

**SAMSUNG**

# GSM TELEPHONE

## GT-P7500

# ***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, benefits, design, pricing, components, performance, availability, and capabilities of the product are subject to change without notice. Samsung reserves the right to alter this document or the product described herein at anytime, without obligation to provide notification of such changes.

**SAMSUNG  
ELECTRONICS**



## 2. Specification

### 2-1. GSM General Specification

|                                        | GSM850                     | EGSM 900                   | DCS1800                    | PCS1900                    | WCDMA 2100                                     | WCDMA 1900                                     | WCDMA 900                                      | WCDMA 850                                      |
|----------------------------------------|----------------------------|----------------------------|----------------------------|----------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| 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                         | 1852~1907<br>1932~1987                         | 880~915<br>925~960                             | 824~849<br>869~894                             |
| ARFCN range                            | 128~251                    | 0~124 &<br>975~1023        | 512~885                    | 512~810                    | UL:<br>9612~9888<br>DL:<br>10562~10838         | UL:<br>9262~9538<br>DL:<br>9662~9938           | UL:<br>2712~2863<br>DL:<br>2937~3088           | UL:<br>4132~4233<br>DL:<br>4357~4458           |
| Tx/Rx spacing                          | 45MHz                      | 45MHz                      | 95MHz                      | 80MHz                      | 190MHz                                         | 80MHz                                          | 45MHz                                          | 45MHz                                          |
| 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                                       | 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 | FrameLength:<br>10ms<br>Slotlength:<br>0.667ms |
| Modulation                             | 0.3GMSK                    | 0.3GMSK                    | 0.3GMSK                    | 0.3GMSK                    | QPSKHQPS<br>K                                  | QPSKHQPS<br>K                                  | QPSKHQPS<br>K                                  | QPSKHQPS<br>K                                  |
| MS Power                               | 33dBm~5dBm                 | 33dBm~5dBm                 | 30dBm~0dBm                 | 30dBm~0dBm                 | 24dBm~<br>-50dBm                               | 24dBm~<br>-50dBm                               | 24dBm~<br>-50dBm                               | 24dBm~<br>-50dBm                               |
| Power Class                            | 5pcl ~<br>19pcl            | 5pcl ~ 19pcl               | 0pcl ~ 15pcl               | 0pcl ~ 15pcl               | 3(max+24dBm)                                   | 3(max+24dBm)                                   | 3(max+24dBm)                                   | 3(max+24dBm)                                   |
| Sensitivity                            | -102dBm                    | -102dBm                    | -100dBm                    | -100dBm                    | -106.7dBm                                      | -106.7dBm                                      | -106.7dBm                                      | -106.7dBm                                      |
| TDMA Mux                               | 8                          | 8                          | 8                          | 8                          | 8                                              | 8                                              | 8                                              | 8                                              |
| Cell Radius                            | 35Km                       | 35Km                       | 2Km                        | 2Km                        | 2Km                                            | 2Km                                            | 2Km                                            | 2Km                                            |

## 2-2. GSM Tx Power Class

| <b>TX Power<br/>control<br/>level</b> | <b>GSM850</b> | <b>TX Power<br/>control<br/>level</b> | <b>EGSM900</b> | <b>TX Power<br/>control<br/>level</b> | <b>DCS1800</b> | <b>TX Power<br/>control<br/>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 Function

- Android OS: Honeycomb
- 3MP AF with LED Flash
- 11.1 WSVGA TFT Full Touch (C-Type)
- A-GPS / BT v2.1 USB v2.0 / WiFi (802.11 a/b/g/n)
- Recording 1080p / Playback 1080p
- Sensors: Accelation, Magnetic, Gyro, Light
- Additional :
  - 1GHz Dual Core CPU
  - Application store / Voice & Motion UI
  - Multi-touch, Multi-task manager

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## 6. Level 6 Repair

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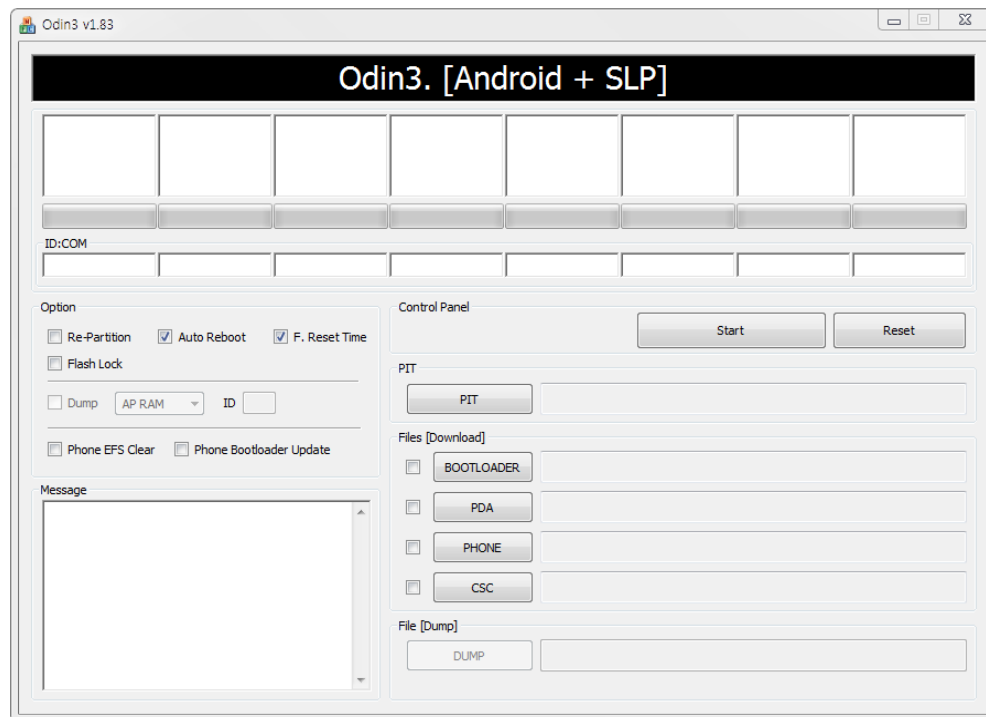
### 6-1. S/W Download

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

- Downloader Program ([Odin3 v1.83.exe](#))
- GT-P7510 Mobile Phone
- Data cable (GH39-00985A)
- JIG BOX (GH99-36900B)
- JIG Cable (GH39-01339A)
- Adapter (GH99-38251A)
- Binary files

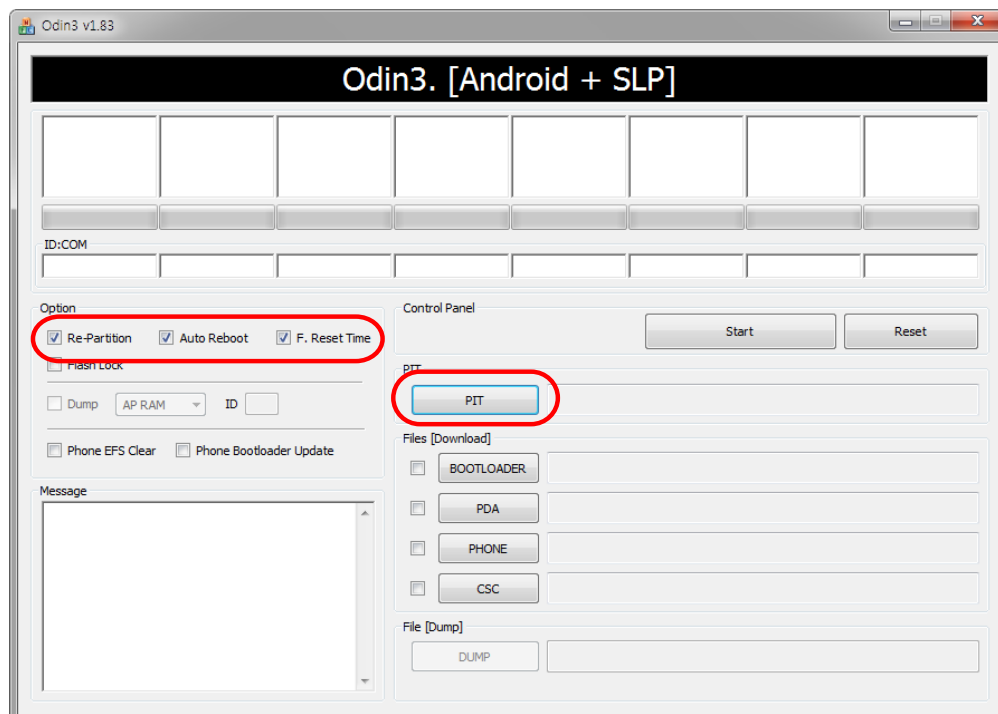
### 6-1-2. S/W Downloader Program

- Load the binary download program by executing the **"Odin3 v1.83.exe" ← Run this file.**



#### 1. Option Selection

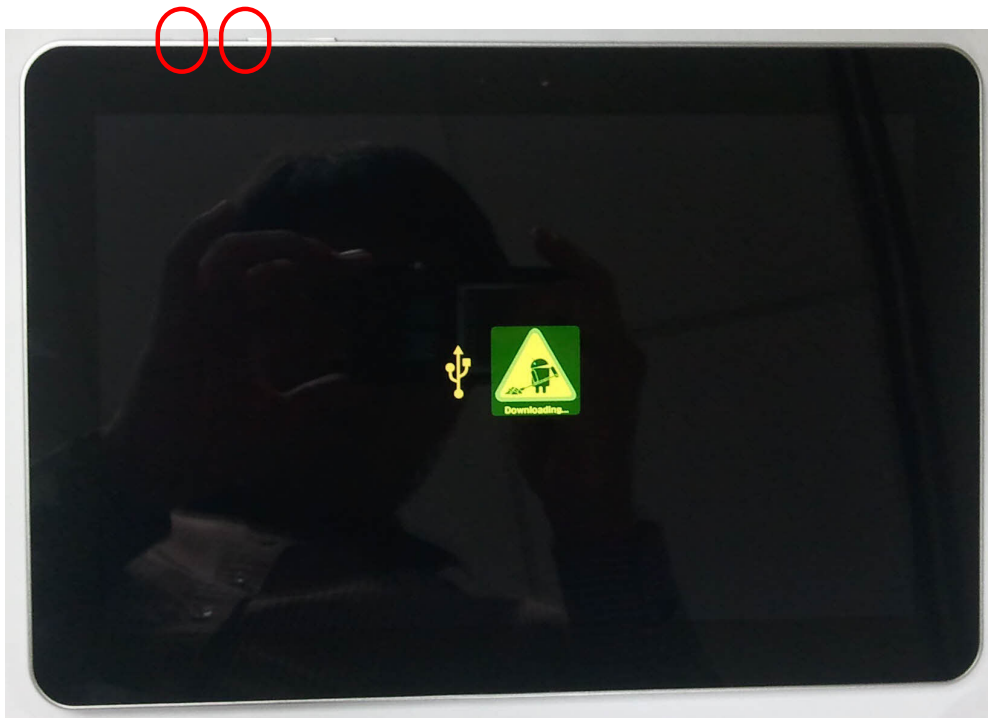
- Check Re-Partition, Auto Reboot and F. Reset Time, then select PIT File



## 2. Enter Device into Download Mode

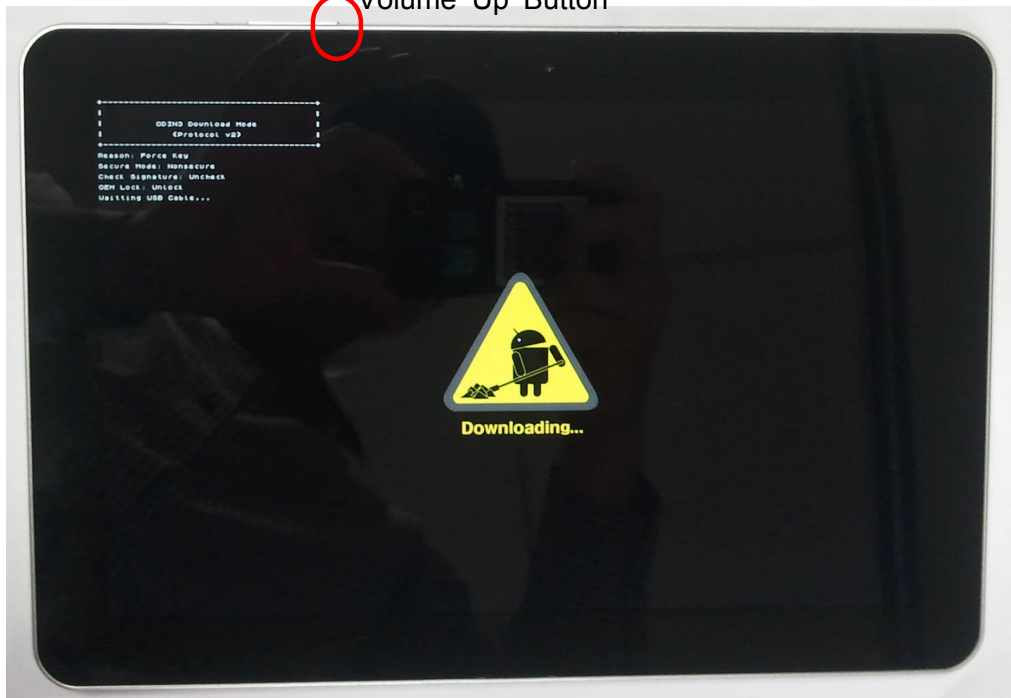
- Press down on Volume Down button and power key at same time for 10 seconds

Power key      Volume Down Button



- Press down on Volume Up button to enter device into download mode

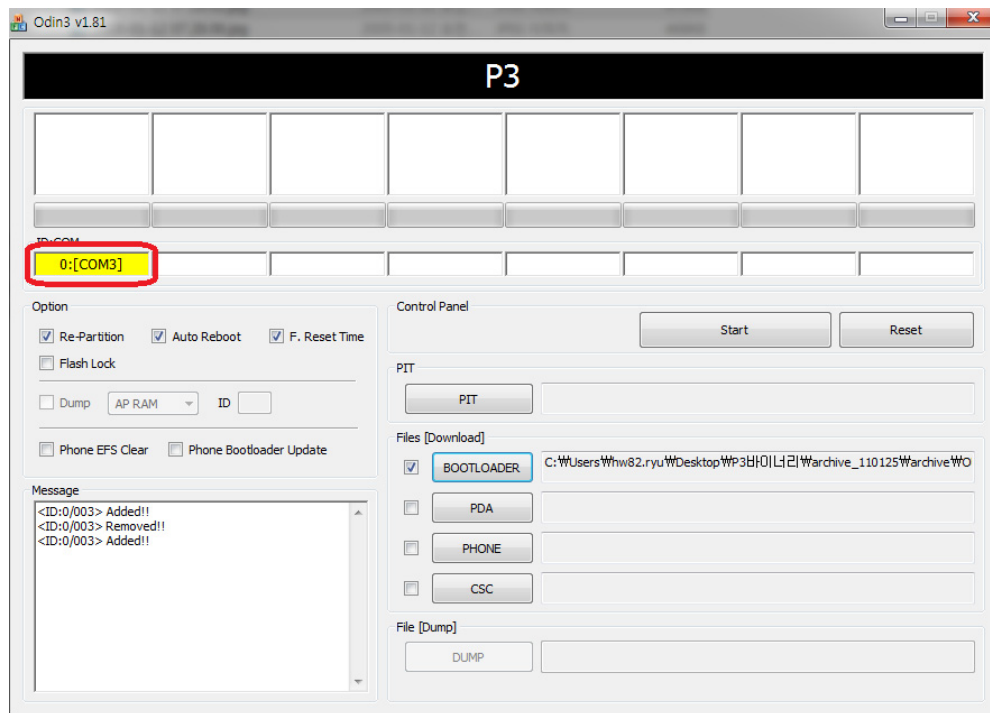
Volume Up Button



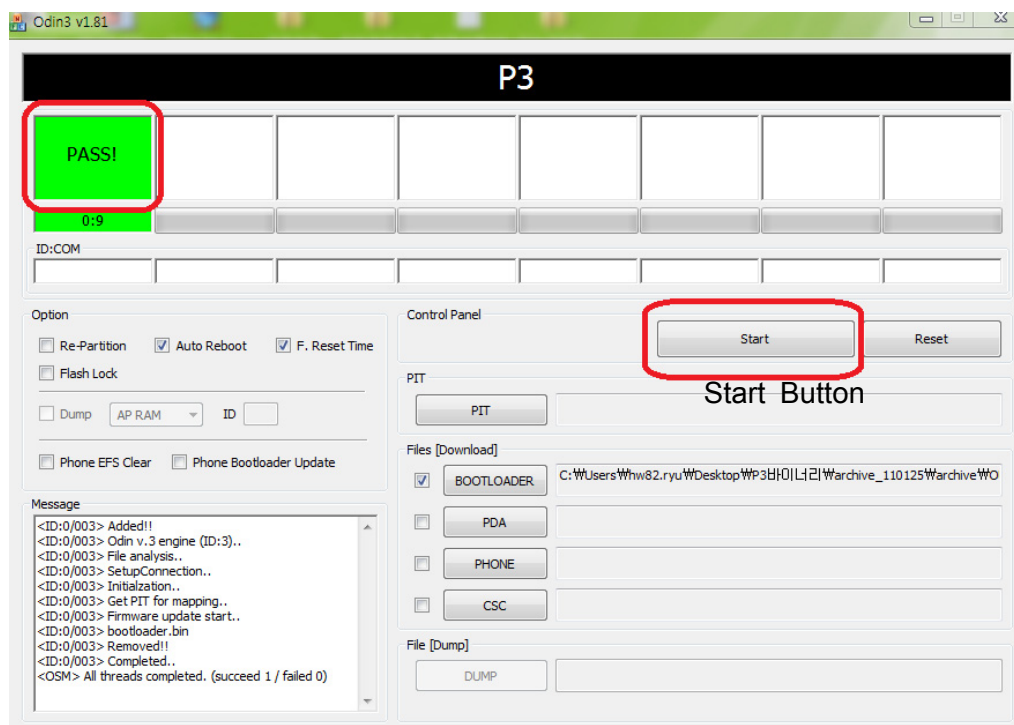


### 3. Connect the Device to PC via Data Cable.

Make sure ID:COM box highlighted yellow that the device is connected to the PC.

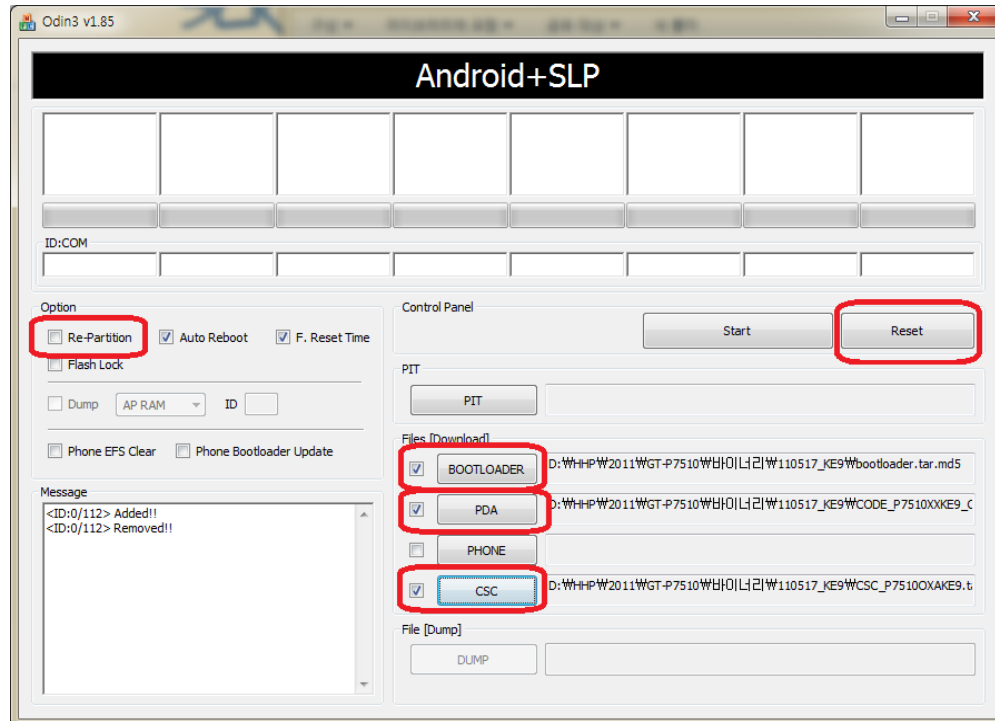


4. Start Downloading PIT file by clicking Start Button. Then wait for "Pass" to be appear on the screen.

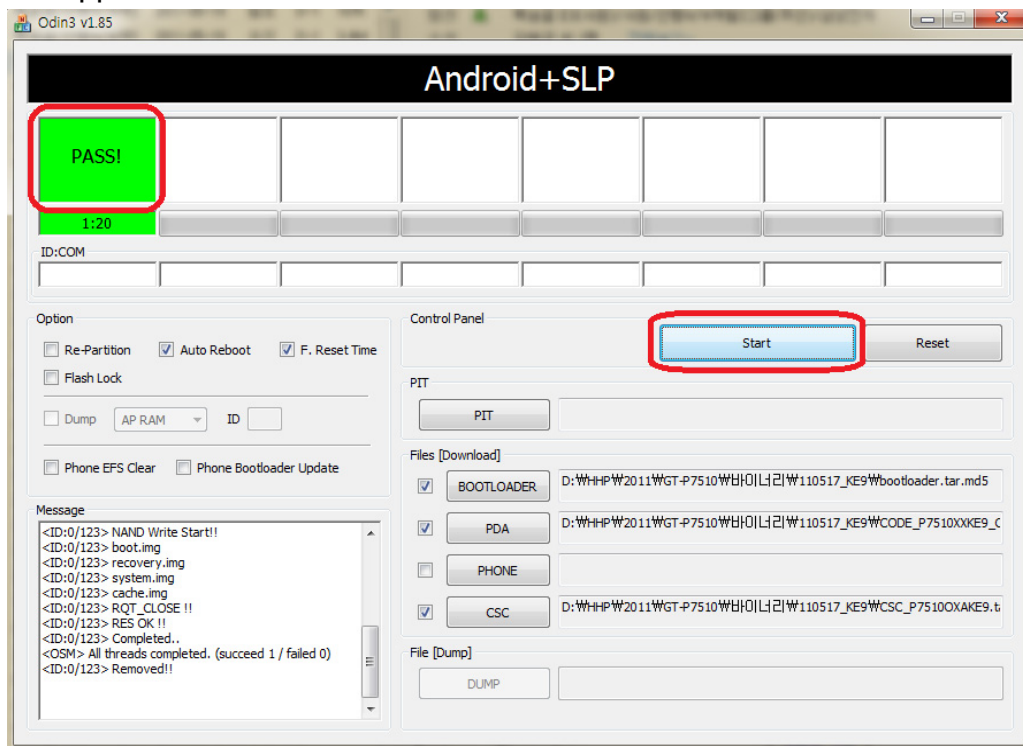


5. Click on Reset button, then unselect Re-Partition box. Then select PDA and CSC Files.

7. Remove the battery, then enter Device into Download Mode again as in step #2. then connect to the PC.



8. Start Downloading PDA and CSC files by clicking Start Button. Then wait for "Pass" to be appear on the screen.



9. 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: AdvancedAudioCoding.
- AVC: AdvancedVideoCoding.
- BER: BitErrorRate
- BPSK: BinaryPhaseShiftKeying
- CA: ConditionalAccess
- CDM: CodeDivisionMultiplexing
- C/I: Carrier to Interference
- DMB: DigitalMultimediaBroadcasting
- E: European Standard
- ES: ElementaryStream
- ETSI: EuropeanTelecommunicationsStandardsInstitute
- MPEG: MovingPictureExpertsGroup
- PN: Pseudo-randomNoise
- PS: PilotSymbol
- QPSK: QuadraturePhaseShiftKeying
- RS: Reed-Solomon
- SI: ServiceInformation
- TDM: TimeDivisionMultiplexing
- TS: TransportStream

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# 1. Safety Precautions

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## 1-1. Repair Precaution

Before attempting any repair or detailed tuning, shield the device from RF noise or static electricity discharges.

Use only demagnetized tools that are specifically designed for small electronic repairs, as most electronic parts are sensitive to electromagnetic forces.

Use only high quality screwdrivers when servicing products. Low quality screwdrivers can easily damage the heads of screws.

Use only conductor wire of the properly gauge and insulation for low resistance, because of the low margin of error of most testing equipment.

We recommend 22-gauge twisted copper wire.

Hand-soldering is not recommended, because printed circuit boards (PCBs) can be easily damaged, even with relatively low heat. Never use a soldering iron with a power rating of more than 100 watts and use only lead-free solder with a melting point below 250°C (482°F).

Prior to disassembling the battery charger for repair, ensure that the AC power is disconnected. Always use the replacement parts that are registered in the SEC system. Third-party replacement parts may not function properly.

## **1-2. ESD(Electrostatically Sensitive Devices) Precaution**

Many semiconductors and ESDs in electronic devices are particularly sensitive to static discharge and can be easily damaged by it. We recommend protecting these components with conductive anti-static bags when you store or transport them.

Always use an anti-static strap or wristband and remove electrostatic buildup or dissipate static electricity from your body before repairing ESDs.

Ensure that soldering irons have AC adapter with ground wires and that the ground wires are properly connected.

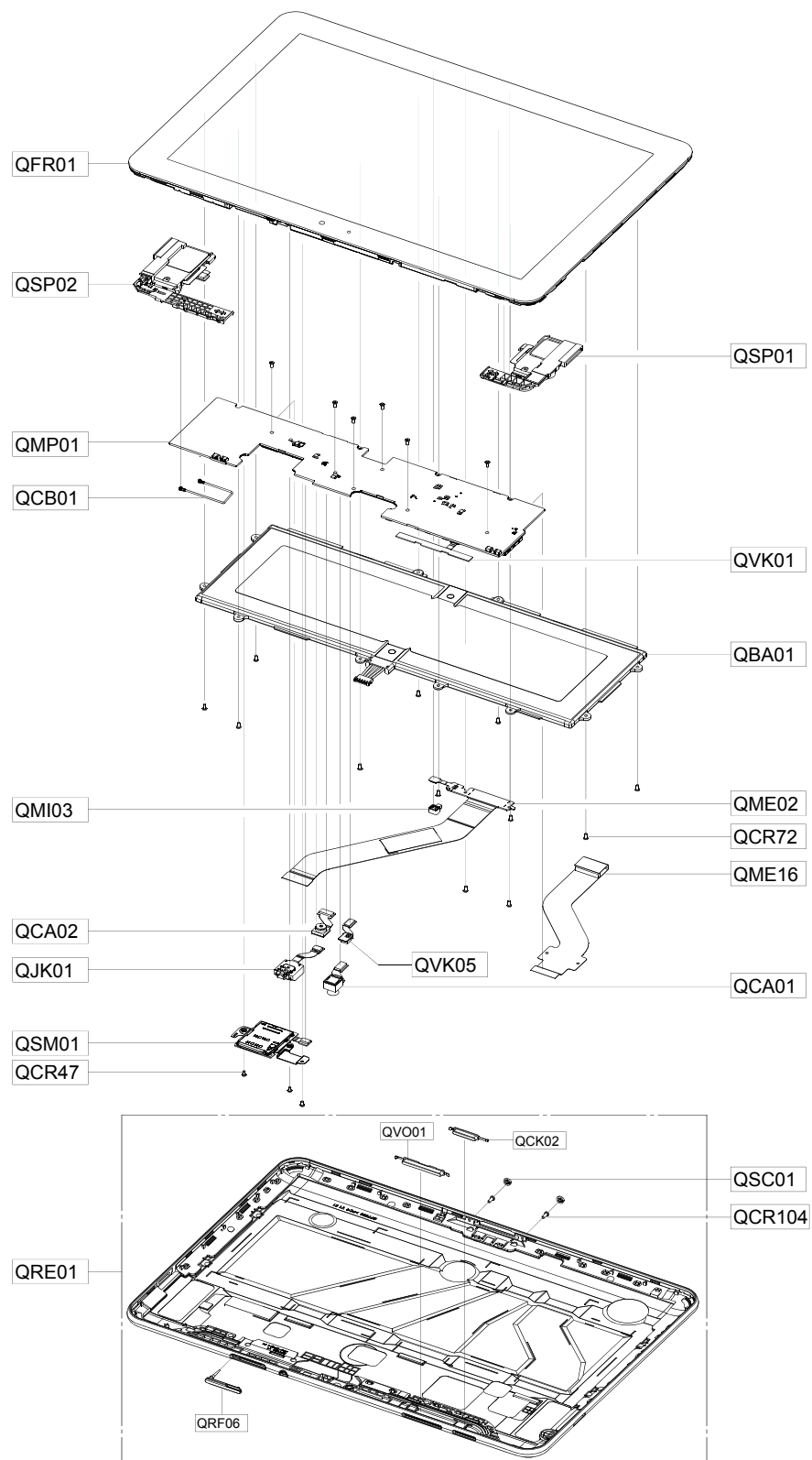
Use only desoldering tools with plastic tips to prevent static discharge.

Properly shield the work environment from accidental electrostatic discharge before opening packages containing ESDs.

The potential for static electricity discharge may be increased in low humidity environments, such as air-conditioned rooms. Increase the airflow to the working area to decrease the chance of accidental static electricity discharges.

## 4. Exploded View and Parts List

### 4-1. Cellular phone Exploded View



## 4-2. Cellular phone Parts list

| Design LOC |       | Description                             | SEC CODE    |
|------------|-------|-----------------------------------------|-------------|
| QCR47      |       | SCREW-MACHINE                           | 6001-001695 |
| QCR72      |       | SCREW-MACHINE                           | 6001-002051 |
| QCR104     |       | SCREW-MACHINE                           | 6001-002686 |
| QCB01      |       | CBF COAXIAL CABLE-30MM (GT-P7500)       | GH39-01485A |
| QBA01      |       | INNER BATTERY OPTION                    | GH43-03562A |
| QJK01      |       | ASSY ETC-EARJACK FPCB (GT-P7500)        | GH59-11203A |
| QSM01      |       | ASSY ETC-SIM SOCKET RFPCB(P7500)        | GH59-11209A |
| QME16      |       | ASSY ETC-CON TO CON FPCB(GT-P7500)      | GH59-11210A |
| QVK05      |       | KEY FPCB-FLASH LED FPCB(GT-P7500)       | GH59-11211A |
| QME02      |       | ASSY ETC-SUB PCB(30PIN FPCB+MIC FPCB)   | GH59-11213A |
| QVK01      |       | KEY FPCB-POWER+VOL KEY ASSY(GT-P7500)   | GH59-11217A |
| QSP01      |       | MODULE-SPEAKER+MOT(LEFT)                | GH59-11219A |
| QSP02      |       | MODULE-SPEAKER+INT (RIGHT)              | GH59-11220A |
| QMI03      |       | RMO RUBBER-MIC HOLDER                   | GH73-15090A |
| QMP01      |       | A/S ASSY-PBA MAIN(COMM)GT-P7500,16G,SVC | GH82-05817A |
| QCA01      |       | ASSY CAMERA-MODULE GT-P7500,1/5"(3M)    | GH96-05184A |
| QCA02      |       | ASSY CAMERA-MODULE GT-P7500,1/5"(2M)    | GH96-05185A |
| QFR01      |       | MEA FRONT-LCD ASSY (P4)                 | GH97-12511A |
| QSC01      |       | ASSY COVER-SCREW CAP                    | GH98-20396A |
| QRE01      |       | ASSY CASE-REAR                          | GH98-20250A |
|            | QRF06 | PMO COVER-SIM                           | GH72-64105A |
|            | QVO01 | PMO KEY-VOLUME                          | GH72-64107A |
|            | QCK02 | PMO KEY-POWER                           | GH72-64108A |



## 5. MAIN Electrical Parts List

| SEC CODE    | Design LOC        | Description    |
|-------------|-------------------|----------------|
| 0403-001688 | D501,D502,ZD700   | DIODE-ZENER    |
| 0404-001250 | D100,D101         | DIODE-SCHOTTKY |
| 0404-001669 | D800              | DIODE-TVS      |
| 0406-001239 | D500,ZD509,ZD510  | DIODE-TVS      |
| 0406-001267 | ZD100             | DIODE          |
| 0406-001375 | D400,D401,ZD402   | DIODE-TVS      |
| 0406-001375 | ZD403,ZD404,ZD405 | DIODE-TVS      |
| 0406-001375 | ZD501,ZD503,ZD511 | DIODE-TVS      |
| 0406-001375 | ZD512,ZD513,ZD514 | DIODE-TVS      |
| 0406-001375 | ZD515,ZD701       | DIODE-TVS      |
| 0406-001413 | ZD300,ZD302,ZD303 | DIODE-TVS      |
| 0406-001413 | ZD400,ZD401,ZD406 | DIODE-TVS      |
| 0406-001413 | ZD407,ZD408,ZD410 | DIODE-TVS      |
| 0407-001007 | D700              | DIODE-ARRAY    |
| 0504-001113 | Q100,Q500,Q6000   | TR-DIGITAL     |
| 0504-001113 | TR700,TR703       | TR-DIGITAL     |
| 0504-001151 | U6000             | TR-DIGITAL     |
| 0505-001325 | Q701              | FET-SILICON    |
| 0505-002353 | U108,U705         | FET-SILICON    |
| 0505-002720 | TR701,TR702       | FET-SILICON    |
| 0505-002748 | Q700              | FET-SILICON    |
| 0801-003016 | U1005,U1006       | IC             |
| 0801-003079 | U6006             | IC             |
| 0902-002716 | UCP6000           | IC             |
| 0904-002596 | U801              | IC             |
| 1001-001481 | U502,U503         | IC             |
| 1001-001635 | U508              | IC             |
| 1003-002132 | U501              | IC             |
| 1003-002216 | U405,U6003,U6004  | IC             |
| 1003-002277 | U707              | IC             |
| 1105-002212 | UME300            | IC             |
| 1105-002221 | UME6000           | IC             |
| 1107-001937 | UME6001           | IC             |
| 1201-003129 | C247              | IC             |
| 1201-003168 | U200              | IC             |
| 1201-003217 | U129              | IC             |

| SEC CODE    | Design LOC        | Description |
|-------------|-------------------|-------------|
| 1202-001036 | U403,U500         | IC          |
| 1203-004330 | U1000             | IC          |
| 1203-004725 | U702              | IC          |
| 1203-004807 | U802              | IC          |
| 1203-004819 | U110,U400         | IC          |
| 1203-005069 | U509              | IC          |
| 1203-005373 | U507              | IC          |
| 1203-005396 | U401              | IC          |
| 1203-005478 | U1103,U804        | IC          |
| 1203-005503 | U905              | IC          |
| 1203-005574 | U6002             | IC          |
| 1203-005599 | U806              | IC          |
| 1203-006159 | U6005,U900        | IC          |
| 1203-006346 | U708              | IC          |
| 1203-006392 | U706              | IC          |
| 1203-006479 | U901,U902         | IC          |
| 1203-006768 | U803              | IC          |
| 1203-006781 | U704              | IC          |
| 1203-006782 | U700              | IC          |
| 1203-006786 | U703              | IC          |
| 1203-006794 | U504              | IC          |
| 1203-006801 | U103              | IC          |
| 1203-006802 | U143              | IC          |
| 1203-006920 | U805              | IC          |
| 1205-003611 | U6001             | IC          |
| 1205-003692 | U404              | IC          |
| 1205-003943 | U402              | IC          |
| 1205-003966 | U201              | IC          |
| 1205-004036 | U800              | IC          |
| 1205-004055 | U1102             | IC          |
| 1205-004072 | U1001,U1002,U1003 | IC          |
| 1205-004073 | U1004             | IC          |
| 1205-004195 | U111              | IC          |
| 1205-004204 | U204              | IC          |
| 1205-004213 | UCP300            | IC          |
| 1209-002006 | U161              | IC          |

| SEC CODE    | Design LOC          | Description |
|-------------|---------------------|-------------|
| 1209-002038 | U1104               | IC          |
| 1209-002041 | U1100               | IC          |
| 1209-002046 | U6007               | IC          |
| 1209-002052 | U1101               | IC          |
| 1404-001221 | TH300               | IC          |
| 2007-000138 | R421,R422,R6037     | R-CHIP      |
| 2007-000138 | R6038,R6039,R6040   | R-CHIP      |
| 2007-000140 | R537,R538           | R-CHIP      |
| 2007-000148 | R725                | R-CHIP      |
| 2007-000152 | R710                | R-CHIP      |
| 2007-000162 | R713,R714,R715,R717 | R-CHIP      |
| 2007-000162 | R721                | R-CHIP      |
| 2007-000163 | R813                | R-CHIP      |
| 2007-000167 | R502                | R-CHIP      |
| 2007-000170 | R738,R800           | R-CHIP      |
| 2007-000174 | R539,R541           | R-CHIP      |
| 2007-000758 | R114,R720,R722      | R-CHIP      |
| 2007-000775 | R115                | R-CHIP      |
| 2007-001284 | R304                | R-CHIP      |
| 2007-001292 | R1010,R519,R520     | R-CHIP      |
| 2007-001306 | R730,R731,R734      | R-CHIP      |
| 2007-002796 | R117                | R-CHIP      |
| 2007-003014 | R503,R516           | R-CHIP      |
| 2007-003015 | R521                | R-CHIP      |
| 2007-003029 | R6061               | R-CHIP      |
| 2007-003112 | R1011,R1012,R6104   | R-CHIP      |
| 2007-003112 | R6105               | R-CHIP      |
| 2007-007092 | R413,R542           | R-CHIP      |
| 2007-007099 | R118,R6064          | R-CHIP      |
| 2007-007107 | R308,R310           | R-CHIP      |
| 2007-007132 | R215                | R-CHIP      |
| 2007-007137 | R401,R6106          | R-CHIP      |
| 2007-007142 | R728                | R-CHIP      |
| 2007-007156 | R532,R536           | R-CHIP      |
| 2007-007310 | R501                | R-CHIP      |
| 2007-007318 | R6062,R6090,R6109   | R-CHIP      |

| SEC CODE    | Design LOC           | Description |
|-------------|----------------------|-------------|
| 2007-007334 | R6066,R700,R701      | R-CHIP      |
| 2007-007488 | R900,R902            | R-CHIP      |
| 2007-007517 | R6012,R6015          | R-CHIP      |
| 2007-007573 | R511                 | R-CHIP      |
| 2007-007586 | R6060                | R-CHIP      |
| 2007-007627 | R815                 | R-CHIP      |
| 2007-007697 | R718                 | R-CHIP      |
| 2007-007766 | R508                 | R-CHIP      |
| 2007-007791 | R724                 | R-CHIP      |
| 2007-007943 | R424                 | R-CHIP      |
| 2007-007981 | R727,R908            | R-CHIP      |
| 2007-008045 | R500,R530,R6130      | R-CHIP      |
| 2007-008045 | R6132,R6136,R735     | R-CHIP      |
| 2007-008052 | R1100,R1102,R1105    | R-CHIP      |
| 2007-008052 | R311,R6003,R726,R810 | R-CHIP      |
| 2007-008055 | R103,R1109,R323,R515 | R-CHIP      |
| 2007-008055 | R546,R548,R6006      | R-CHIP      |
| 2007-008055 | R6013,R6071,R6085    | R-CHIP      |
| 2007-008055 | R6086,R6087,R6097    | R-CHIP      |
| 2007-008055 | R6098,R6100,R6101    | R-CHIP      |
| 2007-008055 | R6118,R6119,R6120    | R-CHIP      |
| 2007-008055 | R6121,R6122,R6127    | R-CHIP      |
| 2007-008055 | R6129,R6133,R703     | R-CHIP      |
| 2007-008055 | R704,R706,R707,R708  | R-CHIP      |
| 2007-008055 | R711,R712,R716,R733  | R-CHIP      |
| 2007-008055 | R814,R817,R901,R905  | R-CHIP      |
| 2007-008055 | R909,R910            | R-CHIP      |
| 2007-008057 | R6107                | R-CHIP      |
| 2007-008137 | R6007,R6010,R6011    | R-CHIP      |
| 2007-008137 | R6014                | R-CHIP      |
| 2007-008211 | R415,R416,R420,R506  | R-CHIP      |
| 2007-008211 | R507,R906,R907       | R-CHIP      |
| 2007-008275 | R514                 | R-CHIP      |
| 2007-008298 | R6036,R6041,R6059    | R-CHIP      |
| 2007-008312 | R305                 | R-CHIP      |
| 2007-008391 | R723                 | R-CHIP      |

| SEC CODE    | Design LOC           | Description |
|-------------|----------------------|-------------|
| 2007-008419 | R6000,R6135          | R-CHIP      |
| 2007-008420 | R6084,R6088,R6089    | R-CHIP      |
| 2007-008420 | R6091,R6092,R6094    | R-CHIP      |
| 2007-008420 | R6095,R6096,R6102    | R-CHIP      |
| 2007-008420 | R6103                | R-CHIP      |
| 2007-008483 | R309,R509,R510,R806  | R-CHIP      |
| 2007-008483 | R807,R808,R809       | R-CHIP      |
| 2007-008516 | R100,R1004,R1005     | R-CHIP      |
| 2007-008516 | R1006,R1007,R1009    | R-CHIP      |
| 2007-008516 | R1013,R417,R418,R531 | R-CHIP      |
| 2007-008516 | R533,R534,R6067      | R-CHIP      |
| 2007-008516 | R6075,R6108,R6110    | R-CHIP      |
| 2007-008516 | R6123,R6124,R6125    | R-CHIP      |
| 2007-008516 | R6131,R802,R804      | R-CHIP      |
| 2007-008531 | R112,R6042           | R-CHIP      |
| 2007-008564 | R1000,R1001,R1002    | R-CHIP      |
| 2007-008564 | R529                 | R-CHIP      |
| 2007-008579 | R213                 | R-CHIP      |
| 2007-008588 | R300,R301,R302,R423  | R-CHIP      |
| 2007-008588 | R6004,R6016,R6017    | R-CHIP      |
| 2007-008588 | R6018,R6019,R6020    | R-CHIP      |
| 2007-008588 | R6021,R6022,R6023    | R-CHIP      |
| 2007-008588 | R6024,R6025,R6026    | R-CHIP      |
| 2007-008588 | R6027,R6028,R6029    | R-CHIP      |
| 2007-008588 | R6030,R6031,R6032    | R-CHIP      |
| 2007-008588 | R6033,R6034,R6035    | R-CHIP      |
| 2007-008588 | R6044,R6045,R6046    | R-CHIP      |
| 2007-008588 | R6047,R6048,R6049    | R-CHIP      |
| 2007-008588 | R6050,R6051          | R-CHIP      |
| 2007-008633 | R737                 | R-CHIP      |
| 2007-008721 | R811                 | R-CHIP      |
| 2007-008774 | R116,R411,R412,R543  | R-CHIP      |
| 2007-008774 | R545,R732,R903       | R-CHIP      |
| 2007-008806 | R504,R505            | R-CHIP      |
| 2007-008812 | R812                 | R-CHIP      |
| 2007-009084 | R410,R419,R512,R547  | R-CHIP      |

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| 2007-009168 | R816                 | R-CHIP          |
| 2007-009170 | R6001                | R-CHIP          |
| 2007-009171 | R6076,R6077,R6078    | R-CHIP          |
| 2007-009171 | R6079,R6080,R6081    | R-CHIP          |
| 2007-009171 | R6082,R6083          | R-CHIP          |
| 2007-009212 | R400                 | R-CHIP          |
| 2007-009314 | R104,R107,R6005      | R-CHIP          |
| 2007-009315 | R6134                | R-CHIP          |
| 2007-009361 | R513,R517            | R-CHIP          |
| 2007-009801 | R110,R111            | R-CHIP          |
| 2007-009879 | R719                 | R-CHIP          |
| 2007-010202 | R219,R220,R221,R222  | R-CHIP          |
| 2007-010202 | R223                 | R-CHIP          |
| 2007-010233 | R314                 | R-CHIP          |
| 2203-000233 | C137,C188,C214,C215  | C-CERAMIC, CHIP |
| 2203-000233 | C269                 | C-CERAMIC, CHIP |
| 2203-000254 | C190,C236,C757,C758  | C-CERAMIC, CHIP |
| 2203-000254 | C767                 | C-CERAMIC, CHIP |
| 2203-000278 | C264,C282,C813       | C-CERAMIC, CHIP |
| 2203-000330 | C814                 | C-CERAMIC, CHIP |
| 2203-000438 | C6011                | C-CERAMIC, CHIP |
| 2203-000585 | C278                 | C-CERAMIC, CHIP |
| 2203-000627 | C234,C700            | C-CERAMIC, CHIP |
| 2203-000725 | C762                 | C-CERAMIC, CHIP |
| 2203-000854 | C819                 | C-CERAMIC, CHIP |
| 2203-000995 | C6012,C751,C754,C755 | C-CERAMIC, CHIP |
| 2203-001017 | C6082,C6083          | C-CERAMIC, CHIP |
| 2203-002668 | C162                 | C-CERAMIC, CHIP |
| 2203-002687 | C744,C748,C750,C753  | C-CERAMIC, CHIP |
| 2203-002687 | C761                 | C-CERAMIC, CHIP |
| 2203-003054 | C6095                | C-CERAMIC, CHIP |
| 2203-005383 | C718                 | C-CERAMIC, CHIP |
| 2203-005393 | C717                 | C-CERAMIC, CHIP |
| 2203-005514 | C739                 | C-CERAMIC, CHIP |
| 2203-005682 | C1035,C144,C152,C154 | C-CERAMIC, CHIP |
| 2203-005682 | C163,C164,C174,C180  | C-CERAMIC, CHIP |

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| 2203-005682 | C337,C339,C340,C912  | C-CERAMIC, CHIP |
| 2203-005717 | C134                 | C-CERAMIC, CHIP |
| 2203-005725 | C342,C343            | C-CERAMIC, CHIP |
| 2203-005726 | C135,C136,C143,C904  | C-CERAMIC, CHIP |
| 2203-005727 | C279,C908            | C-CERAMIC, CHIP |
| 2203-005729 | C241,C242,C406,C410  | C-CERAMIC, CHIP |
| 2203-005729 | C411                 | C-CERAMIC, CHIP |
| 2203-005731 | C427,C428            | C-CERAMIC, CHIP |
| 2203-005732 | C407,C408,C412       | C-CERAMIC, CHIP |
| 2203-005806 | C147                 | C-CERAMIC, CHIP |
| 2203-006048 | C186,C212,C213,C438  | C-CERAMIC, CHIP |
| 2203-006048 | C439,C6032,C6075     | C-CERAMIC, CHIP |
| 2203-006048 | C6076,C6077,C6078    | C-CERAMIC, CHIP |
| 2203-006048 | C6094,C707,C768,C770 | C-CERAMIC, CHIP |
| 2203-006194 | C145,C301,C302,C6008 | C-CERAMIC, CHIP |
| 2203-006194 | C6079,C800           | C-CERAMIC, CHIP |
| 2203-006201 | C902                 | C-CERAMIC, CHIP |
| 2203-006208 | C1029,C1033          | C-CERAMIC, CHIP |
| 2203-006260 | C177                 | C-CERAMIC, CHIP |
| 2203-006305 | C244,C245,C248,C249  | C-CERAMIC, CHIP |
| 2203-006305 | C256,C258,C259,C262  | C-CERAMIC, CHIP |
| 2203-006305 | C268,C276            | C-CERAMIC, CHIP |
| 2203-006318 | L217                 | C-CERAMIC, CHIP |
| 2203-006379 | C149                 | C-CERAMIC, CHIP |
| 2203-006399 | C1112,C1113,C338     | C-CERAMIC, CHIP |
| 2203-006399 | C400,C403,C405,C409  | C-CERAMIC, CHIP |
| 2203-006399 | C413,C421,C429,C430  | C-CERAMIC, CHIP |
| 2203-006399 | C431,C440,C441,C6014 | C-CERAMIC, CHIP |
| 2203-006399 | C6015,C6016,C725     | C-CERAMIC, CHIP |
| 2203-006399 | C740,C741,C802,C803  | C-CERAMIC, CHIP |
| 2203-006400 | C6096                | C-CERAMIC, CHIP |
| 2203-006423 | C100,C1001,C1002     | C-CERAMIC, CHIP |
| 2203-006423 | C1003,C1004,C1007    | C-CERAMIC, CHIP |
| 2203-006423 | C1008,C1009,C101     | C-CERAMIC, CHIP |
| 2203-006423 | C1010,C1013,C1014    | C-CERAMIC, CHIP |
| 2203-006423 | C1015,C1016,C102     | C-CERAMIC, CHIP |

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| 2203-006423 | C1023,C1024,C1025    | C-CERAMIC, CHIP |
| 2203-006423 | C1026,C1027,C1028    | C-CERAMIC, CHIP |
| 2203-006423 | C103,C1030,C1031     | C-CERAMIC, CHIP |
| 2203-006423 | C1032,C1034,C1037    | C-CERAMIC, CHIP |
| 2203-006423 | C1038,C108,C109,C110 | C-CERAMIC, CHIP |
| 2203-006423 | C1103,C1104,C1105    | C-CERAMIC, CHIP |
| 2203-006423 | C1106,C1108,C1109    | C-CERAMIC, CHIP |
| 2203-006423 | C1110,C1111,C1114    | C-CERAMIC, CHIP |
| 2203-006423 | C1116,C1121,C157     | C-CERAMIC, CHIP |
| 2203-006423 | C159,C178,C194,C250  | C-CERAMIC, CHIP |
| 2203-006423 | C265,C266,C300,C303  | C-CERAMIC, CHIP |
| 2203-006423 | C304,C306,C307,C308  | C-CERAMIC, CHIP |
| 2203-006423 | C309,C315,C316,C317  | C-CERAMIC, CHIP |
| 2203-006423 | C319,C320,C322,C323  | C-CERAMIC, CHIP |
| 2203-006423 | C325,C326,C327,C328  | C-CERAMIC, CHIP |
| 2203-006423 | C329,C330,C331,C332  | C-CERAMIC, CHIP |
| 2203-006423 | C334,C335,C345,C415  | C-CERAMIC, CHIP |
| 2203-006423 | C422,C423,C502,C503  | C-CERAMIC, CHIP |
| 2203-006423 | C6086,C6088,C6092    | C-CERAMIC, CHIP |
| 2203-006423 | C6093,C6097,C711     | C-CERAMIC, CHIP |
| 2203-006423 | C764,C830            | C-CERAMIC, CHIP |
| 2203-006556 | C1036,C176,C280      | C-CERAMIC, CHIP |
| 2203-006556 | C6007,C6074          | C-CERAMIC, CHIP |
| 2203-006562 | C120,C121,C132,C160  | C-CERAMIC, CHIP |
| 2203-006562 | C402,C404,C420,C511  | C-CERAMIC, CHIP |
| 2203-006562 | C6052,C716,C724,C756 | C-CERAMIC, CHIP |
| 2203-006562 | C769,C801,C828,C831  | C-CERAMIC, CHIP |
| 2203-006562 | C834                 | C-CERAMIC, CHIP |
| 2203-006647 | C104,C105,C106,C111  | C-CERAMIC, CHIP |
| 2203-006647 | C181                 | C-CERAMIC, CHIP |
| 2203-006648 | C151                 | C-CERAMIC, CHIP |
| 2203-006668 | C1120                | C-CERAMIC, CHIP |
| 2203-006681 | C752,C824            | C-CERAMIC, CHIP |
| 2203-006707 | C261,C277            | C-CERAMIC, CHIP |
| 2203-006815 | C146,C148            | C-CERAMIC, CHIP |
| 2203-006824 | C129,C130,C281,C710  | C-CERAMIC, CHIP |



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| 2203-006824 | C738                 | C-CERAMIC, CHIP |
| 2203-006839 | C153,C158,C170,C246  | C-CERAMIC, CHIP |
| 2203-006839 | C251,C260,C274,C419  | C-CERAMIC, CHIP |
| 2203-006839 | C6000,C6001,C6005    | C-CERAMIC, CHIP |
| 2203-006839 | C6006,C6013,C6017    | C-CERAMIC, CHIP |
| 2203-006839 | C6018,C6019,C6021    | C-CERAMIC, CHIP |
| 2203-006839 | C6029,C6030,C6031    | C-CERAMIC, CHIP |
| 2203-006839 | C6033,C6034,C6035    | C-CERAMIC, CHIP |
| 2203-006839 | C6036,C6037,C6038    | C-CERAMIC, CHIP |
| 2203-006839 | C6039,C6040,C6041    | C-CERAMIC, CHIP |
| 2203-006839 | C6042,C6043,C6044    | C-CERAMIC, CHIP |
| 2203-006839 | C6045,C6046,C6047    | C-CERAMIC, CHIP |
| 2203-006839 | C6048,C6054,C6060    | C-CERAMIC, CHIP |
| 2203-006839 | C6061,C6062,C6063    | C-CERAMIC, CHIP |
| 2203-006839 | C6064,C6065,C6066    | C-CERAMIC, CHIP |
| 2203-006839 | C6067,C6068,C6070    | C-CERAMIC, CHIP |
| 2203-006839 | C6071                | C-CERAMIC, CHIP |
| 2203-006841 | C434,C510,C763       | C-CERAMIC, CHIP |
| 2203-006844 | C825,C827            | C-CERAMIC, CHIP |
| 2203-006872 | C1019,C1021,C107     | C-CERAMIC, CHIP |
| 2203-006872 | C1107,C123,C172,C173 | C-CERAMIC, CHIP |
| 2203-006872 | C209,C218,C220,C222  | C-CERAMIC, CHIP |
| 2203-006872 | C432,C435,C436,C6057 | C-CERAMIC, CHIP |
| 2203-006872 | C6085,C6087,C6089    | C-CERAMIC, CHIP |
| 2203-006872 | C708,C720,C721,C723  | C-CERAMIC, CHIP |
| 2203-006872 | C727,C728,C766,C821  | C-CERAMIC, CHIP |
| 2203-006872 | C909,C911            | C-CERAMIC, CHIP |
| 2203-006890 | C701,C730,C731,C732  | C-CERAMIC, CHIP |
| 2203-006890 | C733,C734,C735       | C-CERAMIC, CHIP |
| 2203-006979 | C138,C156,C175       | C-CERAMIC, CHIP |
| 2203-007133 | C514,C760            | C-CERAMIC, CHIP |
| 2203-007210 | C124,C179,C252,C305  | C-CERAMIC, CHIP |
| 2203-007210 | C311,C314,C318,C324  | C-CERAMIC, CHIP |
| 2203-007210 | C333,C346,C906       | C-CERAMIC, CHIP |
| 2203-007240 | C6080,C742           | C-CERAMIC, CHIP |
| 2203-007270 | C116,C168,C169,C183  | C-CERAMIC, CHIP |

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| 2203-007270 | C709,C712,C713,C714  | C-CERAMIC, CHIP |
| 2203-007270 | C715,C719,C743,C745  | C-CERAMIC, CHIP |
| 2203-007270 | C746,C749,C816,C822  | C-CERAMIC, CHIP |
| 2203-007270 | C823,C905            | C-CERAMIC, CHIP |
| 2203-007271 | C1100,C1101,C1102    | C-CERAMIC, CHIP |
| 2203-007271 | C182,C221,C233,C512  | C-CERAMIC, CHIP |
| 2203-007271 | C6003,C6004,C702     | C-CERAMIC, CHIP |
| 2203-007271 | C703,C704,C705,C706  | C-CERAMIC, CHIP |
| 2203-007271 | C722,C726,C729,C759  | C-CERAMIC, CHIP |
| 2203-007271 | C804,C805,C810,C811  | C-CERAMIC, CHIP |
| 2203-007271 | C820,C900,C901,C913  | C-CERAMIC, CHIP |
| 2203-007271 | C914                 | C-CERAMIC, CHIP |
| 2203-007279 | C310,C312,C313       | C-CERAMIC, CHIP |
| 2203-007295 | C165                 | C-CERAMIC, CHIP |
| 2203-007317 | C1119,C254,C255,C257 | C-CERAMIC, CHIP |
| 2203-007317 | C414,C433,C437,C6002 | C-CERAMIC, CHIP |
| 2203-007317 | C6020,C6022,C6023    | C-CERAMIC, CHIP |
| 2203-007317 | C6024,C6025,C6026    | C-CERAMIC, CHIP |
| 2203-007317 | C6027,C6028,C6053    | C-CERAMIC, CHIP |
| 2203-007317 | C6058,C6059,C6069    | C-CERAMIC, CHIP |
| 2203-007317 | C6072,C6073,C812     | C-CERAMIC, CHIP |
| 2203-007317 | C833                 | C-CERAMIC, CHIP |
| 2203-007342 | C765                 | C-CERAMIC, CHIP |
| 2203-007385 | C6009,C6010          | C-CERAMIC, CHIP |
| 2203-007393 | C1118,C114,C131,C155 | C-CERAMIC, CHIP |
| 2203-007393 | C243,C273,C416,C417  | C-CERAMIC, CHIP |
| 2203-007393 | C418,C6049,C6050     | C-CERAMIC, CHIP |
| 2203-007393 | C6051,C6055,C6056    | C-CERAMIC, CHIP |
| 2203-007393 | C6081,C832,C903,C907 | C-CERAMIC, CHIP |
| 2203-007449 | C1000,C1005,C1006    | C-CERAMIC, CHIP |
| 2203-007449 | C1011,C1012,C1017    | C-CERAMIC, CHIP |
| 2203-007449 | C1018,C1020,C1022    | C-CERAMIC, CHIP |
| 2203-007449 | C1115,C1117,C113     | C-CERAMIC, CHIP |
| 2203-007449 | C122,C133,C253,C263  | C-CERAMIC, CHIP |
| 2203-007449 | C321,C504,C505,C806  | C-CERAMIC, CHIP |
| 2203-007449 | C807,C808,C809,C817  | C-CERAMIC, CHIP |

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| 2203-007449 | C829,C910           | C-CERAMIC, CHIP |
| 2203-007634 | C509,C513           | C-CERAMIC, CHIP |
| 2203-007759 | C189                | C-CERAMIC, CHIP |
| 2203-007781 | C336,C341,C500,C501 | C-CERAMIC, CHIP |
| 2203-007781 | C506,C507,C747,C771 | C-CERAMIC, CHIP |
| 2203-007790 | C818,C826           | C-CERAMIC, CHIP |
| 2404-001596 | TA400               | C-TA,CHIP       |
| 2409-001232 | TA700               | C-POLYMER,CHIP  |
| 2703-002200 | L127                | INDUCTOR-SMD    |
| 2703-002267 | L126                | INDUCTOR-SMD    |
| 2703-002268 | L216                | INDUCTOR-SMD    |
| 2703-002313 | L125                | INDUCTOR-SMD    |
| 2703-002368 | L142                | INDUCTOR-SMD    |
| 2703-002955 | L107                | INDUCTOR-SMD    |
| 2703-002958 | L115,L118           | INDUCTOR-SMD    |
| 2703-003004 | L116,L117           | INDUCTOR-SMD    |
| 2703-003347 | L902                | INDUCTOR-SMD    |
| 2703-003479 | R406,R407,R408,R409 | INDUCTOR-SMD    |
| 2703-003533 | L6001               | INDUCTOR-SMD    |
| 2703-003545 | L214                | INDUCTOR-SMD    |
| 2703-003686 | L1104,L802,L900     | INDUCTOR-SMD    |
| 2703-003755 | L129,L130,L131      | INDUCTOR-SMD    |
| 2703-003869 | L302,L303           | INDUCTOR-SMD    |
| 2703-003904 | L112                | INDUCTOR-SMD    |
| 2703-003911 | L121,L500           | INDUCTOR-SMD    |
| 2703-003913 | L701,L703,L800      | INDUCTOR-SMD    |
| 2703-003916 | L113                | INDUCTOR-SMD    |
| 2703-003939 | L801                | INDUCTOR-SMD    |
| 2703-004000 | L110                | INDUCTOR-SMD    |
| 2703-004001 | L114,L119           | INDUCTOR-SMD    |
| 2703-004009 | L702                | INDUCTOR-SMD    |
| 2703-004011 | L700                | INDUCTOR-SMD    |
| 2703-004017 | L704                | INDUCTOR-SMD    |
| 2703-004034 | L139,L141           | INDUCTOR-SMD    |
| 2703-004035 | L206                | INDUCTOR-SMD    |
| 2703-004037 | C283                | INDUCTOR-SMD    |

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| 2703-004038 | L138                 | INDUCTOR-SMD          |
| 2703-004130 | L120                 | INDUCTOR-SMD          |
| 2703-004132 | L104,L105            | INDUCTOR-SMD          |
| 2801-004466 | OSC700               | CRYSTAL-SMD           |
| 2801-004551 | OSC300               | CRYSTAL-SMD           |
| 2801-004836 | OSC800               | CRYSTAL-SMD           |
| 2801-004893 | OSC6000              | CRYSTAL-SMD           |
| 2801-005044 | OSC202               | CRYSTAL-SMD           |
| 2804-001929 | OSC1000              | OSCILLATOR-CLOCK      |
| 2809-001348 | OSC201               | OSCILLATOR-VCTCXO     |
| 2809-001369 | OSC100               | OSCILLATOR-VCTCXO     |
| 2901-001525 | F901,F902            | FILTER-EMI SMD        |
| 2901-001625 | F800                 | FILTER-EMI SMD        |
| 2901-001647 | F801,F802,F900       | FILTER-EMI SMD        |
| 2910-000108 | F200                 | DUPLEXER-SAW          |
| 2910-000132 | U118                 | DUPLEXER-SAW          |
| 2911-000165 | U203                 | DUPLEXER-SAW          |
| 2911-000166 | U116                 | DUPLEXER-SAW          |
| 3301-001534 | L1100,L1101,L1102    | BEAD-SMD              |
| 3301-001534 | L1103                | BEAD-SMD              |
| 3301-001659 | L201                 | BEAD-SMD              |
| 3301-001787 | L6000                | BEAD-SMD              |
| 3301-001895 | L207,L208,L209,L212  | BEAD-SMD              |
| 3301-001912 | L102                 | BEAD-SMD              |
| 3301-001956 | L300,L301            | BEAD-SMD              |
| 3301-002062 | L100                 | BEAD-SMD              |
| 3301-002065 | L200,L400,L401,L402  | BEAD-SMD              |
| 3301-002065 | L403                 | BEAD-SMD              |
| 3301-002078 | L404,L405            | BEAD-SMD              |
| 3705-001448 | CN200                | CONNECTOR-COAXIAL     |
| 3705-001731 | U119                 | CONNECTOR             |
| 3708-002183 | SLC800               | CONNECTOR-FPC         |
| 3708-002278 | SLC500               | CONNECTOR-FPC         |
| 3708-002781 | SLC1000              | CONNECTOR-FPC         |
| 3711-006615 | HDC300,HDC301,HDC400 | HEADER-BOARD TO BOARD |
| 3711-006615 | HDC401,HDC402,HDC500 | HEADER-BOARD TO BOARD |

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| 3711-006615 | HDC6000              | HEADER-BOARD TO BOARD  |
| 3711-006852 | HDC901               | HEADER-BOARD TO BOARD  |
| 3711-006919 | HDC900               | HEADER-BOARD TO BOARD  |
| 3711-006923 | HDC902               | HEADER-BOARD TO BOARD  |
| 3711-007494 | BTC700               | HEADER-BOARD TO BOARD  |
| 3712-001348 | ANT102,ANT103,ANT104 | CONNECTOR-TERMINAL     |
| 3712-001348 | ANT202,ANT203        | CONNECTOR-TERMINAL     |
| GH70-07484A | SC100                | ICT SHIELD-CAN CLIP    |
| GH98-20254A | SC101                | ASSY COVER-SHIELD GPS  |
| GH98-20256A | SC102                | ASSY COVER-SHIELD WIFI |

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

## 7. Level 2 Repair

### 7-1. Disassembly and assembly Instructions

#### 7-1-1. Disassembly

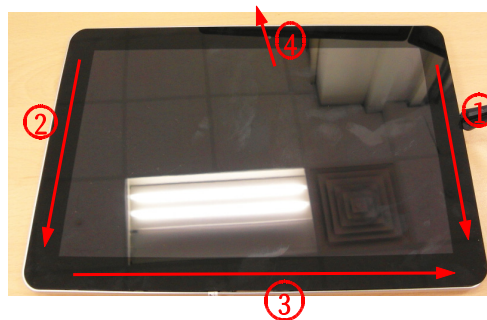
1

Carefully release the screws  
at 2 different locations  
(Torque  $1.1 \pm 0.1$  kgf.cm) (Size:1.4\*2.0)



2

Disengage the rear cover with the front  
cover by using the hook

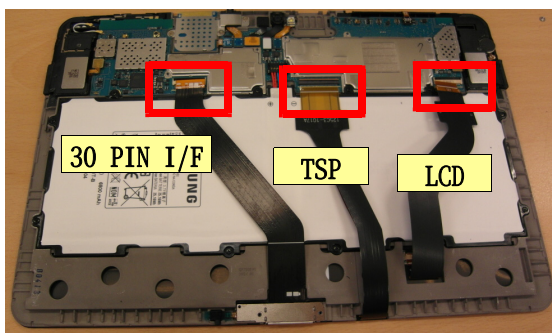


Be careful not to scratch cover.

Follow the numbered sequence when you disjoint

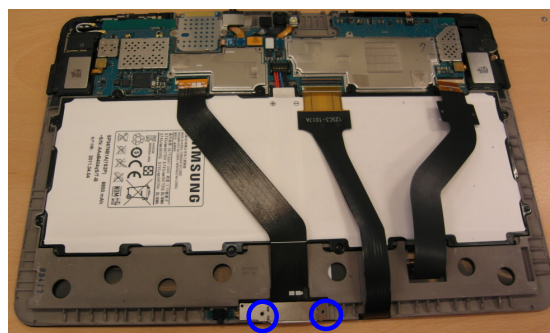
3

Separate the 30 PIN I/F connector, TSP  
connector, LCD connector from the PBA.



4

Release the screw at 2 points (Size:)(Torque:  
 $1.1 \pm 0.1$  kgf.cm)

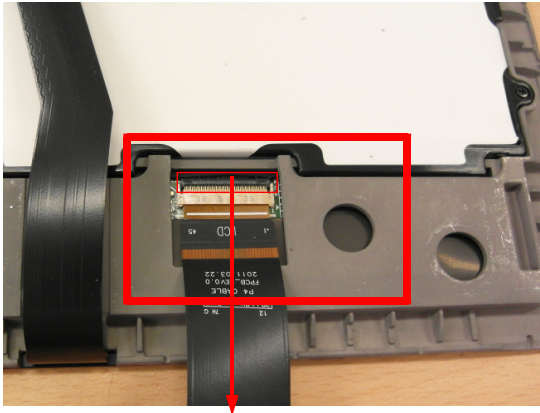


◆blue:L2.5

Be careful not to damage the FPCBs

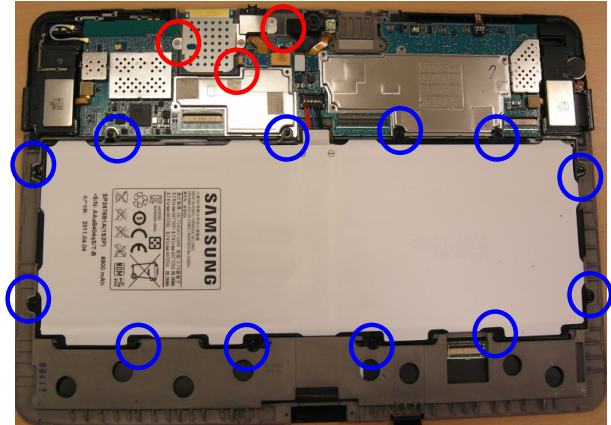
Be careful not to damage the FPCBs

- 5** Open the black thin bar and Separate the LCD FPCB from the Front.



Be careful not to damage the FPCBs

- 6** Carefully release the screws at 13 different locations from the Front.  
(Torque  $1.1 \pm 0.1$  kgf.cm)

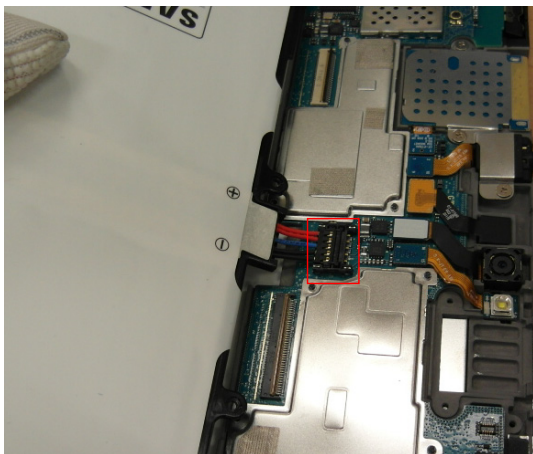


◆blue:L2.5 (10Point)

◆red:L2 (3Point)

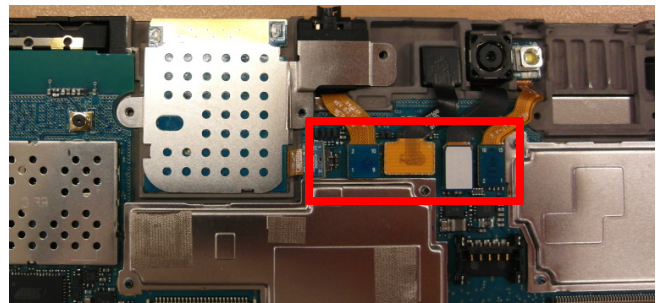
Be careful not to scratch cover

- 7** Separate the Battery from PBA



Be careful not to damage the wires

- 8** Separate all connector(E/J, 2M, 3M Camera, Sensor) ribbons from the PBA.

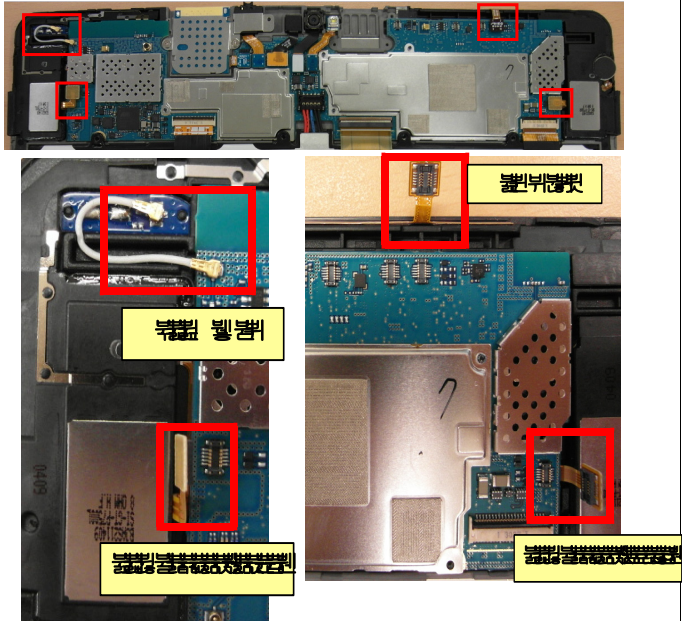


Be careful not to damage the FPCBs



9

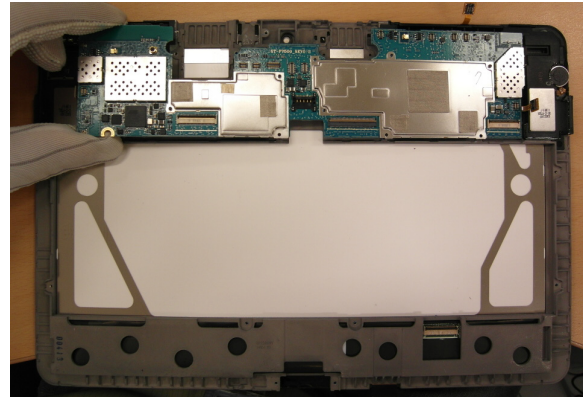
Separate the SPK Module, GPS CABLE,  
SIDE KEY from the PBA



Be careful not to damage the FPCBs

10

Separate the PBA from Ass'y

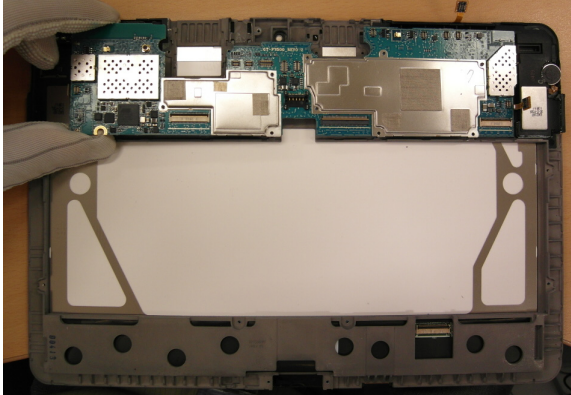


Be careful not to scratch cover



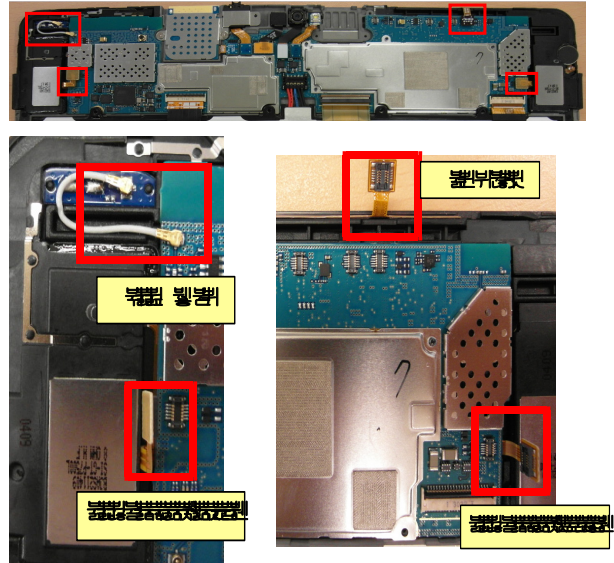
## 7-1-2. assemble

**1** Insert the PBA in the hook



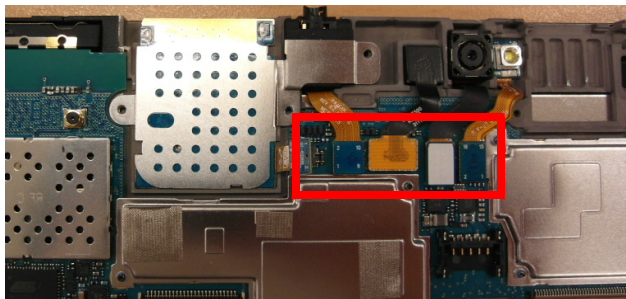
Be careful not to scratch cover

**2** Attach the SPK Module, GPS CABLE, SIDE KEY



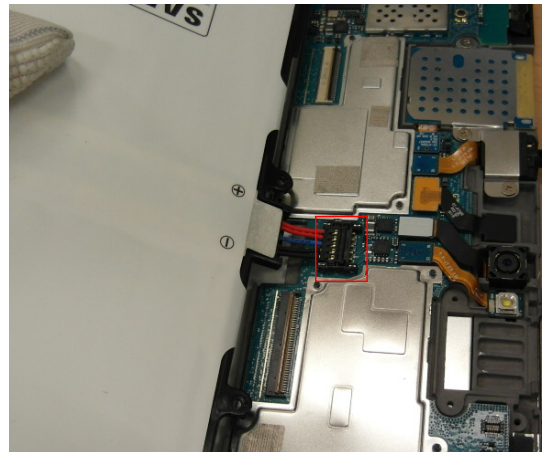
Be careful not to damage the FPCBs

**3** Attach the E/J, 2M, 3M Camera, Sensor.



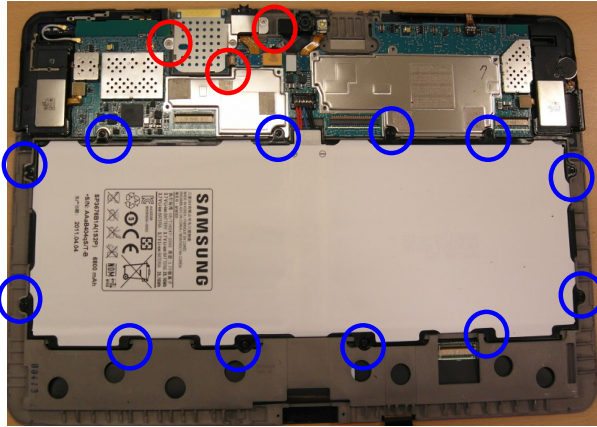
Be careful not to damage the FPCBs

**4** Attach the battery



Be careful not to damage the wires

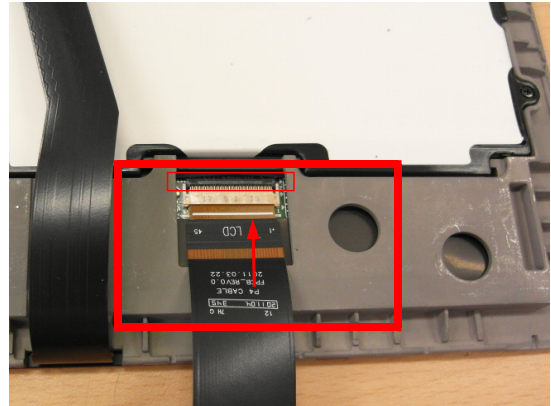
6 screws at 13 points



◆blue:L2.5 (10Point)  
◆red:L2 (3Point)

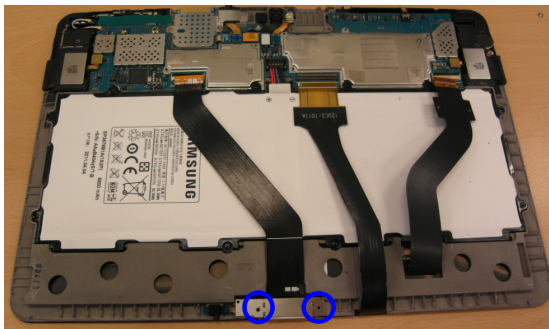
Be careful not to scratch cover  
screw:1.4\*2.0, 1.4\*2.5 (Torque  $1.1 \pm 0.1$ , '+' type)

5 Put the LCD FPCB and Close the black thin bar



Be careful not to damage the FPCBs

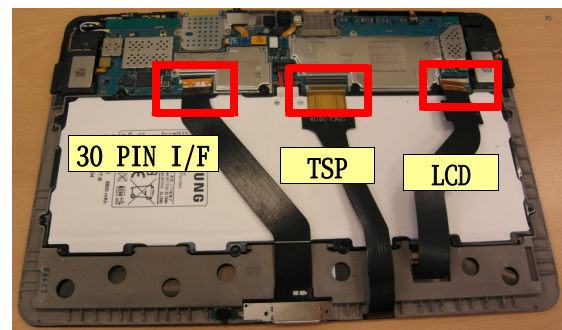
7 screws at 2 Points



◆blue:L2.5

Be careful not to damage the FPCBs

8 Insert the 30 PIN I/F, TSP, LCD Connector and Close the black thin bar

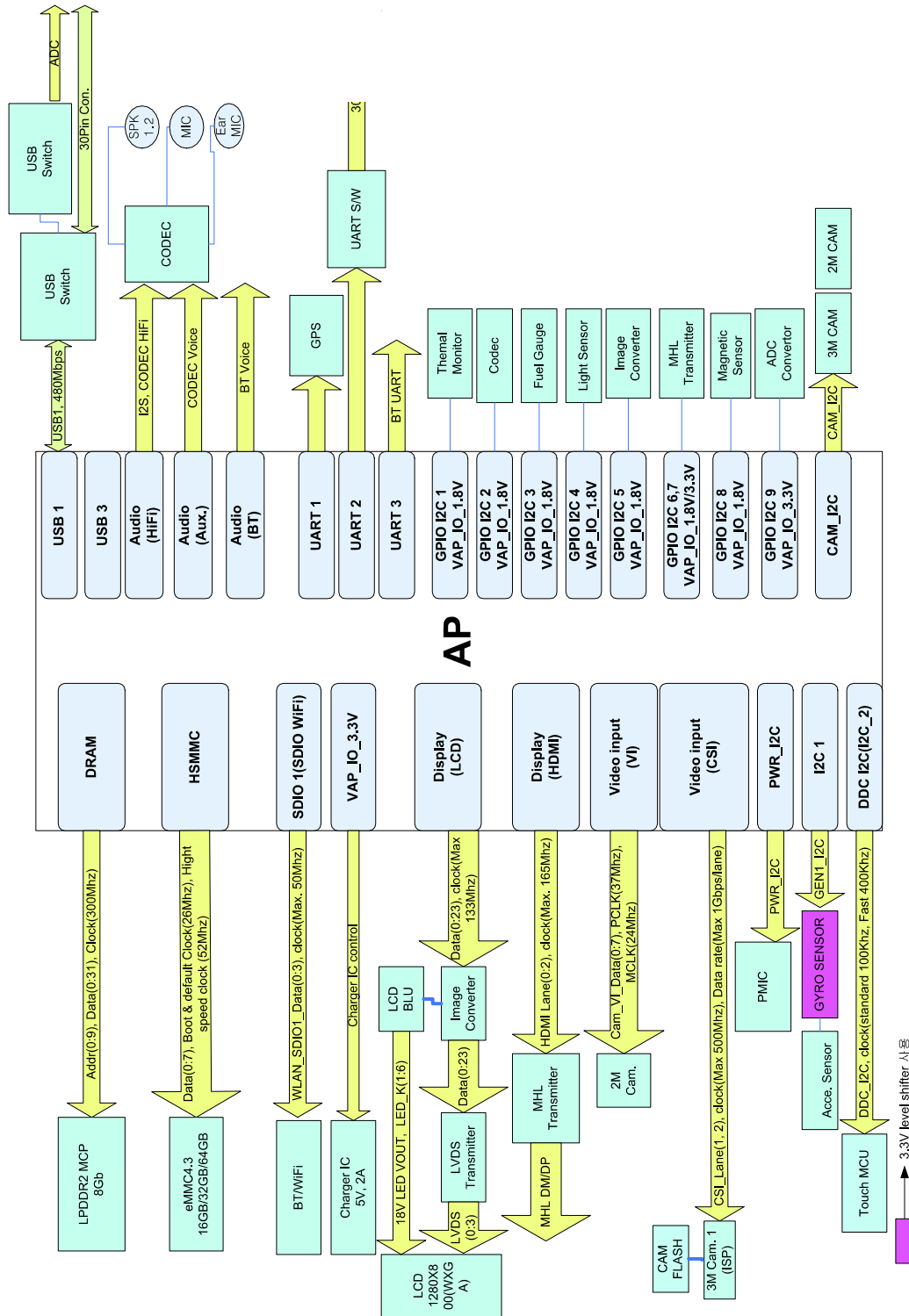


Be careful not to damage the FPCBs

|                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div data-bbox="167 268 756 317"><div>9</div><div>Joint the Rear and the Front.</div></div> <div data-bbox="253 459 740 743"></div> <div data-bbox="155 978 810 1054"><p>Follow the order</p></div> | <div data-bbox="837 254 1427 348"><div>10</div><div>Screws at 2 points<br/>Attach screw sheet</div></div> <div data-bbox="837 455 1451 795"></div> <div data-bbox="810 978 1471 1054"><p>(Torque <math>1.1 \pm 0.1</math>, '+' type)(Size: 1.4*2.0)<br/>Be careful not to scratch rear cover</p></div> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

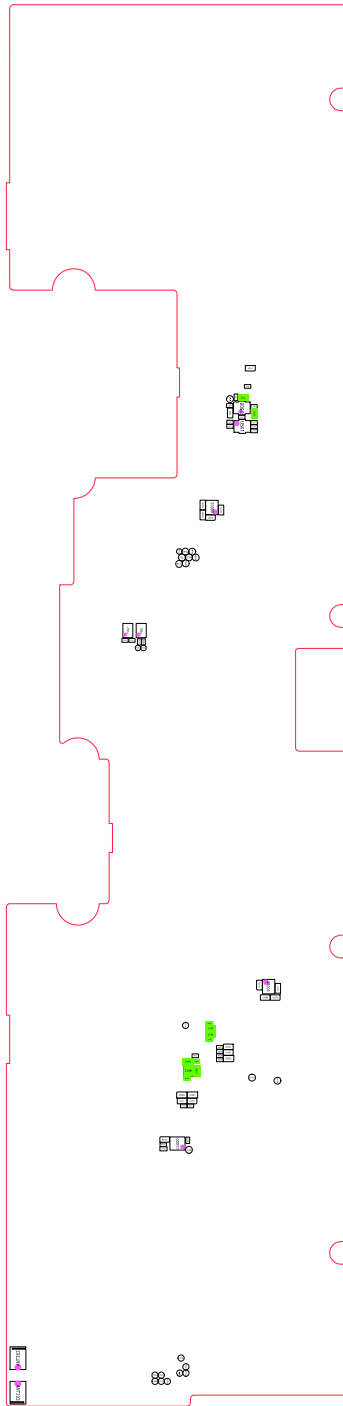
## 8. Level 3 Repair

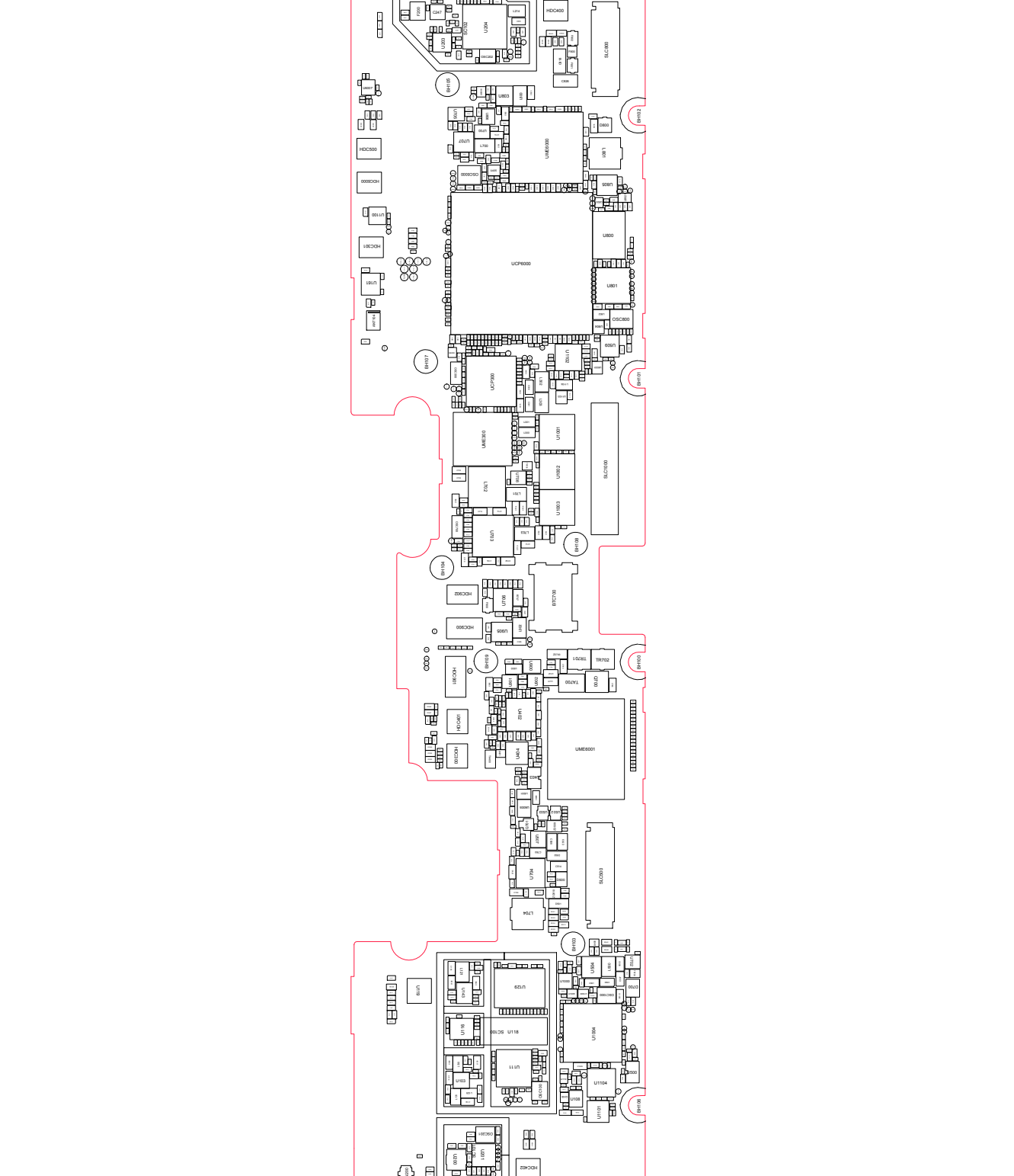
### 8-1. Block Diagram



## 8-2. PCB Diagrams

### 8-2-1. Top

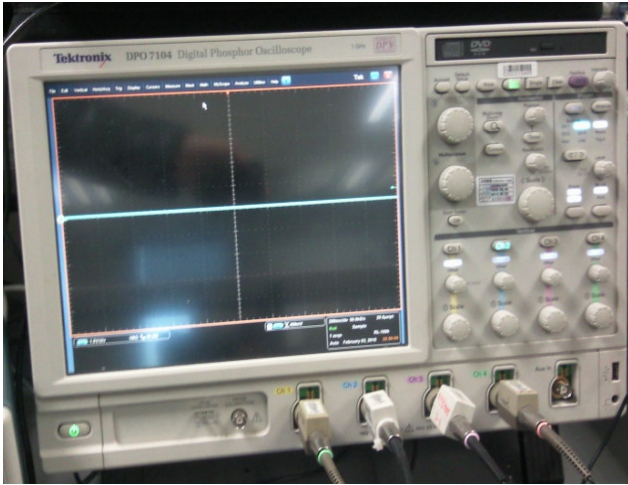






### 8-3. Flow Chart of Troubleshooting

#### Equipments



↑ Oscilloscope



↗ Digital Multimeter

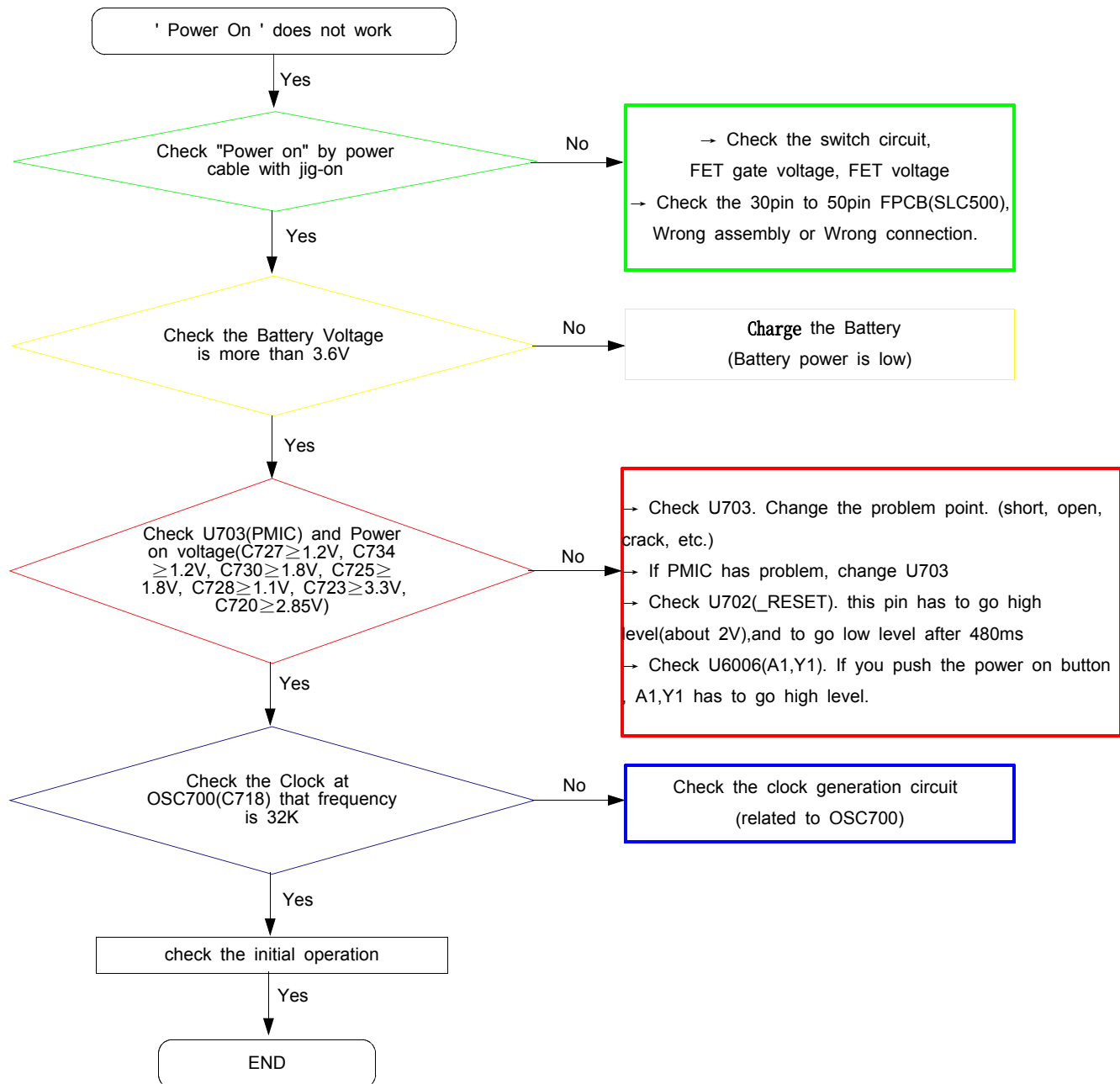


↗ Power Supply

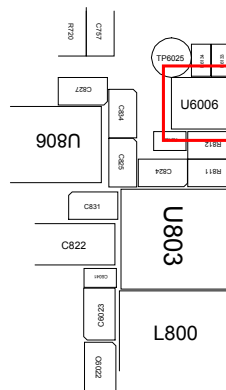
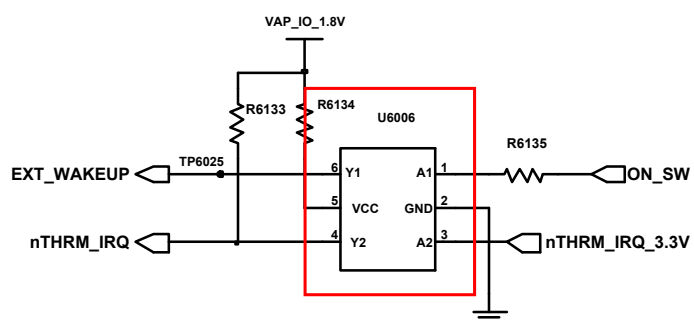
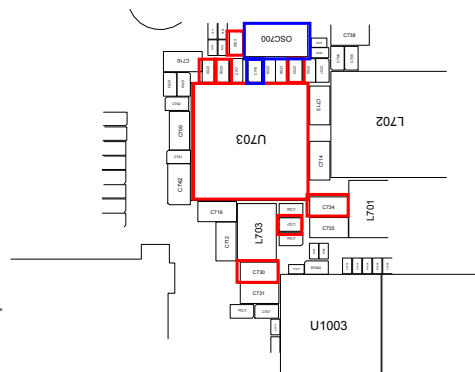
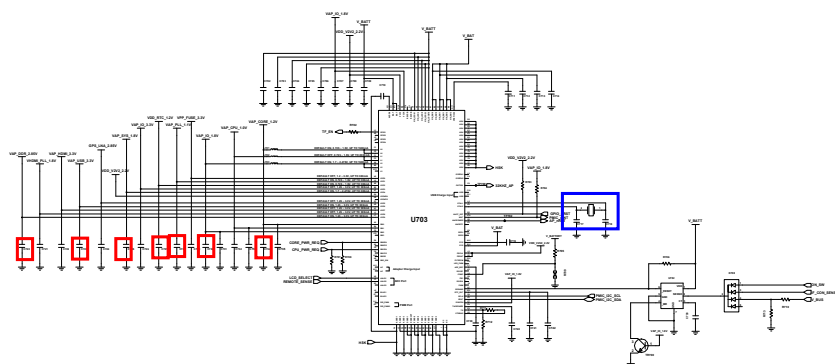
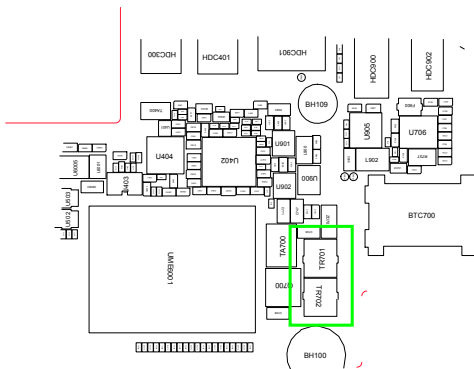


↗ + driver, Tweezer

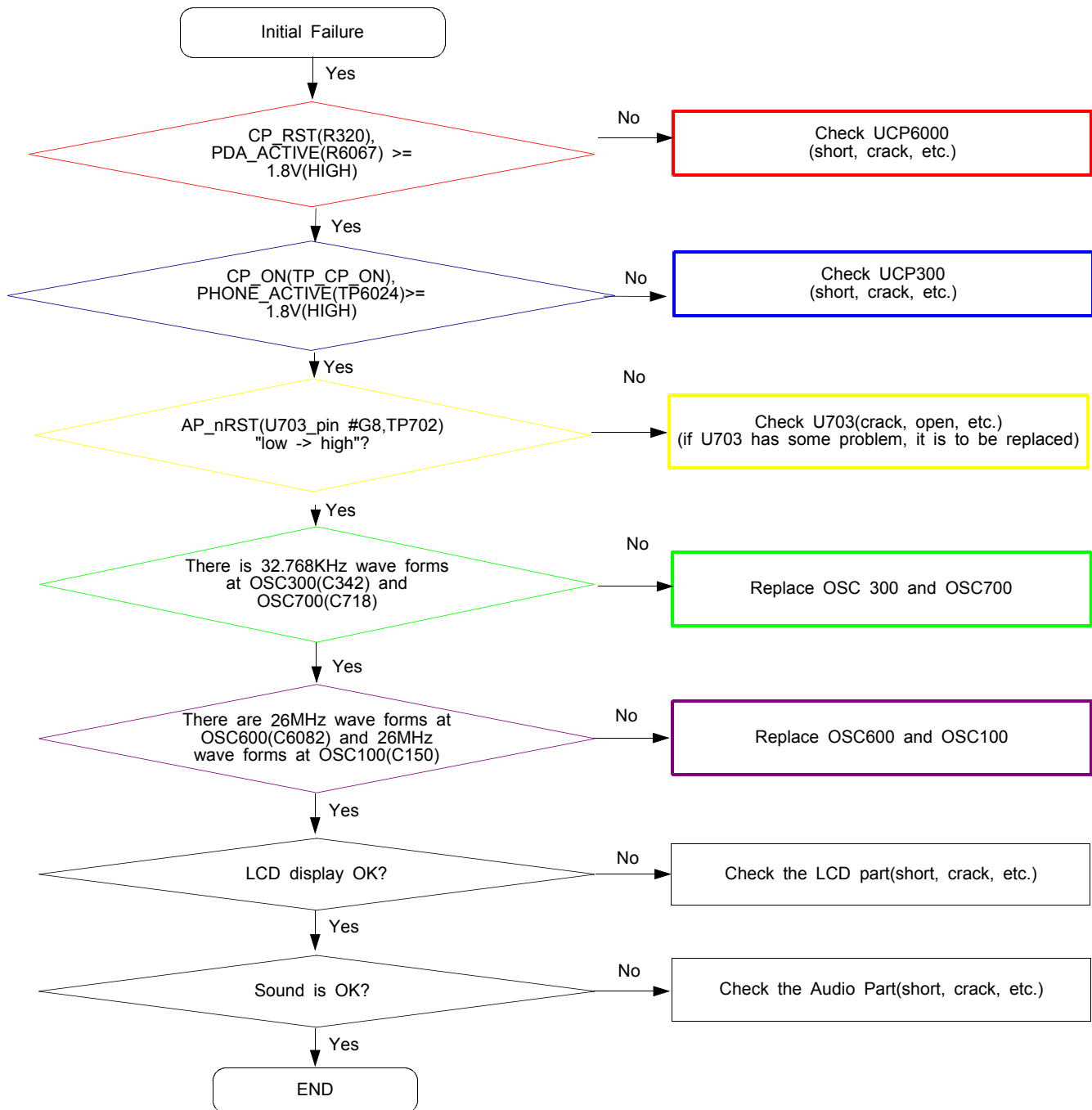
## 8-3-1. Power On

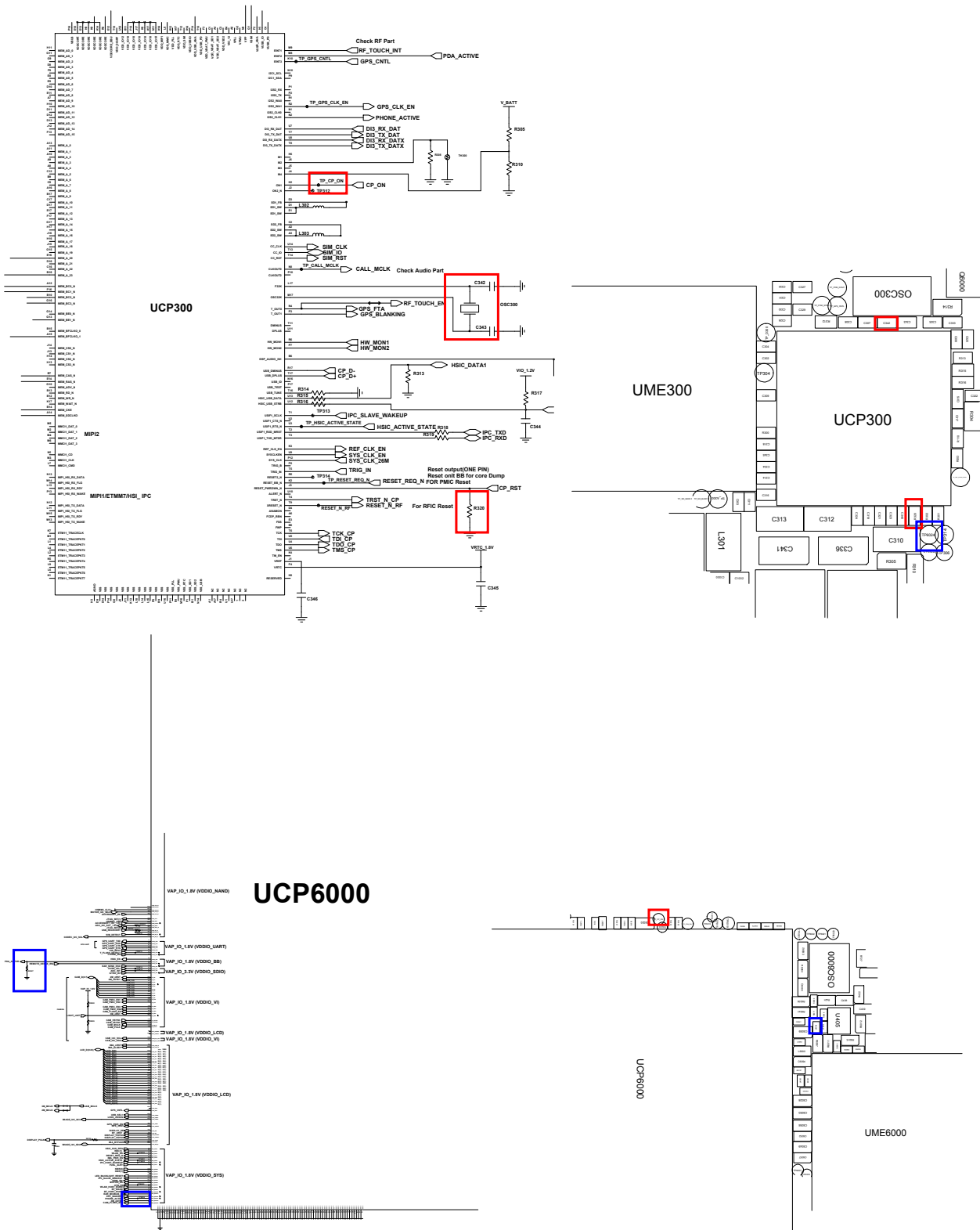


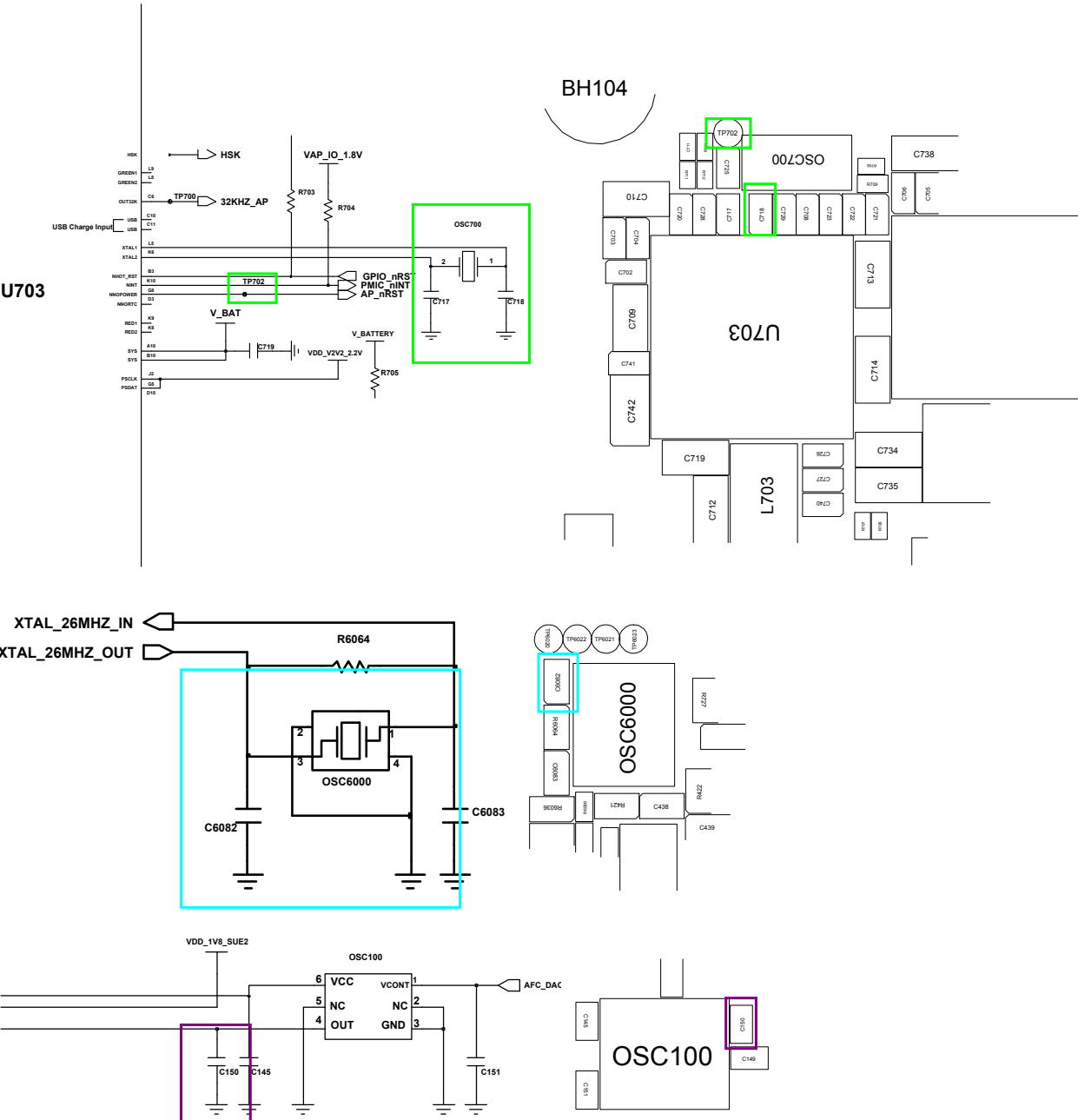




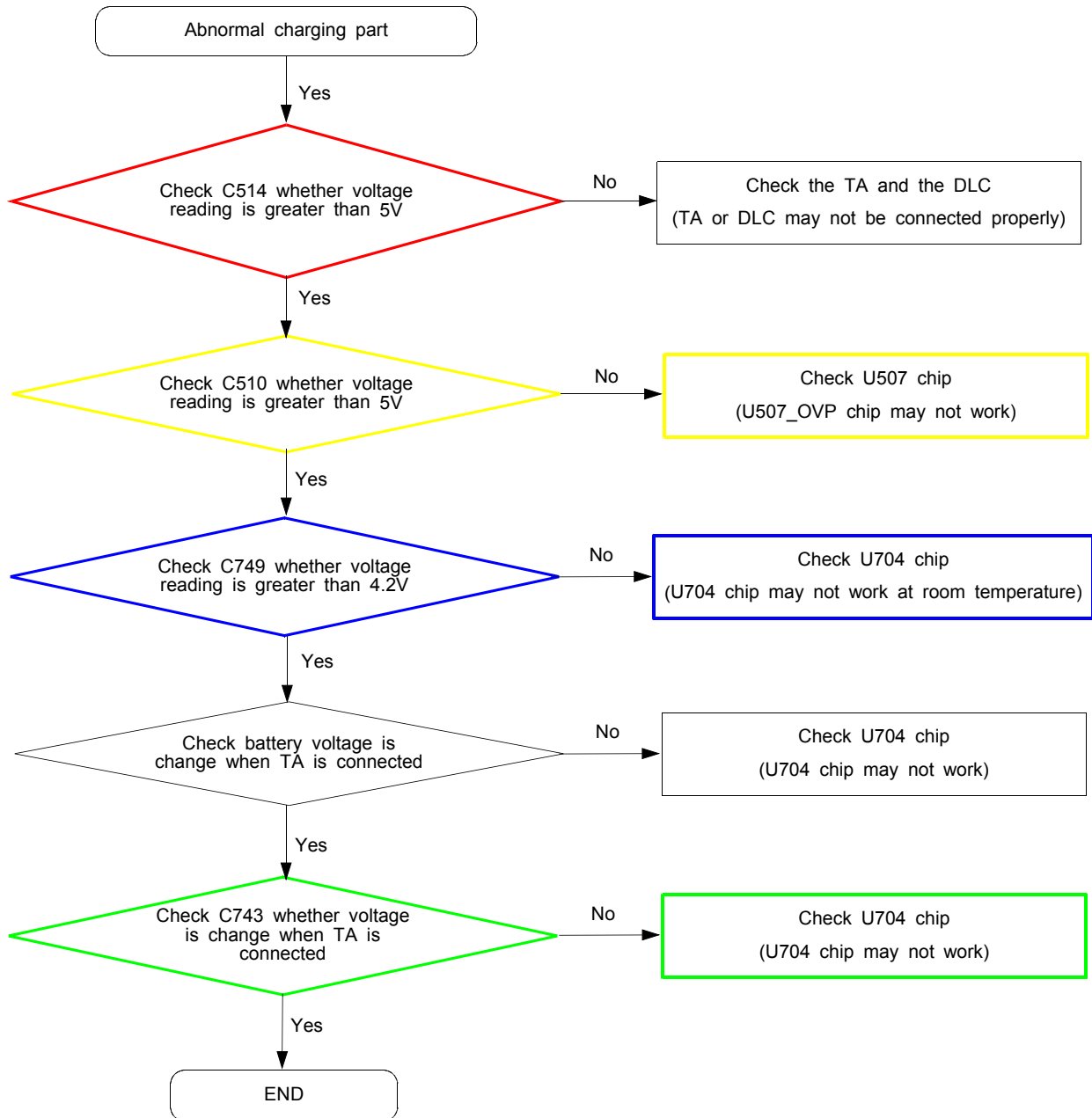
## 8-3-2. Initial





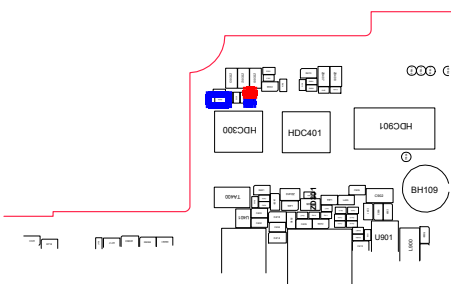
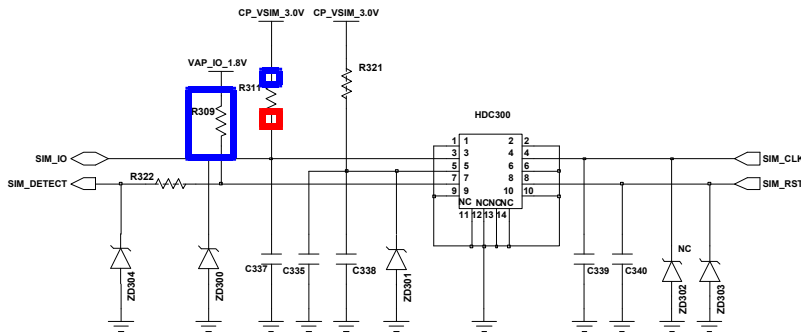
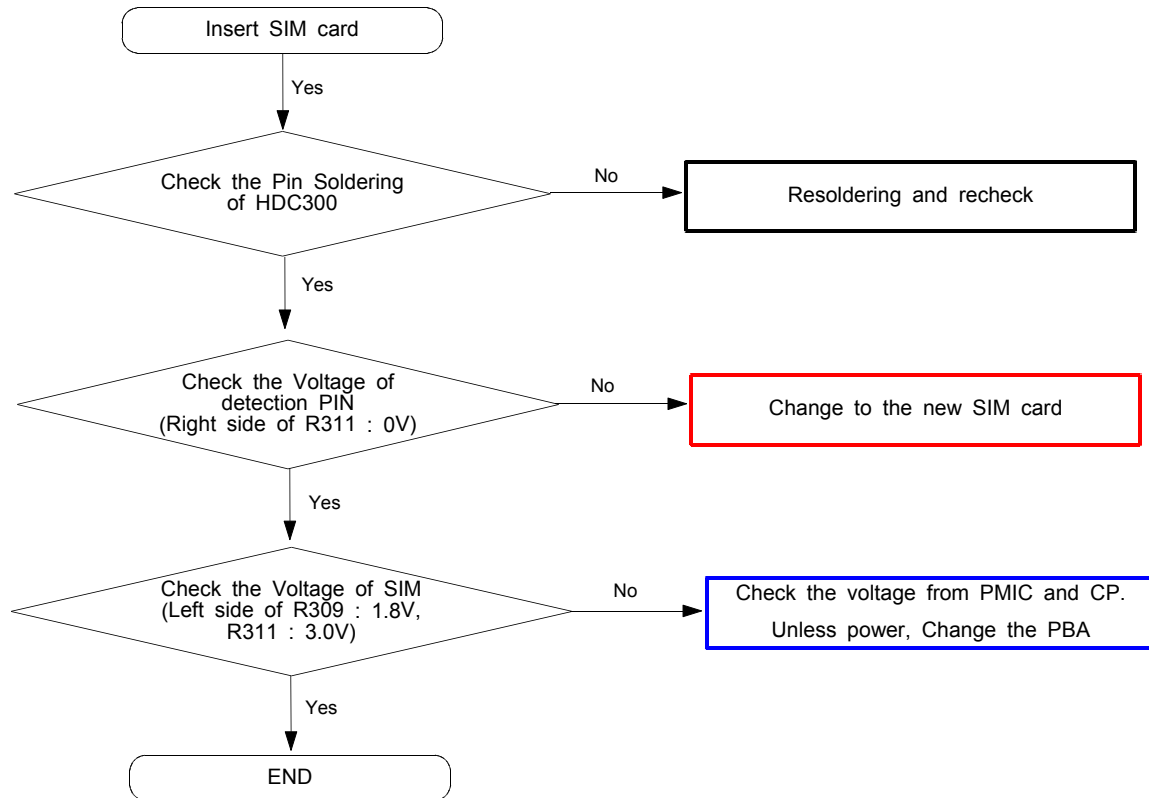


### 8-3-3. Charging Part

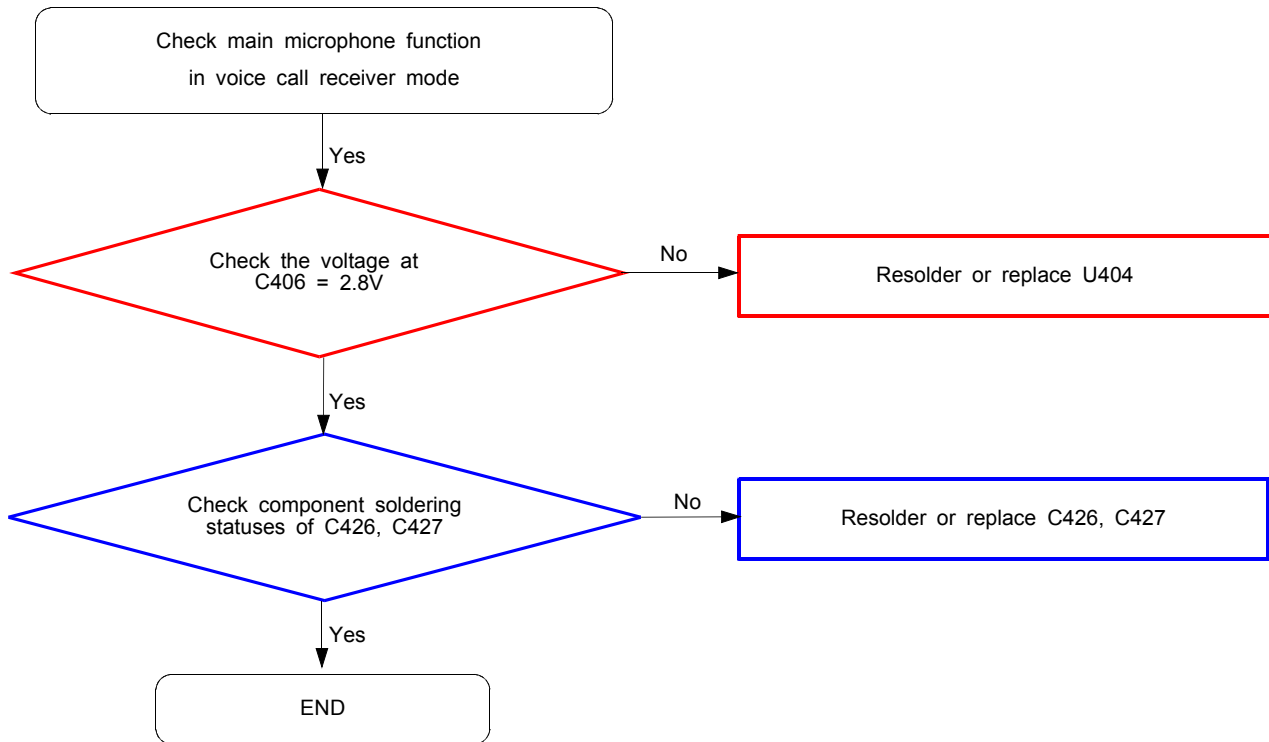




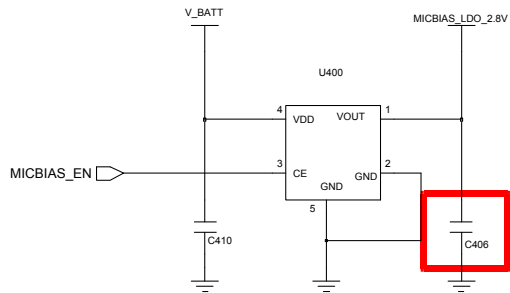
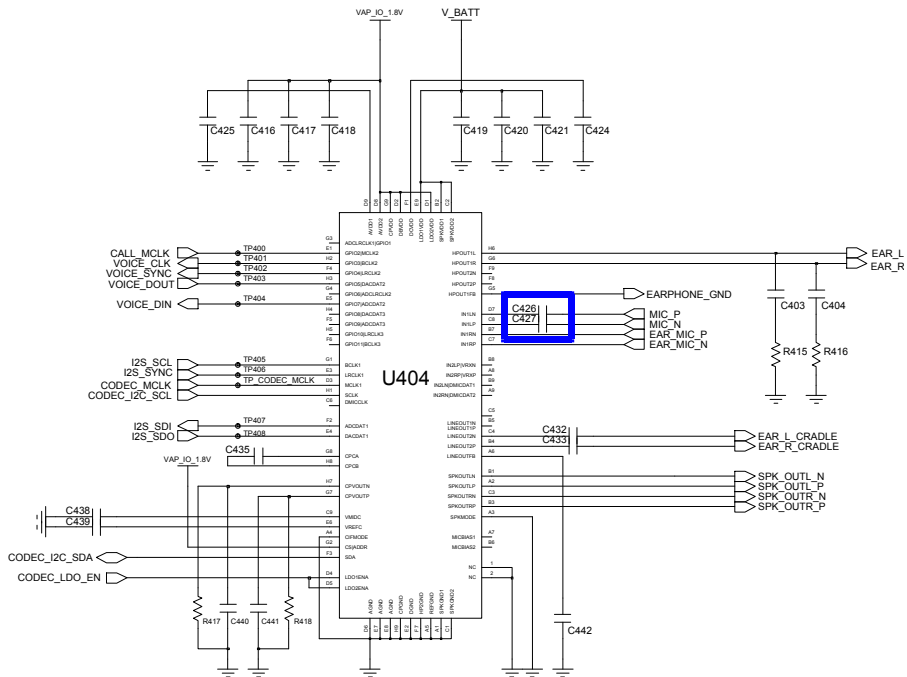
### 8-3-4. Sim Part



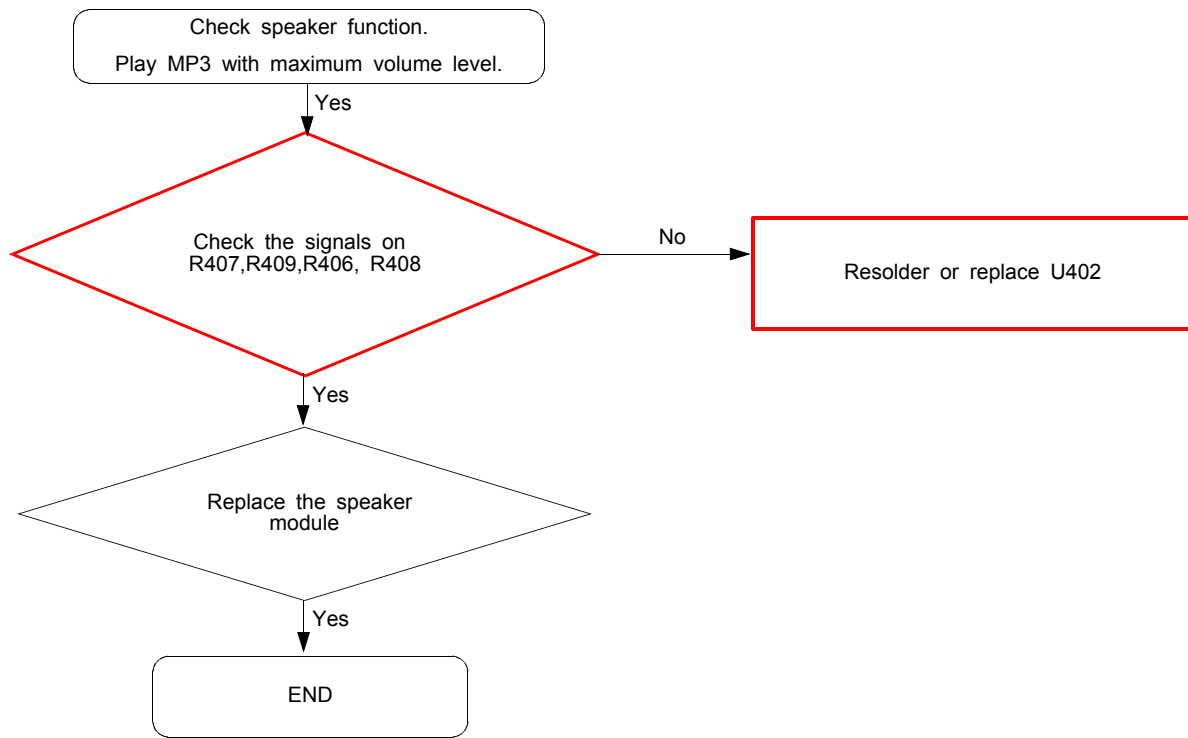
## 8-3-5. Microphone Part

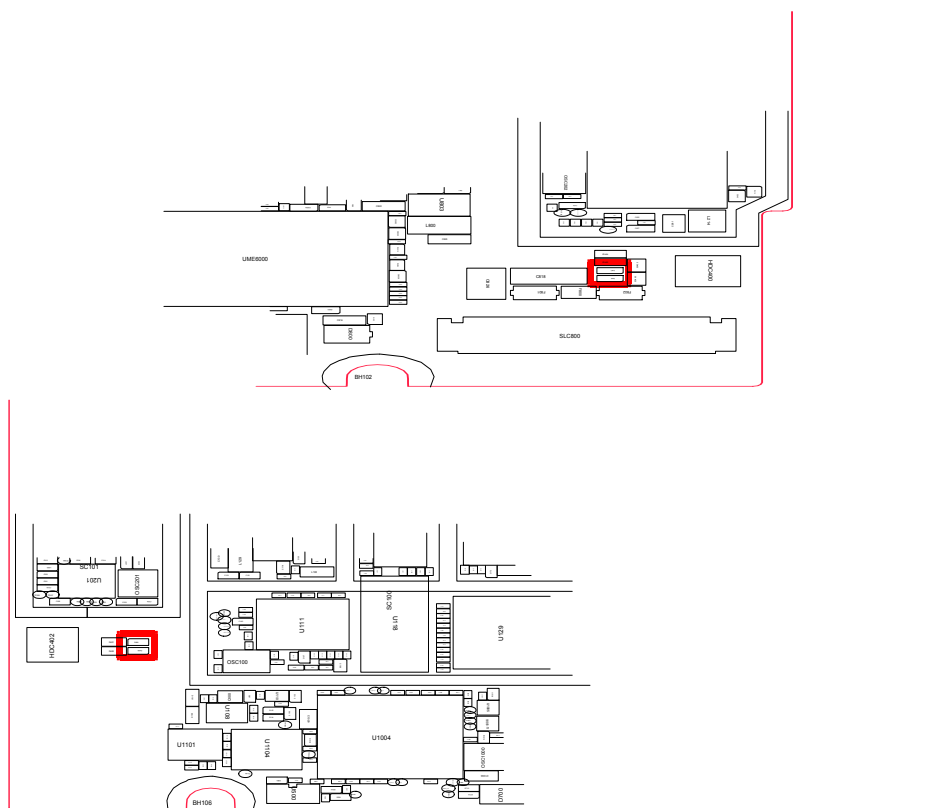
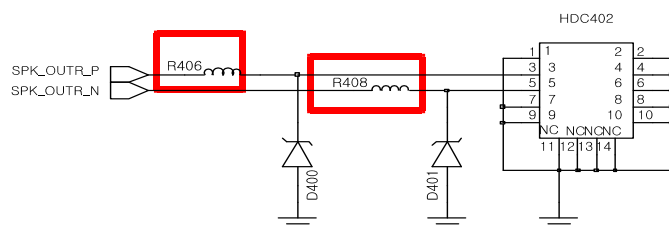




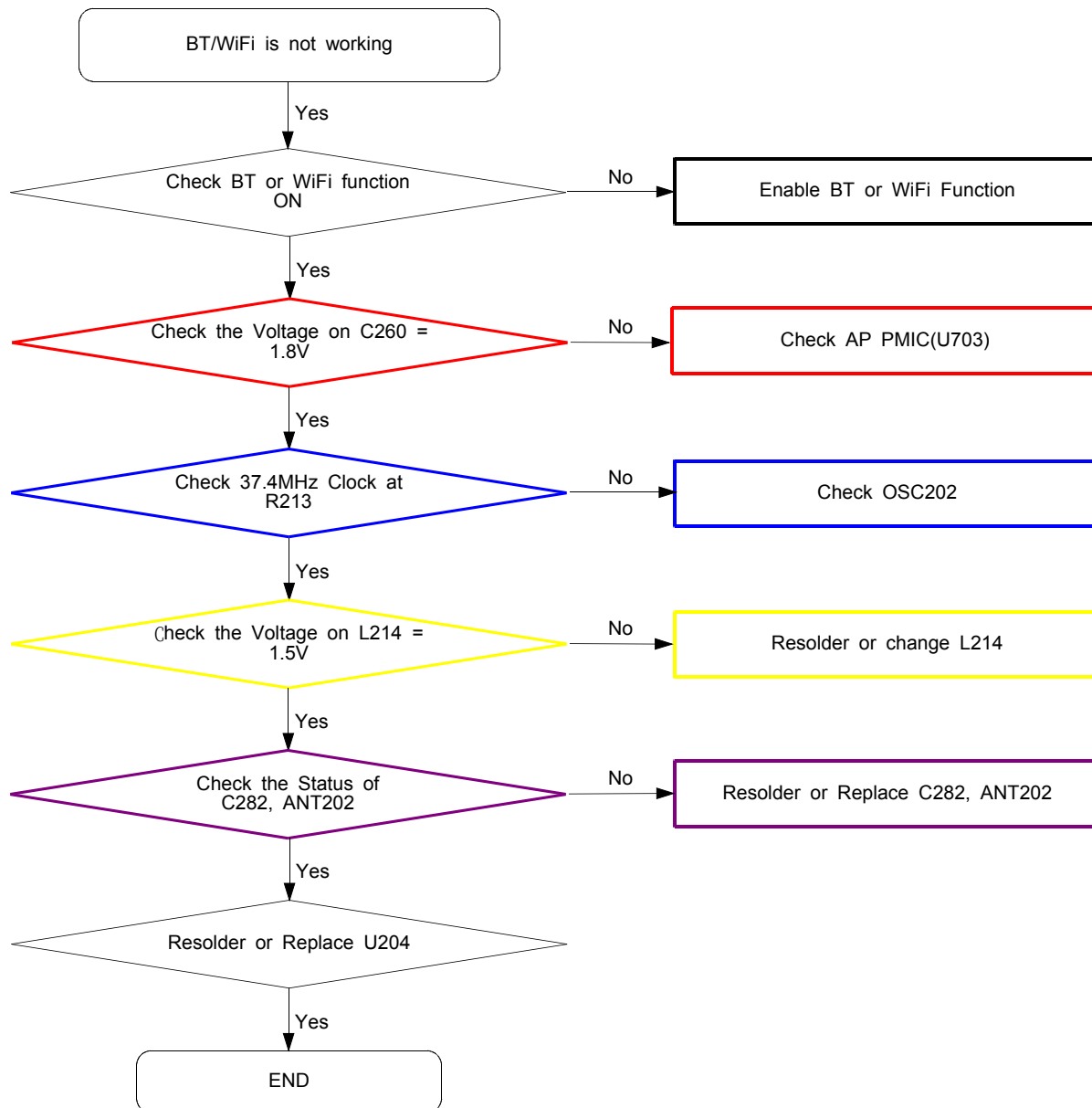


## 8-3-6. Speaker Part

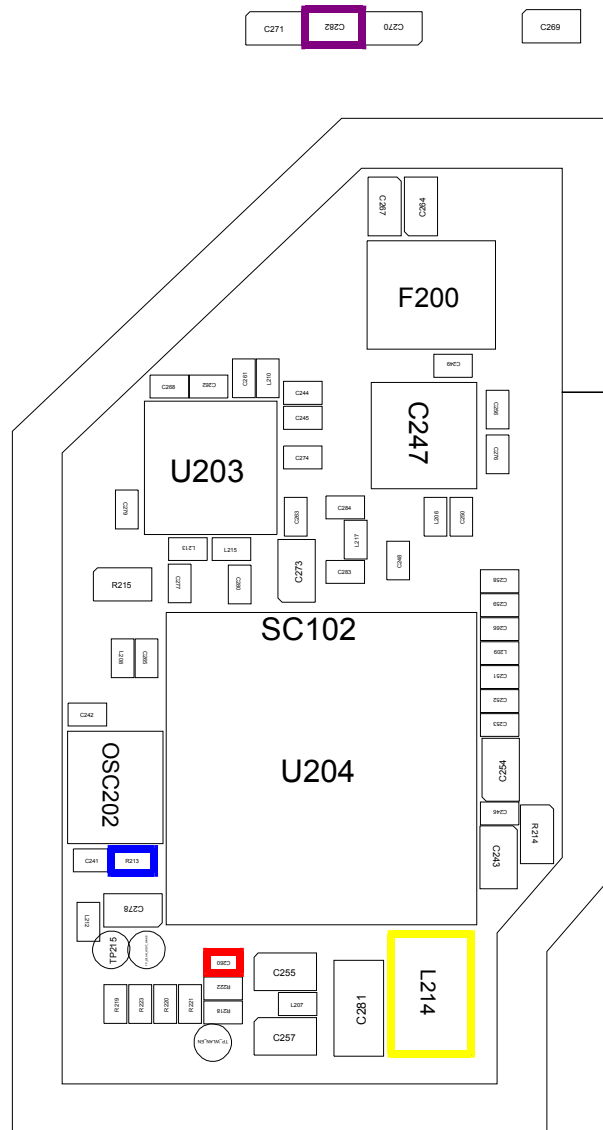




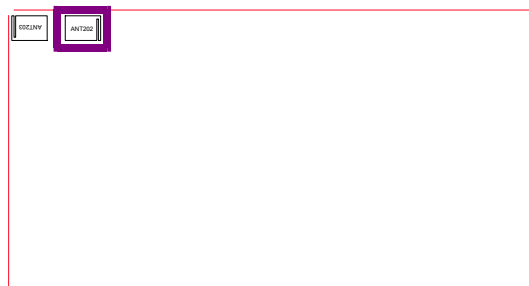
## 8-3-7. BT/WIFI





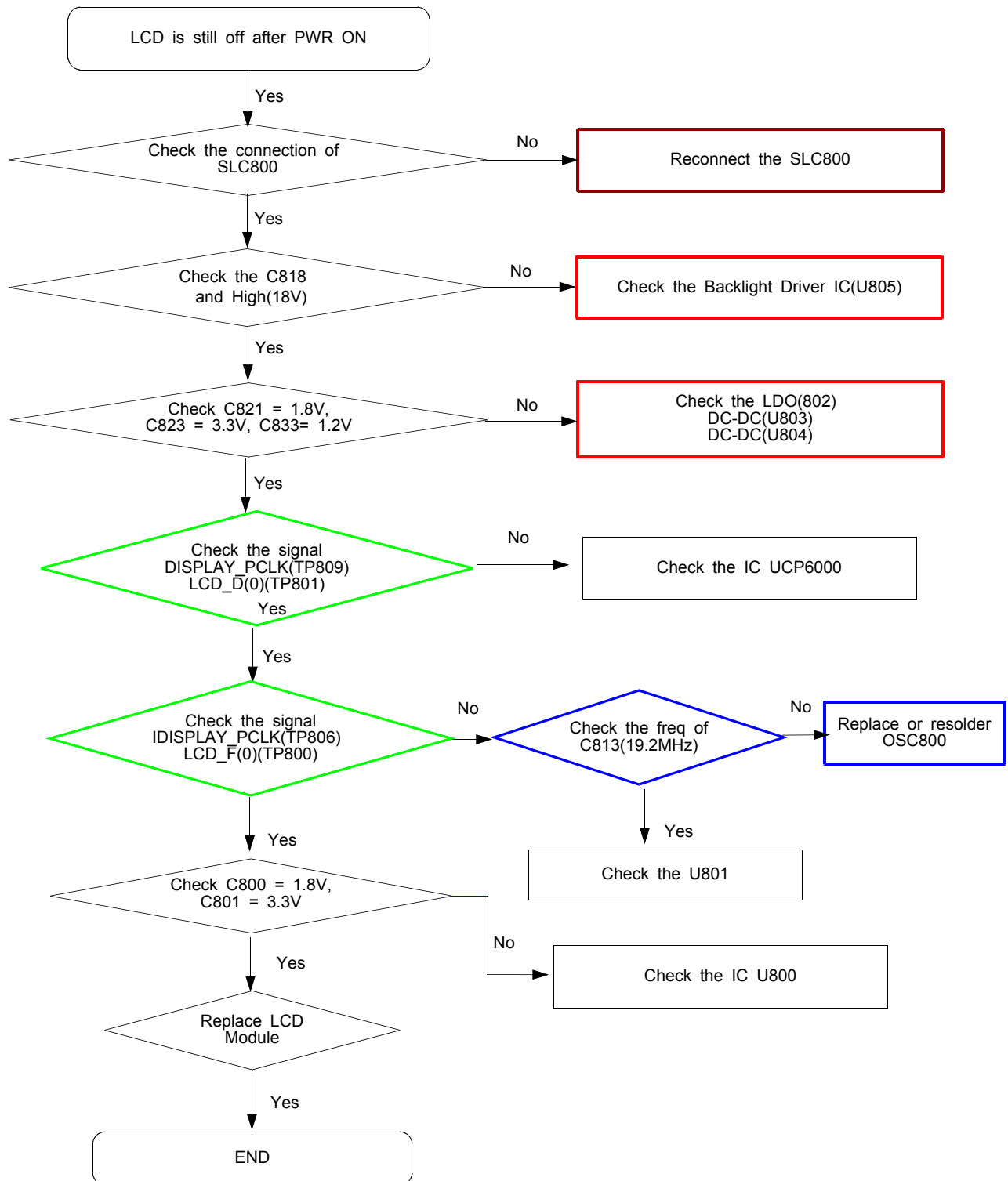


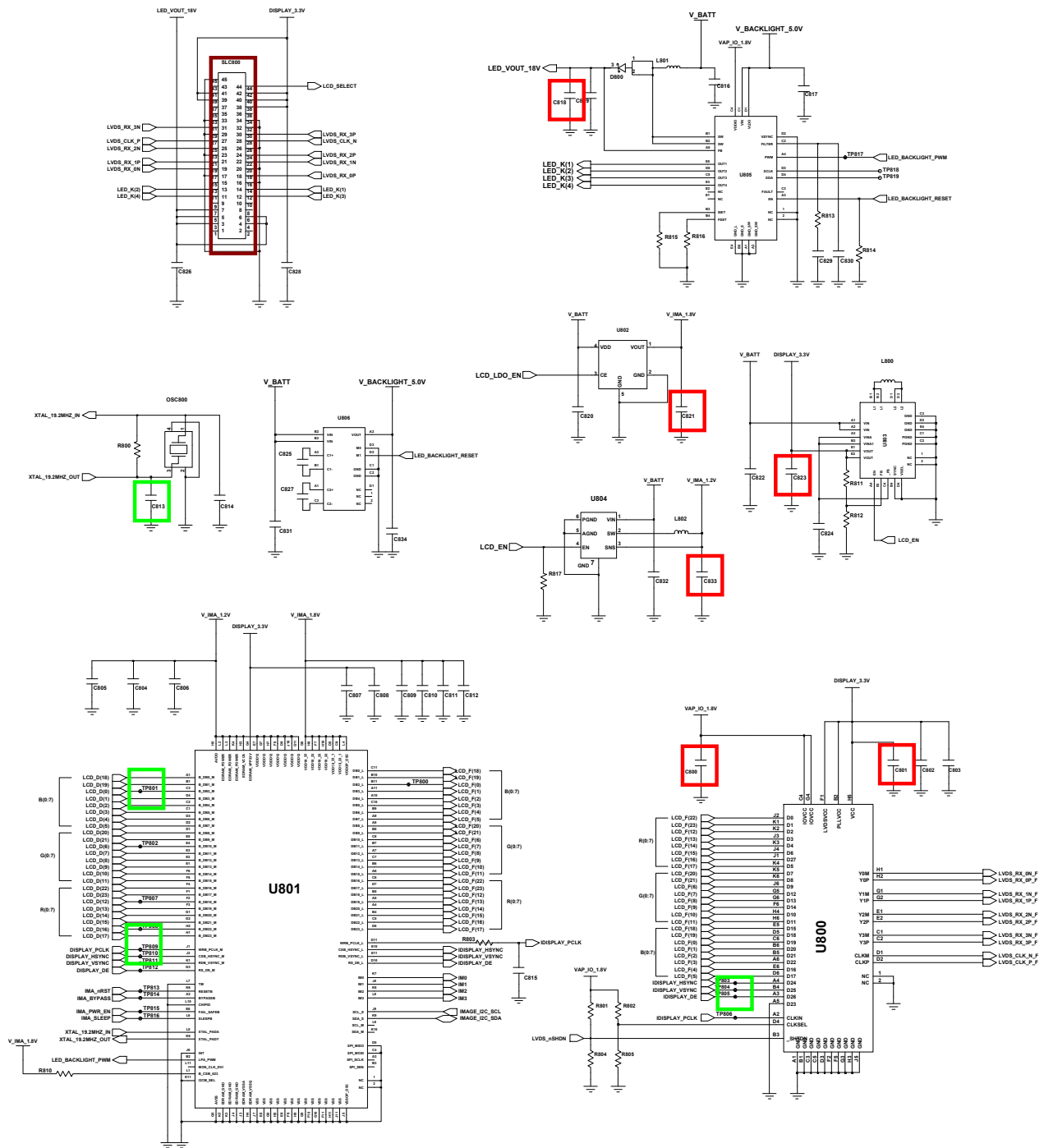
<Bot>



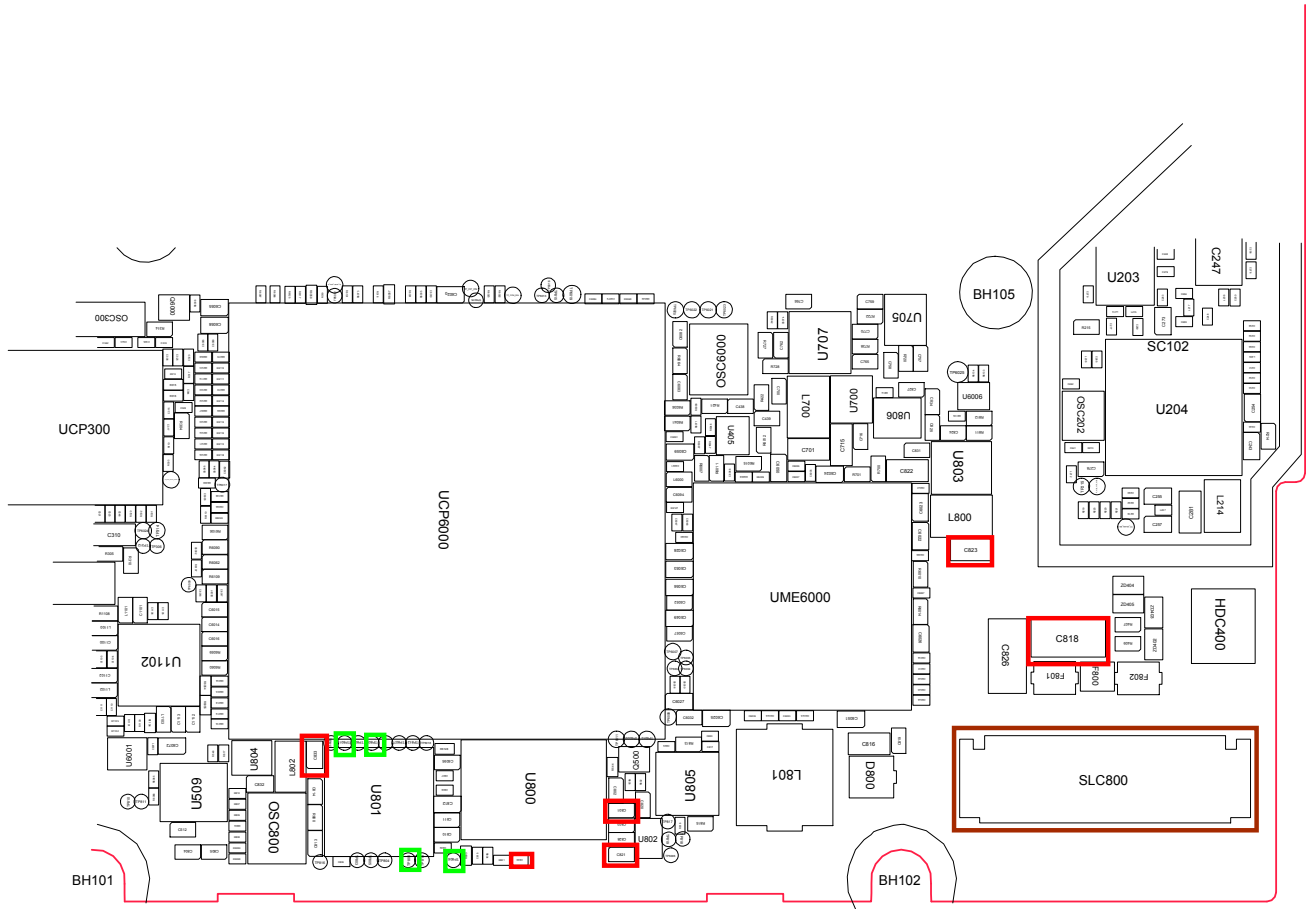
<TOP>

### 8-3-8. LCD

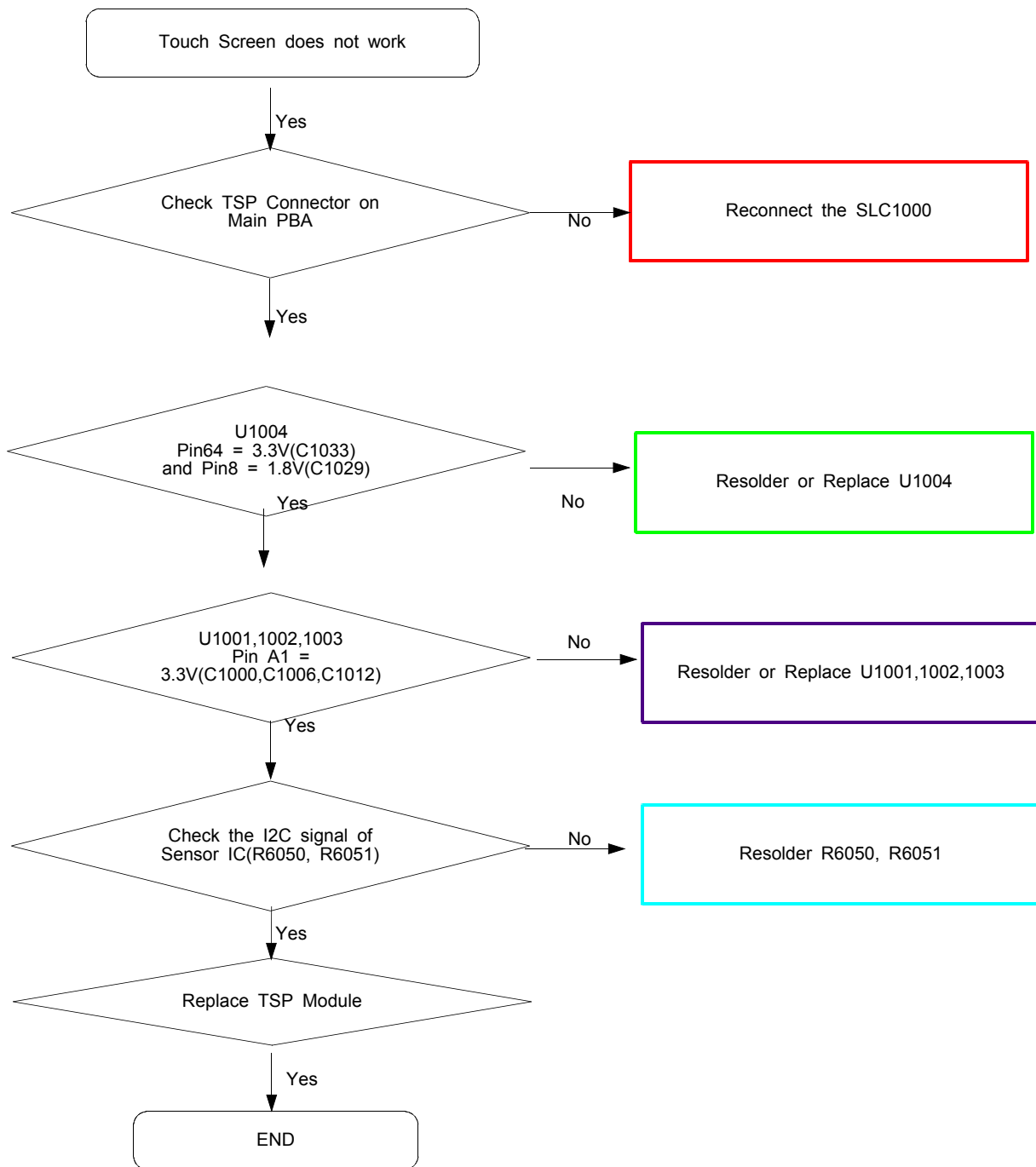


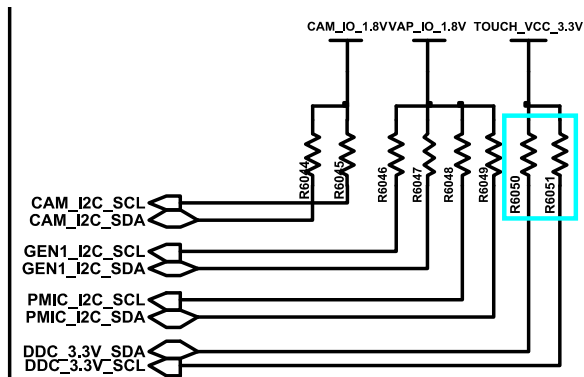
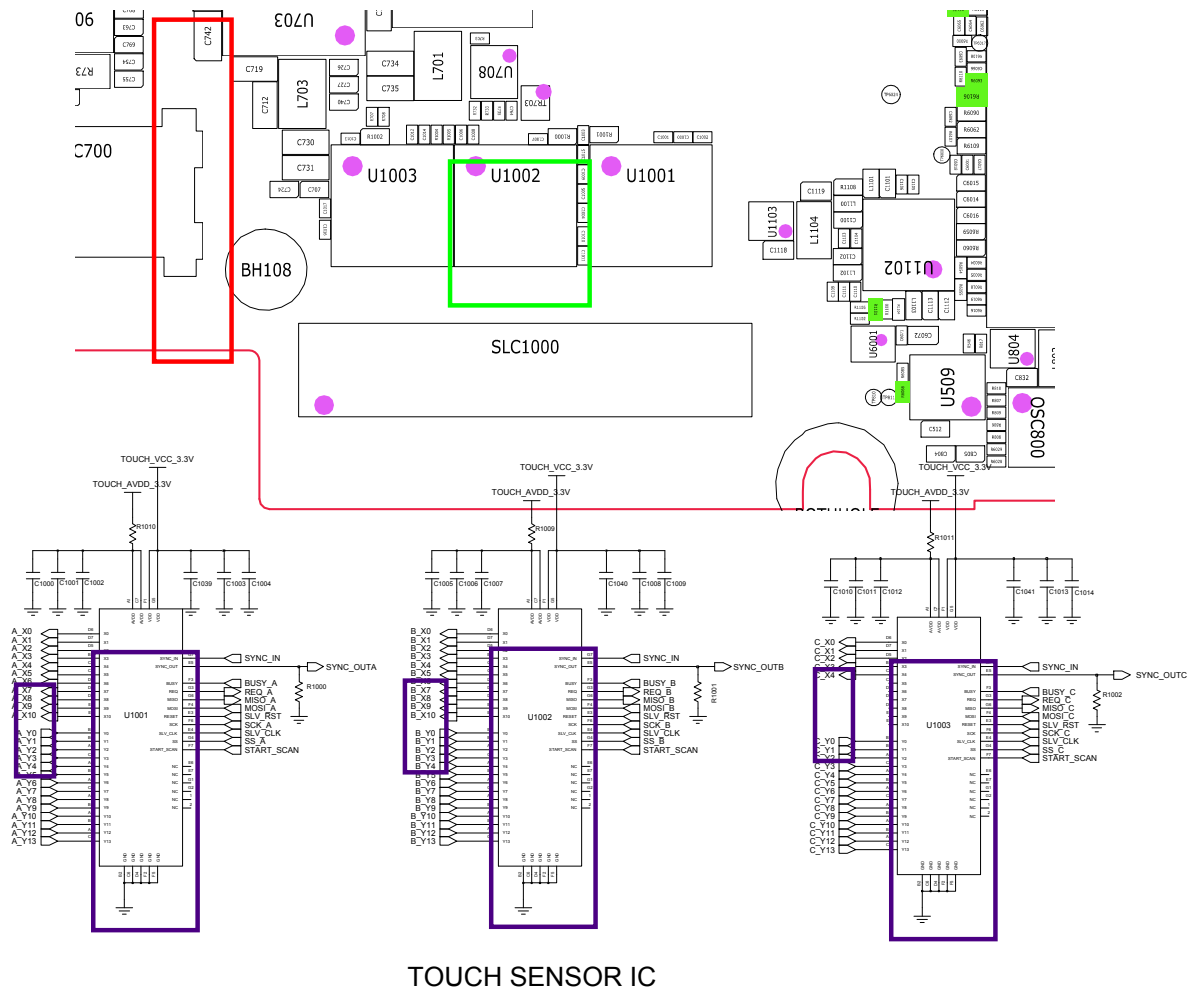


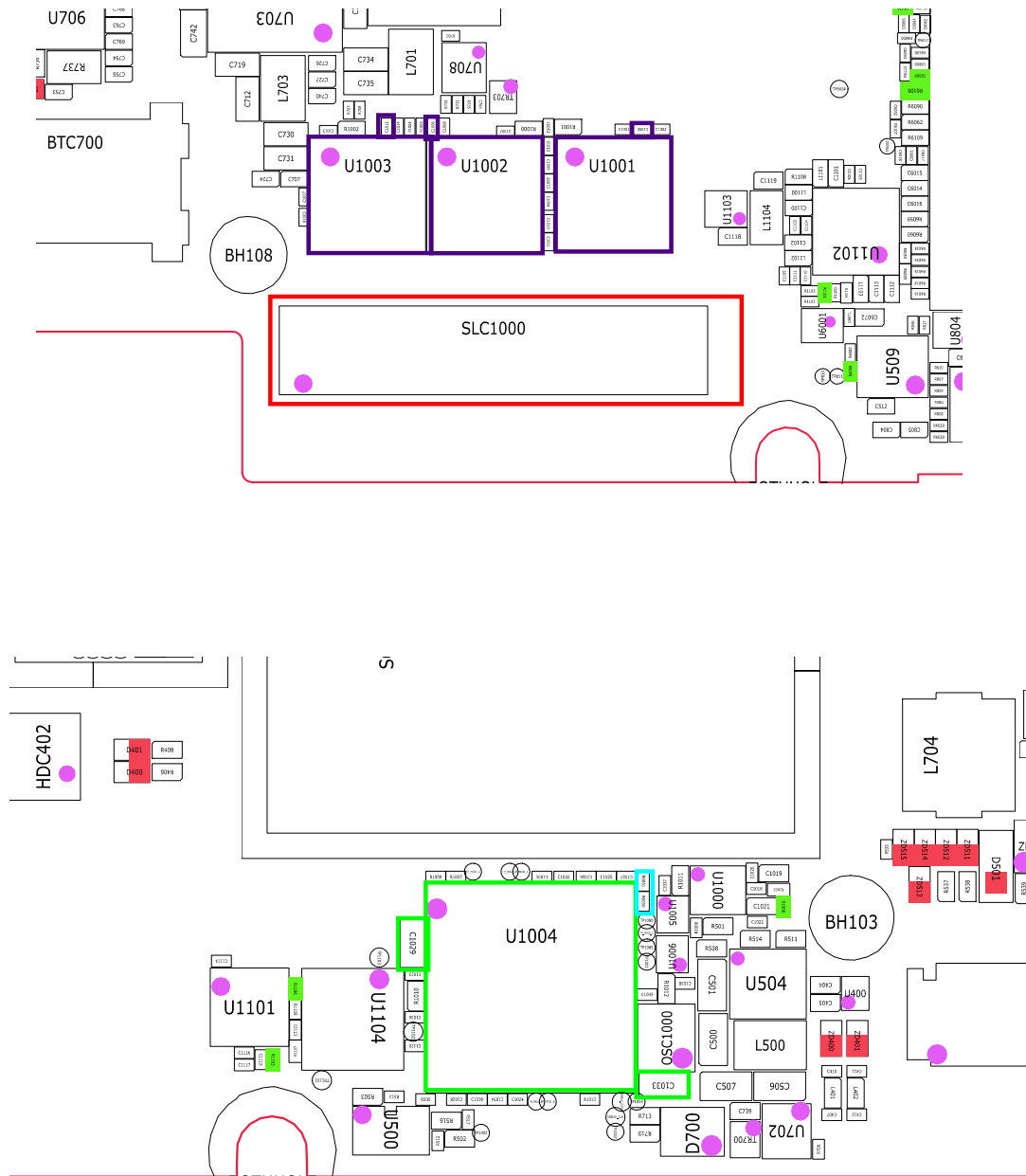




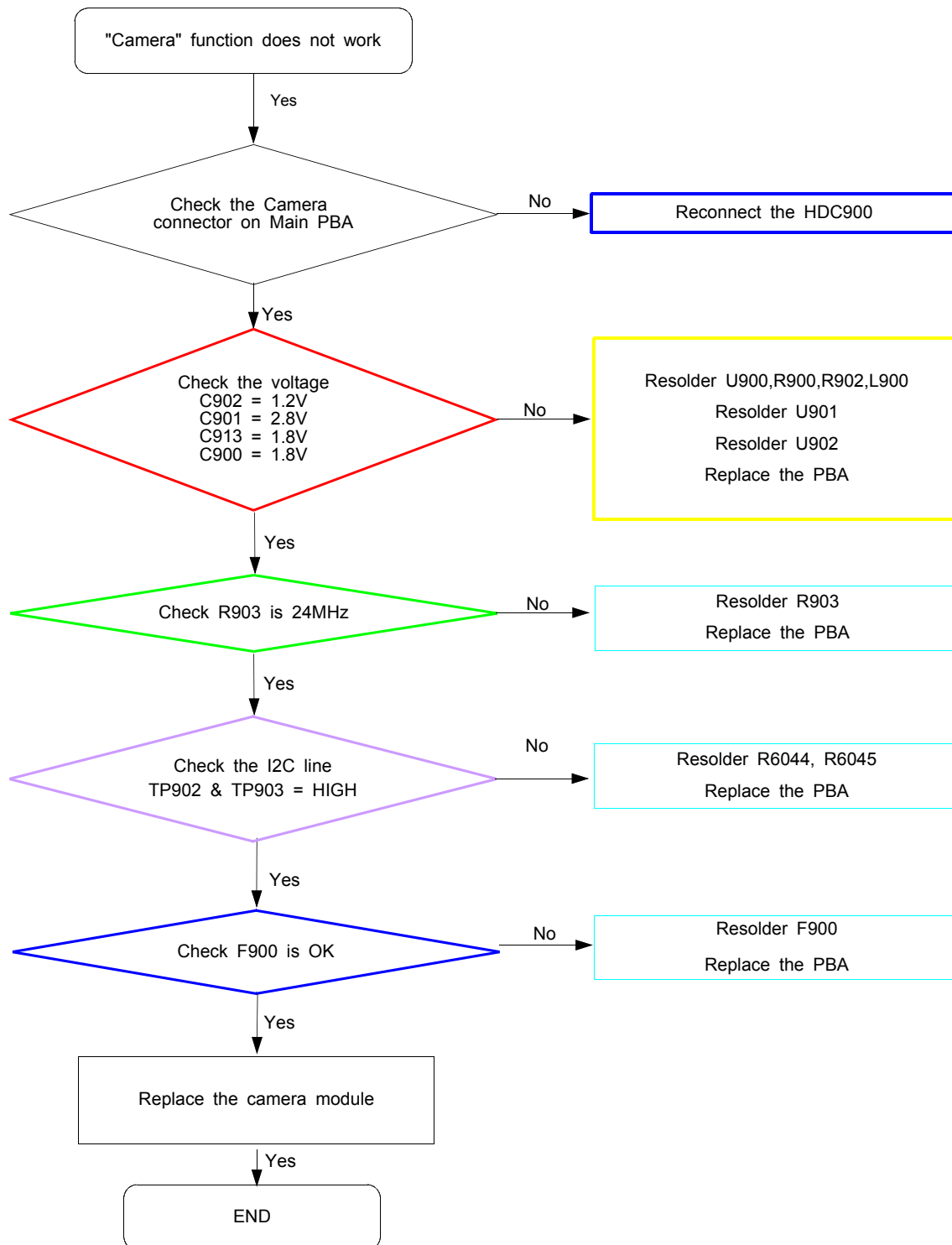
## 8-3-9. TSP

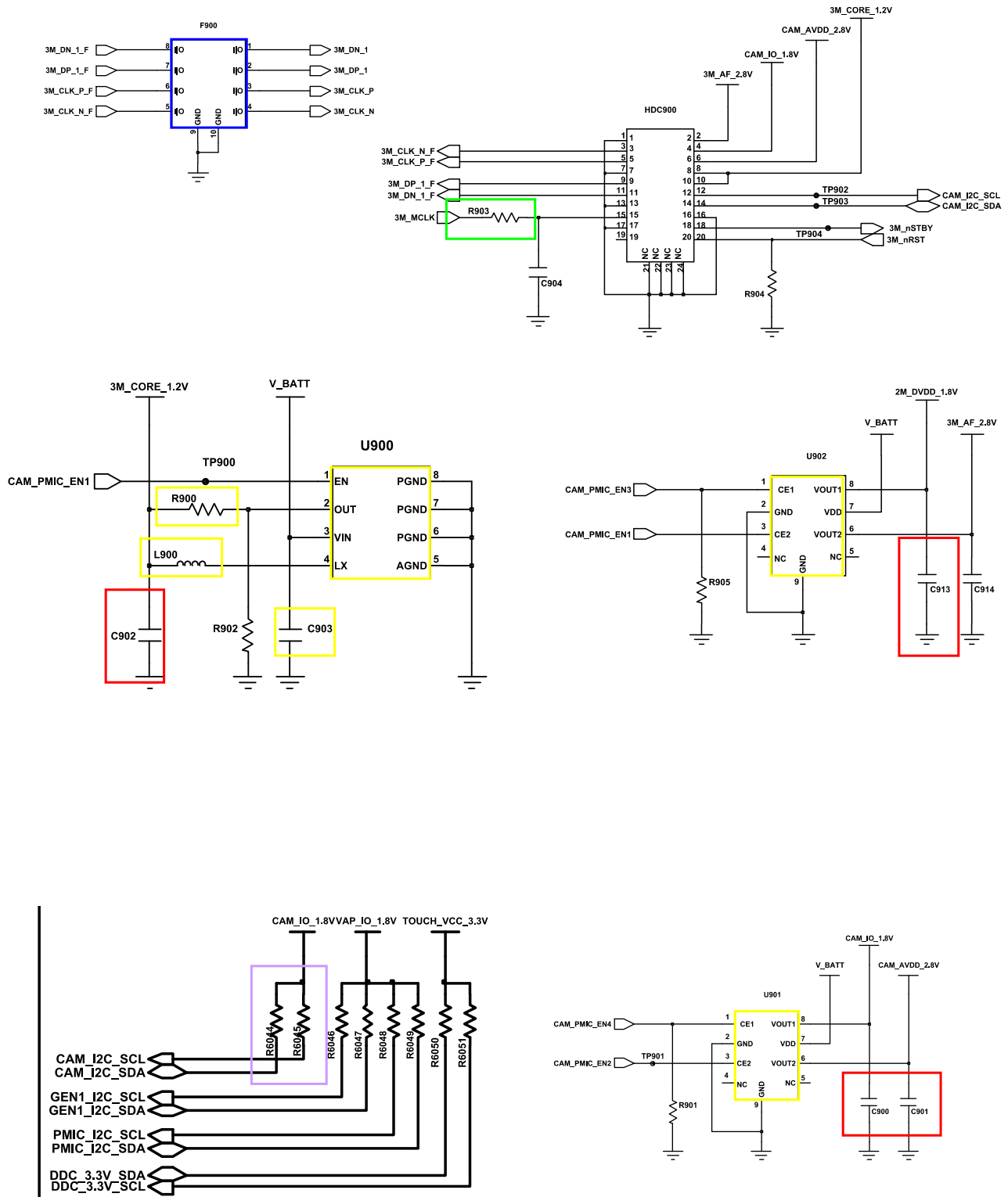






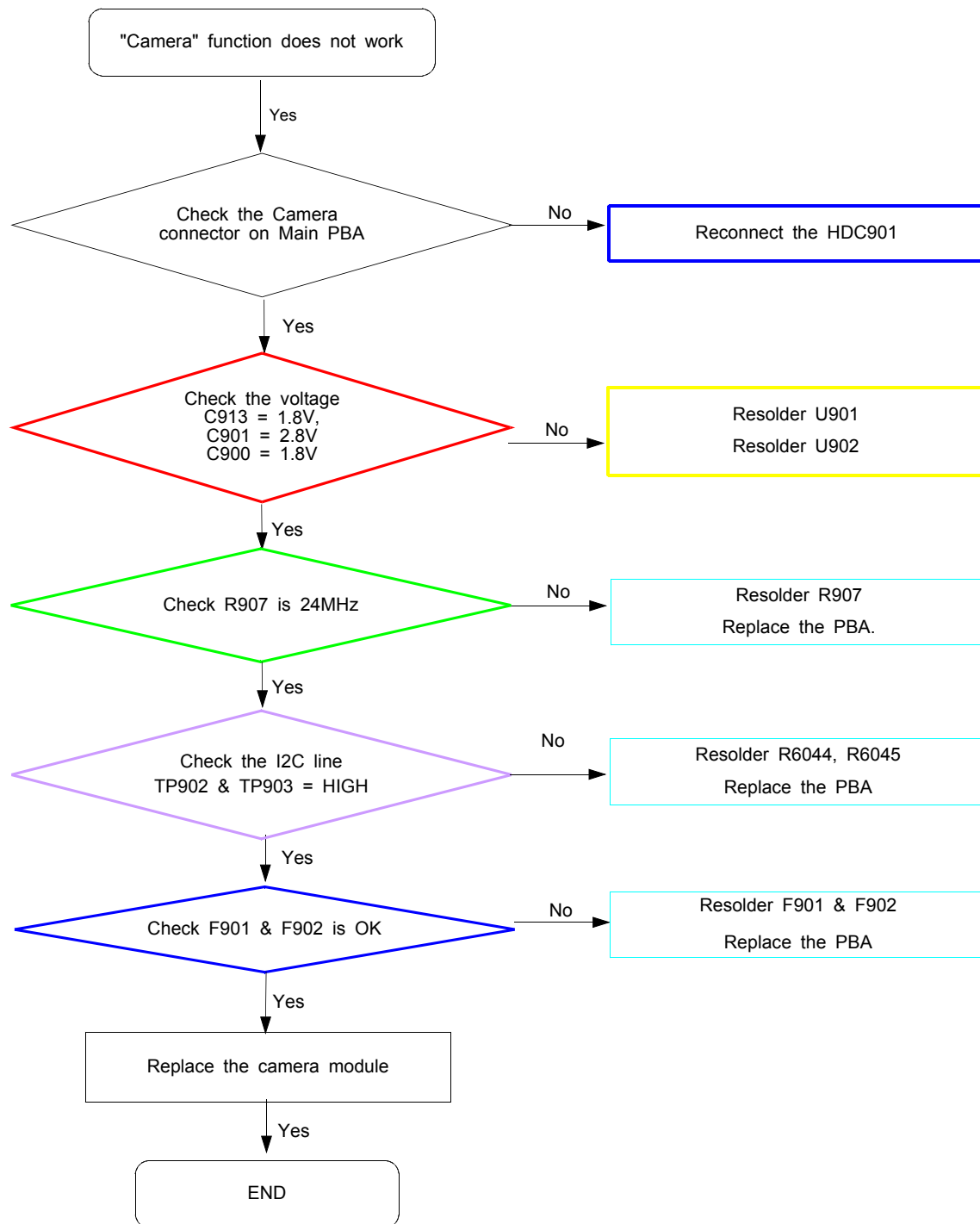
### 8-3-10. 3M CAM



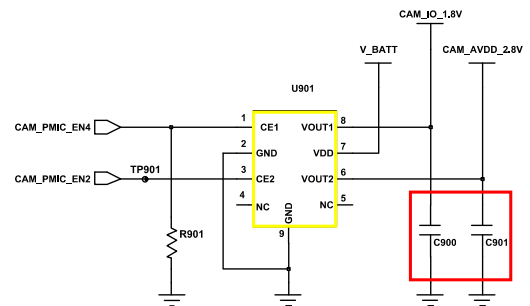
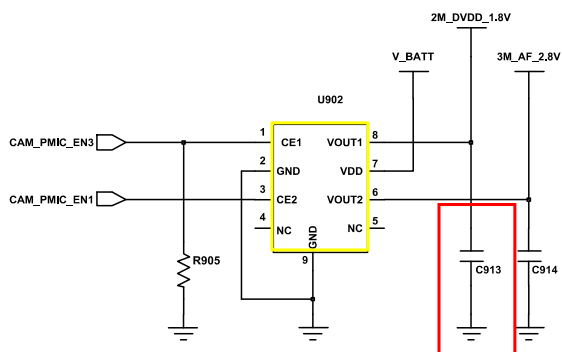
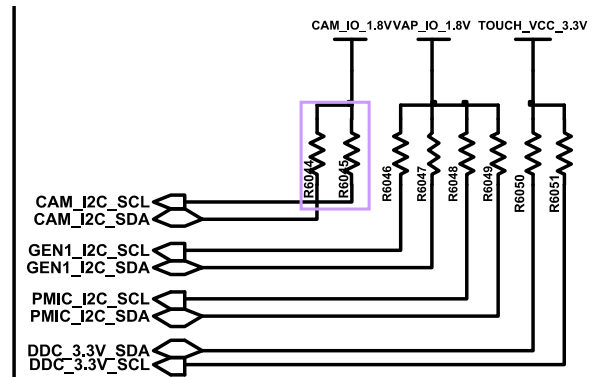
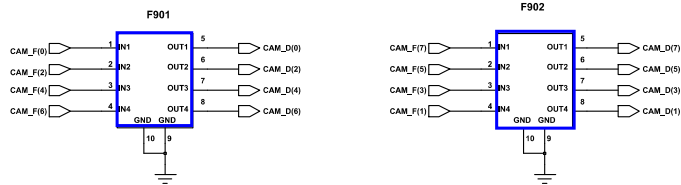
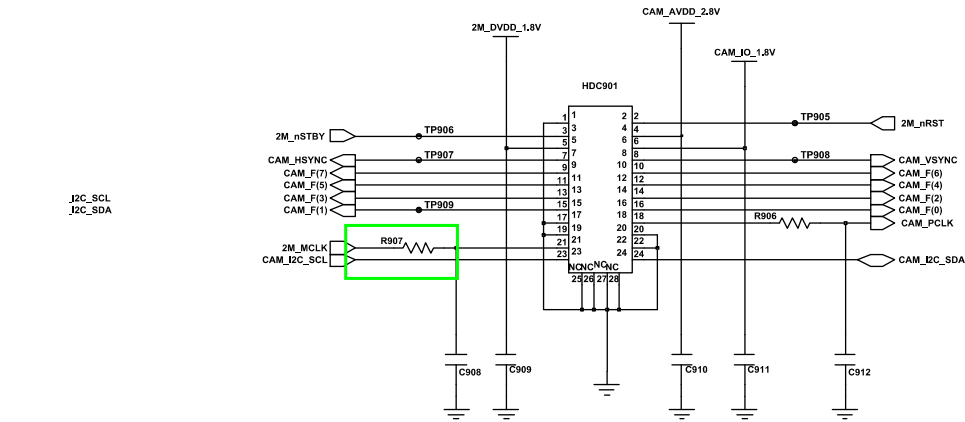


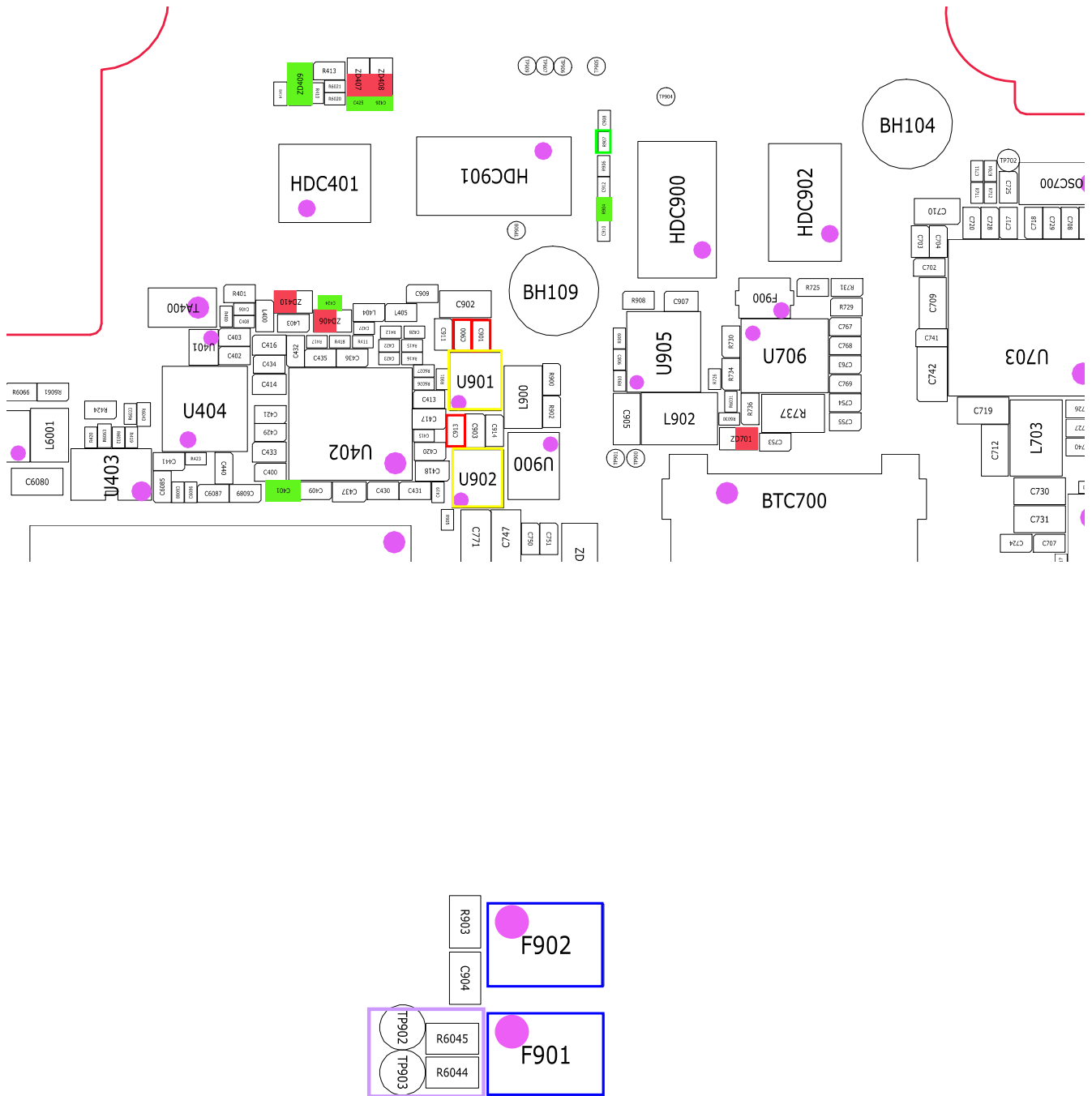


## 8-3-11. 2M CAM

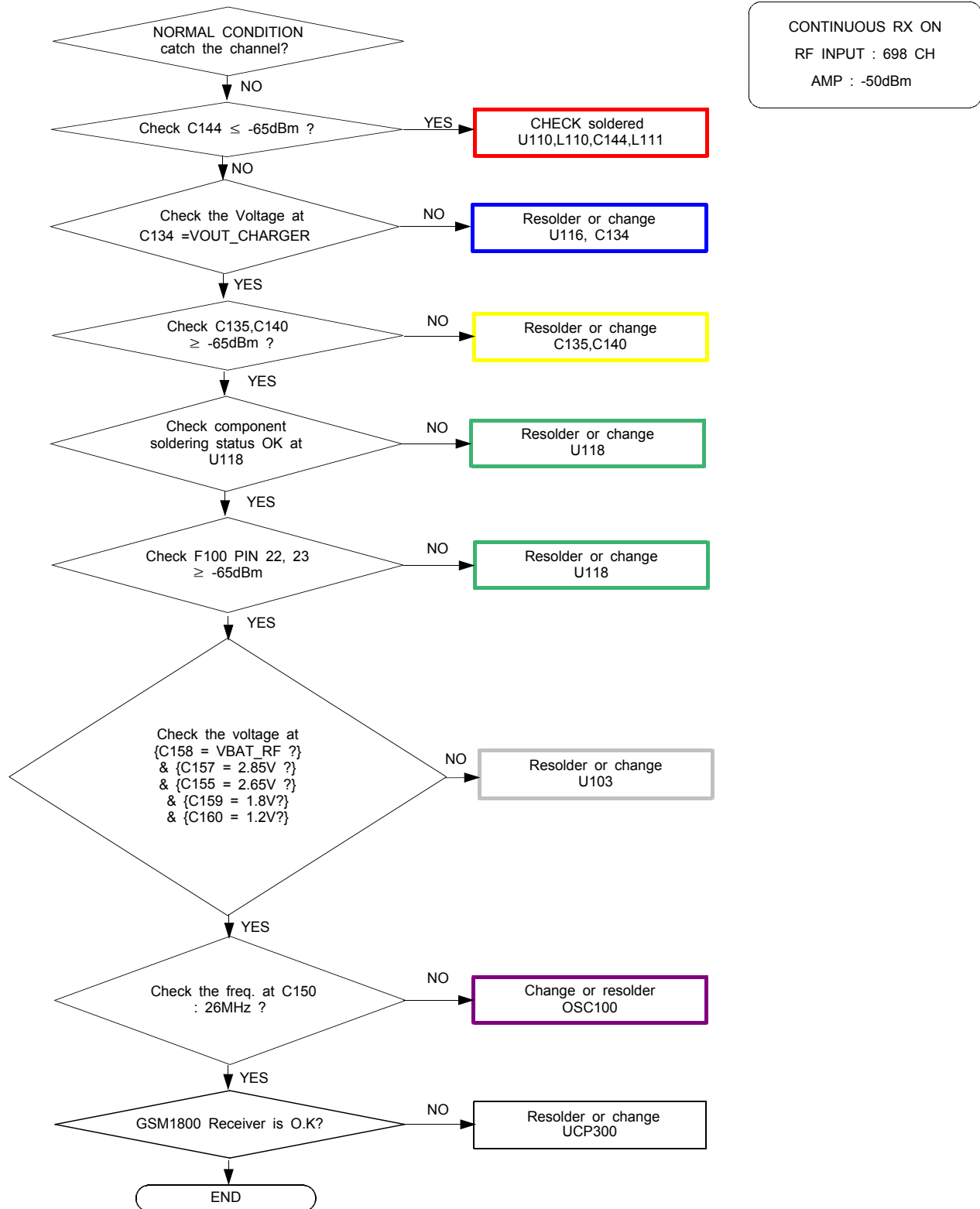


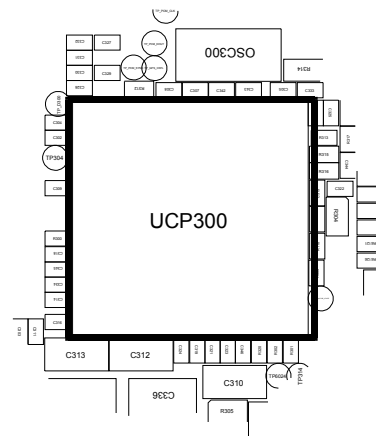
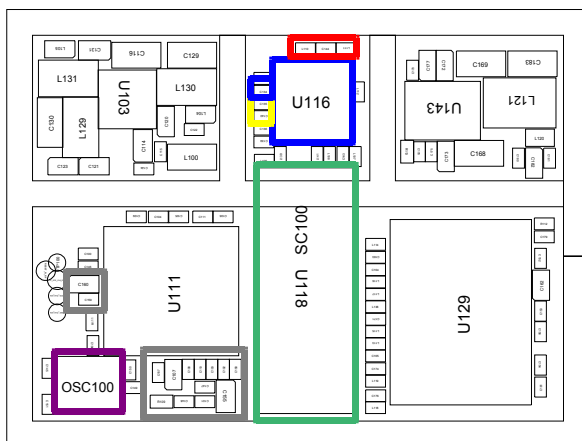
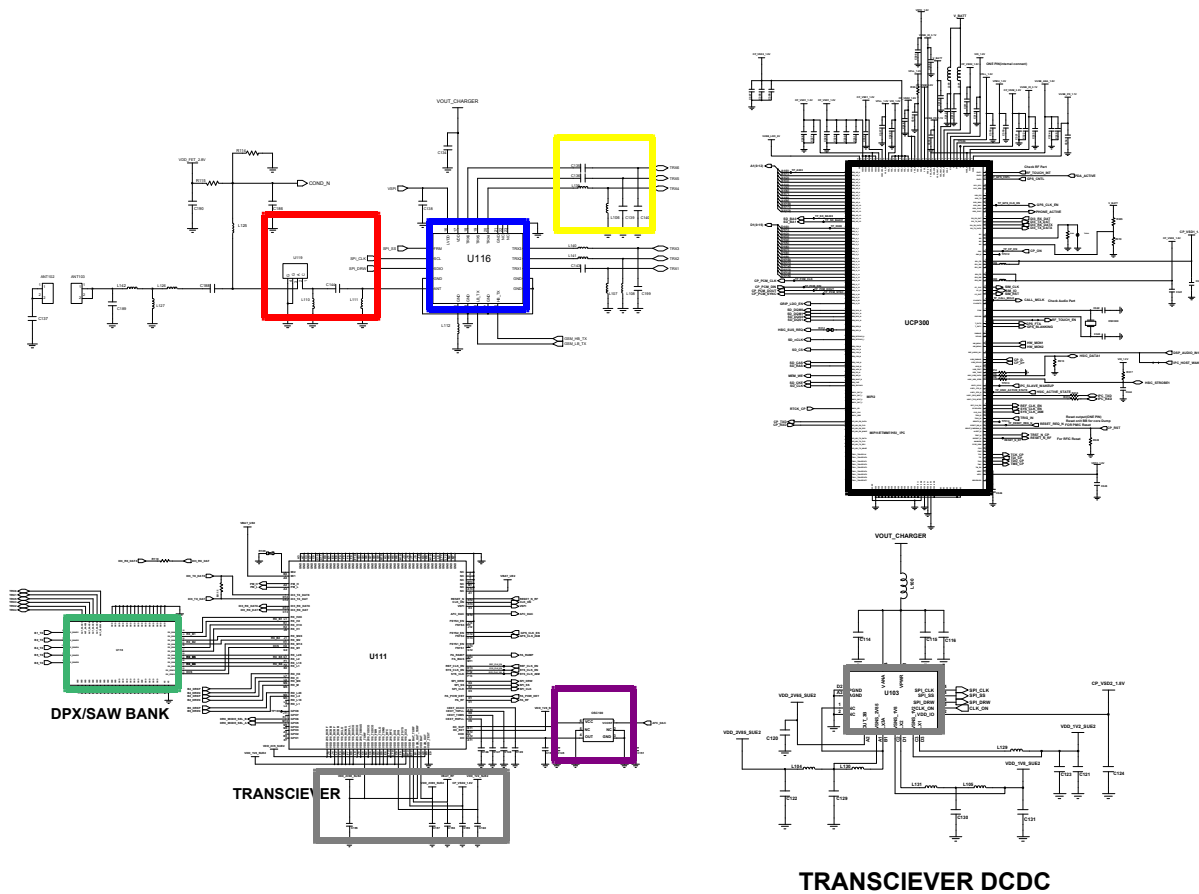




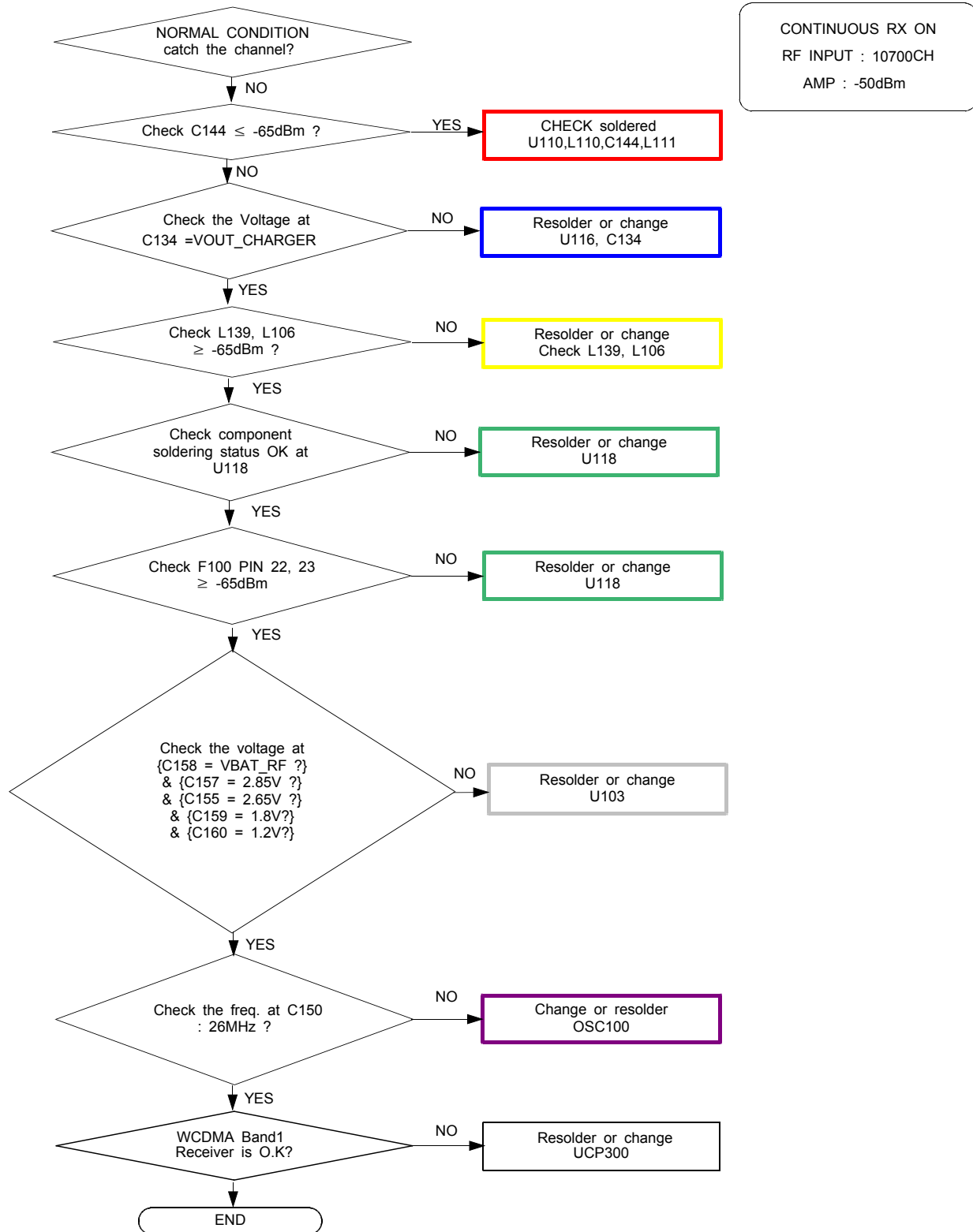


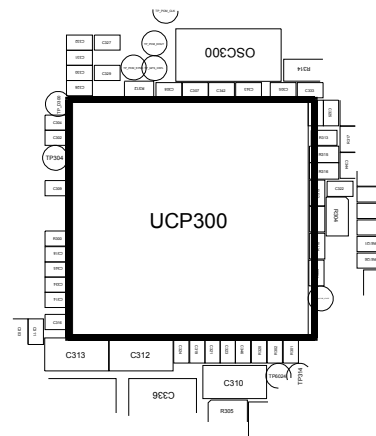
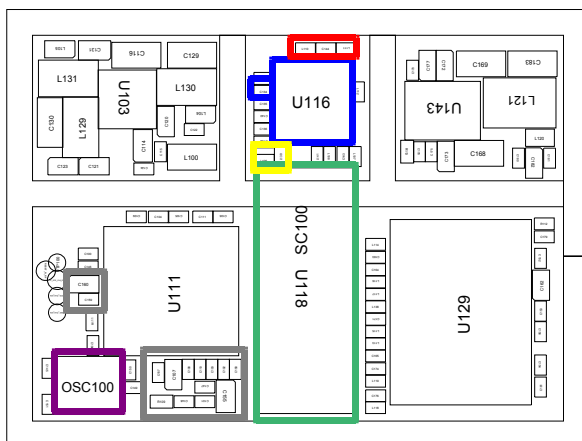
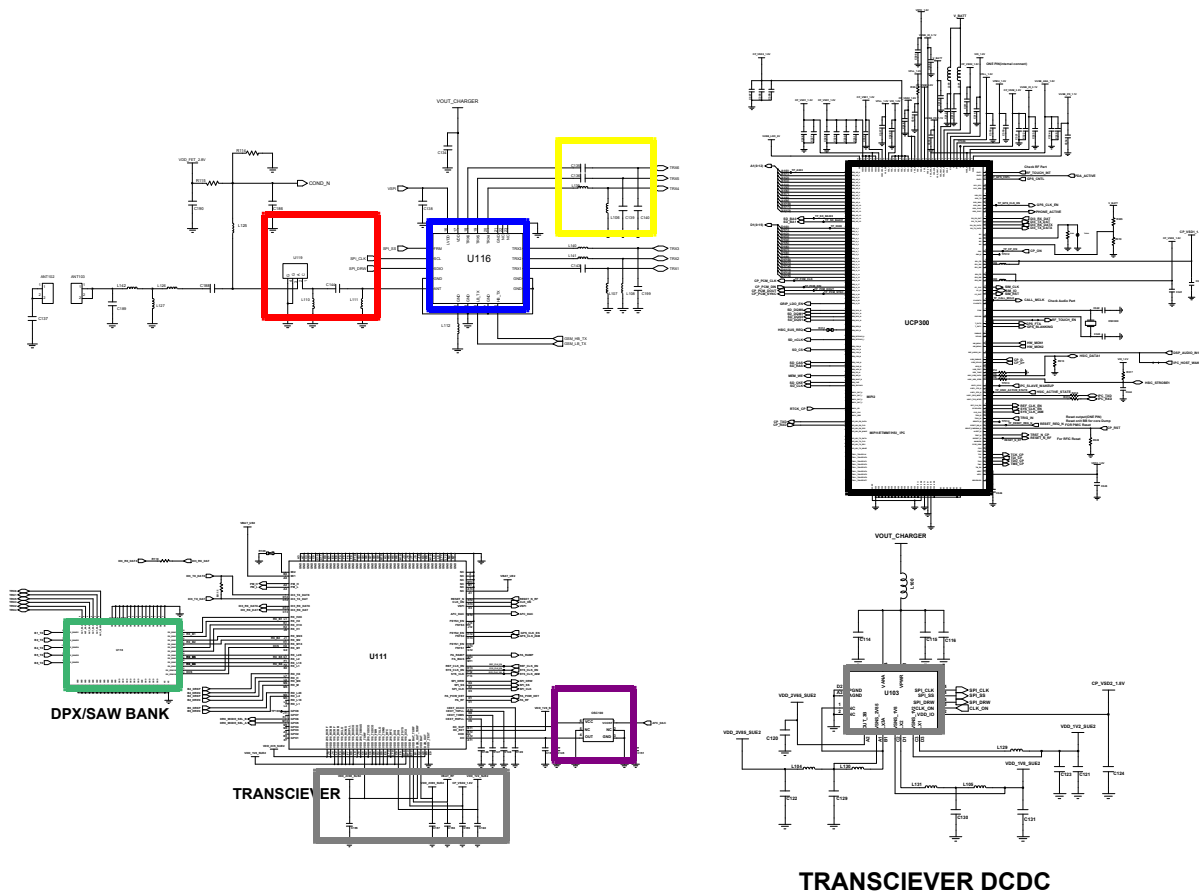
## 8-3-12. GSM1800 RX



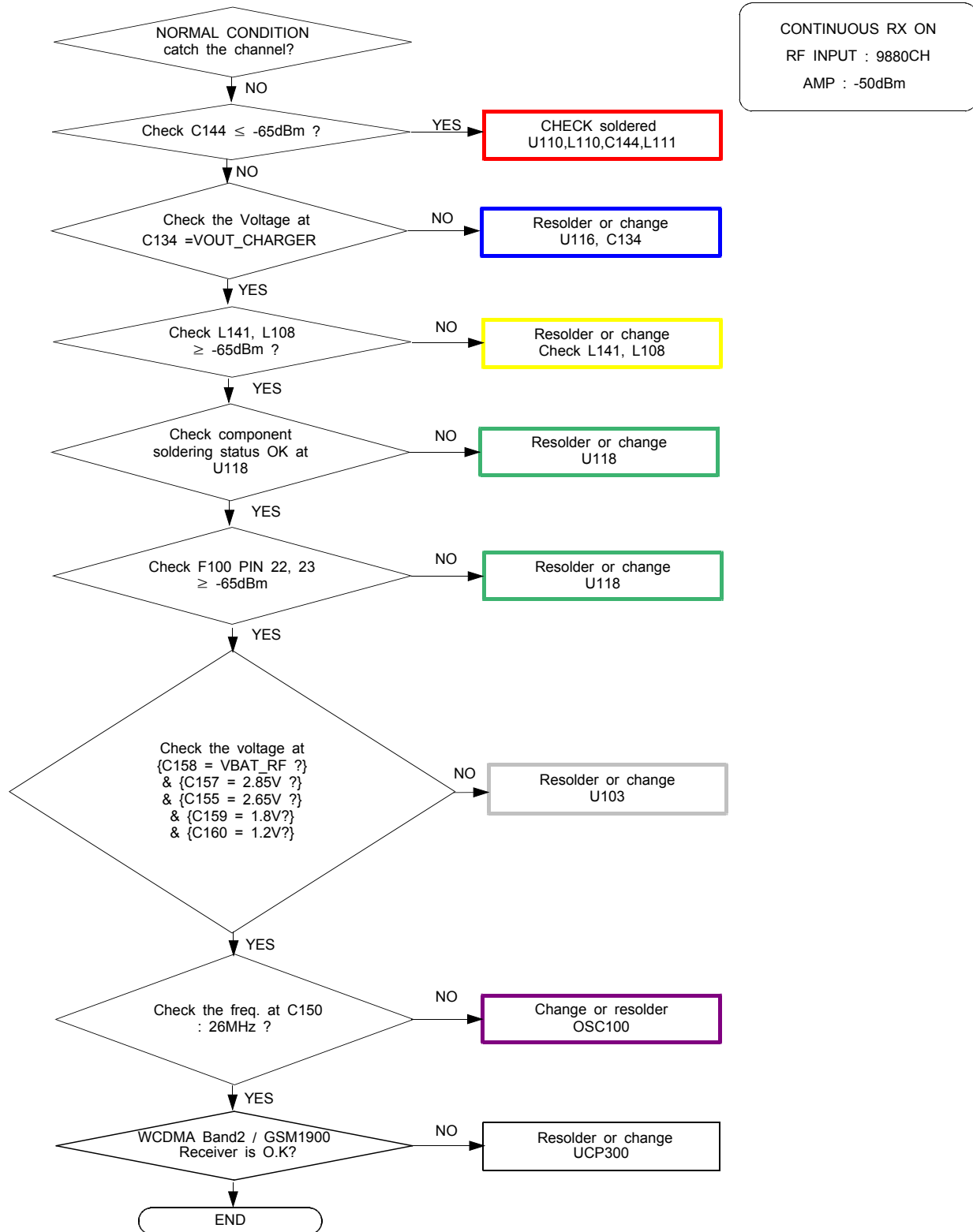


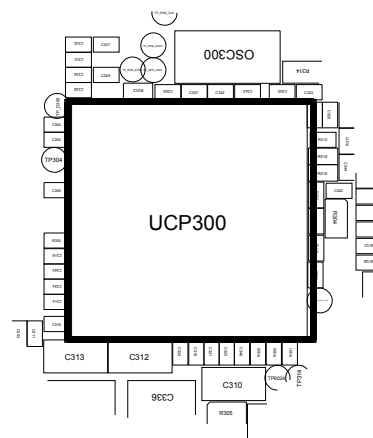
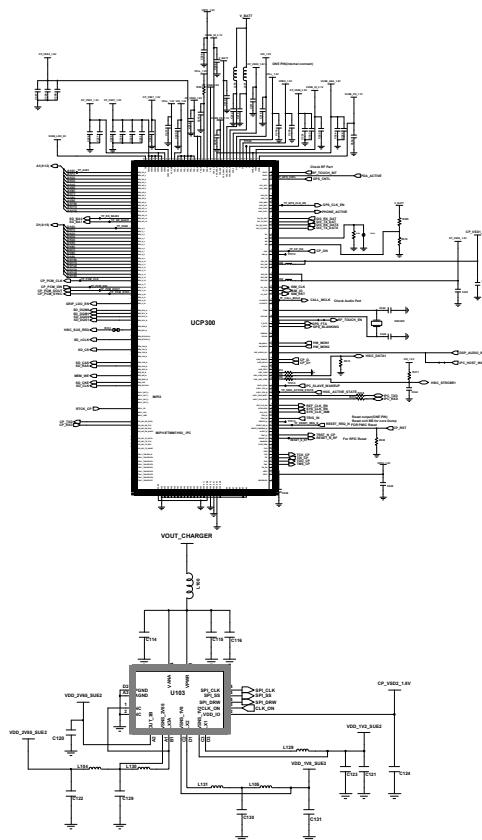
## 8-3-13. WCDMA Band1 RX





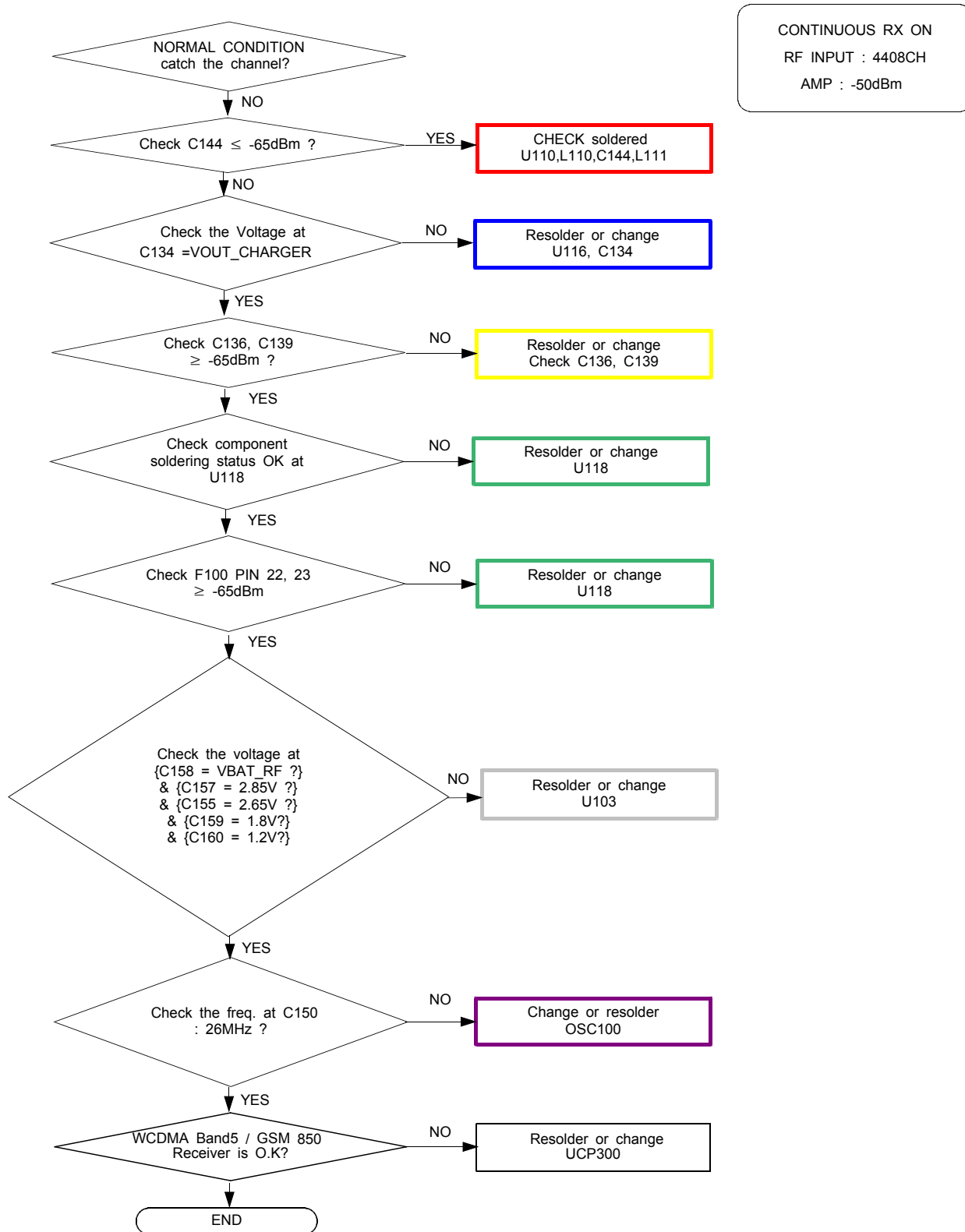
## 8-3-14. WCDMA Band2 / GSM1900 RX

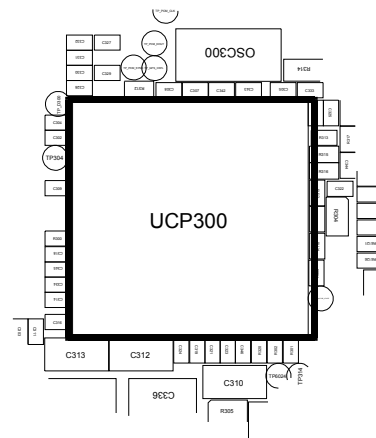
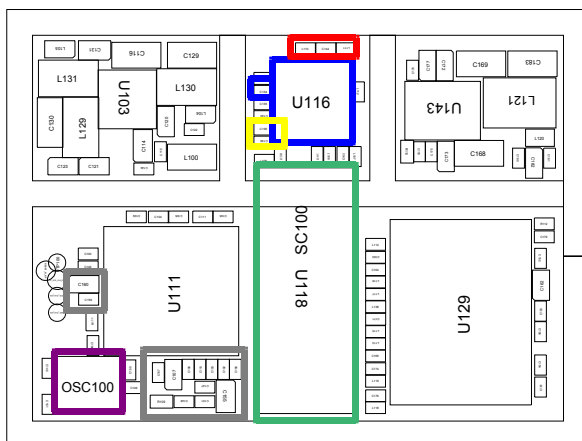
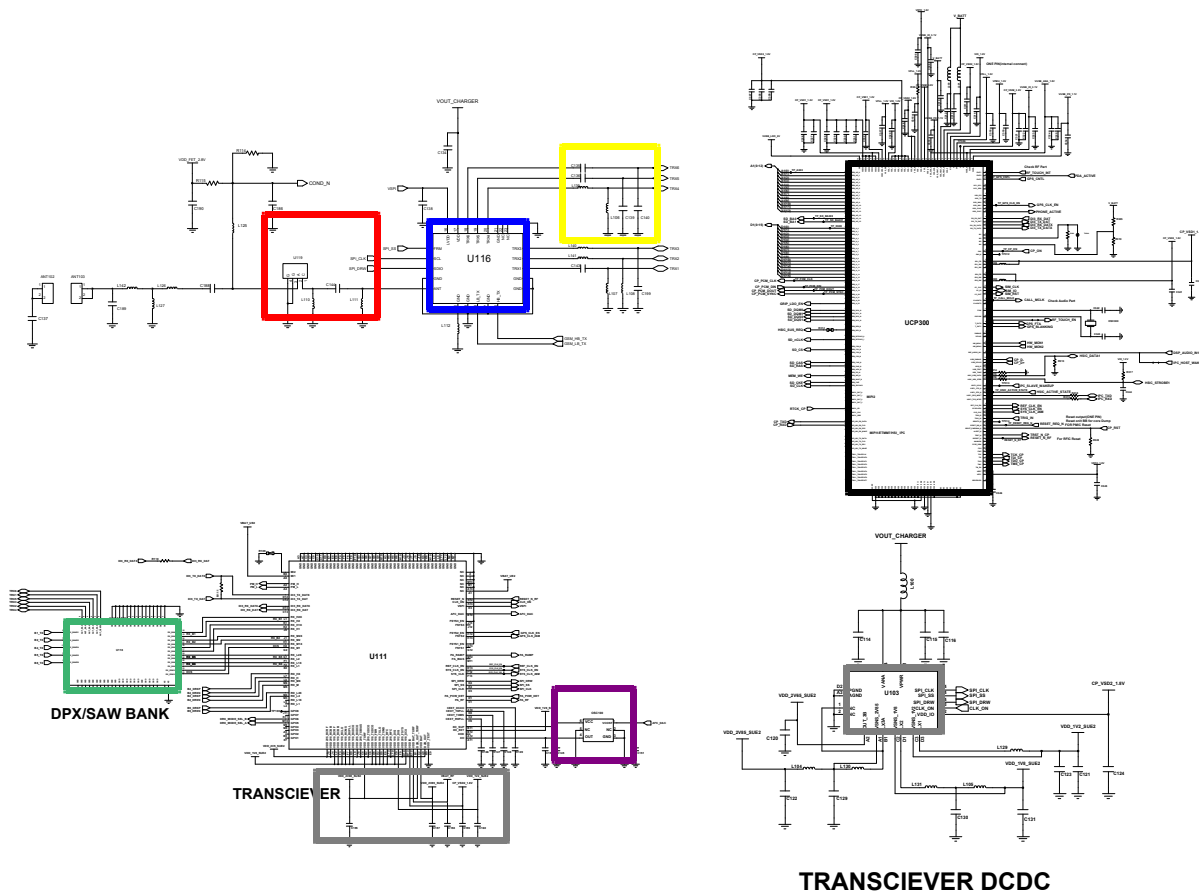




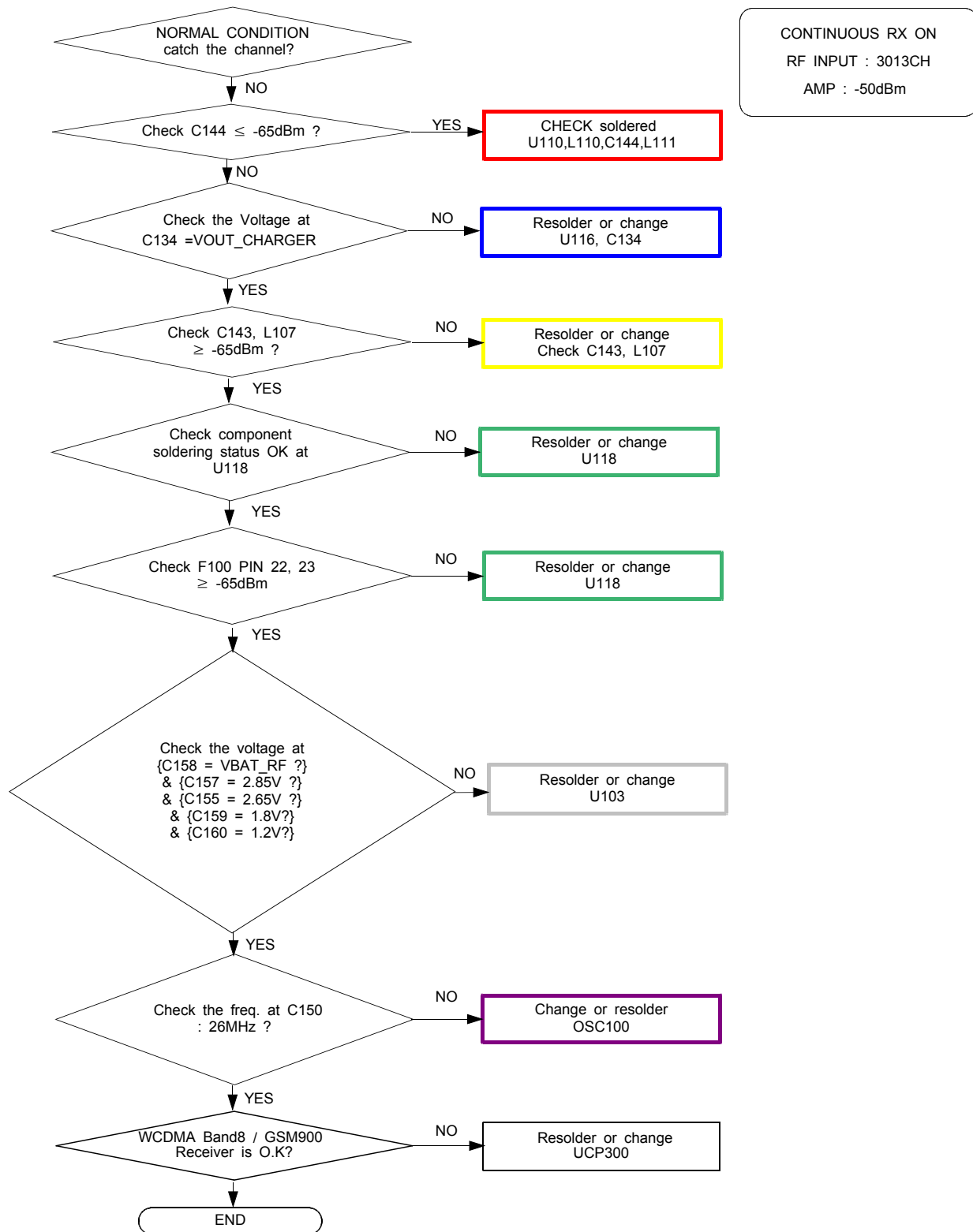


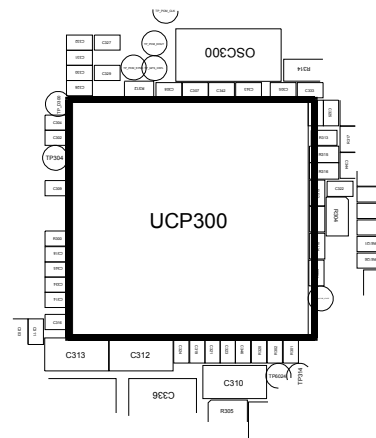
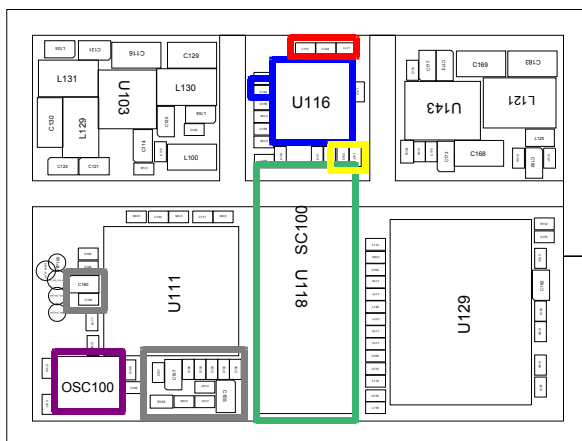
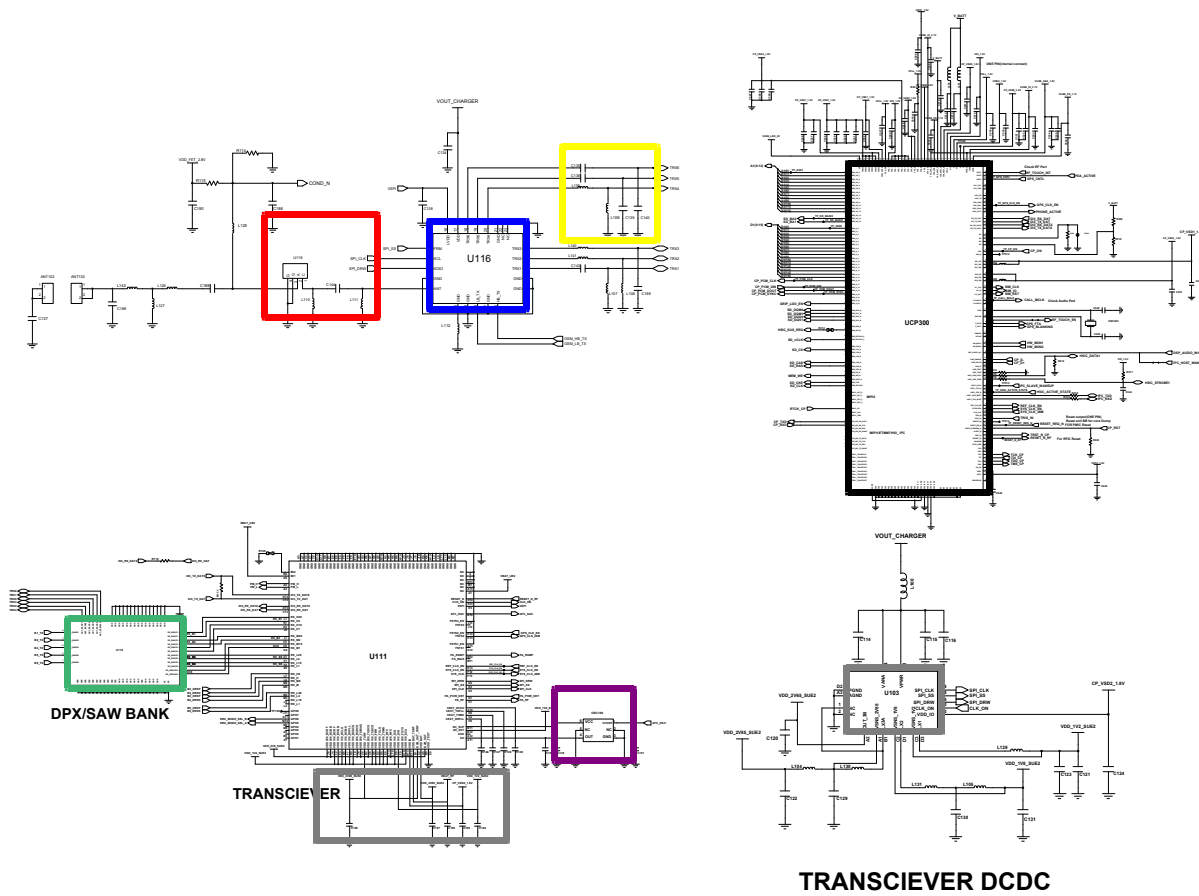
## 8-3-15. WCDMA Band5 / GSM 850 RX





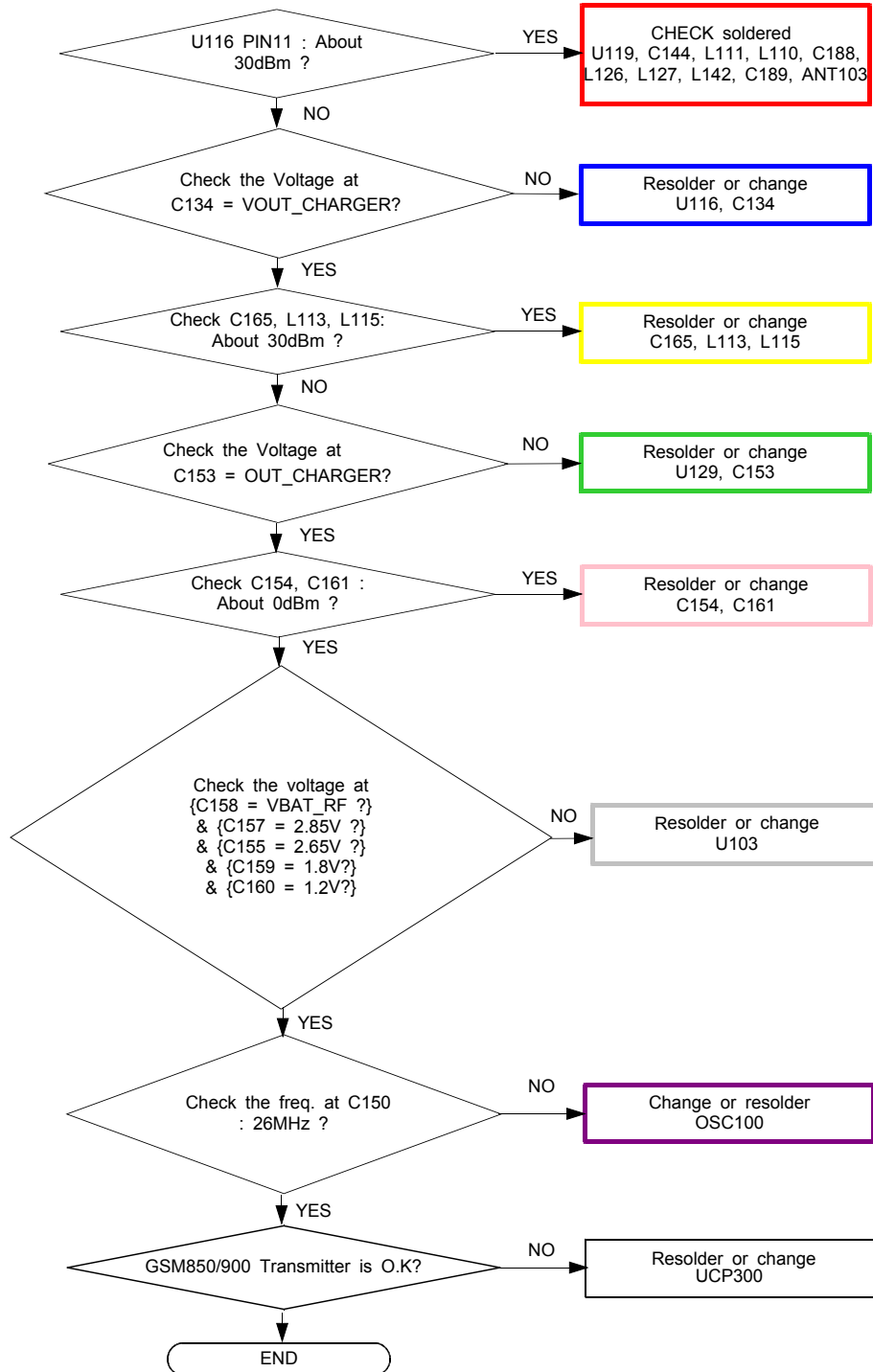
## 8-3-16. WCDMA Band8 / GSM900 RX

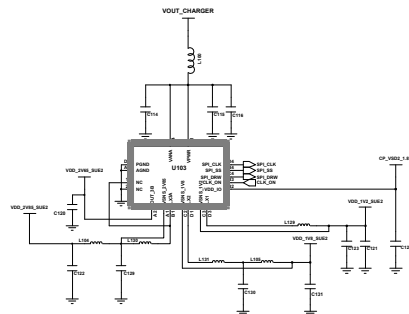
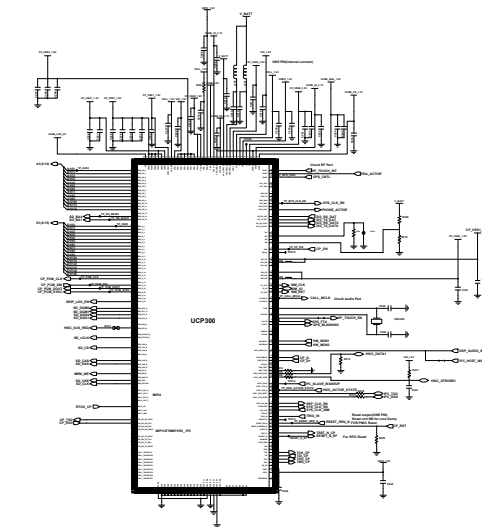
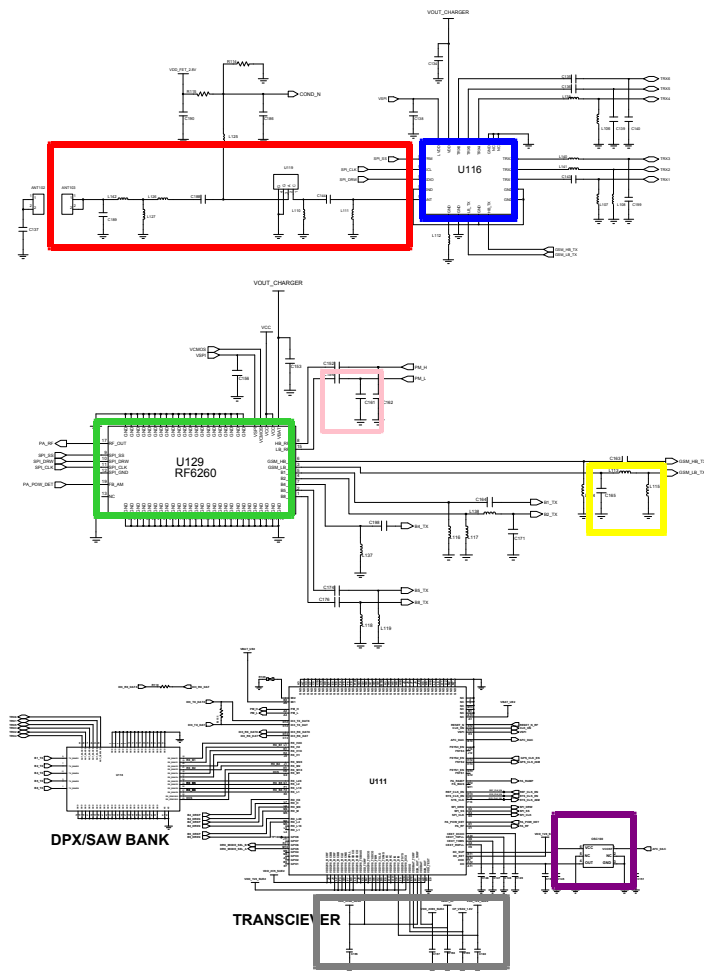




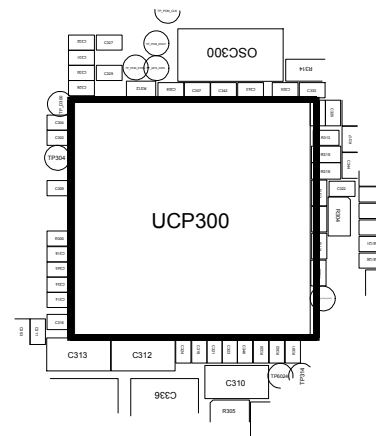
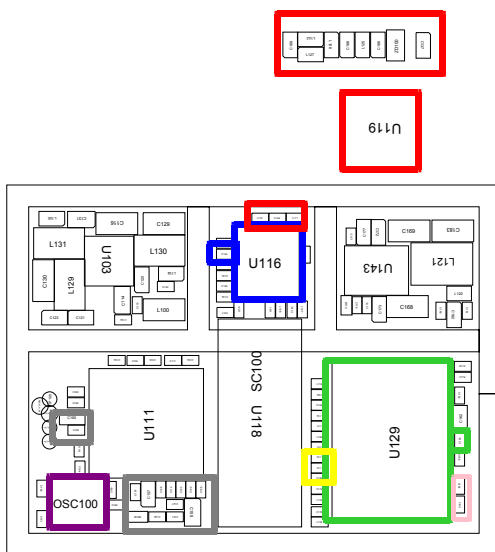
## 8-3-17. GSM850/GSM900 TX

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



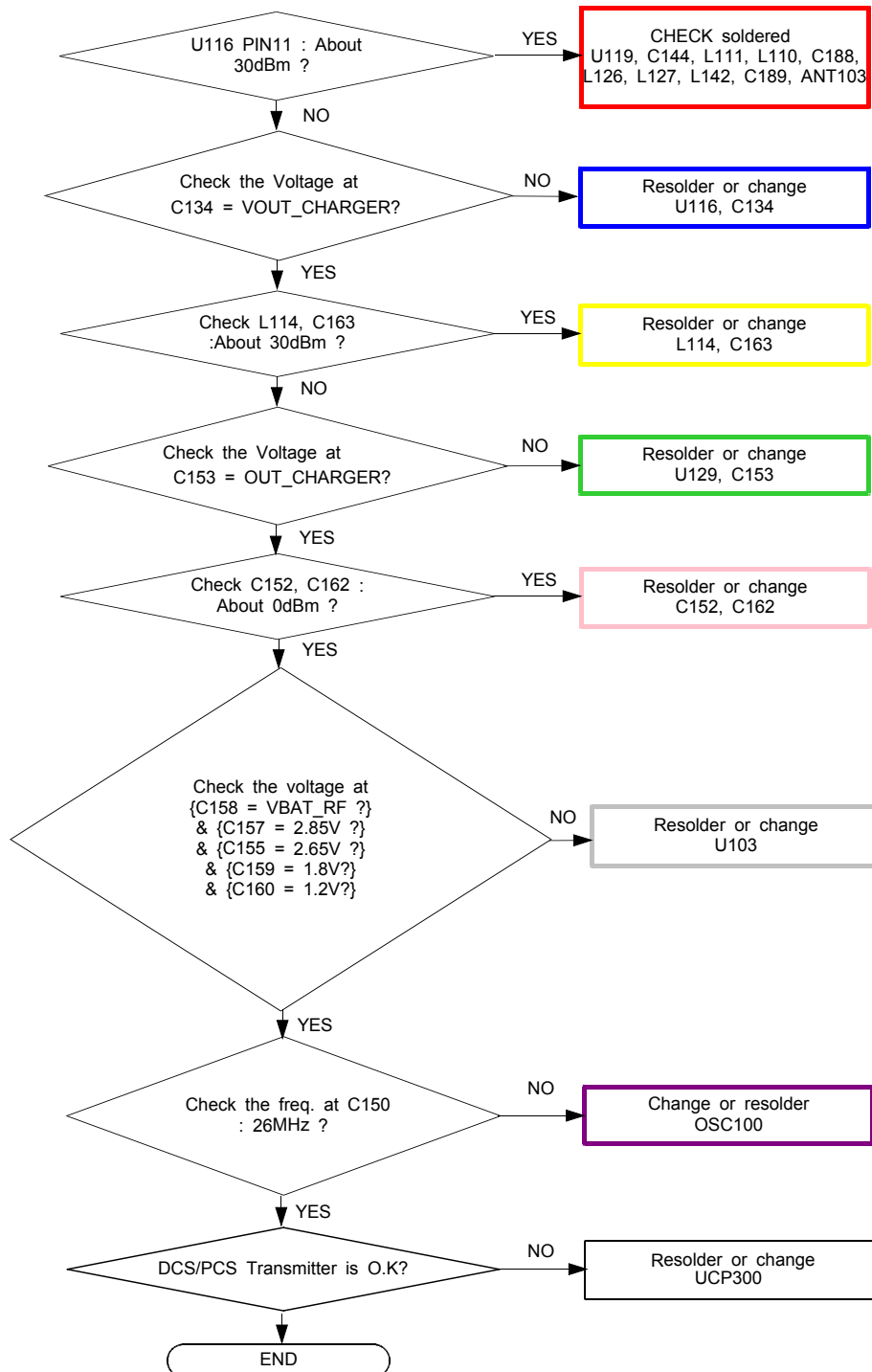


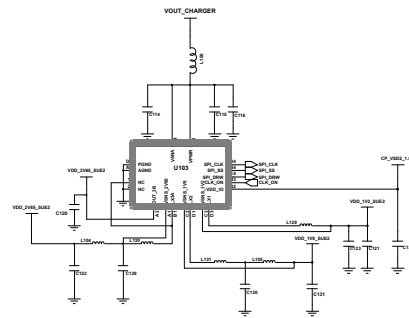
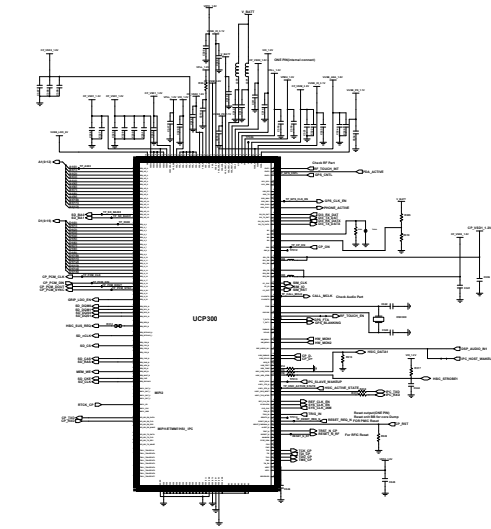
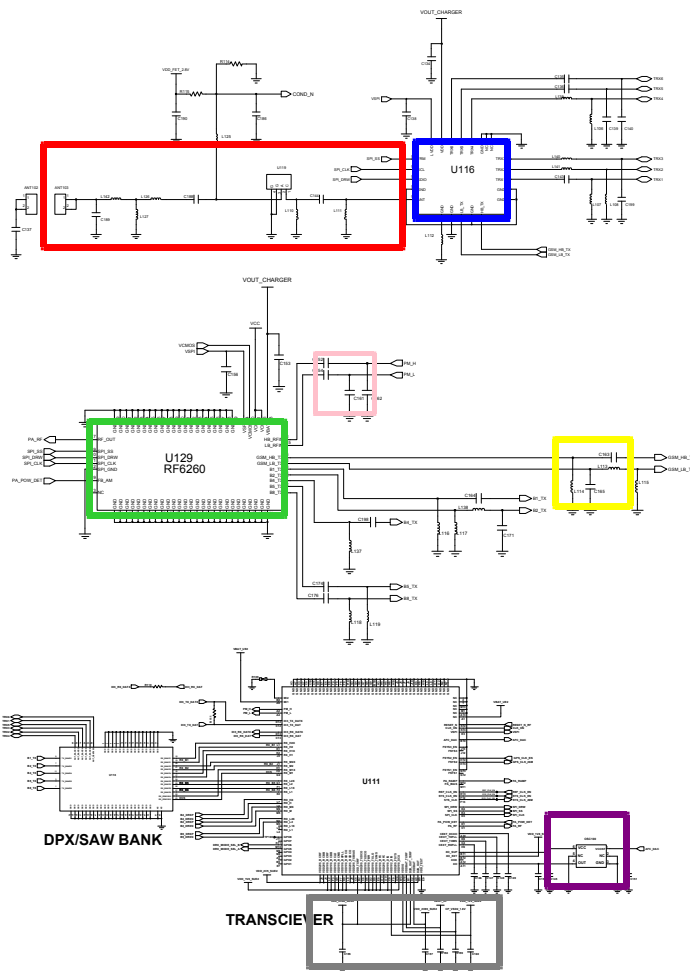
TRANSCEIVER DCDC



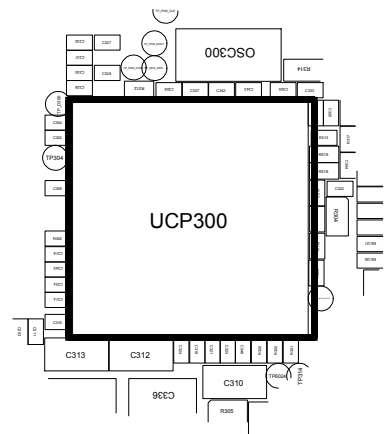
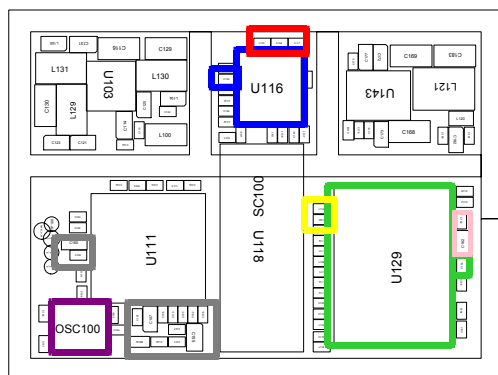
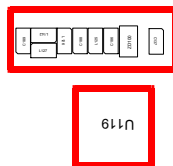
## 8-3-18. DCS/PCS TX

CONTINUOUS TX ON CONDITION  
TX POWER DAC:14500 CODE  
APPLIED  
DCS CH : 685  
PCS CH : 661  
RBW : 100KHz  
VBW : 100KHz  
SPAN : 10MHz  
REF LEV. : 10dBm  
ATT. : 20dB



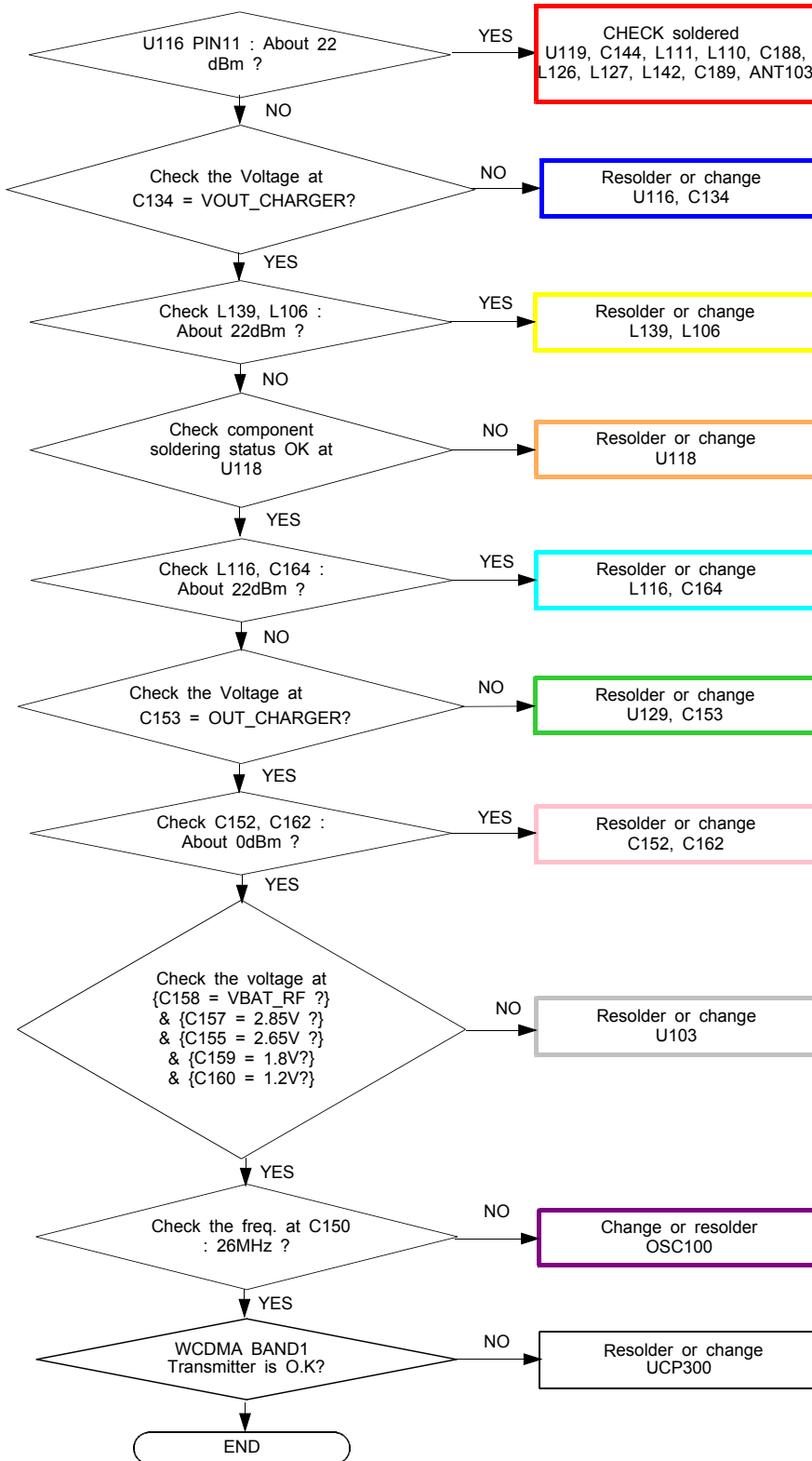


TRANSCEIVER DCDC

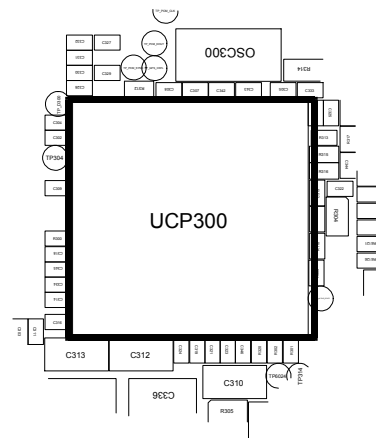
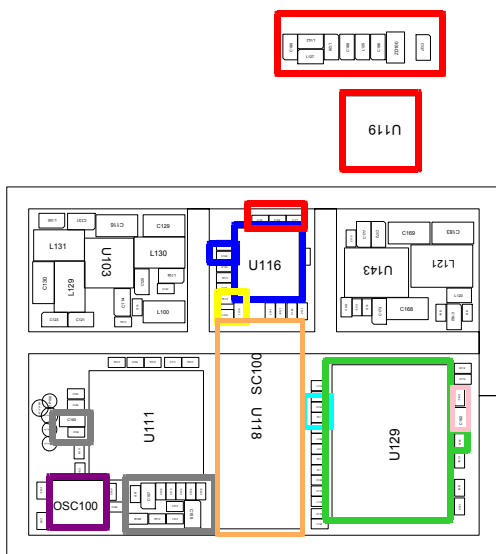
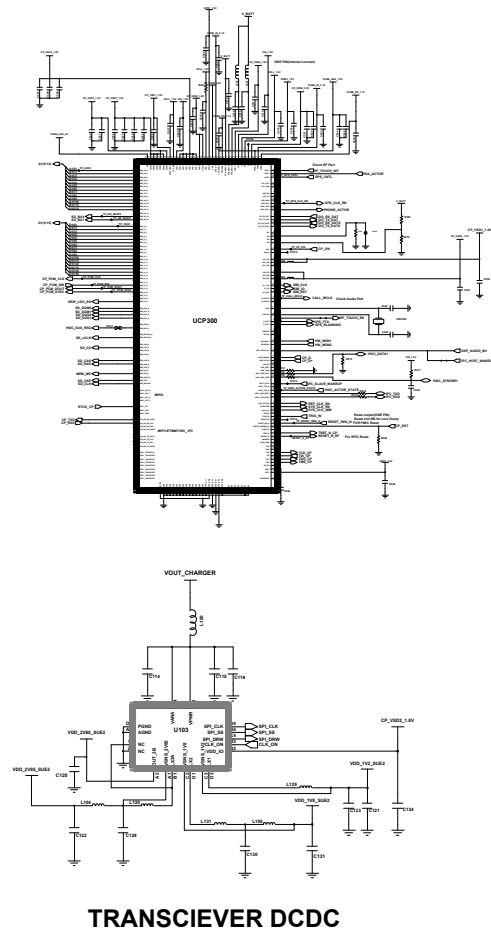
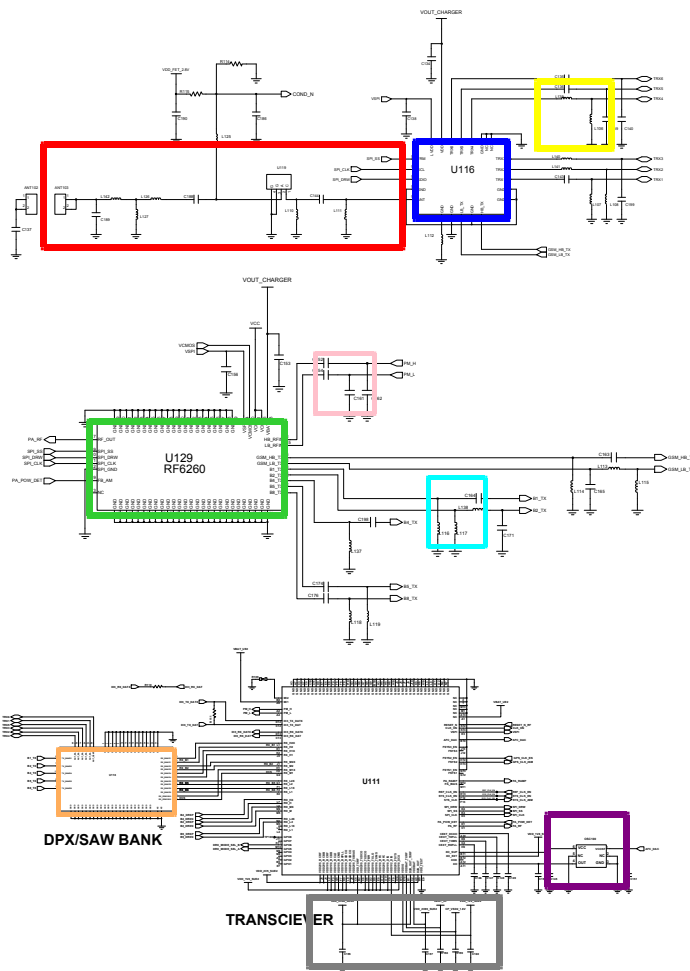




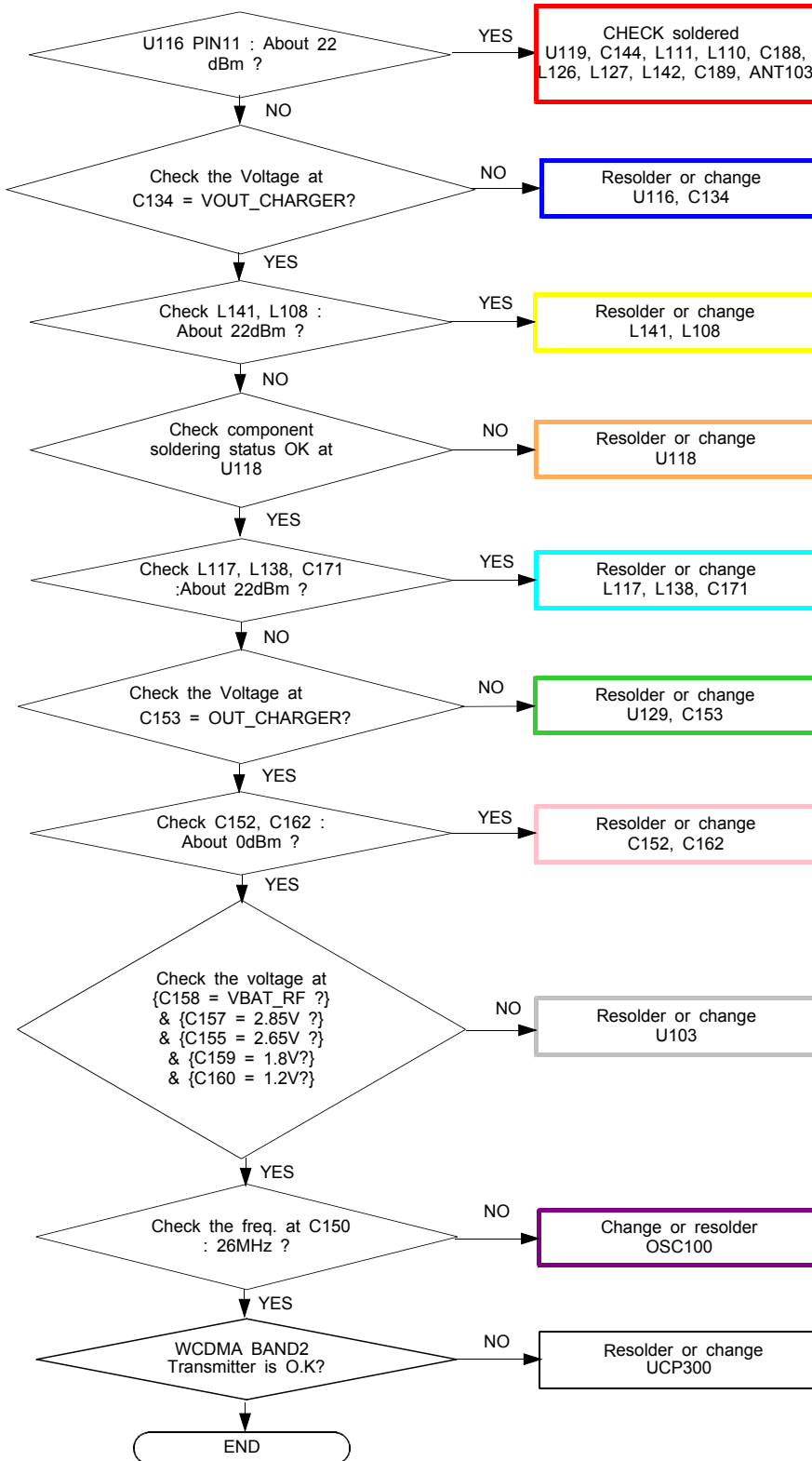
## 8-3-19. WCDMA BAND1 TX



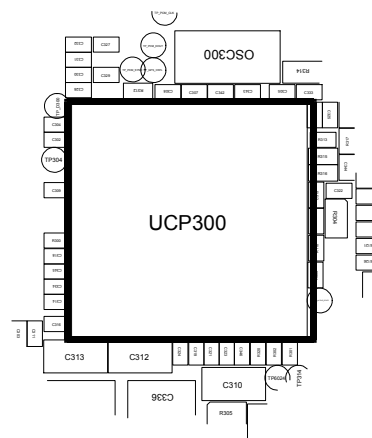
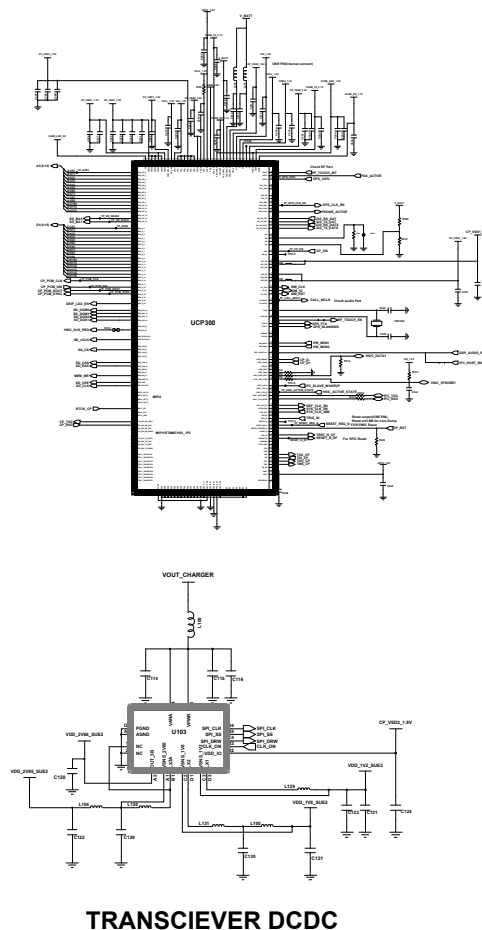
CONTINUOUS TX ON CONDITION  
 TX POWER DAC:14500 CODE  
 APPLIED  
 WCDMA Band1 CH : 10700  
 RBW : 100KHz  
 VBW : 100KHz  
 SPAN : 10MHz  
 REF LEV. : 10dBm  
 ATT. : 20dB



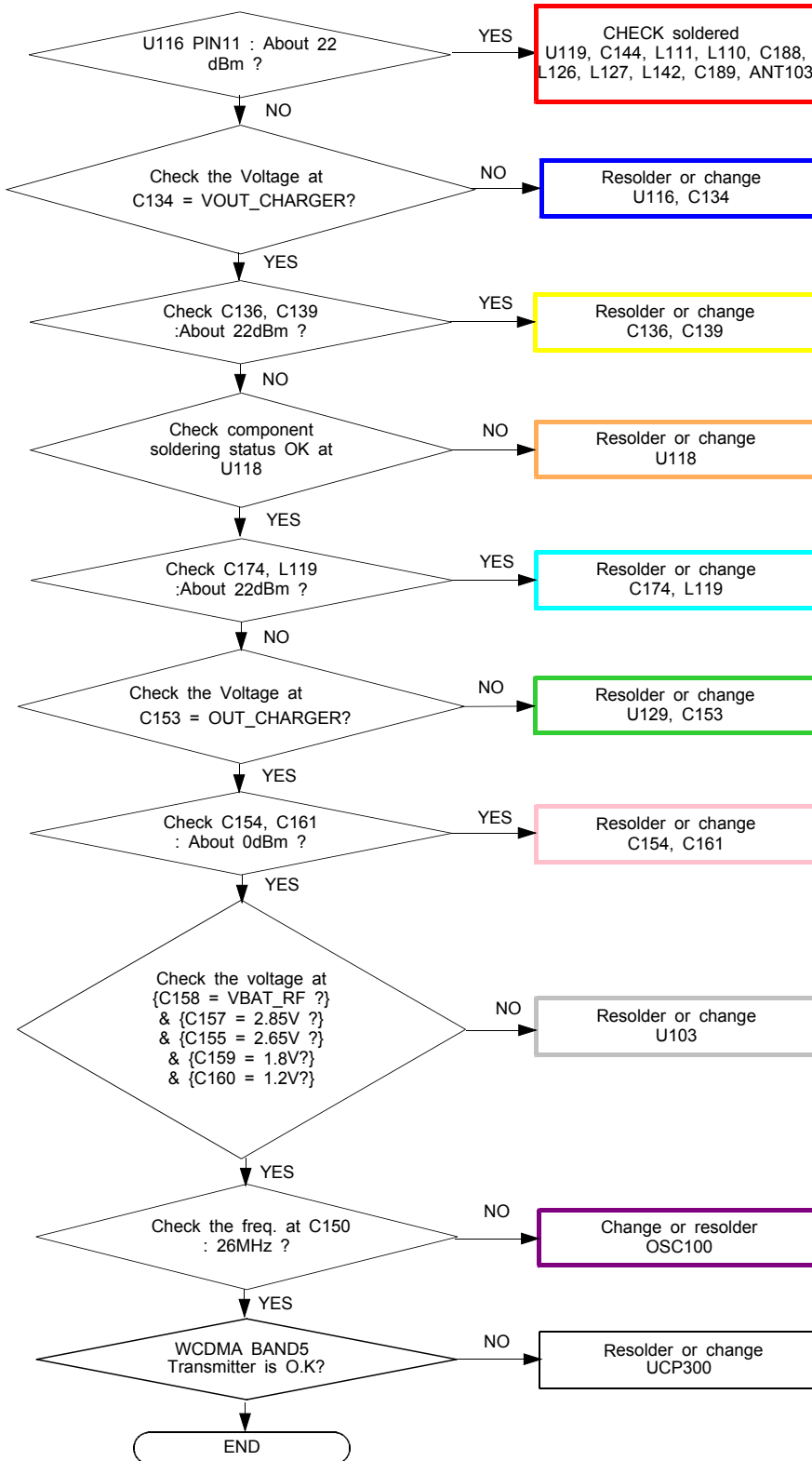
## 8-3-20. WCDMA BAND2 TX



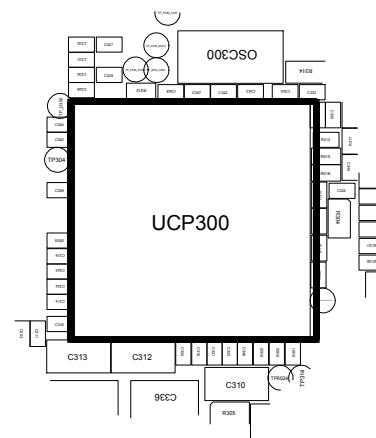
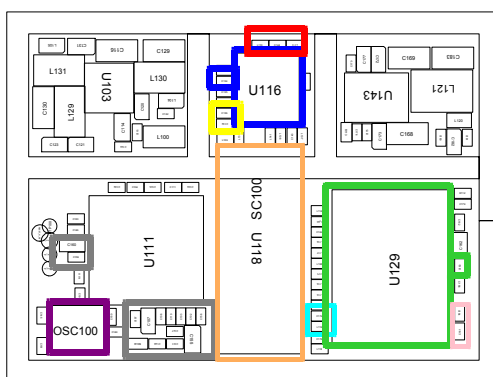
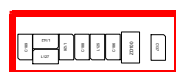
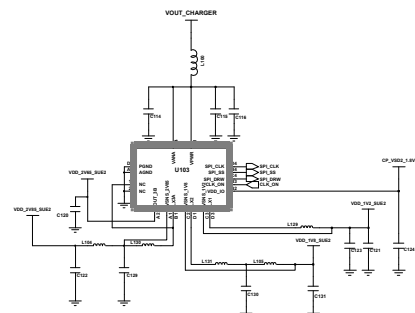
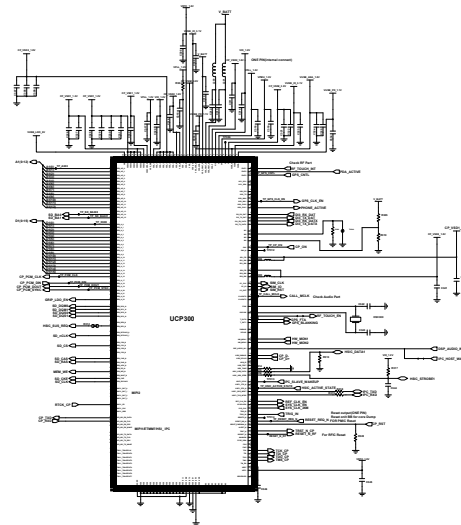
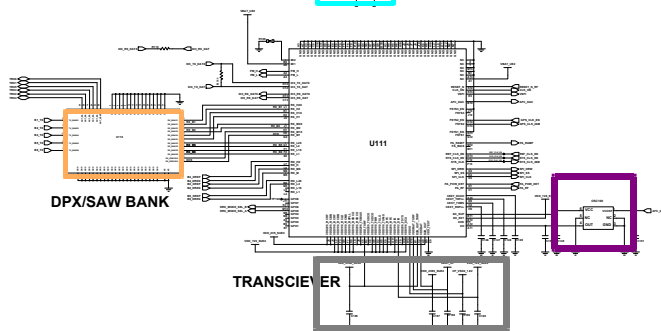
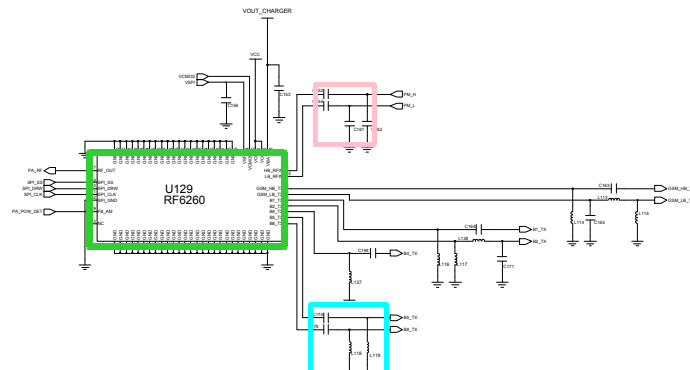
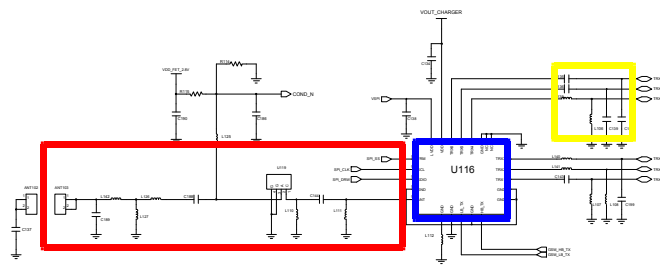
CONTINUOUS TX ON CONDITION  
 TX POWER DAC:14500 CODE  
 APPLIED  
 WCDMA Band2 CH : 9880  
 RBW : 100KHz  
 VBW : 100KHz  
 SPAN : 10MHz  
 REF LEV. : 10dBm  
 ATT. : 20dB



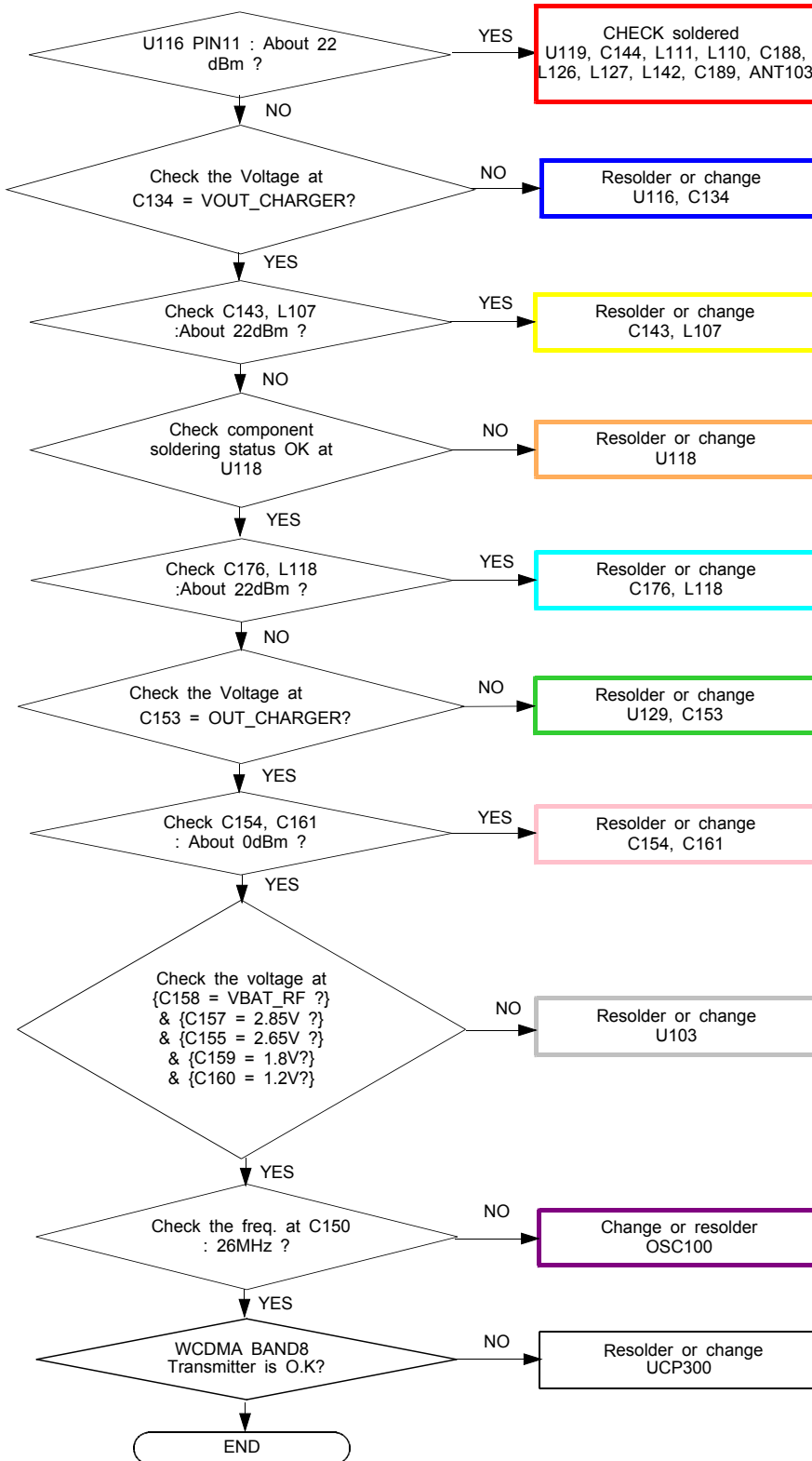
## 8-3-21. WCDMA BAND5 TX



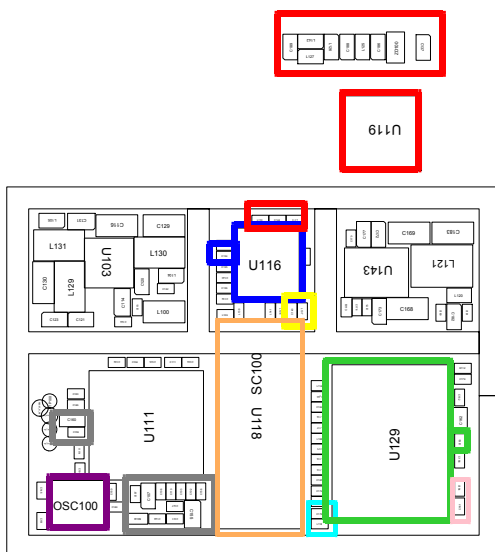
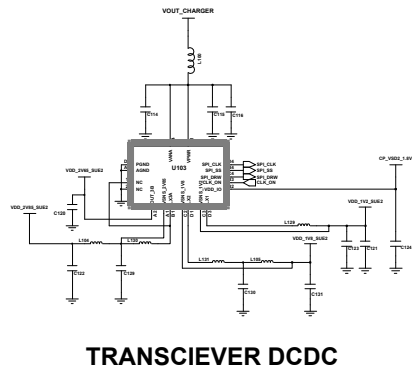
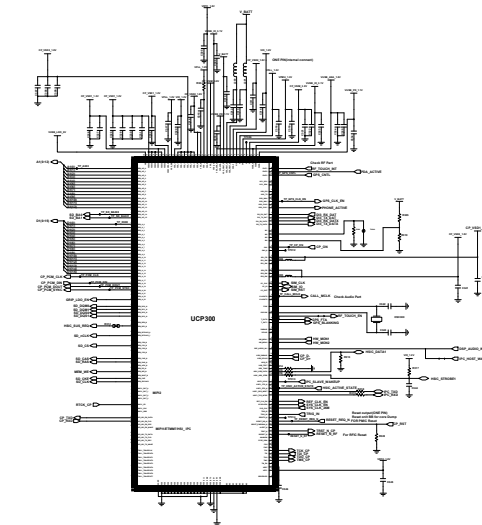
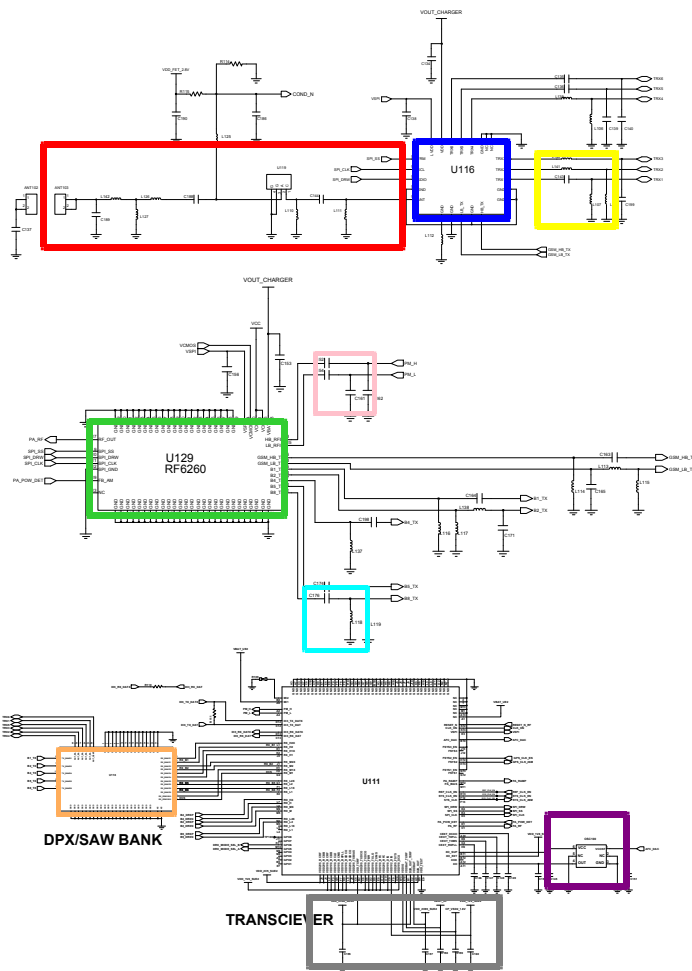
CONTINUOUS TX ON CONDITION  
 TX POWER DAC:14500 CODE  
 APPLIED  
 WCDMA Band5 CH : 4408  
 RBW : 100KHz  
 VBW : 100KHz  
 SPAN : 10MHz  
 REF LEV. : 10dBm  
 ATT. : 20dB



## 8-3-22. WCDMA BAND8 TX



CONTINUOUS TX ON CONDITION  
 TX POWER DAC:14500 CODE  
 APPLIED  
 WCDMA Band2 CH : 3013  
 RBW : 100KHz  
 VBW : 100KHz  
 SPAN : 10MHz  
 REF LEV. : 10dBm  
 ATT. : 20dB





## 8-4. Service Schematics

### - NC Point(Top View)

UME300

: NC

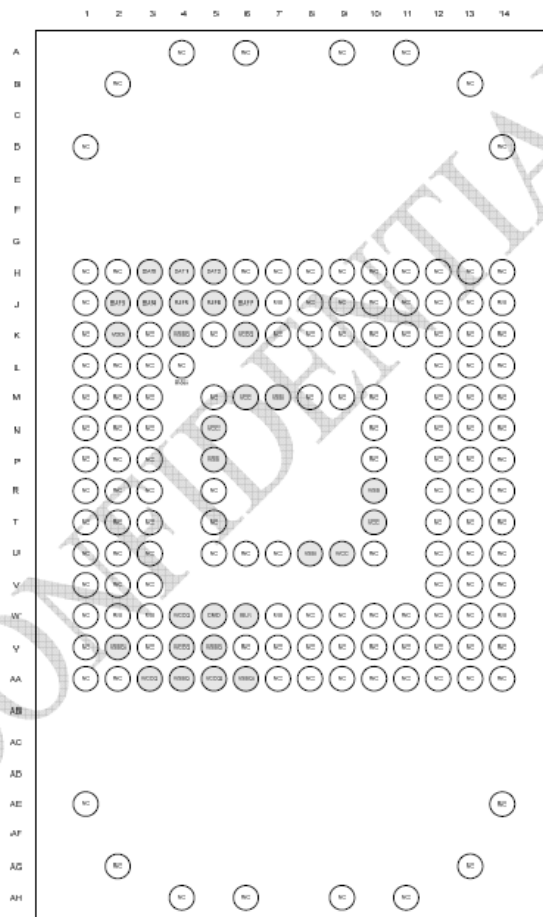
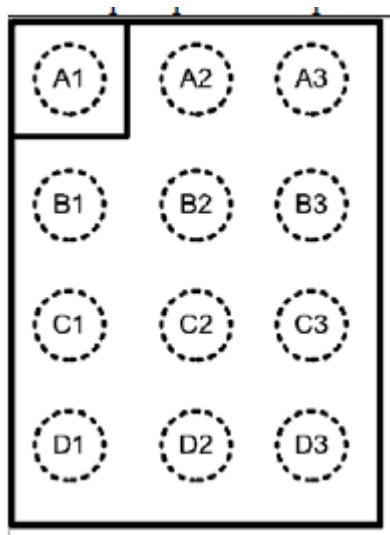


Figure 6- 169 balls - Ball Array (Top View)

**U805**

**TOP VIEW**

**NC : D1**



## U1102

|   | 1     | 2     | 3       | 4       | 5      | 6       | 7       |
|---|-------|-------|---------|---------|--------|---------|---------|
| A | RSVDL | VDDQ  | MHL_D   | MHL_DB  | NC     | NC      | CBUS_ID |
| B | RSVDL | RSVDL | RSVDL   | GND     | AVCC33 | USB_ID  | RSVDL   |
| C | C_SCL | RSVDL | RSVDL   | AVCC12  | GND    | V_SENSE | INT     |
| D | CSDA  | RSVDL | GND     | IOVCC18 | CVCC12 | CZCA    | RESET_N |
| E | DSDA  | GND   | IOVCC18 | CVCC12  | AVCC33 | AVCC12  | GND     |
| F | RX2_P | GND   | RPWR    | DSCL    | AVCC12 | GND     | HPD     |
| G | RX2_N | RX1_P | RX1_N   | RX0_P   | RX0_N  | RXC_P   | RXC_N   |

Figure 3. Ball Diagram—HDMI Interface (Top View)

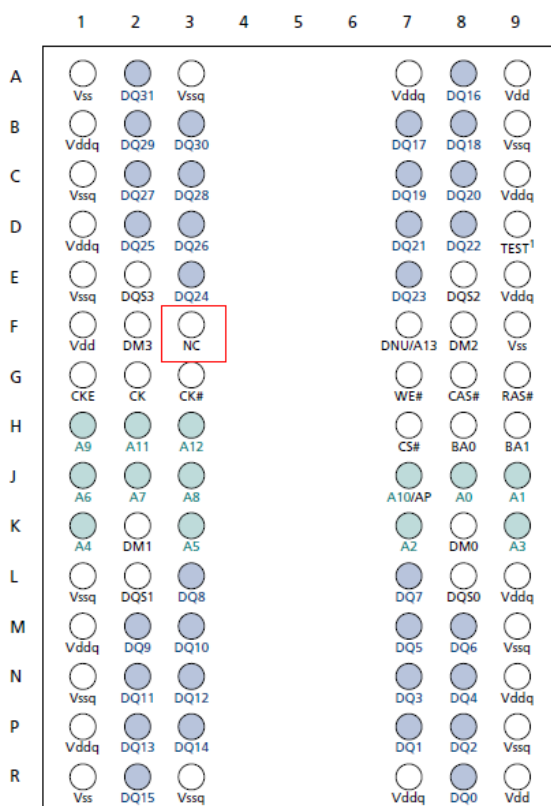
## UME6000

| 134Ball FBGA |       |       |          |    |      |      |      |      |          |      |
|--------------|-------|-------|----------|----|------|------|------|------|----------|------|
|              | 1     | 2     | 3        | 4  | 5    | 6    | 7    | 8    | 9        | 10   |
| A            | DNU   | DNU   | NB       | NB | NB   | NB   | NB   | NB   | DNU      | DNU  |
| B            | DNU   | NC    | NC       | NB | VDD2 | VDD1 | DQ31 | DQ29 | DQ26     | DNU  |
| C            | VDD1  | VSS   | ZQ1      | NB | VSS  | VSSQ | VDDQ | DQ25 | VSSQ     | VDDQ |
| D            | VSS   | VDD2  | ZQ0      | NB | VDDQ | DQ30 | DQ27 | DQ53 | VSSQ     | VSSQ |
| E            | VSSCA | CA9   | CA8      | NB | DQ28 | DQ24 | DM3  | DQ15 | VDDQ     | VSSQ |
| F            | VDDCA | CA6   | CA7      | NB | VSSQ | DQ11 | DQ13 | DQ14 | DQ12     | VDDQ |
| G            | VDD2  | CA5   | VRef(CA) | NB | DQS1 | DQS1 | DQ10 | DQ9  | DQ8      | VSSQ |
| H            | VDDCA | VSS   | CK       | NB | DM1  | VDDQ | NB   | NB   | NB       | NB   |
| J            | VSSCA | NC    | CK       | NB | VSSQ | VDDQ | VDD2 | VSS  | VRef(DQ) | NB   |
| K            | CKE0  | CKE1  | NC       | NB | DM0  | VDDQ | NB   | NB   | NB       | NB   |
| L            | CS0   | CS1   | NC       | NB | DQS0 | DQS0 | DQ5  | DQ6  | DQ7      | VSSQ |
| M            | CA4   | CA3   | CA2      | NB | VSSQ | DQ4  | DQ2  | DQ1  | DQ3      | VDDQ |
| N            | VSSCA | VDDCA | CA1      | NB | DQ19 | DQ23 | DM2  | DQ0  | VDDQ     | VSSQ |
| P            | VSS   | VDD2  | CA0      | NB | VDDQ | DQ17 | DQ20 | DQS2 | DQS2     | VSSQ |
| R            | VDD1  | VSS   | NC       | NB | VSS  | VSSQ | VDDQ | DQ22 | VSSQ     | VDDQ |
| T            | DNU   | NC    | NC       | NB | VDD2 | VDD1 | DQ16 | DQ18 | DQ21     | DNU  |
| U            | DNU   | DNU   | NB       | NB | NB   | NB   | NB   | NB   | DNU      | DNU  |

[Top View]

## UME300

### TOP VIEW



## UCP300

NC : 

(Bottom View)

|   | 17          | 16        | 15              | 14              | 13               | 12               | 11              | 10         | 9                 | 8           | 7               | 6             | 5                 | 4                 | 3               | 2                 | 1                 |   |
|---|-------------|-----------|-----------------|-----------------|------------------|------------------|-----------------|------------|-------------------|-------------|-----------------|---------------|-------------------|-------------------|-----------------|-------------------|-------------------|---|
| A | NC          | MEM_A_8   | MEM_BFC_LKD_1   | MEM_SDC_LKD     | MEM_A_0          | MEM_BC0_n        | MEM_A_1         | MEM_A_2    | MEM_A_3           | MEM_A_4     | MEM_AD_9        | FCDP_RB_n     | VPLL              | VDD_VBAT_SD1      | SD2_SW          | SD2_SW            | NC                | A |
| B | MEM_A_9     | MEM_A_3   | MEM_BFC_LKD_0   | MEM_CKE         | MEM_RD_n         | MEM_WR_n         | VDD_IO18        | MEM_BC2_n  | MEM_A_6           | FWP         | MEM_CAS_n       | DSP_AUDIO_IN1 | x                 | VIO_12            | x               | x                 | VSS_SD2           | B |
| C | MEM_A_10    | MEM_A_2   | x               | x               | x                | MEM_A_5          | x               | x          | MEM_A_7           | x           | x               | x             | x                 | VUSB_PD           | VDD_VSD2        | SD2_FB            | VDD_VBAT_SD1      | C |
| D | MEM_A_11    | MEM_A_1   | x               | VSS             | MEM_AD_13        | MEM_AD_12        | MEM_AD_11       | MEM_AD_7   | VSS               | MEM_AD_3    | x               | x             | x                 | ANAMON            | SD1_FB          | x                 | SD1_SW            | D |
| E | MEM_A_12    | MEM_A_0   | x               | MEM_RAS_n       | VDDCORE_EBU      | VDDCORE_EBU      | MEM_AD_8        | VDDCORE    | MEM_AD_6          | MEM_AD_5    | x               | x             | x                 | VSS               | INS             | x                 | SD1_SW            | E |
| F | MEM_A_13    | MEM_BC1_n | VDD_IO18        | VSS             | MEM_AD_15        | x                | x               | x          | MEM_AD_4          | x           | x               | TRIG_B        | x                 | VRTC              | VDD_VBAT_PMU    | VUSB_AN_A         | VSS_SD1           | F |
| G | MEM_A_14    | MEM_BC2_n | MEM_A_19        | MEM_BE0_n       | MEM_BE1_n        | x                | MEM_AD_1        | MEM_AD_V_n | MEM_AD_2          | VSS         | x               | x             | x                 | x                 | x               | VPMU              | VSIM              | G |
| H | MEM_A_15    | MEM_A_17  | x               | MEM_CS2_n       | MEM_CS3_n        | x                | MEM_AD_0        | MEM_AD_10  | VDDCORE           | RESERVE_D   | x               | M1            | x                 | x                 | AGND            | ON1               | VUSB_IO           | H |
| J | VDD_IO18    | MEM_A_16  | MEM_A_18        | MEM_CS0_n       | MEM_CS1_n        | MEM_AD_14        | VSS             | x          | x                 | VSS         | x               | M2            | M3                | M4                | RESET_P_WRDWN_N | ON2_N             | VREF              | J |
| K | MEM_WA1T_n  | VDD_MIP1  | x               | VDDCORE         | VSS              | x                | VDD_IO18        | KINT3      | VDDCORE           | VDD_IO18    | ETM11_T_RACEPKT | x             | ETM11_T_RACEPKT_4 | TM_EN             | REF_CLK_EN      | RESET_B_R_N       | ETM11_T_RACEPKT_7 | K |
| L | I32K        | VSS       | x               | VSS             | MIPI_HSI_RX_RDY  | x                | MIPI_HSI_TX_FLG | VSS        | ETM11_T_RACEPKT_5 | VDD_MM_C    | MMC11_C_MD      | x             | ETM11_T_RACEPKT_6 | ETM11_T_RACEPKT_2 | x               | ETM11_T_RACEPKT_3 | ETM11_T_RACEPKT_1 | L |
| M | OSC32K      | VSS       | MIPI_HSI_TX_RDY | MIPI_HSI_RX_FLG | MIPI_HSI_TX_WAKE | x                | x               | x          | KINT1             | KINT2       | x               | MMC11_D_AT_3  | MMC11_D_AT_0      | MMC11_D_AT_2      | MMC11_C_LK      | MMC11_D_AT_1      | ETM11_T_RACEPKT_0 | M |
| N | VDD_RTC     | USB_ID    | x               | VSS_USB         | MIPI_HSI_RX_DATA | MIPI_HSI_TX_DATA | VDD_IO18        | I2C1_SCL   | VPP               | CLKOUT0     | x               | x             | MMC11_C_D         | T_OUTB            | x               | I2S2_CLK_1        | I2S2_CLK_0        | N |
| P | USB_TBS1    | VBUS      | x               | VDD_USB_ANA     | MIPI_HSI_RX_WAKE | SYS_CLK          | VSS_PLL         | CLKOUT2    | I2C1_SDA          | VSS         | HW_MON_2        | x             | x                 | x                 | T_OUT1          | I2S2_TX           | I2S2_RX           | P |
| R | USB_DM1_NUS | VDD_USB_O | x               | x               | x                | VDD_FIL          | x               | x          | VSS               | VDDCORE     | x               | HW_MON_1      | RESET2_N          | NC                | x               | I2S2_WA1          | I2S2_WA0          | R |
| T | USB_DPL_US  | USB_TUNE  | VDD_USB_PD      | CC_RST          | CC_IO            | VDD_SIM          | DMINUS          | VDD_DIO_RP | XRESET_N          | D0_TX_D_ATX | D0_TX_D_AT      | TCK           | TRIG_IN           | TRST_n            | USIF1_TX_D_MSTR | USIF1_RX_D_MRST   | USIF1_SCLK        | T |
| U | NC          | VSS       | VDD_IO12        | CC_CLK          | HSIC_USB_DATA    | HSIC_USB_STREB   | DPLUS           | ALERT_N    | SYSCLK_N          | D0_RX_D_ATX | D0_RX_D_AT      | TMS           | TDI               | TDO               | USIF1_RT_S_N    | USIF1_CT_S_N      | NC                | U |
|   | 17          | 16        | 15              | 14              | 13               | 12               | 11              | 10         | 9                 | 8           | 7               | 6             | 5                 | 4                 | 3               | 2                 | 1                 |   |

U111

**(Bottom View)**

|   | 1           | 2            | 3          | 4          | 5             | 6            | 7          | 8            | 9            | 10            | 11      | 12             | 13             |   |
|---|-------------|--------------|------------|------------|---------------|--------------|------------|--------------|--------------|---------------|---------|----------------|----------------|---|
| A | NC          | PM_H         | GND        | PM_L       | GPO3          | VDD1V8_TXDCO | GND        | MI1          | VDDBAT       | CEXT_D<br>CXO | XO      | XOX            | NC             | A |
| B | VDDBAT_TXRF | VDD_TX<br>RF | NB         | NB         | GPO2          | NB           | NB         | MI2          | D2B_OUT      | AFC_DAT<br>C  | XO_SUP  | XO_EXT         | VDD1V8_SCU     | B |
| C | PA_RF       | D2B_OUT_TXRF | GND        | CEXT_TXMS  | VDD2V5_TXBIAS | VDD2V5_TXDCO | GND        | GND          | VDD1V8_DIG   | GND           | GND     | DI3_TX<br>DAT  | DI3_RX<br>DAT  | C |
| D | PA_POW_DET  | VDD1V8_FBR   | SPI_CLK    | SPI_DRW    | VDD1V8_TXLO   | NB           | NB         | CEXT_TXPLL   | GND          | VDD2V5_FSYS   | NB      | DI3_TX<br>DATX | DI3_RX<br>DATX | D |
| E | GND         | RX_L1        | VSP1       | SPI_SS     | GND           | GND          | GPO1       | VDD1V8_TXMS  | VDD_TEST     | NB            | NB      | VDDIO          | REF_CLK_EN     | E |
| F | RX_L2       | RX_L1X       | VDD1V8_RCB | GND        | GND           | GND          | VDD1V8_RCM | GND          | VDD1V2_DIG   | GND           | NB      | FSYS_CLK_EN    | FSYS_CLK       | F |
| G | RX_L2X      | RX_M1        | GND        | GND        | VDD1V8_RCL    | GND          | GND        | GND          | GND          | GND           | NB      | FSYS1          | FSYS1_EN       | G |
| H | RX_M2       | RX_M1X       | GND        | GND        | GND           | GND          | NB         | NB           | CEXT_RXPLL   | GND           | NB      | FSYS2_EN       | FSYS2          | H |
| J | RX_M2X      | RX_H1        | GND        | VDD2V5_RCB | VDD2V5_RCRF   | GND          | GND        | VDD2V5_RXDCO | GND          | GND           | GPO8    | FSYS3          | FSYS3_EN       | J |
| K | RX_H2       | RX_H1X       | NB         | NB         | GND           | GND          | NB         | NB           | VDD1V8_RXPLL | GND           | GPO7    | RESET_N        | CLK_ON         | K |
| L | RX_H2X      | VDD1V8_RCRF  | GND        | RD_L1      | RD_L1X        | RD_H         | RD_HX      | GND          | VDD1V8_RXDCO | VDD2V5_RFC    | GND     | GND            | VDD1V8_RFC     | L |
| M | NC          | GND          | RD_L2      | RD_L2X     | RD_M          | RD_MX        | GND        | GPO4         | GPO5         | GPO6          | PA_BIAS | PA_RAMP        | NC             | M |
|   | 1           | 2            | 3          | 4          | 5             | 6            | 7          | 8            | 9            | 10            | 11      | 12             | 13             |   |

**Figure 2 Ball Diagram PG-WFWLB-138-2 (Top View)**

U143

TOP VIEW

Pin Out

