GSM TELEPHONE

GT-S5200

SERVICE Manual

GSM TELEPHONE

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1. Safety Precautions

1-1. Repair Precaution

- Repair in Shield Box, during detailed tuning.
  Take specially care of tuning or test,
  because specipicty of cellular phone is sensitive for surrounding interference(RF noise).

- Be careful to use a kind of magnetic object or tool,
  because performance of parts is damaged by the influence of manetic force.

- Surely use a standard screwdriver when you disassemble this product,
  otherwise screw will be worn away.

- Use a thicken twisted wire when you measure level.
  A thicken twisted wire has low resistance, therefore error of measurement is few.

- Repair after separate Test Pack and Set because for short danger (for example an overcurrent and furious flames of parts etc) when you repair board in condition of connecting Test Pack and tuning on.

- Take specially care of soldering, because Land of PCB is small and weak in heat.

- Surely tune on/off while using AC power plug, because a repair of battery charger is dangerous when tuning ON/OFF PBA and Connector after disassembing charger.

- Don't use as you pleases after change other material than replacement registered on SEC System.
  Otherwise engineer in charge isn't charged with problem that you don't keep this rules.

1-2. ESD(Electrostatically Sensitive Devices) Precaution

Several semiconductor may be damaged easilly by static electricity. Such parts are called by ESD(Electrostatically Sensitive Devices), for example IC,BGA chip etc. Read Precaution below. You can prevent from ESD damage by static electricity.

- Remove static electricity remained your body before you touch semiconductor or parts with semiconductor. There are ways that you touch an earthed place or wear static electricity prevention string on wrist.
- Use earthed soldering steel when you connect or disconnect ESD.
- Use soldering removing tool to break static electricity. , otherwise ESD will be damaged by static electricity.
- Don't unpack until you set up ESD on product. Because most of ESD are packed by box and aluminum plate to have conductive power,they are prevented from static electricity.
- You must maintain electric contact between ESD and place due to be set up until ESD is connected completely to the proper place or a circuit board.

2. Specification

2-1. GSM General Specification

	GSM850	EGSM900	DCS1800	PCS1900
Freq. Band[MHz] Uplink/Downlink	824-849 869-894	880~915 925~960	1710~1785 1805~1880	1850~1910 1930~1990
ARFCN range	128-251	0~124 & 975~1023	512~885	512~810
Tx/Rx spacing	45MHz	45MHz	95MHz	80 MHz
Mod. Bit rate / Bit Period	270.833kbps 3.692us	270.833kbps 3.692us	270.833kbps 3.692us	270.833kbps 3.692 us
Time Slot Period / Frame Period	576.9us 4.615ms	576.9us 4.615ms	576.9us 4.615ms	576.9 us 4.615 ms
Modulation	0.3GMSK	0.3GMSK	0.3GMSK	0.3GMSK
MS Power	33dBm~5dBm	33dBm~5dBm	30dBm~0dBm	30dBm~0dBm
Power Class	5~19(class4)	5~19(class4)	0~15(class1)	0~15(class1)
Sensitivity	-102dBm	-102dBm	-100dBm	-100dBm
TDMA Mux	8	8	8	8
Cell Radius	35Km	35Km	2Km	2 Km

2-2. GSM TX power class

TX Power control level	GSM850	GSM900
5	33±2 dBm	33±2 dBm
6	31±2 dBm	31±2 dBm
7	29±2 dBm	29±2 dBm
8	27±2 dBm	27±2 dBm
9	25±2 dBm	25±2 dBm
10	23±2 dBm	23±2 dBm
11	21±2 dBm	21±2 dBm
12	19±2 dBm	19±2 dBm
13	17±2 dBm	17±2 dBm
14	15±2 dBm	15±2 dBm
15	13±2 dBm	13±2 dBm
16	11±3 dBm	11±3 dBm
17	9±3 dBm	9±3 dBm
18	7±3 dBm	7±3 dBm
19	5±3 dBm	5±3 dBm

TX Power control level	DCS1800	PCS1900
0	30±3 dBm	30±3 dBm
1	28±3 dBm	28±3 dBm
2	26±3 dBm	26±3 dBm
3	24±3 dBm	24±3 dBm
4	22±3 dBm	22±3 dBm
5	20±3 dBm	20±3 dBm
6	18±3 dBm	18±3 dBm
7	16±3 dBm	16±3 dBm
8	14±3 dBm	14±3 dBm
9	12±4 dBm	12±4 dBm
10	10±4 dBm	10±4 dBm
11	8±4dBm	8±4dBm
12	6±4 dBm	6±4 dBm
13	4±4 dBm	4±4 dBm
14	2±5 dBm	2±5 dBm
15	0±5 dBm	0±5 dBm

3. Operation Instruction and Installation

Main Function

- Quad Band (GSM850+EGSM900+DCS1800+PCS1900)
- GPRS Rx/Tx, EDGE Rx/Tx
- FM Radio
- Bluetooth v2.1
- TFT LCD 2.2" QVGA 262K Color
- 3M AF Camera
- Music Player(MP3, AAC, AAC+, eAAC+)
- MicroSD

4. Array course control

4-1. Software Adjustments

Test Jig (GH99-36900A)

Test Cable (GH39-01160A)

RF Test Cable (GH39-00985A)

Adapter (GH99-38251A)

4-2. Software Downloading

4-2-1 Downloading Binary Files

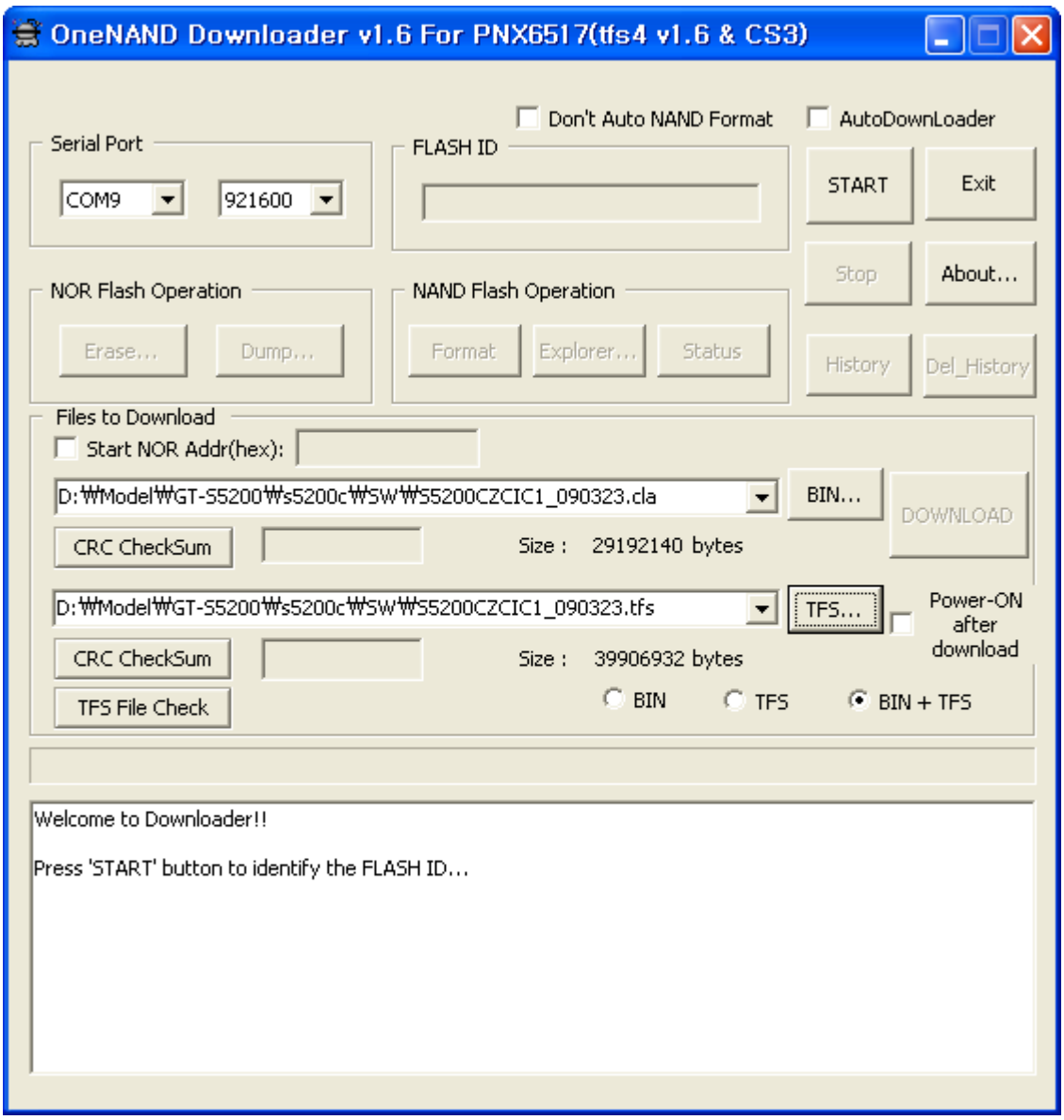
- 2 binary files for downloading GT-S5200C
  - S5200XIID3_CLA
  - S5200XIID3_TFS

4-2-2. Pre-request for Downloading

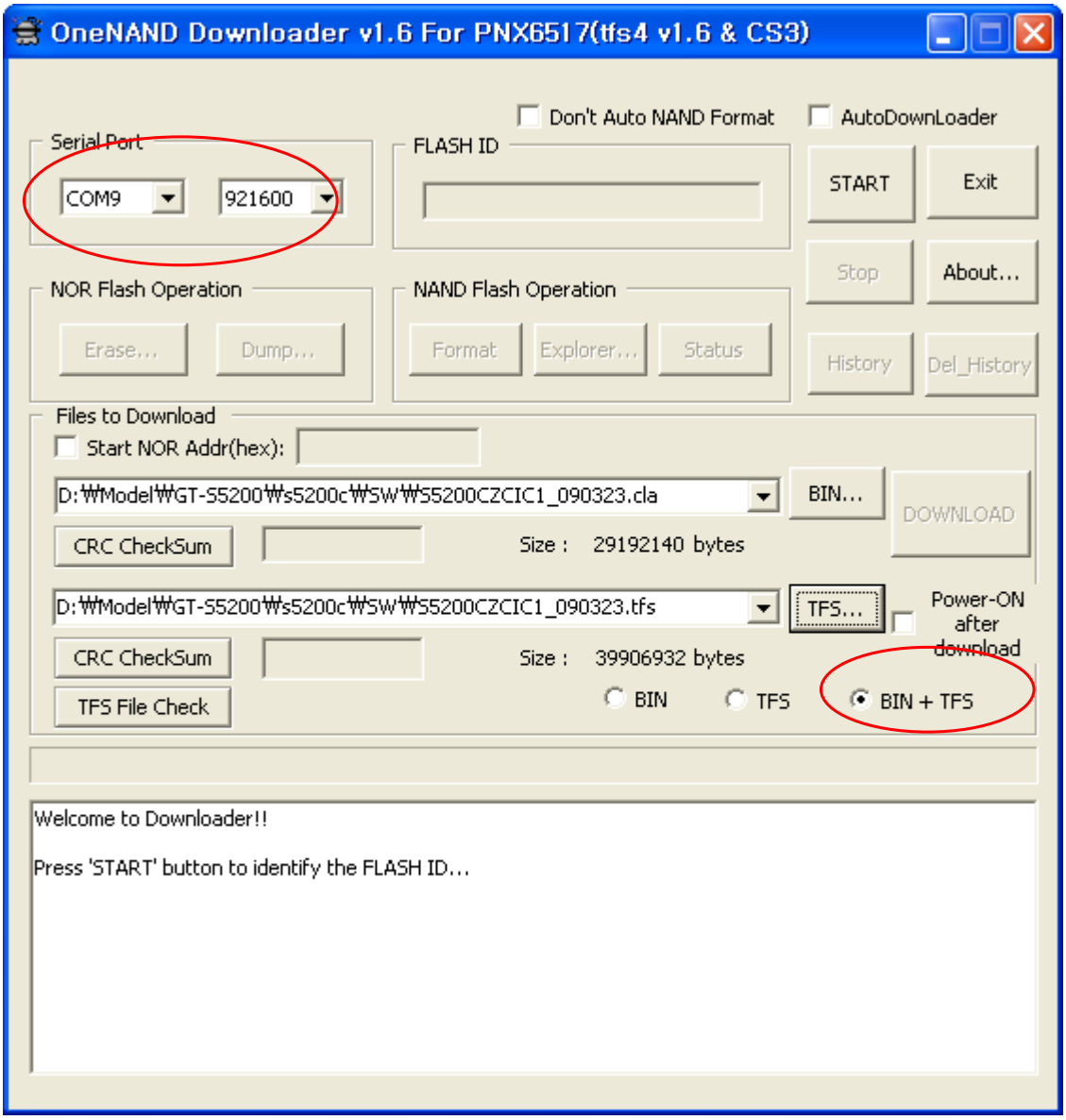
- Downloader Program(OneNAND Downloader V1.2 Lite for PNX6517)
- GT-S5200C Mobile Phone
- JIG Box
- Test Cable
- Serial Cable
- Binary file, TFS file

4-2-3. S/W Downloader Program

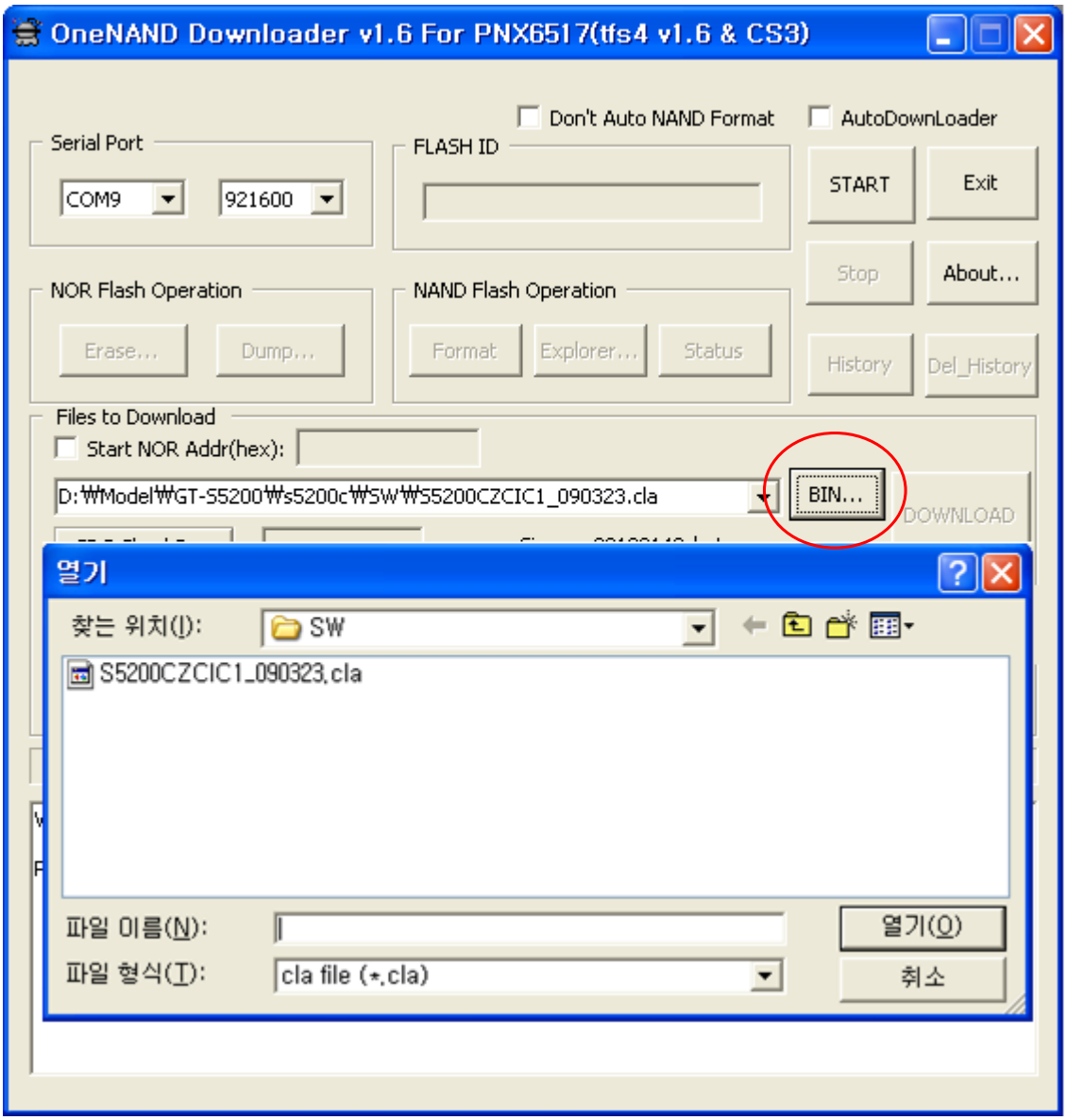
1. Load the binary download program by executing the OneNAND Downloader V1.6 Lite for PNX6517



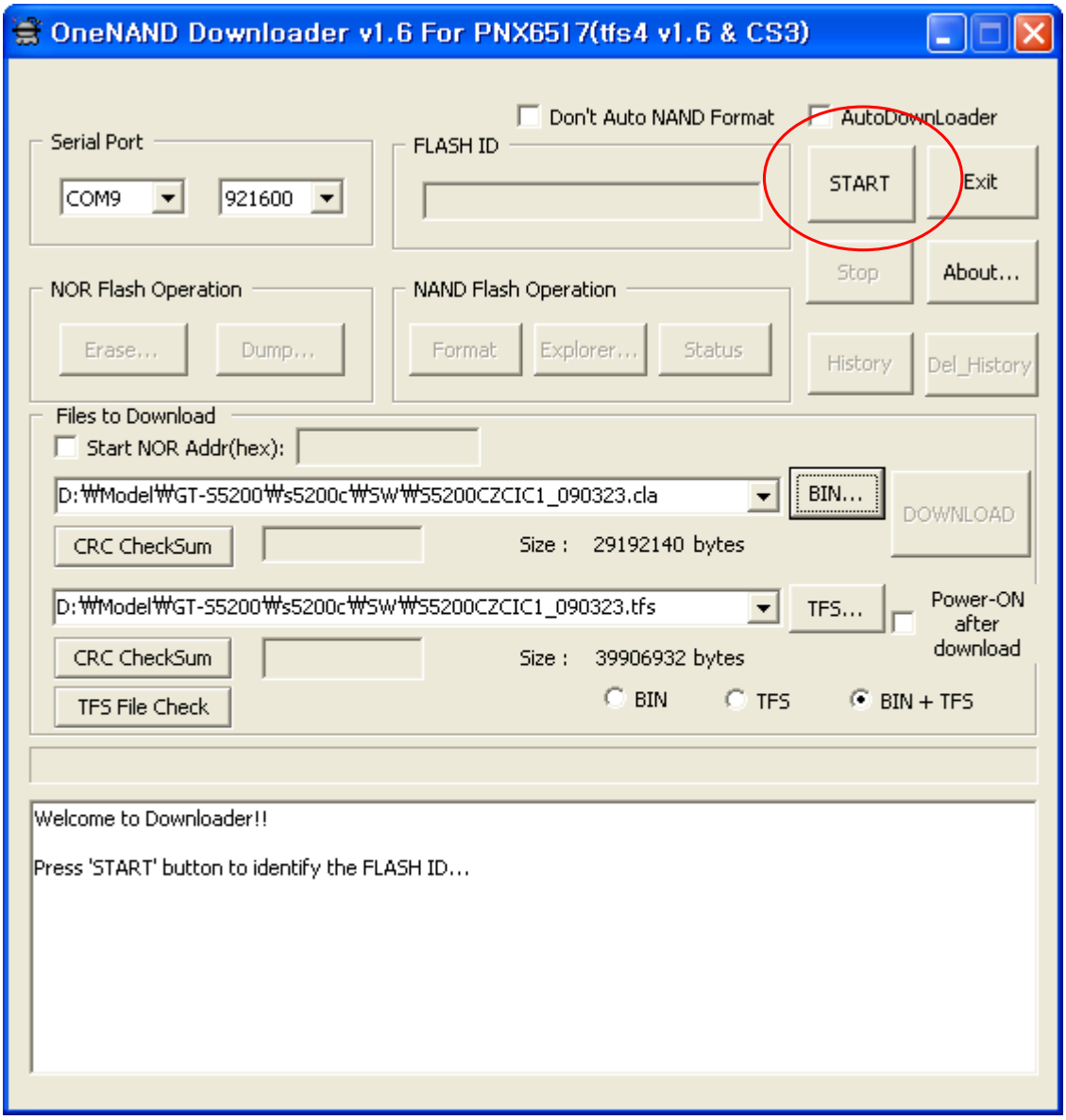
2. Select the Port, Baud Rate and Mode



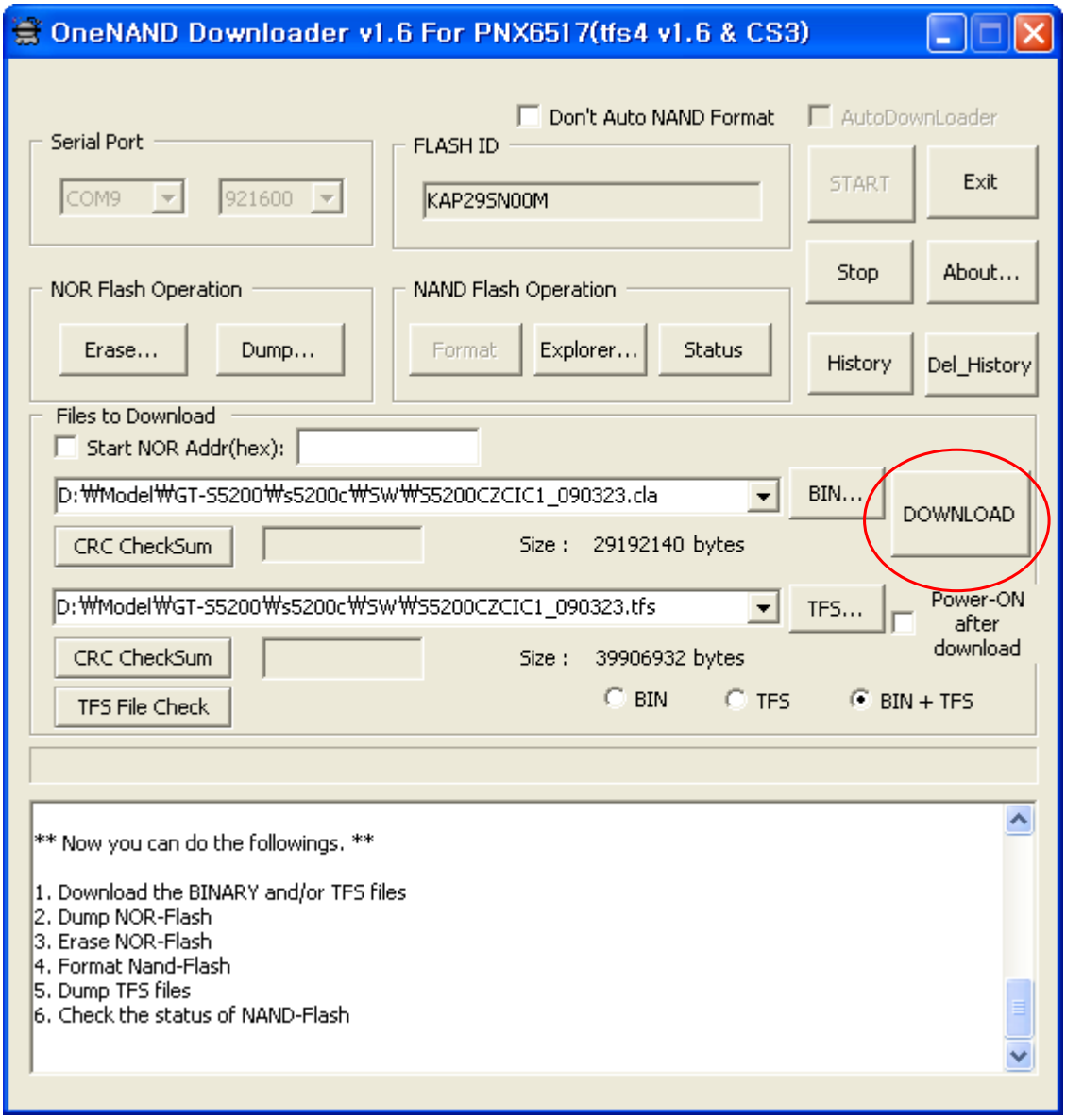
3. Select the file(s) what you want to download



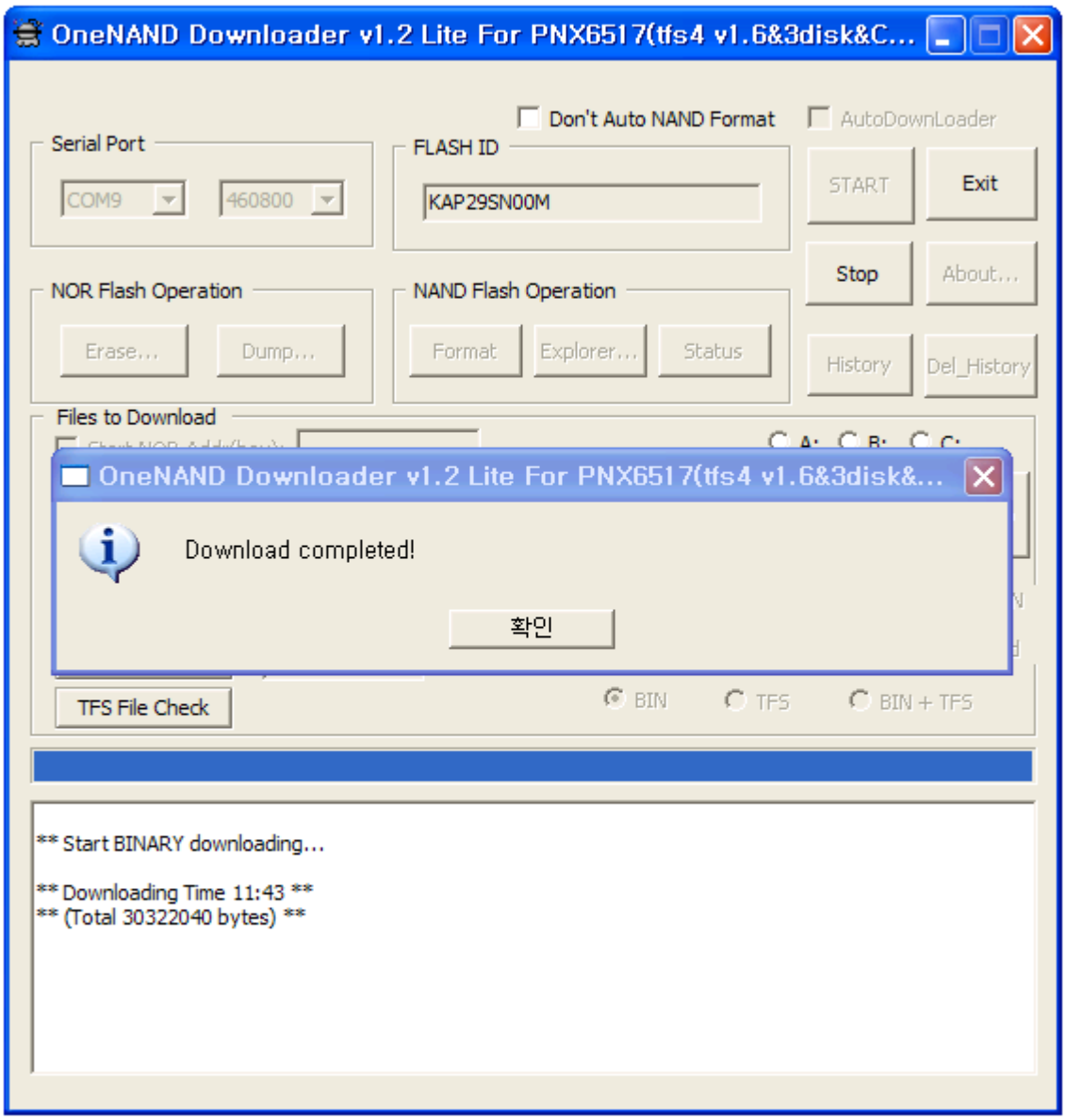
4. Press the "Start" button and connect the Handset



5. Press the "Download" button.

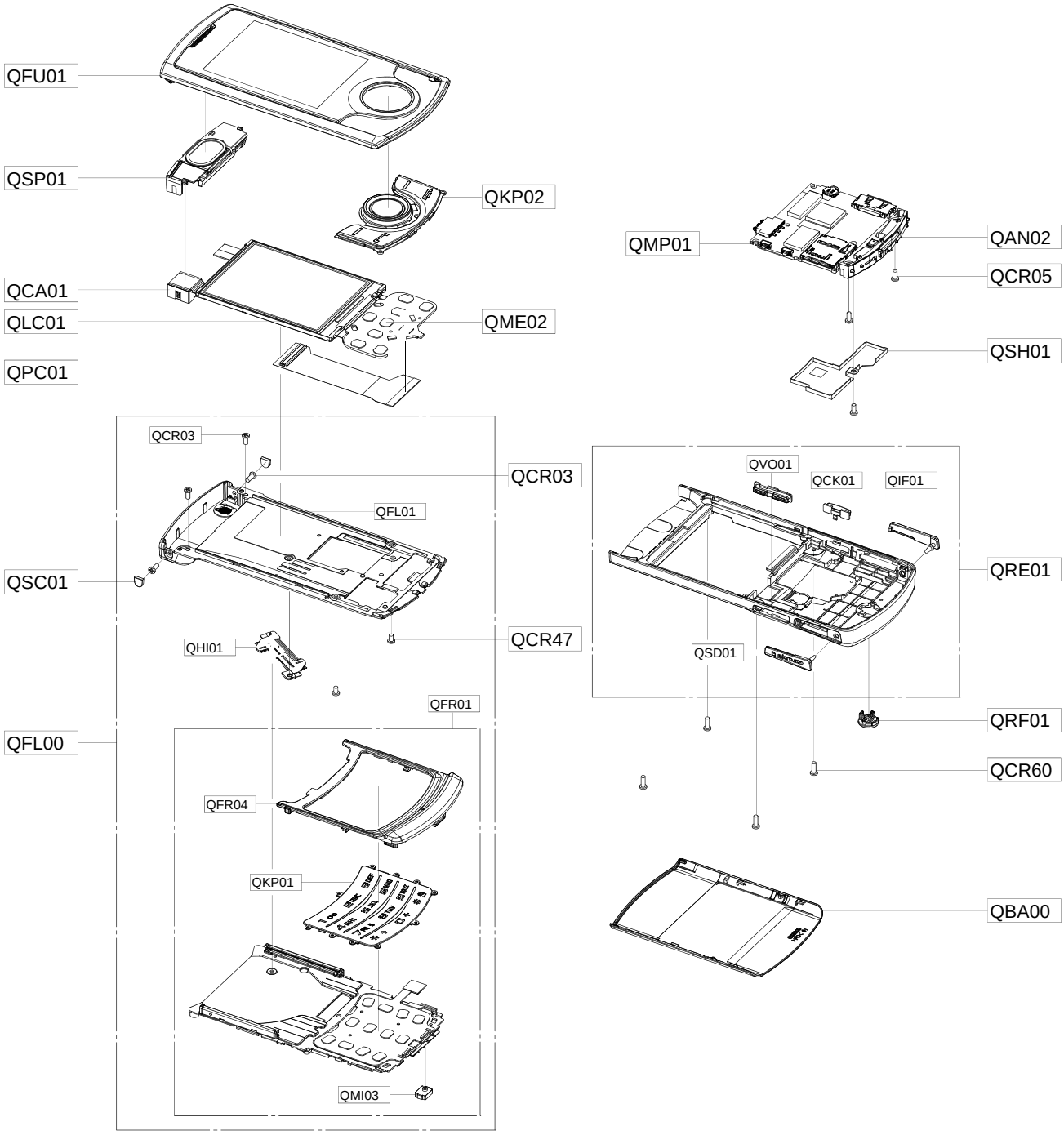


6. When downloading is complete, automatically the small window was showed up.



5. Exploded View and Parts List

5-1. Cellular phone Exploded View



5-2. Cellular phone Parts list

Design LOC			Discription	SEC CODE
QCR03			SCREW-MACHINE	6001-001811
QCR05			SCREW-MACHINE	6001-001478
QCR47			SCREW-MACHINE	6001-001695
QCR60			SCREW-MACHINE	6001-002005
QFU01			ASSY CASE-UPPER	GH98-12457A
QKP02			ASSY KEYPAD-SUB(OPEN/BLU)	GH98-12464A
QLC01			LCD-2.2'' QVGA	GH07-01436A
QME02			DOME SHEET-GT-S5200 SUB 9 KEY	GH59-07099A
QMP01			A/S ASSY-PBA MAIN,GT_S5200,CIT,EU(SVC)	GH82-03780A
QPC01			ASSY ETC-SLIDE FPCB(GT-S5200)	GH59-07060A
QRF01			PMO COVER-RF	GH72-53104A
QSC01			TAPE-SCREW CAP	GH74-44383A
QSH01			ICT SHIELD-CAN	GH70-04940A
QSP01			MODULE-SPK/MOT MODULE(GT-S5200)	GH59-07093A
QRE01			ASSY CASE-REAR	GH98-12456A
	QIF01		PMO COVER-IF	GH72-53106A
	QSD01		PMO COVER-SD	GH72-53107A
	QCK01		PMO KEY-CAMERA	GH72-53112A
	QVO01		PMO KEY-VOLUME	GH72-53113A
QFL00			ASSY CASE-SLIDE	GH98-12460A
	QHI01		ASSY HINGE-ACTUATOR	GH98-12122A
	QFL01		ASSY CASE-LOWER	GH98-12461A
	QFR01		ASSY CASE-FRONT	GH98-12459A
		QMI03	ASSY RUBBER-MIC HOLDER	GH98-13556A
		QFR04	ASSY CASE-FRONT BUSH	GH98-13691A
		QKP01	ASSY KEYPAD-MAIN(OPEN/BLU)	GH98-12463A
		QCR03	SCREW-MACHINE	6001-001811

6. MAIN Electrical Parts List

SEC CODE	Design LOD	Discription
0202-001602	R100	SOLDER-CREAM
0202-001602	R300	SOLDER-CREAM
0202-001602	R313	SOLDER-CREAM
0202-001602	R400	SOLDER-CREAM
0202-001602	R408	SOLDER-CREAM
0403-001749	ZD500	DIODE-ZENER
0403-001749	ZD502	DIODE-ZENER
0406-001286	ZD400	DIODE-TVS
0406-001286	ZD501	DIODE-TVS
0406-001288	ZD200	DIODE-TVS
0406-001288	ZD201	DIODE-TVS
0406-001288	ZD404	DIODE-TVS
0406-001288	ZD405	DIODE-TVS
0406-001288	ZD503	DIODE-TVS
0406-001288	ZD504	DIODE-TVS
0406-001288	ZD505	DIODE-TVS
0406-001305	F401	DIODE-TVS
0406-001361	ZD402	DIODE-TVS
1009-001035	U302	IC-HALL EFFECT S/W
1108-000268	UME200	IC-MCP
1201-002773	PAM100	IC-POWER AMP
1203-004857	U500	IC-DC/DC CONVERTER
1203-005512	U301	IC-POSI.FIXED REG
1203-005728	U300	IC-POWER SUPERVISOR
1204-003020	U400	IC-DEMODULATOR
1205-003517	U101	IC-BLUETOOTH
1205-003653	UCP200	IC-MODEM
1205-003696	U100	IC-TRANSCEIVER
1404-001221	VR500	THERMISTOR-NTC
2007-000140	R207	R-CHIP
2007-000141	R309	R-CHIP
2007-000143	R401	R-CHIP
2007-000143	R409	R-CHIP
2007-000148	R310	R-CHIP
2007-000148	R500	R-CHIP
2007-000149	R206	R-CHIP

SEC CODE	Design LOD	Discription
2007-000152	R501	R-CHIP
2007-000157	R402	R-CHIP
2007-000157	R403	R-CHIP
2007-000157	R404	R-CHIP
2007-000157	R405	R-CHIP
2007-000157	R406	R-CHIP
2007-000160	R107	R-CHIP
2007-000162	R502	R-CHIP
2007-000162	R503	R-CHIP
2007-000166	R413	R-CHIP
2007-000170	R414	R-CHIP
2007-000170	R415	R-CHIP
2007-000172	R103	R-CHIP
2007-000172	R311	R-CHIP
2007-000172	R312	R-CHIP
2007-000242	R416	R-CHIP
2007-000242	R420	R-CHIP
2007-000758	R504	R-CHIP
2007-001292	R307	R-CHIP
2007-001292	R308	R-CHIP
2007-001319	R201	R-CHIP
2007-001319	R202	R-CHIP
2007-001333	R317	R-CHIP
2007-001333	R318	R-CHIP
2007-001333	R411	R-CHIP
2007-002796	R417	R-CHIP
2007-003015	R105	R-CHIP
2007-007573	R303	R-CHIP
2007-007589	R505	R-CHIP
2007-007875	R316	R-CHIP
2007-007981	R315	R-CHIP
2007-008354	C504	R-CHIP
2007-008354	R304	R-CHIP
2203-000233	C106	C-CER,CHIP
2203-000233	C418	C-CER,CHIP
2203-000254	C135	C-CER,CHIP

SEC CODE	Design LOD	Discription
2203-000278	C411	C-CER,CHIP
2203-000311	C336	C-CER,CHIP
2203-000311	C413	C-CER,CHIP
2203-000386	C127	C-CER,CHIP
2203-000438	C130	C-CER,CHIP
2203-000438	C401	C-CER,CHIP
2203-000438	C402	C-CER,CHIP
2203-000466	C101	C-CER,CHIP
2203-000627	C134	C-CER,CHIP
2203-000627	C328	C-CER,CHIP
2203-000627	C331	C-CER,CHIP
2203-000812	C114	C-CER,CHIP
2203-000995	C137	C-CER,CHIP
2203-000995	C316	C-CER,CHIP
2203-000995	C342	C-CER,CHIP
2203-000995	C407	C-CER,CHIP
2203-000995	C414	C-CER,CHIP
2203-001221	C124	C-CER,CHIP
2203-005050	C107	C-CER,CHIP
2203-005050	C108	C-CER,CHIP
2203-005050	C117	C-CER,CHIP
2203-005050	C118	C-CER,CHIP
2203-005052	C112	C-CER,CHIP
2203-005053	C146	C-CER,CHIP
2203-005057	C416	C-CER,CHIP
2203-005281	C139	C-CER,CHIP
2203-005281	C140	C-CER,CHIP
2203-005395	C122	C-CER,CHIP
2203-005444	C136	C-CER,CHIP
2203-005481	C409	C-CER,CHIP
2203-005481	C412	C-CER,CHIP
2203-005482	C207	C-CER,CHIP
2203-005482	C211	C-CER,CHIP
2203-005482	C312	C-CER,CHIP
2203-005483	C217	C-CER,CHIP
2203-005552	C110	C-CER,CHIP

SEC CODE	Design LOD	Discription
2203-005552	C113	C-CER,CHIP
2203-005552	C119	C-CER,CHIP
2203-005552	C120	C-CER,CHIP
2203-006048	C138	C-CER,CHIP
2203-006048	C203	C-CER,CHIP
2203-006048	C205	C-CER,CHIP
2203-006048	C210	C-CER,CHIP
2203-006048	C213	C-CER,CHIP
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2203-006137	C123	C-CER,CHIP
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2203-006208	C332	C-CER,CHIP
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2203-006208	C335	C-CER,CHIP
2203-006257	C405	C-CER,CHIP
2203-006257	C406	C-CER,CHIP
2203-006260	C317	C-CER,CHIP
2203-006260	C318	C-CER,CHIP
2203-006260	C321	C-CER,CHIP
2203-006260	C322	C-CER,CHIP
2203-006324	C502	C-CER,CHIP
2203-006348	C337	C-CER,CHIP
2203-006399	C129	C-CER,CHIP
2203-006399	C132	C-CER,CHIP

SEC CODE	Design LOD	Discription
2203-006399	C133	C-CER,CHIP
2203-006399	C200	C-CER,CHIP
2203-006399	C201	C-CER,CHIP
2203-006399	C214	C-CER,CHIP
2203-006399	C216	C-CER,CHIP
2203-006399	C218	C-CER,CHIP
2203-006399	C300	C-CER,CHIP
2203-006399	C302	C-CER,CHIP
2203-006399	C303	C-CER,CHIP
2203-006399	C304	C-CER,CHIP
2203-006399	C305	C-CER,CHIP
2203-006399	C306	C-CER,CHIP
2203-006399	C307	C-CER,CHIP
2203-006399	C308	C-CER,CHIP
2203-006399	C309	C-CER,CHIP
2203-006399	C310	C-CER,CHIP
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2203-006399	C325	C-CER,CHIP
2203-006399	C330	C-CER,CHIP
2203-006399	C339	C-CER,CHIP
2203-006399	C505	C-CER,CHIP
2203-006399	C506	C-CER,CHIP
2203-006562	C313	C-CER,CHIP
2203-006562	C323	C-CER,CHIP
2203-006562	C340	C-CER,CHIP
2203-006562	C510	C-CER,CHIP
2203-006824	C503	C-CER,CHIP
2203-006872	C126	C-CER,CHIP
2203-006872	C131	C-CER,CHIP
2203-006890	C326	C-CER,CHIP
2203-006890	C417	C-CER,CHIP
2203-007279	C100	C-CER,CHIP
2203-007279	C338	C-CER,CHIP
2203-007279	C403	C-CER,CHIP

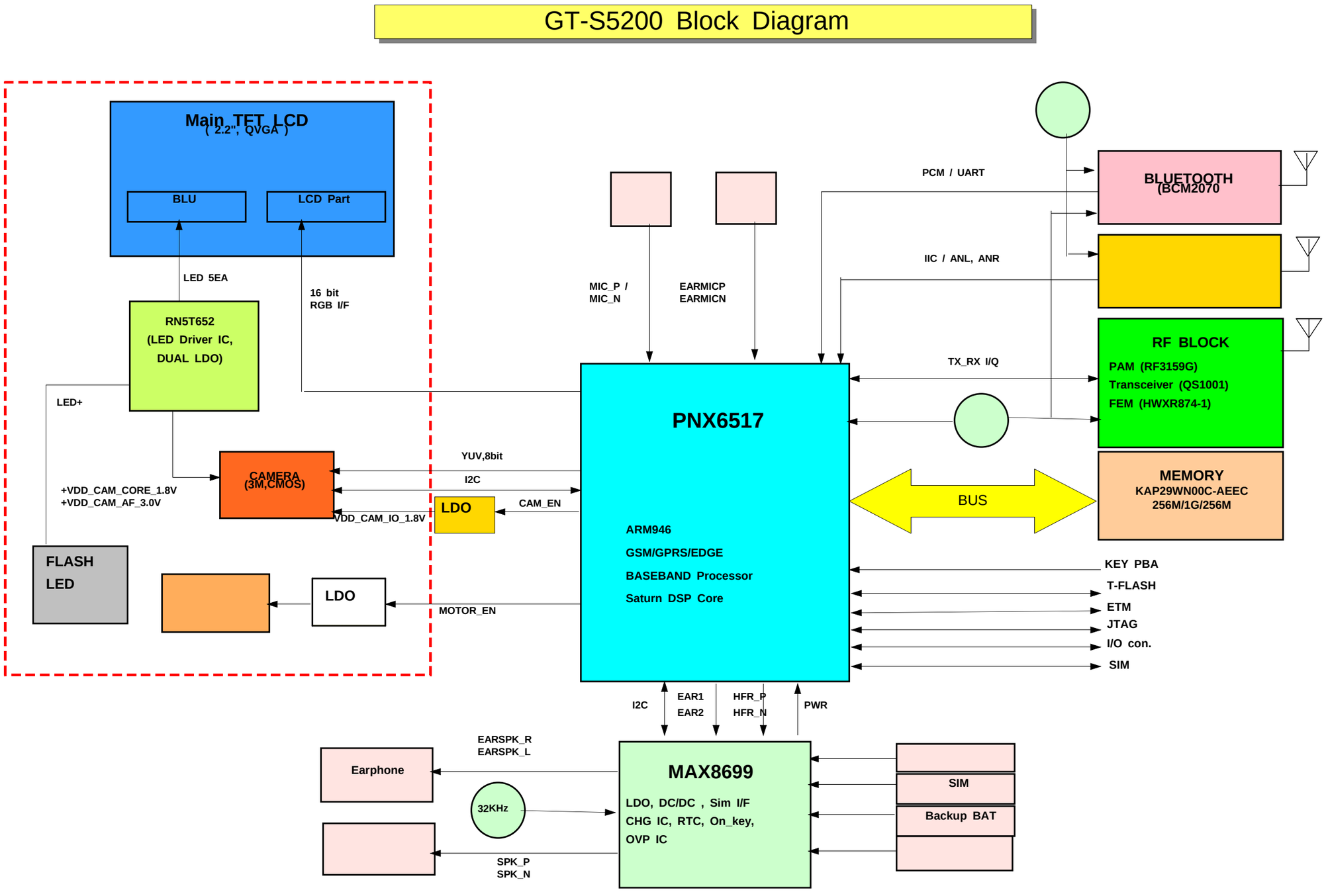
SEC CODE	Design LOD	Discription
2203-007279	C511	C-CER,CHIP
2404-001381	C500	C-TA,CHIP
2409-001172	BAT300	C-EDL
2703-002200	L104	INDUCTOR-SMD
2703-002200	L106	INDUCTOR-SMD
2703-002200	L111	INDUCTOR-SMD
2703-002208	C145	INDUCTOR-SMD
2703-002267	L105	INDUCTOR-SMD
2703-002267	L108	INDUCTOR-SMD
2703-002313	C400	INDUCTOR-SMD
2703-002314	L101	INDUCTOR-SMD
2703-002367	L112	INDUCTOR-SMD
2703-002369	L103	INDUCTOR-SMD
2703-002586	L107	INDUCTOR-SMD
2703-003260	L300	INDUCTOR-SMD
2703-003476	L400	INDUCTOR-SMD
2703-003486	L500	INDUCTOR-SMD
2801-004373	OSC300	CRYSTAL-SMD
2801-004787	OSC100	CRYSTAL-SMD
2901-001424	F500	FILTER-EMI/ESD
2901-001424	F501	FILTER-EMI/ESD
2901-001424	F502	FILTER-EMI/ESD
2901-001424	F503	FILTER-EMI/ESD
2901-001424	F504	FILTER-EMI/ESD
2901-001469	F505	FILTER-EMI/ESD
2901-001469	F506	FILTER-EMI/ESD
2901-001469	F507	FILTER-EMI/ESD
2901-001516	F400	FILTER-EMI/ESD
2909-001283	F101	FILTER-LC
2911-000076	F100	DUPLEXER-FEM
3003-001136	MIC400	MIC MEMS
3301-001812	L301	BEAD-SMD
3301-001885	L401	BEAD-SMD
3301-001885	L402	BEAD-SMD
3301-001912	R506	BEAD-SMD
3301-001912	R507	BEAD-SMD

SEC CODE	Design LOD	Discription
3404-001303	TAC500	SWITCH-TACT
3404-001303	TAC501	SWITCH-TACT
3404-001378	SW500	SWITCH-TACT
3705-001503	RFS100	CONNECTOR-COAXIAL
3709-001447	SIM300	CONNECTOR-CARD EDGE
3709-001575	CN400	CONNECTOR-CARD EDGE
3710-002568	IFC400	SOCKET-INTERFACE
3711-005578	HDC500	HEADER-BOARD TO BOARD
3711-006217	BTC500	HEADER-BATTERY
3711-006580	HDC501	HEADER-BOARD TO BOARD
4202-001172	ANT102	ANTENNA-CHIP
GH70-03349A	SC101	IPR SHIELD-CAN CLIP
GH70-03349A	SC102	IPR SHIELD-CAN CLIP
GH70-03349A	SC103	IPR SHIELD-CAN CLIP
GH70-03349A	SC105	IPR SHIELD-CAN CLIP
GH70-03349A	SC106	IPR SHIELD-CAN CLIP
GH70-03349A	SC108	IPR SHIELD-CAN CLIP
GH70-03349A	SC110	IPR SHIELD-CAN CLIP

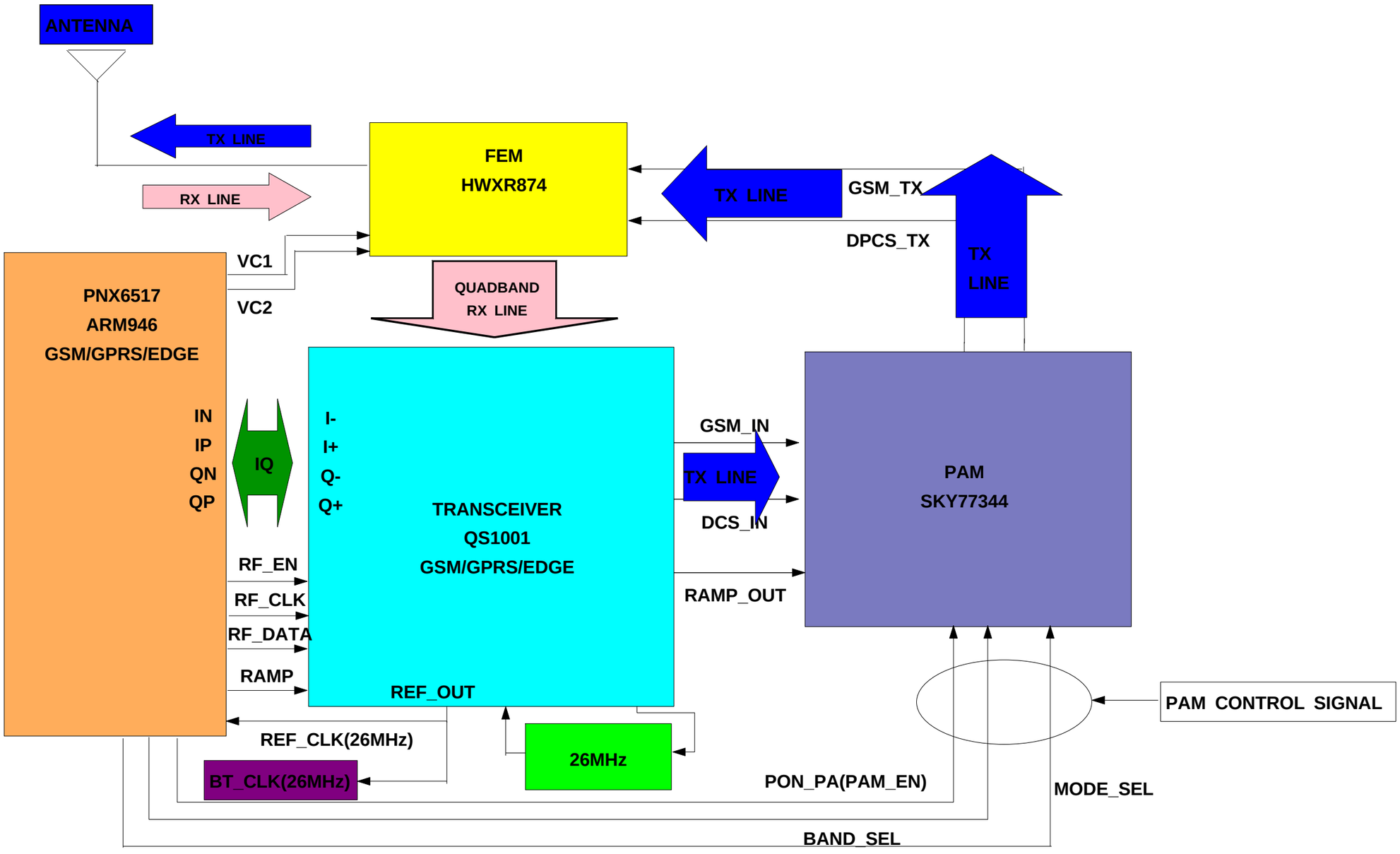
Please consult the GSPN website (Samsung Portal) for the most recent version of the product's part list.

7. Block Diagrams

7-1. Block Diagram

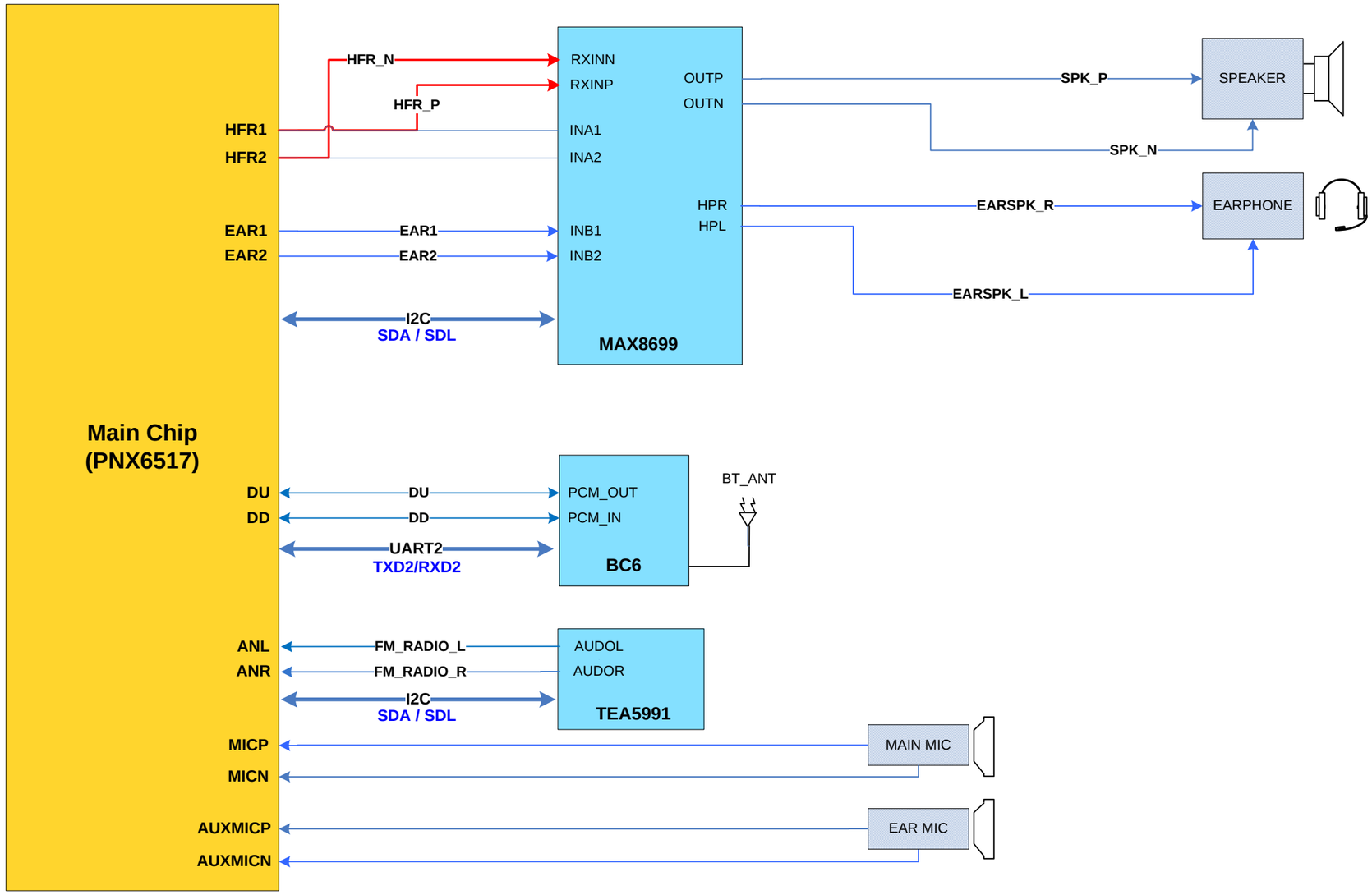


7-2. RF Blcok Diagram



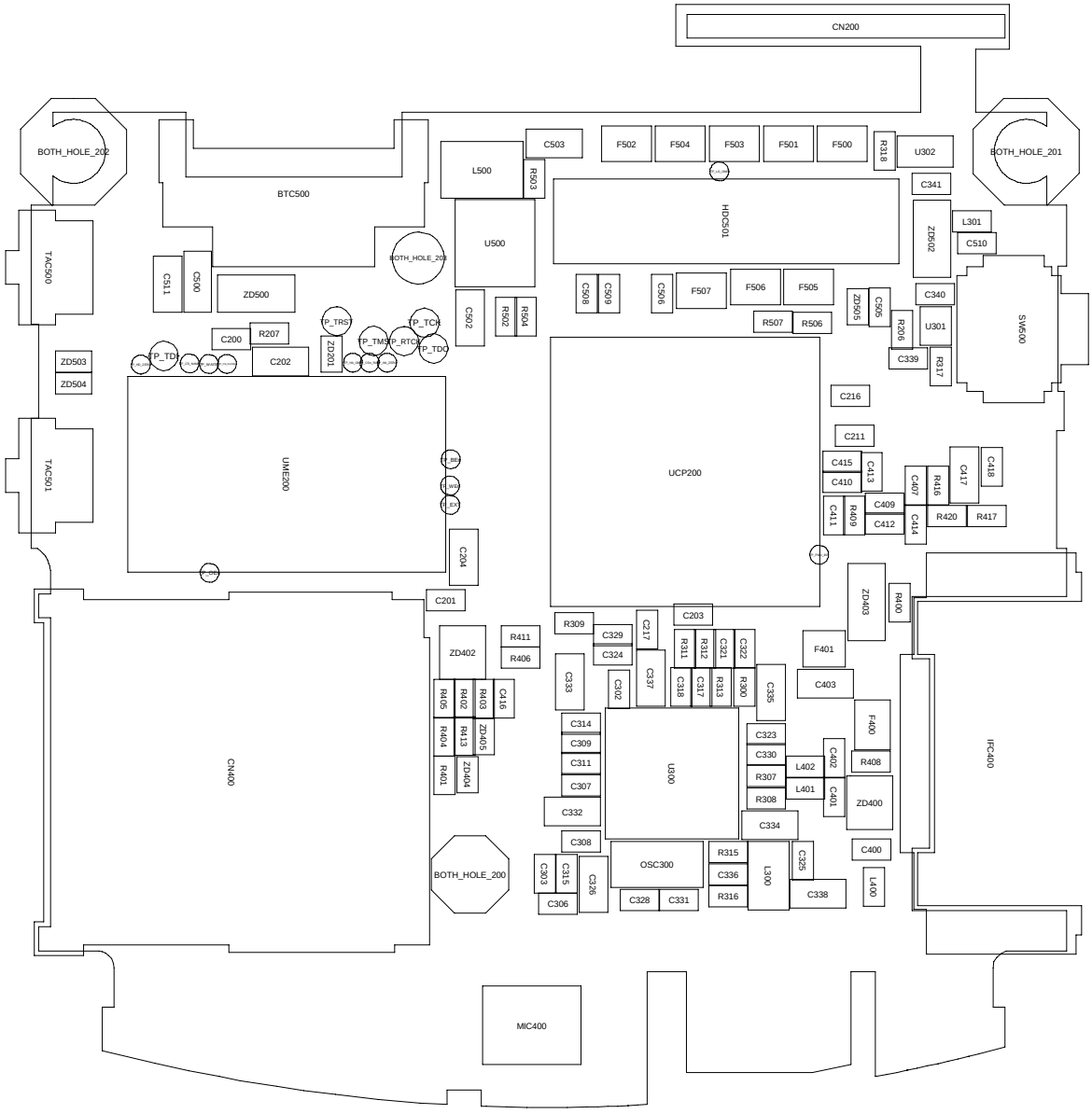
7-3. Audio Block Diagram

2008.11.24 by ssimar

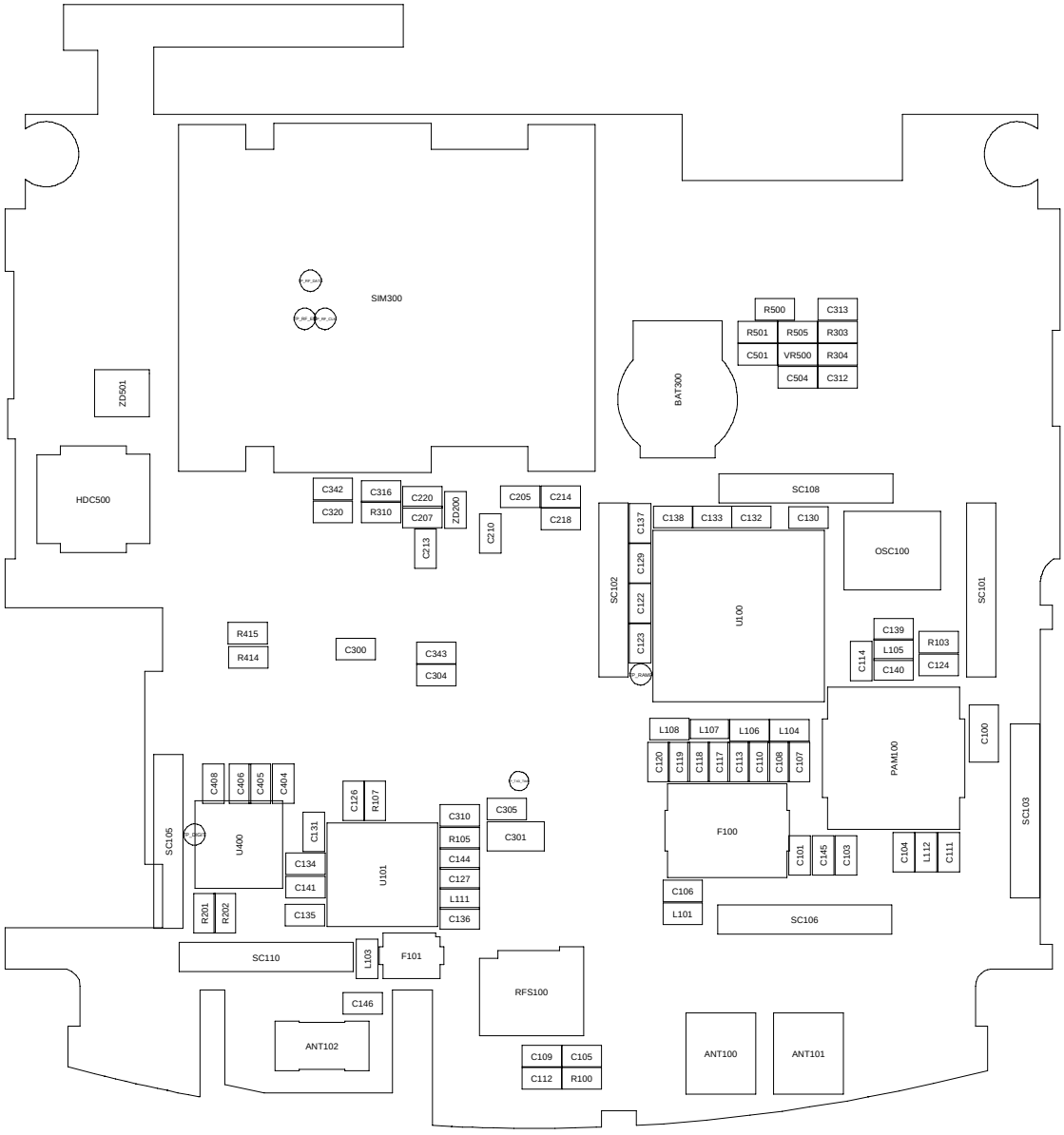


8. PCB Diagrams

[Main top view]

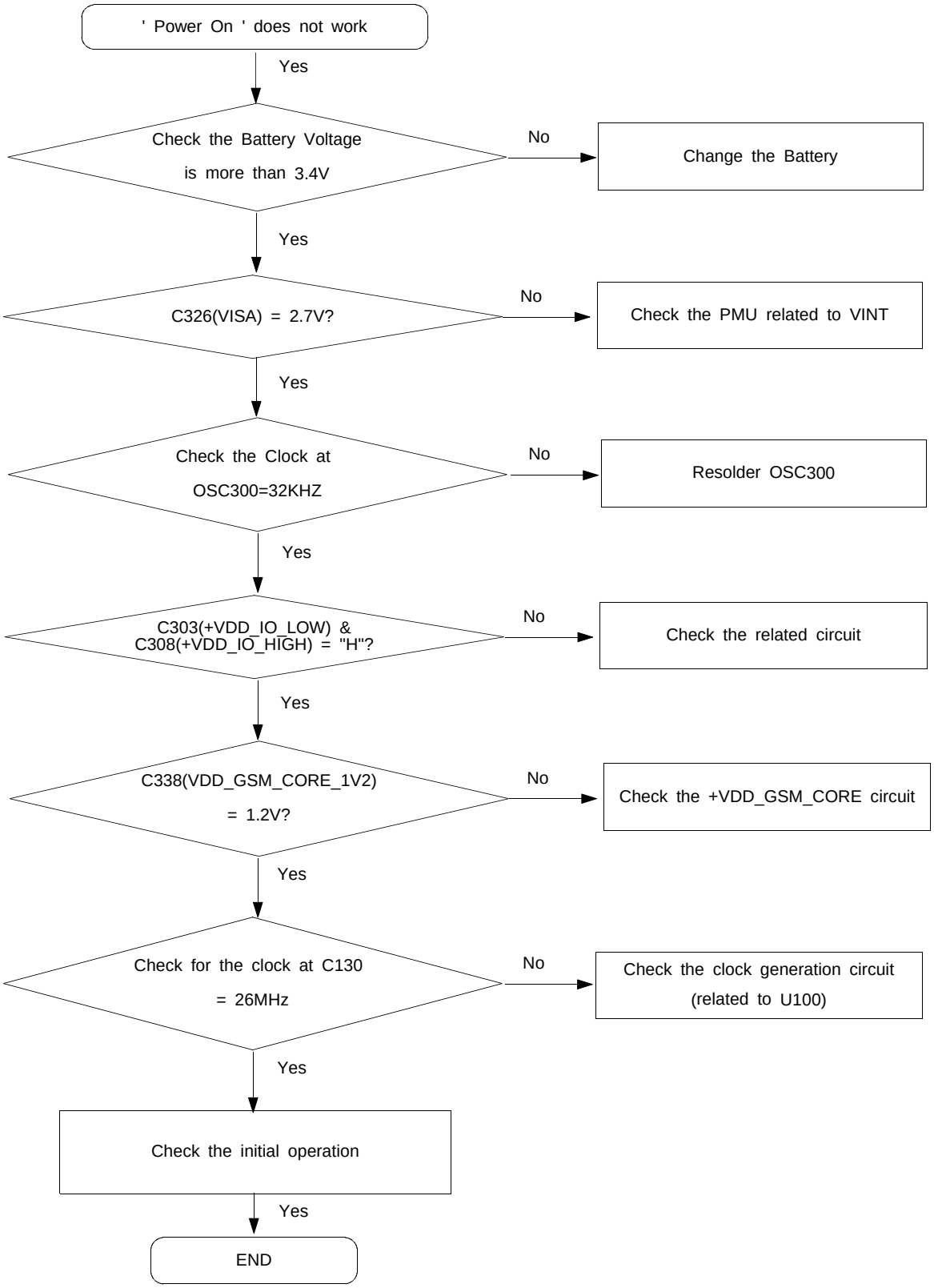


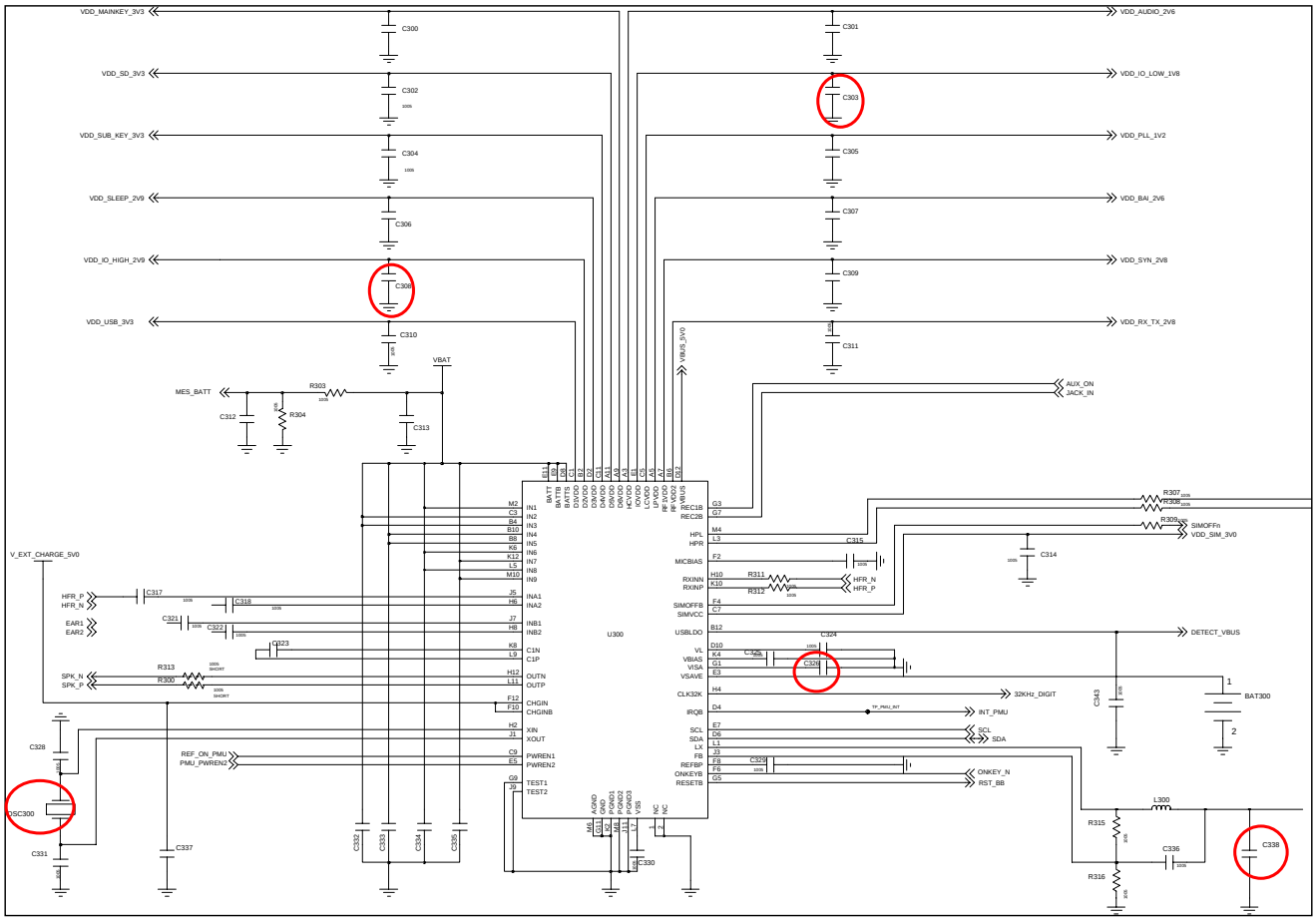
[Main Bottom view]

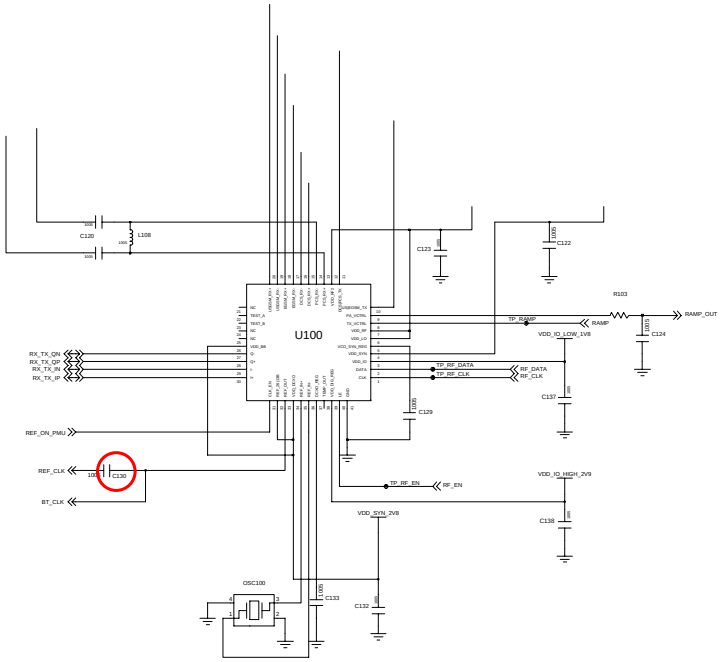


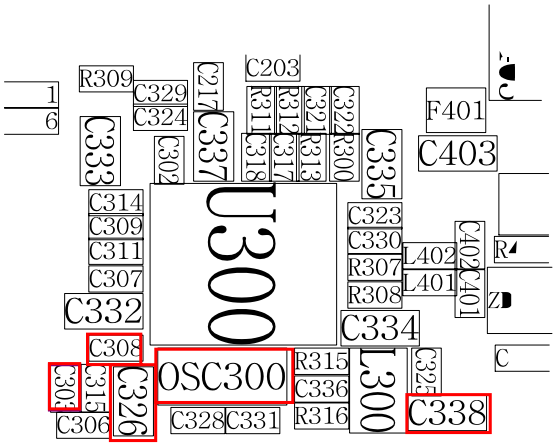
9. Flow Chart of Troubleshooting

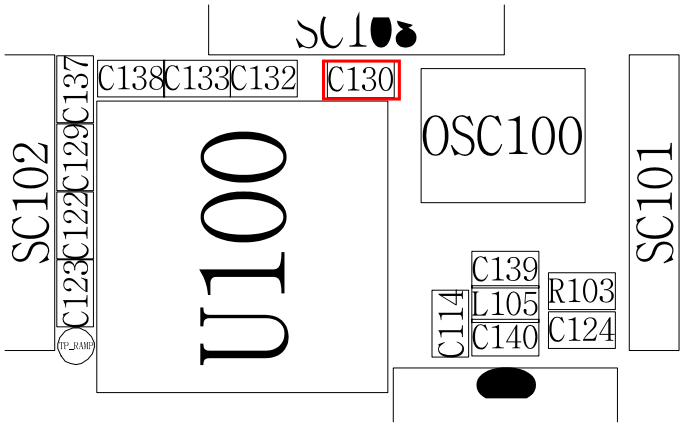
9-1. Power On



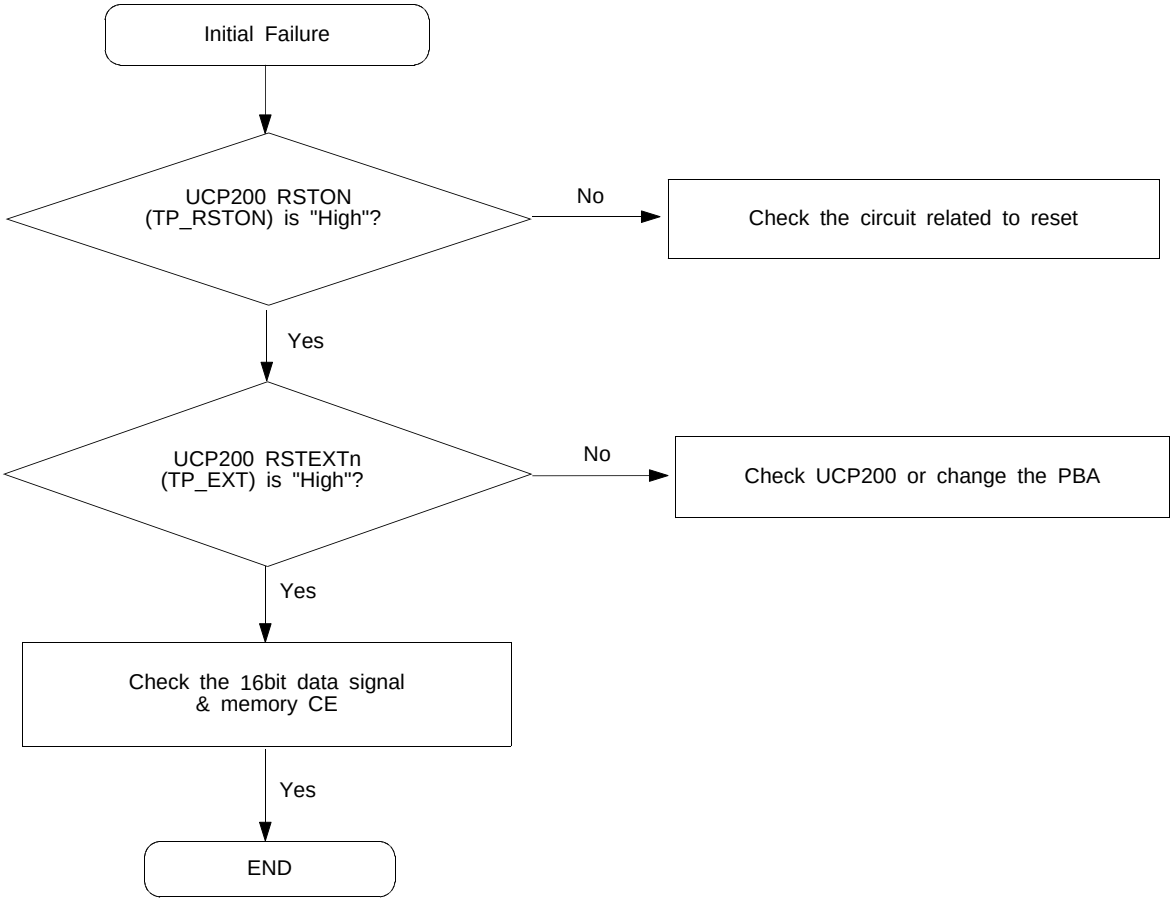


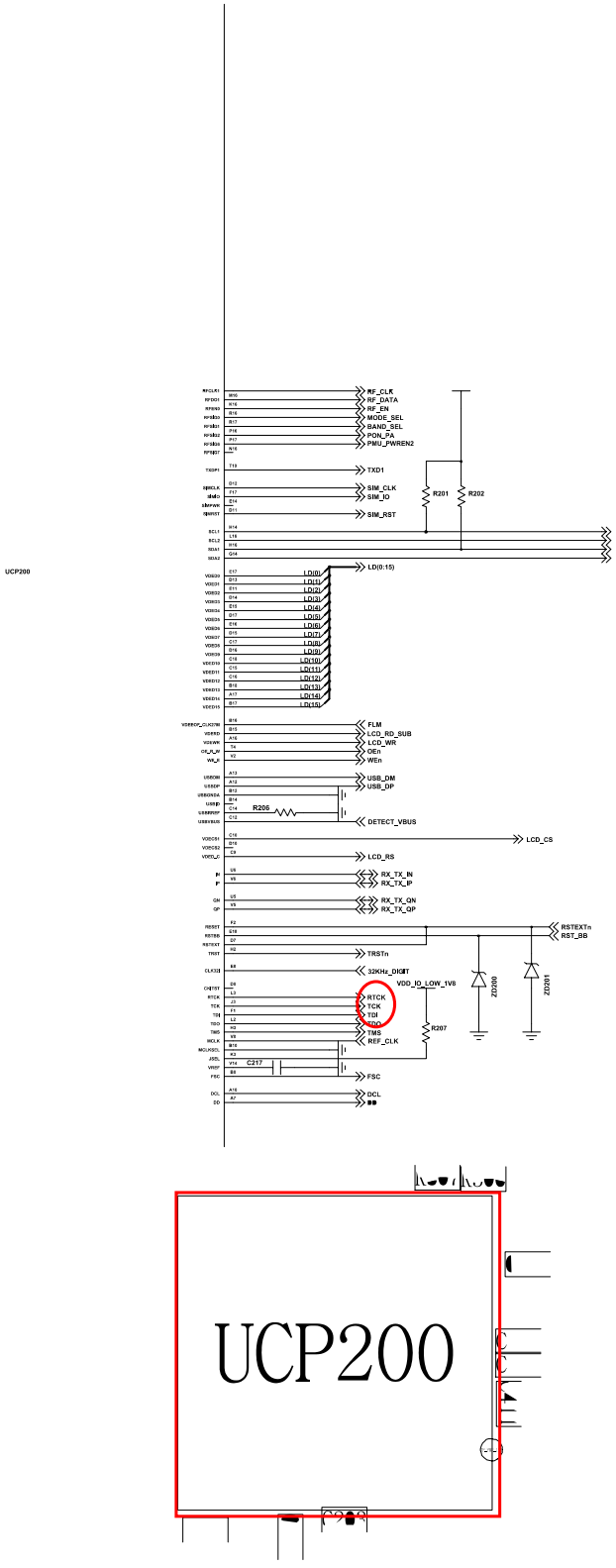




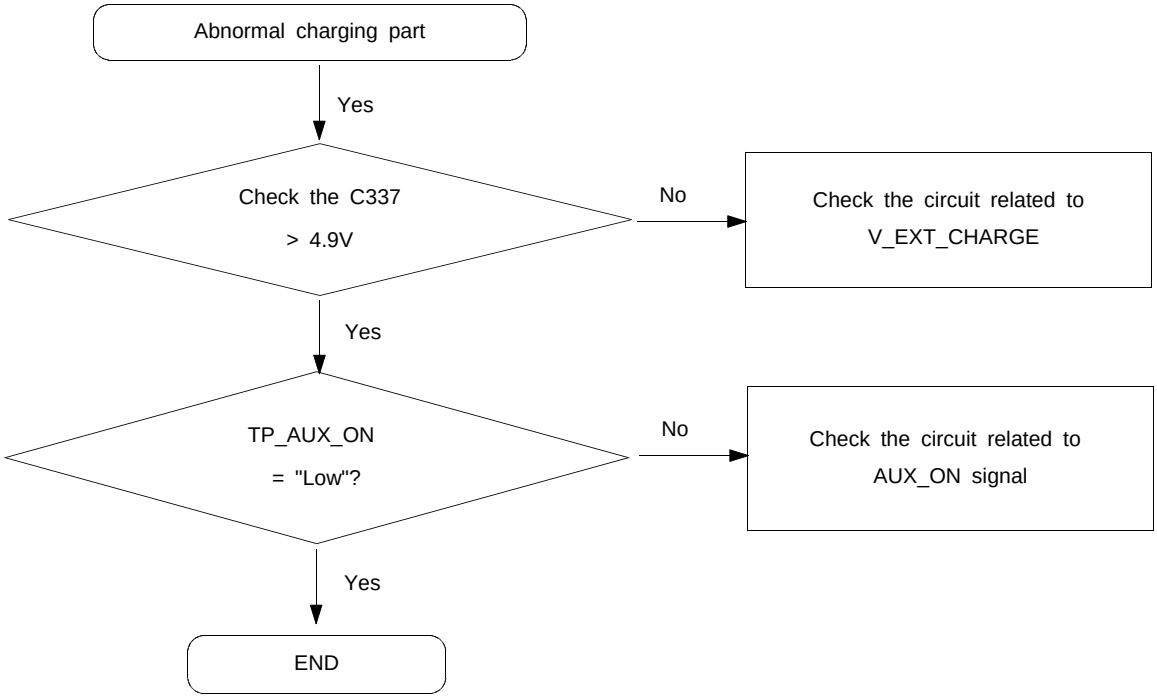


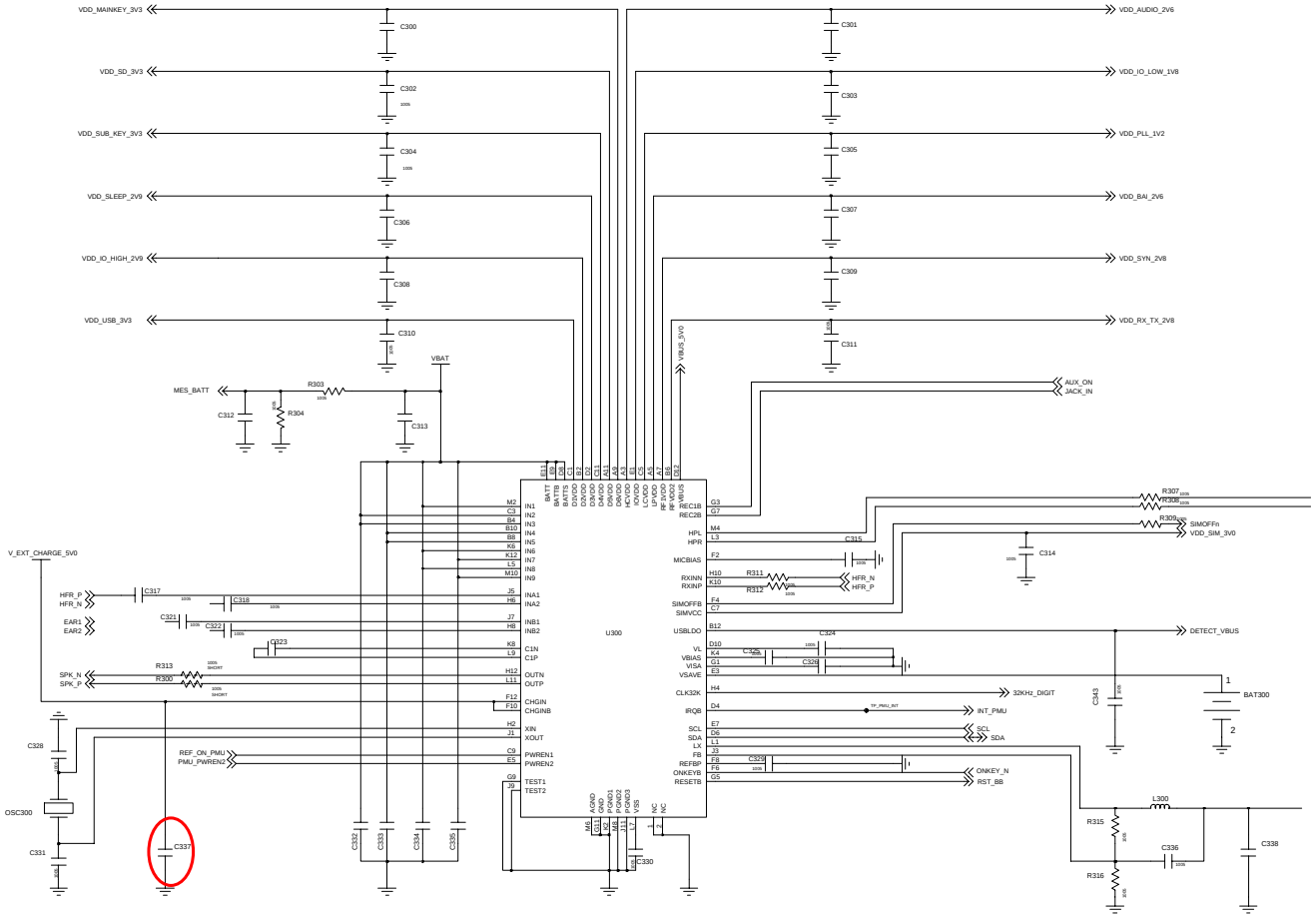
9-2. Initial

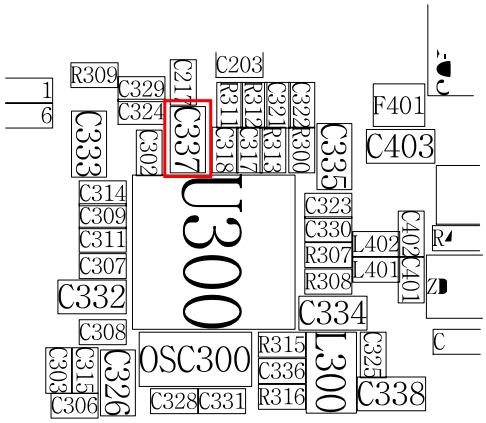




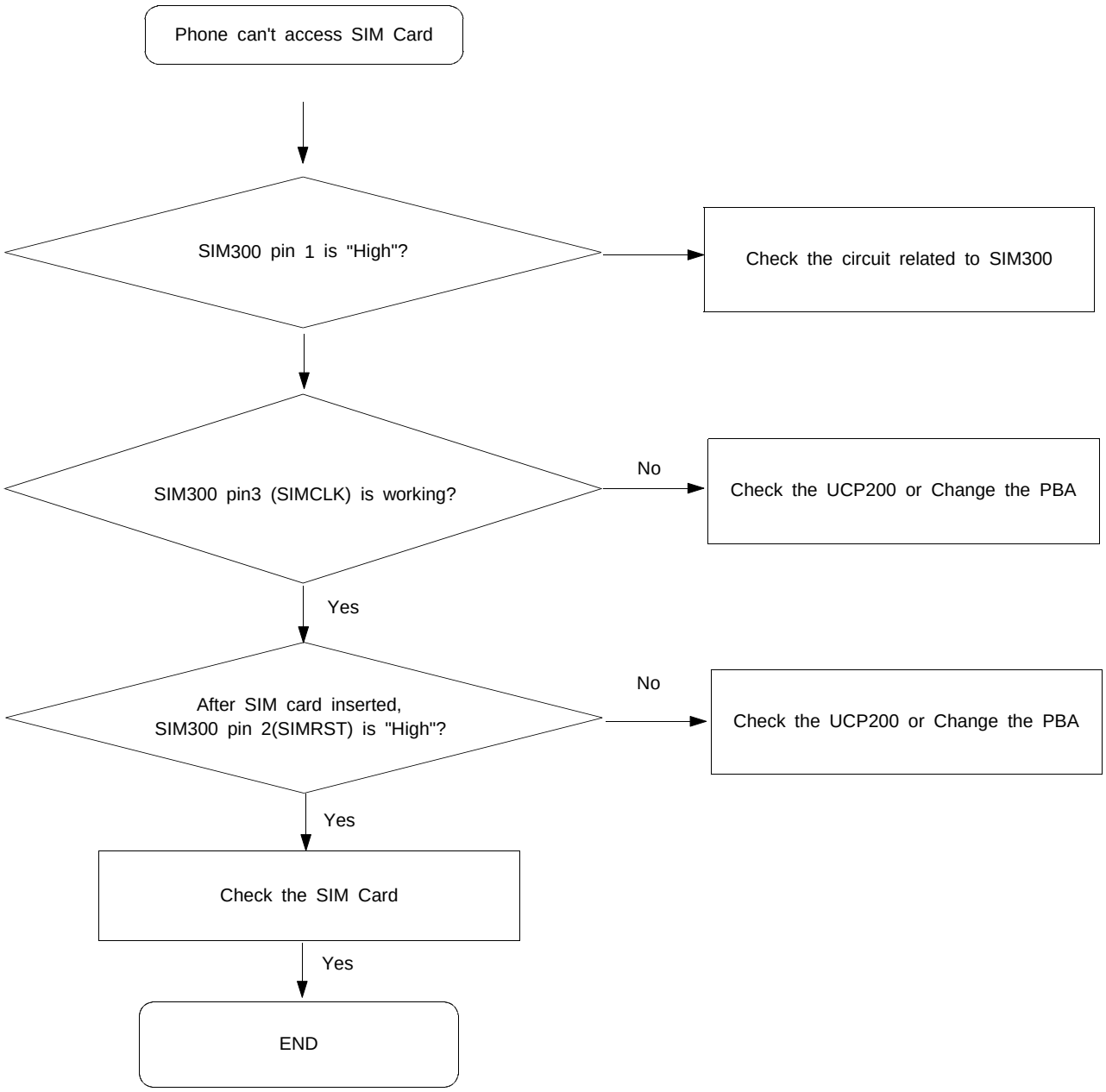
9-3. Charging Part

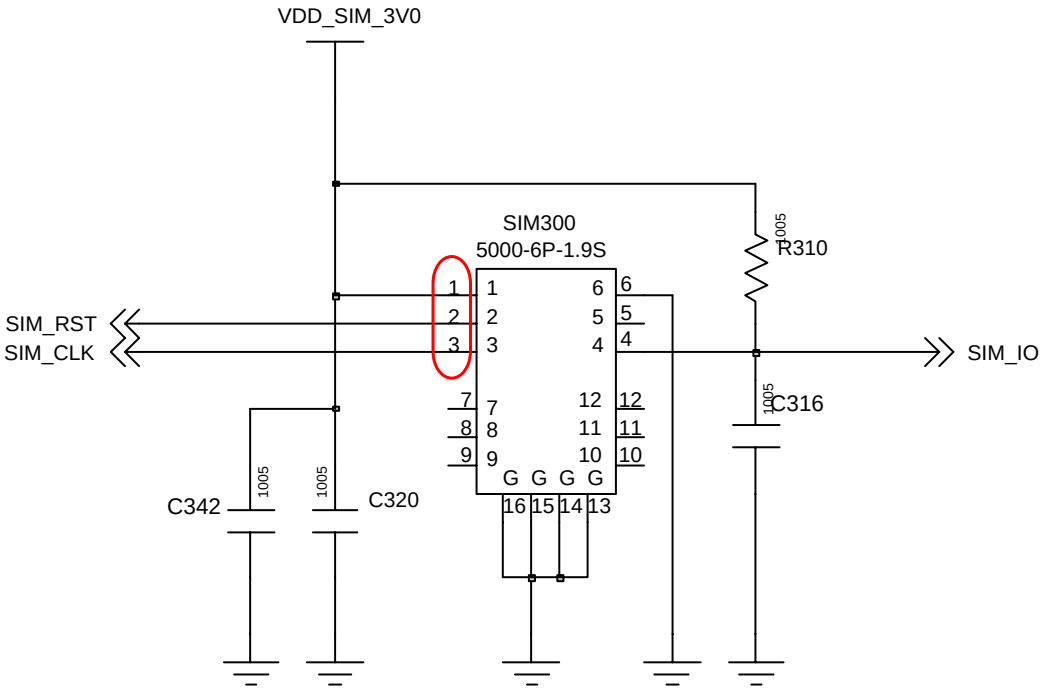


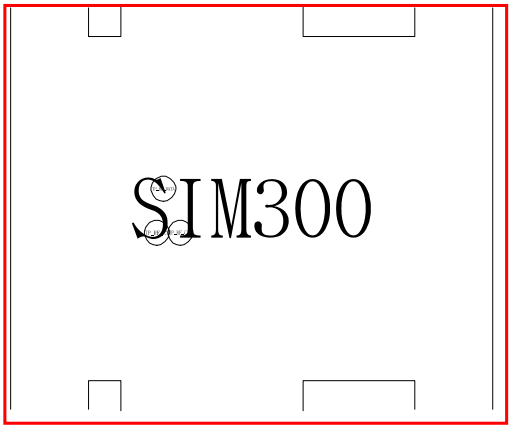




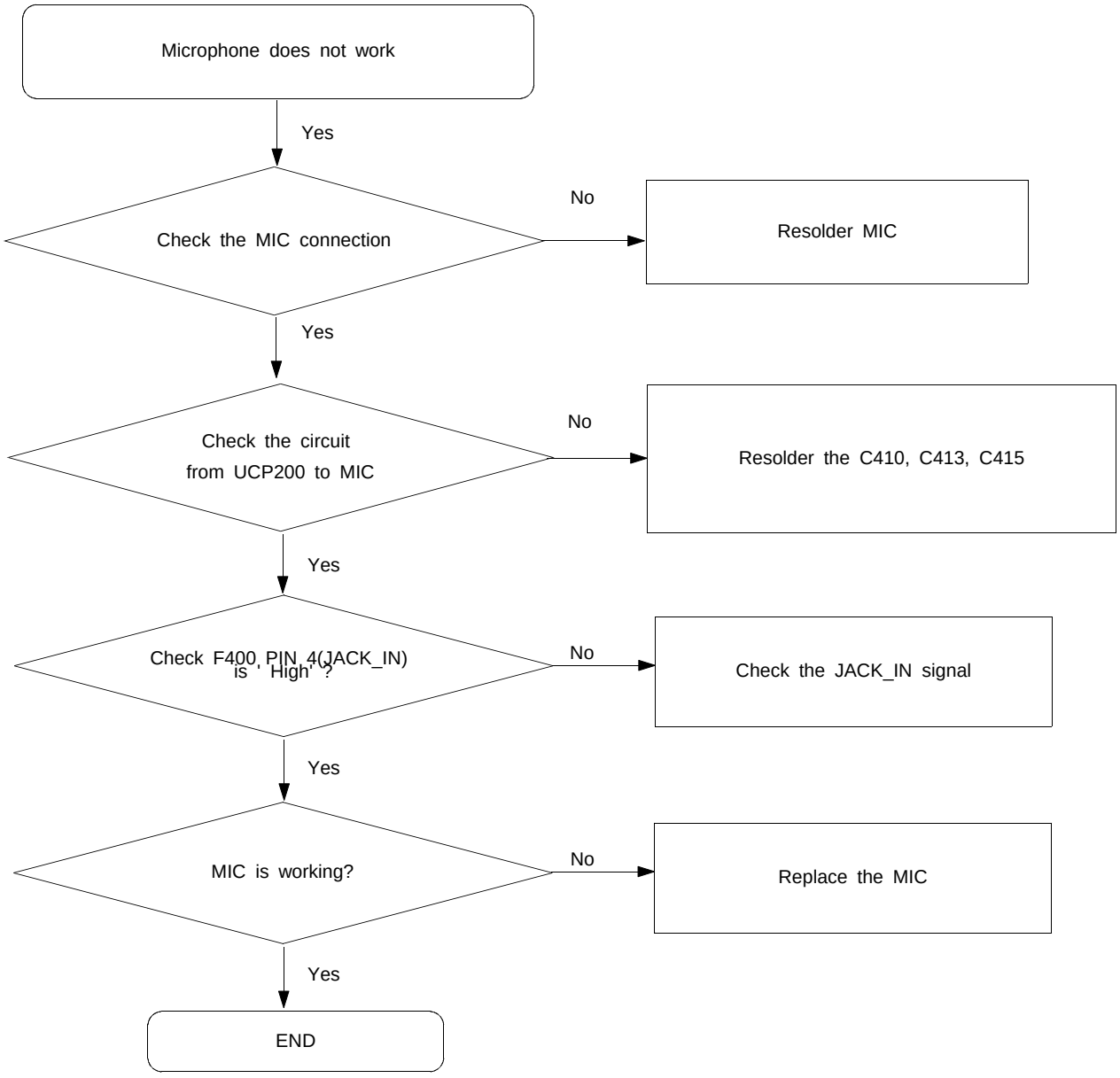
9-4. Sim Part

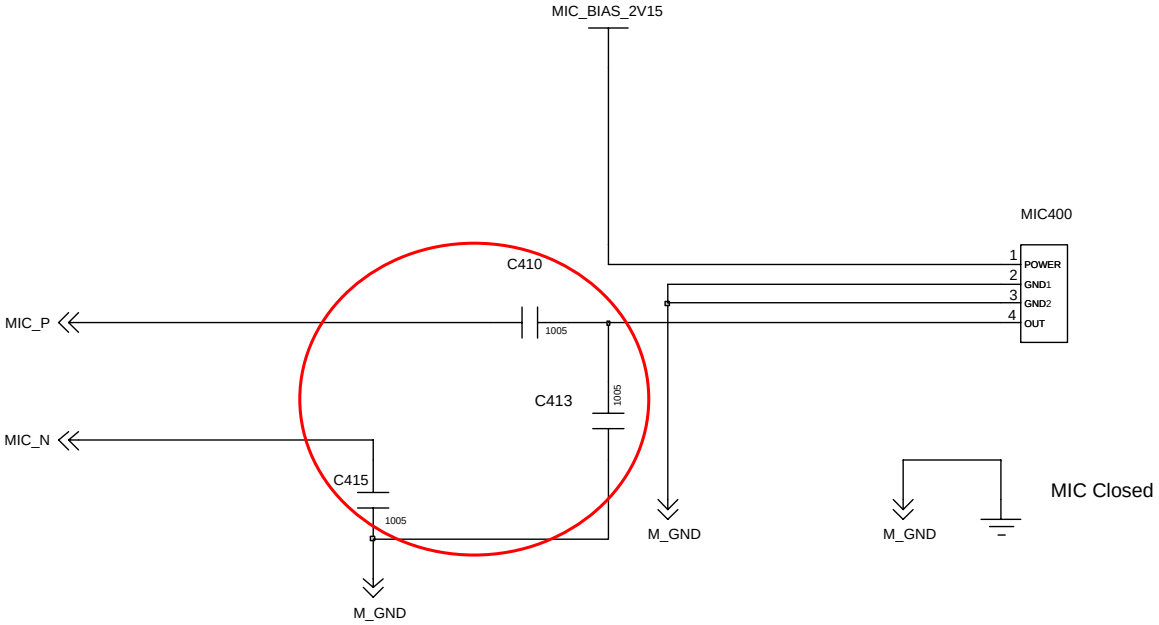


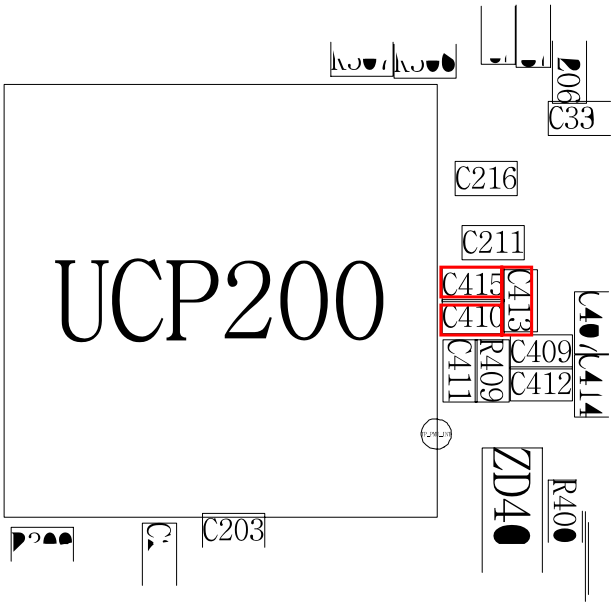




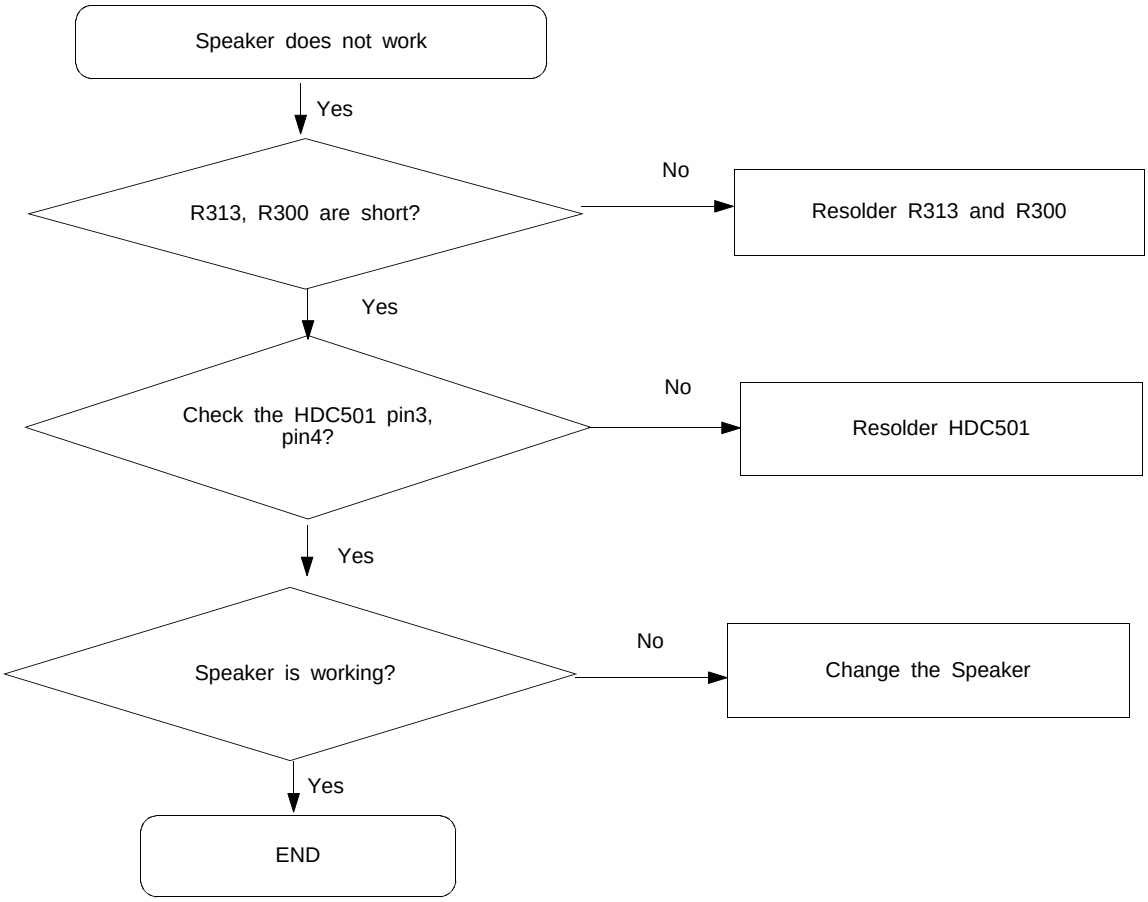
9-5. Microphone Part

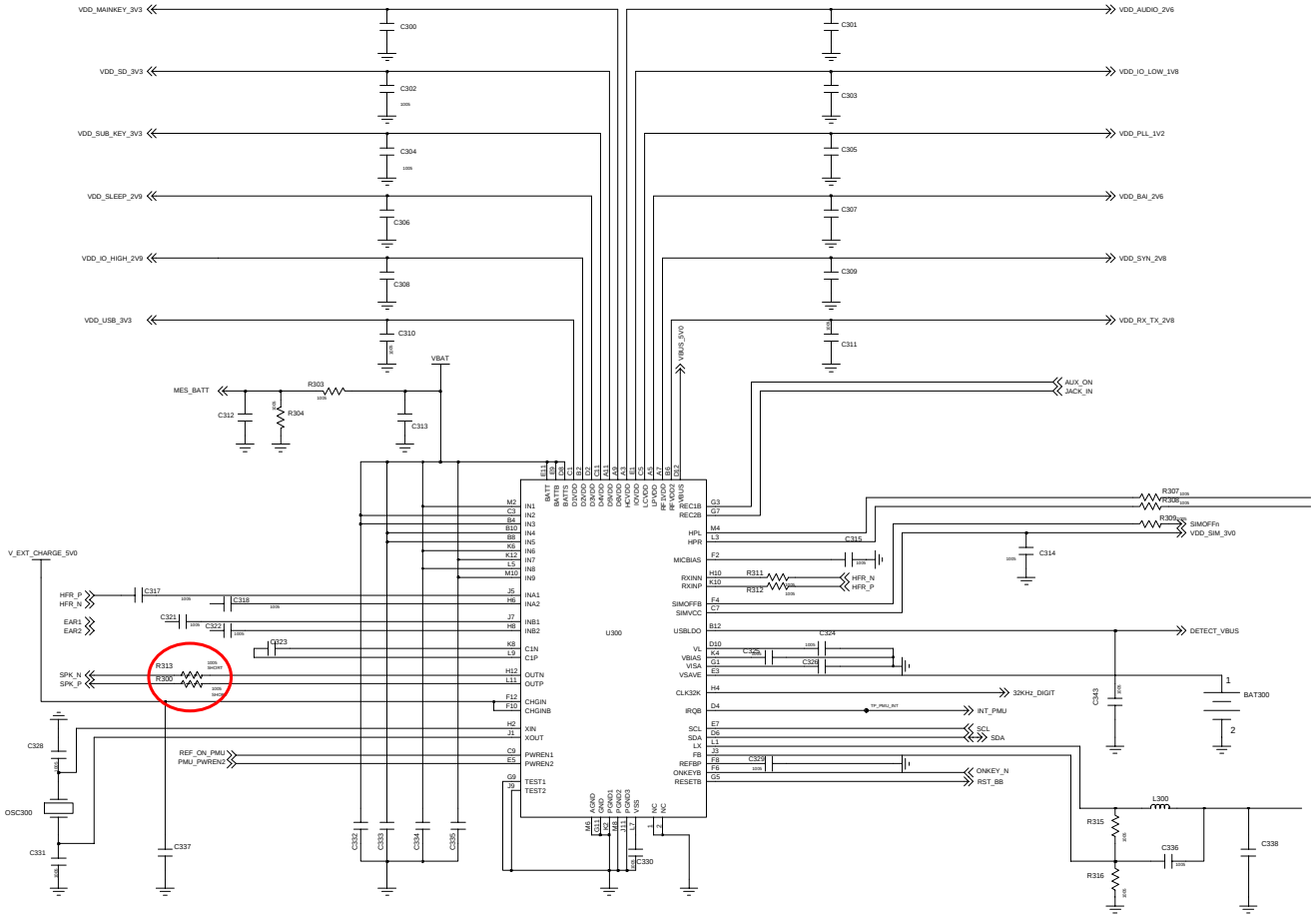


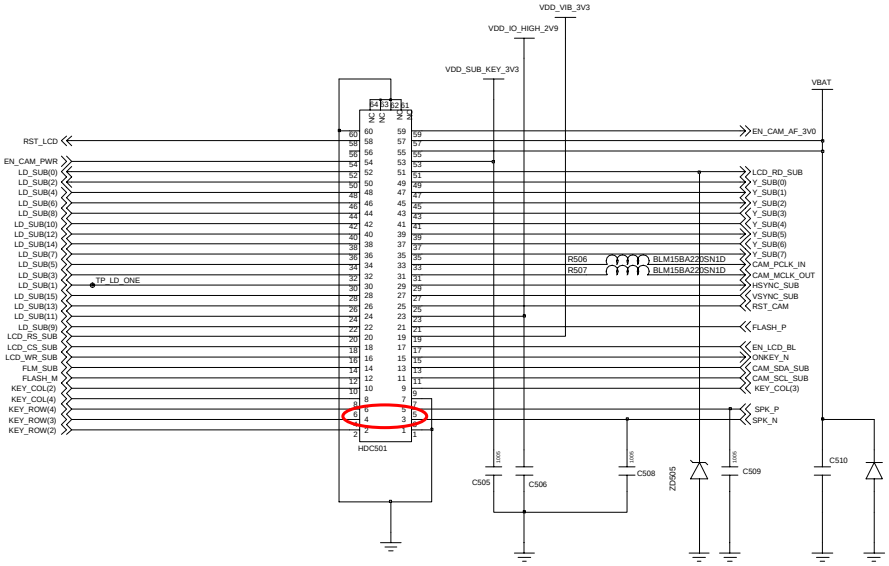


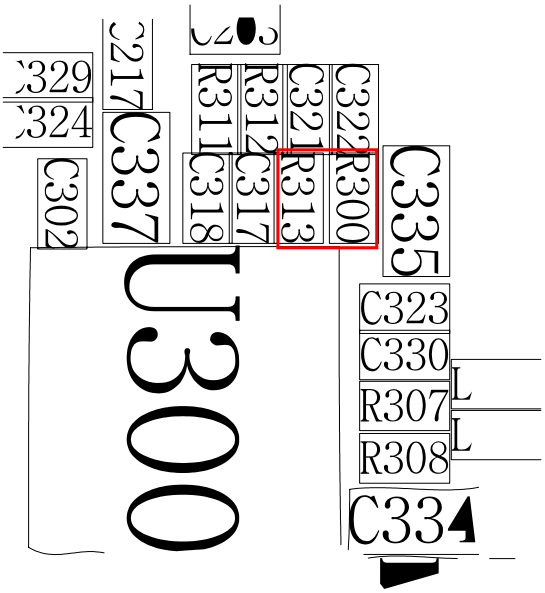


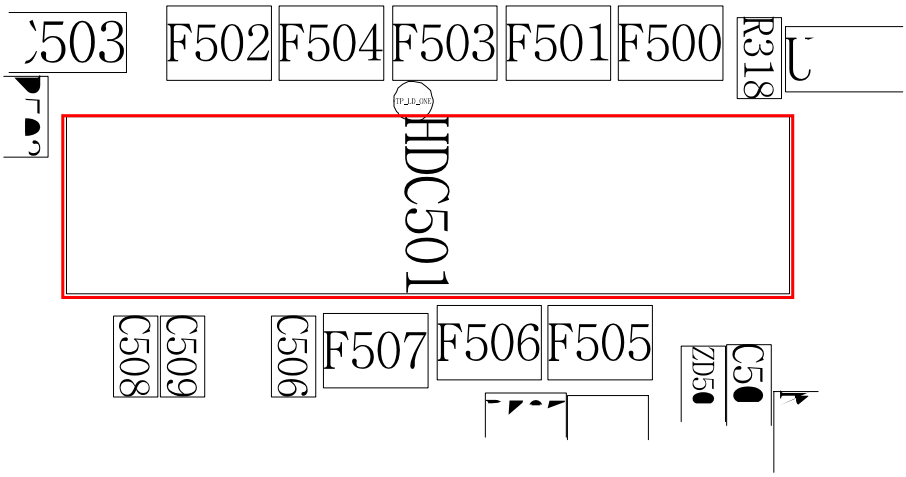
9-6. Speaker Part(Melody)



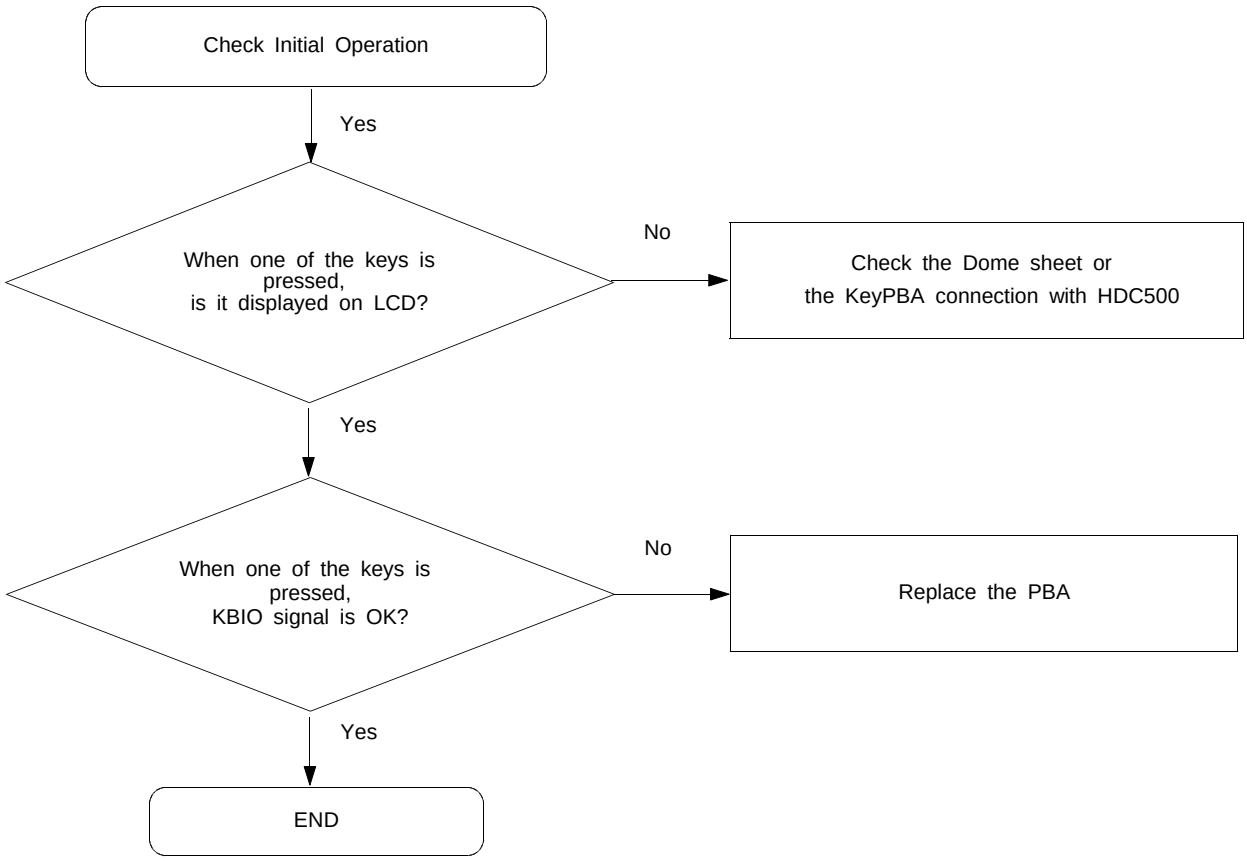


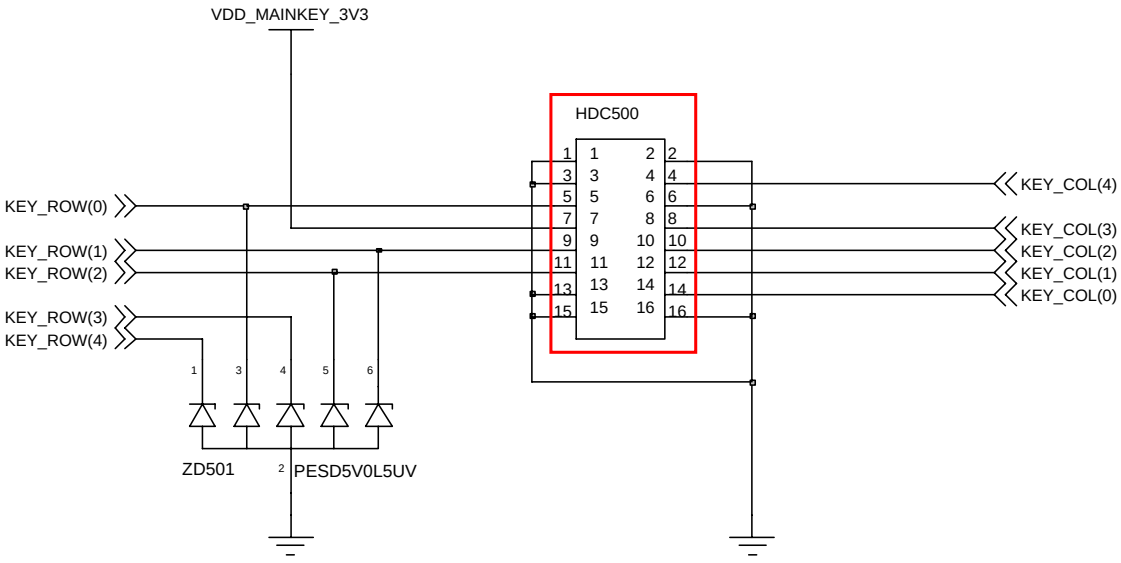


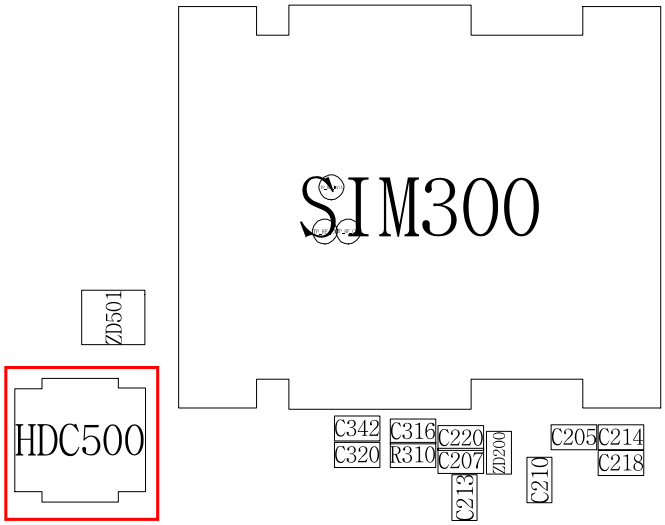




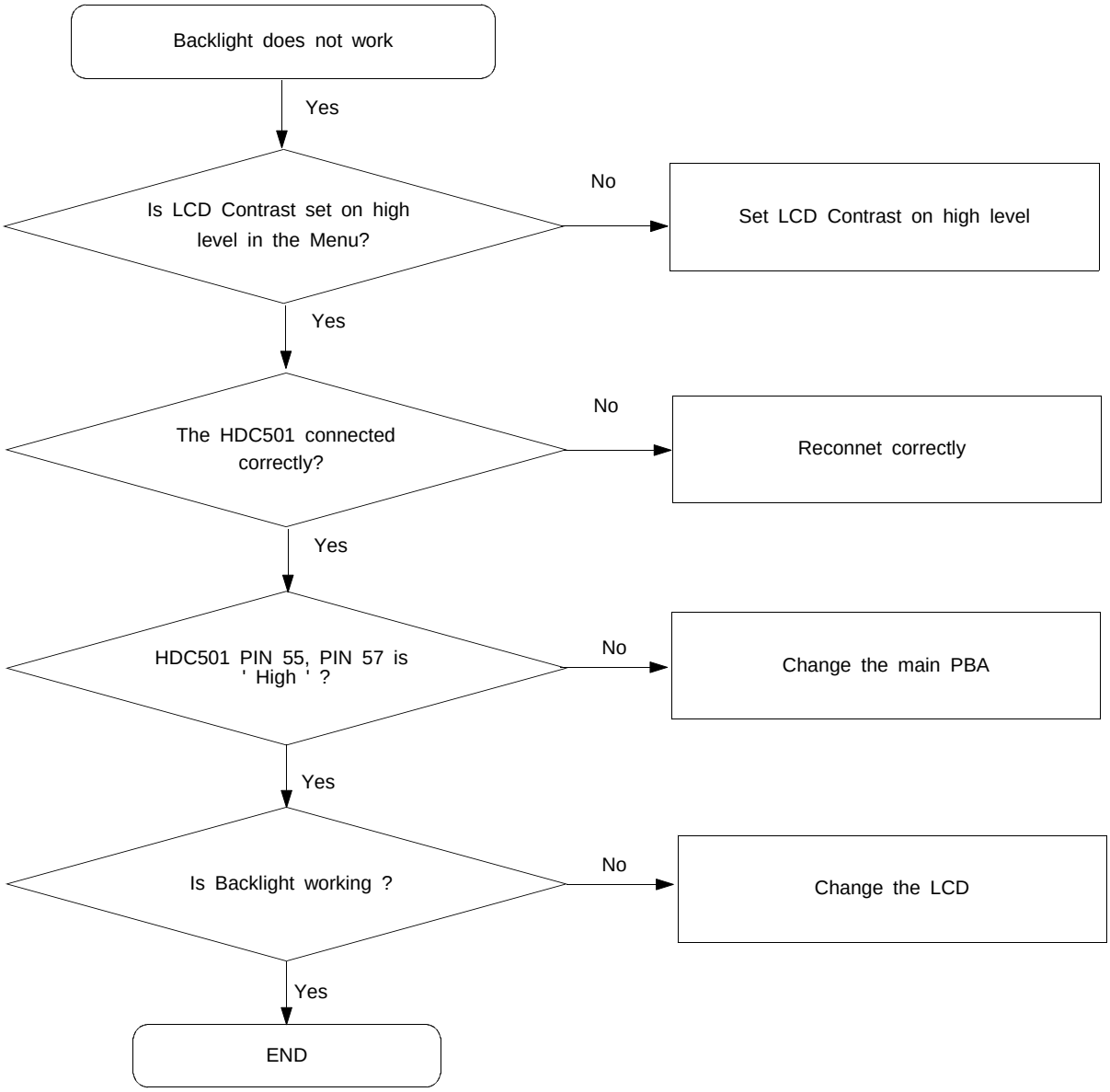
9-7. Key Data Input

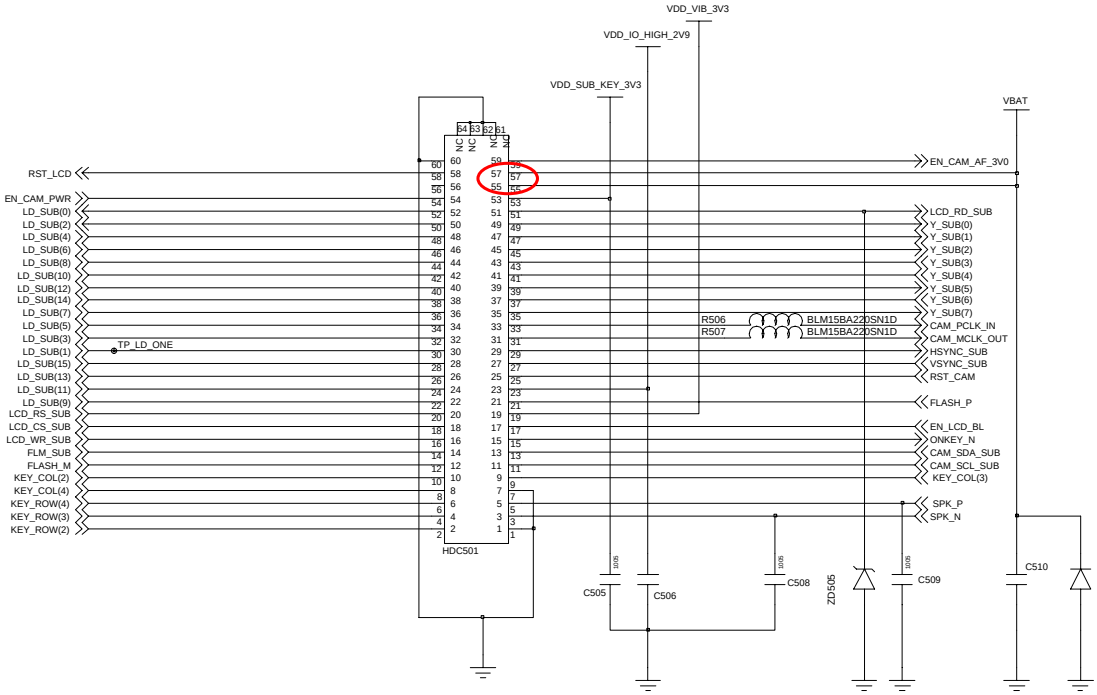


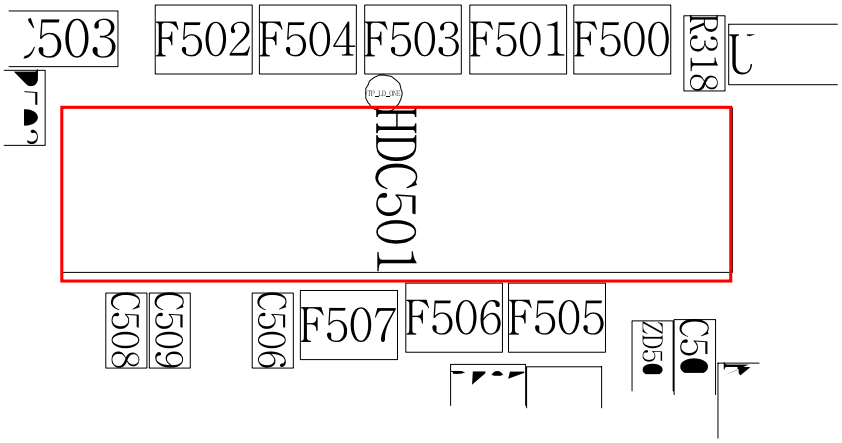




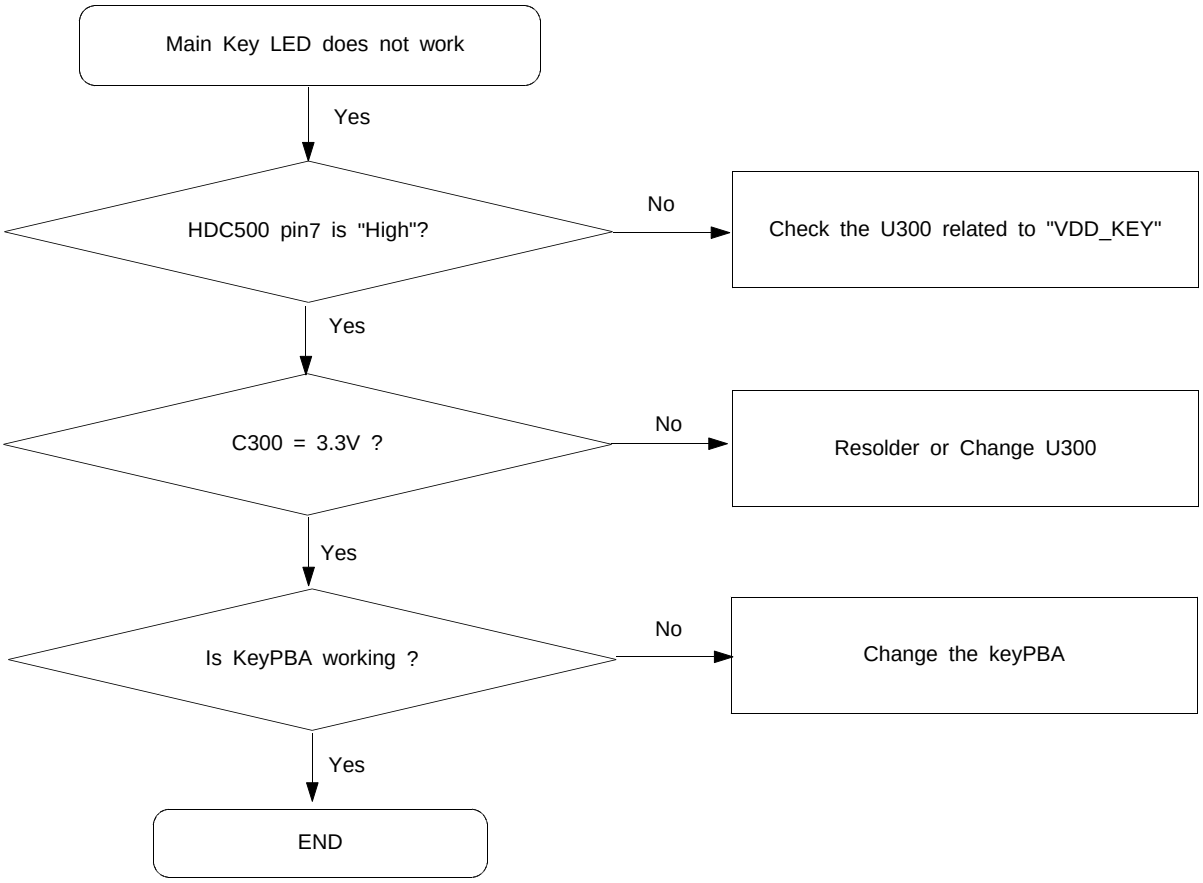
9-8. Back Light (for Color Main LCD)

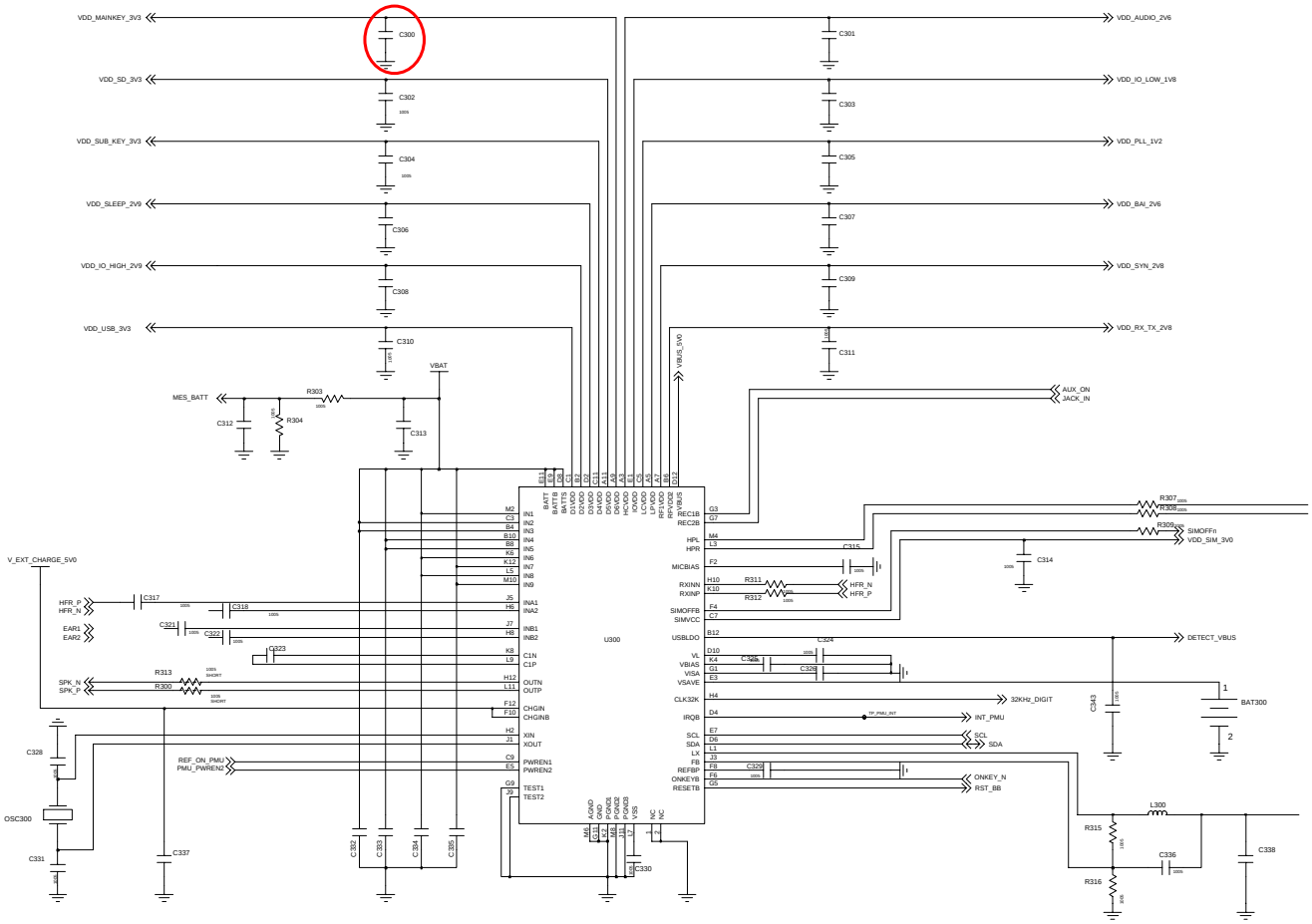


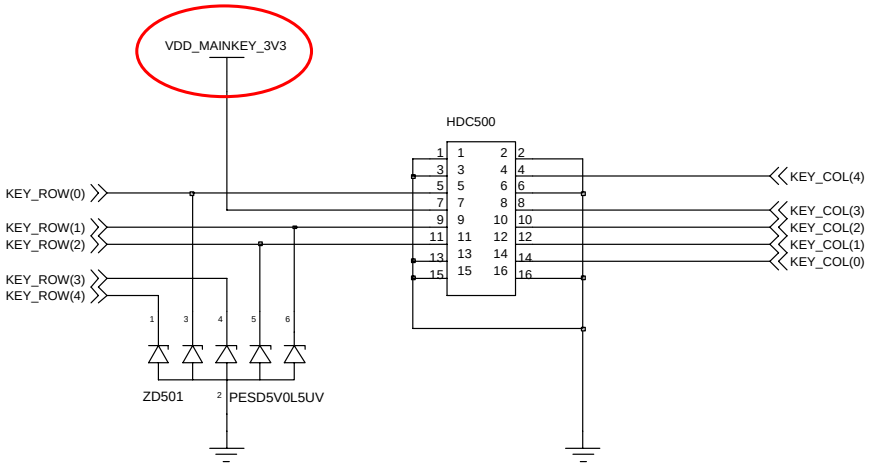


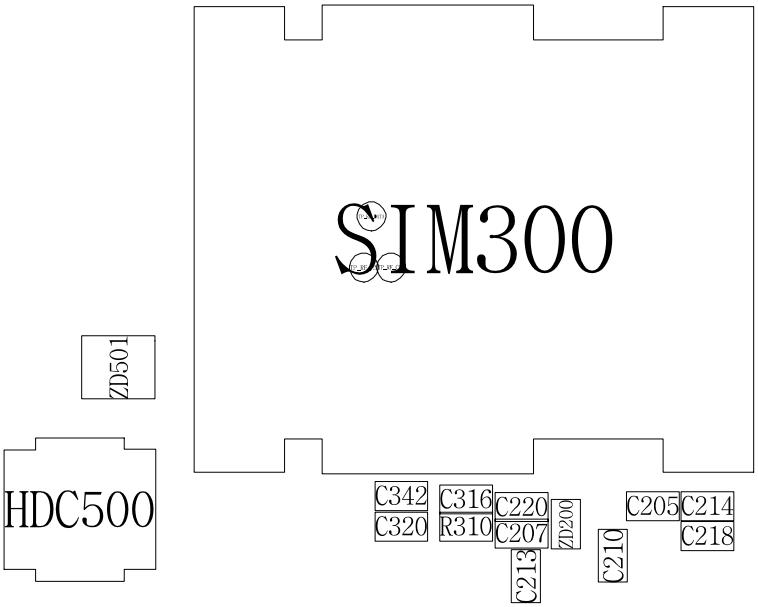


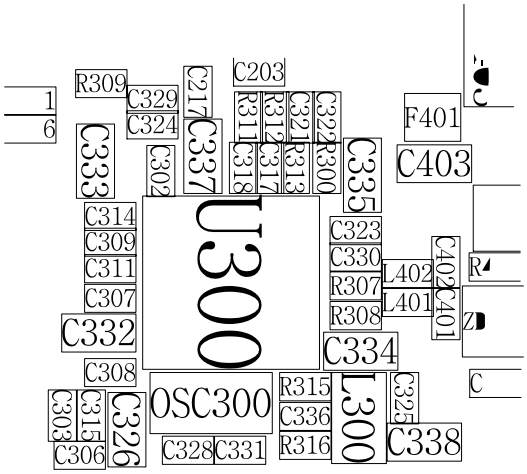
9-9. Key Back Light



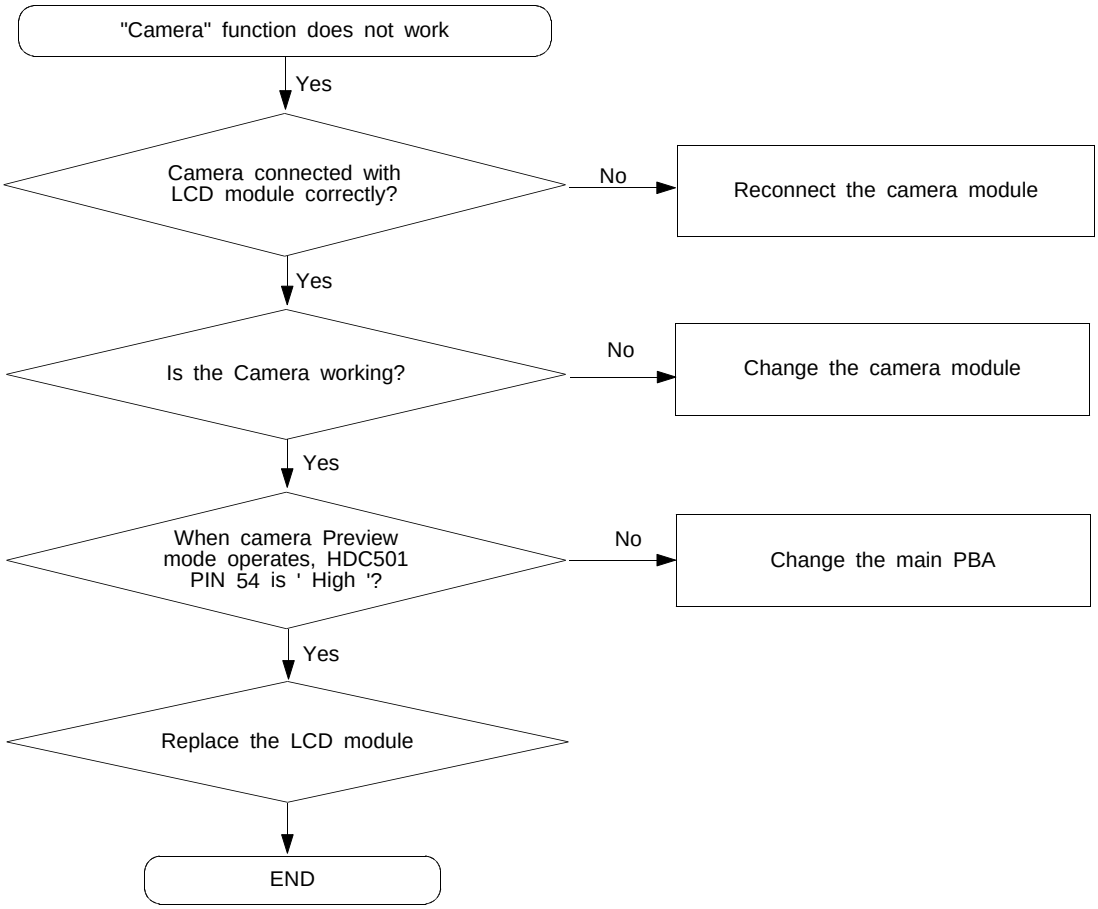


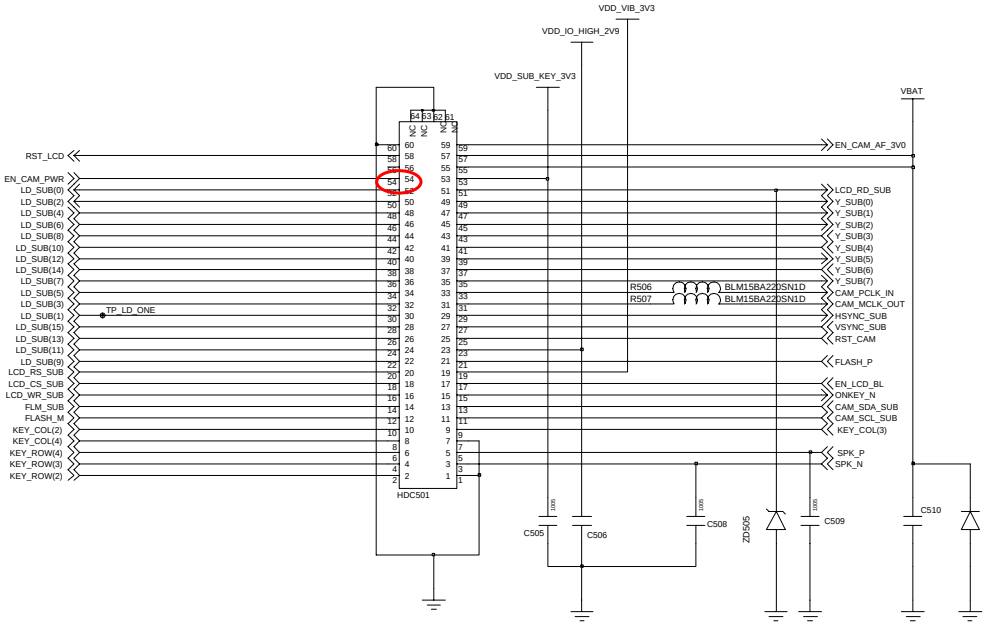


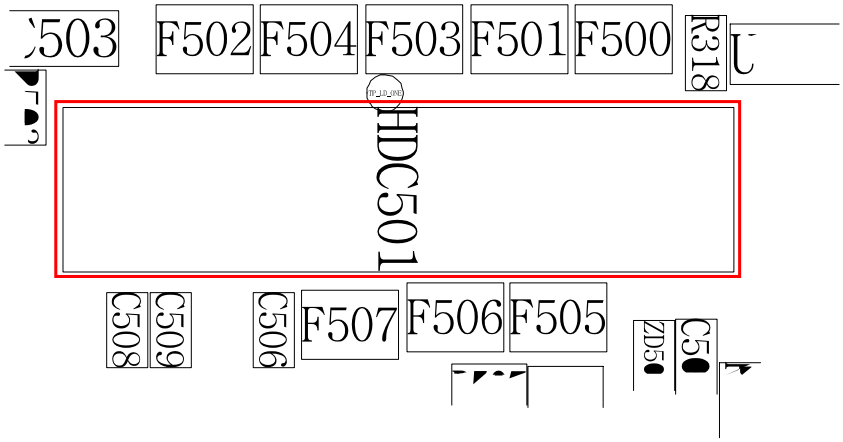




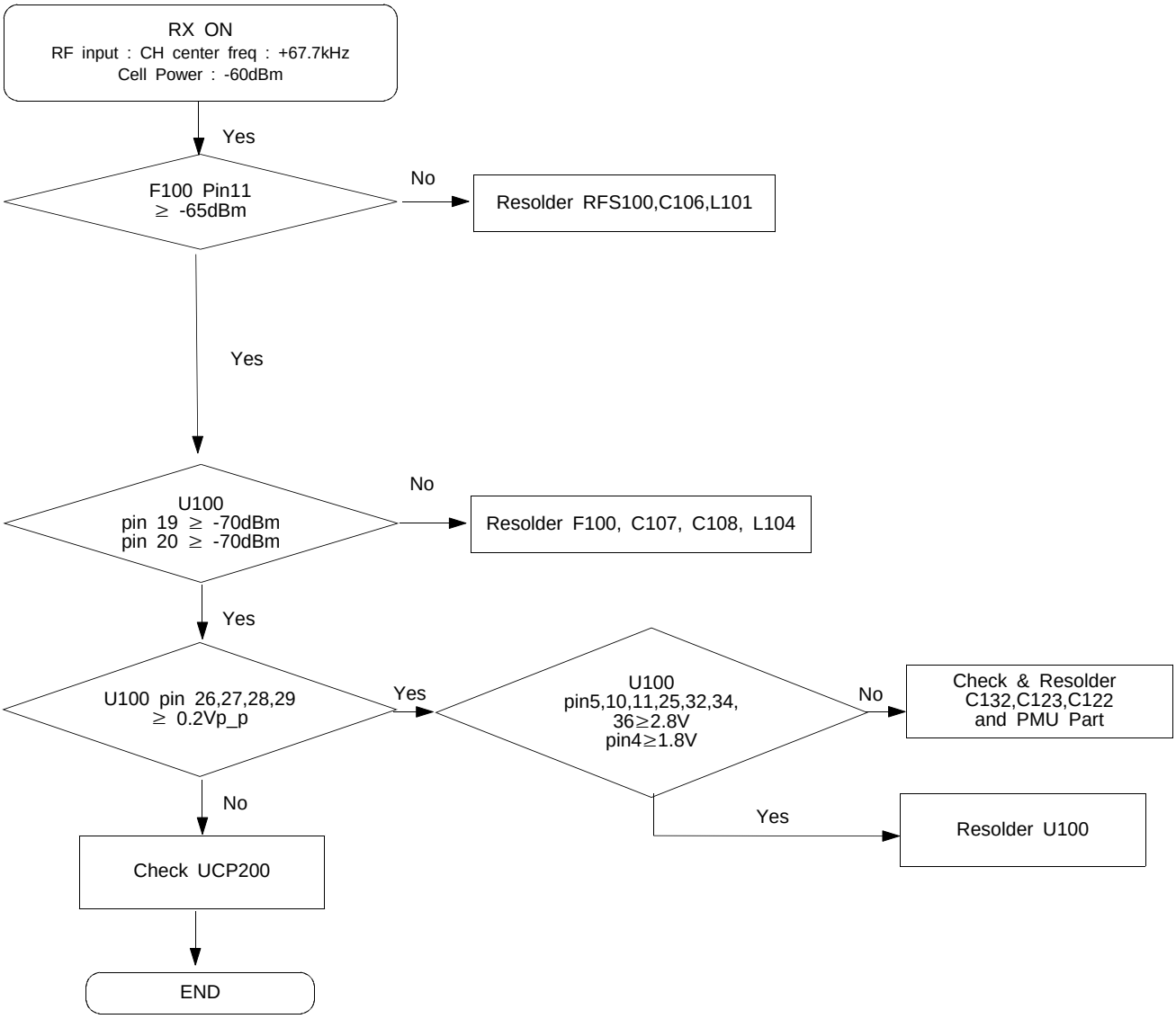
9-10. Camera part

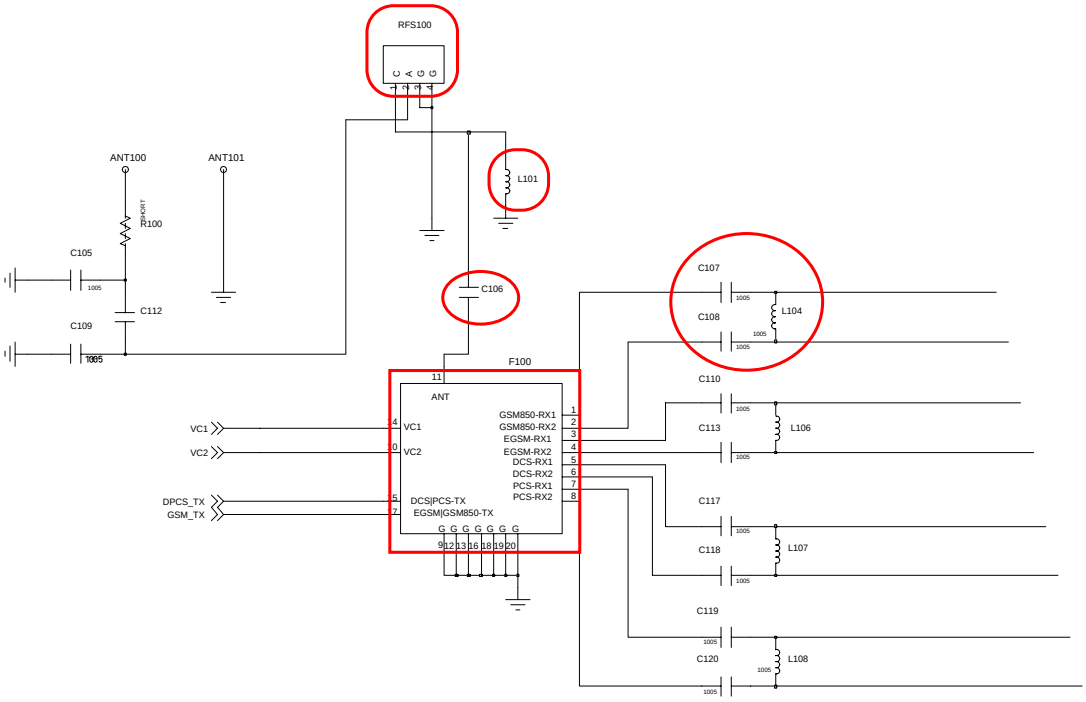


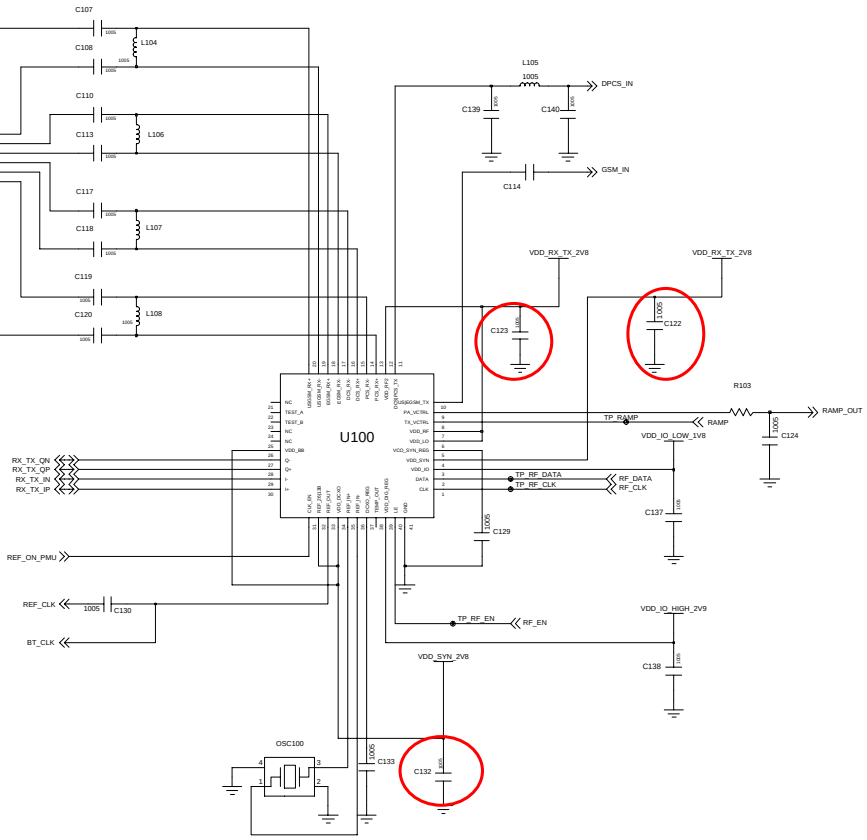


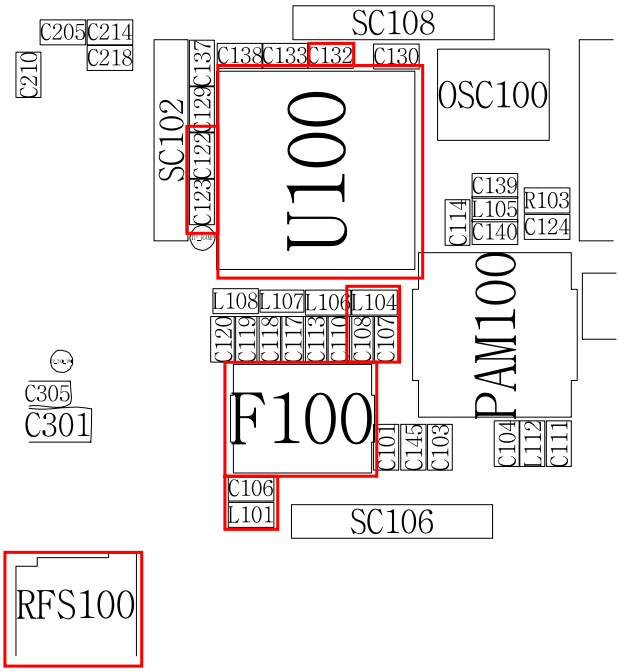


9-11. GSM850 Receiver

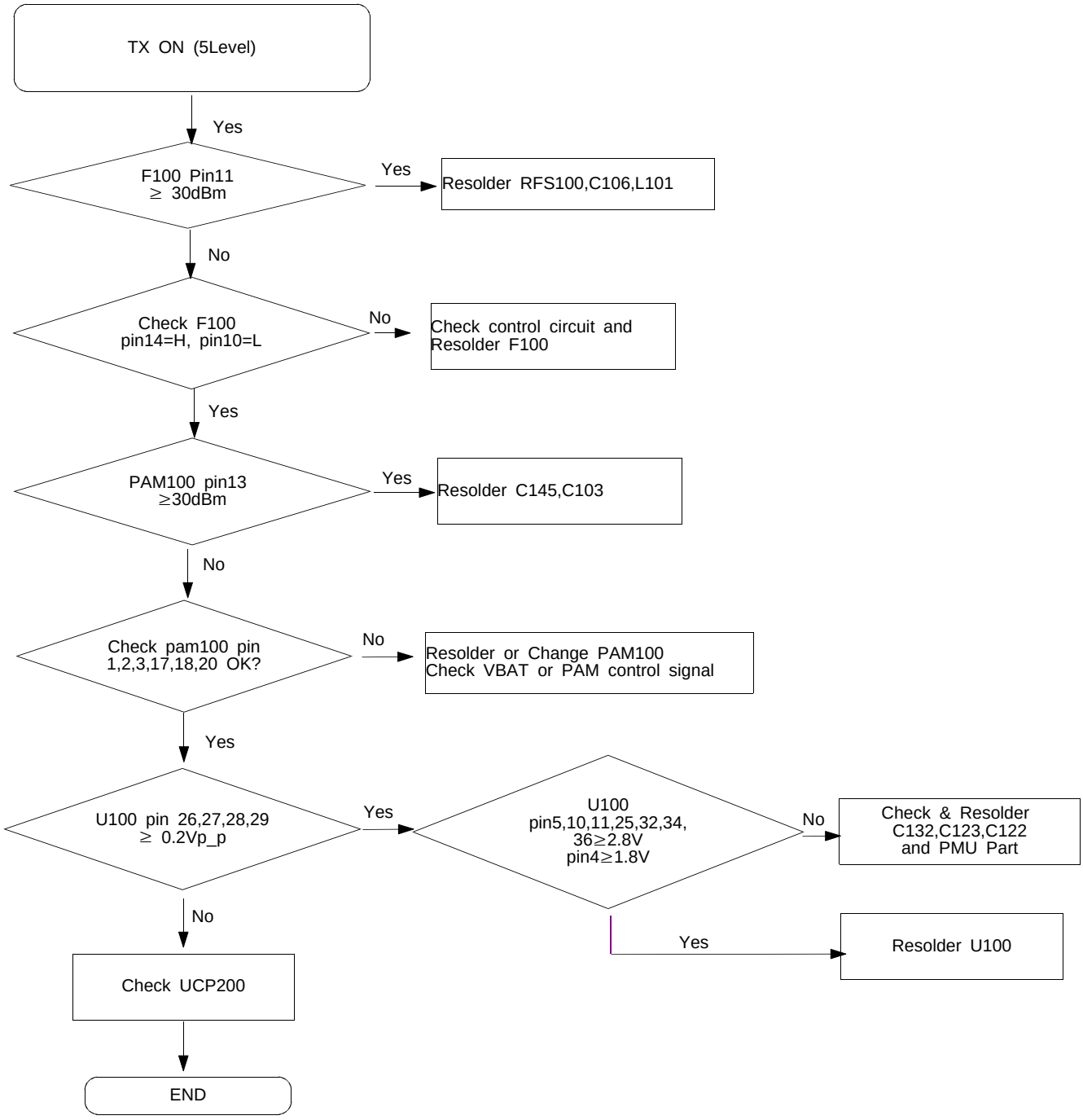


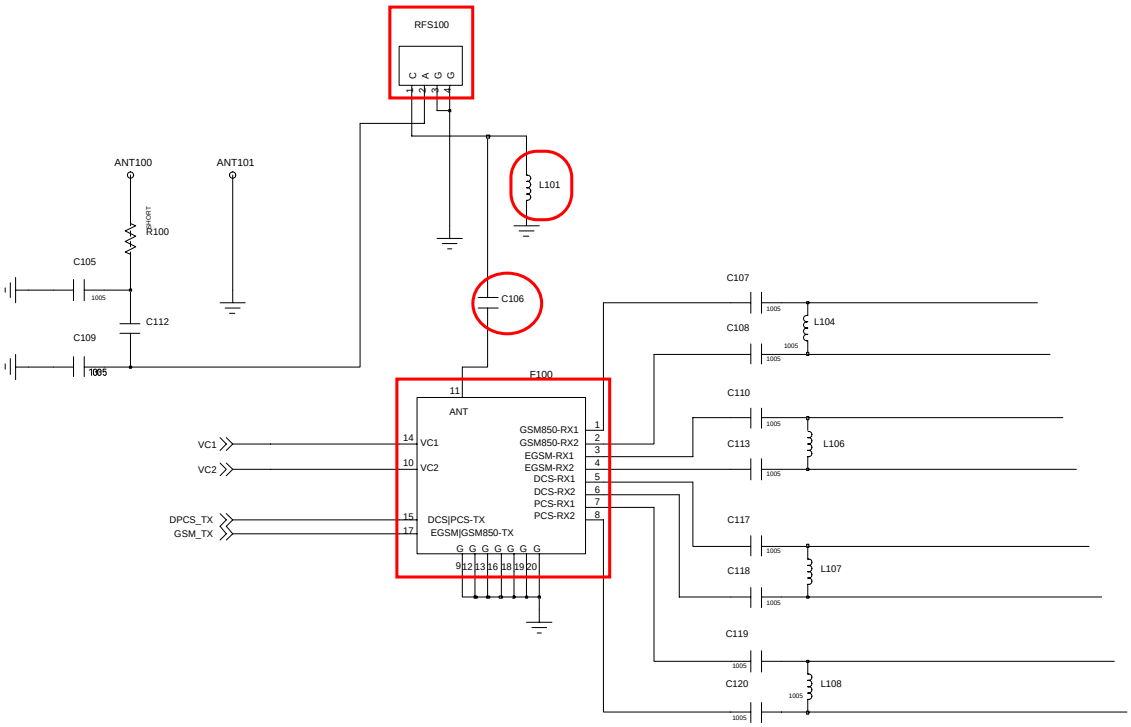


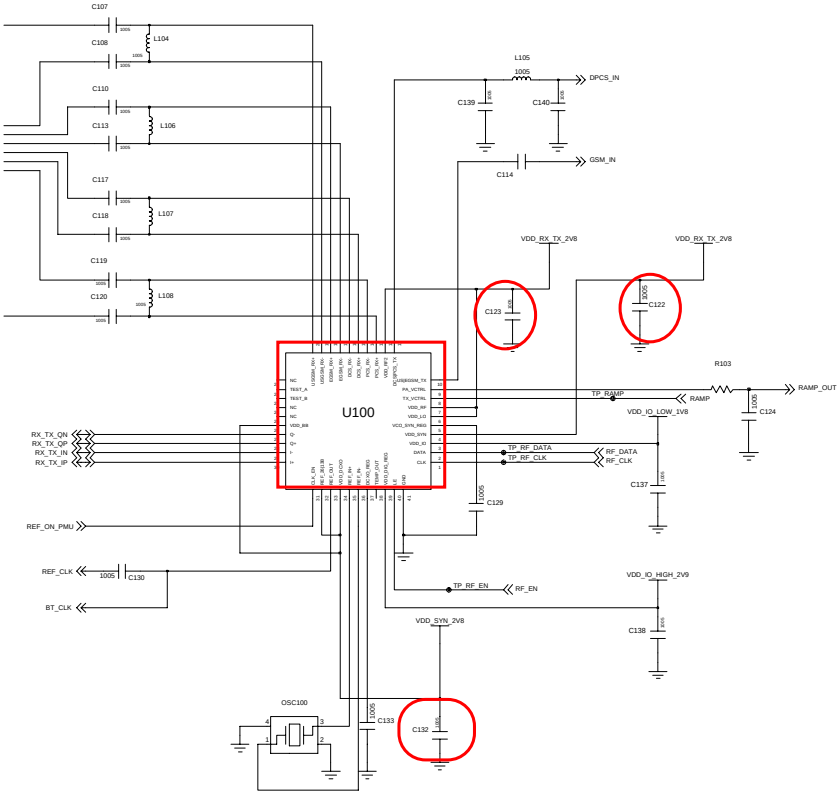


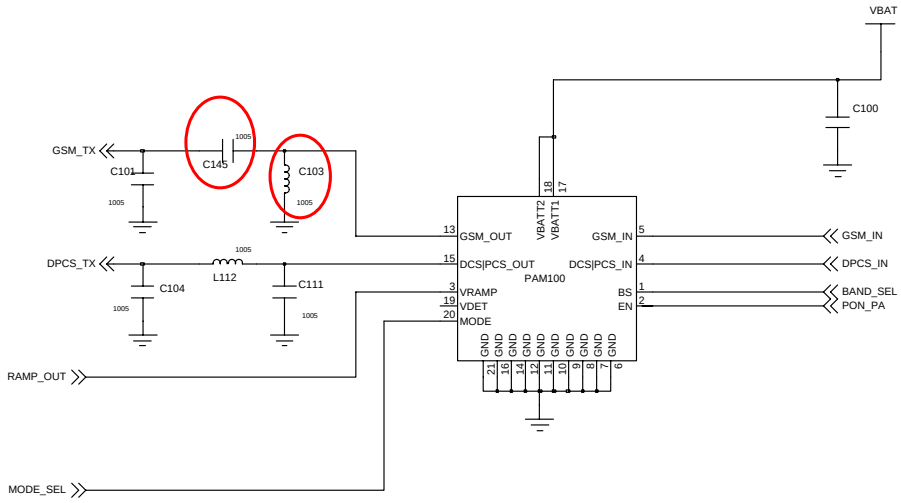


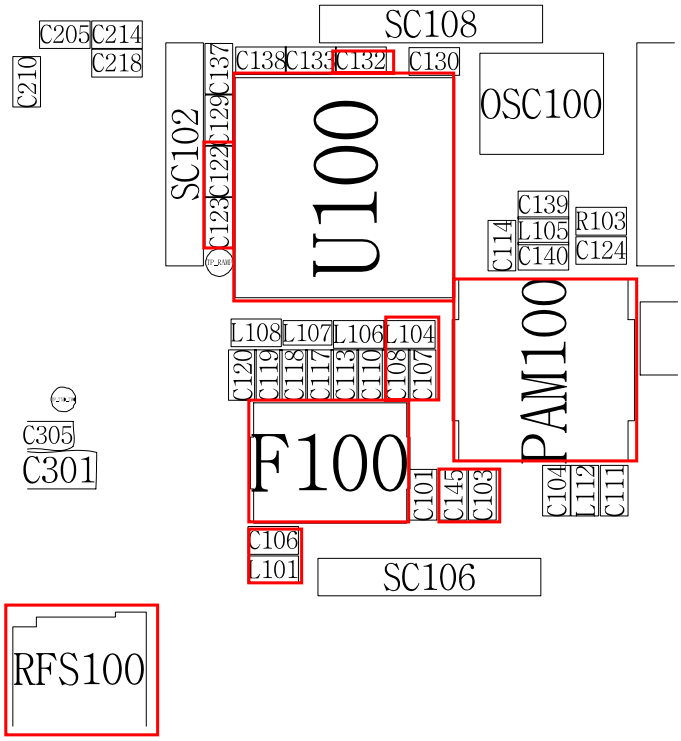
9-12. GSM850 Transmitter



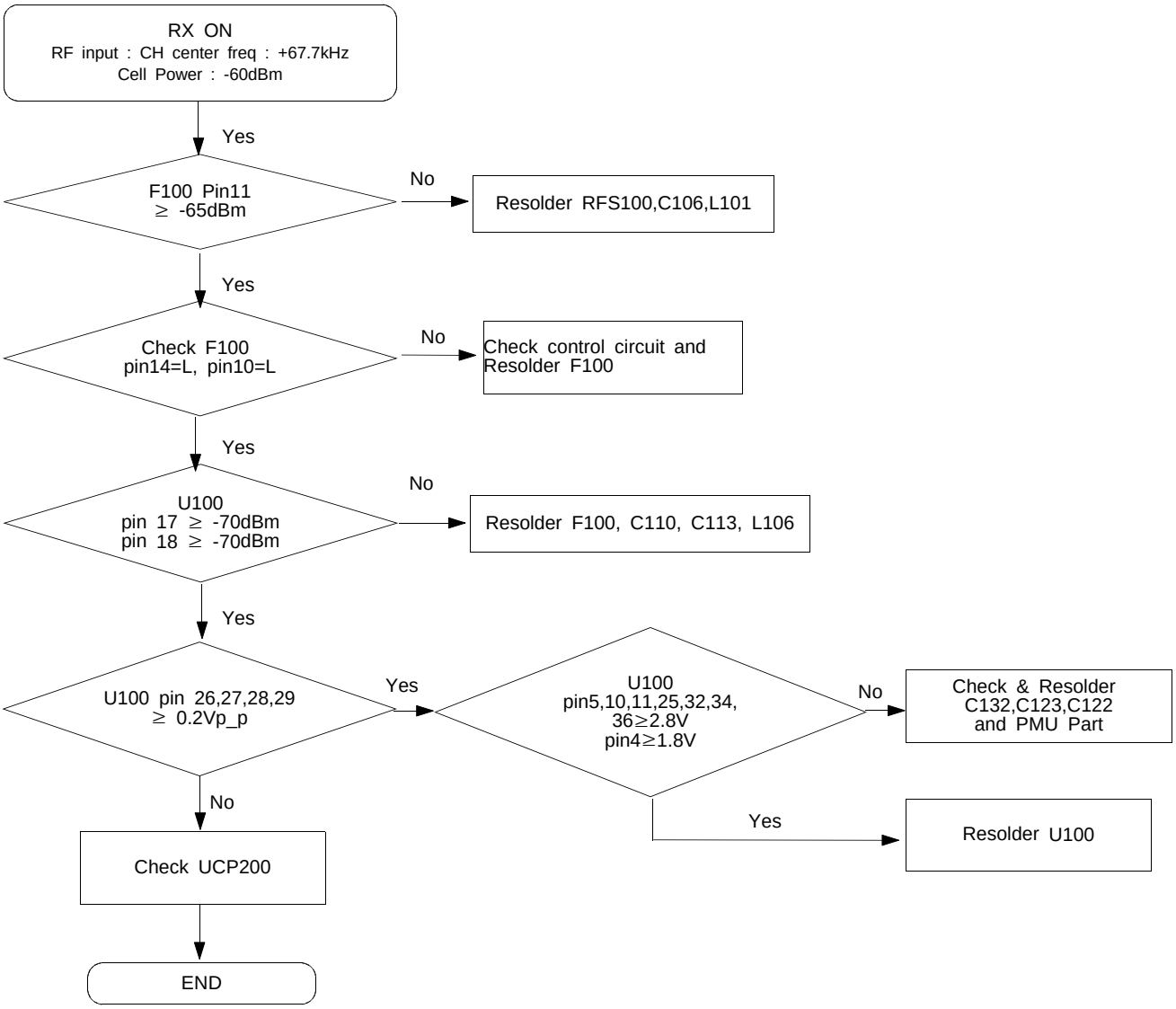


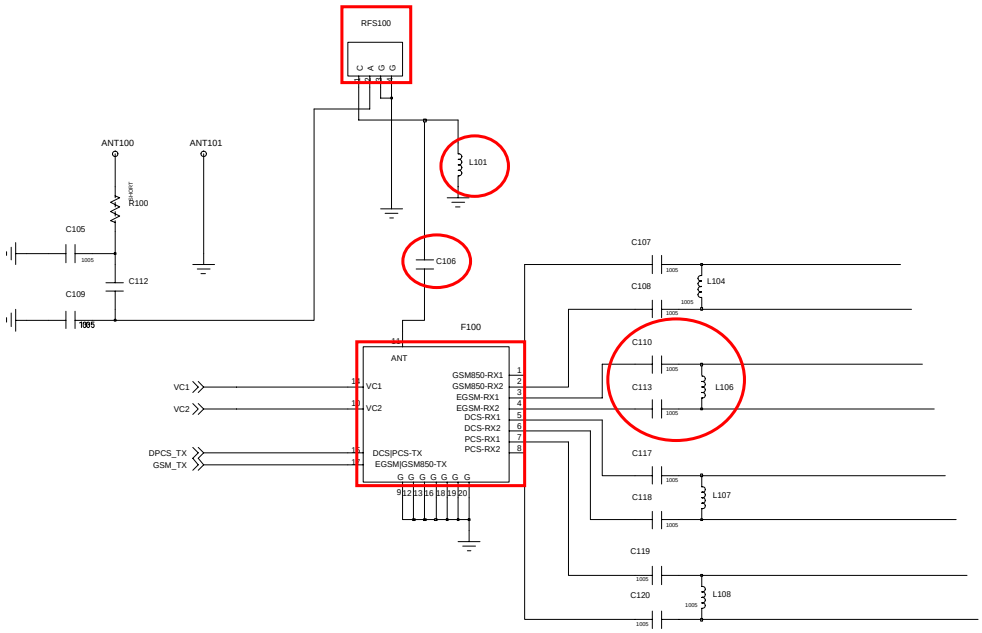


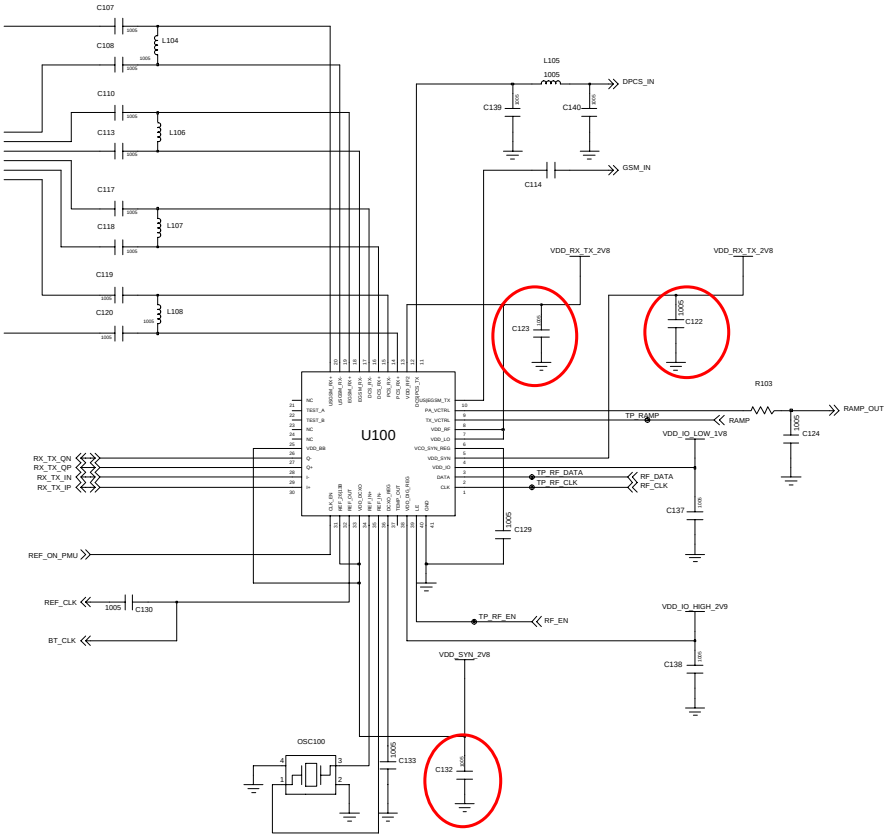


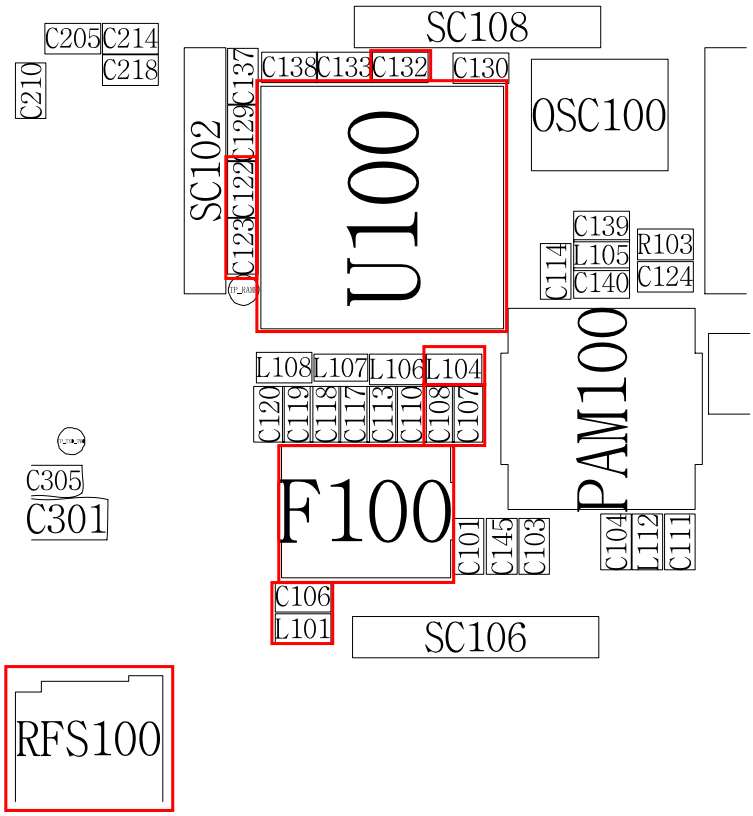


9-13. GSM900 Receiver

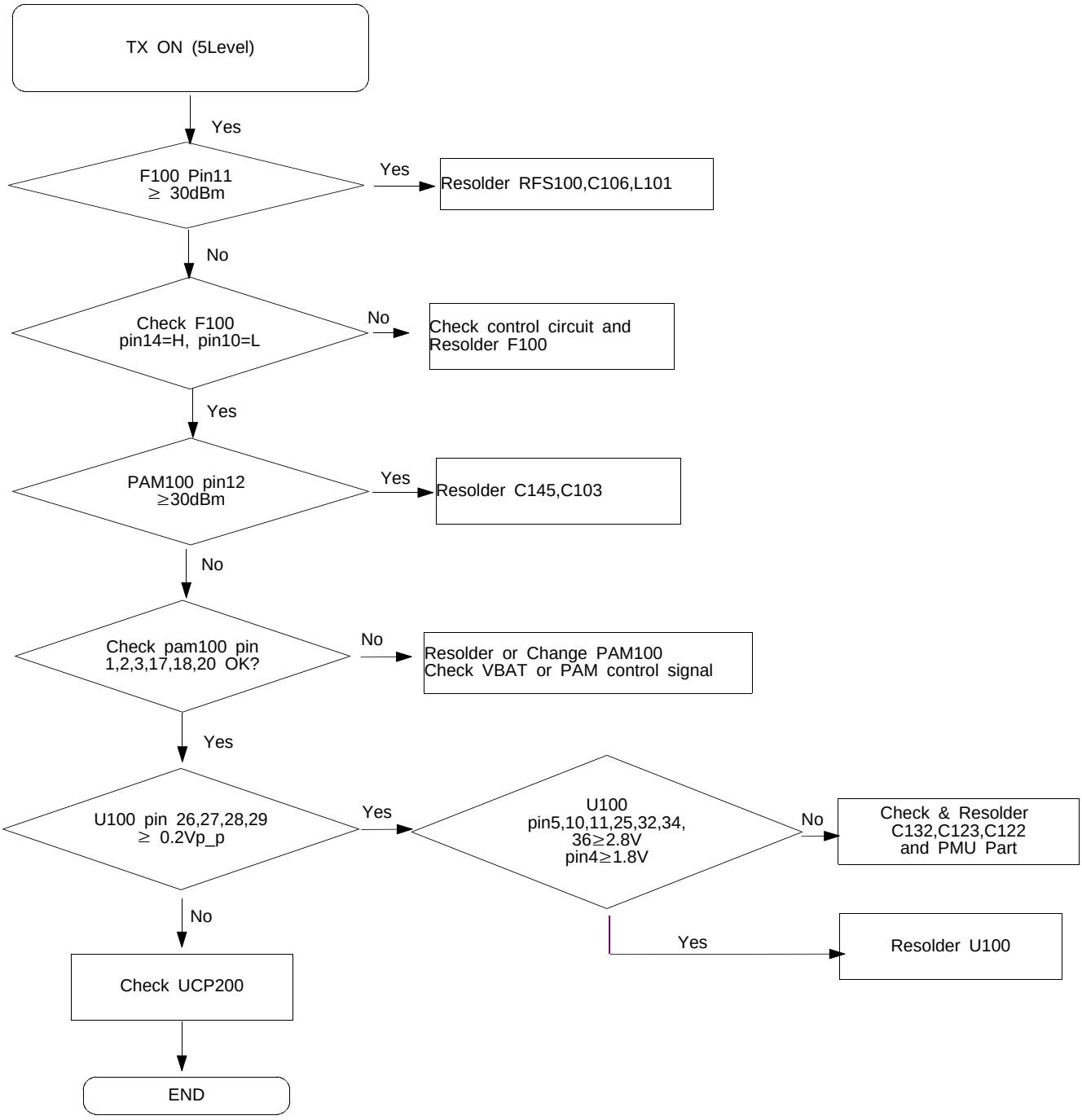


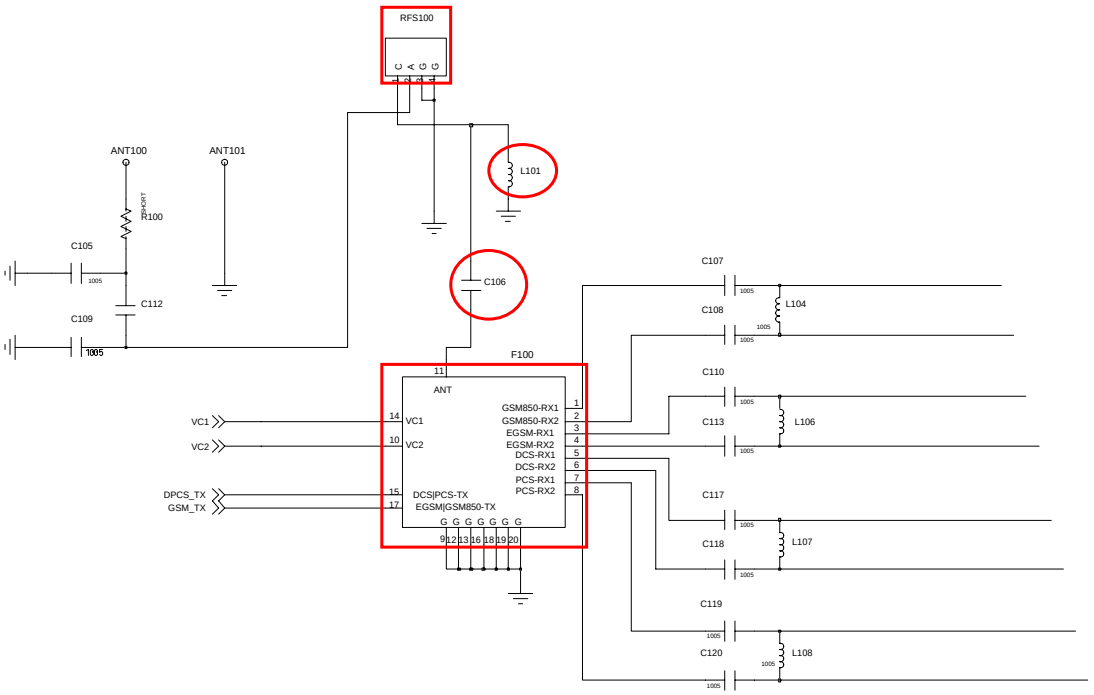


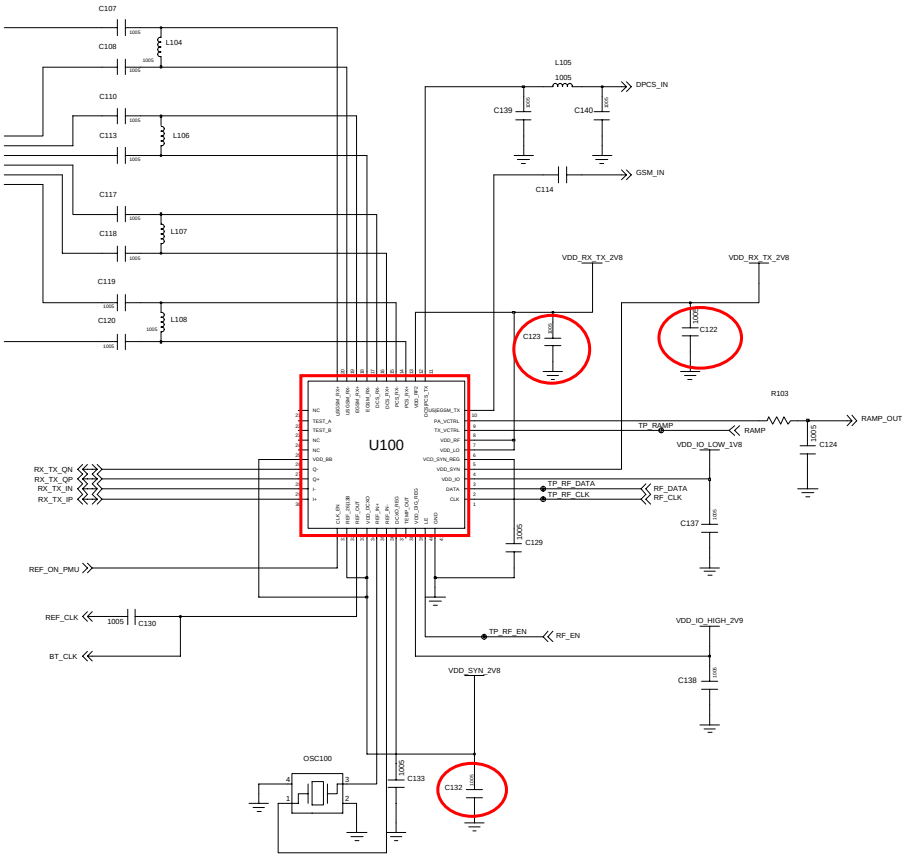


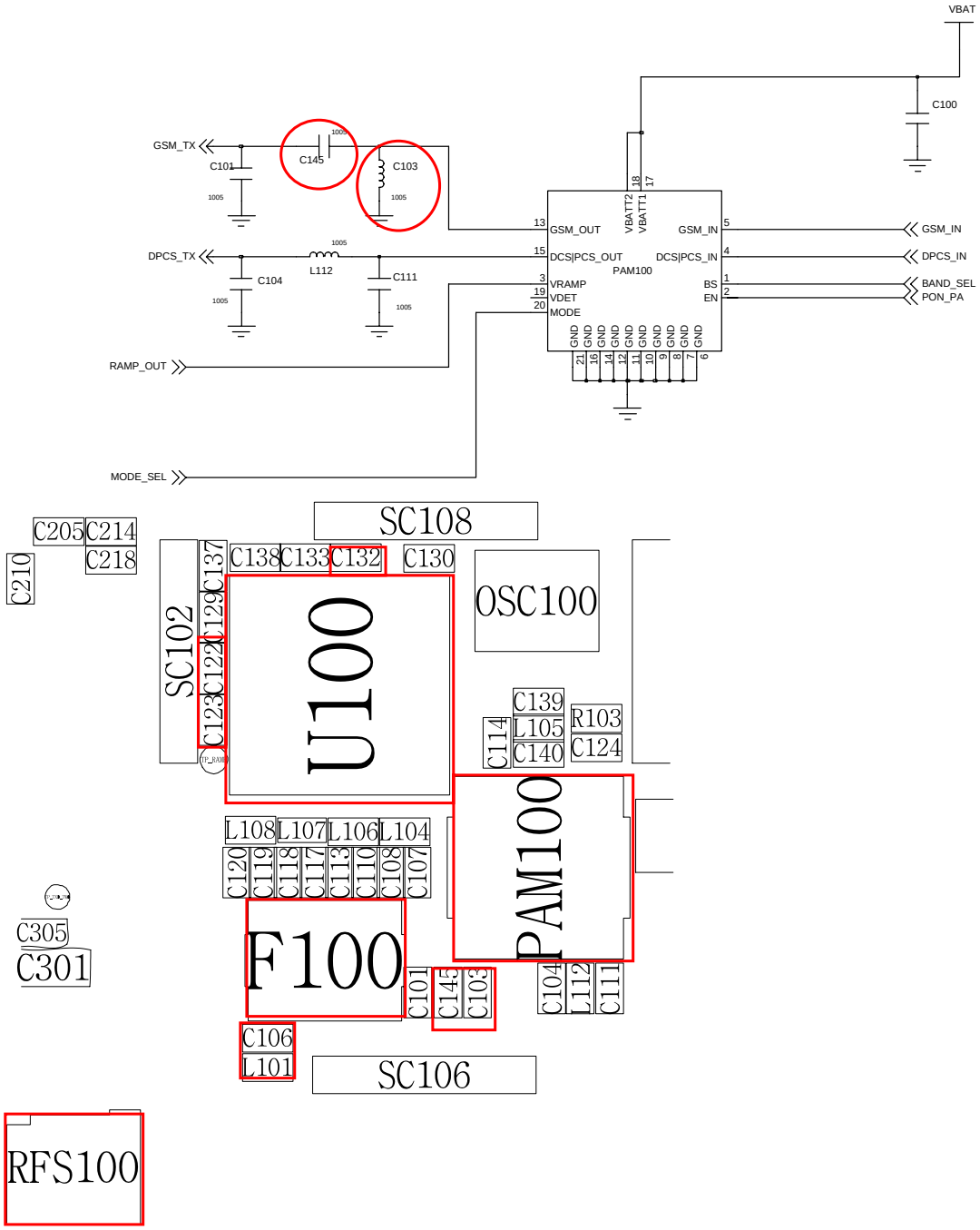


9-14. GSM900 Transmitter

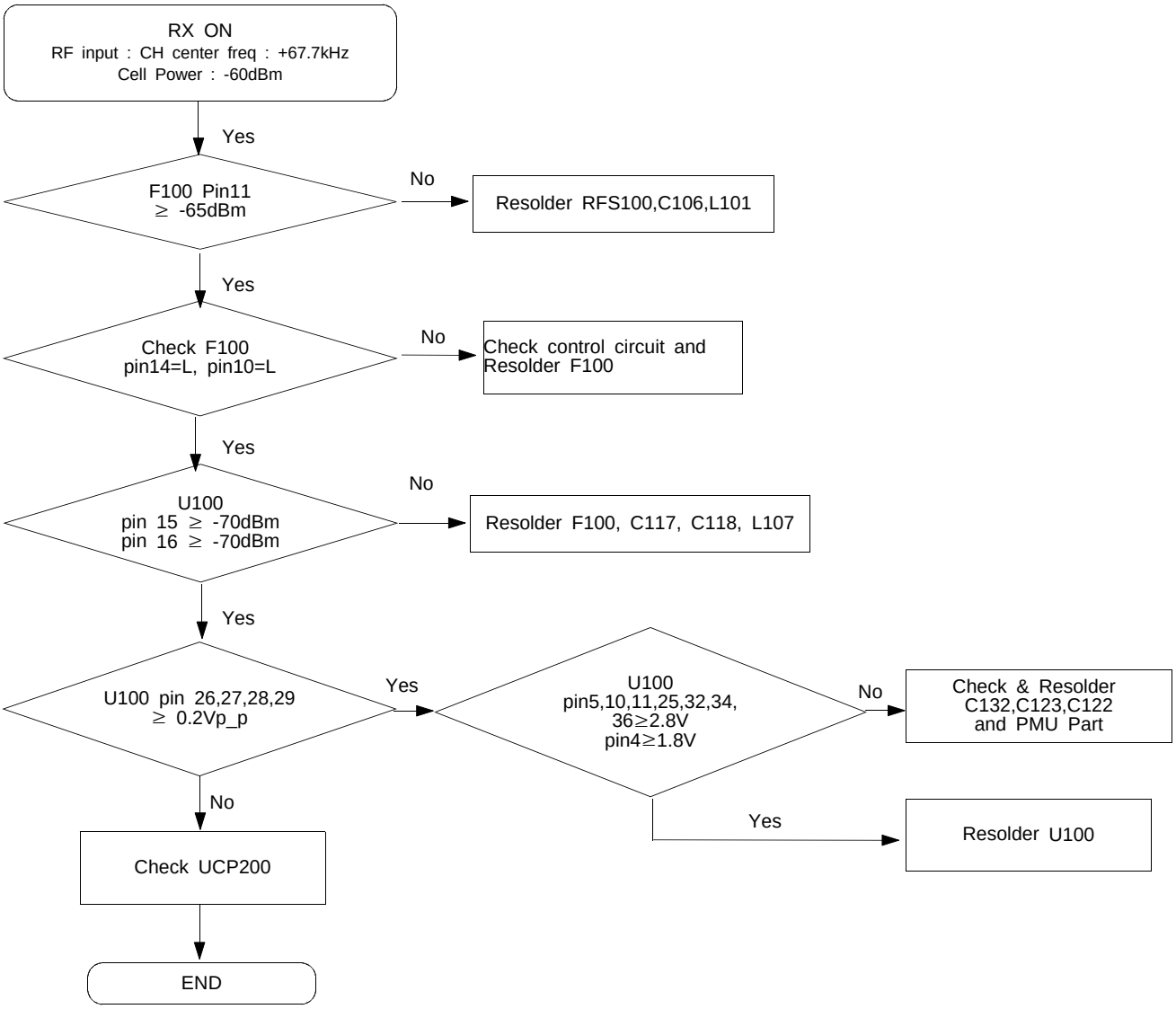


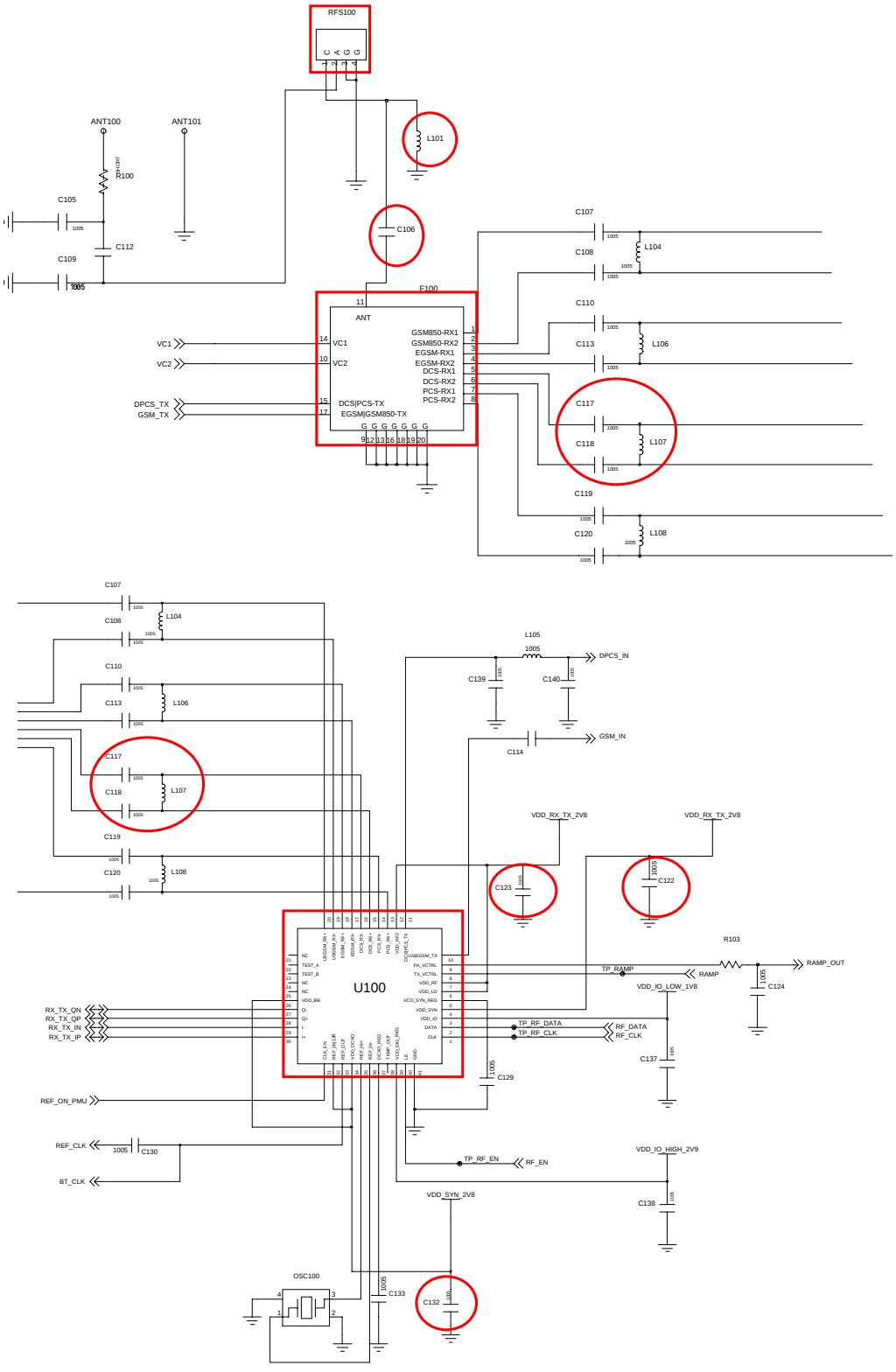


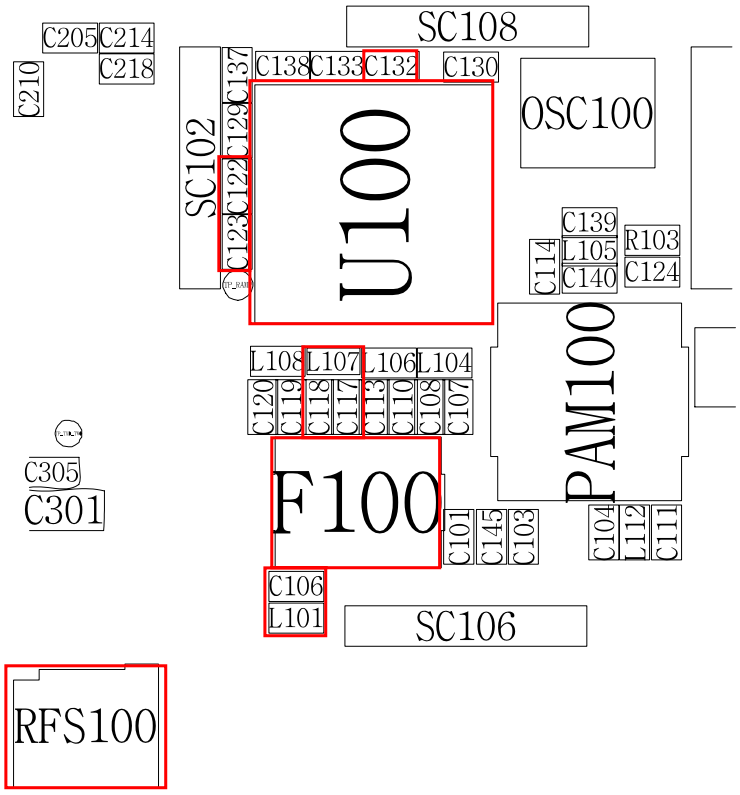




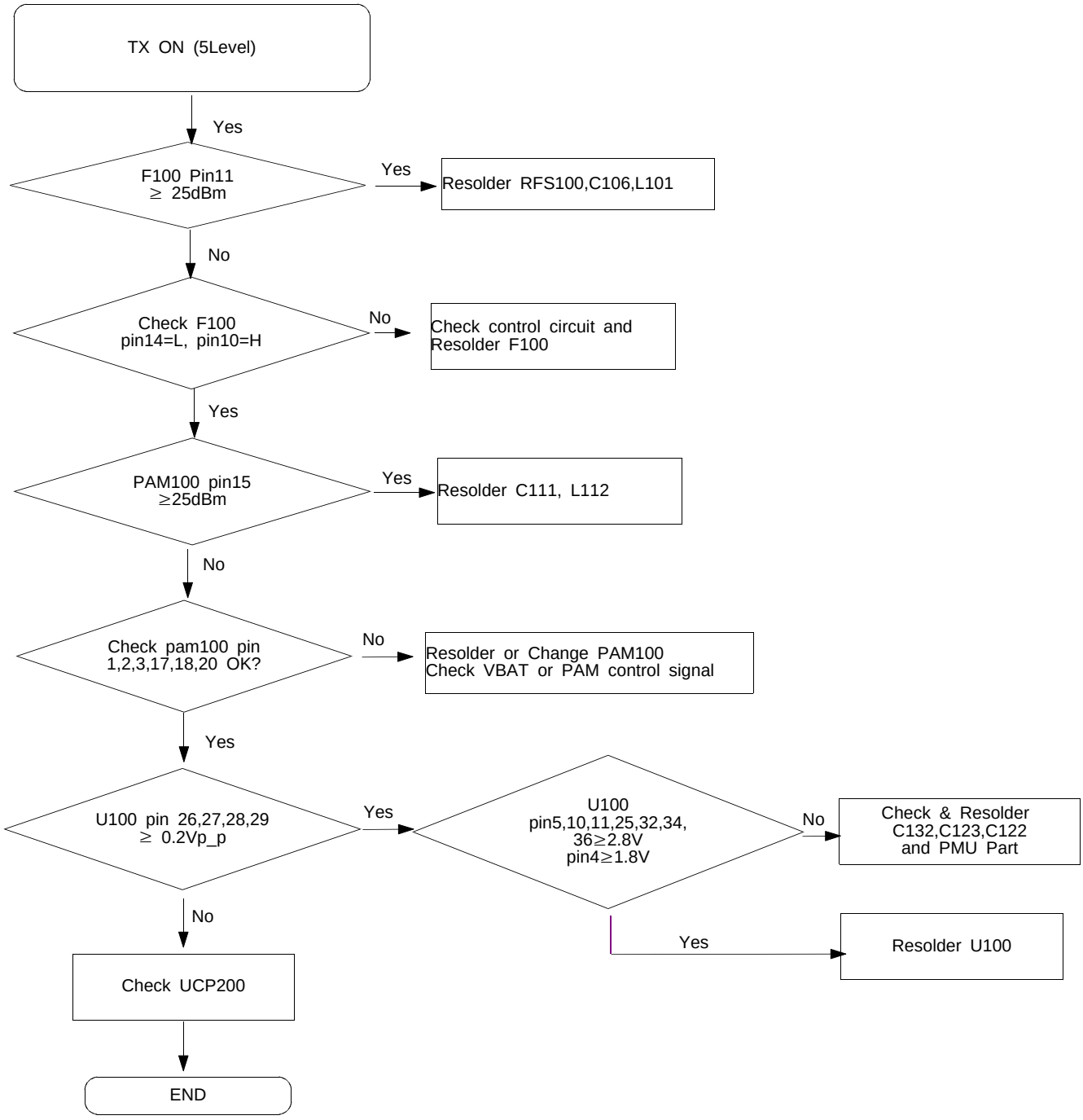
9-15. DCS Receiver

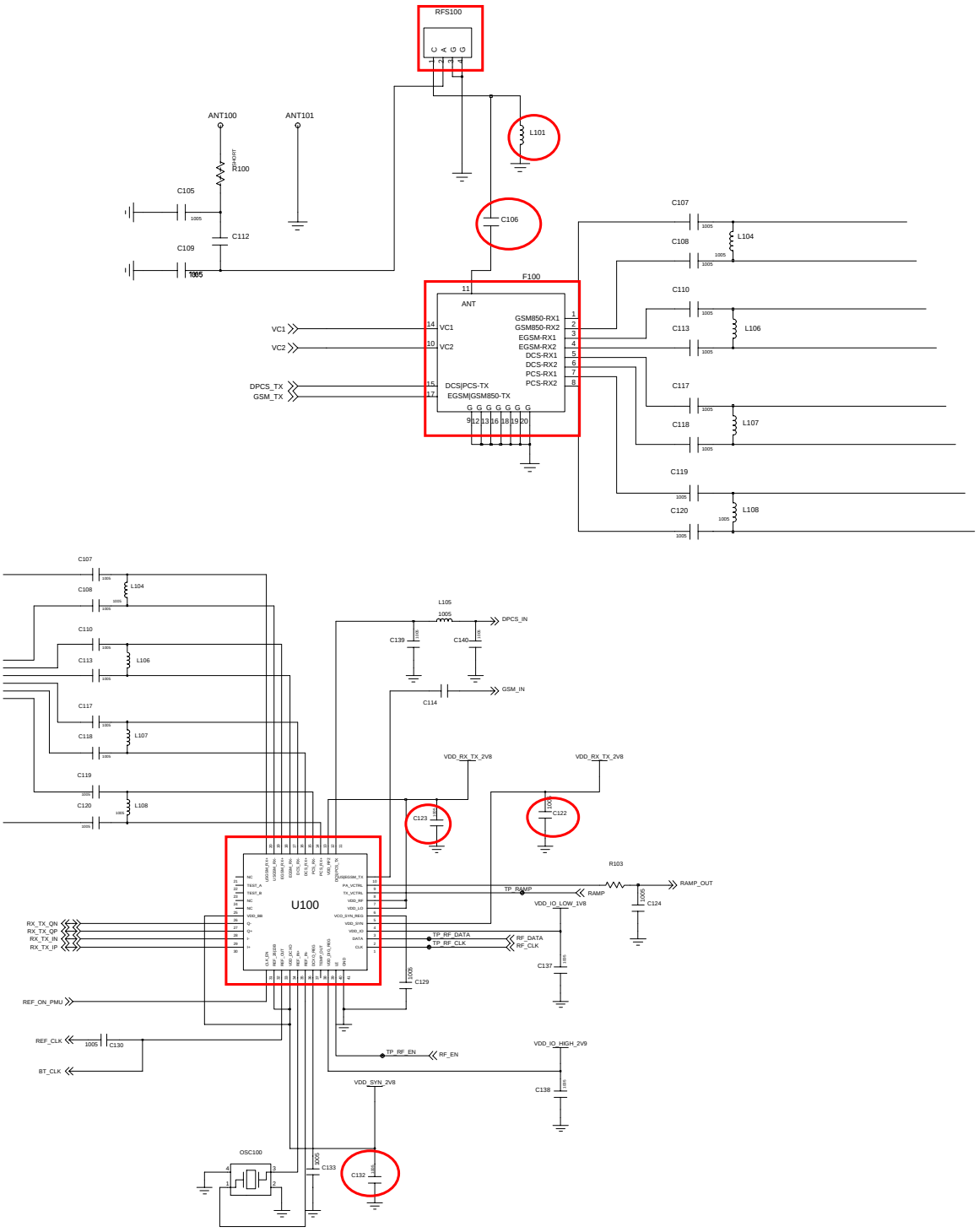


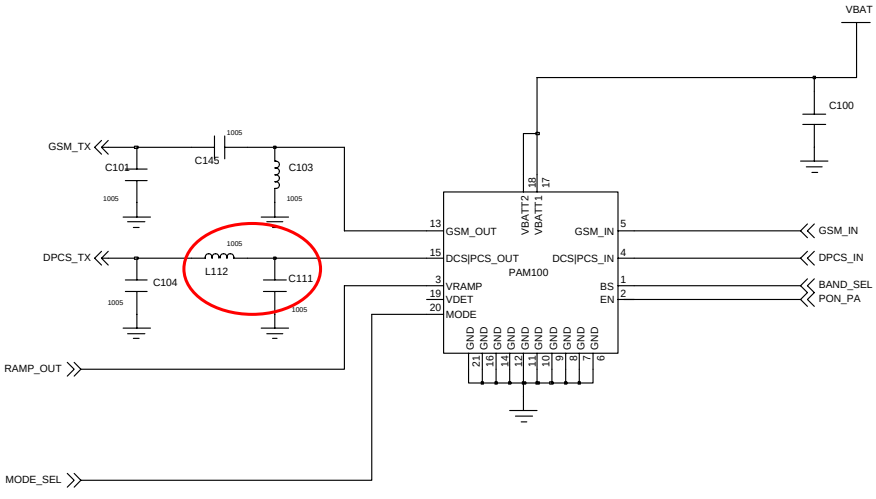


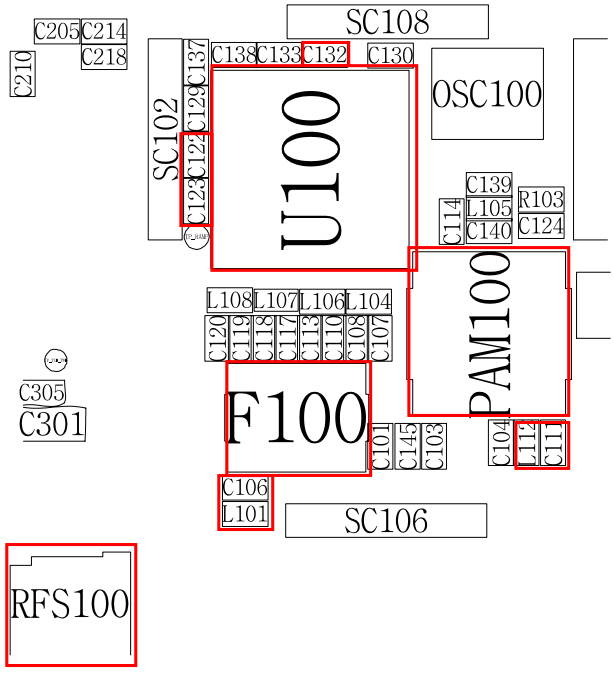


9-16. DCS Transmitter

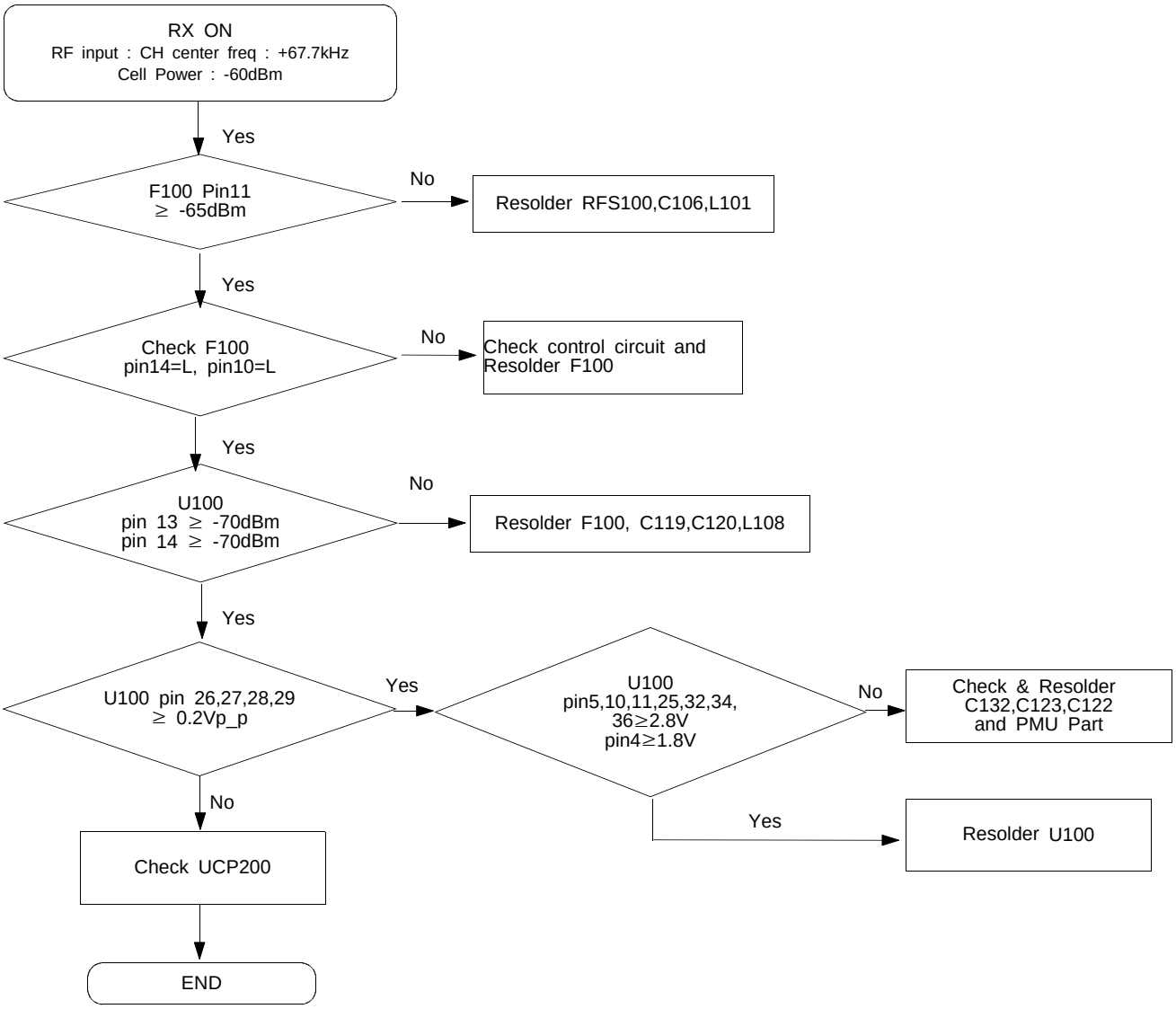


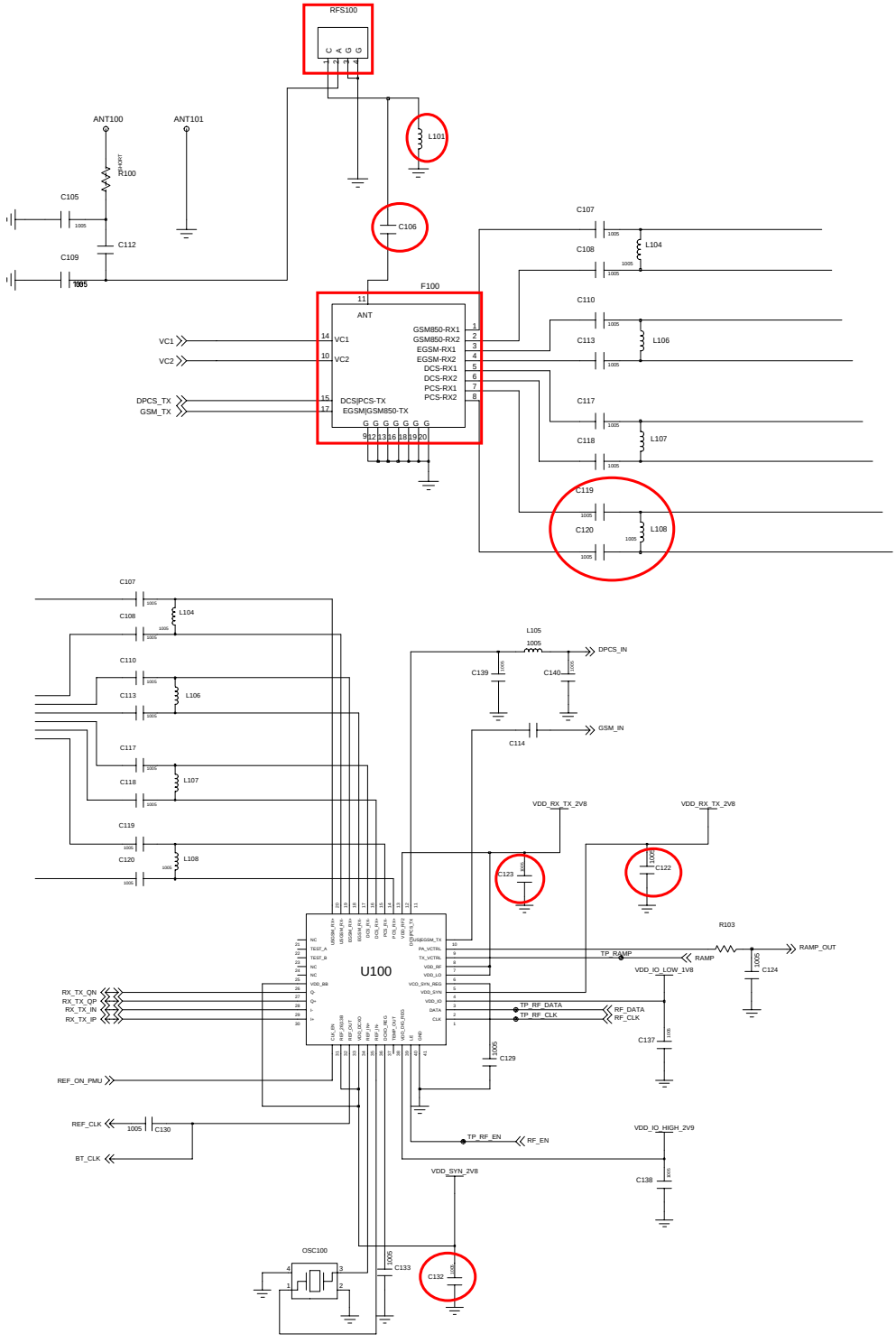


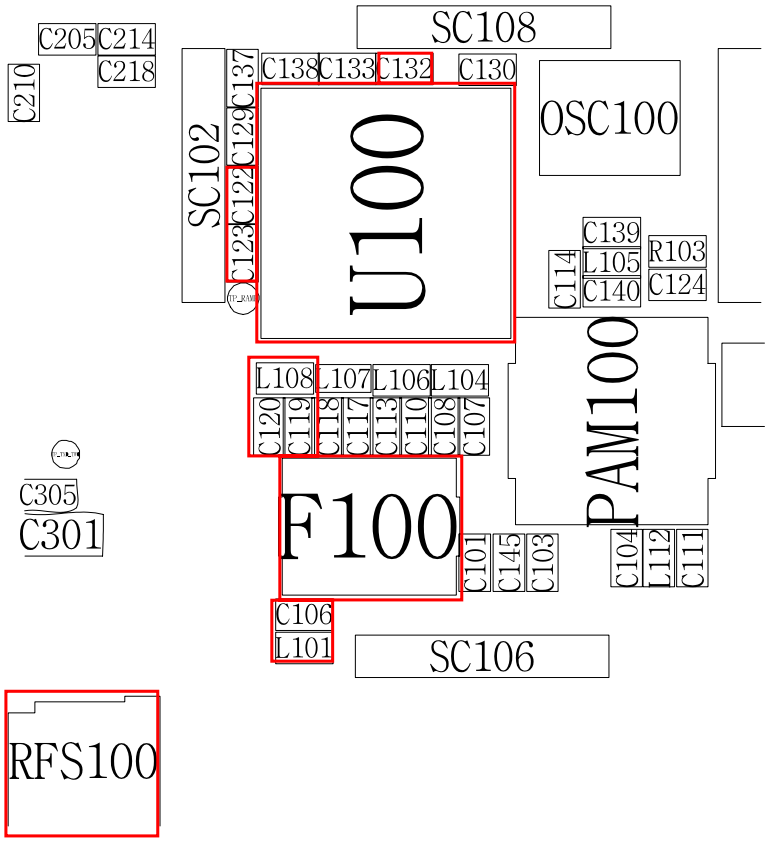




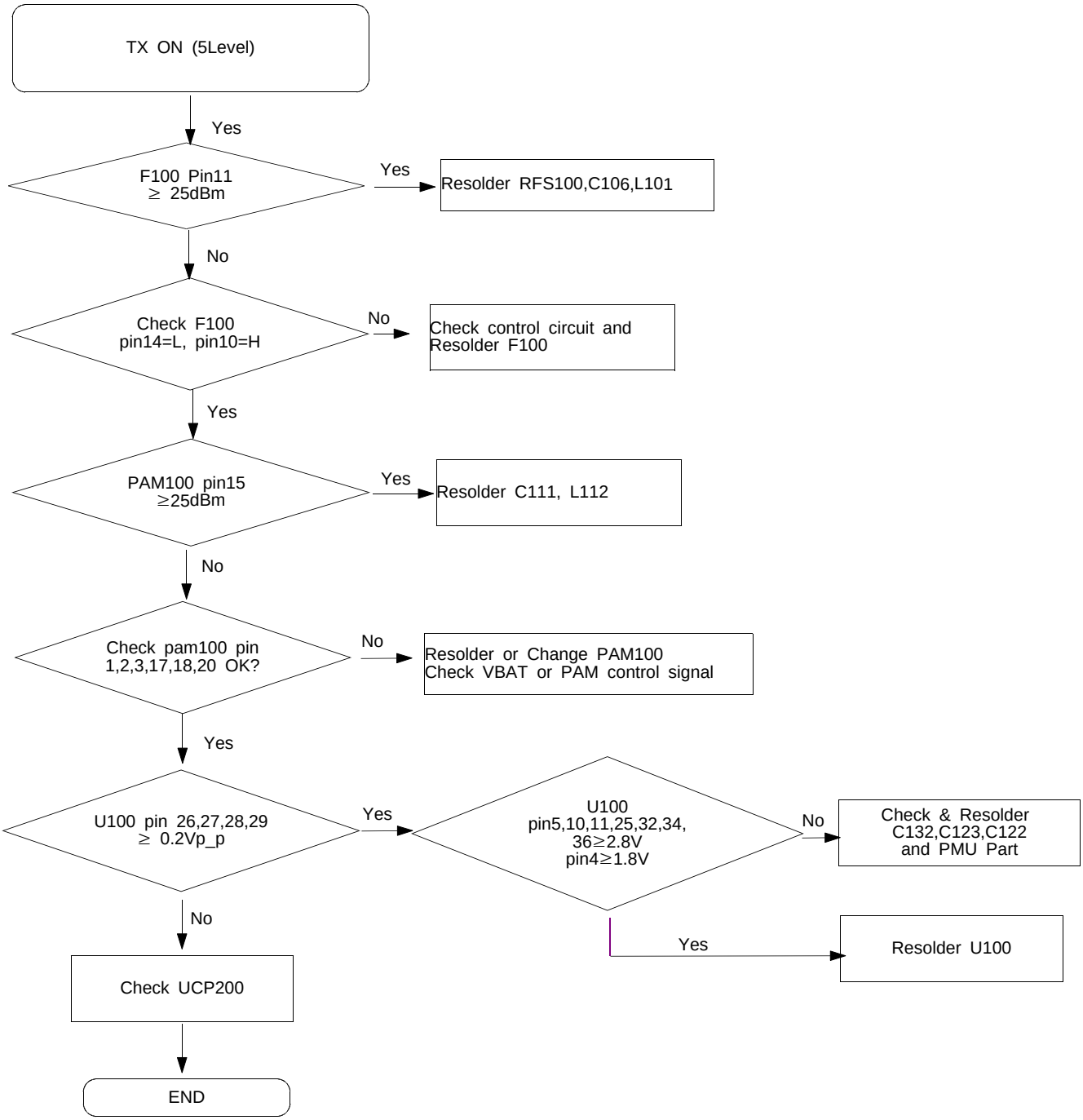
9-17. PCS Receiver

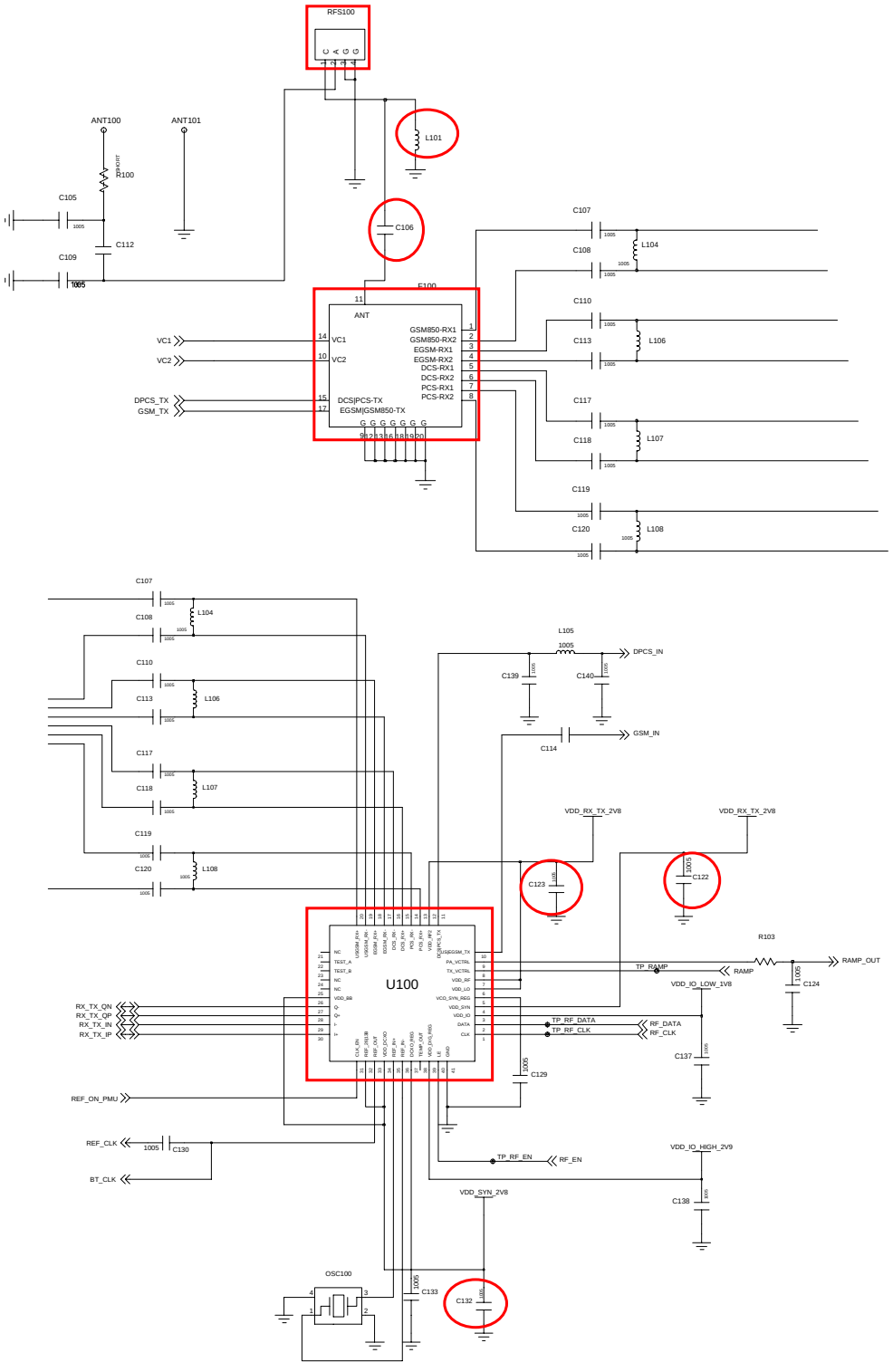


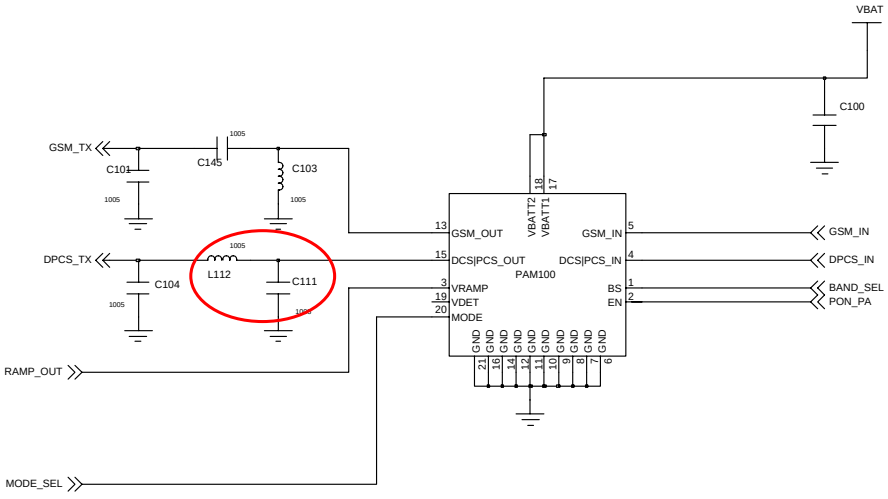


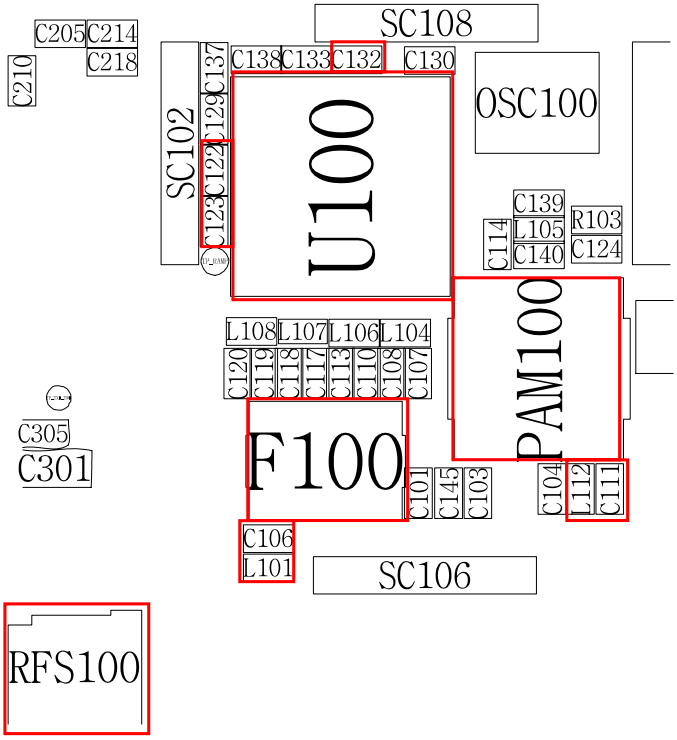


9-18. PCS Transmitter

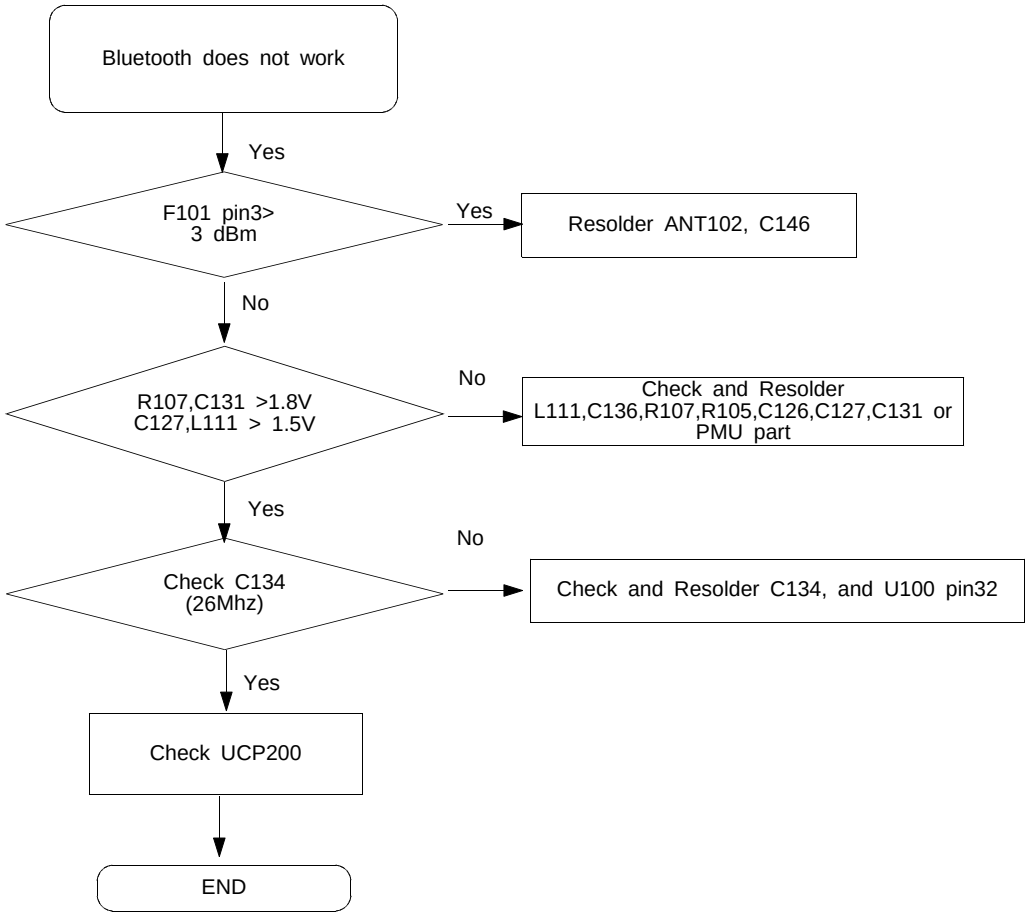


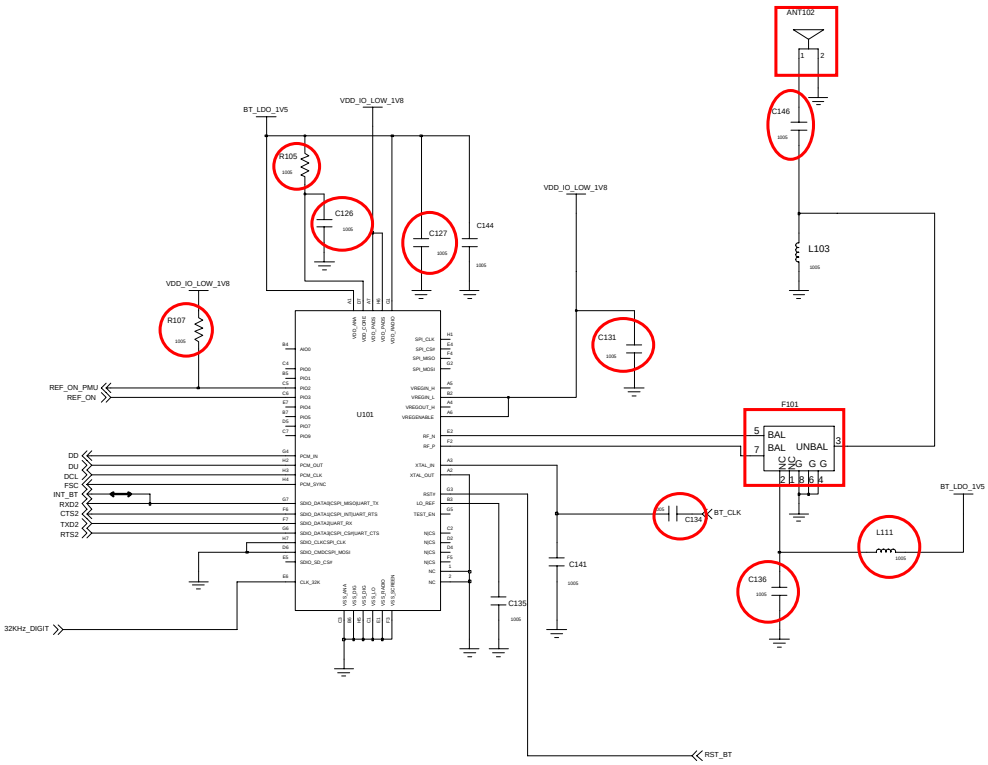


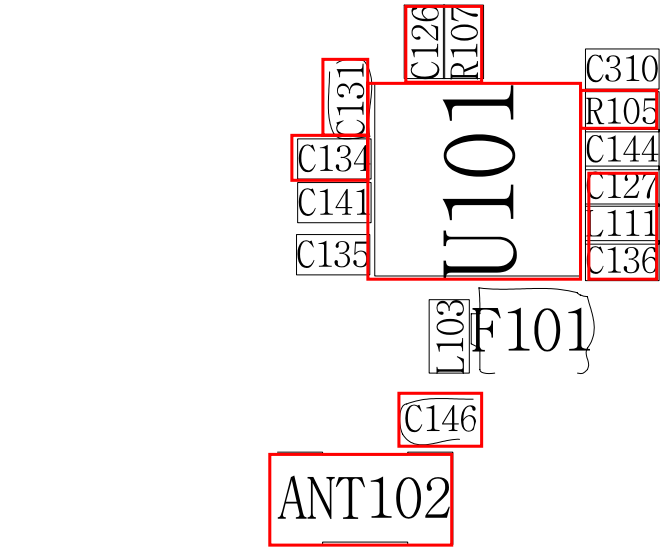




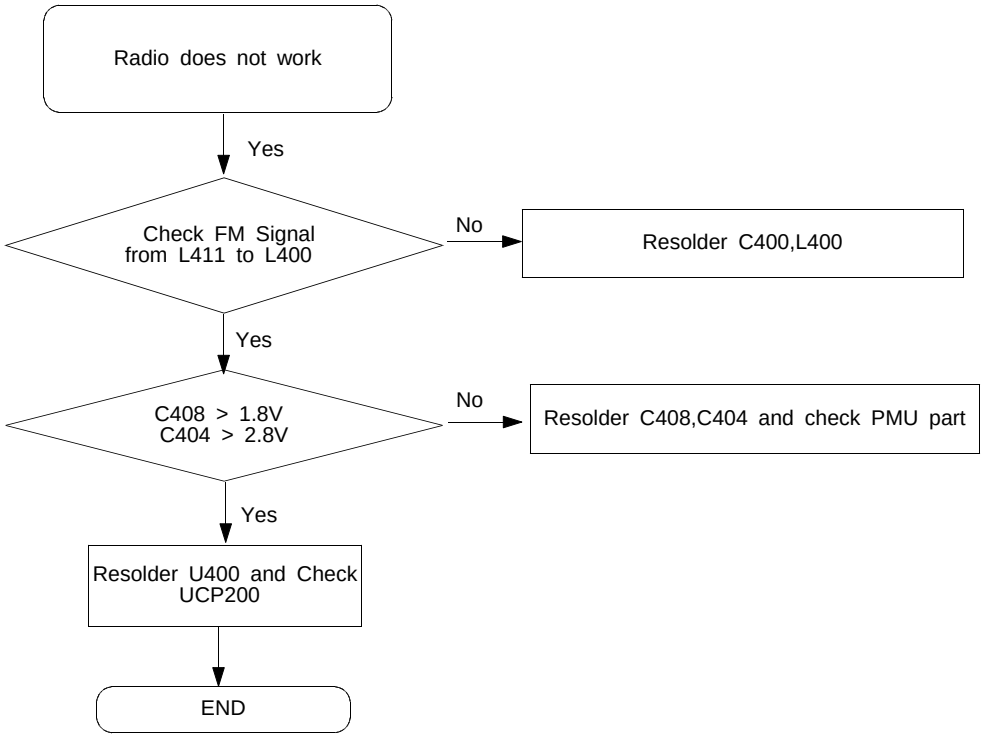
9-19. Bluetooth part

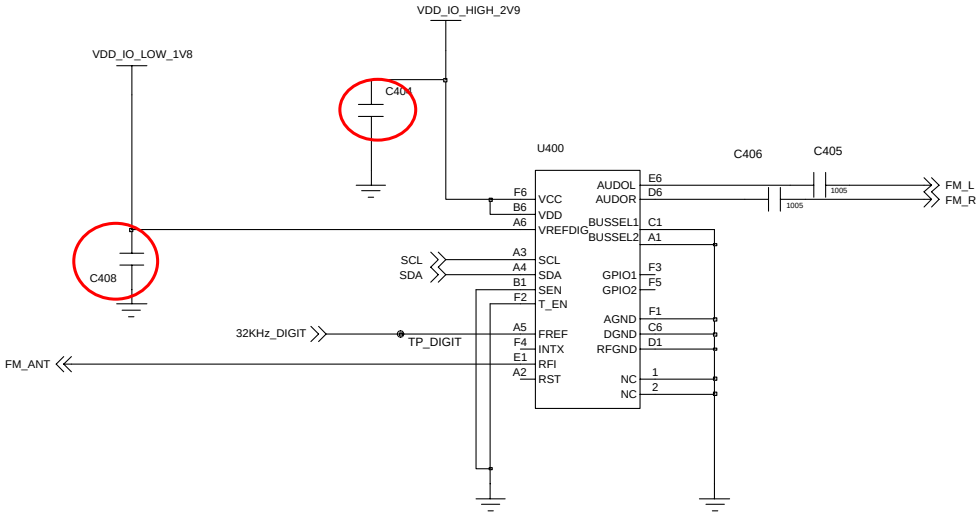


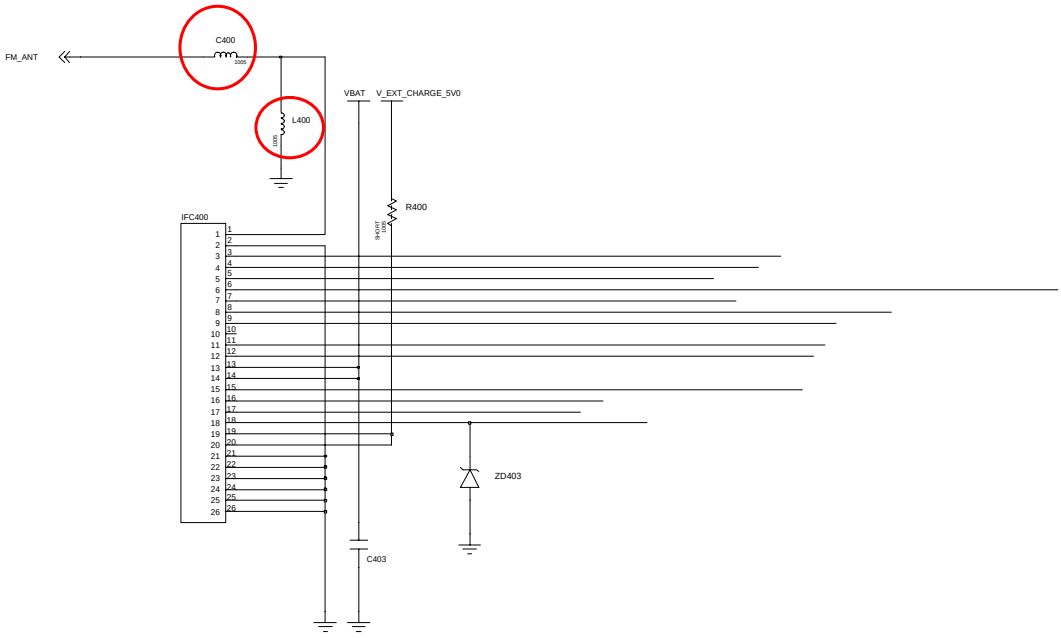


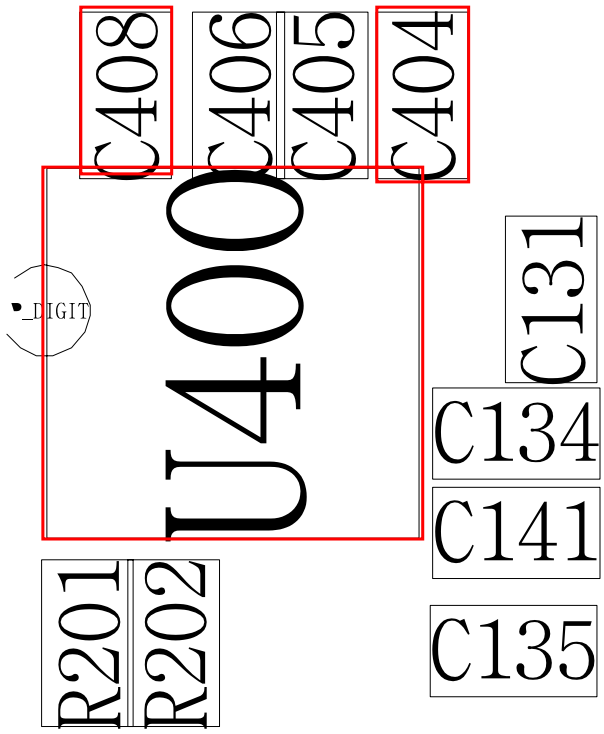


9-20. Radio part









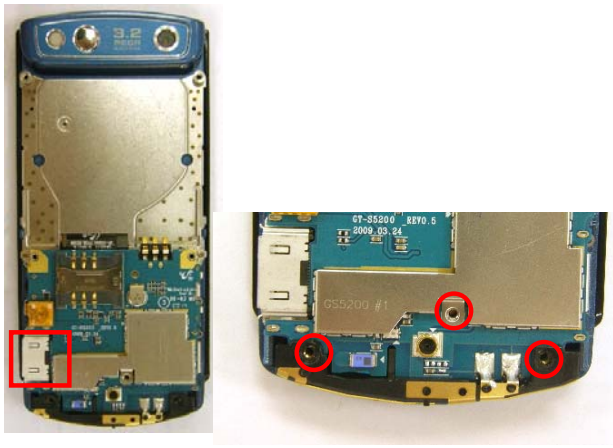
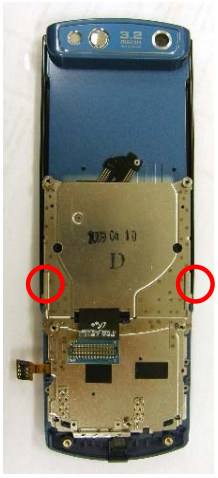
10. Reference data

Reference Abbreviate

- **AAC**: Advanced Audio Coding.
- **AVC** : Advanced Video Coding.
- **BER** : Bit Error Rate
- **BPSK**: Binary Phase Shift Keying
- **CA** : Conditional Access
- **CDM** : Code Division Multiplexing
- **C/I** : Carrier to Interference
- **DMB** : Digital Multimedia Broadcasting
- **EN** : European Standard
- **ES** : Elementary Stream
- **ETSI**: European Telecommunications Standards Institute
- **MPEG**: Moving Picture Experts Group
- **PN** : Pseudo-random Noise
- **PS** : Pilot Symbol
- **QPSK**: Quadrature Phase Shift Keying
- **RS** : Reed-Solomon
- **SI** : Service Information
- **TDM** : Time Division Multiplexing
- **TS** : Transport Stream

11. Disassembly and Assembly Instructions

11-1. Disassembly

1 1) Put out BATTERY COVER and BATTERY From the phone. 	**2** 1) Unscrew at 4 points. 2) Separate the REAR from the top. 
1) Handle with care not to have scratches and not to be damaged.	1) Please be careful not to scratch and to be damaged of the phone. 2) Handle with care not to damage REAR when dissembling.
3 1) Unscrew at 3 points. 2) Detach the key connector from PBA. 2) Detach main board from slide ass'y. 	**4** 1)After sliding up, Unscrew at 2 points. 
1) Handle with care the LCD F-PCB not to be torn or damaged.	1) Please not to be damaged and scratched to phone and slide ASS'Y.

5

1) Detach the screw caps.
2) Unscrew at 2 points.

1) Please be careful not to scratch and to be damaged of the phone
2) Handle with care not to damage LOWER and F-PCB when dissembling.

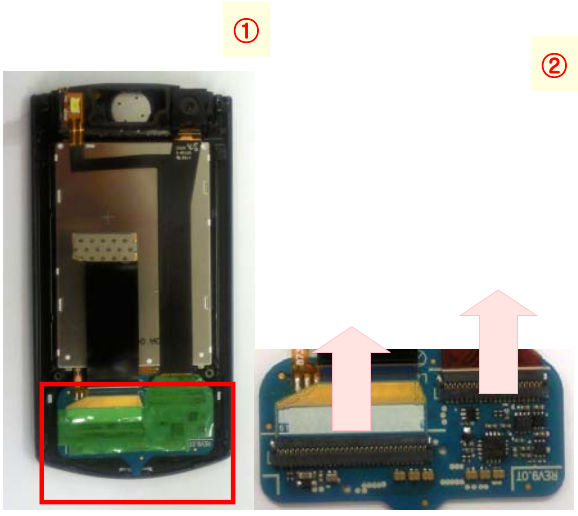
6

1) Take out LOWER.

1) Please be careful not to scratch and to be damaged of the phone
2) Handle with care not to damage LOWER and F-PCB when dissembling.

7

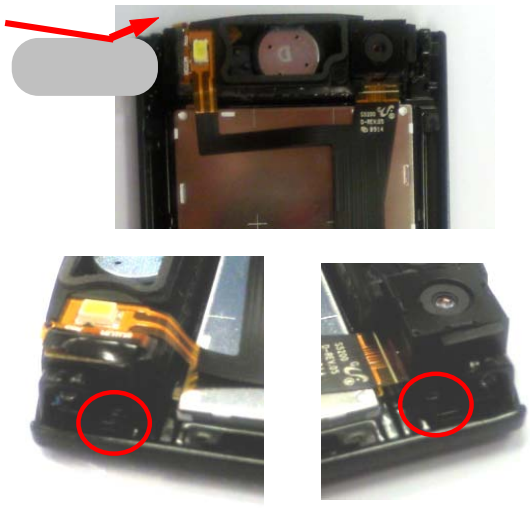
1) Detach the insulate tape.
2) Put out Main F-PCB/ CAMERA F-PCB from LCD ASS'Y.



1) Put out main F-PCB using smooth tweezers.
2) Please be careful not to scratch and to be damaged of the phone

8

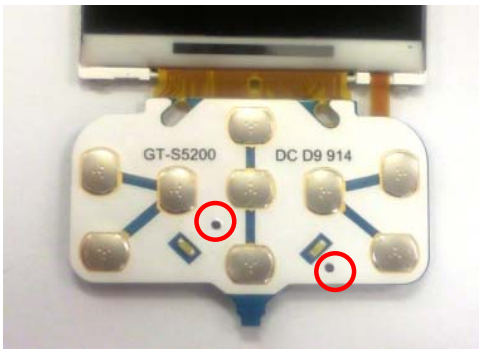
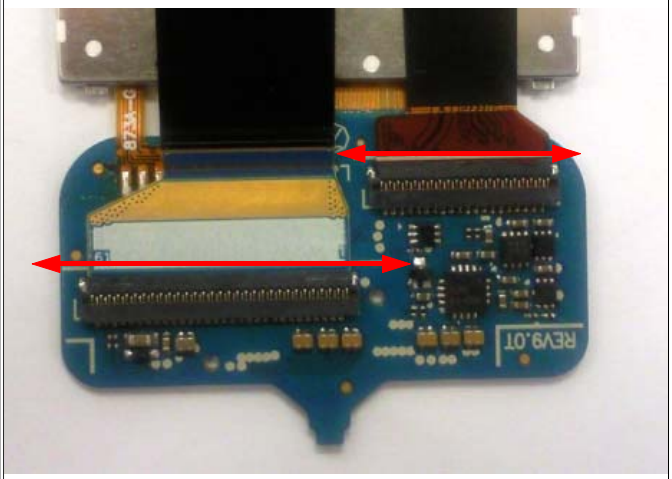
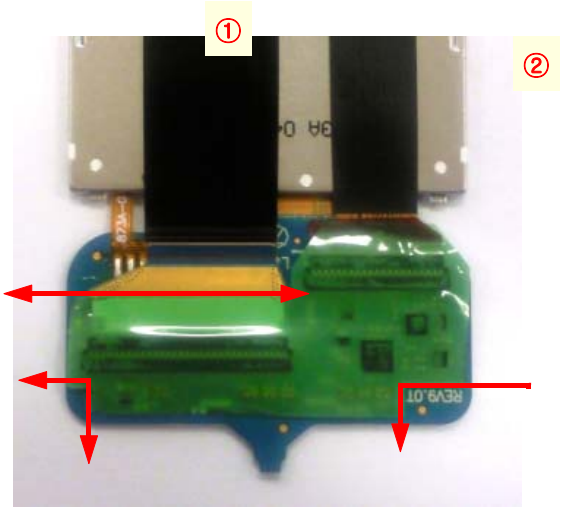
1) Take out CAMERA/SPK ASS'Y MODULE
. Threr is two hooks in right and left.



1) Put out main F-PCB using smooth tweezers.
2) Please be careful not to scratch and to be damaged of the phone

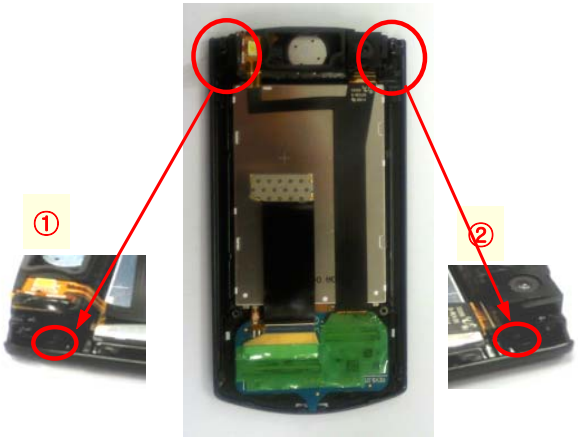
9 1) Detach LCD from UPPER. 	**10** 1) Separate Key Pad from SUB Key PAD. 
1) Please be careful not to scratch and to be damaged of LCD F-PCB and SUB PBA.	1) Be careful not to be damaged SUB PBA when separating. 2) Please be careful not to scratch and to be damaged

11-2. Assembly

1 1) Attach the Key Pad into SLIDE UPPER. .Threre is two guide holes. 	**2** 1) Attach the sub domesheet on SUB PCB of the LCD MODULE. - There is two guide holes. 
1) Please not to be damaged components of SUB PBA and not to scratch the slide upper/ SUB PBA when assembling.	**1) Please not to be damaged components of LCD** 2) Careful not to scratch SLIDE UPPER/ SUB PBA. 3) LCD is inserted correct as marked
3 1) Insert the slide F-PCB and camera F-PCB. 	**4** 1) Attach isolate tape as marked. 
1) Be careful not to be damaged and scratched. 2) Handle with care the F-PCB not to be torn or damaged.	1) Be careful not to be damaged and scratched. 2) Handle with care the F-PCB not to be torn or damaged.

7

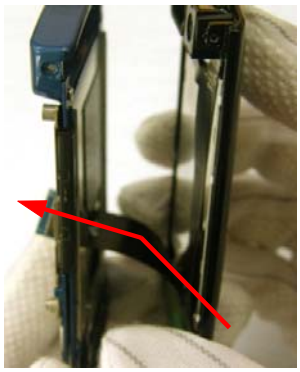
1) Put on the LCD Module on the UPPER.
2) Push the camera module, so lock the hooks
. There is two locker.



1) Be careful not to be damaged and scratched.
2) Handle with care the F-PCB not to be torn or damaged.

8

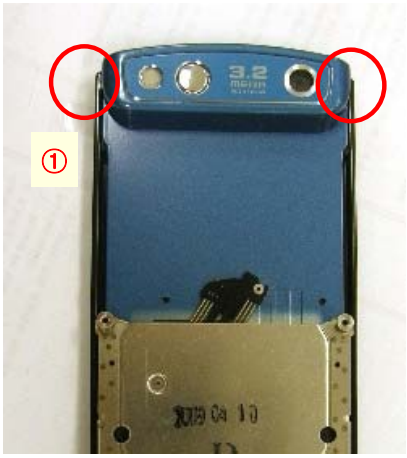
1) Put slide F-PCB into the front's hole.



1) Be careful not to be damaged and scratched.
3) Handle with care the F-PCB not to be torn or damaged.

7

1) Screw 2 Points as marked.
. 1.4 * 3 (6001-001811)
. 1.25~ 1.35 Kgf·cm
2) Attach the screw cap both sides.



1) Be careful not to be damaged and scratched.

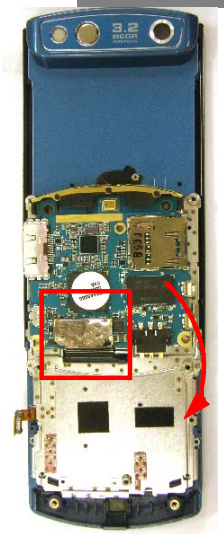
8

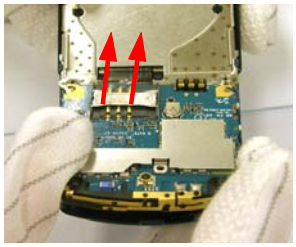
1) Screw 2 Points as marked.
. 1.4 * 2 SCREW (6001-002261)
. 1.25~ 1.35 Kgf·cm

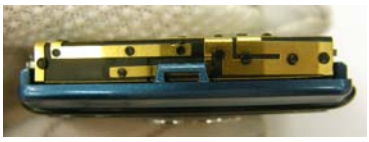
1) Be careful not to be damaged and scratched.

9

1)Sliding up,F-PCB is connected with Main PBA.
2) Put F-PCB into the FRONT'S hole.



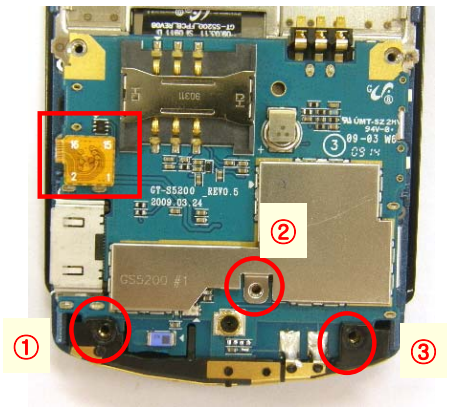




1) Handle with care the F-PCB not to be torn or damaged.
2) Check the gap between the intenna and front.

10

1) Key F-PCB is connected with the main PBA.
1) Screw 2 Points as marked.
. 1.4 * 3 SCREW
. 1.25~ 1.35 Kgf·cm



1) Be careful not to be damaged and scratched.

11

1) Assemble REAR.
2) Screw 4 Points as marked.
. 1.25 ~ 1.35 Kgf·cm
. 1.4*4 (6001-002005, SILVER)

1) Be careful not to be damaged and scratched.
2) Handle with care the F-PCB not to be torn or damaged.

12

1) Put the RF cover into the hole.
2) Check the appearance and its function.

1) Please final check exterior view and performance of phone.

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