

SAMSUNG

GSM TELEPHONE

SGH-E620

SERVICE *Manual*

GSM TELEPHONE



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1. SGH-E620 Specification

1-1. GSM General Specification

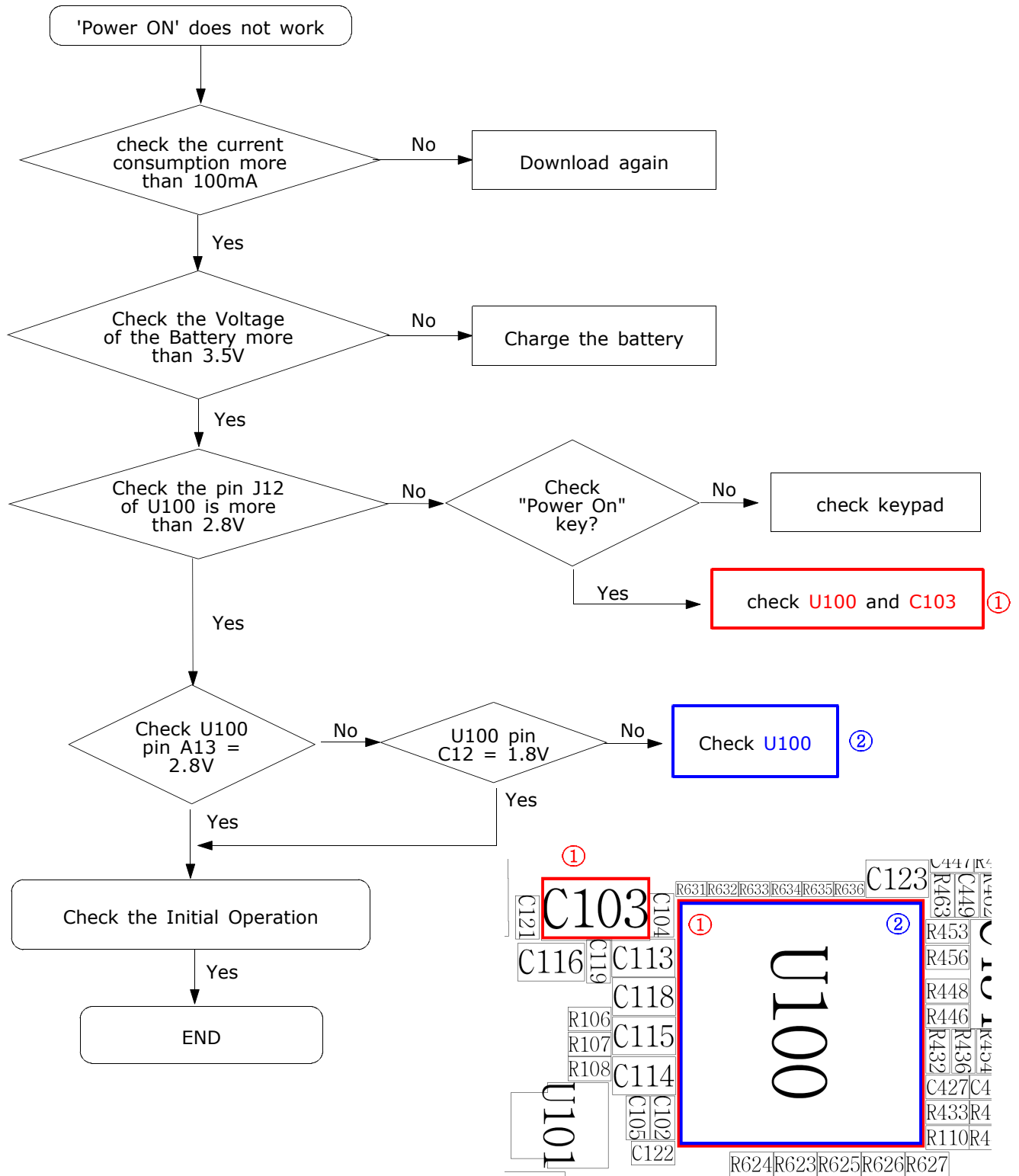
	GSM900 Phase 1	EGSM 900 Phase 2	DCS 1800 Phase 1	PCS1900
Freq. Band [MHz] Uplink/Downlink	890~915 935~960	880~915 925~960	1710~1785 1805~1880	1850~1910 1930~1990
ARFCN range	1~124	0~124 & 975~1023	512~885	512~810
Tx/Rx spacing	45MHz	45MHz	95MHz	80MHz
Mod. Bit rate / Bit Period	270.833kbps 3.692us	270.833kbps 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

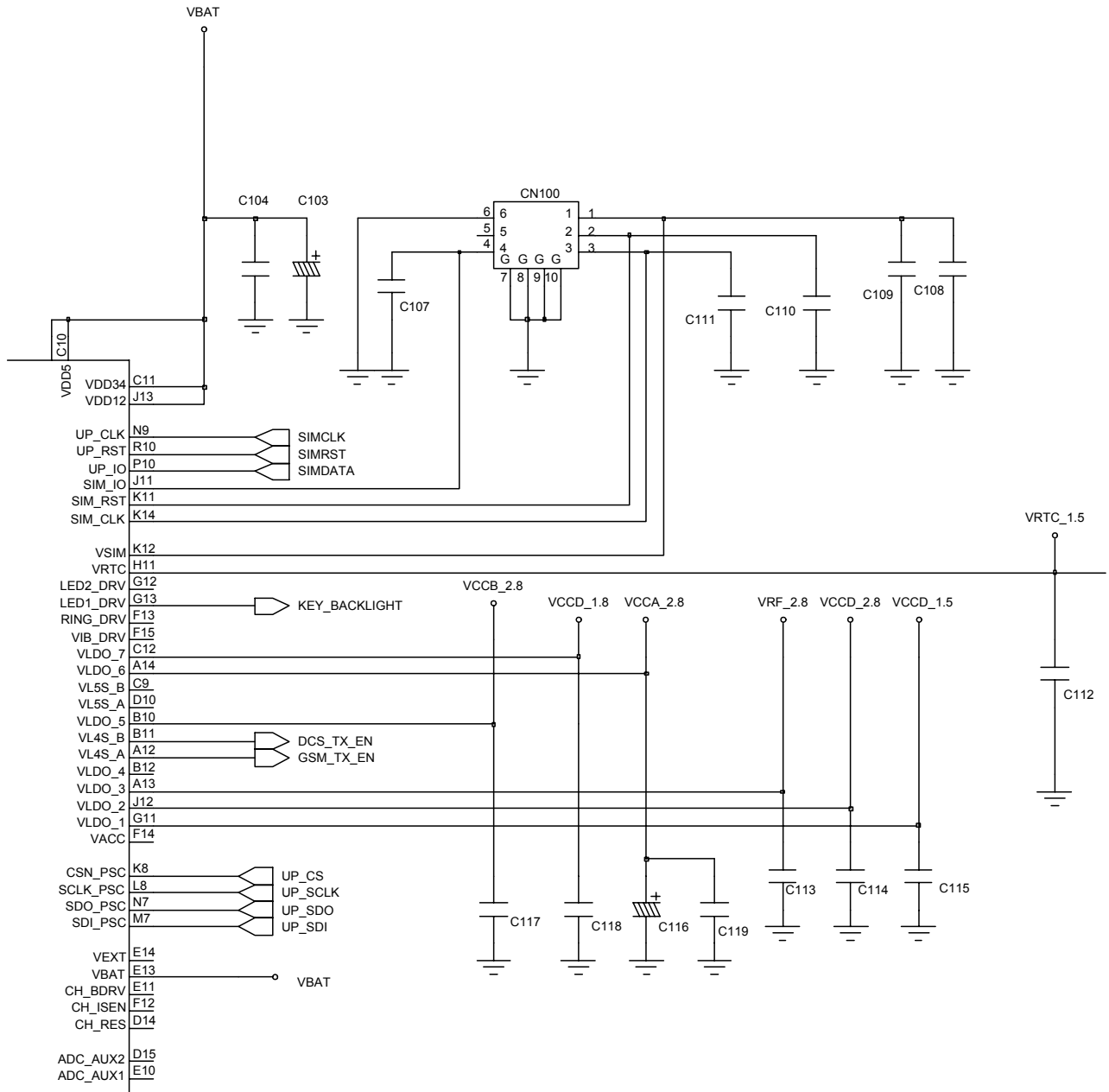
1-2. GSM Tx Power Class

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

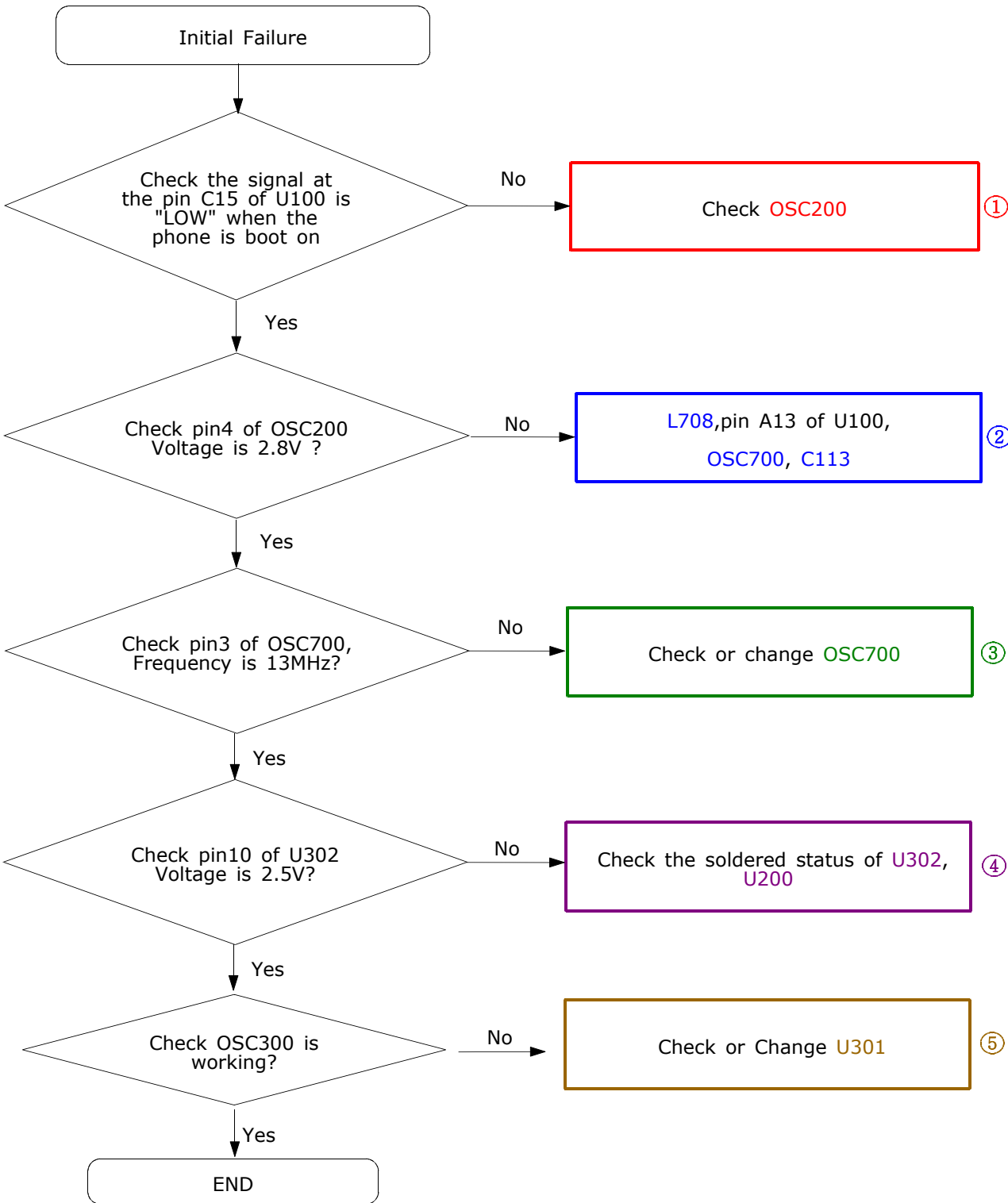
2. SGH-E620 Flow Chart of Troubleshooting

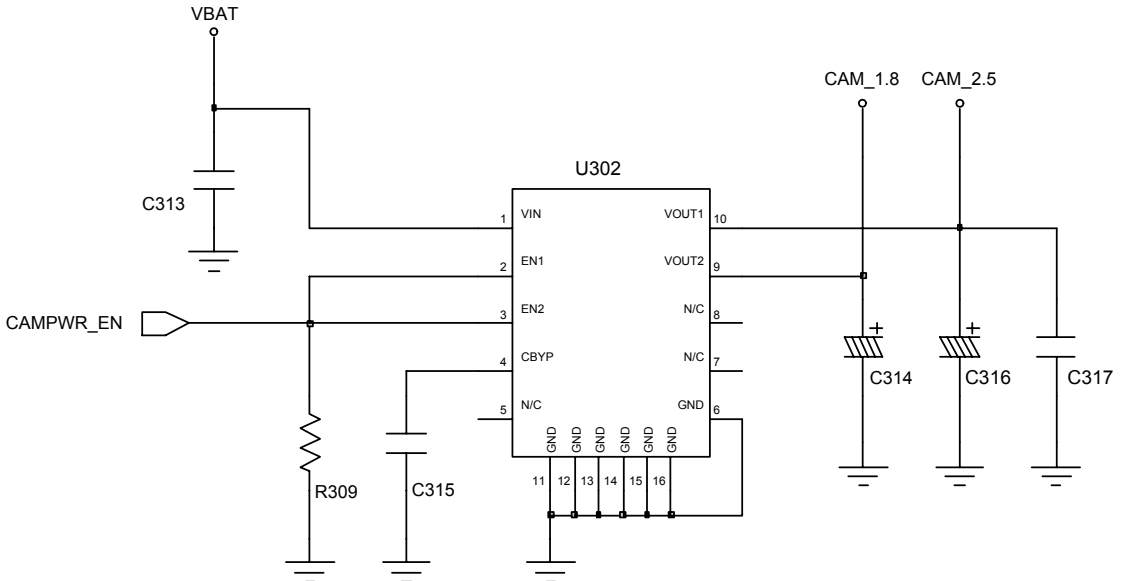
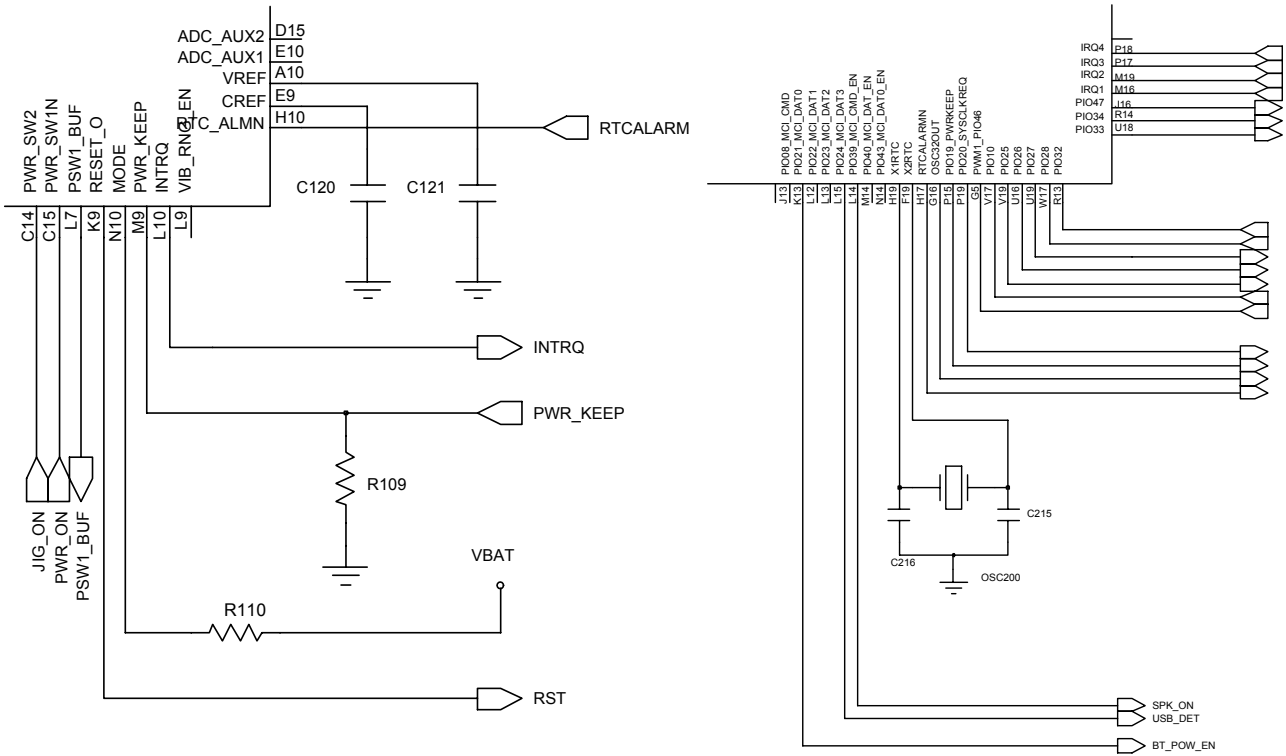
2-1. Power On

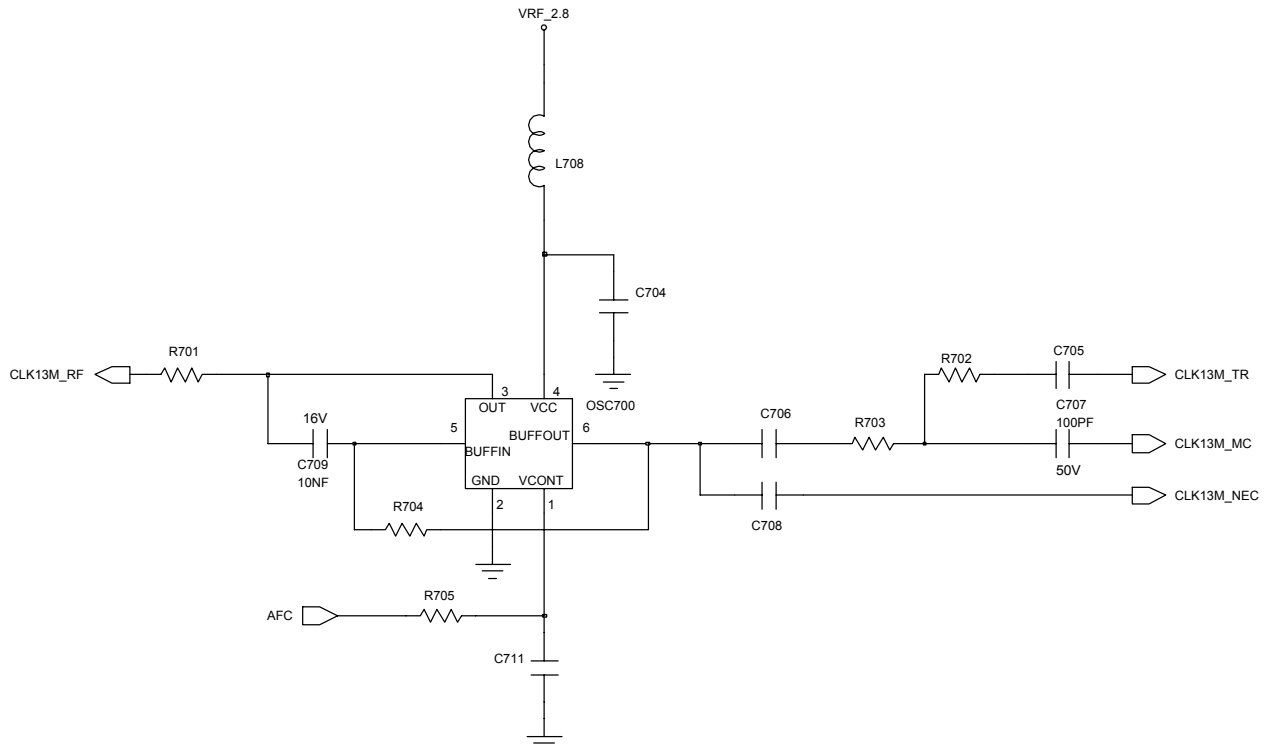
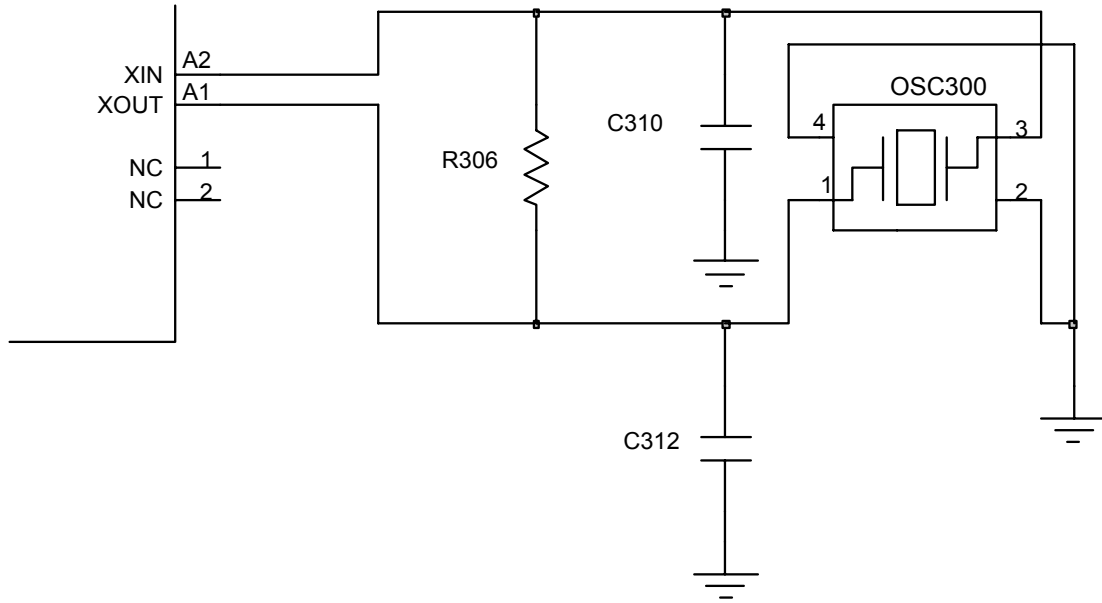




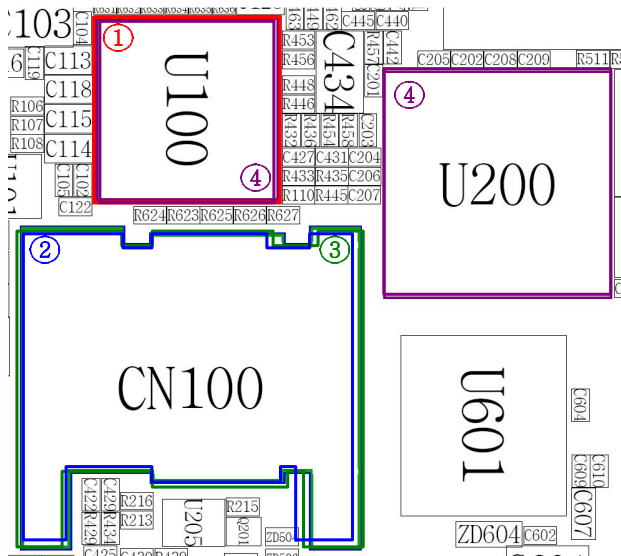
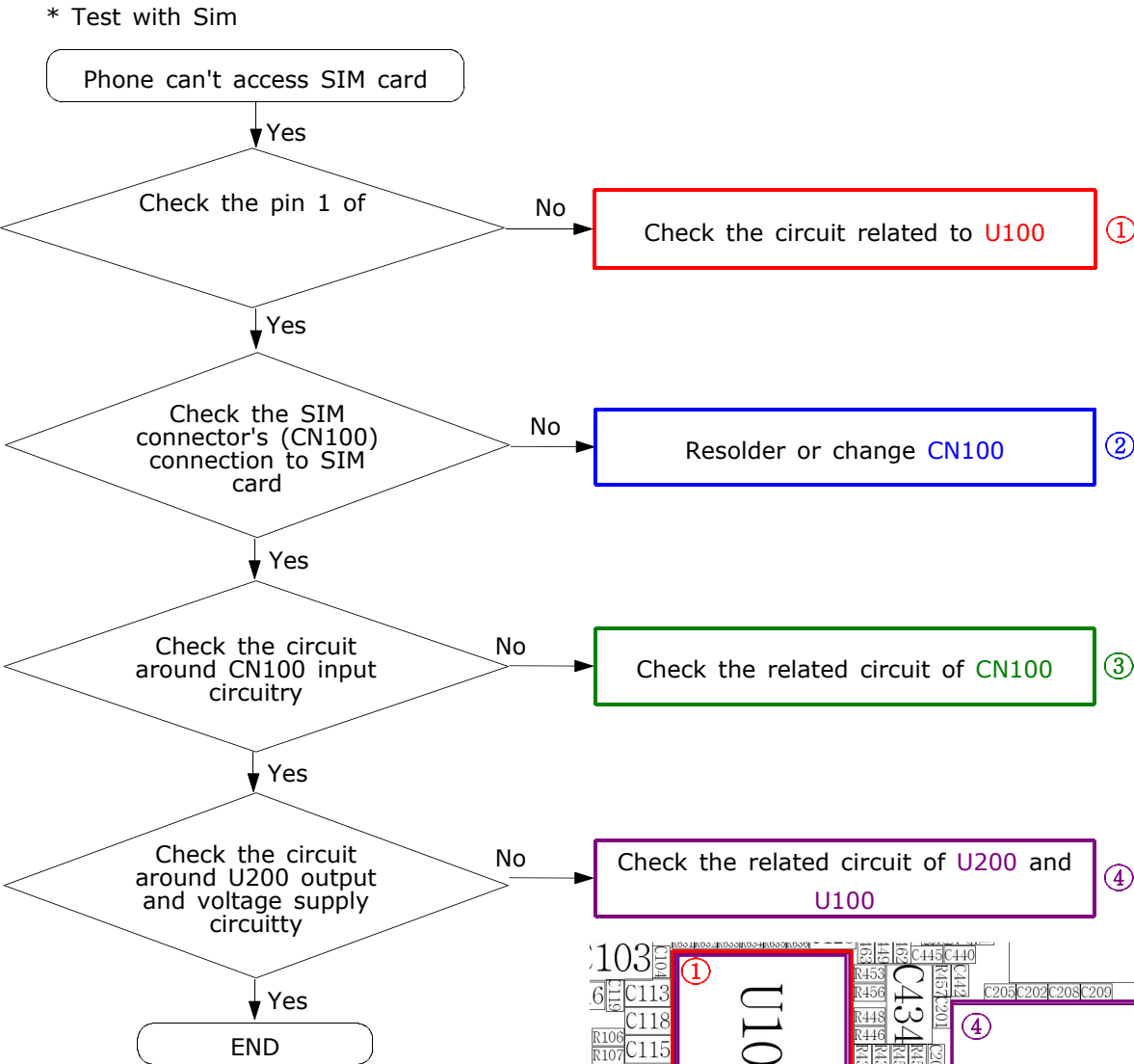
2-2. Initial





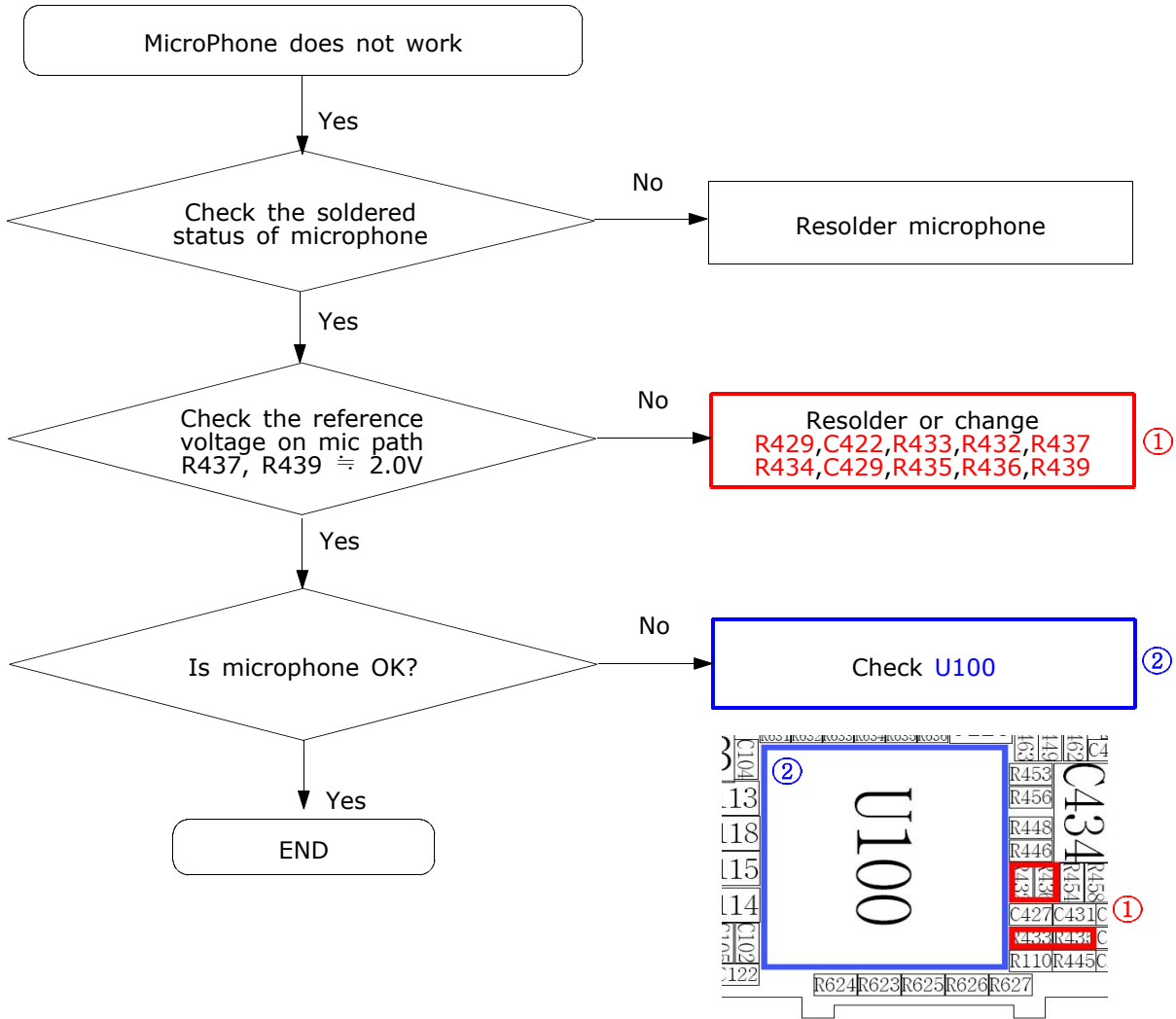


2-3. Sim Part

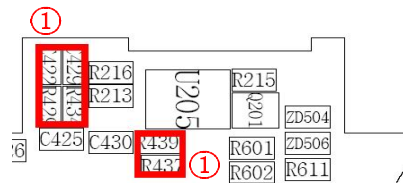


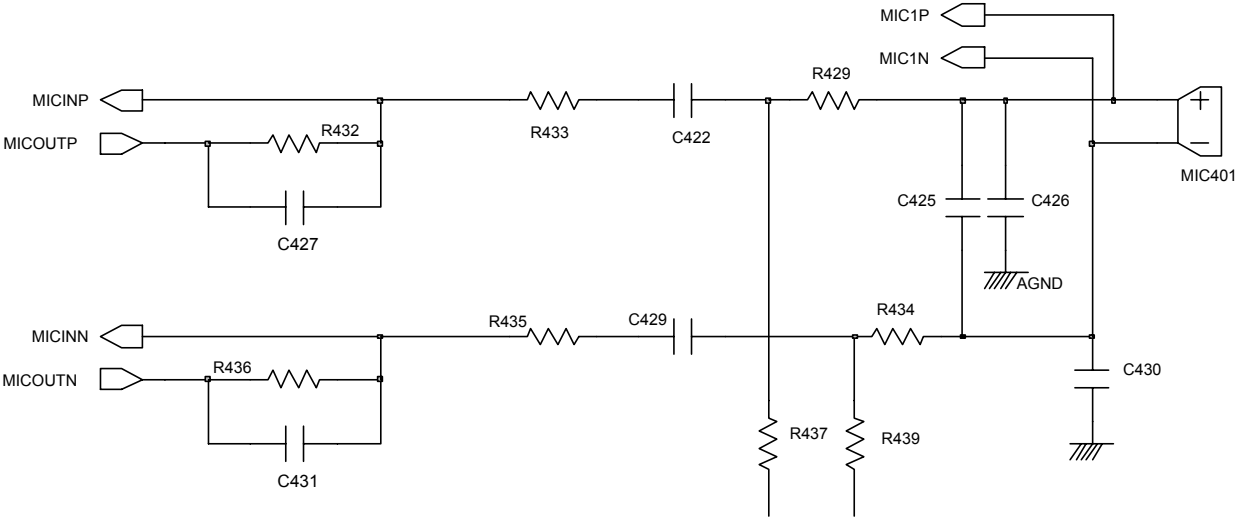
2-4. Microphone Part

* Call with Sim before testing.



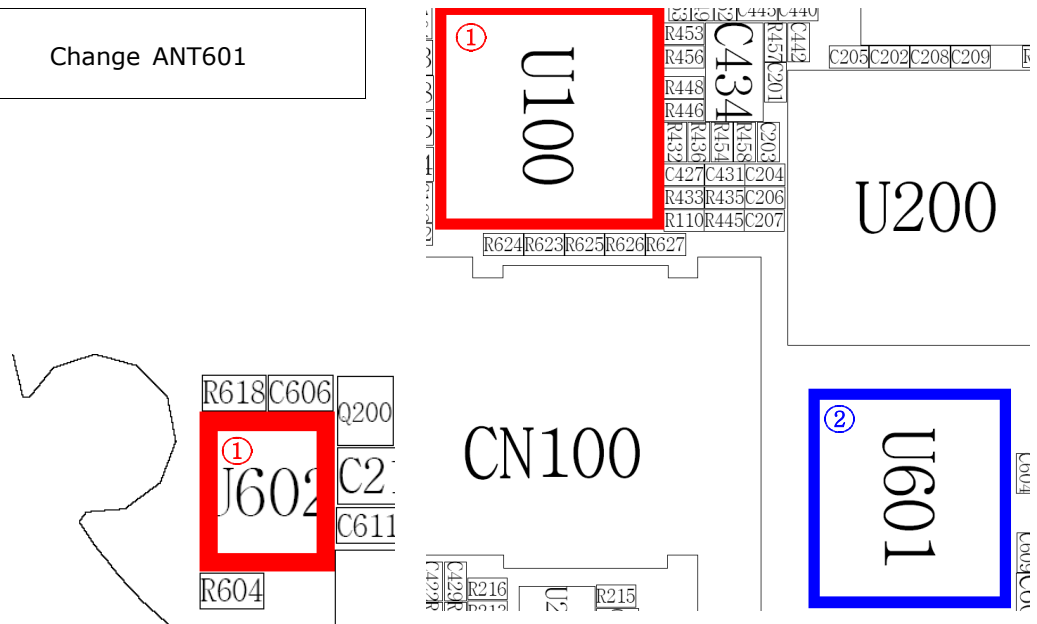
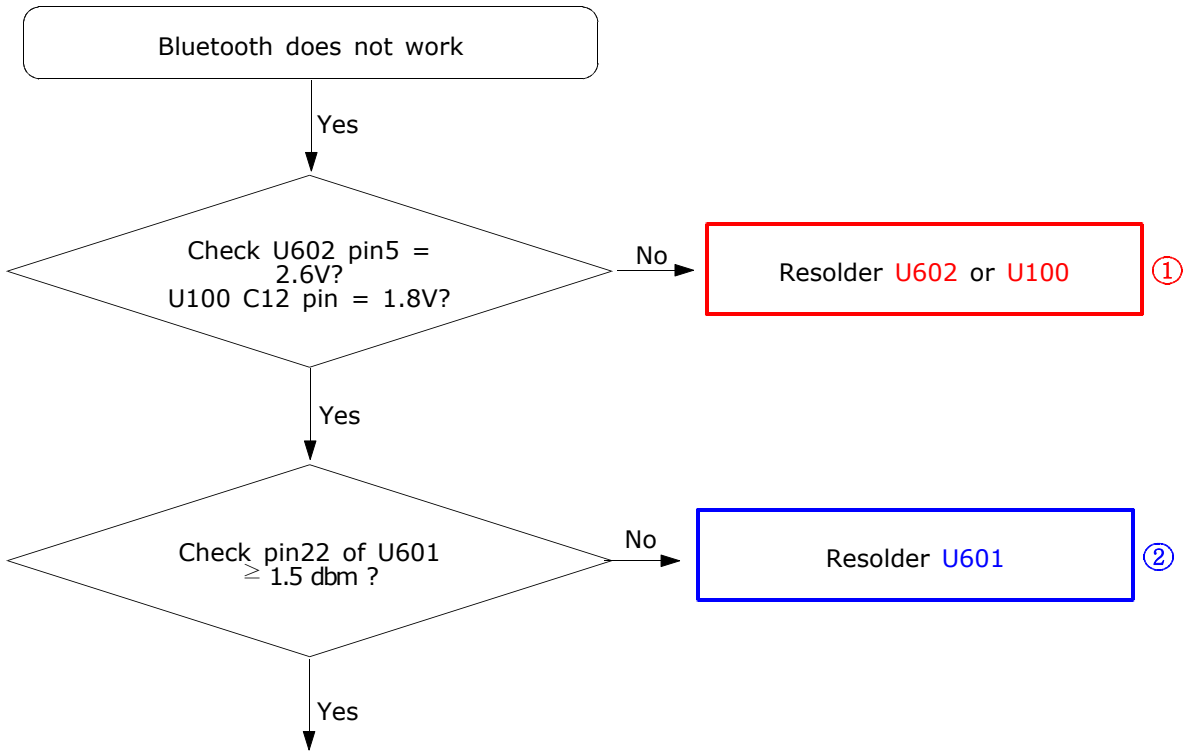
CN100

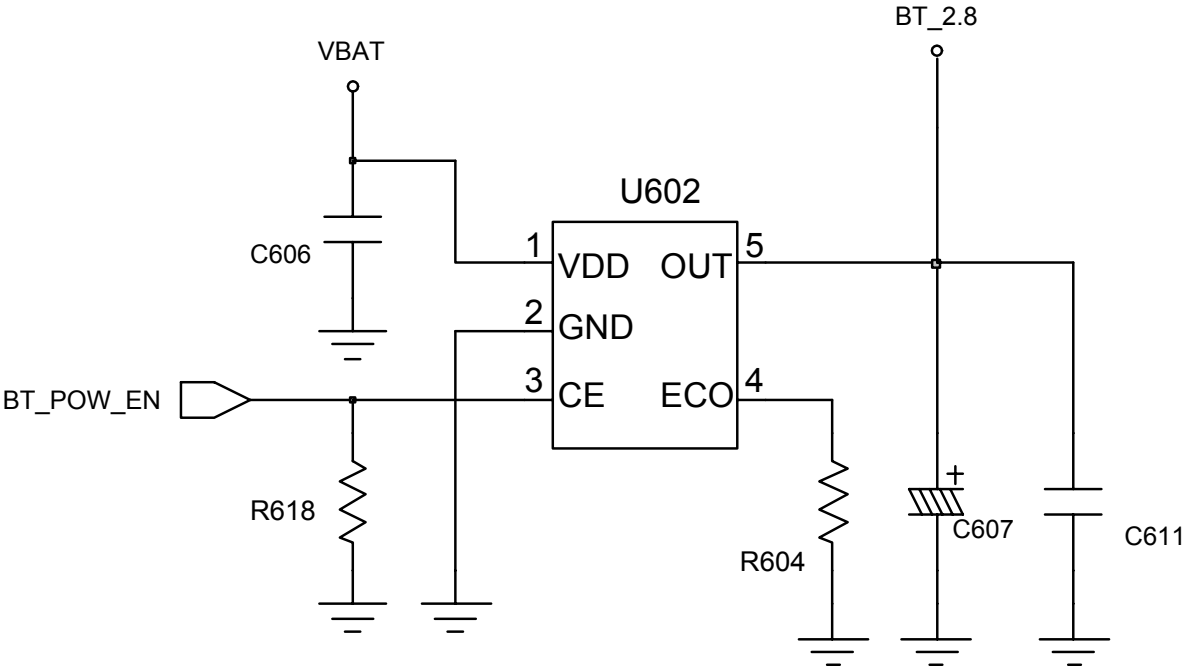
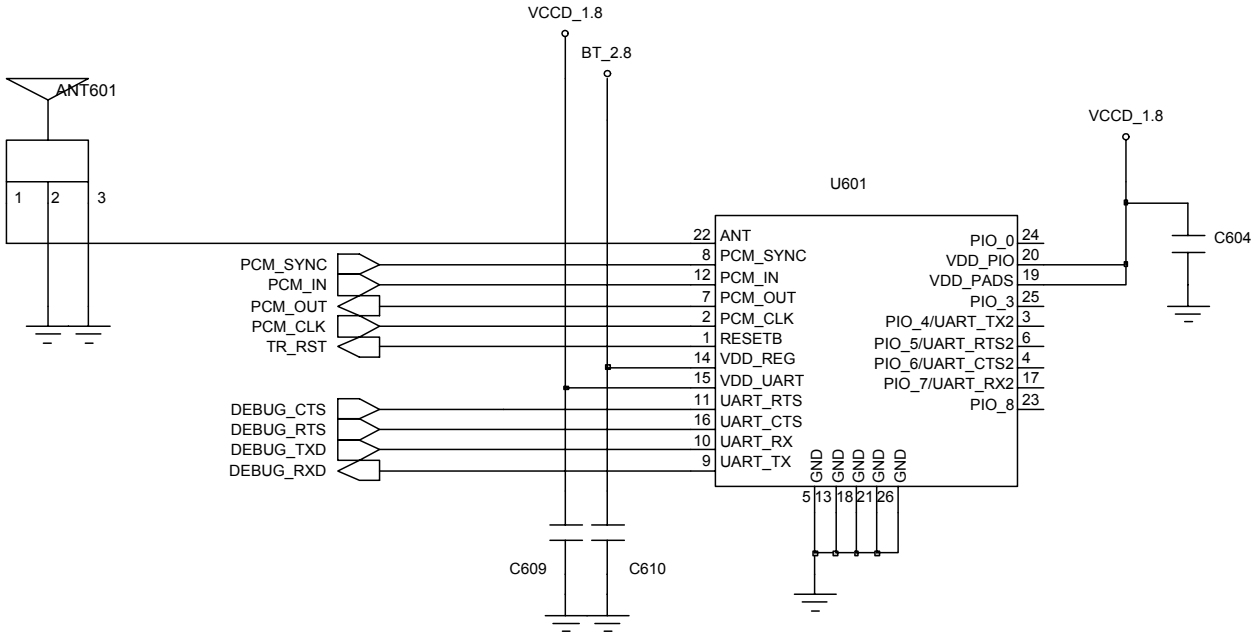




2-5. Bluetooth Part

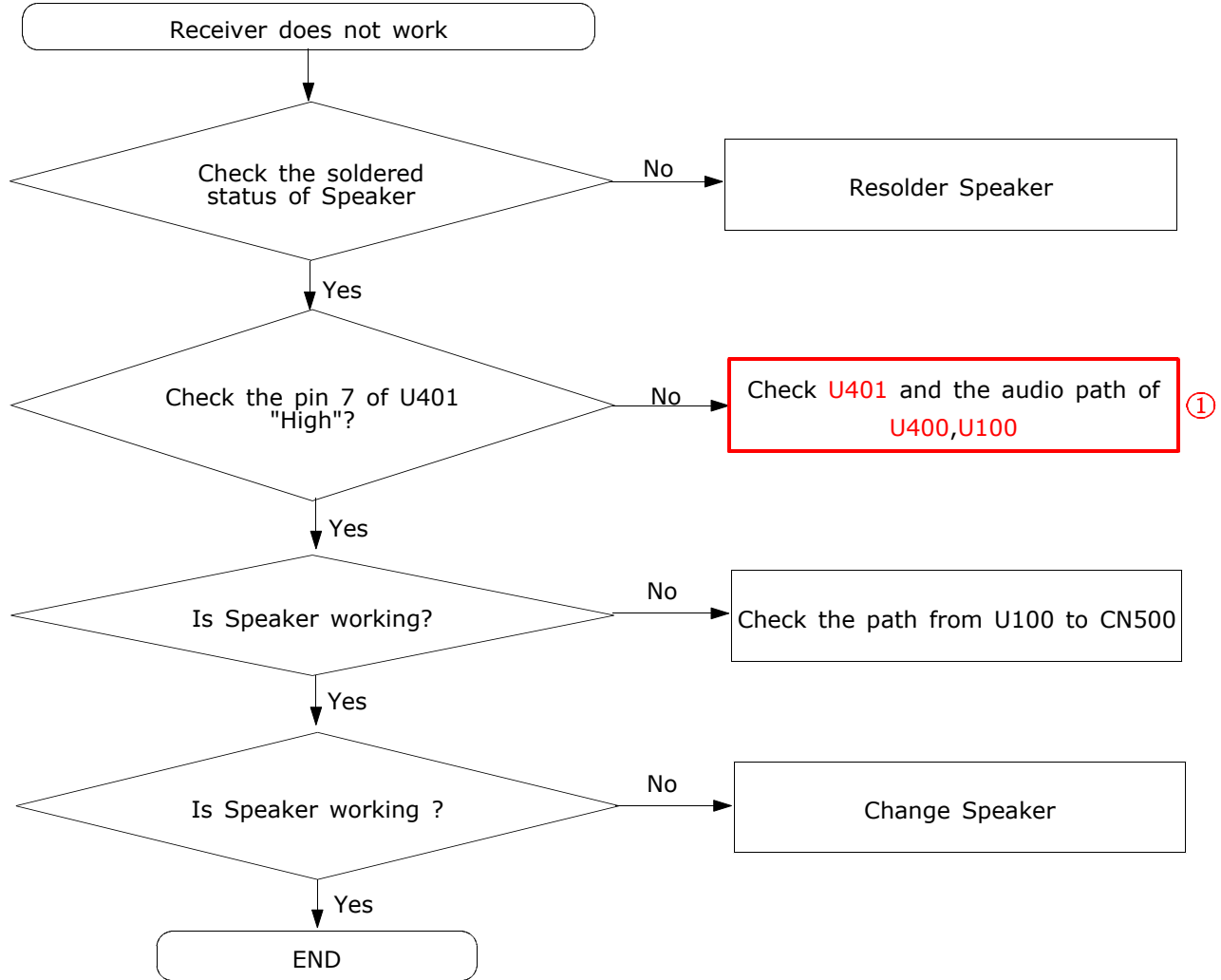
* When you play MPEG file, if Audio is not active

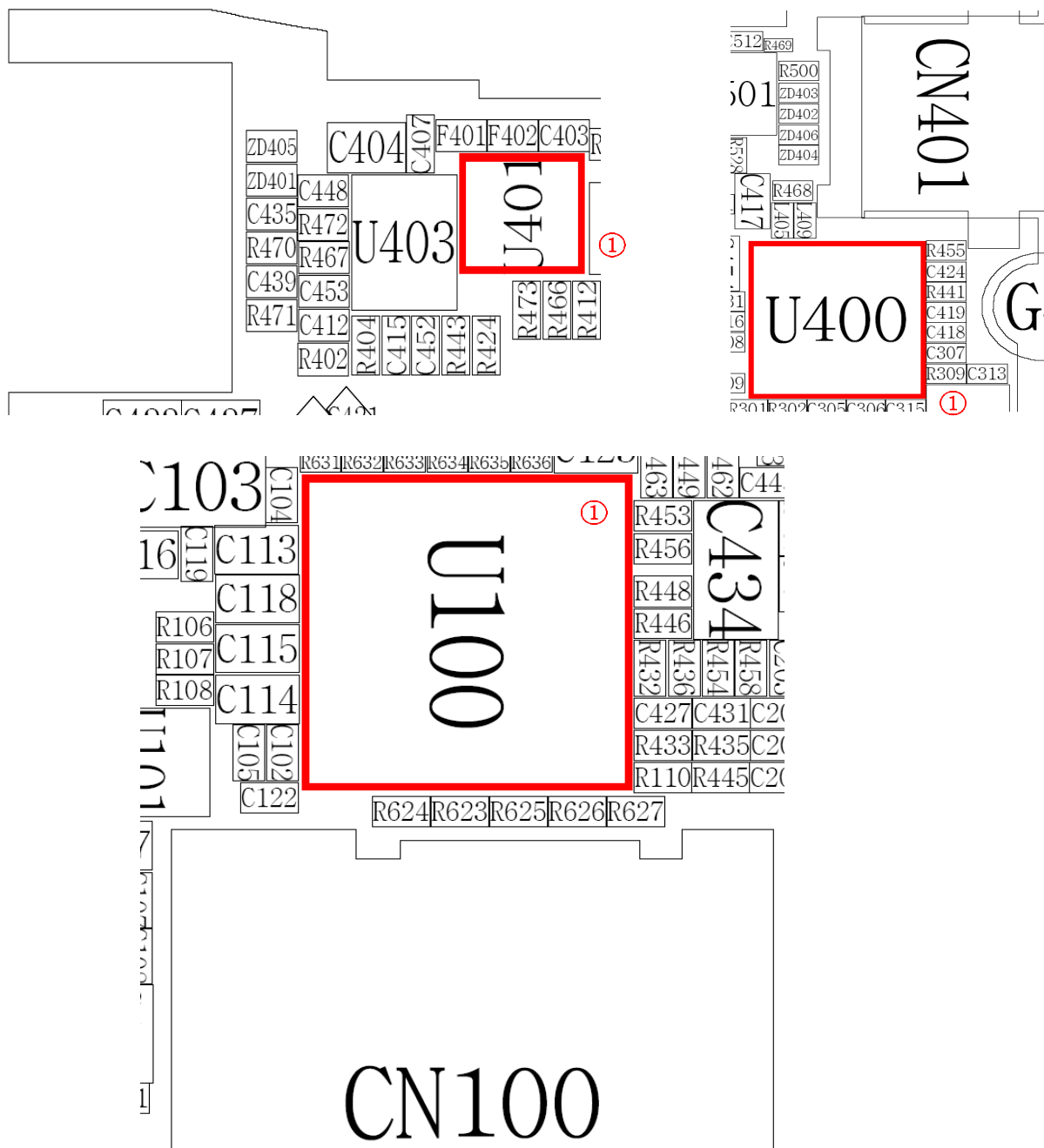


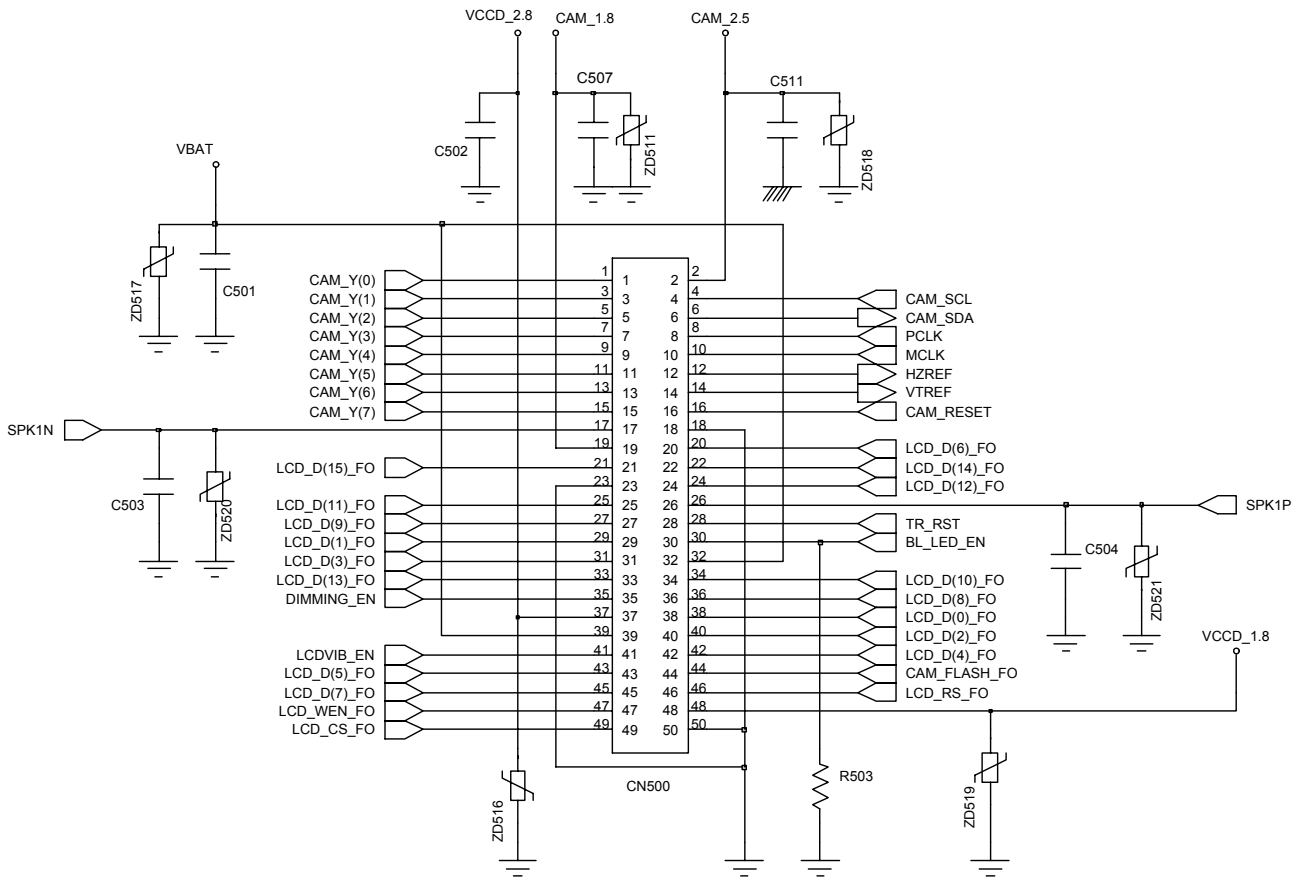


2-6. Speaker Part

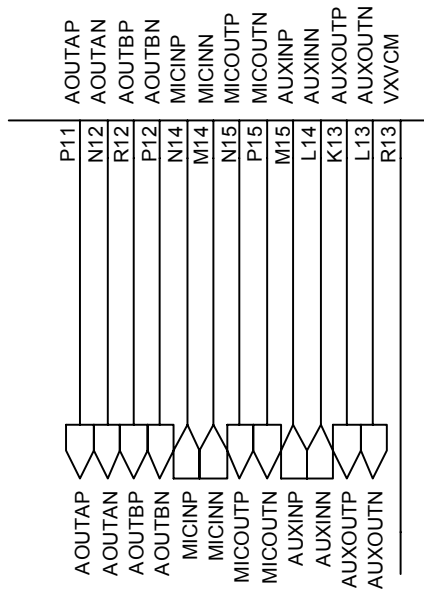
* Call before testing.

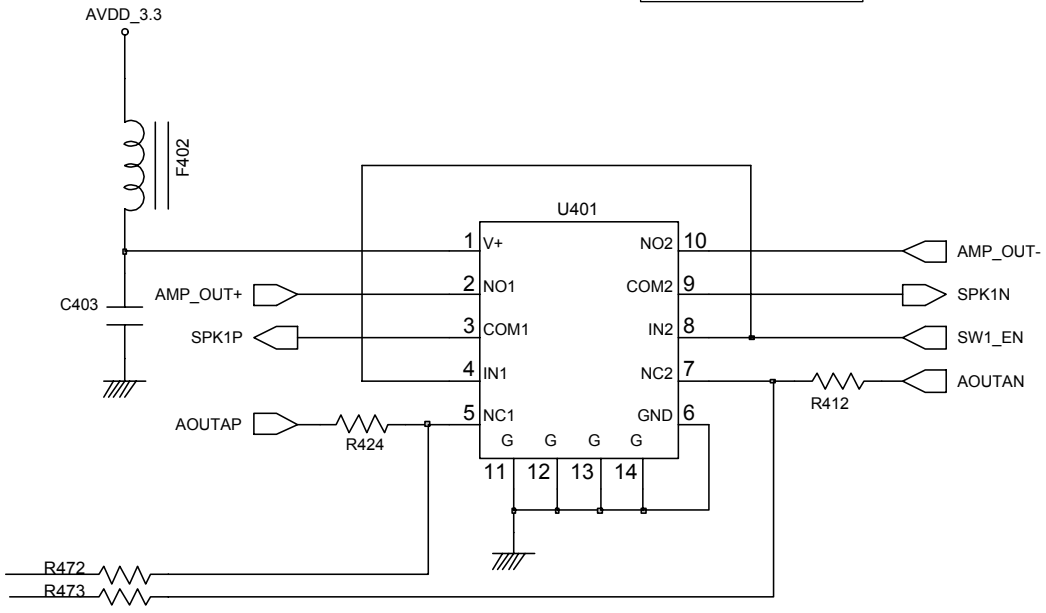
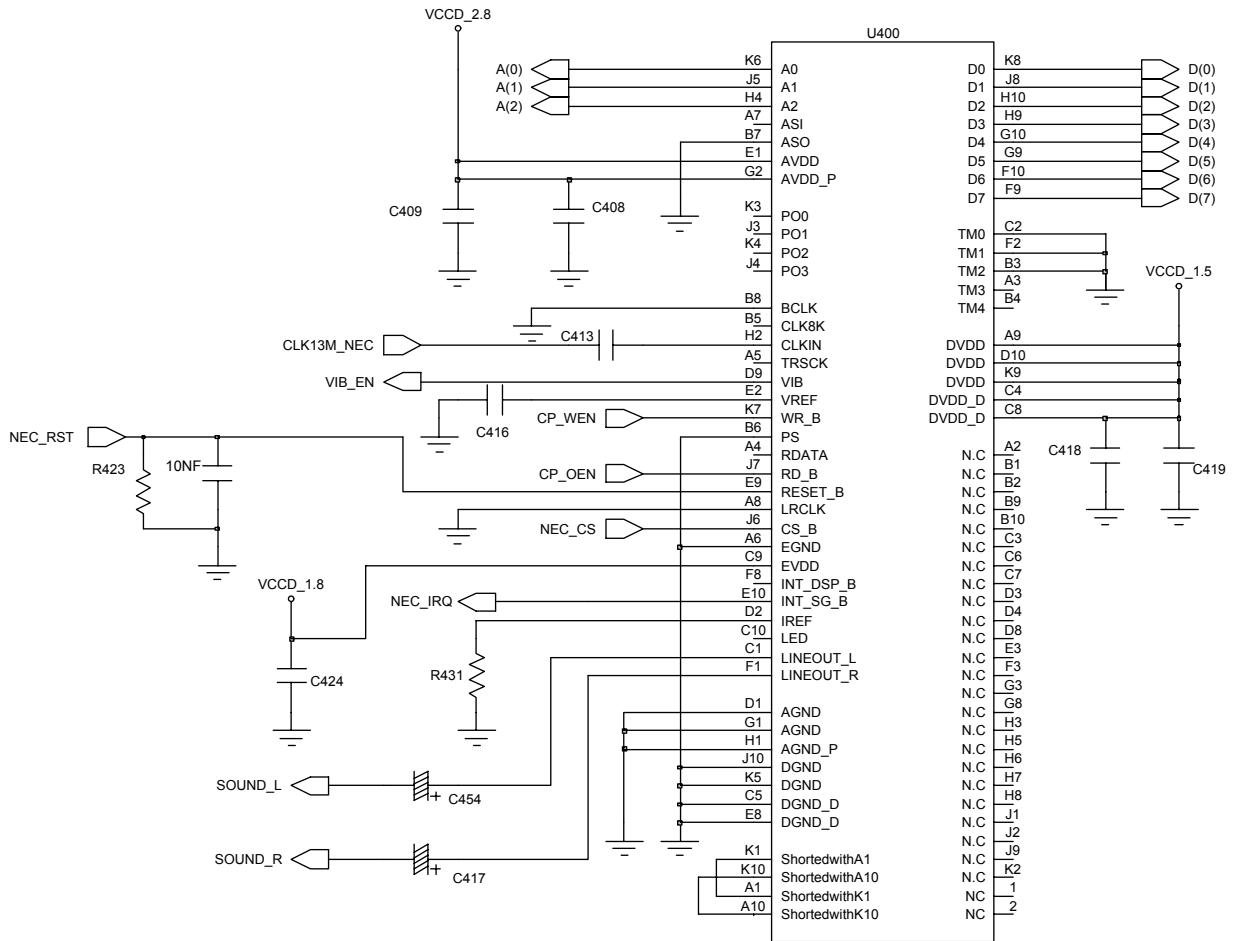




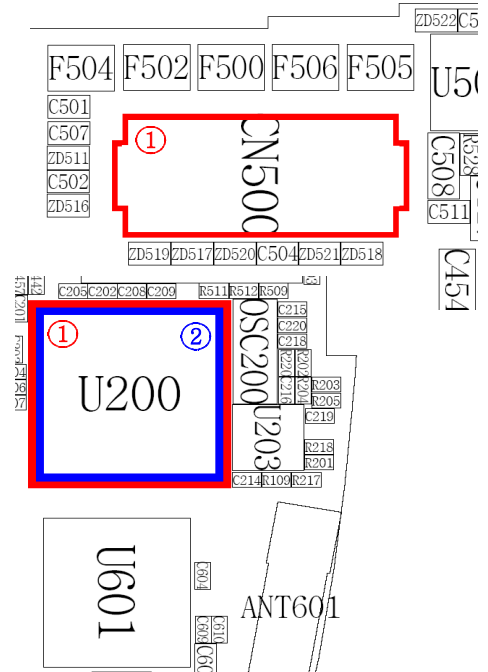
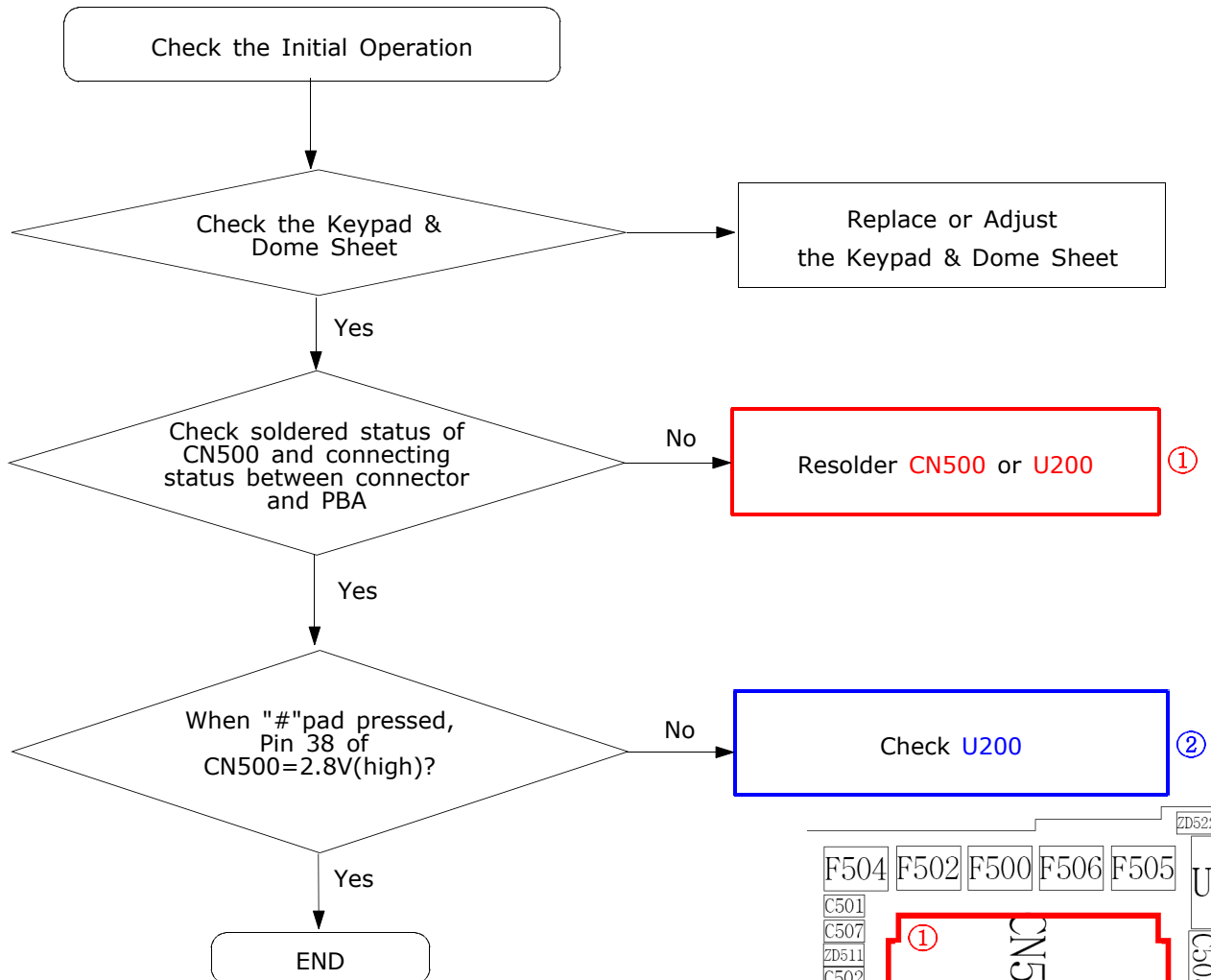


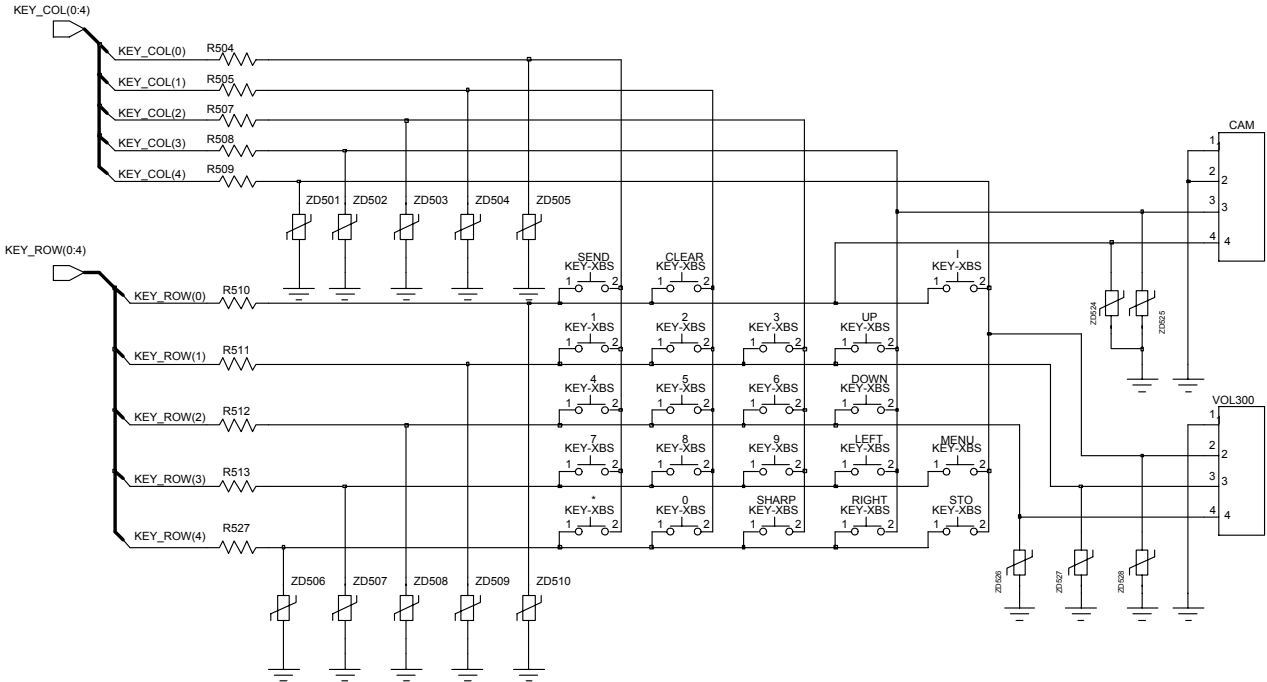
U100



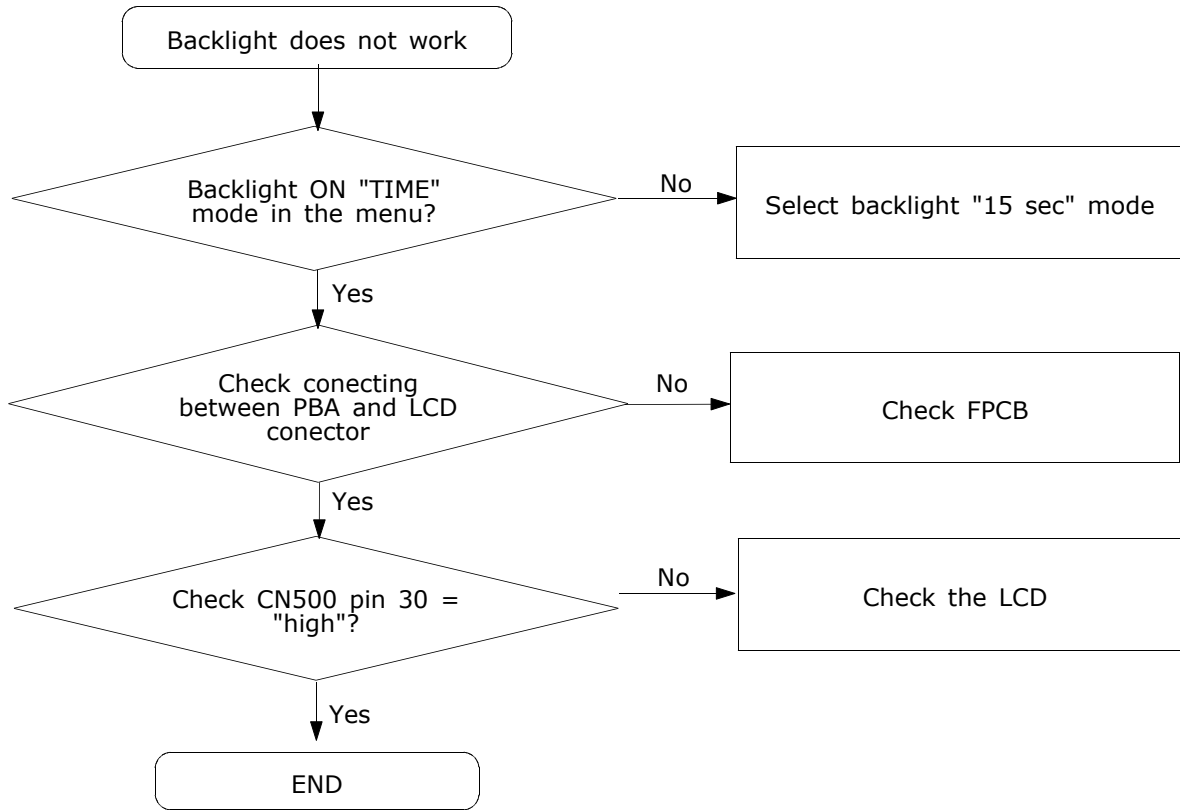


2-7. Key Data Input

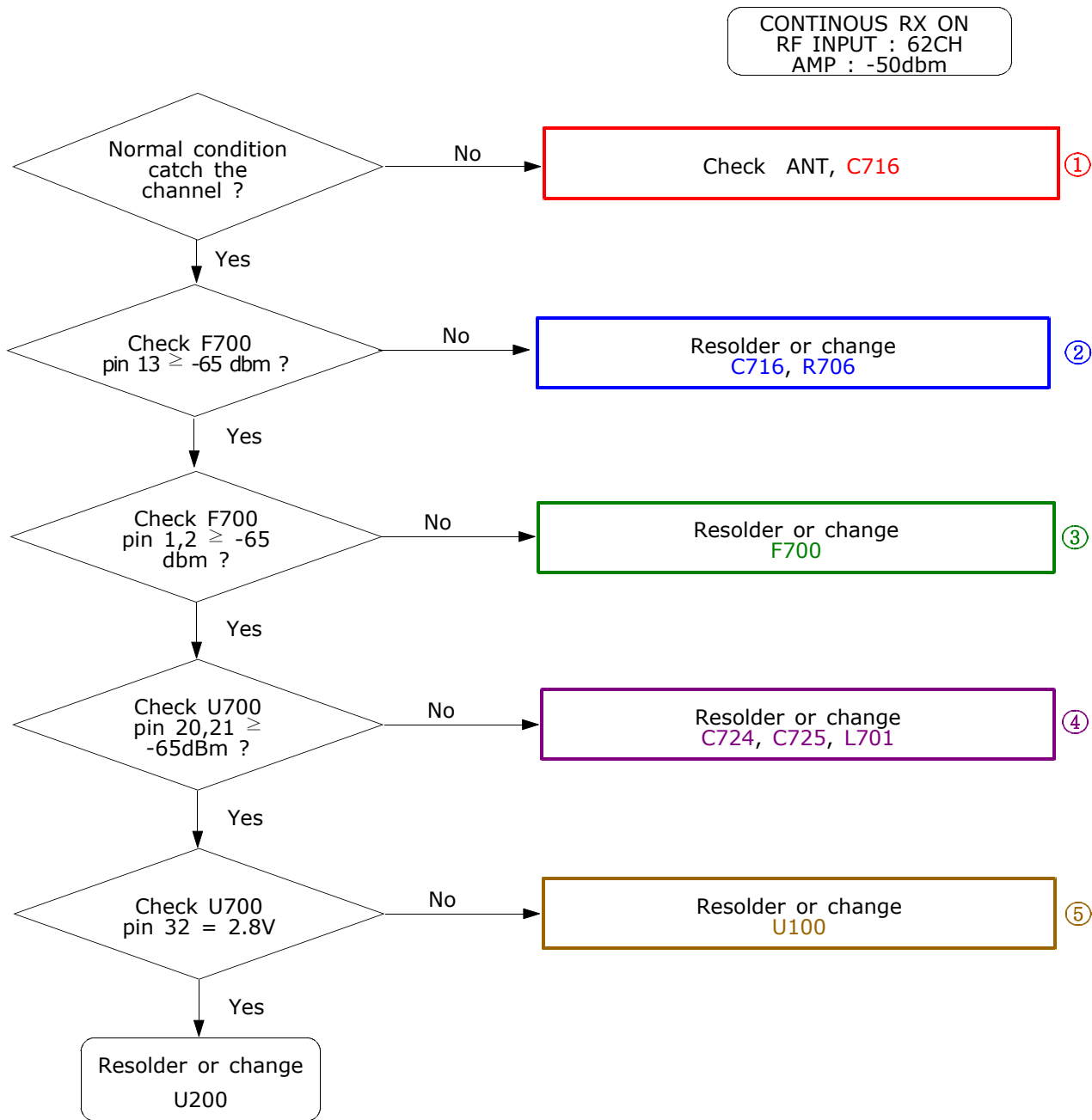




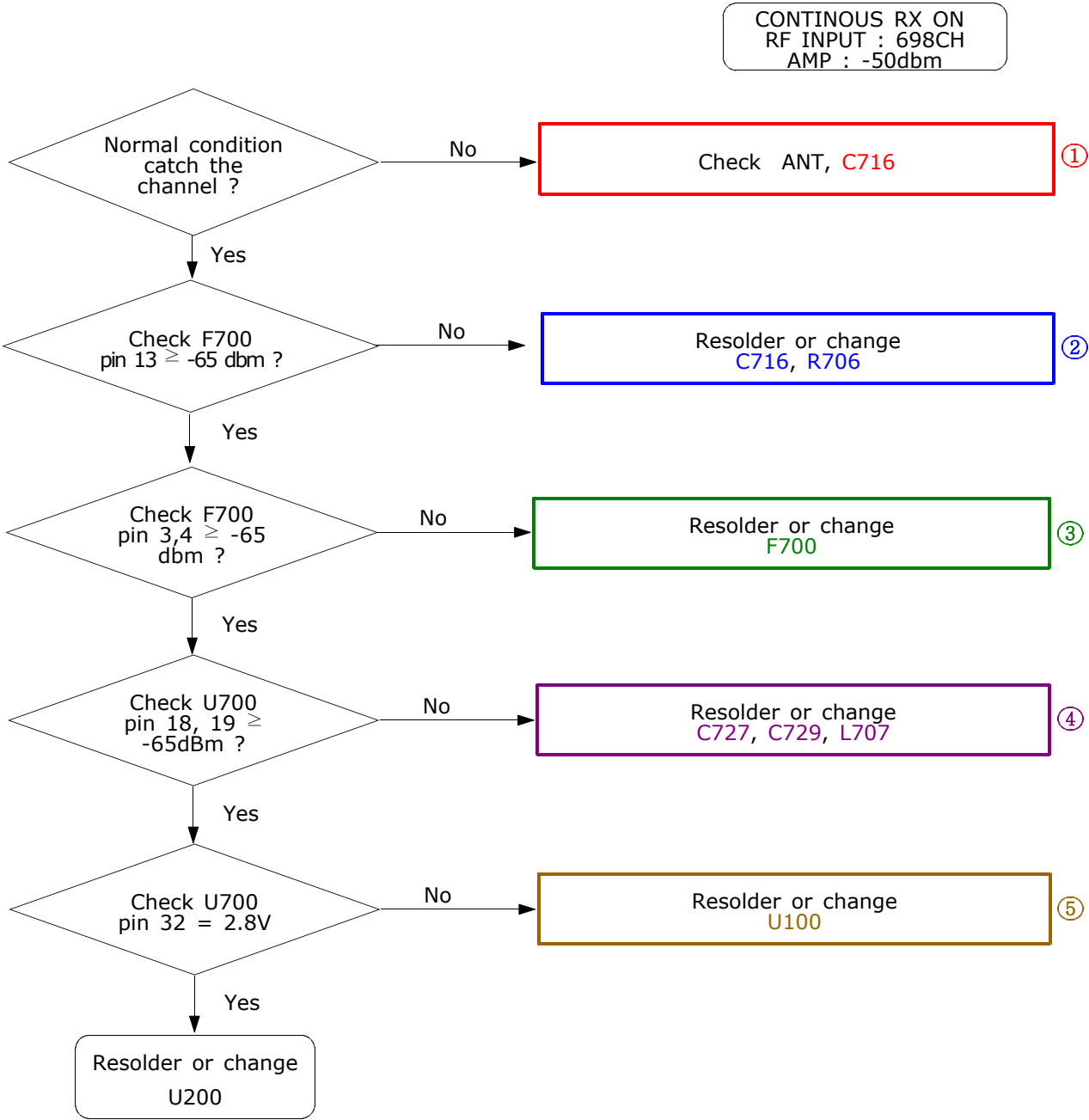
2-8. LCD backlight

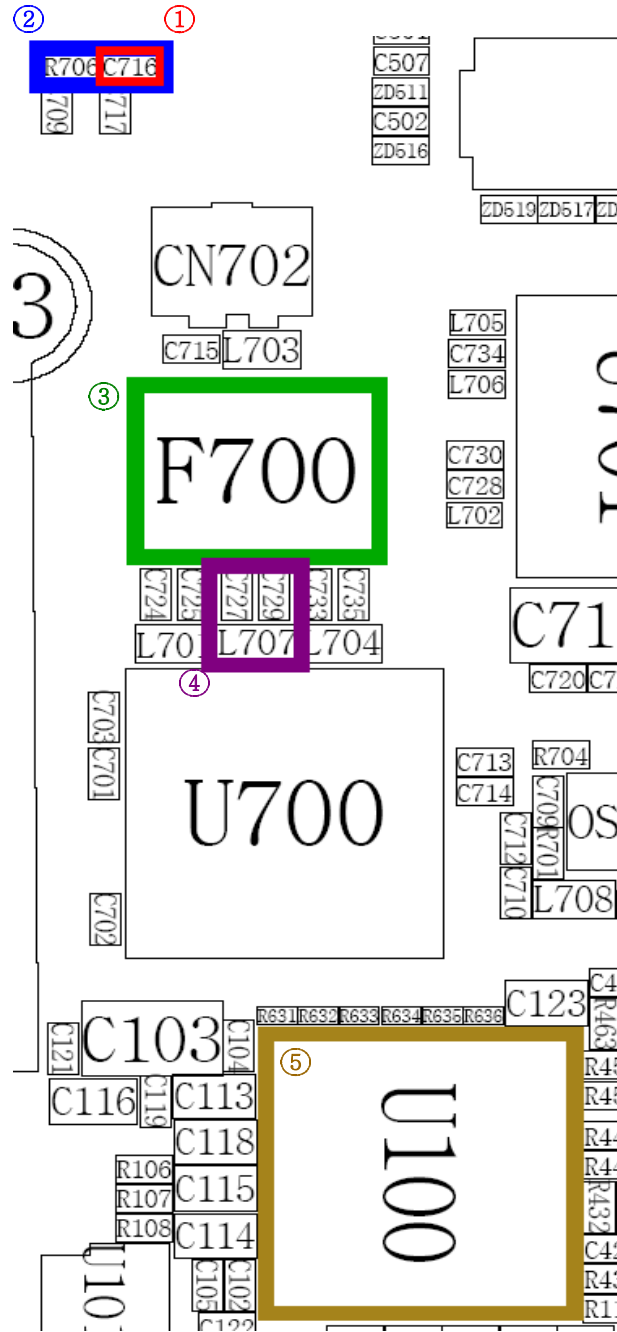


2-9. GSM Receiver

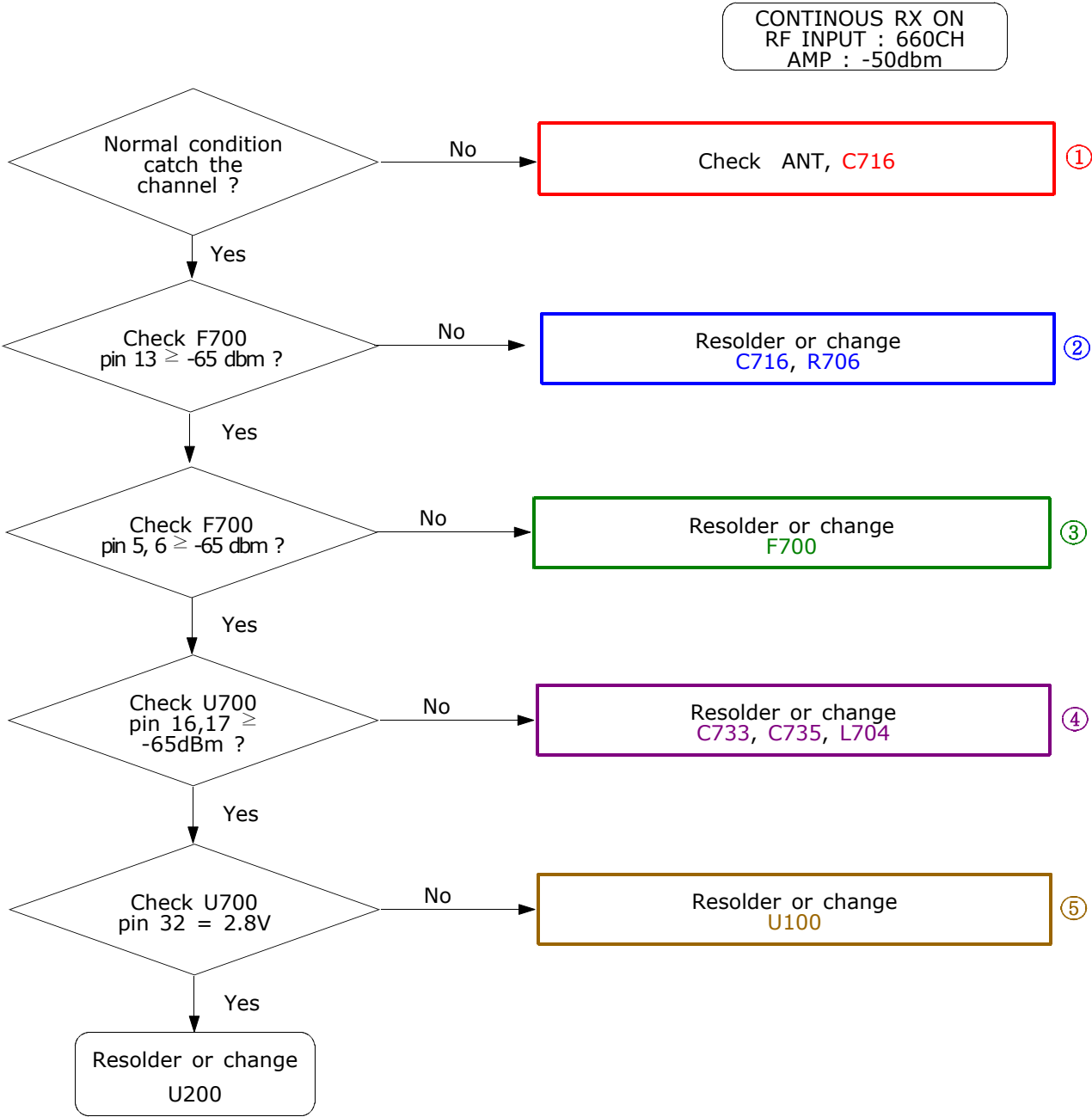


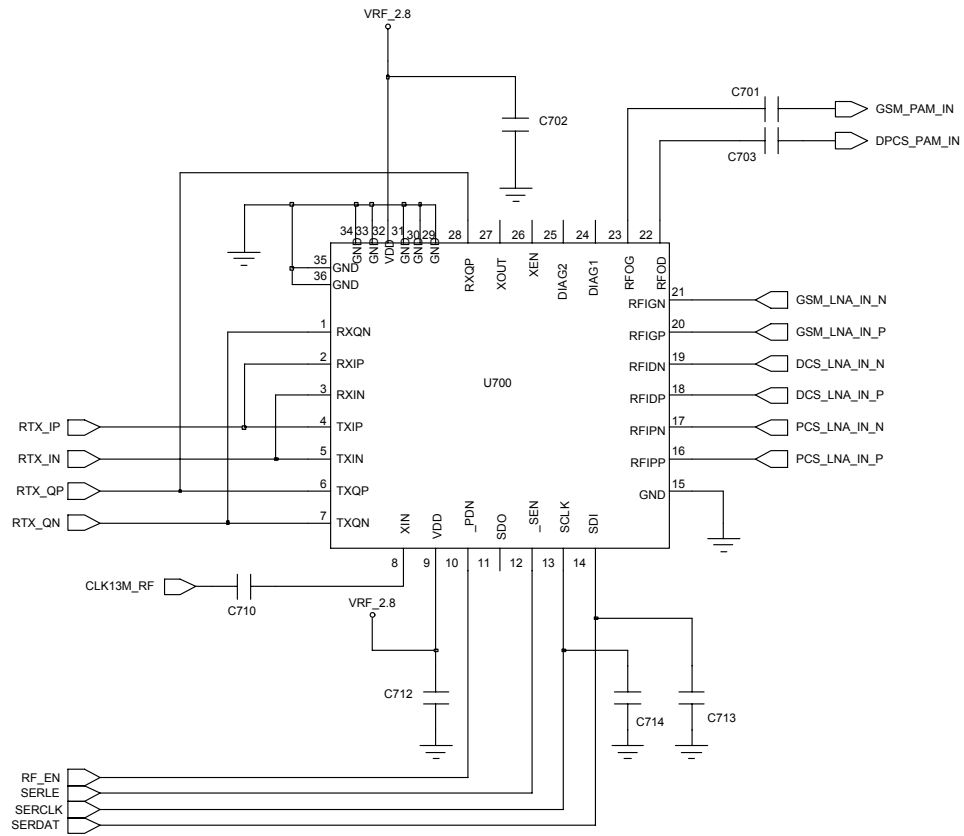
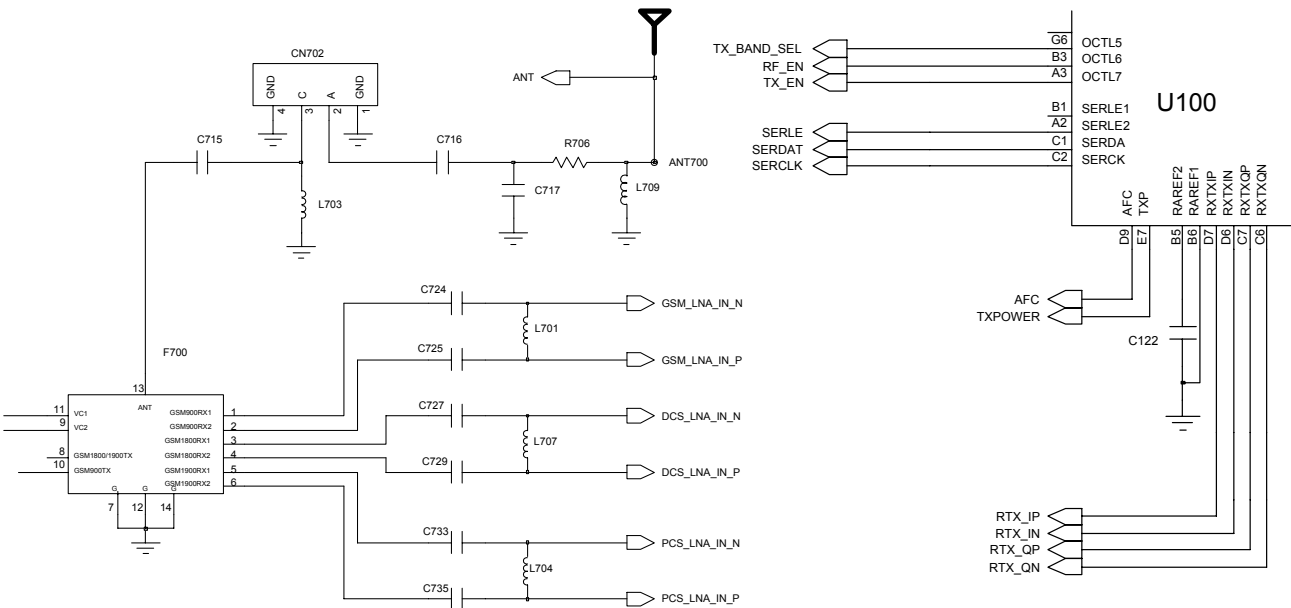
2-10. DCS Receiver



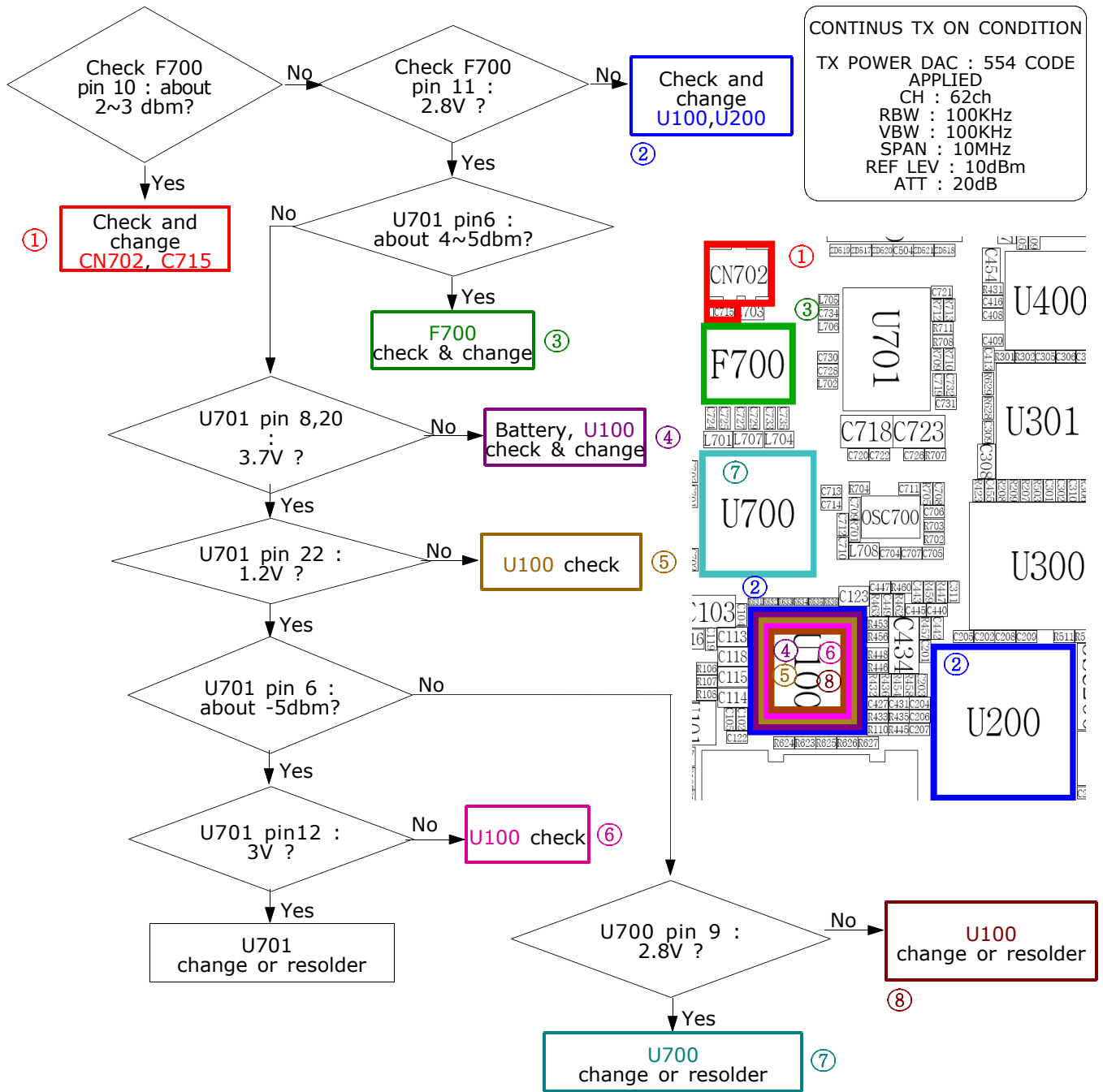


2-11. PCS Receiver

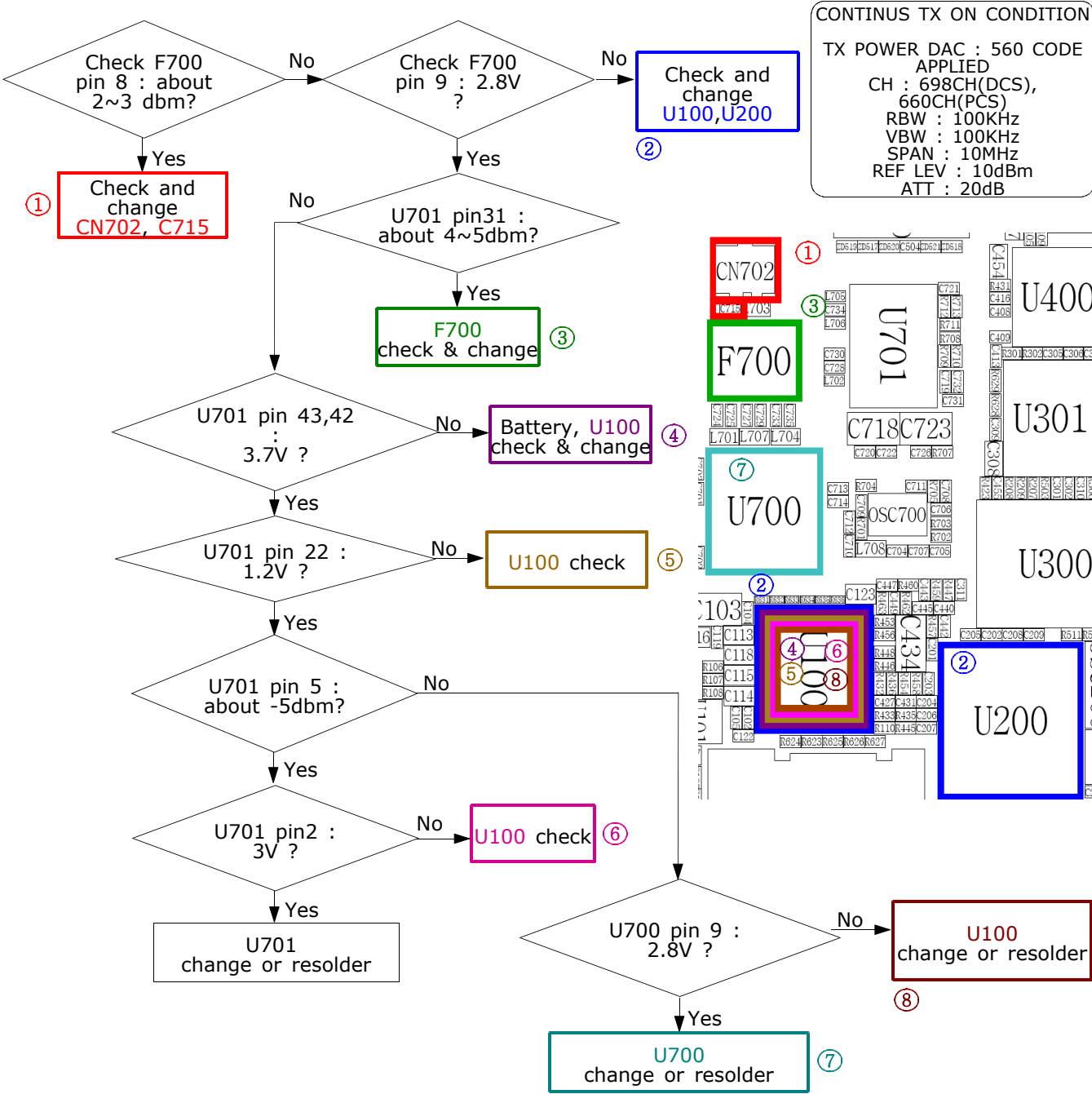




2-12. GSM Transmitter

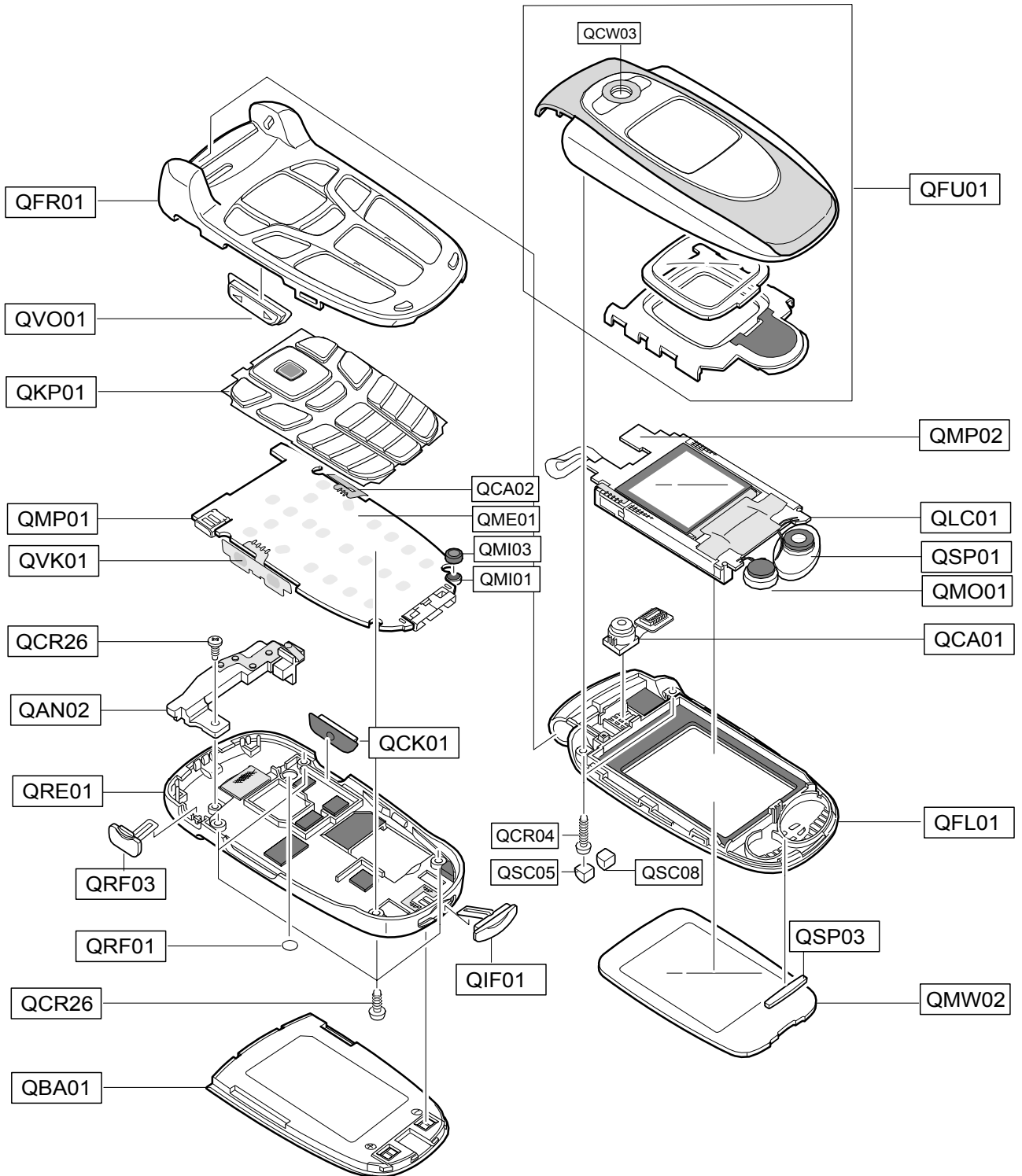


2-13. DCS/PCS Transmitter



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	

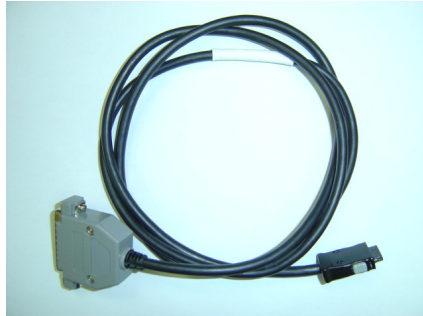
3-3. Test Jig (GH80-03307A)



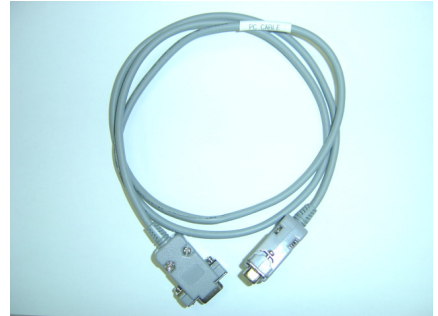
**3-3-1. RF Test Cable
(GH39-00283A)**



**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 TRANSCEIVER
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-TRANSCEIVER

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
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1405-001108	ZD511	VARISTOR
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1405-001108	ZD517	VARISTOR
1405-001108	ZD518	VARISTOR
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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
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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
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2007-000140	R638	R-CHIP
2007-000141	R437	R-CHIP
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2007-000171	R110	R-CHIP
2007-000171	R202	R-CHIP

Design LOC	SEC Code	Discription
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2007-000174	R527	R-CHIP

Design LOC	SEC Code	Discription
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2007-002797	R703	R-CHIP
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2007-007138	R707	R-CHIP
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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
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2007-008542	R632	R-CHIP
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2007-008542	R636	R-CHIP
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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
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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
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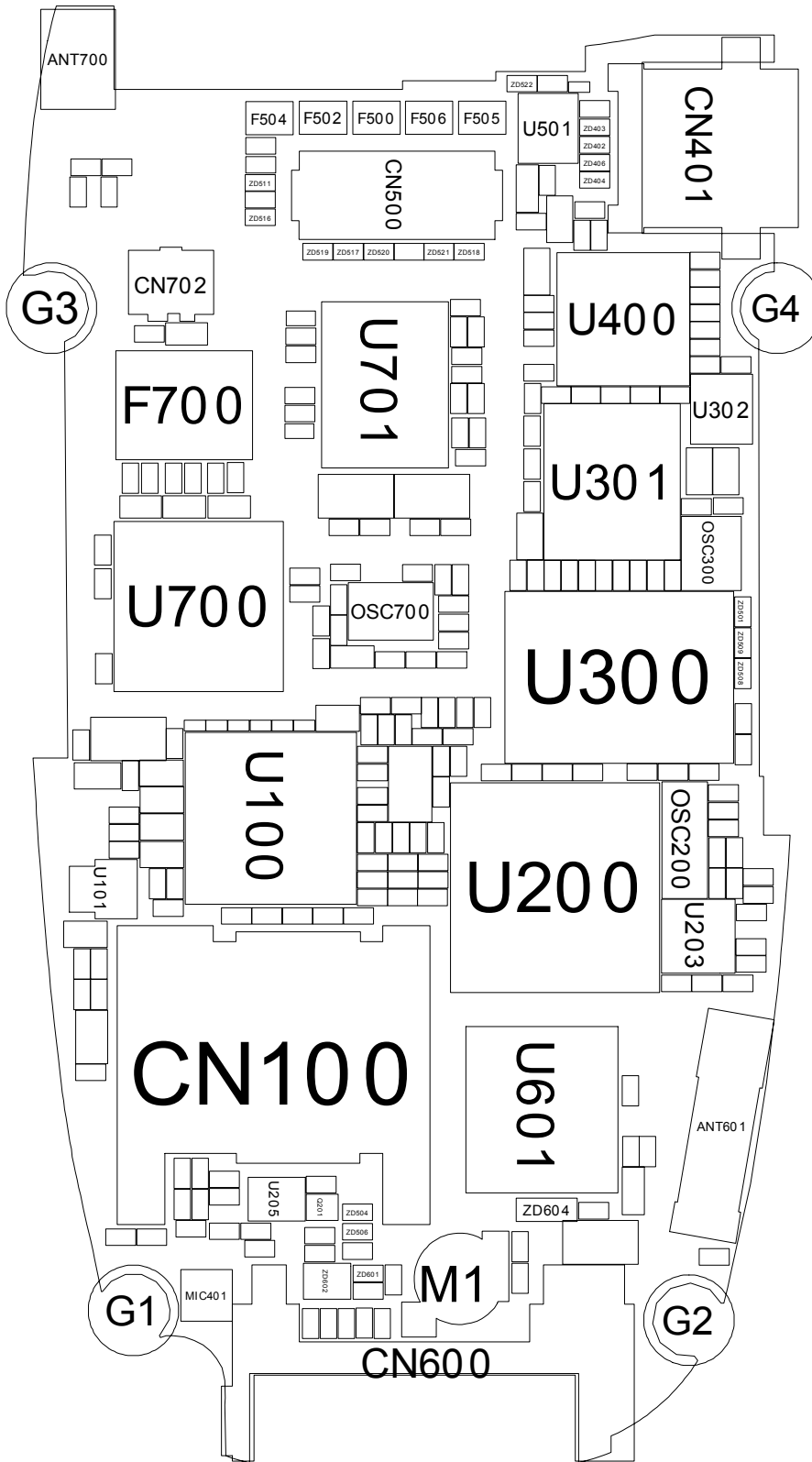
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2203-000550	C726	C-CER,CHIP
2203-000654	C436	C-CER,CHIP
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2203-000696	C733	C-CER,CHIP
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2203-000940	C443	C-CER,CHIP
2203-000940	C449	C-CER,CHIP
2203-000995	C213	C-CER,CHIP
2203-000995	C701	C-CER,CHIP
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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
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2203-005061	C311	C-CER,CHIP
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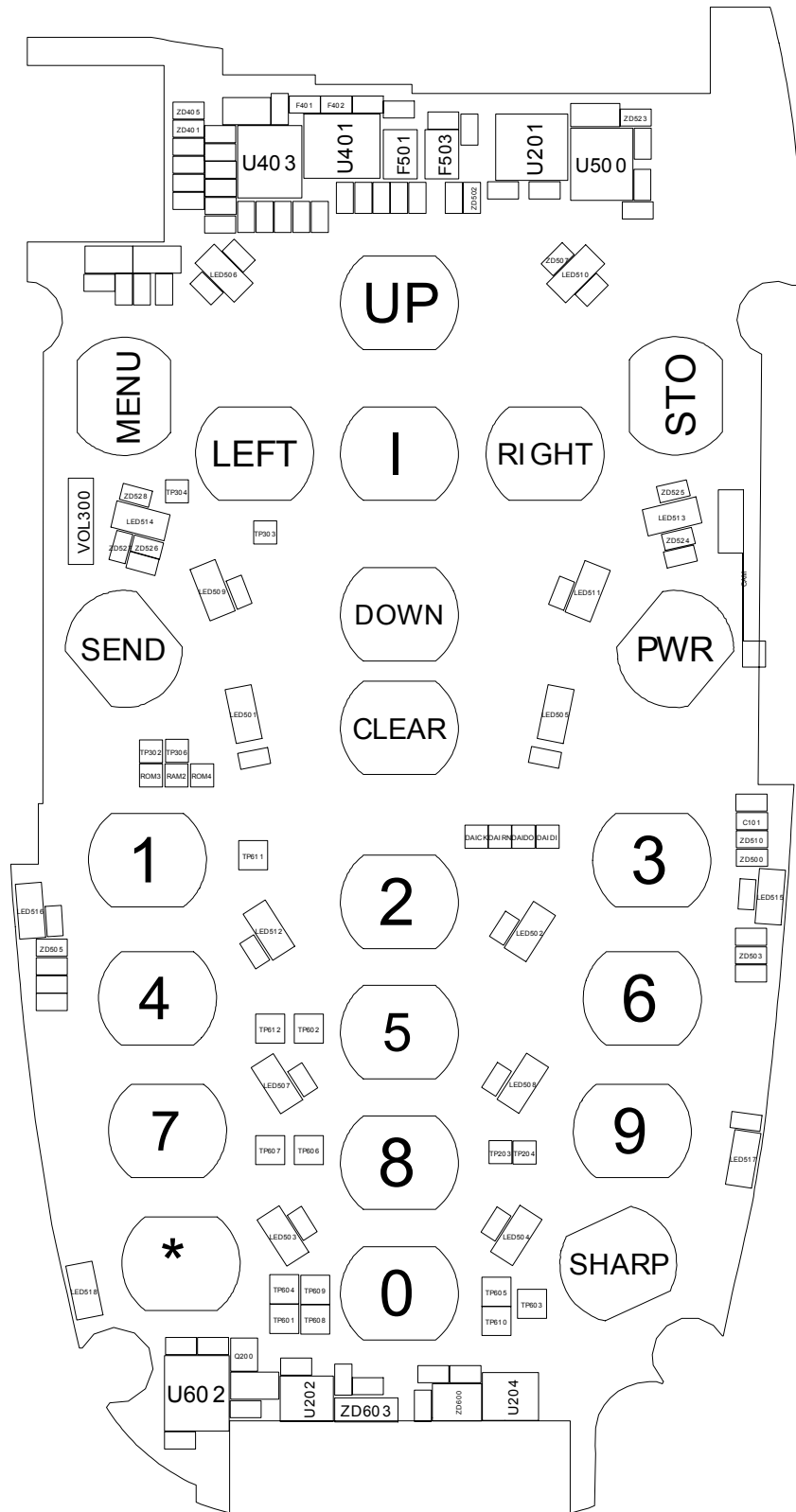
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2203-005288	C725	C-CER,CHIP
2203-005444	C728	C-CER,CHIP
2203-005480	C415	C-CER,CHIP
2203-005480	C421	C-CER,CHIP
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Design LOC	SEC Code	Discription
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2203-006093	C606	C-CER,CHIP
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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
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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

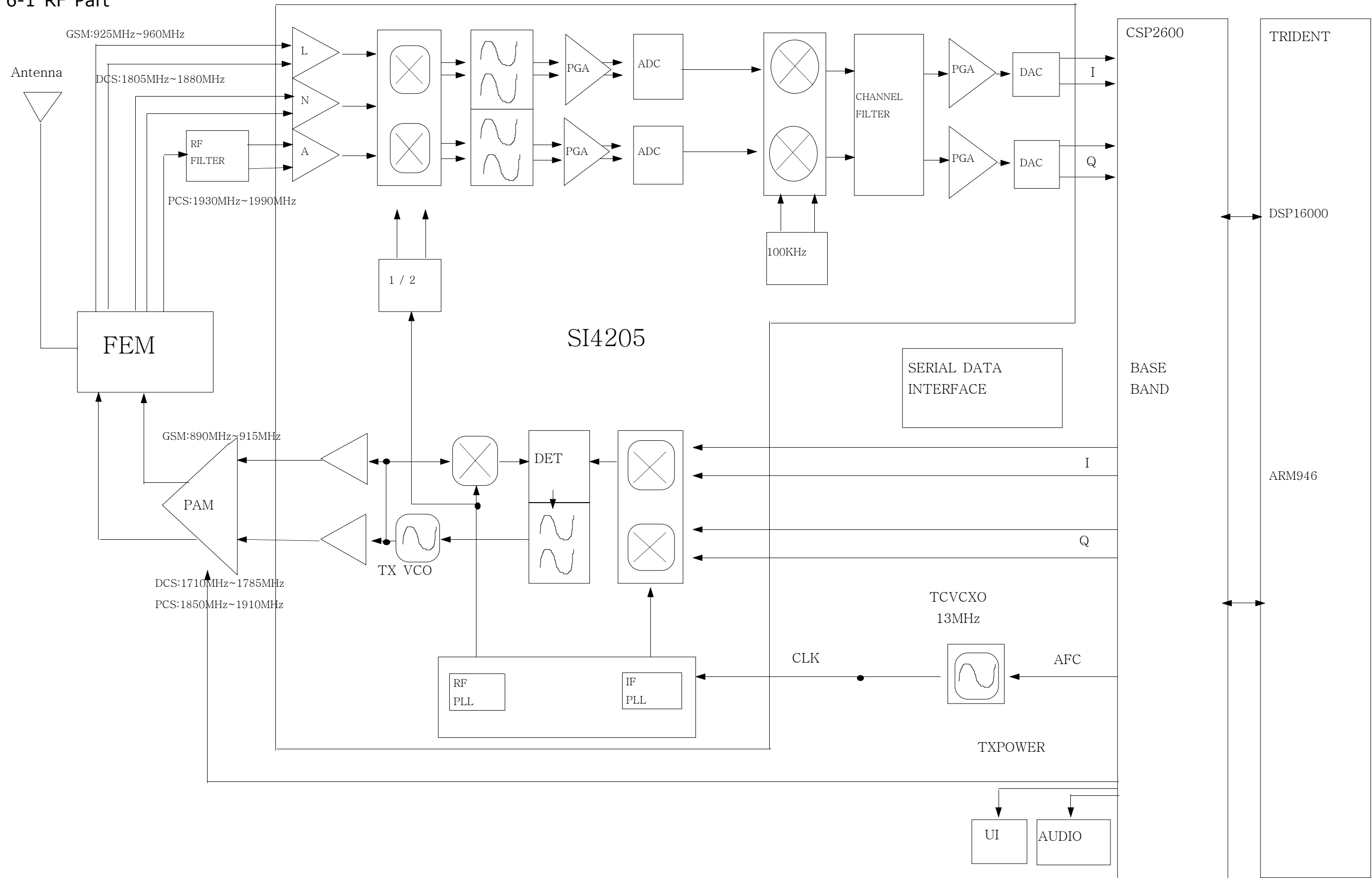
5. SGH-E620 PCB Diagrams





6. SGH-E620 Block Diagrams

6-1 RF Part



6-2 Base Band Part

