

SAMSUNG

GSM TELEPHONE

SGH-E620

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

1. SGH-E620 Specification

1-1. GSM General Specification

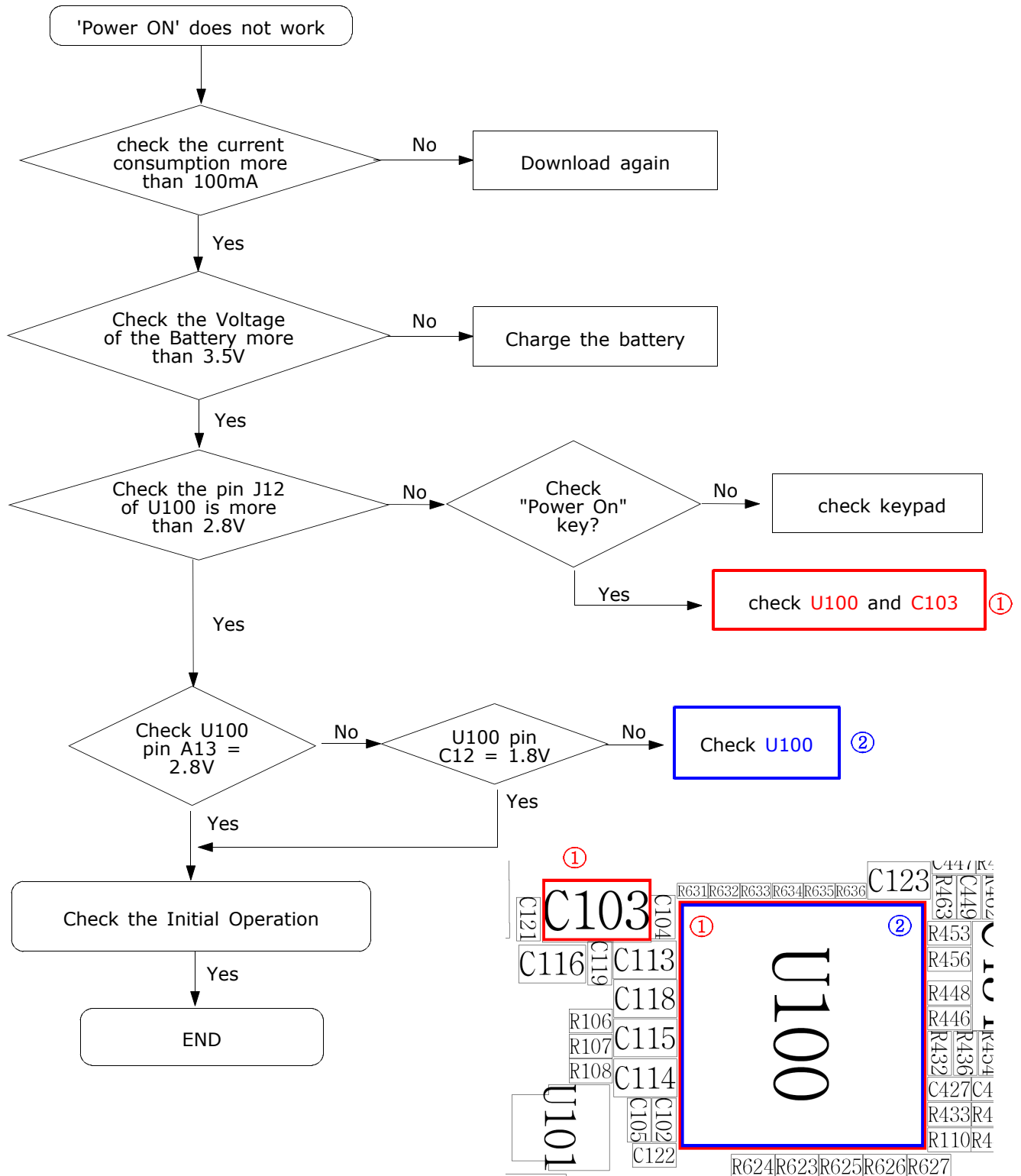
	GSM900 Phase 1	EGSM 900 Phase 2	DCS 1800 Phase 1	PCS1900
Freq. Band [MHz] Uplink/Downlink	890~915 935~960	880~915 925~960	1710~1785 1805~1880	1850~1910 1930~1990
ARFCN range	1~124	0~124 & 975~1023	512~885	512~810
Tx/Rx spacing	45MHz	45MHz	95MHz	80MHz
Mod. Bit rate / Bit Period	270.833kbps 3.692us	270.833kbps 3.692us	270.833kbps 3.692us	270.833kbps 3.692us
Time Slot Period /	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~5dBm	33dBm~5dBm	30dBm~0dBm	30dBm~0dBm
Power Class	5pcl ~ 19pcl	5pcl ~ 19pcl	0pcl ~ 15pcl	0pcl ~ 15pcl
Sensitivity	-102dBm	-102dBm	-100dBm	-100dBm
TDMA Mux	8	8	8	8
Cell radius	35Km	35Km	2Km	2Km

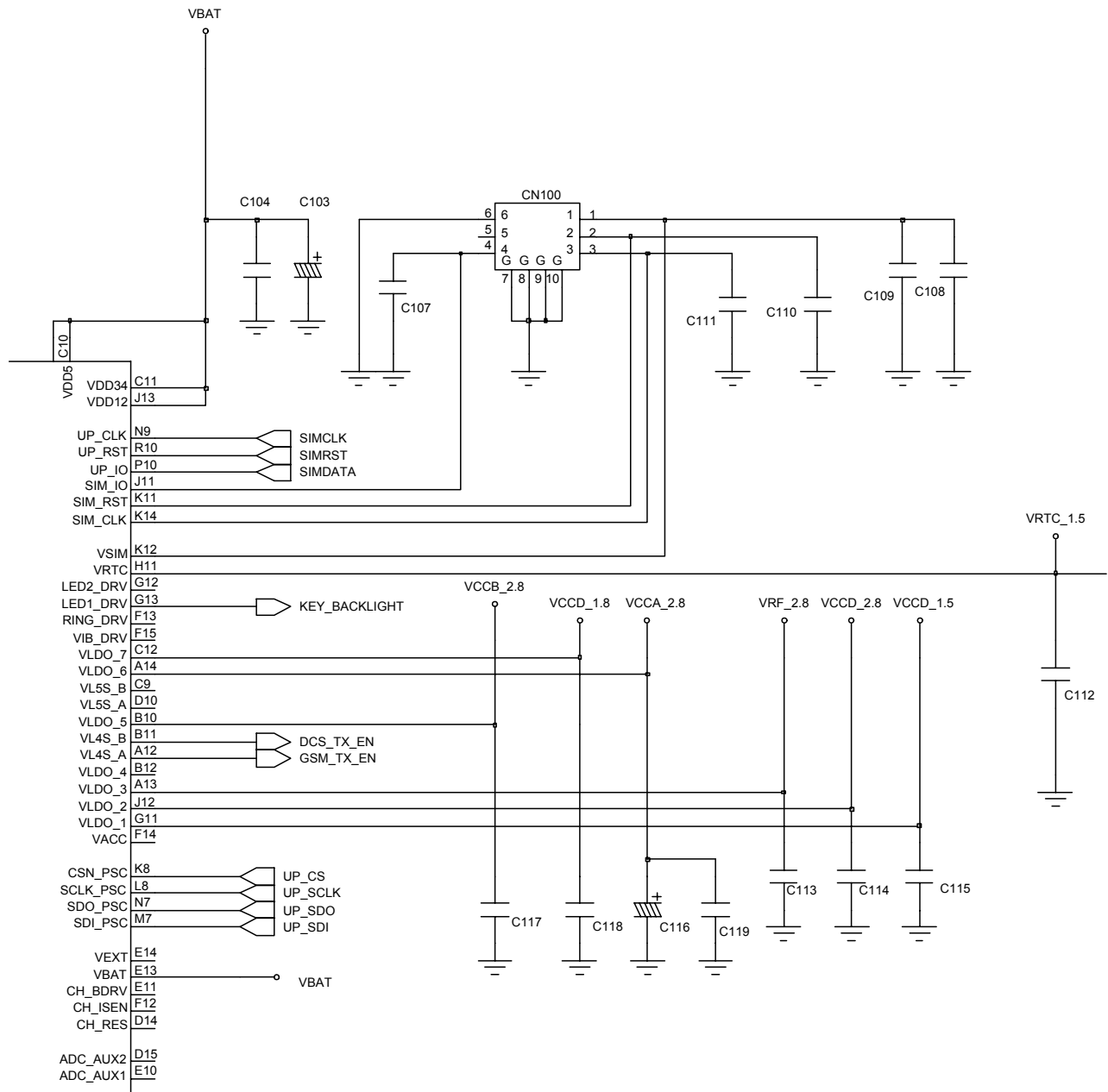
1-2. GSM Tx Power Class

Tx Power control level	GSM900	Tx Power control level	DCS1800	Tx Power control level	PCS1900
5	33±3 dBm	0	30±3 dBm	0	30±3 dBm
6	31±3 dBm	1	28±3 dBm	1	28±3 dBm
7	29±3 dBm	2	26±3 dBm	2	26±3 dBm
8	27±3 dBm	3	24±3 dBm	3	24±3 dBm
9	25±3 dBm	4	22±3 dBm	4	22±3 dBm
10	23±3 dBm	5	20±3 dBm	5	20±3 dBm
11	21±3 dBm	6	18±3 dBm	6	18±3 dBm
12	19±3 dBm	7	16±3 dBm	7	16±3 dBm
13	17±3 dBm	8	14±3 dBm	8	14±3 dBm
14	15±3 dBm	9	12±4 dBm	9	12±4 dBm
15	13±3 dBm	10	10±4 dBm	10	10±4 dBm
16	11±3 dBm	11	8±4 dBm	11	8±4 dBm
17	9±3 dBm	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

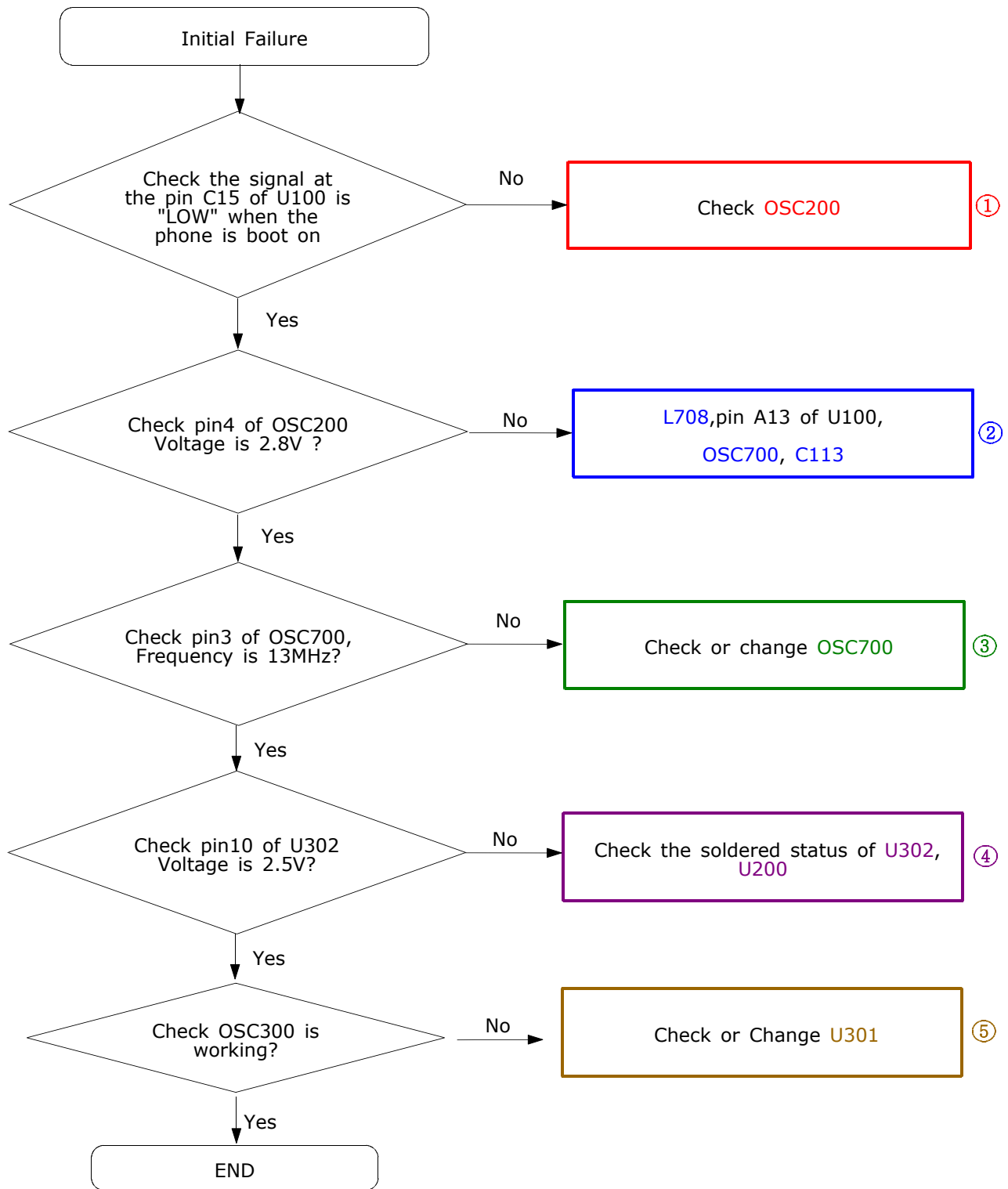
2. SGH-E620 Flow Chart of Troubleshooting

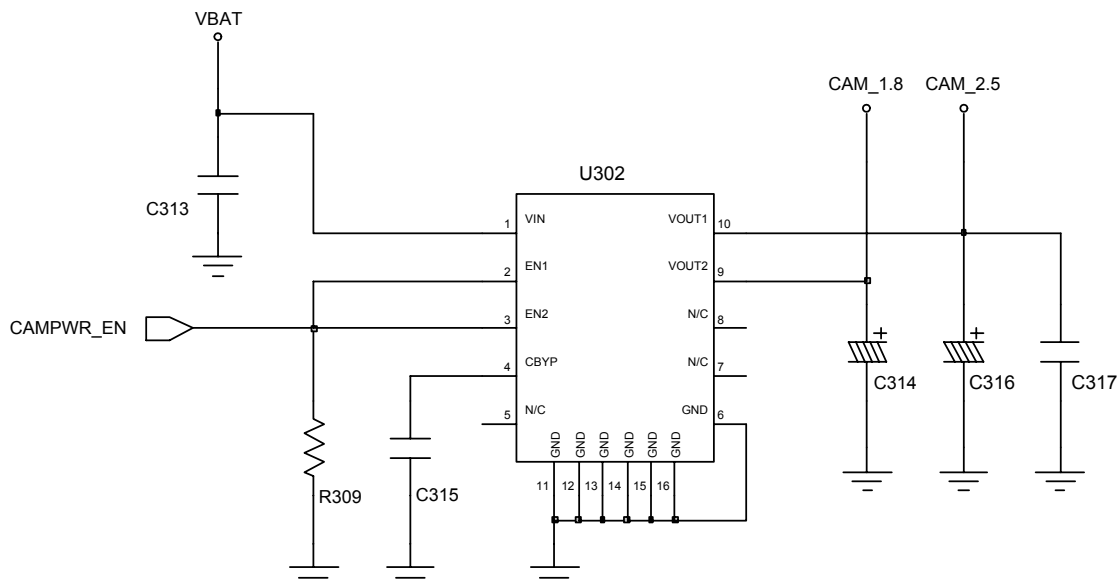
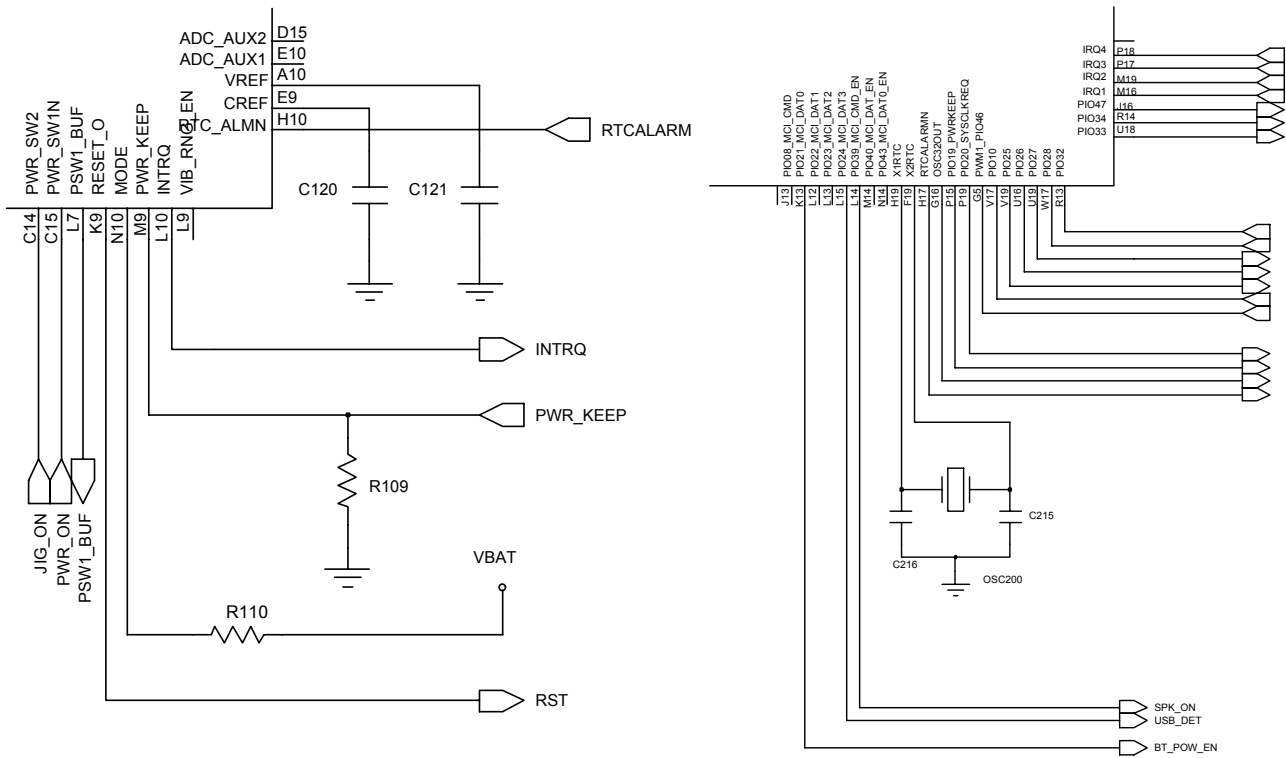
2-1. Power On

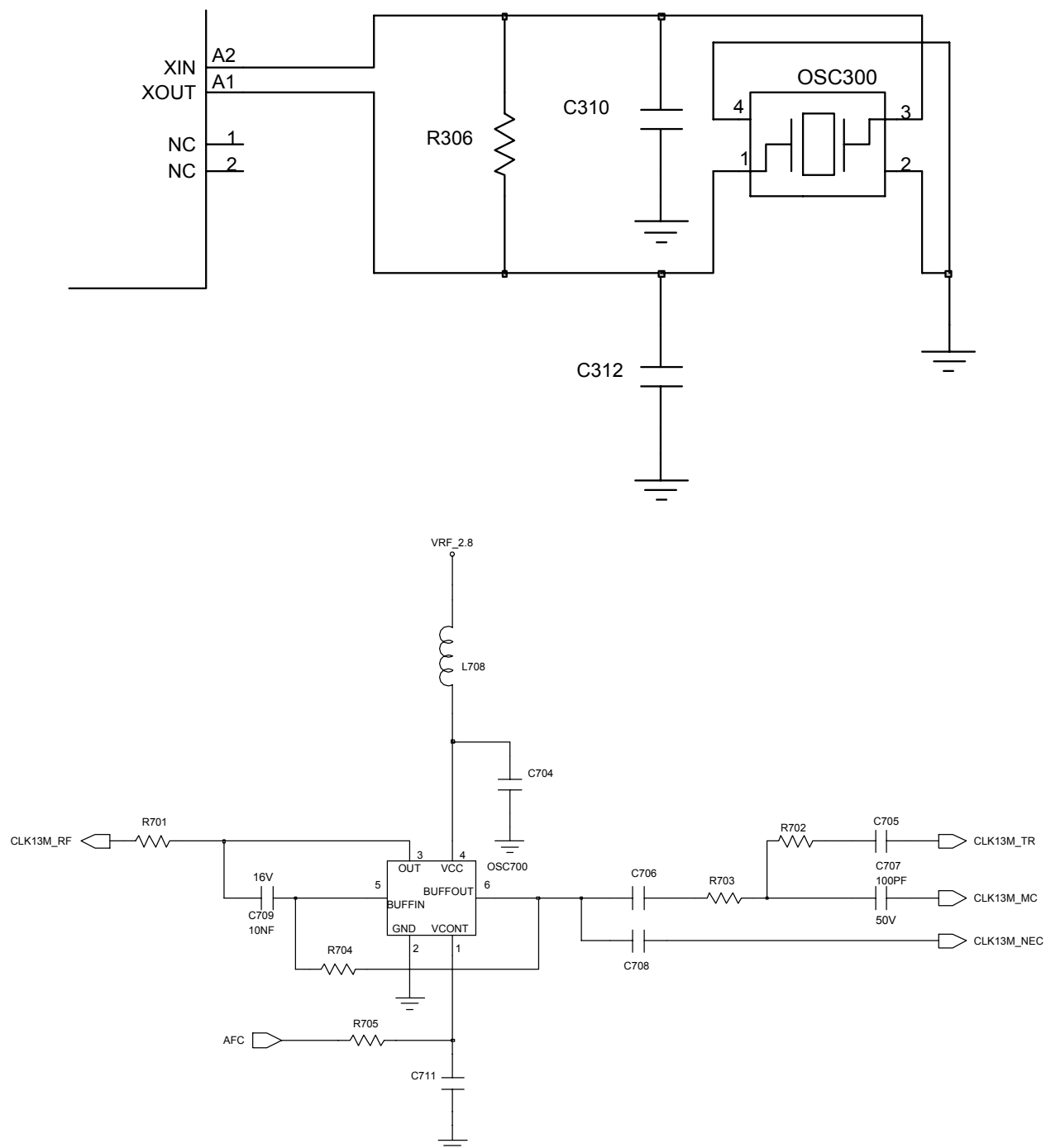




2-2. Initial

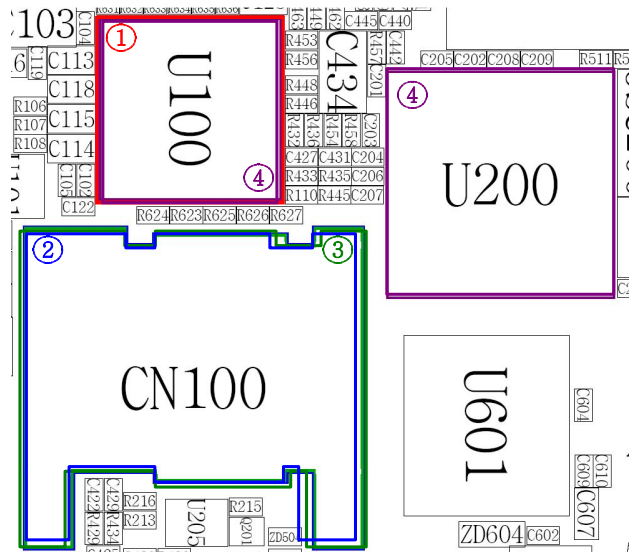
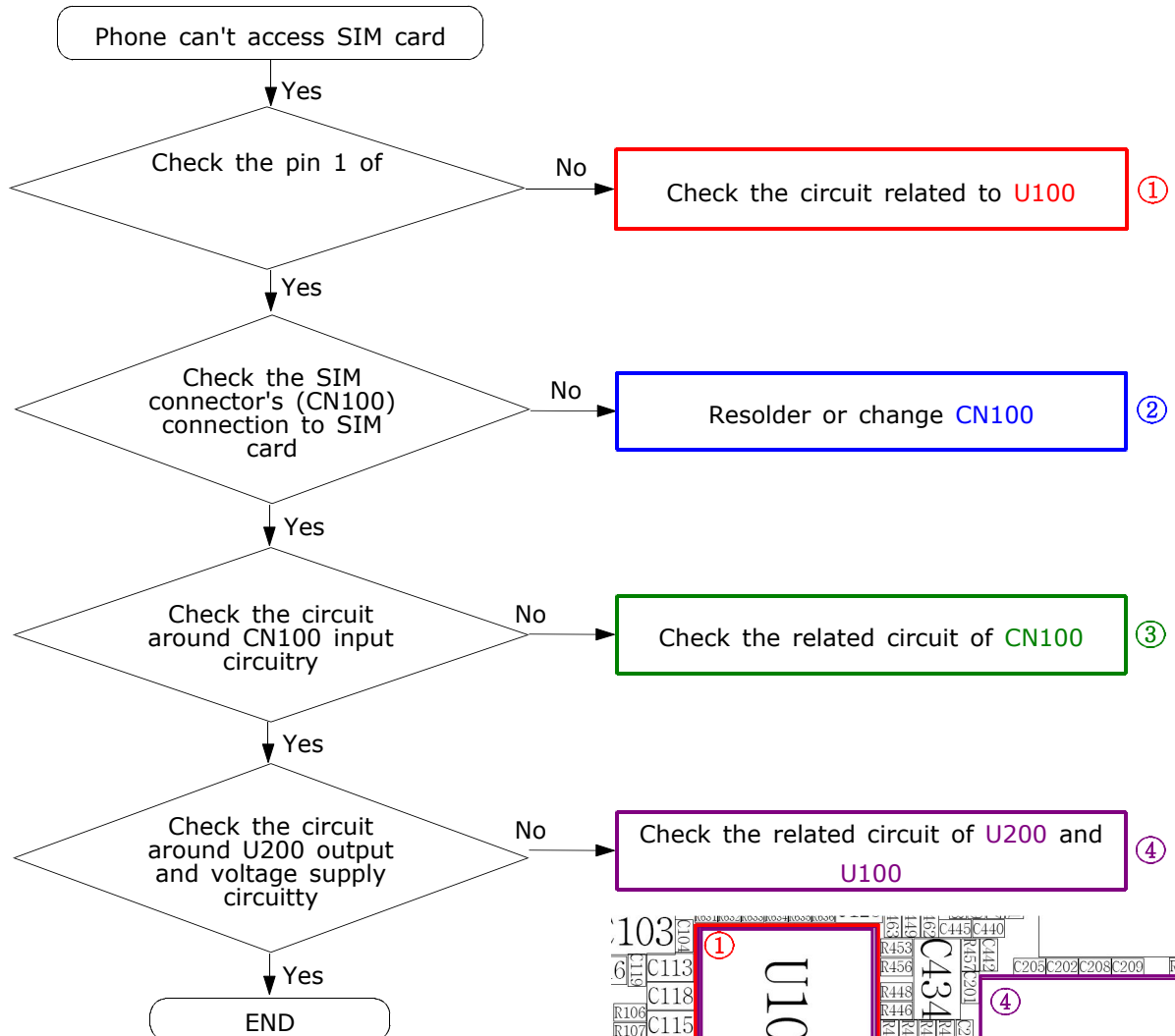






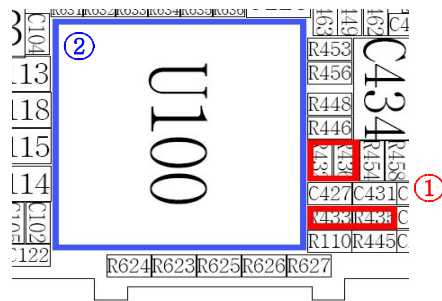
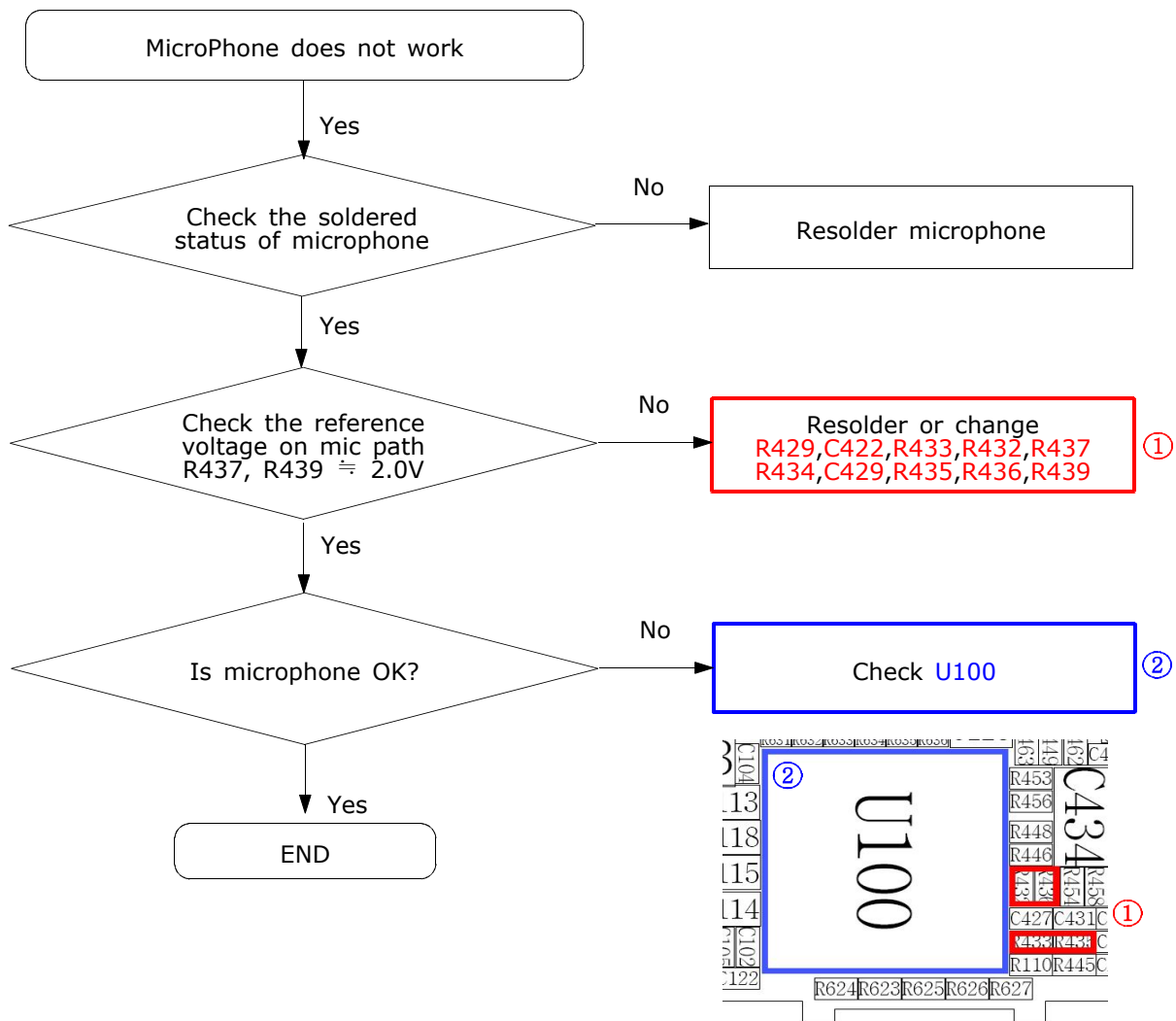
2-3. Sim Part

* Test with Sim

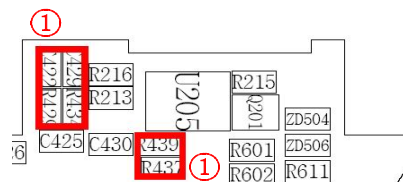


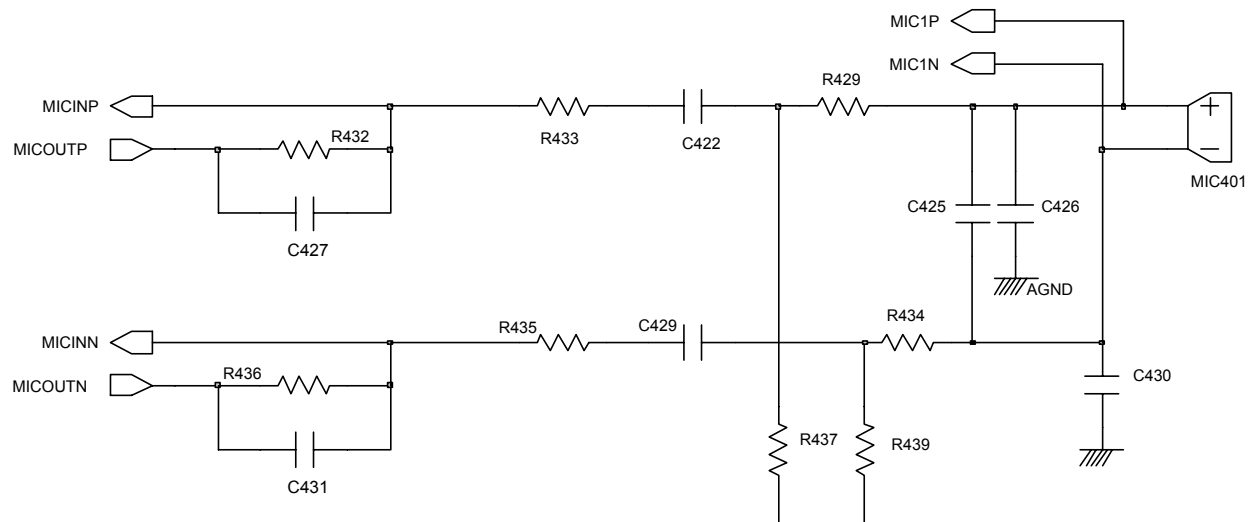
2-4. Microphone Part

* Call with Sim before testing.



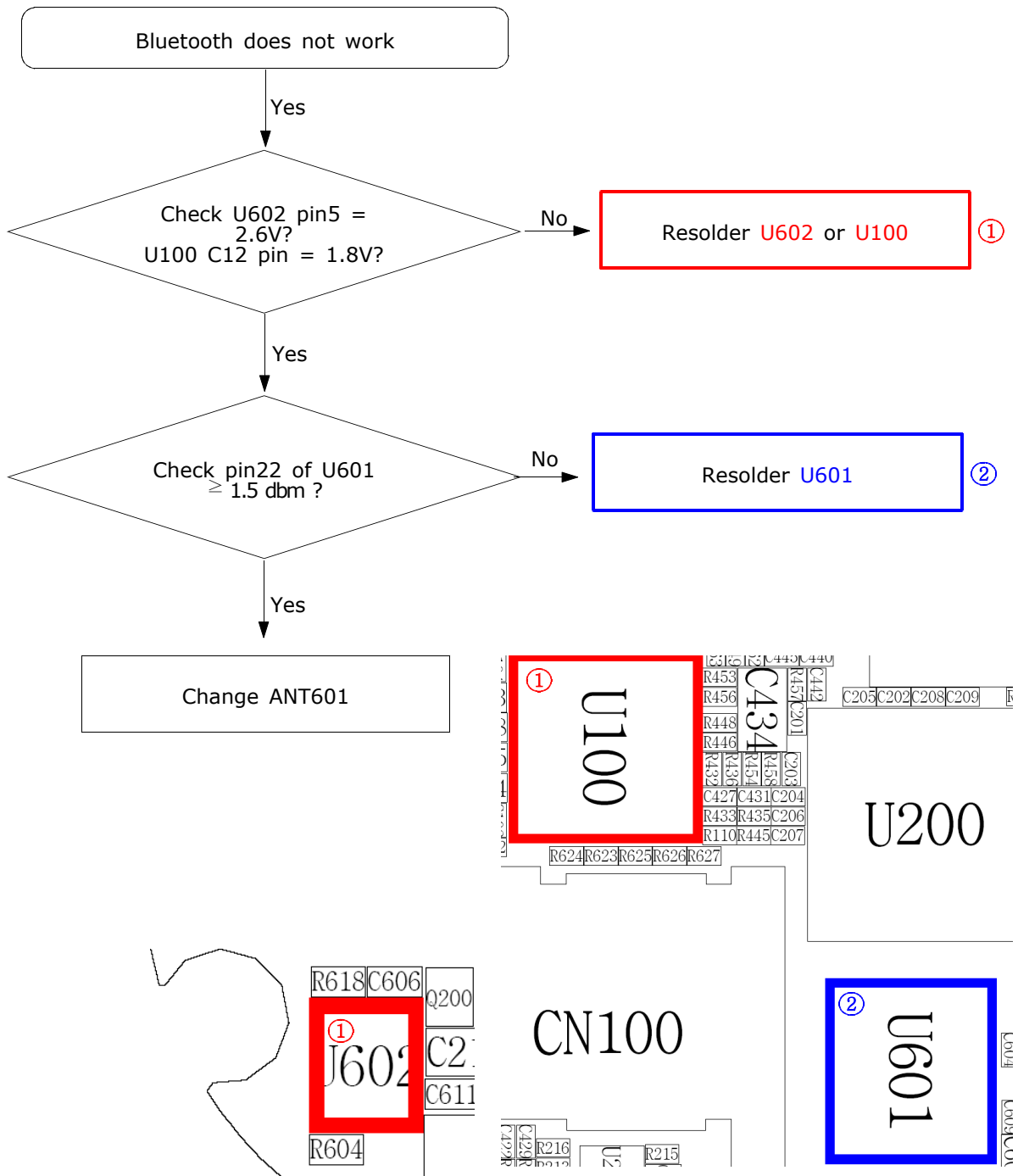
CN100

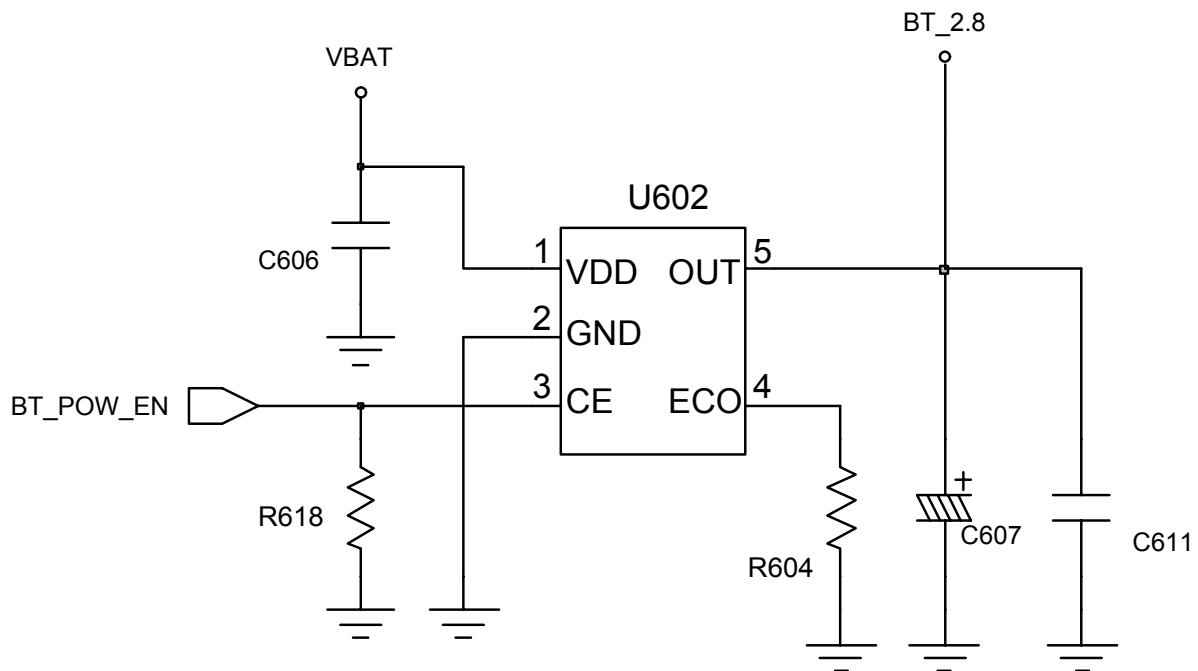
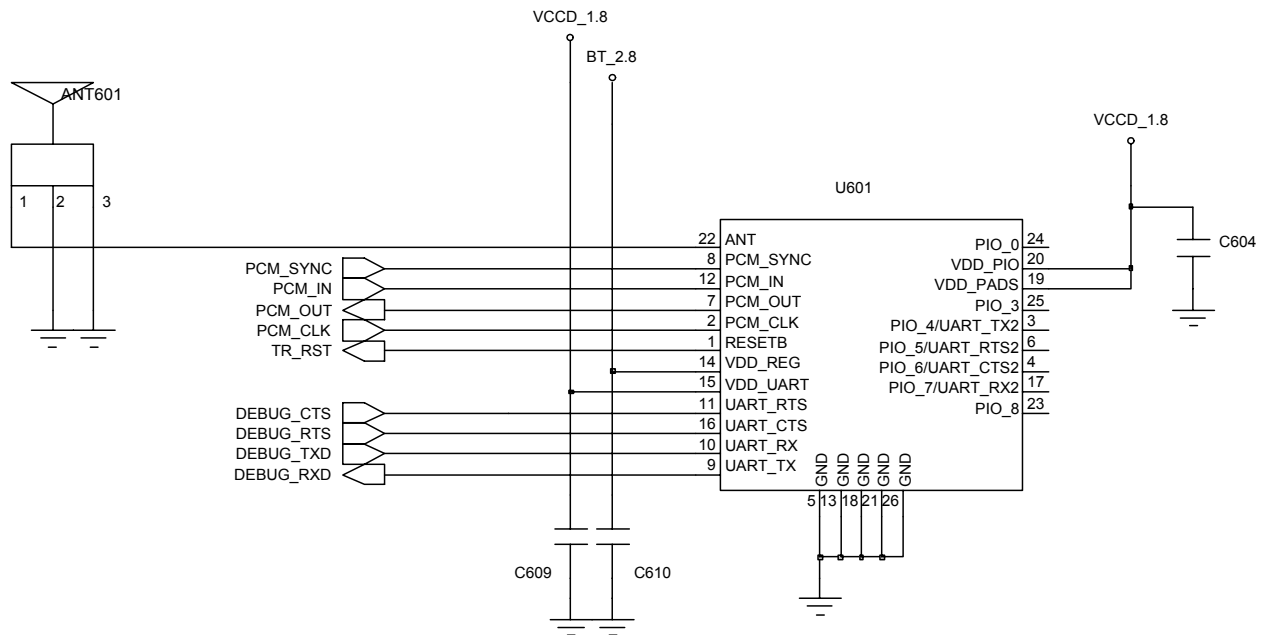




2-5. Bluetooth Part

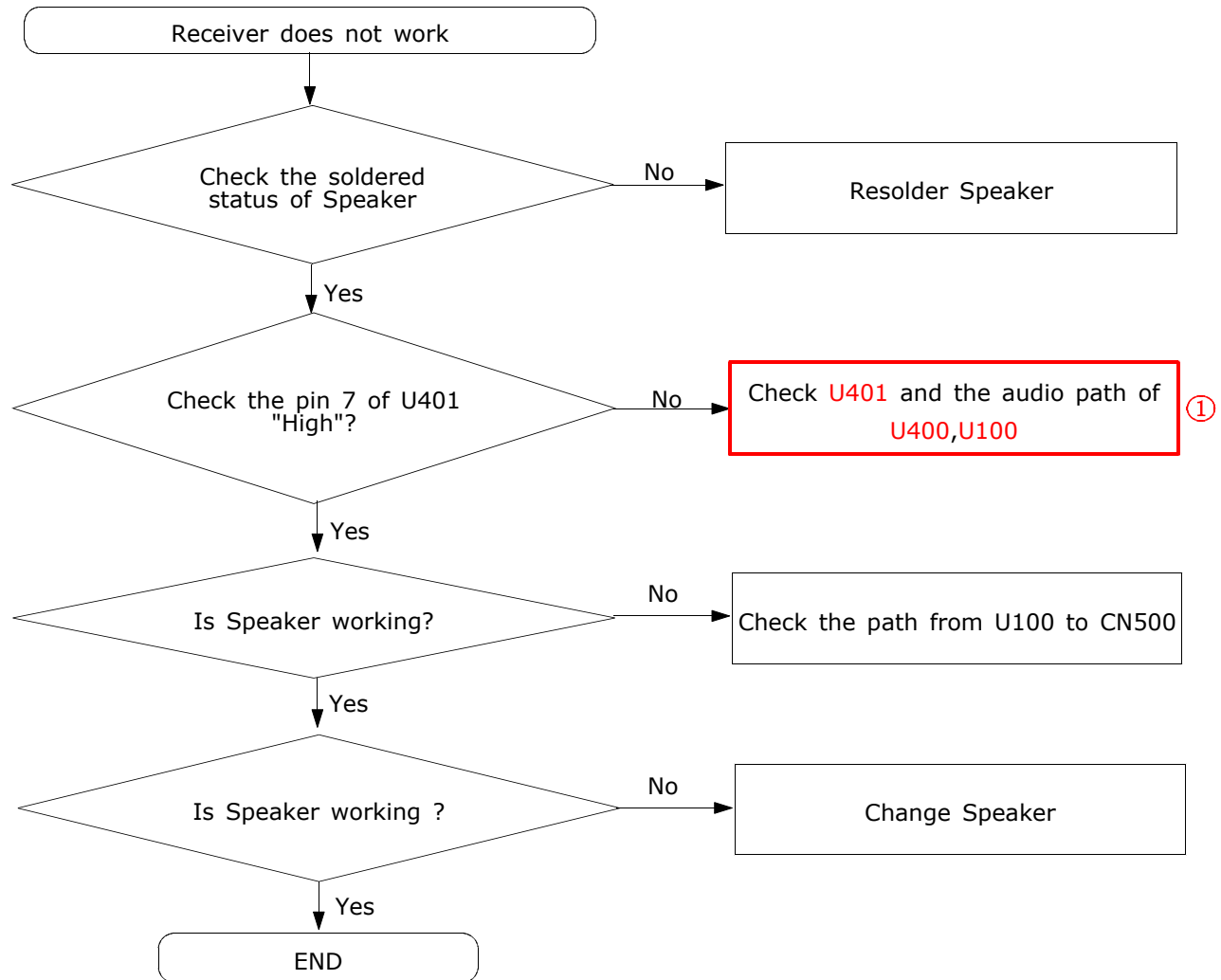
* When you play MPEG file, if Audio is not active

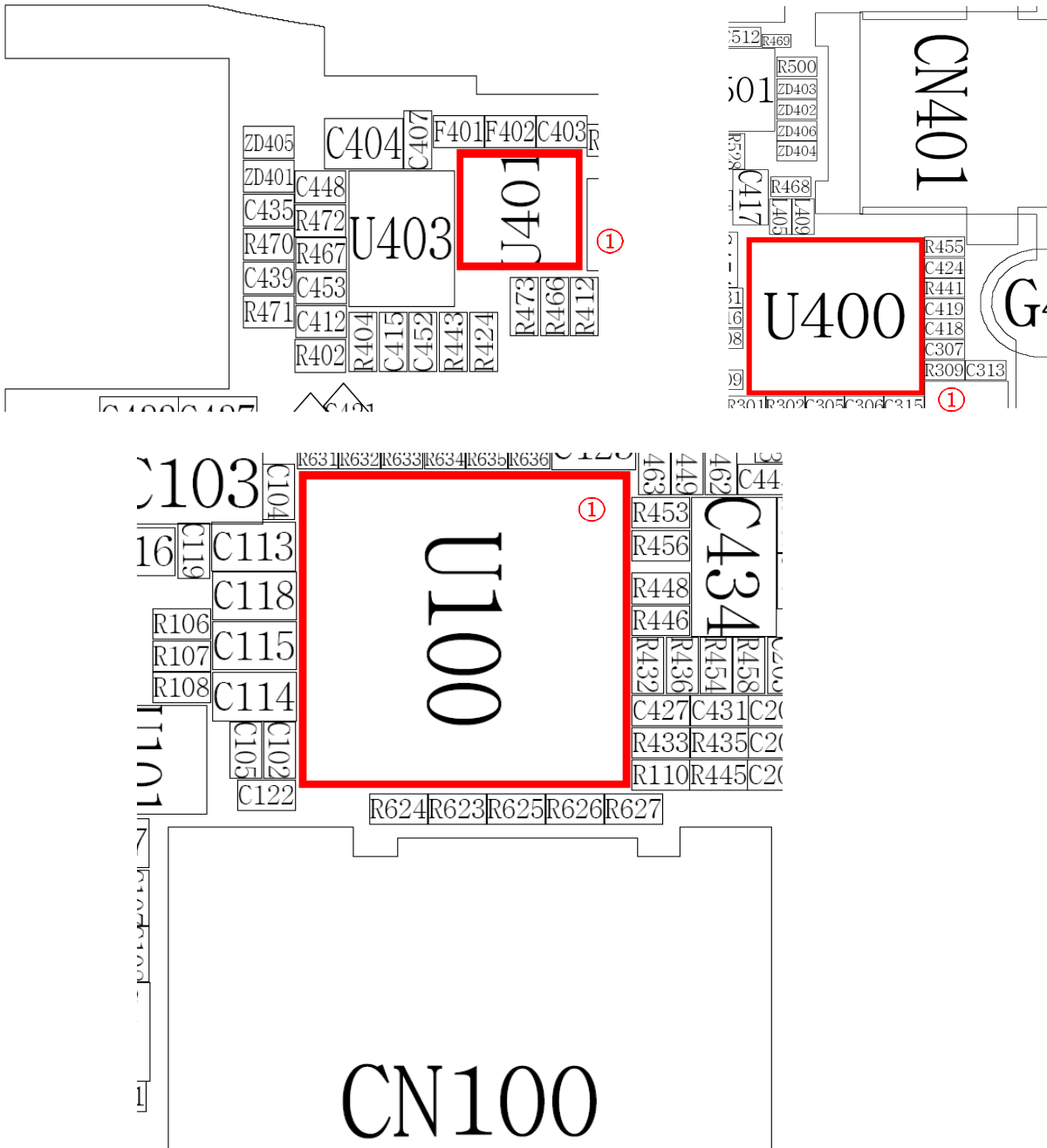


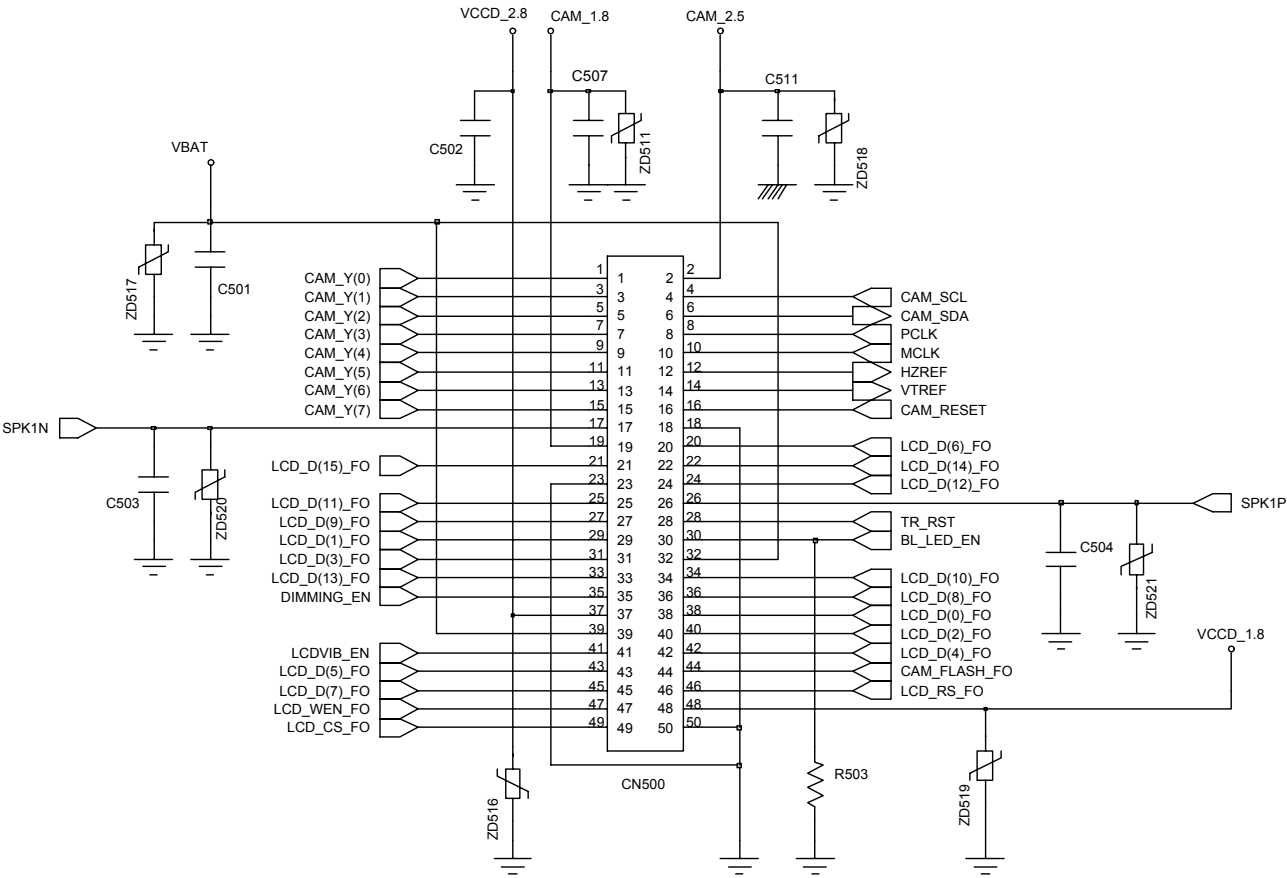


2-6. Speaker Part

* Call before testing.

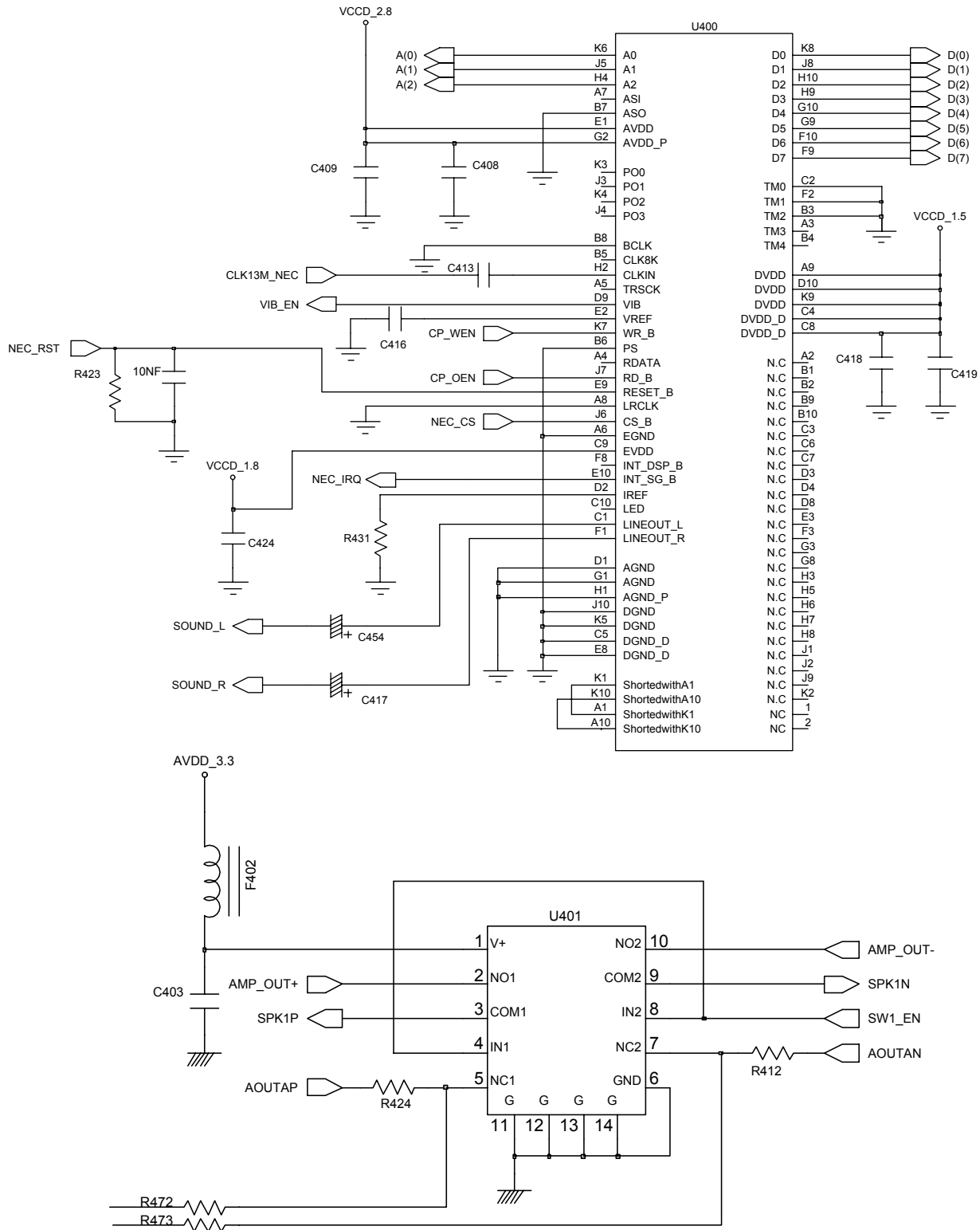




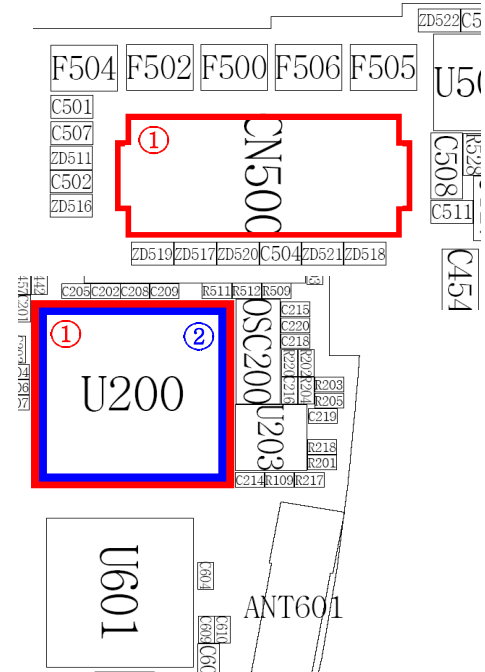
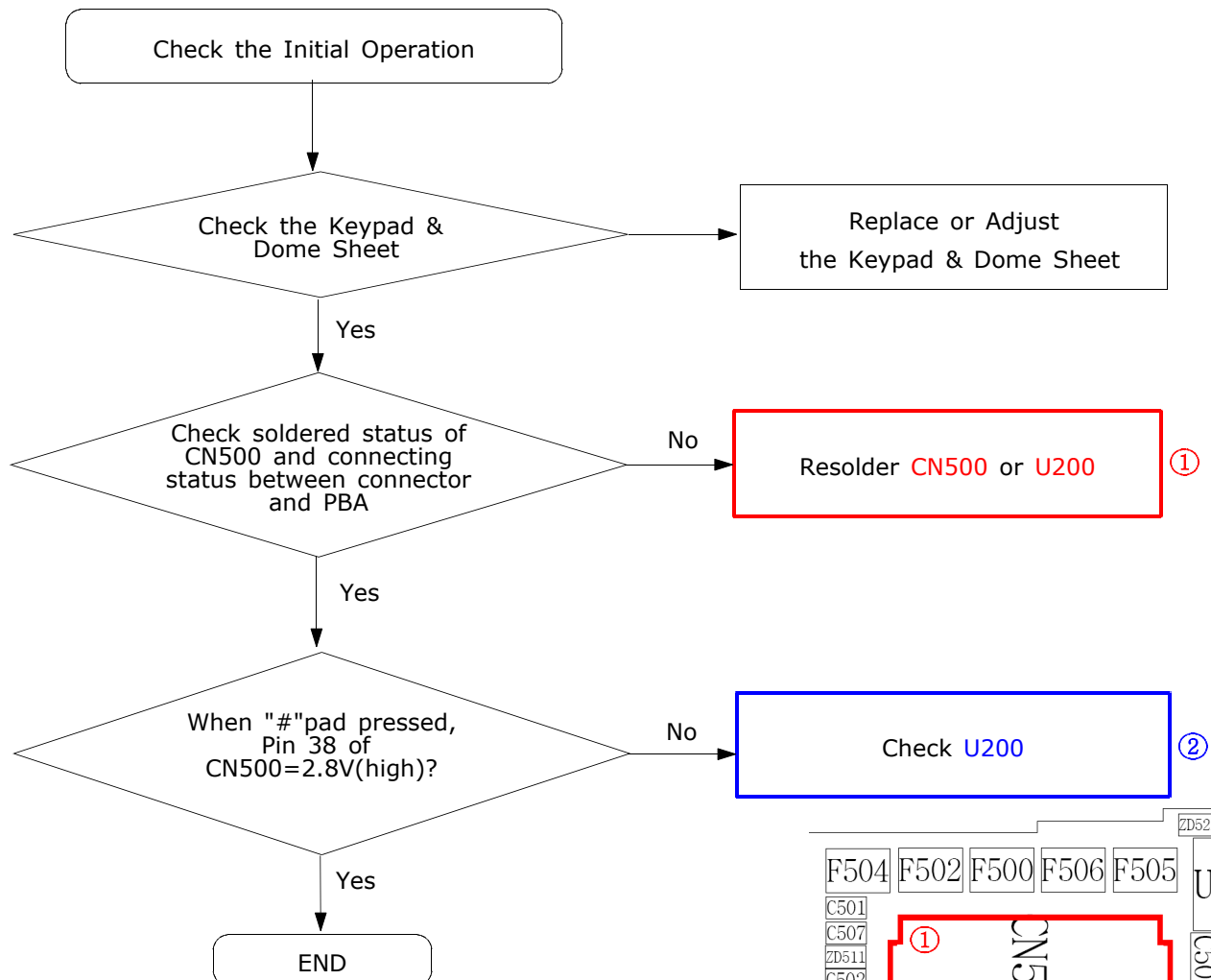


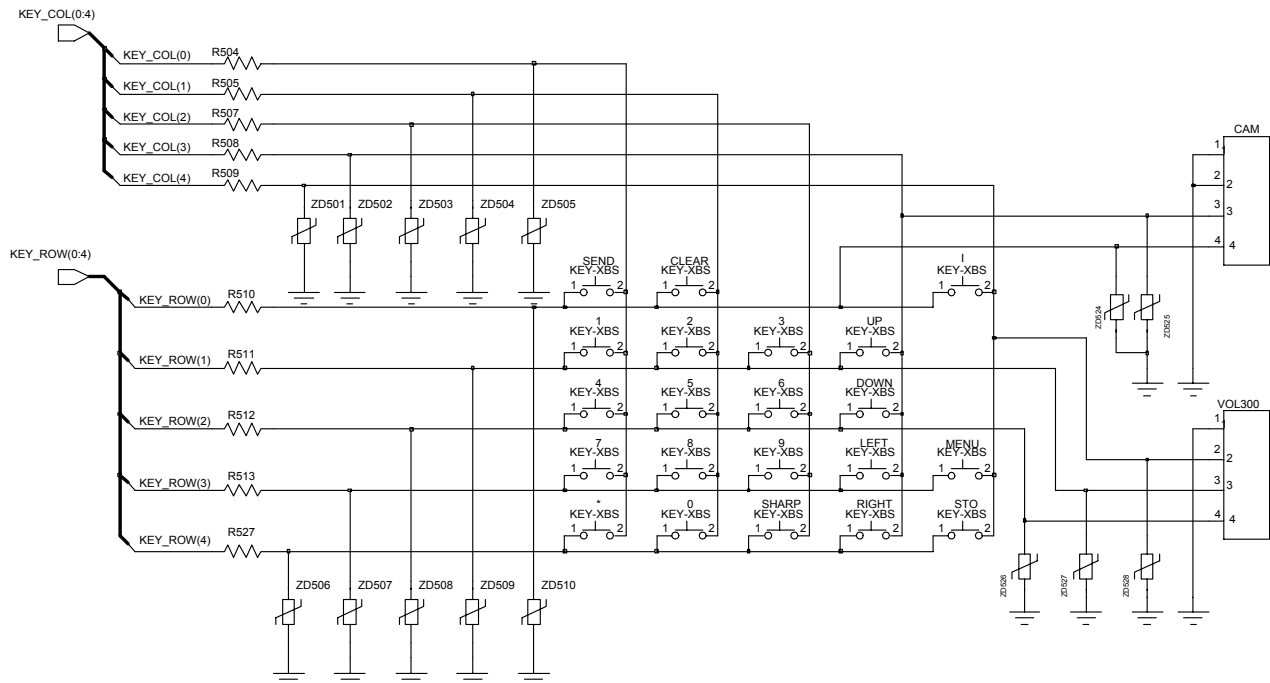
U100

AUTAP	AUTAN	AUTBP	AUTBN	MICINP	MICINN	MICOUTP	MICOUTN	AUXINP	AUXINN	AUXOUTP	AUXOUTN	VXVCM
P11	N12	R12	P12	N14	M14	M15	P15	M15	L14	K13	L13	R13
AUTAP	AUTAN	AUTBP	AUTBN	MICINP	MICINN	MICOUTP	MICOUTN	AUXINP	AUXINN	AUXOUTP	AUXOUTN	

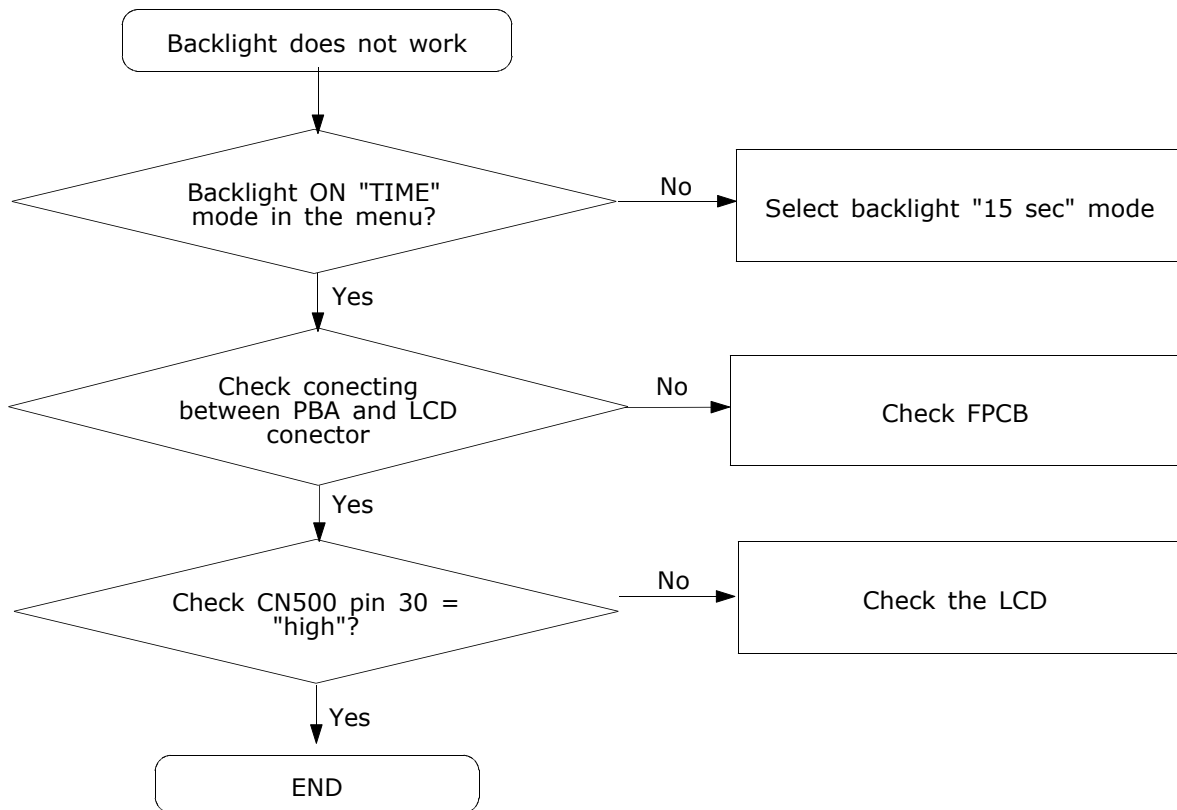


2-7. Key Data Input

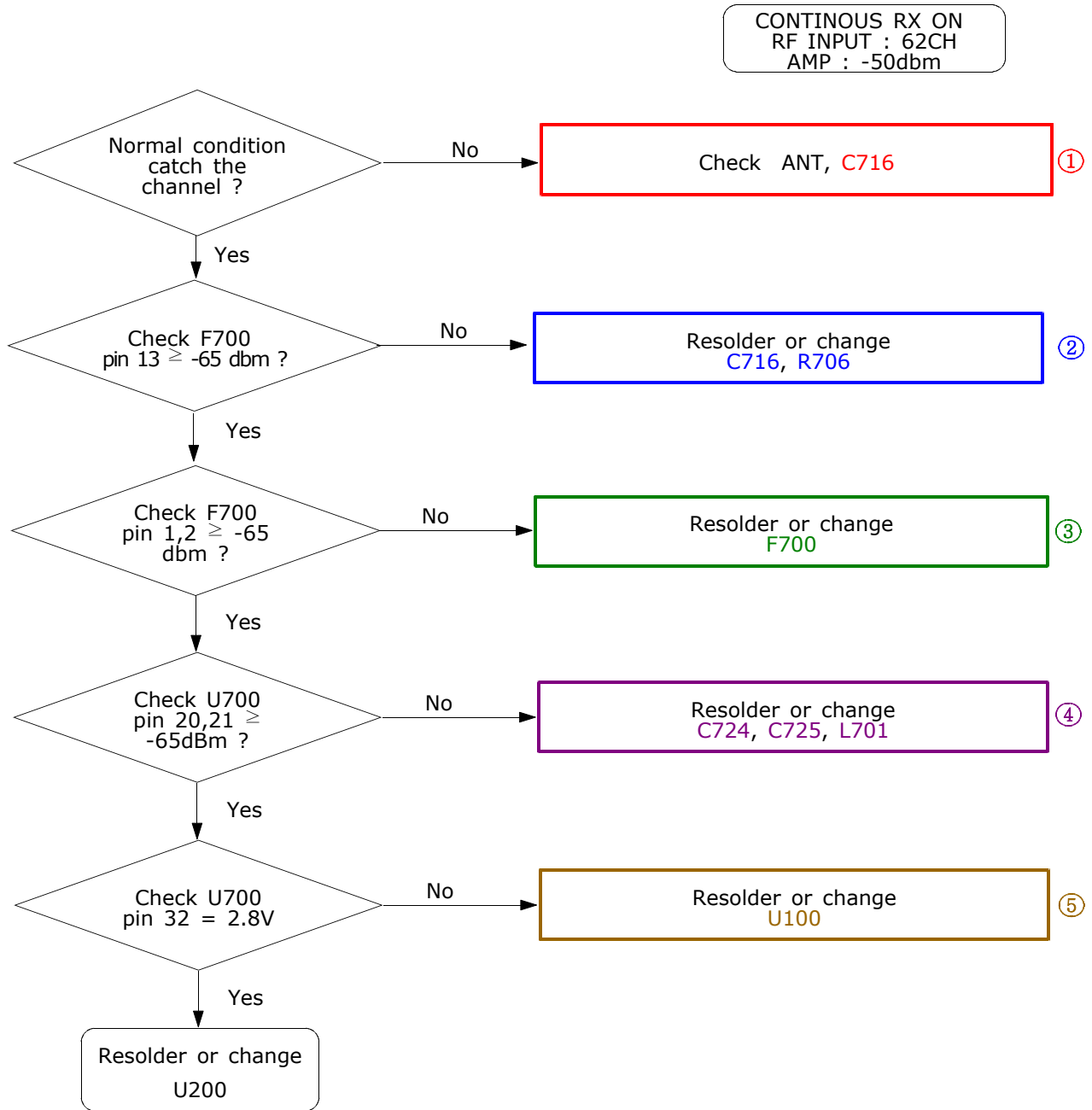


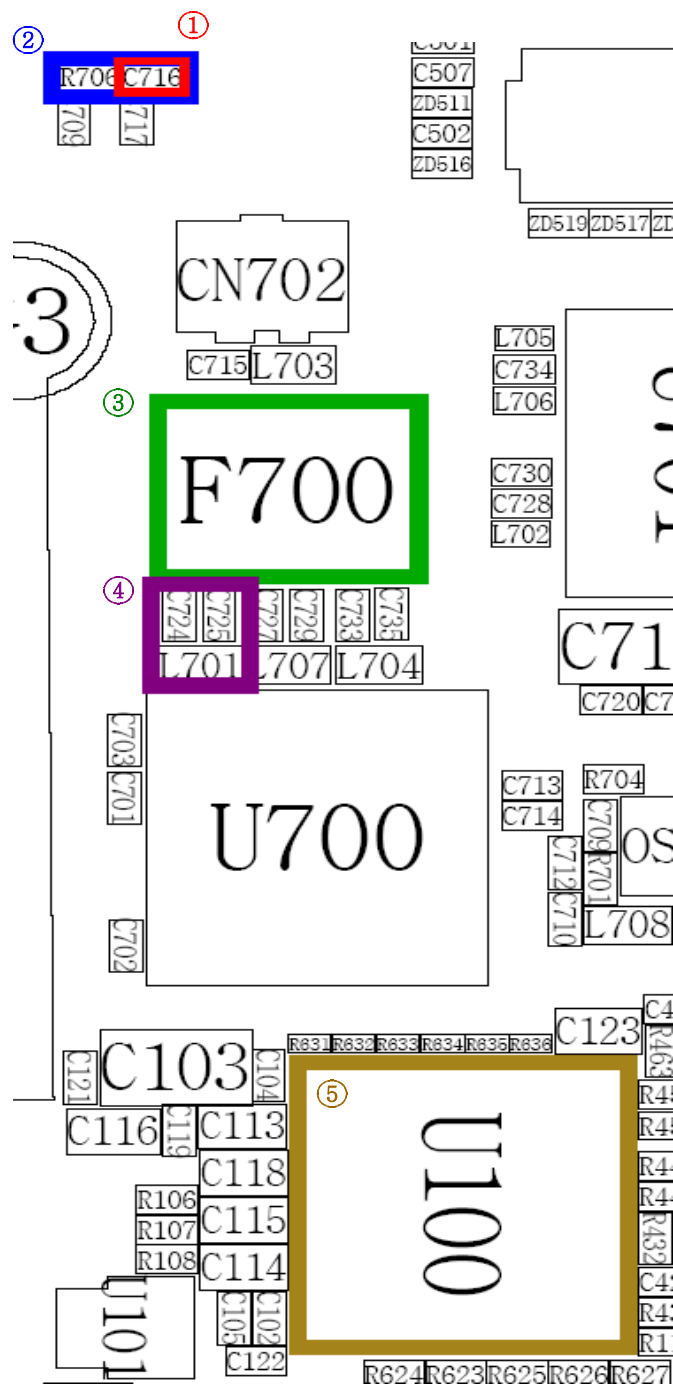


2-8. LCD backlight

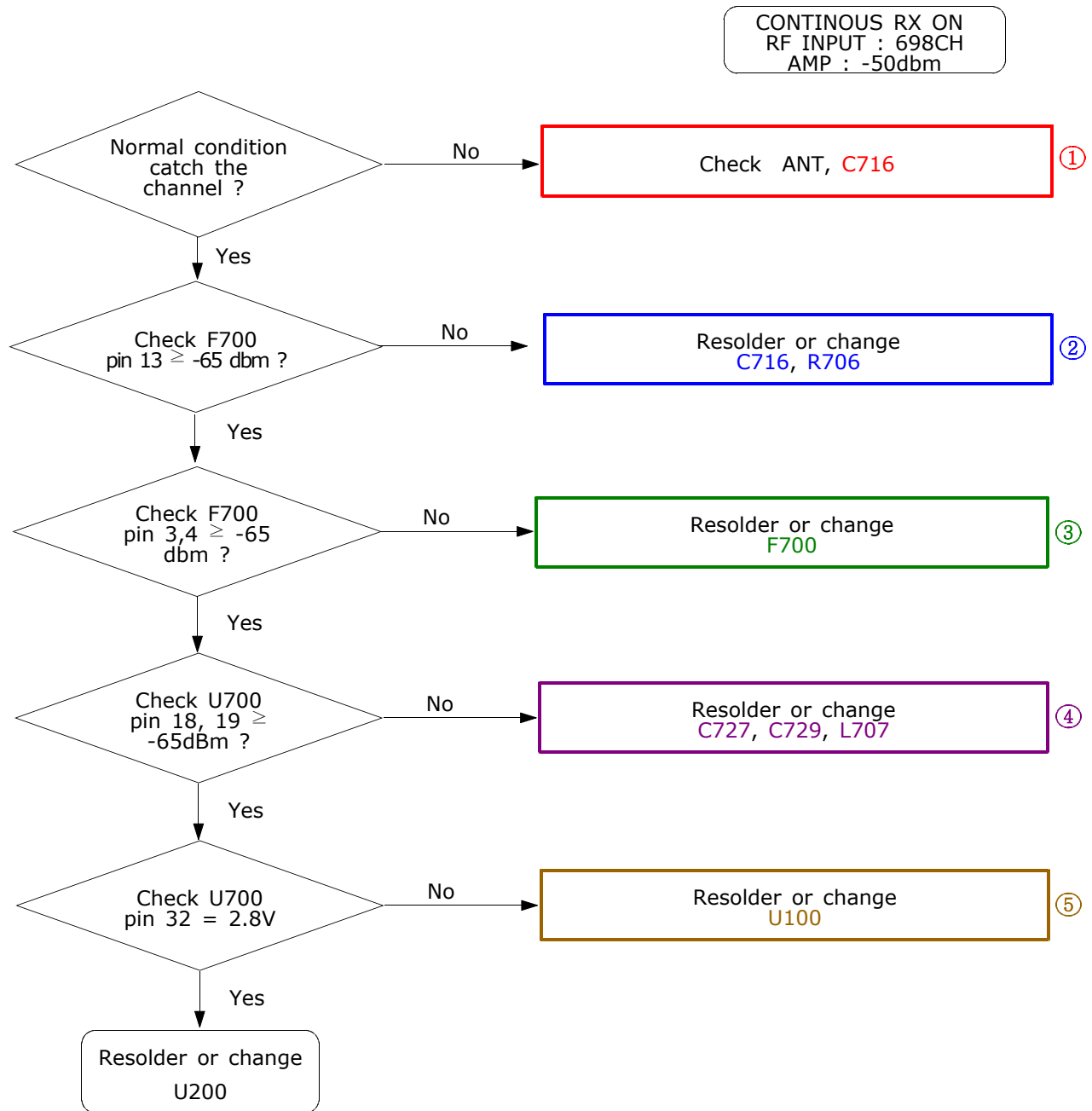


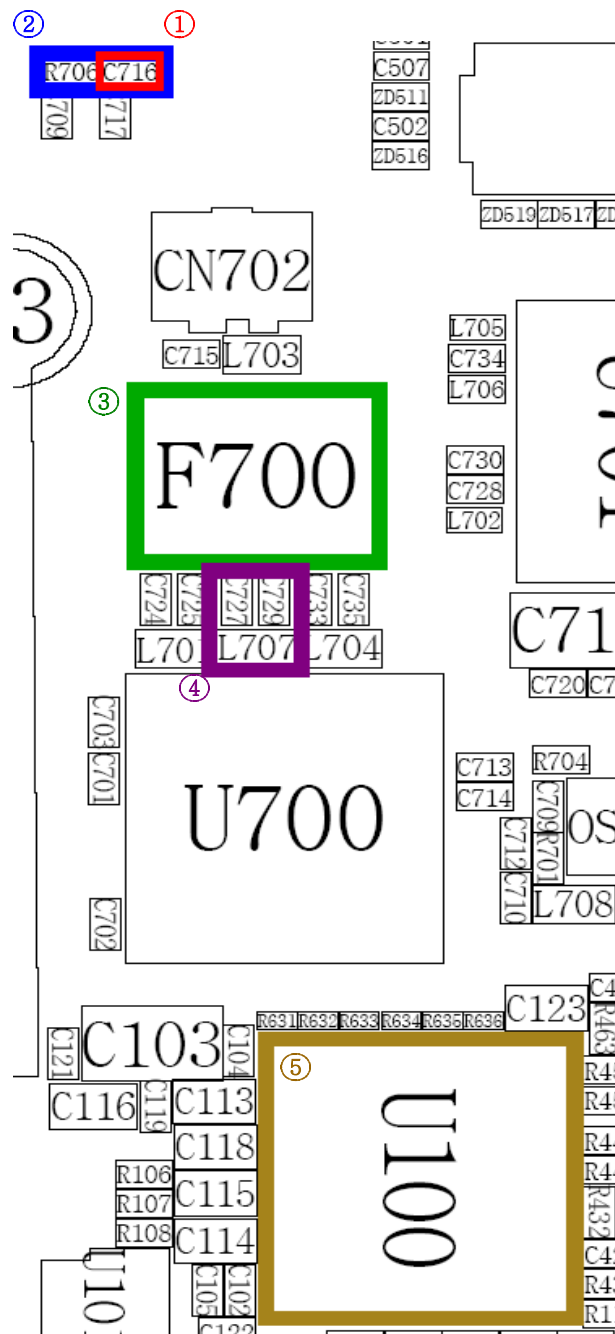
2-9. GSM Receiver



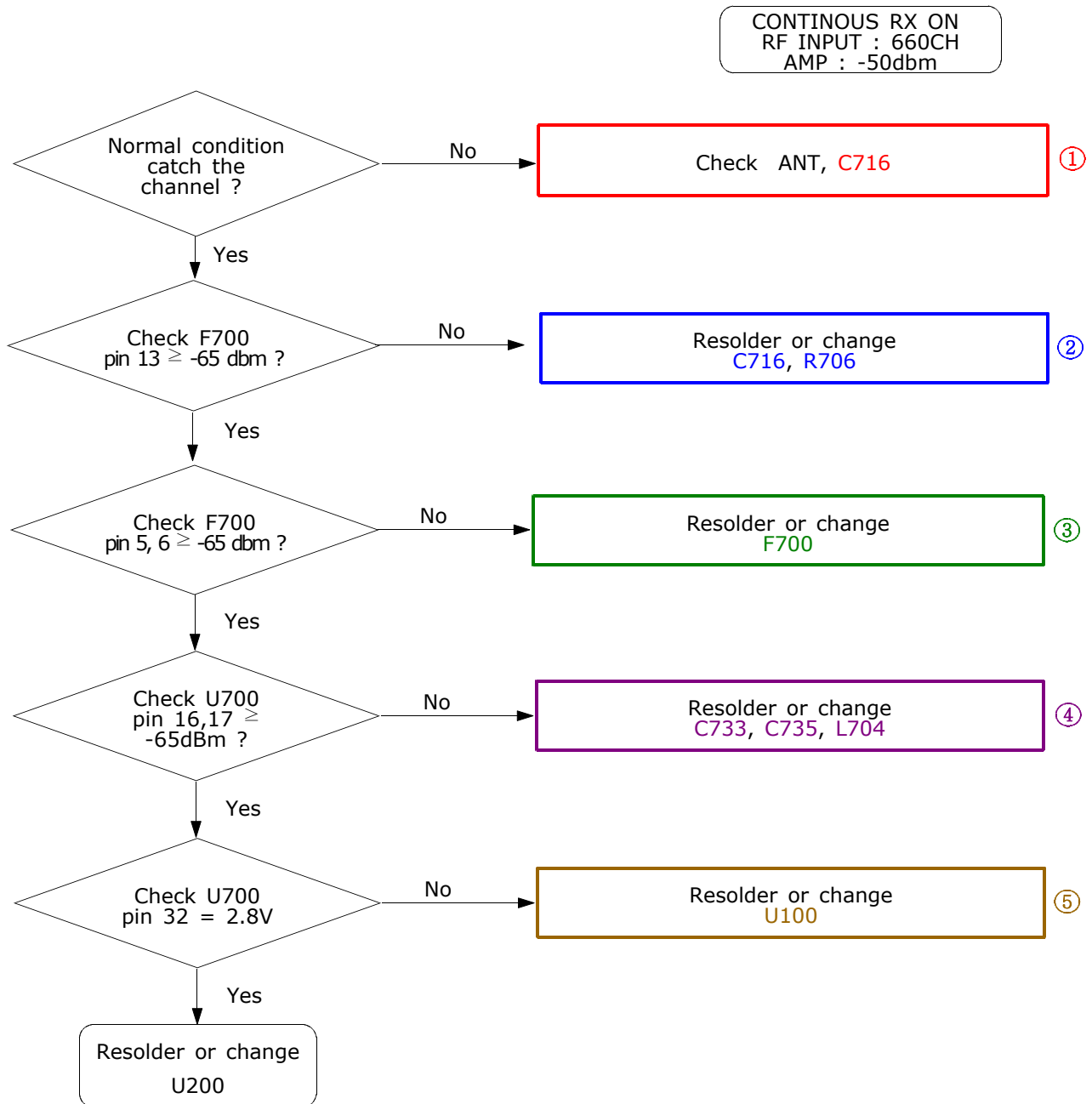


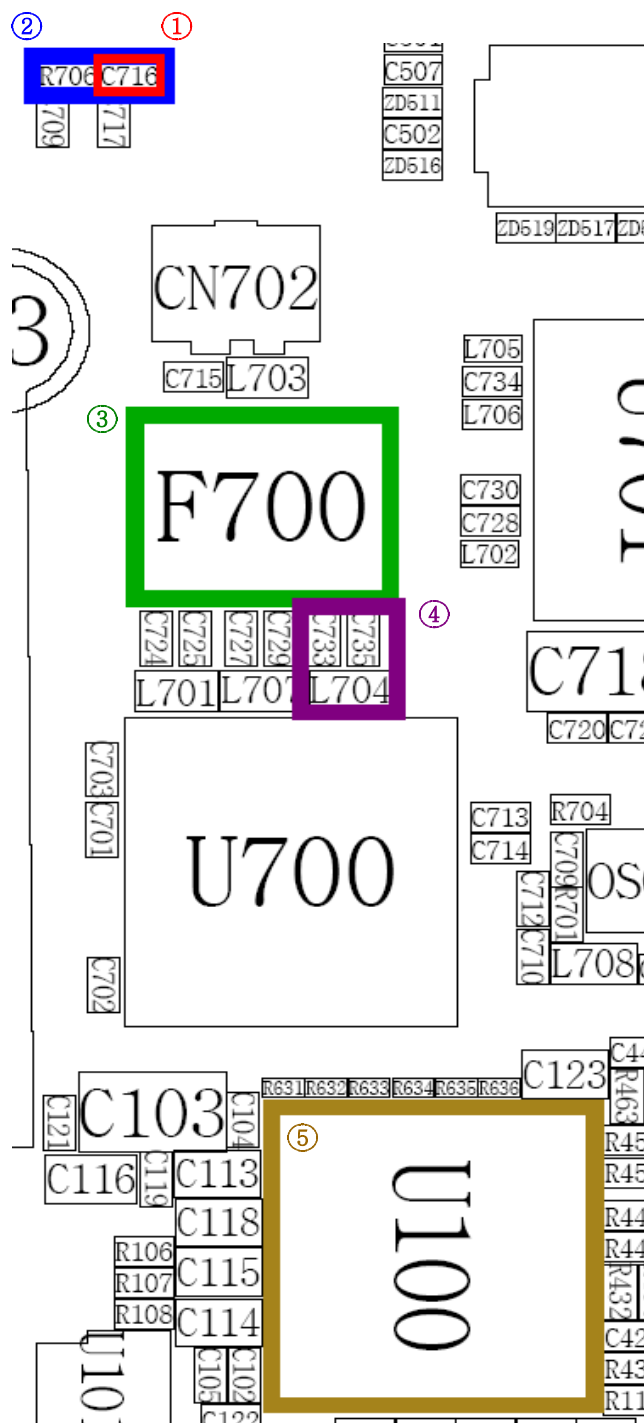
2-10. DCS Receiver

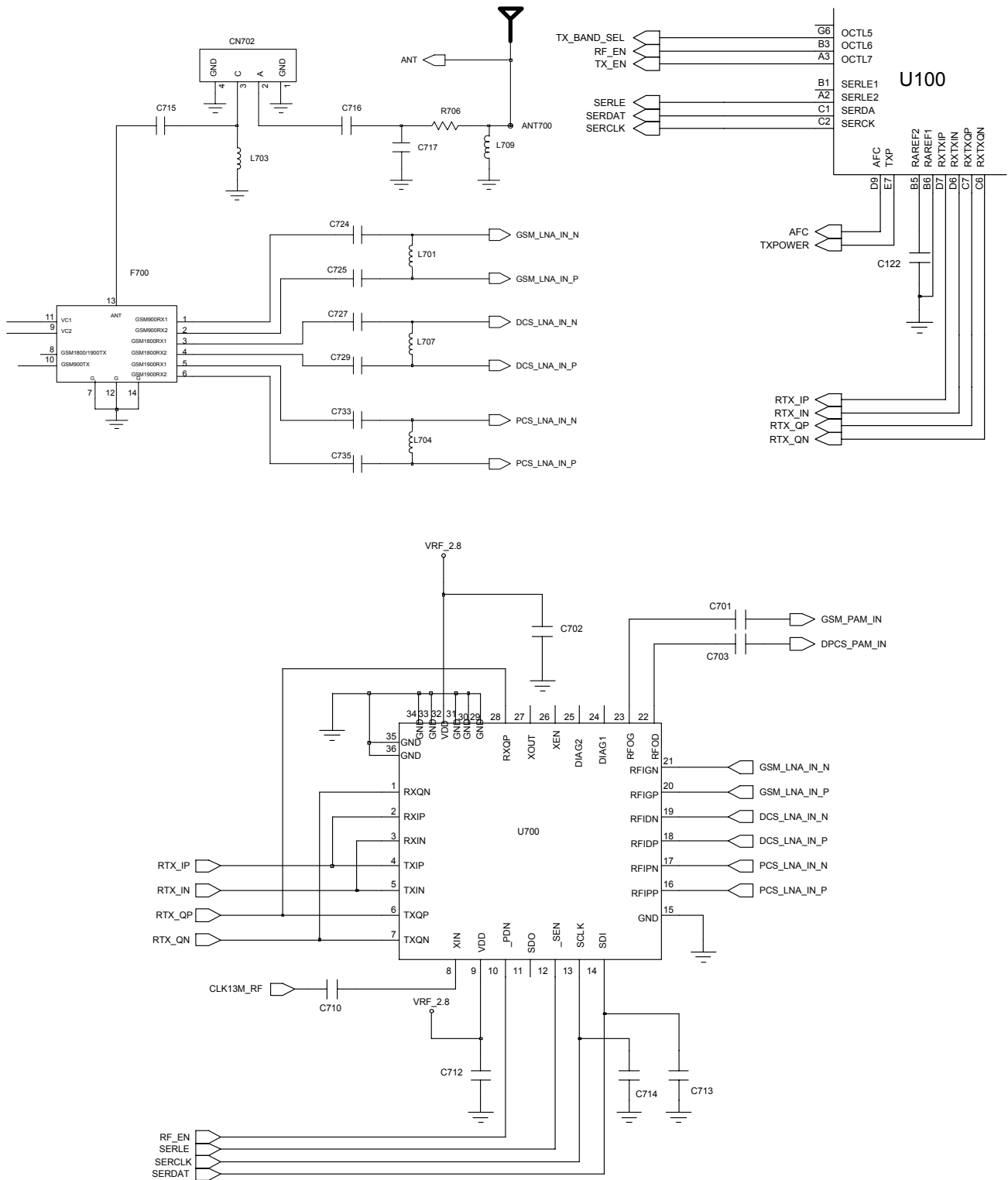




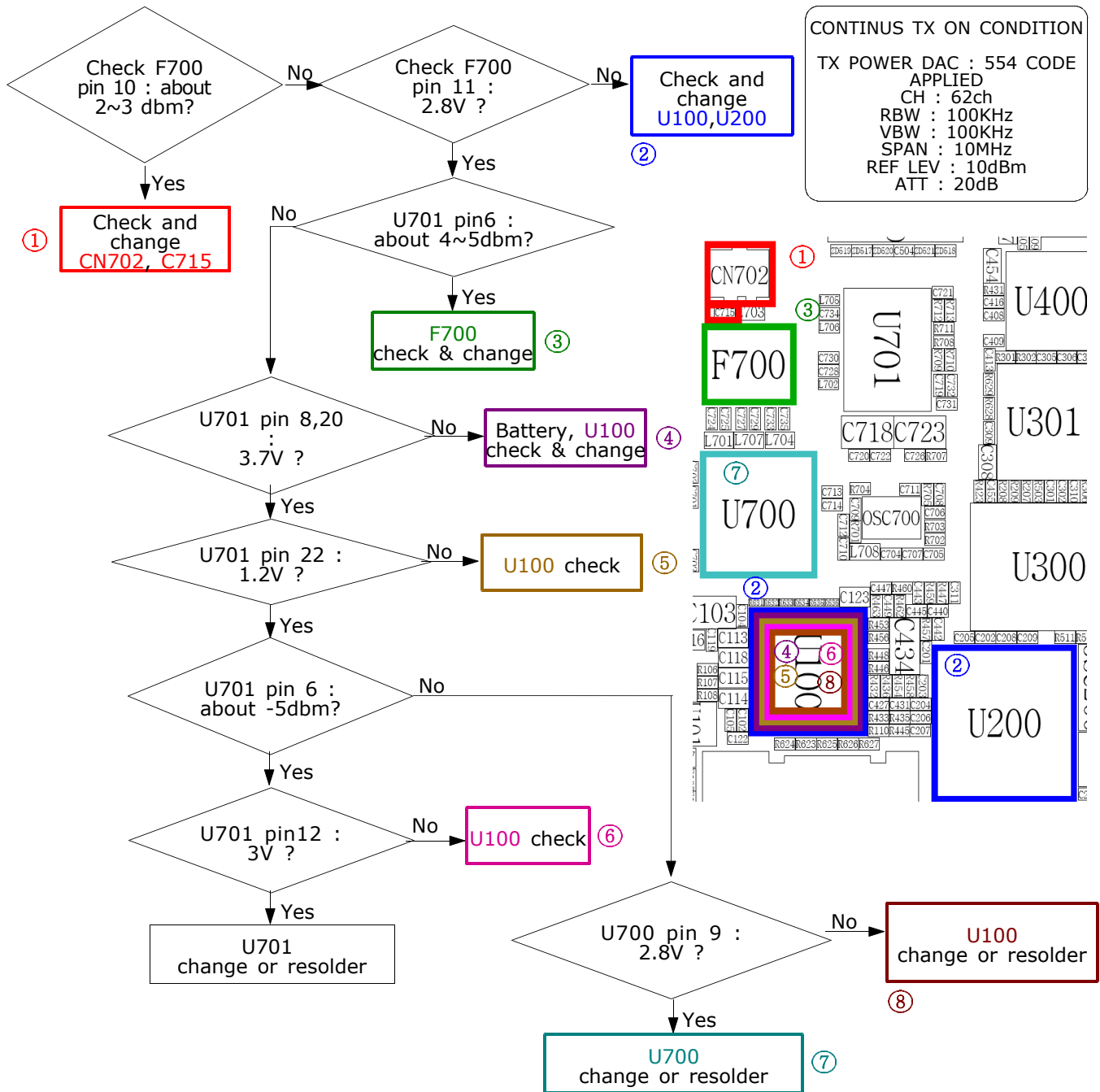
2-11. PCS Receiver



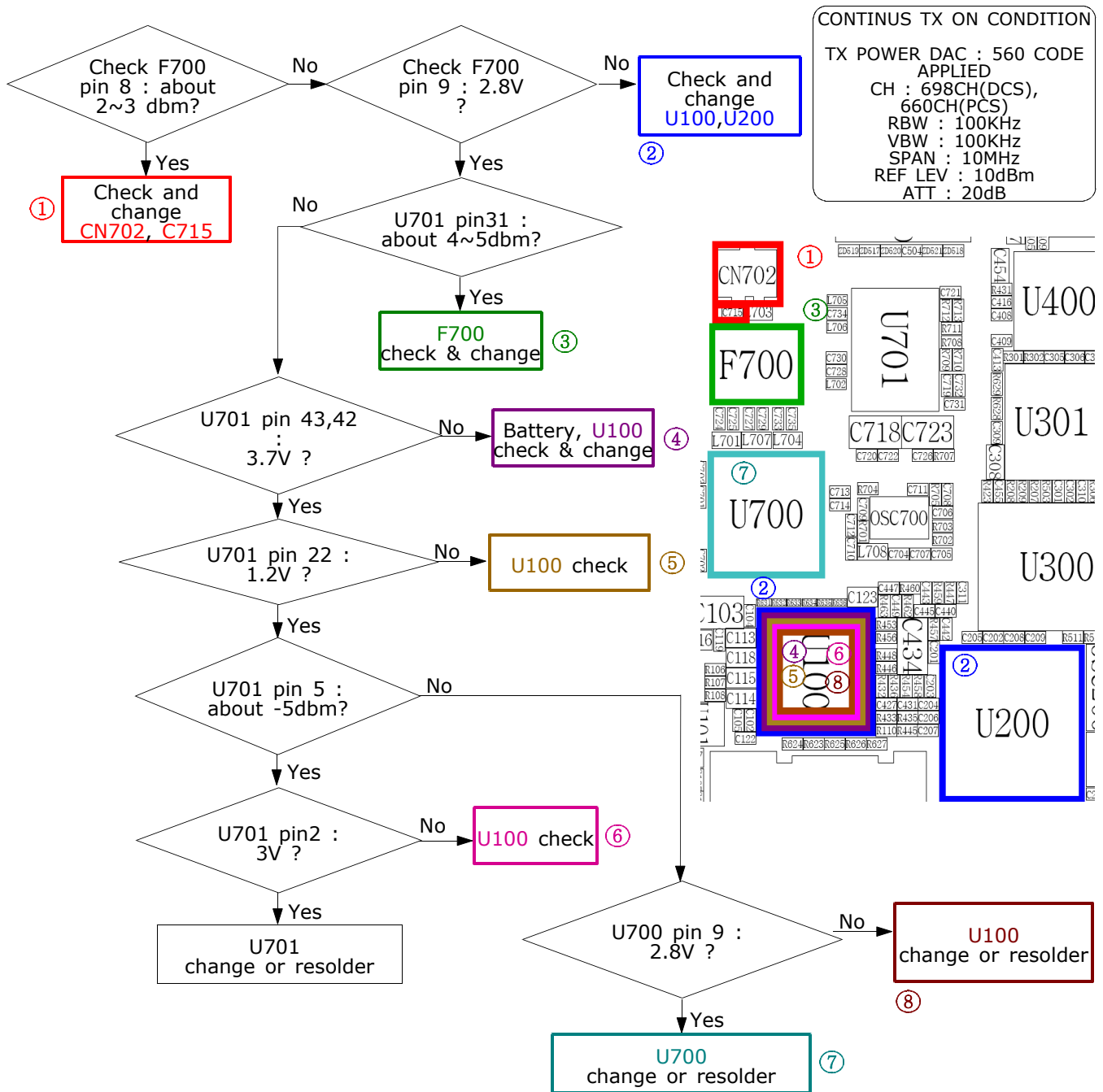




2-12. GSM Transmitter

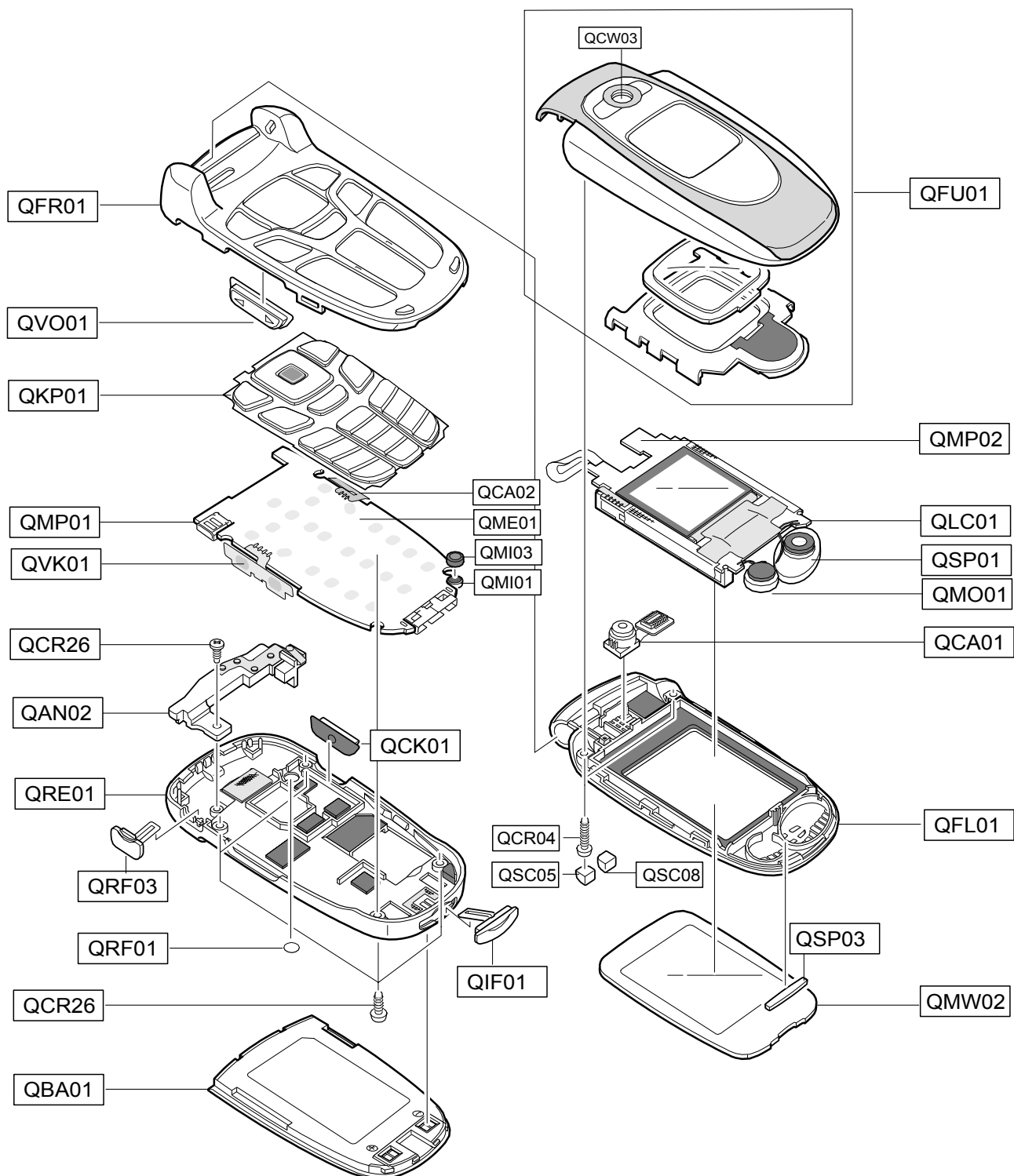


2-13. DCS/PCS Transmitter



3. SGH-E620 Exploded View and its Parts list

3-1. Cellular phone Exploded View



3-2. Cellular phone Parts list

Location NO.		Description	SEC CODE	Remark
QFU01		F/UPPER	GH75-06229A	
	QCW03	CAMERA RING	GH75-06233A	
QMP02		LCD PBA	GH92-02129A	
QLC01		LCD	GH07-00635A	
QSP03		SPK DUMMY	GH72-16842A	
QSP01		MICRO SPEAKER	3001-001644	
QMO01		MOTOR DC	GH31-00156A	
QCA01		UNIT CAMERA	GH59-01947A	
QFL01		F/LOWER	GH75-06230A	
QMW02		MAIN WINDOW	GH72-19263A	
QCR04		SCREW MACHINE	6001-001479	
QSC05		PMO-FOLDER SCREW CAP L	GH72-21541A	
QSC08		PMO-FOLDER SCREW CAP R	GH72-21542A	
QFR01		FRONT COVER	GH75-06231A	
QVO01		KEY VOLUME	GH75-05708A	
QKP01		KEYPAD	GH75-05570A	
QMP01		PBA MAIN	GH92-01912A	
QVK01		UNIT-VOLUME KEY	GH59-01826A	
QCA02		UNIT-CAMERA KEY	GH59-01827A	
QME01		UNIT-METAL DOME	GH59-01828A	
QMI03		MIC HOLDER	GH73-04073A	
QMI01		MICROPHONE-ASSY	GH30-00161A	
QCR26		SCREW MACHINE	6001-001850	
QAN02		ANTENNA	GH42-00502A	
QRE01		REAR COVER	GH75-06232A	
	QRF03	EAR COVER	GH72-20838A	
QCK01		KEY CAMERA	GH75-05709A	
QCR26		SCREW MACHINE	6001-001850	
QRF01		RF SHEET	GH74-14593A	
QIF01		IF COVER	GH72-20840A	
QBA01		BATTERY	GH43-01594A	

3-3. Test Jig (GH80-03307A)



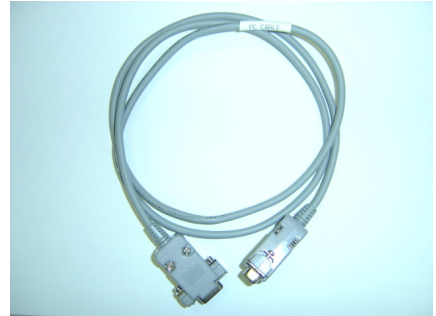
**3-3-1. RF Test Cable
(GH39-00283A)**



**3-3-2. Test Cable
(GH39-00304A)**



3-3-3. Serial Cable



**3-3-4. Power Supply
Cable**



**3-3-5. DATA CABLE
(GH39-00294A)**



**3-3-6. TC
(GH44-00701A)**



4. SGH-E620 MAIN Electrical Parts List

Design LOC	SEC Code	Discription
0403-001387	ZD604	DIODE-ZENER
0403-001427	ZD603	DIODE-ZENER
0406-001208	ZD600	DIODE-TVS
0406-001208	ZD602	DIODE-TVS
0504-001140	Q201	TR-DIGITAL
0504-001141	Q200	TR-DIGITAL
0601-001819	LED501	LED
0601-001819	LED502	LED
0601-001819	LED503	LED
0601-001819	LED504	LED
0601-001819	LED505	LED
0601-001819	LED506	LED
0601-001819	LED507	LED
0601-001819	LED508	LED
0601-001819	LED509	LED
0601-001819	LED510	LED
0601-001819	LED511	LED
0601-001819	LED512	LED
0601-001819	LED513	LED
0601-001819	LED514	LED
0601-001819	LED515	LED
0601-001819	LED516	LED
0601-001819	LED518	LED
0801-002529	U205	IC-CMOS LOGIC
1001-001261	U401	IC-ANALOG SWITCH
1006-001313	U203	IC-BUS TRANSCIEVER
1009-001010	U201	IC-HALL EFFECT S/W
1108-000001	U300	IC-MCP
1201-002171	U701	IC-POWER AMP
1201-002222	U403	IC-AUDIO AMP
1203-002556	U602	IC-POSI.FIXED REG.
1203-003058	U500	IC-POSI.FIXED REG.
1203-003058	U501	IC-POSI.FIXED REG.
1203-003105	U202	IC-POSI.FIXED REG.
1203-003322	U302	IC-MULTI REG.
1203-003472	U100	IC-POWER SUPERVISOR
1204-001915	U204	IC-FILTER
1205-002433	U700	IC-TRANSCIEVER

Design LOC	SEC Code	Discription
1205-002644	U400	IC-TONE GENERATOR
1205-002694	U301	IC-CONTROLLER
1209-001219	U101	IC-SENSOR
1405-001082	ZD401	VARISTOR
1405-001082	ZD402	VARISTOR
1405-001082	ZD403	VARISTOR
1405-001082	ZD404	VARISTOR
1405-001082	ZD405	VARISTOR
1405-001082	ZD406	VARISTOR
1405-001108	ZD500	VARISTOR
1405-001108	ZD501	VARISTOR
1405-001108	ZD502	VARISTOR
1405-001108	ZD503	VARISTOR
1405-001108	ZD504	VARISTOR
1405-001108	ZD505	VARISTOR
1405-001108	ZD506	VARISTOR
1405-001108	ZD507	VARISTOR
1405-001108	ZD508	VARISTOR
1405-001108	ZD509	VARISTOR
1405-001108	ZD510	VARISTOR
1405-001108	ZD511	VARISTOR
1405-001108	ZD516	VARISTOR
1405-001108	ZD517	VARISTOR
1405-001108	ZD518	VARISTOR
1405-001108	ZD519	VARISTOR
1405-001108	ZD520	VARISTOR
1405-001108	ZD521	VARISTOR
1405-001108	ZD522	VARISTOR
1405-001108	ZD523	VARISTOR
1405-001108	ZD524	VARISTOR
1405-001108	ZD525	VARISTOR
1405-001108	ZD526	VARISTOR
1405-001108	ZD527	VARISTOR
1405-001108	ZD528	VARISTOR
1405-001108	ZD601	VARISTOR
2007-000138	R107	R-CHIP
2007-000138	R701	R-CHIP
2007-000139	R446	R-CHIP
2007-000140	R603	R-CHIP
2007-000140	R605	R-CHIP

Design LOC	SEC Code	Discription
2007-000140	R606	R-CHIP
2007-000140	R607	R-CHIP
2007-000140	R610	R-CHIP
2007-000140	R611	R-CHIP
2007-000140	R612	R-CHIP
2007-000140	R613	R-CHIP
2007-000140	R614	R-CHIP
2007-000140	R638	R-CHIP
2007-000141	R437	R-CHIP
2007-000141	R439	R-CHIP
2007-000141	R457	R-CHIP
2007-000141	R458	R-CHIP
2007-000143	R301	R-CHIP
2007-000143	R302	R-CHIP
2007-000143	R637	R-CHIP
2007-000148	R705	R-CHIP
2007-000157	R213	R-CHIP
2007-000157	R217	R-CHIP
2007-000157	R218	R-CHIP
2007-000157	R601	R-CHIP
2007-000157	R602	R-CHIP
2007-000159	R431	R-CHIP
2007-000159	R432	R-CHIP
2007-000159	R436	R-CHIP
2007-000162	R109	R-CHIP
2007-000162	R201	R-CHIP
2007-000162	R206	R-CHIP
2007-000162	R212	R-CHIP
2007-000162	R215	R-CHIP
2007-000162	R216	R-CHIP
2007-000162	R309	R-CHIP
2007-000162	R528	R-CHIP
2007-000162	R529	R-CHIP
2007-000162	R618	R-CHIP
2007-000162	R704	R-CHIP
2007-000170	R108	R-CHIP
2007-000170	R306	R-CHIP
2007-000170	R423	R-CHIP
2007-000171	R110	R-CHIP
2007-000171	R202	R-CHIP

Design LOC	SEC Code	Discription
2007-000171	R203	R-CHIP
2007-000171	R204	R-CHIP
2007-000171	R205	R-CHIP
2007-000171	R220	R-CHIP
2007-000171	R429	R-CHIP
2007-000171	R434	R-CHIP
2007-000171	R440	R-CHIP
2007-000171	R441	R-CHIP
2007-000171	R443	R-CHIP
2007-000171	R444	R-CHIP
2007-000171	R445	R-CHIP
2007-000171	R447	R-CHIP
2007-000171	R449	R-CHIP
2007-000171	R451	R-CHIP
2007-000171	R452	R-CHIP
2007-000171	R454	R-CHIP
2007-000171	R455	R-CHIP
2007-000171	R456	R-CHIP
2007-000171	R472	R-CHIP
2007-000171	R473	R-CHIP
2007-000171	R623	R-CHIP
2007-000171	R624	R-CHIP
2007-000171	R625	R-CHIP
2007-000171	R626	R-CHIP
2007-000171	R627	R-CHIP
2007-000171	R628	R-CHIP
2007-000171	R629	R-CHIP
2007-000171	R706	R-CHIP
2007-000173	R470	R-CHIP
2007-000173	R471	R-CHIP
2007-000174	R504	R-CHIP
2007-000174	R505	R-CHIP
2007-000174	R507	R-CHIP
2007-000174	R508	R-CHIP
2007-000174	R509	R-CHIP
2007-000174	R510	R-CHIP
2007-000174	R511	R-CHIP
2007-000174	R512	R-CHIP
2007-000174	R513	R-CHIP
2007-000174	R527	R-CHIP

Design LOC	SEC Code	Discription
2007-000831	R460	R-CHIP
2007-000831	R463	R-CHIP
2007-001288	R708	R-CHIP
2007-001288	R711	R-CHIP
2007-001291	R412	R-CHIP
2007-001291	R424	R-CHIP
2007-001305	R514	R-CHIP
2007-001305	R515	R-CHIP
2007-001305	R516	R-CHIP
2007-001305	R517	R-CHIP
2007-001305	R518	R-CHIP
2007-001305	R519	R-CHIP
2007-001305	R520	R-CHIP
2007-001305	R521	R-CHIP
2007-001305	R522	R-CHIP
2007-001305	R523	R-CHIP
2007-001305	R524	R-CHIP
2007-001305	R525	R-CHIP
2007-001305	R526	R-CHIP
2007-001305	R531	R-CHIP
2007-001305	R532	R-CHIP
2007-001305	R533	R-CHIP
2007-001319	R103	R-CHIP
2007-001319	R702	R-CHIP
2007-001339	R468	R-CHIP
2007-002797	R703	R-CHIP
2007-003004	R535	R-CHIP
2007-007008	R709	R-CHIP
2007-007008	R710	R-CHIP
2007-007008	R712	R-CHIP
2007-007008	R713	R-CHIP
2007-007138	R707	R-CHIP
2007-007142	R106	R-CHIP
2007-007142	R433	R-CHIP
2007-007142	R435	R-CHIP
2007-007142	R459	R-CHIP
2007-007142	R462	R-CHIP
2007-007316	R402	R-CHIP
2007-007316	R404	R-CHIP
2007-007319	R466	R-CHIP

Design LOC	SEC Code	Discription
2007-007319	R467	R-CHIP
2007-008542	R469	R-CHIP
2007-008542	R631	R-CHIP
2007-008542	R632	R-CHIP
2007-008542	R633	R-CHIP
2007-008542	R634	R-CHIP
2007-008542	R635	R-CHIP
2007-008542	R636	R-CHIP
2203-000233	C112	C-CER,CHIP
2203-000233	C707	C-CER,CHIP
2203-000233	C710	C-CER,CHIP
2203-000233	C713	C-CER,CHIP
2203-000233	C714	C-CER,CHIP
2203-000233	C720	C-CER,CHIP
2203-000233	C721	C-CER,CHIP
2203-000254	C101	C-CER,CHIP
2203-000254	C105	C-CER,CHIP
2203-000254	C204	C-CER,CHIP
2203-000254	C205	C-CER,CHIP
2203-000254	C207	C-CER,CHIP
2203-000254	C208	C-CER,CHIP
2203-000254	C218	C-CER,CHIP
2203-000254	C301	C-CER,CHIP
2203-000254	C304	C-CER,CHIP
2203-000254	C315	C-CER,CHIP
2203-000254	C455	C-CER,CHIP
2203-000254	C706	C-CER,CHIP
2203-000254	C708	C-CER,CHIP
2203-000254	C709	C-CER,CHIP
2203-000254	C711	C-CER,CHIP
2203-000254	C719	C-CER,CHIP
2203-000254	C722	C-CER,CHIP
2203-000278	C107	C-CER,CHIP
2203-000278	C215	C-CER,CHIP
2203-000278	C216	C-CER,CHIP
2203-000278	C426	C-CER,CHIP
2203-000278	C430	C-CER,CHIP
2203-000278	C435	C-CER,CHIP
2203-000278	C439	C-CER,CHIP
2203-000425	C705	C-CER,CHIP

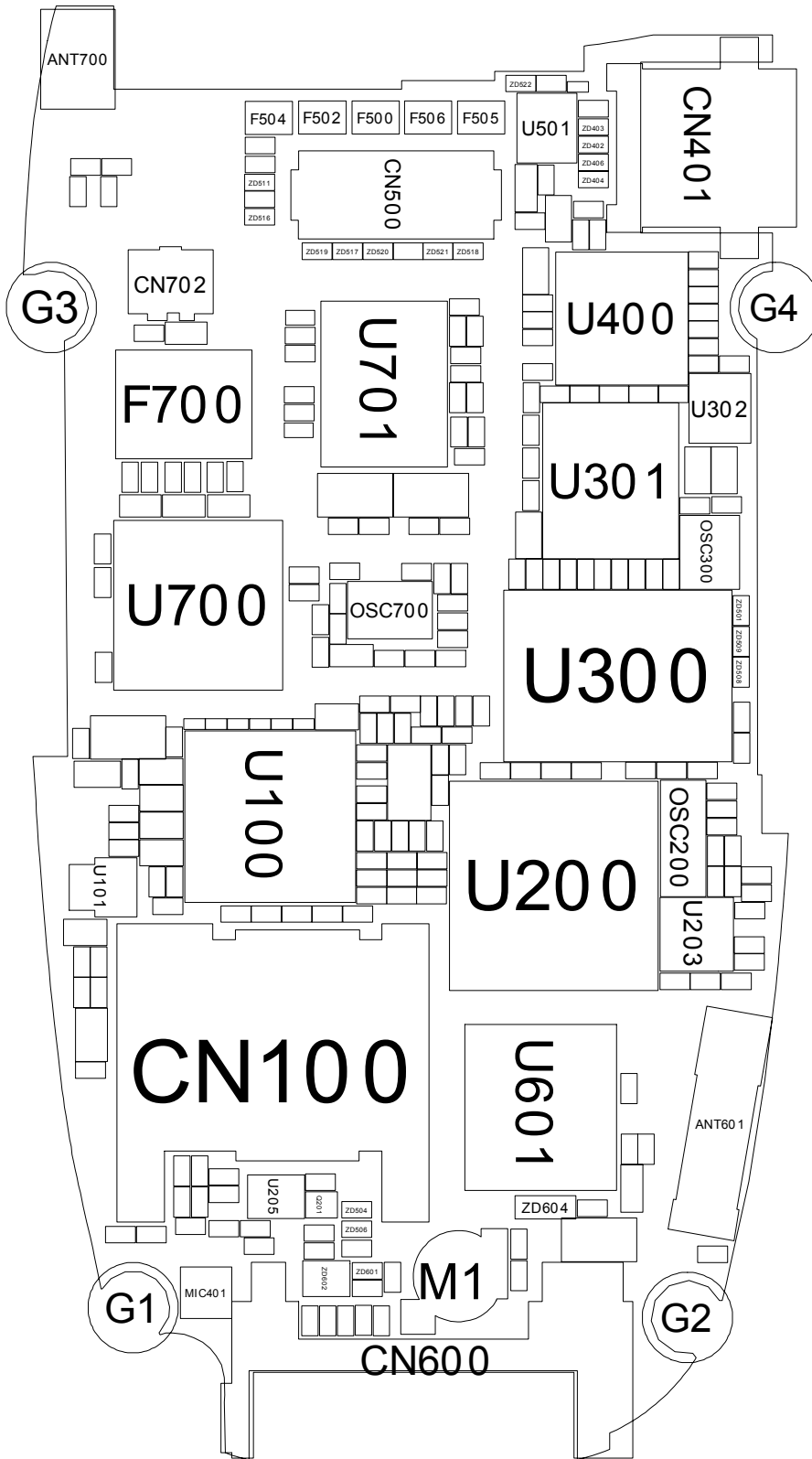
Design LOC	SEC Code	Discription
2203-000438	C413	C-CER,CHIP
2203-000550	C306	C-CER,CHIP
2203-000550	C310	C-CER,CHIP
2203-000550	C312	C-CER,CHIP
2203-000550	C726	C-CER,CHIP
2203-000654	C436	C-CER,CHIP
2203-000654	C438	C-CER,CHIP
2203-000696	C733	C-CER,CHIP
2203-000696	C735	C-CER,CHIP
2203-000812	C110	C-CER,CHIP
2203-000812	C111	C-CER,CHIP
2203-000812	C503	C-CER,CHIP
2203-000812	C504	C-CER,CHIP
2203-000812	C703	C-CER,CHIP
2203-000812	C731	C-CER,CHIP
2203-000812	C732	C-CER,CHIP
2203-000940	C443	C-CER,CHIP
2203-000940	C449	C-CER,CHIP
2203-000995	C213	C-CER,CHIP
2203-000995	C701	C-CER,CHIP
2203-000995	C715	C-CER,CHIP
2203-000995	C716	C-CER,CHIP
2203-001178	C305	C-CER,CHIP
2203-001385	C717	C-CER,CHIP
2203-001405	C121	C-CER,CHIP
2203-001405	C209	C-CER,CHIP
2203-001598	C109	C-CER,CHIP
2203-005050	C727	C-CER,CHIP
2203-005050	C729	C-CER,CHIP
2203-005056	C734	C-CER,CHIP
2203-005061	C102	C-CER,CHIP
2203-005061	C104	C-CER,CHIP
2203-005061	C108	C-CER,CHIP
2203-005061	C119	C-CER,CHIP
2203-005061	C120	C-CER,CHIP
2203-005061	C122	C-CER,CHIP
2203-005061	C311	C-CER,CHIP
2203-005061	C408	C-CER,CHIP
2203-005061	C409	C-CER,CHIP
2203-005061	C418	C-CER,CHIP

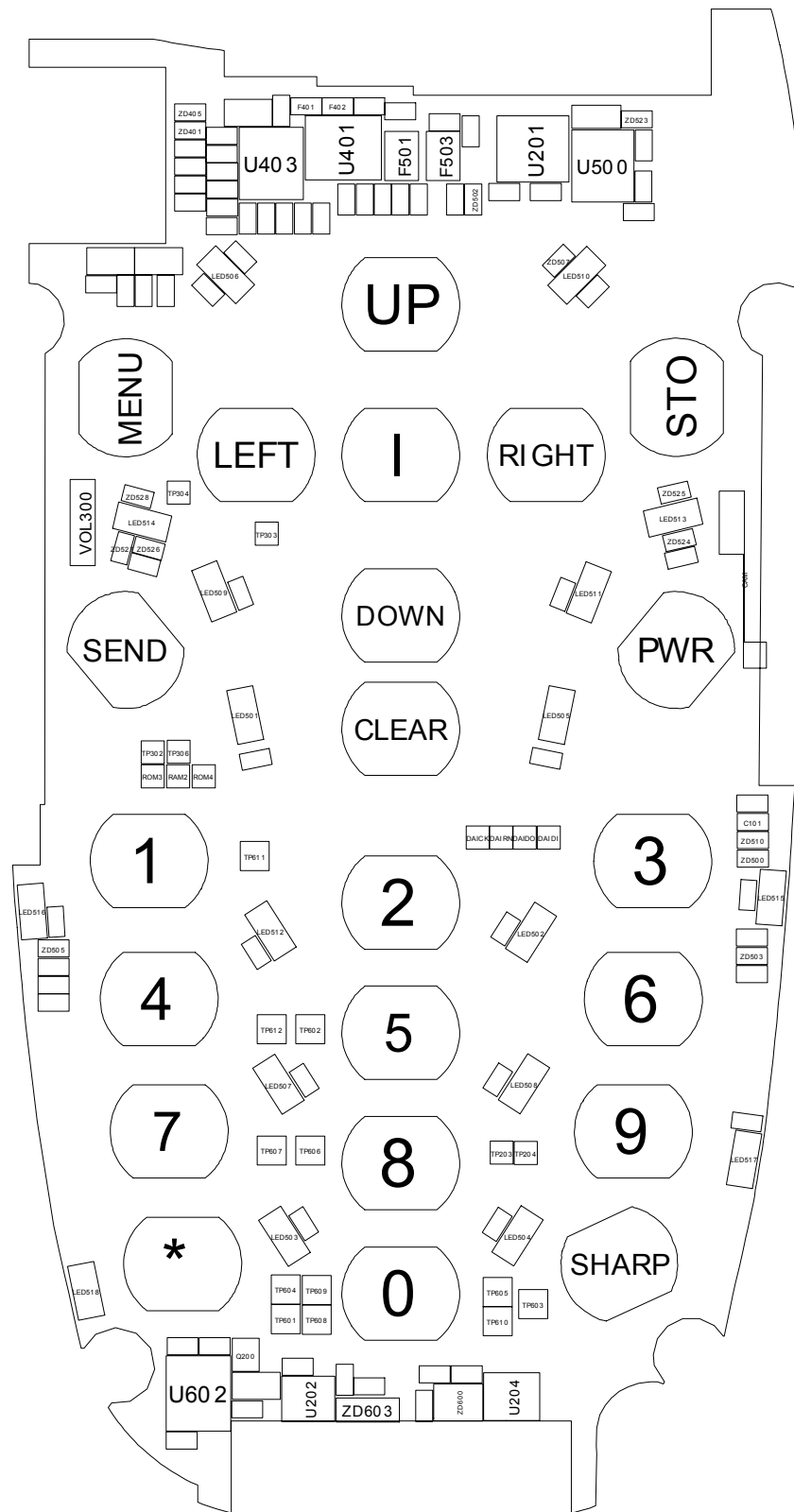
Design LOC	SEC Code	Discription
2203-005061	C419	C-CER,CHIP
2203-005061	C424	C-CER,CHIP
2203-005061	C704	C-CER,CHIP
2203-005288	C724	C-CER,CHIP
2203-005288	C725	C-CER,CHIP
2203-005444	C728	C-CER,CHIP
2203-005480	C415	C-CER,CHIP
2203-005480	C421	C-CER,CHIP
2203-005482	C201	C-CER,CHIP
2203-005482	C202	C-CER,CHIP
2203-005482	C203	C-CER,CHIP
2203-005482	C206	C-CER,CHIP
2203-005482	C212	C-CER,CHIP
2203-005482	C214	C-CER,CHIP
2203-005482	C217	C-CER,CHIP
2203-005482	C219	C-CER,CHIP
2203-005482	C302	C-CER,CHIP
2203-005482	C303	C-CER,CHIP
2203-005482	C307	C-CER,CHIP
2203-005482	C309	C-CER,CHIP
2203-005482	C317	C-CER,CHIP
2203-005482	C403	C-CER,CHIP
2203-005482	C502	C-CER,CHIP
2203-005482	C506	C-CER,CHIP
2203-005482	C602	C-CER,CHIP
2203-005482	C604	C-CER,CHIP
2203-005482	C611	C-CER,CHIP
2203-005482	C702	C-CER,CHIP
2203-005483	C452	C-CER,CHIP
2203-005483	C453	C-CER,CHIP
2203-005496	C407	C-CER,CHIP
2203-005496	C412	C-CER,CHIP
2203-005496	C416	C-CER,CHIP
2203-005509	C501	C-CER,CHIP
2203-006093	C313	C-CER,CHIP
2203-006093	C422	C-CER,CHIP
2203-006093	C429	C-CER,CHIP
2203-006093	C440	C-CER,CHIP
2203-006093	C445	C-CER,CHIP
2203-006093	C507	C-CER,CHIP

Design LOC	SEC Code	Discription
2203-006093	C511	C-CER,CHIP
2203-006093	C512	C-CER,CHIP
2203-006093	C603	C-CER,CHIP
2203-006093	C606	C-CER,CHIP
2203-006093	C609	C-CER,CHIP
2203-006093	C610	C-CER,CHIP
2203-006108	C113	C-CER,CHIP
2203-006108	C114	C-CER,CHIP
2203-006108	C115	C-CER,CHIP
2203-006108	C117	C-CER,CHIP
2203-006108	C118	C-CER,CHIP
2203-006108	C123	C-CER,CHIP
2203-006137	C712	C-CER,CHIP
2203-006257	C448	C-CER,CHIP
2404-001225	C116	C-TA,CHIP
2404-001225	C210	C-TA,CHIP
2404-001225	C308	C-TA,CHIP
2404-001225	C314	C-TA,CHIP
2404-001225	C316	C-TA,CHIP
2404-001225	C404	C-TA,CHIP
2404-001225	C417	C-TA,CHIP
2404-001225	C433	C-TA,CHIP
2404-001225	C437	C-TA,CHIP
2404-001225	C454	C-TA,CHIP
2404-001274	C103	C-TA,CHIP
2404-001274	C718	C-TA,CHIP
2404-001274	C723	C-TA,CHIP
2404-001305	C434	C-TA,CHIP
2404-001306	C601	C-TA,CHIP
2404-001339	C505	C-TA,CHIP
2404-001339	C508	C-TA,CHIP
2404-001339	C607	C-TA,CHIP
2703-001513	L703	INDUCTOR-SMD
2703-001708	L709	INDUCTOR-SMD
2703-001907	L701	INDUCTOR-SMD
2703-002313	L405	INDUCTOR-SMD
2703-002313	L409	INDUCTOR-SMD
2703-002519	L705	INDUCTOR-SMD
2703-002547	L707	INDUCTOR-SMD
2703-002586	L702	INDUCTOR-SMD

Design LOC	SEC Code	Discription
2703-002665	L704	INDUCTOR-SMD
2801-003747	OSC200	CRYSTAL-SMD
2801-004436	OSC300	CRYSTAL-SMD
2809-001284	OSC700	OSCILLATOR-VCTCXO
2901-001286	F500	FILTER-EMI SMD
2901-001286	F501	FILTER-EMI SMD
2901-001286	F502	FILTER-EMI SMD
2901-001286	F503	FILTER-EMI SMD
2901-001286	F504	FILTER-EMI SMD
2901-001286	F505	FILTER-EMI SMD
2901-001286	F506	FILTER-EMI SMD
2909-001249	F700	DUPLEXER-FEM
3301-001105	L708	CORE-FERRITE
3301-001534	F401	BEAD-SMD
3301-001534	F402	BEAD-SMD
3301-001534	L201	BEAD-SMD
3705-001358	CN702	CONNECTOR-COAXIAL
3709-001298	CN100	CONNECTOR-CARD EDGE
3710-002189	CN600	CONNECTOR-SOCKET
3711-005159	CN500	CONNECTOR-HEADER
3722-002181	CN401	JACK-EAR PHONE
4202-001038	ANT601	ANTENNA-CHIP
4302-001158	M1	BATTERY-LI(2ND)
4709-001350	U601	BLUETOOTH MODULE
GH09-00033A	U200	IC MICOM-SGHE720

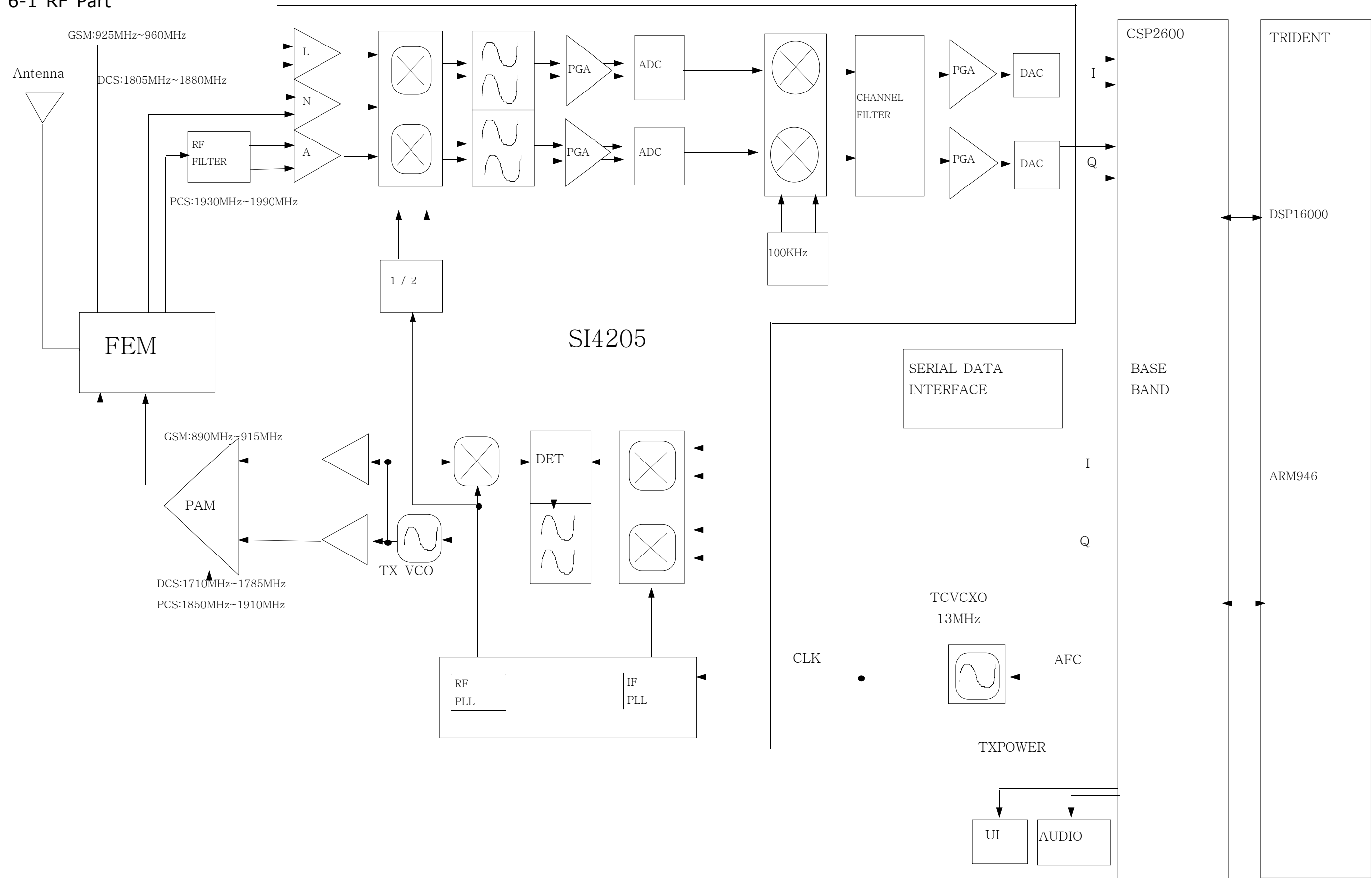
5. SGH-E620 PCB Diagrams





6. SGH-E620 Block Diagrams

6-1 RF Part



6-2 Base Band Part

