

SAMSUNG

GSM TELEPHONE

GT-i9001

SERVICE *Manual*

GSM TELEPHONE

CONTENTS



1. Safety Precautions
2. Specification
3. Product Function
4. Exploded View and Parts list
5. MAIN Electrical Parts List
6. Level 1 Repair
7. Level 2 Repair
8. Level 3 Repair
9. Reference data

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.

**SAMSUNG
ELECTRONICS**



2. Specification

2-1. GSM General Specification

	GSM850	EGSM 900	DCS1800	PCS1900	WCDMA2100	WCDMA900	WCDMA1900
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	1852~1907 1932~1987
ARFCN range	128~251	0~124 & 975~1023	512~885	512~810	UL:9612~9888 DL:10562~10838	UL:2712~2863 DL:2937 ~ 3088	UL:9262~9538 DL:9662~9938
Tx/Rx spacing	45MHz	45MHz	95MHz	80MHz	190MHz	45MHz	80MHz
Mod. Bit rate/ Bit Period	270.833kbp s 3.692us	270.833kbp s 3.692us	270.833kbp s 3.692us	270.833kbp s 3.692us	3.84Mcps	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	FrameLength: 10ms Slotlength: 0.667ms
Modulation	0.3GMSK	0.3GMSK	0.3GMSK	0.3GMSK	QPSKHQPSK	QPSKHQPSK	QPSKHQPSK
MS Power	33dBm~5dBm	33dBm~5dBm	30dBm~0dBm	30dBm~0dBm	24dBm~-50dBm	24dBm~-50dBm	24dBm~-50dBm
Power Class	5pcl ~ 19pcl	5pcl ~ 19pcl	0pcl ~ 15pcl	0pcl ~ 15pcl	3(max+24dBm)	3(max+24dBm)	3(max+24dBm)
Sensitivity	-102dBm	-102dBm	-100dBm	-100dBm	-106.7dBm	-103.7dBm	-104.7dBm
TDMA Mux	8	8	8	8	8	8	8
Cell Radius	35Km	35Km	2Km	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

- Android OS: Ginger
- HSDPA 14.4Mbps / HSUPA 5.76Mbps
- 5MP AF
- 4.0" WVGA sAMOLED, Full Touch (C-Type)
- A-GPS / BT v2.1 + EDR / USB v2.0 / WiFi (802.11 b/g/n)
- HD Recording (720p) / Full HD Playback (1080p)
- Sensors: Accelerometer, Compass, Proximity, Light
- TouchWiz 3.0 for Android, Multistage, Augmented Reality, Integrated phonebook with SNS, IM, E-mail, Face Recognition, etc.

6. Level 1 Repair

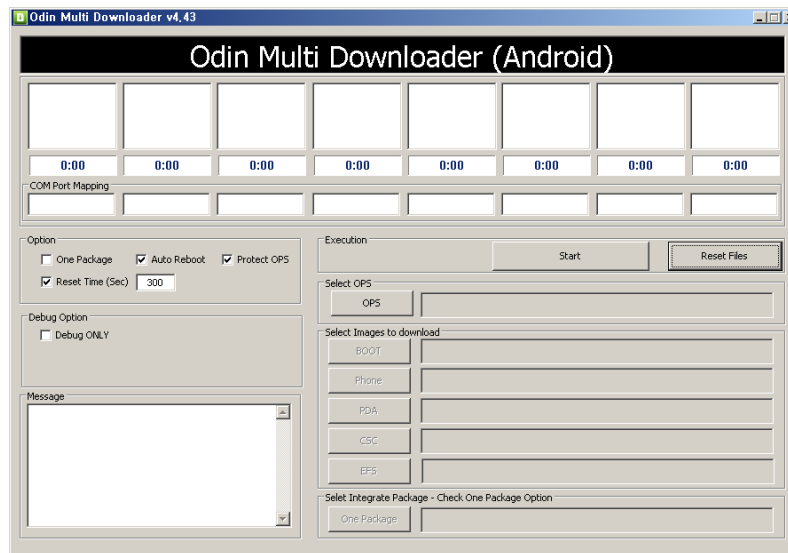
6-1. S/W Download

6-1-1. Pre-requisite for S/W Downloading

- Downloader Program([Multi_Downloader_v4.43_with_smd0425.exe](#))
- GT-I9001 Mobile Phone
- Data Cable
- JIG BOX (GH99-36900B)
- RF Test Cable (GH39-00985A)
- JIG Cable (GH39-01290A)
- Adapter (GH99-38251A)
- Binary files

6-1-2. S/W Downloader Program

- Load the binary download program by executing the
" **Multi_Downloader_v4.43_with_smd0425.exe** " ← Run this file.

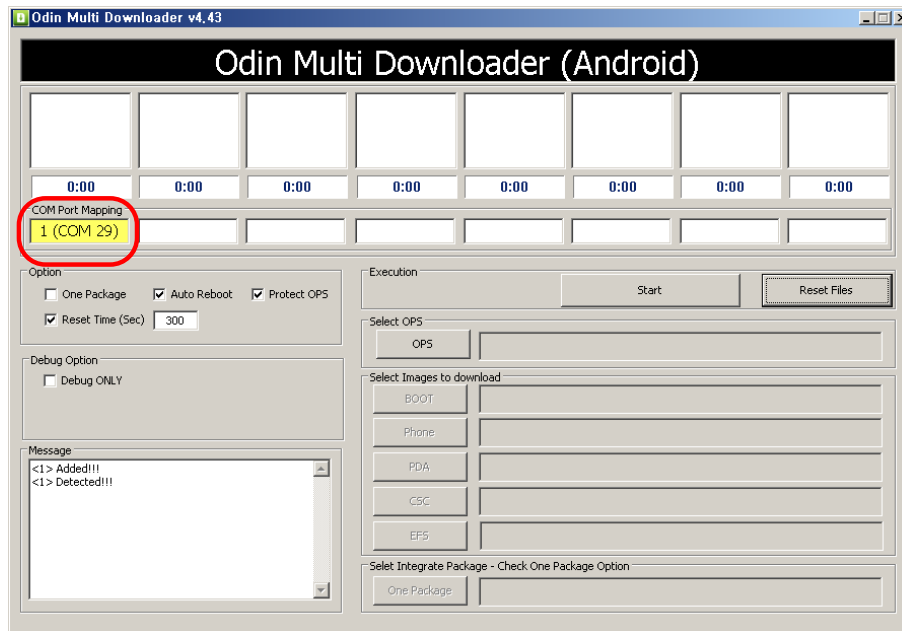


1. Enter Device into Download Mode

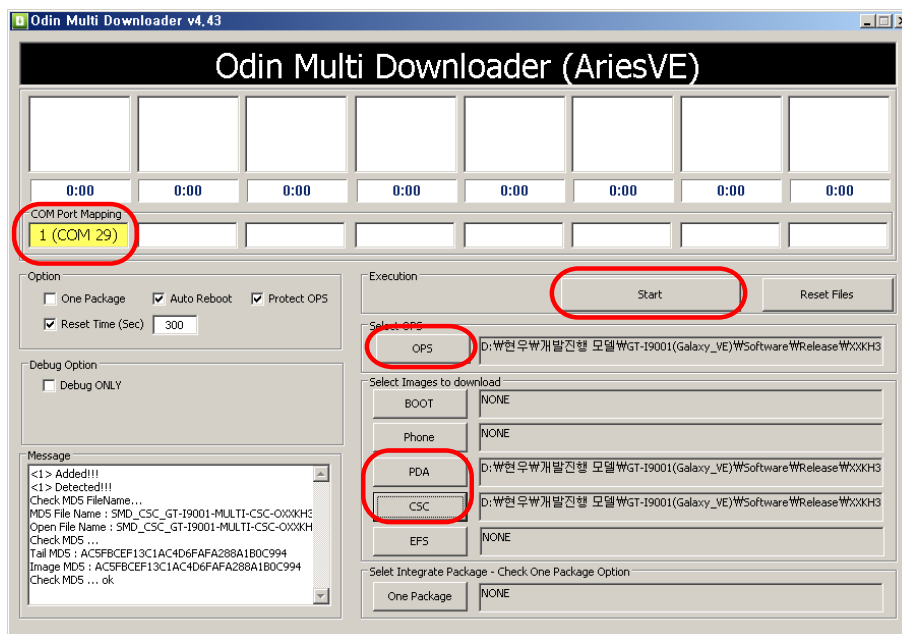
- Enter the device into Download Mode by pressing down on Volume Down button and OK button and Power On button at the same time.



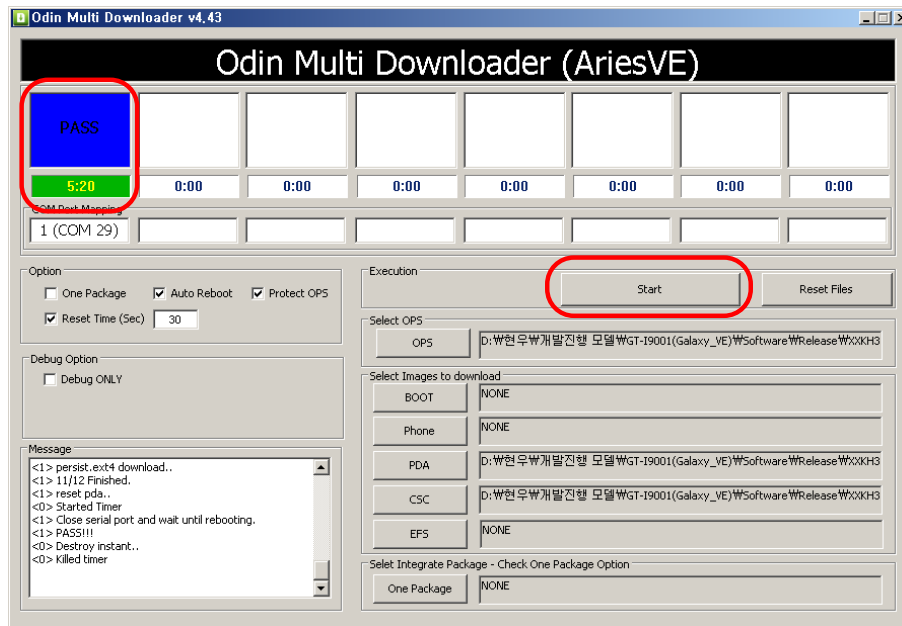
2. Connect the Handset to PC via Data Cable. Make sure ID:COM box highlighted yellow that the handset is connected to the PC.



3. Select OPS, PDA and CSC Files.



4. Start Downloading OPS, PDA and CSC Files by clicking Start Button. Then wait for "Pass" to be appear on the screen.



5. Once the device boots up, confirm the downloaded version name and etc. :
***#1234#**

Full Reset :

***2767*3855#**

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

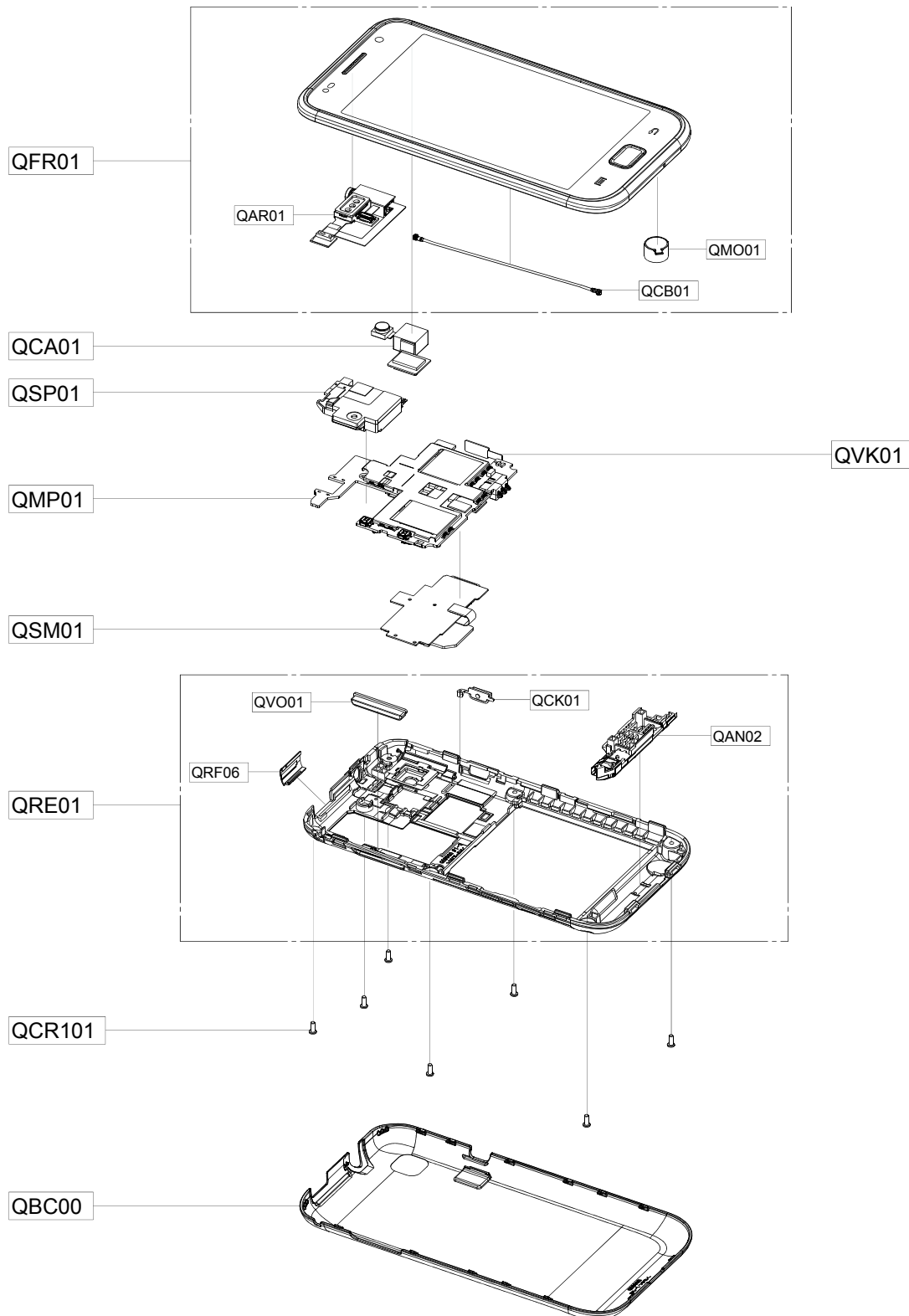
Several semiconductor may be damaged easily by static electricity. Such parts are called by ESD (Electrostatically Sensitive Devices), for example IC,BGA chip etc. Read Precaution below.

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



5.a MAIN Electrical Parts List (HW REV0.5) 1_10

Design LOC	SEC CODE	Description
ZD500	0403-001688	DIODE-ZENER
D400	0404-001317	DIODE-SCHOTTKY
ZD501	0406-001322	DIODE-TVS
U505	0406-001369	DIODE-TVS
ZD600,ZD601,ZD602 ZD603,ZD604,ZD605	0406-001413	DIODE-TVS
Q500	0505-001165	FET-SILICON
Q300,Q501	0505-002341	FET-SILICON
U614,U701	0801-003031	IC-CMOS LOGIC
U607	0801-003058	IC-CMOS LOGIC
U400	0801-003346	IC-CMOS LOGIC
U601	1001-001394	IC-ANALOG SWITCH
U506	1001-001580	IC-ANALOG MULTIPLEX
U613	1003-002100	IC-LEVEL DRIVER
U600,U700	1003-002391	IC-LEVEL DRIVER
U502	1003-002415	IC-MOTOR DRIVER
UCP400UP	1105-002218	IC-MOBILE SDRAM
PAM102	1201-003009	IC-POWER AMP
PAM101	1201-003107	IC-POWER AMP
U602	1201-003134	IC-AUDIO AMP
U201	1201-003168	IC-RF AMP
PAM100	1201-003199	IC-POWER AMP
U603	1202-001118	IC-VOLTAGE COMP.
U507	1202-001119	IC-VOLTAGE COMP.
U704	1203-004339	IC-MULTI REG.
U606	1203-004340	IC-MULTI REG.
U401	1203-005069	IC-POSI.FIXED REG.
U500	1203-005403	IC-DC/DC CONVERTER
U702	1203-005690	IC-DC/DC CONVERTER
U504	1203-005854	IC-MULTI REG.

Design LOC	SEC CODE	Description
U604	1203-006054	IC-MULTI REG.
U503	1203-006304	IC-POWER SUPERVISOR
U611	1203-006372	IC-RESET
U703	1203-006772	IC-POSI.FIXED REG.
U501	1203-006787	IC-POWER SUPERVISOR
U202	1204-003176	IC-TUNER
UCP400	1205-004255	IC-MODEM
U300	1205-004264	IC-TRANSCEIVER
U610	1209-001877	IC-SENSOR
U609	1209-002023	IC-SENSOR
TH500	1404-001651	THERMISTOR-NTC
V300,V301,V302,V303 V304,V305,V306,V700 V701,V702,ZD606	1405-001177	VARISTOR
V400,V401,ZD400	1405-001200	VARISTOR
V600	1405-001294	VARISTOR
R634	2007-000138	R-CHIP
R524	2007-000140	R-CHIP
R521	2007-000166	R-CHIP
R533	2007-000170	R-CHIP
R617,R618	2007-000172	R-CHIP
R535	2007-000249	R-CHIP
R635	2007-003015	R-CHIP
R534	2007-007099	R-CHIP
R319	2007-007136	R-CHIP
R614,R615	2007-007190	R-CHIP
R523	2007-007307	R-CHIP
R500,R502	2007-007334	R-CHIP
R412,R413,R456,R457	2007-007517	R-CHIP
R519	2007-007592	R-CHIP
R304,R421,R427	2007-007741	R-CHIP

Design LOC	SEC CODE	Description
R620	2007-007942	R-CHIP
R428,R506,R507,R508 R520,R601,R606,R619 R631,R650,R651,R652 R653,R700,R705,R707 R708	2007-008045	R-CHIP
R100,R102	2007-008046	R-CHIP
R314,R408,R409,R432 R433,R522,R612,R712	2007-008052	R-CHIP
R207,R404,R405,R633	2007-008055	R-CHIP
R623	2007-008312	R-CHIP
R434	2007-008418	R-CHIP
R208	2007-008419	R-CHIP
R605	2007-008478	R-CHIP
R305,R306,R307,R308 R309,R310,R311,R312	2007-008483	R-CHIP
R600,R701	2007-008486	R-CHIP
R202,R203,R204,R205 R206,R320,R401,R402 R454,R455,R460,R461 R517,R603,R604,R624 R704,R711,R714	2007-008516	R-CHIP
R410,R411,R417,R418 R419,R420,R430,R431 R448,R449,R450,R451 R452,R453,R702,R703 R710	2007-008588	R-CHIP
R526,R527	2007-008774	R-CHIP
R435,R436	2007-008798	R-CHIP
R504	2007-008800	R-CHIP
R101,R201,R628,R629	2007-008806	R-CHIP
R501	2007-008809	R-CHIP
R301,R503,R510,R511 R512,R607	2007-009084	R-CHIP
R440,R446,R462,R509	2007-009157	R-CHIP

Design LOC	SEC CODE	Description
R429	2007-009171	R-CHIP
R416,R442,R443	2007-009408	R-CHIP
R200	2007-009801	R-CHIP
R602	2007-009804	R-CHIP
R616	2007-010202	R-CHIP
R438	2007-010233	R-CHIP
C203	2203-000233	C-CER,CHIP
C559	2203-000254	C-CER,CHIP
C605	2203-000278	C-CER,CHIP
C603,C611	2203-000386	C-CER,CHIP
C502	2203-000425	C-CER,CHIP
C521	2203-000438	C-CER,CHIP
C543	2203-000725	C-CER,CHIP
C607	2203-000812	C-CER,CHIP
C606	2203-000995	C-CER,CHIP
C610	2203-001153	C-CER,CHIP
C310,C611	2203-002709	C-CER,CHIP
C215	2203-005234	C-CER,CHIP
C104,C149,C150,C216 C520,L102	2203-005682	C-CER,CHIP
C100,C114,C115,C116 C117,C213,C220	2203-005725	C-CER,CHIP
C628,C629	2203-005729	C-CER,CHIP
C553	2203-005732	C-CER,CHIP
C113	2203-005736	C-CER,CHIP
C133,C140	2203-005739	C-CER,CHIP
C132,C137,C138,C151	2203-005777	C-CER,CHIP
C152	2203-005789	C-CER,CHIP

Design LOC	SEC CODE	Description
C101,C130,C143,C223 C328	2203-005806	C-CER,CHIP
C200,C522,C542,C600 C601,C602,C604,C645	2203-006048	C-CER,CHIP
C219,C323	2203-006120	C-CER,CHIP
C457,C458	2203-006133	C-CER,CHIP
C620,C621	2203-006137	C-CER,CHIP
C128,L125	2203-006187	C-CER,CHIP
C118,C119	2203-006305	C-CER,CHIP
C214	2203-006318	C-CER,CHIP
C709	2203-006324	C-CER,CHIP
C224,C447,C518,C636	2203-006399	C-CER,CHIP
C109	2203-006410	C-CER,CHIP
C111,C205,C208,C304 C305,C308,C309,C311 C314,C315,C316,C329 C330,C333,C608,C609 C657,C658,C659,C660 C700,C701,C706,C707 C719,C720	2203-006423	C-CER,CHIP
C209,C469,C473,C544 C557,C560,C618,C717 C718	2203-006562	C-CER,CHIP
C202	2203-006642	C-CER,CHIP
C225,C226,C103	2203-006648	C-CER,CHIP
C222	2203-006674	C-CER,CHIP
C134,C566,C567	2203-006707	C-CER,CHIP
C468,C471,C500,C501 C504,C505,C506,C554 C625	2203-006839	C-CER,CHIP
C472	2203-006841	C-CER,CHIP

Design LOC	SEC CODE	Description
C400,C401,C402,C403 C404,C405,C406,C408 C409,C410,C411,C412 C413,C414,C415,C511 C622,C624	2203-006844	C-CER,CHIP
C139,C466	2203-006846	C-CER,CHIP
C301,C306,C307,C312 C503,C519,C555,C637 C638,C703,C711,C712 C713,C714,C715,C722 C723	2203-006872	C-CER,CHIP
C643,C644	2203-006979	C-CER,CHIP
C321,C325	2203-007210	C-CER,CHIP
C102,C407,C510,C523 C545,C547,C548,C550 C551	2203-007240	C-CER,CHIP
C127,C142,C201,C204	2203-007270	C-CER,CHIP
C552,C721	2203-007271	C-CER,CHIP
C423,C428,C433,C439 C444,C508,C513,C514 C515,C516,C517,C549 C710,C716	2203-007279	C-CER,CHIP
C145,L100	2203-007295	C-CER,CHIP
C319,C326,C509,C524 C525,C526,C527,C528 C529,C530,C531,C532 C533,C534,C535,C536 C537,C538,C539,C540 C541	2203-007317	C-CER,CHIP
C619,C623,C630,C631 C632	2203-007385	C-CER,CHIP
C300,C417,C418,C419 C420,C421,C422,C424 C425,C426,C427,C429 C430,C431,C432,C434 C435,C436,C437,C438 C440,C441,C442,C443 C445,C446,C448,C449 C450,C451,C452,C453 C454,C455,C459,C460 C461,C462,C463,C464 C465	2203-007391	C-CER,CHIP

Design LOC	SEC CODE	Description
C512,C704,C708	2203-007393	C-CER,CHIP
C317,C318,C320,C322 C324,C327,C331,C332 C335,C336,C337,C338 C561,C562,C563,C612 C646,C647,C648,C649 C650	2203-007449	C-CER,CHIP
C558	2203-007456	C-CER,CHIP
C217	2203-007754	C-CER,CHIP
C210,C211,C212	2203-007775	C-CER,CHIP
C416,C546	2203-007860	C-CER,CHIP
TA502	2404-001496	C-TA,CHIP
TA500	2404-001506	C-TA,CHIP
TA600	2404-001561	C-TA,CHIP
TA501	2404-001572	C-TA,CHIP
BAT500	2409-001172	C-EDL
L103	2703-001749	INDUCTOR-SMD
L200	2703-002176	INDUCTOR-SMD
L501,L502,L609	2703-002309	INDUCTOR-SMD
C112	2703-002365	INDUCTOR-SMD
L400	2703-002842	INDUCTOR-SMD
C146,L109,L117,L118,L302	2703-002858	INDUCTOR-SMD
C144,L110	2703-002901	INDUCTOR-SMD
L303,L304,L306	2703-002903	INDUCTOR-SMD
C106	2703-002907	INDUCTOR-SMD
L114	2703-002955	INDUCTOR-SMD
L603	2703-002961	INDUCTOR-SMD
L116	2703-003004	INDUCTOR-SMD
L500,L503,L505,L506,L507	2703-003182	INDUCTOR-SMD
L608	2703-003476	INDUCTOR-SMD
L702	2703-003686	INDUCTOR-SMD
L202	2703-003698	INDUCTOR-SMD

Design LOC	SEC CODE	Description
C147,L124	2703-003908	INDUCTOR-SMD
C131	2703-003914	INDUCTOR-SMD
C135,L121,L203,L205	2703-004012	INDUCTOR-SMD
C120,C121,L112,L115	2703-004013	INDUCTOR-SMD
C107	2703-004014	INDUCTOR-SMD
L119,L120,L123	2703-004018	INDUCTOR-SMD
L504	2703-004025	INDUCTOR-SMD
C126	2703-004030	INDUCTOR-SMD
L126,L204	2703-004034	INDUCTOR-SMD
L122	2703-004038	INDUCTOR-SMD
L104	2703-004133	INDUCTOR-SMD
OSC400	2801-004225	CRYSTAL-SMD
OSC501	2801-004339	CRYSTAL-SMD
OSC500	2801-004836	CRYSTAL-SMD
OSC200	2804-001772	OSCILLATOR-CLOCK
F703,F704,F705,F706,F707, F708	2901-001413	FILTER-EMI SMD
F700,F701,F702	2901-001604	FILTER-EMI SMD
F200	2904-001752	FILTER-SAW
F103	2904-001847	FILTER-SAW
F102	2904-001850	FILTER-SAW
U100	2904-001952	FILTER-SAW
F101	2910-000073	DUPLEXER-SAW
F100	2911-000171	DUPLEXER-FEM
L401	3301-001438	BEAD-SMD
L307	3301-001682	BEAD-SMD
L206,L300,L301,L615,L700	3301-001729	BEAD-SMD
L305	3301-001787	CORE-FERRITE BEAD
L601,L602,L604,L605,L606, L607,L613,L614	3301-001885	BEAD-SMD

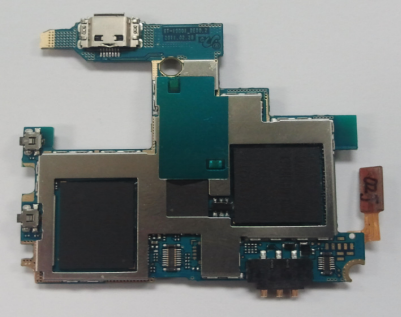
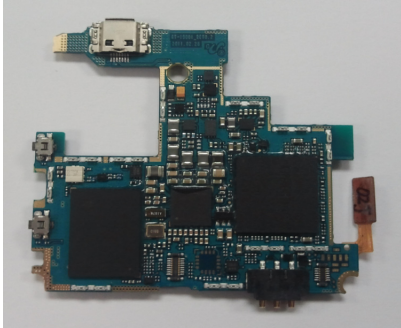
Design LOC	SEC CODE	Description
L201,L207	3301-001895	BEAD-SMD
L612	3301-001912	BEAD-SMD
R610,R611,R613	3301-001971	BEAD-SMD
L600,L610,L611	3301-002065	BEAD-SMD
VOL_DOWN,VOL_UP	3404-001406	SWITCH-TACT
ANT100	3705-001448	CONNECTOR-COAXIAL
RFS100	3705-001731	CONNECTOR-COAXIAL
BTC500	3711-006299	HEADER-BATTERY
HDC701	3711-006483	HEADER-BOARD TO BOARD
HDC700	3711-006865	HEADER-BOARD TO BOARD
HEA300	3711-006923	HEADER-BOARD TO BOARD
HDC600,HEA600	3711-007592	HEADER-BOARD TO BOARD
ANT200,ANT202	3712-001348	CONNECTOR-TERMINAL
IFC500	3722-002867	JACK-MINI USB
U200	4709-001844	W-LAN MODULE
ANT201	GH62-00016A	PAD GAP-PCB GASKET(SCH-S569)
SC611,SC613,SC614 SC615,SC618,SC619 SC620,SC621,SC622	GH70-03951A	ICT SHIELD-SHIELD CAN CLIP
SC600,SC601,SC602 SC603,SC605,SC606 SC607,SC608,SC609 SC610	GH70-04443A	ICT SHIELD-CAN CLIP
SC612,SC616,SC617 SC623	GH70-04828A	IPR SHIELD-CAN CLIP
L508,R715	GH80-03320A	SOLDER-CREAM/SMT KOREA(FREE)
R313,R321,R322,R505 R609,R715	GH80-03321A	SOLDER-CREAM/DHDMR(FREE)

7. Level 2 Repair

7-1. Assembly

1

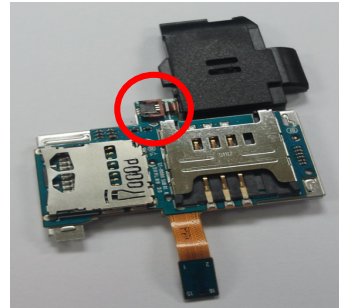
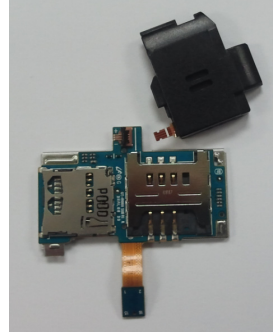
Place the top shield can.



Place the top shield can on the Main PBA

2

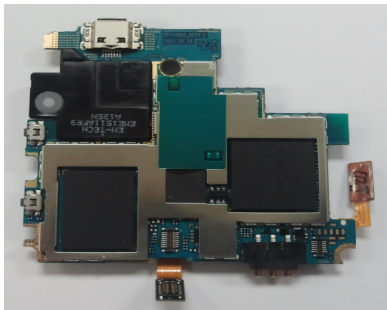
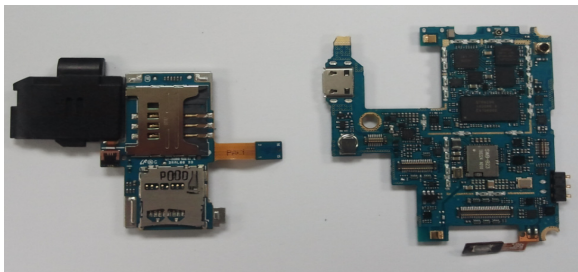
Connect the speaker to the Sim Card PBA



Connect the speaker to the Sim Card PBA by sliding FPC into the connector.

3

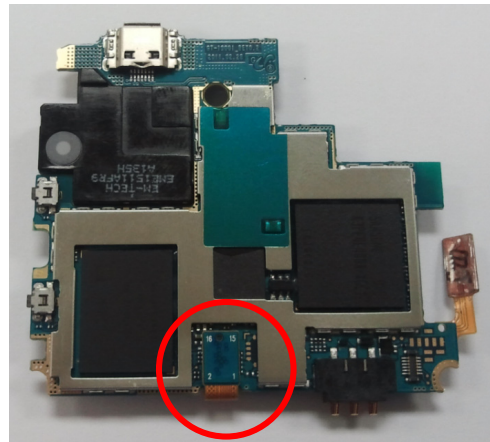
Place the Sim Card PBA + shield can



Place the bottom shield can + Sim Card PBA onto the bottom of the Main PBA. Make sure that the speaker locks into position and the shield can to be place correctly into the clips.

4

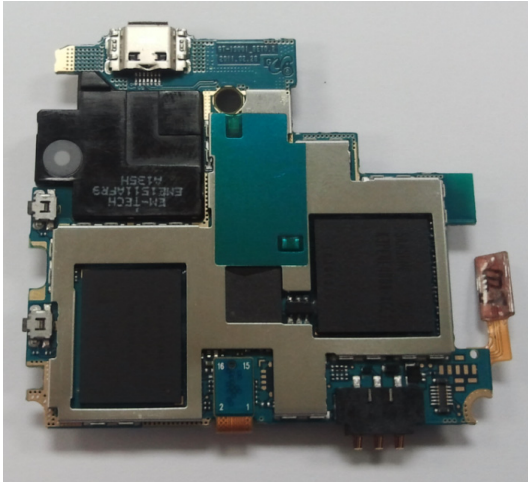
Connect the Sim Card PBA Connector



Connect the sim card PBA connector to the top of the main PBA.

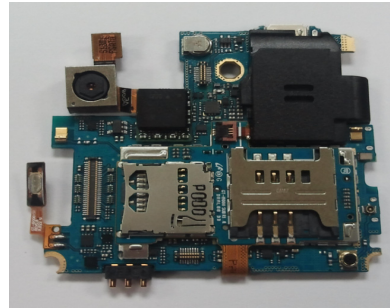
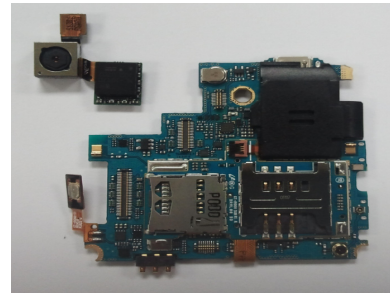
5

Place the top shield can



6

Place the camera module

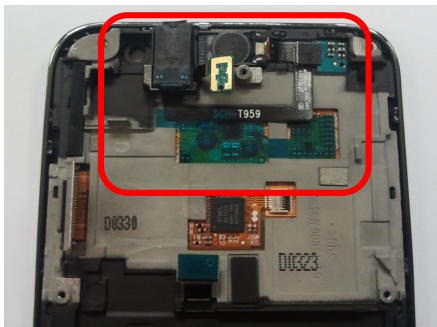
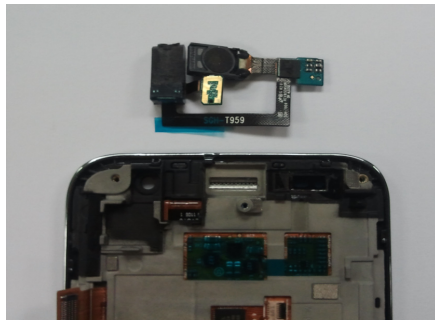


Place the top shield can on the top of the main PBA

Connect the camera module to the Main PBA

7

Place the Receiver Module



8

Connect the Antenna Cable



Place the receiver module onto the bracket.

Connect the antenna cable to the Main Antenna PCB

9

Place the Main PBA



10

Connect LCD, Sub-touch key, Antenna and Receiver connectors and place the Power key



Place the main PBA onto the bracket. Make sure to place the camera module into the socket correctly.

Connect LCD, Sub-touch key, Antenna and Receiver connectors, and place the Power key to the side of the bracket

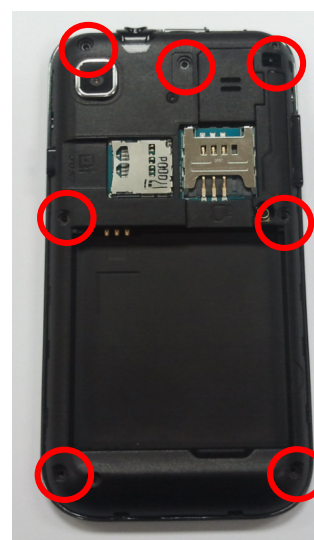
11

Place the rear cover



12

Screw the rear cover

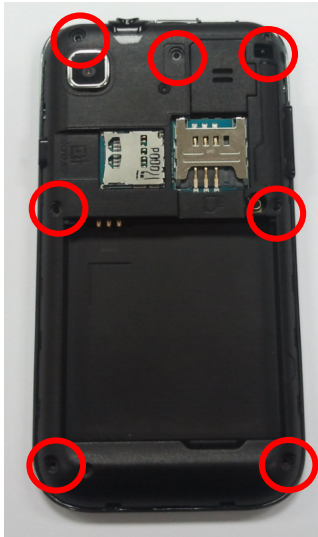


Make sure all the hooks are placed correctly, and press the volume keys and the power key for tensions.

Screw 7 points on the rear cover
screw torque : 1.2 ~ 1.4 kgf.cm

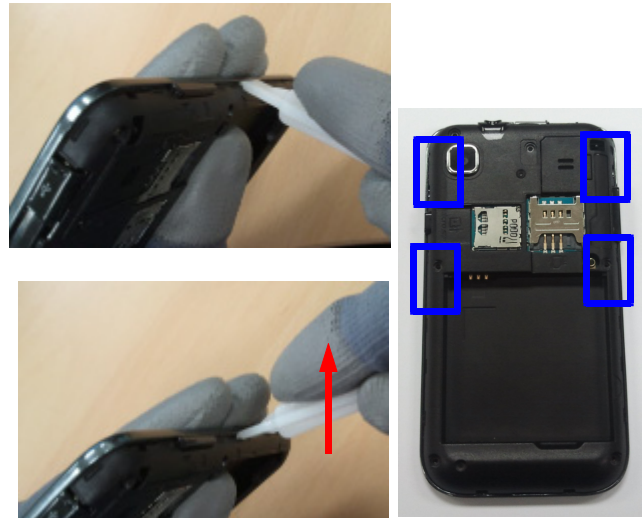
7-2. Disassembly

1 Unscrew screws on the rear



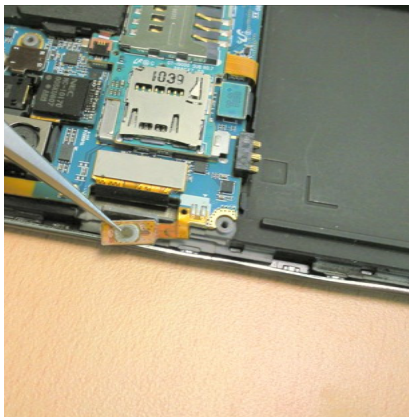
Unscrew 7 screws on the rear using a screw driver.
screw torque : 1.2 ~ 1.4 kgf.cm

2 Unhook the rear using a disassembly knife to remove the rear cover



Be careful not to damage the rear cover when unhooking it.

3 Detach the Power Key FPCB



Detach the power key FPCB, that is stick to the bracket by a double-sided tape, using tweezers. Make sure to remove all remaining tape on the bracket.

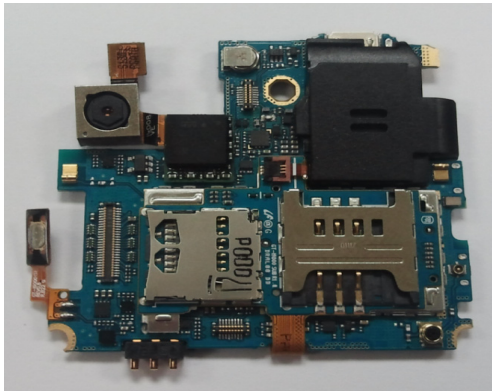
4 Disconnect connectors from the Main PBA



Disconnect LCD Connector, Receiver Connector, Sub-touch Key Connector and Antenna cable from the Main PBA

5

Pull out the Main PBA



6

Remove the Antenna Cable

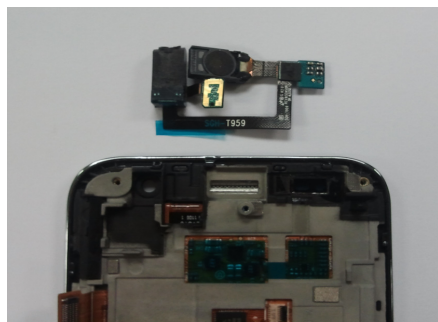
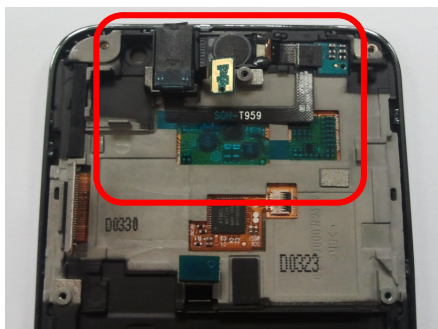


After disconnecting the connectors carefully pull the Main PBA out of the bracket.

Remove the antenna cable from the main Antenna PCB on the sub-touch key module.

7

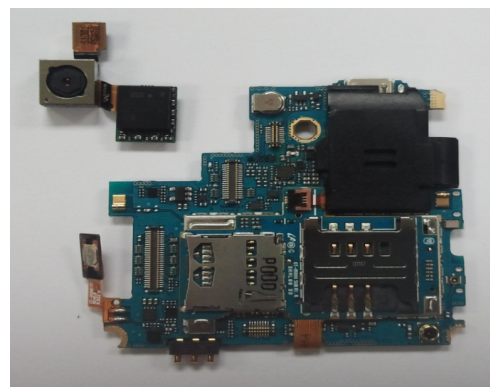
Remove the top shield can



Pull out the Receiver module from the bracket. Be careful not to damage the FPC.

8

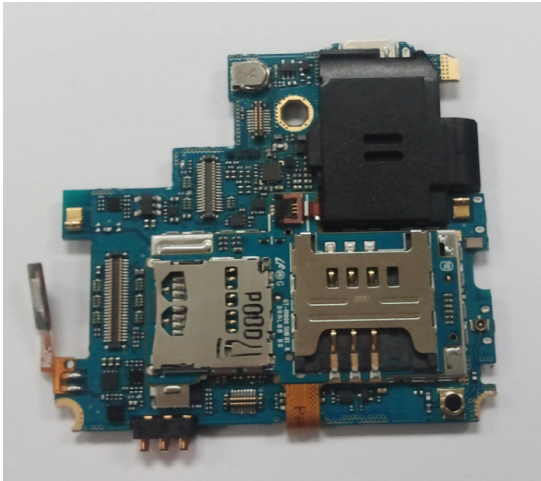
Remove the Camera Module



Remove the camera module from the Main PBA by pulling it out.

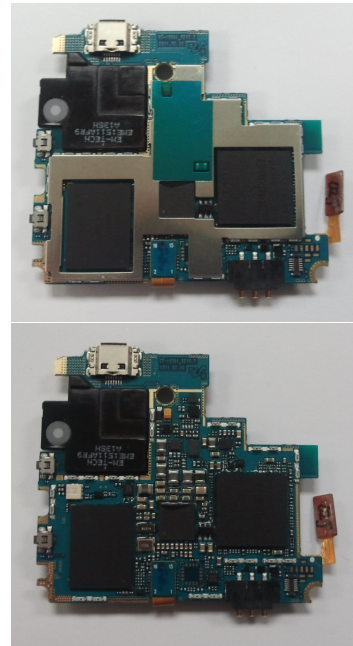
9

Pull out the Main PBA



10

Remove the top shield can

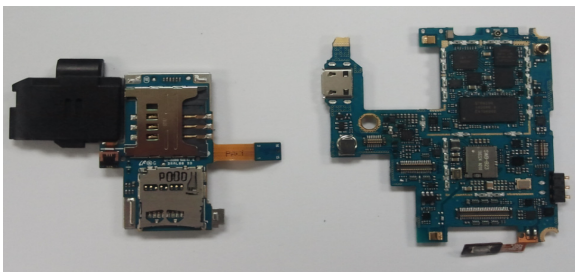
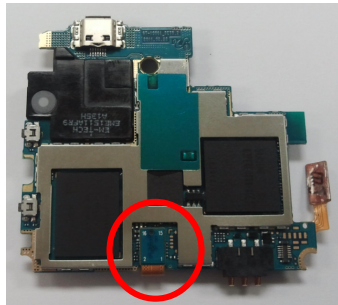


After disconnecting the connectors carefully pull the Main PBA out of the bracket.

Be careful not to damage the shield can and the components when removing it.

11

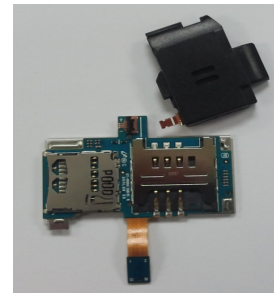
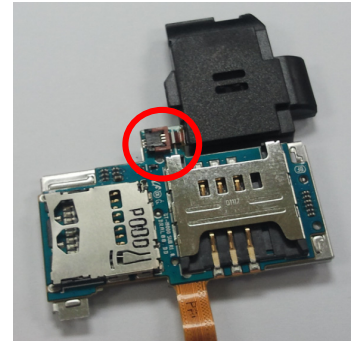
Remove the rear shield can + Sim Card PBA



Disconnect the Sim Card PBA connector from the Main PBA then remove the rear shield can + Sim Card PBA

12

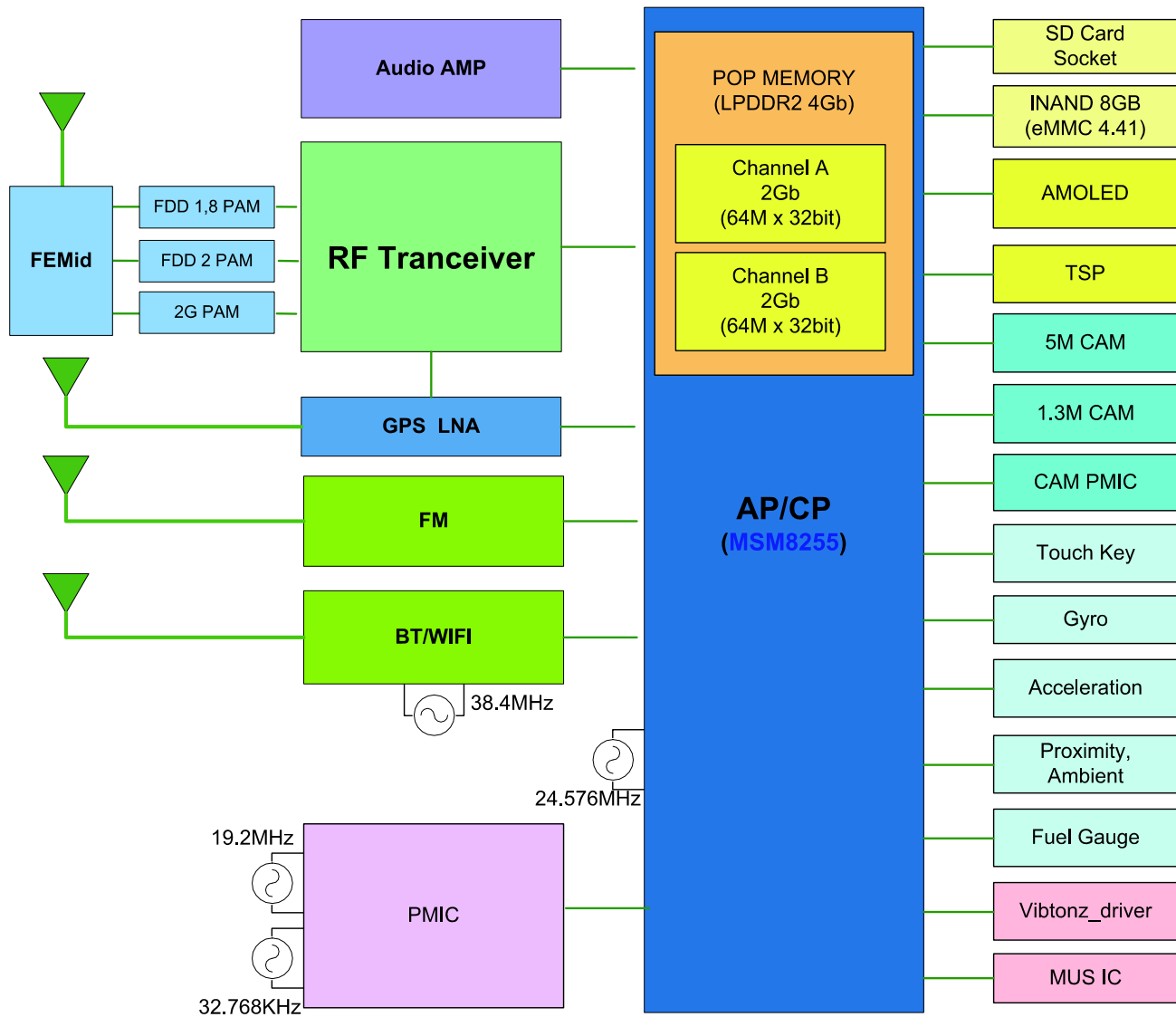
Remove the speaker

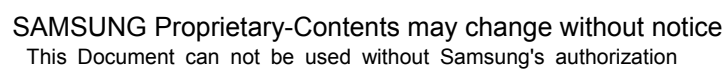


Remove the speaker by opening the connector.

8. Level 3 Repair

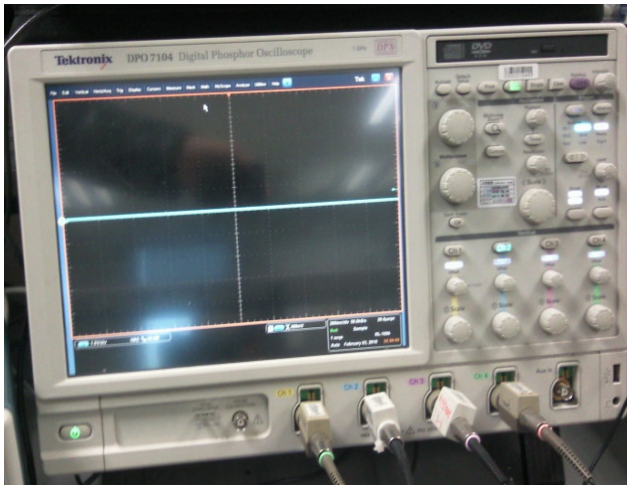
8-1. Block Diagram





8-3. Flow Chart of Troubleshooting

Equipments



↑ Oscilloscope



↑ Digital Multimeter

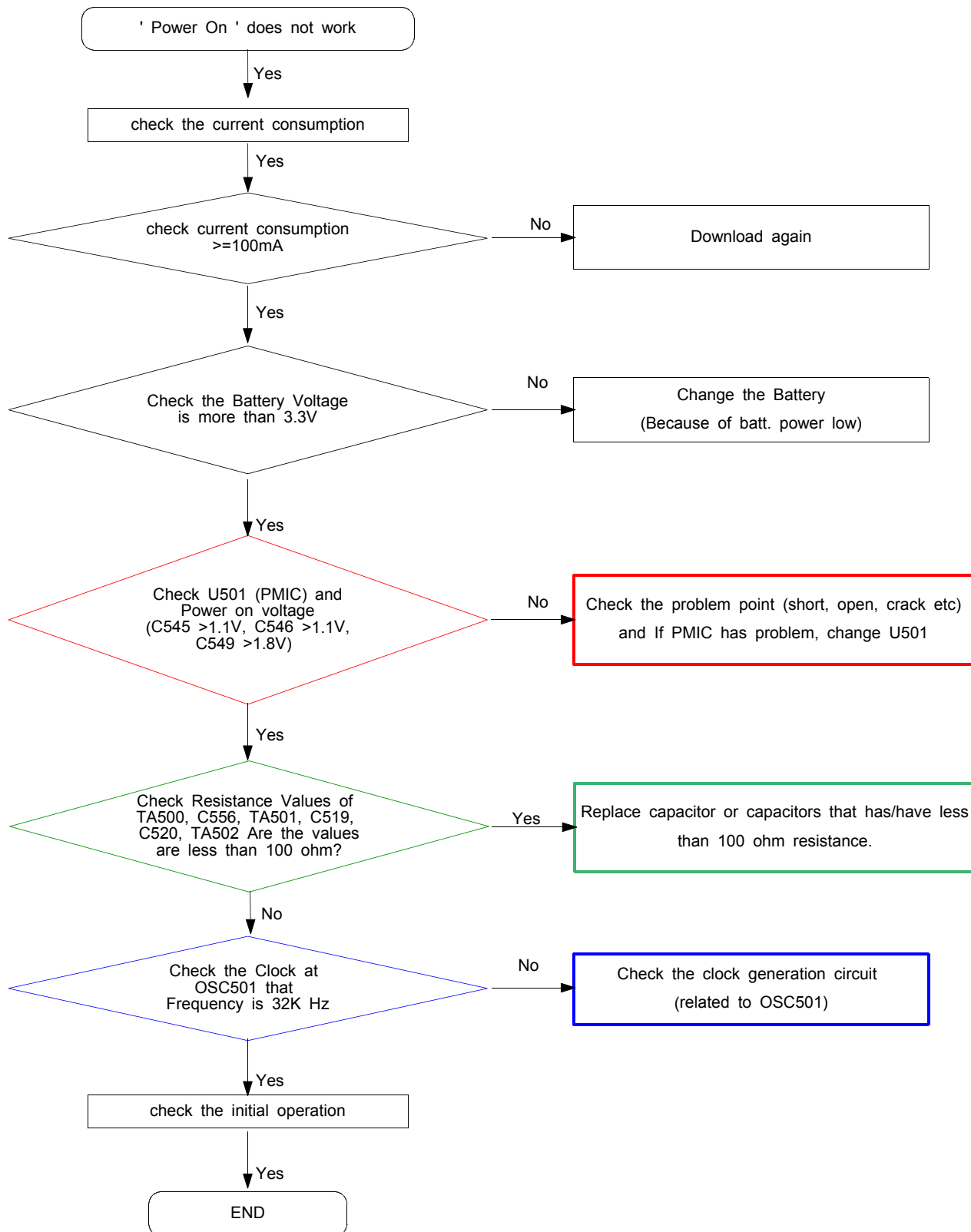


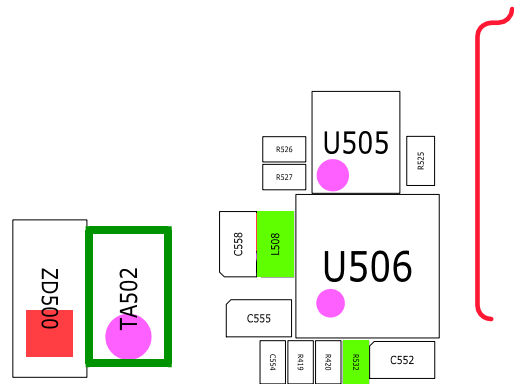
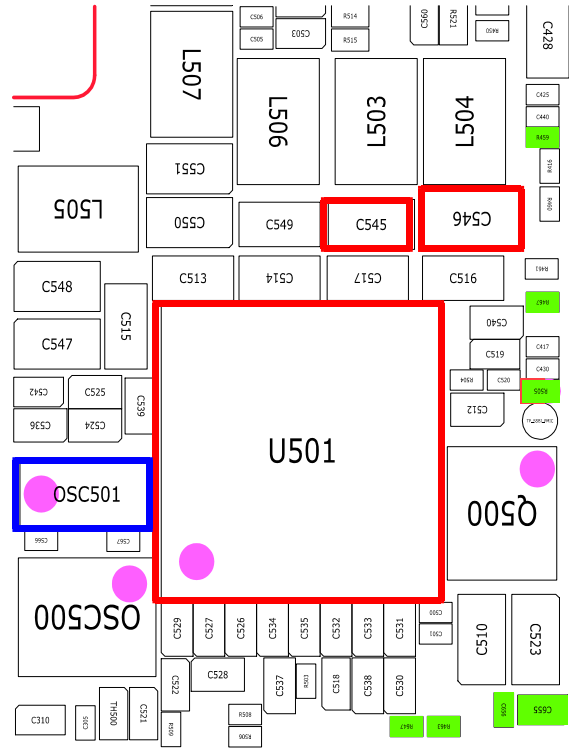
↑ Power Supply

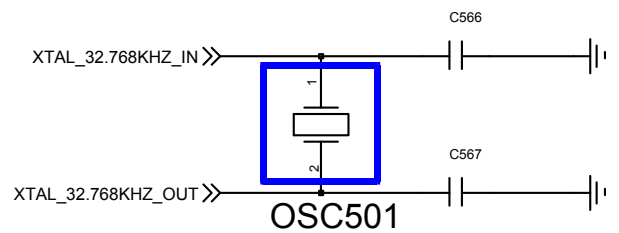
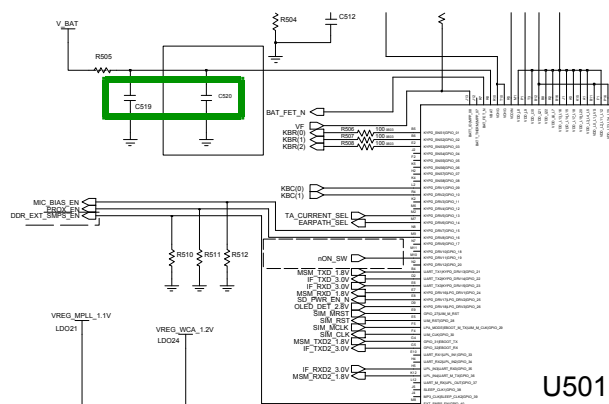
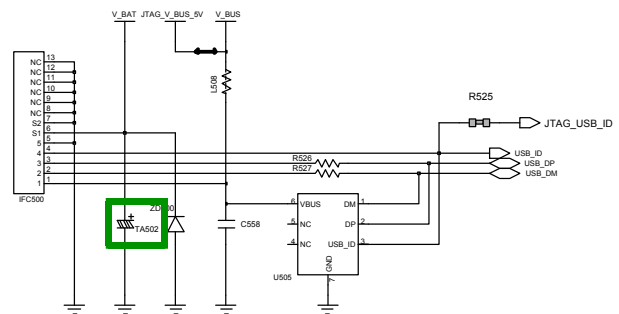
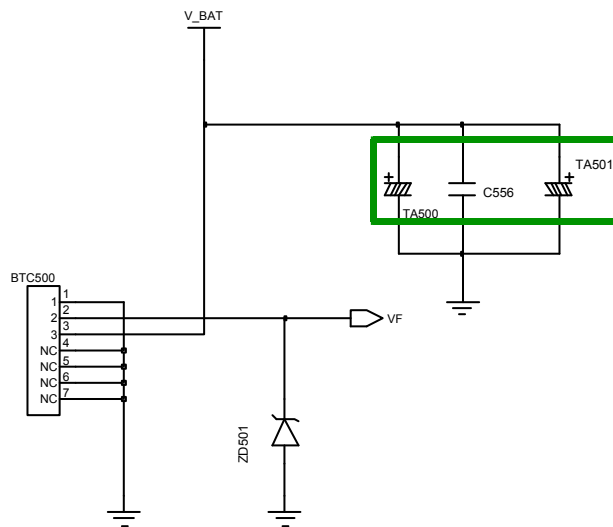


↑ + driver, Tweezer

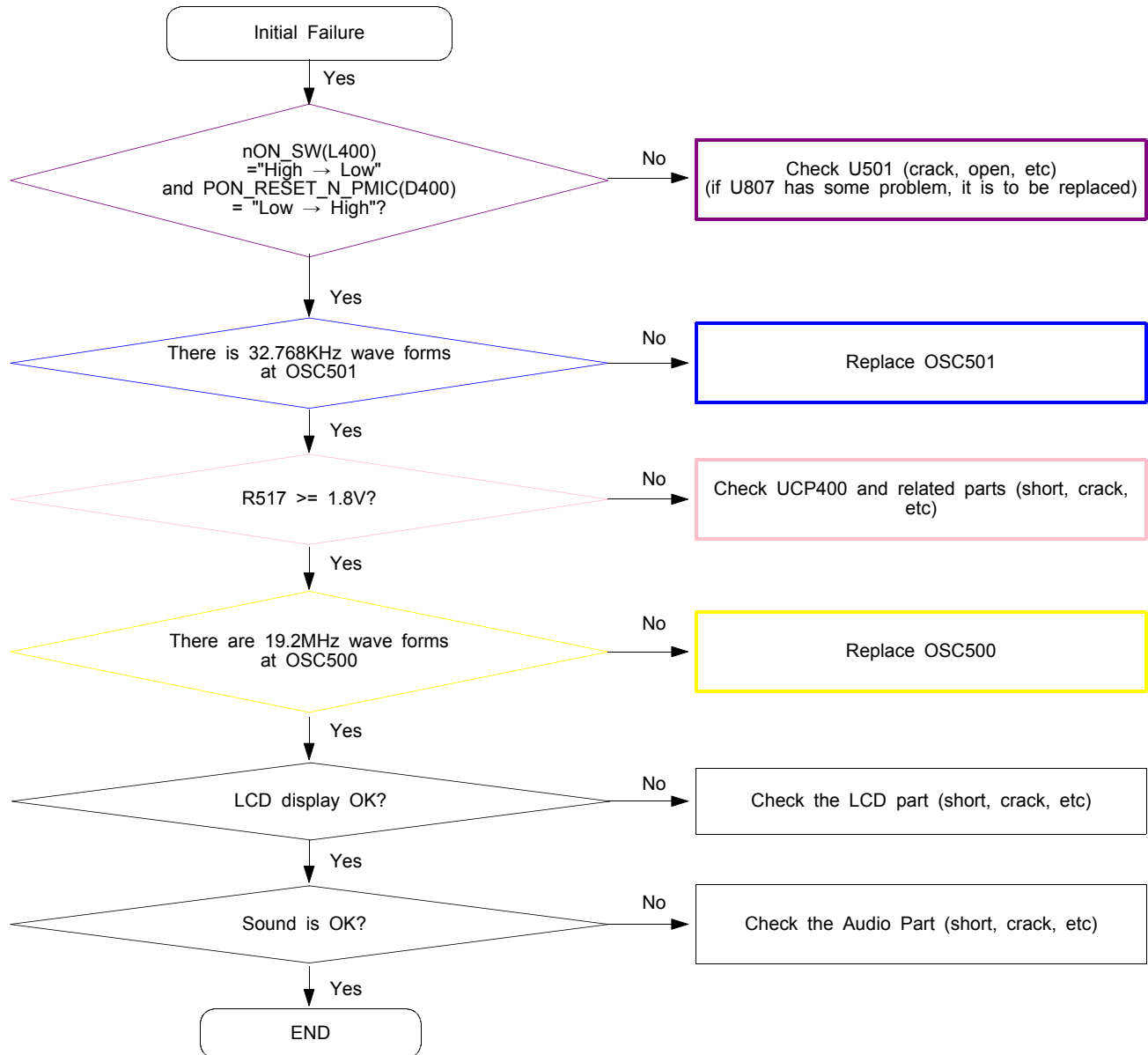
8-3-1. Power On

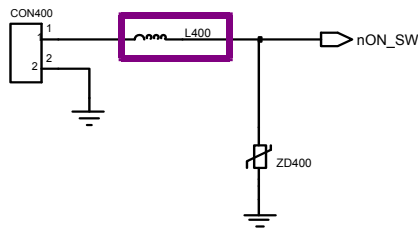




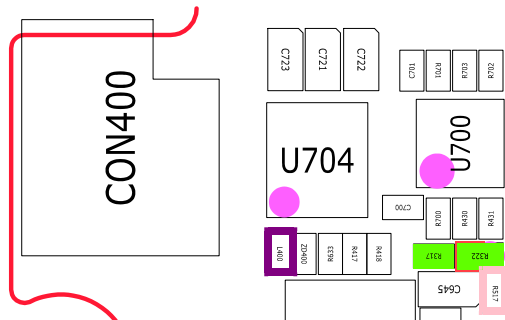


8-3-2. Initial

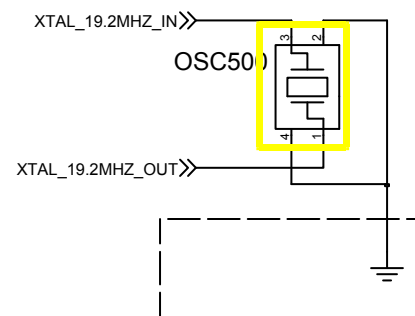
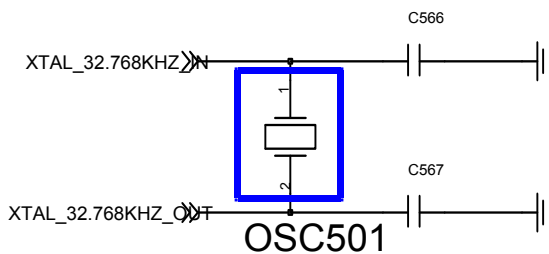
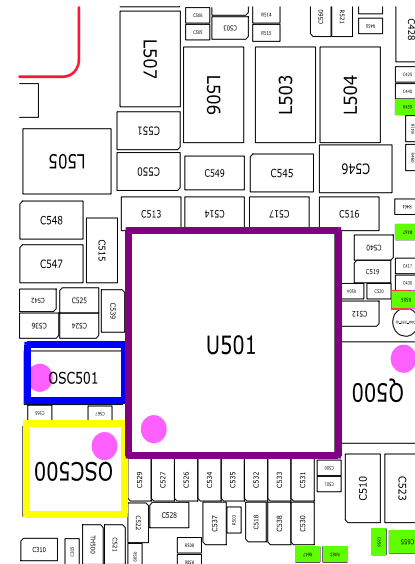
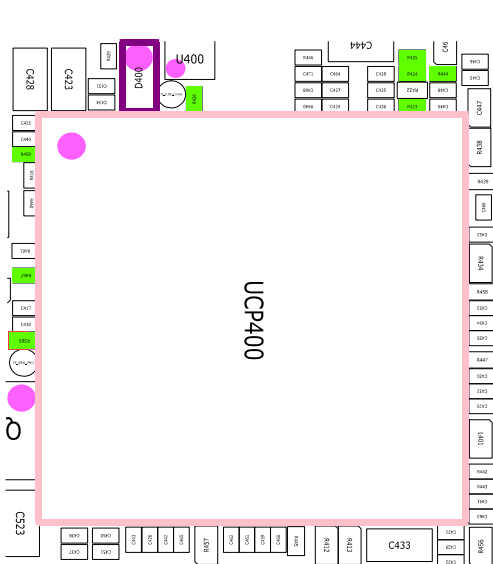
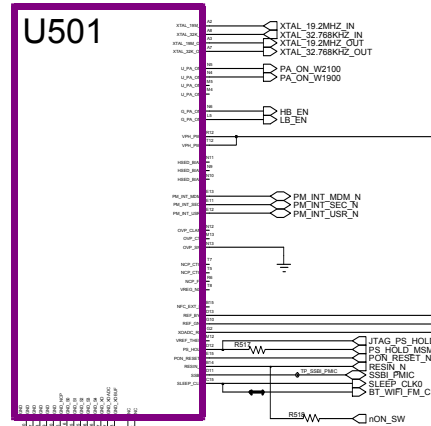




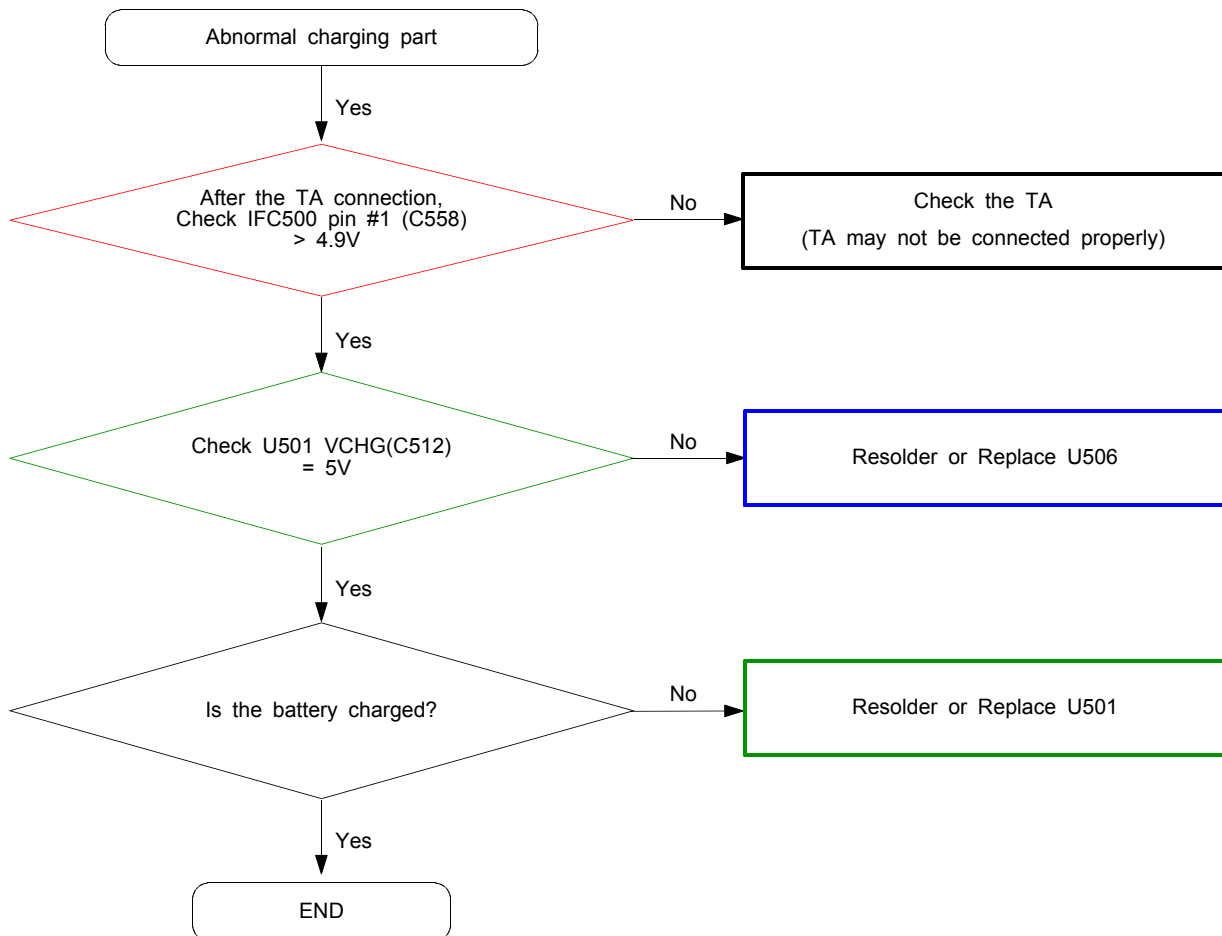
UCP400-1

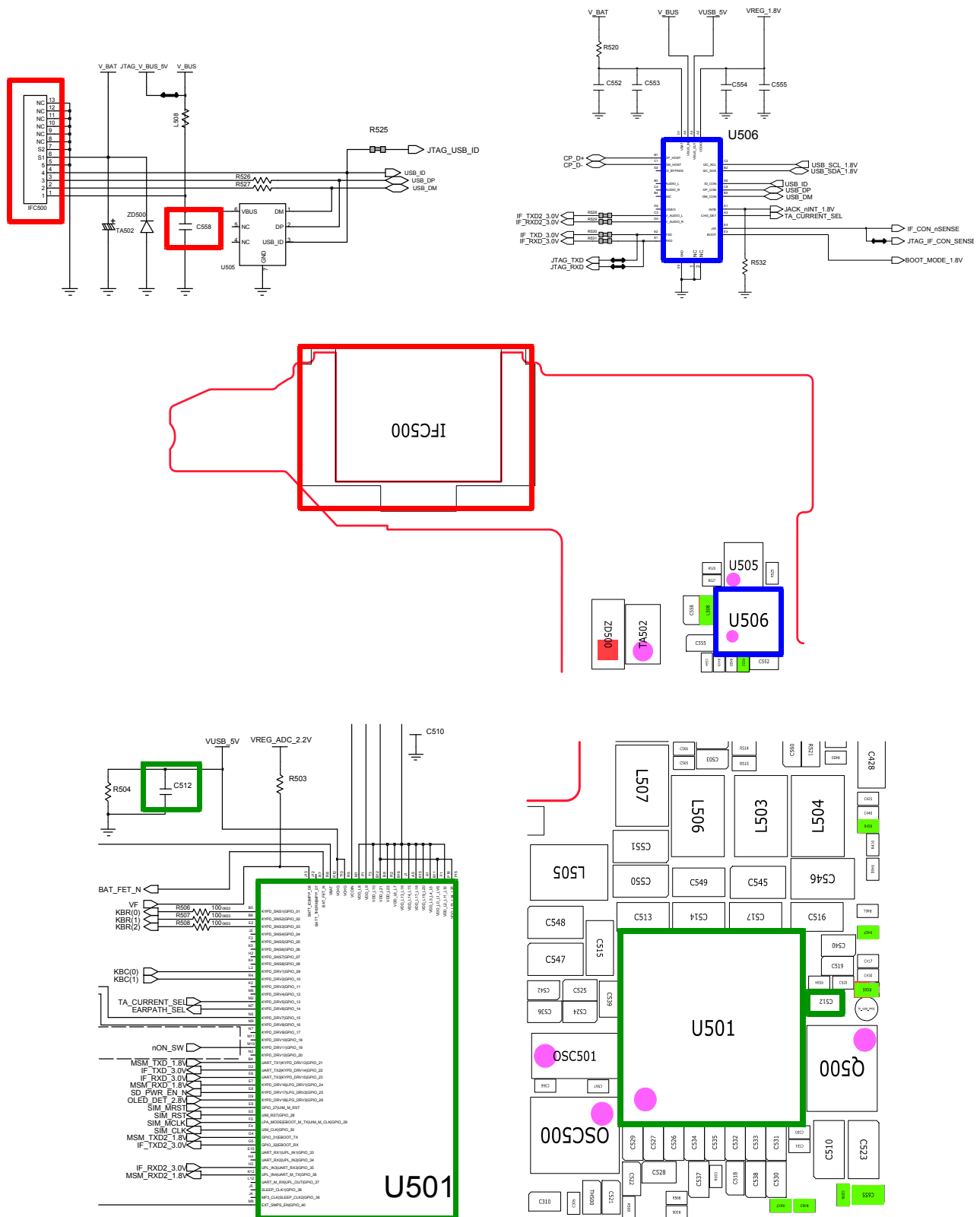


U501

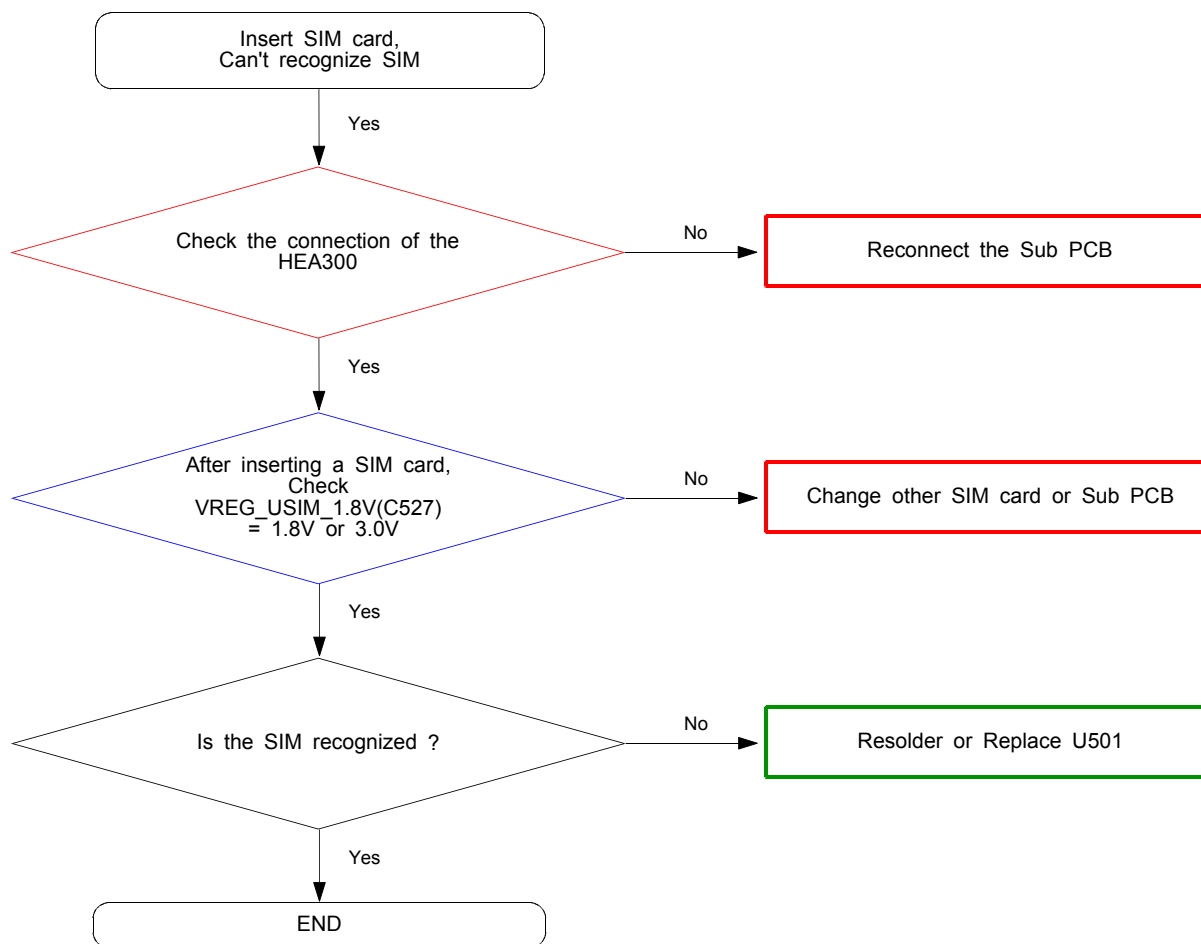


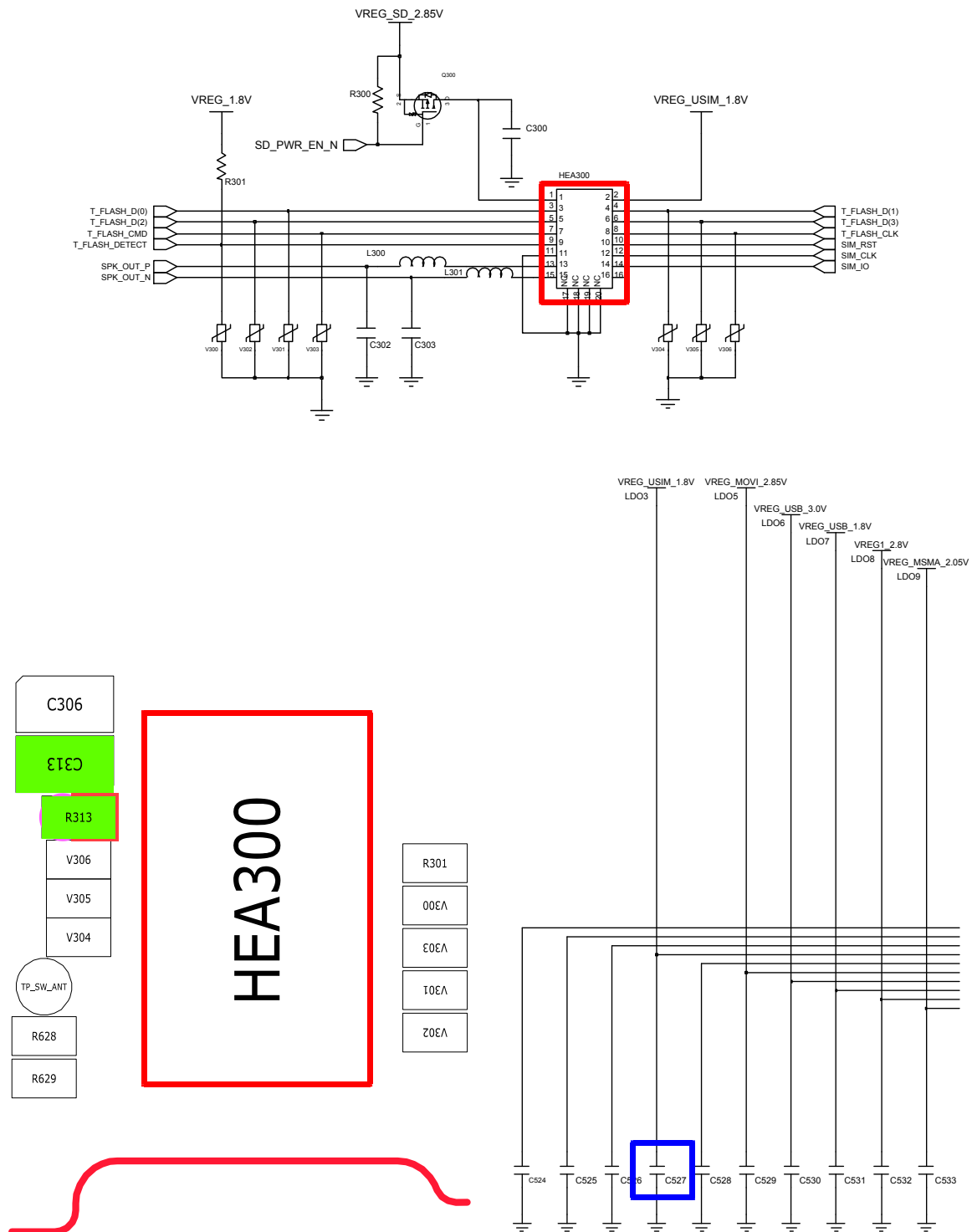
8-3-3. Charging Part

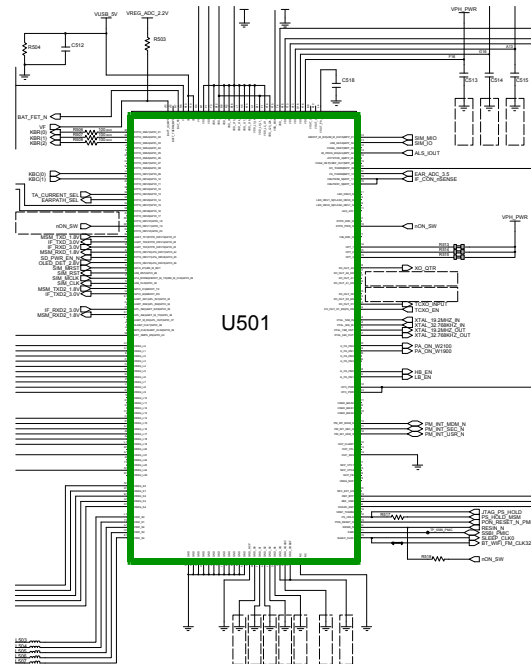
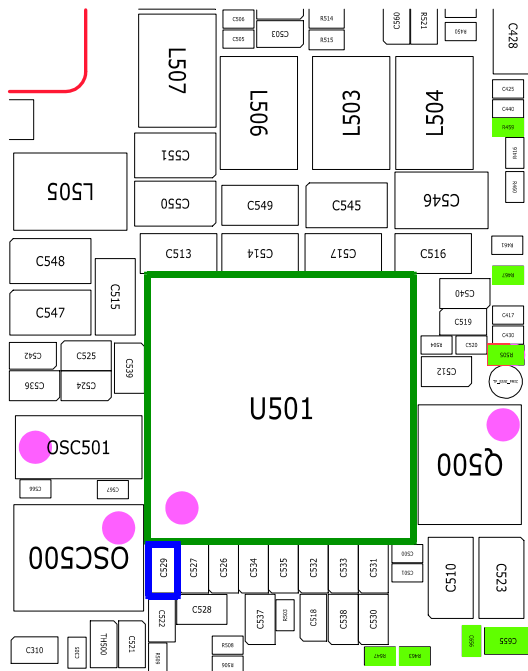




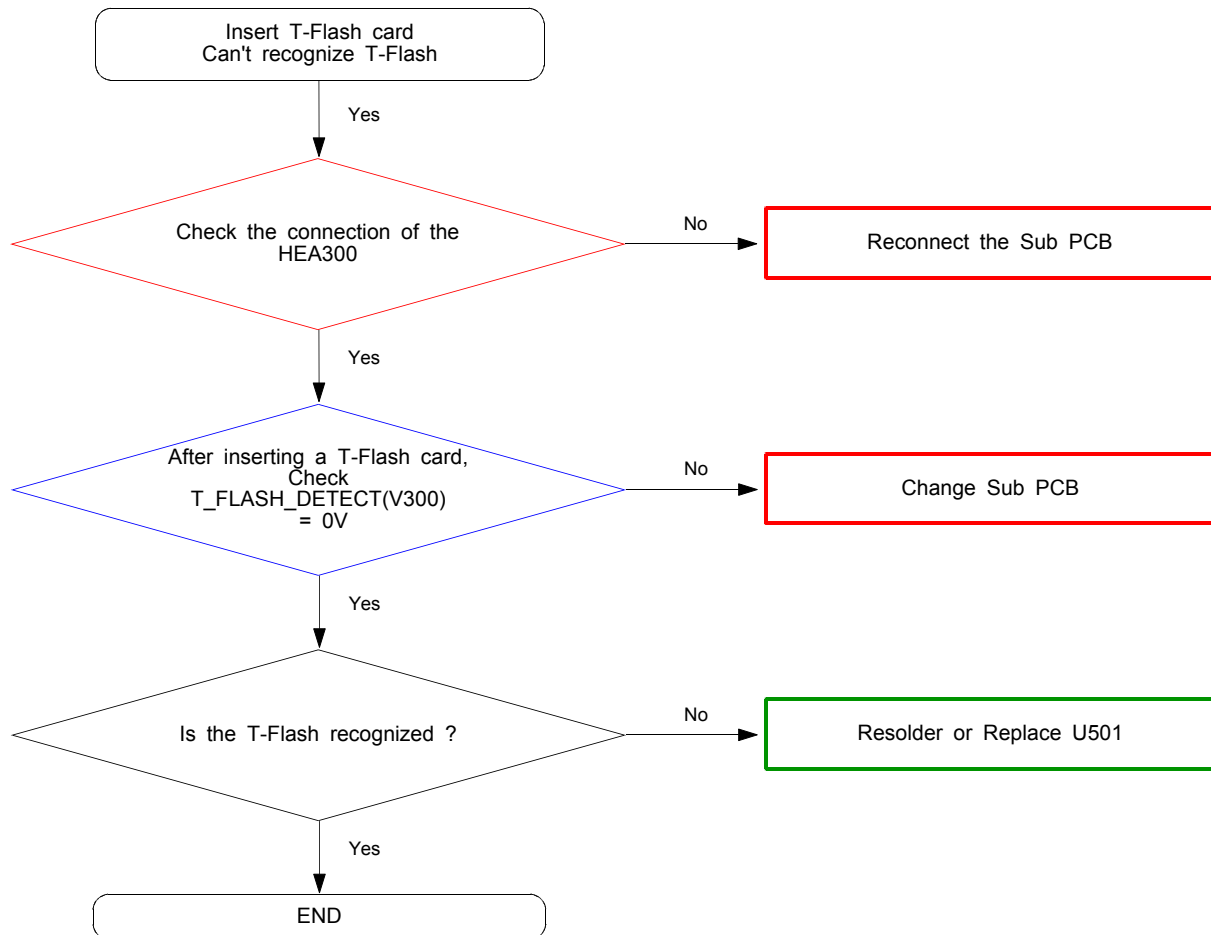
8-3-4. Sim Part



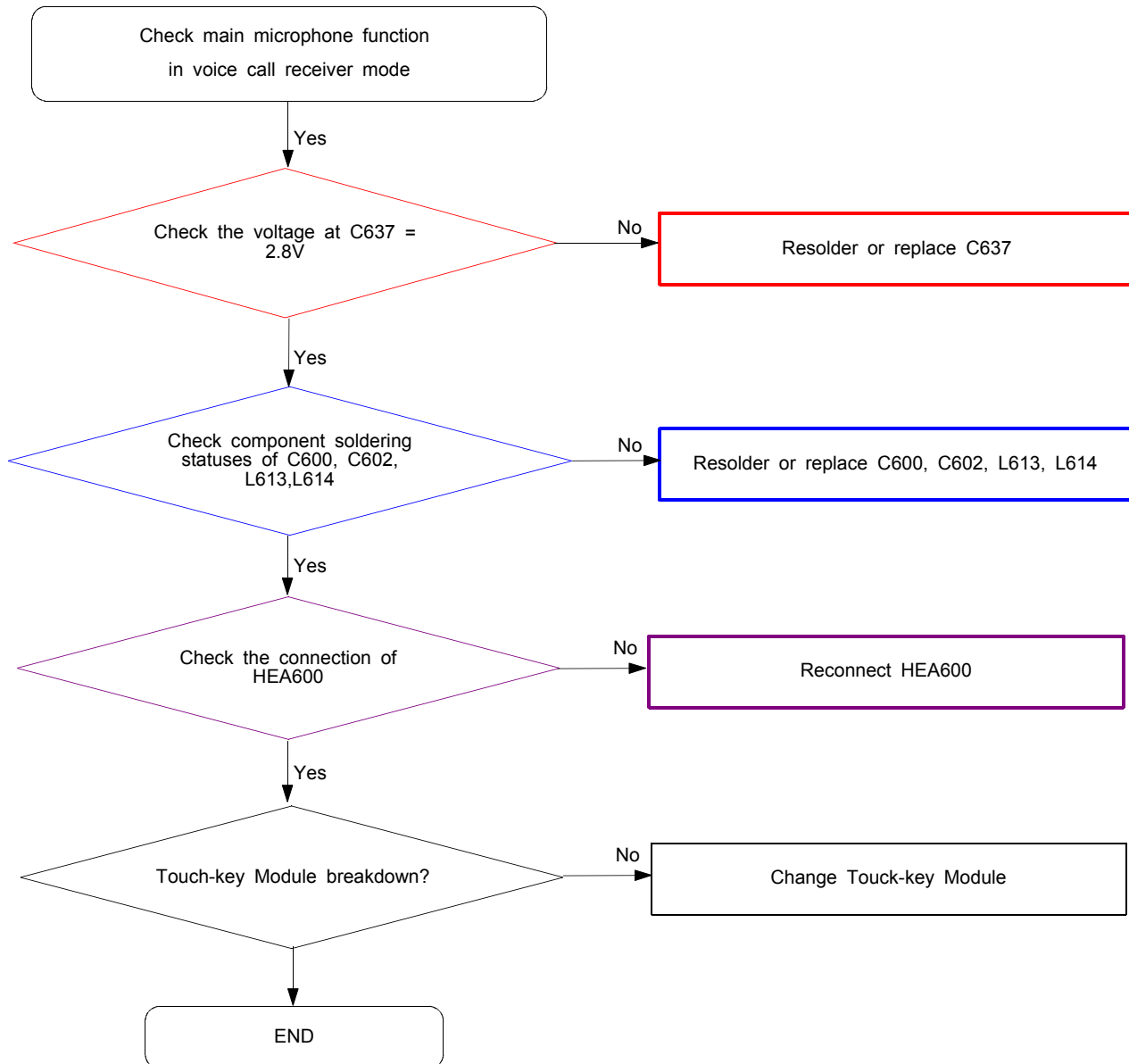


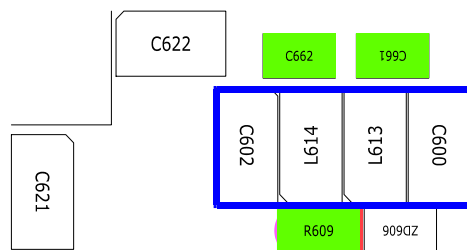
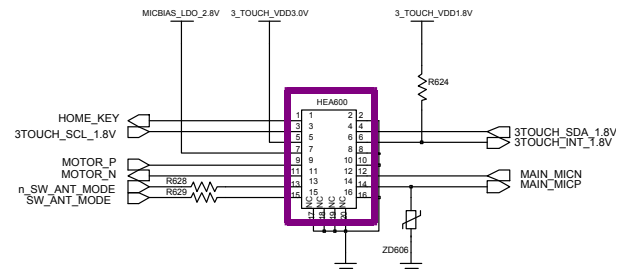
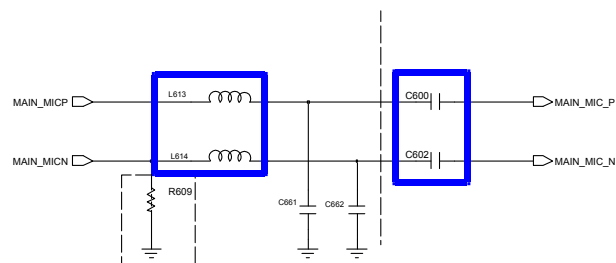
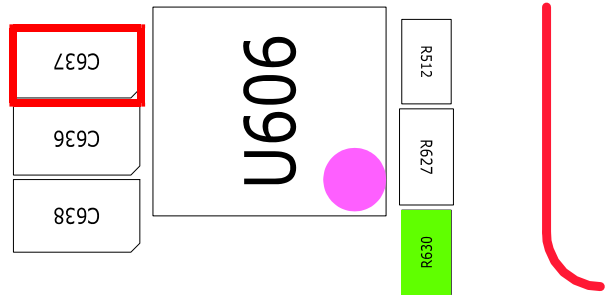
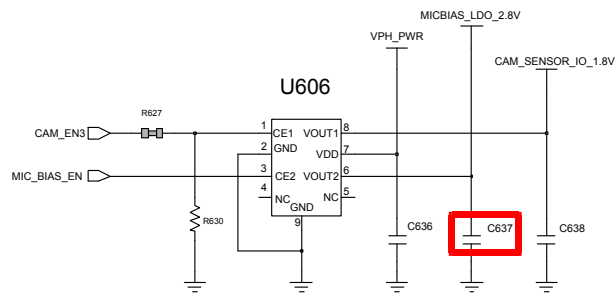


8-3-4 T-Flash

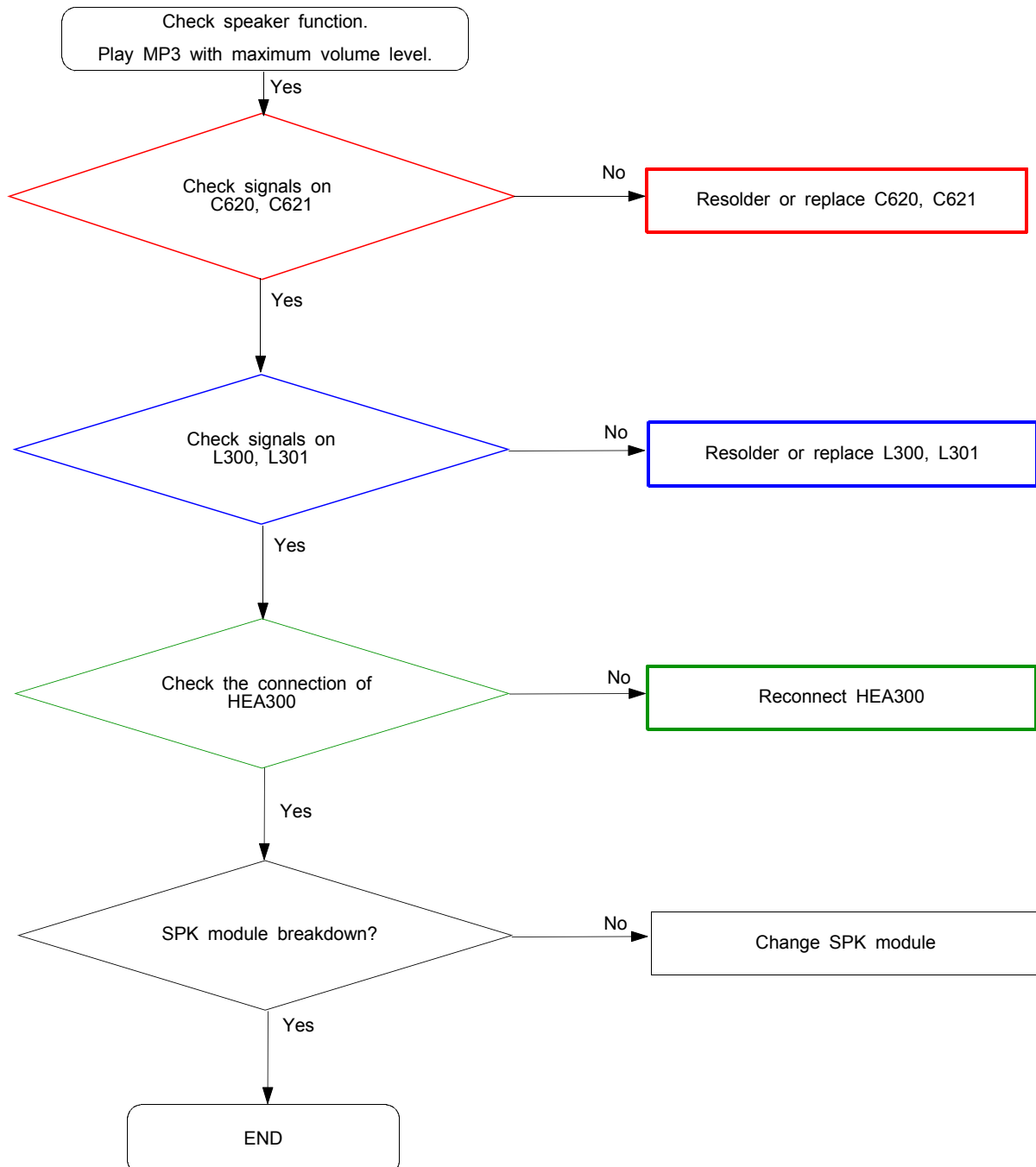


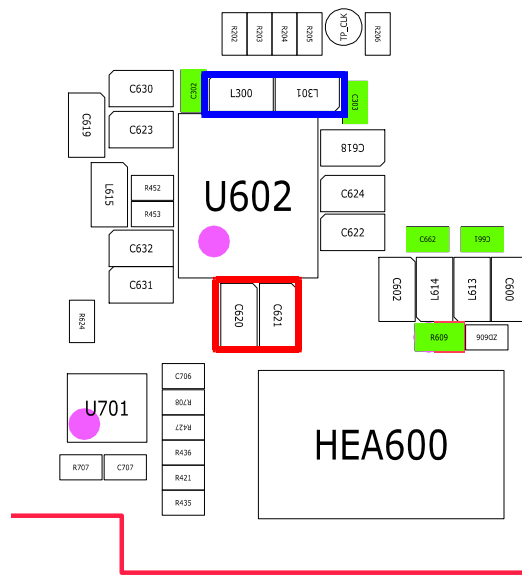
8-3-5. Microphone Part



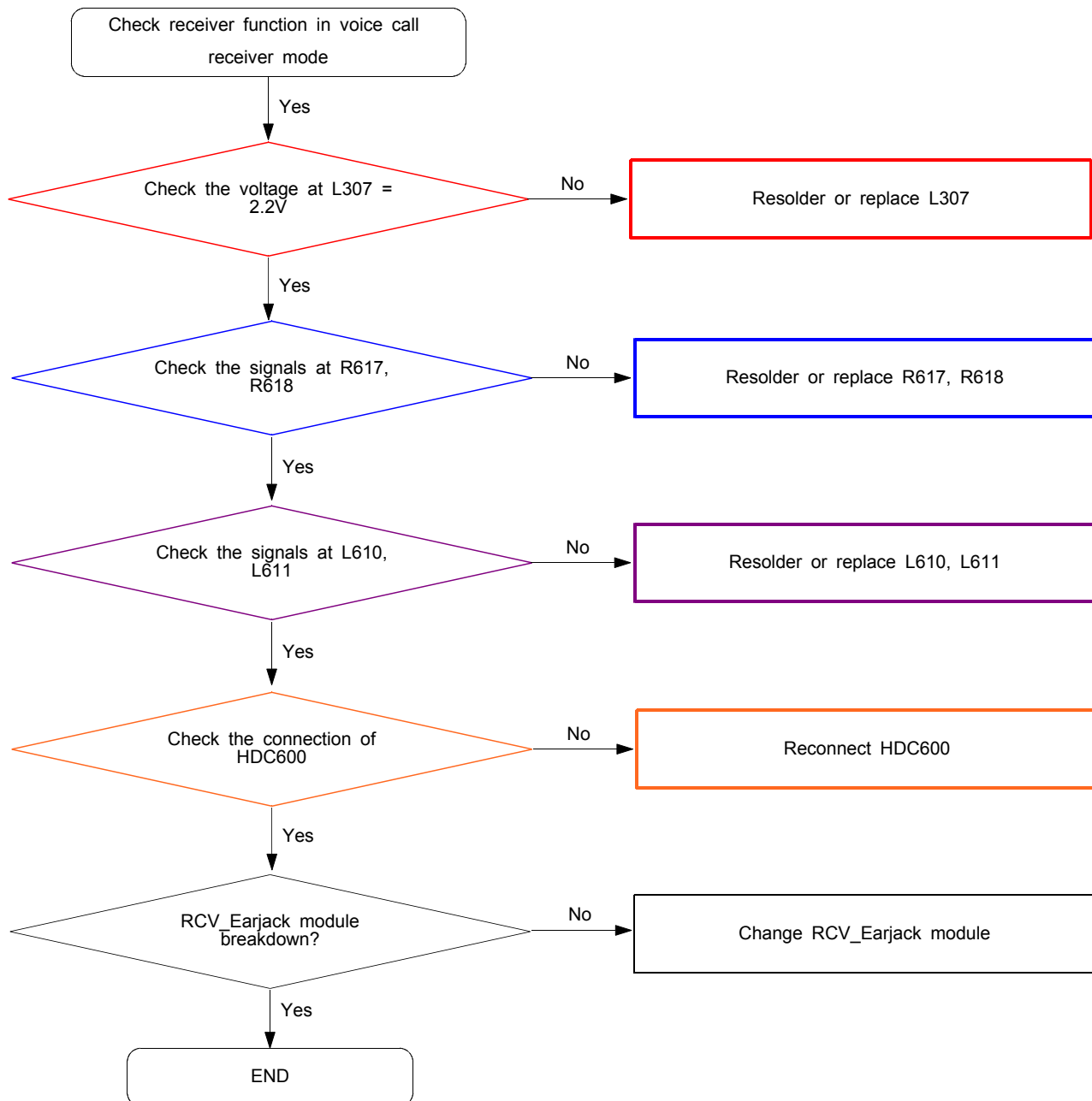


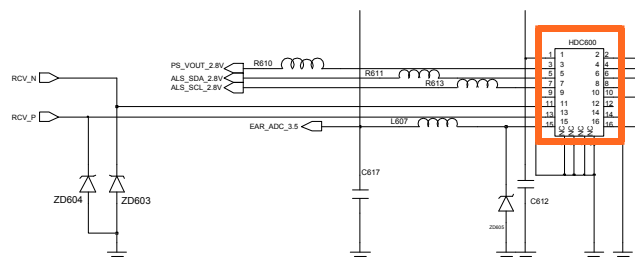
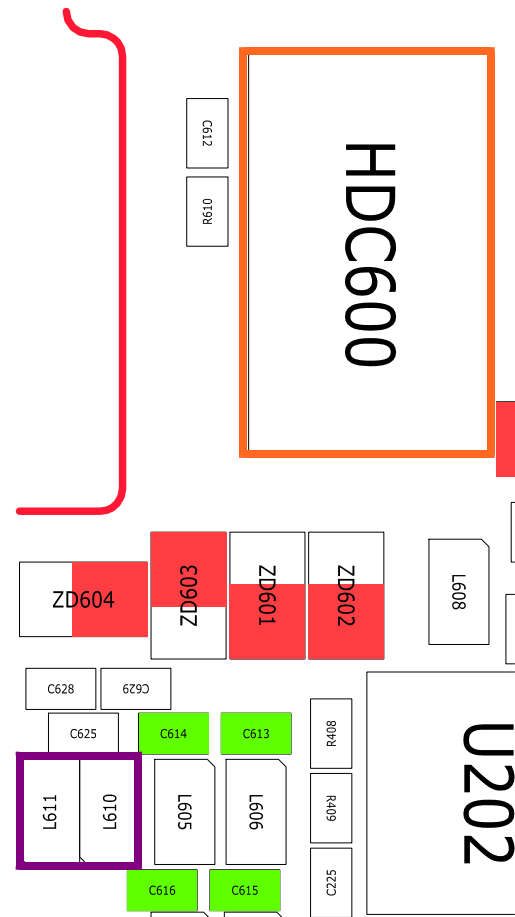
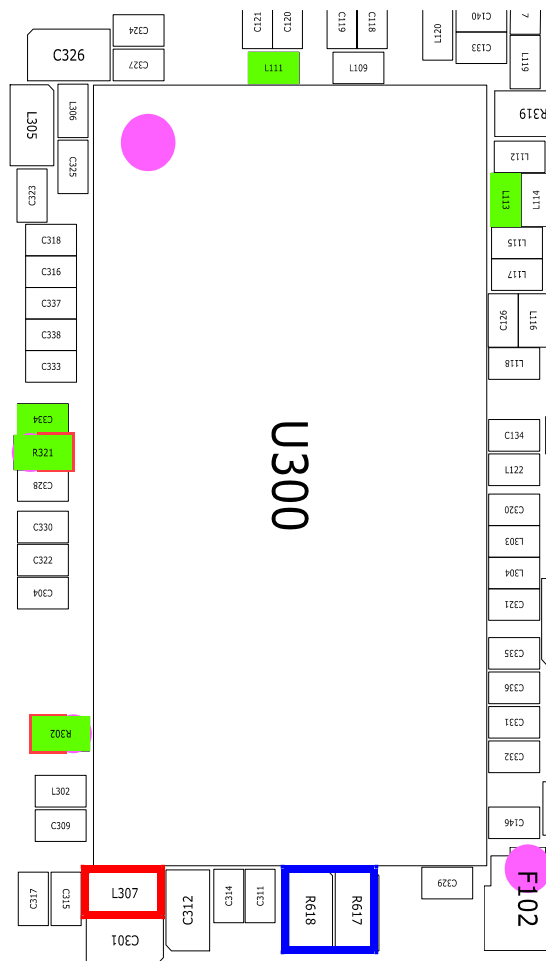
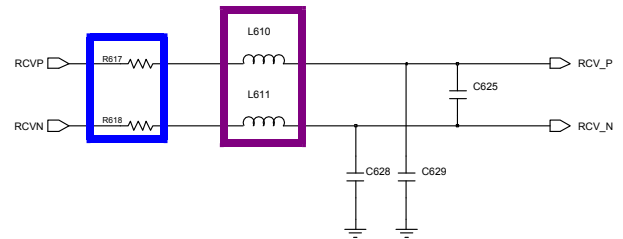
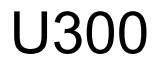
8-3-6. Speaker Part

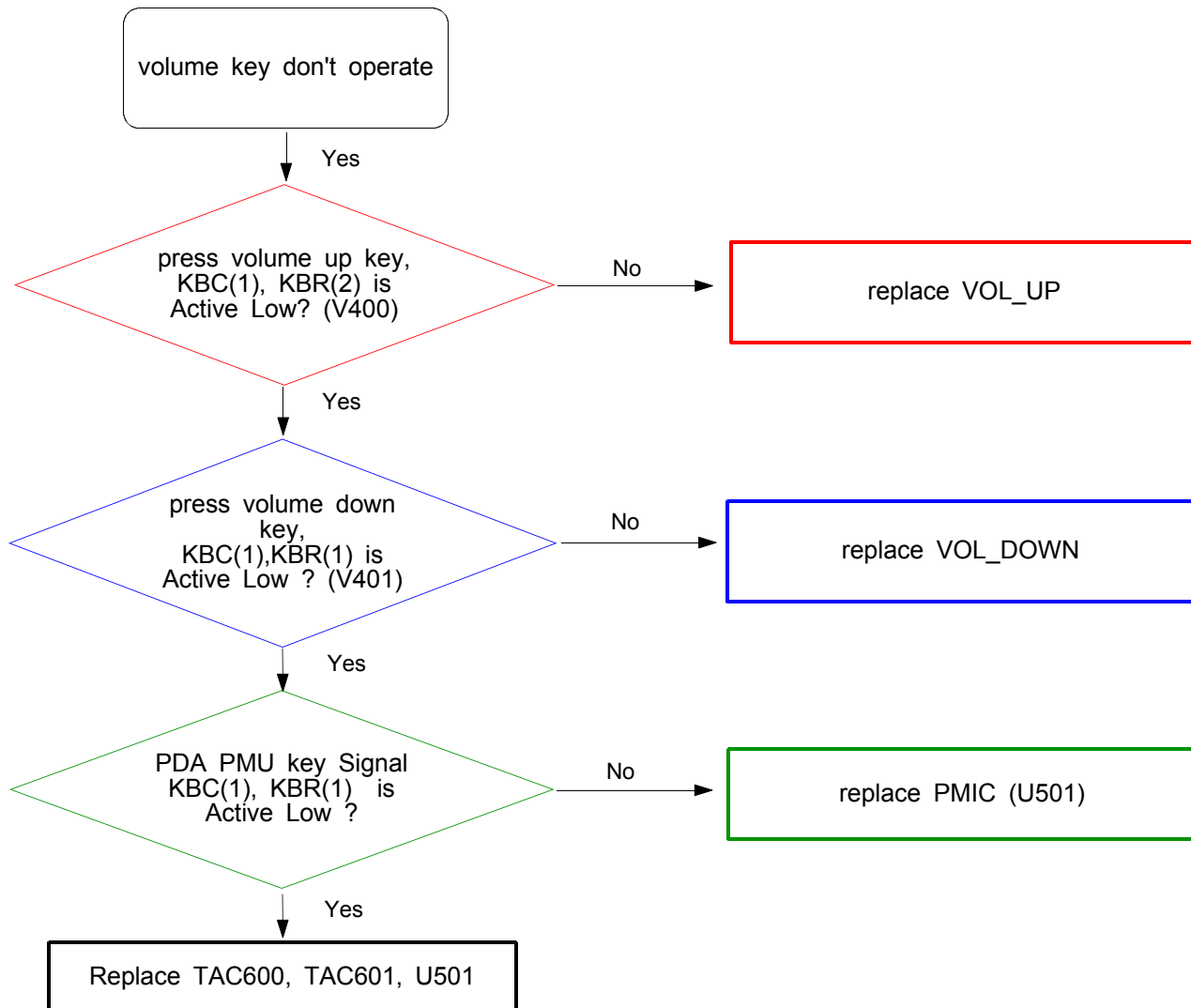


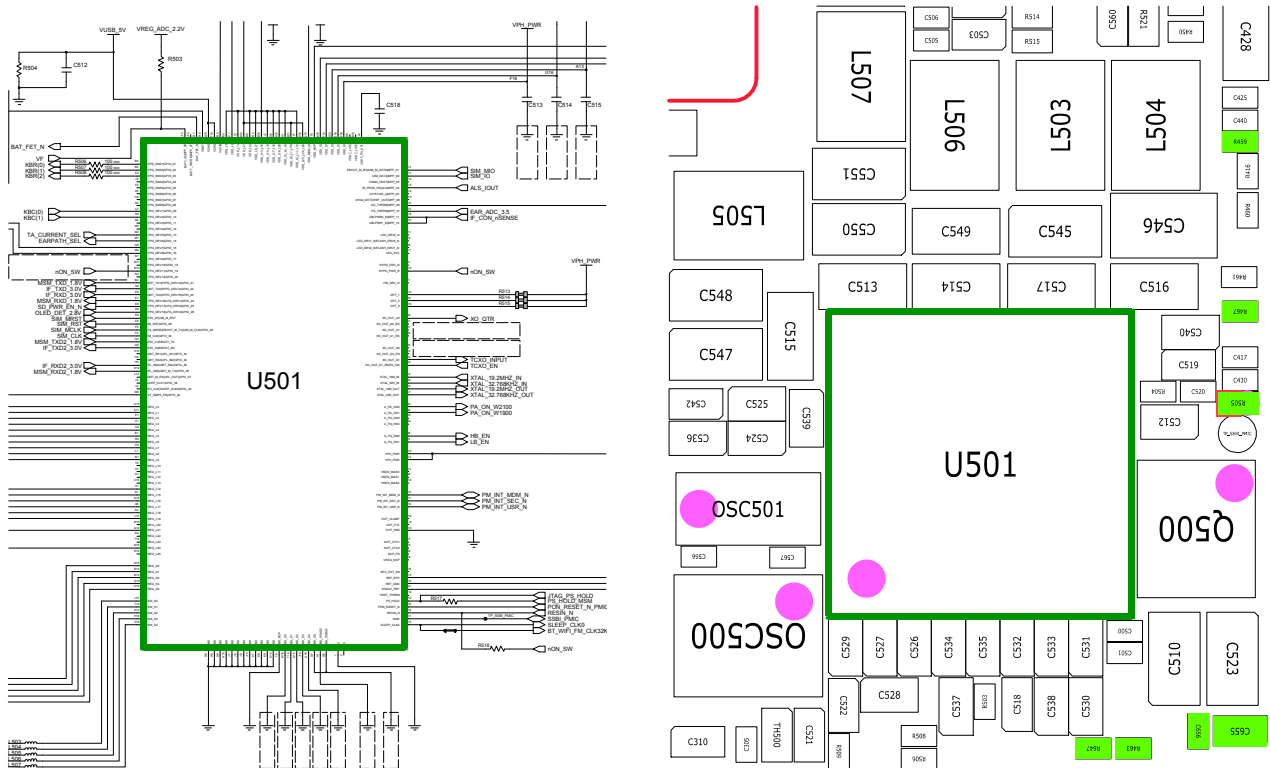


8-3-7. Receiver Part

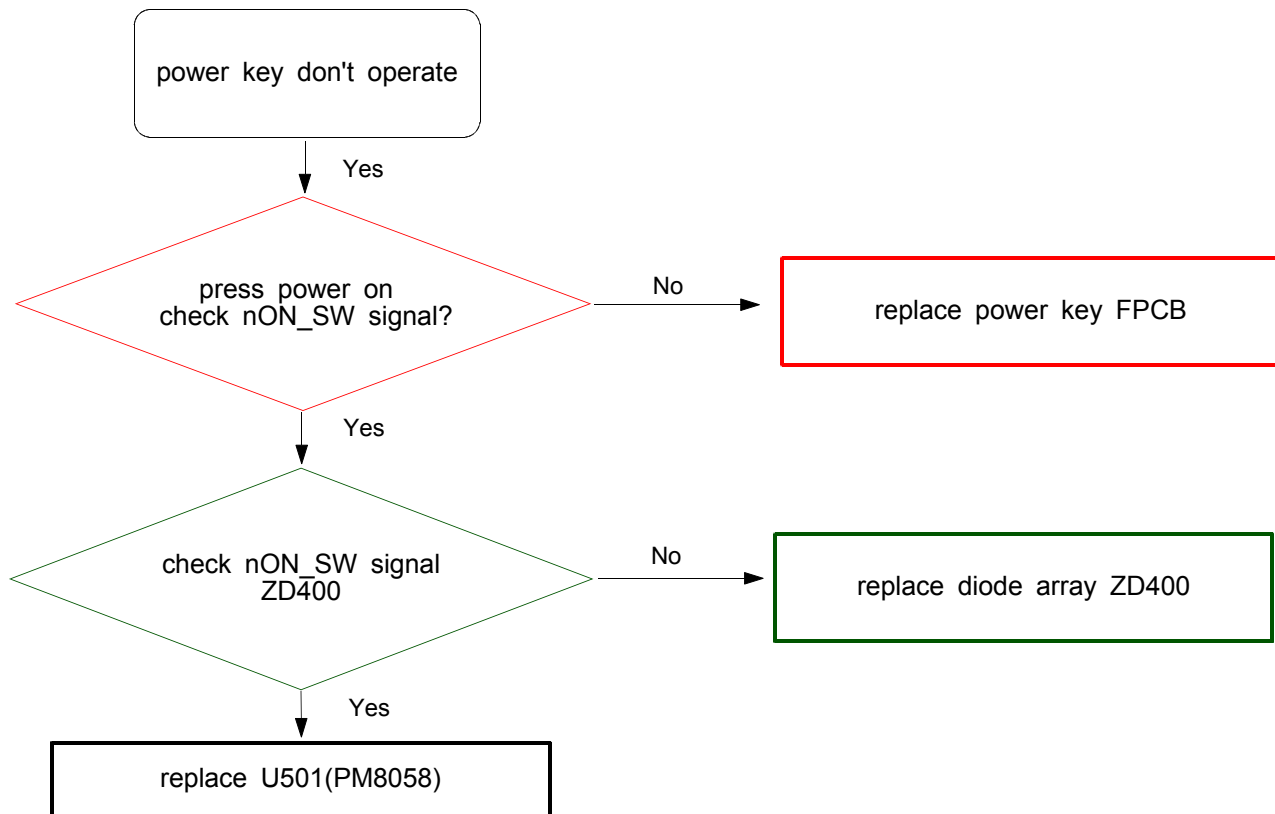




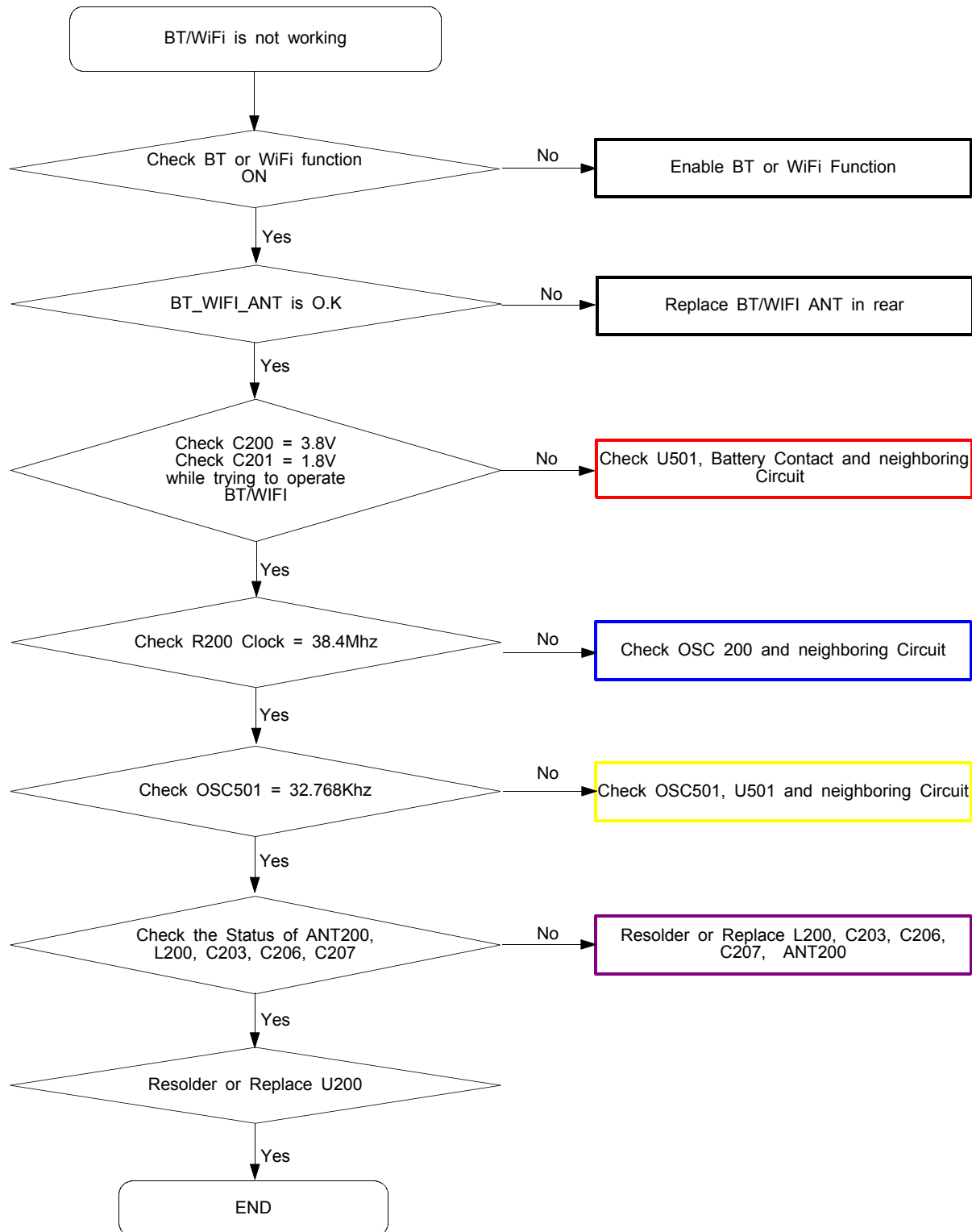
8-3-8. KEY Function (volume key/ power key)**- volume key**

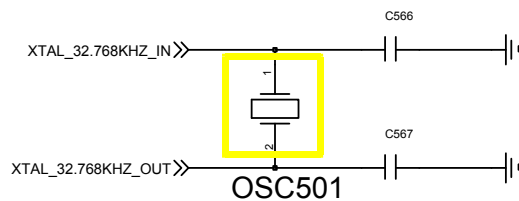


- power key

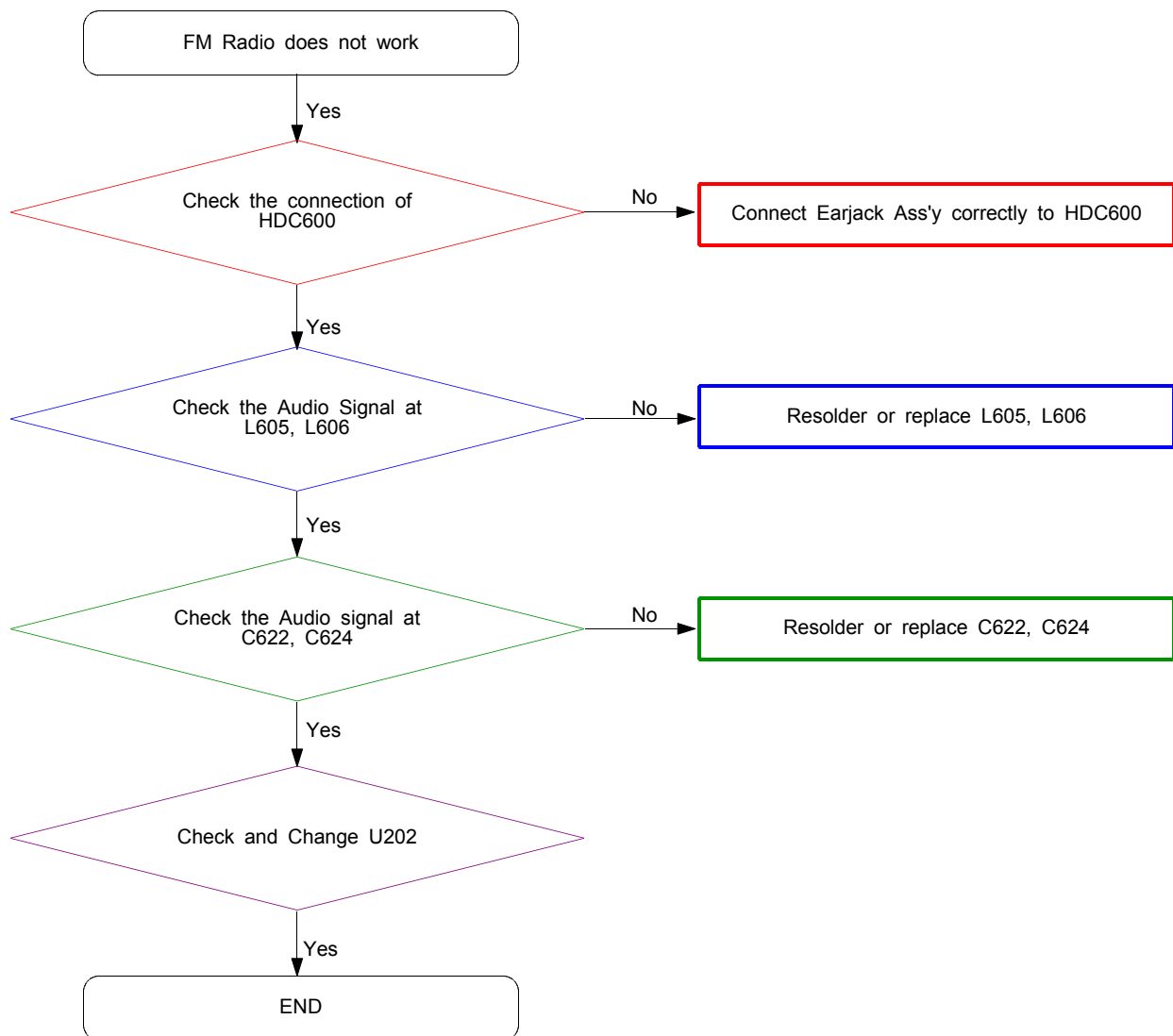


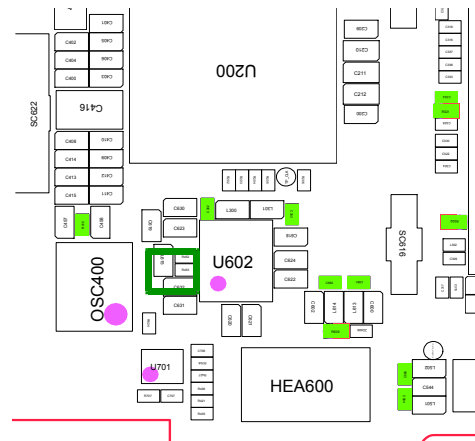
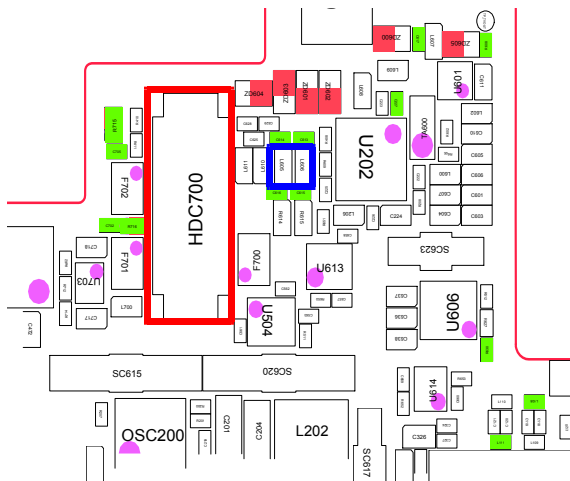
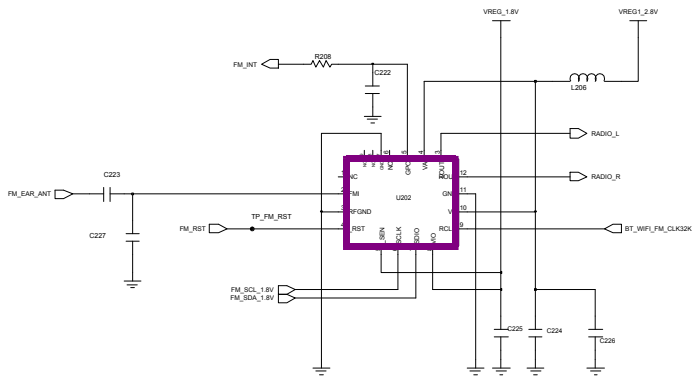
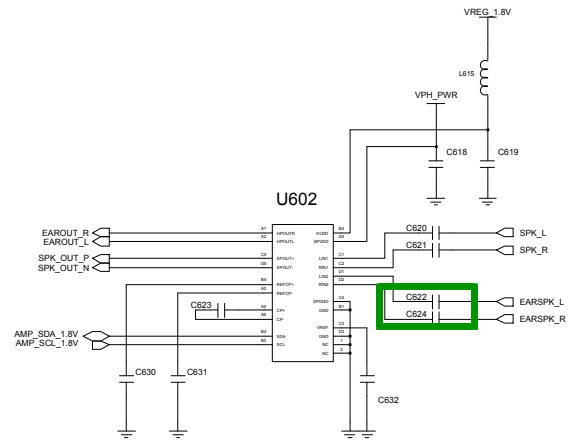
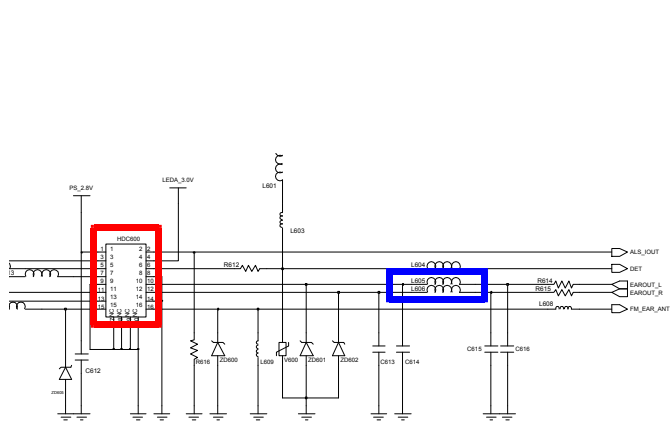
8-3-9. BT/WIFI



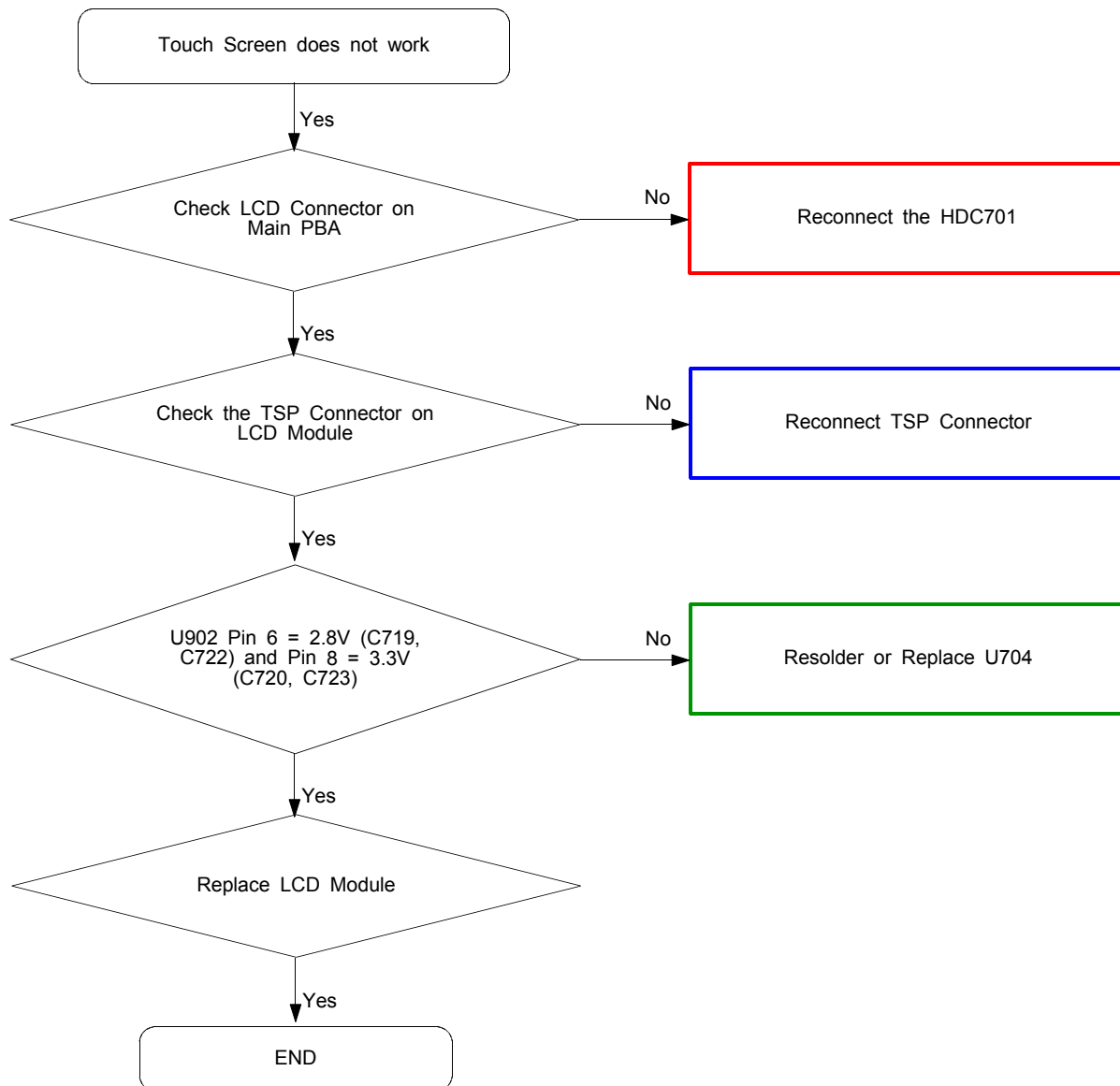


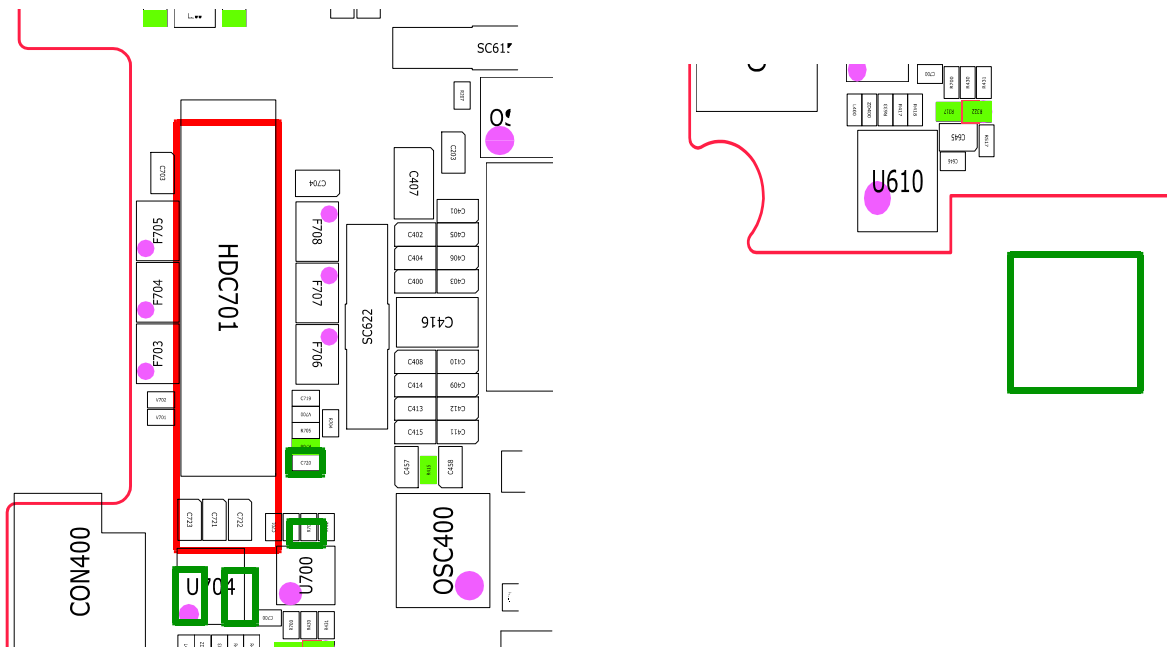
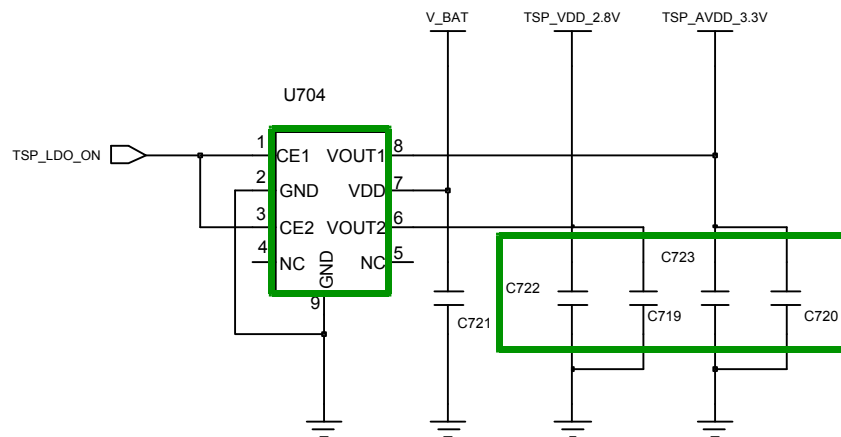
8-3-10. FM RADIO



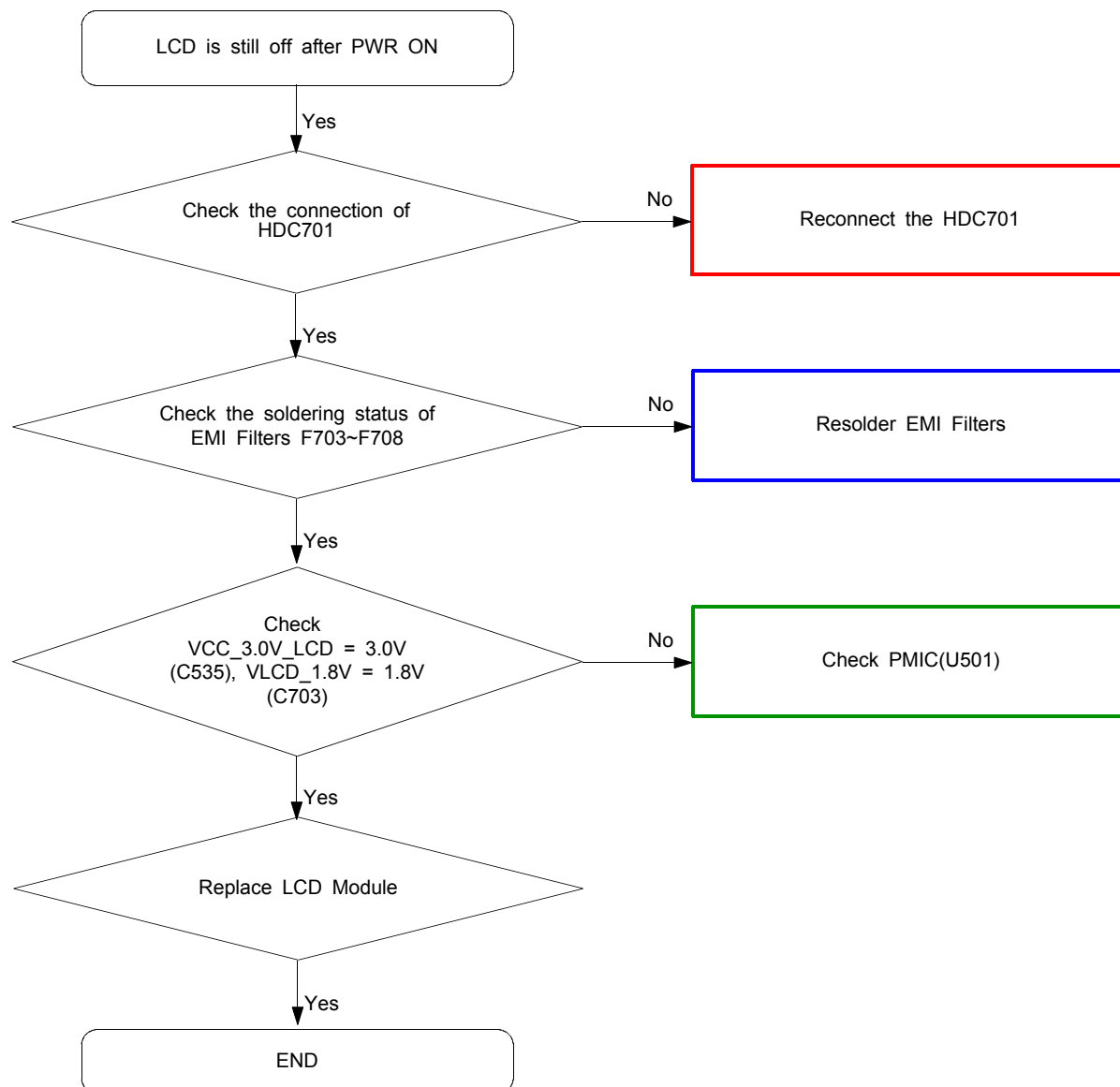


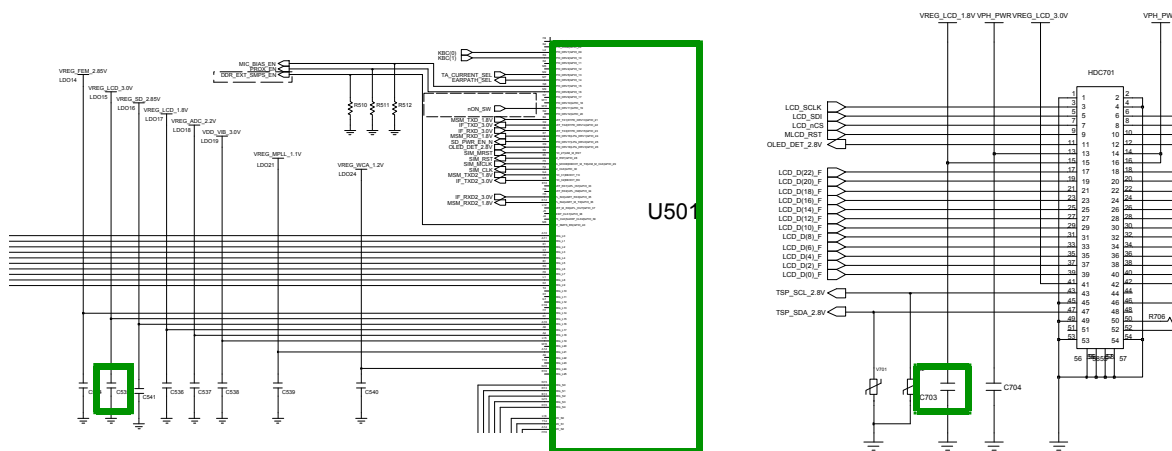
8-3-11. TSP



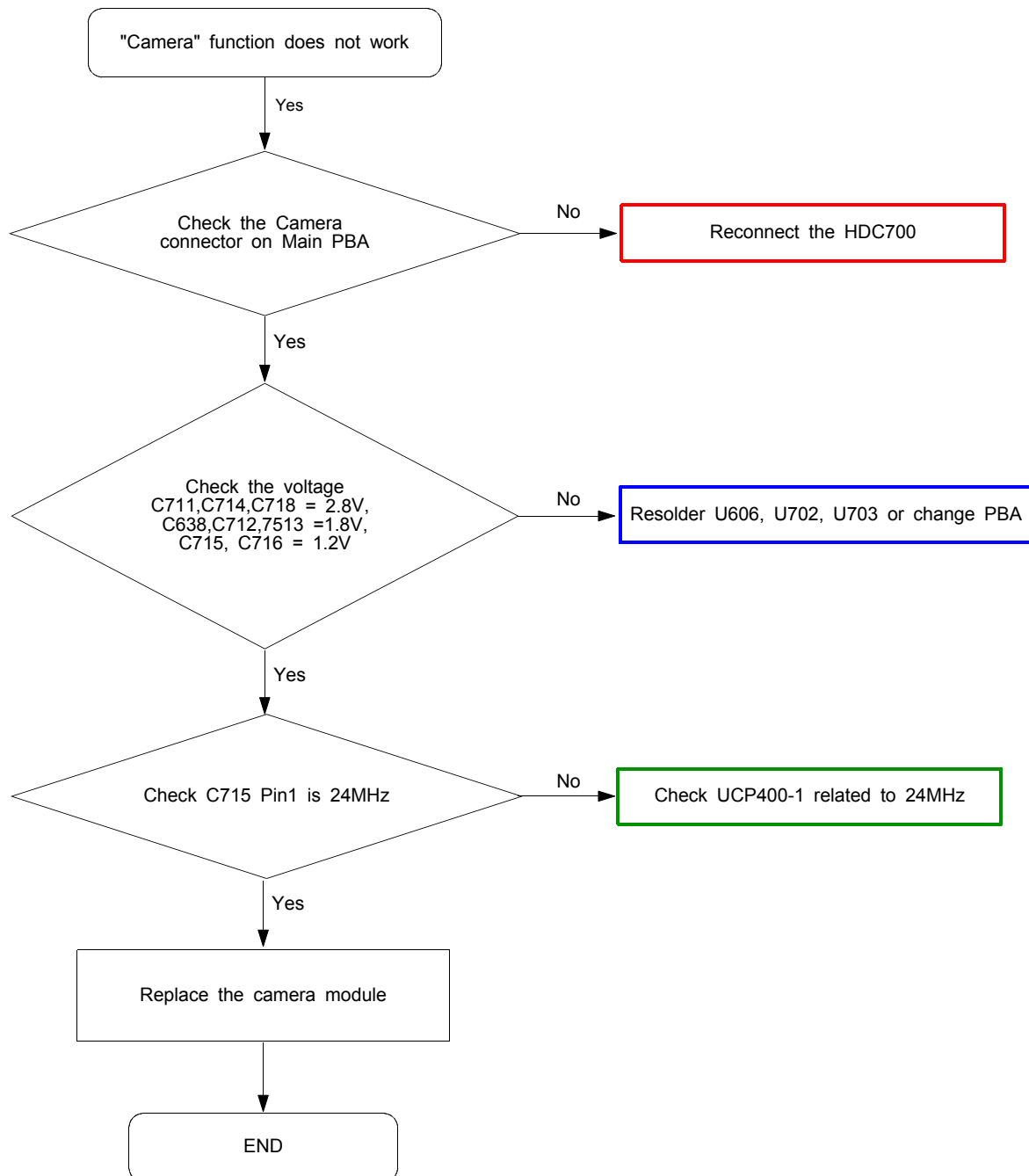


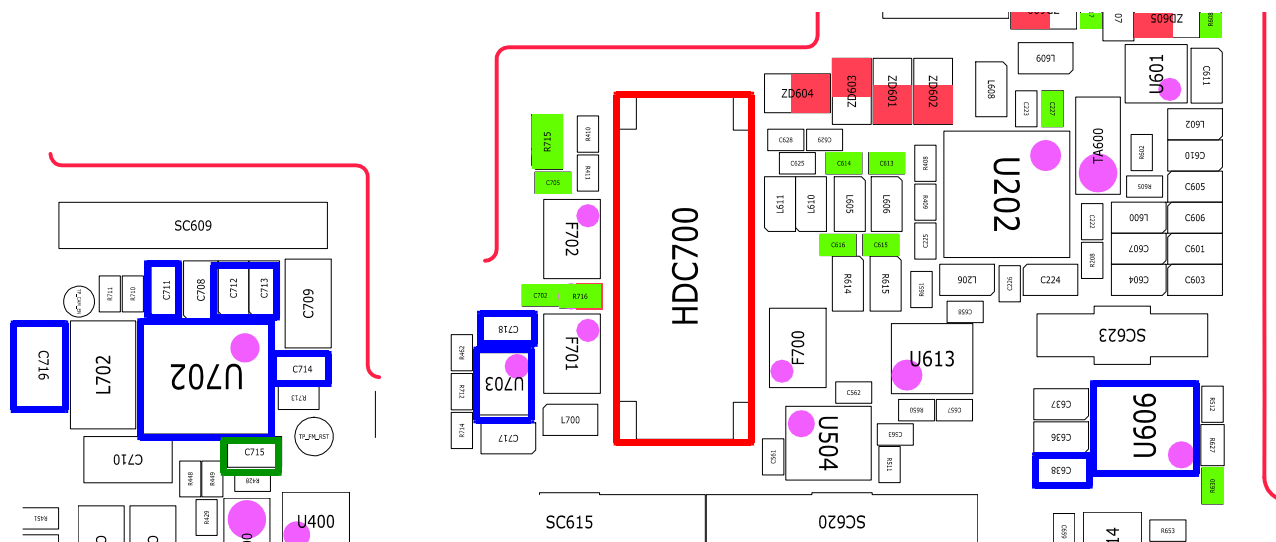
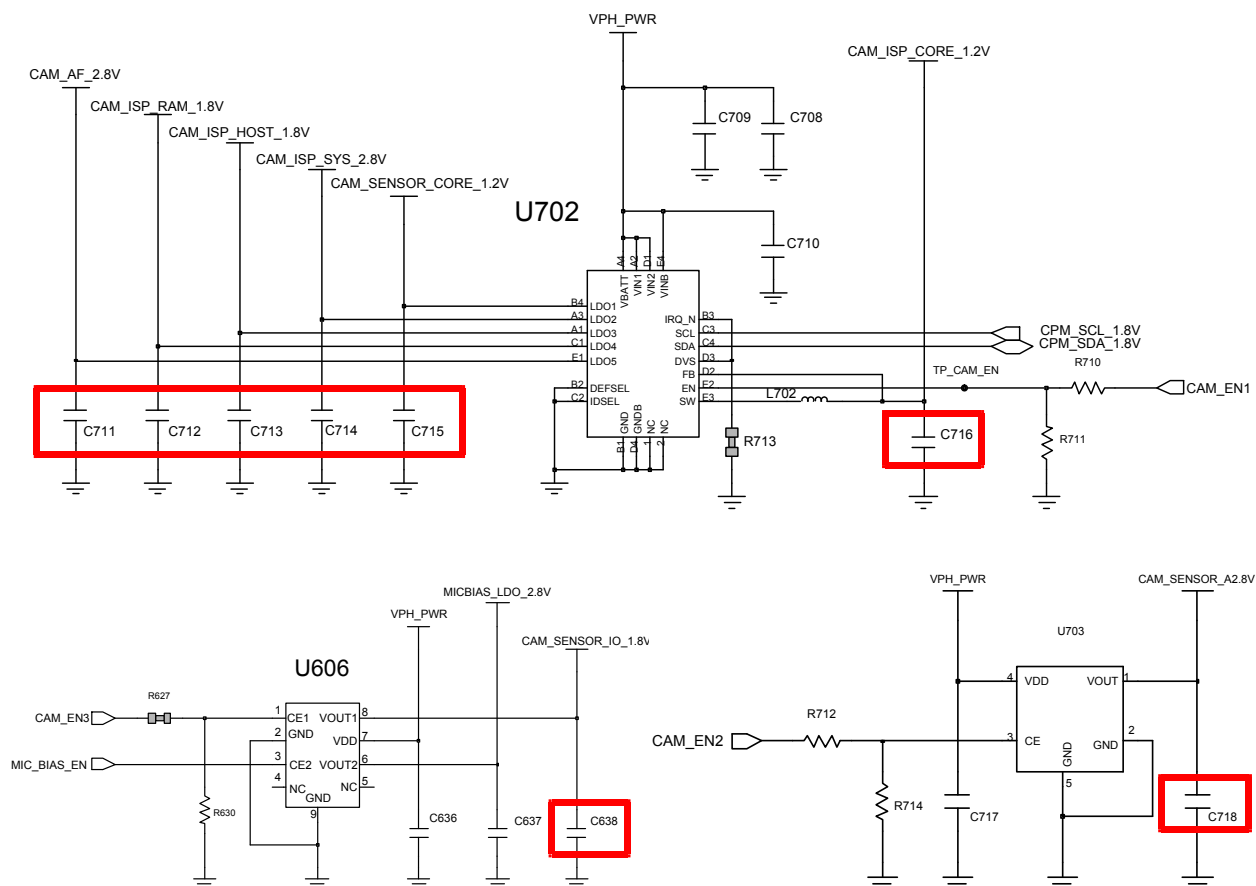
8-3-12. LCD



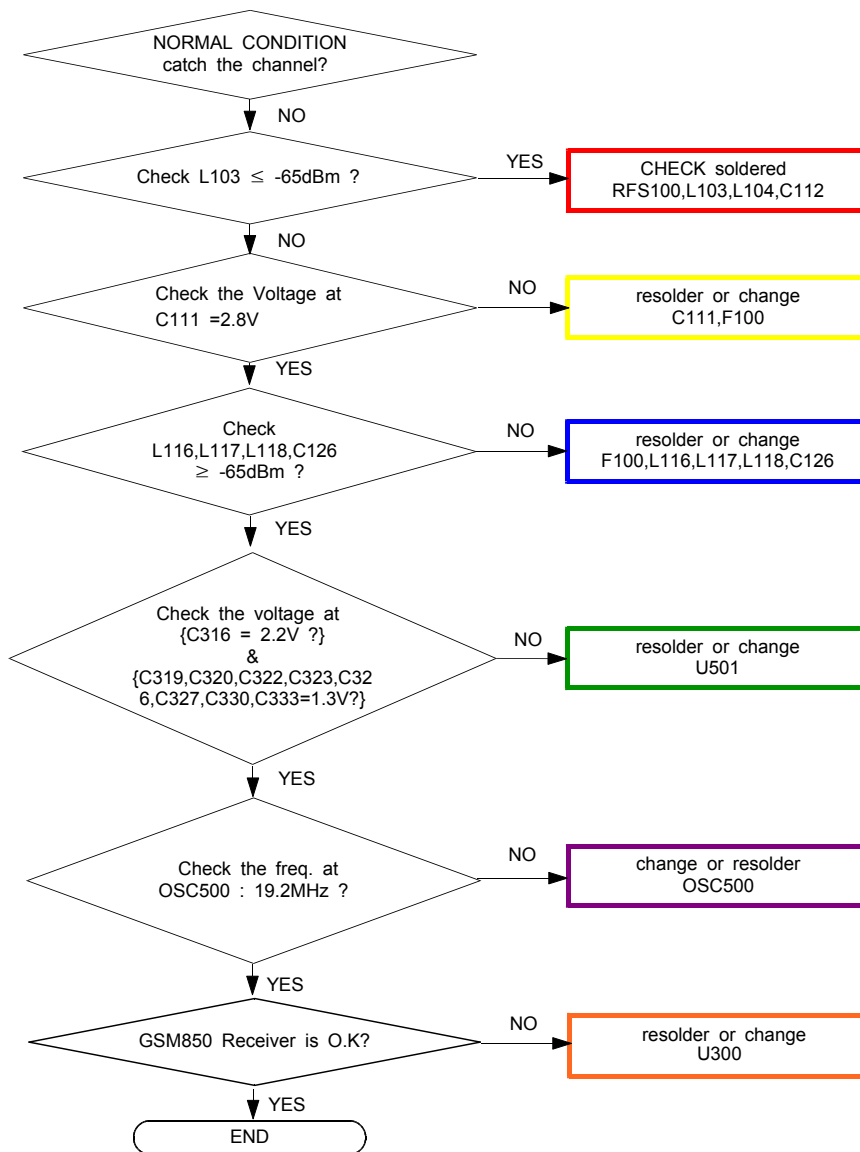


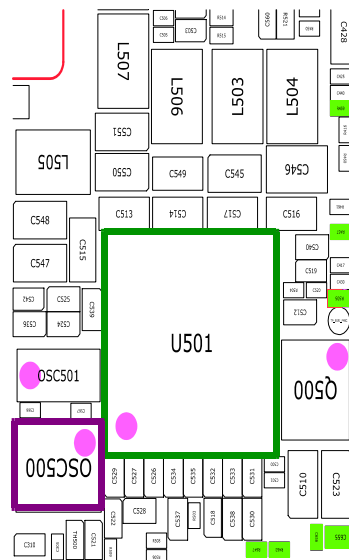
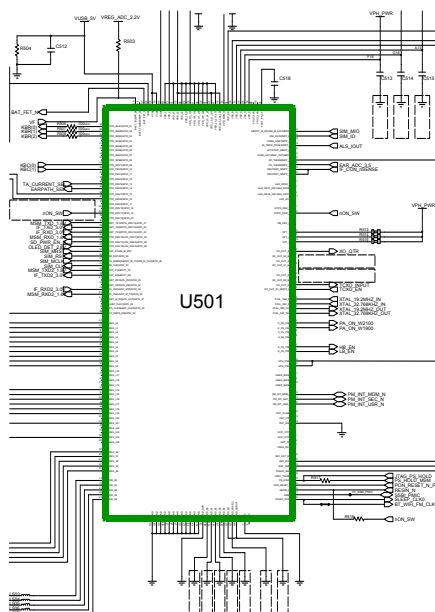
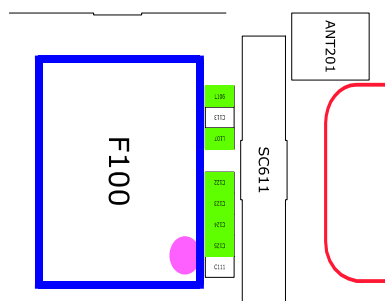
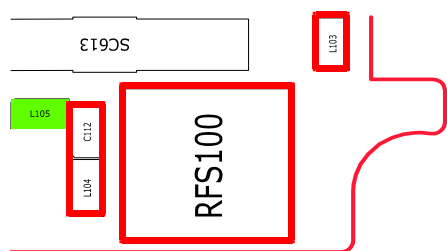
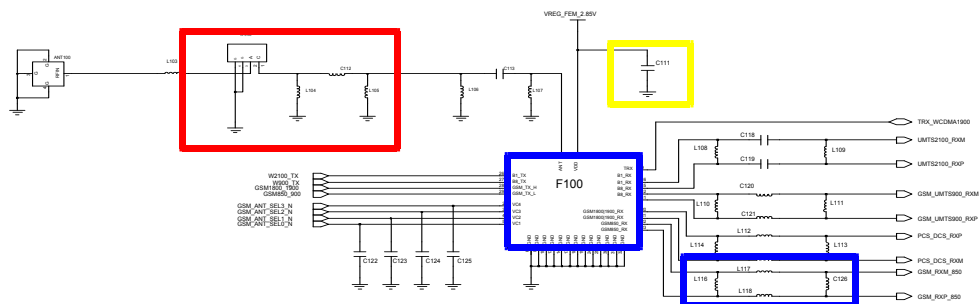
8-3-13. 5M CAM

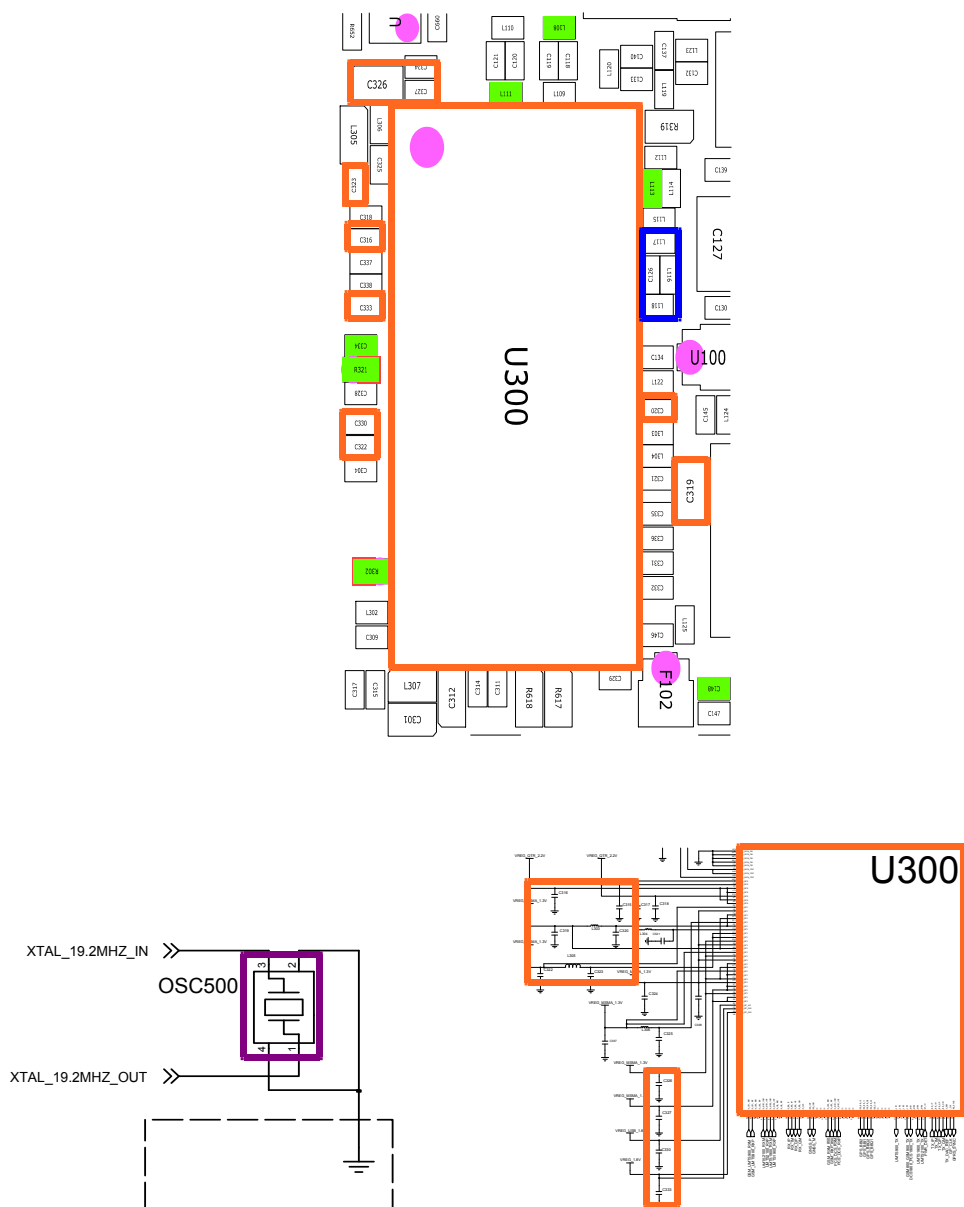




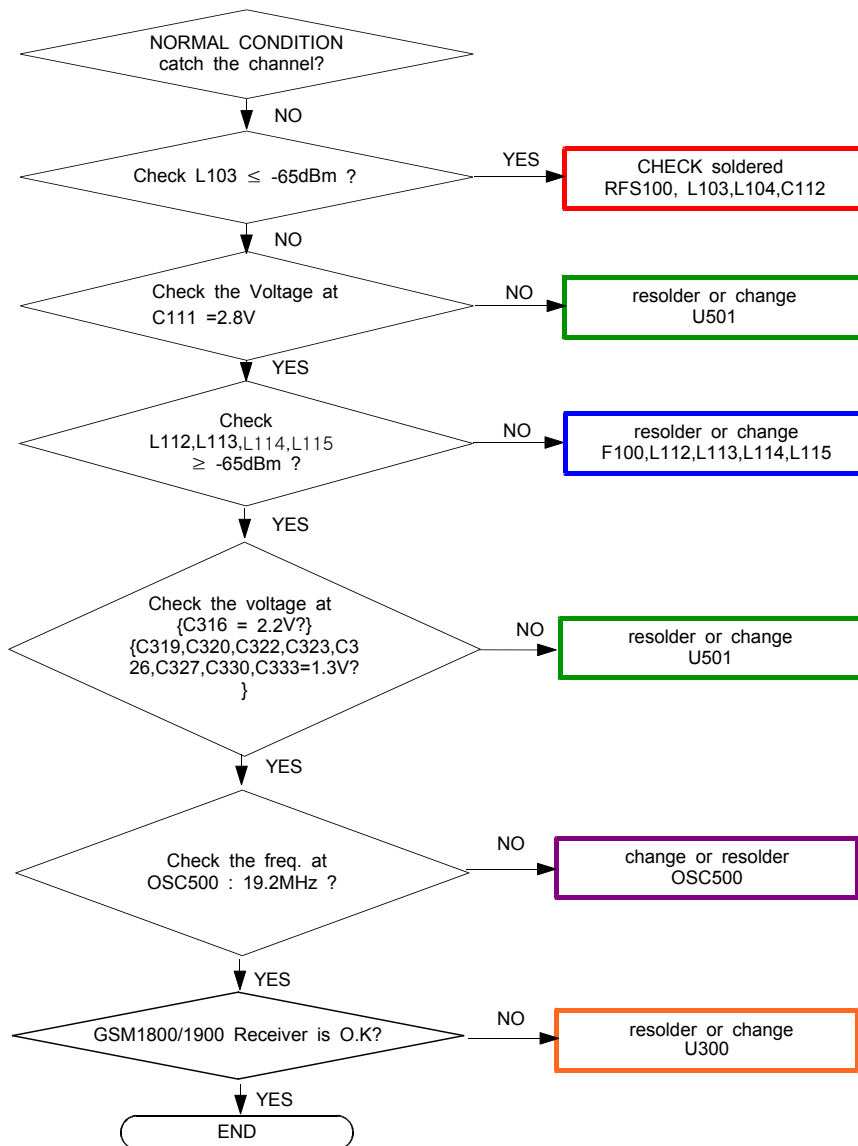
8-3-14. GSM850 RX

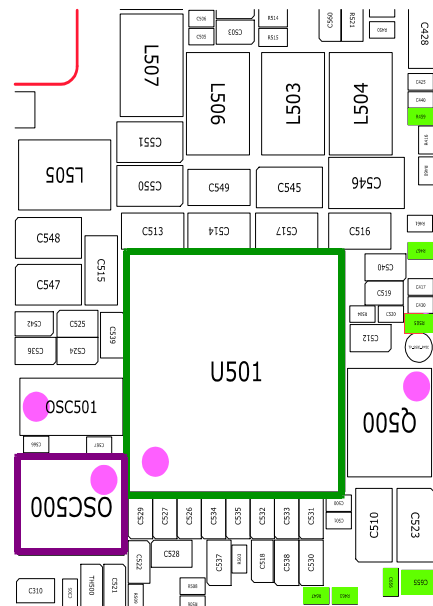
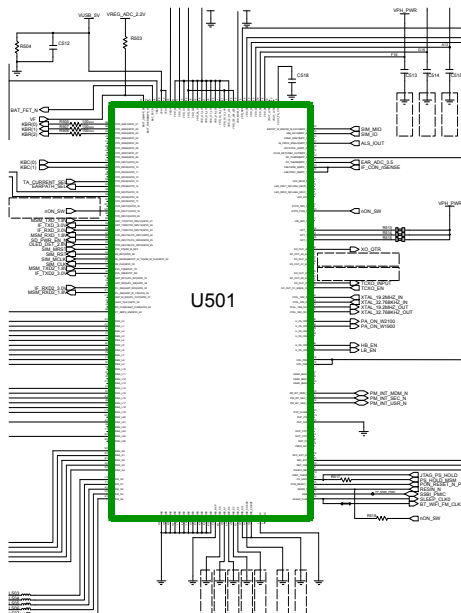
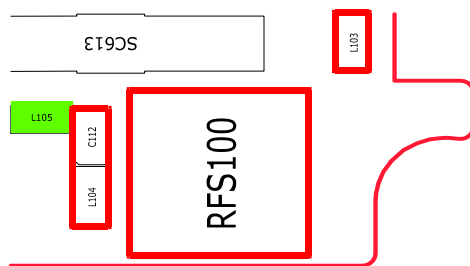
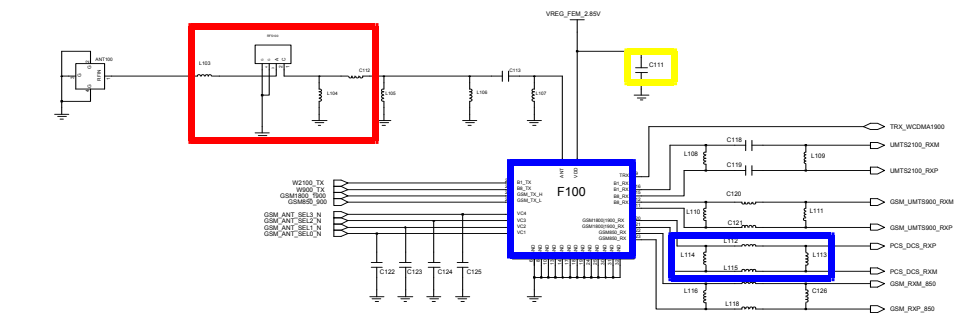






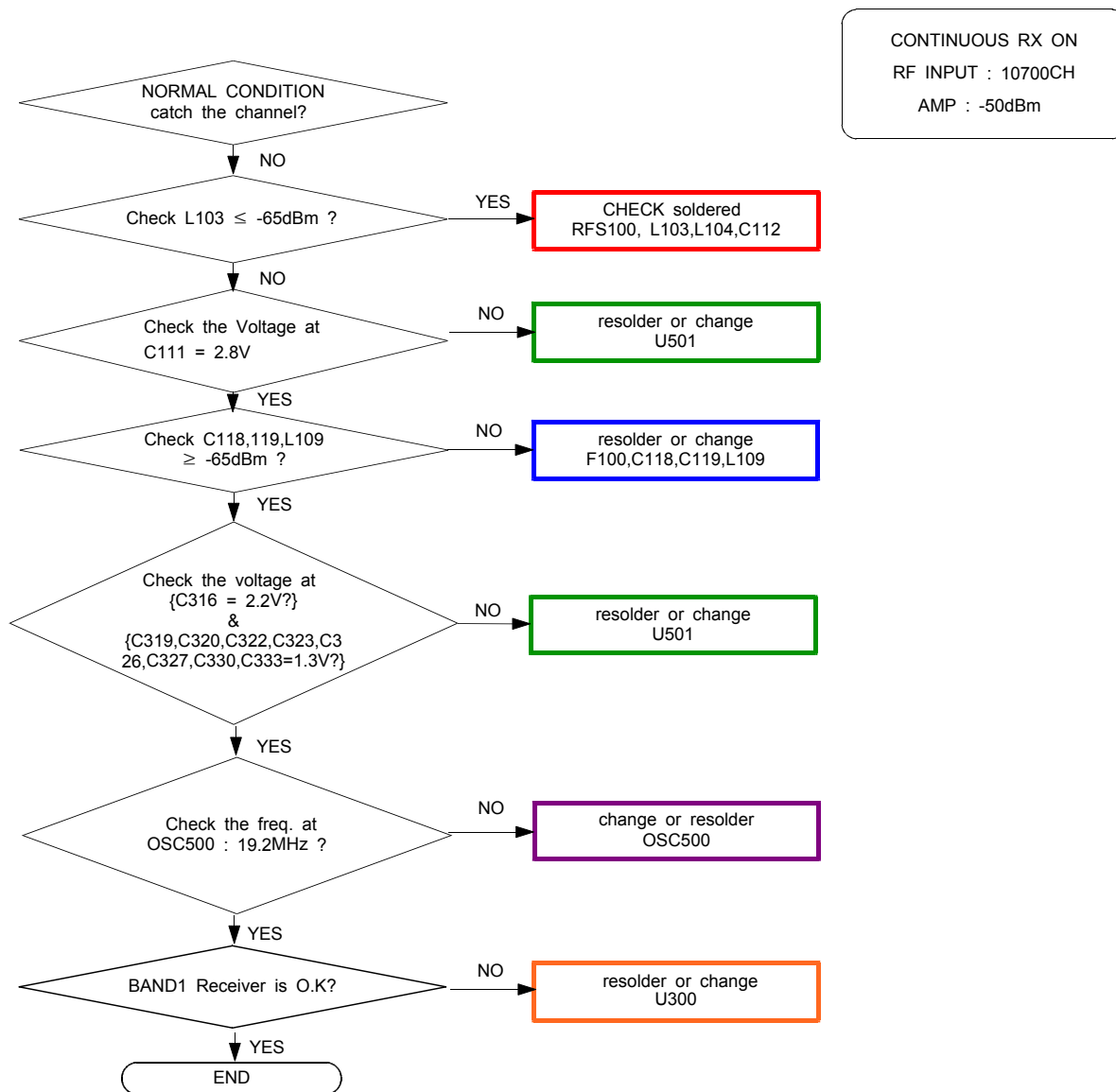
8-3-15. GSM1800, GSM1900 RX

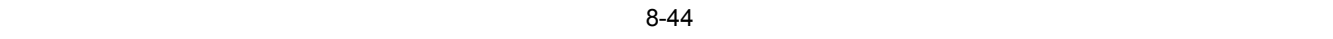


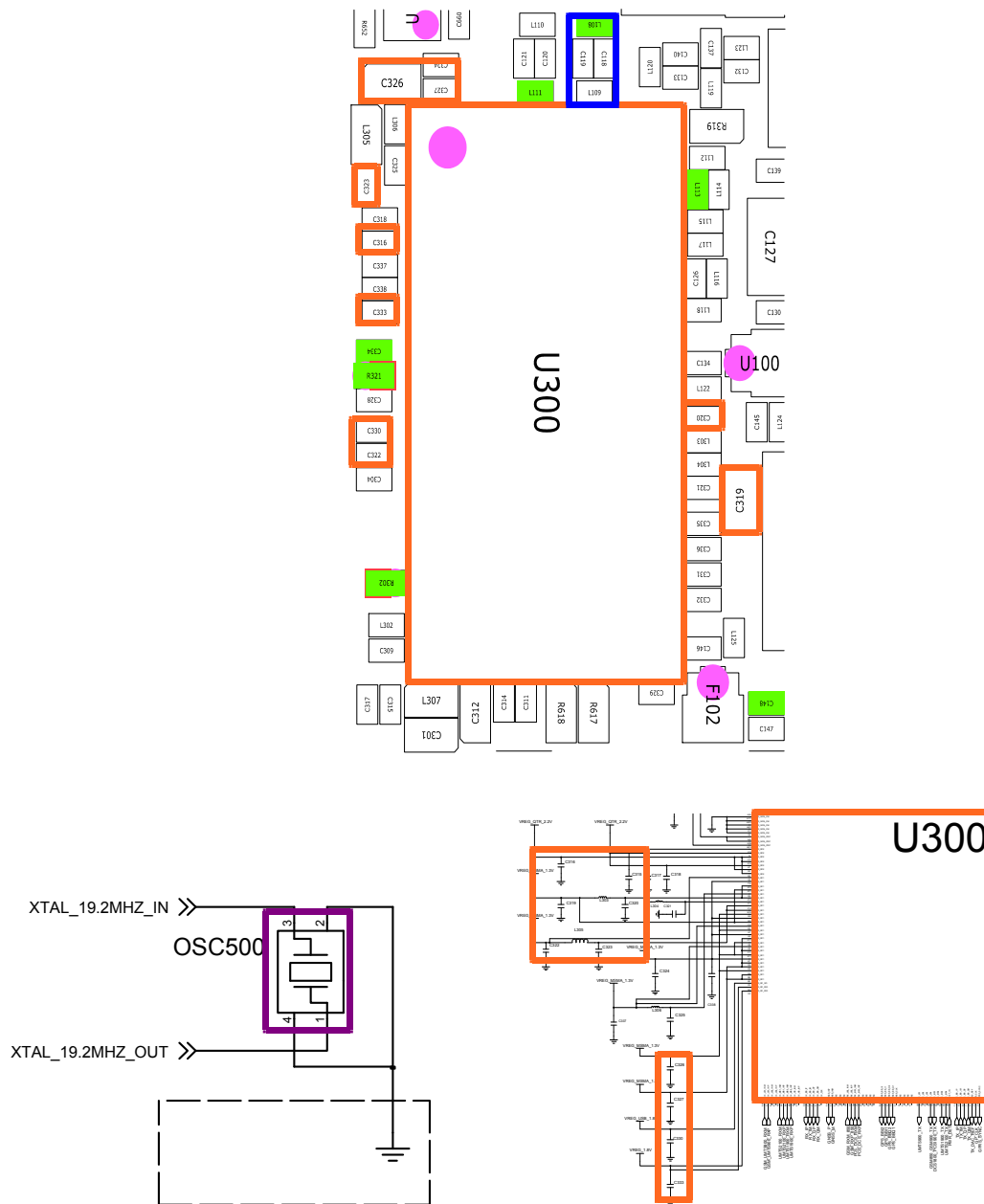




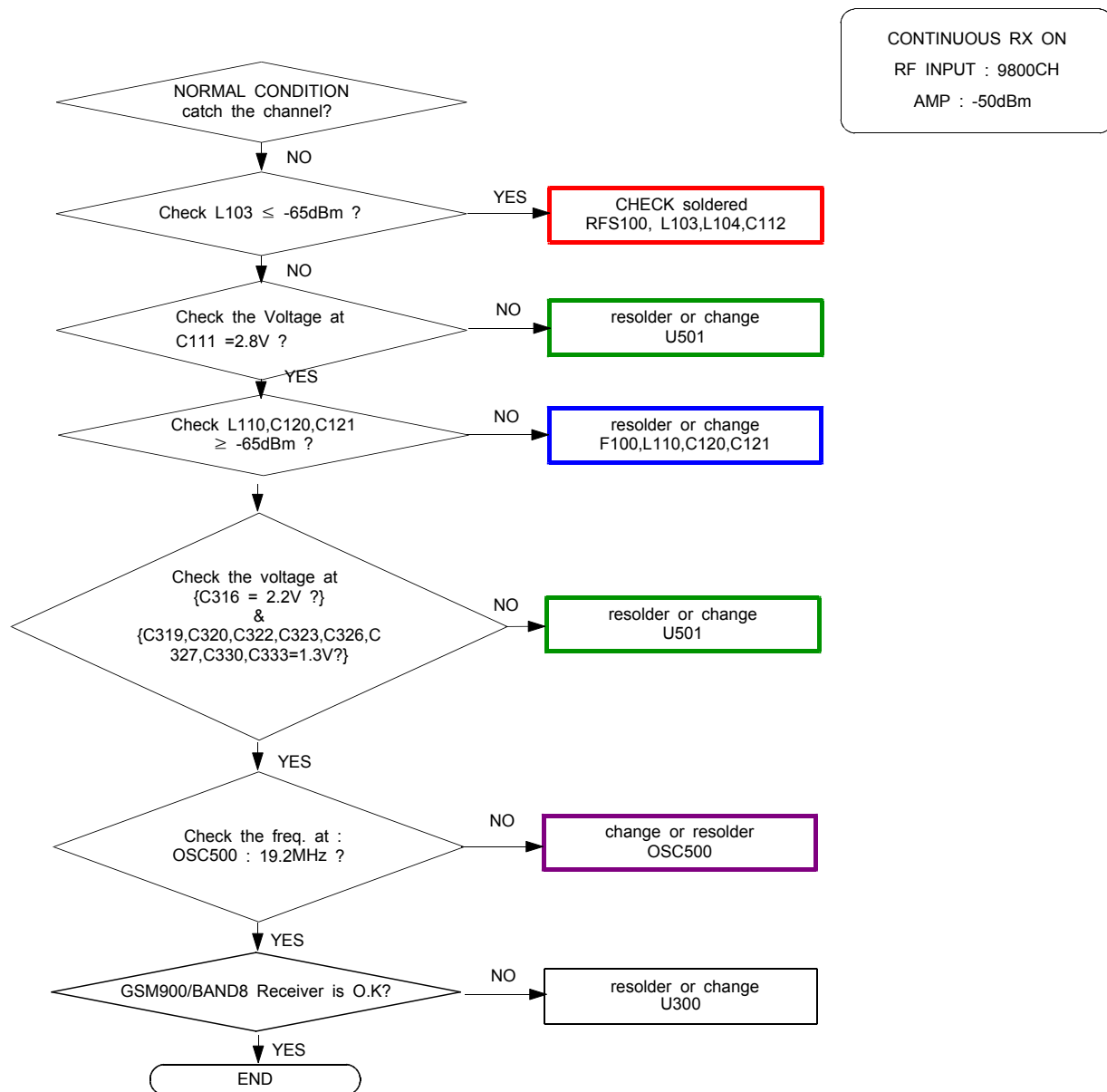
8-3-16. WCDMA Band1 RX







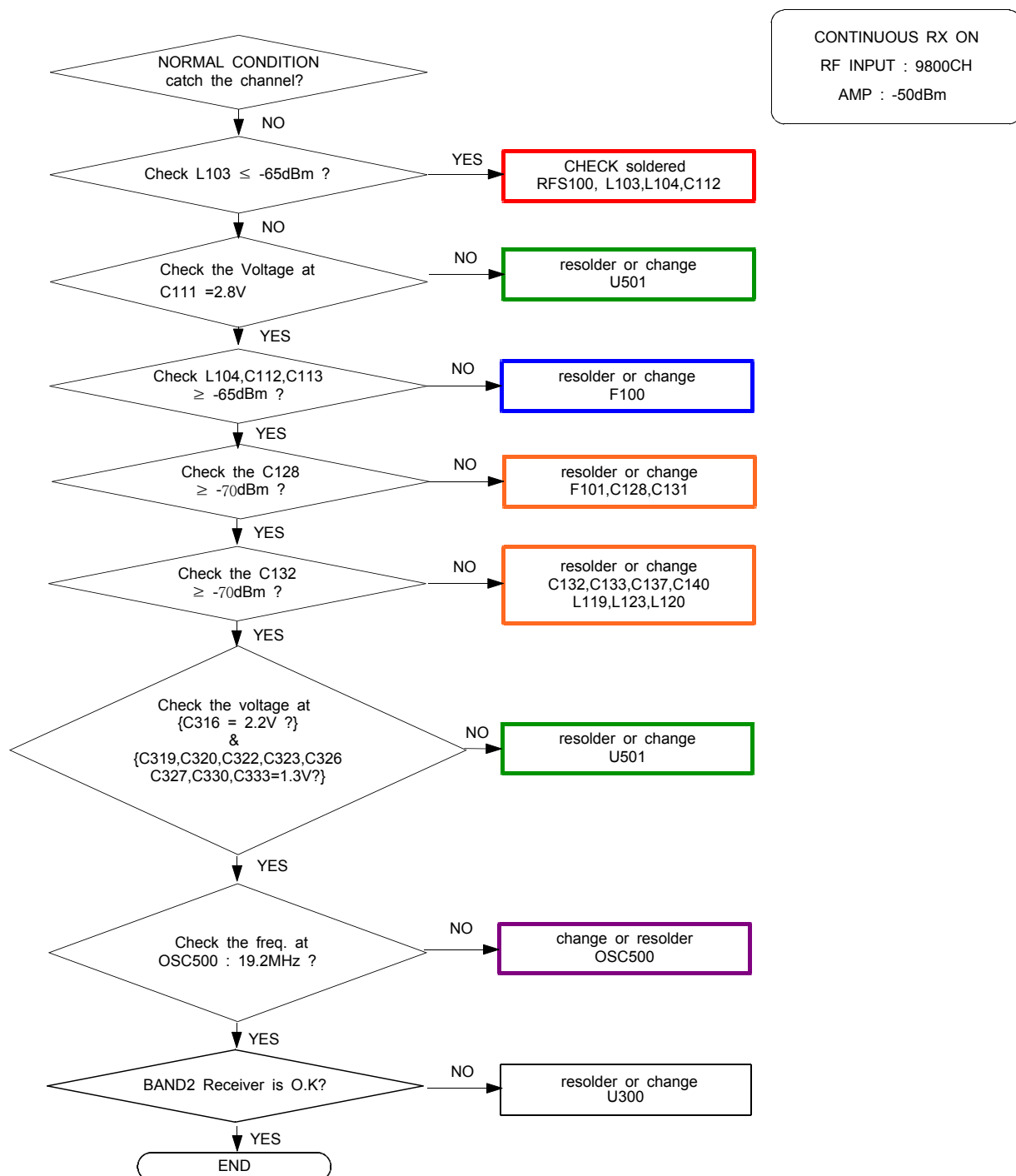
8-3-17. WCDMA Band8 / GSM900 RX

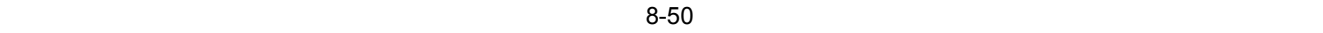


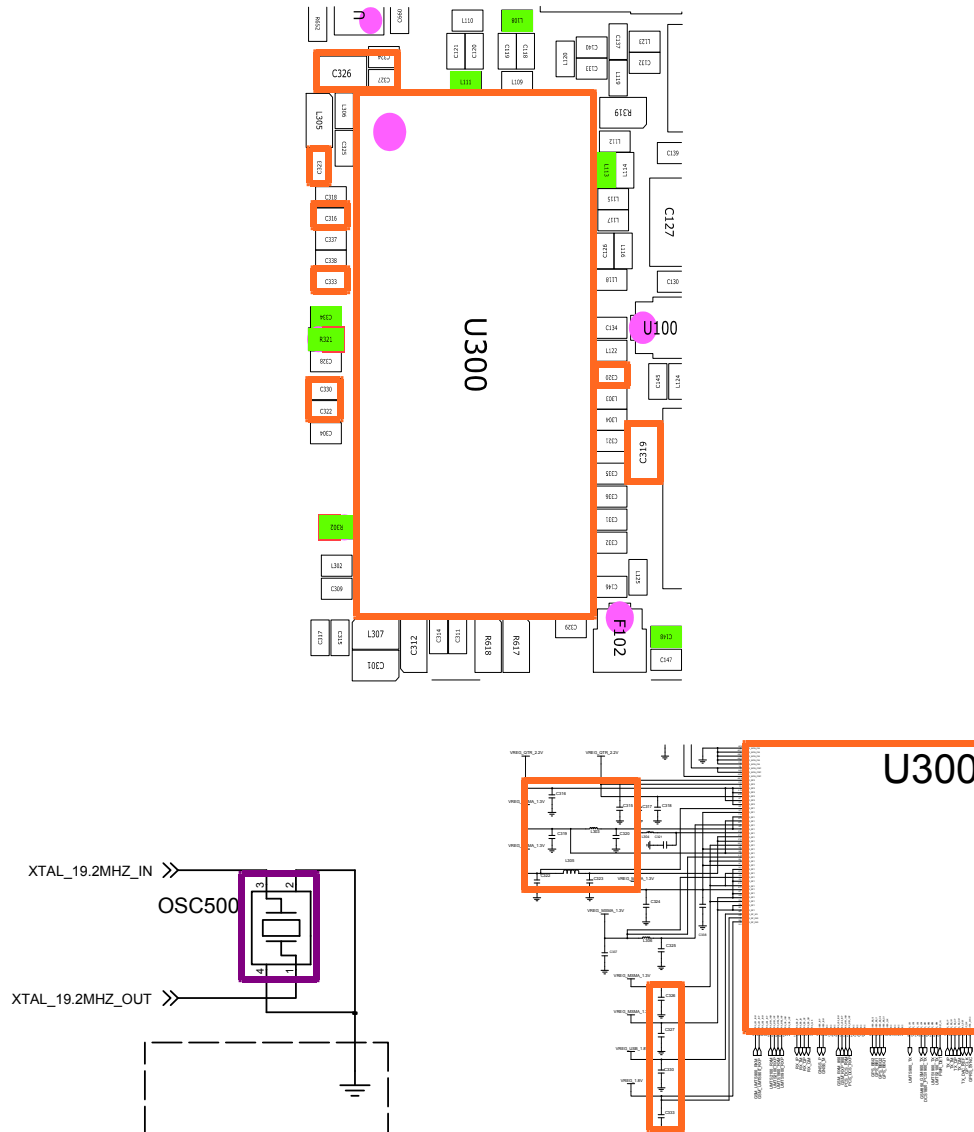




8-3-18. WCDMA Band2 RX

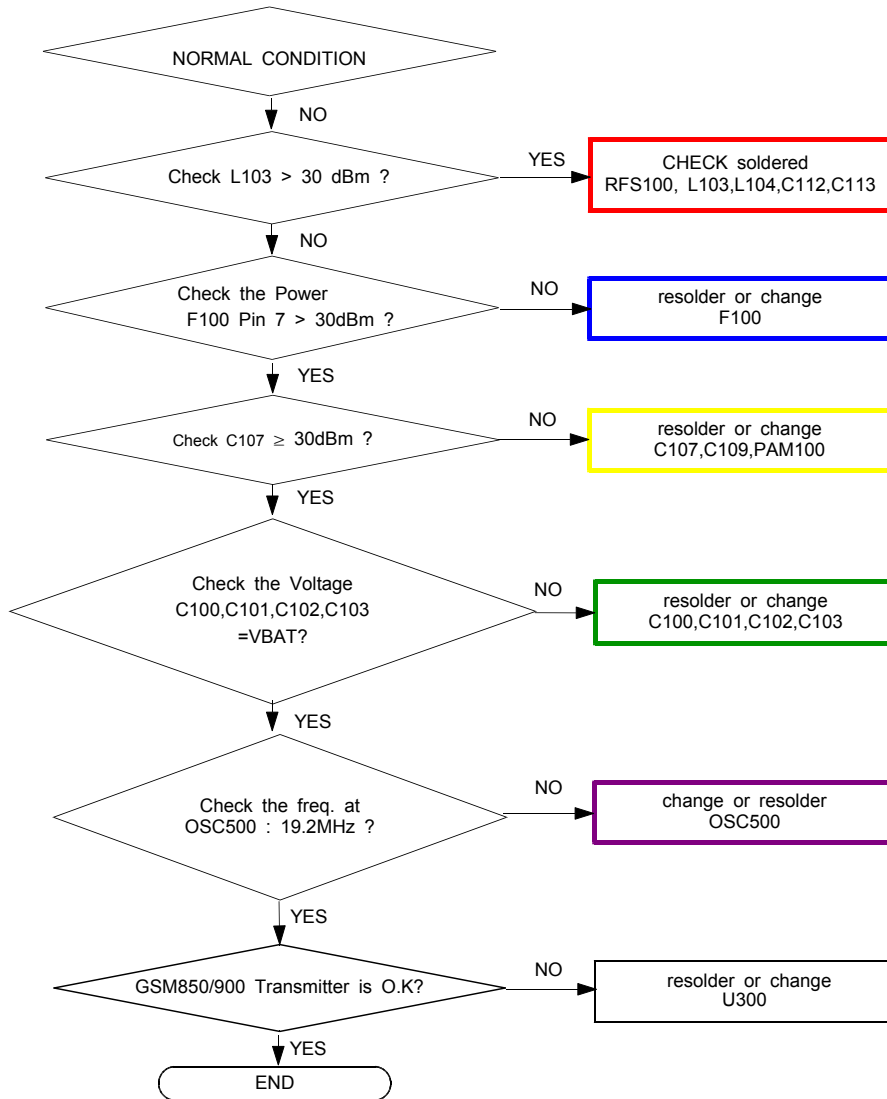


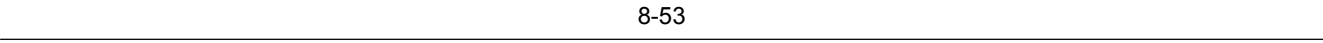


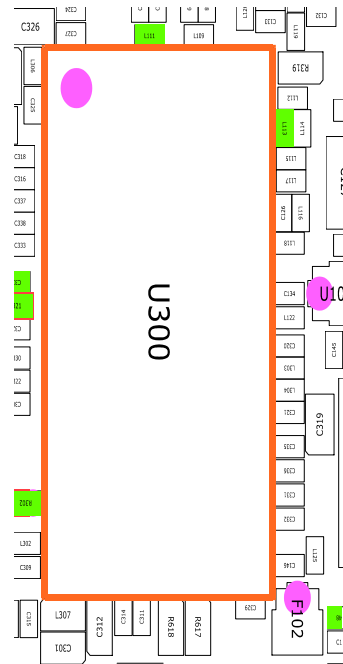


8-3-19. GSM850/GSM900 TX

CONTINUOUS TX ON CONDITION
TX POWER DAC:14500 CODE
APPLIED
GSM850 CH : 190
GSM900 CH : 62
RBW : 100KHz
VBW : 100KHz
SPAN : 10MHz
REF LEV. : 10dBm
ATT. : 20dB

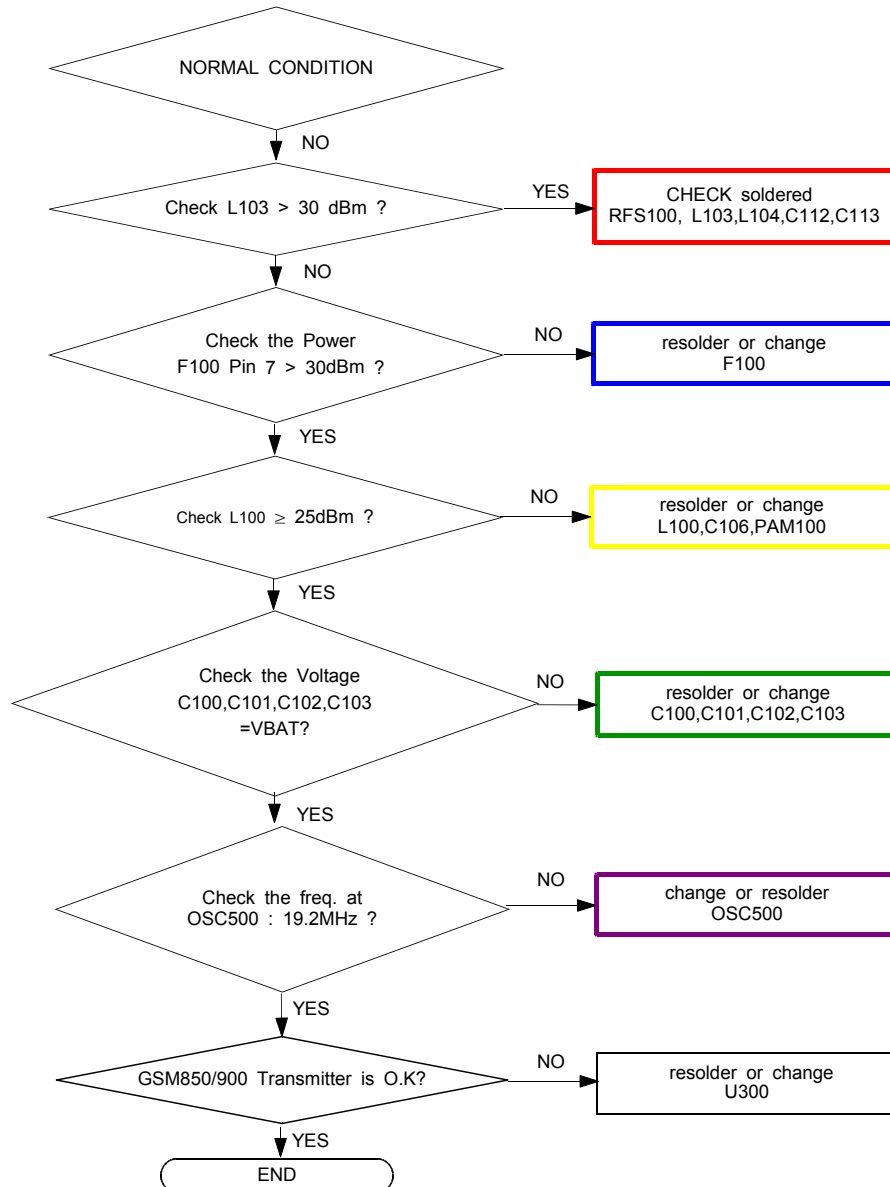


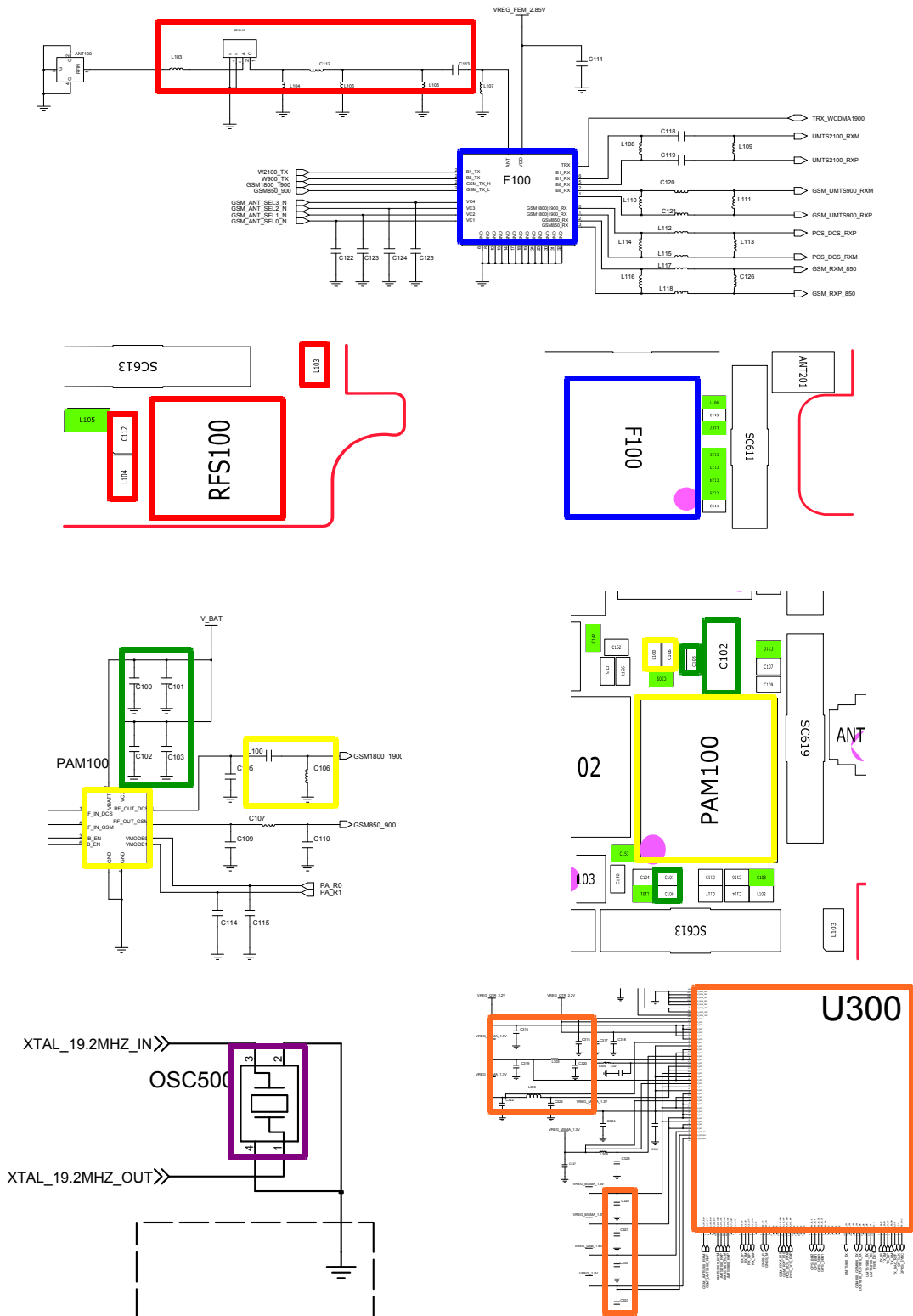


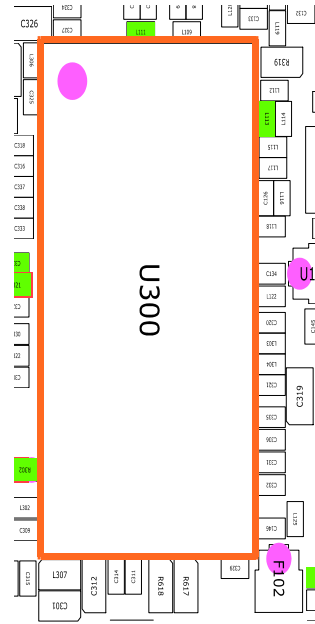


8-3-20. DCS/PCS TX

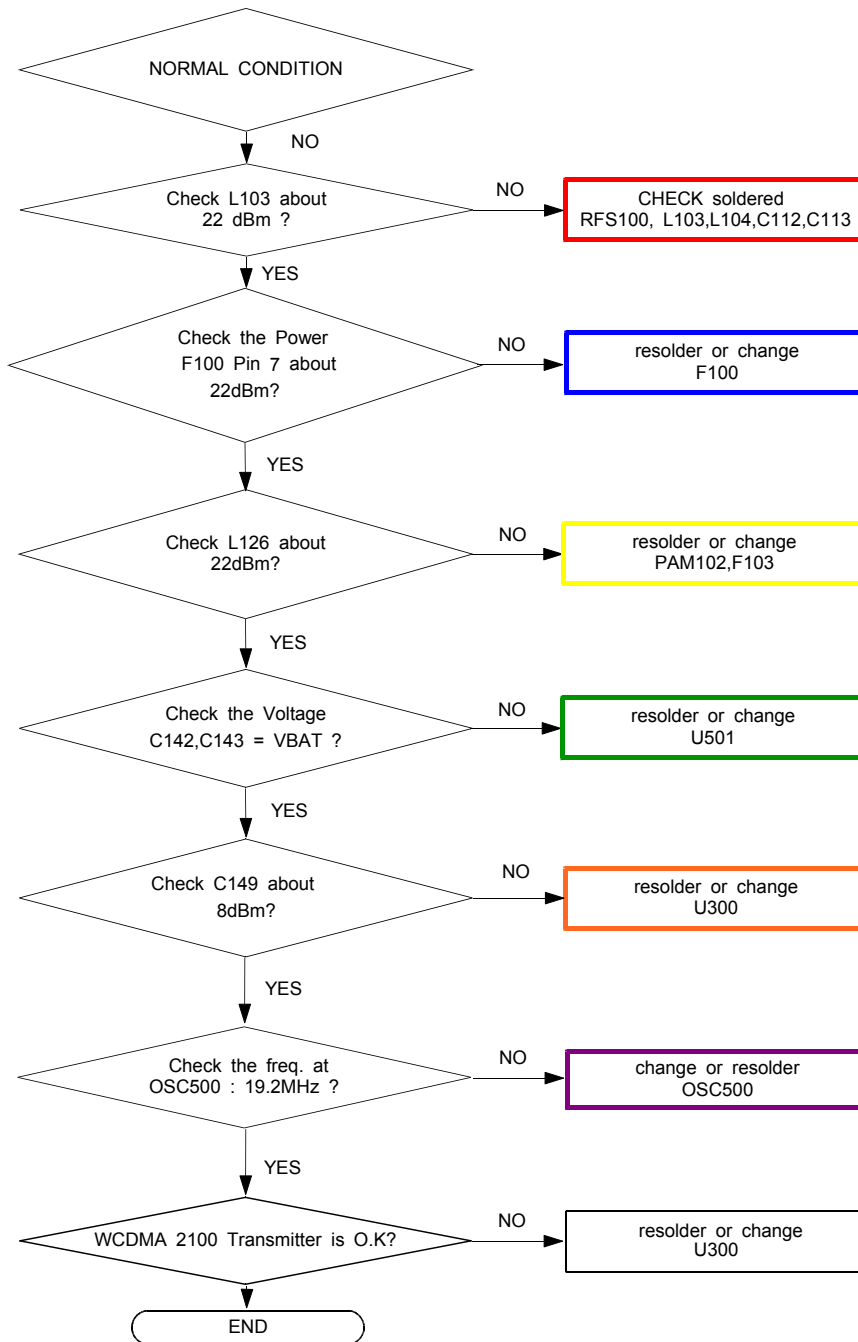
CONTINUOUS TX ON CONDITION
 TX POWER DAC:14500 CODE
 APPLIED
 GSM850 CH : 190
 GSM900 CH : 698
 RBW : 100KHz
 VBW : 100KHz
 SPAN : 10MHz
 REF LEV. : 10dBm
 ATT. : 20dB

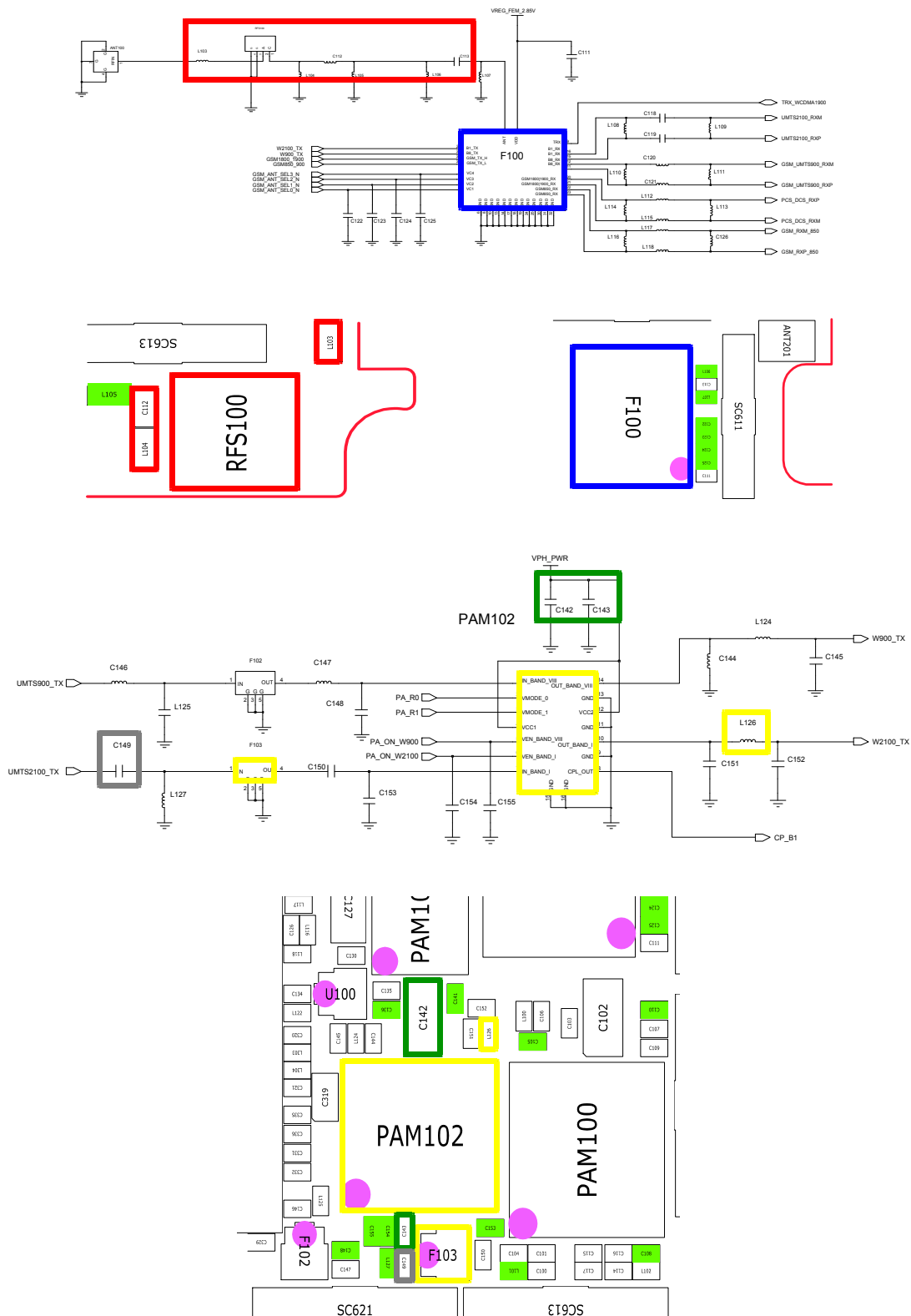


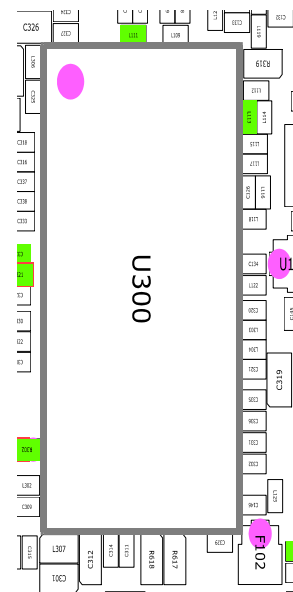
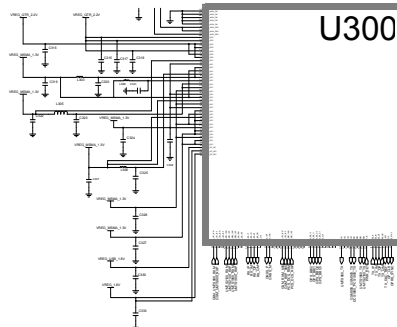
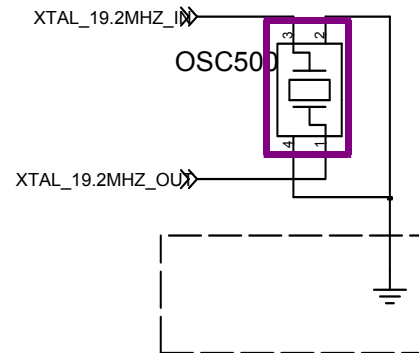




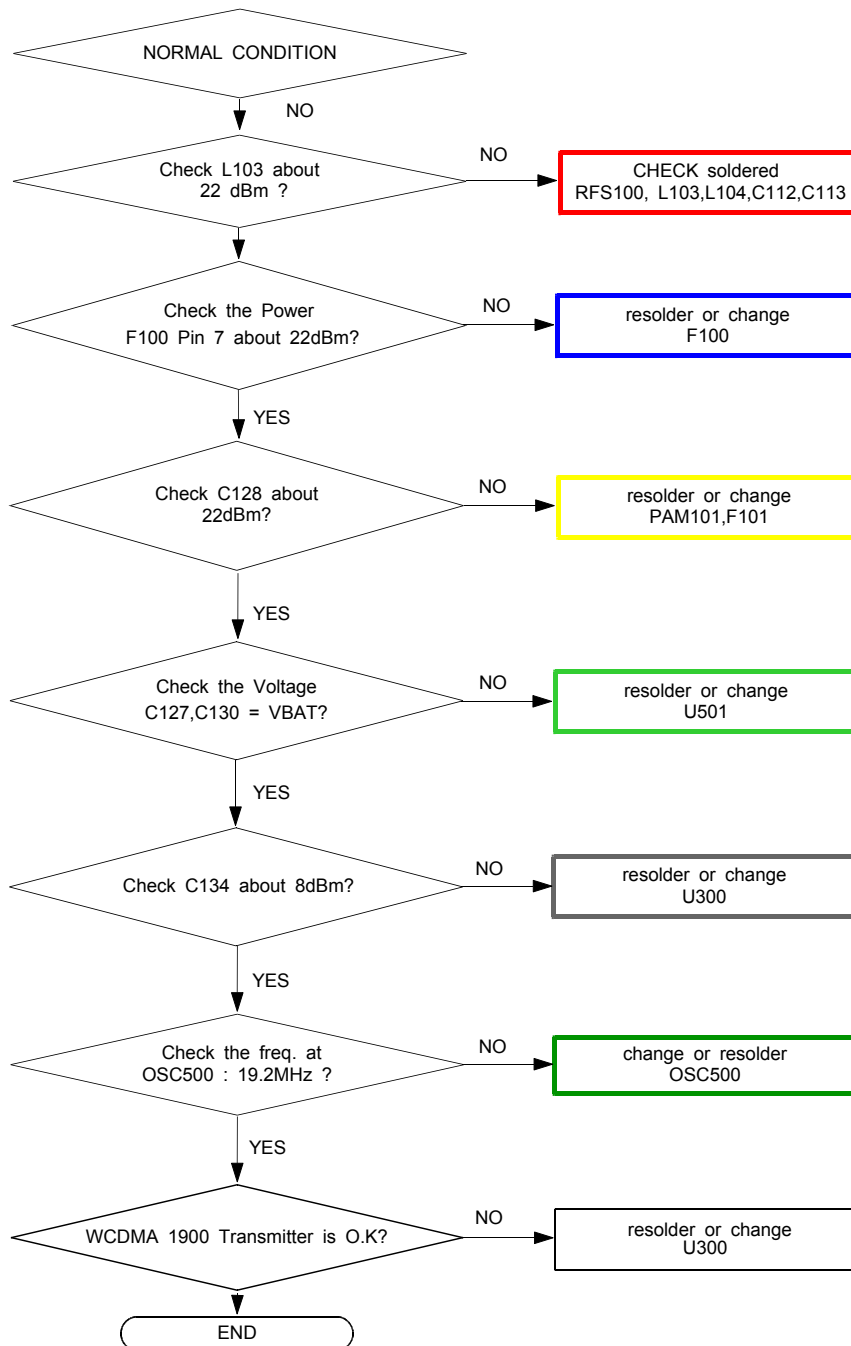
8-3-21. WCDMA BAND1 TX

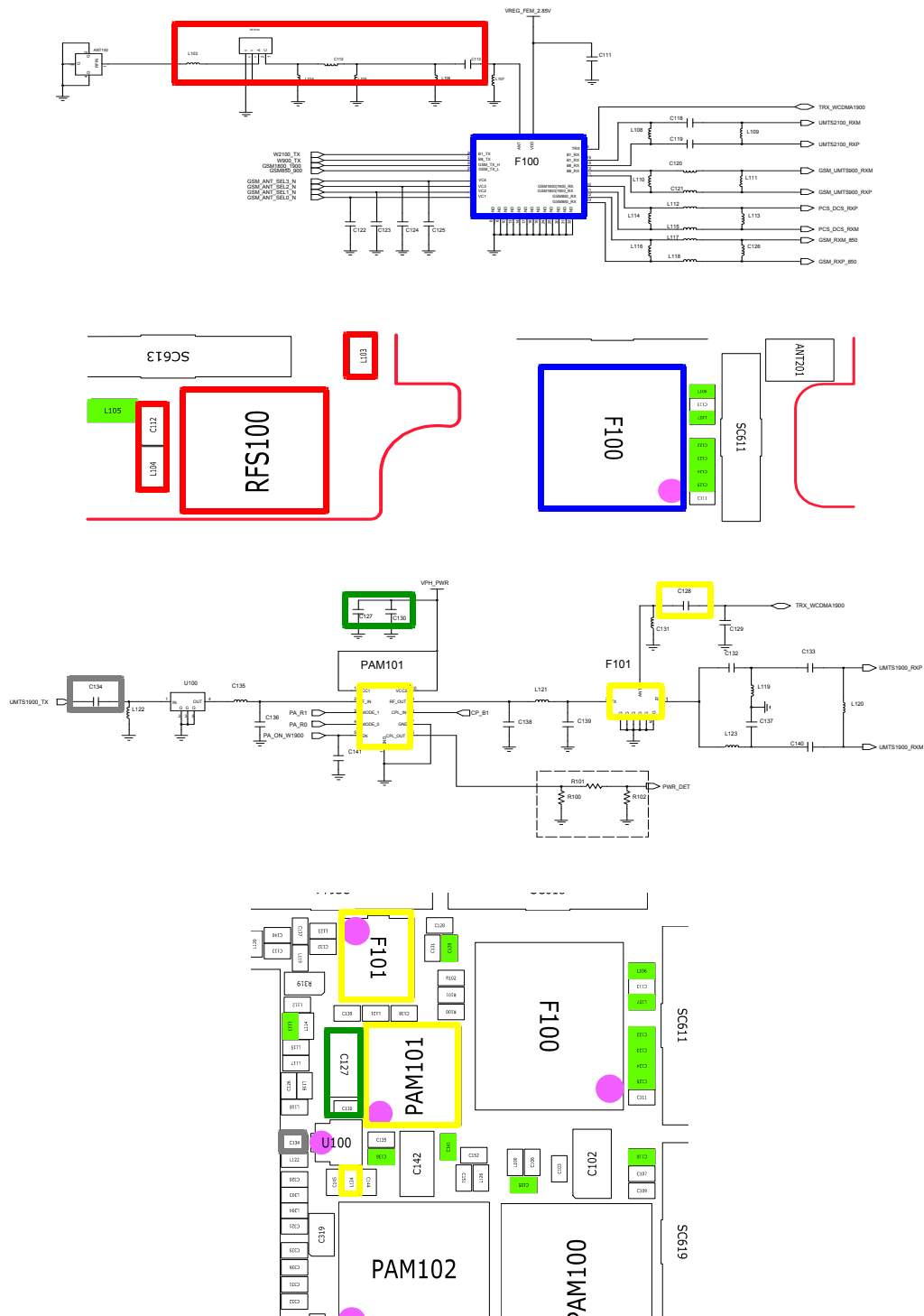


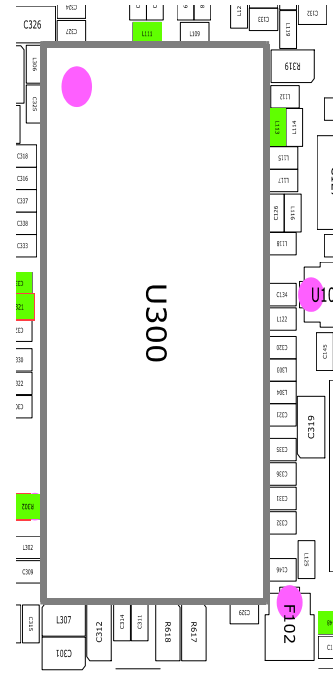
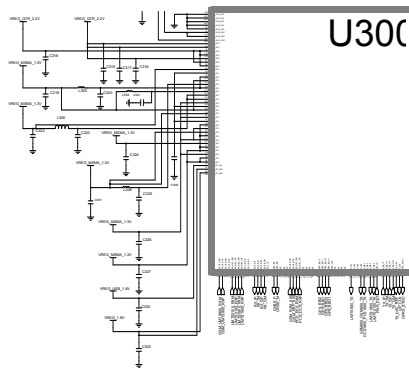
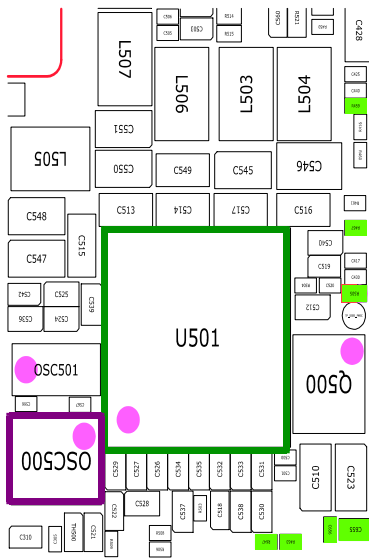
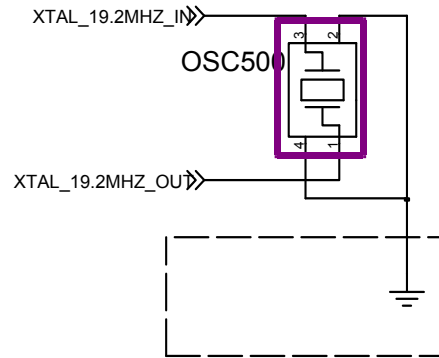
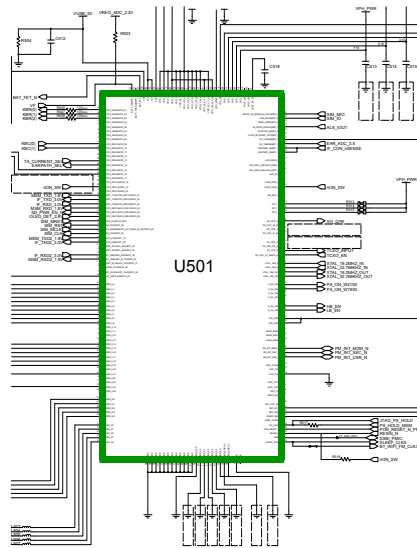




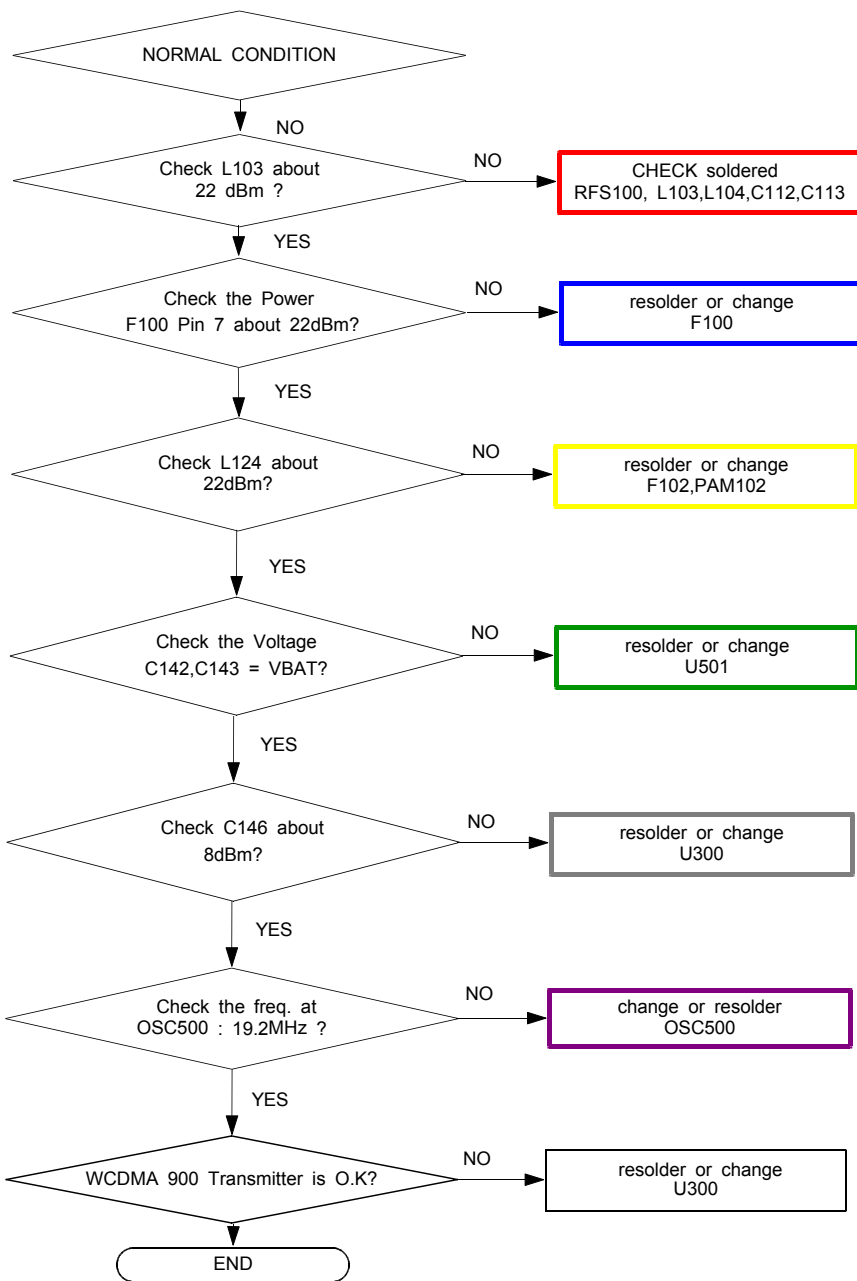
8-3-22. WCDMA BAND2 TX

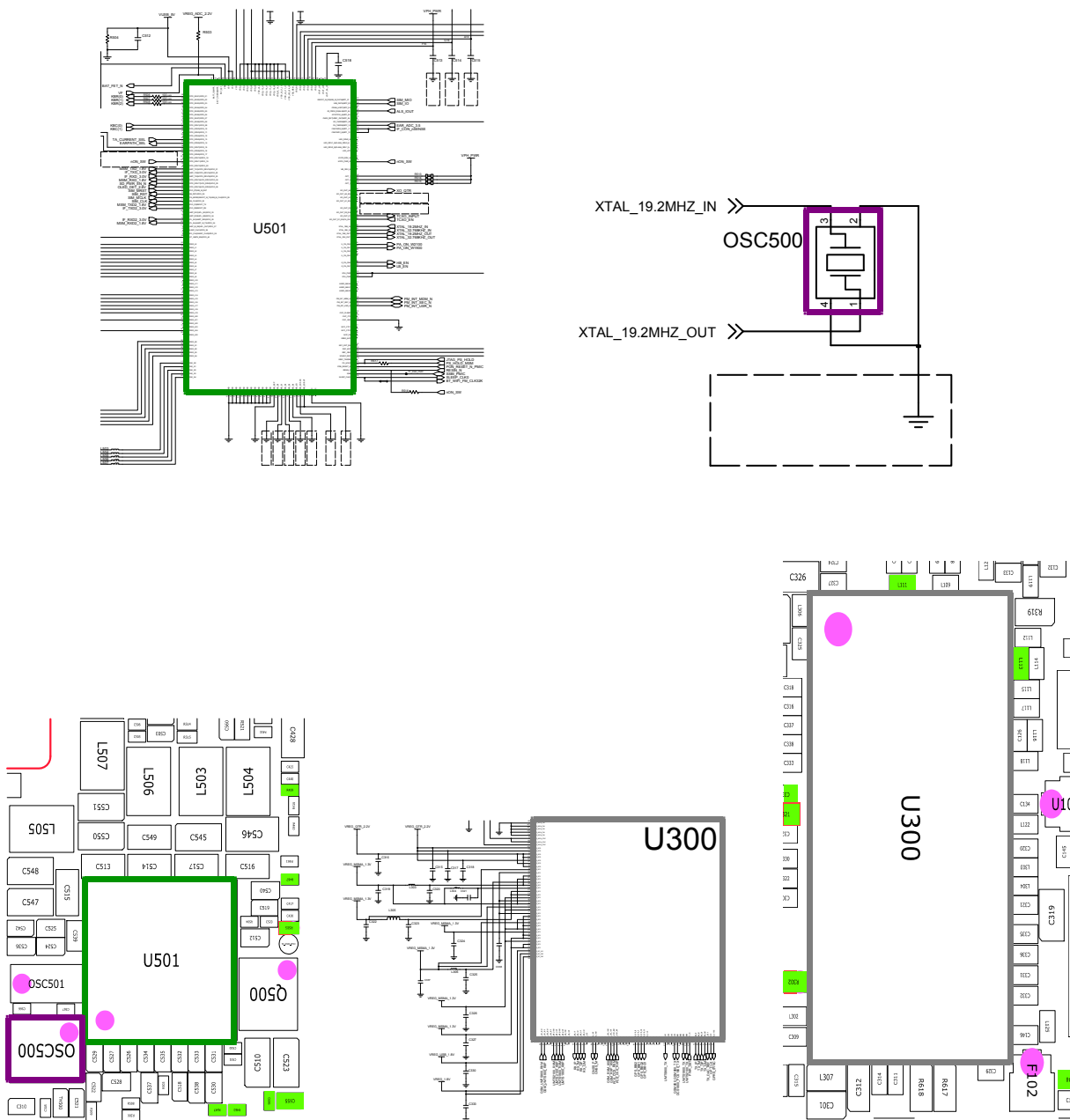






8-3-23. WCDMA BAND8 TX



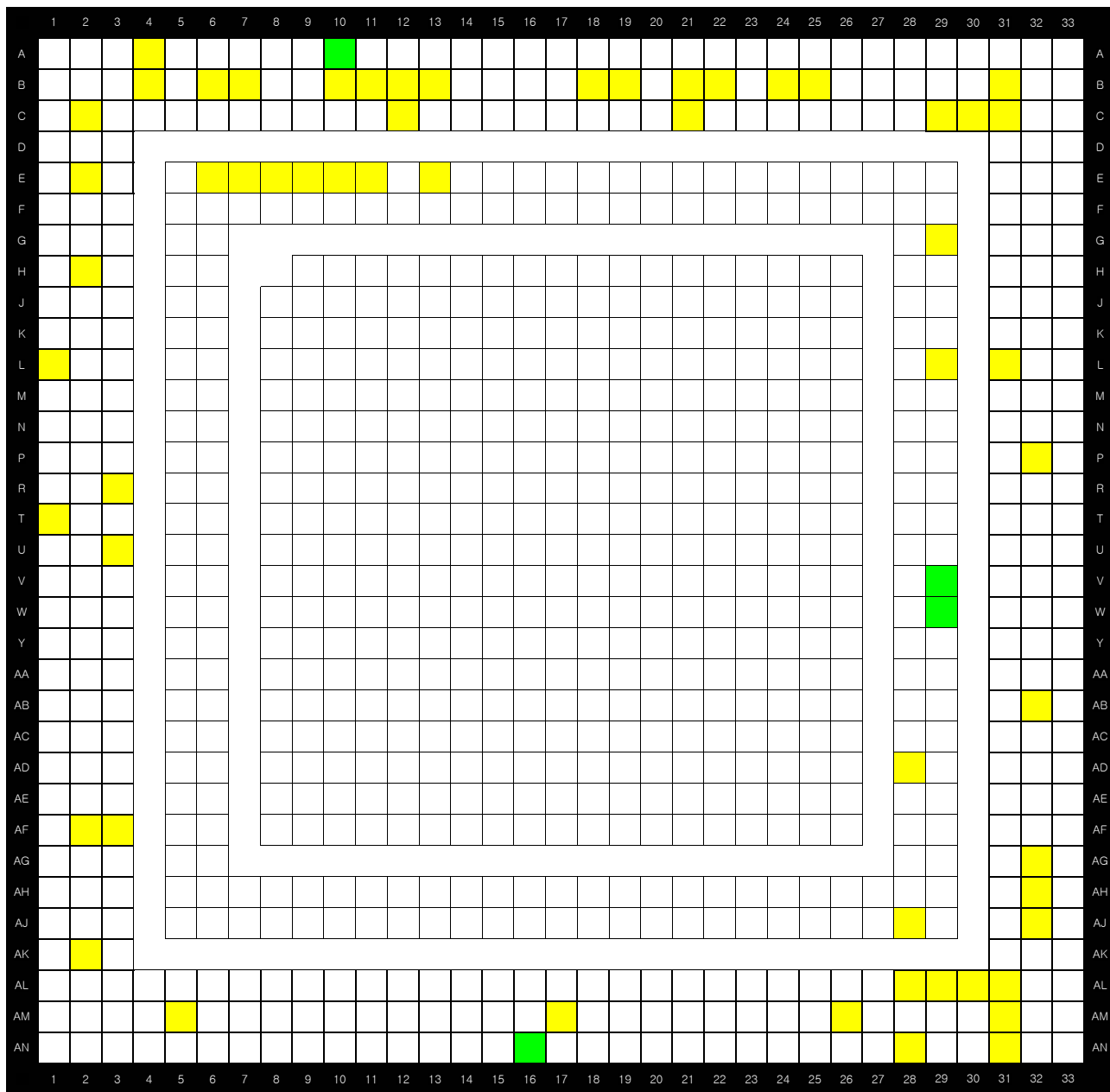


8-4. Service Schematics

- NC Point

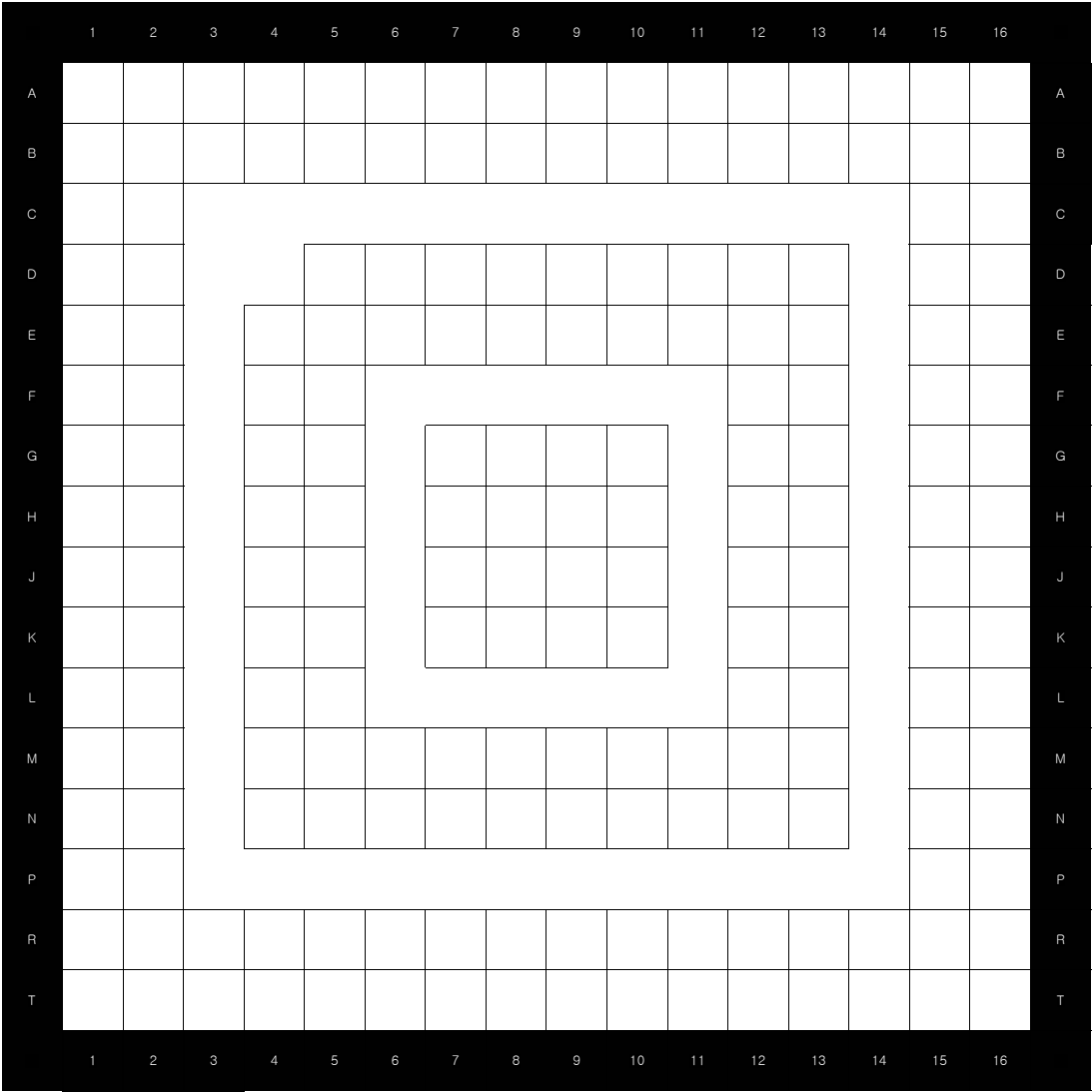
 : NC : DNC

UCP400



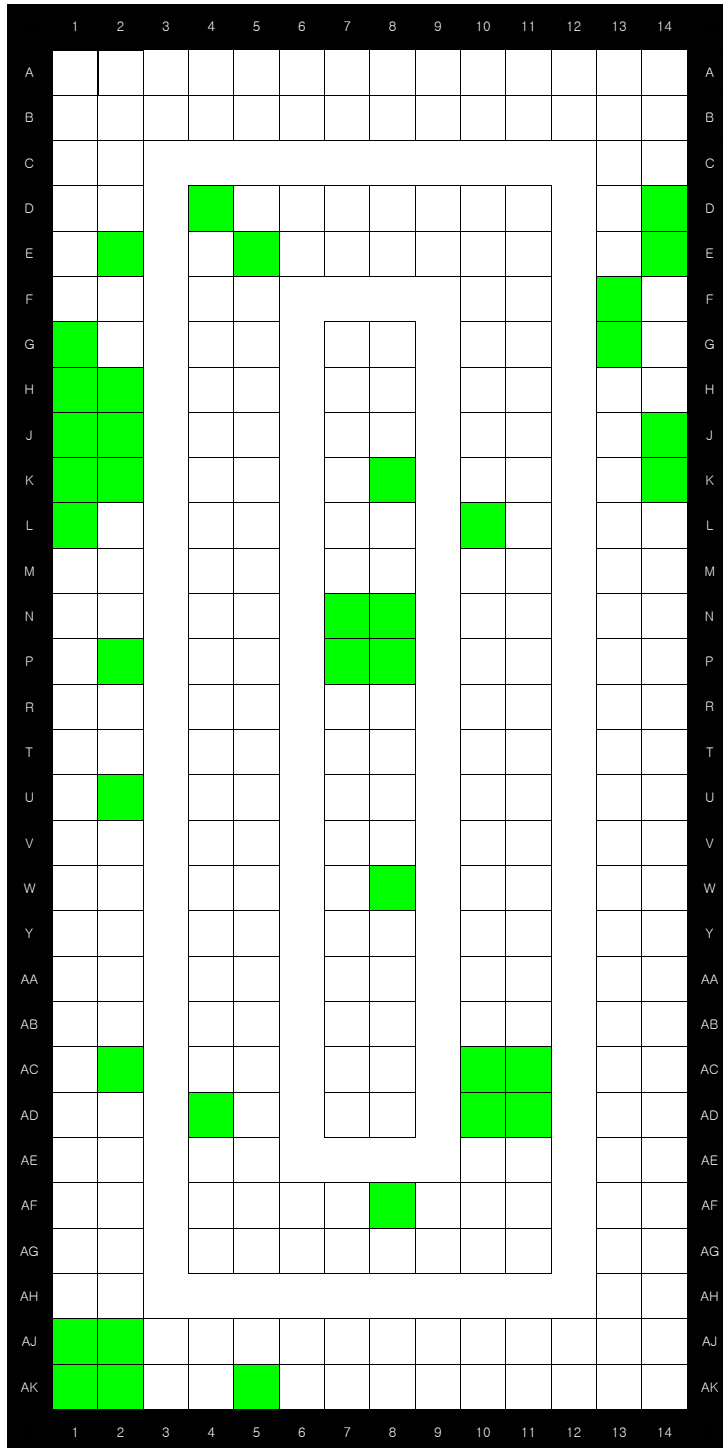
 : DNC

U501



 : DNC

U300



● : NC

UME300(8G/16G)

