

SAMSUNG

GSM TELEPHONE

SGH-i550

SERVICE *Manual*

GSM TELEPHONE



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**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

1. Safety Precautions

1-1. Repair Precaution

- Repair in Shield Box, during detailed tuning.
Take specially care of tuning or test, because the specification 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.

2. Specification

2-1. GSM General Specification

	EGSM 900	DCS 1800	PCS 1900	WCDMA 2100
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	10MHz	20MHz	20MHz	130MHz
Mod. Bit rate/ Bit Period	270.833kbps 3.692us	270.833kbps 3.692us	270.833kbps 3.692us	3.84Mcps (chip rate)
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 HPSK
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	
Cell Radius	35Km	2Km	2Km	2Km

2-2. GSM TX power class

TX Power control level	GSM850 GSM900	TX Power control level	DCS1800	TX Power control level	PCS1900
5	33±2 dBm	0	30±3 dBm	0	30±3 dBm
6	31±2 dBm	1	28±3 dBm	1	28±3 dBm
7	29±2 dBm	2	26±3 dBm	2	26±3 dBm
8	27±2 dBm	3	24±3 dBm	3	24±3 dBm
9	25±2 dBm	4	22±3 dBm	4	22±3 dBm
10	23±2 dBm	5	20±3 dBm	5	20±3 dBm
11	21±2 dBm	6	18±3 dBm	6	18±3 dBm
12	19±2 dBm	7	16±3 dBm	7	16±3 dBm
13	17±2 dBm	8	14±3 dBm	8	14±3 dBm
14	15±2 dBm	9	12±4 dBm	9	12±4 dBm
15	13±2 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

3. Product Function

Main Function

HSDPA/UMTS, EDGE, GPRS

Trackball interface for UI

Bluetooth v2.0 + EDR

USB v2.0 HS compatible

Camera 3Mega x 9 Digital Zooming and camcorder

FM Radio

Instant Messaging capability

E-mail

Featured applications provide alarms, calendar, calculator, record audio, converter, timer, stopwatch, and world time.

File viewer (MS office, PDF)

Multimedia Message Service (MMS)

Multimedia capability (with included Media player)

Photo caller ID

Speakerphone capability

WEB/WAP browser (HTMS, XHTML, WML)

4. Array course control

4-1. Software Adjustments

- There is 2 set to download the binary image into your device.

[First set]



1. JIG BOX (UMTS TEST JIG; GH80-03308A)
2. USB Cable : JIG to PC
3. Test Cable : JIG to Scotch (GH39-00890A)
4. Power Cable : JIG to power supply
5. Serial Cable : JIG to PC
6. Power Supply
7. Rf Cable : Scotch to Agilent 8960 or CMU200 (GH39-00397A)

[Second Set]



USB Data Link Cable : Scotch to PC (GH39-00922A)
Standard Battery for Scotch (GH43-02986A)

4-2. Software Download

4-2-1. Pre-requisite for Download

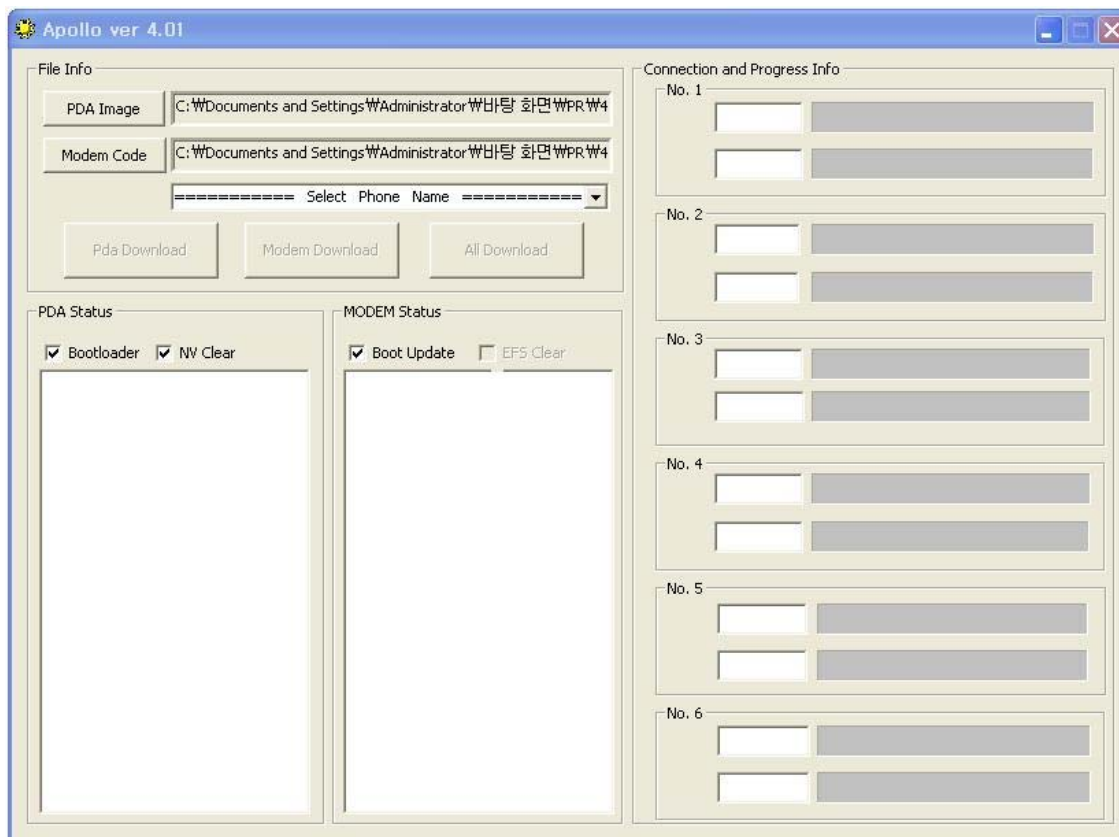
SGH - i550 Mobile Device

Apollo v4.01.exe : Downloader Application for SGH-i550

USB Download Driver : SS60_Downloader_Driver.zip

Rom Image : PDA(*.IMG), MODEM(*.BIN) images

Equipment set for Download.



4-2-2. Concepts & cautions.

You can download PDA or MODEM separately. But We are always recommended to download both at the same time using same version of rom image.

To download an image, the phone need to be set to a proper download mode.

There are 3 download modes.

PDA download : Hold 1, 4 keys and power on -> Blue screen with some information.

MODEM download : Hold 7, * keys and power on -> Blinking "MODEM DOWNLOAD"
on blue screen

All download : Hold 4, 7 keys and power on -> Blinking "ALL DOWNLOAD" on blue screen

For PDA image download, the phone shows download progress on the screen

For MODEM image download, the phone shows RGBW/B Screen.

For All download mode, MODEM image is downloaded first and then PDA downloading starts.

After downloading PDA, the phone will be reboot.

Do NOT interrupt downloading process or the phone will be damaged. You would be unable to boot up the phone or to re-flash the phone. Let it finish downloading process even though you are flashing wrong images.

4-2-3. USB Driver installation for PDA

Execution Apollo.exe.

SGH-i550 connect to the Host computer using download equipment set.

Hold "1+4" key and insert power supplied test cable when use equipment set 1
or Hold "1+4" key and press power on key when use equipment set 2.

Install PDA side driver.

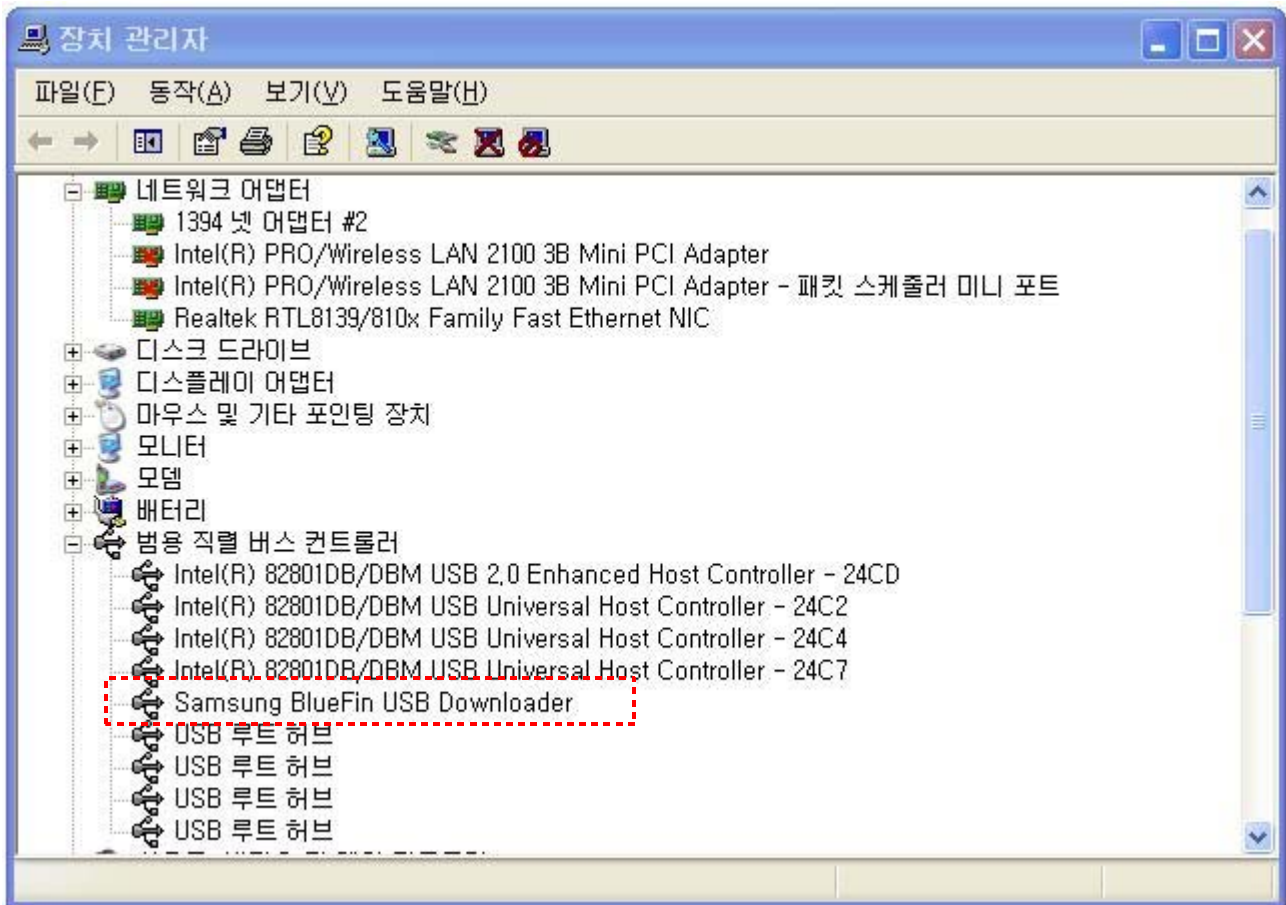
Follow New H/W Installation Manager.

Select 'IBootHostUSB.inf'file under 'i550_Apollo_Drivers\PDA_driver' folder when
Windows asks for new h/w driver. It is safe to choose "Yes" for the waring window.
Confirm "[SAMSUNG BlueFin USB Downloader](#)" Installed.

Refer to Next Page.

**** If Windows doesn't ask for USB driver, it means USB driver installation was failed before. Open Hardware Manager then delete devices with?or!mark then try again. If it doesn't work, you need to right click on the device then try Driver Update.**

After installing PDA driver, Apollo shows the connection status if it is installed properly.



4-2-4. USB Driver installation for MODEM

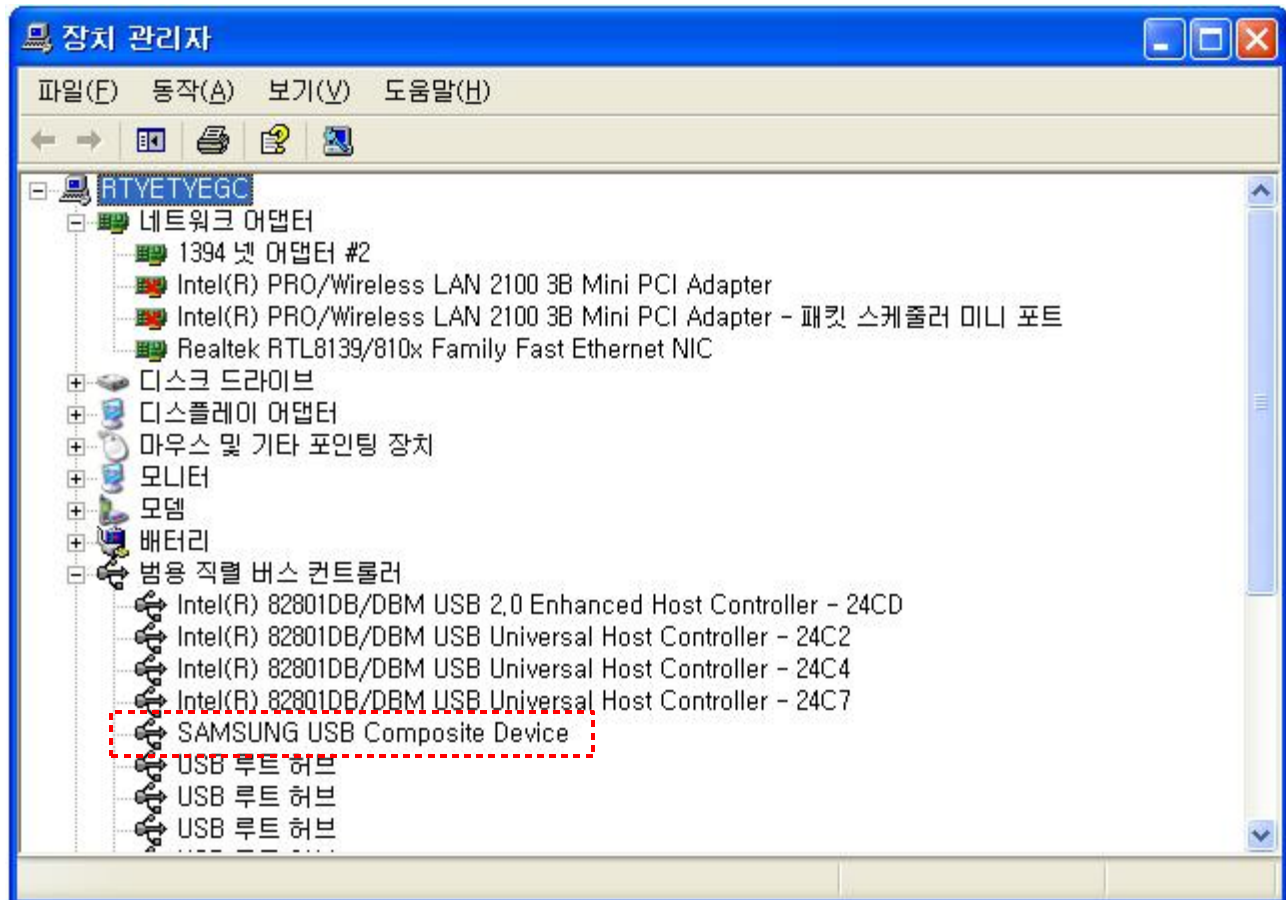
Hold “7 + *” key and insert power supplied test cable when use equipment set 1 or

Hold “7+ *” key and press power on key when use equipment set 2.

Install Modem side driver.

Execute ‘Setup.exe’ file under ‘i450_Apollo_Drivers\PHONE_driver’ folder when Windows asks for new h/w driver.

Confirm “SAMSUNG USB Composite Device” Installed.



4-2-5. USB Driver installation

1. After installing PDA driver, Apollo shows the connection status if it is installed properly.



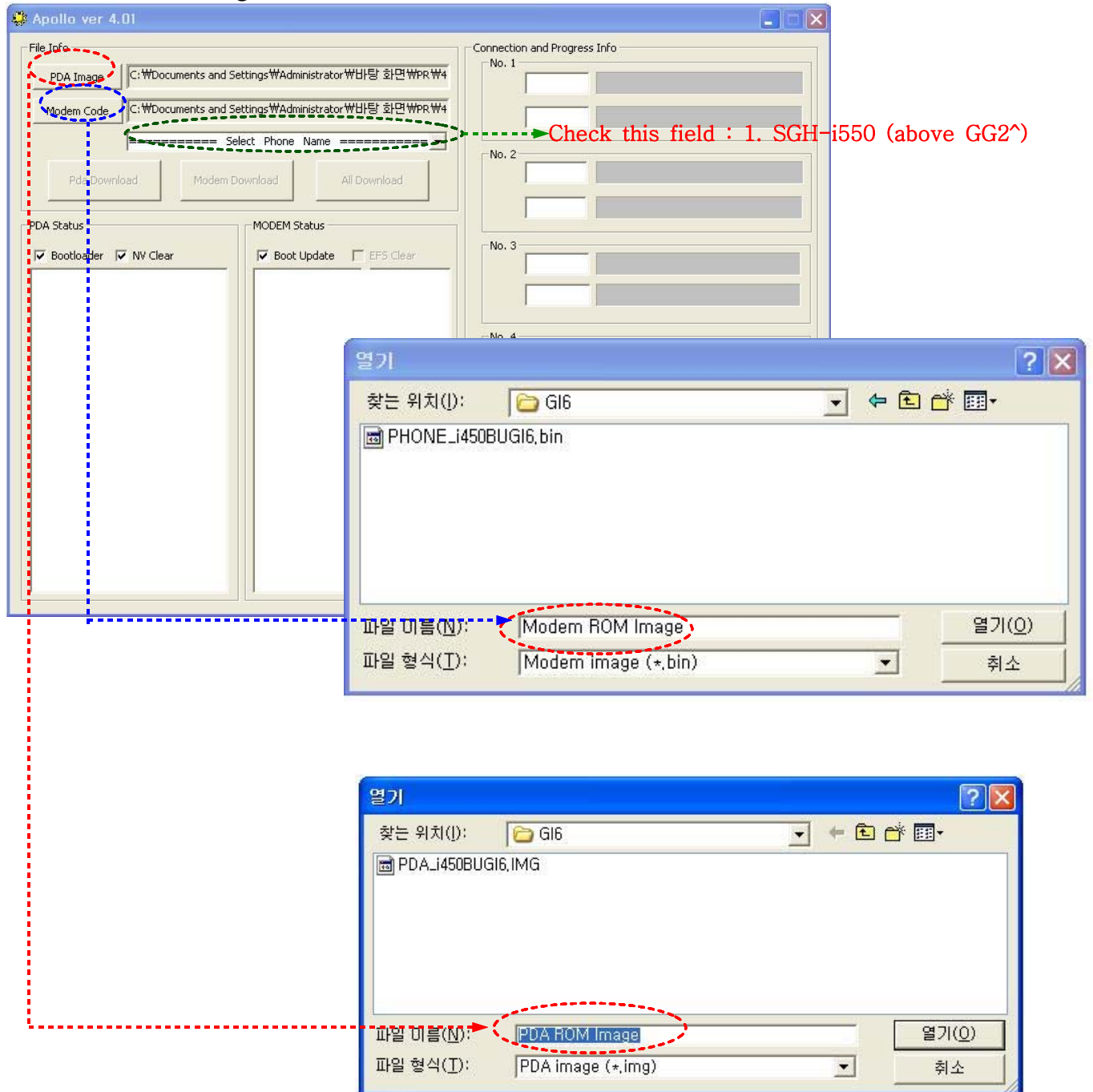
2. After installing MODEM driver, Apollo shows the connection status if it is installed properly.



4-2-6. Download the image using APOLLO

Execution Apollo.exe.

Select a Rom Image to download



Select the proper check option .

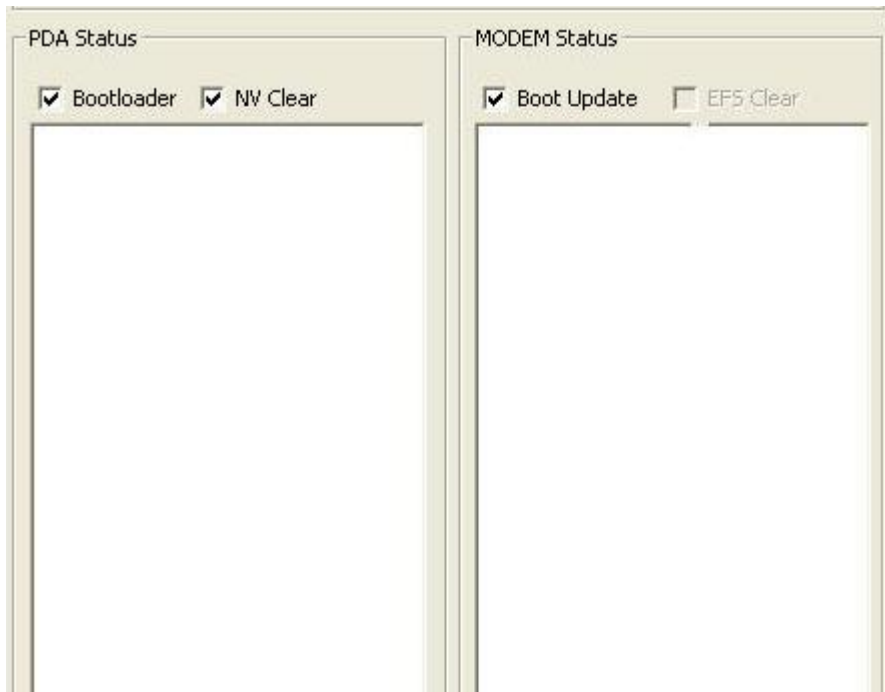
PDA status

- Bootloader : Update PDA Bootloader section.
- NV Clear : IMEI section erase.

You can see following message when you click this option

MODEM Status

- Boot Update : Update Modem Bootloader section.

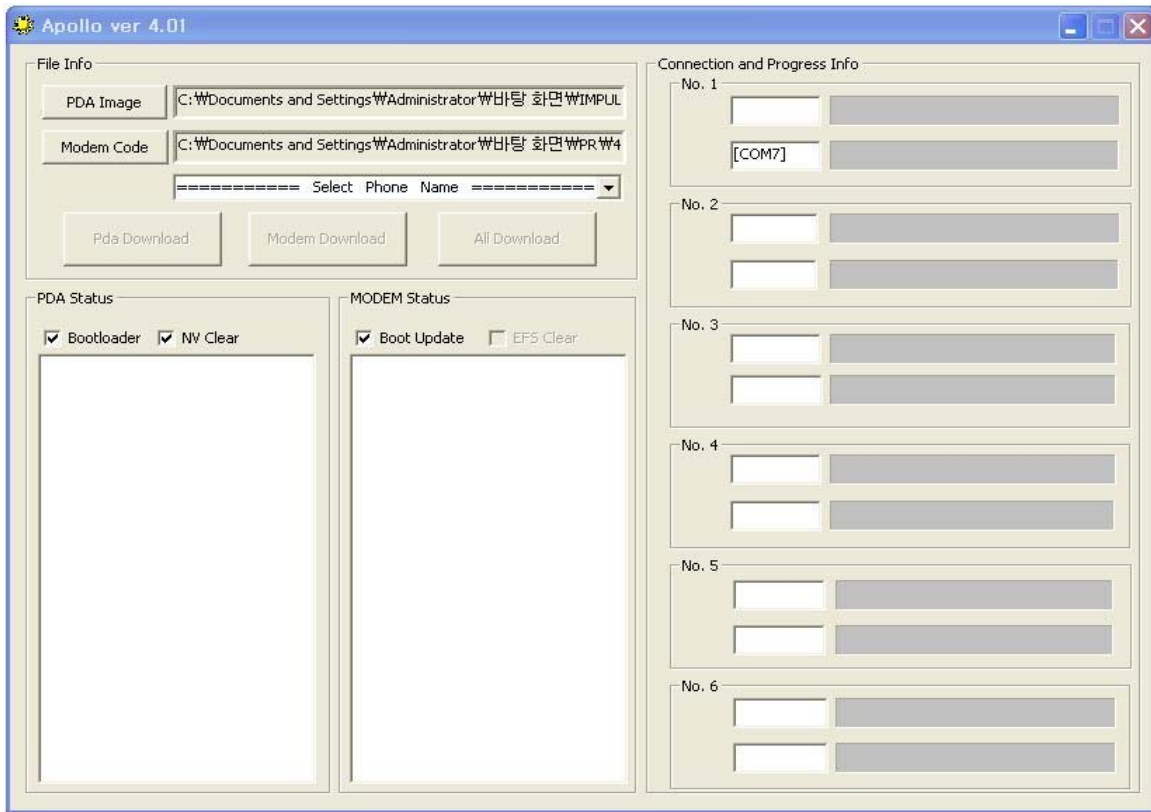


Make sure that phone and host computer connection, click proper download button.

PDA download : Hold 1, 4 keys and power on -> Blue screen with some information.

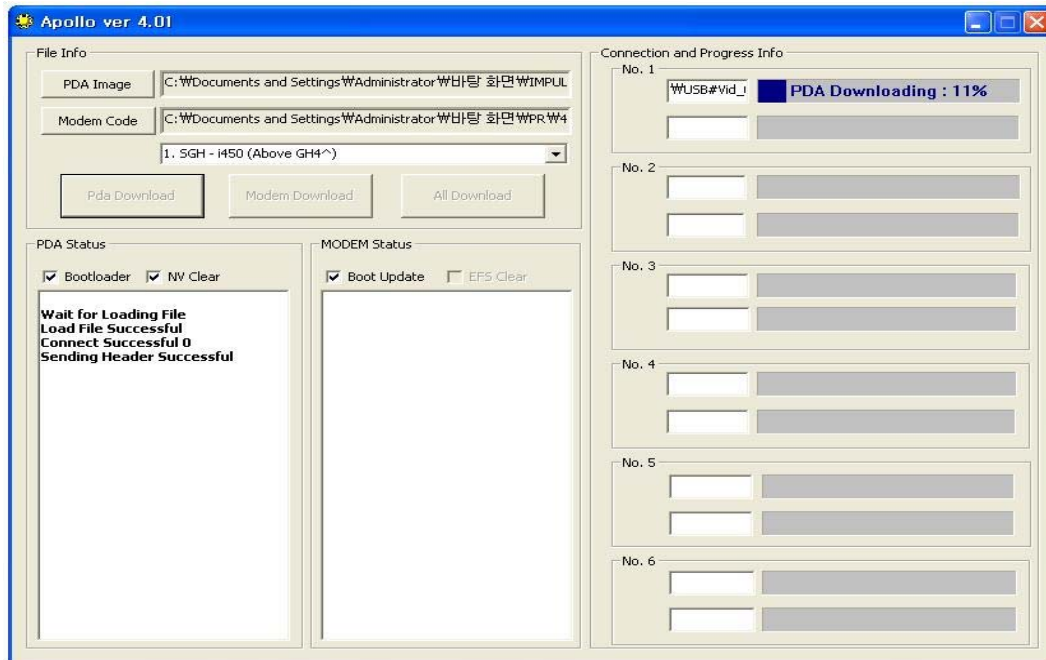
MODEM download : Hold 7, * keys and power on -> Blinking "MODEM DOWNLOAD" on blue screen

All download : Hold 4, 7 keys and power on -> Blinking "ALL DOWNLOAD" on blue screen



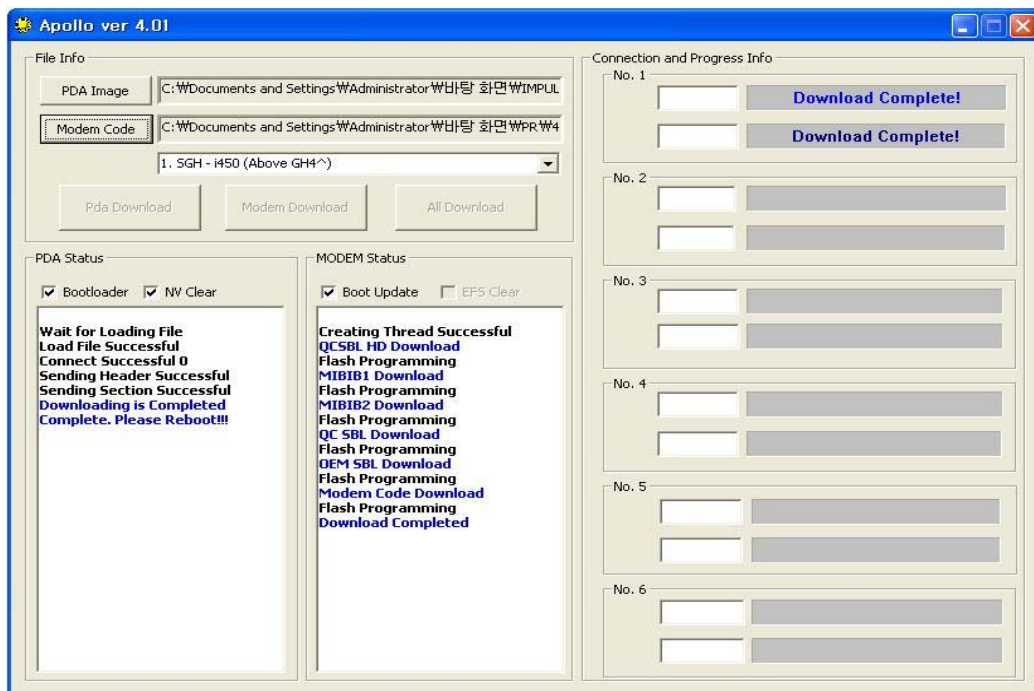
Do NOT interrupt downloading process.

- Pda download time: About 1 min.
- Modem download time : About 2 min.
- All download time: About 3 min.



Confirm Download Complete.

- SGH-i550 will be reboot when PDA download complete.



4-2-7. Troubleshooting

Unable to install USB driver.

Try another Download equipment

Try another SGH-i550.

Consult to R&D team.

Download stops in the middle.

Close and launch Apollo again then try again.

Check the battery is charged enough.

Download doesn't start

Check the connection between Apollo and a SGH-i550.

Check the image that is not damaged.

Select an image and download again.

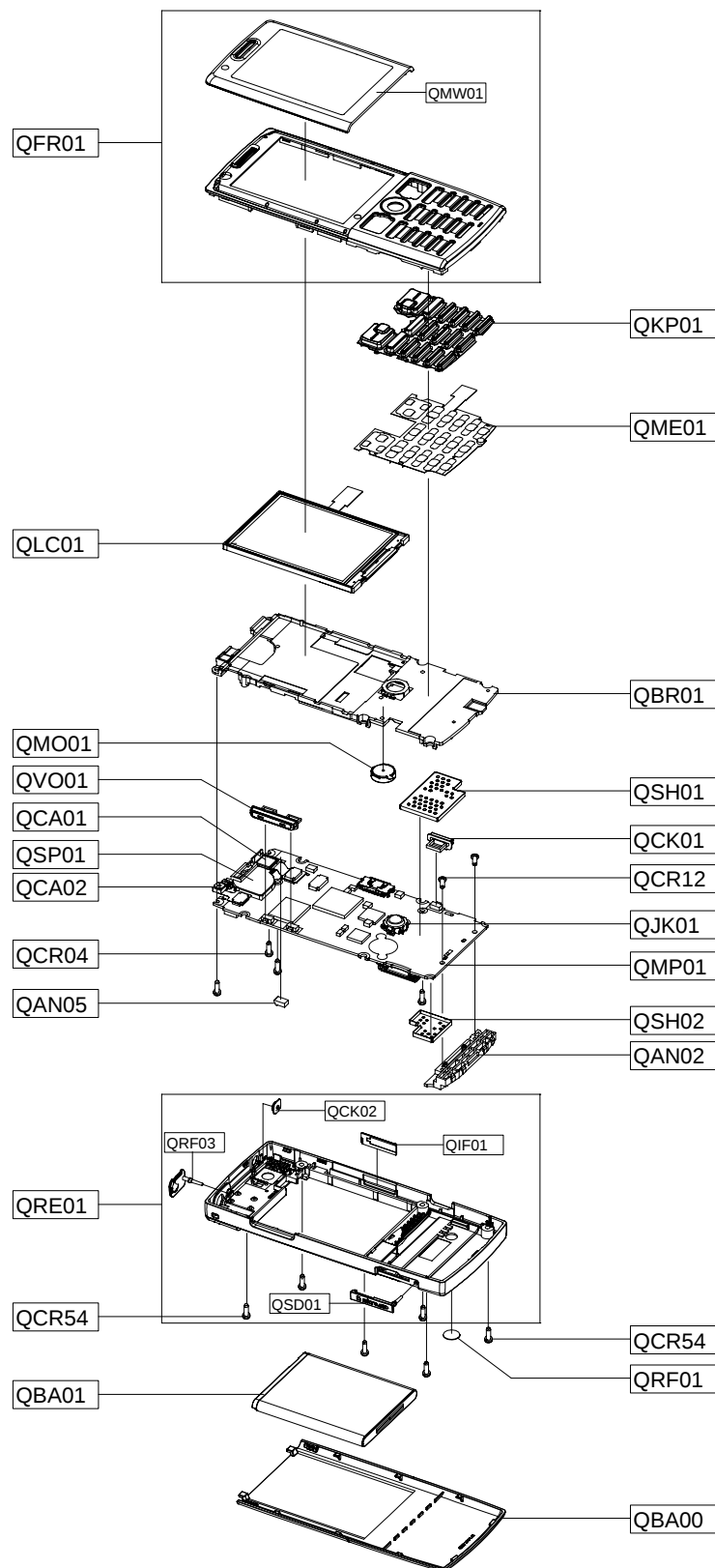
Phone doesn't boot up after downloading.

Check the release version of PDA and MODEM. They should be same.

Make sure that rom image, and then try to download.

5. Exploded View and Parts List

5-1. Cellular phone Exploded View



5-2. Cellular phone Parts List

Design LOC		Description	SEC CODE
QAN02		INTENNA-SGHI550	GH42-01315A
QAN05		RMO-ANT CONTACT RUBBER	GH73-02946A
QBA00		PMO COVER-BATTERY(TIM)	GH72-45305A
QBA01		INNER BATTERY PACK-1200MAH,BLK	GH43-02986A
QBR01		ASSY BRACKET-PBA	GH98-06125A
QCA01		CAMERA MODULE-3M	GH59-04907A
QCA02		CAMERA MODULE-VT	GH59-04908A
QCK01		PMO KEY-CAMERA V2	GH72-43908A
QCR04		SCREW-MACHINE	6001-001479
QCR12		SCREW-MACHINE	6001-001530
QCR54		SCREW-MACHINE	6001-001645
QCR54		SCREW-MACHINE	6001-001645
QJK01		UNIT-JOG BALL	GH59-04841A
QKP01		ASSY KEYPAD-(TIM/BLK)	GH98-06911A
QLC01		LCD-SGHI550	GH07-01184A
QME01		KEY FPCB-21KEY	GH59-04845A
QMO01		MOTOR DC	GH31-00357A
QMP01		PBA MAIN-SGHI550	GH92-04078A
QRF01		TAPE-RF A	GH74-35210A
QSH01		ICT SHIELD-COVER BTM	GH70-02855A
QSH02		ICT SHIELD-COVER TOP	GH70-02856A
QSP01		MICRO SPEAKER	3001-002241
QVO01		PMO KEY-VOLUME	GH72-43750A
QRE01		ASSY CASE-REAR	GH98-06120A
	QCK02	PMO KEY-POWER V3	GH72-44884A
	QIF01	PMO COVER-S 20	GH72-43745A
	QRF03	PMO COVER-EAR V2	GH72-43905A
	QSD01	PMO COVER-MICRO SD	GH72-43751A
QFR01		ASSY CASE-FRONT(TIM)	GH98-06863A
	QMW01	ASSY COVER-MAIN WINDOW(TIM)	GH98-07010A

Description	SEC CODE
IC-MEMORY CARD	1109-001363
BAG PE	6902-000634
CBF INTERFACE-DLC APCBS10BBE(S	GH39-00922A
ADAPTOR-ATADS10EBE,BLK,EU	GH44-01702A
S/W CD-SGHI550 SAMSUNG PC 7.0.	GH46-00552A
S/W DVD-SGHI550 NAVIGATION DVD	GH46-00566A
EARPHONE-B-TYPE	GH59-04557A
ASSY ETC-TRACK BALL FPCB	GH59-04846A
LABEL(R)-WATER SOAK	GH68-09361A
LABEL(R)-MAIN(TIM)	GH68-16430B
MANUAL USERS-TIM ITALIAN QSG	GH68-16438A
BOX-UNIT(TIM)	GH69-06077B
CUSHION-CASE(EU)	GH69-06078A
ICT DECO-PRESS TRACK BALL	GH70-02740A
SPONGE-KEY FPCB	GH74-35252A
VINYL-BOHO MAIN WINDOW	GH74-36217A
TAPE-ESD	GH74-36221A
TAPE GASK-RF-SHIELD CAN	GH74-36224A
SPONGE-LCD MAIN2	GH74-36387A

6. Main Electrical Parts List

SEC Code	Design LOC	Description	STATUS
0403-001547	D402	DIODE-ZENER	SA
0404-001167	D700	DIODE-SCHOTTKY	SA
0406-001197	ZD603	DIODE-TVS	SA
0406-001197	ZD709	DIODE-TVS	SA
0406-001208	ZD705	DIODE-TVS	SA
0406-001208	ZD706	DIODE-TVS	SA
0406-001231	ZD502	DIODE-TVS	SA
0406-001231	ZD503	DIODE-TVS	SA
0406-001254	ZD600	DIODE-TVS	SA
0406-001254	ZD608	DIODE-TVS	SA
0406-001254	ZD700	DIODE-TVS	SA
0406-001254	ZD701	DIODE-TVS	SA
0406-001254	ZD702	DIODE-TVS	SA
0406-001254	ZD703	DIODE-TVS	SA
0406-001254	ZD704	DIODE-TVS	SA
0406-001254	ZD708	DIODE-TVS	SA
0406-001254	ZD710	DIODE-TVS	SA
0406-001254	ZD711	DIODE-TVS	SA
0406-001254	ZD712	DIODE-TVS	SA
0406-001256	ZD401	DIODE-TVS	SA
0406-001256	ZD402	DIODE-TVS	SA
0406-001267	D300	DIODE-TVS	SA
0406-001267	D301	DIODE-TVS	SA
0406-001267	D901	DIODE-TVS	SA
0406-001267	ZD604	DIODE-TVS	SA
0406-001267	ZD605	DIODE-TVS	SA
0406-001267	ZD606	DIODE-TVS	SA
0406-001267	ZD607	DIODE-TVS	SA
0406-001267	ZD609	DIODE-TVS	SA
0406-001267	ZD901	DIODE-TVS	SA
0406-001267	ZD902	DIODE-TVS	SA
0406-001267	ZD904	DIODE-TVS	SA
0407-000115	D600	DIODE-ARRAY	SA
0407-001002	D400	DIODE-ARRAY	SA
0407-001002	D401	DIODE-ARRAY	SA
0407-001007	D403	DIODE-ARRAY	SA
0504-001113	TR400	TR-DIGITAL	SA
0504-001113	TR401	TR-DIGITAL	SA
0504-001113	TR403	TR-DIGITAL	SA
0505-001165	TR402	FET-SILICON	SA
0801-002294	U301	IC-CMOS LOGIC	SA
0801-002294	U409	IC-CMOS LOGIC	SA
0801-002294	U410	IC-CMOS LOGIC	SA
0801-002321	U902	IC-CMOS LOGIC	SA
0801-003012	U407	IC-CMOS LOGIC	SA
0801-003013	U302	IC-CMOS LOGIC	SA
0801-003052	U300	IC-CMOS LOGIC	SA
0801-003124	U408	IC-CMOS LOGIC	SA
0801-003205	U405	IC-CMOS LOGIC	SA
0904-002295	UCP800	IC-DSP	SA
1001-001294	U502	IC-ANALOG SWITCH	SA
1001-001336	U604	IC-ANALOG SWITCH	SA
1001-001401	U909	IC-ANALOG SWITCH	SA

SEC Code	Design LOC	Description	STATUS
1001-001410	U505	IC-ANALOG SWITCH	SA
1001-001436	U906	IC-ANALOG SWITCH	SA
1001-001461	U500	IC-ANALOG SWITCH	SA
1001-001461	U501	IC-ANALOG SWITCH	SA
1106-001511	UME900	IC-SRAM	SA
1108-000127	UME300	IC-MCP	SA
1108-000135		IC-MCP	SA
1201-002195	U907	IC-AUDIO AMP	SA
1201-002233	U504	IC-AUDIO AMP	SA
1201-002531	PAM101	IC-POWER AMP	SA
1201-002570	PAM100	IC-POWER AMP	SA
1201-002581	F200	IC-RF AMP	SA
1202-001068	U903	IC-VOLTAGE COMP.	SA
1203-002716	U404	IC-VOL. DETECTOR	SA
1203-003643	U606	IC-MULTI REG.	SA
1203-003643	U607	IC-MULTI REG.	SA
1203-003737	U600	IC-POS.FIXED REG.	SA
1203-003737	U700	IC-POS.FIXED REG.	SA
1203-003737	U701	IC-POS.FIXED REG.	SA
1203-003737	U702	IC-POS.FIXED REG.	SA
1203-003787	U605	IC-POS.FIXED REG.	SA
1203-003978	U908	IC-DC/DC CONVERTER	SA
1203-004120	U602	IC-MULTI REG.	SA
1203-004430	U403	IC-VOL. DETECTOR	SA
1203-004464	U411	IC-VOL. DETECTOR	SA
1203-004540	U703	IC-DC/DC CONVERTER	SA
1203-004607	U603	IC-MULTI REG.	SA
1203-004621	U503	IC-POWER SUPERVISOR	SA
1203-004778	U401	IC-POWER SUPERVISOR	SA
1203-004838	U400	IC-BATTERY	SA
1204-002746	MOD201	IC-TUNER	SA
1205-002767	U402	IC-SWITCH	SA
1205-003169	MOD200	IC-DATA COMM./GEN.	SA
1205-003281	UCP300	IC-MODEM	SA
1205-003297	U101	IC-TRANSCIEVER	SA
1404-001221	TH300	THERMISTOR-NTC	SA
2007-000137	R318	R-CHIP	SA
2007-000138	R120	R-CHIP	SA
2007-000138	R607	R-CHIP	SA
2007-000138	R608	R-CHIP	SA
2007-000140	R111	R-CHIP	SA
2007-000140	R927	R-CHIP	SA
2007-000148	R308	R-CHIP	SA
2007-000148	R310	R-CHIP	SA
2007-000148	R312	R-CHIP	SA
2007-000148	R513	R-CHIP	SA
2007-000148	R516	R-CHIP	SA
2007-000157	R412	R-CHIP	SA
2007-000160	R915	R-CHIP	SA
2007-000161	R205	R-CHIP	SA
2007-000162	R401	R-CHIP	SA
2007-000162	R402	R-CHIP	SA
2007-000162	R421	R-CHIP	SA

SEC Code	Design LOC	Description	STATUS
2007-000162	R600	R-CHIP	SA
2007-000162	R601	R-CHIP	SA
2007-000162	R619	R-CHIP	SA
2007-000162	R703	R-CHIP	SA
2007-000162	R905	R-CHIP	SA
2007-000162	R910	R-CHIP	SA
2007-000162	R920	R-CHIP	SA
2007-000164	R916	R-CHIP	SA
2007-000165	R413	R-CHIP	SA
2007-000165	R517	R-CHIP	SA
2007-000169	R912	R-CHIP	SA
2007-000170	R304	R-CHIP	SA
2007-000170	R430	R-CHIP	SA
2007-000170	R911	R-CHIP	SA
2007-000170	R913	R-CHIP	SA
2007-000170	R914	R-CHIP	SA
2007-000171	R110	R-CHIP	SA
2007-000171	R112	R-CHIP	SA
2007-000171	R114	R-CHIP	SA
2007-000171	R119	R-CHIP	SA
2007-000171	R121	R-CHIP	SA
2007-000171	R122	R-CHIP	SA
2007-000171	R125	R-CHIP	SA
2007-000171	R126	R-CHIP	SA
2007-000171	R129	R-CHIP	SA
2007-000171	R200	R-CHIP	SA
2007-000171	R217	R-CHIP	SA
2007-000171	R400	R-CHIP	SA
2007-000171	R521	R-CHIP	SA
2007-000171	R522	R-CHIP	SA
2007-000171	R820	R-CHIP	SA
2007-000171	R903	R-CHIP	SA
2007-001119	R411	R-CHIP	SA
2007-001290	R317	R-CHIP	SA
2007-001292	R305	R-CHIP	SA
2007-001298	R103	R-CHIP	SA
2007-001298	R107	R-CHIP	SA
2007-001298	R124	R-CHIP	SA
2007-001298	R302	R-CHIP	SA
2007-001305	R105	R-CHIP	SA
2007-001305	R106	R-CHIP	SA
2007-001305	R108	R-CHIP	SA
2007-001305	R109	R-CHIP	SA
2007-001339	R602	R-CHIP	SA
2007-007001	R117	R-CHIP	SA
2007-007009	R127	R-CHIP	SA
2007-007014	R404	R-CHIP	SA
2007-007014	R406	R-CHIP	SA
2007-007107	R306	R-CHIP	SA
2007-007107	R307	R-CHIP	SA
2007-007107	R414	R-CHIP	SA
2007-007132	R925	R-CHIP	SA
2007-007136	R500	R-CHIP	SA

SEC Code	Design LOC	Description	STATUS
2007-007136	R501	R-CHIP	SA
2007-007138	R514	R-CHIP	SA
2007-007138	R515	R-CHIP	SA
2007-007142	R409	R-CHIP	SA
2007-007190	R802	R-CHIP	SA
2007-007190	R819	R-CHIP	SA
2007-007193	R113	R-CHIP	SA
2007-007193	R115	R-CHIP	SA
2007-007306	R123	R-CHIP	SA
2007-007306	R128	R-CHIP	SA
2007-007307	R928	R-CHIP	SA
2007-007307	R929	R-CHIP	SA
2007-007309	R420	R-CHIP	SA
2007-007309	R702	R-CHIP	SA
2007-007315	R410	R-CHIP	SA
2007-007316	R315	R-CHIP	SA
2007-007317	R434	R-CHIP	SA
2007-007317	R800	R-CHIP	SA
2007-007317	R801	R-CHIP	SA
2007-007468	R403	R-CHIP	SA
2007-007698	R407	R-CHIP	SA
2007-007766	R408	R-CHIP	SA
2007-008045	R520	R-CHIP	SA
2007-008052	R803	R-CHIP	SA
2007-008052	R804	R-CHIP	SA
2007-008052	R805	R-CHIP	SA
2007-008052	R806	R-CHIP	SA
2007-008055	R116	R-CHIP	SA
2007-008055	R432	R-CHIP	SA
2007-008055	R505	R-CHIP	SA
2007-008055	R506	R-CHIP	SA
2007-008055	R618	R-CHIP	SA
2007-008055	R921	R-CHIP	SA
2007-008354	R700	R-CHIP	SA
2007-008419	R604	R-CHIP	SA
2007-008419	R605	R-CHIP	SA
2007-008419	R622	R-CHIP	SA
2007-008483	R415	R-CHIP	SA
2007-008483	R416	R-CHIP	SA
2007-008483	R418	R-CHIP	SA
2007-008483	R419	R-CHIP	SA
2007-008516	R104	R-CHIP	SA
2007-008516	R203	R-CHIP	SA
2007-008516	R417	R-CHIP	SA
2007-008542	R101	R-CHIP	SA
2007-008542	R510	R-CHIP	SA
2007-008542	R620	R-CHIP	SA
2007-008542	R621	R-CHIP	SA
2007-008739	R926	R-CHIP	SA
2007-008776	R701	R-CHIP	SA
2007-008806	R405	R-CHIP	SA
2007-008806	R423	R-CHIP	SA
2007-008806	R424	R-CHIP	SA

SEC Code	Design LOC	Description	STATUS
2007-008806	R425	R-CHIP	SA
2007-008806	R426	R-CHIP	SA
2007-008806	R427	R-CHIP	SA
2007-008806	R428	R-CHIP	SA
2007-009157	R906	R-CHIP	SA
2007-009157	R907	R-CHIP	SA
2007-009157	R908	R-CHIP	SA
2007-009157	R909	R-CHIP	SA
2007-009168	R922	R-CHIP	SA
2007-009402	R508	R-CHIP	SA
2007-009402	R509	R-CHIP	SA
2007-009410	R102	R-CHIP	SA
2007-009804	R518	R-CHIP	SA
2007-009804	R519	R-CHIP	SA
2007-009805	R503	R-CHIP	SA
2203-000138	C189	C-CER,CHIP	SA
2203-000233	C107	C-CER,CHIP	SA
2203-000233	C109	C-CER,CHIP	SA
2203-000233	C112	C-CER,CHIP	SA
2203-000233	C123	C-CER,CHIP	SA
2203-000233	C124	C-CER,CHIP	SA
2203-000233	C143	C-CER,CHIP	SA
2203-000233	C145	C-CER,CHIP	SA
2203-000233	C162	C-CER,CHIP	SA
2203-000233	C169	C-CER,CHIP	SA
2203-000233	C185	C-CER,CHIP	SA
2203-000233	C202	C-CER,CHIP	SA
2203-000233	C207	C-CER,CHIP	SA
2203-000233	C220	C-CER,CHIP	SA
2203-000233	C416	C-CER,CHIP	SA
2203-000233	C417	C-CER,CHIP	SA
2203-000233	C424	C-CER,CHIP	SA
2203-000254	C163	C-CER,CHIP	SA
2203-000254	C183	C-CER,CHIP	SA
2203-000254	C191	C-CER,CHIP	SA
2203-000278	C127	C-CER,CHIP	SA
2203-000278	C534	C-CER,CHIP	SA
2203-000330	C131	C-CER,CHIP	SA
2203-000330	C205	C-CER,CHIP	SA
2203-000330	C209	C-CER,CHIP	SA
2203-000330	C409	C-CER,CHIP	SA
2203-000330	C533	C-CER,CHIP	SA
2203-000386	C414	C-CER,CHIP	SA
2203-000438	C165	C-CER,CHIP	SA
2203-000438	C184	C-CER,CHIP	SA
2203-000438	C215	C-CER,CHIP	SA
2203-000438	C320	C-CER,CHIP	SA
2203-000438	C912	C-CER,CHIP	SA
2203-000466	C194	C-CER,CHIP	SA
2203-000489	C333	C-CER,CHIP	SA
2203-000627	C117	C-CER,CHIP	SNA
2203-000628	C126	C-CER,CHIP	SA
2203-000628	C141	C-CER,CHIP	SA

SEC Code	Design LOC	Description	STATUS
2203-000628	C160	C-CER,CHIP	SA
2203-000628	C166	C-CER,CHIP	SA
2203-000628	C168	C-CER,CHIP	SA
2203-000628	C186	C-CER,CHIP	SA
2203-000628	C187	C-CER,CHIP	SA
2203-000628	C244	C-CER,CHIP	SA
2203-000628	C245	C-CER,CHIP	SA
2203-000628	C247	C-CER,CHIP	SA
2203-000643	C104	C-CER,CHIP	SA
2203-000643	C106	C-CER,CHIP	SA
2203-000812	C102	C-CER,CHIP	SA
2203-000812	C115	C-CER,CHIP	SA
2203-000812	C119	C-CER,CHIP	SA
2203-000812	C150	C-CER,CHIP	SA
2203-000812	C157	C-CER,CHIP	SA
2203-000812	C175	C-CER,CHIP	SA
2203-000812	C176	C-CER,CHIP	SA
2203-000812	C190	C-CER,CHIP	SA
2203-000812	C193	C-CER,CHIP	SA
2203-000812	C196	C-CER,CHIP	SA
2203-000812	C431	C-CER,CHIP	SA
2203-000812	C433	C-CER,CHIP	SA
2203-000812	C435	C-CER,CHIP	SA
2203-000812	C511	C-CER,CHIP	SA
2203-000812	C520	C-CER,CHIP	SA
2203-000812	C526	C-CER,CHIP	SA
2203-000812	C529	C-CER,CHIP	SA
2203-000812	C535	C-CER,CHIP	SA
2203-000812	C540	C-CER,CHIP	SA
2203-000812	C562	C-CER,CHIP	SA
2203-000812	C563	C-CER,CHIP	SA
2203-000812	C564	C-CER,CHIP	SA
2203-000812	C625	C-CER,CHIP	SA
2203-000854	C164	C-CER,CHIP	SA
2203-000995	C303	C-CER,CHIP	SA
2203-000995	C338	C-CER,CHIP	SA
2203-000995	C623	C-CER,CHIP	SA
2203-000995	C624	C-CER,CHIP	SA
2203-001153	C100	C-CER,CHIP	SA
2203-001153	C101	C-CER,CHIP	SA
2203-001153	C171	C-CER,CHIP	SA
2203-001385	C195	C-CER,CHIP	SA
2203-002668	C174	C-CER,CHIP	SA
2203-002709	C405	C-CER,CHIP	SA
2203-002709	C406	C-CER,CHIP	SA
2203-002709	C407	C-CER,CHIP	SA
2203-002709	C419	C-CER,CHIP	SA
2203-002709	C421	C-CER,CHIP	SA
2203-005050	C130	C-CER,CHIP	SA
2203-005050	C133	C-CER,CHIP	SA
2203-005053	C125	C-CER,CHIP	SA
2203-005053	C128	C-CER,CHIP	SA
2203-005281	C178	C-CER,CHIP	SA

SEC Code	Design LOC	Description	STATUS
2203-005288	C248	C-CER,CHIP	SA
2203-005288	C254	C-CER,CHIP	SA
2203-005395	C505	C-CER,CHIP	SA
2203-005395	C510	C-CER,CHIP	SA
2203-005395	C512	C-CER,CHIP	SA
2203-005446	C197	C-CER,CHIP	SA
2203-005480	C337	C-CER,CHIP	SA
2203-005482	C172	C-CER,CHIP	SA
2203-005482	C200	C-CER,CHIP	SA
2203-005482	C227	C-CER,CHIP	SA
2203-005482	C228	C-CER,CHIP	SA
2203-005482	C323	C-CER,CHIP	SA
2203-005482	C334	C-CER,CHIP	SA
2203-005482	C335	C-CER,CHIP	SA
2203-005482	C336	C-CER,CHIP	SA
2203-005482	C810	C-CER,CHIP	SA
2203-005482	C827	C-CER,CHIP	SA
2203-005682	C113	C-CER,CHIP	SA
2203-005682	C149	C-CER,CHIP	SA
2203-005682	C156	C-CER,CHIP	SA
2203-005682	C159	C-CER,CHIP	SA
2203-005682	C523	C-CER,CHIP	SA
2203-005682	C800	C-CER,CHIP	SA
2203-005682	C802	C-CER,CHIP	SA
2203-005725	C122	C-CER,CHIP	SA
2203-005725	C134	C-CER,CHIP	SA
2203-005725	C135	C-CER,CHIP	SA
2203-005725	C136	C-CER,CHIP	SA
2203-005725	C139	C-CER,CHIP	SA
2203-005725	C152	C-CER,CHIP	SA
2203-005725	C153	C-CER,CHIP	SA
2203-005736	C714	C-CER,CHIP	SA
2203-005736	C720	C-CER,CHIP	SA
2203-005736	C721	C-CER,CHIP	SA
2203-005736	C722	C-CER,CHIP	SA
2203-005736	C723	C-CER,CHIP	SA
2203-005736	C724	C-CER,CHIP	SA
2203-005736	C725	C-CER,CHIP	SA
2203-005736	C726	C-CER,CHIP	SA
2203-005736	C727	C-CER,CHIP	SA
2203-005736	C728	C-CER,CHIP	SA
2203-005736	C729	C-CER,CHIP	SA
2203-005736	C730	C-CER,CHIP	SA
2203-005806	C132	C-CER,CHIP	SNA
2203-006048	C428	C-CER,CHIP	SA
2203-006091	C546	C-CER,CHIP	SA
2203-006091	C547	C-CER,CHIP	SA
2203-006194	C144	C-CER,CHIP	SA
2203-006194	C304	C-CER,CHIP	SA
2203-006194	C306	C-CER,CHIP	SA
2203-006194	C309	C-CER,CHIP	SA
2203-006194	C321	C-CER,CHIP	SA
2203-006194	C322	C-CER,CHIP	SA

SEC Code	Design LOC	Description	STATUS
2203-006194	C805	C-CER,CHIP	SA
2203-006208	C413	C-CER,CHIP	SA
2203-006208	C420	C-CER,CHIP	SA
2203-006208	C423	C-CER,CHIP	SA
2203-006324	C317	C-CER,CHIP	SA
2203-006324	C400	C-CER,CHIP	SA
2203-006324	C403	C-CER,CHIP	SA
2203-006324	C404	C-CER,CHIP	SA
2203-006324	C427	C-CER,CHIP	SA
2203-006324	C536	C-CER,CHIP	SA
2203-006324	C709	C-CER,CHIP	SA
2203-006324	C923	C-CER,CHIP	SA
2203-006324	C924	C-CER,CHIP	SA
2203-006324	C925	C-CER,CHIP	SA
2203-006324	C927	C-CER,CHIP	SA
2203-006348	C425	C-CER,CHIP	SA
2203-006348	C426	C-CER,CHIP	SA
2203-006377	C622	C-CER,CHIP	SA
2203-006399	C210	C-CER,CHIP	SA
2203-006399	C211	C-CER,CHIP	SA
2203-006399	C212	C-CER,CHIP	SA
2203-006399	C213	C-CER,CHIP	SA
2203-006399	C214	C-CER,CHIP	SA
2203-006399	C230	C-CER,CHIP	SA
2203-006399	C300	C-CER,CHIP	SA
2203-006399	C305	C-CER,CHIP	SA
2203-006399	C308	C-CER,CHIP	SA
2203-006399	C311	C-CER,CHIP	SA
2203-006399	C312	C-CER,CHIP	SA
2203-006399	C313	C-CER,CHIP	SA
2203-006399	C314	C-CER,CHIP	SA
2203-006399	C316	C-CER,CHIP	SA
2203-006399	C324	C-CER,CHIP	SA
2203-006399	C325	C-CER,CHIP	SA
2203-006399	C326	C-CER,CHIP	SA
2203-006399	C327	C-CER,CHIP	SA
2203-006399	C332	C-CER,CHIP	SA
2203-006399	C408	C-CER,CHIP	SA
2203-006399	C415	C-CER,CHIP	SA
2203-006399	C430	C-CER,CHIP	SA
2203-006399	C432	C-CER,CHIP	SA
2203-006399	C504	C-CER,CHIP	SA
2203-006399	C507	C-CER,CHIP	SA
2203-006399	C509	C-CER,CHIP	SA
2203-006399	C527	C-CER,CHIP	SA
2203-006399	C537	C-CER,CHIP	SA
2203-006399	C539	C-CER,CHIP	SA
2203-006399	C542	C-CER,CHIP	SA
2203-006399	C607	C-CER,CHIP	SA
2203-006399	C632	C-CER,CHIP	SA
2203-006399	C634	C-CER,CHIP	SA
2203-006399	C701	C-CER,CHIP	SA
2203-006399	C703	C-CER,CHIP	SA

SEC Code	Design LOC	Description	STATUS
2203-006399	C706	C-CER,CHIP	SA
2203-006399	C807	C-CER,CHIP	SA
2203-006399	C809	C-CER,CHIP	SA
2203-006399	C813	C-CER,CHIP	SA
2203-006399	C826	C-CER,CHIP	SA
2203-006399	C830	C-CER,CHIP	SA
2203-006399	C904	C-CER,CHIP	SA
2203-006399	C905	C-CER,CHIP	SA
2203-006399	C906	C-CER,CHIP	SA
2203-006399	C916	C-CER,CHIP	SA
2203-006423	C138	C-CER,CHIP	SA
2203-006423	C146	C-CER,CHIP	SA
2203-006423	C246	C-CER,CHIP	SA
2203-006423	C301	C-CER,CHIP	SA
2203-006423	C302	C-CER,CHIP	SA
2203-006423	C307	C-CER,CHIP	SA
2203-006423	C310	C-CER,CHIP	SA
2203-006423	C315	C-CER,CHIP	SA
2203-006423	C318	C-CER,CHIP	SA
2203-006423	C319	C-CER,CHIP	SA
2203-006423	C328	C-CER,CHIP	SA
2203-006423	C331	C-CER,CHIP	SA
2203-006423	C429	C-CER,CHIP	SA
2203-006423	C500	C-CER,CHIP	SA
2203-006423	C501	C-CER,CHIP	SA
2203-006423	C508	C-CER,CHIP	SA
2203-006423	C524	C-CER,CHIP	SA
2203-006423	C801	C-CER,CHIP	SA
2203-006423	C803	C-CER,CHIP	SA
2203-006423	C804	C-CER,CHIP	SA
2203-006423	C806	C-CER,CHIP	SA
2203-006423	C811	C-CER,CHIP	SA
2203-006423	C814	C-CER,CHIP	SA
2203-006423	C815	C-CER,CHIP	SA
2203-006423	C816	C-CER,CHIP	SA
2203-006423	C817	C-CER,CHIP	SA
2203-006423	C818	C-CER,CHIP	SA
2203-006423	C819	C-CER,CHIP	SA
2203-006423	C821	C-CER,CHIP	SA
2203-006423	C822	C-CER,CHIP	SA
2203-006423	C823	C-CER,CHIP	SA
2203-006423	C824	C-CER,CHIP	SA
2203-006423	C825	C-CER,CHIP	SA
2203-006423	C907	C-CER,CHIP	SA
2203-006423	C908	C-CER,CHIP	SA
2203-006423	C910	C-CER,CHIP	SA
2203-006423	C911	C-CER,CHIP	SA
2203-006423	C928	C-CER,CHIP	SA
2203-006474	C411	C-CER,CHIP	SA
2203-006474	C412	C-CER,CHIP	SA
2203-006562	C201	C-CER,CHIP	SA
2203-006562	C229	C-CER,CHIP	SA
2203-006562	C502	C-CER,CHIP	SA

SEC Code	Design LOC	Description	STATUS
2203-006562	C503	C-CER,CHIP	SA
2203-006562	C506	C-CER,CHIP	SA
2203-006562	C514	C-CER,CHIP	SA
2203-006562	C515	C-CER,CHIP	SA
2203-006562	C516	C-CER,CHIP	SA
2203-006562	C517	C-CER,CHIP	SA
2203-006562	C518	C-CER,CHIP	SA
2203-006562	C519	C-CER,CHIP	SA
2203-006562	C522	C-CER,CHIP	SA
2203-006562	C528	C-CER,CHIP	SA
2203-006562	C530	C-CER,CHIP	SA
2203-006562	C531	C-CER,CHIP	SA
2203-006562	C532	C-CER,CHIP	SA
2203-006562	C541	C-CER,CHIP	SA
2203-006562	C543	C-CER,CHIP	SA
2203-006562	C552	C-CER,CHIP	SA
2203-006562	C553	C-CER,CHIP	SA
2203-006562	C554	C-CER,CHIP	SA
2203-006562	C600	C-CER,CHIP	SA
2203-006562	C601	C-CER,CHIP	SA
2203-006562	C602	C-CER,CHIP	SA
2203-006562	C608	C-CER,CHIP	SA
2203-006562	C613	C-CER,CHIP	SA
2203-006562	C616	C-CER,CHIP	SA
2203-006562	C617	C-CER,CHIP	SA
2203-006562	C700	C-CER,CHIP	SA
2203-006562	C702	C-CER,CHIP	SA
2203-006562	C704	C-CER,CHIP	SA
2203-006562	C705	C-CER,CHIP	SA
2203-006562	C710	C-CER,CHIP	SA
2203-006562	C711	C-CER,CHIP	SA
2203-006562	C918	C-CER,CHIP	SA
2203-006562	C919	C-CER,CHIP	SA
2203-006562	C920	C-CER,CHIP	SA
2203-006562	C921	C-CER,CHIP	SA
2203-006585	C513	C-CER,CHIP	SA
2203-006585	C521	C-CER,CHIP	SA
2203-006681	C105	C-CER,CHIP	SA
2203-006681	C108	C-CER,CHIP	SA
2203-006681	C110	C-CER,CHIP	SA
2203-006681	C118	C-CER,CHIP	SA
2203-006681	C120	C-CER,CHIP	SA
2203-006681	C121	C-CER,CHIP	SA
2203-006681	C140	C-CER,CHIP	SA
2203-006681	C142	C-CER,CHIP	SA
2203-006681	C161	C-CER,CHIP	SA
2203-006681	C167	C-CER,CHIP	SA
2203-006681	C170	C-CER,CHIP	SA
2203-006681	C188	C-CER,CHIP	SA
2203-006681	C329	C-CER,CHIP	SA
2203-006681	C330	C-CER,CHIP	SA
2203-006681	C560	C-CER,CHIP	SA
2203-006681	C621	C-CER,CHIP	SA

SEC Code	Design LOC	Description	STATUS
2203-006712	C544	C-CER,CHIP	SA
2203-006712	C548	C-CER,CHIP	SA
2203-006824	C154	C-CER,CHIP	SA
2203-006824	C401	C-CER,CHIP	SA
2203-006824	C402	C-CER,CHIP	SA
2203-006824	C609	C-CER,CHIP	SA
2203-006824	C610	C-CER,CHIP	SA
2203-006825	C555	C-CER,CHIP	SA
2203-006825	C556	C-CER,CHIP	SA
2203-006838	C418	C-CER,CHIP	SA
2203-006838	C422	C-CER,CHIP	SA
2203-006838	C437	C-CER,CHIP	SA
2203-006838	C611	C-CER,CHIP	SA
2203-006838	C612	C-CER,CHIP	SA
2203-006838	C630	C-CER,CHIP	SA
2203-006838	C631	C-CER,CHIP	SA
2203-006838	C633	C-CER,CHIP	SA
2203-006838	C635	C-CER,CHIP	SA
2203-006838	C636	C-CER,CHIP	SA
2203-006838	C917	C-CER,CHIP	SA
2203-006839	C558	C-CER,CHIP	SA
2203-006872	C603	C-CER,CHIP	SA
2203-006872	C604	C-CER,CHIP	SA
2203-006872	C808	C-CER,CHIP	SA
2203-006872	C820	C-CER,CHIP	SA
2203-006890	C614	C-CER,CHIP	SA
2203-006890	C615	C-CER,CHIP	SA
2203-006890	C618	C-CER,CHIP	SA
2203-006978	C707	C-CER,CHIP	SA
2203-006978	C708	C-CER,CHIP	SA
2203-006979	C129	C-CER,CHIP	SA
2404-001347	TA401	C-TA,CHIP	SA
2404-001347	TA402	C-TA,CHIP	SA
2404-001377	TA507	C-TA,CHIP	SA
2404-001381	TA101	C-TA,CHIP	SA
2404-001381	TA500	C-TA,CHIP	SA
2404-001381	TA502	C-TA,CHIP	SA
2404-001381	TA503	C-TA,CHIP	SA
2404-001381	TA505	C-TA,CHIP	SA
2404-001381	TA508	C-TA,CHIP	SA
2404-001381	TA600	C-TA,CHIP	SA
2404-001381	TA601	C-TA,CHIP	SA
2404-001396	TA400	C-TA,CHIP	SA
2404-001474	TA100	C-TA,CHIP	SA
2404-001484	TA501	C-TA,CHIP	SA
2703-001231	L602	INDUCTOR-SMD	SNA
2703-001734	L203	INDUCTOR-SMD	SA
2703-001737	L215	INDUCTOR-SMD	SA
2703-001737	L218	INDUCTOR-SMD	SA
2703-001737	L500	INDUCTOR-SMD	SA
2703-001737	L501	INDUCTOR-SMD	SA
2703-001747	L120	INDUCTOR-SMD	SA
2703-001749	L217	INDUCTOR-SMD	SA

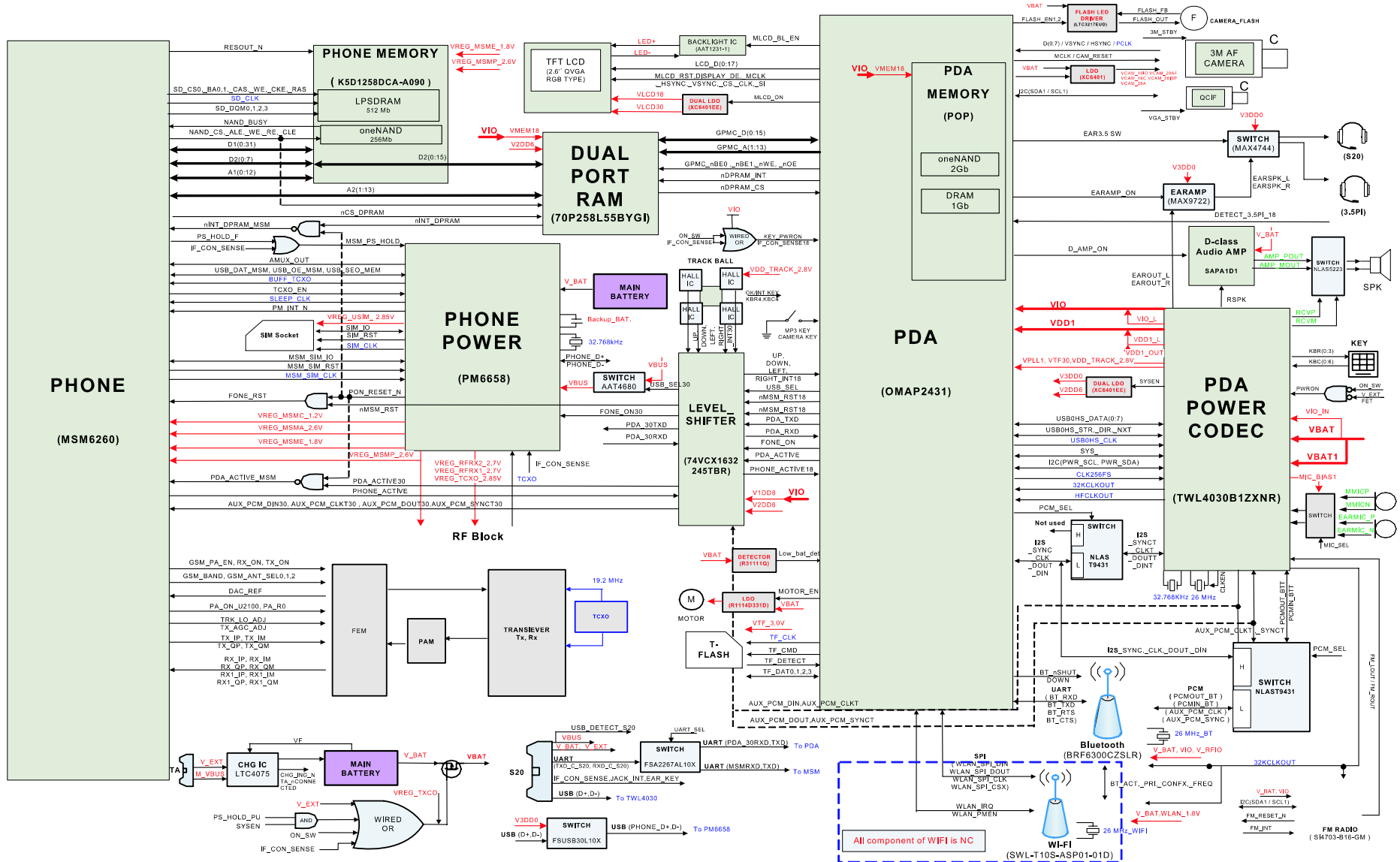
SEC Code	Design LOC	Description	STATUS
2703-001750	C249	INDUCTOR-SMD	SA
2703-001750	L111	INDUCTOR-SMD	SA
2703-001750	L204	INDUCTOR-SMD	SA
2703-001751	L113	INDUCTOR-SMD	SA
2703-001752	L104	INDUCTOR-SMD	SA
2703-001990	L102	INDUCTOR-SMD	SA
2703-002155	L205	INDUCTOR-SMD	SA
2703-002155	L212	INDUCTOR-SMD	SA
2703-002207	L115	INDUCTOR-SMD	SA
2703-002208	L123	INDUCTOR-SMD	SA
2703-002209	L902	INDUCTOR-SMD	SA
2703-002314	L101	INDUCTOR-SMD	SA
2703-002367	C151	INDUCTOR-SMD	SA
2703-002367	C158	INDUCTOR-SMD	SA
2703-002367	L124	INDUCTOR-SMD	SA
2703-002558	L116	INDUCTOR-SMD	SA
2703-002558	L117	INDUCTOR-SMD	SA
2703-002586	L121	INDUCTOR-SMD	SA
2703-002608	L109	INDUCTOR-SMD	SA
2703-002700	L105	INDUCTOR-SMD	SA
2703-002700	L107	INDUCTOR-SMD	SA
2703-002701	L202	INDUCTOR-SMD	SA
2703-002782	L400	INDUCTOR-SMD	SA
2703-002782	L401	INDUCTOR-SMD	SA
2703-002782	L402	INDUCTOR-SMD	SA
2703-003099	L700	INDUCTOR-SMD	SA
2703-003127	L214	INDUCTOR-SMD	SA
2703-003298	L505	INDUCTOR-SMD	SA
2703-003298	L508	INDUCTOR-SMD	SA
2801-004339	OSC400	CRYSTAL-SMD	SA
2801-004455	OSC200	CRYSTAL-SMD	SA
2801-004466	OSC501	CRYSTAL-SMD	SA
2804-001748	OSC500	OSCILLATOR-CLOCK	SA
2809-001324	TCX100	OSCILLATOR-VCTCXO	SA
2901-001389	F700	FILTER-EMI/ESD	SA
2901-001389	F701	FILTER-EMI/ESD	SA
2901-001389	F702	FILTER-EMI/ESD	SA
2901-001471	F703	FILTER-EMI/ESD	SA
2904-001628	F100	FILTER-SAW	SA
2904-001658	F104	FILTER-SAW	SA
2904-001702	F103	FILTER-SAW	SA
2904-001703	F102	FILTER-SAW	SA
2904-001716	F101	FILTER-SAW	SA
2904-001759	F201	FILTER-SAW	SA
2910-000027	DUF100	DUPLEXER-SAW	SA
3301-001438	L900	BEAD-SMD	SA
3301-001438	L901	BEAD-SMD	SA
3301-001534	L504	BEAD-SMD	SA
3301-001534	L506	BEAD-SMD	SA
3301-001534	L507	BEAD-SMD	SA
3301-001534	L903	BEAD-SMD	SA
3301-001729	L600	BEAD-SMD	SA
3301-001729	L601	BEAD-SMD	SA

SEC Code	Design LOC	Description	STATUS
3301-001756	L201	BEAD-SMD	SA
3301-001756	L502	BEAD-SMD	SA
3301-001756	L503	BEAD-SMD	SA
3404-001152	CK700	SWITCH-TACT	SA
3404-001152	VK701	SWITCH-TACT	SA
3404-001152	VK702	SWITCH-TACT	SA
3705-001358	RFS100	CONNECTOR-COAXIAL	SA
3708-002283	HEA701	CONNECTOR-FPC/FFC/PIC	SA
3709-001453	T_SIM400	CONNECTOR-CARD EDGE	SA
3710-002081	SPK500	SOCKET-BOARD TO BOARD	SA
3710-002568	IFC600	SOCKET-INTERFACE	SA
3711-005456	HEA700	HEADER-BOARD TO BOARD	SA
3711-005581	HEA702	HEADER-BOARD TO BOARD	SA
3711-005643	HEA601	HEADER-BOARD TO BOARD	SA
3711-005818	HEA600	HEADER-BOARD TO BOARD	SA
3711-006025	BAT600	HEADER-BATTERY	SA
3722-002609	EAR900	JACK-EAR PHONE	SA
4202-001365	ANT200	ANTENNA-CHIP	SA
4302-001181	BAT400	BATTERY-LI(2ND)	SA
4709-001338	U202	BALUN	SA
4709-001399	CPL100	COUPLER-DIRECTION	SA
GH71-07796A	ANT202	NPR CONTACT-ANTENNA	SA
GH71-07799A	SC101	NPR SHIELD-FRAME BTM	SA
GH71-07800A	SC100	NPR SHIELD-FRAME TOP	SA

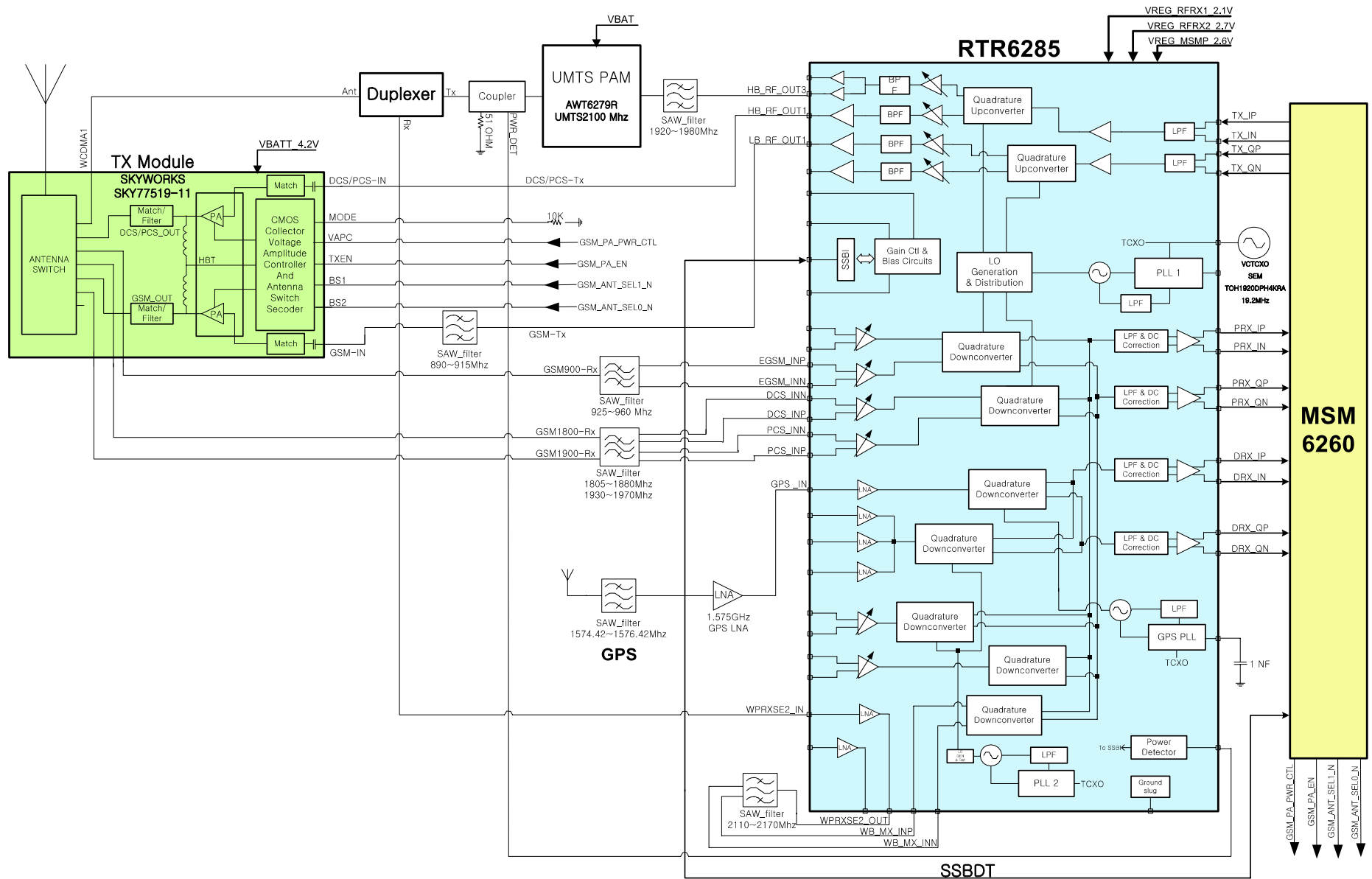
Please consult the GSPN website (Samsung Portal) for the most recent version of the product's part list.

7. Block Diagrams

7-1. Base Band Solution Block Diagram

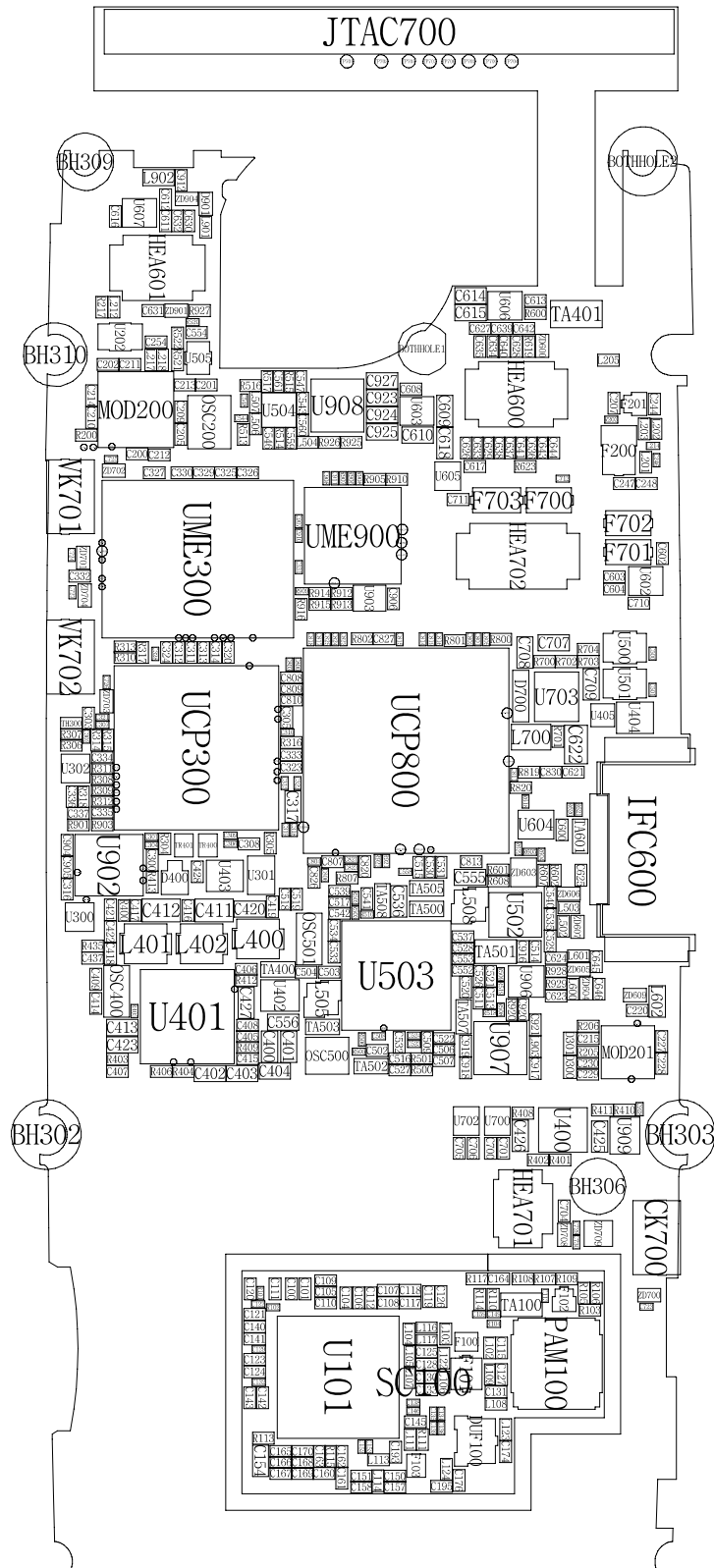


7-2. RF Solution Block Diagram

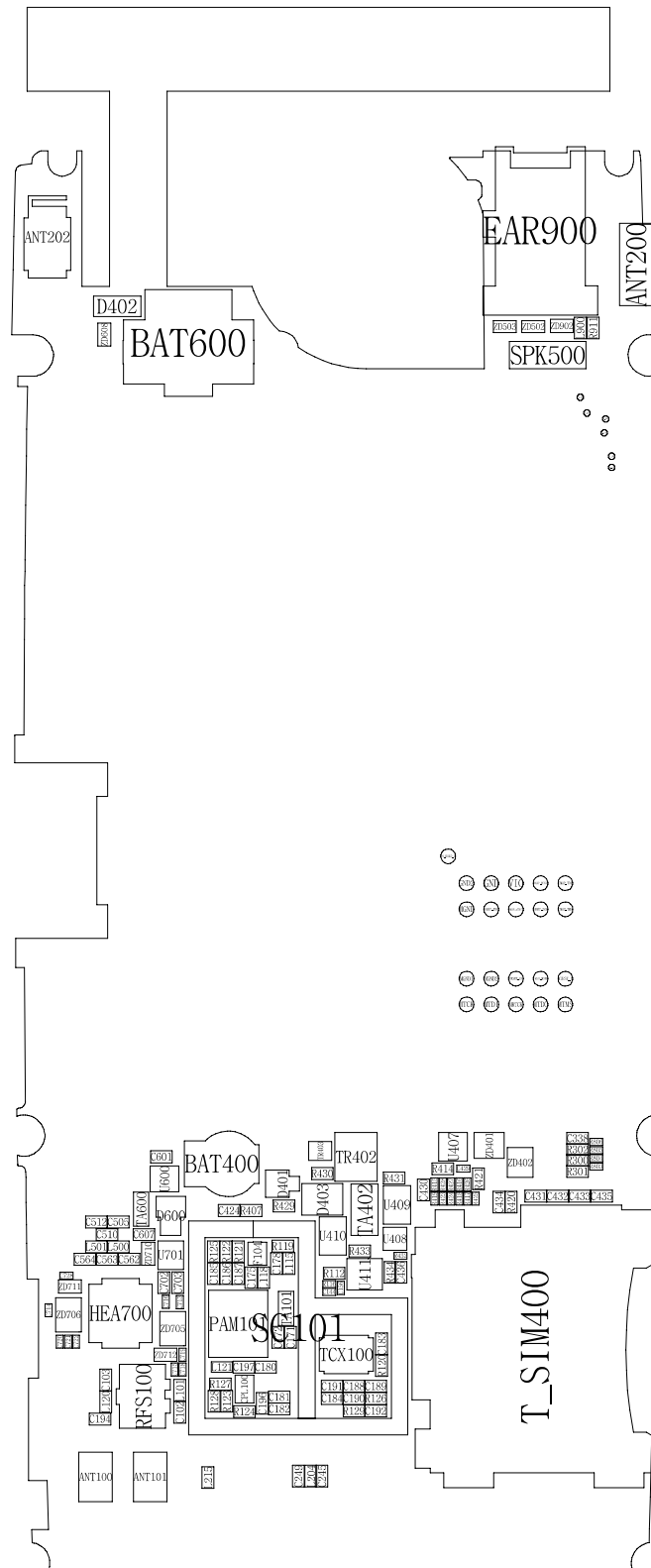


8. PCB Diagrams

- Main top view



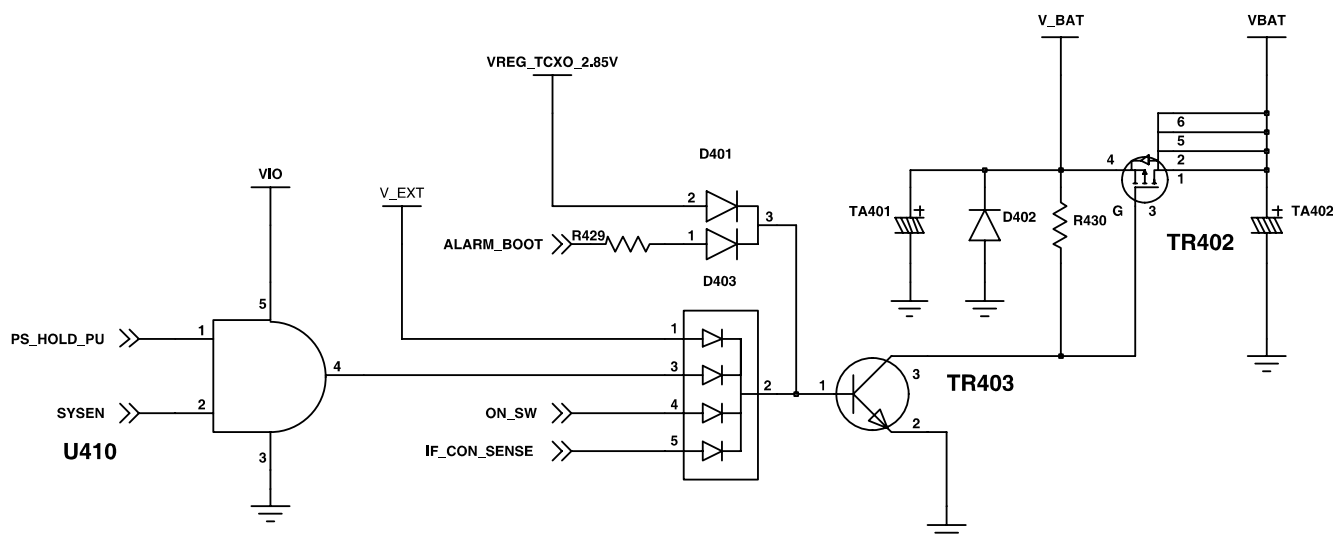
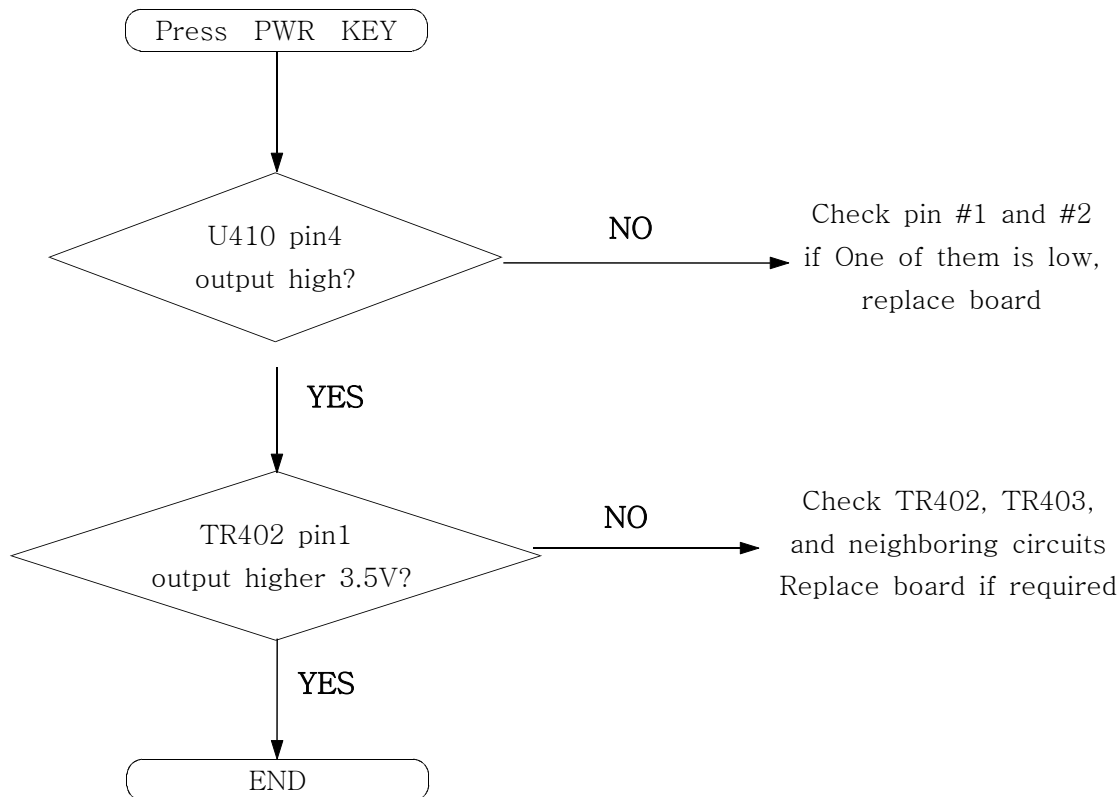
- Main bottom view

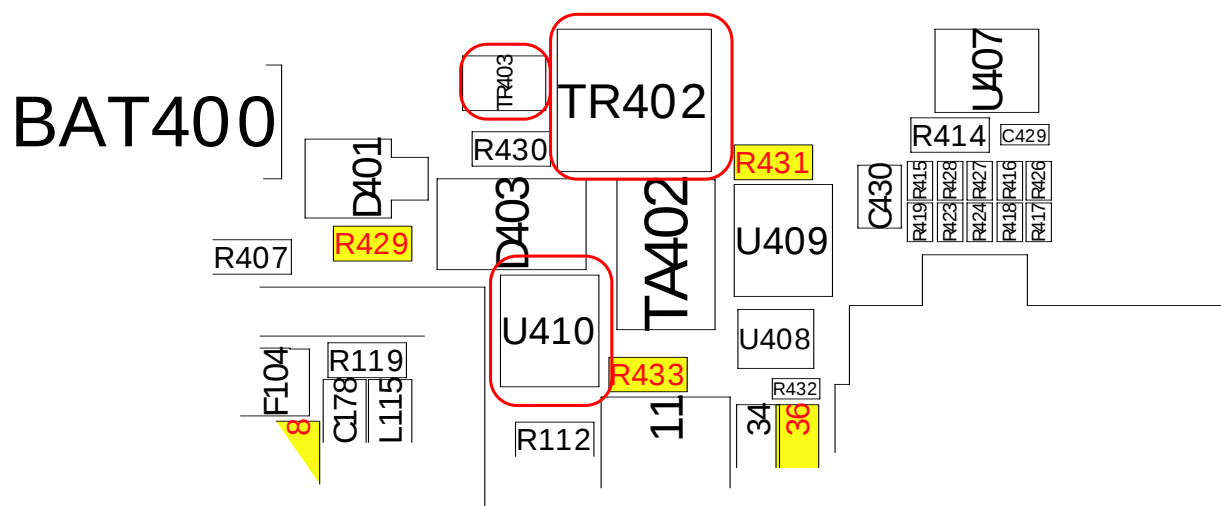


9. Flow Chart of TroubleShooting

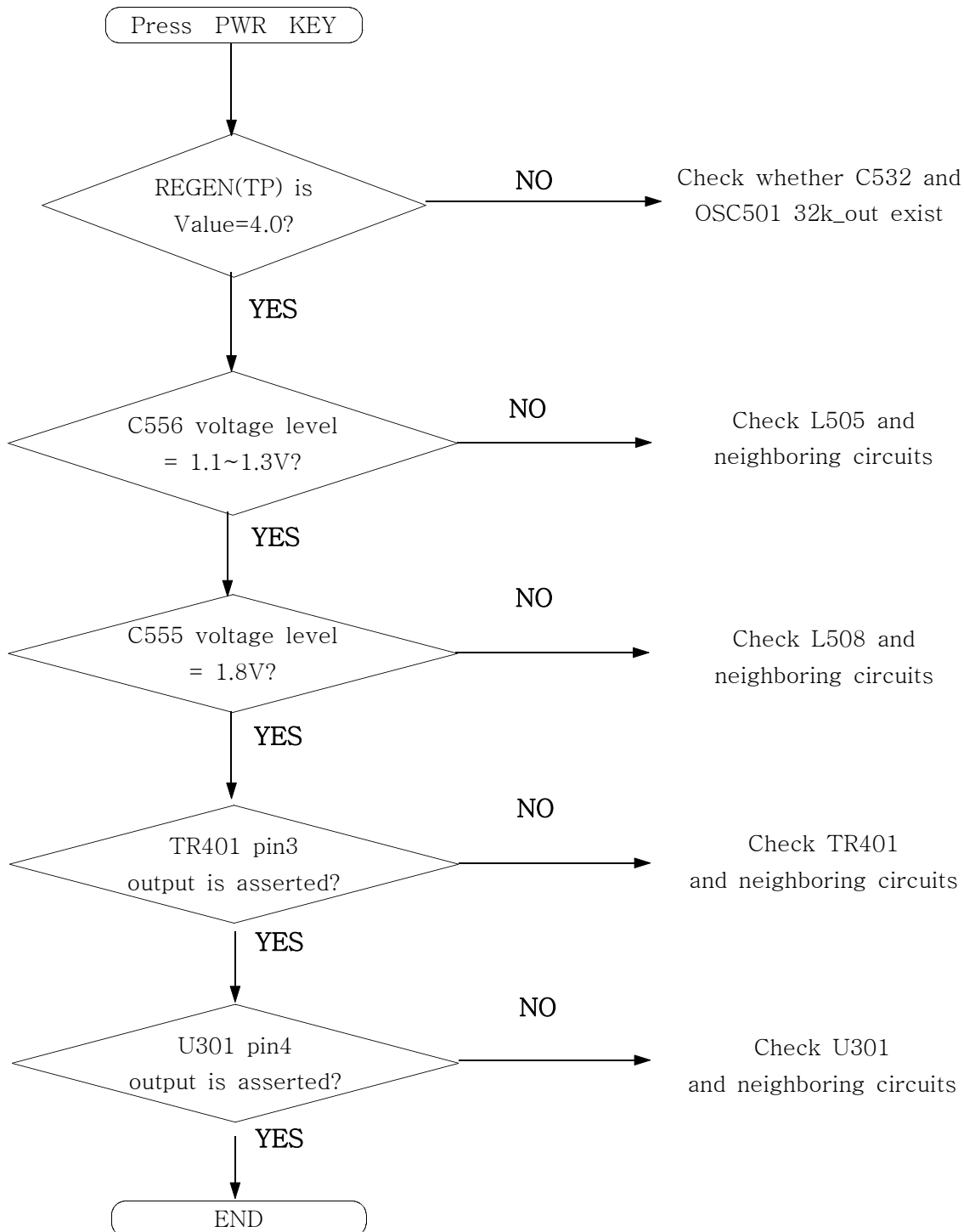
9-1. Logic Section

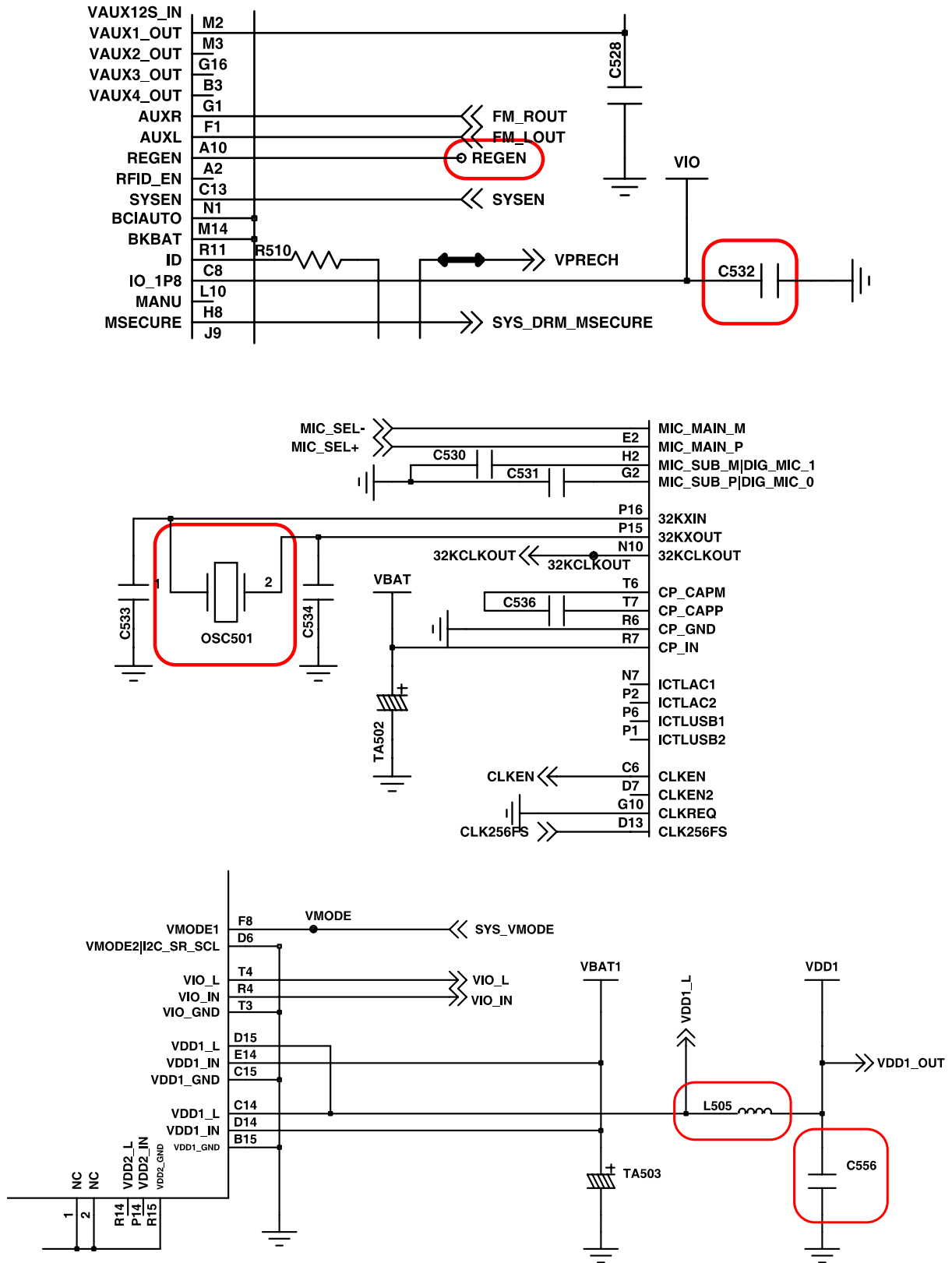
9-1-1 : No Power

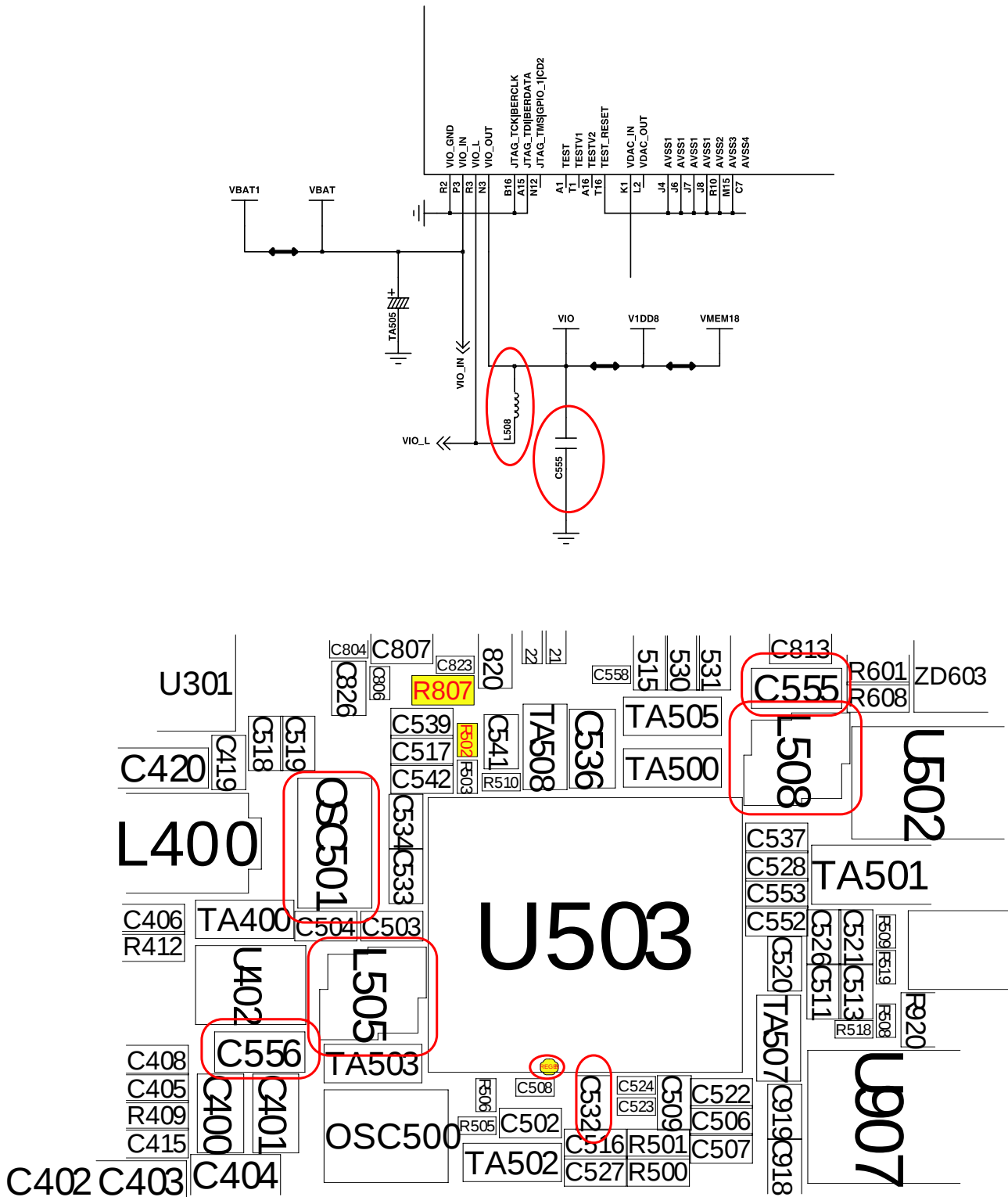


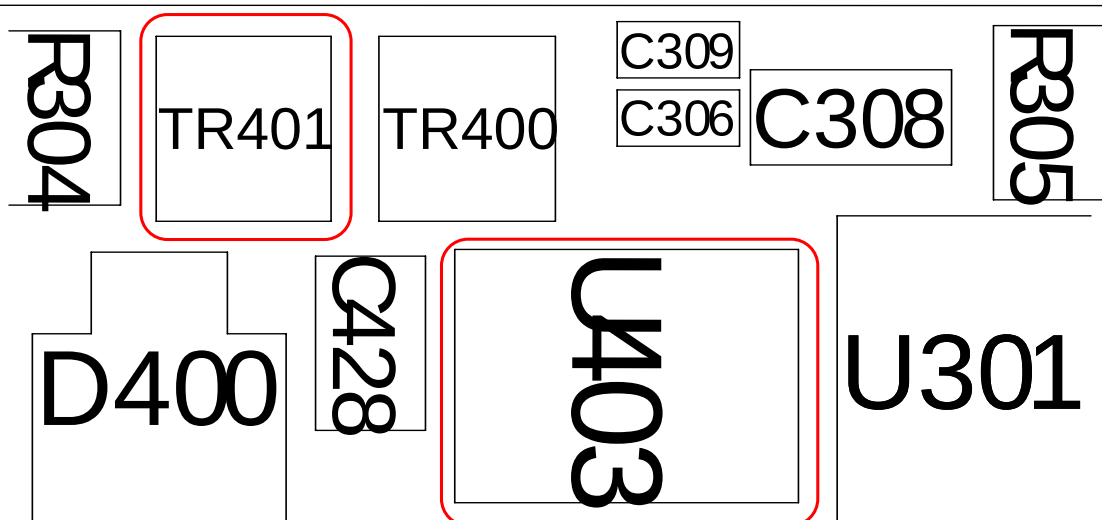
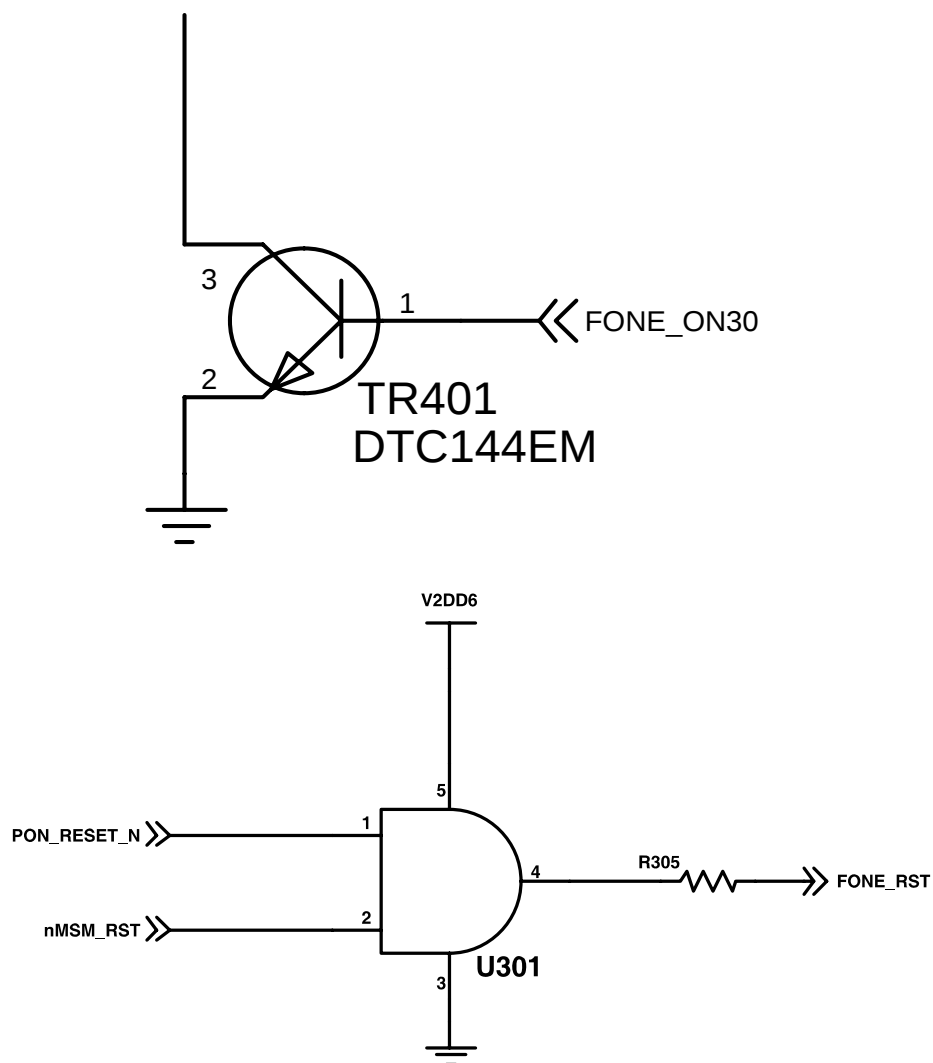


9-1-2 : Abnormal initial operation (Normal +4.0V voltage source)



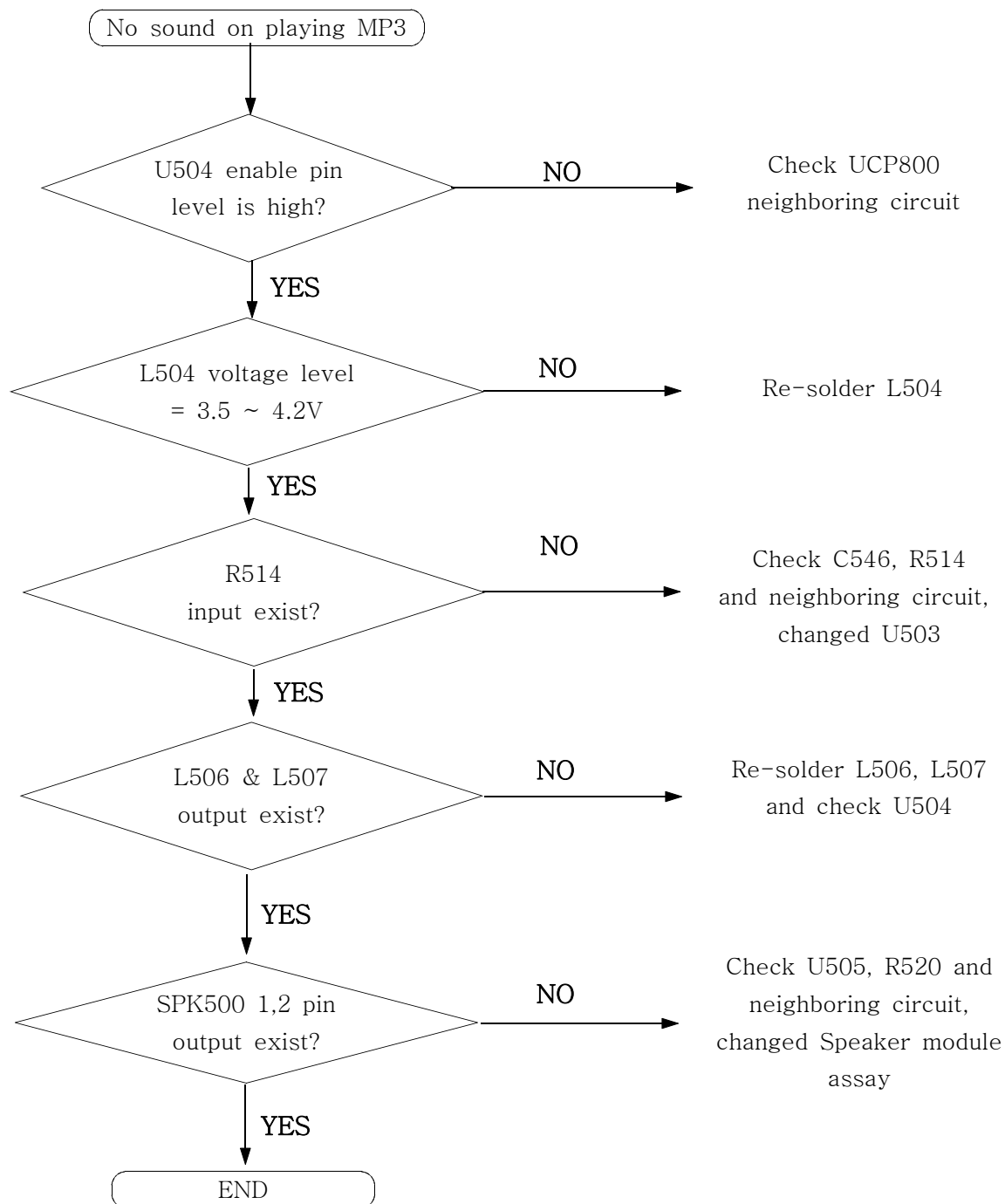


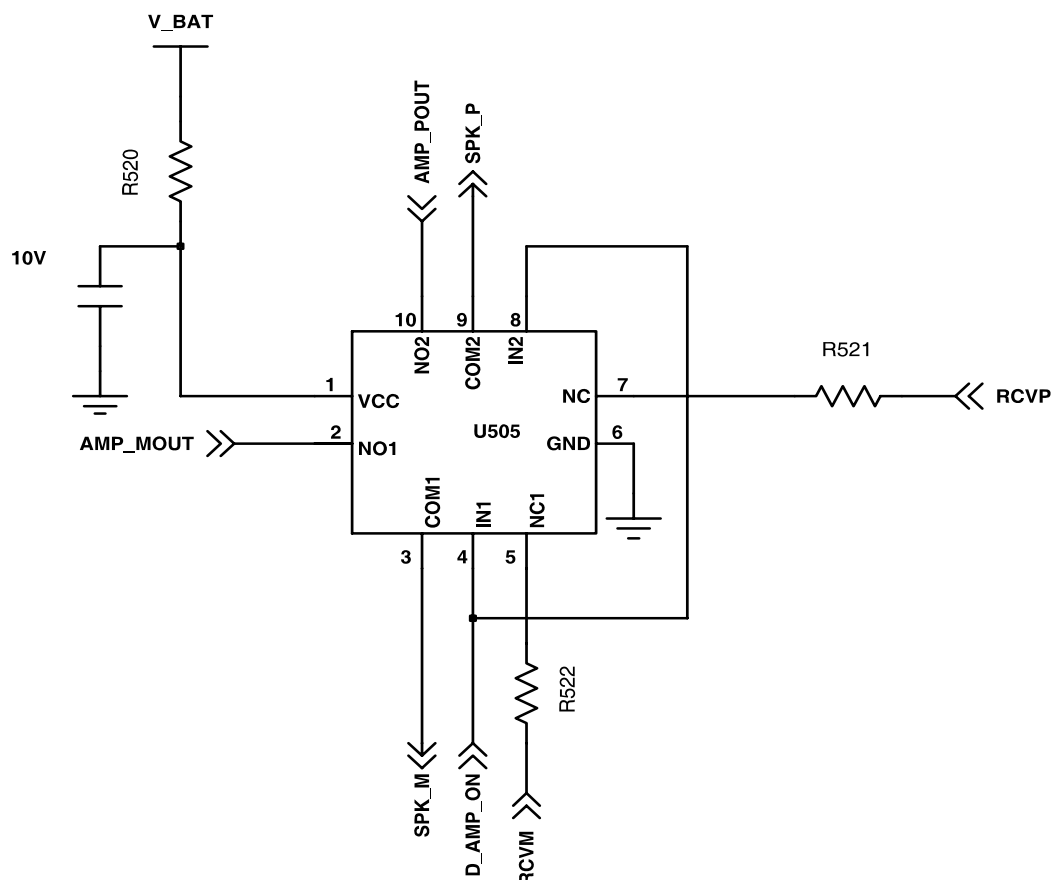
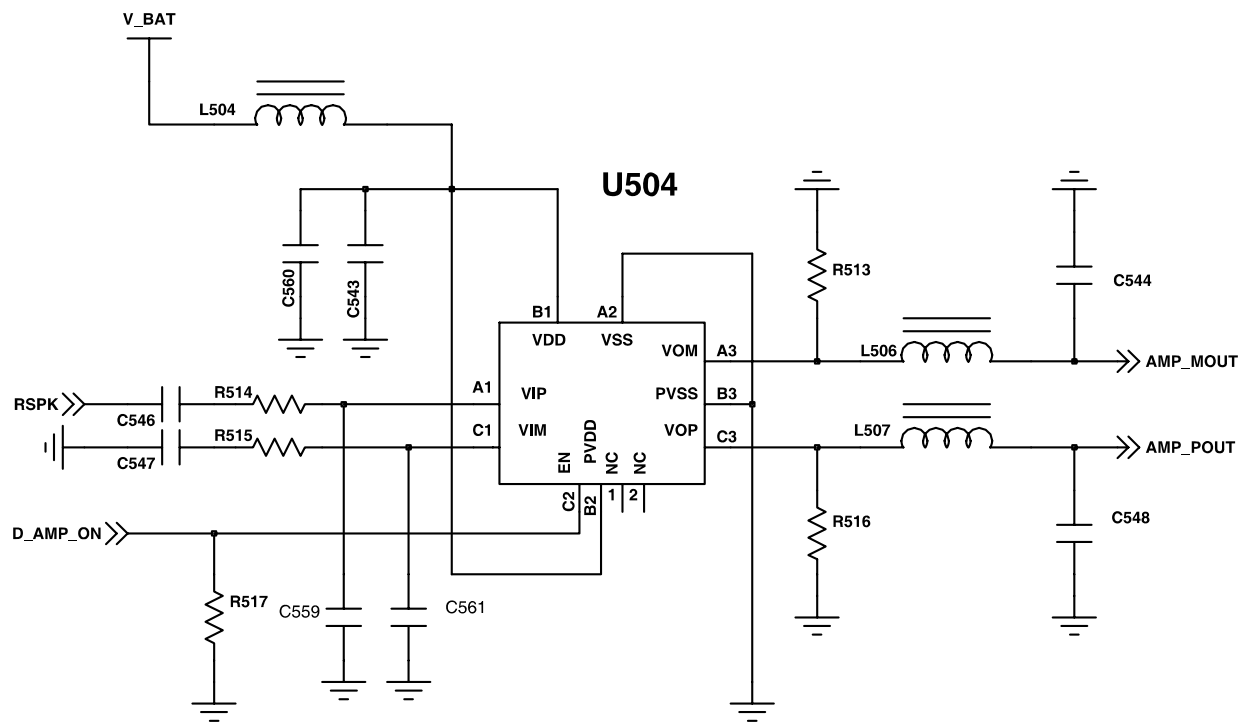


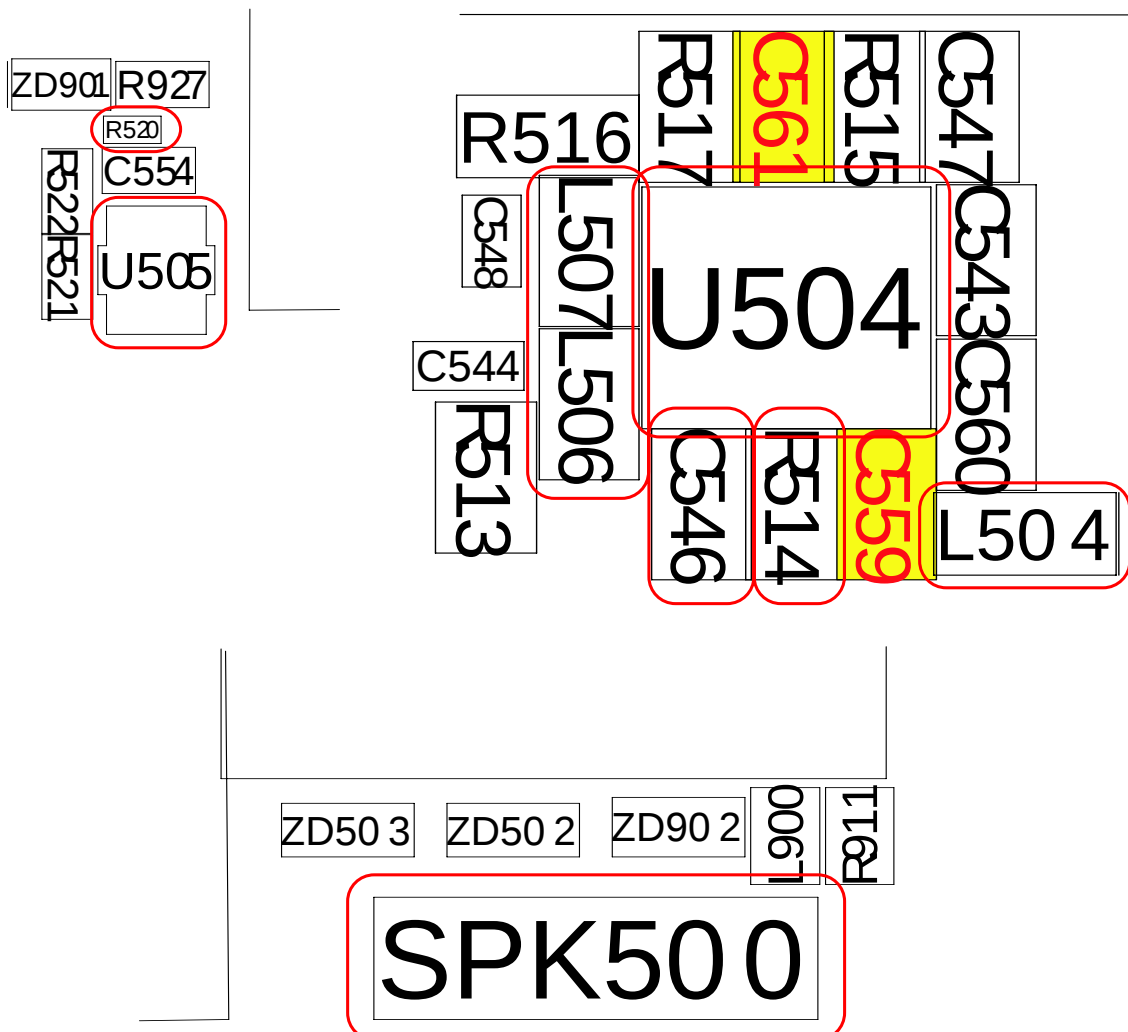
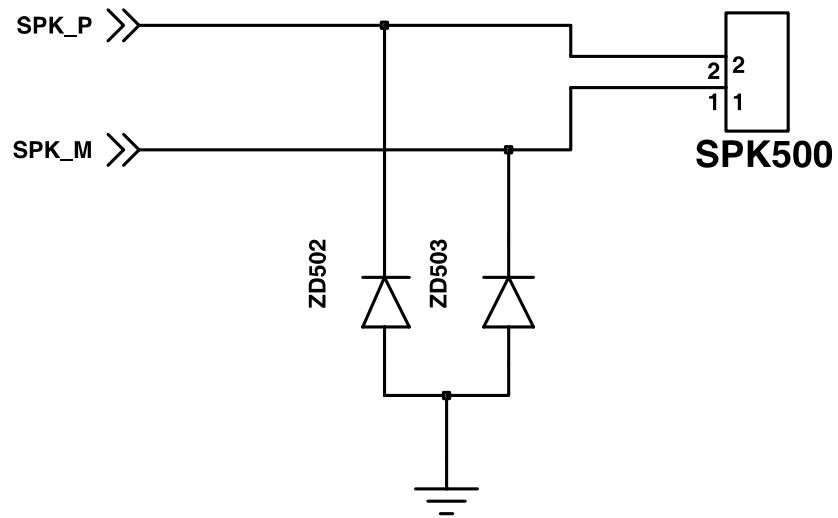


9-1-3 : Abnormal Sound operation

1) No Sound on Playing MP3







2) No Sound on Calling

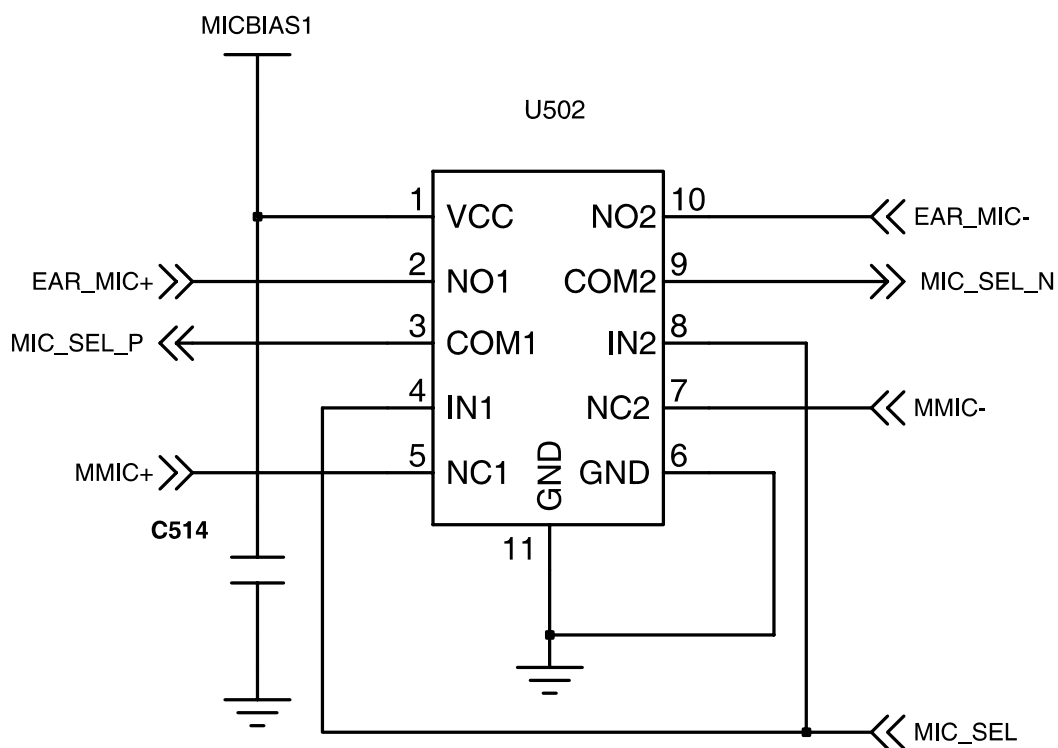
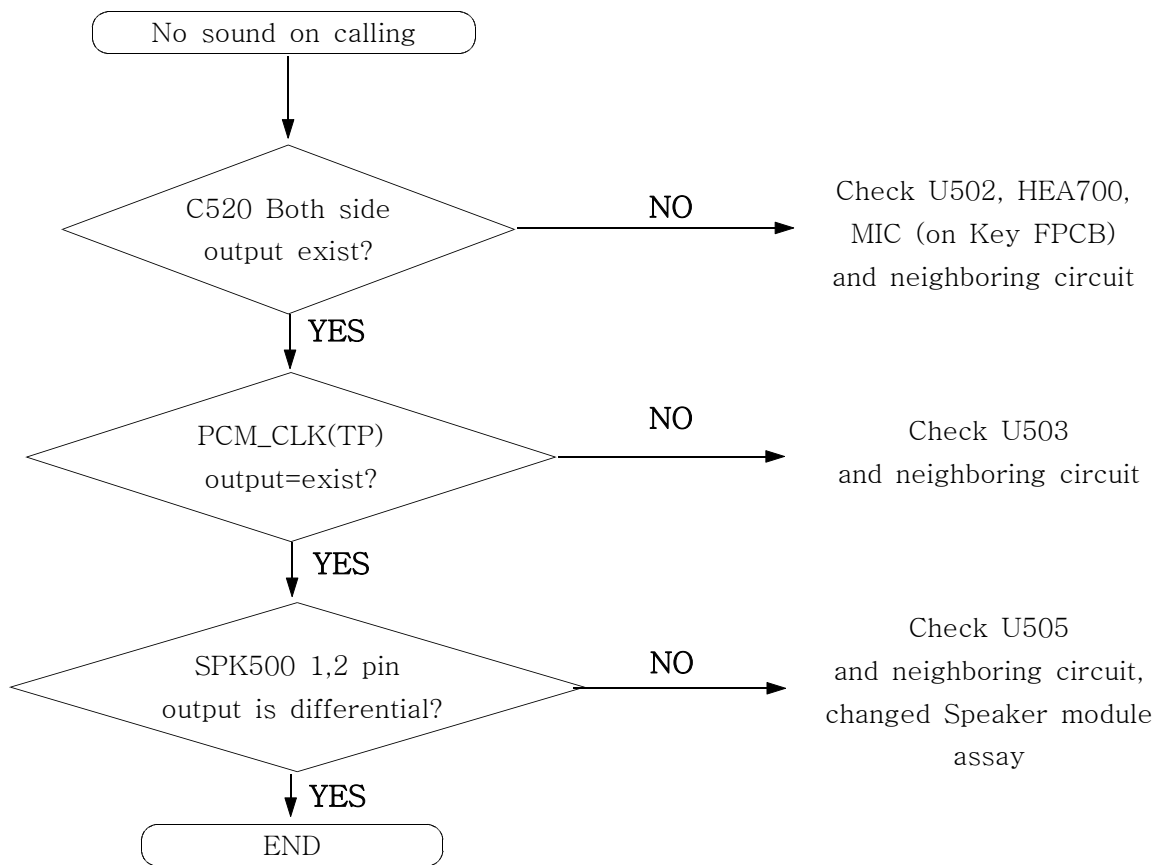
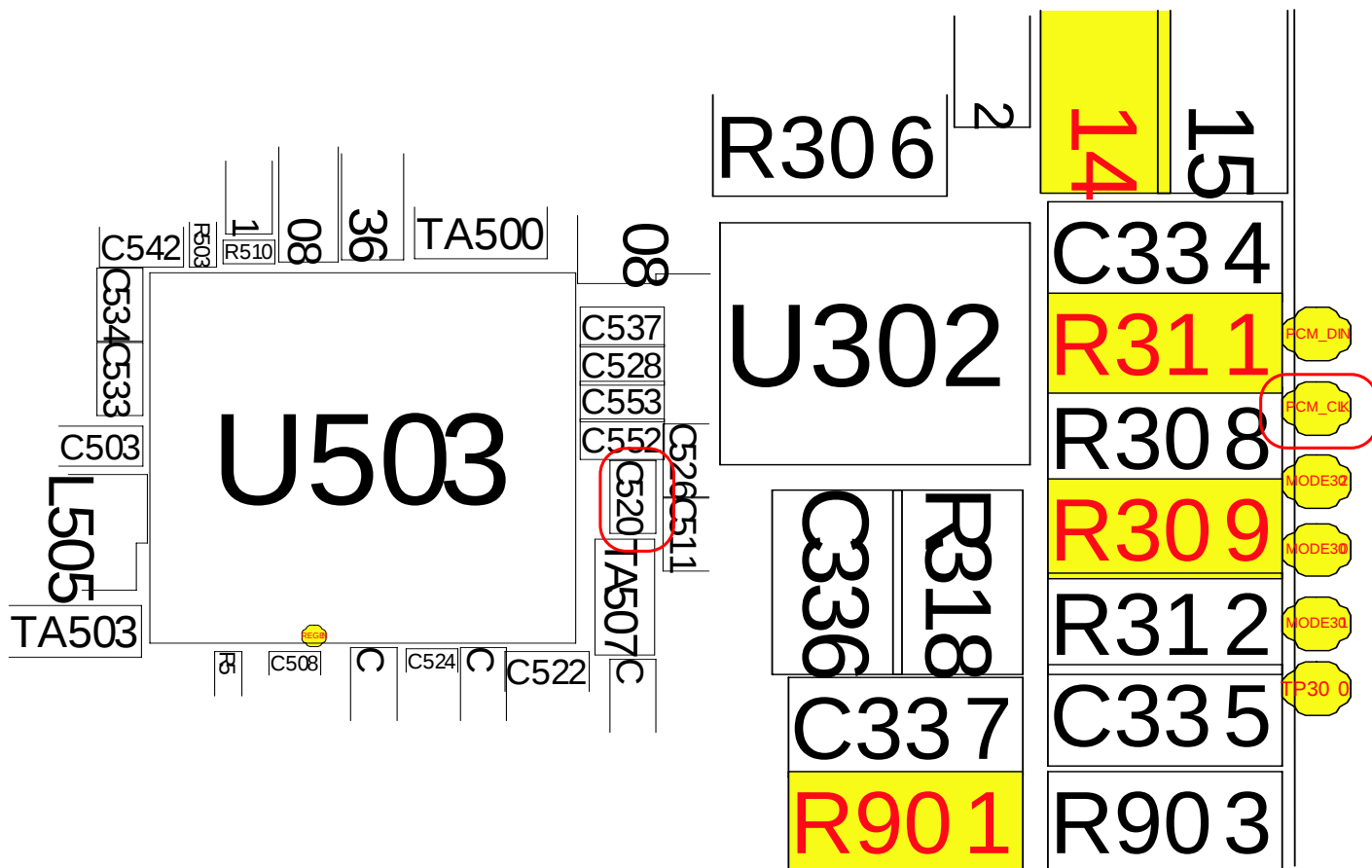
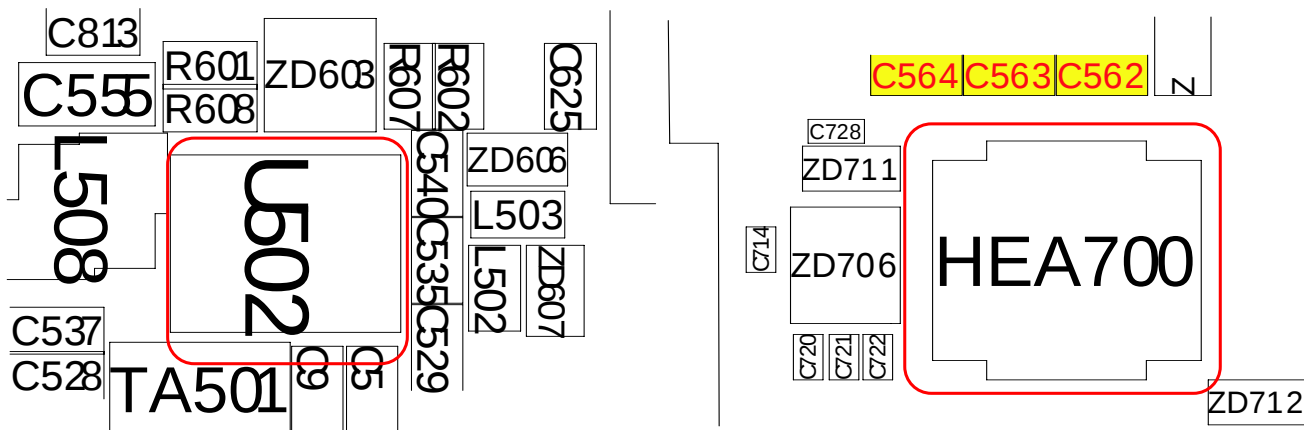


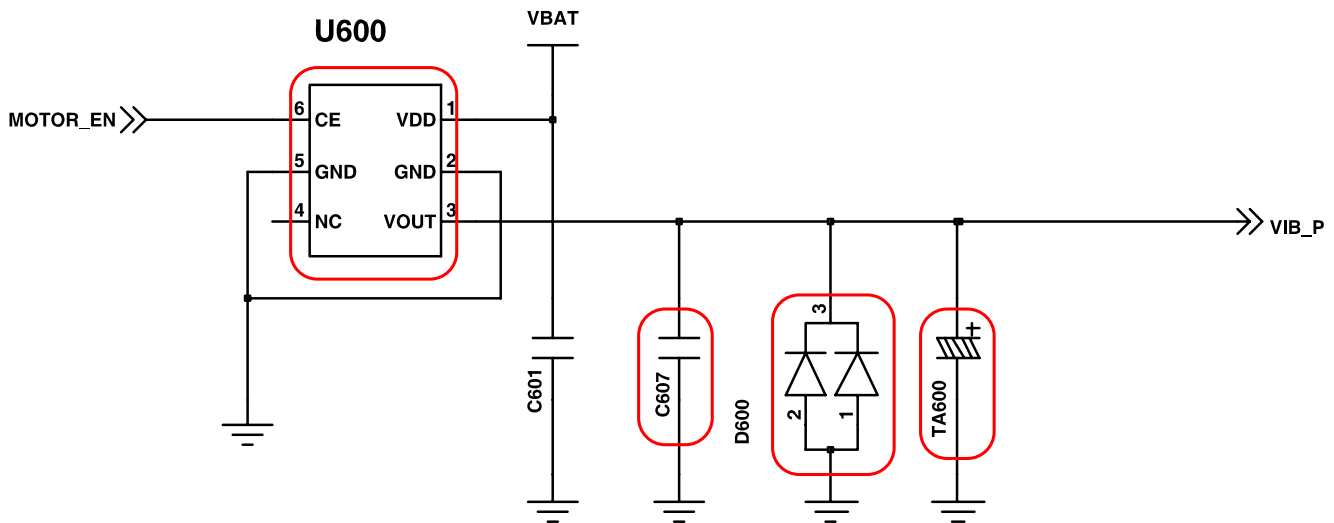
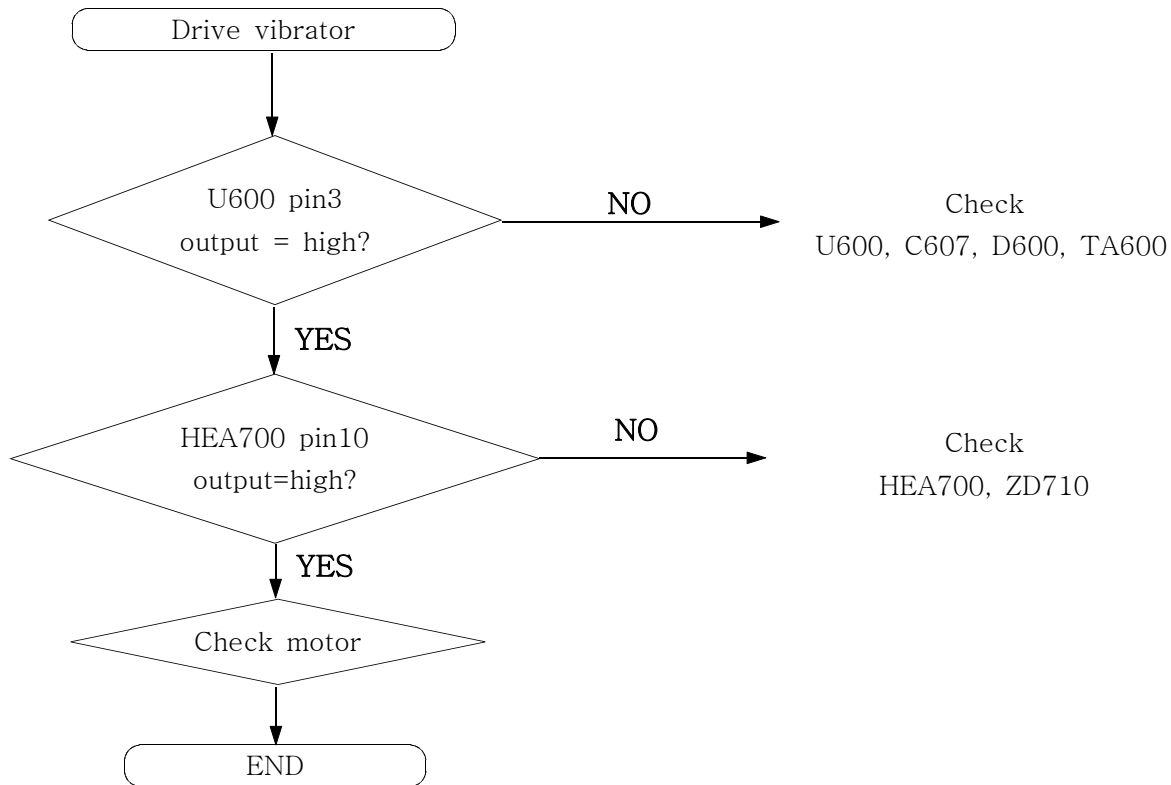
Diagram illustrating the SD card interface connections for the Raspberry Pi 4. The connections are as follows:

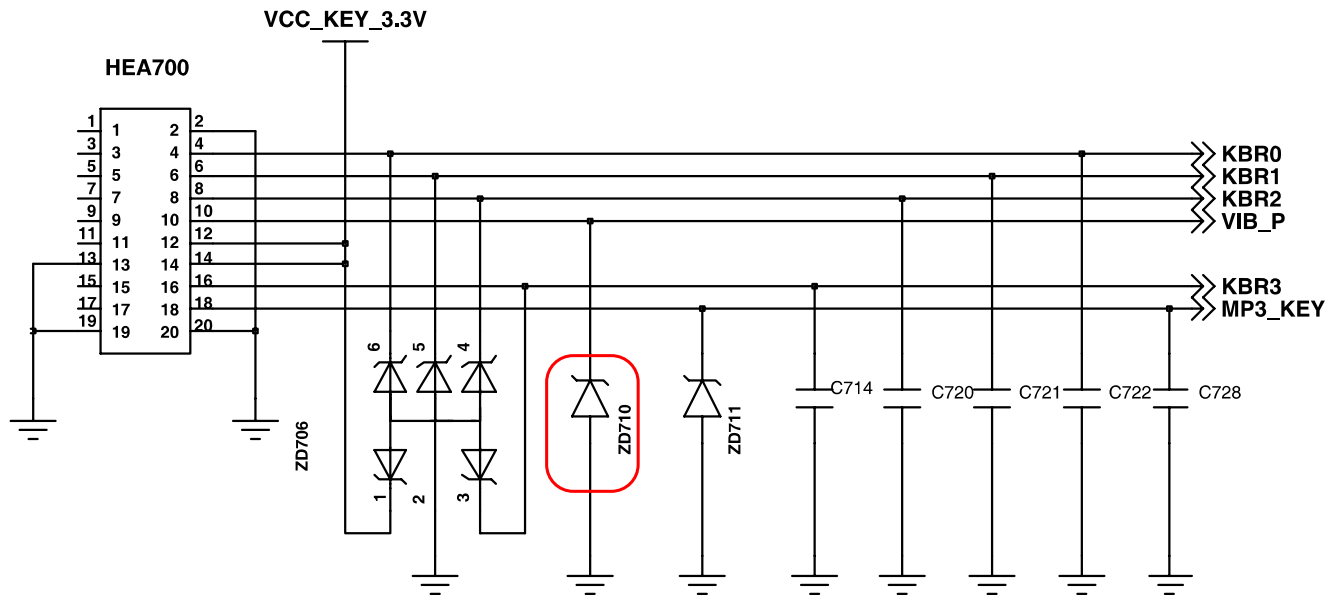
- GPIO_73: U7 (D1(22))
- GPIO_74: U4 (D1(23))
- GPIO_75: T8 (SD_DQM3)
- GPIO_76: Y1
- GPIO_77: W4
- GPIO_78: T5 (SD_CS1)
- GPIO_79: V1 (SD_DQM2)
- GPIO_80: L19 (A1(0))
- GPIO_81: H25 (PCM_CLK)
- GPIO_82: J22 (AUX_PCM_CLK30)
- GPIO_83: H24

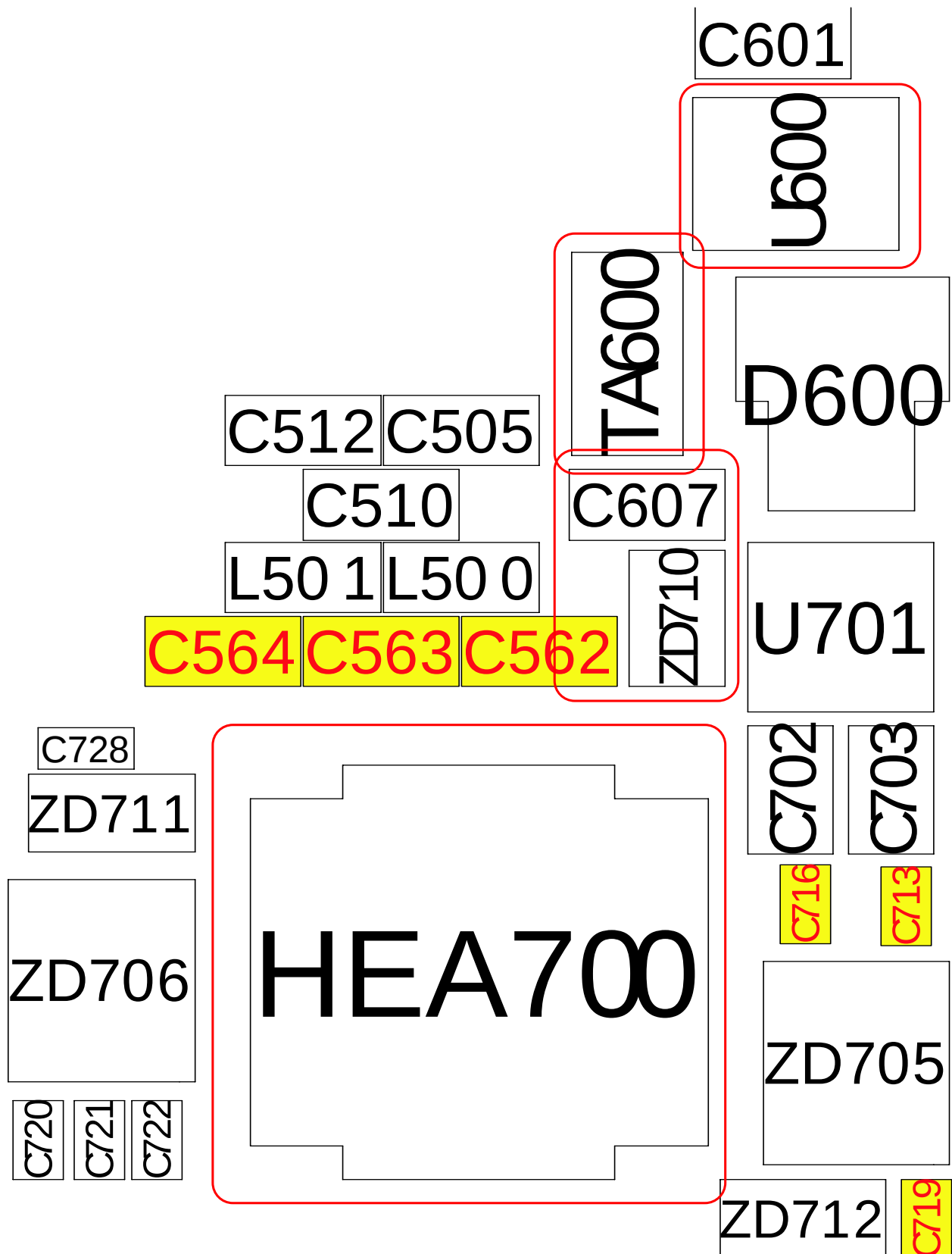




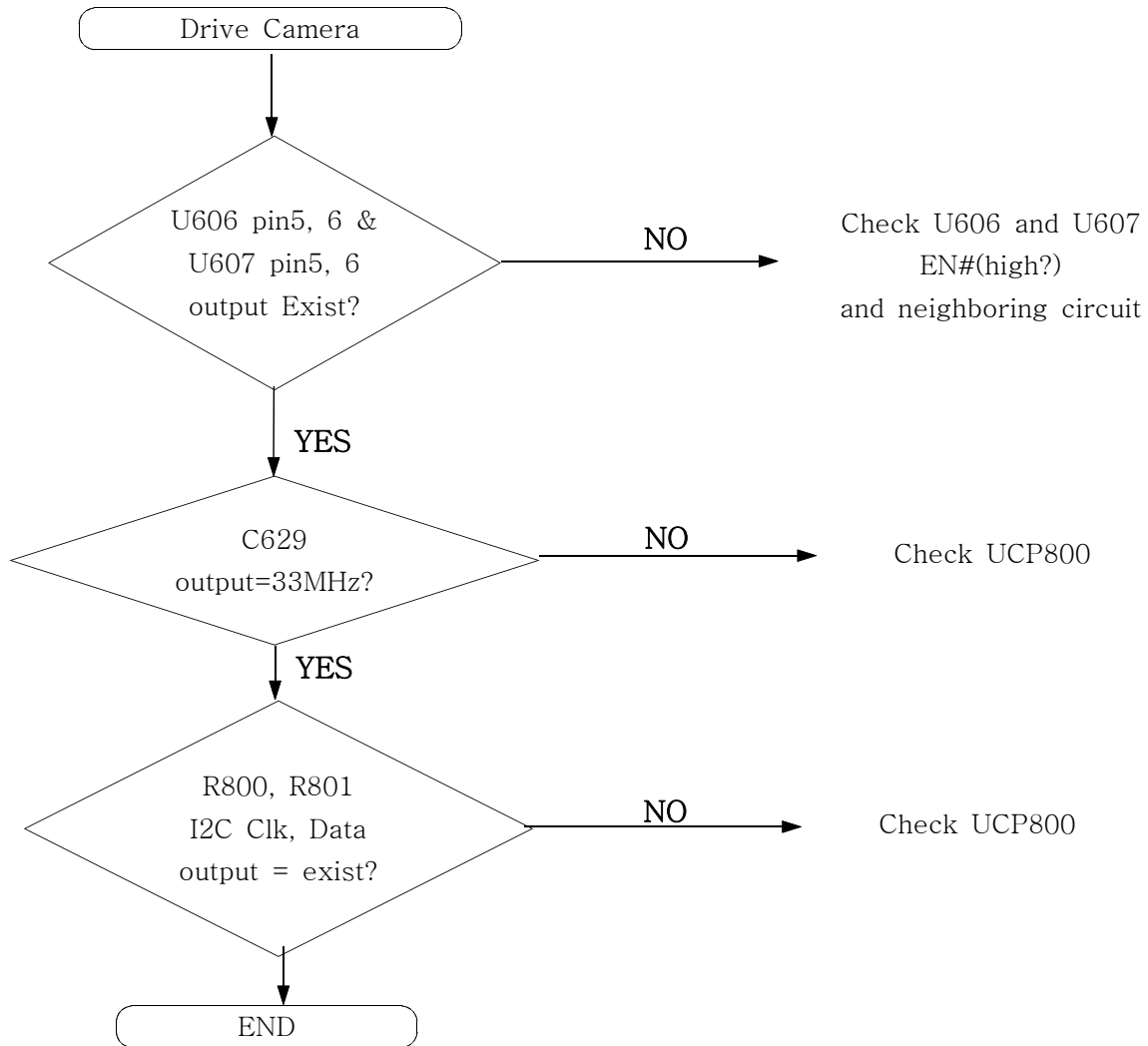
9-1-4 : Abnormal Vibrator operation

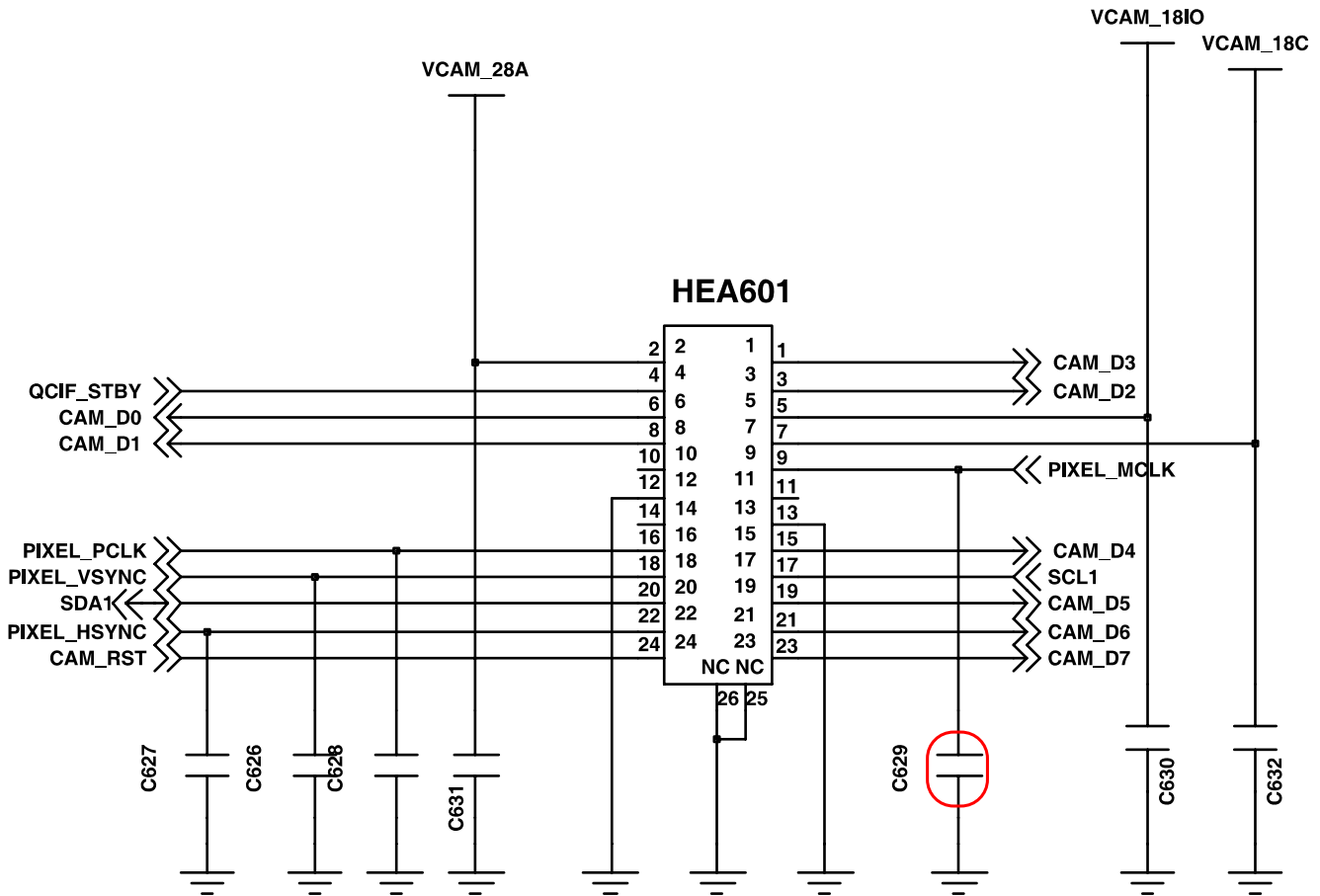
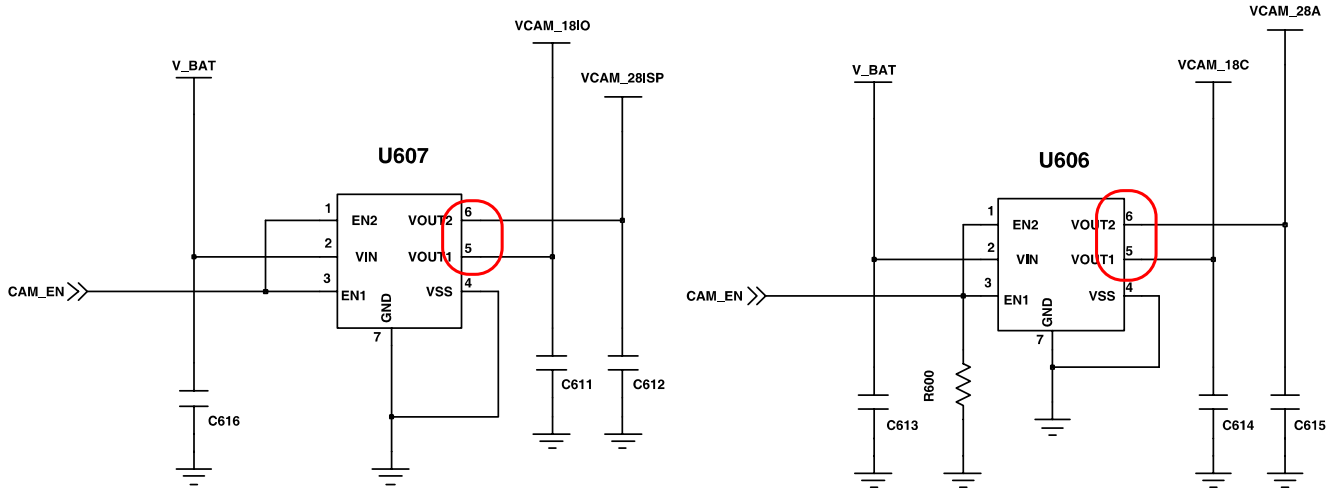


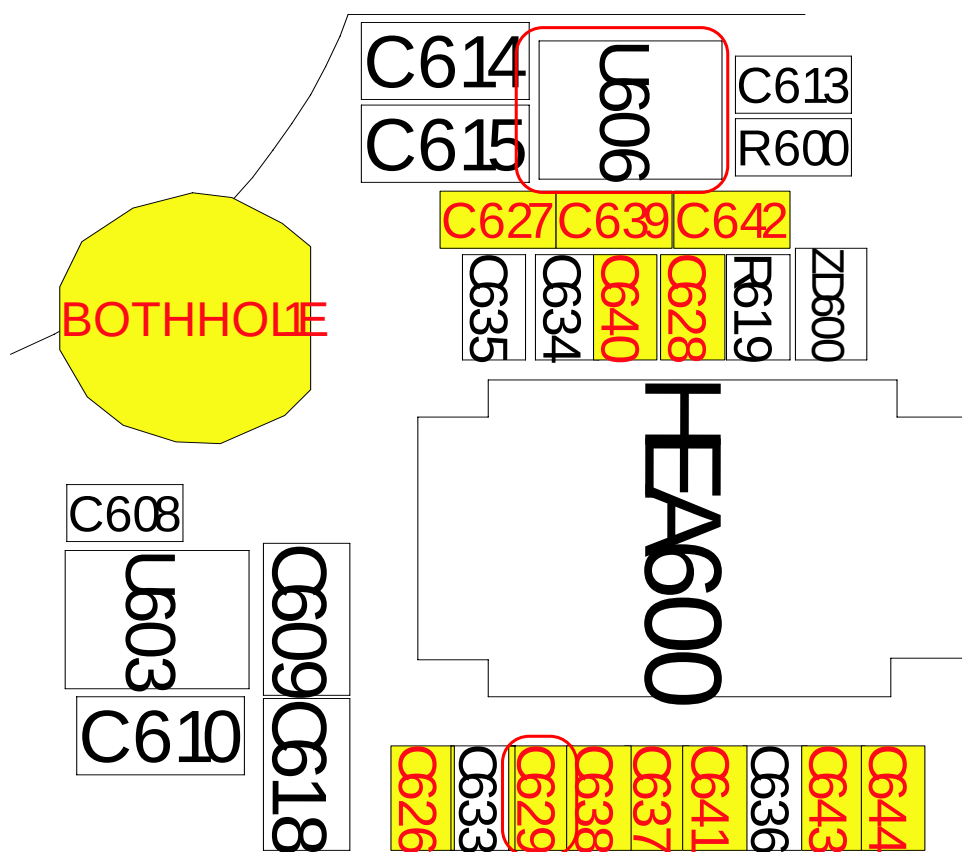


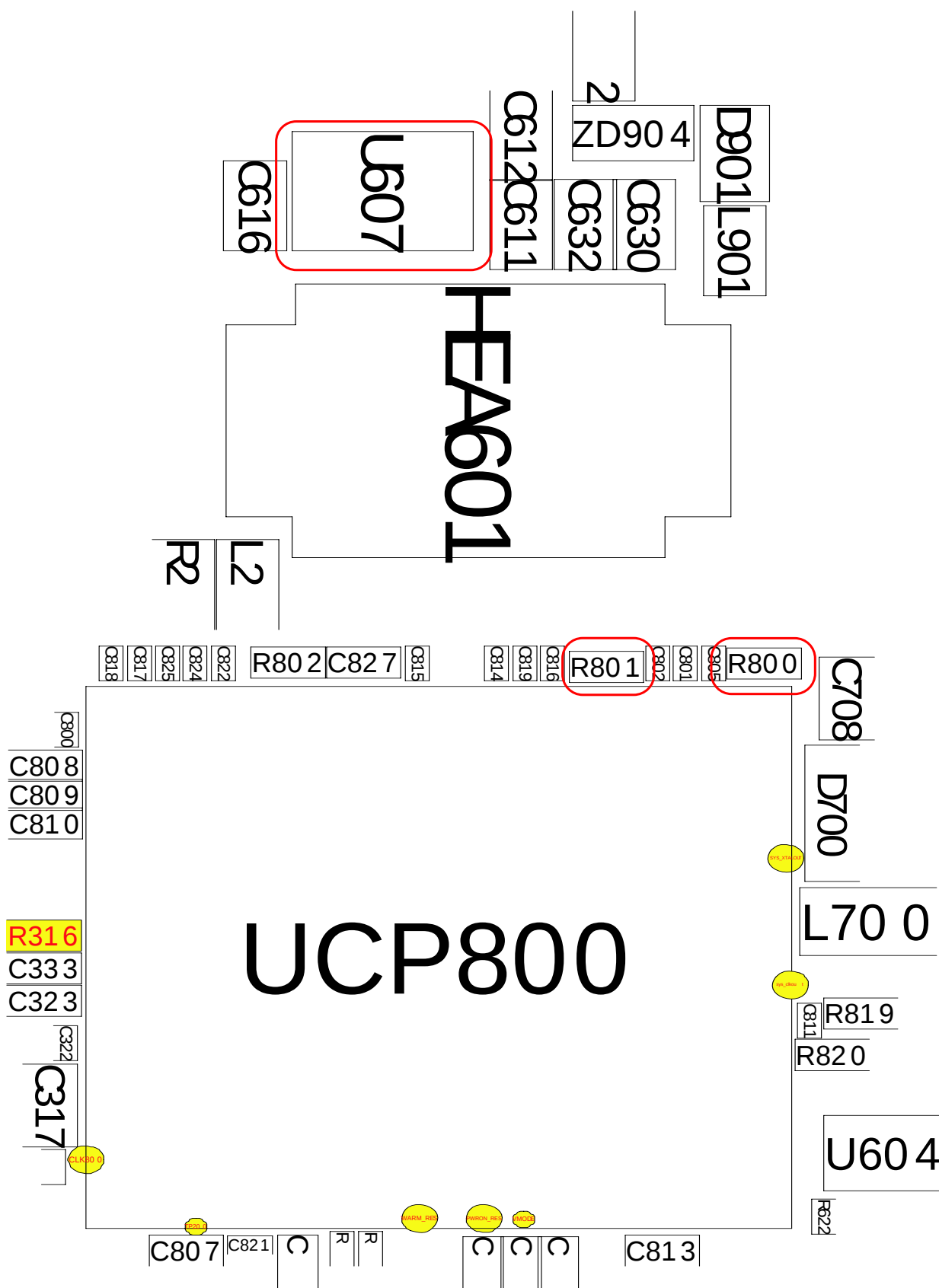


9-1-5 : Abnormal Camera operation

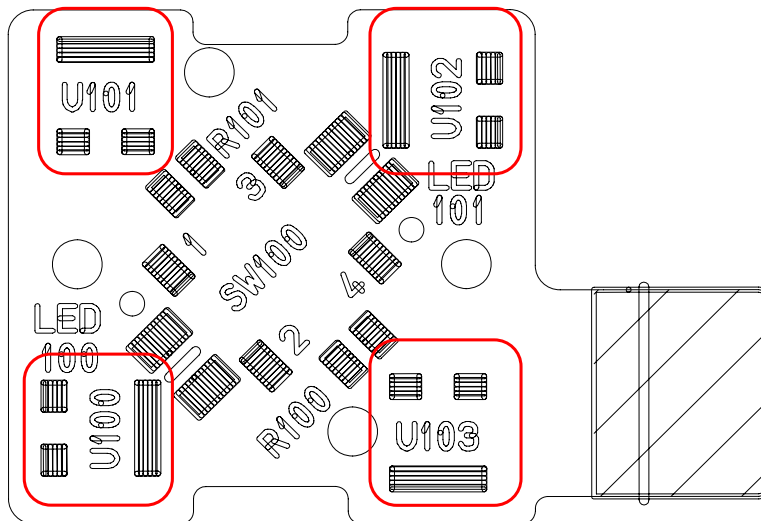
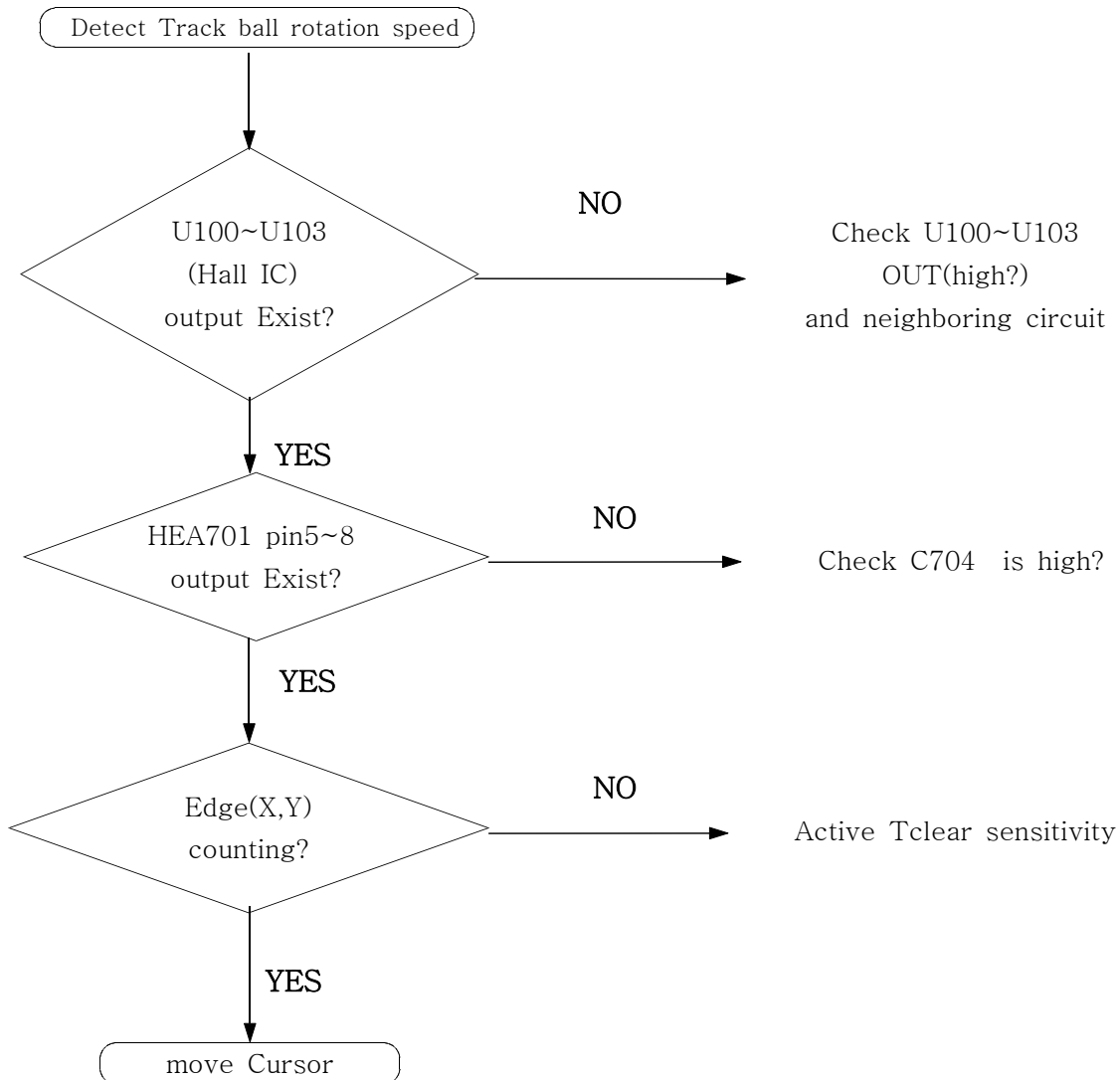


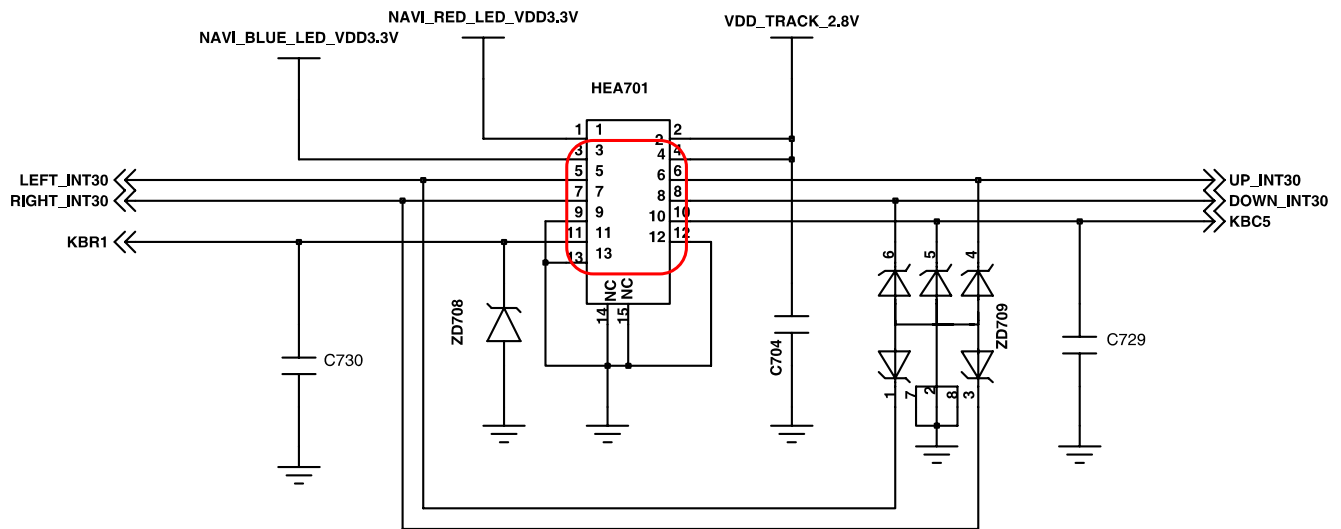




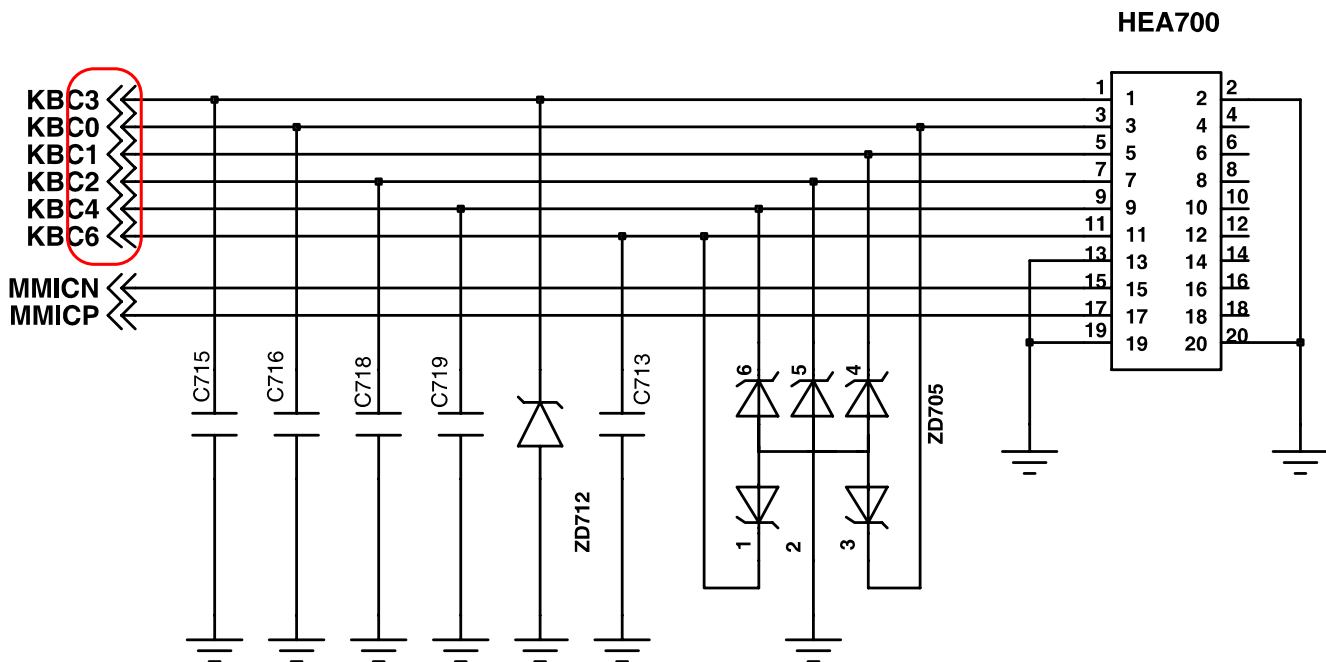
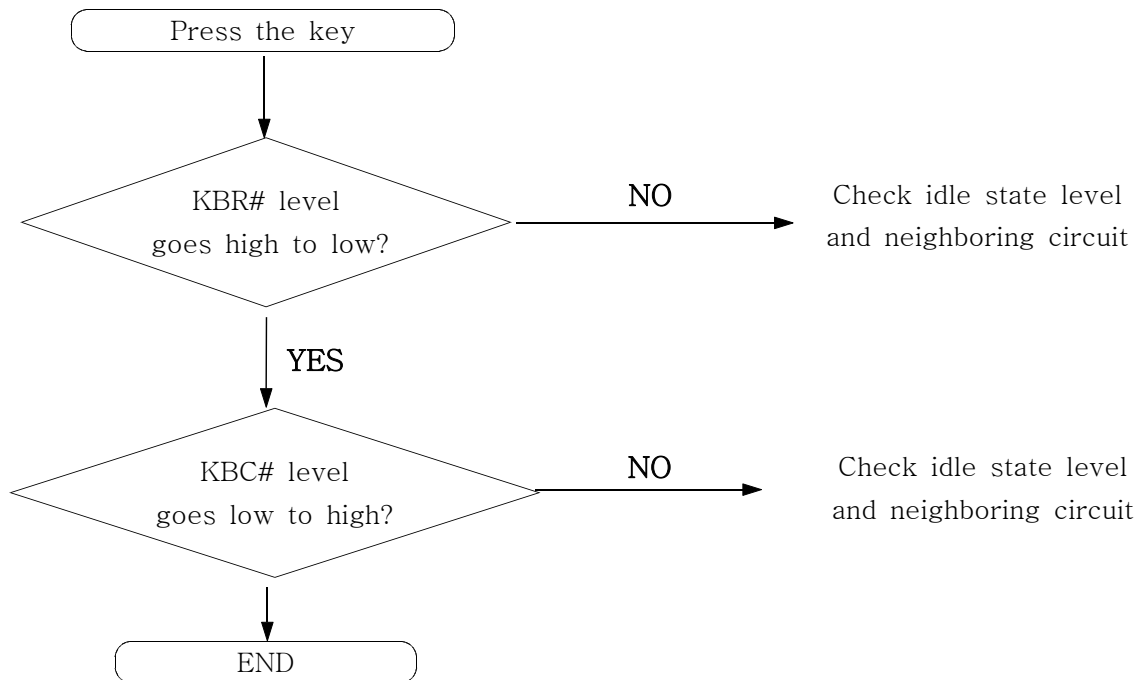


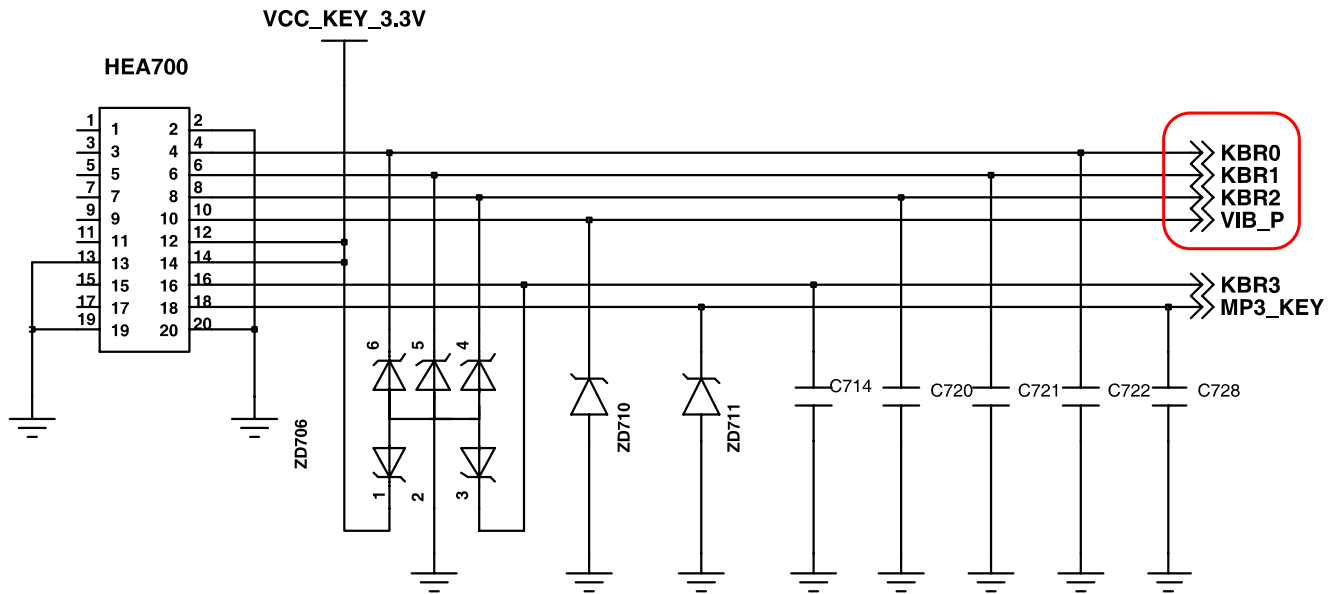
9-1-6 : Abnormal Track Ball operation



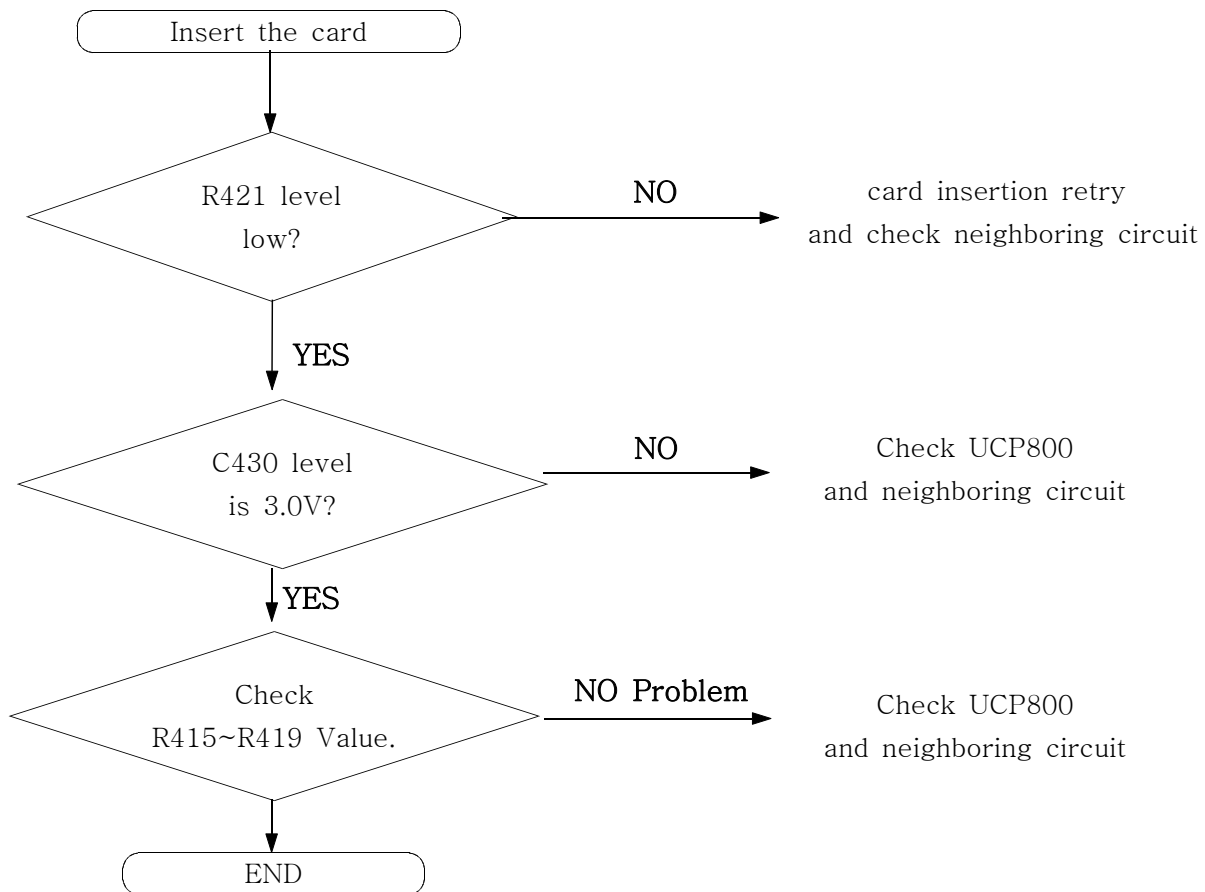


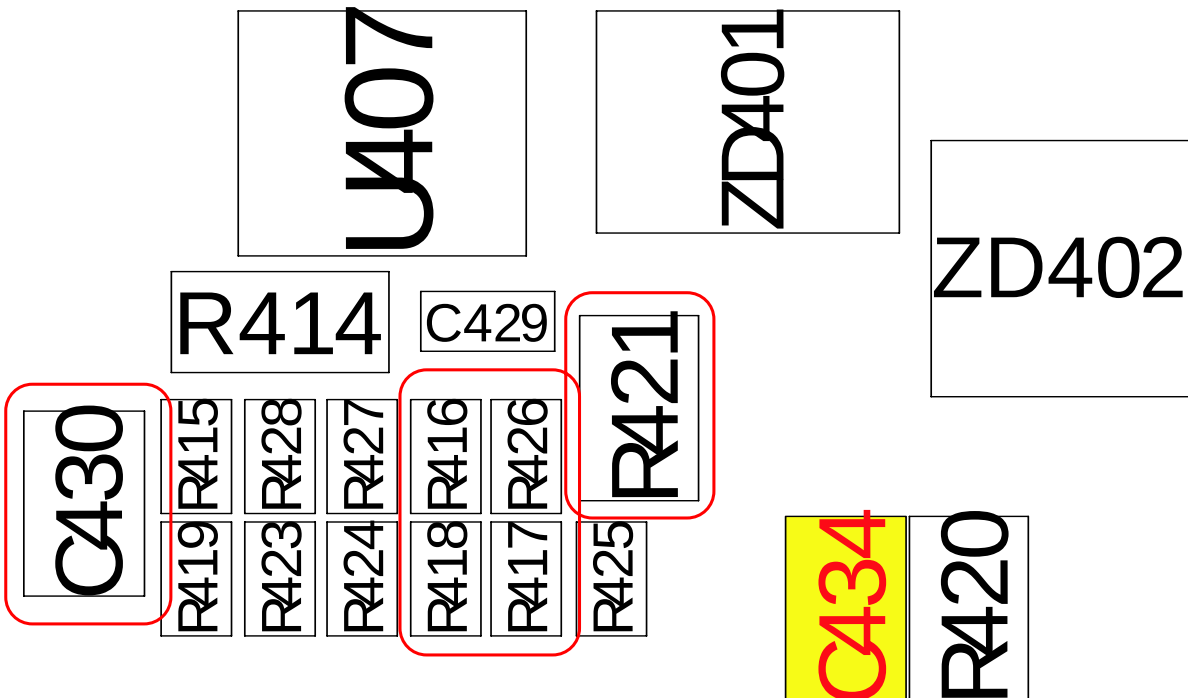
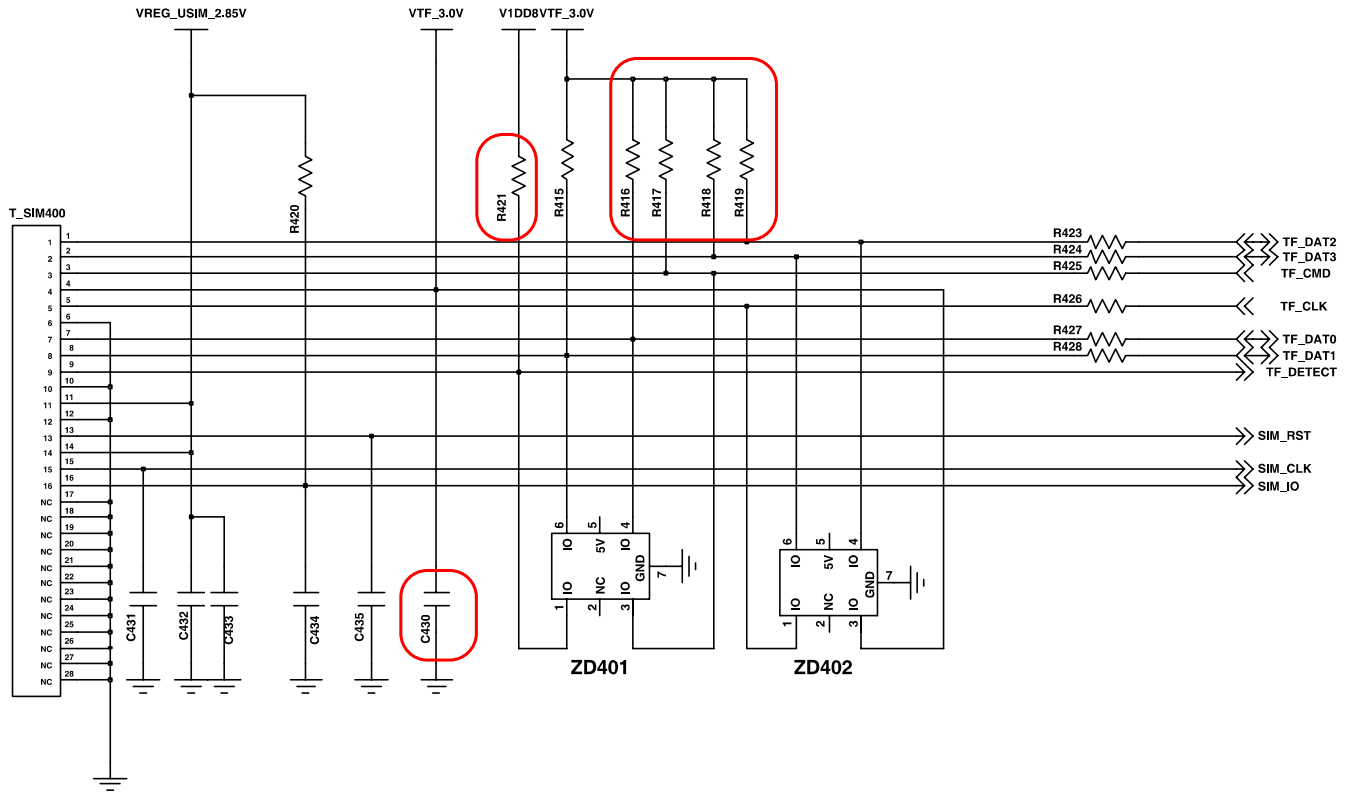
9-1-7 : Abnormal 3X4 KEY operation



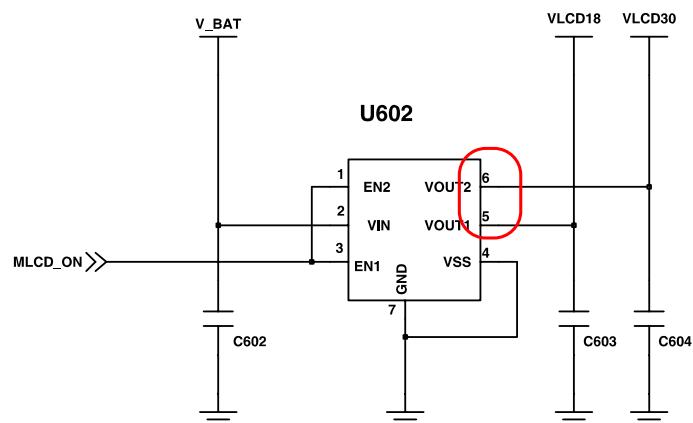
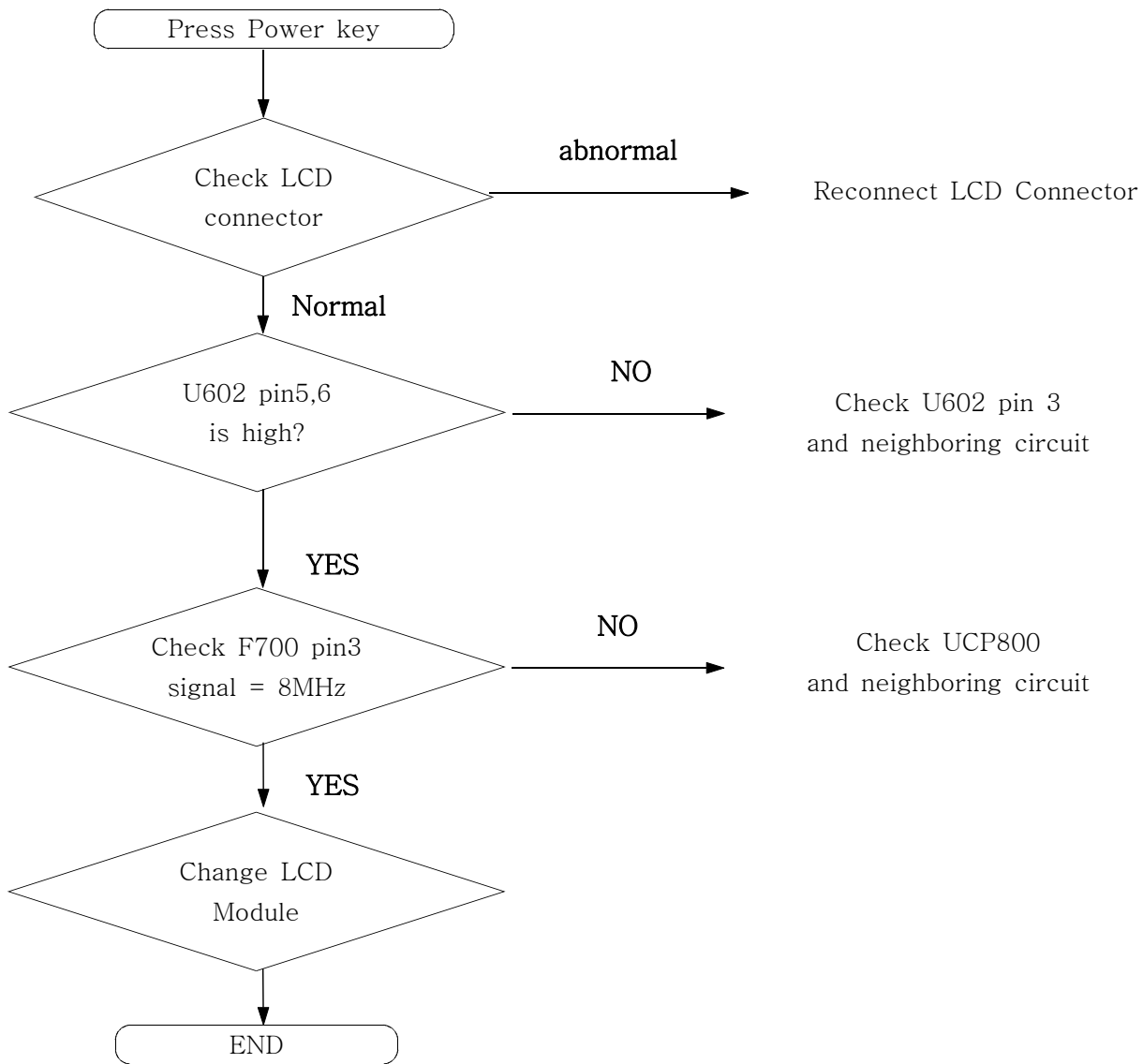


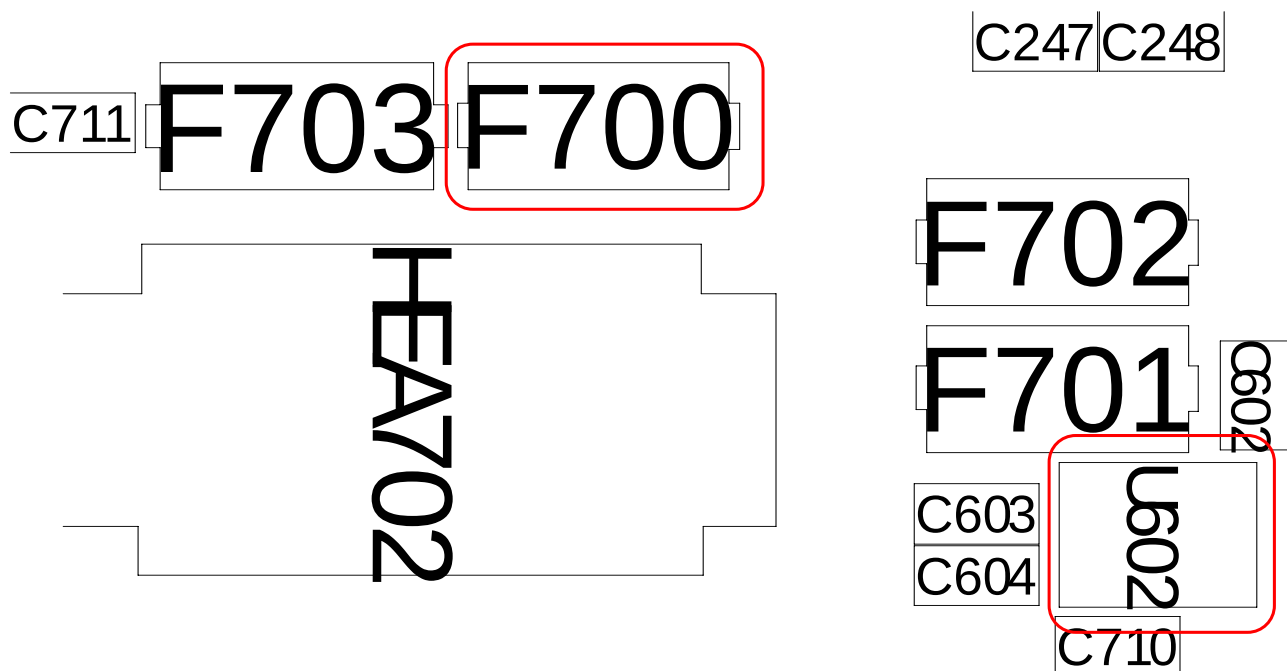
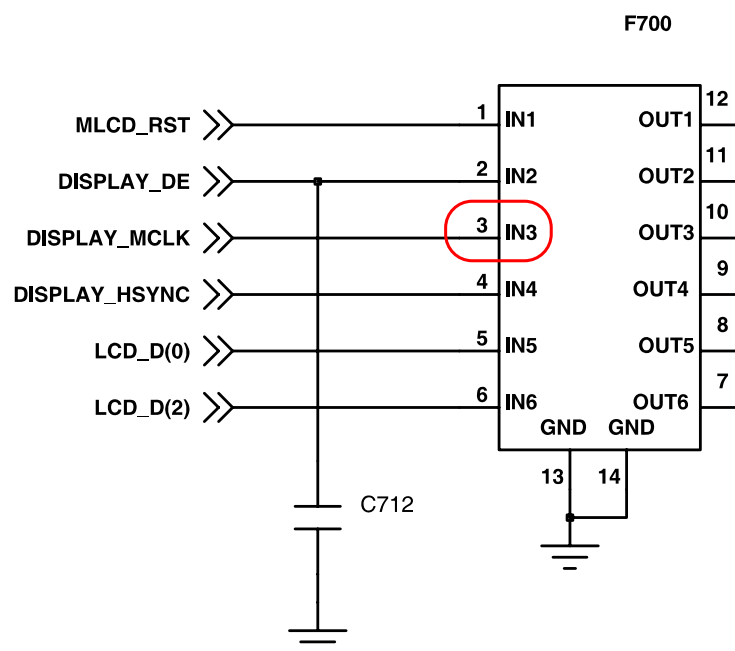
9-1-8 : Abnormal micro-SD operation



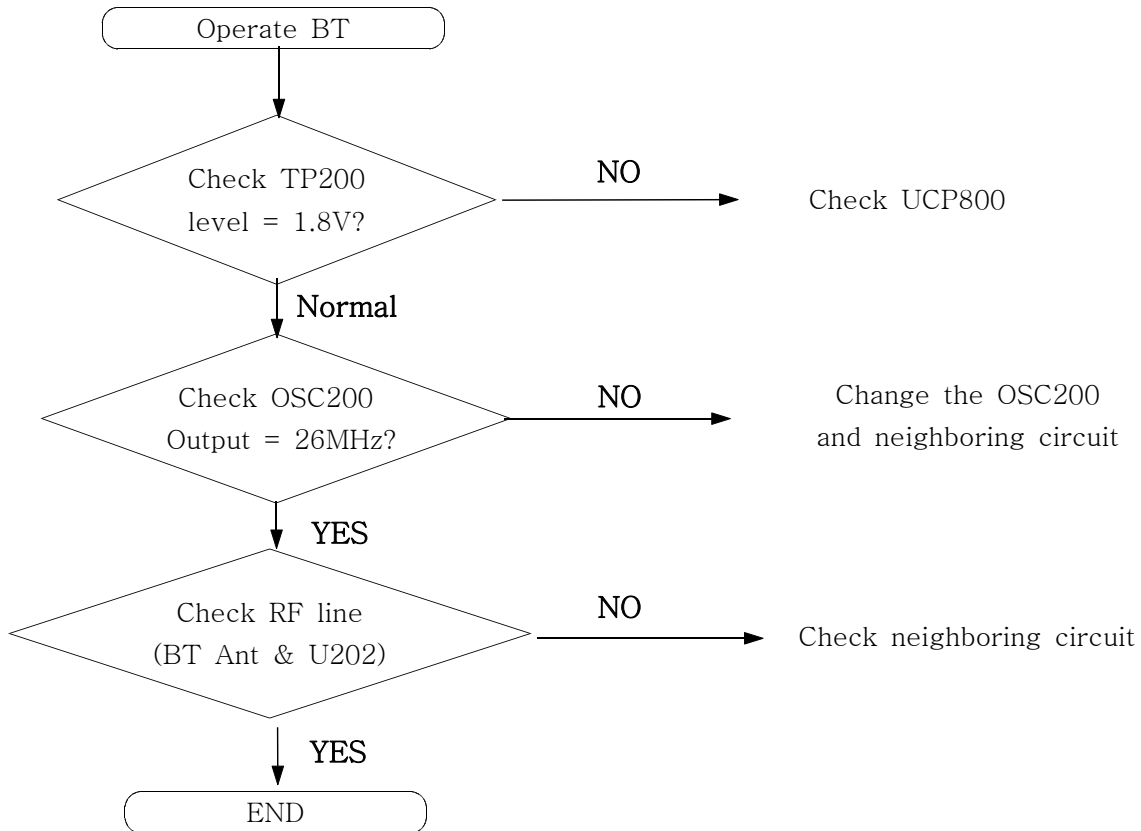


9-1-9 : Abnormal LCD operation

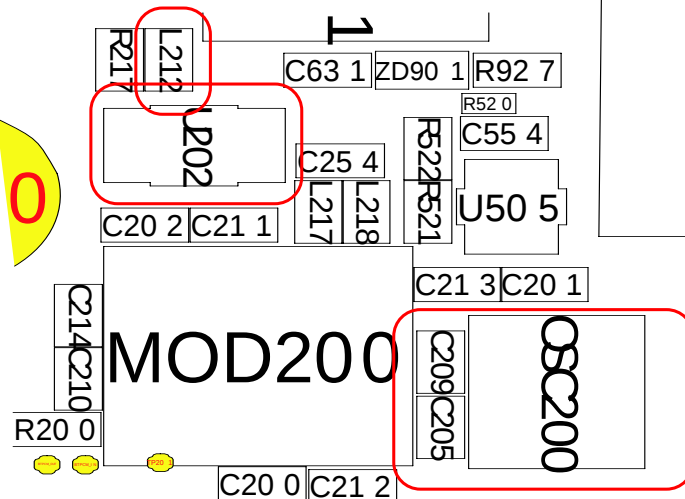


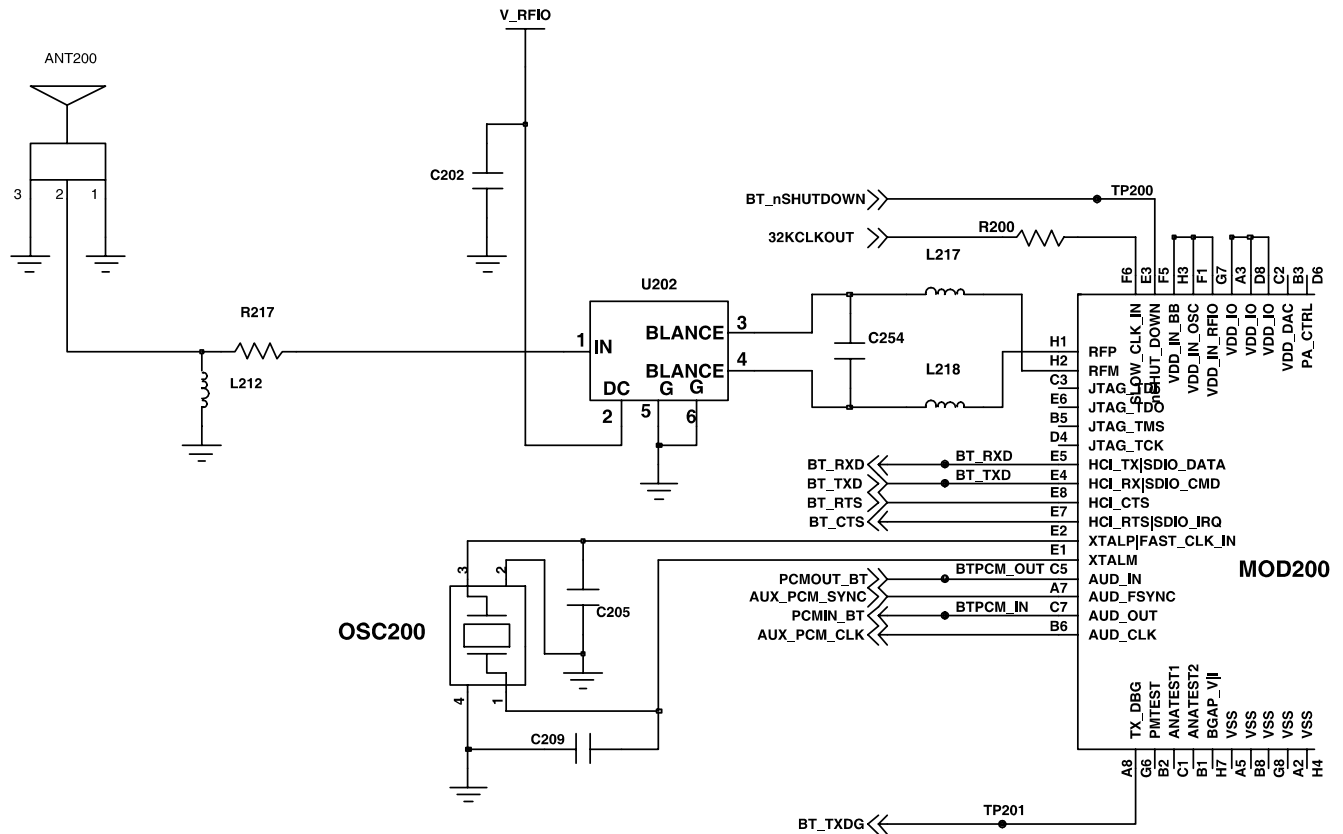


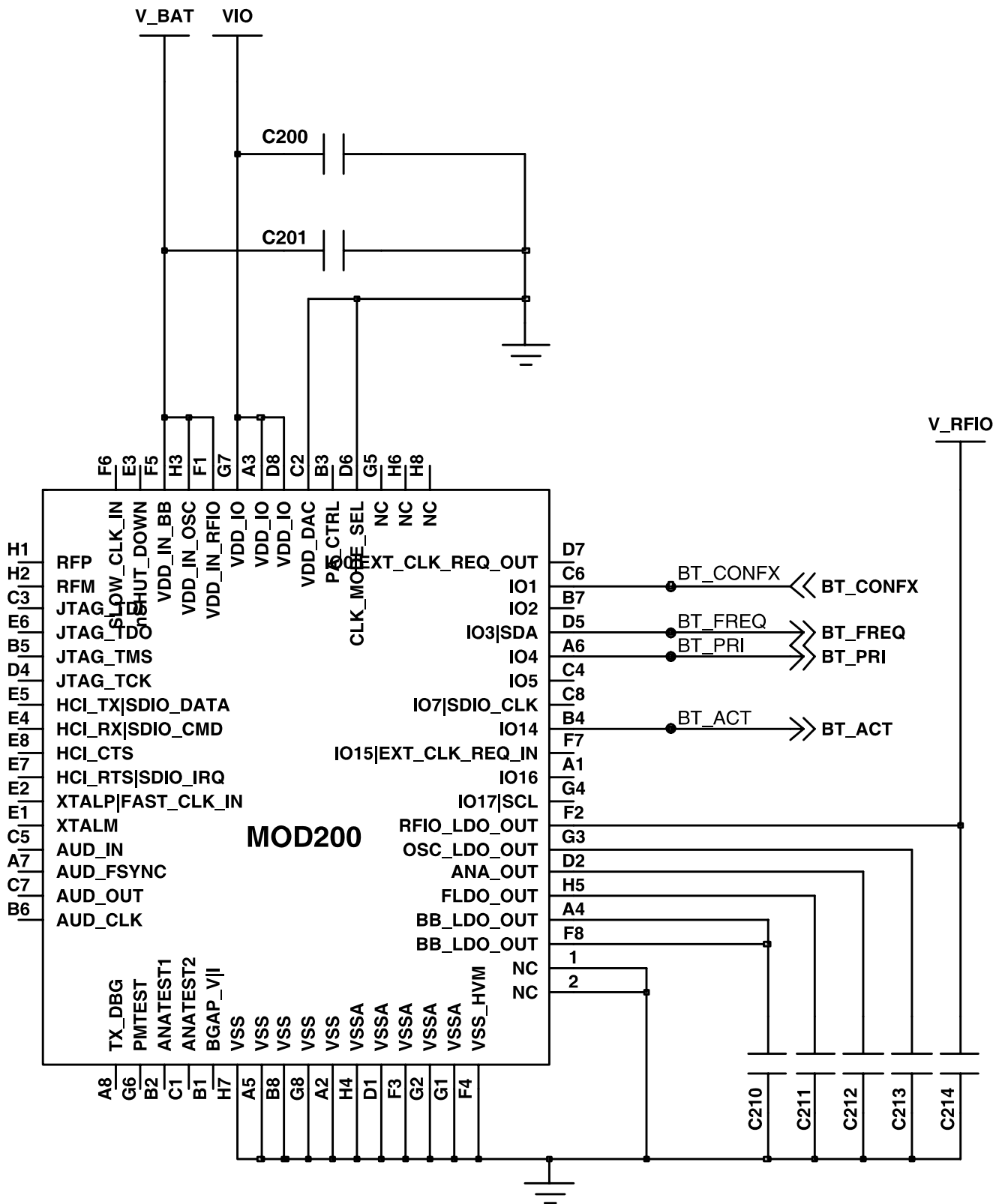
9-2. BT TX/RX



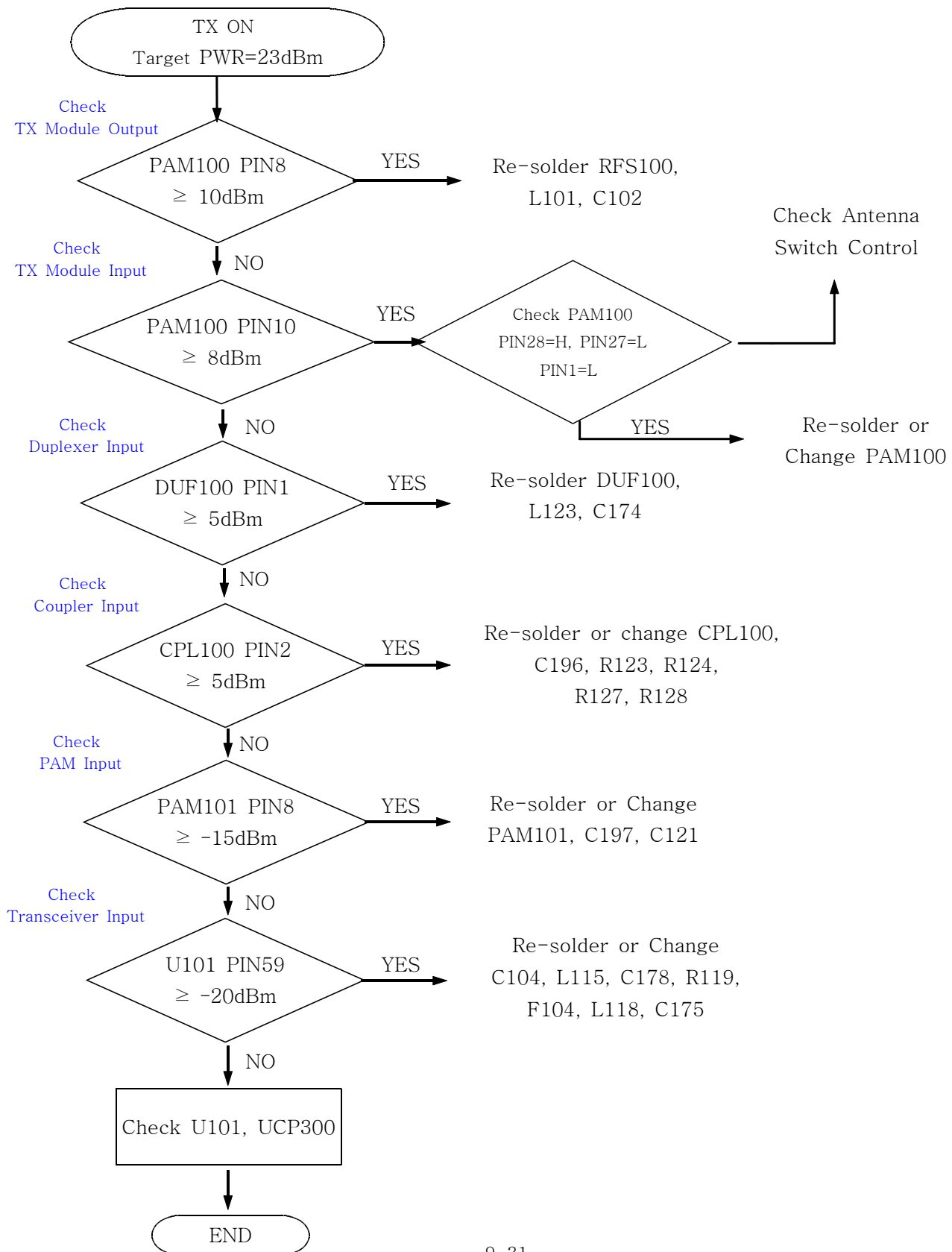
BH31 0

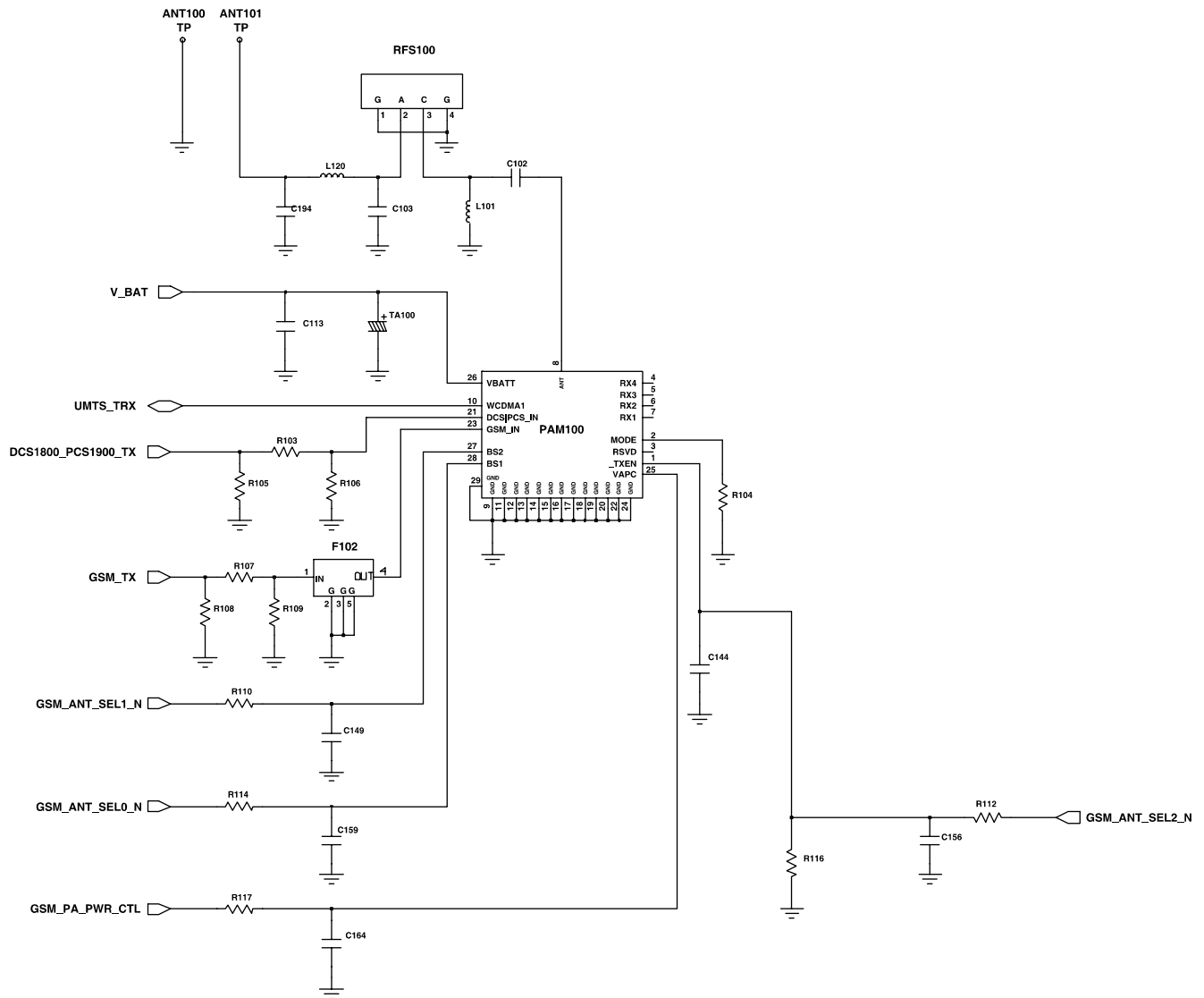


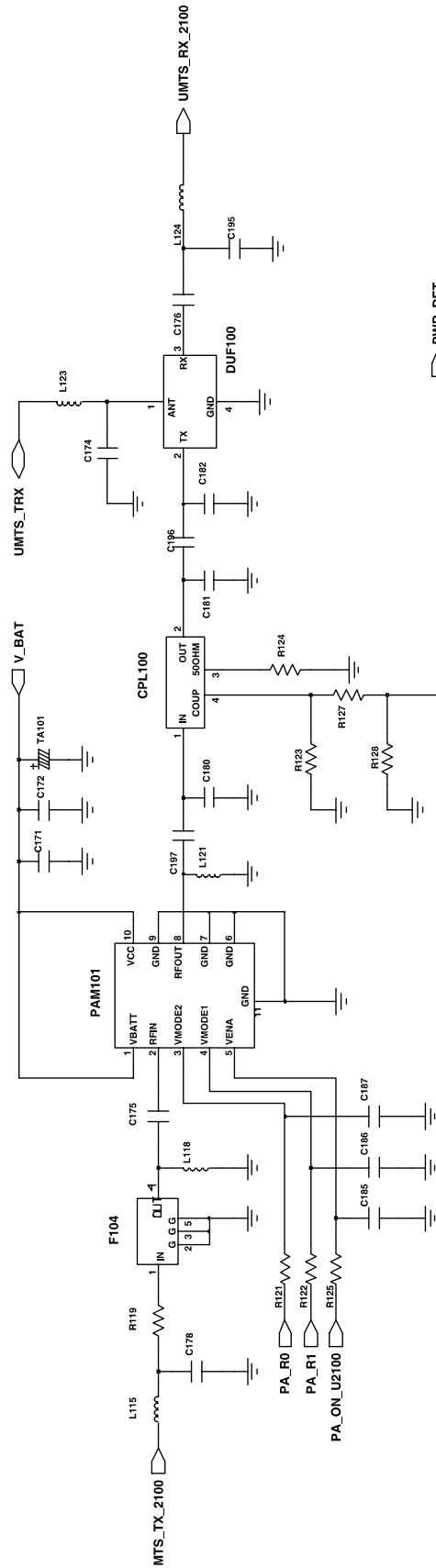


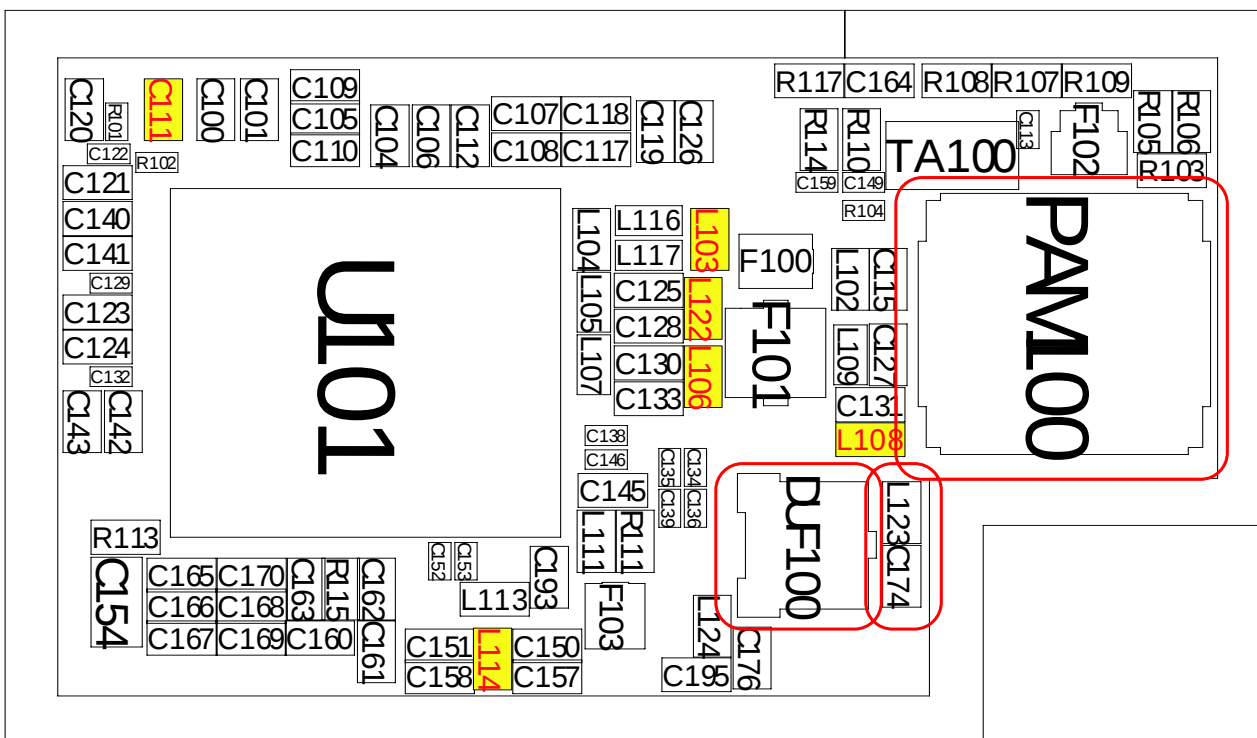
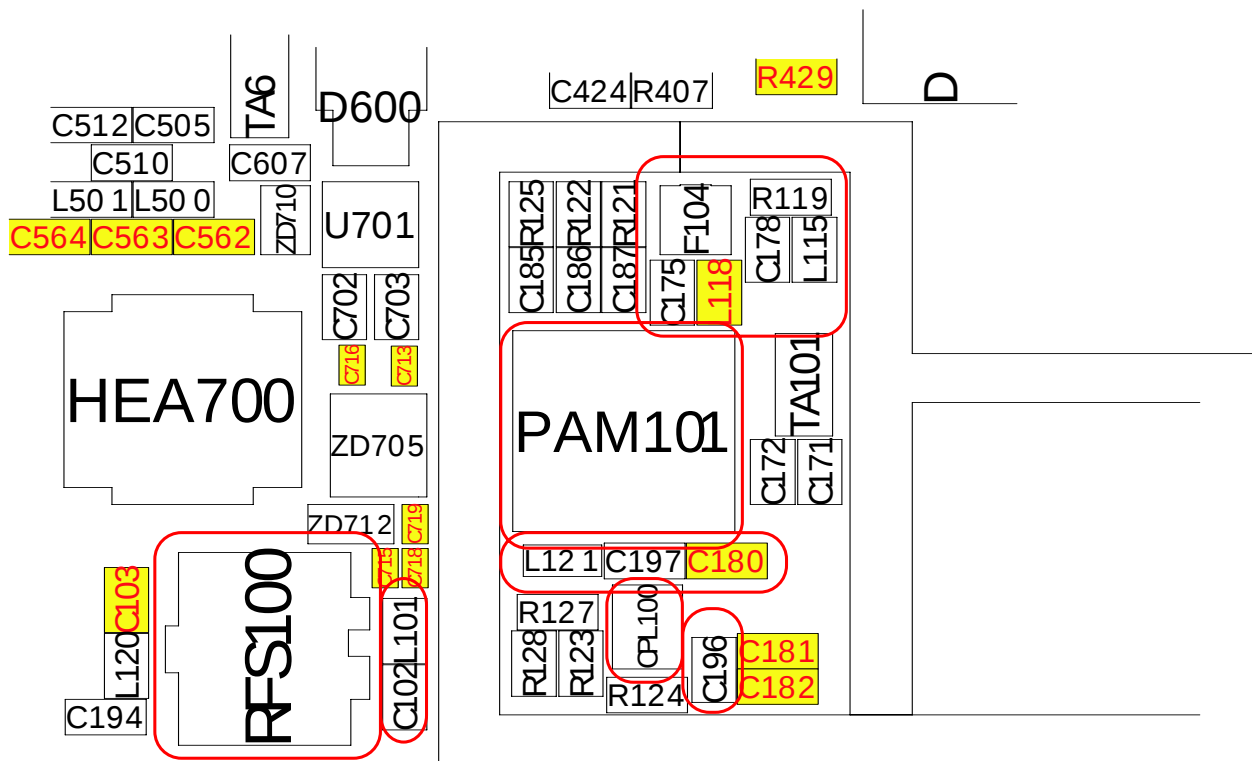


9-3. WCDMA TX

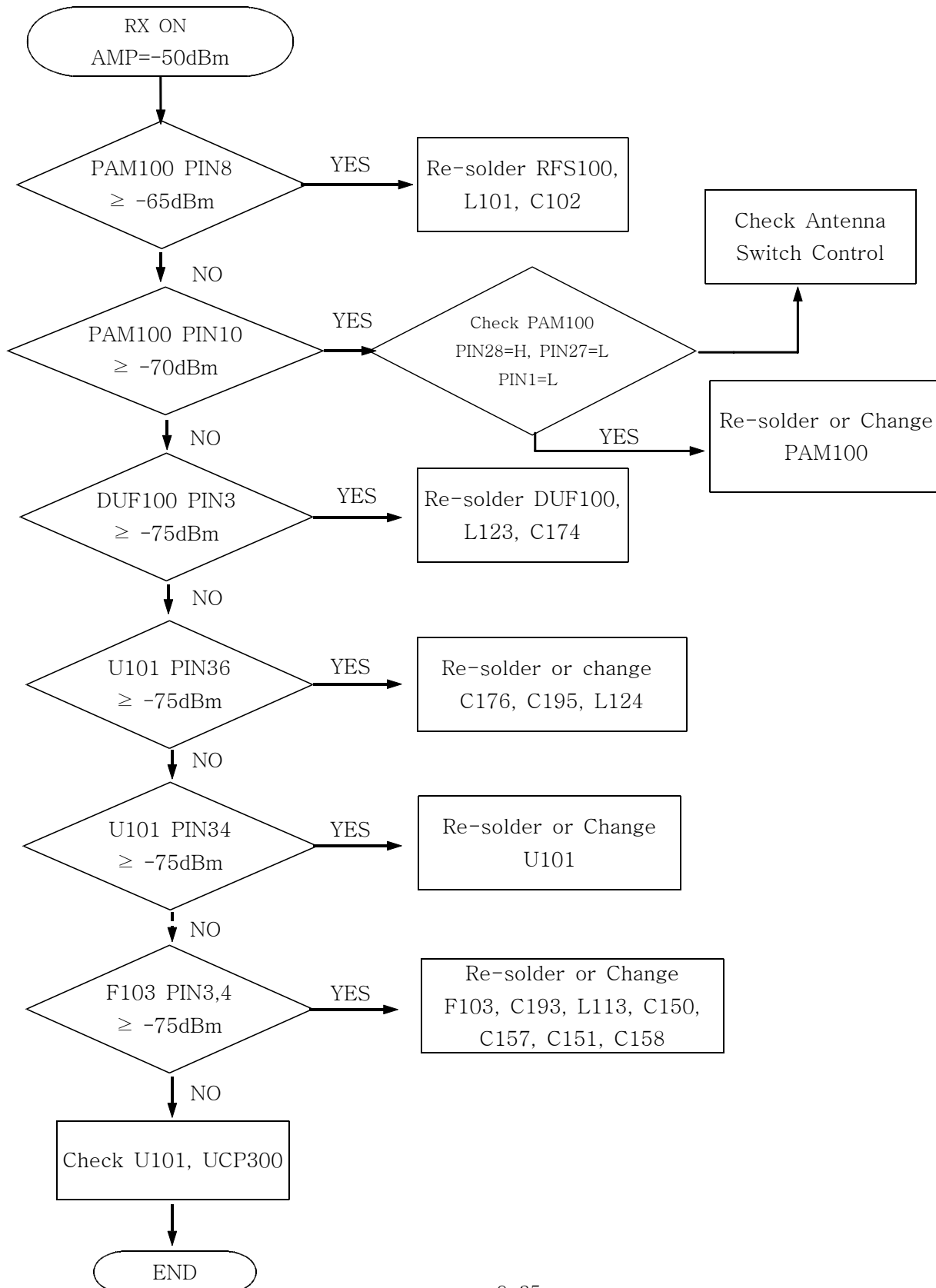


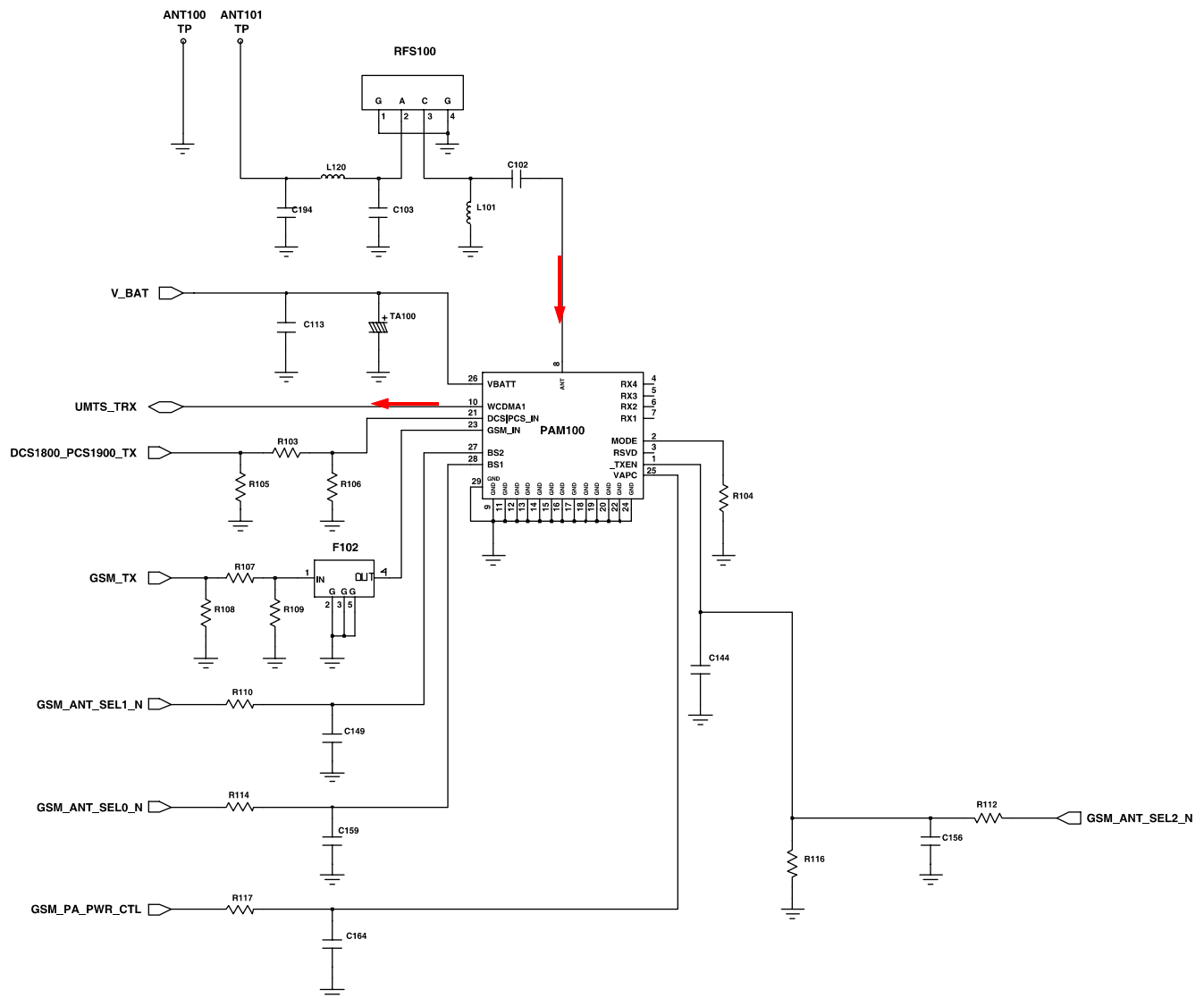


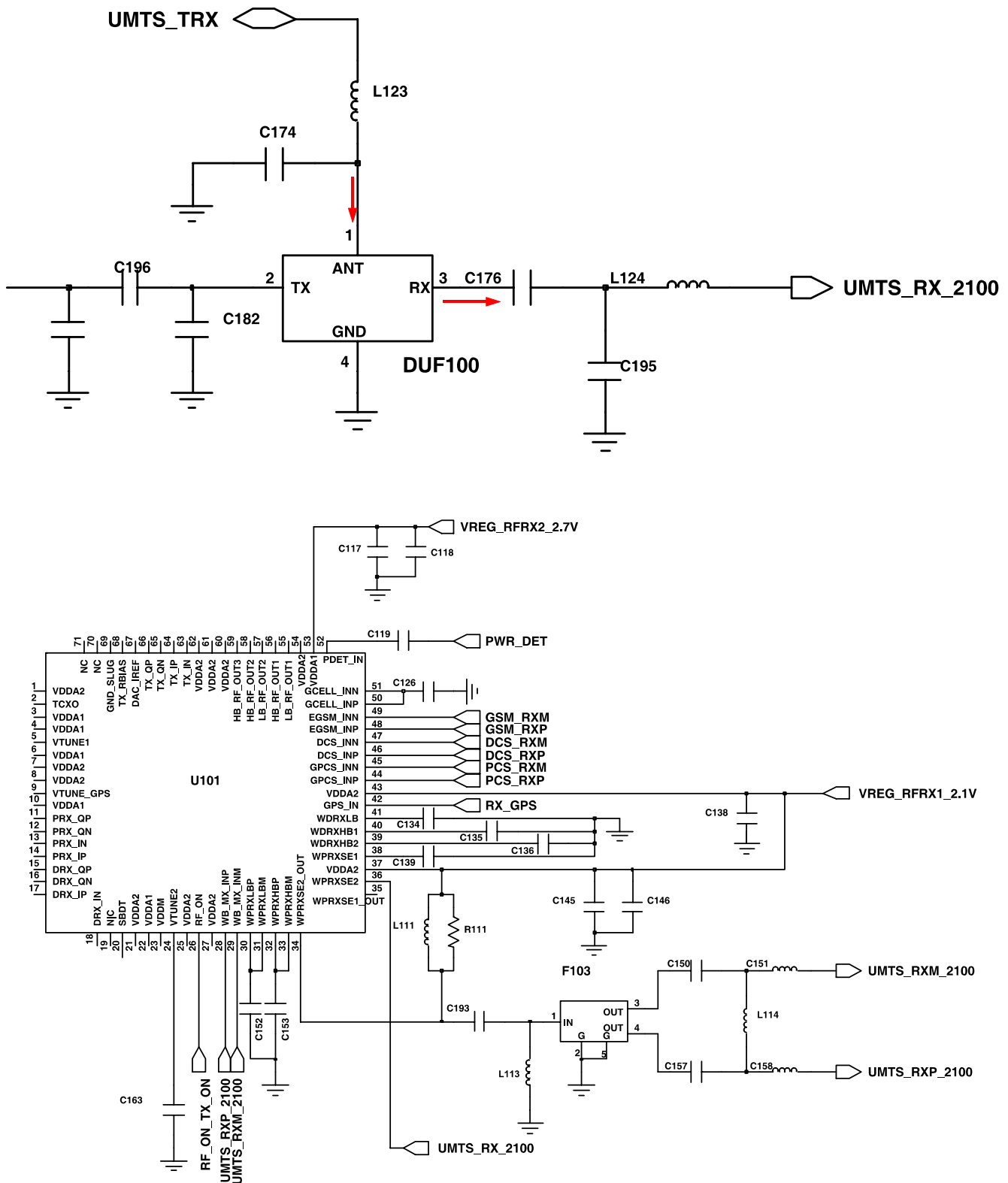


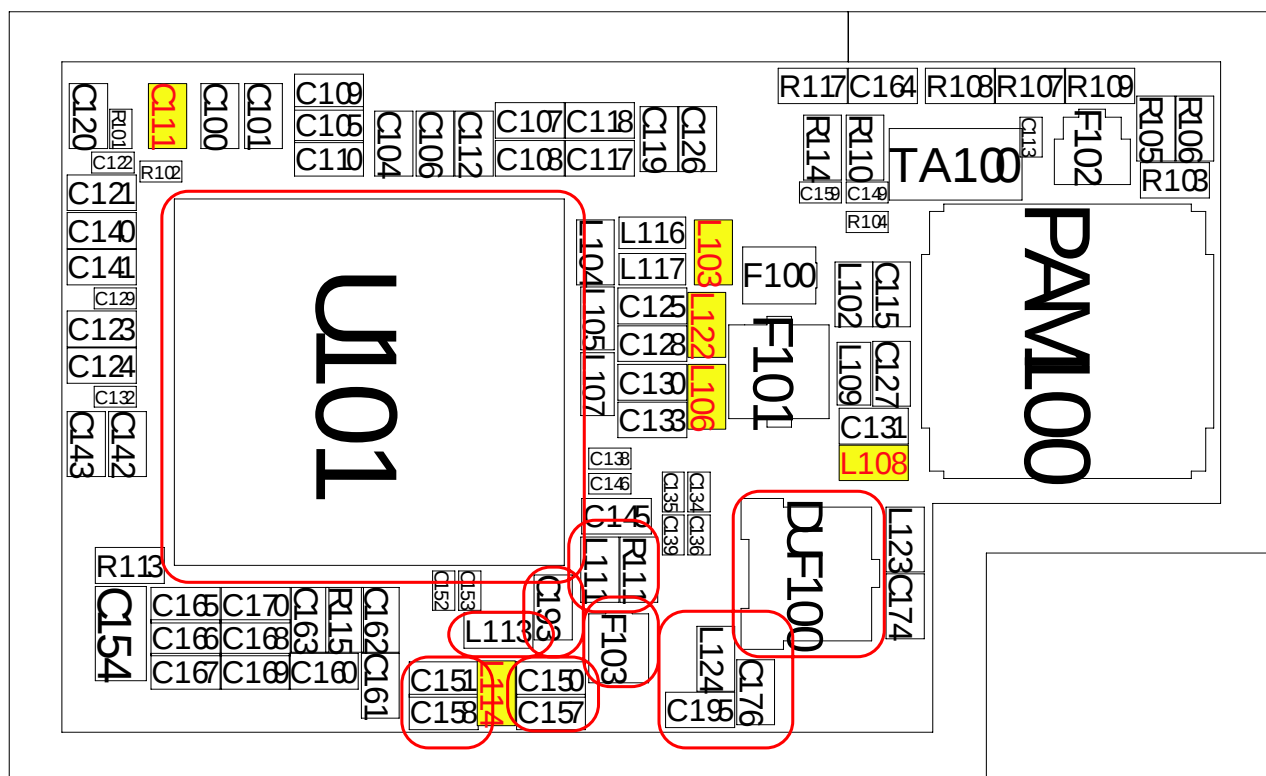


9-4. WCDMA RX

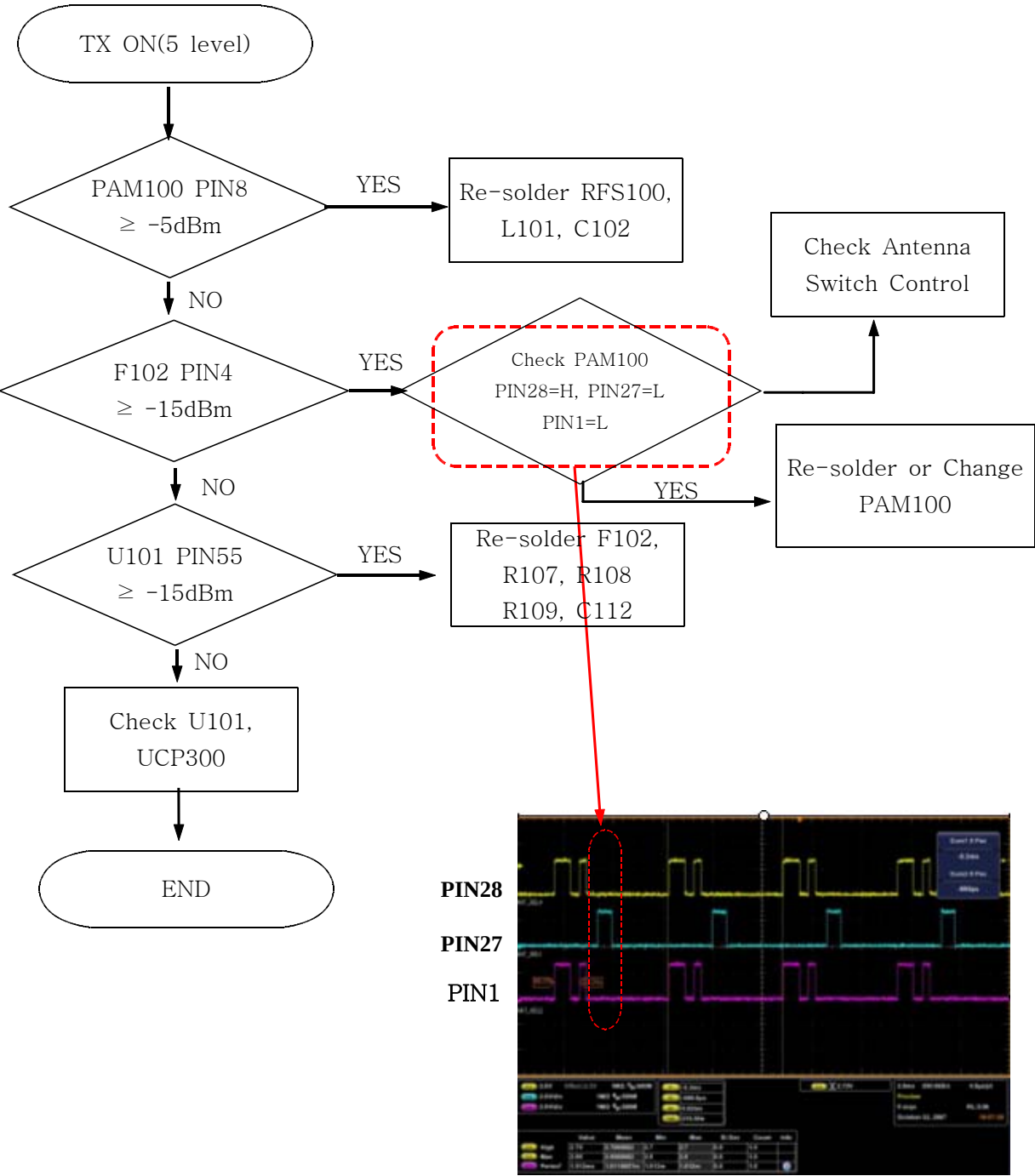


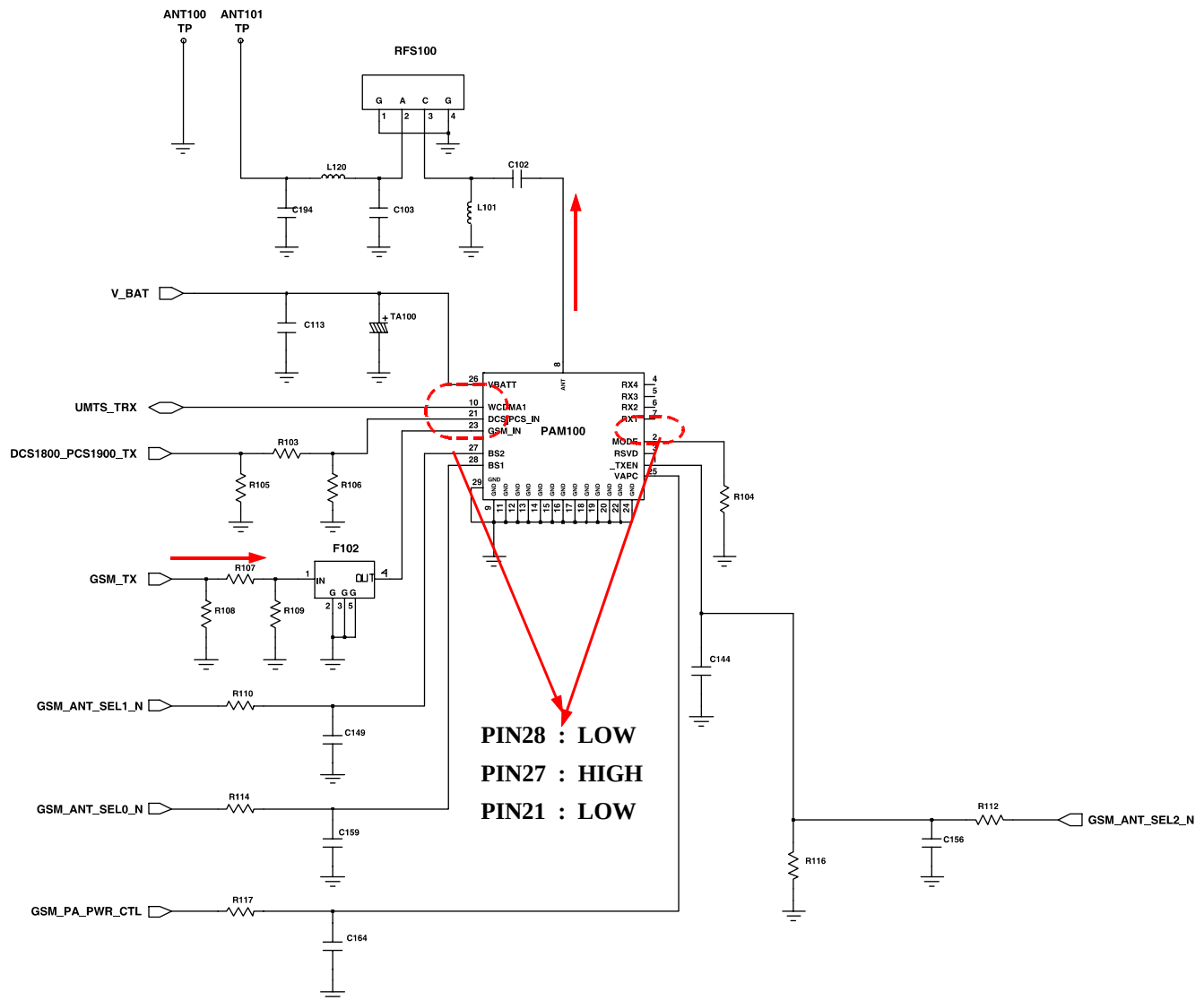


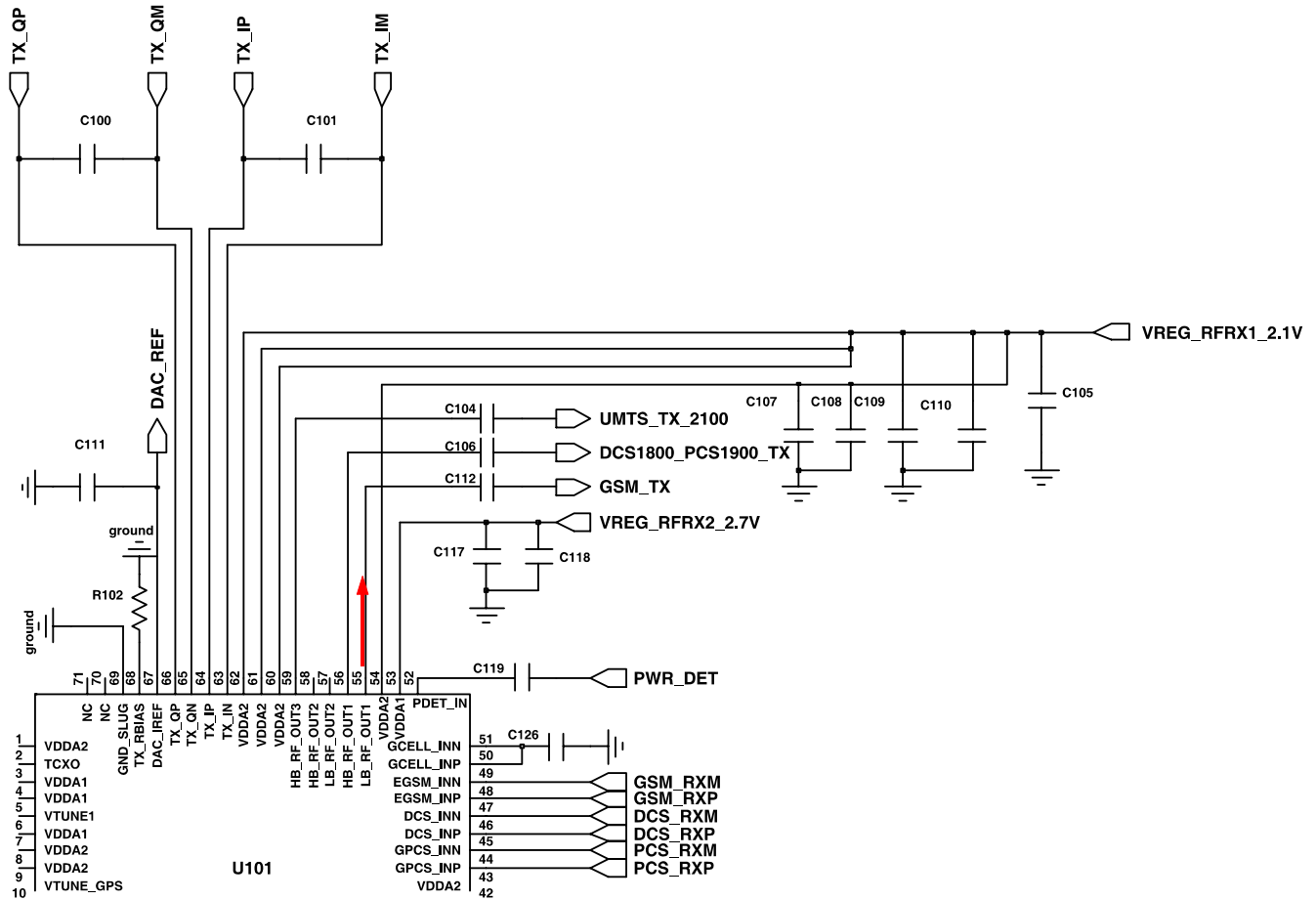




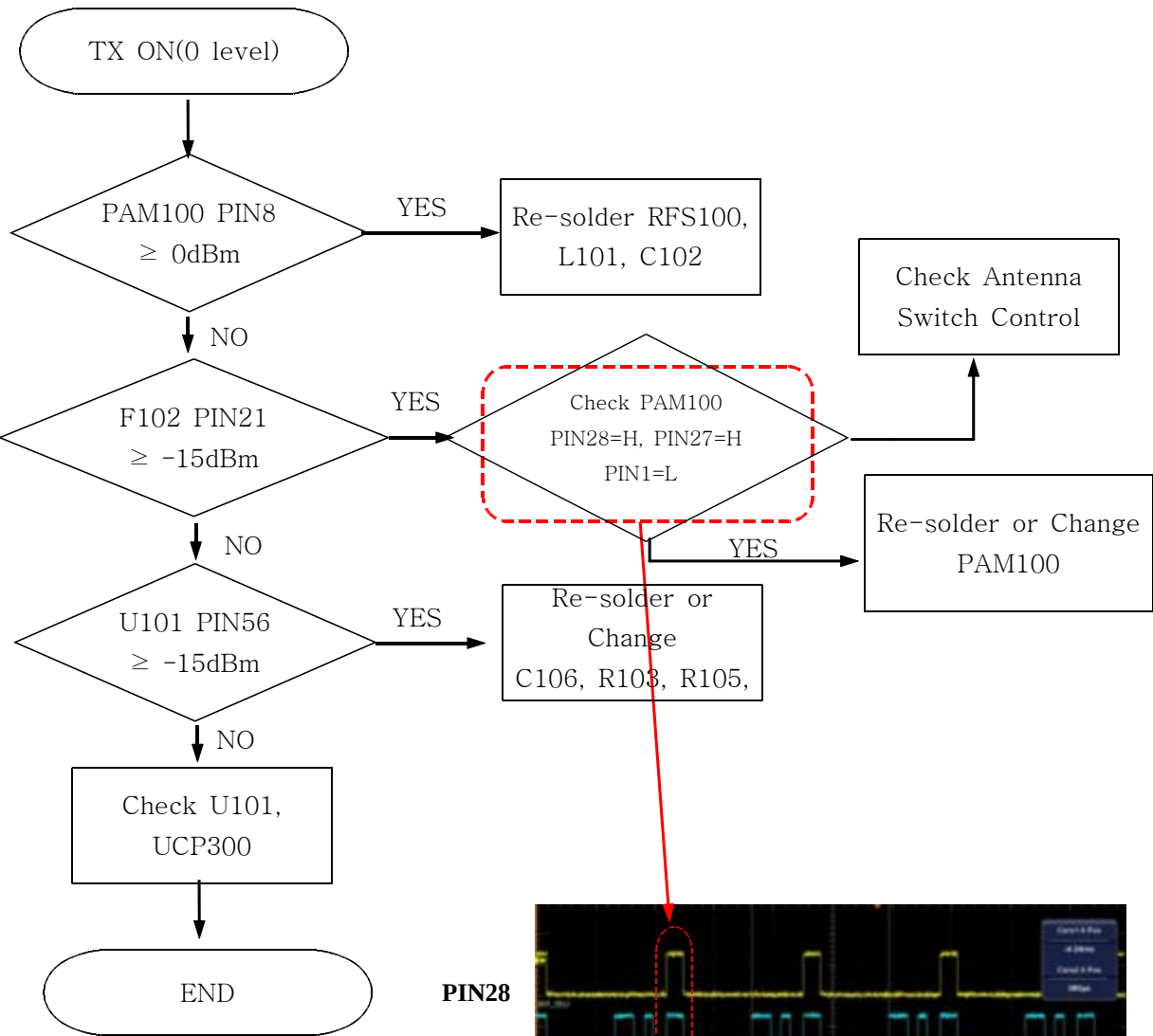
9-5. EGSM TX





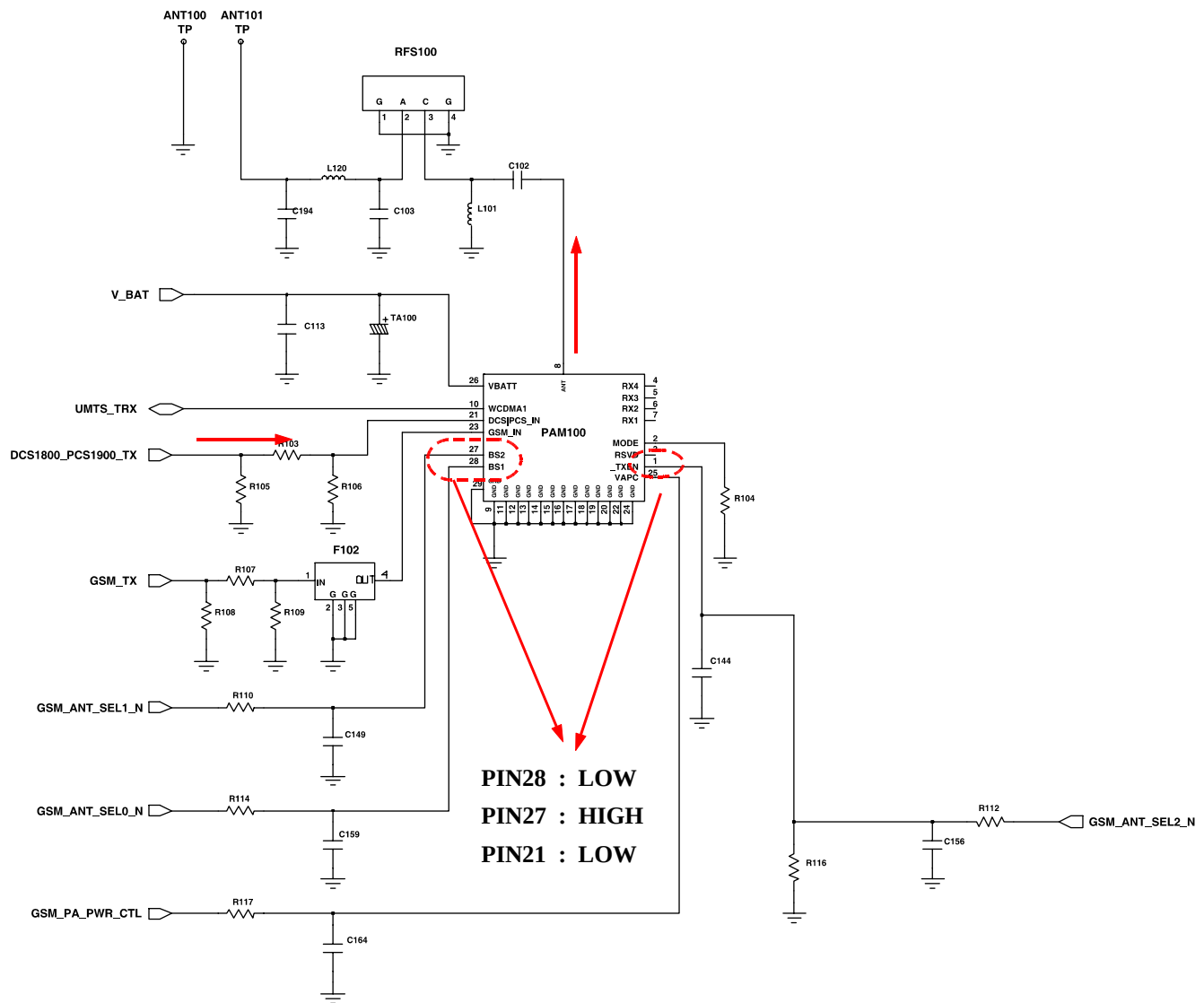


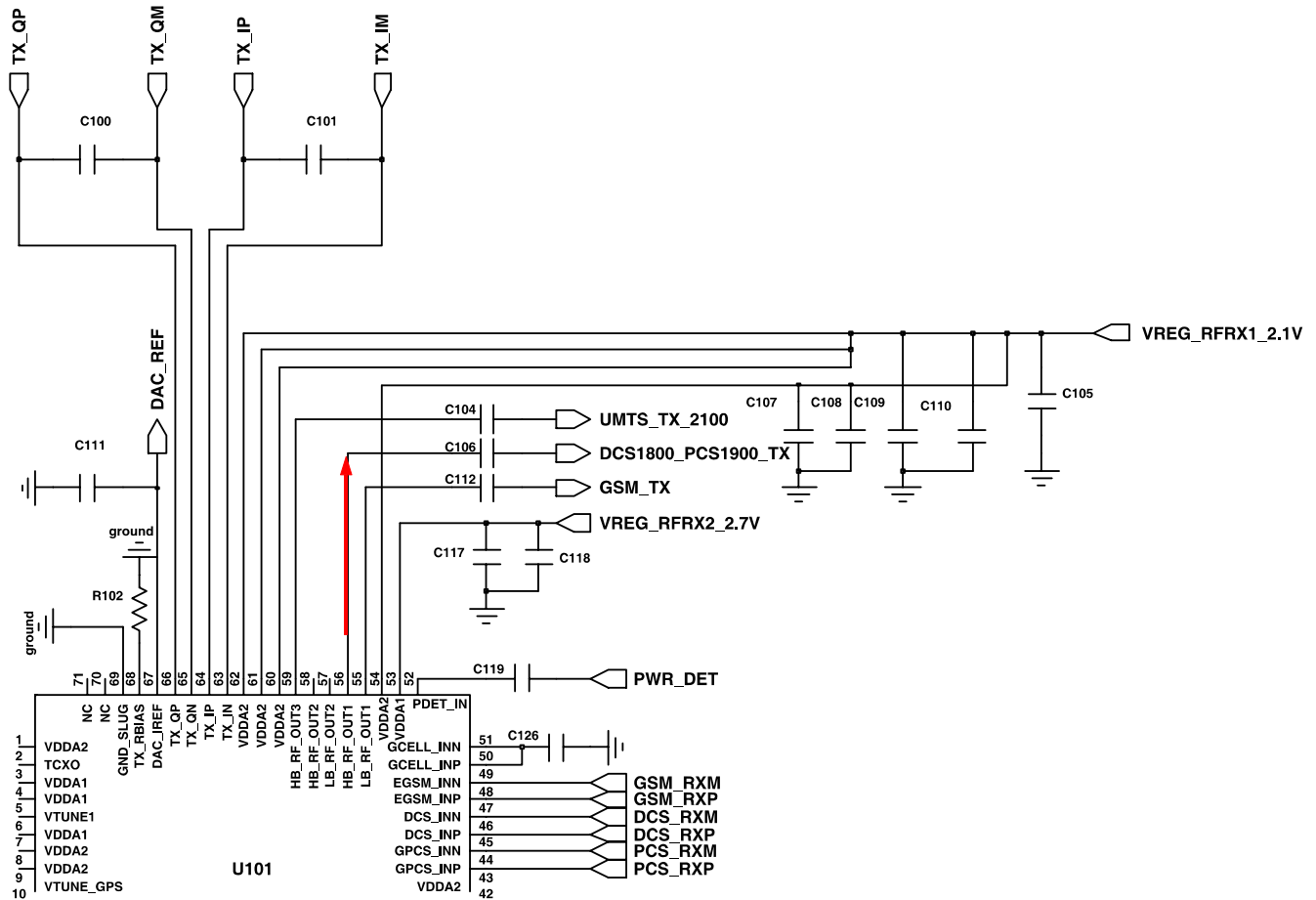
9-6. DCS/PCS TX

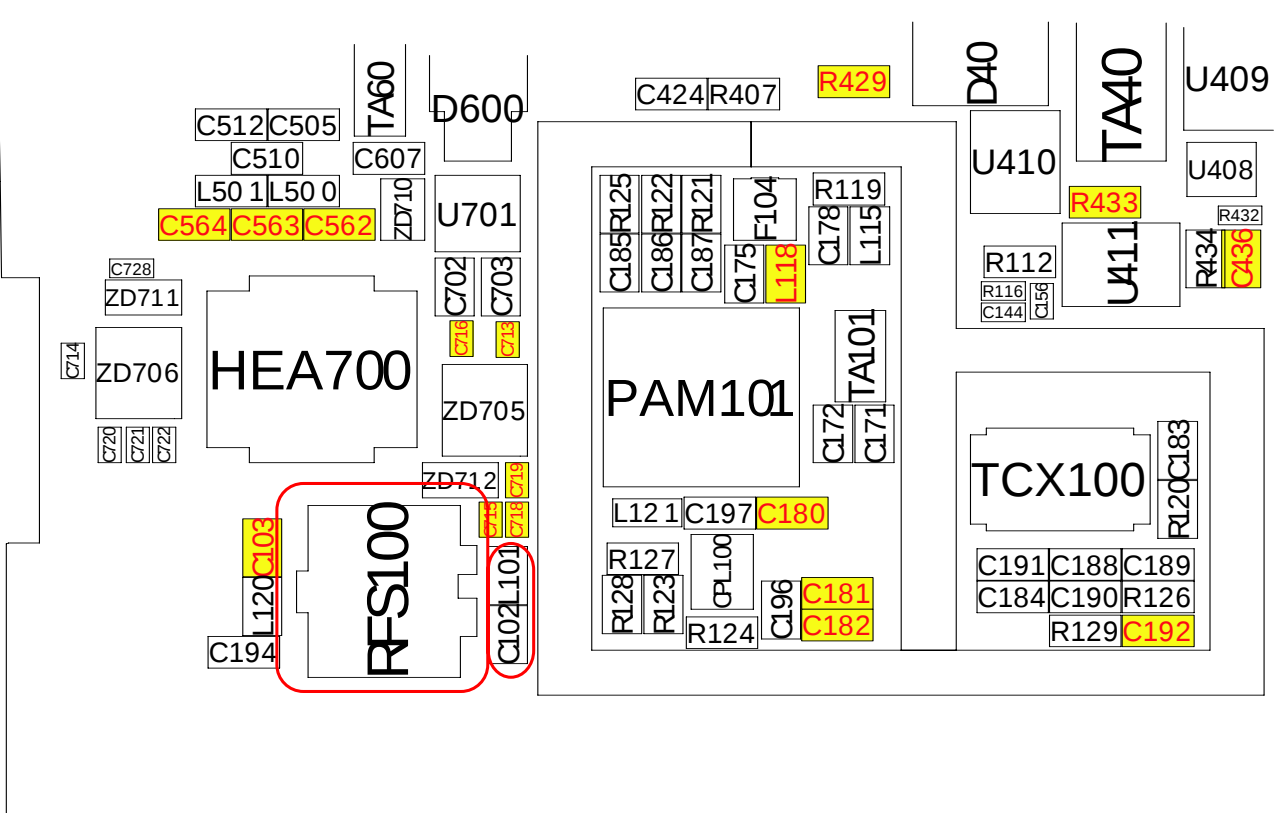


PIN28
PIN27
PIN1

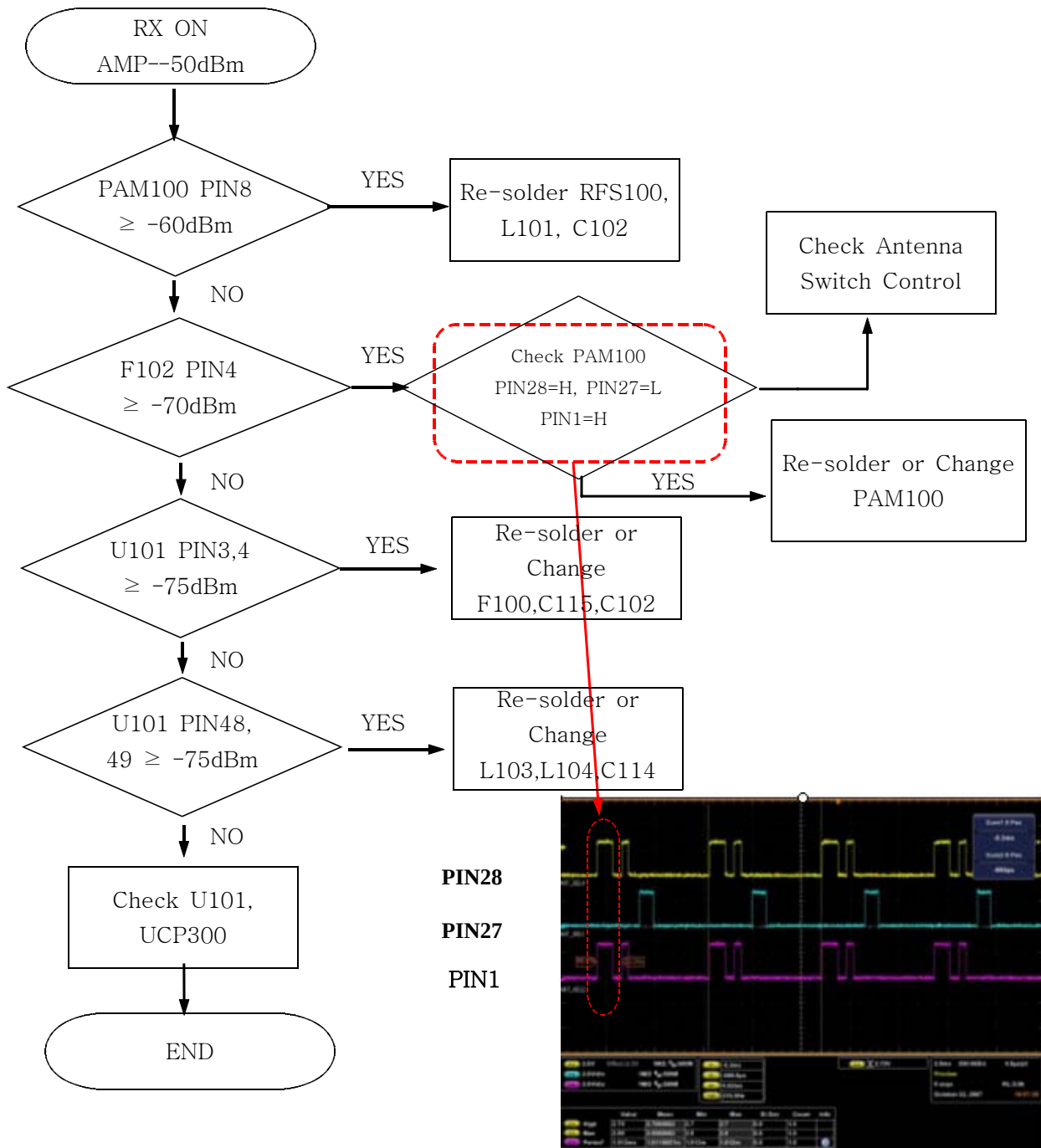


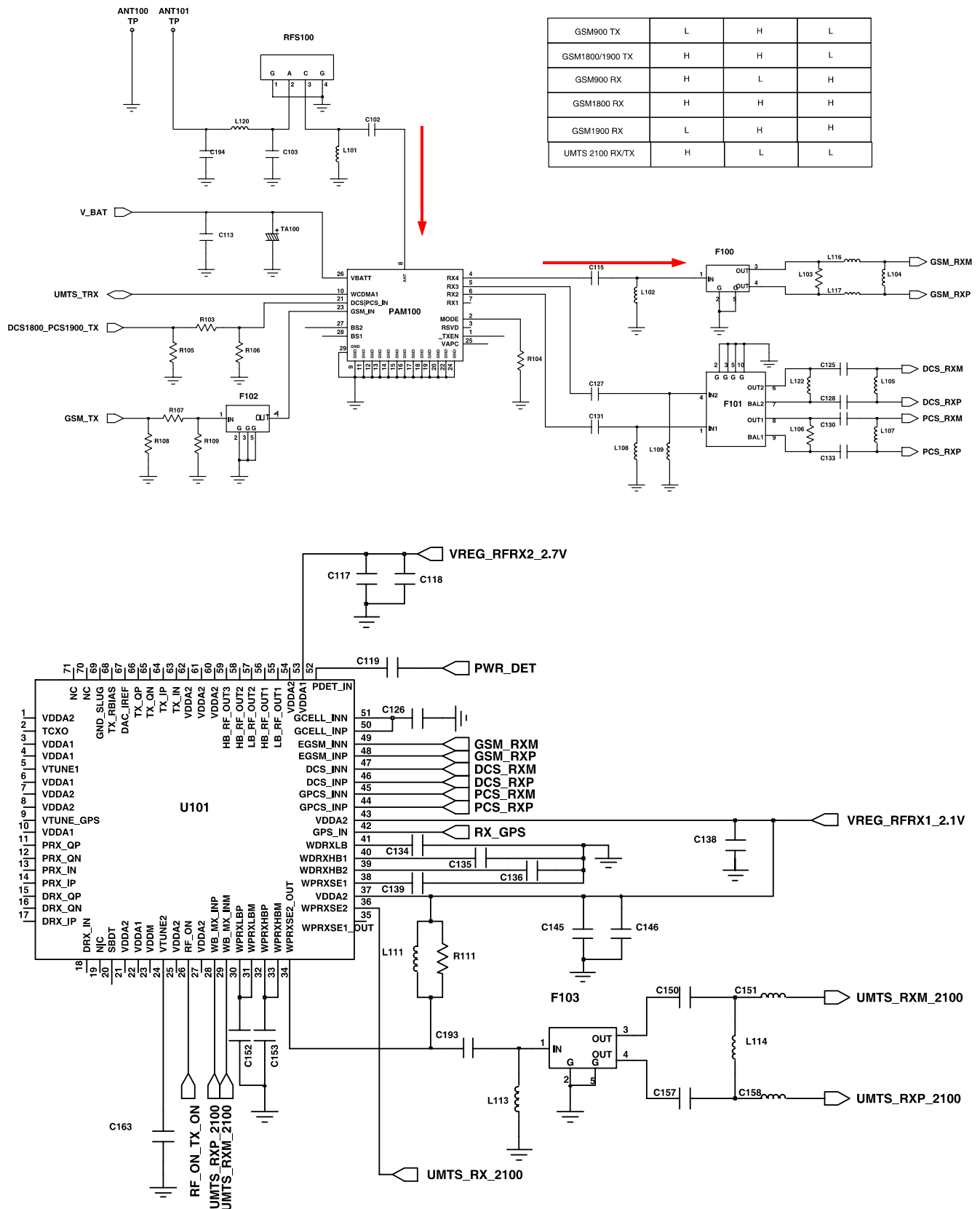


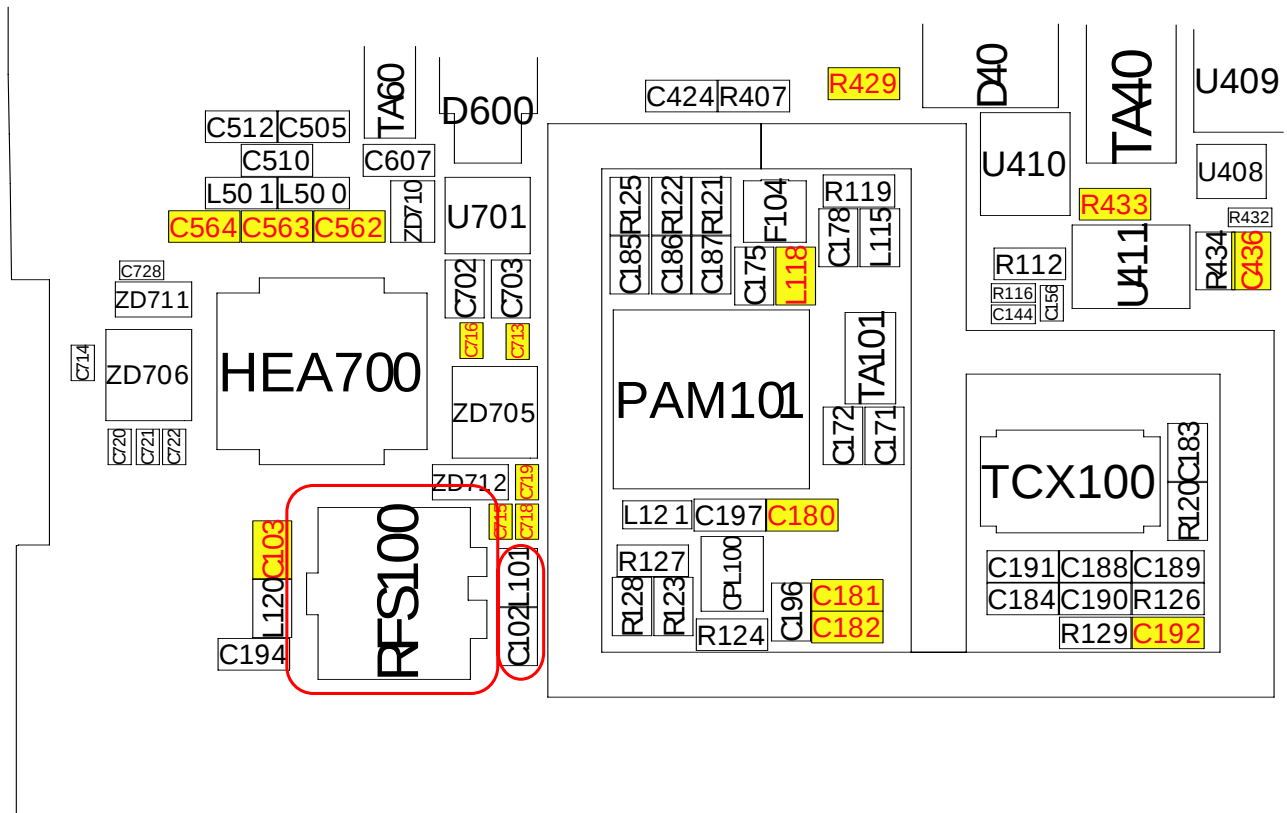
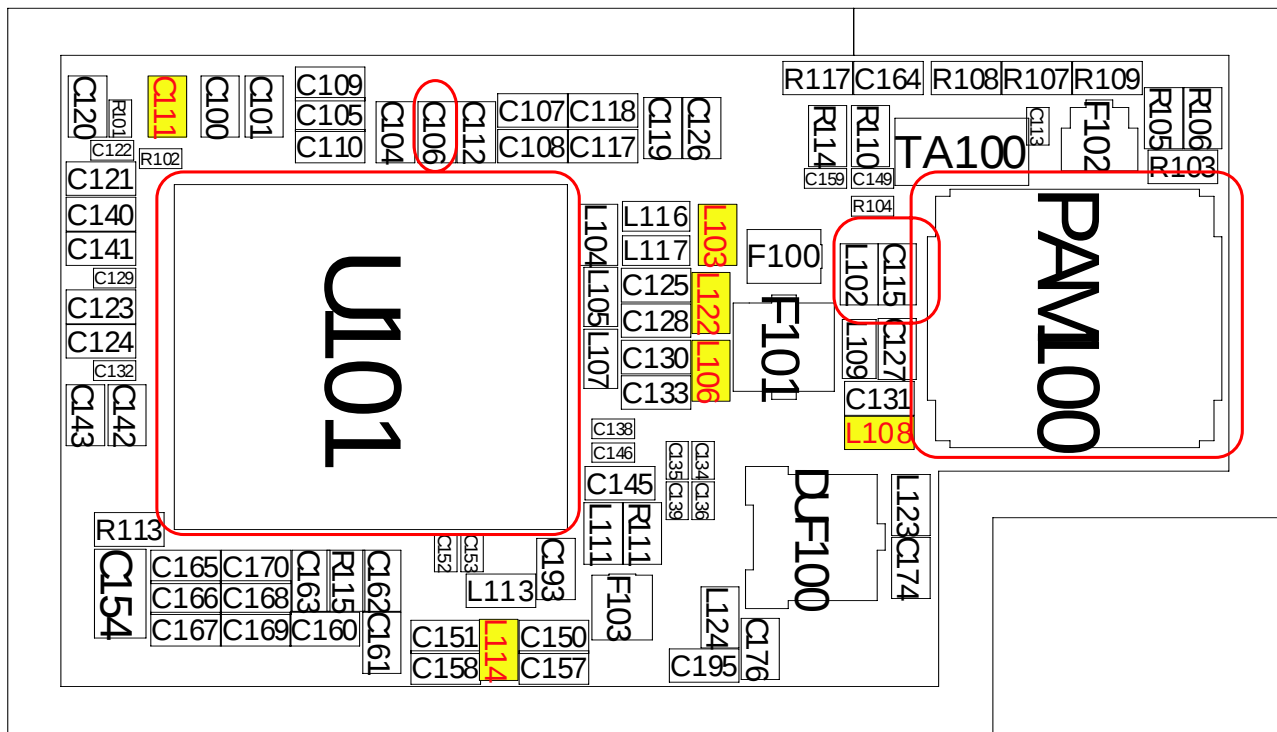




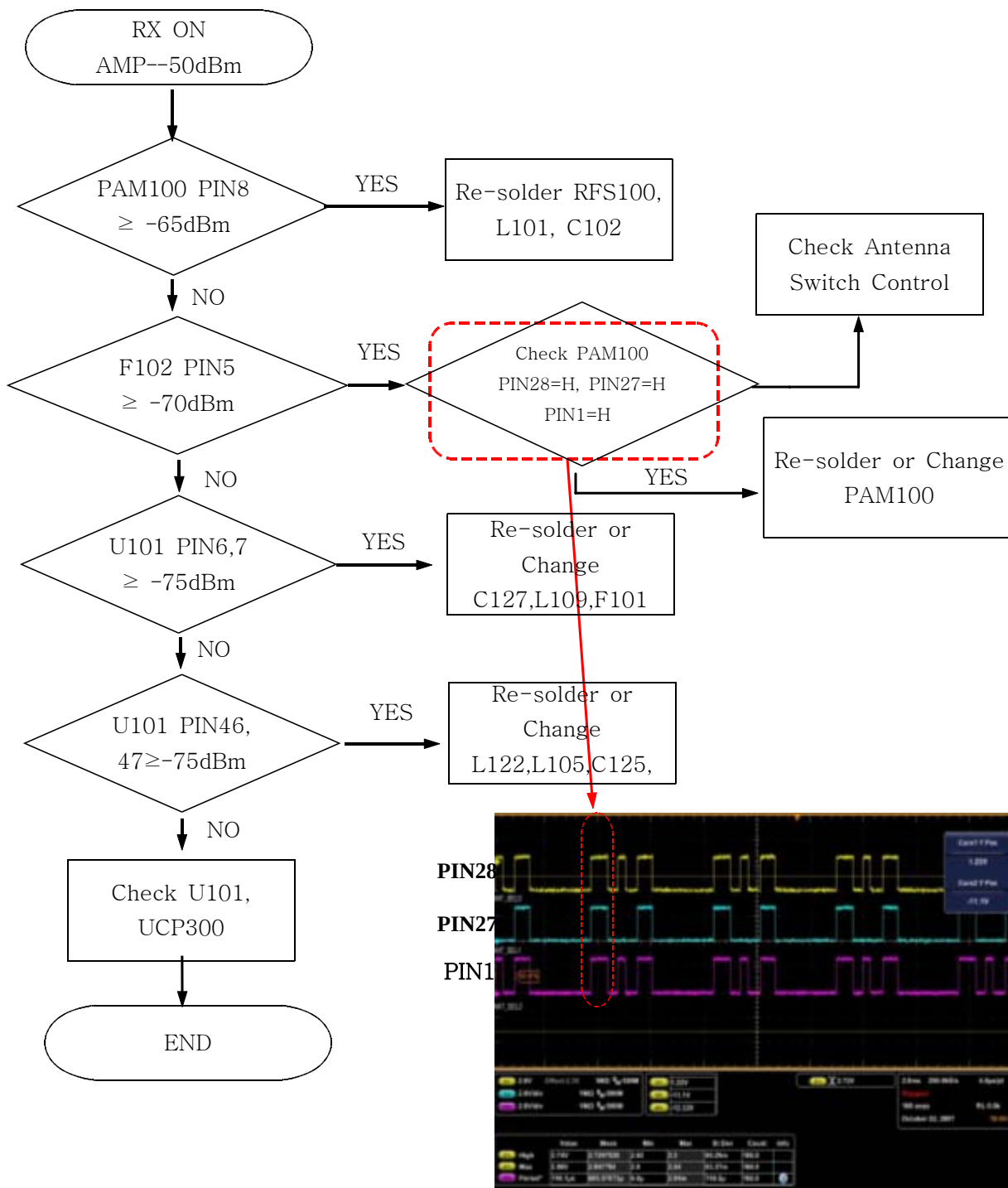
9-7. EGSM RX

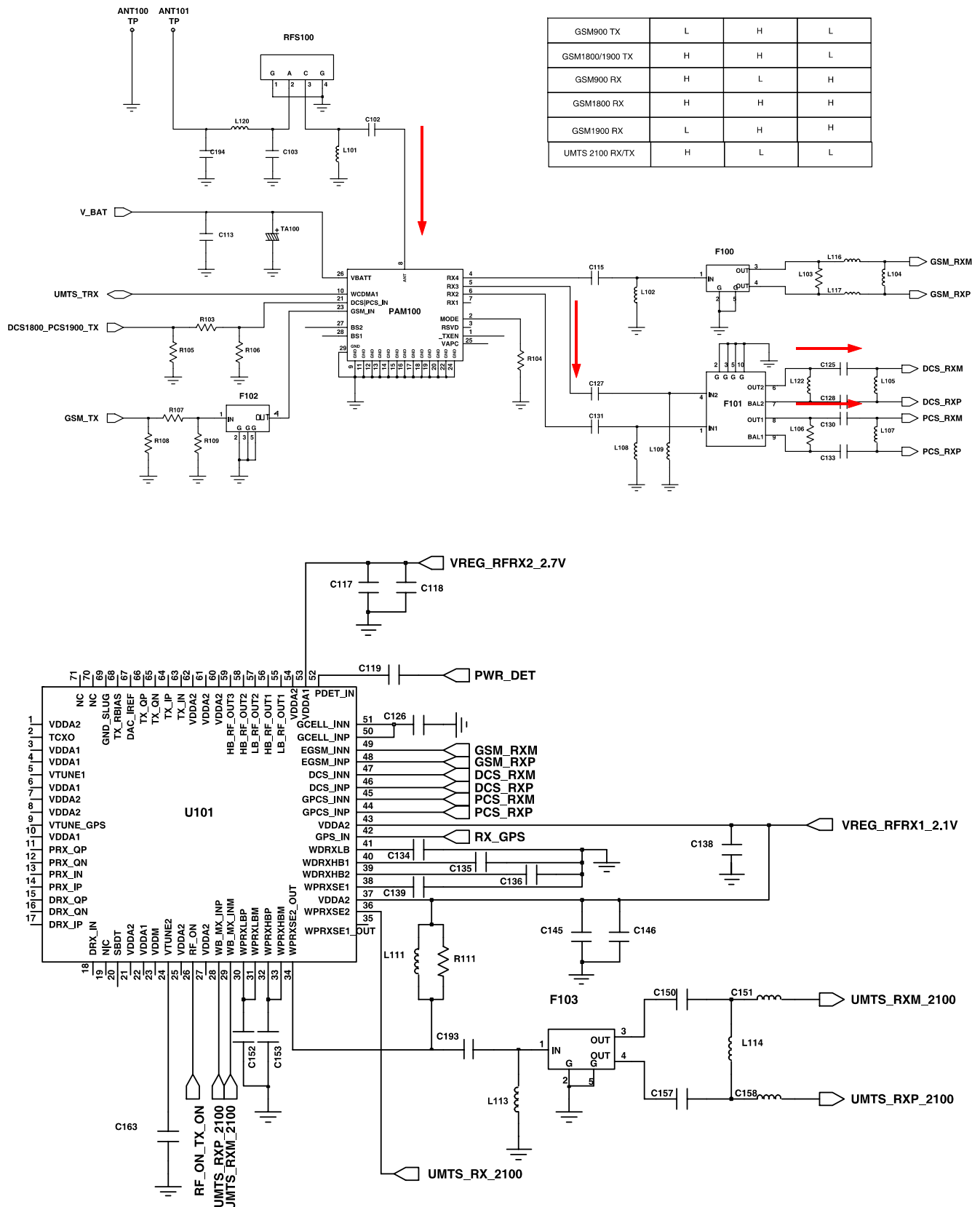


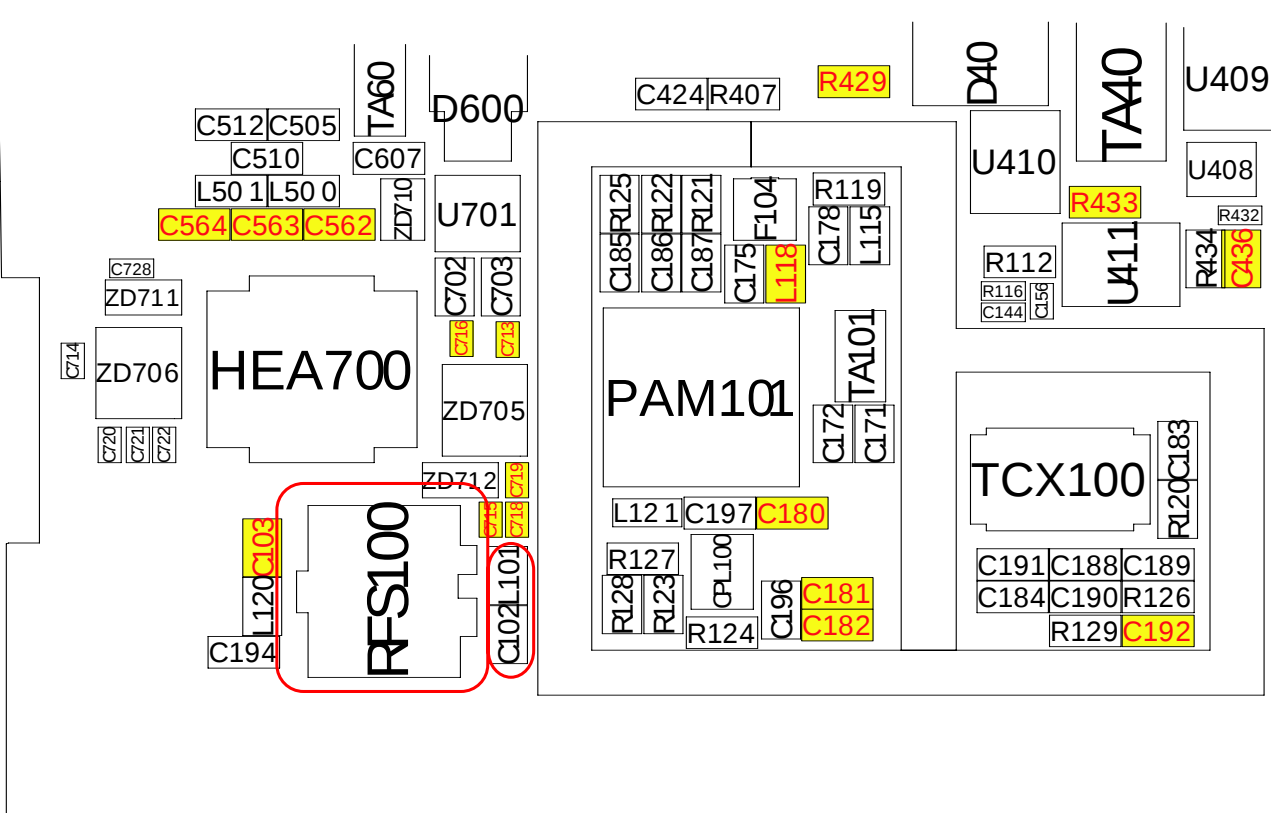




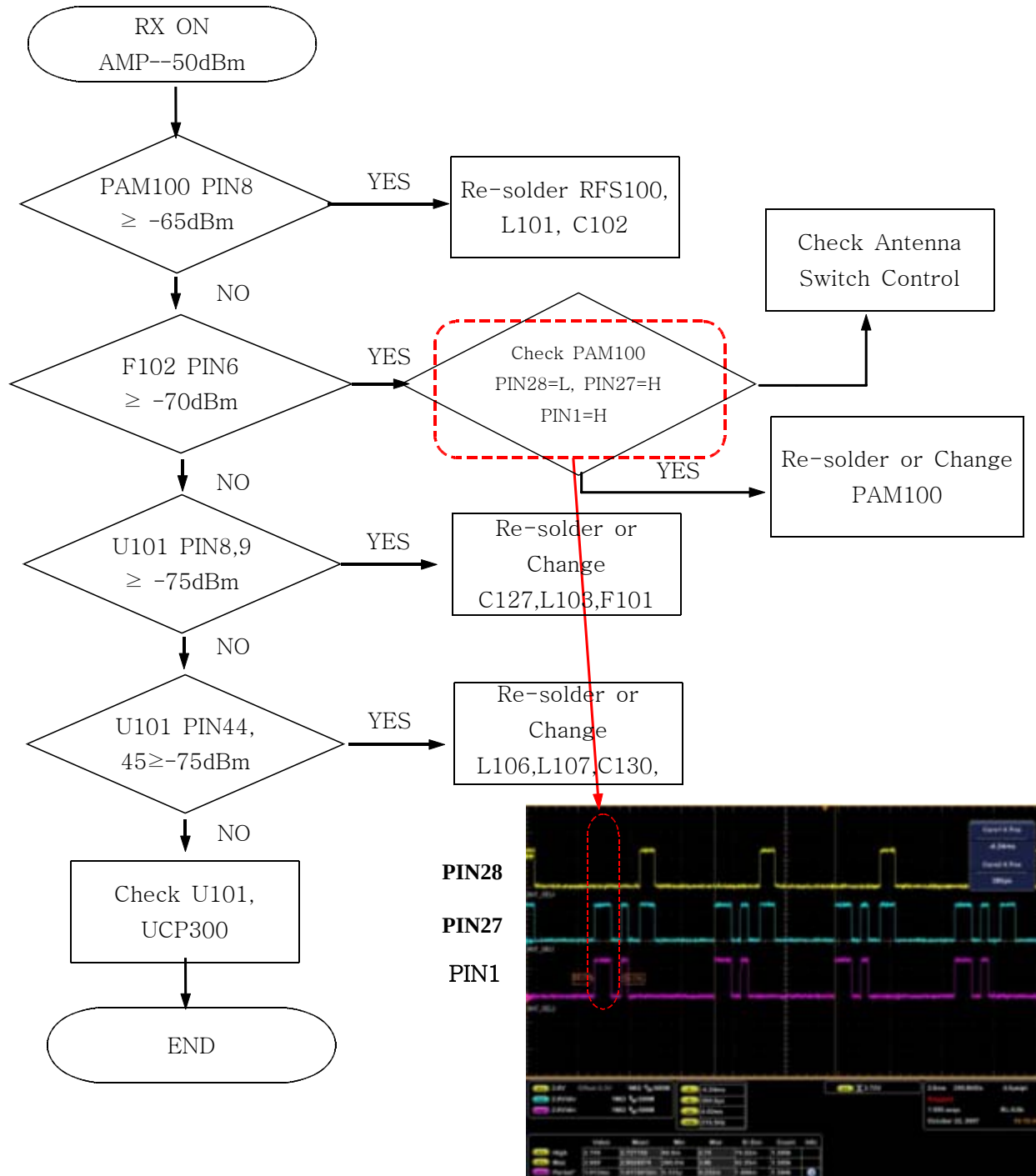
9-8. DCS RX

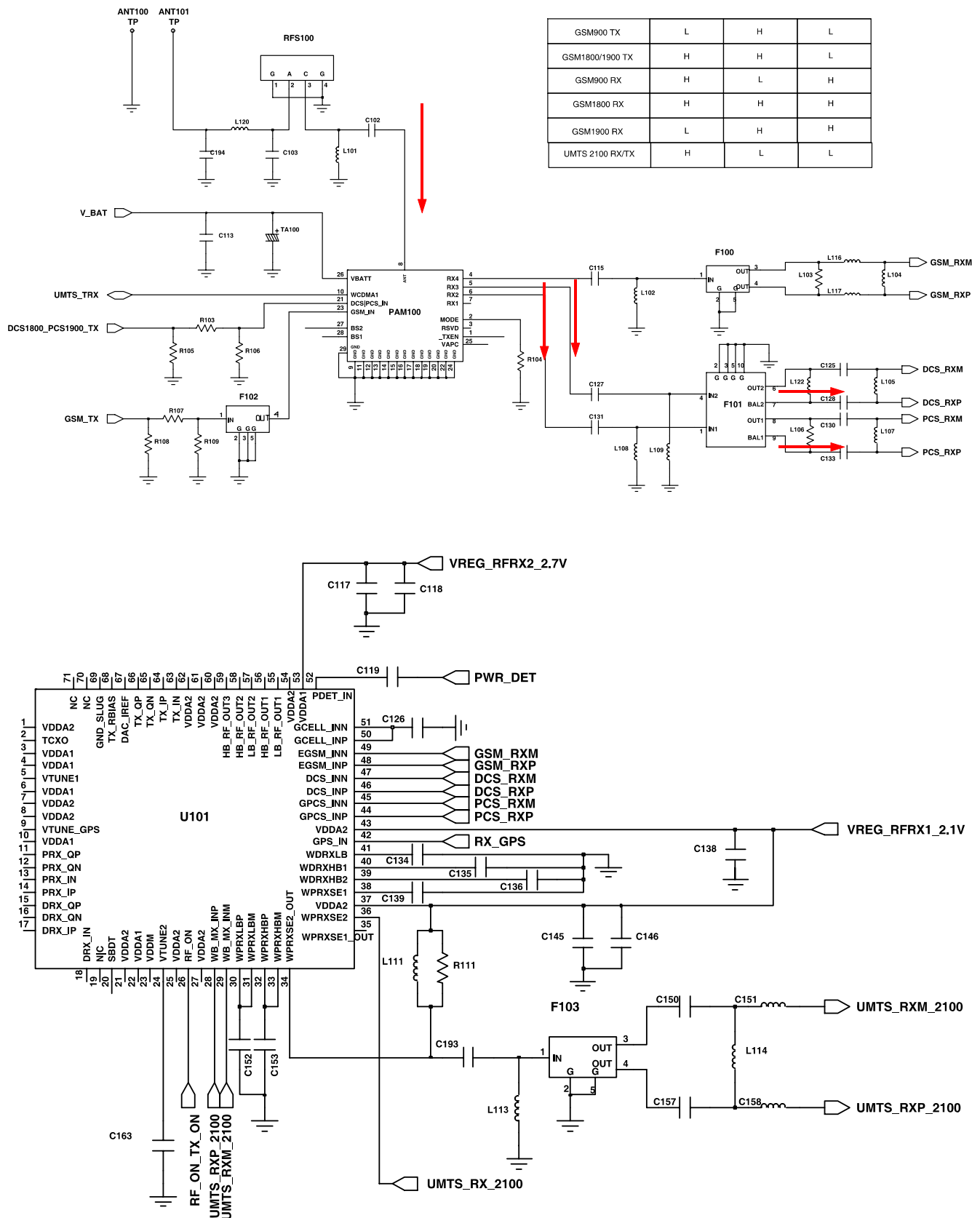


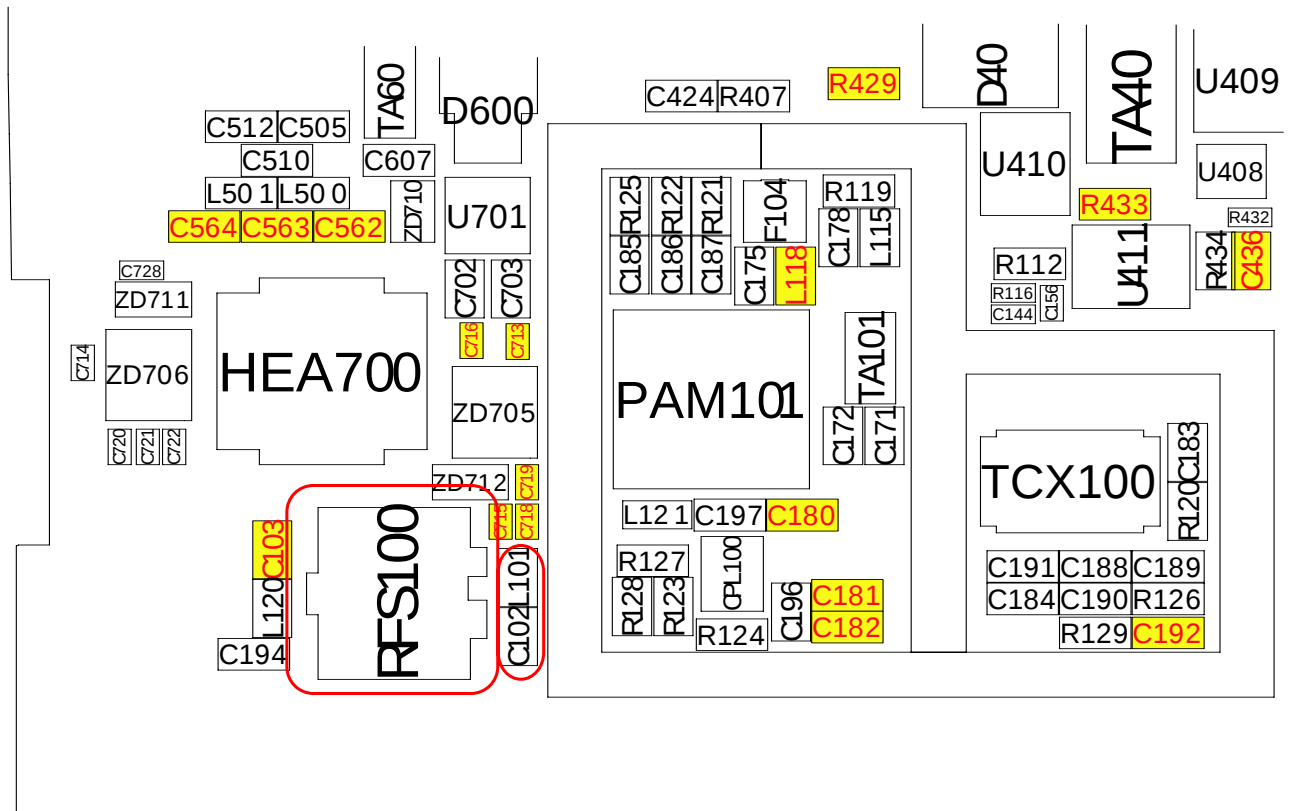
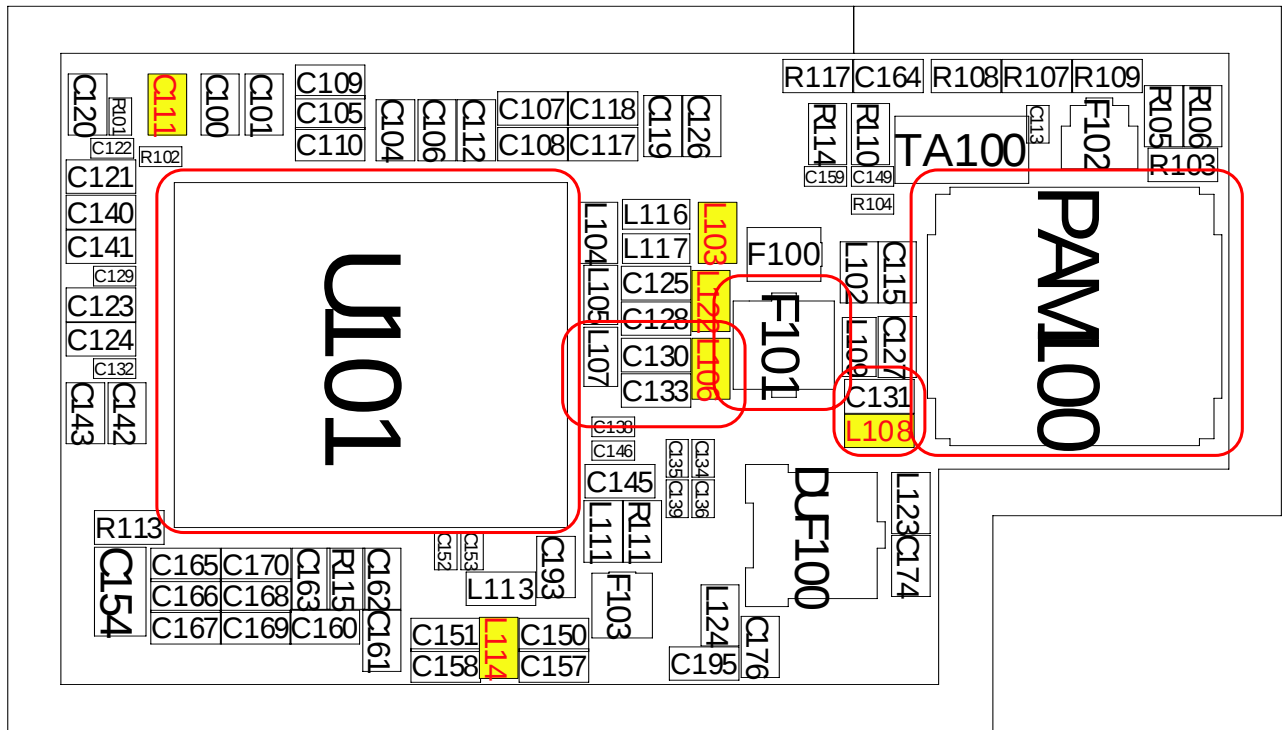




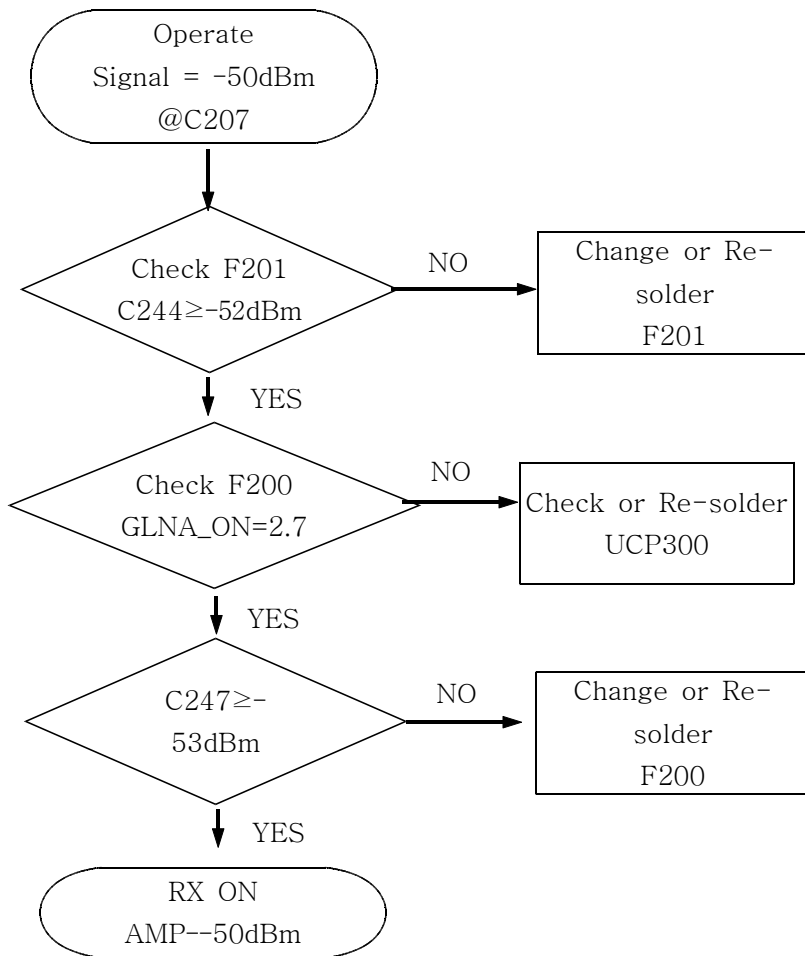
9-9. PCS RX

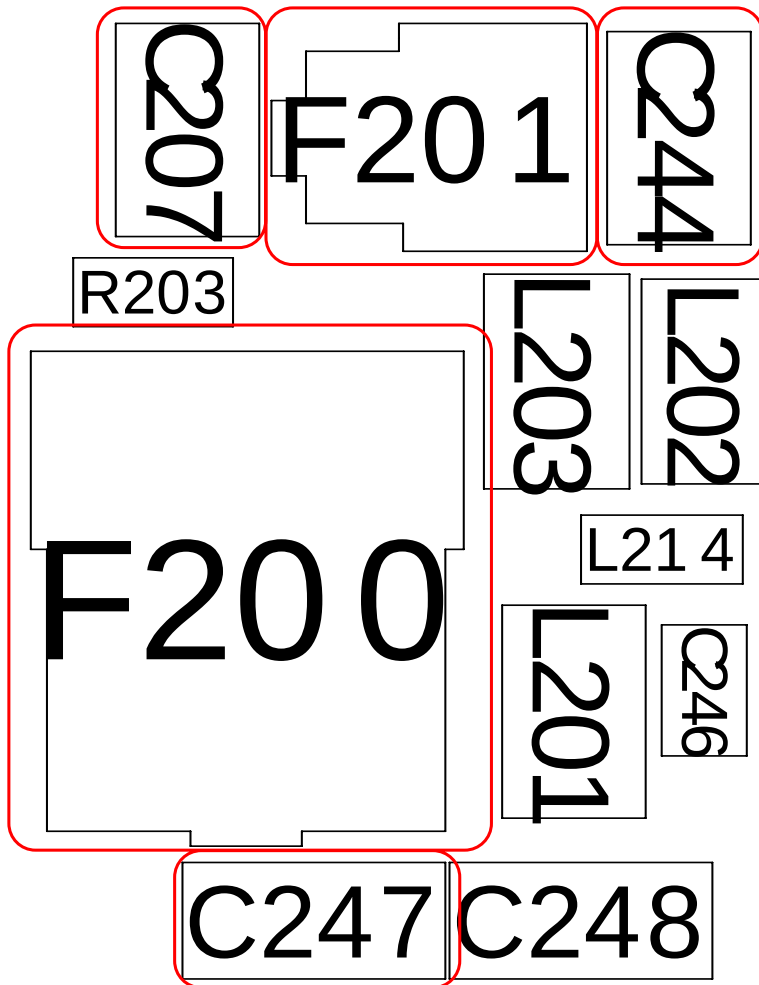
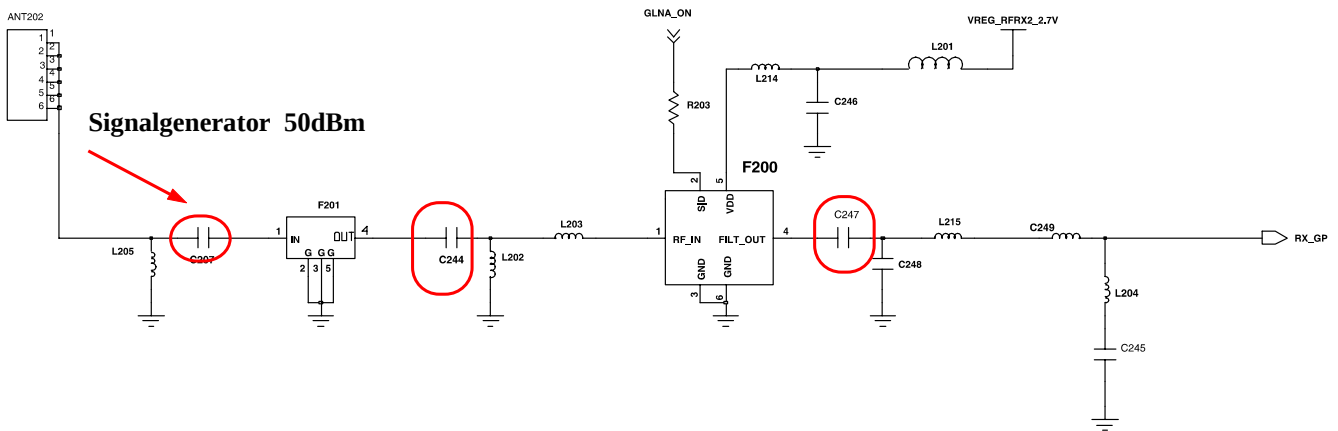






9-10. GPS RX





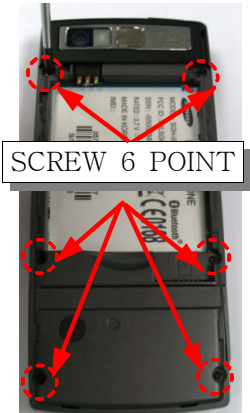
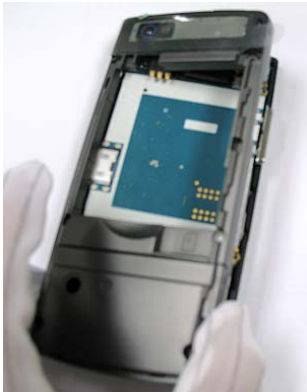
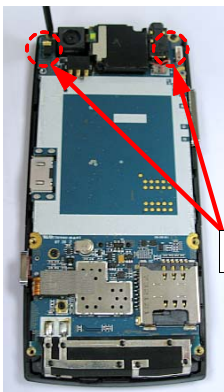
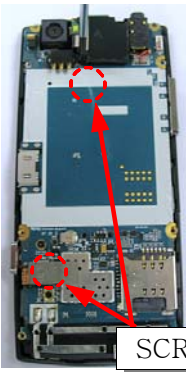
10. Reference data

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 Instructions

1  SCREW 6 POINT	
Remove Screws – Remove 6 Screws.	Remove the Rear cover – 1 – Separate the rear from the locker of the front using a tool for disassemble.
3 	4  SCREW 2 POINT
Remove the rear cover – 2 – Lift the rear from the front with care.	Remove 2 FRONT SCREWS. – Remove 2 FRONT SCREWS.
5 	6  SCREW 2 POINT
Separate the FRONT from the PBA Assay. – Separate the FRONT from the PBA Assay with care.	Remove PBA SCREWS. – Remove 2 PBA SCREWS.

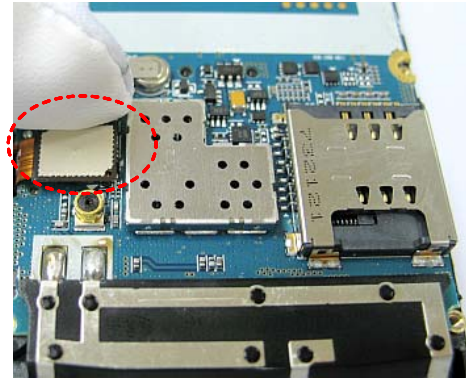
7



Remove conducting tape.

- Remove conducting tape attached to both RF shield of PBA bottom can and Key connector.

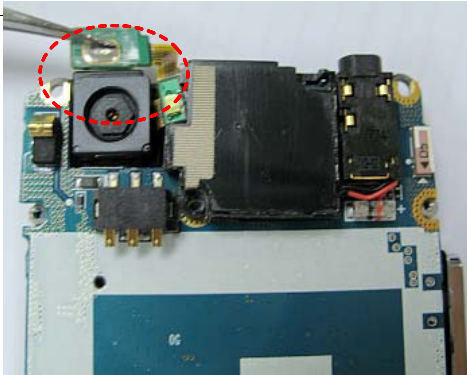
8



Separate KEY CONNECTOR.

- Separate Key FPCB Connector from the PBA Connector with great care. (Be careful not to tear Key FPCB.)

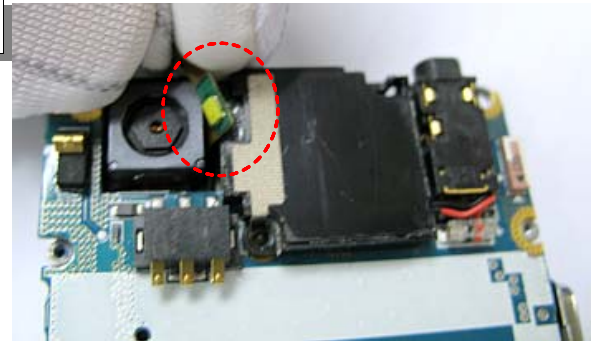
9



Separate POWER KEY – 1.

- Separate Power Key from the main shield can not to tear Power Key FPCB with great care.

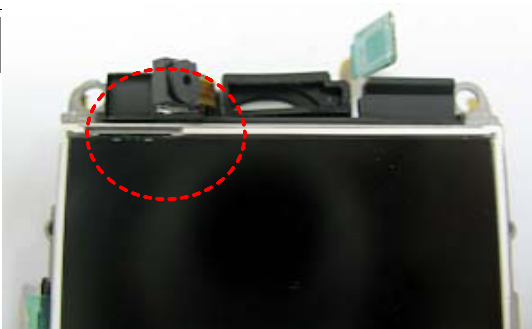
10



Separate POWER KEY FPCB – 2.

- Separate Power Key from Speaker not to tear Power Key FPCB with great care.

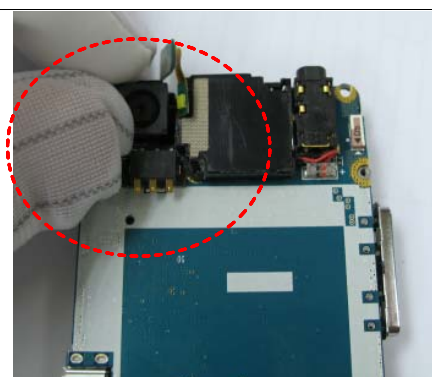
11



Separate VGA CAMERA.

- Separate VGA Camera attached to the main shield can with great care not to tear VGA

12



Separate 3MEGA CAMERA.

- Separate 3Mega camera attached to the main shield can with great care.

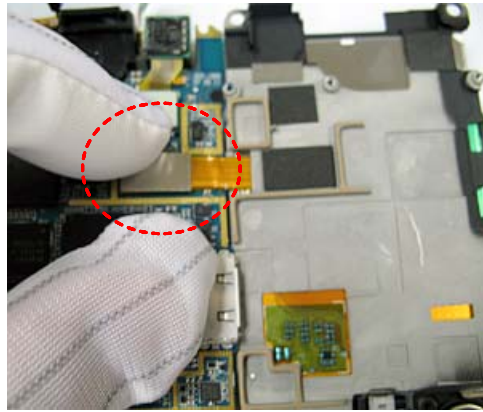
Camera FPCB.

13



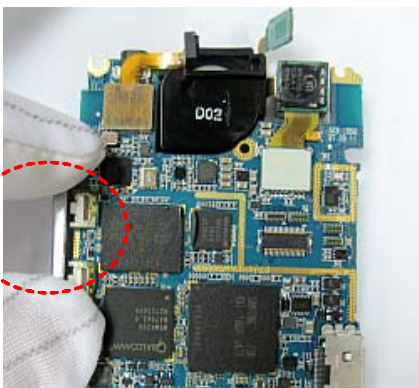
Separate PBA from the main shield can
 - Separate PBA from the main shield can referring to the above picture.

14



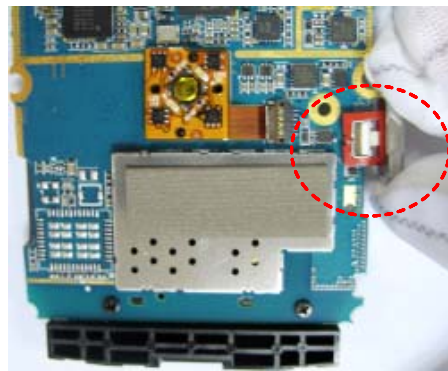
Separate LCD CONNECTOR.
 - Separate LCD Connector from PBA with great care.

15



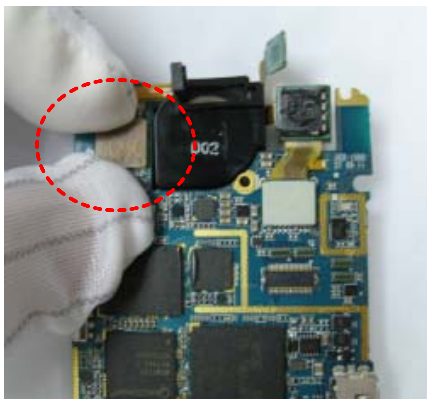
Separate VOLUME KEY.
 - Separate Volume Key from PBA.

16



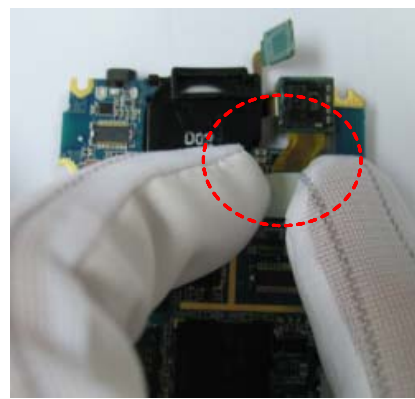
Separate Camera Key.
 - Separate Camera Key from PBA.

17

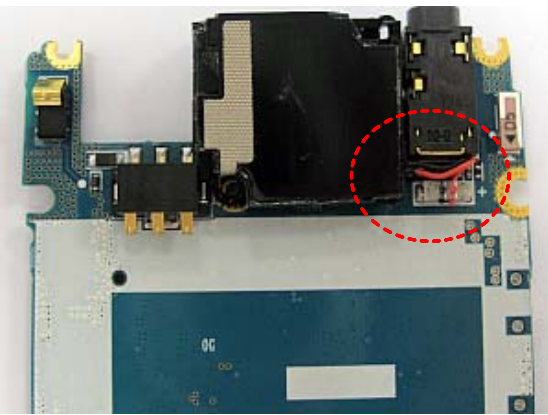
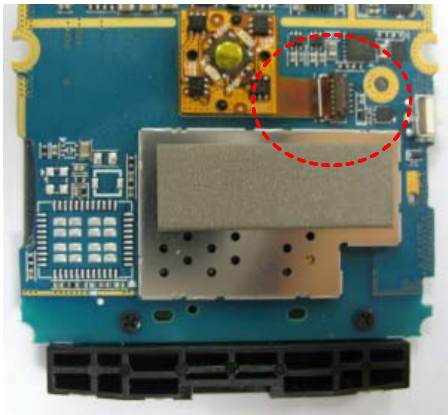
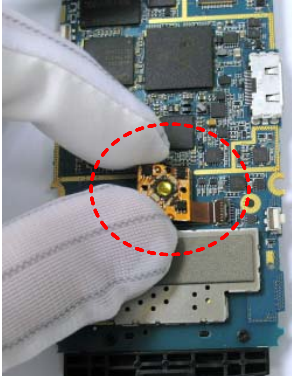
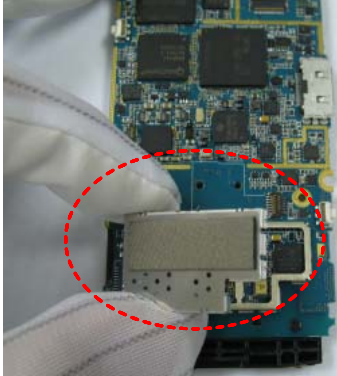
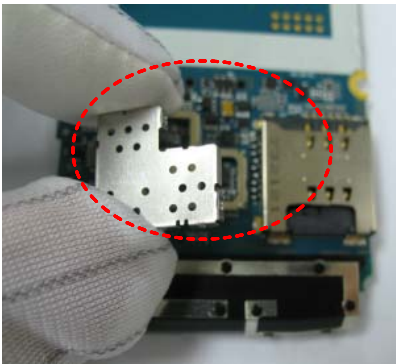
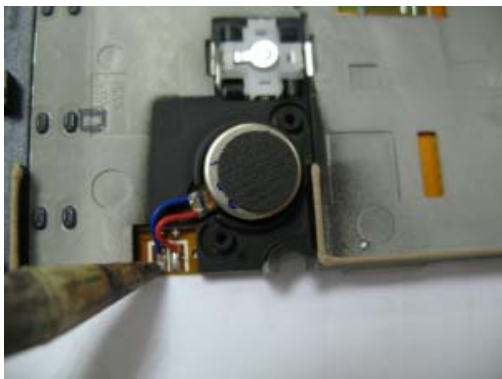


Separate VGA CAMERA Module.
 - Separate VGA Camera Module from PBA with care.

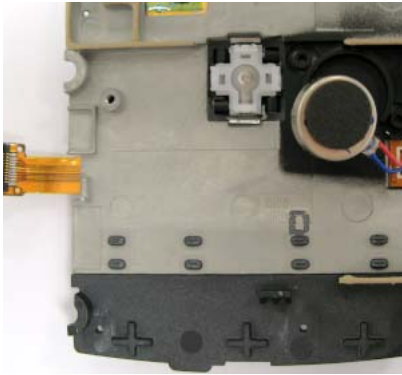
18



Separate 3Mega CAMERA Module.
 - Separate 3Mega Camera Module from PBA with care.

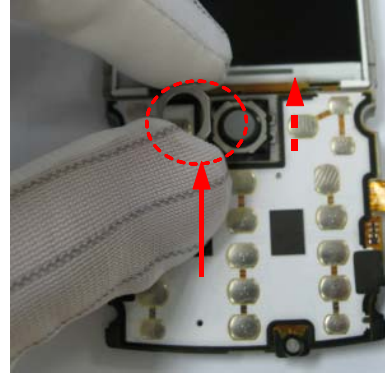
19  Separate SPEAKER CONNECTOR. - Separate Speaker connector from PBA with great care not to tear the wire.	20  Open TRACKBALL CONNECTOR LOCKER. - Open TRACKBALL CONNECTOR의 LOCKER.
21  Separate TRACKBALL FPCB. - Separate TRACKBALL FPCB from PBA. (Be careful that Trackball FPCB is attached to PBA with tape.)	22  Remove RF Shield can from the PBA TOP. - Remove RF Shield can from the PBA TOP.
23  Remove RF Shield can from PBA BOTTOM. - Remove RF Shield can from PBA BOTTOM.	24  RE-SOLDERING of Motor wire. - Prepare to separate motor from the Key FPCB with RE-SOLDERING of Motor wire.

25



Separate motor from the main shield can.
- Separate motor from the main shield can.

26



Remove Trackball cover and module from the main shield can.
- Remove Trackball cover and module from the main shield can.

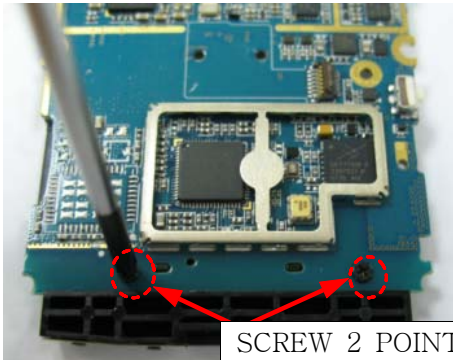
27



Separate LCD from the main shield can.
- Separate LCD from the main shield can. (Be careful that LCD is attached to the main shield can strongly.)

- PBA와 ANTENNA

1



Remove Intenna SCREWS.
- Remove 2 Intenna SCREWS.

2



Intenna Contact Re-soldering
- Separate Intenna from PBA with Re-soldering.

3



Separate Intenna from PBA.
- Separate Intenna from PBA.
※ Caution : Be careful that you should separate intenna from PBA with great care not to destroy intenna.

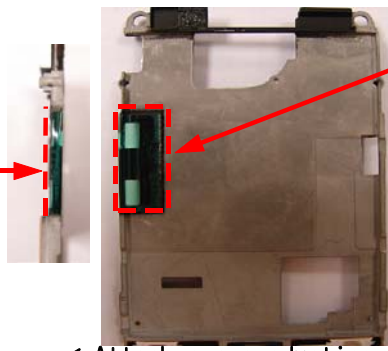
11-2. Assembly Instructions

1



< Remove the release paper >

Consider the
guide line



< Attach non-conducting tape >

Consider the guide
line

Remove the release paper of the main shield can and attach the non-conducting tape to the main shield can referring to the guide lines colored black.

1. Remove the release paper of the main shield can.
2. Attach the non-conducting tape to the main shield can referring to the guide line.

2



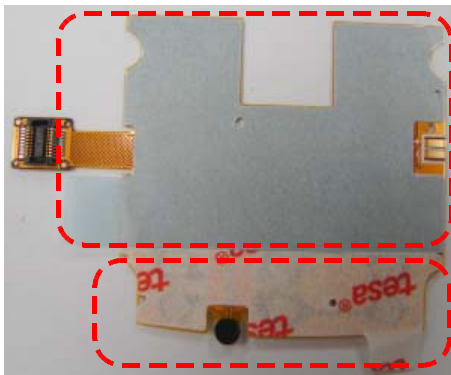
< Insert LCD connector into the hole with care >

Attach the upper part of the LCD first.

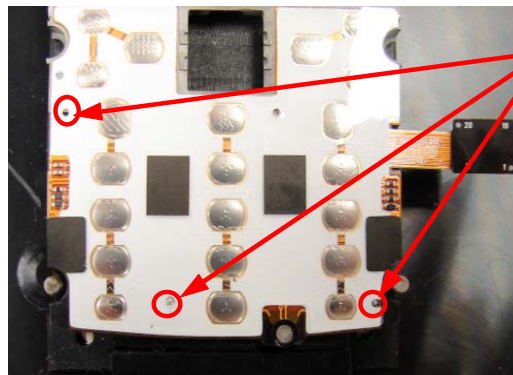
Attach LCD to the main shield can.

- Insert LCD connector into the hole and then attach LCD to the main shield can.

3



< Remove Key FPCB the release paper >



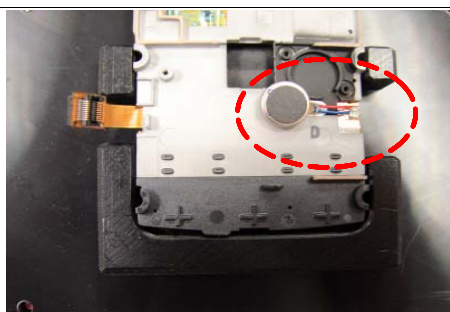
Correspond holes
each other

< Attach Key FPCB to the main shield can >

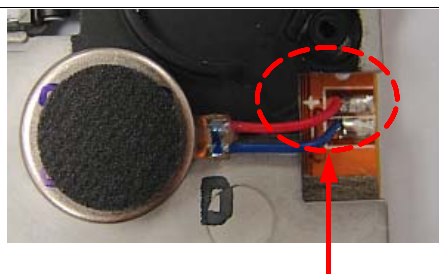
Attach Key FPCB.

1. Remove two sorts of release paper.
2. Attach Key FPCB to the main shield can referring to the 3 holes of the main shield can. (Correspond Key FPCB Holes with the main shield can holes.)

4



<MOTOR SOLDERING>



< (+) : red (upper), (-) : blue (lower) >



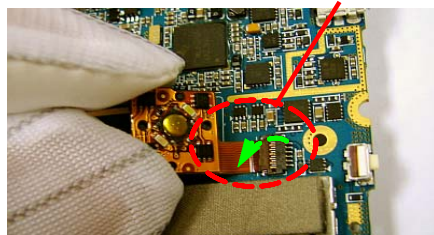
<Attach MOTOR>

Solder motor wire and attach motor to the main shield can.

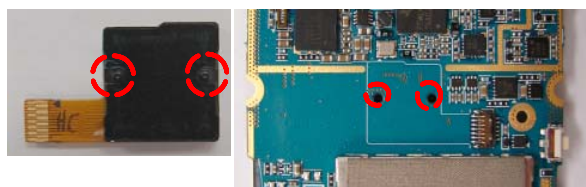
1. Solder motor wire to the soldering pad considering +/- and be careful not to connect two pads or wires.
2. Remove the release paper of the bottom part of the motor and then attach motor to the main shield can considering guide line.

5

Close Locker of the connector



< Insert Trackball FPCB into the connector >

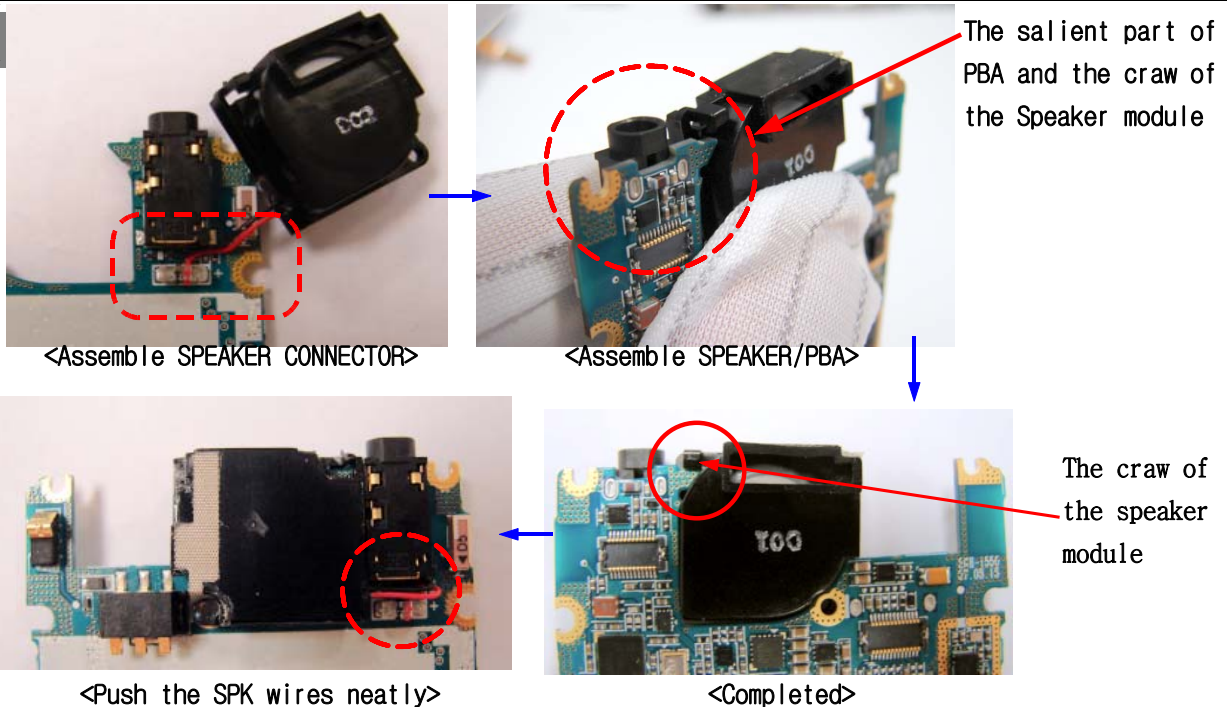


< Fit the salient part into the PBA Holes>

Attach TRACKBALL FPCB.

1. Remove TRACKBALL FPCB release paper.
2. Insert TRACKBALL FPCB into CONNECTOR and then close the locker of the connector.
3. Attach TRACKBALL FPCB referring to 2 holes of the PBA. (Two holes of the Trackball FPCB should fit in the holes of the PBA.)

6



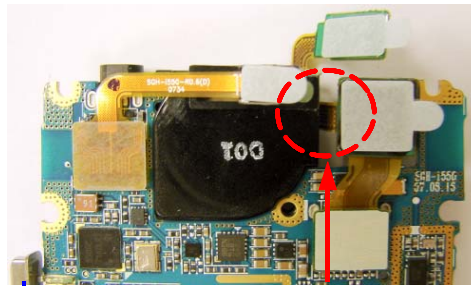
Connector SPEAKER wire to the PBA SPK connector.

1. Connect SPEAKER wire to the PBA SPK connector considering +/- . [(+) red (right), (-) black(left)]
2. Settle the speaker module on the PBA considering that a salient part of PBA should fit into the claw of the SPK module.)
3. Push the SPK wires into the gap between SPK CONNECTOR and 3.5pi EARPHONE JACK not to tear wires.

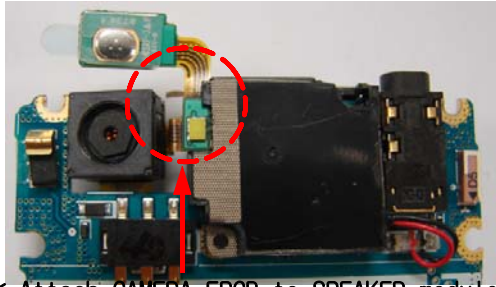
7



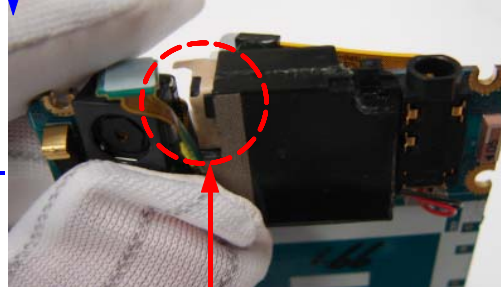
< Assemble VGA /3MEGA CAMERA CONNECTOR >



< Fold back 3MEGA CAMERA FPCB >



< Attach CAMERA FPCB to SPEAKER module >

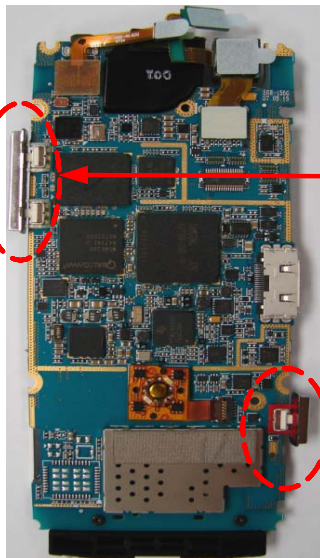


< Remove SPEAKER release paper >

Assemble 3MEGA/VGA CAMERA.

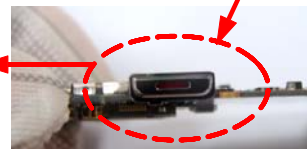
1. Put 3MEGA/VGA CAMERA into PBA connector.
2. Fold back 3MEGA CAMERA FPCB behind the Speaker module.
3. Remove SPEAKER release paper and then attach 3MEGA CAMERA FPCB to the sticky part of the SPEAKER module.

8



Caution

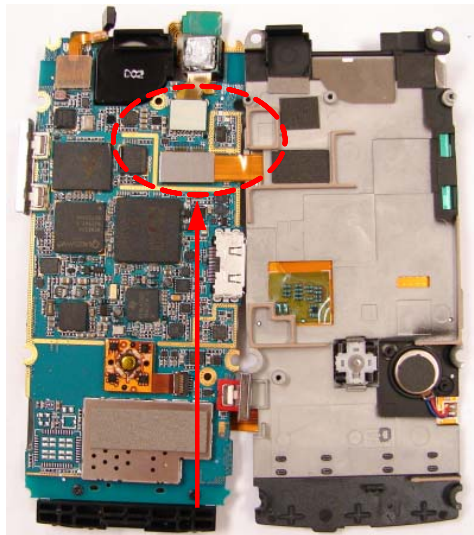
The rounded part is headed to Bottom



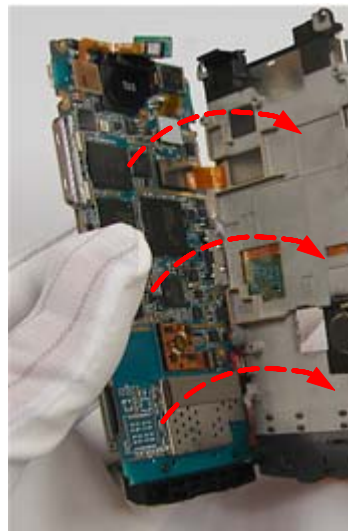
Hook VOLUME KEY / CAMERA KEY to PBA.

- Hook VOLUME KEY / CAMERA KEY to PBA considering that the rounded part of the key is headed to Bottom PBA.

9



< Assemble LCD CONNECTOR >

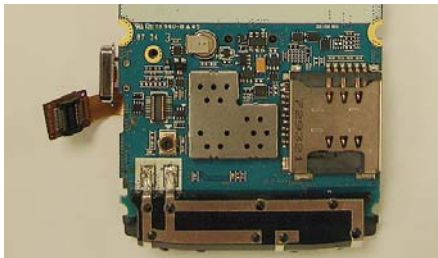


< Assemble PBA and the main shield can >

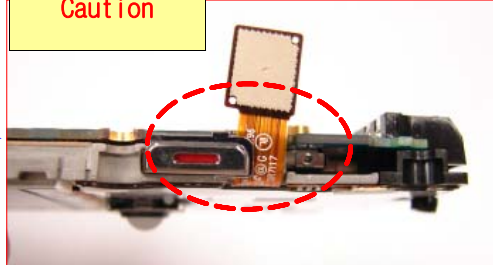
Assemble the main shield can and PBA.

- Connect LCD CONNECTOR considering that the volume key and the camera key should not fall from the PBA.

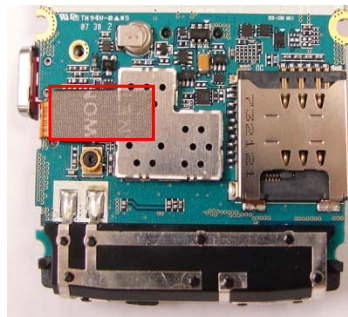
10



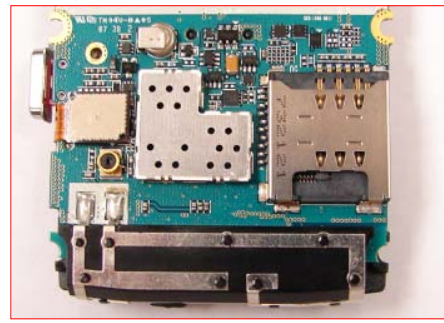
Caution



< Attach SPONGE >



< Attach CONDUCTION TAPE >



< Assemble KEY PCB CONNECTOR >

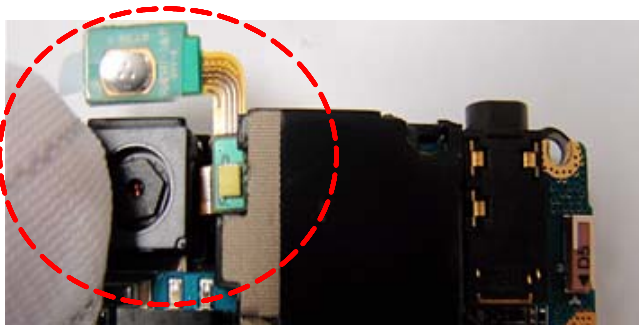
Connect KEY FPCB CONNECTOR.

- Put KEY FPCB CONNECTOR into back of CAMERA KEY and then connect.
- Attach a CONDUCTION TAPE to the BOTTOM SHIELD CAN and KEY FPCB CONNECTOR as shown above.
- Attach a SPONGE to the CONDUCTION TAPE as shown above.

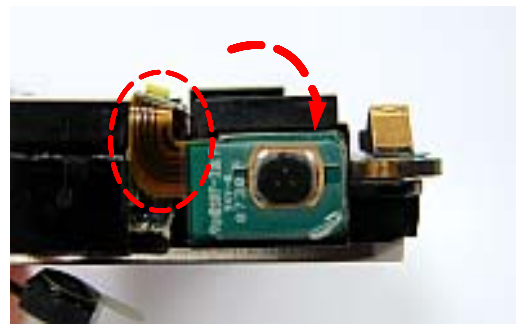
※ Be careful not to tear Key FPCB.

11

Attach CAMERA with care



Attach POWER KEY



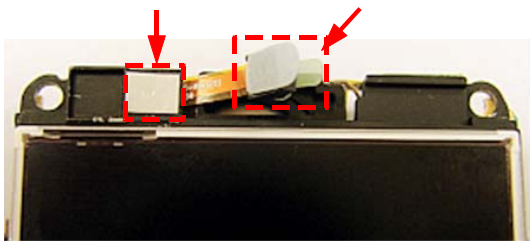
< Attach 3MEGA CAMERA and POWER KEY >

Attach 3MEGA CAMERA and POWER KEY.

1. Attach 3MEGA CAMERA into the hole for 3Mega camera.
2. Fold POWER KEY FPCB as shown above and then attach POWER Key to the guide line of the main shield can.

12

the release paper 1 the release paper 2



< Remove the release tapes >

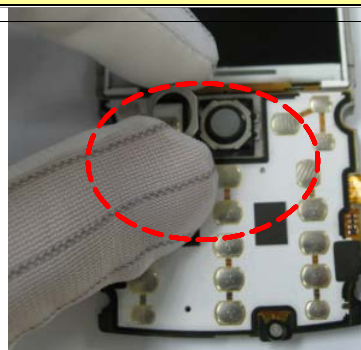
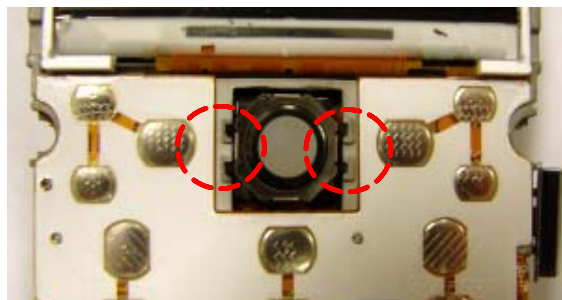


< Attach VGA CAMERA >

Attach VGA CAMERA.

- Remove two sorts of release paper and then attach VGA Camera to the main shield can.

13



Assemble TRACK BALL.

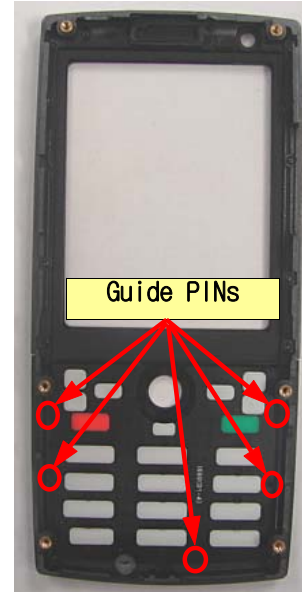
- Assemble TRACKBALL to the hole of the main shield can and then hook TRACK BALL Bracket to the main shield can.

14



Screw 2 points as shown above. (2points : red circles)
 - SCREW SIZE : M1.4,L4.0

15



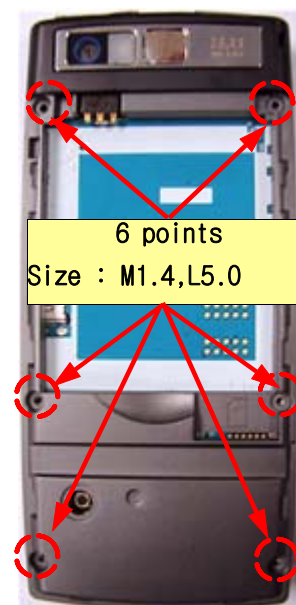
Settle KEY PAD on the Front.
 - Settle KEY PAD on the Front following the guide points.

16



Screw 2 points as shown above. (2points : red circles)
 - SCREW SIZE : M1.4,L3.5

17



Assemble Rear and screw 6 points as shown above.
 - Assemble Rear and screw 6 points as shown above.
 SCREW SIZE : M1.4,L5.0
 ※ Be cautious not to lose the power key that belongs to the rear(shaped circle).

