GSM TELEPHONE

SGH-G400

SERVICE Manual

GSM TELEPHONE

CONTENTS

SAMSUNG ELECTRONICS

GSPN (Global Service Partner Network)

Country	Web Site
North America	service.samsungportal.com
Latin America	latin.samsungportal.com
CIS	cis.samsungportal.com
Europe	europe.samsungportal.com
China	china.samsungportal.com
Asia	asia.samsungportal.com
Mideast & Africa	mea.samsungportal.com

2008. 07. Rev.1.0

2. Specification

2-1. GSM General Specification

	EGSM 900	DCS 1800	PCS 1900	WCDMA2100
Freq. Band[MHz] Uplink/Downlink	880~915 925~960	1710~1785 1805~1880	1850~1910 1930~1990	1920~1980 2110~2170
ARFCN range	0~124 & 975~1023	512~885	512~810	UL:9612~9888 DL:10562~10838
Tx/Rx spacing	45MHz	95MHz	80MHz	190MHz
Mod. Bit rate/ Bit Period	270.833kbps 3.692us	270.833kbps 3.692us	270.833kbps 3.692us	3.84Mcps
Time Slot Period/Frame Period	576.9us 4.615ms	576.9us 4.615ms	576.9us 4.615ms	Frame length : 10ms Slot length: 0.667ms
Modulation	0.3GMSK	0.3GMSK	0.3GMSK	QPSK HQPSK
MS Power	33dBm~5dBm	30dBm~0dBm	30dBm~0dBm	24dBm~ -50dBm
Power Class	4 (max +33dBm)	1 (max +30dBm)	1 (max +30dBm)	3 (max +24dBm)
Sensitivity	-102dBm	-100dBm	-100dBm	-106.7dBm
TDMA Mux	8	8	8	NA
Cell Radius	35Km	2Km	2Km	2Km

2-2. GSM Tx Power Class

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

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

TX Power control level	PCS1800
0	30±3 dBm
1	28±3 dBm
2	26±3 dBm
3	24±3 dBm
4	22±3 dBm
5	20±3 dBm
6	18±3 dBm
7	16±3 dBm
8	14±3 dBm
9	12±4 dBm
10	10±4 dBm
11	8±4dBm
12	6±4 dBm
13	4±4 dBm
14	2±5 dBm
15	0±5 dBm

3. Product Function

Main Function

- Extended GSM 900MHz & DCS1800MHz & PCS1900MHz & WCDMA/HSDPA2100MHz Quad Band
- HSDPA 7.2Mbps
- GPRS Multi-slot Class 12
- 5 Megapixel AF Camera
- 240x320,262K TFT LCD 2.22” (DUAL LCD)
- Music Library, FM Radio with RDS
- Video Playback & Recording
- USB 2.0, BT 2.0
- Downloadable Game via JAVA
- 72 Poly, CMX
- Sending Photo & Video by MMS or E-Mail
- 880 mAh Battery

10. Reference data

Reference Abbreviation

- **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

1. Safety Precautions

1-1. Repair Precaution

- Repair in Shield Box, during detailed tuning.
  Take specially care of tuning or test, because specificity 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 magnetic 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 disassembling 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 easily 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.

4. Array course control

4-1. Software Adjustments

1. JIG(GH80-03308A): Download, Trace, Calibration, etc

2. 0.4M Test cable(GH39-00990A): JIG to phone

3. 1.5M Test cable(GH39-00993A): JIG to phone

4.Travel Adaptor(GH44-01702A)

5.Data Link Cable(GH39-00922A): USB cable

6.Serial cable(LJ39-00013A) : PC to JIG

7. RF test cable(GH39-00985A): RF test

4-2. Software Downloading

4-2-1. Downloading Binary Files

•Four binary files for downloading G400

– amss_compressed.bin : Modem binary for communication function and user interface and various application

– Rsrc_G400_Open_Europe_Common.rc1 : Files need for each application

– Rsrc2_G400(Low).rc2 : Power on/off animation

– FactoryFs_G400_Open_Europe_Common.ffs : Default file system to be put into in initial production

4-2-2. Pre-requsite for Downloading

•Downloader Program (**MultiLoader V5.40.exe**)

•SGH-G400 Mobile Phone

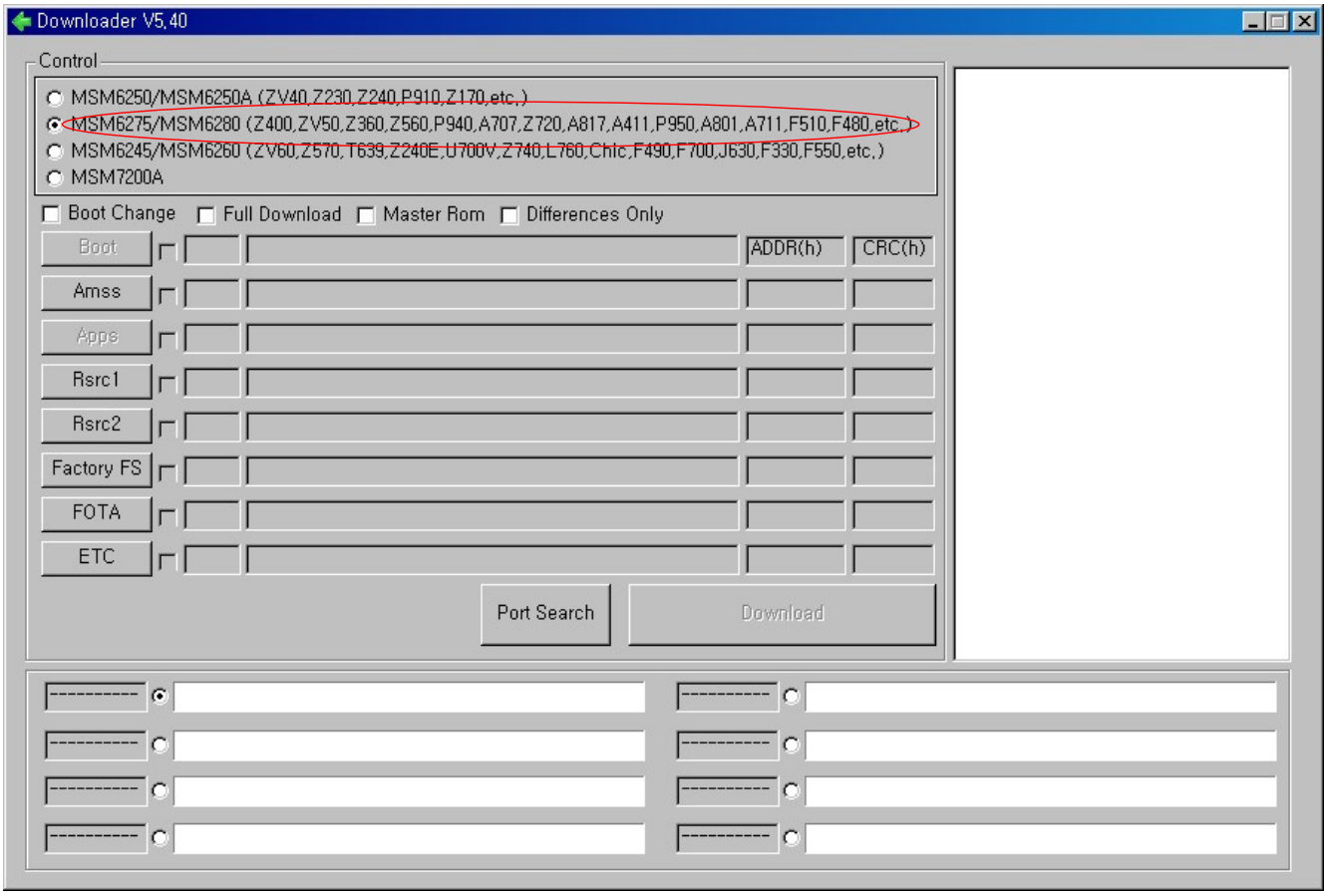
•USB Data Link Cable

•Binary files

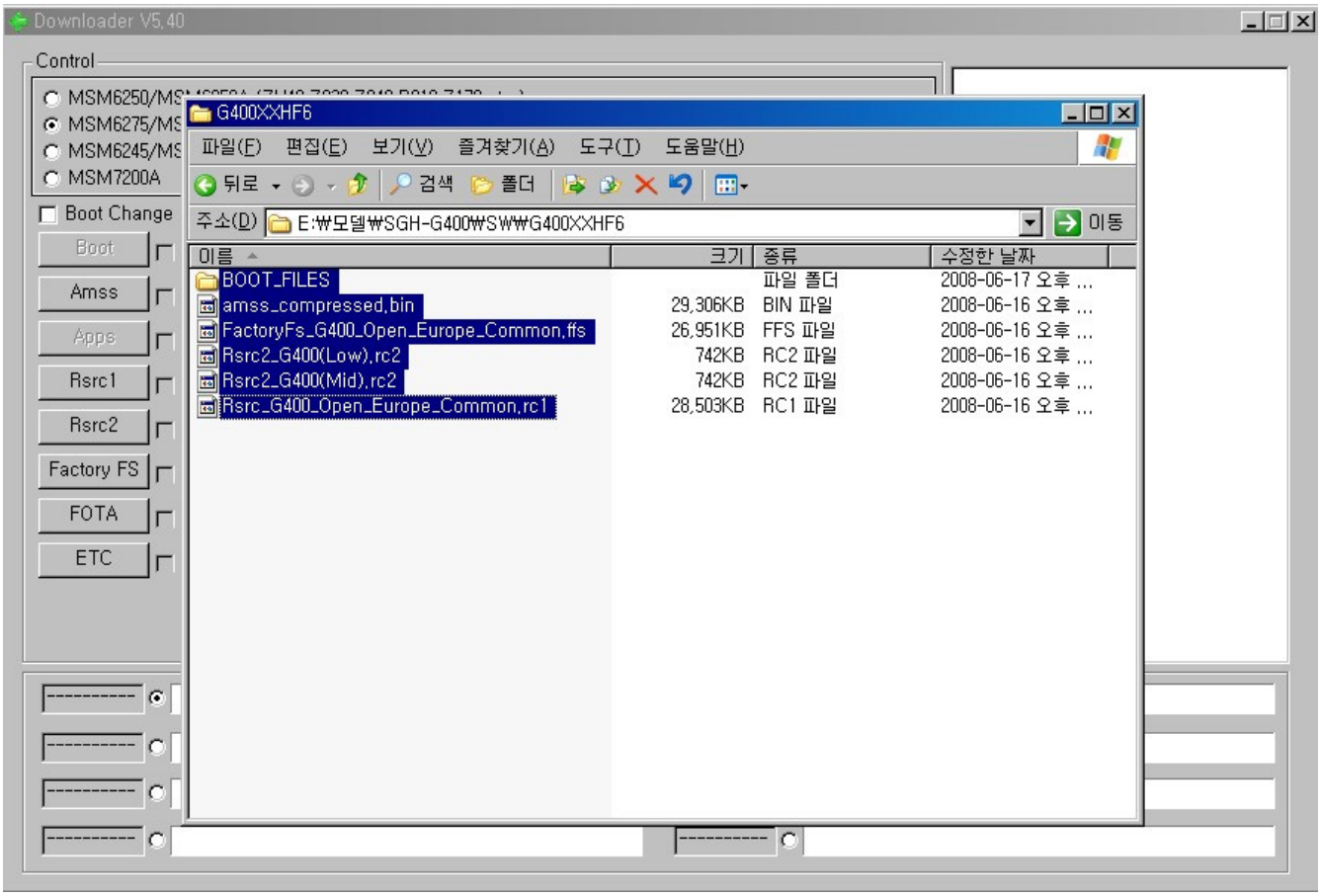
4-2-3. S/W Downloader Program

1. Boot the G400 by pressing 'power ON' + 'number 9' at the same time.
If you do properly, you can see the following message on Main LCD "Download"

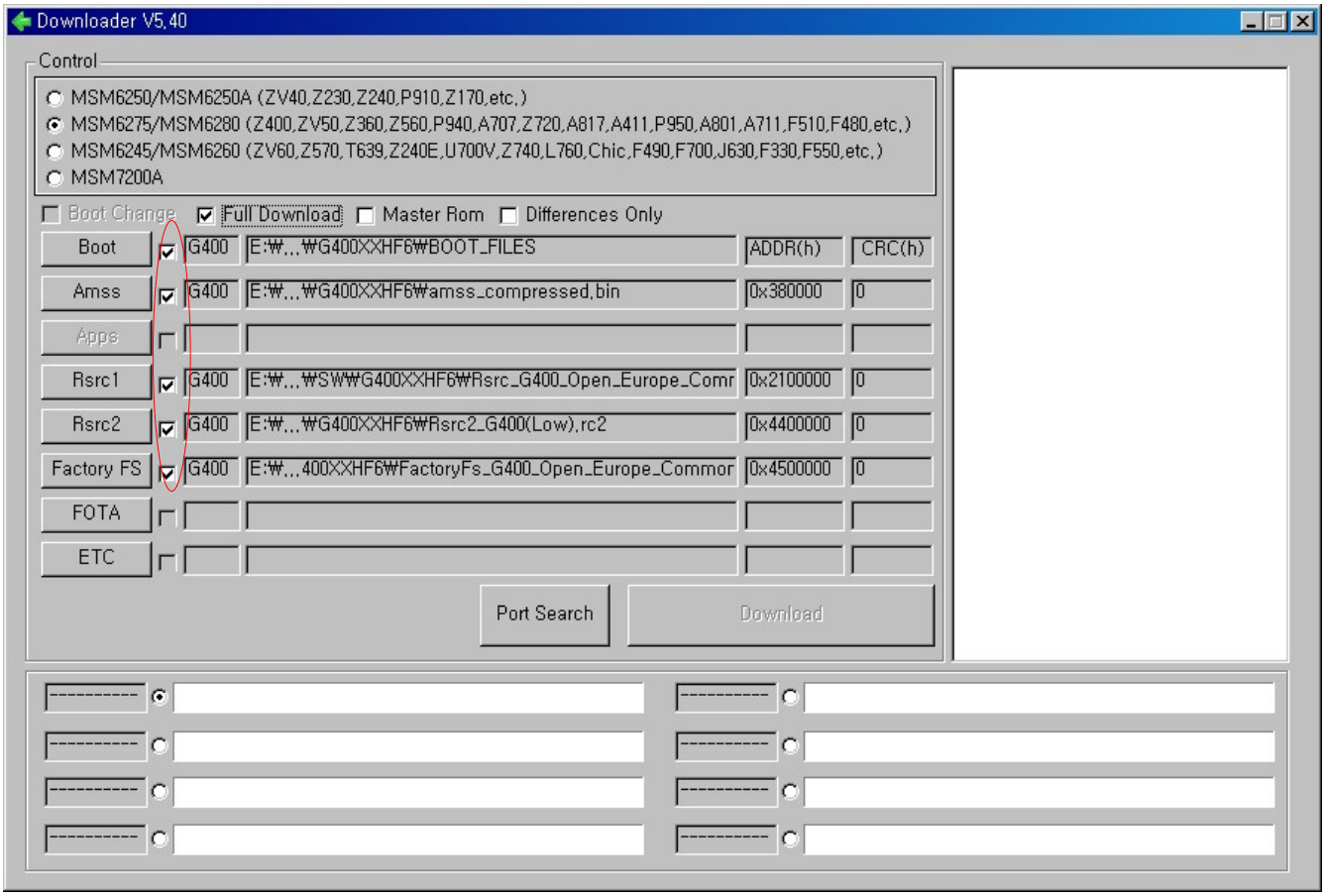
2. Load the binary download program by executing the "**MultiLoader V5.40.exe**".
And the Check the **MSM6275/MSM6280**



3. Select the binary file what you want to download and drag all

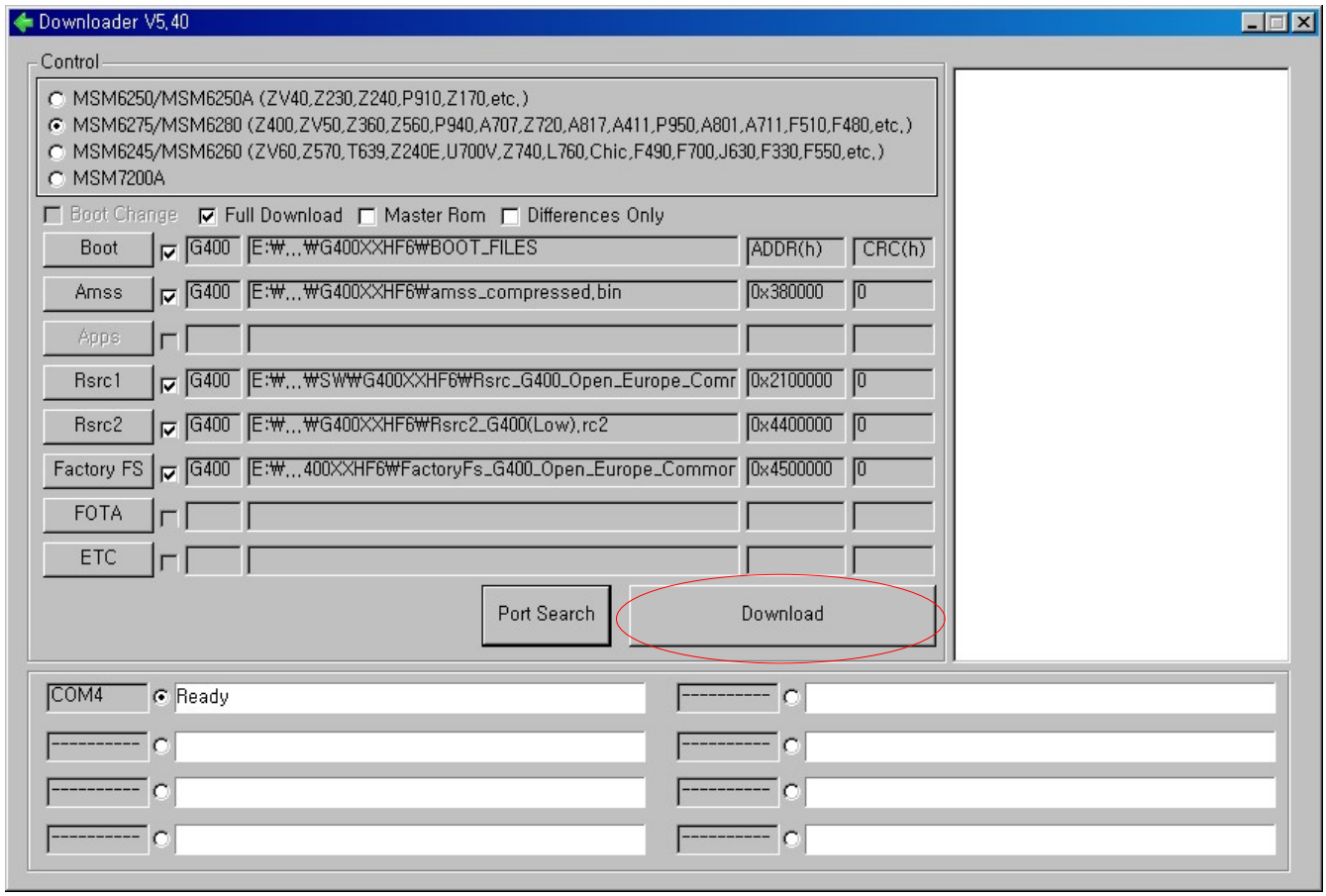


4. Select the check box what you want to download.



* Up to eight ports are supported.

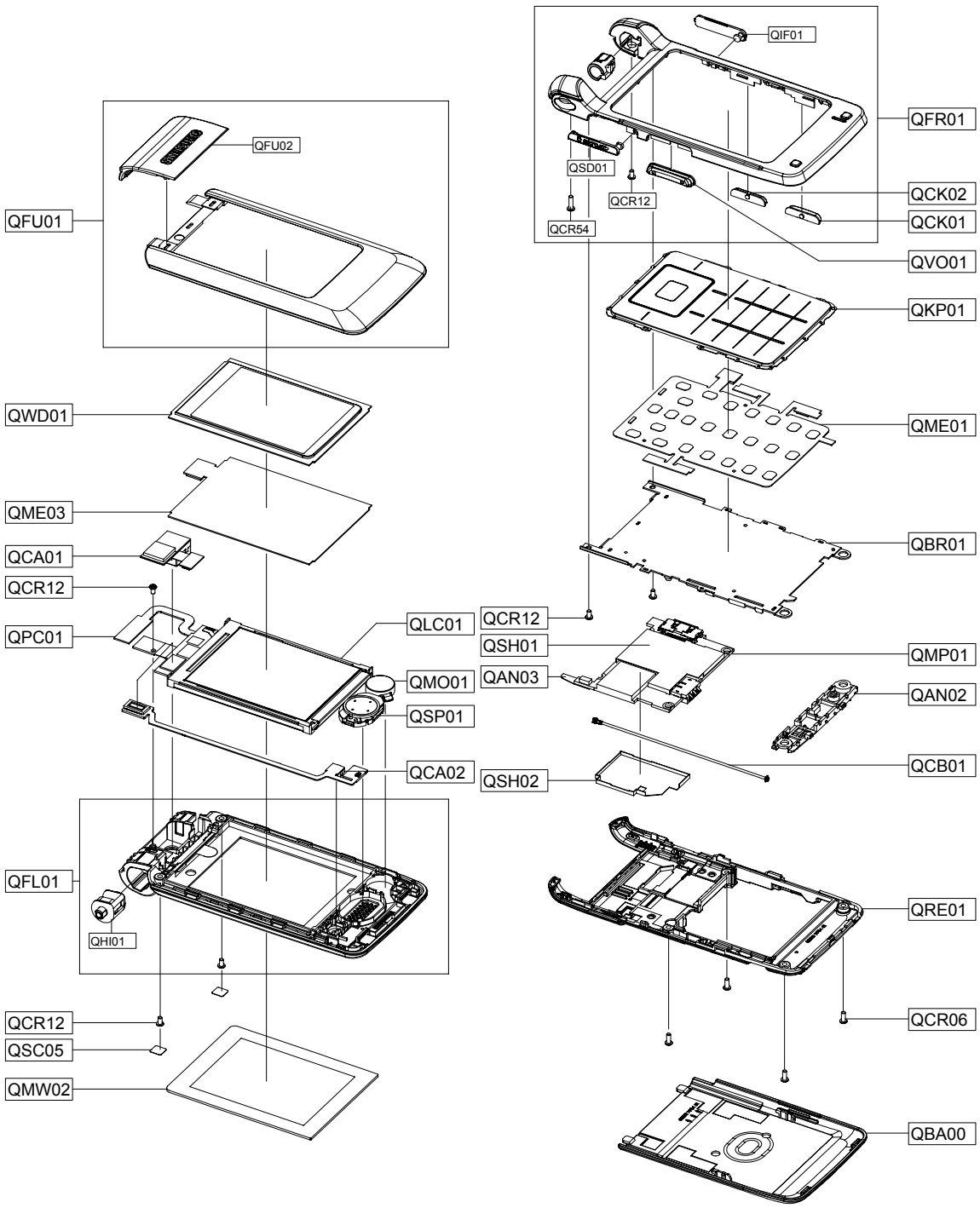
5. Now press the button 'DownLoad'.



6. When downloading is complete, UE reboot automatically.
-If there is difference in FactoryFS.bin, UE will format file system automatically.

5. Exploded View and Parts List

5-1. Cellular phone Exploded View



5-2. Cellular phone Parts list

Design LOC		Discription	SEC CODE
QAN02		INTENNA-SGH_G400	GH42-01563A
QAN03		INTENNA-BT SGH_G400	GH42-01640A
QBA00		ASSY COVER-BATTERY	GH98-07930A
QBA01		INNER BATTERY PACK-880MAH,BLK,	GH43-02934A
QBR01		ICT BRACKET-KEY V2	GH70-04083A
QCA01		CAMERA MODULE-SGHG400(5M)	GH59-05666A
QCA02		CAMERA MODULE-SGHG400(CIF)	GH59-05665A
QCB01		CBF COAXIAL CABLE-SGH_G400	GH39-01134A
QCK01		PMO KEY-CAMERA	GH72-47009A
QCK02		PMO KEY-HOLD	GH72-47010A
QCR06		SCREW-MACHINE	6001-001155
QCR12		SCREW-MACHINE	6001-001530
QKP01		ASSY KEYPAD-(OPEN/SILVER)	GH98-09406A
QLC01		LCD-M/S LCD MODULE	GH07-01280A
QME01		KEY FPCB-MAIN KEY PBA(G400)	GH59-05719A
QME03		UNIT-TOUCH SCREEN(SGHG400)	GH59-05977A
QMO01		MOTOR DC-SGH_G400	GH31-00446A
QMP01		PBA MAIN-SGHG400	GH92-04441A
QMW02		PCT WINDOW-MAIN	GH72-47025A
QPC01		FPC-CON TO CON(G400)	GH41-02250A
QRE01		ASSY CASE-REAR	GH98-07931A
QRF01		TAPE-RF HOLE COVER	GH74-39434A
QSC05		TAPE-SCREW CAP	GH74-39436A
QSH01		ICT COVER-SHIELD CAN TOP	GH70-03537A
QSH02		ICT COVER-SHIELD CAN BOTTOM	GH70-03538A
QSP01		SPEAKER	3001-002363
QVO01		PMO KEY-VOLUME	GH72-47011A
QWD01		PCT WINDOW-SUB	GH72-47026A
QFL01		ASSY CASE-FOLDER LOWER	GH98-07926A
	QHI01	ASSY HINGE-FOLDER	GH98-09696A
QFR01		ASSY CASE-FRONT	GH98-07927A
	QCR12	SCREW-MACHINE	6001-001530
	QCR54	SCREW-MACHINE	6001-001645
	QIF01	PMO COVER-IF	GH72-47021A
	QSD01	PMO COVER-SD	GH72-47022A
QFU01		ASSY CASE-FOLDER UPPER	GH98-09478A
	QFU02	ASSY DECO-UPPER LOGO	GH98-08814A

6. MAIN Electrical Parts List

SEC CODE	Design LOC	Discription
0403-001547	ZD610	DIODE-ZENER
0404-001250	D301	DIODE-SCHOTTKY
0404-001250	D302	DIODE-SCHOTTKY
0404-001361	D402	DIODE-SCHOTTKY
0406-001208	ZD606	DIODE-TVS
0406-001208	ZD611	DIODE-TVS
0406-001237	ZD603	DIODE-TVS
0406-001237	ZD605	DIODE-TVS
0406-001254	ZD601	DIODE-TVS
0406-001254	ZD602	DIODE-TVS
0406-001267	D601	DIODE-TVS
0406-001267	ZD608	DIODE-TVS
0406-001267	ZD609	DIODE-TVS
0406-001281	ZD501	DIODE-TVS
0406-001281	ZD502	DIODE-TVS
0407-001002	D401	DIODE-ARRAY
0504-000168	TR401	TR-DIGITAL
0504-001151	U202	TR-DIGITAL
0505-001953	U407	FET-SILICON
0505-002345	U404	FET-SILICON
1001-001336	U503	IC-ANALOG SWITCH
1003-002047	U505	IC-MOTOR DRIVER
1108-000143	UME301	IC-MCP
1201-002007	U502	IC-AUDIO AMP
1201-002195	U504	IC-AUDIO AMP
1201-002461	U203	IC-POWER AMP
1201-002570	MOD101	IC-POWER AMP
1203-004395	U405	IC-POSI.FIXED REG.
1203-004682	U406	IC-MULTI REG.
1203-004727	U402	IC-DC/DC CONVERTER
1203-004778	U401	IC-POWER SUPERVISOR
1203-004983	U501	IC-DC/DC CONVERTER
1205-003341	U101	IC-TRANSCEIVER
1205-003360	UCP301	IC-MODEM
1209-001712	U301	IC-SENSOR
2007-000137	R320	R-CHIP

SEC CODE	Design LOC	Discription
2007-000138	R109	R-CHIP
2007-000138	R315	R-CHIP
2007-000138	R602	R-CHIP
2007-000141	R114	R-CHIP
2007-000141	R301	R-CHIP
2007-000141	R302	R-CHIP
2007-000141	R330	R-CHIP
2007-000141	R331	R-CHIP
2007-000141	R502	R-CHIP
2007-000143	R617	R-CHIP
2007-000145	R503	R-CHIP
2007-000146	R410	R-CHIP
2007-000148	R407	R-CHIP
2007-000148	R416	R-CHIP
2007-000148	R417	R-CHIP
2007-000148	R521	R-CHIP
2007-000148	R606	R-CHIP
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2007-000148	R608	R-CHIP
2007-000148	R609	R-CHIP
2007-000148	R610	R-CHIP
2007-000148	R611	R-CHIP
2007-000157	R507	R-CHIP
2007-000159	R411	R-CHIP
2007-000162	R333	R-CHIP
2007-000162	R402	R-CHIP
2007-000162	R413	R-CHIP
2007-000162	R414	R-CHIP
2007-000162	R605	R-CHIP
2007-000165	R408	R-CHIP
2007-000170	R310	R-CHIP
2007-000171	R102	R-CHIP
2007-000171	R208	R-CHIP
2007-000171	R213	R-CHIP
2007-000171	R216	R-CHIP
2007-000171	R217	R-CHIP

SEC CODE	Design LOC	Discription
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2007-000171	R622	R-CHIP
2007-001285	R104	R-CHIP
2007-001288	R619	R-CHIP
2007-001288	R620	R-CHIP
2007-001295	R106	R-CHIP
2007-001298	R103	R-CHIP
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2007-001298	R210	R-CHIP
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2007-001339	R512	R-CHIP
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2007-007309	R101	R-CHIP
2007-007315	R412	R-CHIP

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2007-007317	R511	R-CHIP
2007-007318	R105	R-CHIP
2007-007321	R209	R-CHIP
2007-007468	R403	R-CHIP
2007-007489	R505	R-CHIP
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2007-007586	R314	R-CHIP
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2007-007698	R409	R-CHIP
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2203-005482	C157	C-CER,CHIP
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2203-005725	C150	C-CER,CHIP
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2203-005725	C160	C-CER,CHIP
2203-005806	C212	C-CER,CHIP
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2203-006047	C342	C-CER,CHIP
2203-006047	C514	C-CER,CHIP
2203-006047	C516	C-CER,CHIP
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2203-006048	C309	C-CER,CHIP

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2203-006048	C524	C-CER,CHIP
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2203-006260	C509	C-CER,CHIP
2203-006260	C515	C-CER,CHIP
2203-006260	C525	C-CER,CHIP
2203-006260	C526	C-CER,CHIP
2203-006324	C438	C-CER,CHIP
2203-006348	C607	C-CER,CHIP
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2203-006841	C606	C-CER,CHIP
2203-006872	C306	C-CER,CHIP
2203-006872	C519	C-CER,CHIP
2203-006872	C531	C-CER,CHIP
2203-006979	C151	C-CER,CHIP
2203-007240	C318	C-CER,CHIP
2203-007240	C611	C-CER,CHIP
2203-007270	C407	C-CER,CHIP
2203-007270	C408	C-CER,CHIP
2203-007270	C421	C-CER,CHIP
2203-007271	C449	C-CER,CHIP
2203-007279	C448	C-CER,CHIP
2404-001339	TA201	C-TA,CHIP
2404-001377	TA301	C-TA,CHIP
2404-001381	TA601	C-TA,CHIP
2404-001411	TA101	C-TA,CHIP
2703-001178	L107	INDUCTOR-SMD
2703-001178	L113	INDUCTOR-SMD
2703-001726	L105	INDUCTOR-SMD
2703-001737	L211	INDUCTOR-SMD
2703-001747	L111	INDUCTOR-SMD
2703-001747	L112	INDUCTOR-SMD
2703-001990	L201	INDUCTOR-SMD
2703-001990	L203	INDUCTOR-SMD
2703-002176	L205	INDUCTOR-SMD
2703-002176	L206	INDUCTOR-SMD
2703-002204	L104	INDUCTOR-SMD
2703-002281	L102	INDUCTOR-SMD
2703-002313	L601	INDUCTOR-SMD
2703-002314	L101	INDUCTOR-SMD
2703-002314	L106	INDUCTOR-SMD
2703-002365	L103	INDUCTOR-SMD

SEC CODE	Design LOC	Discription
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2703-002519	L109	INDUCTOR-SMD
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2703-002840	L401	INDUCTOR-SMD
2703-002840	L402	INDUCTOR-SMD
2703-002872	L501	INDUCTOR-SMD
2703-003182	L404	INDUCTOR-SMD
2703-003258	L403	INDUCTOR-SMD
2801-004466	OSC401	CRYSTAL-SMD
2809-001323	TCX100	OSCILLATOR-VCTCXO
2901-001434	F601	FILTER-EMI/ESD
2901-001434	F602	FILTER-EMI/ESD
2901-001434	F603	FILTER-EMI/ESD
2901-001434	F604	FILTER-EMI/ESD
2904-001601	F105	FILTER-SAW
2904-001609	F103	FILTER-SAW
2904-001628	F102	FILTER-SAW
2904-001658	F201	FILTER-SAW
2904-001702	F101	FILTER-SAW
2904-001703	F104	FILTER-SAW
2910-000024	DUF201	DUPLEXER-SAW
3705-001448	ANT101	CONNECTOR-COAXIAL
3705-001503	RFS101	CONNECTOR-COAXIAL
3709-001391	SIM601	CONNECTOR-CARD EDGE
3709-001464	CD601	CONNECTOR-CARD EDGE
3710-002568	IFC601	SOCKET-INTERFACE
3711-005659	HEA601	HEADER-BOARD TO BOARD
3711-006278	HDC601	HEADER-BOARD TO BOARD
3711-006299	BTC601	HEADER-BATTERY
4302-001130	BAT401	BATTERY-LI(2ND)
4709-001399	CPL201	COUPLER-DIRECTION
4709-001546	MOD201	BLUETOOTH MODULE
GH70-02640A	SC201	ICT SHIELD-CAN CLIP
GH70-02640A	SC202	ICT SHIELD-CAN CLIP
GH70-02640A	SC203	ICT SHIELD-CAN CLIP
GH70-02640A	SC301	ICT SHIELD-CAN CLIP

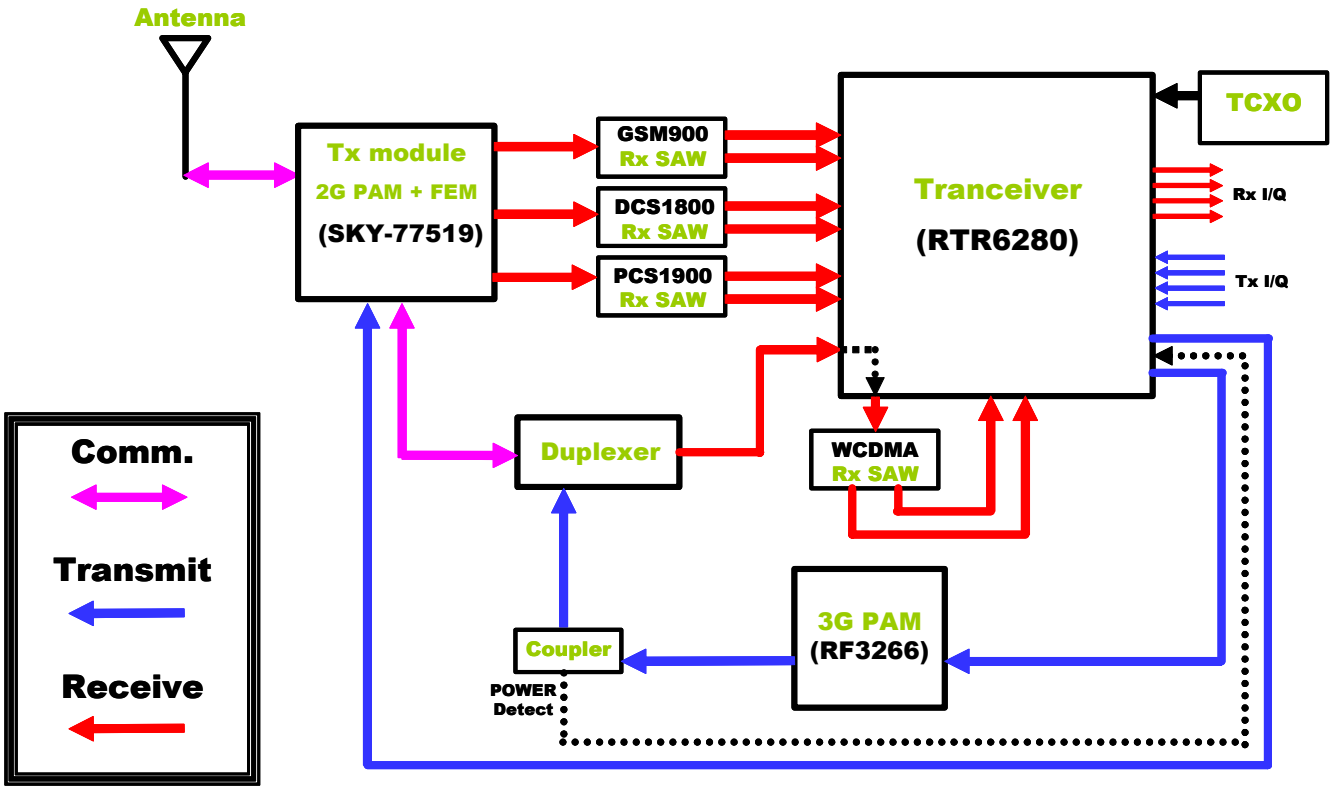
SEC CODE	Design LOC	Discription
GH70-02640A	SC302	ICT SHIELD-CAN CLIP
GH70-02640A	SC303	ICT SHIELD-CAN CLIP
GH70-02640A	SC305	ICT SHIELD-CAN CLIP

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

7. Block Diagrams

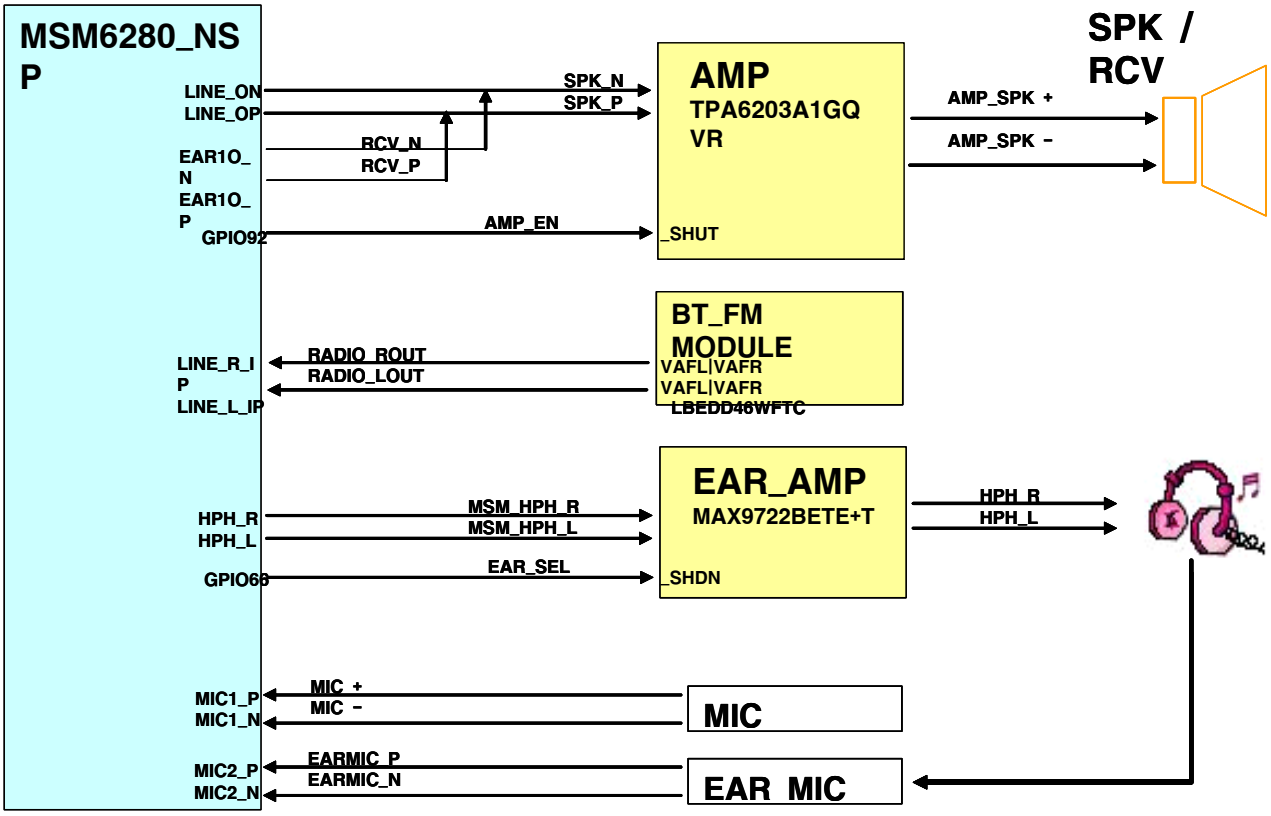
7-1. RF Block Diagram

SGH-G400 RF Block Diagram

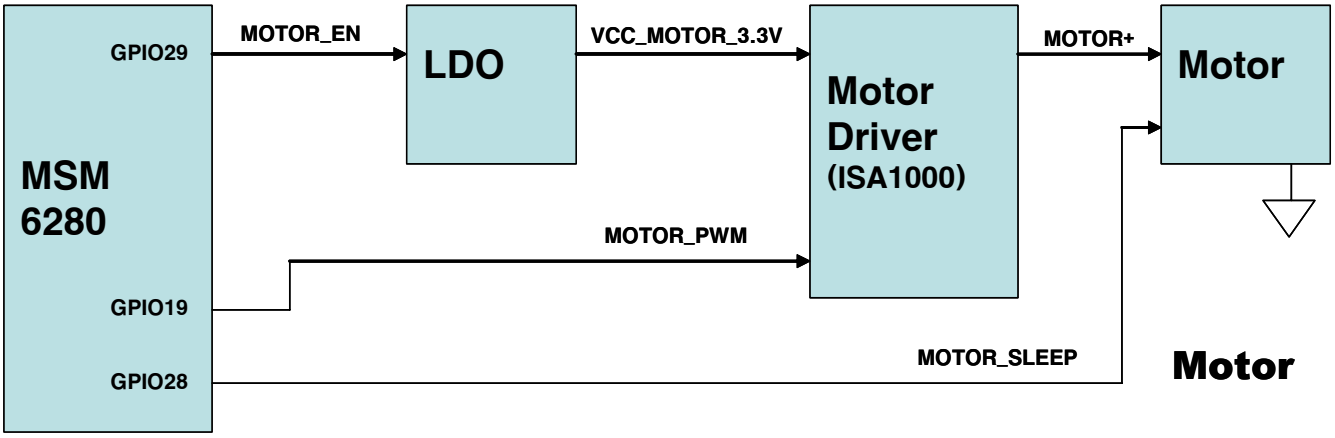


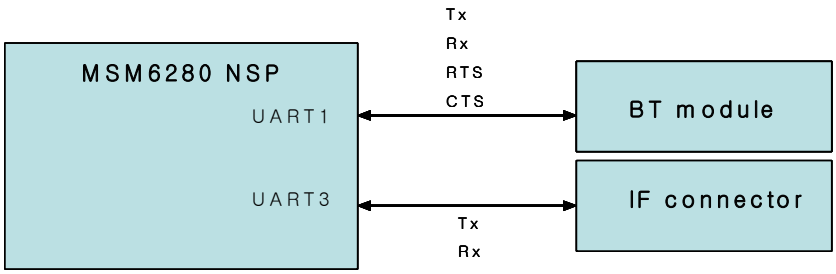
7-2. Baseband Block Diagram

SGH-G400 Audio Block Diagram



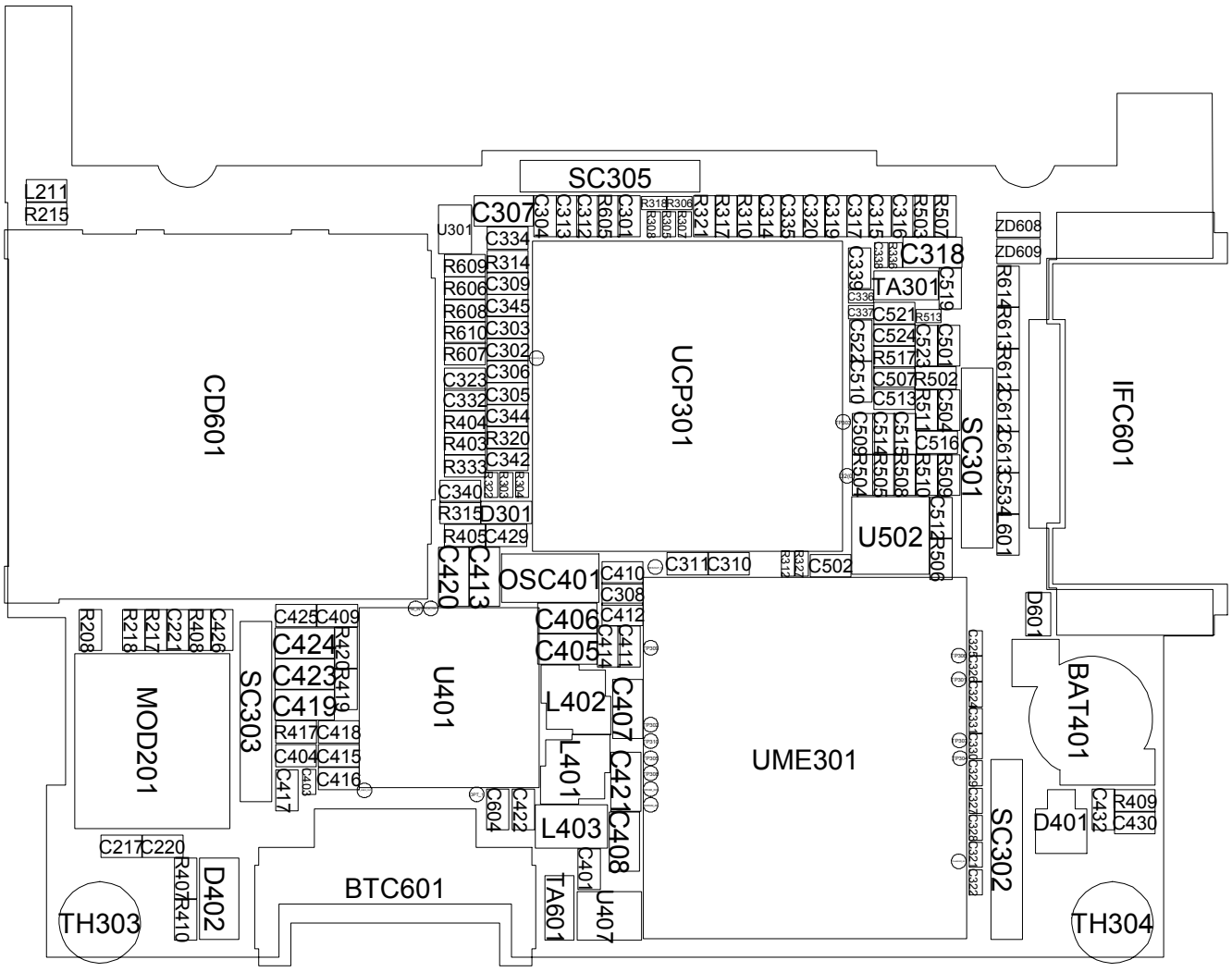
SGH-G400 Block Diagram



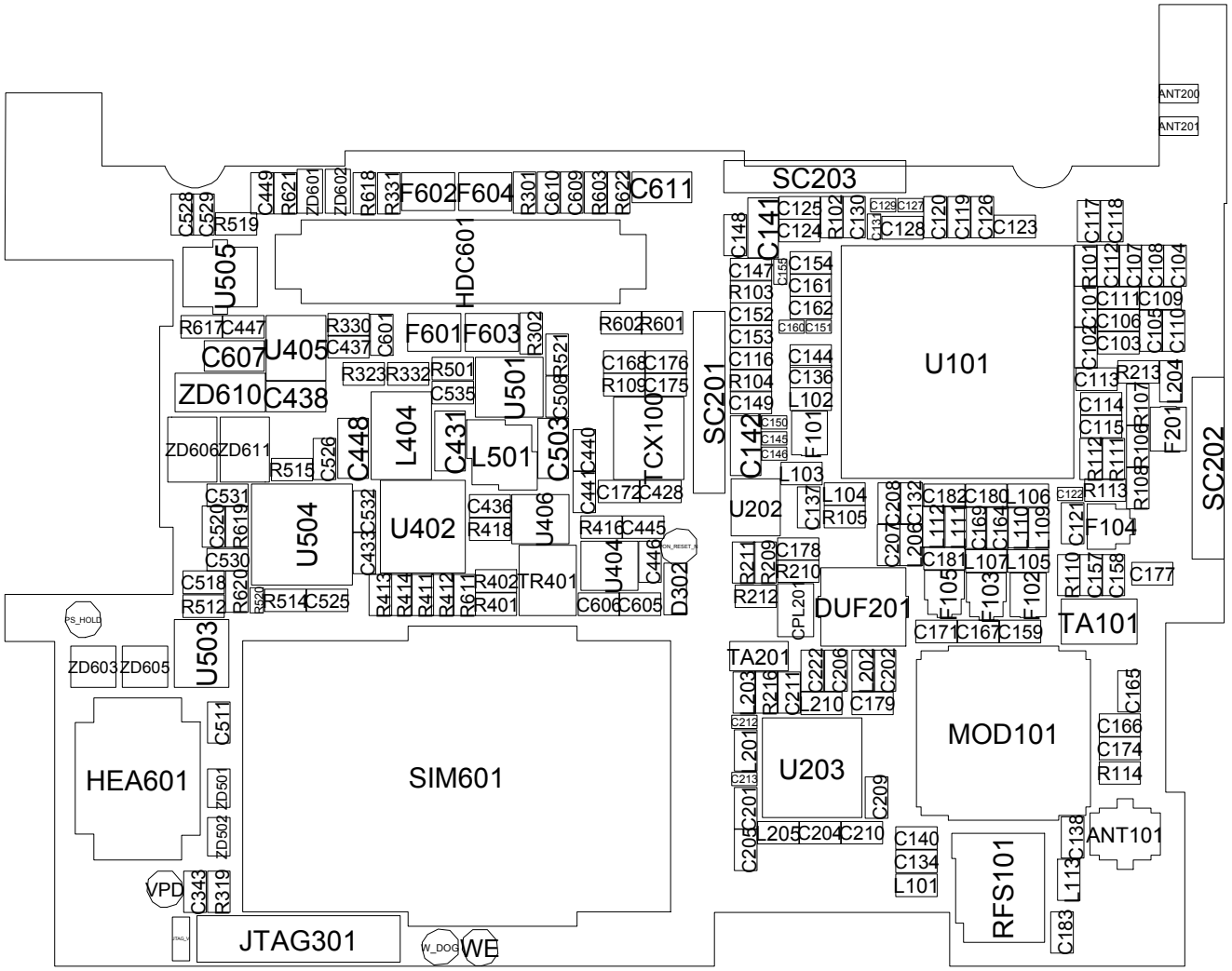


8. PCB Diagrams

1. Main top

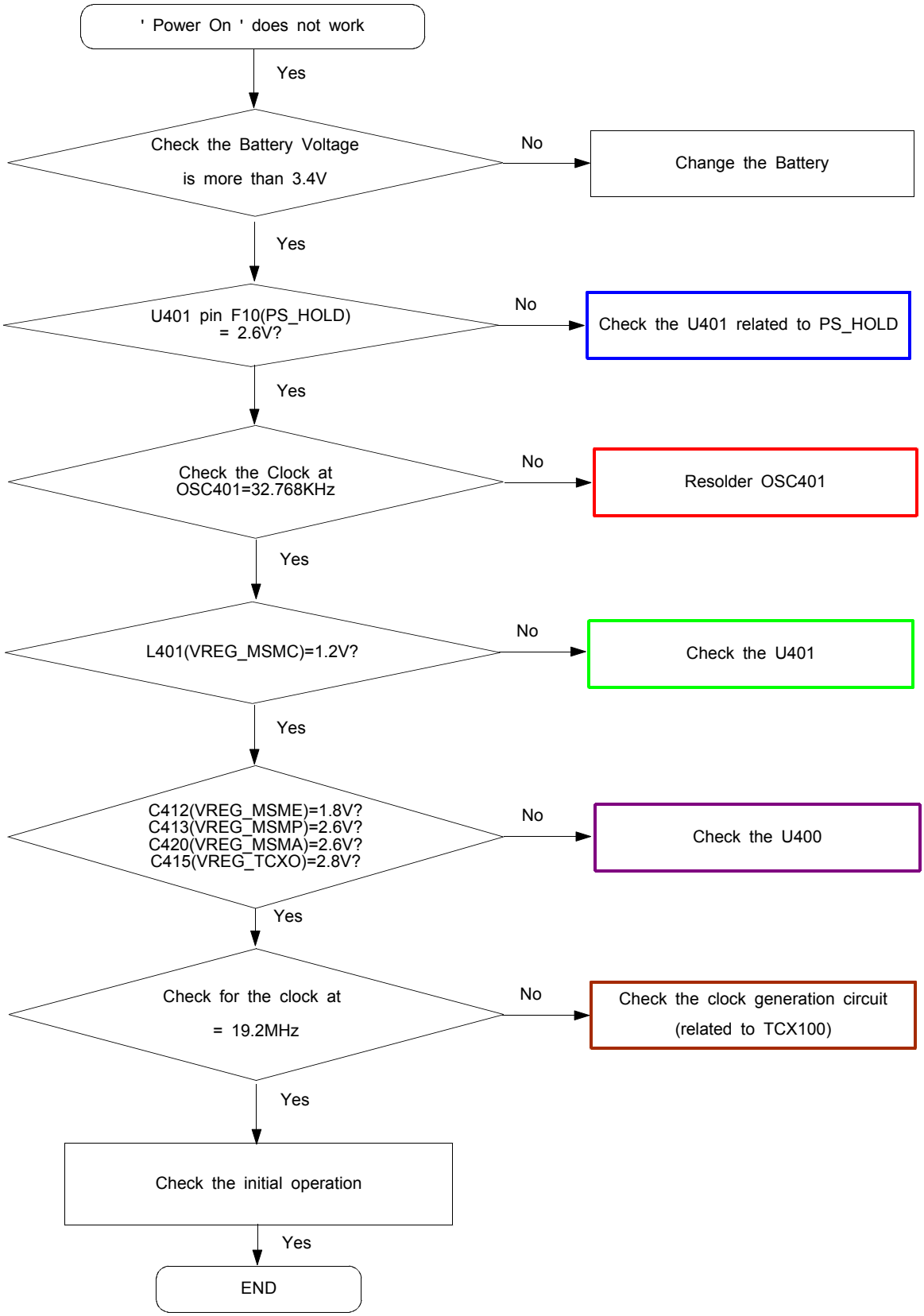


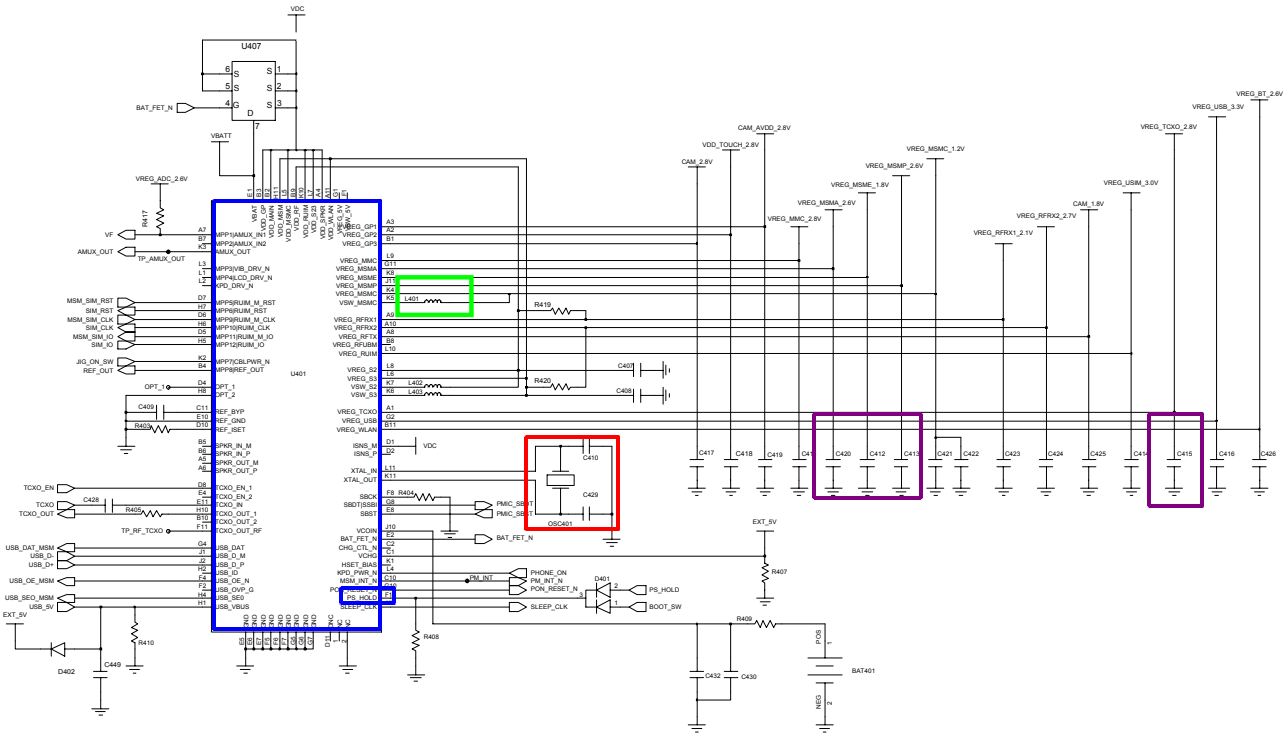
2. Main bottom

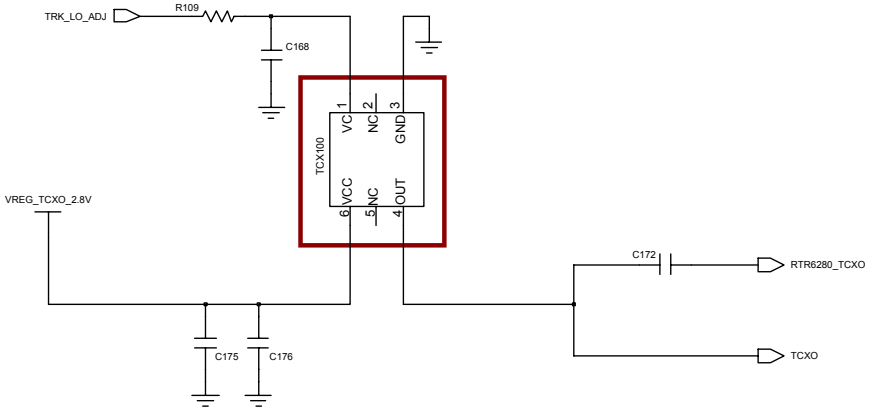


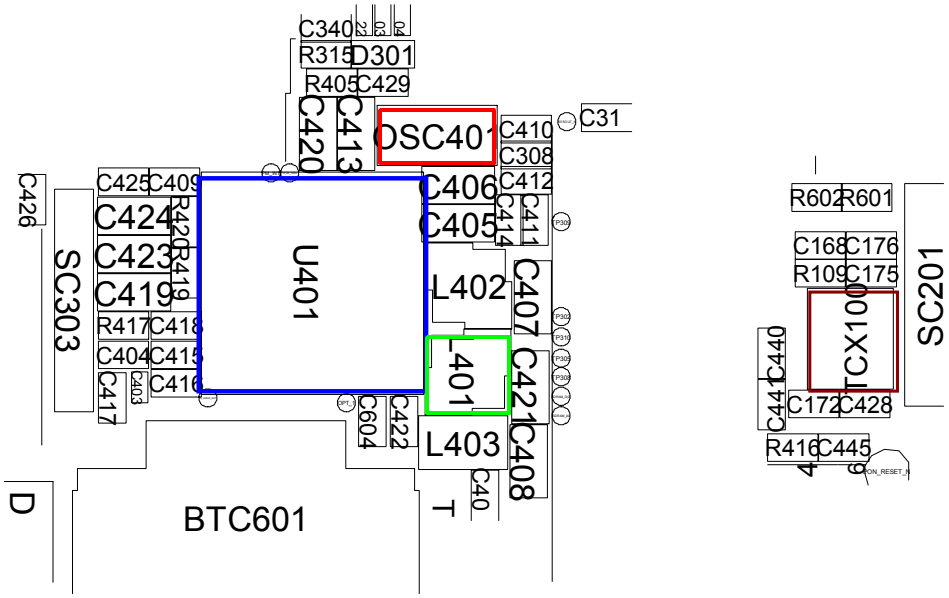
9. Flow Chart of Troubleshooting

9-1. Power On

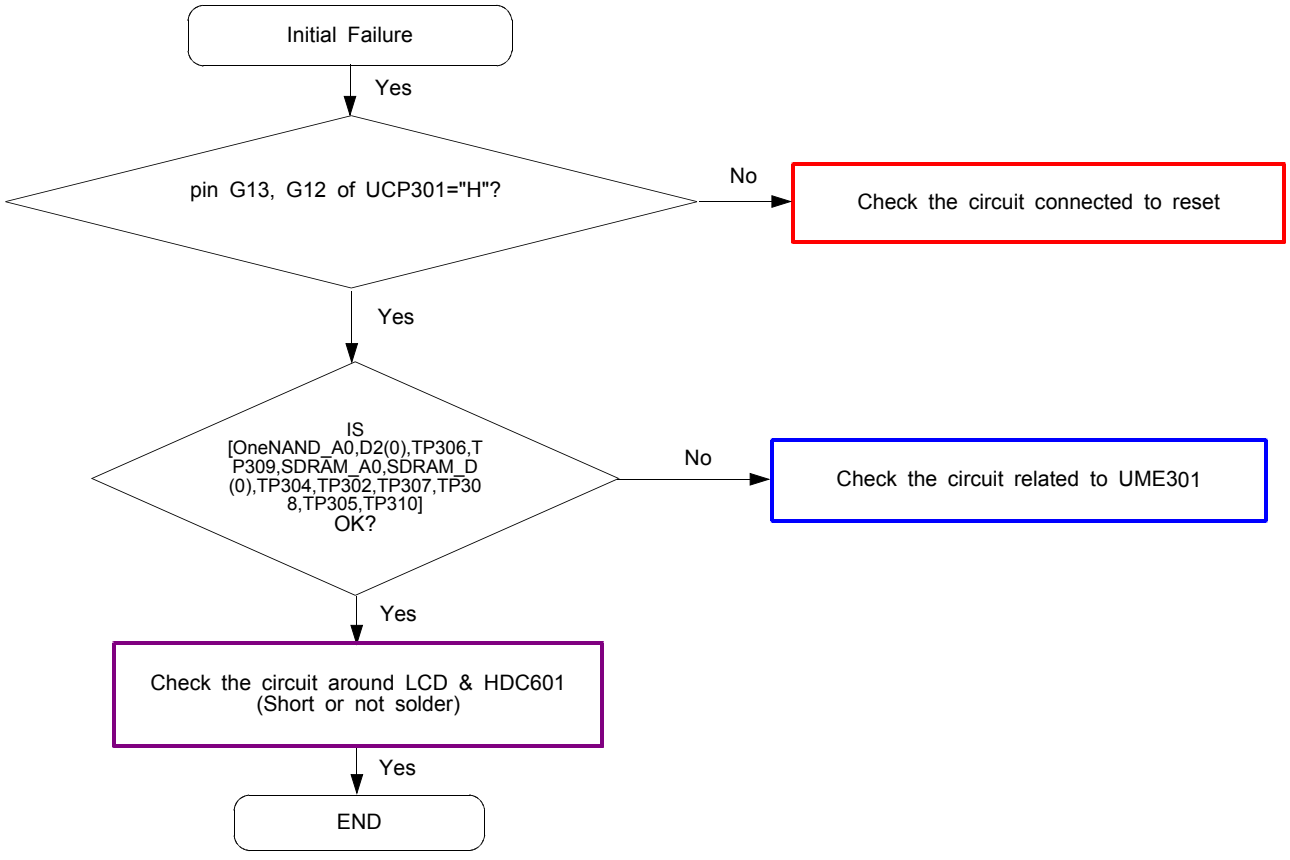


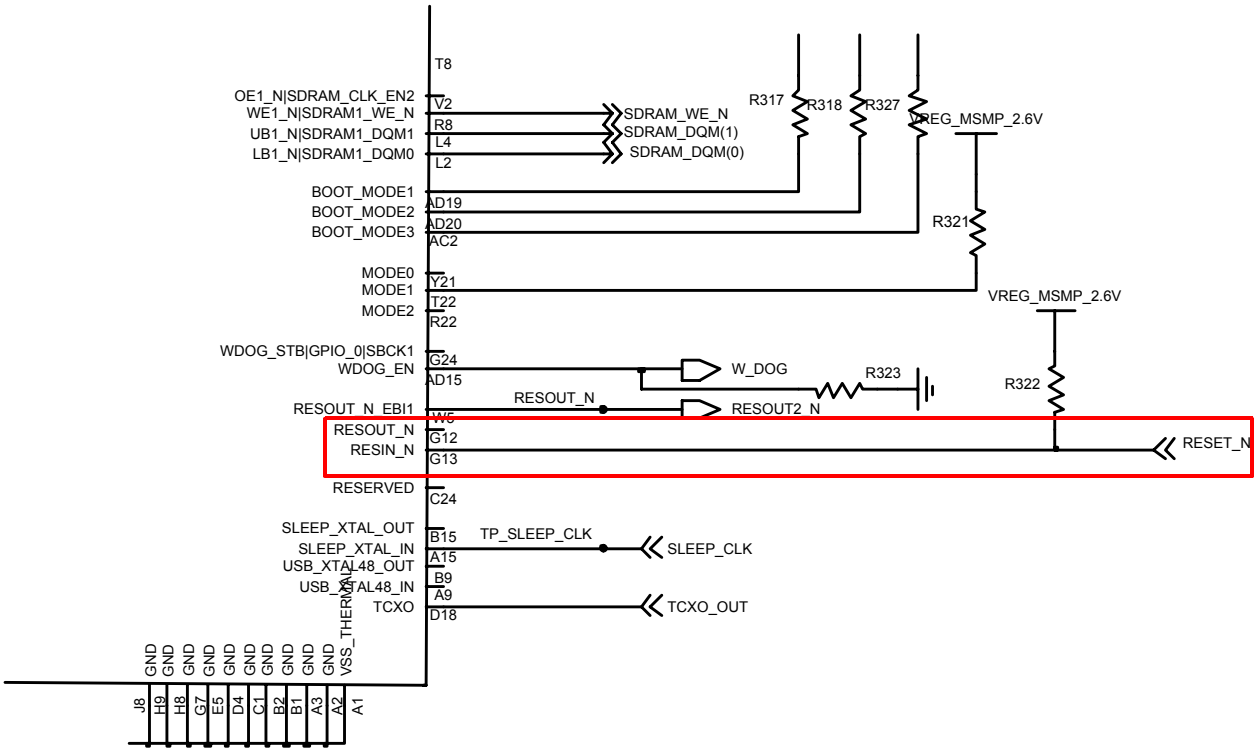


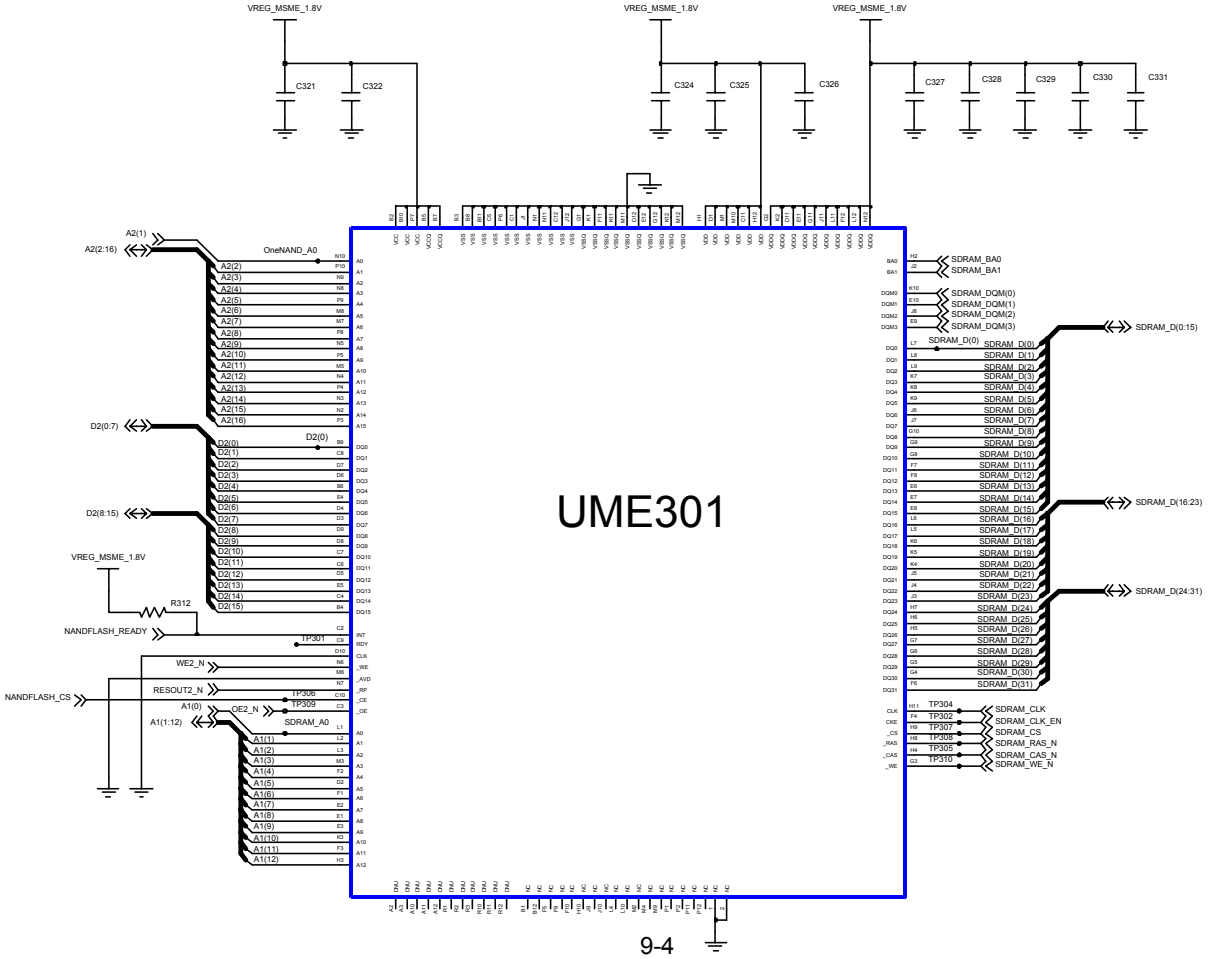


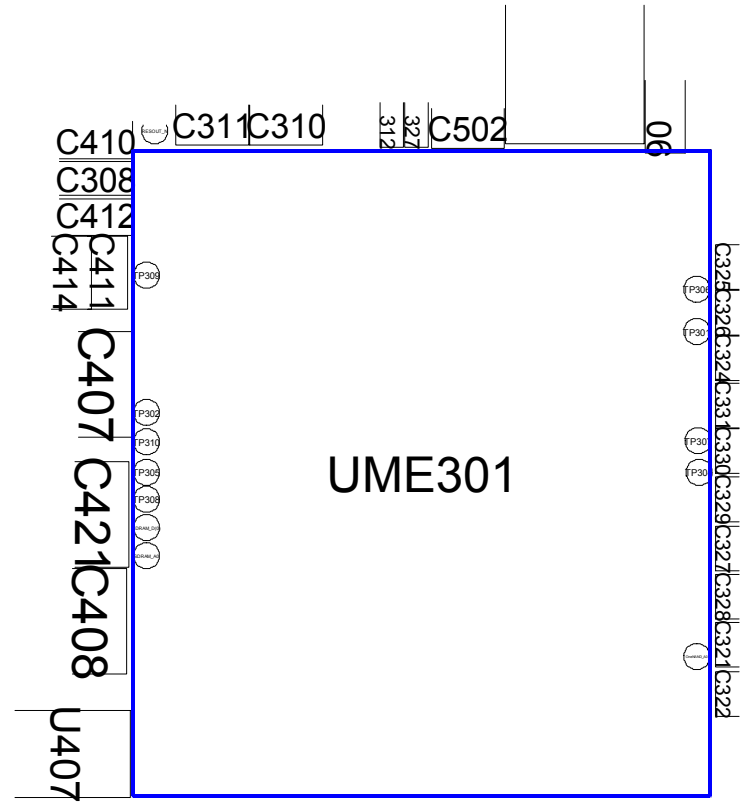


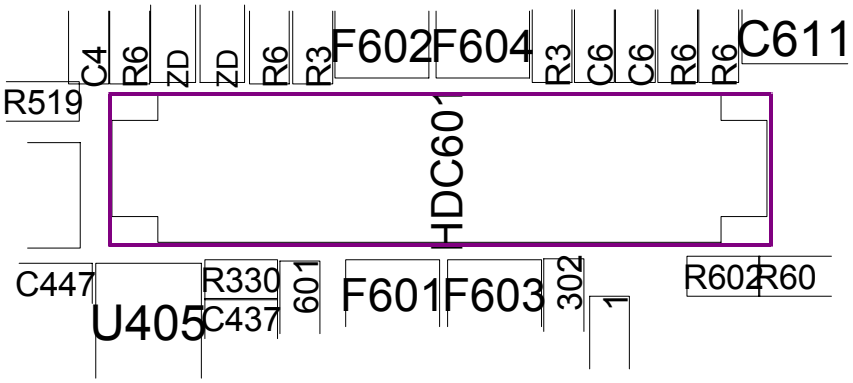
9-2. Initial



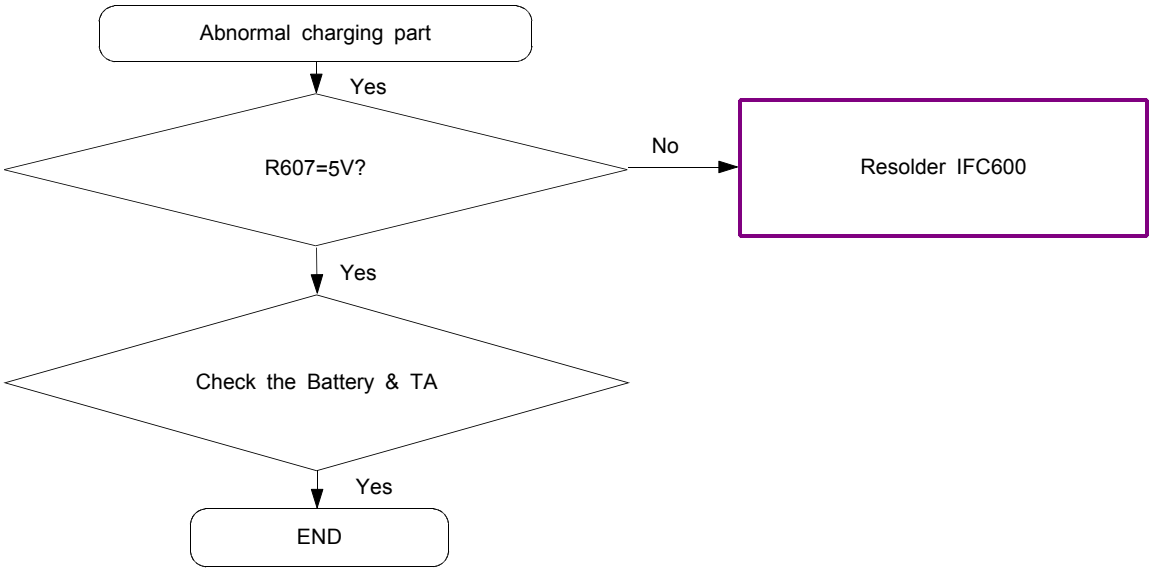


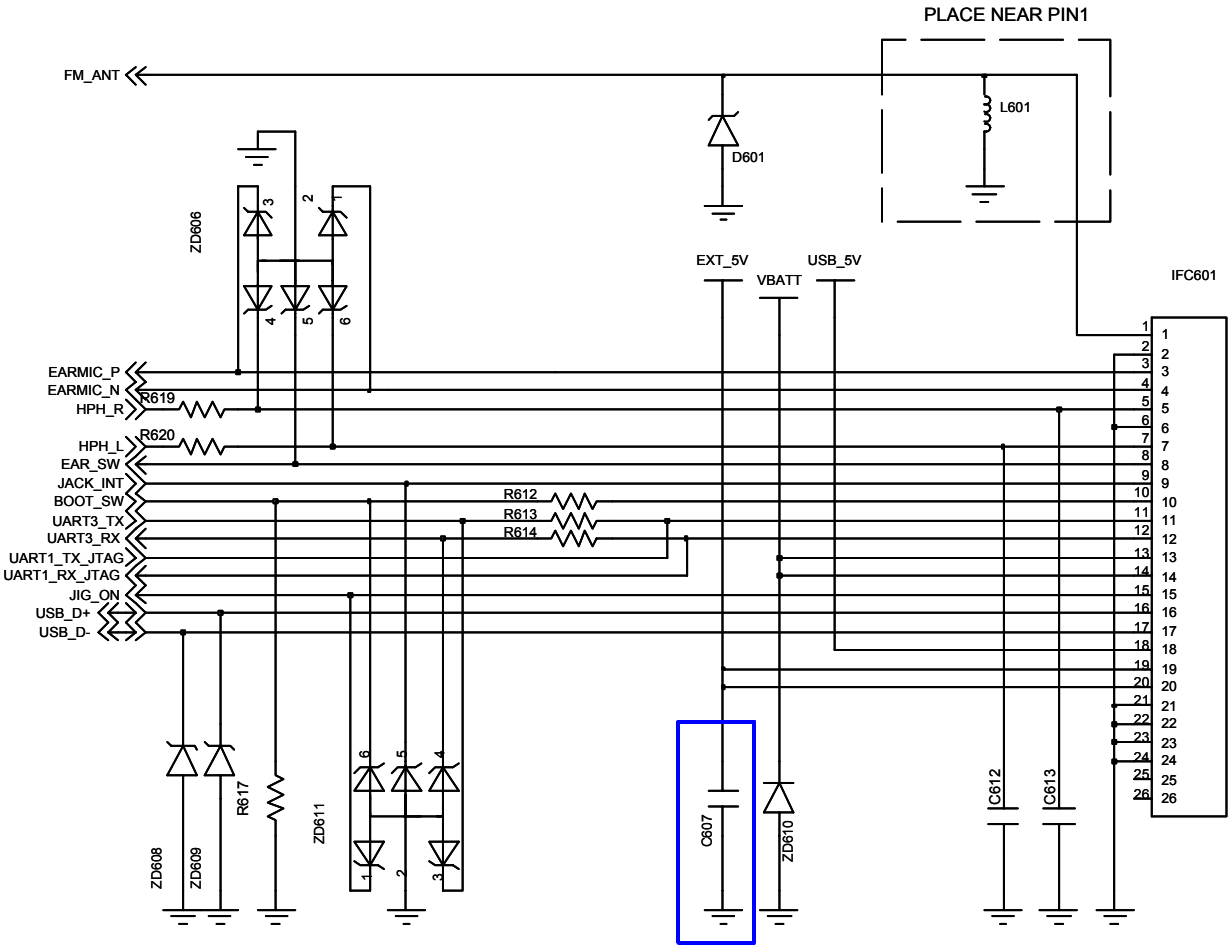


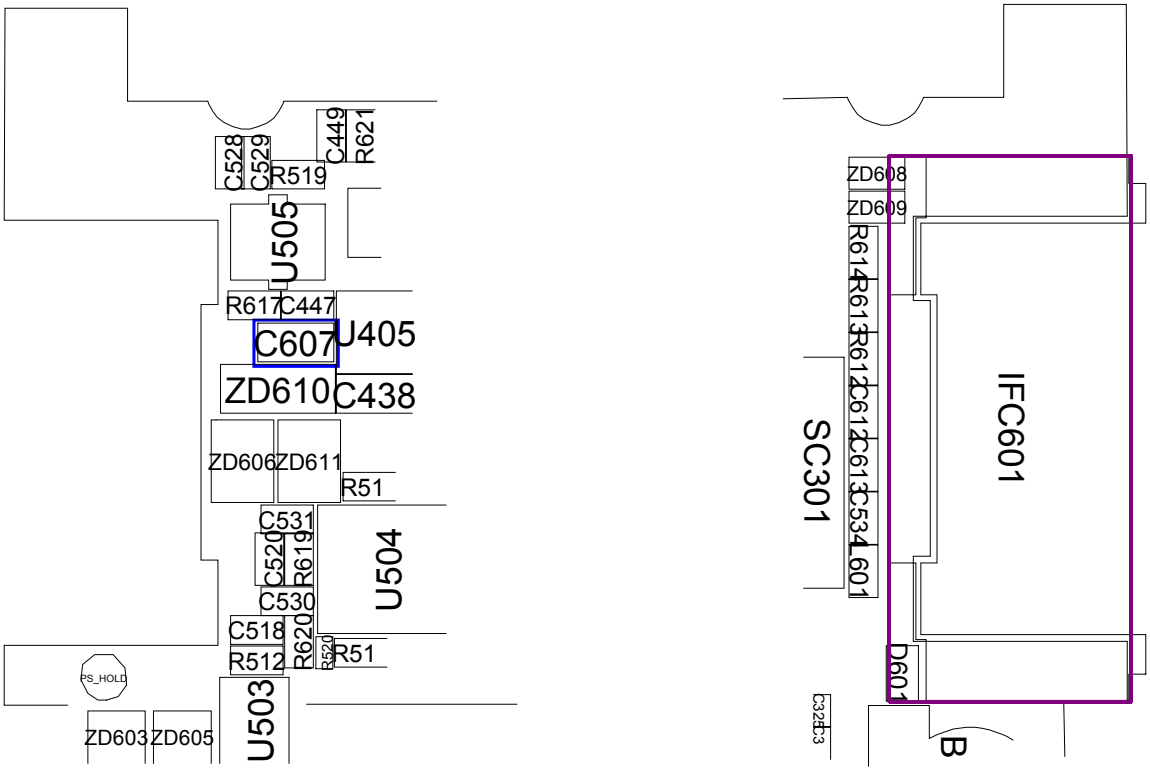




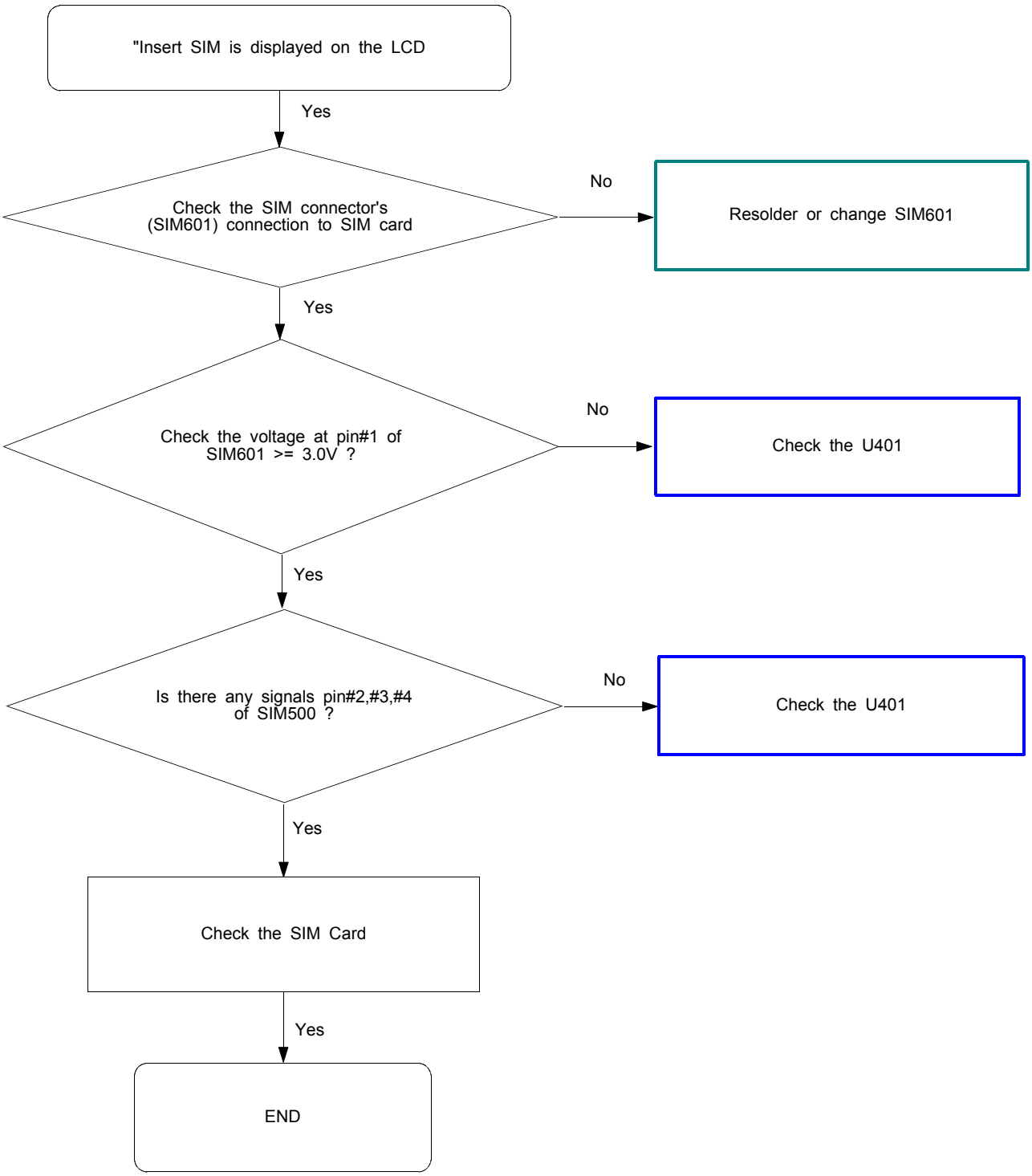
9-3. Charging Part

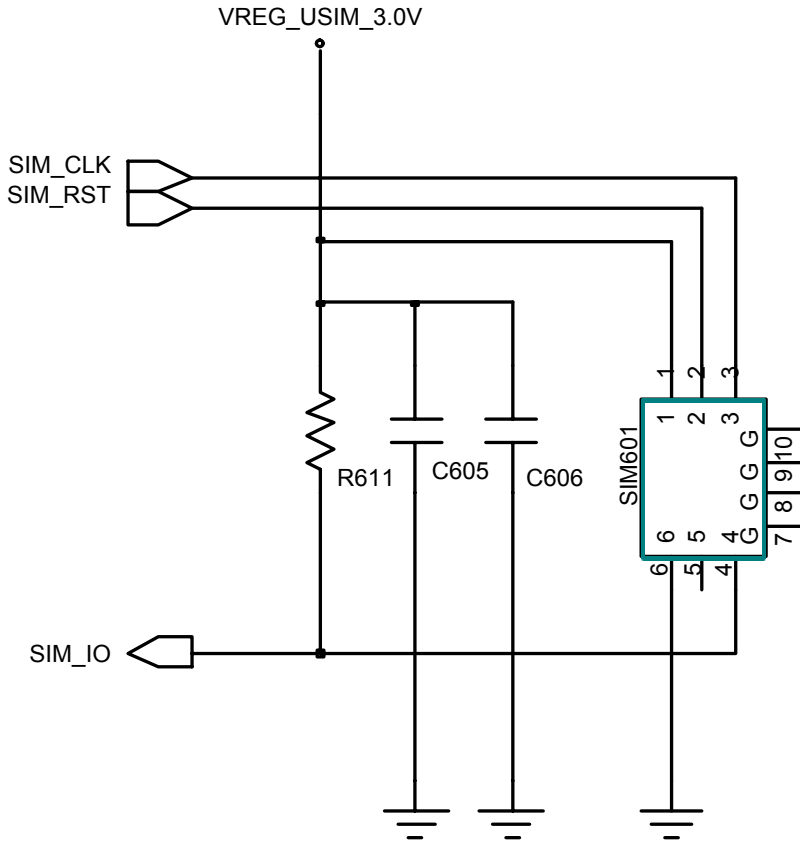


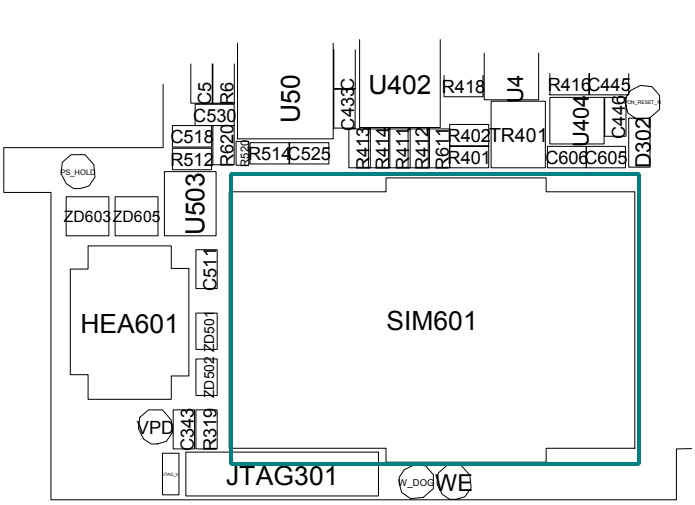


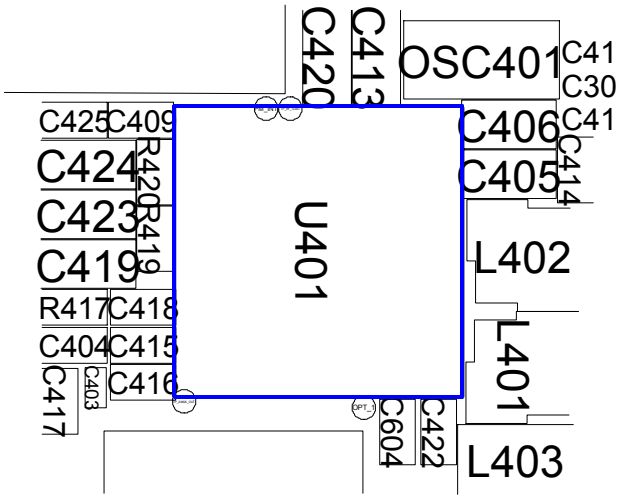


9-4. Sim Part

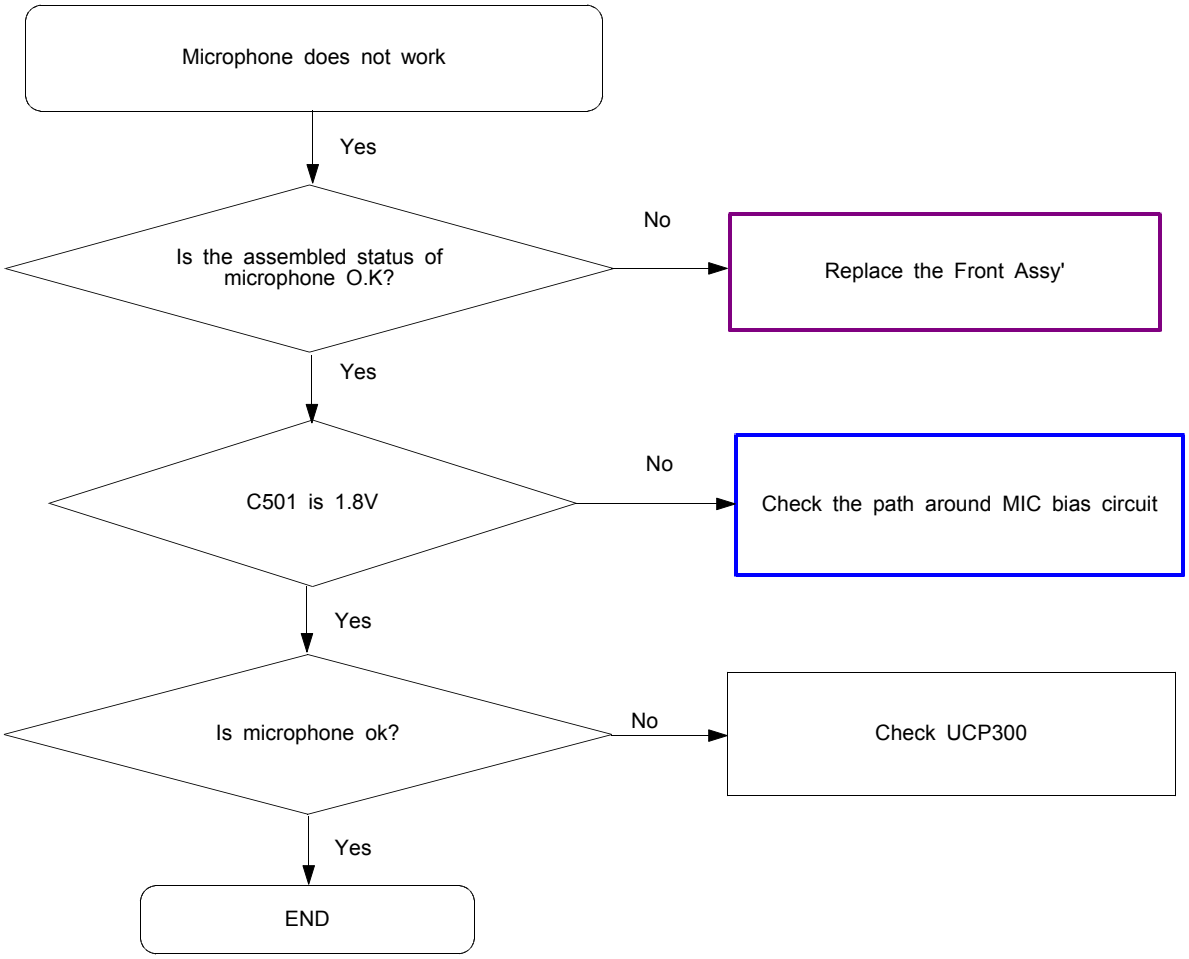


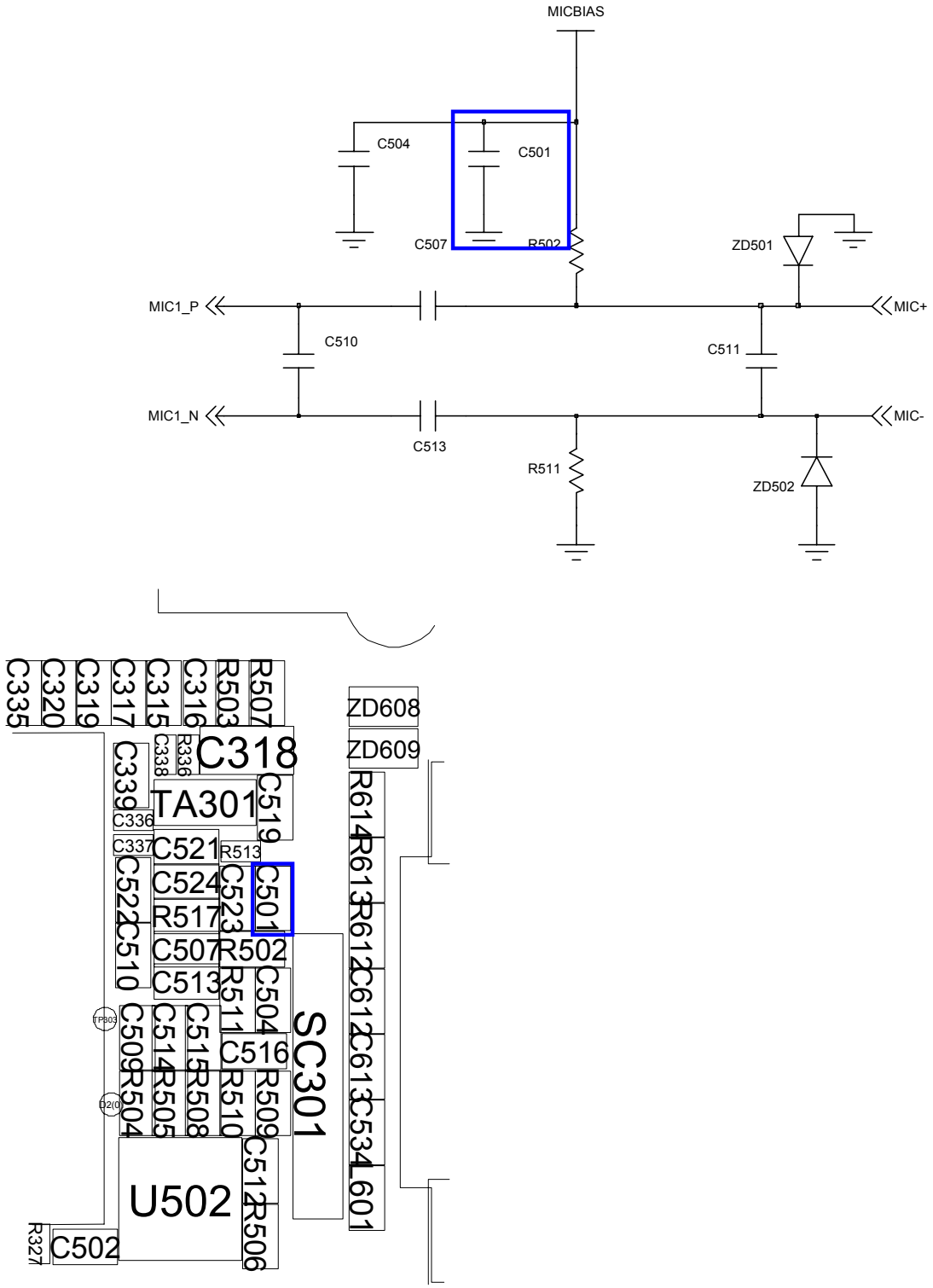




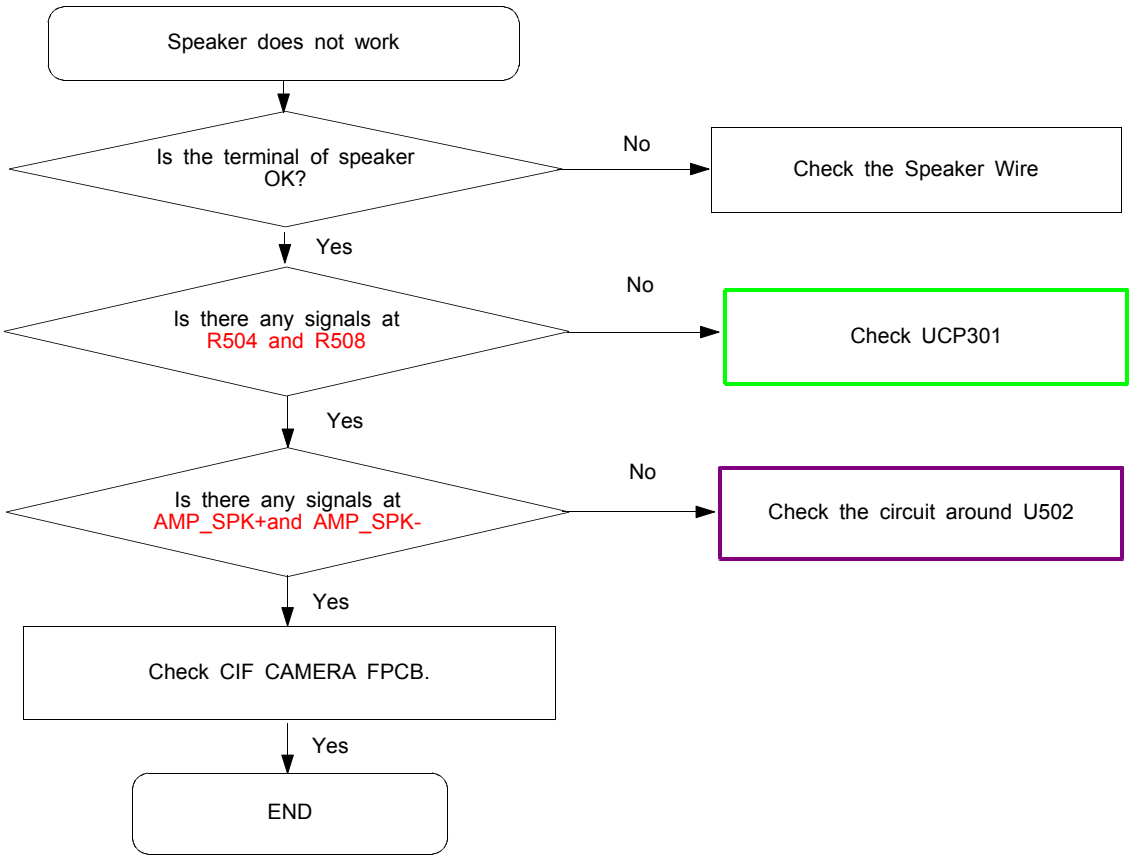


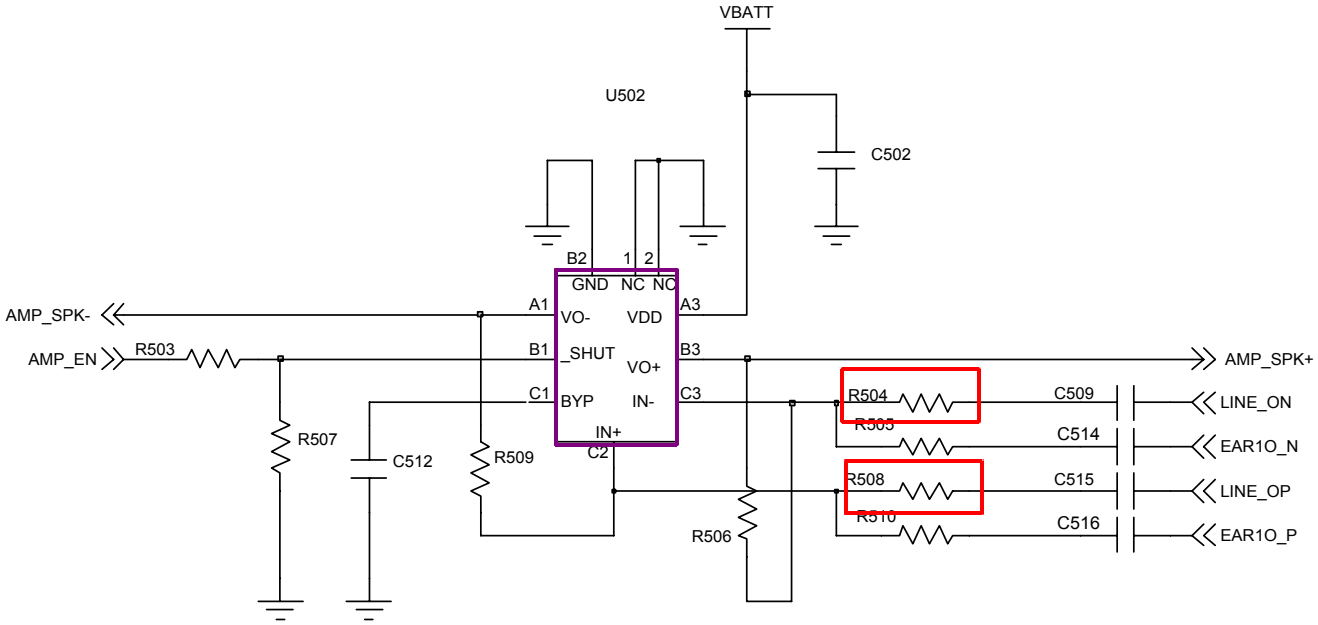
9-5. Microphone Part

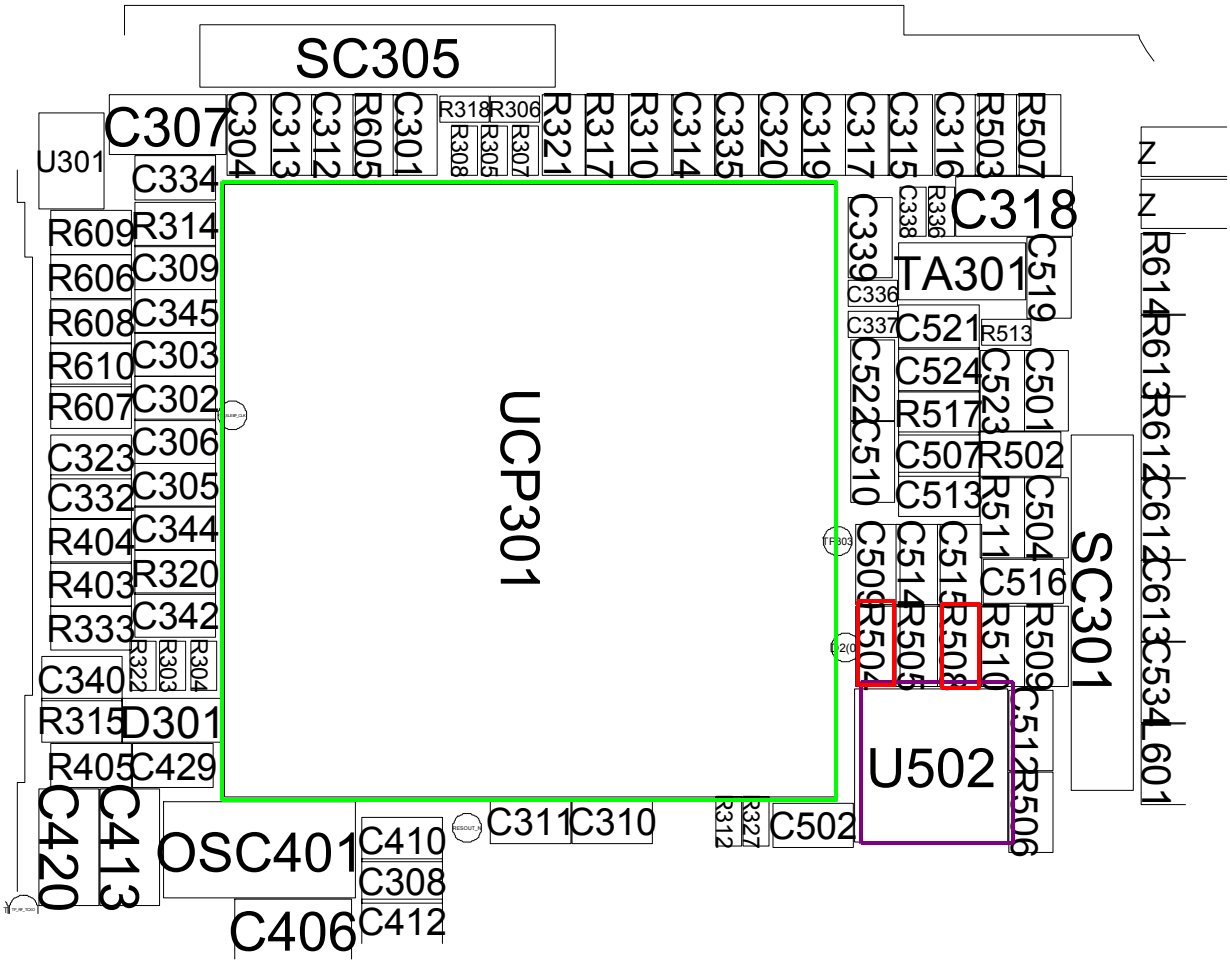




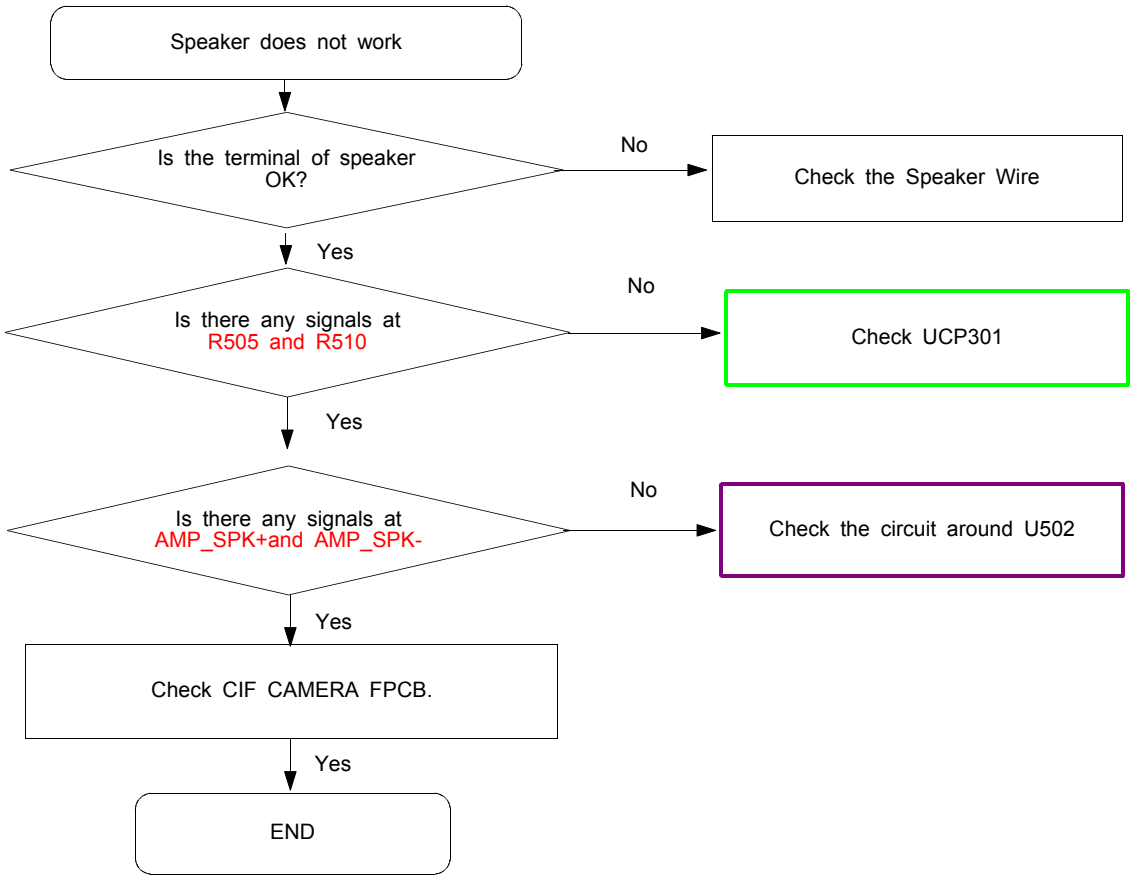
9-6. Speaker Part

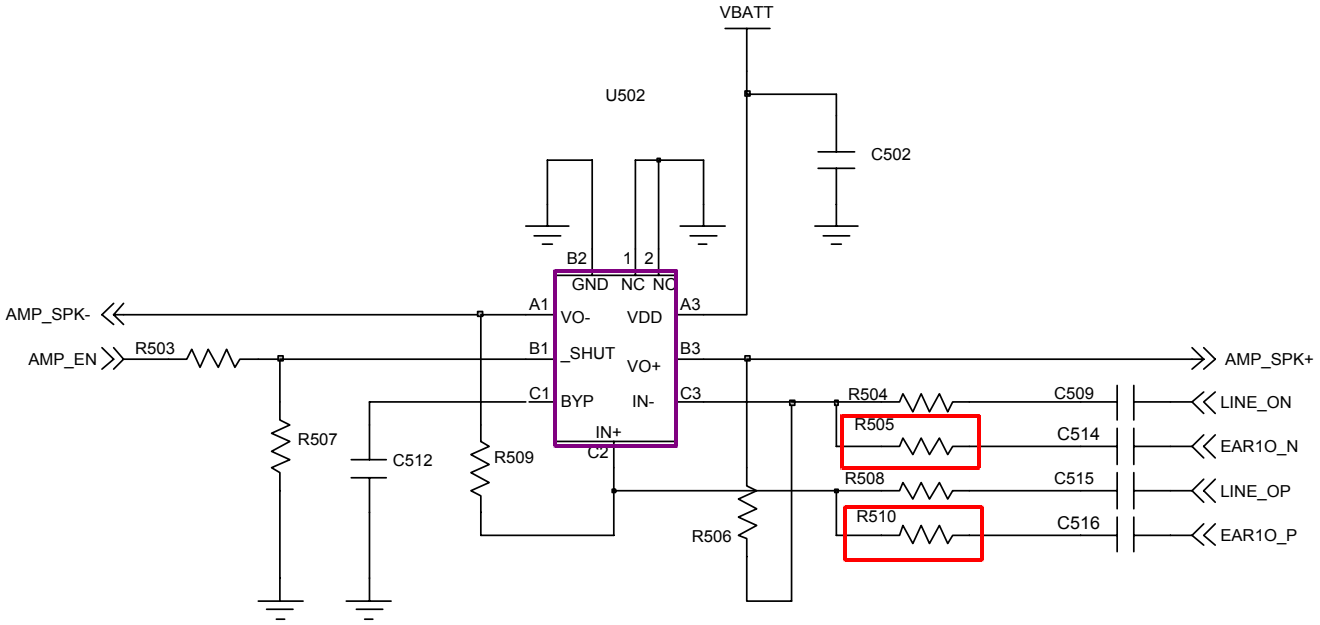


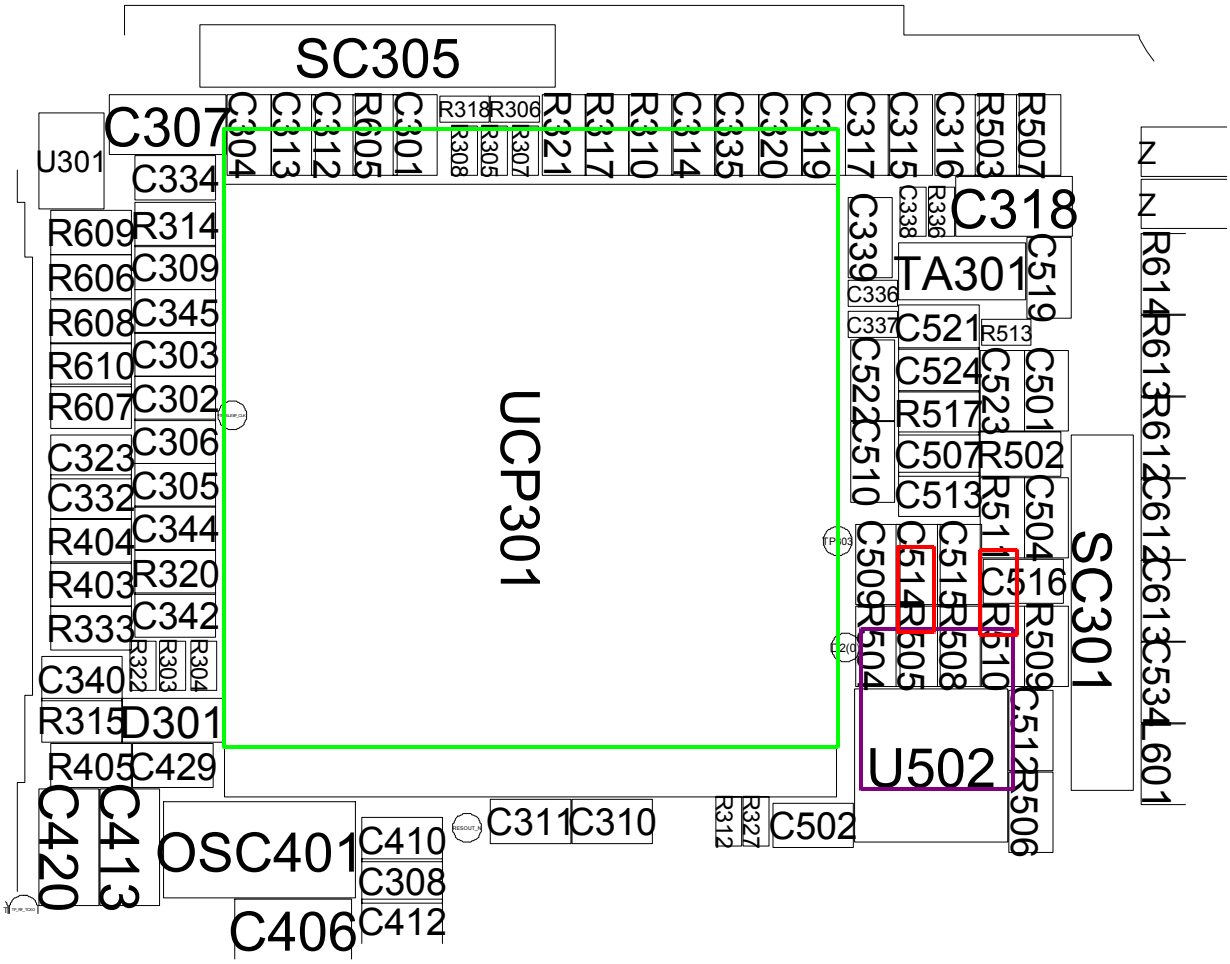




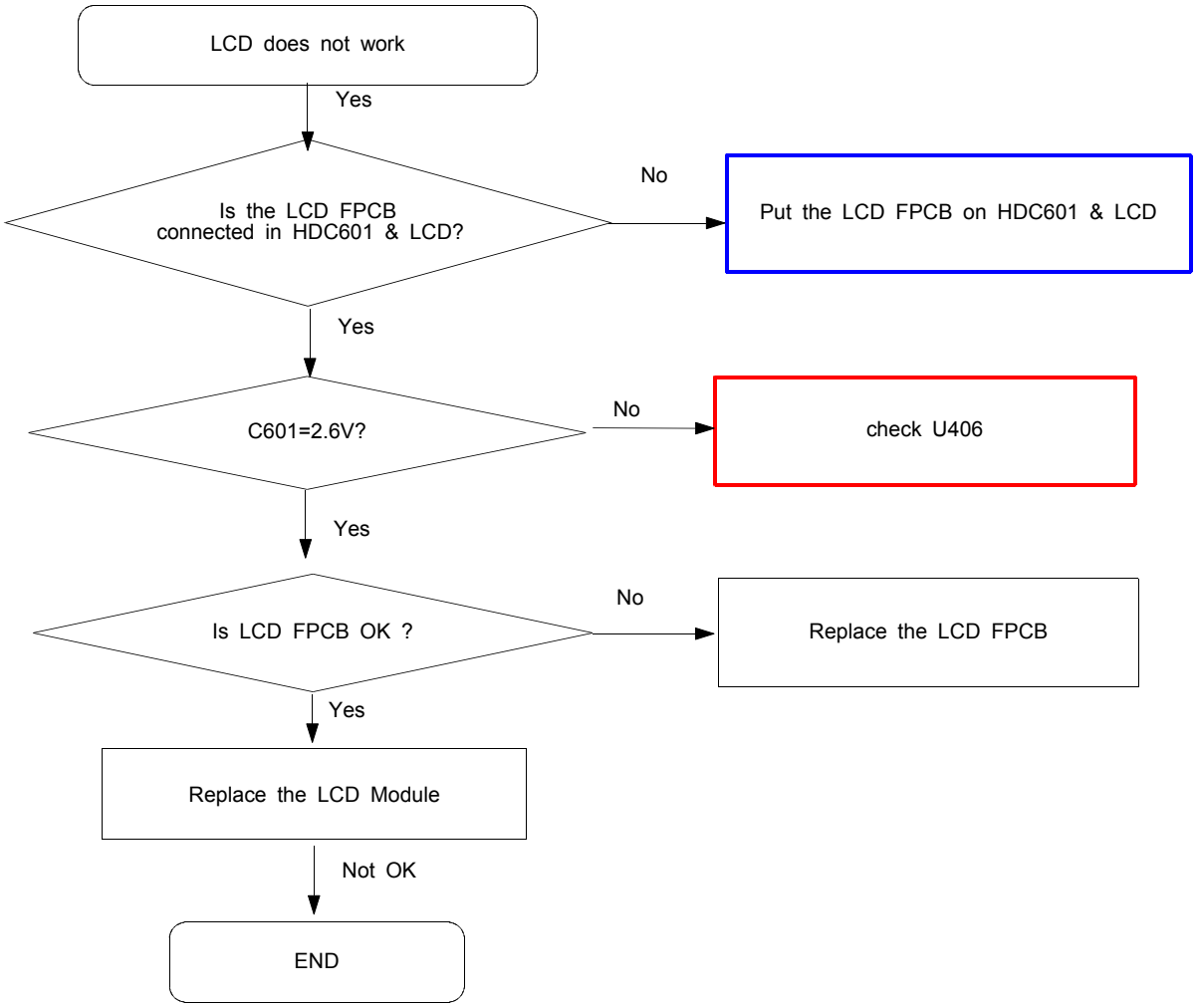
9-7. Receiver Part

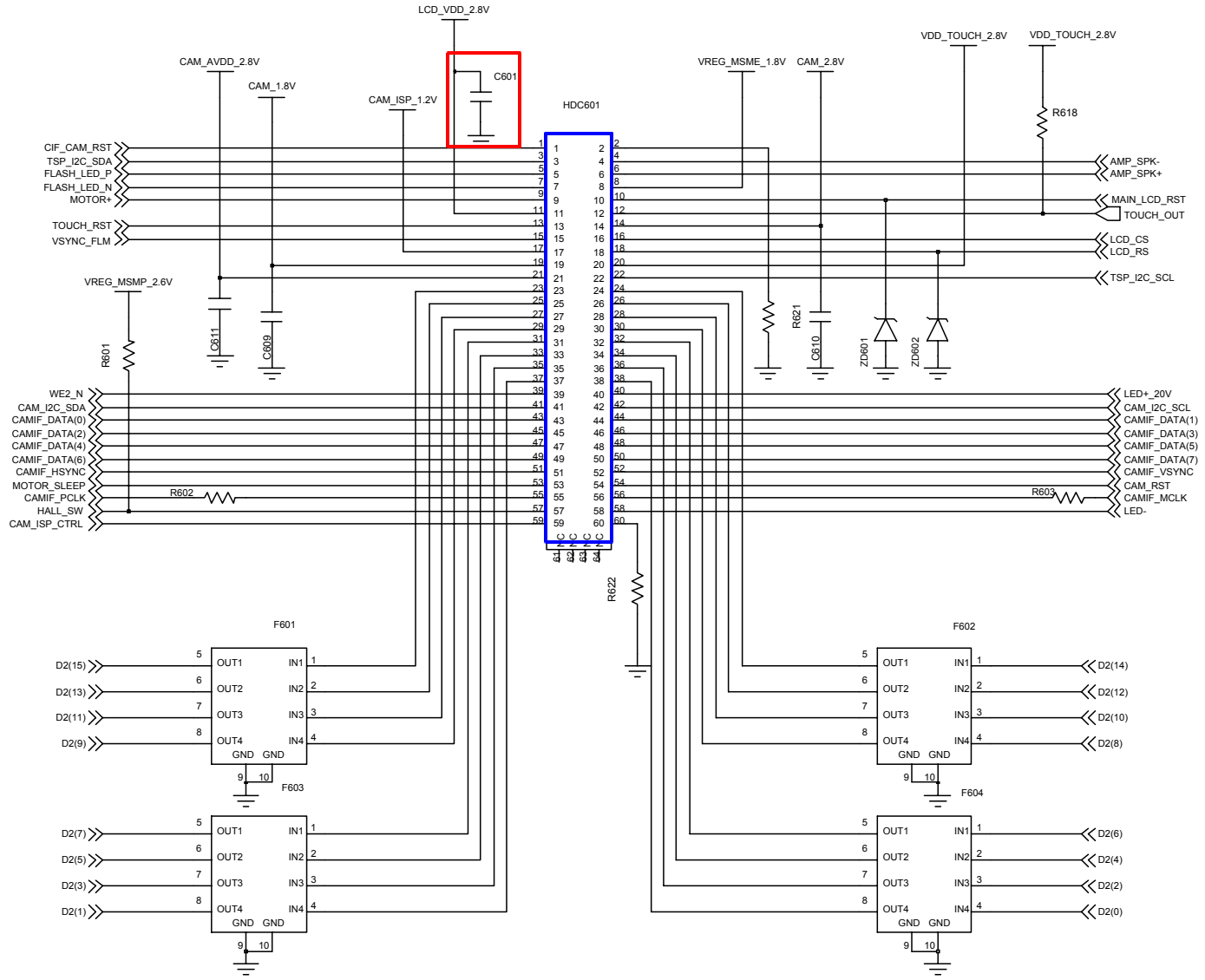


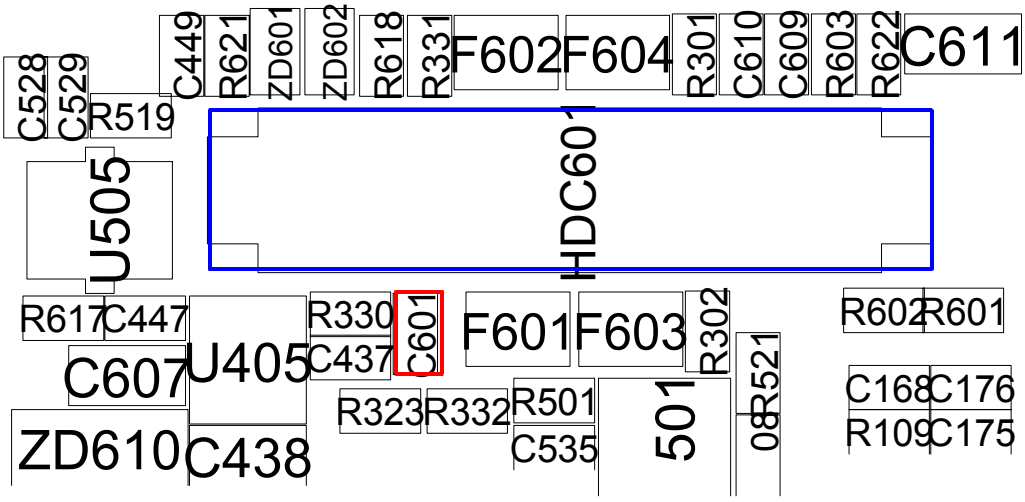


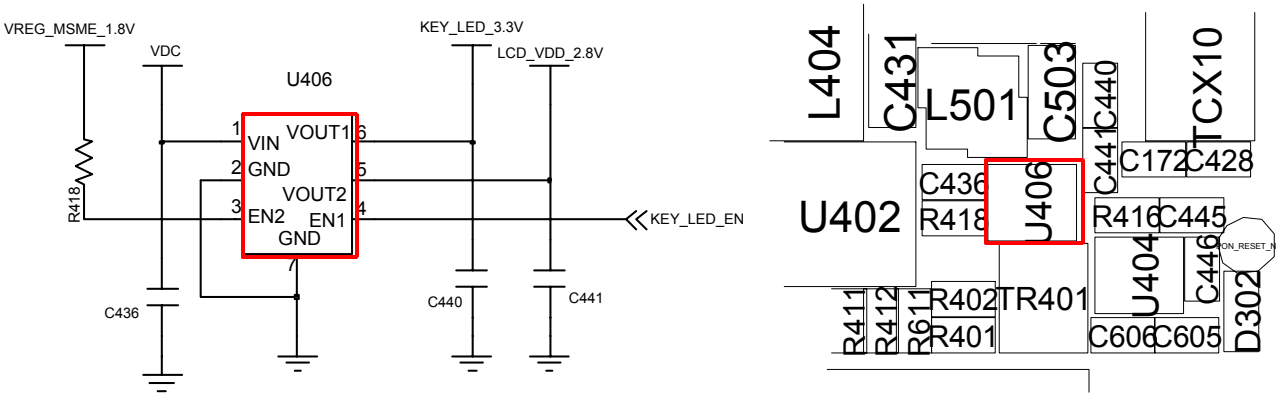


9-8. LCD part

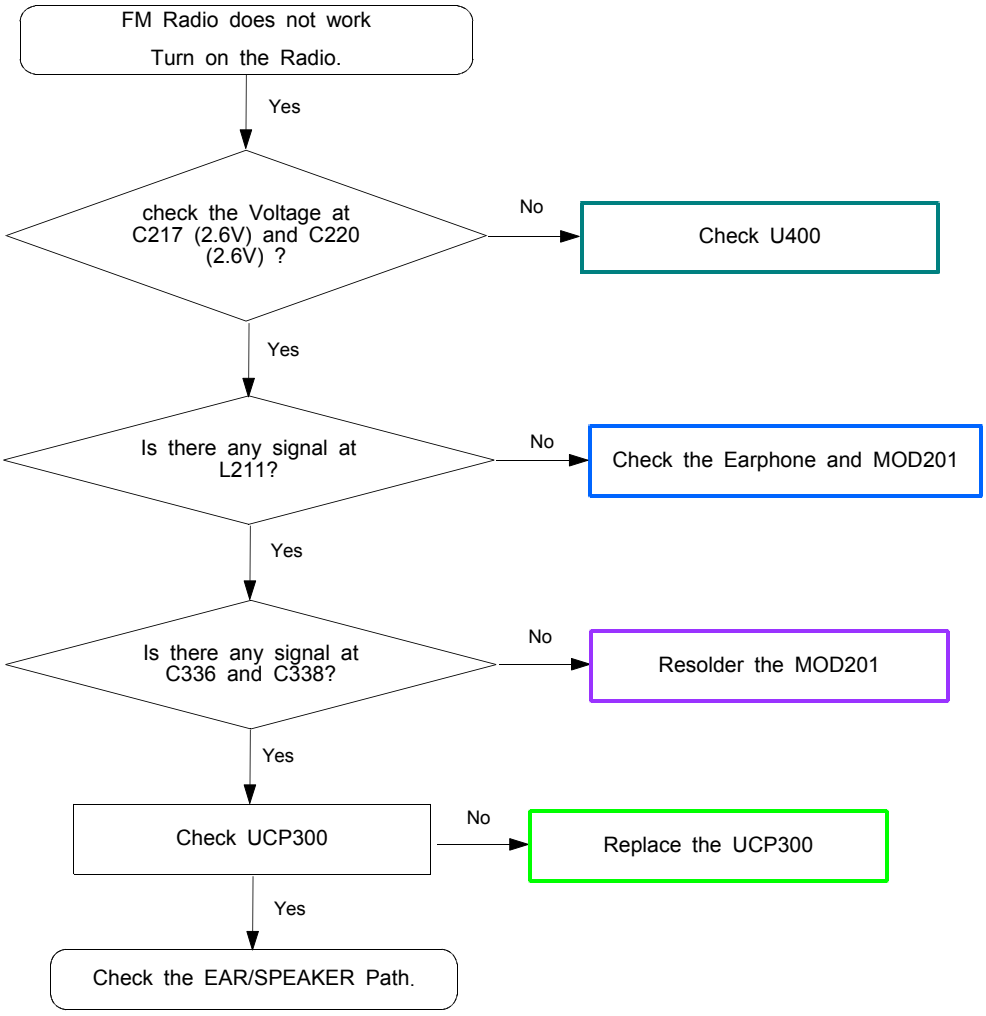


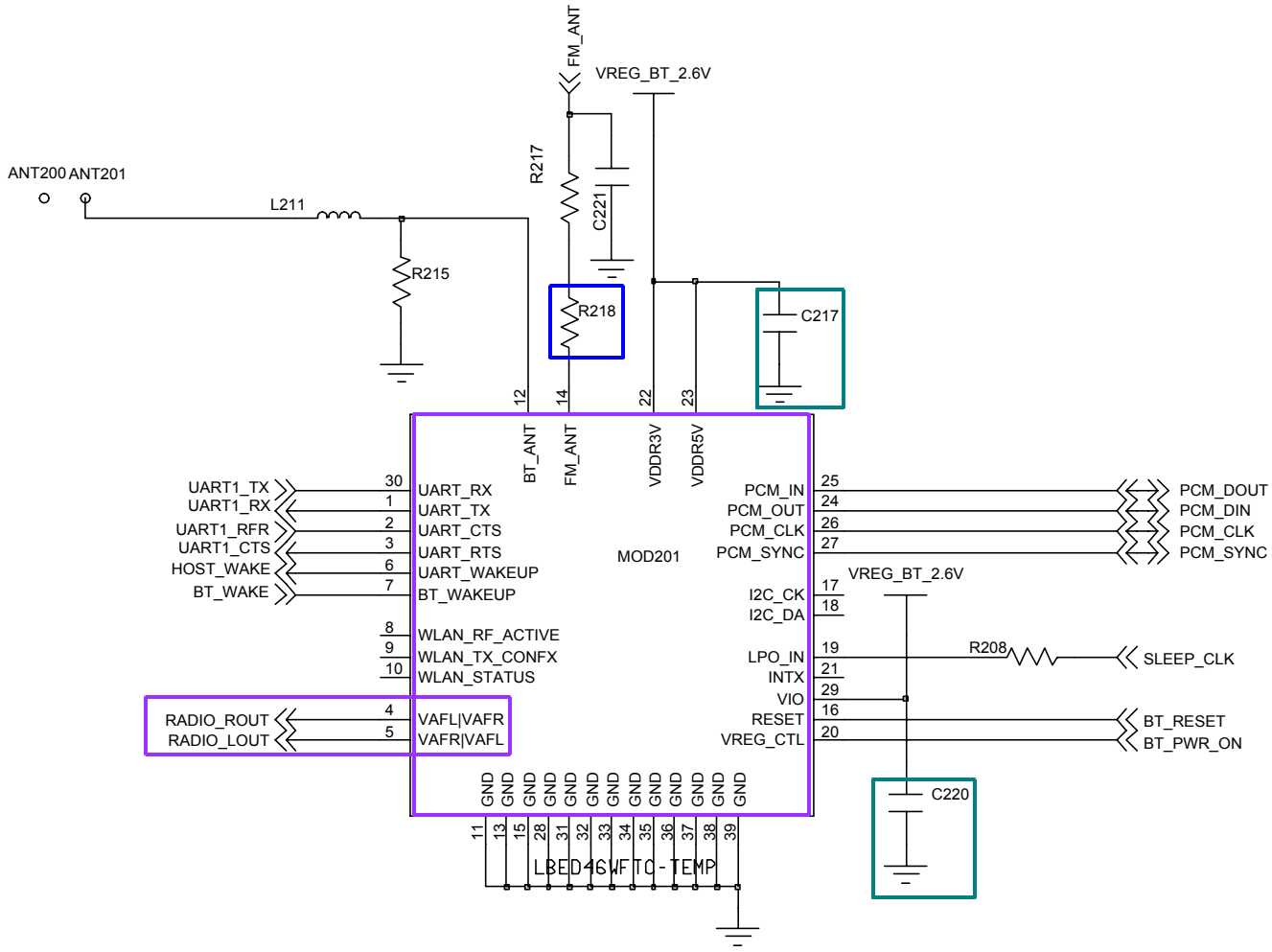


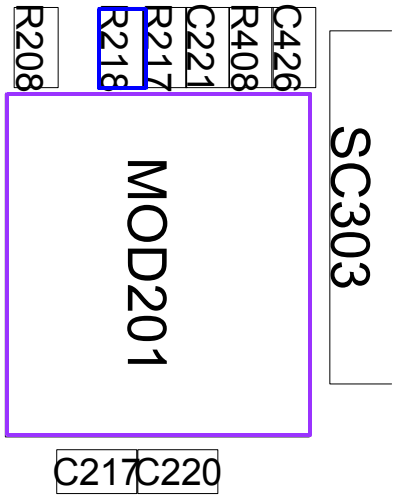




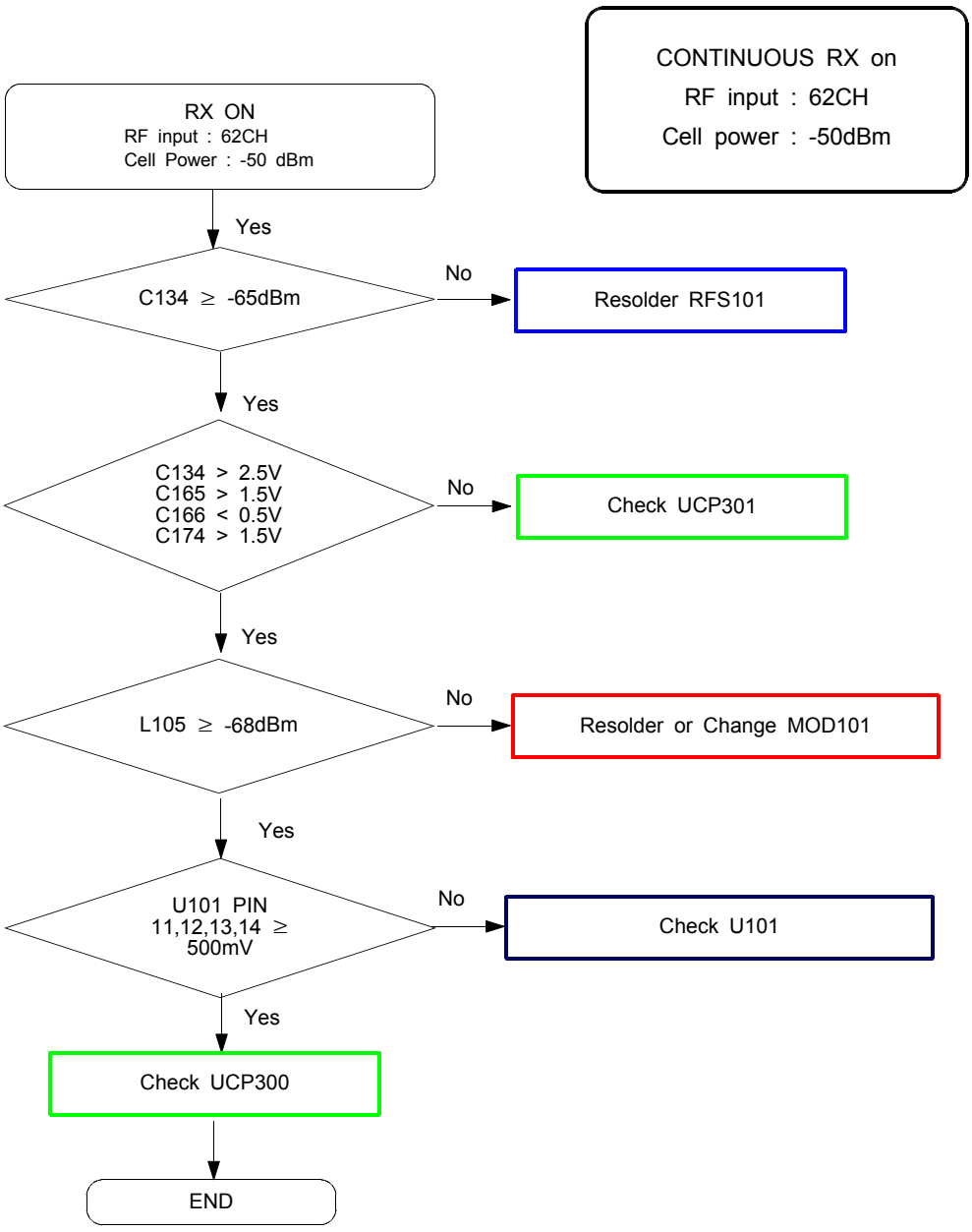
9-9. **FM RADIO Part**

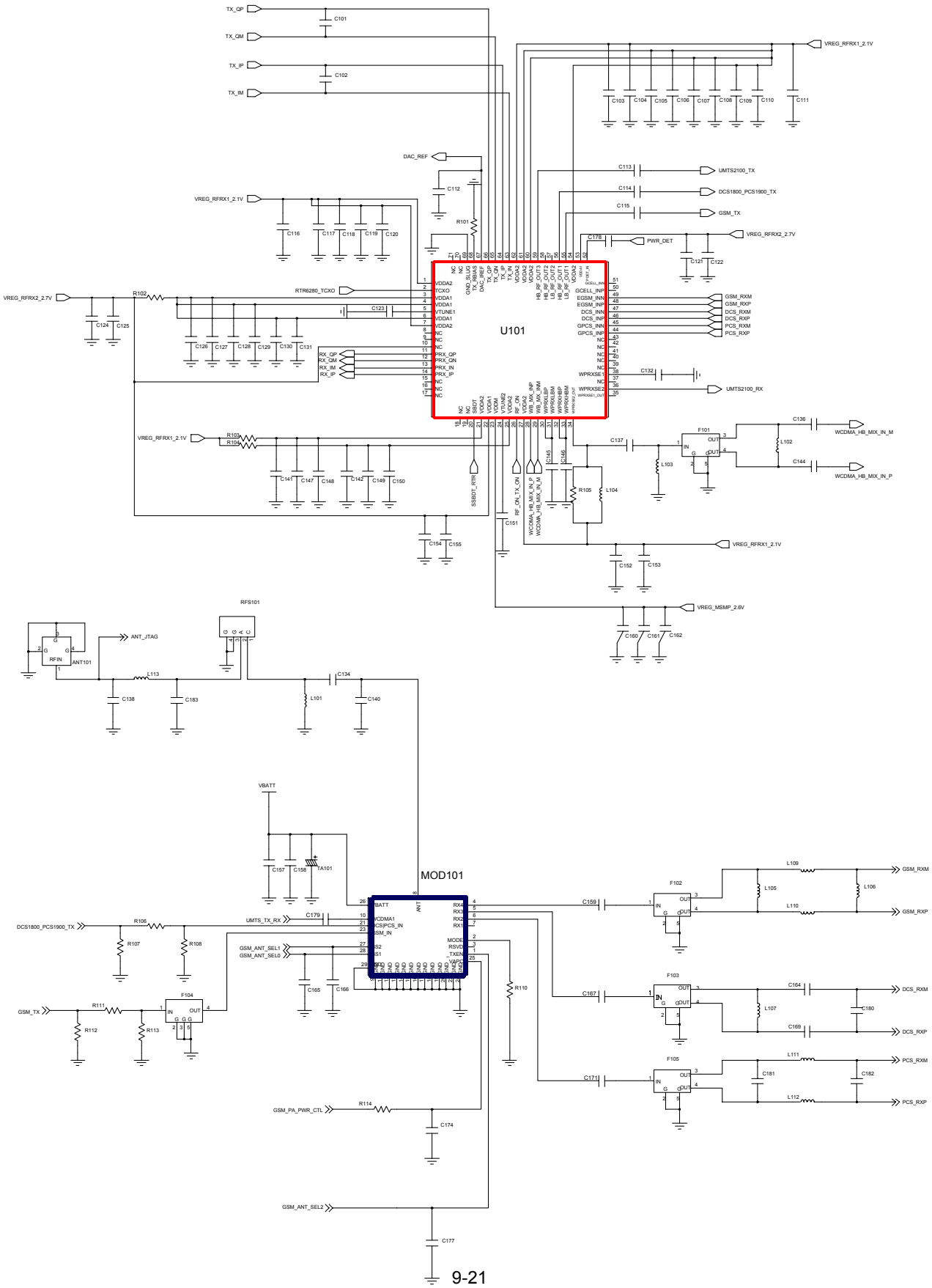


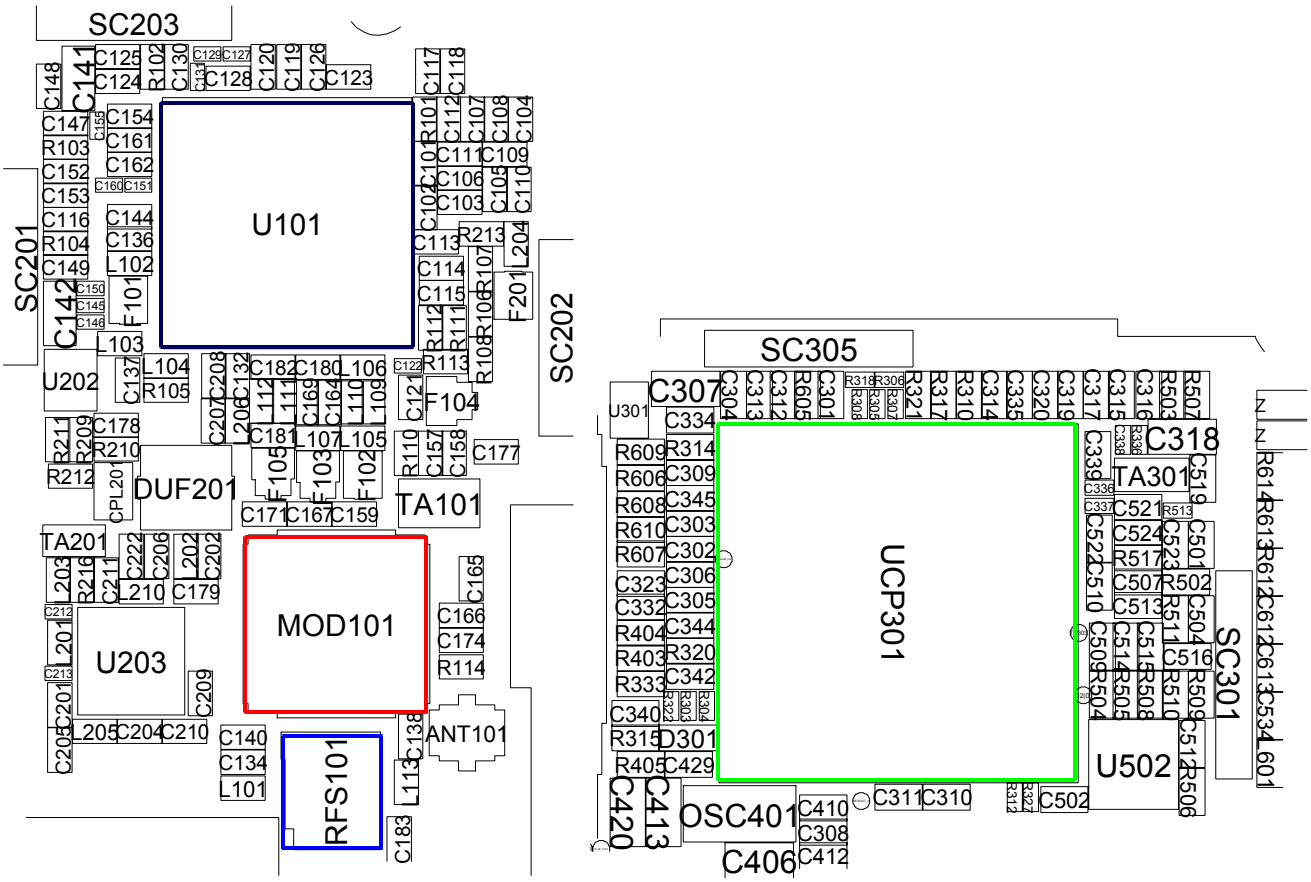




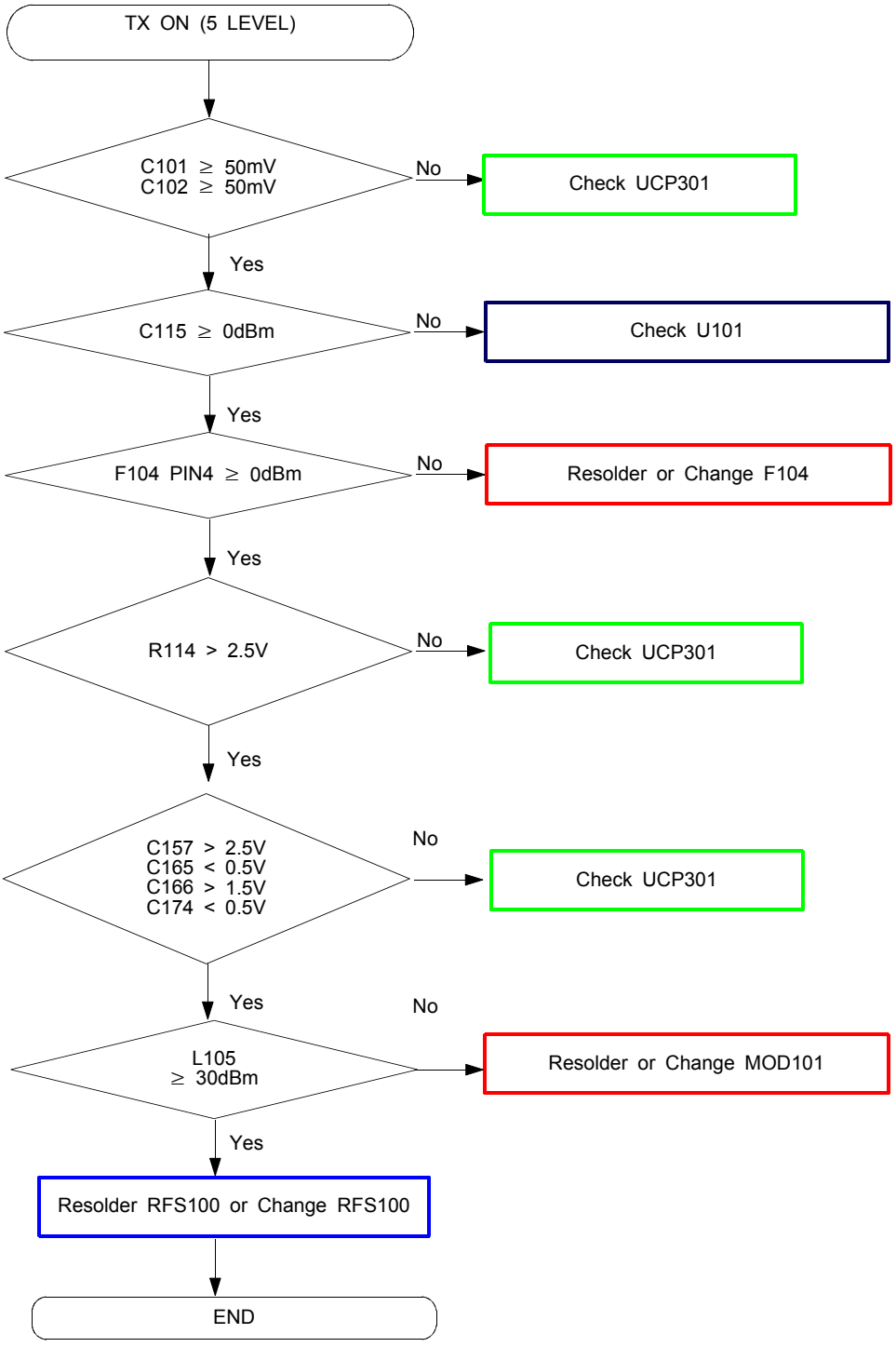
9-10. GSM Receiver

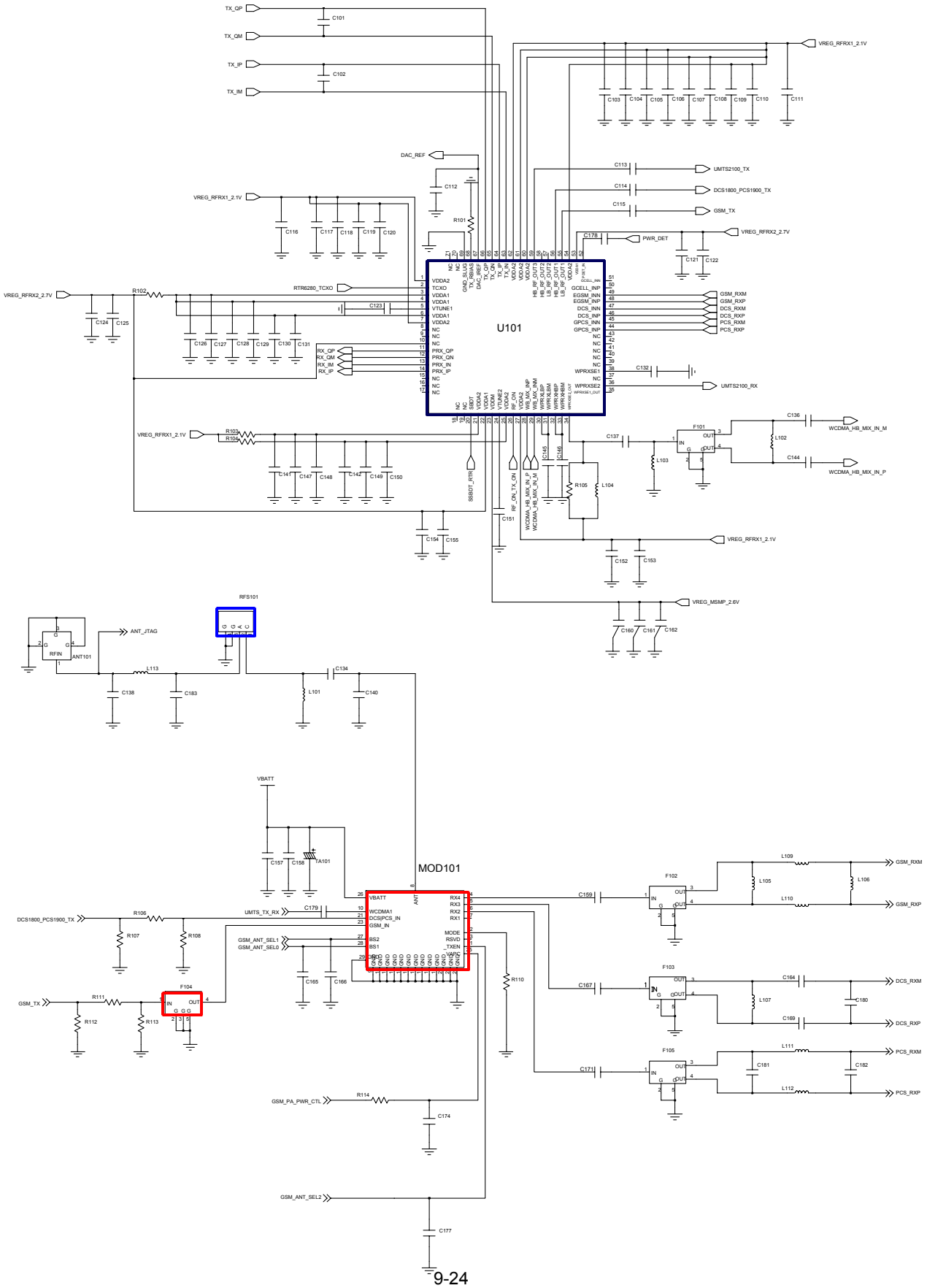


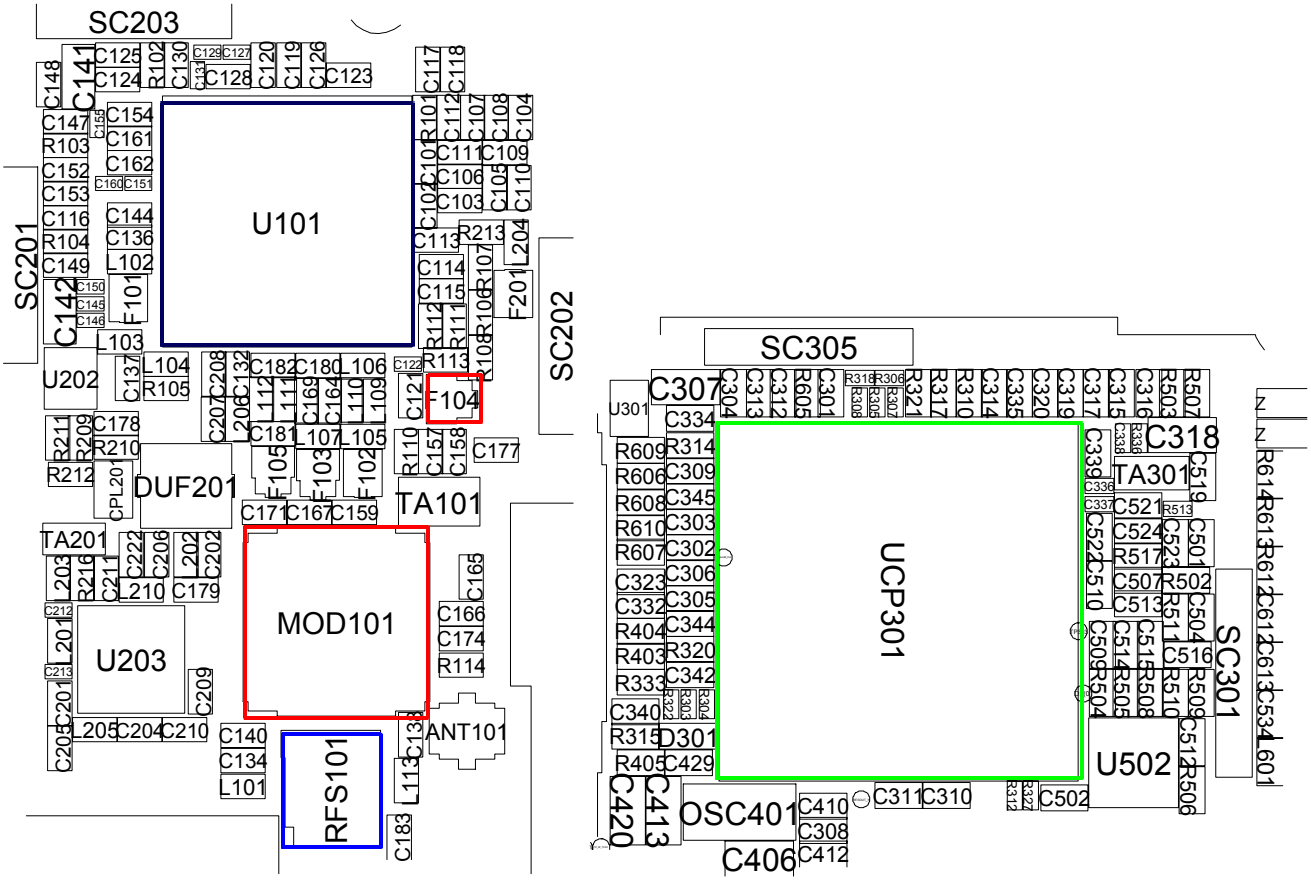




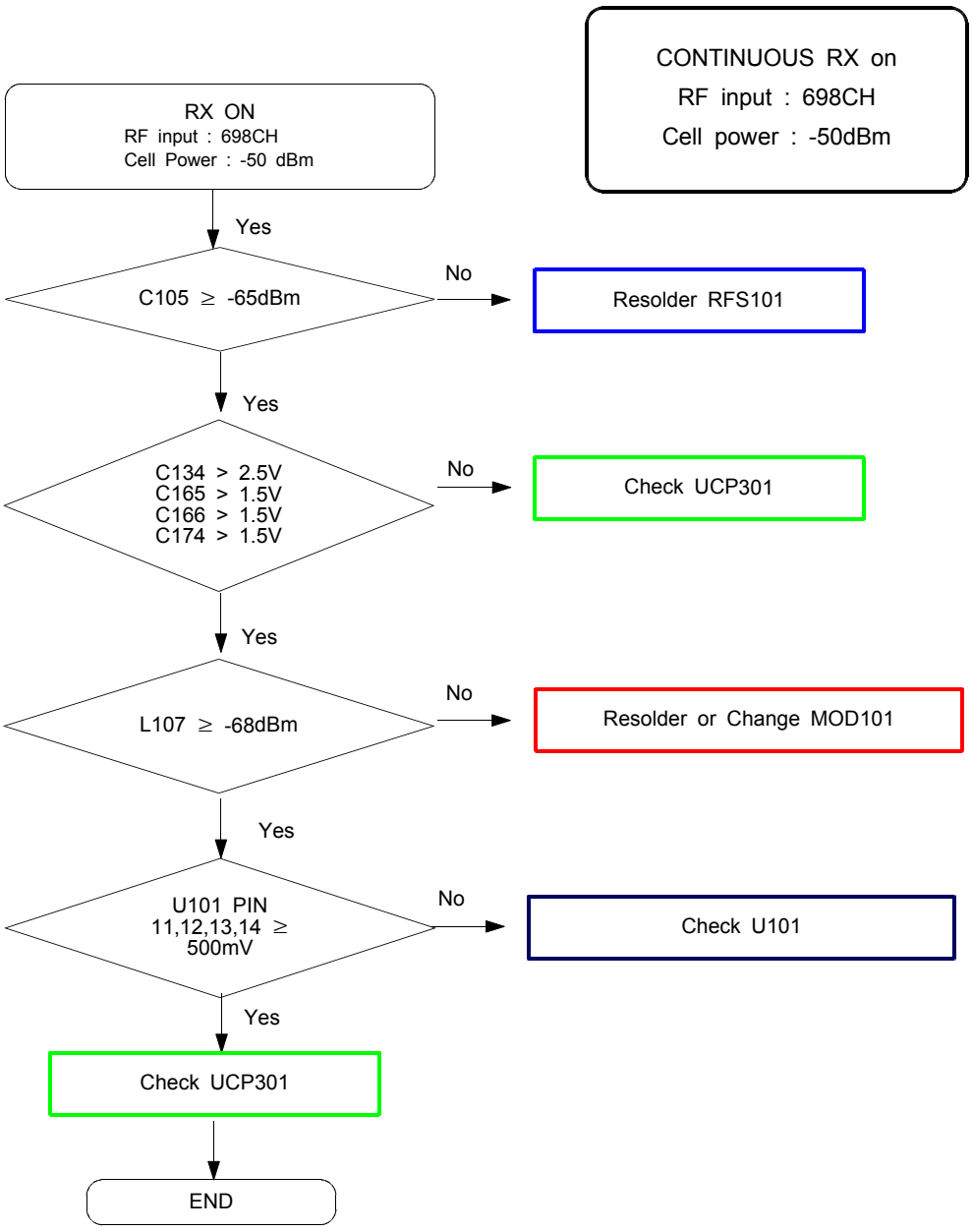
9-11 GSM Transmitter

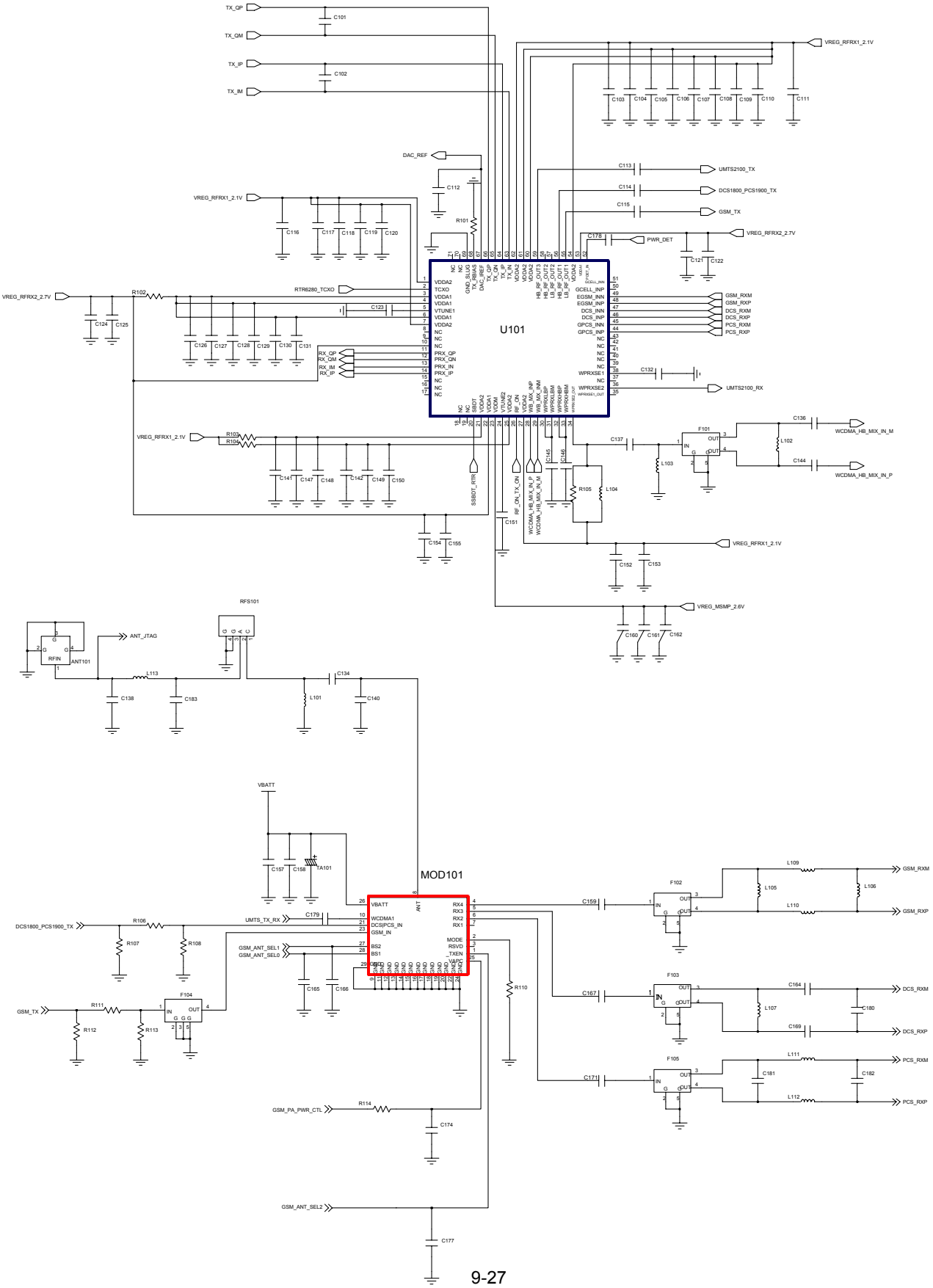


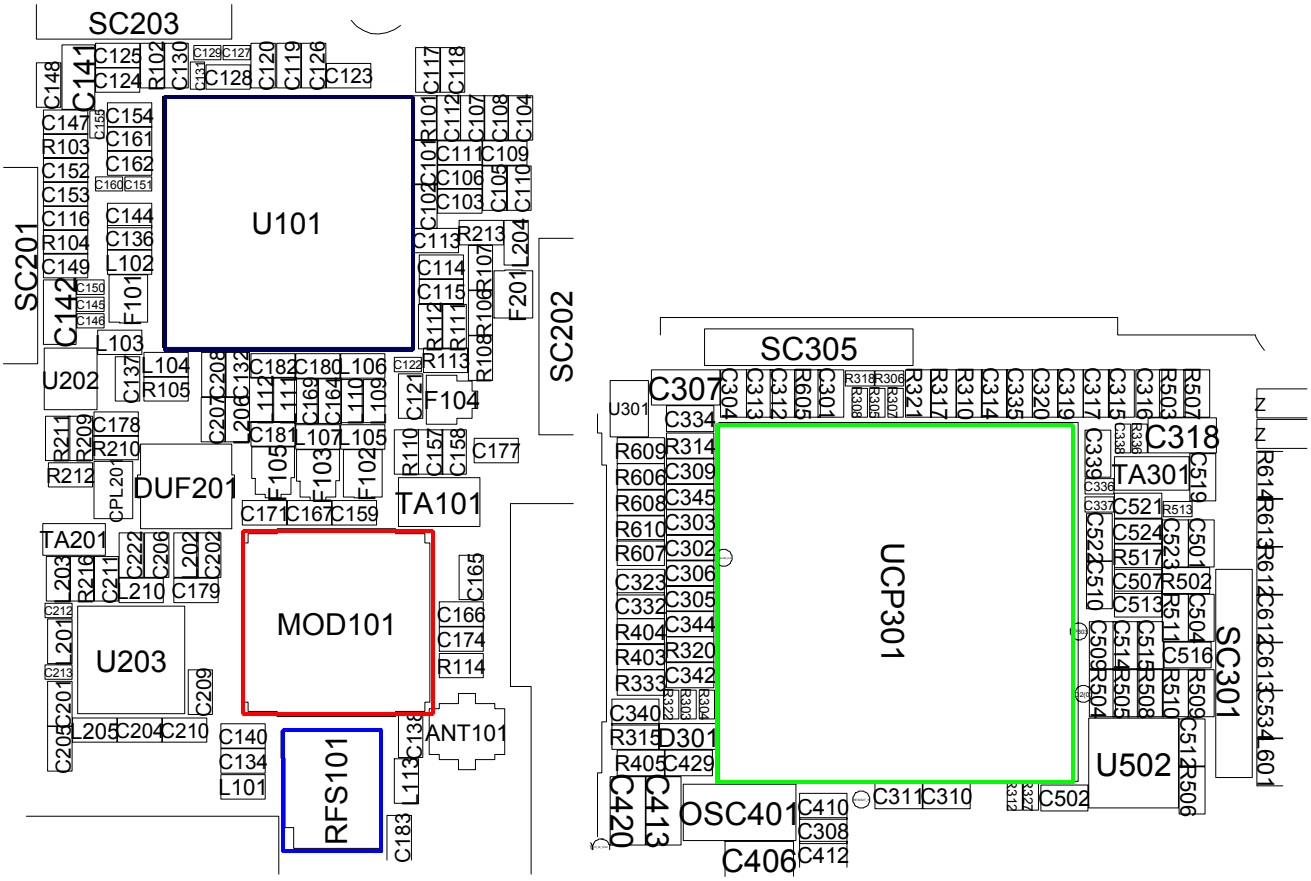




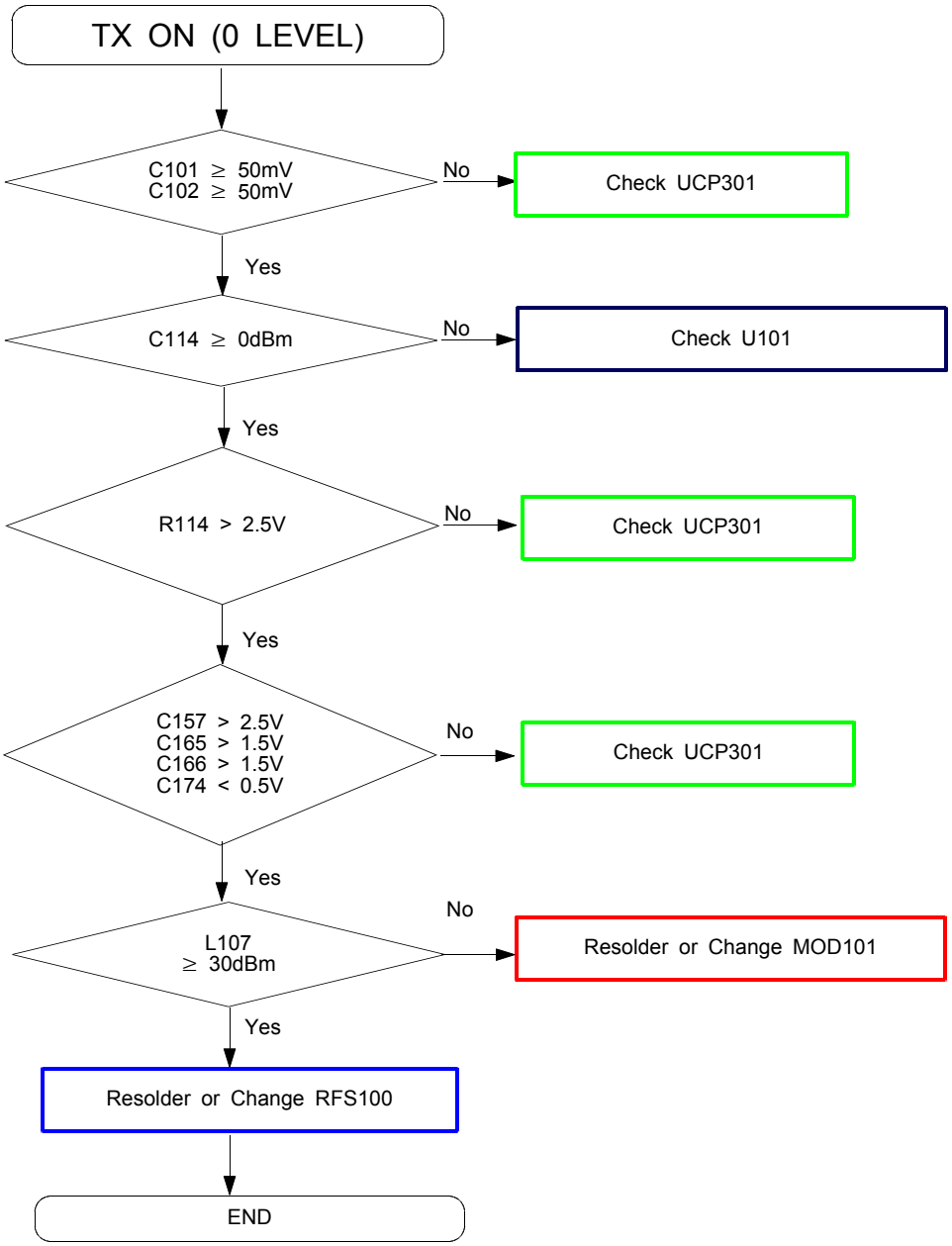
9-12. DCS Receiver

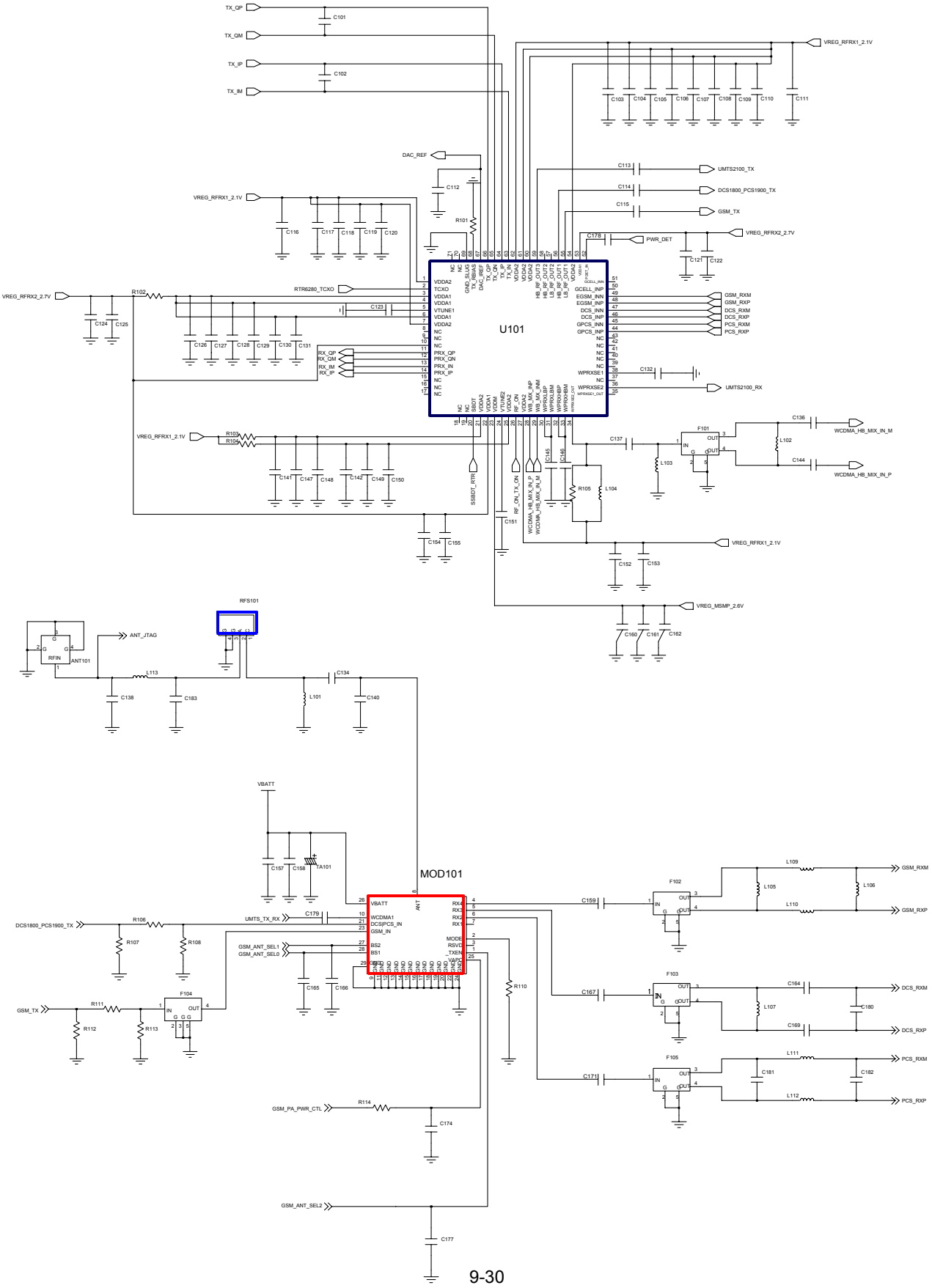


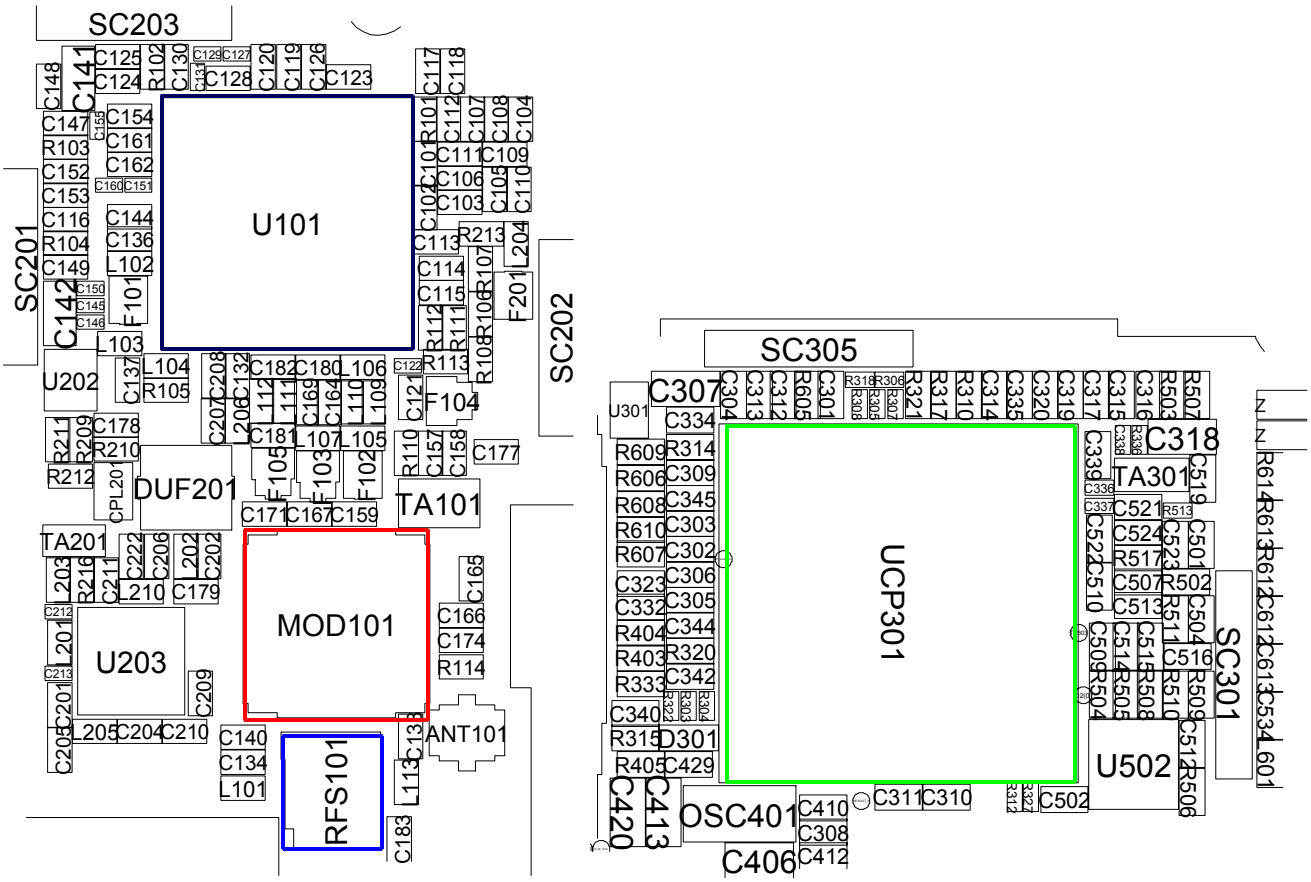




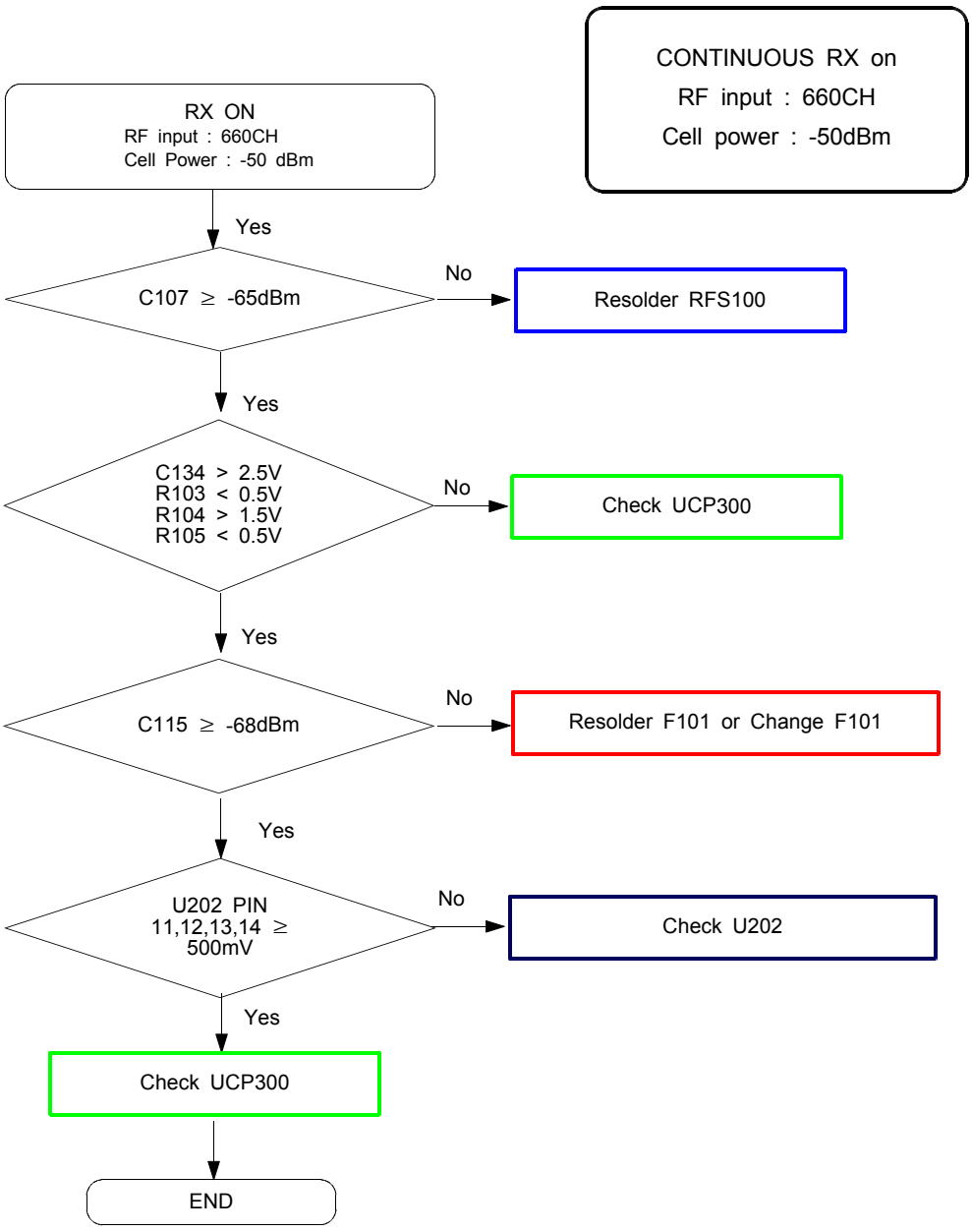
9-13. DCS Transmitter

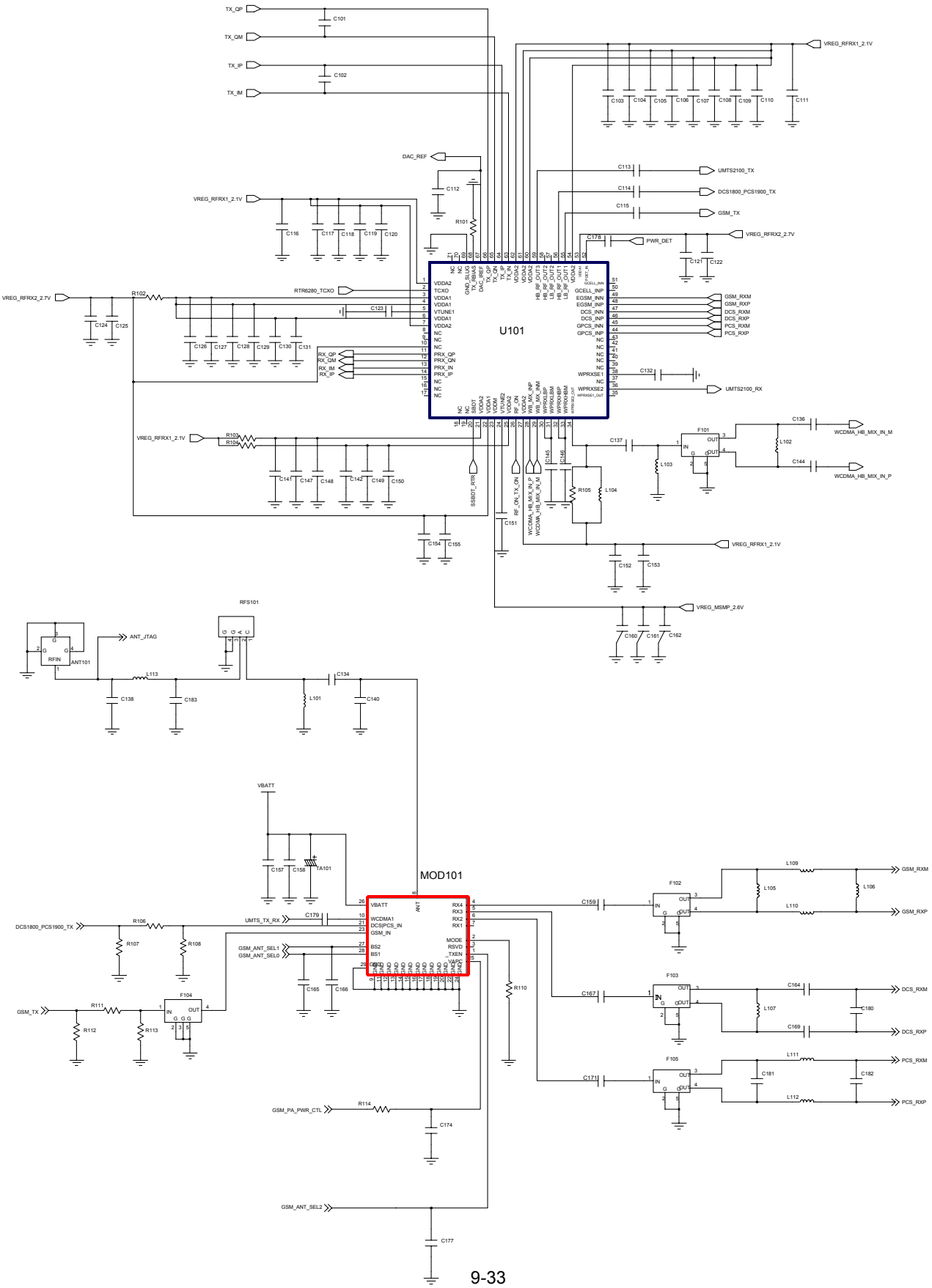


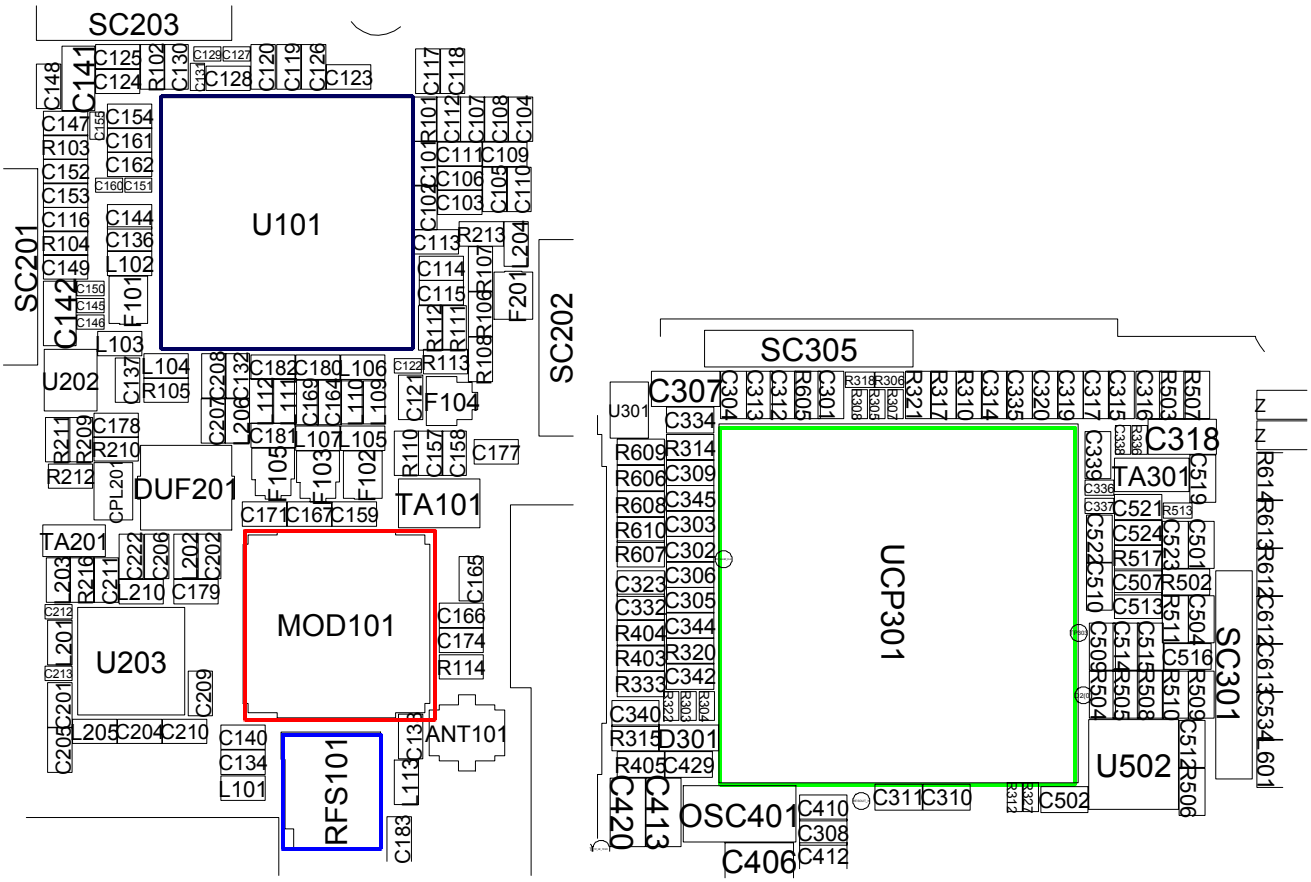




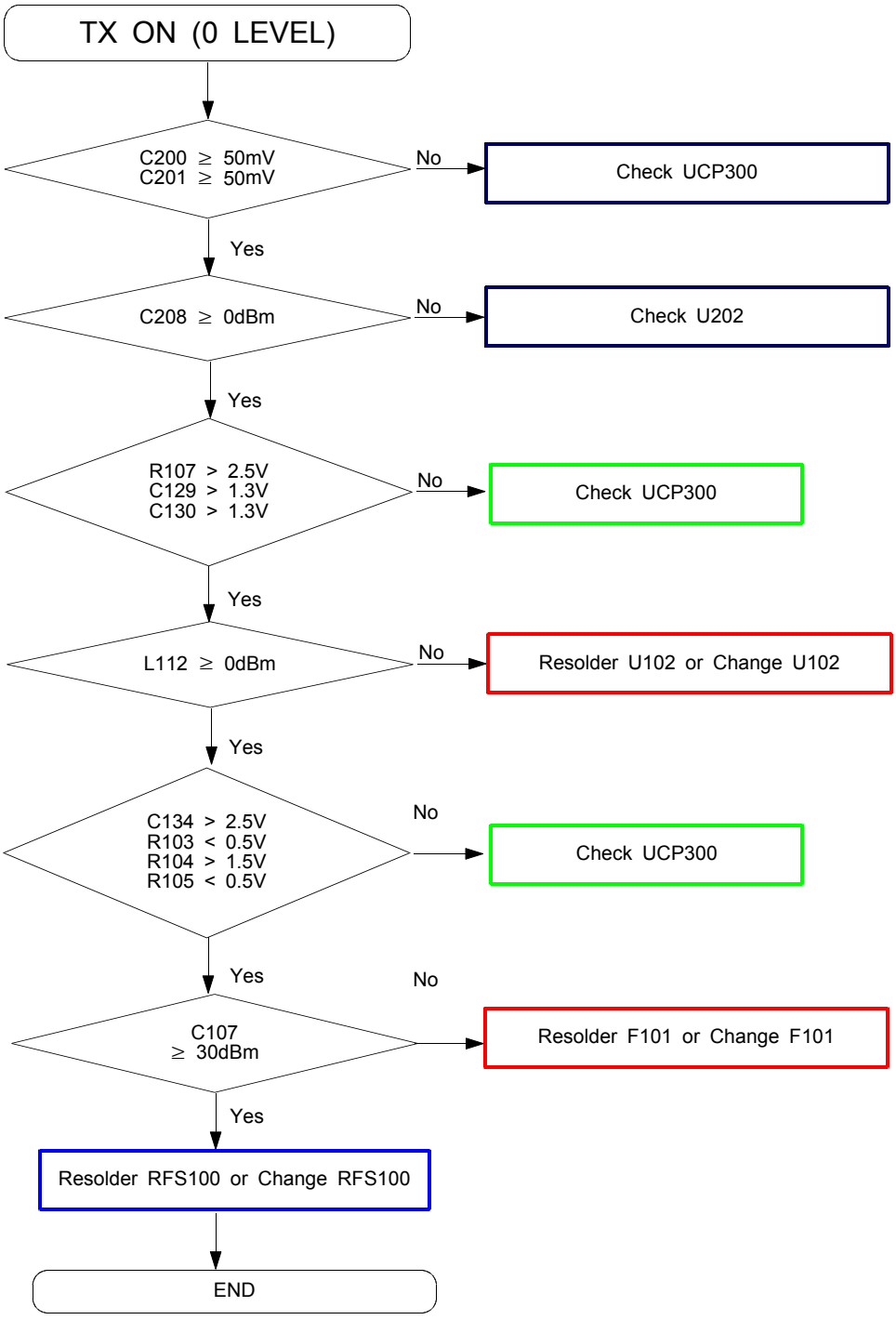
9-14. PCS Receiver

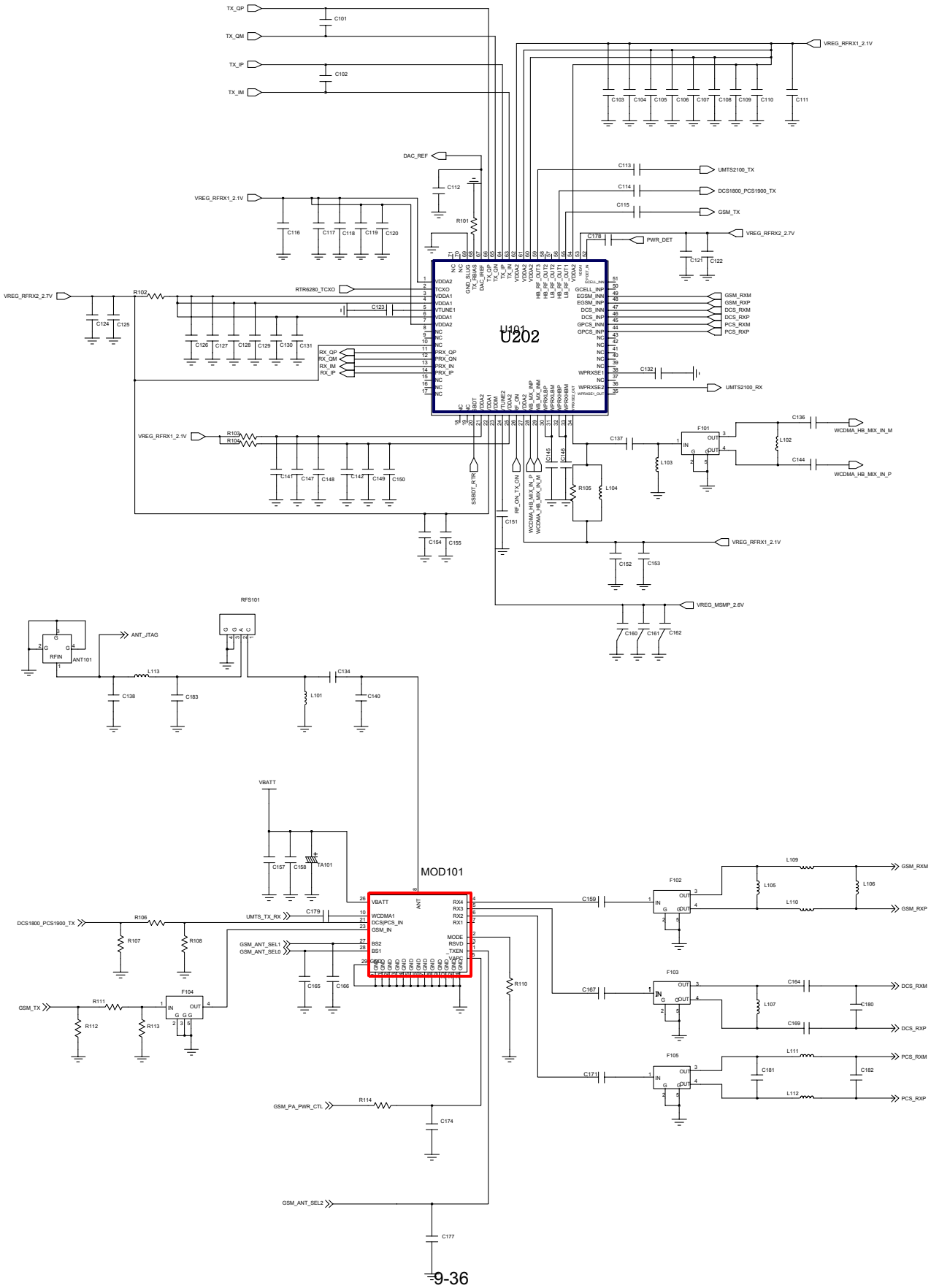


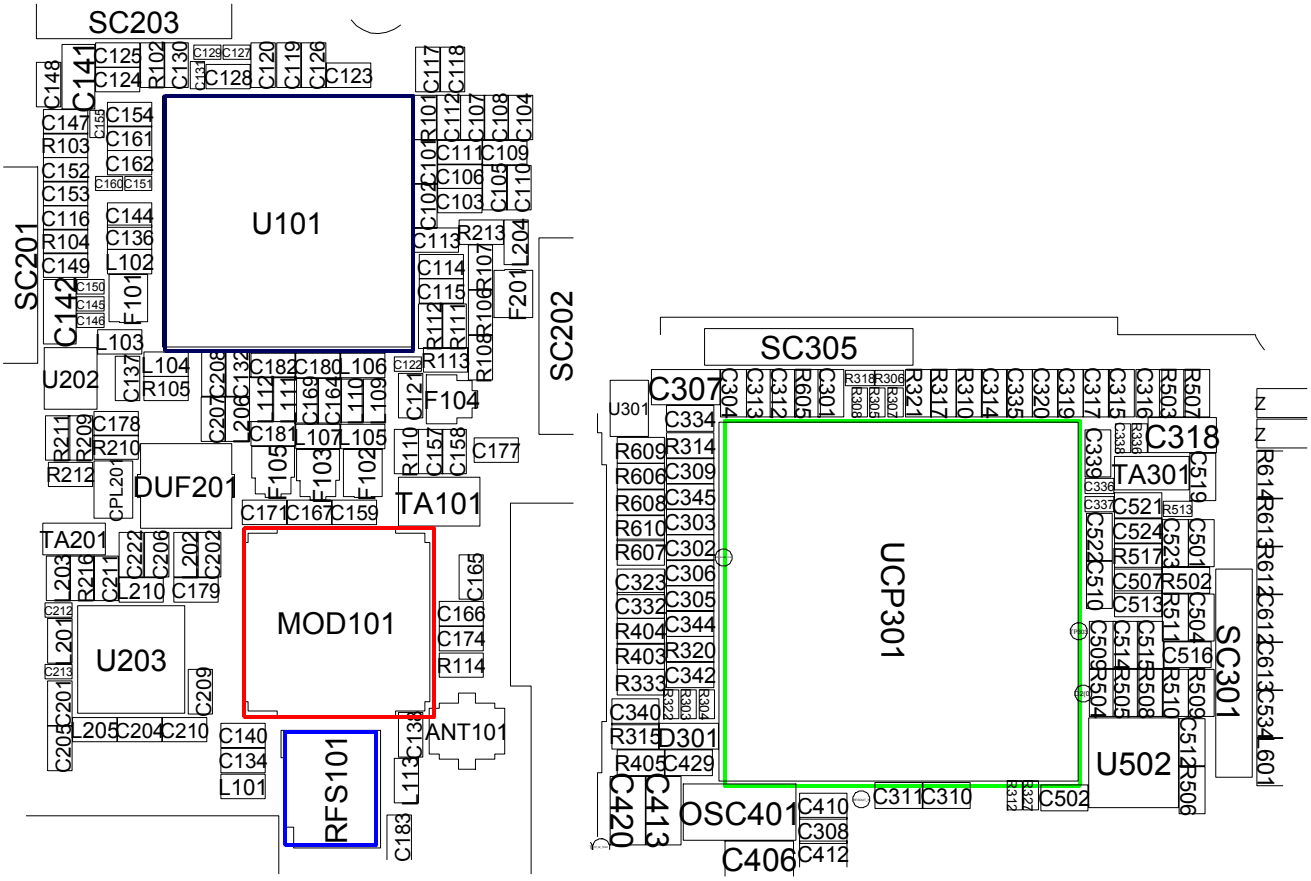




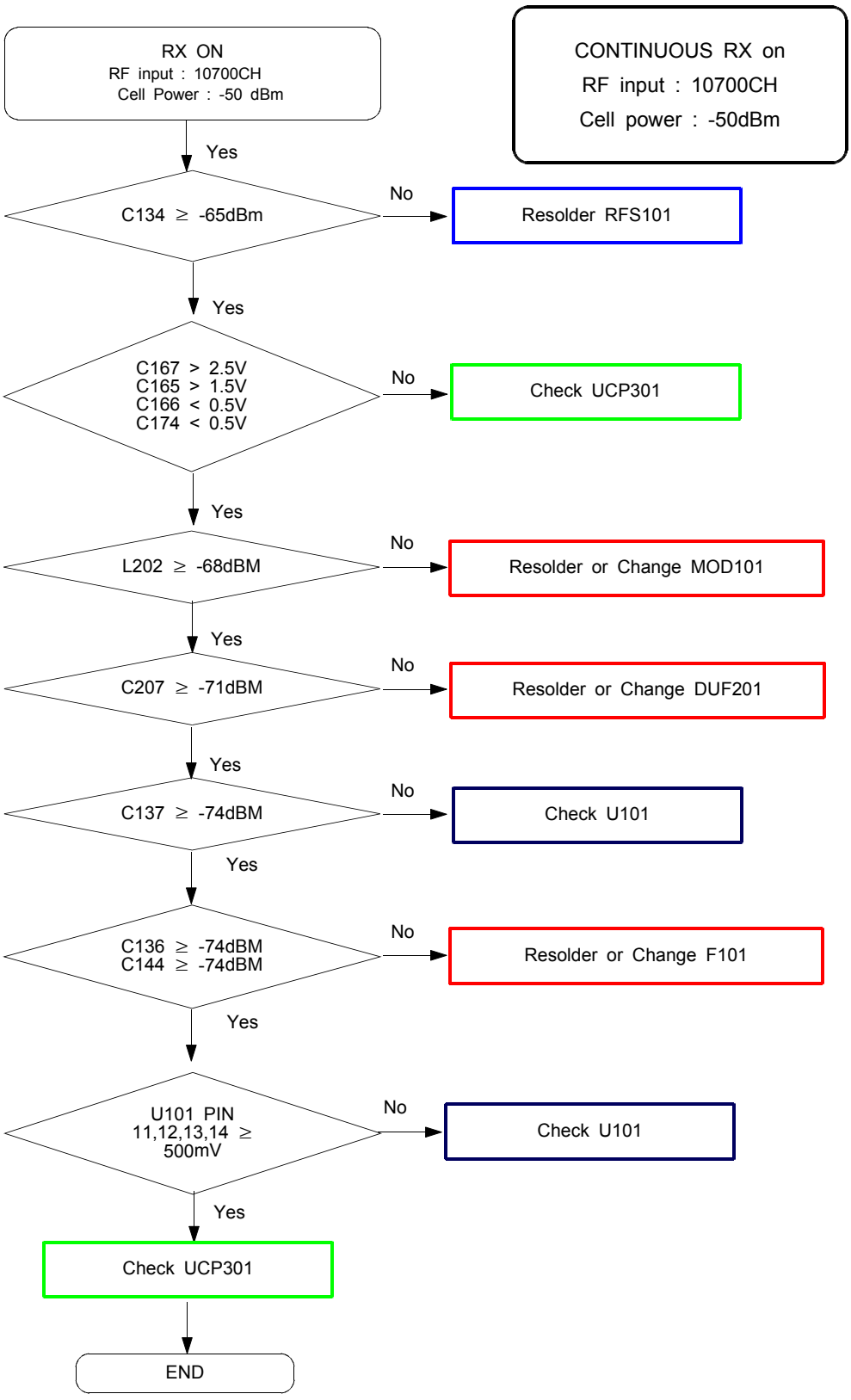
9-15. PCS Transmitter

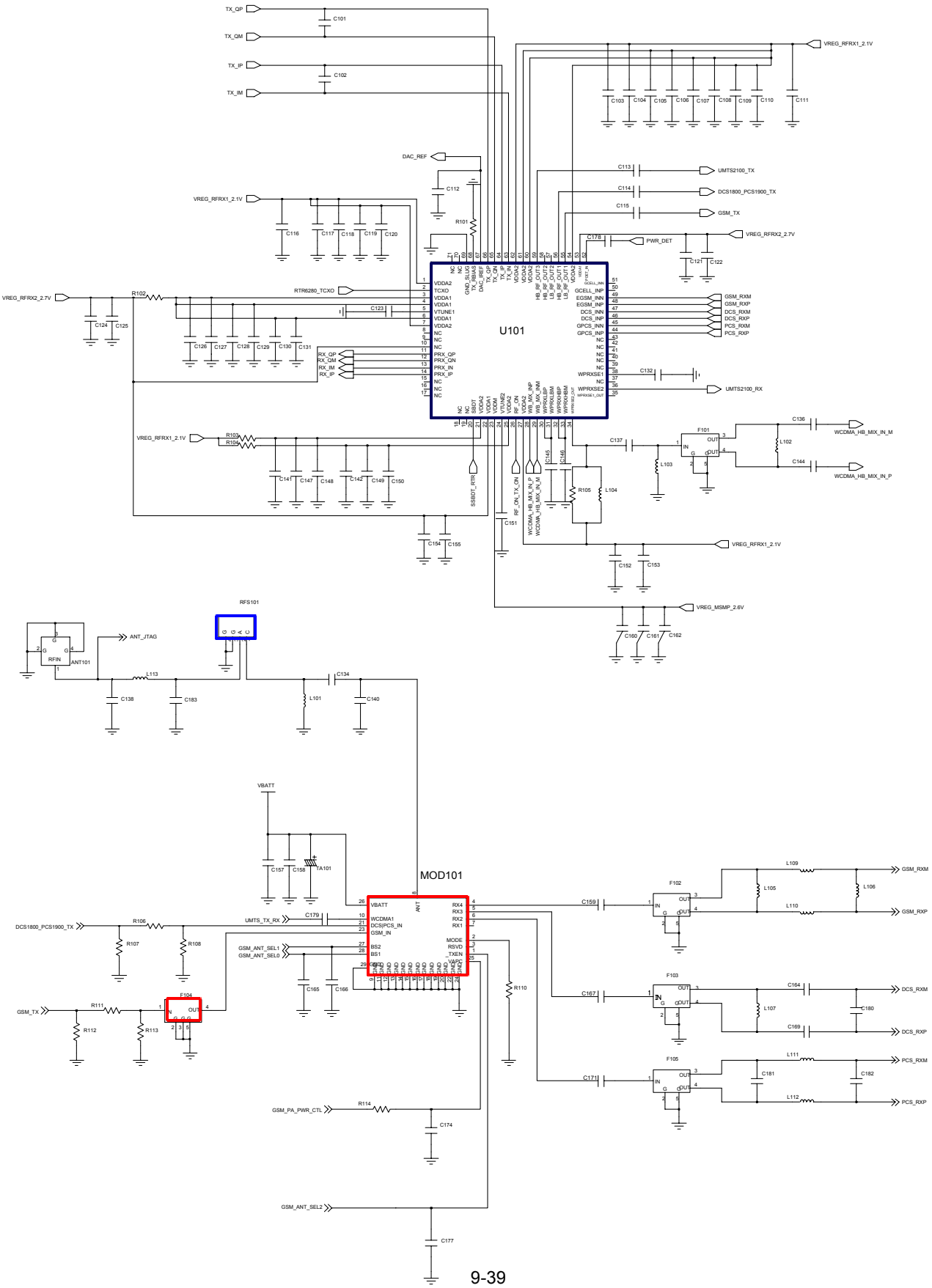


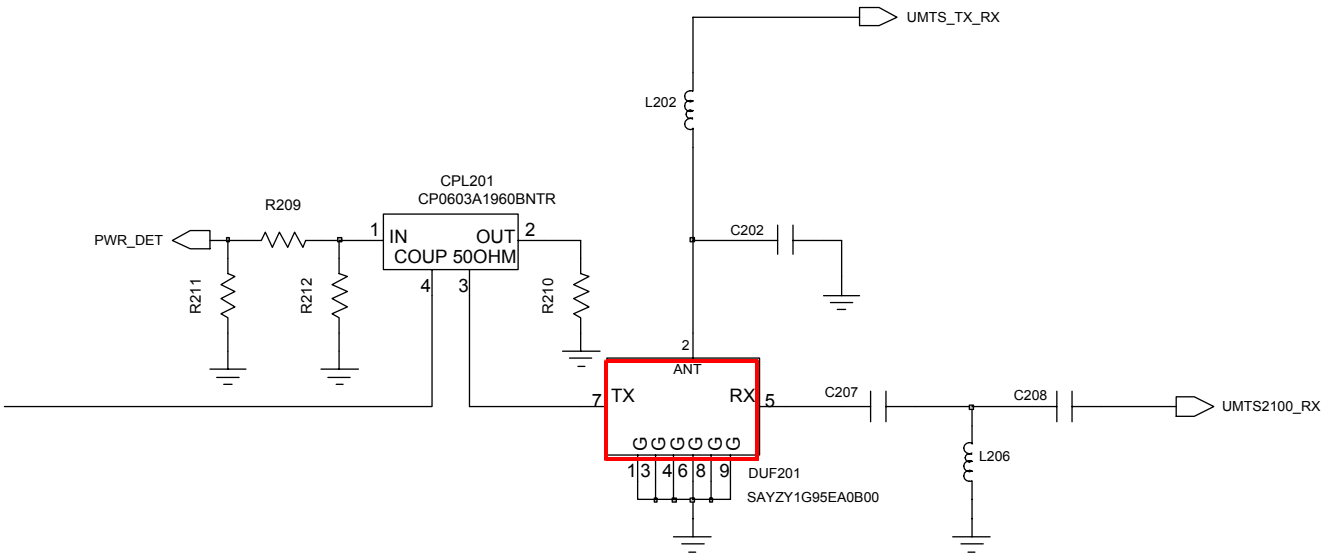


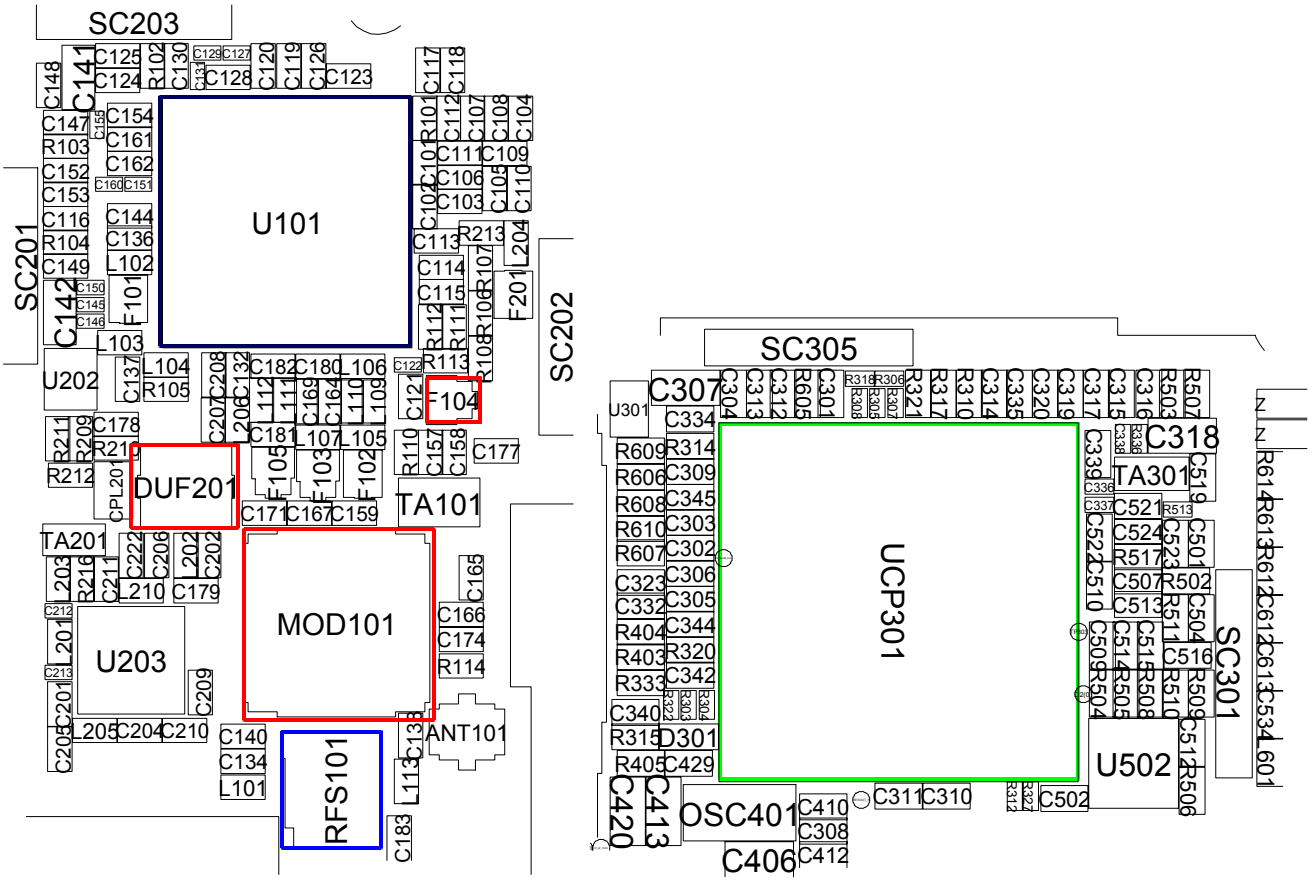


9-16. WCDMA Receiver

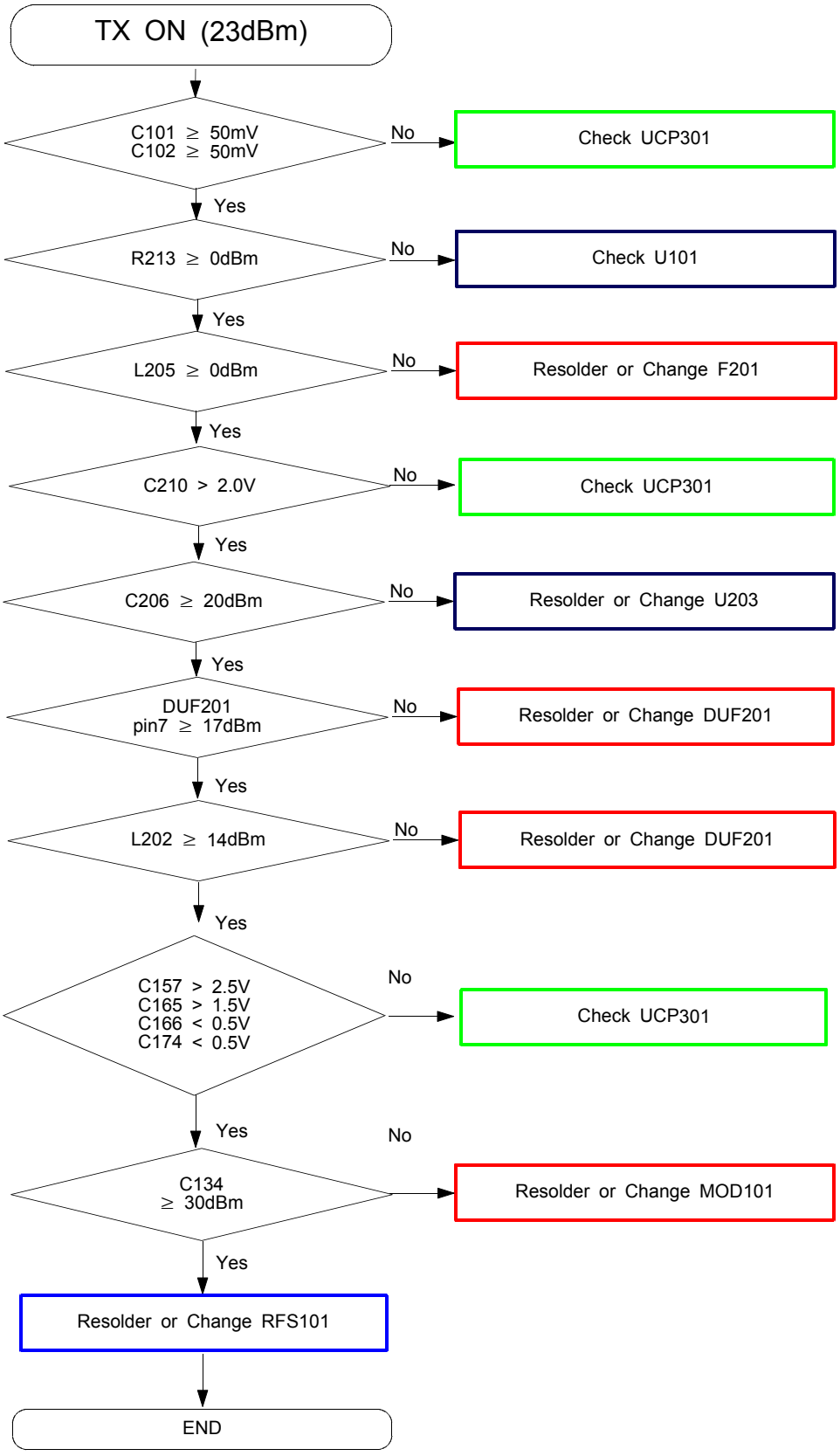


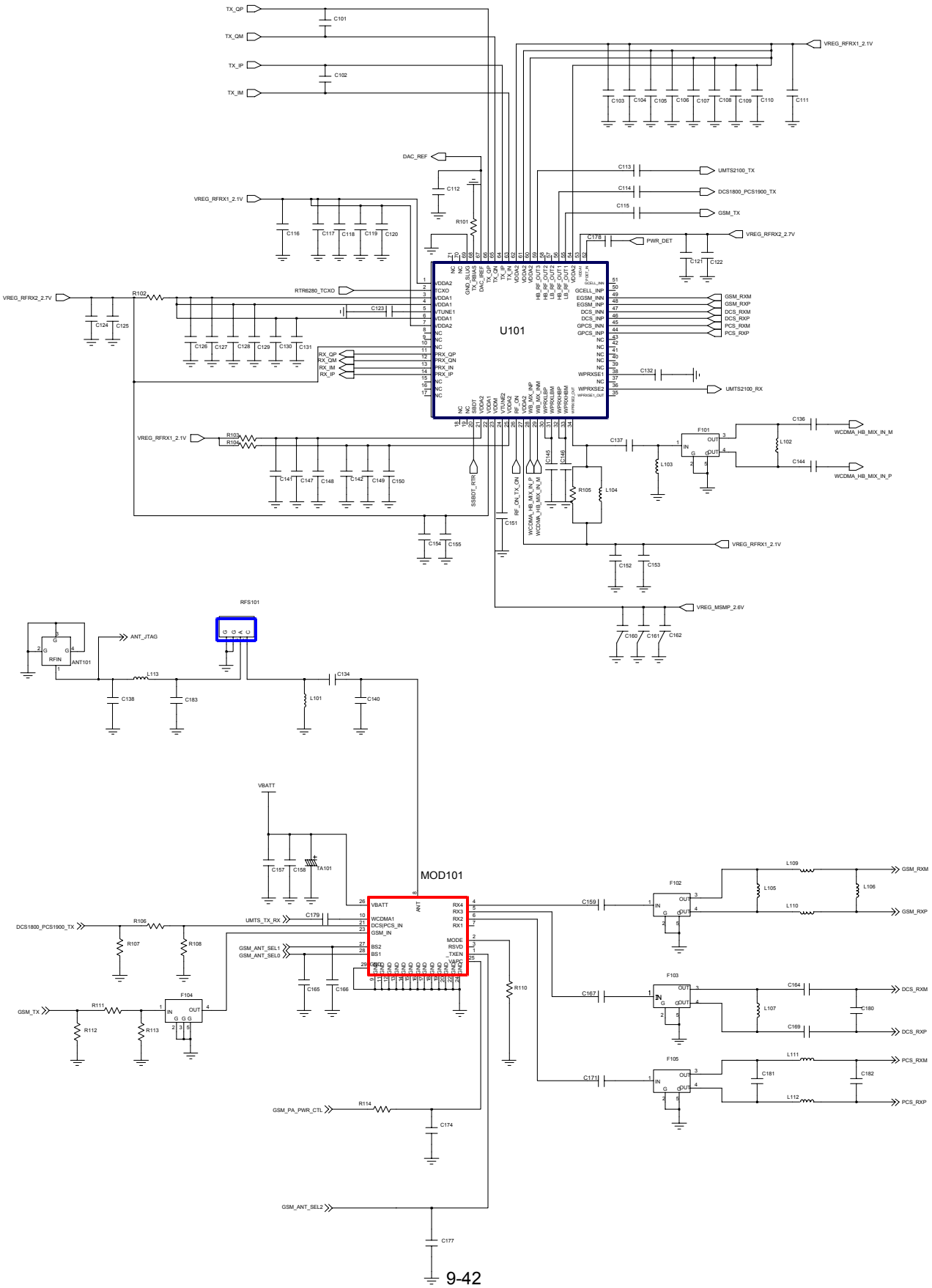


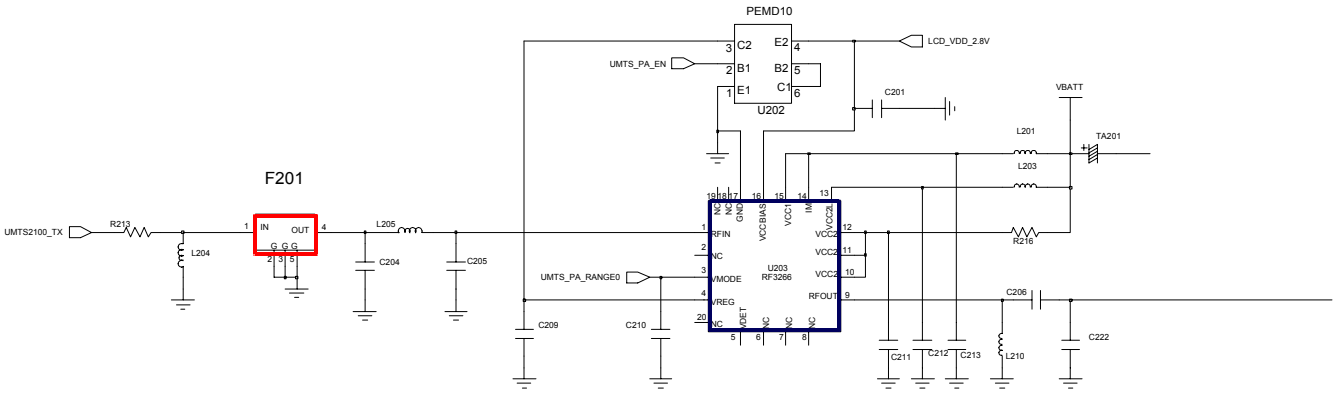


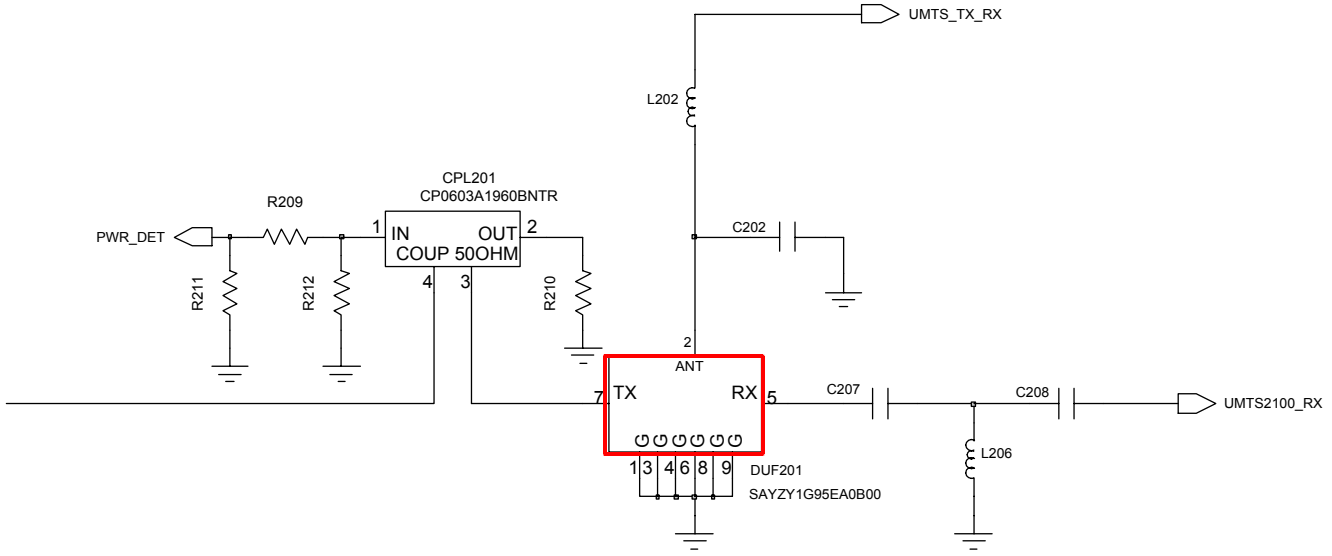


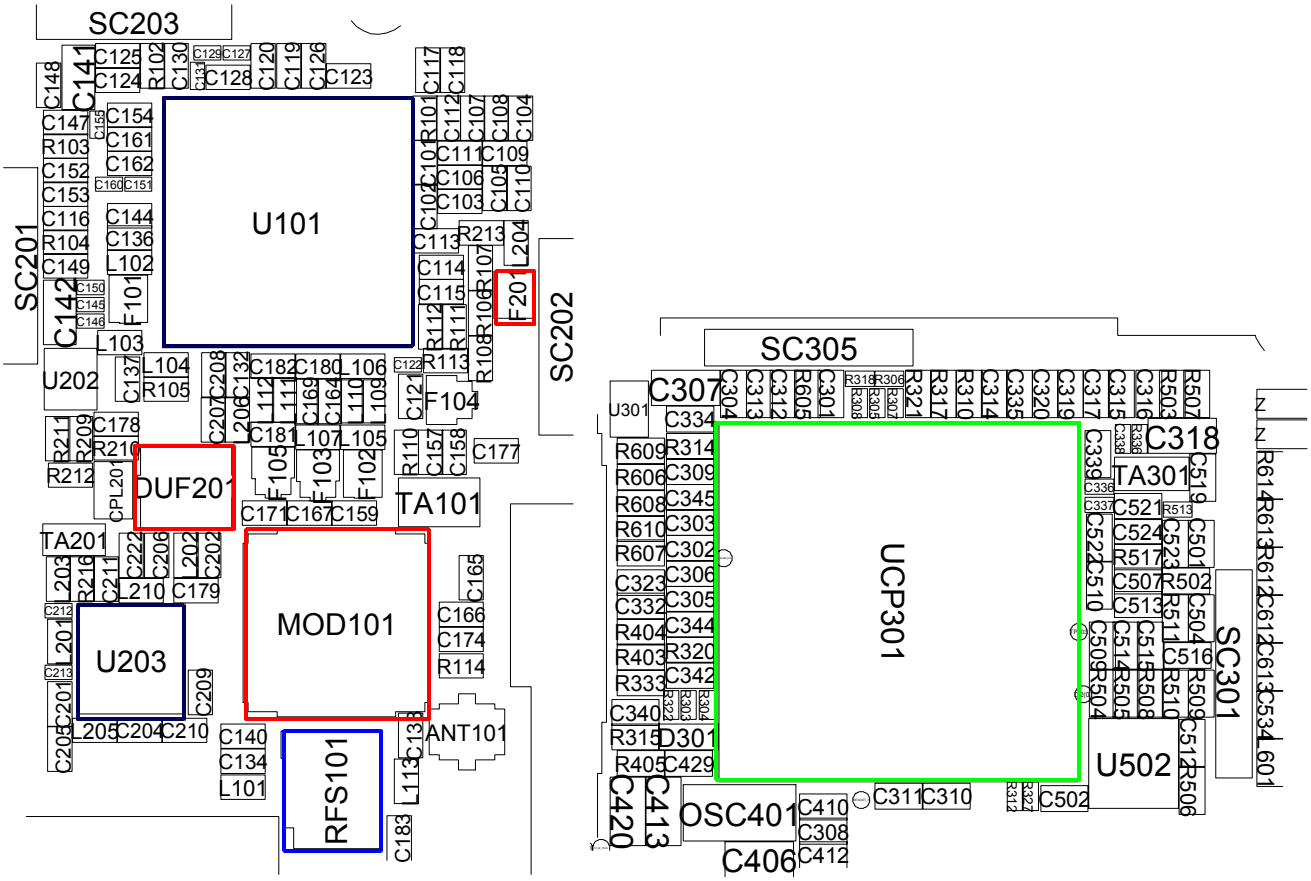
9-17. WCDMA Transmitter



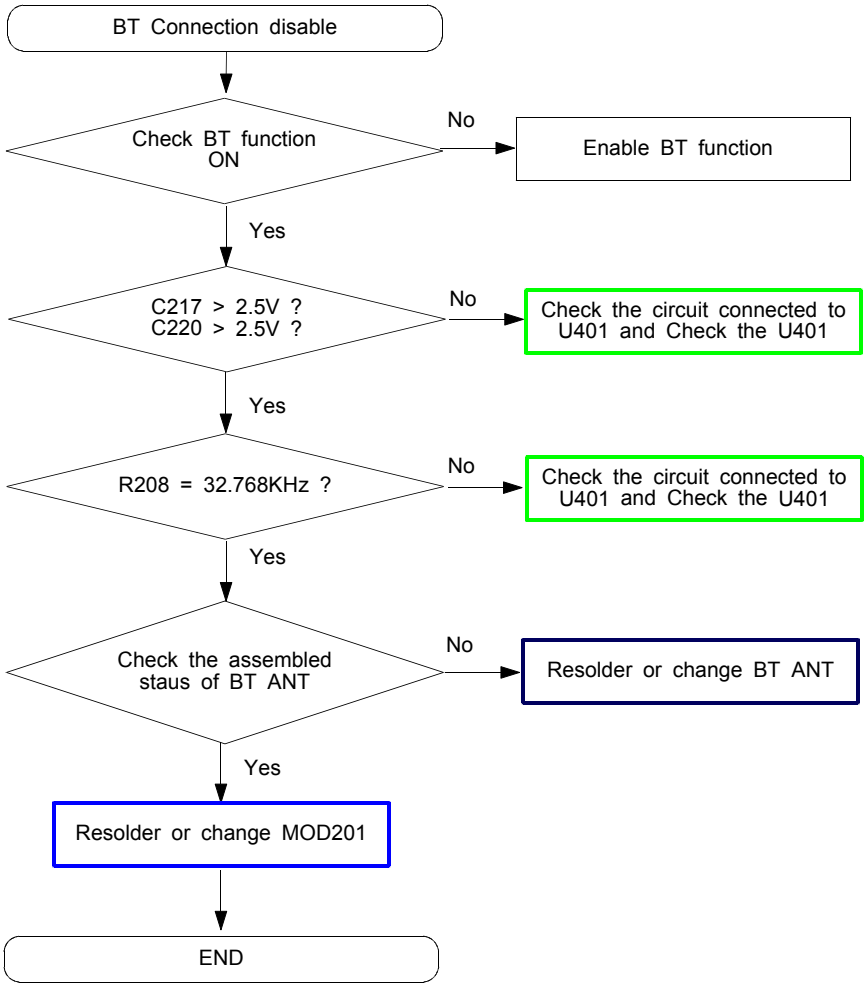


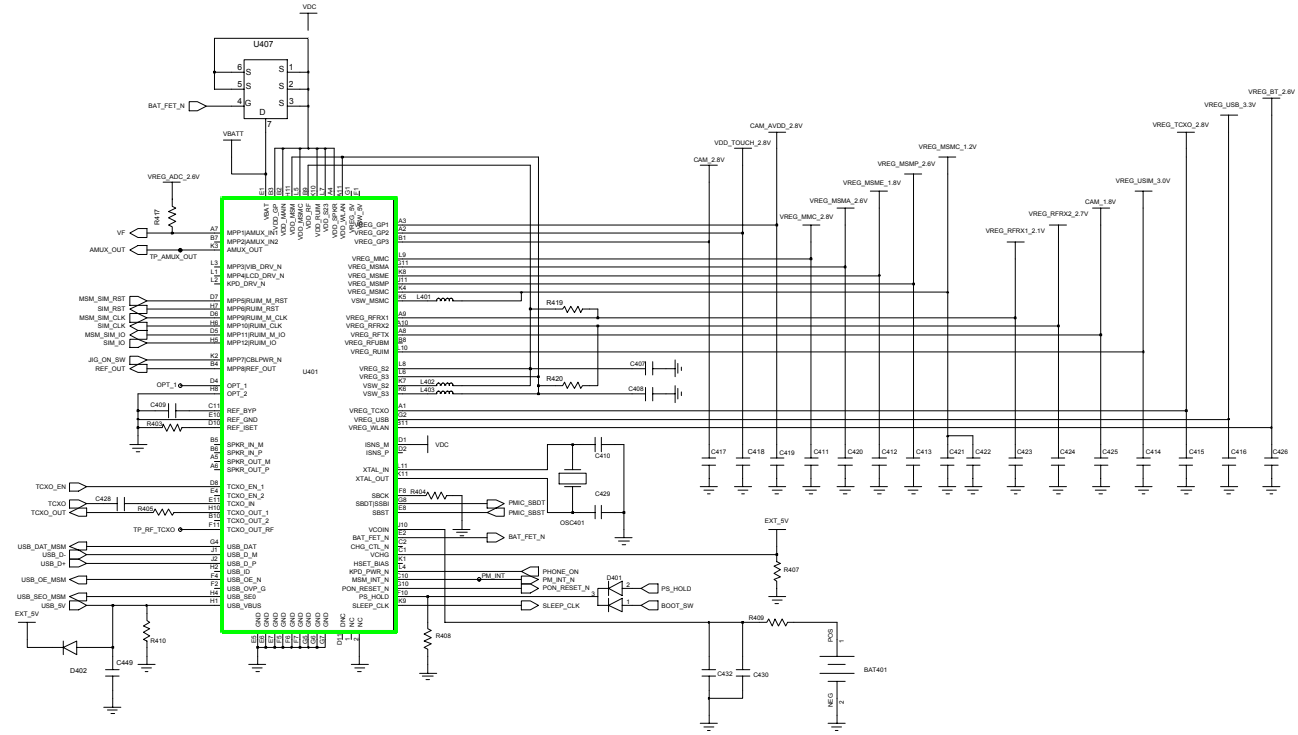


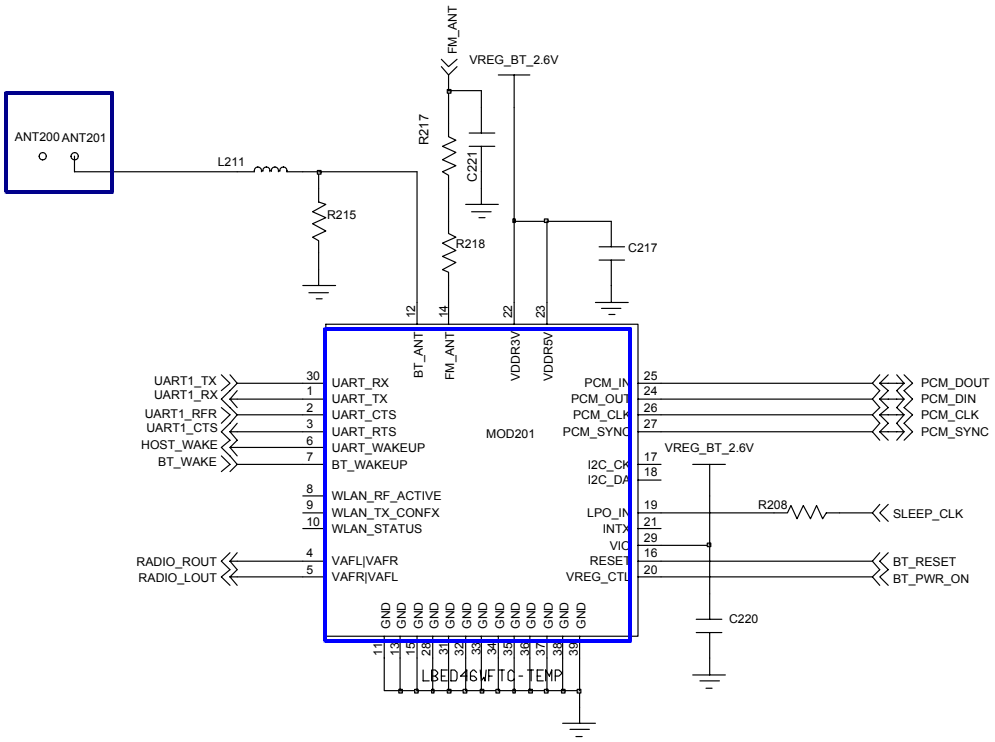


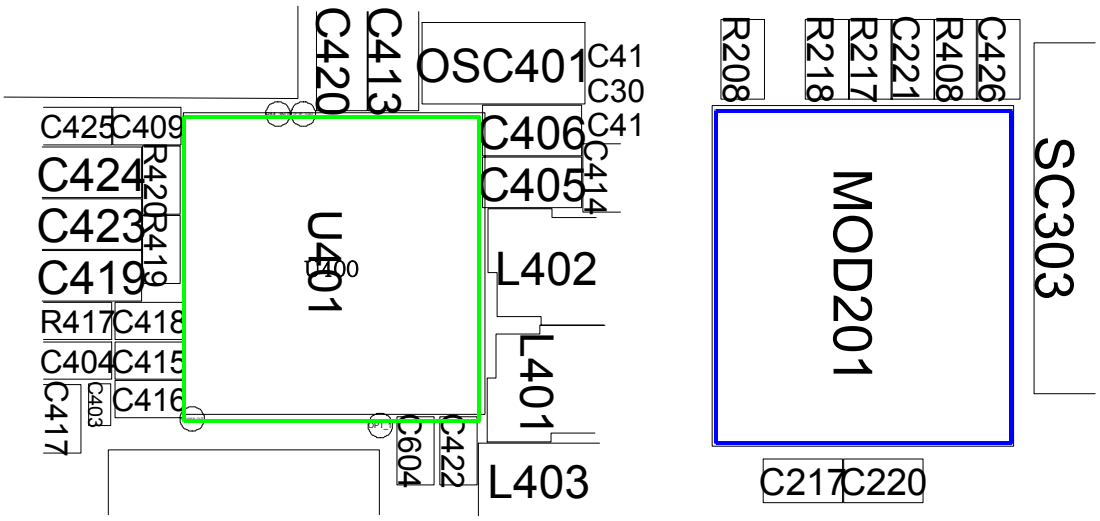


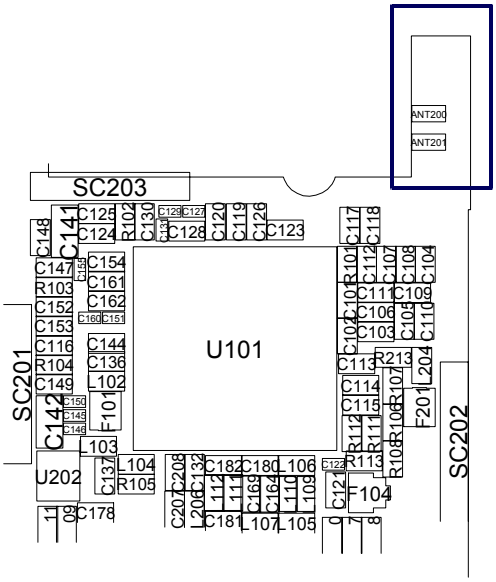
9-18. Bluetooth Part





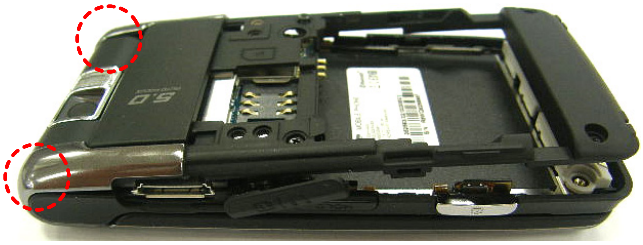




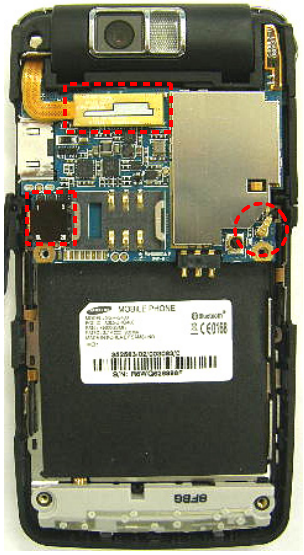


11. Disassembly and Assembly Instructions

11-1. Disassembly Instructions

1 1) Unscrew 4 points on the REAR CASE. 	**2** 1) Separate the locker by inserting the disassembly apparatus into the gap between the FRONT and the REAR.  LOCKER
1) Notice the rear case should not be damaged or scratched.	1) Notice the rear case should not be damaged or scratched. 2) Must use the disassembly apparatus.
3 1) Remove the REAR.  LOCKER	**4** 1) Remove the Hold, Camera and Volume Key. 
1) Notice the rear should not be damaged or scratched.	

5 1) Separate the connectors.



1) Notice the fpcb and coaxial cable should not be damaged.

6 1) Separate the PBA and INTENNA to the FRONT CASE.

1) Notice both pba and intenna should not be damaged.

7 1) Unscrew 3 points on the BRACKET.

1) Notice the bracket should not be damaged.

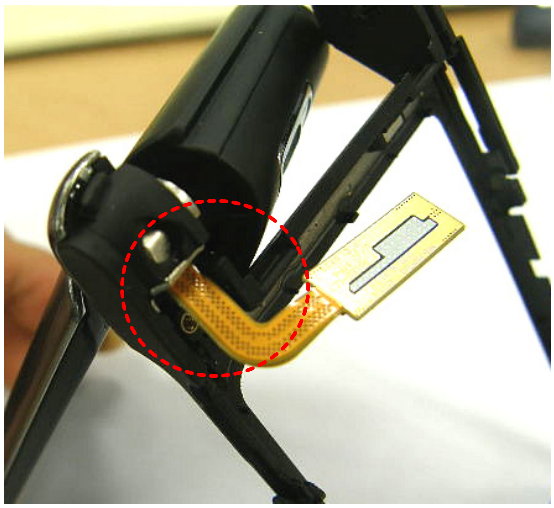
8 1) Separate Camera Key to the BRACKET.
2) Separate the BRACKET and KEYPAD to the FRONT CASE.

1) Notice the front should not be damaged.

9 1) Separate FRONT CASE to HINGE of the FOLDER ASS'Y.

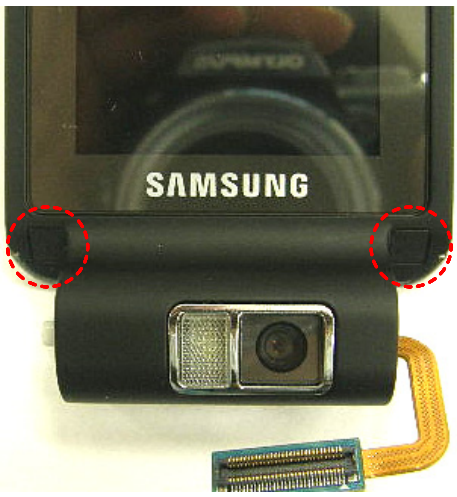
1) Notice the front should not be damaged.

10 1) Separate FOLDER ASS'Y to HINGE DUMMY of the FRONT CASE.



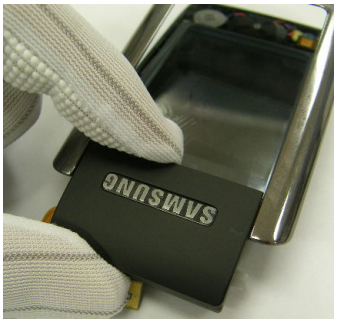
1) Notice the con to con should not be damaged.

11 1) Remove screw sheets.
2) Unscrew 2 points on the FOLDER LOWER.



1) Notice the folder lower should not be damaged.

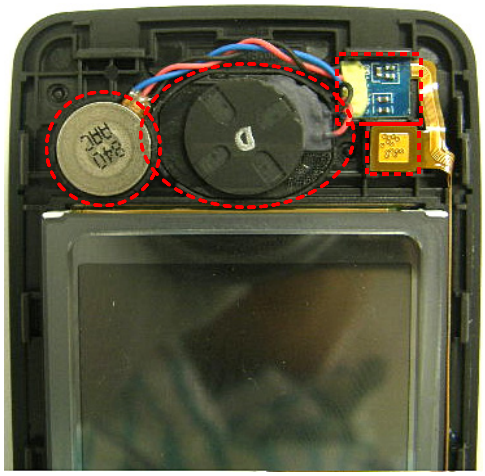
12 1) Separate the FOLDER UPPER to the FOLDER LOWER.



LOCKER

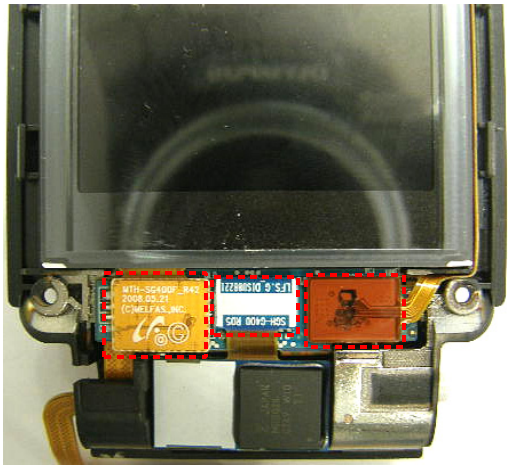
1) Notice hooks of the folder lower should not be damaged.

13 1) Separate MOTOR, SPEAKER and CIF CAMERA FPCB to the FOLDER LOWER.

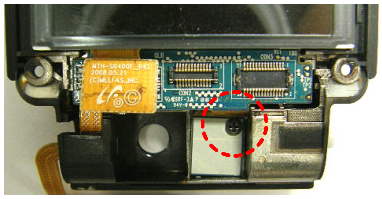


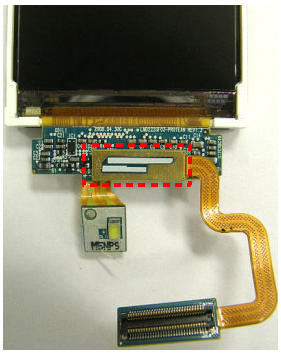
1) Notice both wires and cif camera fpcb should not be damaged.

14 1) Separate CON TO CON, CAMERA and CIF CAMERA FPCB CONNECTORs.



15 1) Unscrew 1 point on the FOLDER LOWER.
2) Separate CON TO CON to the LCD Module.



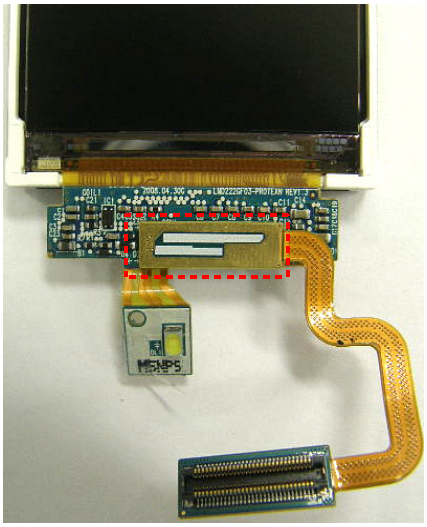
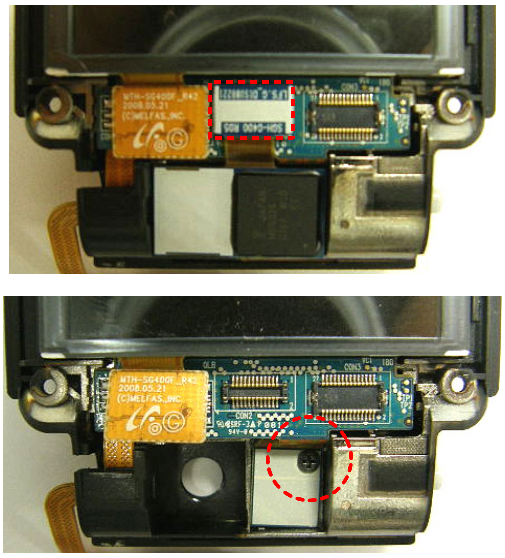


1) Notice both folder lower and con to con should not be damaged.

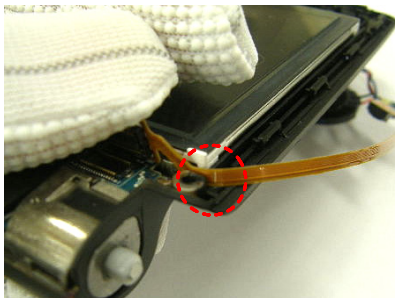
16 1) Separate the TSP to the LCD Module.

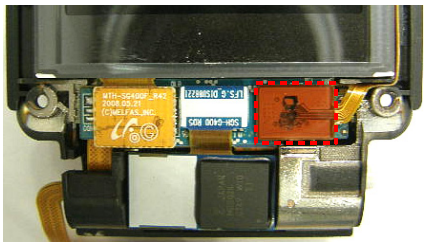
1) Notice both tsp and lcd module should not be damaged.

11-2 Assembly instructions

1 1) Assemble the TSP to LCD Module. 2) Assemble the CONNECTOR of the TSP. 	**2** 1) Assemble CON TO CON to the LCD Module. 
1) Notice both tsp and lcd module should not be damaged.	1) Notice the con to con should not be damaged.
3 1) Join LCD Module on the FOLDER LOWER. 	**4** 1) Assemble the CAMERA Module. 2) Screw 1 point on the FOLDER LOWER. 
1) Notice the con to con should not be damaged.	1) Notice the folder lower should not be damaged.

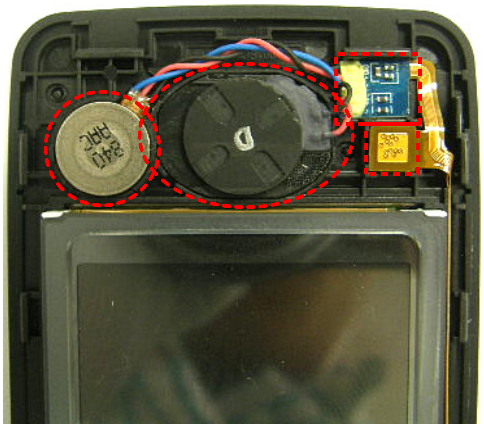
5 1) Assemble the REAR CASE with SET from the upper part of it.





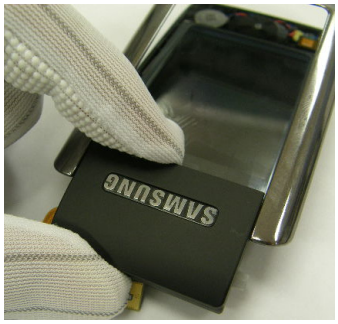
1) Make sure of guideline of the cif camera fpcb.
2) Notice the cif camera fpcb should not be damaged.

6 1) Assemble MOTOR, SPEAKER and CIF CAMERA FPCB to the FOLDER LOWER.



1) Notice both wires and cif camera fpcb should not be damaged.

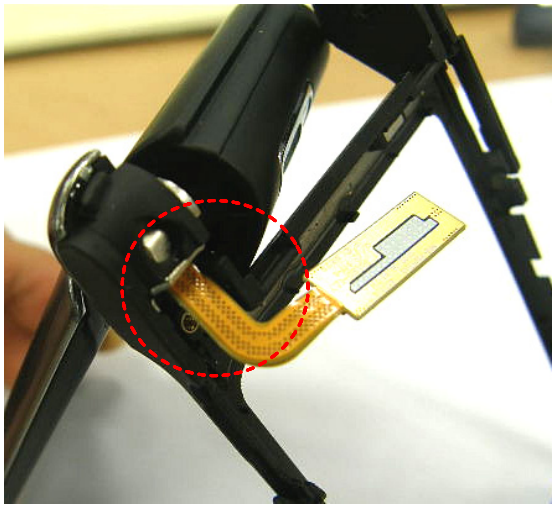
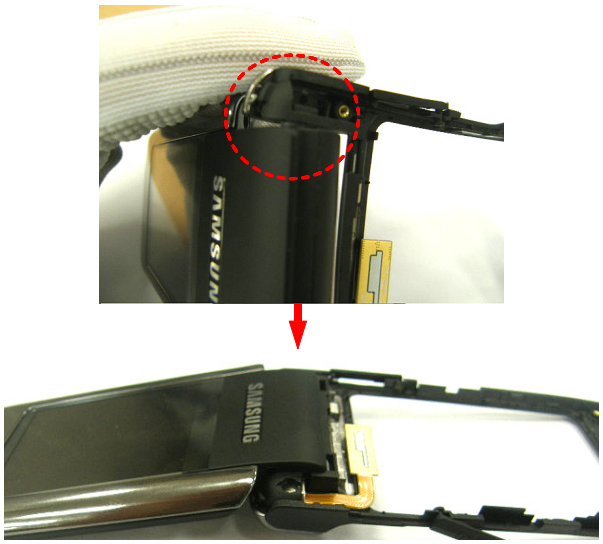
7 1) Assemble the FOLDER UPPER to the FOLDER LOWER.



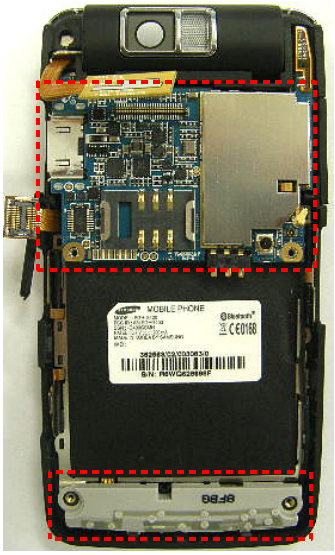
1) Notice the folder upper should not be damaged or scratched.

8 1) Screw 2 points on the FOLDER LOWER.
2) Attach the screw sheets.

1) Notice the folder lower should not be damaged or scratched.

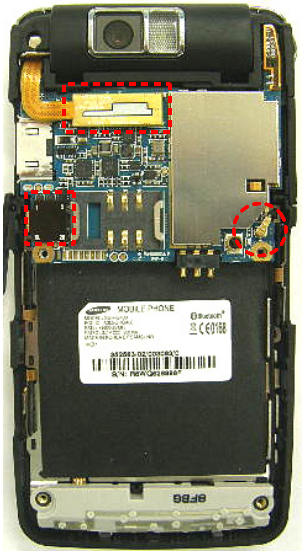
9 1) Assemble FOLDER ASS'Y to HINGE DUMMY of the FRONT CASE. 	**10** 1) Assemble FRONT CASE to HINGE of the FOLDER ASS'Y. 
1) Notice both con to con and folder ass'y should not be damaged or scratched.	1) Confirm assembly condition of the hinge.
11 1) Join the KEYPAD to the FRONT. 2) Join the BRACKET to the FRONT observing in Hooks. 	**12** 1) Screw 2 points on the BRACKET. 2) Join Hold, Camera and Volume Key FPCB. 
1) Confirm assembly condition of the keypad. 2) Notice both front and bracket should not be damaged.	1) Notice both bracket and fpcb should not be damaged.

13 1) Join both INTENNA and PBA FRONT .



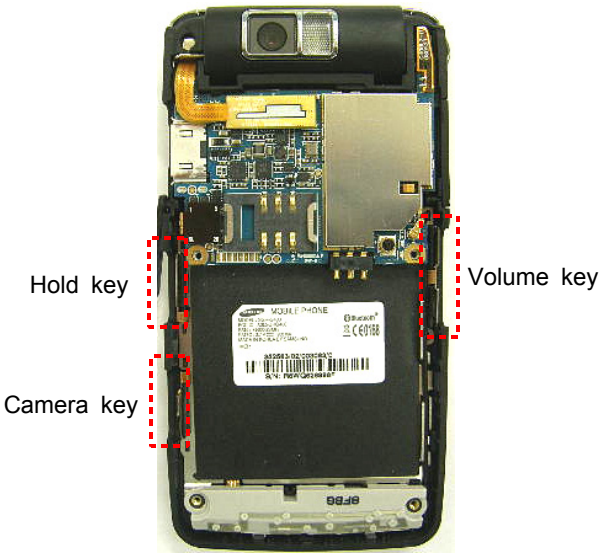
1) Notice both pba and intenna should not be damaged.

14 1) Assemble CON TO CON, KEY and COAXIAL CABLE CONNECTORs.

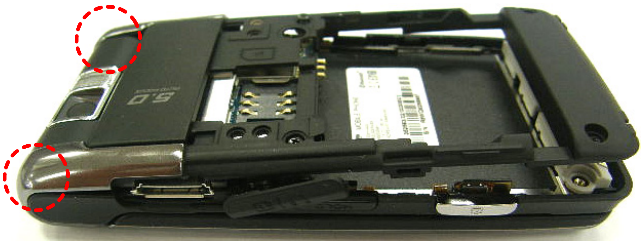


1) Notice the fpcb and coaxial cable should not be damaged.

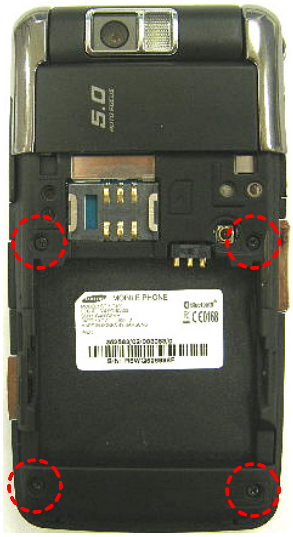
15 1) Assemble the Hold, Camera and Volume Key.



16 1) Assemble the REAR CASE.



1) Notice the rear should not be damaged or scratched.

17 1) Assemble the REAR CASE. 	**18** 1) Screw 4 points on the REAR CASE. 
1) Notice the rear case should not be damaged or scratched.	1) Notice the rear case should not be damaged or scratched.