GSM TELEPHONE

GT-S8600

SERVICE Manual

GSM TELEPHONE

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SAMSUNG
ELECTRONICS

2011. 10. Rev.1.0

2. Specification

2-1. GSM General Specification

	GSM850 Phase 1	EGSM 900 Phase 2	DCS1800 Phase 1	PCS1900	WCDMA 2100	WCDMA850
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	824~849 869~894
ARFCN range	128~251	0~124 & 975~1023	512~885	512~810	UL:9612~9888DL:10562~10838	UL:4132~4233,DL:4357~4458
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	QPSK HQPSK	QPSK HQPSK
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		
Cell Radius	35Km	35Km	2Km	2Km	2Km	2Km

2-2. GSM General Specification

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

TX Power control level	EGSM900
5	33±2 dBm
6	31±2 dBm
7	29±2 dBm
8	27±2 dBm
9	25±2 dBm
10	23±2 dBm
11	21±2 dBm
12	19±2 dBm
13	17±2 dBm
14	15±2 dBm
15	13±2 dBm
16	11±3 dBm
17	9±3dBm
18	7±3 dBm
19	5±3 dBm

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

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

3. Operation Instruction and Installation

Main Function

- Quad Band EGSM850/900/DCS/PCS(GPRS/EDGE_RX), UMTS 900/2100MHz
- HSDPA 5.76 Mbps , HSPA+ 14.4Mbps
- 4” WVGA OCTA (AMOLED 16M, 800*480)
- MSM8255(1.4GHz) / PM8058 / QTR9215
- Music player, Voice Recorder
- GPS / BT v3.0 / USB v2.0 / WiFi (802.11 b/n/g)
- 5M AF + VGA Camera
- FM Radio Receiver
- Sensors: Accelerometer, Compass, Proximity
- BADA OS
- SMS/MMS/Email
- USB 2.0 High Speed

6. Level 1 Repair

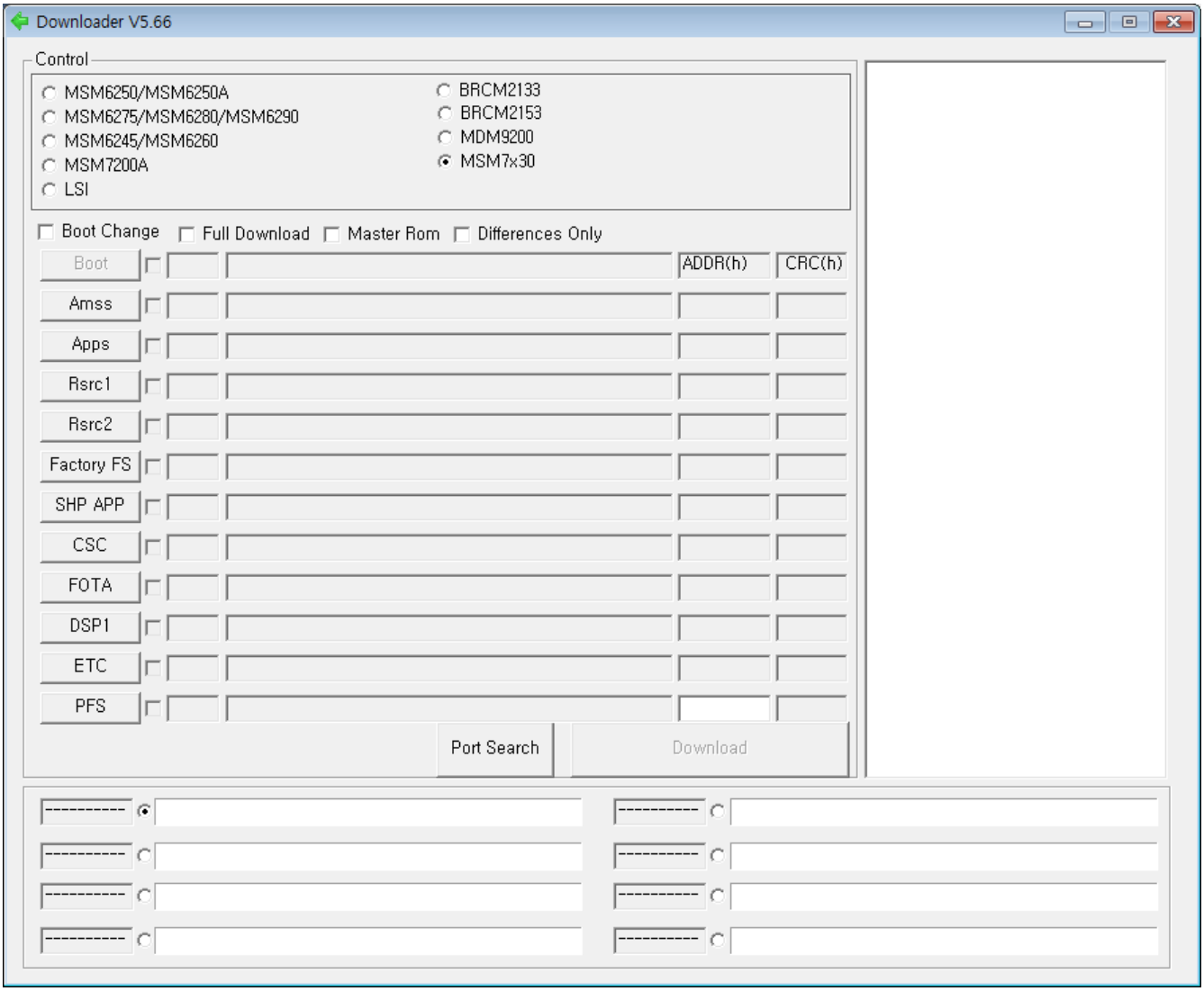
6-1. Software Download

6-1-1. Pre-requisite for Download

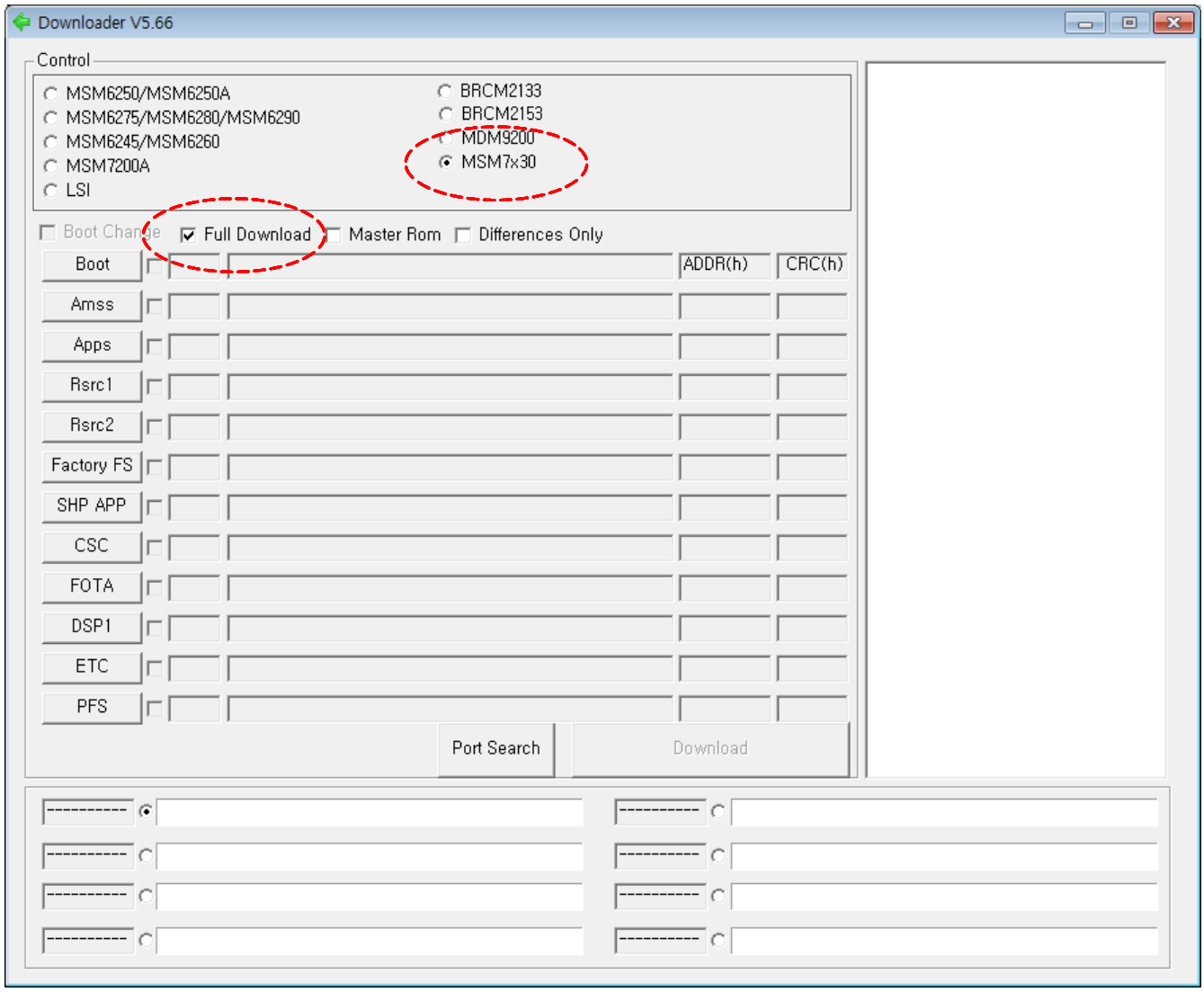
- Downloader Program (**Multiloader v5.66)**
- GT-S8600 Mobile Phone
- Data Cable
- JIG BOX (GH99-36900B)
- RF Test Cable (GH39-00985A)
- JIG Cable (GH39-01290A)
- Adapter (GH99-38251A)
- Battery (GH43-03558A)
- Binary files

6-1-2. S/W Download Process

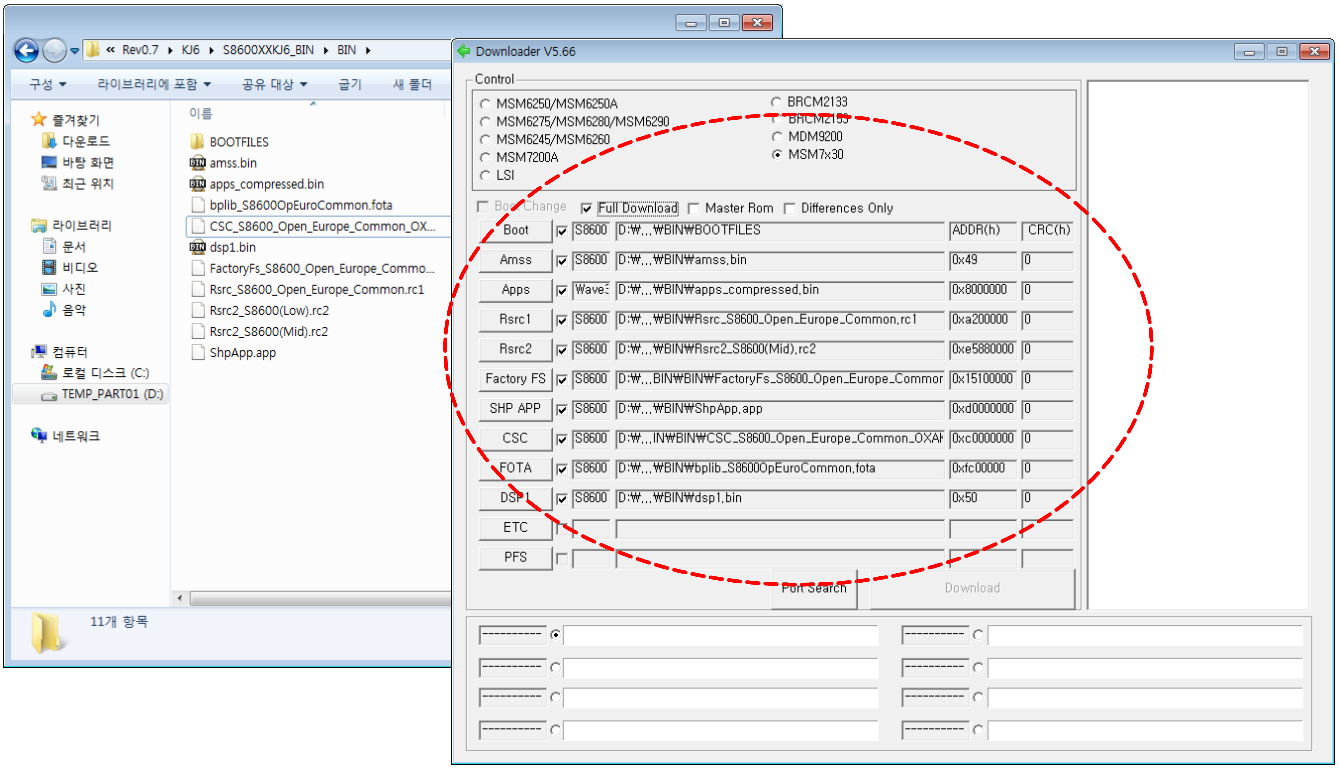
1. Load the binary download program by executing the "**Multiloader v5.66**"



2 Check Full Download and MSM7x30



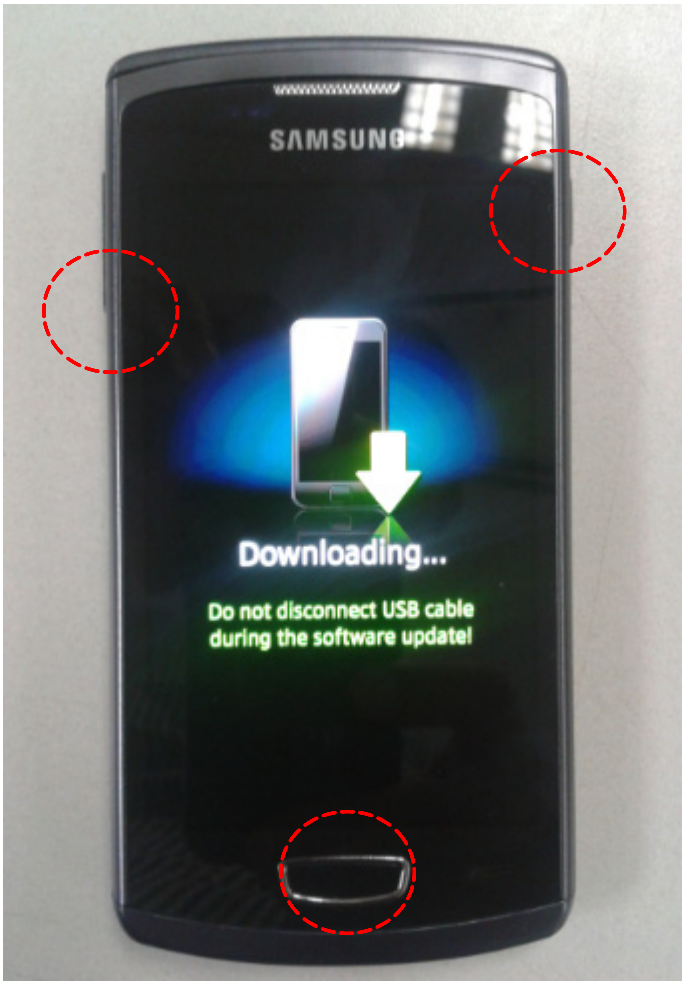
3. Load the file of BOOTFILES, Amss, Apps, Rsrc1, Rsrc2, Factory FS, SHP APP, CSC, sFOTA, DSP1 files from the folder that you saved the binary files.



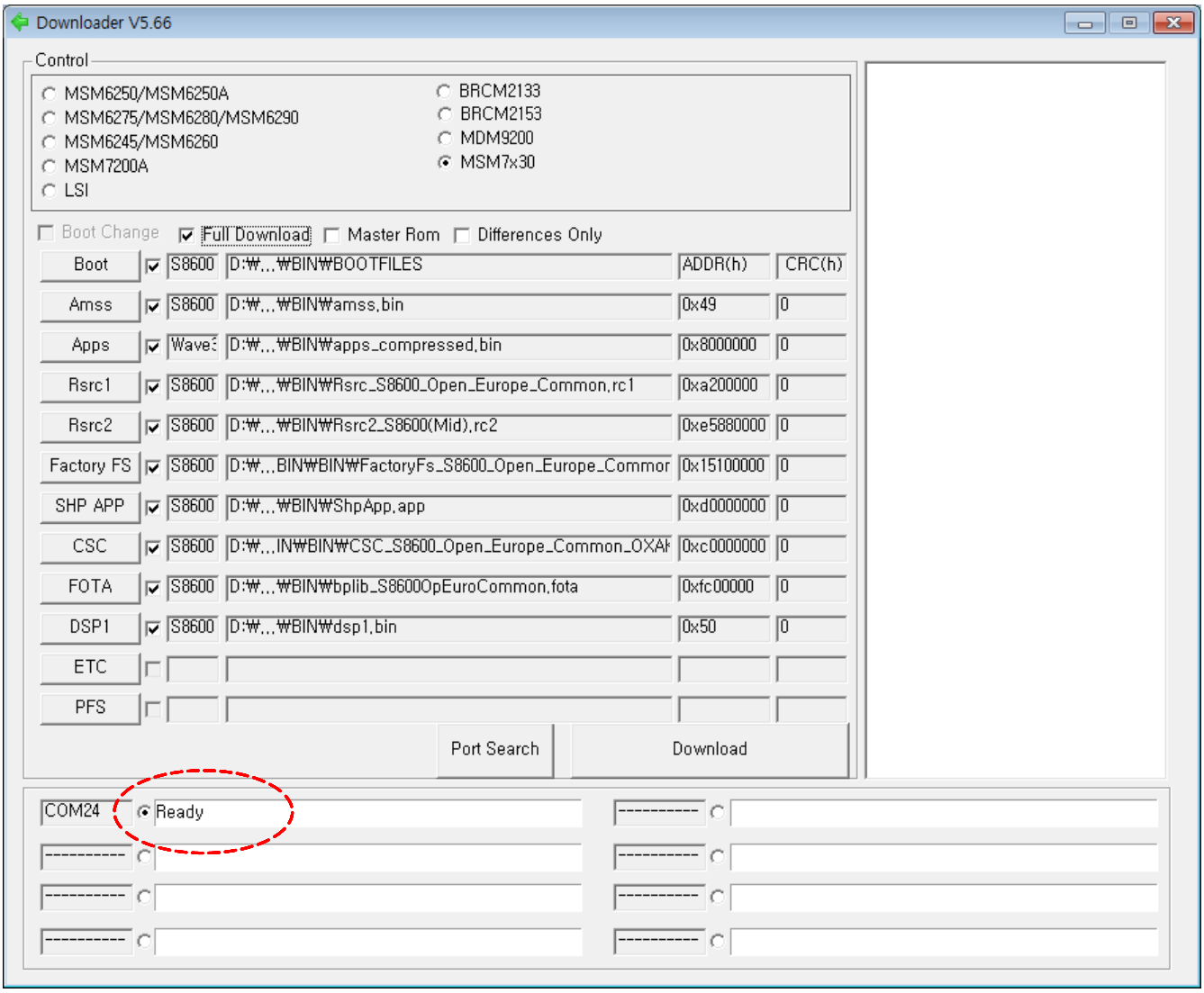
4. Seting your Phone Download Mode

You have to set the phone as a download mode by pressing Home Key + Power key + Volume Down key simultaneously before connecting to PC .

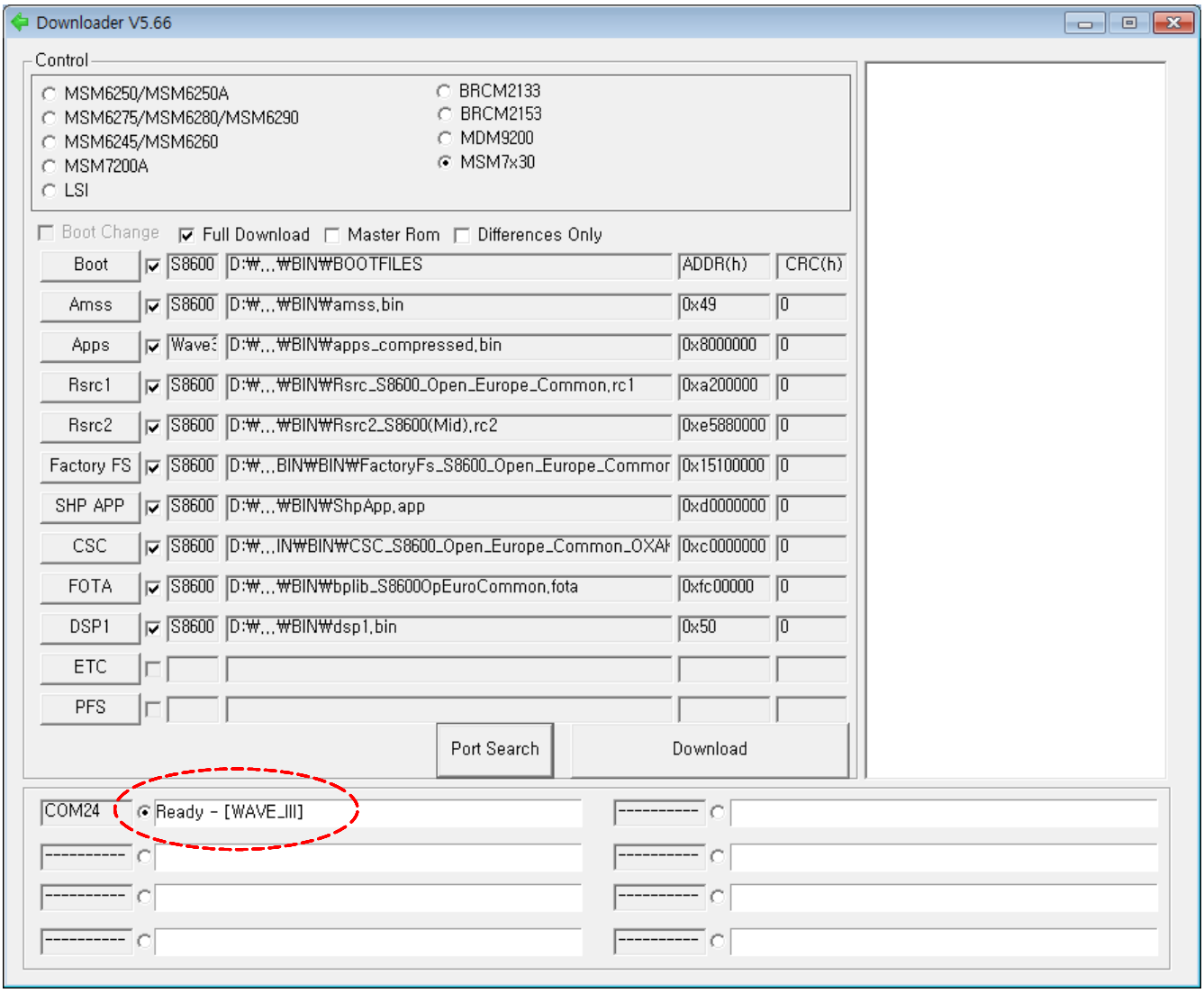
Then, the port would be searched.



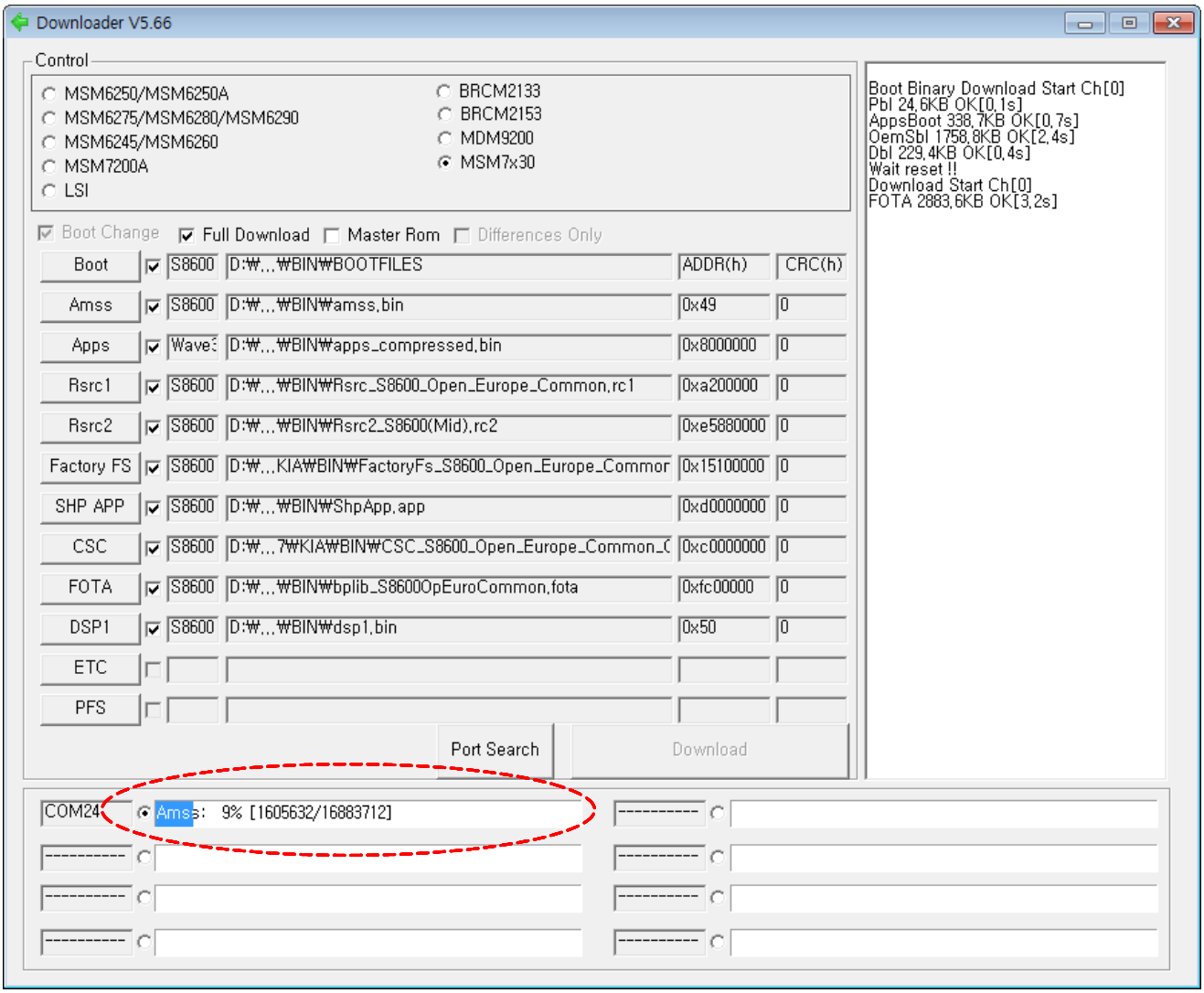
5. COM Port Mapping change to **Ready** when the phone with download mode is connected to PC by data cable.



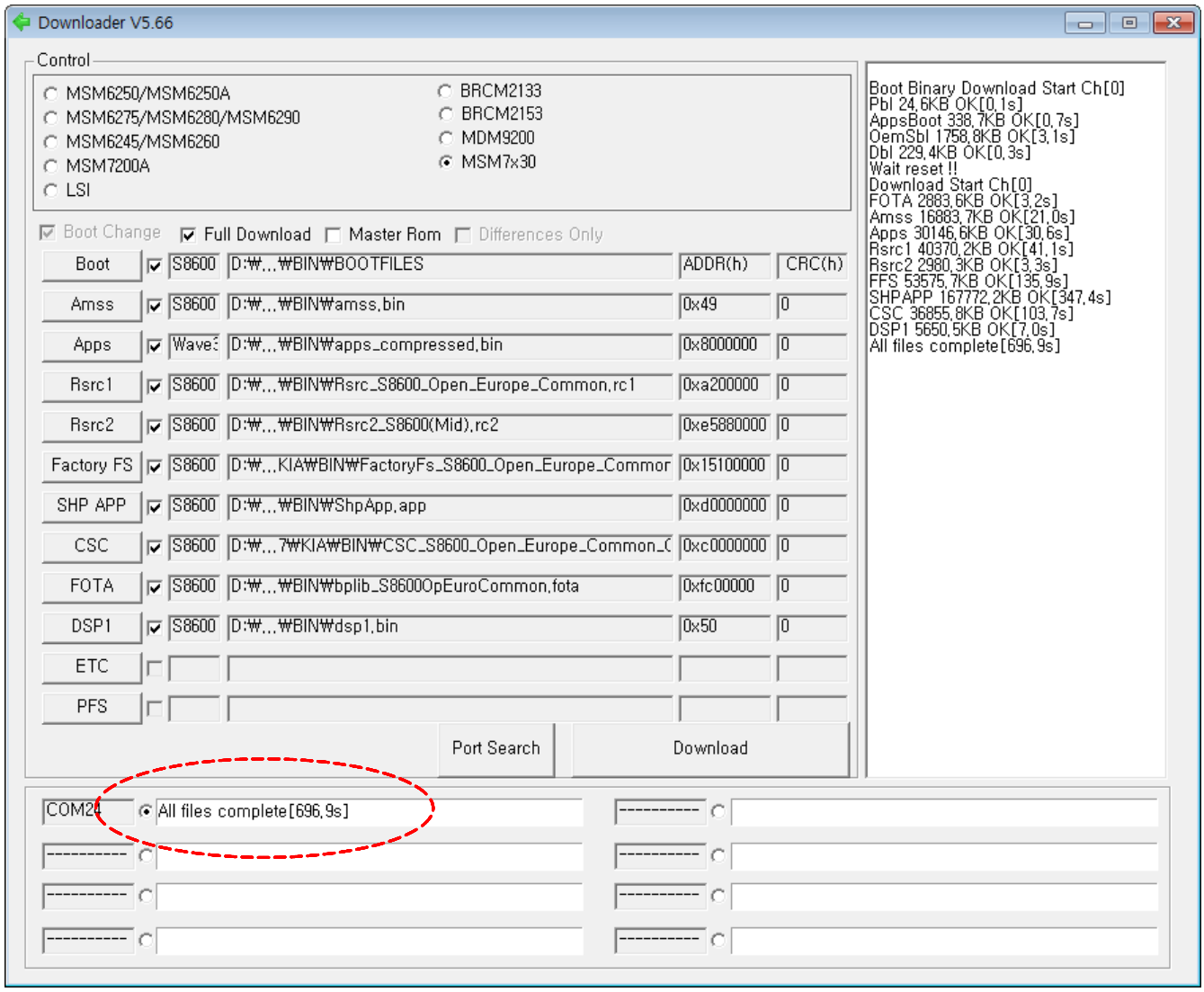
6. Click the **PortSearch** then COM Port Mapping change to **Ready-[WAVE_III]**



7. Click the **Download** button when the Port searched.
   Then start the download.



8. When downloading is finished successfully, there is a "**All files complete**" message.



9. Confirm the downloaded version name and etc. :
   ***#1234#**

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

1. Safety Precautions

1-1. Repair Precaution

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

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

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

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

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

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

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

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

1-2. ESD(Electrostatically Sensitive Devices) Precaution

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

- Remove static electricity remained your body before you touch semiconductor or parts with semiconductor. There are ways that you touch an earthed place or wear static electricity prevention string on wrist.

- Use earthed soldering steel when you connect or disconnect ESD.

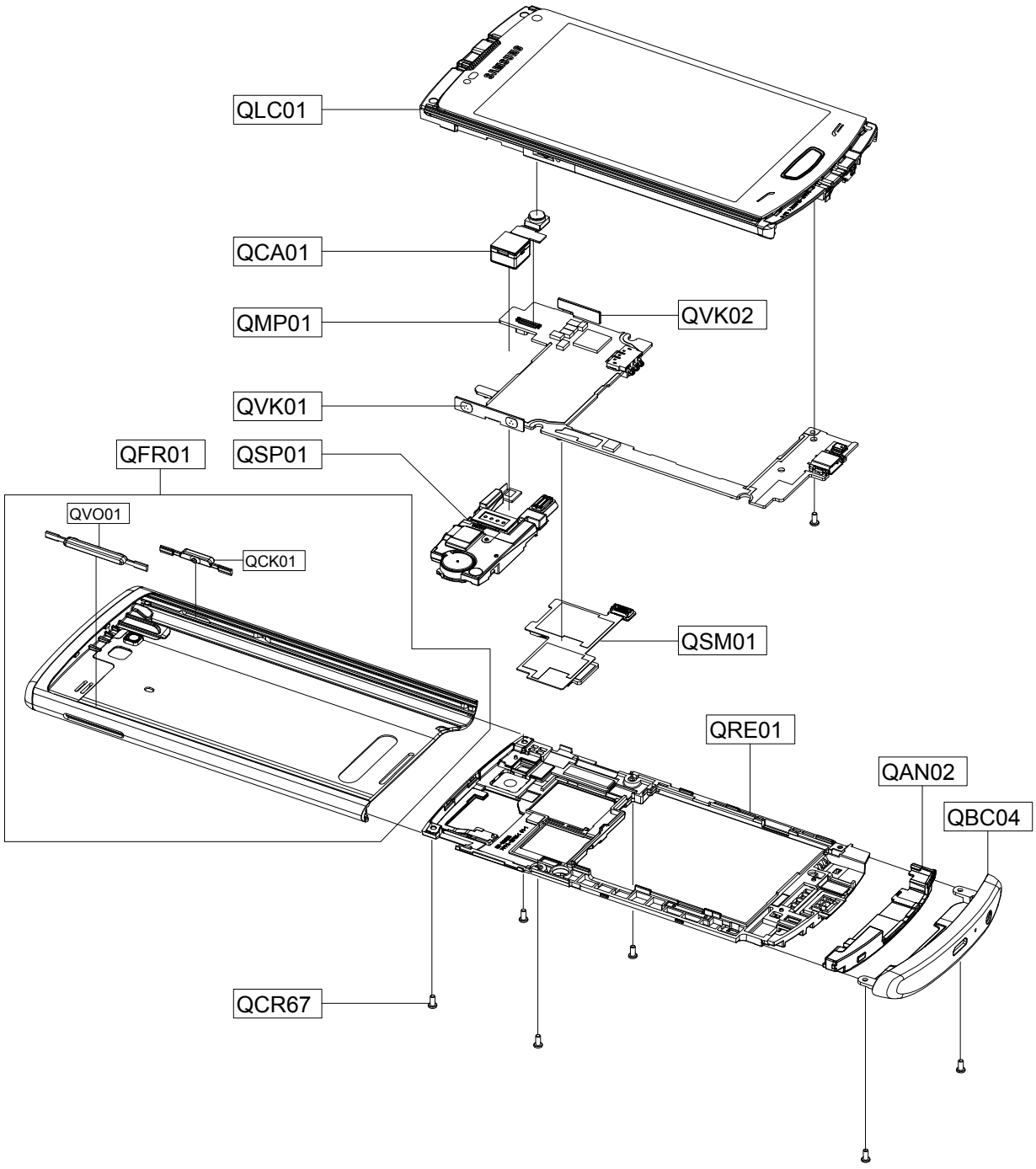
- Use soldering removing tool to break static electricity. , otherwise ESD will be damaged by static electricity.

- Don't unpack until you set up ESD on product. Because most of ESD are packed by box and aluminum plate to have conductive power,they are prevented from static electricity.

- You must maintain electric contact between ESD and place due to be set up until ESD is connected completely to the proper place or a circuit board.

4. Exploded View and Parts List

4-1. Cellular phone Exploded View



4-2. Cellular phone Parts list

Design LOC		Description	SEC CODE
QCR67		SCREW-MACHINE	6001-002083
QAN02		INTENNA-GT_S8600 MAIN	GH42-03245A
QVK01		KEY FPCB-VOLUME KEY(GT_S8600)	GH59-11466A
QVK02		KEY FPCB-POWER/HOLD KEY(GT_S8600)	GH59-11467A
QSM01		ASSY ETC-SIM+SD SOCKET FPCB	GH59-11471A
QSP01		MODULE-SPK+RCV+MOT+SENSOR FPCB(S8600)	GH59-11601A
QMP01		A/S ASSY-PBA MAIN (COMM)	GH82-06077A
QCA01		ASSY CAMERA-5M+VGA(GT_S8600)	GH96-05363A
QLC01		MEA FRONT-OCTA LCD ASSY (SVC)	GH97-12988A
QRE01		ASSY CASE-REAR BRACKET	GH98-21534A
QBC04		ASSY COVER-BOTTOM	GH98-21535A
QFR01		ASSY COVER-BODY	GH98-21536A
	QVO01	PMO KEY-VOL	GH72-65675A
	QCK01	PMO KEY-PWR(HOLD)	GH72-65676A

5. MAIN Electrical Parts List

SEC CODE	DESIGN LOC	Description
0403-001870	ZD600	TDZ5V6J
0404-001317	D300	1PS79SB10
0406-001413	ZD500,ZD501,ZD502	PESD5V0F1BL
0406-001413	ZD503	PESD5V0F1BL
0504-000168	Q600	DTC144EE/TR
0505-002341	Q400	SI1013X-T1-GE3
0801-003346	U300	74AUP1G04GM
1001-001410	U501	NLAS5223BMNR2G
1001-001677	U605	MAX14577EEWA-T
1001-001728	U202	SKY13385-460LF
1003-002415	U301	ISA1000A
1105-002218	UCP300UP	K3PE4E400A-XGC1
1107-002091	UME200	SDIN5D2-4G-944L
1201-003134	U502	YDA165-PZE2
1201-003261	U103	BGU7007
1201-003274	PAM101	AWU6618RM47Q7
1201-003304	PAM100	SKY77350-21
1202-001119	U400	MIC842LYC5
1202-001121	U503	NCX2220GM
1203-002250	U602	R3111Q281C
1203-005074	U601	AAT1146IJS-1.2-T1
1203-005521	U504	MIC5365-2.8YMT
1203-006025	U600	AAT1274IWO-T1
1203-006050	U603,U604	RP152L002B-TR
1203-006159	U302	AAT2146IJS-0.6-T1
1203-006304	U608	MAX17043G-T
1203-007001	U401	PM8058
1203-007084	U607	STM6519APARUB6F
1205-004255	UCP300	MSM8255-0-AB
1205-004373	U102	QTR9215
1205-004402	U200	BCM4330SB2KUBG
1209-002109	U506	BMC022
1404-001651	TH400	NTCG104EF104FT
1405-001317	V300,V301,V501,V502	LXES15AAA1-100

SEC CODE	DESIGN LOC	Description
1405-001317	V503,V504,V511,V512	LXES15AAA1-100
1405-001317	V600	LXES15AAA1-100
2007-000138	R109,R110,R525,R528	RC1005J101CS
2007-000138	R619	RC1005J101CS
2007-000139	R214	RC1005J221CS
2007-000140	R622	RC1005J102CS
2007-000141	R309,R310,R314,R317	RC1005J222CS
2007-000141	R318,R328,R329,R338	RC1005J222CS
2007-000141	R339,R344,R345,R346	RC1005J222CS
2007-000141	R347	RC1005J222CS
2007-000143	R215,R330,R331,R617	RC1005J472CS
2007-000148	R204,R305,R306,R307	RC1005J103CS
2007-000148	R319,R325,R348,R349	RC1005J103CS
2007-000148	R417,R503,R601,R643	RC1005J103CS
2007-000148	R646,R647,R649	RC1005J103CS
2007-000151	R652	RC1005J153CS
2007-000152	R638	RC1005J203CS
2007-000154	R522	RC1005J243CS
2007-000157	R205,R206,R207,R208	RC1005J473CS
2007-000157	R209,R210,R211,R212	RC1005J473CS
2007-000157	R219,R220,R221,R222	RC1005J473CS
2007-000157	R223,R231,R602,R608	RC1005J473CS
2007-000157	R636,R637,R639	RC1005J473CS
2007-000162	R337,R342,R410,R516	RC1005J104CS
2007-000162	R604,R605,R611	RC1005J104CS
2007-000168	R613	RC1005J474CS
2007-000170	R401,R404,R413,R500	RC1005J105CS
2007-000172	R607	RC1005J100CS
2007-000249	R403	MCR01MZP5J155
2007-000758	R514,R609	RC1005J334CS
2007-000982	R651	RC1005J562CS
2007-001295	R512	RC1005J390CS
2007-001301	R108	MCR01MZP5J680
2007-001317	R648	RC1005J911CS

SEC CODE	DESIGN LOC	Description
2007-001320	R650	MCR01MZP5J182
2007-002797	R524,R531	RC1005J561CS
2007-003010	R326	RC1005J200CS
2007-003015	R624,R625	MCR01MZP5J2R2
2007-003020	R640,R641,R644,R645	RK73B1ETTP432J
2007-007014	R327	MCR01MZP5J513
2007-007099	R402	ERJ2GEJ205X
2007-007132	R200	RC1005F153CS
2007-007136	R106	RC1005F472CS
2007-007137	R518	MCR01MZP5F1201
2007-007156	R614,R615	RC1005J1R0CS
2007-007192	R504,R505	TSR16GJ6R2V
2007-007307	R603	RK73H1ETP1500F
2007-007318	R521	MCR01MZP5F1001
2007-007517	R311,R312,R351,R352	MCR01MZP5F2400
2007-007592	R336	RK73H1ETP2703F
2007-007875	R610	RK73H1ETP1603F
2007-007942	R513,R520	RC-1005F105CS
2007-008167	R358	RC0402FR-07120K
2007-008312	R527	RC1005F394CS
2007-008726	R359	RC1005F114CS
2007-010233	R335	RC1005F4021CS
2203-000233	C123,C147,C165,C169	GRP1555C1H101J
2203-000233	C172,C173,C178	GRP1555C1H101J
2203-000254	C105,C109,C602	GRP155R71C103K
2203-000278	C213,C216,C225,C235	GRP1555C1H100D
2203-000278	C236,C240,C242,C532	GRP1555C1H100D
2203-000386	C219,C527,C528	GRP1555C1H150J
2203-000425	C551,C552,C553	GRP1555C1H180J
2203-000438	C159,C164,C185,C418	GRP155R71H102K
2203-000438	C632,C641,C642	GRP155R71H102K
2203-000550	C218	GRP1555C1H200JZ01E
2203-000585	C229	GRP155R71H221KD01E
2203-000679	C136,C171,C179	GRP1555C1H270J

SEC CODE	DESIGN LOC	Description
2203-000725	C367	GRP155R71H392KA01E
2203-000812	C102,C108,C110,C111	GRP1555C1H330J
2203-000812	C133,C168,C417,C516	GRP1555C1H330J
2203-000812	C534,C547,C620,C628	GRP1555C1H330J
2203-000812	C629,L125	GRP1555C1H330J
2203-000940	C137	GRP155R71H471K
2203-000995	C533	GRP1555C1H470J
2203-001072	C639	GRP1555C1H560JD01E
2203-001153	C140	GRP1555C1H680J
2203-001385	C209	GRP1555C1H1R5CZ01E
2203-002709	C210	C1005Y5V1C104ZT
2203-003054	C356,C357	GRP1555C1H9R0C
2203-005053	C134	GRP1555C1H3R9CZ01E
2203-005057	C175	GRP1555C1H8R2CZ01E
2203-005281	C181	GRP1555C1H1R5BZ01E
2203-005288	C103	GRP1555C1H1R0BZ01E
2203-005344	C506,C507	GRM155R71E223KA61D
2203-005395	C420,C421	C1005CG1H4R7BT
2203-005732	C643	GRP0335C1E680JD01E
2203-006048	C101,C177,C208,C211	GRM155R71A104K
2203-006048	C215,C231,C232,C245	GRM155R71A104K
2203-006048	C366,C368,C400,C401	GRM155R71A104K
2203-006048	C403,C404,C405,C419	GRM155R71A104K
2203-006048	C446,C502,C524,C539	GRM155R71A104K
2203-006048	C605,C625	GRM155R71A104K
2203-006190	C203	GRM155R60J224KE01E
2203-006194	C250	GRP033R70J103KA01E
2203-006208	C372,C607	CM105X5R475M06AT
2203-006260	C614,C615,C616,C617	GRM155R61A224KE19E
2203-006260	C618,C619	GRM155R61A224KE19E
2203-006399	C126,C128,C157,C158	GRM155R60J105KE19D
2203-006399	C161,C162,C347,C369	GRM155R60J105KE19D
2203-006399	C415,C535,C610,C611	GRM155R60J105KE19D
2203-006399	C612,C621,C622	GRM155R60J105KE19D

SEC CODE	DESIGN LOC	Description
2203-006562	C500,C603,C604	CV05X5R105K10AH
2203-006681	C100,C113,C114,C119	GRM155F51E104ZA01D
2203-006681	C124,C125,C129,C150	GRM155F51E104ZA01D
2203-006681	C151,C152,C153,C155	GRM155F51E104ZA01D
2203-006681	C160	GRM155F51E104ZA01D
2203-006707	C144,C166	GRM0335C1E4R7C
2203-006824	C371,C608	CV105X5R475K10AT
2203-006844	C300,C302,C304,C306	CV05X5R474K10AH
2203-006844	C308,C310,C312,C314	CV05X5R474K10AH
2203-006844	C315,C317,C319,C321	CV05X5R474K10AH
2203-006844	C324,C327,C329,C332	CV05X5R474K10AH
2203-006844	C334,C336,C338,C340	CV05X5R474K10AH
2203-006844	C343,C348,C350,C352	CV05X5R474K10AH
2203-006844	C354,C355,C360,C361	CV05X5R474K10AH
2203-006844	C363,C364,C365,C408	CV05X5R474K10AH
2203-006844	C509,C511,C631	CV05X5R474K10AH
2203-006872	C241,C244,C373,C402	GRM155R60J225ME15D
2203-006872	C525,C526,C540,C546	GRM155R60J225ME15D
2203-007210	C200	CV03X5R224K06AH
2203-007240	C307,C407,C422,C447	CL10A226MQ8NRNE
2203-007240	C545	CL10A226MQ8NRNE
2203-007270	C234,C627	CL10A106KP8NNNC
2203-007271	C243,C623,C626	CL05A225KP5NSNC
2203-007279	C135,C323,C328,C333	CV105X5R106M10AT
2203-007279	C339,C344,C410,C411	CV105X5R106M10AT
2203-007279	C412,C413,C414,C451	CV105X5R106M10AT
2203-007279	C635	CV105X5R106M10AT
2203-007317	C154,C416,C423,C424	CV05X5R475M06AH
2203-007317	C425,C426,C427,C428	CV05X5R475M06AH
2203-007317	C429,C430,C431,C432	CV05X5R475M06AH
2203-007317	C433,C435,C436,C437	CV05X5R475M06AH
2203-007317	C438,C439,C440,C441	CV05X5R475M06AH
2203-007317	C442,C443,C444,C445	CV05X5R475M06AH
2203-007385	C501,C510,C521,C522	CL05A106MR5NRNC

SEC CODE	DESIGN LOC	Description
2203-007385	C523	CL05A106MR5NRNC
2203-007393	C167,C201,C202,C541	CL05A475KP5NRNC
2203-007393	C600,C606	CL05A475KP5NRNC
2203-007456	C624	CL05A105KA5NQNC
2203-007693	C636	GRM188R61E225KA12D
2203-007729	C362	CL05C020BB5NNNC
2203-007754	C174	CL05C010BBNC
2203-007775	C205,C214,C228	CV05X5R475M10AH
2203-007795	C127,C130,C434	CL05A106MP5NUNC
2203-007860	C316,C448,C449,C452	CL21A476MQMNRNR
2409-001239	BAT400	XH414HGIV02ET
2703-001751	L210	LL1005-FH3N9S
2703-002170	L107,L122	CIH05T6N8JNC
2703-002176	L109,L112,L209	CIH05T2N7SNC
2703-002198	L100,L121	CIH05T10NJNC
2703-002199	L111	CIH05T12NKNC
2703-002204	L105	CIH05T22NJNC
2703-002205	L132,L136,L202	CIH05T3N9KNC
2703-002207	L103,L108,L116,L131	CIH05T3N3SNC
2703-002268	L138	CIH05T8N2JNC
2703-002308	L200,L519	CIH05T68NJNC
2703-002309	L101	CIH05T82NJNC
2703-002314	L106	CIH05T47NJNC
2703-002367	L137	CIH05T1N0SNC
2703-002368	L134	CIH05T1N8SNC
2703-002793	L114	LQP03TN5N6J00D
2703-002870	L118	LQP03TN47NJ04D
2703-002951	L120	CIH03T12NJNC
2703-003003	C106,C107	LQP03TN1N5B04D
2703-003347	L603	CIG22L1R0MNE
2703-003545	L208	LQM2MPN2R2NG0
2703-003685	L301,L602	CIG21L4R7MNE
2703-003716	L520	LQG15HSR18J02D
2703-003878	L507	CIG10WR27MNC

SEC CODE	DESIGN LOC	Description
2703-004025	L400,L401,L402,L403	1239AS-H-2R2N
2703-004025	L404	1239AS-H-2R2N
2703-004112	L124	CIH05T6N2SNC
2703-004116	L605	CS0402-8N2G-S
2801-004339	OSC401	FC-135(0.032768MHz)
2801-004836	OSC400	SQ3D01920A2JJA
2801-004841	OSC300	Q24FA20H0013200
2801-005105	OSC200	CXC6X374000GJVRC00
2901-001418	F500,F501,F502,F503	AVRC-18S-03Q-015-100R
2901-001418	F504,F505	AVRC-18S-03Q-015-100R
2901-001634	F600	ICMEF112P500MFR
2904-002033	F103	SFHG89YQ102
2904-002034	F104	SFDG89AQ102
2909-001324	F200	TBF-1608-245-R7
2911-000186	F100	D5041
3003-001136	MIC500	SPU0410HR5H
3301-001438	L300	BLM15BB750SN1D
3301-001659	L133,L201,L203,L204	BLM15AG601SN1
3301-001659	L206,L207	BLM15AG601SN1
3301-001729	L505,L508,L515,L516	BLM15AG102SN1D
3301-001812	L102,L117,L600,L601	BLM15HD102SN1
3301-001812	L604	BLM15HD102SN1
3301-001917	L115,L512,L513,L514	BLM15BD182SN1
3301-001917	L518	BLM15BD182SN1
3301-002065	L500,L501,L502,L503	MMZ1005A182ET
3301-002065	L504,L506,L509,L510	MMZ1005A182ET
3301-002065	L511,L517	MMZ1005A182ET
3705-001731	RFS100	KMS-560-002-BEF
3711-006483	HDC501	14-5802-054-202-829
3711-006919	HDC500,HDC502	AXT620124AW1
3711-007107	HDC600	AXE630124AW1
3711-007491	BTC600	202-02960-00340
3711-007592	HDC601	AXT416124AW1
3712-001363	CLIP100	HJ-BCT-04Y

SEC CODE	DESIGN LOC	Description
3712-001375	ANT100,ANT101,ANT103	HJ-ICT-06Y
3712-001375	ANT200,CLIP203	HJ-ICT-06Y
3712-001405	CLIP500	HJ-BCT-09Y
3722-002867	IFC600	HY07-AB0770
GH59-08444A	LED600	CHP-C4040-200-PB2016
GH70-04443A	SC500,SC501,SC502	ONBOARD-CLIP-9
GH70-04443A	SC504,SC505,SC509	ONBOARD-CLIP-9
GH70-04443A	SC510	ONBOARD-CLIP-9
GH80-03320A	R229,R509,R510,R511	PB-SHORT-1005
GH80-03320A	R515,R653,R654	PB-SHORT-1005

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

7. Level 2 Repair

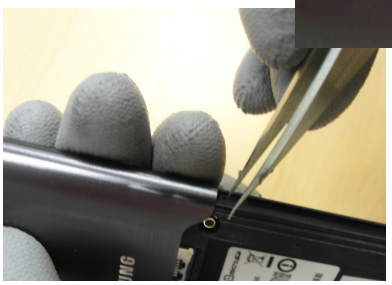
7-1. Disassembly and assembly Instructions

7-1-1. Disassembly

1 Disengage the Case body by pushing the Battery locker

(Torque 1.1 ± 0.1 kgf.cm) (Size:1.4*3.5)
Be careful not to scratch cover

2 Carefully push the hole by tweezers



Be careful to disengage 2 hook

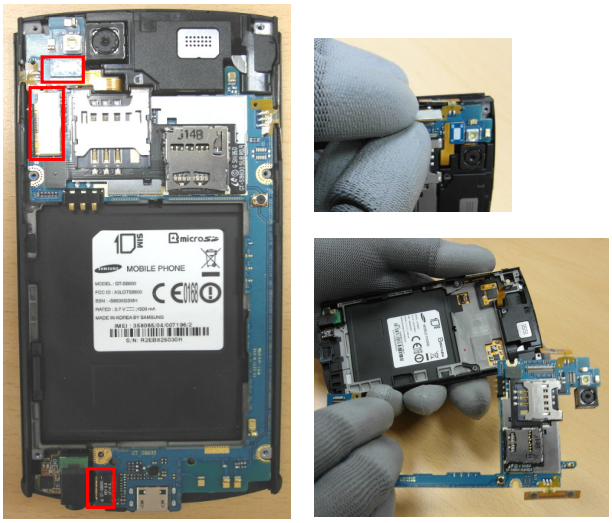
4 Carefully release the screws at 6 different locations

(Torque 1.1 ± 0.1, '+' type)(Size: 1.4*3.5)

3 Separate the below deco

① ② ③

Be careful not to damage the Deco

5 Separate the Rear from the Set	**6** Release the screws at 1 locations
	
Be careful not to damage the Rear	(Torque 1.1 ± 0.1, '+' type)(Size: 1.4*3.5)
7 Separate the volume key, power key FPCB from the Front	**8** Separate the SPK Ass'y, LCD, 3.5 phi E/J module connector
	
Be careful not to damage the FPCB	Be careful not to damage the connector

7-1-2. assemble

1 Put the PBA on the Front  	**2** Attach the SPK Ass'y, LCD, 3.5 phi E/J module connector 
Be careful not to damage the connector	Be careful not to damage the connector
3 Attach the volume key, power key FPCB on the Front 	**4** Screws at 1 locations 
Be careful not to damage the FPCB	(Torque 1.1 ± 0.1, '+' type)(Size: 1.4*3.5)

5 Joint the Rear and the Front

Hook at the 6 points and Push the rear

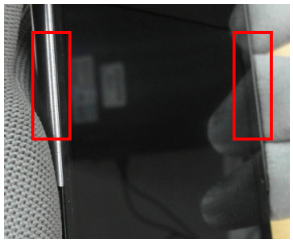
6 Attach the Deco on the Set

Be careful not to damage the Deco

7 Screws at 6 different locations

Be careful not to scratch Rear

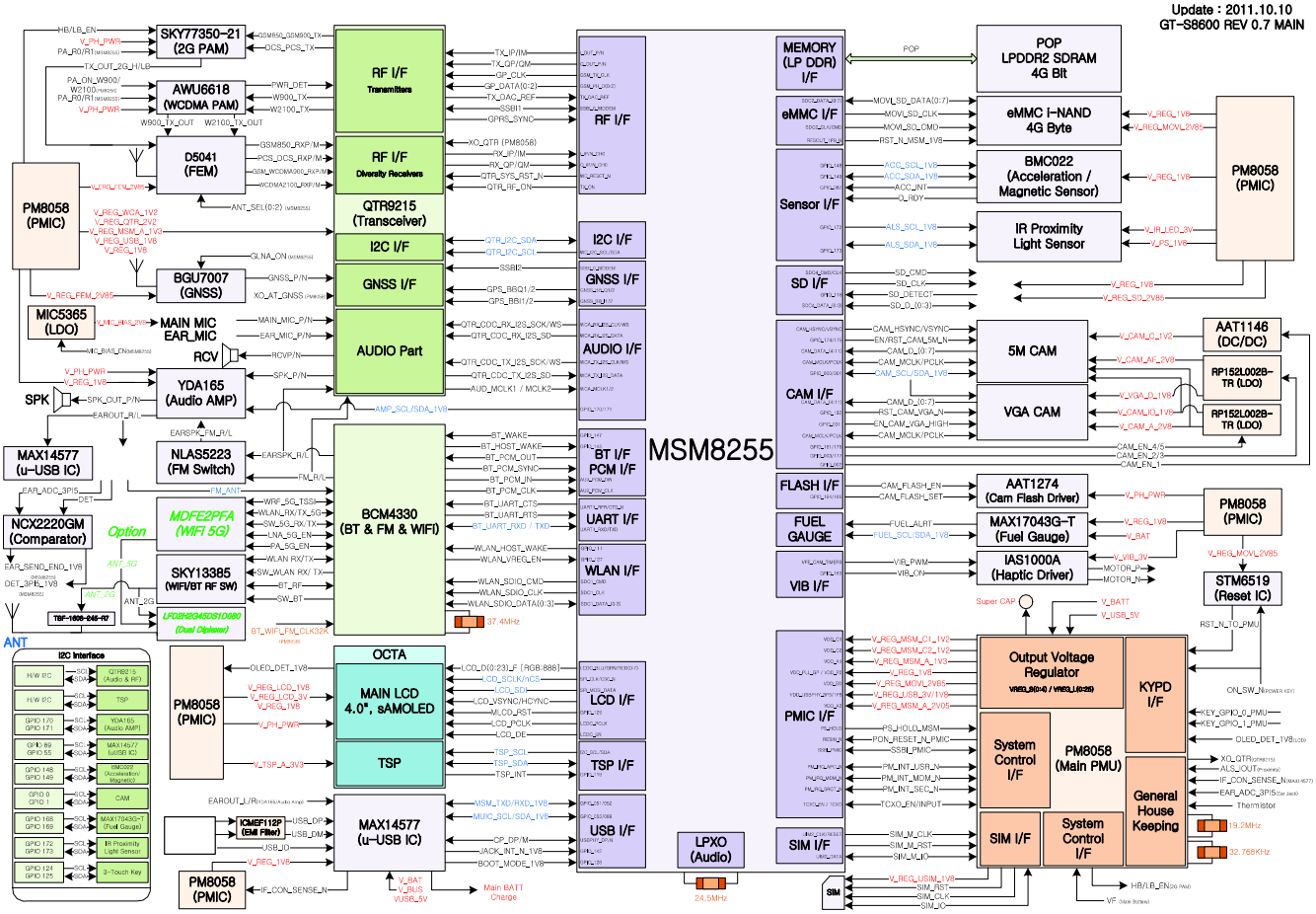
8 Engage the Case body



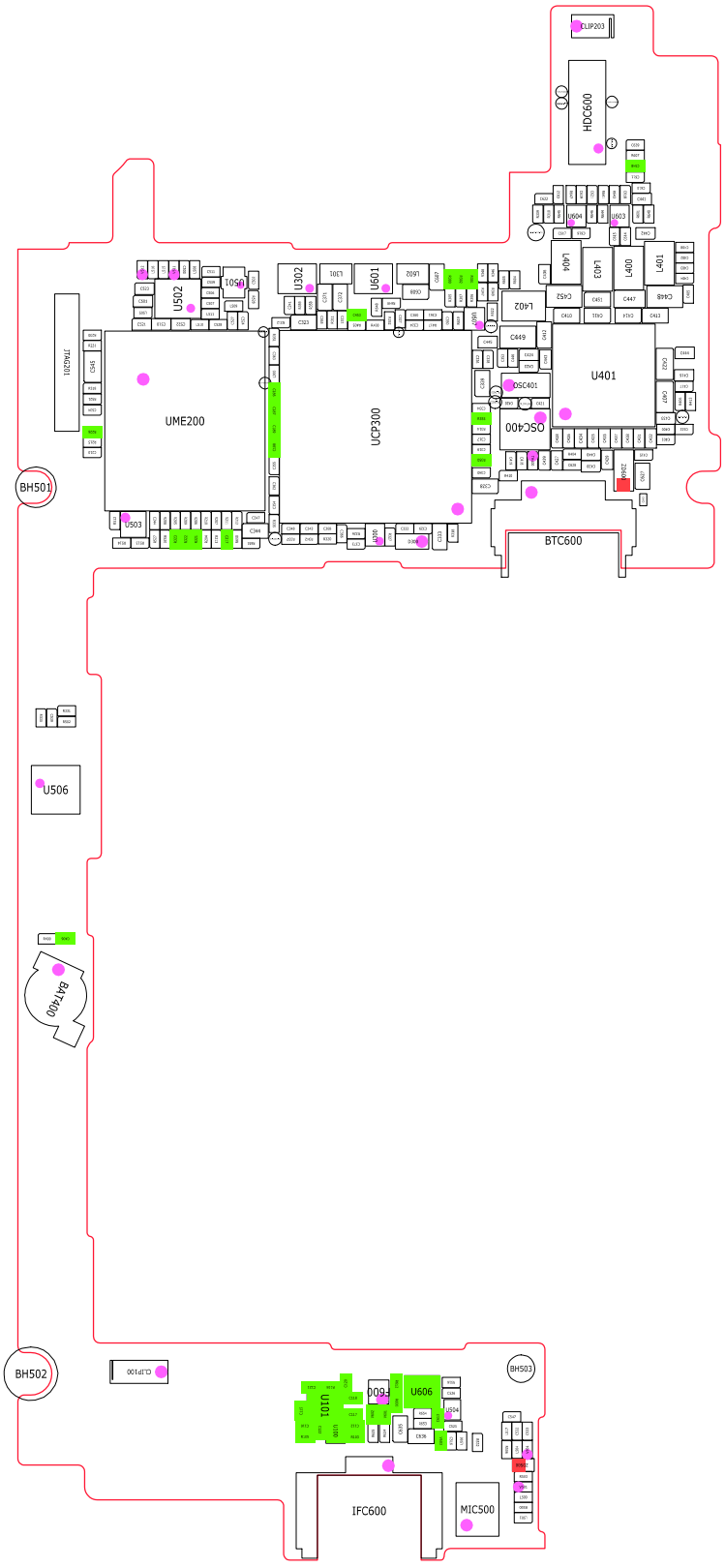
Be careful not to scratch Case body

8. Level 3 Repair

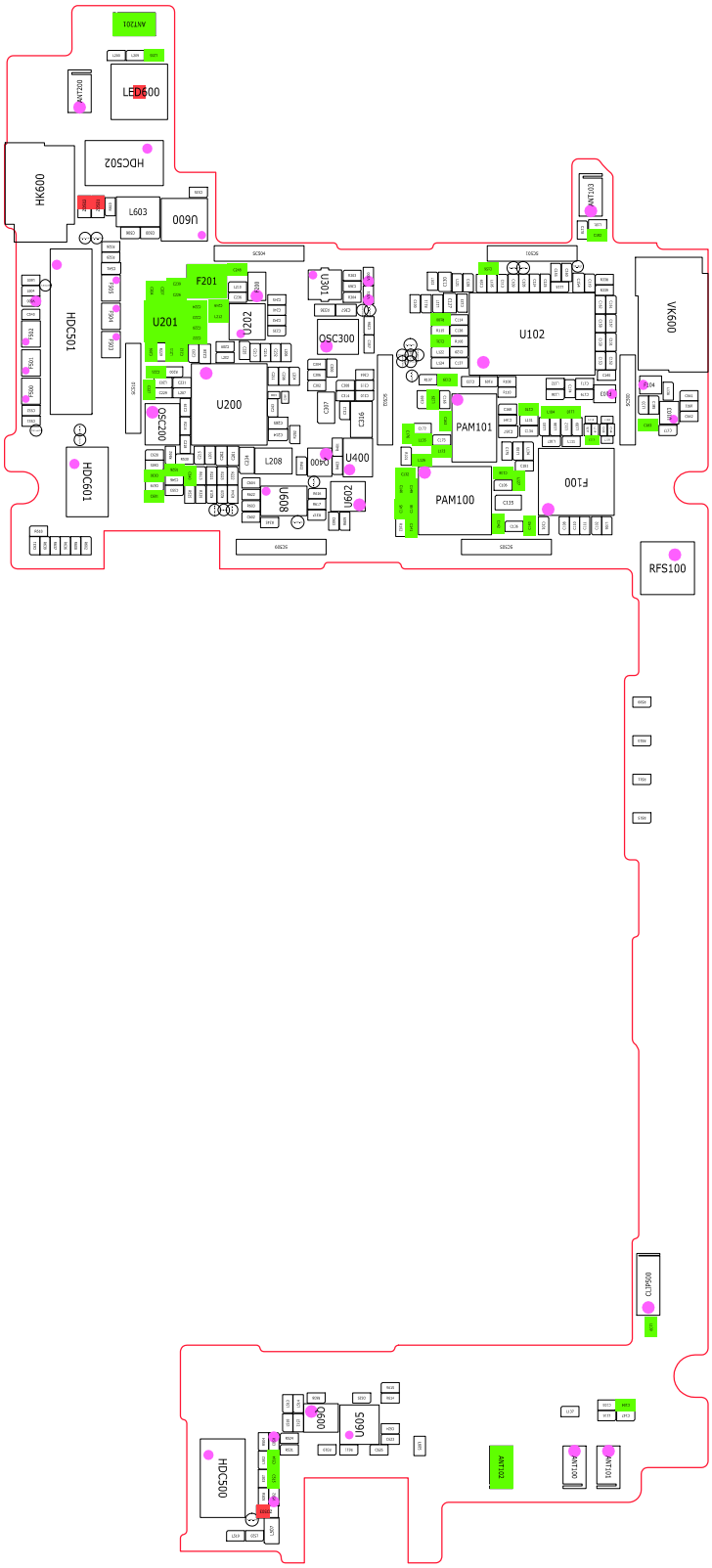
8-1.Block Diagram



8-2-1. Top

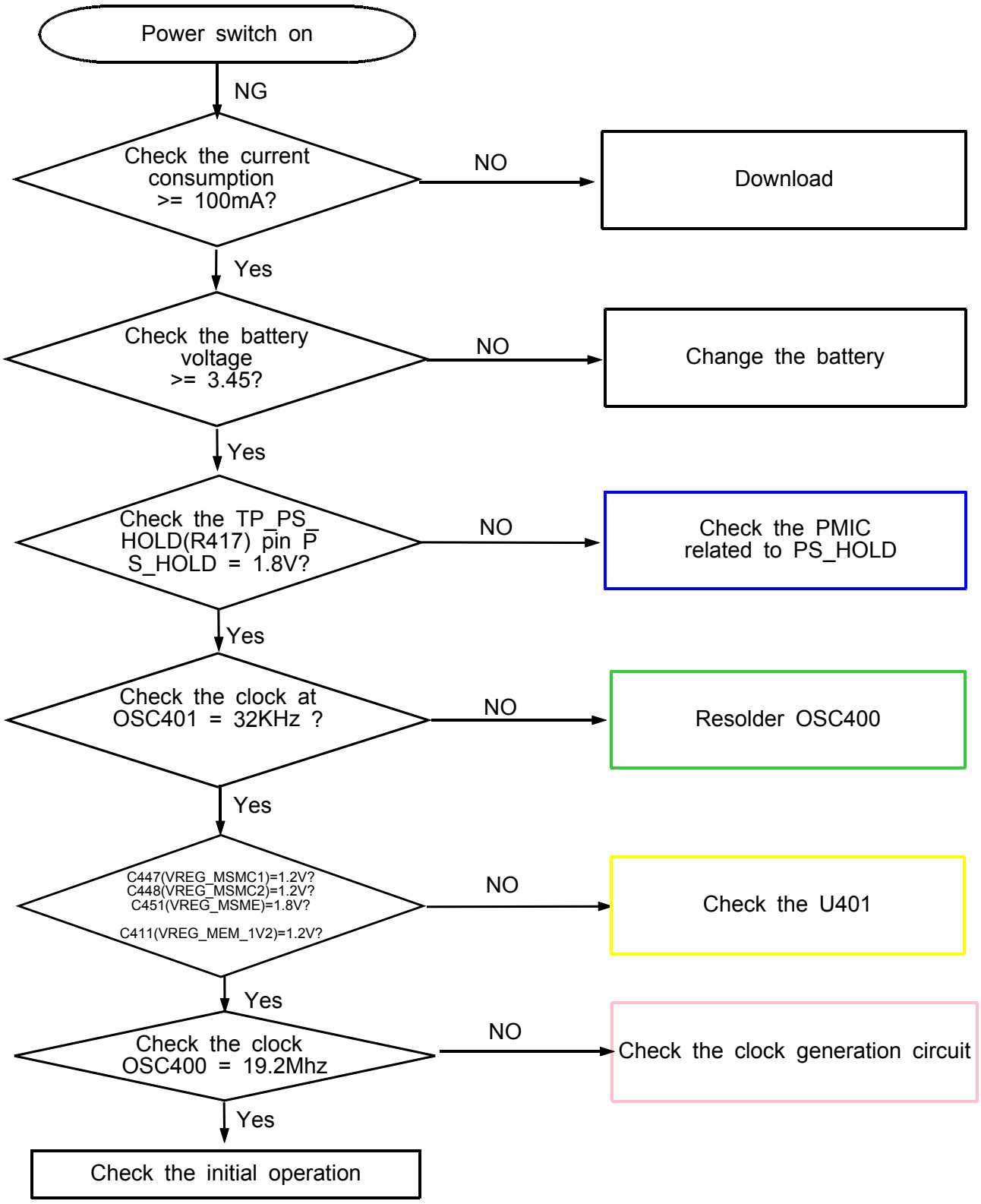


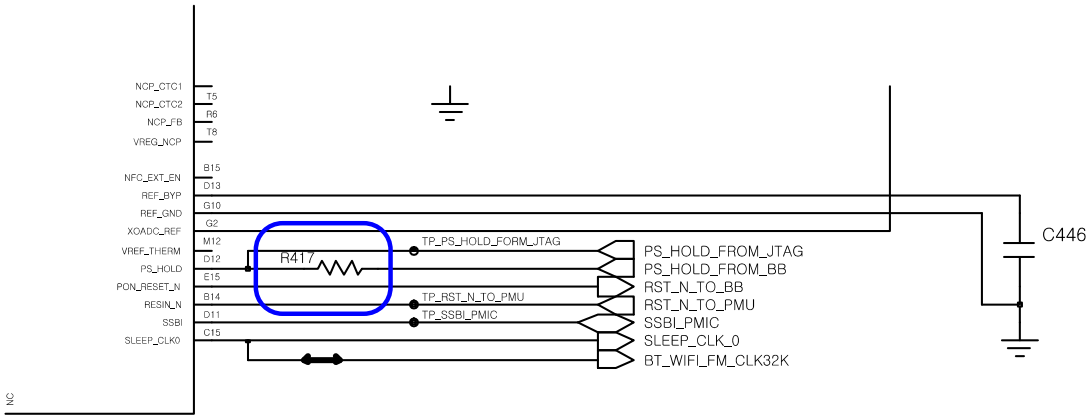
8-2-2. Bottom

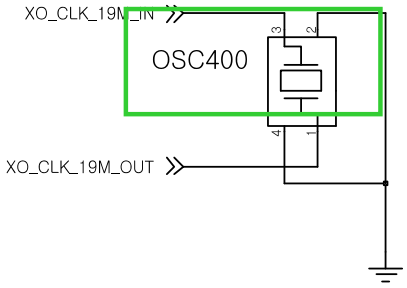


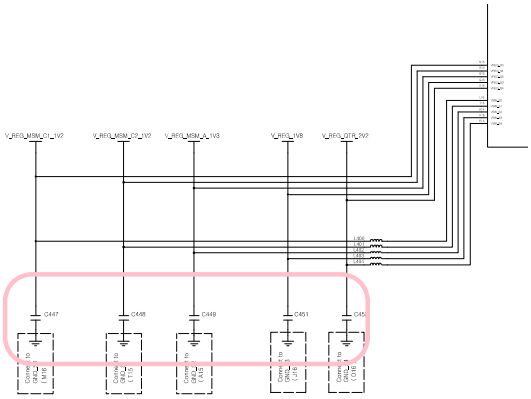
8-3. LOGIC

8-3-1. Power On

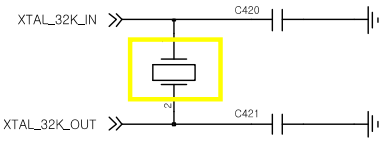


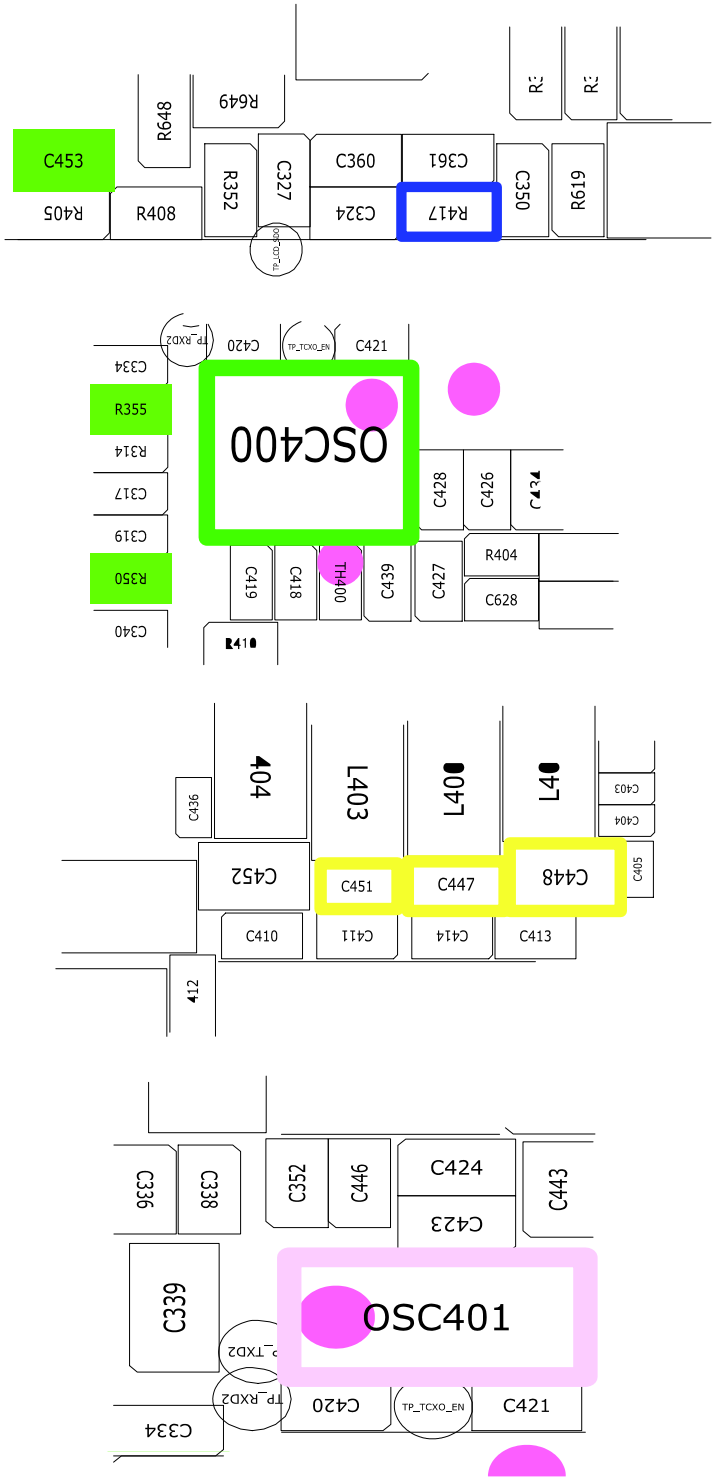




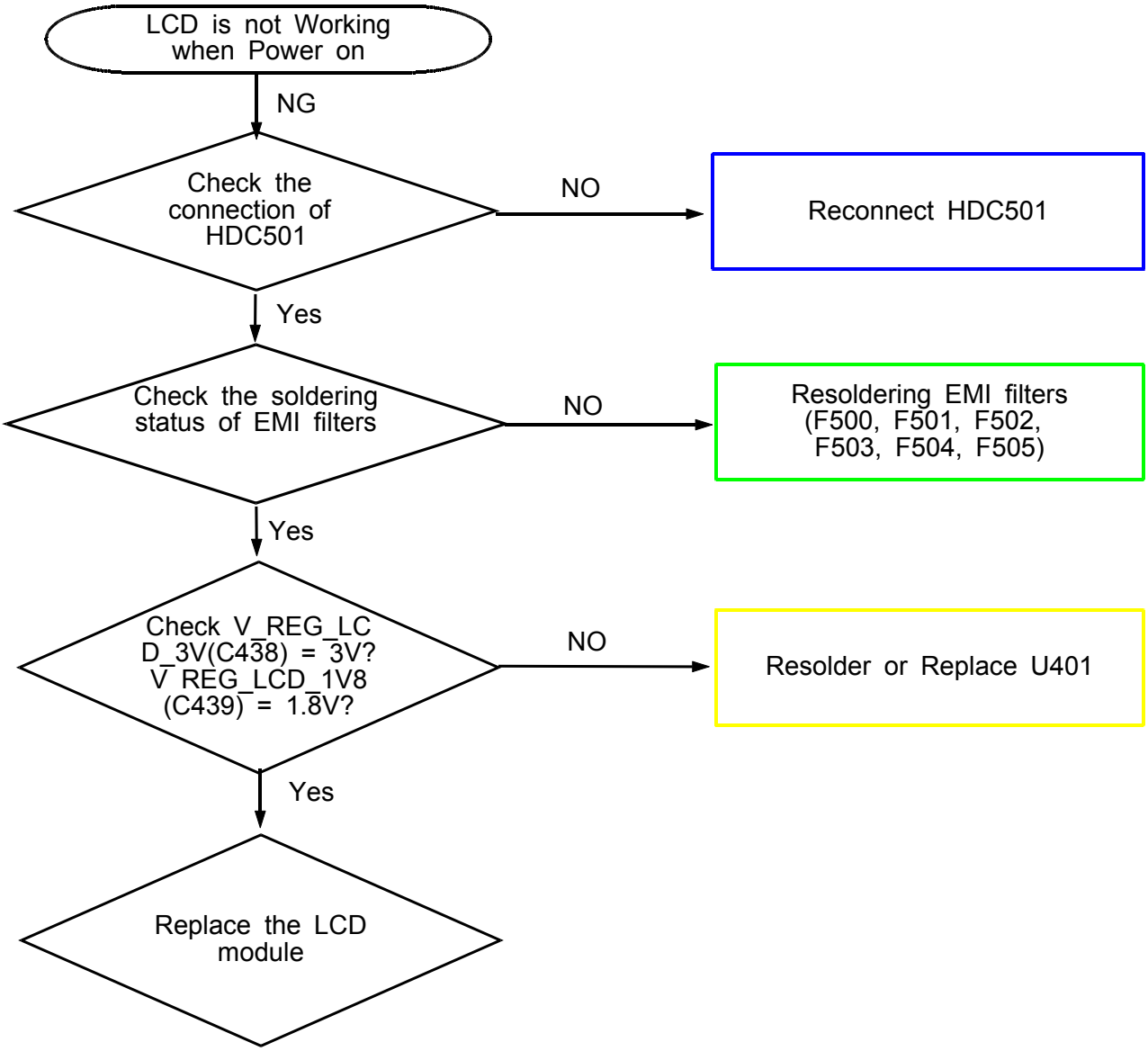


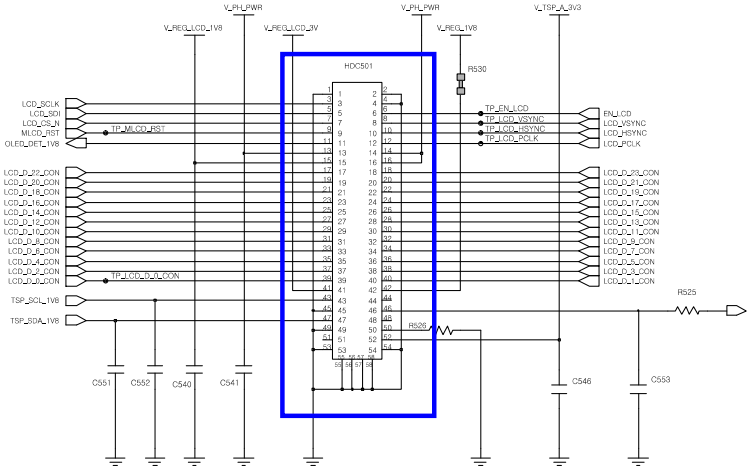
OSC401



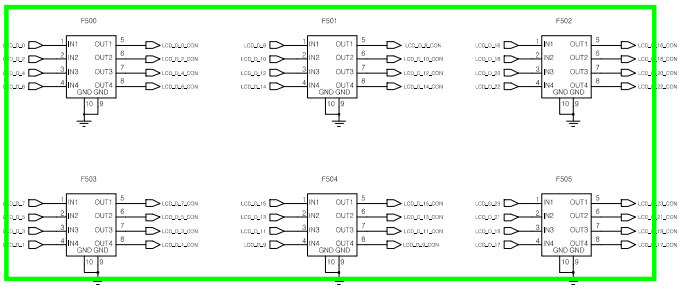


8-3-2. LCD Working

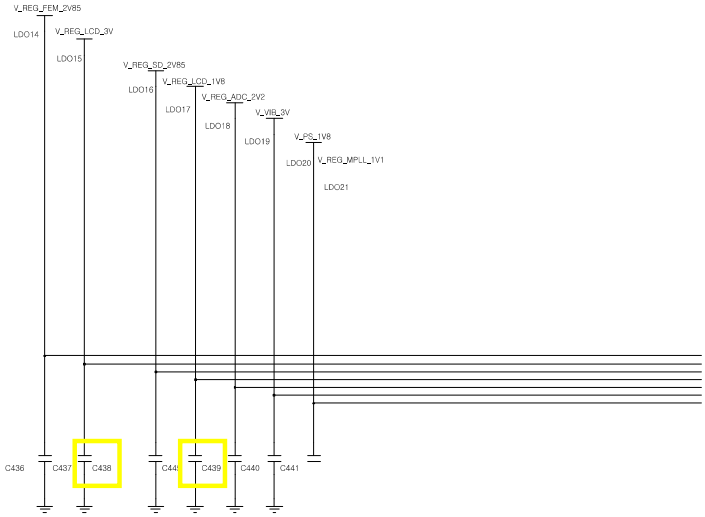


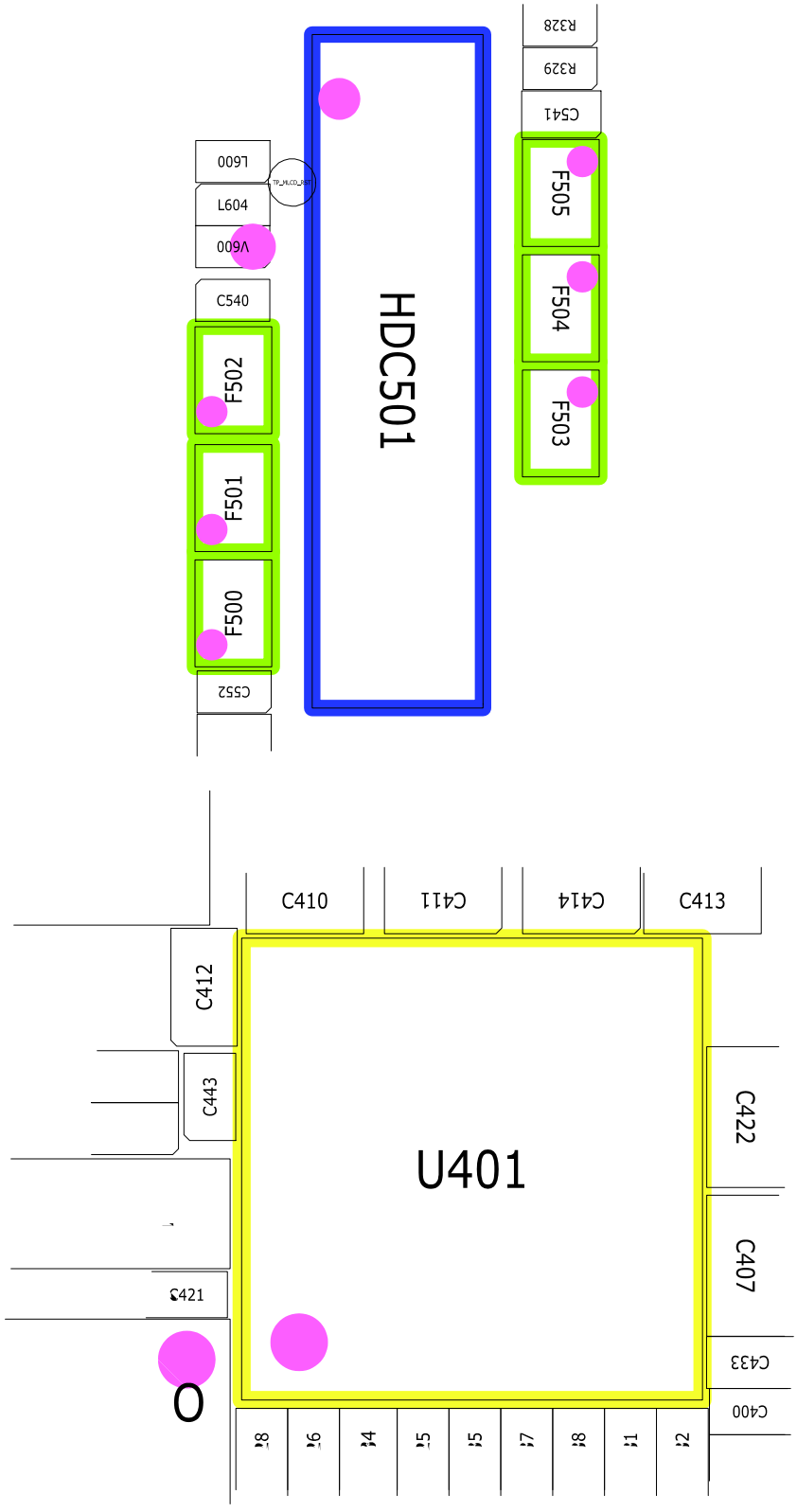


LCD / TSP CON

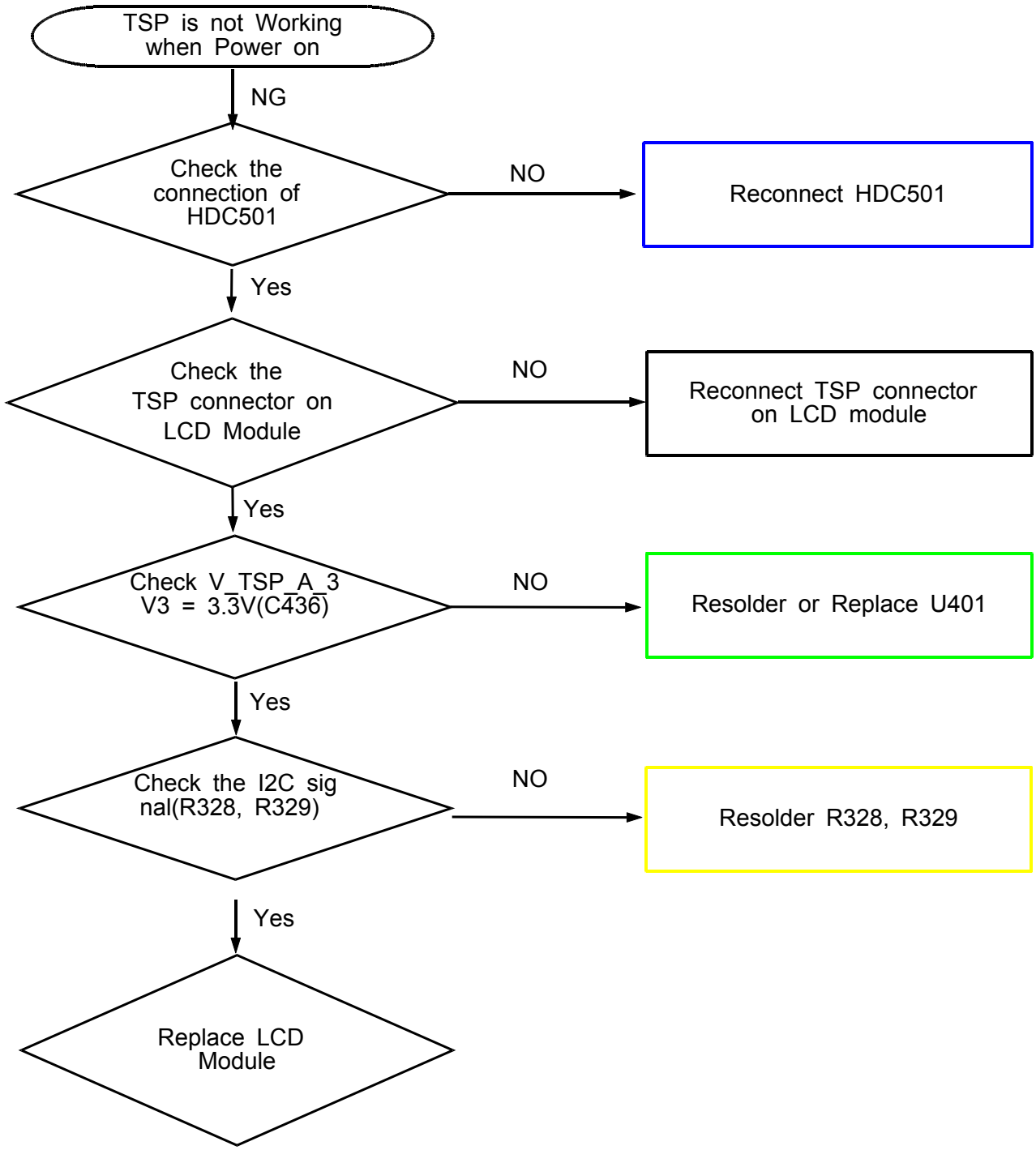


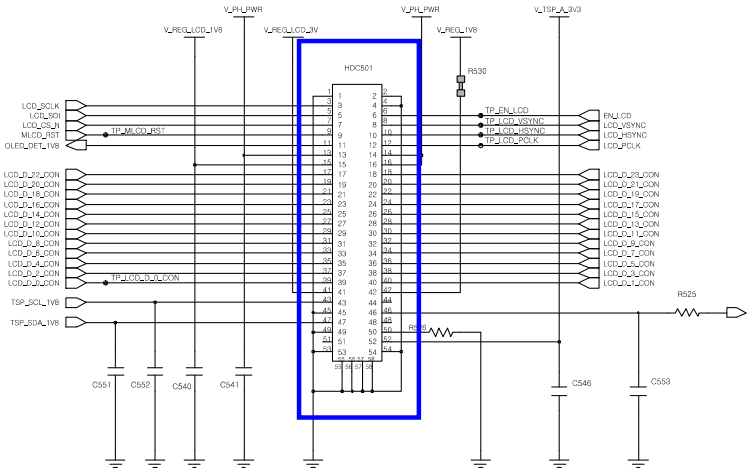
LCD Filter



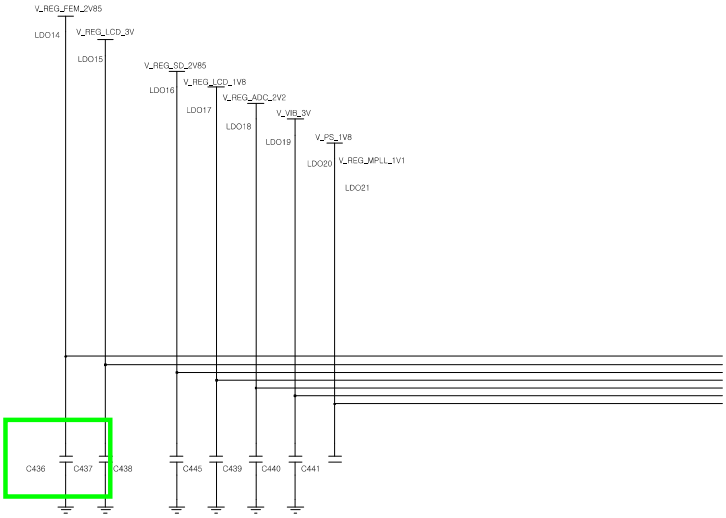


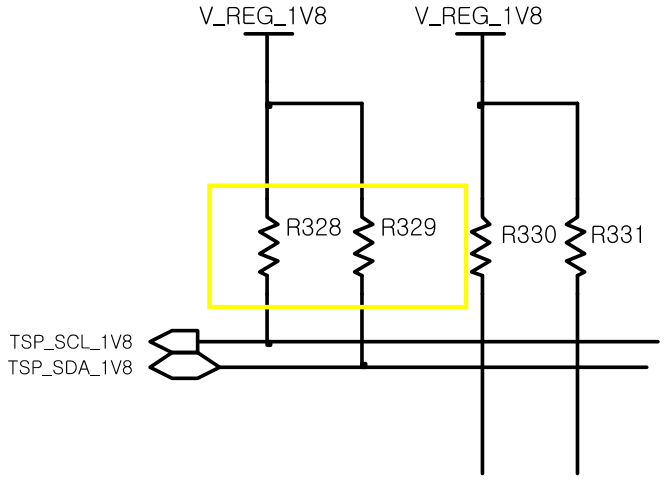
8-3-3. TSP

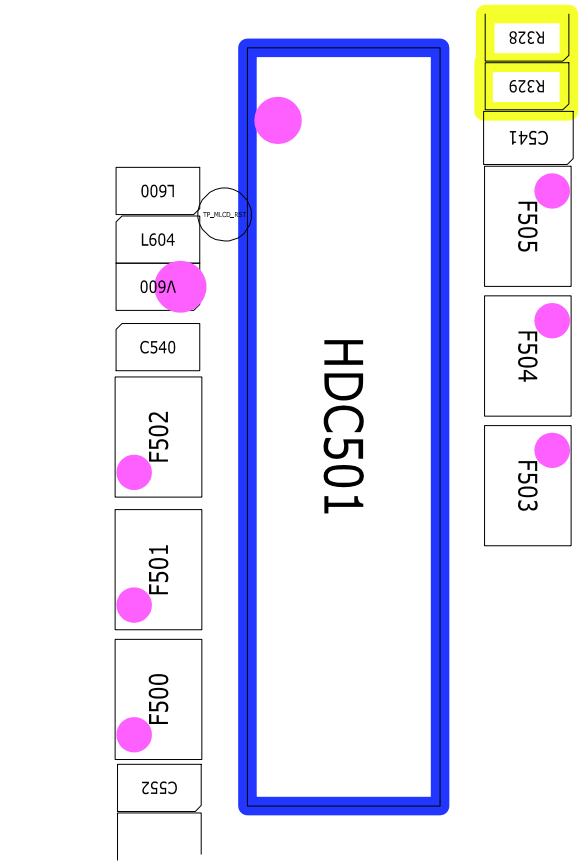


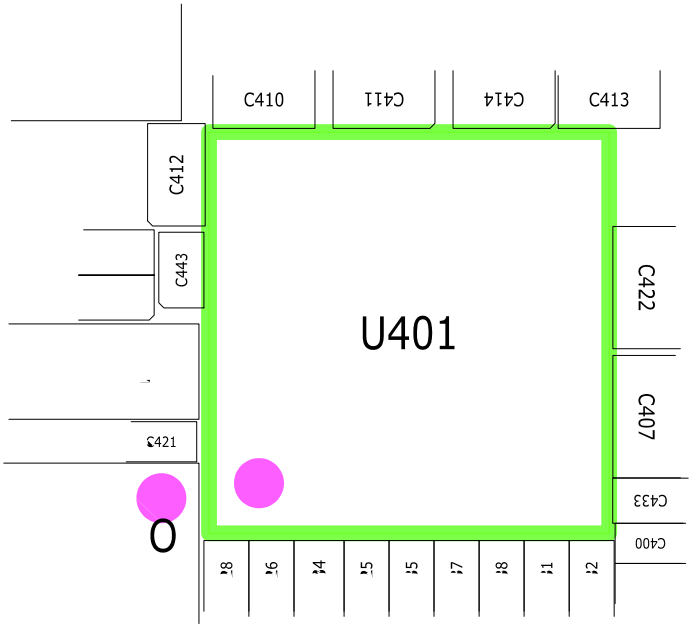


LCD / TSP CON



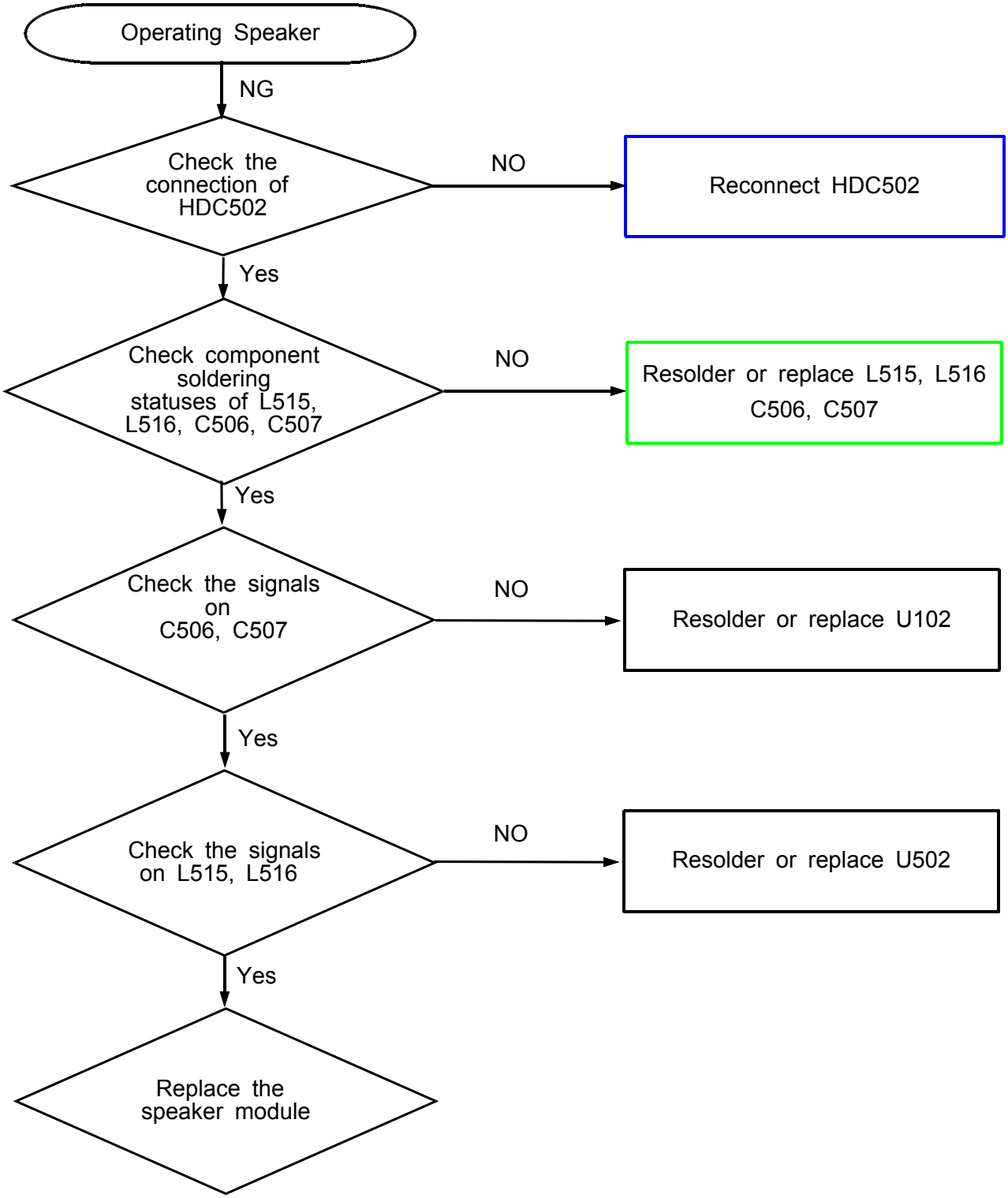


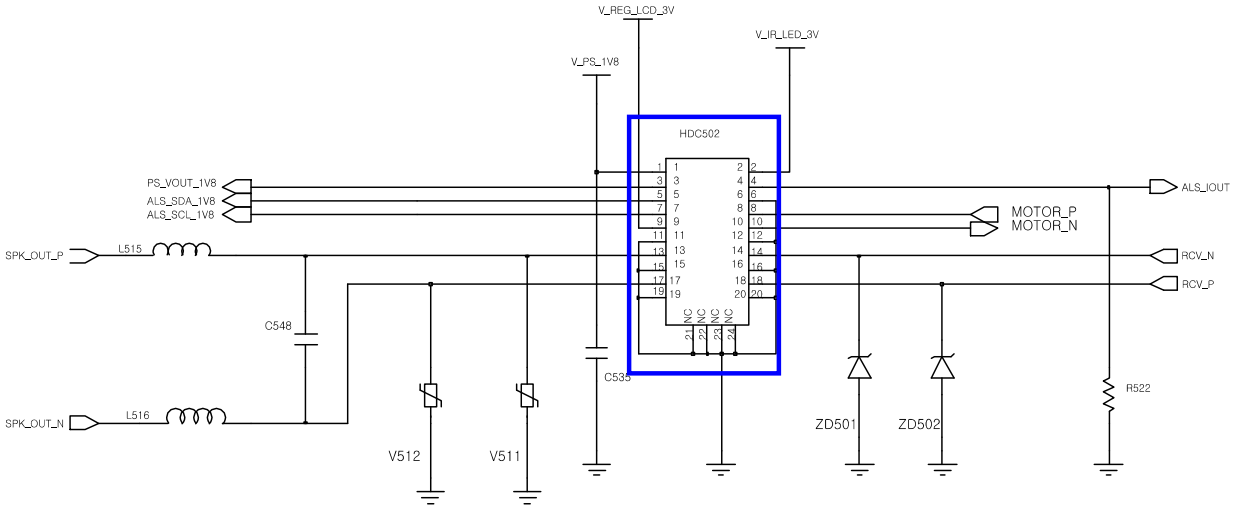


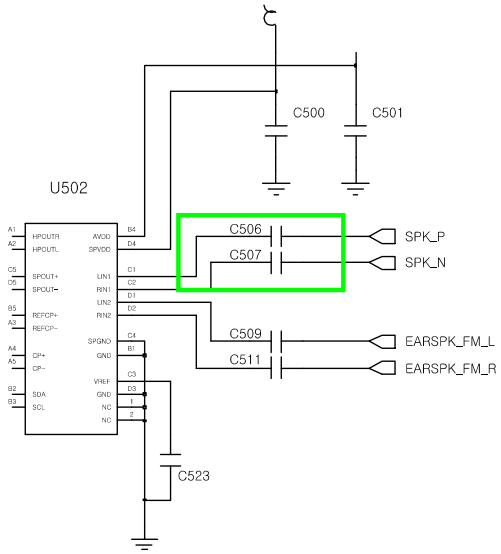


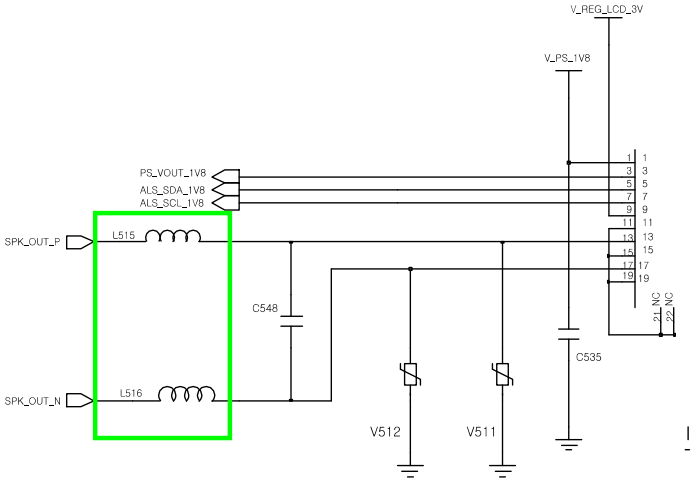
8-3-4. Audio Working

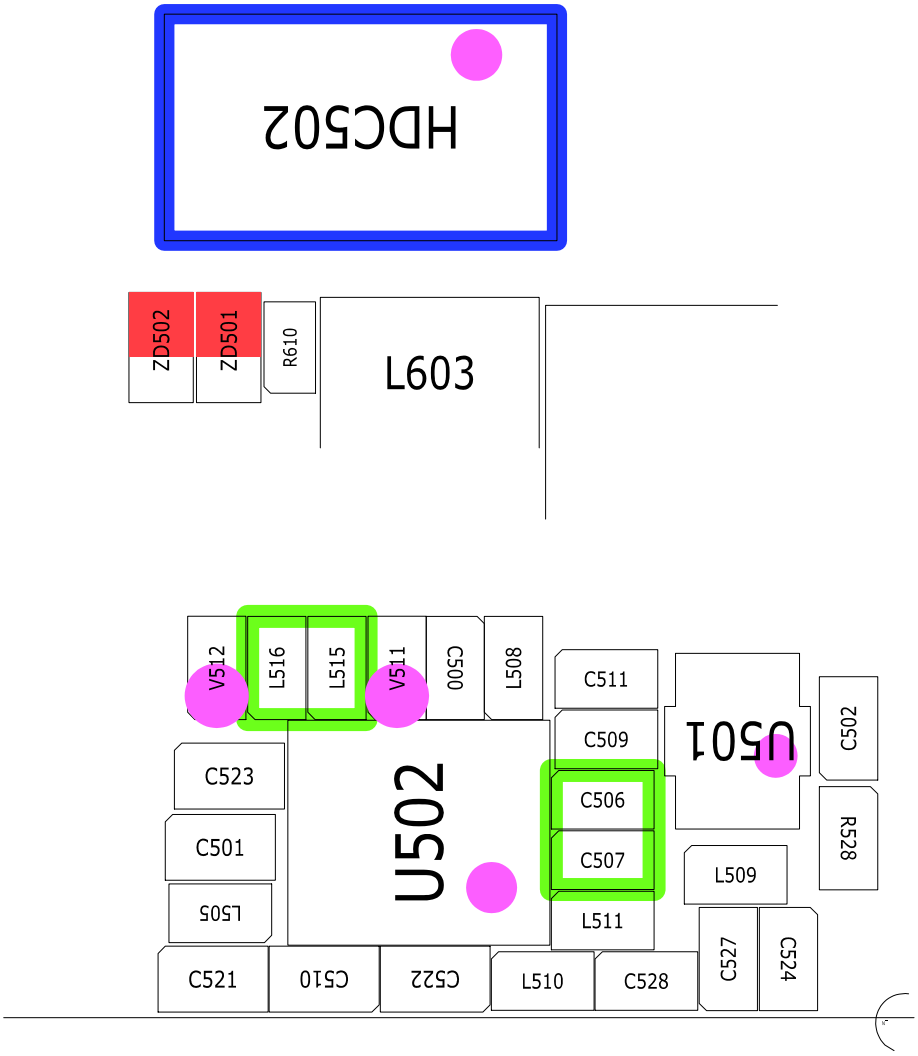
- Speaker Working



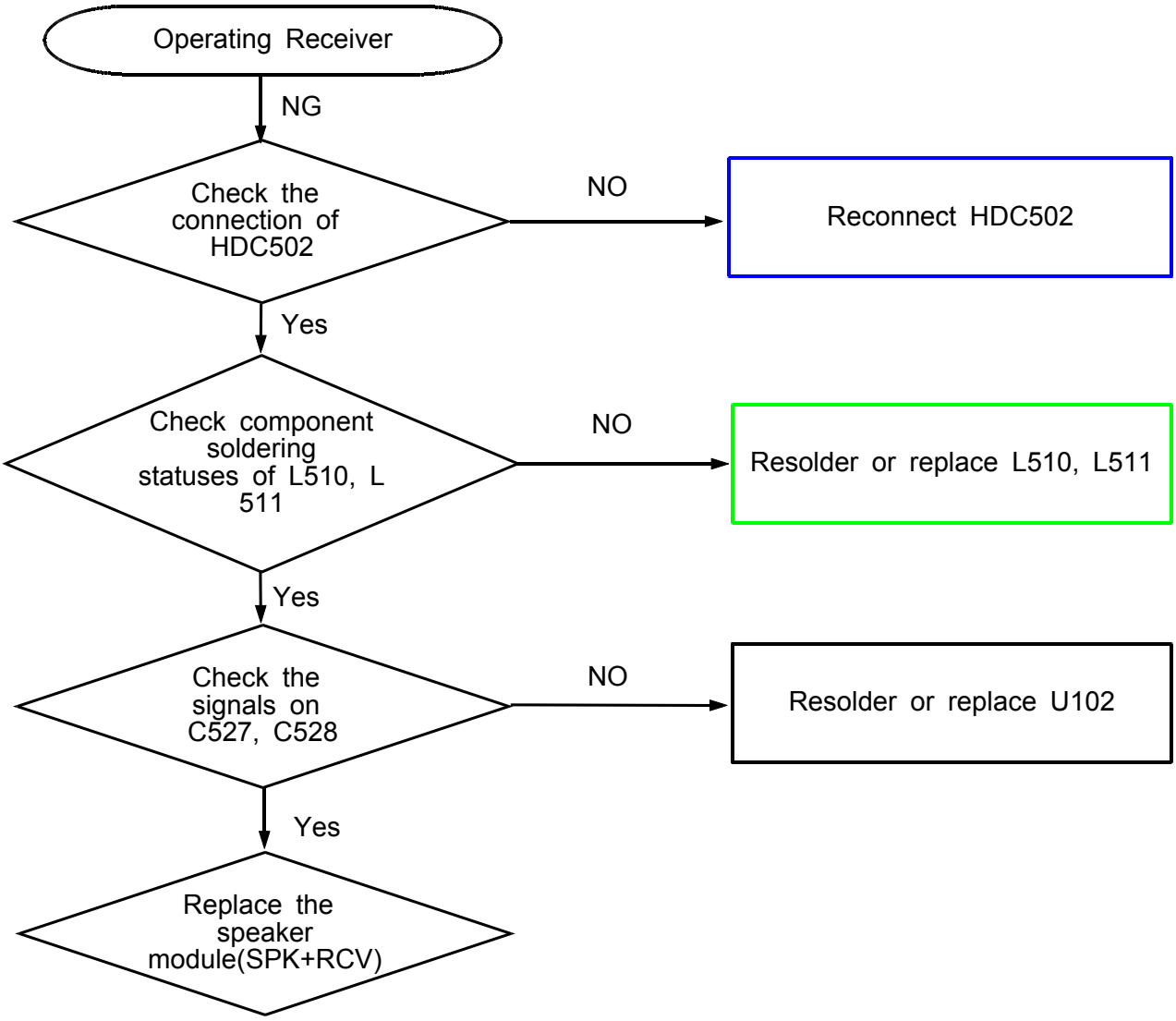


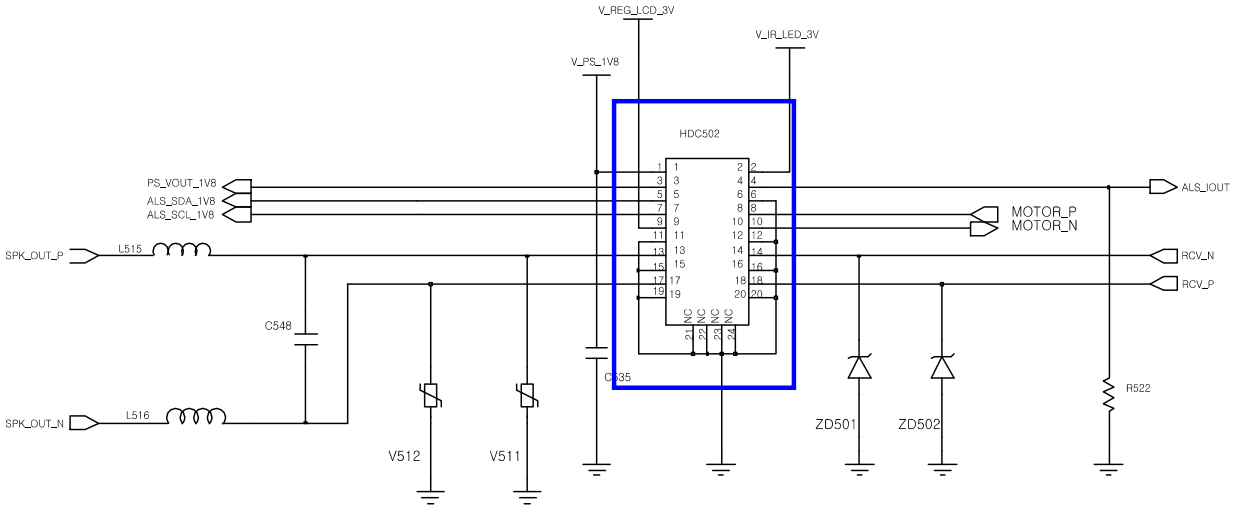


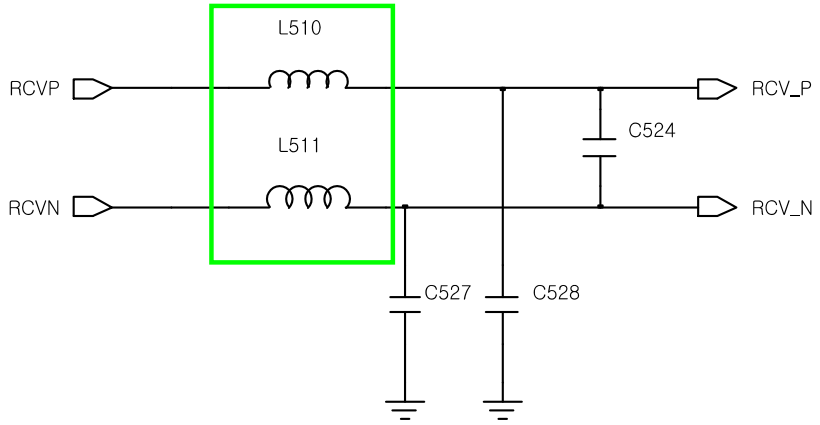


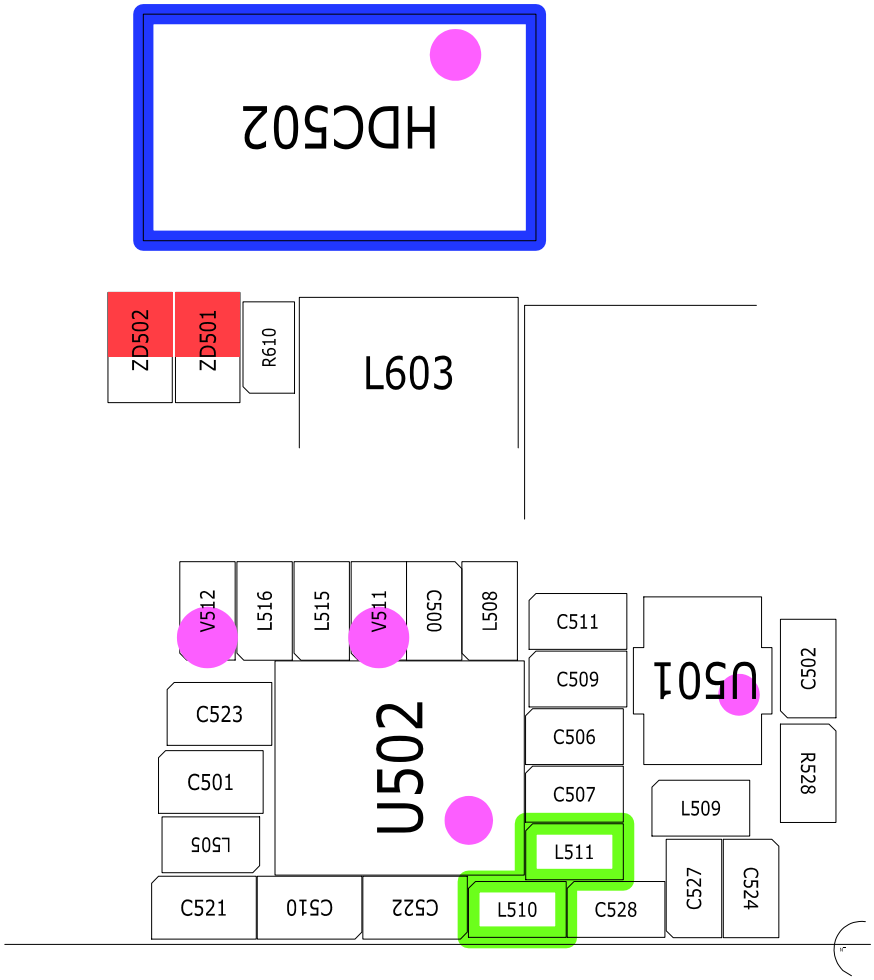


- Receiver Working

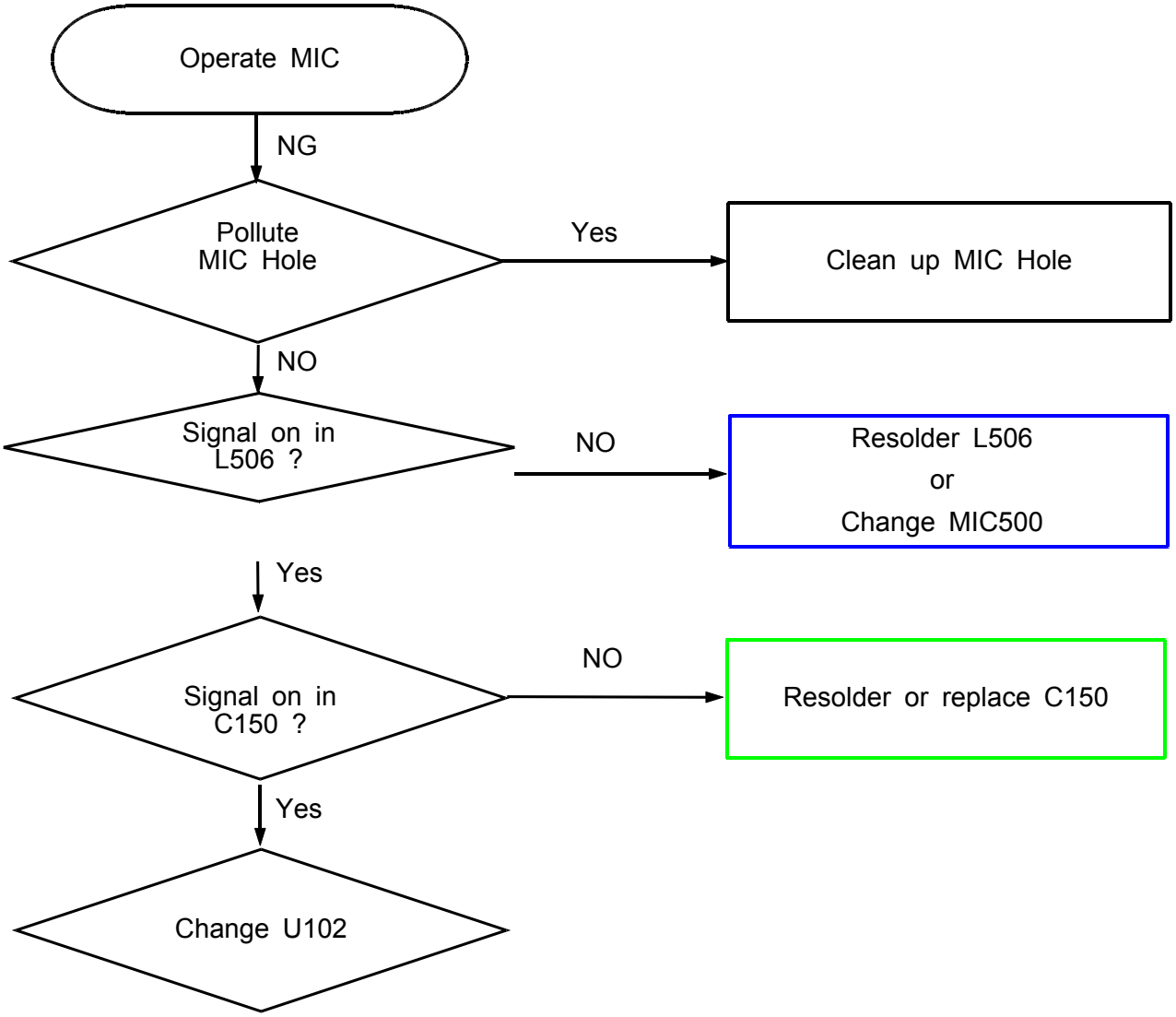


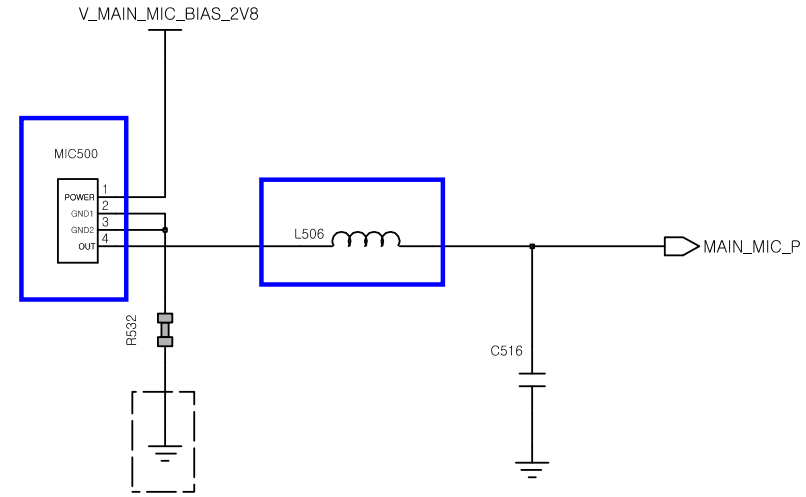






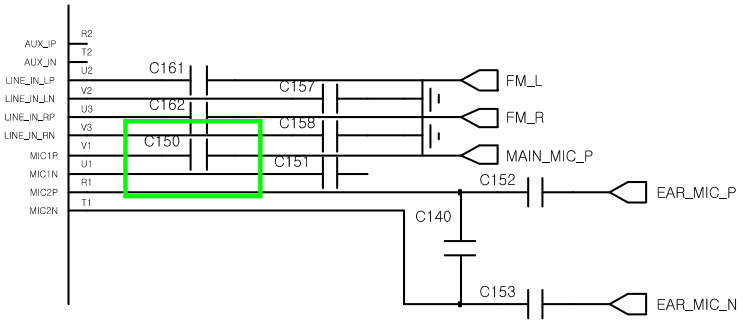
- MIC Working

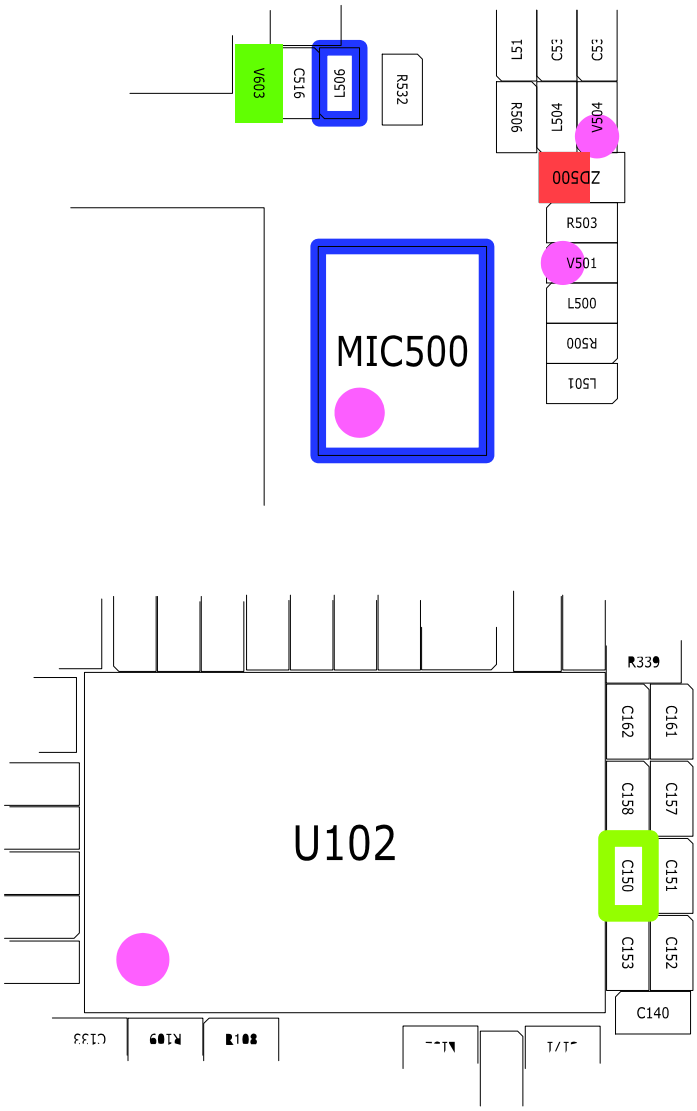




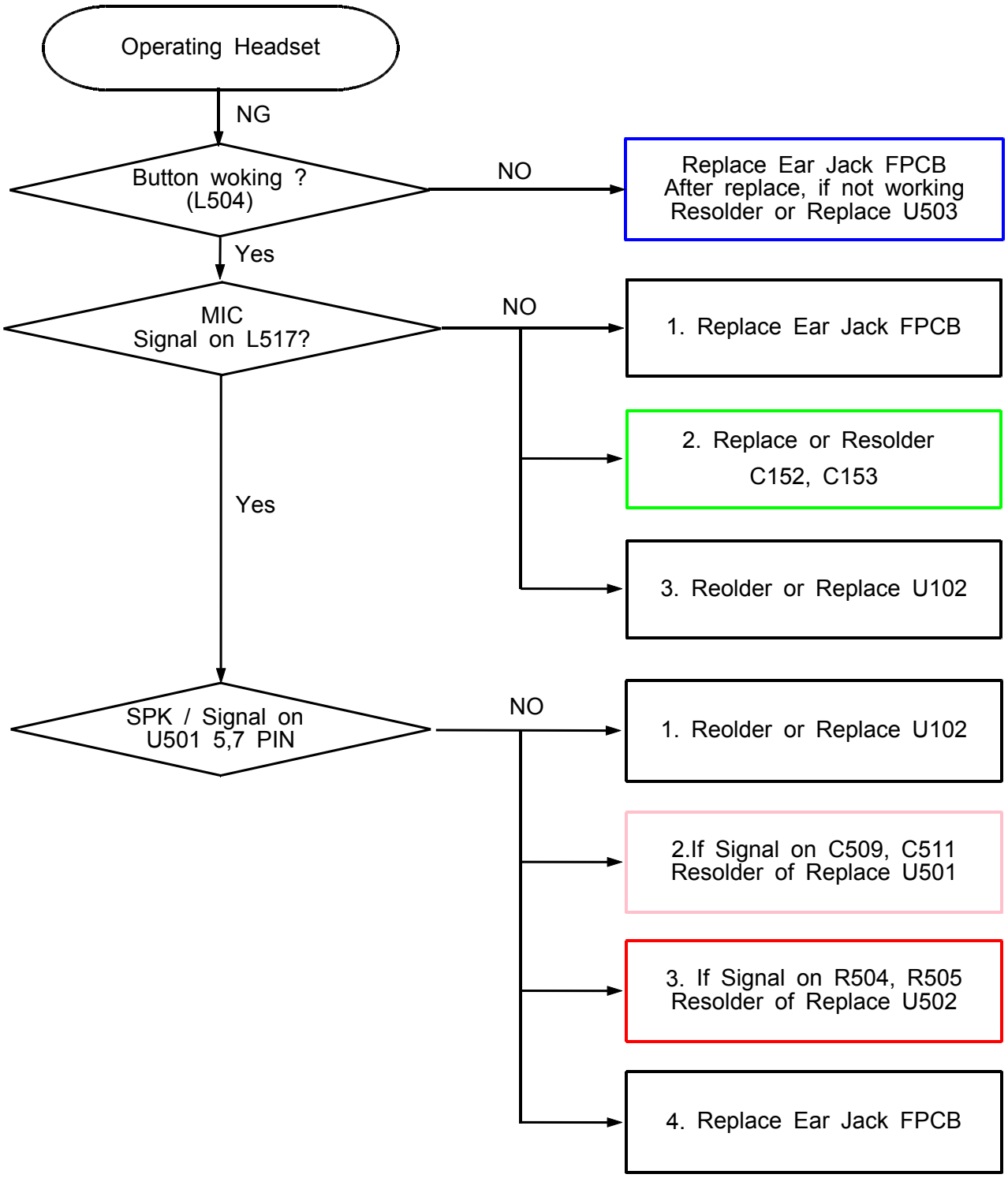
Near to MAIN MIC (MIC500) GND

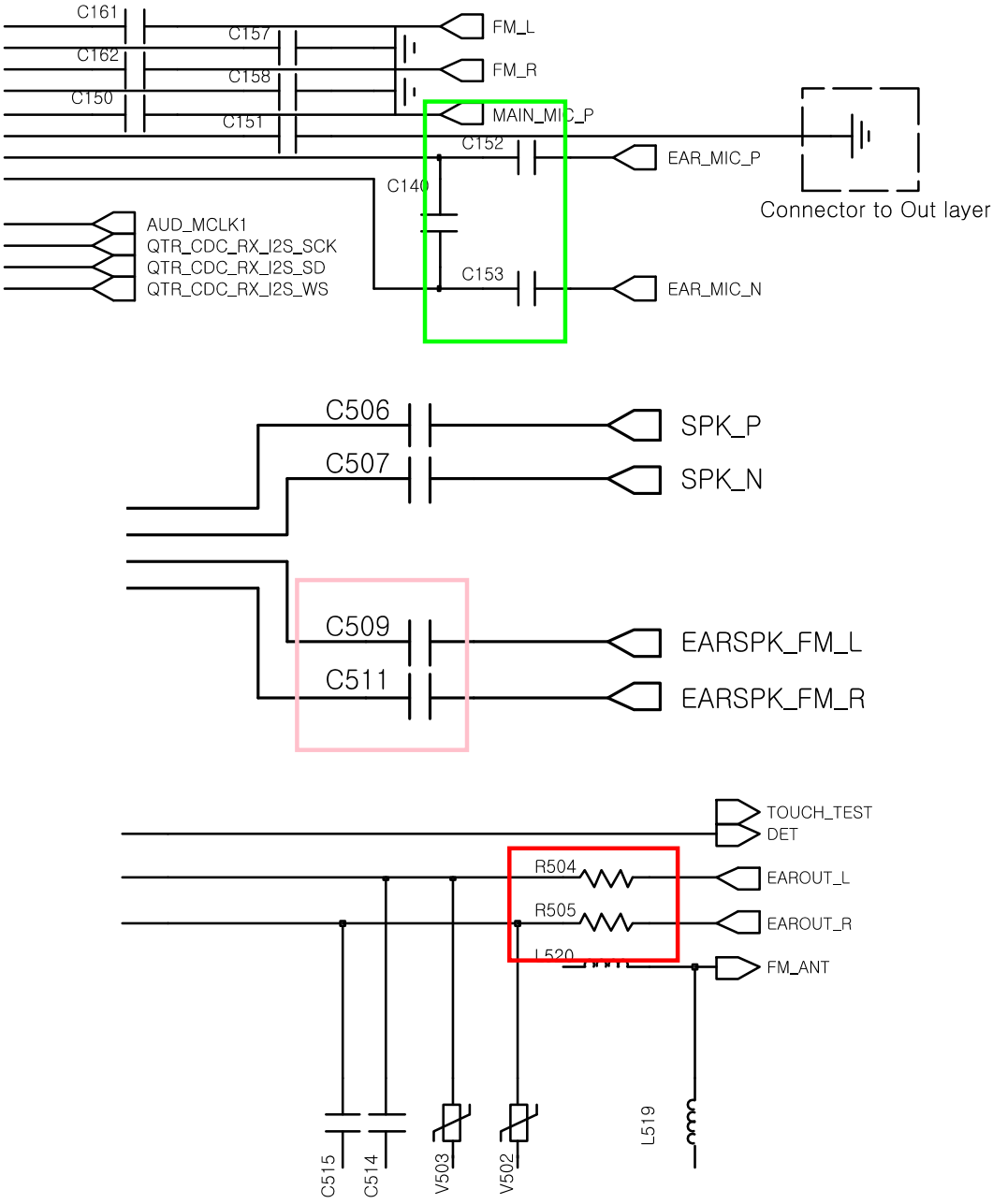
MAIN MIC

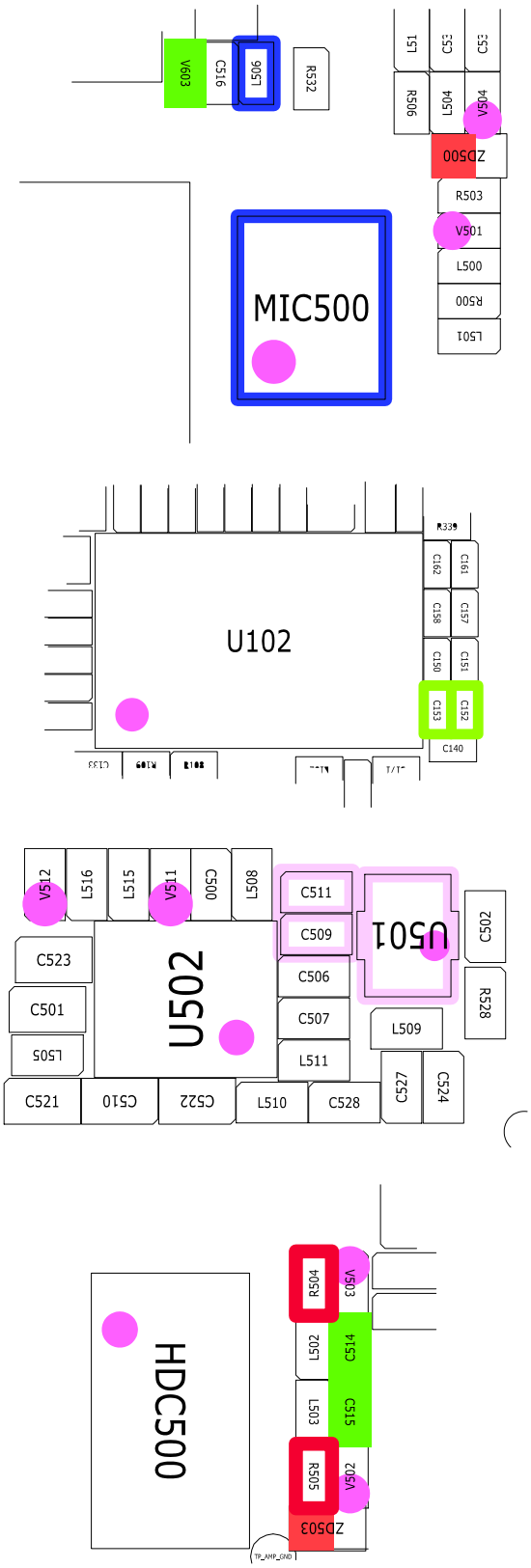




● Stereo Headset Working

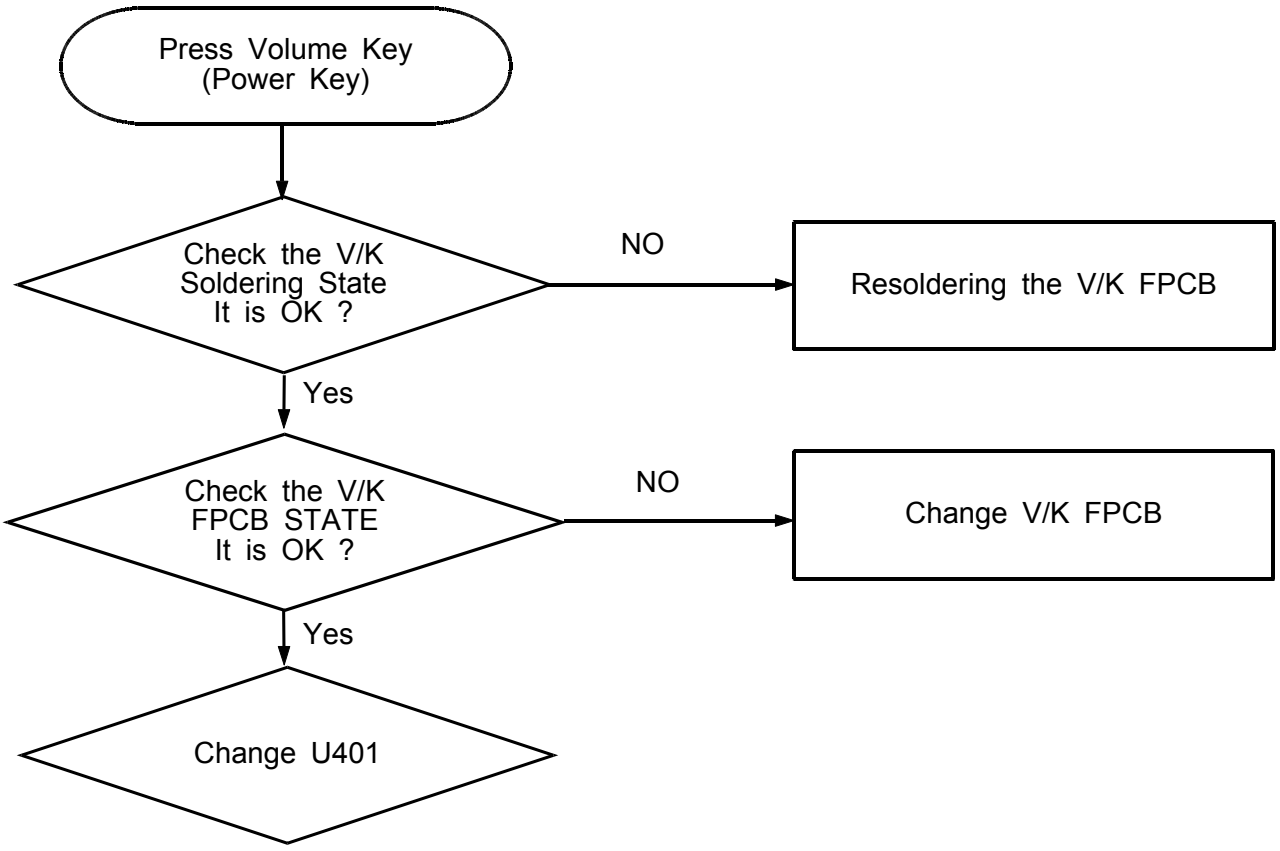




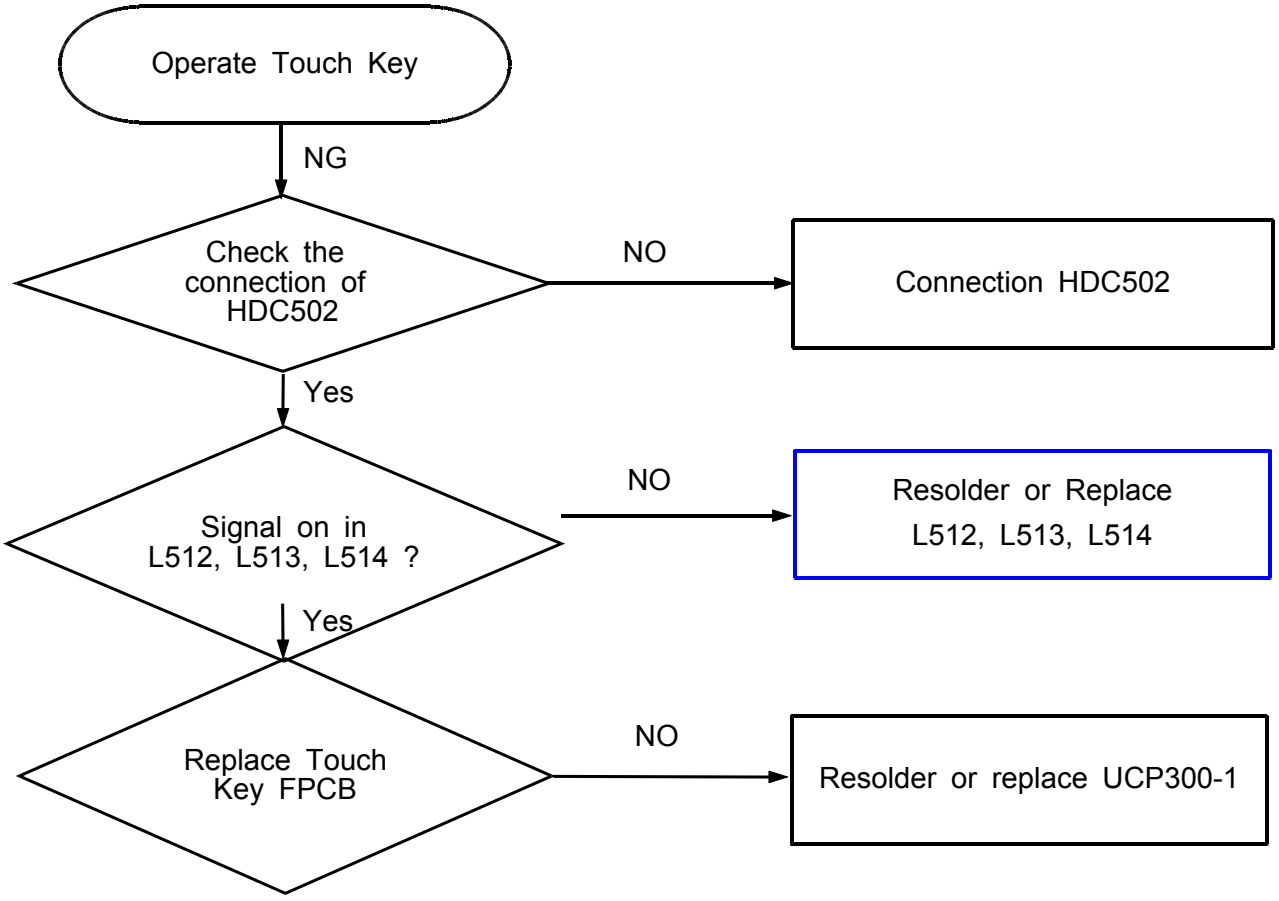


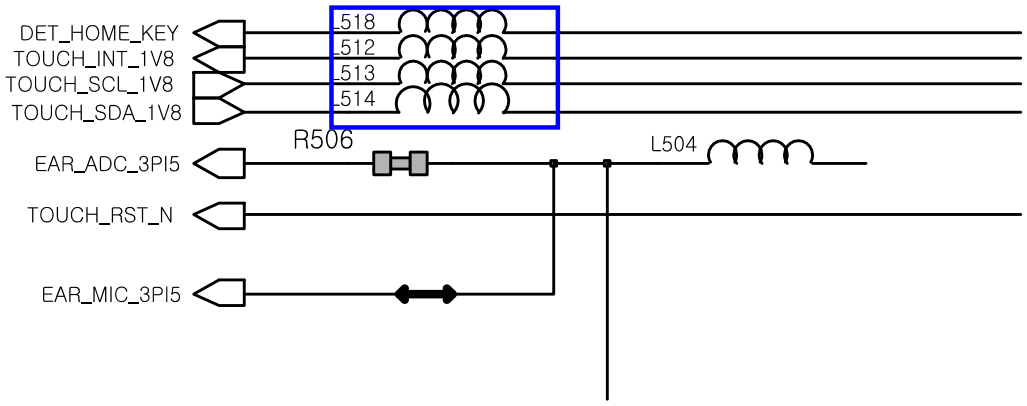
8-3-5. KEY Working

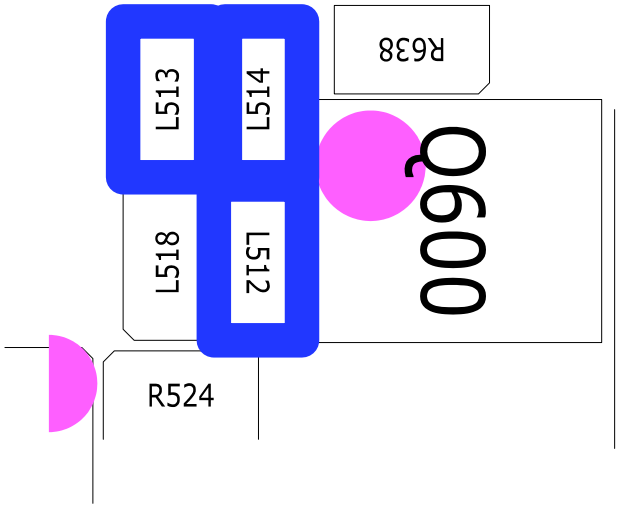
- Volume KEY / Power Key



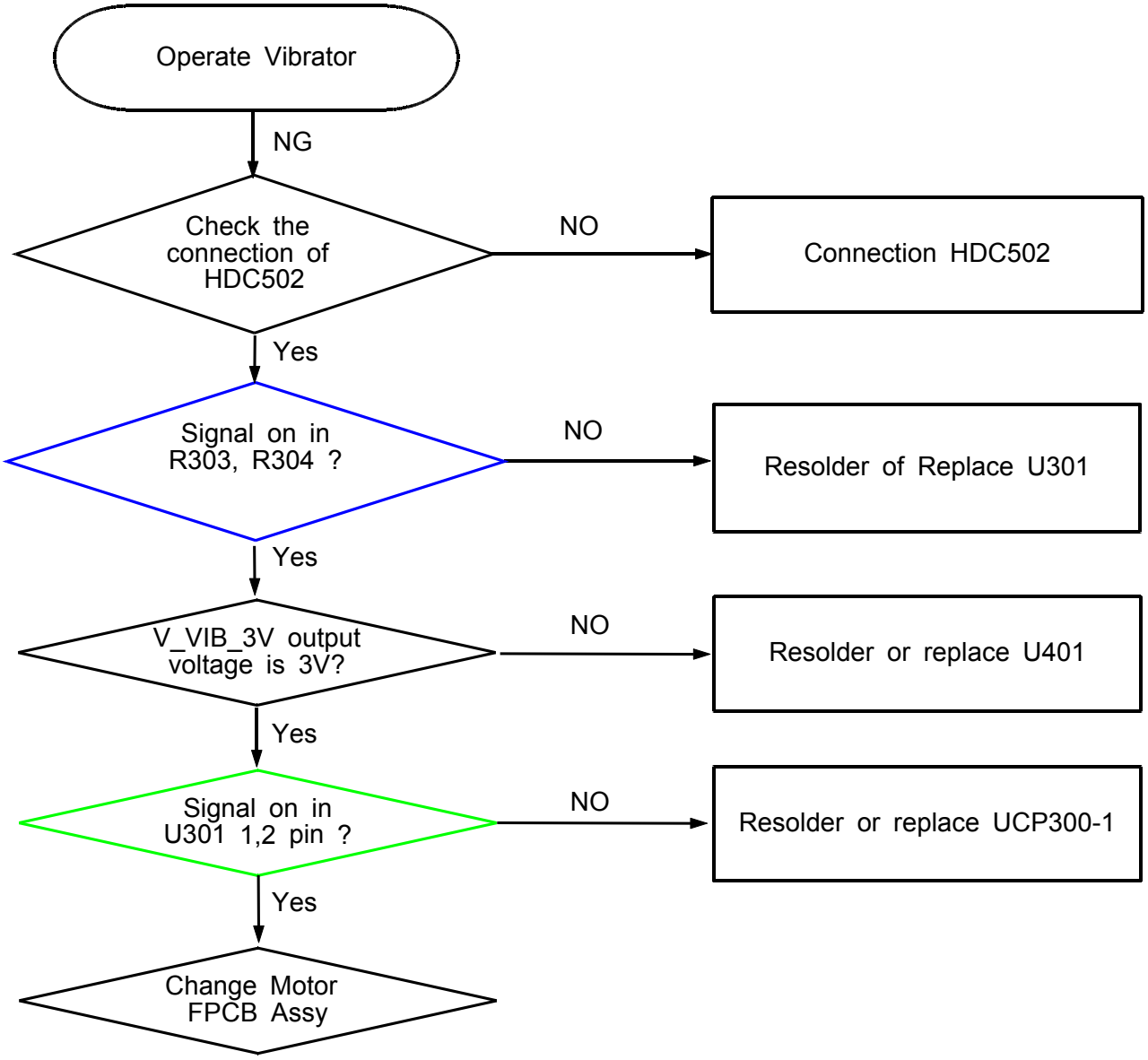
- Touch Key (Send / End)

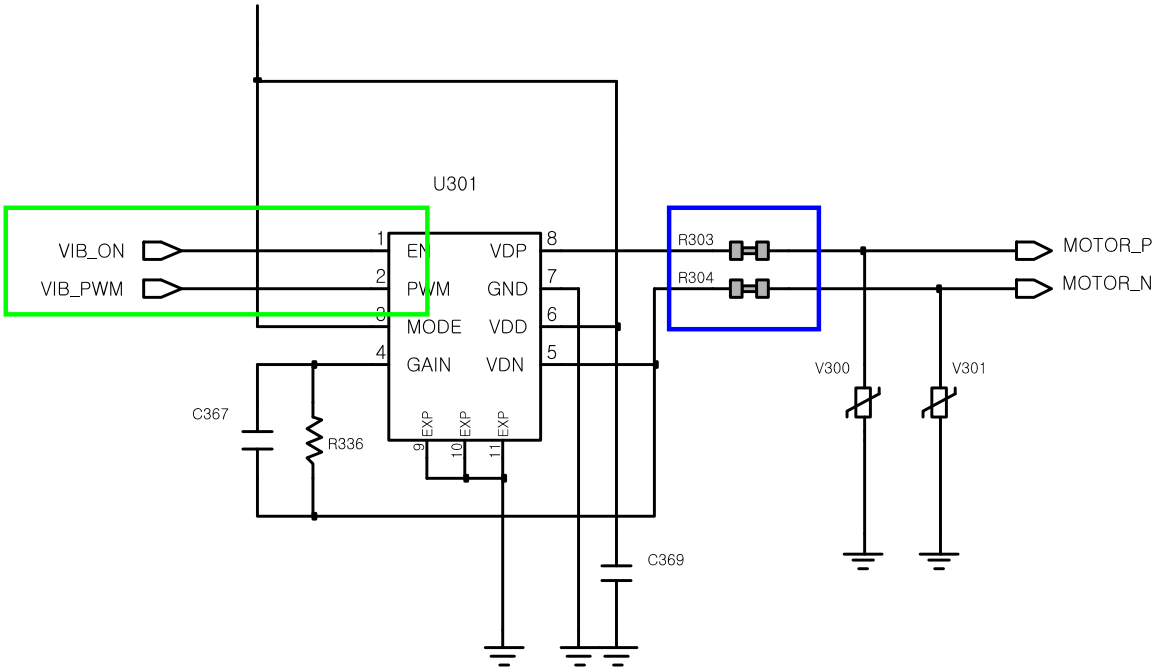




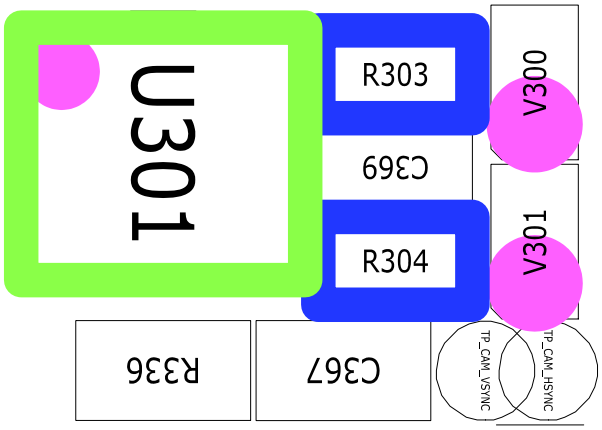


8-3-6. Vibrator Working

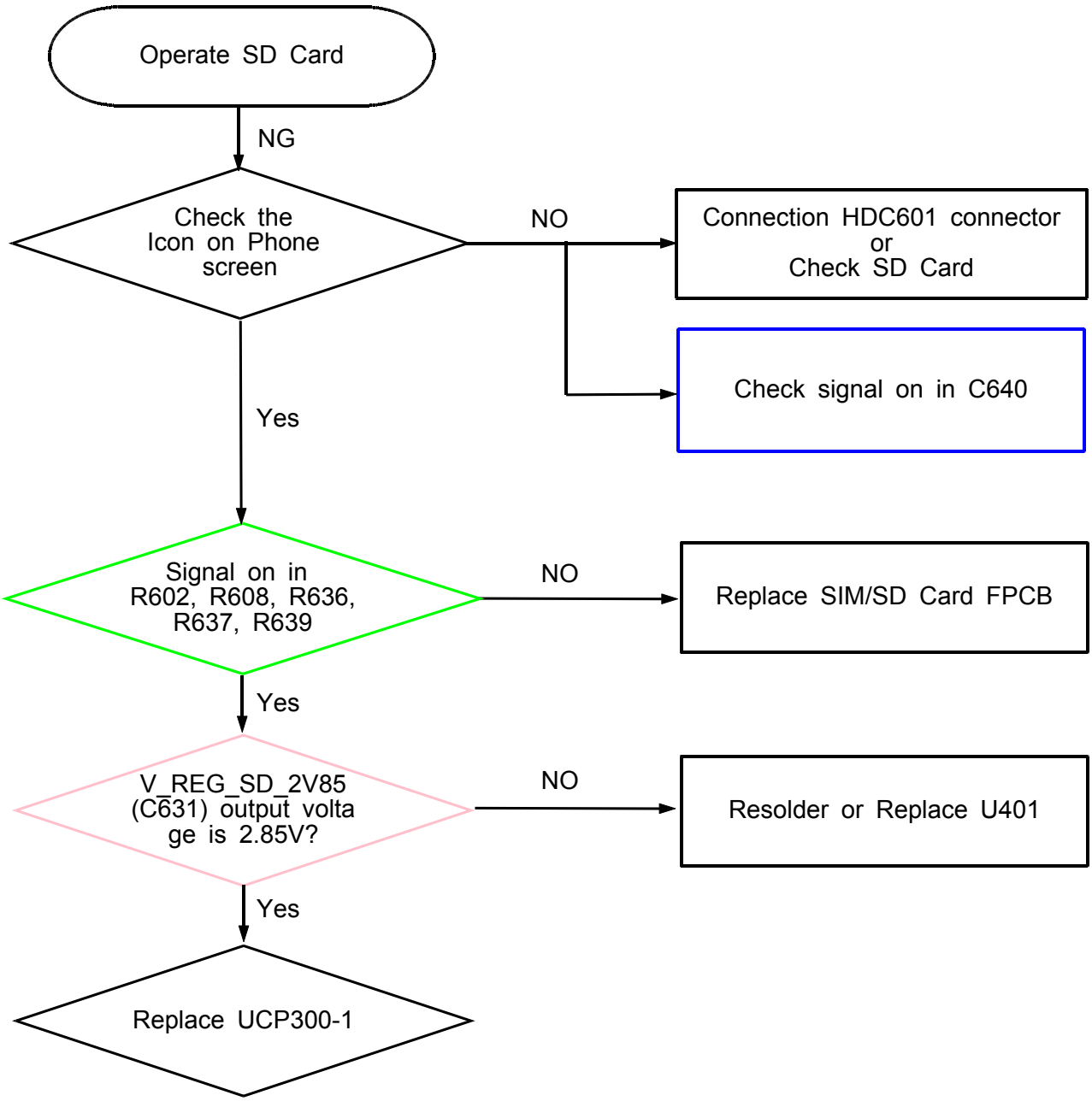


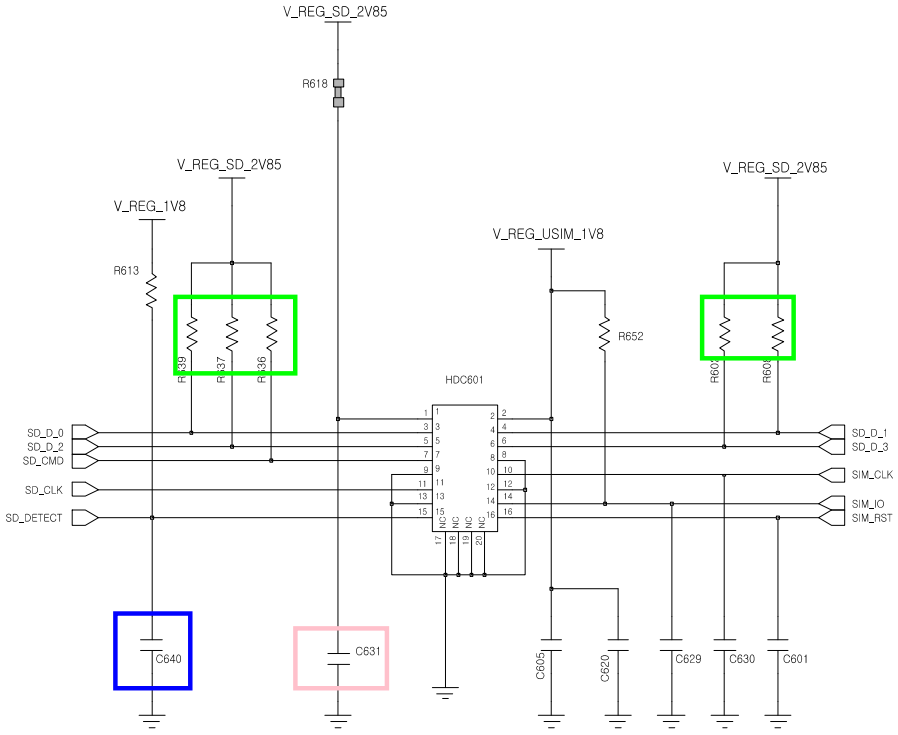


VIB Driver

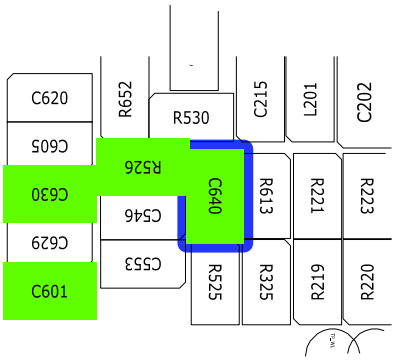


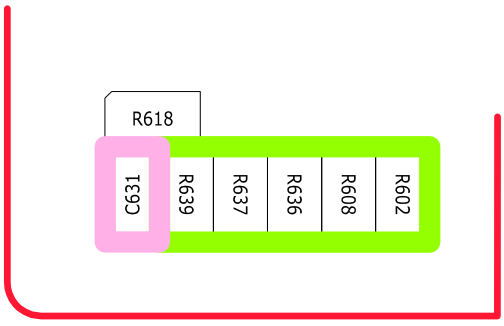
8-3-7. T-Flash Card Working



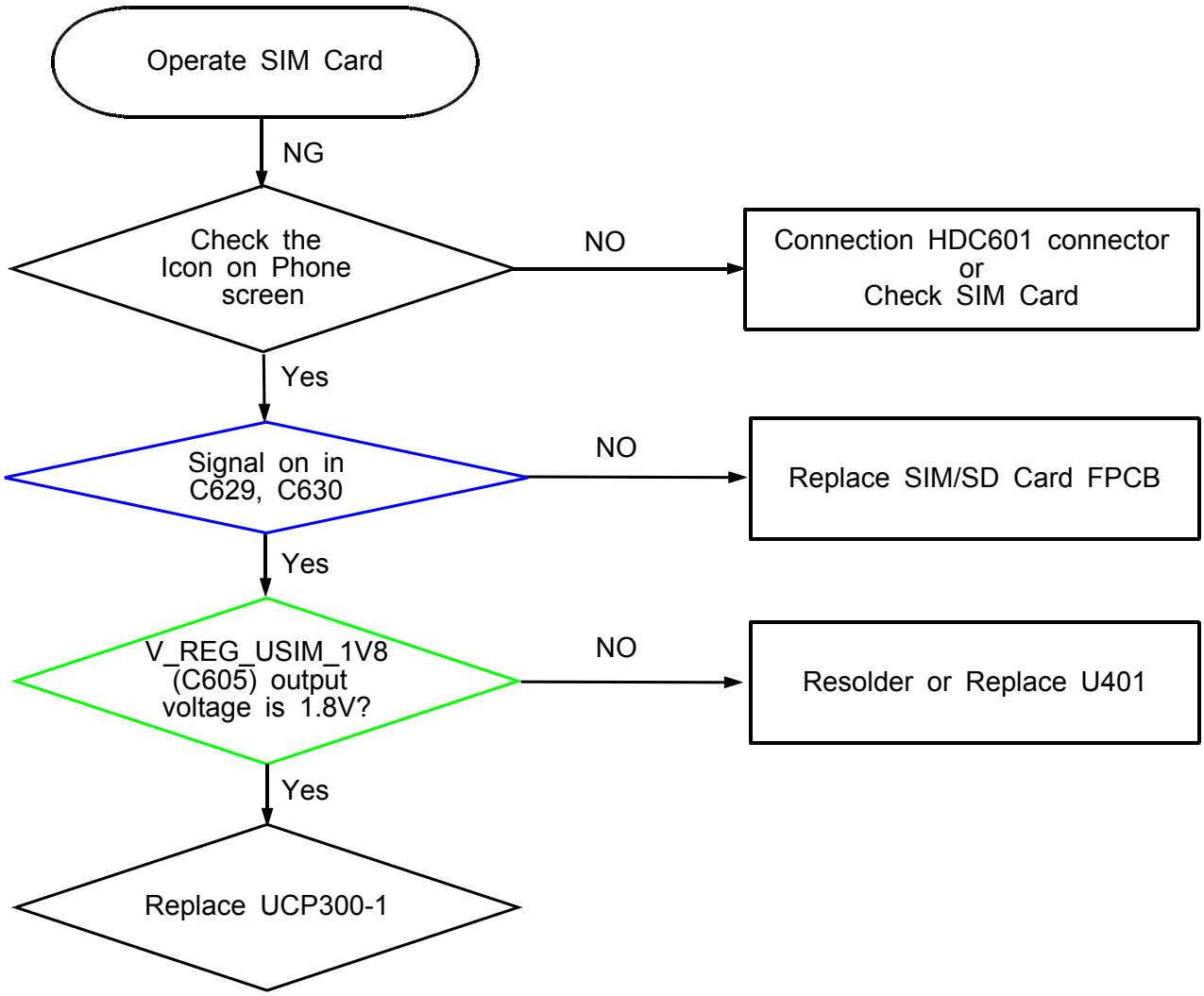


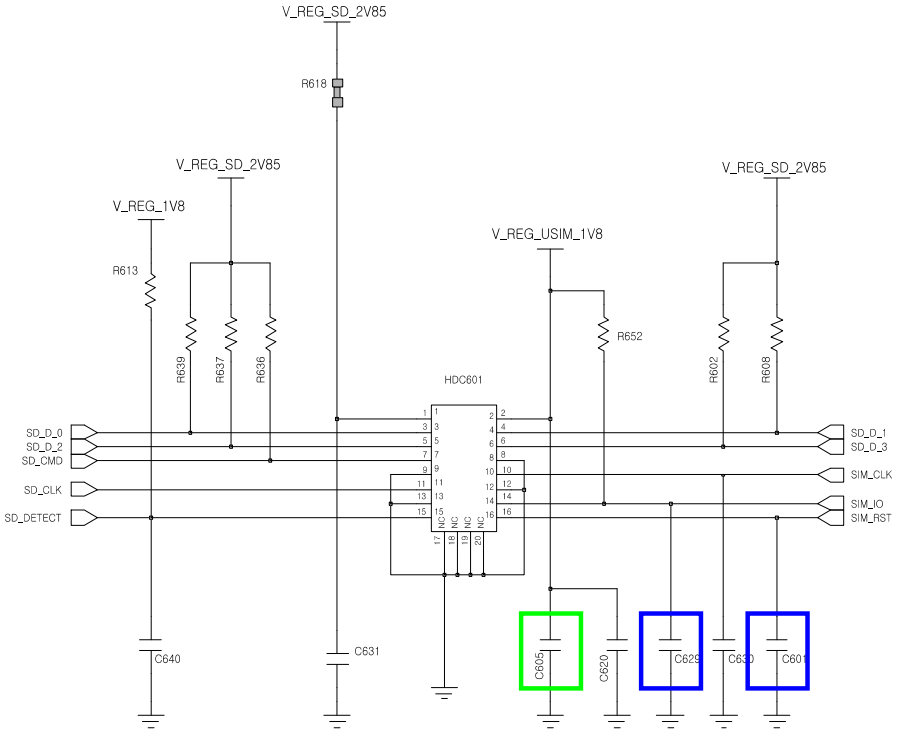
SIM / SD CON



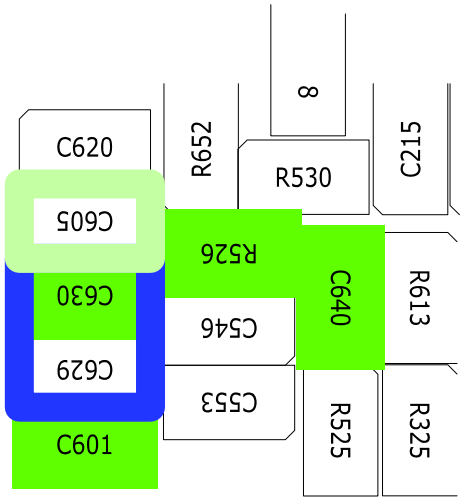


8-3-8. SIM Card Working

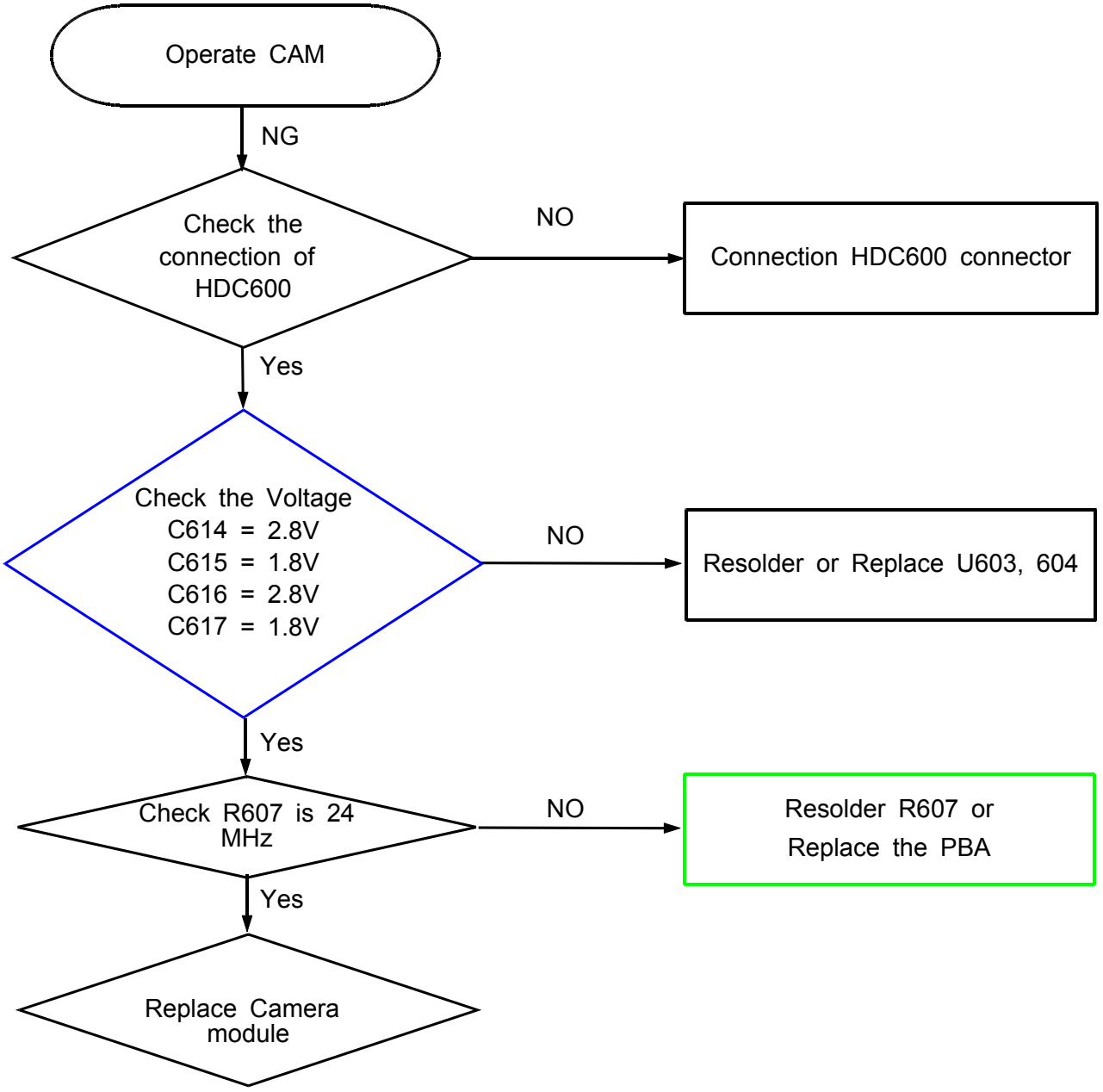


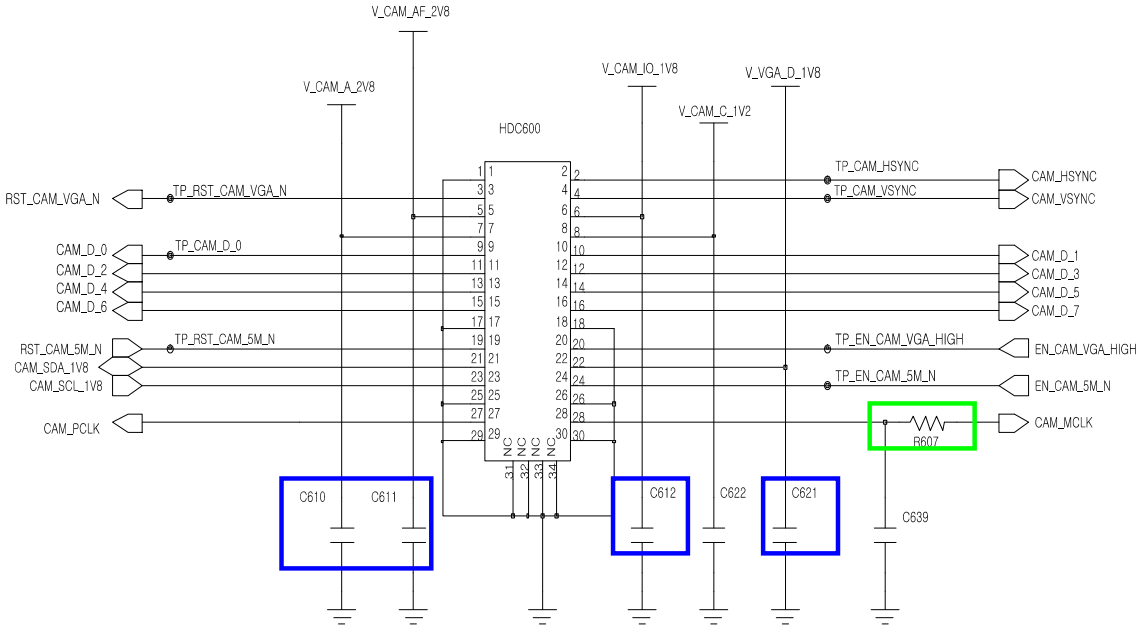


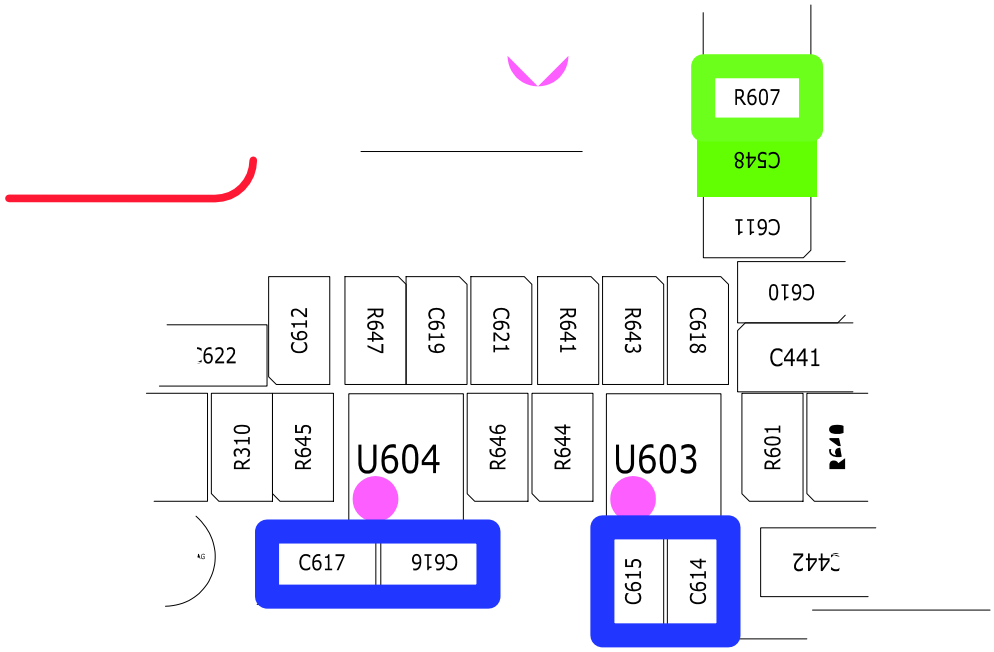
SIM / SD CON



8-3-9 CAMERA Working



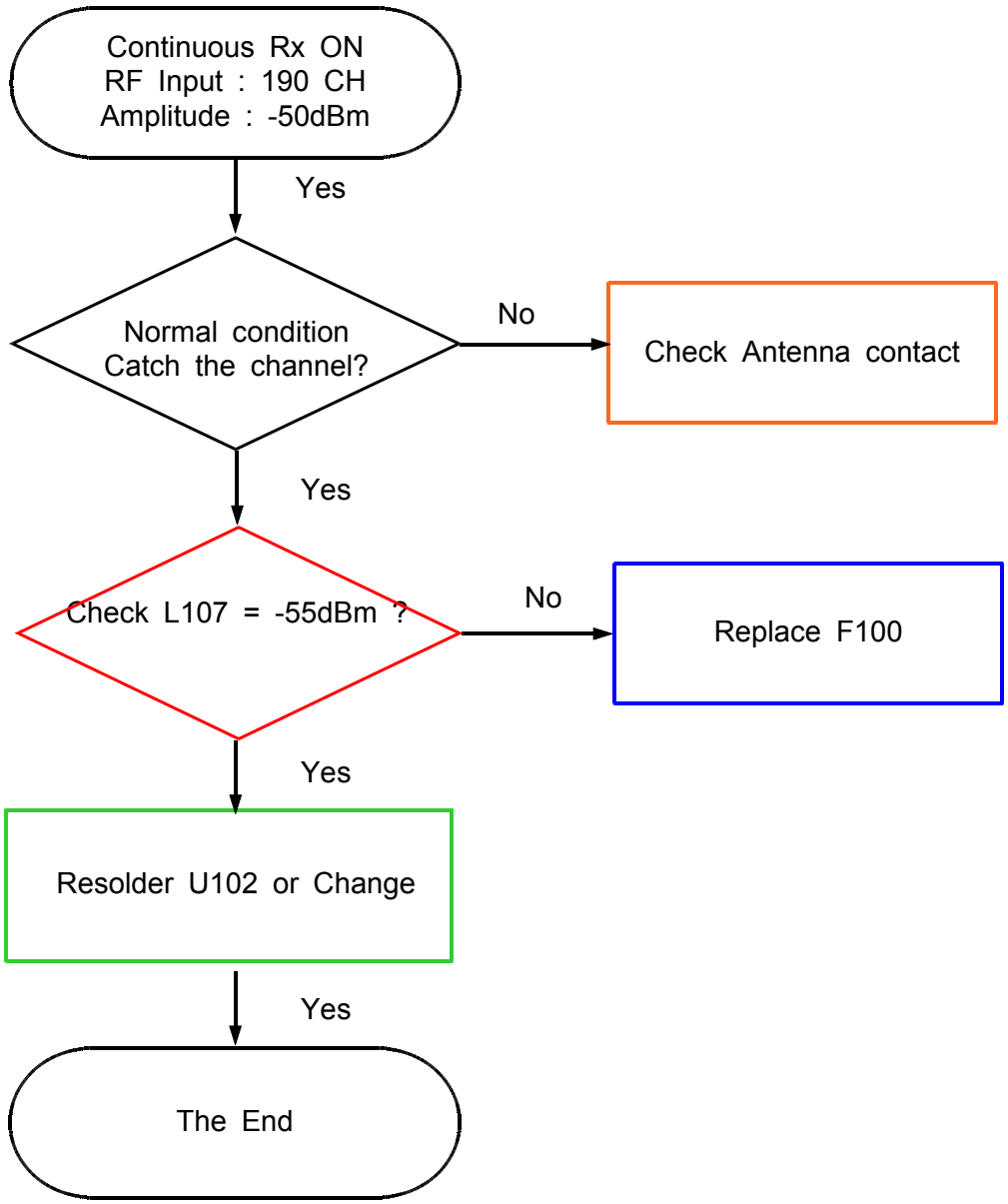




8-4-1. GSM850 RX

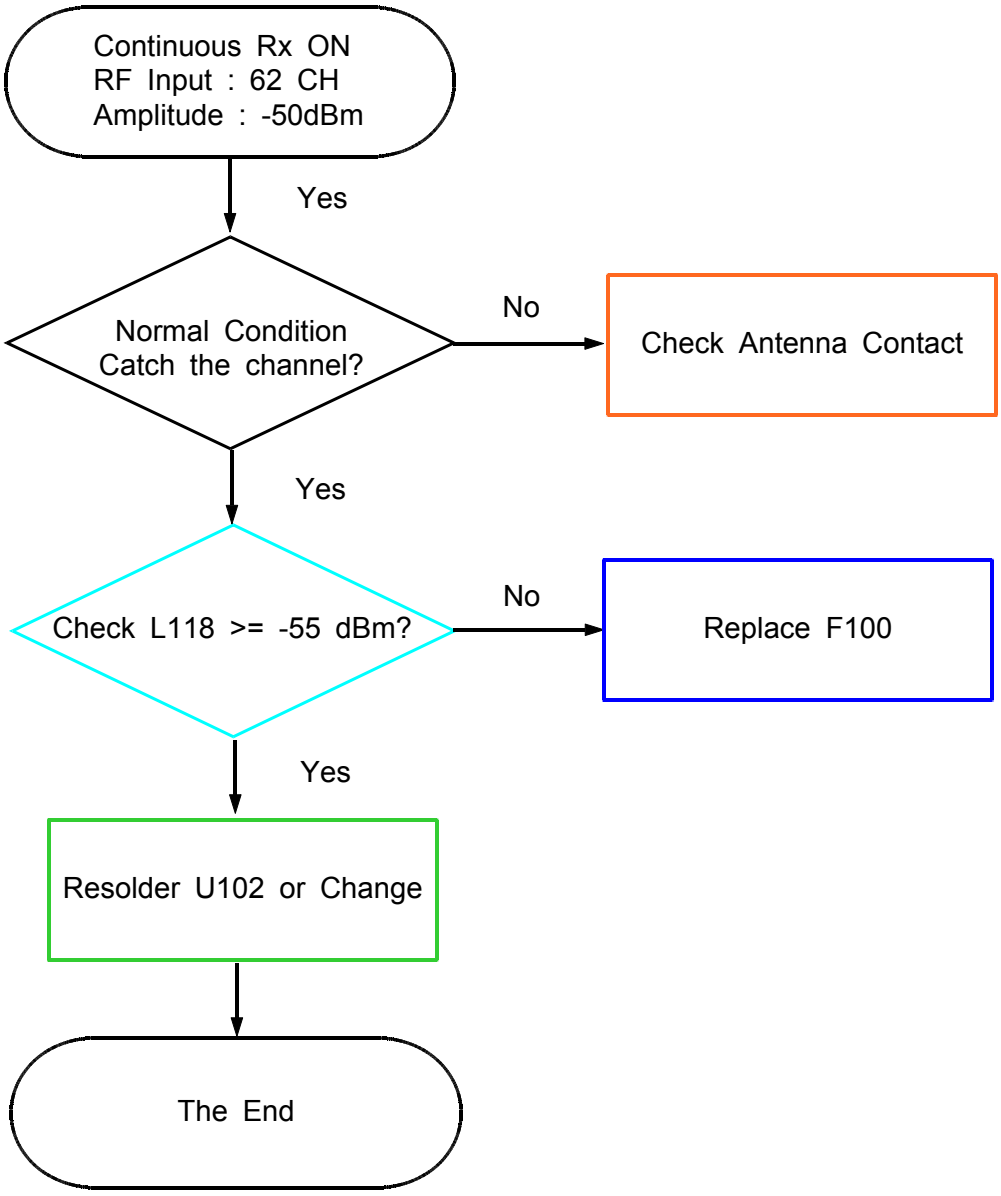
**If you check the tx chain,

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



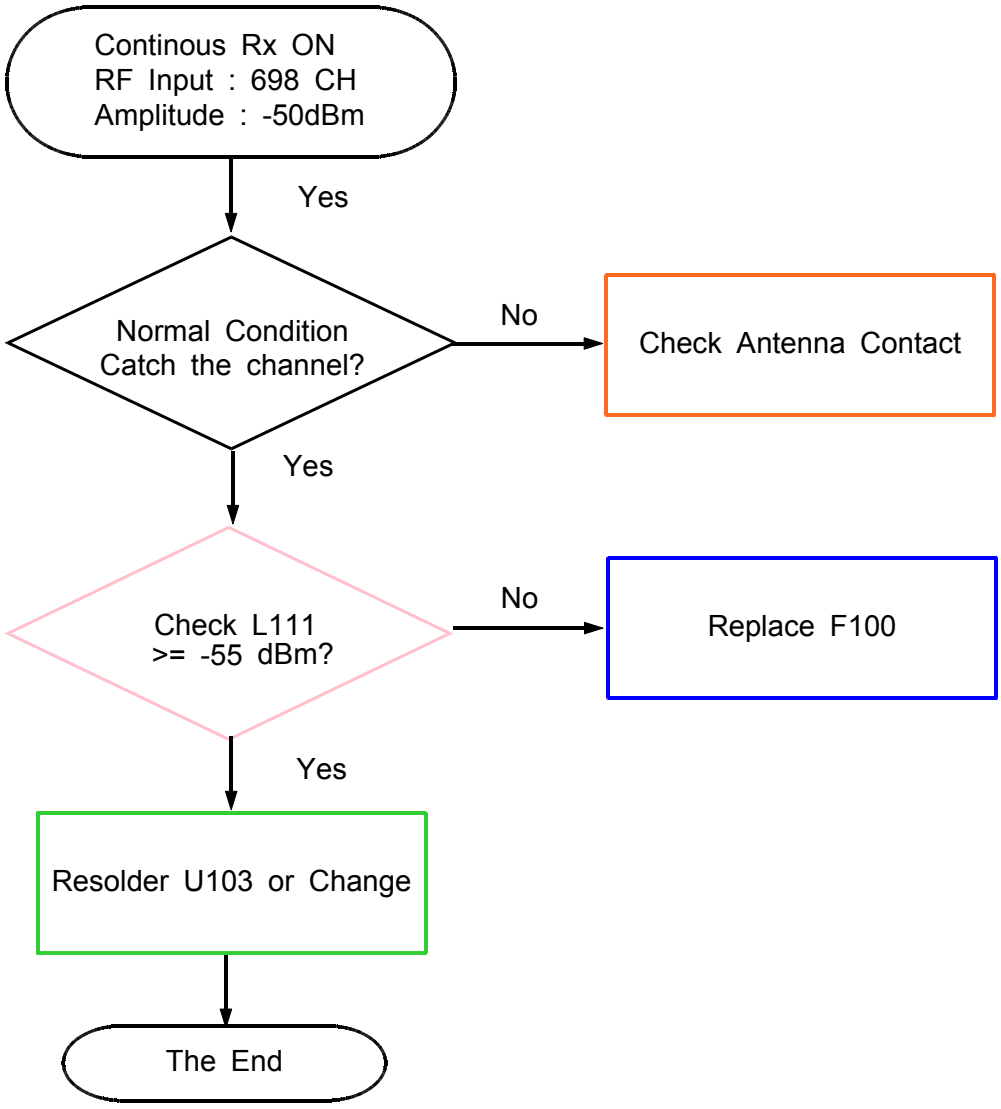
8-4-2. GSM900 RX

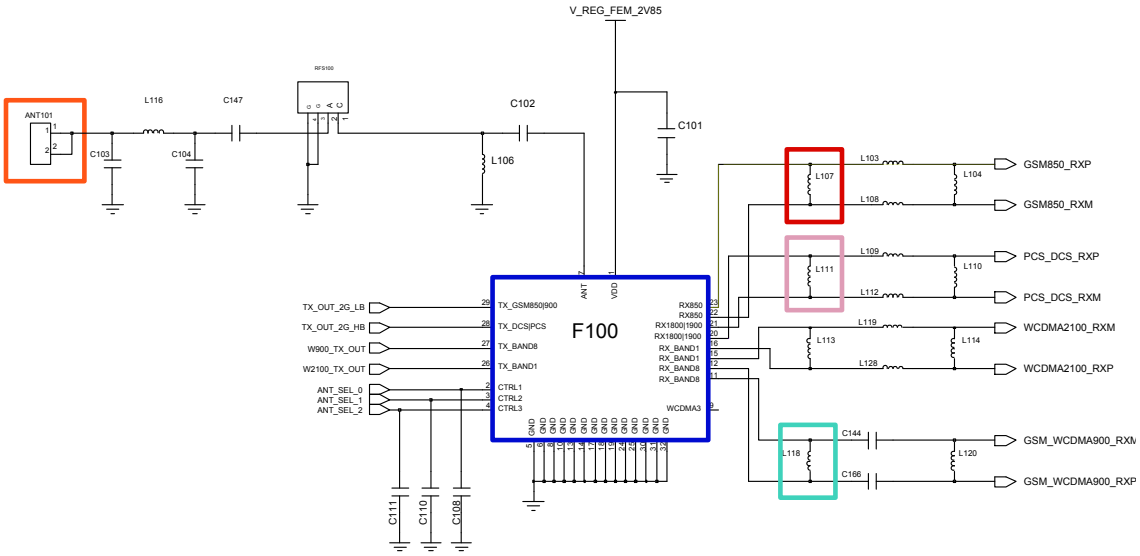
**If you check the tx chain,
Check the not only RF Device but also resistor, inductor and capacitor.



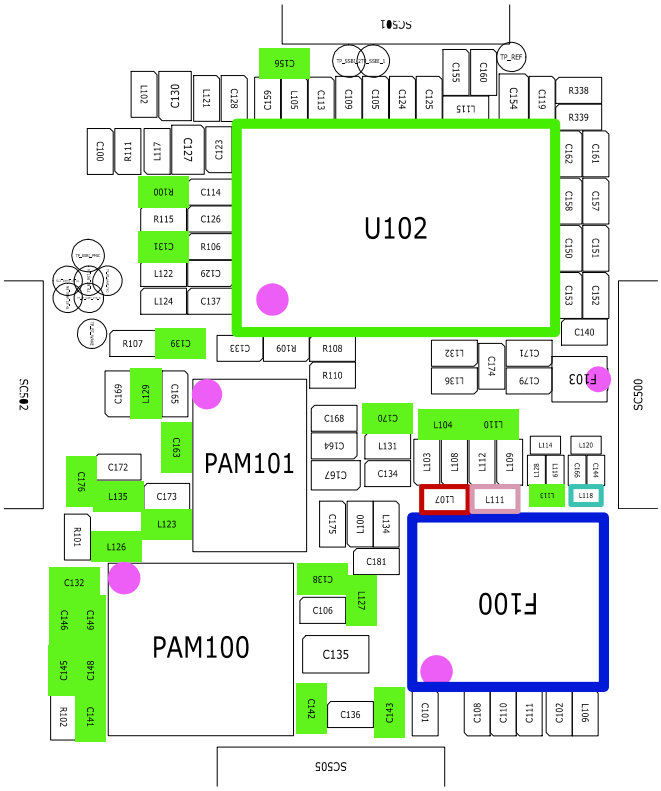
8-4-3. DCS/PCS RX

**If you check the tx chain,
Check the not only RF Device but also resistor, inductor and capacitor.



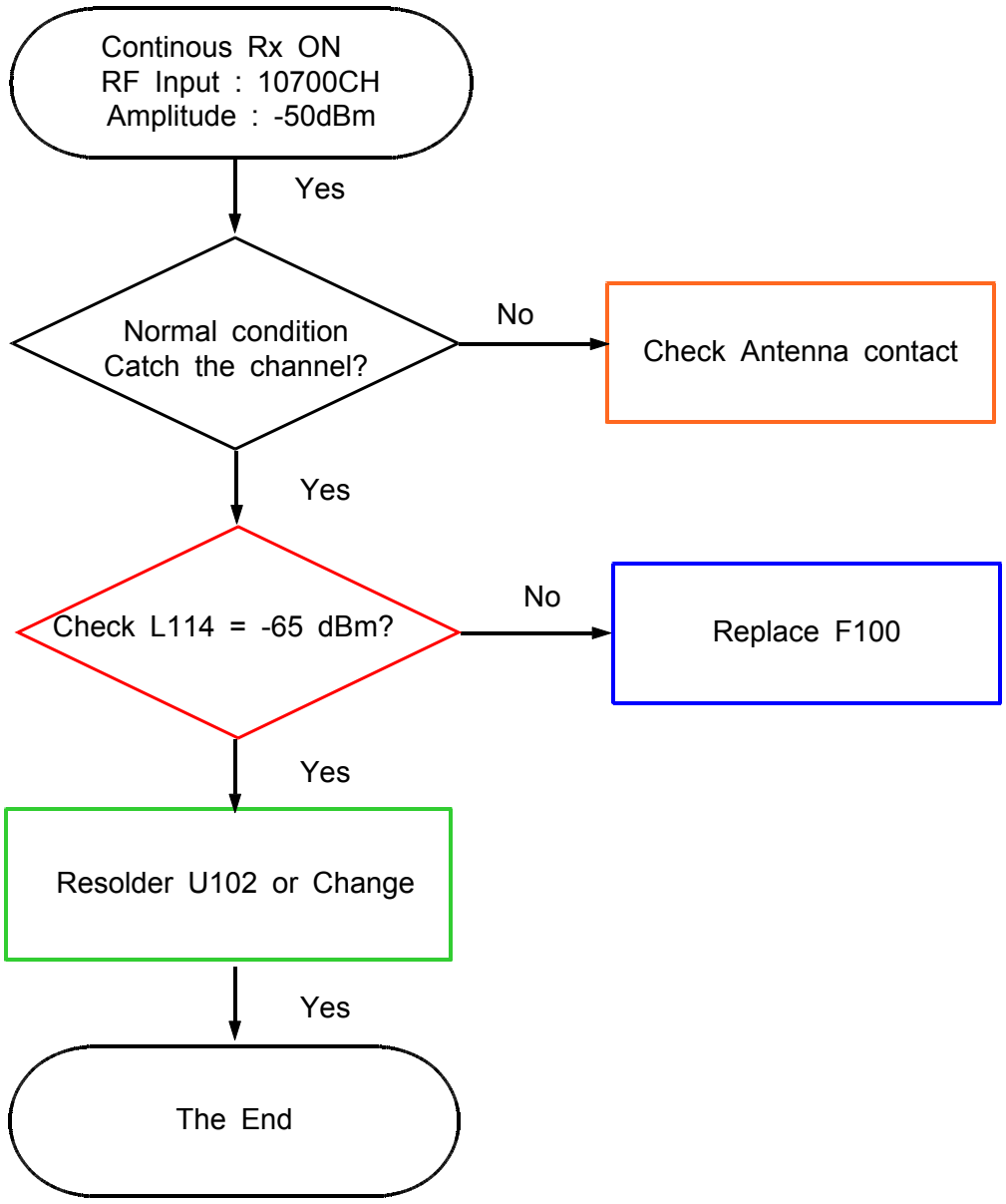


FEM



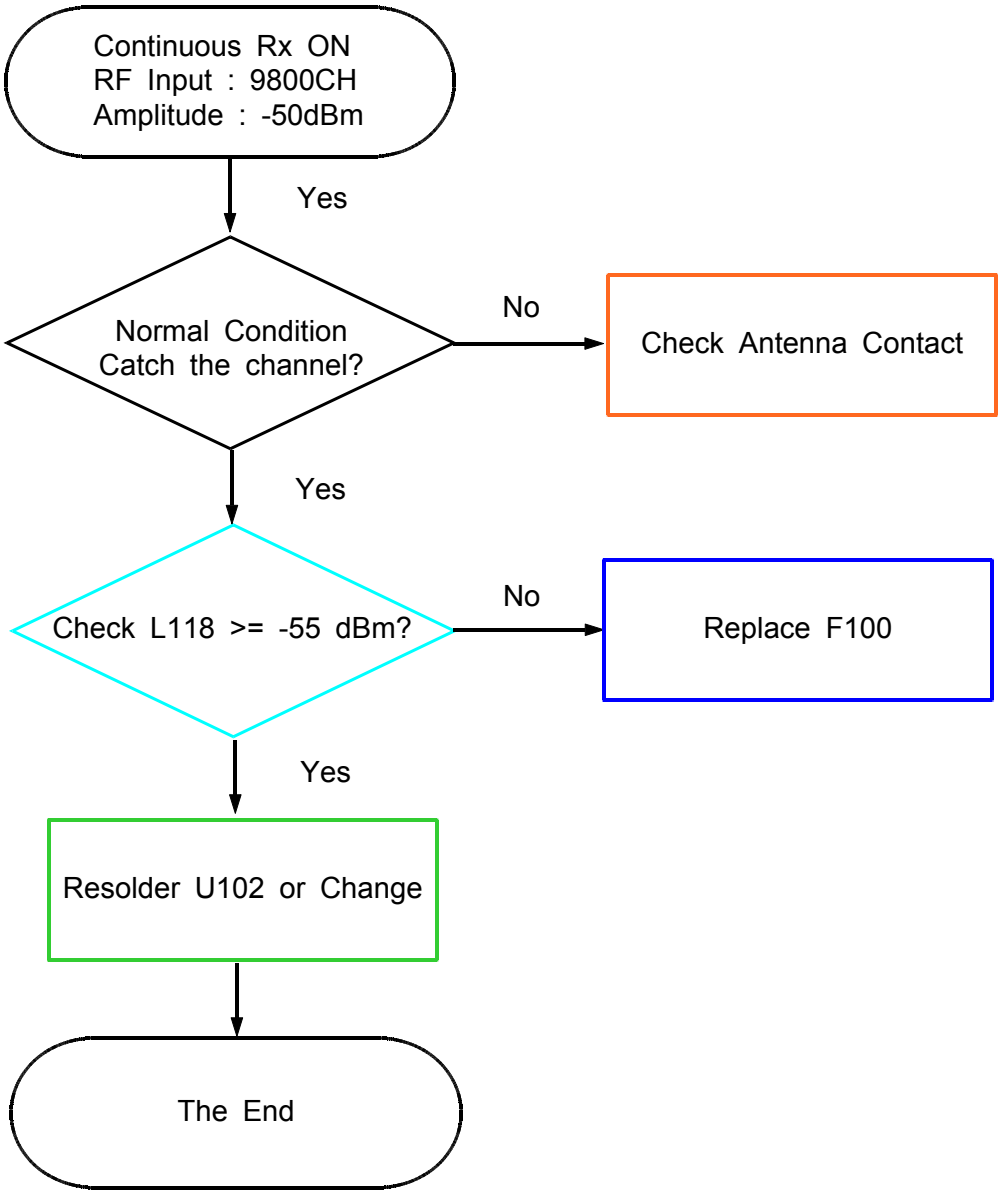
8-4-4. WCDMA Band1 RX

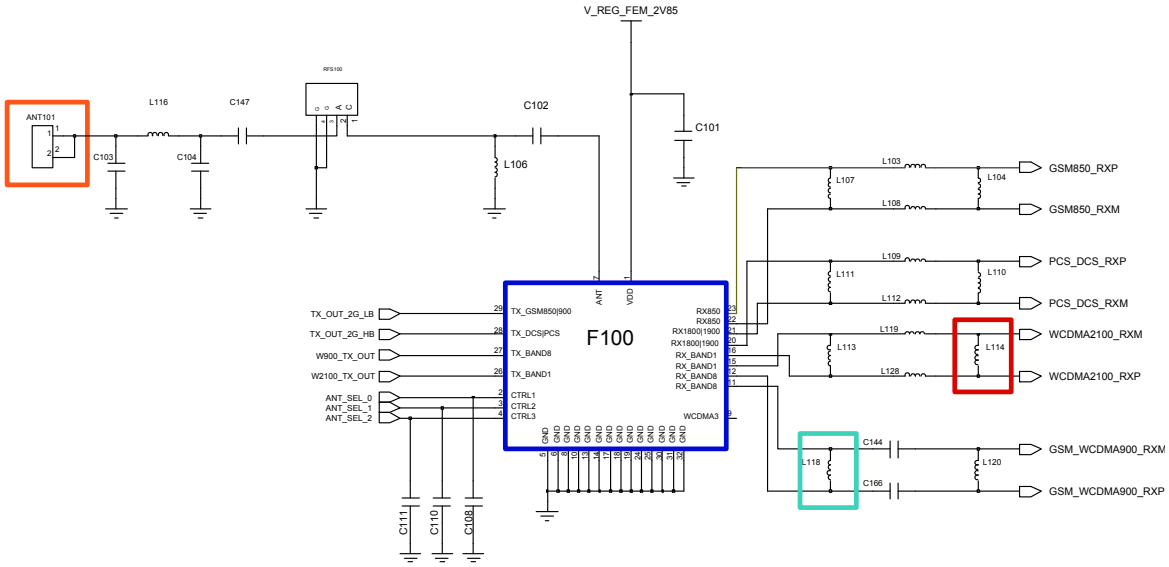
**If you check the tx chain,
Check the not only RF Device but also resistor, inductor and capacitor.



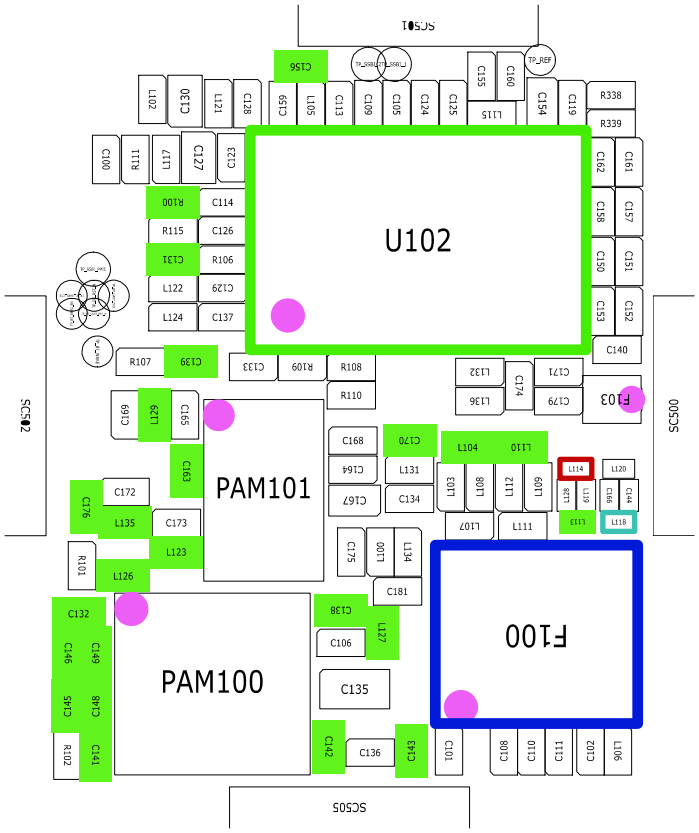
8-4-5. WCDMA Band8 RX

**If you check the tx chain,
Check the not only RF Device but also resistor, inductor and capacitor.





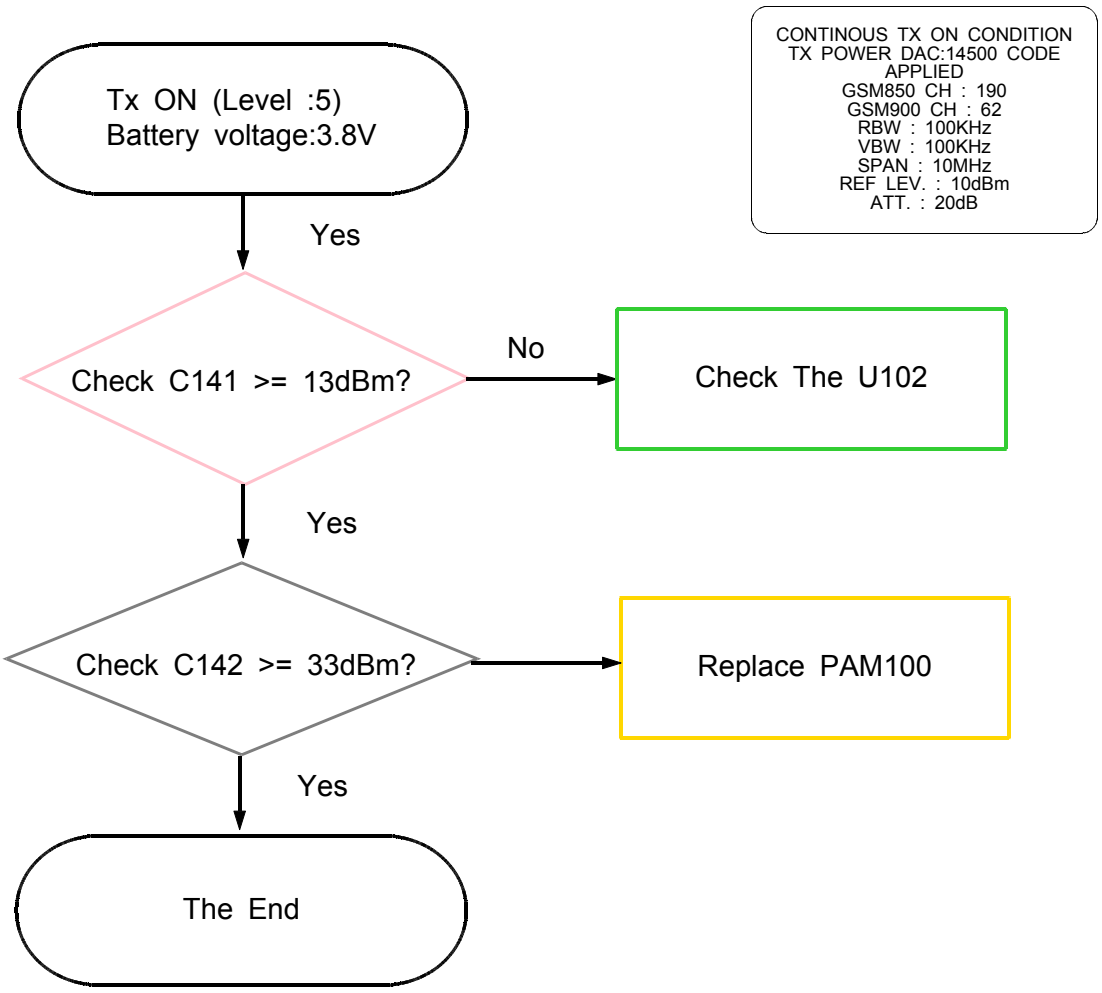
FEM



8-4-6. GSM850/900 TX

**If you check the tx chain,

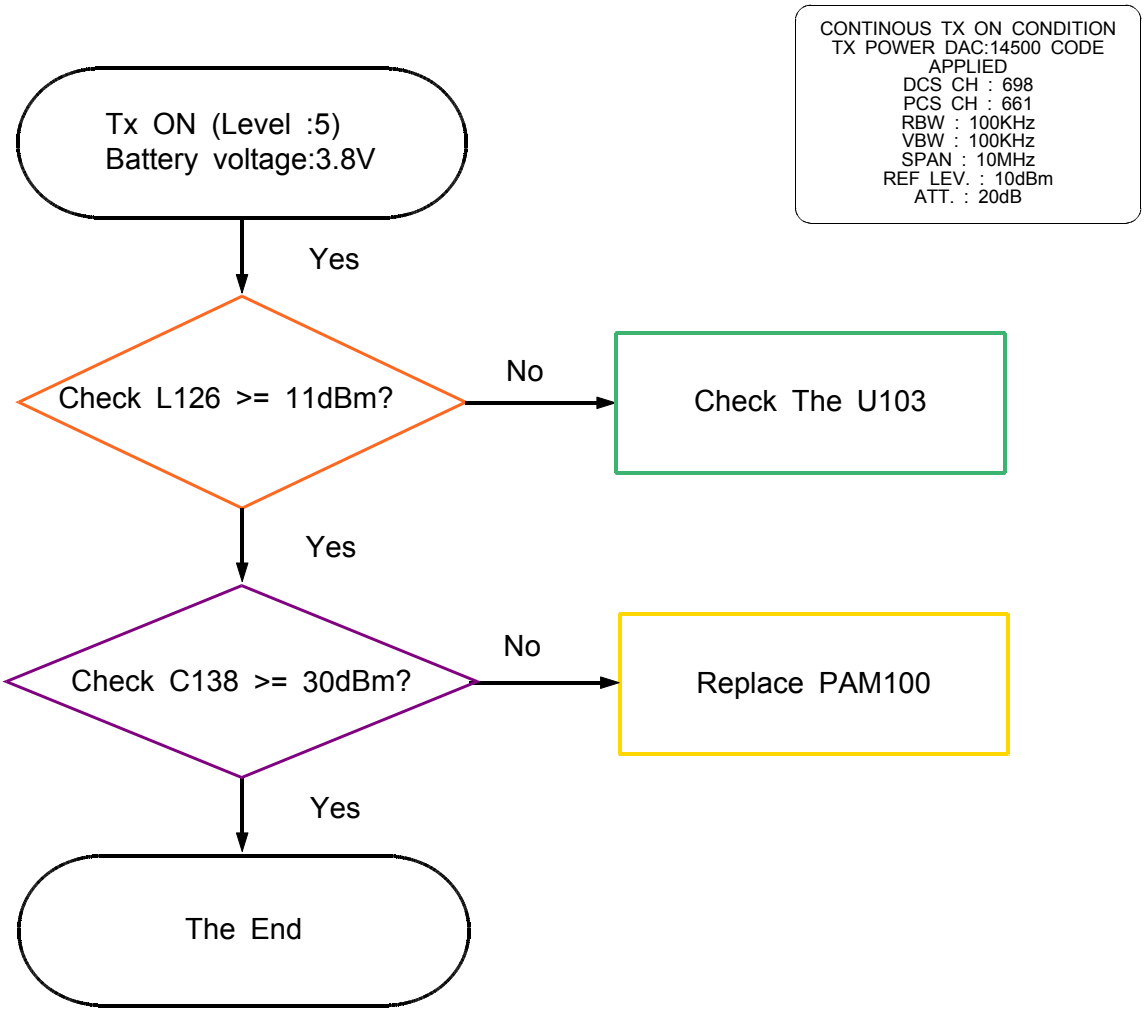
Check the not only RF Device but also resistor, inductor and capacitor.

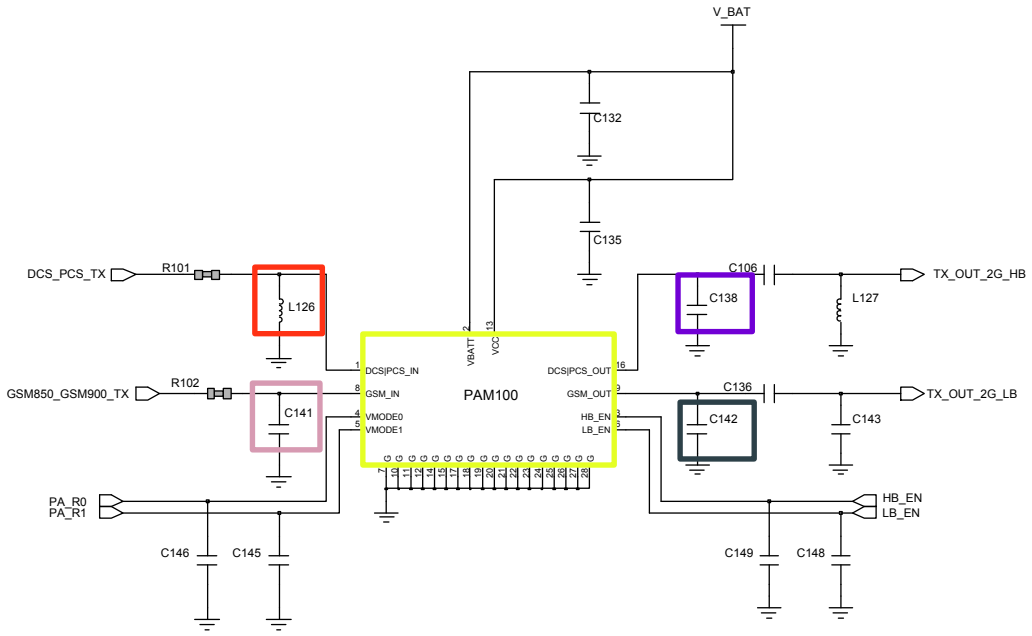


8-4-7. DCS/PCS TX

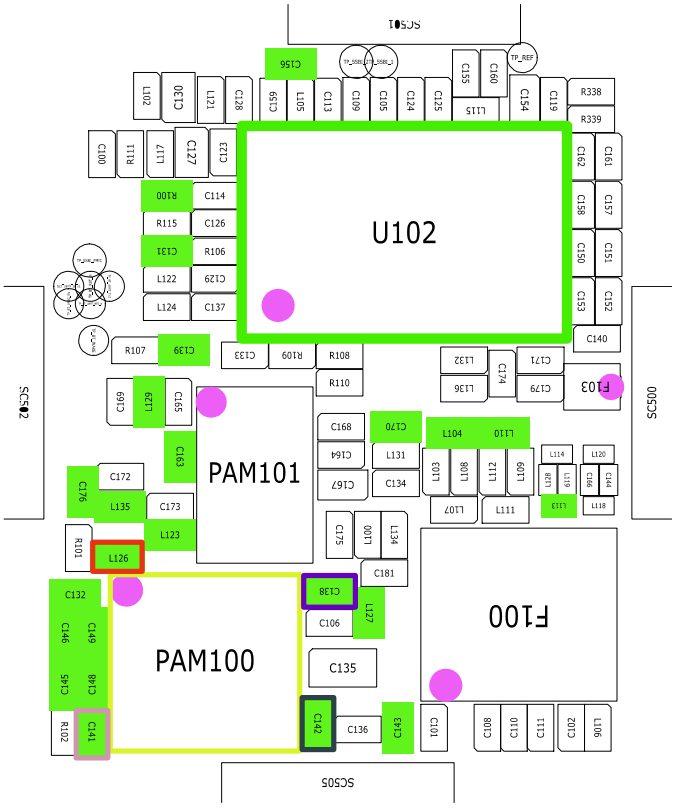
**If you check the tx chain,

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





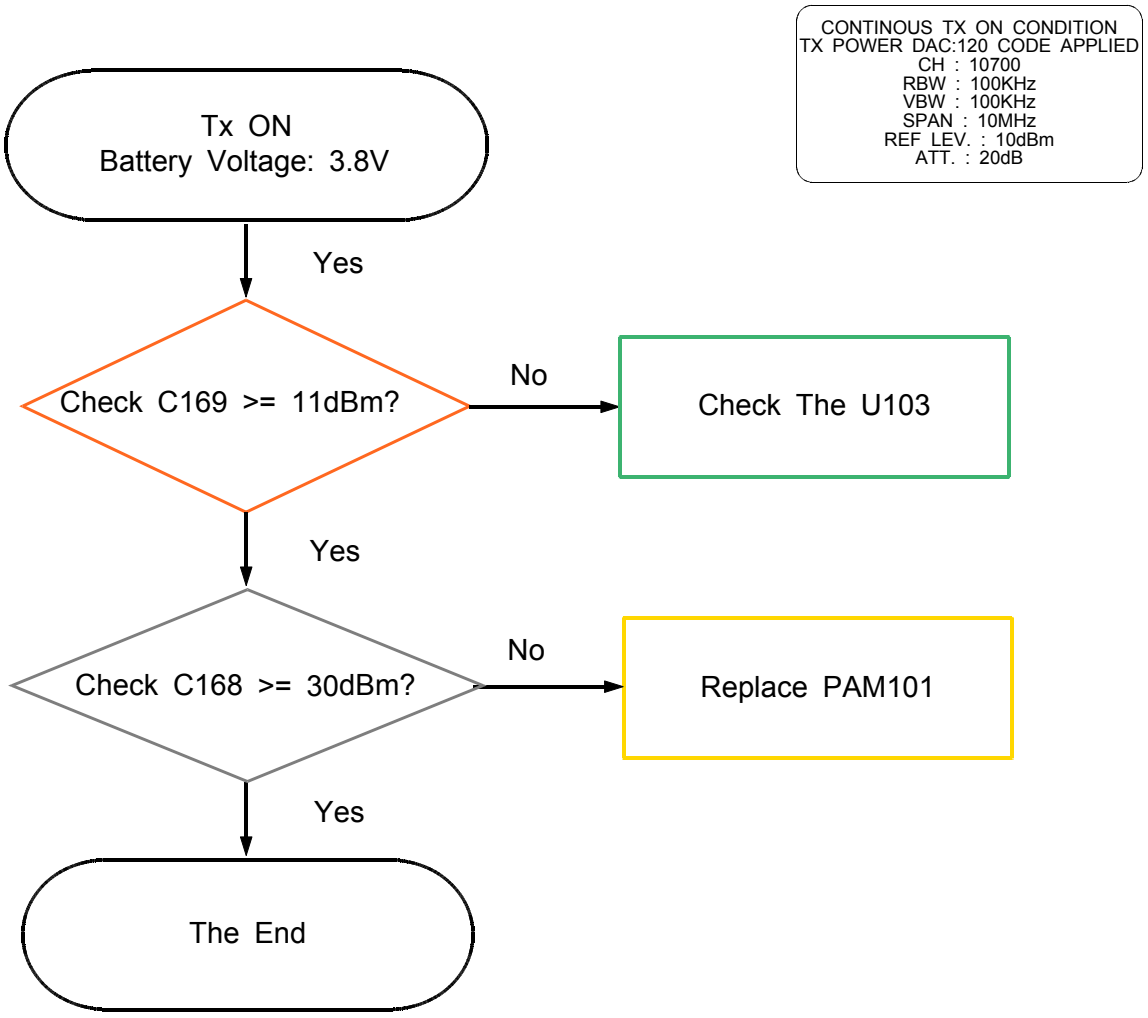
2G PAM



8-4-8. WCDMA Band1 TX

**If you check the tx chain,

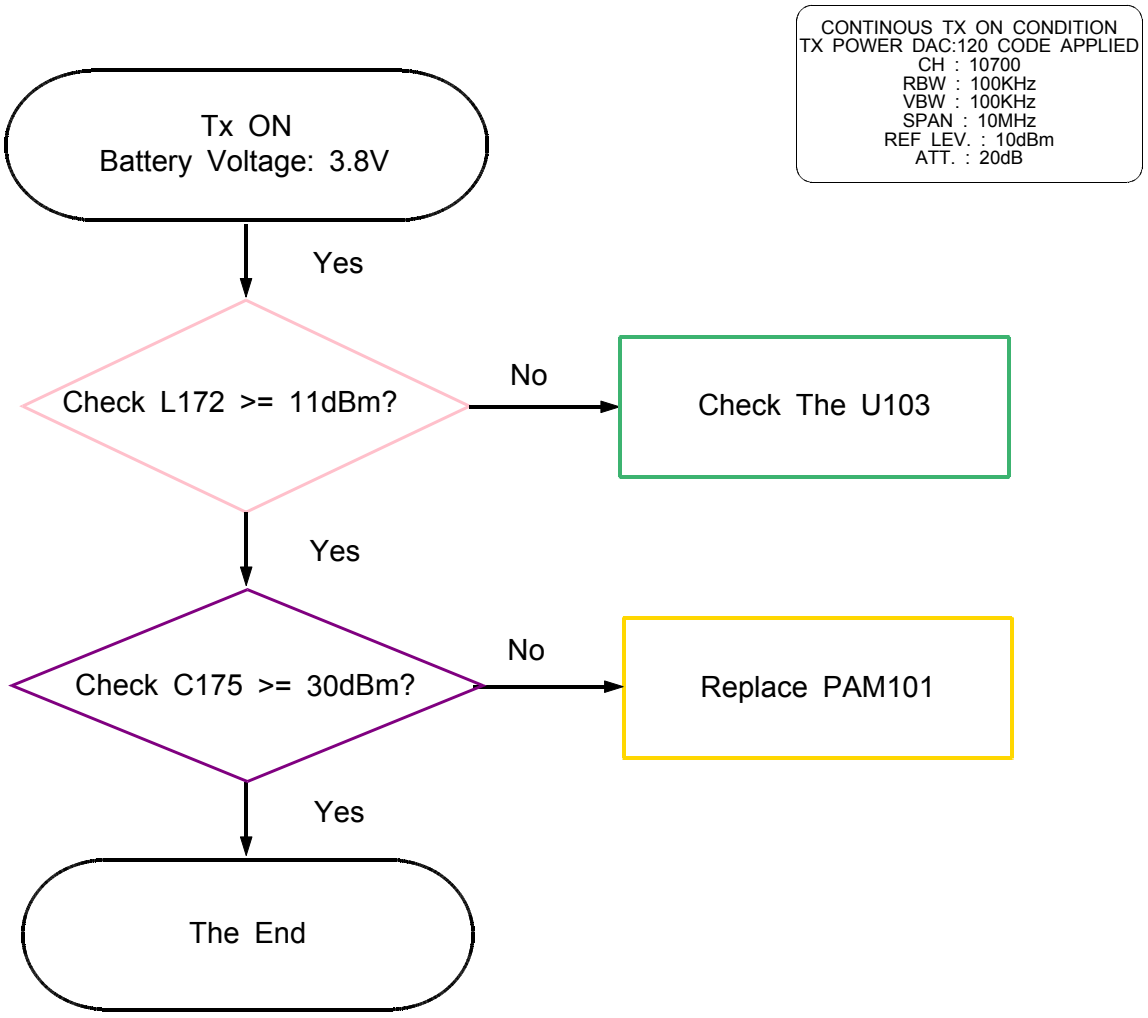
Check the not only RF Device but also resistor, inductor and capacitor.

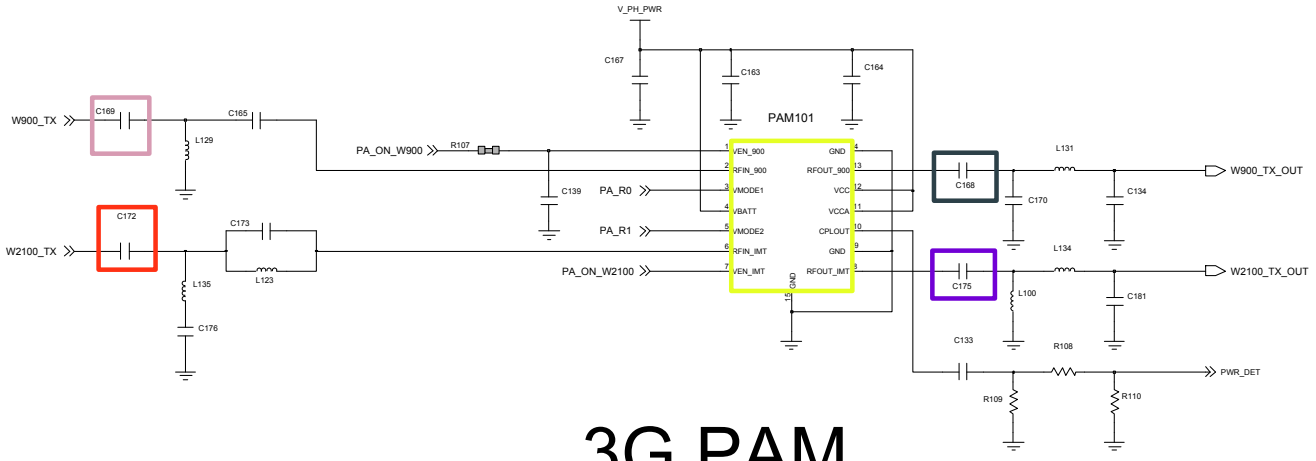


8-4-10. WCDMA Band8 TX

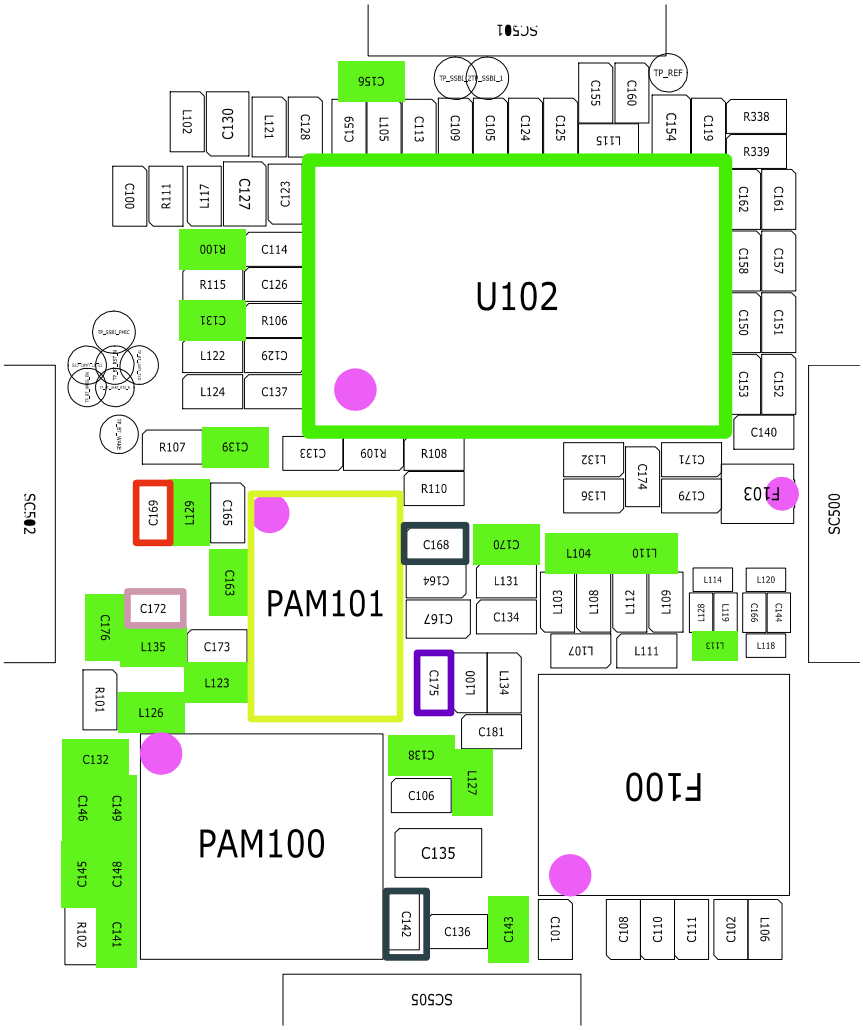
**If you check the tx chain,

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

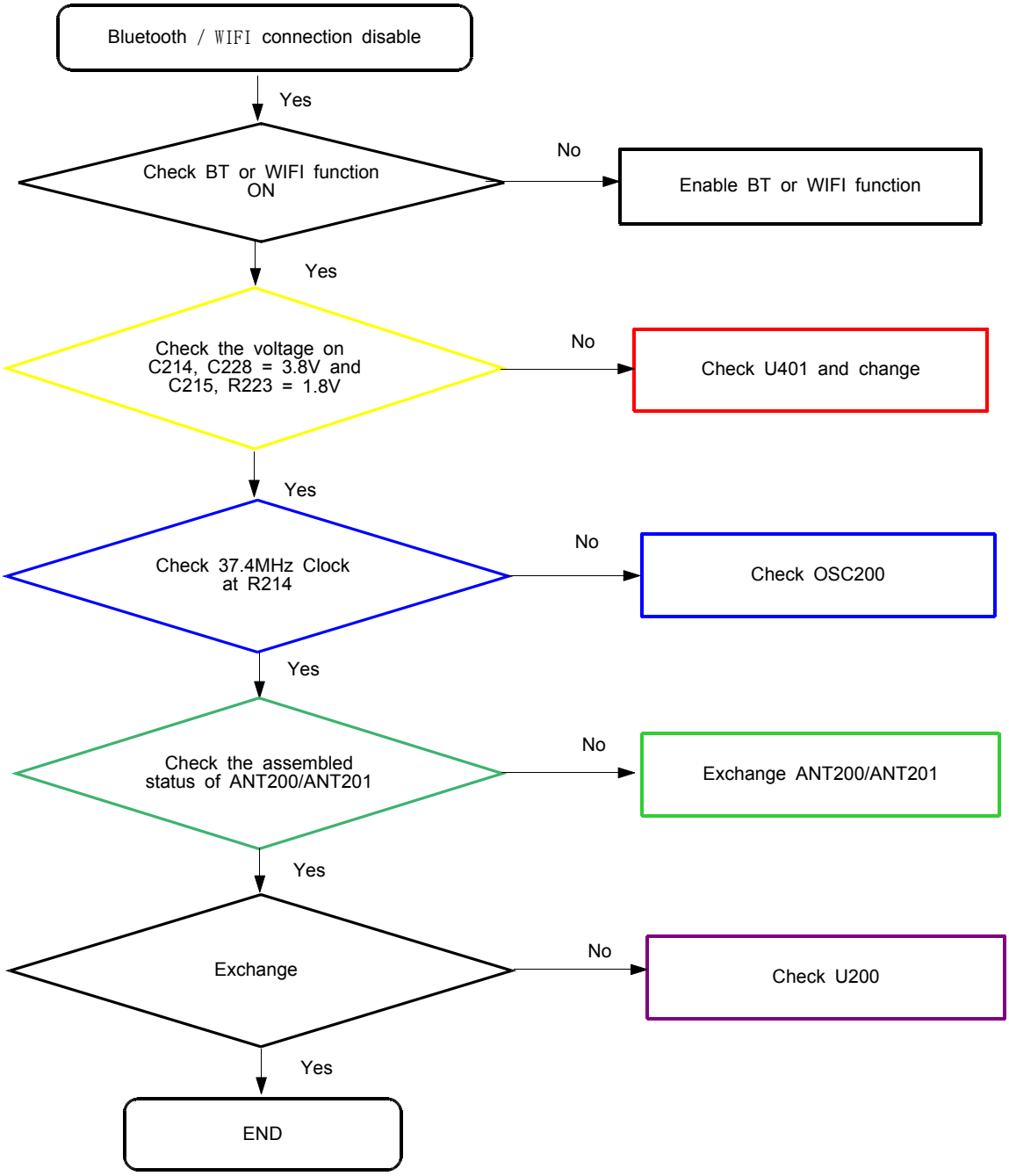


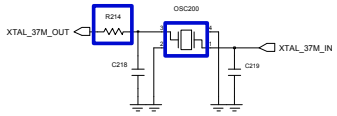


3G PAM

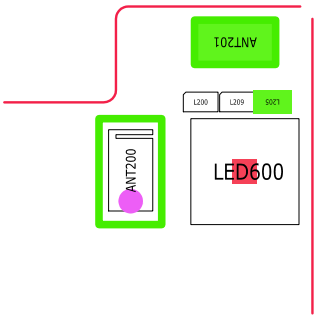


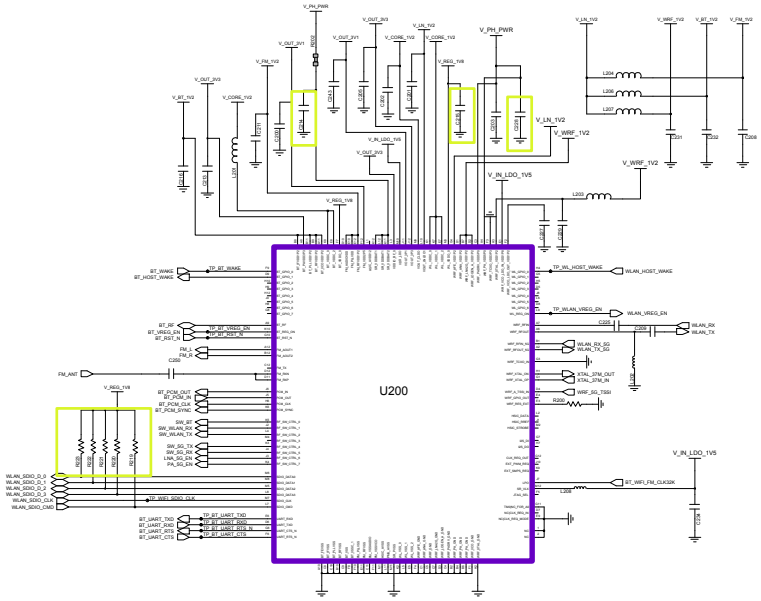
8-4-11. BLUETOOTH / WIFI



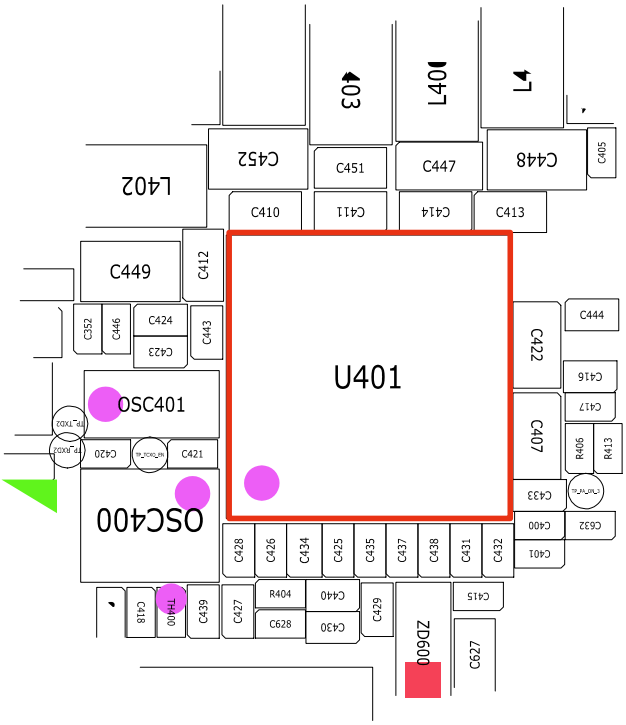


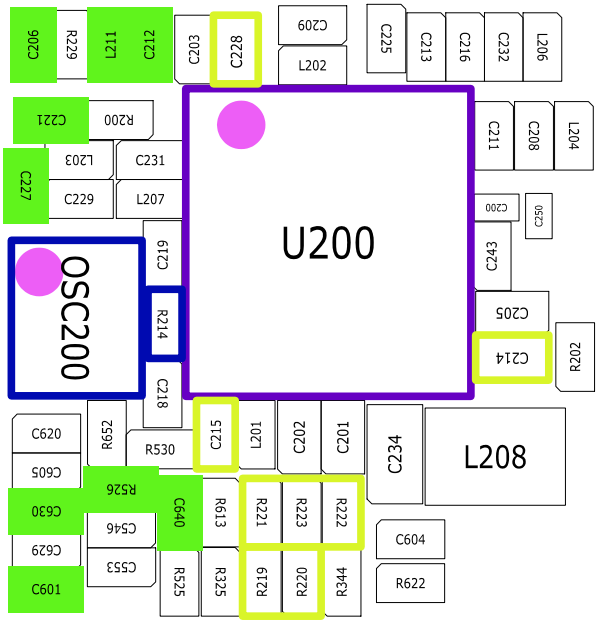
BT / WIFI XTAL (37.4 MHz)



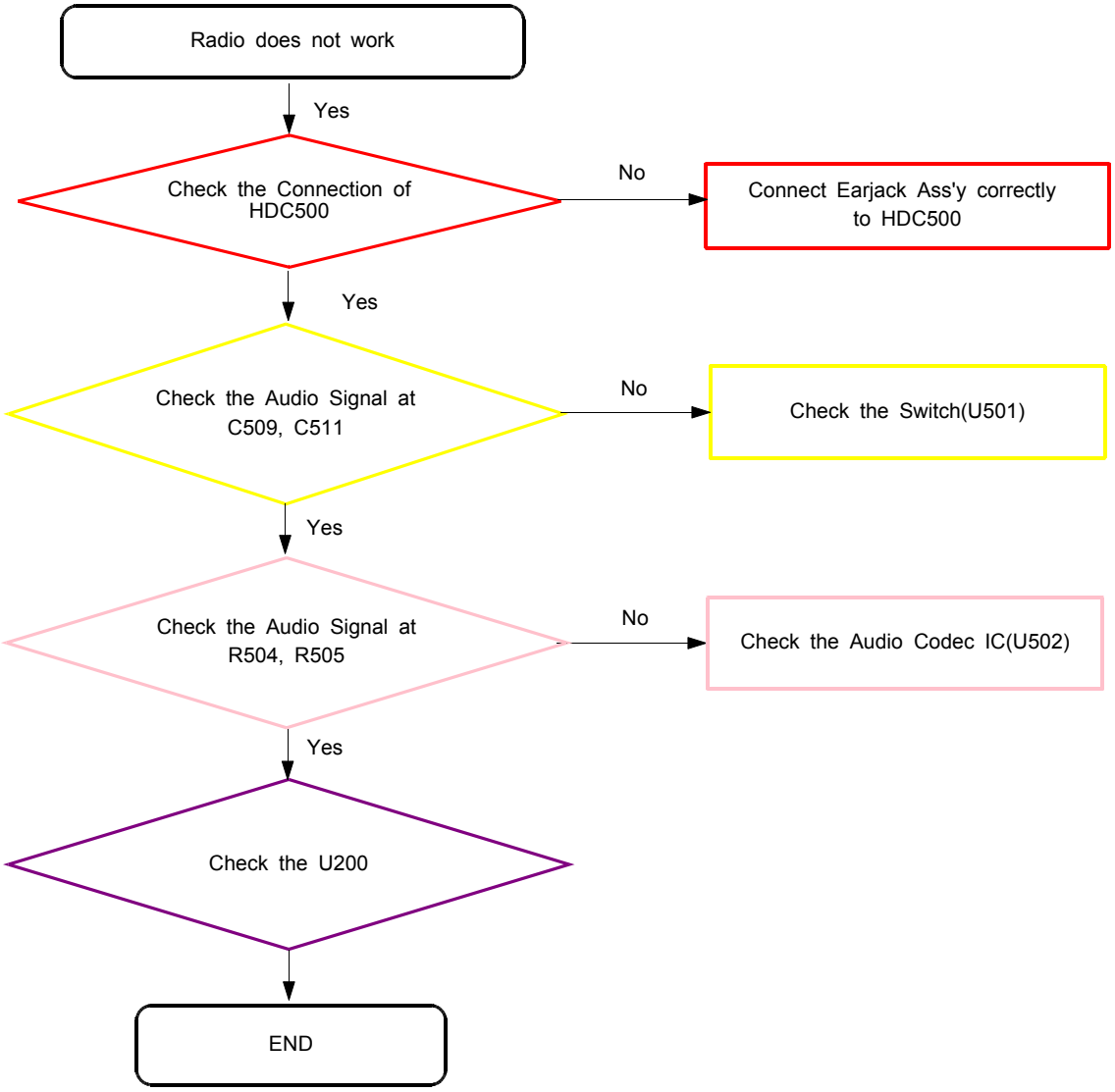


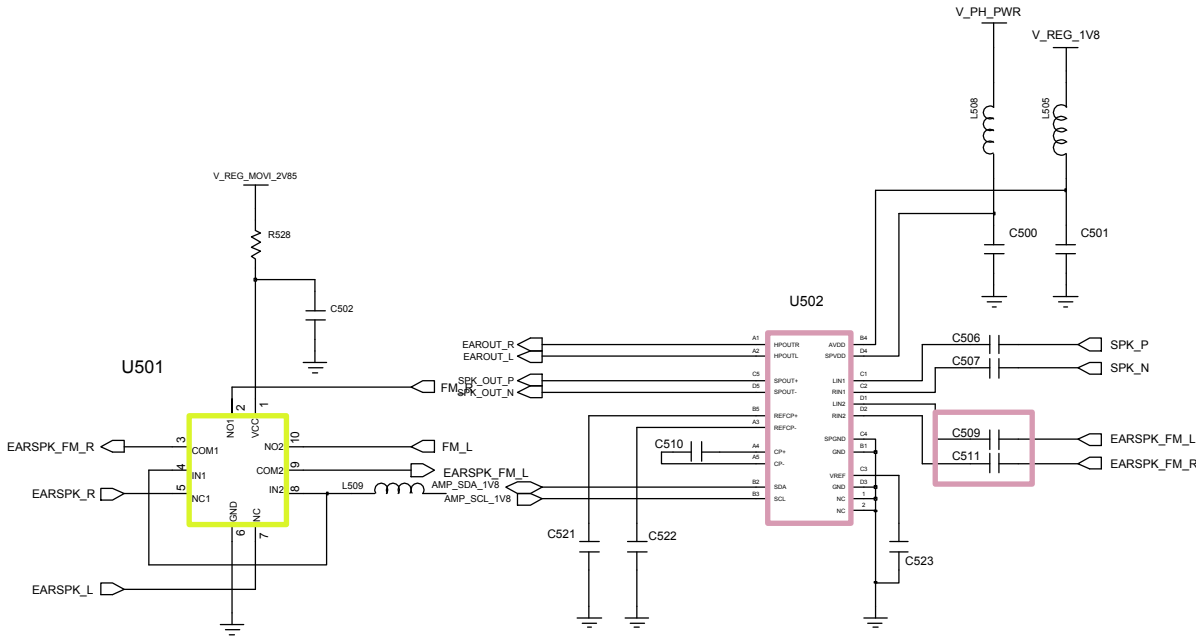
WIFI / BT / FM



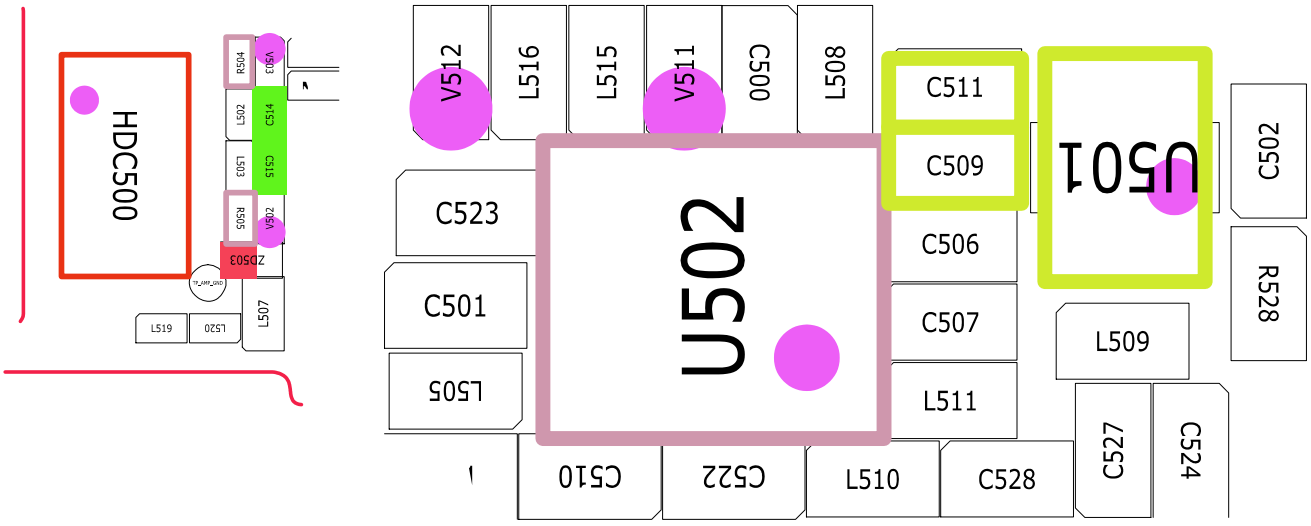


8-4-12. FM RADIO

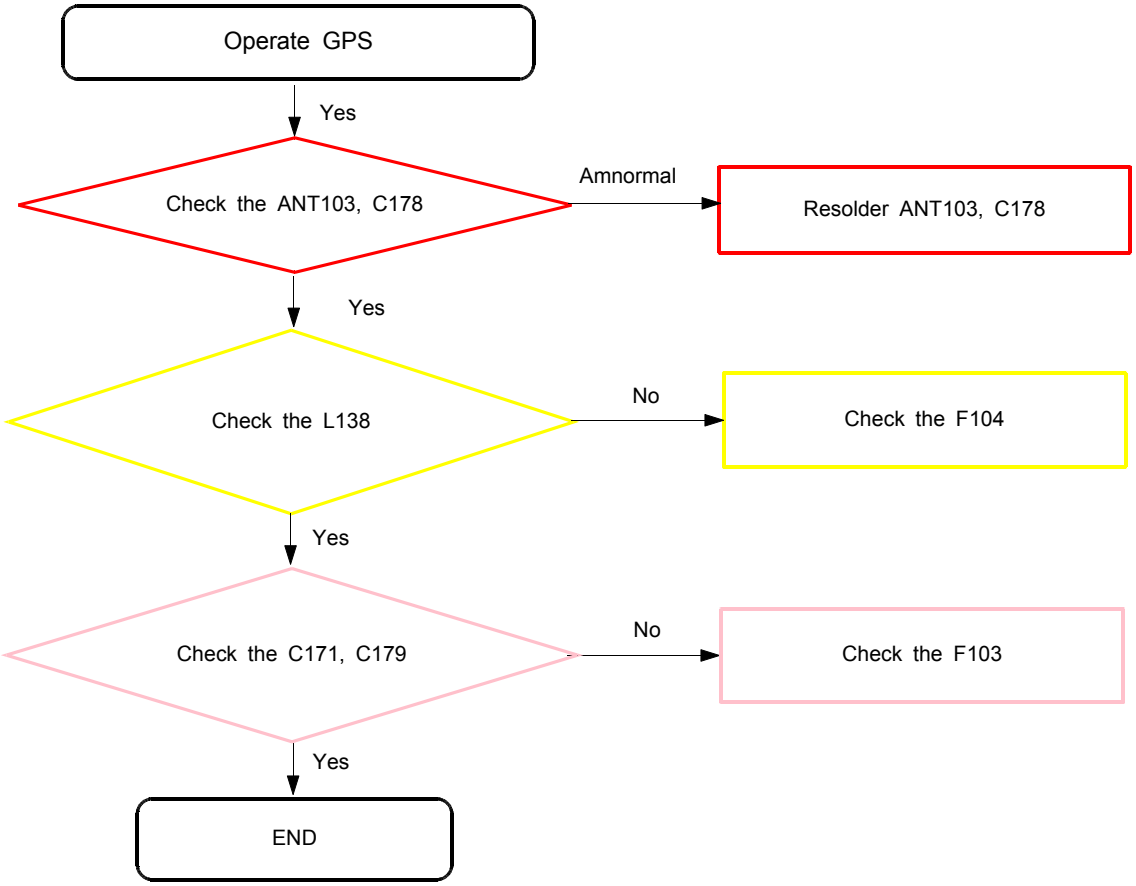


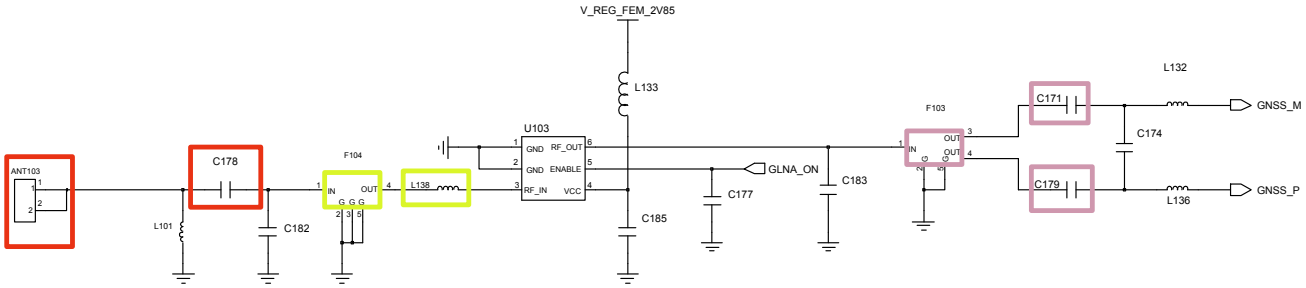


Switch

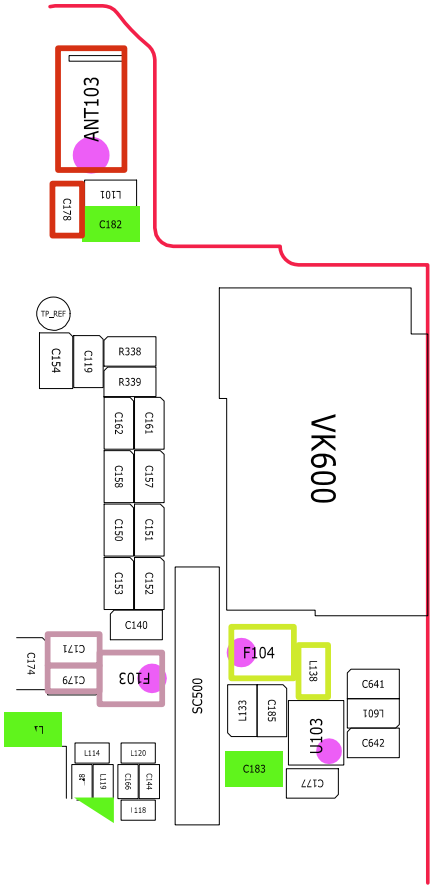


8-4-13. GPS





GNSS (GPS / GLONASS) (1565~1607 MHz)

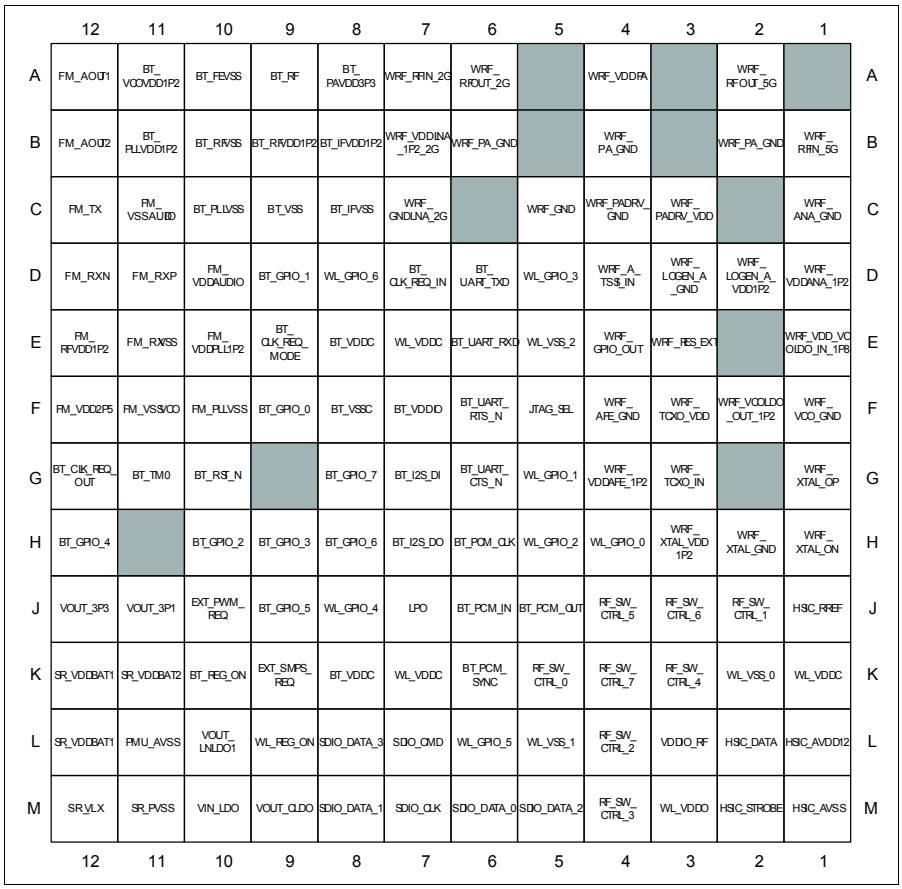


8-5. Service Schematics

- NC Point(Top View)

1. U200

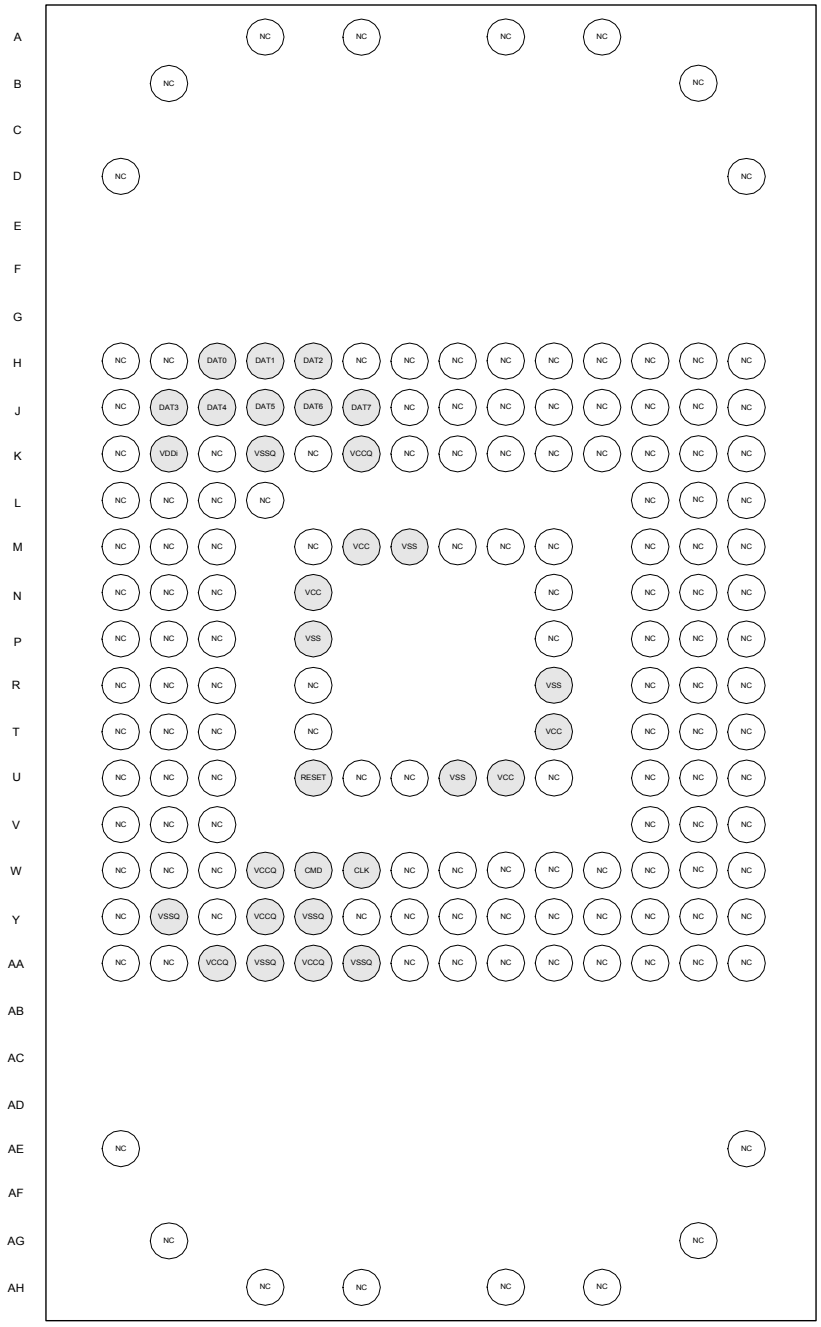
: NC



	12	11	10	9	8	7	6	5	4	3	2	1	
A	FM_AOUT1	BT_VCOVDD1P2	BT_FEVSS	BT_RF	BT_PAVDD3P3	WRF_RFIN_2G	WRF_RFOUT_2G		WRF_VDDPA		WRF_RFOUT_5G		A
B	FM_AOUT2	BT_PLLVDD1P2	BT_RXVSS	BT_RXVDD1P2	BT_IFVDD1P2	WRF_VDDLNA_1P2_2G	WRF_PA_GND		WRF_PA_GND		WRF_PA_GND	WRF_RFIN_5G	B
C	FM_TX	FM_VSSAUDIO	BT_PLLVSS	BT_VSS	BT_IFVSS	WRF_GNDLNA_2G		WRF_GND	WRF_PADRV_GND	WRF_PADRV_VDD		WRF_ANA_GND	C
D	FM_RXN	FM_RXP	FM_VDDAUDIO	BT_GPIO_1	WL_GPIO_6	BT_CLK_REQ_IN	BT_UART_TXD	WL_GPIO_3	WRF_ATSSI_IN	WRF_LOGEN_A_GND	WRF_LOGEN_A_VDD1P2	WRF_VDDANA_1P2	D
E	FM_RFVDD1P2	FM_RXVSS	FM_VDDPLL1P2	BT_CLK_REQ_MODE	BT_VDDC	WL_VDDC	BT_UART_RXD	WL_VSS_2	WRF_GPIO_OUT	WRF_RES_EXT		WRF_VDD_VCOLDO_IN_1P8	E
F	FM_VDD2P5	FM_VSSVCO	FM_PLLVSS	BT_GPIO_0	BT_VSSC	BT_VDDIO	BT_UART_RTS_N	JTAG_SEL	WRF_AFE_GND	WRF_TCXO_VDD	WRF_VCOLDO_OUT_1P2	WRF_VCO_GND	F
G	BT_CLK_REQ_OUT	BT_TM0	BT_RST_N		BT_GPIO_7	BT_I2S_DI	BT_UART_CTS_N	WL_GPIO_1	WRF_VDDAFE_1P2	WRF_TCXO_IN		WRF_XTAL_GP	G
H	BT_GPIO_4		BT_GPIO_2	BT_GPIO_3	BT_GPIO_6	BT_I2S_DO	BT_PCM_CLK	WL_GPIO_2	WL_GPIO_0	WRF_XTAL_VDD1P2	WRF_XTAL_GND	WRF_XTAL_ON	H
J	VOUT_3P3	VOUT_3P1	EXT_PWM_REQ	BT_GPIO_5	WL_GPIO_4	LPO	BT_PCM_IN	BT_PCM_OUT	RF_SW_CTRL_5	RF_SW_CTRL_6	RF_SW_CTRL_1	HSIC_RREF	J
K	SR_VDDBAT1	SR_VDDBAT2	BT_REG_ON	EXT_SMPS_REQ	BT_VDDC	WL_VDDC	BT_PCM_SYNC	RF_SW_CTRL_0	RF_SW_CTRL_7	RF_SW_CTRL_4	WL_VSS_0	WL_VDDC	K
L	SR_VDDBAT1	PMU_AVSS	VOUT_LNLDO1	WL_REG_ON	SDIO_DATA_3	SDIO_CMD	WL_GPIO_5	WL_VSS_1	RF_SW_CTRL_2	VDDIO_RF	HSIC_DATA	HSIC_AVDD12	L
M	SR_VLX	SR_PVSS	VIN_LDO	VOUT_CLDO	SDIO_DATA_1	SDIO_CLK	SDIO_DATA_0	SDIO_DATA_2	RF_SW_CTRL_3	WL_VDDIO	HSIC_STROBE	HSIC_AVSS	M
	12	11	10	9	8	7	6	5	4	3	2	1	

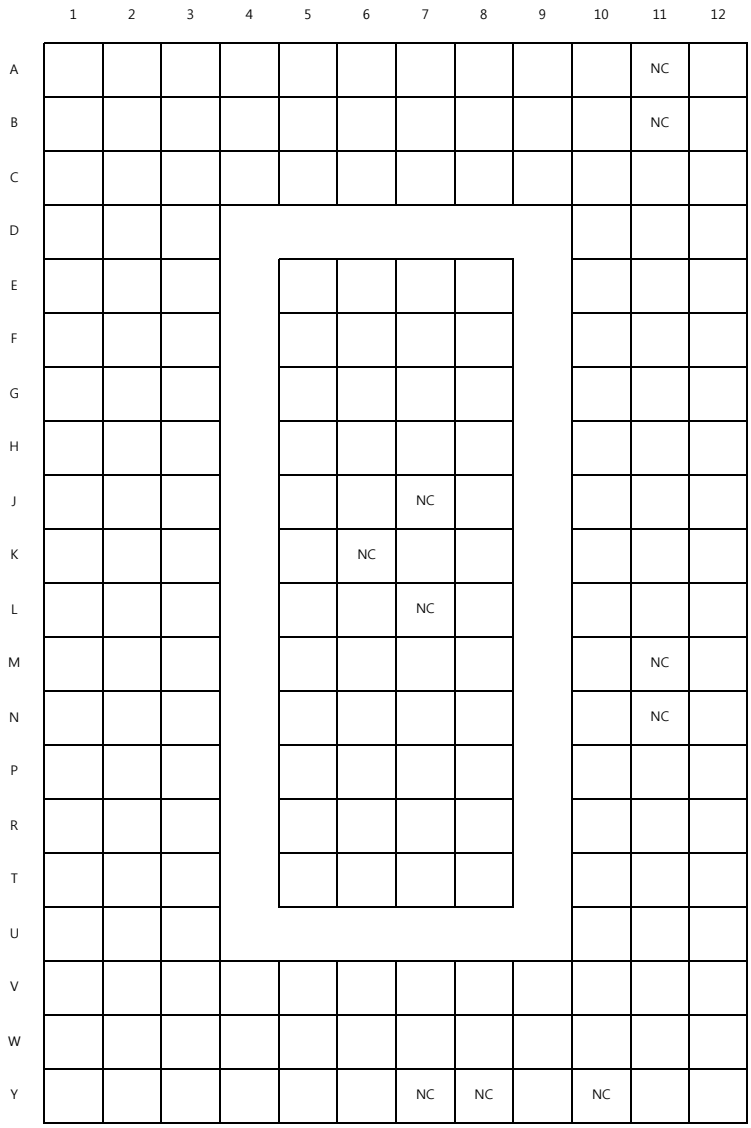
2. UME200

NC : NC



3. U102

: NC



4. UCP300

☐ : NC