A	
QFR01		FRONT COVER ASSY	GH75-04257A	
QKP01		KEYPAD	GH75-04259A	
QMP01		PBA MAIN	GH92-01706A	
QME01		UNIT EL DOME SWITCH	GH59-01620A	
QMI01		MICROPHONE ASSY	GH30-00095A	
QME02		UNIT IRDA FPCB	GH59-01393A	
QAN01		ANTENNA	GH42-00466A	
QCK01		CAMKEY	GH75-04086A	
QIF01		IF COVER	GH72-12309A	
QRE01		REAR COVER	GH75-04258A	
QVO01		KEYVOL	GH75-05525A	
QCR05		SCREW	6001-001478	
QCR08		SCREW	6001-001611	
QSC13		RE SCREW BOHO SHEET	GH74-07279A	
QBA19		BATTERY 800MAH	GH43-01462A	
QBA16		BATTERY 720MAH	GH43-01463A	
QRF03		EAR JACK COVER	GH72-11645A	
QRF01		RF COVER	GH73-03378A	

3. Test Jig (GH80-00865A)



3-1. RF Test Cable  
(GH39-00283A)



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



3-3. Serial Cable



3-4. Power Supply Cable



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



3-6. TA  
(GH44-00482A)



## 4. SGH-E618 MAIN Electrical Parts List

SEC Code	Design LOC
0403-001427	ZD512
0403-001511	ZD517
0406-001084	ZD514,ZD515,ZD516
0406-001152	ZD513
0501-000481	Q501
0502-001201	Q303
0504-000168	Q304
0504-001113	Q302
0506-001052	U303
0801-000796	U304
1001-001261	U403
1003-001395	U518
1009-001010	U503
1109-001281	U203
1201-002075	U102
1203-001518	U502
1203-002127	U302
1203-002861	U407
1203-003046	U406
1203-003130	U405
1203-003304	U301
1204-002138	U402
1205-002433	U101
1209-001219	U202
1405-001019	V500
1405-001082	U516,U517,ZD401
1405-001082	ZD402,ZD403,ZD404
1405-001082	ZD405,ZD406,ZD407
1405-001082	ZD408,ZD409,ZD410
1405-001082	ZD411,ZD412,ZD503
1405-001082	ZD504,ZD505,ZD506
1405-001082	ZD507,ZD508,ZD509
1405-001082	ZD510,ZD511
2007-000137	R423,R424,R426,R433
2007-000137	R446
2007-000138	R103
2007-000140	R526,R527,R528,R529

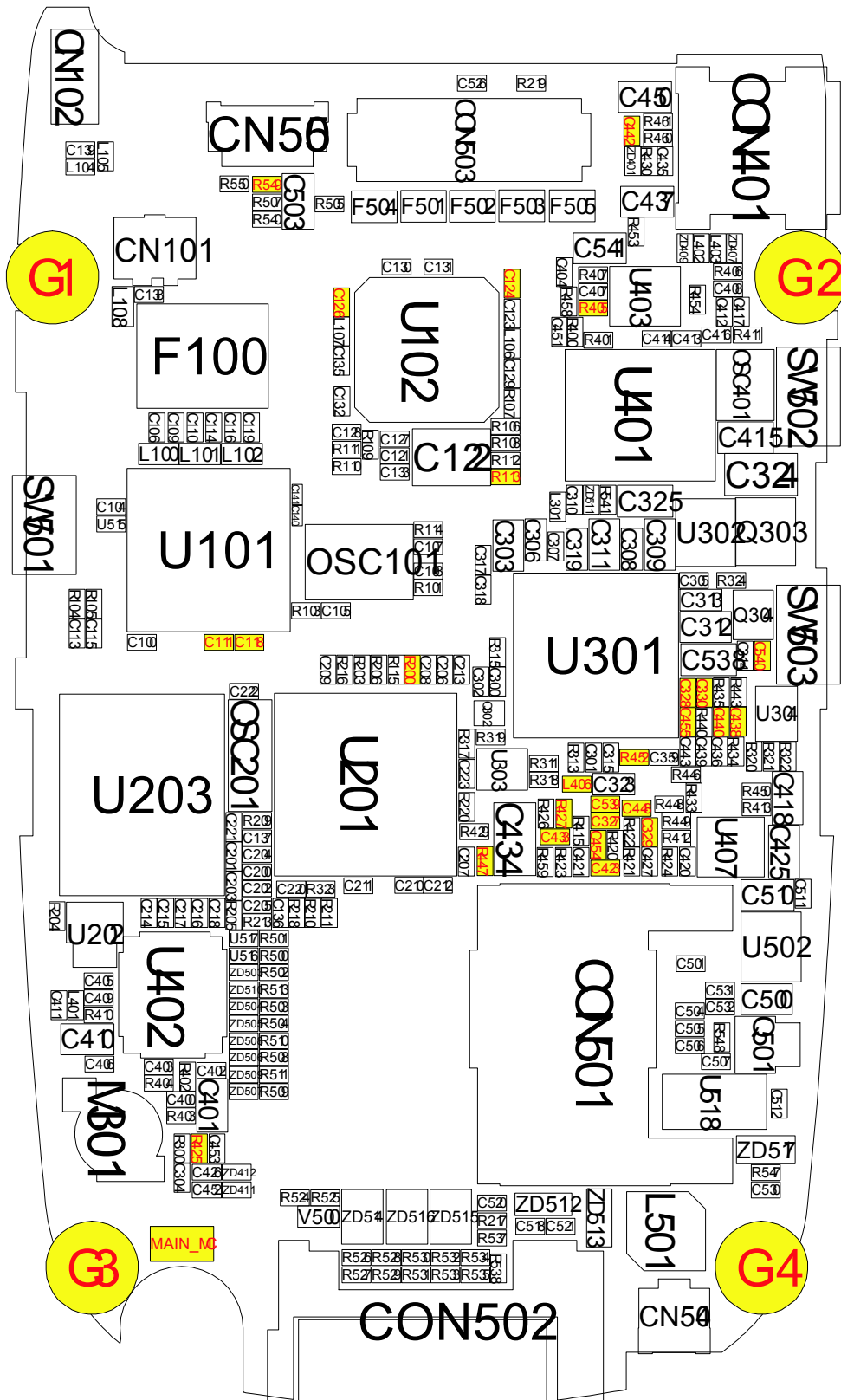
SEC Code	Design LOC
2007-000140	R530,R531,R532,R533
2007-000140	R534,R535,R537,R538
2007-000141	R104
2007-000143	R400,R401
2007-000148	R114,R218,R220,R321
2007-000148	R324,R458
2007-000157	R115,R524,R525
2007-000162	R203,R205,R206,R313
2007-000162	R320,R322,R323,R411
2007-000162	R413,R414,R417,R429
2007-000162	R450,R514,R521
2007-000164	R402
2007-000165	R216
2007-000171	R219,R311,R315,R317
2007-000171	R412,R442,R448,R449
2007-000171	R453,R454,R456,R459
2007-000171	R540,R548,R550
2007-000173	R460,R461
2007-000174	R209,R213,R500,R501
2007-000174	R502,R503,R504,R508
2007-000174	R509,R510,R511,R513
2007-000174	R541
2007-000249	R547
2007-000775	R403,R404
2007-001288	R406,R407
2007-001294	R106,R109
2007-001303	R107,R108
2007-001306	R110,R111
2007-001319	R300
2007-001323	R319
2007-001325	R410
2007-001339	R430
2007-002797	R105
2007-003001	R101
2007-003006	R505,R507
2007-007100	R204
2007-007107	R112

SEC Code	Design LOC
2007-007139	R318
2007-007142	R217,R415,R421,R434
2007-007142	R440
2007-007308	R435,R443
2007-007573	R210,R211
2007-007590	R420,R422
2203-000233	C115,C136,C137,C304
2203-000233	C405,C407,C408,C414
2203-000254	C105,C107,C108,C121
2203-000254	C131,C201,C206,C207
2203-000254	C208,C209,C210,C211
2203-000254	C212,C315,C317,C413
2203-000254	C416,C420,C459,C518
2203-000278	C100,C138,C451,C452
2203-000278	C453
2203-000330	C221,C222
2203-000425	C113
2203-000438	C129,C132,C133,C218
2203-000438	C409
2203-000466	C139
2203-000654	C127
2203-000679	C200,C504,C505,C506
2203-000696	C116,C119
2203-000812	C104,C128,C426,C439
2203-000940	C307,C511
2203-000995	C130,C223,C508,U515
2203-001033	C512
2203-001072	C204,C205,C300,C305
2203-001072	C310
2203-001210	C403
2203-001383	C135
2203-001385	C106,C109,C110,C114
2203-001598	C303,C312,C500
2203-001652	C319
2203-002443	C400
2203-005054	C301
2203-005057	C123,L105

SEC Code	Design LOC
2203-005061	C202,C203,C214,C215
2203-005061	C216,C217,C220,C302
2203-005061	C314,C318,C402,C404
2203-005061	C406,C411,C412,C417
2203-005061	C501,C520,C521,C526
2203-005065	C323
2203-005482	C509
2203-005496	C213
2203-005509	C527
2203-005736	C140,C141
2203-006053	C306,C308,C313
2203-006093	C359,C419,C421,C422
2203-006093	C424,C427,C436,C441
2203-006093	C443,C507,C530,C531
2203-006093	C532
2203-006257	C435
2404-001086	C401,C410,C541
2404-001088	C309,C311
2404-001105	C425,C437,C450,C456
2404-001105	C458,C510
2404-001134	C122
2404-001268	C325,C415,C503,C538
2404-001274	C324
2404-001306	C434
2404-001393	C418
2703-001189	L108
2703-001724	L107
2703-002201	L106
2703-002202	L104
2703-002320	L402,L403
2703-002547	L101
2703-002587	L100
2703-002665	L102
2703-002805	L501
2801-003747	OSC201
2804-001577	OSC401
2809-001260	OSC101

<b>SEC Code</b>	<b>Design LOC</b>
2901-001286	F501,F502,F503,F504
2901-001286	F505
2909-001249	F100
3301-001342	L301,L401,L502
3404-001152	SW501,SW502,SW503
3705-001358	CN101
3708-001912	CN505
3708-001956	CN504
3709-001321	CON501
3710-002086	CON502
3711-005462	CON503
3722-002082	CON401
4302-001130	M301
GH09-00029A	U201
GH13-00020A	U401
GH71-01810A	CN102

# 5. SGH-E610 PCB Diagrams







## 6. SGH-E610 Block Diagrams

