

SAMSUNG

GSM TELEPHONE

SGH-X610

SERVICE *Manual*

GSM TELEPHONE



CONTENTS

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

1. SGH-X610 Specification

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

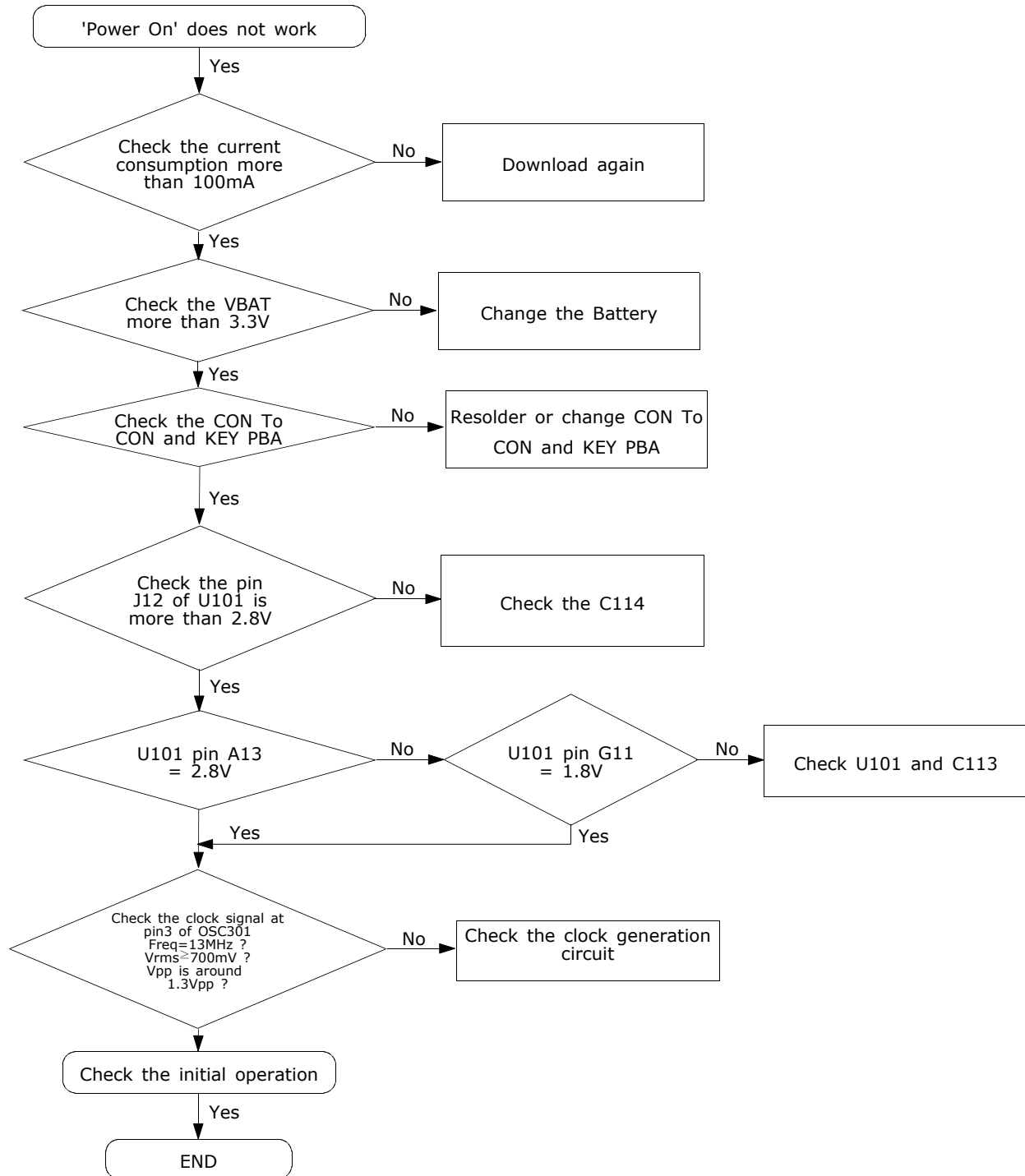
1-2. GSM TX power class

TX Power control level	GSM900	TX Power control level	DCS1800
5	$33 \pm 2\text{dBm}$	0	$30 \pm 2\text{dBm}$
6	$31 \pm 2\text{dBm}$	1	$28 \pm 2\text{dBm}$
7	$29 \pm 2\text{dBm}$	2	$26 \pm 2\text{dBm}$
8	$27 \pm 2\text{dBm}$	3	$24 \pm 2\text{dBm}$
9	$25 \pm 2\text{dBm}$	4	$22 \pm 2\text{dBm}$
10	$23 \pm 3\text{dBm}$	5	$20 \pm 3\text{dBm}$
11	$21 \pm 3\text{dBm}$	6	$18 \pm 3\text{dBm}$
12	$19 \pm 3\text{dBm}$	7	$16 \pm 3\text{dBm}$
13	$17 \pm 3\text{dBm}$	8	$14 \pm 3\text{dBm}$
14	$15 \pm 3\text{dBm}$	9	$12 \pm 3\text{dBm}$
15	$13 \pm 3\text{dBm}$	10	$10 \pm 4\text{dBm}$
16	$11 \pm 3\text{dBm}$	11	$8 \pm 4\text{dBm}$
17	$9 \pm 3\text{dBm}$	12	$6 \pm 4\text{dBm}$
18	$7 \pm 3\text{dBm}$	13	$4 \pm 4\text{dBm}$
19	$5 \pm 5\text{dBm}$	14	$2 \pm 4\text{dBm}$
		15	$0 \pm 5\text{dBm}$

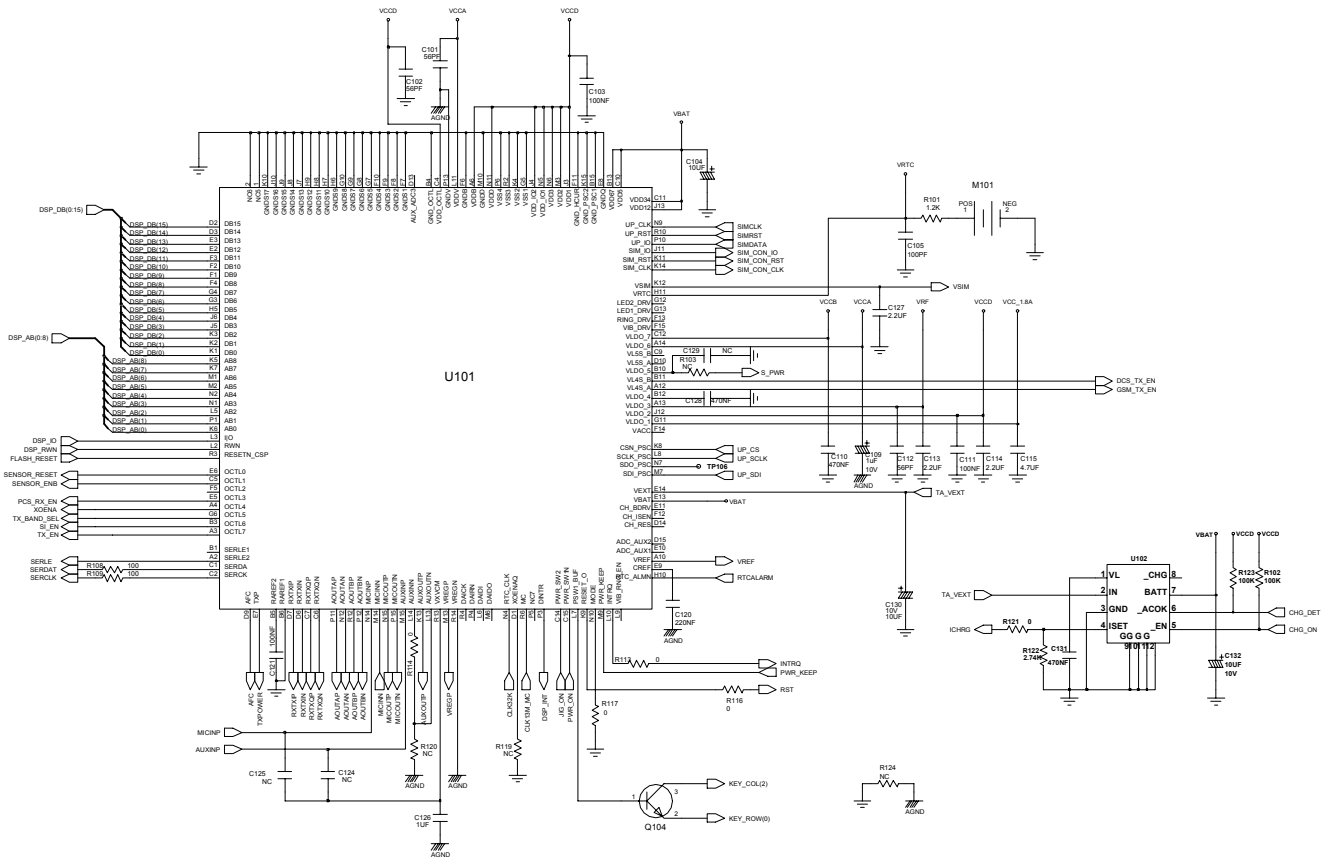
2. SGH-X610 Flow Chart of Troubleshooting

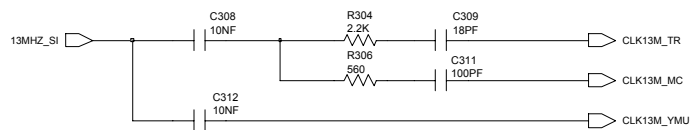
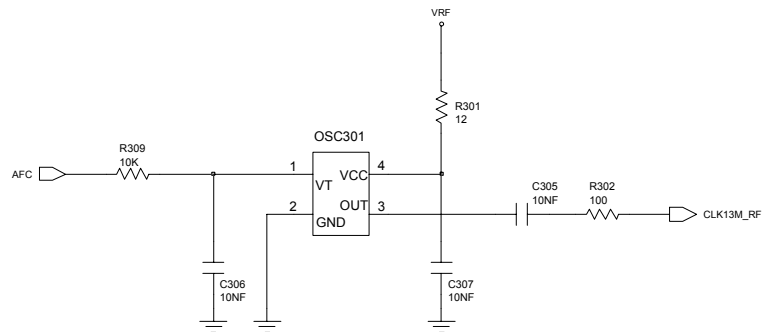
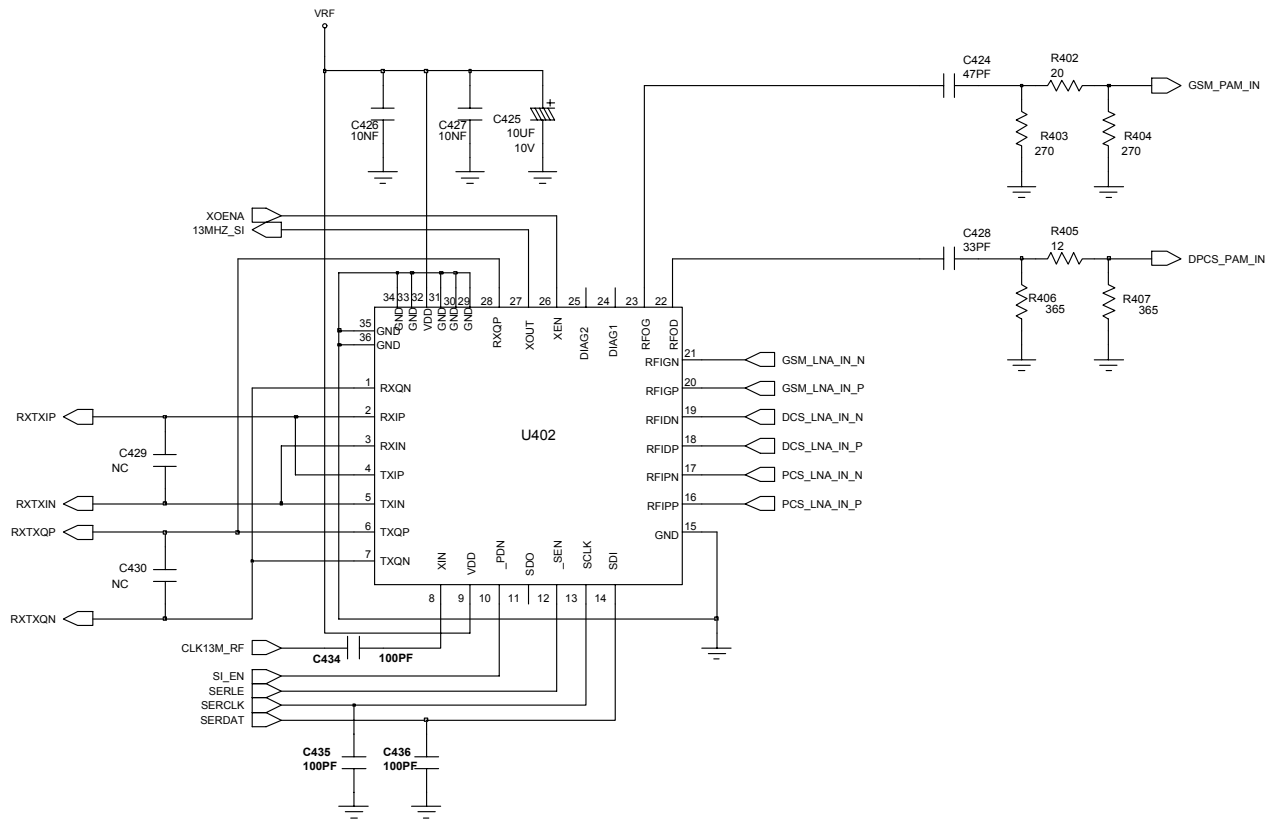
2-1.Baseband

2-1-1. Power ON

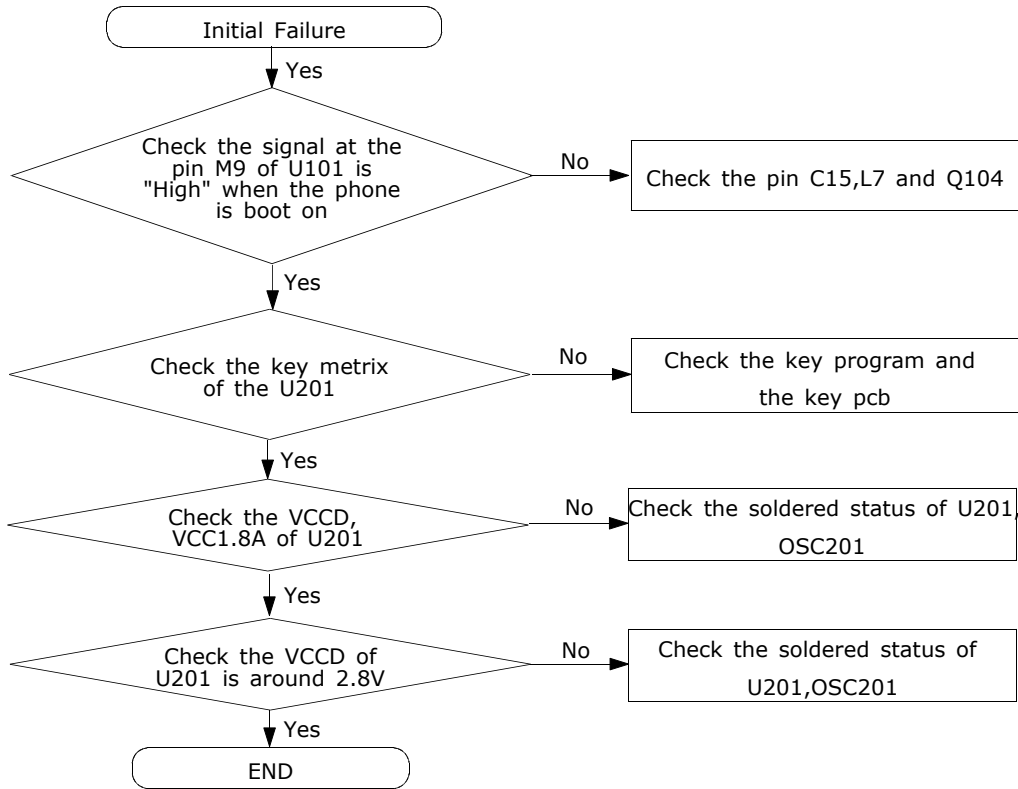


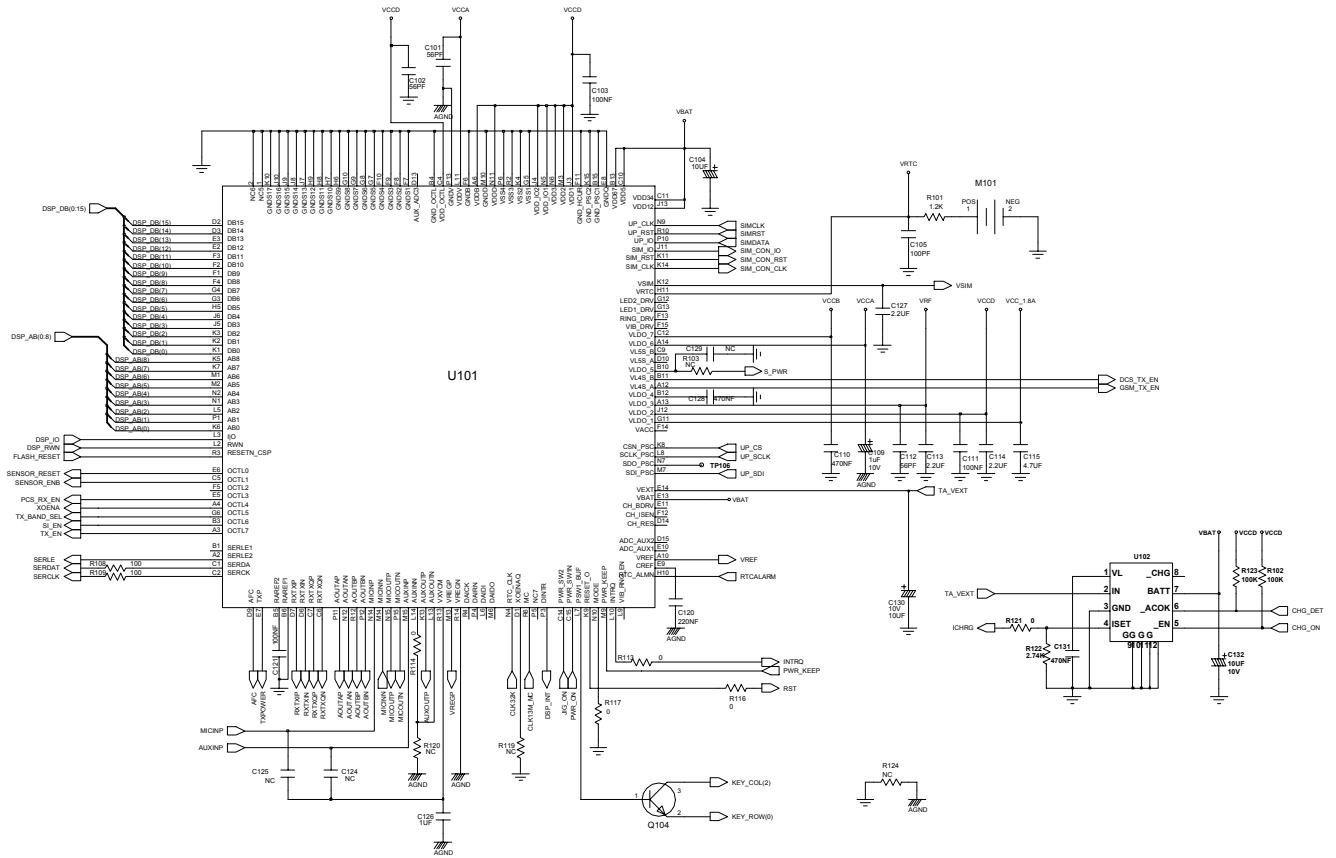
SGH-X610 Flow Chart of Troubleshooting

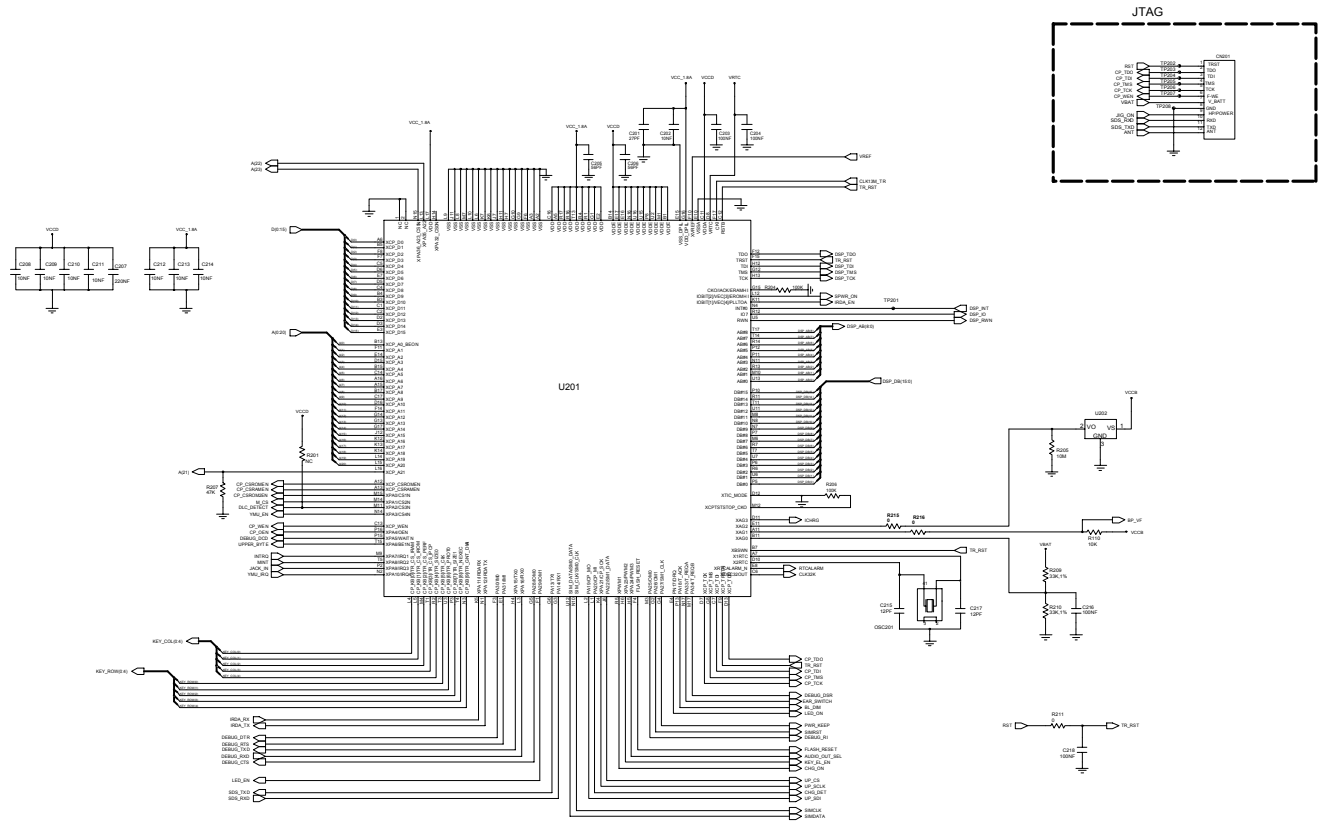


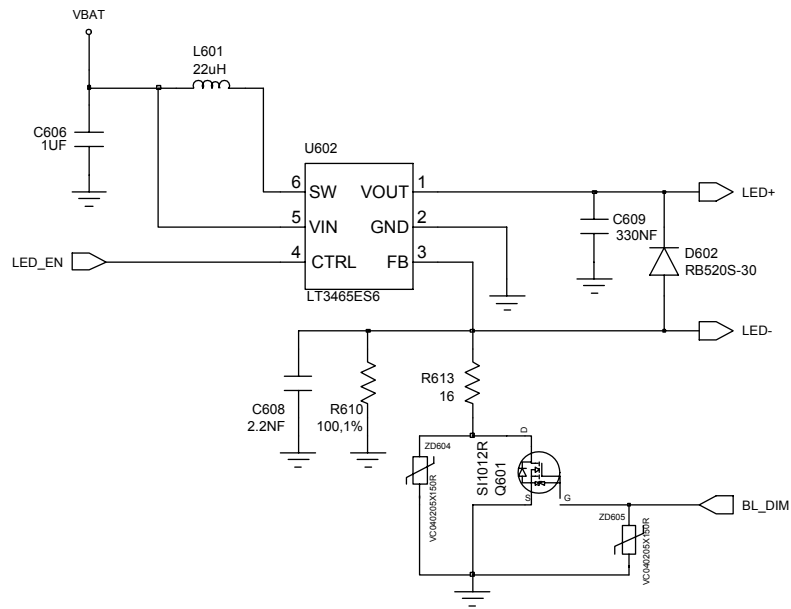
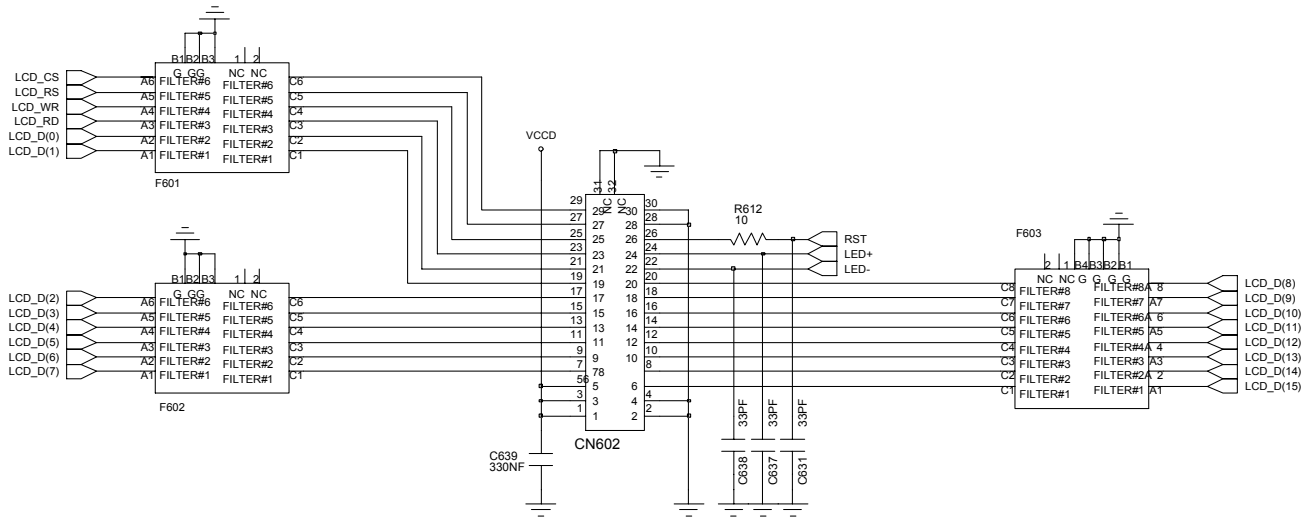


2-1-2. Initial

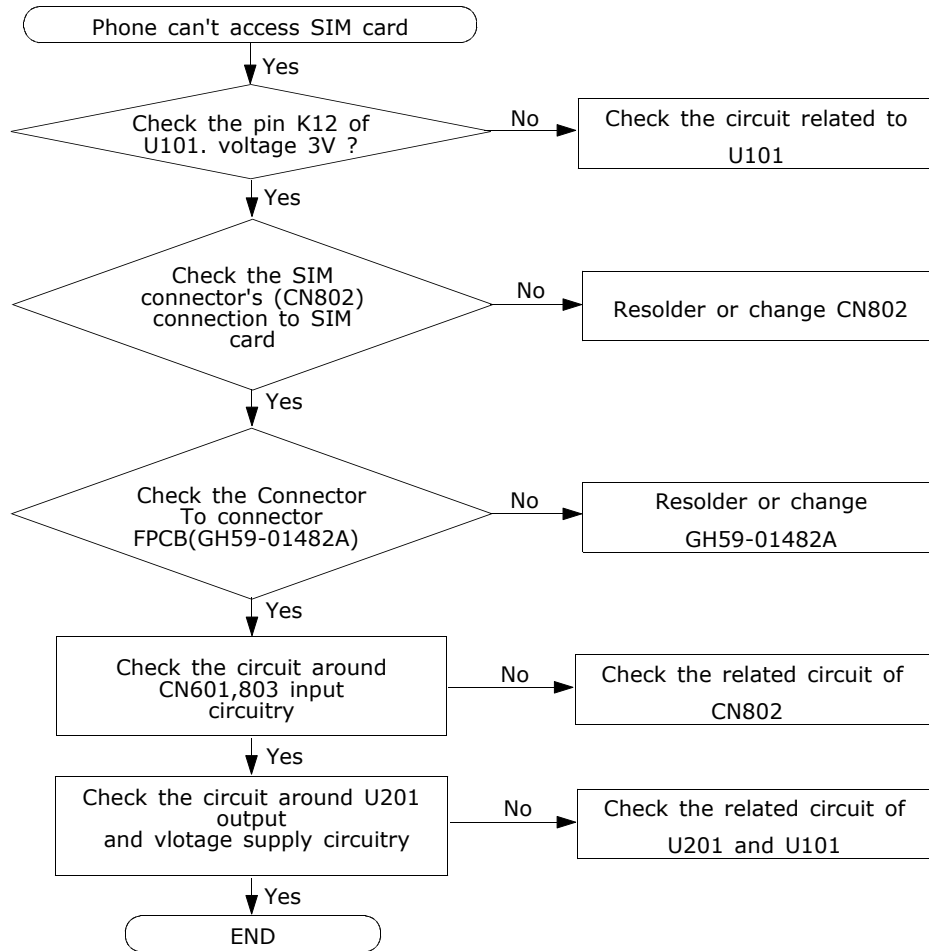


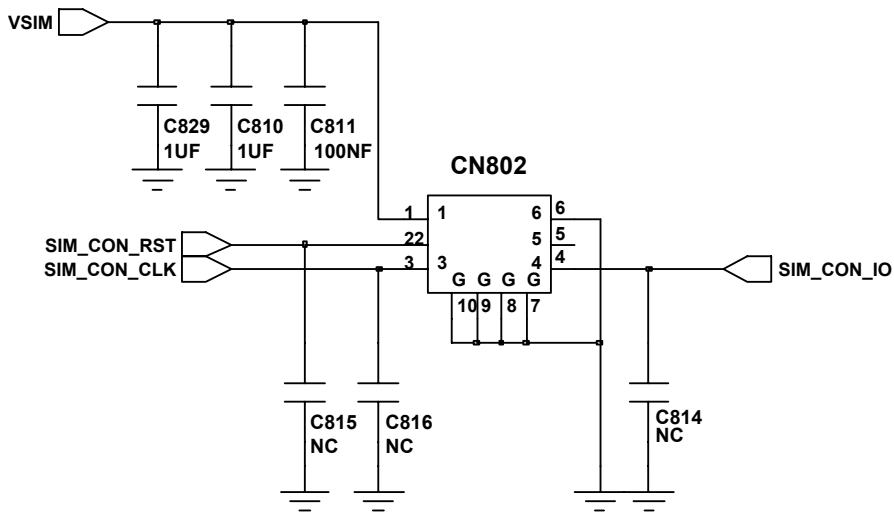
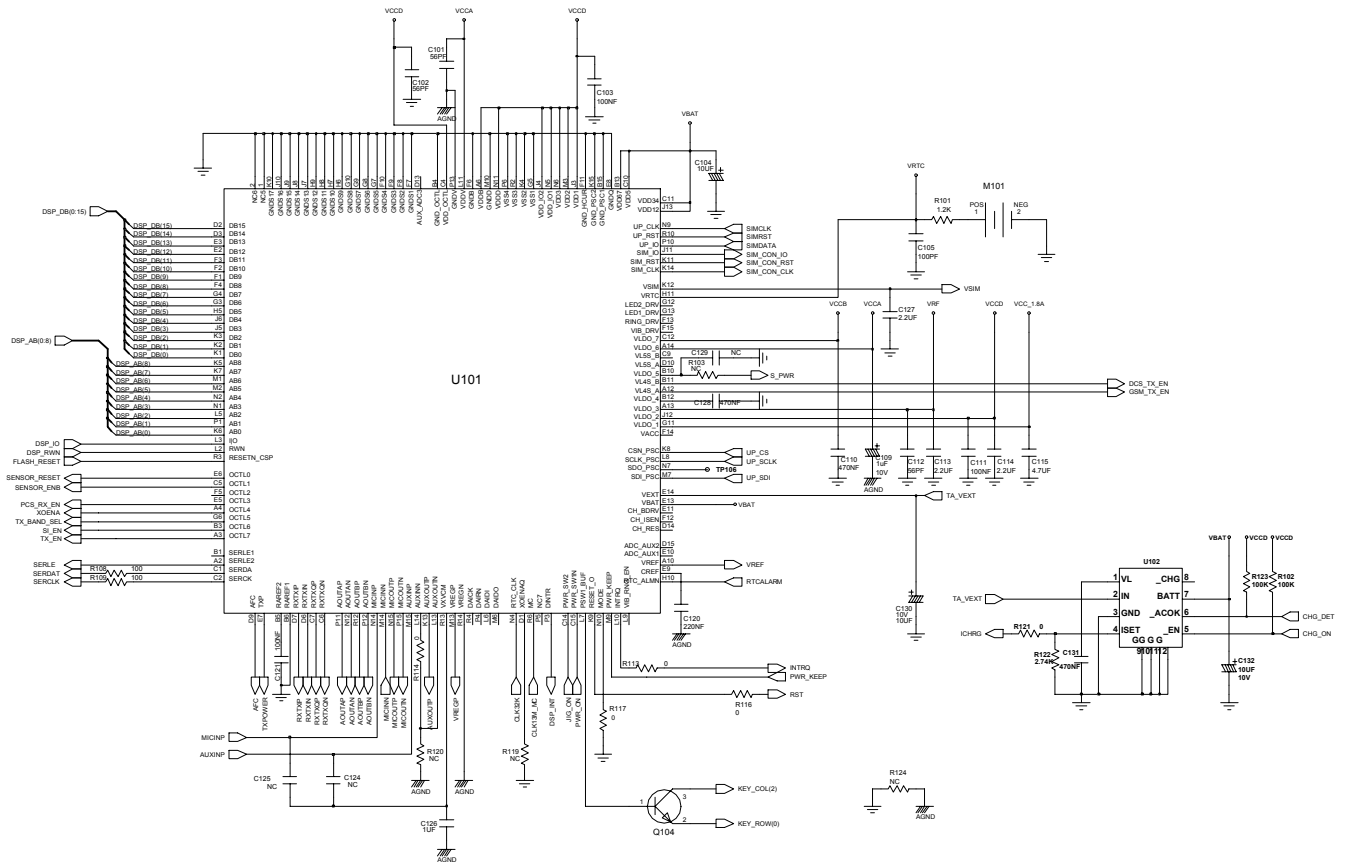


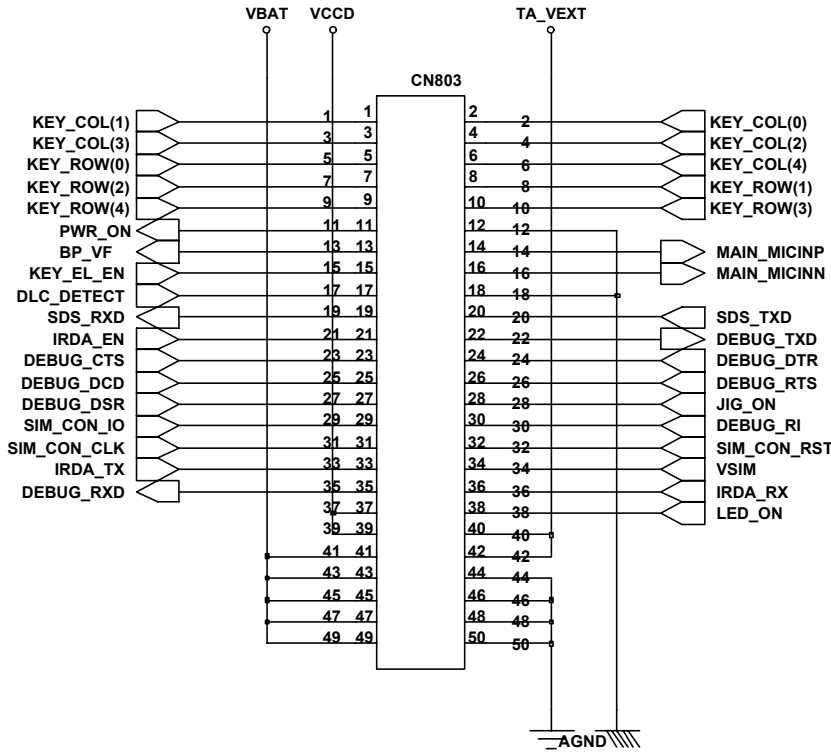
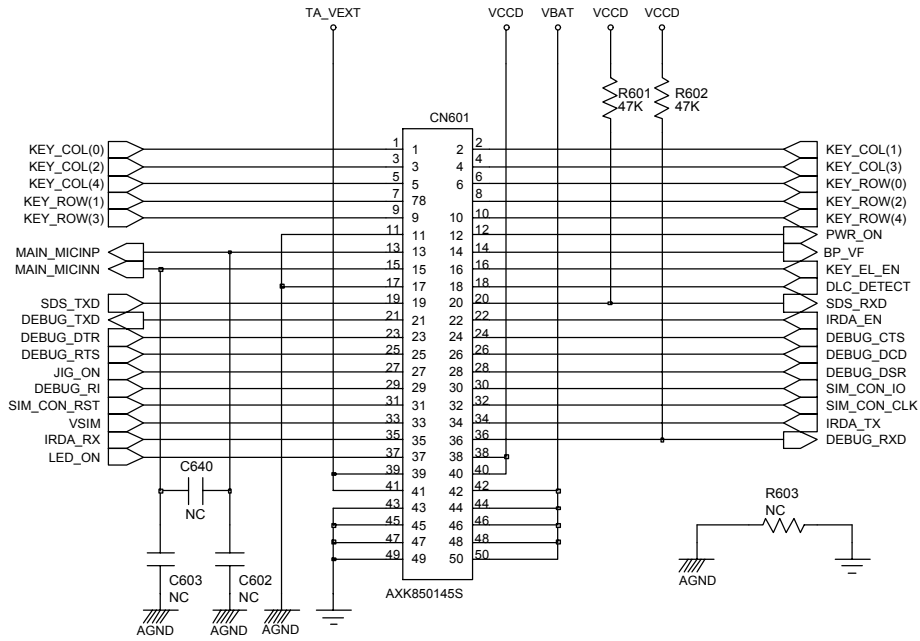




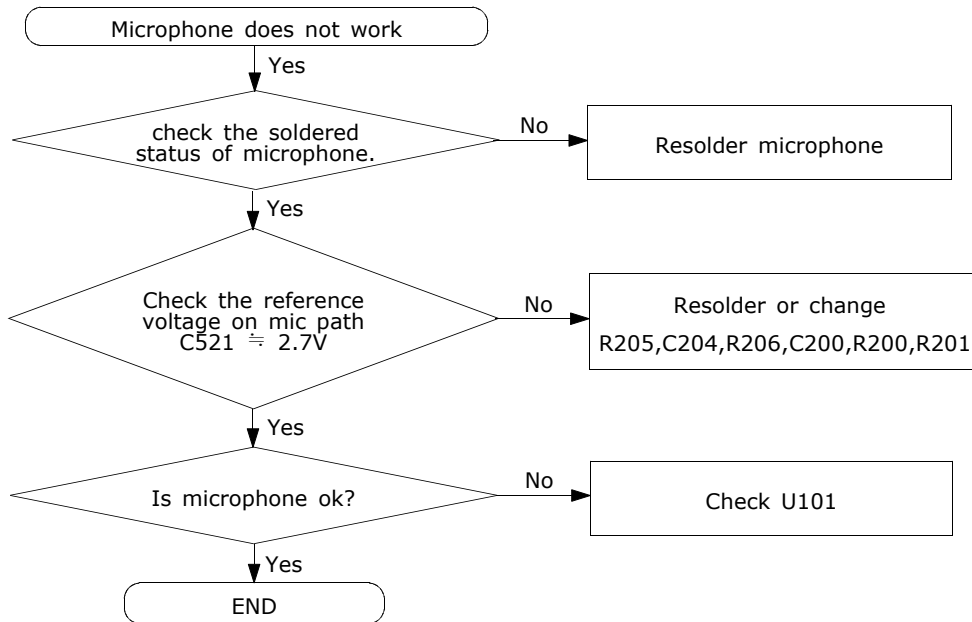
2-1-3. Sim Part

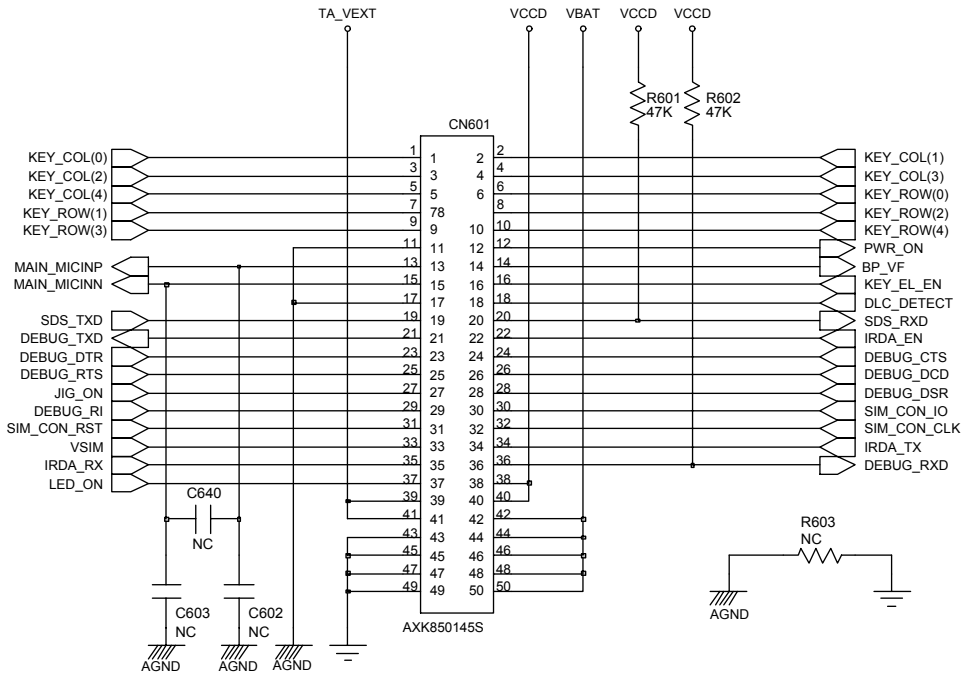
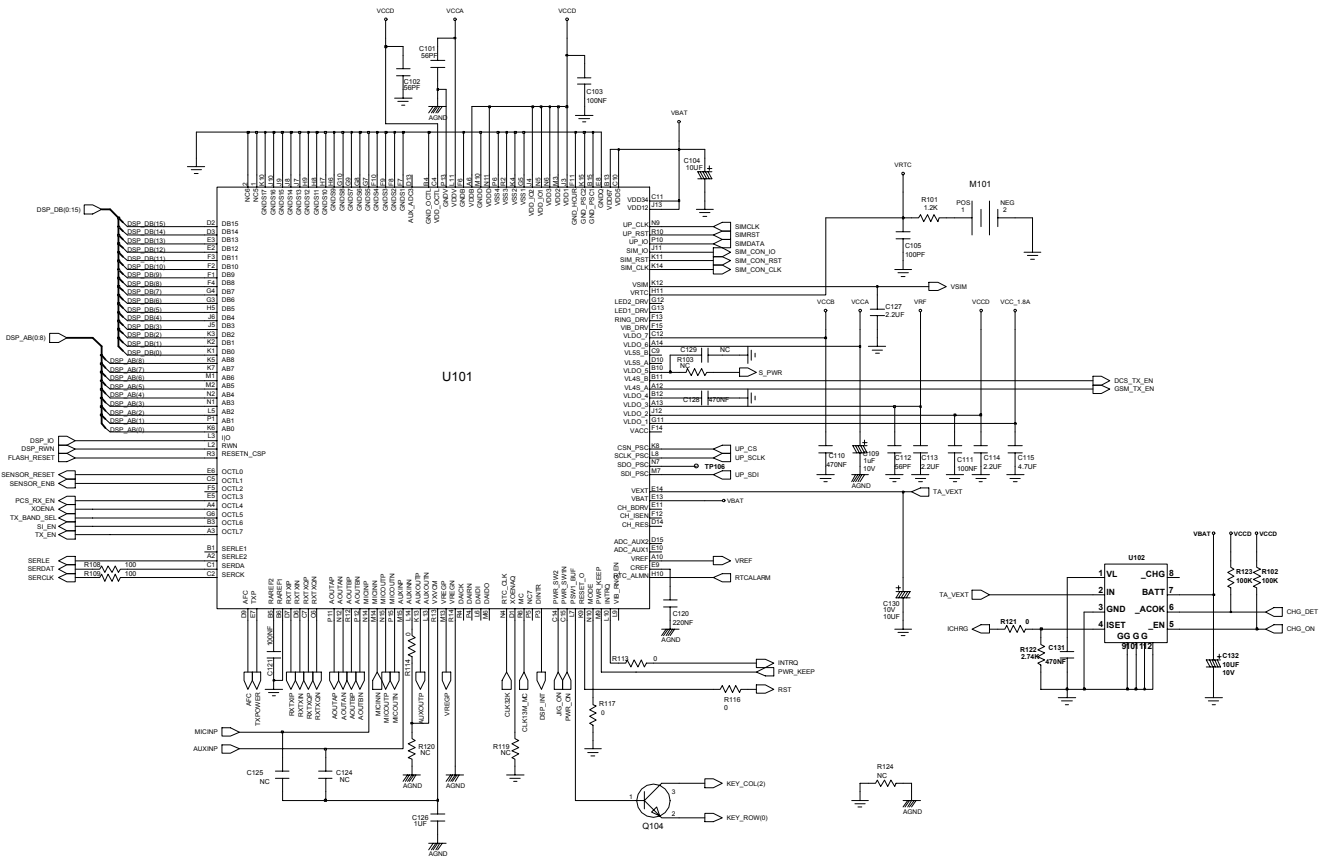


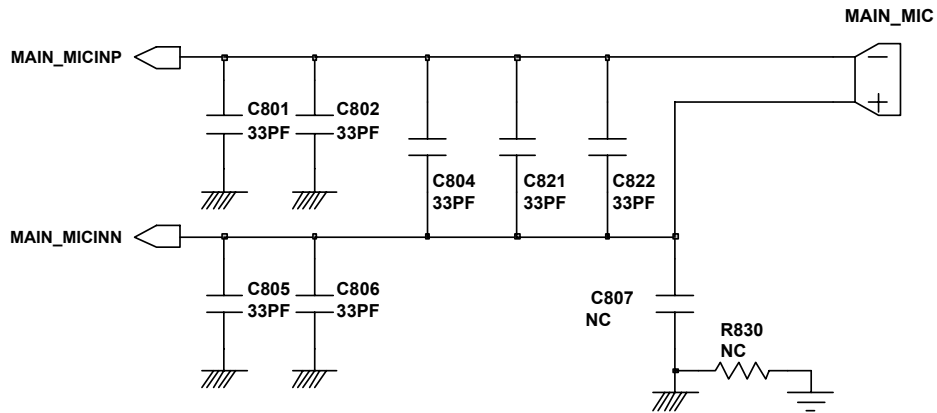
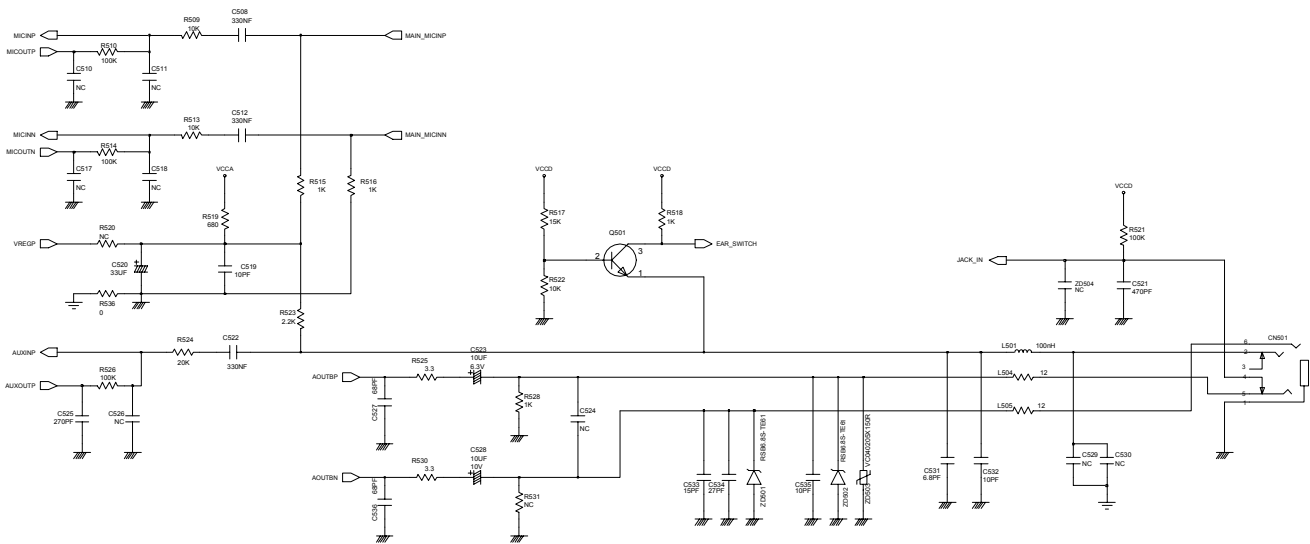


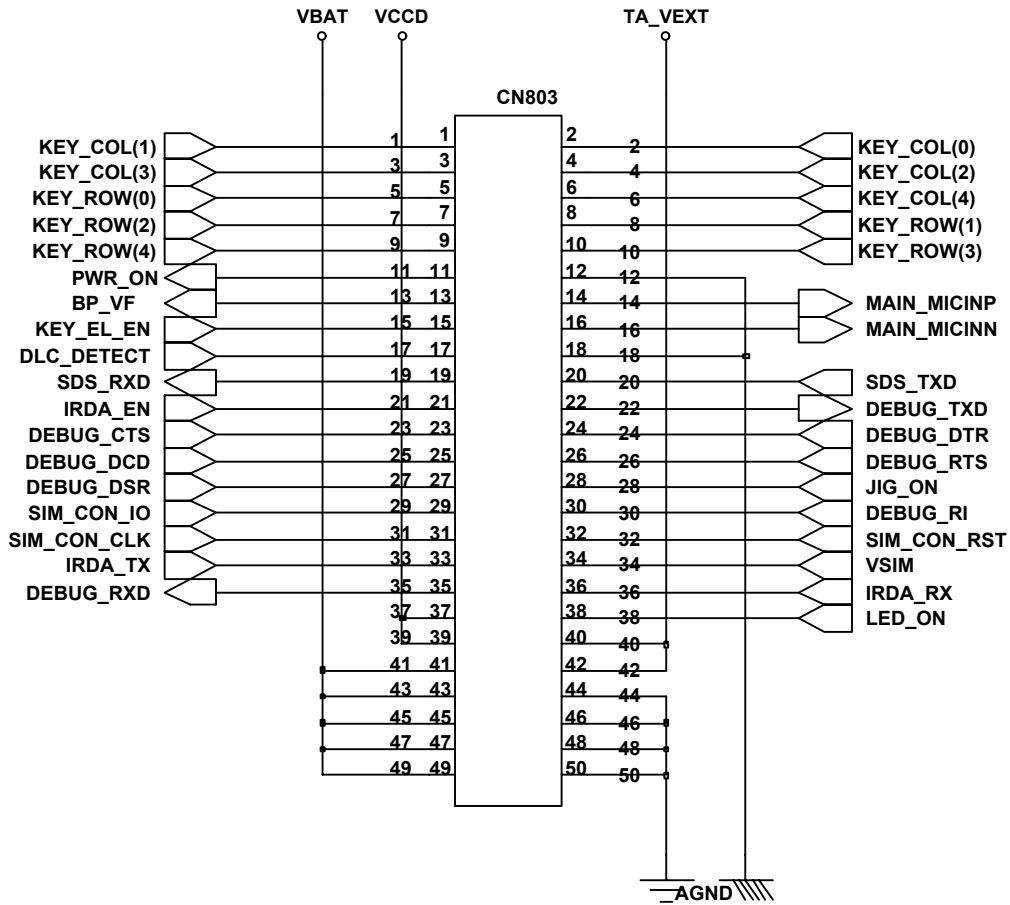


2-1-4. Microphone Part

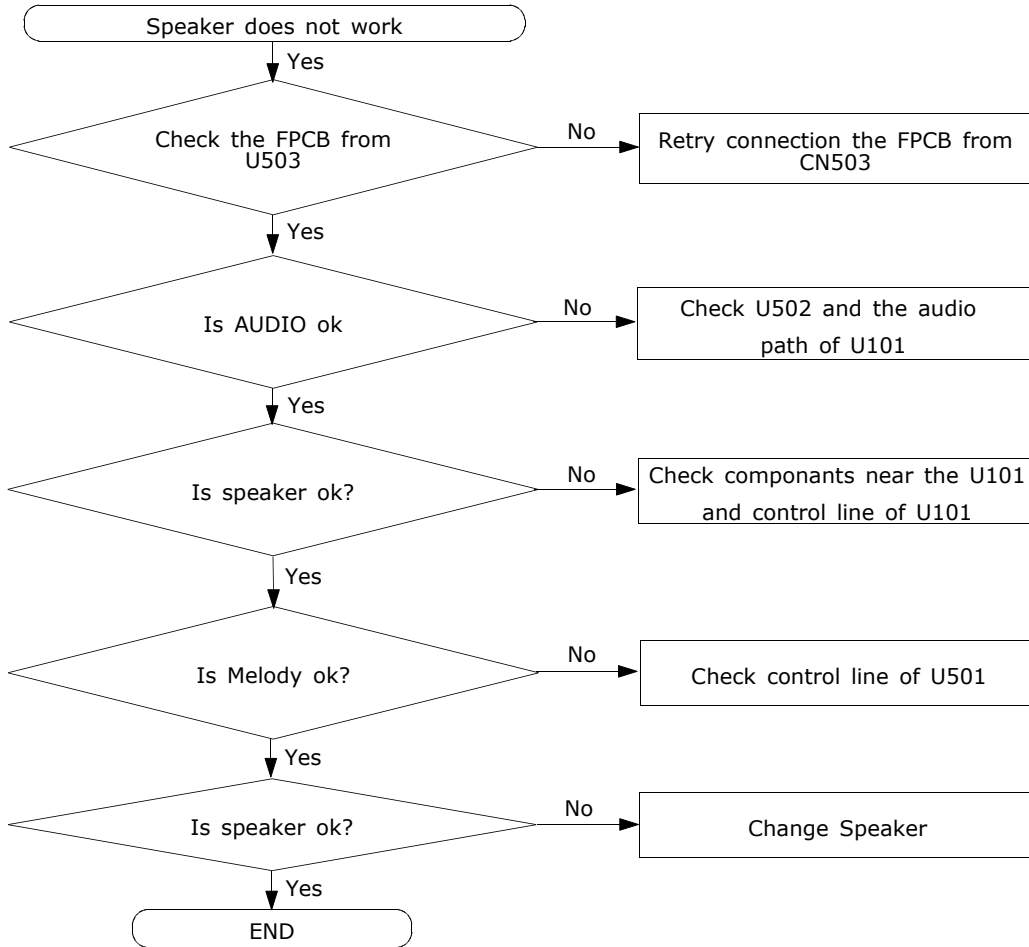


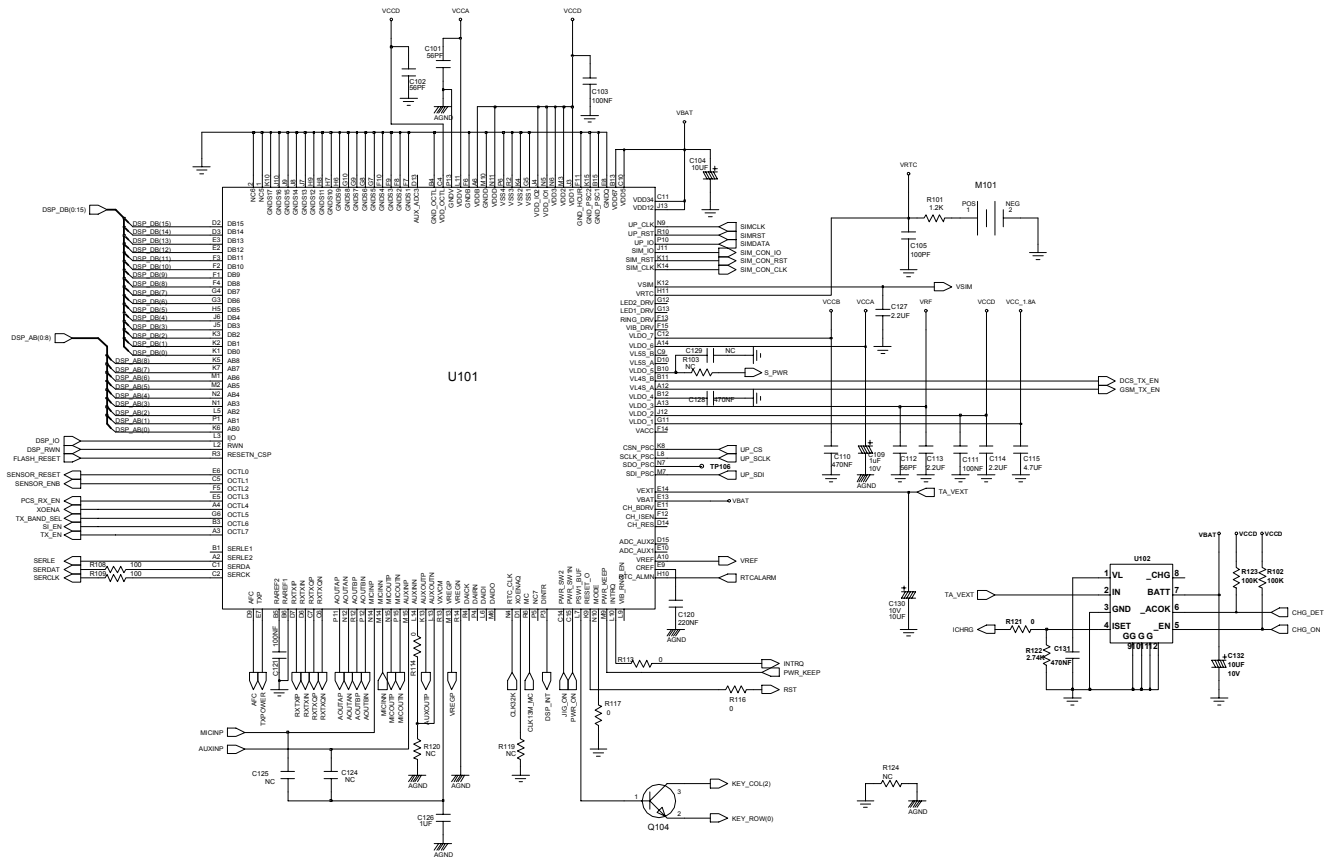


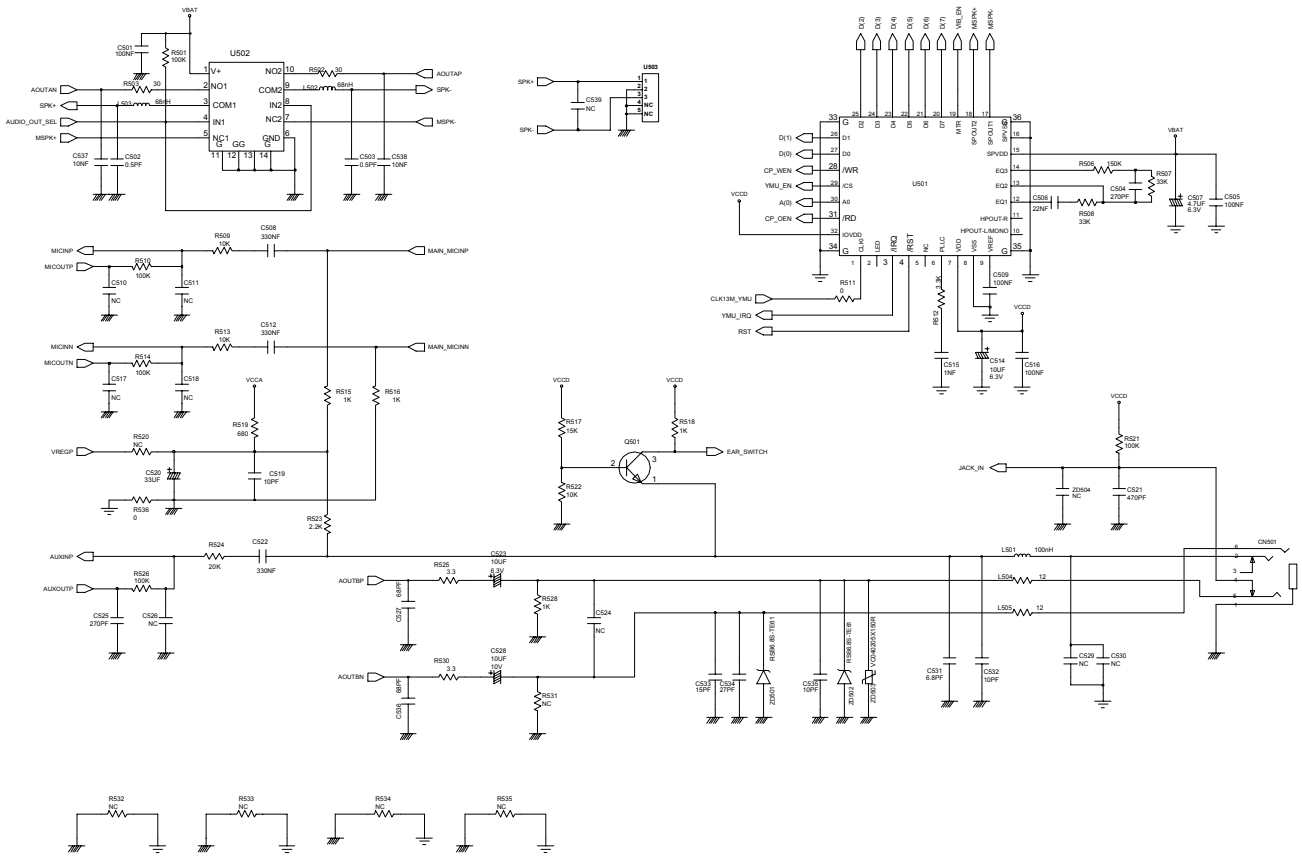




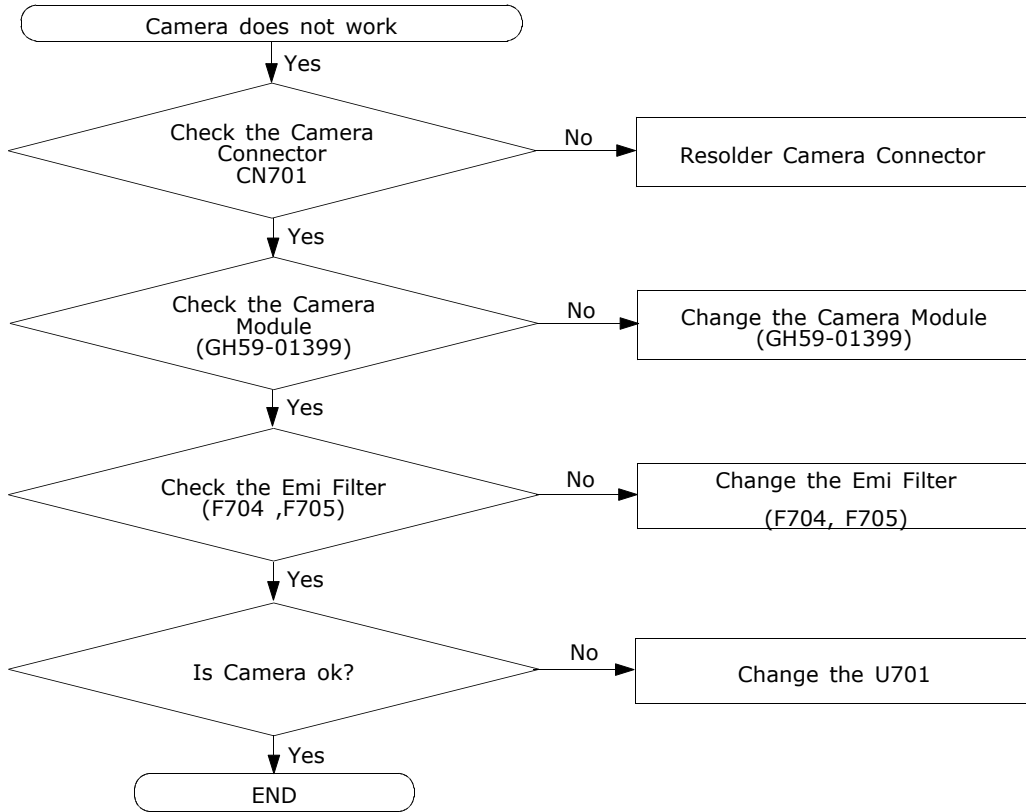
2-1-5. Speaker Part

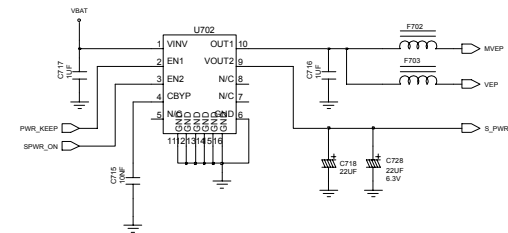
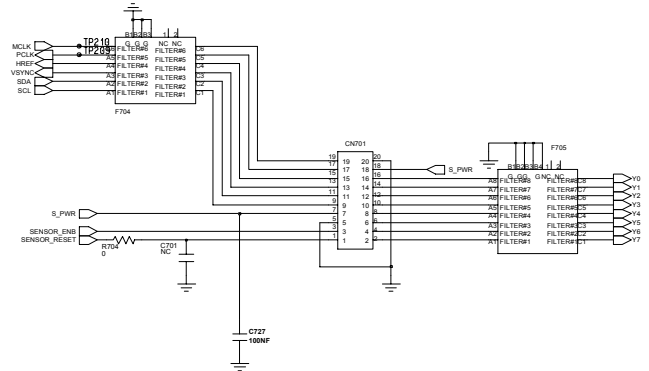
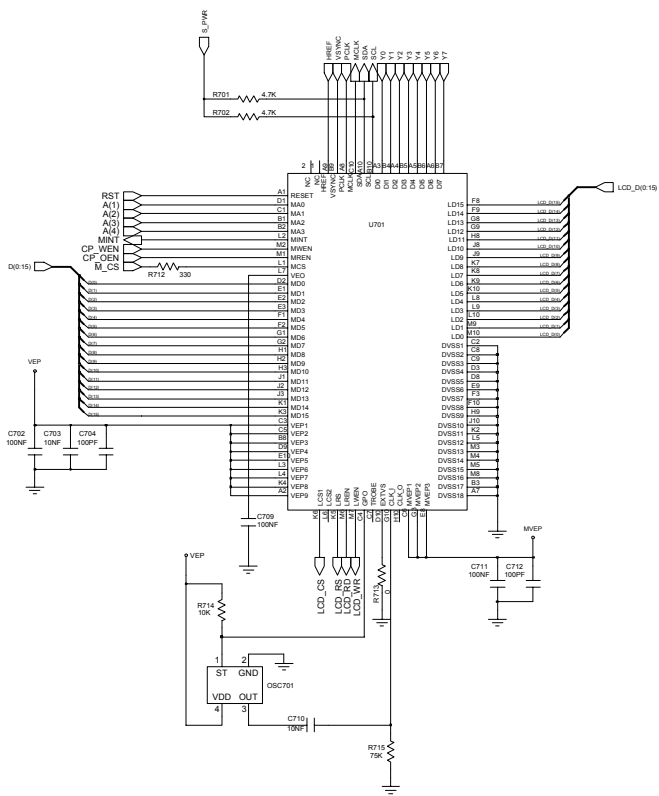




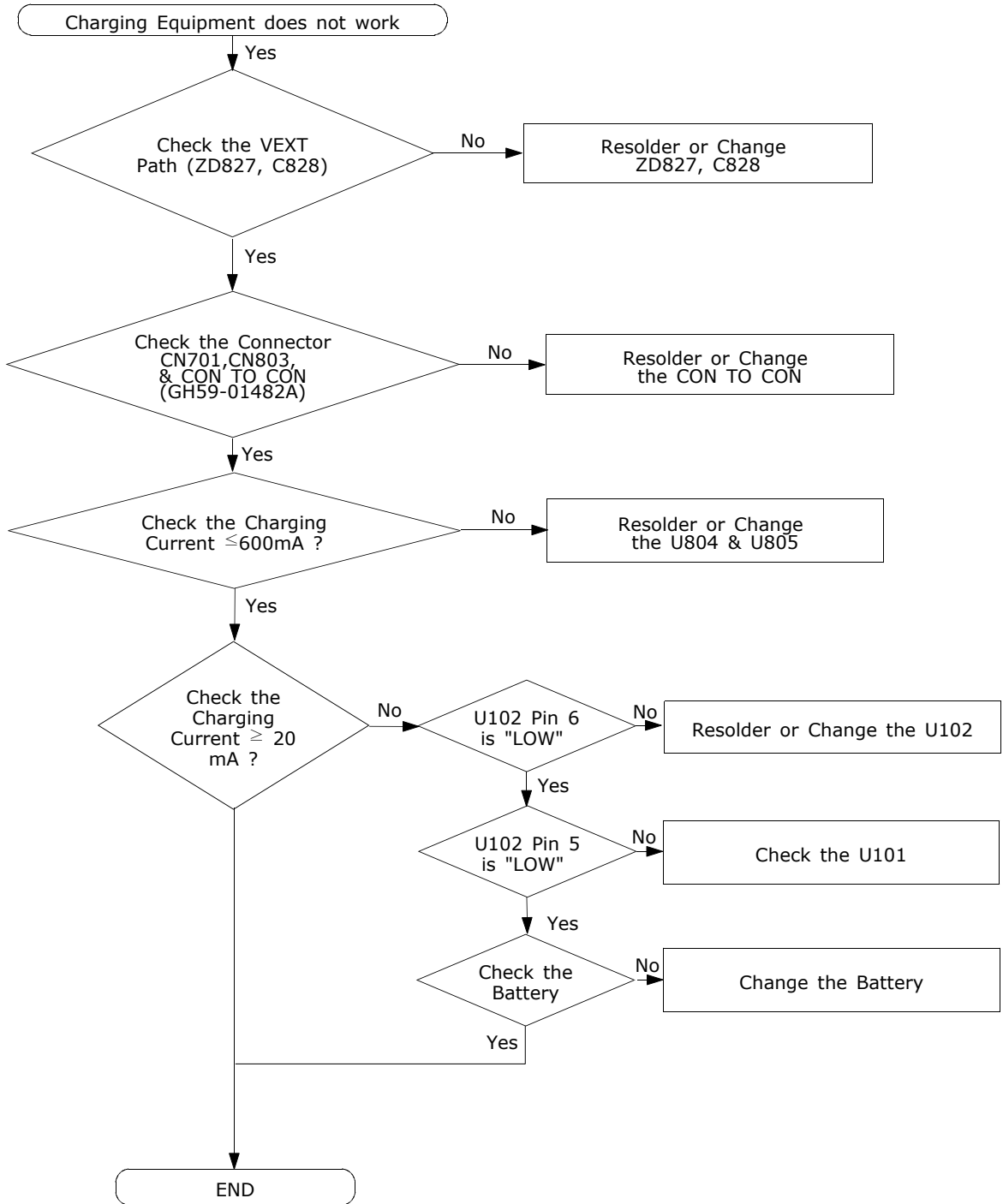


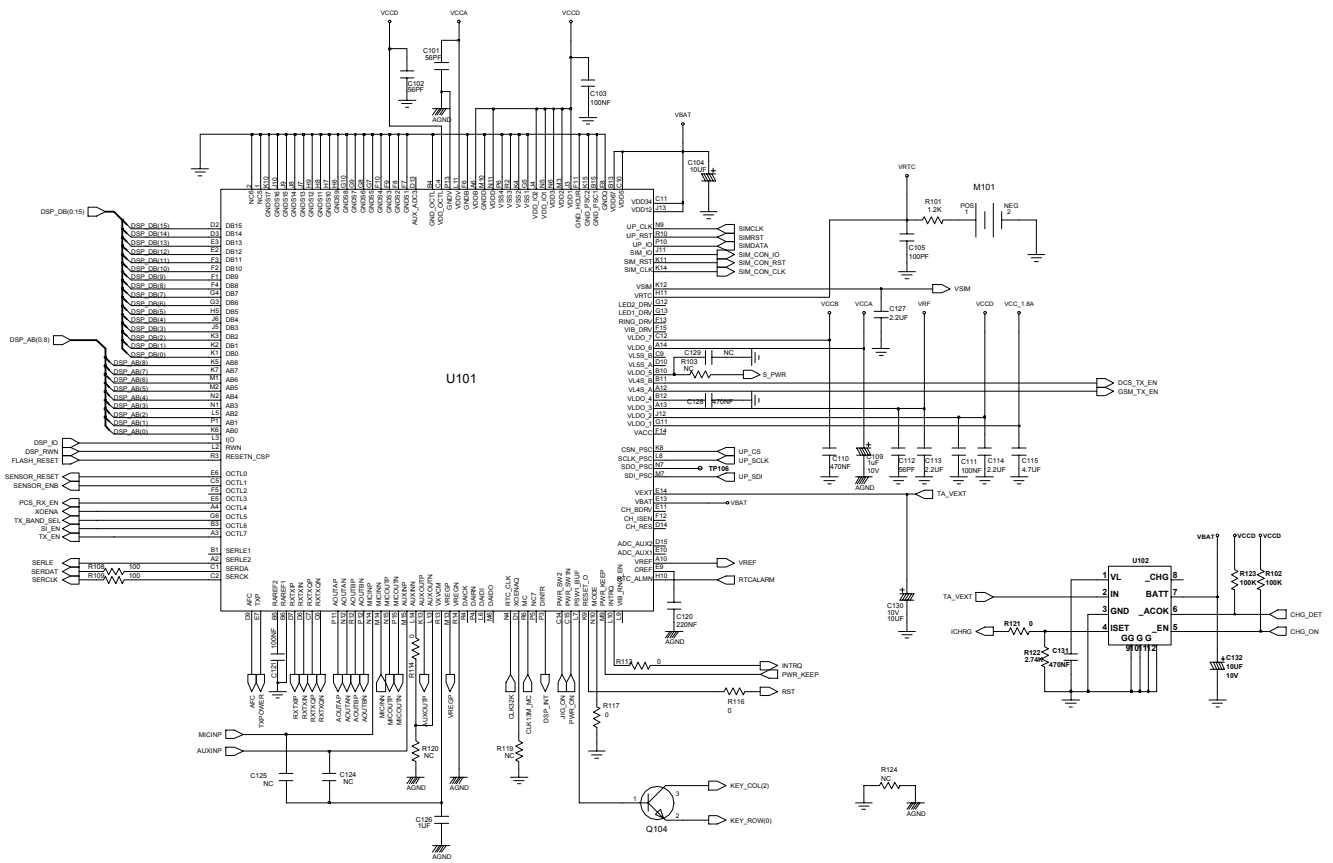
2-1-6. Camera Part



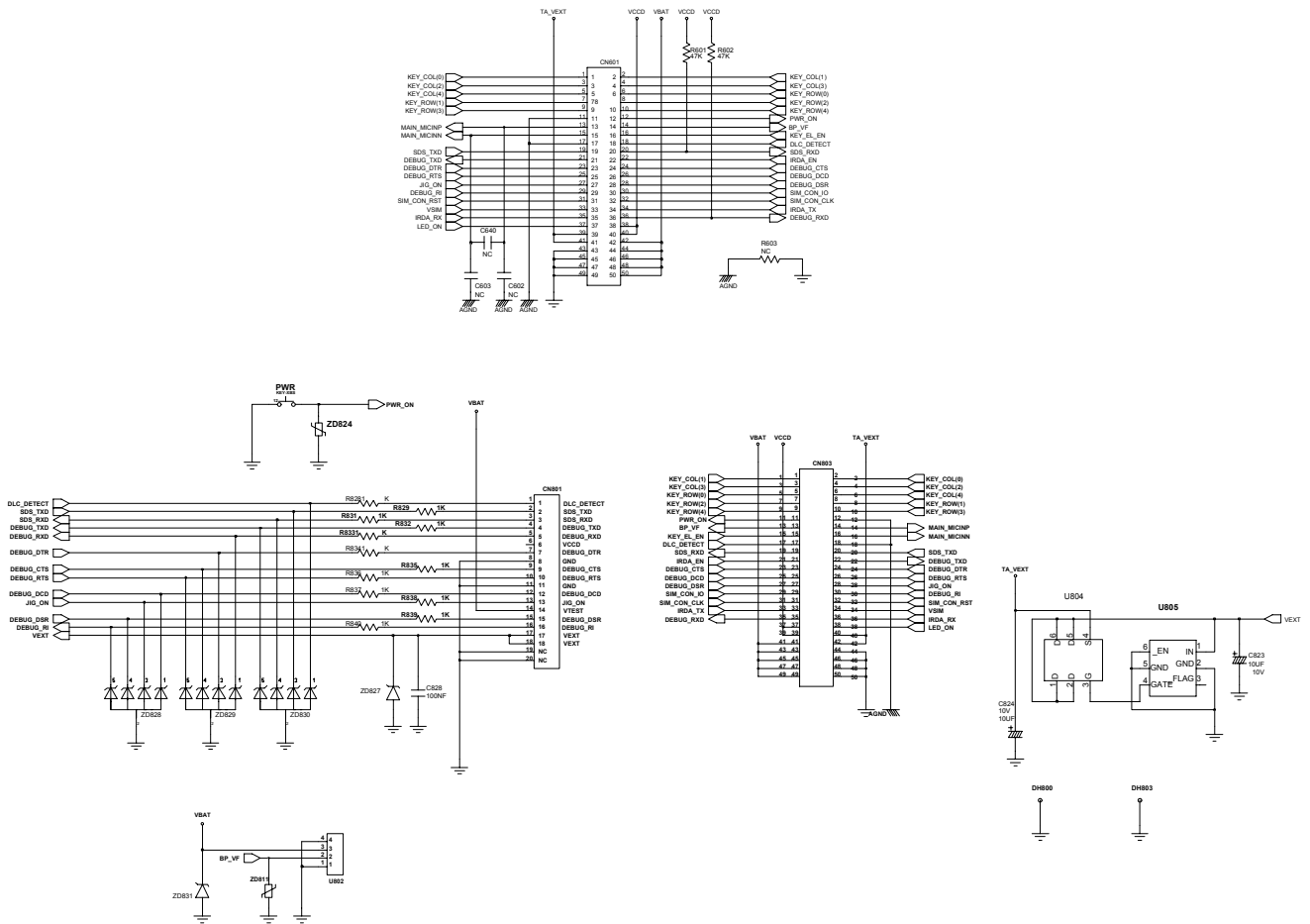


2-1-7. Charging Equipment Part



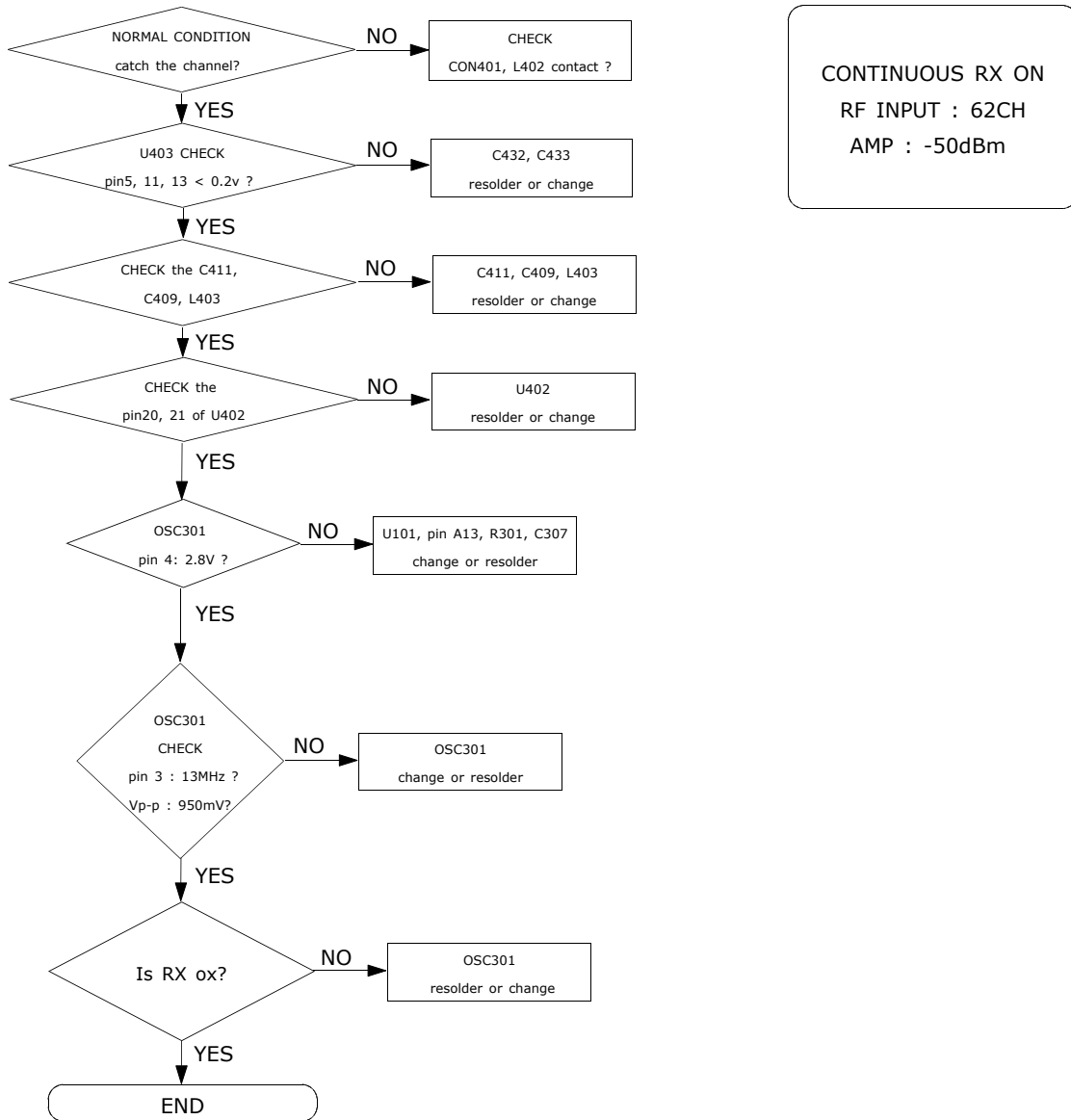


SGH-X610 Flow Chart of Troubleshooting

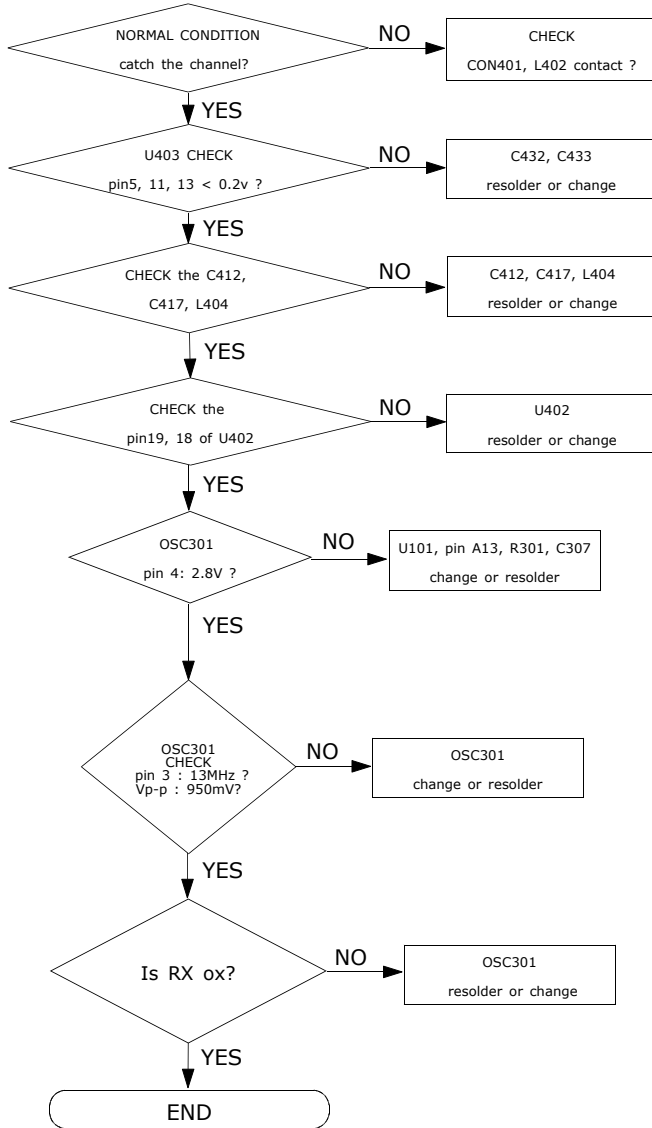


2-2.RF

2-2-1. GSM900 RX

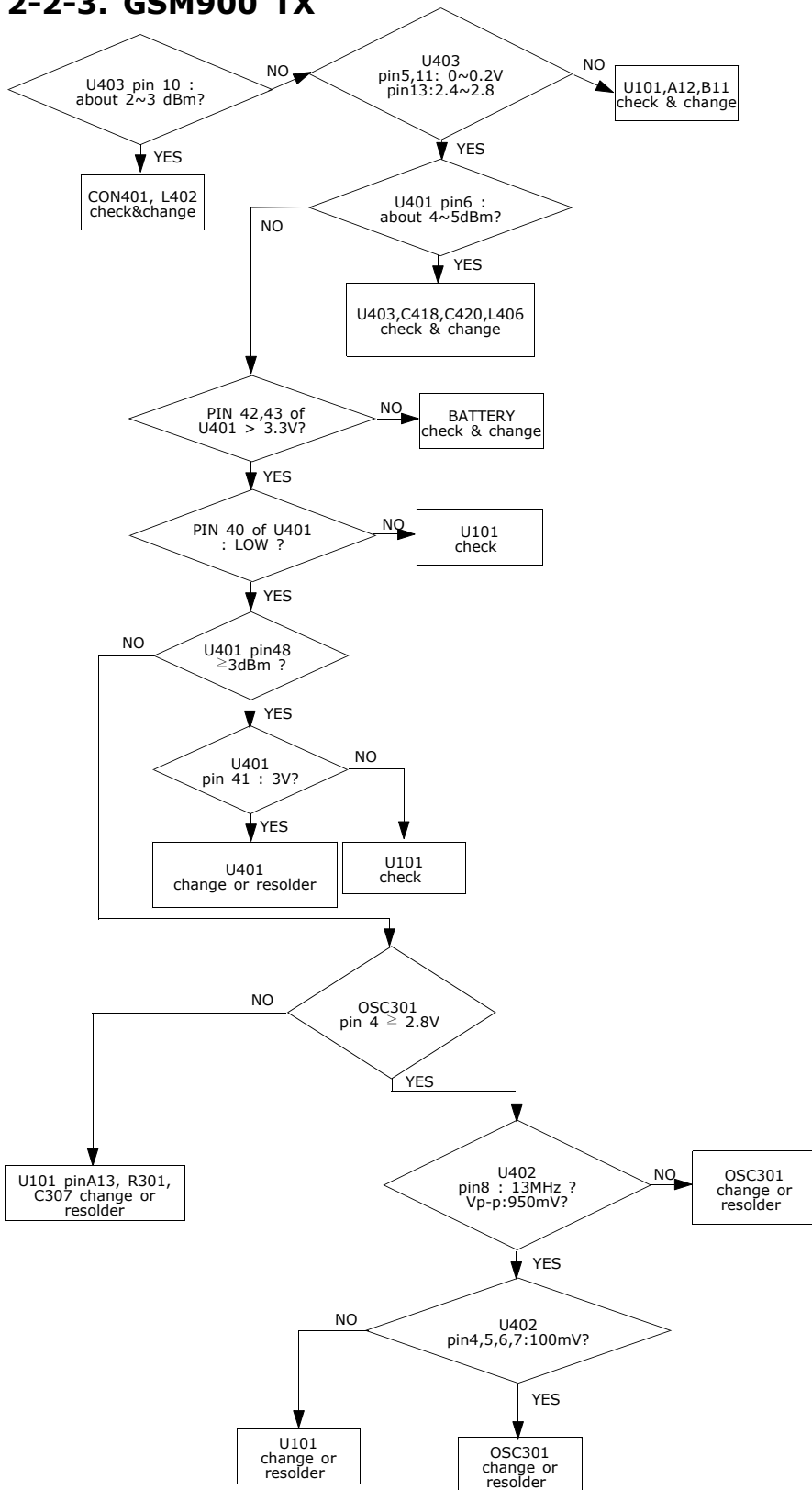


2-2-2. DCS1800 RX



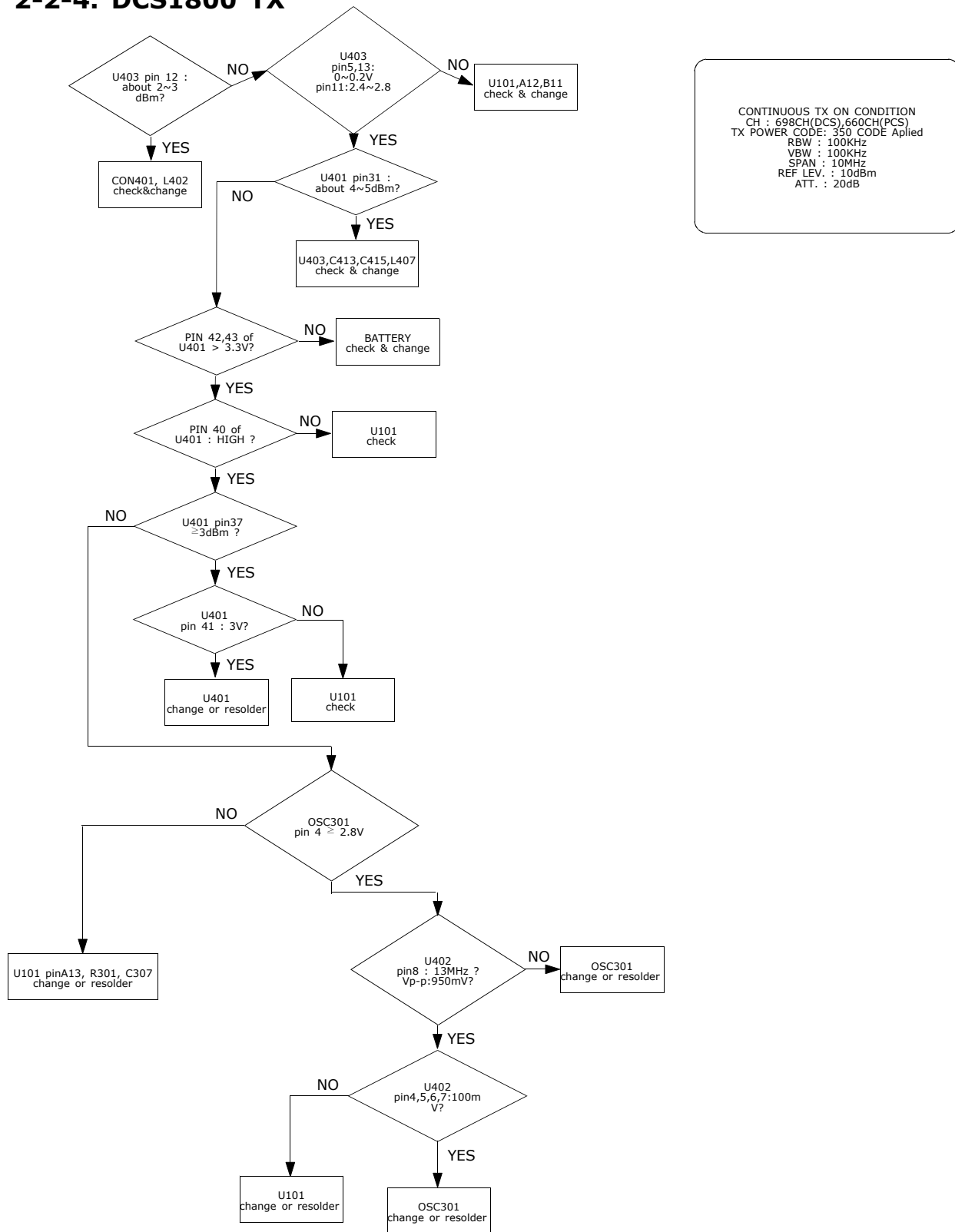
CONTINUOUS RX ON
RF INPUT : 62CH
AMP : -50dBm

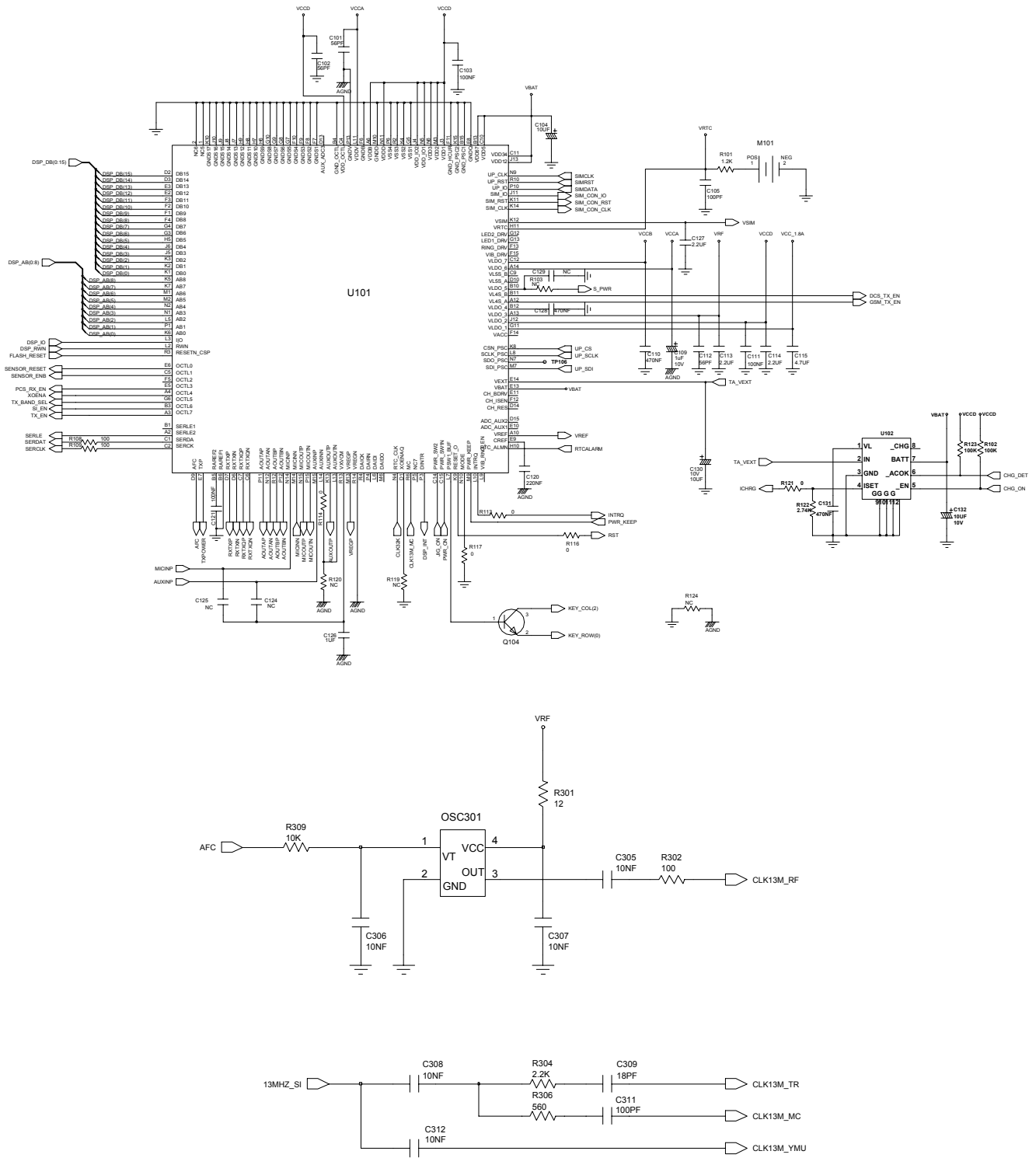
2-2-3. GSM900 TX

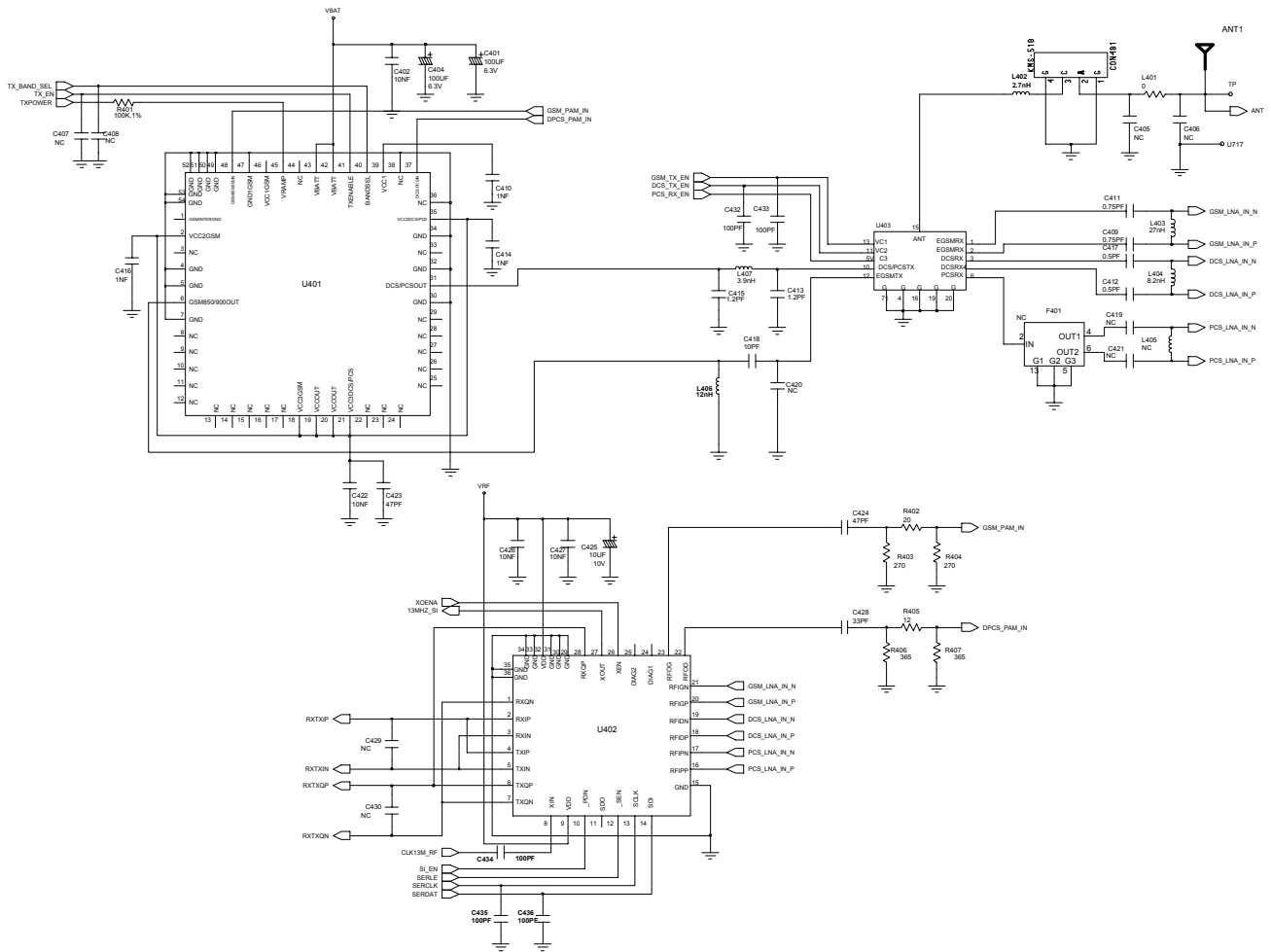


CONTINUS TX ON CONDITION
 TX POWER DAC: 550 CODE APPLIED
 CH : 62
 RBW : 100KHz
 VBW : 100KHz
 SPAN : 10MHz
 REF LEV. : 10dBm
 ATT. : 20dB

2-2-4. DCS1800 TX

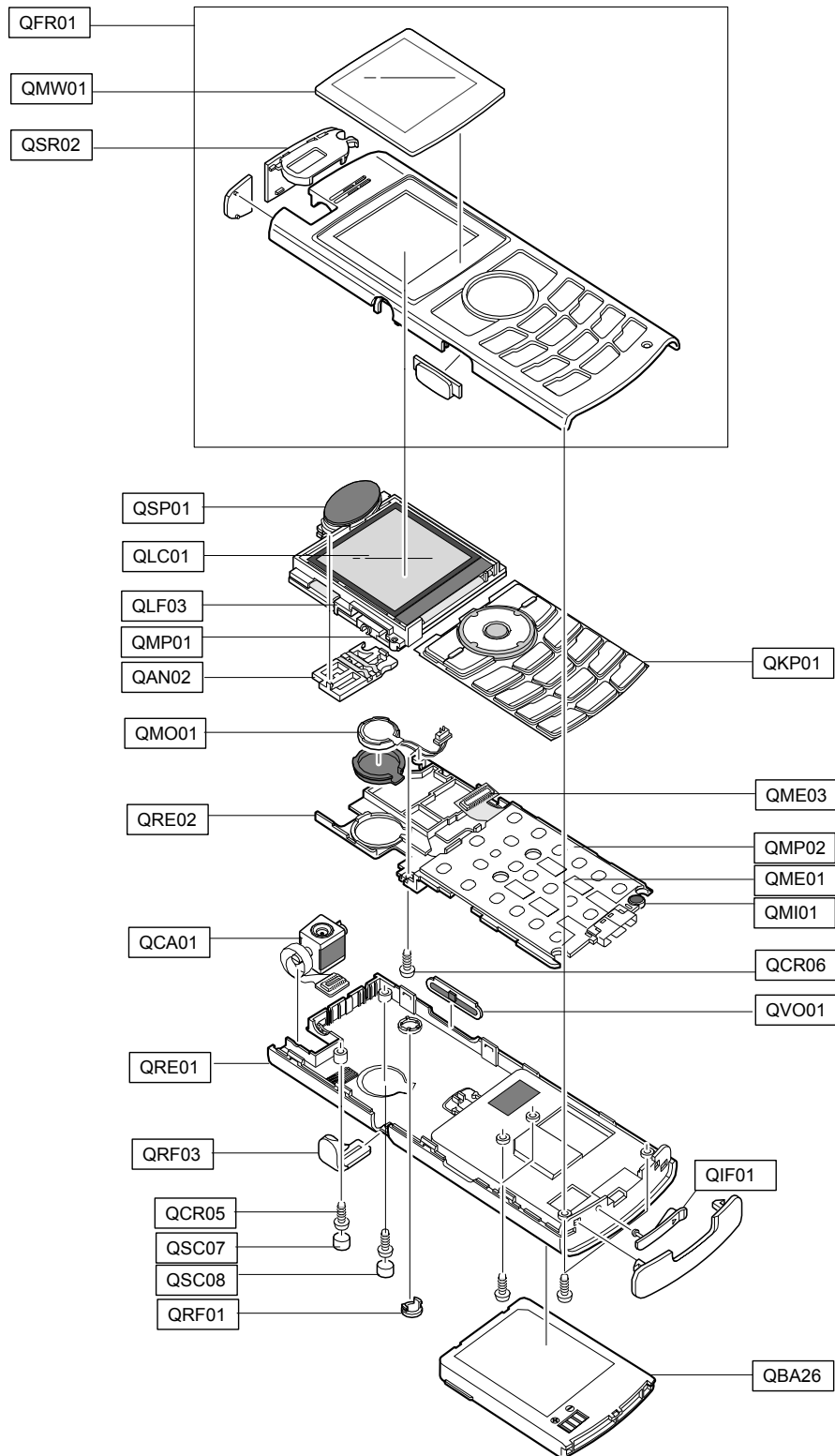






3. SGH-X610 Exploded View and its Parts list

3-1. Cellular phone Exploded View



3-2. Cellular phone Parts list

Location NO.		Description	SEC CODE	Remark
QMW01		LCD WINDOW	GH72-14363A	
QFR01		FRONT ASSY	GH75-04216A	
QSP01		SPEAKER	3001-001562	
QSR02		SPK BRACKET	GH75-05241A	
QLC01		LCD	GH07-00553A	
QLF03		LCD BRACKET	GH75-05239A	
QMP02		KEY PBA	GH92-01800A	
QAN02		ANTENNA	GH42-00420A	
QMO01		MOTOR DC	GH31-00089A	
QRE02		REAR SHIELD	GH75-05240A	
QCA01		UNIT CAMERA	GH59-01399A	
QKP01		KEYPAD ASSY	GH75-04218A	
QME03		UNIT CONNECTOR	GH59-01483A	
QMP01		MAIN PBA	GH92-01778A	
QME01		UNIT METAL DOME	GH59-01406A	
QMI01		MICROPHONE ASSY	GH30-00117A	
QVO01		SUB KEY VOL	GH75-04912A	
QRE01		REAR ASSY	GH75-04217A	
	QRF03	EAR JACK COVER	GH72-15906A	
	QIF01	IF COVER	GH72-15474A	
QCR06		SCREW MACHINE	6001-001155	
QSC07		SCREW CAP LEFT	GH73-02867A	
QSC08		SCREW CAP RIGHT	GH73-02868A	
QRF01		RF CAP	GH72-16822A	
QCR05		SCREW MACHINE	6001-001478	
QBA26		BATTERY	GH43-01331A	

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



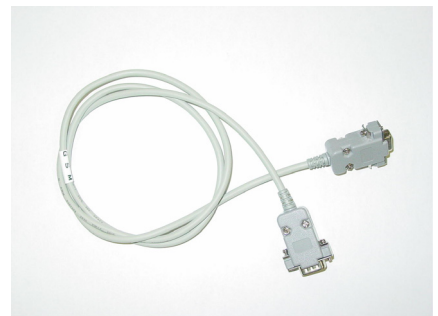
3-3-1. RF Test Cable
(GH39-00283A)



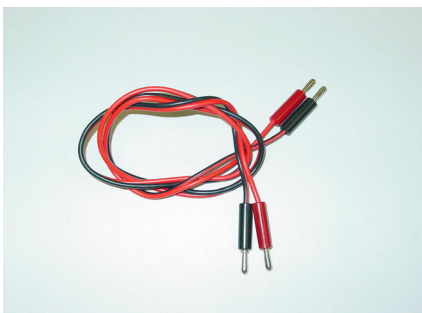
3-3-2. Test Cable
(GH39-00127A)



3-3-3. Serial Cable



3-3-4. Power Supply Cable



3-3-5. DATA CABLE
(GH39-00245A)



3-3-6. TA
(GH44-00482A)



4. SGH-X610 Electrical Parts List

SEC Code	Design LOC
0404-001172	D602
0406-001150	ZD501
0406-001150	ZD502
0407-000115	D601
0501-000225	Q501
0504-001113	Q104
0505-001518	Q601
1001-001261	U502
1109-001281	U301
1201-002075	U401
1203-001720	U601
1203-002850	U602
1203-003109	U102
1203-003304	U101
1203-003459	U702
1204-002138	U501
1205-002433	U402
1209-001219	U202
1405-001082	ZD503
1405-001082	ZD601
1405-001082	ZD602
1405-001082	ZD603
1405-001082	ZD604
1405-001082	ZD605
2007-000138	R108
2007-000138	R109
2007-000138	R302
2007-000140	R515
2007-000140	R516
2007-000140	R518
2007-000140	R528
2007-000141	R304
2007-000141	R523
2007-000143	R701
2007-000143	R702
2007-000148	R110
2007-000148	R309
2007-000148	R509
2007-000148	R513
2007-000148	R522
2007-000148	R714
2007-000151	R517
2007-000152	R524

SEC Code	Design LOC
2007-000157	R207
2007-000157	R601
2007-000157	R602
2007-000162	R102
2007-000162	R123
2007-000162	R204
2007-000162	R206
2007-000162	R305
2007-000162	R501
2007-000162	R510
2007-000162	R514
2007-000162	R521
2007-000162	R526
2007-000164	R506
2007-000171	L401
2007-000171	R113
2007-000171	R114
2007-000171	R116
2007-000171	R117
2007-000171	R121
2007-000171	R211
2007-000171	R215
2007-000171	R216
2007-000171	R308
2007-000171	R511
2007-000171	R536
2007-000171	R704
2007-000171	R713
2007-000172	R612
2007-000775	R507
2007-000775	R508
2007-001119	R519
2007-001291	R502
2007-001291	R503
2007-001311	R403
2007-001311	R404
2007-001313	R712
2007-001319	R101
2007-001325	R512
2007-002797	R306
2007-003001	L504
2007-003001	L505
2007-003001	R301

SEC Code	Design LOC
2007-003001	R405
2007-003001	R609
2007-003001	R611
2007-003001	R614
2007-003006	R613
2007-003010	R402
2007-007021	R715
2007-007100	R205
2007-007107	R401
2007-007197	R525
2007-007197	R530
2007-007306	R610
2007-007308	R209
2007-007308	R210
2007-008598	R406
2007-008598	R407
2007-008713	R122
2203-000233	C105
2203-000233	C311
2203-000233	C432
2203-000233	C433
2203-000233	C434
2203-000233	C435
2203-000233	C436
2203-000233	C704
2203-000233	C712
2203-000254	C202
2203-000254	C208
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2203-000254	C214
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2203-000254	C306
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2203-000254	C312
2203-000254	C402
2203-000254	C422
2203-000254	C426
2203-000254	C427

SEC Code	Design LOC
2203-000254	C537
2203-000254	C538
2203-000254	C703
2203-000254	C710
2203-000254	C715
2203-000278	C418
2203-000278	C519
2203-000278	C532
2203-000278	C535
2203-000330	C215
2203-000330	C217
2203-000386	C533
2203-000425	C309
2203-000438	C410
2203-000438	C414
2203-000438	C416
2203-000438	C515
2203-000489	C608
2203-000654	C504
2203-000654	C525
2203-000679	C201
2203-000679	C534
2203-000812	C428
2203-000812	C631
2203-000812	C637
2203-000812	C638
2203-000940	C521
2203-000995	C423
2203-000995	C424
2203-000995	C601
2203-001072	C101
2203-001072	C102
2203-001072	C112
2203-001072	C205
2203-001072	C206
2203-001153	C527
2203-001153	C536
2203-001383	C502
2203-001383	C503
2203-001405	C506
2203-001598	C113
2203-001598	C114
2203-001598	C127

SEC Code	Design LOC
2203-001630	C609
2203-001652	C110
2203-001652	C128
2203-001652	C131
2203-002668	C412
2203-002668	C417
2203-002677	C409
2203-002677	C411
2203-005056	C531
2203-005061	C103
2203-005061	C111
2203-005061	C121
2203-005061	C203
2203-005061	C204
2203-005061	C218
2203-005061	C301
2203-005061	C302
2203-005061	C303
2203-005061	C304
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2203-005061	C505
2203-005061	C509
2203-005061	C516
2203-005061	C702
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2203-005061	C711
2203-005061	C727
2203-005065	C126
2203-005065	C716
2203-005065	C717
2203-005234	C413
2203-005234	C415
2203-005480	C313
2203-005482	C216
2203-000254	C120
2203-005496	C207
2203-005509	C508
2203-005509	C512
2203-005509	C522
2203-005509	C639
2203-006053	C606
2203-006093	C610

SEC Code	Design LOC
2203-006208	C115
2404-001086	C507
2404-001105	C514
2404-001105	C523
2404-001134	C401
2404-001134	C404
2404-001240	C109
2404-001268	C104
2404-001268	C130
2404-001268	C132
2404-001268	C425
2404-001268	C528
2404-001281	C718
2404-001281	C728
2404-001305	C520
2703-001907	L403
2703-001954	L402
2703-002199	L406
2703-002205	L407
2703-002308	L502
2703-002308	L503
2703-002320	L501
2703-002339	L601
2703-002603	L404
2801-003856	OSC201
2804-001577	OSC701
2809-001264	OSC301
2901-001303	F601
2901-001303	F602
2901-001303	F704
2901-001304	F603
2901-001304	F705
2909-001191	U403
3301-001342	F702
3301-001342	F703
3404-001152	SW602
3404-001152	SW603
3705-001355	CON401
3708-001956	U503
3710-002081	CN603
3711-005456	CN701
3711-005490	CN601
3711-005728	CN602

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4302-001130	M101
GH09-00029A	U201
GH13-00020A	U701

KEY

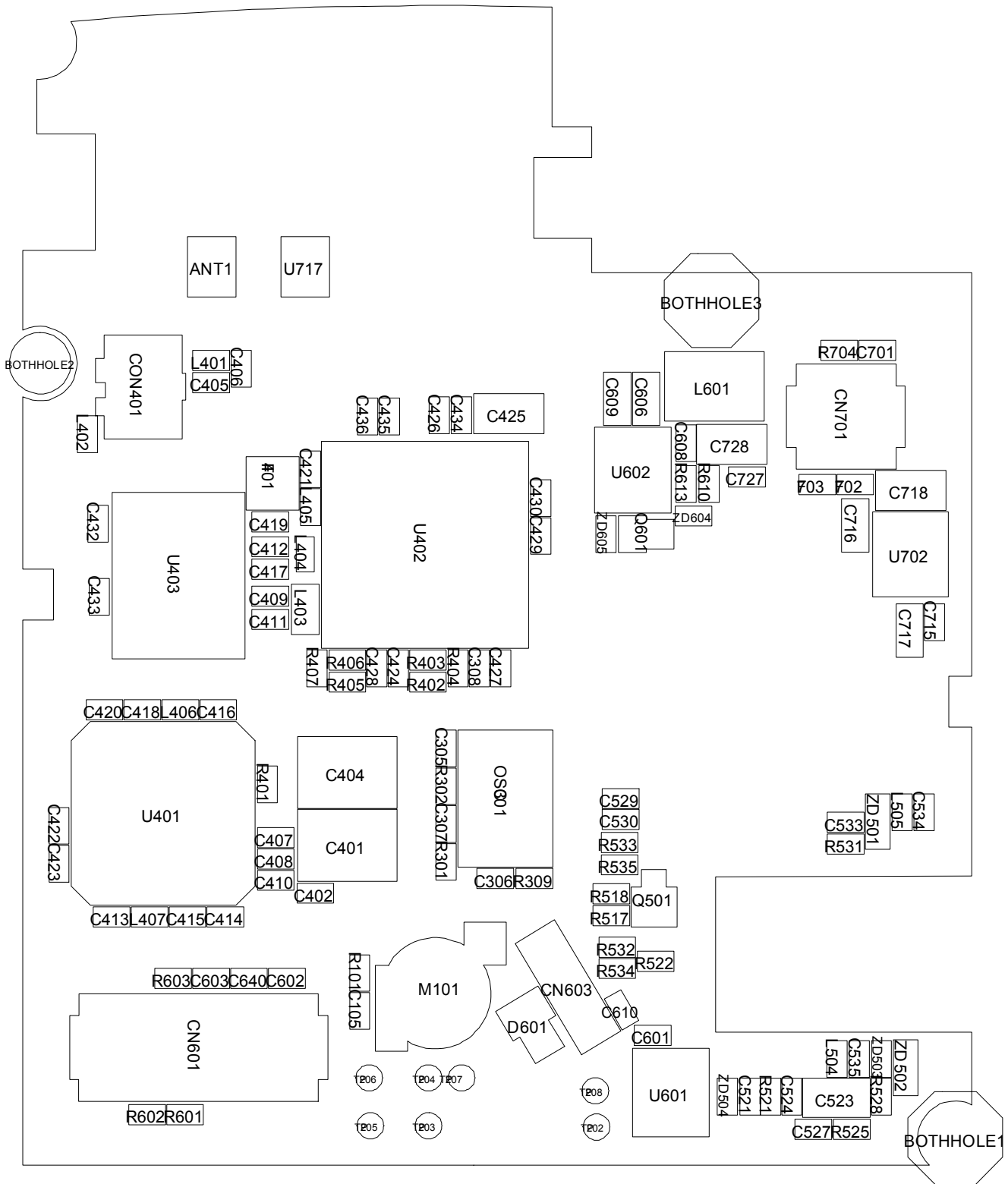
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0406-001084	ZD828
0406-001084	ZD829
0406-001084	ZD830
0505-001889	U804
0601-001795	LED1
0601-001795	LED10
0601-001795	LED11
0601-001795	LED12
0601-001795	LED13
0601-001795	LED16
0601-001795	LED17
0601-001795	LED18
0601-001795	LED19
0601-001795	LED2
0601-001795	LED20
0601-001795	LED21
0601-001795	LED22
0601-001795	LED3
0601-001795	LED5
0601-001795	LED6
0601-001795	LED7
0601-001795	LED8
0601-001795	LED9
0604-001261	IRDA801
1203-002862	U806
1203-003409	U805
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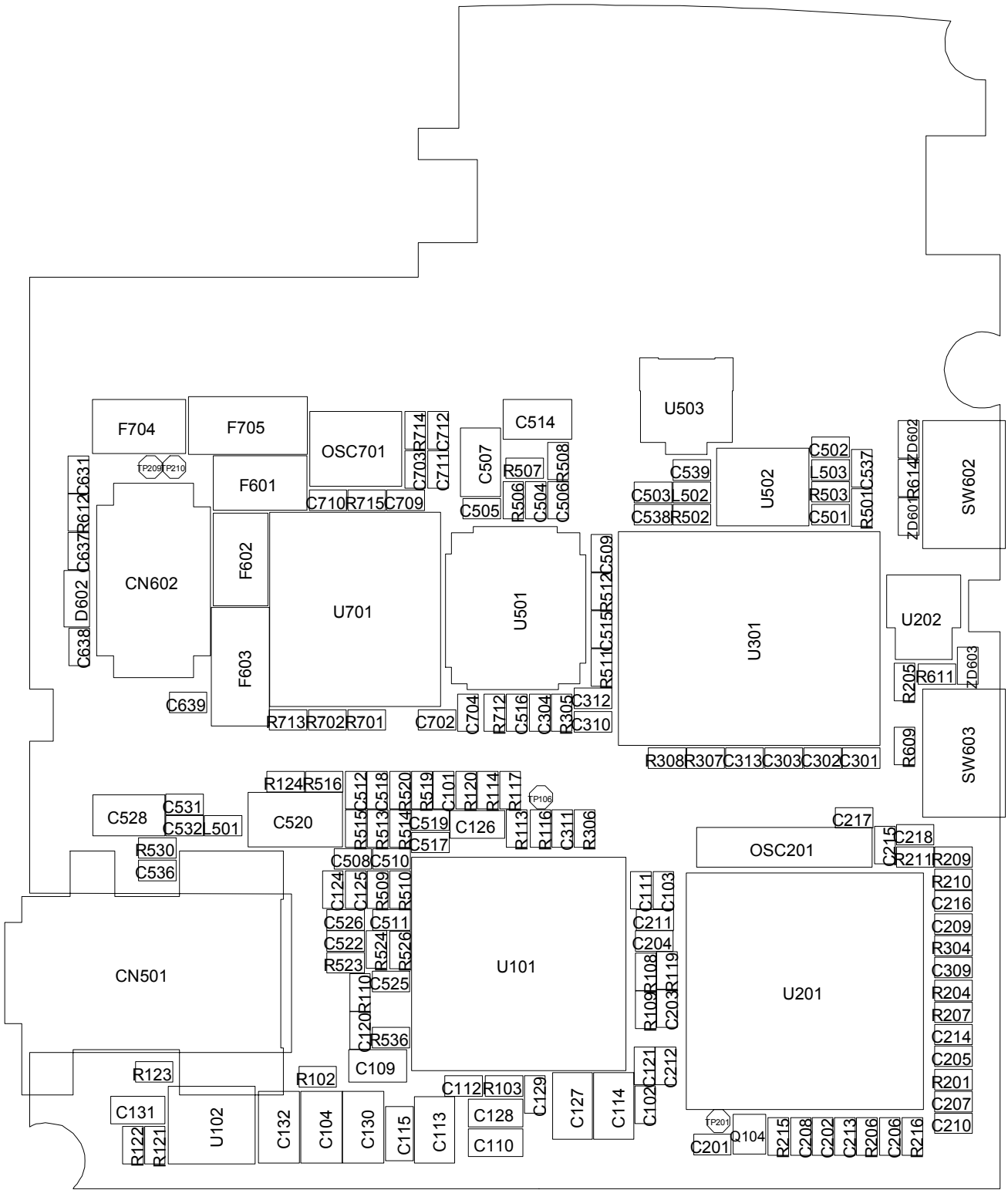
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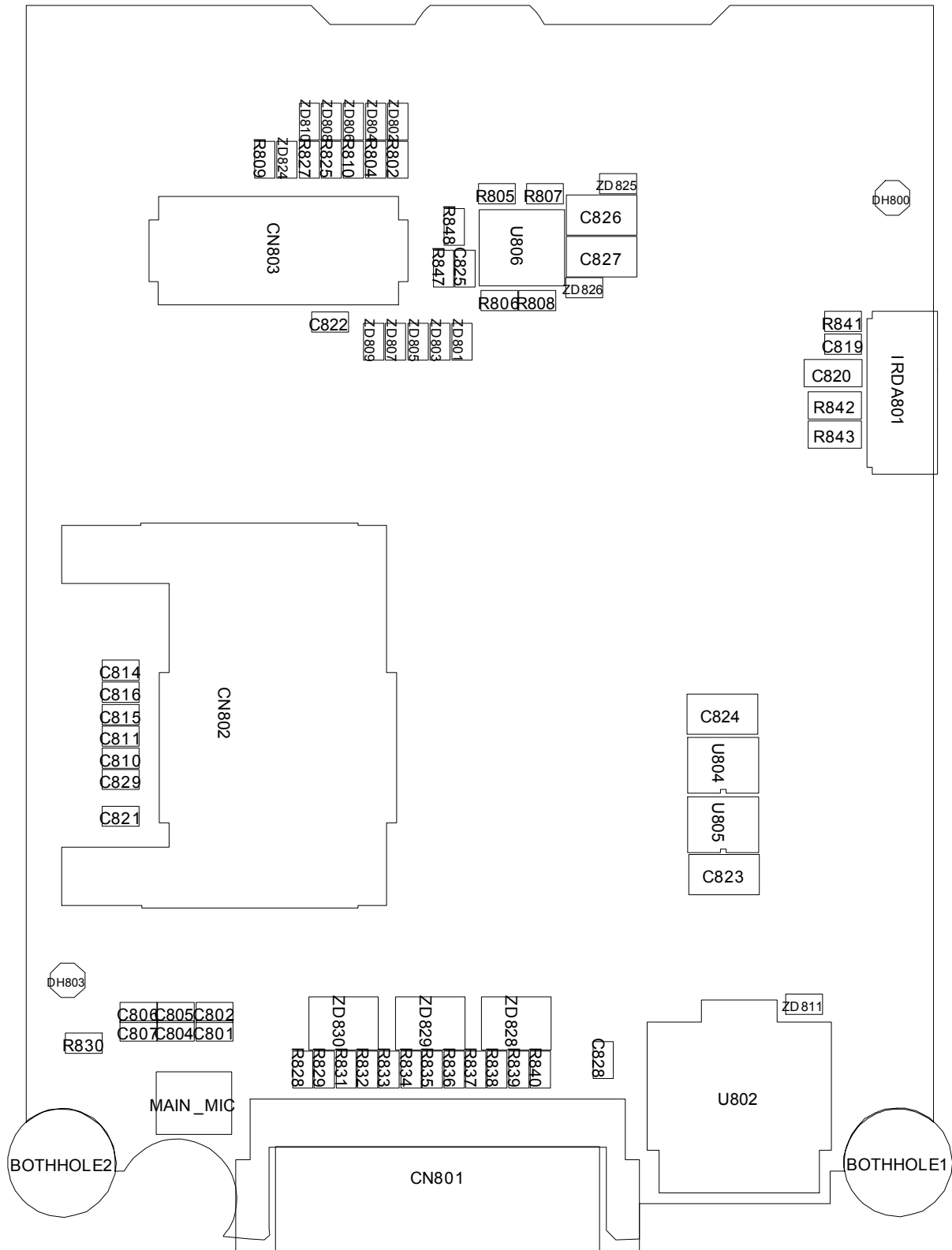
5. SGH-X610 PCB Diagrams

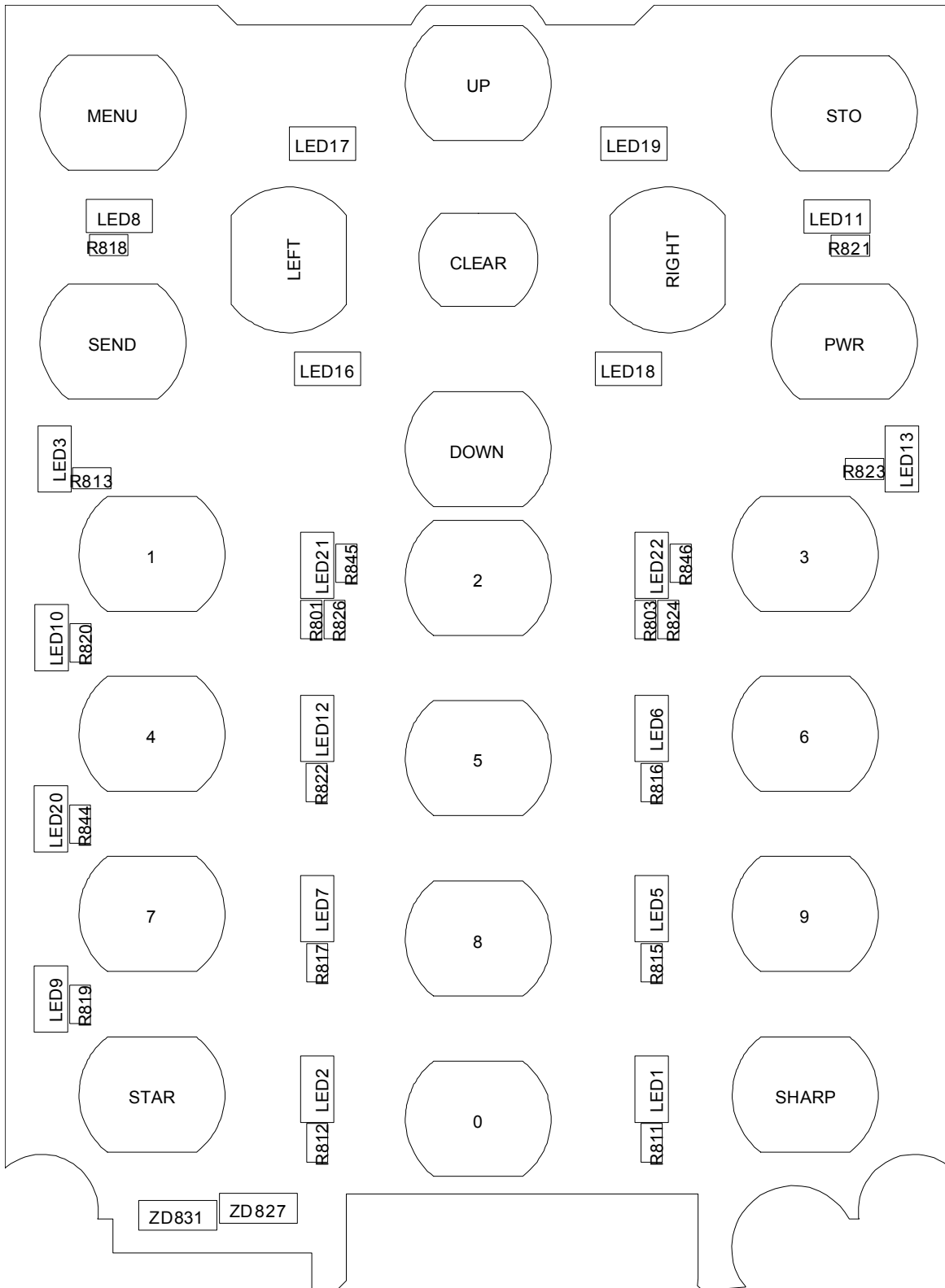
5-1. Main





5-2. Key





6. SGH-X610 Block Diagram

