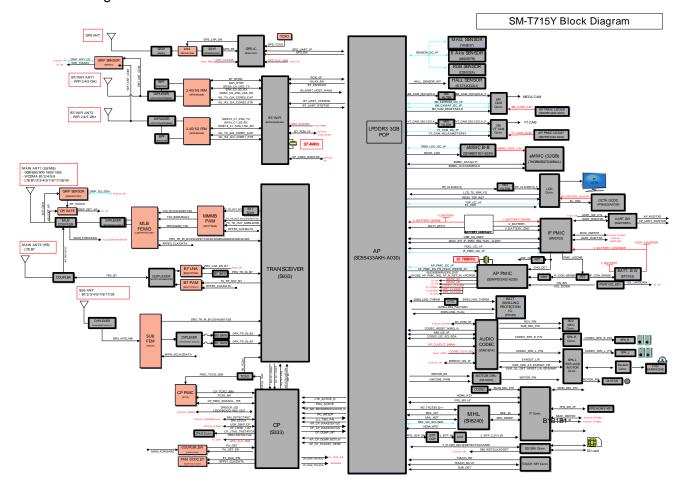
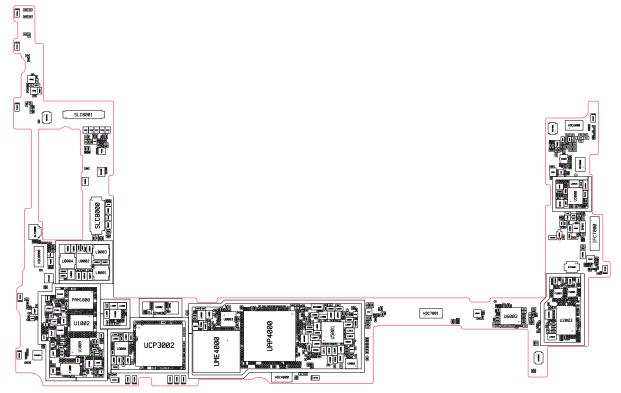
8. Level 3 Repair (VIETMOBILE.VN)

8-1. Block Diagram

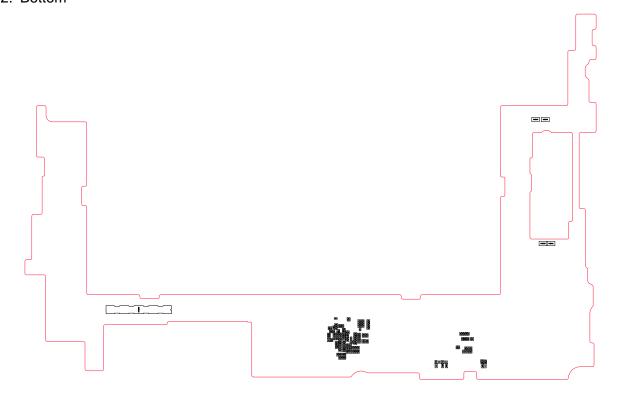


8-2. PCB Diagrams

8-2-1. Main PCB Top

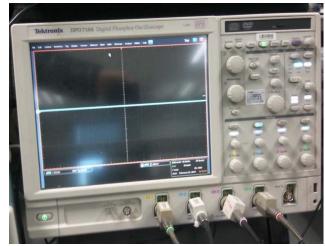


8-2-2. Bottom



8-3. Flow Chart of Troubleshooting

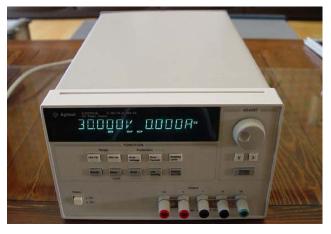
Equipments



↑ Oscilloscope



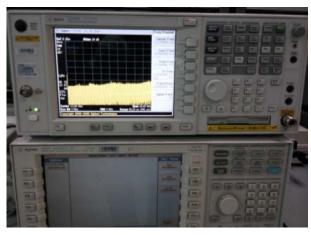
↑ Digital Multimeter



↑ Power Supply



↑ + driver, ESD Safe Tweezer

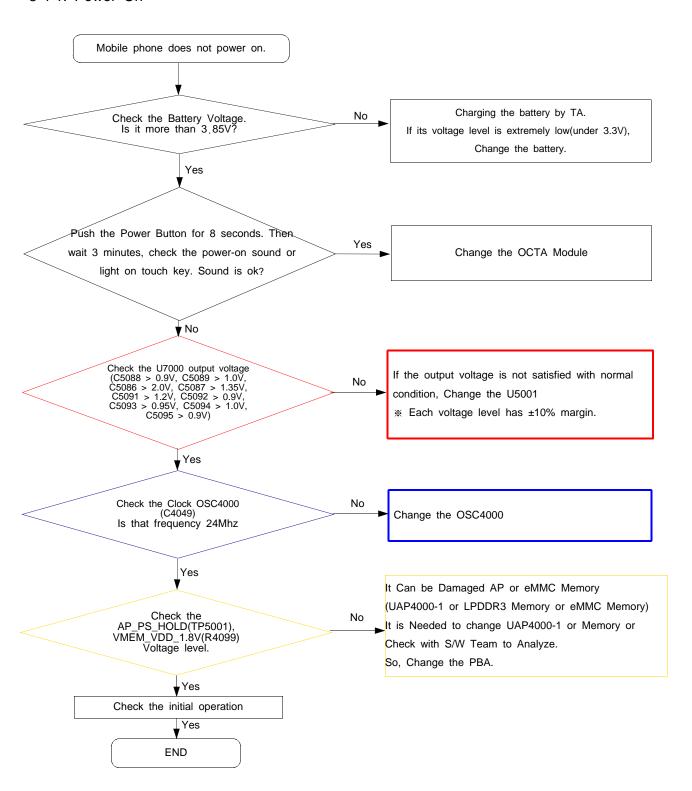


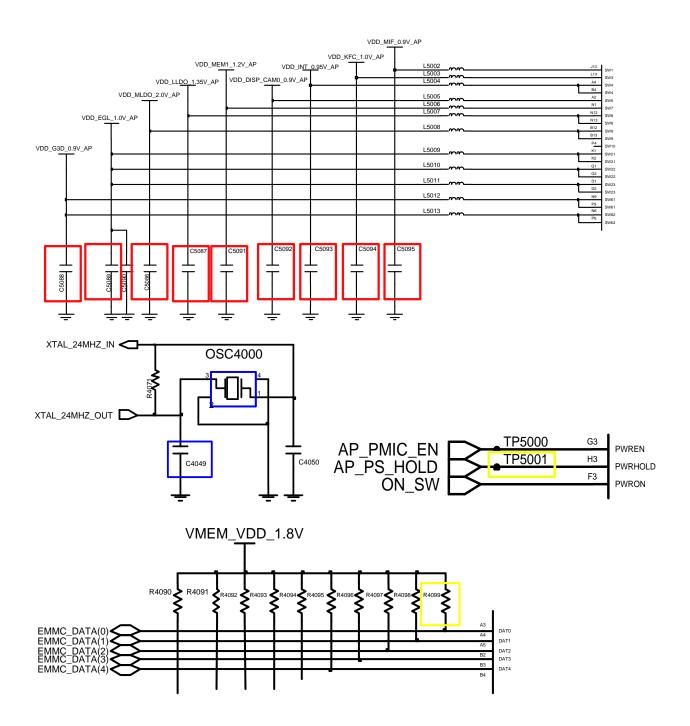
↑ 8960 & Spectrum Analyzer

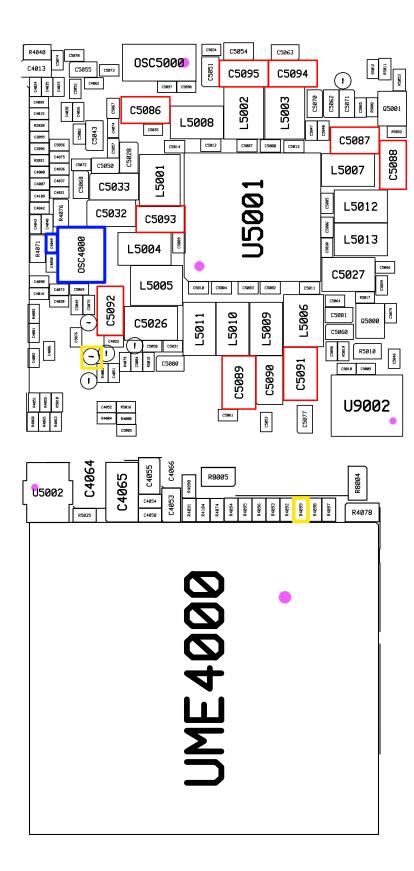


↑ Soldering iron

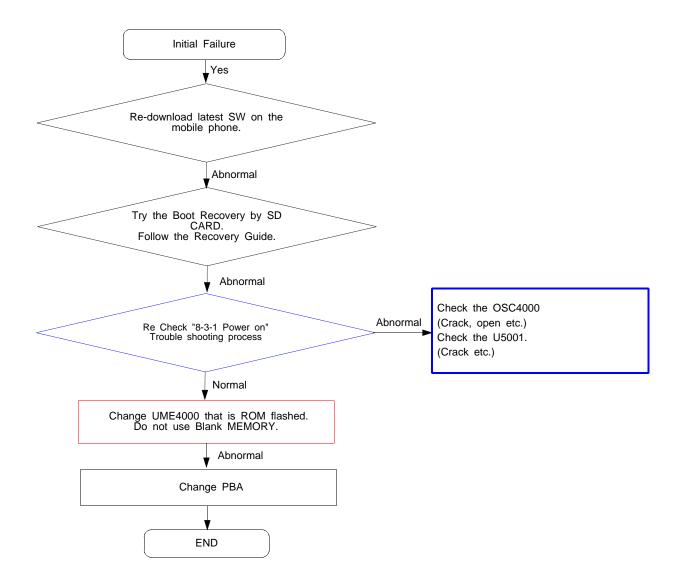
8-4-1. Power On

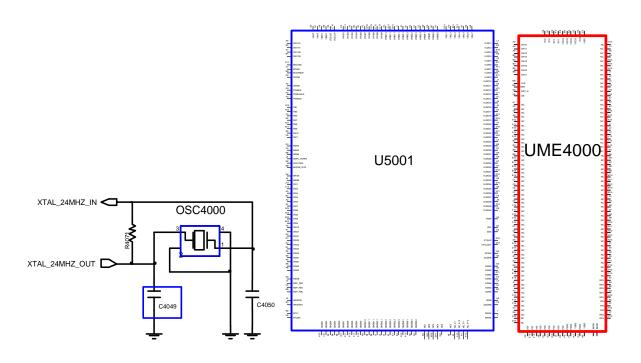


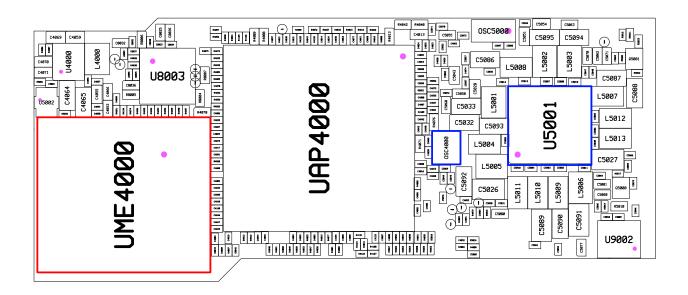




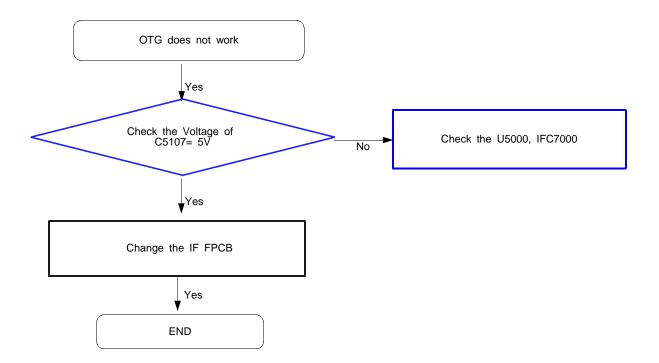
8-4-2. Initial

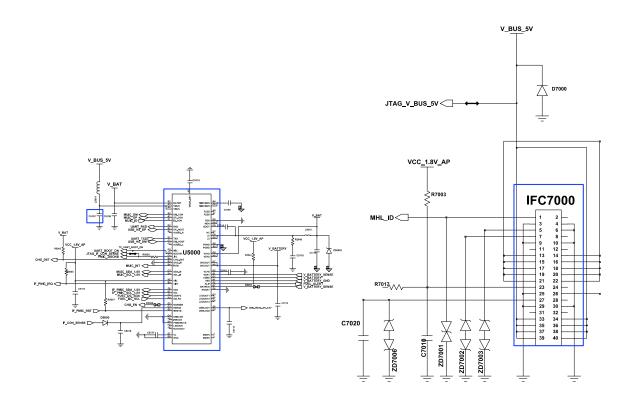


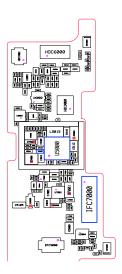




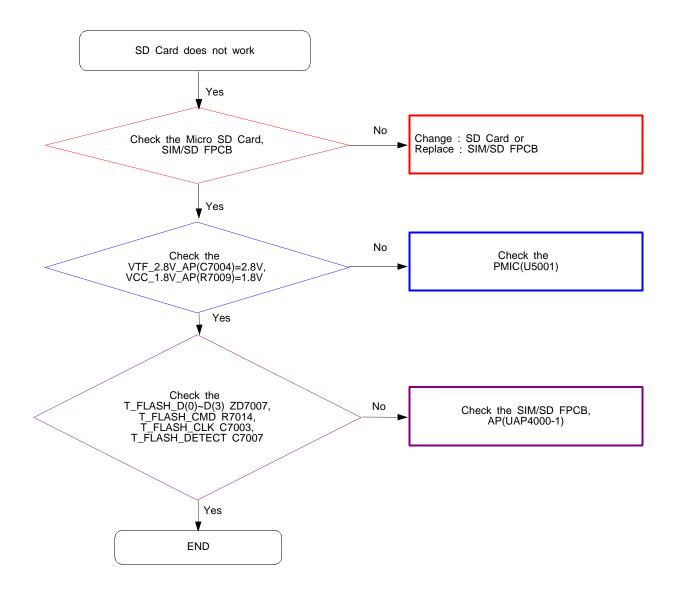
8-4-3. OTG

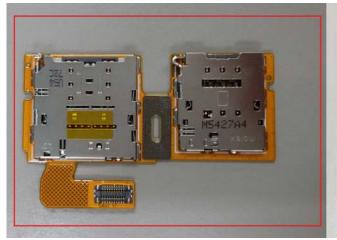




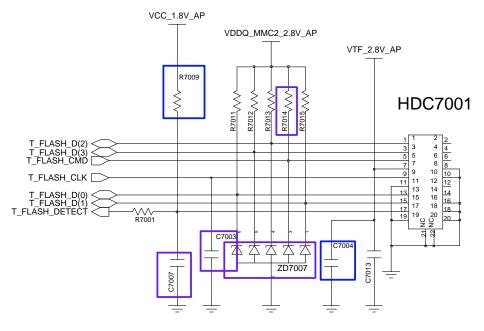


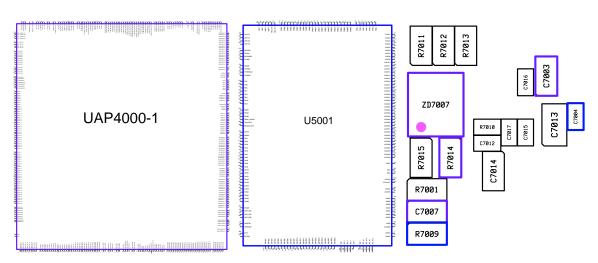
8-4-4. SD Part



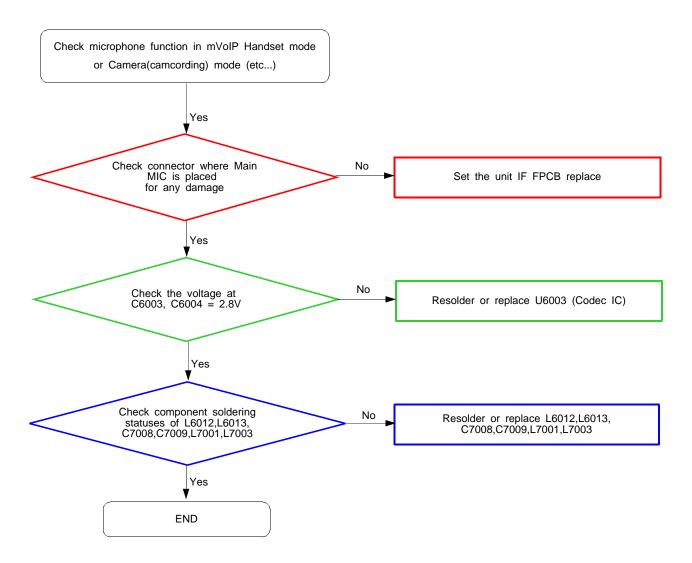


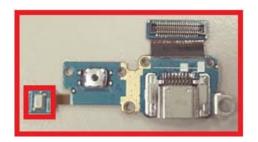


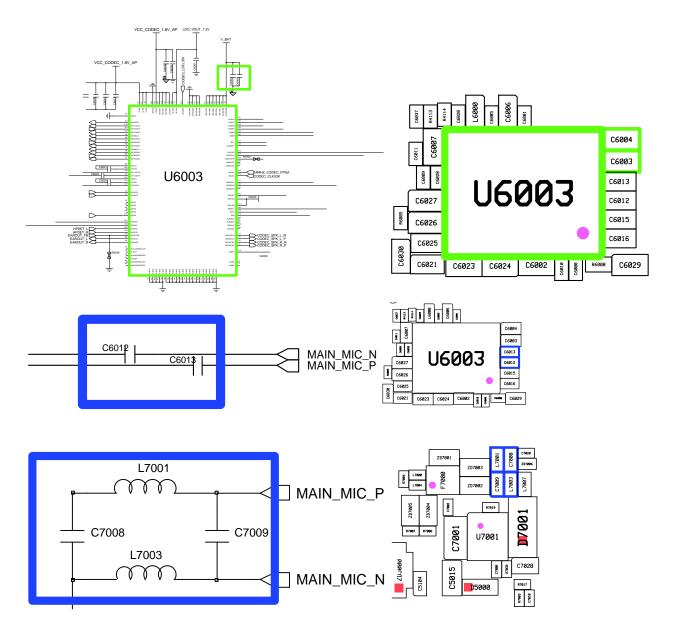




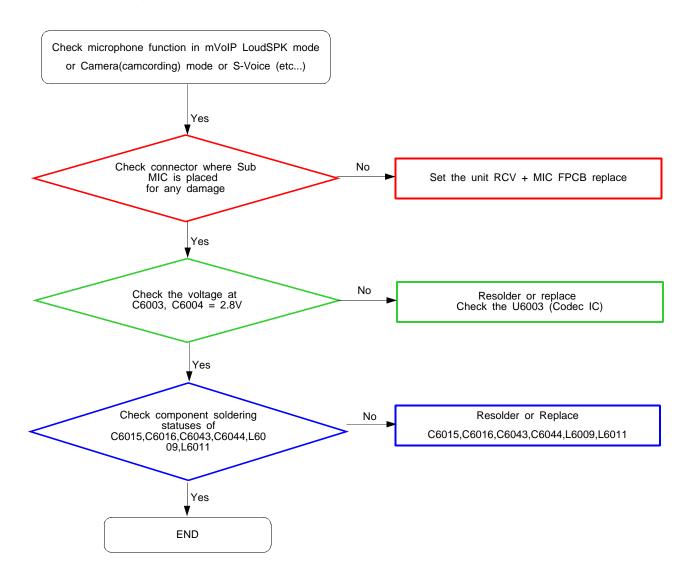
8-3-5. Main Microphone Part

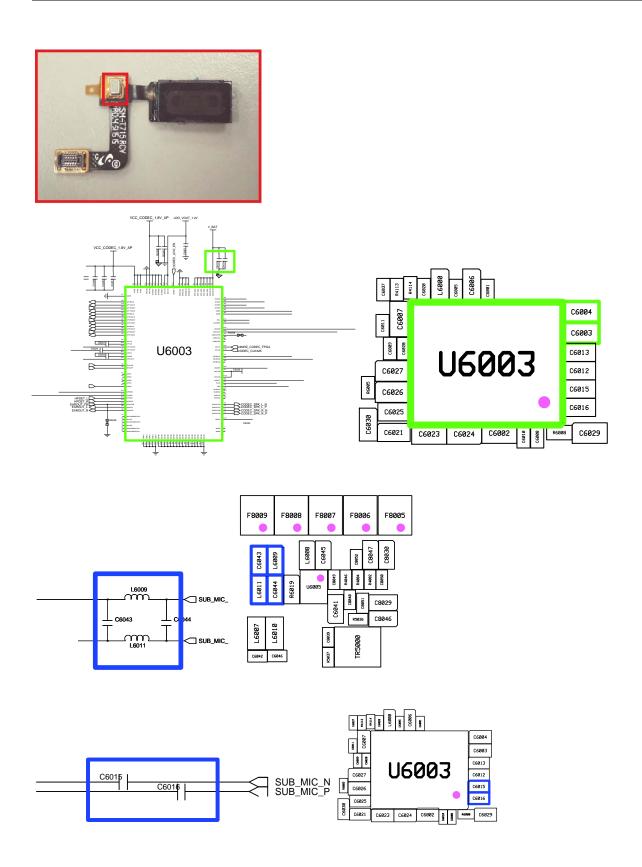




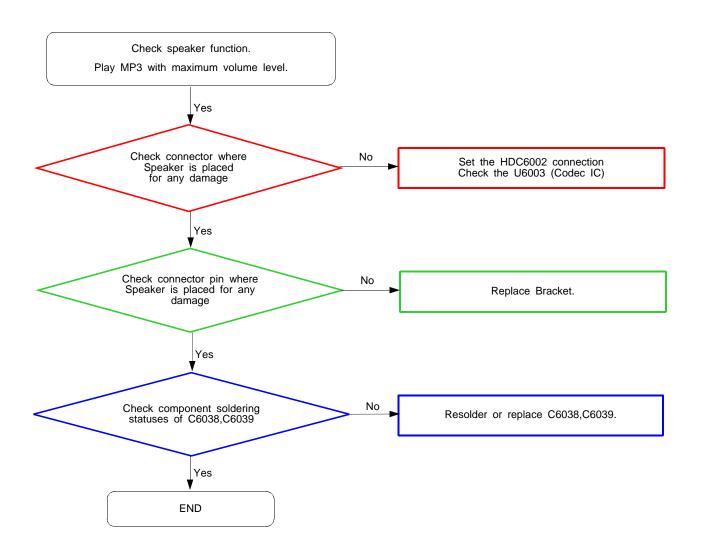


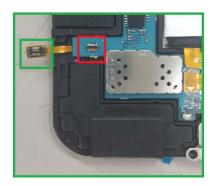
8-3-6. Sub Microphone Part

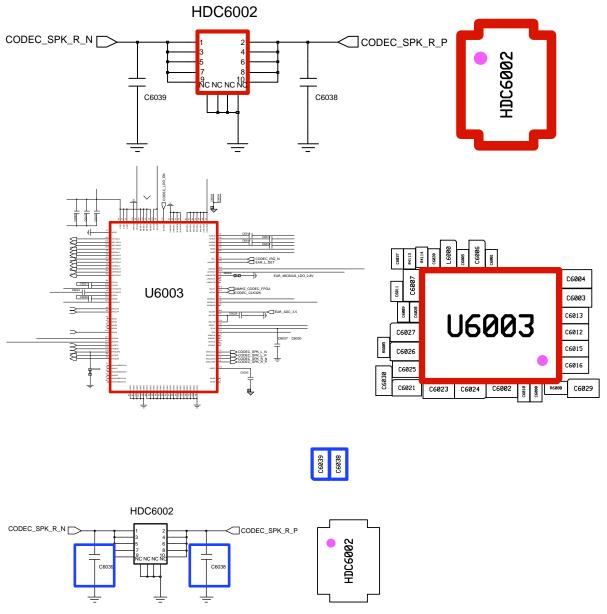




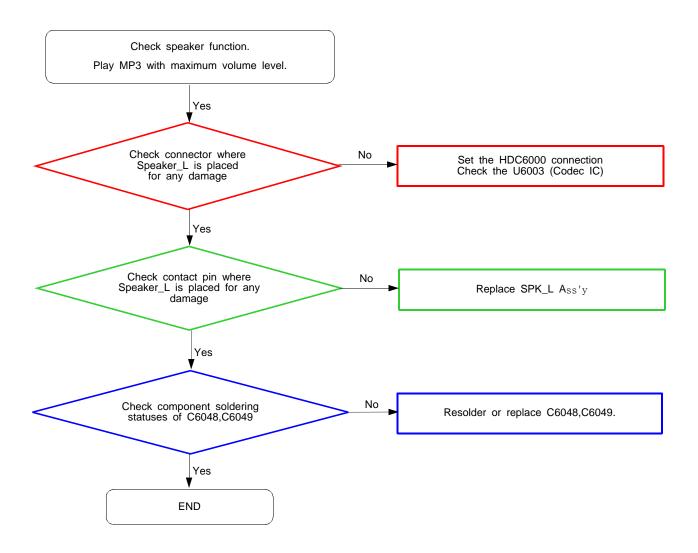
8-3-7. Speaker_R Part

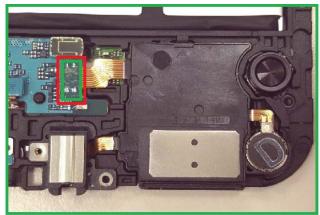


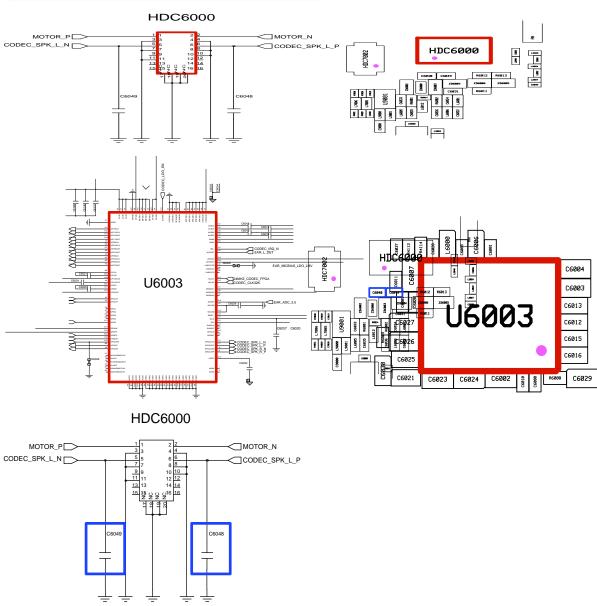




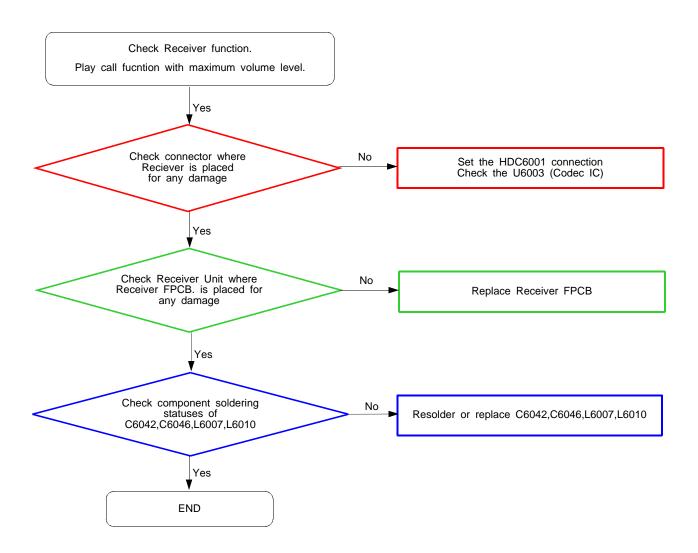
8-3-8. Speaker_L Part

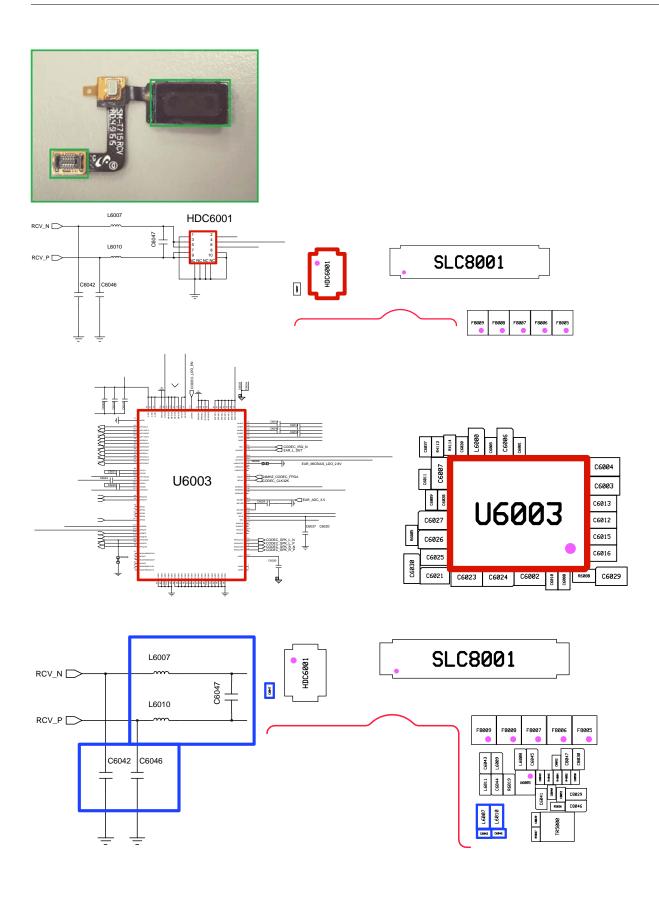




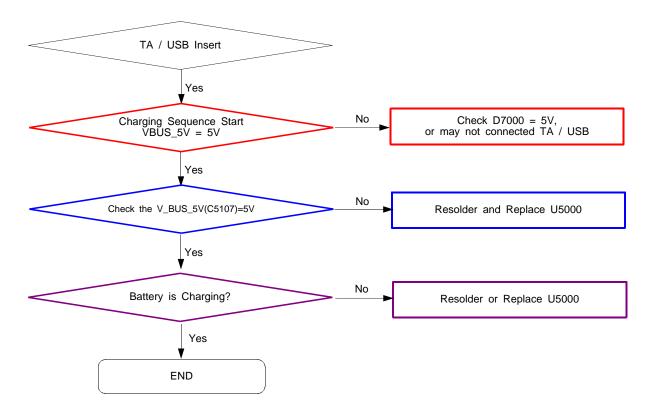


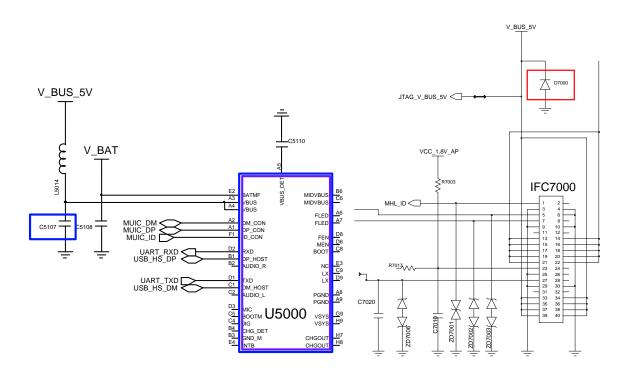
8-3-9. Receiver Part

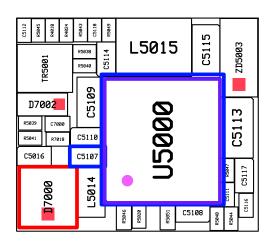




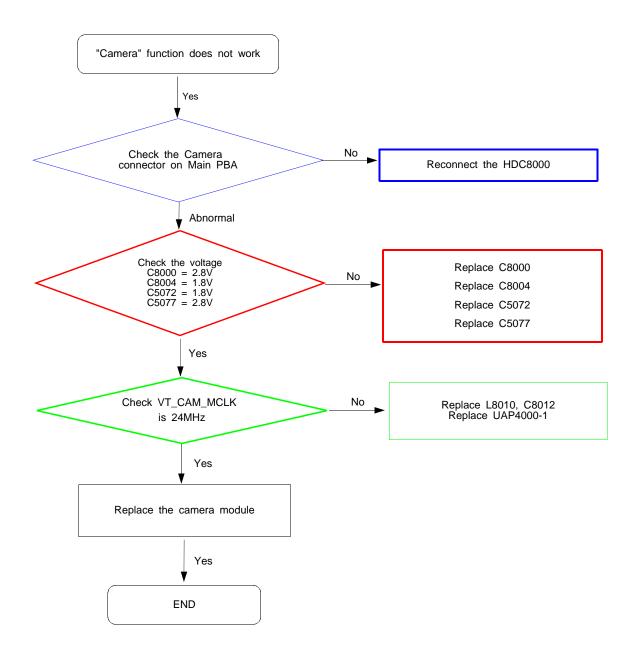
8-4-10. Charging Part

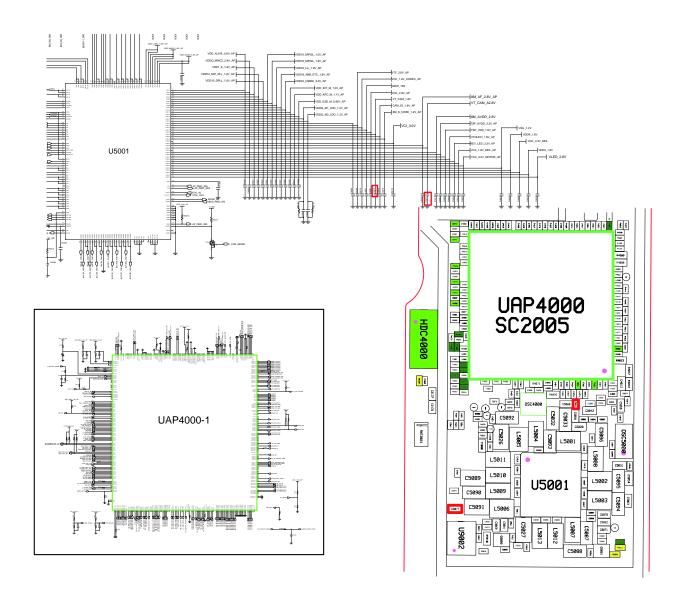




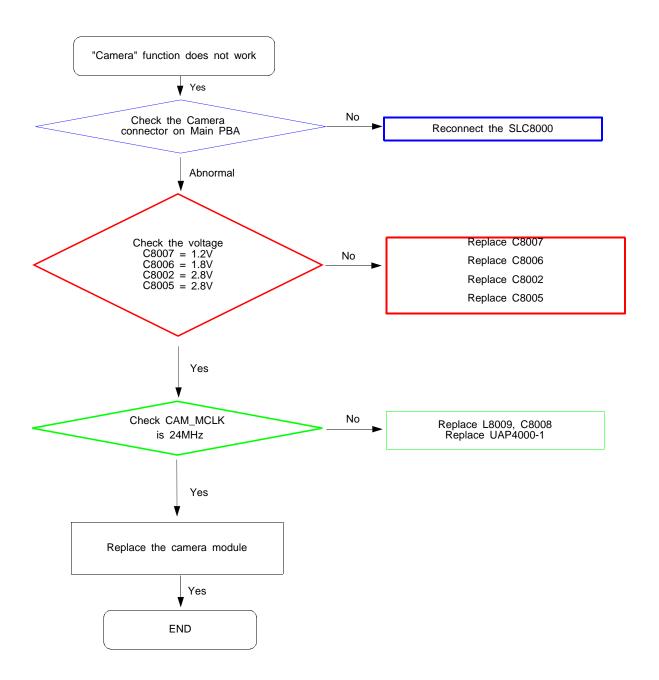


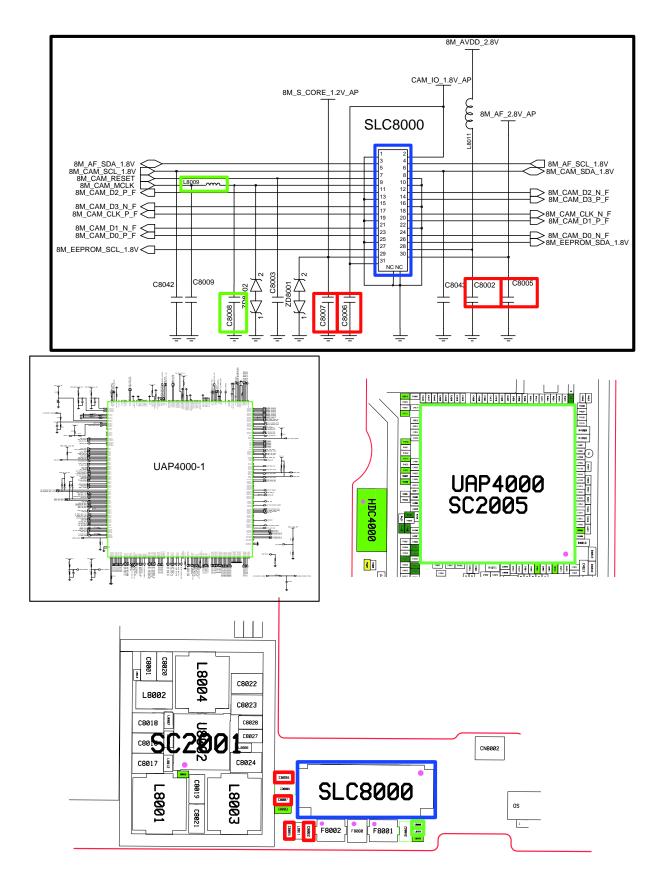
8-4-11. VT CAM



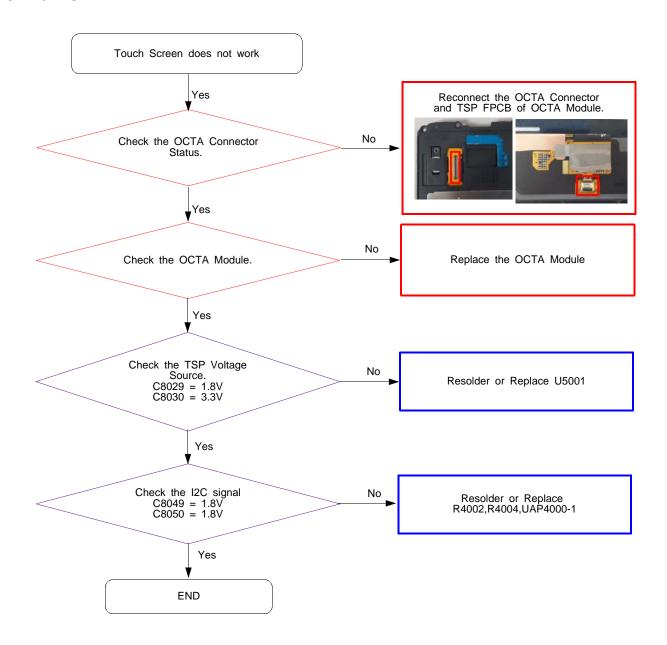


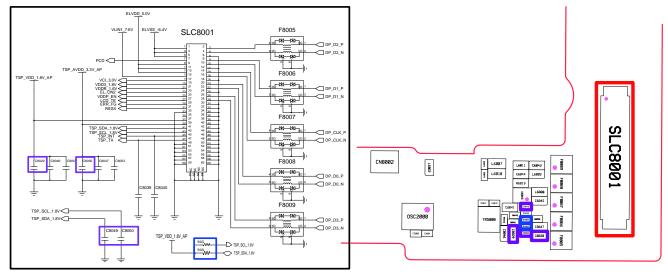
8-4-12. 8M CAM

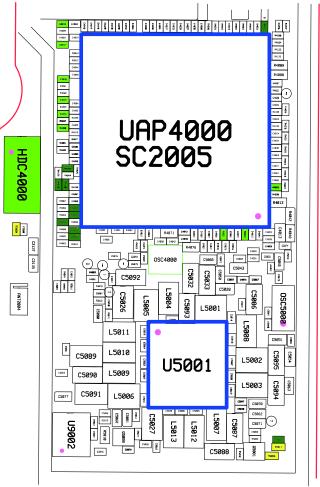




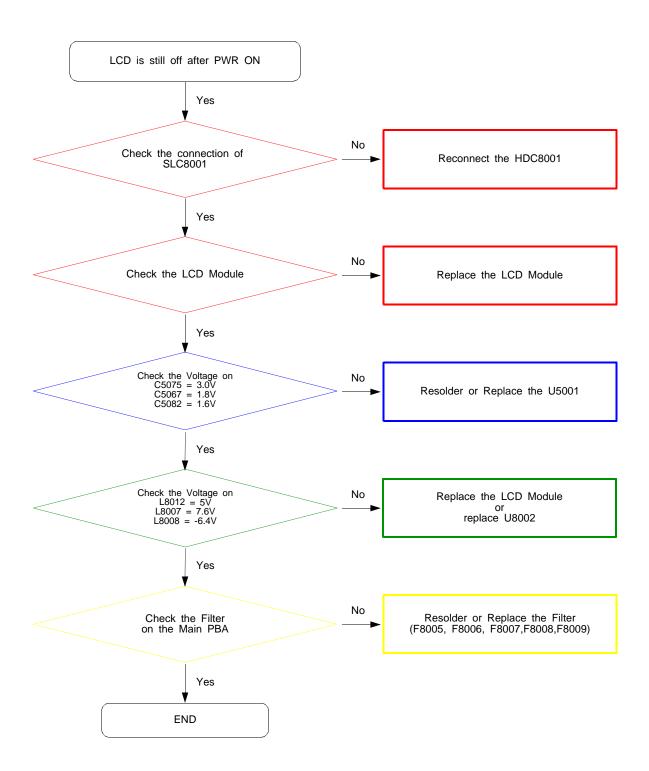
8-4-13. TSP

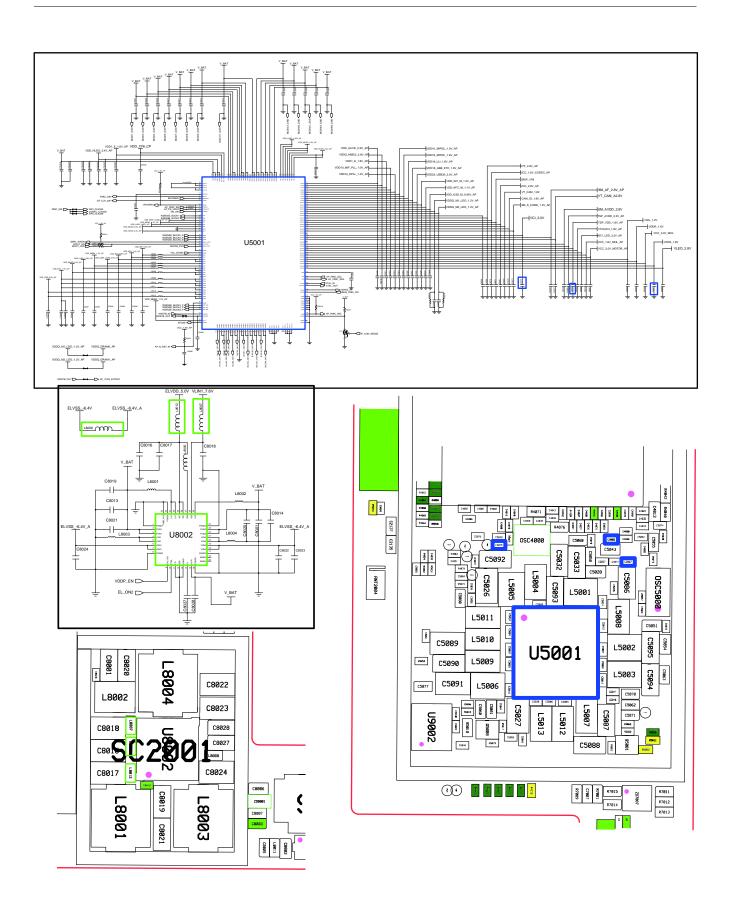


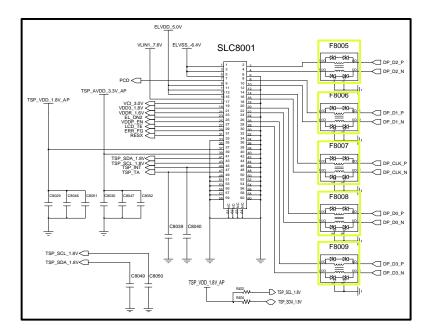


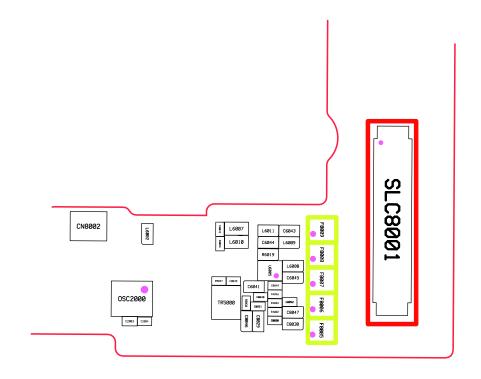


8-4-14. LCD

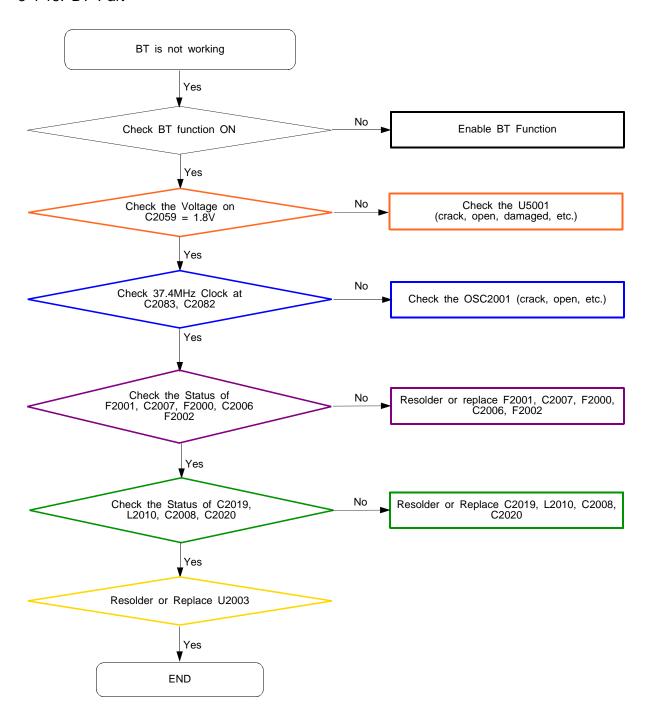


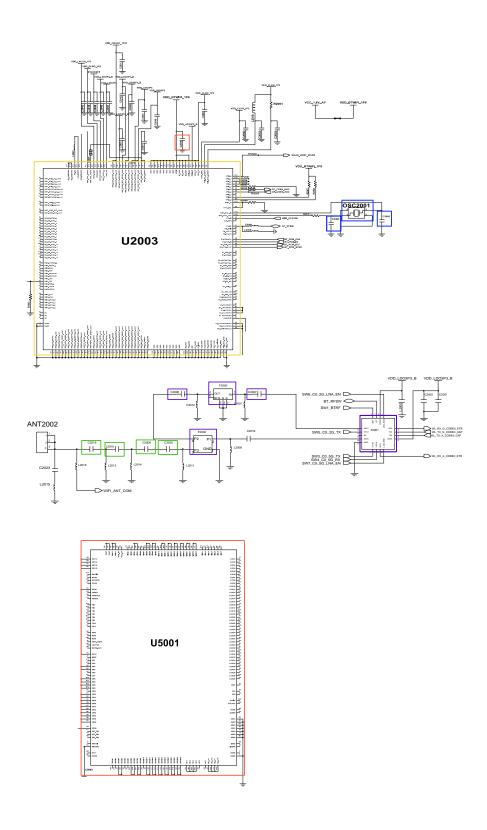


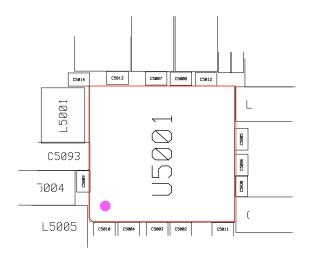


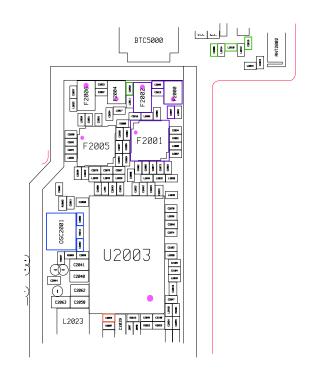


8-4-15. BT Part

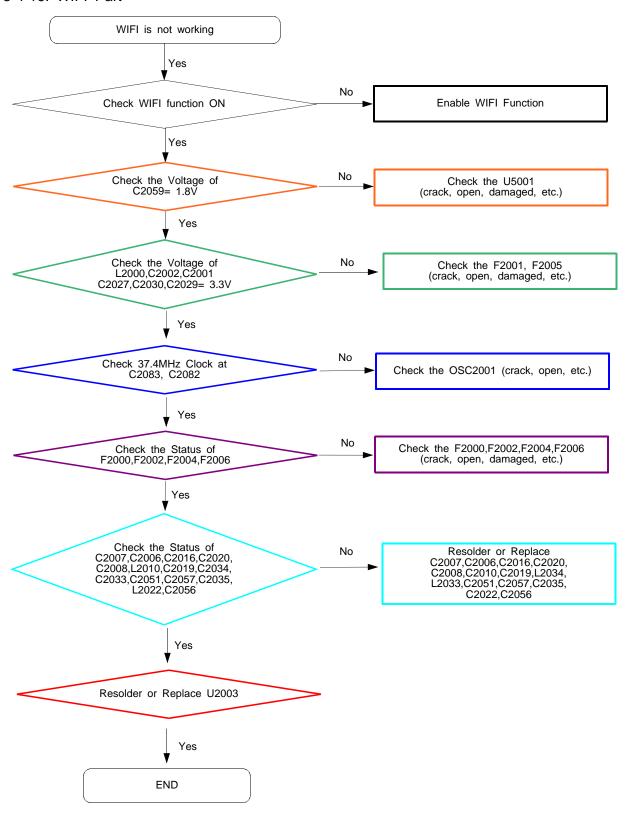


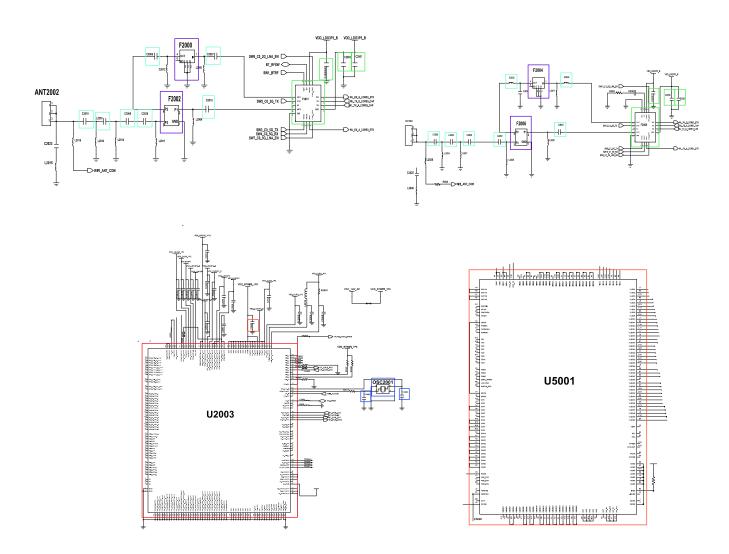


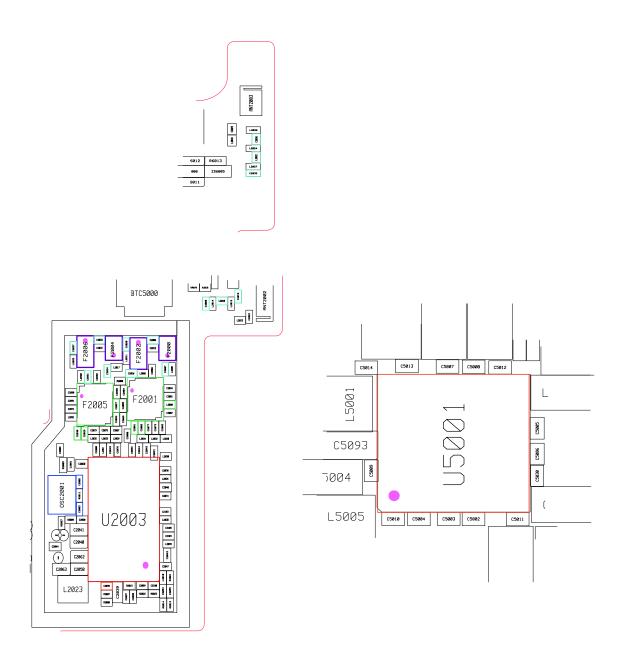




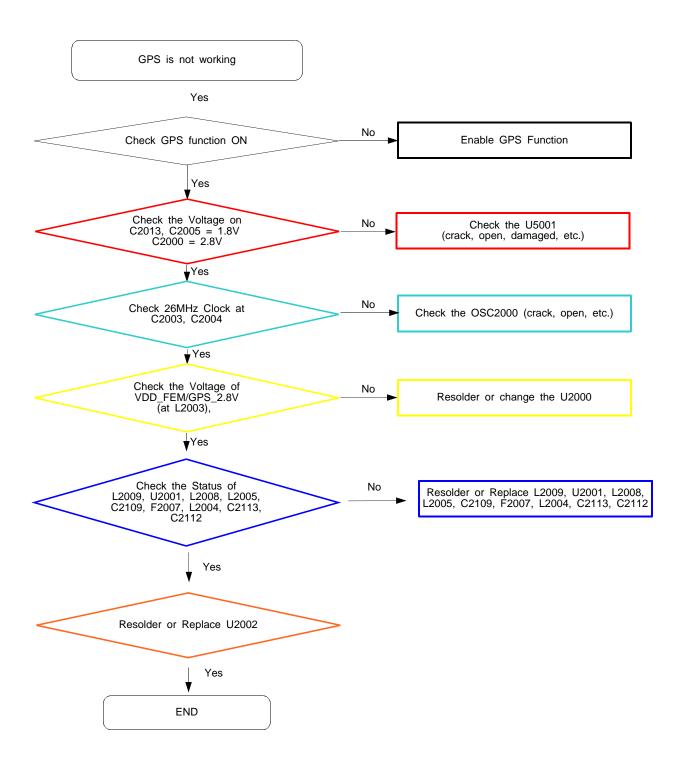
8-4-16. WIFI Part

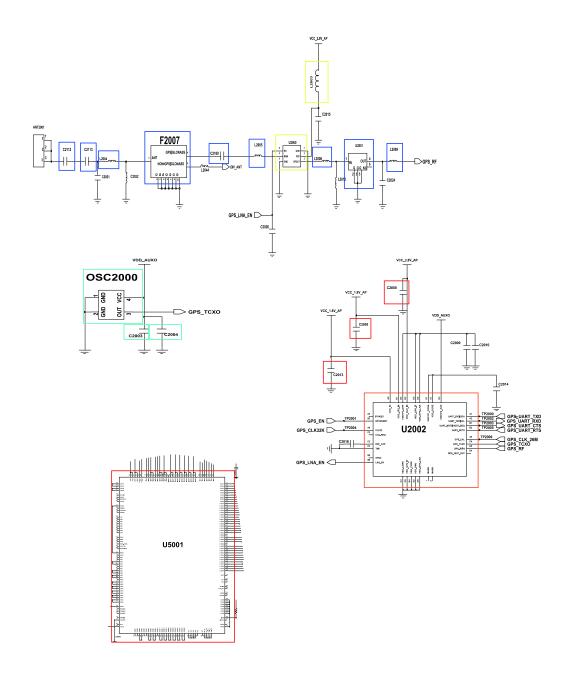


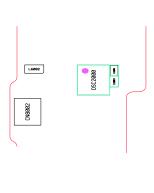


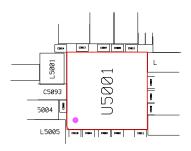


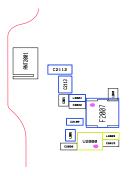
8-4-17. GPS Part

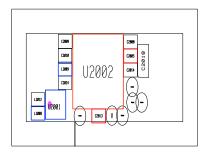




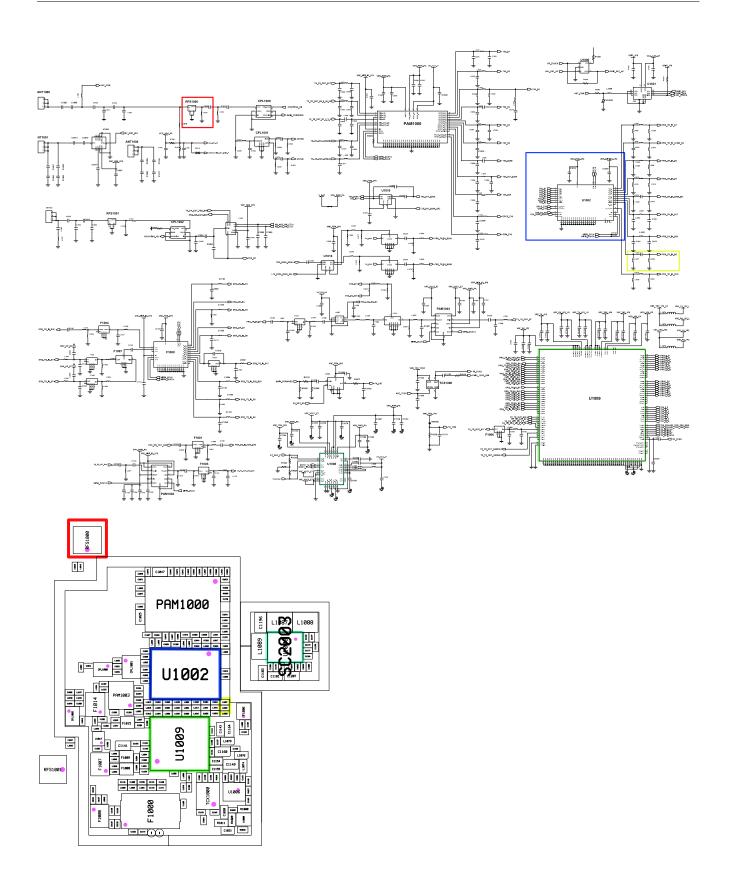




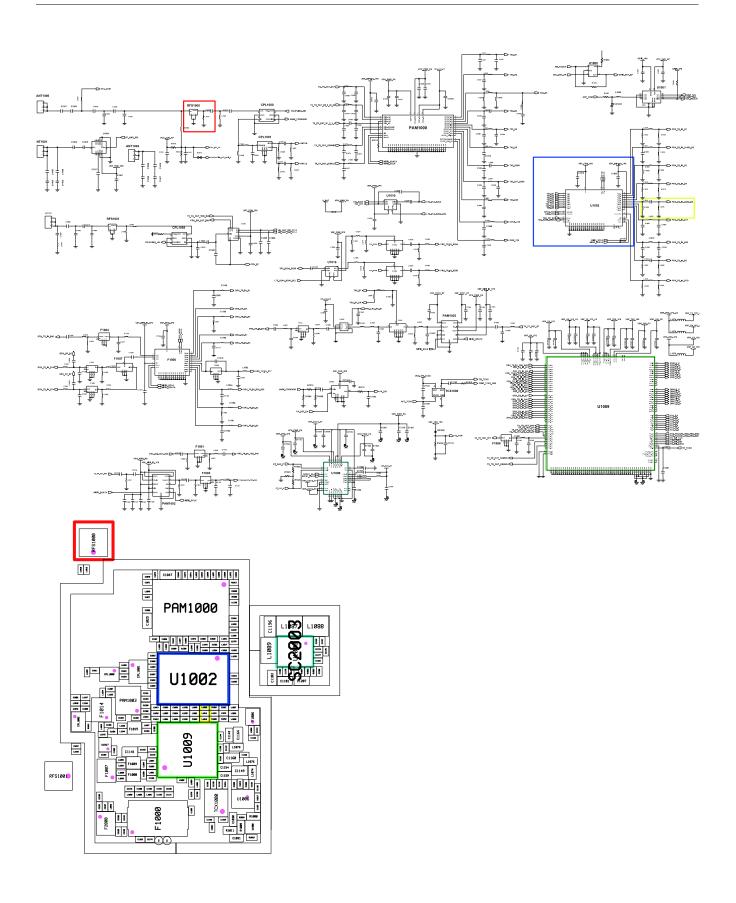




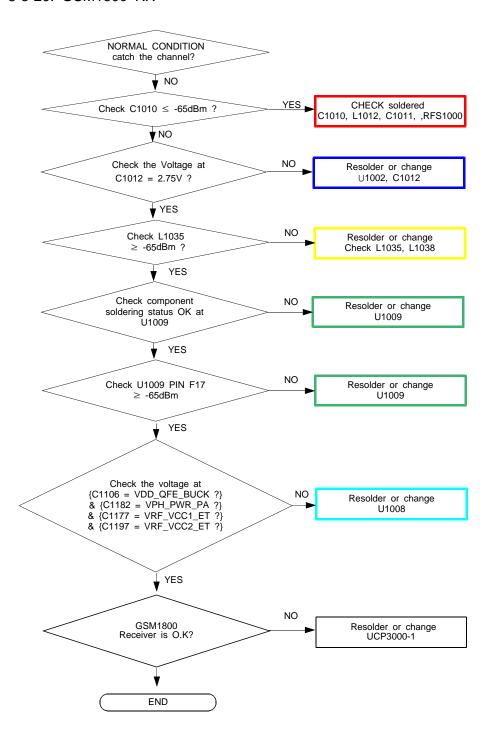
8-4-18. GSM850 / WCDMA B5 / LTE B5 RX CONTINUO US RX ON NORMAL CONDITION RF INPUT: 4408CH catch the channel? AMP: -50dBm **♦** NO YES CHECK soldered Check C1010 \leq -65dBm ? C1010, L1012, C1011,RFS1000 NO. NO Check the Voltage at Resolder or change C1012 = 2.75V ? $\cup 1002,\ C1012$ ▼ YES NO Check L1022 Resolder or change Check L1022 ≥ -65dBm ? YES Check component NO Resolder or change soldering status OK at U1009 U1009 YES NO Check U1009 PIN N16 Resolder or change ≥ -65dBm U1009 YES Check the voltage at {C1106 = VDD_QFE_BUCK ?} & {C1182 = VPH_PWR_PA ?} & {C1177 = VRF_VCC1_ET ?} & {C1197 = VRF_VCC2_ET ?} NO Resolder or change U1008 YES WCDMA B5 Resolder or change UCP3002-1 / GSM 850 Receiver is O.K? **END**



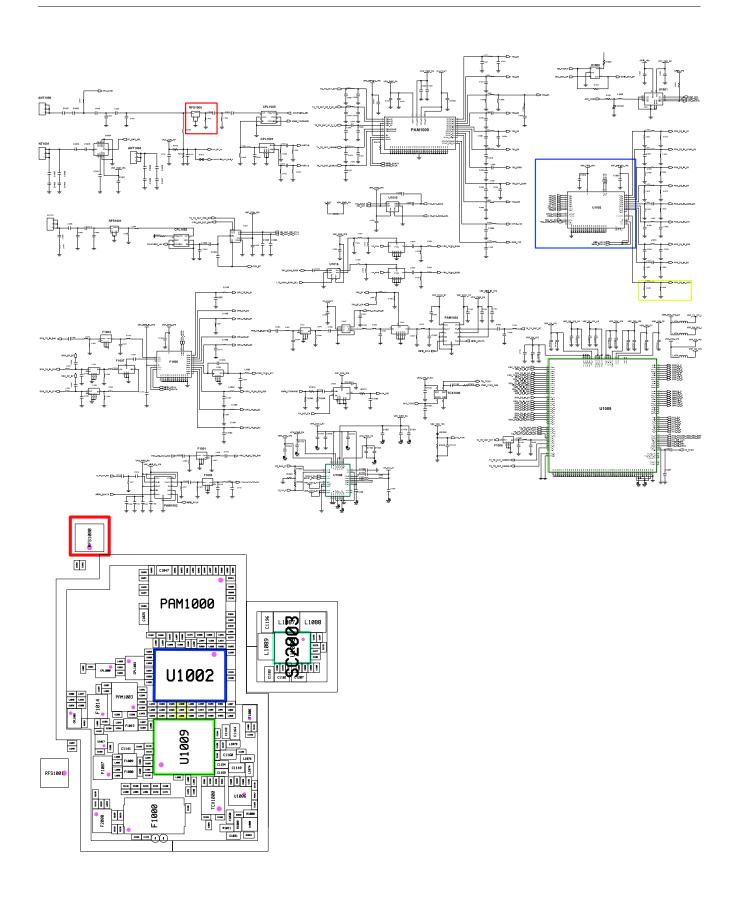
8-3-19. GSM900 / WCDMA B8 / LTE B8 RX CONTINUOUS RX ON RF INPUT: 3013CH NORMAL CONDITION AMP: -50dBm catch the channel? **♦** NO YES -CHECK soldered Check C1010 \leq -65dBm ? C1010, L1012 ,C1011,RFS1000 **▼**NO Check the Voltage at NO Resolder or change C1012 = 2.75V ? $\cup 1002,\ C1012$ ▼ YES NO Check L1014 Resolder or change Check L1014, L1016 ≥ -65dBm ? YES Check component NO Resolder or change soldering status OK at U1009 U1009 YES NO Check U1009 PIN H17 Resolder or change ≥ -65dBm U1009 YES Check the voltage at {C1106 = VDD_QFE_BUCK ?} NO Resolder or change & {C1182 = VPH_PWR_PA ?} & {C1177 = VRF_VCC1_ET ?} U1008 & {C1197 = VRF_VCC2_ET ?} ↓ YES NO WCDMA B8 / GSM 900 / LTE B8 Receiver is O.K? Resolder or change END



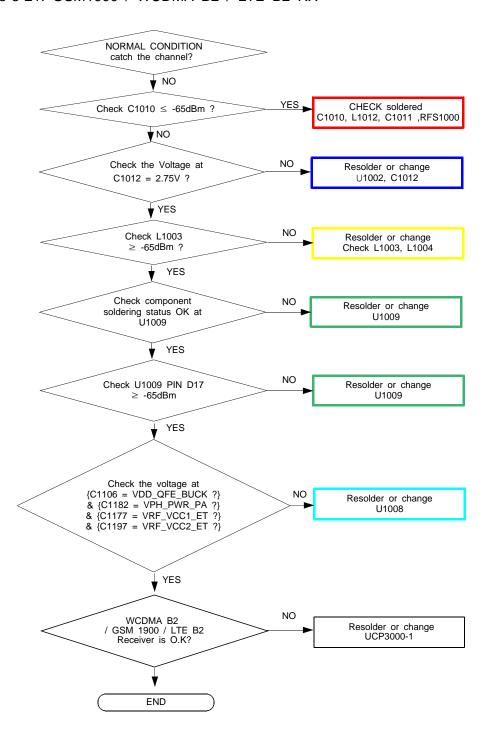
8-3-20. GSM1800 RX



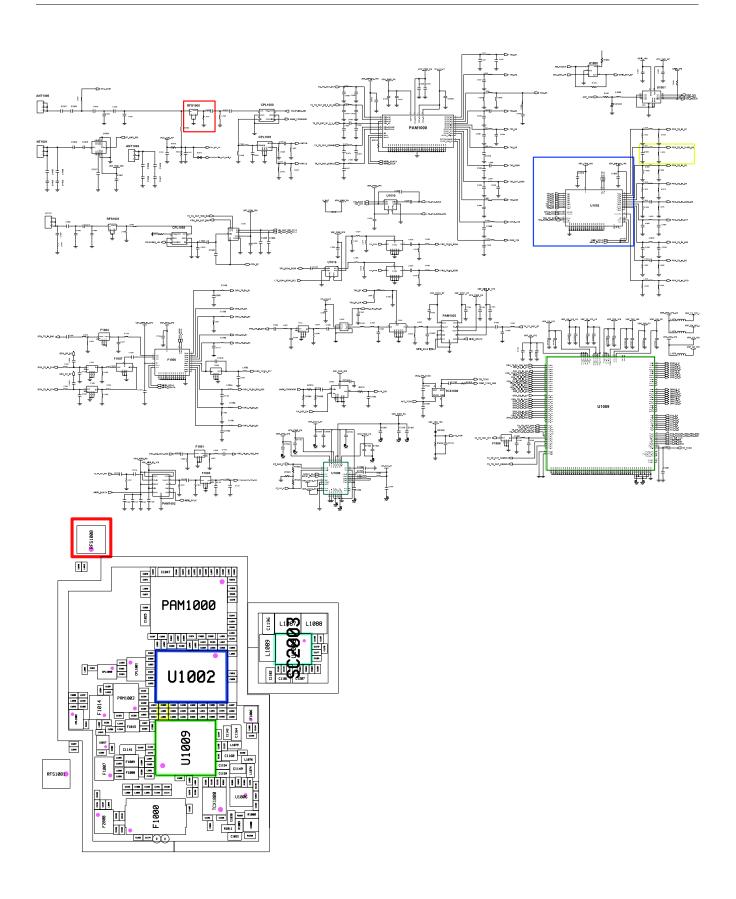
CONTINUOUS RX ON RF INPUT : 698CH AMP : -50dBm



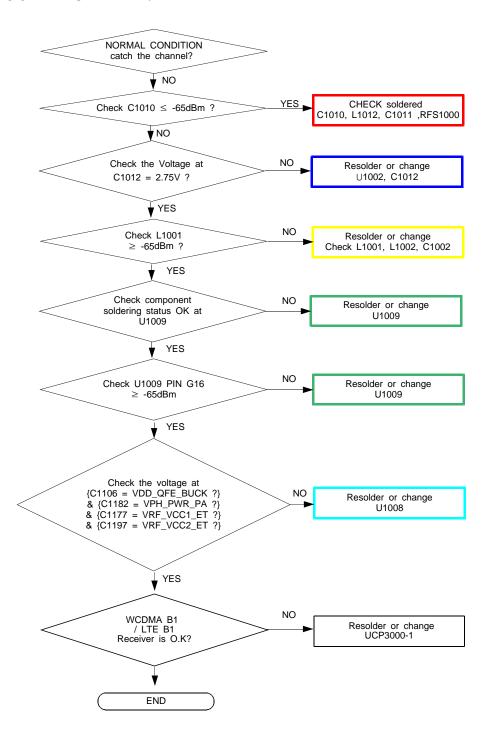
8-3-21. GSM1900 / WCDMA B2 / LTE B2 RX



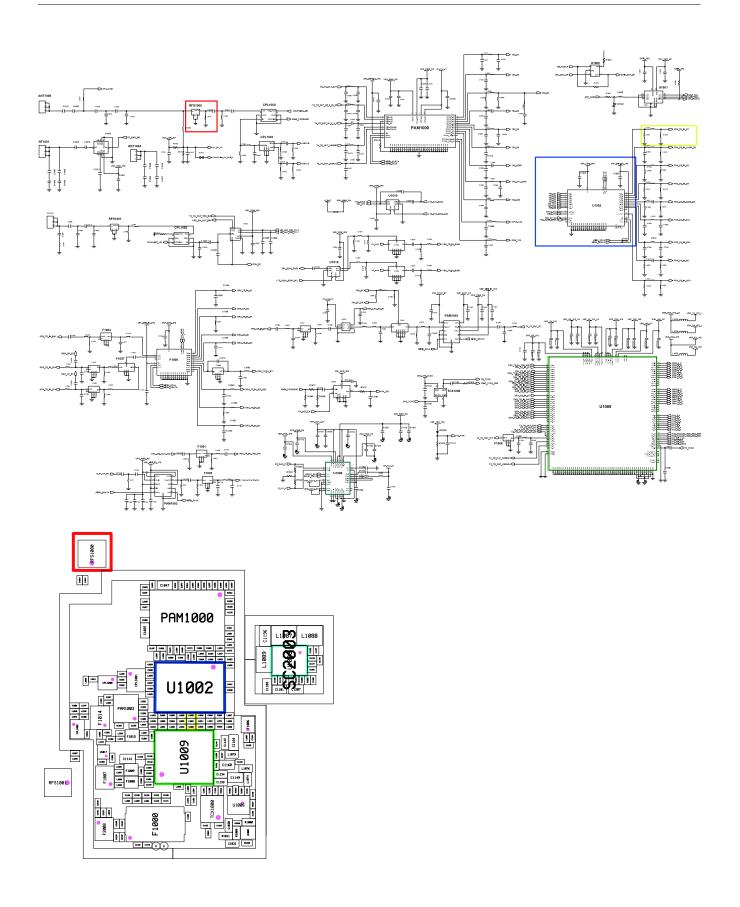
CONTINUOUS RX ON RF INPUT : 698CH AMP : -50dBm



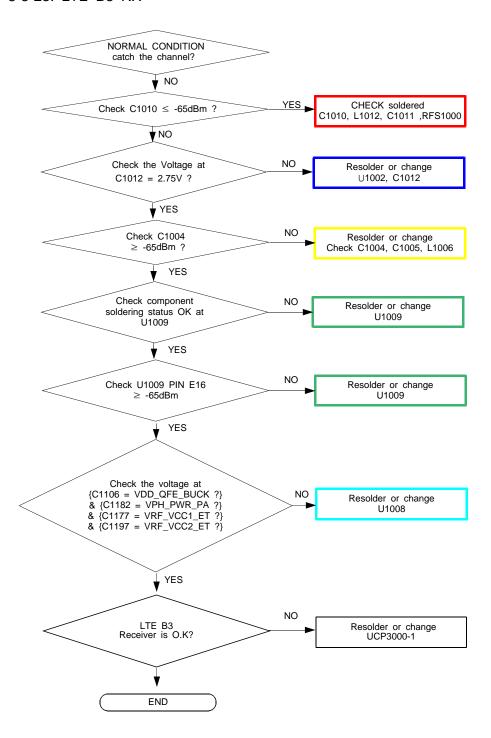
8-3-22. WCDMA B1 / LTE B1 RX



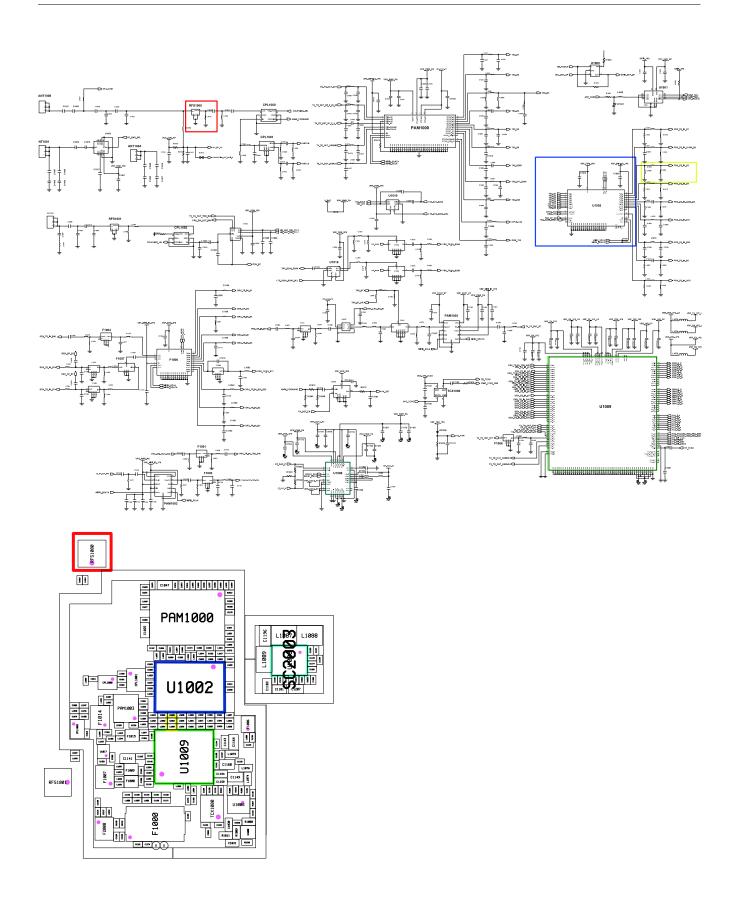
CONTINUOUS RX ON RF INPUT : 10700CH AMP : -50dBm



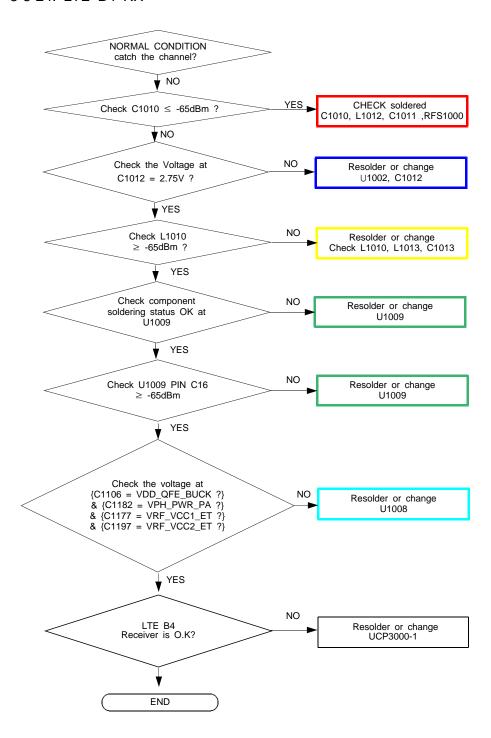
8-3-23. LTE B3 RX



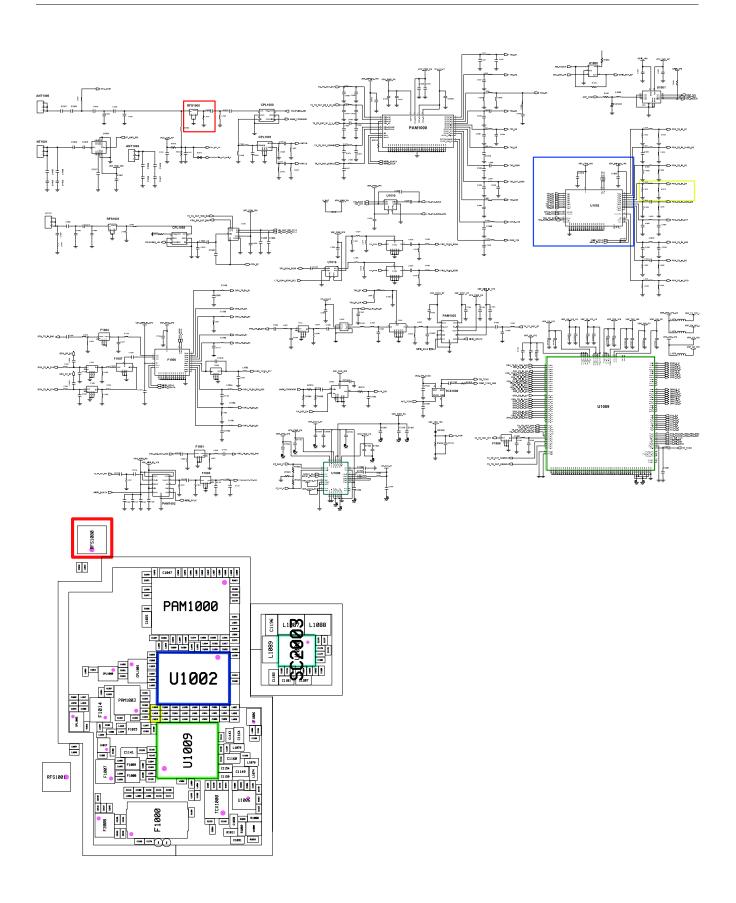
CONTINUOUS RX ON RF INPUT : 1575CH AMP : -50dBm



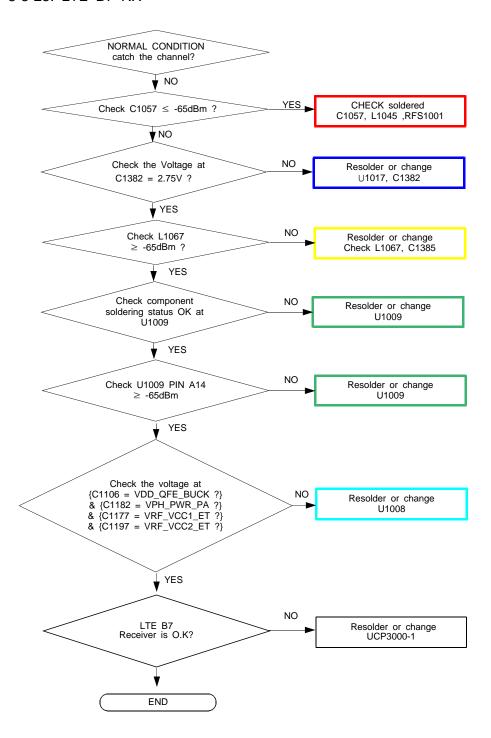
8-3-24. LTE B4 RX



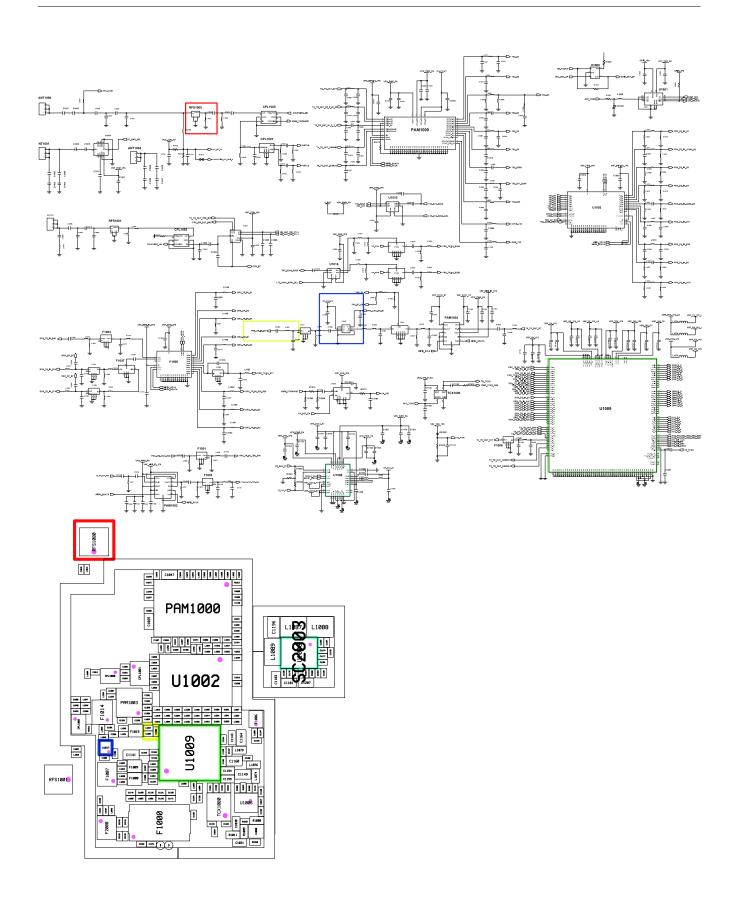
CONTINUOUS RX ON RF INPUT : 2175CH AMP : -50dBm



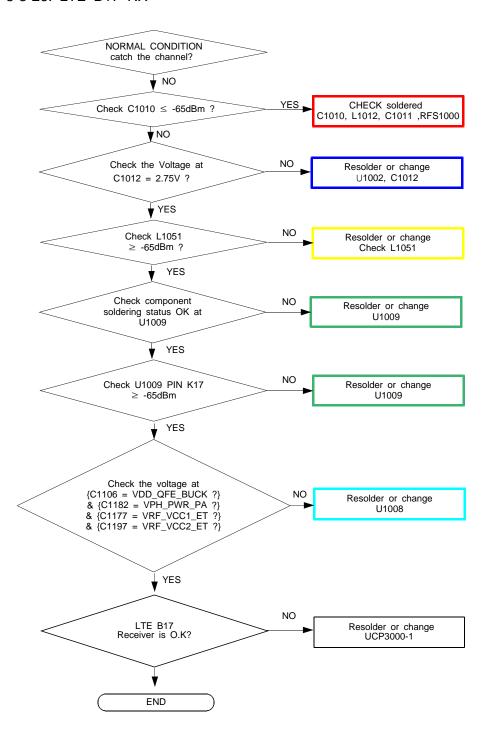
8-3-25. LTE B7 RX



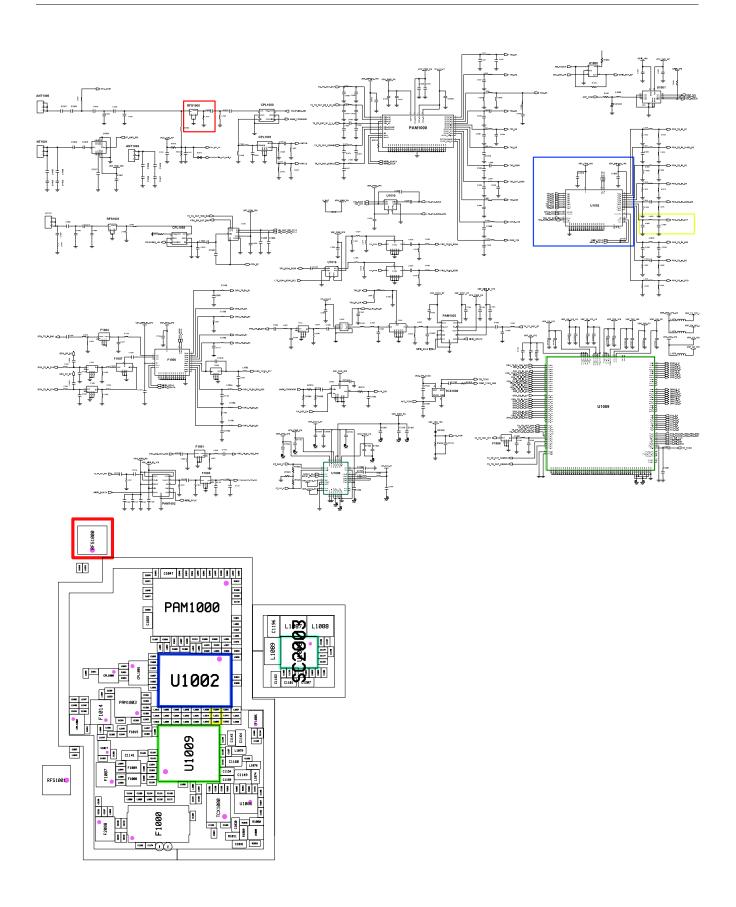
CONTINUOUS RX ON RF INPUT : 3100CH AMP : -50dBm



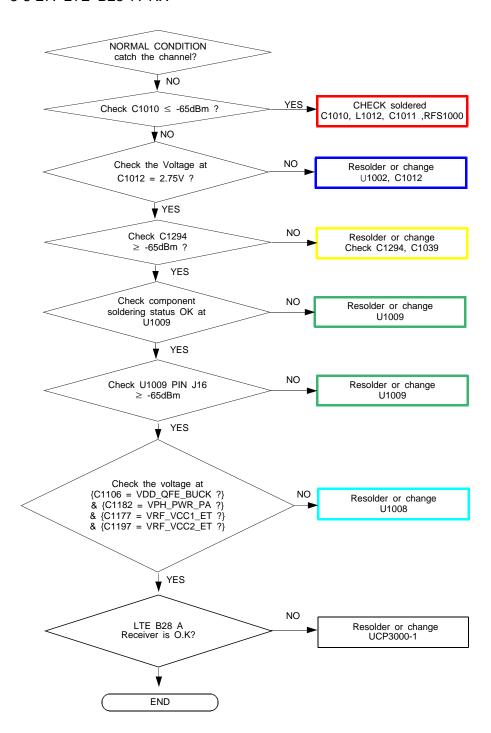
8-3-26. LTE B17 RX



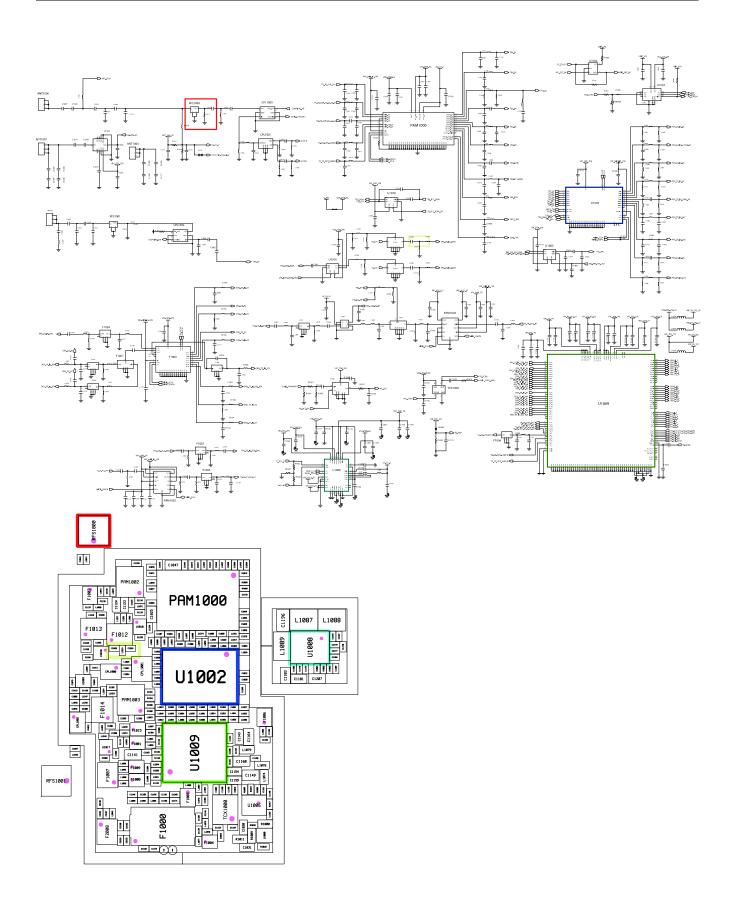
CONTINUOUS RX ON RF INPUT : 5790CH AMP : -50dBm



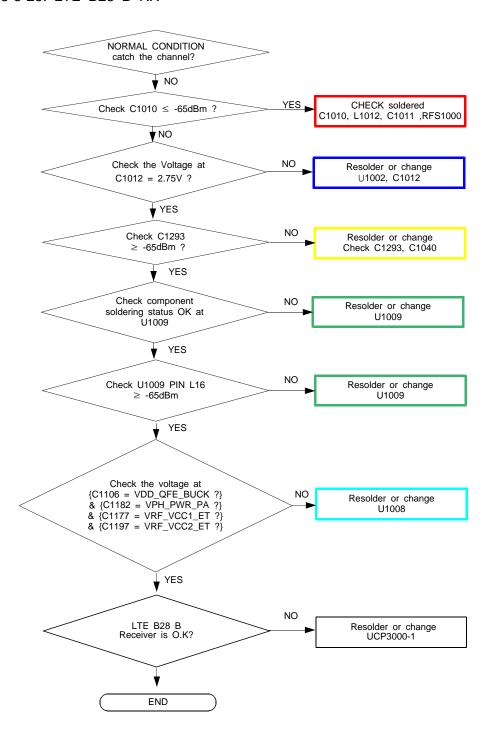
8-3-27. LTE B28 A RX



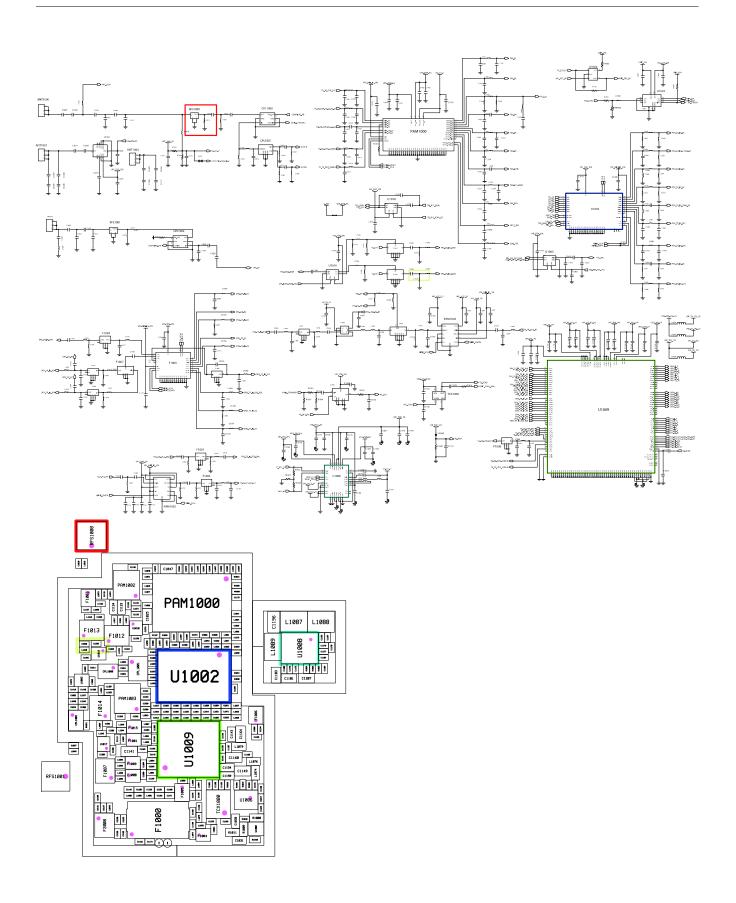
CONTINUOUS RX ON RF INPUT : 9360CH AMP : -50dBm



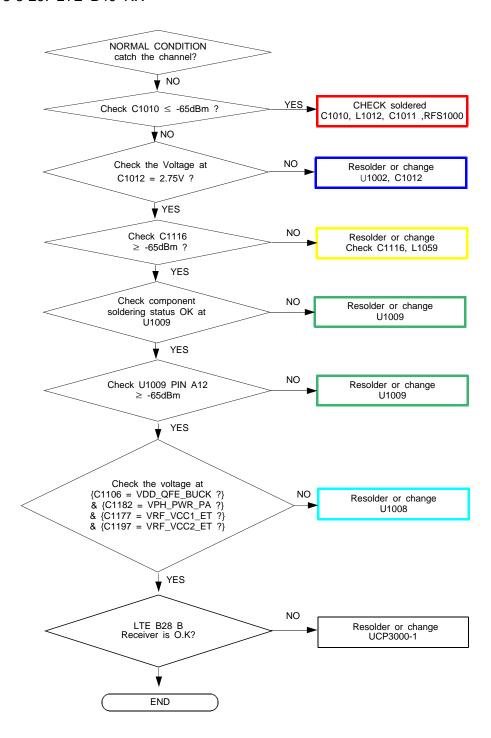
8-3-28. LTE B28 B RX



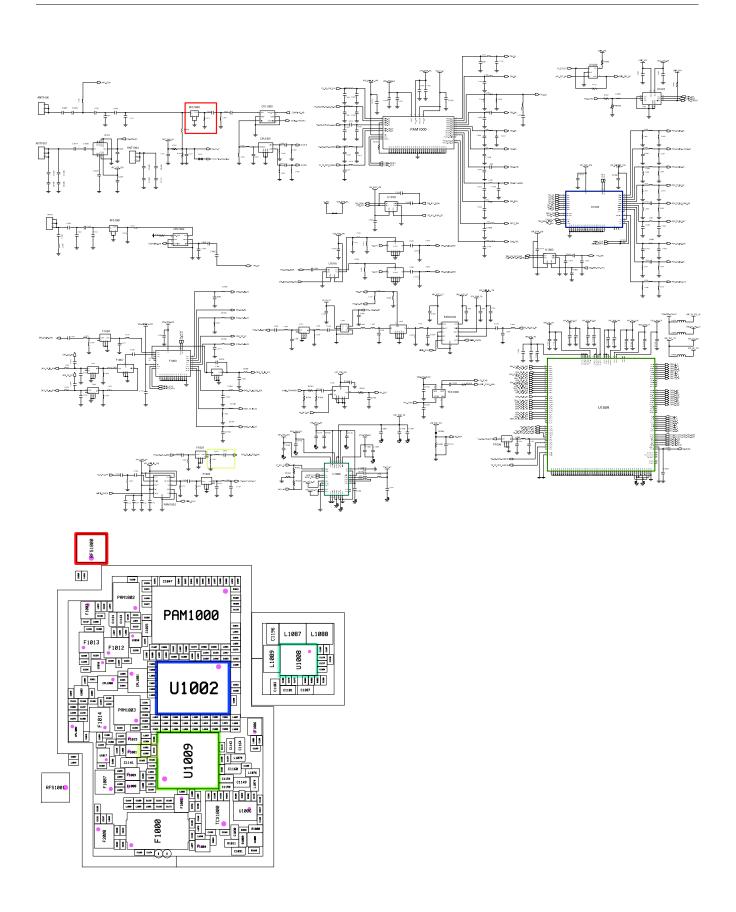
CONTINUOUS RX ON RF INPUT : 9510CH AMP : -50dBm



8-3-29. LTE B40 RX

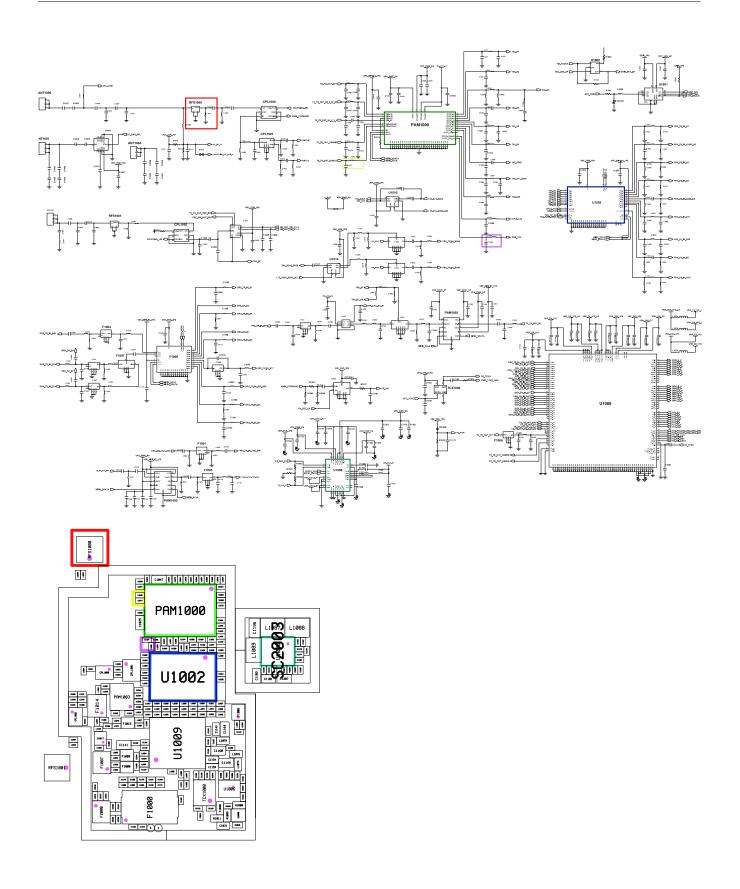


CONTINUOUS RX ON RF INPUT : 39150CH AMP : -50dBm

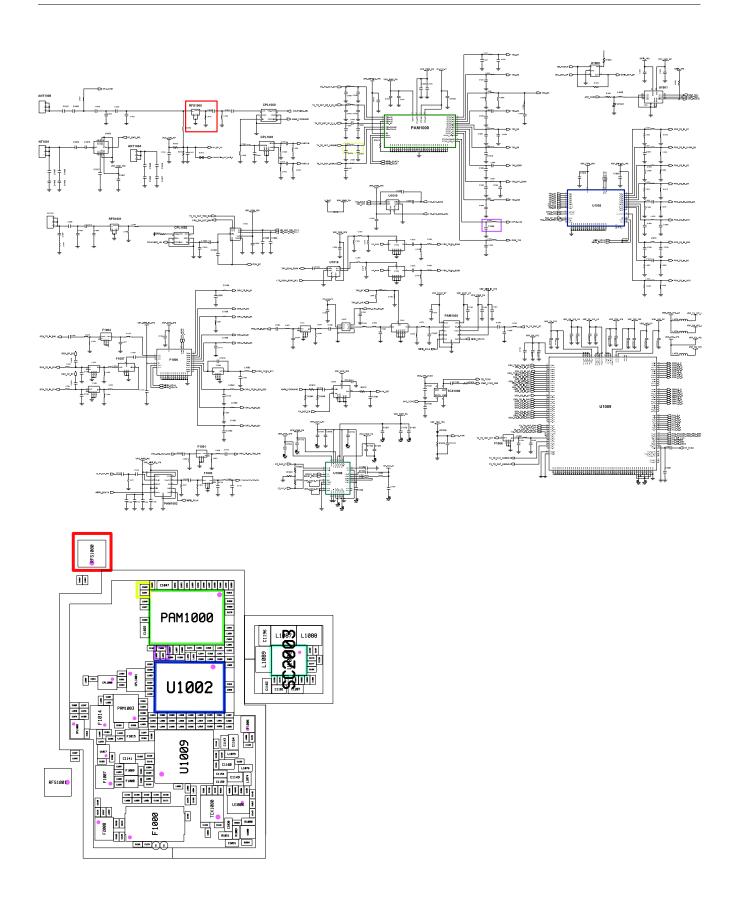


CONTINOUS TX ON CONDITION TX POWER DAC:14500 CODE APPLIED GSM850 CH : 190 GSM900 CH : 62 RBW : 100KHz VBW : 100KHz SPAN : 10MHz REF LEV. : 10dBm ATT. : 20dB 8-3-30. GSM850 / GSM900 TX YES CHECK soldered L1012, C1010, C1011, RFS1000 CPL1000 PIN3 : About 30dBm ? NO Check the Voltage at NO Resolder or change U1002, C1012 C1012 = 2.75V ? YES YES. Check L1055 : About 30dBm ? Resolder or change I 1055 **♦** NO NO Check the Voltage at Resolder or change $C1046 = VPH_PWR_PA$ PAM1000, C1046 YES NO Resolder or change Check L1049: L1049 About 30dBm ? YES Check the voltage at {C1106 = VDD_QFE_BUCK ?} NO Resolder or change & {C1182 = VPH_PWR_PA ?} & {C1177 = VRF_VCC1_ET ?} & {C1197 = VRF_VCC2_ET ?} U1008 ¥ YES NO GSM850 / 900 Resolder or change UCP3000-1 Transmitter is O.K?

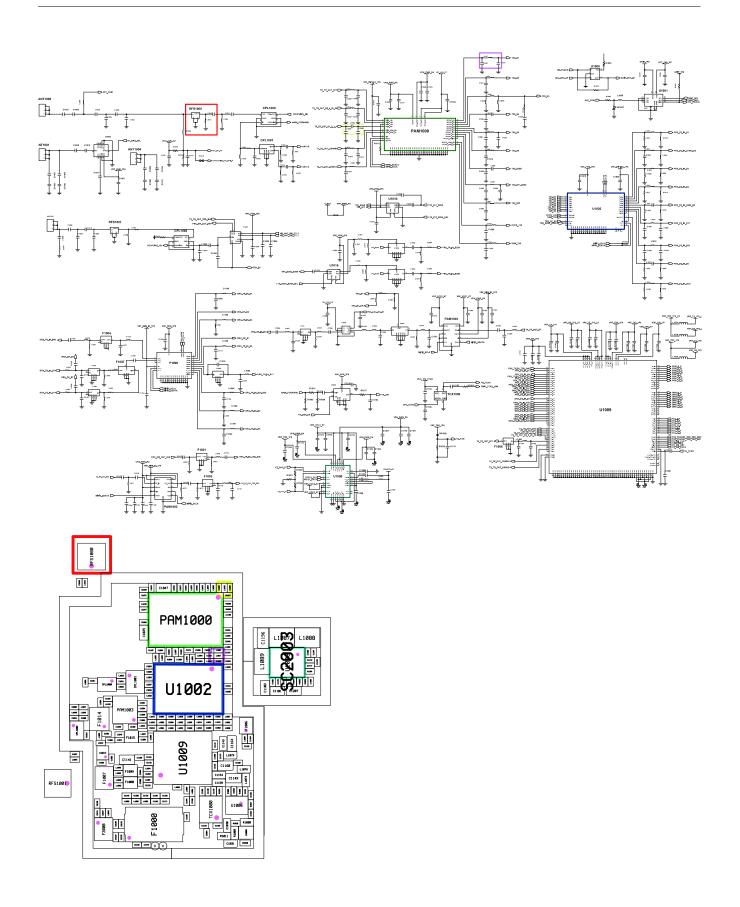
END



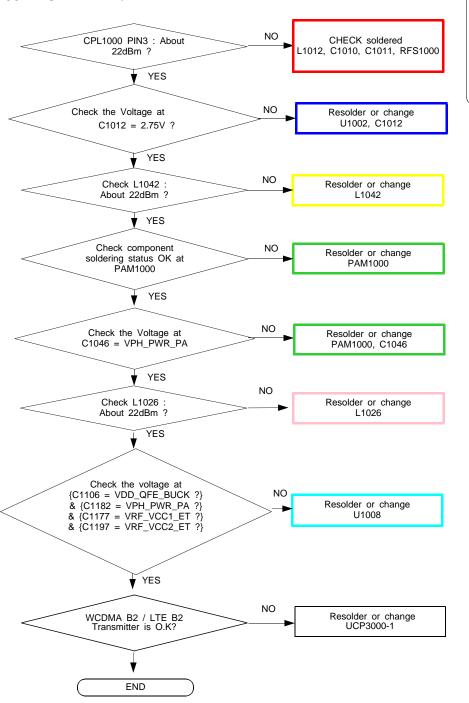
CONTINOUS TX ON CONDITION TX POWER DAC:14500 CODE APPLIED DCS CH: 685 PCS CH: 661 RBW: 100KHz VBW: 100KHz SPAN: 10MHz REF LEV: 10dBm ATT.: 20dB 8-3-31. GSM1800 / GSM1900 TX YES CPL1000 PIN3 : About CHECK soldered 30dBm ? .1012, C1010, C1011, RFS1000 NO NO Check the Voltage at Resolder or change U1002, C1012 C1012 = 2.75V ? YES YES Resolder or change Check L1053: About 30dBm ? L1053 **♦** NO NO Check the Voltage at Resolder or change $C1046 = VPH_PWR_PA$ PAM1000, C1046 YES NO Check C1070 Resolder or change About 30dBm ? C1070 YES Check the voltage at {C1106 = VDD_QFE_BUCK ?} NO Resolder or change & {C1182 = VPH_PWR_PA ?} U1008 & {C1177 = VRF_VCC1_ET ?} & {C1197 = VRF_VCC2_ET ?} YES NO GSM1800 / 1900 Resolder or change Transmitter is O.K? UCP3000-1 END



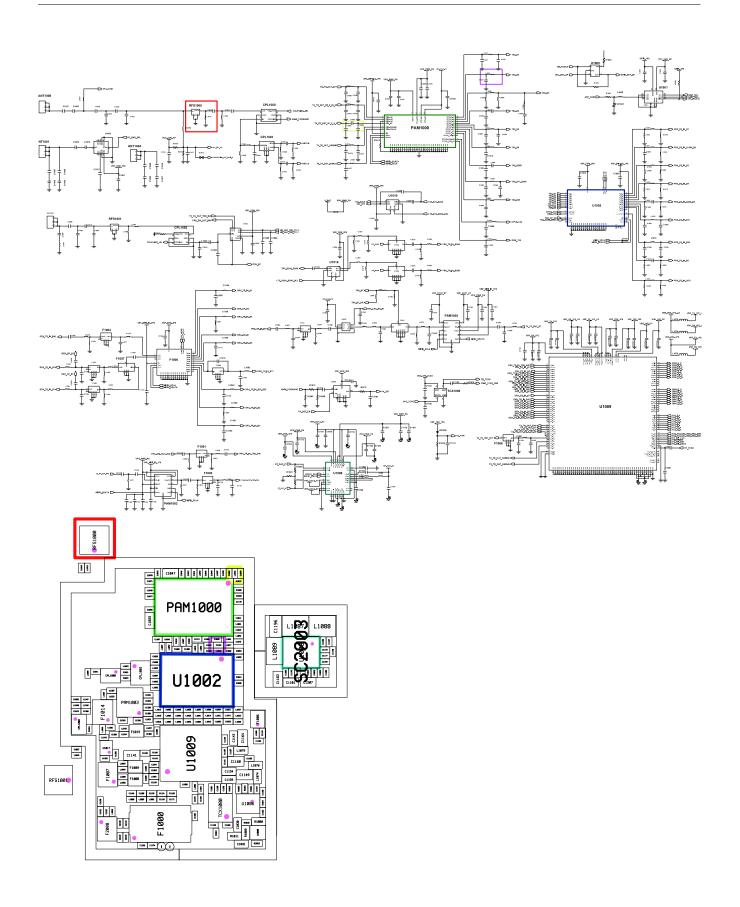
8-3-32. WCDMA B1 / LTE B1 TX CONTINOUS TX ON CONDITION TX POWER DAC:14500 CODE APPLIED APPLIED WCDMA Band1 CH: 10700 RBW: 100KHz VBW: 100KHz SPAN: 10MHz REF LEV: 10dBm ATT.: 20dB NO CPL1000 PIN3: About CHECK soldered 22dBm ? L1012, C1010, C1011, RFS1000 YES NO Check the Voltage at Resolder or change C1012 = 2.75V ? U1002, C1012 YES NO Check L1042 Resolder or change About 22dBm ? L1042 YES Check component NO Resolder or change soldering status OK at PAM1000 PAM1000 YES NO Check the Voltage at Resolder or change $C1046 = VPH_PWR_PA$ PAM1000, C1046 YES NO Check L1017 Resolder or change About 22dBm ? L1017 YES Check the voltage at {C1106 = VDD_QFE_BUCK ?} NO & {C1182 = VPH_PWR_PA ?} & {C1177 = VRF_VCC1_ET ?} & {C1197 = VRF_VCC2_ET ?} Resolder or change U1008 ▼ YES NO Resolder or change UCP3000-1 WCDMA B1 / LTE B1 Transmitter is O.K? END



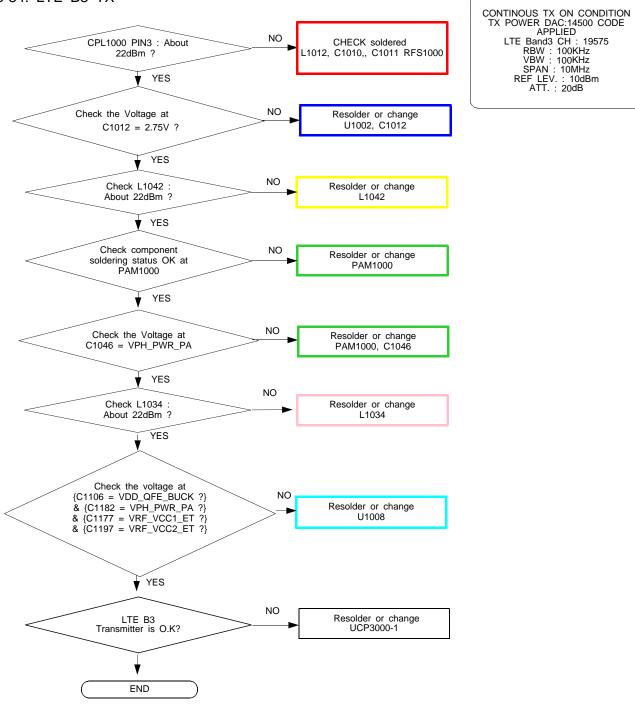
8-3-33. WCDMA B2 / LTE B2 TX

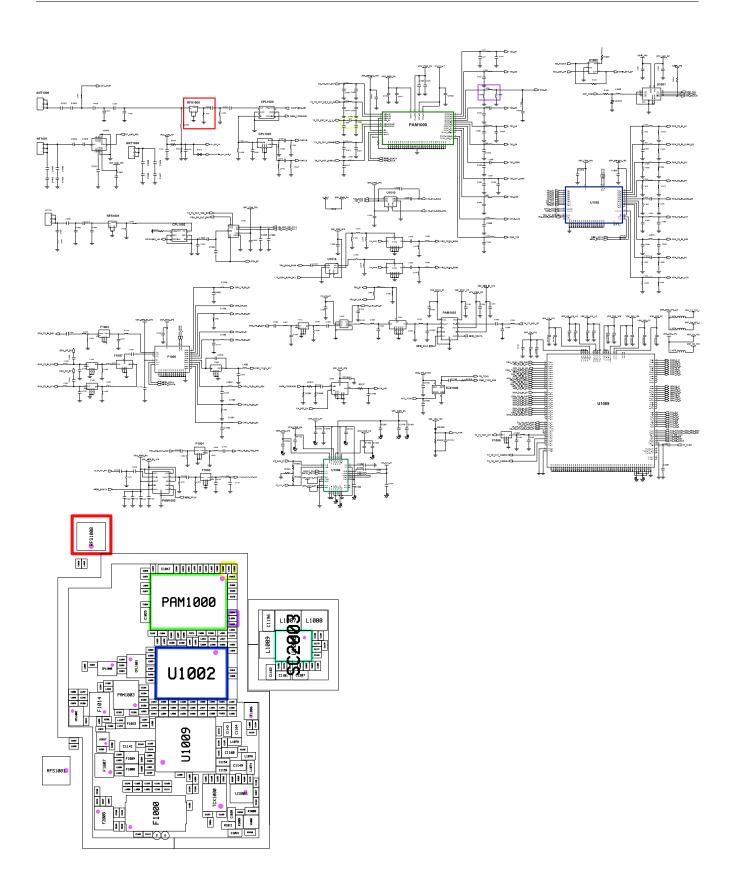


CONTINOUS TX ON CONDITION
TX POWER DAC:14500 CODE
APPLIED
WCDMA Band2 CH: 9800
RBW: 100KHz
VBW: 100KHz
SPAN: 10MHz
REF LEV.: 10dBm
ATT.: 20dB



8-3-34. LTE B3 TX





8-3-35. LTE B4 TX CONTINOUS TX ON CONDITION TX POWER DAC:14500 CODE APPLIED LTE Band4 CH: 2175 RBW: 100KHz VBW: 100KHz SPAN: 10MHz REF LEV: 10dBm ATT.: 20dB NO CPL1000 PIN3: About CHECK soldered 22dBm ? L1012, C1010, C1011, RFS1000 YES NO Check the Voltage at Resolder or change C1012 = 2.75V ? U1002, C1012 YES NO Check L1042 Resolder or change About 22dBm ? L1042 YES Check component NO Resolder or change soldering status OK at PAM1000 PAM1000 YES NO Check the Voltage at Resolder or change $C1046 = VPH_PWR_PA$ PAM1000, C1046 YES NO Check L1039 : Resolder or change About 22dBm ? L1039 YES Check the voltage at {C1106 = VDD_QFE_BUCK ?} NO & {C1182 = VPH_PWR_PA ?} & {C1177 = VRF_VCC1_ET ?} & {C1197 = VRF_VCC2_ET ?} Resolder or change U1008

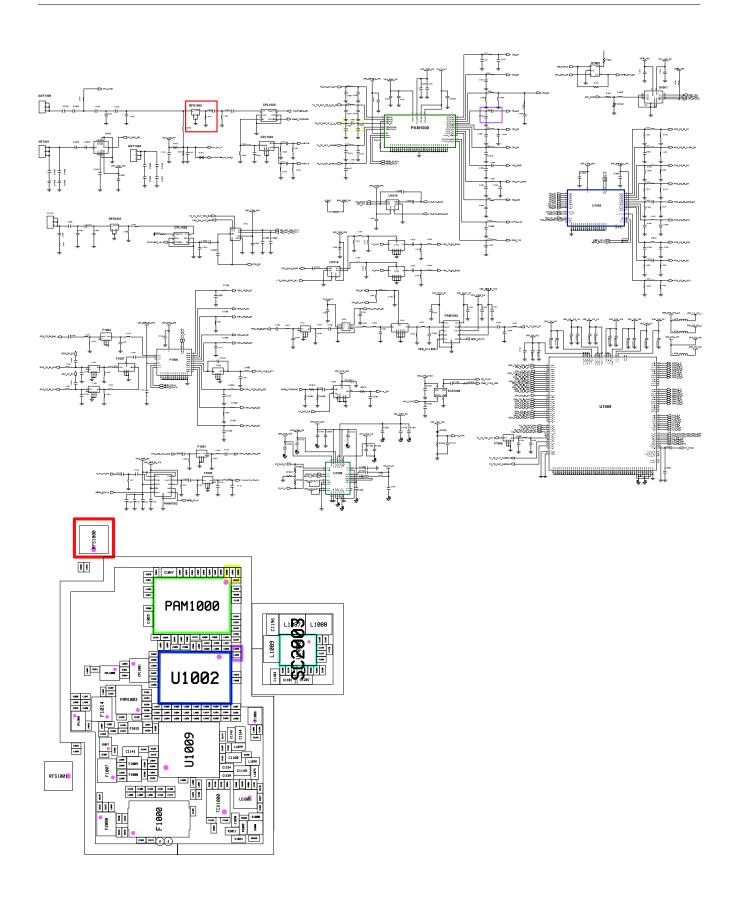
NO

▼ YES

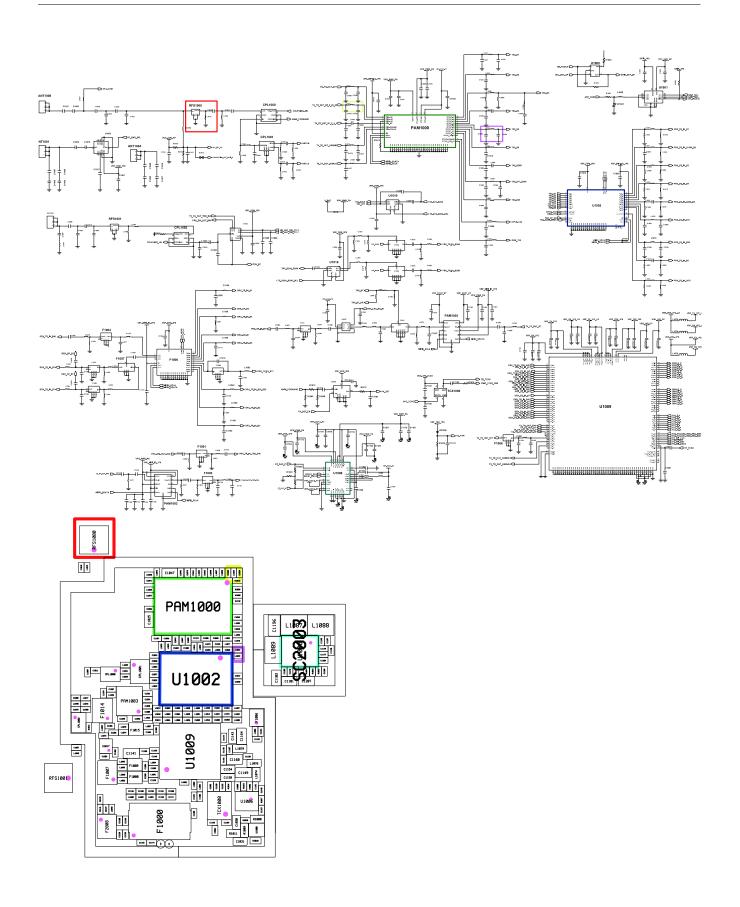
LTE B4
Transmitter is O.K?

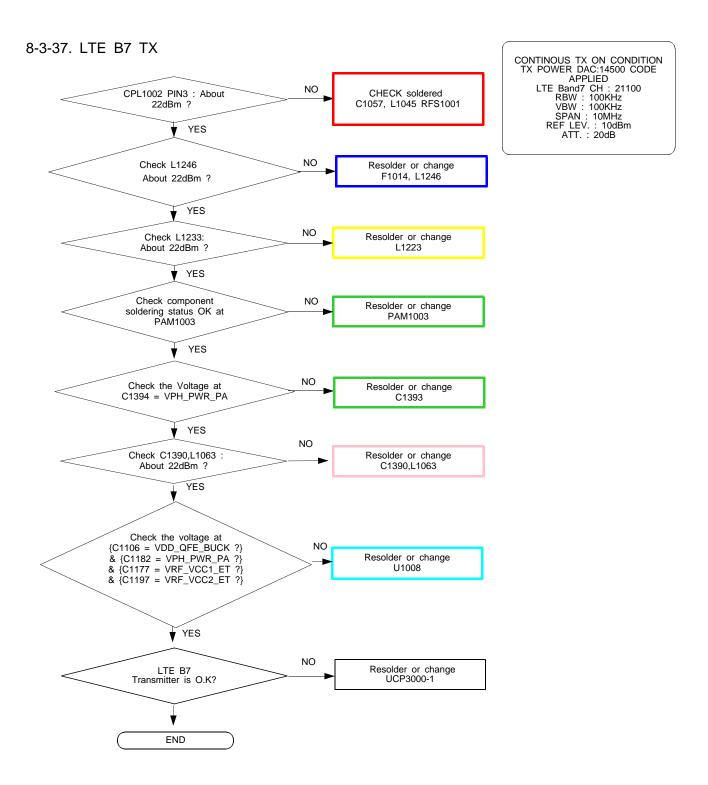
END

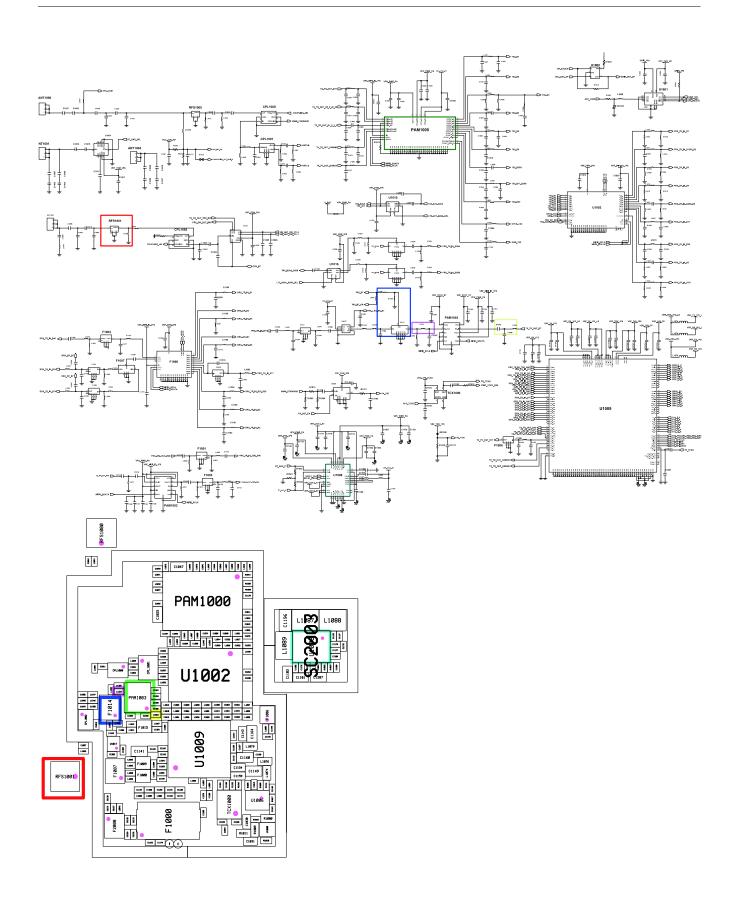
Resolder or change UCP3000-1

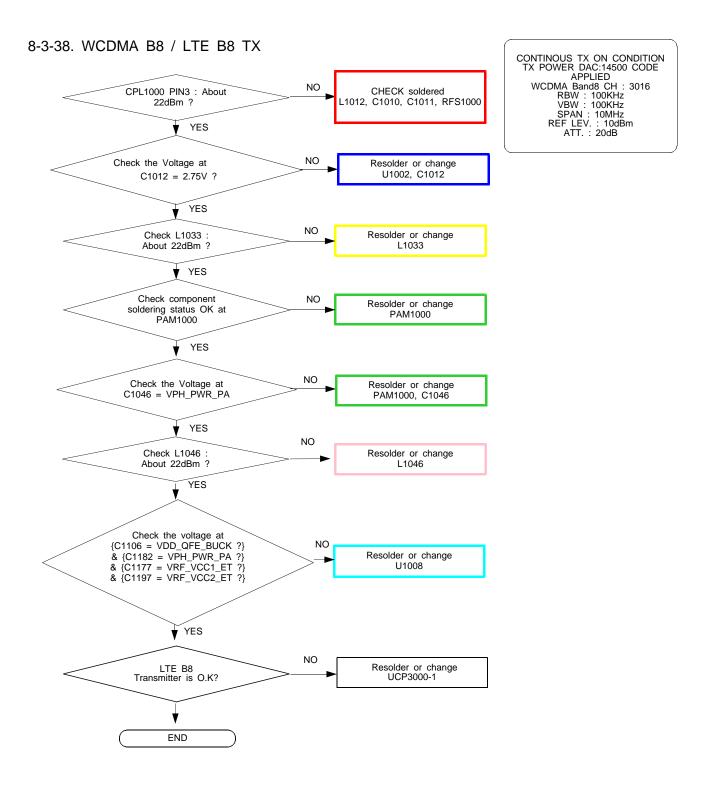


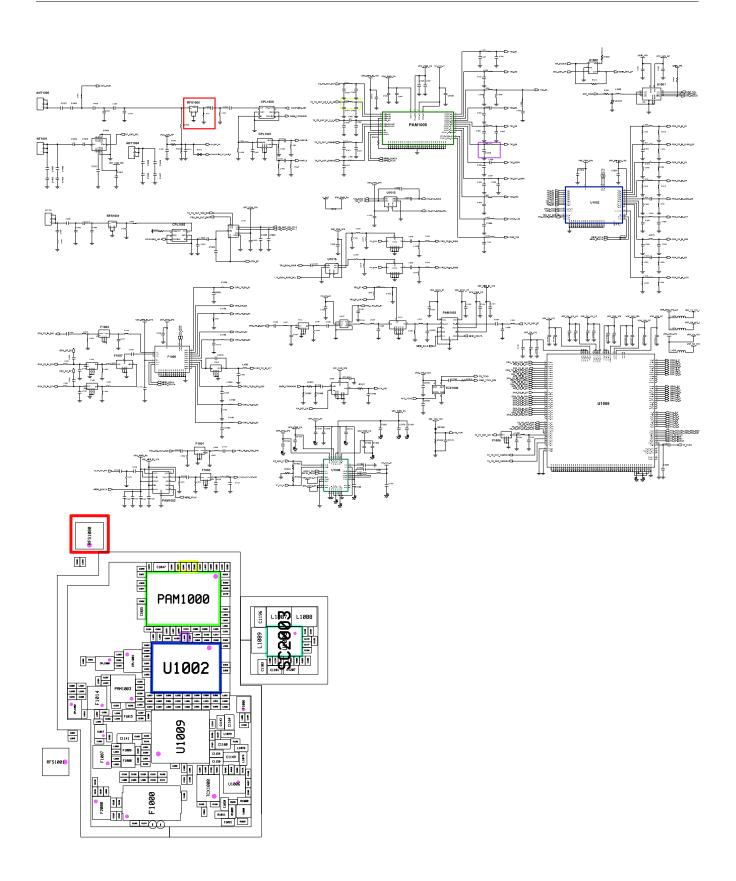
8-3-36. WCDMA B5 / LTE B5 TX CONTINOUS TX ON CONDITION TX POWER DAC:14500 CODE X POWER DAC:14500 COD APPLIED WCDMA Band5 CH: 4408 RBW: 100KHz VBW: 100KHz SPAN: 10MHz REF LEV: 10dBm ATT: 20dB NO CPL1000 PIN3: About CHECK soldered 22dBm ? L1012, C1010, C1011, RFS1000 YES NO Check the Voltage at Resolder or change C1012 = 2.75V ? U1002, C1012 YES NO Check L1033 Resolder or change About 22dBm ? L1033 YES Check component NO Resolder or change soldering status OK at PAM1000 PAM1000 YES NO Check the Voltage at Resolder or change $C1046 = VPH_PWR_PA$ PAM1000, C1046 YES NO Check L1044: Resolder or change About 22dBm ? L1044 YES Check the voltage at {C1106 = VDD_QFE_BUCK ?} NO & {C1182 = VPH_PWR_PA ?} & {C1177 = VRF_VCC1_ET ?} & {C1197 = VRF_VCC2_ET ?} Resolder or change U1008 ▼ YES NO Resolder or change UCP3000-1 LTE B5 Transmitter is O.K? END

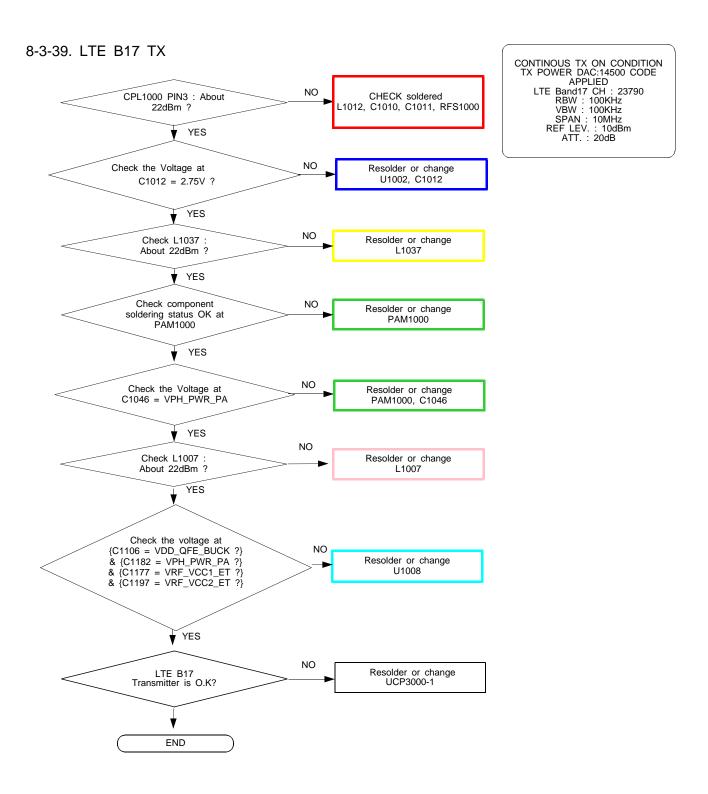


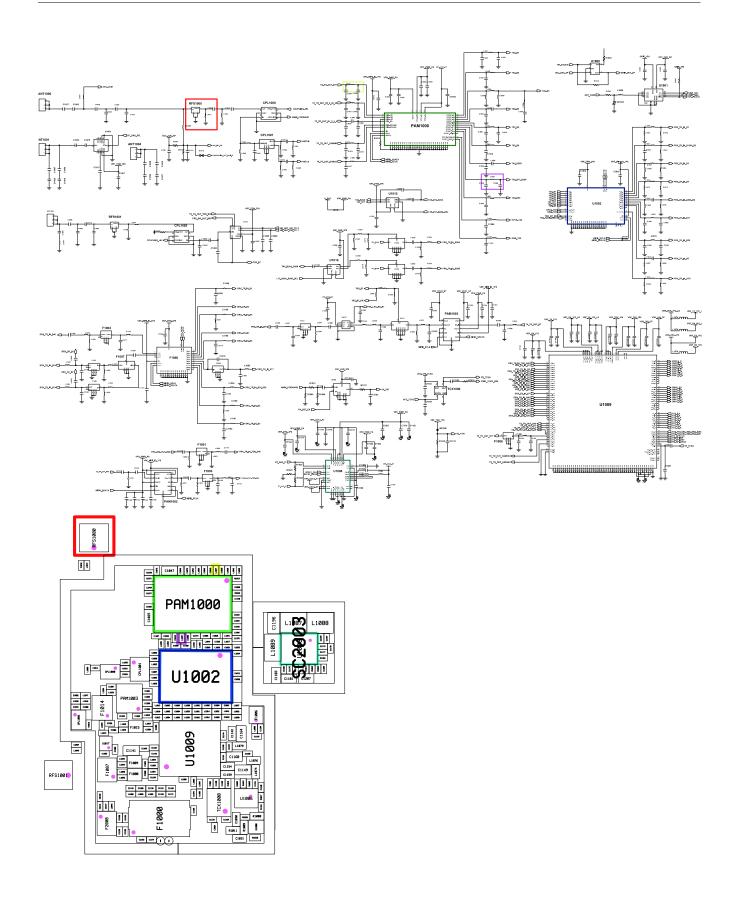


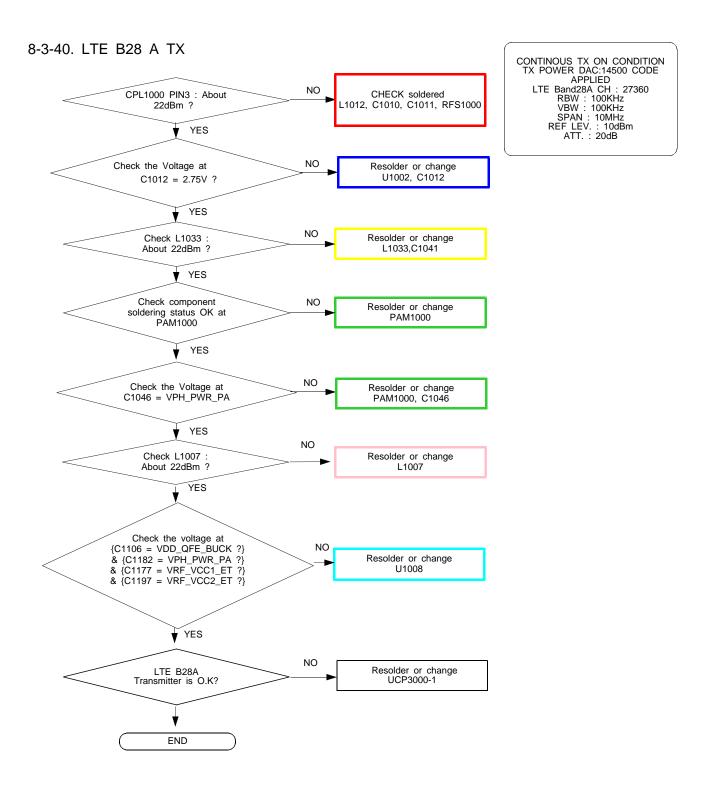


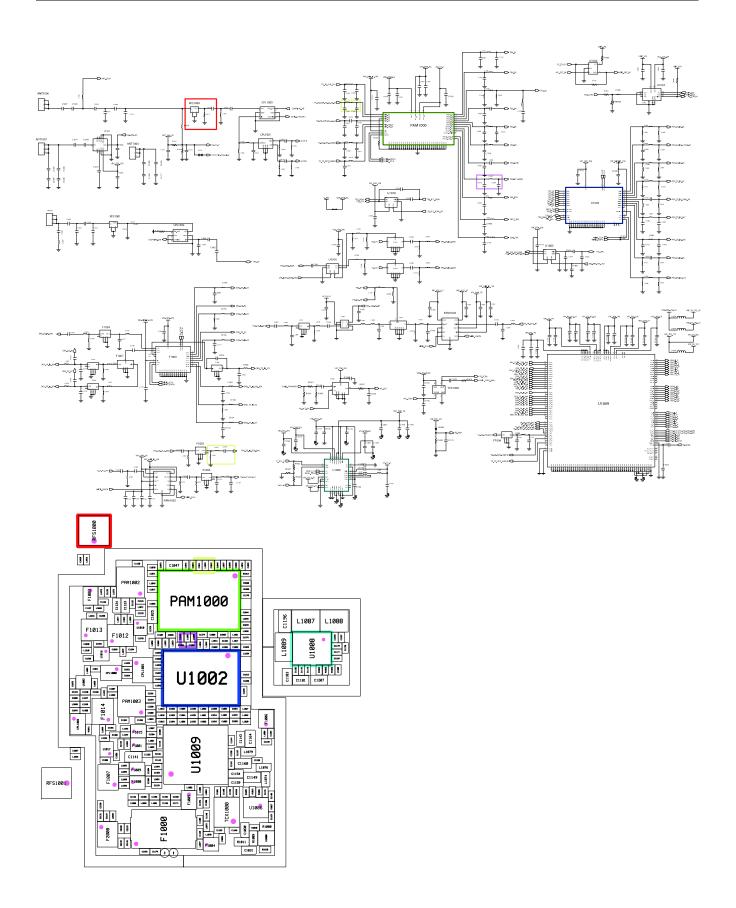


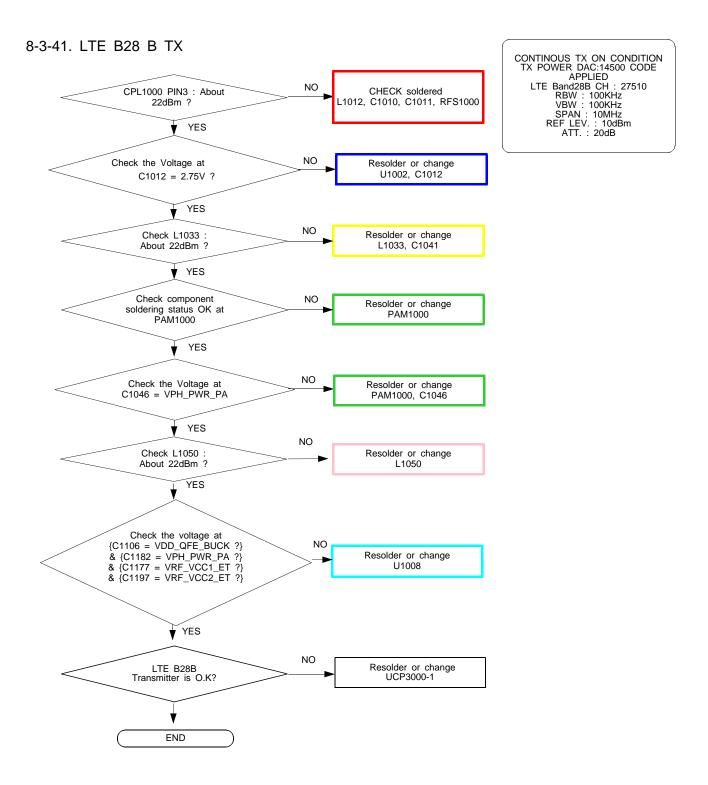


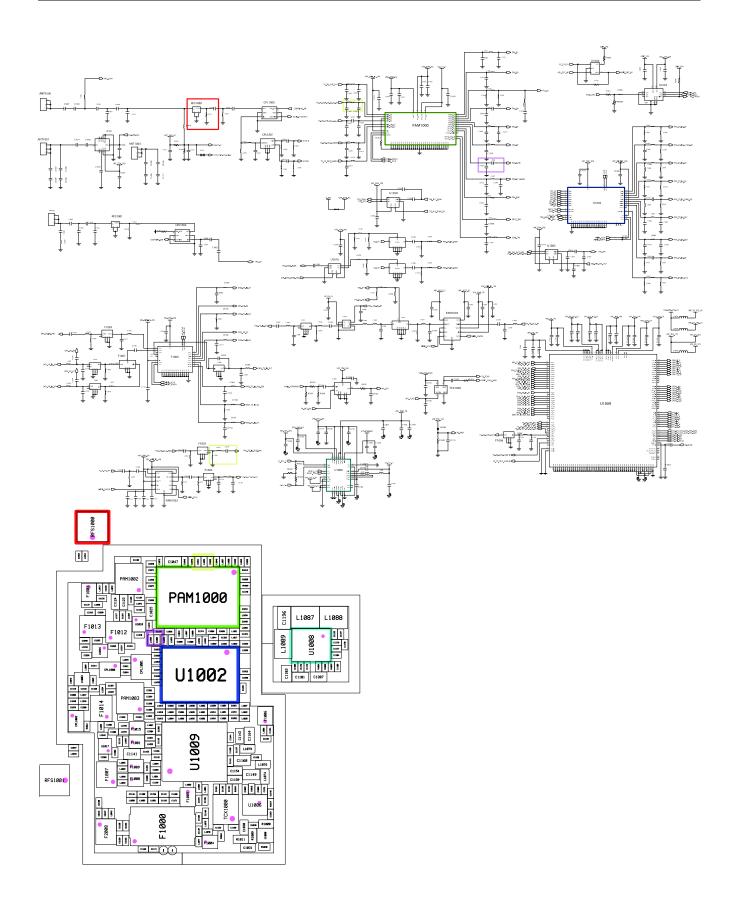


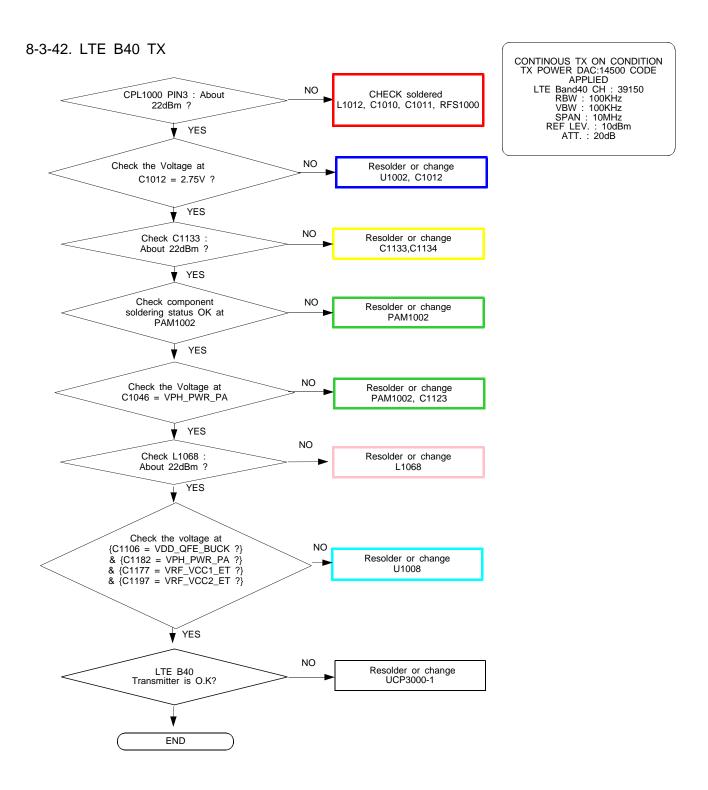


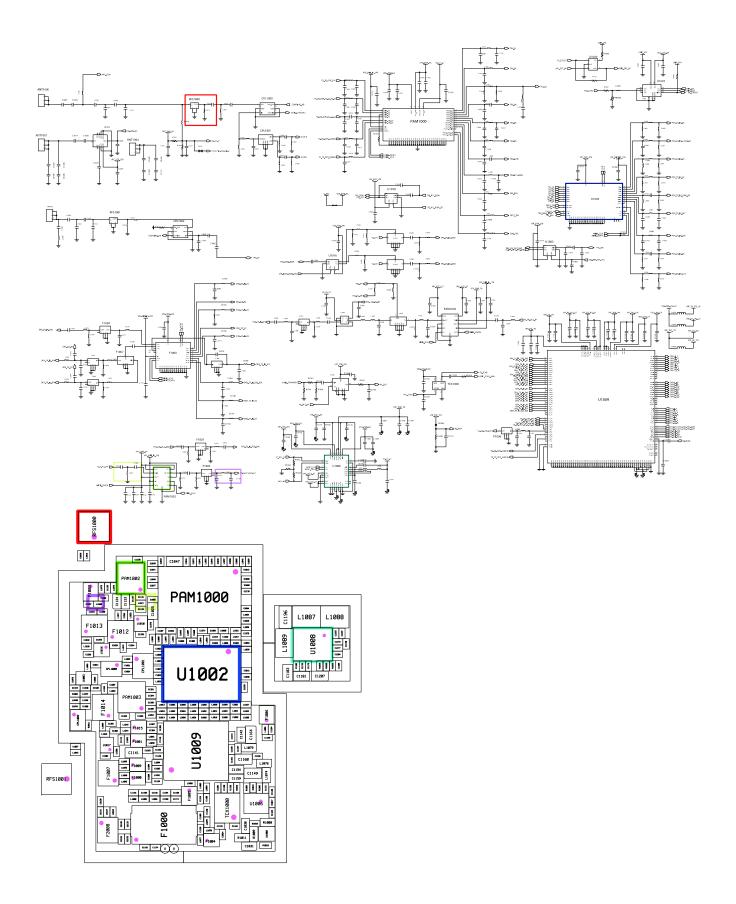




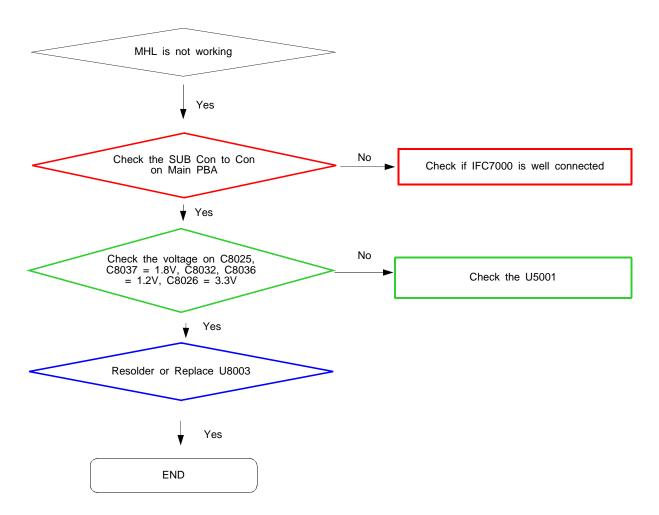


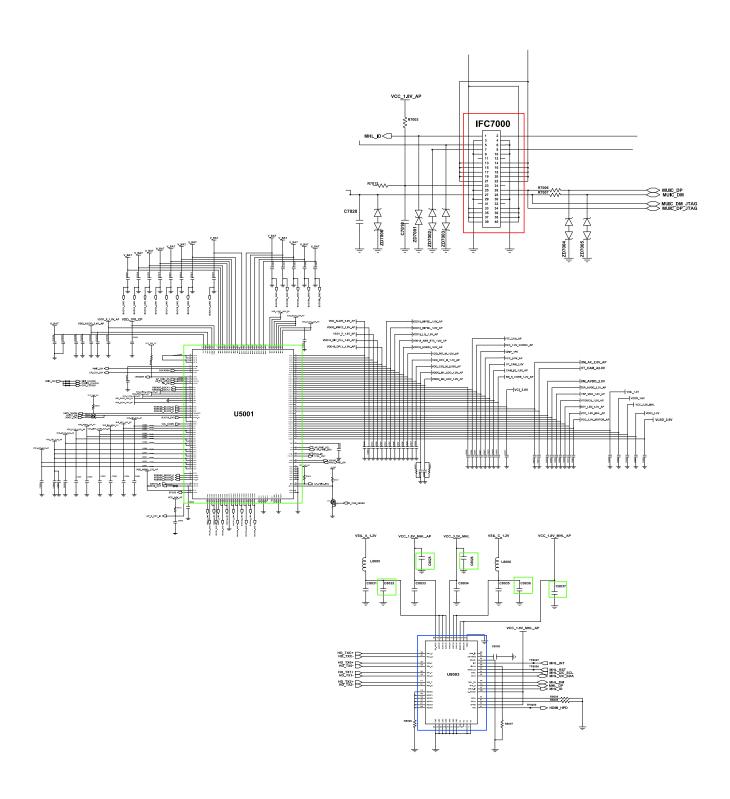


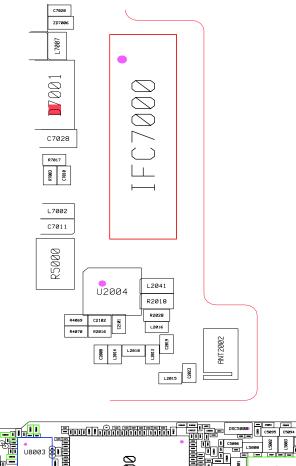


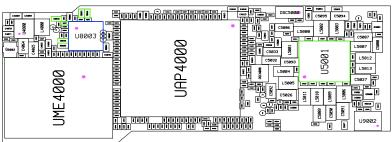


8-4-43. MHL

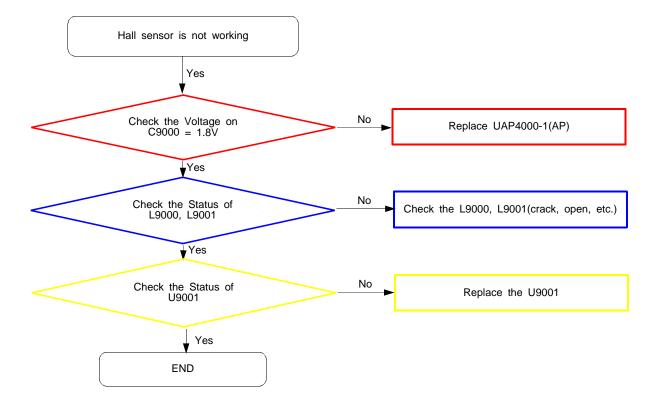


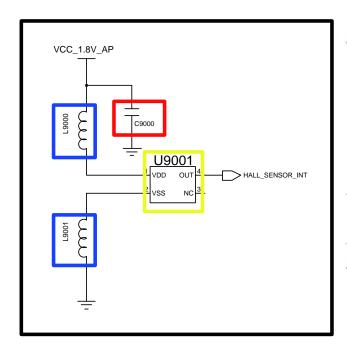


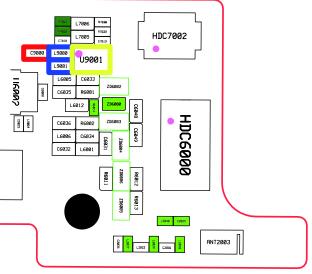


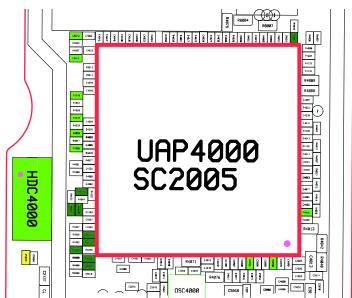


8-4-44. Hall IC

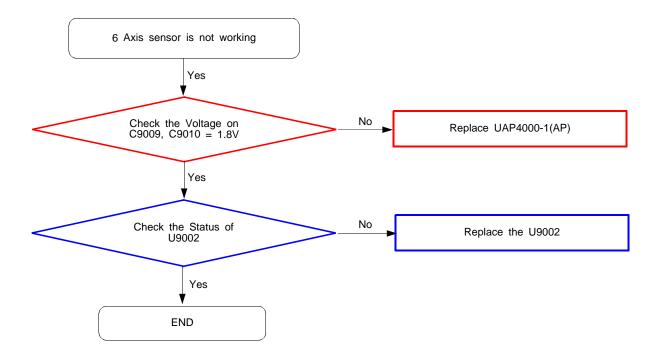


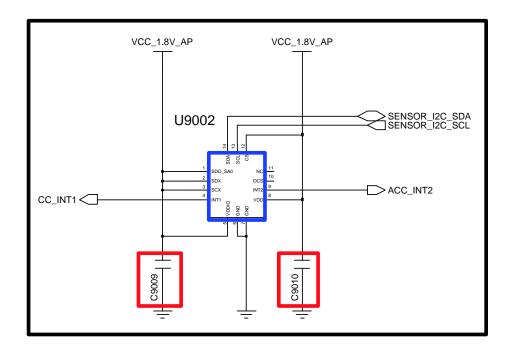


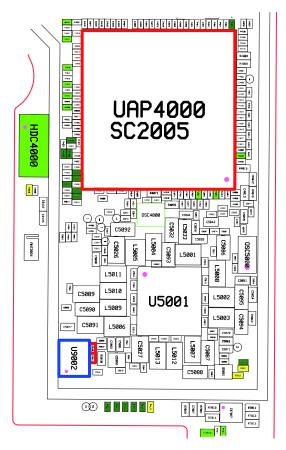




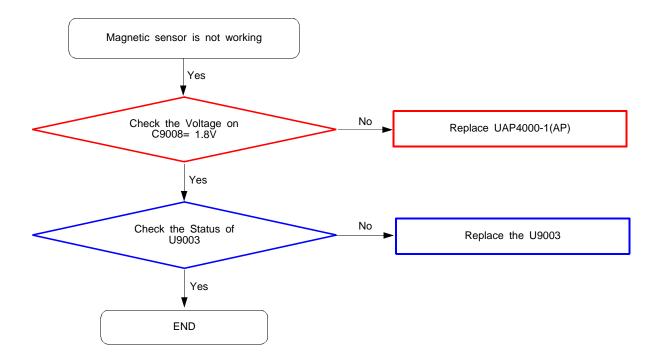
8-4-45. 6 Axis Sensor

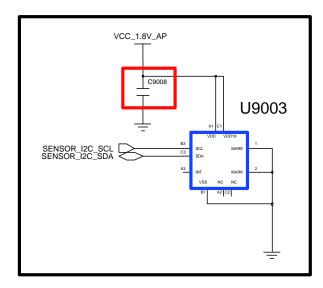


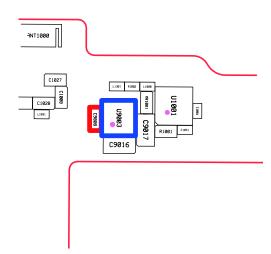


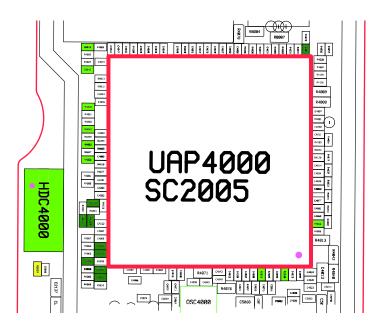


8-4-46. Magnetic Sensor

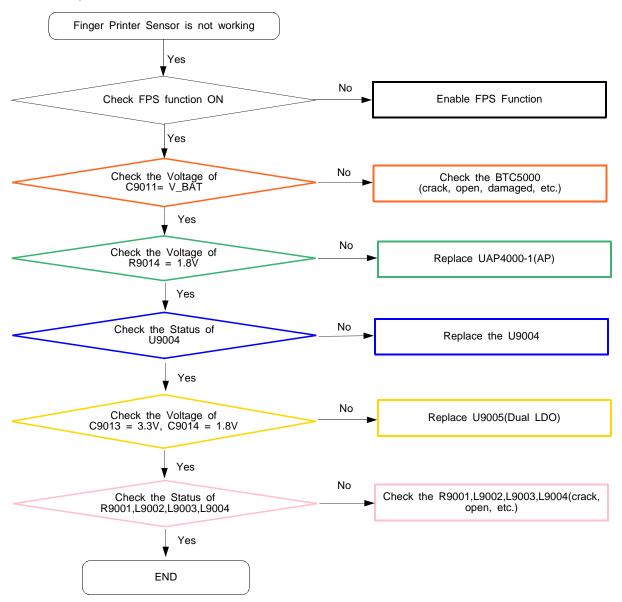


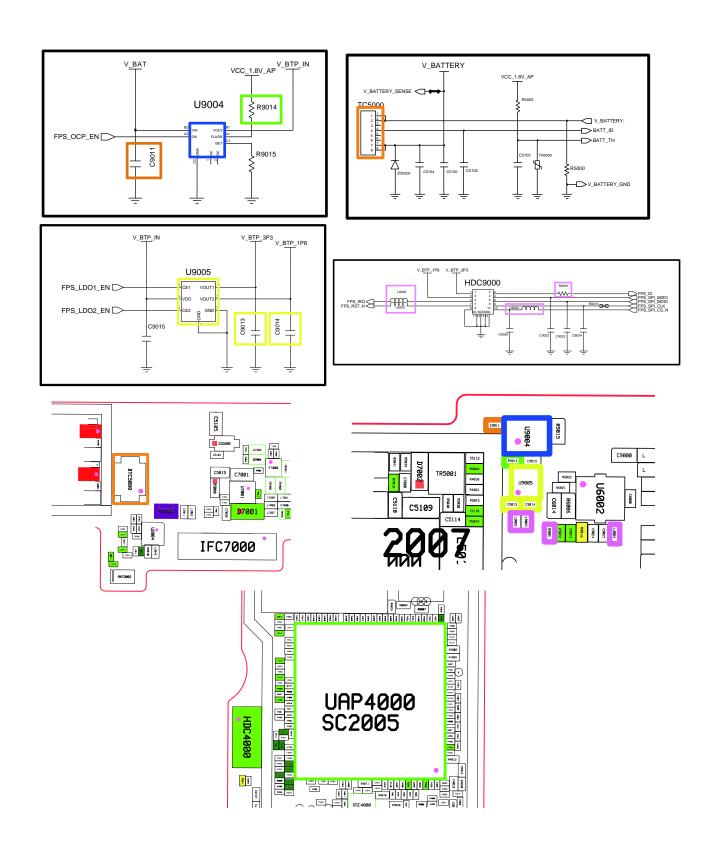




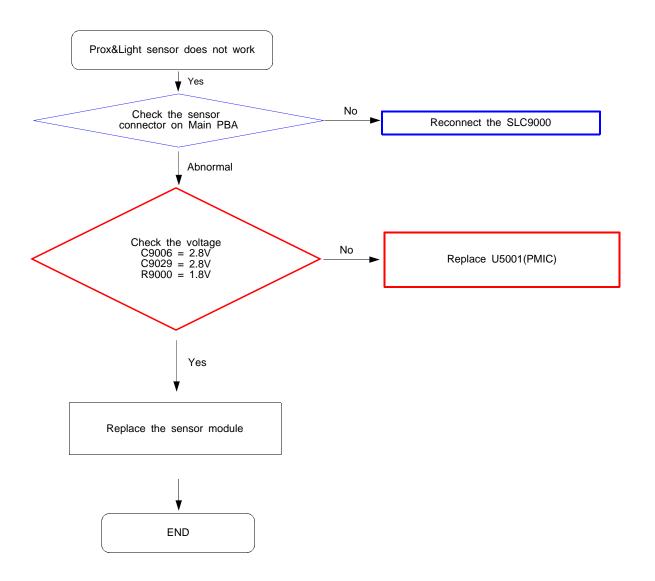


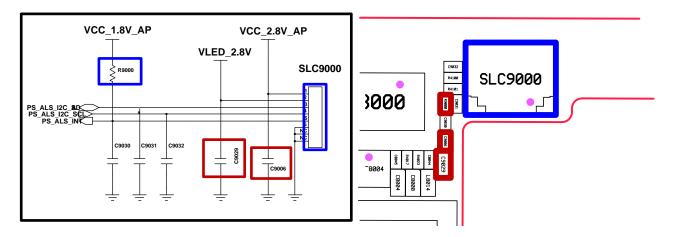
8-4-47. Finger Printer Sensor

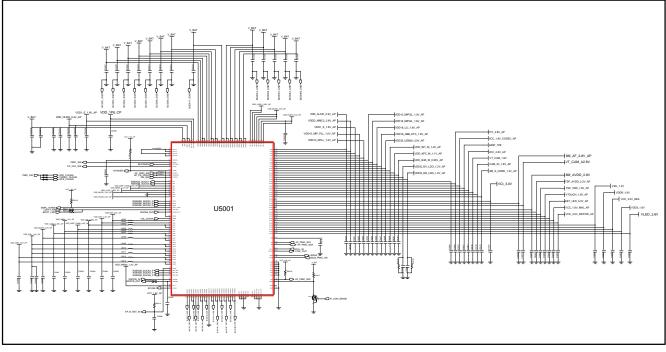


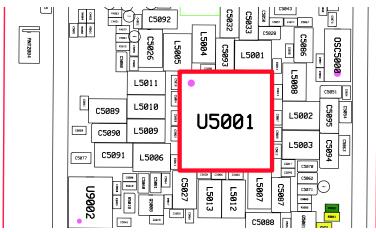


8-4-48. Prox&Light sensor

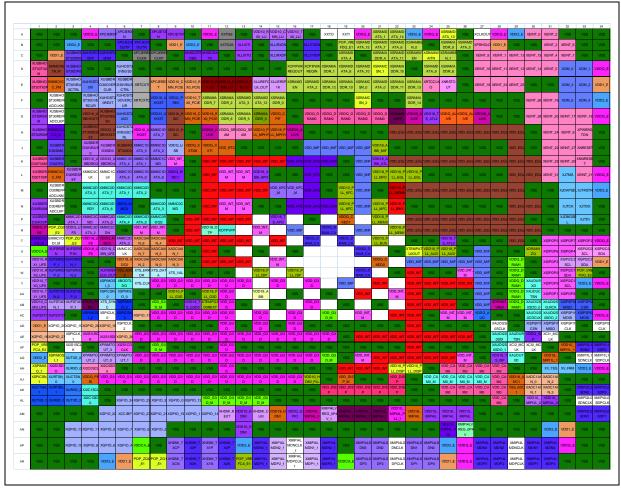






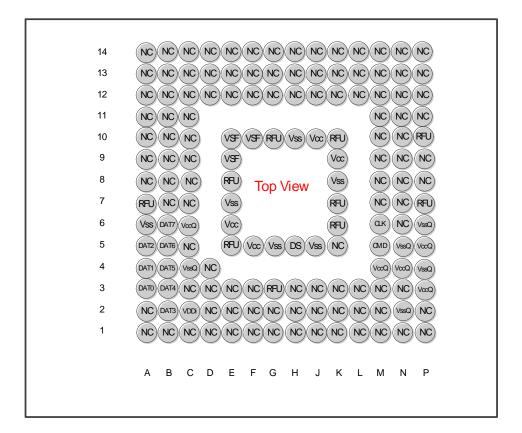


-NC Point(Top View) ●: NC



NOTE: VDD_EGL = VDD_ATLAS, VDD_KFC = VDD_APOLLO

UAP4000



UME4000