

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 ± 0.1 kgf.cm) (Size:1.4*2.0)



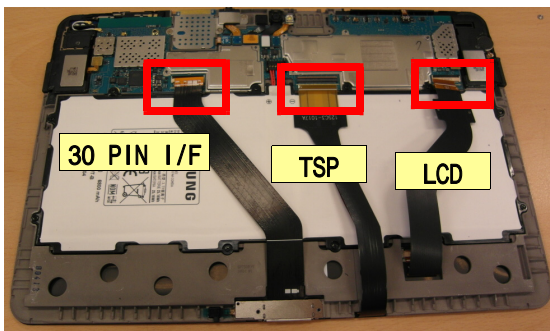
- 2** Disengage the rear cover with the front cover by using the hook



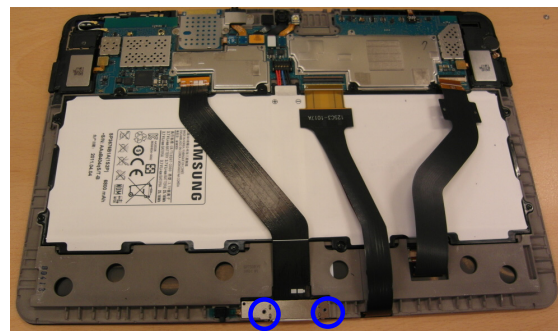
Be careful not to scratch cover.

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 ± 0.1 kgf.cm)



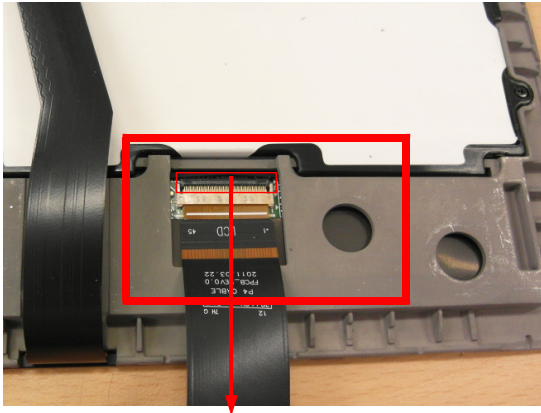
◆blue:L2.5

Be careful not to damage the FPCBs

Be careful not to damage the FPCBs

5

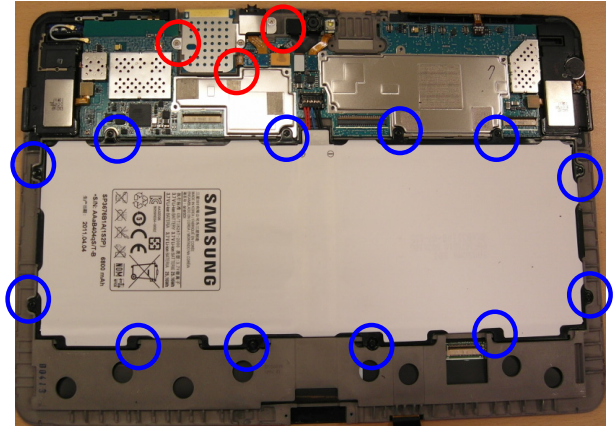
Open the black thin bar and Separate the LCD FPCB from the Front.



Be careful not to damage the FPCBs

6

Carefully release the screws at 13 different locations from the Front. (Torque 1.1 ± 0.1 kgf.cm)



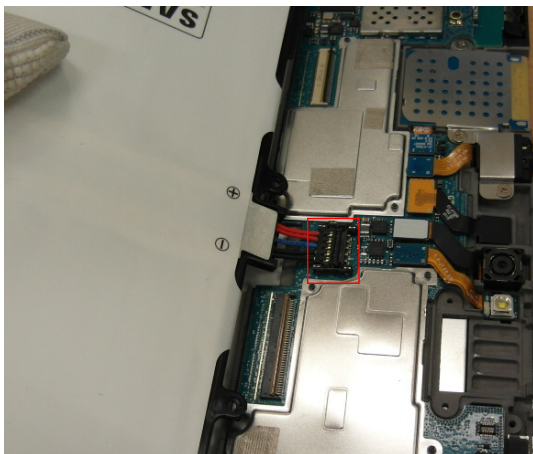
◆blue:L2.5 (10Point)

◆red:L2 (3Point)

Be careful not to scratch cover

7

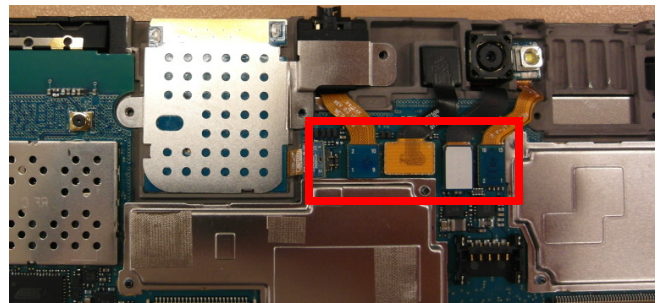
Separate the Battery from PBA



Be careful not to damage the wires

8

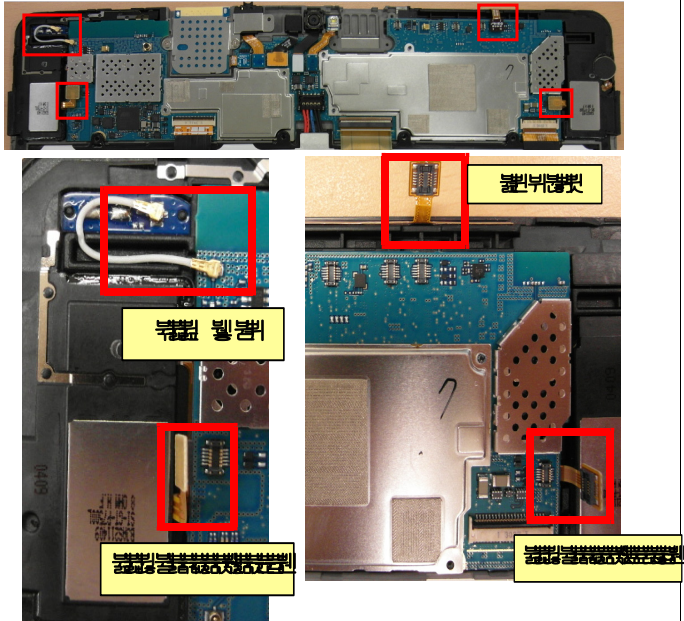
Separate all connector(E/J, 2M, 3M Camera, Sensor) ribbons from the PBA.



Be careful not to damage the FPCBs

9

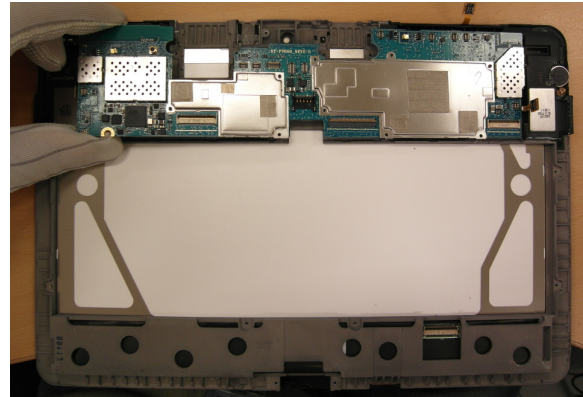
Separate the SPK Module, GPS CABLE, SIDE KEY from the PBA



Be careful not to damage the FPCBs

10

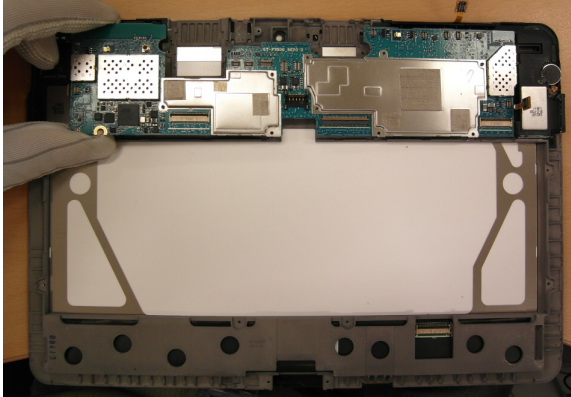
Separate the PBA from Ass'y



Be careful not to scratch cover

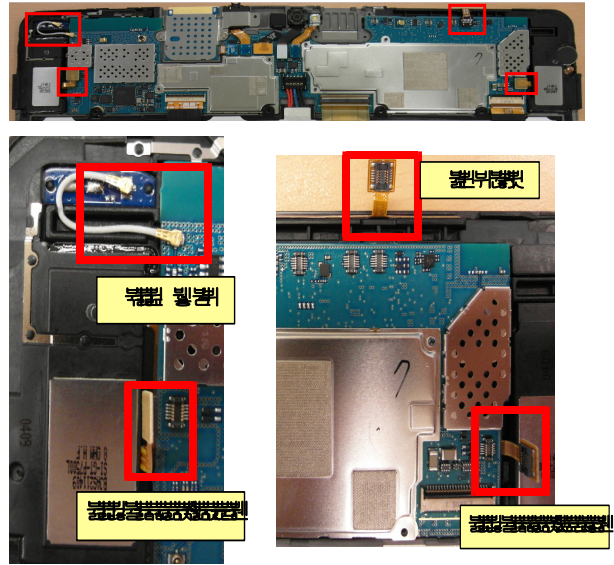
7-1-2. assemble

1 Insert the PBA in the hook



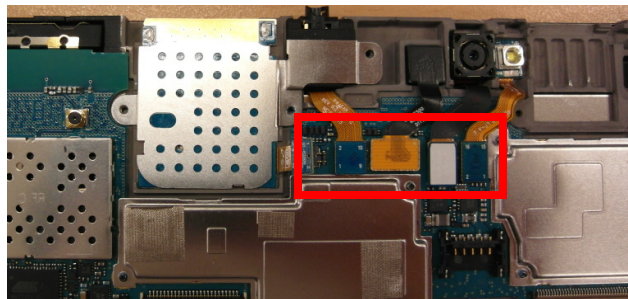
Be careful not to scratch cover

2 Attach the SPK Module, GPS CABLE, SIDE KEY



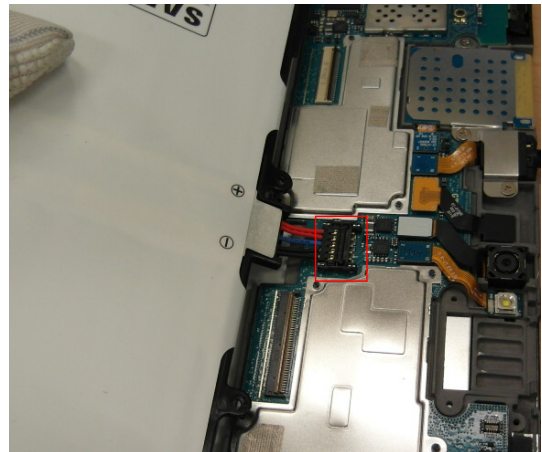
Be careful not to damage the FPCBs

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



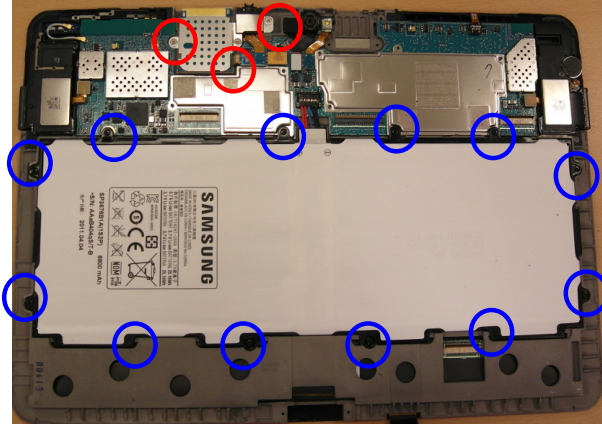
Be careful not to damage the FPCBs

4 Attach the battery



Be careful not to damage the wires

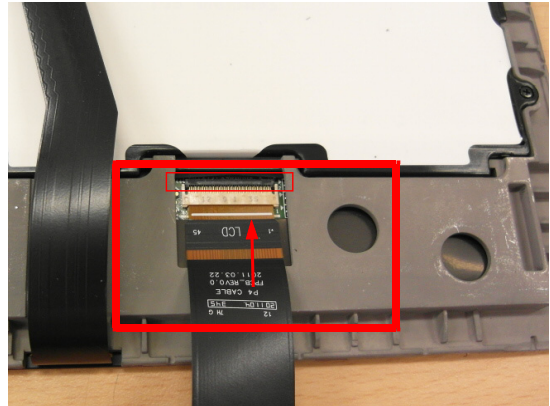
6 screws at 13 points



◆blue:L2.5 (10Point)
◆red:L2 (3Point)

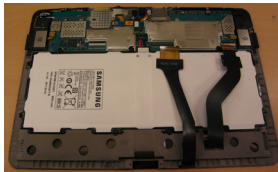
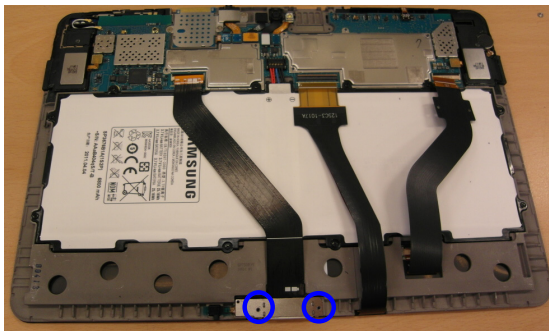
Be careful not to scratch cover
screw:1.4*2.0, 1.4*2.5 (Torque 1.1 ± 0.1, '+' type)

5 Put the LCD FPCB and Close the black thin bar



Be careful not to damage the FPCBs

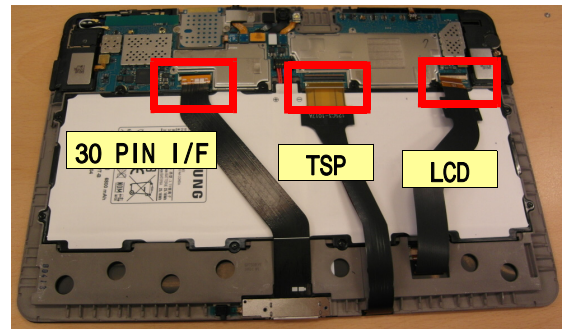
7 screws at 2 Points



◆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

9

Joint the Rear and the Front.



Follow the order

10

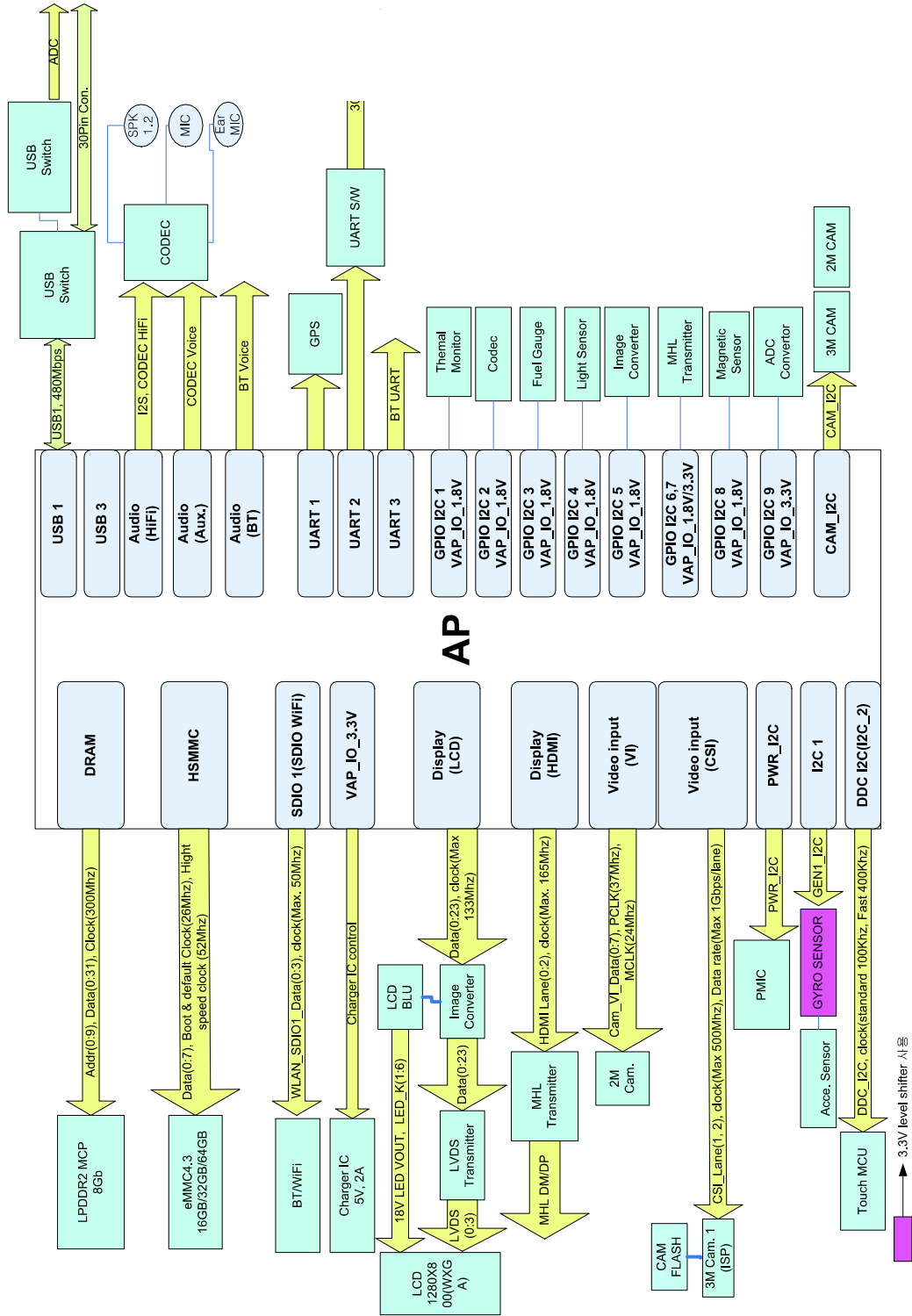
Screws at 2 points
Attach screw sheet



(Torque 1.1 ± 0.1 , '+' type)(Size: 1.4*2.0)
Be careful not to scratch rear cover

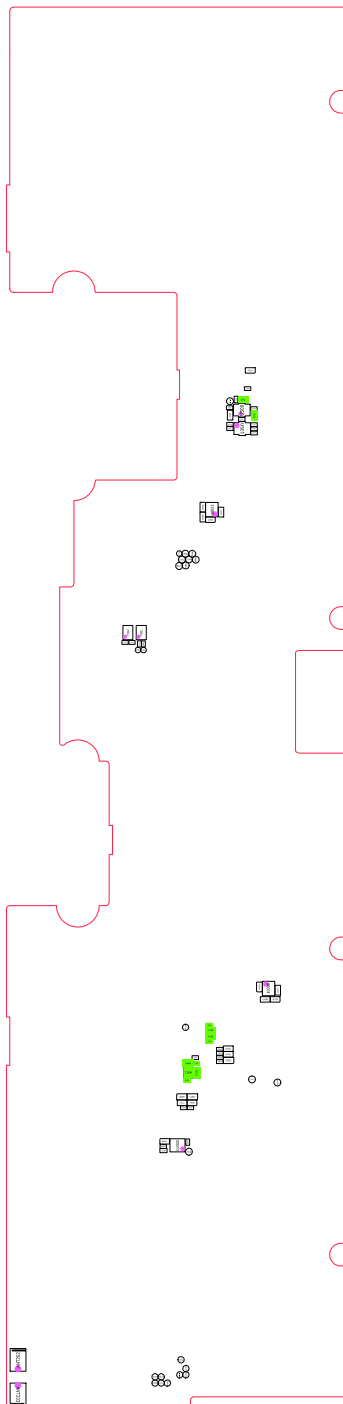
8. Level 3 Repair

8-1. Block Diagram



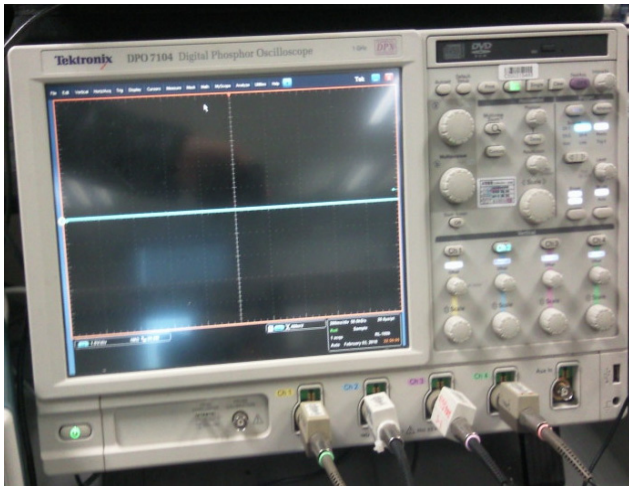
8-2. PCB Diagrams

8-2-1. Top



8-3. Flow Chart of Troubleshooting

Equipments



↑ Oscilloscope



á Digital Multimeter

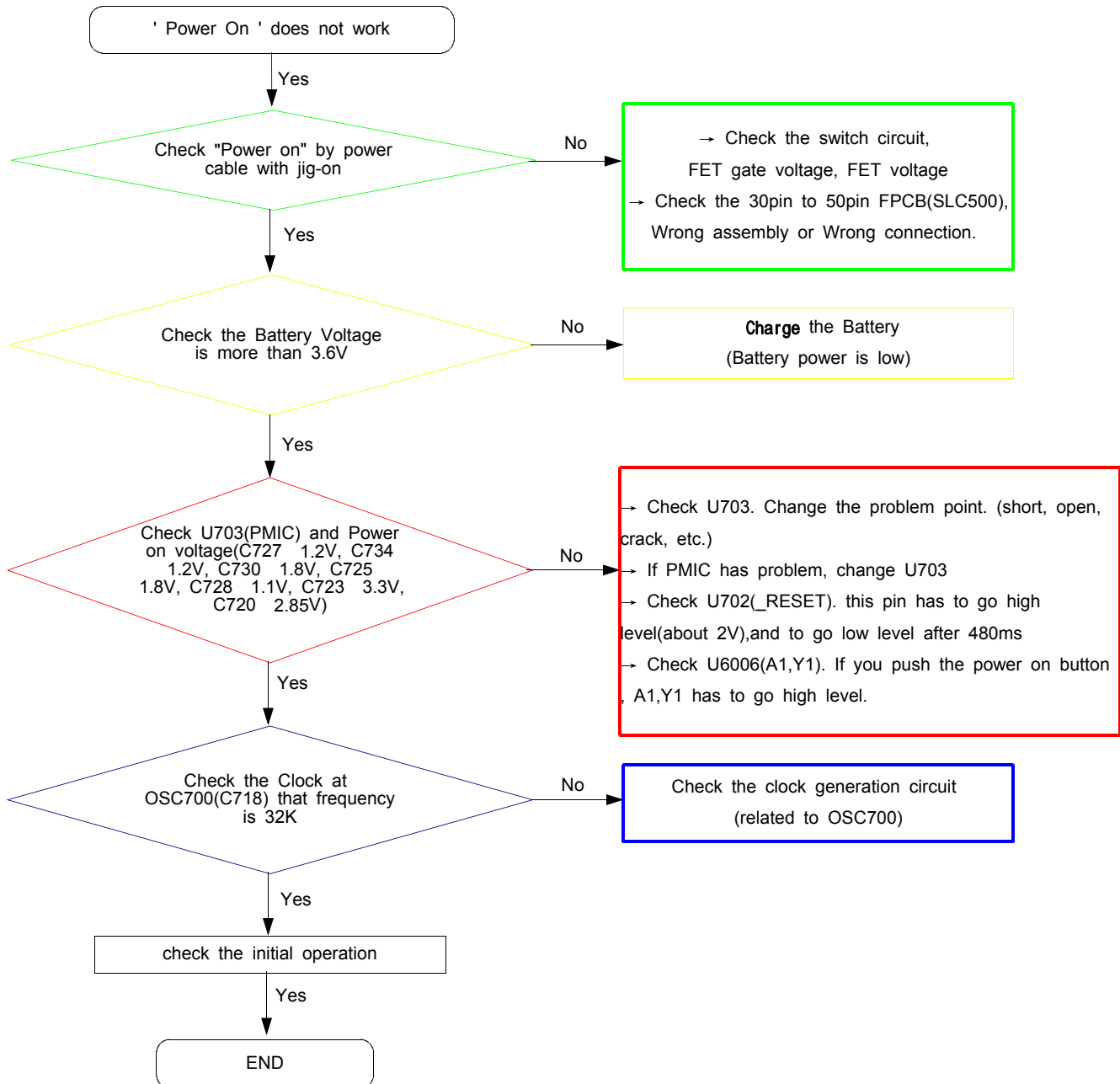


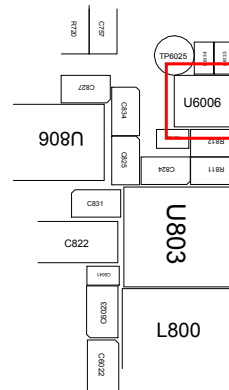
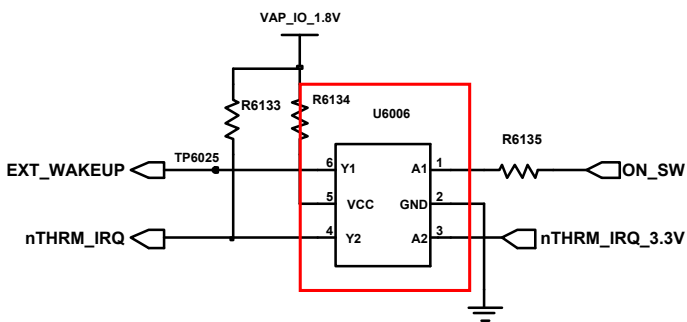
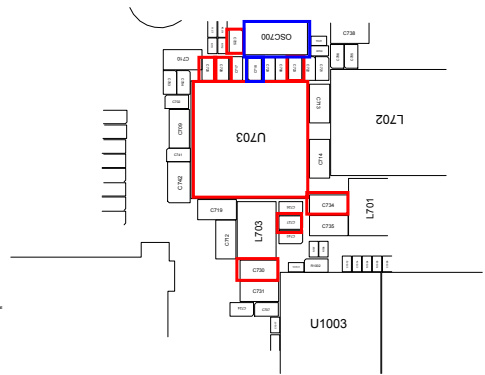
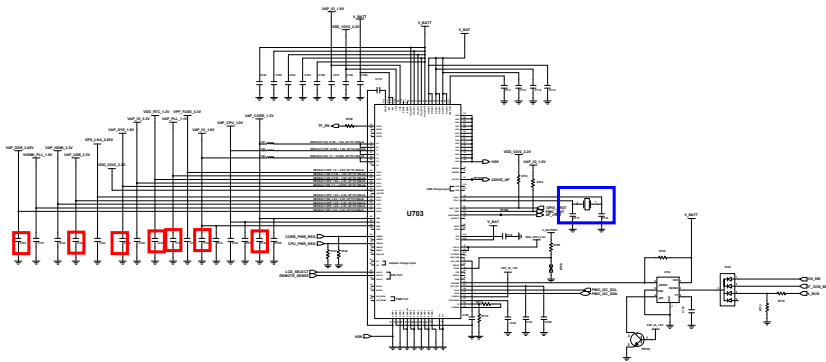
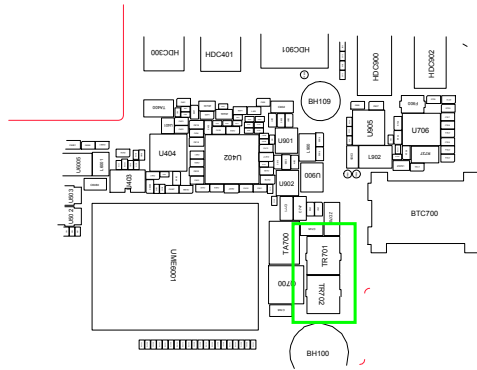
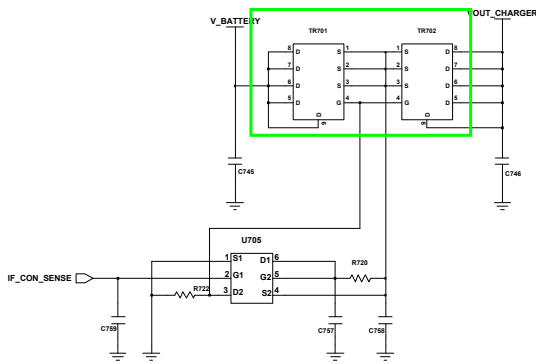
á Power Supply



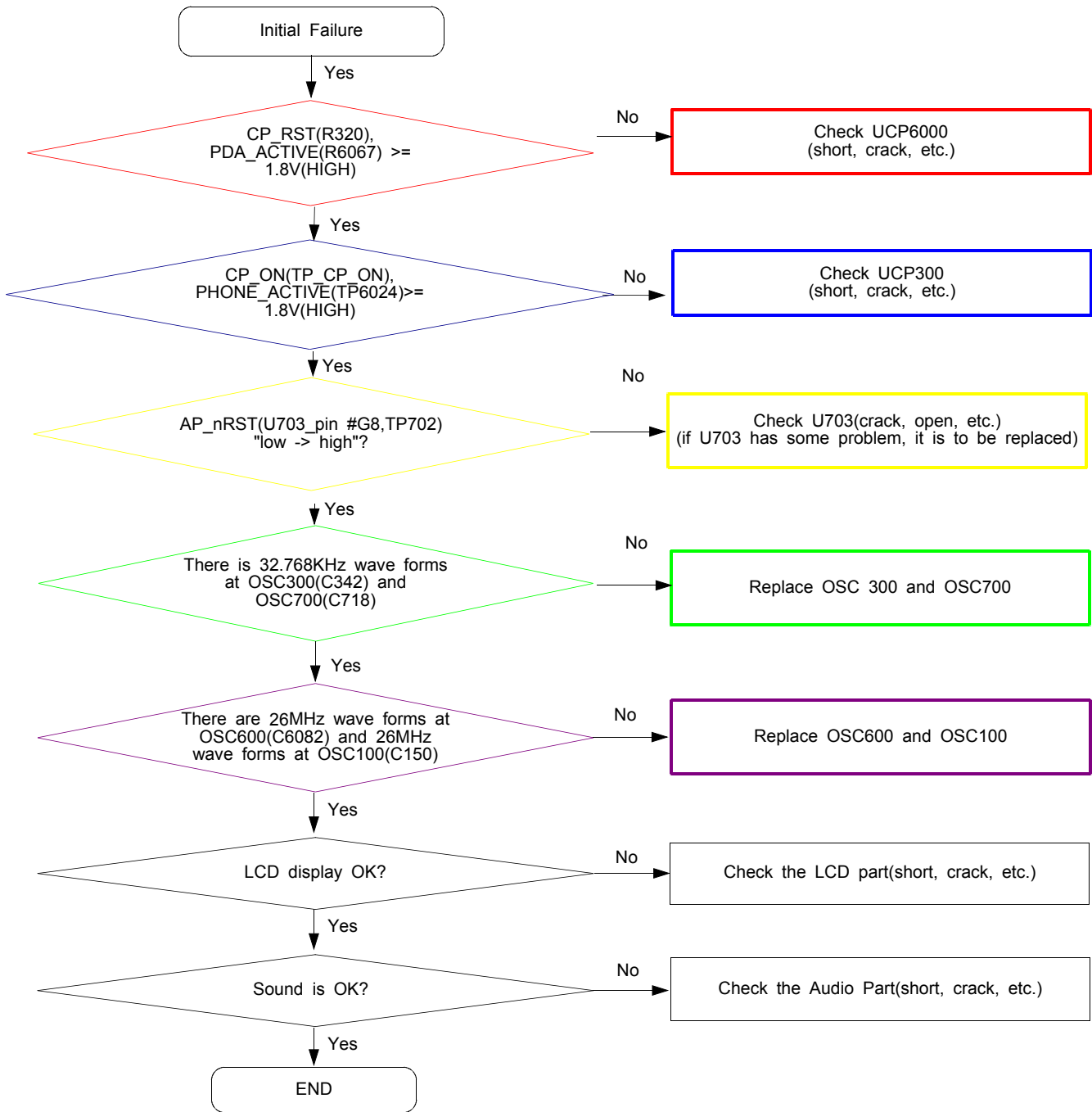
á + driver, Tweezer

8-3-1. Power On

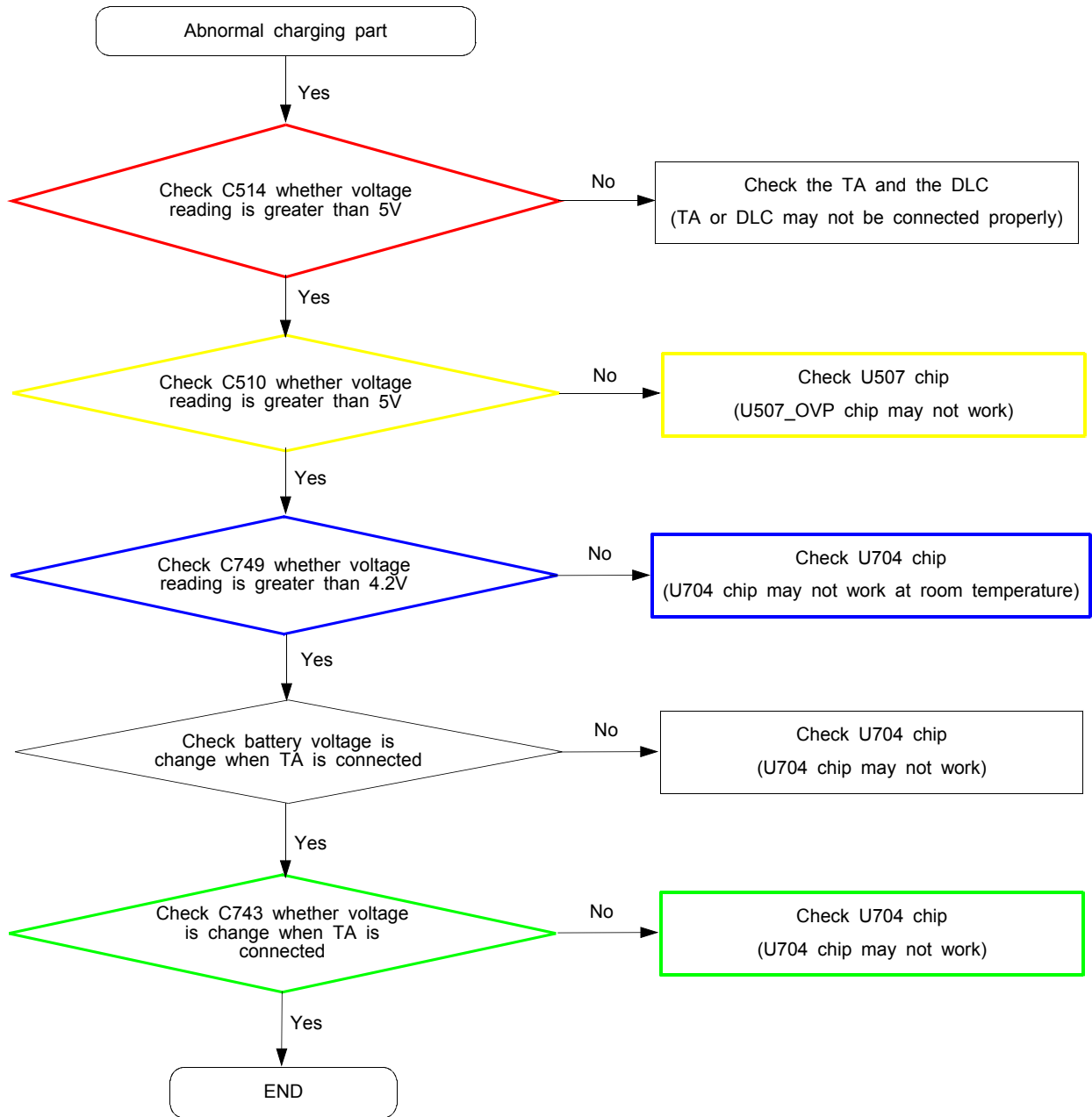




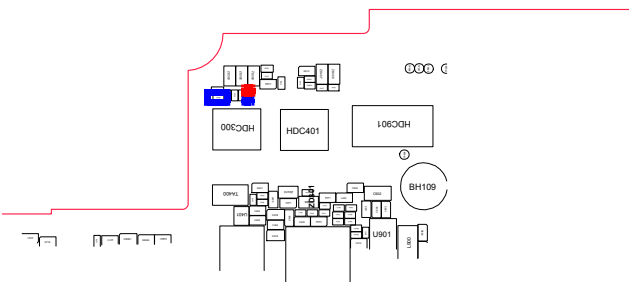
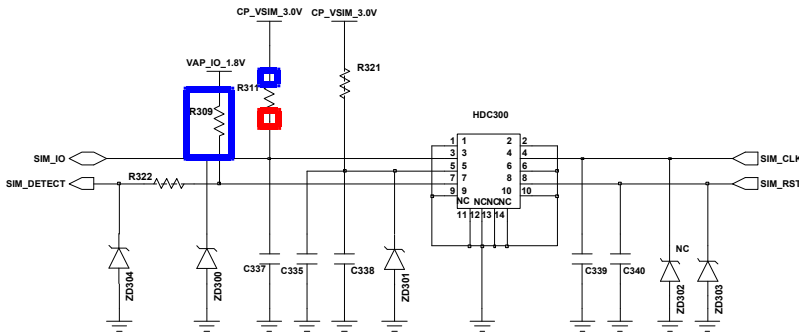
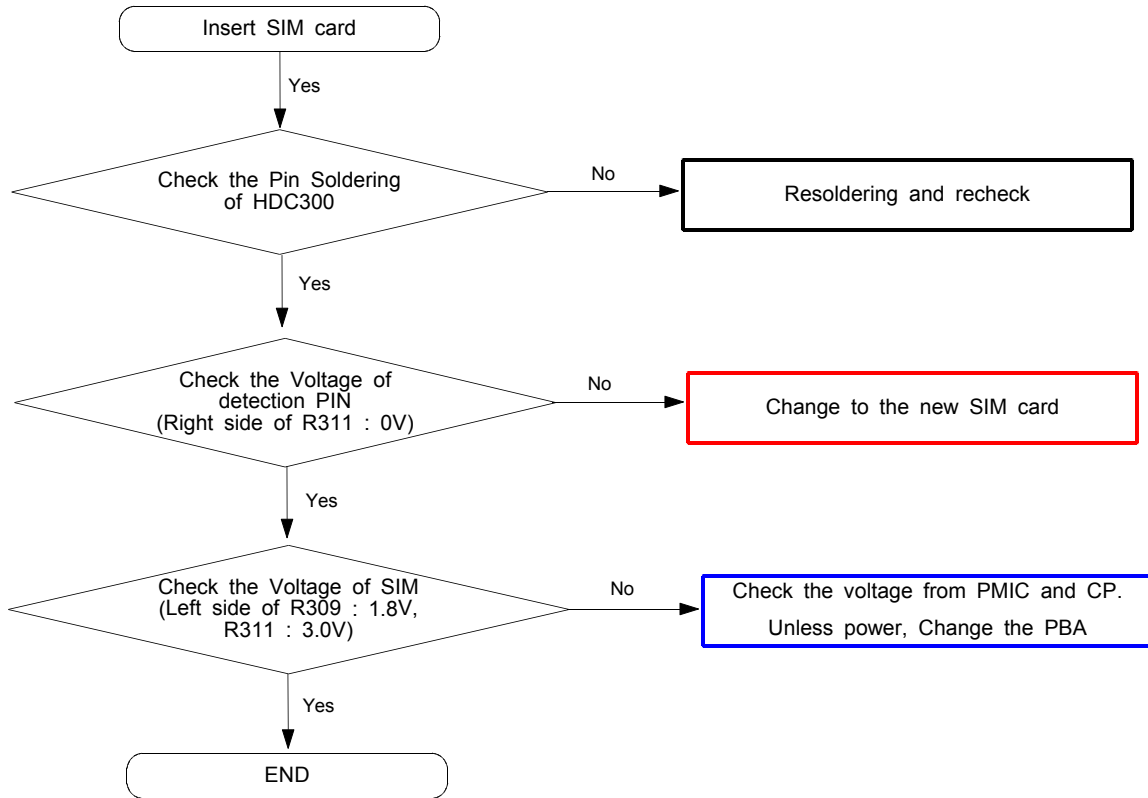
8-3-2. Initial



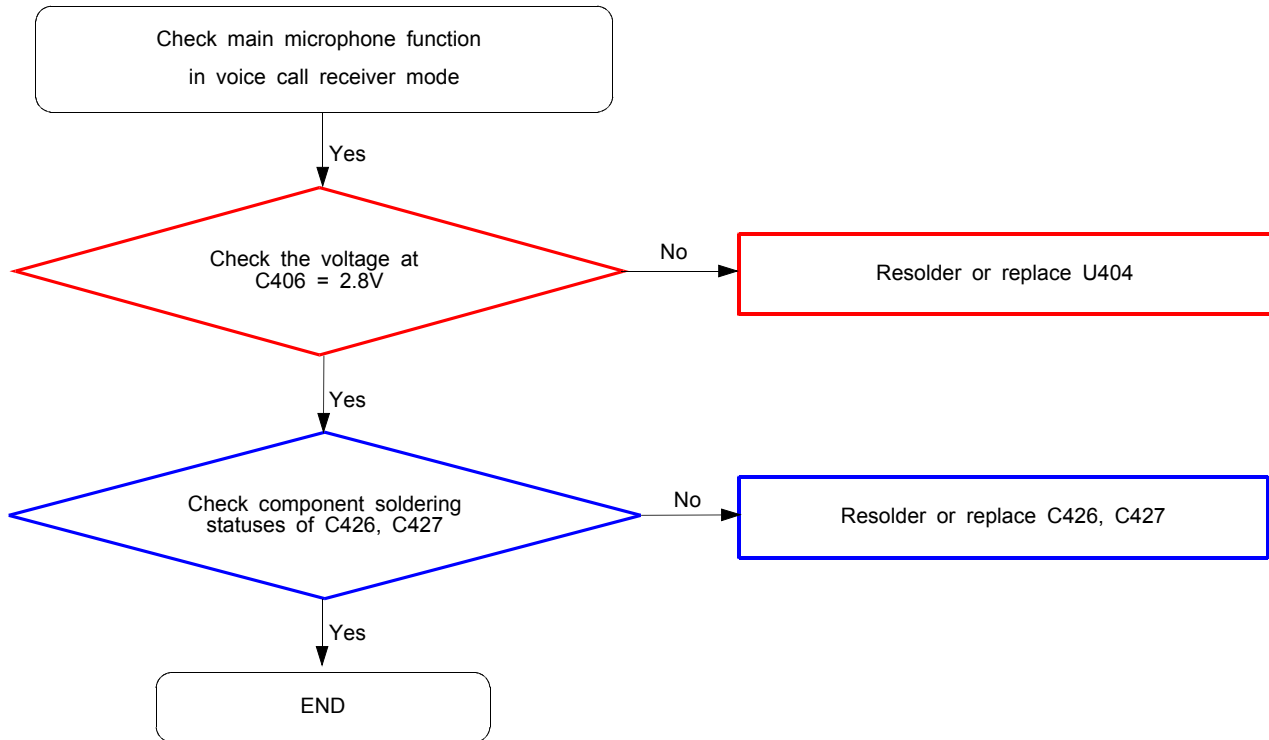
8-3-3. Charging Part



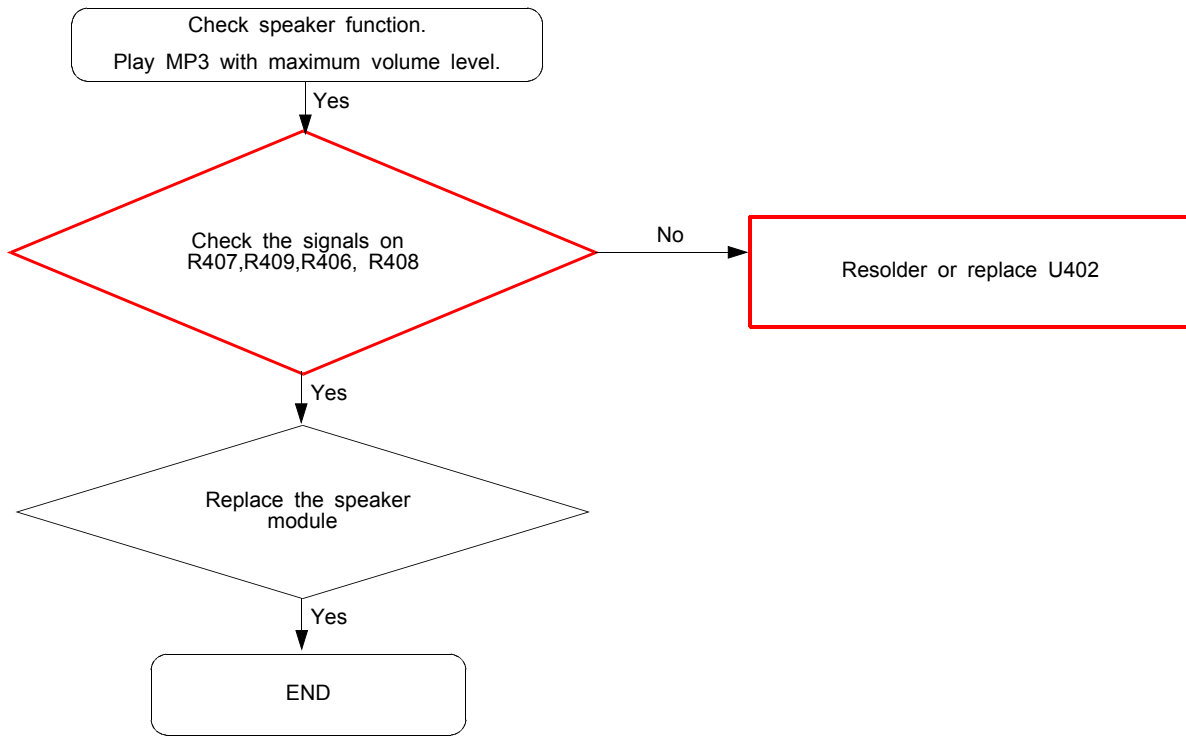
8-3-4. Sim Part

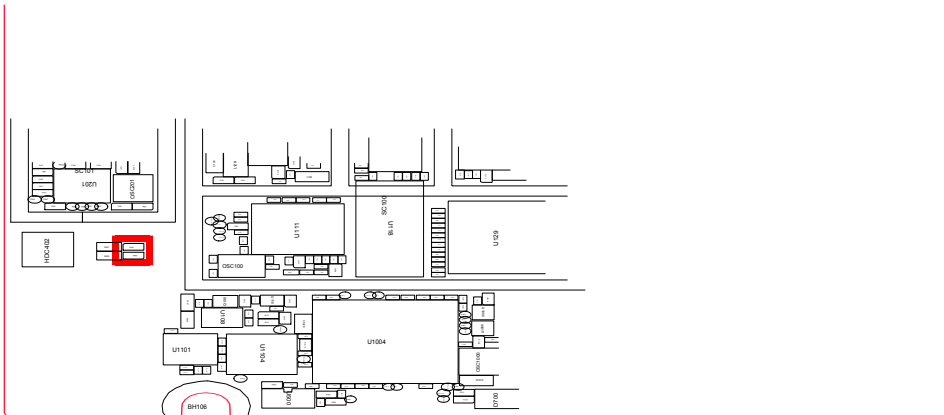
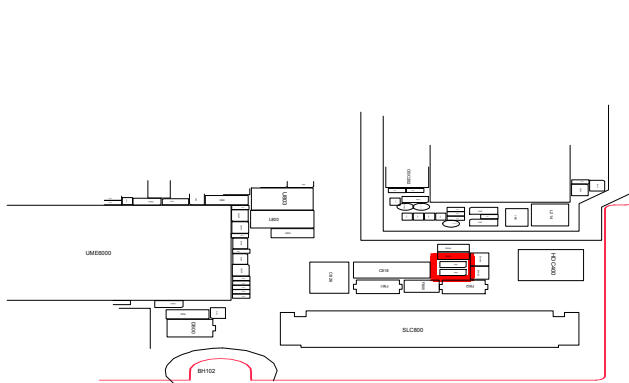
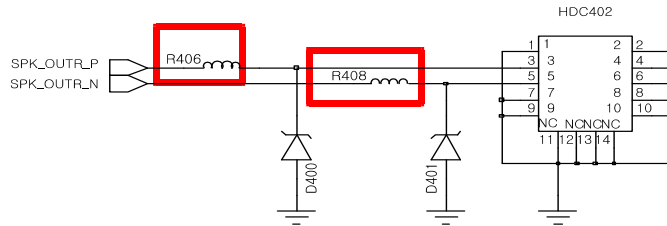
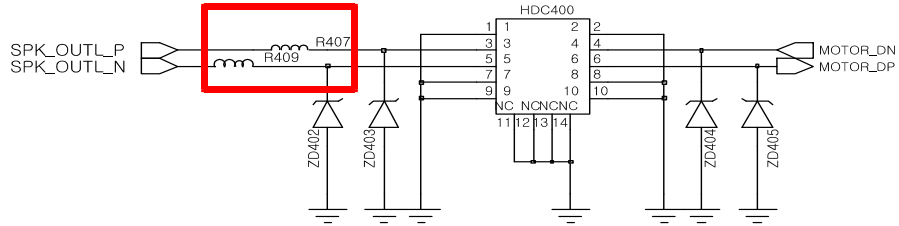


8-3-5. Microphone Part

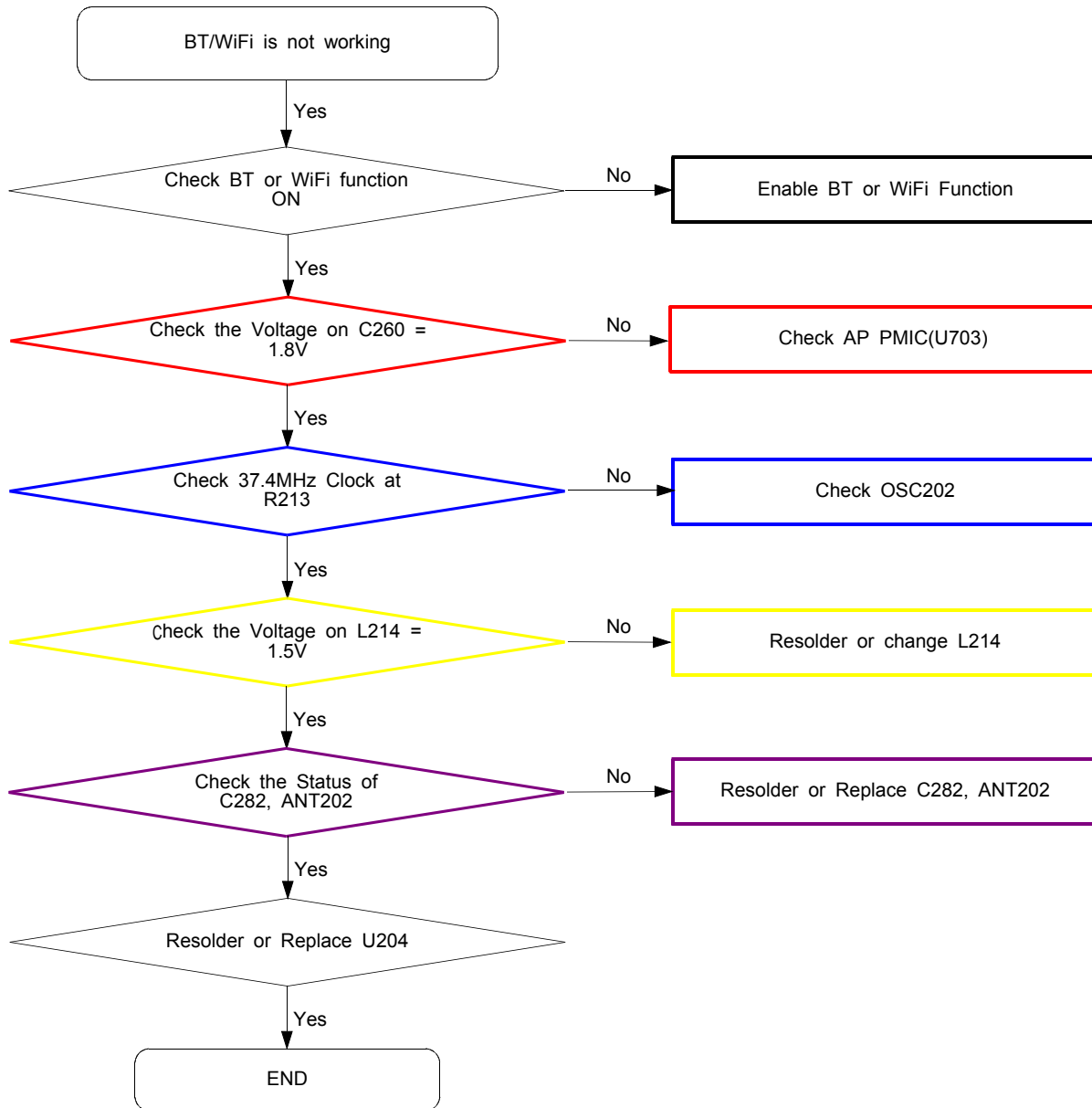


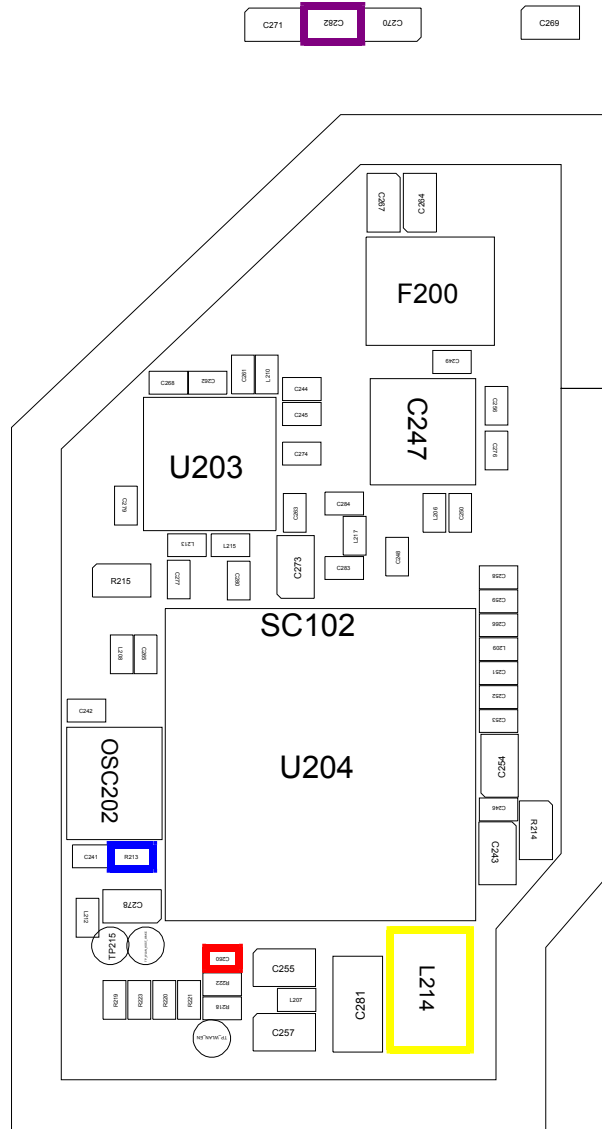
8-3-6. Speaker Part





8-3-7. BT/WIFI



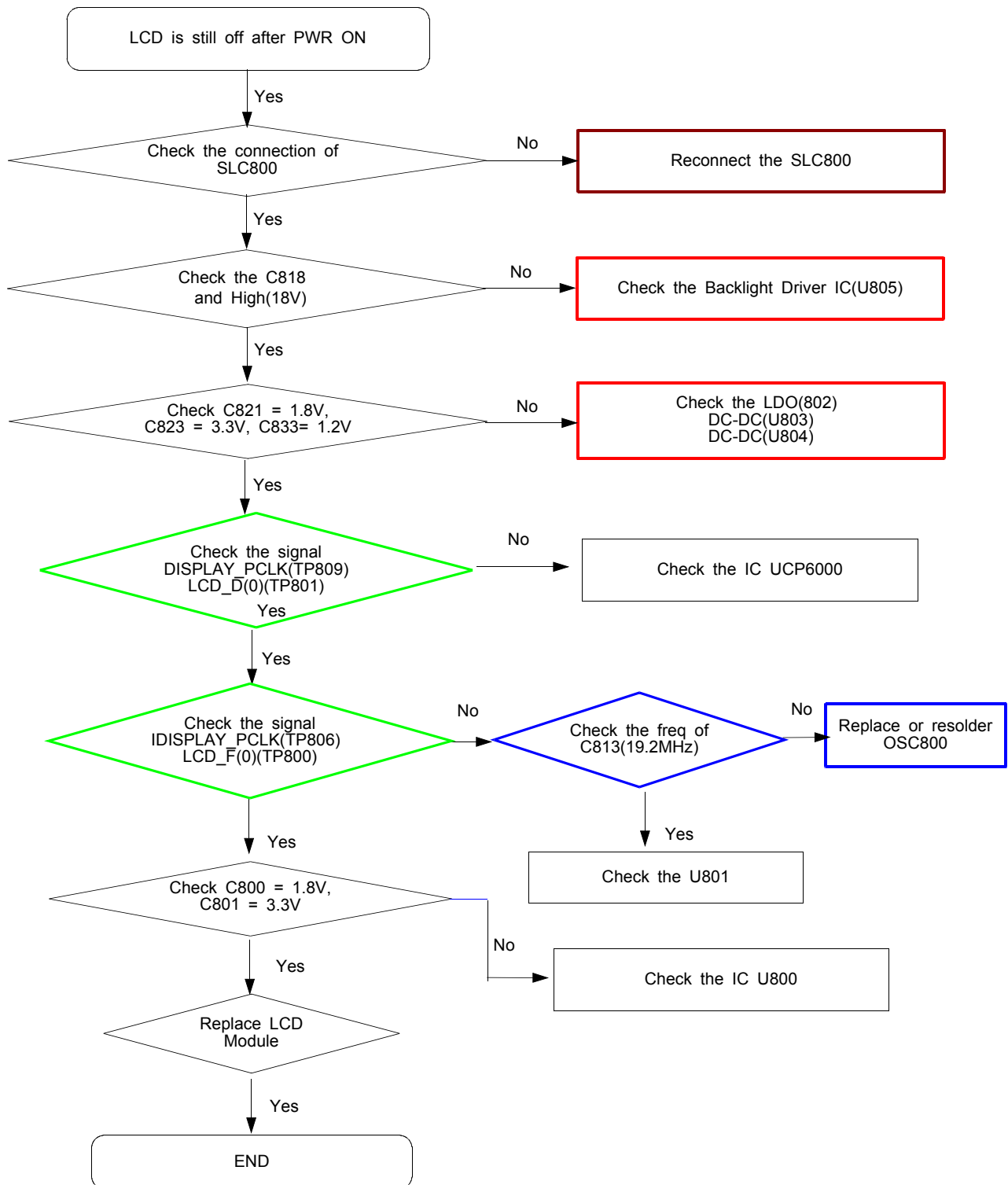


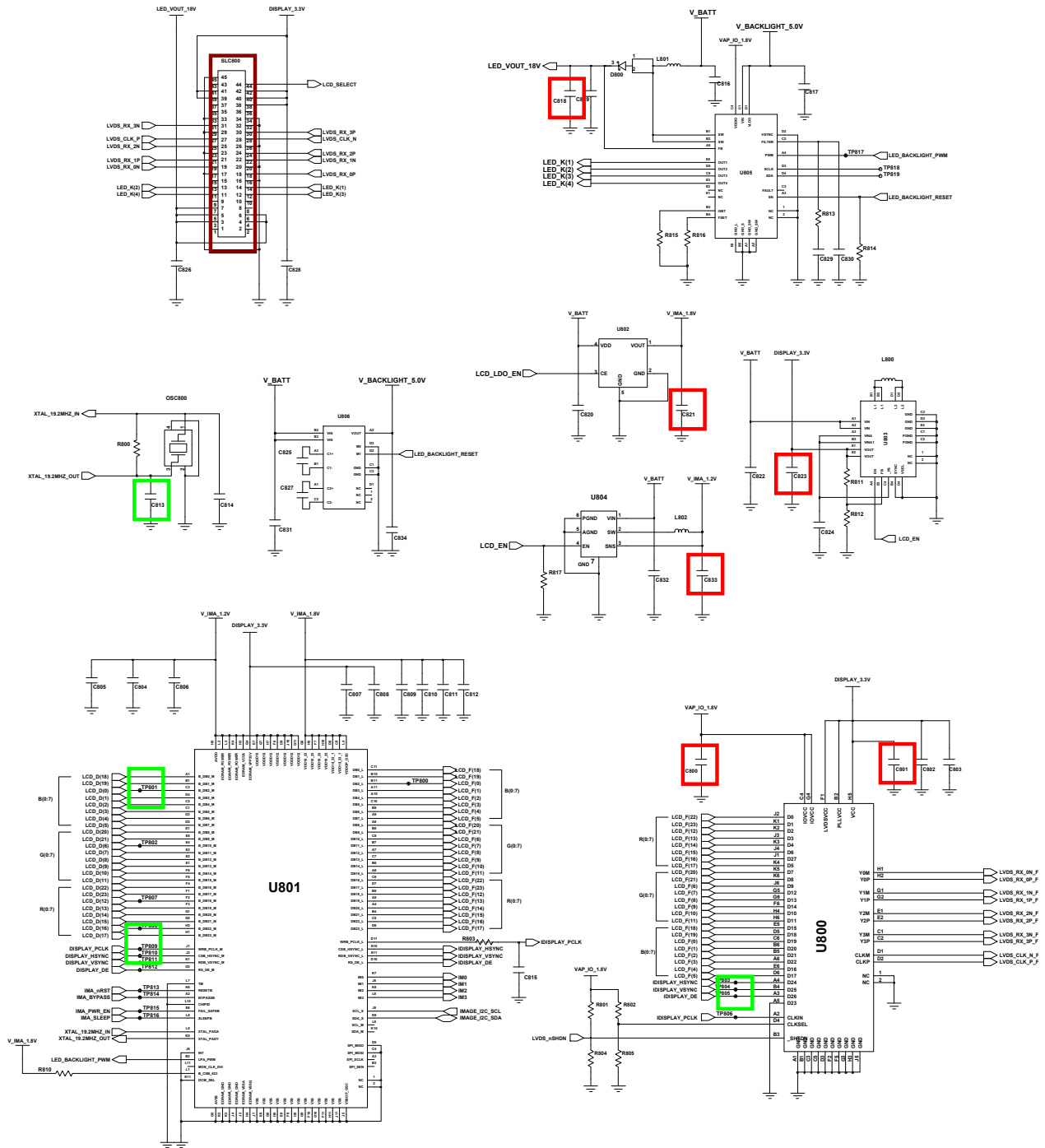
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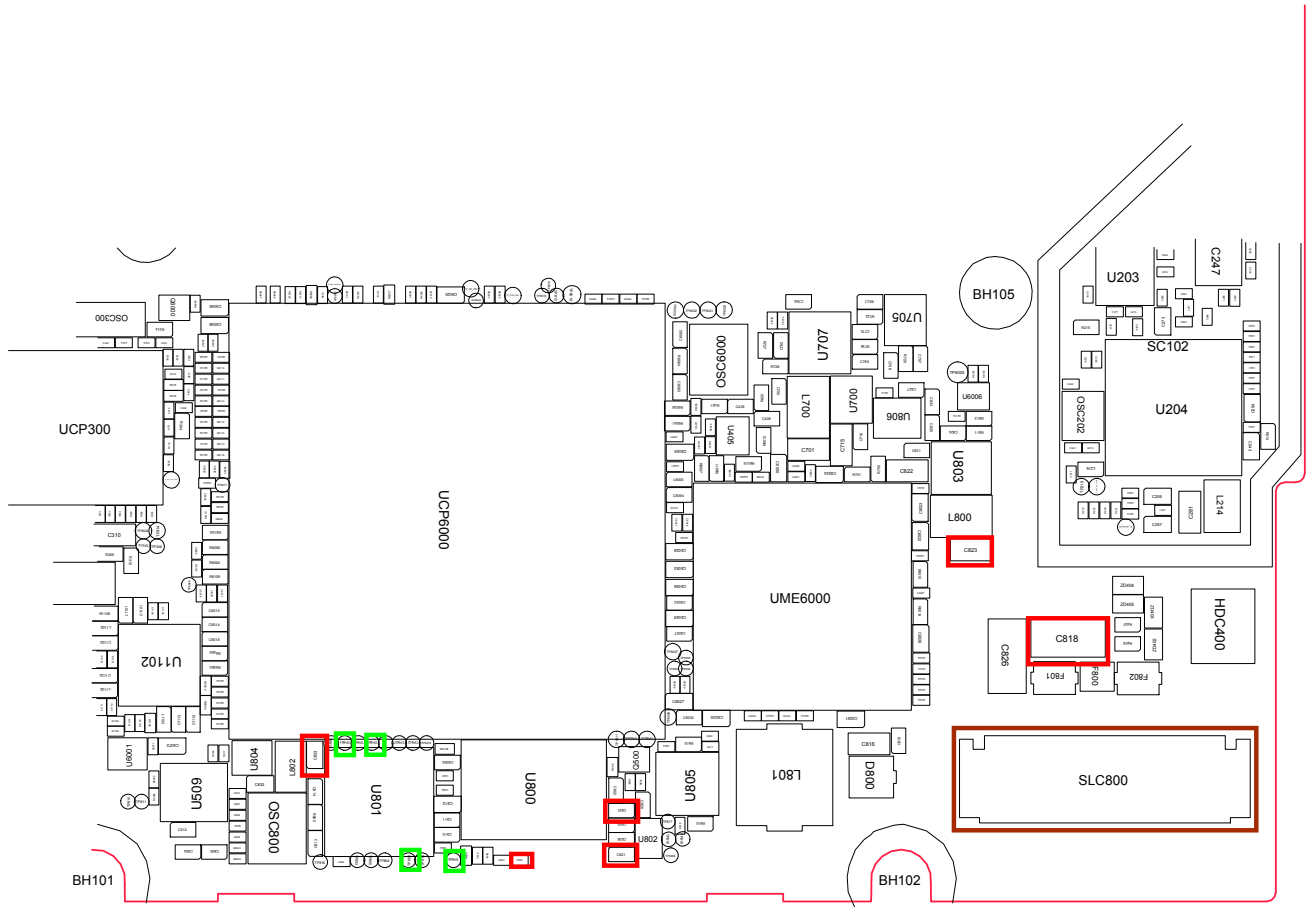


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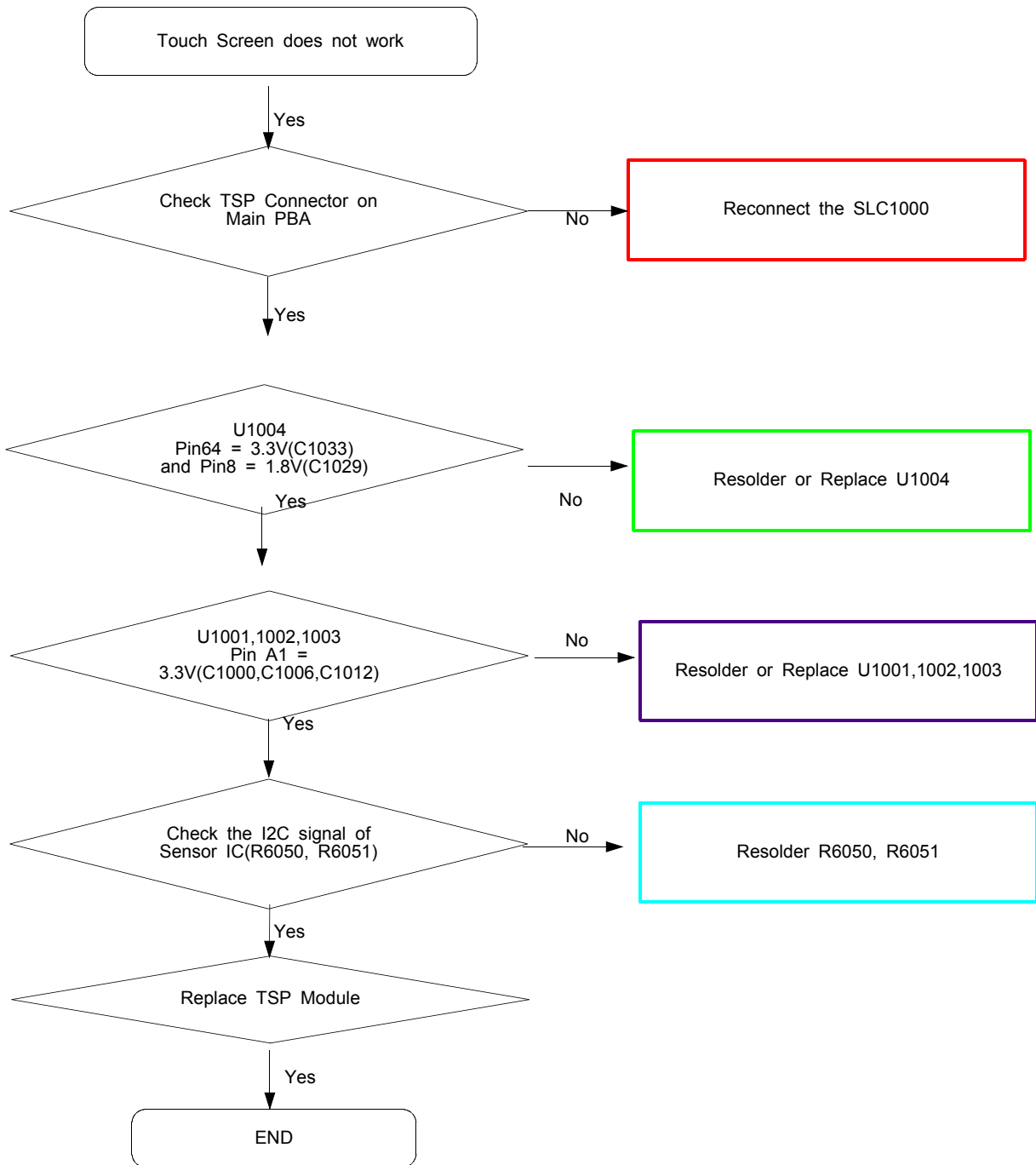
8-3-8. LCD

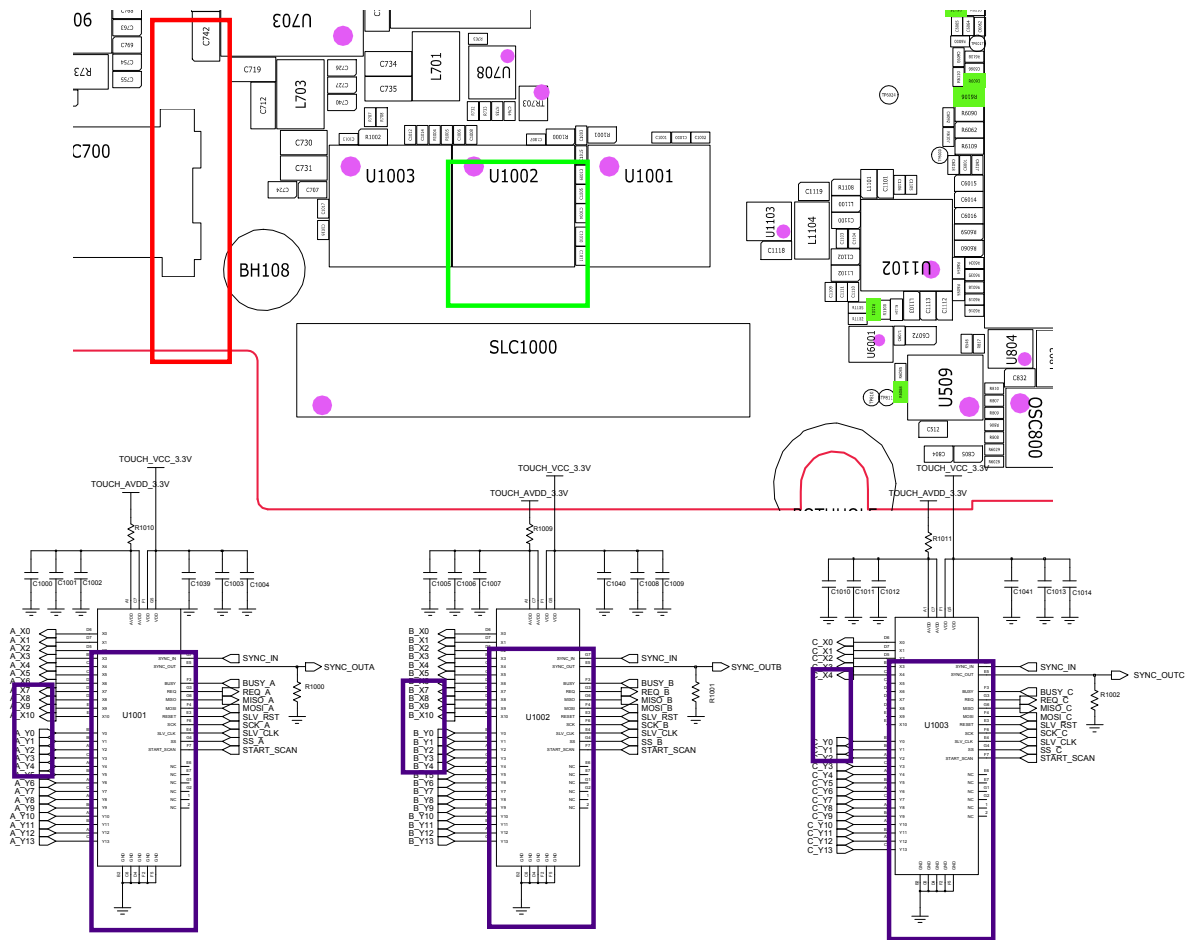




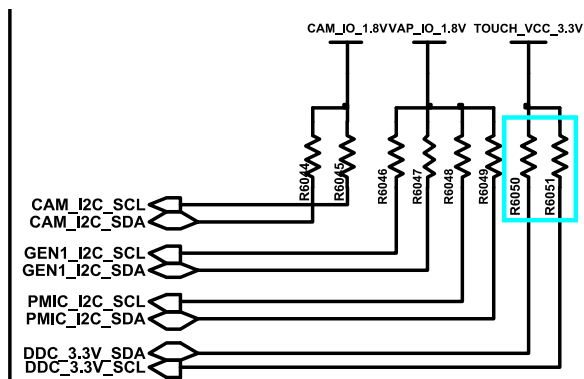


8-3-9. TSP

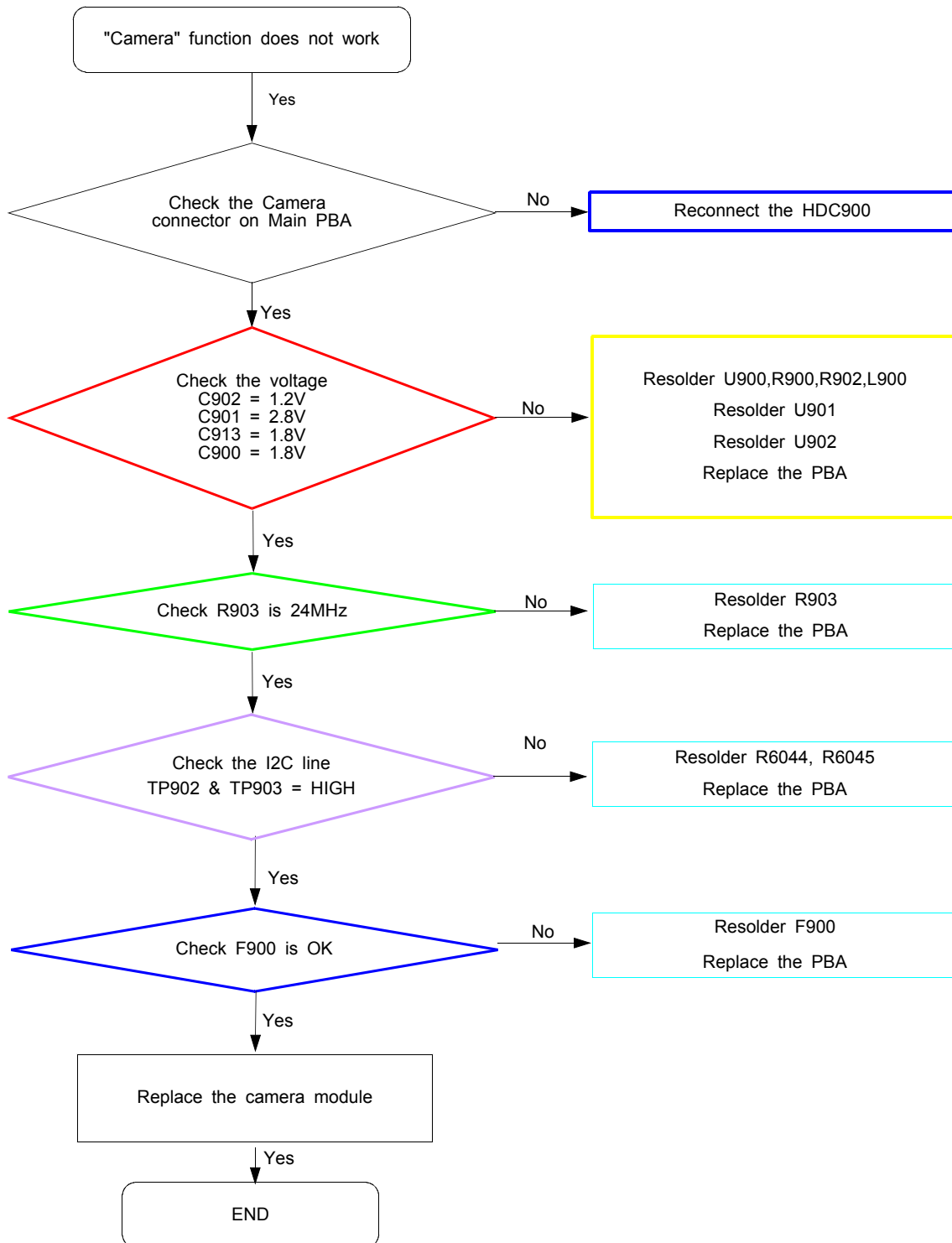


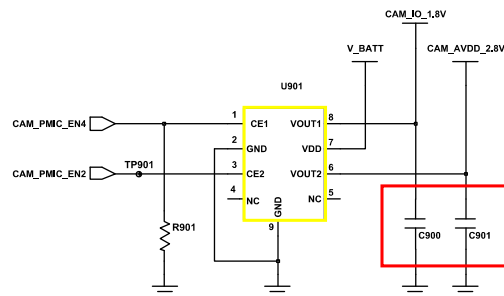
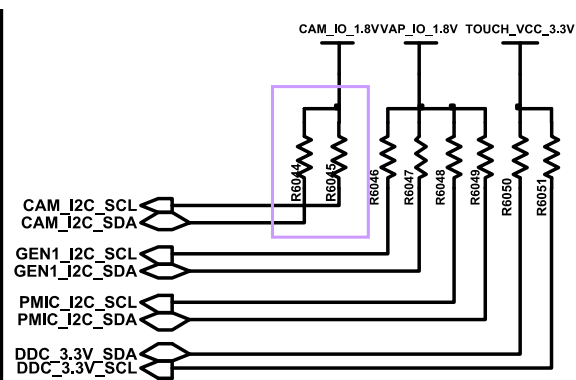
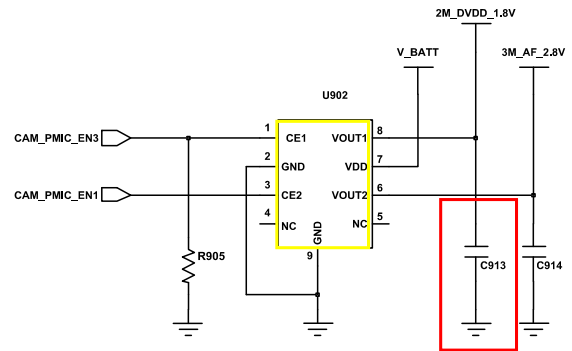
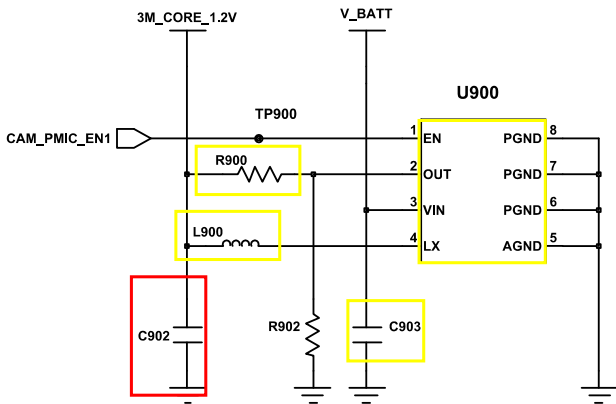
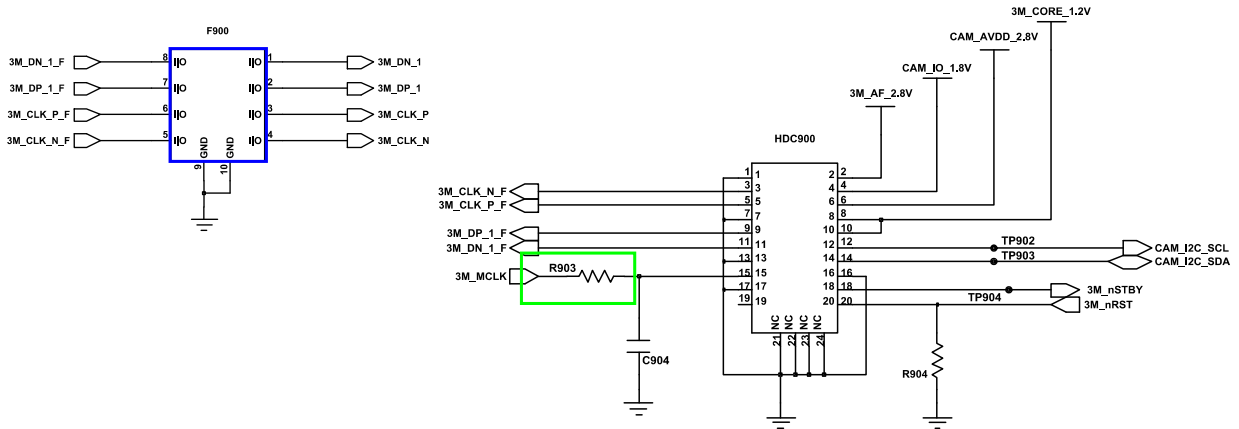


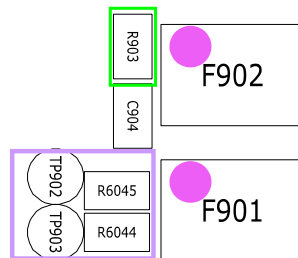
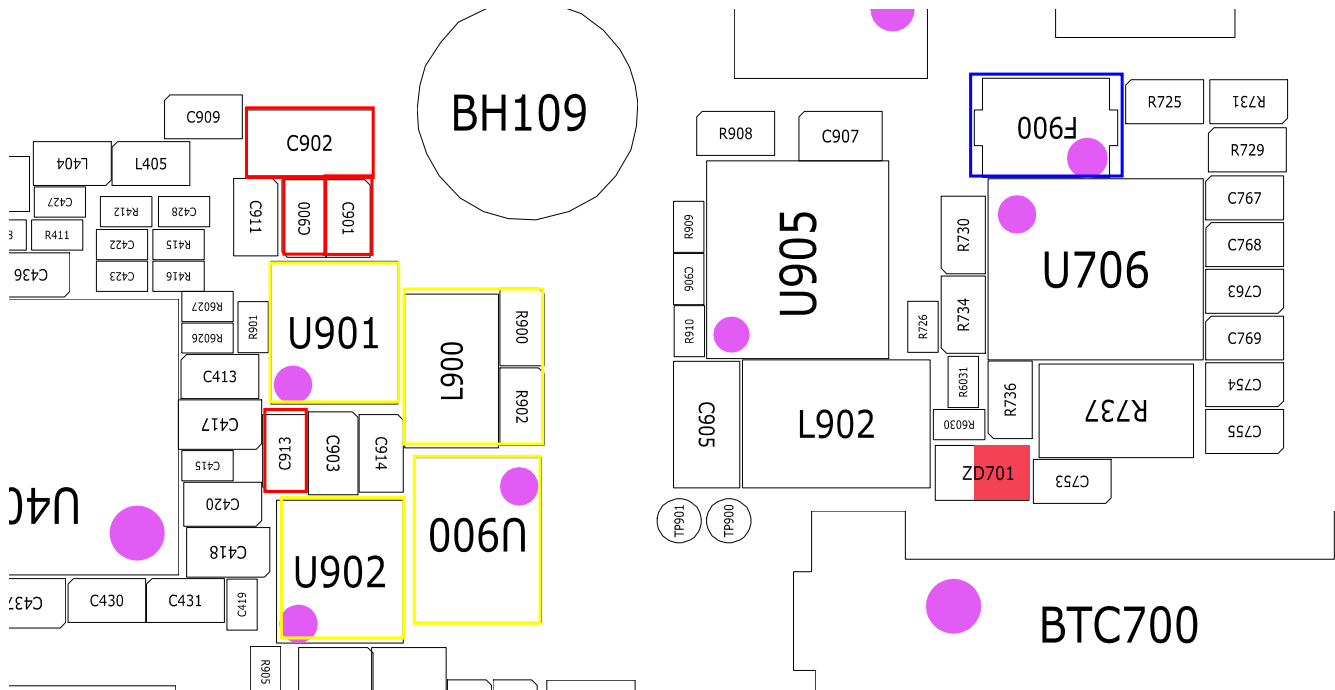
TOUCH SENSOR IC



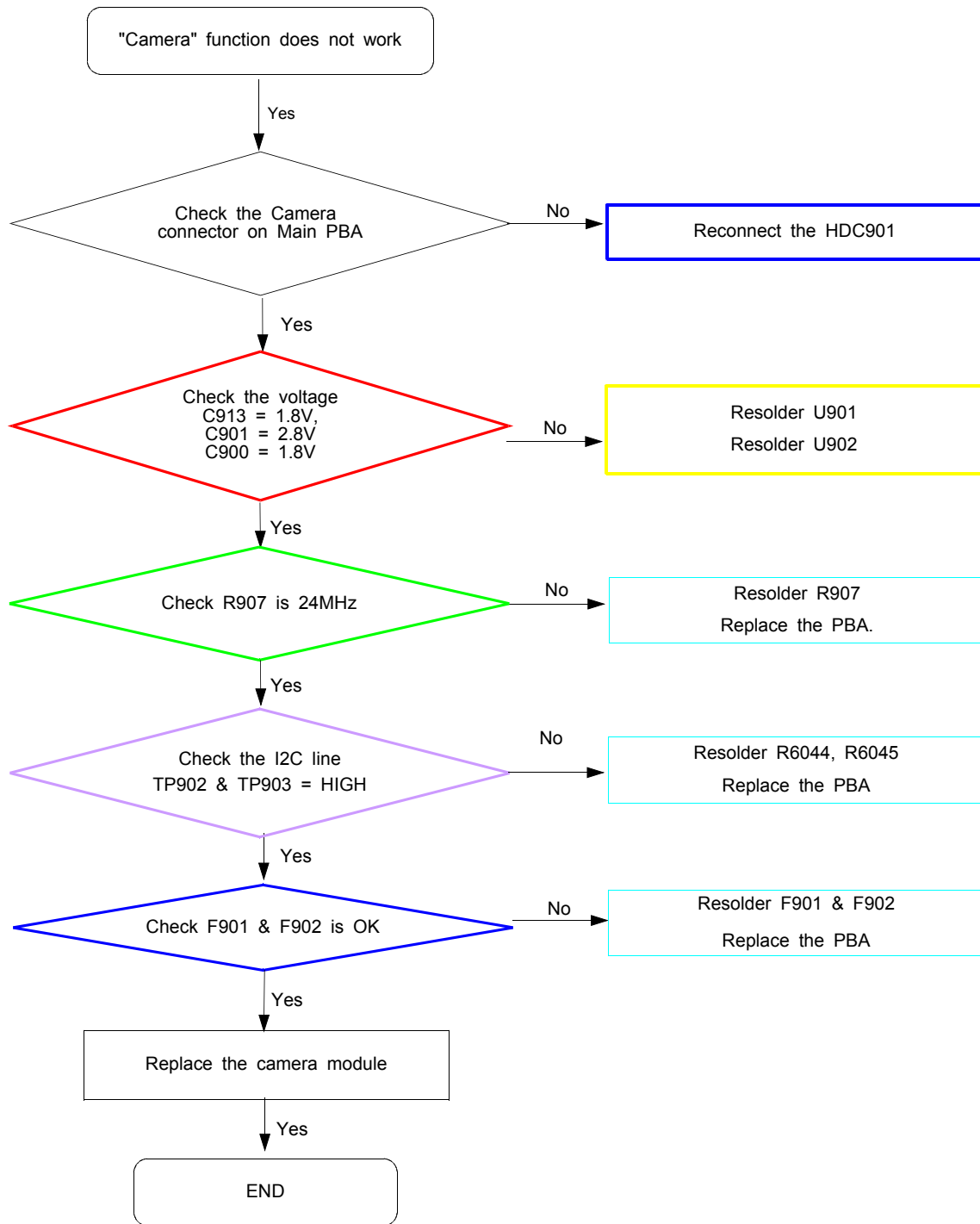
8-3-10. 3M CAM

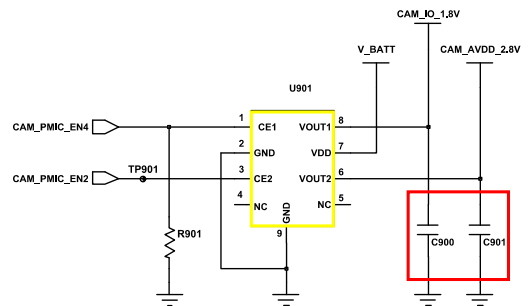
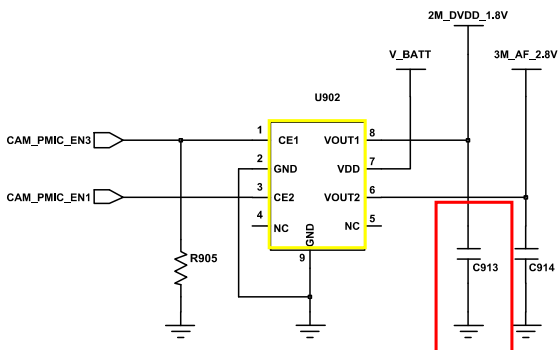
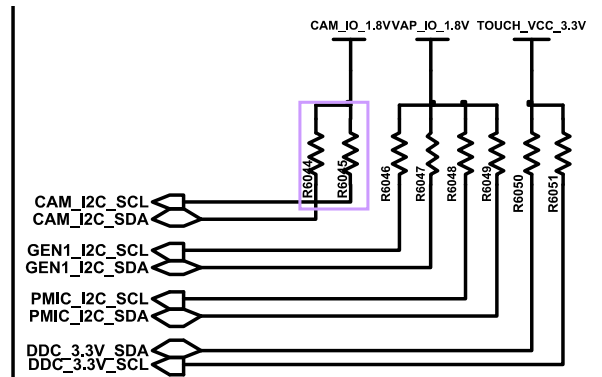
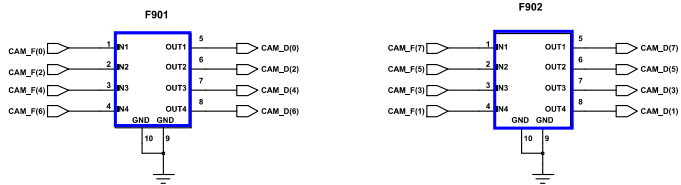
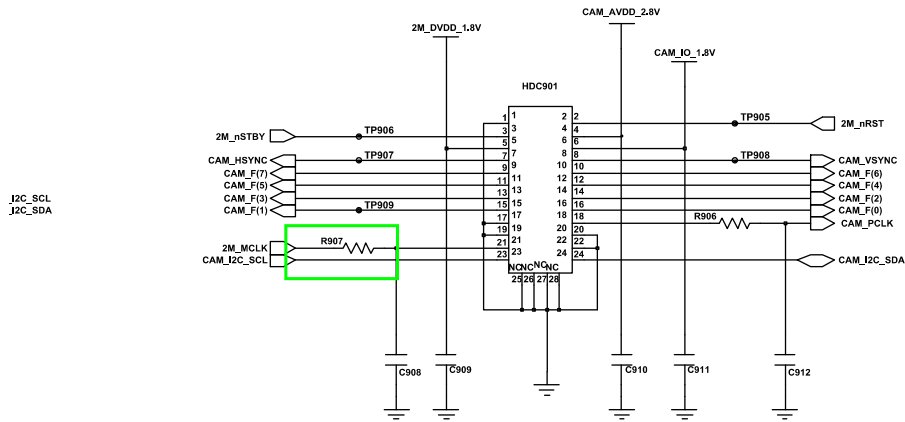


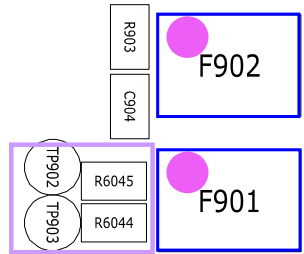
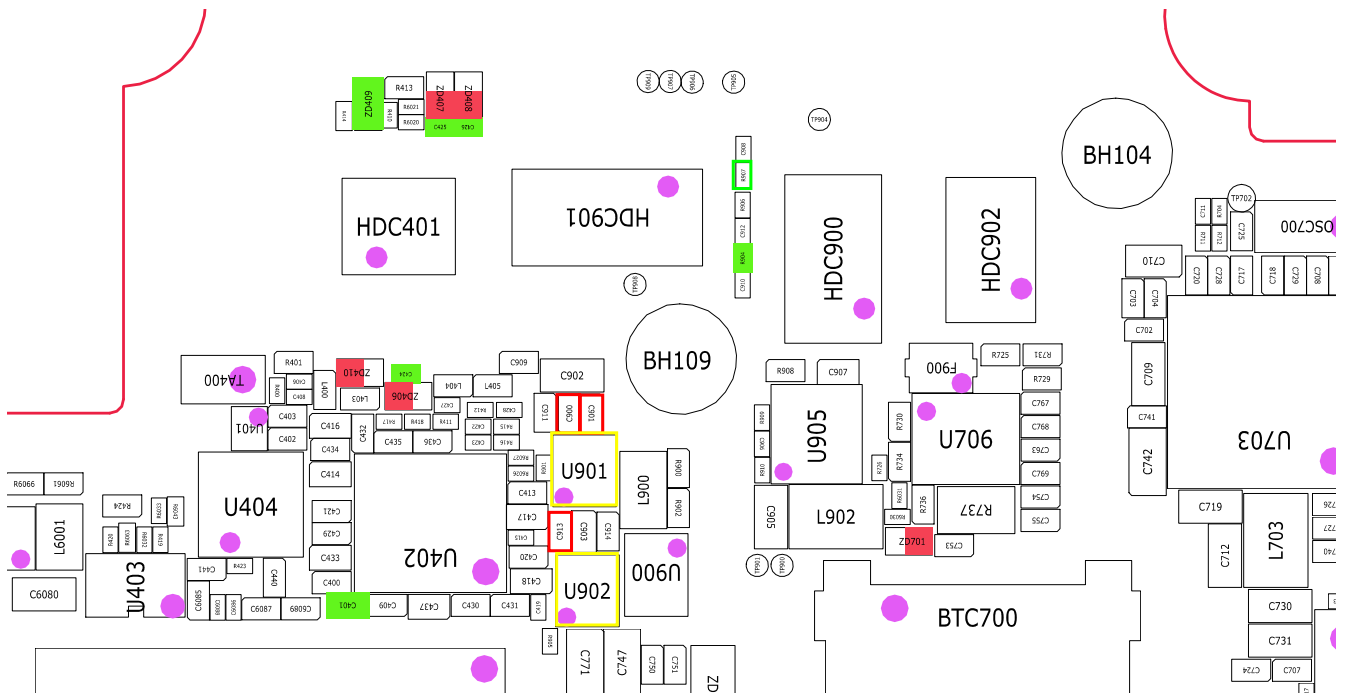




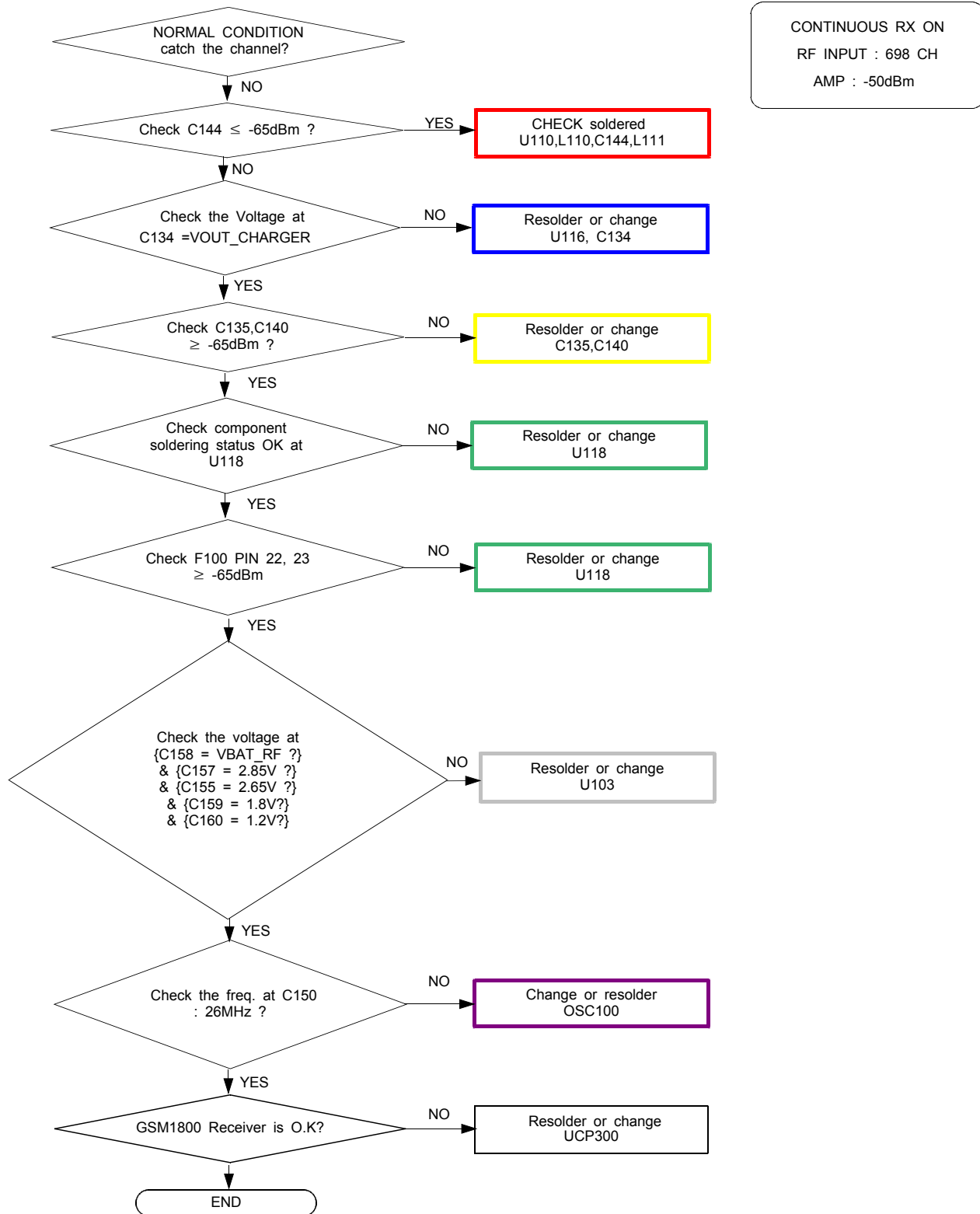
8-3-11. 2M CAM

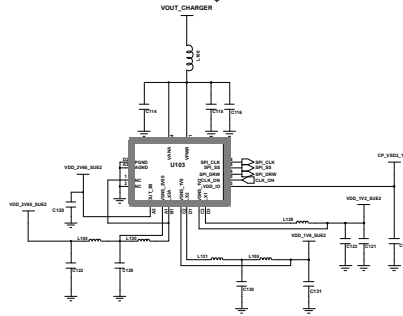
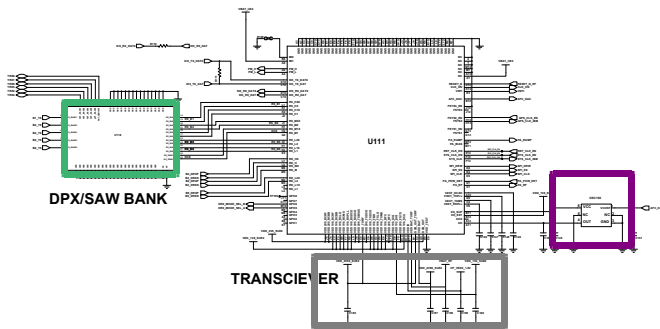
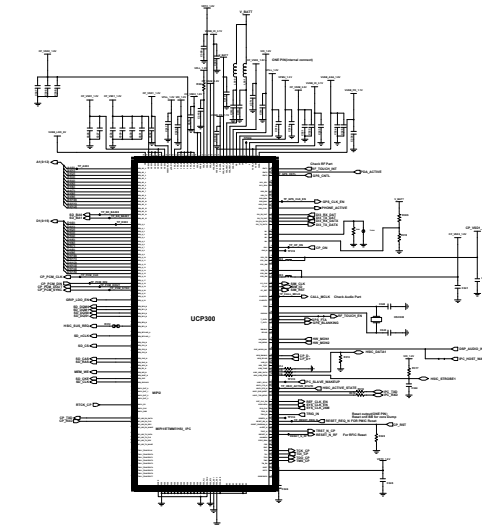
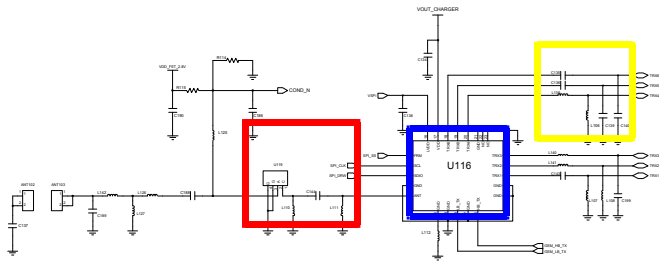




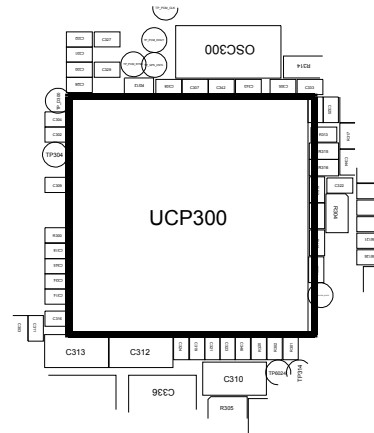
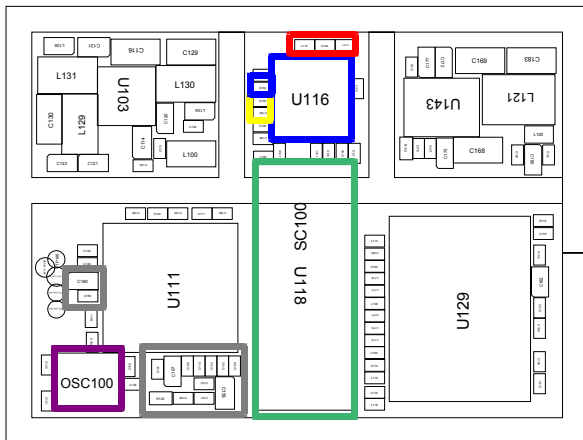


8-3-12. GSM1800 RX

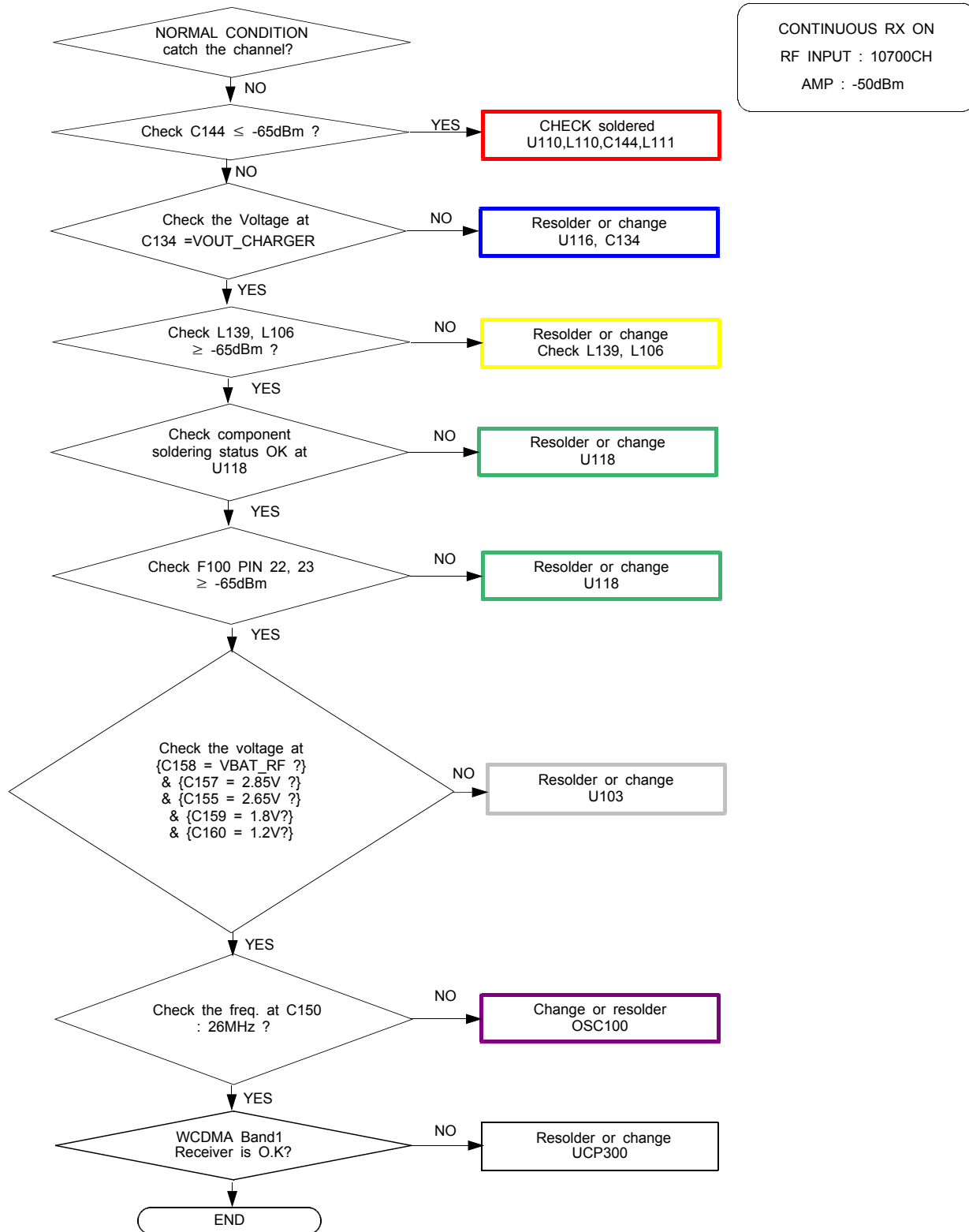


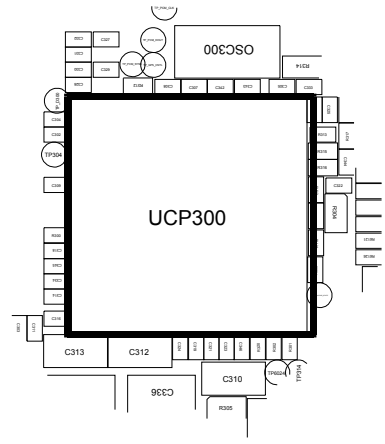
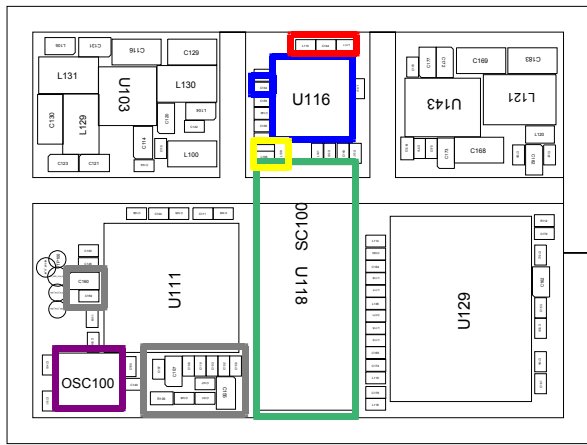
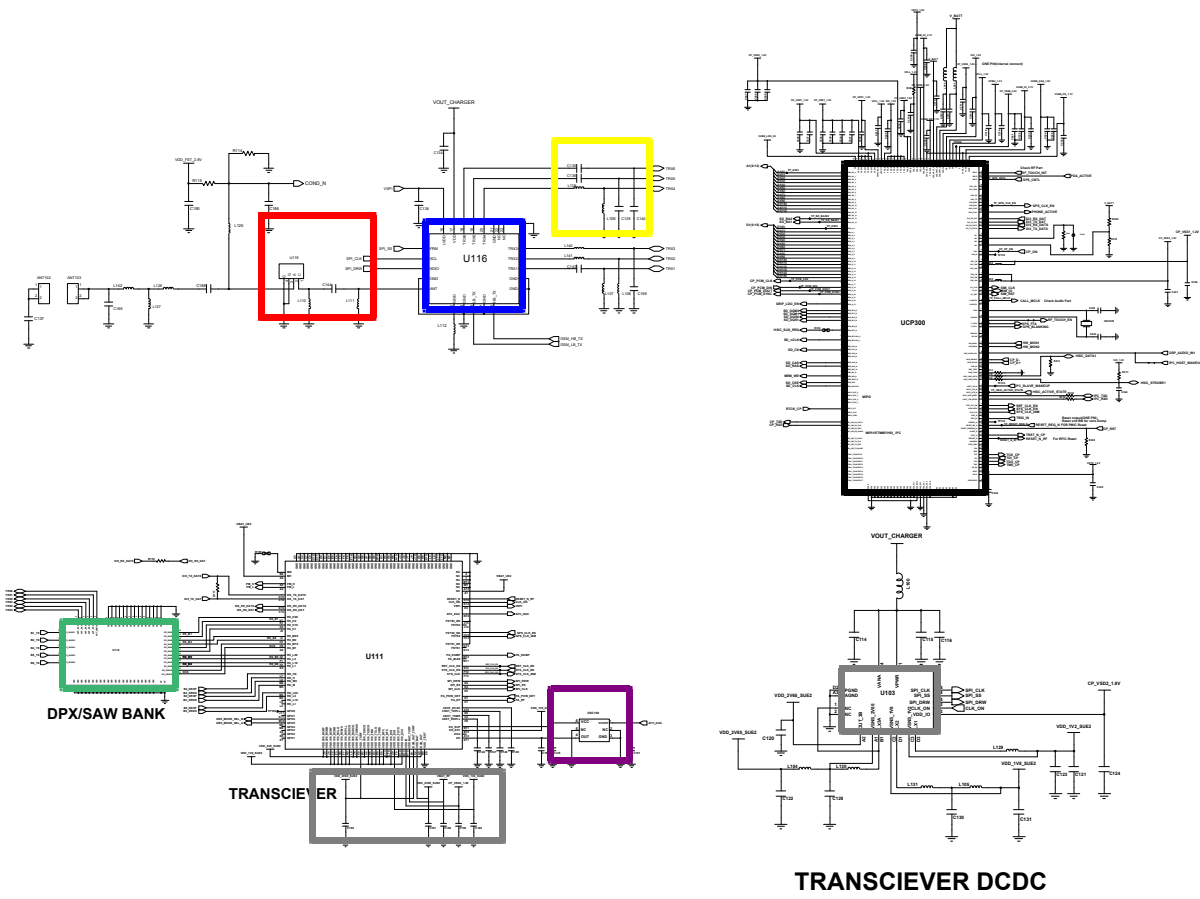


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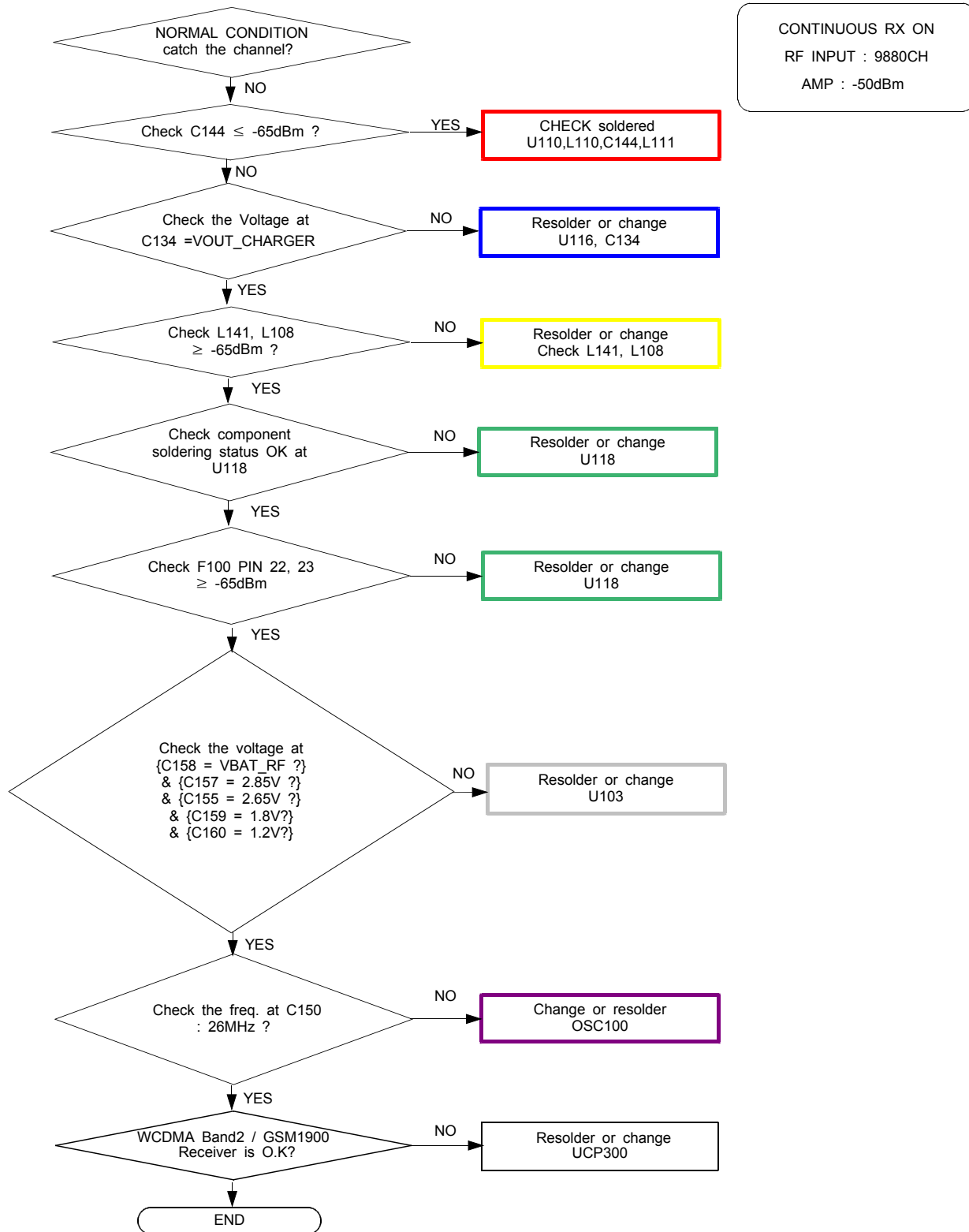


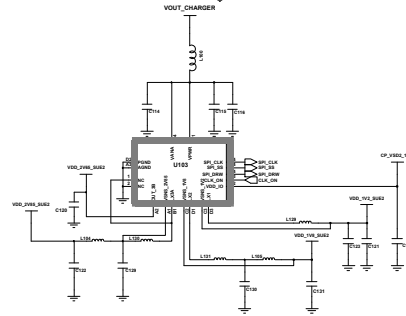
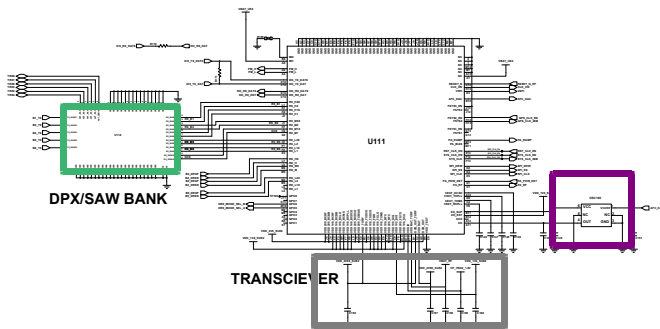
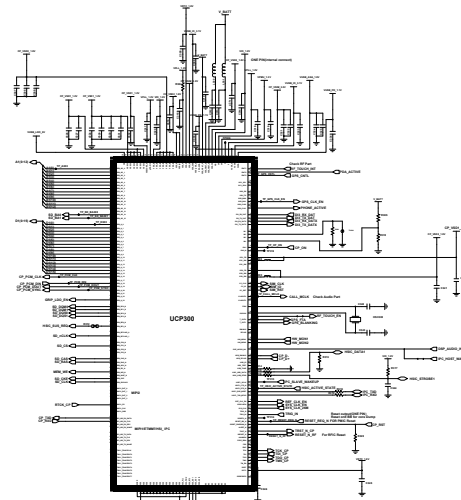
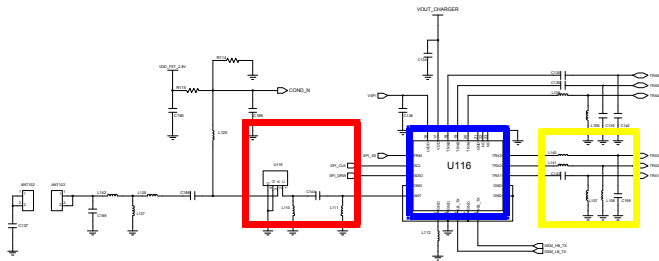
8-3-13. WCDMA Band1 RX



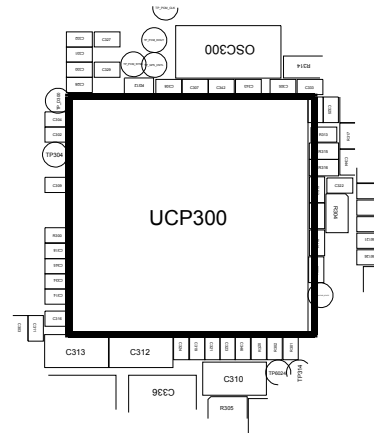
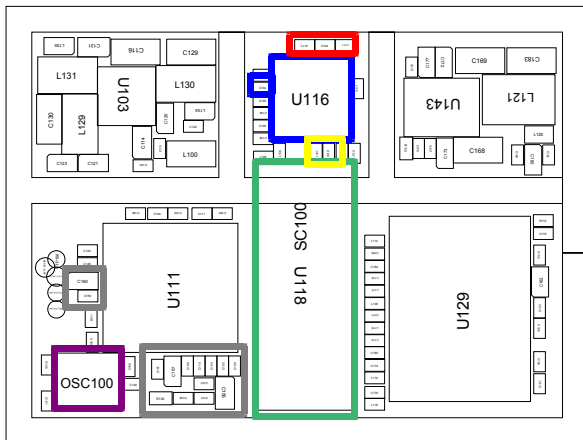


8-3-14. WCDMA Band2 / GSM1900 RX

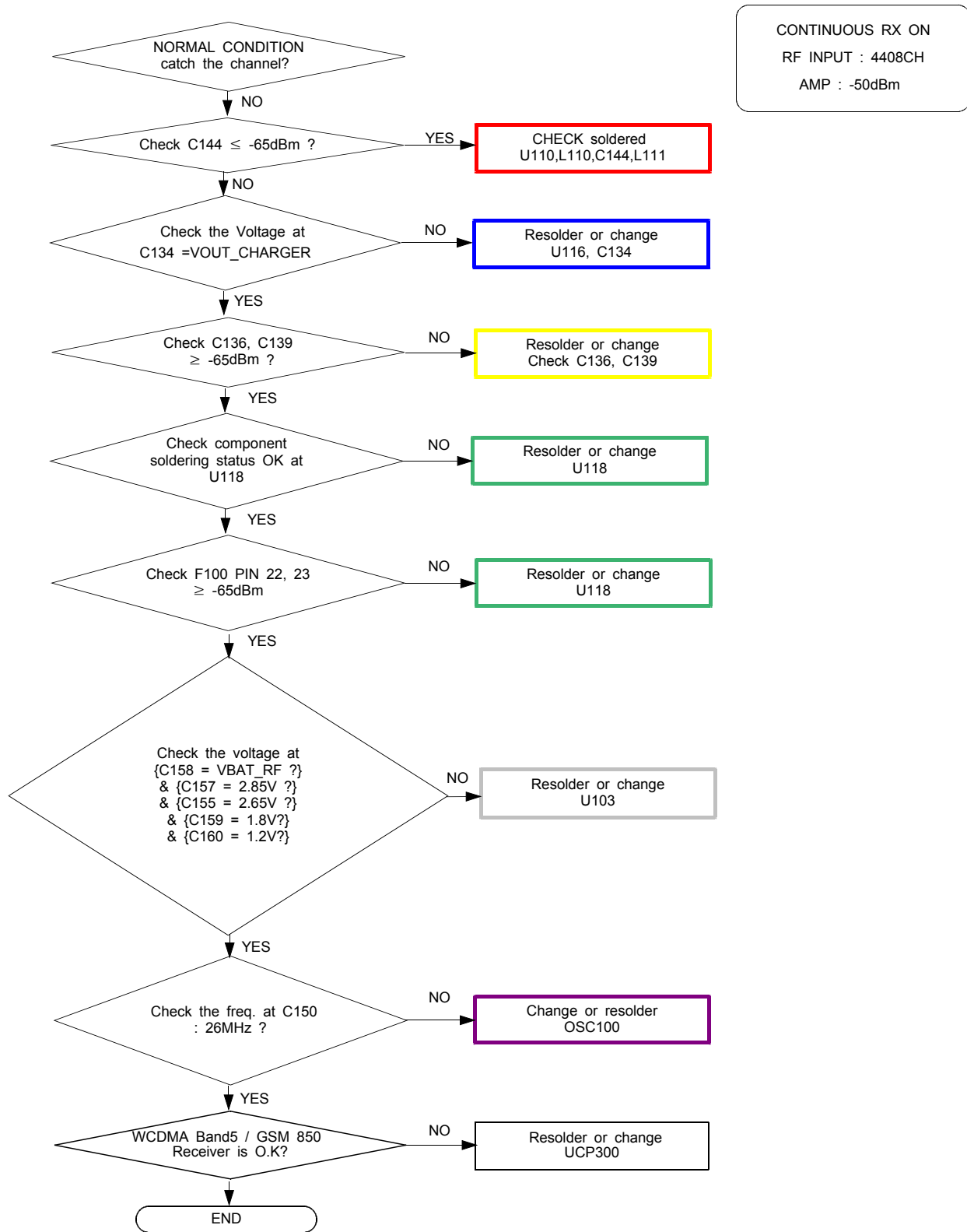


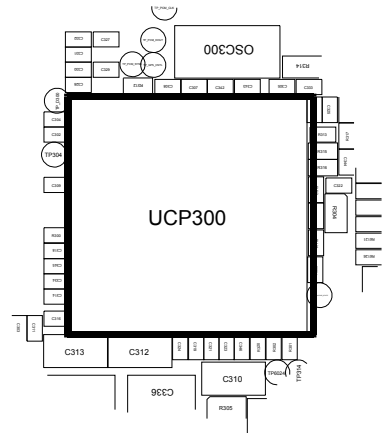
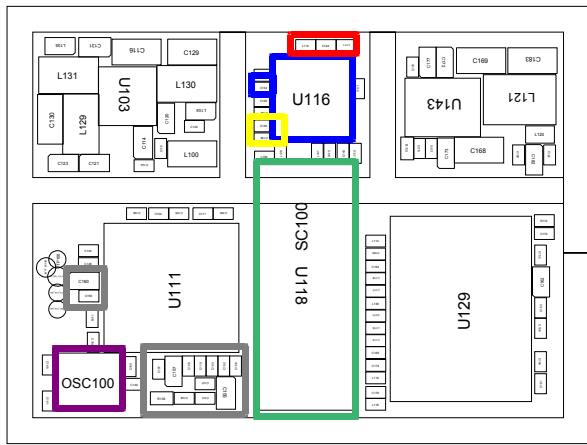
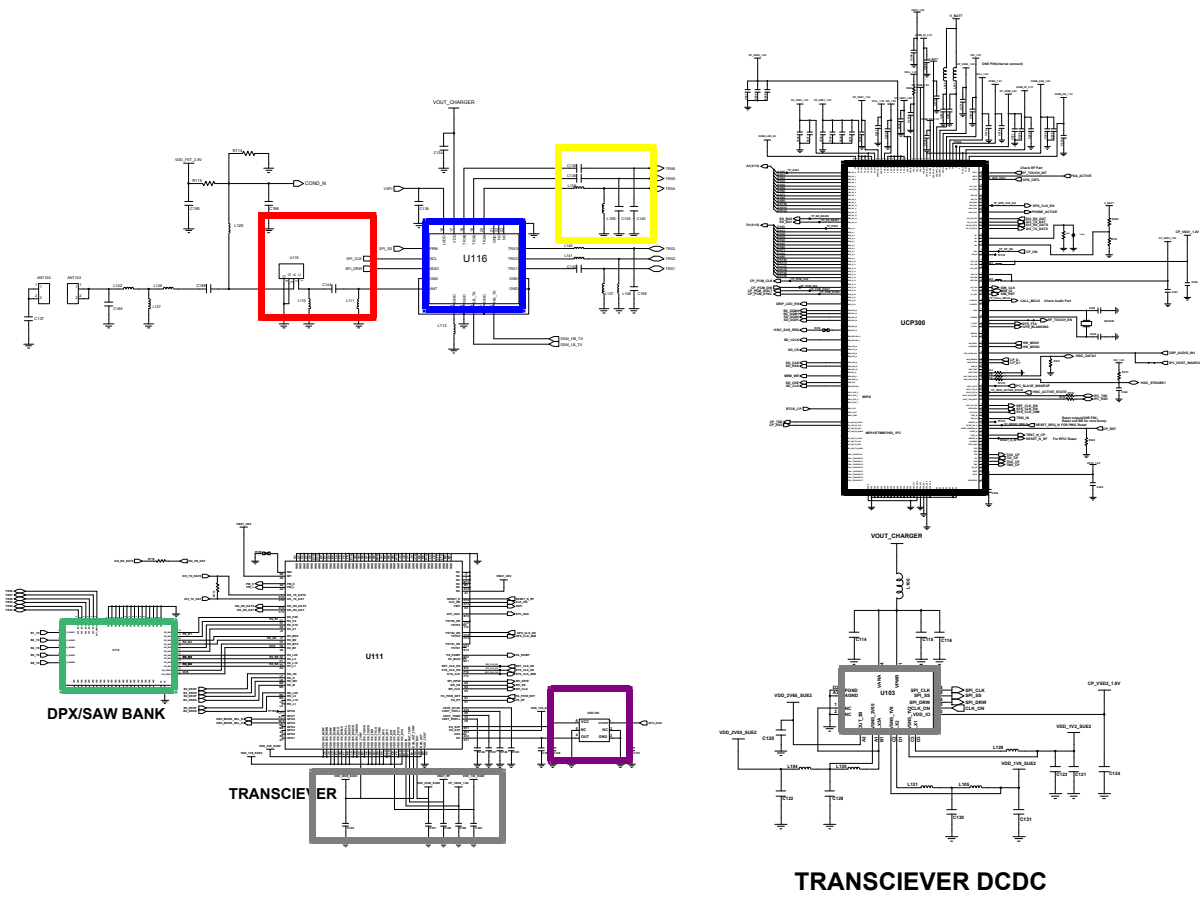


TRANSCIEVER DCDC

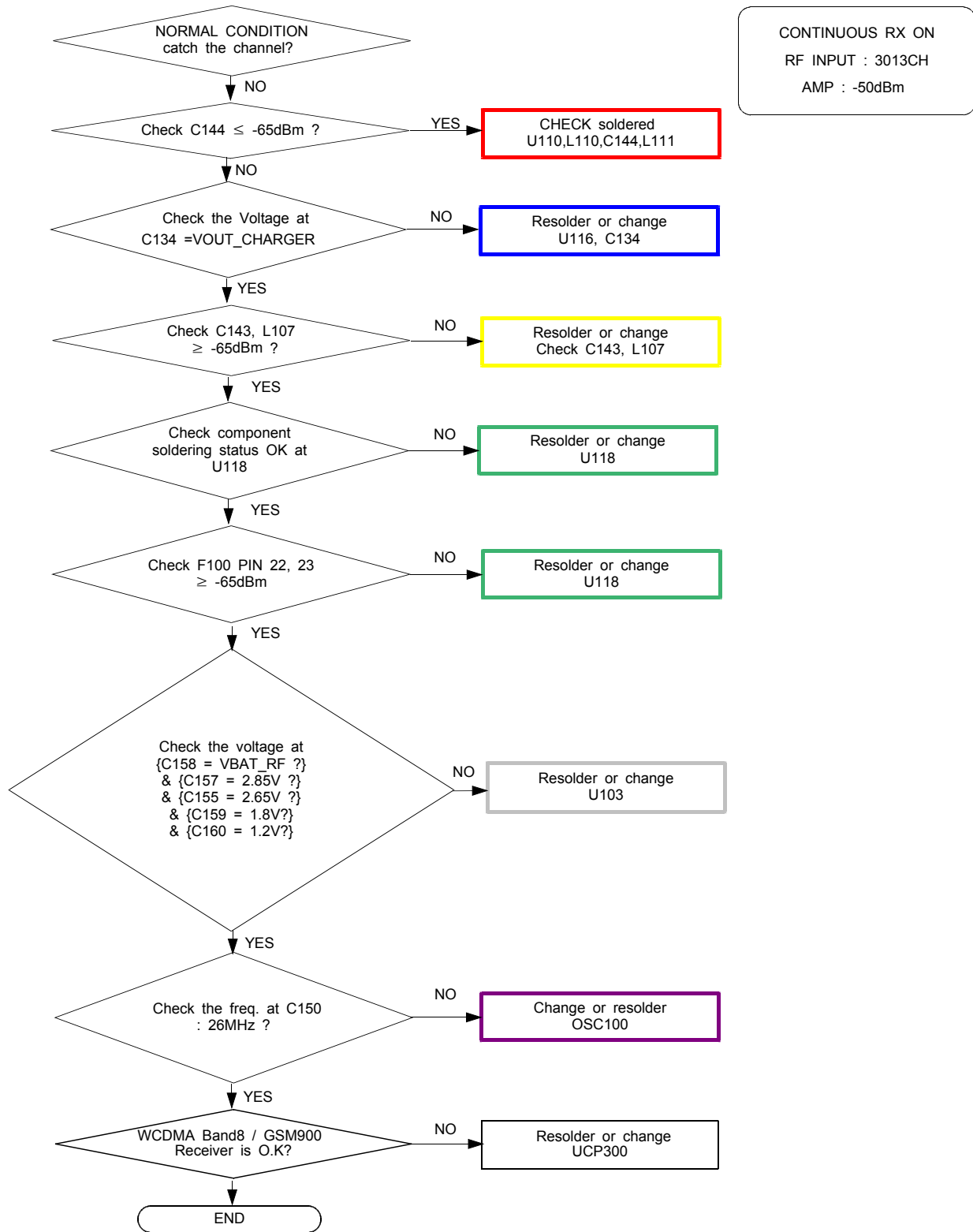


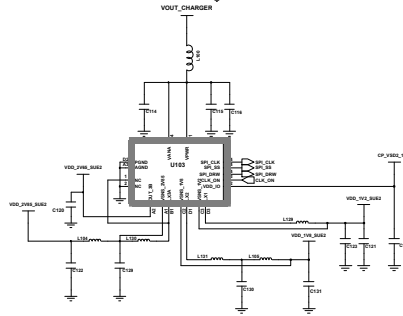
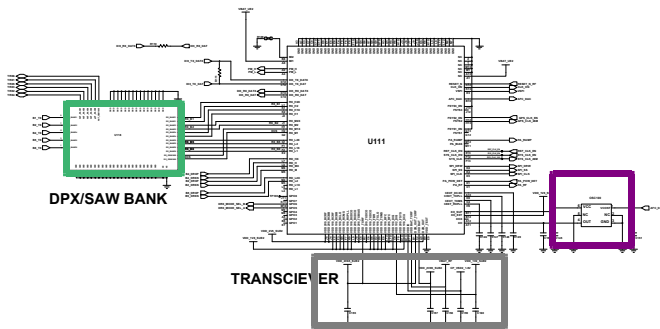
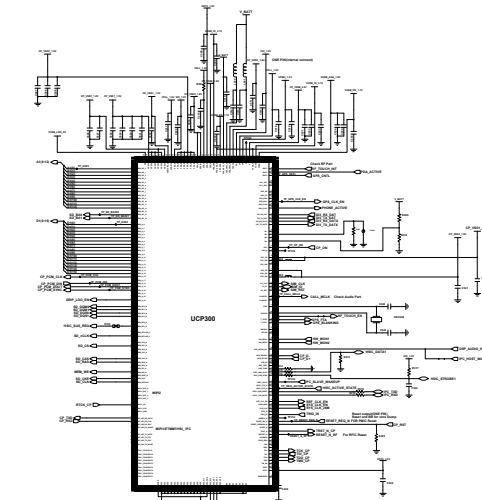
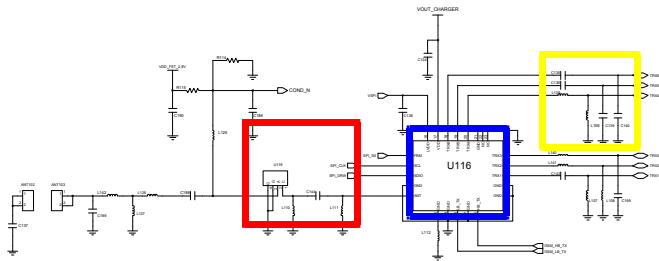
8-3-15. WCDMA Band5 / GSM 850 RX



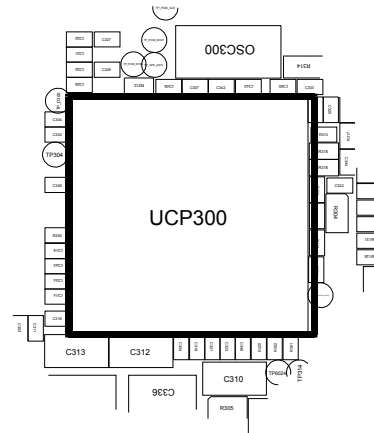
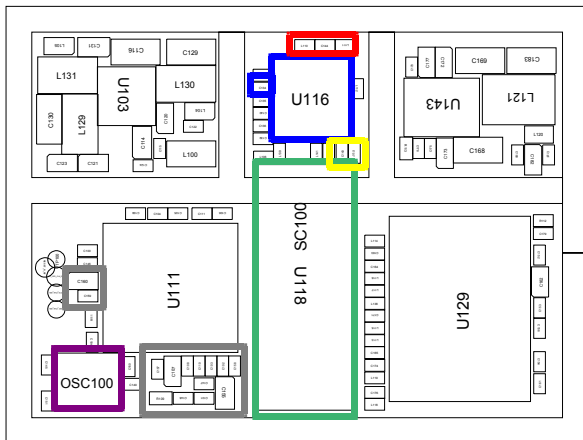


8-3-16. WCDMA Band8 / GSM900 RX



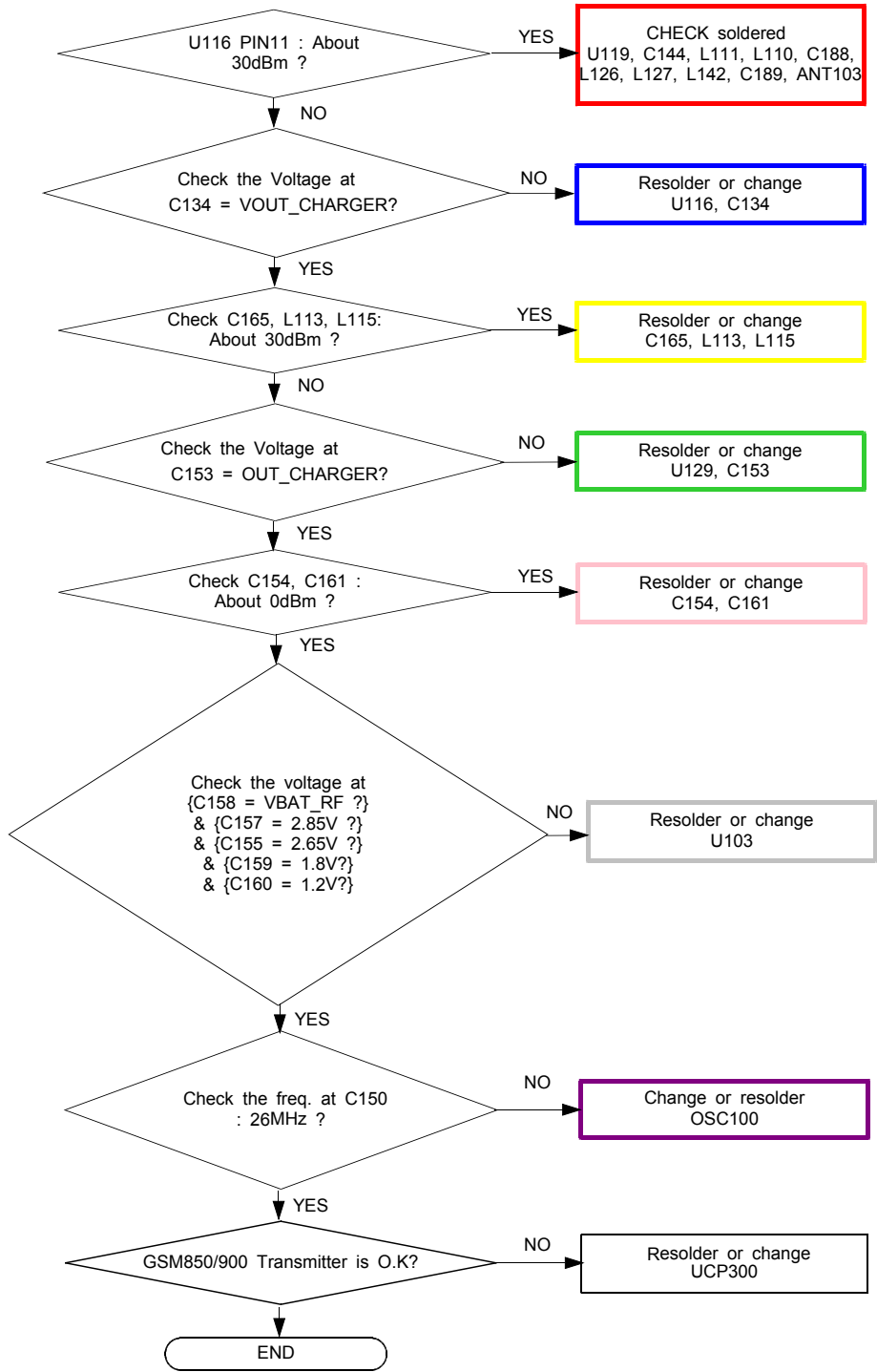


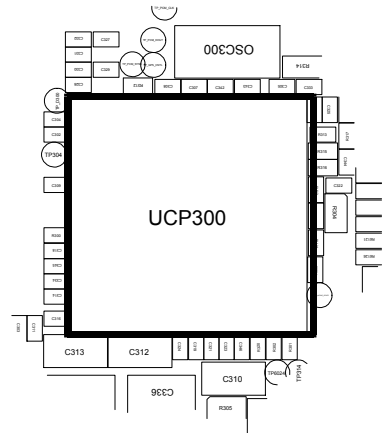
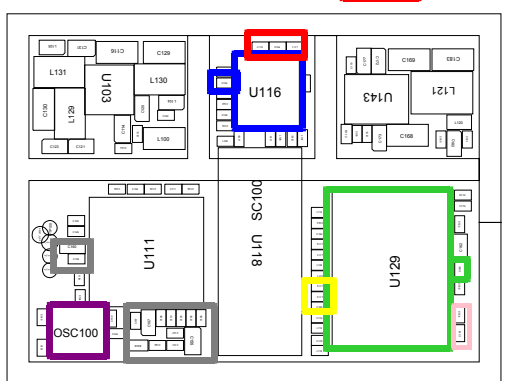
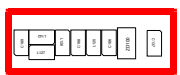
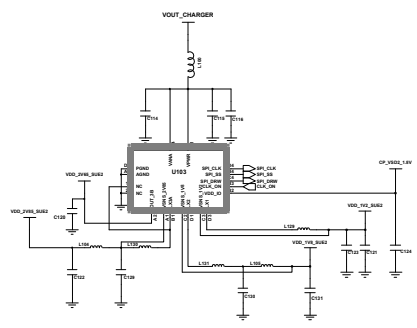
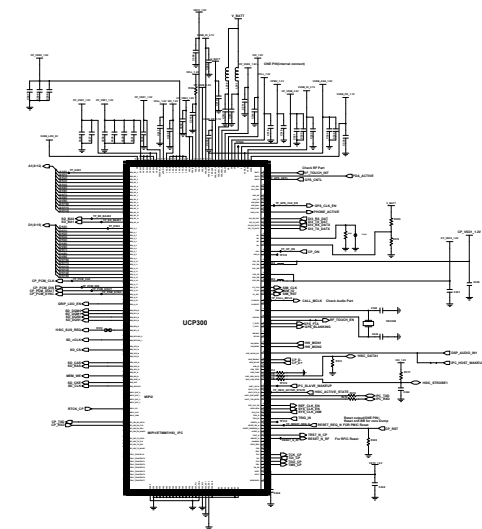
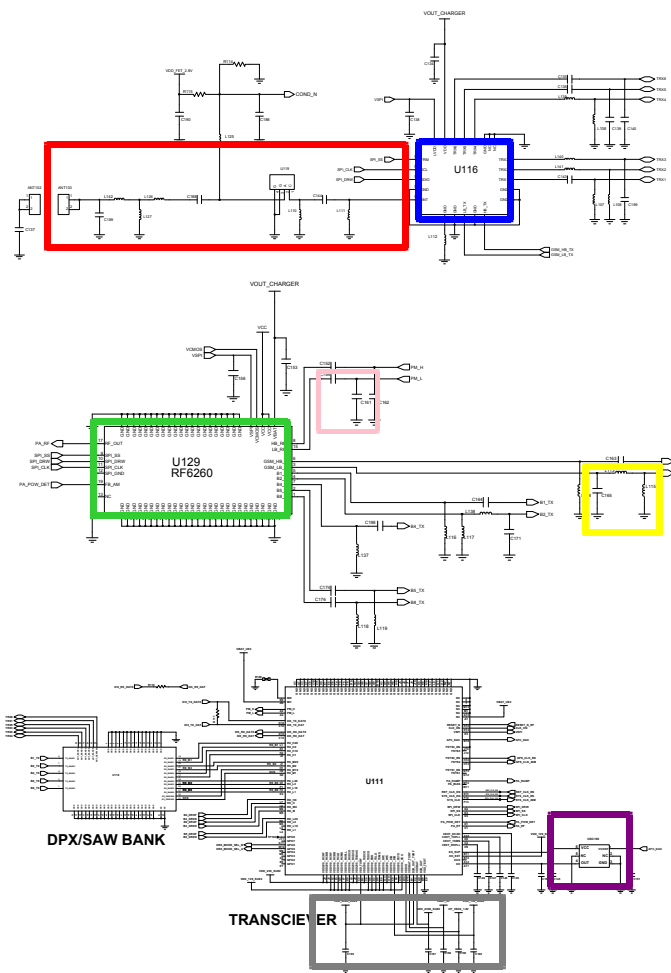
TRANSCIEVER DCDC



8-3-17. GSM850/GSM900 TX

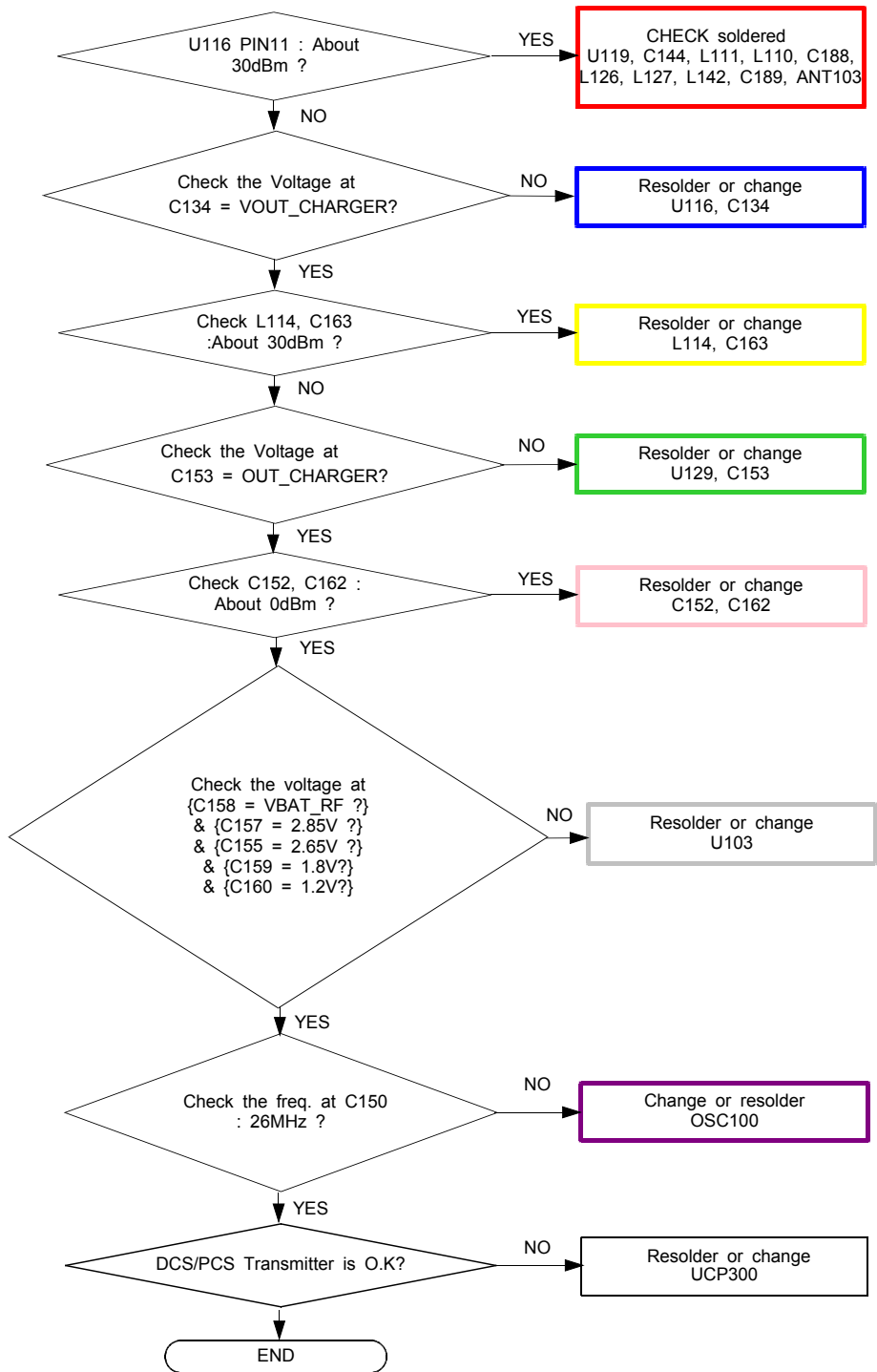
CONTINUOUS TX ON CONDITION
 TX POWER DAC:14500 CODE
 APPLIED
 GSM850 CH : 190
 GSM900 CH : 62
 RBW : 100KHz
 VBW : 100KHz
 SPAN : 10MHz
 REF LEV. : 10dBm
 ATT. : 20dB

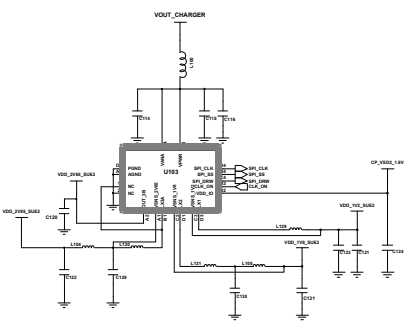
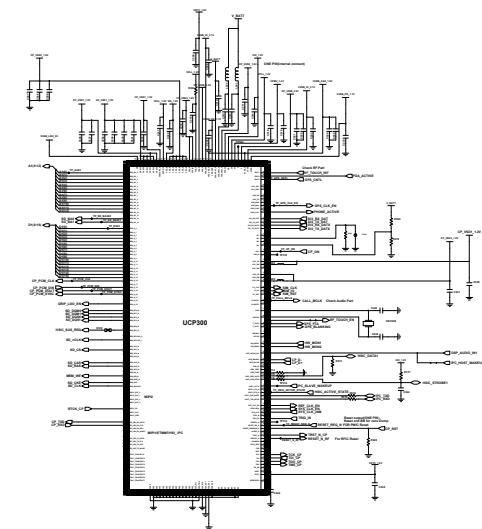
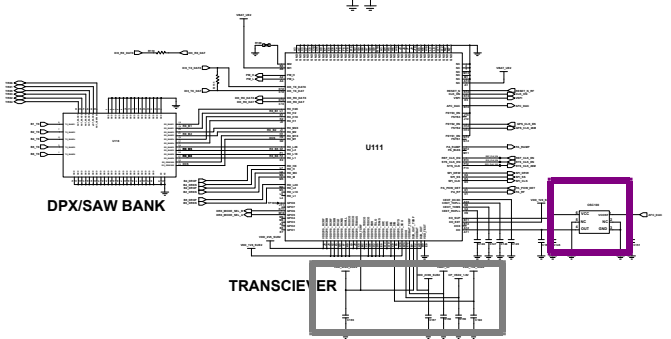
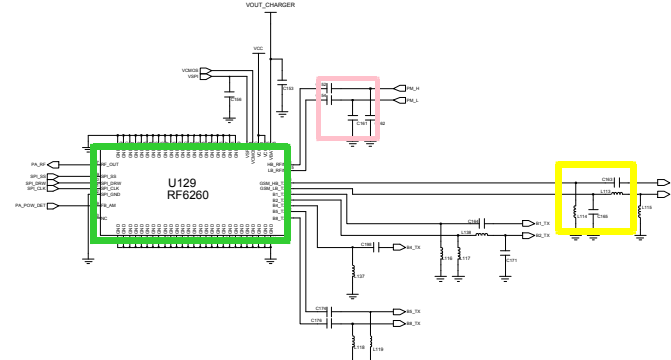
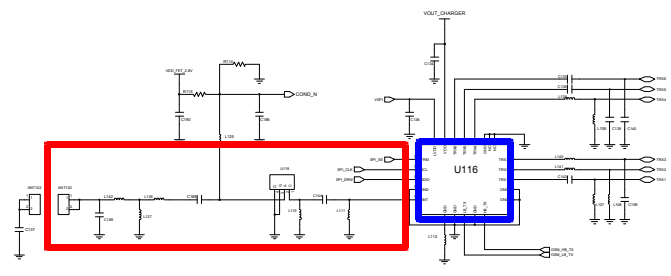




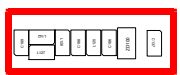
8-3-18. DCS/PCS TX

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

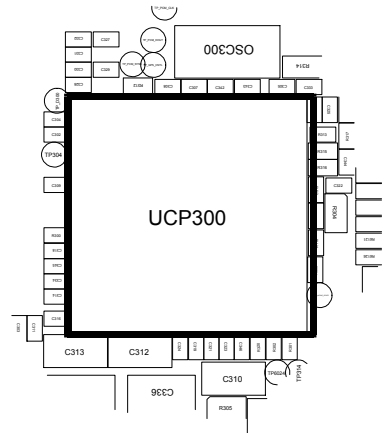
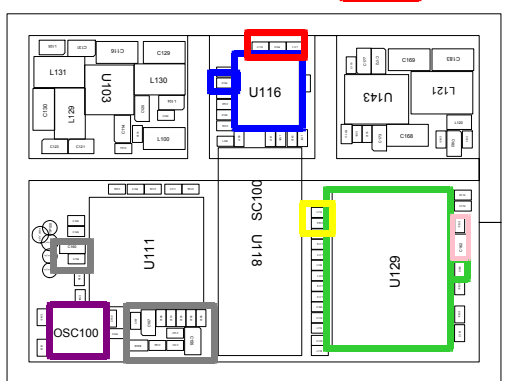




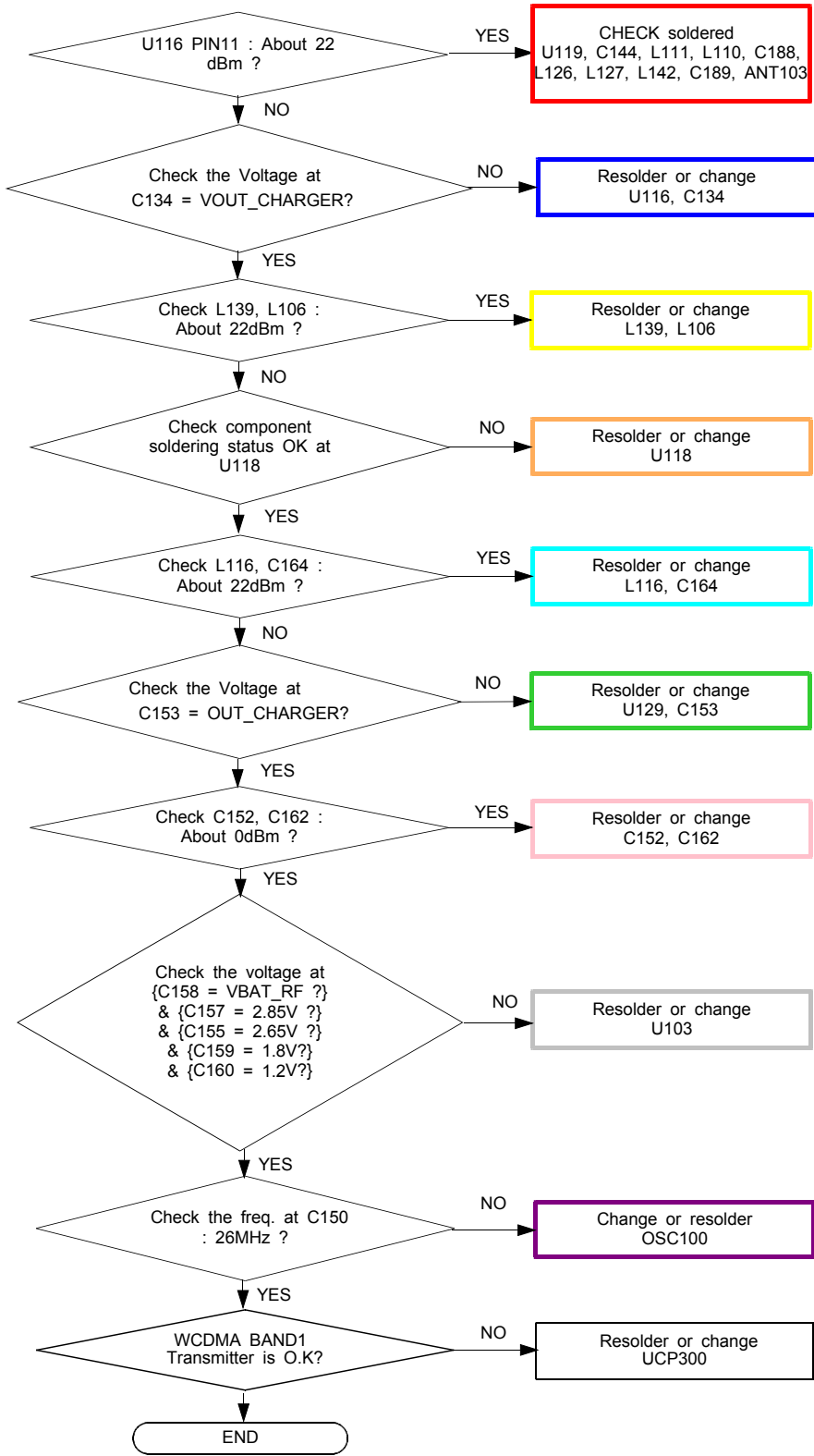
TRANSCEIVER DCDC



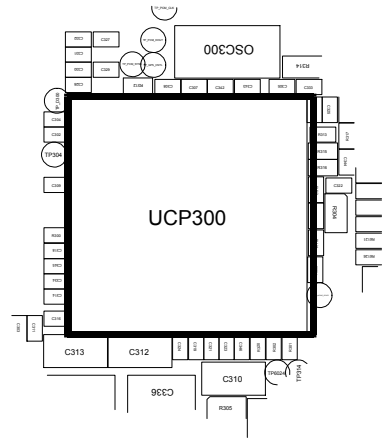
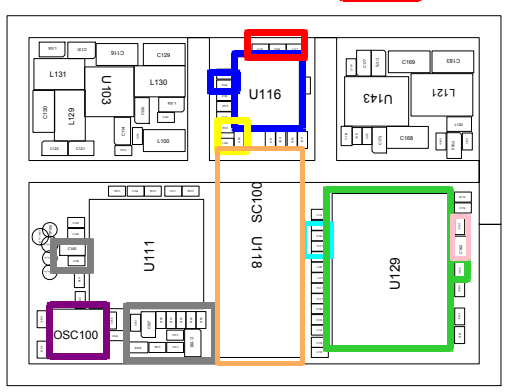
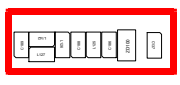
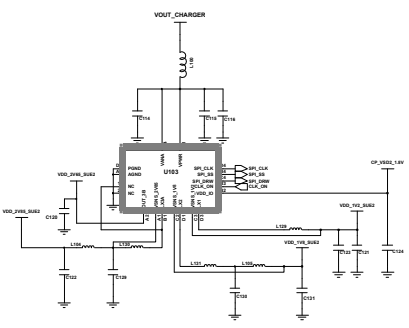
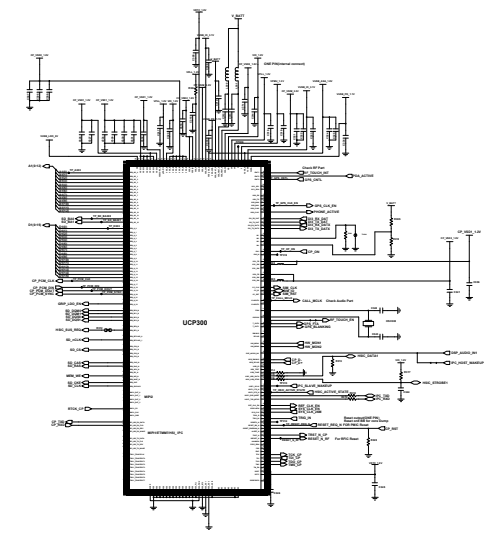
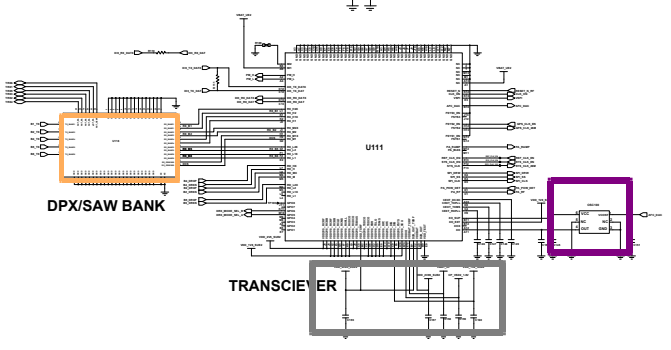
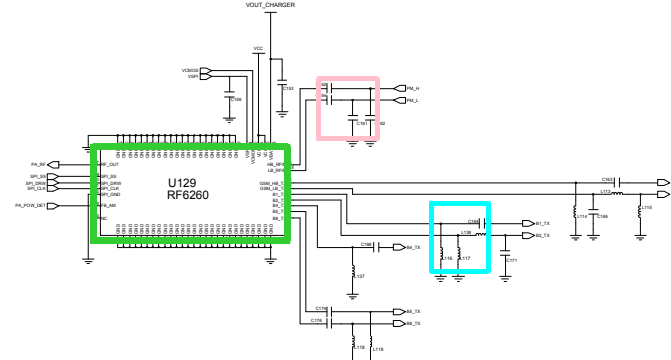
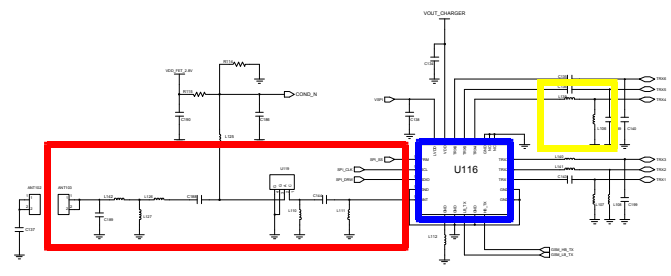
U119



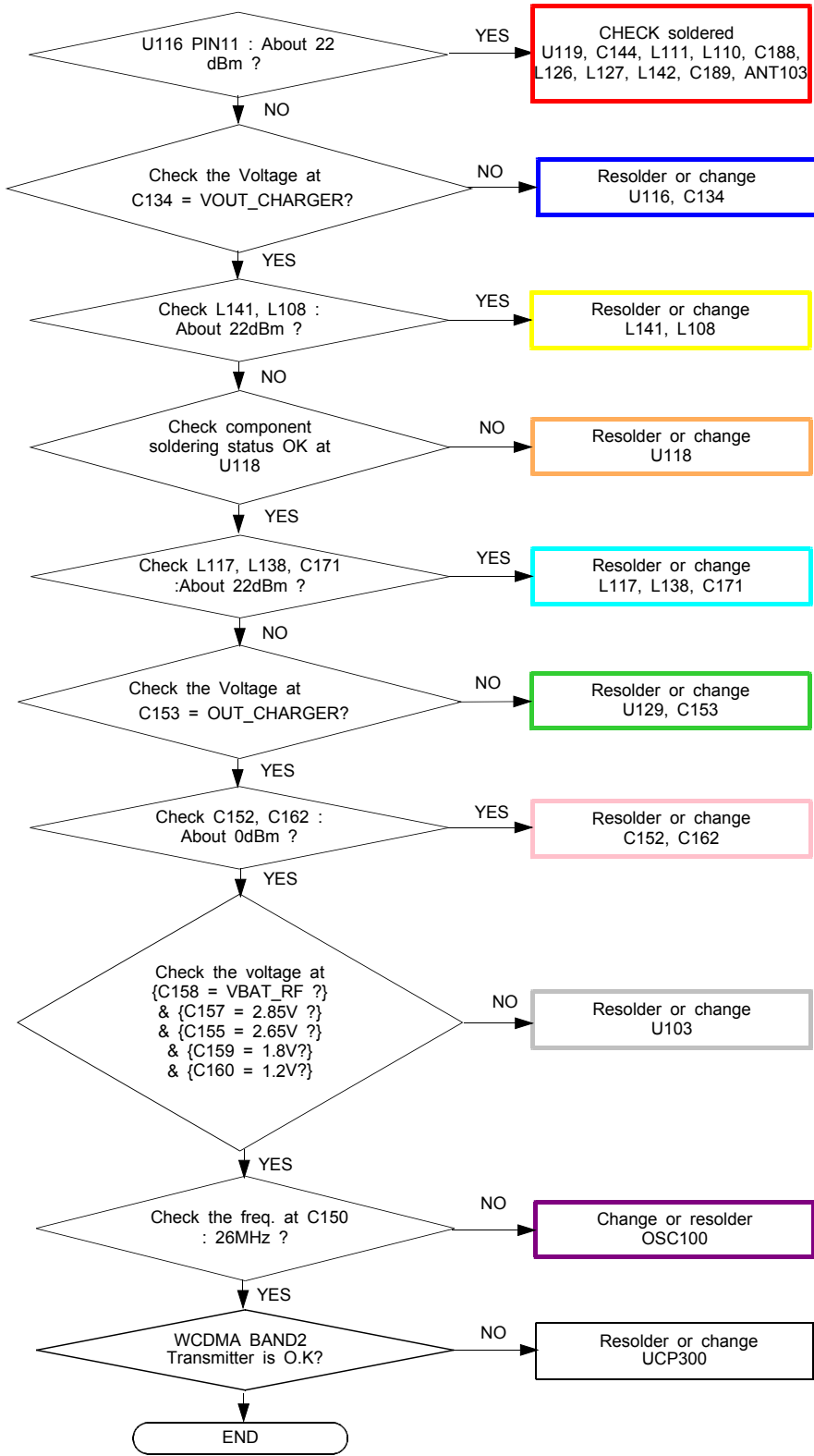
8-3-19. WCDMA BAND1 TX



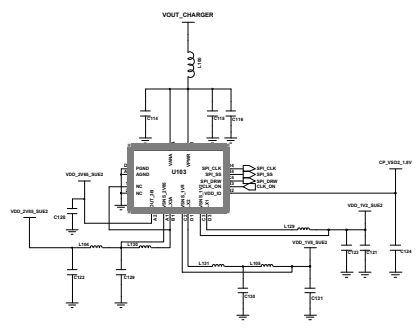
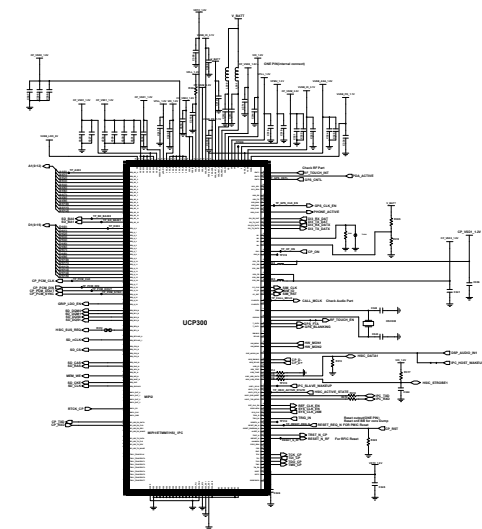
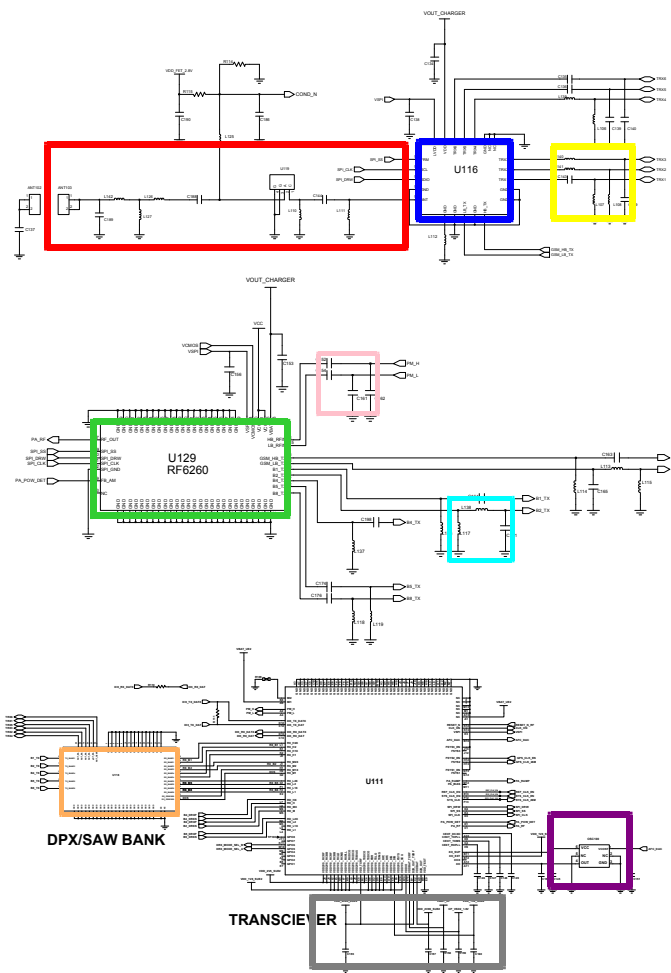
CONTINUOUS TX ON CONDITION
 TX POWER DAC:14500 CODE
 APPLIED
 WCDMA Band1 CH : 10700
 RBW : 100KHz
 VBW : 100KHz
 SPAN : 10MHz
 REF LEV. : 10dBm
 ATT. : 20dB



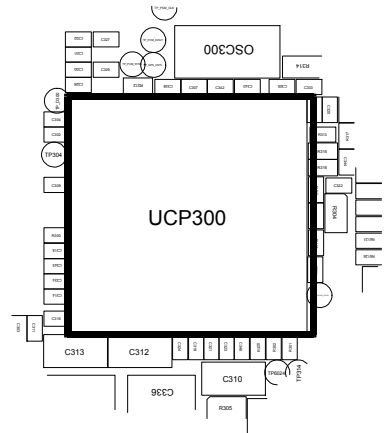
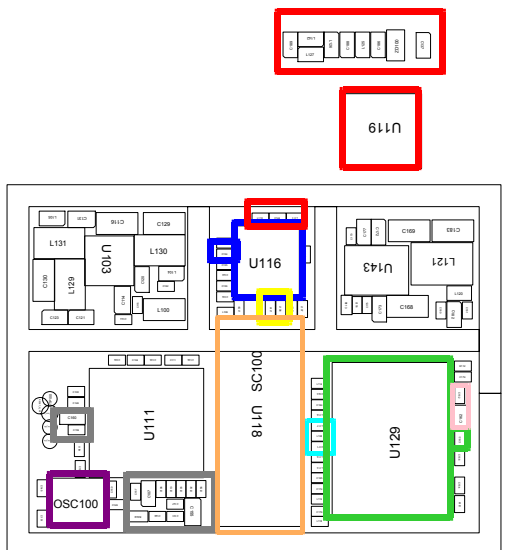
8-3-20. WCDMA BAND2 TX



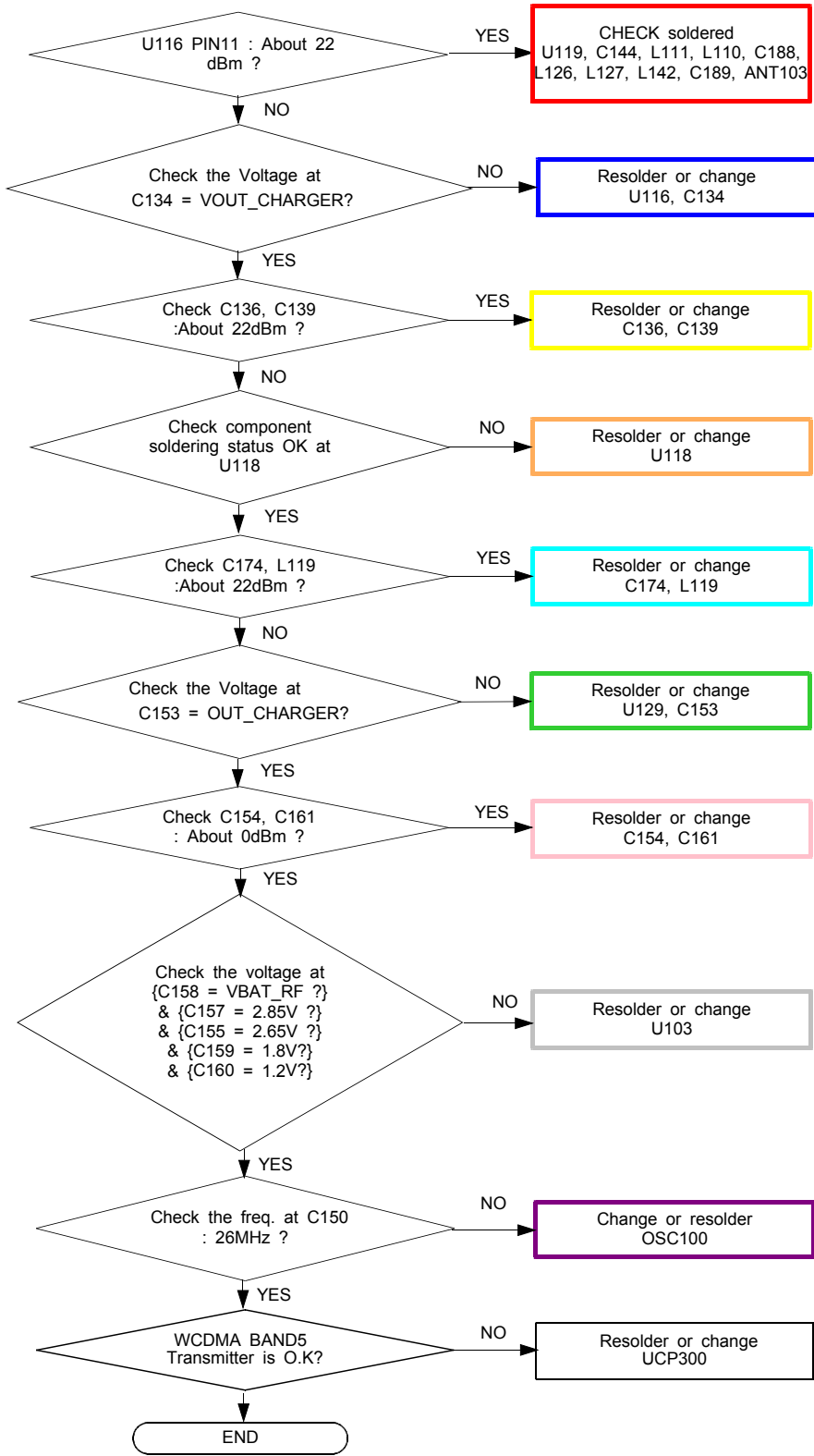
CONTINUOUS TX ON CONDITION
 TX POWER DAC:14500 CODE
 APPLIED
 WCDMA Band2 CH : 9880
 RBW : 100KHz
 VBW : 100KHz
 SPAN : 10MHz
 REF LEV. : 10dBm
 ATT. : 20dB



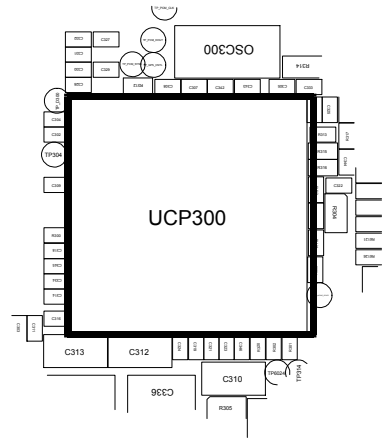
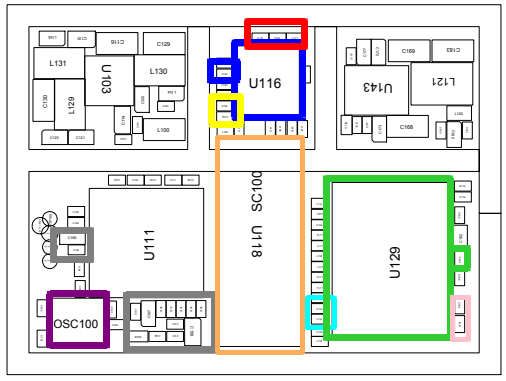
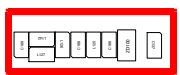
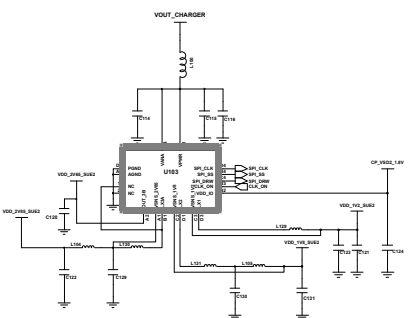
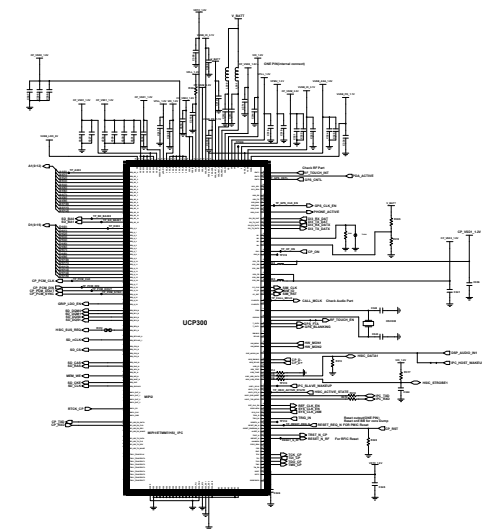
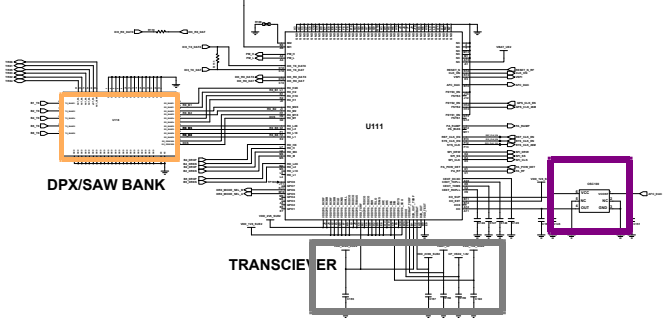
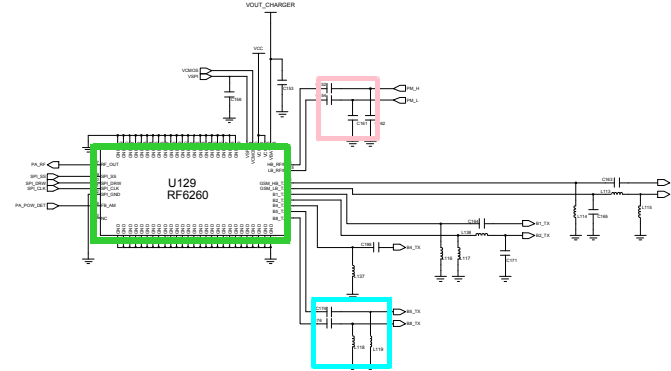
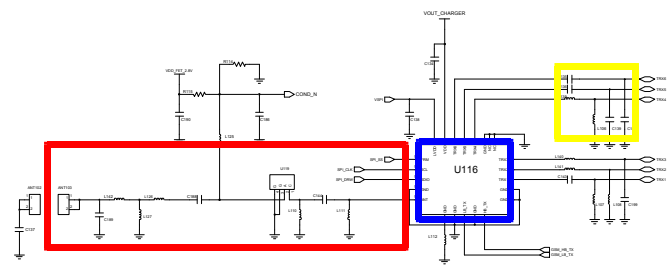
TRANSCIEVER DCDC



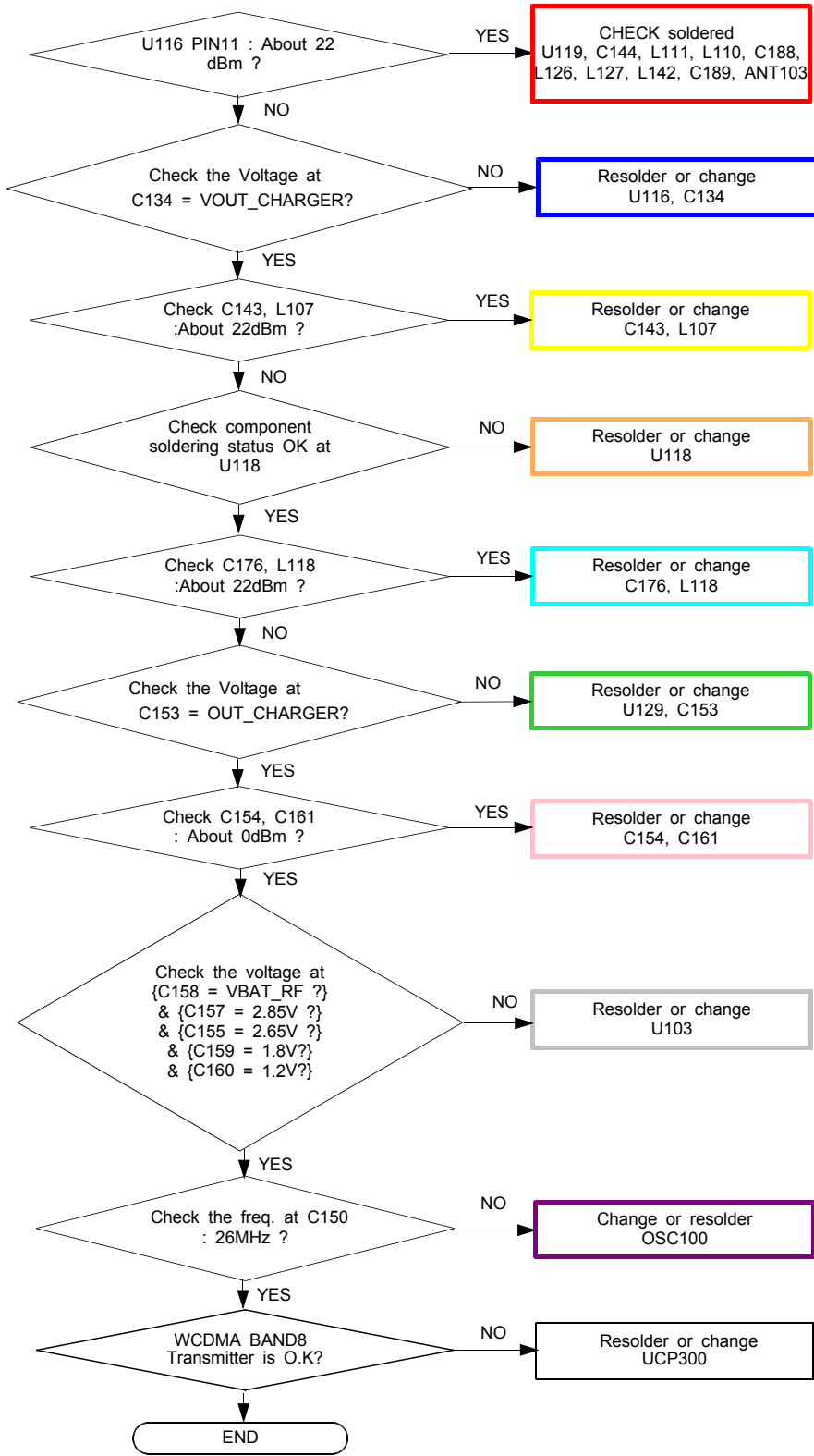
8-3-21. WCDMA BAND5 TX



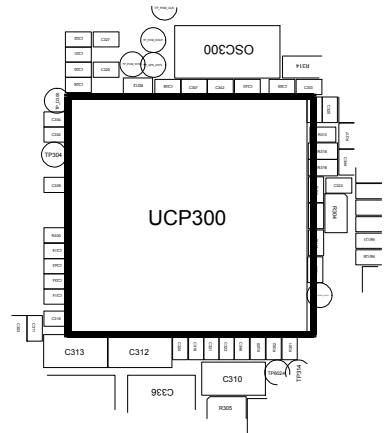
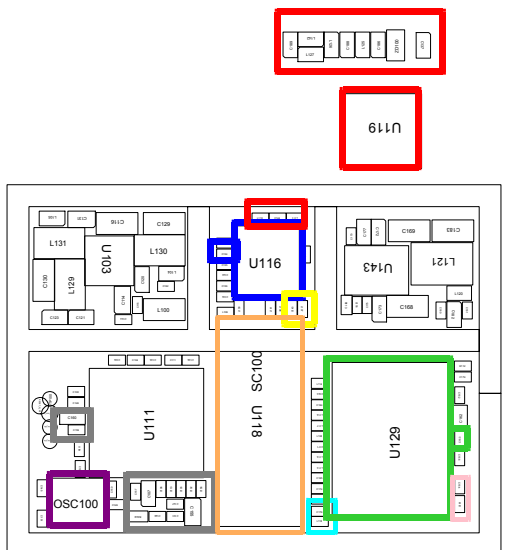
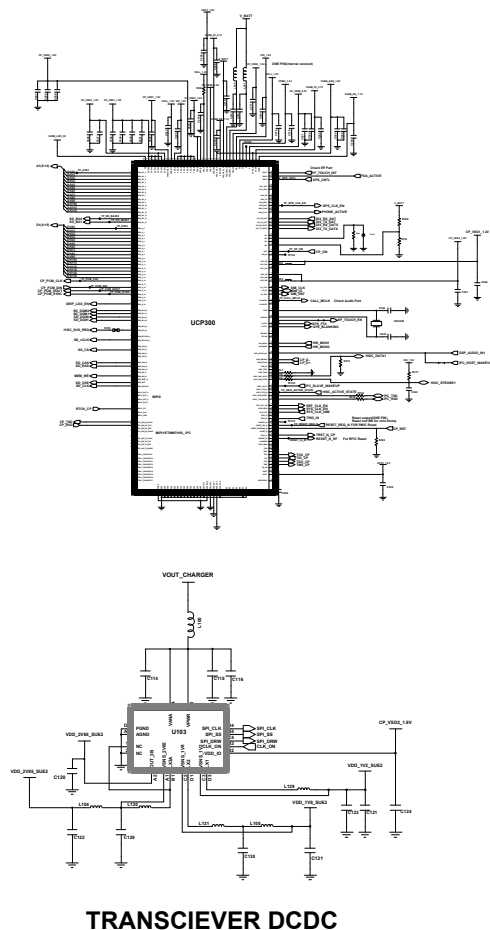
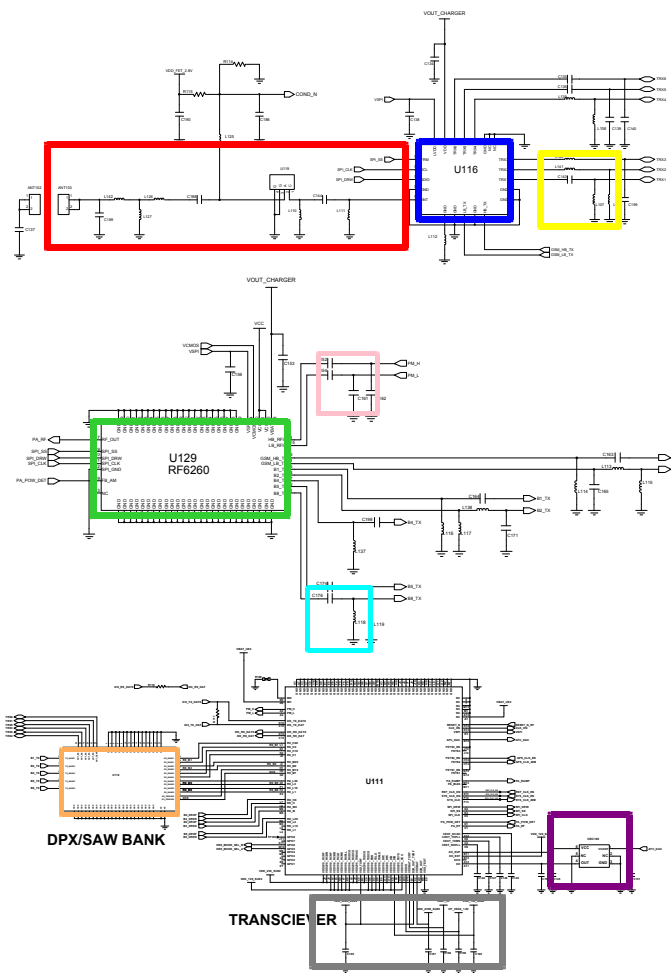
CONTINUOUS TX ON CONDITION
 TX POWER DAC:14500 CODE
 APPLIED
 WCDMA Band5 CH : 4408
 RBW : 100KHz
 VBW : 100KHz
 SPAN : 10MHz
 REF LEV. : 10dBm
 ATT. : 20dB



8-3-22. WCDMA BAND8 TX



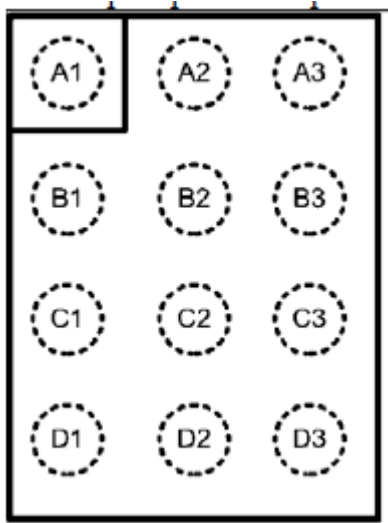
CONTINUOUS TX ON CONDITION
 TX POWER DAC:14500 CODE
 APPLIED
 WCDMA Band2 CH : 3013
 RBW : 100KHz
 VBW : 100KHz
 SPAN : 10MHz
 REF LEV. : 10dBm
 ATT. : 20dB



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	C_SDA	RSVDL	GND	IOVCC18	CVCC12	C2CA	RESET_N
E	D_SDA	GND	IOVCC18	CVCC12	AVCC33	AVCC12	GND
F	RX2_P	GND	RPWR	D_SCL	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)

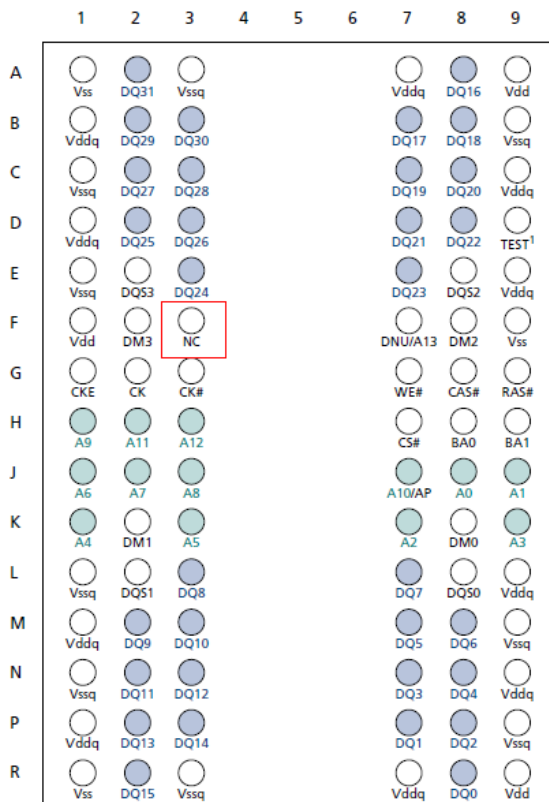
UME6000

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	DQ53	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	DQ51	DQ51	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	DQ50	DQ50	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	DQ52	DQ52	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 : NC

(Bottom View)

	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	
A	NC	MEM_A_5	MEM_BFC_LKD_1	MEM_SDC_LKO	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_VBA_T_SD1	SD2_SW	SD2_SW	NC	A
B	MEM_A_9	MEM_A_2_3	MEM_BFC_LKD_0	MEM_CK_E	MEM_RD_n	MEM_WR_n	VDD_IO18	MEM_BC2_n	MEM_A_6	FWP	MEM_CAS_n	DSP_AU/DI_O_IN1	x	VIO_12	x	x	VSS_SD2	B
C	MEM_A_1_0	MEM_A_2_2	x	x	x	MEM_A_5	x	x	MEM_A_7	x	x	x	x	VUSB_PD	VDD_VSD_2	SD2_FB	VDD_VBA_T_SD1	C
D	MEM_A_1_1	MEM_A_2_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_1_2	MEM_A_2_0	x	MEM_RAS_n	VDDCORE_EBU	VDDCORE_EBU	MEM_AD_8	VDDCORE	MEM_AD_6	MEM_AD_5	x	x	x	VSS	VSS	x	SD1_SW	E
F	MEM_A_1_3	MEM_BC1_n	VDD_IO18	VSS	MEM_AD_15	x	x	x	MEM_AD_4	x	x	TRIG_B	x	VRTC	VDD_VBA_T_PMU	VUSB_AN_A	VSS_SD1	F
G	MEM_A_1_4	MEM_BC2_n	MEM_A_1_9	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_1_5	MEM_A_1_7	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_1_6	MEM_A_1_8	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_WA_FT_n	VDD_MIPI	x	VDDCORE	VSS	x	VDD_IO18	EINT3	VDDCORE	VDD_IO18	ETM11_T_RACECLK	x	ETM11_T_RACEPKT_4	TM_EN	REF_CLK_EN	RESET_B_R_N	ETM11_T_RACEPKT_7	K
L	F32K	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	EINT1	EINT2	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_USB1_0	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_DIG_DP	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	HSC_USB_DATA	HSC_USB_STRB	DPLUS	ALERT_N	SYSCLKEN	D0_RX_D_ATX	D0_RX_D_AT	TMS	TDI	TDO	USIF1_RT_S_N	USIF1_CT_S_N	NC	U

U111

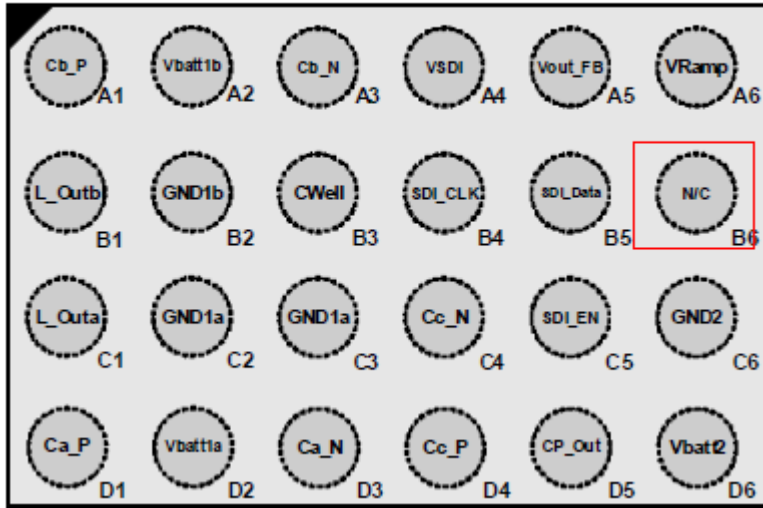
(Bottom View)

	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	VDDBA_T	CEXT_D_CXO	XO	XOX	NC	A
B	VDD0BA_T_TXRF	VDD_TX_RF	NB	NB	GPO2	NB	NB	MI2	D2B_OUT	AFC_DAT	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_DAT	DI3_RX_DAT	C
D	PA_PO_W_DET	VDD1V8_FBR	SPI_CLK	SPI_DRW	VDD1V8_TXLO	NB	NB	CEXT_TXPLL	GND	VDD2V5_FSYS	NB	DI3_TX_DATX	DI3_RX_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_RCBB	GND	GND	GND	VDD1V8_RCMS	GND	VDD1V2_DIG	GND	NB	FSYS_CLK_EN	FSYS_CLK	F
G	RX_L2X	RX_M1	GND	GND	VDD1V8_RCL0	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_RCBB	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

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

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TOP VIEW

Pin Out



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