

**SAMSUNG**

# GSM TELEPHONE

## GT-I8150

# ***SERVICE*** *Manual*

## GSM TELEPHONE

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### Notice :

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

**SAMSUNG  
ELECTRONICS**

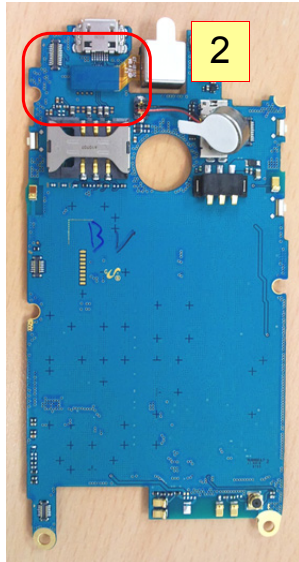


## 7. Level 2 Repair

### Assembling

1

1) Connect the Main Camera connector.



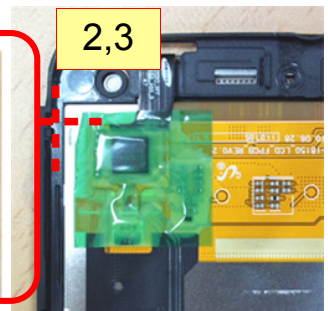
2

1) Place LCD starting from the **Under** side of Front and push the outline of LCD with hand lightly to attach it completely  
2) Open TSP connector on LCD and insert TSP FPCB aligning with guide line  
3) adhere insulating tape according to the TSP IC guide line and press it gently and evenly

1



2,3

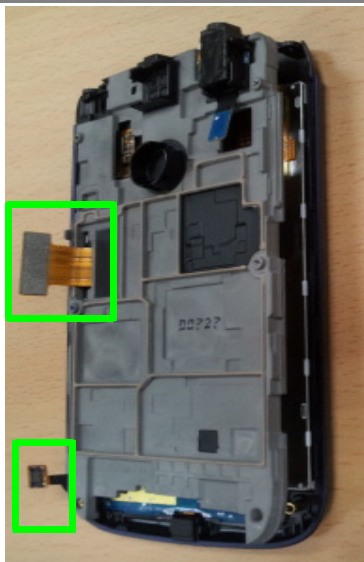


1) After pressing Connector once, Check the connect status

1) Don't touch with FPCB contact point, Press evenly to the entire actuator.

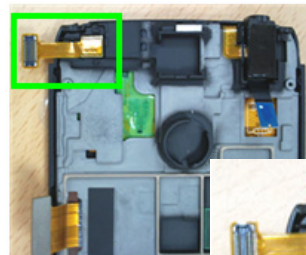
3

1) LCD FPCB insert the right of the central hole by BRACKET. And then Assemble and BRACKET FRONT ASS'Y.



4

1) Place VGA CAMERA on it's position on BRACKET.  
2) Assemble VGA CAMERA RUBBER on it's position guided by RIBs.

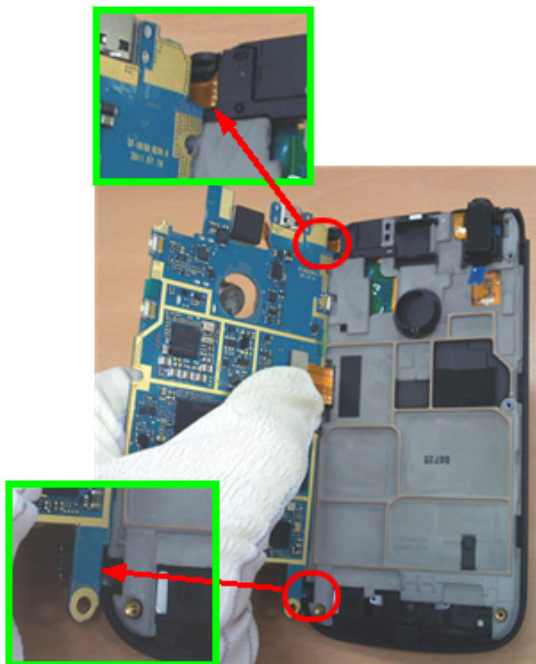


1) When assembling the BRACKET, be careful to avoiding damage on TOUCH KEY connectors.

1) Beware of VGA CAMERA's direction when assembling, and push the VGA Camera rubber after assembling.

5

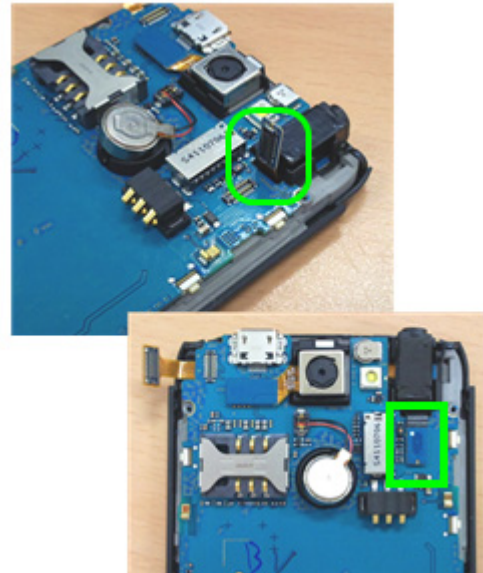
1) Connect the LCD FPCB CONNECTOR



1) When assembling the LCD connector, The upper and lower connector on the back of the PBA will be placed

6

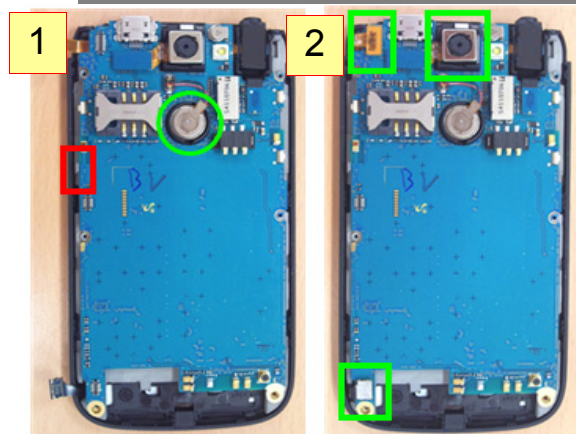
1) After EAR JACK FPCB put aside by hand, Place PBA on it's position on BRACKET. And then Connect the Ear jack FPCB



1) Be careful the interference of EAR JACK connector and Put the Connector once.

7

1) After fixing to hook pressing PBA vertically, Place Motor on inside slot of BRACKET  
2) Assemble 5M CAMERA & SUB KEY CONNECTOR.



1) After assembling, Press the connector once for avoiding lift status

8

1) After guise inspection of REAR, Assembling Rear perpendicular to the Front ass'y  
2) After guise inspection of COVER TOP, Assembling Cover Top perpendicular at the top of the FRONT



1) Assembly with pressing the rear case around 5Mega CAMERA.

9

- 1) Screw 2 point of the top
- 2) Screw 6 point of the rear case.



Torque :

1.0 ~1.2 Kgf·cm



- 1) Must assemble 2 parts of upper screws ahead



## Disassembling

1

- 1) Unscrew 6 screws of back panel
- 2) Unscrew 2 screws of top deco



2

- 1) Pull back the rear case with holding bottom side of battery.

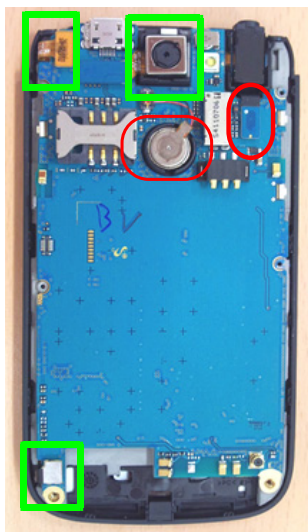


1) Unscrew without causing the damage or scratches on the case.

1) If you use any tool to disassemble, be careful to avoid to damage or scratch on the case.

3

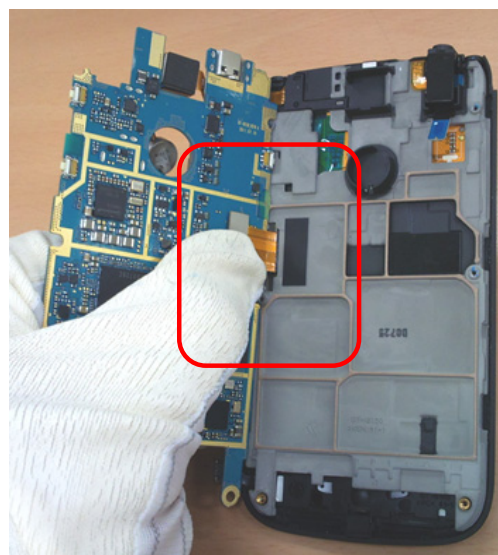
- 1) Disassemble connectors of Camera and Touch Key.
- 2) Disassemble connectors of Motor, Earjack FPCB



1) When dismantle the camera connector, be careful to avoiding damage on ANT connectors.

4

- 1) Disassemble connectors of LCD FPCB  
※ Be careful not to climb on PBA of VGA Camera & TOUCH KEY FPCB connector



1) If you use tools to disassemble, avoid touching the FPCB.

5

1) Disassemble the Rubber of VGA Camera



- 1) Be careful to avoid damaging antenna contacts when hold the PBA.
- 2) Micro USB connector overlaps with bottom of front case. so don't pull the PBA up vertically.

6

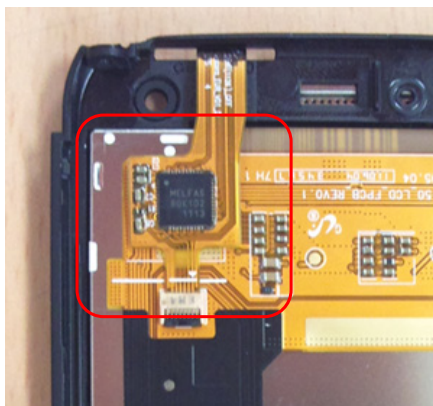
1) Disassemble the LCD BRACKET



- 1) When dismantle the BRACKET, be careful to avoiding damage on TOUCH KEY connectors.

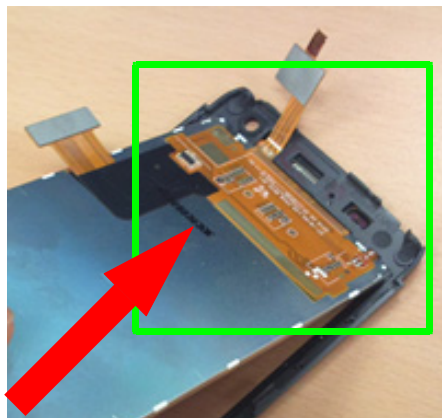
7

1) Remove the Insulation Tape from TSP IC on the Front



8

1) Lift up from the bottom of the LCD FRONT, Pressing the side of the LCD and then separation LCD



- 1) If you use any tool to disassemble, be careful to avoid to damage on the parts
- 2) Be careful not to press the LCD FPCB & Part

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## 5.a MAIN Electrical Parts List (HW REV0.7) 1\_5

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| Design LOC          | SEC CODE    | Description     |
|---------------------|-------------|-----------------|
| D500,D501           | 0401-001141 | DIODE-SWITCHING |
| D502,ZD500          | 0403-001688 | DIODE-ZENER;    |
| D400                | 0404-001317 | DIODE-SCHOTTKY  |
| D503,D504           | 0404-001504 | DIODE-SCHOTTKY  |
| D700                | 0404-001646 | DIODE-SCHOTTKY  |
| ZD704               | 0406-001286 | DIODE-TVS       |
| U505                | 0406-001369 | DIODE-TVS       |
| V600,V601,V602,V603 | 0406-001459 | DIODE-TVS       |
| V604,V605,ZD600     | 0406-001459 | DIODE-TVS       |
| ZD601,ZD602,ZD603   | 0406-001459 | DIODE-TVS       |
| ZD604,ZD605         | 0406-001459 | DIODE-TVS       |
| Q502                | 0504-000168 | TR-DIGITAL      |
| Q601,Q602           | 0505-001325 | FET-SILICON     |
| Q500                | 0505-002341 | FET-SILICON     |
| U705,U706           | 0801-003185 | IC              |
| U400                | 0801-003346 | IC              |
| U504                | 1001-001645 | IC              |
| U604                | 1003-002358 | IC              |
| UME300              | 1107-002051 | IC-FLASH        |
| U202                | 1201-002608 | IC              |
| PAM101              | 1201-003009 | IC              |
| U601                | 1201-003134 | IC              |
| PAM100              | 1201-003199 | IC              |
| U603                | 1202-001118 | IC              |
| U501                | 1202-001119 | IC              |
| U702                | 1202-001120 | IC              |
| U605                | 1203-002250 | IC              |
| U600,U602,U704      | 1203-004819 | IC              |
| U500                | 1203-005403 | IC              |
| U701                | 1203-005690 | IC              |
| U606                | 1203-005854 | IC              |
| U700                | 1203-006025 | IC              |
| U608                | 1203-006304 | IC              |
| U506                | 1203-006494 | IC              |
| U703                | 1203-006673 | IC              |
| U610                | 1203-006938 | IC              |



| Design LOC          | SEC CODE    | Description |
|---------------------|-------------|-------------|
| U502                | 1203-007001 | IC          |
| U204                | 1204-003176 | IC          |
| U200                | 1205-004042 | IC          |
| UCP400              | 1205-004255 | IC          |
| U300                | 1205-004264 | IC          |
| U607                | 1209-002023 | IC          |
| U609                | 1209-002041 | IC          |
| TH500               | 1404-001651 | THERMISTOR  |
| L510                | 1405-001317 | VARISTO     |
| R510,R527,R533      | 2007-000138 | R-CHIP      |
| R206                | 2007-000139 | R-CHIP      |
| R603,R626           | 2007-000140 | R-CHIP      |
| R418,R442,R443,R705 | 2007-000141 | R-CHIP      |
| R300                | 2007-000143 | R-CHIP      |
| R314,R604,R706,R716 | 2007-000148 | R-CHIP      |
| R717                | 2007-000151 | R-CHIP      |
| R636                | 2007-000152 | R-CHIP      |
| R718,R719,R720,R721 | 2007-000157 | R-CHIP      |
| R722,R723           | 2007-000157 | R-CHIP      |
| R547,R635,R707,R708 | 2007-000162 | R-CHIP      |
| R623                | 2007-000166 | R-CHIP      |
| R702                | 2007-000167 | R-CHIP      |
| R503,R534,R600      | 2007-000170 | R-CHIP      |
| R637                | 2007-000173 | R-CHIP      |
| R505                | 2007-000249 | R-CHIP      |
| R430,R608,R621      | 2007-001291 | R-CHIP      |
| R106                | 2007-001298 | R-CHIP      |
| R107,R108           | 2007-001305 | R-CHIP      |
| R320                | 2007-001308 | R-CHIP      |
| R628                | 2007-003015 | R-CHIP      |
| R504                | 2007-007099 | R-CHIP      |
| R511,R713           | 2007-007107 | R-CHIP      |
| R200                | 2007-007132 | R-CHIP      |
| R319                | 2007-007136 | R-CHIP      |
| R609                | 2007-007137 | R-CHIP      |
| R318                | 2007-007142 | R-CHIP      |

| Design LOC          | SEC CODE    | Description |
|---------------------|-------------|-------------|
| R601,R602           | 2007-007190 | R-CHIP      |
| R610                | 2007-007306 | R-CHIP      |
| R625                | 2007-007307 | R-CHIP      |
| R607                | 2007-007318 | R-CHIP      |
| R500,R502           | 2007-007334 | R-CHIP      |
| R414,R415,R456,R457 | 2007-007517 | R-CHIP      |
| R304,R429,R454,R455 | 2007-007741 | R-CHIP      |
| R709                | 2007-007875 | R-CHIP      |
| R613,R614,R617      | 2007-007942 | R-CHIP      |
| R611                | 2007-008045 | R-CHIP      |
| R315,R408,R409,R432 | 2007-008052 | R-CHIP      |
| R433,R434,R435,R472 | 2007-008052 | R-CHIP      |
| R473,R624           | 2007-008052 | R-CHIP      |
| R553                | 2007-008055 | R-CHIP      |
| R619                | 2007-008312 | R-CHIP      |
| R436                | 2007-008418 | R-CHIP      |
| R101,R102,R103,R207 | 2007-008419 | R-CHIP      |
| R419,R420,R552      | 2007-008419 | R-CHIP      |
| R305,R306,R307,R308 | 2007-008483 | R-CHIP      |
| R309,R310,R311,R312 | 2007-008483 | R-CHIP      |
| R403,R460,R461,R469 | 2007-008516 | R-CHIP      |
| R520,R542,R735      | 2007-008516 | R-CHIP      |
| R727,R730           | 2007-008531 | R-CHIP      |
| R412,R413,R448,R449 | 2007-008588 | R-CHIP      |
| R450,R451,R452,R453 | 2007-008588 | R-CHIP      |
| R712                | 2007-008721 | R-CHIP      |
| R506,R512,R513,R514 | 2007-009084 | R-CHIP      |
| R710,R714,R724      | 2007-009084 | R-CHIP      |
| R405,R406,R407,R437 | 2007-009157 | R-CHIP      |
| R440,R441,R446      | 2007-009157 | R-CHIP      |
| R421,R422           | 2007-009408 | R-CHIP      |
| R539,R540           | 2007-009766 | R-CHIP      |
| R704                | 2007-009801 | R-CHIP      |
| R201,R202,R203,R204 | 2007-010202 | R-CHIP      |
| R205                | 2007-010202 | R-CHIP      |
| R438                | 2007-010233 | R-CHIP      |

| Design LOC          | SEC CODE    | Description    |
|---------------------|-------------|----------------|
| R545                | 2007-010783 | R-CHIP         |
| C125,C164,C170,C241 | 2203-000233 | C-CERAMIC,CHIP |
| C260                | 2203-000233 | C-CERAMIC,CHIP |
| C648                | 2203-000254 | C-CERAMIC,CHIP |
| C240,C726,L102      | 2203-000278 | C-CERAMIC,CHIP |
| C639,C640,C657      | 2203-000386 | C-CERAMIC,CHIP |
| C502                | 2203-000425 | C-CERAMIC,CHIP |
| C129,C522           | 2203-000438 | C-CERAMIC,CHIP |
| C104,C107,C114,C135 | 2203-000812 | C-CERAMIC,CHIP |
| C215,C252,C301,C302 | 2203-000812 | C-CERAMIC,CHIP |
| C605,C619           | 2203-000812 | C-CERAMIC,CHIP |
| C611,C612,C614      | 2203-001153 | C-CERAMIC,CHIP |
| C731                | 2203-001259 | C-CERAMIC,CHIP |
| C146,C147           | 2203-001437 | C-CERAMIC,CHIP |
| C130                | 2203-002443 | C-CERAMIC,CHIP |
| C108                | 2203-002668 | C-CERAMIC,CHIP |
| C562,C725           | 2203-002709 | C-CERAMIC,CHIP |
| C237                | 2203-005057 | C-CERAMIC,CHIP |
| C110                | 2203-005234 | C-CERAMIC,CHIP |
| C242                | 2203-005281 | C-CERAMIC,CHIP |
| C603,C604           | 2203-005344 | C-CERAMIC,CHIP |
| C457,C458           | 2203-005382 | C-CERAMIC,CHIP |
| C162                | 2203-005446 | C-CERAMIC,CHIP |
| C576,C577           | 2203-005450 | C-CERAMIC,CHIP |
| C724                | 2203-005481 | C-CERAMIC,CHIP |
| C520                | 2203-005682 | C-CERAMIC,CHIP |
| C121,C122,C123,C124 | 2203-005725 | C-CERAMIC,CHIP |
| C235                | 2203-005729 | C-CERAMIC,CHIP |
| C159                | 2203-005736 | C-CERAMIC,CHIP |
| C330                | 2203-005806 | C-CERAMIC,CHIP |
| C253                | 2203-006047 | C-CERAMIC,CHIP |
| C223,C314,C333,C340 | 2203-006048 | C-CERAMIC,CHIP |
| C341,C342,C343,C351 | 2203-006048 | C-CERAMIC,CHIP |
| C523,C549,C560,C646 | 2203-006048 | C-CERAMIC,CHIP |
| C325                | 2203-006120 | C-CERAMIC,CHIP |
| C224                | 2203-006123 | C-CERAMIC,CHIP |

| Design LOC          | SEC CODE    | Description    |
|---------------------|-------------|----------------|
| C705,C706,C707,C708 | 2203-006208 | C-CERAMIC,CHIP |
| C717                | 2203-006208 | C-CERAMIC,CHIP |
| C564,C572           | 2203-006260 | C-CERAMIC,CHIP |
| C233,C234,C236,C239 | 2203-006305 | C-CERAMIC,CHIP |
| C250,C251,C259      | 2203-006305 | C-CERAMIC,CHIP |
| C561                | 2203-006324 | C-CERAMIC,CHIP |
| C563                | 2203-006348 | C-CERAMIC,CHIP |
| C230,C231,C232,C247 | 2203-006399 | C-CERAMIC,CHIP |
| C304,C447,C518,C552 | 2203-006399 | C-CERAMIC,CHIP |
| C600,C601,C613,C615 | 2203-006399 | C-CERAMIC,CHIP |
| C616,C617,C624,C625 | 2203-006399 | C-CERAMIC,CHIP |
| C626,C649,C660,C703 | 2203-006399 | C-CERAMIC,CHIP |
| C704                | 2203-006399 | C-CERAMIC,CHIP |
| C306,C307,C310,C311 | 2203-006423 | C-CERAMIC,CHIP |
| C312,C315,C318,C331 | 2203-006423 | C-CERAMIC,CHIP |
| C332,C337,C350,C641 | 2203-006423 | C-CERAMIC,CHIP |
| C642                | 2203-006423 | C-CERAMIC,CHIP |
| C220,C469,C609,C621 | 2203-006562 | C-CERAMIC,CHIP |
| C643,C655           | 2203-006562 | C-CERAMIC,CHIP |
| C249,C261           | 2203-006648 | C-CERAMIC,CHIP |
| C245                | 2203-006674 | C-CERAMIC,CHIP |
| C134,C163           | 2203-006753 | C-CERAMIC,CHIP |
| C222,C226,C244,C467 | 2203-006839 | C-CERAMIC,CHIP |
| C468,C470,C471,C500 | 2203-006839 | C-CERAMIC,CHIP |
| C504,C505           | 2203-006839 | C-CERAMIC,CHIP |
| C346,C347           | 2203-006841 | C-CERAMIC,CHIP |
| C402,C403,C404,C405 | 2203-006844 | C-CERAMIC,CHIP |
| C408,C409,C410,C411 | 2203-006844 | C-CERAMIC,CHIP |
| C511,C575,C607,C608 | 2203-006844 | C-CERAMIC,CHIP |
| C466                | 2203-006846 | C-CERAMIC,CHIP |
| C303,C308,C309,C313 | 2203-006872 | C-CERAMIC,CHIP |
| C503,C519,C610,C622 | 2203-006872 | C-CERAMIC,CHIP |
| C728                | 2203-006872 | C-CERAMIC,CHIP |
| C428,C433,C439,C444 | 2203-006890 | C-CERAMIC,CHIP |
| C507,C721           | 2203-006890 | C-CERAMIC,CHIP |
| C645,C652           | 2203-006979 | C-CERAMIC,CHIP |

| Design LOC          | SEC CODE    | Description    |
|---------------------|-------------|----------------|
| C248                | 2203-006994 | C-CERAMIC,CHIP |
| C229,C323,C327      | 2203-007210 | C-CERAMIC,CHIP |
| C407,C631           | 2203-007240 | C-CERAMIC,CHIP |
| C416,C554           | 2203-007269 | C-CERAMIC,CHIP |
| C128,C263,C264      | 2203-007270 | C-CERAMIC,CHIP |
| C571,C718,C719,C720 | 2203-007271 | C-CERAMIC,CHIP |
| C727                | 2203-007271 | C-CERAMIC,CHIP |
| C423,C515           | 2203-007279 | C-CERAMIC,CHIP |
| C227,C228,C321,C328 | 2203-007317 | C-CERAMIC,CHIP |
| C509,C528,C529,C531 | 2203-007317 | C-CERAMIC,CHIP |
| C532,C533,C534,C536 | 2203-007317 | C-CERAMIC,CHIP |
| C537,C538,C540,C541 | 2203-007317 | C-CERAMIC,CHIP |
| C542,C544,C545,C546 | 2203-007317 | C-CERAMIC,CHIP |
| C547,C548,C569      | 2203-007317 | C-CERAMIC,CHIP |
| C647                | 2203-007369 | C-CERAMIC,CHIP |
| C417,C418,C420,C421 | 2203-007391 | C-CERAMIC,CHIP |
| C424,C426,C429,C430 | 2203-007391 | C-CERAMIC,CHIP |
| C434,C435,C437,C438 | 2203-007391 | C-CERAMIC,CHIP |
| C440,C441,C442,C443 | 2203-007391 | C-CERAMIC,CHIP |
| C445,C448,C451,C452 | 2203-007391 | C-CERAMIC,CHIP |
| C454,C455,C459,C462 | 2203-007391 | C-CERAMIC,CHIP |
| C463,C464,C465,C729 | 2203-007391 | C-CERAMIC,CHIP |
| C225,C319,C322,C324 | 2203-007449 | C-CERAMIC,CHIP |
| C326,C329,C338,C339 | 2203-007449 | C-CERAMIC,CHIP |
| C349,C651,C702      | 2203-007449 | C-CERAMIC,CHIP |
| C573                | 2203-007456 | C-CERAMIC,CHIP |
| C535,C539,C543      | 2203-007474 | C-CERAMIC,CHIP |
| C150                | 2203-007754 | C-CERAMIC,CHIP |
| C218                | 2203-007756 | C-CERAMIC,CHIP |
| C221,C246,C653,C723 | 2203-007775 | C-CERAMIC,CHIP |
| C102,C553,C555,C556 | 2203-007781 | C-CERAMIC,CHIP |
| C558,C559,C565,C566 | 2203-007781 | C-CERAMIC,CHIP |
| C510,C513,C514,C516 | 2203-007795 | C-CERAMIC,CHIP |
| C527,C557,C574,C716 | 2203-007795 | C-CERAMIC,CHIP |
| C722                | 2203-007795 | C-CERAMIC,CHIP |
| C262                | 2203-008095 | C-CERAMIC,CHIP |



| Design LOC          | SEC CODE    | Description  |
|---------------------|-------------|--------------|
| BAT500              | 2409-001238 | CAPACITOR    |
| L219                | 2703-001181 | INDUCTOR-SMD |
| L104,L106,L132,L133 | 2703-001724 | INDUCTOR-SMD |
| L100                | 2703-001737 | INDUCTOR-SMD |
| L128,L129,L130      | 2703-001747 | INDUCTOR-SMD |
| L112                | 2703-001749 | INDUCTOR-SMD |
| L123                | 2703-001751 | INDUCTOR-SMD |
| L222                | 2703-001786 | INDUCTOR-SMD |
| L113,L117,L118,L126 | 2703-002170 | INDUCTOR-SMD |
| L221                | 2703-002170 | INDUCTOR-SMD |
| L108                | 2703-002176 | INDUCTOR-SMD |
| L125                | 2703-002199 | INDUCTOR-SMD |
| L105                | 2703-002204 | INDUCTOR-SMD |
| L122,L127,L213      | 2703-002205 | INDUCTOR-SMD |
| L210                | 2703-002207 | INDUCTOR-SMD |
| C139                | 2703-002208 | INDUCTOR-SMD |
| L109                | 2703-002268 | INDUCTOR-SMD |
| L103                | 2703-002281 | INDUCTOR-SMD |
| L101                | 2703-002314 | INDUCTOR-SMD |
| L217,L218           | 2703-002367 | INDUCTOR-SMD |
| L121                | 2703-002369 | INDUCTOR-SMD |
| L134                | 2703-002596 | INDUCTOR-SMD |
| L211                | 2703-002842 | INDUCTOR-SMD |
| L300                | 2703-002858 | INDUCTOR-SMD |
| L301,L302,L304      | 2703-002903 | INDUCTOR-SMD |
| L135                | 2703-003004 | INDUCTOR-SMD |
| L500                | 2703-003182 | INDUCTOR-SMD |
| L701                | 2703-003347 | INDUCTOR-SMD |
| L604                | 2703-003476 | INDUCTOR-SMD |
| L704                | 2703-003485 | INDUCTOR-SMD |
| L700                | 2703-003686 | INDUCTOR-SMD |
| L214                | 2703-003698 | INDUCTOR-SMD |
| L608                | 2703-003781 | INDUCTOR-SMD |
| L511                | 2703-003911 | INDUCTOR-SMD |
| L503,L504,L505,L506 | 2703-004025 | INDUCTOR-SMD |
| L507                | 2703-004025 | INDUCTOR-SMD |

| Design LOC           | SEC CODE    | Description       |
|----------------------|-------------|-------------------|
| OSC200               | 2801-004589 | CRYSTAL-UNIT      |
| OSC500               | 2801-004836 | CRYSTAL-UNIT      |
| OSC400               | 2801-004841 | CRYSTAL-UNIT      |
| OSC501               | 2801-004902 | CRYSTAL-UNIT      |
| F700,F701,F702,F703  | 2901-001413 | FILTER-EMI        |
| F707,F708            | 2901-001413 | FILTER-EMI        |
| F704,F705,F706       | 2901-001604 | FILTER-EMI        |
| F100                 | 2904-001651 | FILTER-SAW        |
| F201                 | 2904-001743 | FILTER-SAW        |
| F200                 | 2904-001752 | FILTER-SAW        |
| F102                 | 2904-001847 | FILTER-SAW        |
| F101                 | 2904-001850 | FILTER-SAW        |
| F202                 | 2909-001330 | FILTER-DUPLEXER   |
| DPX101               | 2910-000114 | FILTER            |
| DPX100               | 2910-000136 | FILTER            |
| U201                 | 2911-000168 | FILTER            |
| FEM100               | 2911-000184 | FILTER            |
| L401                 | 3301-001438 | CORE-FERRITEBEAD  |
| L216,L502,L616       | 3301-001729 | CORE-FERRITEBEAD  |
| L303                 | 3301-001787 | CORE-FERRITEBEAD  |
| L612,L615            | 3301-001789 | CORE-FERRITEBEAD  |
| L617,L624            | 3301-001885 | CORE-FERRITEBEAD  |
| L205,L206,L207,L208  | 3301-001895 | CORE-FERRITEBEAD  |
| L209                 | 3301-001895 | CORE-FERRITEBEAD  |
| L600,L602,L603,L605  | 3301-002065 | CORE-FERRITEBEAD  |
| L606,L607,L610,L611  | 3301-002065 | CORE-FERRITEBEAD  |
| L613,L614,L619,L702  | 3301-002065 | CORE-FERRITEBEAD  |
| L703                 | 3301-002065 | CORE-FERRITEBEAD  |
| TAC400,TAC401,TAC402 | 3404-001410 | SWITCH-TACT       |
| RFS100               | 3705-001731 | CONNECTOR-COAXIAL |
| SIM300               | 3709-001669 | CONNECTOR-CARD    |
| CD700                | 3709-001681 | CONNECTOR-CARD    |
| HDC701               | 3711-006483 | CONNECTOR-HEADER  |
| CN501                | 3711-006863 | CONNECTOR-HEADER  |
| HDC700               | 3711-006882 | CONNECTOR-HEADER  |
| HDC702               | 3711-007071 | CONNECTOR-HEADER  |

| Design LOC           | SEC CODE    | Description      |
|----------------------|-------------|------------------|
| HDC602,JTAG300       | 3711-007173 | CONNECTOR-HEADER |
| HDC600               | 3711-007467 | CONNECTOR-HEADER |
| BTC500               | 3711-007667 | CONNECTOR-HEADER |
| ANT100,ANT101,ANT200 | 3712-001378 | CONNECTOR        |
| ANT202,ANT600,ANT601 | 3712-001378 | CONNECTOR        |
| IFC500               | 3722-002871 | JACK-PHONE       |
| LED700               | GH59-08444A | Flash LED        |

**4-2. Cellular phone Parts list**

| Design LOC |       | Description                            | SEC CODE    |
|------------|-------|----------------------------------------|-------------|
| QCR101     |       | SCREW-MACHINE                          | 6001-002005 |
| QMO01      |       | MOTOR DC-GT_I8150                      | GH31-00558A |
| QME01      |       | KEY FPCB-GT_I8150 MIC PBA              | GH59-11318A |
| QAR01      |       | MODULE-GT_I8150 RCV+SENSOR+MIC+EARJACK | GH59-11337A |
| QME03      |       | TOUCH/PANEL-GT_I8150                   | GH59-11348A |
| QSP01      |       | MODULE-GT_I8150 SPK+INT                | GH59-11352A |
| QCA01      |       | CAMERA MODULE-GT_I8150 5M AF           | GH59-11379A |
| QCA02      |       | CAMERA MODULE-VGA 1/10" MODULE SF PC30 | GH59-11380A |
| QBC00      |       | PMO COVER-BATT                         | GH72-65132A |
| QMP01      |       | A/S ASSY-PBA MAIN(COMM)GT_I8150        | GH82-06015A |
| QLC01      |       | ELA MODULE-LCD(SHW-M135K)              | GH96-05056A |
| QFR01      |       | ASSY CASE-FRONT                        | GH98-21118A |
| QLB01      |       | ASSY BRACKET-LCD                       | GH98-21122A |
| QKP01      |       | ASSY KEYPAD-HOME                       | GH98-21123A |
| QDC02      |       | ASSY DECO-TOP CAP                      | GH98-21560A |
| QRE01      |       | ASSY CASE-REAR                         | GH98-21119A |
|            | QVO01 | PMO KEY-VOLUME                         | GH72-65125A |
|            | QCK02 | PMO KEY-POWER                          | GH72-65126A |
|            | QCD01 | ASSY DECO-CAMERA                       | GH98-21597A |
| QDC01      |       | ASSY COVER-TOP                         | GH98-21121A |
|            | QRF06 | PMO COVER-USB                          | GH72-65127A |

## 2. Specification

### 2-1. GSM General Specification

|                                        | GSM850                     | EGSM 900                   | DCS1800                    | PCS1900                    | WCDMA2100                                      | WCDMA900                                       | WCDMA1900                                      |
|----------------------------------------|----------------------------|----------------------------|----------------------------|----------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Freq. Band[MHz]<br>Uplink/<br>Downlink | 824~849<br>869~894         | 880~915<br>925~960         | 1710~1785<br>1805~1880     | 1850~1910<br>1930~1990     | 1922~1977<br>2112~2167                         | 880~915<br>925~960                             | 1852~1907<br>1932~1987                         |
| ARFCN range                            | 128~251                    | 0~124 &<br>975~1023        | 512~885                    | 512~810                    | UL:9612~9888<br>DL:10562~10838                 | UL:2712~2863<br>DL:2937 ~ 3088                 | UL:9262~9538<br>DL:9662~9938                   |
| Tx/Rx spacing                          | 45MHz                      | 45MHz                      | 95MHz                      | 80MHz                      | 190MHz                                         | 45MHz                                          | 80MHz                                          |
| Mod. Bit rate/<br>Bit Period           | 270.833kbp<br>s<br>3.692us | 270.833kbp<br>s<br>3.692us | 270.833kbp<br>s<br>3.692us | 270.833kbp<br>s<br>3.692us | 3.84Mcps                                       | 3.84Mcps                                       | 3.84Mcps                                       |
| Time Slot Period/<br>Frame Period      | 576.9us<br>4.615ms         | 576.9us<br>4.615ms         | 576.9us<br>4.615ms         | 576.9us<br>4.615ms         | FrameLength:<br>10ms<br>Slotlength:<br>0.667ms | FrameLength:<br>10ms<br>Slotlength:<br>0.667ms | FrameLength:<br>10ms<br>Slotlength:<br>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

| <b>TX Power control level</b> | <b>GSM850</b> | <b>TX Power control level</b> | <b>EGSM900</b> | <b>TX Power control level</b> | <b>DCS1800</b> | <b>TX Power control level</b> | <b>PCS1900</b> |
|-------------------------------|---------------|-------------------------------|----------------|-------------------------------|----------------|-------------------------------|----------------|
| 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        |

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## 3. Operation Instruction and Installation

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### Main Features

- Android OS : Gingerbread
- HSPA+14.4 / 5.76
- 3.7" WVGA 16M TFT (C-Type, Multi Touch)
- 5MP AF Camera w/Flash + VGA
- A-GPS, WiFi802.11 b/g/n, BT 3.0, USB 2.0
- Sensors : Accelerometer, Compass, Proximity
- Google Mobile Services, Samsung Apps
- Social Hub



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## 6. Level 1 Repair

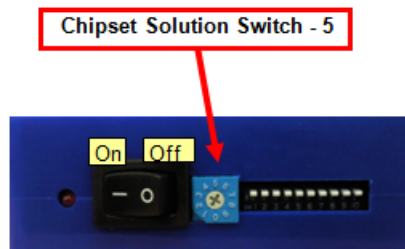
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### 6-1. S/W Download

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

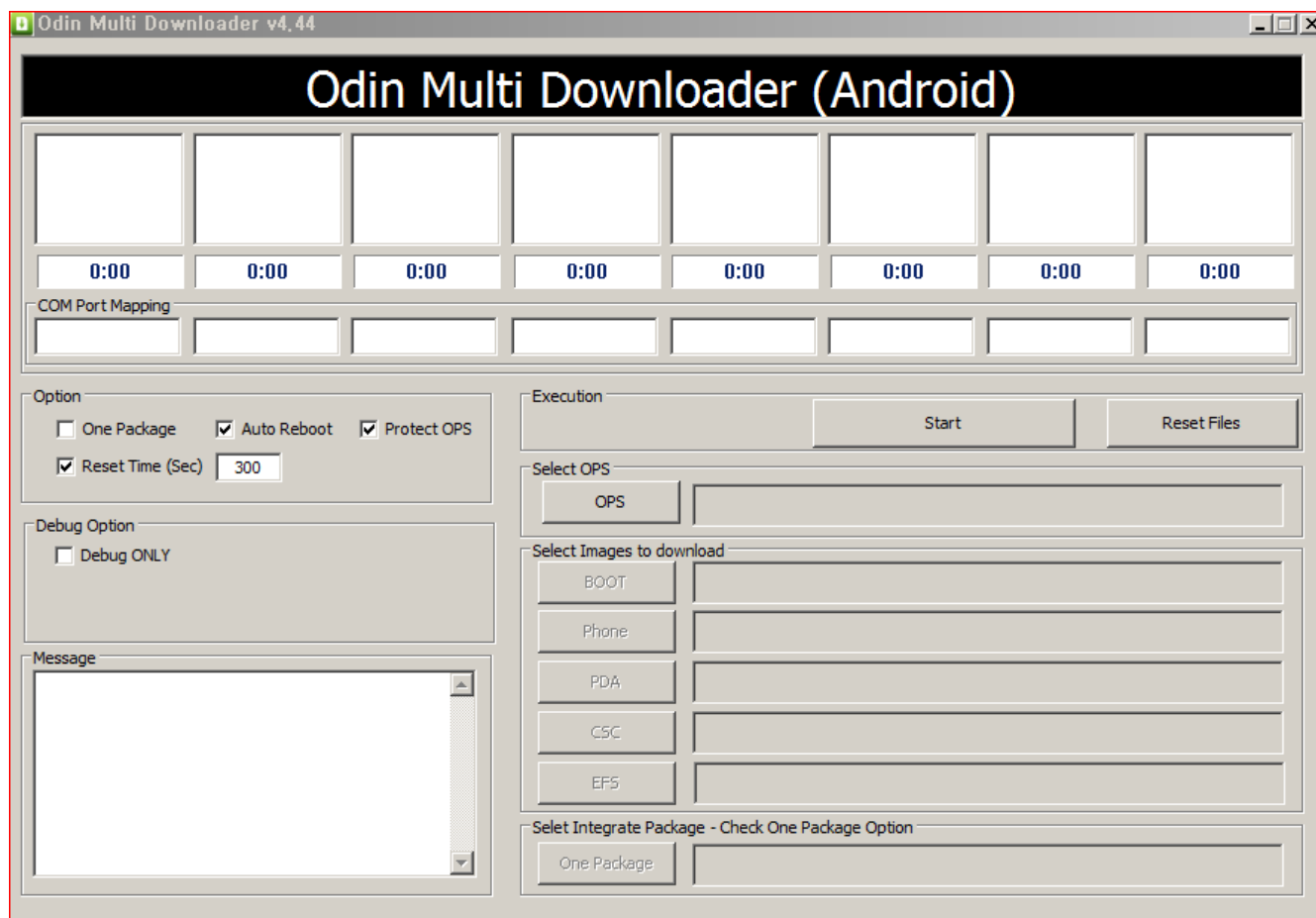
- Downloader Program([Multi Downloader v4.44\\_with\\_smd0425](#))
- GT-I8150 Mobile Phone
- Data Cable(GH39-01352A)
- JIG BOX (GH99-36900B)
- RF Test Cable (GH39-00985A)
- JIG Cable (GH39-01290A)
- Adapter (GH99-38251A)
- Binary files

| No. | Solution             |
|-----|----------------------|
| 1   | Agere TC             |
| 2   | HP, Vision, Infineon |
| 3   | NXP Sysol            |
| 4   | NXP Swift Broadcom   |
| 5   | UMTS (Qualcom)       |
| 6   | EMP                  |



## 6-1-2. S/W Downloader Program

- Load the binary download program by executing the  
" **Odin Multi Downloader v4.44.exe** " ← **Run this file.**

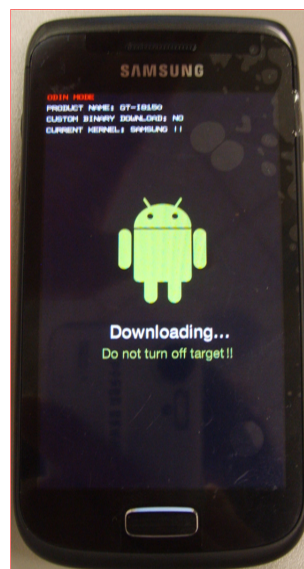


**1. Enter Device into Download Mode**

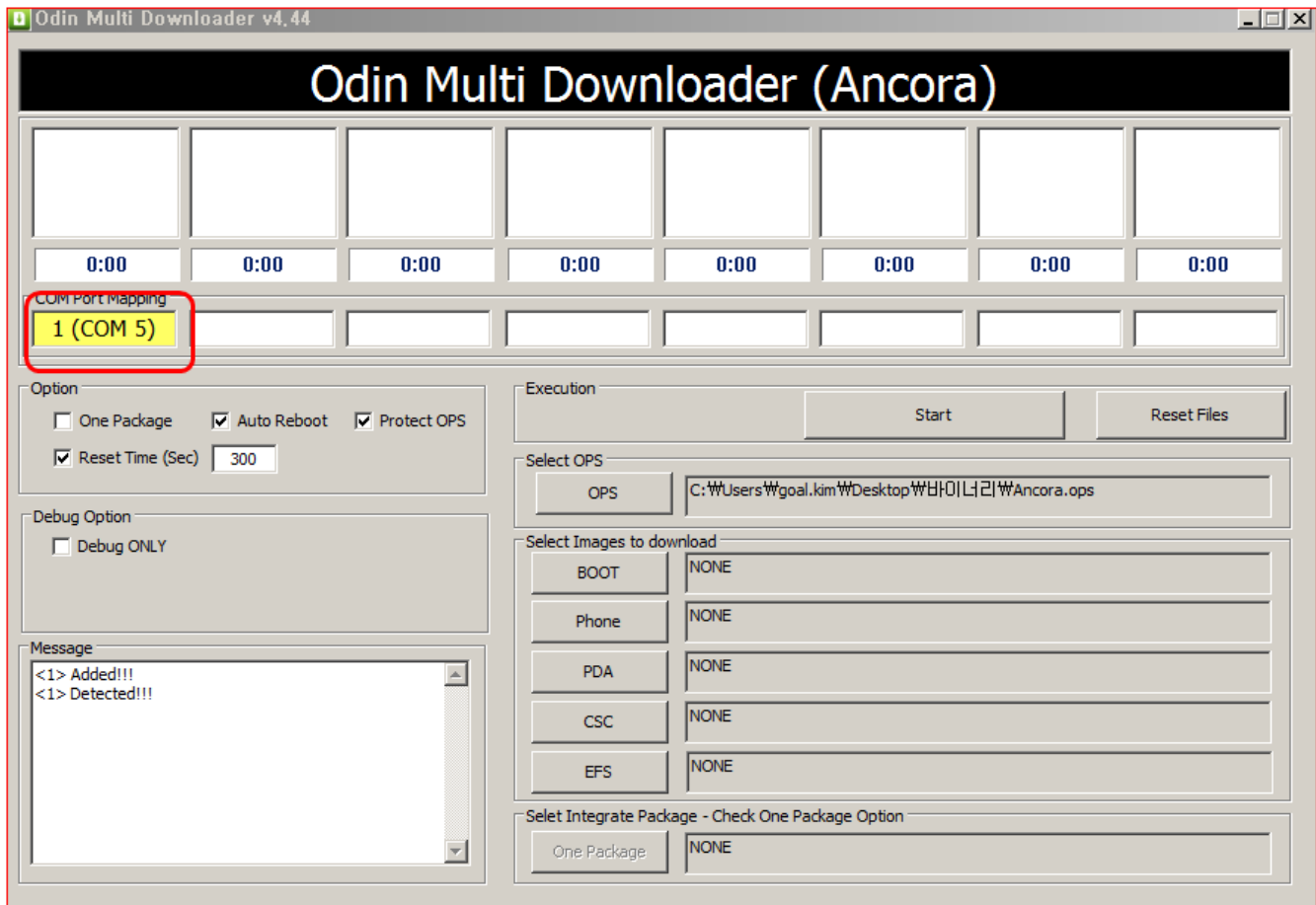
- Enter the device into Download Mode by pressing down on Volume Down button and OK button and Power On button at the same time.



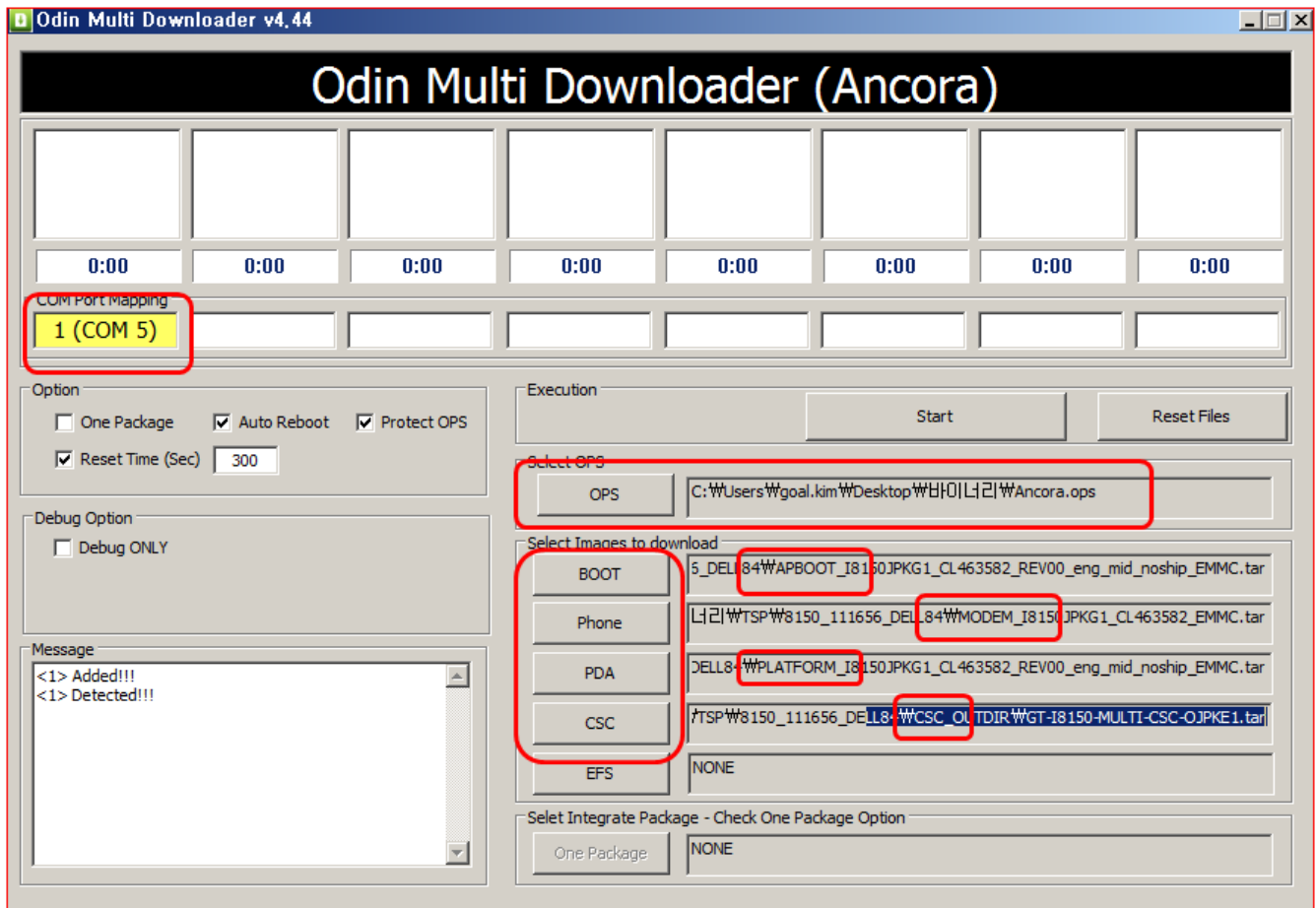
- if you see warning condition and Press Volume UP Button then enter Download Mode



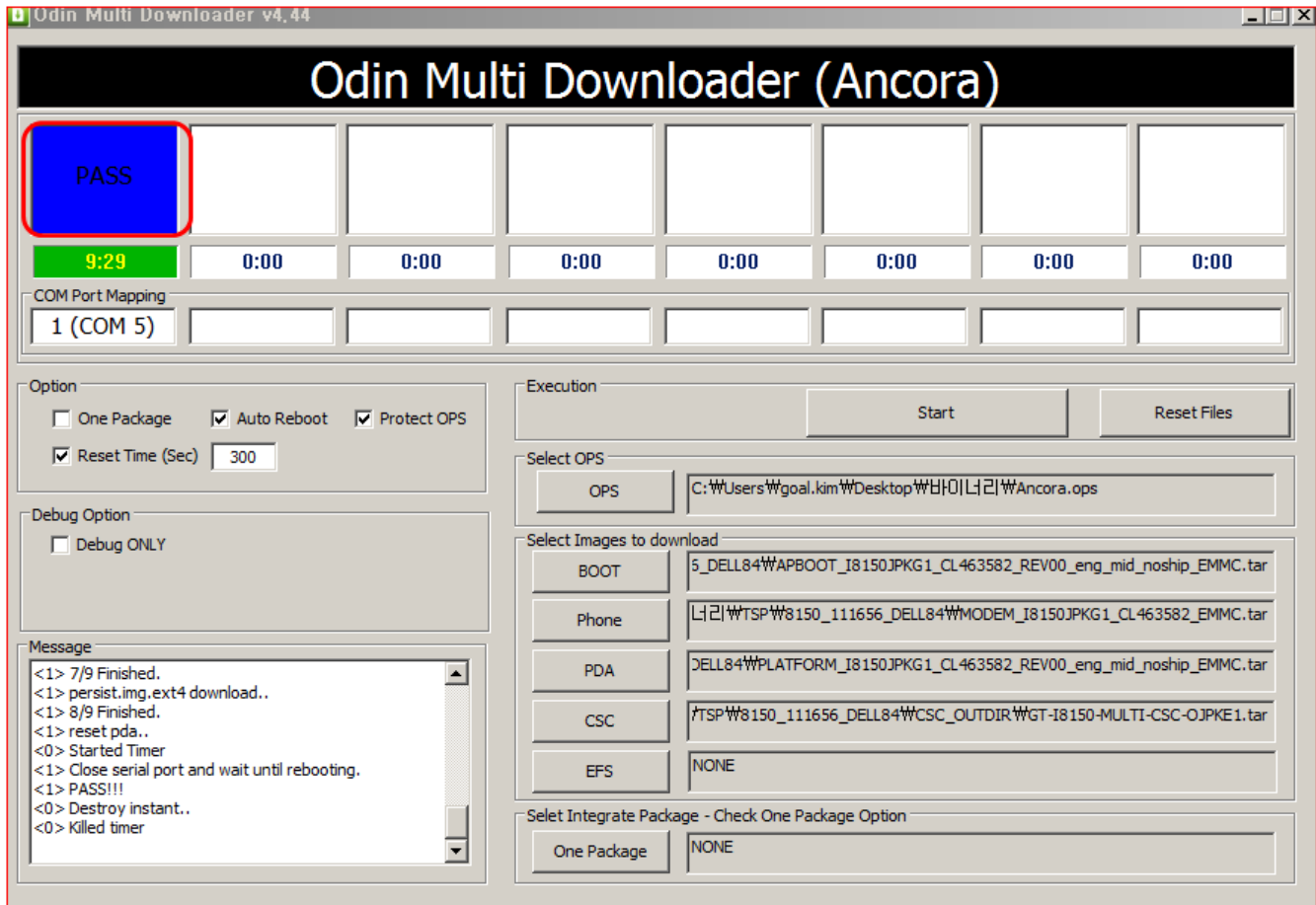
2. Connect the Handset to PC via Data Cable. Make sure ID:COM box highlighted yellow that the handset is connected to the PC.



### 3. Select OPS, BOOT, PDA, PHONE and CSC Files.



4. Start Downloading OPS, BOOT, PDA, PHONE 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#**

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## 9. Reference Abbreviate

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### 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

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# 1. Safety Precautions

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## 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.

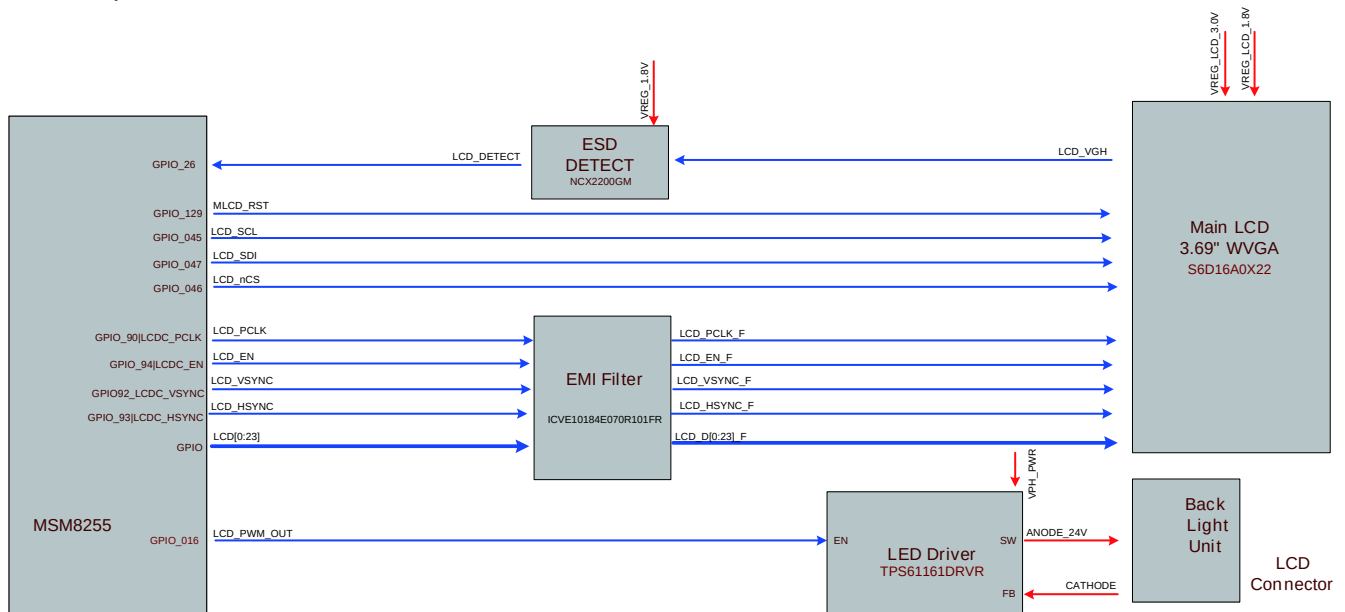
## 8-1. Block Diagram

### -Power Management



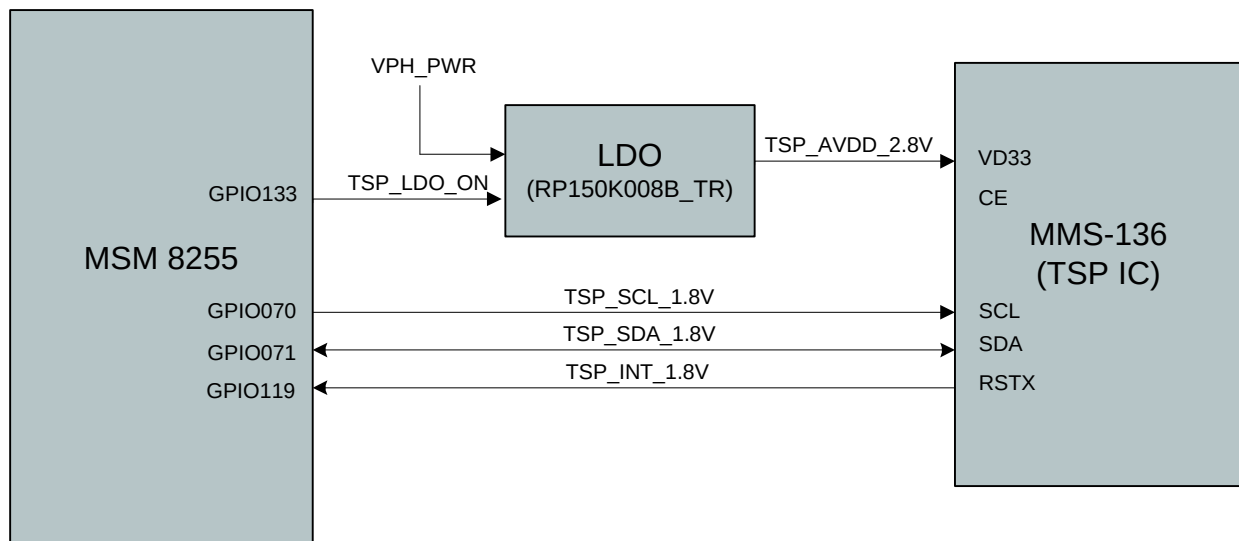
## -LCD part

### ■ LCD part

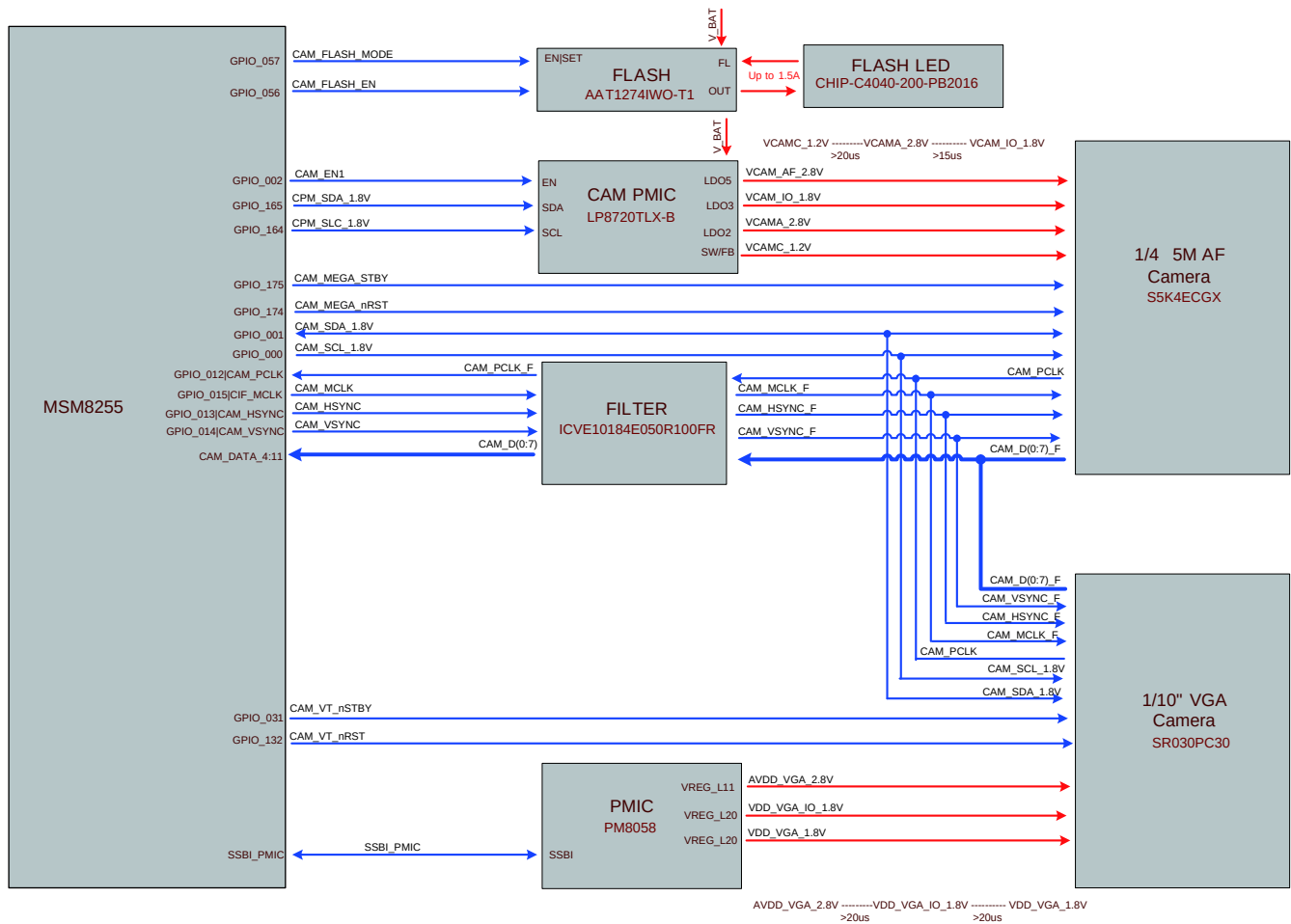


-

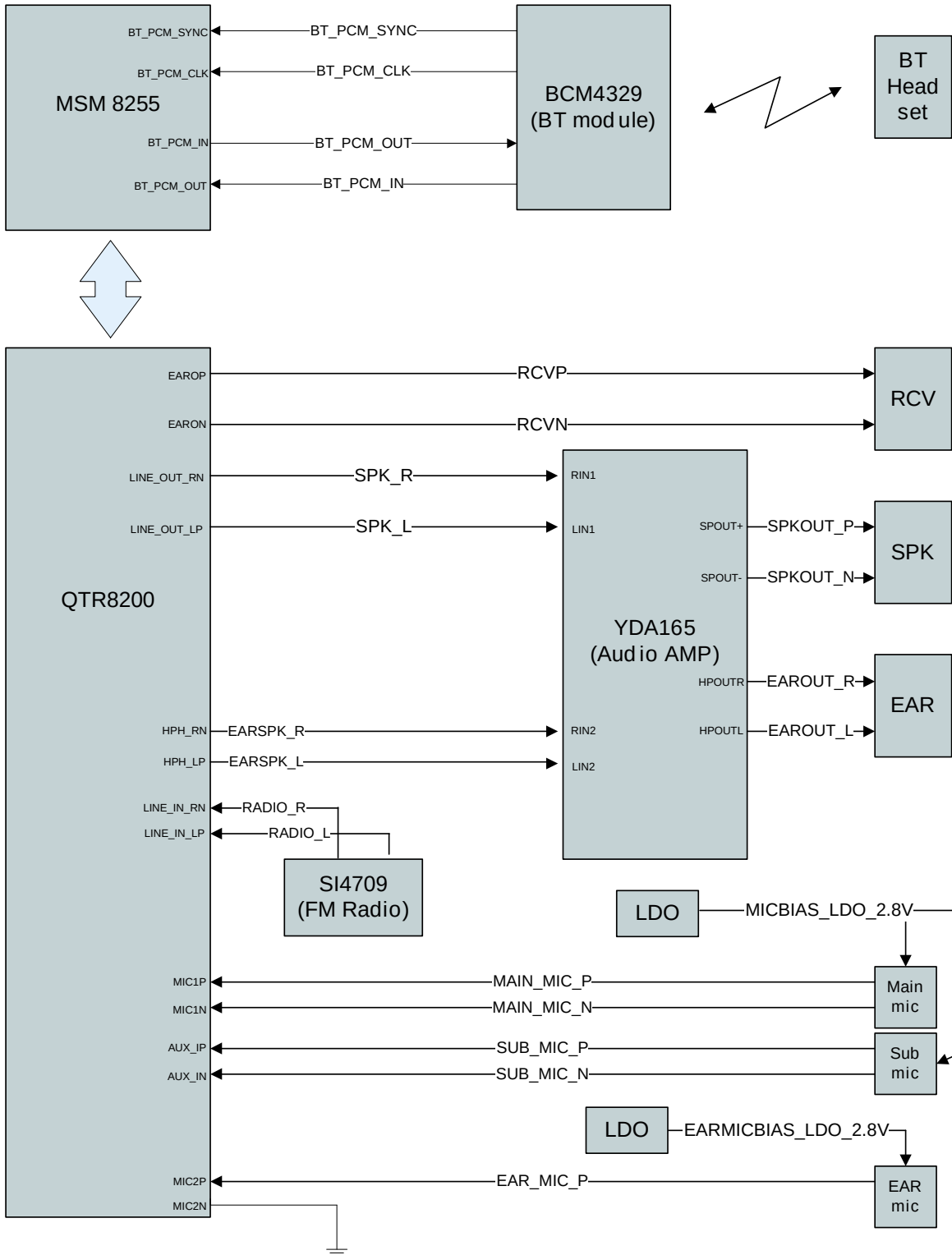
### ■ TSP part



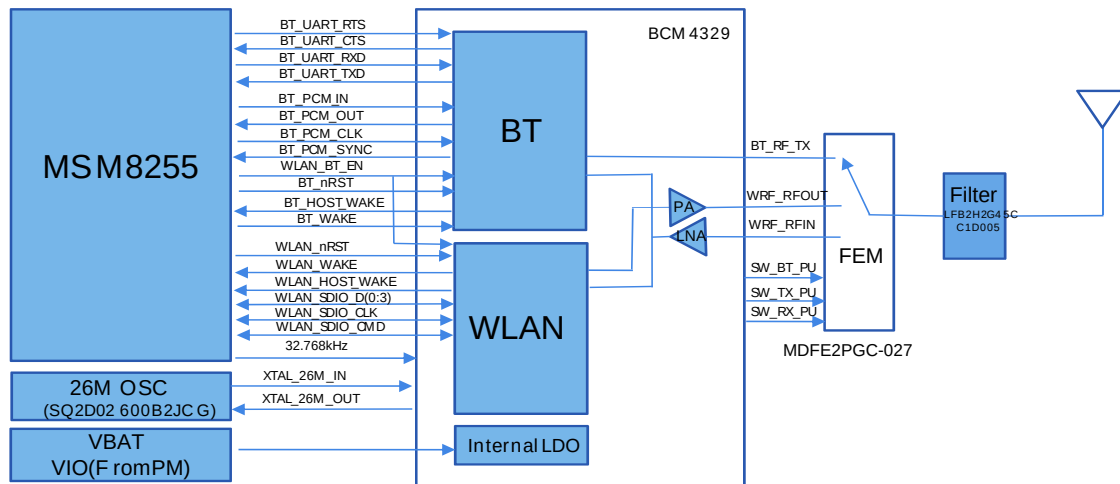
## ■ CAMERA part



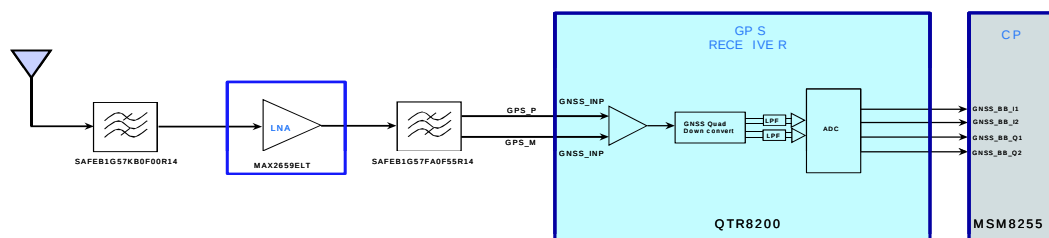
## AUDIO part



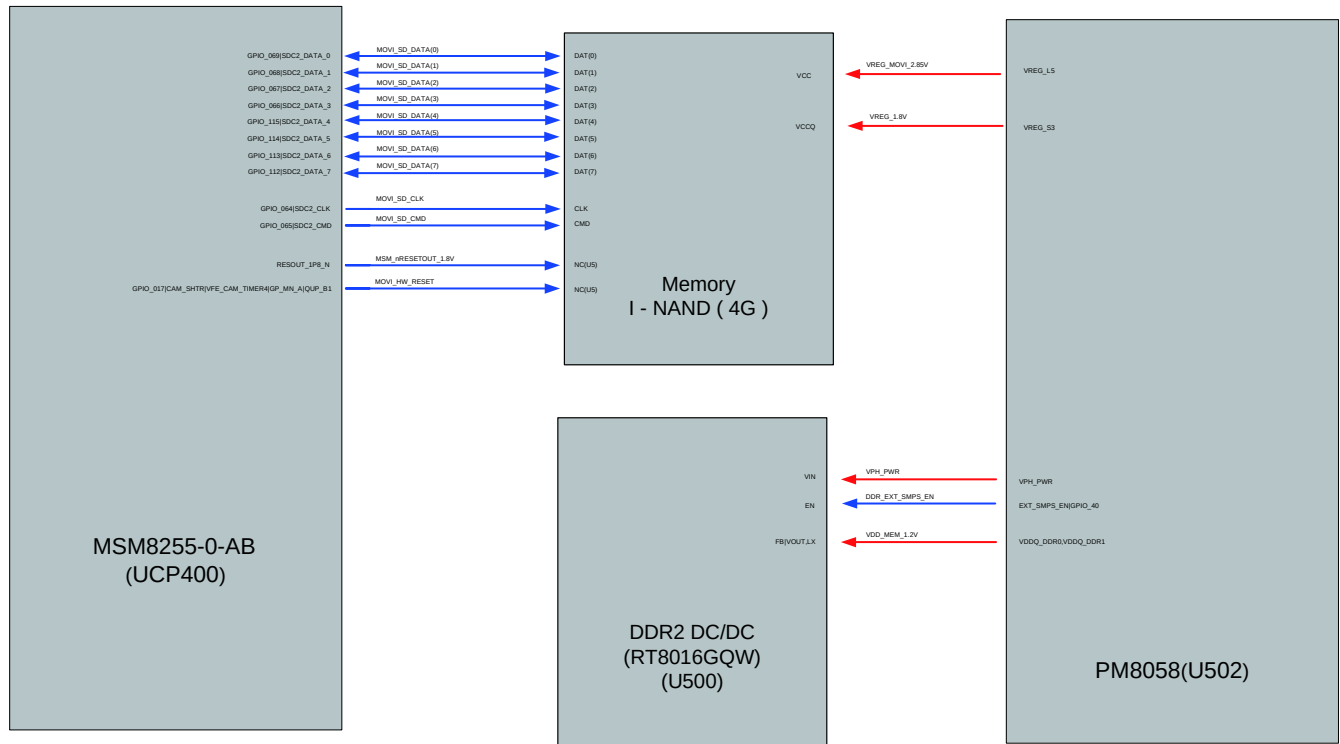
### BT /W IFI part



### GPS part

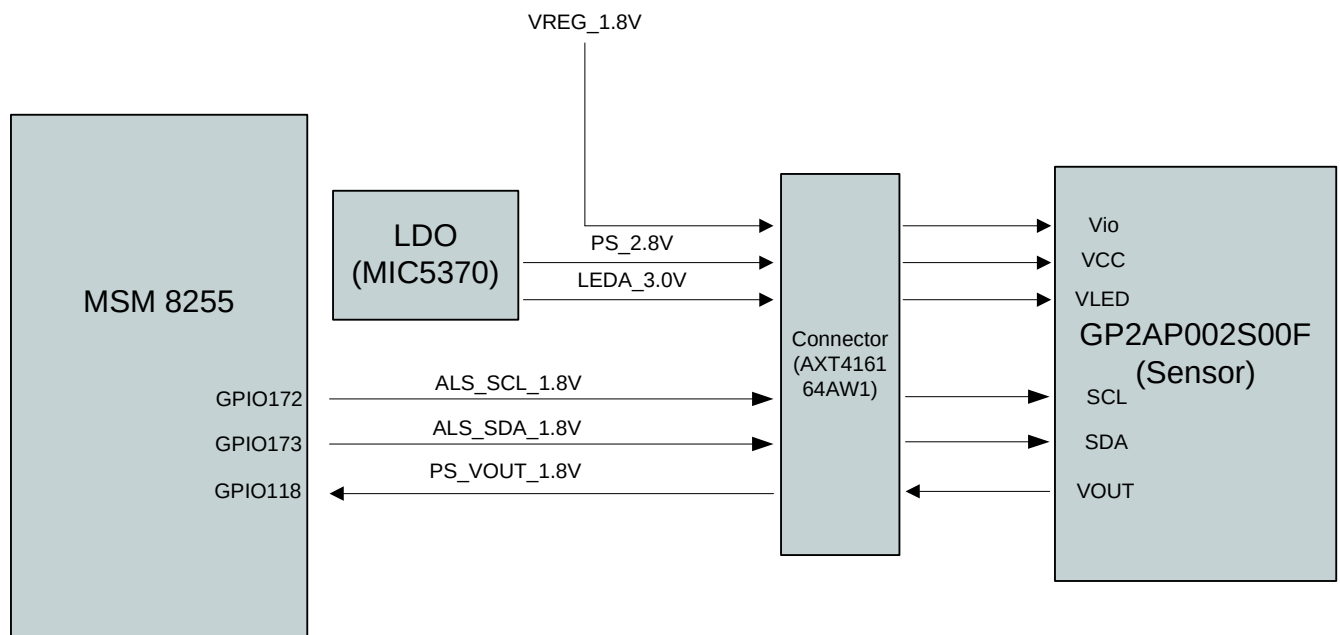


## ■ MEMORY part



※

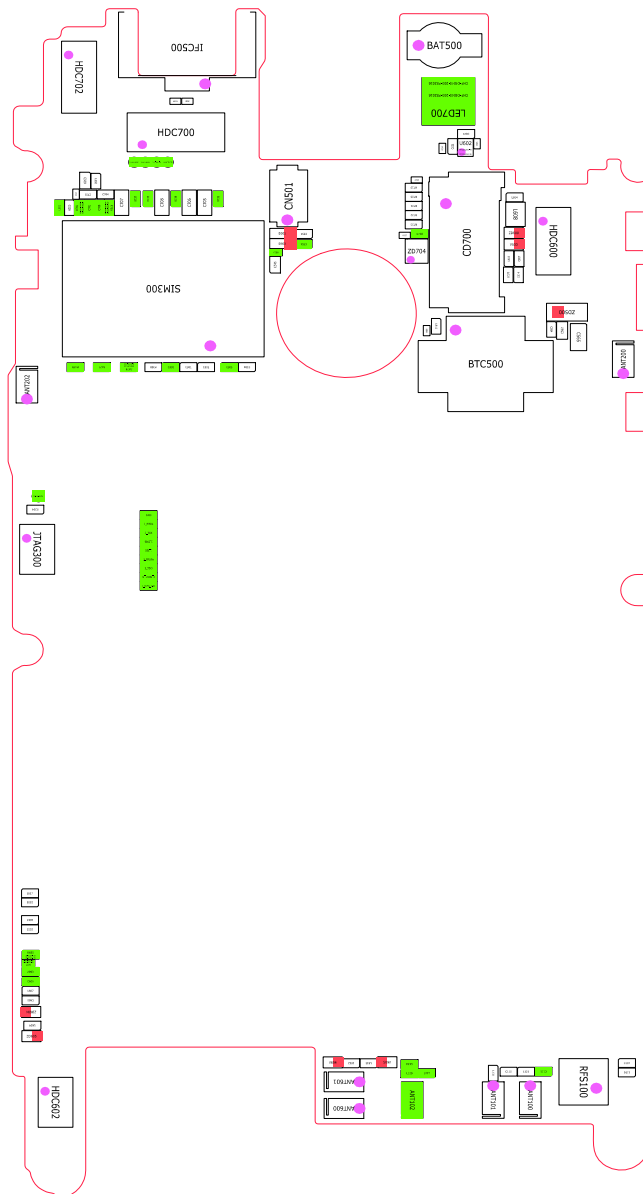
## ■ Proximity sensor part





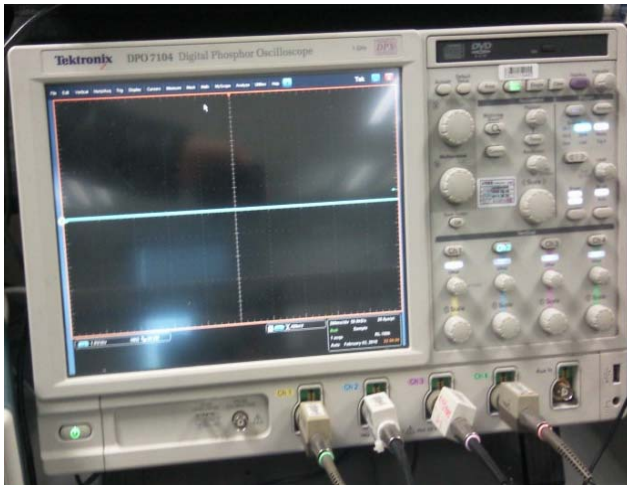


## 8-2-1. Bottom



### 8-3. Flow Chart of Troubleshooting

#### Equipments



↑ Oscilloscope



↑ Digital Multimeter

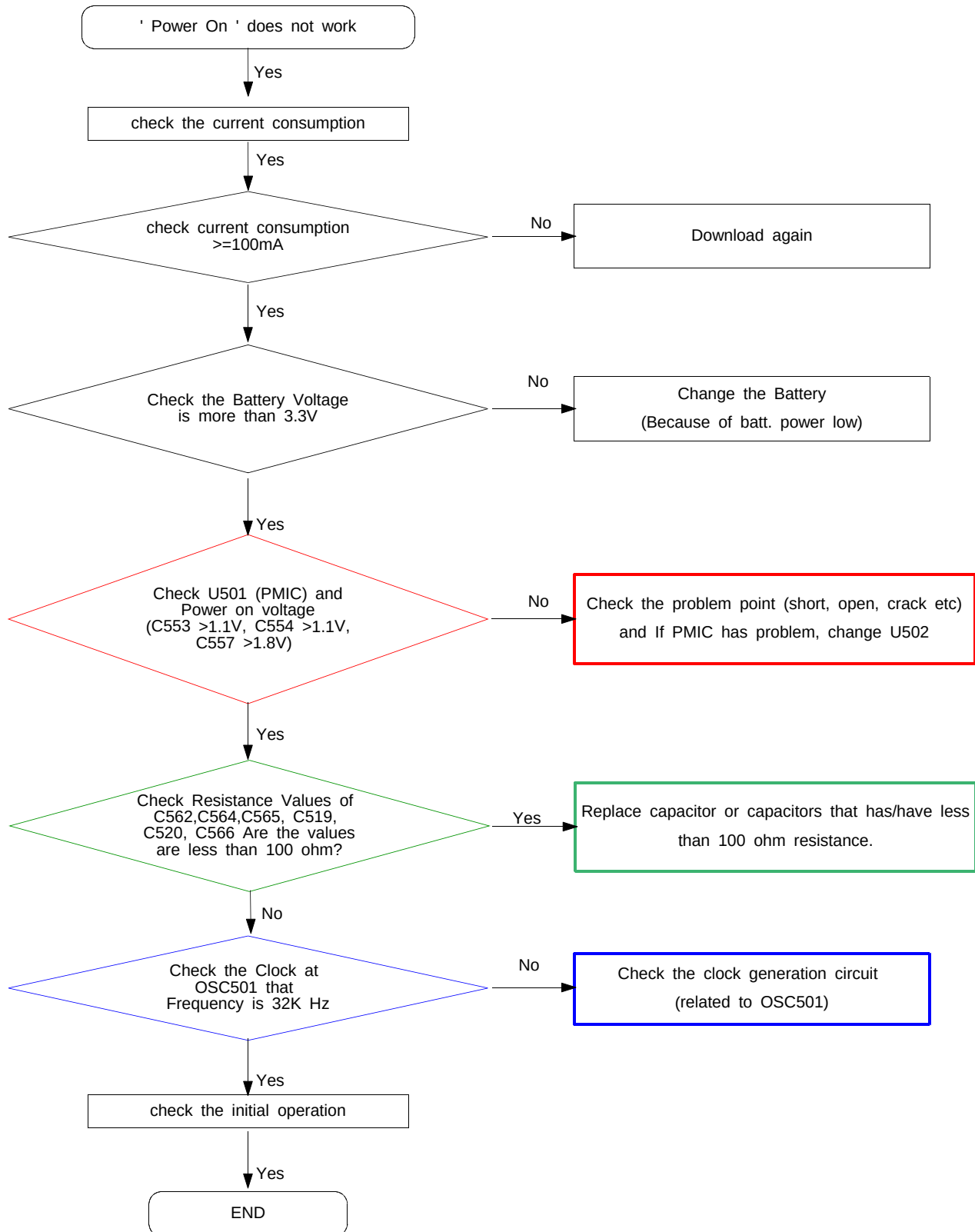


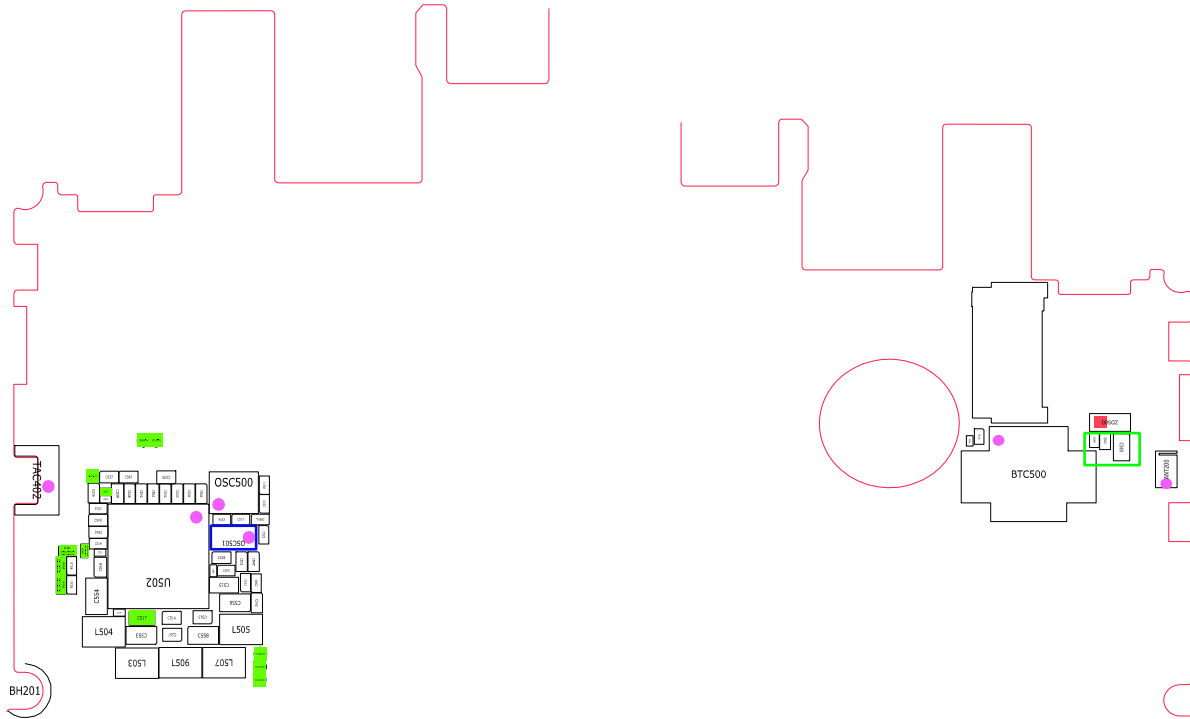
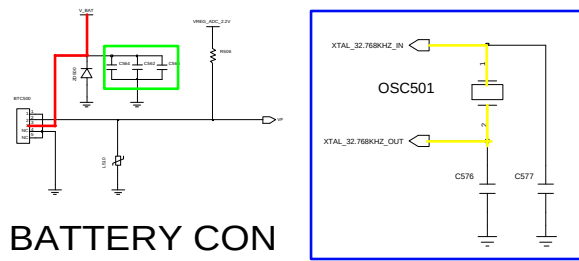
↑ Power Supply



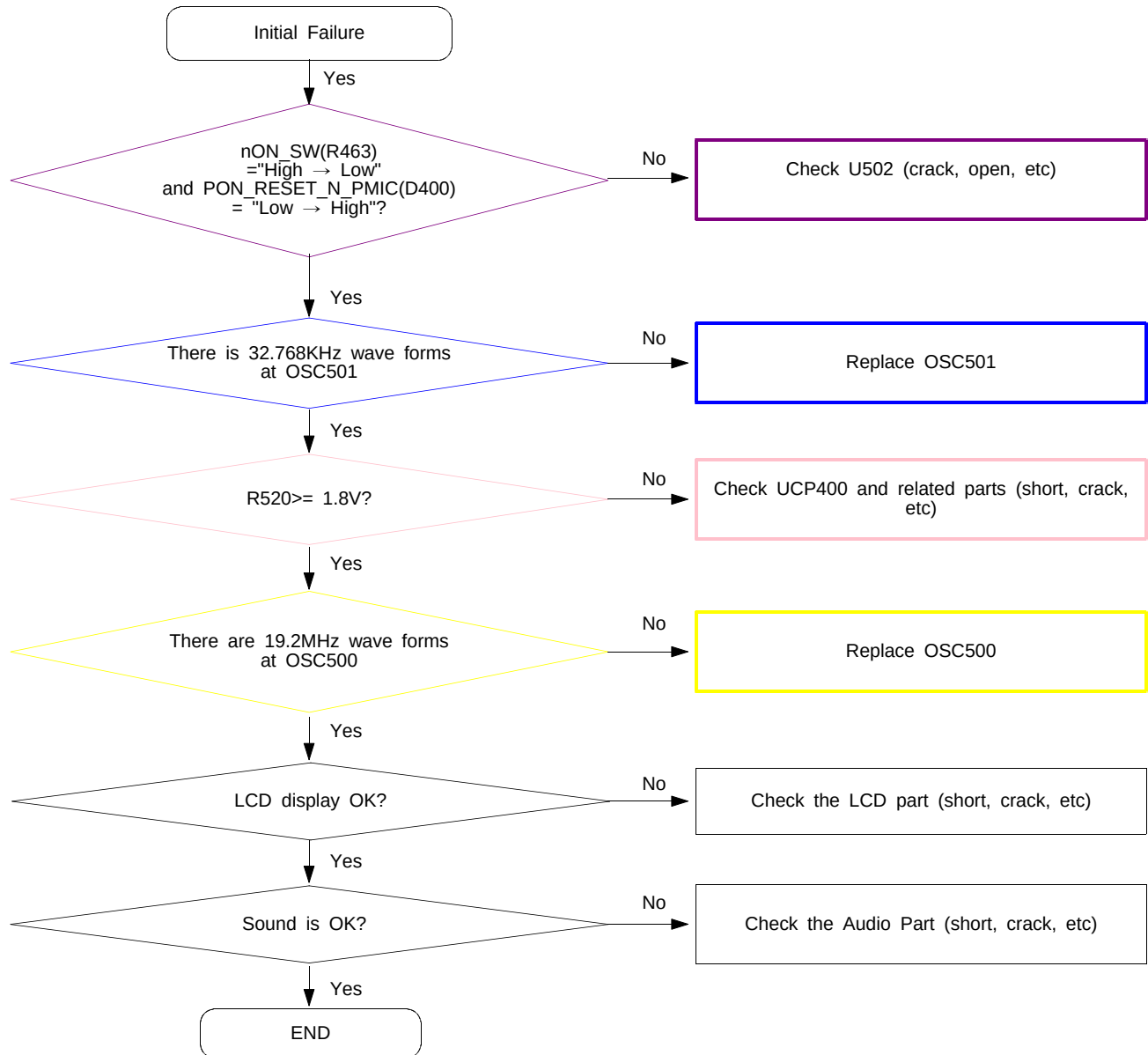
↑ + driver, Tweezer

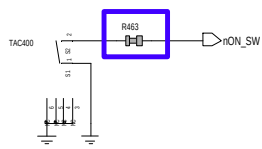
### 8-3-1. Power On



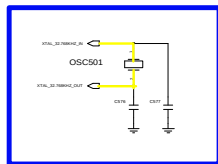


## 8-3-2. Initial

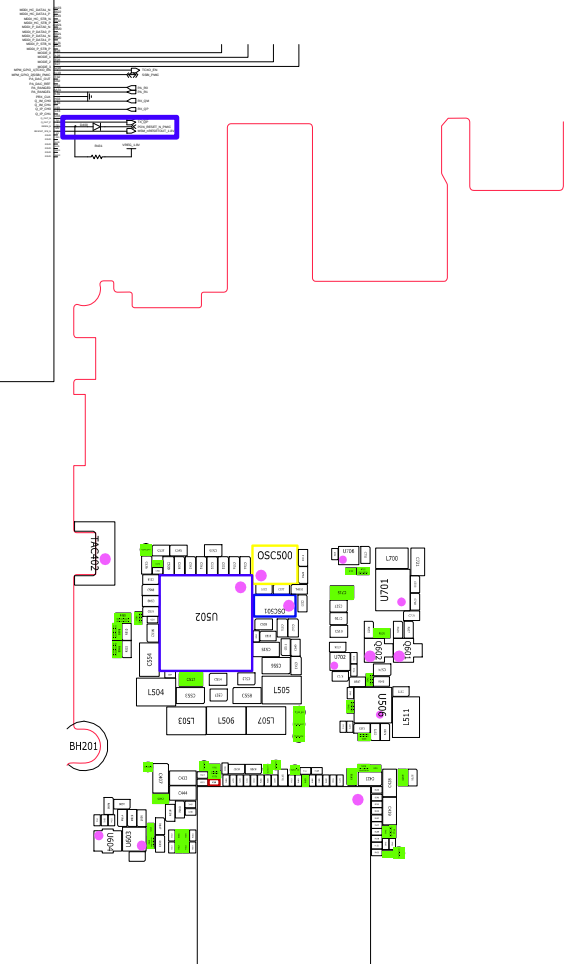




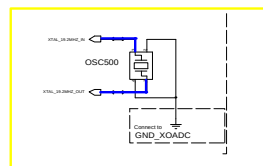
POWER KEY



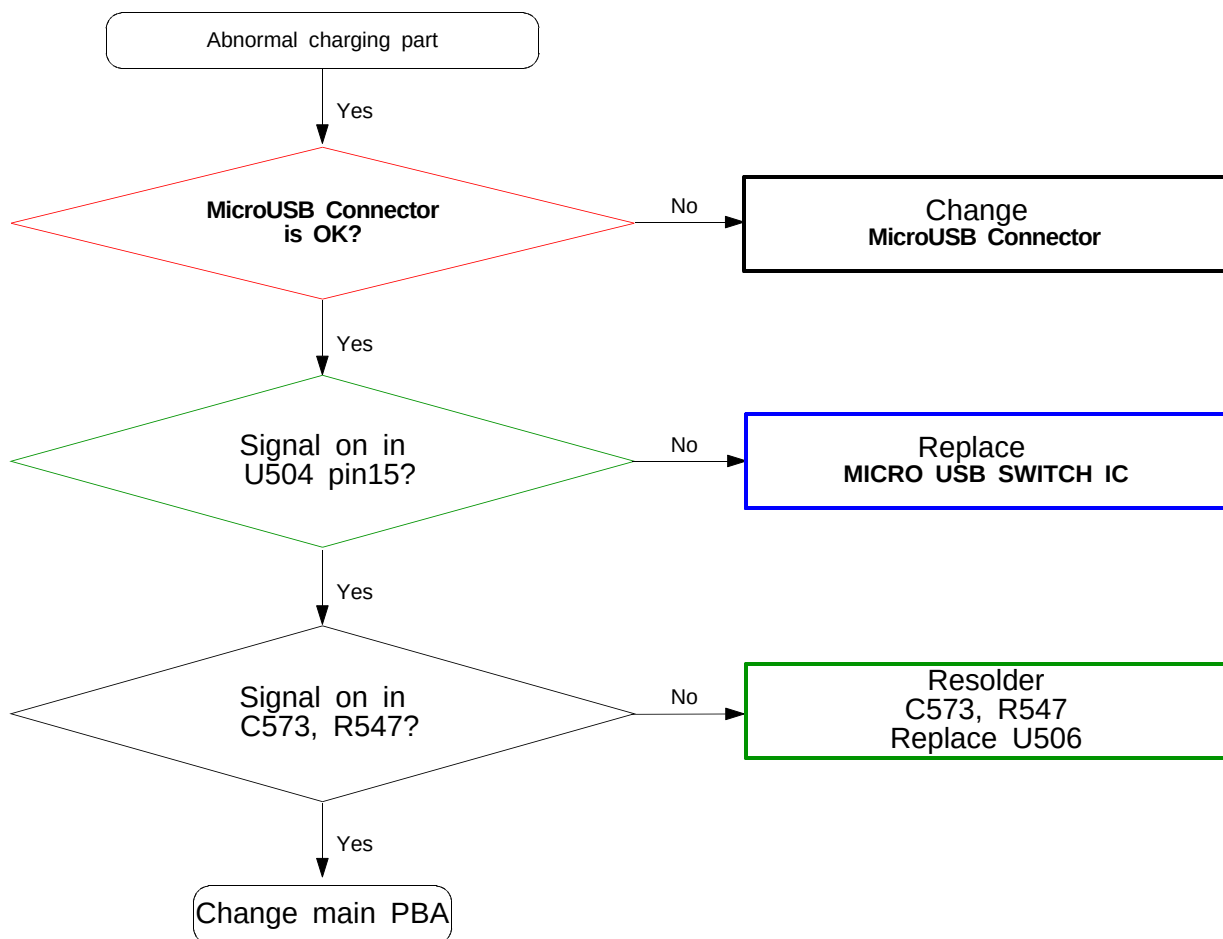
UCP400

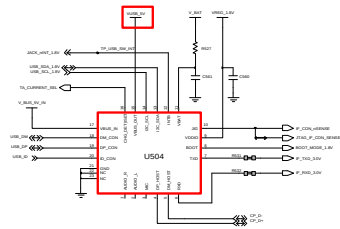


U502

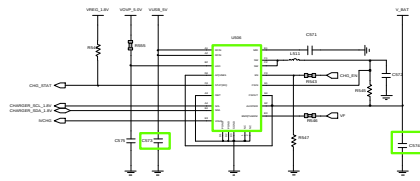


### 8-3-3. Charging Part

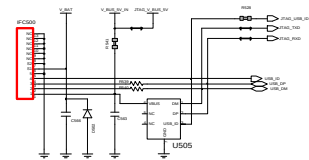




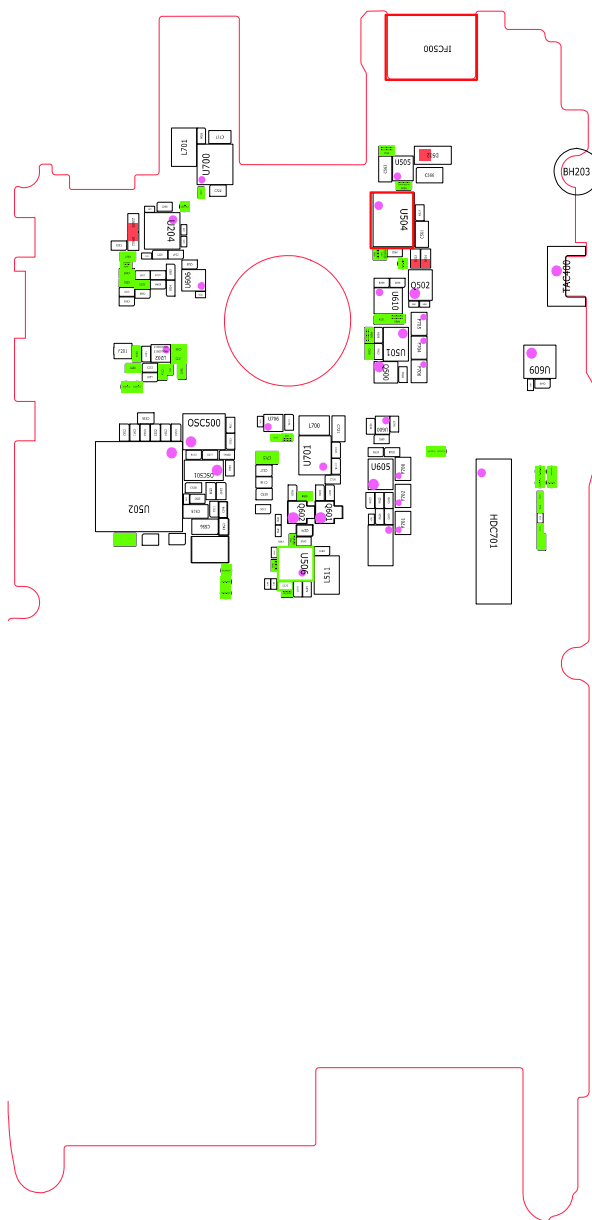
MICRO USB SWITCH IC



BATTERY CHARGER

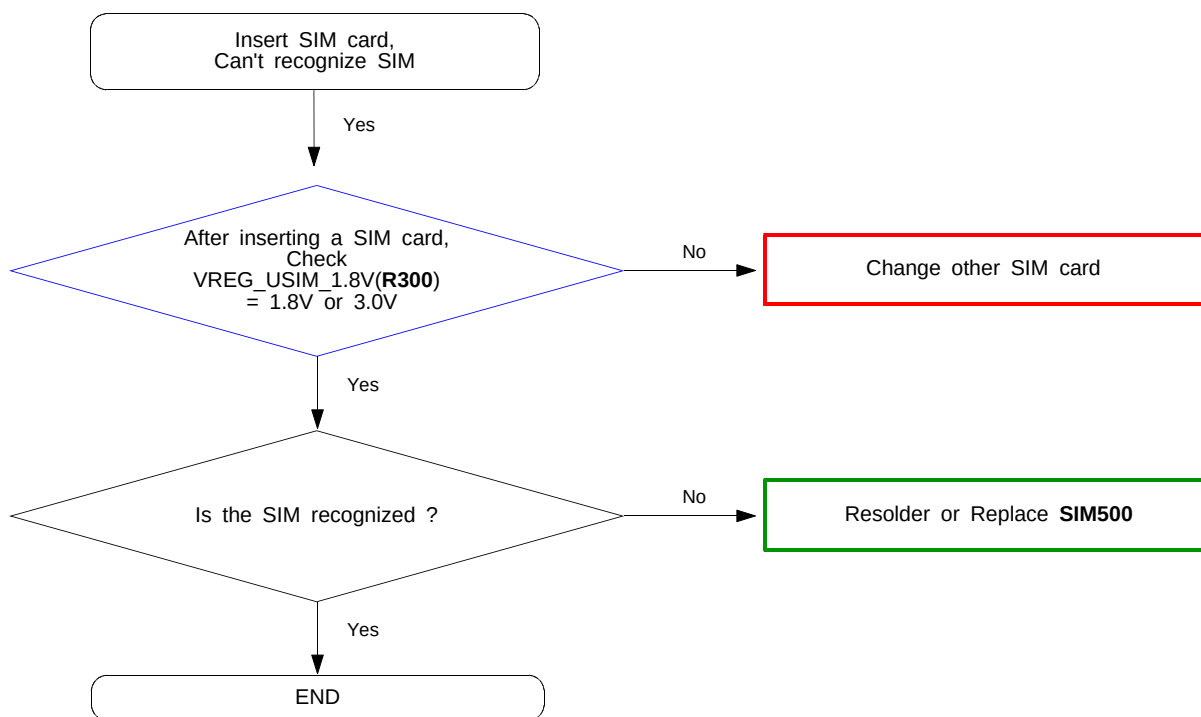


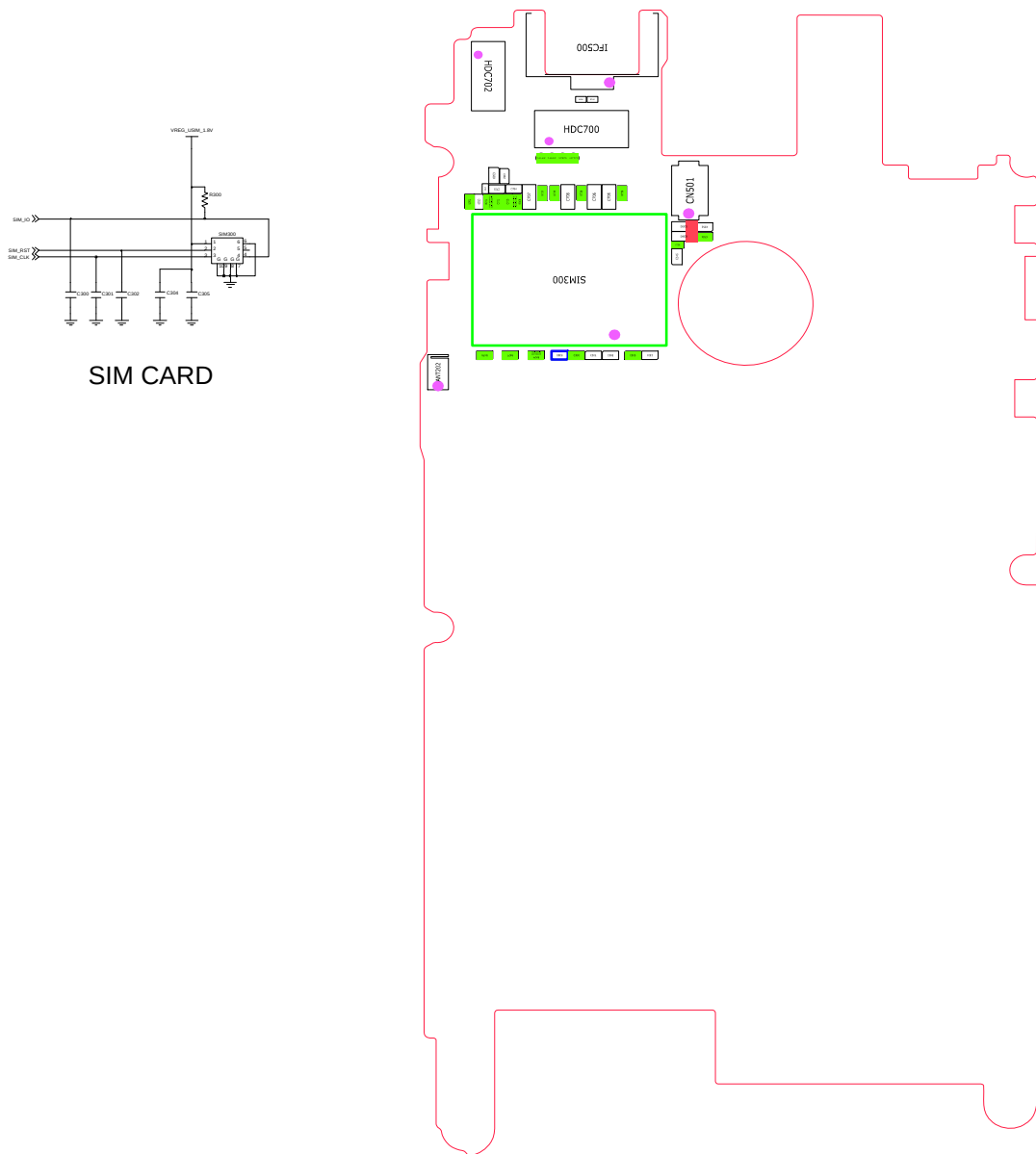
MicroUSB Connector



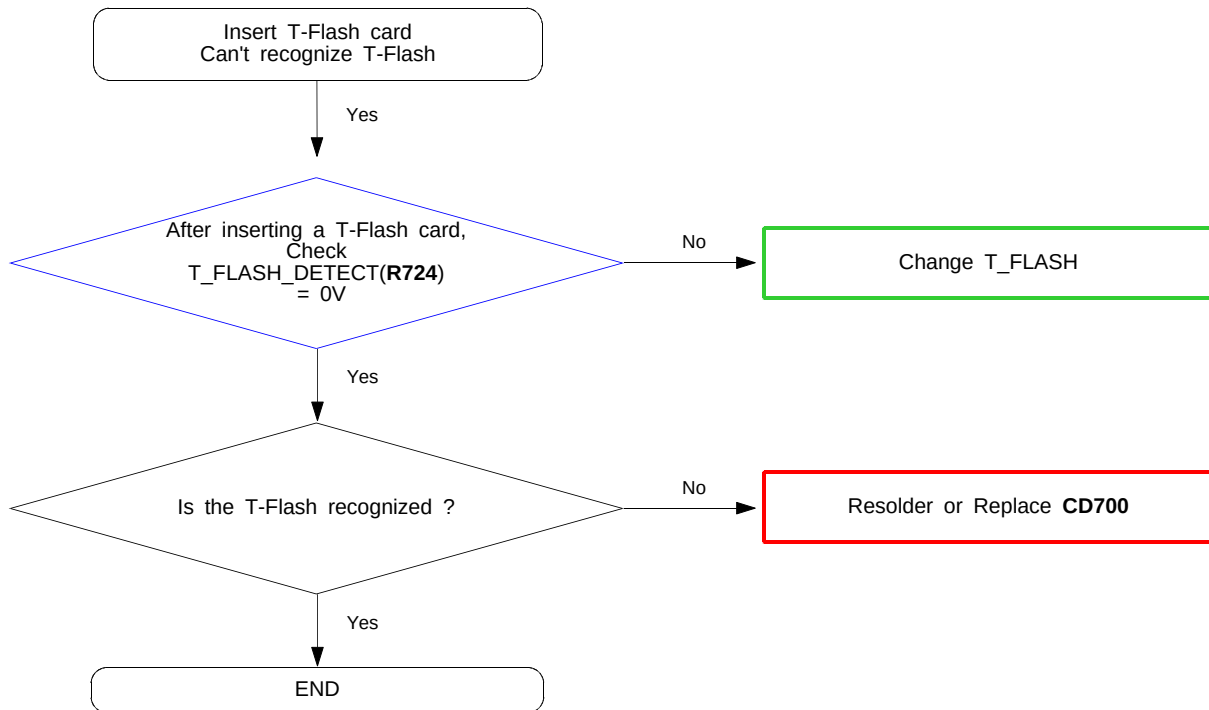


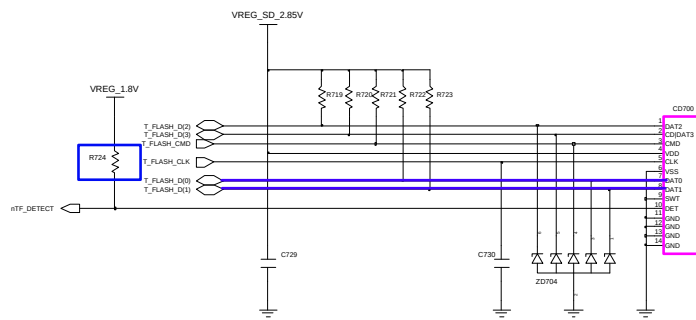
#### 8-3-4. Sim Part



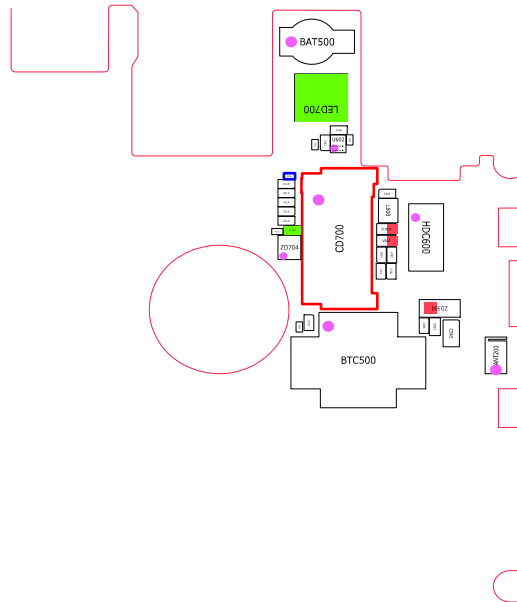


### 8-3-4 T-Flash

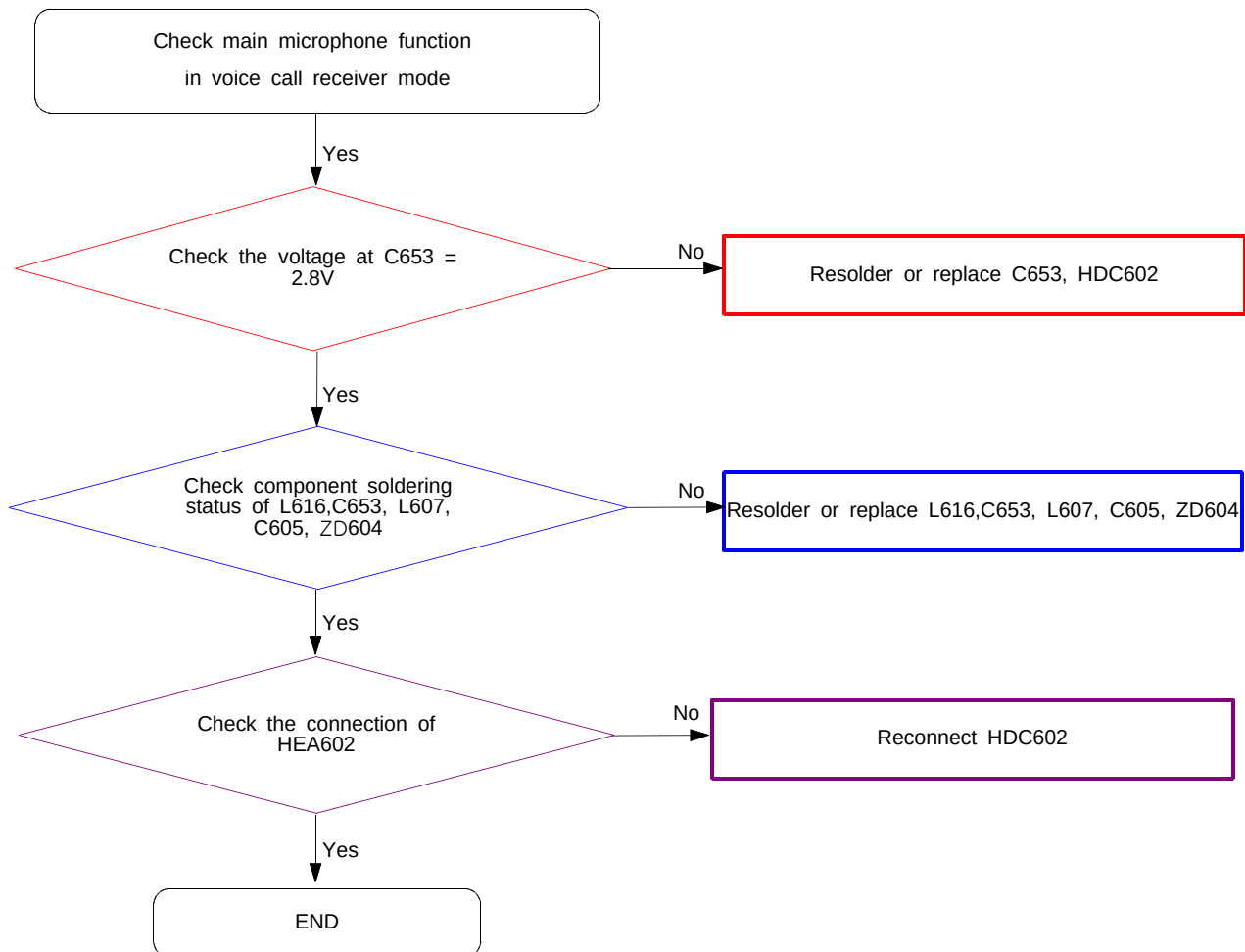


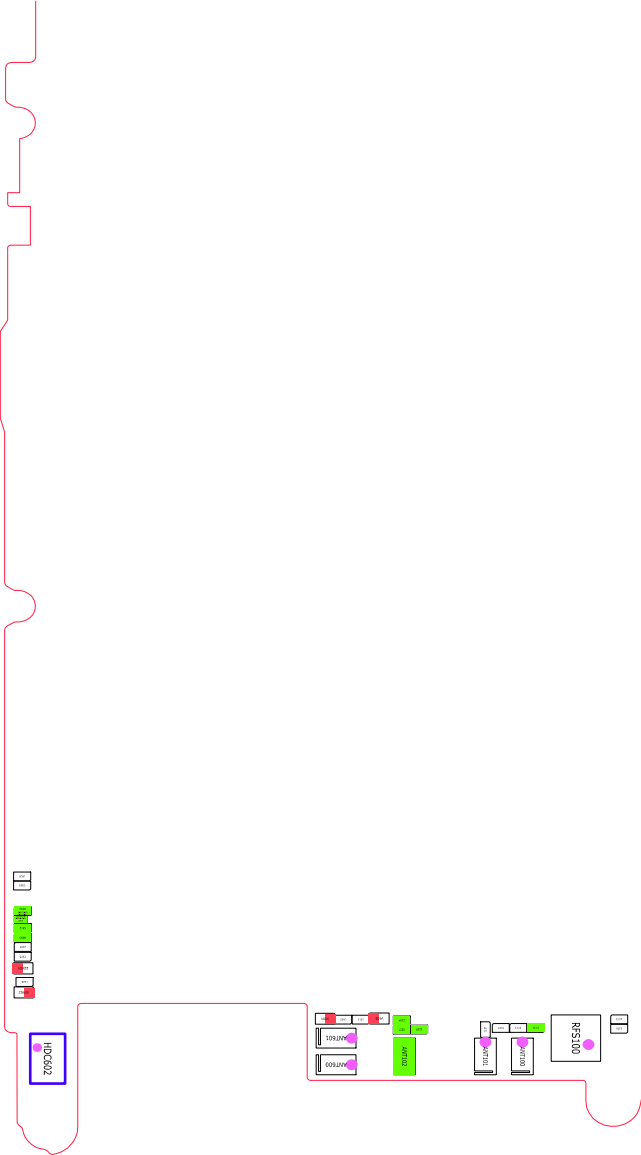
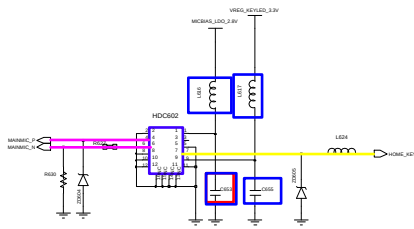


## T-FLASH Connector

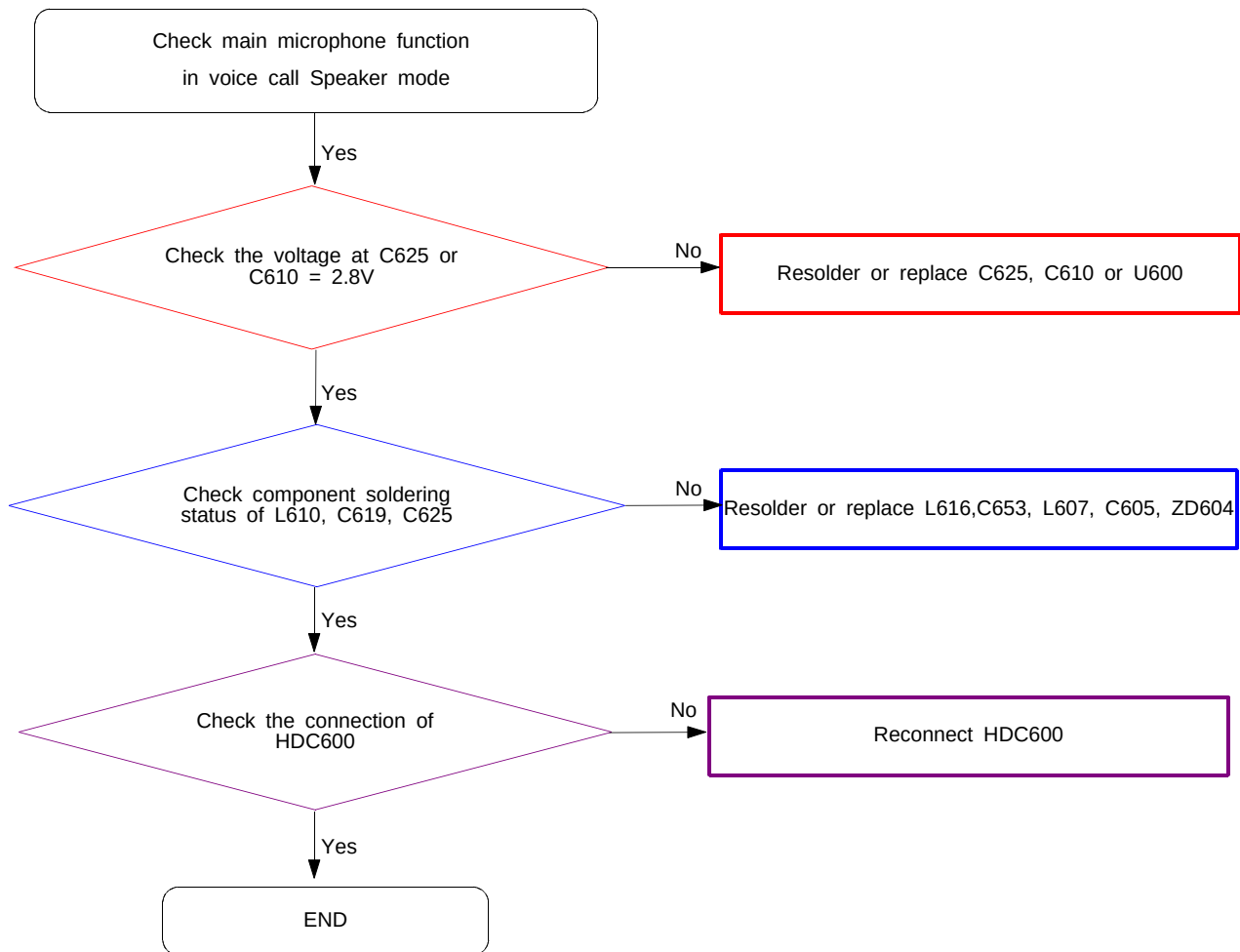


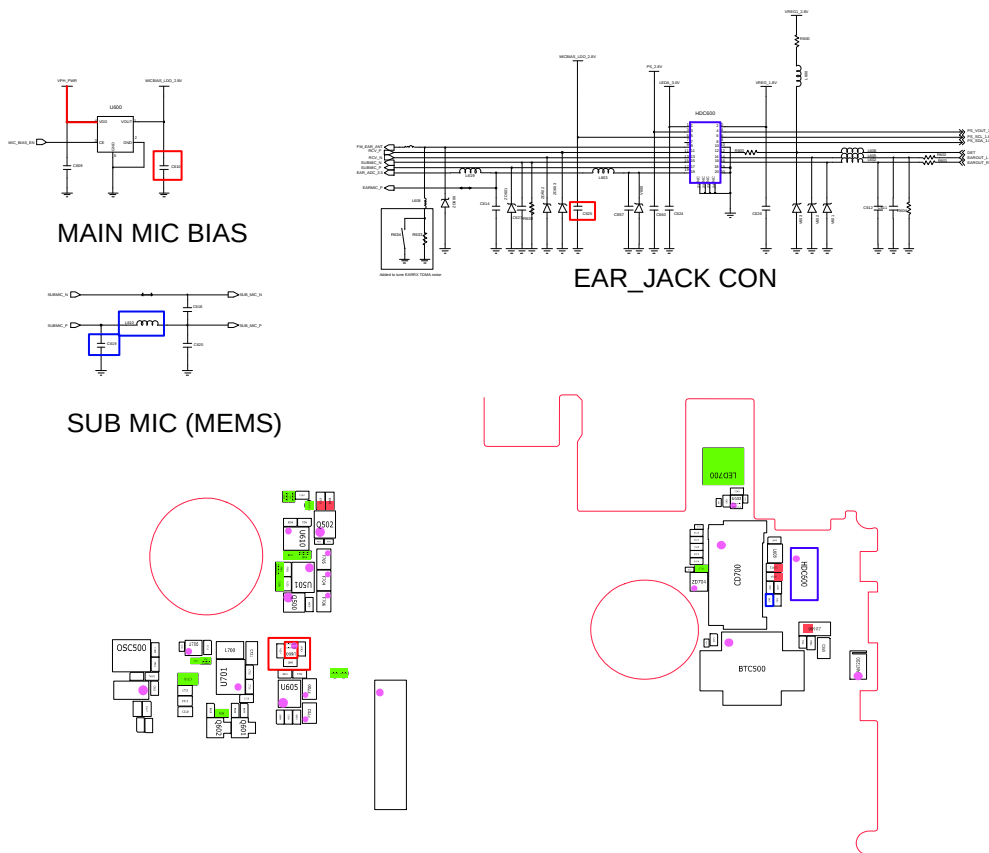
### 8-3-5. Microphone Part (1)





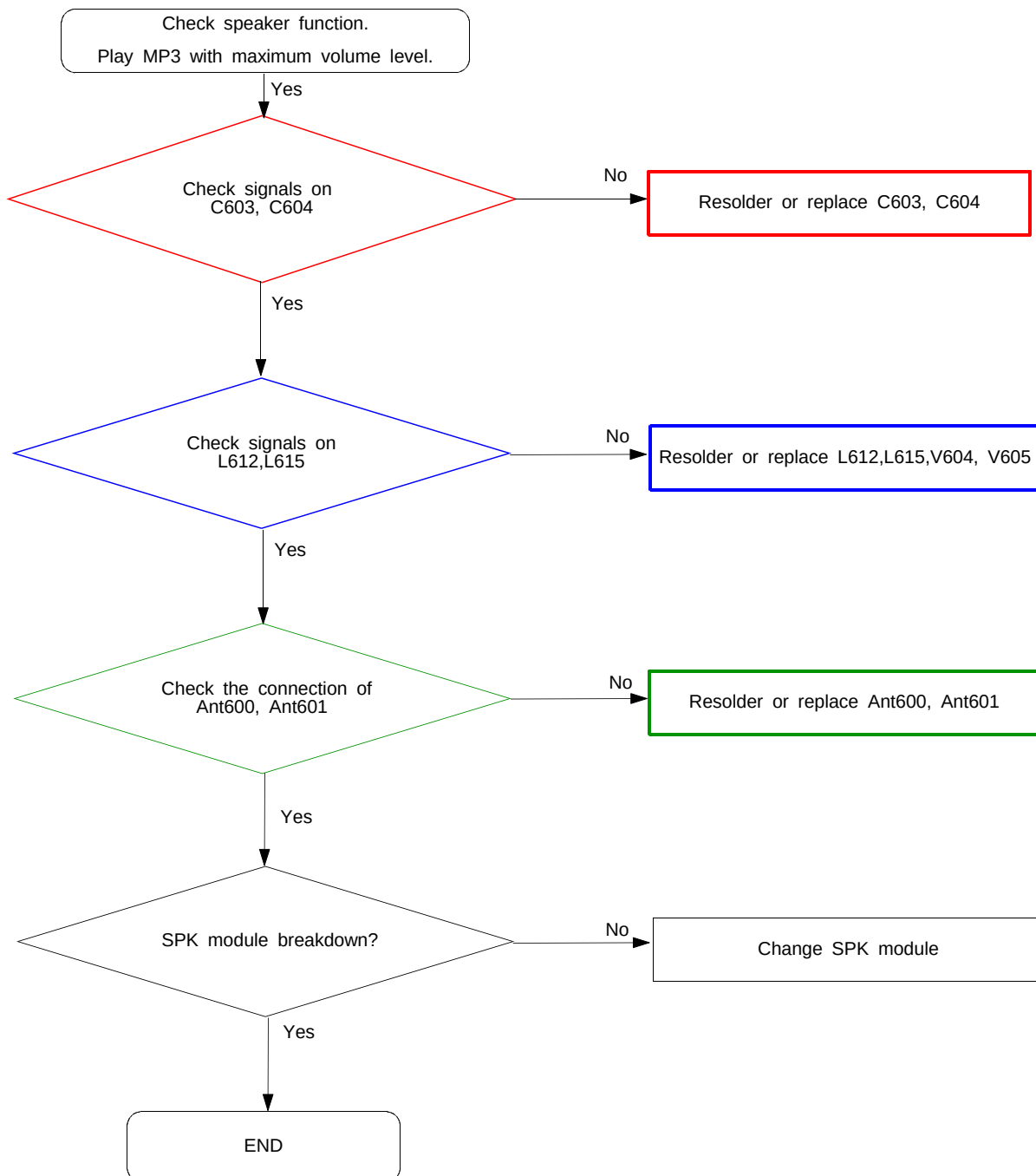
### 8-3-5. Microphone Part (2)

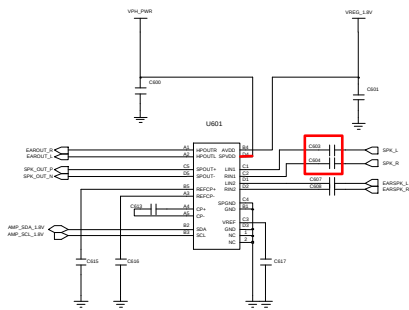




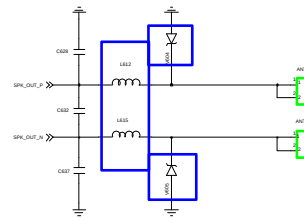


## 6. Speaker Part

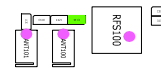
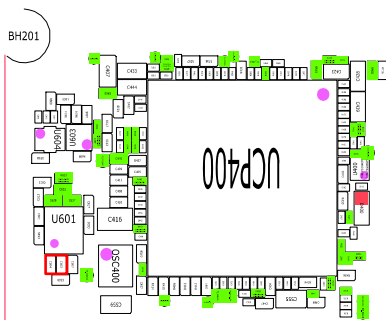




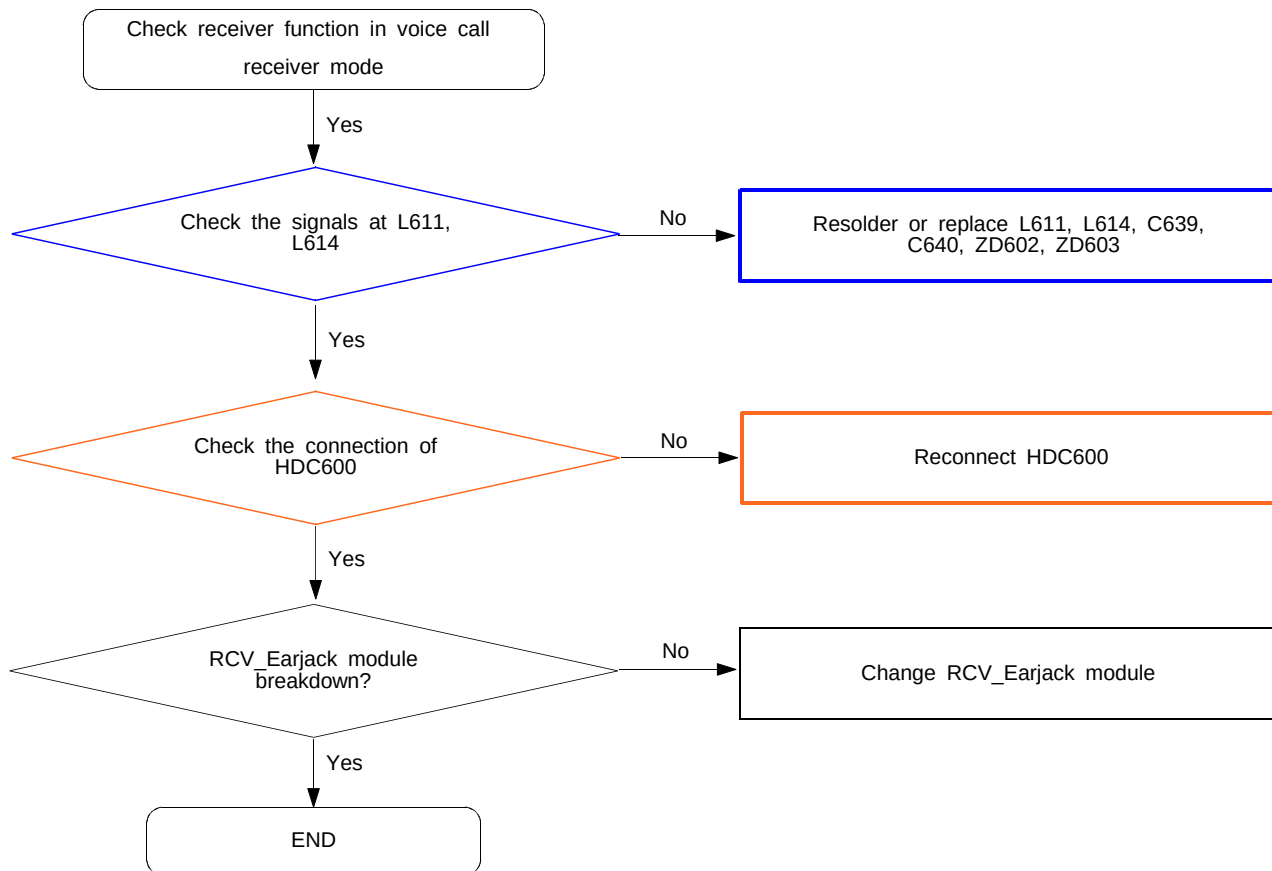
< AUDIO AMP - YDA165 >

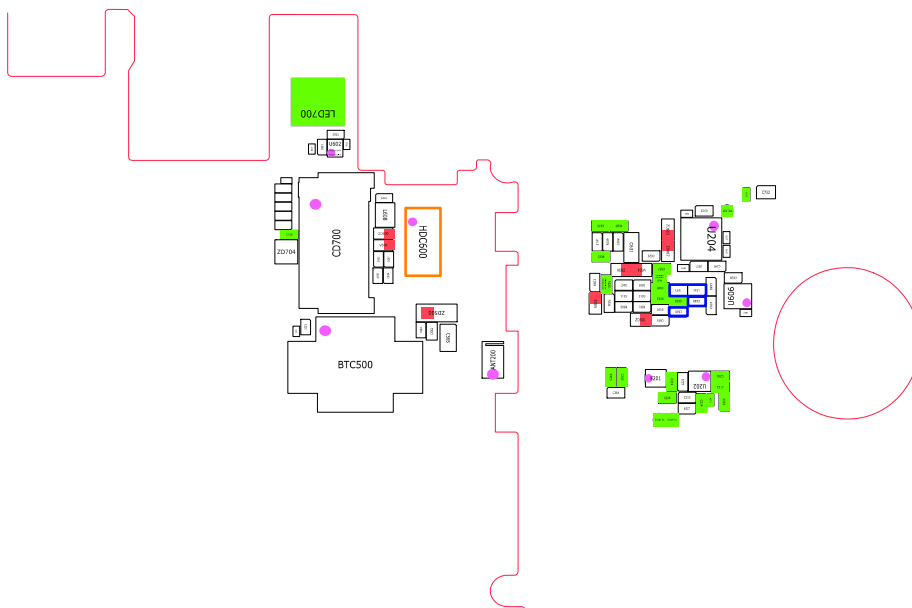
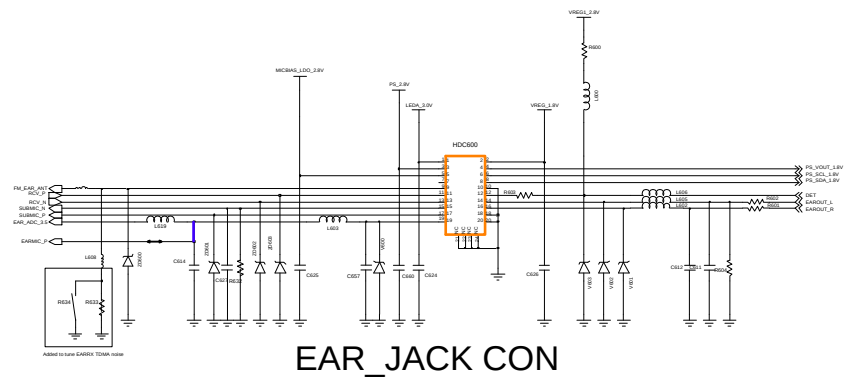
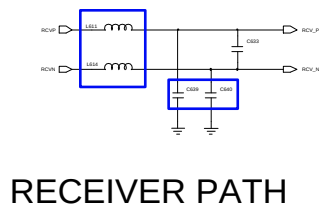


SPEAKER Contact



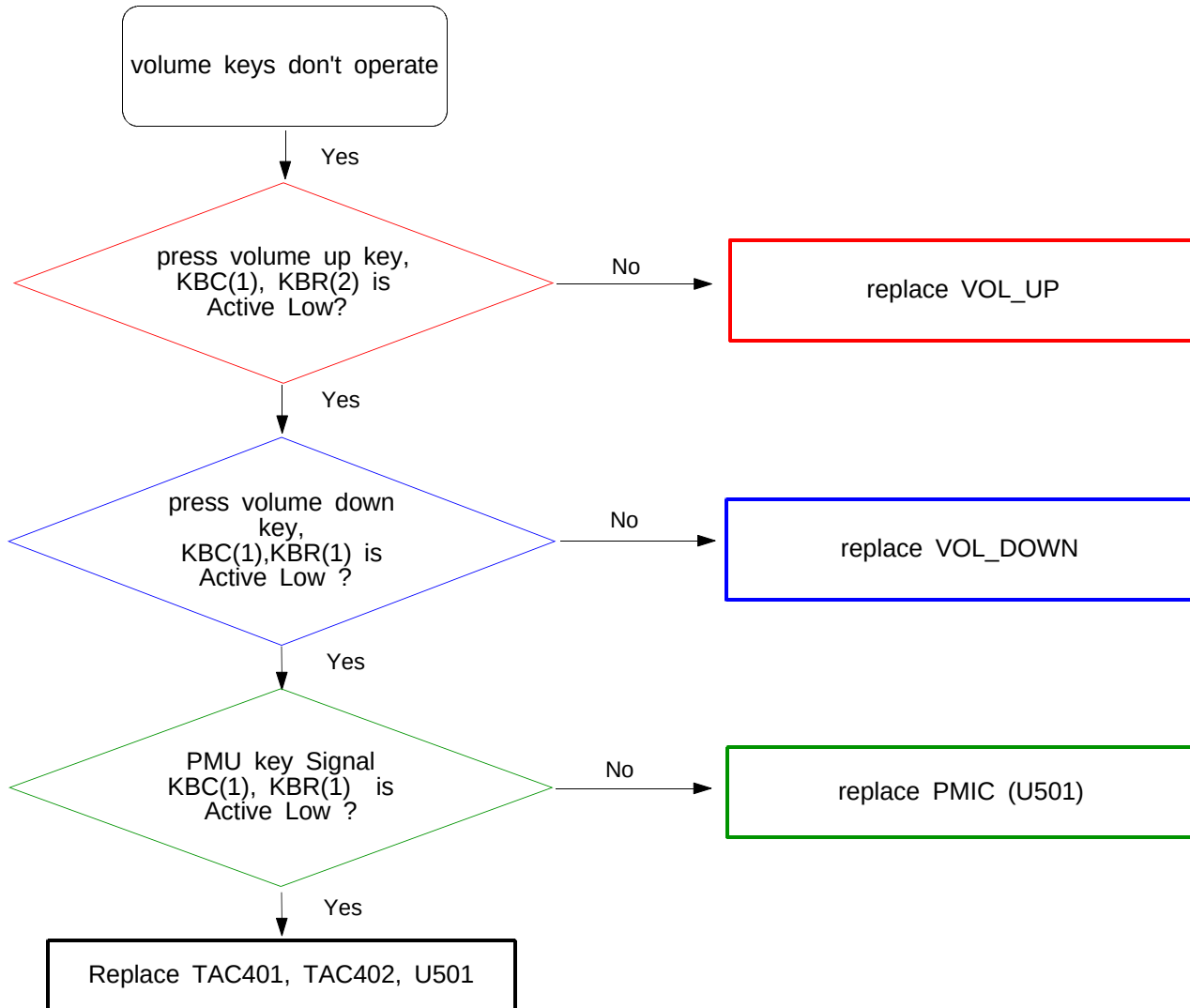
### 8-3-7. Receiver Part

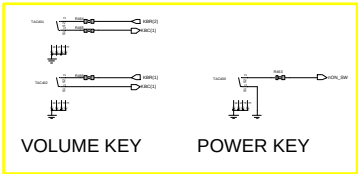




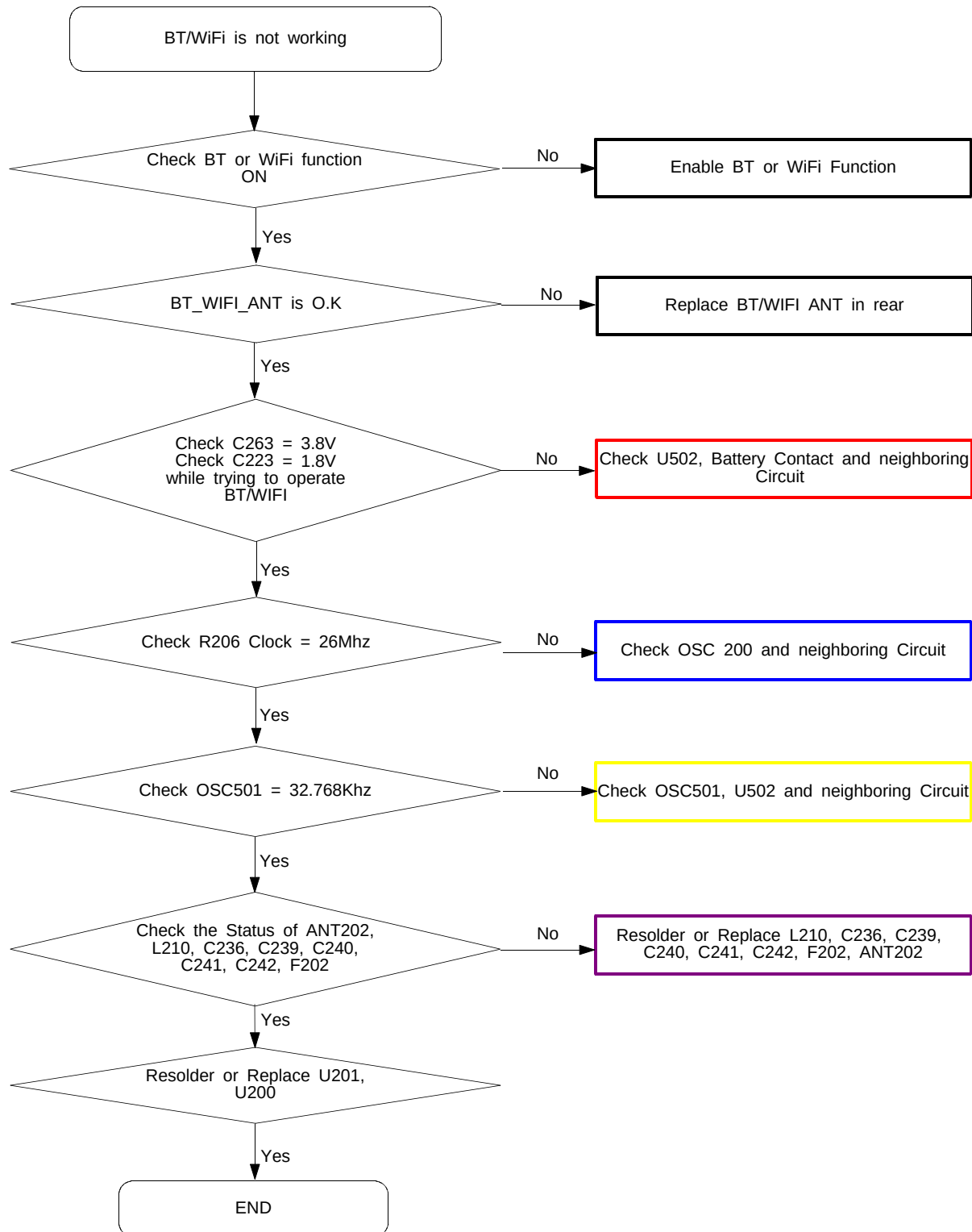
### 8-3-8. KEY Function (volume key/ power key)

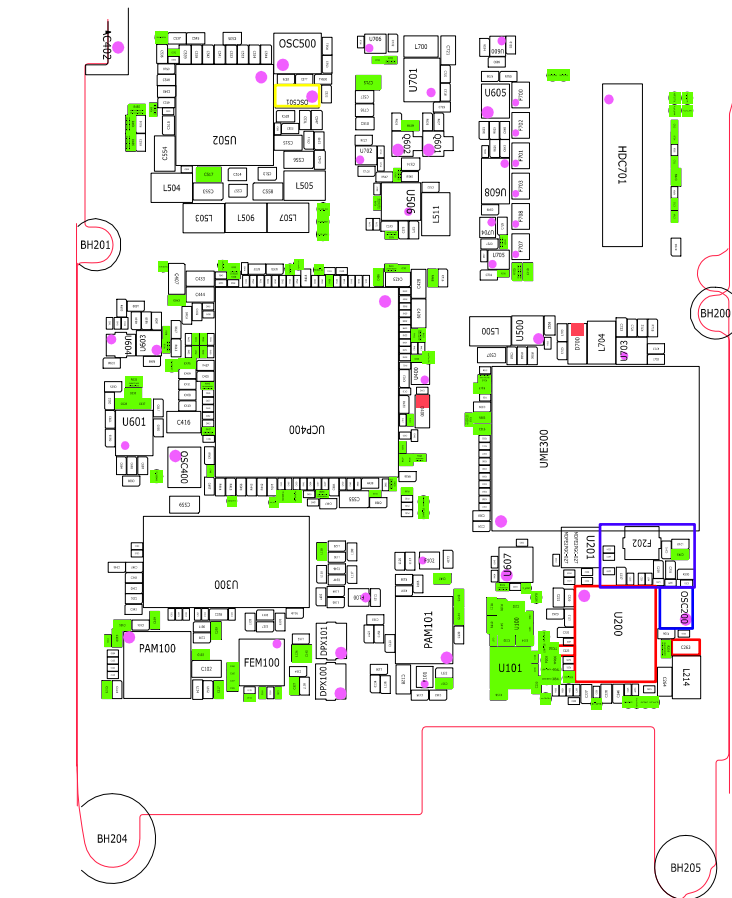
#### - volume key





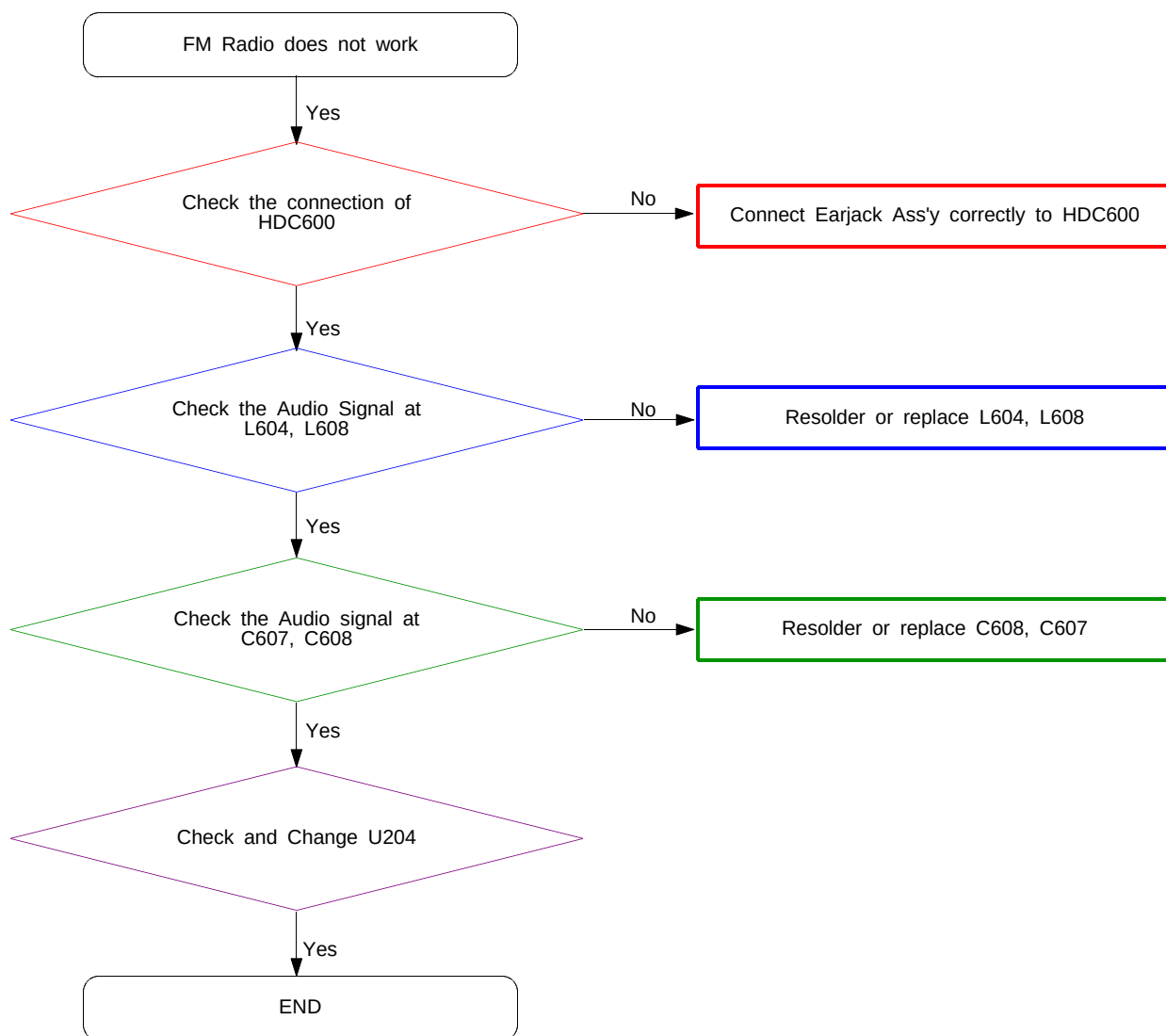
## 8-3-9. BT/WIFI

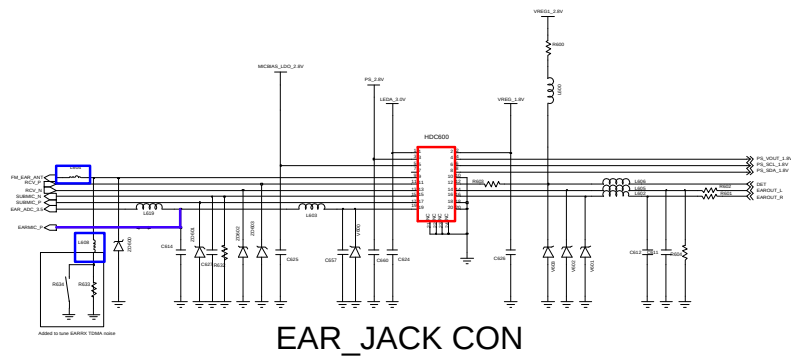




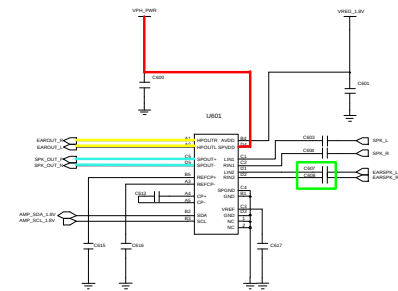


### 8-3-10. FM RADIO

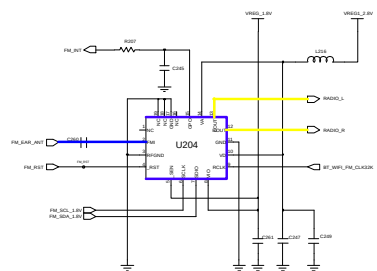




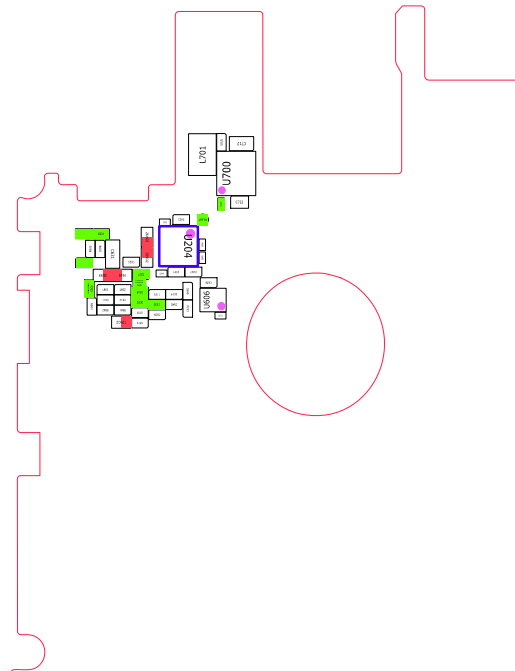
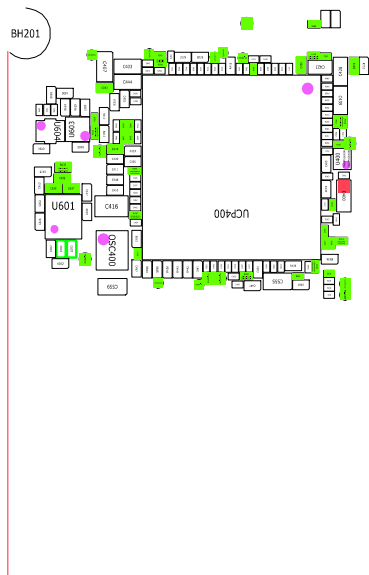
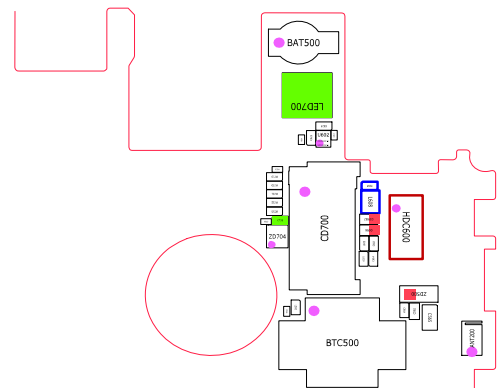
EAR\_JACK CON



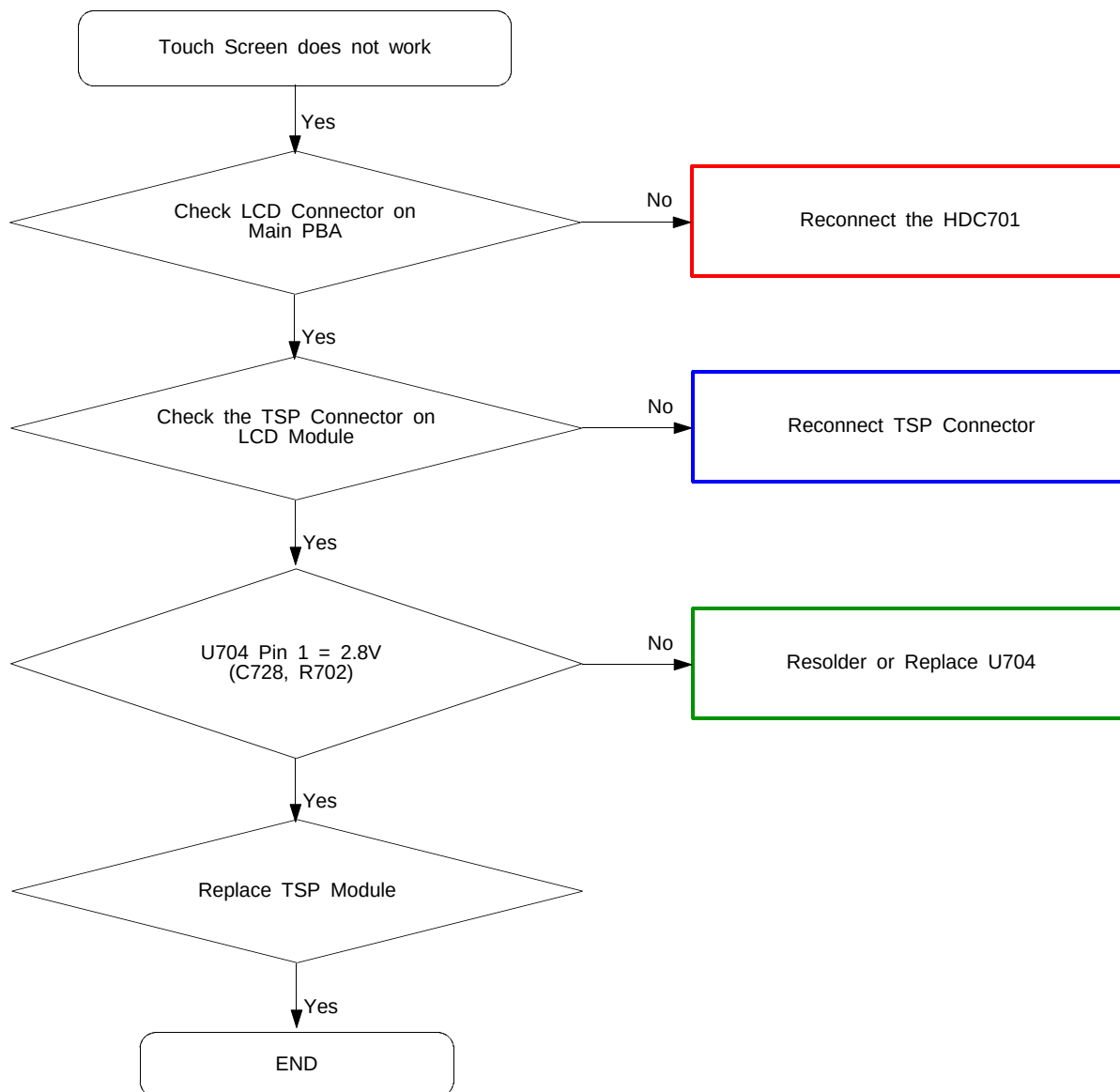
< AUDIO AMP - YDA165 >

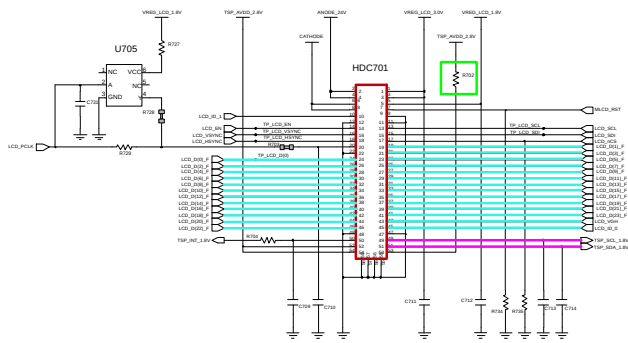


FM RADIO(SI4709)

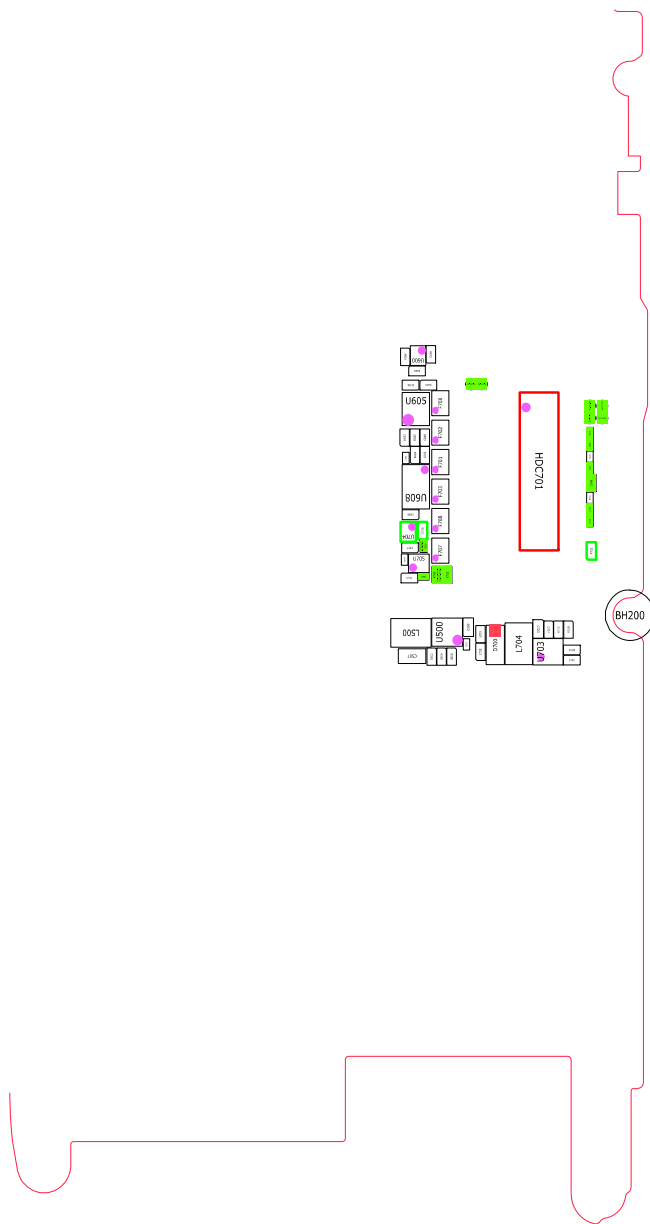
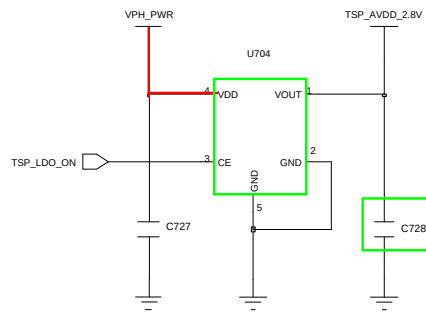


### 8-3-11. TSP

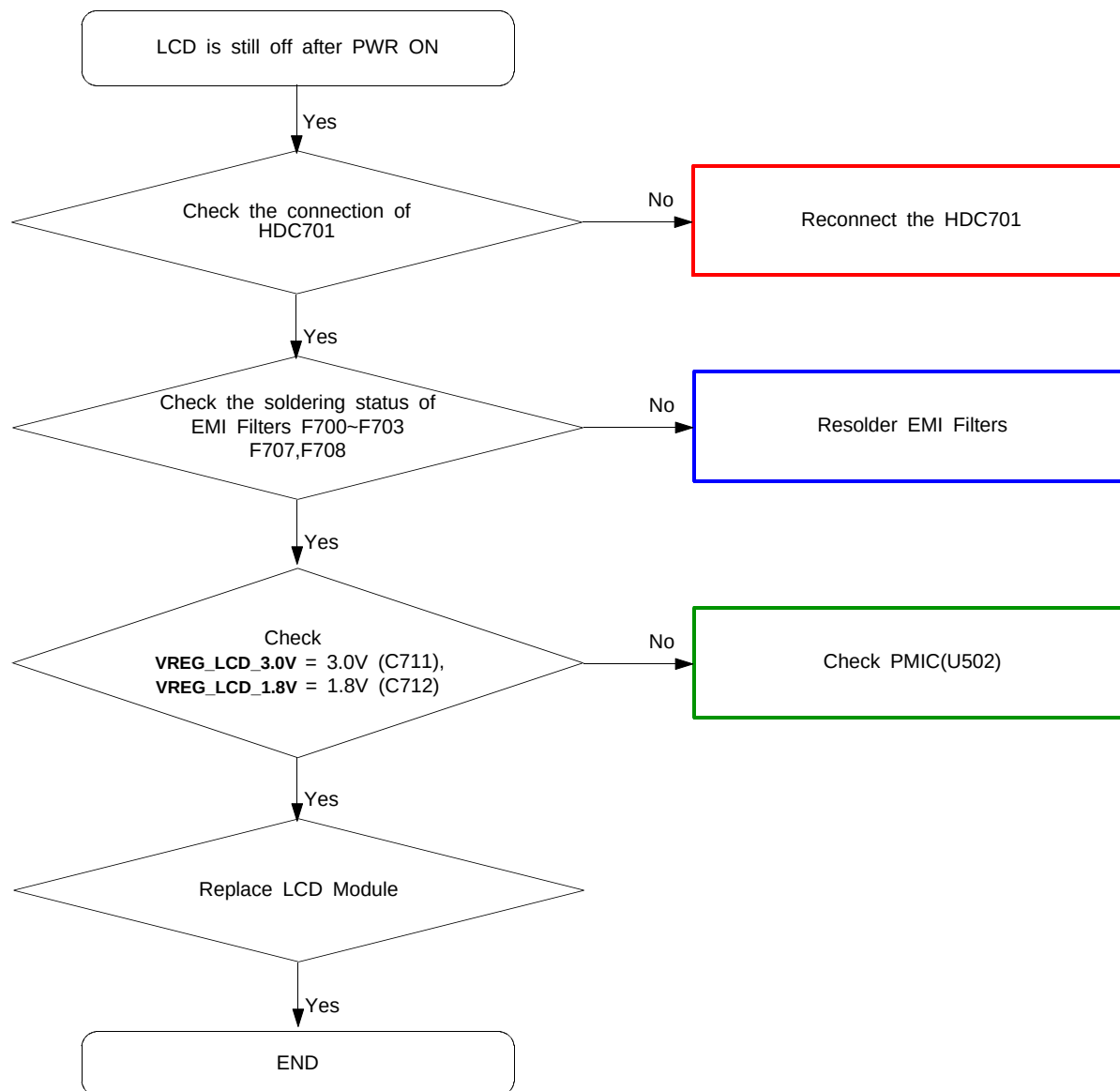


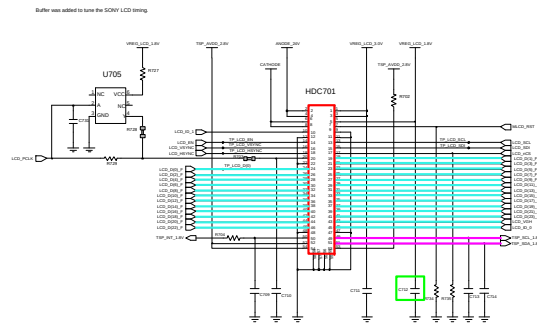


3.7" LCD Connector

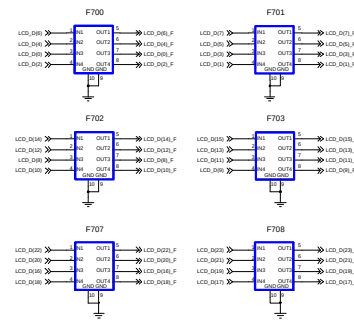


### 8-3-12. LCD

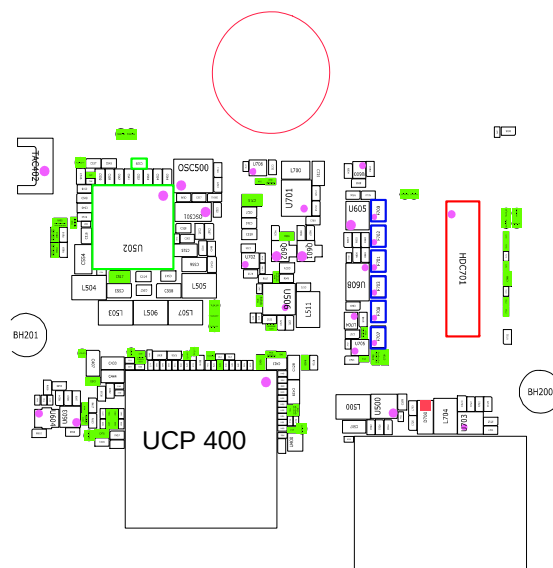
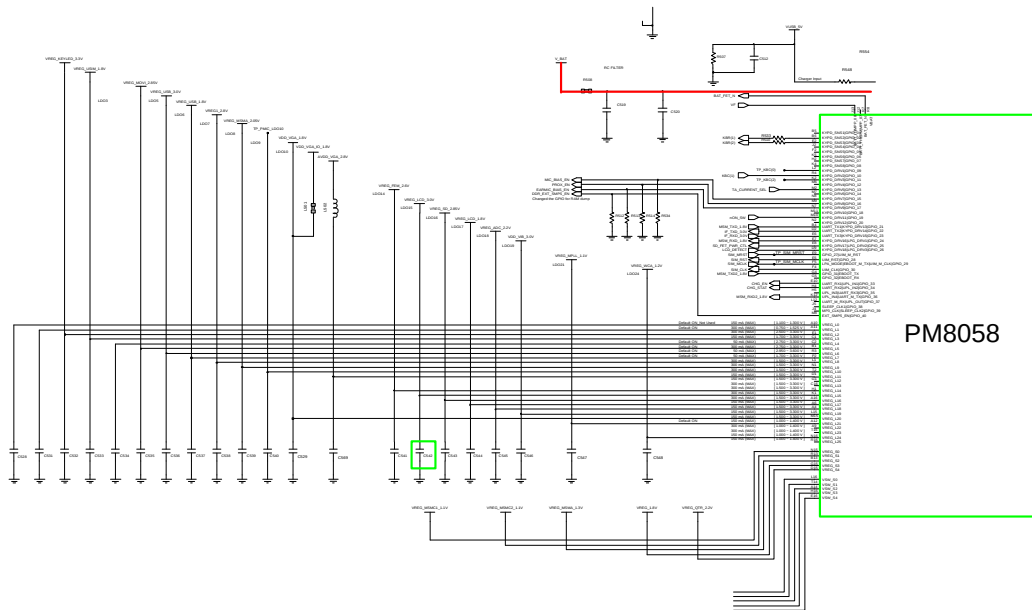




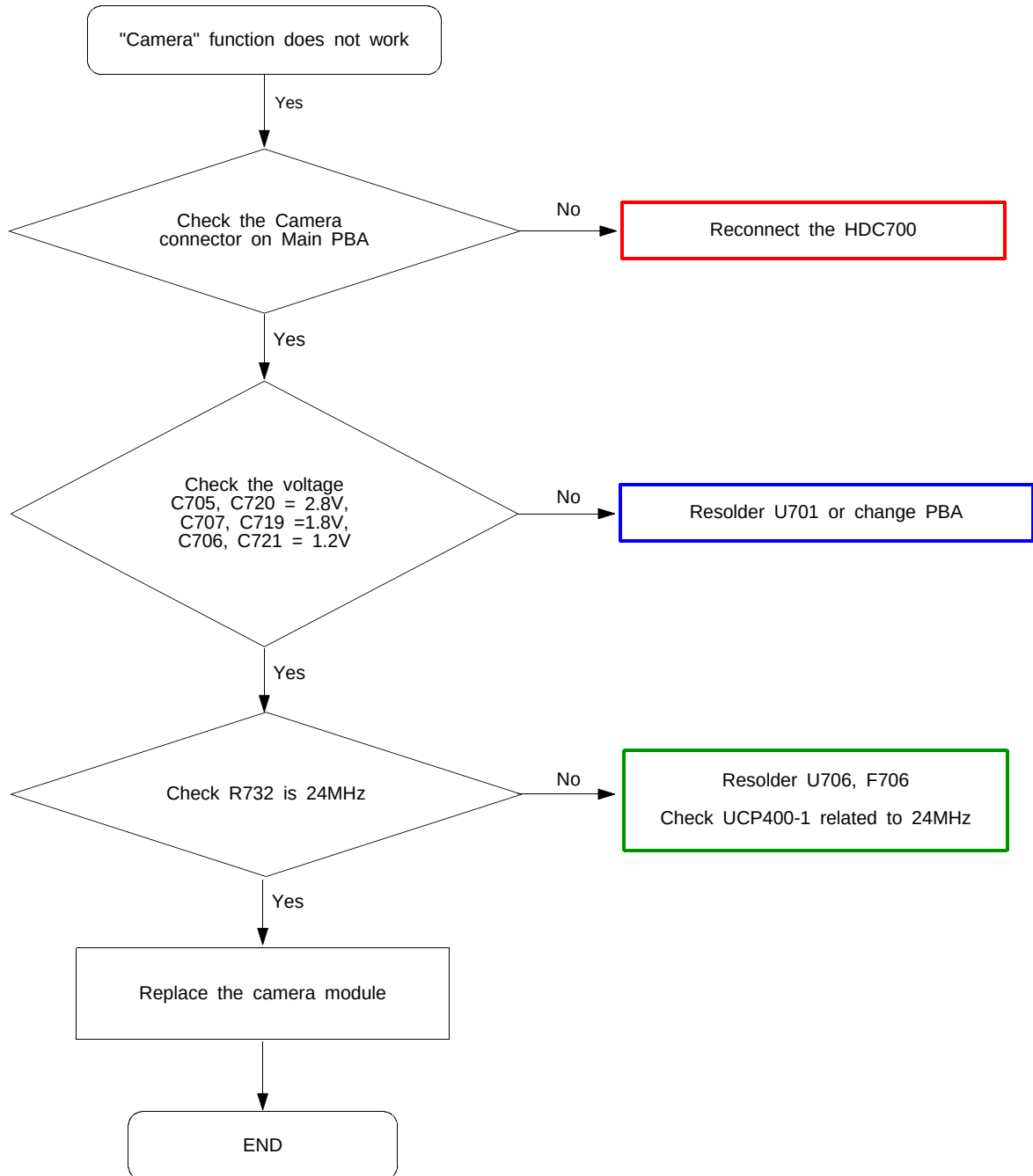
3.7" LCD Connector

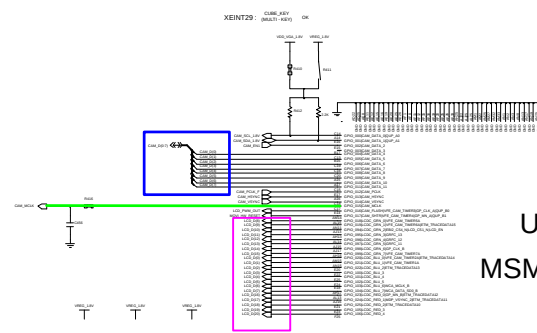


LCD EMI\_FILTER

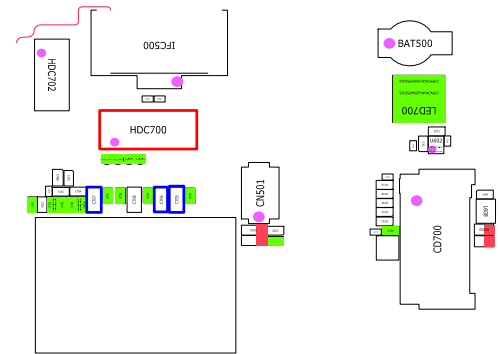


### 8-3-13. 5M CAM



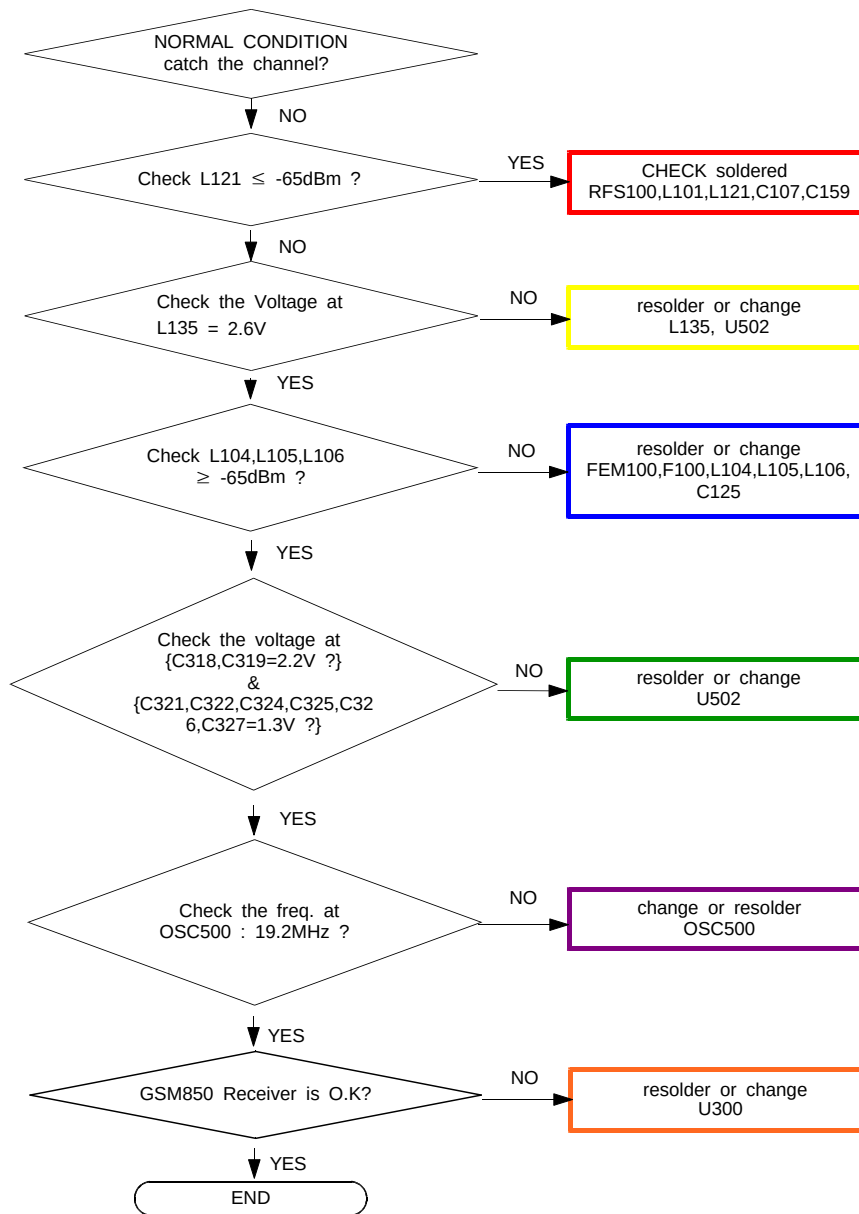


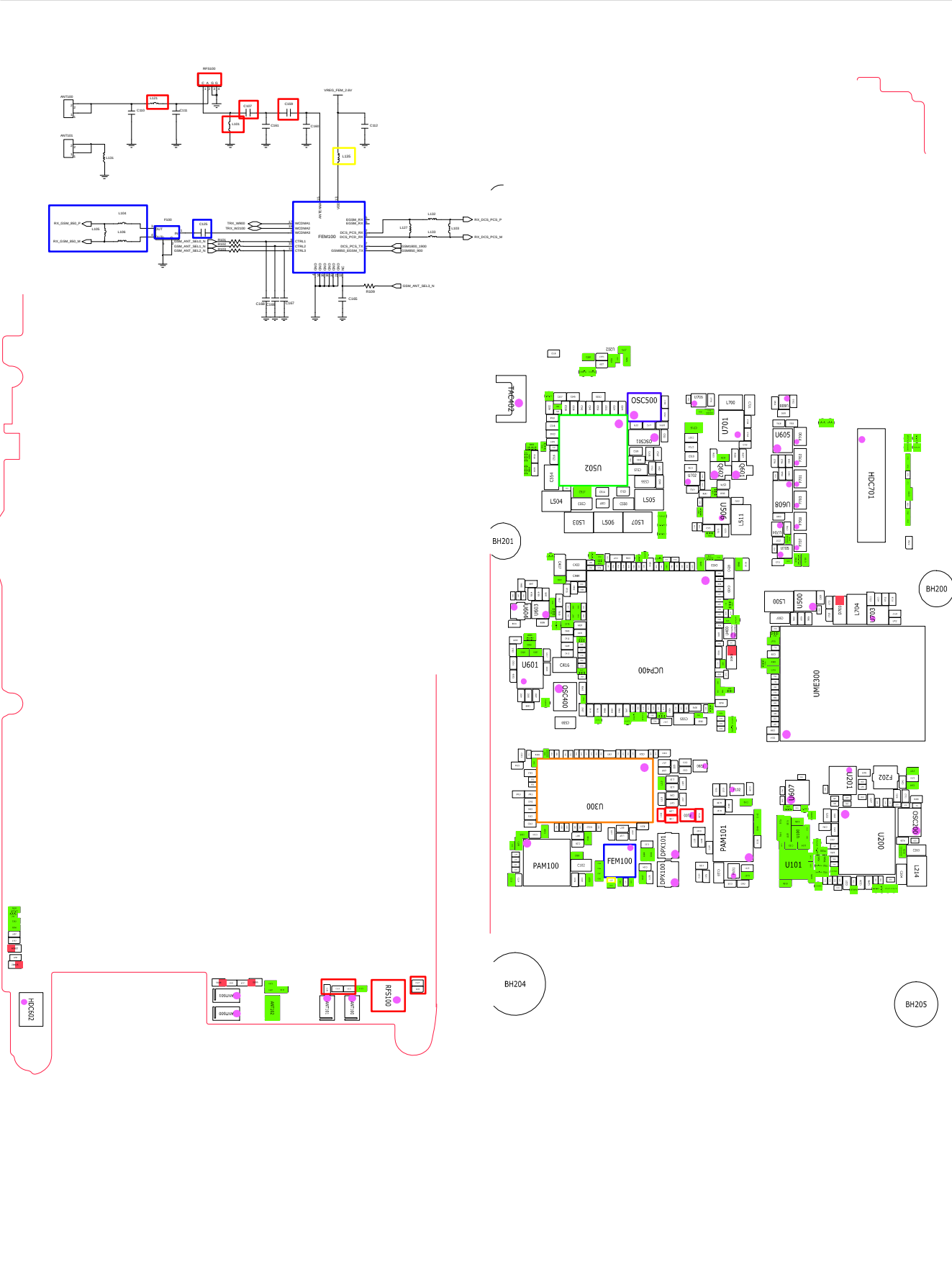
UCP400-1  
MSM8255-0-AB



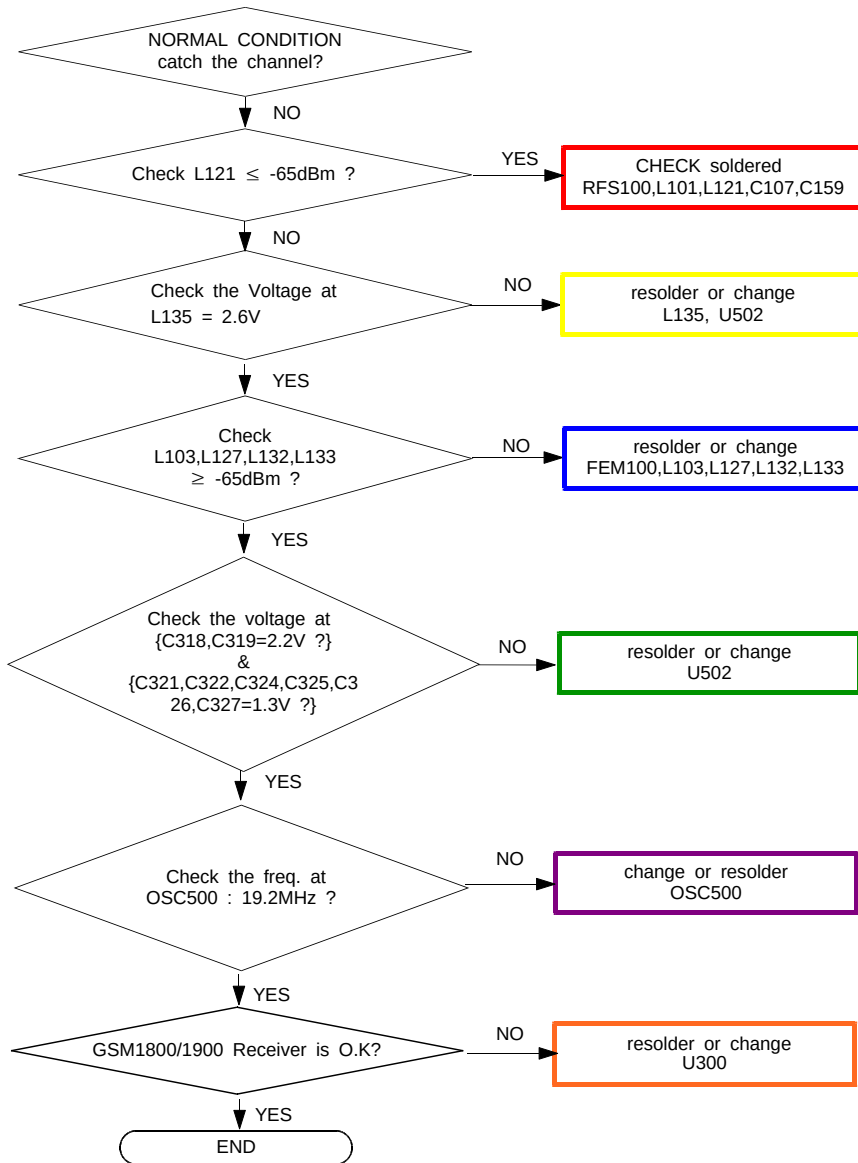


### 8-3-14. GSM850 RX



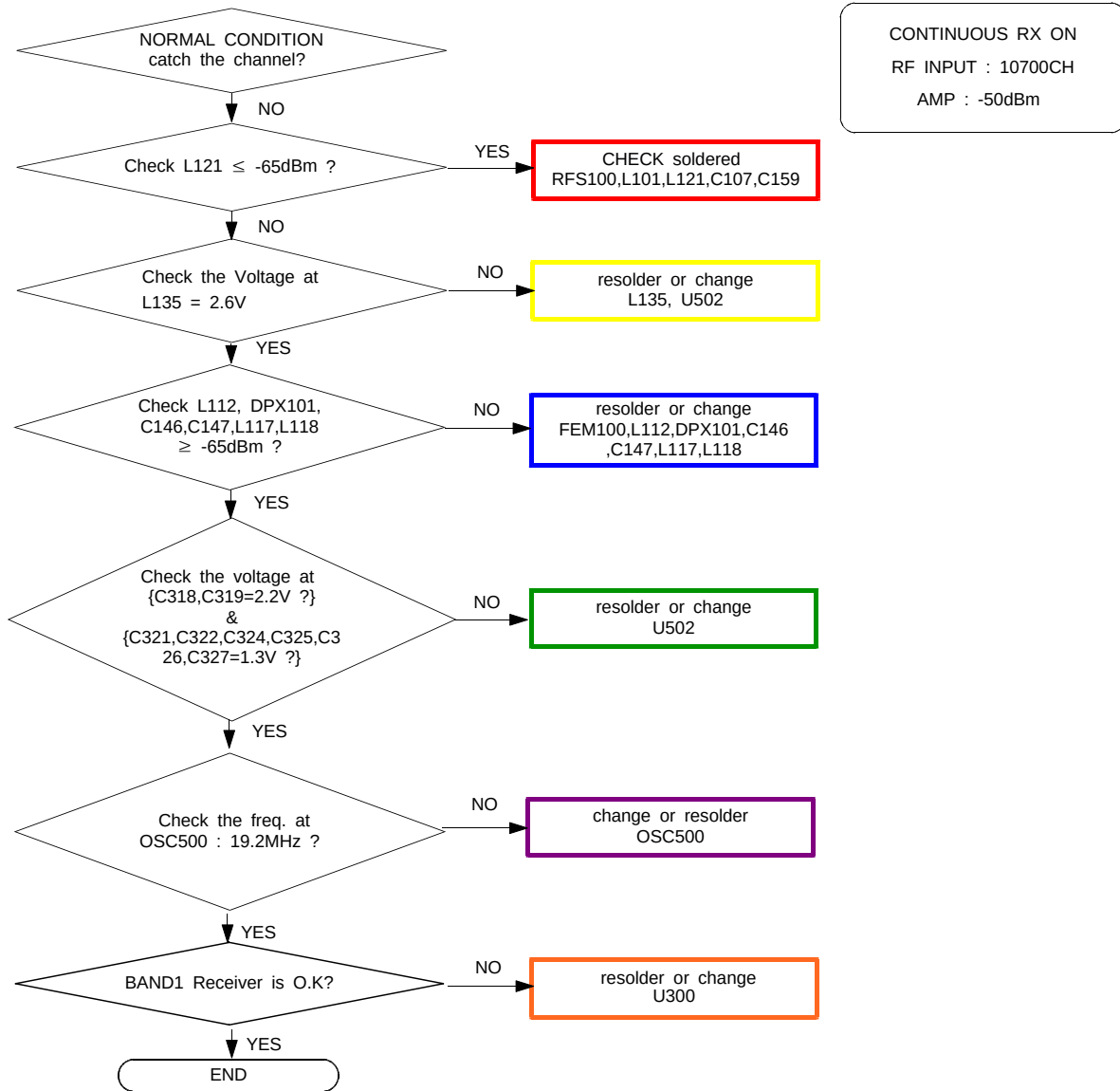


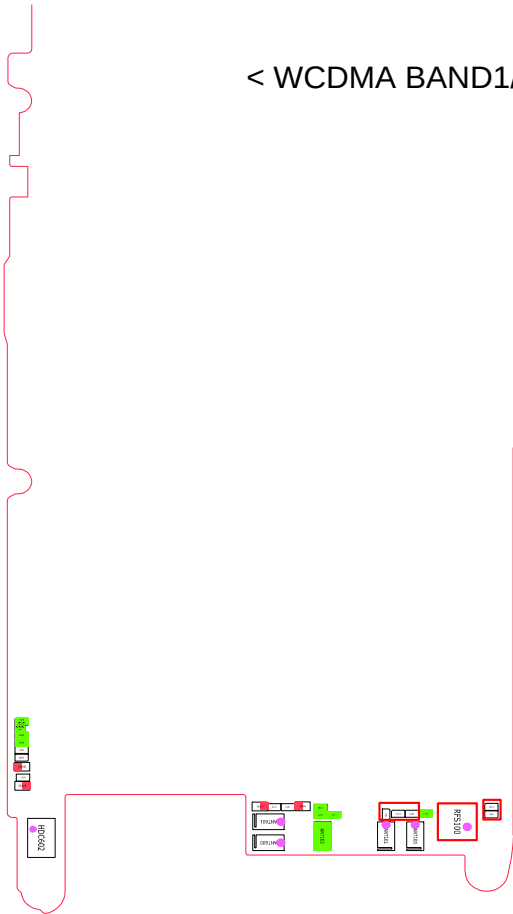
### 8-3-15. GSM1800, GSM1900 RX





### 8-3-16. WCDMA Band1 RX

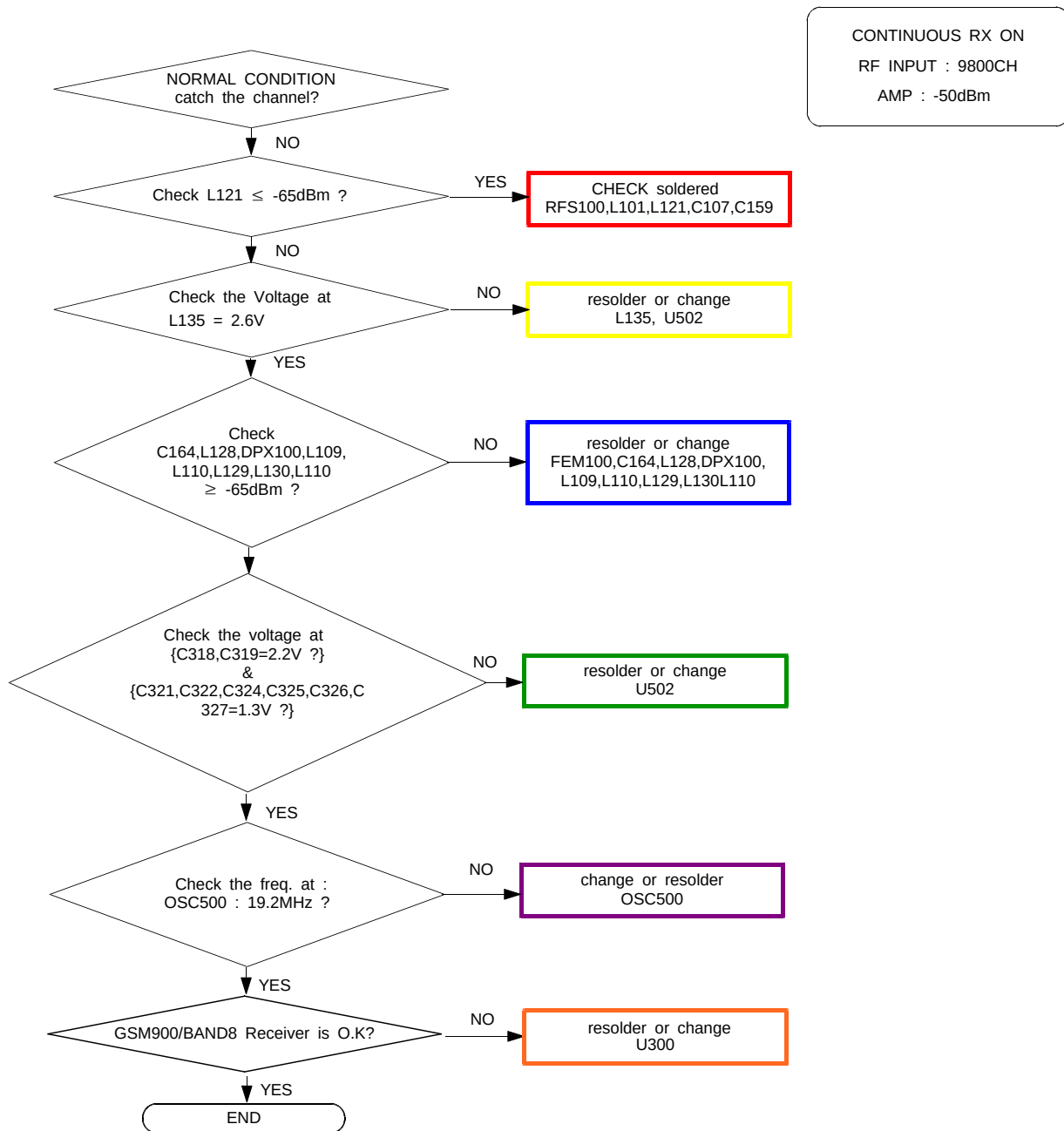


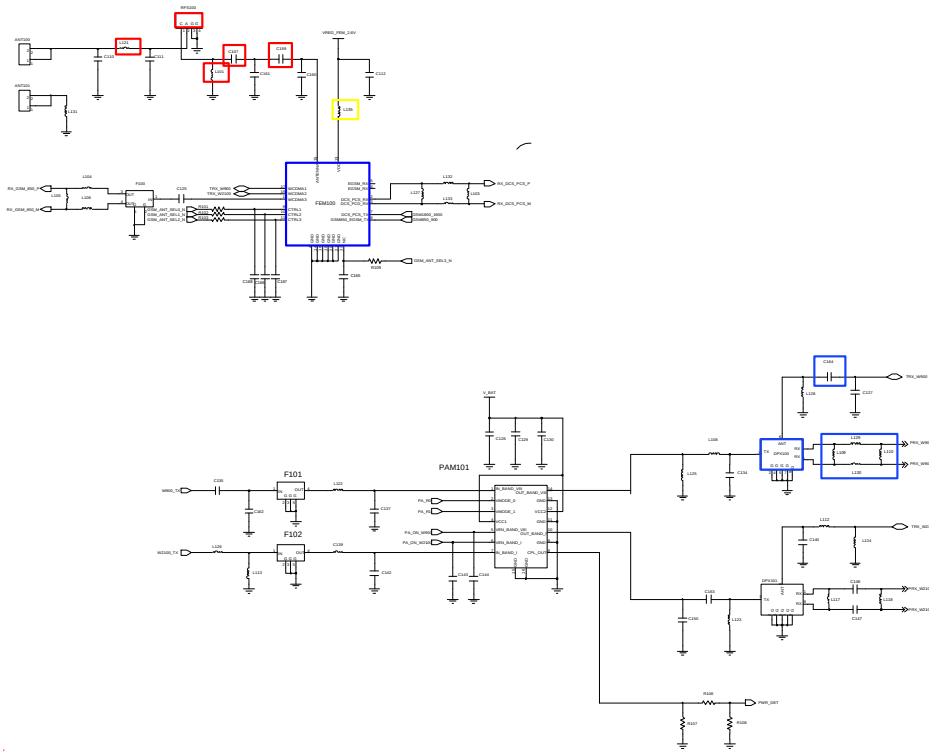


< WCDMA BAND1/BAND8 Discrete & PAD >

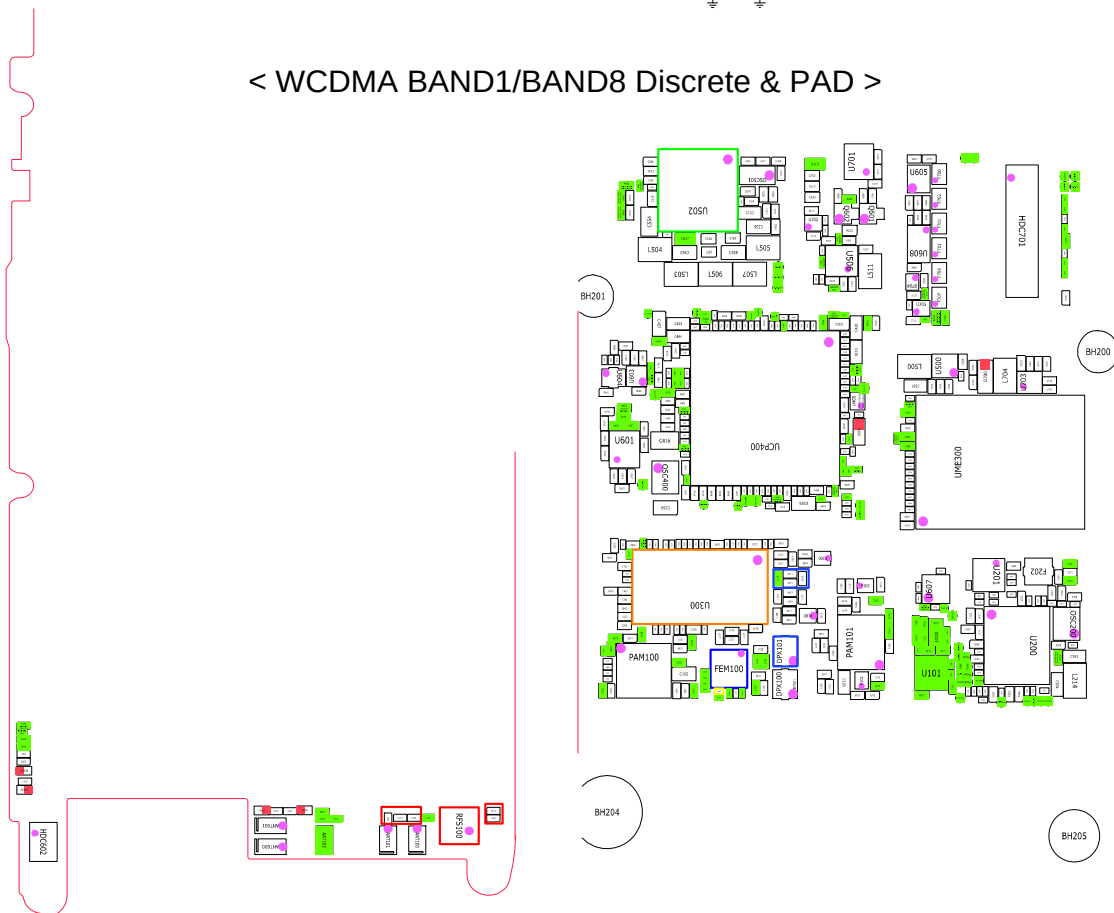


# 8-3-17. WCDMA Band8 / GSM900 RX





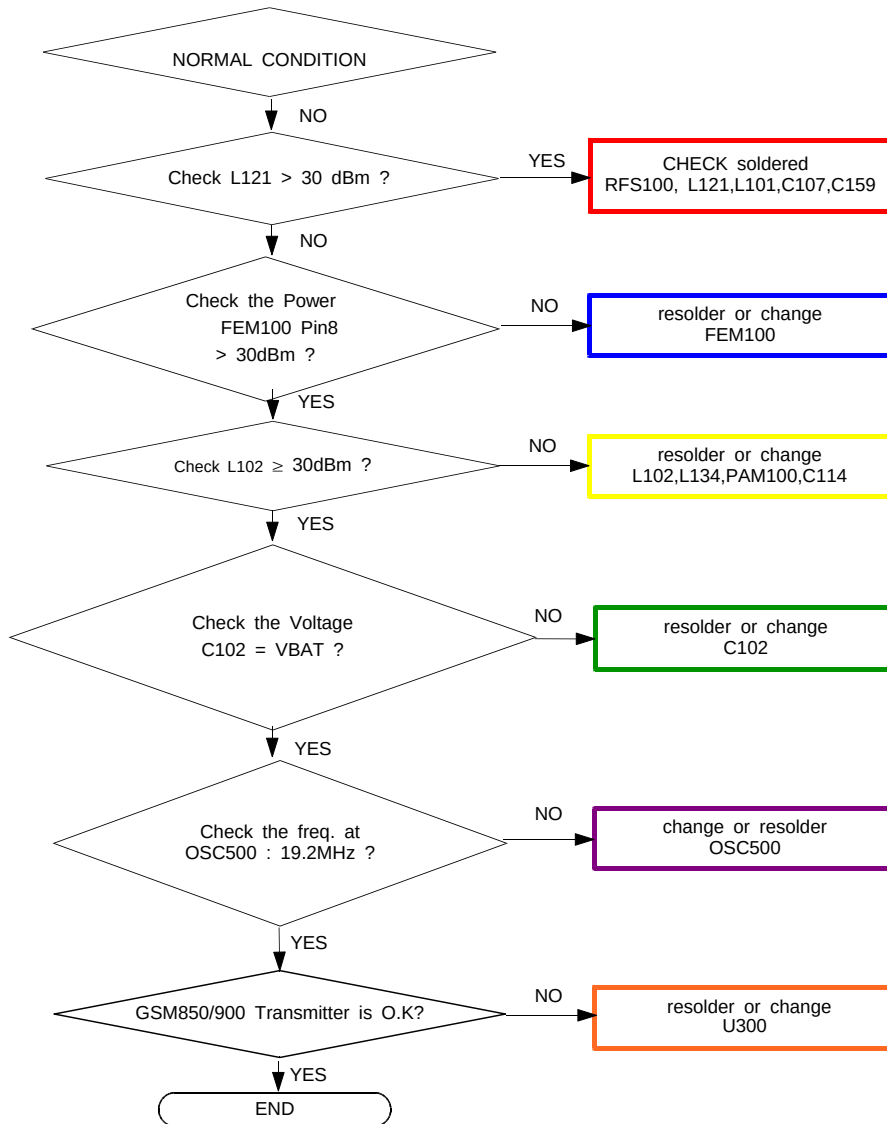
### < WCDMA BAND1/BAND8 Discrete & PAD >

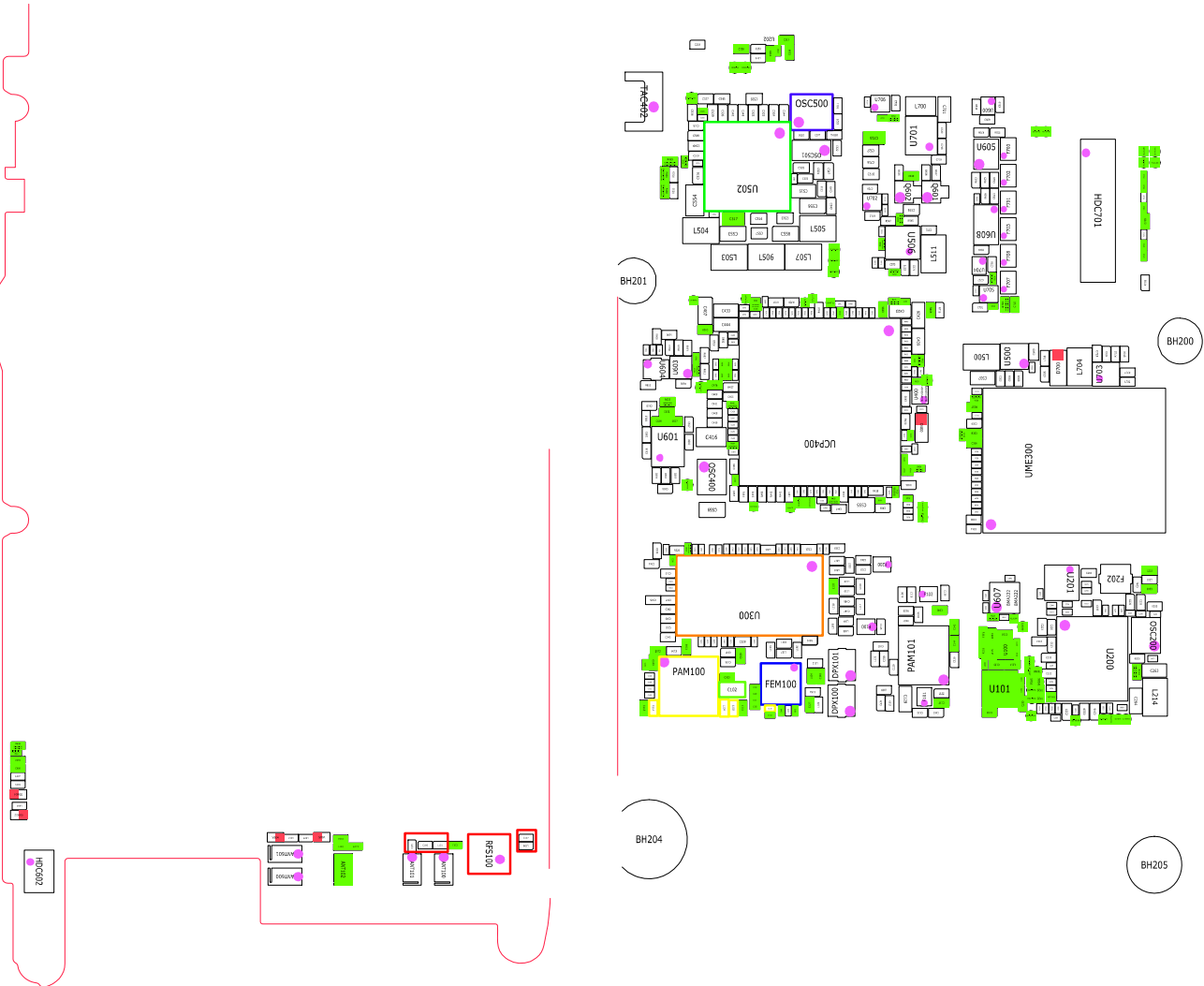
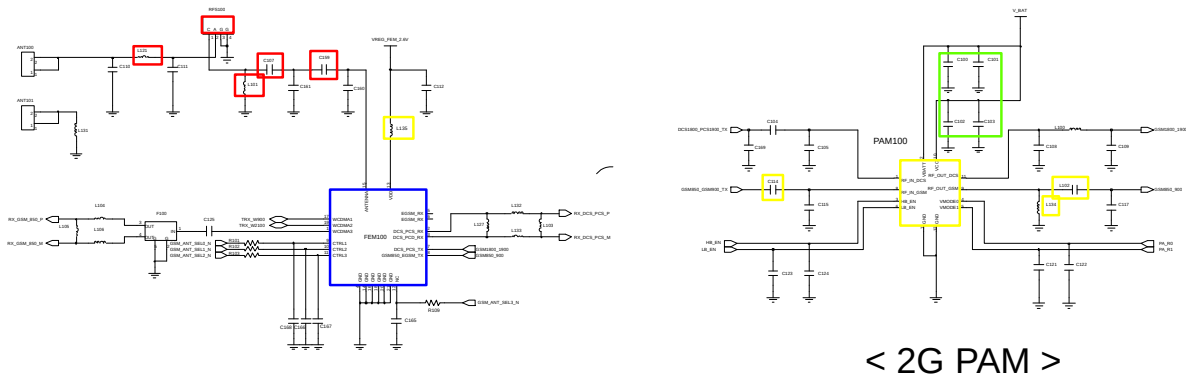




# 8-3-19. GSM850/GSM900 TX

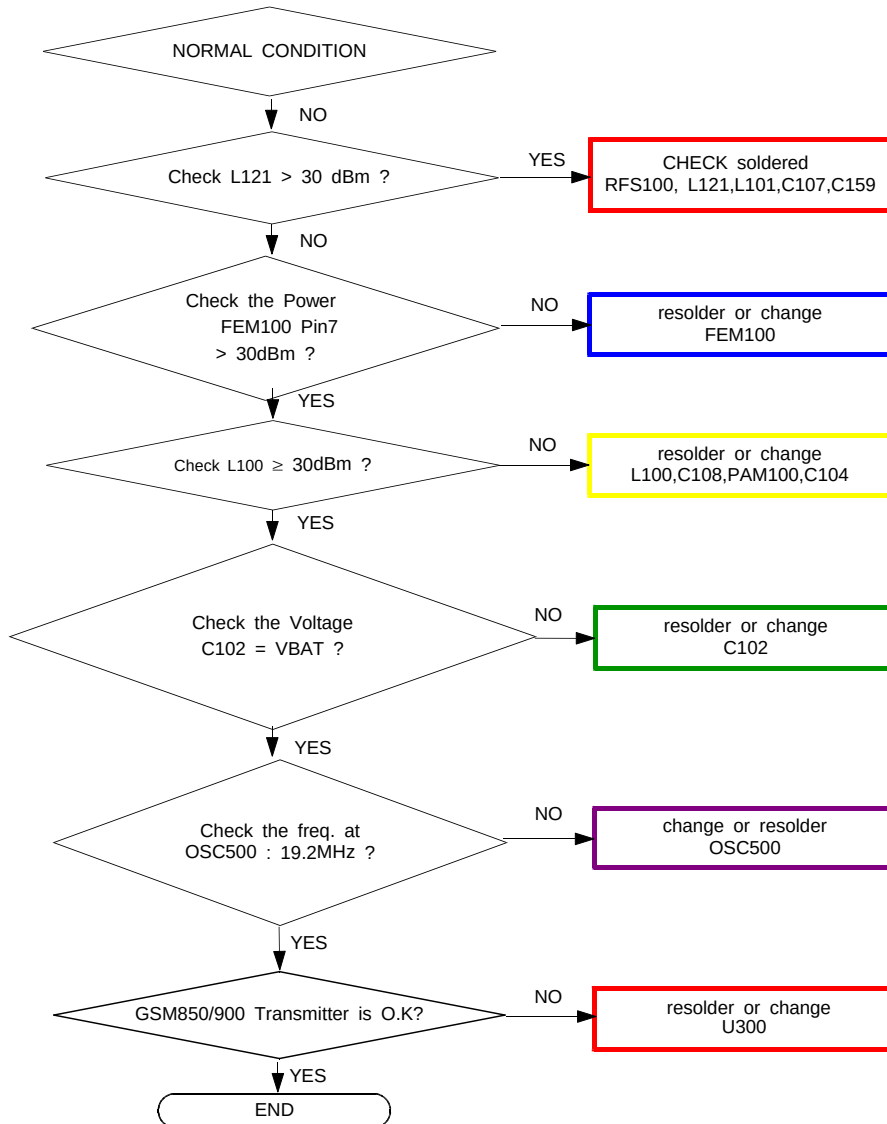
CONTINUOUS TX ON CONDITION  
TX POWER DAC:14500 CODE  
APPLIED  
GSM850 CH : 190  
GSM900 CH : 62  
RBW : 100KHz  
VBW : 100KHz  
SPAN : 10MHz  
REF LEV. : 10dBm  
ATT. : 20dB

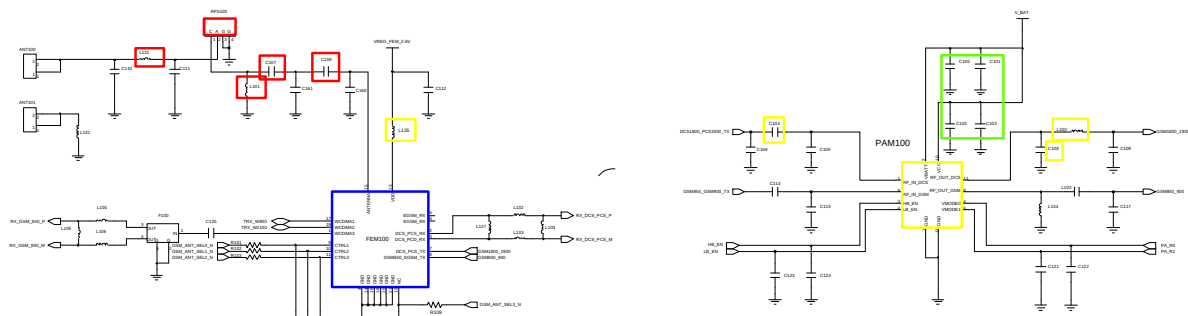




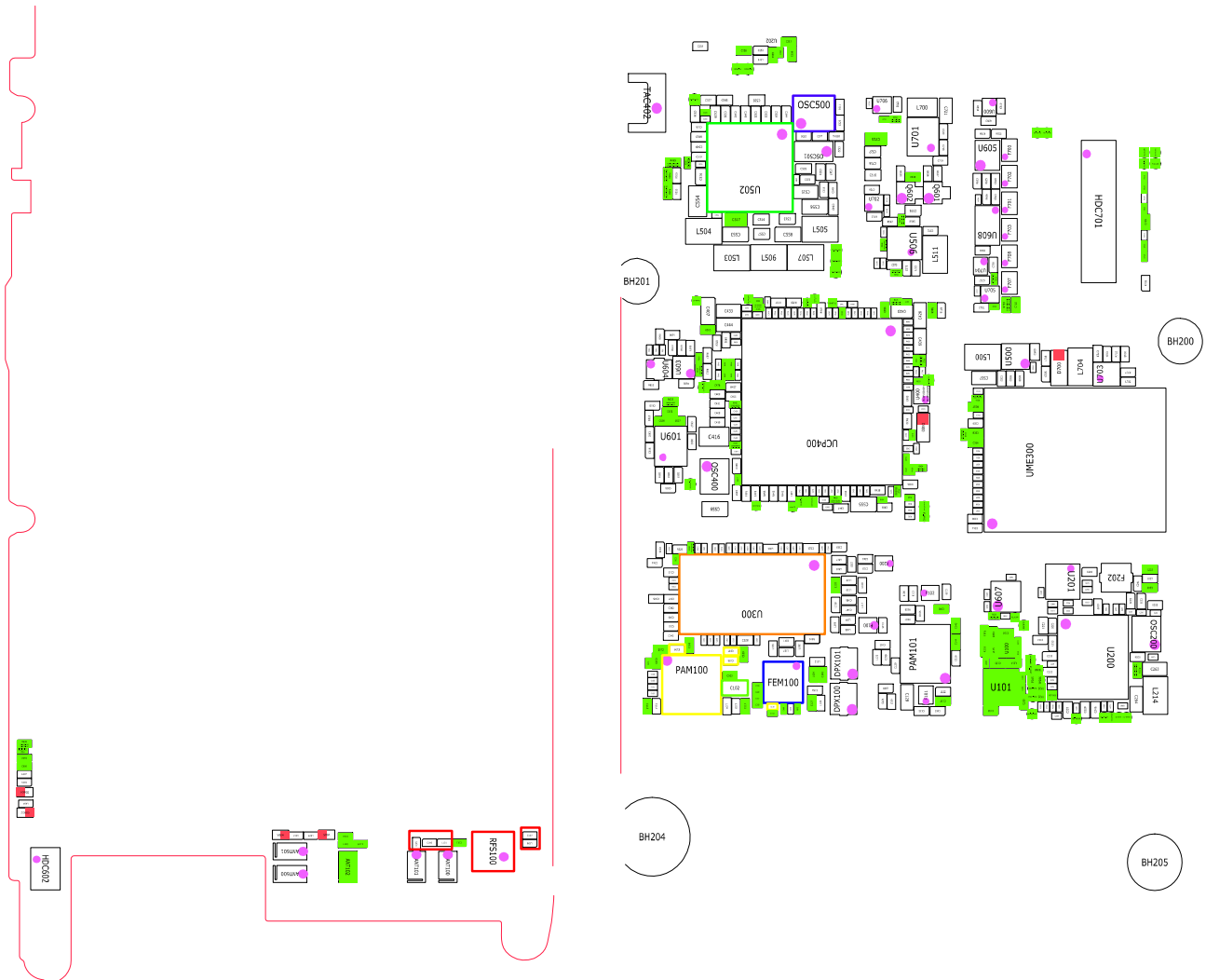
# 8-3-20. DCS/PCS TX

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

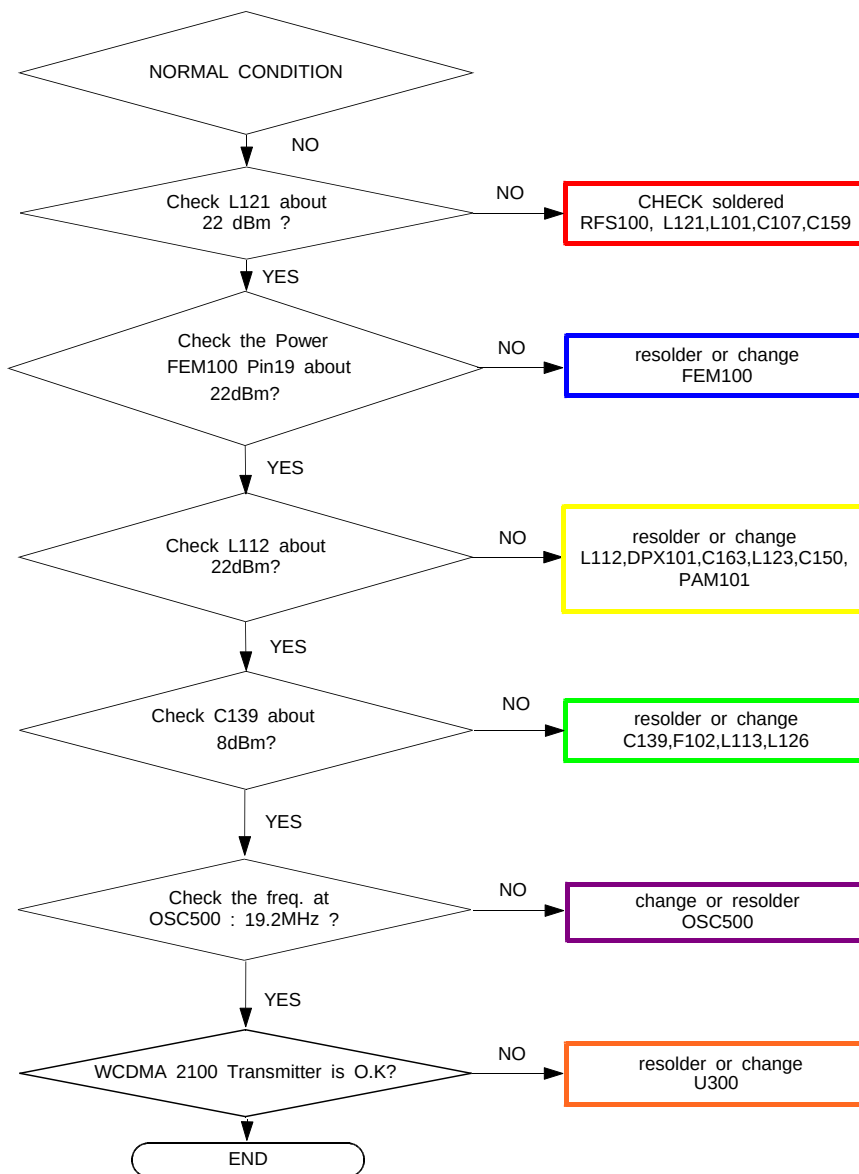


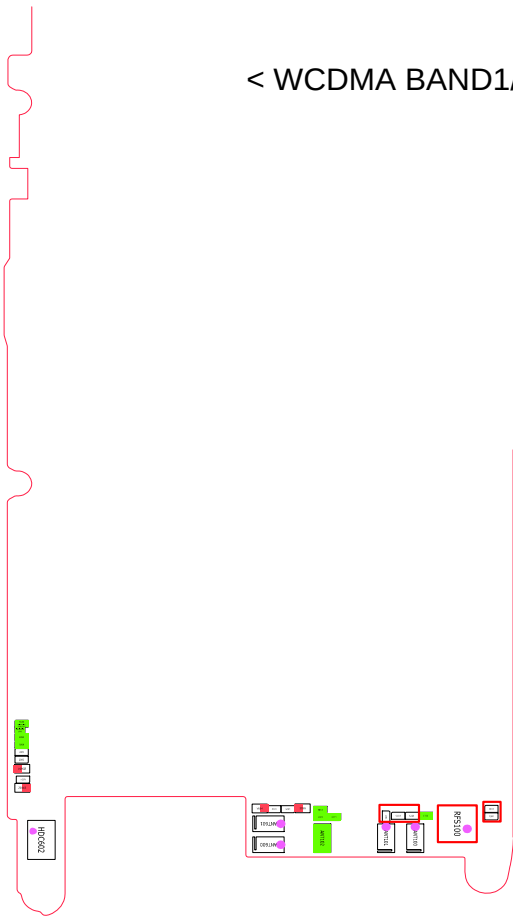


< 2G PAM >



### 8-3-21. WCDMA BAND1 TX

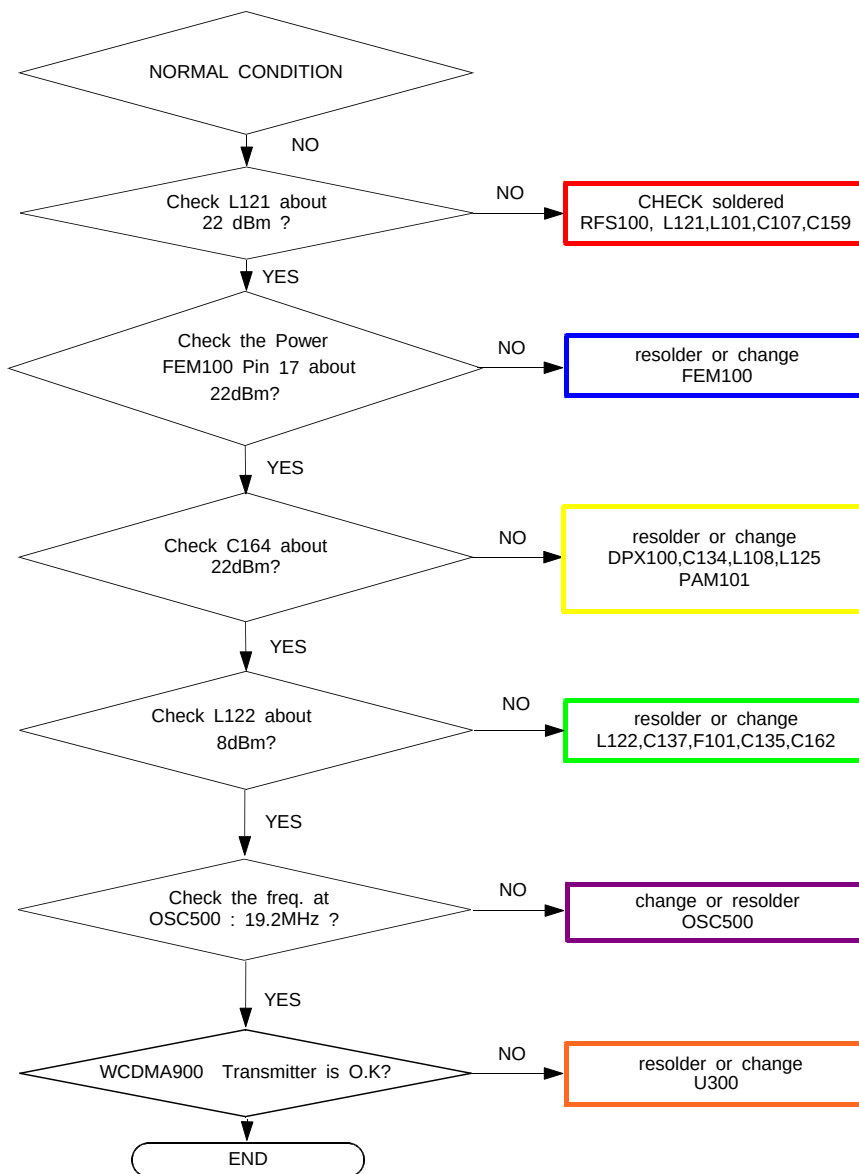


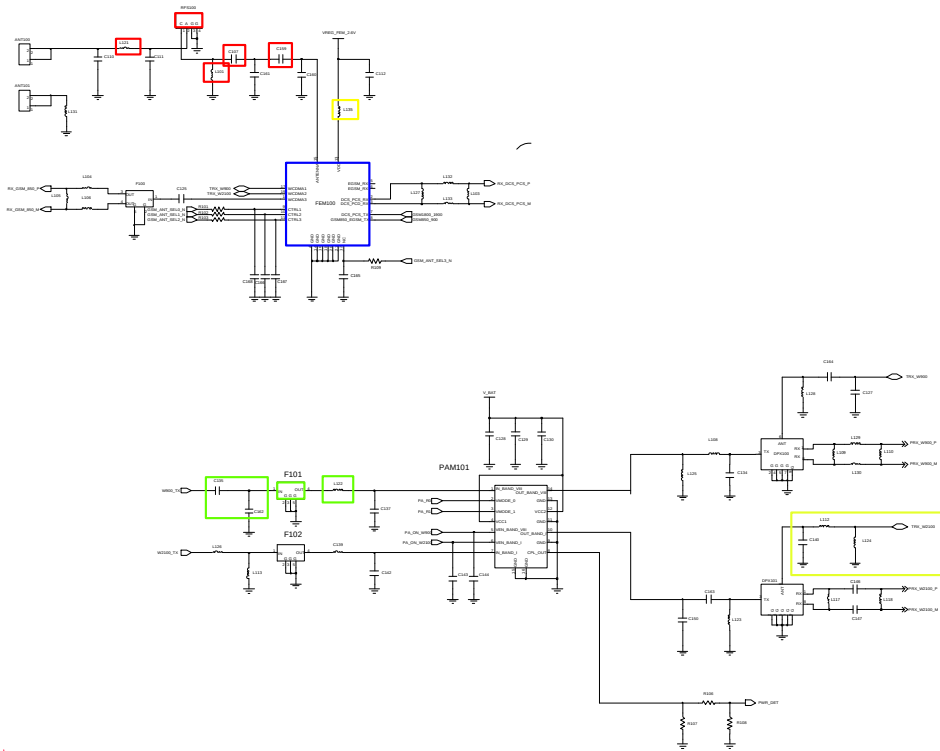


< WCDMA BAND1/BAND8 Discrete & PAD >

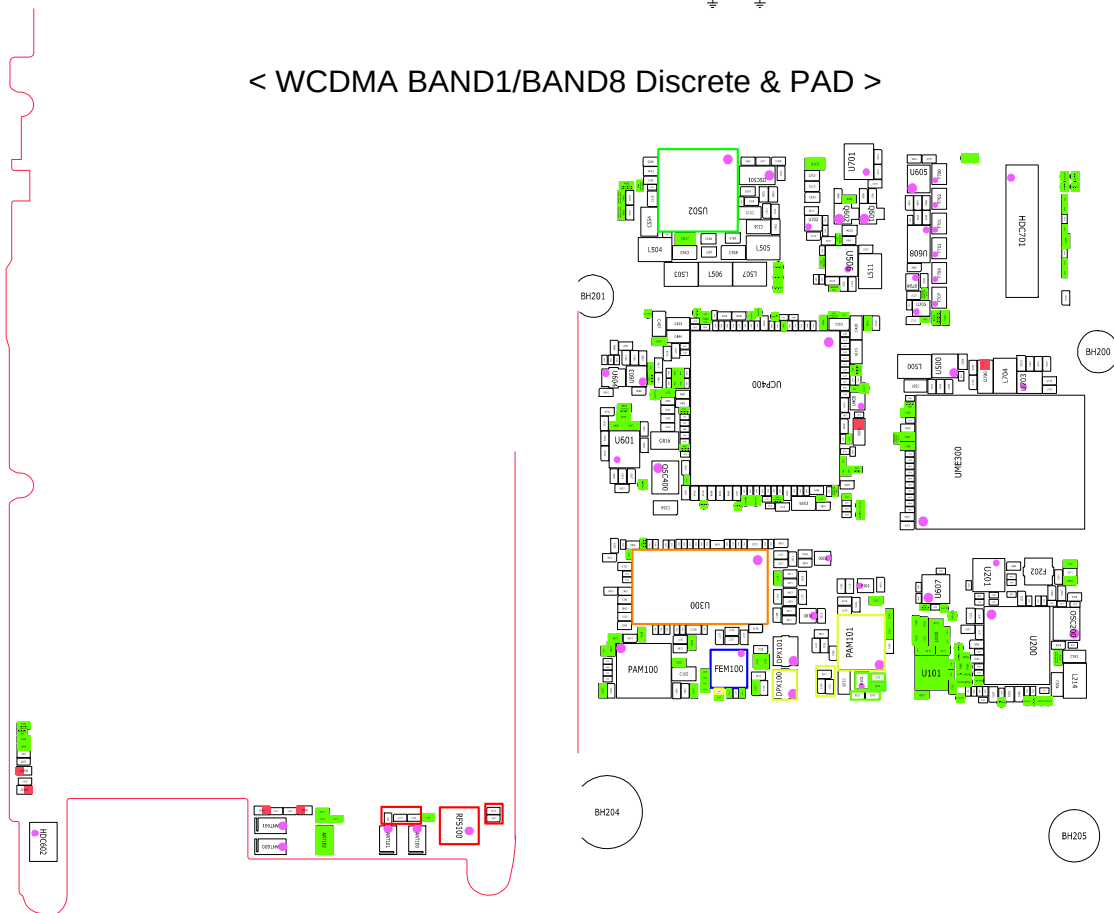


### 8-3-22. WCDMA BAND 8TX





# < WCDMA BAND1/BAND8 Discrete & PAD >





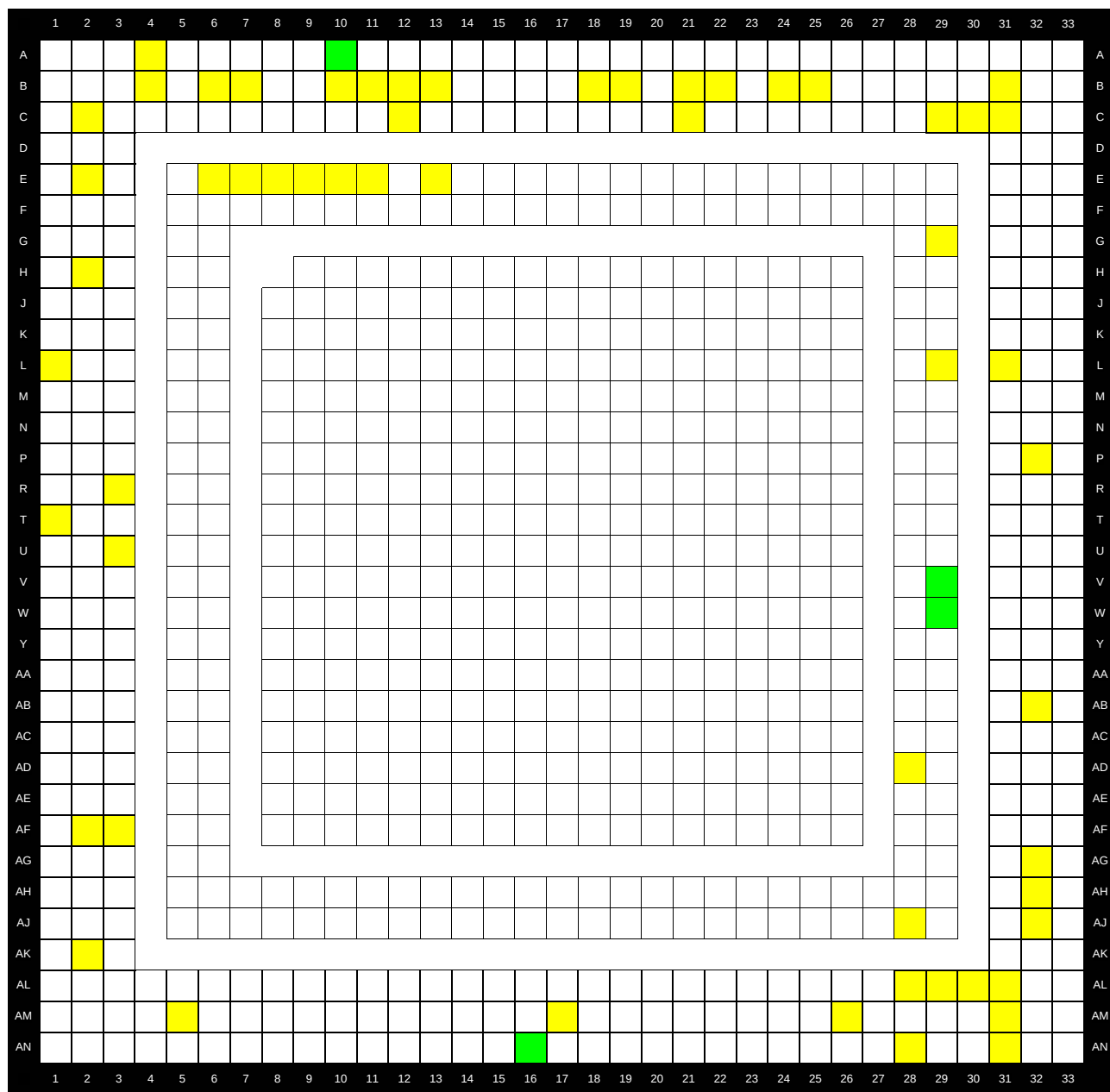
## 8-4. Service Schematics

### - NC Point

: NC

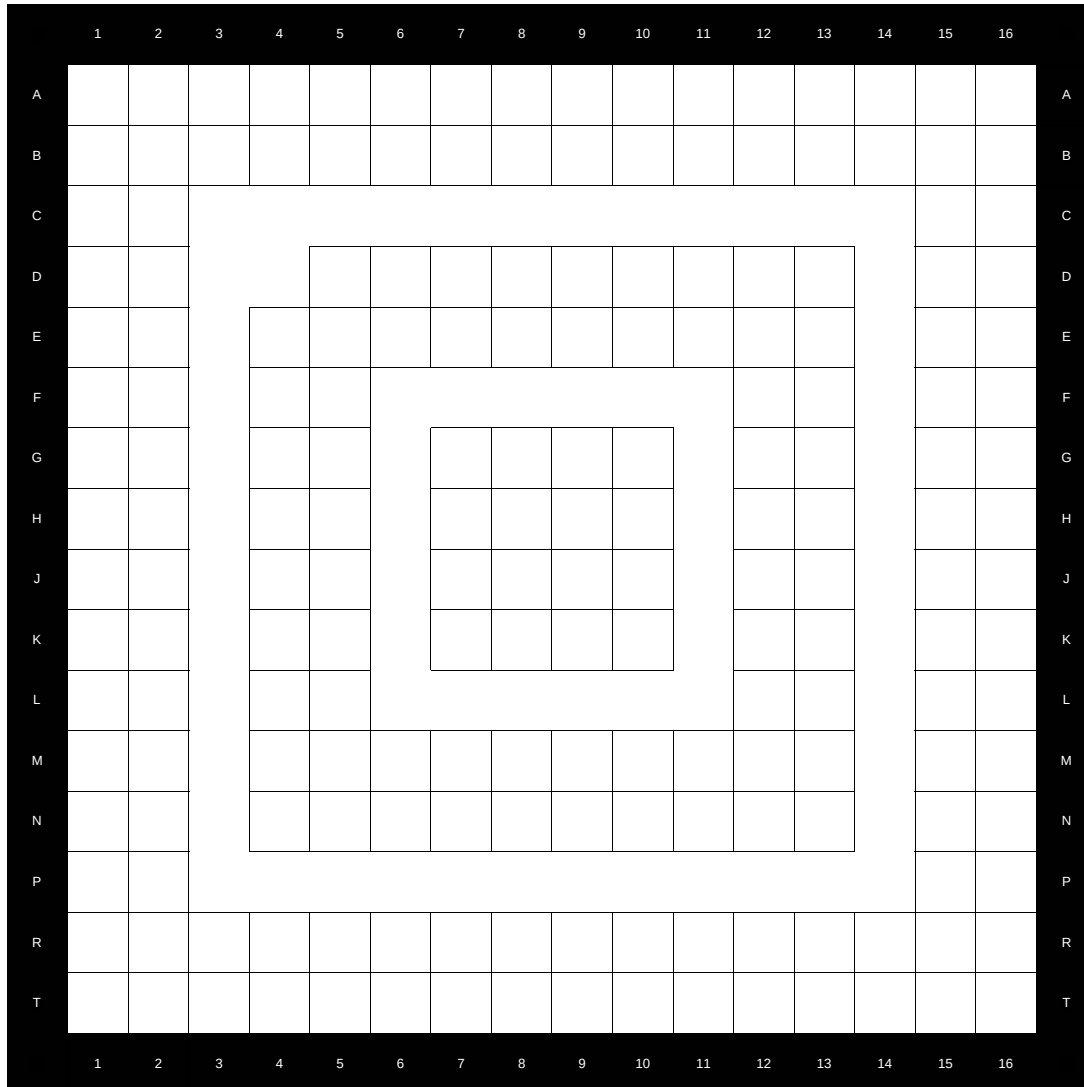
: DNC

#### UCP400



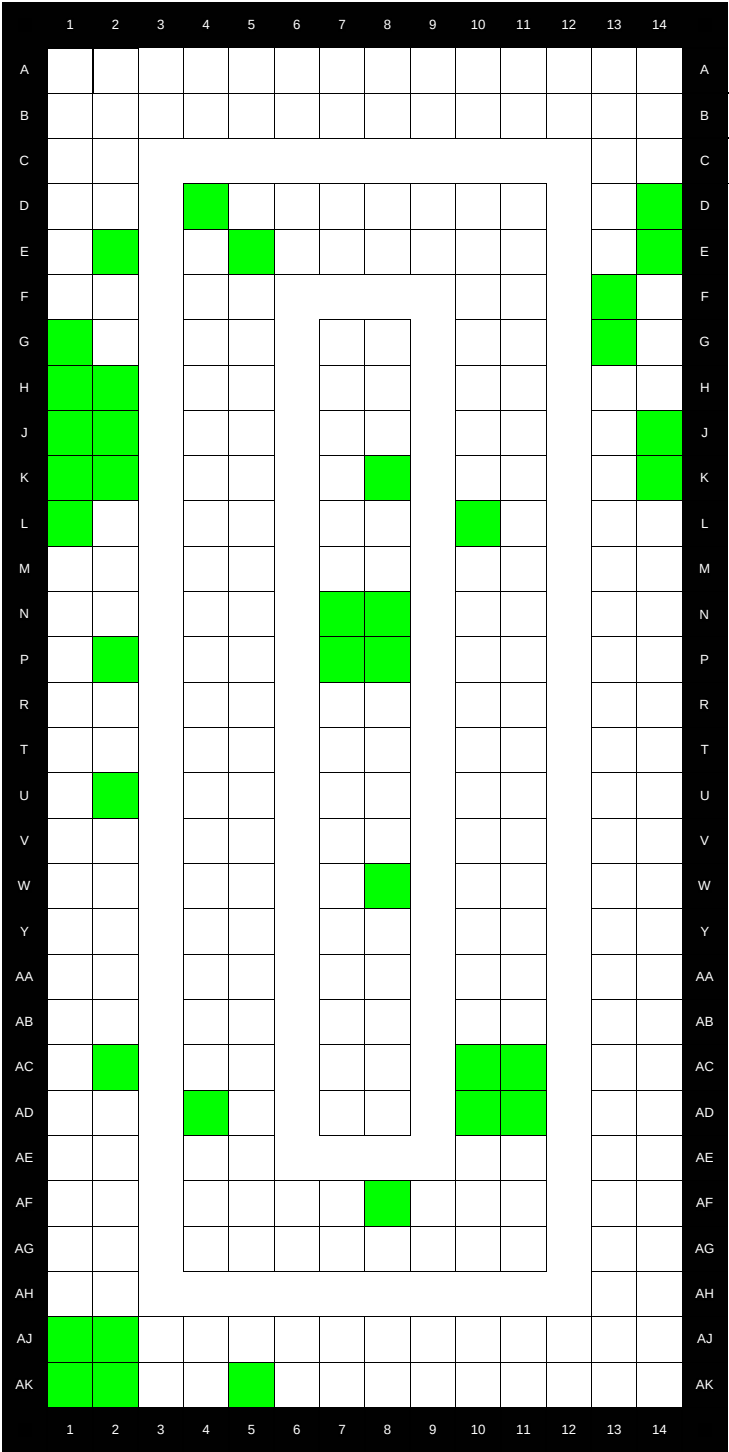
■ : DNC

U502



 : DNC

U300



● : NC

UME300

