



GSM TELEPHONE

GT-S5830

SERVICE *Manual*

GSM TELEPHONE

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Notice :
All functionality, features, specifications and other product information provided in this document including, but not limited to, the benefits, design, pricing, components, performance, availability, and capabilities of the product are subject to change without notice or obligation. Samsung reserves the right to make changes to this document and the product described herein, at anytime, without obligation on Samsung to provide notification of such change.

1. Safety Precautions

1-1. Repair Precaution

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

	GSM850 Phase 1	EGSM 900 Phase 2	DCS1800 Phase 1	PCS1900	WCDMA 2100	WCDMA900
Freq. Band[MHz] Uplink/Downlink	824~849 869~894	880~915 925~960	1710~1785 1805~1880	1850~1910 1930~1990	1922~1977 2112~2167	880~915 925~960
ARFCN range	128~251	0~124 & 975~1023	512~885	512~810	UL:9612~9888 DL:10562~10838	UL:2712~2863, DL:2937~3088
Tx/Rx spacing	45MHz	45MHz	95MHz	80MHz	190MHz	45MHz
Mod. Bit rate/ Bit Period	270.833kbps 3.692us	270.833kbps 3.692us	270.833kbps 3.692us	270.833kbps 3.692us	3.84Mcps	3.84Mcps
Time Slot Period/Frame Period	576.9us 4.615ms	576.9us 4.615ms	576.9us 4.615ms	576.9us 4.615ms	FrameLength: 10ms Slotlength: 0.667ms	FrameLength: 10ms Slotlength: 0.667ms
Modulation	0.3GMSK	0.3GMSK	0.3GMSK	0.3GMSK	QPSKHQPSK	QPSKHQPSK
MS Power	33dBm~5dBm	33dBm~5dBm	30dBm~0dBm	30dBm~0dBm	24dBm~-50dBm	24dBm~-50dBm
Power Class	5pcl ~ 19pcl	5pcl ~ 19pcl	0pcl ~ 15pcl	0pcl ~ 15pcl	3(max+24dBm)	3(max+24dBm)
Sensitivity	-102dBm	-102dBm	-100dBm	-100dBm	-106.7dBm	-106.7dBm
TDMA Mux	8	8	8	8	8	8
Cell Radius	35Km	35Km	2Km	2Km	2Km	2Km

2-2. GSM Tx Power Class

TX Power control level	GSM850	TX Power control level	EGSM900	TX Power control level	DCS1800	TX Power control level	PCS1900
5	33±2 dBm	5	33±2 dBm	0	30±3 dBm	0	30±3 dBm
6	31±2 dBm	6	31±2 dBm	1	28±3 dBm	1	28±3 dBm
7	29±2 dBm	7	29±2 dBm	2	26±3 dBm	2	26±3 dBm
8	27±2 dBm	8	27±2 dBm	3	24±3 dBm	3	24±3 dBm
9	25±2 dBm	9	25±2 dBm	4	22±3 dBm	4	22±3 dBm
10	23±2 dBm	10	23±2 dBm	5	20±3 dBm	5	20±3 dBm
11	21±2 dBm	11	21±2 dBm	6	18±3 dBm	6	18±3 dBm
12	19±2 dBm	12	19±2 dBm	7	16±3 dBm	7	16±3 dBm
13	17±2 dBm	13	17±2 dBm	8	14±3 dBm	8	14±3 dBm
14	15±2 dBm	14	15±2 dBm	9	12±4 dBm	9	12±4 dBm
15	13±2 dBm	15	13±2 dBm	10	10±4 dBm	10	10±4 dBm
16	11±3 dBm	16	11±3 dBm	11	8±4 dBm	11	8±4 dBm
17	9±3dBm	17	9±3dBm	12	6±4 dBm	12	6±4 dBm
18	7±3 dBm	18	7±3 dBm	13	4±4 dBm	13	4±4 dBm
19	5±3 dBm	19	5±3 dBm	14	2±5 dBm	14	2±5 dBm
				15	0±5 dBm	15	0±5 dBm

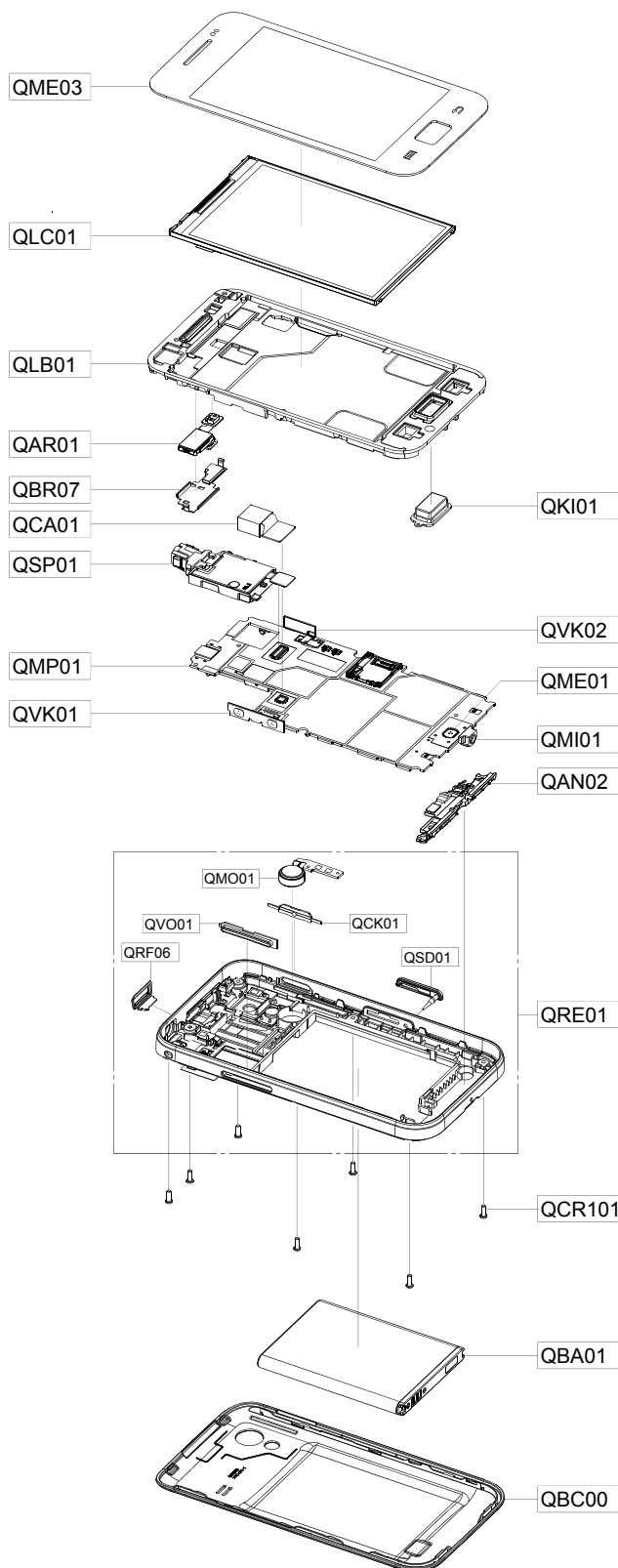
3. Operation Instruction and Installation

Main Function

- Quad Band EGSM850/900/DCS/PCS (EDGE/GPRS), UMTS 900/2100MHz
- HSDPA 7.2 Mbps
- 3.5" HVGA TFT Full Touch (c-type)
- Music player, Voice Recorder
- GPS / BT v2.1 / USB v2.0 / WiFi (802.11 b/n/g)
- 5M Camera
- FM Radio Receiver
- Sensors: Accelerometer, Compass, Proximity
- Improve TouchWiz 3.0 Light for Android(Multiple SNS(Facebook, Myspace, Twitter),Multiple IM(Parling: AOL, G-talk))
- Android Froyo OS
- SMS/MMS/Email

4. Exploded View and Parts List

4-1. Cellular phone Exploded View



4-2. Cellular phone Parts list

Design LOC		Description	SEC CODE
QCR101		SCREW-MACHINE	6001-002005
QMI01		MICROPHONE-ASSY-GT_S5830	GH30-00711A
QAN02		INTENNA-MAIN(GT_S5830)	GH42-02791A
QBA01		INNER BATTERY PACK-EB494358VU,GT-S5830,L	GH43-03504A
QME03		TOUCH/PANEL-GT_S5830	GH59-10422A
QSP01		MODULE-SPEAKER+EARJACK (GT_S5830)	GH59-10480A
QCA01		CAMERA MODULE-CAMERA-MODULE,GT-S5830	GH59-10482A
QVK01		KEY FPCB-VOLUME KEY(GT_S5830)	GH59-10492A
QME01		DOME SHEET-MAIN(GT-S5830)	GH59-10499A
QVK02		KEY FPCB-POWER KEY(GT_S5830)	GH59-10540A
QAR01		ASSY ETC-RCV+SENSOR FPCB ASSY(GT_S5830)	GH59-10554A
QKI01		PMO KEY-IN(D);GT-S5830,HIPMMA,BLK	GH72-62720A
QMP01		A/S ASSY-PBA MAIN (COMM)	GH82-05469A
QLC01		ELA MODULE-LCD(GT_S5830)	GH96-04970A
QLB01		ASSY BRACKET-LCD	GH98-18680A
QBC00		ASSY COVER-BATT	GH98-18681A
QBR07		ASSY BRACKET-SUS RCV	GH98-18682A
QRE01		ASSY CASE-REAR	GH98-18676A
	QMO01	MOTOR DC-GT-S5830	GH31-00522A
	QVO01	PMO KEY-VOLUME	GH72-62112A
	QCK01	PMO KEY-POWER	GH72-62113A
	QSD01	PMO COVER-SD	GH72-62114A
	QRF06	PMO COVER-USB	GH72-62115A

5. MAIN Electrical Parts List (2010.12.24)

SEC CODE	DESIGN LOC	Description
0403-001870	D600	TDZ5V6J
0404-001646	ZD505	PMEG4005EJ
0406-001286	ZD504	PESD5V0L5UV
0406-001446	ZD506,ZD507	RD1301
0407-001002	D400,D500	DAN222TL
0504-001138	Q601	DTA114EM
0505-002341	Q600	SI1013X-T1-GE3
0601-002846	LED500,LED501	19-217UTD/S759/TR8
0801-003265	U300	74AUP1G74GM
0801-003383	U301	74LVC1G00GM
1001-001645	U601	FSA9280AUMX
1108-000373	UME300	KAT007012B-BRTT
1201-003057	U102	RF7201
1201-003168	U200	SFMG1M0Q001
1201-003210	PAM100	SKY77554-21
1202-001068	U502	TC75S56FE
1203-005074	U600	AAT1146IJS-1.2-T1
1203-006025	U504	AAT1274IWO-T1
1203-006159	U104	AAT2146IJS-0.6-T1
1203-006346	U500	FT8010MPX
1203-006732	U400	MAX8899GEWZ-T
1203-006760	U503	KTD259EHD-TR
1205-003297	U103	RTR6285
1205-004076	U202	AR6003G-AC2B-R
1205-004113	U201	BCM20780C0KUBG
1205-004180	UCP300	MSM7227-1-SCREEN
1209-002023	C524	BMA222
1209-002030	U604	MMC3280MS
1404-001221	TH300	NCP15WB473J04RC
1405-001298	V500,V501,V603,ZD500	LXES15AAA1-075
1405-001298	ZD501,ZD502,ZD503	LXES15AAA1-075
1405-001298	ZD600	LXES15AAA1-075
2007-000137	R325,R513,R515,R517	RC1005J202CS
2007-000138	R102,R111,R112,R322	RC1005J101CS
2007-000138	R326,R608	RC1005J101CS
2007-000140	R113,R303,R512	RC1005J102CS

SEC CODE	DESIGN LOC	Description
2007-000141	R304,R305,R306,R307	RC1005J222CS
2007-000141	R311,R312,R313,R314	RC1005J222CS
2007-000144	R400	RC1005J512CS
2007-000148	R308,R502,R600,R604	RC1005J103CS
2007-000148	R615,R622	RC1005J103CS
2007-000149	R607	RC1005J123CS
2007-000151	R623,R624	RC1005J153CS
2007-000157	R610,R611,R612,R613	RC1005J473CS
2007-000157	R614	RC1005J473CS
2007-000162	R300,R302,R315,R319	RC1005J104CS
2007-000162	R320,R324,R327,R410	RC1005J104CS
2007-000162	R508,R526,R527,R528	RC1005J104CS
2007-000165	R518	RC1005J204CS
2007-000166	R121	RC1005J304CS
2007-000168	R616	RC1005J474CS
2007-000170	R509	RC1005J105CS
2007-000172	R603	RC1005J100CS
2007-001295	R405,R406	RC1005J390CS
2007-001298	R329,R401	RC1005J510CS
2007-001301	R110	MCR01MZP5J680
2007-001325	R129	RC1005J332CS
2007-001333	R521	MCR01MZP5J183
2007-001339	R609	RC1005J184CS
2007-002796	R511,R514	MCR01MZP5J511
2007-002965	R525	RK73K1ETP150J
2007-002970	R500,R501	MCR01MZP5J560
2007-003004	R106	TSR16GJ131V
2007-003013	R128	MCR01MZP5J242
2007-003015	R605,R606	MCR01MZP5J2R2
2007-003030	R105	RC1005J910CS
2007-007107	R407	RC1005F1003CS
2007-007132	R204	RC1005F153CS
2007-007139	R309,R310	MCR01MZP5F4702
2007-007309	R109	MCR01MZP5F1202
2007-007334	R402	RC1005F2003CS
2007-007468	R409	RK73H1ETP1213F

SEC CODE	DESIGN LOC	Description
2007-007480	R408	RK73H1ETP1303F
2007-007573	R403	RK73H1ETP3303F
2007-007589	R122	RK73H1ETP6802F
2007-007875	R529	RK73H1ETP1603F
2007-008298	R301	RC1005F49R9CS
2007-008766	R323,R621	ERJ2RKF6041X
2007-008812	R404	RC1005F2153CS
2007-009794	R205	RK73H1HTTC6191F
2203-000233	C174,C181,C182,C214	GRP1555C1H101J
2203-000233	C237,C329,C435	GRP1555C1H101J
2203-000254	C106,C113,C162,C204	GRP155R71C103K
2203-000278	C151,C200,C203,C209	GRP1555C1H100D
2203-000278	C229,C515	GRP1555C1H100D
2203-000330	C236	GRP1555C1H120J
2203-000359	C503,C505,C603	GRP1555C1H151JD01E
2203-000438	C102,C112,C163,C217	GRP155R71H102K
2203-000489	C136,C138,C328	GRP155R71H222K
2203-000550	C433,C434	GRP1555C1H200JZ01E
2203-000585	C428,C517,C518	GRP155R71H221KD01E
2203-000627	C159,C161,C173	GRM1555C1H220J
2203-000696	C321	GRP1555C1H2R0C
2203-000812	C103,C114,C142,C152	GRP1555C1H330J
2203-000812	C154,C158,C180,C208	GRP1555C1H330J
2203-000812	C210,C211,C212,C219	GRP1555C1H330J
2203-000812	C220,C323,C615	GRP1555C1H330J
2203-000995	C330,C429,C610,C611	GRP1555C1H470J
2203-001017	C168,C177	GRP1555C1H4R0C
2203-001153	C139,C141	GRP1555C1H680J
2203-001385	C132,C134	GRP1555C1H1R5CZ01E
2203-001405	C406,C407	04023G223ZAT2A
2203-002668	C116	C1005CG1H0R5BT
2203-002677	C238	CL05CR75BB5NNNC
2203-005057	C133,C184,C516	GRP1555C1H8R2CZ01E
2203-005249	C534	GRM188R71H104K
2203-005382	C167,C233,C235	GRP1555C1H6R0BZ01E
2203-005393	C176	GRP1555C1H5R0BZ01E

SEC CODE	DESIGN LOC	Description
2203-005480	C324	GRP155R71A333KA01E
2203-005806	C117	GRP033R71C102KD01E
2203-006048	C101,C157,C160,C172	GRM155R71A104K
2203-006048	C205,C206,C223,C225	GRM155R71A104K
2203-006048	C226,C228,C231,C232	GRM155R71A104K
2203-006048	C242,C300,C301,C303	GRM155R71A104K
2203-006048	C306,C308,C309,C311	GRM155R71A104K
2203-006048	C312,C313,C314,C315	GRM155R71A104K
2203-006048	C318,C322,C325,C326	GRM155R71A104K
2203-006048	C327,C331,C332,C436	GRM155R71A104K
2203-006048	C437,C442,C443,C501	GRM155R71A104K
2203-006048	C508,C511,C512,C519	GRM155R71A104K
2203-006048	C522,C525,C526,C529	GRM155R71A104K
2203-006123	C218	GRM0335C1E5R6CD01D
2203-006137	C533	CL05B223KONC
2203-006187	C130,C131	GRM0335C1E3R9B
2203-006201	C241	GRM188R60J225KE01D
2203-006208	C165,C500,C612	CM105X5R475M06AT
2203-006260	C400	GRM155R61A224KE19E
2203-006348	C617	CV105X5R105K25AT
2203-006399	C201,C202,C215,C216	GRM155R60J105KE19D
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2203-006399	C432,C445,C502,C601	GRM155R60J105KE19D
2203-006399	C604,C605,C608,C609	GRM155R60J105KE19D
2203-006399	C621,C625,C632	GRM155R60J105KE19D
2203-006423	C169	GRM33X5R104K6.3
2203-006474	C509	GRM21BR60J226ME
2203-006562	C431,C444	CV05X5R105K10AH
2203-006707	C125,C127	GRM0335C1E4R7C
2203-006824	C137,C164,C401,C402	CV105X5R475K10AT
2203-006824	C403,C404,C405,C420	CV105X5R475K10AT
2203-006824	C438,C439,C440,C441	CV105X5R475K10AT

SEC CODE	DESIGN LOC	Description
2203-006824	C527,C530,C613	CV105X5R475K10AT
2203-006842	C234	CL05C471JB5NNNC
2203-006846	C122,C124	ECJZEC1E2R0B
2203-006979	C171	CL03B103KP3NNNC
2203-007240	C310,C316,C506	CL10A226MQ8NRNE
2203-007271	C207,C221,C224,C227	CL05A225KP5NSNC
2203-007271	C230,C240,C410,C411	CL05A225KP5NSNC
2203-007271	C412,C413,C414,C415	CL05A225KP5NSNC
2203-007271	C421,C422,C623,C624	CL05A225KP5NSNC
2203-007279	C118,C535	CV105X5R106M10AT
2203-007317	C170	CV05X5R475M06AH
2203-007449	C606,C607	CV03X5R105M06AH-SAM
2203-007701	C523,C614	QV105X5R106M10AT
2409-001172	BAT400	SM3R3703-R01
2703-001729	L112,L130	LL1005-FH1N8S
2703-001747	L101,L120,L207	LL1005-FH4N7S
2703-001748	L123	LL1005-FH5N6S
2703-001750	L118	LL1005-FH2N2S
2703-002170	L134	CIH05T6N8JNC
2703-002176	L108,L128	CIH05T2N7SNC
2703-002198	L117,L126	CIH05T10NJNC
2703-002200	L110	CIH05T18NJNC
2703-002204	L300	CIH05T22NJNC
2703-002205	L132	CIH05T3N9KNC
2703-002207	L121	CIH05T3N3SNC
2703-002208	L114	CIH05T2N2SNC
2703-002267	L202	CIH05T4N7SNC
2703-002268	L105,L119,L127	CIH05T8N2JNC
2703-002308	L129,L205,L500	CIH05T68NJNC
2703-002309	L515,L516	CIH05T82NJNC
2703-002314	L208	CIH05T47NJNC
2703-002369	L125	CIH05T1N5SNC
2703-002793	L107,L109	LQP03TN5N6J00D
2703-002795	L102,L103,L104	LQP03TN22NG00D
2703-002861	L508	LPF3010T-100M
2703-002958	L106	CIH03T56NJNC

SEC CODE	DESIGN LOC	Description
2703-003347	L512	CIG22L1R0MNE
2703-003685	L124,L600	CIG21L4R7MNE
2703-003686	L400,L401,L402,L403	CIG21L2R2MNE
2801-004909	OSC400	EXS00A-MU00031
2801-005045	OSC200	CXC6X260000GHVRE00
2809-001366	OSC100	1XTV19200AEB
2901-001424	F600,F601,F602,F603	AVRC-14S-03Q-030-100R
2901-001424	F604,F605,F606	AVRC-14S-03Q-030-100R
2904-001658	F103	SFDG50AQ101
2904-001702	F104	SFHG40YQ101
2904-001889	F100	SFRM81DY102
2904-001920	F101	SFRG42MY002
2910-000099	DUF101	SFXG50PD502
2910-000117	DUF100	SAYRJ897MCA0B0A
2911-000158	F200	LMFEFAGB-C05
3301-001438	L204	BLM15BB750SN1D
3301-001659	L200,L201,L510	BLM15AG601SN1
3301-001756	L100	BLM15HG102SN1D
3301-001789	L601	BLM15EG121SN1D
3301-001885	L501,L502,L503,L504	BLM15HD182SN1D
3301-001885	L505,L507,L509	BLM15HD182SN1D
3301-002037	L513,L514	BLM18KG601SN1
3705-001731	RFS100	KMS-560-002-BEF
3709-001456	SIM600	500-6P-2.7X
3709-001575	CD600	SCHA4B0301
3710-002632	HDC602	AXT410164AW1
3711-005550	HDC500	AXK8L10125SJ
3711-006856	HDC601	14-5801-050-002-829
3711-007107	HDC600	AXE630124AW1
3711-007533	BTC600	202-03000-00347
3712-001326	ANT201	HM01-AR0145
3712-001348	ANT500,ANT501	HJ-ICT-05Y
3712-001361	ANT200	HJ-ICT-02Y
3722-003065	IFC600	HY07-AB0721
GH59-08444A	LED502	CHP-C4040-200-PB2016
GH80-03320A	R108,R116,R200	PB-SHORT-1005

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

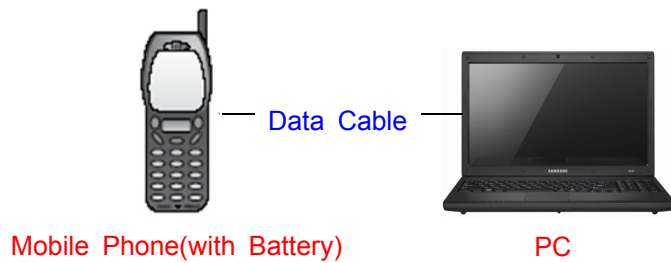
6. Level 1 Repair

6-1. Software Download

6-1-1. Pre-requisite for Download

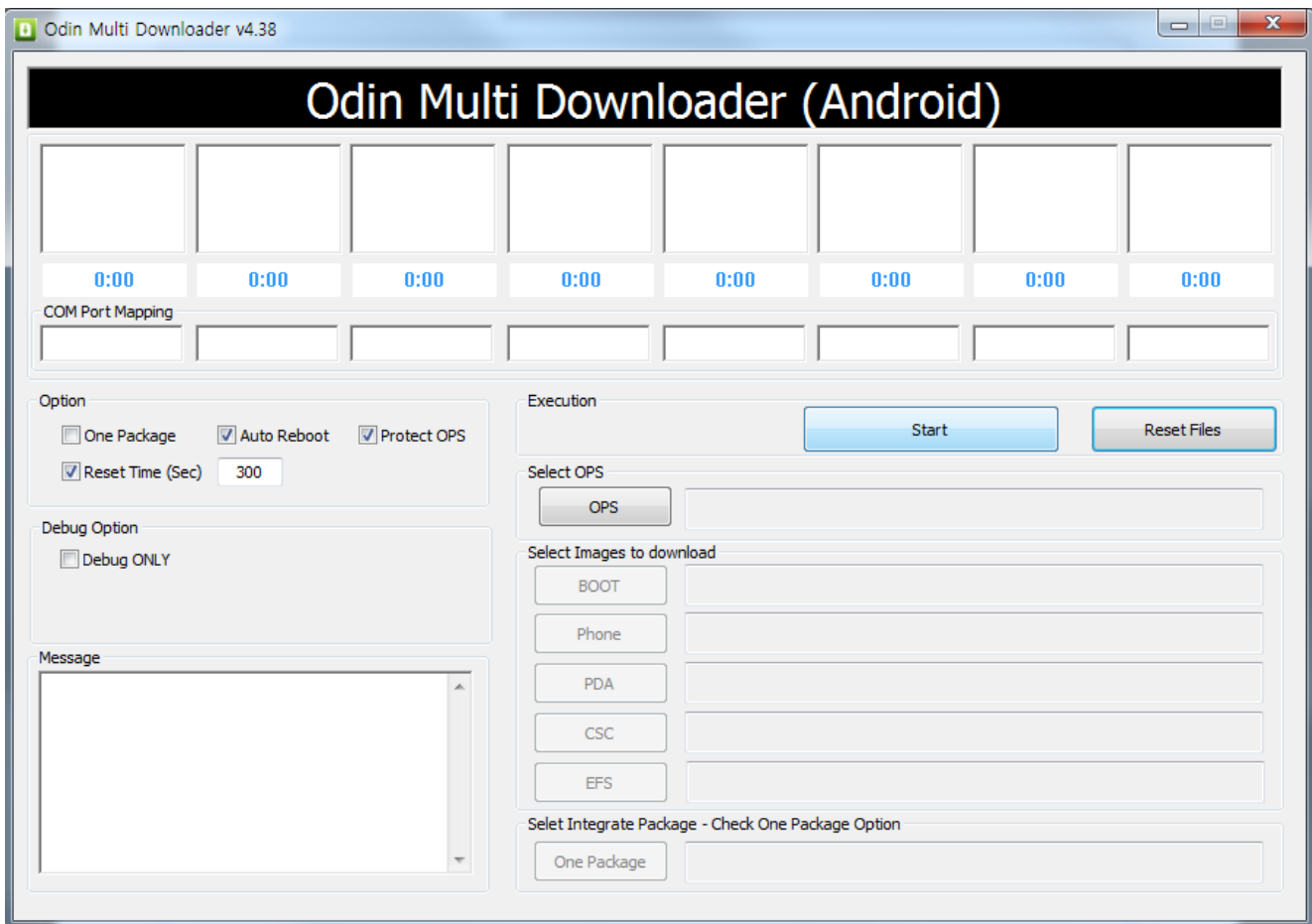
- ⇒ Downloader Program ([Odin Multi Downloader v4.19](#))
- ⇒ GT-S5830 Mobile Phone
- ⇒ Data Cable
- ⇒ JIG BOX (GH99-36900A)
- ⇒ RF Test Cable (GH39-00985A)
- ⇒ JIG Cable (GH39-01290A)
- ⇒ Adapter (GH99-38251A)
- ⇒ Binary files

- Diagram of Connection:

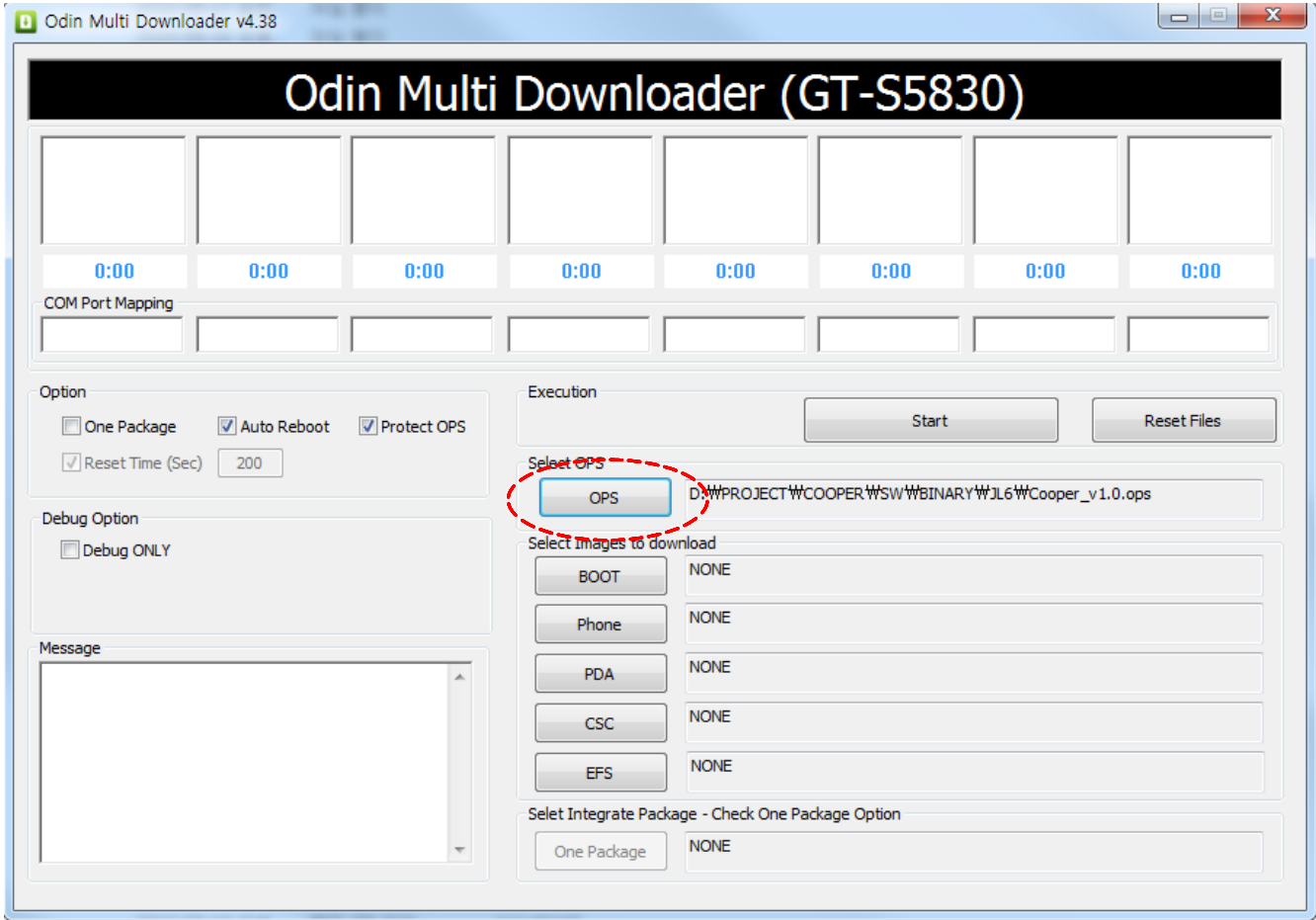


6-1-2. S/W Download Process

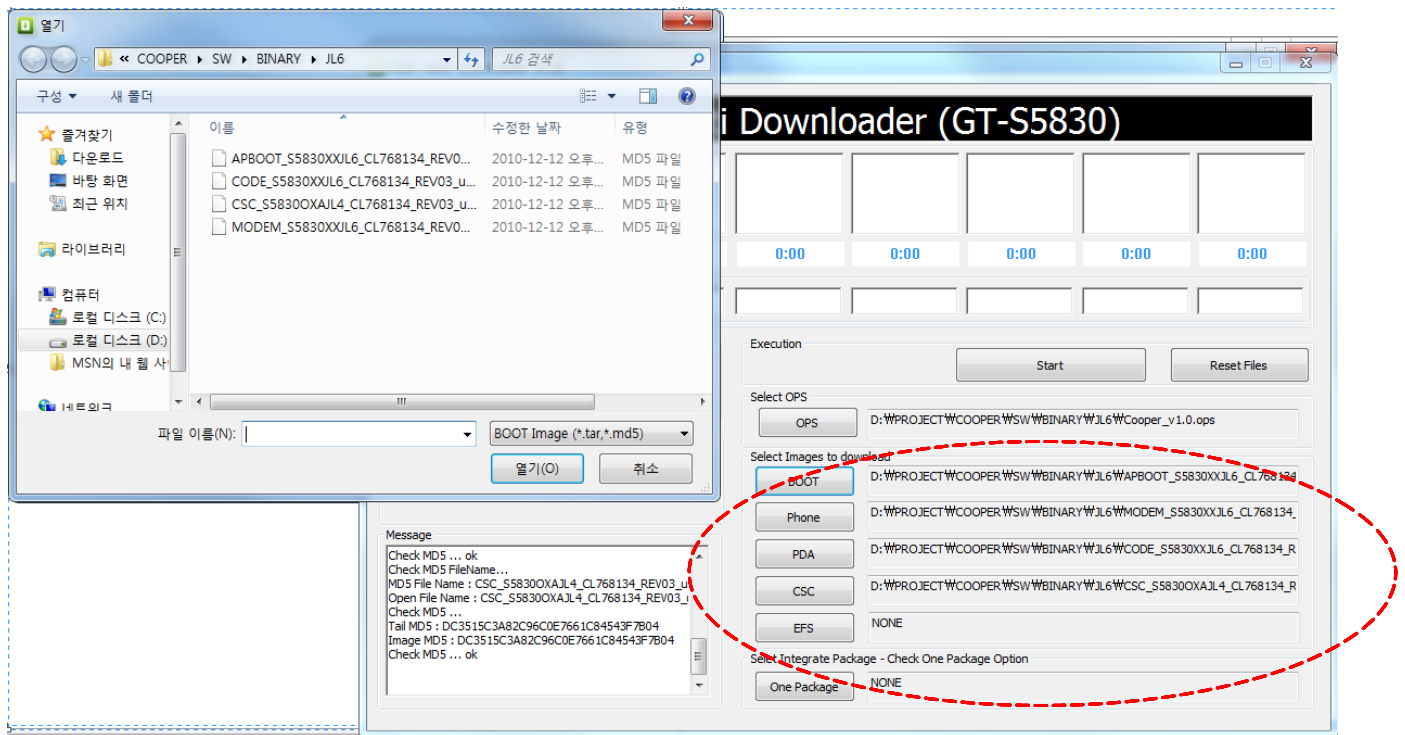
1. Load the binary download program by executing the "Odin Multi Downloader v4.19"



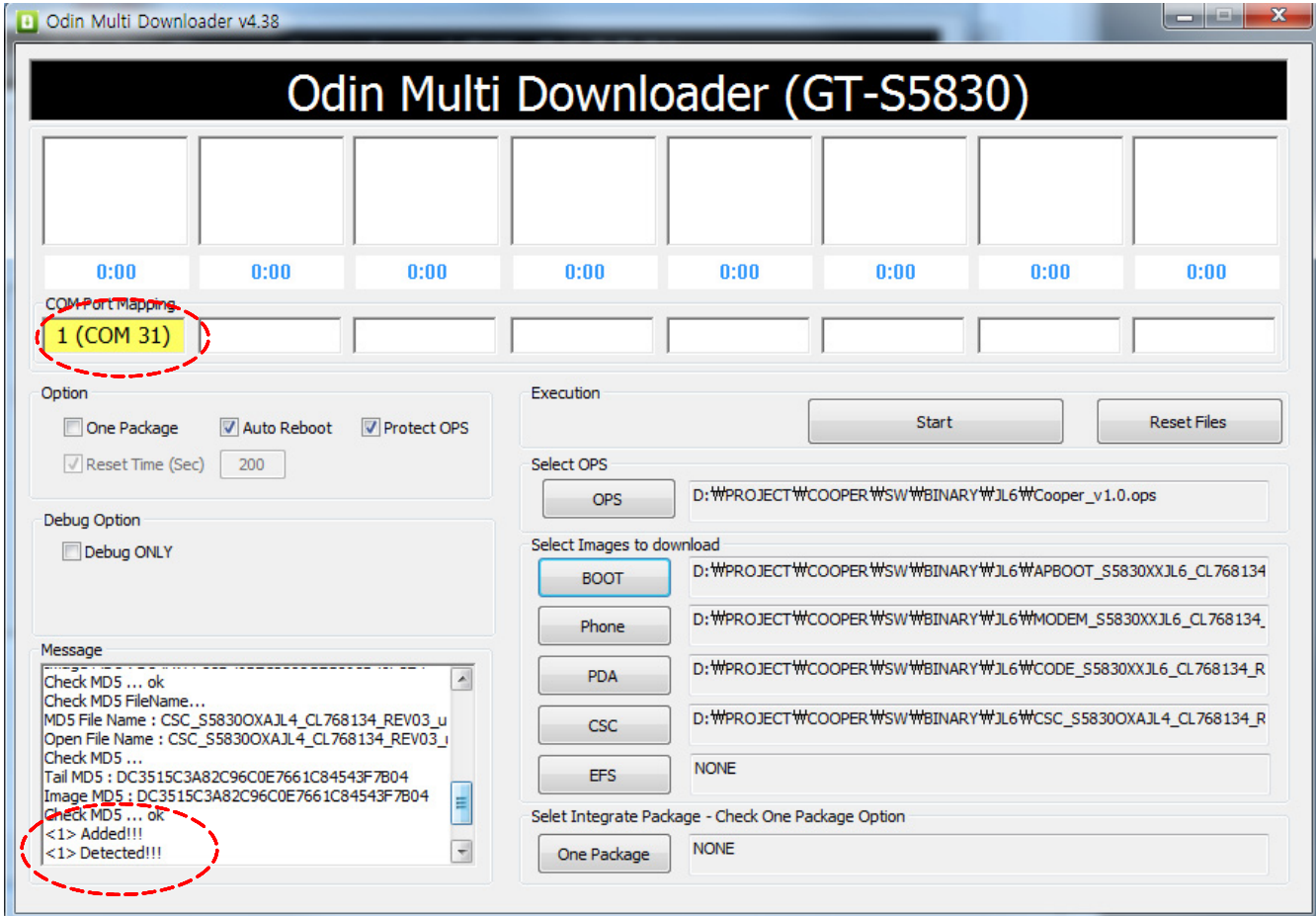
2 Select OPS file (Cooper_v1.0.ops) from the folder that you saved the binary files.



3. Load the file of Bootloader, Amss, PDA, CSC files from the folder that you saved the binary files.



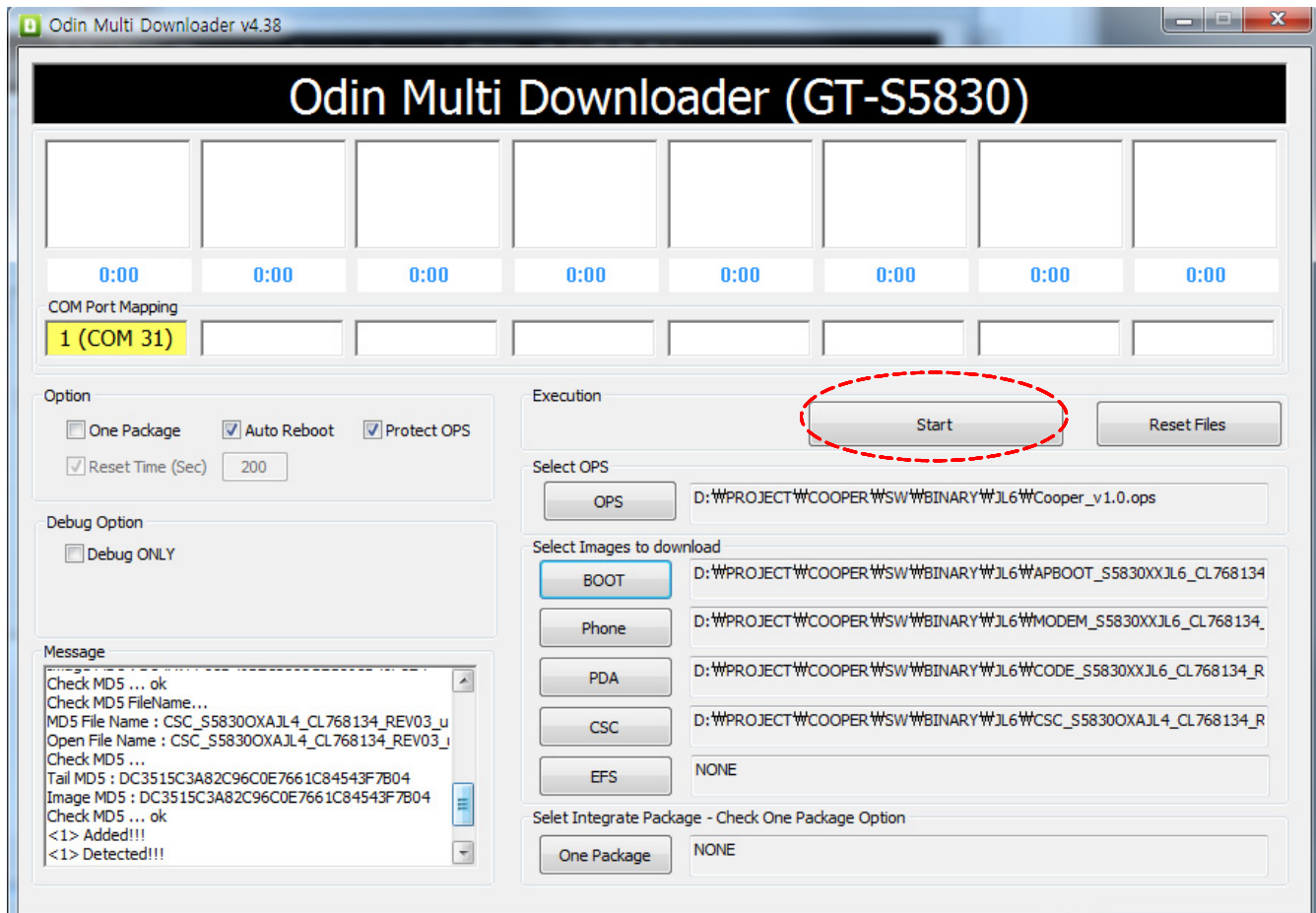
4. COM Port Mapping change to **yellow** colour when the phone with download mode is connected to PC by data cable.



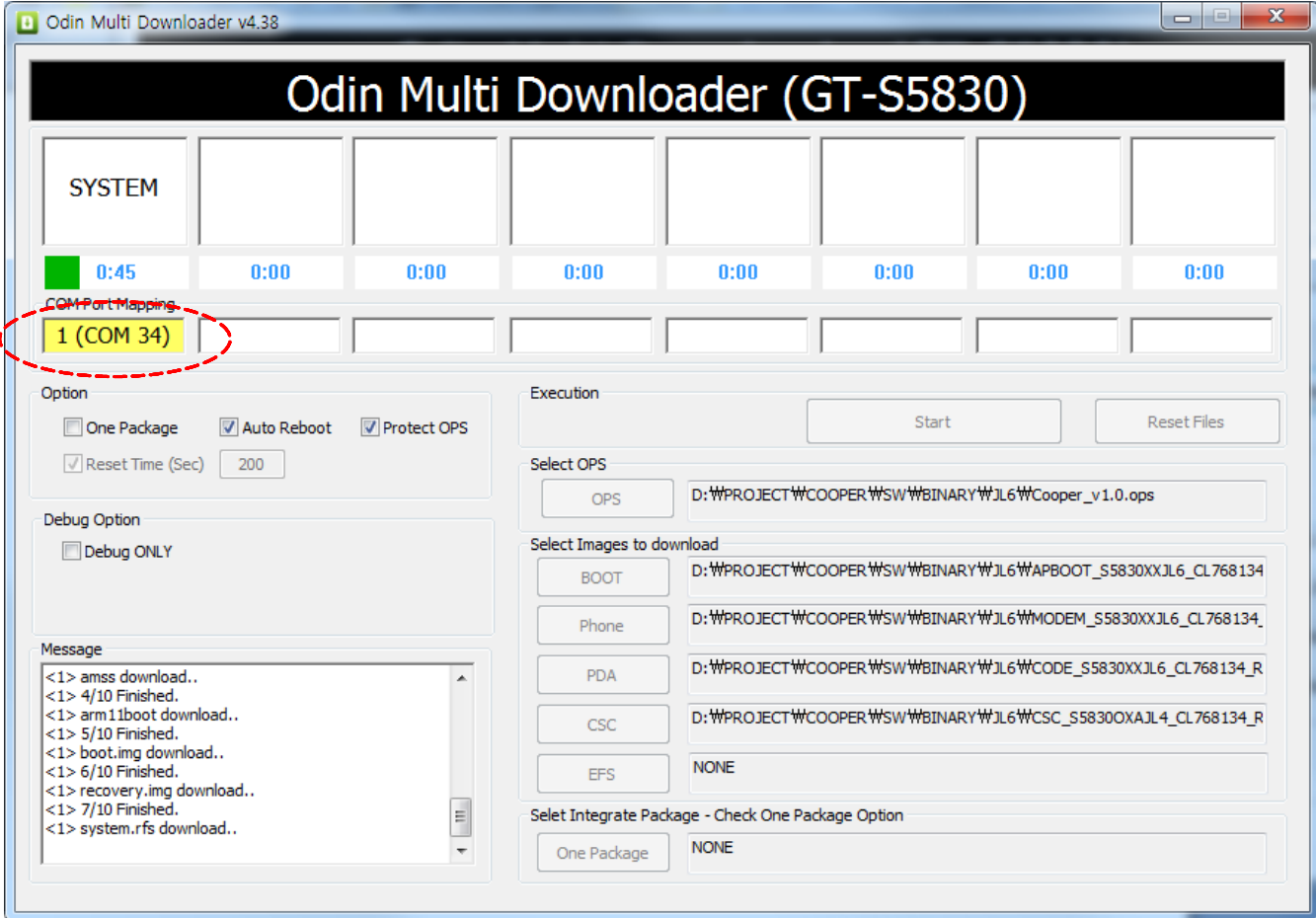
cf. You have to set the phone as a download mode by pressing Middle Key(OK Key) + Power key simultaneously before connecting to PC .

Then, the port would be searched.

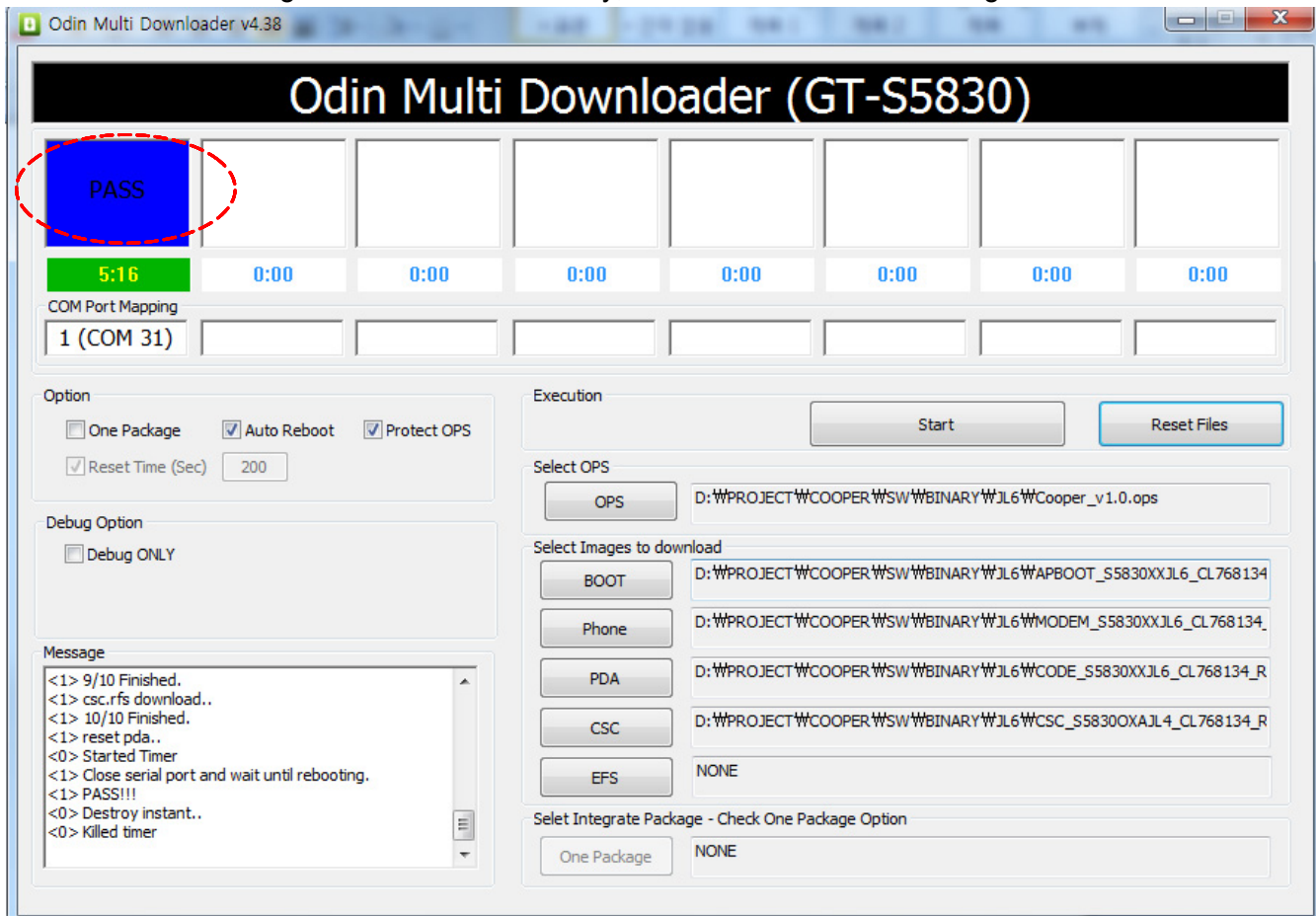
5. Click the **Start** button when the Port searched.



It will start to download.



6. When downloading is finished successfully, there is a "PASS" message.



7. Confirm the downloaded version name and etc. :

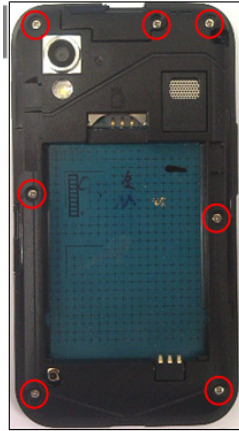
***#1234#**

7. Level 2 Repair

7-1. Disassembly

1

1) Unscrew the 7 points.



2

1) Disassemble the REAR CASE like below picture.
Lift the REAR CASE from below.



Caution

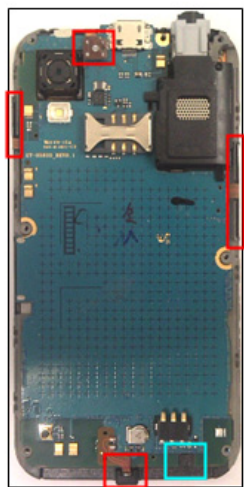
1) Be care of scratch and molding damage.

Caution

1) Be care of scratch and molding damage.

3

1) Detach the 2 KEY FPCB .
2) Separate the LCD connector.
3) Lift the MIC FPCB



Caution

1) Be care of scratch and molding damage.
2) Be care of damage to the FPCB.

4

1) Separate the LCD connector.

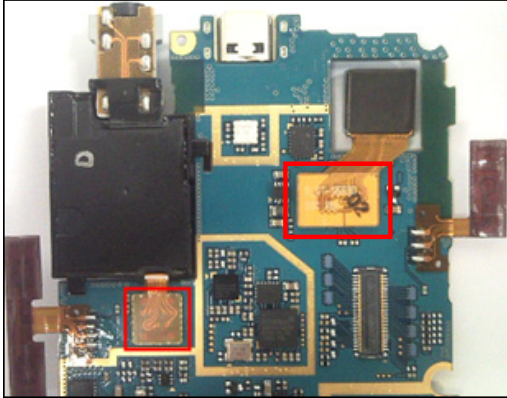


Caution

1) Be care of scratch and molding damage.
2) Be care of damage to the FPCB.

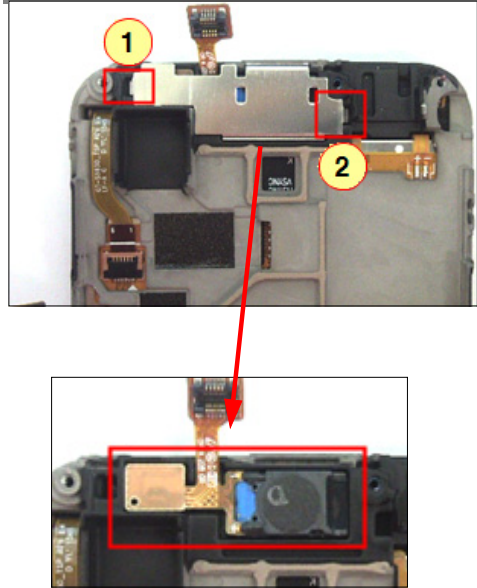
5

1) Separate the EARJACK connector and CAMERA connector from PBA.



6

1) Disassemble the SUS and RCV from BRACKET.



Caution

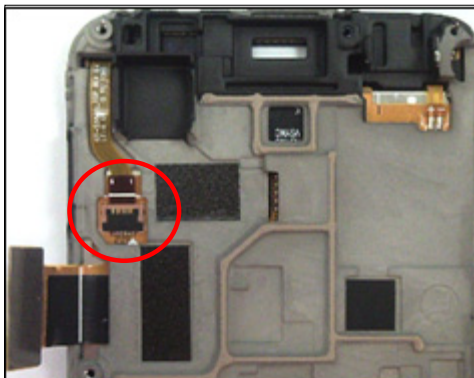
- 1) Be care of damage to the EARJACK Module.
- 2) Be care of damage to the CAMERA.

Caution

- 1) Be care of damage to RCV.

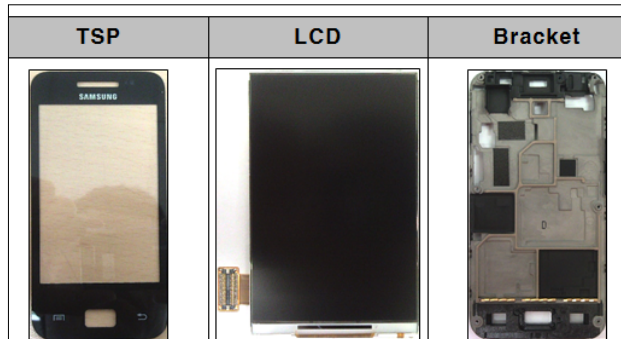
7

1) Open the TSP connector then separate TSP from BRACKET.



8

1) Remove LCD from BRACKET.



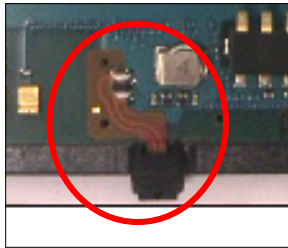
- 1) Be care of damage to the TSP FPCB.

- 1) Be care of scratch and molding damage.
- 2) Be care of damage to the TSP & LCD.

7-2. Assembly

1

1) Solder the MIC.

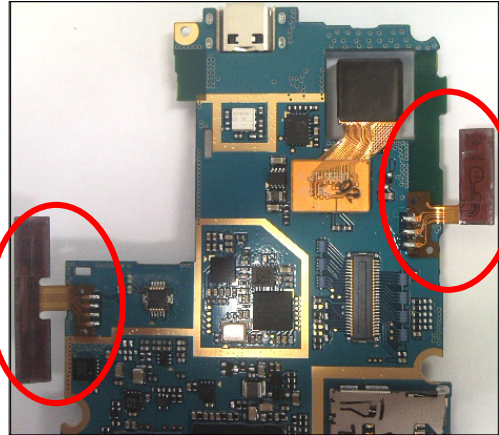


Caution

1) Be care of damage the FPCB.

2

1) Solder the VOLUME KEY & POWER KEY FPCB.

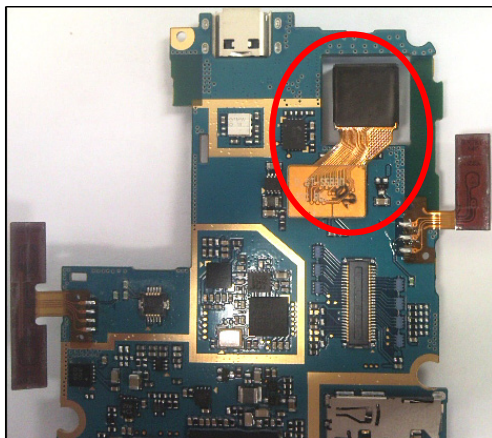


Caution

1) Be care of damage to PBA and MOTOR wire

3

1) Assemble the CAMERA.

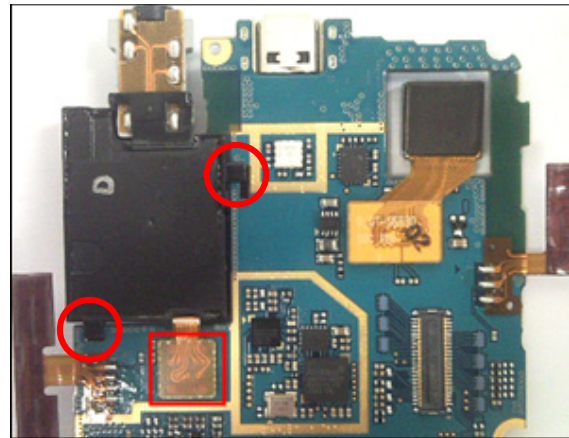


Caution

1) Be care of damage to PBA.
2) Be care of damage to CAMERA.

4

1) Assemble the EARJACK module and connector.



Caution

1) Be care of damage to PBA.

5

1) Place LCD on the BRACKET.



6

1) Pass FPCB to BRACKET hole and then attach the TSP to BRACKET using JIG.



Caution

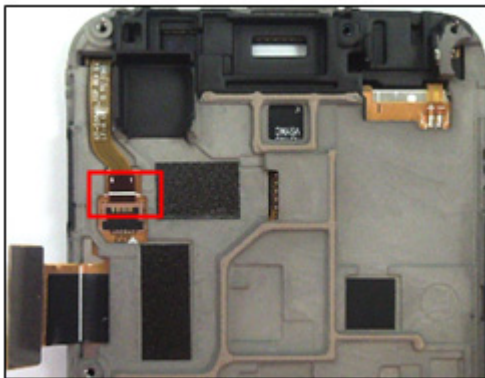
1) Be care of damage to LCD FPCB.

Caution

1) Be care of damage the TSP FPCB.
2) Be care of scratch and molding damage.

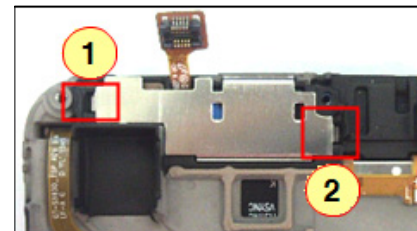
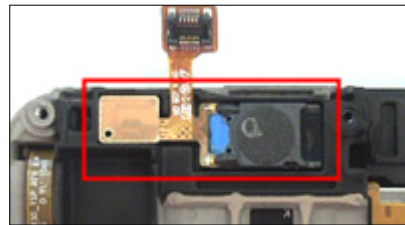
7

Connect the TSP connector.



8

1) Put the RCV to BRACKET.
2) Assemble the SUS to BRACKET.



Caution

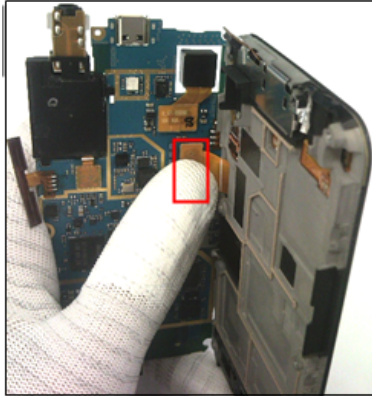
1) Be care of scratch and molding damage.
2) Be care of TSP Fpcb damage.

Caution

1) Be care of damage the RCV.
2) Be care of scratch and molding damage.

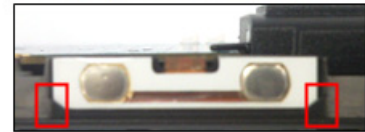
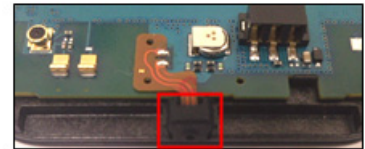
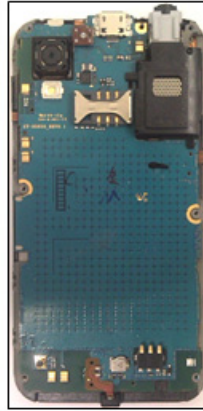
9

1) Connect the LCD connector.



10

1) Put the PBA to the BRACKET
2) Attach two KEYFPCB to the BRACKET and place the MIC.



Caution

- 1) Be care of scratch and molding damage.
- 2) Be care of damage to LCD FPCB.

Caution

- 1) Be care of scratch and molding damage.
- 2) Be care of damage to FPCB.

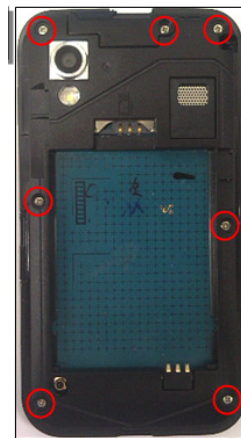
11

1) Assemble the REAR from upside.



12

1) Screw 7 points.
.. Torque : 1.0 ~ 1.2 Kgf-cm
Size : M1.4 * L4.0



Caution

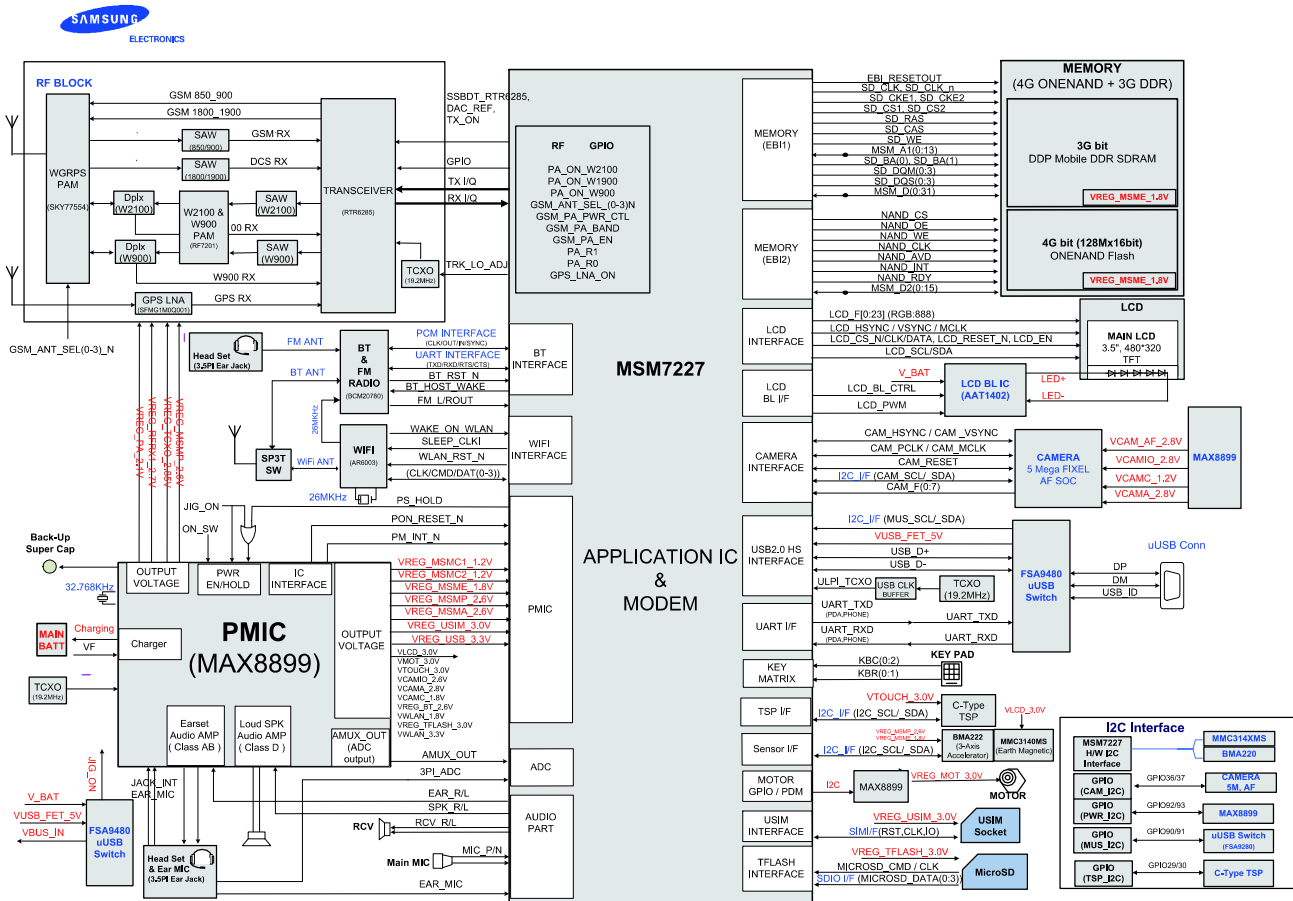
- 1) Be care of scratch and molding damage.

Caution

- 1) Be care of scratch and molding damage.

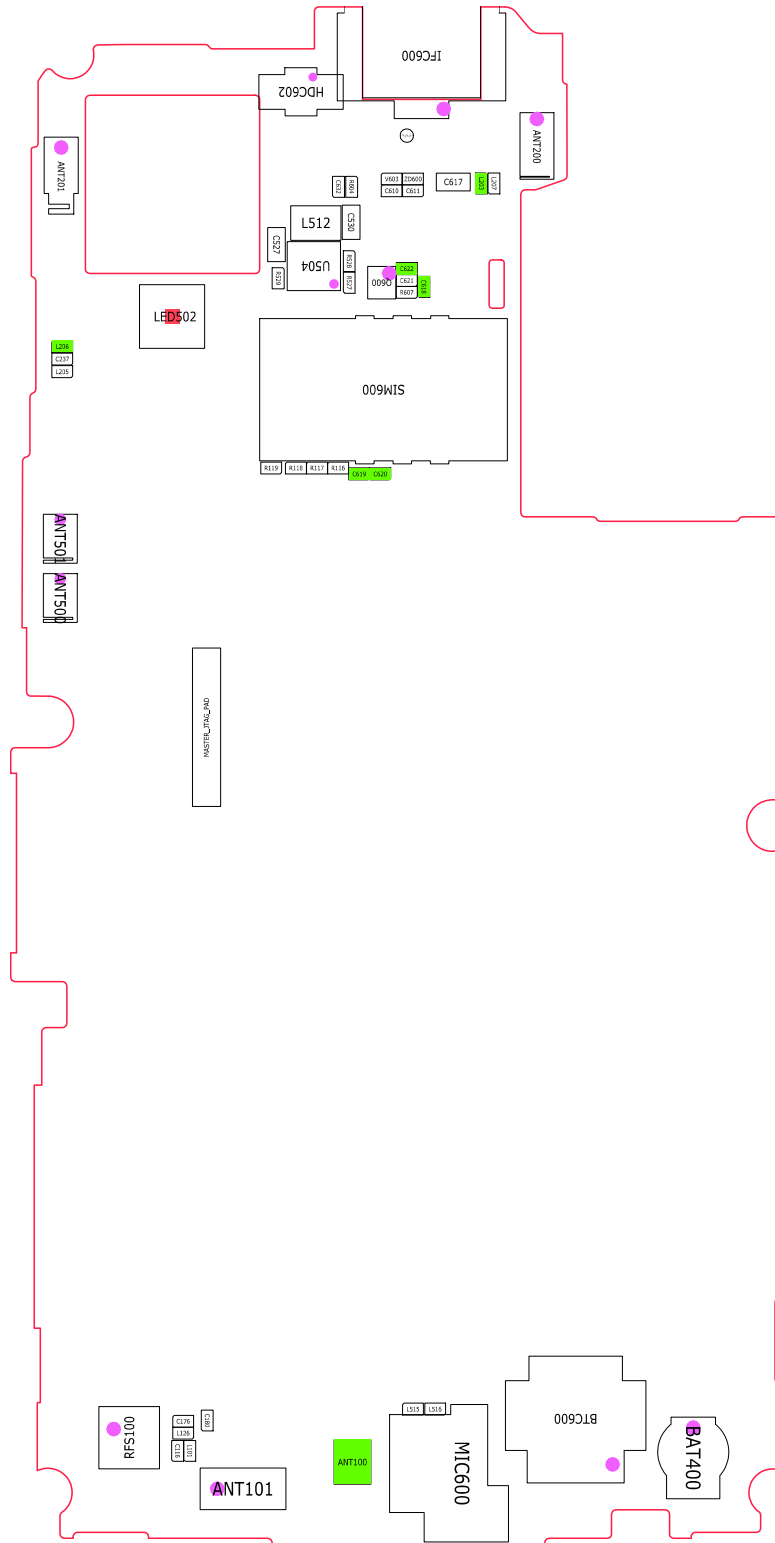
8. Level 3 Repair

8-1. Block Diagram



8-2. PCB Diagrams (2010.12.24 Rev0.6)

8-2-1. Top

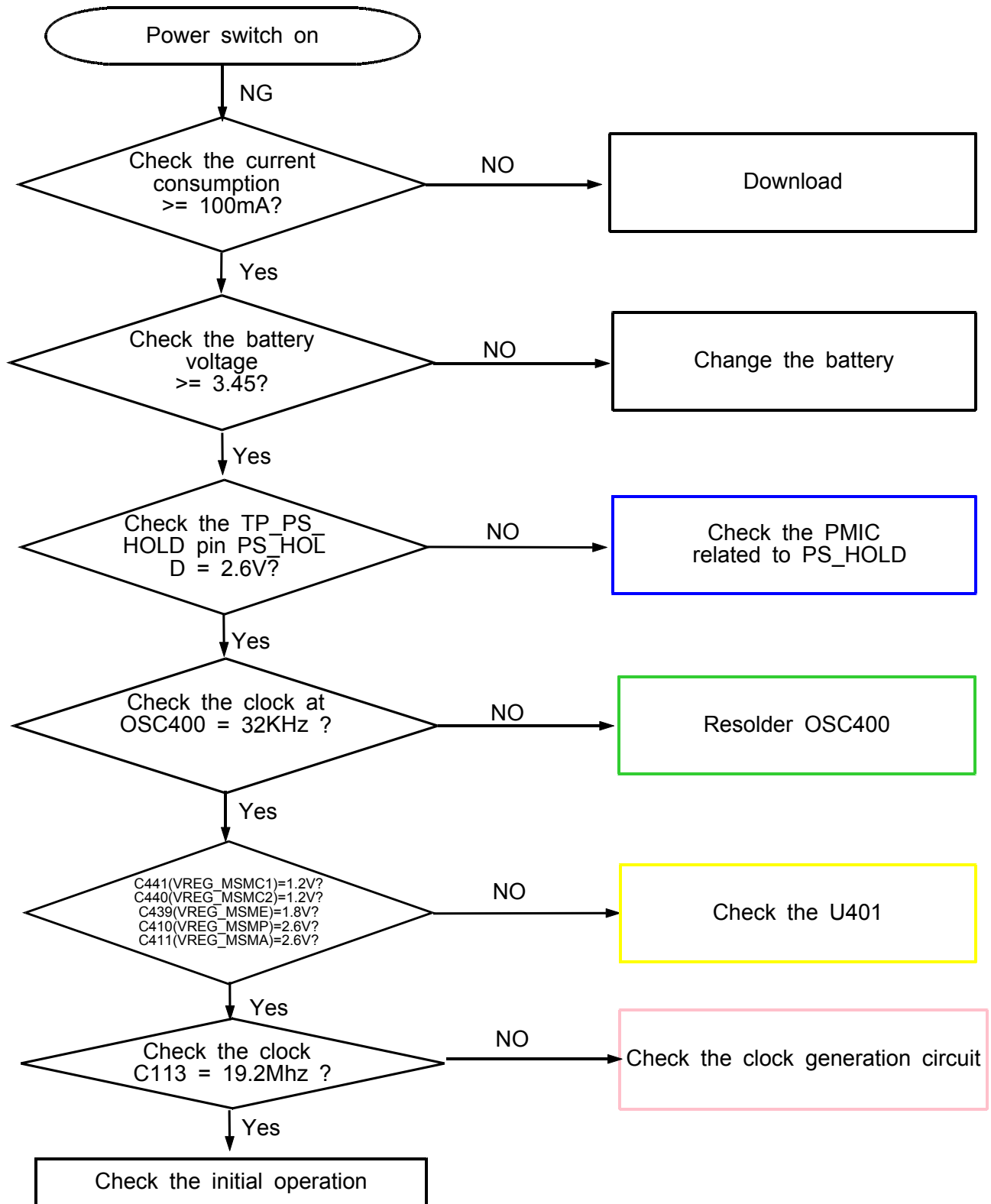


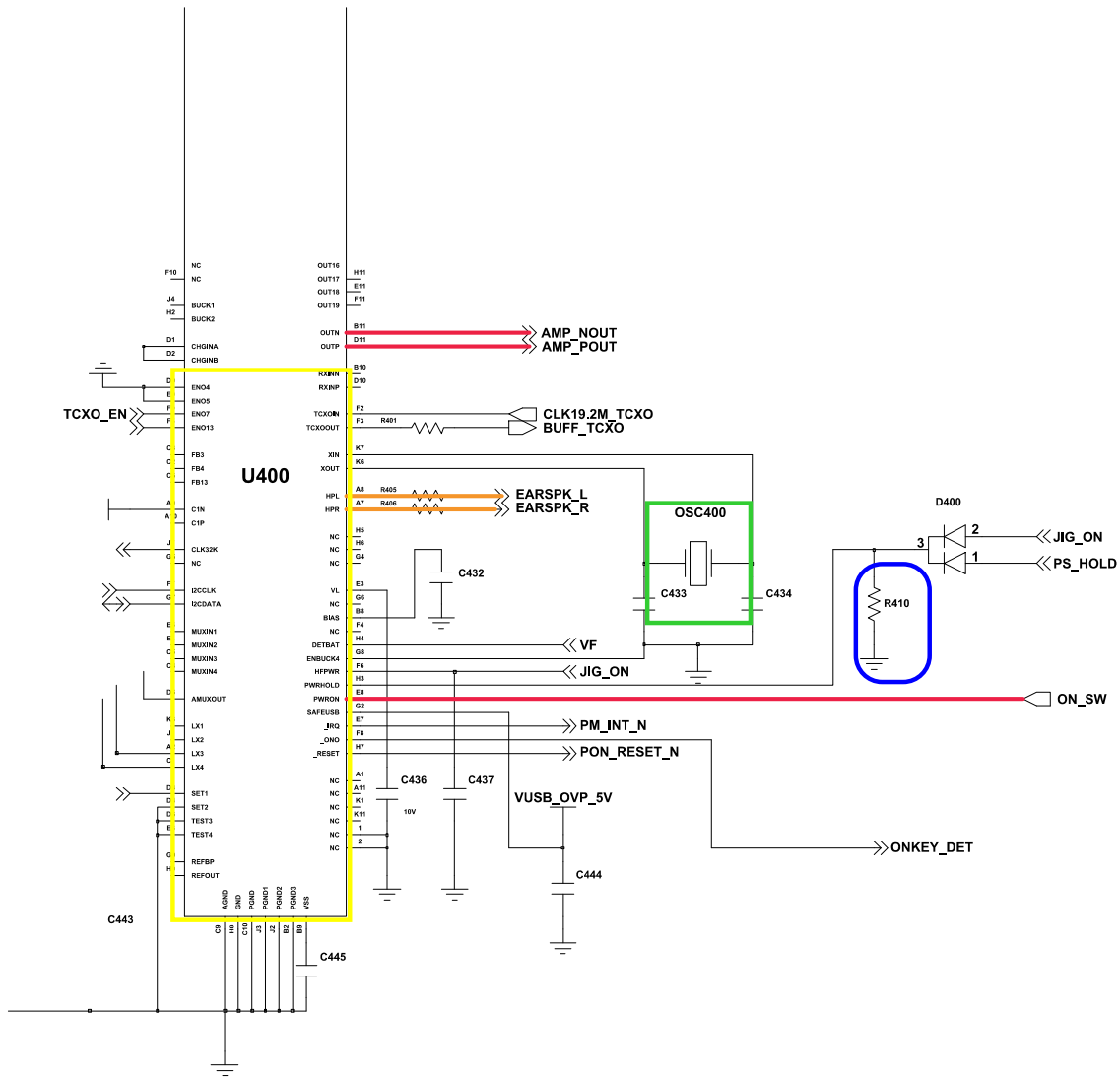
8-2-1. Bottom



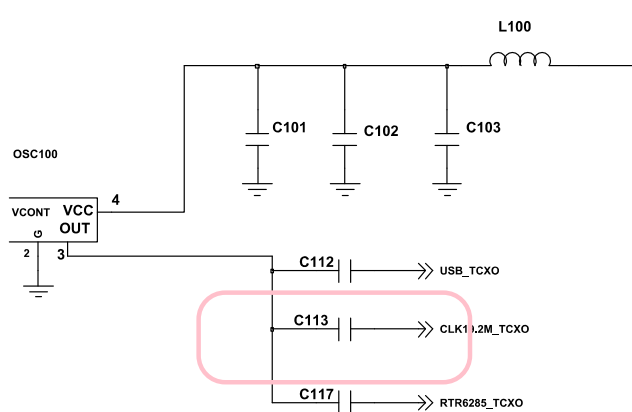
8-3. LOGIC

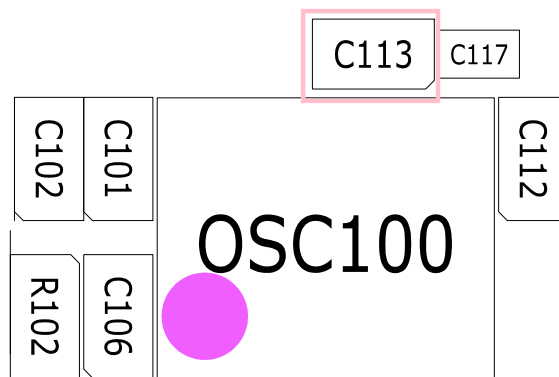
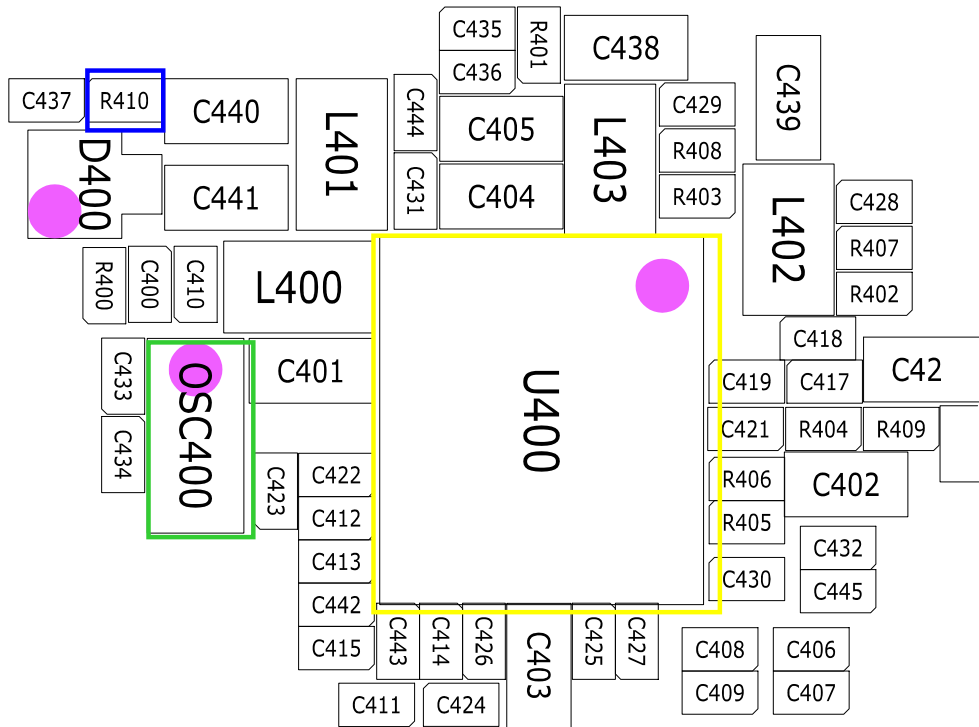
8-3-1. Power On



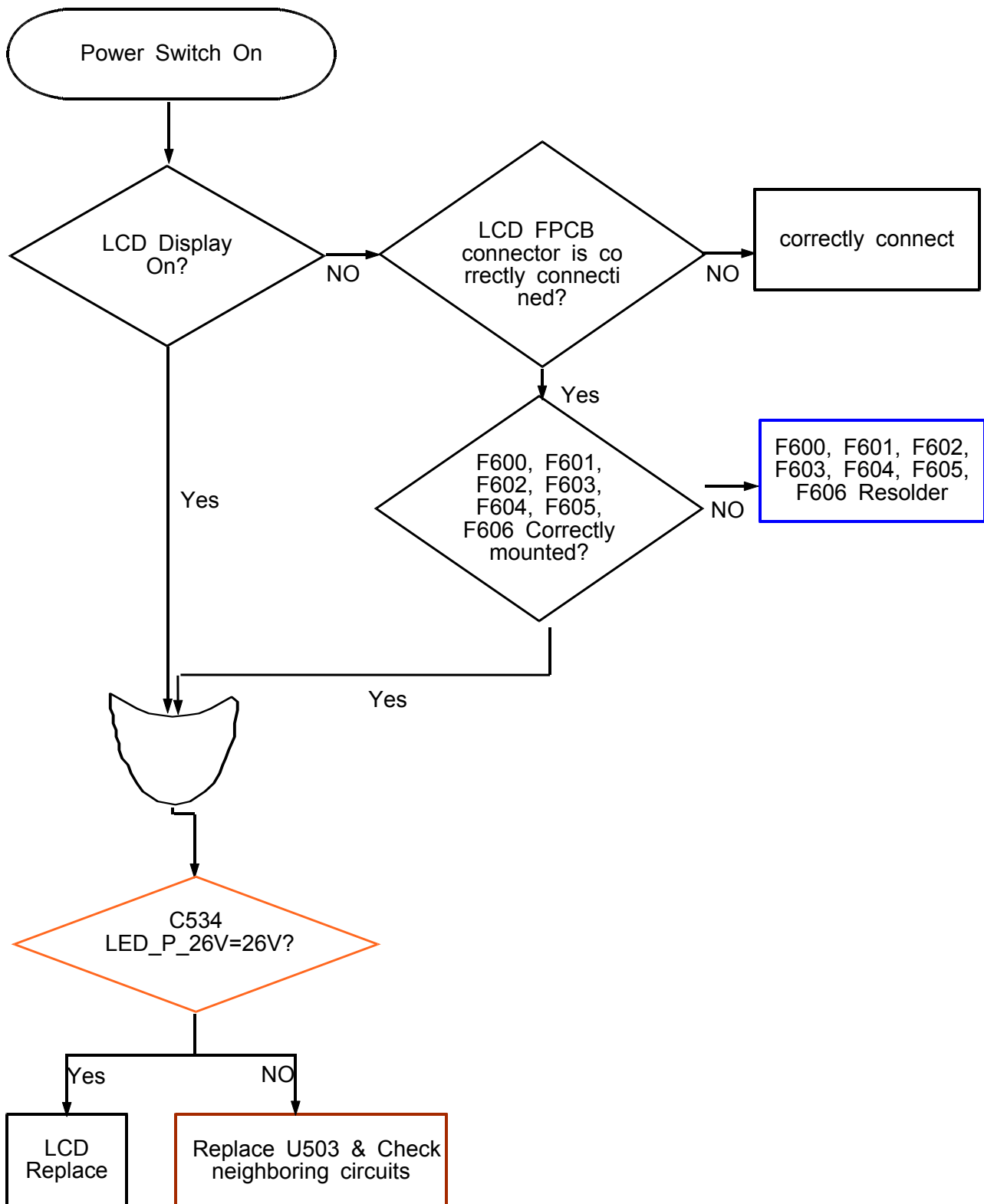


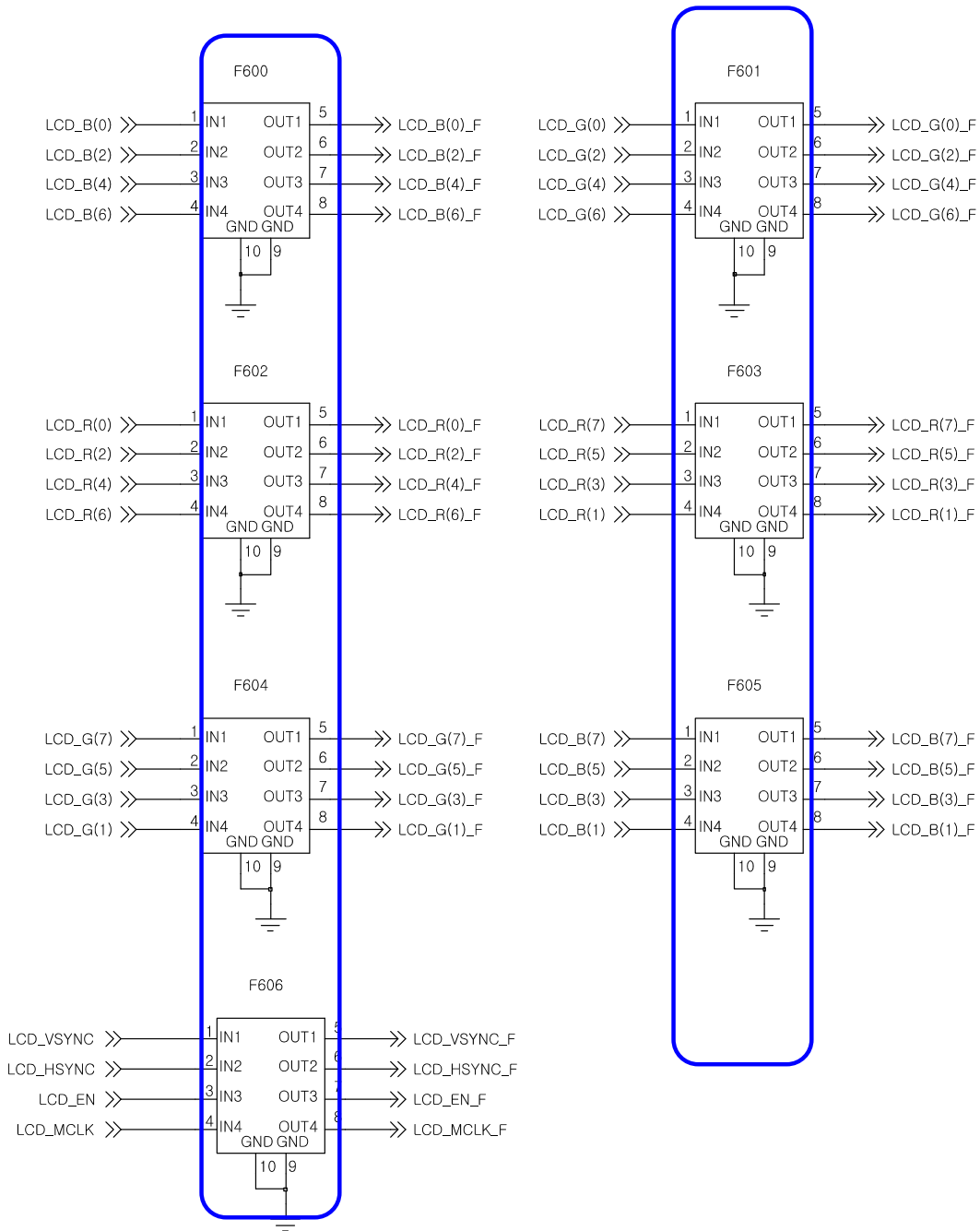
PMIC

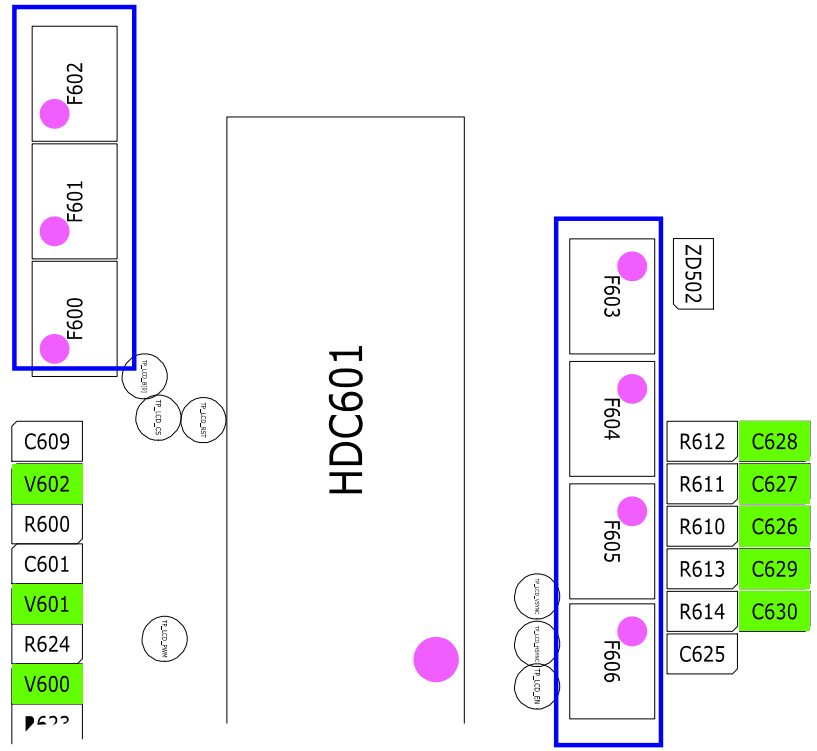
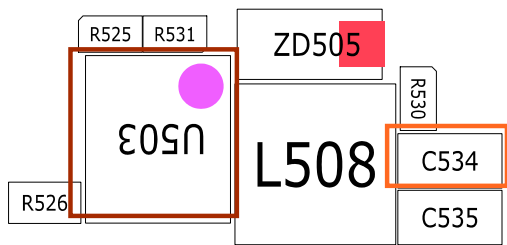
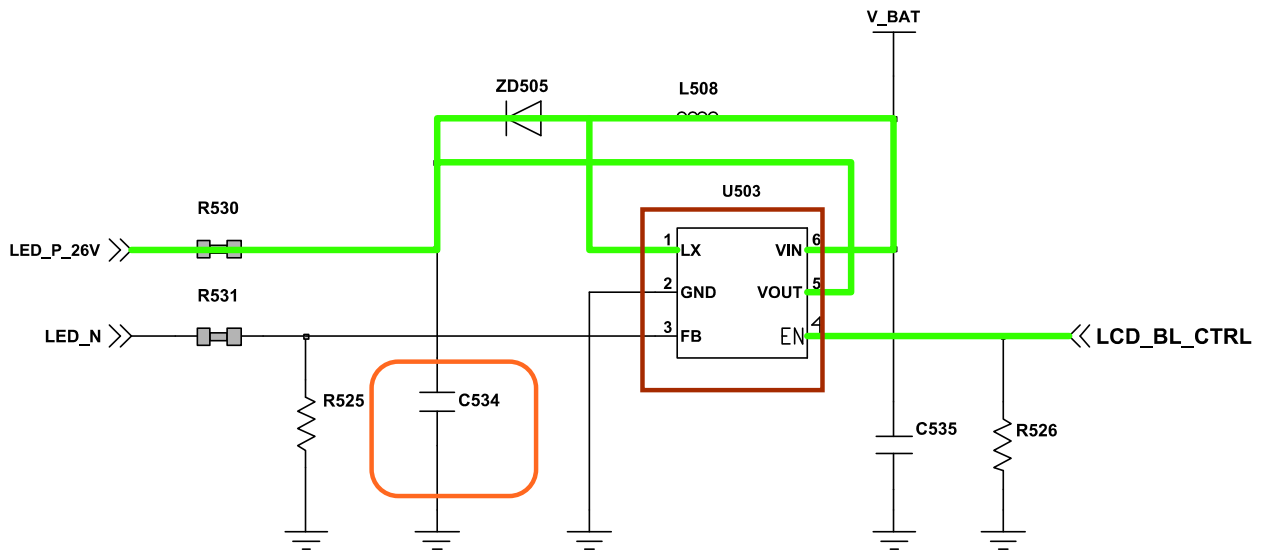




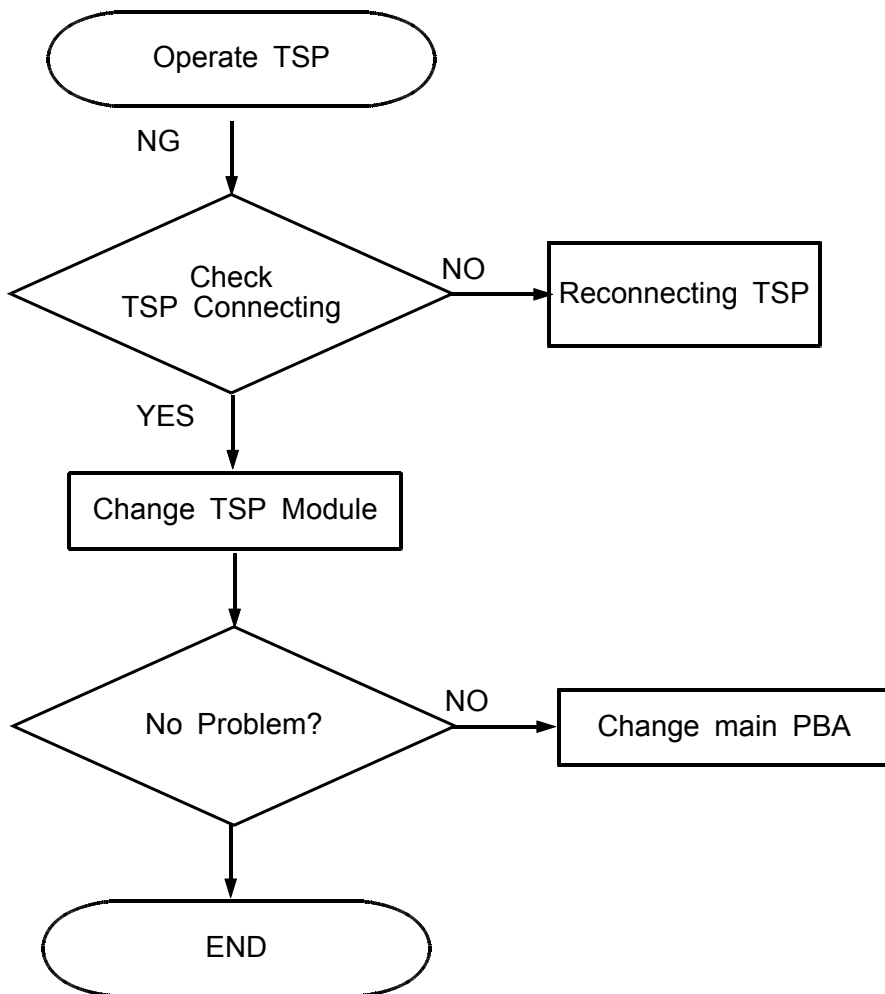
8-3-2. LCD Working





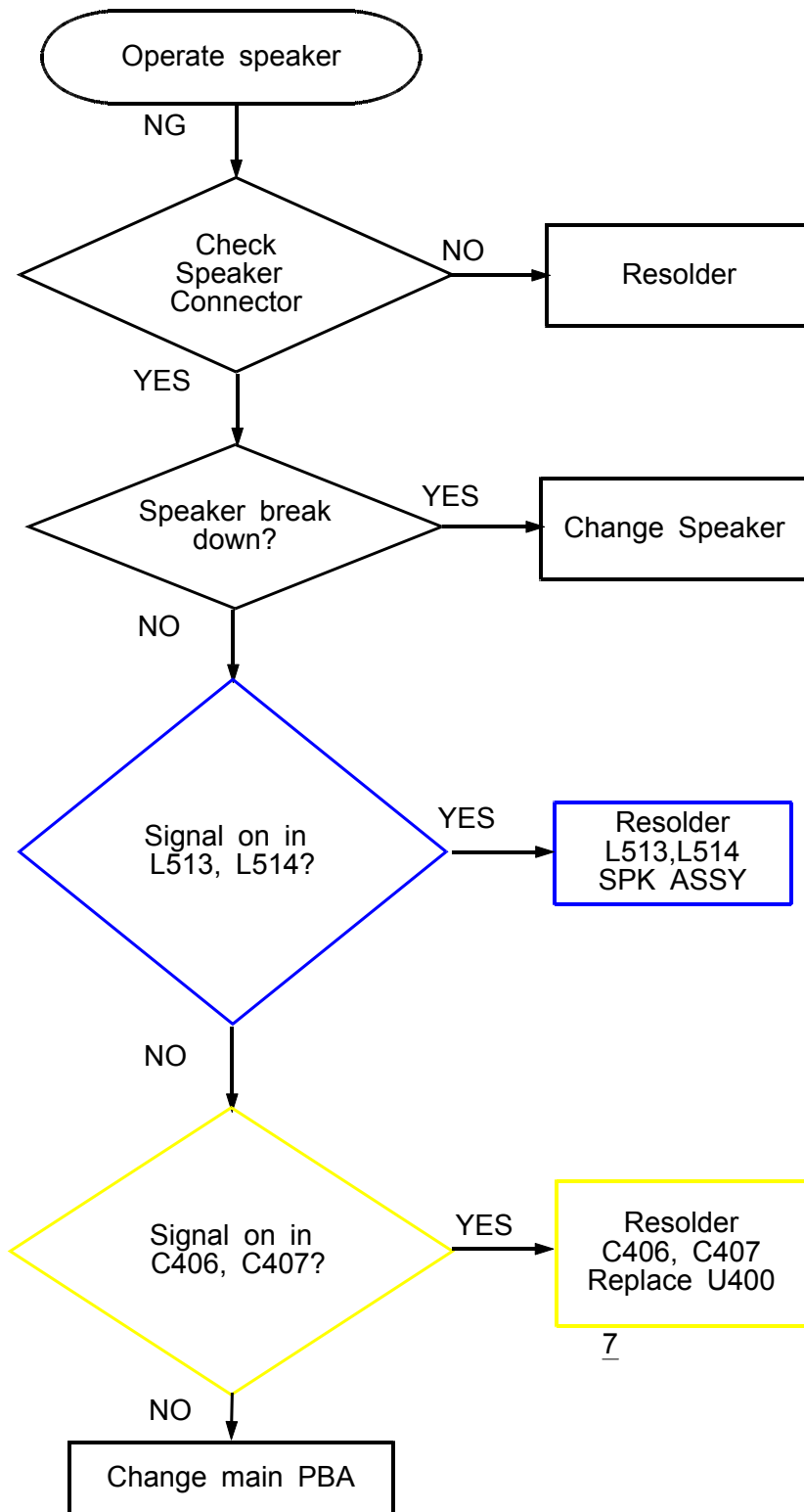


8-3-3. TSP

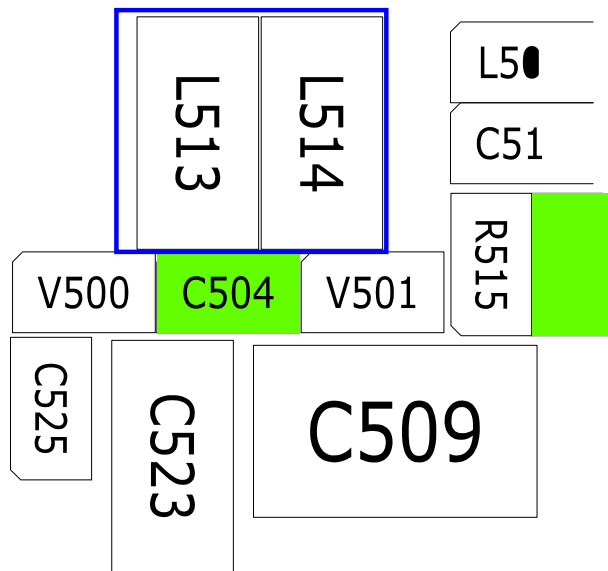
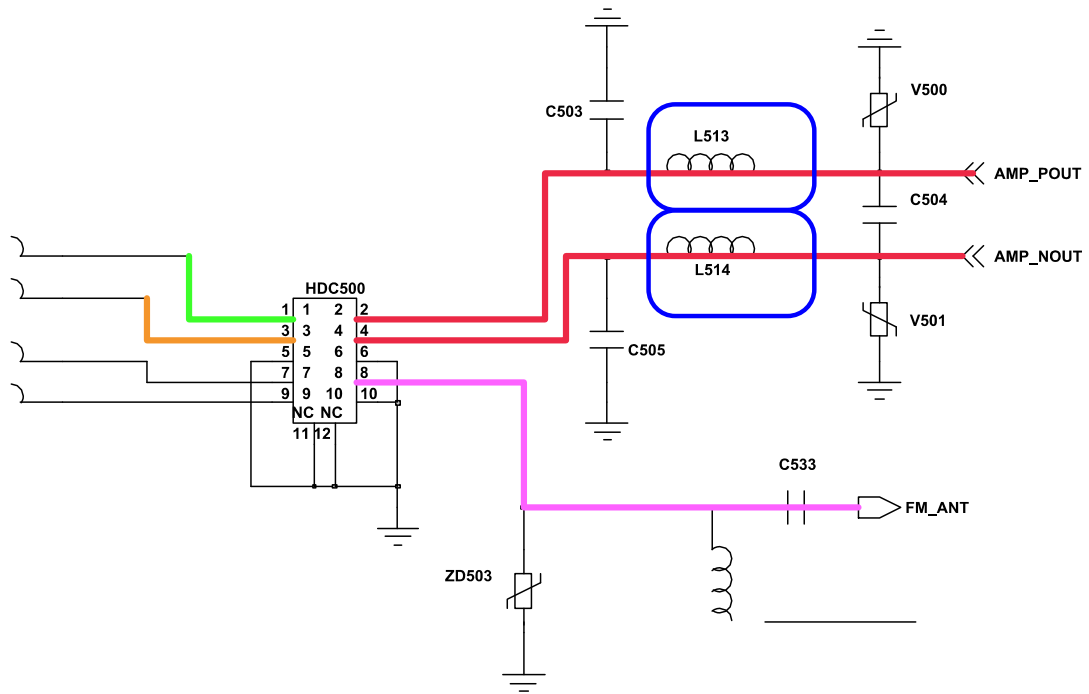


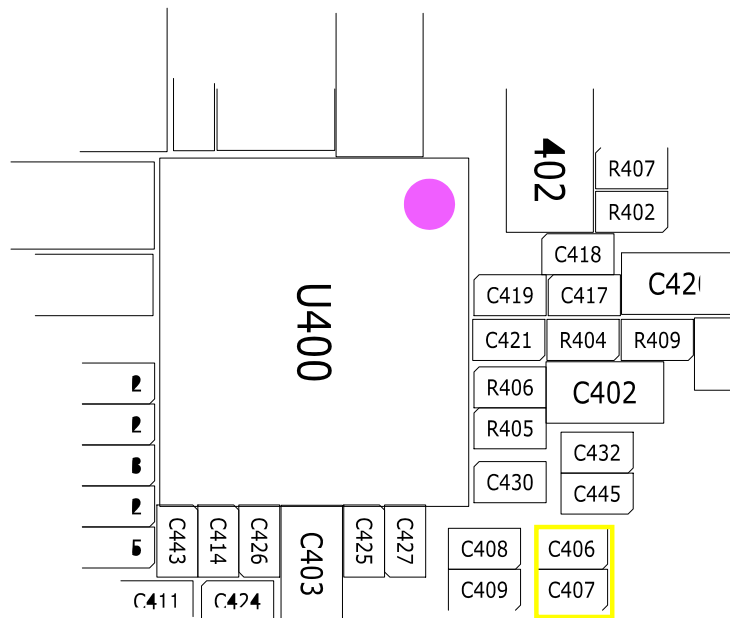
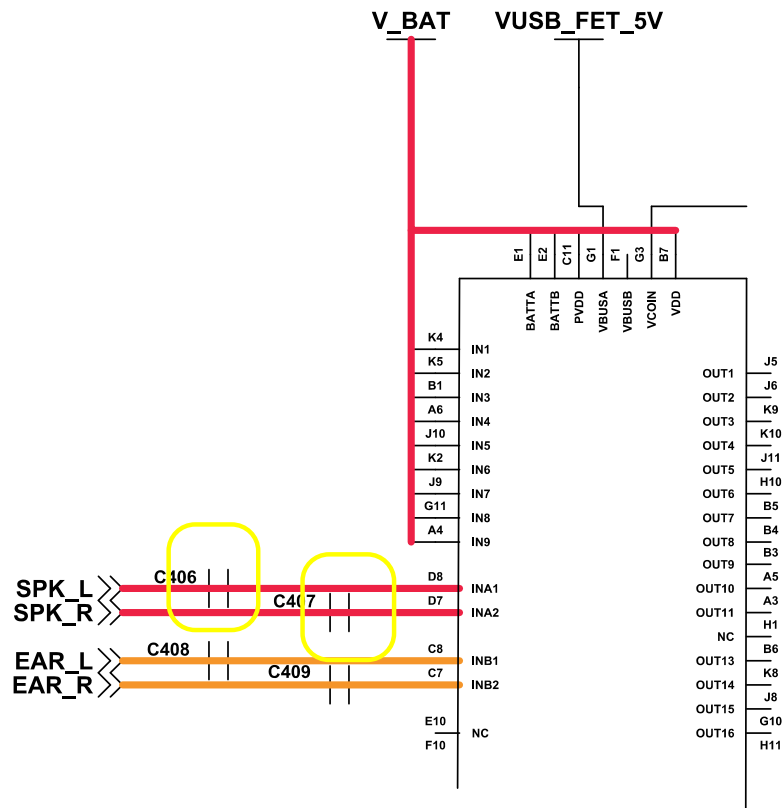
8-3-3. Audio Working

● Speaker Working

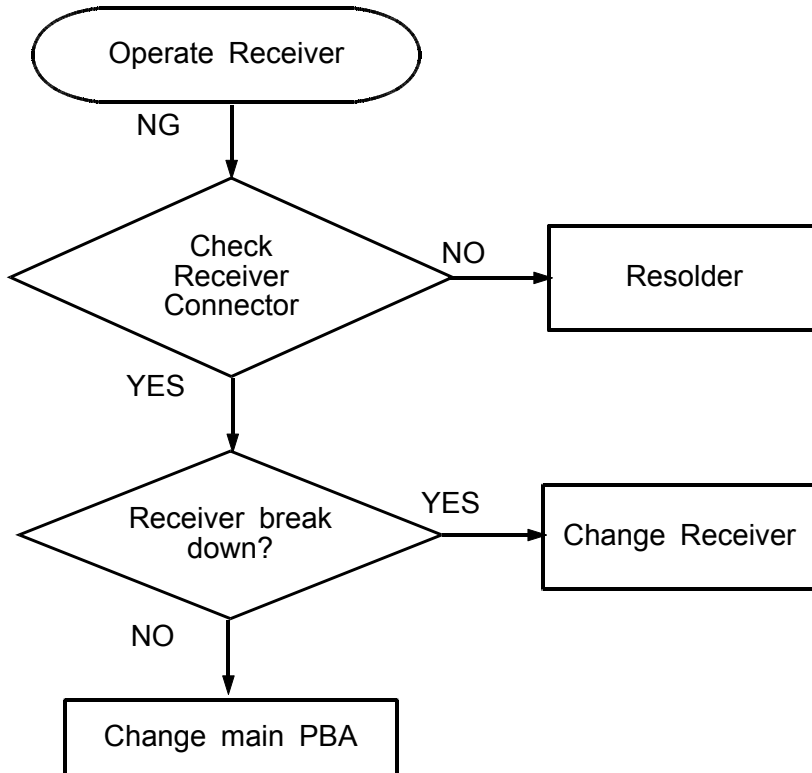


7

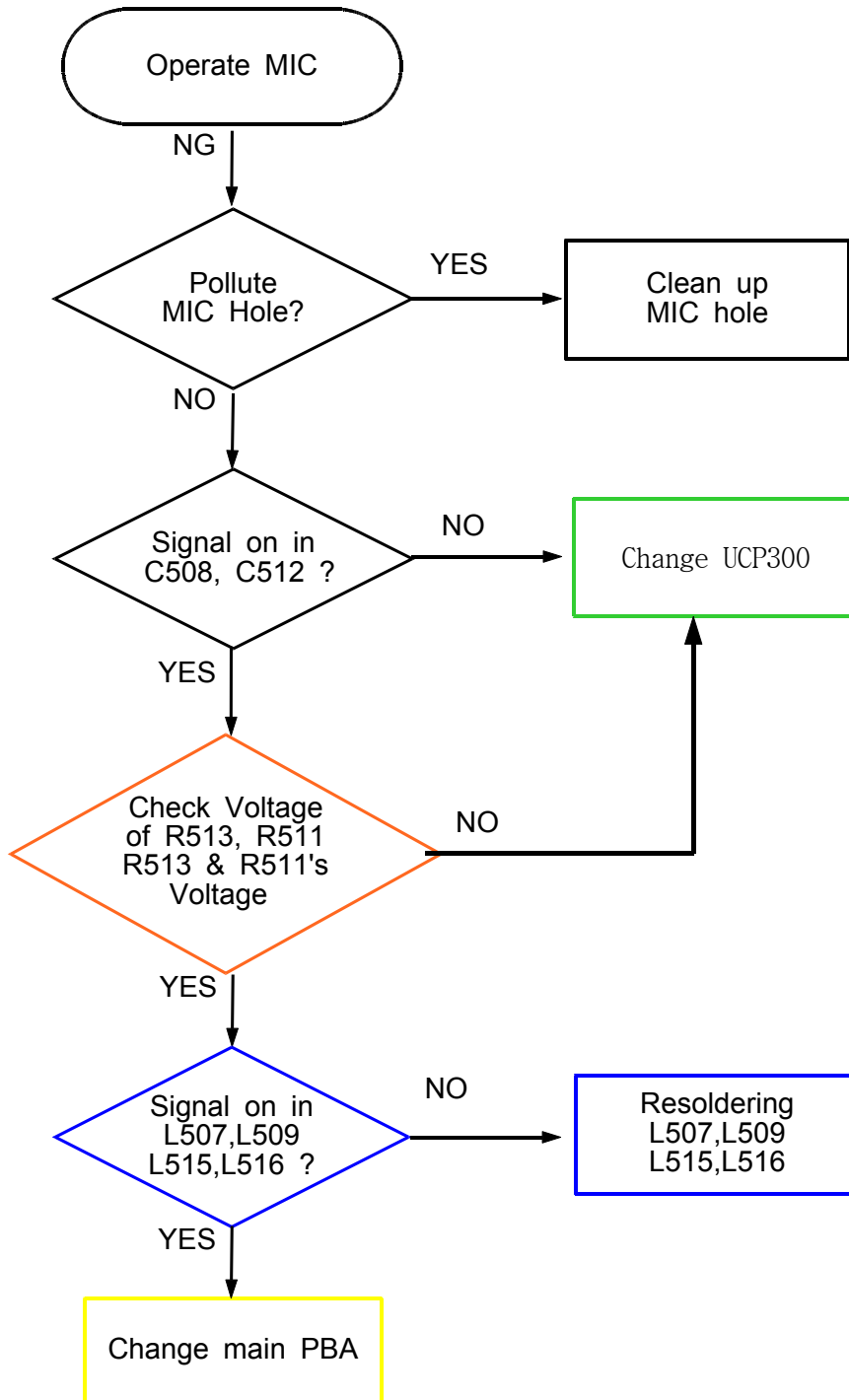


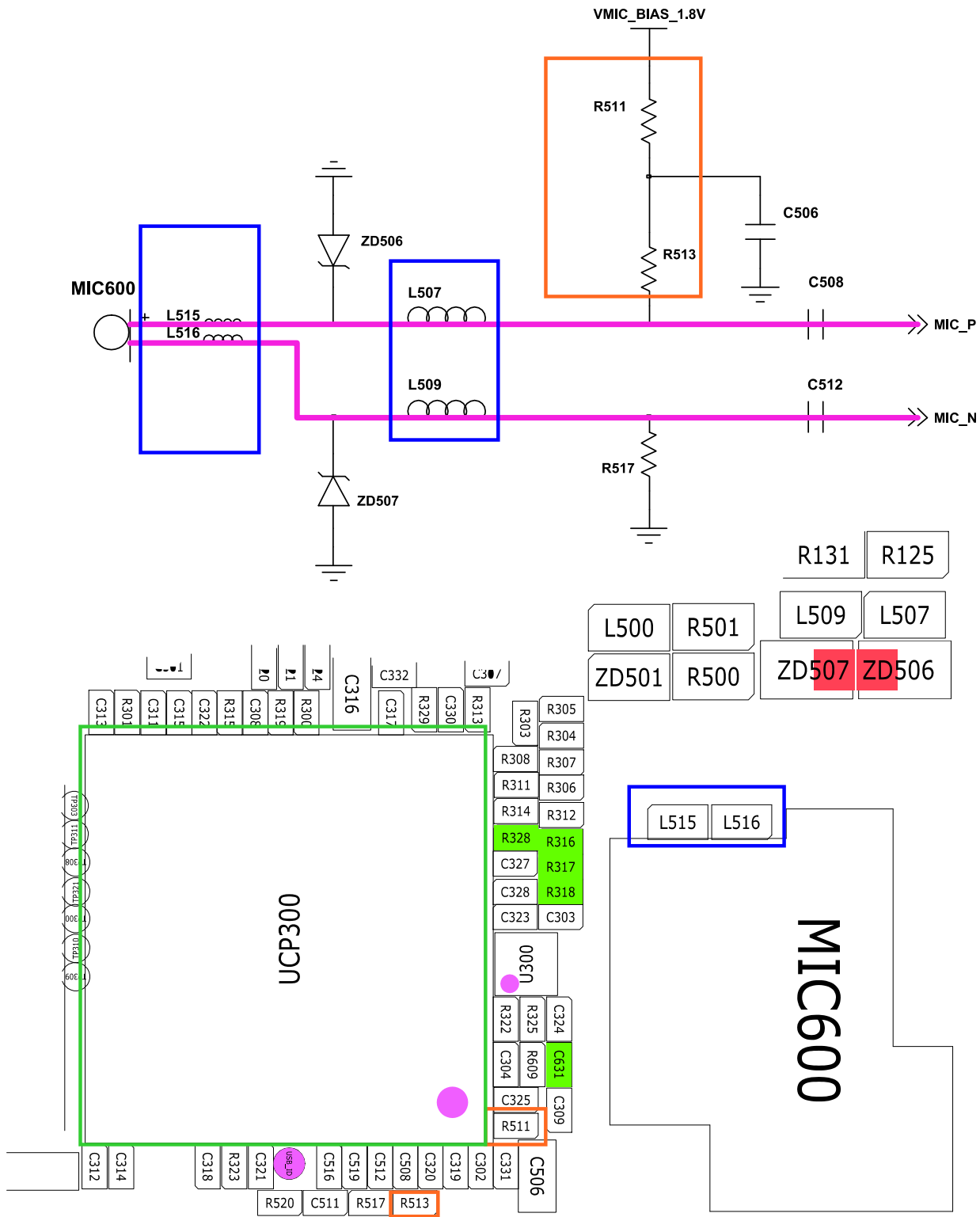


● Receiver Working

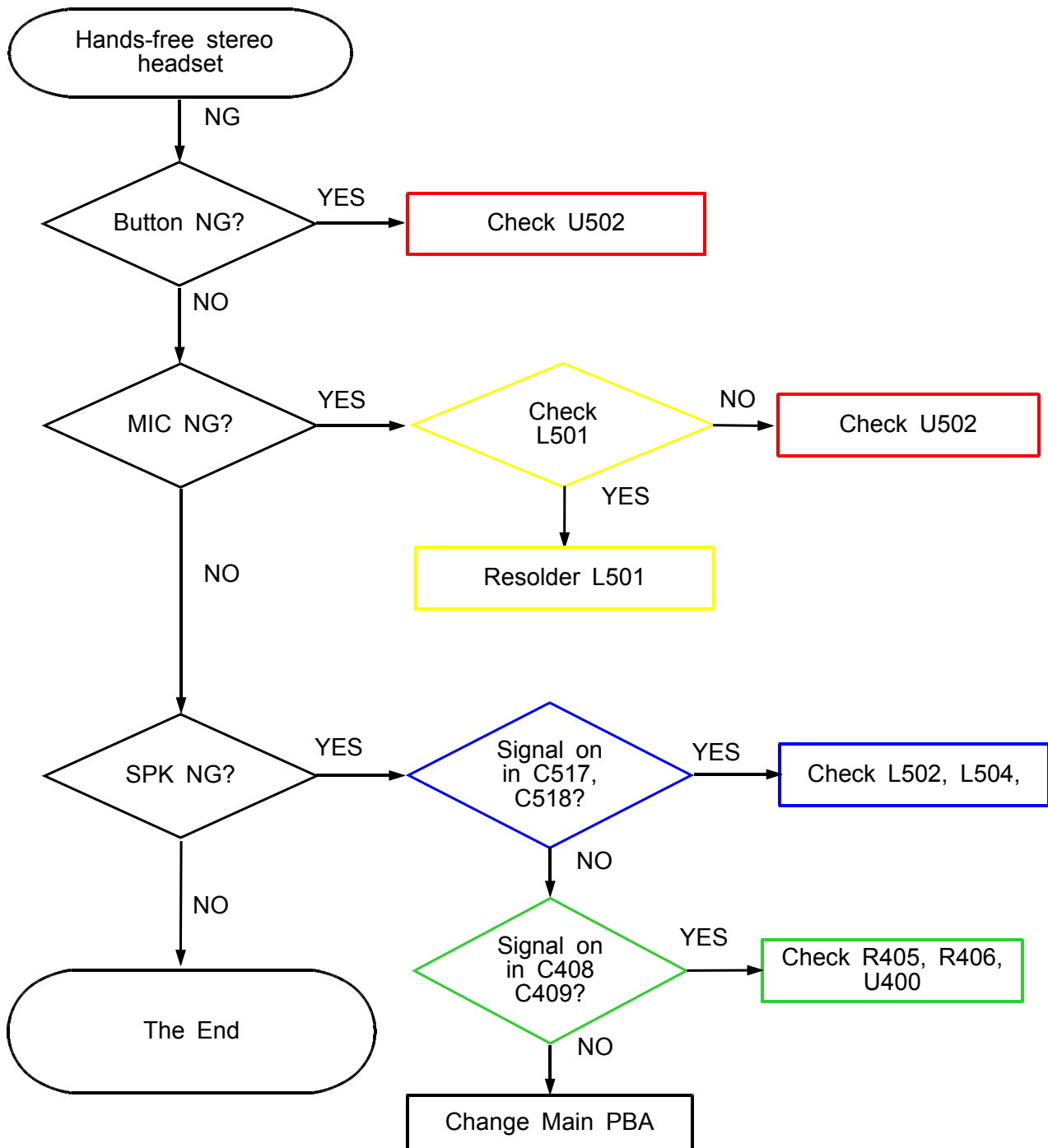


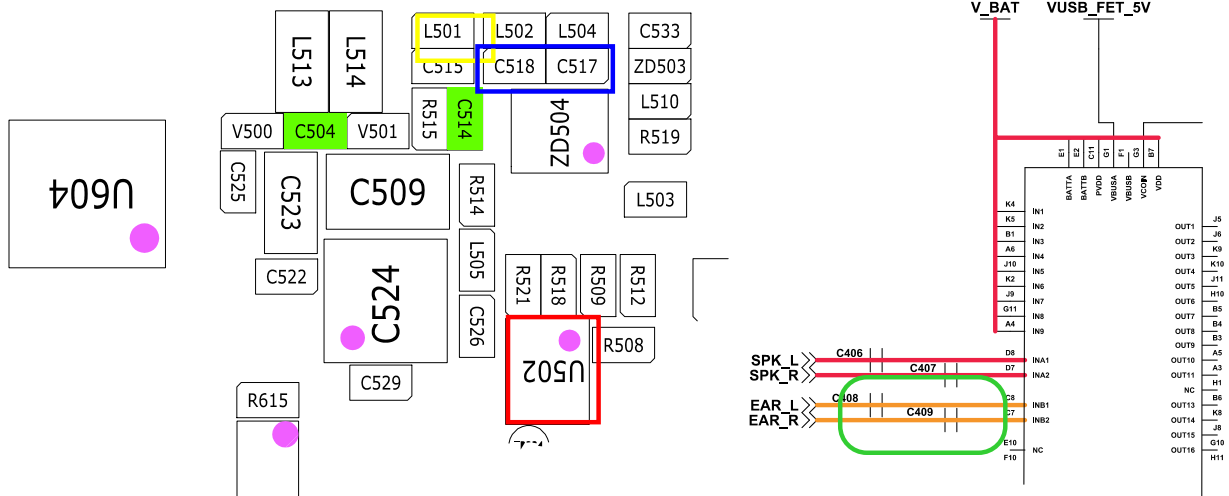
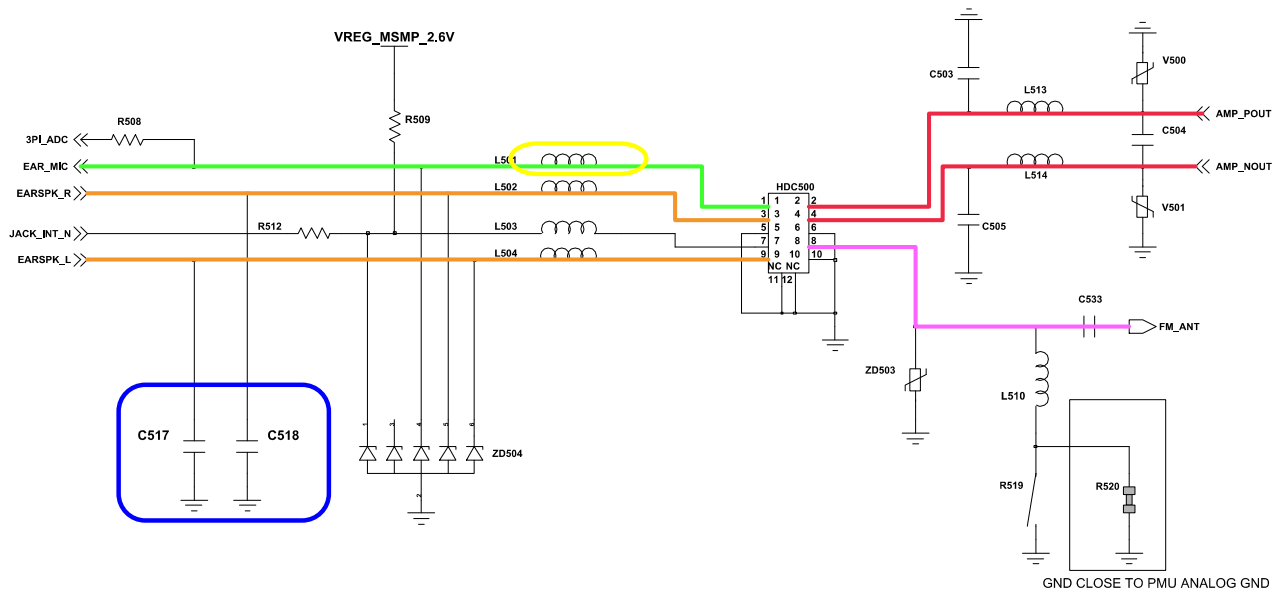
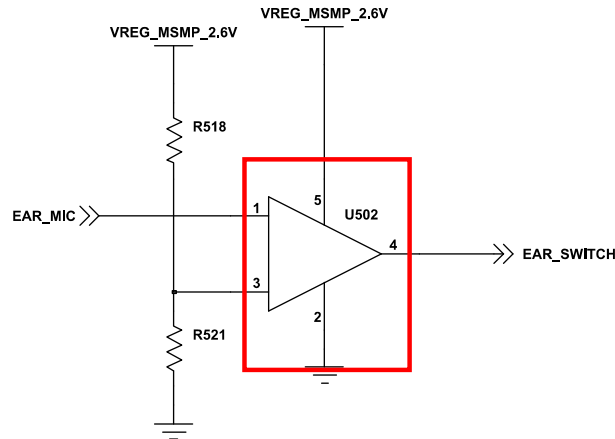
● MIC Working

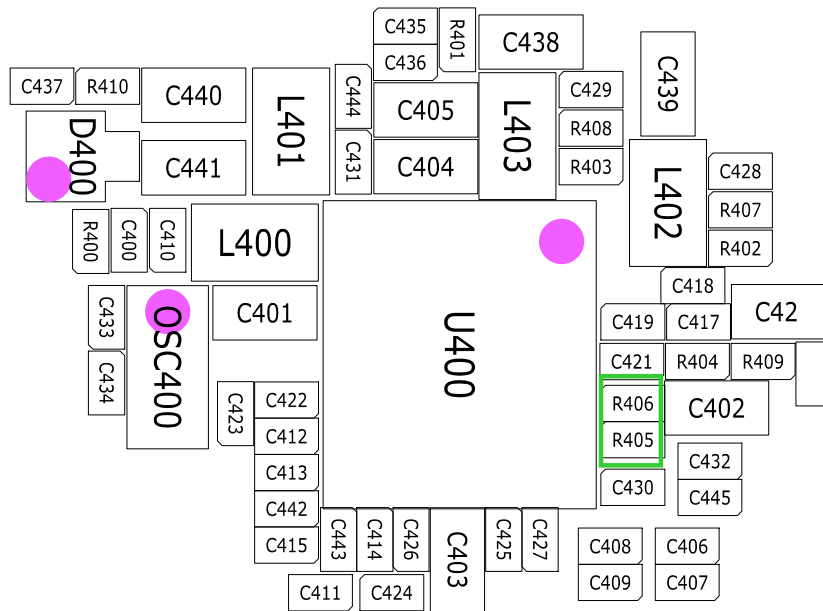




■ Stereo Headset Working

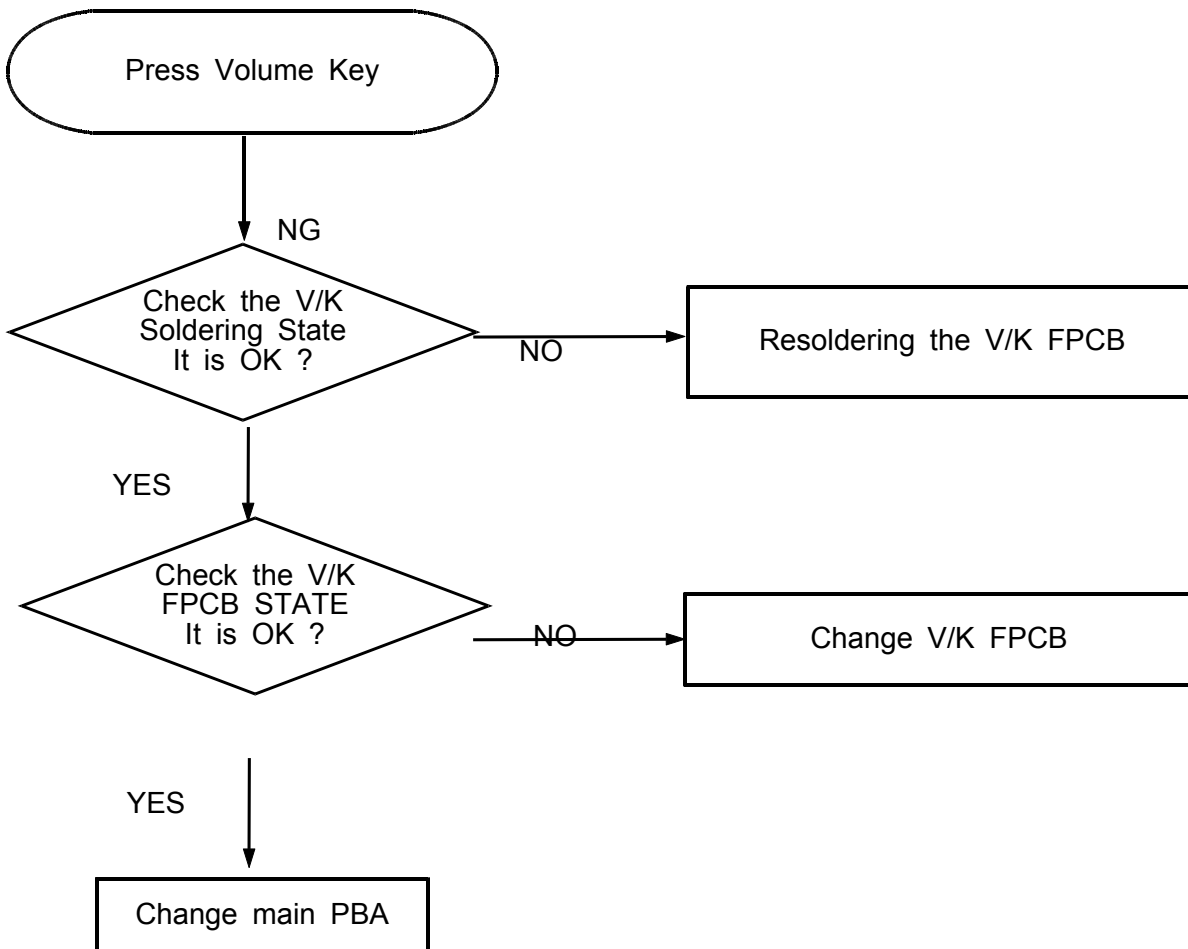




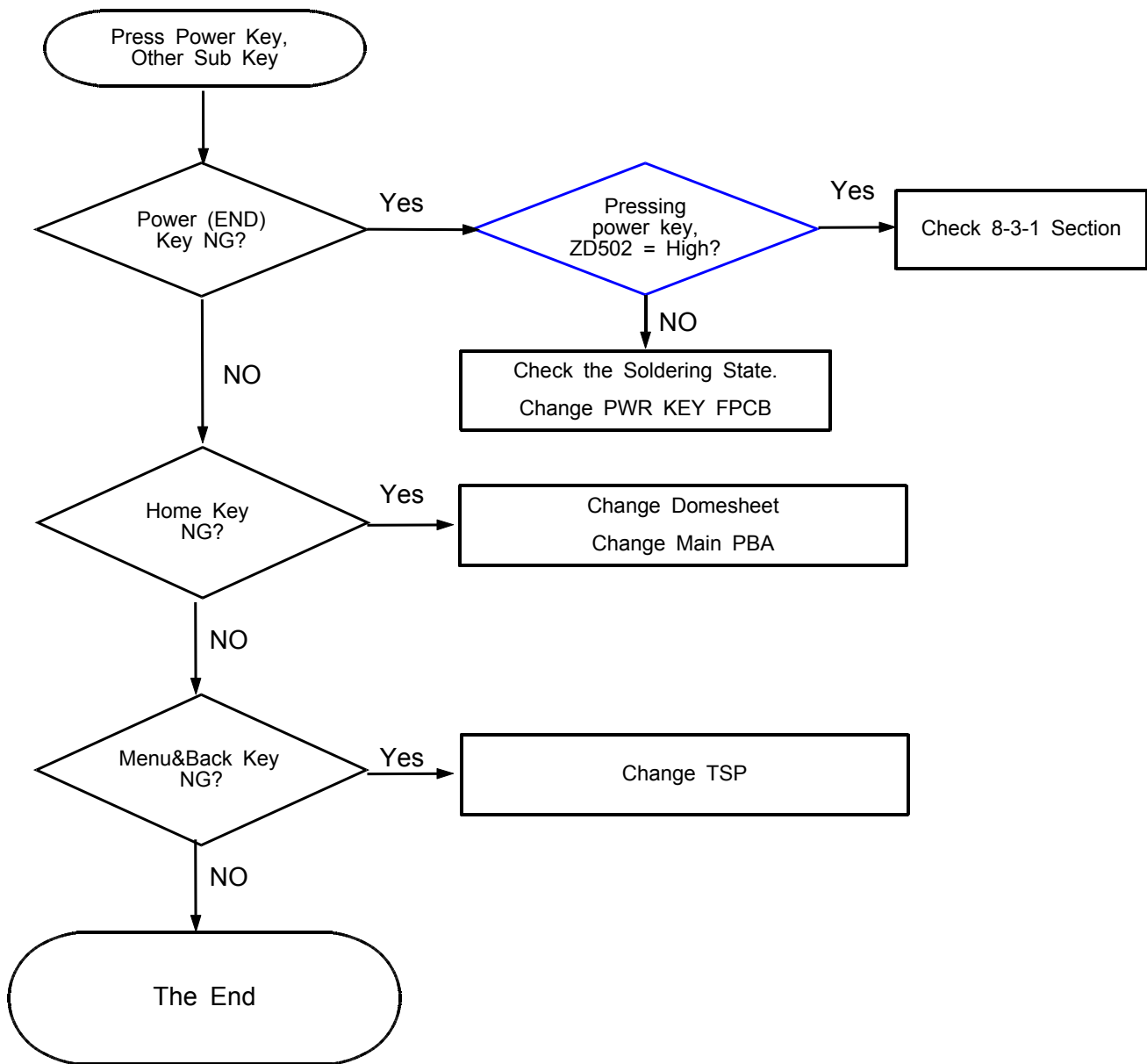


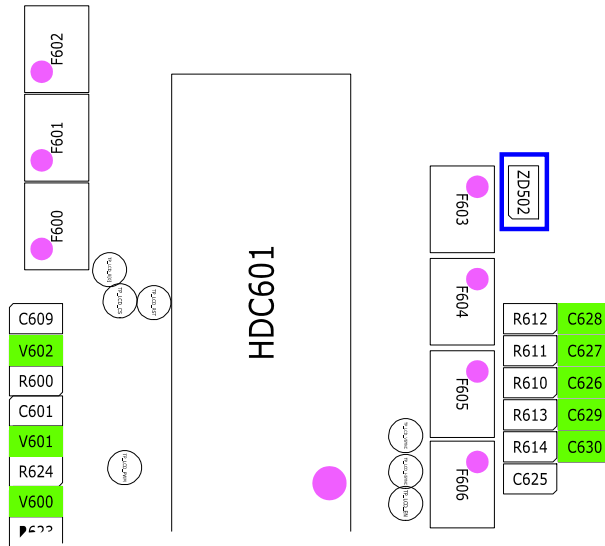
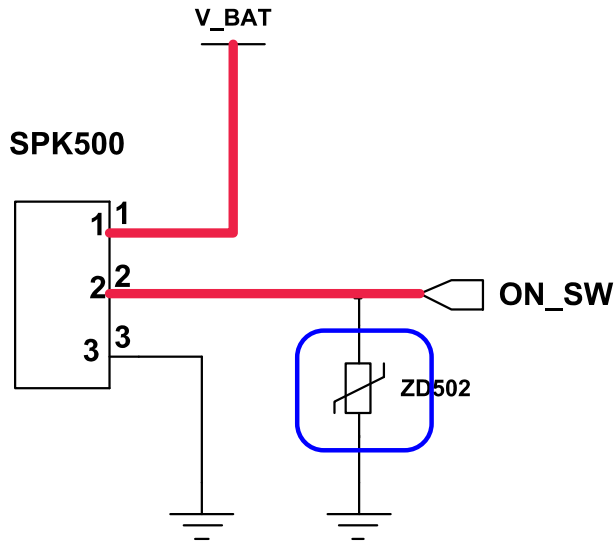
8-3-5. KEY Working

● Volume KEY

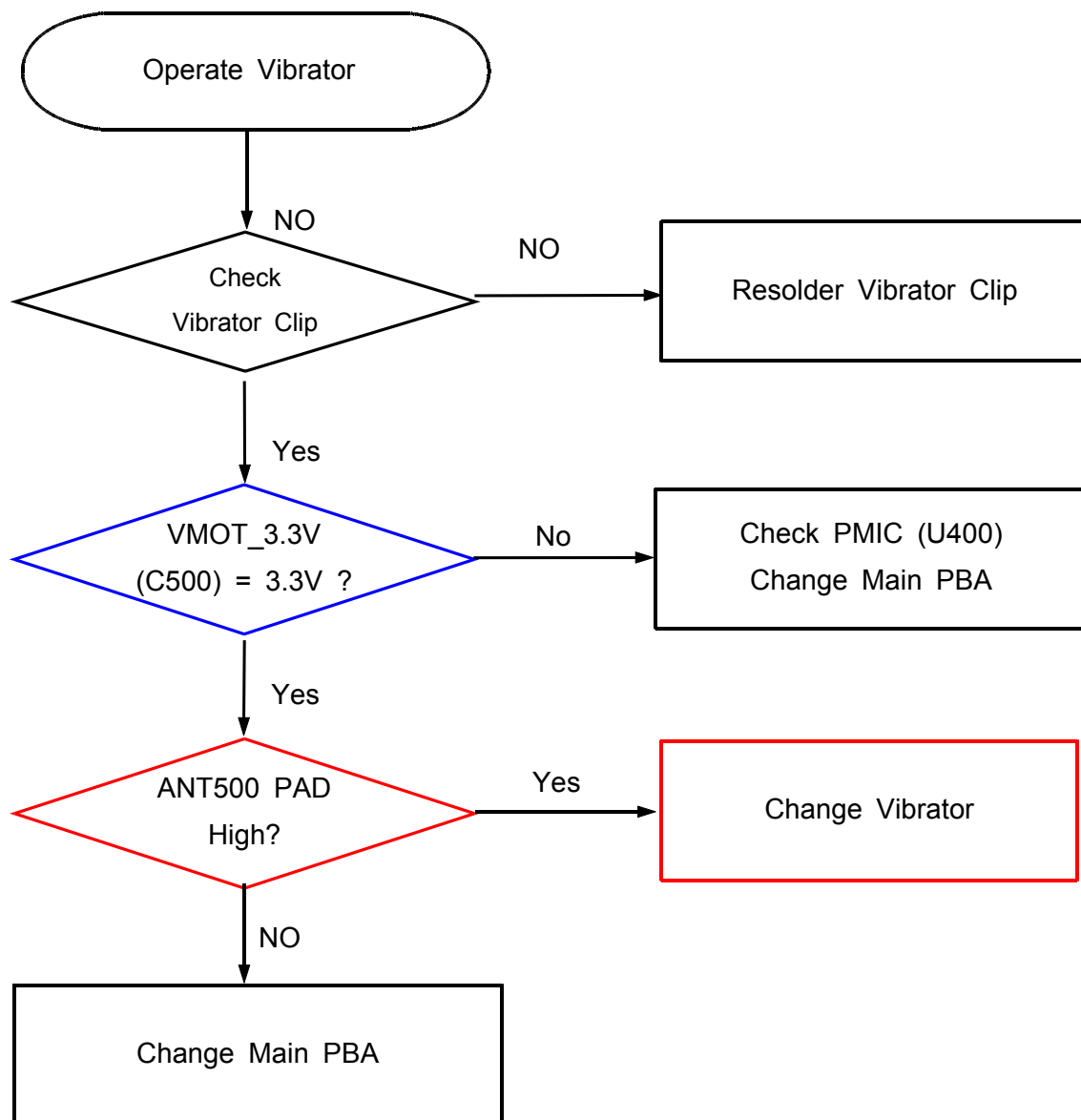


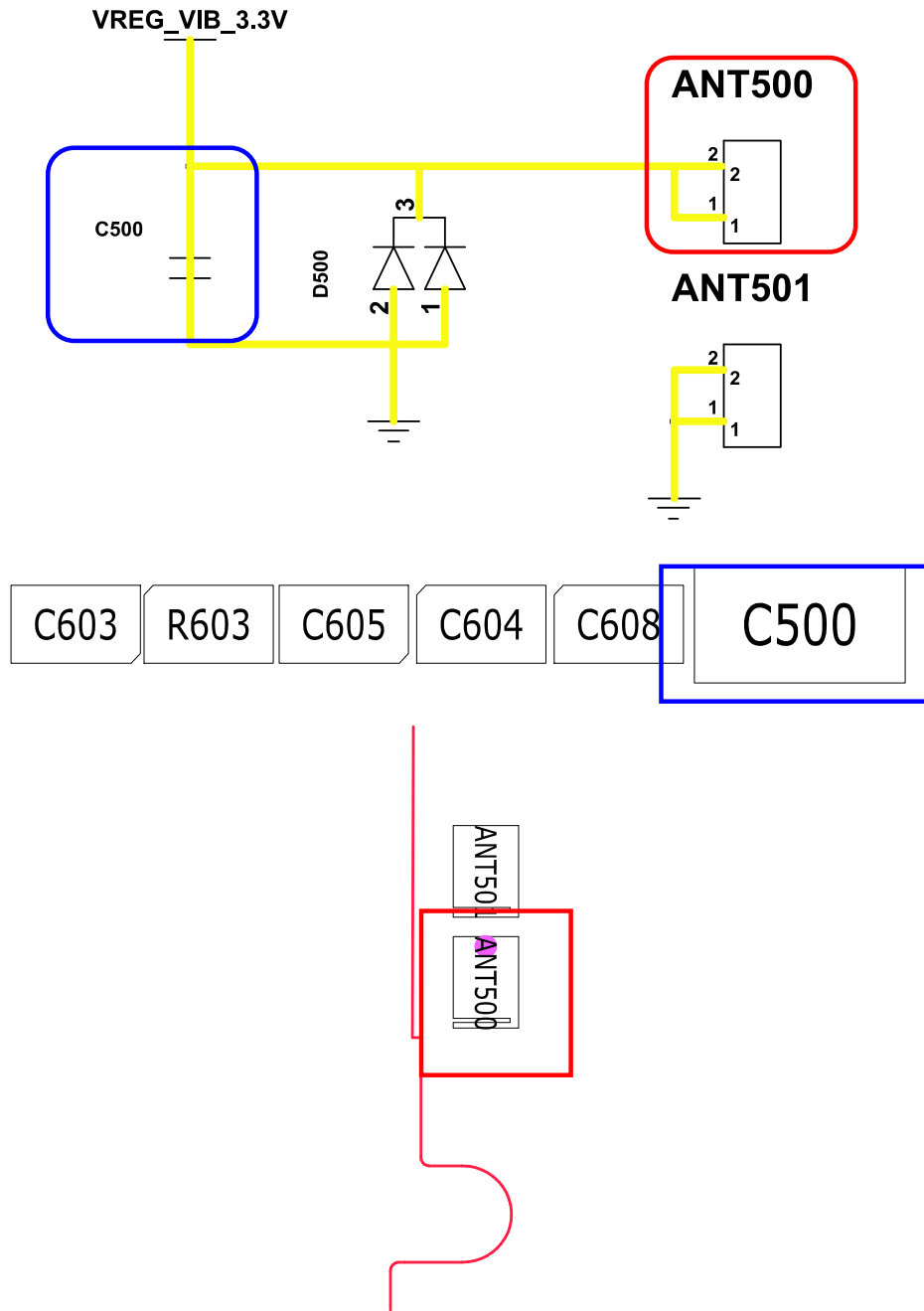
● Sub Key



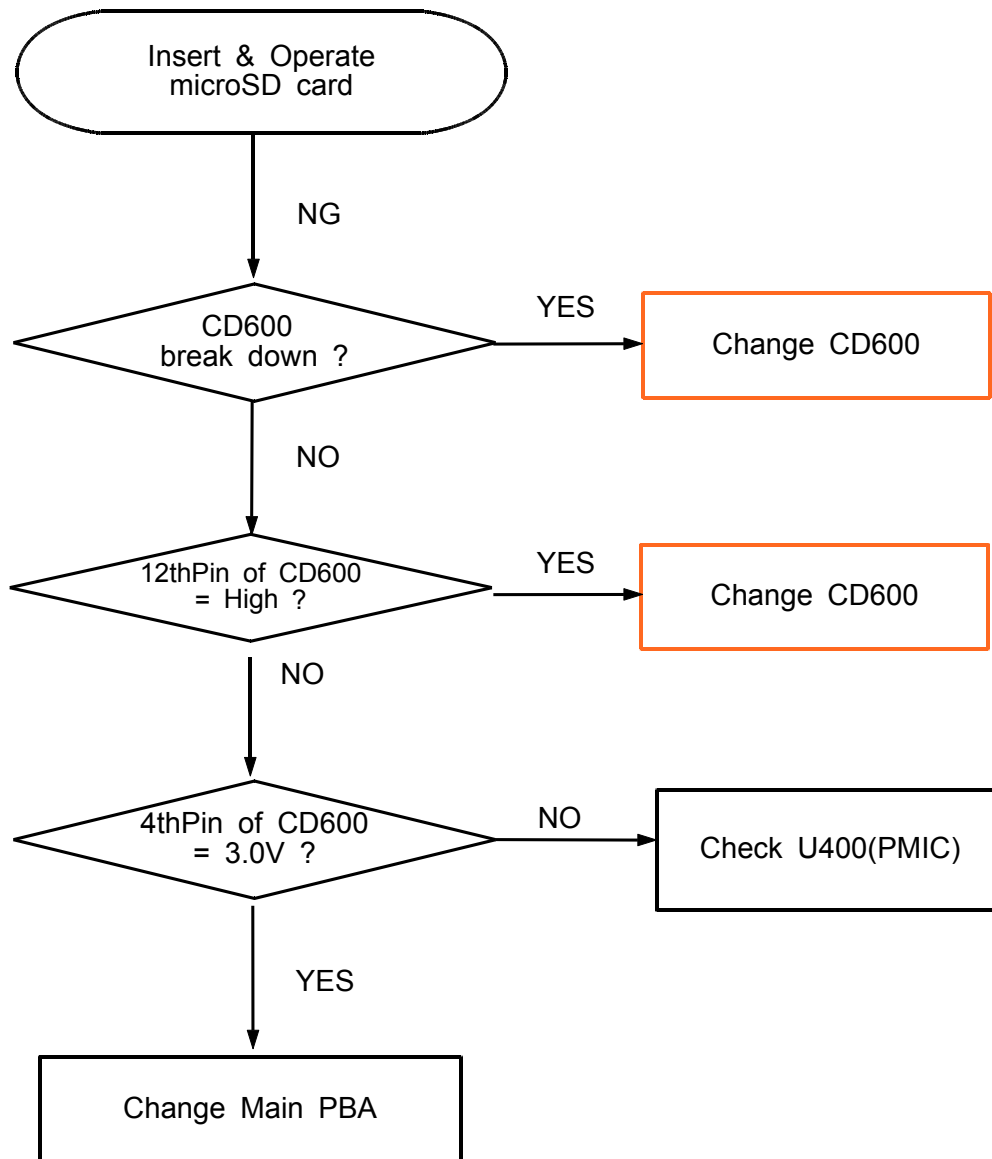


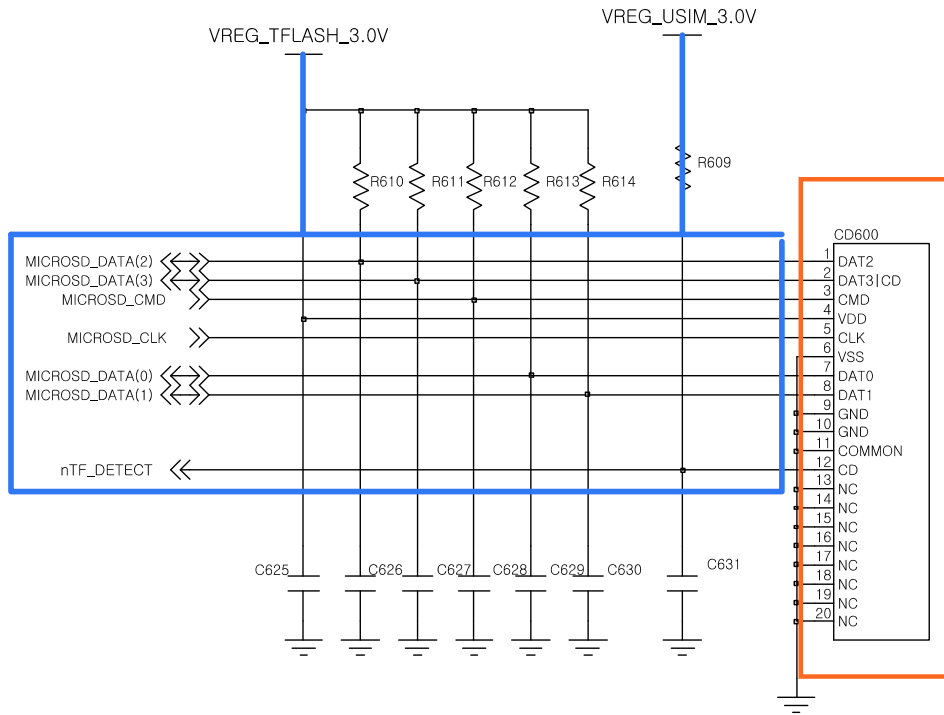
8-3-6. Vibrator Working



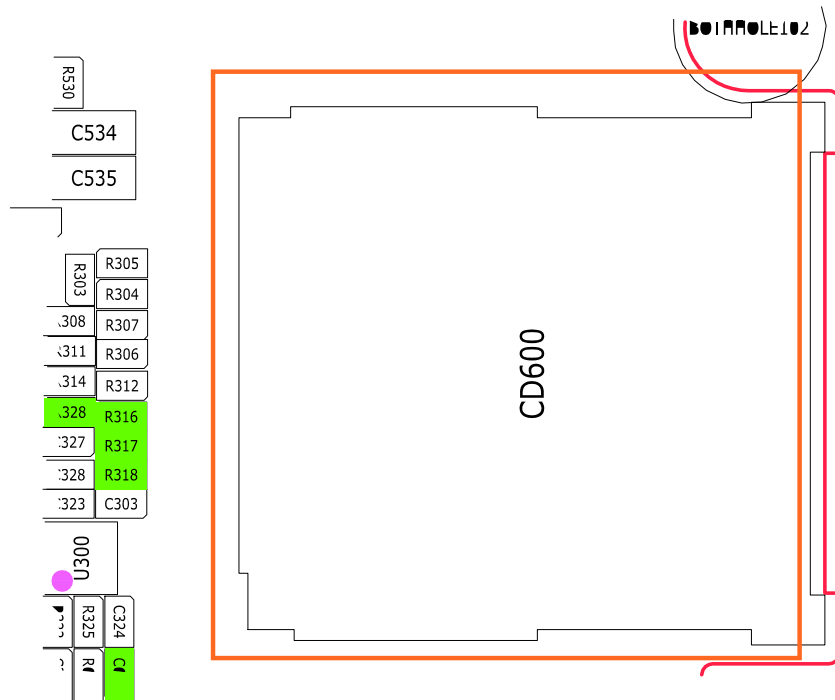


8-3-7. T-Flash Card Working

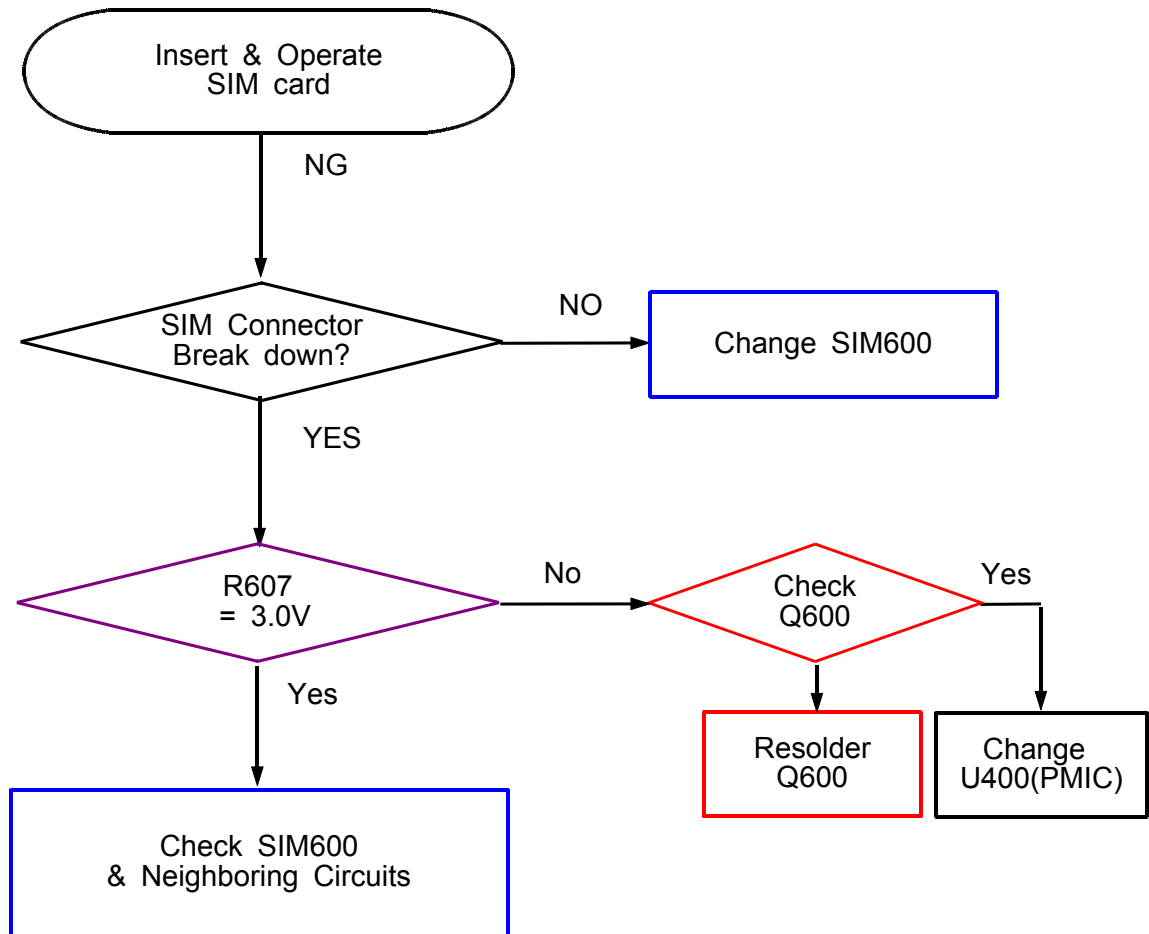


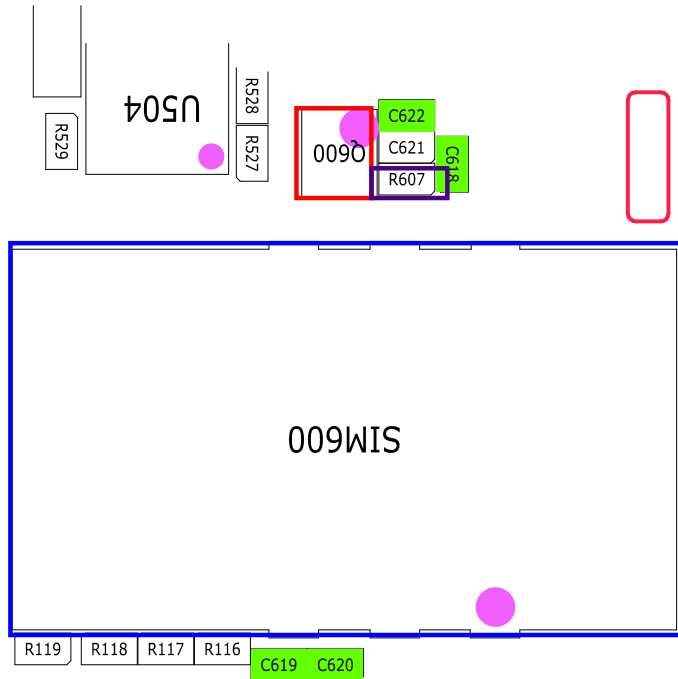
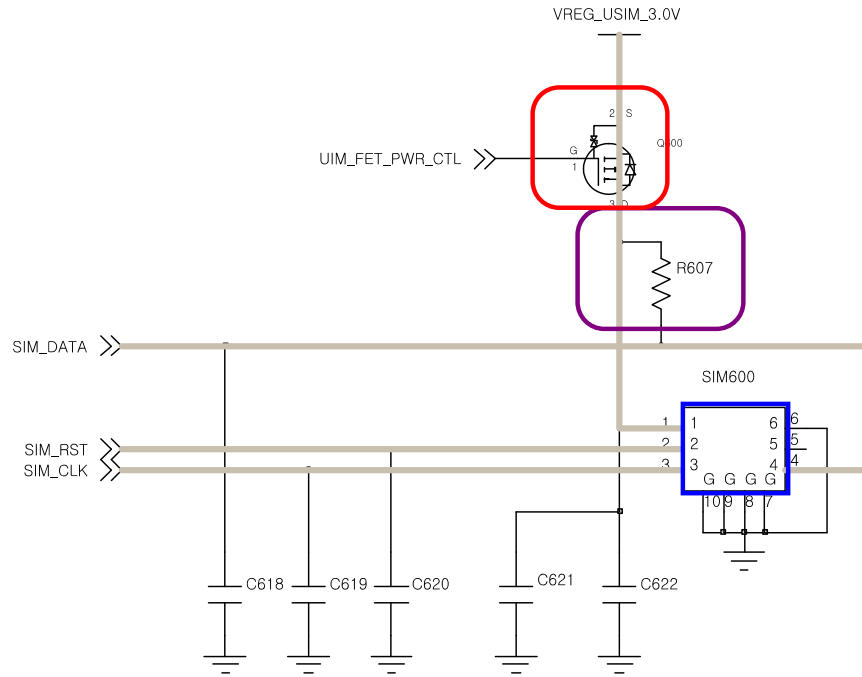


T-FLASH

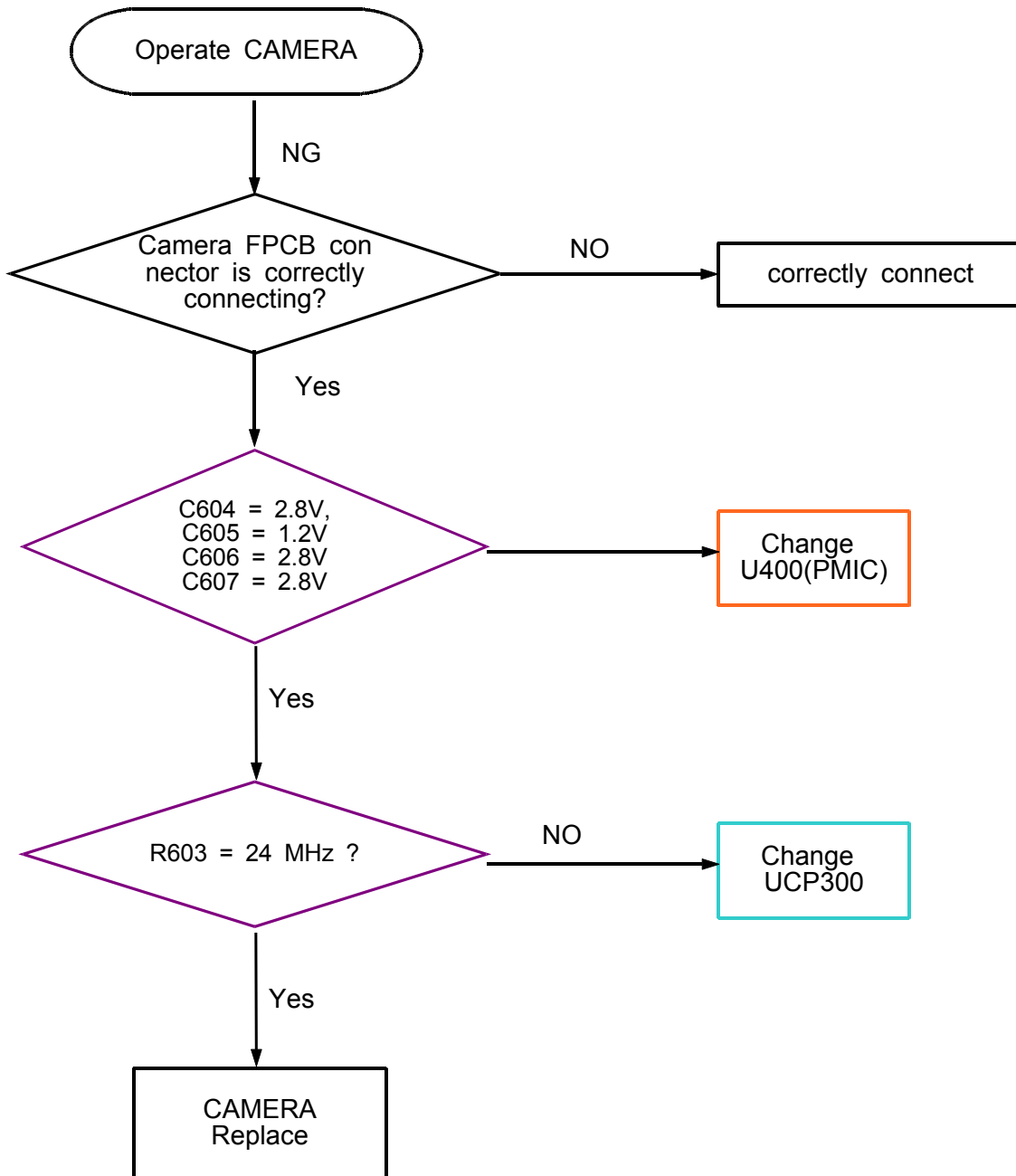


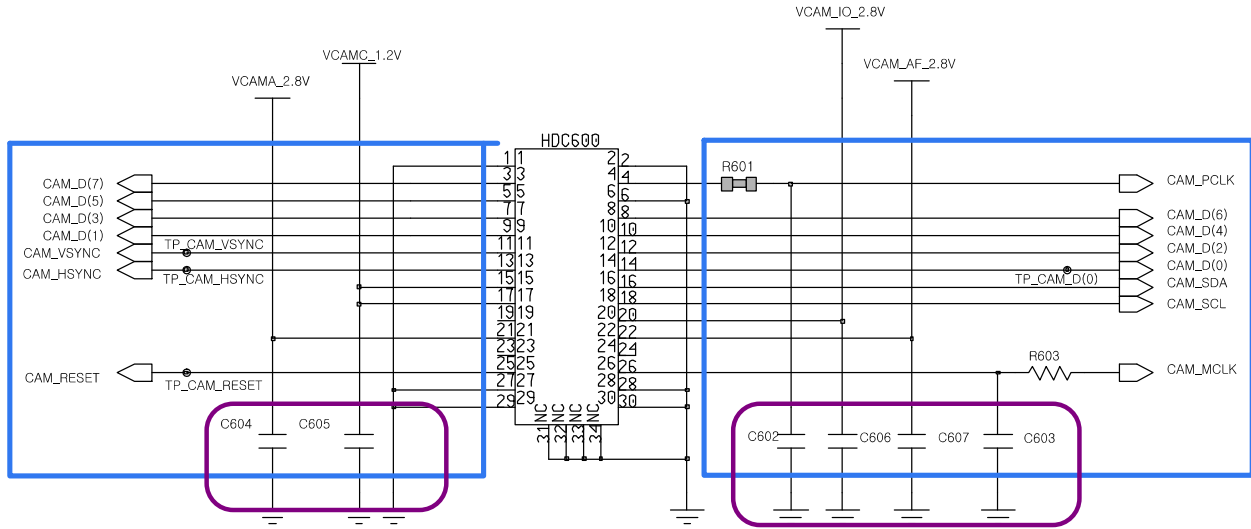
8-3-8. SIM Card Working



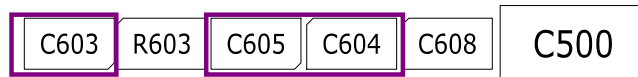
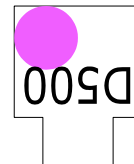
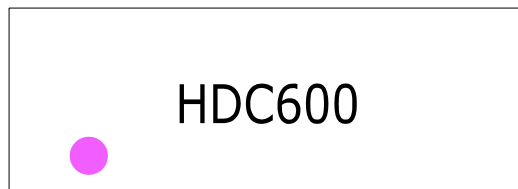


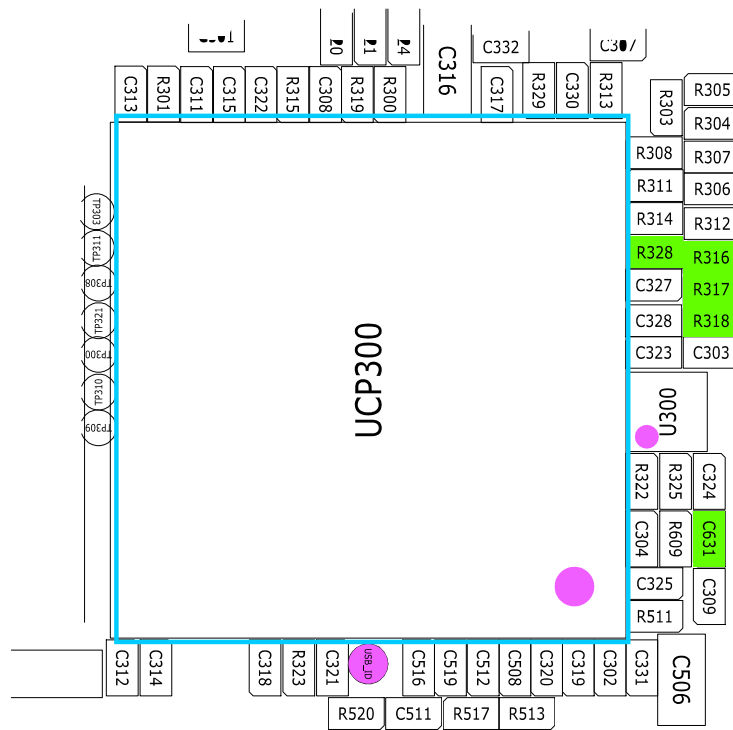
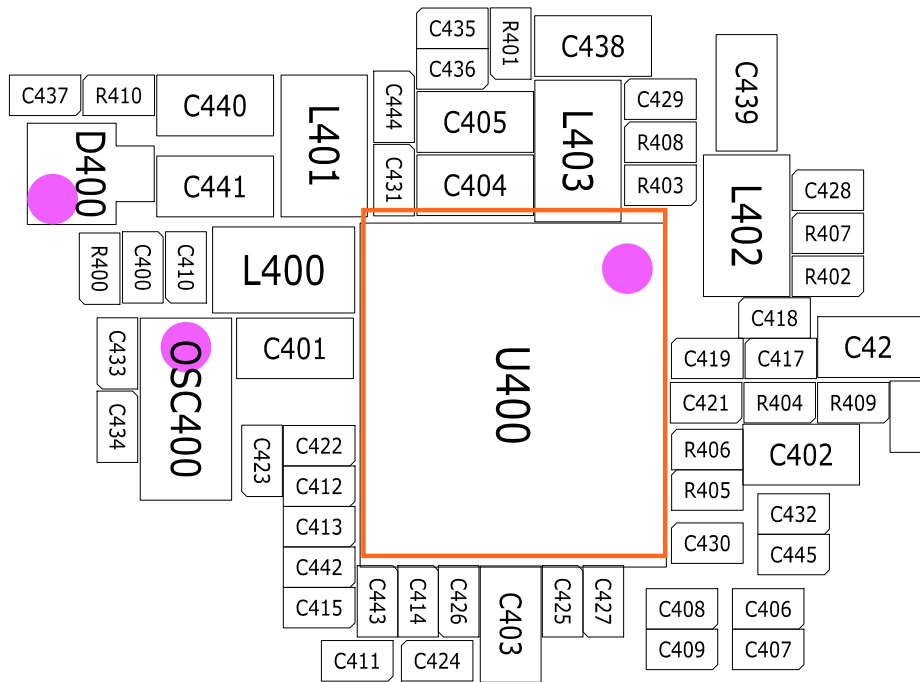
8-3-9 CAMERA Working





5M SOC_CAMERA

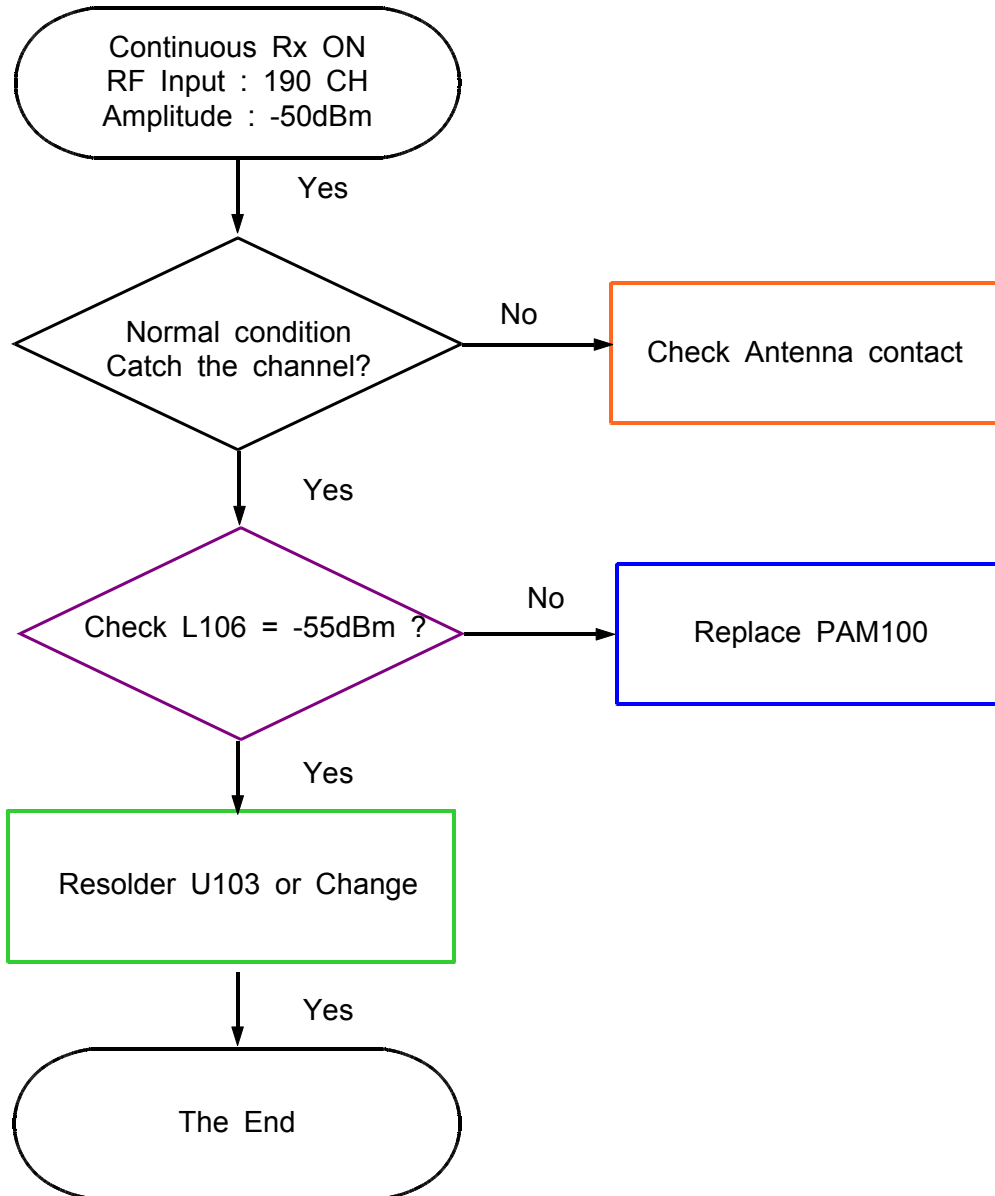




8-4-1. GSM850 RX

**If you check the tx chain,

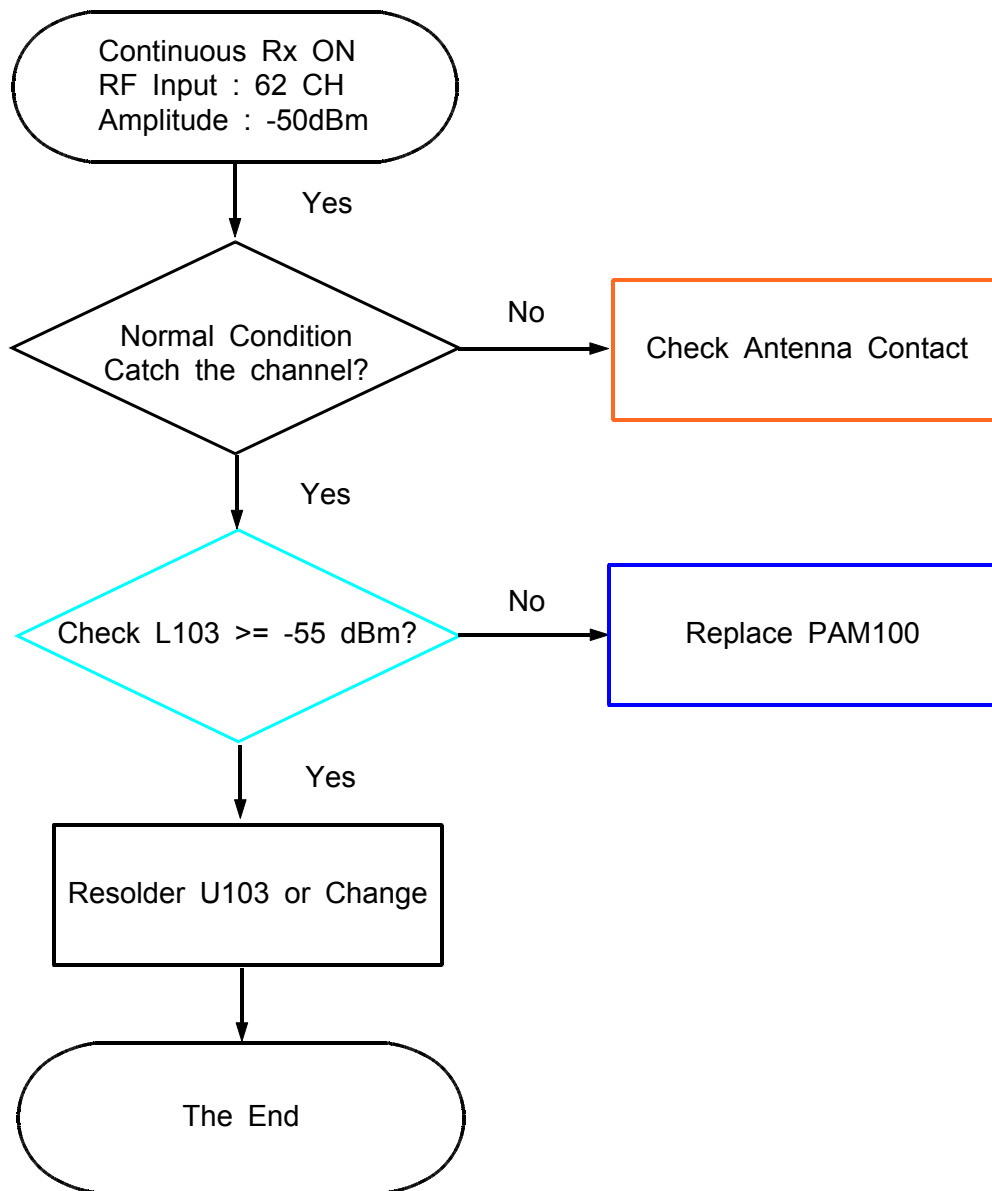
Check the not only RF Device but also resistor, inductor and capacitor.



8-4-2. GSM900 RX

**If you check the tx chain,

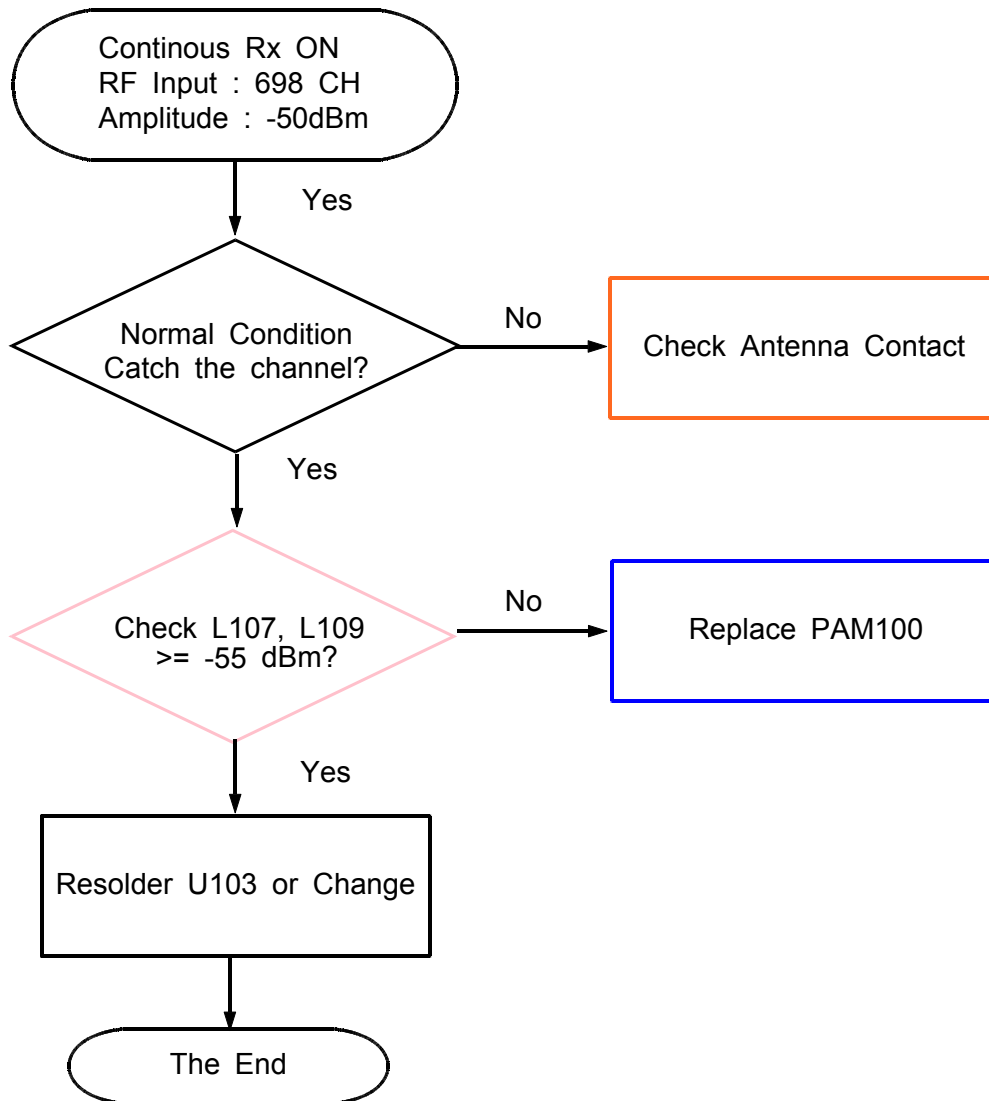
Check the not only RF Device but also resistor, inductor and capacitor.

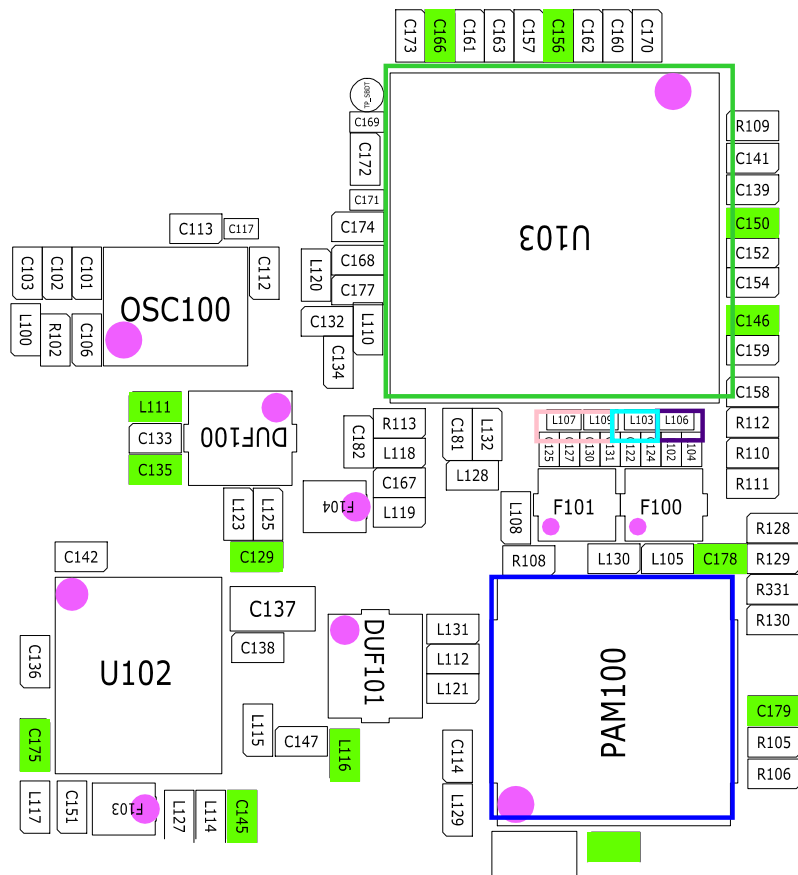
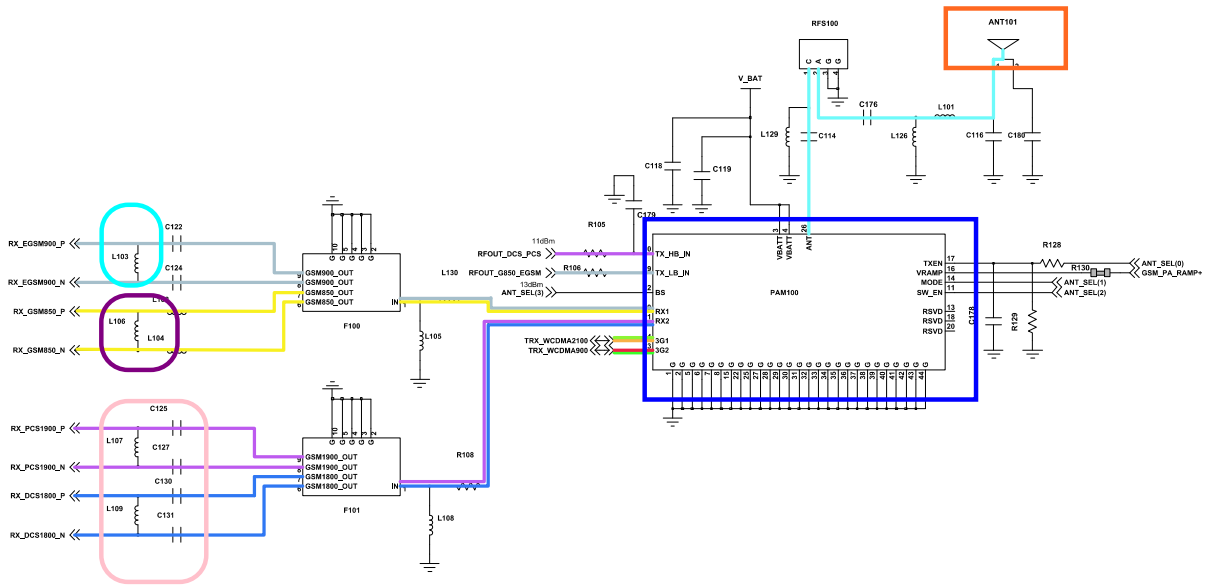


8-4-3. DCS/PCS RX

**If you check the tx chain,

Check the not only RF Device but also resistor, inductor and capacitor.

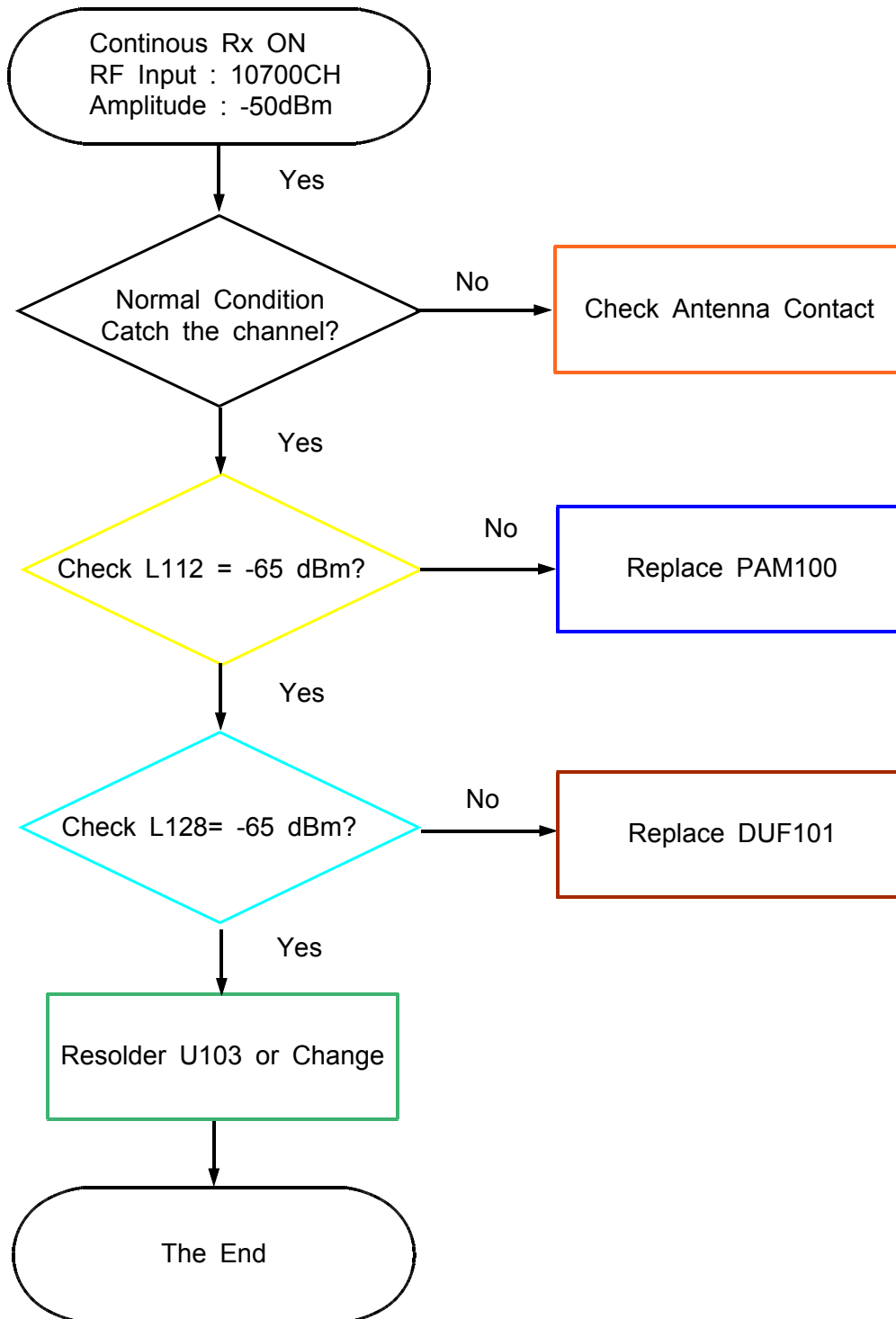




8-4-4. WCDMA Band1 RX

**If you check the tx chain,

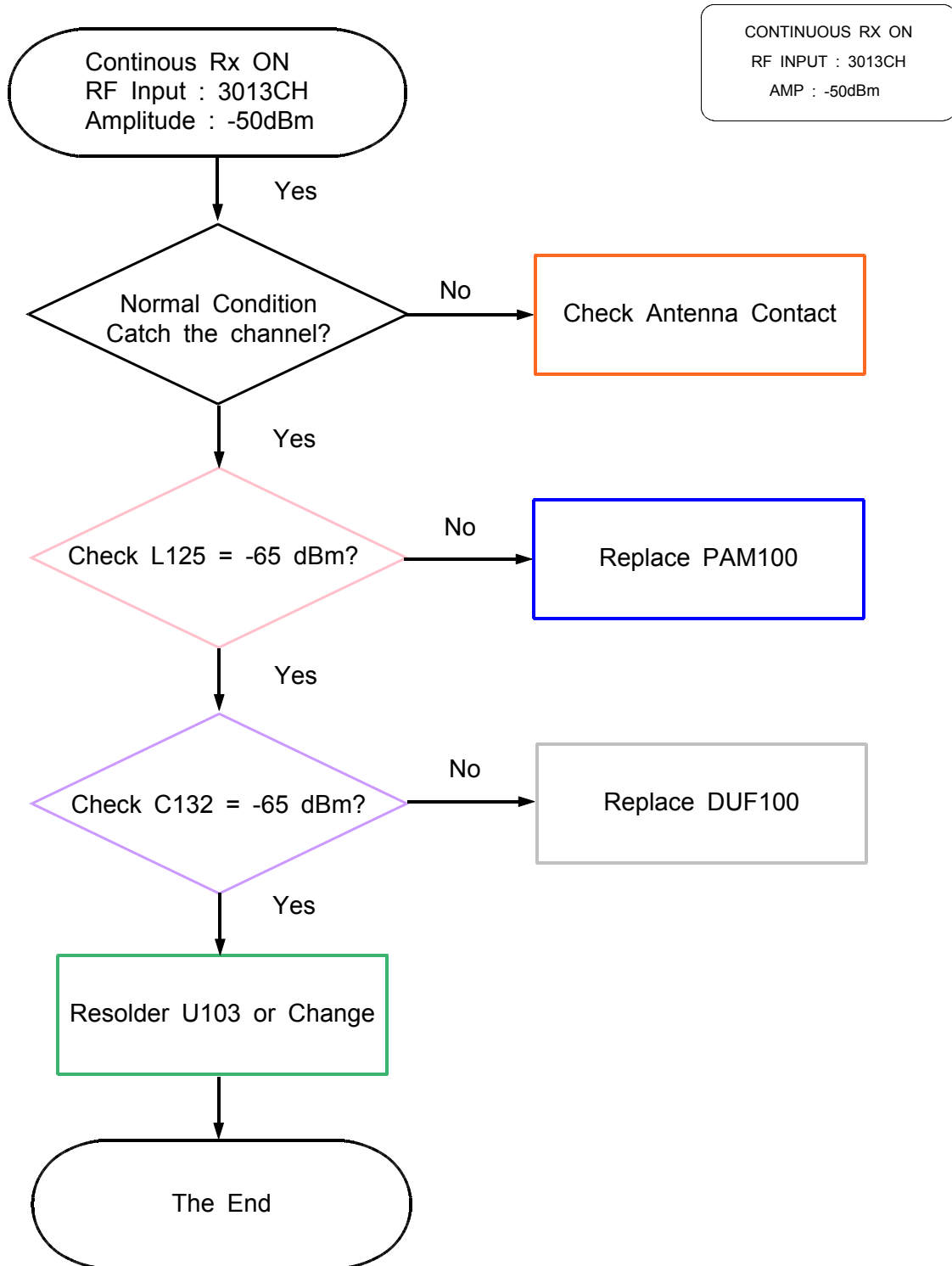
Check the not only RF Device but also resistor, inductor and capacitor.

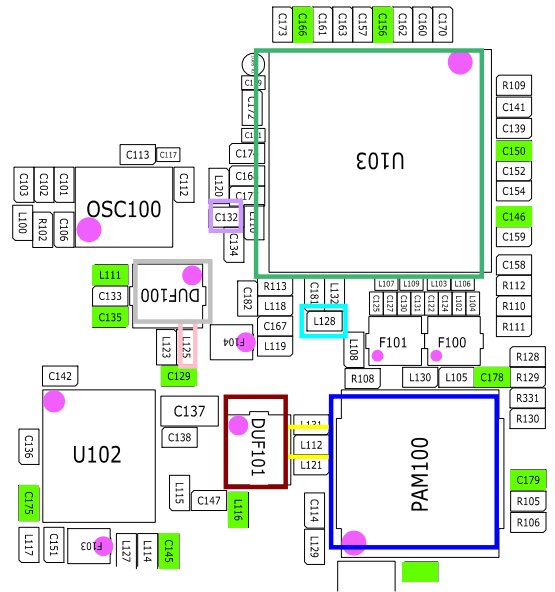
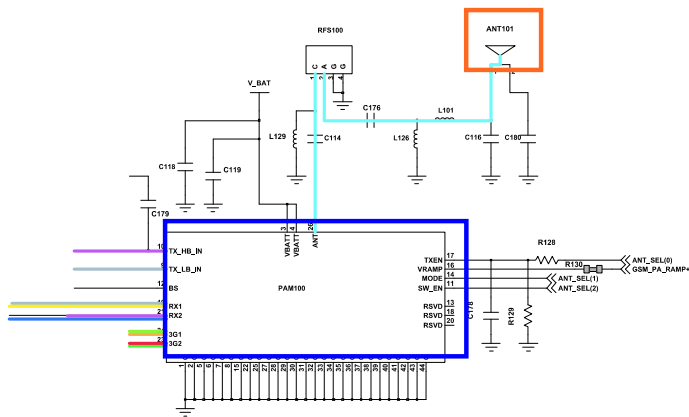
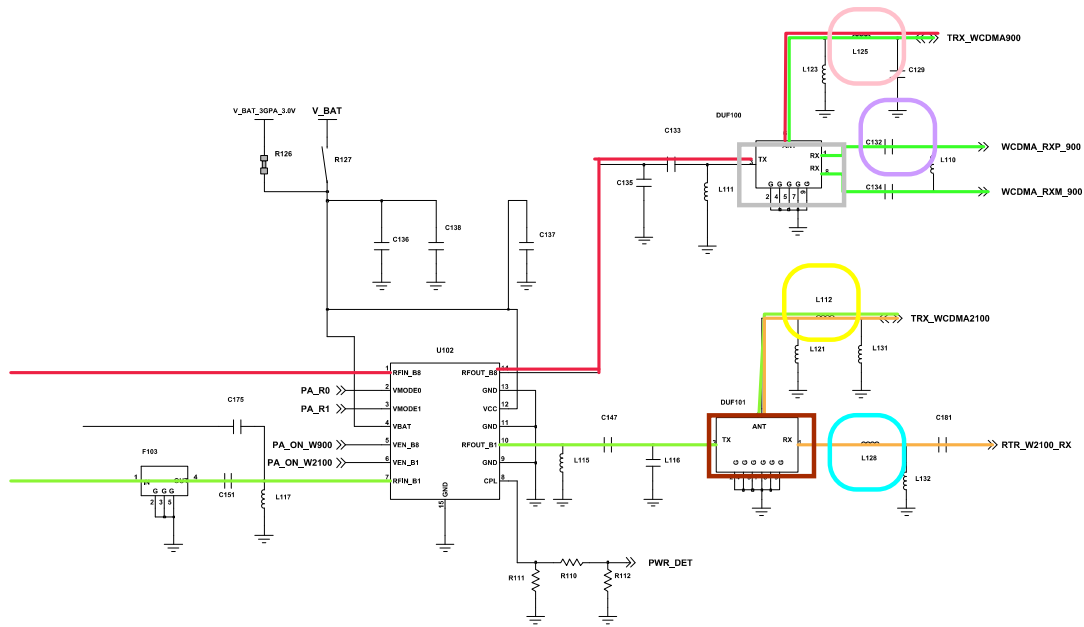


8-4-5. WCDMA Band8 RX

**If you check the tx chain,

Check the not only RF Device but also resistor, inductor and capacitor.

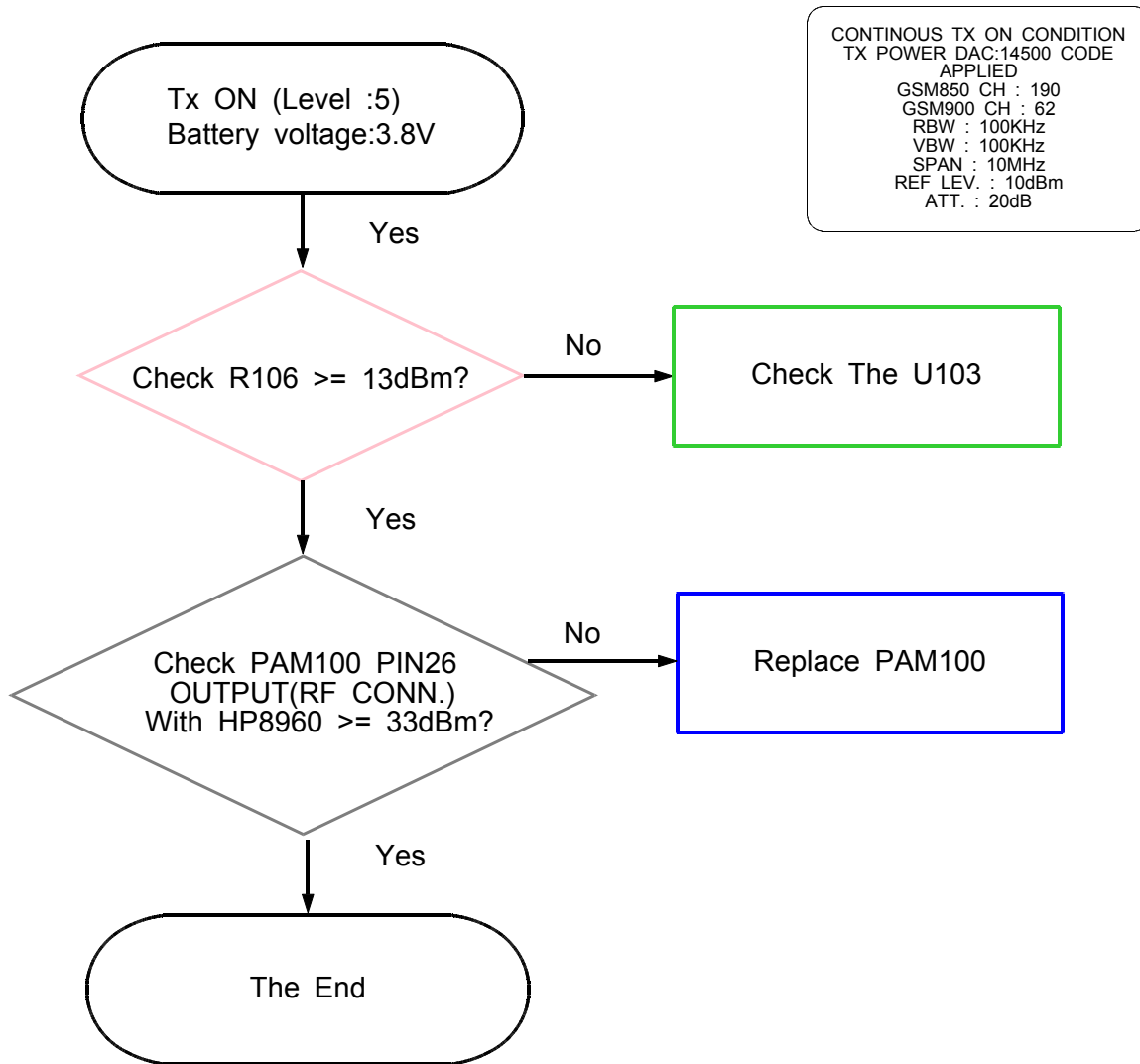




8-4-6. GSM850/900 TX

**If you check the tx chain,

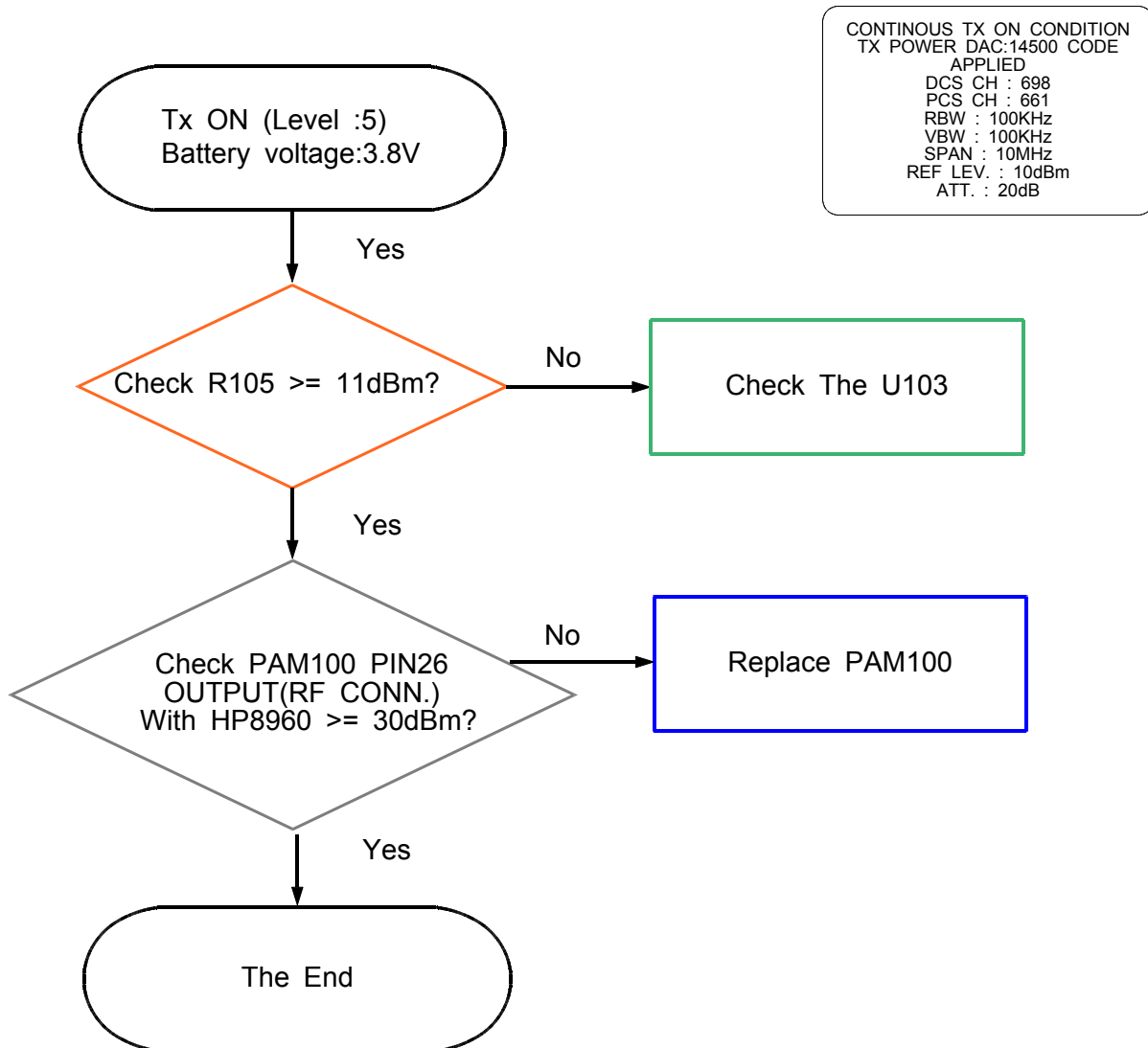
Check the not only RF Device but also resistor, inductor and capacitor.

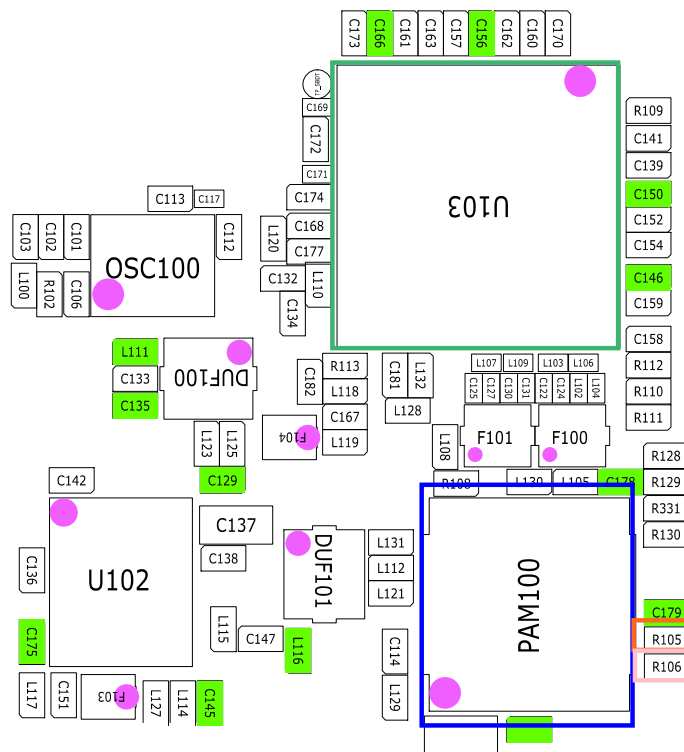
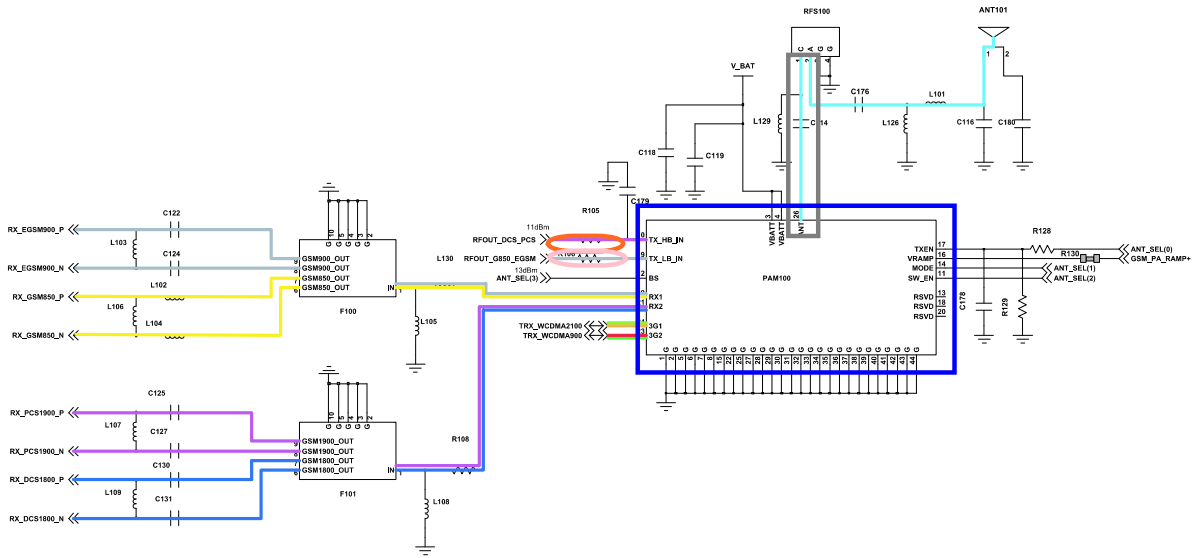


8-4-7. DCS/PCS TX

**If you check the tx chain,

Check the not only RF Device but also resistor, inductor and capacitor.

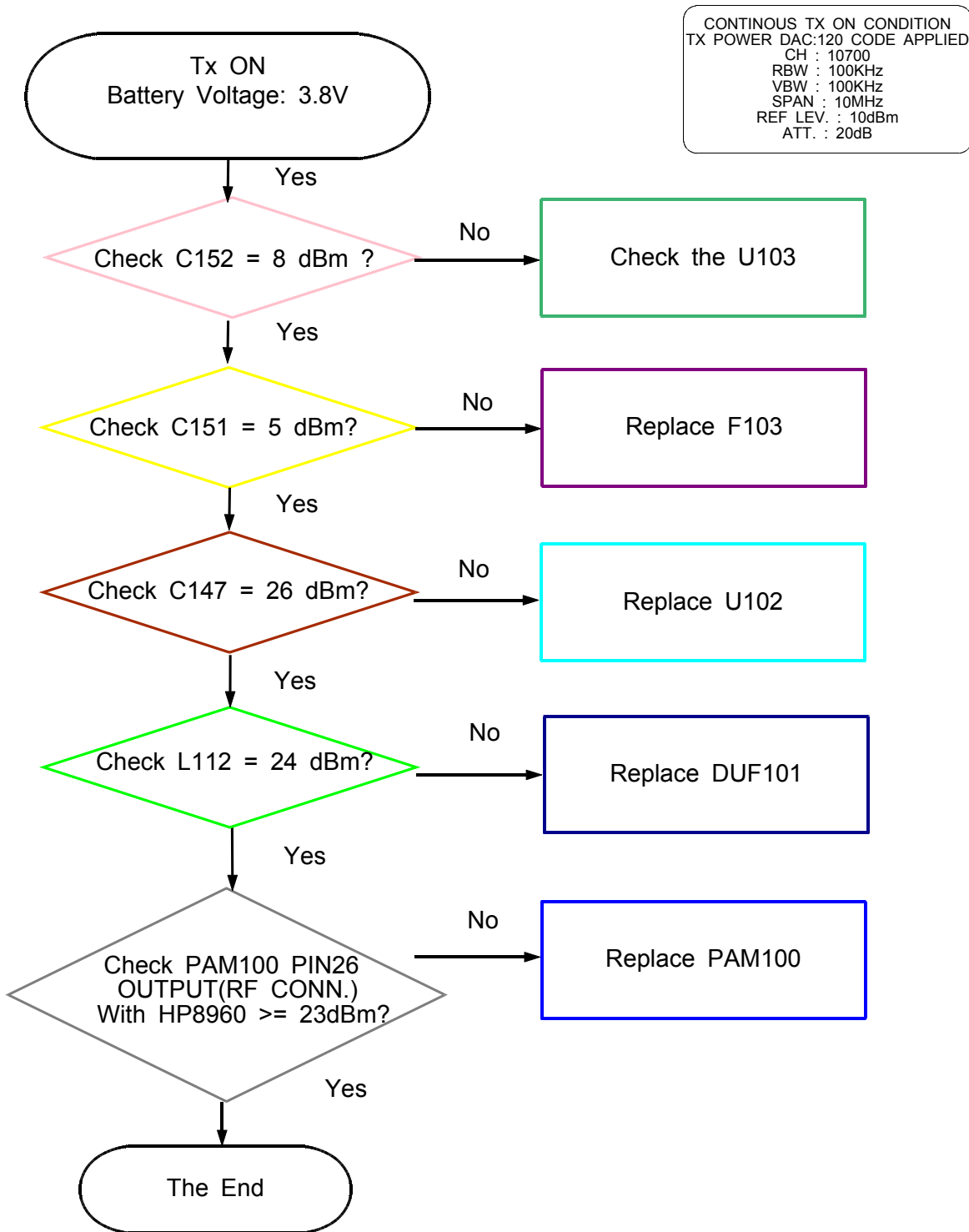




8-4-8. WCDMA Band1 TX

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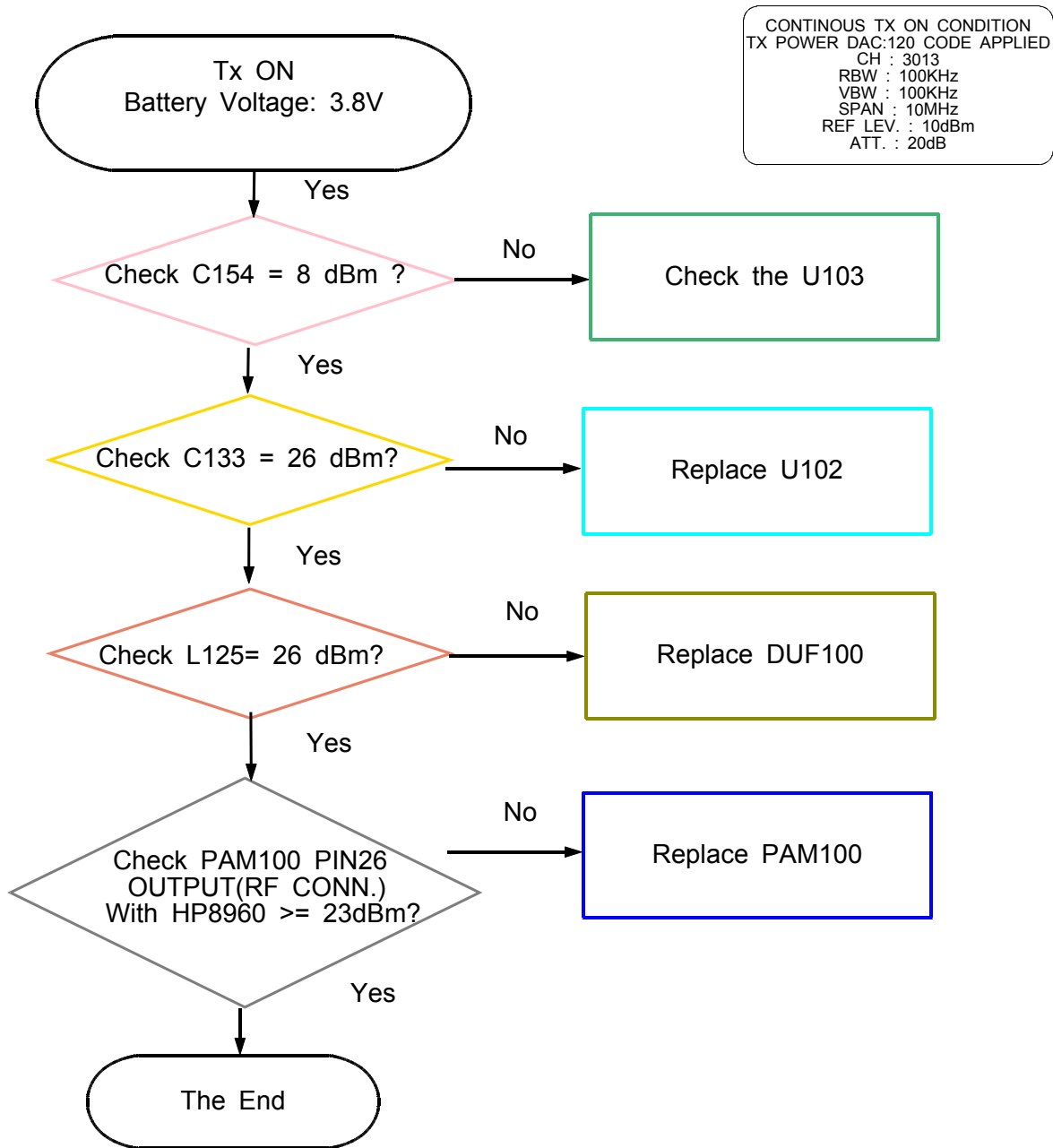
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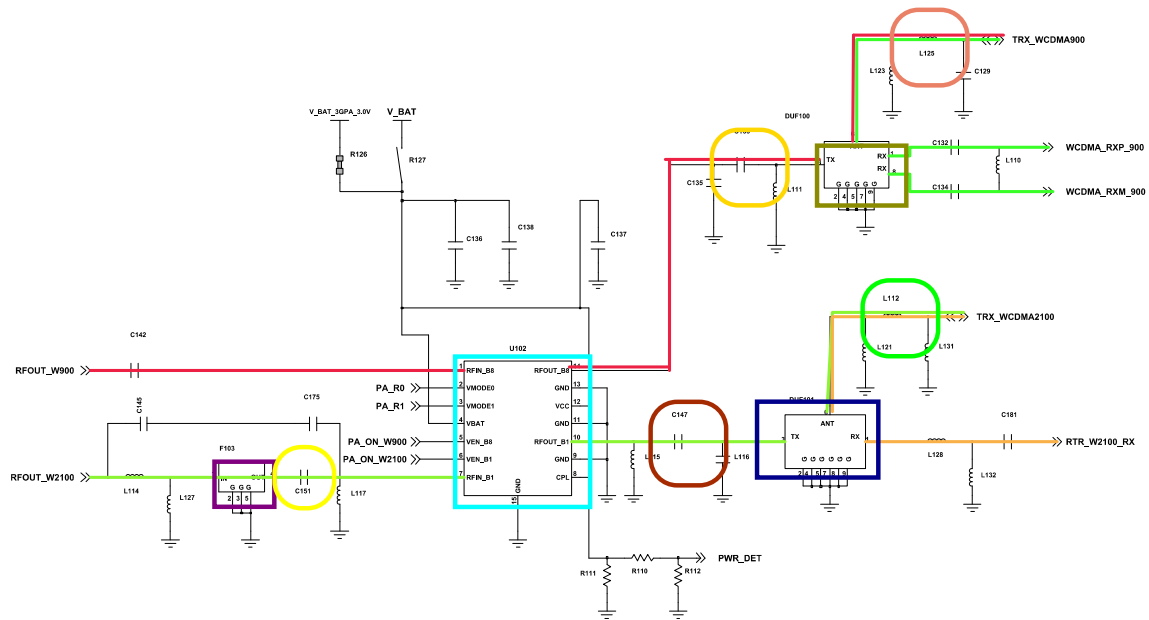


8-4-9. WCDMA Band8 TX

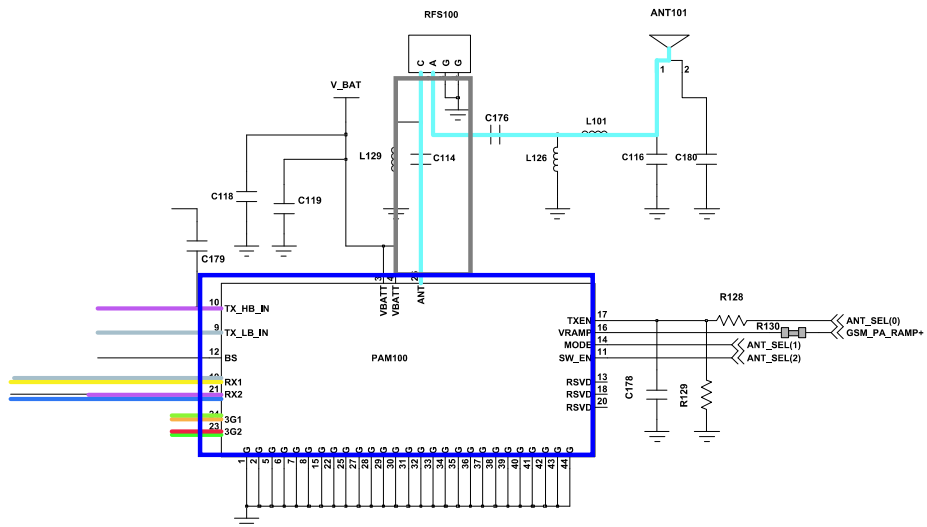
**If you check the tx chain,

Check the not only RF Device but also resistor, inductor and capacitor.

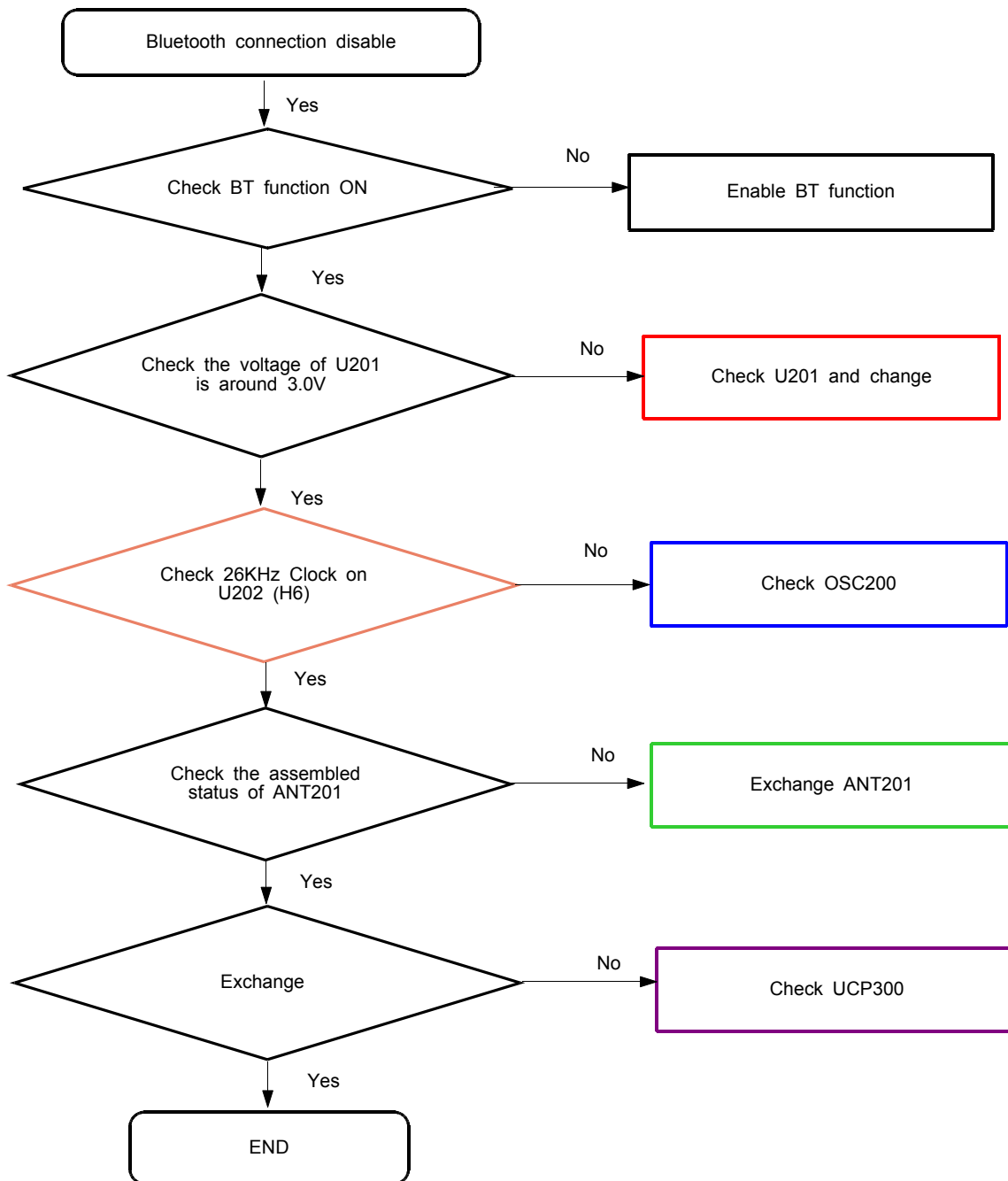


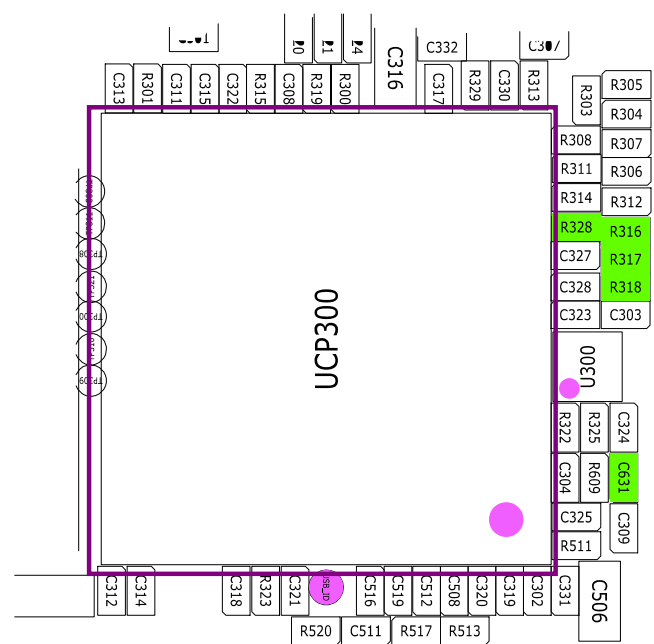
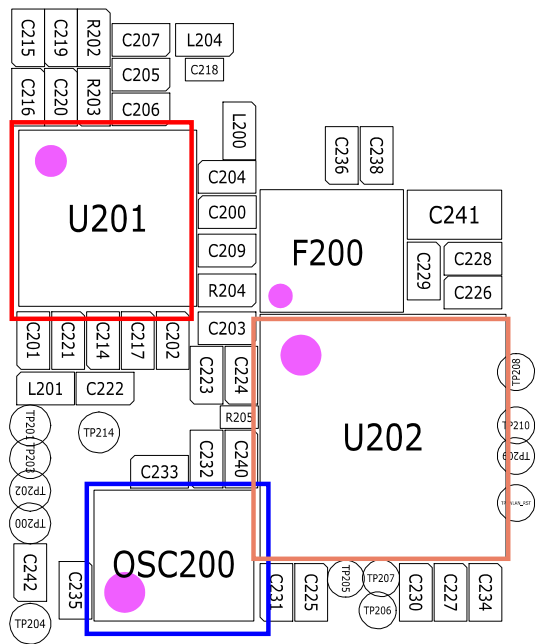
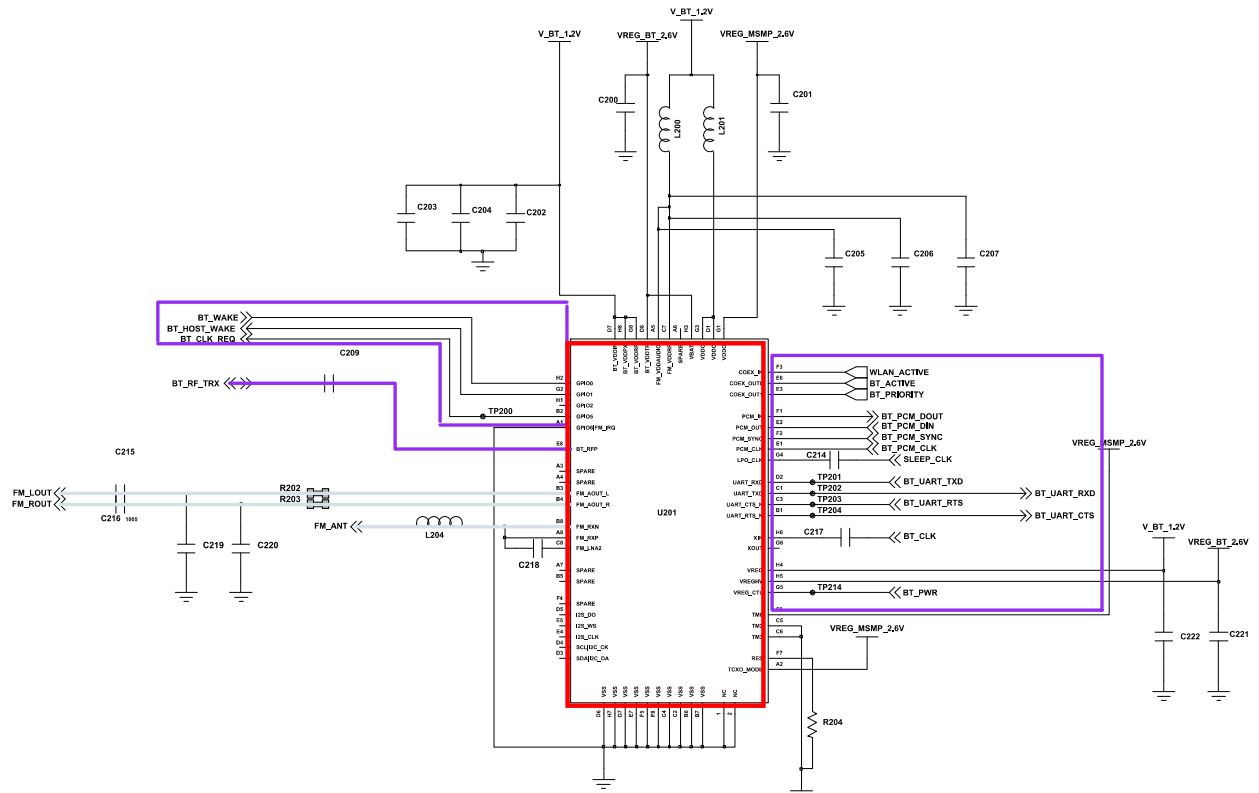


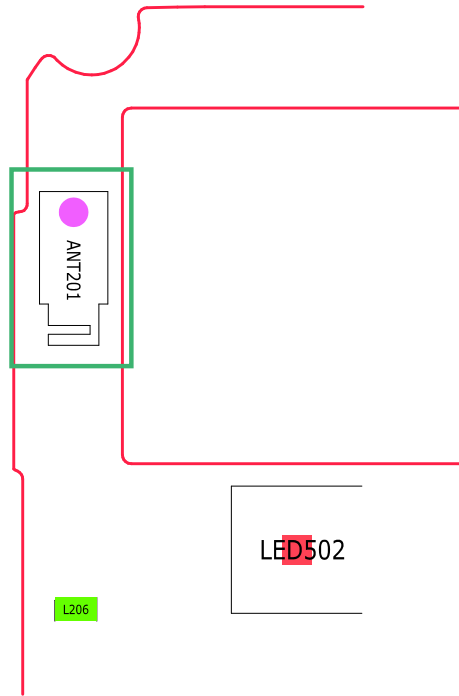
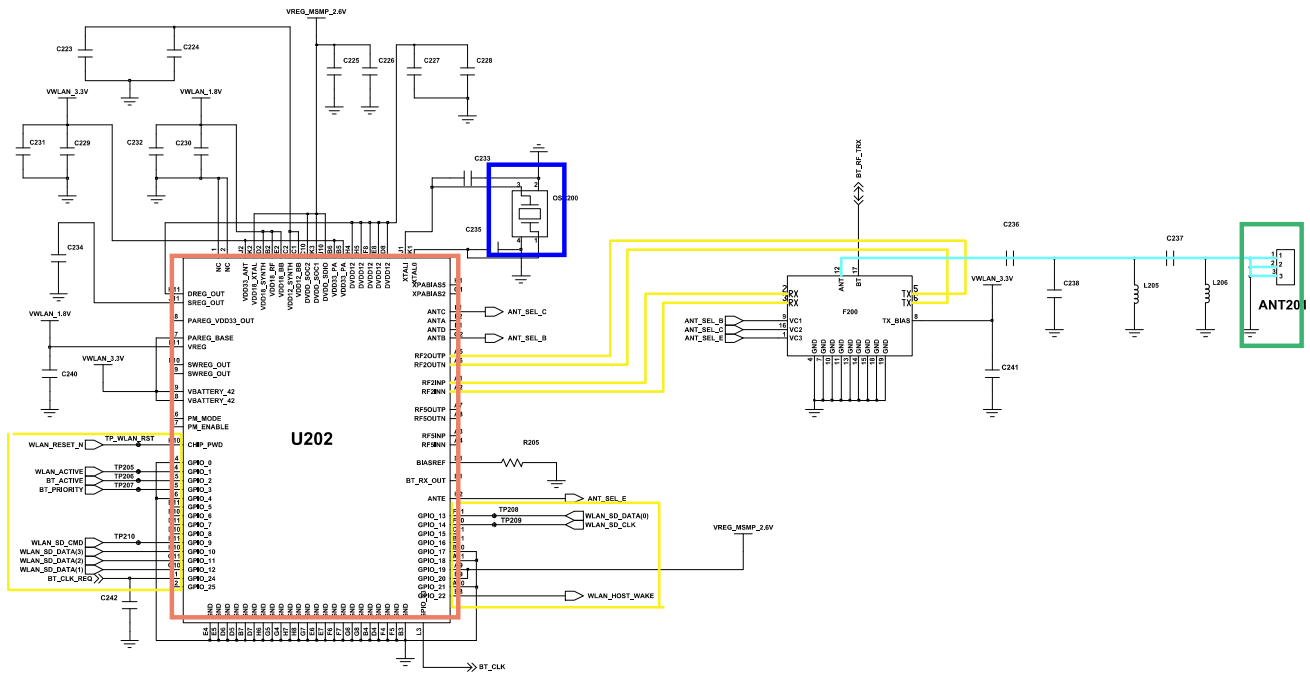
<WCDMA 900 & 2100 PAM>



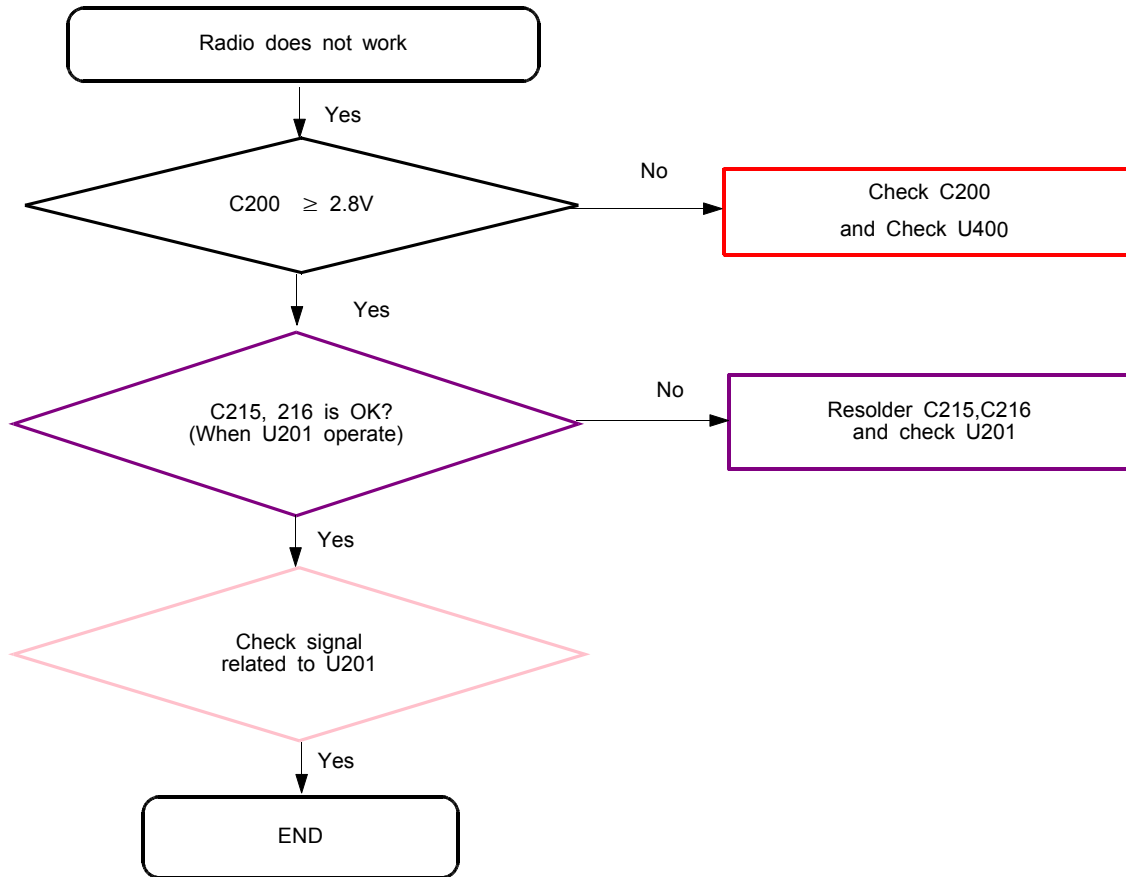
8-4-10. BLUETOOTH



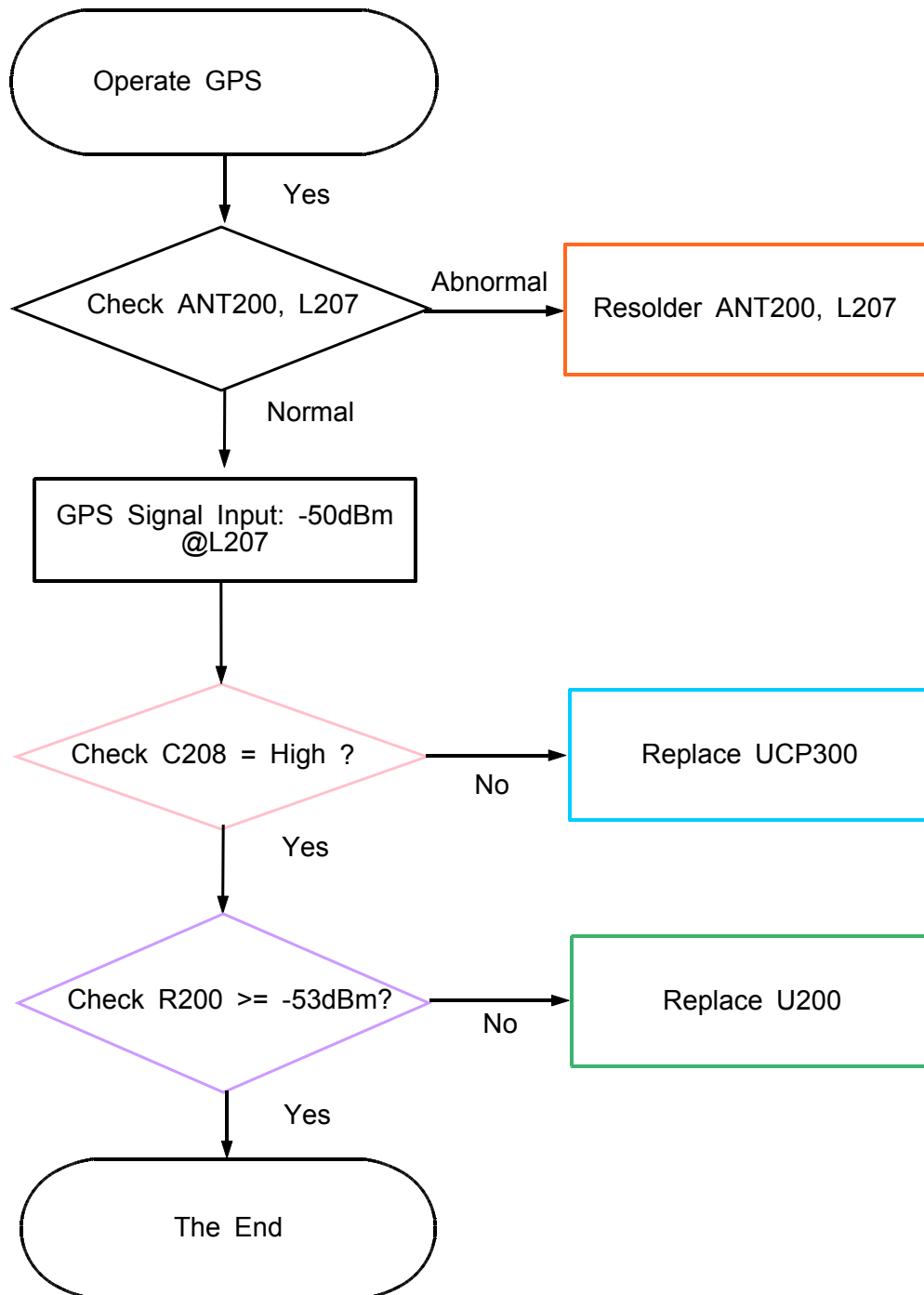


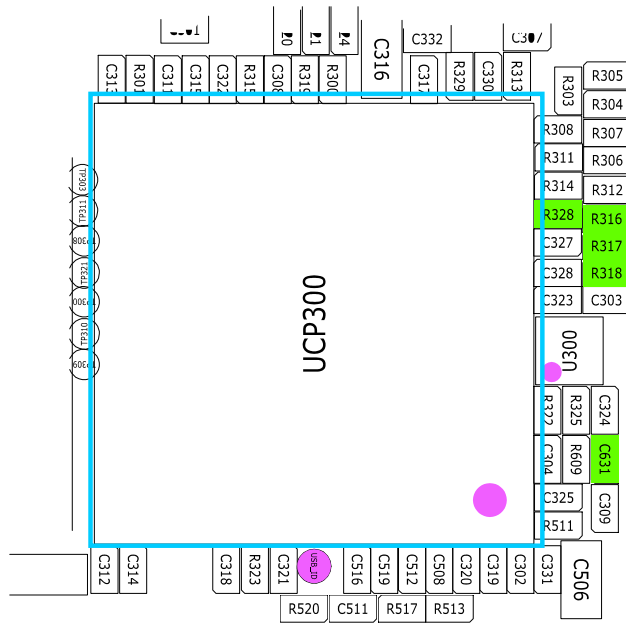
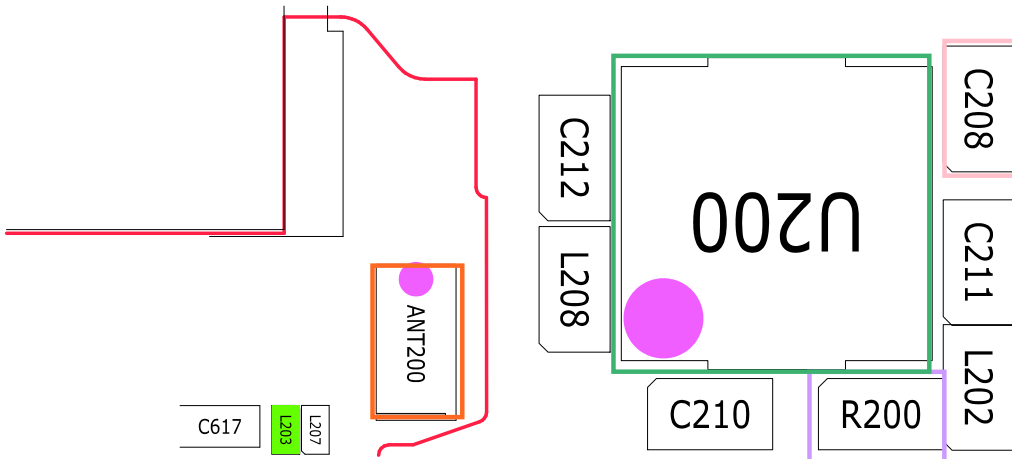
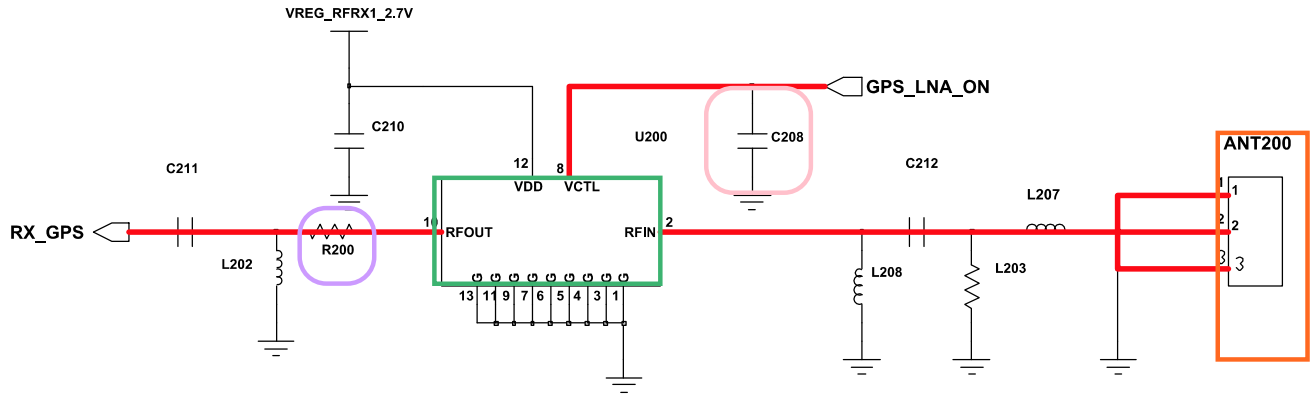


8-4-11. FM RADIO



8-4-12. GPS





8-5. Service Schematics

- NC Point(Top View)

● : NC

UME300

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A	○	○	●	○	○	○	○	○	○	○	○	○	○	○
B	○	○	○	●	○	○	○	○	○	○	○	○	○	○
C	○	●	○	○	○	○	○	○	○	○	○	○	○	○
D	○	○	○	○								○	○	○
E	○	○	○		○	●	●	○	●	●		○	○	○
F	○	○	○		○					●		○	○	○
G	○	○	○		○					●		○	○	○
H	○	○	○		○					○		○	○	○
J	○	○	○		○					○		○	○	○
K	○	○	○		○	○	○	○	○	○		○	○	○
L	○	○	○									○	○	○
M	○	○	●	○	○	○	○	○	○	○	○	○	○	○
N	○	○	○	○	○	○	○	○	○	○	○	○	○	○
P	○	○	○	○	○	○	○	○	○	○	○	○	○	○

U400

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D	○	○	○	○	○	○	○	○	○	○	○	○
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F	○	○	○	●	○	○	○	○	○	○	●	○
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J	○	○	○	○	○	○	○	○	○	○	○	○
K	●	○	○	○	○	○	○	○	○	○	○	●

UCP300

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D	●	○	○																							○	○	●	D						
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G	●	○	○		○	○																	○	○		○	○	○	●	G					
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AC	●	○	○		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○		○	○	○	○	○	○	●	AC		
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AF	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	●	AF
AG	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	AG
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U202

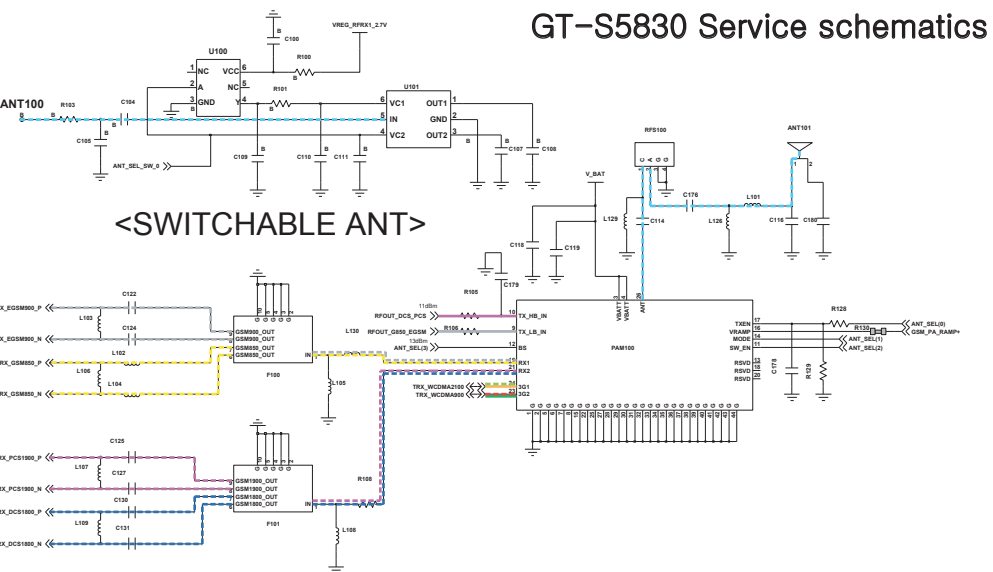
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9. Reference Abbreviate

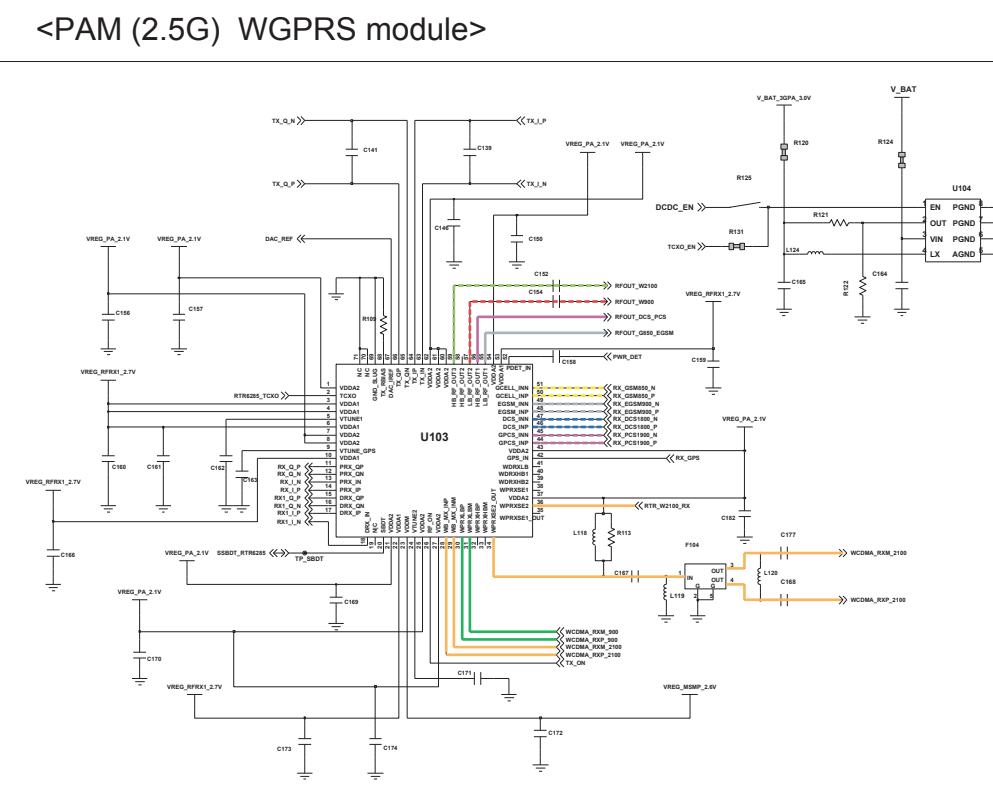
Reference Abbreviate

- **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

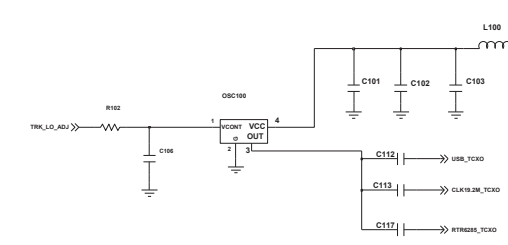
GT-S5830 Service schematics



<SWITCHABLE ANT>



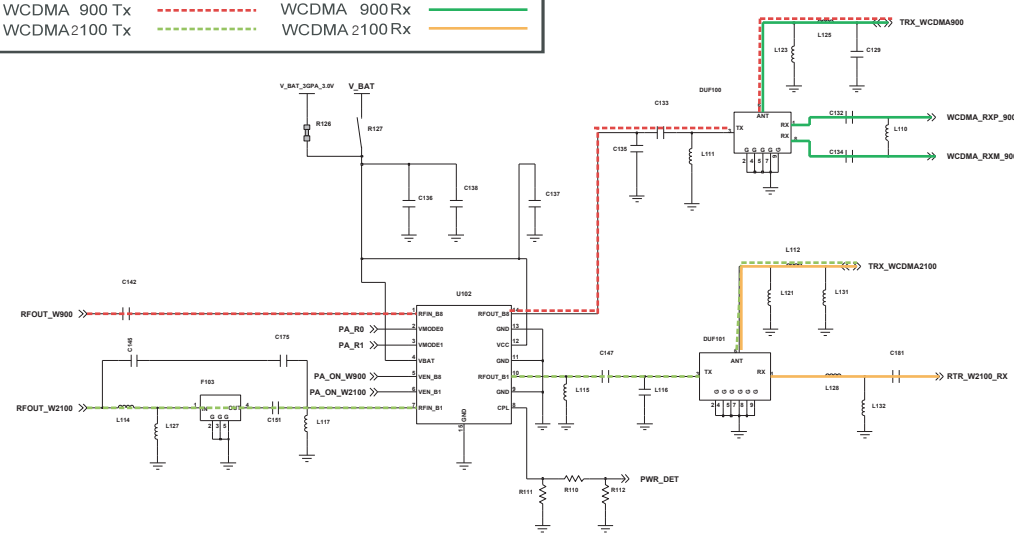
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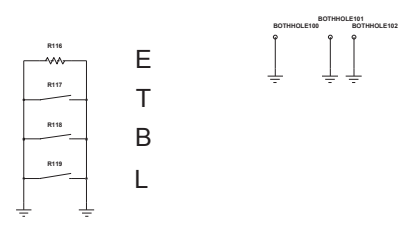
< TCXO >

<RF>

ANT	---	GSM850 Rx	---
GSM850/900 Tx	---	GSM900 Rx	---
GSM1800/1900 Tx	---	GSM1800 Rx	---
WCDMA 900 Tx	---	WCDMA 900Rx	---
WCDMA2100 Tx	---	WCDMA 2100Rx	---



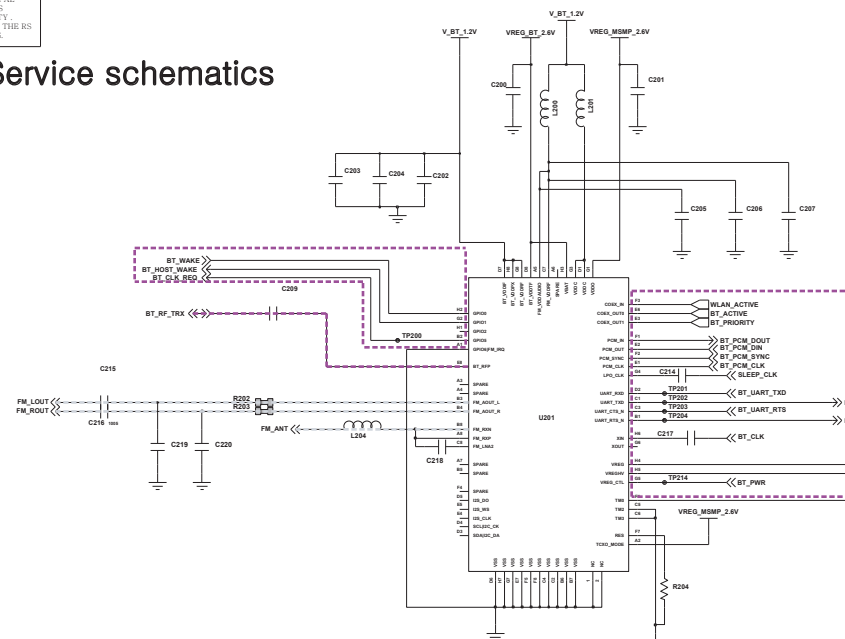
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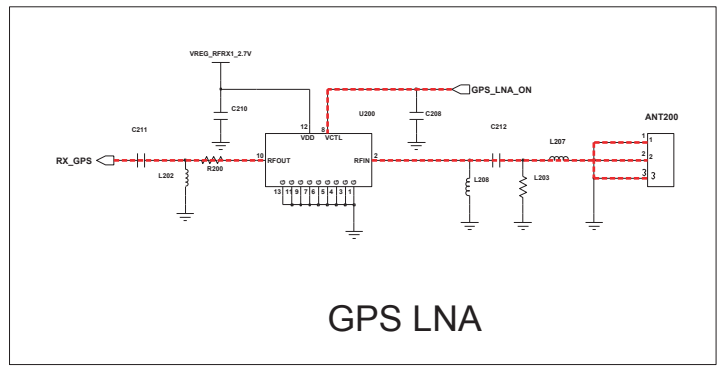
E T B L

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GT-S5830 Service schematics

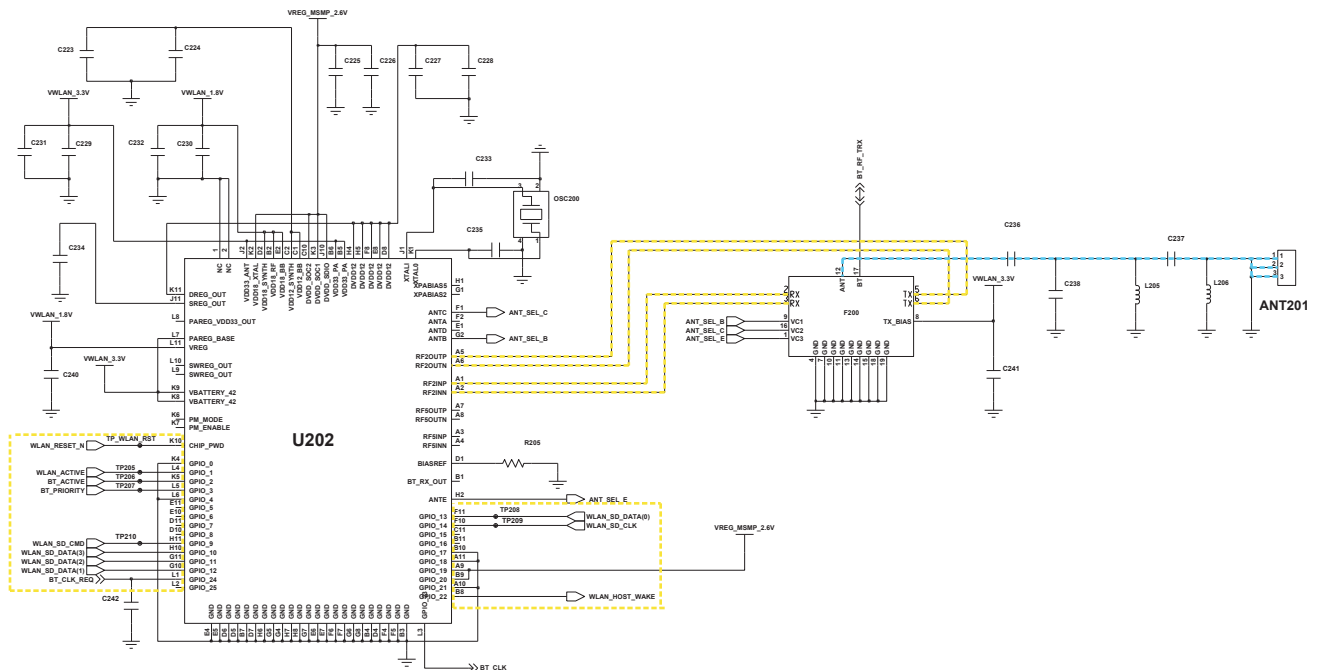


BT & FM COMBO



GPS LNA

- < RF > -----
- FM WLAN/BT ANT -----
- WLAN -----
- BT -----
- GPS SIGNAL -----



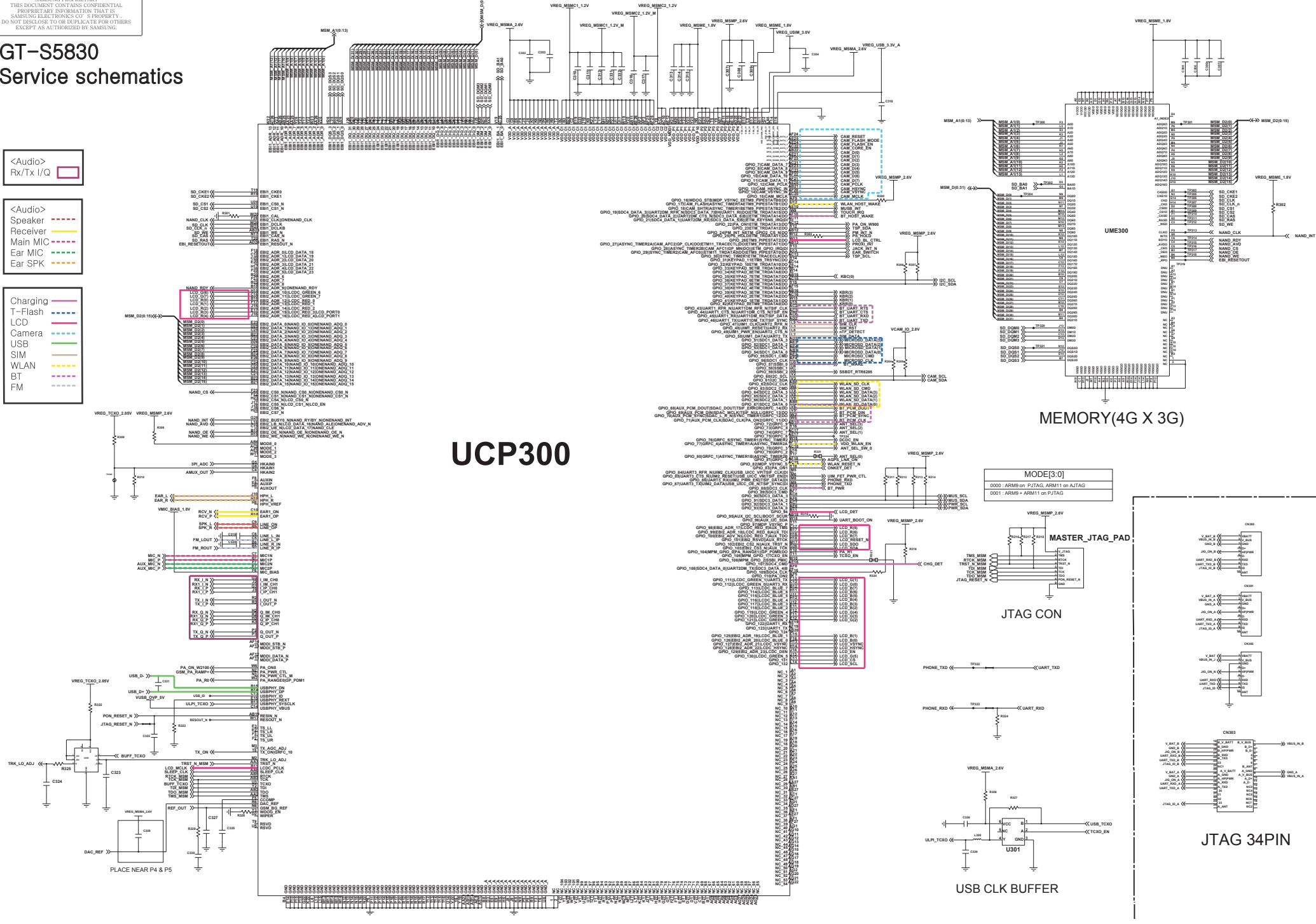
WIFI MODULE

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GT-S5830

Service schematics

- <Audio>
Rx/Tx I/Q
- <Audio>
Speaker
Receiver
Main MIC
Ear MIC
Ear SPK
- Charging
T-Flash
LCD
Camera
USB
SIM
WLAN
BT
FM



UCP300

MEMORY(4G X 3G)

MODE[3:0]
0000 ARM9 on PJTAG, ARM11 on AJTAG
0001 ARM9 + ARM11 on PJTAG

MASTER_JTAG_PAD

JTAG CON

PHONE_TXD

PHONE_RXD

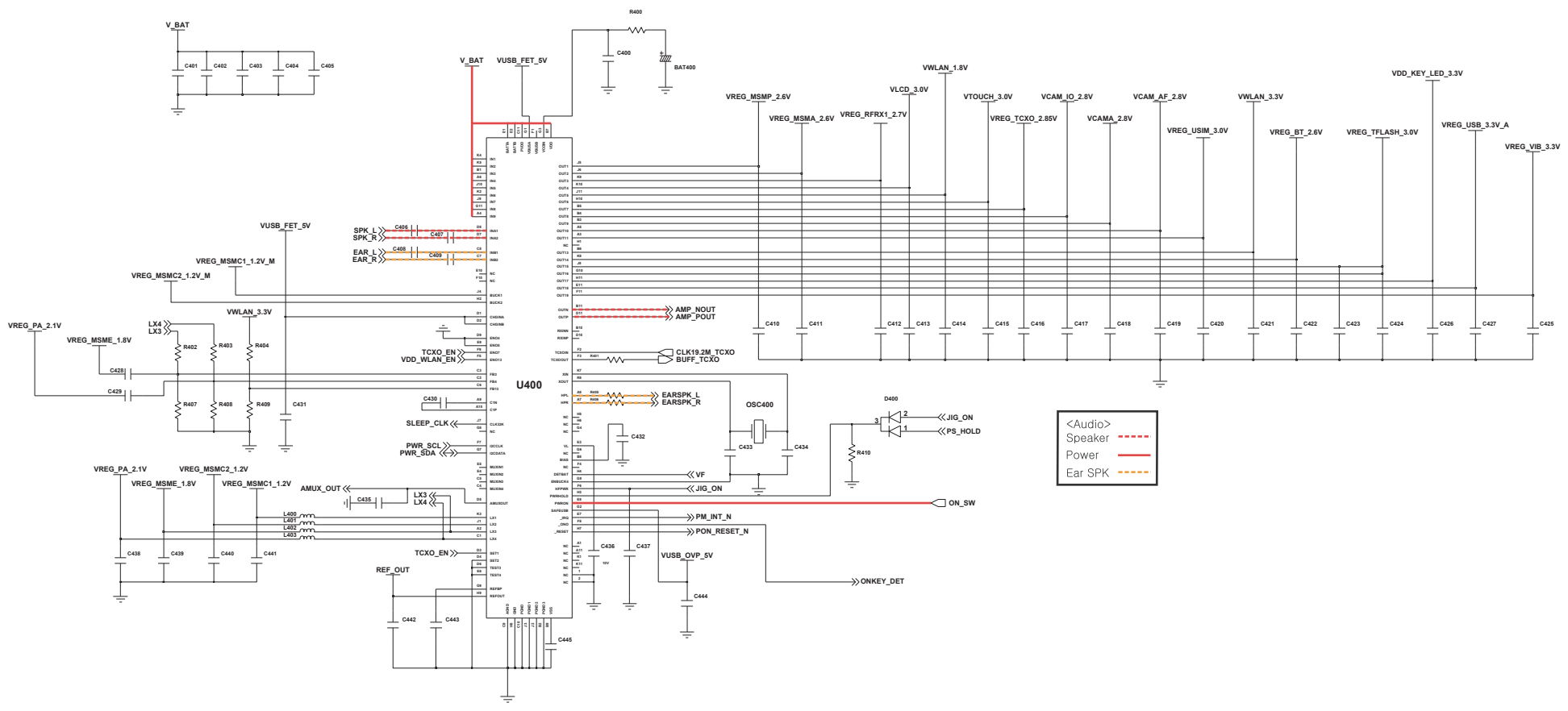
USB CLK BUFFER

JTAG 34PIN

PLACE NEAR P4 & P5

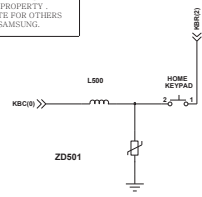
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GT-S5830 Service schematics

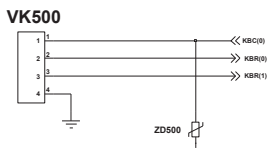


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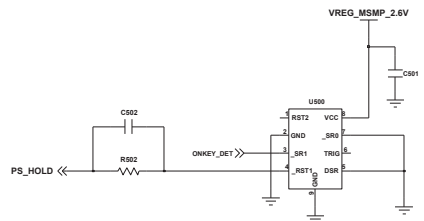
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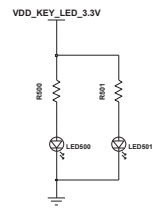
SUB KEY



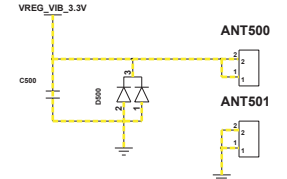
VOLUME KEY



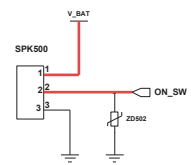
H/W Reset IC



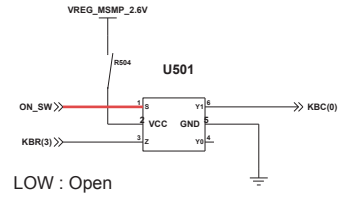
KEY LED



MOTOR

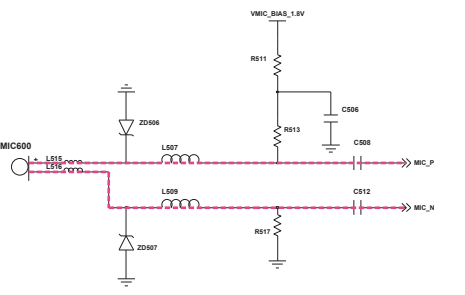


PWR KEY

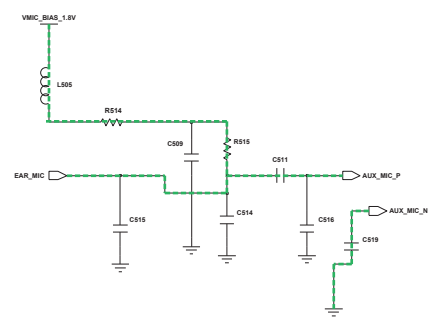


ON_SW KEYMATRIX

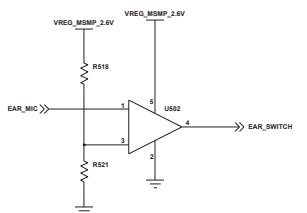
- | | |
|---------|-----|
| T-Flash | --- |
| Power | --- |
| SIM | --- |
| FM | --- |
| LCD | --- |
| CAMERA | --- |
| USB | --- |
| Motor | --- |
-
- | | |
|----------|-----|
| <Audio> | --- |
| Speaker | --- |
| Receiver | --- |
| Main MIC | --- |
| Ear MIC | --- |
| Ear SPK | --- |



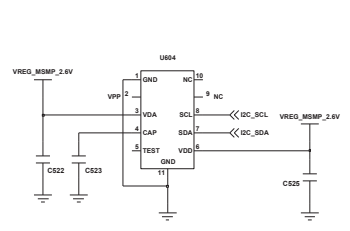
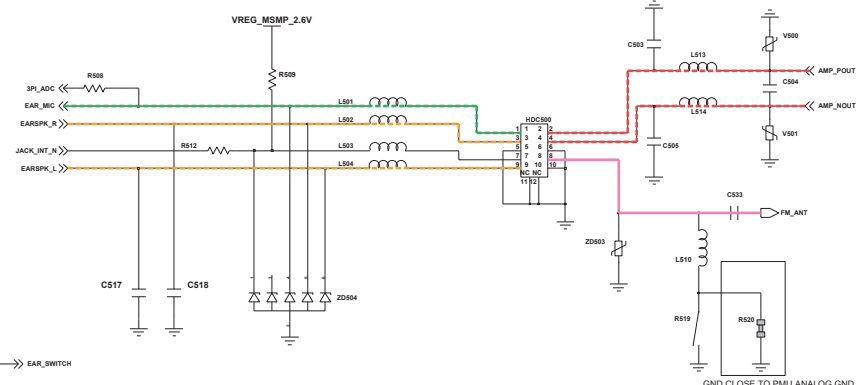
MAIN MIC



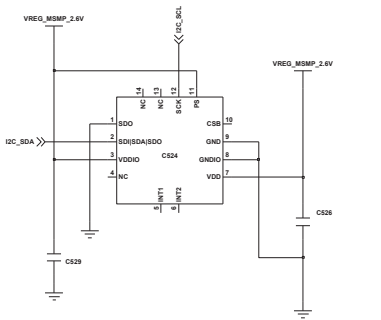
EAR_MIC_FILTER



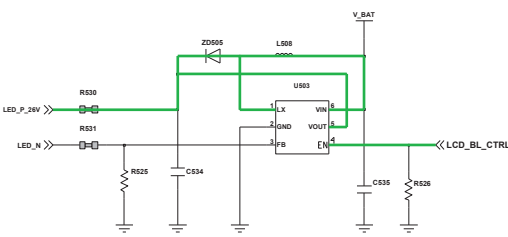
3.5 PHI EARJACT + SPK



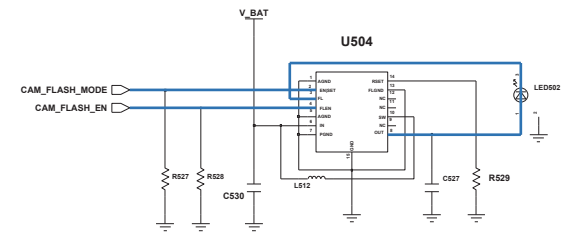
E-COMPASS



3-AXIS ACCELERATOR



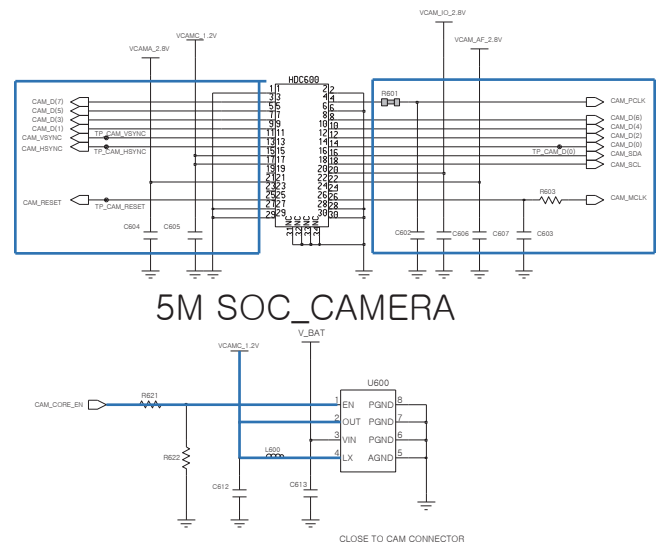
LCD BL IC



FLASH

GT-S5830
Service schematics

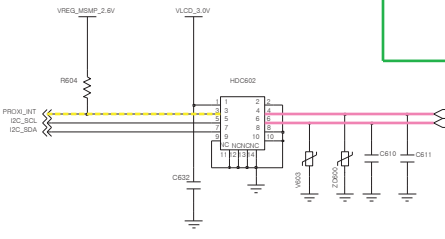
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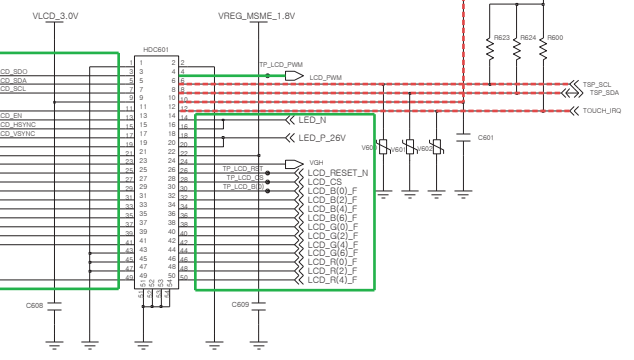
5M SOC_CAMERA

CLOSE TO CAM CONNECTOR

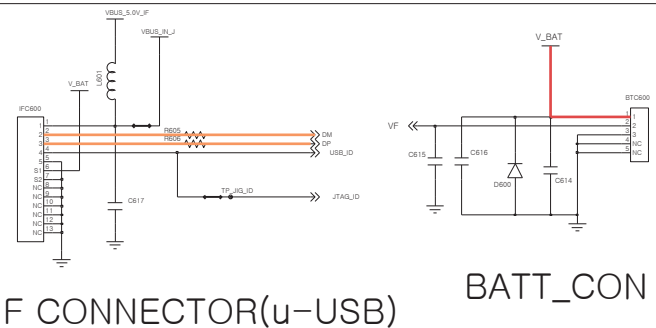
- T-Flash ---
- Power ---
- SIM ---
- RCV ---
- LCD ---
- CAMERA ---
- USB ---
- Proxy ---
- TSP ---



RCV + PROXI SENSOR

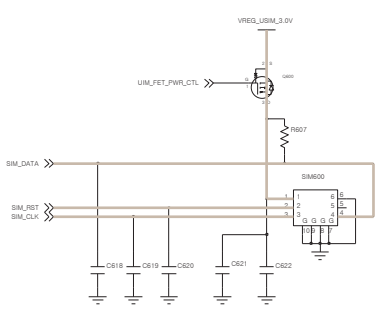


**LCD BTOB-CONN.
(3.5" HVGA & TSP)**

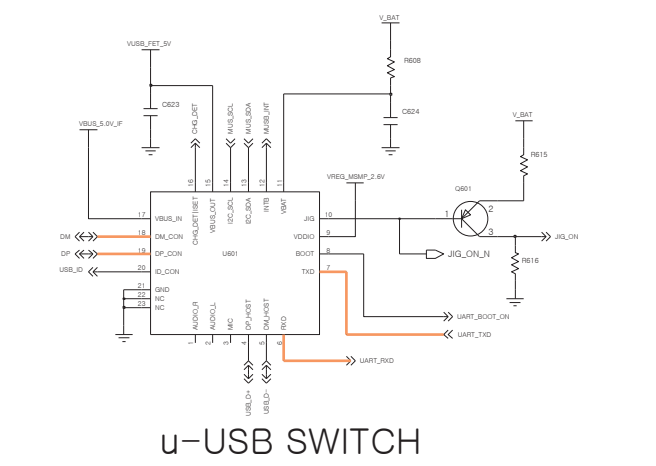


IF CONNECTOR(u-USB)

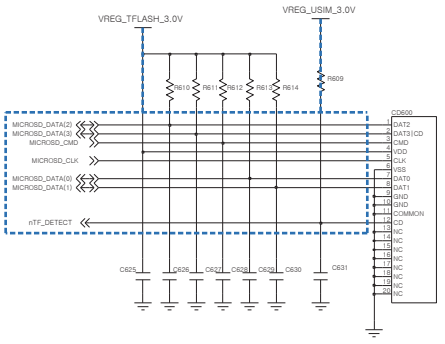
BATT_CON



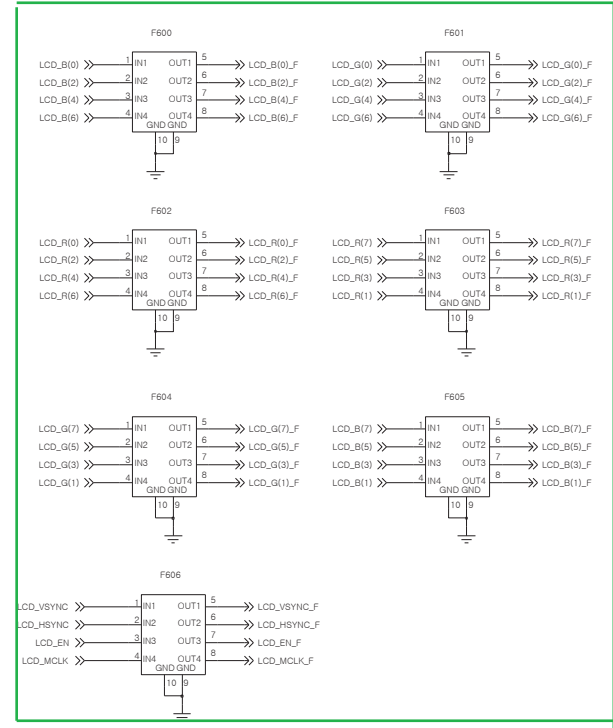
SIM CONNECTOR



u-USB SWITCH



T-FLASH



LCD EMI_FILTER

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