





7. Level 2 Repair

7-1. Disassembly

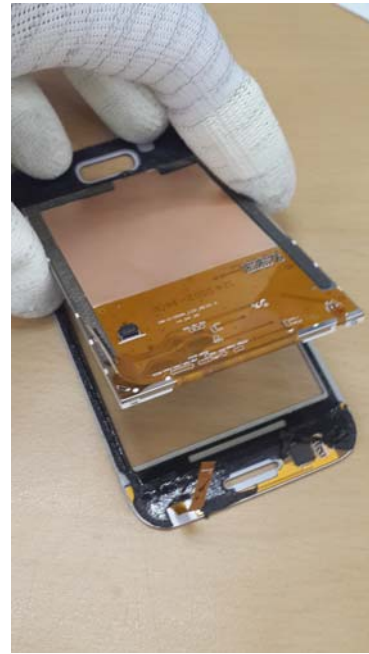
<p>1</p> 	<p>2</p> 
<p>1) Disassemble the Rear Dummy.</p>	<p>1) Detach the LCD connector from the board.</p>
<p>3</p> 	<p>4</p> 
<p>1) Disassemble the OCTA in the direction as picture.</p>	<p>1) Disassemble the OCTA from the Rear.</p>

5



1) Detach the TSP connector from the LCD

6



1) Detach the LCD from the TSP.

7



1) Unscrew the 3 points of the PBA.

8



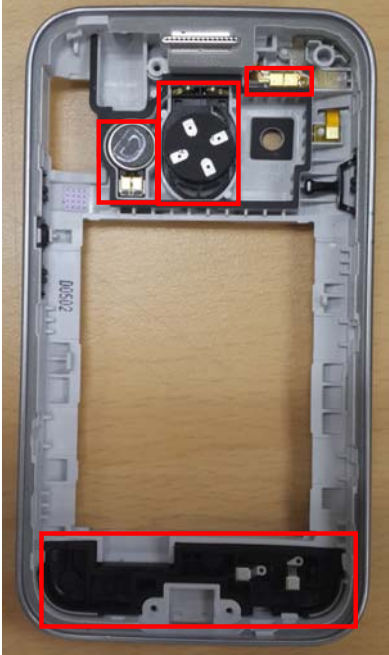

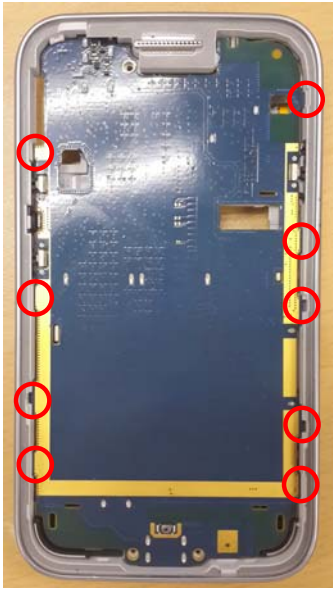

1) Disassemble the HOME Key from the Rear.

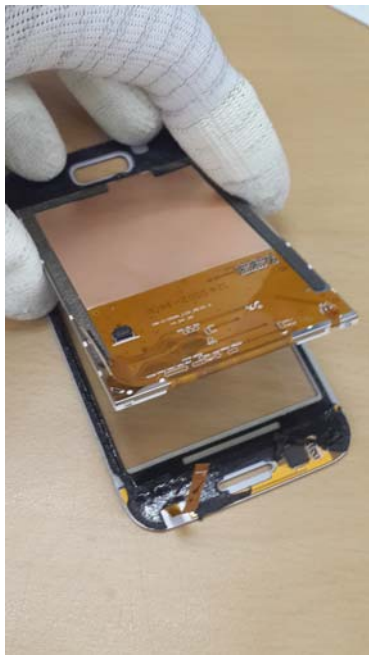
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<p>9</p> 	<p>10</p> 
<p>1) Disassemble the PBA from the Rear.</p>	<p>1) Disassemble the Shield Can from the PBA.</p>
<p>11</p> 	<p>کانال ما در تلگرام @JahanIC</p>
<p>1) Disassemble Speaker, Motor, Receiver, ANT.</p>	

7-2. Assembling

<p>1</p>  <p>The image shows the rear case of a smartphone with several components highlighted by red boxes. These components include the speaker, motor, receiver, and antenna (ANT) located in the upper central area, and a larger component at the bottom, likely the battery or a shield can.</p>	<p>2</p>  <p>The image shows the internal Printed Board Assembly (PBA) with a silver shield can being attached. Red circles indicate the specific points where the shield can is secured to the PBA.</p>
<p>1) Assemble Speaker, Motor, Receiver, ANT.</p>	<p>1) Assemble the Shield Can to the PBA.</p>
<p>3</p>  <p>The image shows the PBA being inserted into the rear case. Red circles mark the alignment points for the PBA within the case.</p>	<p>4</p>  <p>The image shows the HOME key being attached to the rear case. Red circles indicate the specific locations where the HOME key is secured.</p>
<p>1) Assemble the PBA to the Rear.</p>	<p>1) Assemble the HOME Key to the Rear.</p>

<div data-bbox="162 231 235 283" style="border: 1px solid black; padding: 2px; width: 40px; text-align: center; margin-bottom: 5px;">5</div> 	<div data-bbox="787 231 860 283" style="border: 1px solid black; padding: 2px; width: 40px; text-align: center; margin-bottom: 5px;">6</div> 
<p>1) Screw 3 points to the board. ● Torque : 1.4 Kgf·cm / Size : M1.6 * L4.0 (6002-001611) ±7.5% (1.32~1.48)</p>	<p>1) Attach the Shield Can to the PBA.</p>
<div data-bbox="162 1085 235 1138" style="border: 1px solid black; padding: 2px; width: 40px; text-align: center; margin-bottom: 5px;">7</div> 	<div data-bbox="787 1085 860 1138" style="border: 1px solid black; padding: 2px; width: 40px; text-align: center; margin-bottom: 5px;">8</div> 
<p>1) Attach the TSP connector to the LCD.</p>	<p>1) Attach the OCTA to the Rear.</p>

9



1) Attach the LCD connector to the PBA.

10



1) Assemble the Rear Dummy to the PBA.

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5. MAIN Electrical Parts List

Design LOC	SEC CODE	Description
D400	0401-001110	DIODE-SWITCHING
ZD406	0403-001972	DIODE-ZENER
ZD502,ZD507	0406-001413	DIODE-TVS
ZD402,ZD403	0406-001459	DIODE-TVS
ZD504,ZD505	0406-001505	DIODE-TVS
ZD400	0406-001526	DIODE-TVS
V501,V502,ZD401	0406-001640	DIODE-TVS
ZD405,ZD516	0406-001640	DIODE-TVS
ZD501,ZD503,ZD506,ZD512	0406-001645	DIODE-TVS
ZD514,ZD515	0406-001645	DIODE-TVS
F300	0505-003446	FET-SILICON
U500	1001-001858	IC
UME300	1108-000530	MEMORY
U101	1201-003809	IC
U100	1205-004783	IC
UCP300	1205-005066	IC
U401	1205-005070	IC
U400	1205-005106	IC
U202	1205-005115	IC
U404	1209-002275	IC
VR301	1404-001749	THERMISTOR
R501,R511,R520	2007-000140	R-CHIP
R521	2007-000170	R-CHIP
R447,R448	2007-000172	R-CHIP
R434	2007-000566	R-CHIP
R437	2007-000775	R-CHIP
R326	2007-002796	R-CHIP
R324,R325	2007-002965	R-CHIP
R321,R322	2007-007141	R-CHIP
R514	2007-007317	R-CHIP
R508	2007-007318	R-CHIP
R512,R516	2007-007405	R-CHIP
R333	2007-007861	R-CHIP
R445,R446	2007-008052	R-CHIP
R205,R443	2007-008055	R-CHIP
R305,R317,R319	2007-008419	R-CHIP
R320,R420,R524	2007-008419	R-CHIP
R101	2007-008478	R-CHIP
R318,R337,R345,R349	2007-008516	R-CHIP

Main Electrical Parts List

R502,R517	2007-008516	R-CHIP
R352,R353	2007-008531	R-CHIP
R518	2007-008587	R-CHIP
R411,R412,R435,R436	2007-008588	R-CHIP
R438,R439,R440	2007-008588	R-CHIP
R335	2007-008597	R-CHIP
R415,R416,R419	2007-008774	R-CHIP
R306	2007-008788	R-CHIP
R200	2007-009111	R-CHIP
R407	2007-009170	R-CHIP
R301	2007-009171	R-CHIP
R410	2007-009838	R-CHIP
R314	2007-010827	R-CHIP
R417	2007-010848	R-CHIP
R442	2007-010883	R-CHIP
R304	2007-011043	R-CHIP
R334	2007-011377	R-CHIP
C501	2203-000254	C-CHIP
C458	2203-000812	C-CHIP
C504,C511,R513	2203-000995	C-CHIP
C503,C535	2203-001072	C-CHIP
C513	2203-001153	C-CHIP
C528,C530	2203-001239	C-CHIP
L200	2203-005446	C-CHIP
C111,C118,C125,C200	2203-005682	C-CHIP
C505	2203-005682	C-CHIP
R523	2203-005726	C-CHIP
C534	2203-005731	C-CHIP
C119,C146	2203-005736	C-CHIP
C205	2203-005740	C-CHIP
C373,C374	2203-005742	C-CHIP
C379	2203-006048	C-CHIP
C129	2203-006121	C-CHIP
C112	2203-006123	C-CHIP
C209,C214,C219,C259	2203-006305	C-CHIP
C537	2203-006305	C-CHIP
C524,C525	2203-006379	C-CHIP
C436,C464	2203-006399	C-CHIP
C161,C202	2203-006400	C-CHIP
C220,C305,C308,C309	2203-006423	C-CHIP

C310,C317,C321,C330	2203-006423	C-CHIP
C332,C333,C334,C337	2203-006423	C-CHIP
C339,C340,C341,C346	2203-006423	C-CHIP
C381,C382,C383,C388	2203-006423	C-CHIP
C454,C455,C531	2203-006423	C-CHIP
C130,C131,C133,C138	2203-006556	C-CHIP
C400,C406,C430	2203-006562	C-CHIP
C137,C139	2203-006707	C-CHIP
C162	2203-006712	C-CHIP
C303,C304,C389,C390	2203-006839	C-CHIP
C417	2203-006839	C-CHIP
C145,C147,C152,C153	2203-006841	C-CHIP
C163,C399	2203-006841	C-CHIP
C416,C453	2203-006872	C-CHIP
C405,C434,C435	2203-006978	C-CHIP
C318,C322	2203-006979	C-CHIP
C132,C135	2203-007194	C-CHIP
C207	2203-007210	C-CHIP
C221,C222,C403,C443	2203-007271	C-CHIP
C456,C465	2203-007271	C-CHIP
C302,C306,C408	2203-007279	C-CHIP
C452	2203-007317	C-CHIP
C328,C338	2203-007392	C-CHIP
C201,C223,C224,C345	2203-007393	C-CHIP
C117	2203-007403	C-CHIP
C217,C218,C312,C313	2203-007449	C-CHIP
C314,C316,C320,C323	2203-007449	C-CHIP
C324,C329,C335,C336	2203-007449	C-CHIP
C342,C343,C344,C349	2203-007449	C-CHIP
C353,C355,C356,C358	2203-007449	C-CHIP
C359,C360,C361,C362	2203-007449	C-CHIP
C364,C365,C366,C367	2203-007449	C-CHIP
C369,C370,C384,C385	2203-007449	C-CHIP
C386,C387,C500,C515	2203-007449	C-CHIP
C519,C532	2203-007449	C-CHIP
C326,C445	2203-007474	C-CHIP
C444	2203-007634	C-CHIP
C300,C301,C315,C319	2203-007775	C-CHIP

Main Electrical Parts List

C325,C327,C331,C508	2203-007775	C-CHIP
C121	2203-007781	C-CHIP
C350	2203-007795	C-CHIP
C204,C206,C208,C210	2203-007796	C-CHIP
C211,C451	2203-007796	C-CHIP
C409	2203-008094	C-CHIP
C375,C509,C523	2203-008097	C-CHIP
C380	2203-008123	C-CHIP
C348,C352,C354,C357	2203-008242	C-CHIP
C363,C368,C463	2203-008242	C-CHIP
C377,C378	2203-008876	C-CHIP
L403	2703-001231	INDUCTOR-SMD
L203	2703-002176	INDUCTOR-SMD
L101	2703-002198	INDUCTOR-SMD
L505	2703-002313	INDUCTOR-SMD
L104	2703-002794	INDUCTOR-SMD
L102	2703-002958	INDUCTOR-SMD
L107,L112	2703-002960	INDUCTOR-SMD
C134,C136,L106,L109	2703-002999	INDUCTOR-SMD
L506	2703-003878	INDUCTOR-SMD
C113,L103,L105	2703-003970	INDUCTOR-SMD
C110	2703-004037	INDUCTOR-SMD
L300,L301,L302,L303	2703-004318	INDUCTOR-SMD
L204	2703-004328	INDUCTOR-SMD
L108	2703-004367	INDUCTOR-SMD
L207	2703-004914	INDUCTOR-SMD
L404	2703-005007	INDUCTOR-SMD
OSC300	2801-004339	OSCILLATOR
OSC100	2801-005262	OSCILLATOR
F600,F601,F602,F603	2901-001766	FILTER-EMI
F604,F605	2901-001766	FILTER-EMI
F101	2904-002031	FILTER-SAW
F100	2904-002039	FILTER-SAW
F200	2909-001307	FILTER-SAW
MIC500	3003-001207	MIC
L205	3301-001438	CORE-FERRITE BEAD
L500,L515,L516	3301-001885	CORE-FERRITE BEAD
L202,L206	3301-001895	CORE-FERRITE BEAD
L405	3301-001929	CORE-FERRITE BEAD
L402	3301-002063	CORE-FERRITE BEAD

L406,L510,L511	3301-002223	CORE-FERRITE BEAD
L501,L502,L503,L504	3301-002236	CORE-FERRITE BEAD
L508	3301-002238	CORE-FERRITE BEAD
U501	3301-002254	CORE-FERRITE BEAD
L401,L513,L514	3301-002286	CORE-FERRITE BEAD
L509,L512	3301-002287	CORE-FERRITE BEAD
TACT500,TACT501,TACT502	3404-001460	SWITCH-TACT
HOMEKEY500	3404-001503	SWITCH-TACT
RFS100	3705-001708	CONNECTOR-COAXIAL
CD500	3709-001810	CONNECTOR-CARD EDGE
SIM500,SIM501	3709-001830	CONNECTOR-CARD EDGE
SOC400	3710-003306	CONNECTOR-SOCKET
BTC400	3711-008452	CONNECTOR
HDC400	3711-008777	CONNECTOR
ANT400,ANT401	3712-001489	CONNECTOR
ANT100,ANT101	3712-001491	CONNECTOR
ANT500,ANT501	3712-001517	CONNECTOR
ANT201	3712-001529	CONNECTOR
IFC400	3722-003678	JACK-PHONE
EAR500	3722-003877	JACK-PHONE
R354,R522	GH80-03321A	R-CHIP

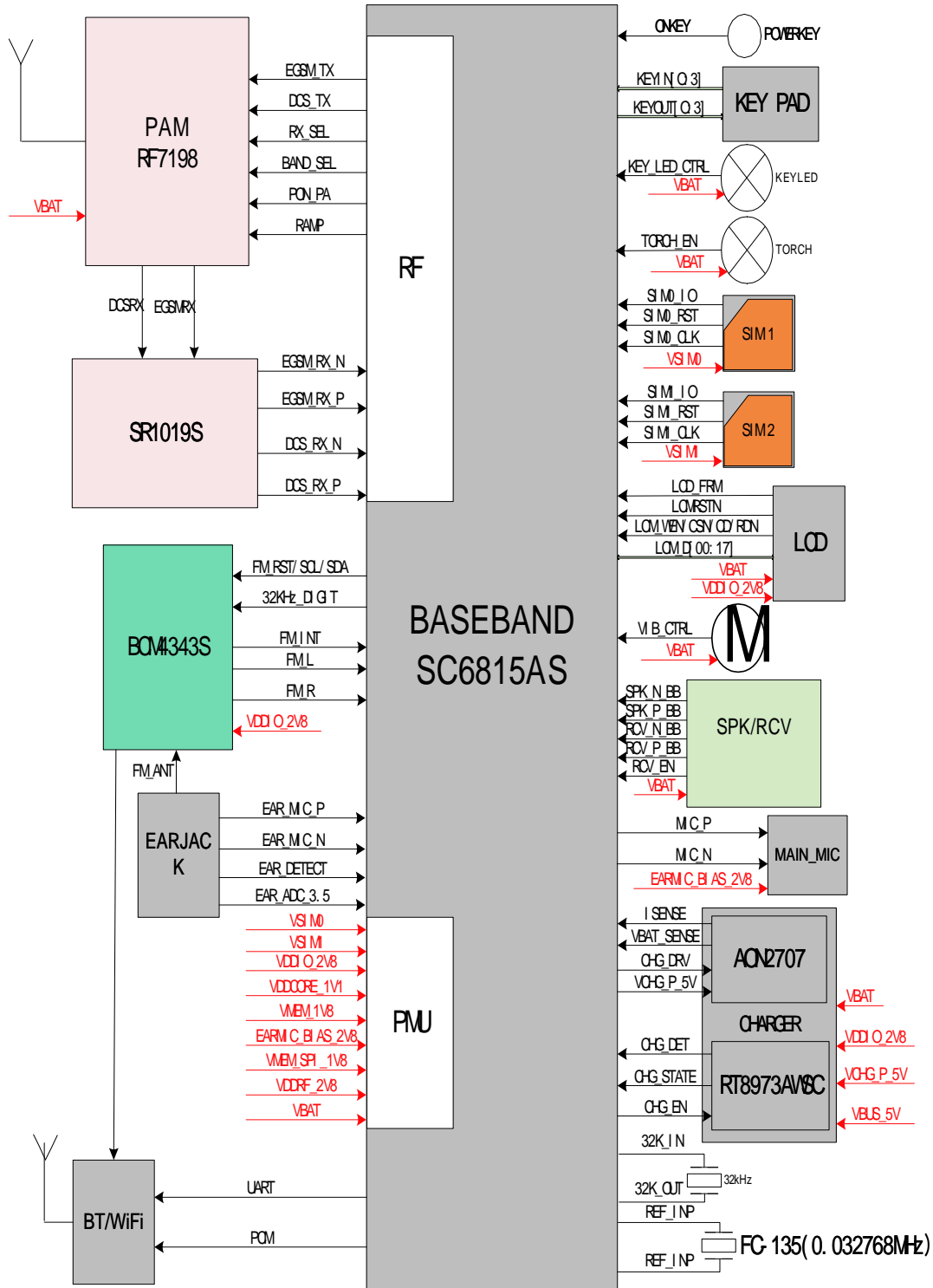
Please consult the GSPN website (Samsung Portal) for the most recent version of the product's part list.

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8. Level 3 Repair

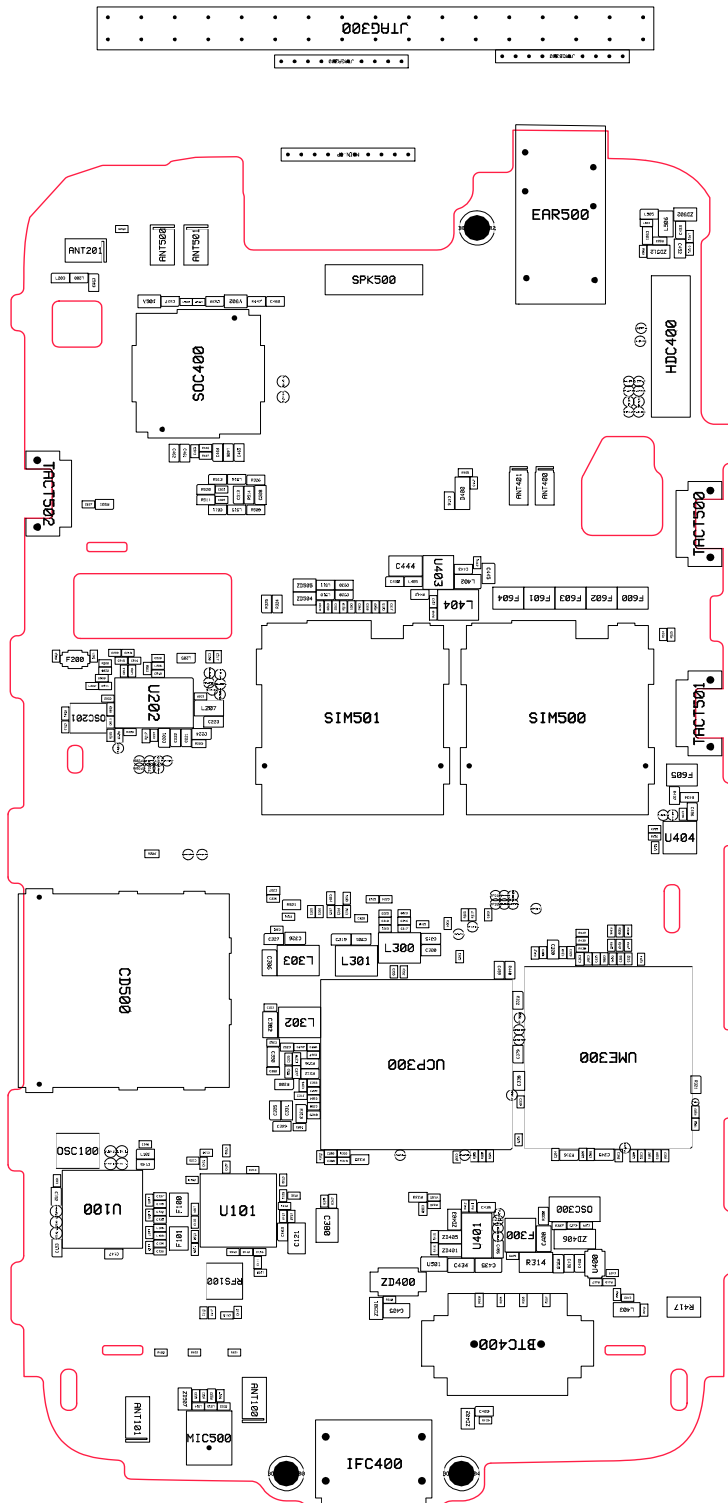
8-1. Block Diagram

SM-G130E Block Diagram

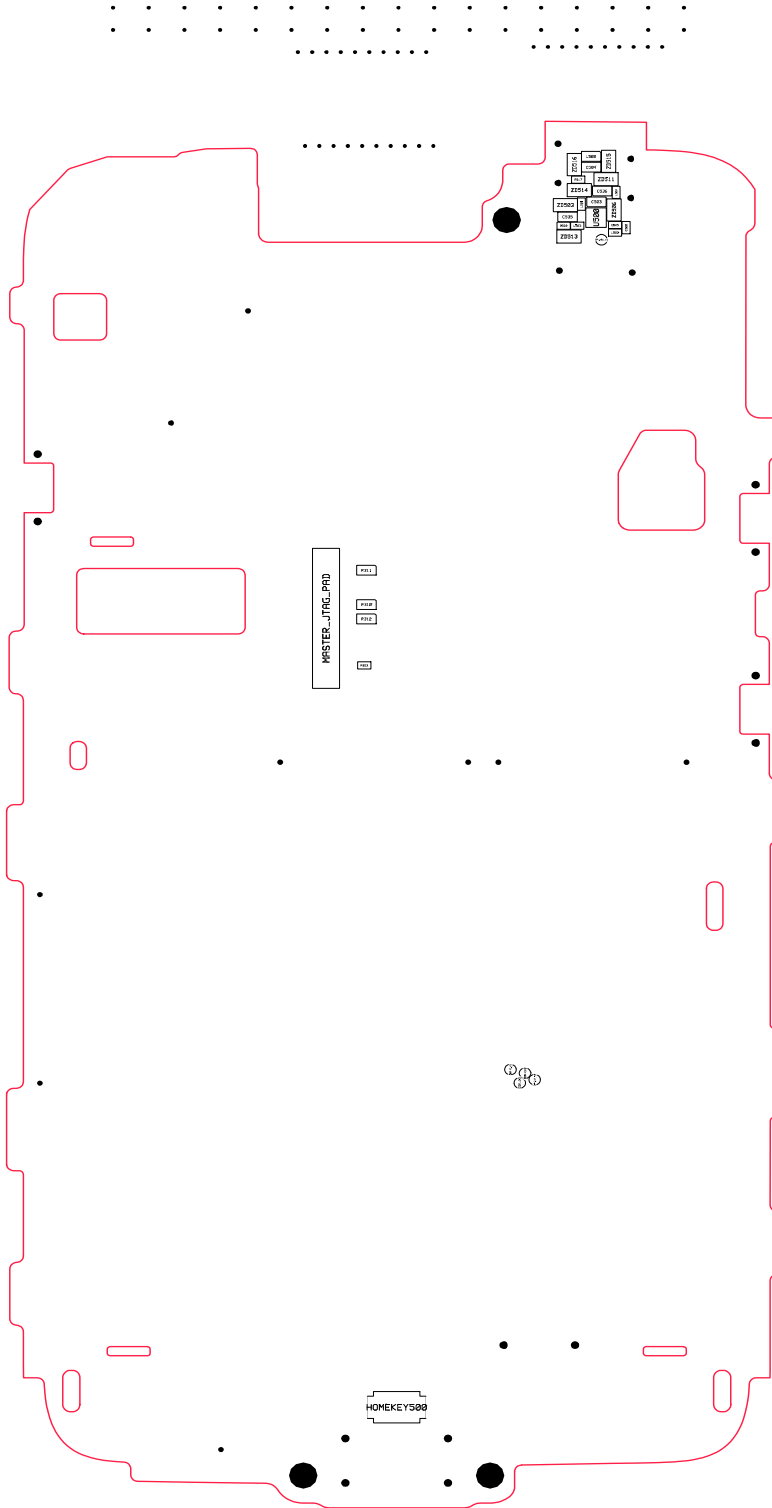


8-2. PCB Diagrams

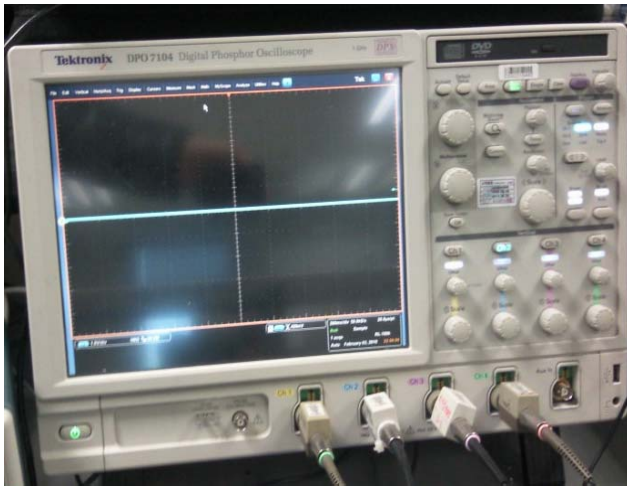
8-2-1. Top



8-2-2. Bottom



8-3. Flow Chart of Troubleshooting Equipments



Oscilloscope



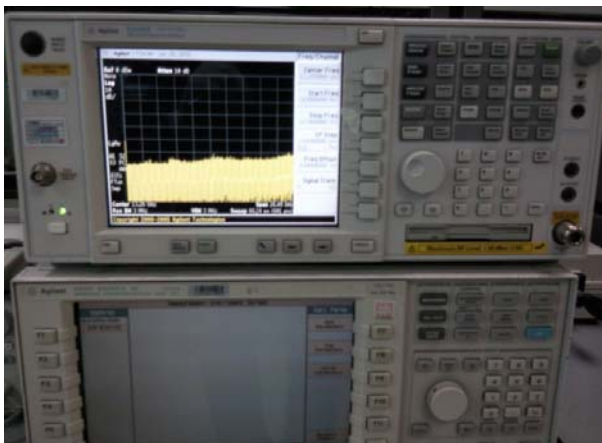
Digital Multimeter



Power Supply



'+' driver, ESD Safe Tweezer

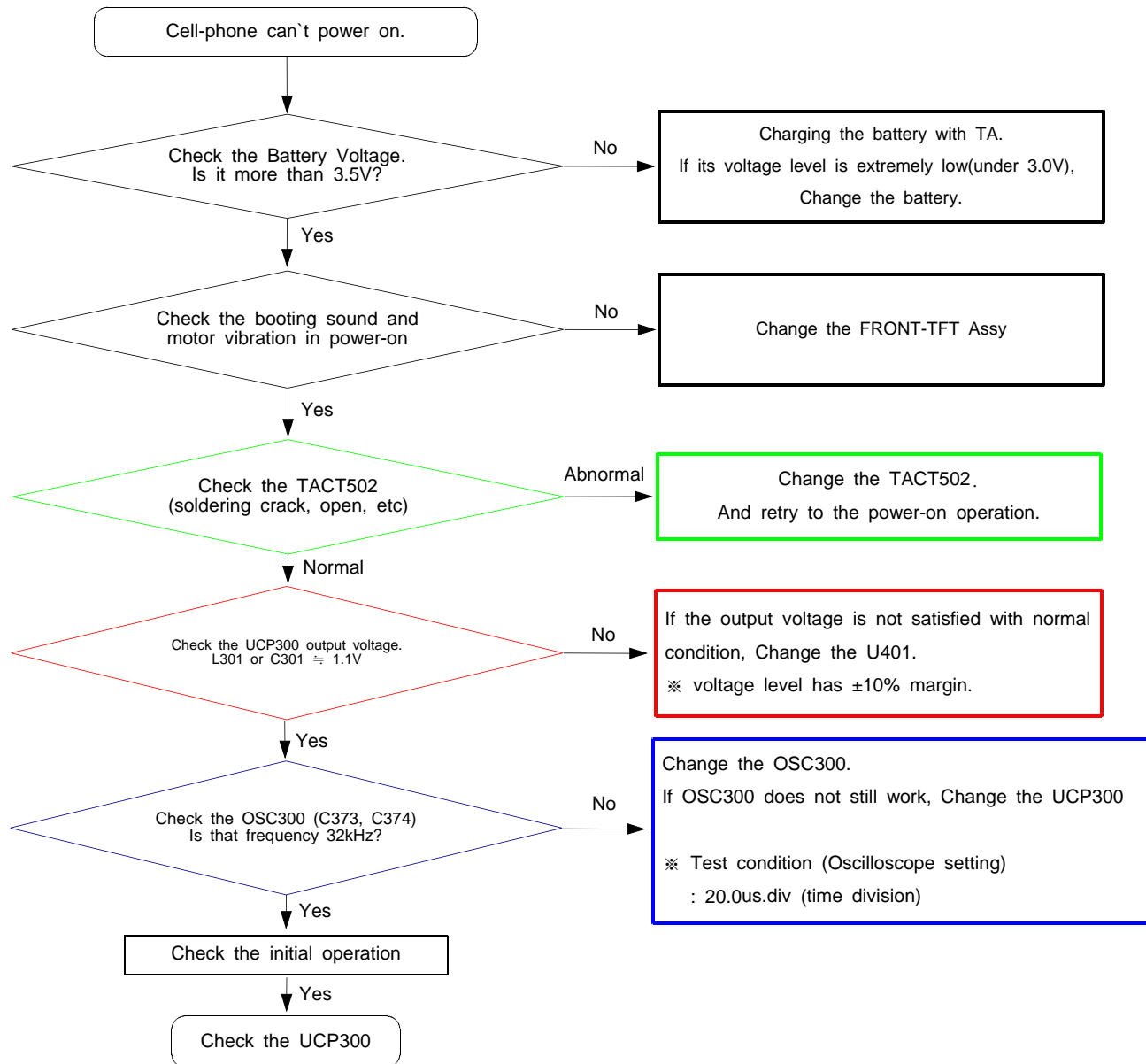


8960 & Spectrum Analyzer

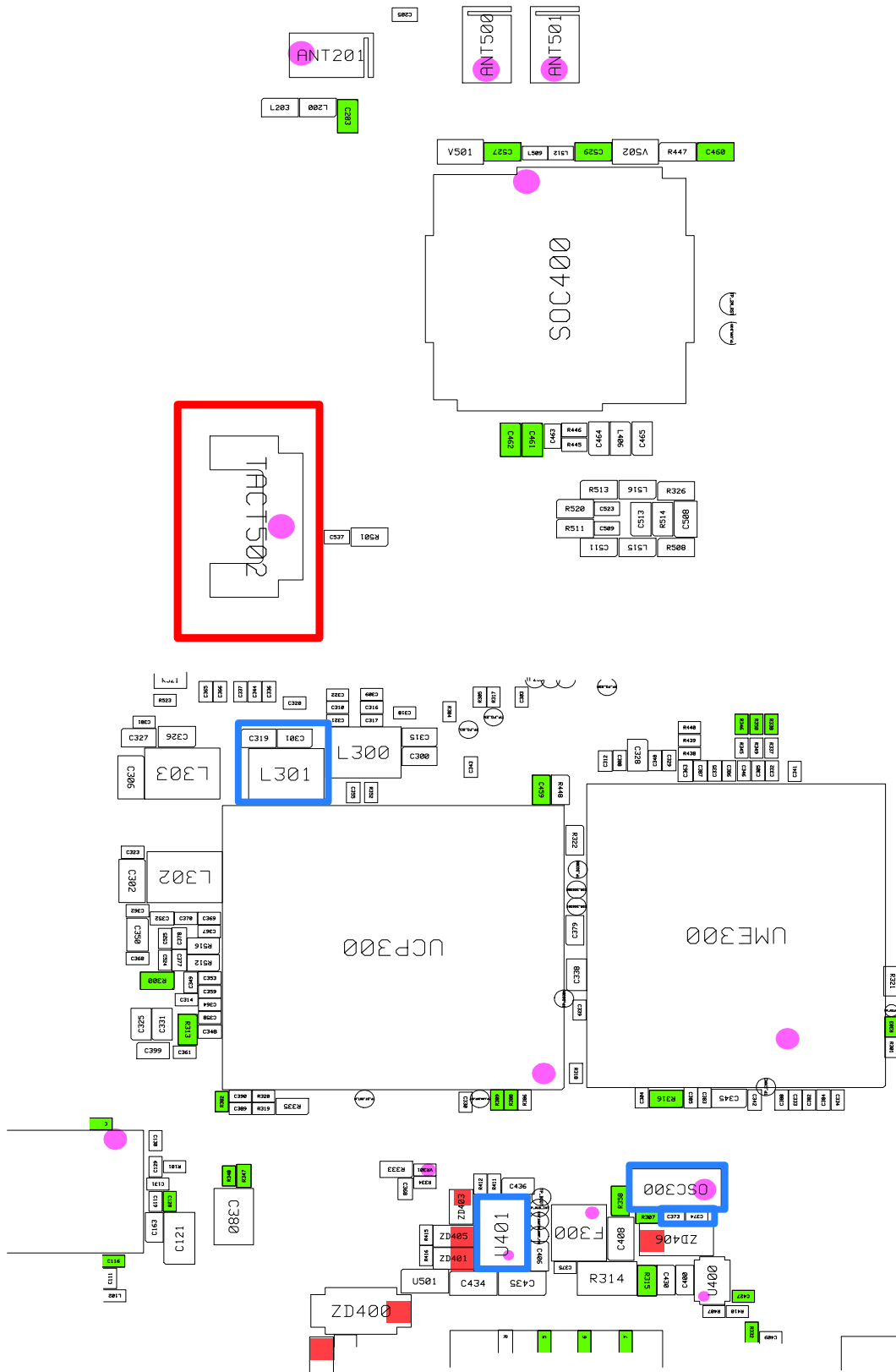


Soldering iron

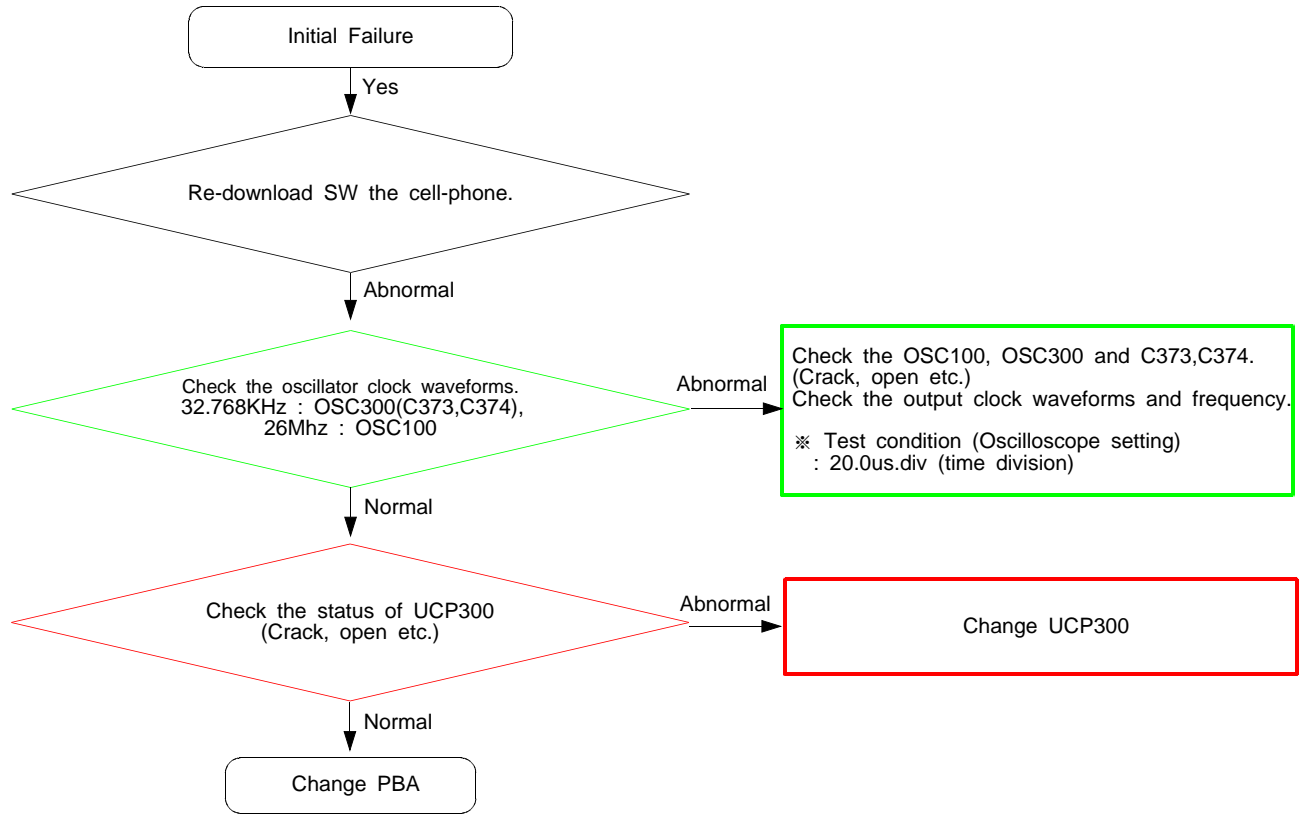
8-4-1. Power On



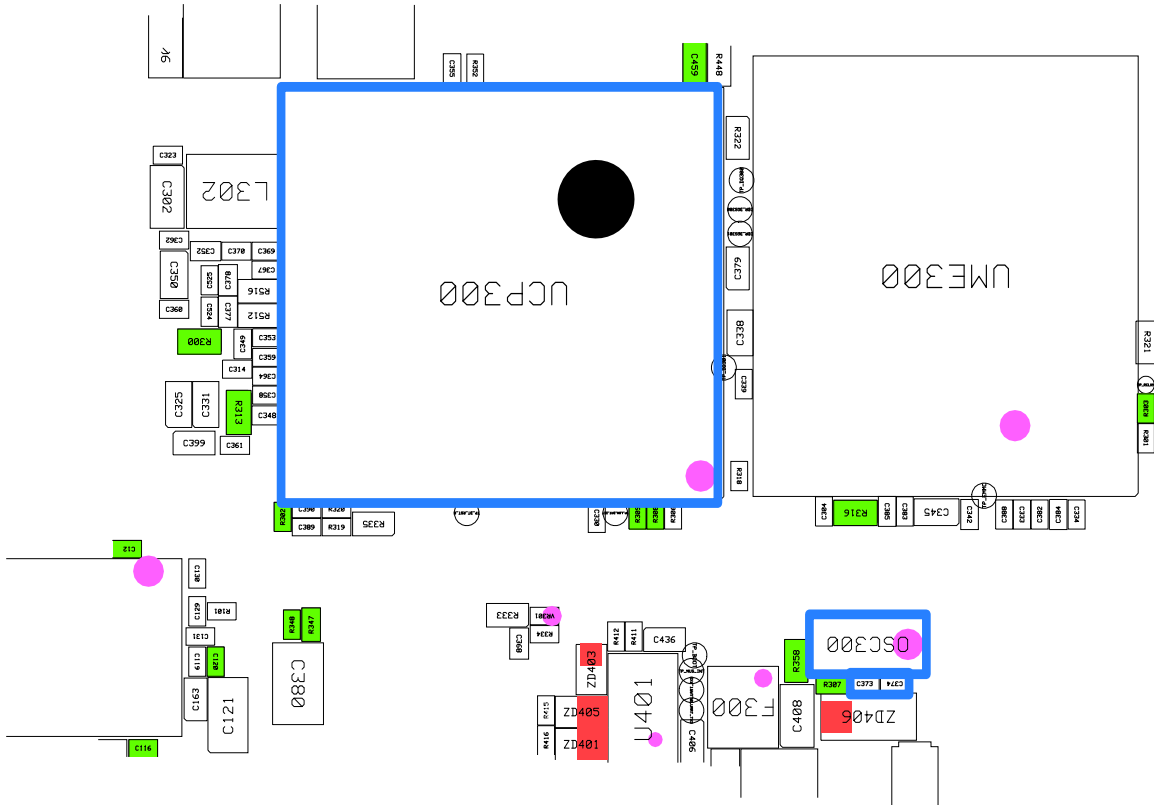
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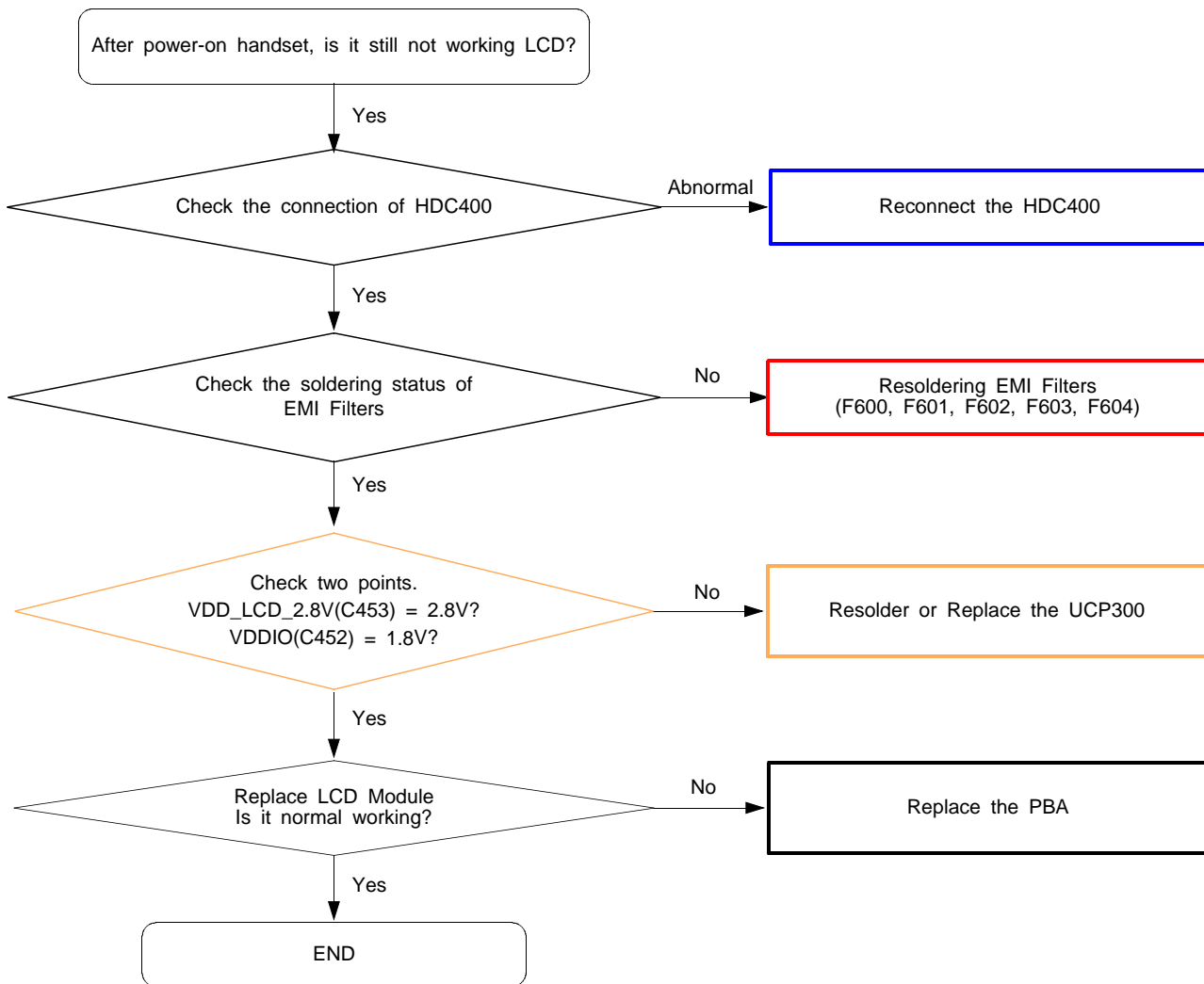
8-4-2. Initial



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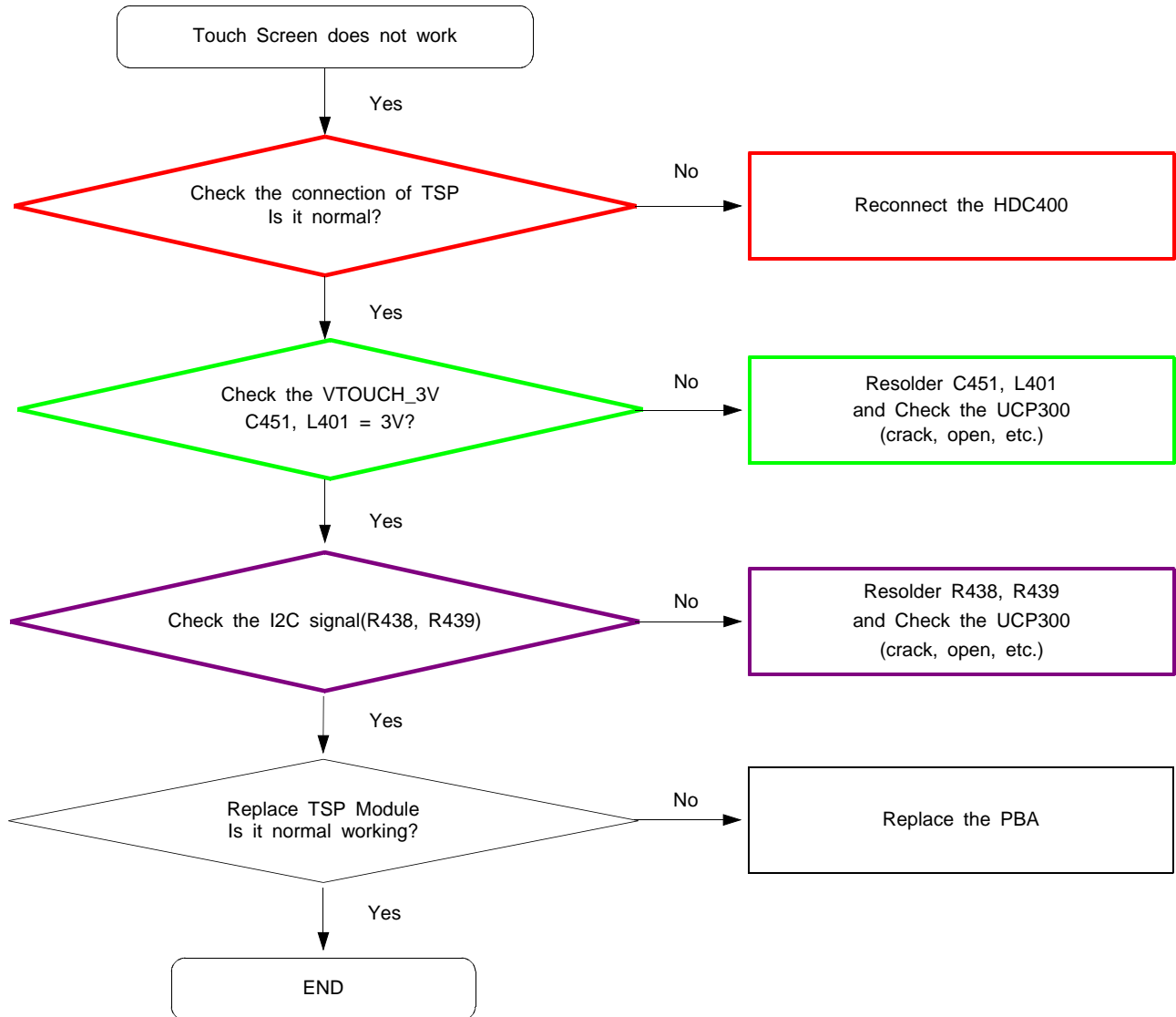


8-4-3. LCD

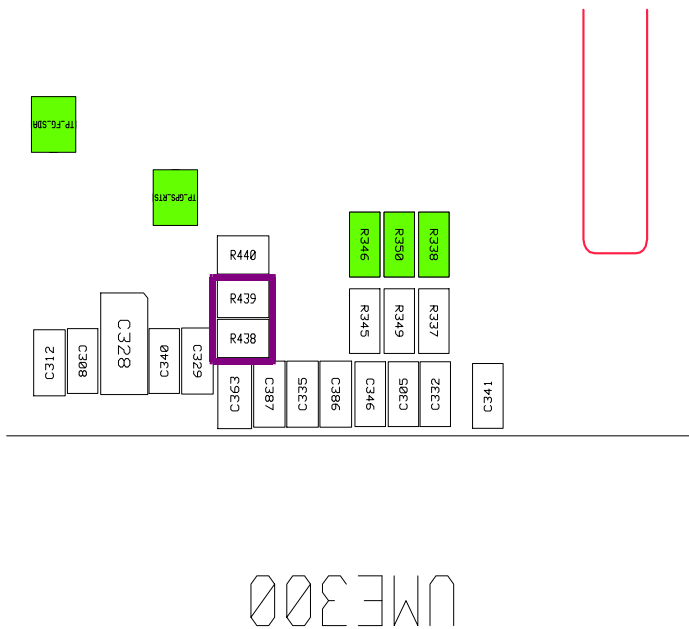
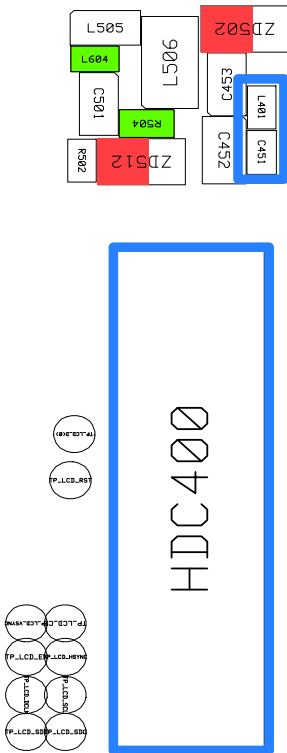
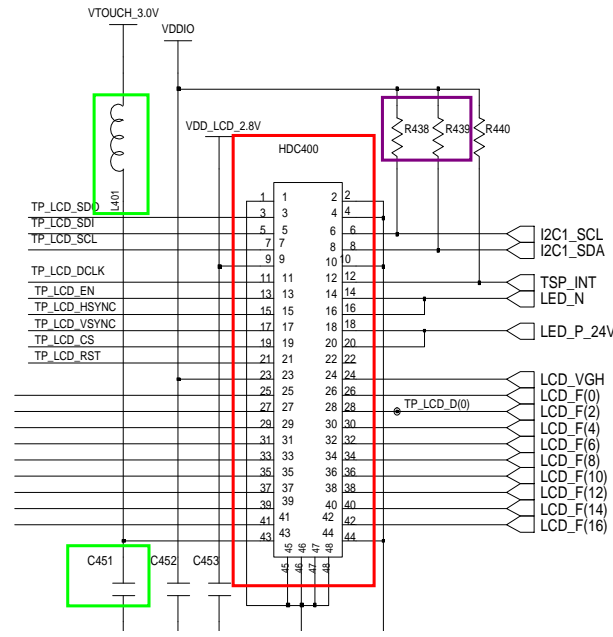


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8-4-4. TSP

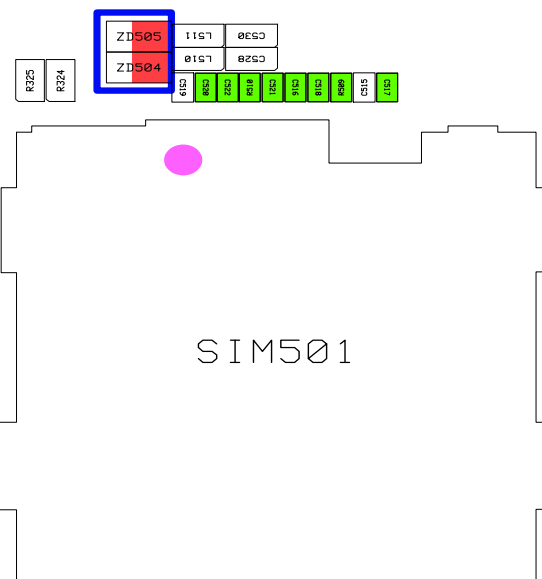
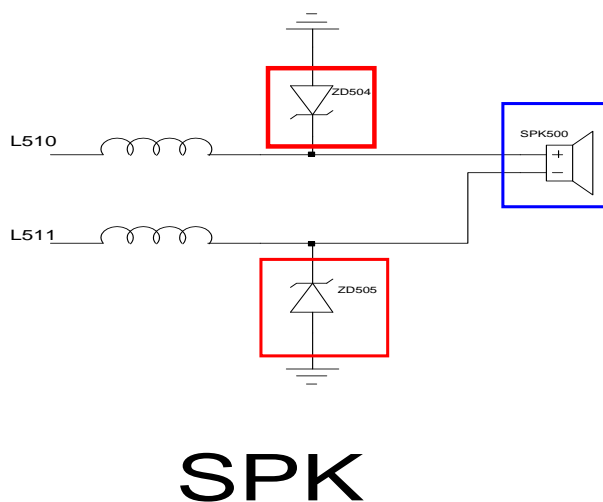
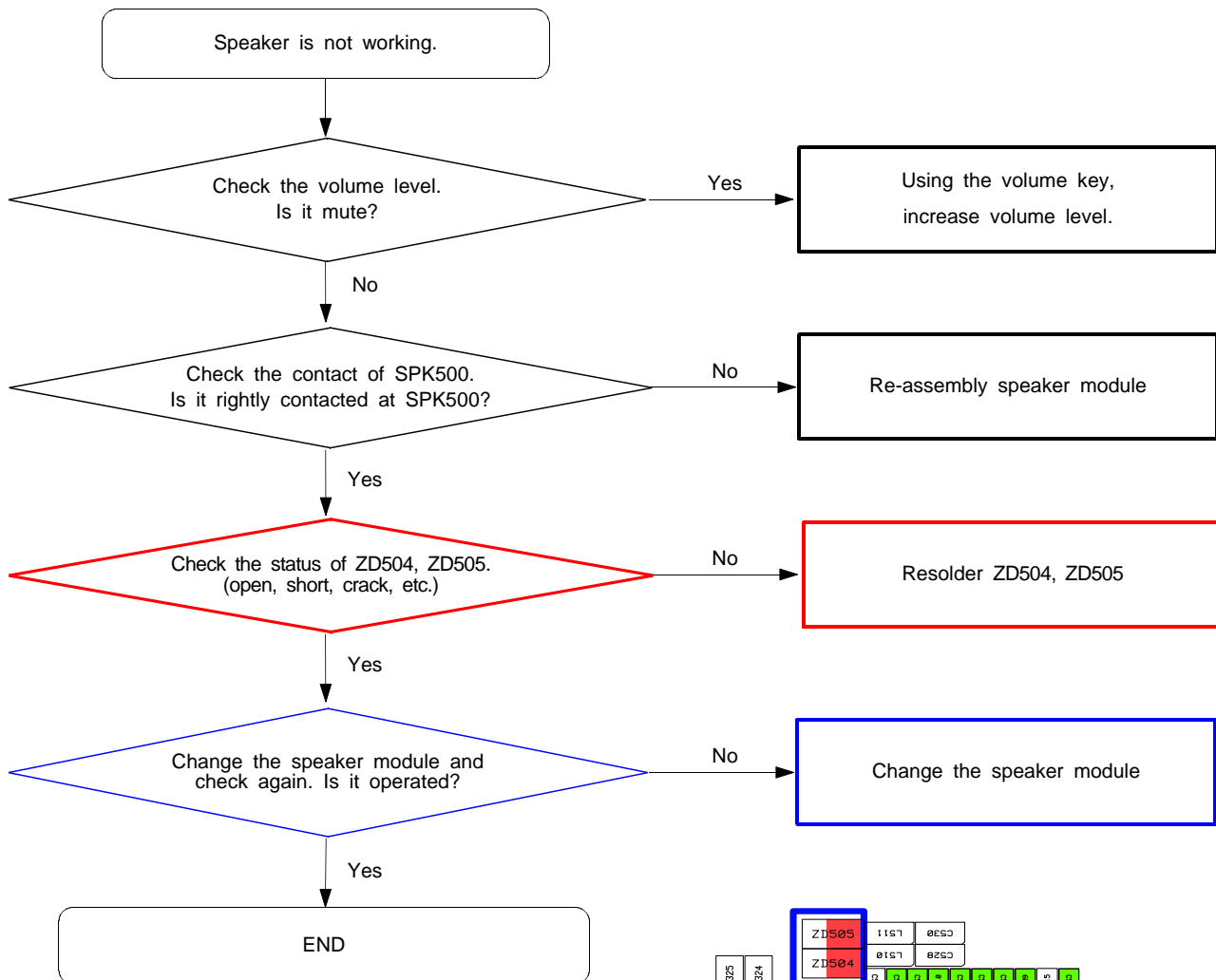


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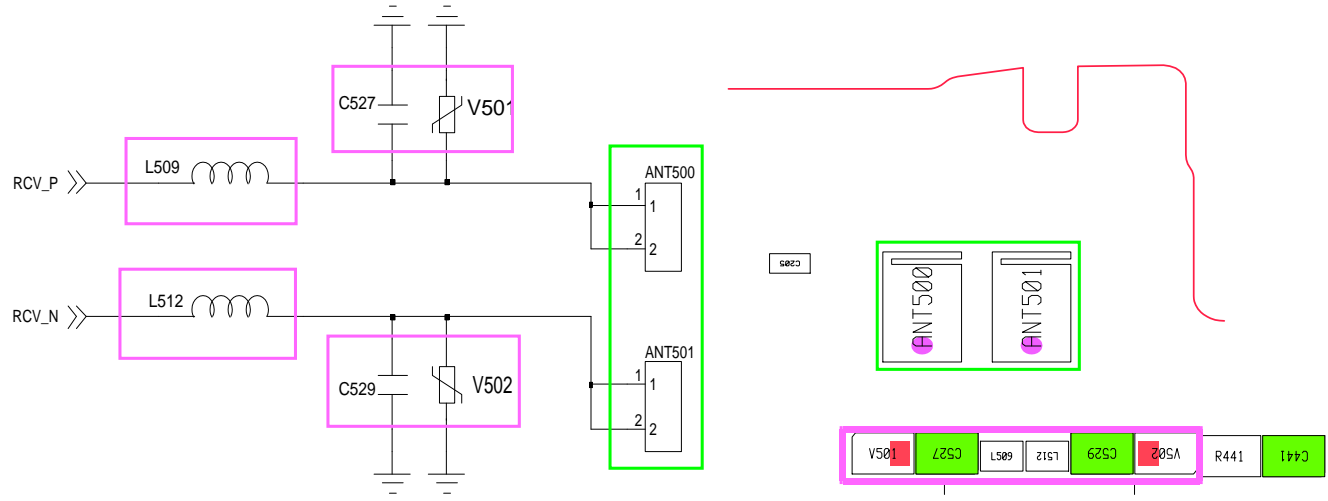
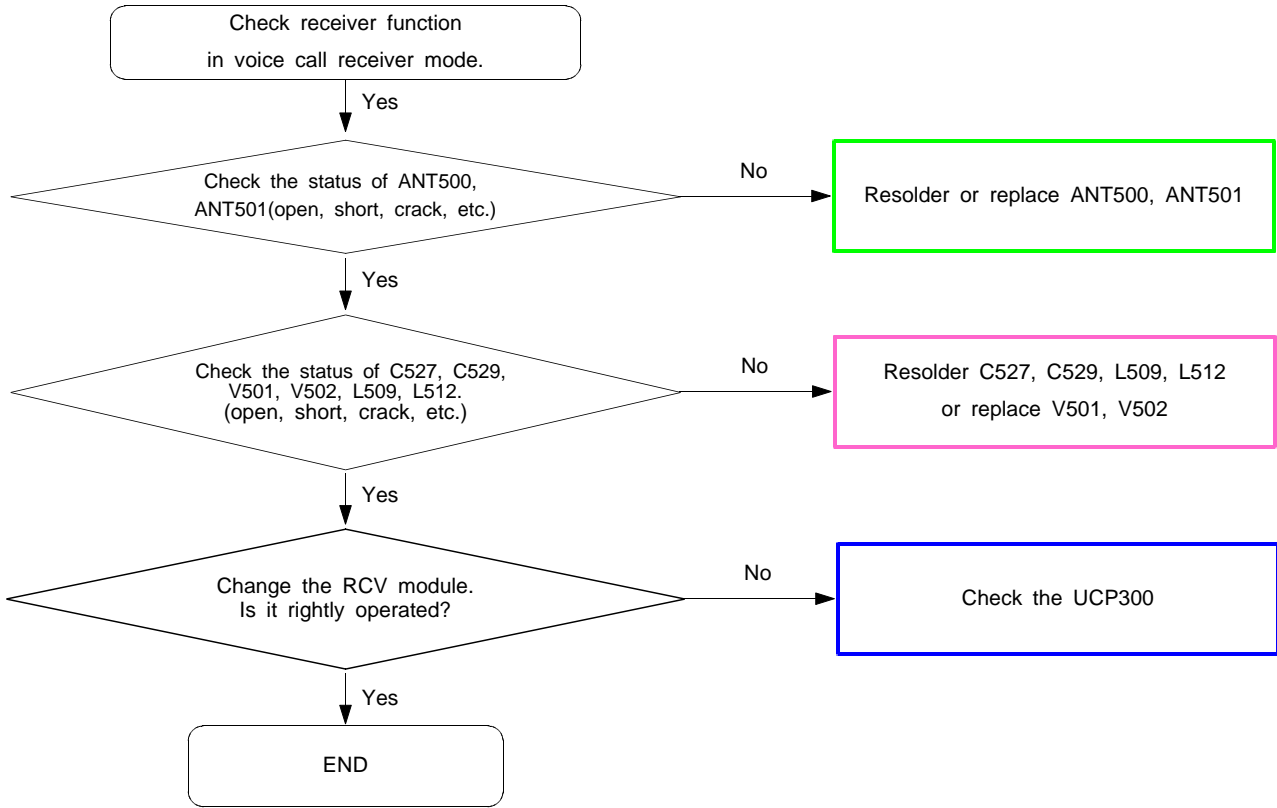


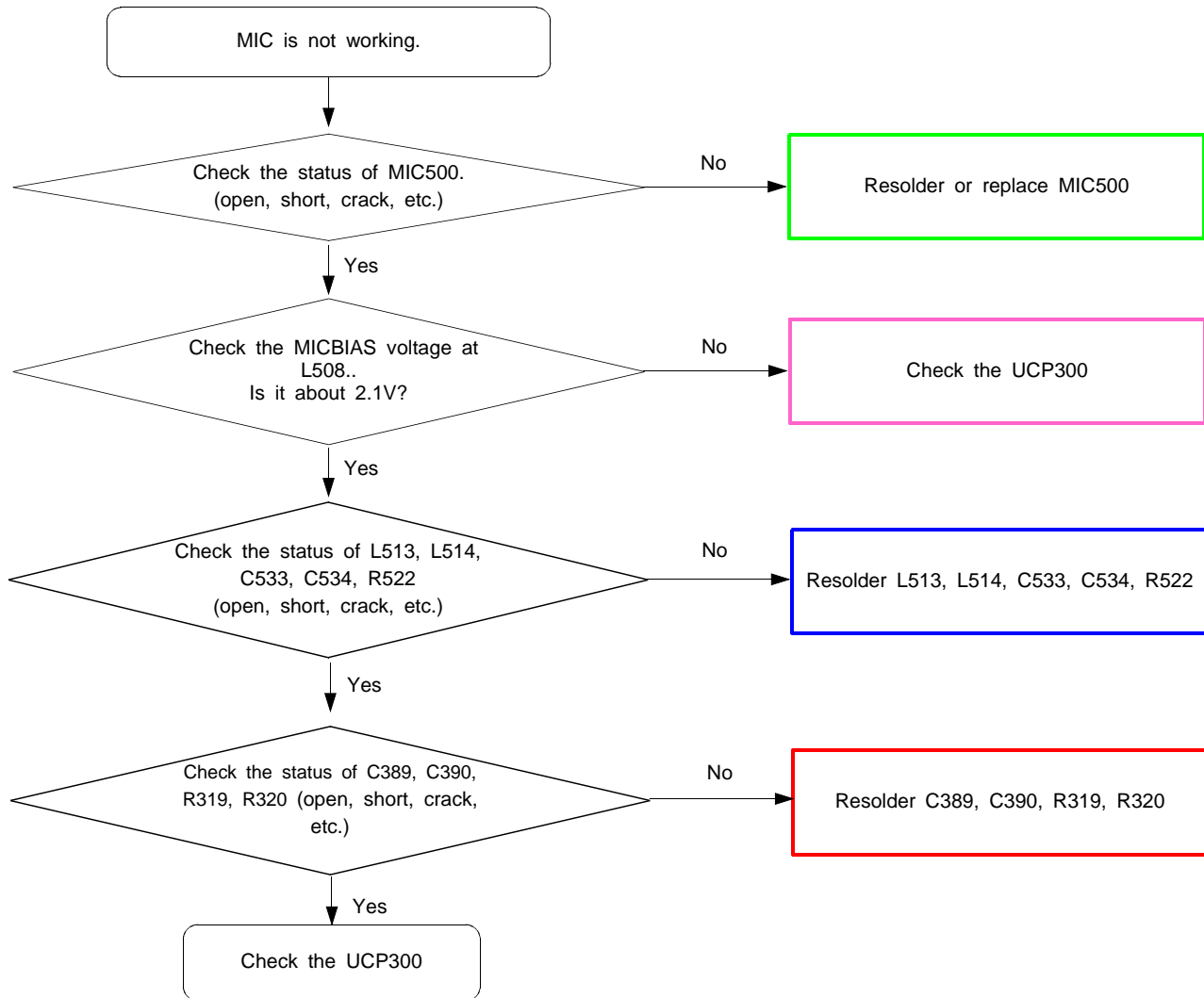
8-4-5. Audio Part

● Speaker Module

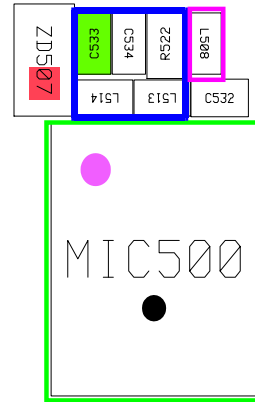
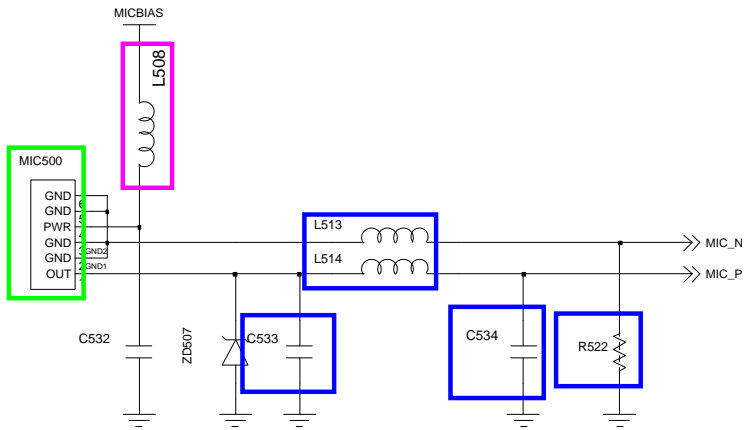


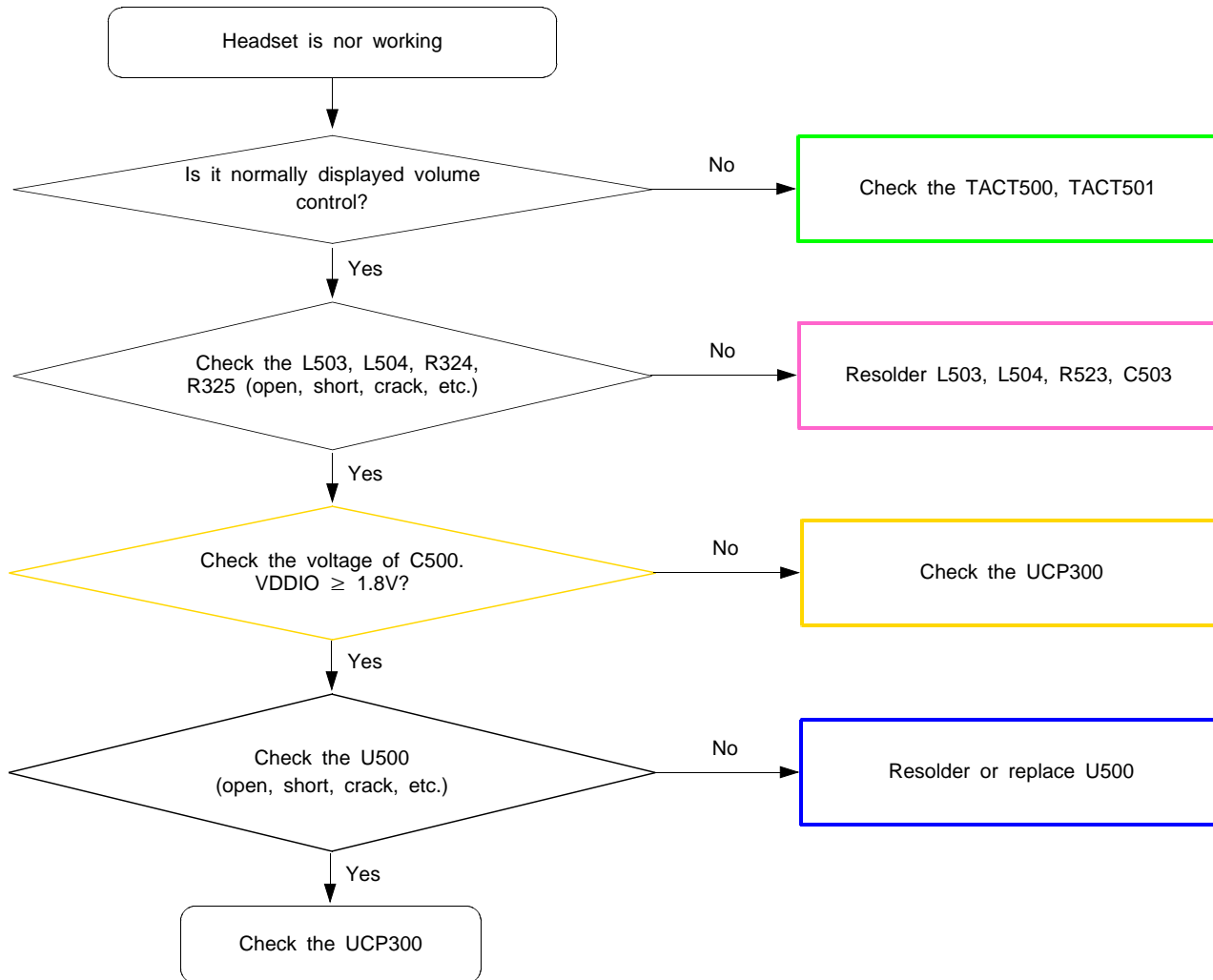
● **Receiver Working**



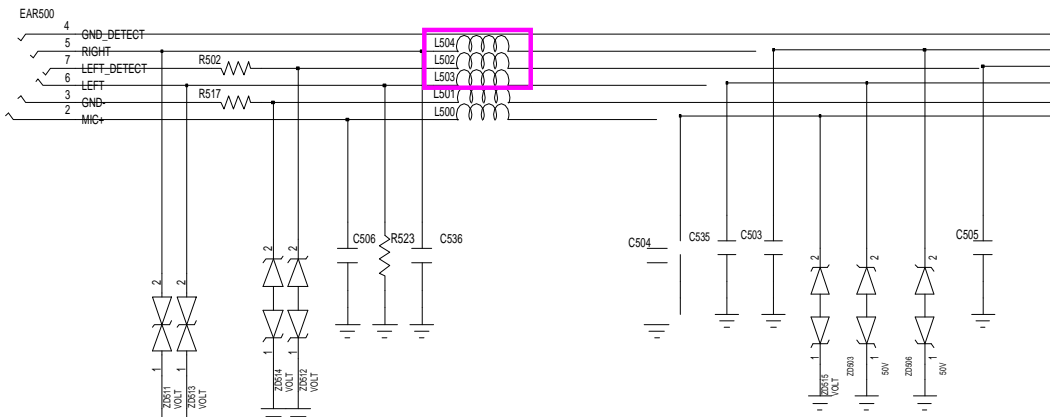
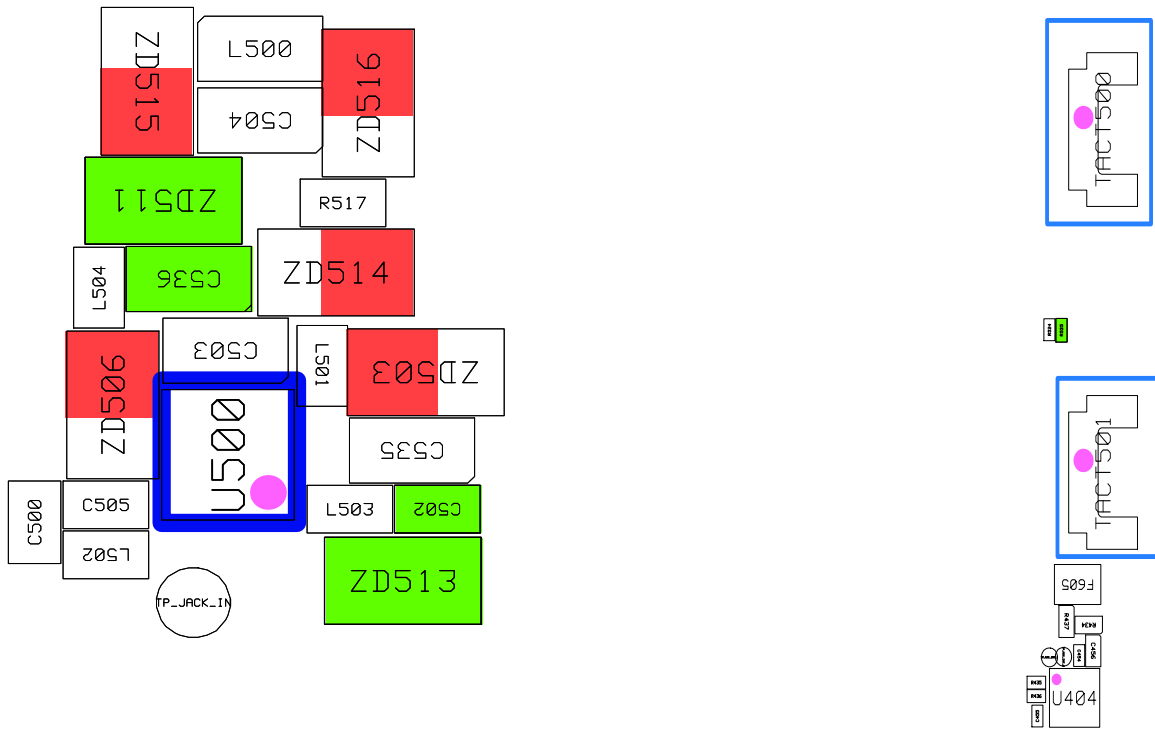
● MIC Working (Main MIC)

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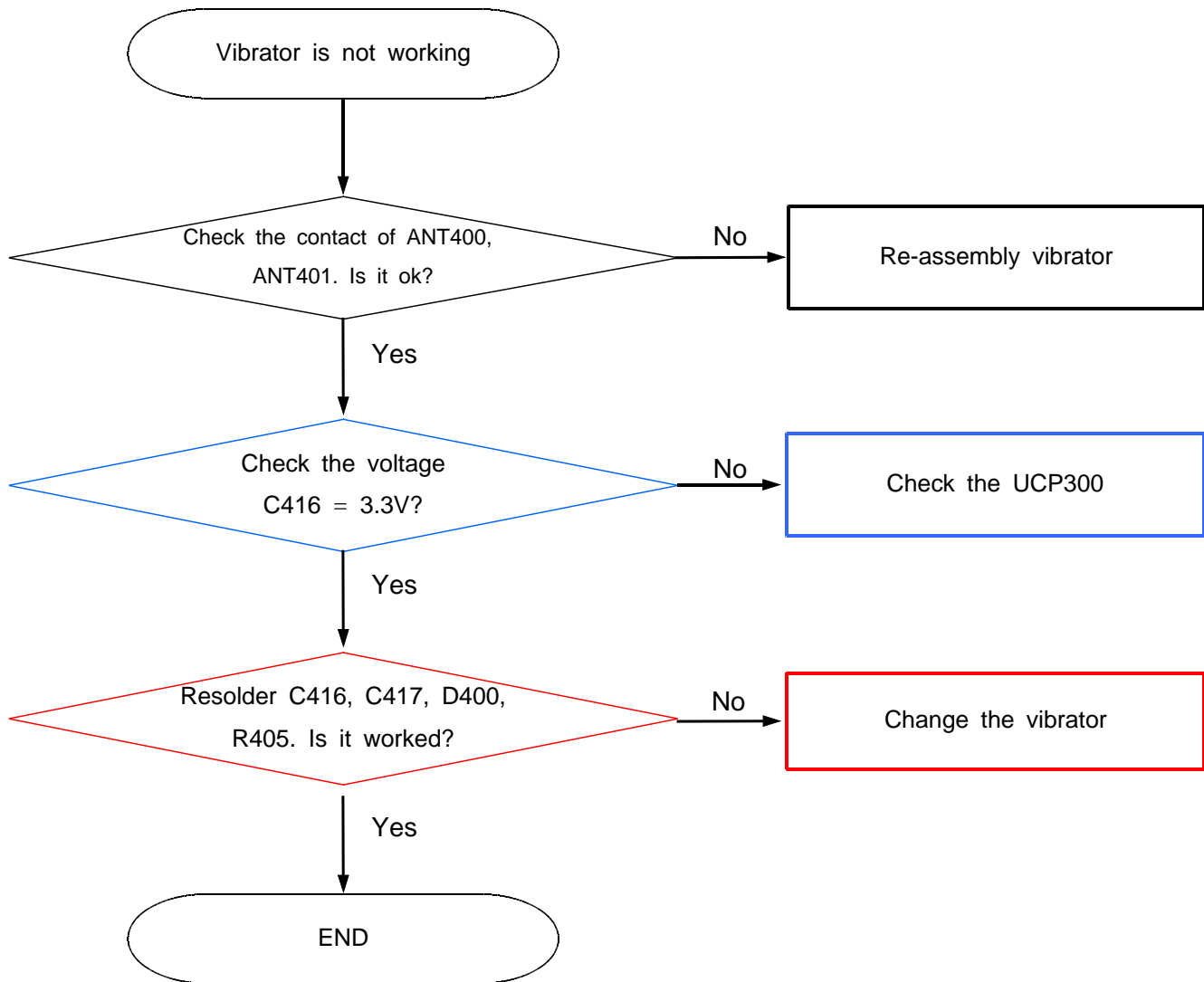
● Stereo Headset

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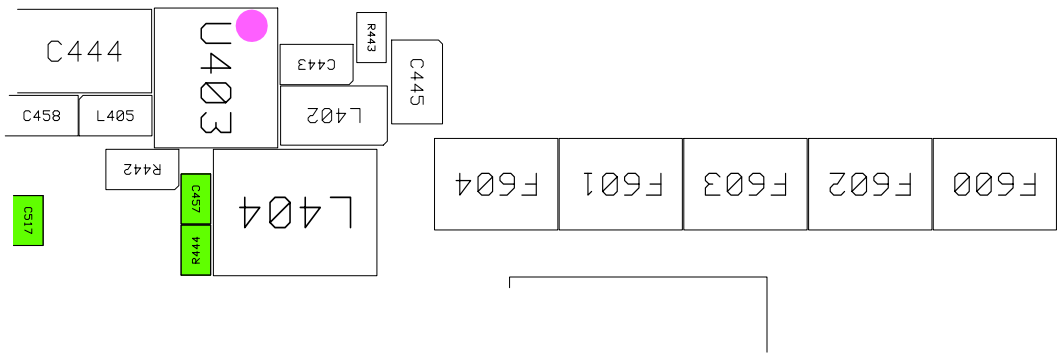
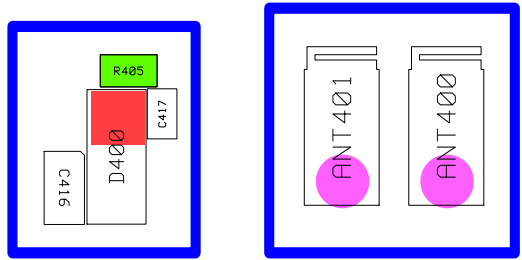


3.5 PHI EARJACK

8-4-6. Vibrator Working

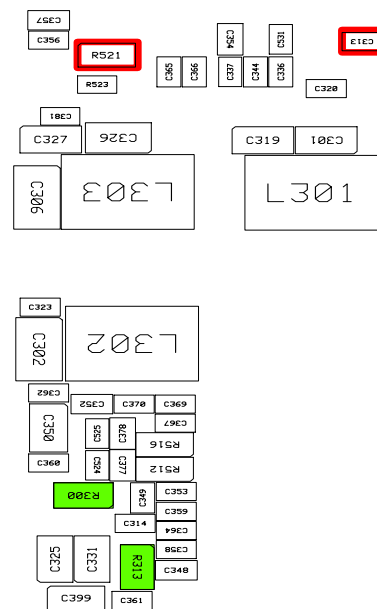
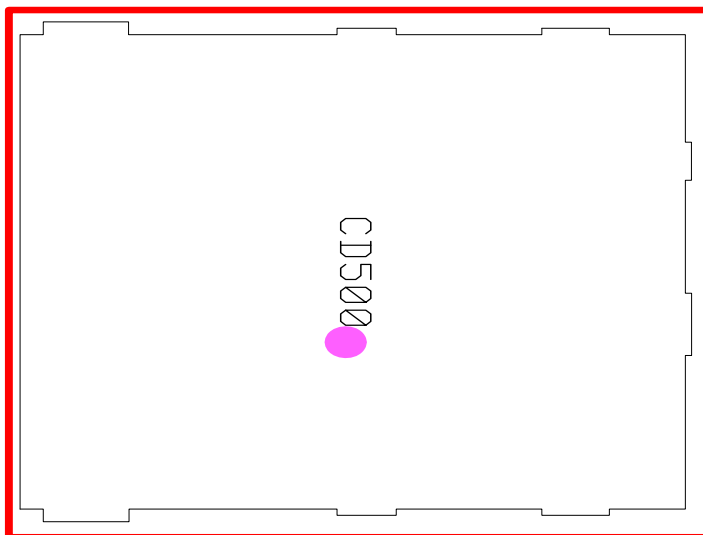
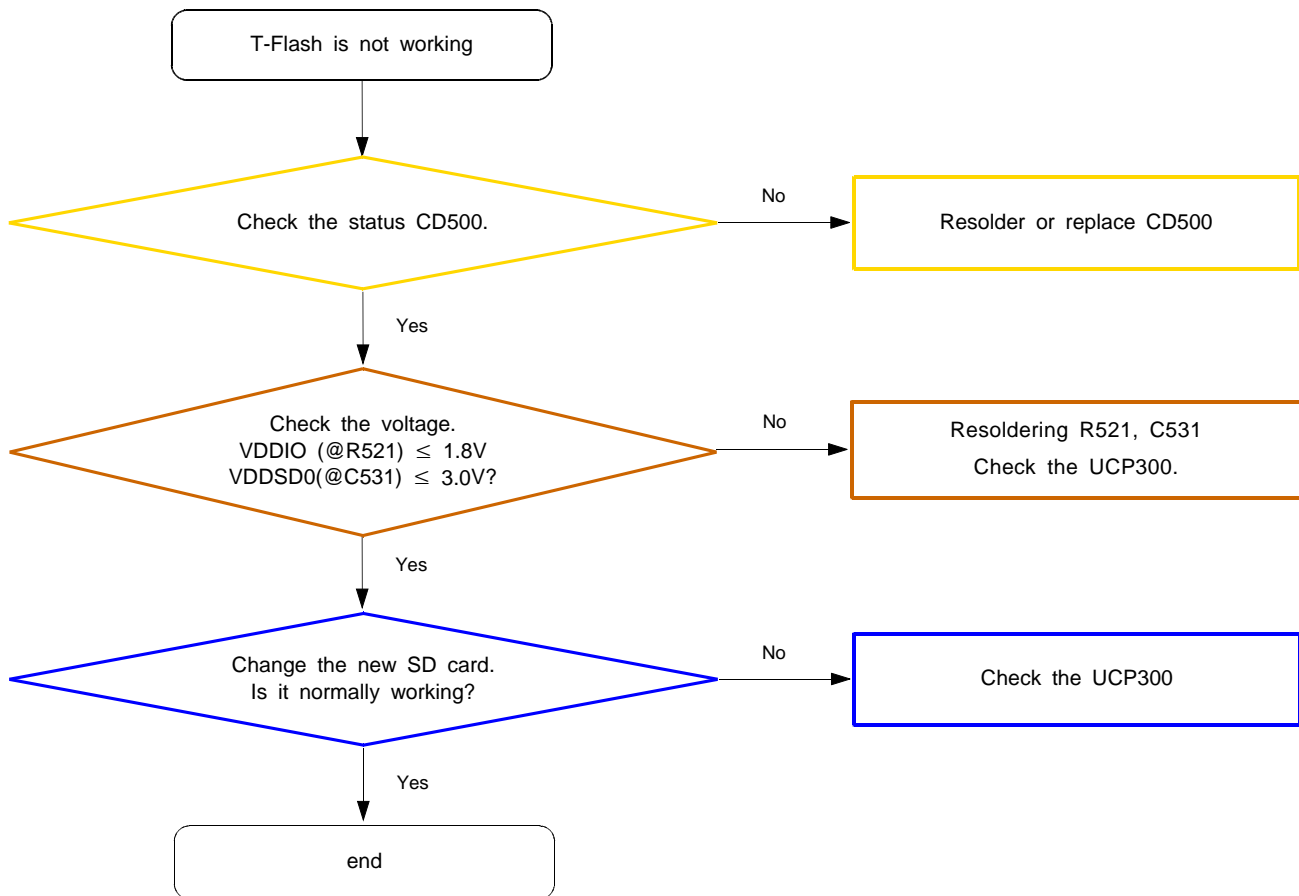


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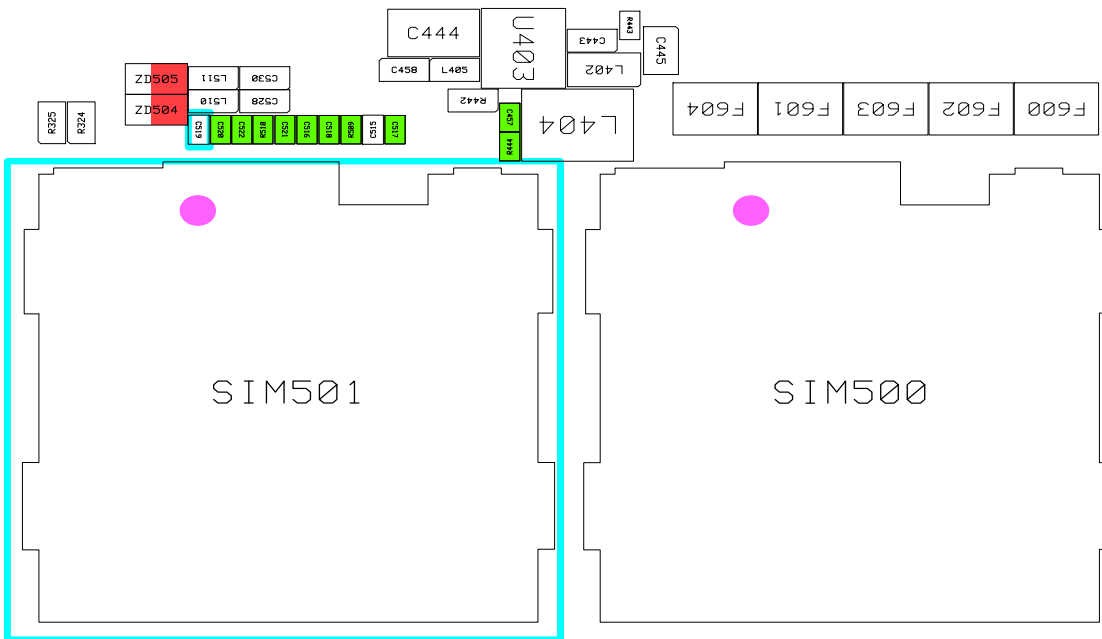
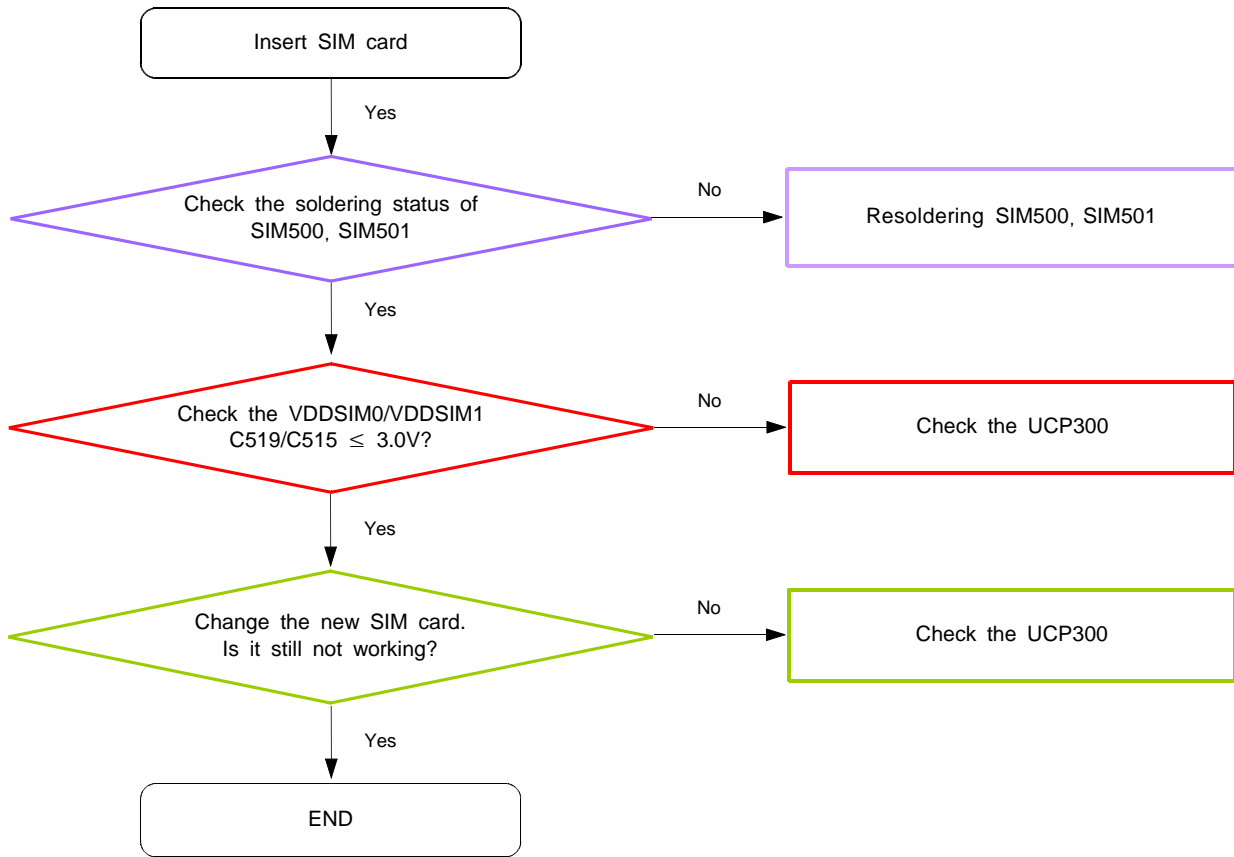


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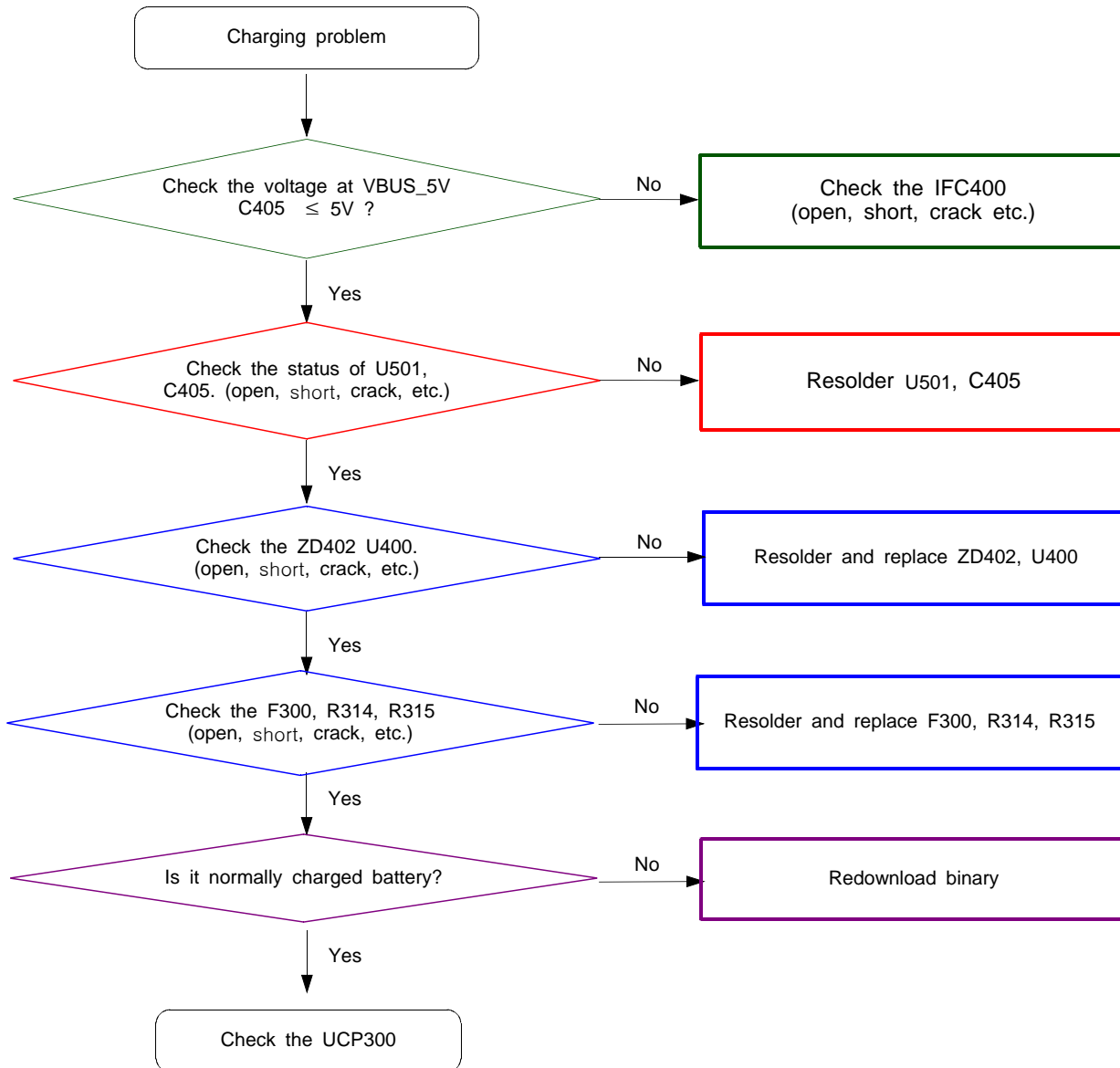
8-4-7. T-Flash Card Working



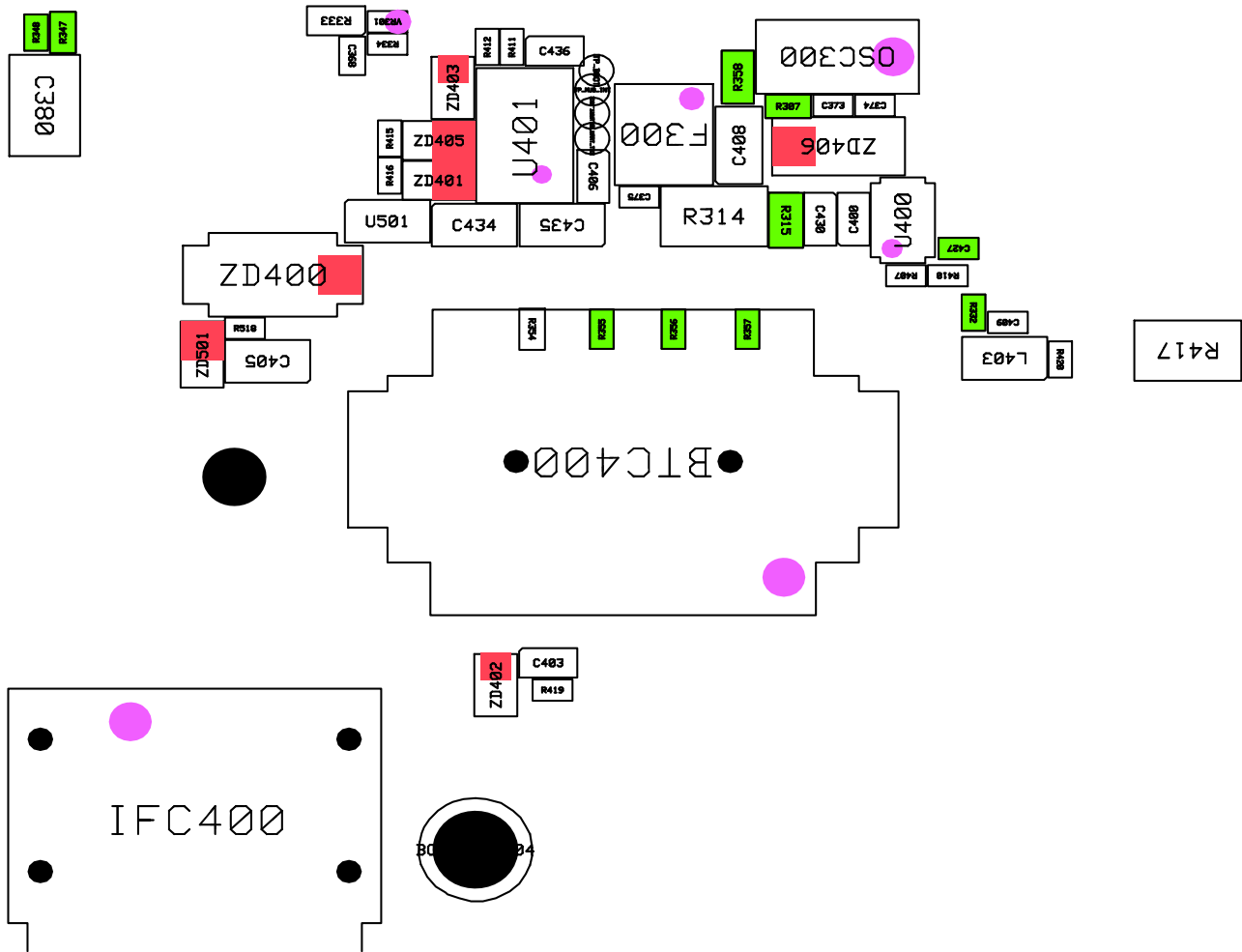
8-4-8. Sim Card



8-4-9. Charging

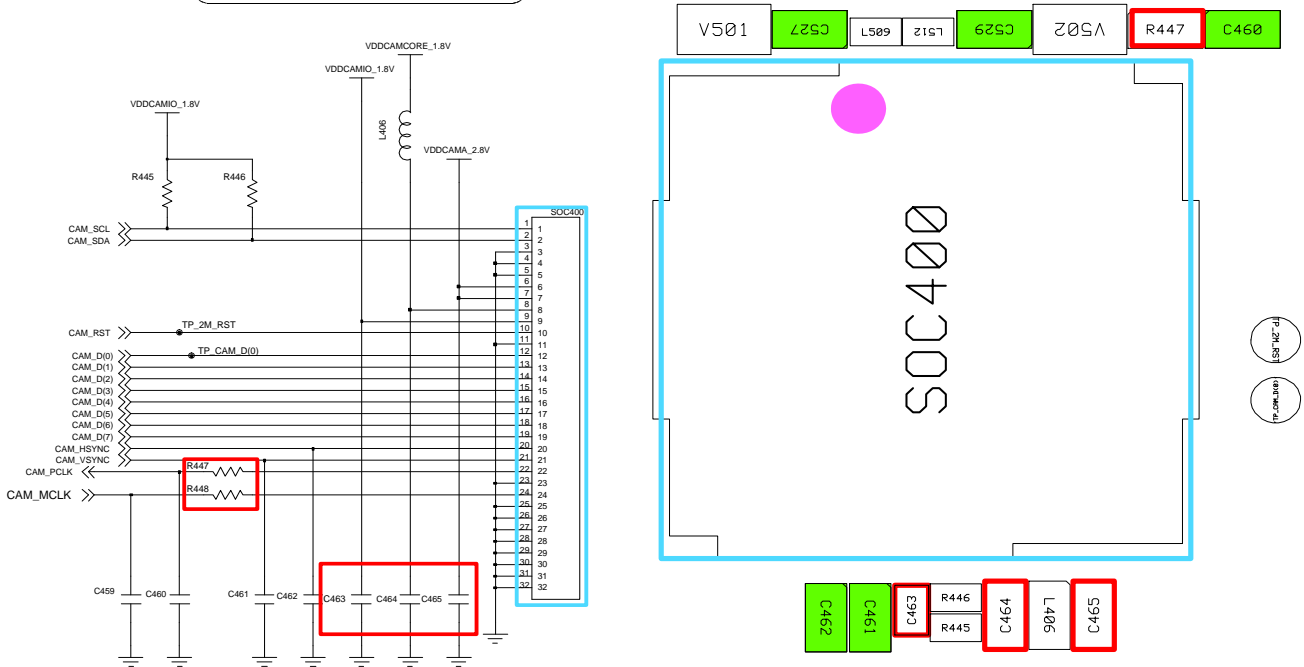
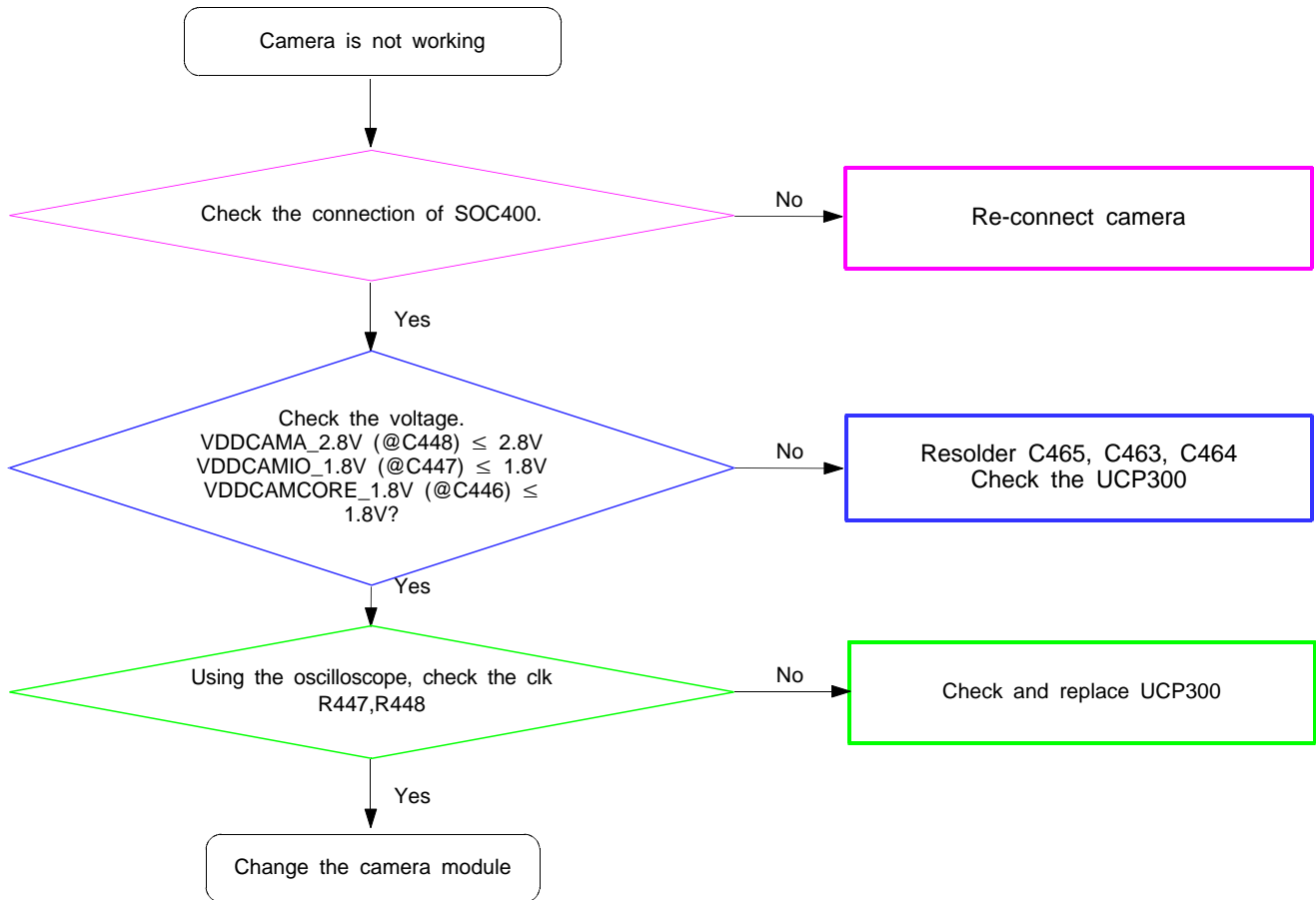


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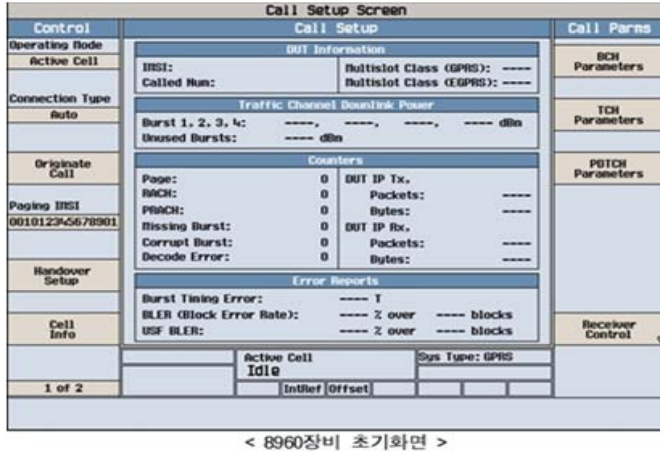


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8-4-10 CAMERA



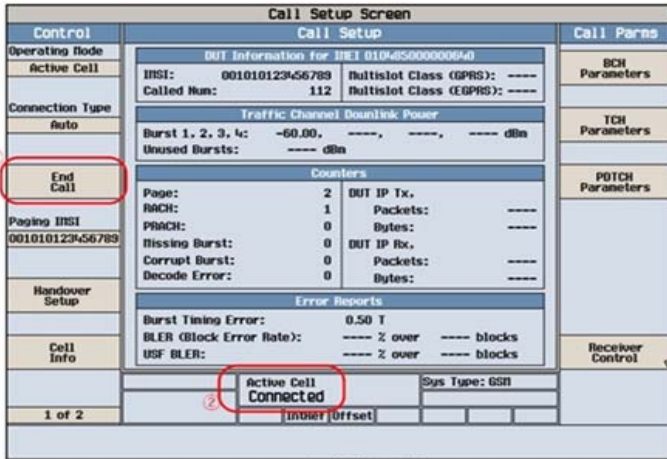
※ presetting 8960



< 8960장비 초기화면 >

(Rx setting)

1. Active Cell : select GSM or GPRS
2. Connetion Type : select Auto(GSM), BLER(GPRS)
3. BCH Parameter : select measuring band (DCS or EGSM)
4. Cell power : -60dBm



< Call이 연결된 화면 >

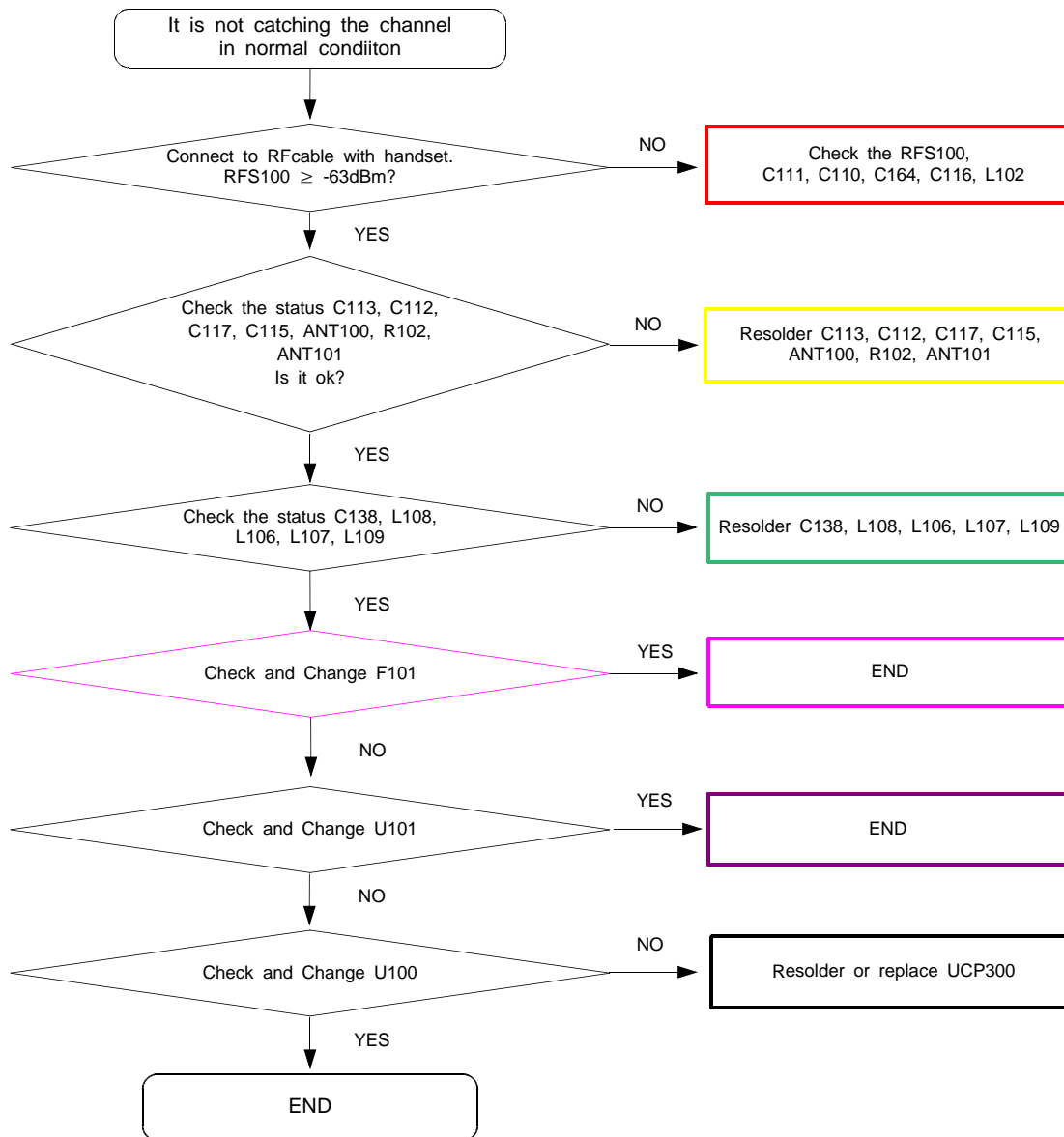
(Tx setting)

- ※ After setting 8960 (EGSM / DCS)
1. After setting, prepare the call setup Display
 2. Using an Originate Call, make a call.
 3. Confirm the display "connected"
 4. start the measuring

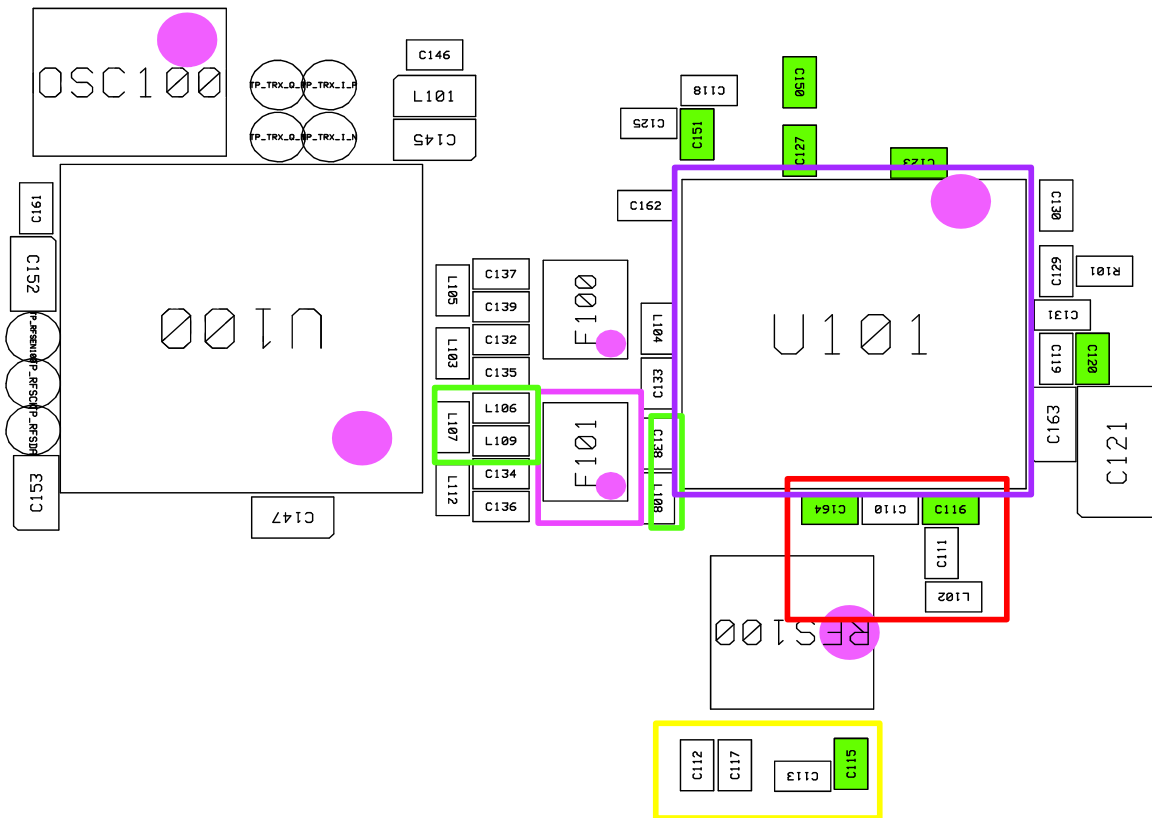
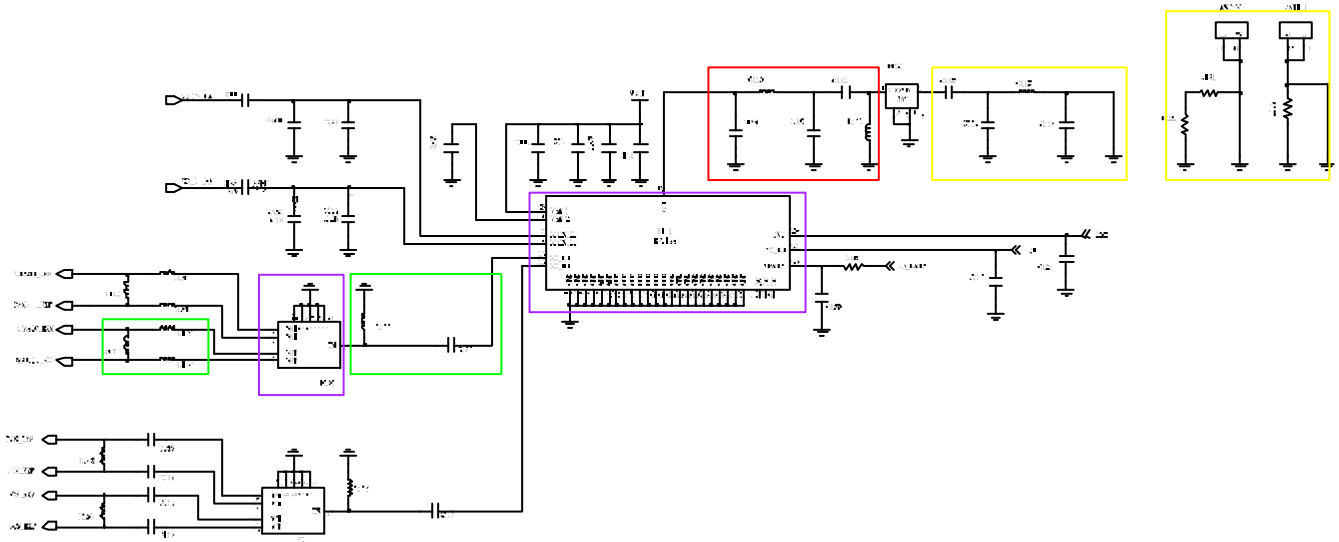
※ 8960 & spectrum analyzer (down & up at picture)

- spectrum analyzer : testing method = the way using an Oscilloscope
- 8960 : connect using RF Cable between 8960 & RF Connector in board.

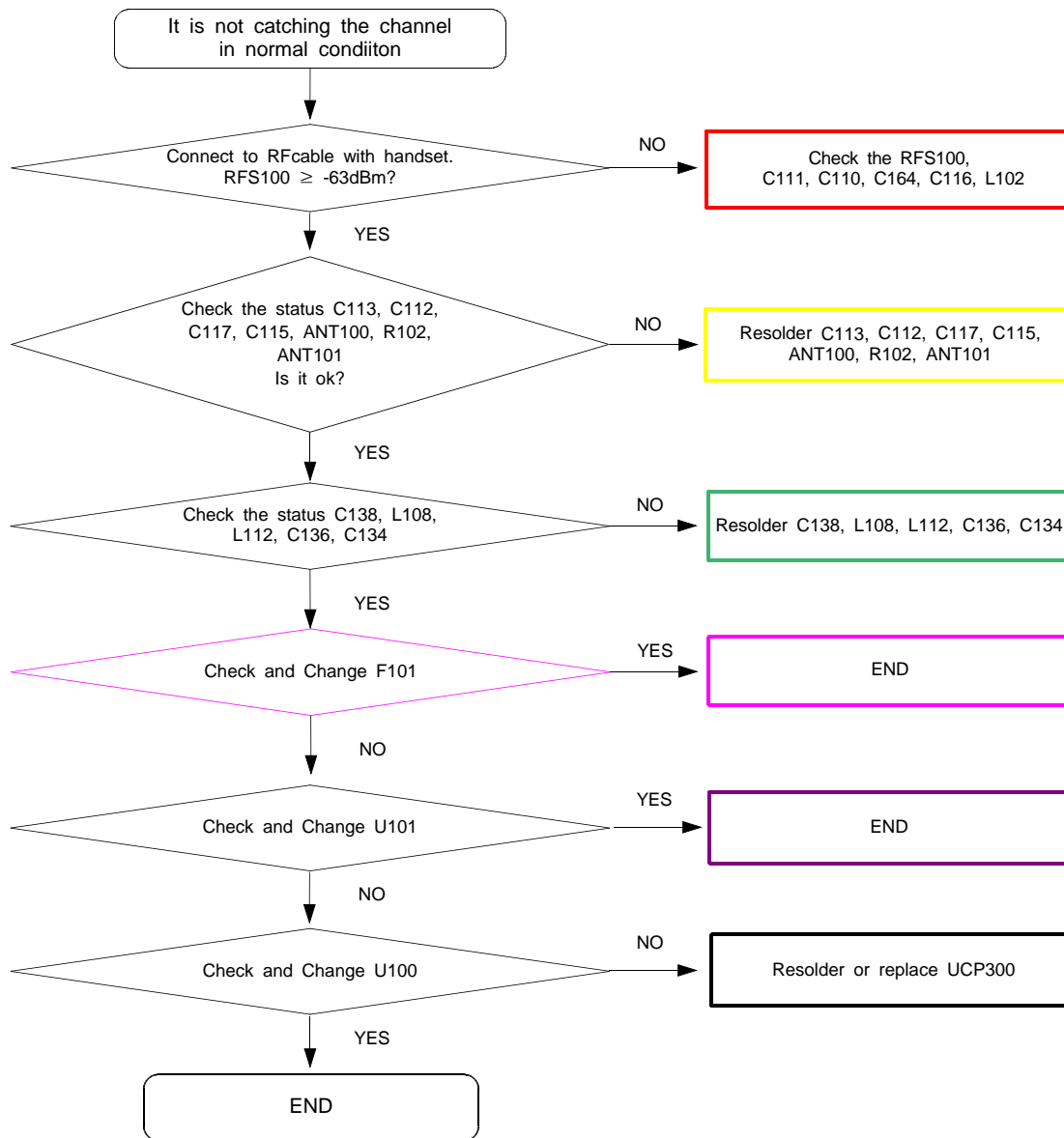
8-5-1. GSM 850 Rx



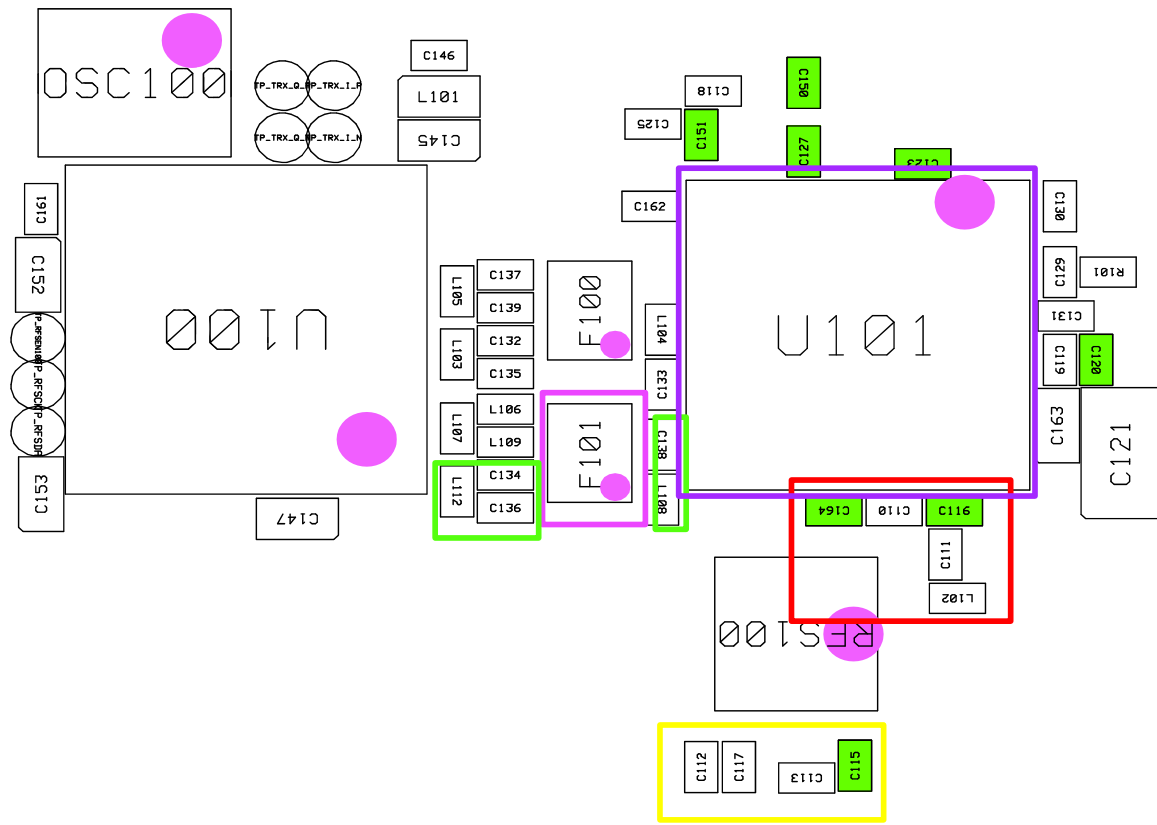
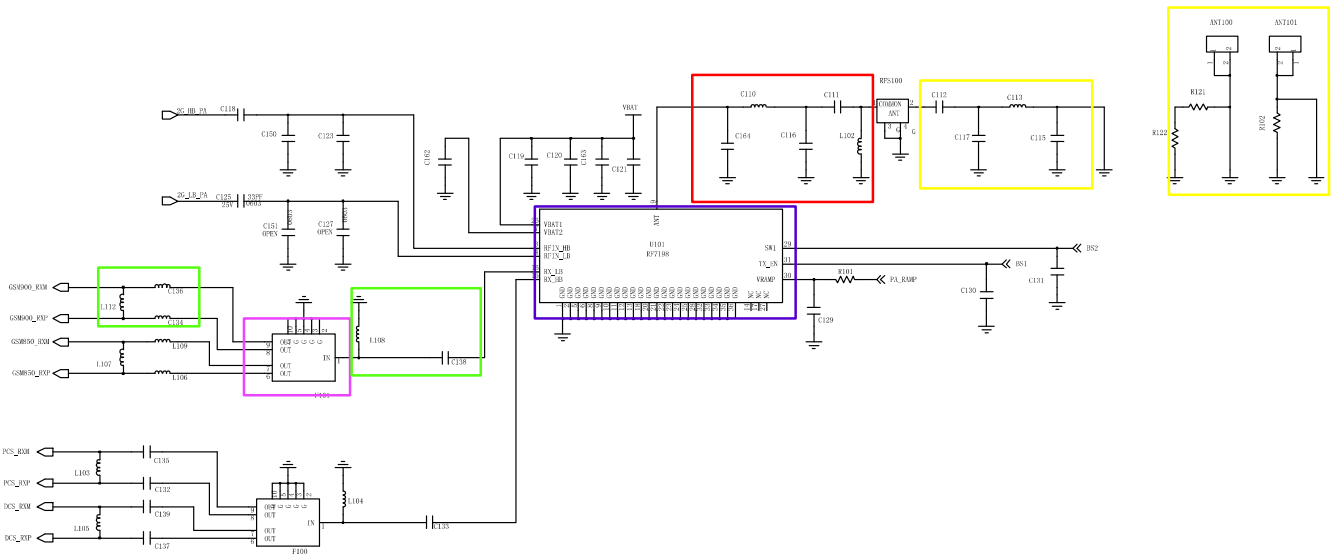
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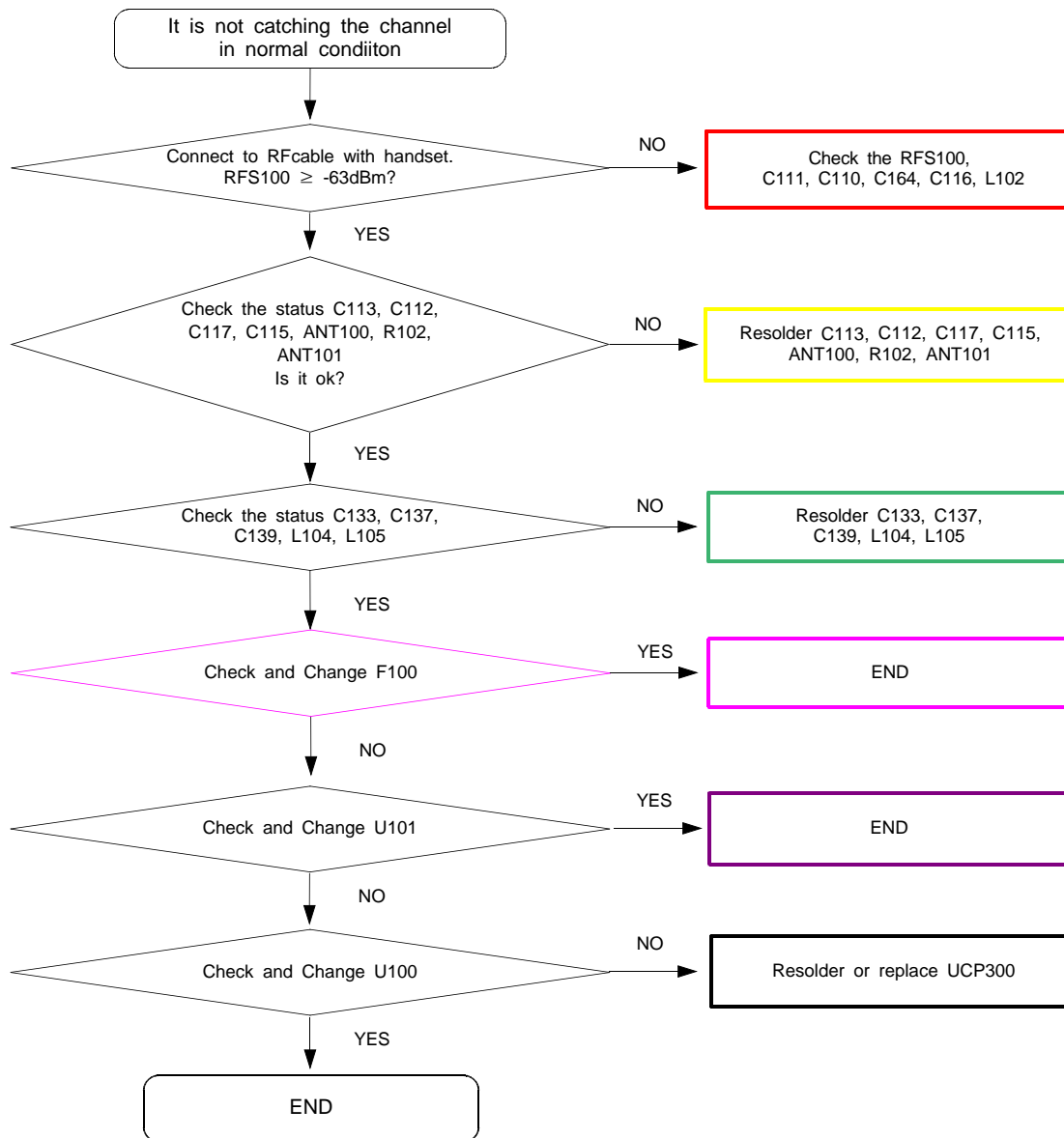
8-5-2. GSM 900 Rx



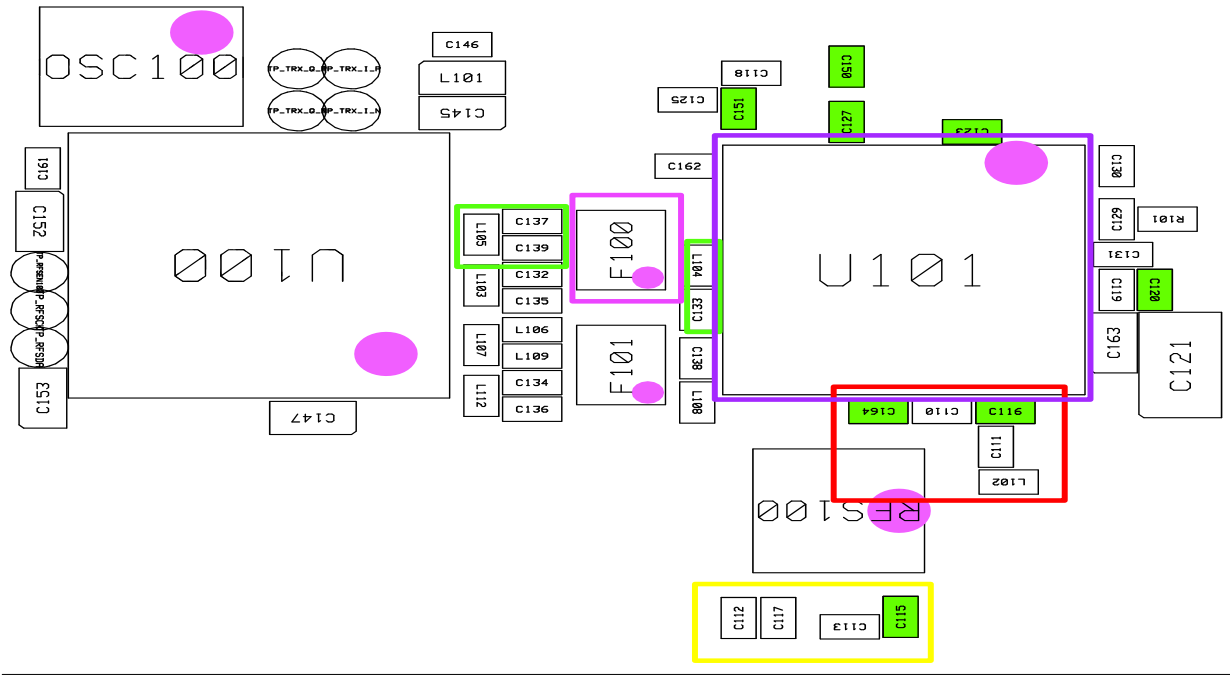
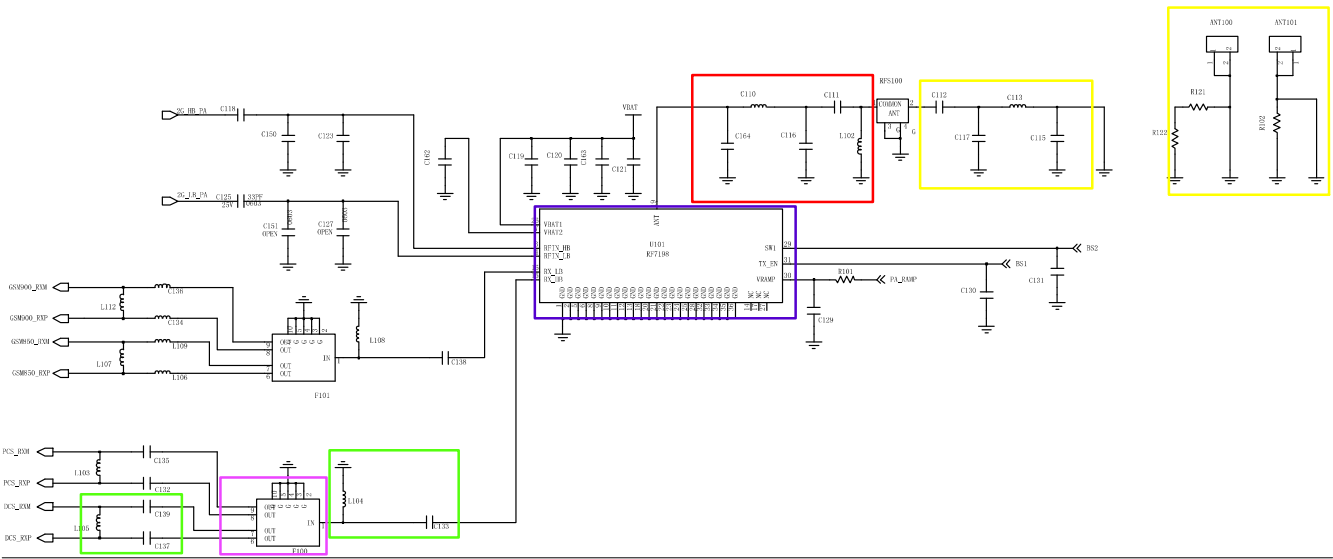
کانال ما در تلگرام
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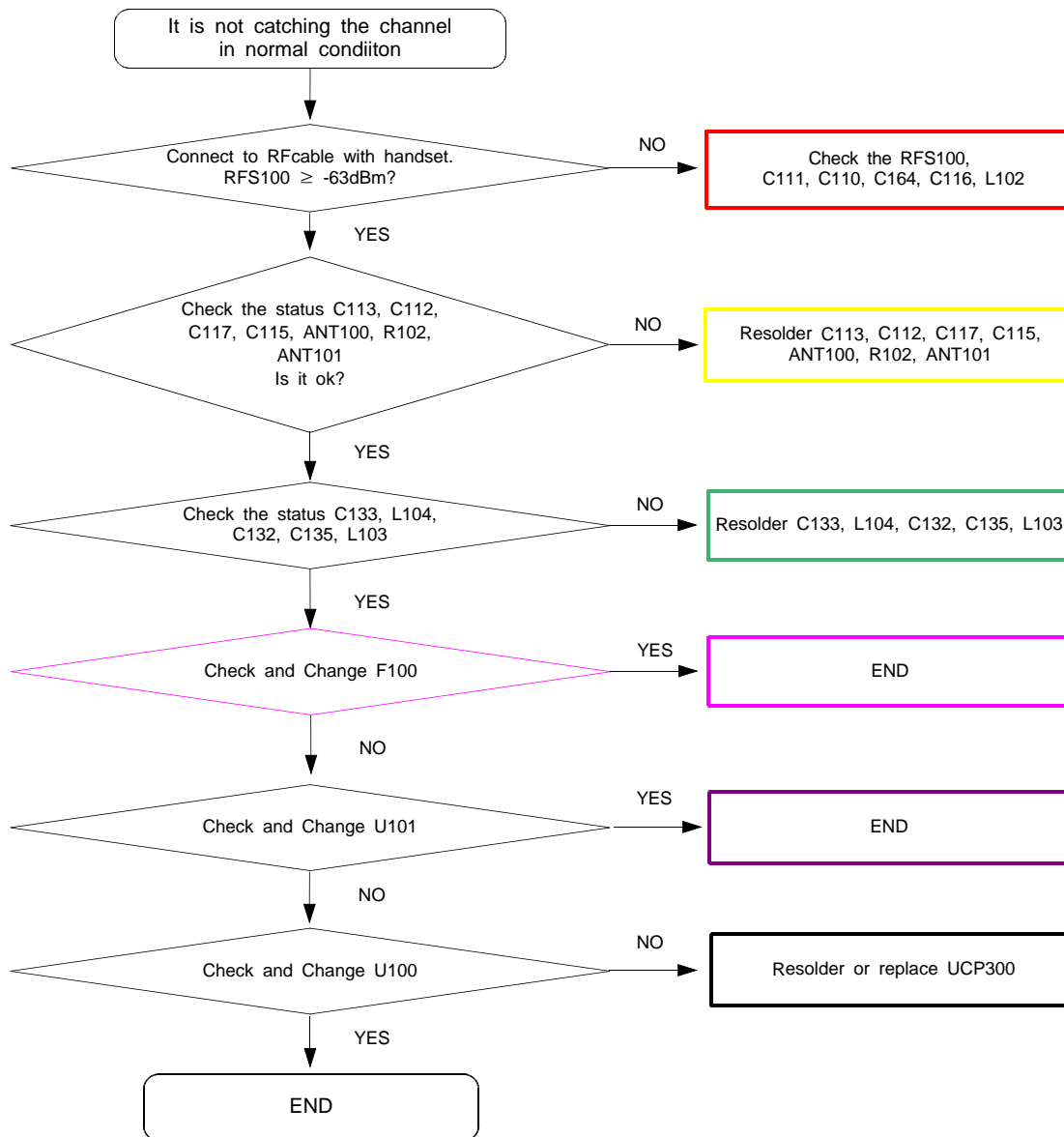
8-5-3. DCS1800 Rx



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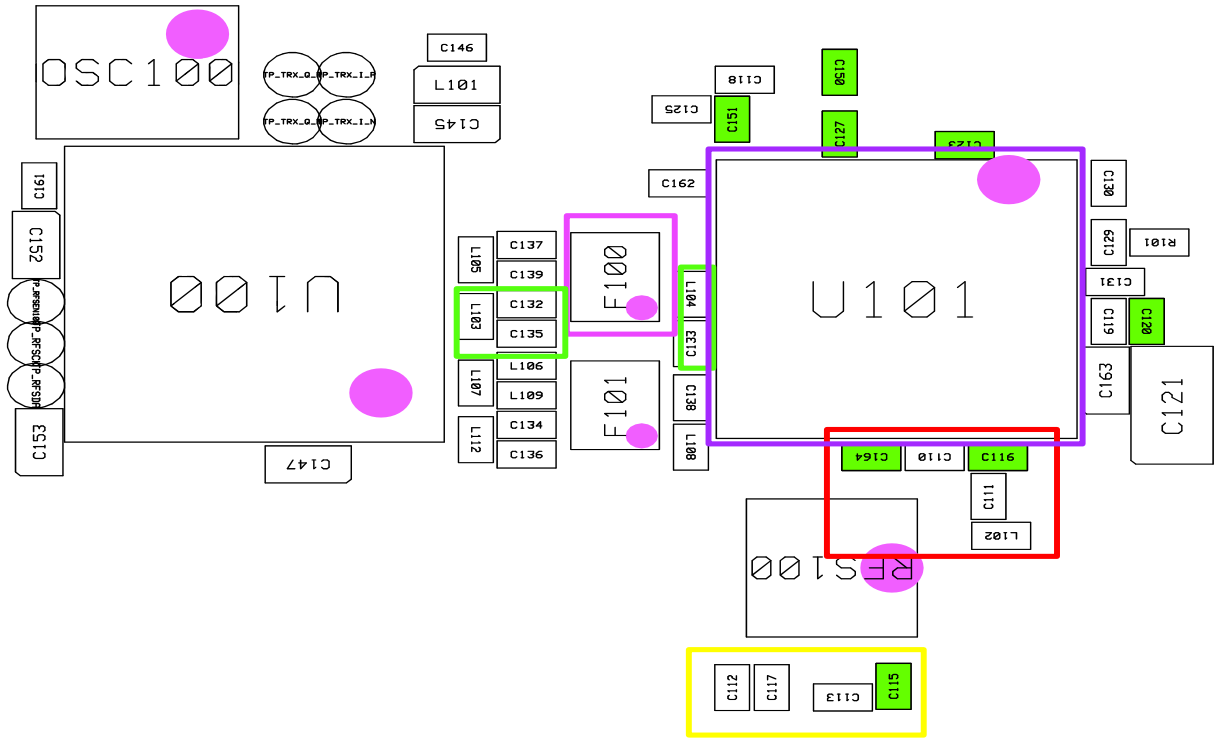
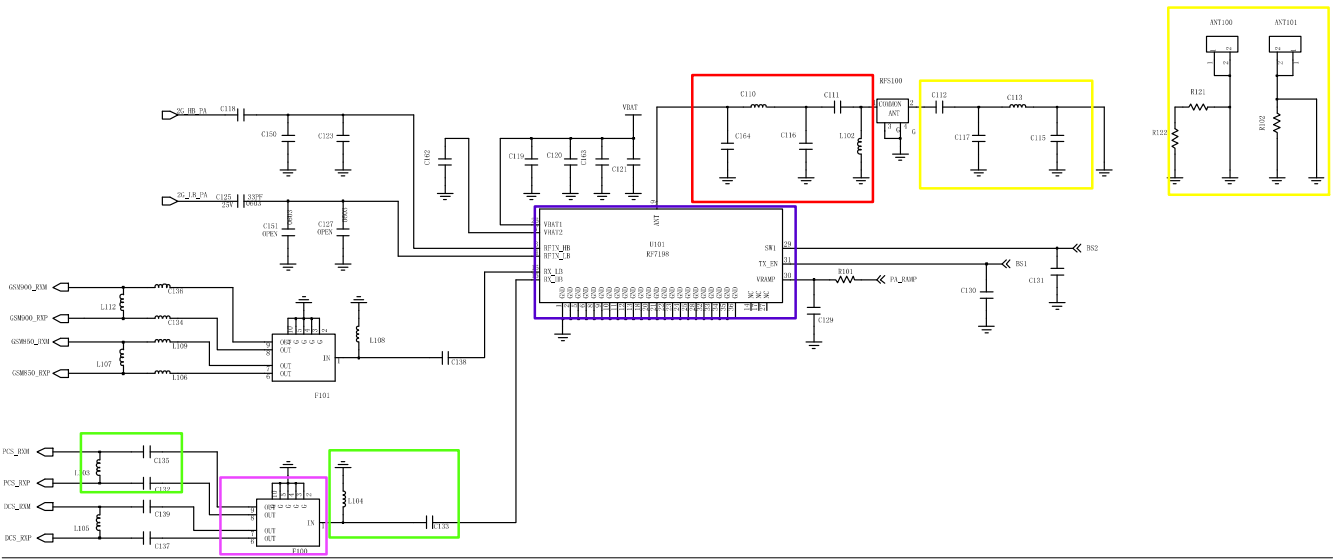


8-5-4. PCS1900 Rx

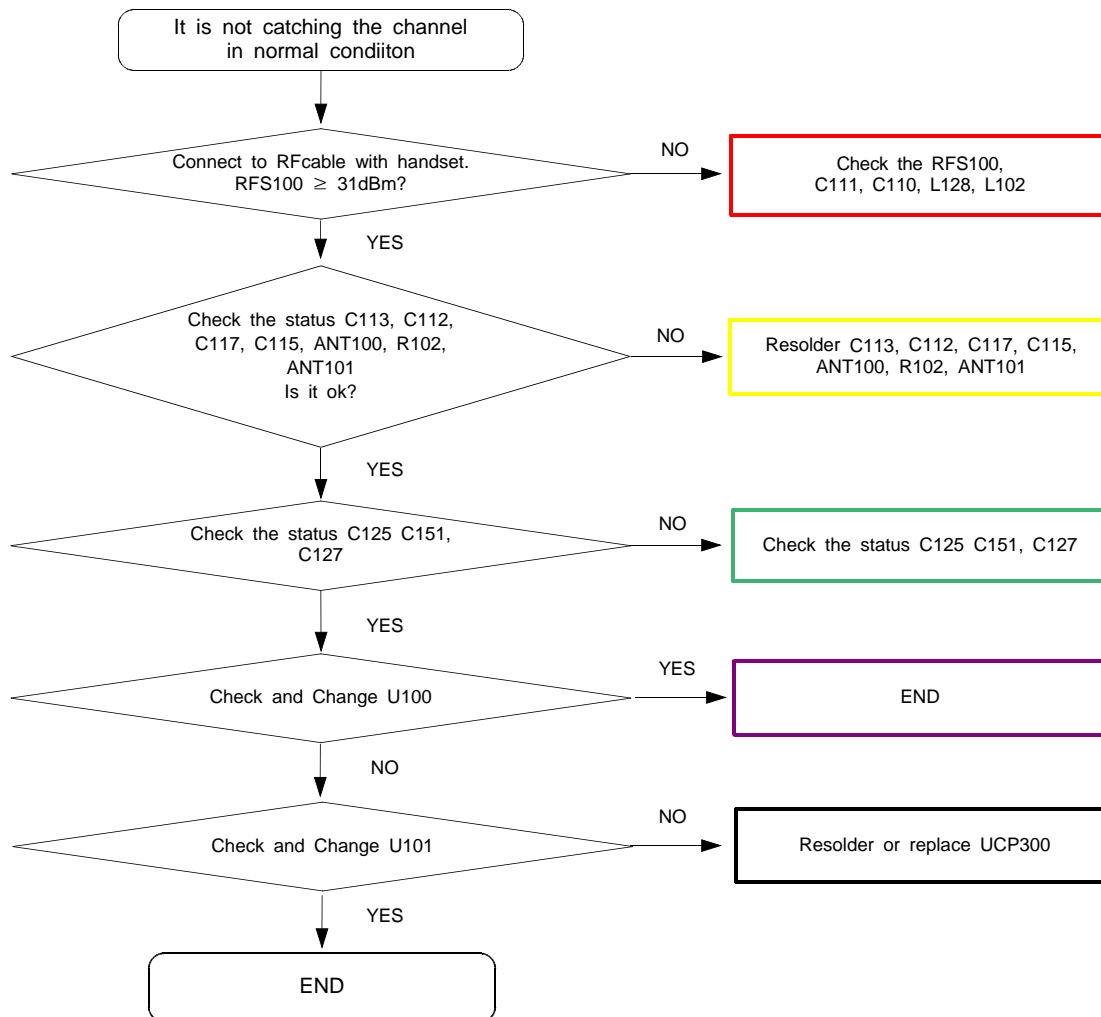


کانال ما در تلگرام

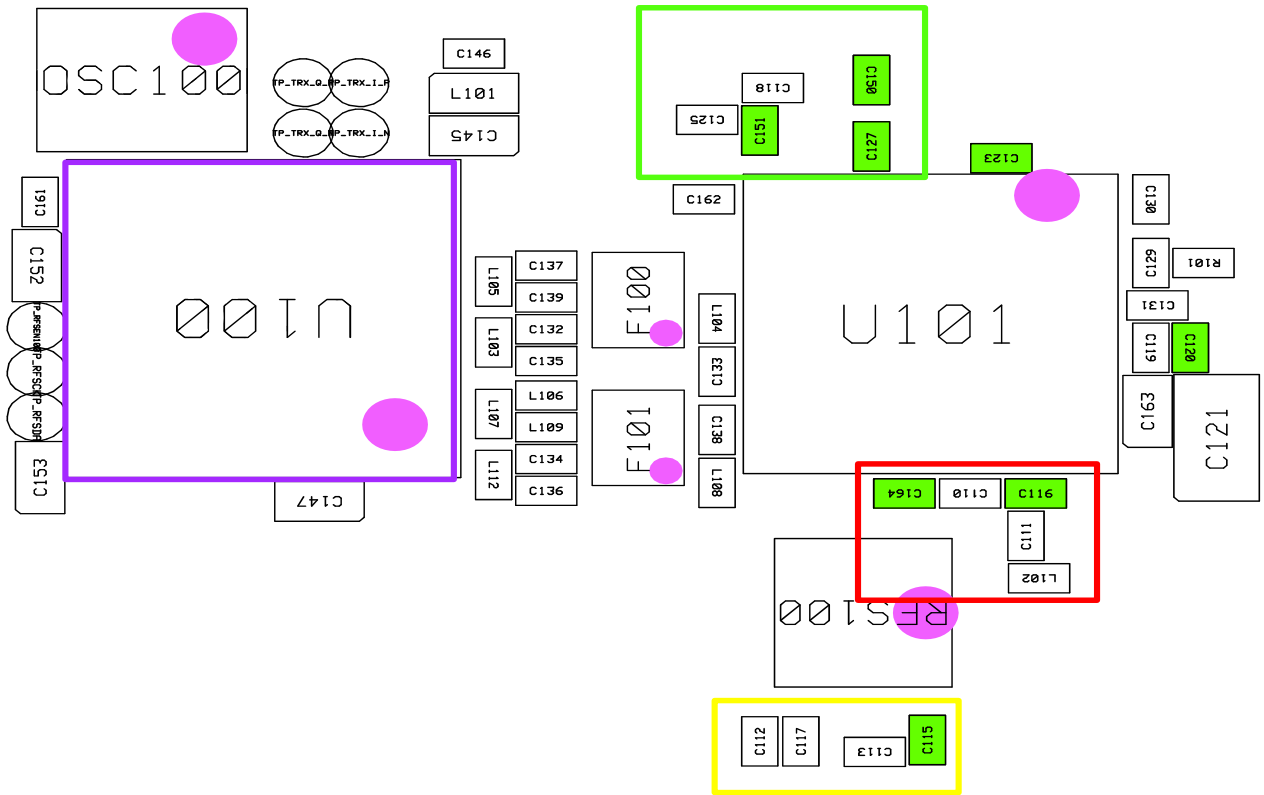
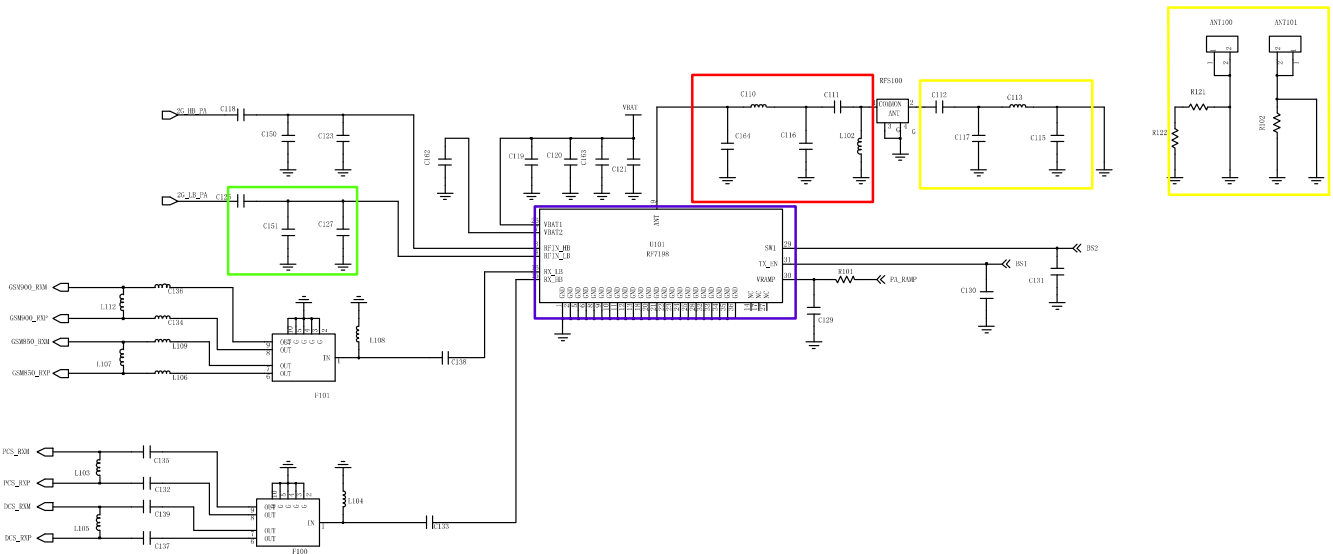
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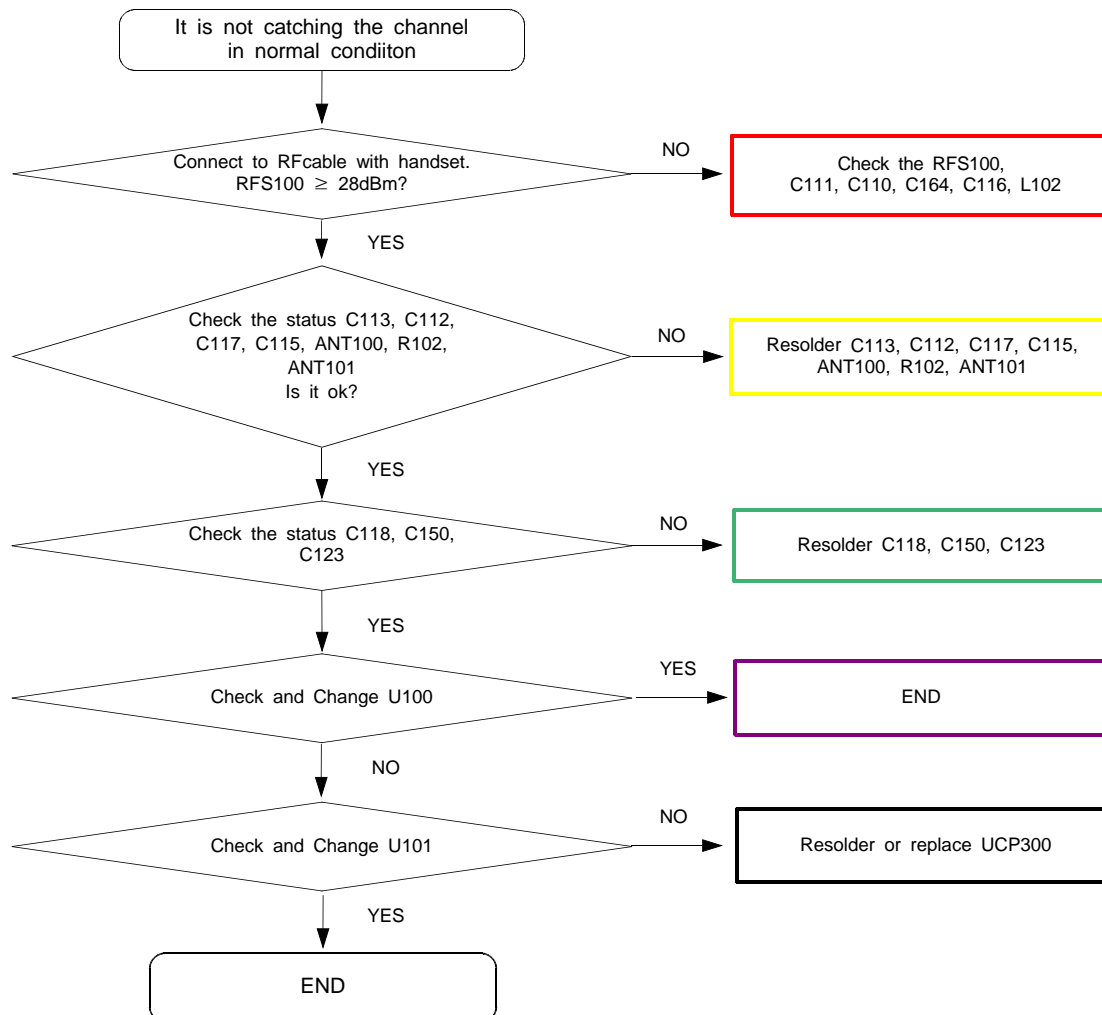
8-5-5. GSM 850 / 900 Tx



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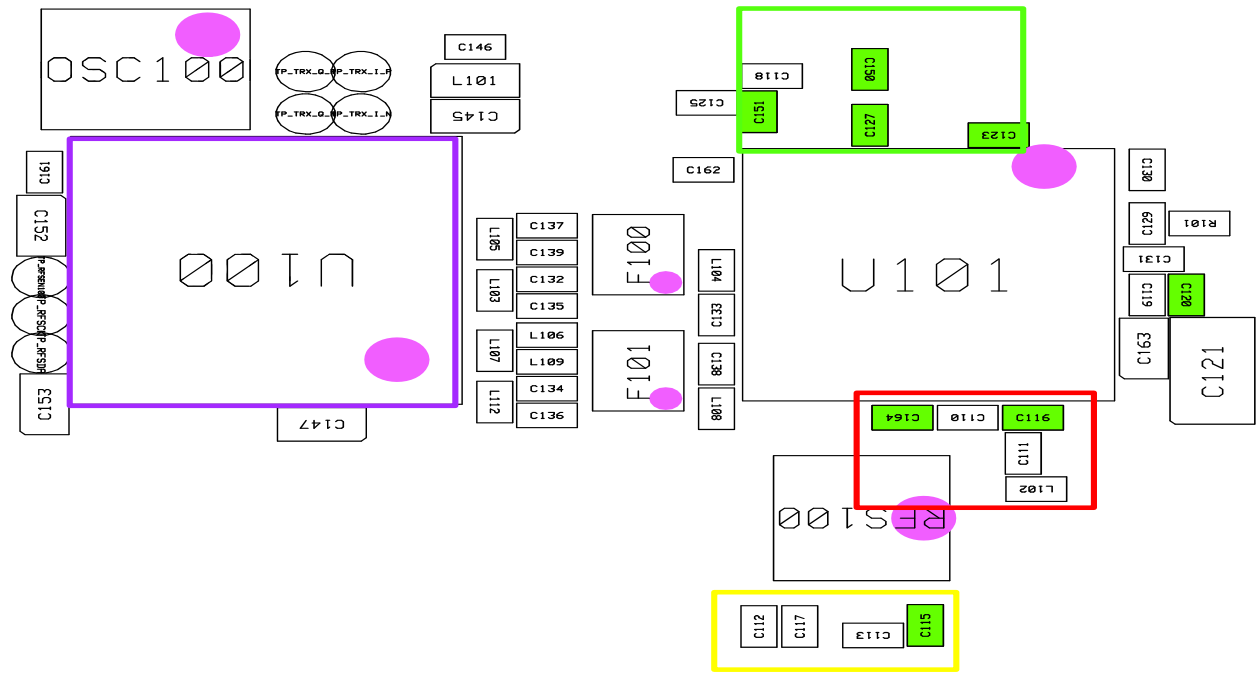
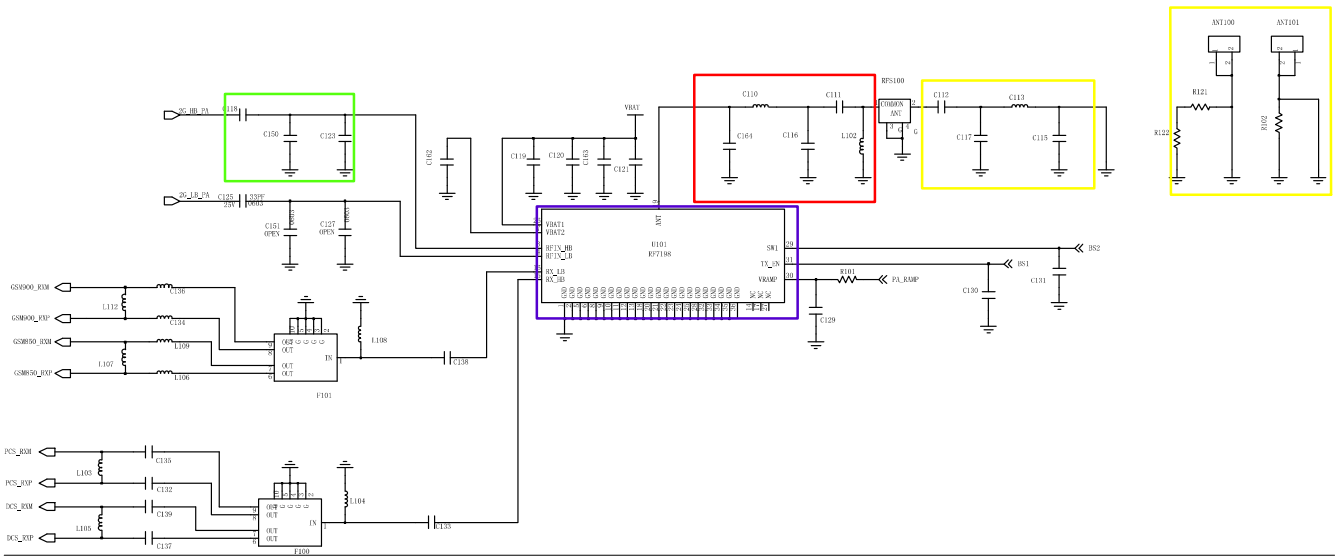


8-5-6. GSM 1800 / 1900 Tx

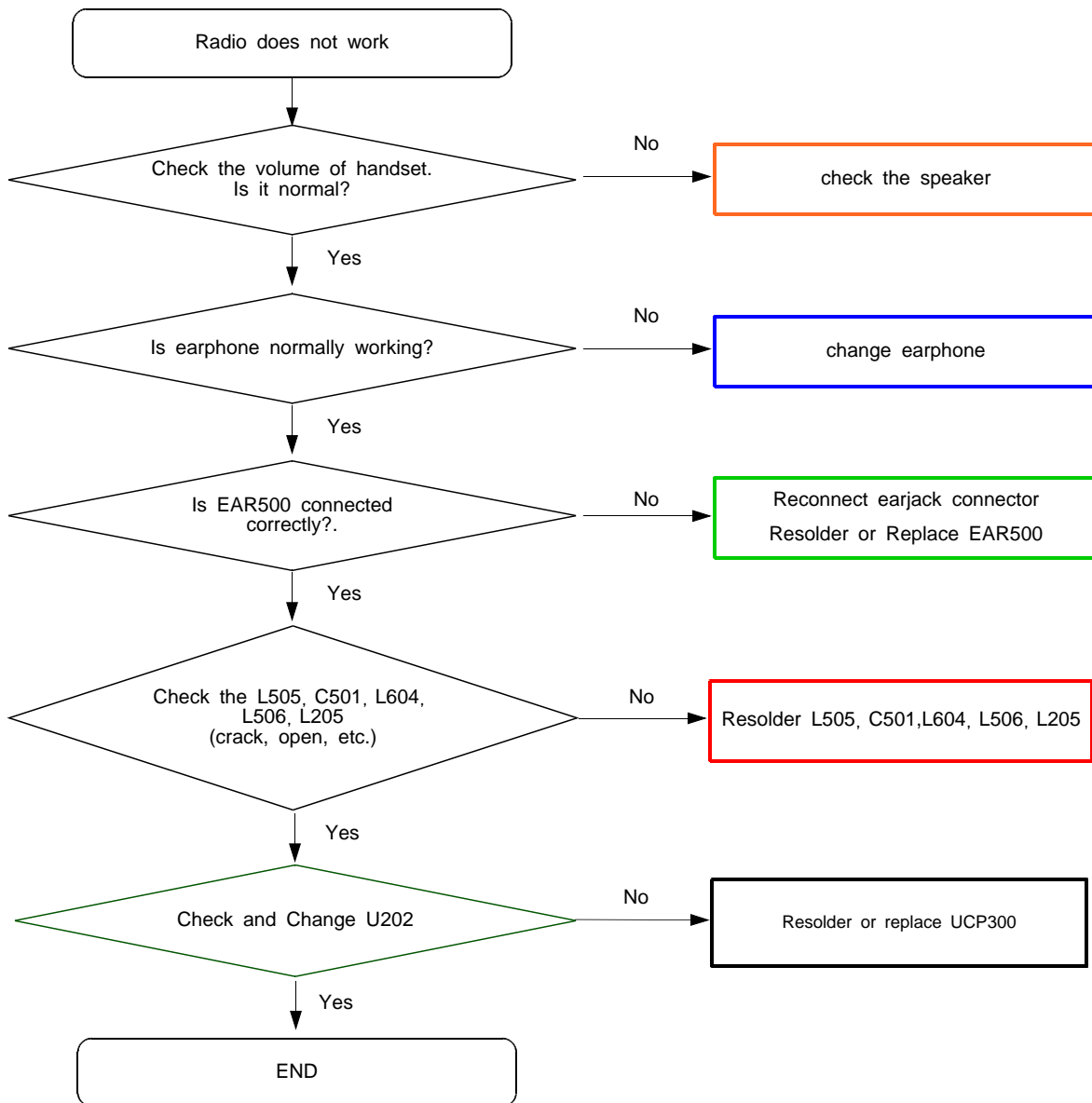


کانال ما در تلگرام

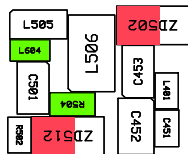
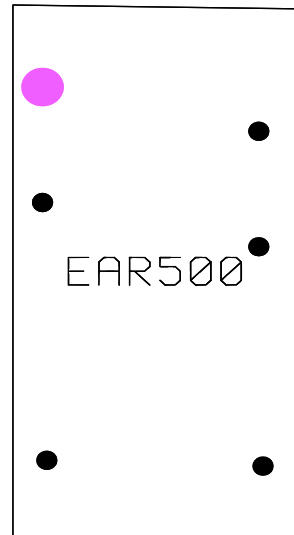
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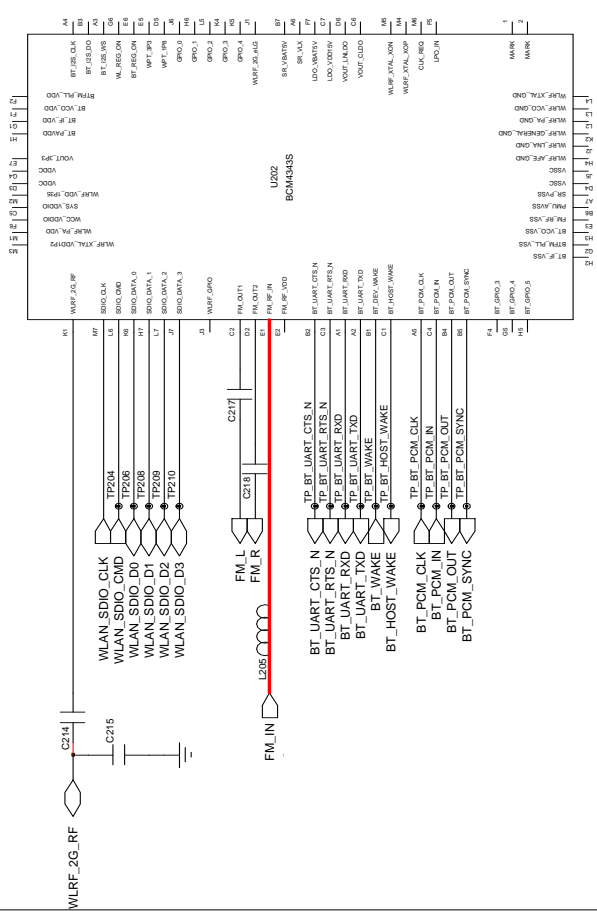
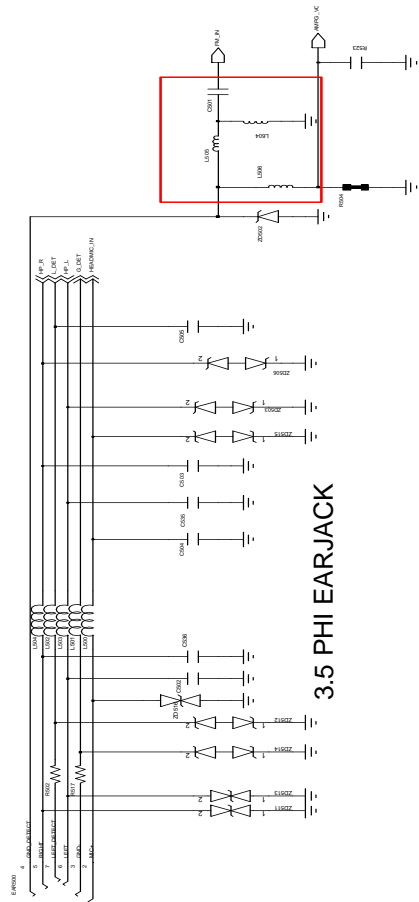
8-5-7. FM RADIO



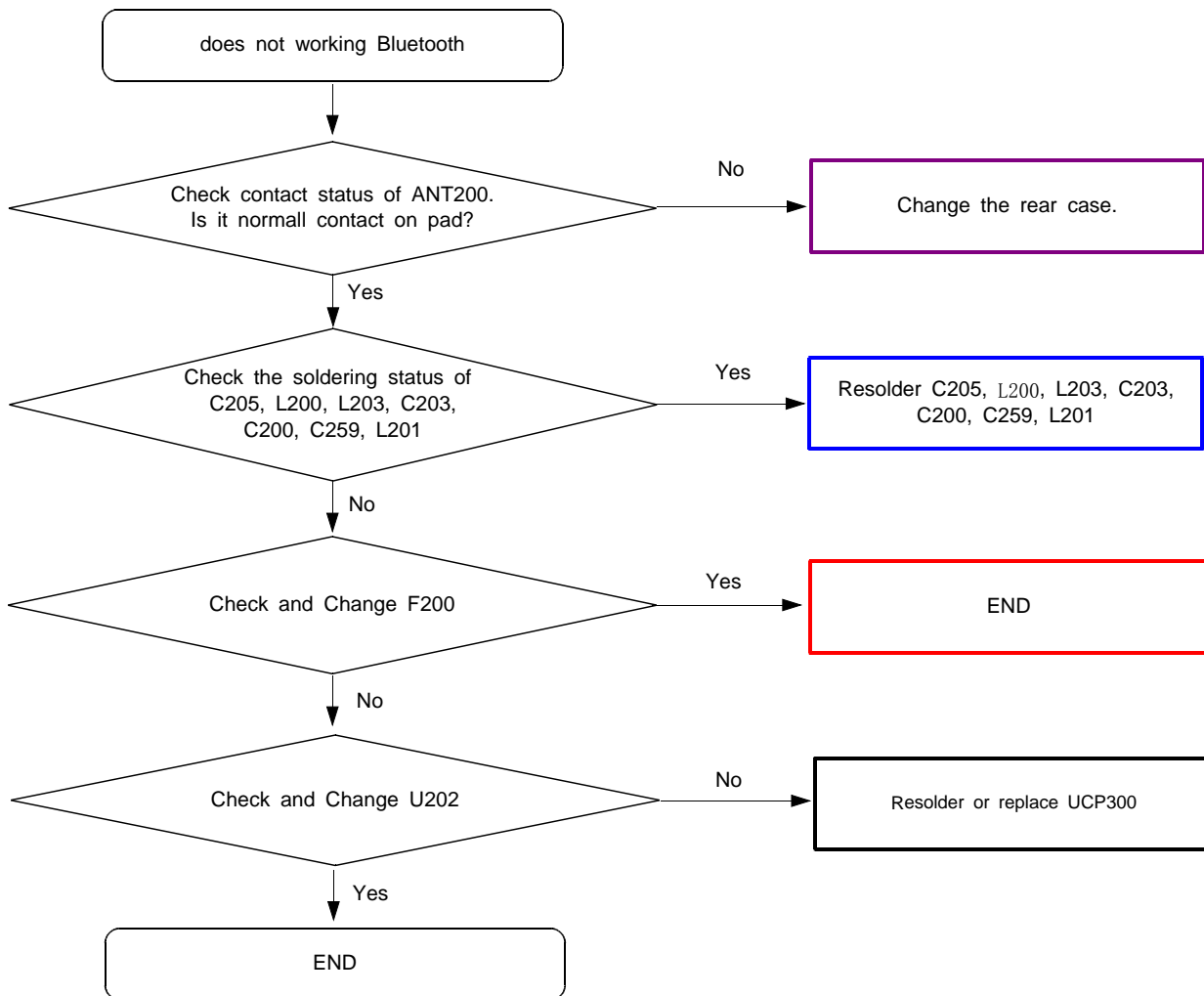
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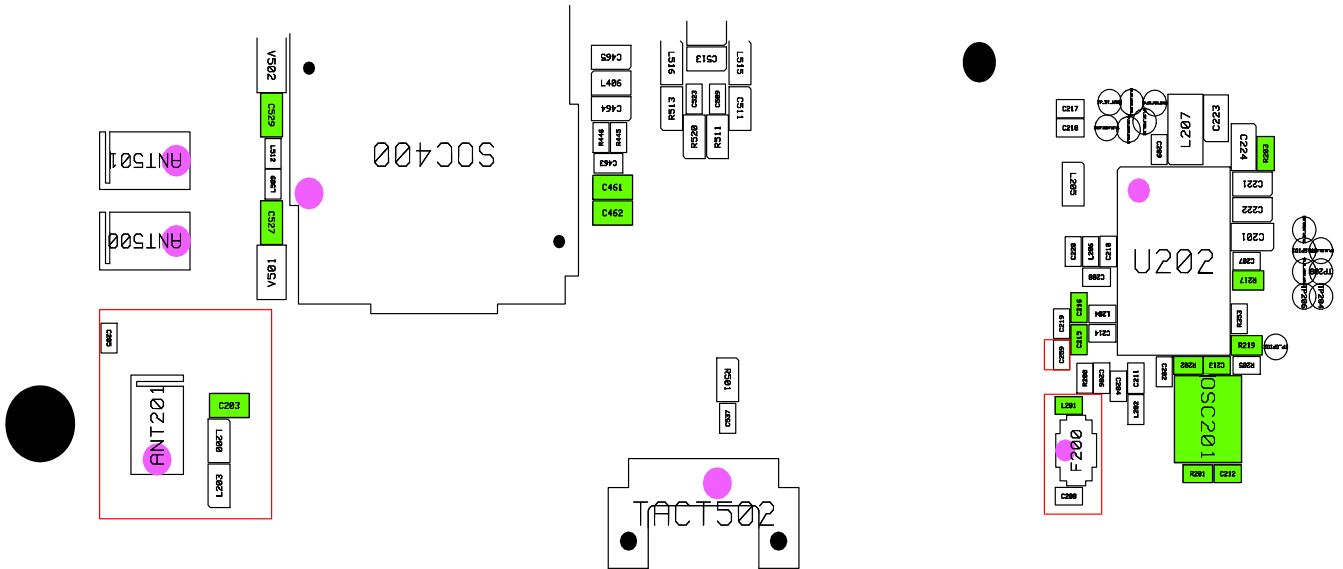
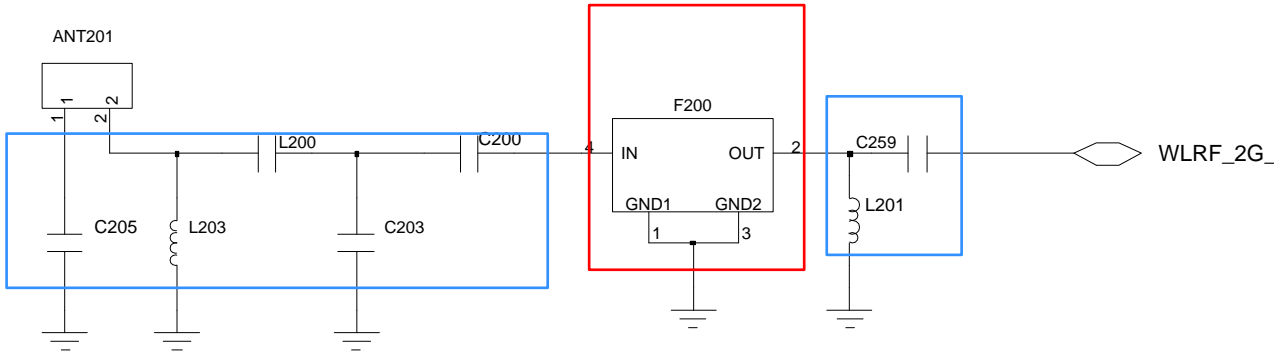
3.5 PHI EARJACK



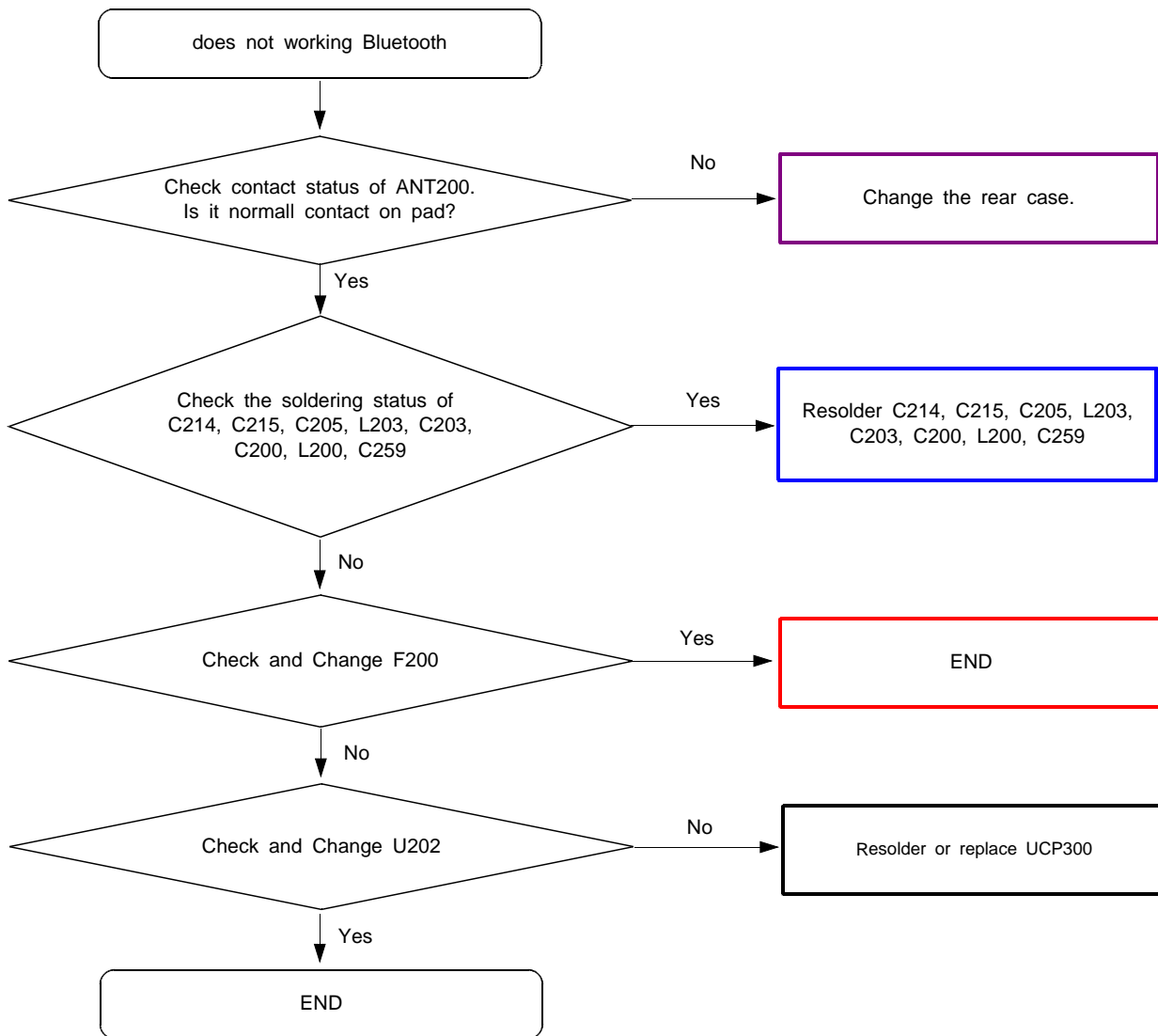
8-5-8. Bluetooth



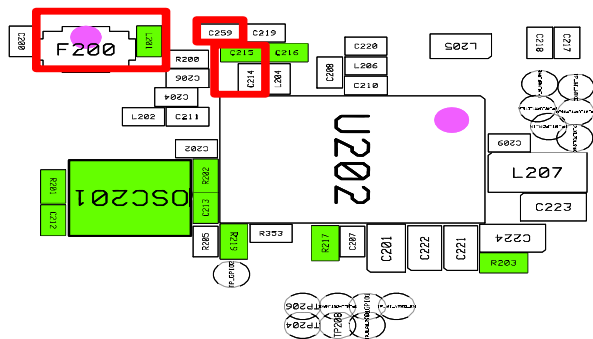
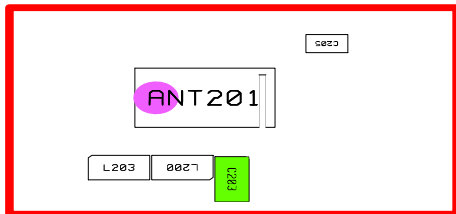
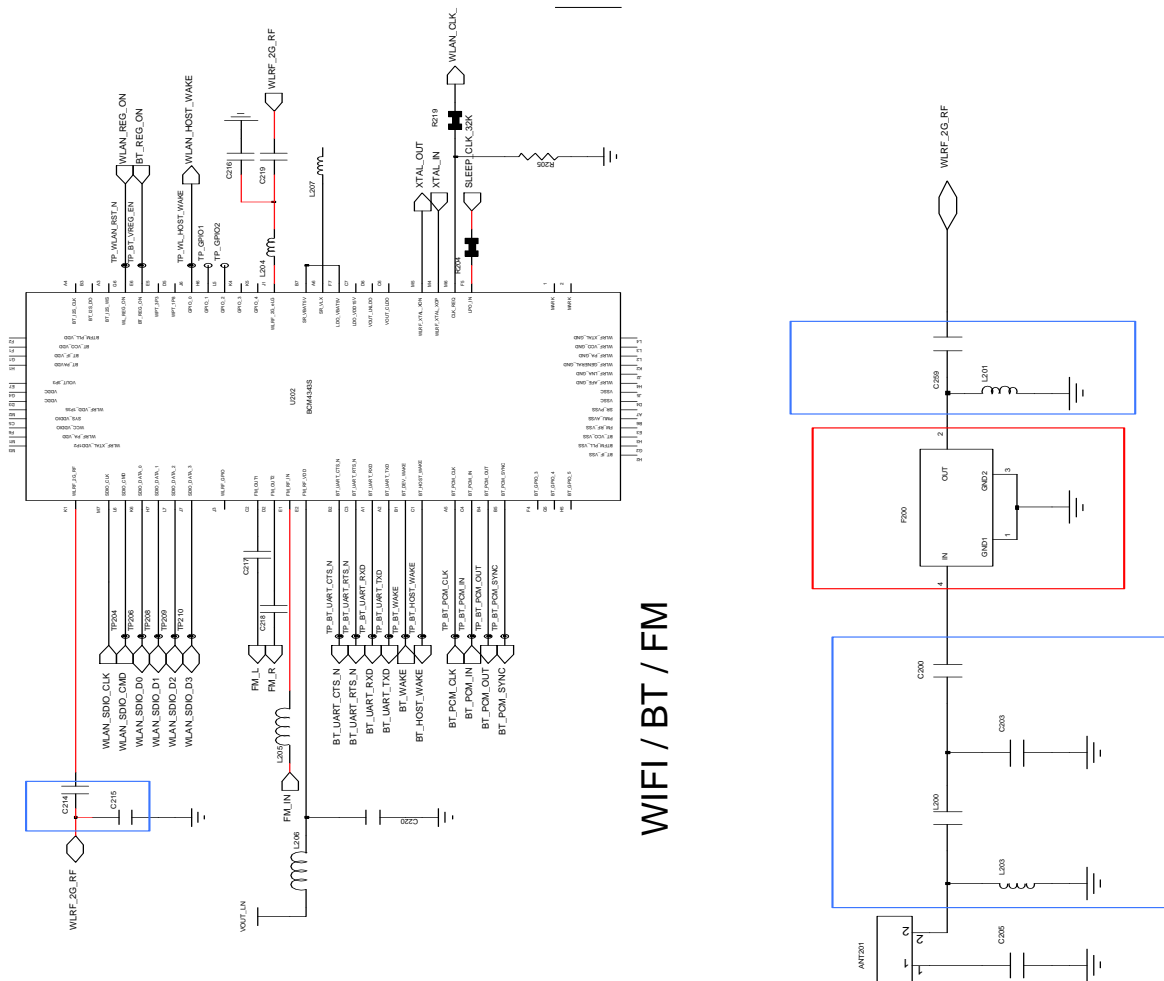
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8-5-9. WiFi



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8-6. Service Schematics

- NC Point(Top View)

● : NC

UME300

	1	2	3	4	5	6	7	8	9	10
A	○	○	○	○	○	○	○	○	○	○
B	○	○	○	○	○	○	○	○	○	○
C	○	○	○	○	○	○				
D	●	●	●	●	●	●				
E	○	●	●		○	○	○	○	○	○
F	○	○	●		○	○	○	○	○	○
G	○	○	○		○	○	○	○	○	○
H	○	○	○		○	○	○	○	○	○
J	○	○	○		○	○	○	○	○	○
K	○	○	○		○	○	○	○	○	○
L	○	○	○		○	○				
M	○	●	○		○	○	○	○	○	
N	○	●	●		○	○				
P	○	●	●		○	○	○	○	○	○
R	○	○	○		○	○	○	○	○	○
T	○	○	○		○	○	○	○	○	○
U	○	○	○		○	○	○	○	○	○
V	○	○	●		○	○	○	○	○	○
W	○	●	●		○	○	○	○	○	○
Y	○	○							○	○

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