

7. Level 2 Repair

7-1. Disassembly and assembly Instructions

7-1-1. Disassembly

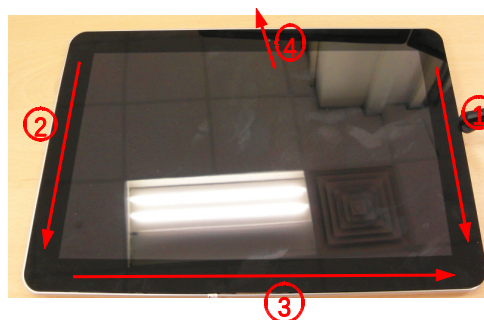
1

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

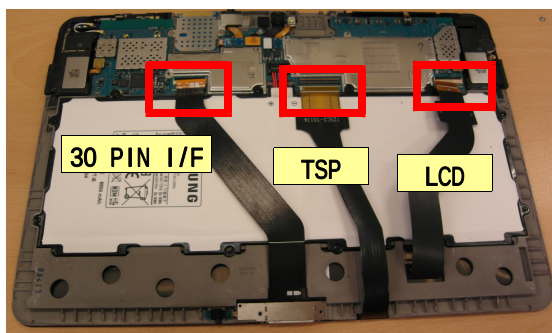


Be careful not to scratch cover.

Follow the numbered sequence when you disjoint

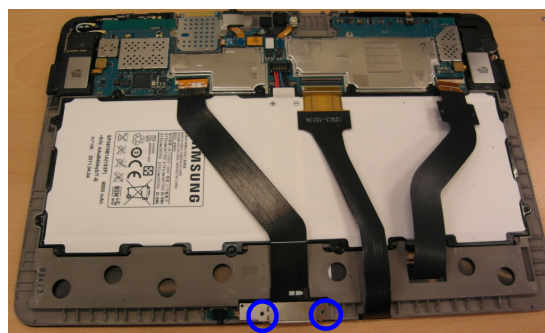
3

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)

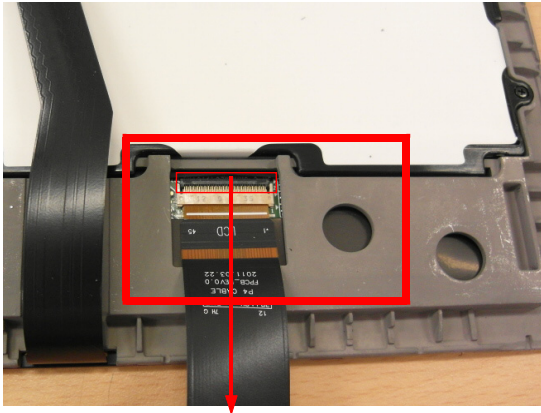


◆blue:L2.5

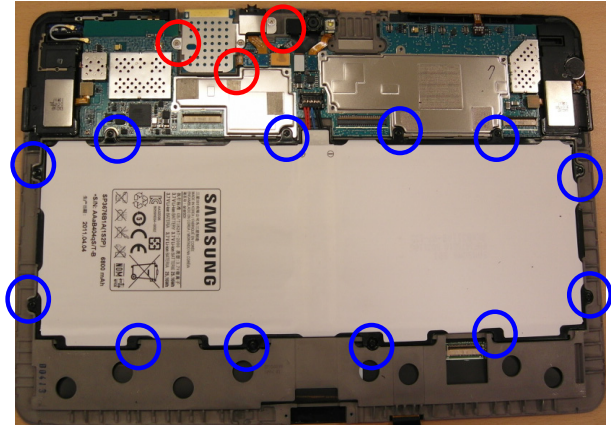
Be careful not to damage the FPCBs

Be careful not to damage the FPCBs

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



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



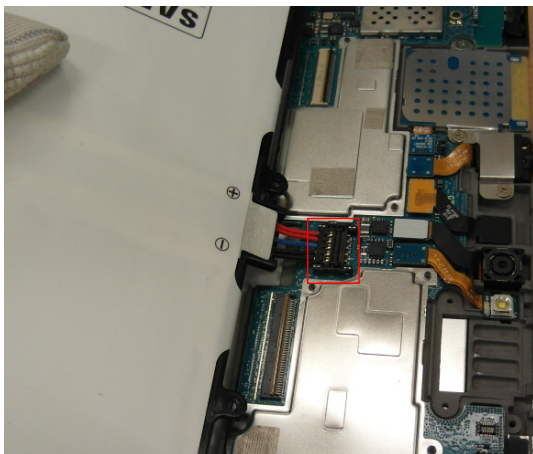
◆blue:L2.5 (10Point)

◆red:L2 (3Point)

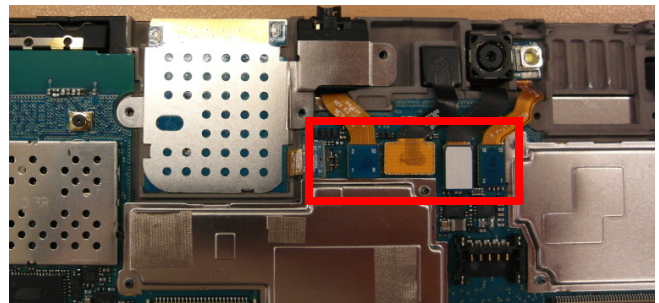
Be careful not to damage the FPCBs

Be careful not to scratch cover

- 7** Separate the Battery from PBA



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

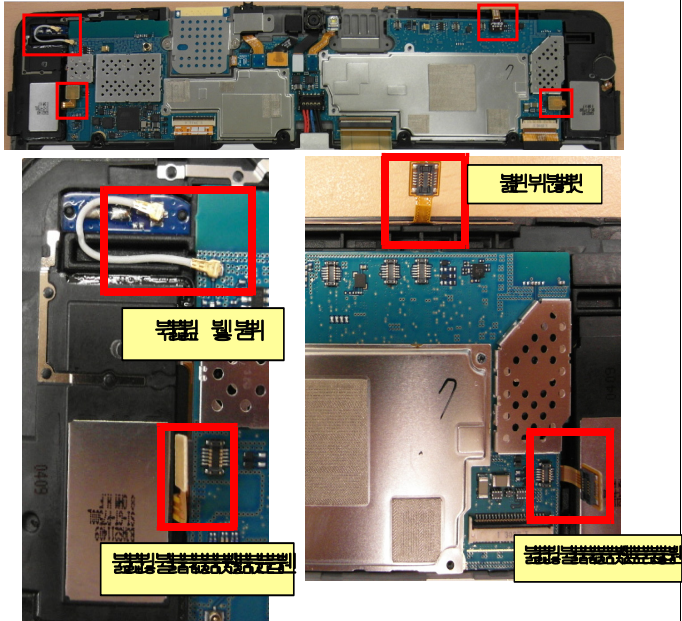


Be careful not to damage the wires

Be careful not to damage the FPCBs

9

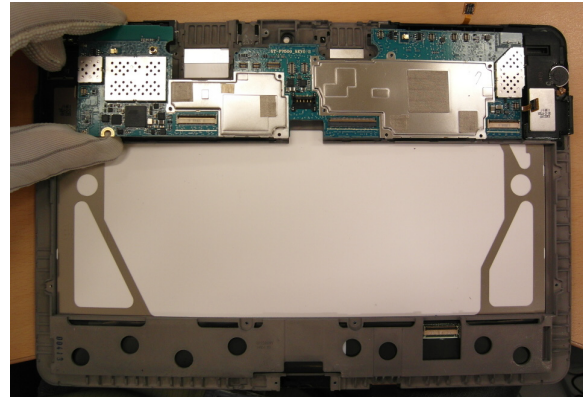
Separate the SPK Module, GPS CABLE,
SIDE KEY from the PBA



Be careful not to damage the FPCBs

10

Separate the PBA from Ass'y

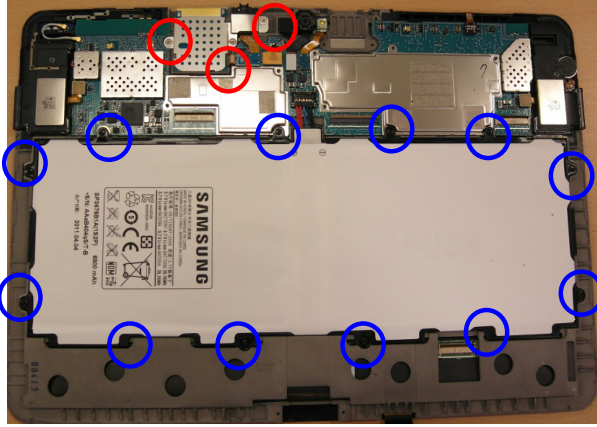


Be careful not to scratch cover

7-1-2. assemble

1 Insert the PBA in the hook	2 Attach the SPK Module, GPS CABLE, SIDE KEY
Be careful not to scratch cover	Be careful not to damage the FPCBs
3 Attach the E/J, 2M, 3M Camera, Sensor.	4 Attach the battery
Be careful not to damage the FPCBs	Be careful not to damage the wires

6 screws at 13 points

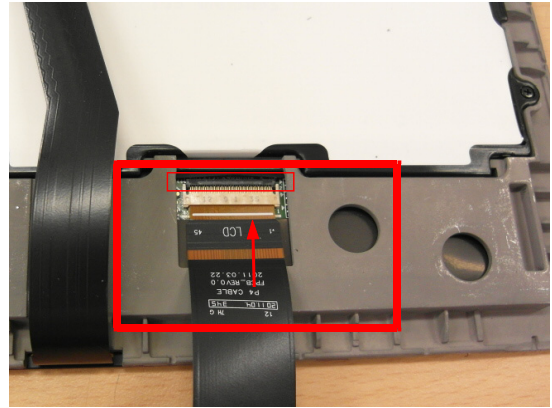


◆blue:L2.5 (10Point)

◆red:L2 (3Point)

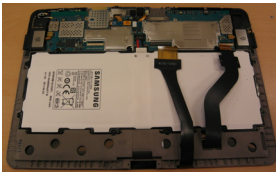
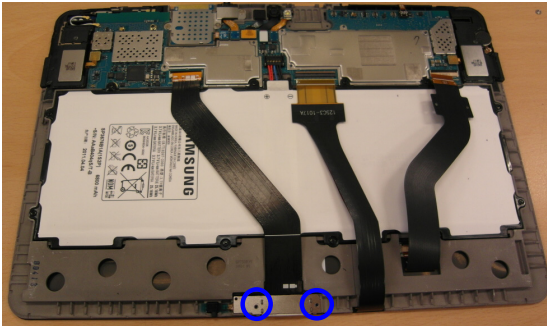
Be careful not to scratch cover
screw:1.4*2.0, 1.4*2.5 (Torque 1.1 ± 0.1 , '+' type)

5 Put the LCD FPCB and Close the black thin bar



Be careful not to damage the FPCBs

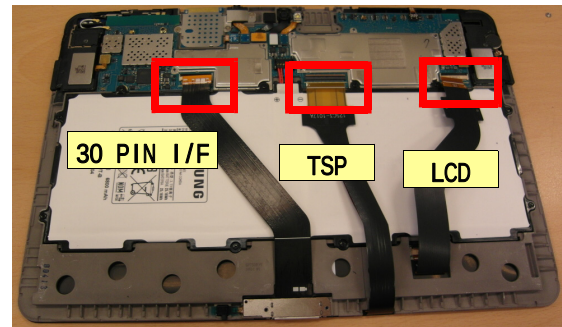
7 screws at 2 Points



◆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

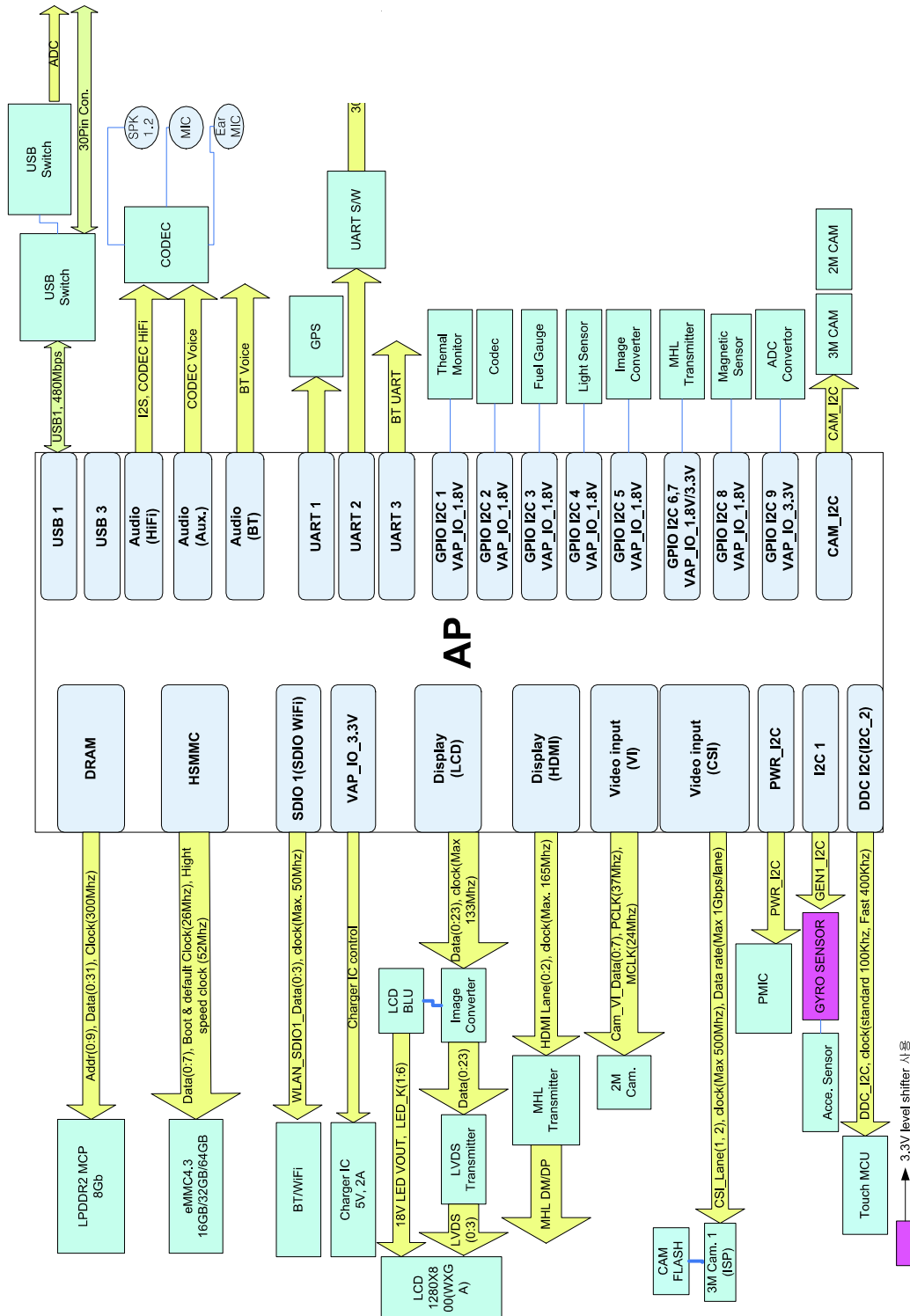


Be careful not to damage the FPCBs

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
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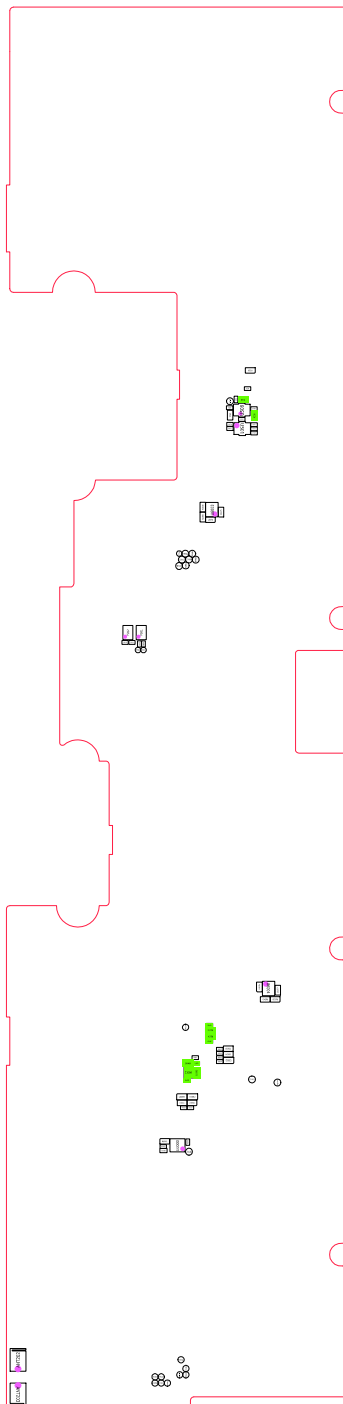
8. Level 3 Repair

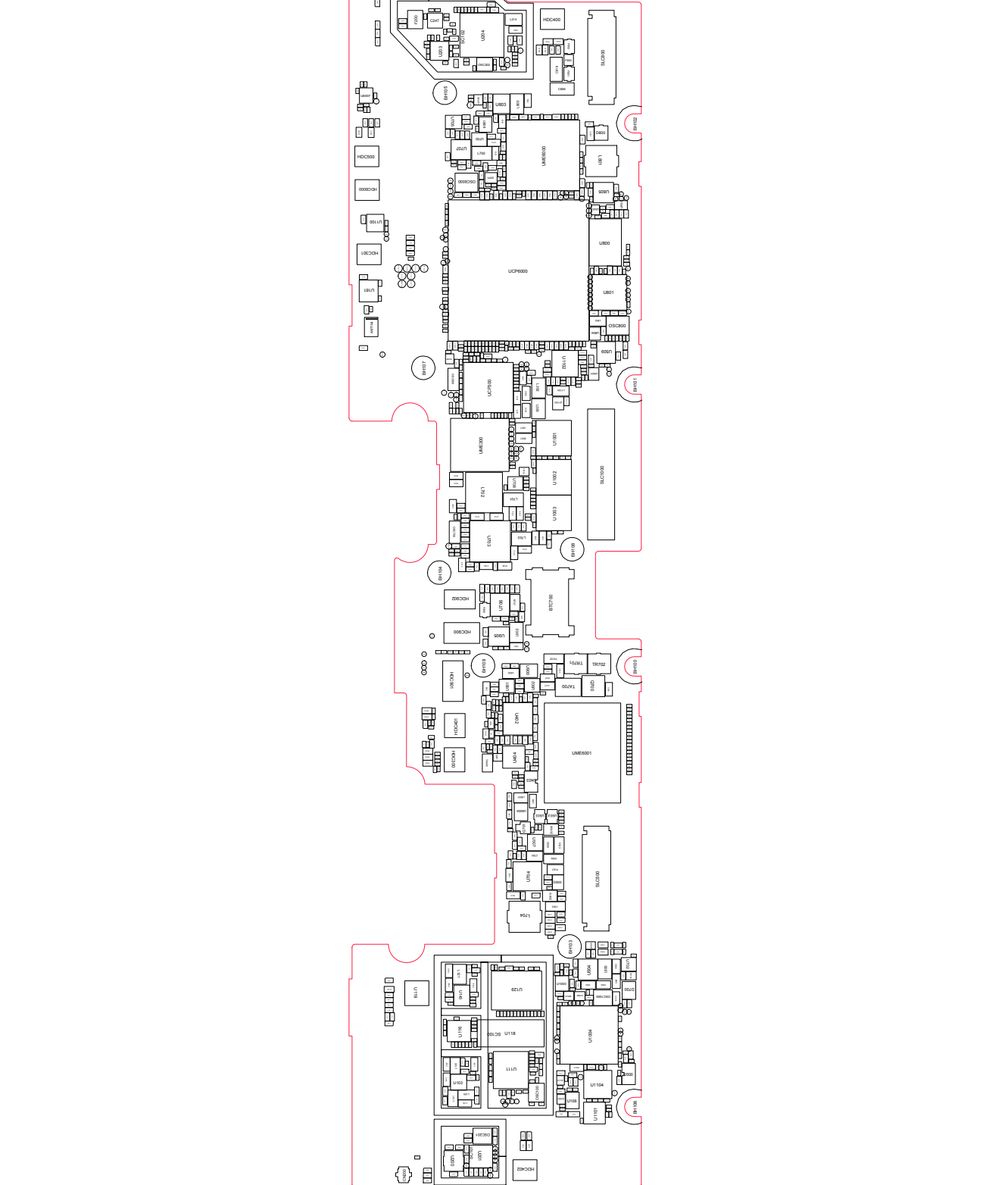
8-1. Block Diagram



8-2. PCB Diagrams

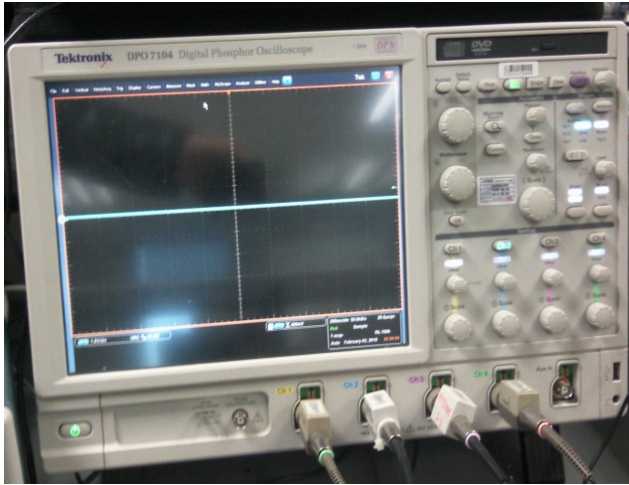
8-2-1. Top





8-3. Flow Chart of Troubleshooting

Equipments



↑ Oscilloscope



↗ Digital Multimeter

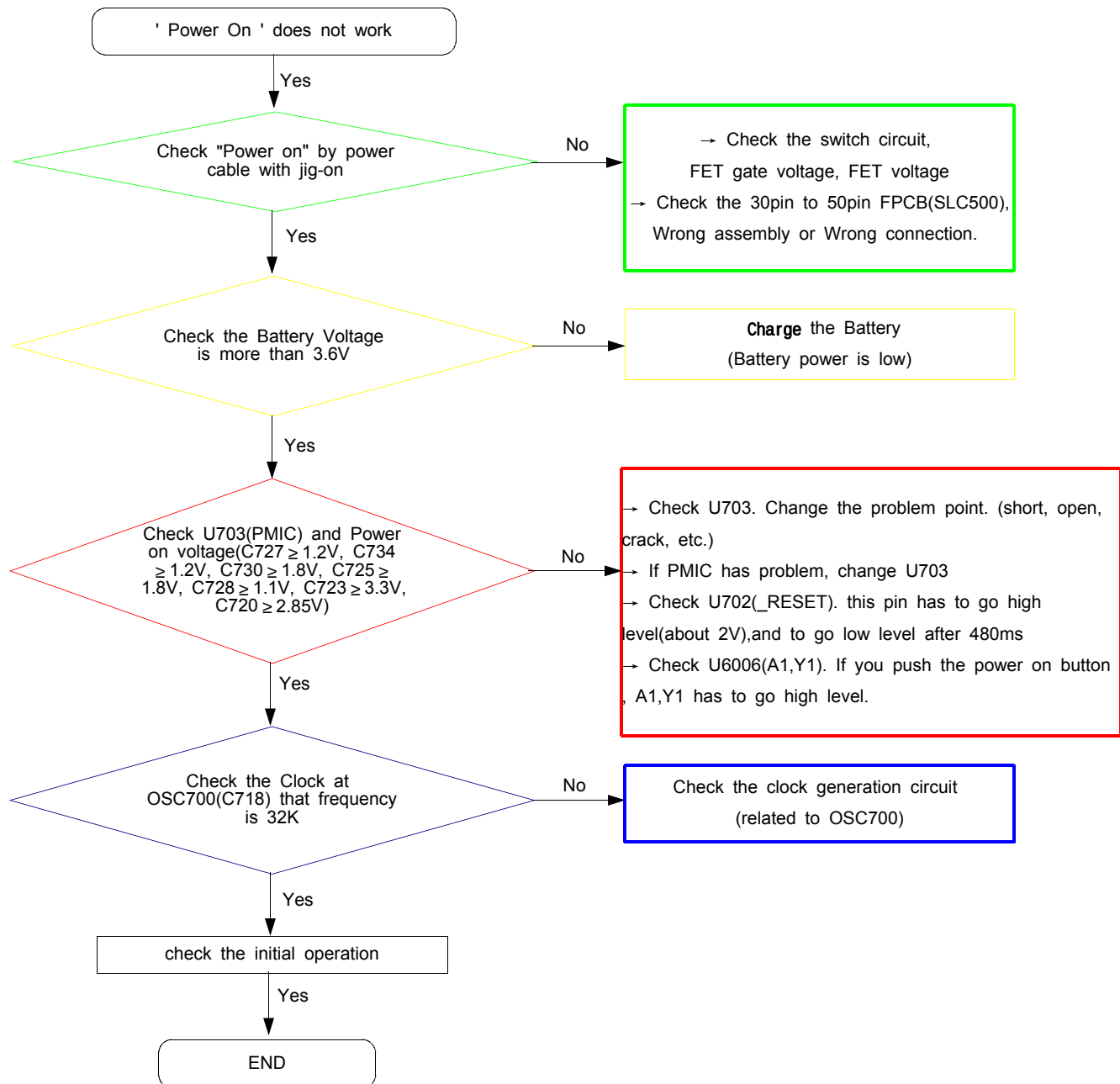


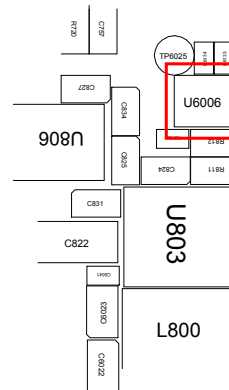
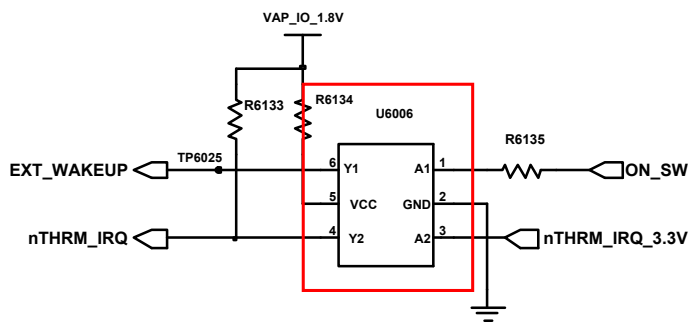
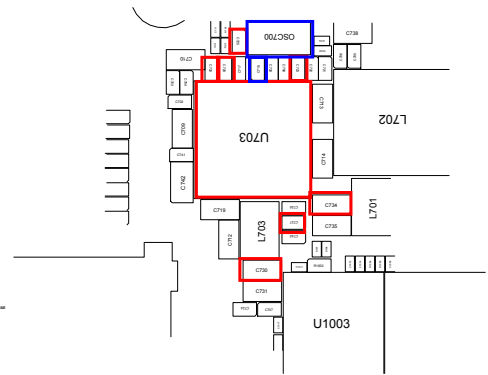
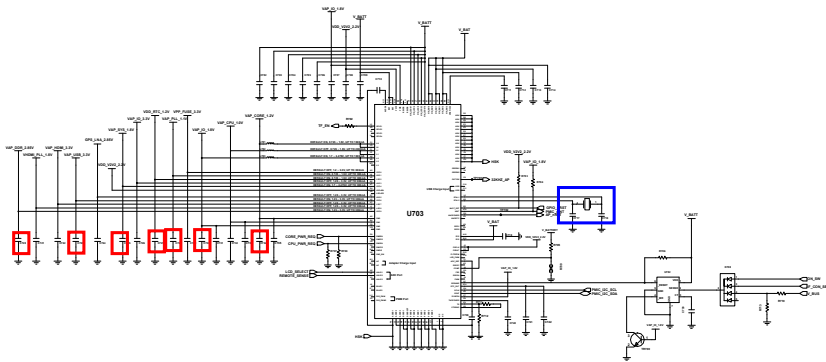
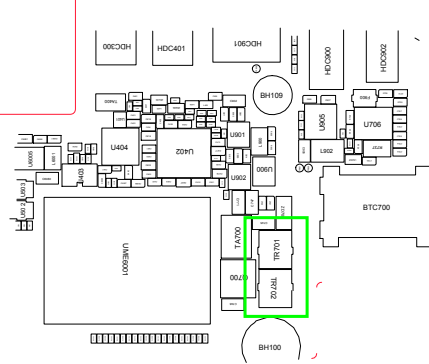
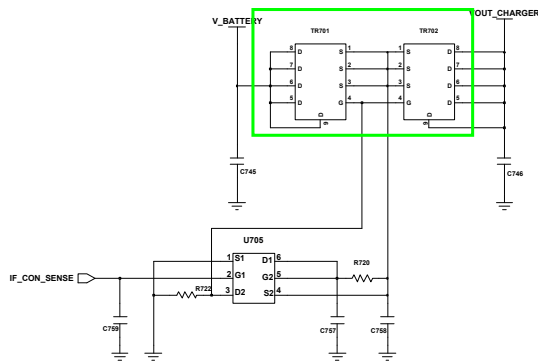
↗ Power Supply



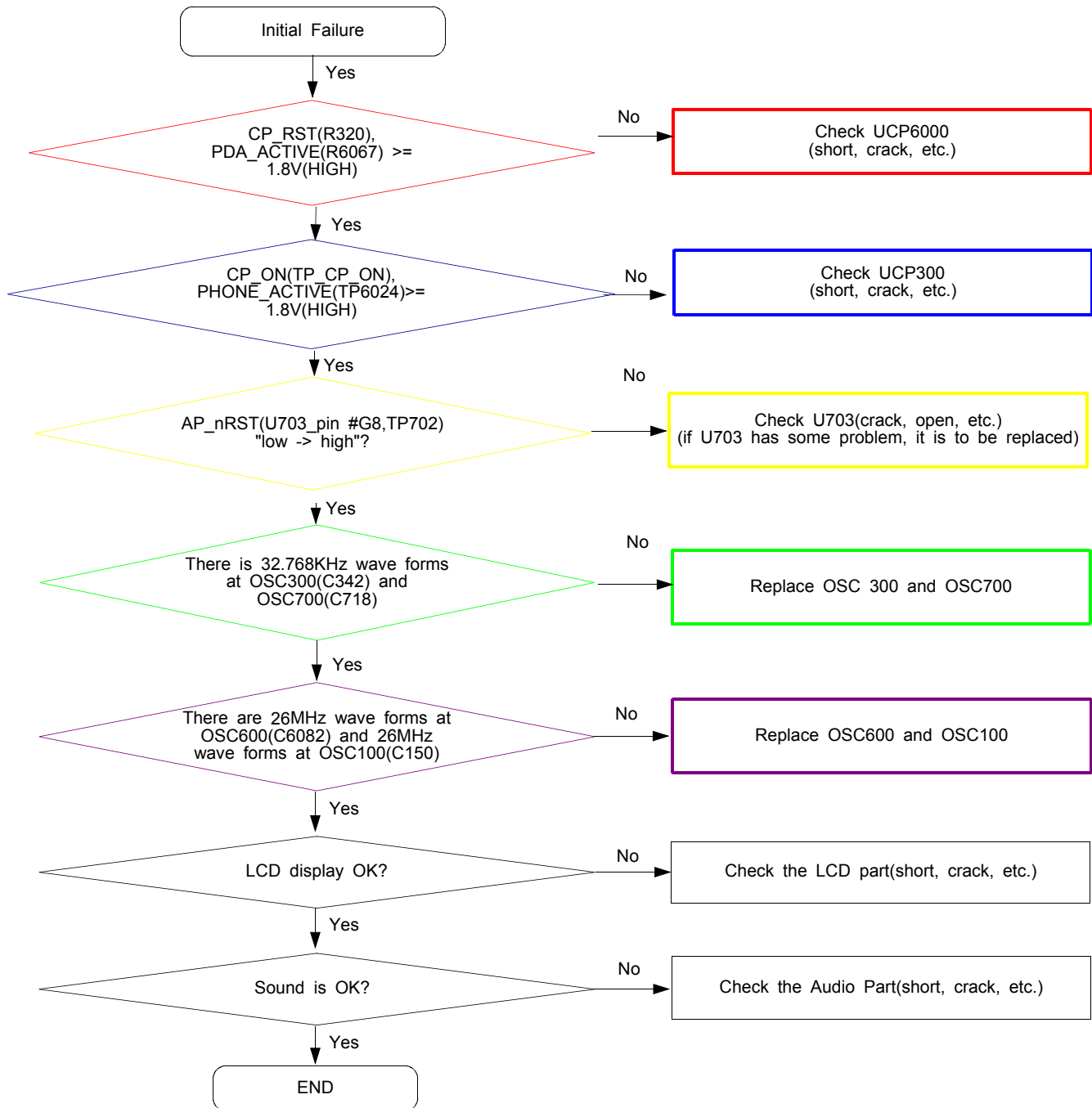
↗ + driver, Tweezer

8-3-1. Power On

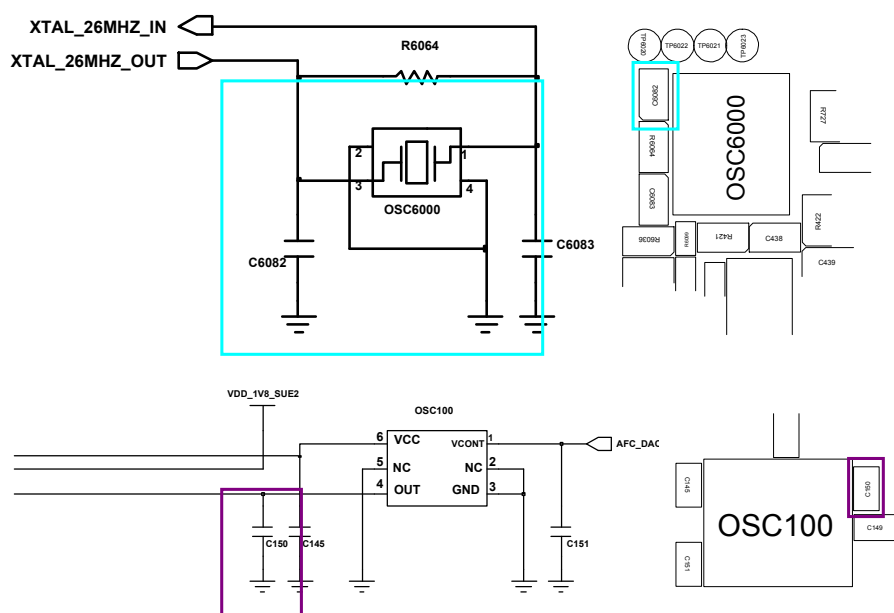




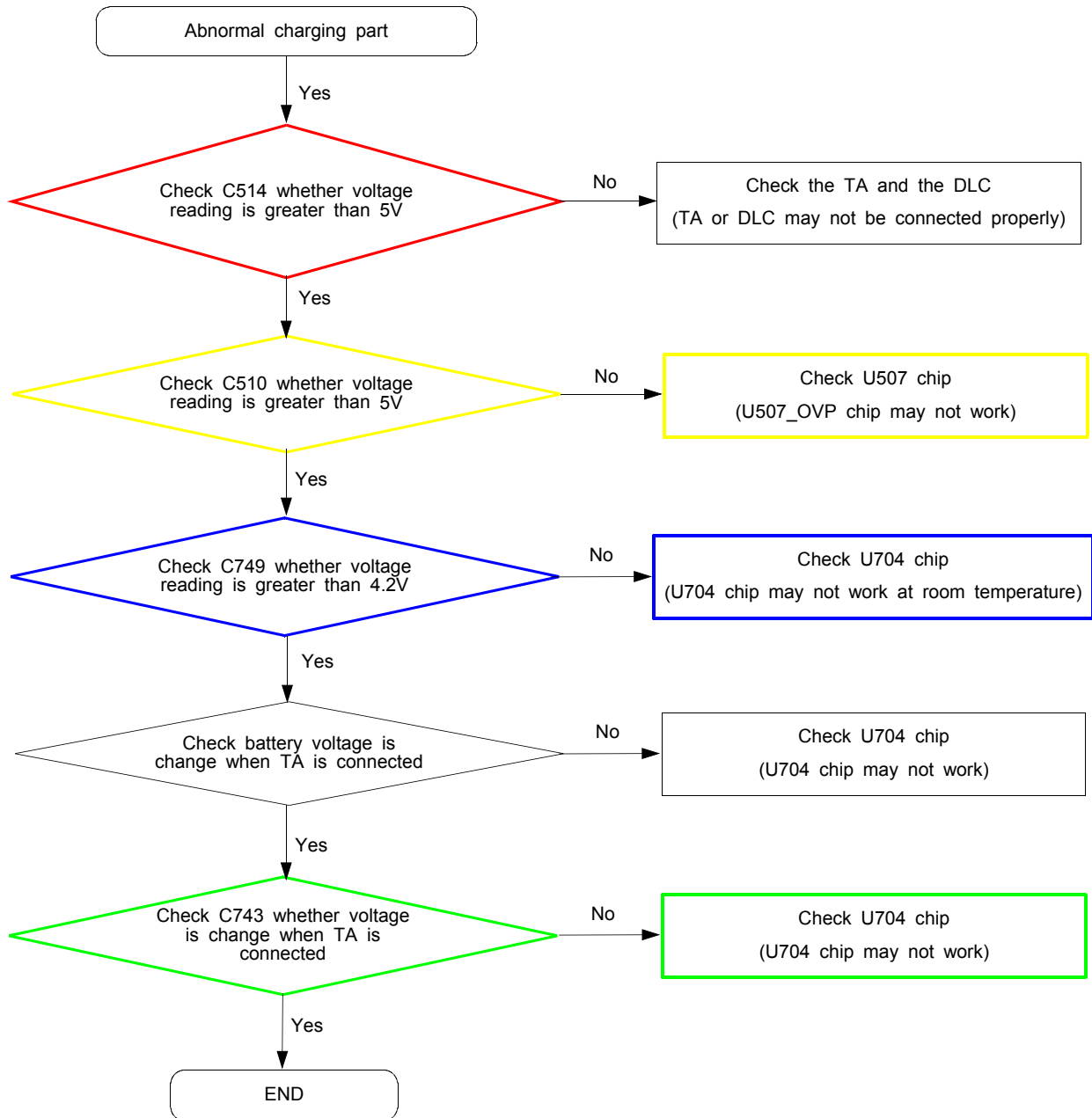
8-3-2. Initial

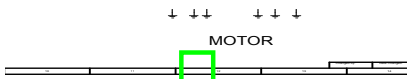
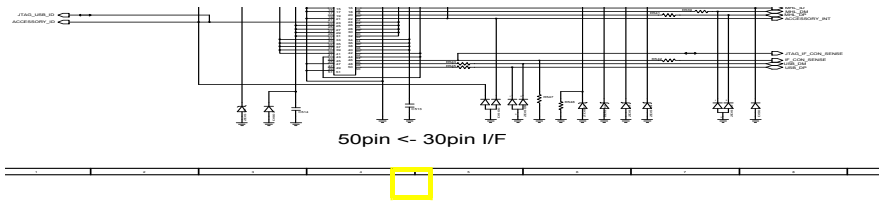




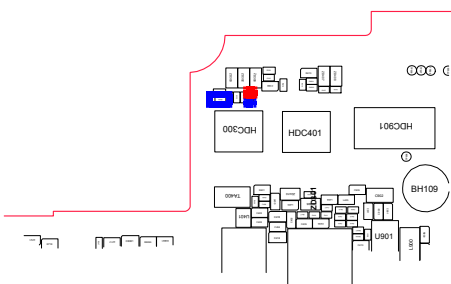
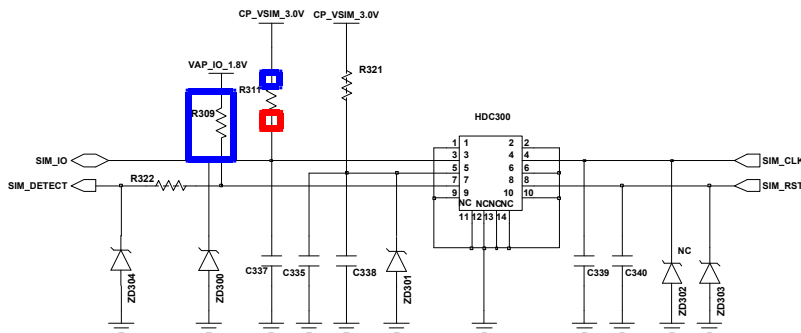
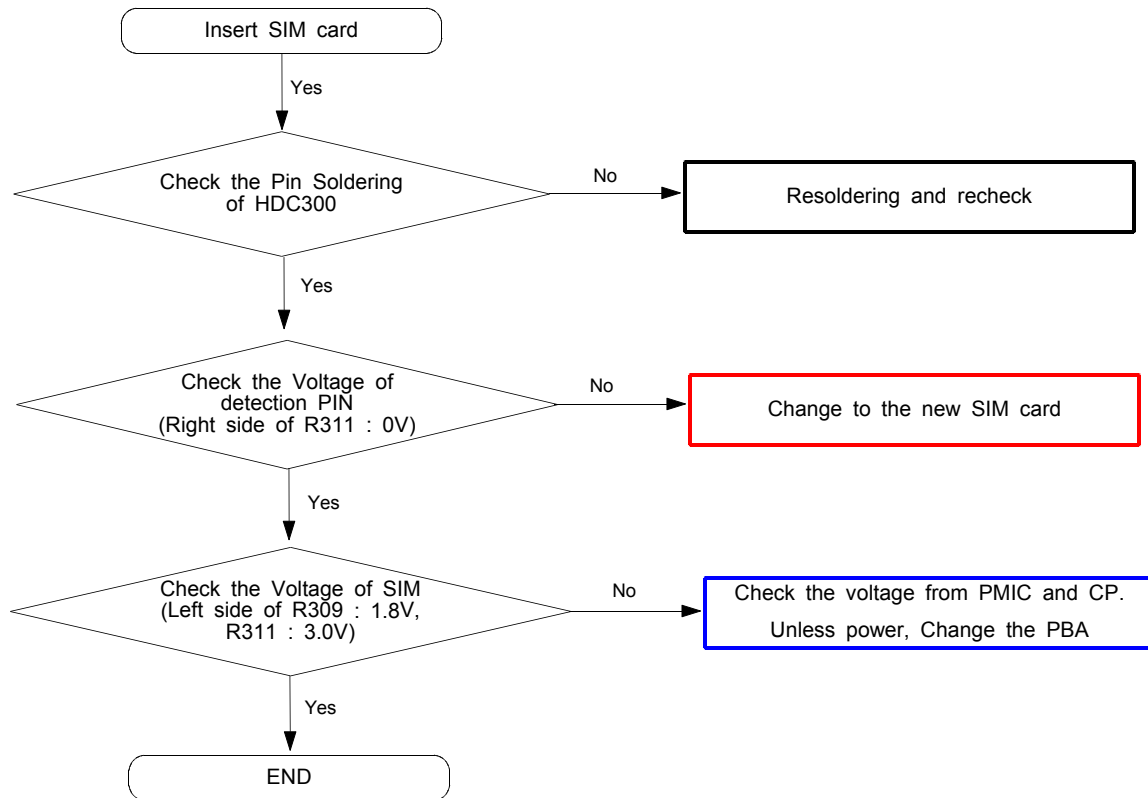


8-3-3. Charging Part

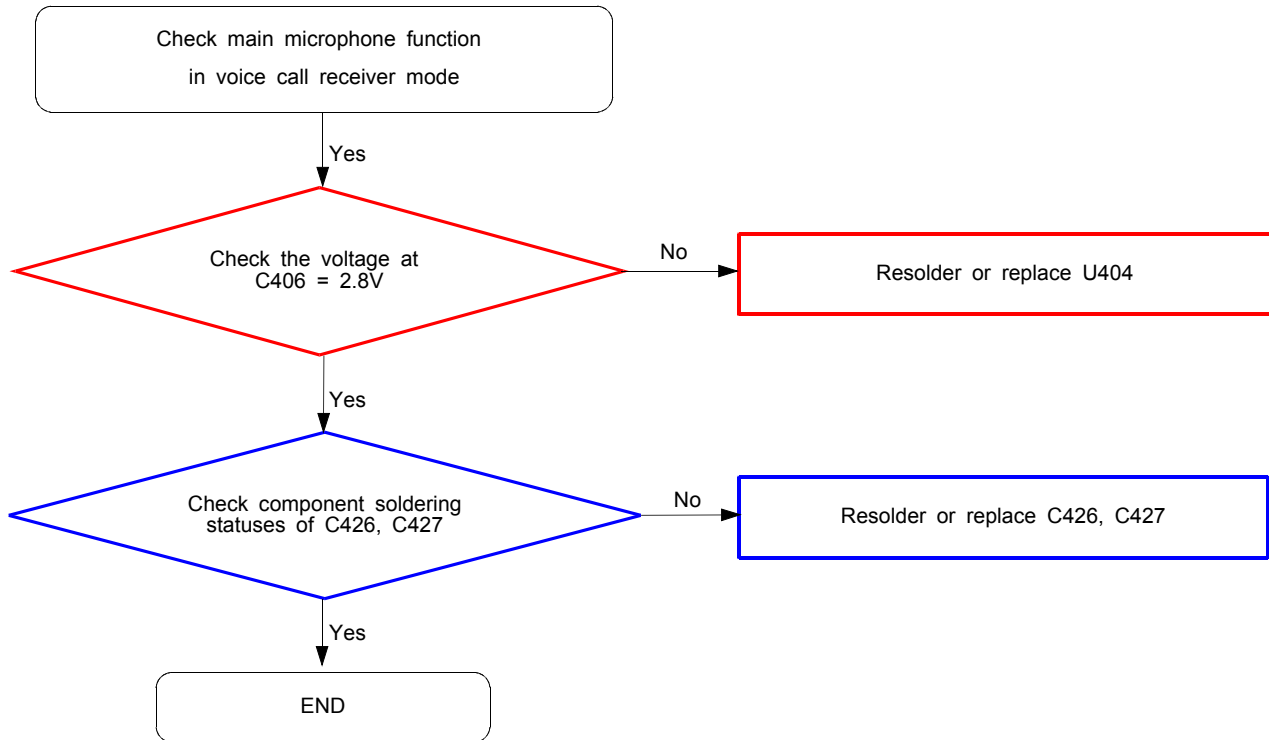


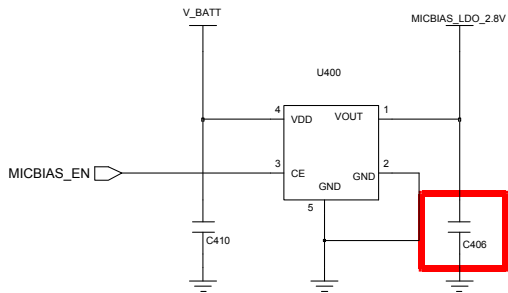
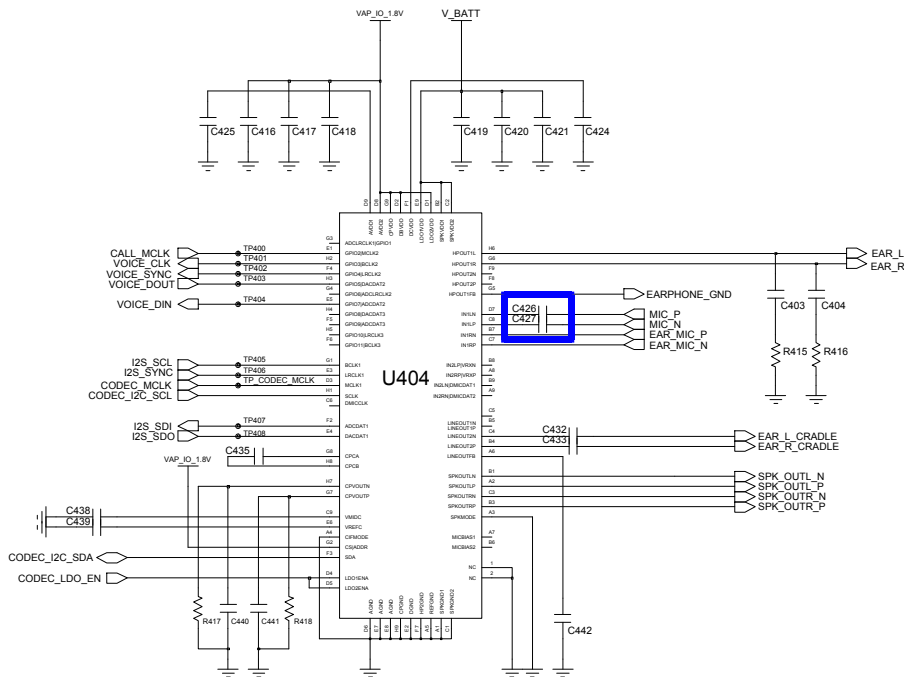


8-3-4. Sim Part

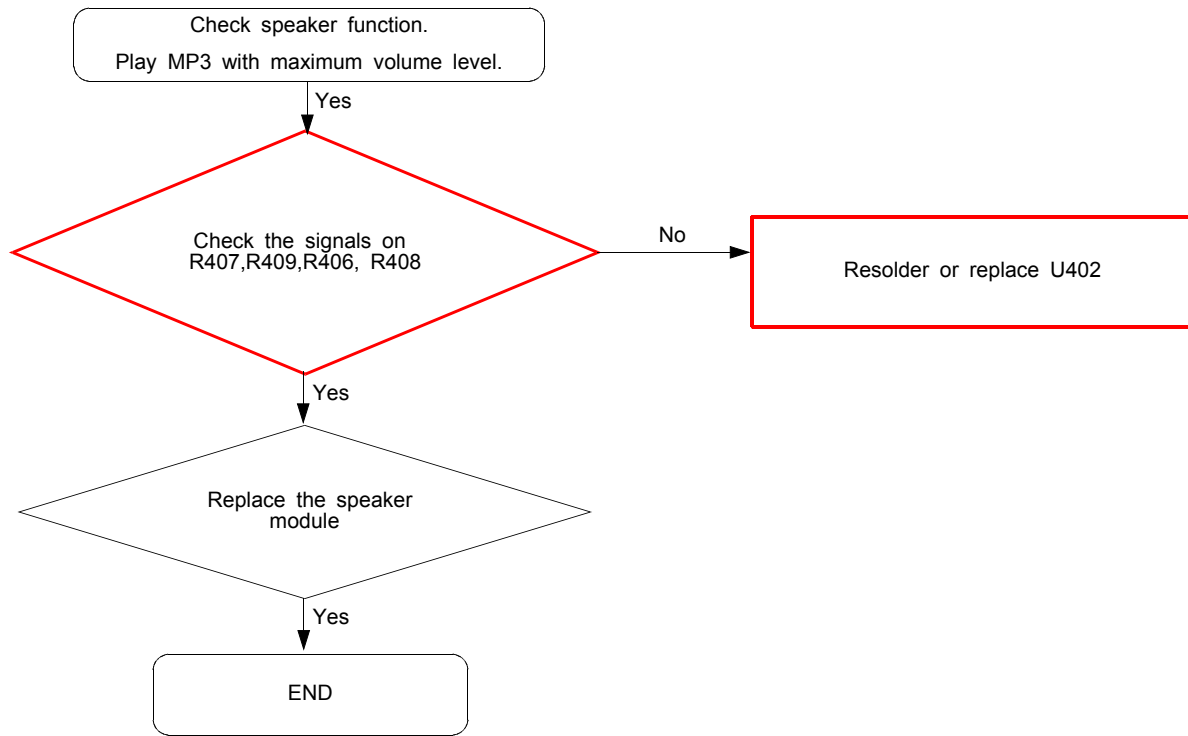


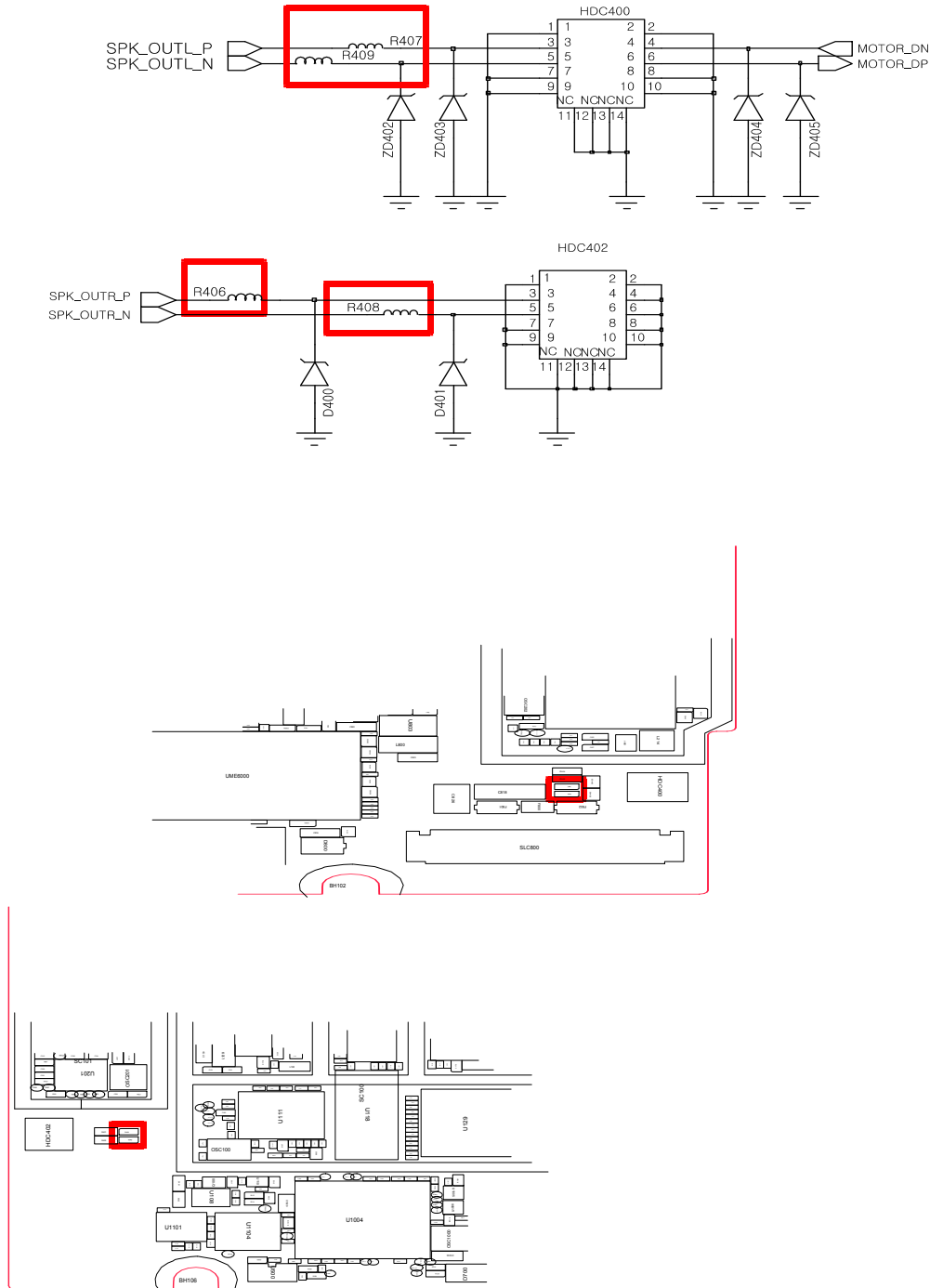
8-3-5. Microphone Part



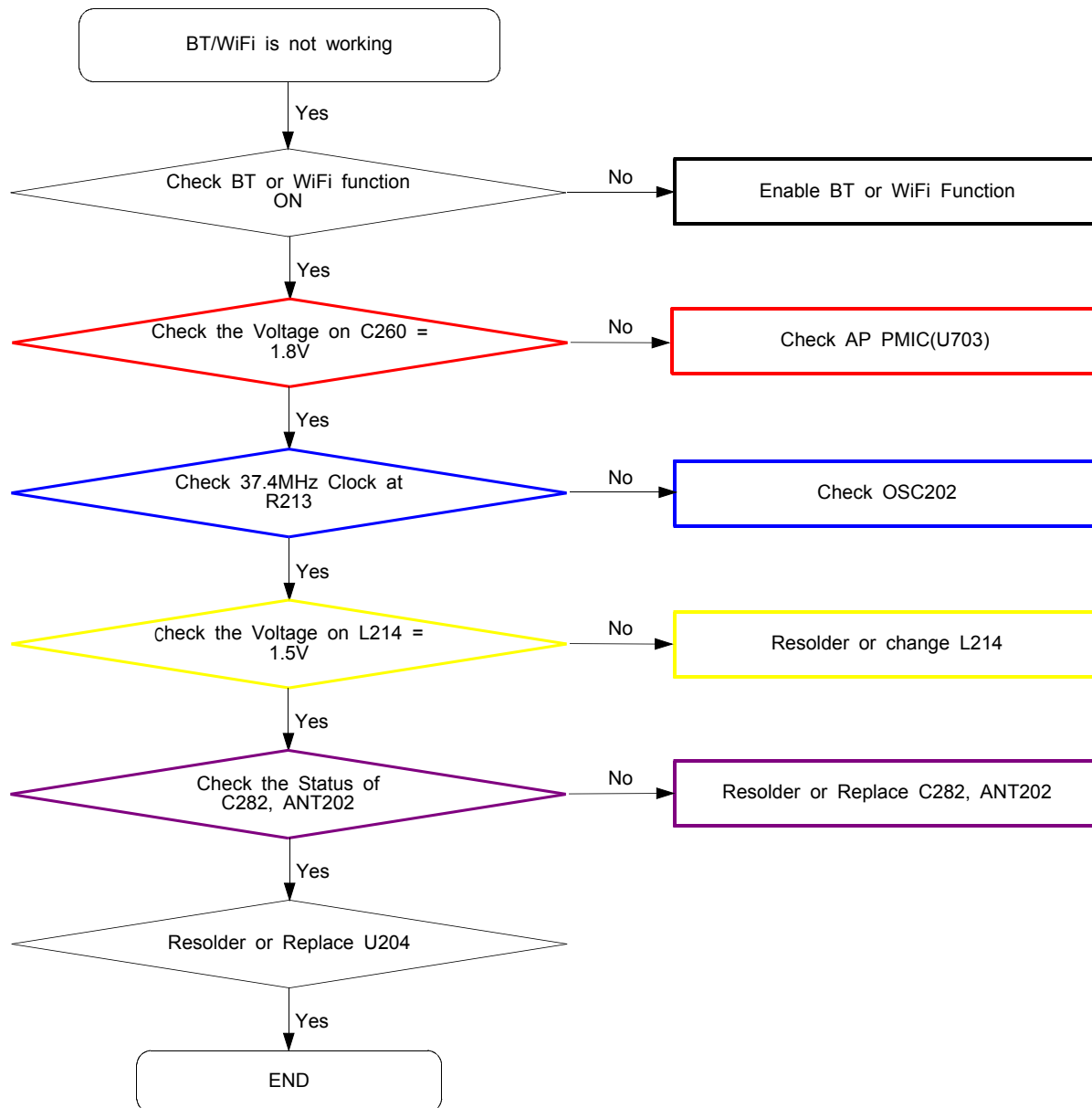


8-3-6. Speaker Part

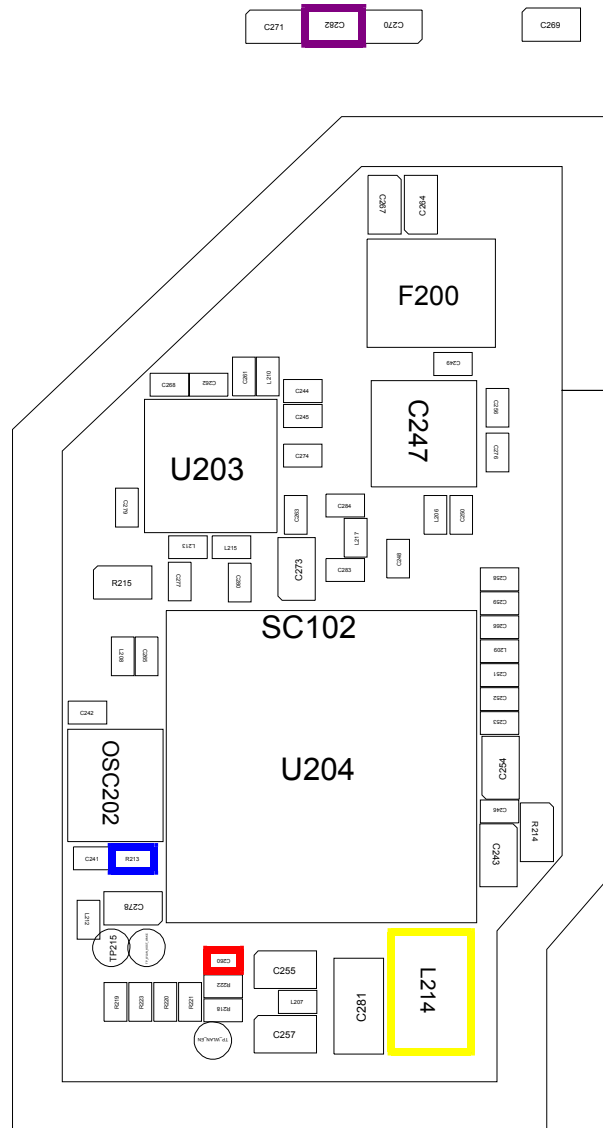




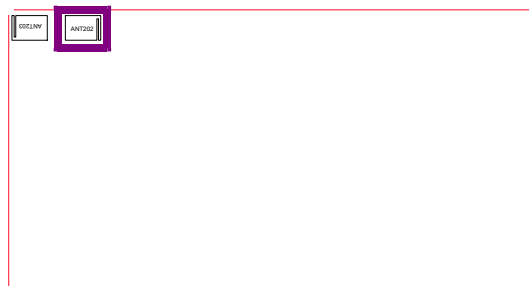
8-3-7. BT/WIFI





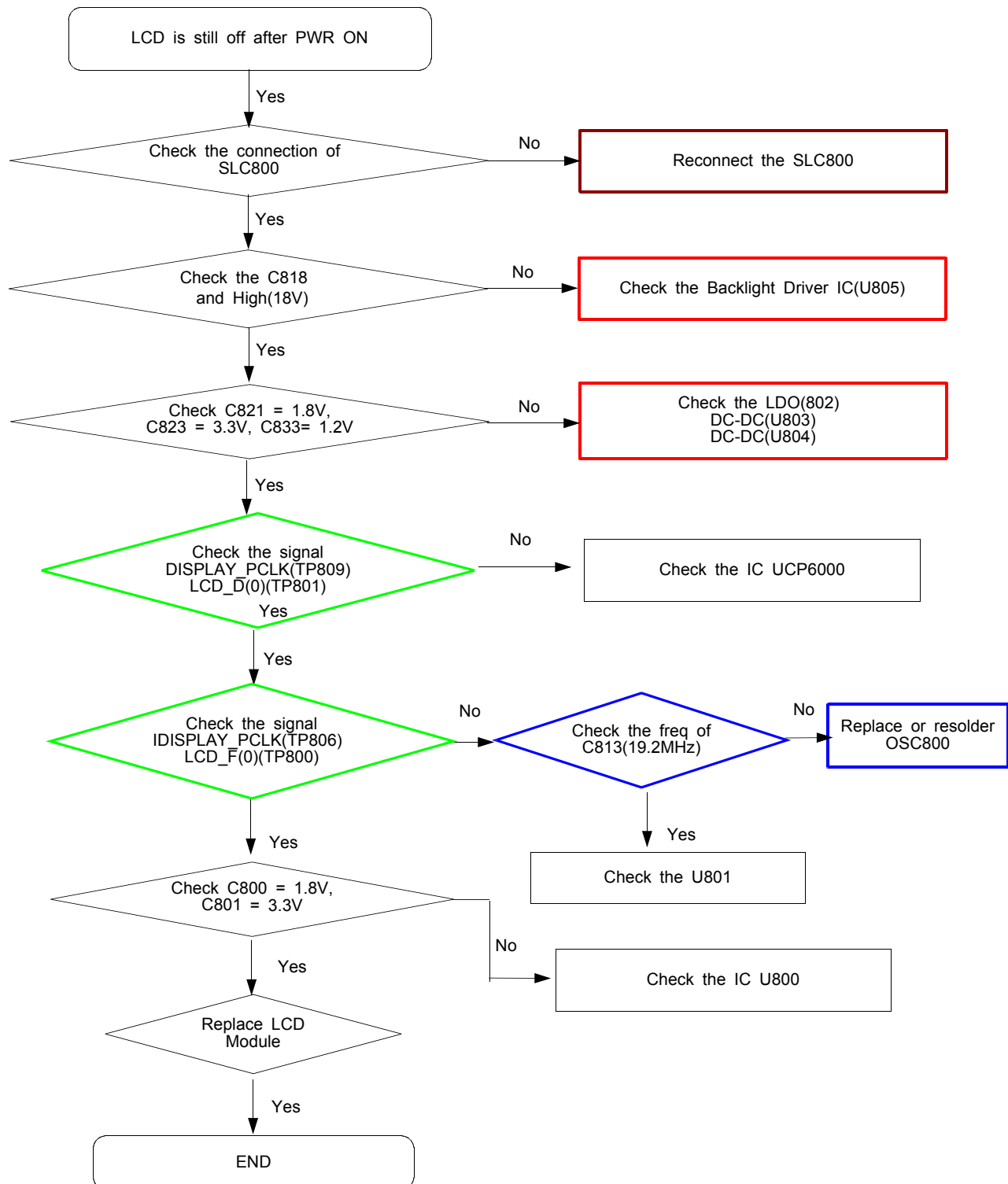


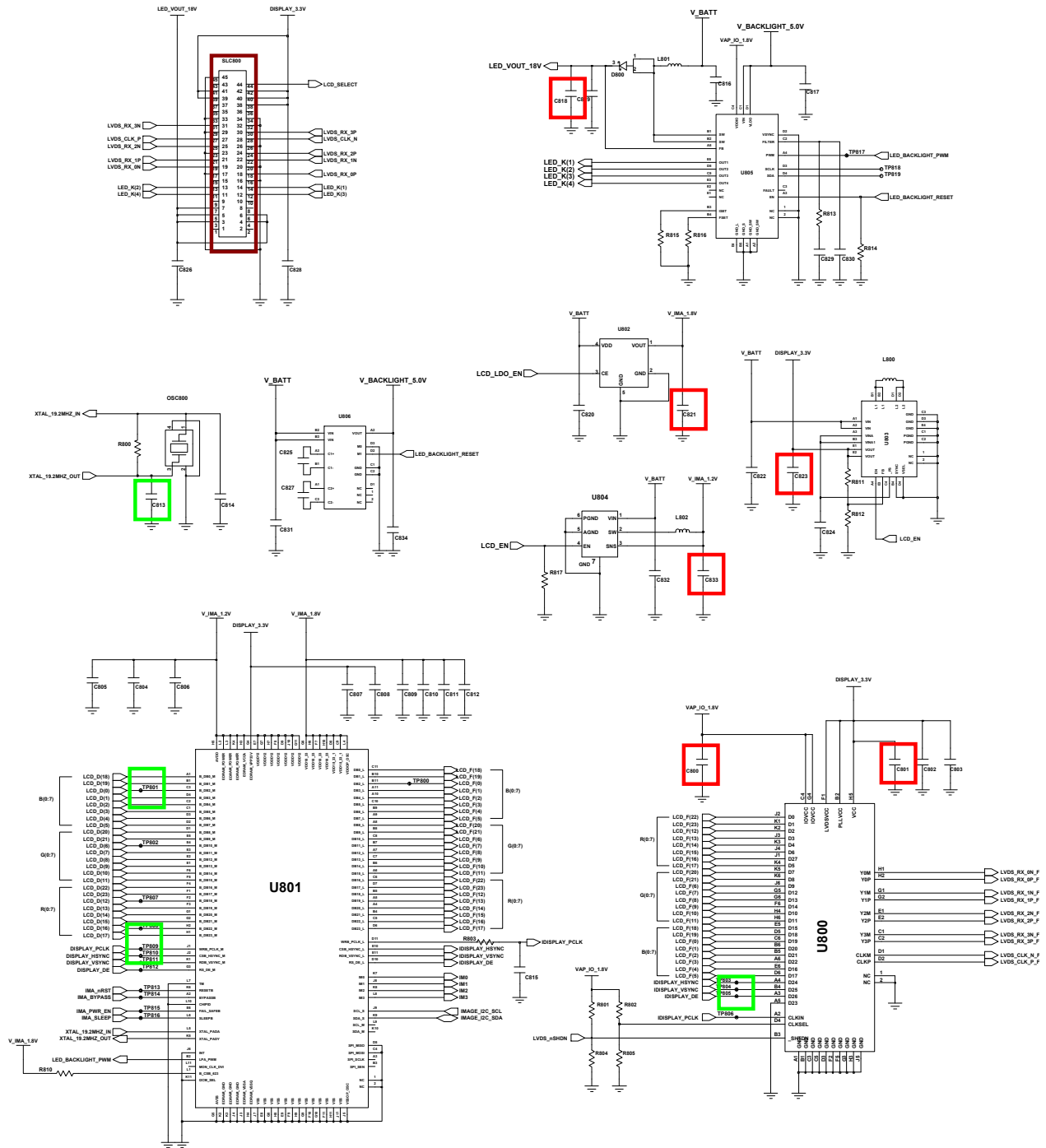
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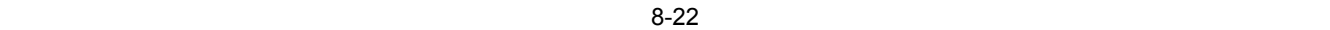


<TOP>

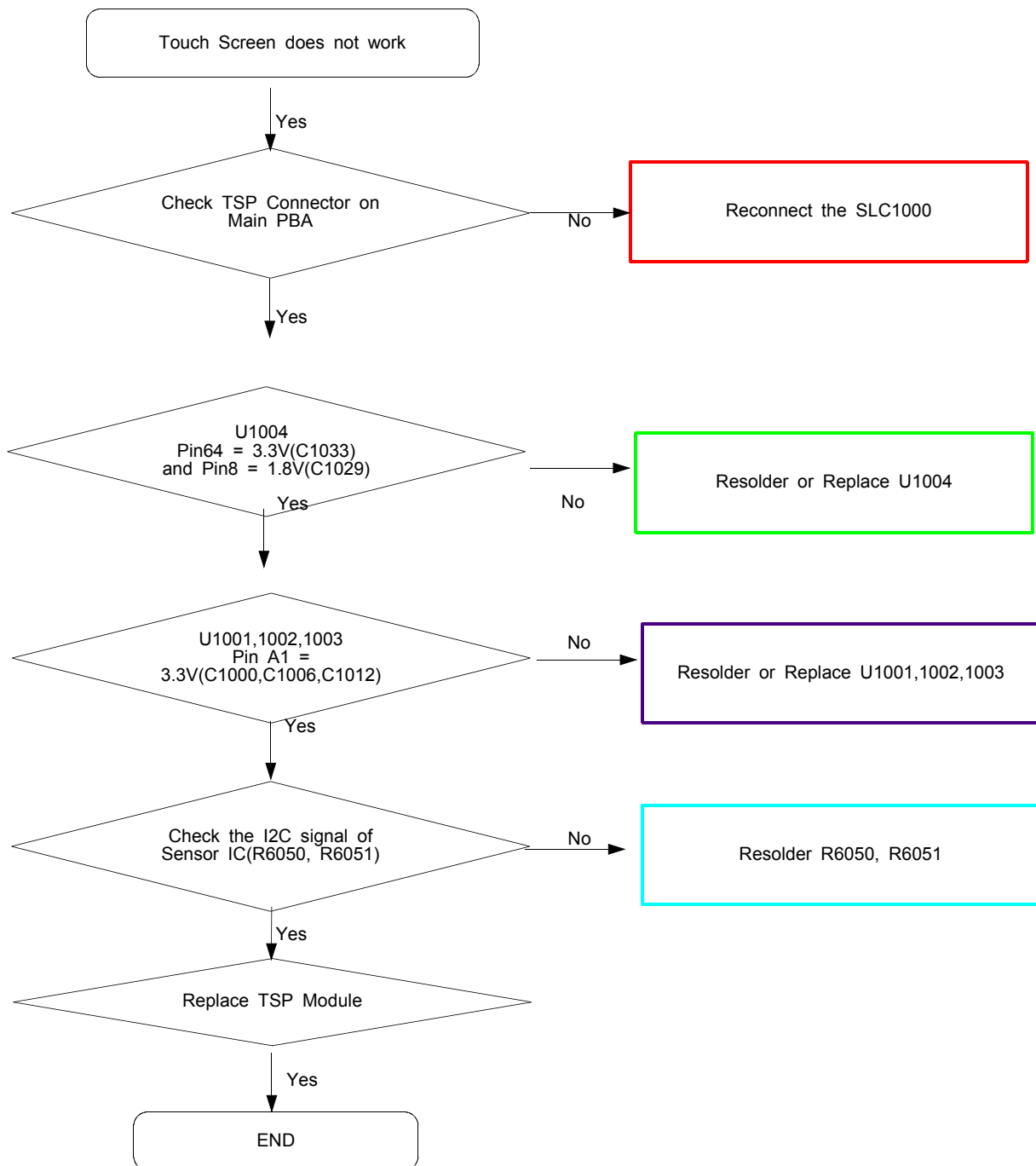
8-3-8. LCD

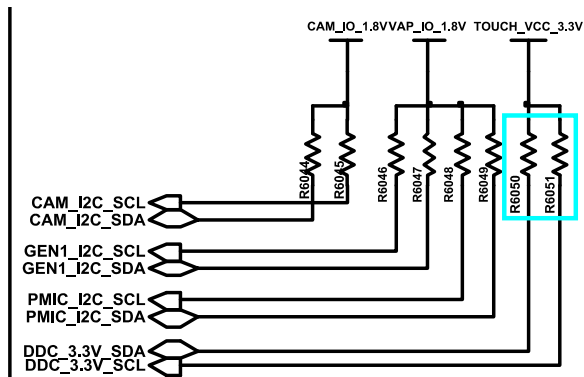
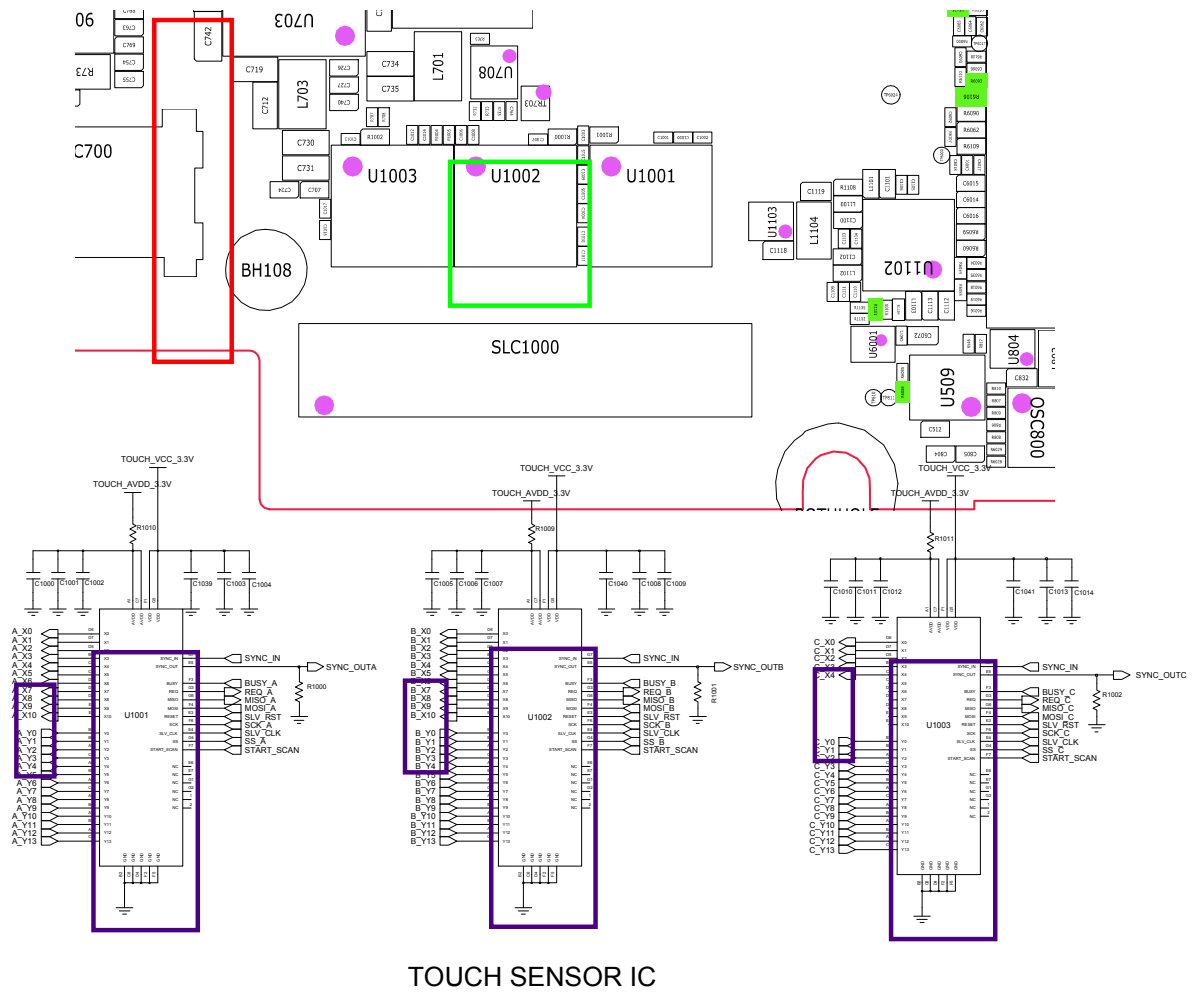


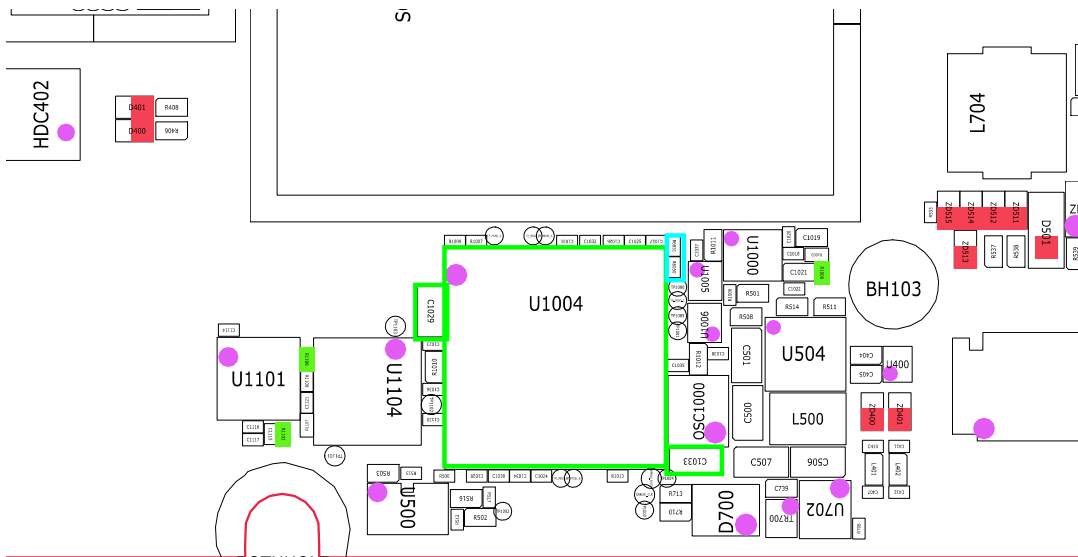
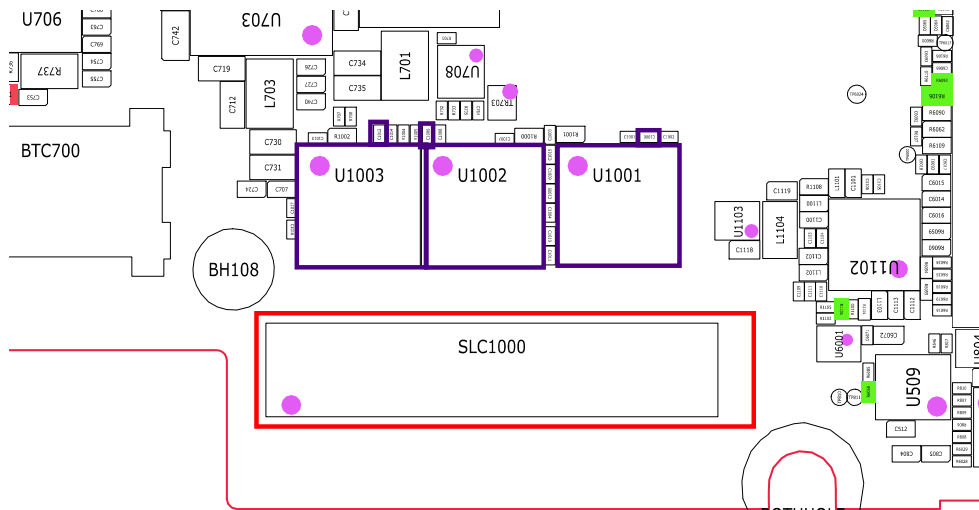




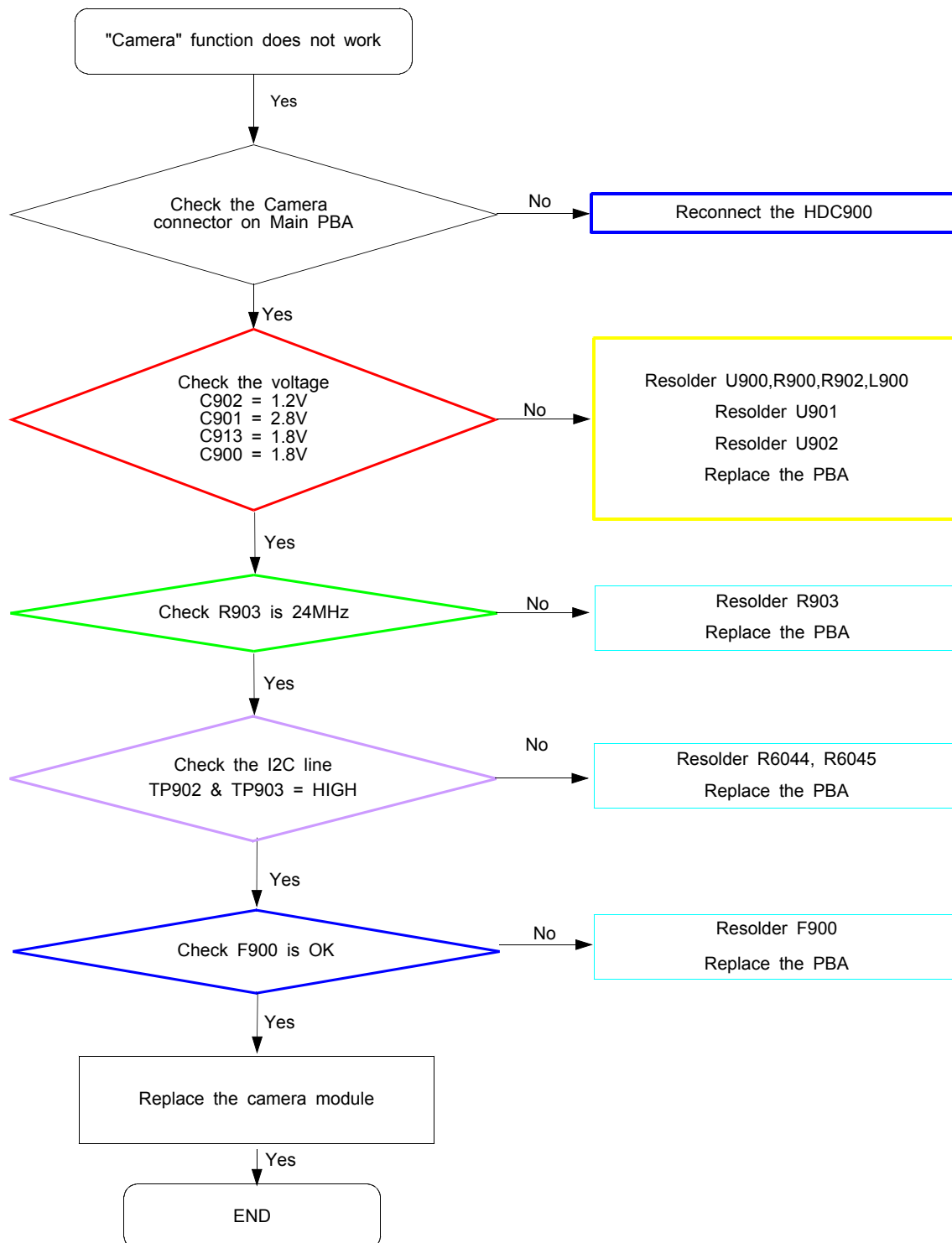
8-3-9. TSP

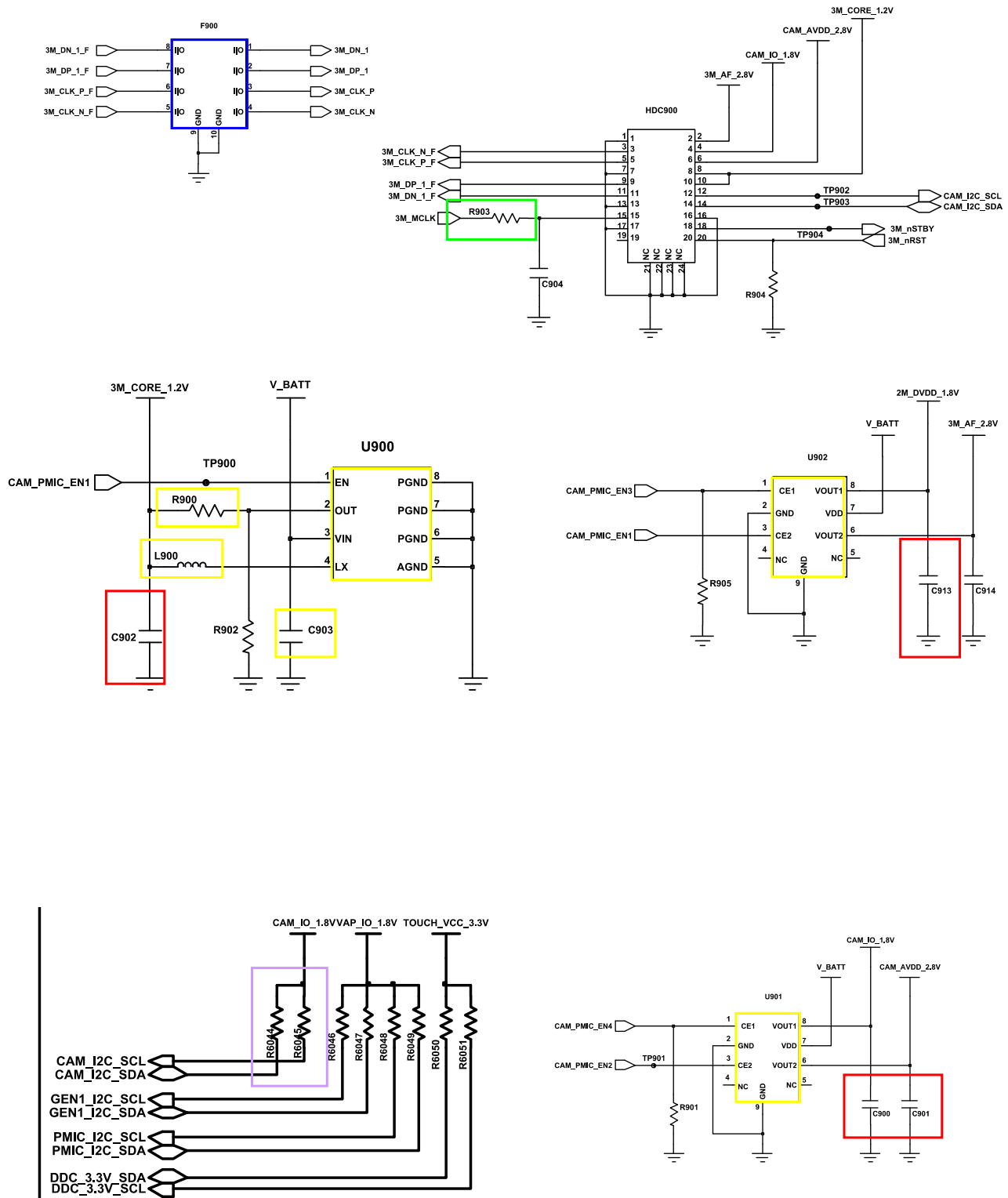






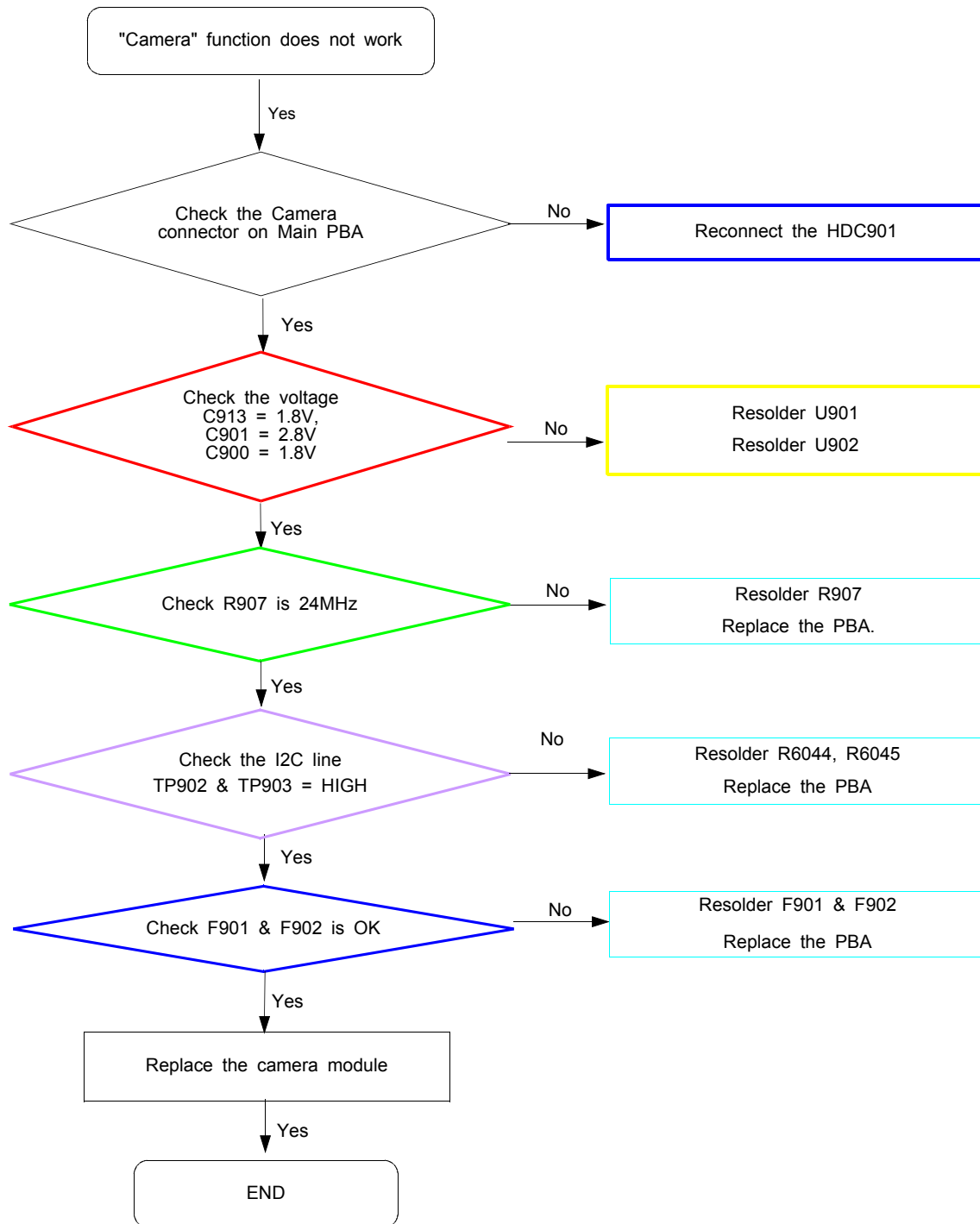
8-3-10. 3M CAM

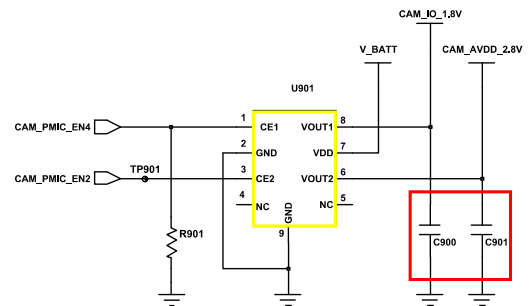
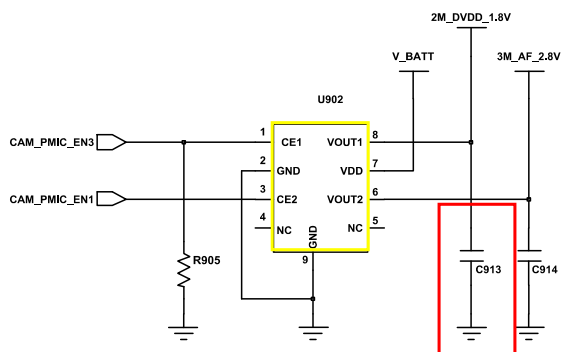
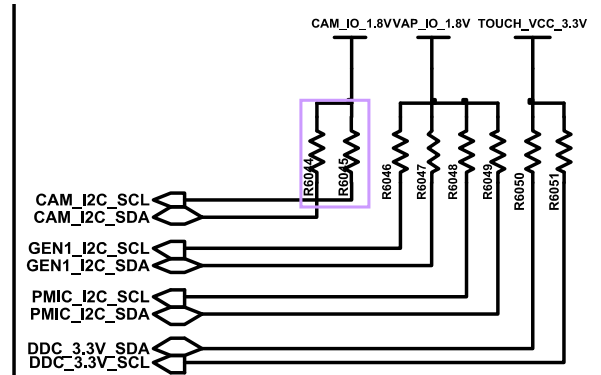
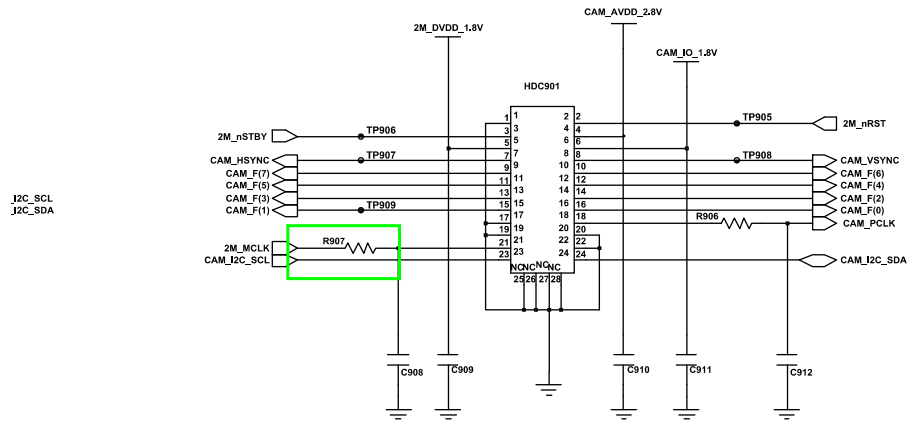


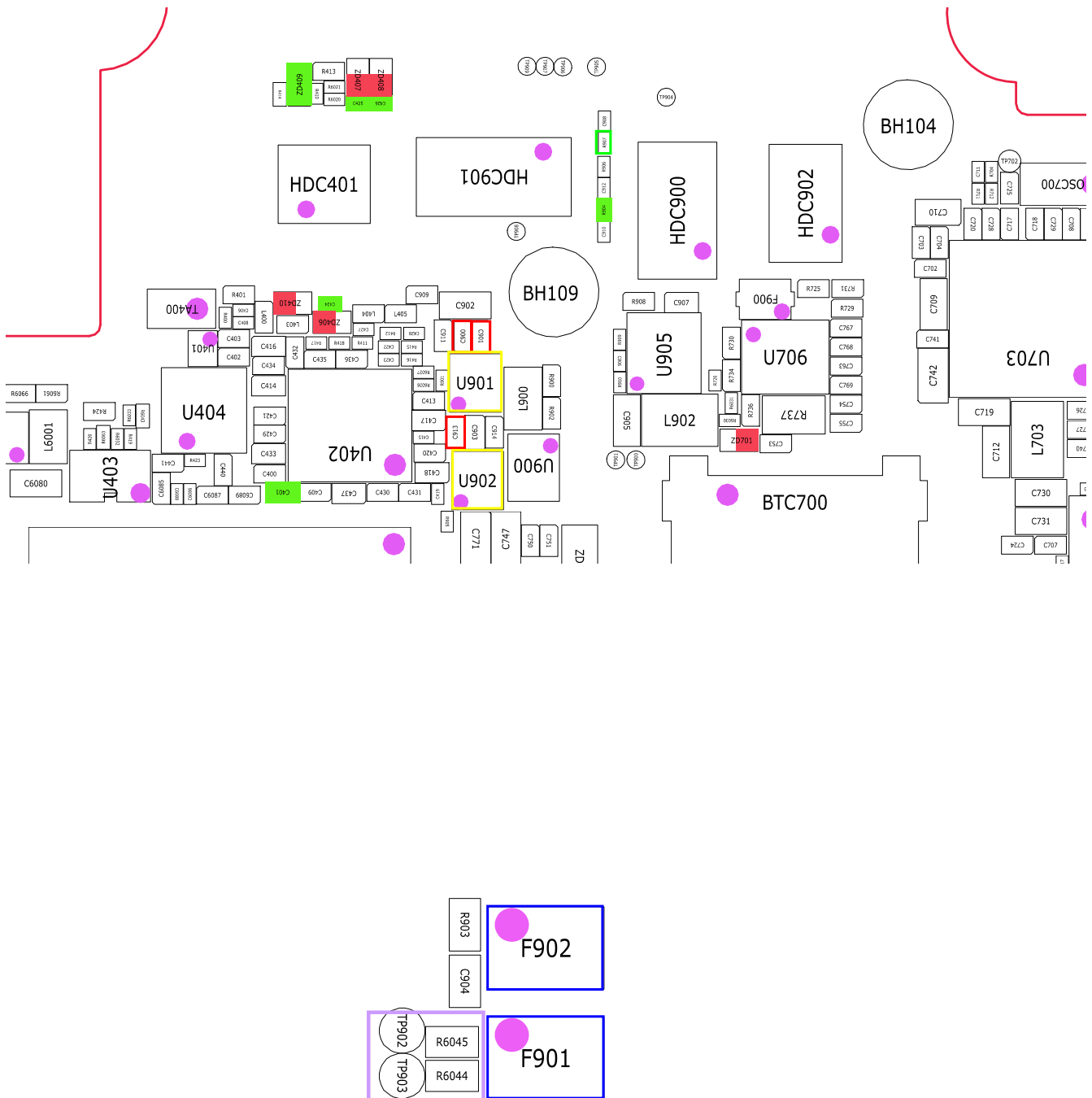




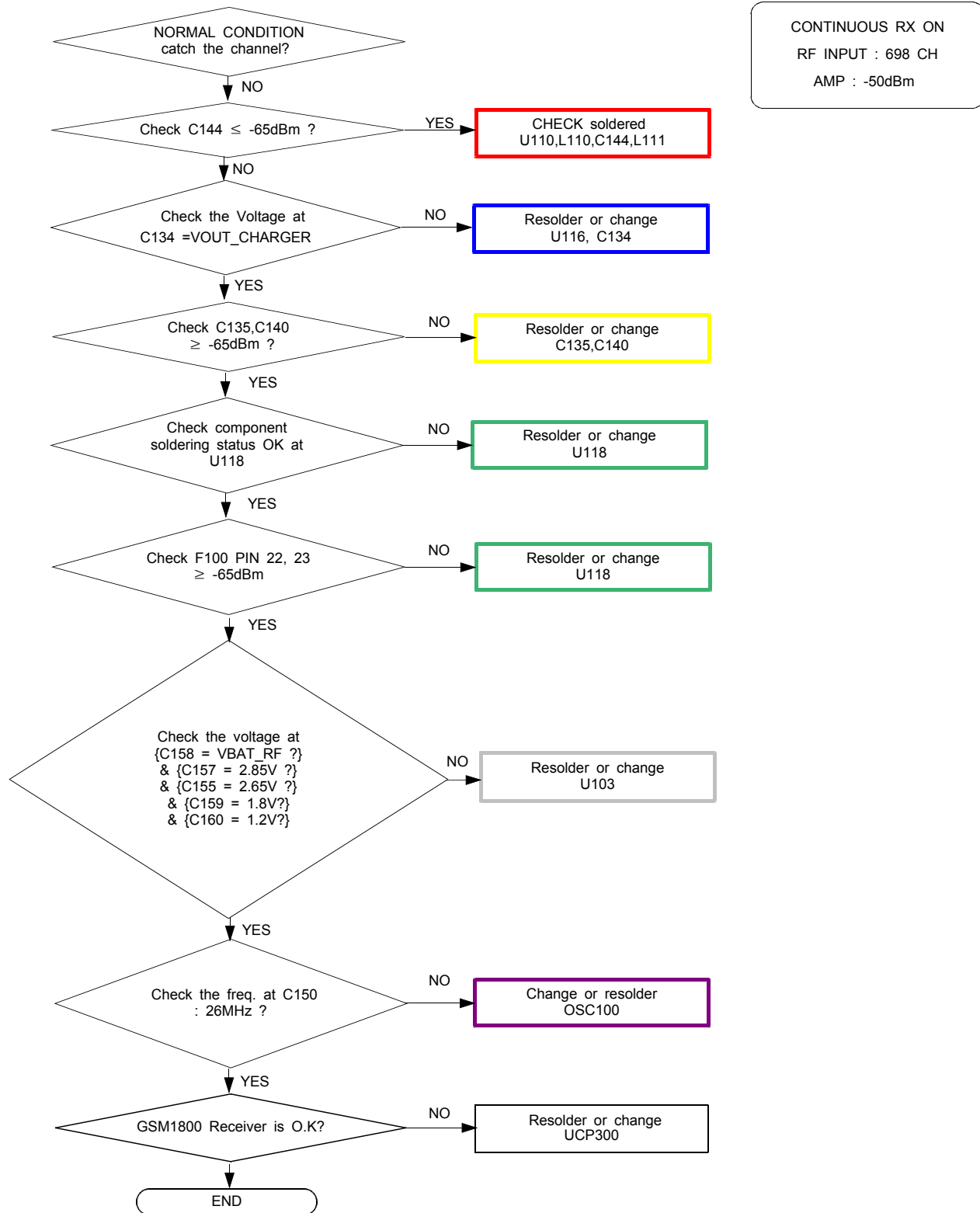
8-3-11. 2M CAM

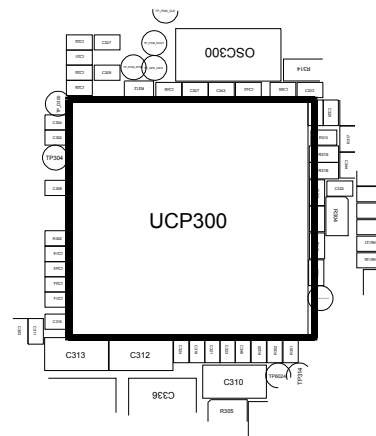
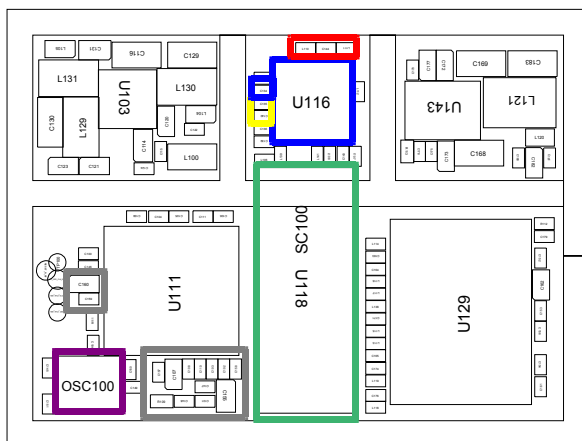
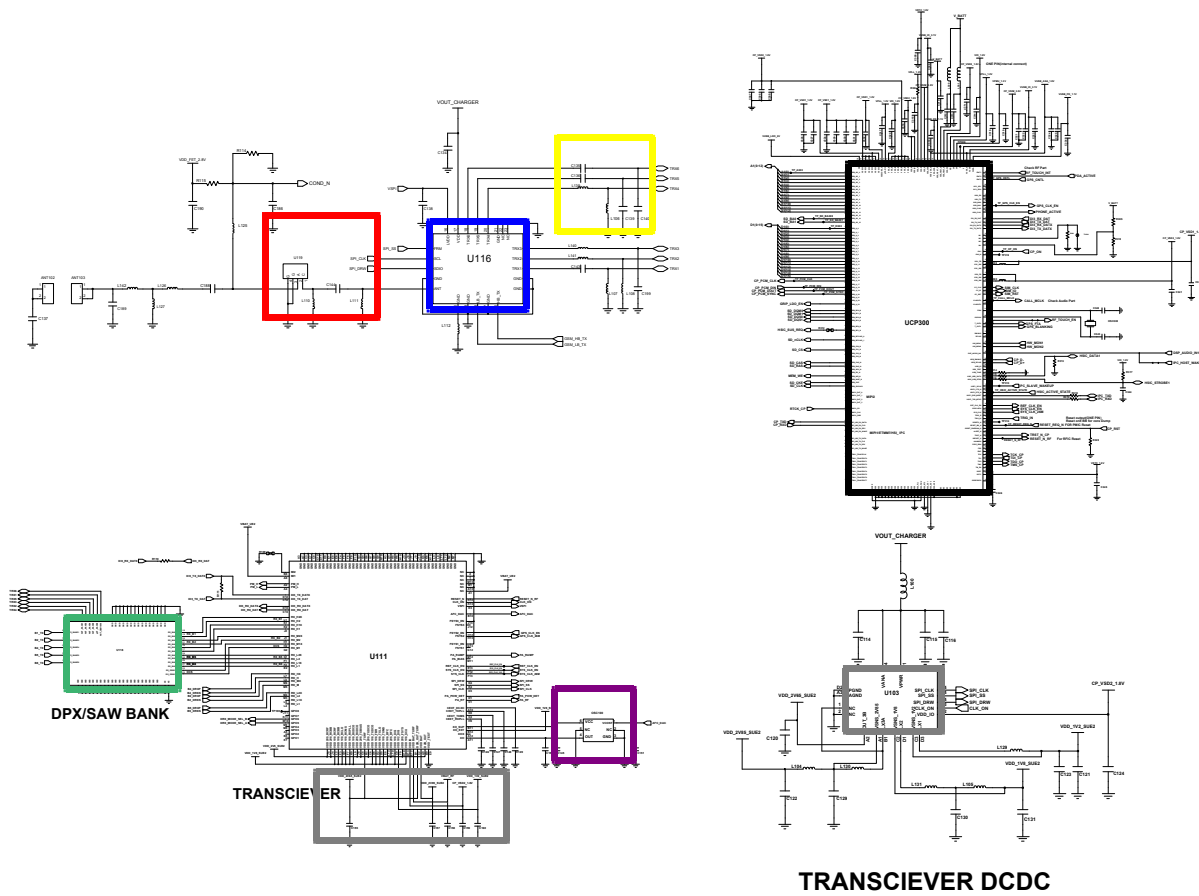




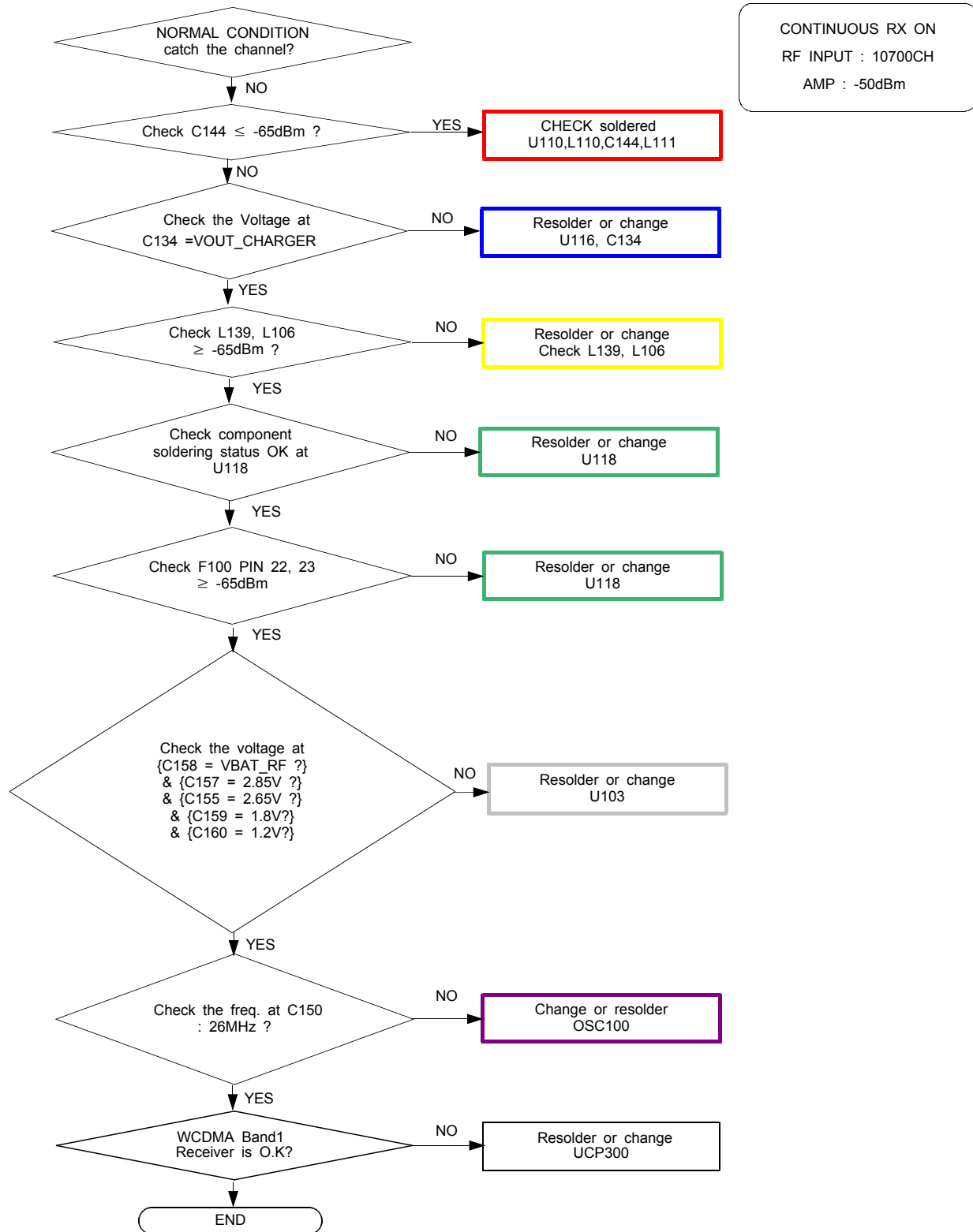


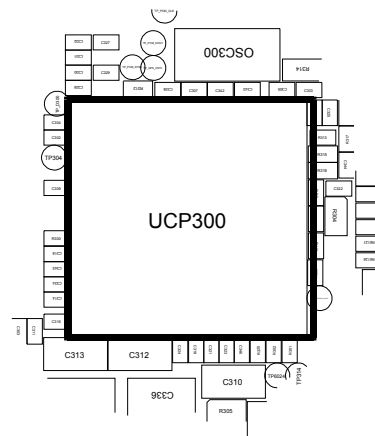
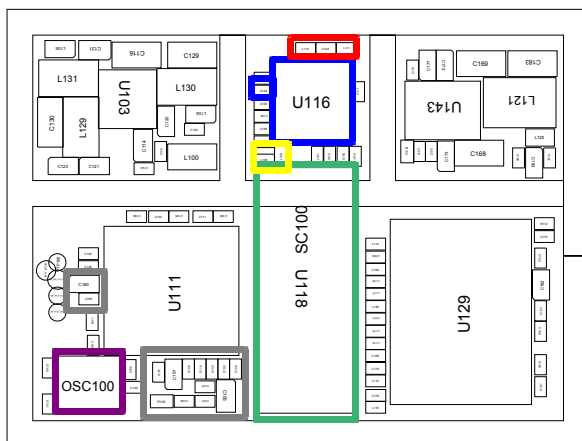
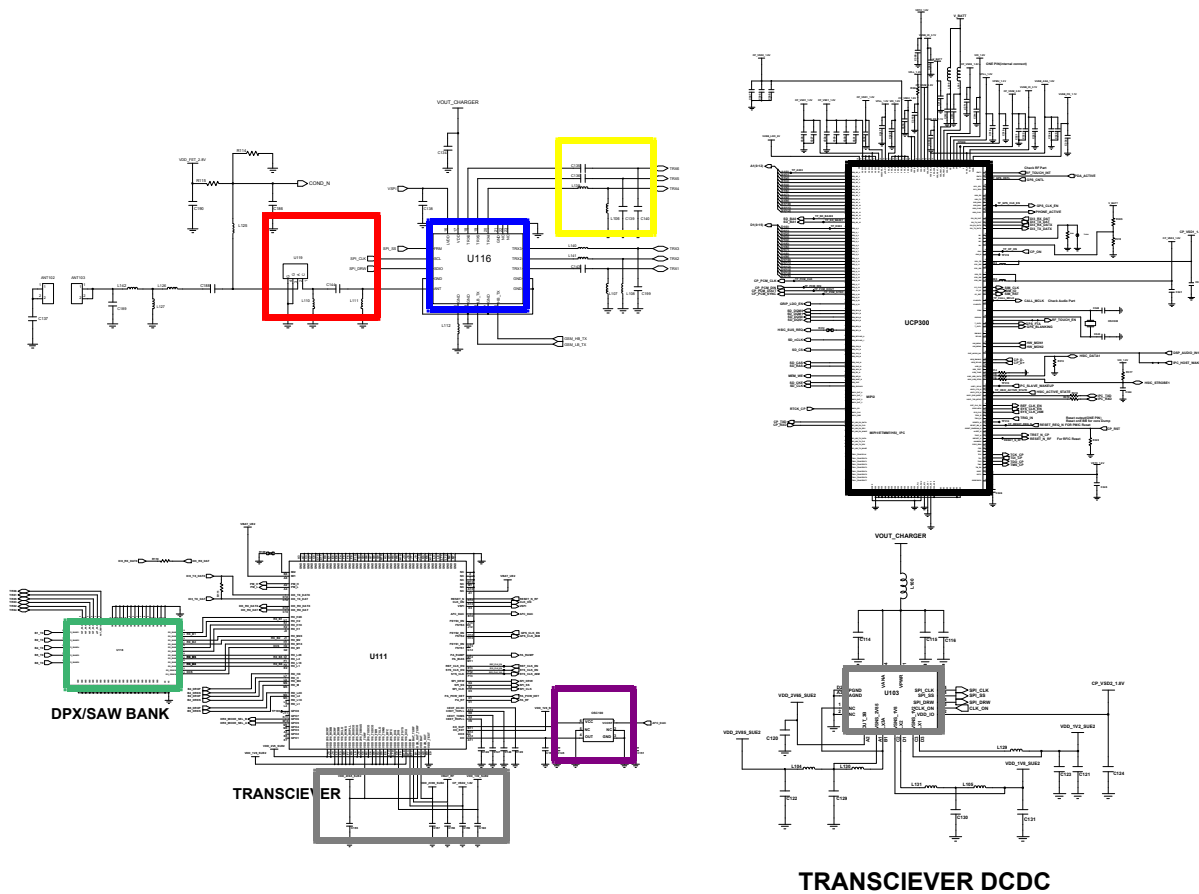
8-3-12. GSM1800 RX



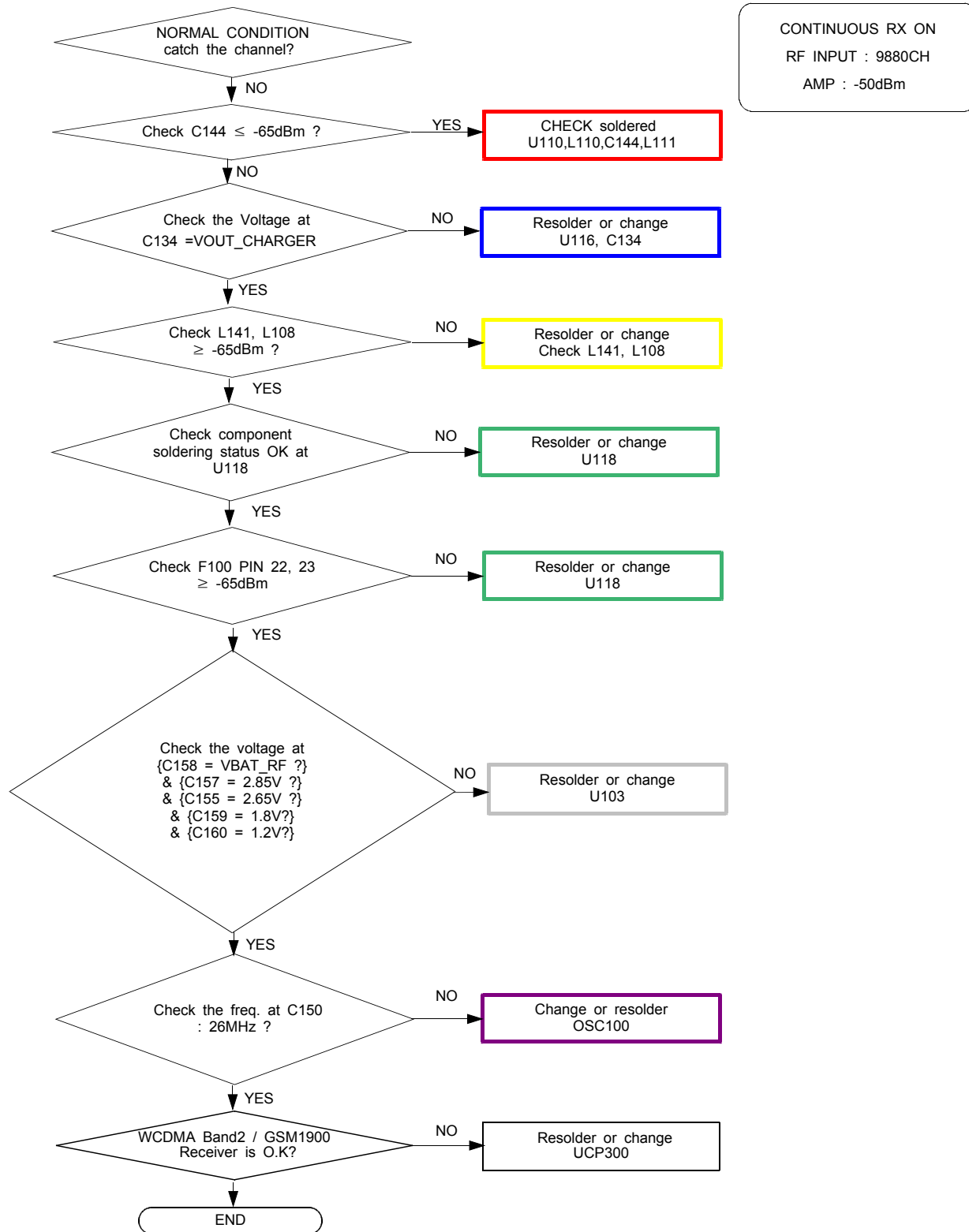


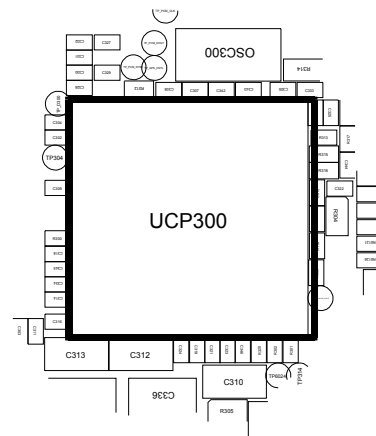
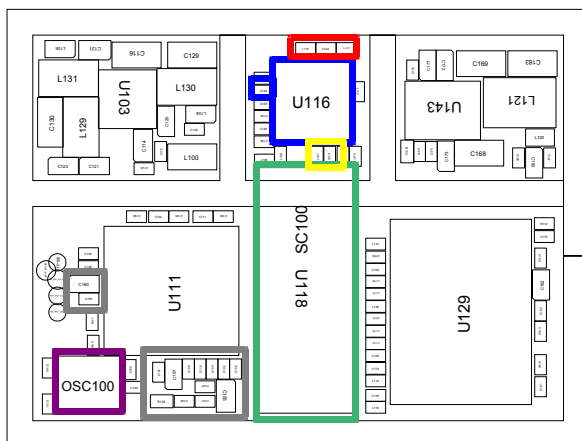
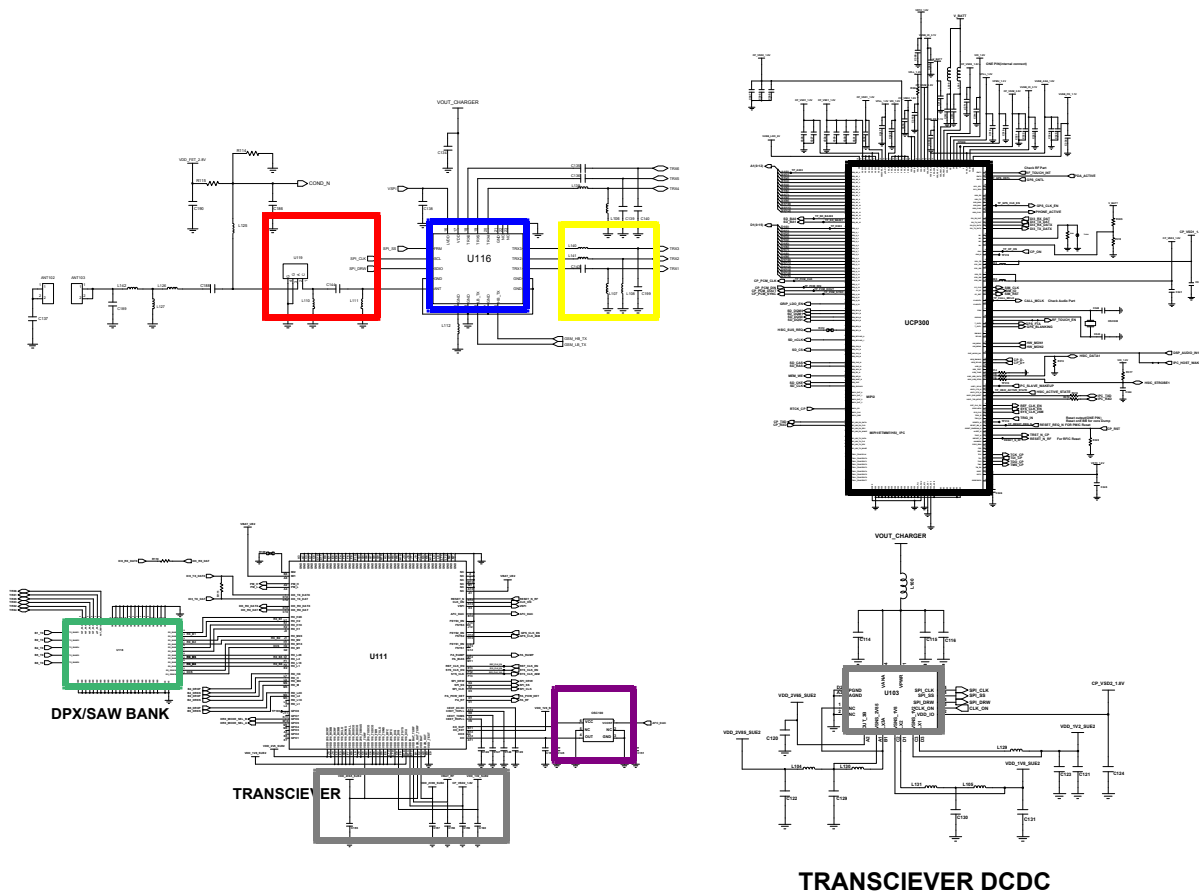
8-3-13. WCDMA Band1 RX



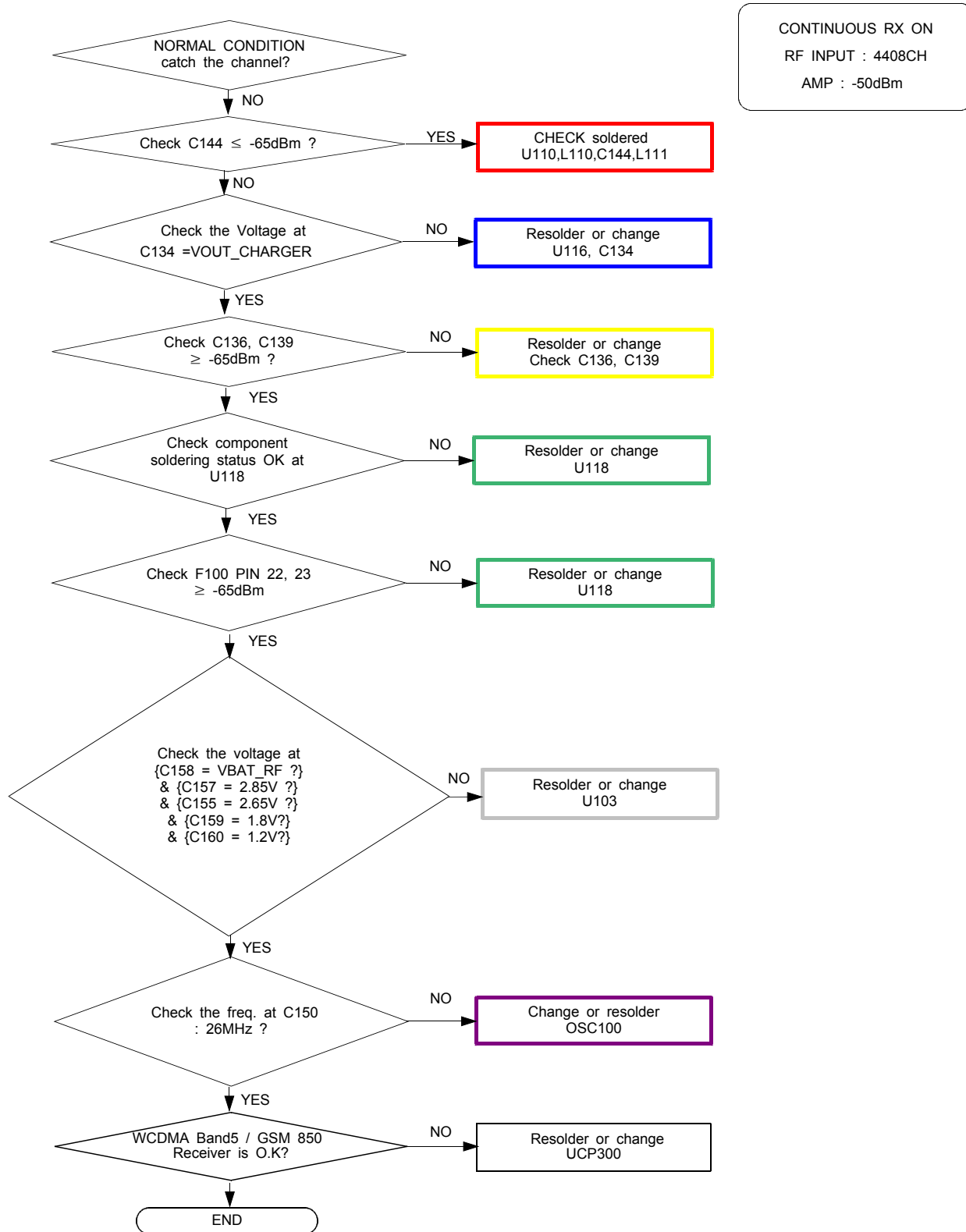


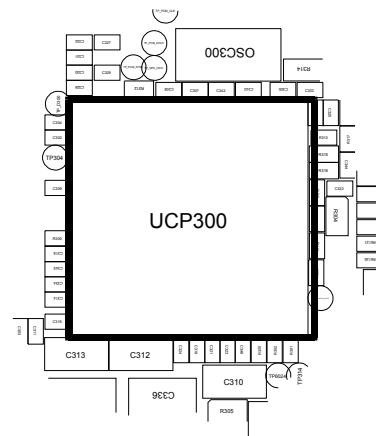
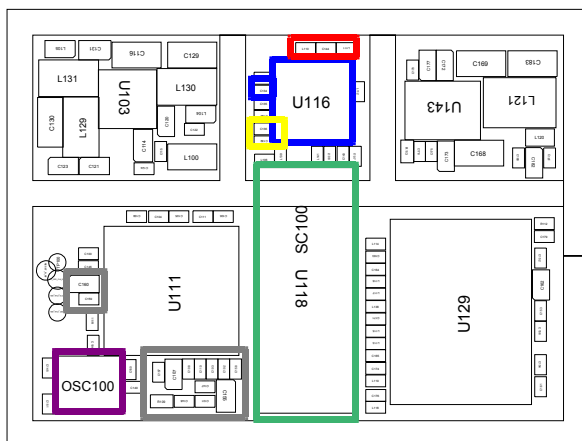
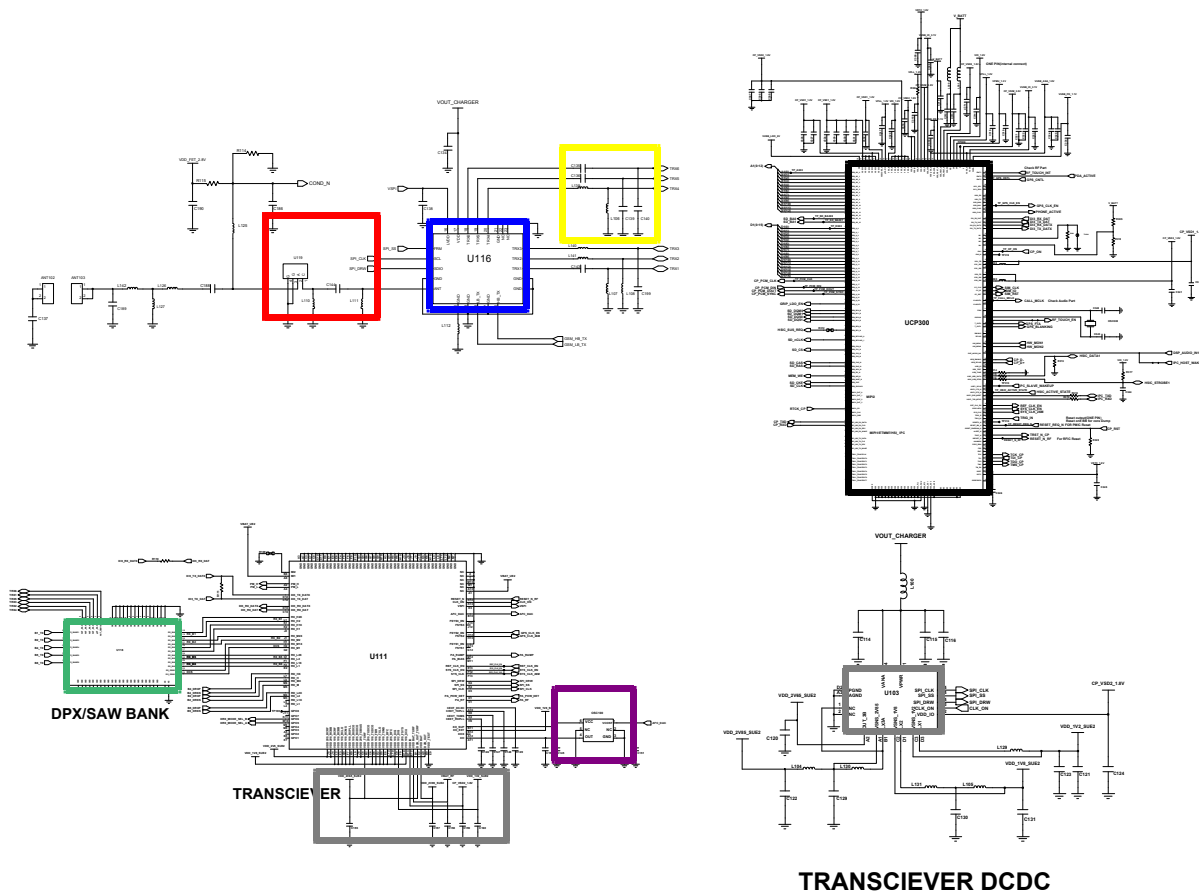
8-3-14. WCDMA Band2 / GSM1900 RX



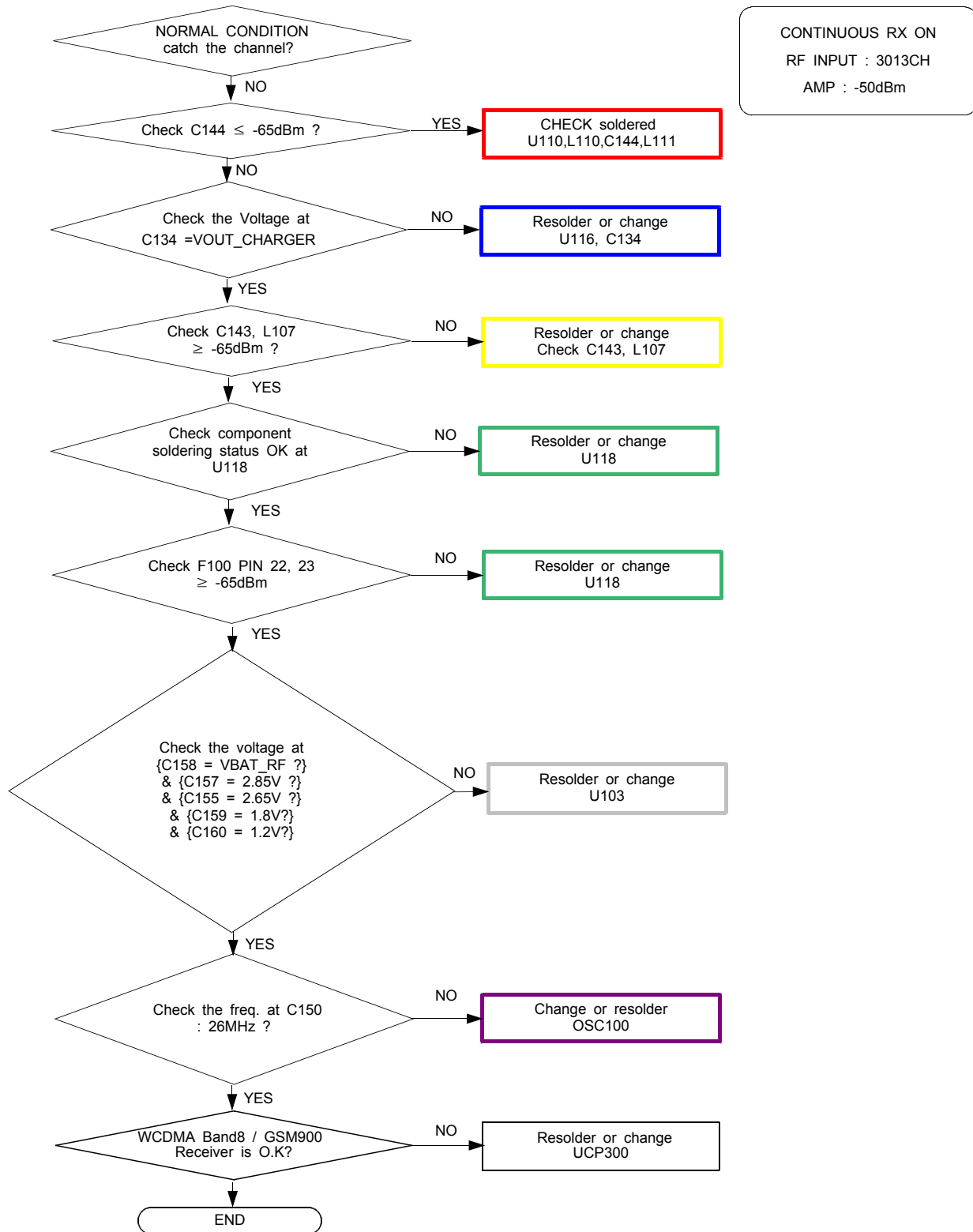


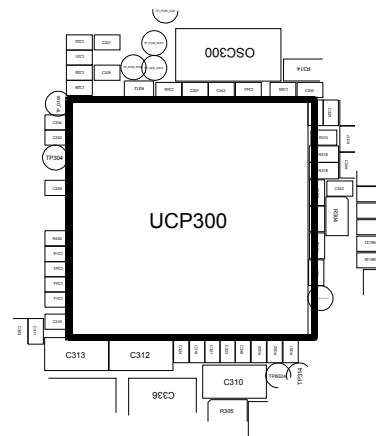
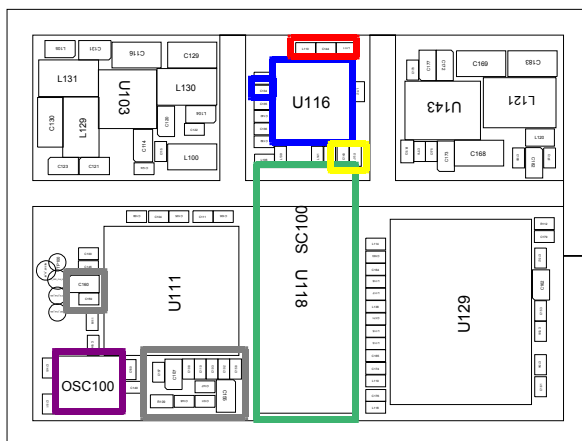
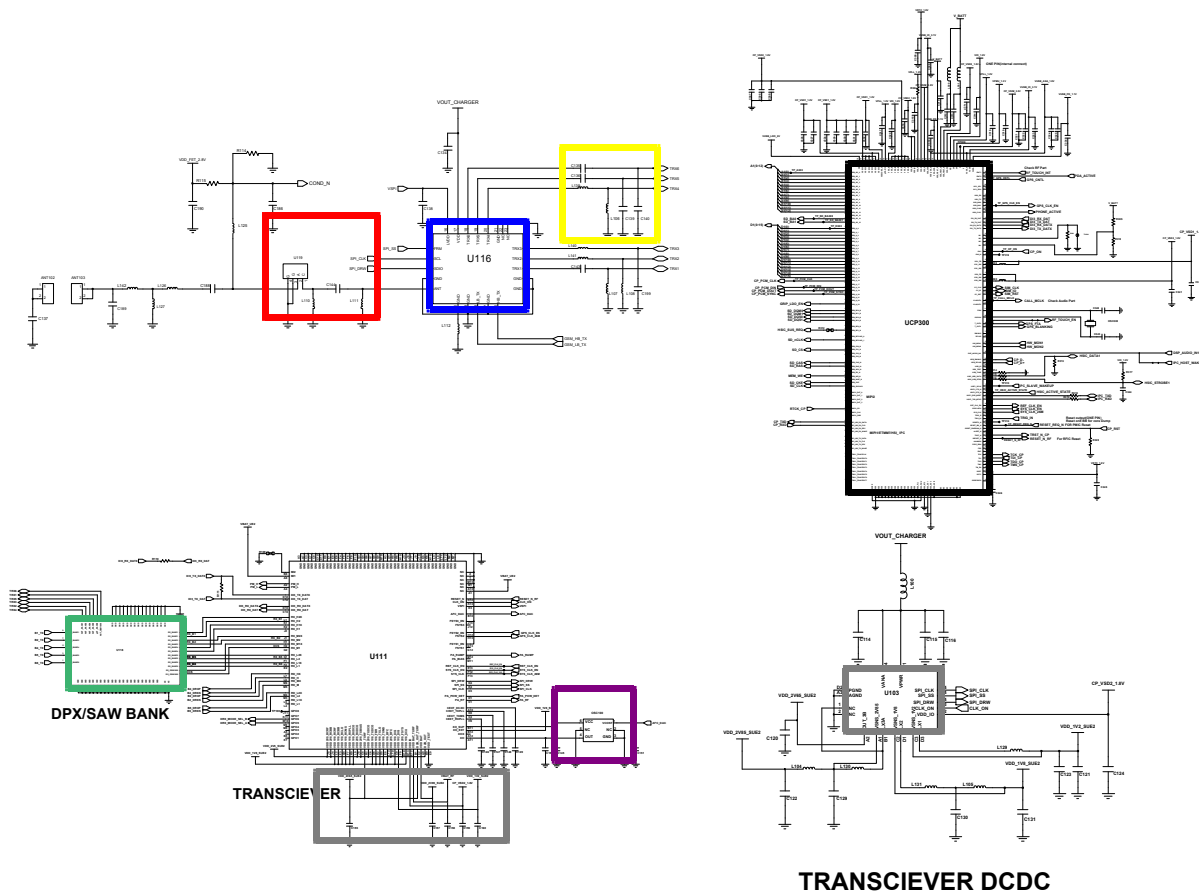
8-3-15. WCDMA Band5 / GSM 850 RX





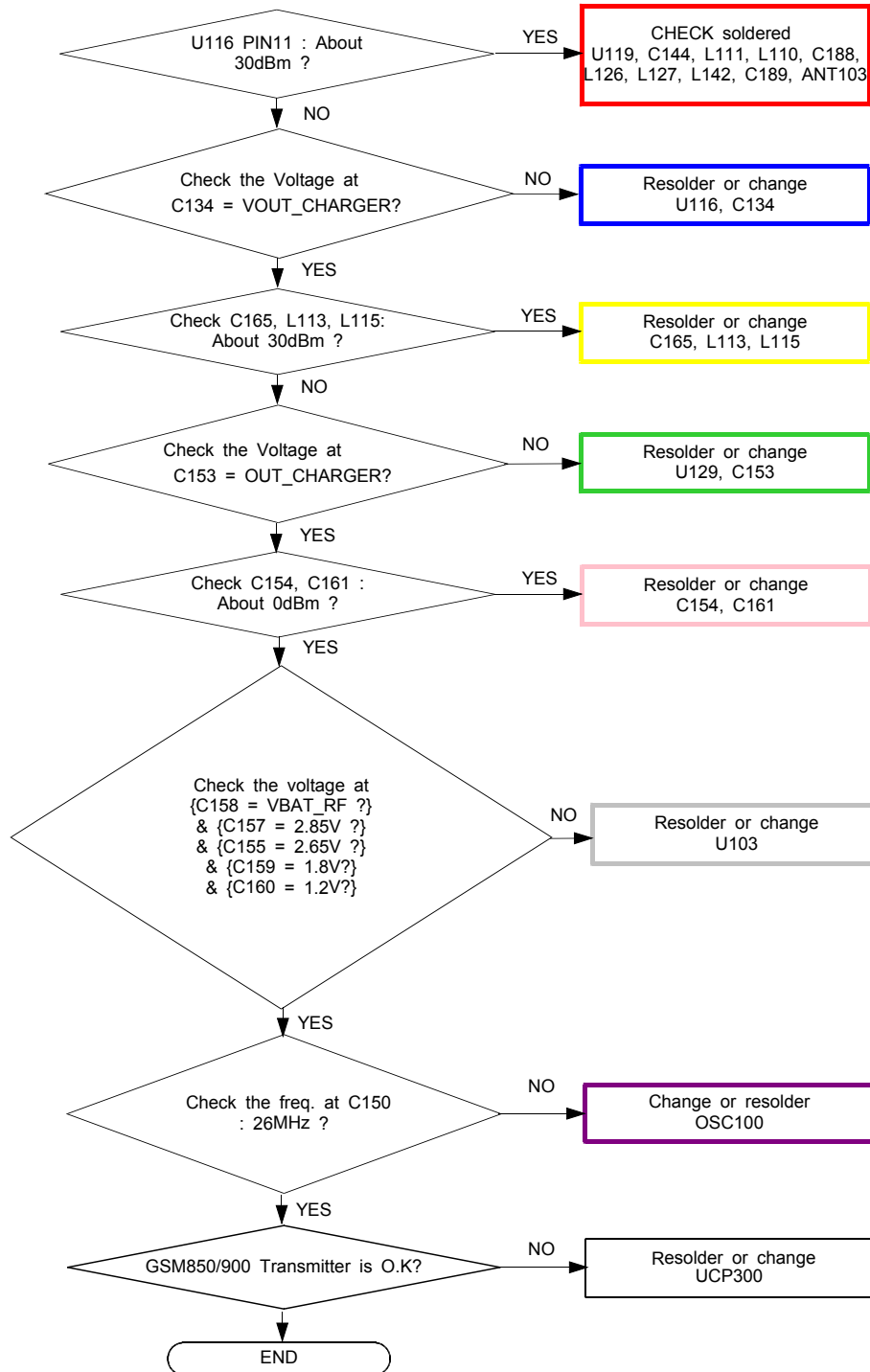
8-3-16. WCDMA Band8 / GSM900 RX

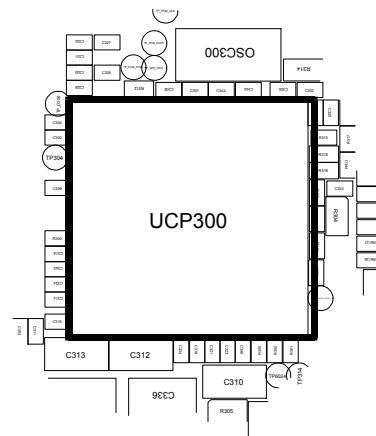
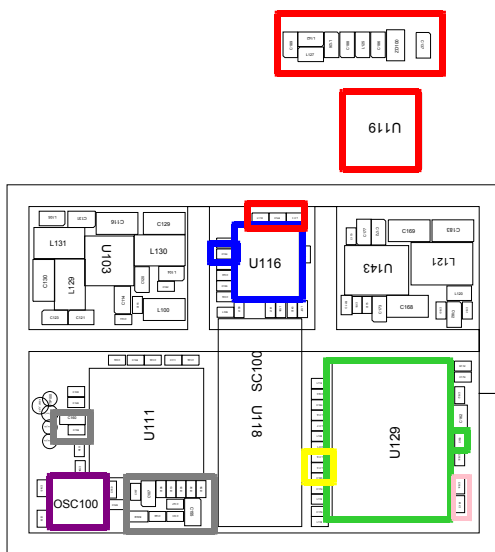
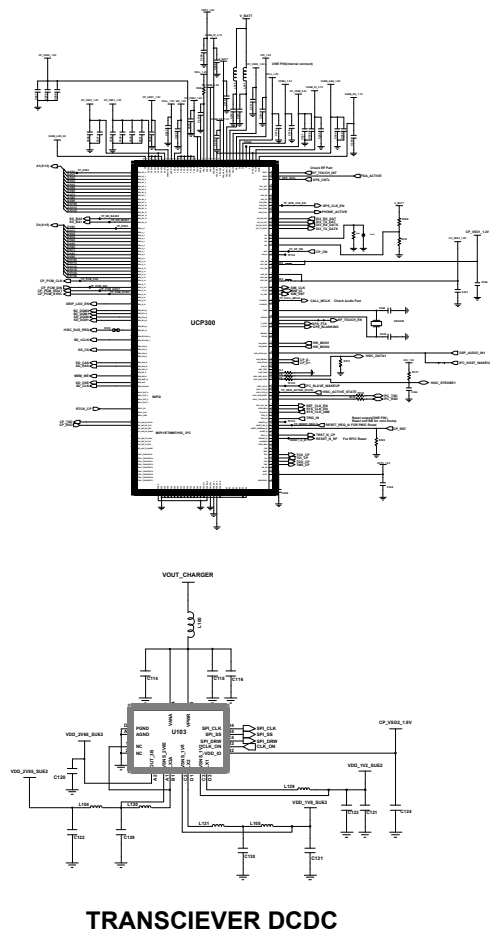
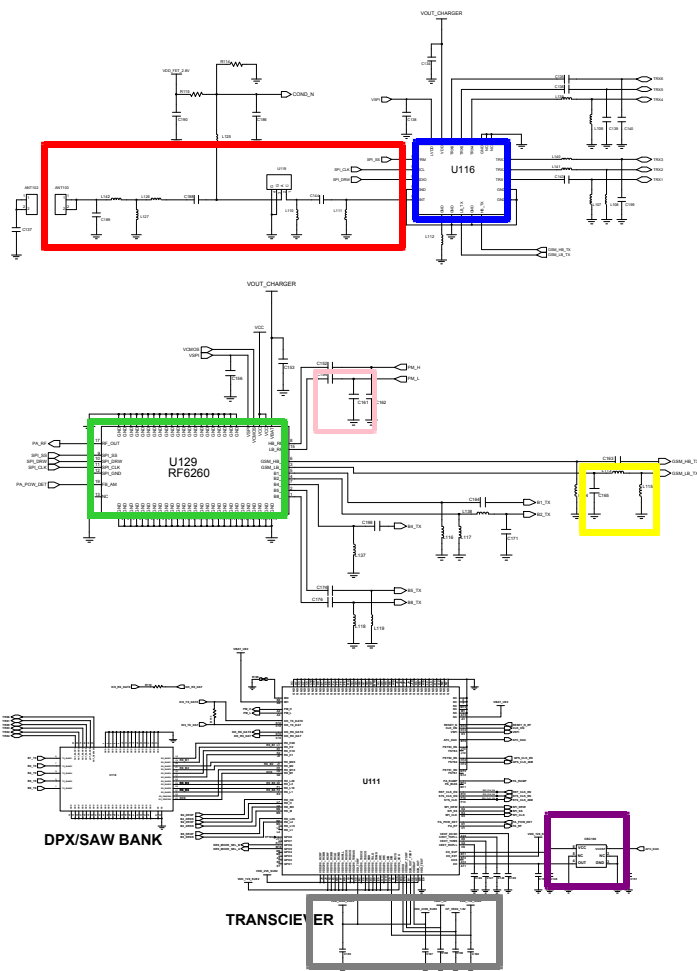




8-3-17. GSM850/GSM900 TX

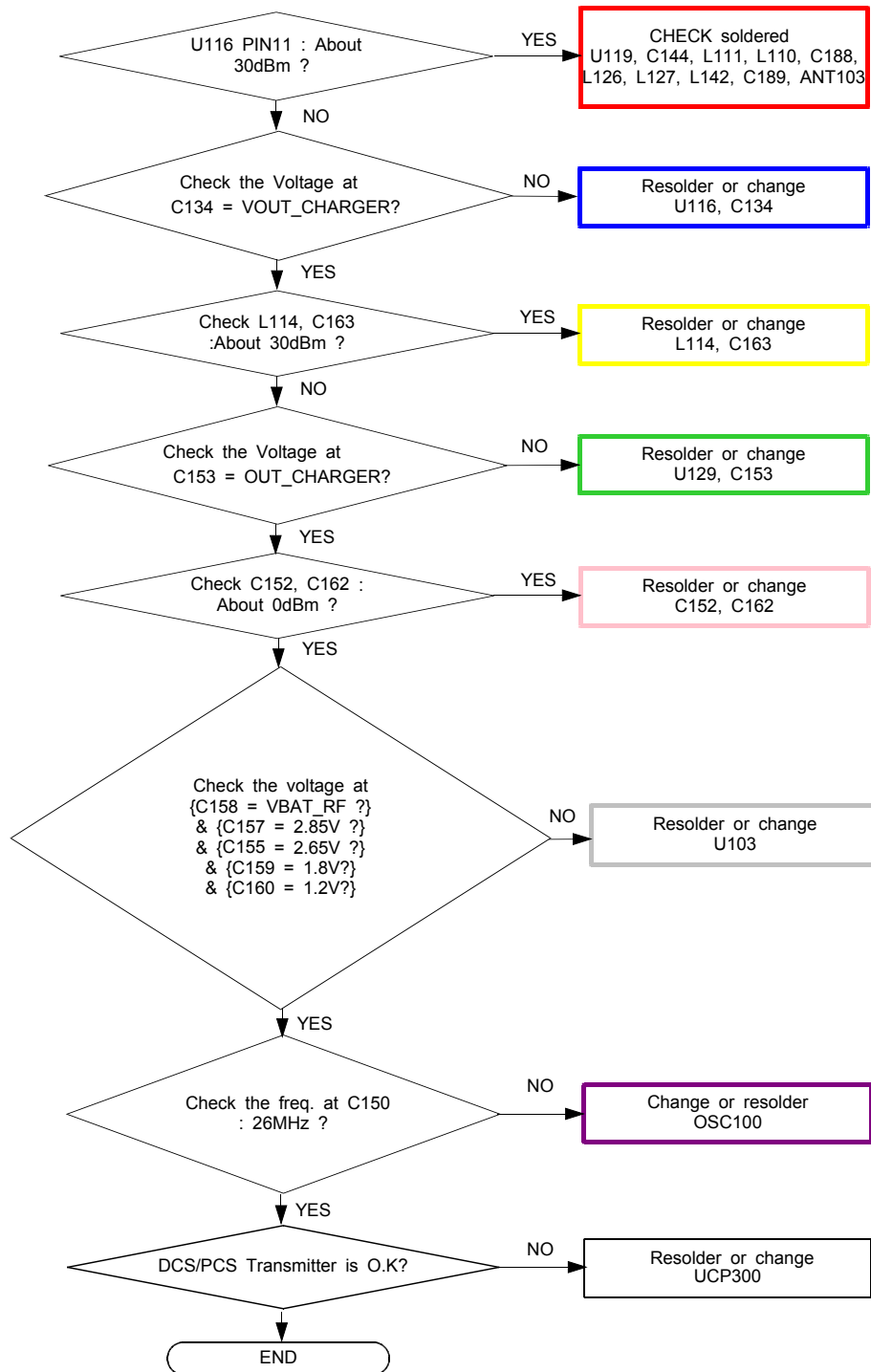
CONTINUOUS TX ON CONDITION
TX POWER DAC:14500 CODE
APPLIED
GSM850 CH : 190
GSM900 CH : 62
RBW : 100KHz
VBW : 100KHz
SPAN : 10MHz
REF LEV. : 10dBm
ATT. : 20dB

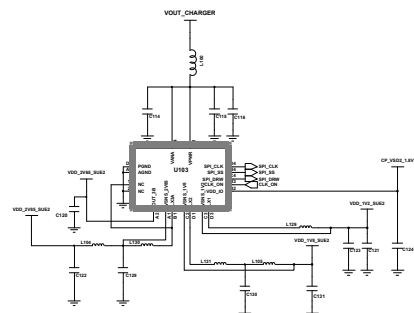
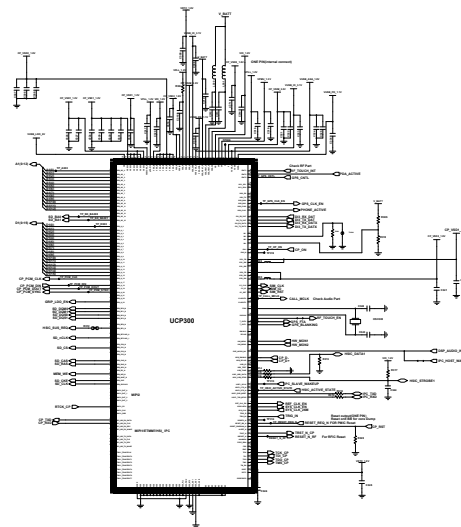
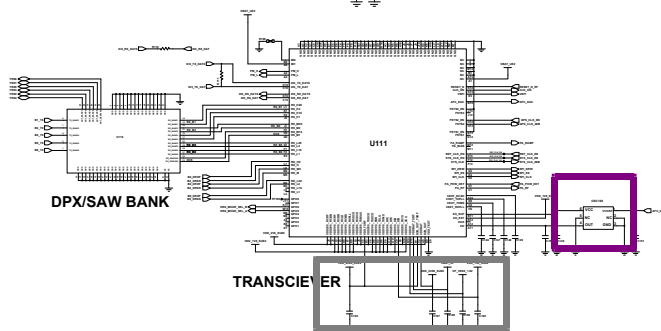
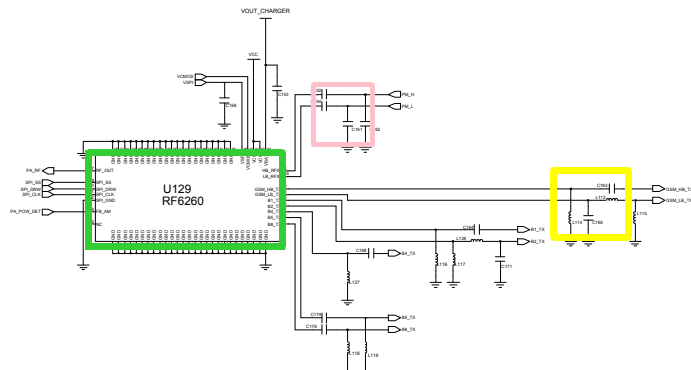
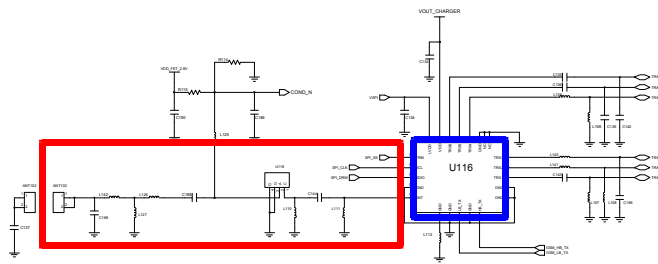




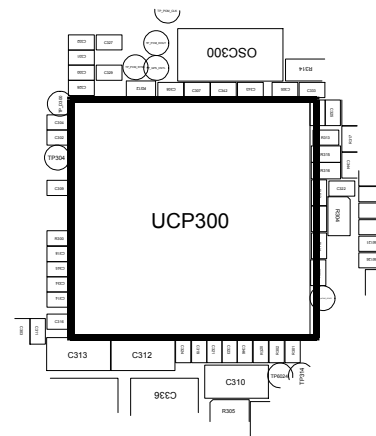
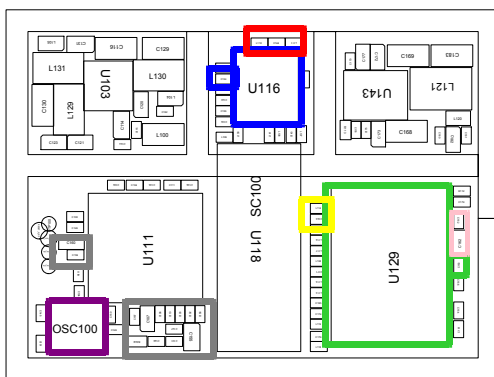
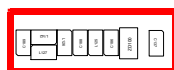
8-3-18. DCS/PCS TX

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

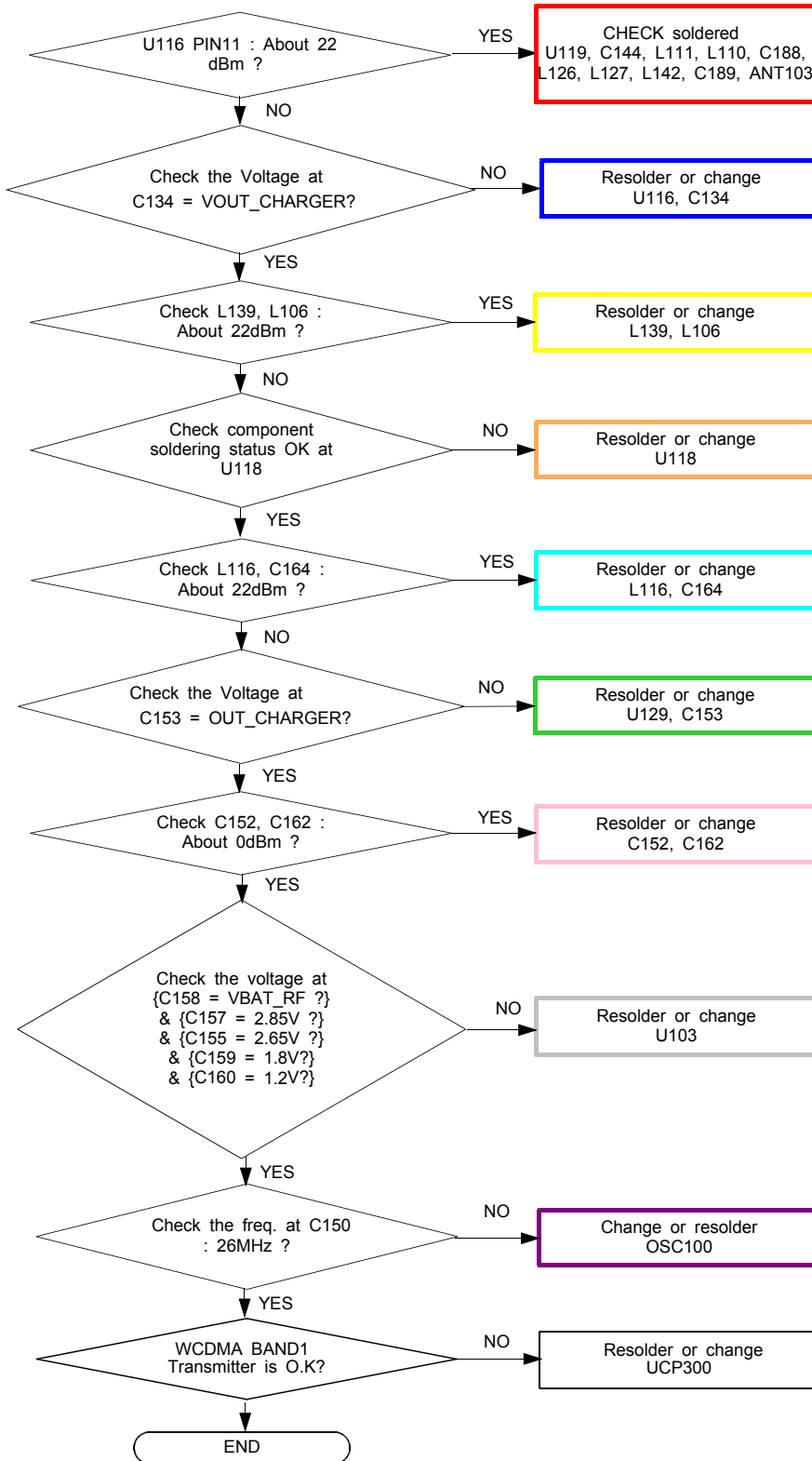




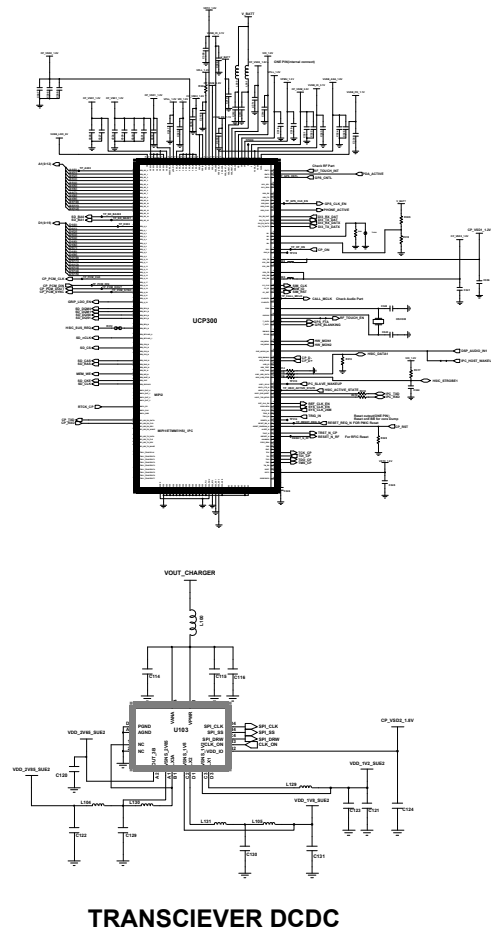
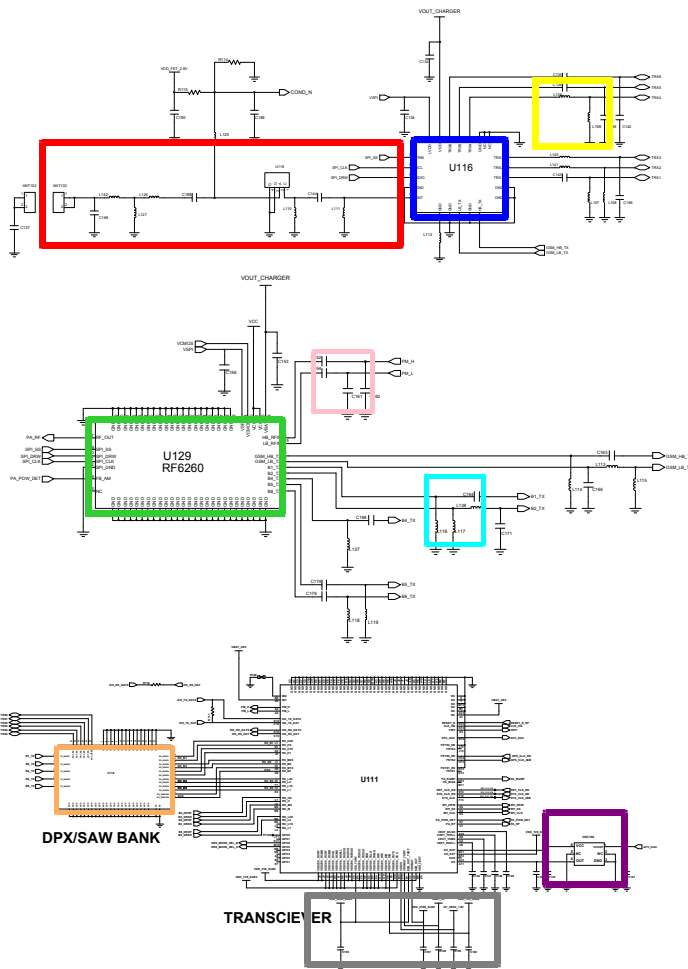
TRANSCEIVER DCDC



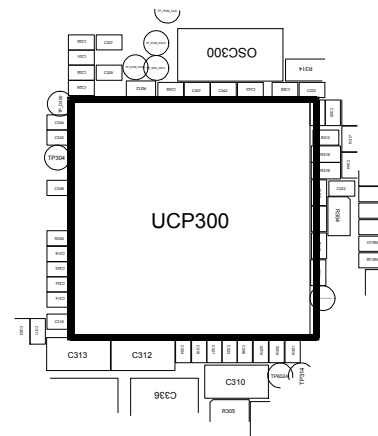
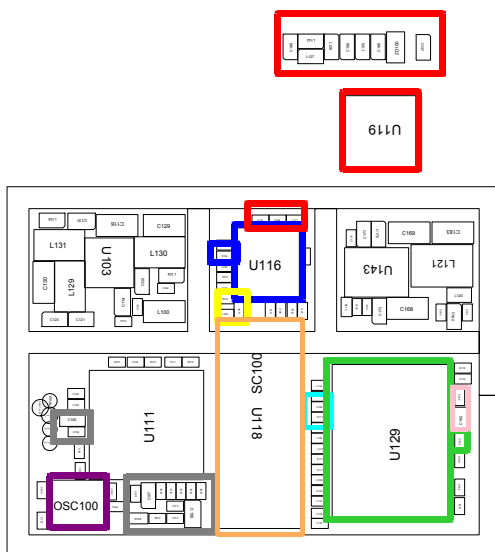
8-3-19. WCDMA BAND1 TX



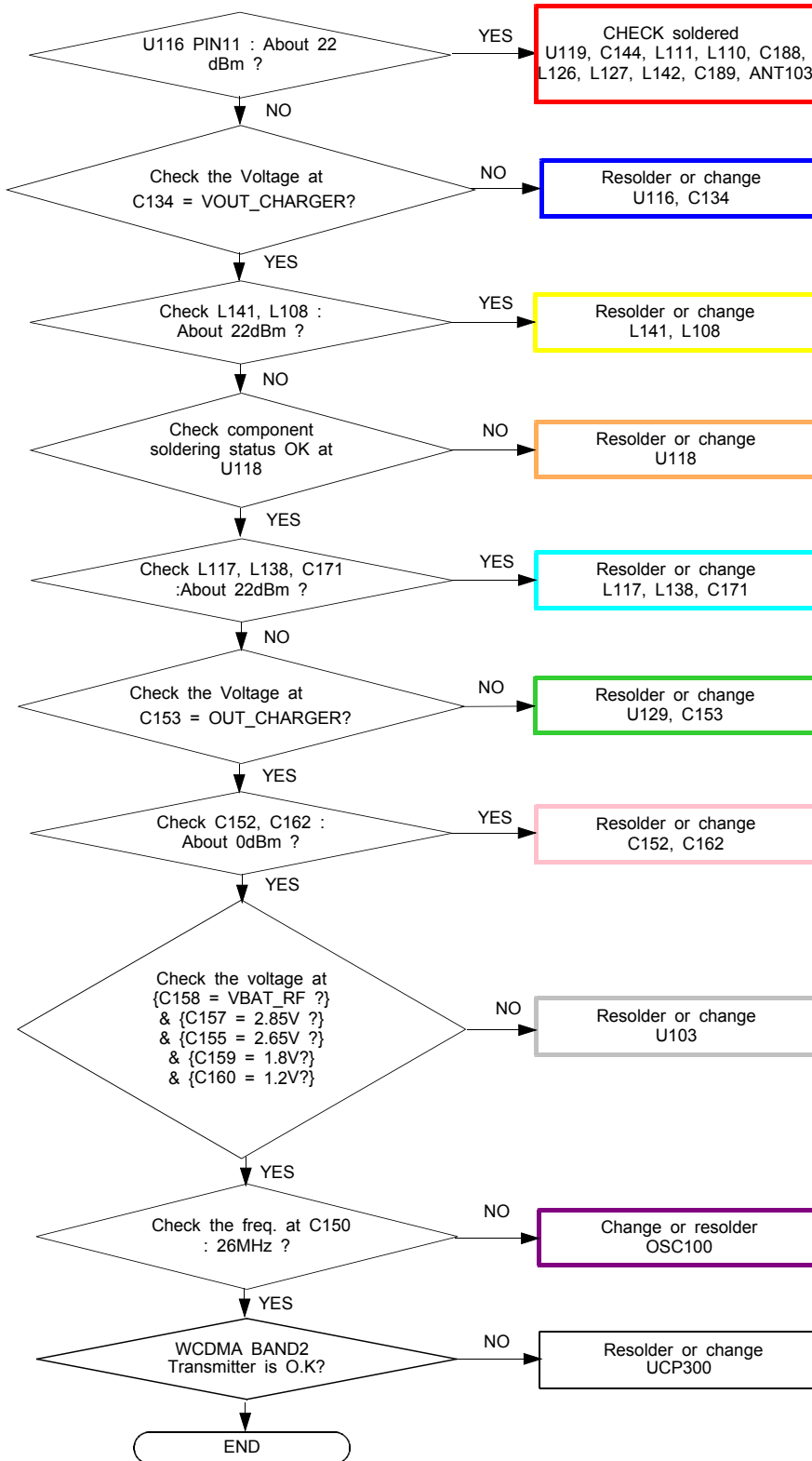
CONTINUOUS TX ON CONDITION
TX POWER DAC:14500 CODE
APPLIED
WCDMA Band1 CH : 10700
RBW : 100KHz
VBW : 100KHz
SPAN : 10MHz
REF LEV. : 10dBm
ATT. : 20dB



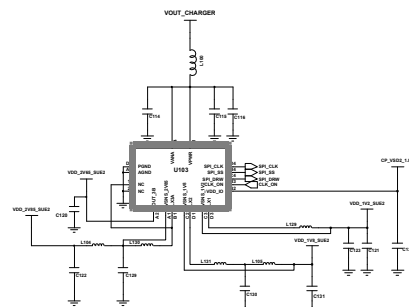
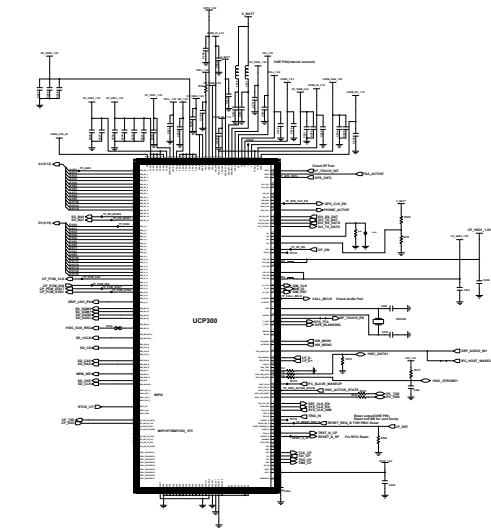
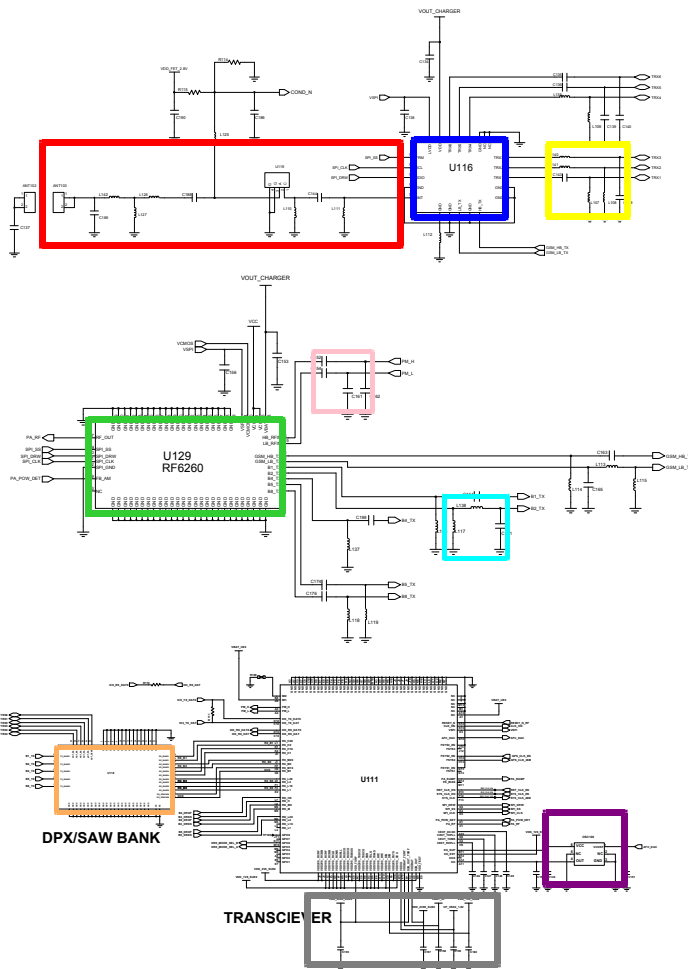
TRANSCIEVER DCDC



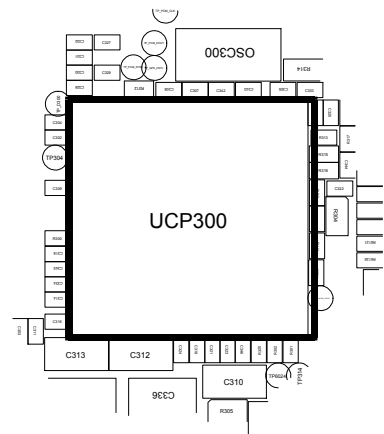
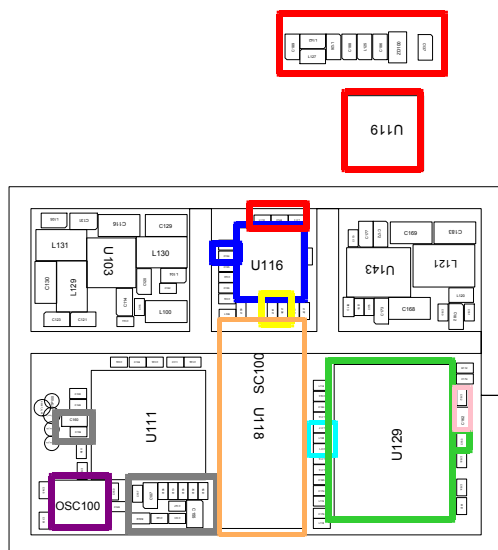
8-3-20. WCDMA BAND2 TX



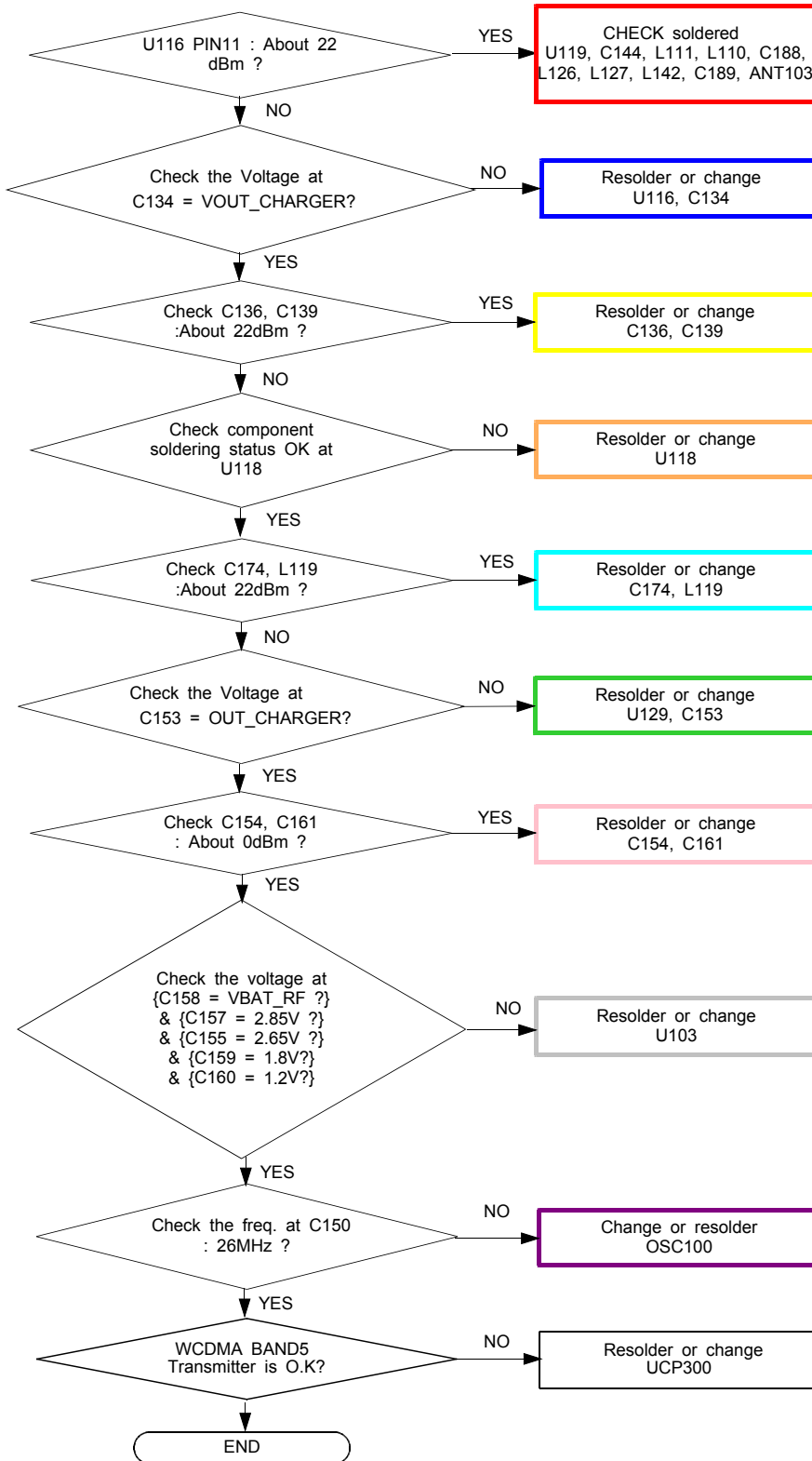
CONTINUOUS TX ON CONDITION
TX POWER DAC:14500 CODE
APPLIED
WCDMA Band2 CH : 9880
RBW : 100KHz
VBW : 100KHz
SPAN : 10MHz
REF LEV. : 10dBm
ATT. : 20dB



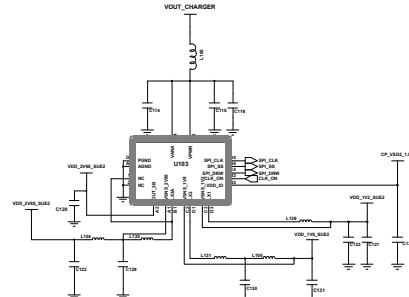
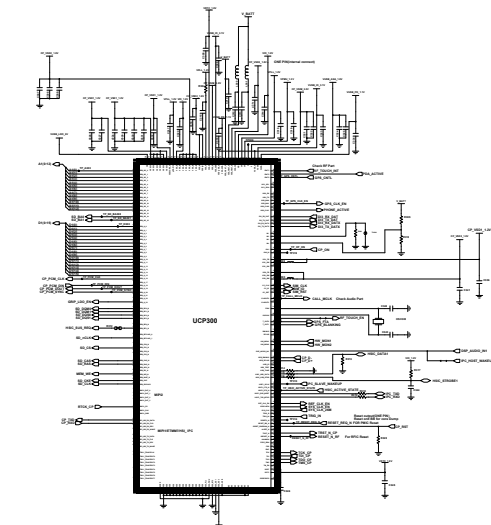
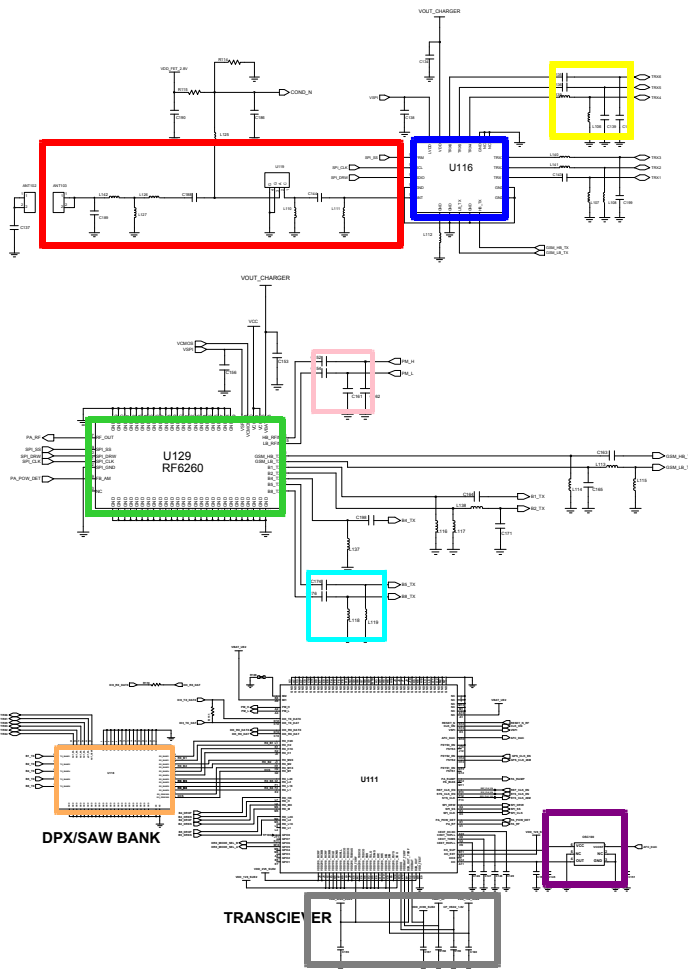
TRANSCEIVER DCDC



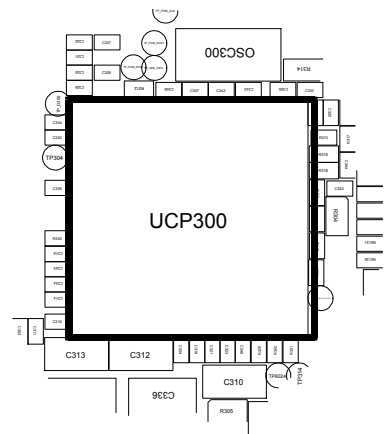
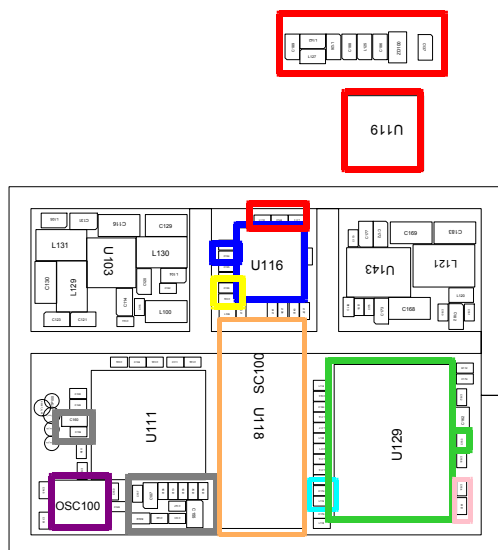
8-3-21. WCDMA BAND5 TX



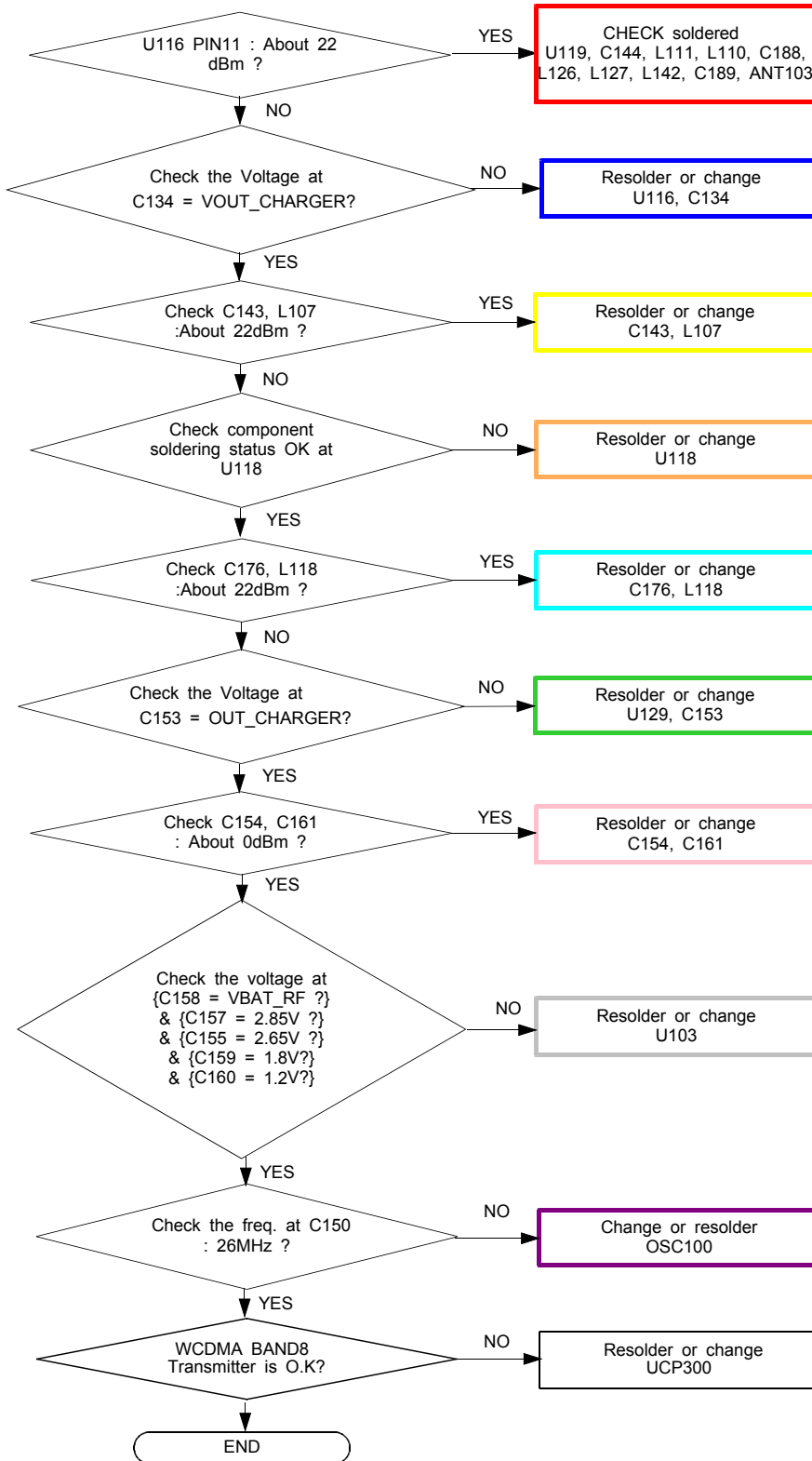
CONTINUOUS TX ON CONDITION
 TX POWER DAC:14500 CODE
 APPLIED
 WCDMA Band5 CH : 4408
 RBW : 100KHz
 VBW : 100KHz
 SPAN : 10MHz
 REF LEV. : 10dBm
 ATT. : 20dB



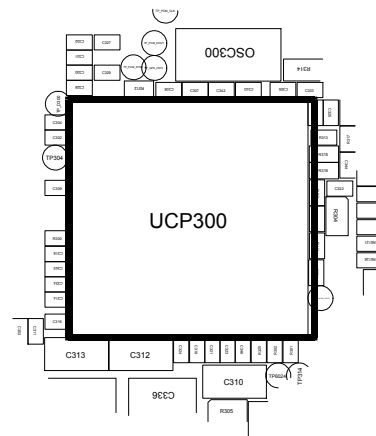
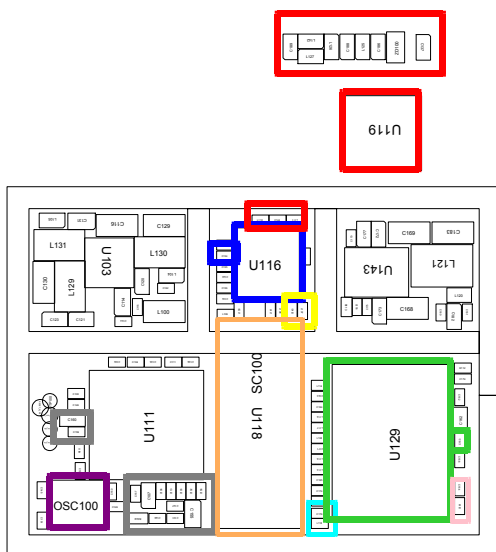
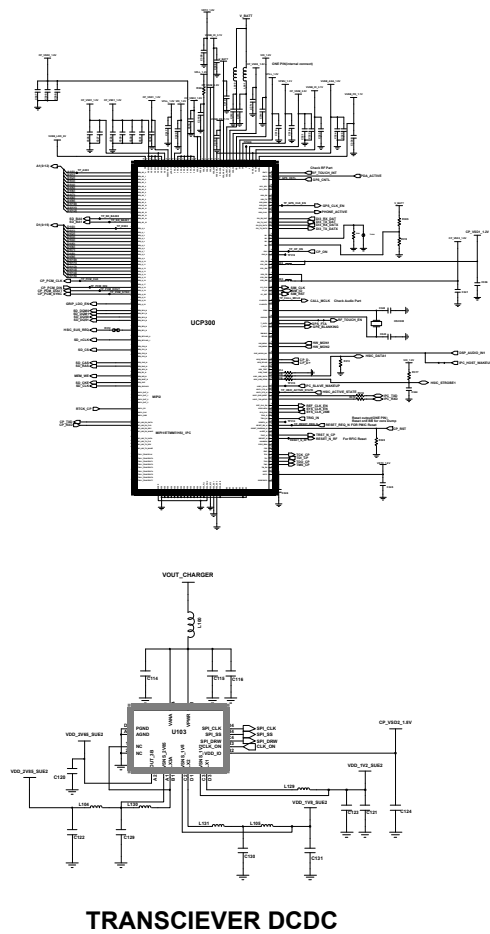
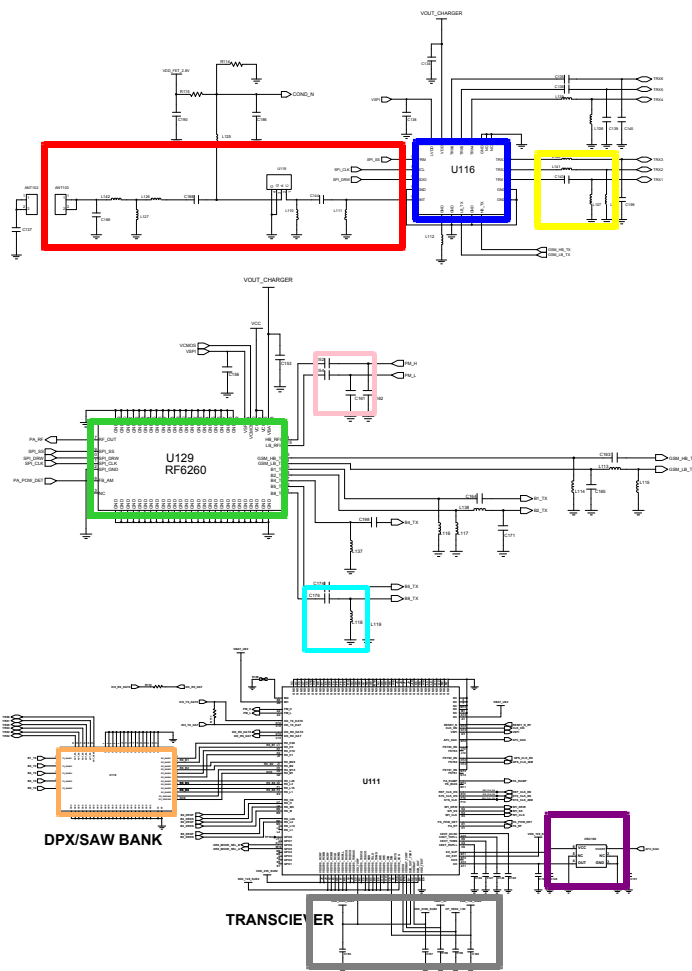
TRANSCEIVER DCDC



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

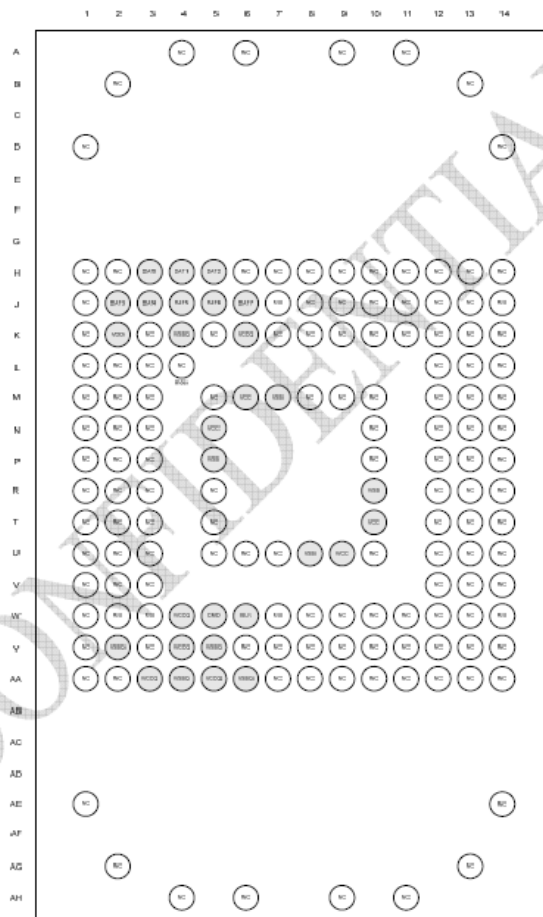
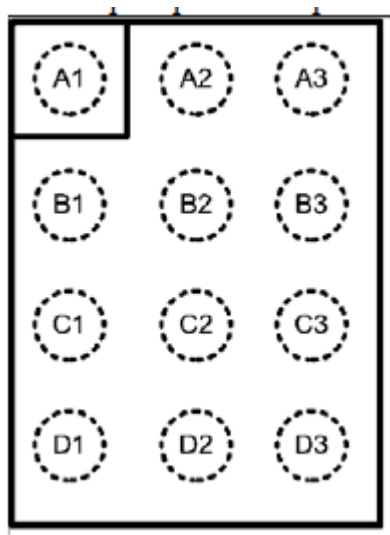


Figure 6- 169 balls - Ball Array (Top View)

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	C2CA	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)

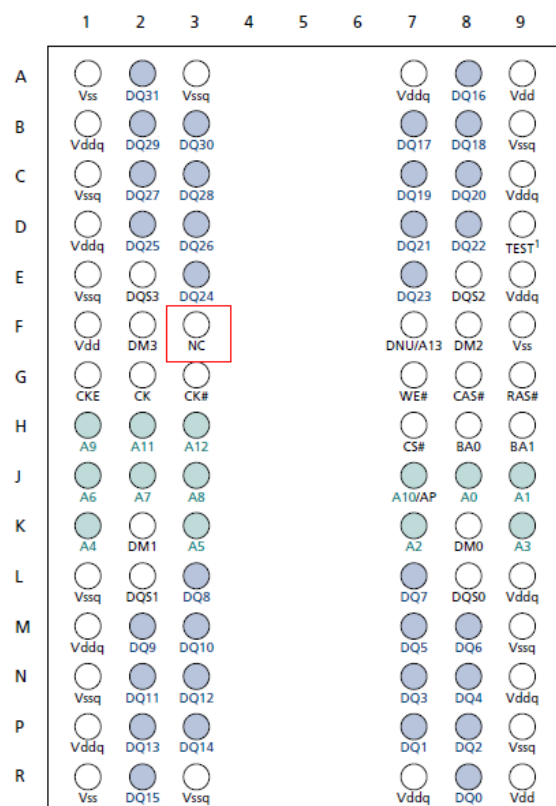
UME6000

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	$\overline{\text{DQ53}}$	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	$\overline{\text{DQ51}}$	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	$\overline{\text{CS0}}$	$\overline{\text{CS1}}$	NC	NB	$\overline{\text{DQ50}}$	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	$\overline{\text{DQ52}}$	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 : 

(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_VBATT_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_VBATT_SD1	C
D	MEM_A_11	MEM_A_2	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	ISS	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_VBATT_PMU	VUSB_ANA	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	MIP1_HSI_RX_RDY	x	MIP1_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	MIP1_HSI_TX_RDY	MIP1_HSI_RX_FLG	MIP1_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	MIP1_HSI_RX_DATA	MIP1_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	MIP1_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_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_STRB	DPLUS	ALERT_N	SYSCLK_N	D0_RX_D_ATX	D0_RX_D_AT	TMS	TDI	TDO	USIF1_RTS_N	USIF1_CTS_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_DCXO	XO	XOX	NC	A
B	VDDBAT_TXRF	VDD_TXRF	NB	NB	GPO2	NB	NB	MI2	D2B_OUT	AFC_DATC	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_TXDAT	DI3_RXDAT	C
D	PA_POW_DET	VDD1V8_FBR	SPI_CLK	SPI_DRW	VDD1V8_TXLO	NB	NB	CEXT_TXPLL	GND	VDD2V5_FSYS	NB	DI3_TXDATX	DI3_RXDATX	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_RCLO	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	GPO6	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

