

**SAMSUNG**

# GSM TELEPHONE

## SGH-E310C

# ***SERVICE*** *Manual*

### GSM TELEPHONE



### CONTENTS

1. Specification
2. Flow Chart of Troubleshooting
3. Exploded Views and Parts List
4. Electrical Parts List
5. Block Diagrams
6. PCB Diagrams

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# 1. SGH-E310C Specification

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## 1-1. GSM General Specification

	GSM900 Phase 1	EGSM 900 Phase 2	DCS1800 Phase 1
Freq. Band[MHz] Uplink/Downlink	890~915 935~960	880~915 925~960	1710~1785 1805~1880
ARFCN range	1~124	0~124 & 975~1023	512~885
Tx/Rx spacing	45MHz	45MHz	95MHz
Mod. Bit rate/ Bit Period	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
Modulation	0.3GMSK	0.3GMSK	0.3GMSK
MS Power	33dBm~13dBm	33dBm~5dBm	30dBm~0dBm
Power Class	5pcl ~ 15pcl	5pcl ~ 19pcl	0pcl ~ 15pcl
Sensitivity	-102dBm	-102dBm	-100dBm
TDMA Mux	8	8	8
Cell Radius	35Km	35Km	2Km

## 1-2. GSM TX power class

<b>TX Power control level</b>	<b>GSM900</b>	<b>TX Power control level</b>	<b>DCS1800</b>
5	33±2 dBm	0	30±3 dBm
6	31±2 dBm	1	28±3 dBm
7	29±2 dBm	2	26±3 dBm
8	27±2 dBm	3	24±3 dBm
9	25±2 dBm	4	22±3 dBm
10	23±2 dBm	5	20±3 dBm
11	21±2 dBm	6	18±3 dBm
12	19±2 dBm	7	16±3 dBm
13	17±2 dBm	8	14±3 dBm
14	15±2 dBm	9	12±4 dBm
15	13±2 dBm	10	10±4 dBm
16	11±3 dBm	11	8±4dBm
17	9±3dBm	12	6±4 dBm
18	7±3 dBm	13	4±4 dBm
19	5±3 dBm	14	2±5 dBm
		15	0±5 dBm

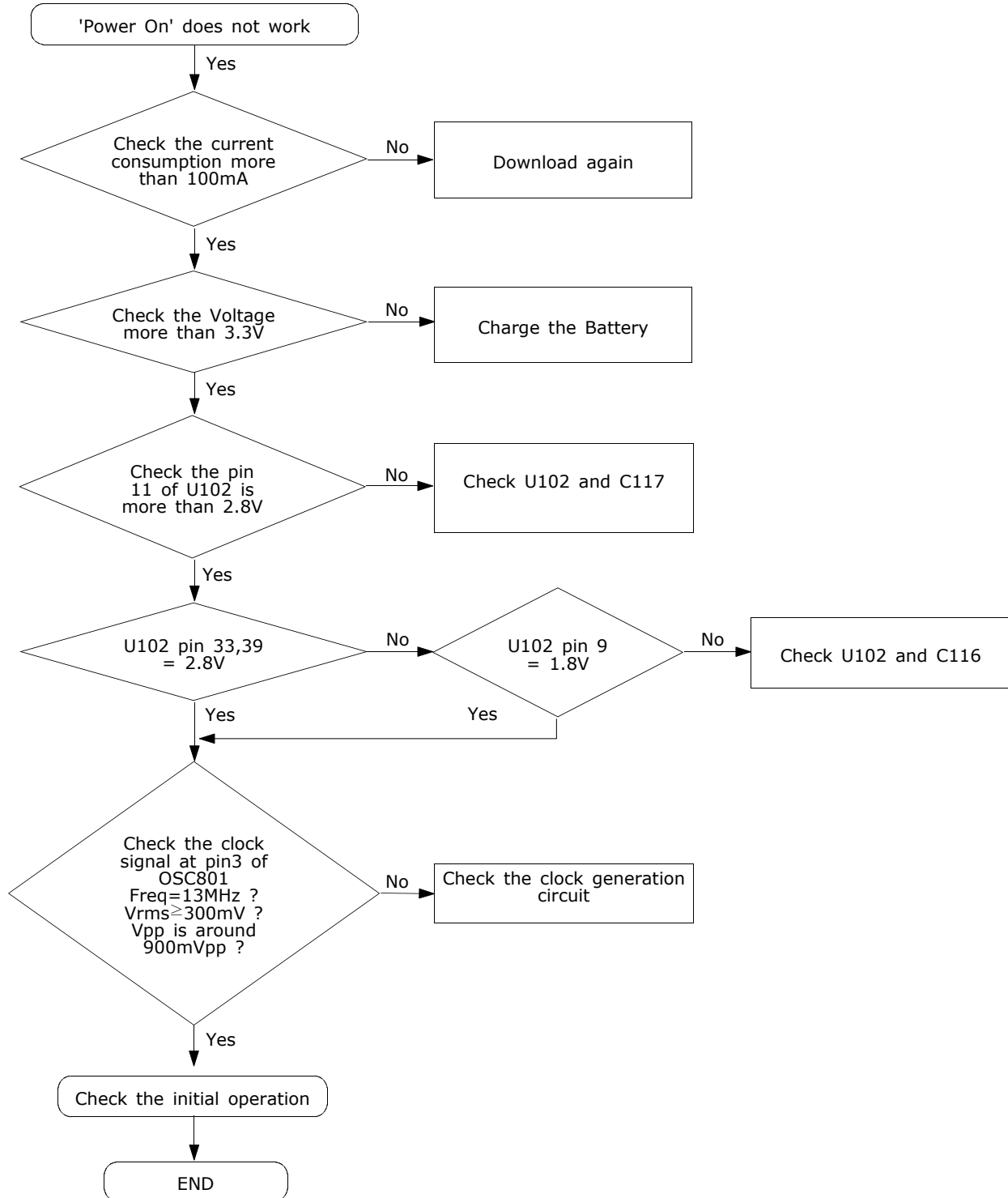
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## 2. SGH-E310C Flow Chart of Troubleshooting

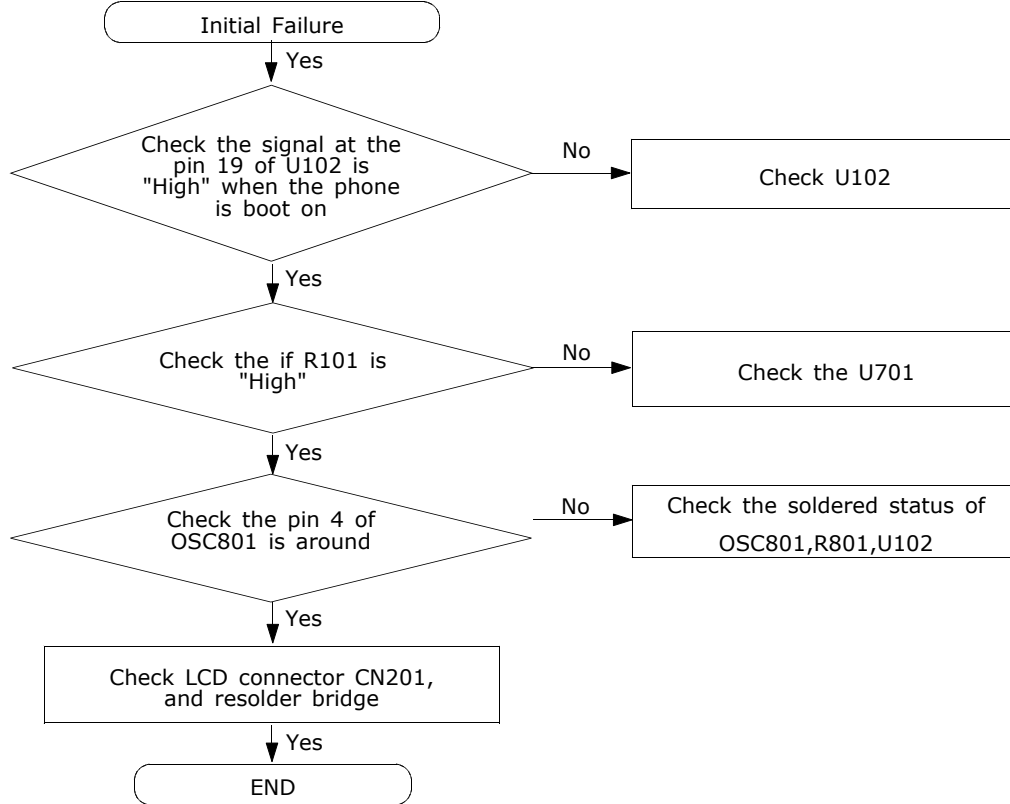
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### 2-1.Baseband

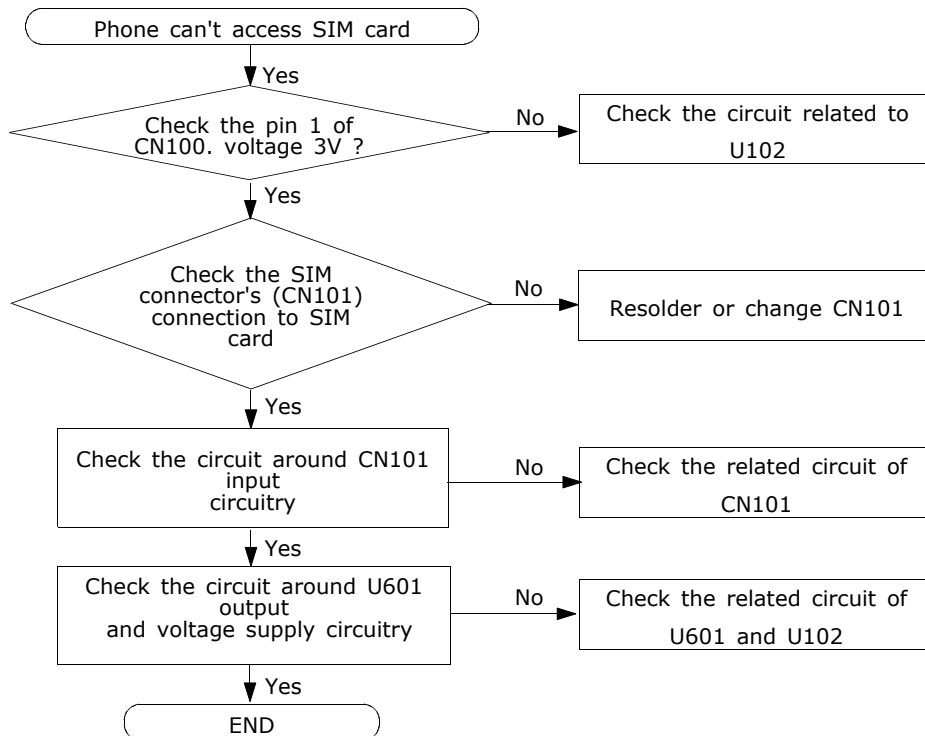
#### 2-1-1. Power ON



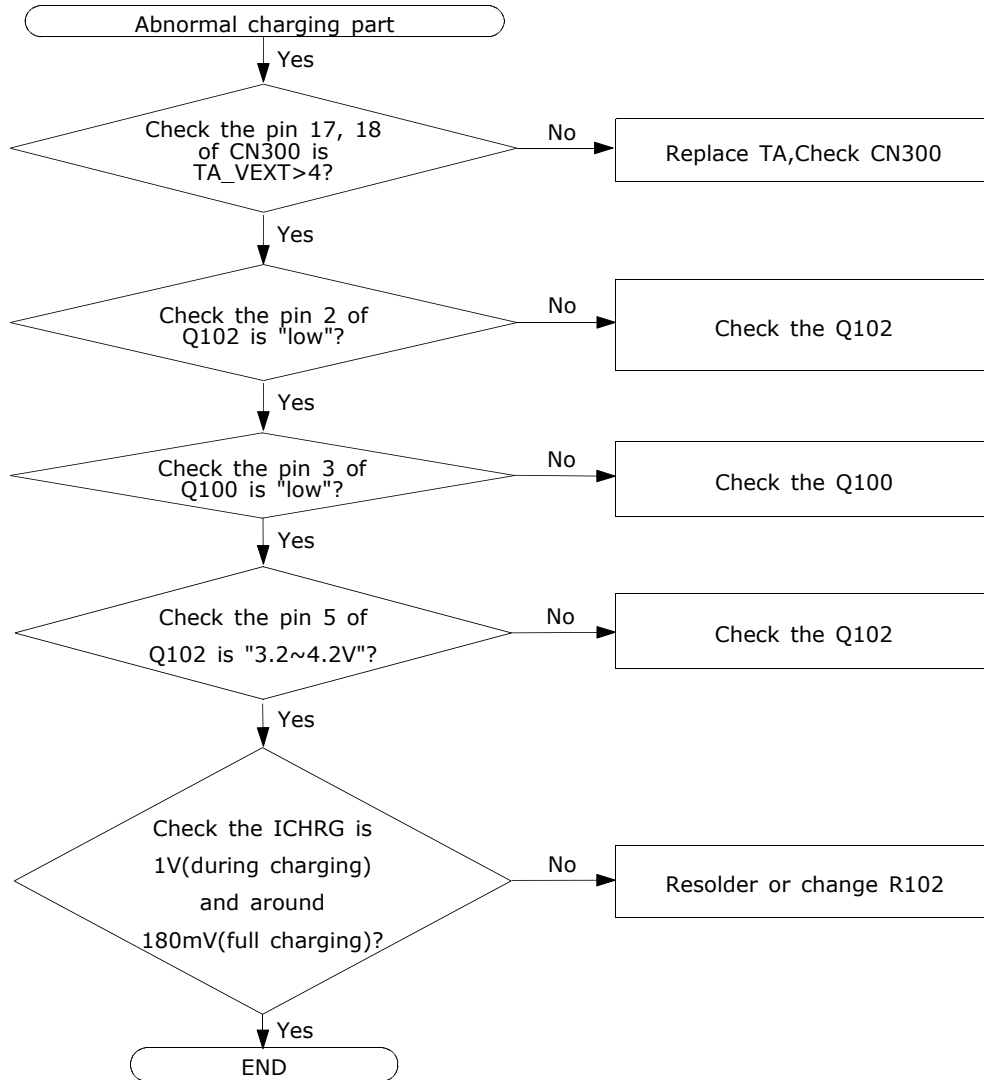
### 2-1-2. Initial

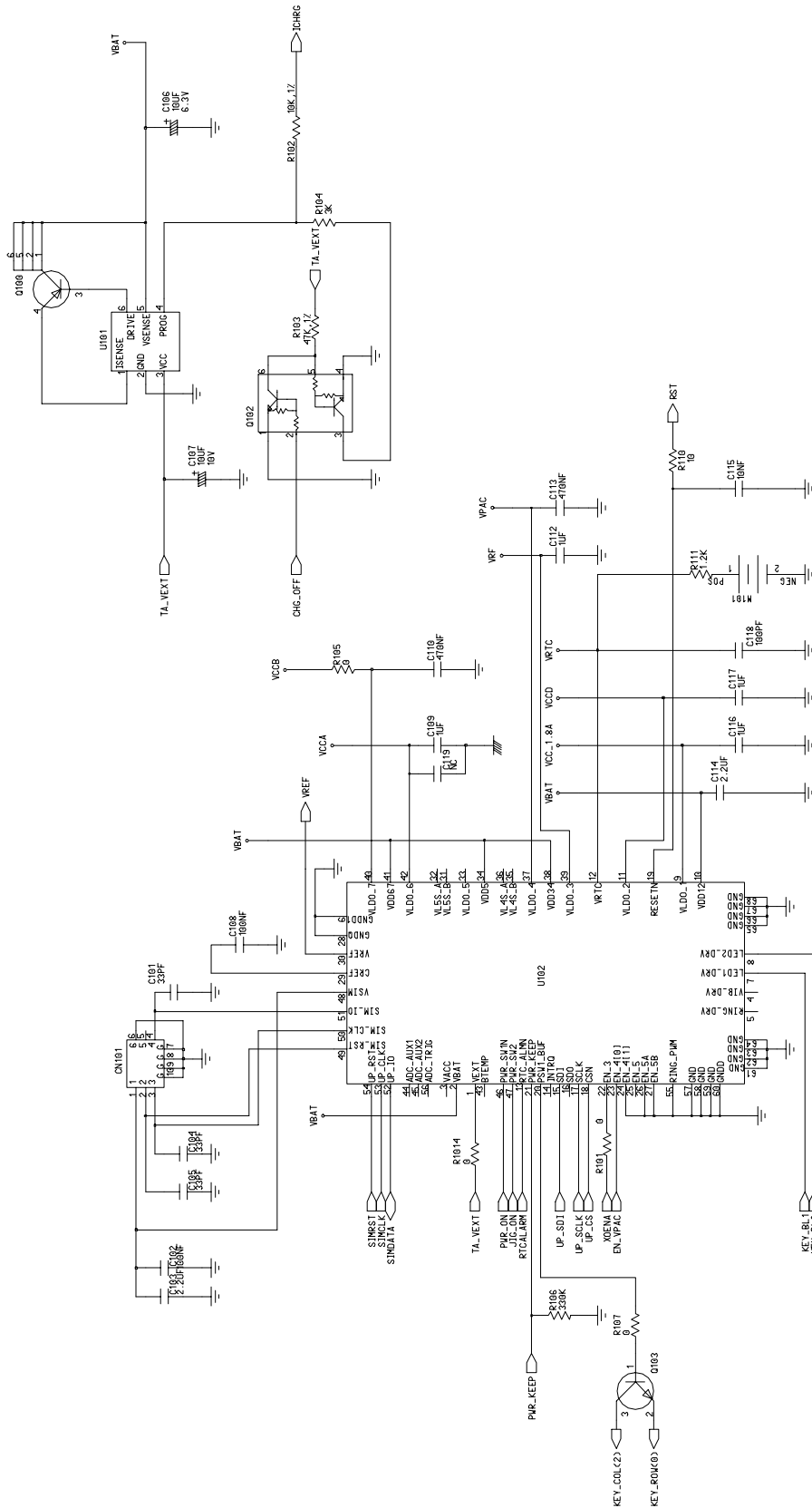


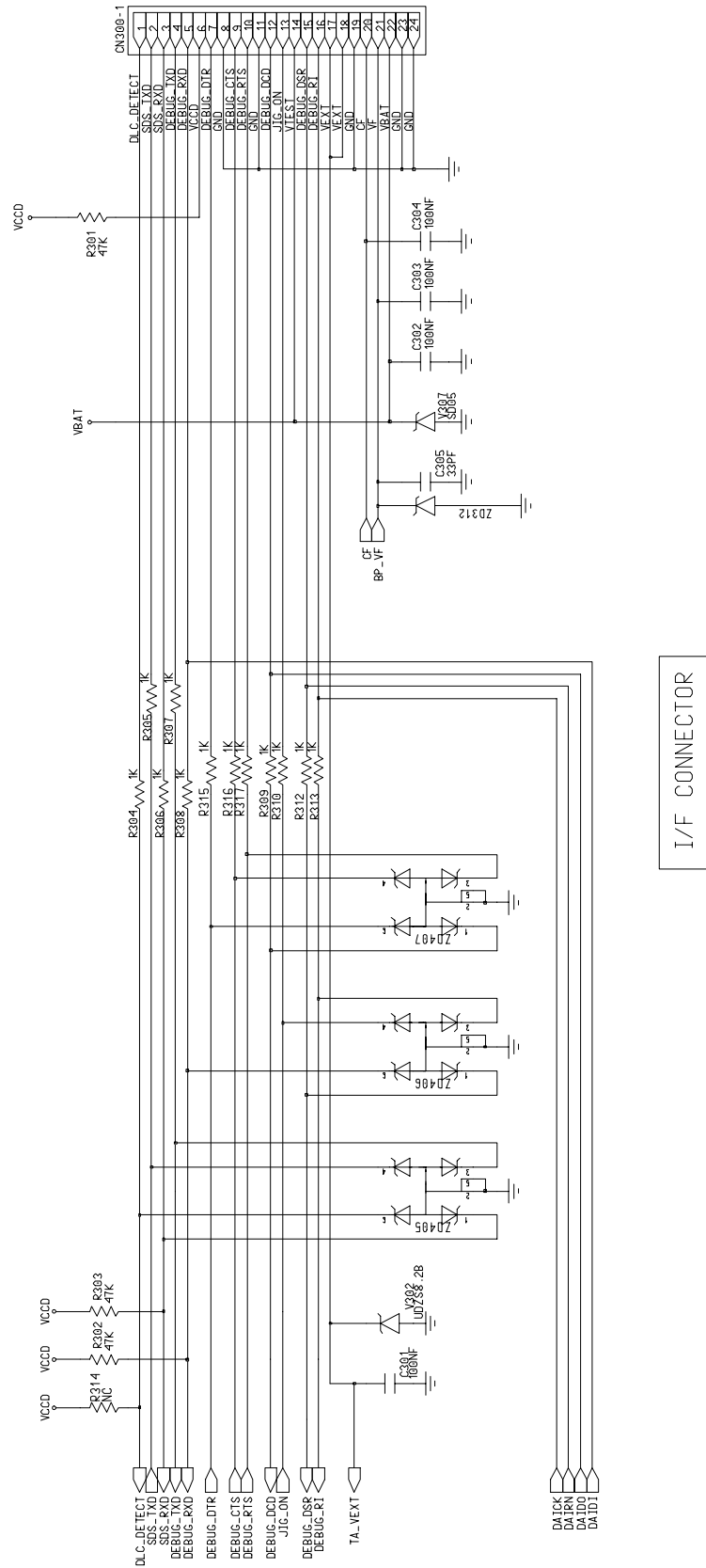
### 2-1-3. Sim Part



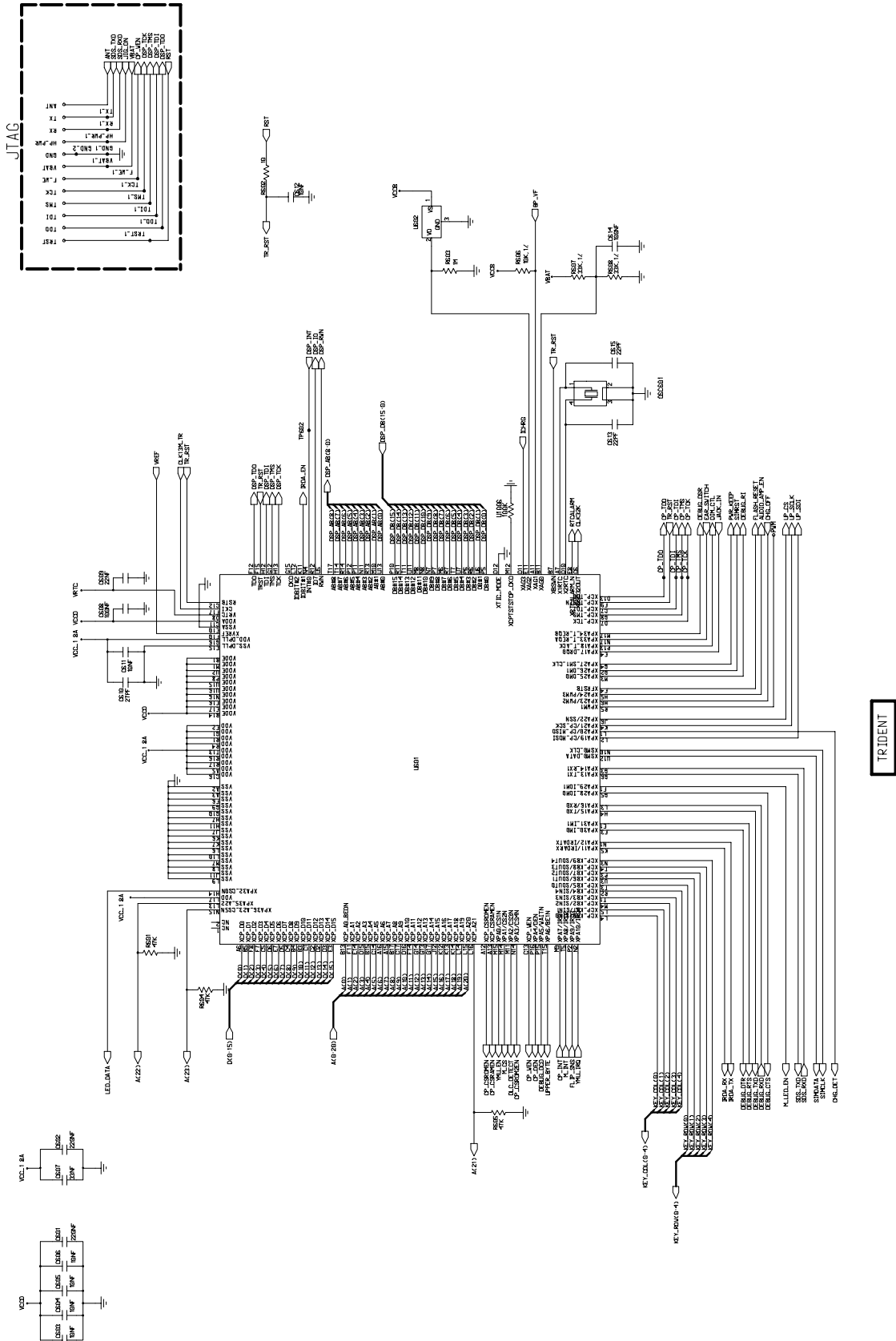
### 2-1-4. Charging Part



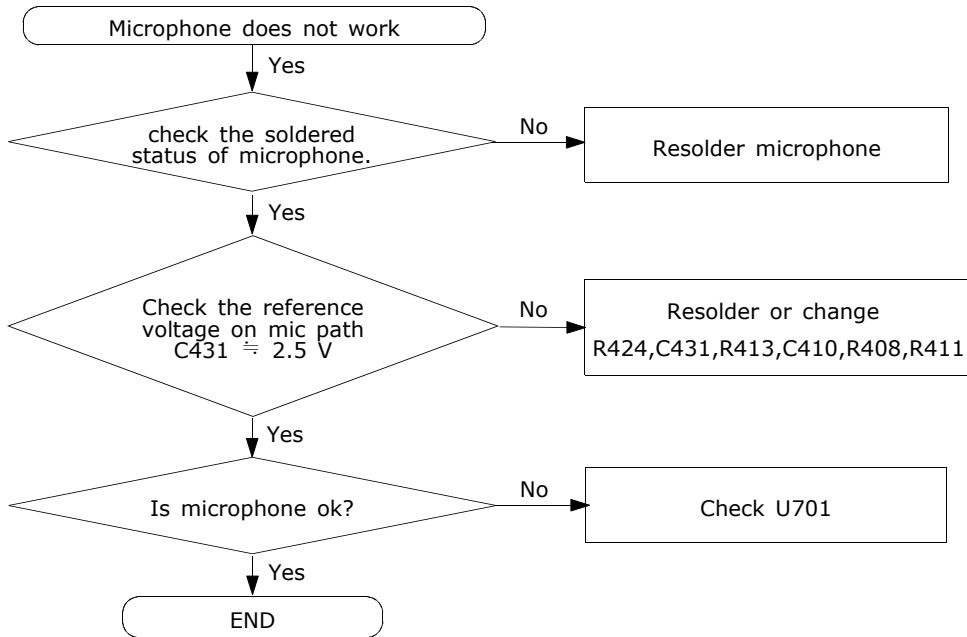




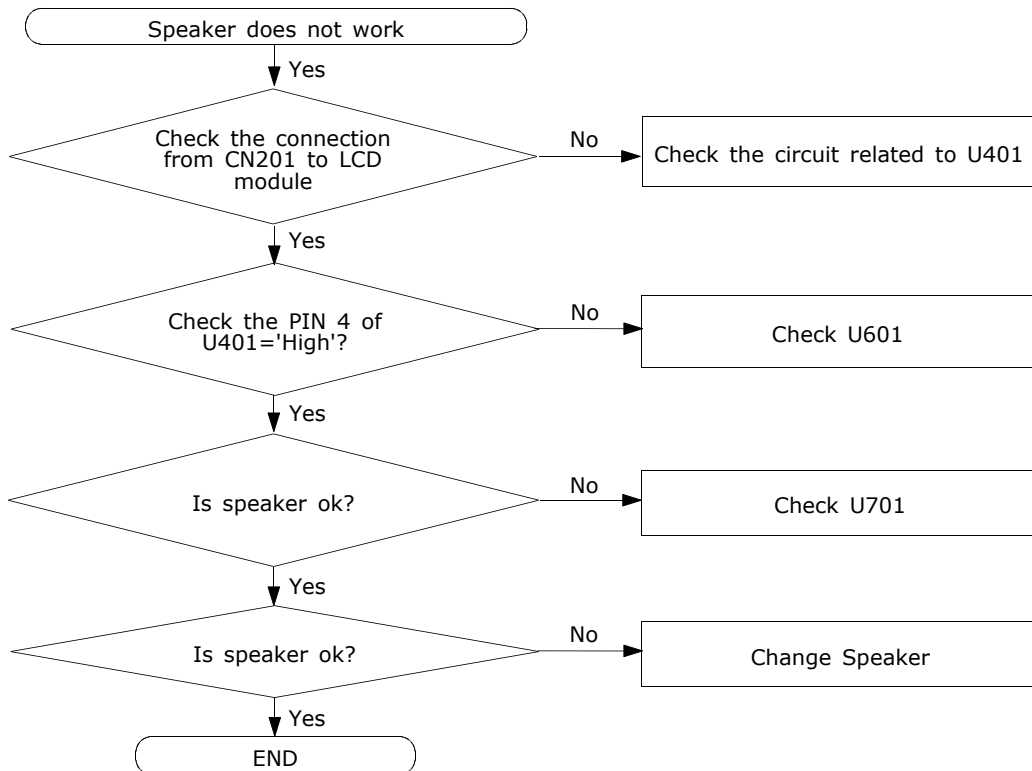


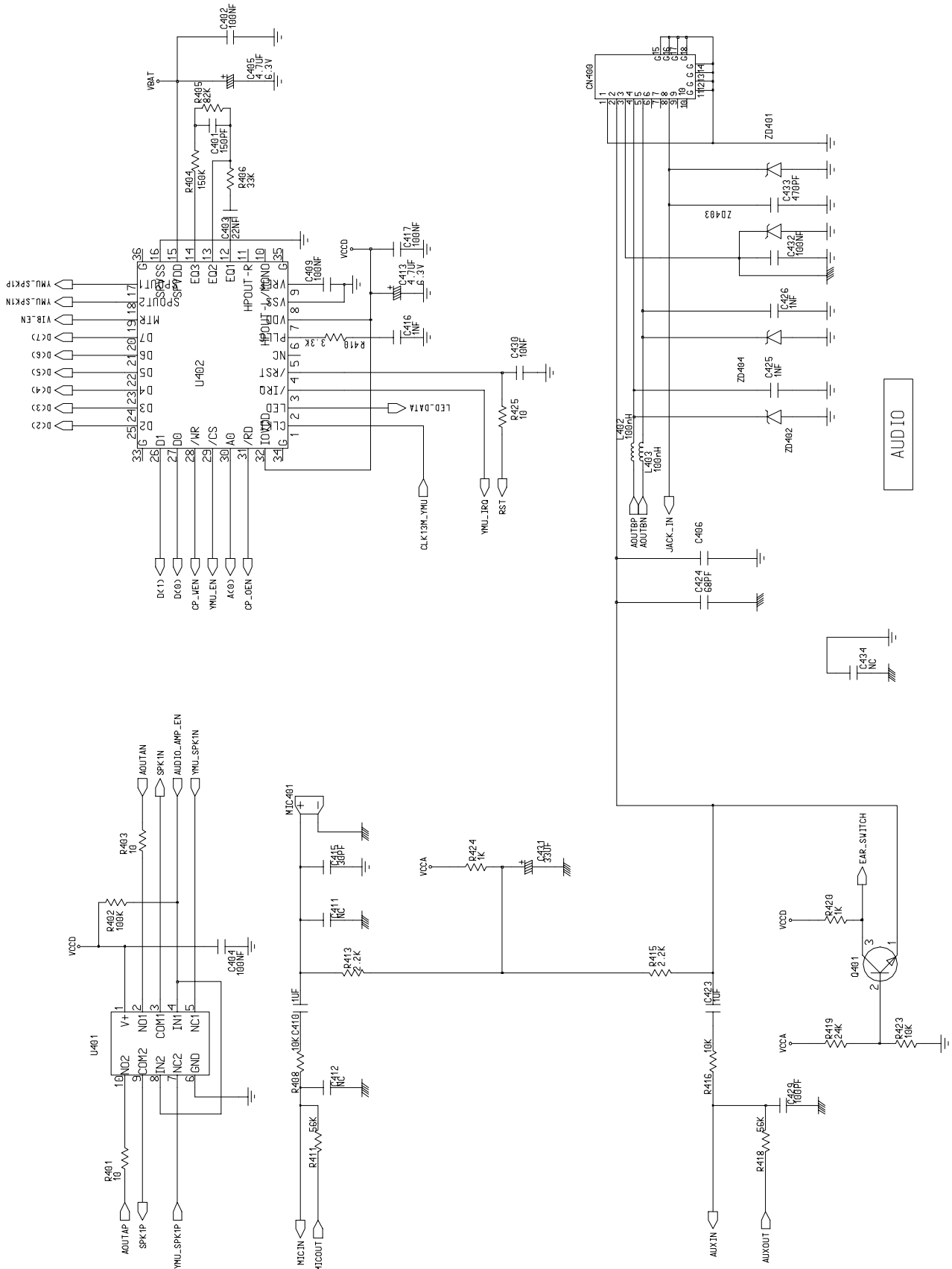


### 2-1-5. Microphone Part

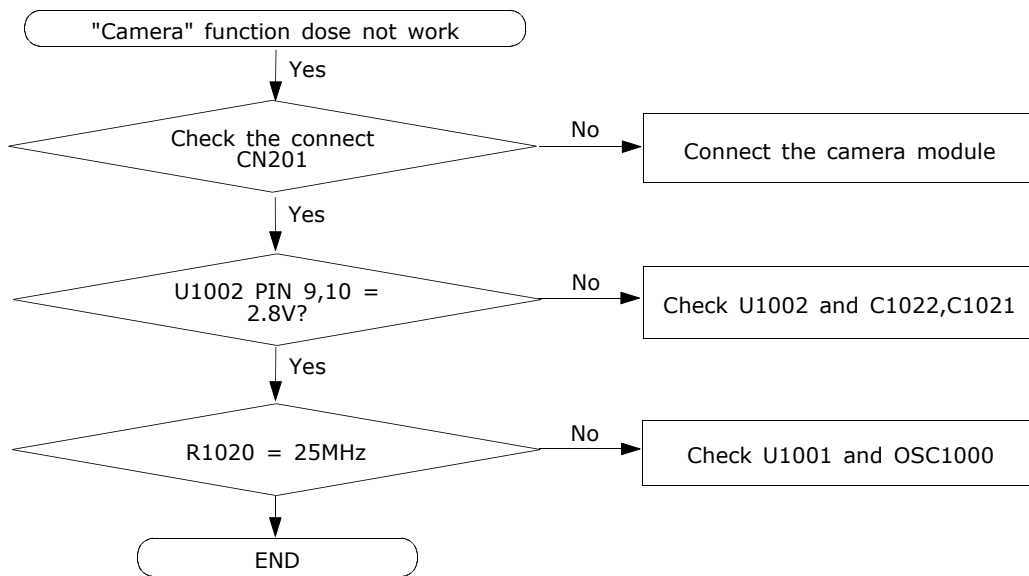


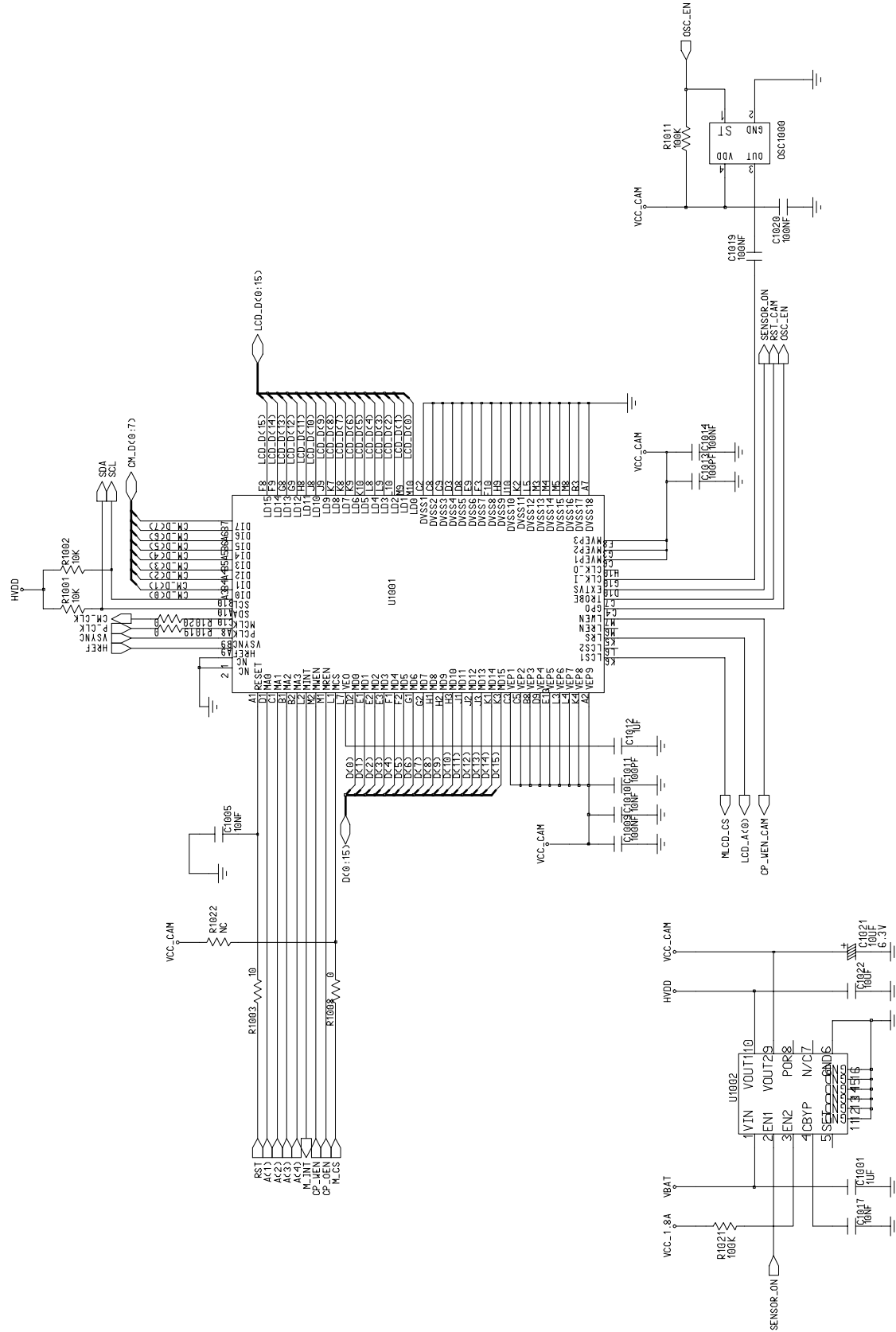
### 2-1-6. Speaker Part





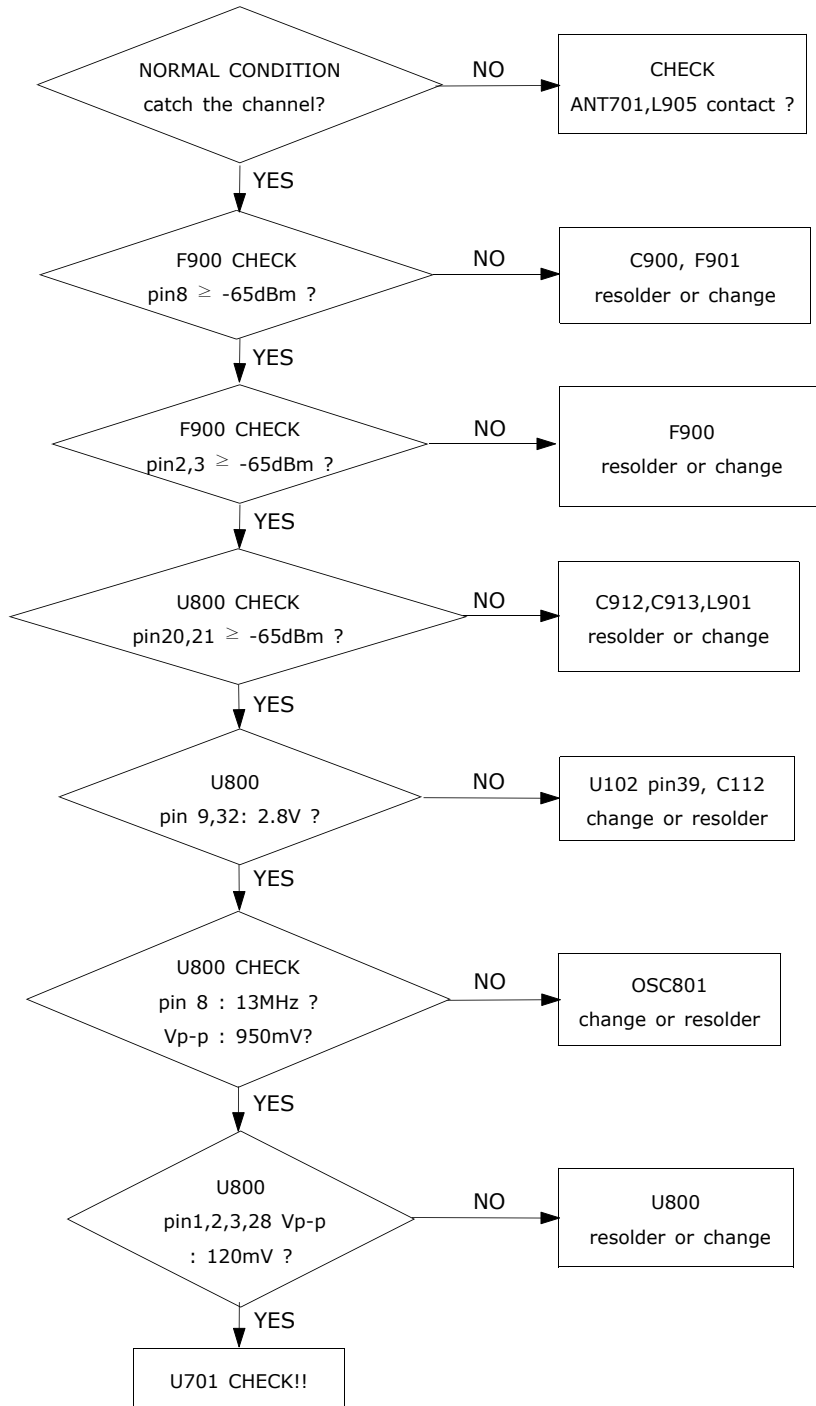
### 2-1-7. Camera Part





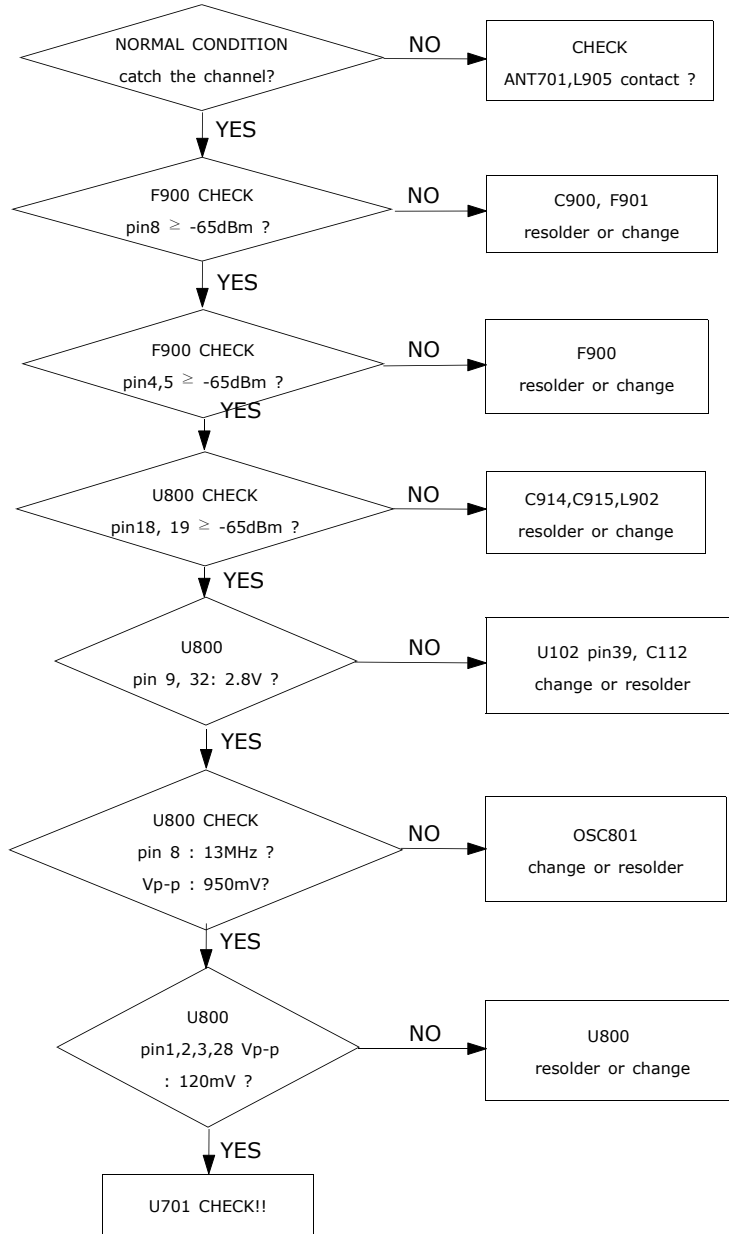
## 2-2.RF

### 2-2-1. EGSM RX



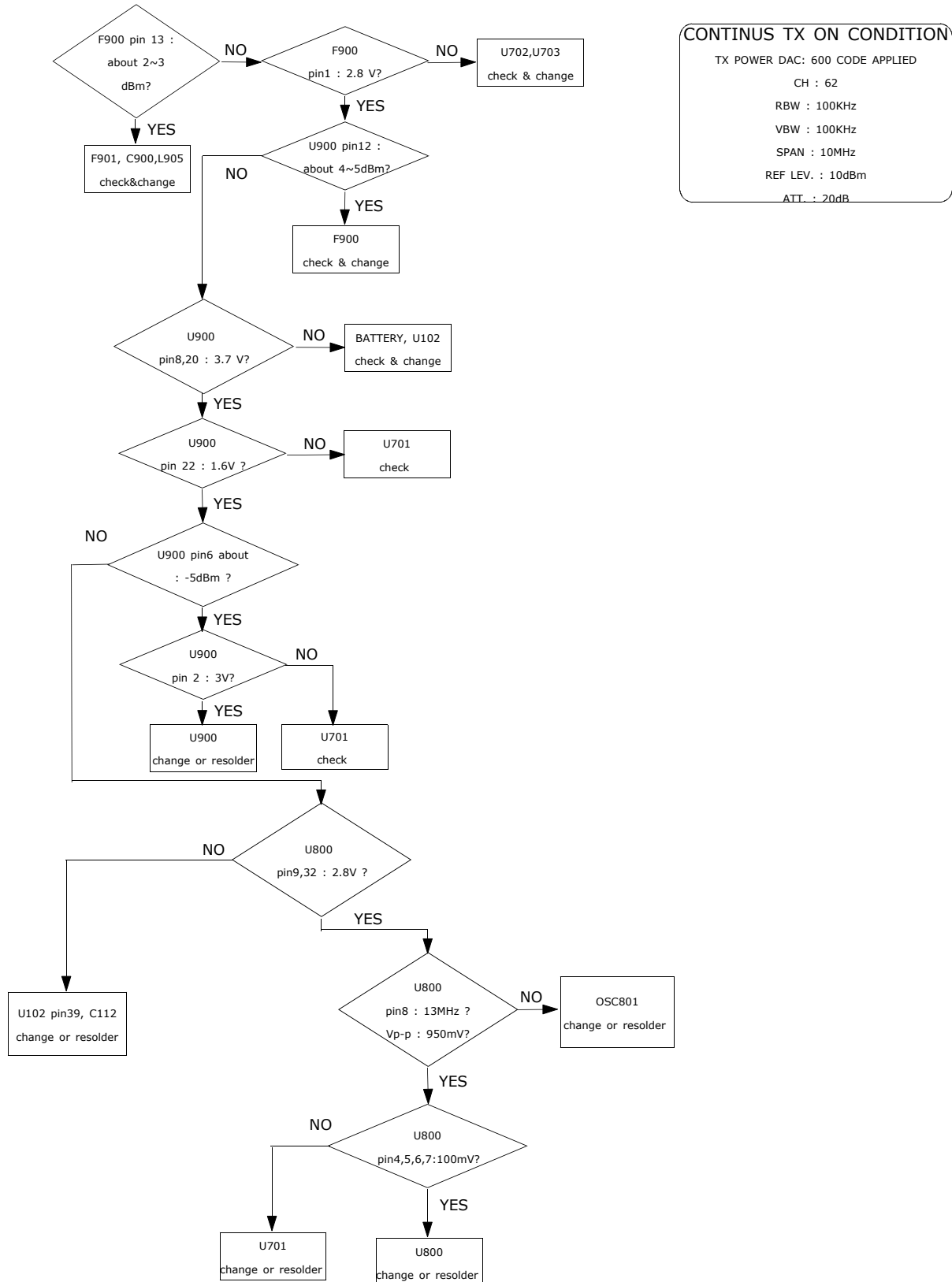
CONTINUOUS RX ON  
RF INPUT : 62CH  
AMP : -50dBm

**2-2-2. DCS RX**



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

### 2-2-3. EGSM TX



**CONTINUS TX ON CONDITION**

TX POWER DAC: 600 CODE APPLIED

CH : 62

RBW : 100KHz

VBW : 100KHz

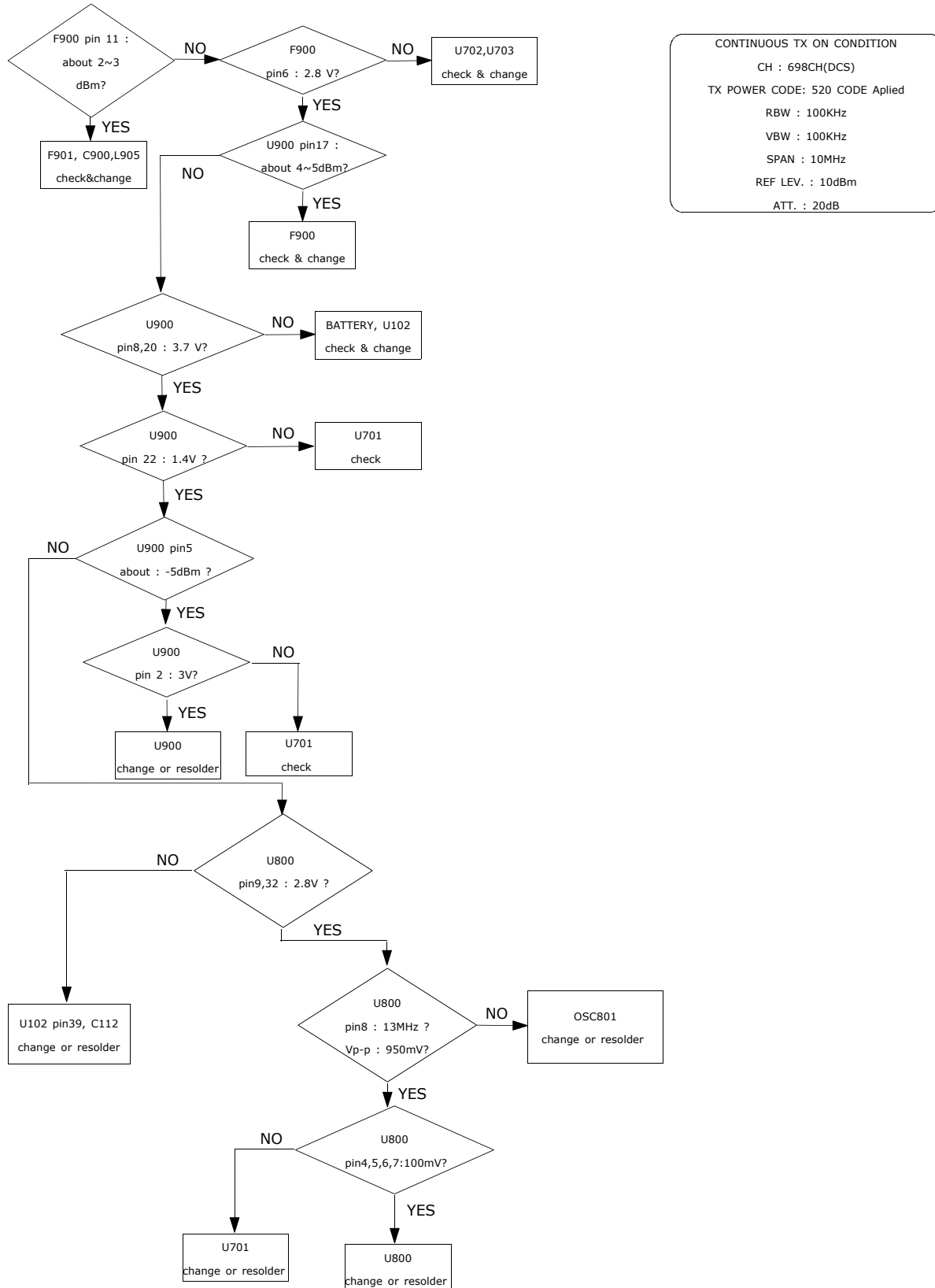
SPAN : 10MHz

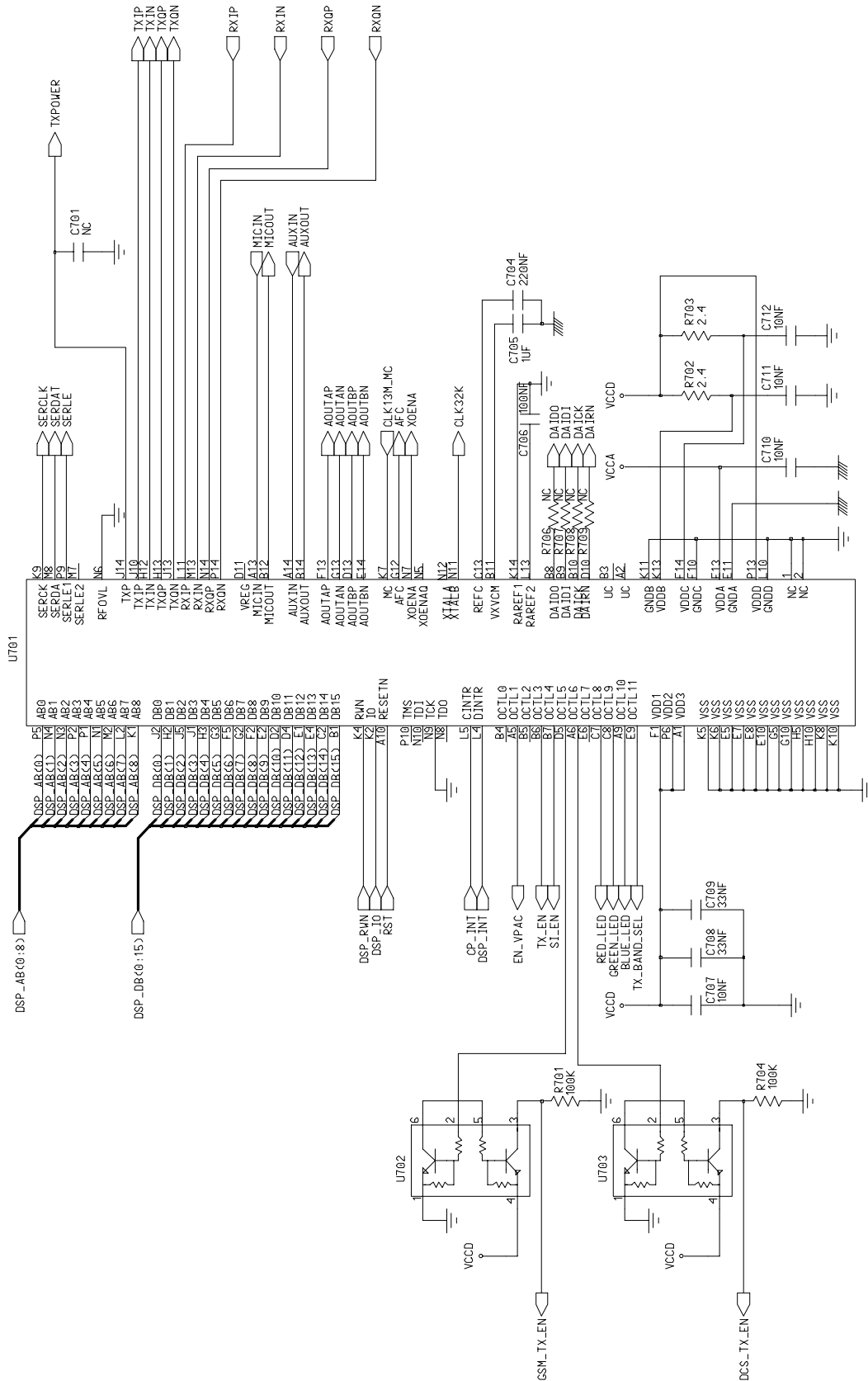
REF LEV. : 10dBm

ATT. : 20dB

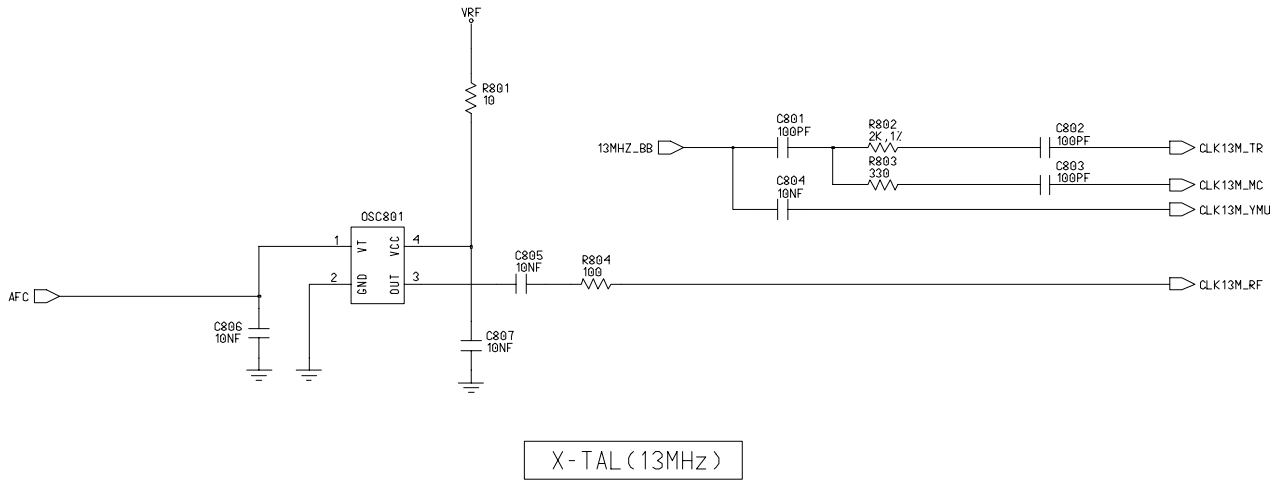
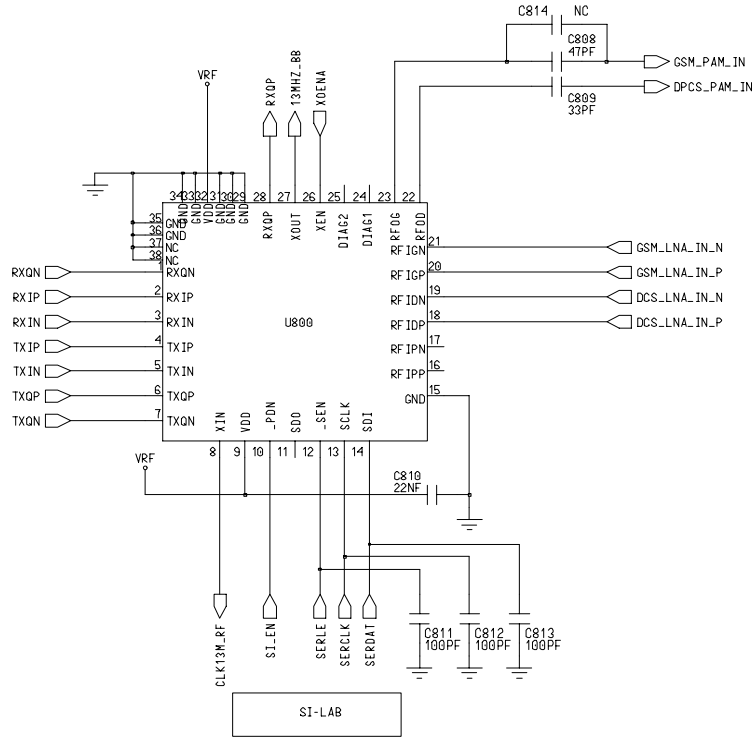


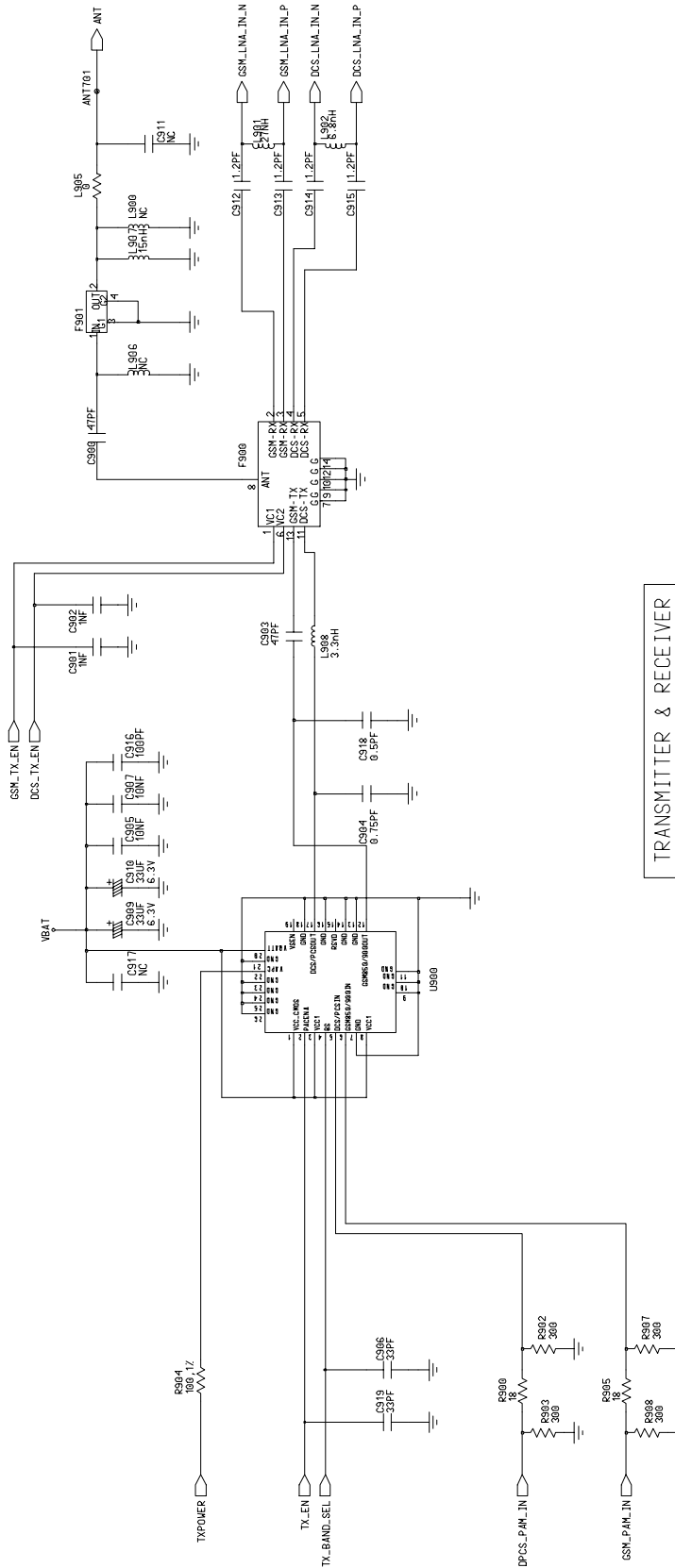
### 2-2-4. DCS TX





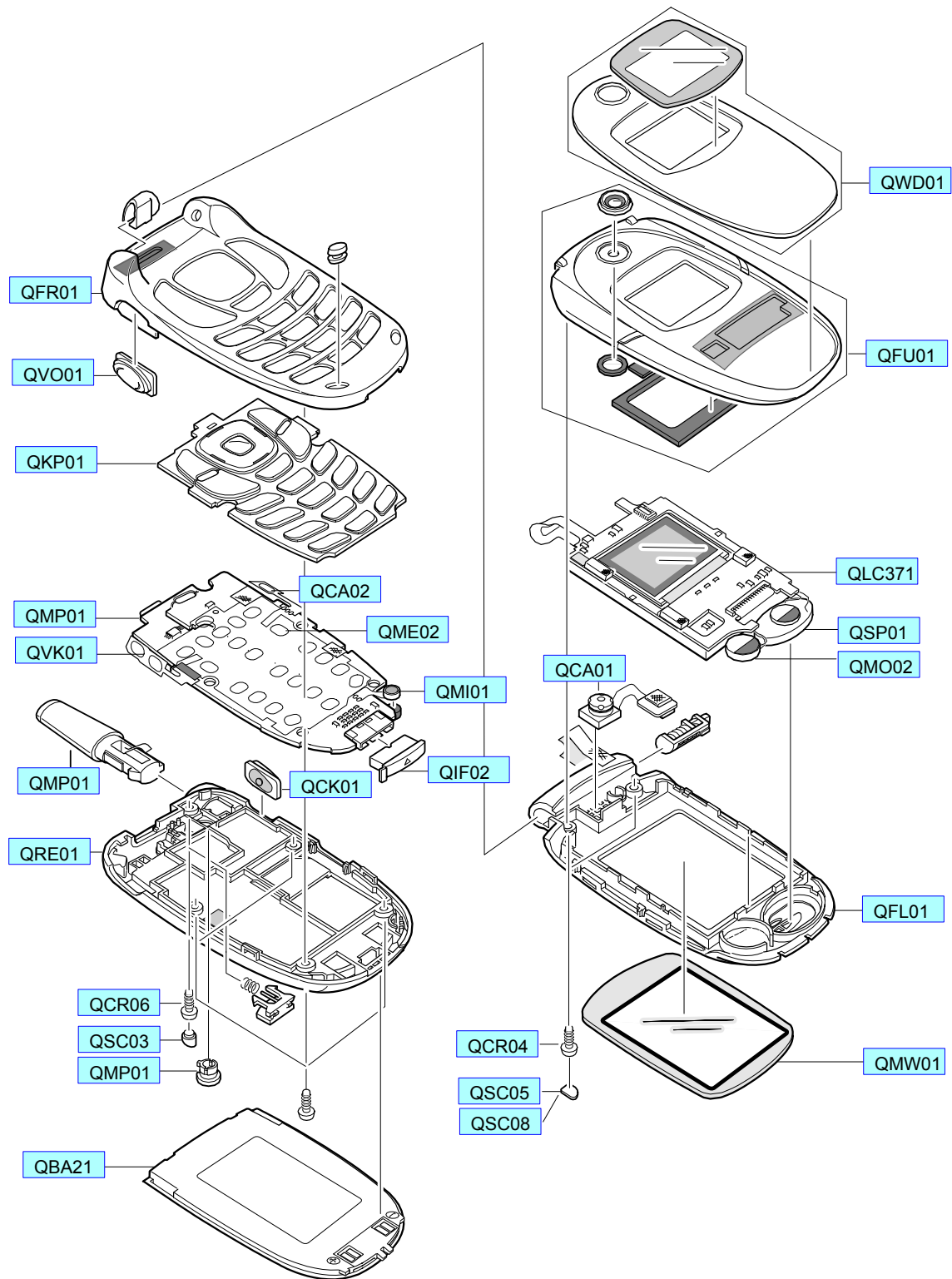
CSP1093





### 3. SGH-E310C Exploded View and its Parts list

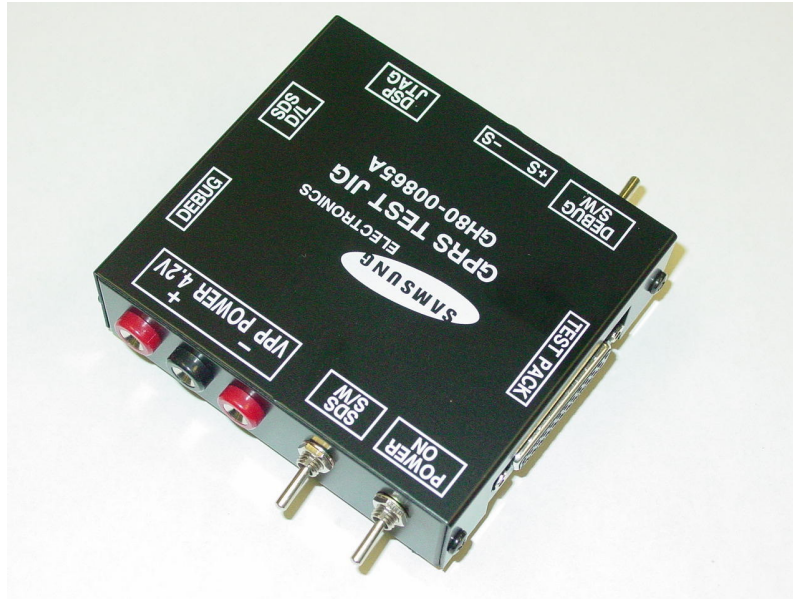
#### 3-1. Cellular phone Exploded View



## 3-2. Cellular phone Parts list

Location NO.	Description	SEC CODE	Remark
QWD01	DUAL WINDOW ASSY	GH75-03873A	
QFU01	FOLDER UPPER	GH75-04883A	
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	GH75-03874C	
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	GH75-03939C	
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	

3-3. Test Jig (GH80-00865A)



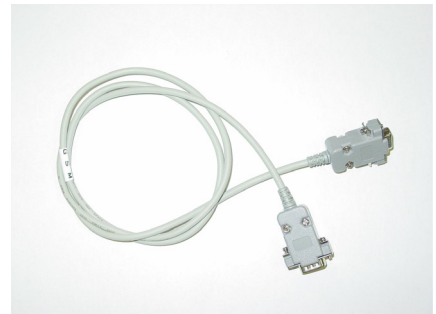
3-3-1. RF Test Cable  
(GH39-00090A)



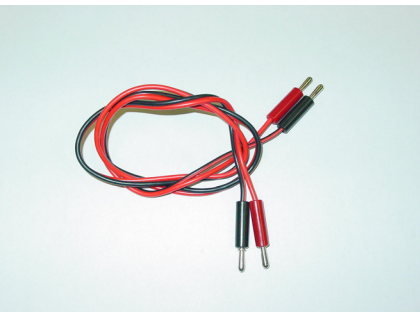
3-3-2. Test Cable  
(GH39-00127A)



3-3-3. Serial Cable



3-3-4. Power Supply Cable



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



3-3-6. TA  
(GH44-00184A)



## 4. SGH-E310C MAIN Electrical Parts List

Design LOC	SEC Code	Design LOC	SEC Code
-	GH92-01718A	C1005,C1010,C1017	2203-000254
-	GH96-01515A	C115,C201,C202,C430	2203-000254
V302,ZD205	0403-001427	C502,C603,C604,C605	2203-000254
ZD312,ZD401,ZD402	0406-001150	C606,C611,C612,C707	2203-000254
ZD403,ZD404	0406-001150	C710,C711,C712,C804	2203-000254
V307	0406-001152	C805,C806,C807,C905	2203-000254
ZD206,ZD207,ZD405	0406-001169	C907	2203-000254
ZD406,ZD407	0406-001169	C613,C615	2203-000278
Q401	0501-000225	C401	2203-000359
Q100	0502-001201	C416,C425,C426,C901	2203-000438
Q103,Q104	0504-000168	C902	2203-000438
U702,U703	0504-001042	C610	2203-000679
Q102	0506-001052	C101,C104,C105,C208	2203-000812
LED201,LED202,LED203	0601-001790	C214,C215,C216,C219	2203-000812
LED204,LED205,LED207	0601-001790	C221,C231,C233,C242	2203-000812
LED208,LED210,LED211	0601-001790	C250,C253,C255,C305	2203-000812
LED212,LED213,LED214	0601-001790	C809,C906,C919	2203-000812
LED218,LED219,LED220	0601-001790	C433	2203-000940
LED221,LED222,U1008	0601-001790	C808,C900,C903	2203-000995
U1009	0601-001790	C424	2203-001153
LED217	0604-001261	C918	2203-001383
U401	1001-001183	C403,C609,C810	2203-001405
U202	1009-001010	C415	2203-001412
U500	1109-001281	C103,C114	2203-001598
U900	1201-002078	C110,C113	2203-001652
U101	1203-002127	C904	2203-002677
U1002	1203-002861	C102,C205,C206,C301	2203-005061
U102	1203-002902	C302,C303,C304,C402	2203-005061
U701	1204-001984	C404,C409,C417,C432	2203-005061
U402	1204-002161	C507,C608,C706	2203-005061
U800	1205-002433	C410,C423,C705	2203-005065
U602	1209-001219	C912,C913,C914,C915	2203-005234
C406	1405-001082	C207	2203-005393
L905	2007-000070	C607,C708,C709	2203-005480
R804	2007-000138	C1009,C1014,C1019	2203-005482



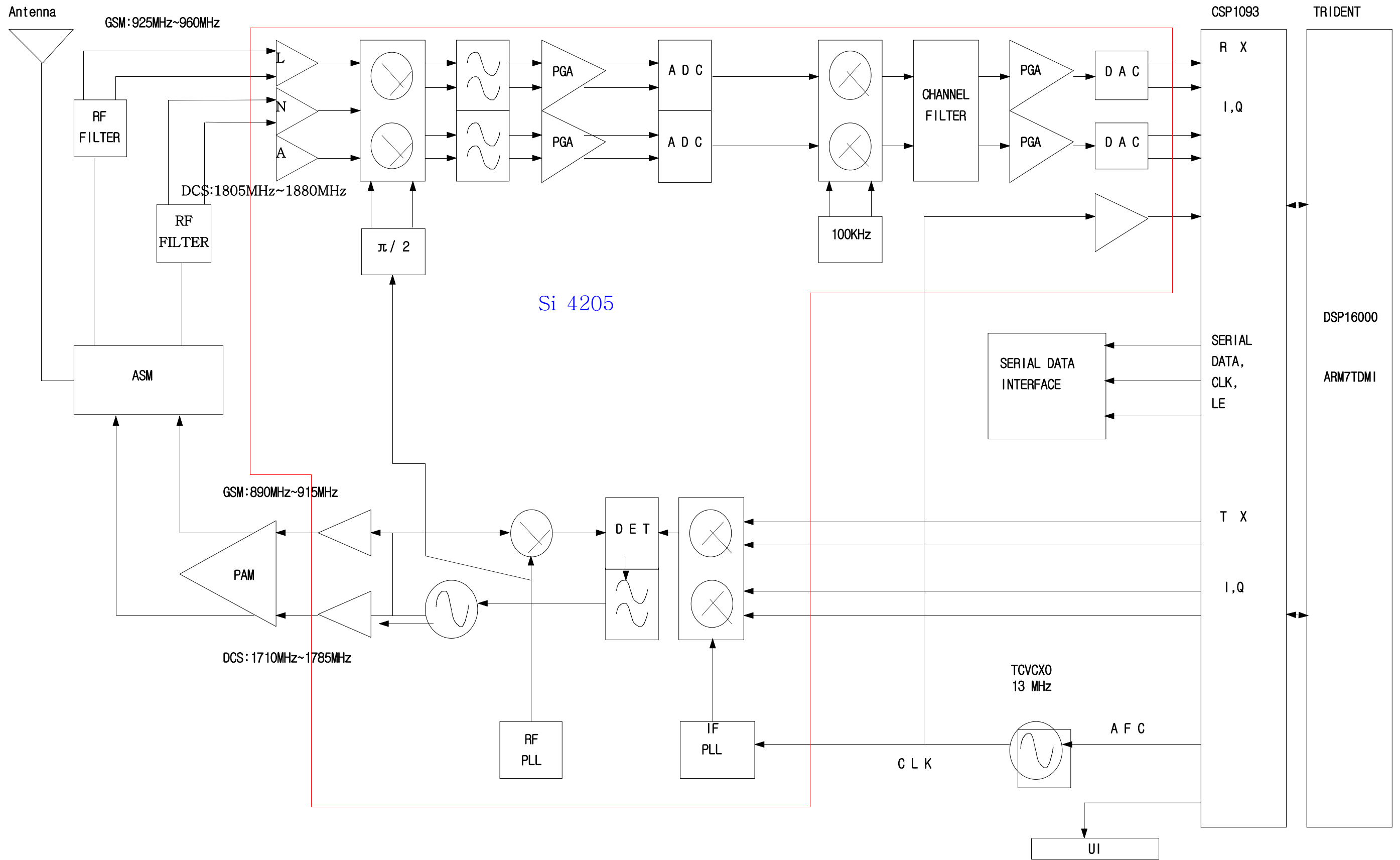
Design LOC	SEC Code	Design LOC	SEC Code
R304,R305,R306,R307	2007-000140	C1020,C108,C614	2203-005482
R308,R309,R310,R312	2007-000140	C601,C602,C704	2203-005496
R313,R315,R316,R317	2007-000140	C203,C503,C504,C505	2203-005509
R420,R424	2007-000140	C506	2203-005509
R413,R415	2007-000141	C1022	2203-005571
R1001,R1002,R112	2007-000148	C209,C211,C212,C213	2203-005682
R408,R416,R423	2007-000148	C217,C218,C220,C222	2203-005682
R419	2007-000154	C223,C225,C226,C227	2203-005682
R301,R302,R303,R501	2007-000157	C230,C232,C234,C235	2203-005682
R601,R604,R605	2007-000157	C236,C237,C238,C239	2203-005682
R411,R418	2007-000159	C240,C241,C243,C244	2203-005682
R405	2007-000161	C246,C247,C248,C249	2203-005682
R1011,R1021,R402	2007-000162	C251,C252,C254,C256	2203-005682
R701,R704,U1006	2007-000162	U1005	2203-005682
R404	2007-000164	C1001,C1012,C109	2203-006053
R603	2007-000170	C112,C116,C117	2203-006053
R1008,R101,R1014	2007-000171	C204	2203-006257
R1019,R1020,R105	2007-000171	C405,C413	2404-001086
R107,R500,R502	2007-000171	C106	2404-001105
R1003,R110,R201,R202	2007-000172	C431,C909,C910	2404-001151
R401,R403,R425,R503	2007-000172	C1021	2404-001225
R602,R801	2007-000172	C107	2404-001268
R106	2007-000758	L402,L403	2703-001513
R406	2007-000775	L907	2703-002199
R900,R905	2007-001288	L908	2703-002207
R203	2007-001291	L901	2703-002485
R803	2007-001313	L902	2703-002608
R111	2007-001319	OSC601	2801-003856
R104	2007-001323	OSC1000	2804-001577
R410	2007-001325	OSC801	2809-001260
R902,R903,R907,R908	2007-007008	F900	2909-001225
R103	2007-007139	F901	3705-001287
R102,R606	2007-007142	CN101	3709-001229
R702,R703	2007-007200	CN300	3710-001673
R904	2007-007306	CN201	3711-005490

Design LOC	SEC Code
R607,R608	2007-007308
R802	2007-007766
C1011,C1013,C118	2203-000233
C429,C801,C802,C803	2203-000233
C811,C812,C813,C916	2203-000233

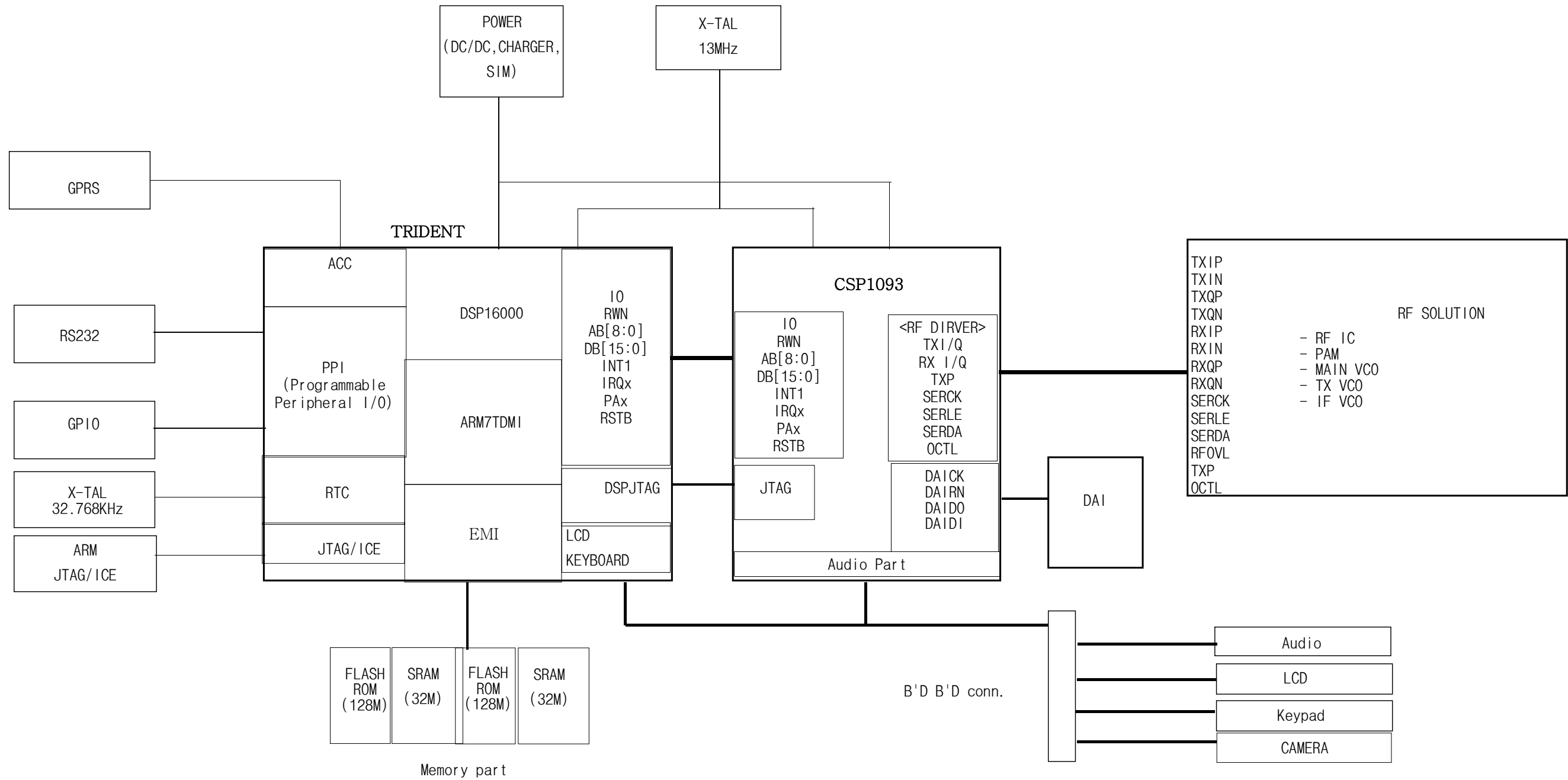
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M101	4302-001130
U601	GH09-00025A
U1001	GH13-00020A
-	GH41-00552A

# 5. SGH-E310C Block Diagrams

5-1. RF Solution Block Diagram

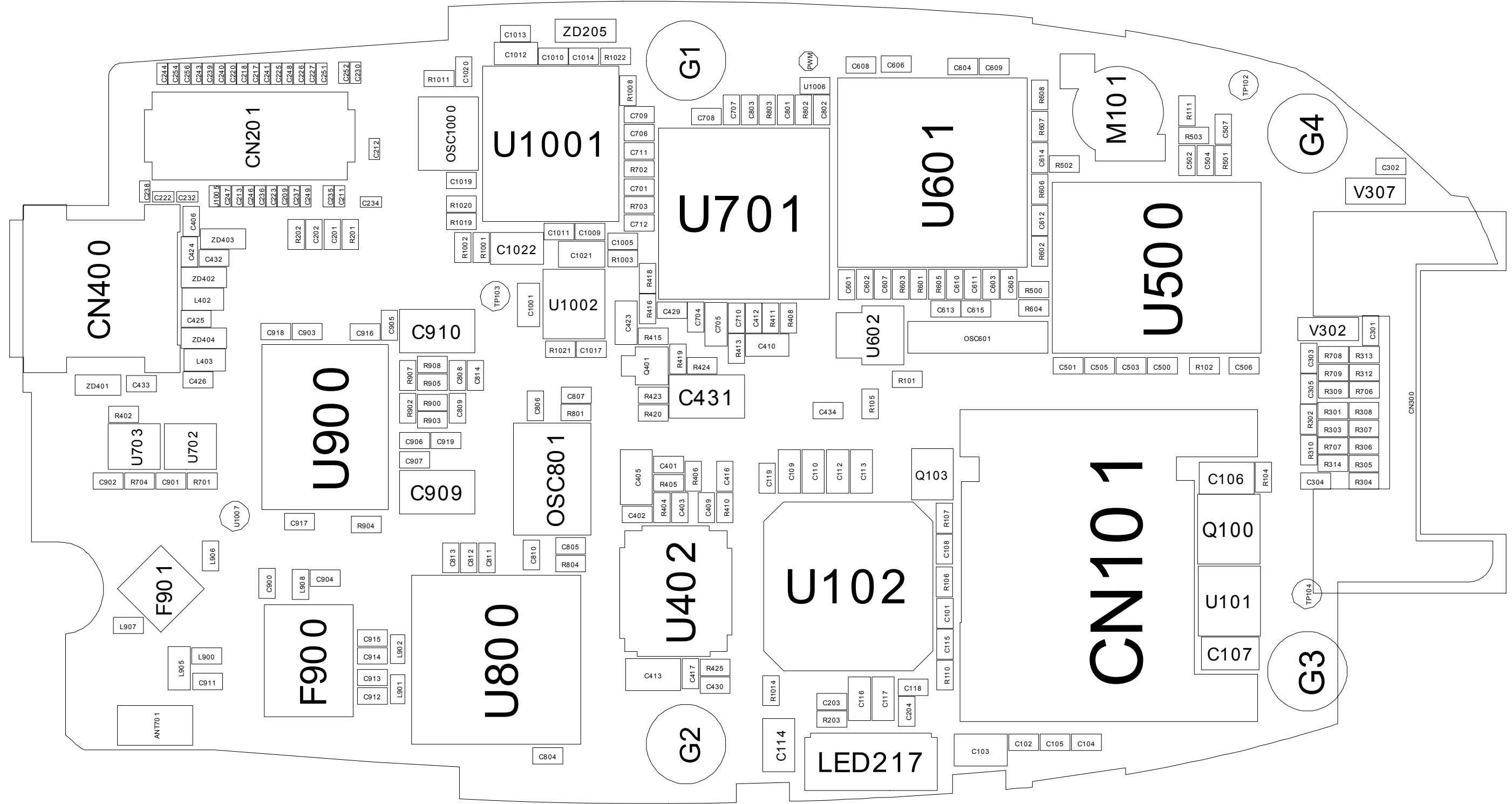


5-2. Base Band Solution Block Diagram



# 6. SGH-E310C PCB Diagrams

## 6-1. Main Top Diagram



6-2. Main Bottom Diagram

