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5	MSM8909_CONTROL_1		
6	MSM8909_CONTROL_2		
7	MSM8909_GPIO		
8	MSM8909_POWER_1		
9	MSM8909_POWER_2		
10	MSM8909_GND		
11	PM8909_CONTROL_1		
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14	AUDIO		
15	SENSORS		
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17	MULTIMEDIA		
18	INTERFACE		
19	NFC		
30	PRIMARY_ANTENNA_TUNER		
31	MMPA_RF7460		
32	BAND7_B28_TX		
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34	GSM_RX_LB_TX		
35	DRX		
36	WTR4905		
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Title

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Debug

MODE_0
MODE_1
CONFIG
JTAG CONNECTOR
JTAG

WCN

FM_RX_PWB
FM_RX_HS
HS
FM_DATA
FM_SSBI
BT_DATA
BT_SSBI
BT_STROBE
BT_STROBE
GPIO
PDET_IN
WL_RF_PDET_IN
BB_QN
BB_QP
BB_IN
BB_IP
WLAN_IQ
SCAN_MODE
BT/WLAN/FM
WCN3610
XO_G
PM8909
ANT
WIFI/GPS Diplexer

RF

ANT
PRIMARY SWITCH
AUX SWITCH
GSM HB TX
GSM/LB TX
TRX B5/B8/B20
TRX B8
TRX B4
TRX B2/B25/B3
TRX B1
MMPA
B5/B8/B20 TX
GSM/LB TX
B7 PA
B28 PA
B7 TX
B28 TX
SPDT
SPDT
SPDT
SPDT
SPDT
B20 RX
B28A RX
B28B RX
B5/GPS5 RX
B8/G900 RX
G900 OR GPS0 RX
C1800/1900 RX
G900/DRX RX
B4 RX
B2/G1900 OR B5/G1800 RX
B1 RX
B7 RX
B20 OR B28 DRX
B5 OR B8 DRX
B1 OR B4 DRX
B3 OR B2 DRX
B7 DRX
WTR4905
TX_DA1
TX_DA2
TX_DA3
TX_DA4
TX_DA5
PRX_LB1
PRX_LB2
PRX_LB3
PRX_MB1
PRX_MB2
PRX_MB3
PRX_HB1
PRX_HB2
DRX_LB1
DRX_LB3
DRX_MB1
DRX_MB2
DRX_HB2
GPS_IN
GPS_RX_I/Q
CH0_TX_I/Q
CH0_RX_I/Q
CH1_RX_I/Q
CH0_GP_DATA
CH1_GP_DATA
CH1_TX_Q
CH1_RX_I/Q

UIM CARD

UIM2
DATA
CLK
RST
UIM1
DATA
CLK
RST

KEY

Volume_Up
CAM_KEY
KEY_SENSE_0
KEY_SENSE_1

MSM8909

Sensor

GS_INT
GYRO_INT
CM_INT
PS_INT
ALS/PS
AP3426H
GS
BMA222E
SDA
SCL
Sensor_I2C

CTP

TP_RST
TP_INT
CTP
SYSTAR/FOCAL:FT6336S
SDA
SCL
CTP_I2C

Display

LCD_RESET
LCD_SYNC
4 lane DSI
RESET_N
TE
CLK_N/P
DATA[0:3]_N/P
LCD
4.5"FWVGA
IC: ???
LEDA
LEDK
CABC
LCD ±¹³LIC
PWM

Camera

CAM1_PWDN
CAM1_RST
1 lane CSI
PWDN
RESET
CLK_N/P
DATA_N/P
2M
Front Camera
IC: OV2680/DC2355
CAM_I2C
CAM_MCLK
CAM2_PWDN
CAM2_RST
4 lane CSI
SDA
SCL
MCLK
PWDN
RESET
CLK_N/P
DATA[0:3]_N/P
5MP
Rear Camera
IC:H8544

Memory

SDCC1
SDCC1_CLK
SDCC1_CMD
CLK
CMD
SDIO_DATA[0:7]
EMMC 8GB ;DDR 8Gb
H9TQ64A8GTMCUR-KUM
SDCC2
SDCC2_CLK
SDCC2_CMD
CLK
CMD
SDIO_DATA[0:3]
SD CARD

Audio

CDC_PDM
CDC_PDM
PM8909
HS_MIC
HS_OUTPUT
MIC
GND
HPL
HPR
MIC0
MIC1
REC_OUTPUT
SPK_OUTPUT
SPKR
SPKL
1st MIC
2nd MIC
Receiver
Speaker

PMIC

CXO_EN
CXO_IN
SLEEP_CLK
PMIC_INT
RESIN_N
PS_HOLD
SPMI
INT
RESET_OUT
PS_HOLD
CLK
DATA
BBCLK_EN
BB_CLK
SLEEP_CLK
INT
PON_RST
PS_HOLD
SPMI
V_RTC
WTR4905
WCN3610
RF_CLK1
RF_CLK2
19.2MHz
19.2MHz
XO
19.2M XO
19.2MHz
32.768KHz
PM8909
GPIO[0:7]
1 PMIC_AUDIO_REF_CLK
2 EXT_5V_BOOST_EN
3 NC
4 BATT_UIM_ALARM
5 FLASH_STROBE_TRIG
6 LCD_CABC_WLED
7 TX_GTR_THRESH
8 NC
MPP[0:7]
1 VREF_MSM_PX_MPP1
2 HR_LED_SINK
3 VREF_LDO_MPP3
4 LED1_SINK
5 PA_THERM1_0
6 LED2_SINK
7 BOARD_ID
8 PA_THERM1_1
MPP
RESET_IN
KPDPWR_N
PHY_VBUS
VBUS
Volume_down
PWR_KEY
MSM8909
USB_VBUS
USB_VDD_3V3
USB
OVP
5V BOOST
WCD9306
VCHG
SWITCH CHARGER
FLASH LED
Inductor
VPH_PWR
FET
VPH_PWR
MOTO
VIB_DRV_N

COMPANY:	<Company Name>
TITLE:	<Title>
DRAWN: <Drawn By>	DATED: <Drawn Date>
CHECKED: <Checked By>	DATED: <Checked Date>
QUALITY CONTROL: <QC By>	DATED: <QC Date>
RELEASED: <Released By>	DATED: <Release Date>
CODE: <Code>	SIZE: D
DRAWING NO: <Drawing Number>	REV: <Revision>
SCALE: <Scale>	SHEET: 3 OF 27

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Note5
WCSS_XO can be grounded
It is required only for 5GHz

WLAN_XO AA6
CXO Y25
CXO_EN AA25
SLEEP_CLK AA26
RESIN F26
RESOUT AD2
MODE_0 AD26
MODE_1 AD27
PS_HOLD AA27
SRST H4
TCK F1
TDI G2
TDO G4
TMS H3
TRST G3
EBI_VREF_CA F12
EBI_VREF_DXX G21
DNC_15 W26
DNC_14 AC26
DNC_13 AR26

BB_CLK [9]
RFCLK_MSM_EN [9]
SLEEP_CLK [9]
MSM_RESIN_N [9]
MSM_RESOUT_N [14]
[9] PS_HOLD
C0522 C0201_10NF
VREF_LPDDR3 [9,14]
C0502 C0201_100NF_6.3V_K

SDC2_CLK B1 — SDC2_SDCARD_CLK [14]
SDC2_CMD A7 — SDC2_SDCARD_CMD [14]
SDC2_DATA_0 B7 — SDC2_SDCARD_D0 [14]
SDC2_DATA_1 C1 — SDC2_SDCARD_D1 [14]
SDC2_DATA_2 B3 — SDC2_SDCARD_D2 [14]
SDC2_DATA_3 C7 — SDC2_SDCARD_D3 [14]
R0201_33R R0512

USB_HS_DM V29 — USB_HS_D_M [16]
USB_HS_DP U29 — USB_HS_D_P [16]
Note3
90ohm Diff Imp routing for USB
USB_HS_ID T27
USB_HS_REXT V28 — R0505 R0201_200R_F
DNC_12 W25
Note2
Place R1103 close to MSM pin

PMIC_SPMI_CLK AC29 — SPMI_CLK [9]
PMIC_SPMI_DATA AD29 — SPMI_DATA [9]

R0501 R0201_10K_F
TP_1.0
R0502 R0201_1K_F
TP_1.0
R0503
TP_1.0
UART_MSM_TX [5]
FORCE_USB_BOOT [5]
VREG_L5_1P8
[5,6,11,12,14,18,19,25,27]

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Note1
Place R1201 close to MSM Pin

EBI0_CS0_N [14] — EBI_CS0_N A5
EBI0_CS1_N [14] — EBI_CS1_N B5
EBI0_CLK_C [14] — EBI_CKB C10
EBI0_CLK_T [14] — EBI_CK D10
EBI0_CKE0 [14] — EBI_CKE_0 B4
EBI0_CKE1 [14] — EBI_CKE_1 A4
EBI0_DM0 — EBI_DM_0 B18
EBI0_DM1 — EBI_DM_1 B19
EBI0_DM2 — EBI_DM_2 A13
EBI0_DM3 — EBI_DM_3 A23
EBI0_DQS0_C [14] — EBI_DQSB_0 D18
EBI0_DQS0_T [14] — EBI_DQS_0 C18
EBI0_DQS1_C [14] — EBI_DQSB_1 C22
EBI0_DQS1_T [14] — EBI_DQS_1 D22
EBI0_DQS2_C [14] — EBI_DQSB_2 C12
EBI0_DQS2_T [14] — EBI_DQS_2 D13
EBI0_DQS3_C [14] — EBI_DQSB_3 C25
EBI0_DQS3_T [14] — EBI_DQS_3 D25
EBI0_CA0 — EBI_CA_0 B8
EBI0_CA1 — EBI_CA_1 A8
EBI0_CA2 — EBI_CA_2 A7
EBI0_CA3 — EBI_CA_3 B7
EBI0_CA4 — EBI_CA_4 B6
EBI0_CA5 — EBI_CA_5 C9
EBI0_CA6 — EBI_CA_6 C7
EBI0_CA7 — EBI_CA_7 D9
EBI0_CA8 — EBI_CA_8 C6
EBI0_CA9 — EBI_CA_9 D7

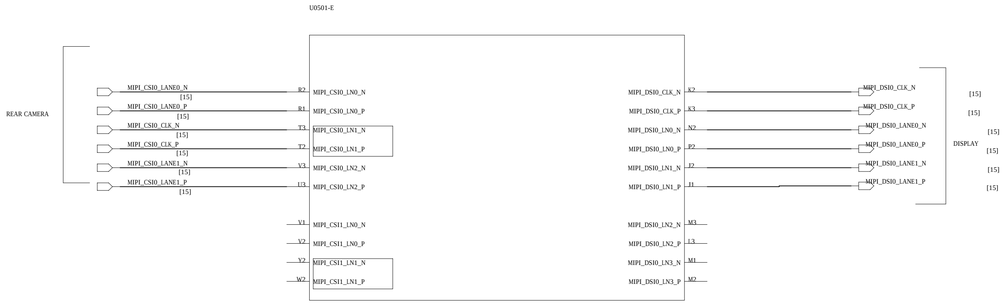
EBI_CAL_REXT G6 — R0503 R0201_240R_F

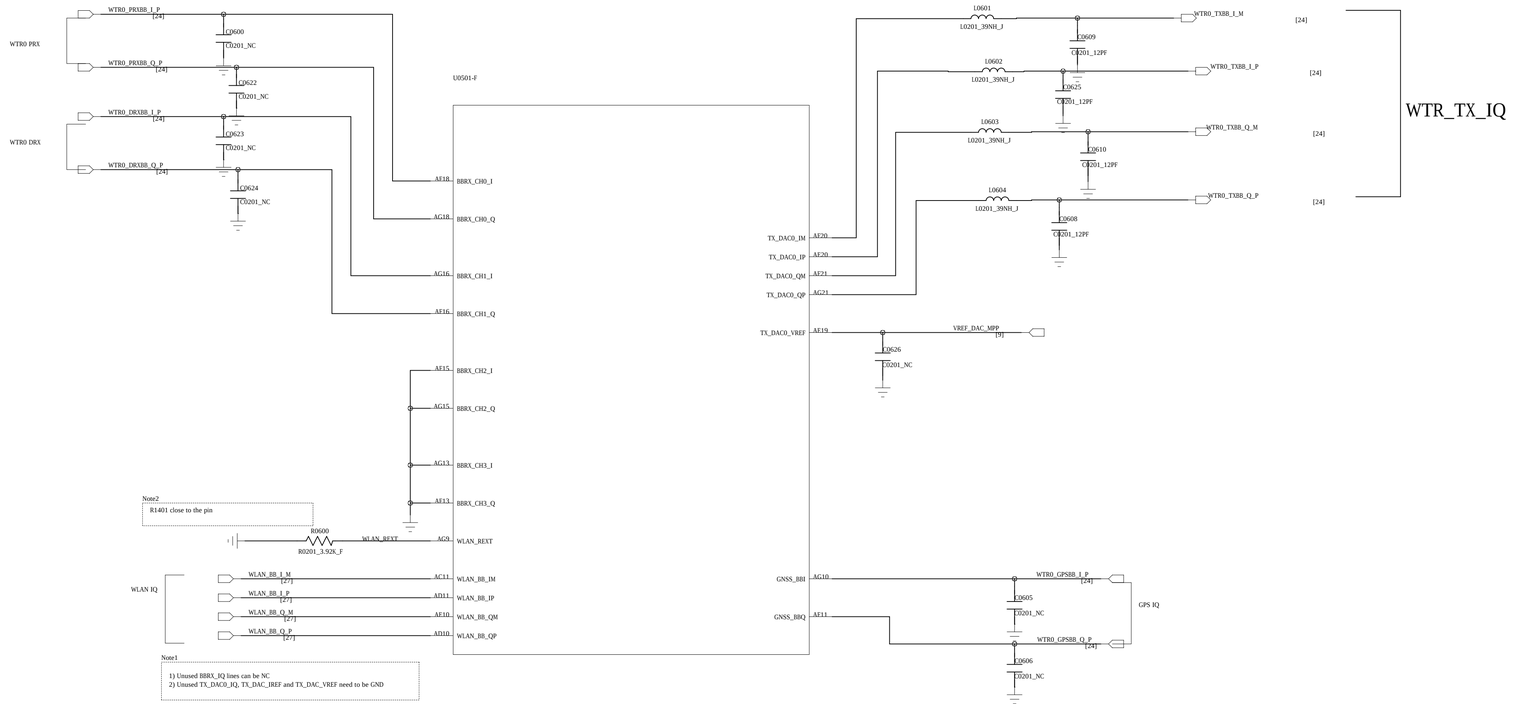
EBI_DQ_0 B14 — EBI0_DQ0 [14]
EBI_DQ_1 B16 — EBI0_DQ1 [14]
EBI_DQ_2 D19 — EBI0_DQ2 [14]
EBI_DQ_3 B15 — EBI0_DQ3 [14]
EBI_DQ_4 C19 — EBI0_DQ4 [14]
EBI_DQ_5 B17 — EBI0_DQ5 [14]
EBI_DQ_6 A17 — EBI0_DQ6 [14]
EBI_DQ_7 A16 — EBI0_DQ7 [14]
EBI_DQ_8 B20 — EBI0_DQ8 [14]
EBI_DQ_9 A20 — EBI0_DQ9 [14]
EBI_DQ_10 A19 — EBI0_DQ10 [14]
EBI_DQ_11 D21 — EBI0_DQ11 [14]
EBI_DQ_12 B22 — EBI0_DQ12 [14]
EBI_DQ_13 C21 — EBI0_DQ13 [14]
EBI_DQ_14 B21 — EBI0_DQ14 [14]
EBI_DQ_15 A22 — EBI0_DQ15 [14]
EBI_DQ_16 A10 — EBI0_DQ16 [14]
EBI_DQ_17 C13 — EBI0_DQ17 [14]
EBI_DQ_18 B11 — EBI0_DQ18 [14]
EBI_DQ_19 B10 — EBI0_DQ19 [14]
EBI_DQ_20 A11 — EBI0_DQ20 [14]
EBI_DQ_21 B12 — EBI0_DQ21 [14]
EBI_DQ_22 B13 — EBI0_DQ22 [14]
EBI_DQ_23 D14 — EBI0_DQ23 [14]
EBI_DQ_24 C24 — EBI0_DQ24 [14]
EBI_DQ_25 B25 — EBI0_DQ25 [14]
EBI_DQ_26 B23 — EBI0_DQ26 [14]
EBI_DQ_27 A25 — EBI0_DQ27 [14]
EBI_DQ_28 D24 — EBI0_DQ28 [14]
EBI_DQ_29 A26 — EBI0_DQ29 [14]
EBI_DQ_30 B27 — EBI0_DQ30 [14]
EBI_DQ_31 B26 — EBI0_DQ31 [14]

A1 QL620_B8
J2 QL620_DC
K1 QL620_RF_MAIN
HJ1 QL620_WIFI
SD1 QL620_RF1
A2 QL620_RF_2101

DRAWN: Zhuyuan Zhao <Drawn By>	DATED: <Drawn Date>	COMPANY: <Company Name>	
CHECKED: <Checked By>	DATED: <Checked Date>	TITLE: <Title>	
QUALITY CONTROL: <QC By>	DATED: <QC Date>	CODE: <Code>	SIZE: D
RELEASED: <Released By>	DATED: <Release Date>	DRAWING NO: <Drawing Number>	REV: <Revision>
		SCALE: <Scale>	SHEET: 3 of 27

MSM8909_CONTROL_2





Title

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		AF29	GPIO_0		
		AF28	GPIO_1		
		AE27	GPIO_2		
		AF28	GPIO_3		
[3]	UART_MSM_TX	AF2	GPIO_4		
		AF2	GPIO_5		
[5,13,16]	SENSOR_I2C_SDA	AF1	GPIO_6		
[5,13,16]	SENSOR_I2C_SCL	AG1	GPIO_7		
		F28	GPIO_8		
		G28	GPIO_9		
		H28	GPIO_10		
[13]	MAG_INT_N	F29	GPIO_11		
[13]	TP_RST_N	K28	GPIO_12		
[13]	TP_INT_N	L28	GPIO_13		
		L29	GPIO_14		
[15]	MIPI_SWITCH_SEL	M29	GPIO_15		
[15]	FLASH_EN_IC	F4	GPIO_16		
[15]	TORCH_EN_IC	F2	GPIO_17		
[5,13]	TP_I2C_SDA	E1	GPIO_18		
[5,13]	TP_I2C_SCL	E2	GPIO_19		
		N25	GPIO_20		
		P25	GPIO_21		
[15]	BACK_CAM_ID	P26	GPIO_22		
[15]	LCD_ID0	P27	GPIO_23		
[15]	LCD_TE0	H2	GPIO_24		
[15]	LCD_RST_N	H1	GPIO_25		
[15]	CAM0_MCLK R0201_33R R0714	AC2	GPIO_26		
[15]	CAM1_MCLK R0201_33R R0715	AC1	GPIO_27		
[15]	CAM1_RST_N	AB2	GPIO_28		
[5,15]	CAM_I2C_SDA	AB3	GPIO_29		
[5,15]	CAM_I2C_SCL	AB4	GPIO_30		
		Y4	GPIO_31		
		AA4	GPIO_32		
[15]	CAM1_STANDBY_N	Y3	GPIO_33		
[15]	CAM0_STANDBY_N	AA2	GPIO_34		
[15]	CAM0_RST_N	AA1	GPIO_35		
[13]	ALSP_INT_N	F4	GPIO_36		
		GPIO_37	D2	FORCE_USB_BOOT	[3]
		GPIO_38	J4		
		GPIO_39	AG5	WCSS_BT_SSBI	[27]
		GPIO_40	AF5	WCSS_WLAN_DATA_2	[27]
		GPIO_41	AD6	WCSS_WLAN_DATA_1	[27]
		GPIO_42	AF4	WCSS_WLAN_DATA_0	[27]
		GPIO_43	AE5	WCSS_WLAN_SET	[27]
		GPIO_44	AD5	WCSS_WLAN_CLK	[27]
		GPIO_45	AF3	WCSS_FM_SSBI	[27]
		GPIO_46	AG2	WCSS_FM_SDI	[27]
		GPIO_47	AE4	WCSS_BT_CTRL	[27]
		GPIO_48	AG3	WCSS_BT_DAT_STB	[27]
		GPIO_49	P29	UIM2_DATA	[16]
		GPIO_50	R29	UIM2_CLK	[16]
		GPIO_51	R28	UIM2_RST	[16]
		GPIO_52	T28		
		GPIO_53	N28	UIM1_DATA	[16]
		GPIO_54	P28	UIM1_CLK	[16]
		GPIO_55	M28	UIM1_RST	[16]
		GPIO_56	U28		
		GPIO_57	W27		
		GPIO_58	G26	GPIO_LED_KEYPAD	[16]
		GPIO_59	W28	CDC_PDM_CLK	[12]
		GPIO_60	Y28	CDC_PDM_SYNC	[12]
		GPIO_61	Y29	CDC_PDM_TX	[12]
		GPIO_62	AA29	CDC_PDM_RX0	[12]
		GPIO_63	AA28	CDC_PDM_RX1	[12]
		GPIO_64	AB28	CDC_PDM_RX2	[12]
		GPIO_65	G27		
		GPIO_66	AG29	RFFE1_CLK	[18,19,25]
		GPIO_67	AG28	RFFE1_DATA	[18,19,25]
		GPIO_68	AG27		
		GPIO_69	AF27		
		GPIO_70	AF26		[23]
		GPIO_71	AF25	RX_MODE_SEL1 SW_SET4	
		GPIO_72	AD25	DANT_VCTL1	[23]
		GPIO_73	AG6	DANT_VCTL	[23]

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[23]	SW_SET5	AF7	GPIO_74		
		AD7	GPIO_75		
[23]	DRX_MODE_SEL2	AD8	GPIO_76		
		AE7	GPIO_77		
PA0_RANGE0 [18]		AE23	GPIO_78		
		AD22	GPIO_79		
[23]	DRX_MODE_SEL0	AF8	GPIO_80		
[23]	DRX_MODE_SEL1	AF8	GPIO_81		
	ANT_VCTL [16]	AG25	GPIO_82		
	ANT_VCTL1 [16]	AF23	GPIO_83		
[26]	EXT_GPS_LNA_EN	AG24	GPIO_84		
[24]	CH0_GSM_TX_PHASE_D0	AF24	GPIO_85		
[24]	RFFE5_CLK	AD23	GPIO_86		
[24]	RFFE5_DATA	AD24	GPIO_87		
		AF25	GPIO_88		
		AF26	GPIO_89		
	VOLUME+ [16]	AF3	GPIO_90		
		AD4	GPIO_91		
CAM_AVDD_2V8_EN [15]		AC4	GPIO_92		
		AC3	GPIO_93		
		GPIO_94	J27	BOARD_1	[5]
		GPIO_95	J29	BOARD_2	[5]
		GPIO_96	J26		
		GPIO_97	J25	EXT_AUDIO_PA_EN	[12]
		GPIO_98	AD28		
		GPIO_99	H29	LCD_INSERT	[15]
		GPIO_100	F28	R0201_33R R0706 SDC1_CLK	[14]
		GPIO_101	F26	SDC1_DATA_7	[14]
		GPIO_102	D28	SDC1_DATA_6	[14]
		GPIO_103	D27	SDC1_DATA_5	[14]
		GPIO_104	A29	SDC1_DATA_4	[14]
		GPIO_105	B29	SDC1_DATA_3	[14]
		GPIO_106	C29	SDC1_DATA_2	[14]
		GPIO_107	F29	SDC1_DATA_1	[14]
		GPIO_108	E28	SDC1_DATA_0	[14]
		GPIO_109	E27	SDC1_CMD	[14]
		GPIO_110	J28		
		GPIO_111	T25		
		GPIO_112	R25		

SDC1

[3,6,11,12,14,18,19,25,27] VREG_L5_1P8

R0713 R0201_NC

R0715 R0201_NC

[5] BOARD_1

[5] BOARD_2

R0722 R0201_100K

R0712 R0201_100K

I2C PULL-UP RESISTORS

SENSORS

[5,6,7,11,13,15] VREG_L6_1P8

R0700 R0201_2.2K

R0702 R0201_2.2K

[5,13,16] SENSOR_I2C_SDA

[5,13,16] SENSOR_I2C_SCL

CAMERAS

[5,6,7,11,13,15] VREG_L6_1P8

R0704 R0201_2.2K

R0705 R0201_2.2K

[5,15] CAM_I2C_SDA

[5,15] CAM_I2C_SCL

TOUCHSCREEN

[5,6,7,11,13,15] VREG_L6_1P8

R0701 R0201_2.2K

R0703 R0201_2.2K

[5,13] TP_I2C_SDA

[5,13] TP_I2C_SCL

GPIOs	BOOT_CONFIG
GPIO_76	BOOT_CONFIG[0],WDOG
GPIO_77	BOOT_CONFIG[1]
GPIO_78	BOOT_CONFIG[2]
GPIO_79	BOOT_CONFIG[3]

BOOT_CONFIG[3:1]	BOOT_CONFIG
0b000	Nand -> SD @ SD2 -> USB2.0
0b001	SD @ SD2 -> USB2.0
0b010	EMMC
0b011	USB2.0

Default Boot Config (0b010) is eMMC

COMPANY: <Company Name>				
TITLE: <Title>				
DRAWN: Zhuyuan Zhao <Drawn By>	DATED: <Drawn Date>			
CHECKED: <Checked By>	DATED: <Checked Date>	CODE: <Code>	SIZE: D	DRAWING NO: <Drawing Number>
QUALITY CONTROL: <QC By>	DATED: <QC Date>			REV: <Revision>
RELEASED: <Released By>	DATED: <Release Date>	SCALE: <Scale>	SHEET: 5 OF 27	

MSM8909_POWER_1

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(VDD_MX)

[7,11] VREG_L3_1P15

C0800 GRM155R60J475ME87D/CL05A475MQSNRNC//JMK105BJ475MV-F
C0402_4.7UF_M
C0803
C0201_1UF

Cap depend on PDN simulation
C0801 C0804 C0807
C0201_100NF_6.3V_K

VDD_MEM_1 Y19
VDD_MEM_2 H9
VDD_MEM_3 H11
VDD_MEM_4 H12
VDD_MEM_5 H14
VDD_MEM_6 H17
VDD_MEM_7 H19
VDD_MEM_8 J15
VDD_MEM_9 K21
VDD_MEM_10 K22
VDD_MEM_11 L15
VDD_MEM_12 T10
VDD_MEM_13 T16
VDD_MEM_14 V10
VDD_MEM_15 V20
VDD_MEM_16 Y14

VDD_QFPROM_PRG P8 VREG_16_1P8 [5,7,11,13,15]

SDC_VREF_PADS H6
UIM_VREF_PADS K25 VDD_PX_BIAS_MPP [9]
C0814 C0822 C0201_100NF_6.3V_K
feedback to the pmi8909 v1

VDD_APC_1 J16
VDD_APC_2 J17
VDD_APC_3 J20
VDD_APC_4 J21
VDD_APC_5 K16
VDD_APC_6 K17
VDD_APC_7 K20 VREG_S1_1P15 [6,7,11]
C0603_22UF_M C0826
C0603_22UF_M C0827
VDD_APC_8 L18
VDD_APC_9 L19
VDD_APC_10 M16
VDD_APC_11 M17
VDD_APC_12 M20
VDD_APC_13 M21
VDD_APC_14 N17
VDD_APC_15 N20
VDD_APC_16 N21
C0818 C0824 C0819 C0825
C0201_100NF_6.3V_K
Cap depend on PDN simulation

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[6,7,11] VREG_S1_1P15
(VDD_CX)
Cap depend on PDN simulation
C0802 C0805 C0809
C0201_1UF C0201_100NF_6.3V_K
C0806 C0808
C0201_100NF_6.3V_K

VDD_CORE_1 H16
VDD_CORE_2 H22
VDD_CORE_3 K8
VDD_CORE_4 K14
VDD_CORE_5 M10
VDD_CORE_6 M12
VDD_CORE_7 M14
VDD_CORE_8 T12
VDD_CORE_9 T14
VDD_CORE_10 T20
VDD_CORE_11 T22
VDD_CORE_12 Y8
VDD_CORE_13 Y12
VDD_CORE_14 Y16

(VDD_PX1)
(LPDDR2)
VDD_P1_1 E7 VREG_L2_1P2 [7,11,14,15]
VDD_P1_2 E8
VDD_P1_3 E9
VDD_P1_4 E23
VDD_P1_5 E24
VDD_P1_6 F9
VDD_P1_7 F10
VDD_P1_8 F14
VDD_P1_9 F18
VDD_P1_10 F19
VDD_P1_11 F22
C0813 C0820 C0201_1UF C0201_100NF_6.3V_K
C0811 C0823 C0201_100NF_6.3V_K

VDD_P2 E3 (SDC) VREG_L12_SDC [11,14]
C0815 C0201_100NF_6.3V_K

(VDD_PX3)
(BO)
VDD_P3_1 AB8 VREG_L5_1P8 [5,6,11,12,14,18,19,25,27]
VDD_P3_2 AB24
VDD_P3_3 AC8
VDD_P3_4 AC23
VDD_P3_5 H24
VDD_P3_6 K6
VDD_P3_7 K7
C0816 C0201_1UF
C0817 C0201_100NF_6.3V_K

VDD_P4 L25 (UIM3)

VDD_P5 L27 (UIM1) VREG_L14_UIM1 [11,16]
VDD_P6 L26 (UIM2) VREG_L15_UIM2 [11,16]
VDD_P7 G24 (eMMC) VREG_L5_1P8 [5,6,11,12,14,18,19,25,27]
C0810 C0812 C0821
C0201_100NF_6.3V_K

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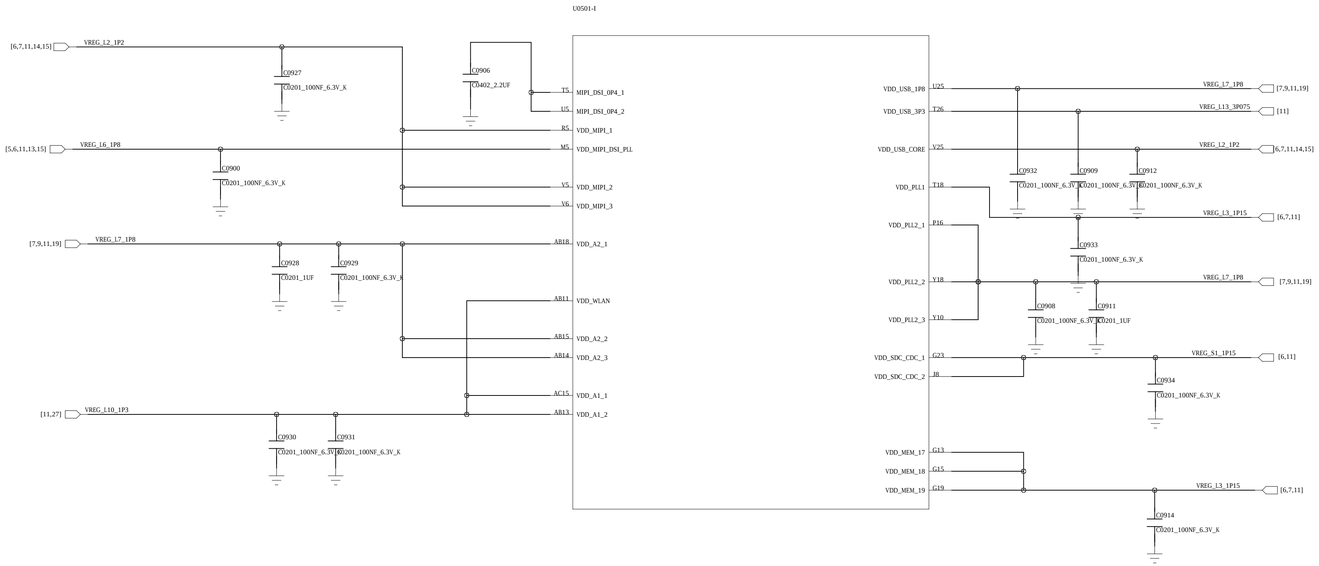
Size Name Rev
Date: Sheet of

MSM8909_POWER_2



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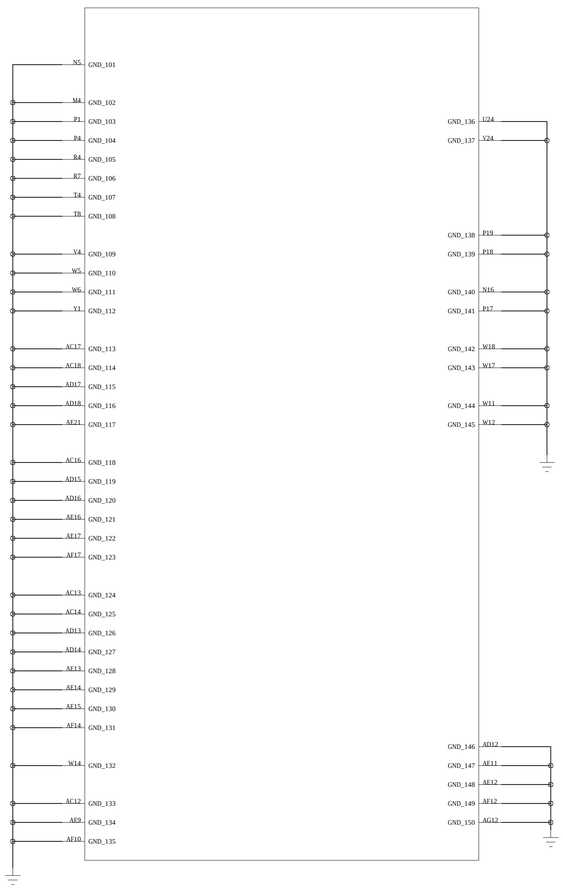
MSM8909_GND

U0501-K



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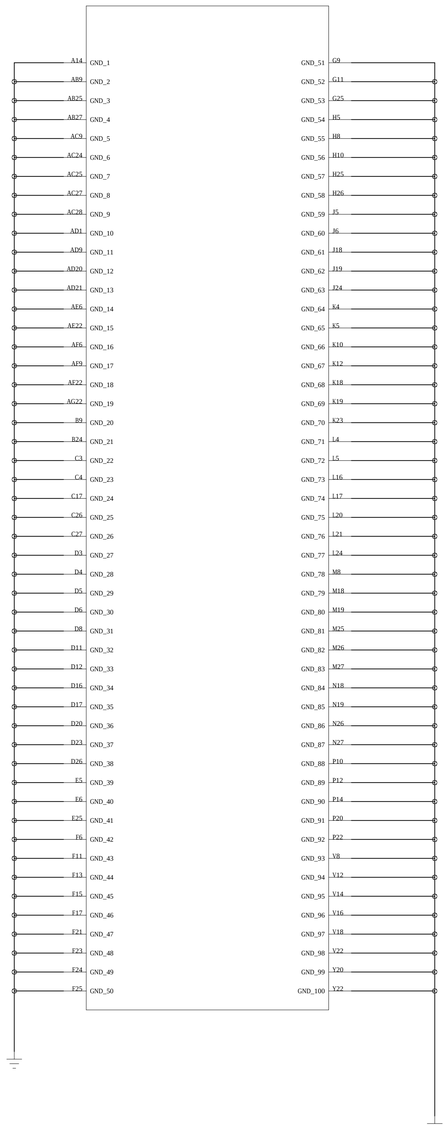

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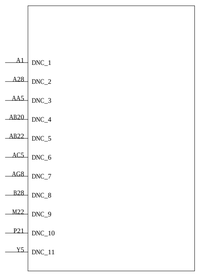

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PM8909_CONTROL_1

Note:

XO GND should connect to XOADC_GND pin using thin trace, then via to main ground plane under the XO_THERM cap ground

X1100

1 XTAL
2 GND/THERMISTOR XTAL
THERMISTOR
4
3

XTAL_19M_IN
XTAL_19M_OUT
PM_XO_THERM [9]

[5] single gnd

C1106 C0201_100NF

U1101-B
PM8909

L1	XTAL19M_IN	
K1	XTAL19M_OUT	
[16] KYPD_PWR_N	E5	KYPD_PWR
[3] MSM_RESIN_N	C6	PON_RESET
[3] PS_HOLD	D4	PS_HOLD
[16] PM_RESIN_N	D6	RESIN
	A1	CBL_PWR
[3] SPMI_CLK	D3	SPMI_CLK
[3] SPMI_DATA	B2	SPMI_DATA
[24] WTR_XO_CLK	N3	RF_CLK1
[27] WCN_XO_CLK	N4	RF_CLK2
[3] BBCLK_MSM_EN	M3	BB_CLK1_EN
[3] BB_CLK	K5	BB_CLK1
	K4	BB_CLK2
	F3	XO_THERM
	G3	GND_XOADC
	M1	GND_XO_ISO

[7,11,19] VREG_L7_1P8
R1100 R0201_100K_F
[9] PM_XO_THERM
C1100 C0201_1NF
single gnd

Note:

XOADC_GND pin route a thin trace to XO GND pin, then connect to main ground with a dedicated via at XO_THERM cap GND pin

AVDD_BYP	B1	AVDD_BYP
VREF_BAT_THERM	L11	VREF_BATT_THERM [9]
BAT_THERM	L10	BATT_THERM [9]
BAT_ID	L12	BAT_ID [16]
PA_THERM	E9	PA_THERM [19]
GND23	J4	
VREF_LPDDR	L9	VREF_LPDDR3 [3,14]
VREG_XO	N1	VREG_XO
VREG_RFCLK	N2	VREG_RF_CLK
SLEEP_CLK1	D2	SLEEP_CLK [3]
GND_XO	L3	
GND_RFCLK	L2	
REF_BYP	N9	
GND_REF	N8	

C1102 C0201_1UF
C1105 C0201_100NF_6.3V_X
C1103 C0201_1UF
C1104 C0201_1UF
single gnd
single gnd
C1101 C0201_100NF_6.3V_X
single gnd

Note
GND_XO and GND_RF MUST connect directly to C0506 and C0505 respectively and then connect to main GND with dedicated via.

GND_REF MUST connect directly to C0508 and then to main GND with a dedicated via.

[9] VREF_BATT_THERM
R0201_1.8K_F R1112
[9] BATT_THERM
R0201_1K R1113
BATT_THERM_L [16]

NTCµç×è10K

U1101-C
PM8909

K7	GPIO_1	MPP_1 E4 VDD_P3_BIAS_MPP [6]
E7	GPIO_2	MPP_2 M6 PWM_OUT [15]
E6	GPIO_3	MPP_3 K3 VREF_DAC_MPP [4]
K6	GPIO_4	MPP_4 J3 FORT_CAM_ID [15]

Note:

~~Swap GPIO1 and GPIO3 to avoid BUA issue.~~

Note:

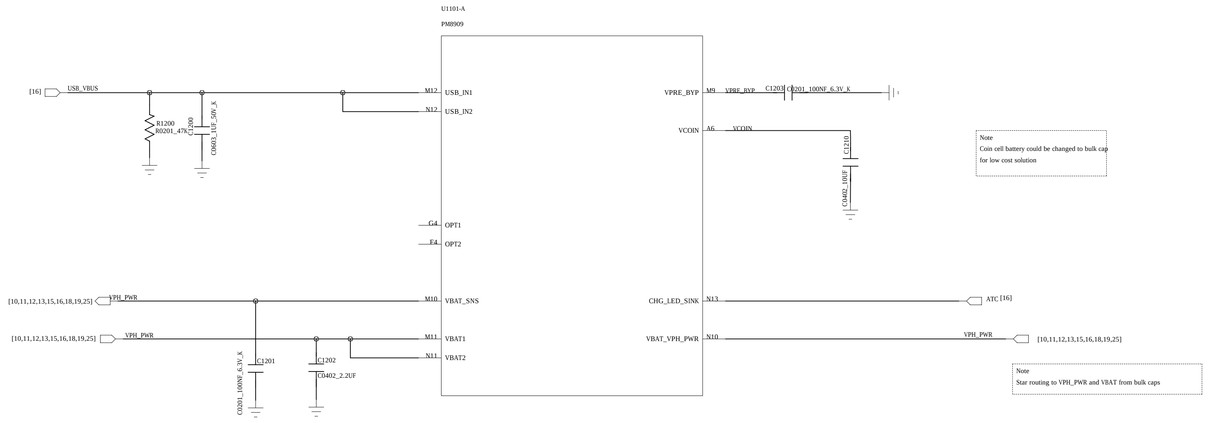
Change the MPP2 and MPP4 assignment to mitigate PWM coupling risk to XTAL_OUT pin

Title

Size | Name | Rev

Date: | Sheet of

PM8909_CONTROL_2



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Size	Name	Rev

Date: Sheet of

PM8909_POWER

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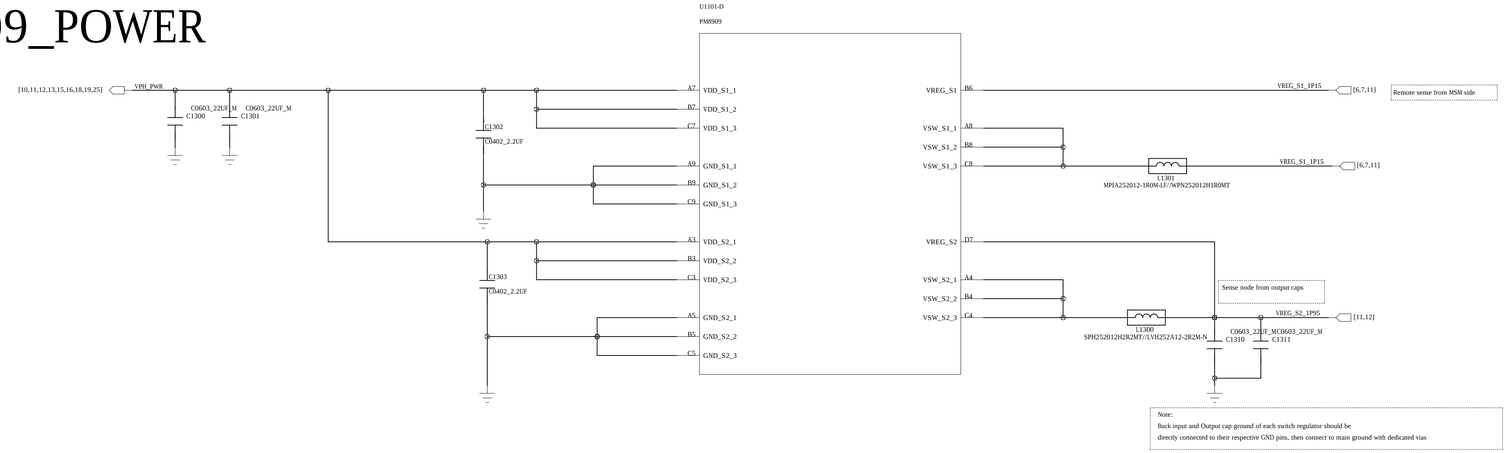

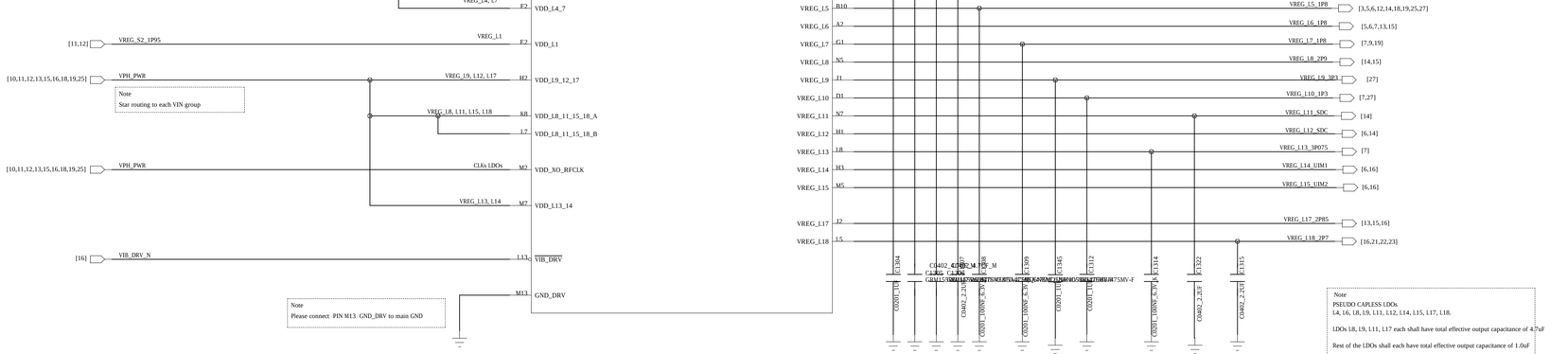

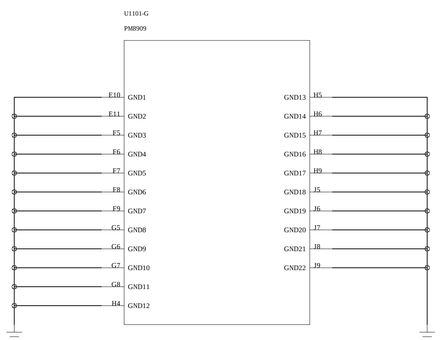

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		SCALE: <Scale>	SHEET: 1 of 27

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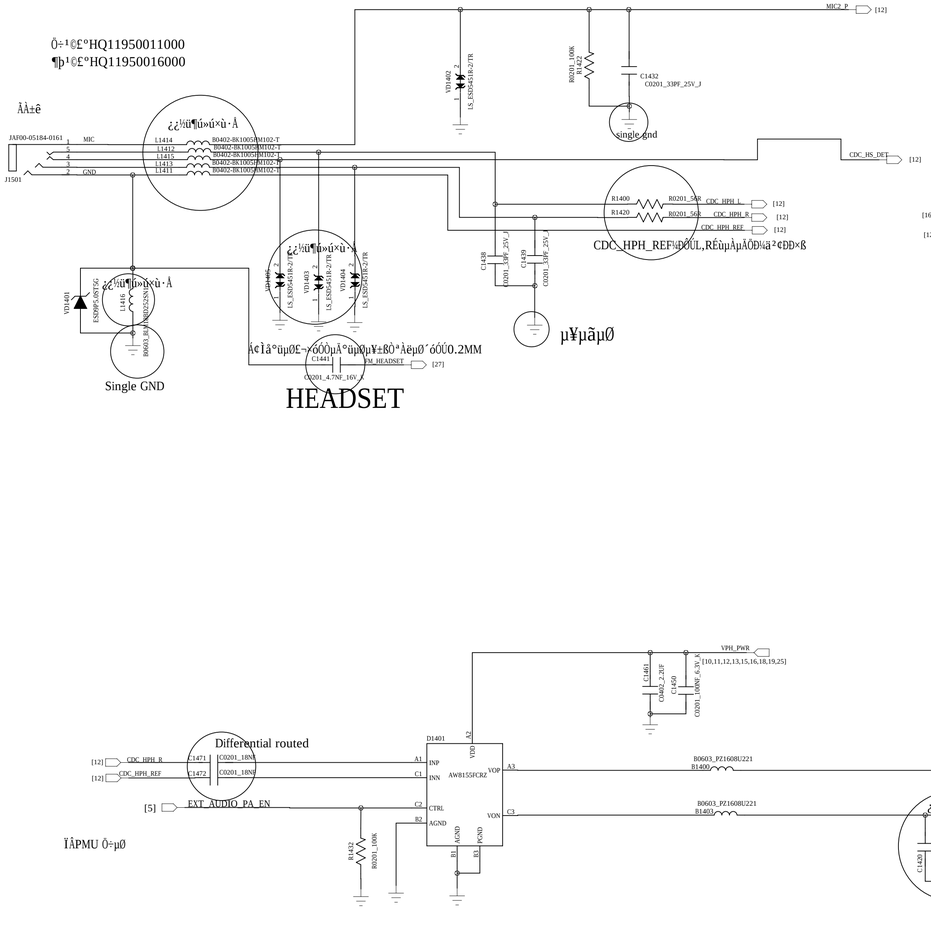

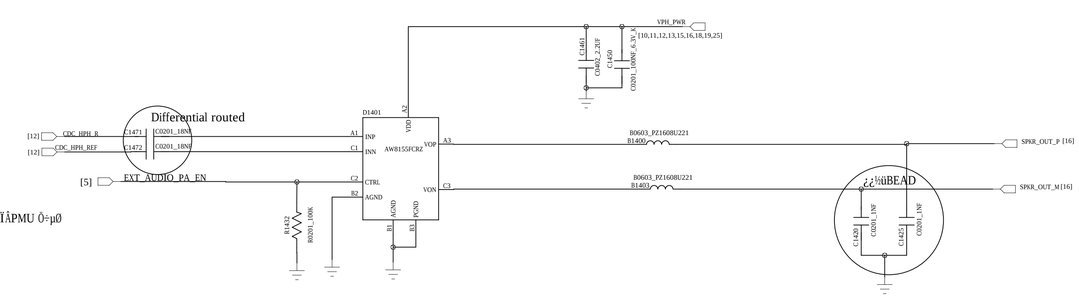

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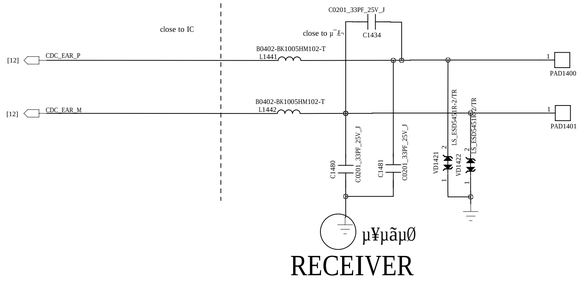

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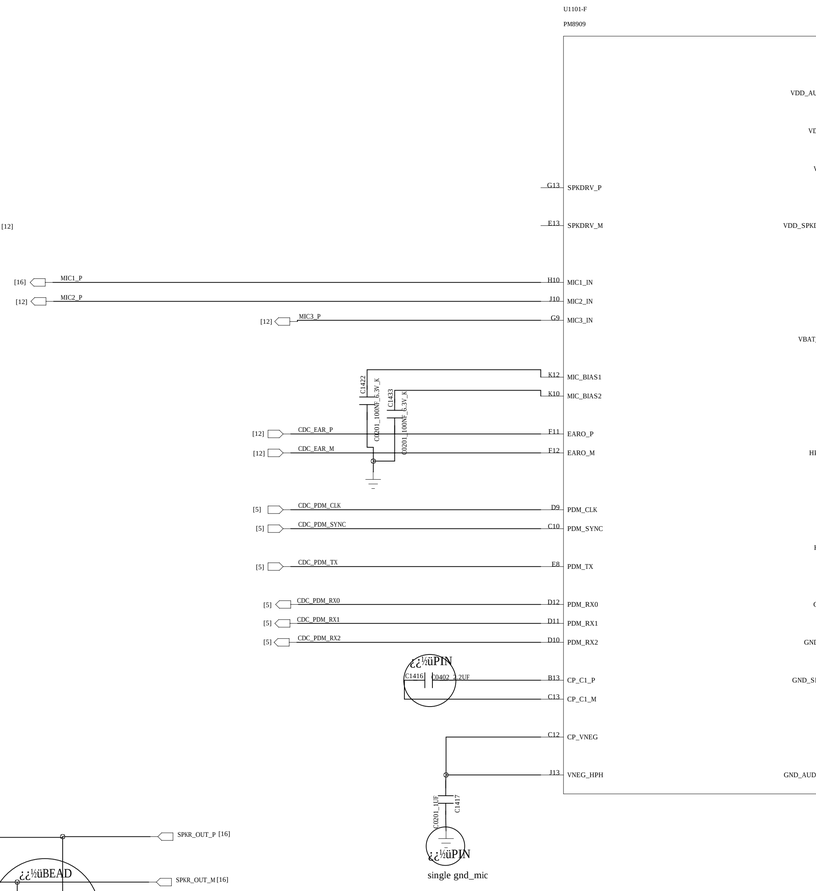

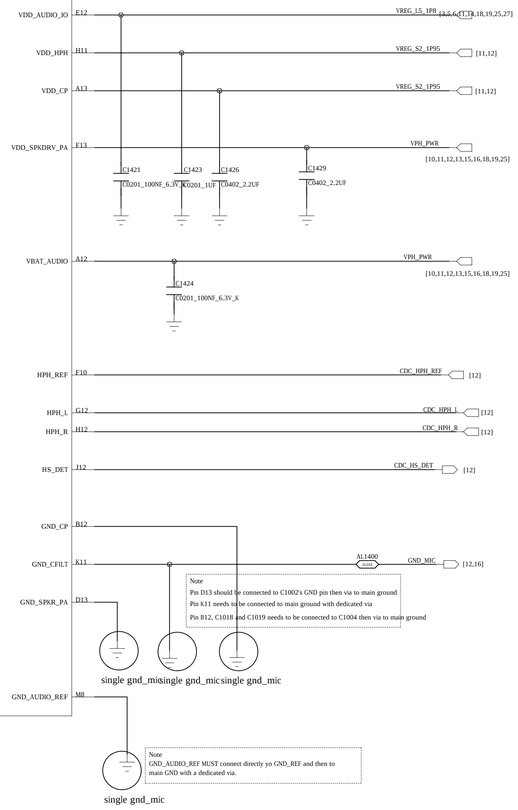

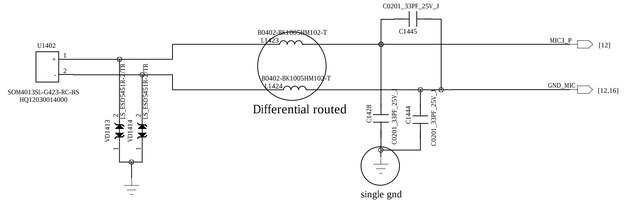

SECONED MIC

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LTR	ECO NO:	APPROVED:	DATE:

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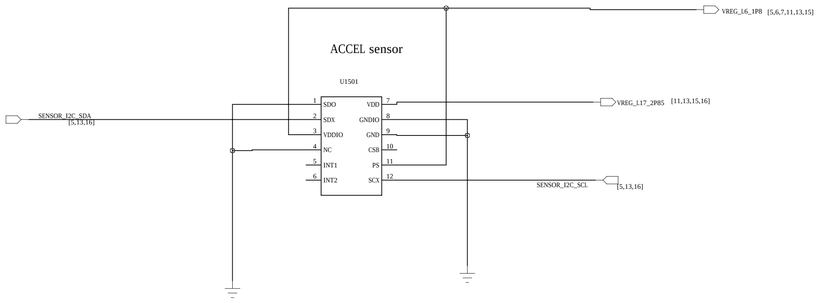

G-sensor

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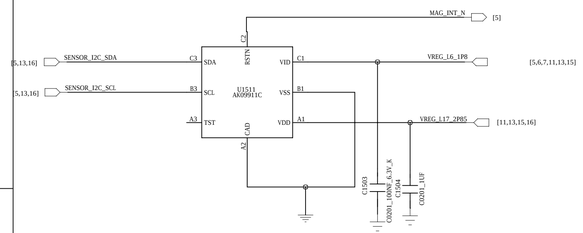

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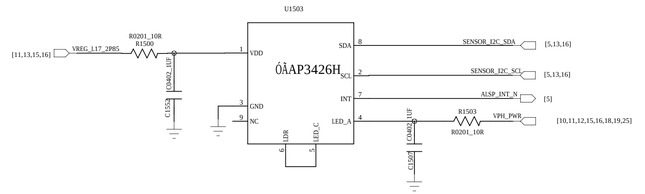

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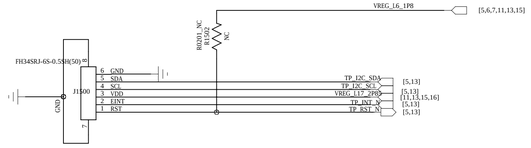

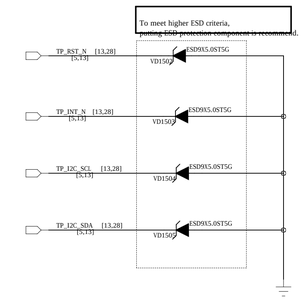

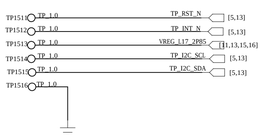

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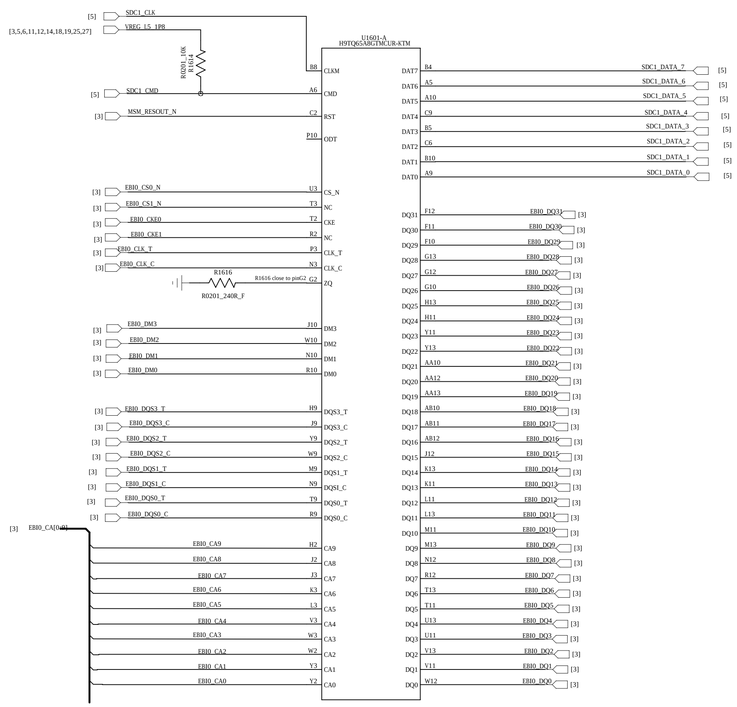

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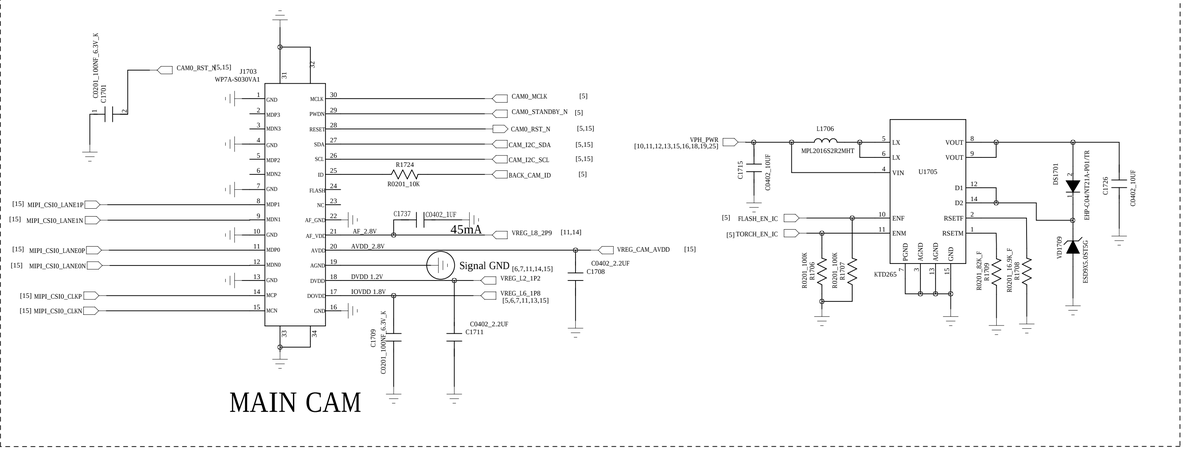

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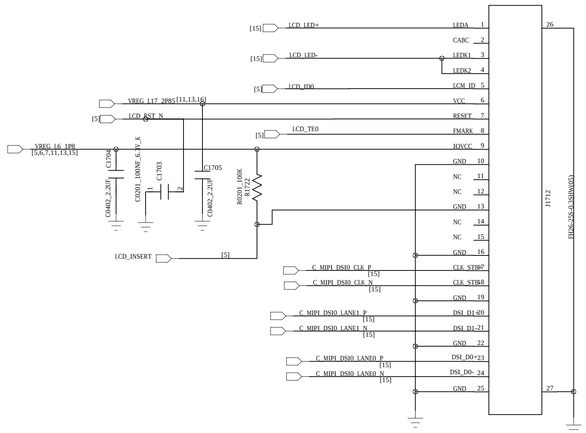
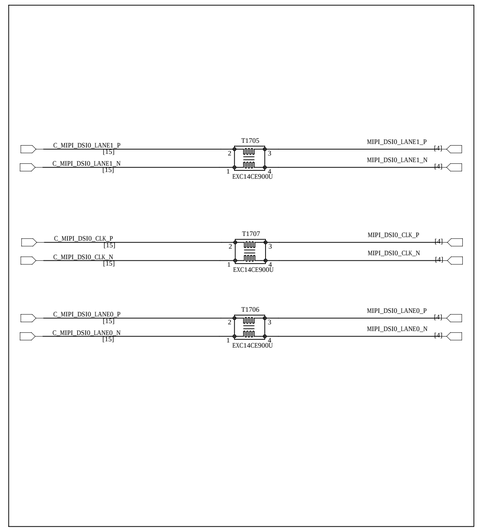
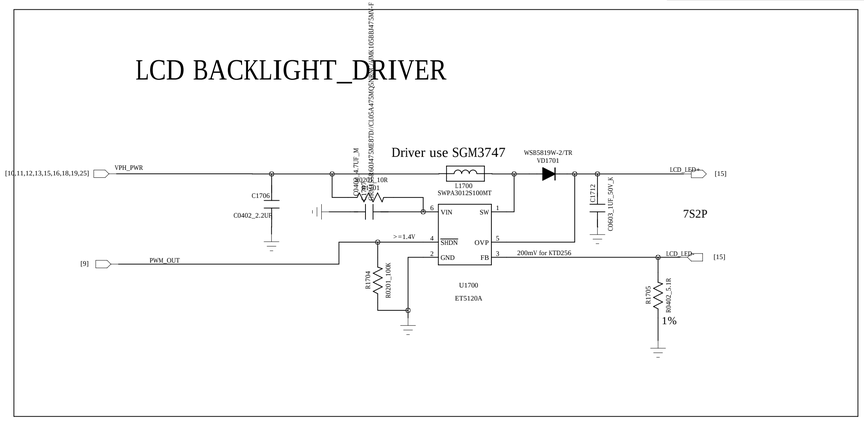


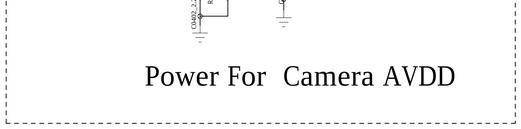
LCD-MIPI DSI EMI



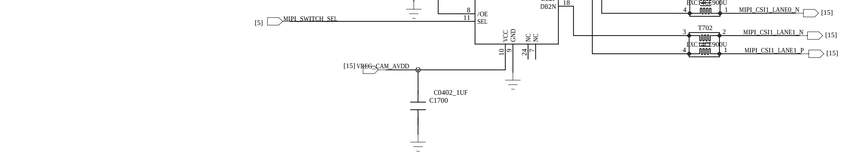
LCD BACKLIGHT_DRIVER



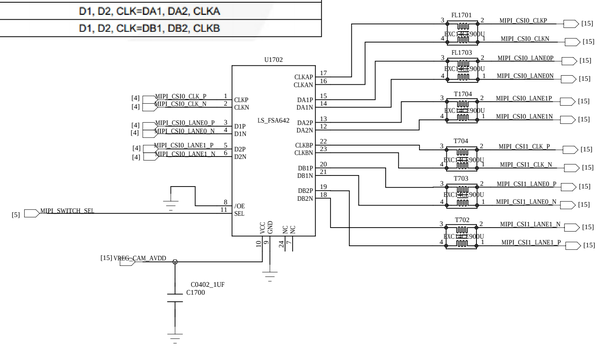
Power For Camera AVDD



MIPI switch



SEL	/OE	Function
Don't Care	HIGH	Disconnect
LOW	LOW	D1, D2, CLK=DA1, DA2, CLKA
HIGH	LOW	D1, D2, CLK=DB1, DB2, CLKB



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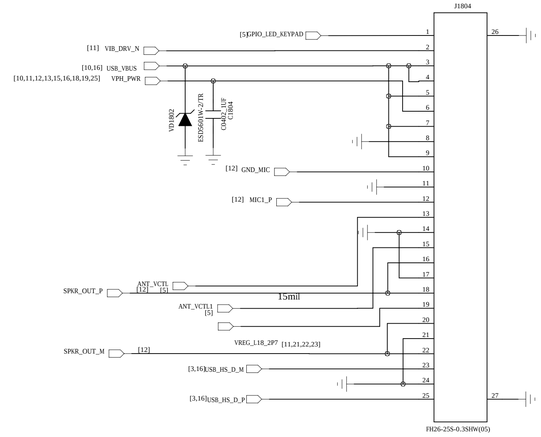
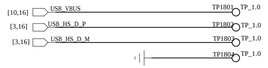
INTERFACE





USB

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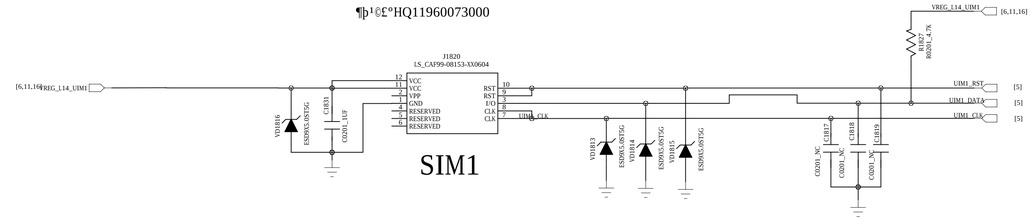

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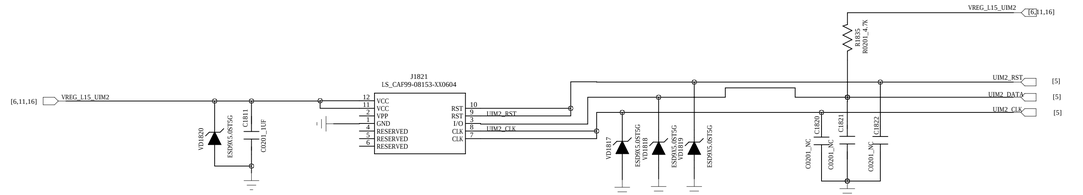

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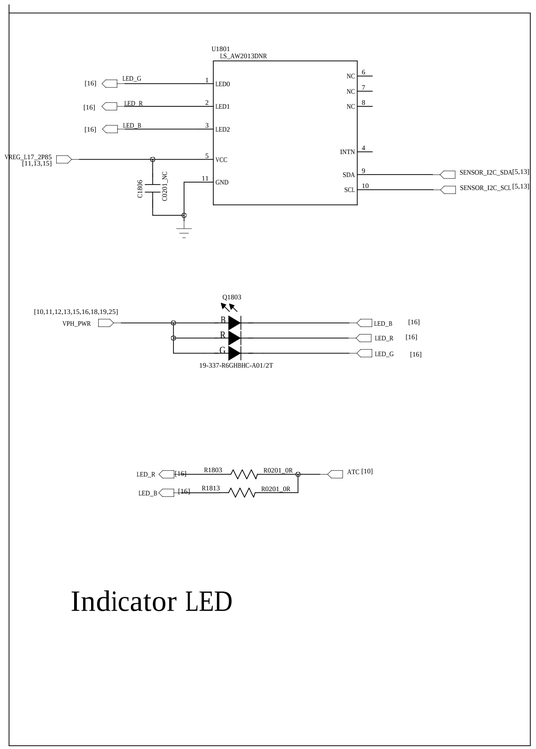
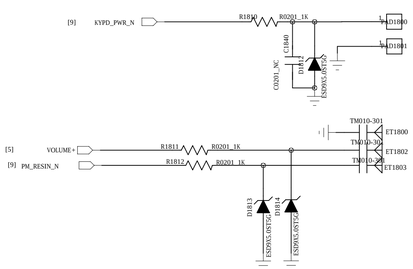


Indicator LED



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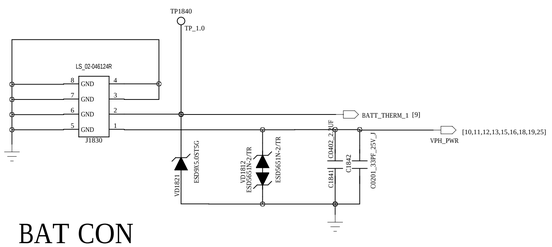

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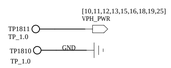

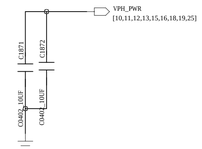

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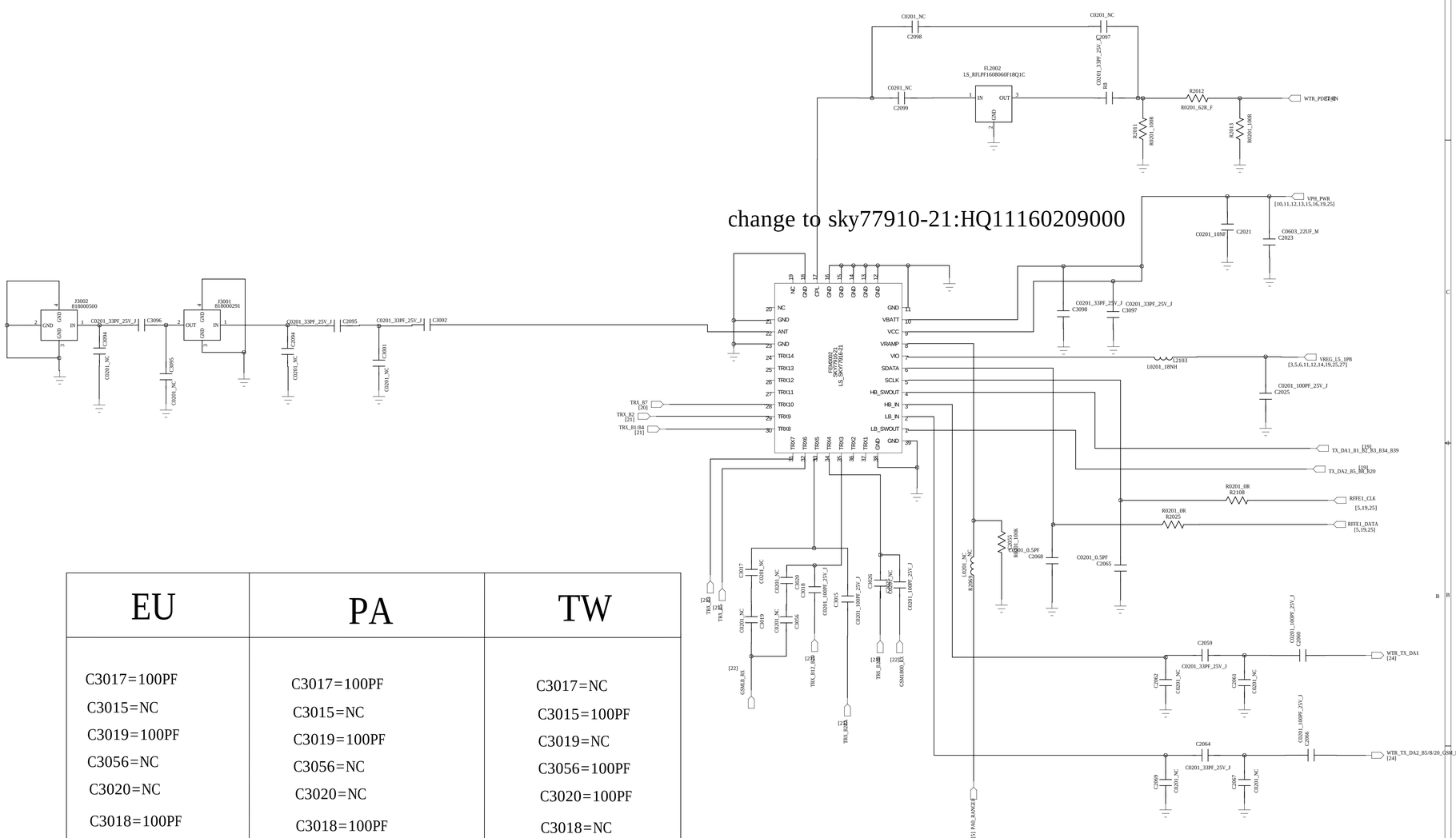
PRIMARY_ANTENNA_SWITCH



EU	PA	TW
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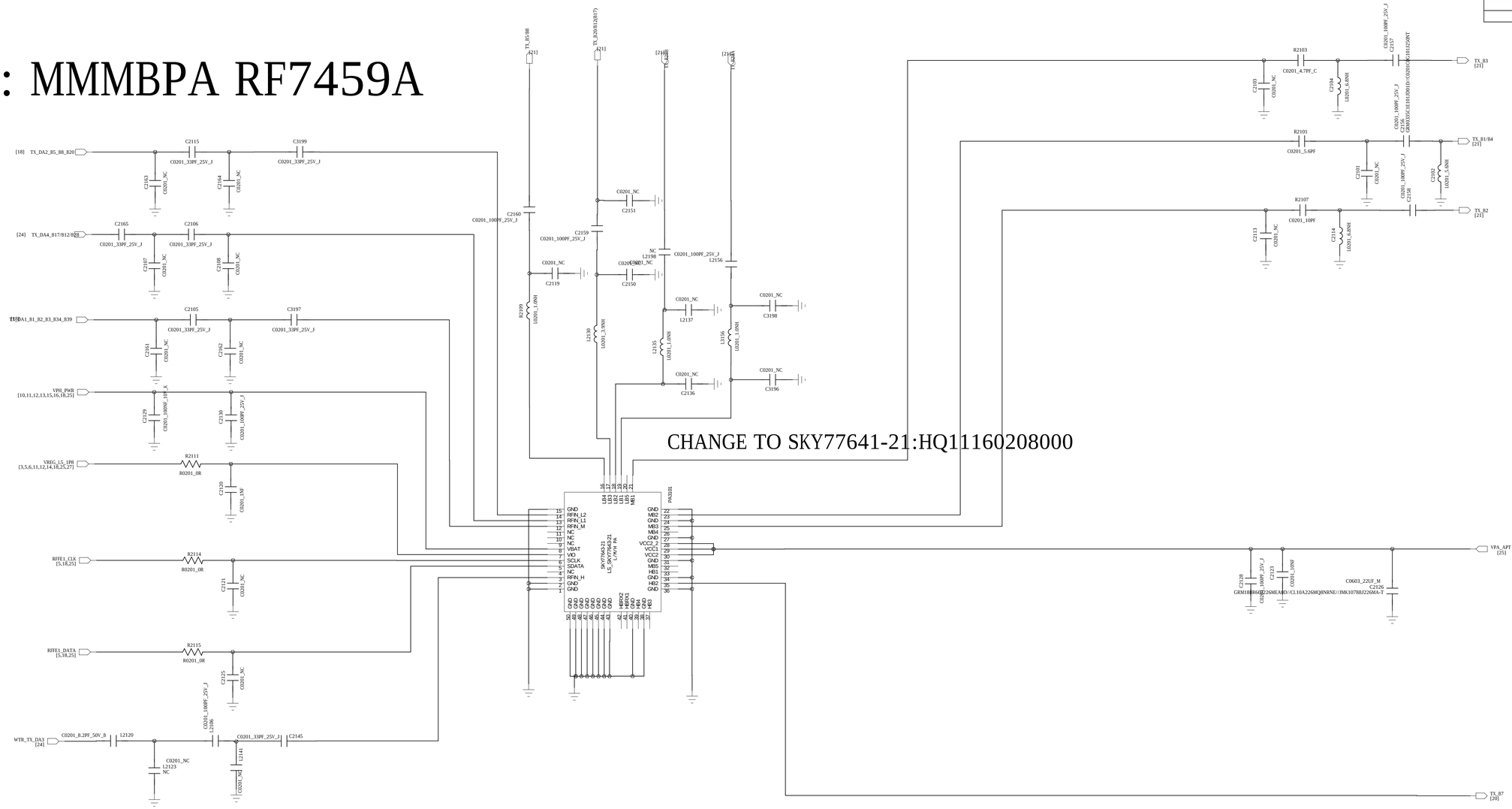
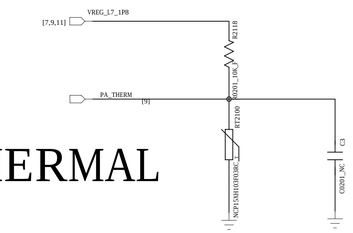
21: MMMBPA RF7459A

REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:



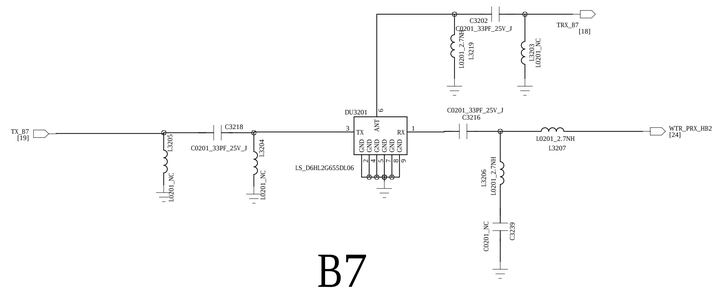
CHANGE TO SKY77641-21:HQ11160208000



PA_THERMAL

DRAWN: Meng Zhang <Drawn By>	DATED: <Drawn Date>	COMPANY: <Company Name>	
CHECKED: <Checked By>	DATED: <Checked Date>	TITLE: <Title>	
QUALITY CONTROL:	DATED:	CODE:	SIZE: D / DRAWING NO: / REV:
RELEASED:	DATED: <Release Date>	SCALE: <Scale>	SHEET: 19 OF 27

LTE_B7_B28_B17



B7

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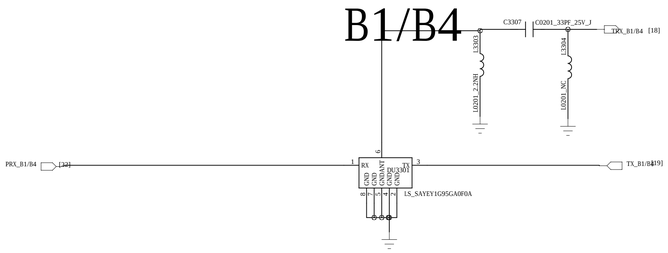

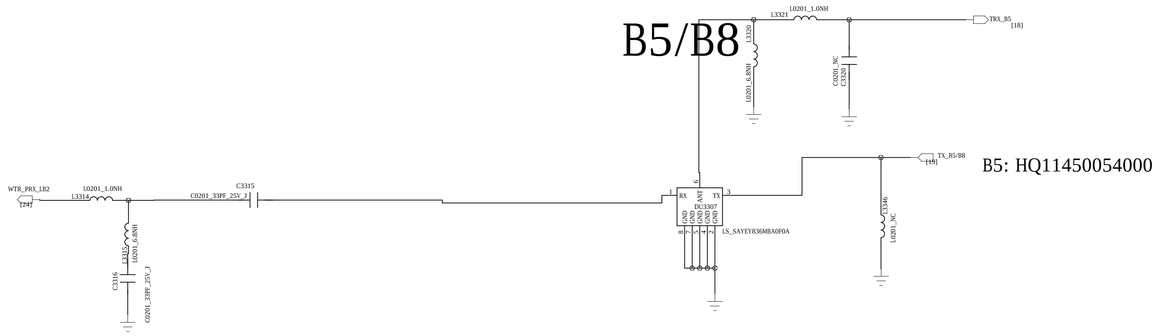

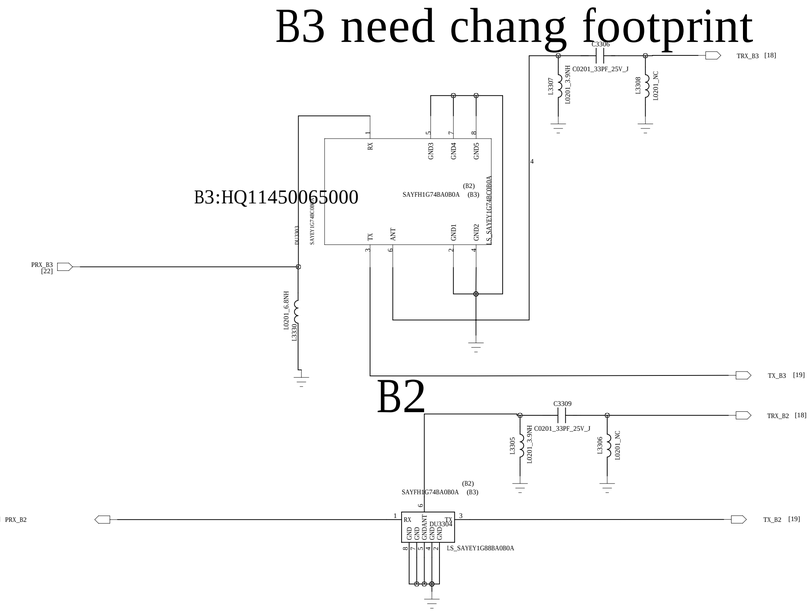

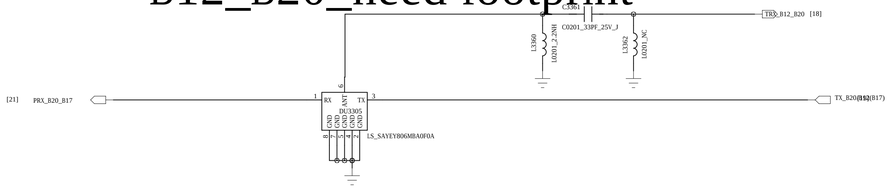

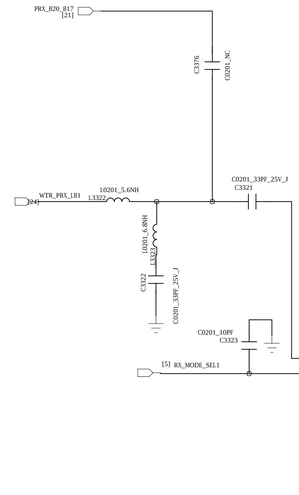

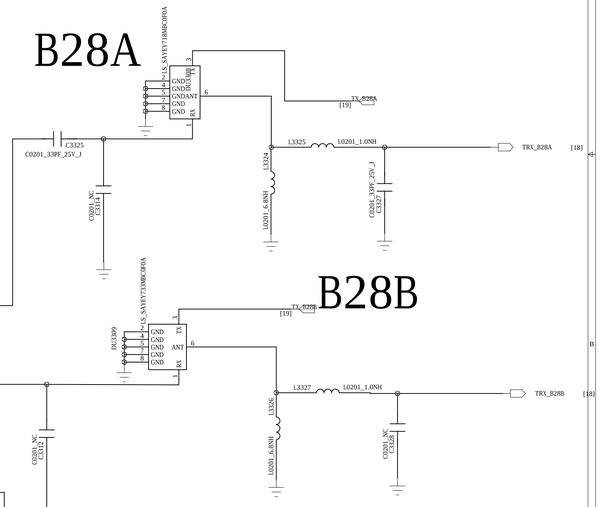

PA B12	EU B20	TW B28
DU3301=HQ11450098000 B4	DU3301=HQ11450074000 B1	DU3301=HQ11450074000 B1
DU3303=NC	DU3303=HQ11450075000 B3	DU3303=HQ11450075000 B3
DU3307=HQ11450099000 B5	DU3307=HQ11450095000 B8	DU3307=HQ11450095000 B8
SW3302=NC	SW3302=NC	SW3302=HQ11170043000
DU3308=NC	DU3308=NC	DU3308=HQ11450080000
DU3309=NC	DU3309=NC	DU3309=HQ11450079000
DU3305=HQ11450096000 B12 C3376=100PF C3321=NC	DU3305=HQ11450097000 B20 C3376=100PF C3321=NC	DU3305=NC C3376=NC C3321=100PF

NOTE:

Euro:B1/3/7/20,1/2/8

PA:B2/4/7/12,2/4/5

TW:B3/8/28,1/2/8

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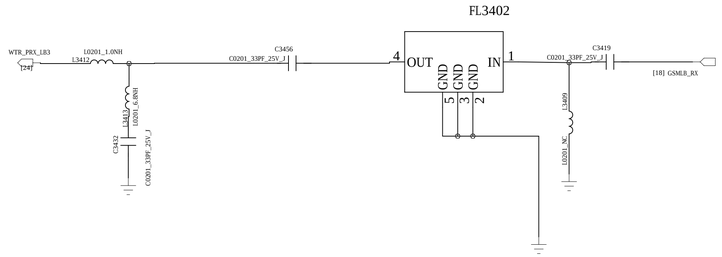
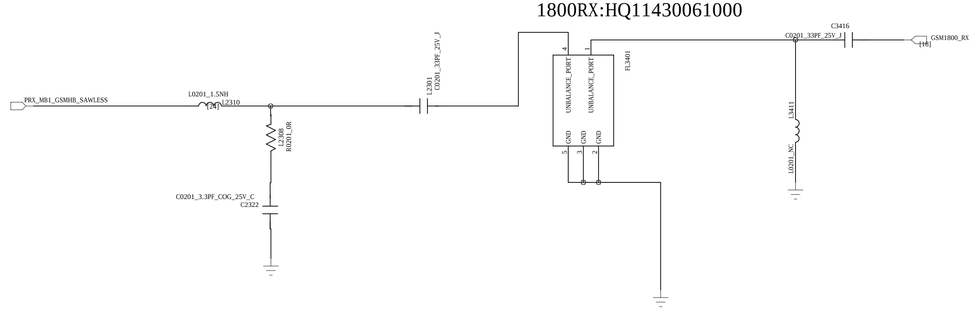
GSM LB RX

GSM850:HQ11430049000
GSM900:HQ11430045000



GSM1800 RX

1900RX:HQ11430062000
1800RX:HQ11430061000

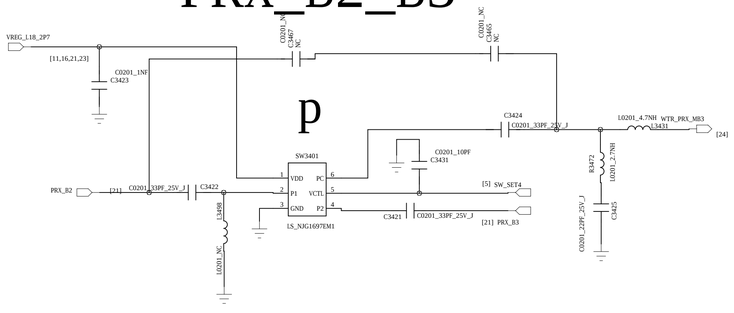


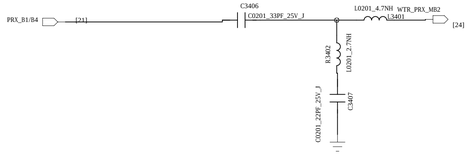
NOTE:

PRX_MB2 FOR GSM1900

PRX_MB1 FOR GSM1800

PRX_B2_B3





EU	PA	TW
FL3402=HQ11430049000 SW3401=HQ11170043000 C3467=NC C3465=NC C3422=100PF C3424=100PF FL3401=NC	FL3402=HQ11430045000 SW3401=NC C3467=100PF C3465=100PF C3422=NC C3424=NC FL3401=HQ11430061000	FL3402=HQ11430049000 SW3401=HQ11170043000 C3467=NC C3465=NC C3422=100PF C3424=100PF FL3401=NC

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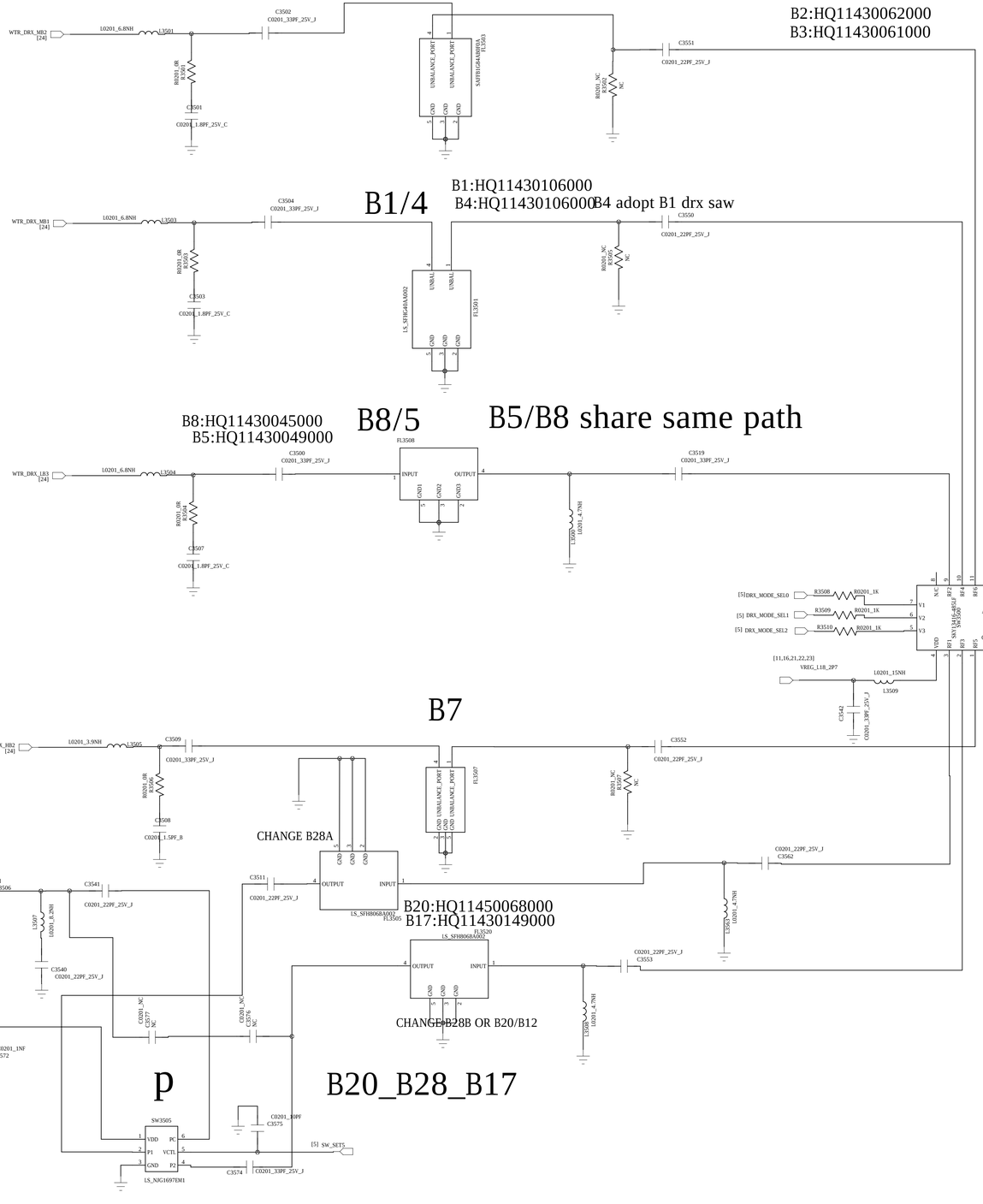
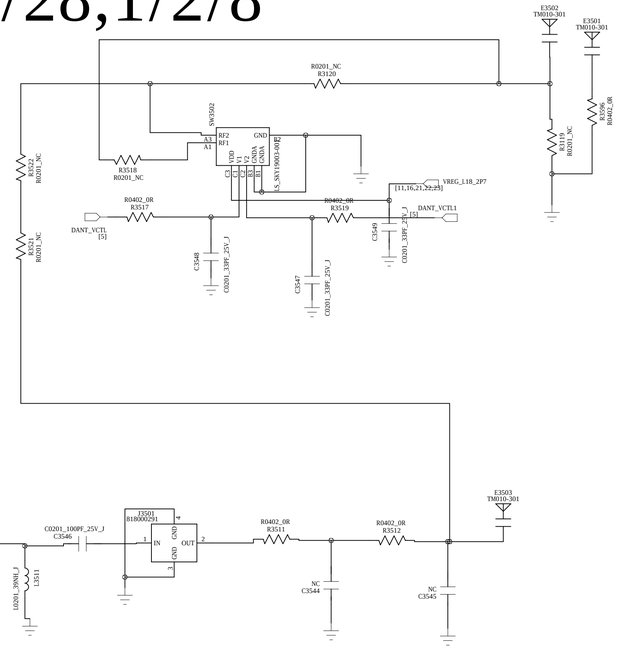
NOTE:
Euro:B1/3/7/20,1/2/5/8
PA:B2/4/7/17,1/2/4/5
TW:B3/8/28,1/2/8





EU	PA	TW
FL3503=HQ11430061000 B3 FL3501=HQ11430106000 B1 FL3508=NC FL3507=HQ11430094000 B7 C3505=NC C3520=HQ11450068000 B20 SW3505=NC C3576=100PF C3574=NC C3577=100PF C3541=NC	FL3503=HQ11430062000 B2 FL3501=HQ11430106000 B4 FL3508=NC FL3507=HQ11430094000 B7 C3505=NC C3520=B12 SW3505=NC C3576=100PF C3574=NC C3577=100PF C3541=NC	FL3503=HQ11430061000 B3 FL3501=NC FL3508=HQ11430045000 B8 FL3507=NC C3505=HQ11430164000 B28A C3520=HQ11430151000 B28B SW3505=HQ11170043000 C3576=NC C3574=100PF C3577=NC C3541=100PF

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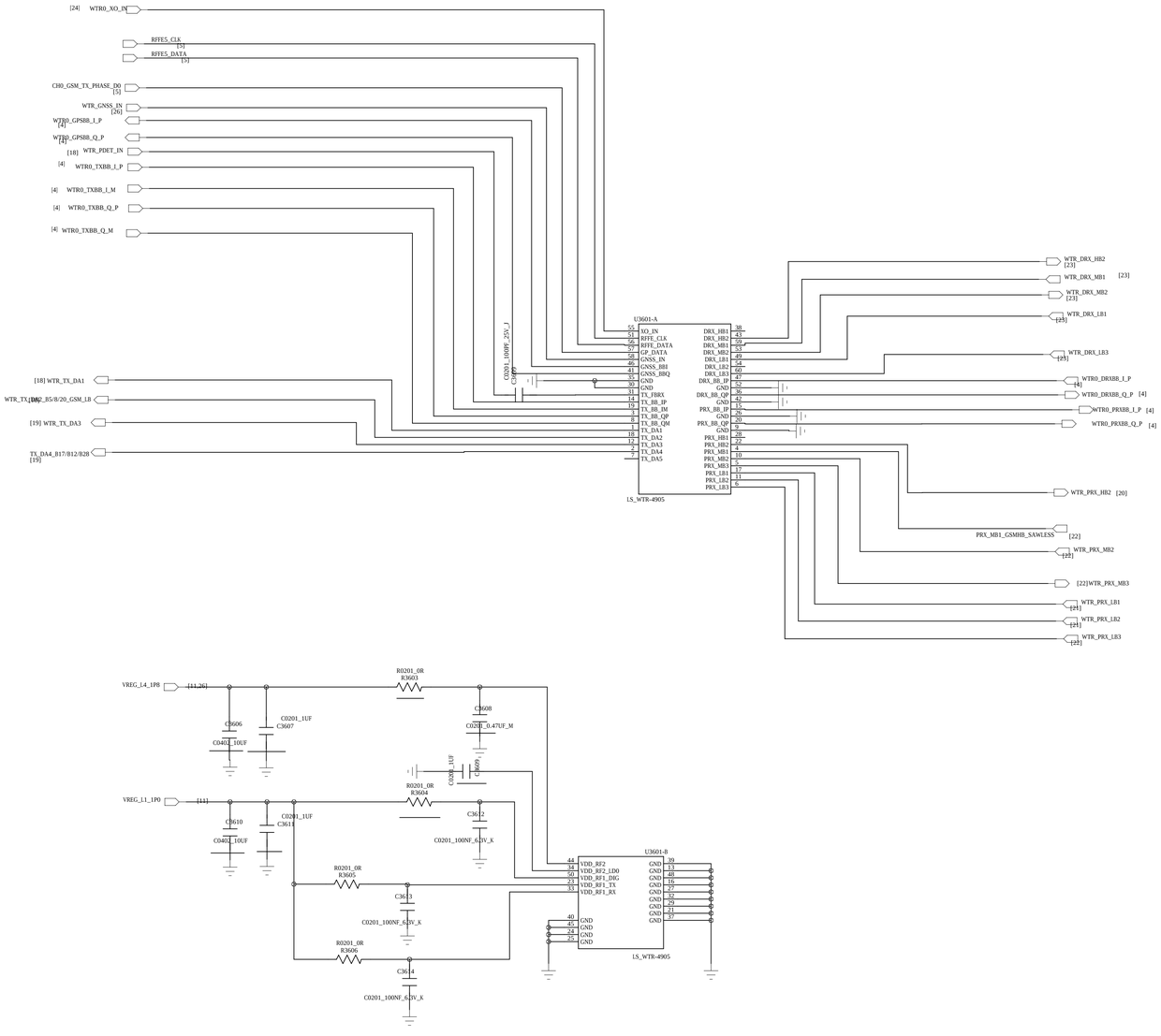

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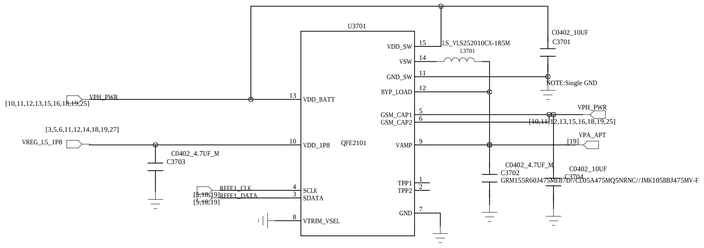
QFE2101



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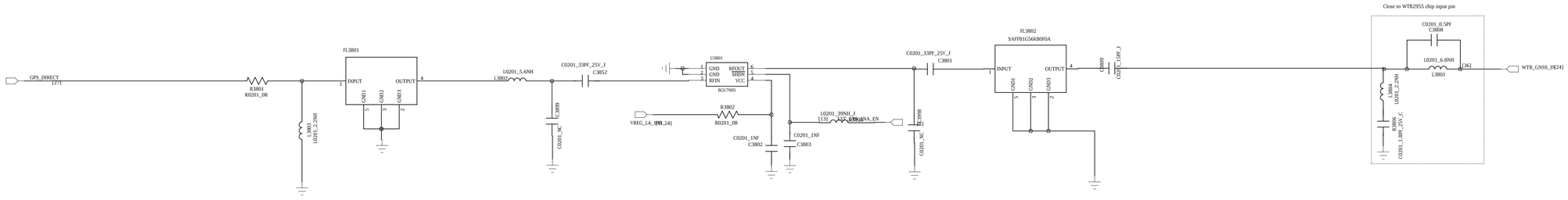

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E3901
TM010-301

E3902
TM010-301

R3950
NC

J3904

R0402_0R
R3930

R0402_0R
R3931

C0402_NC
C3940
NC

C0402_NC
C3941
NC

C0201_33PF_25V_J
C3921

C0201_NC
C3910

LFD181G58DPFC201

U3901

GPS_DIRECT
[26]

C0201_33PF_25V_J
C3905

L0201_6.8NH
L3901

FL3903

C0201_NC
C3908

L0201_NC
L3906

C0201_NC
C3906

L0201_NC
L3907

FL3901

LS_885033

L0201_NC
L3904

R0201_0R
R3908

WL_BT_RFIO
[27]

C0201_NC
C3911

FM_HEADSET
[12]

R0201_0R
R3932

C3942
C0201_47PF

L0201_82NH_J
L3930

L3931

U3903-A
WCN3610

21	XO_IN	
38	FM_HS_RX	
30	FM_SSBI	WCSS_FM_SSBI [5]
35	FM_DATA	WCSS_FM_SDI [5]
25	BT_CTL	WCSS_BT_CTRL [5]
36	BT_SSBI	WCSS_BT_SSBI [5]
47	BT_DATA	WCSS_BT_DAT_STB [5]
6	GND1	

C3902
C0201_NC

C3904
C0201_82PF_J

R0201_0R
R3901

WCN_XO_CLK
[5]

42	WL_BB_IP	WLAN_BB_I_P [4]
46	WL_BB_IN	WLAN_BB_I_M [4]
45	WL_BB_QN	WLAN_BB_Q_M [4]
41	WL_BB_QP	WLAN_BB_Q_P [4]
32	NC	
18	WL_BT_RFIO	WL_BT_RFIO [27]
10	WL_CMD_SET	WCSS_WLAN_SET [5]
1	WL_CMD_CLK	WCSS_WLAN_CLK [5]
14	WL_CMD_DATA2	WCSS_WLAN_DATA_2 [5]
19	WL_CMD_DATA1	WCSS_WLAN_DATA_1 [5]
20	WL_CMD_DATA0	WCSS_WLAN_DATA_0 [5]

C0201_18PF
C3907

EU	PA	TW
FL3903=NC	FL3903=NC	FL3903=HQ11420001000
FL3901=HQ11420008000	FL3901=HQ11420008000	FL3901=NC
C3908=NC	C3908=NC	C3908=33PF
C3906=NC	C3906=NC	C3906=0R
C3905=33PF	C3905=33PF	C3905=NC
R3908=0R	R3908=0R	R3908=NC

VREG_L10_1P3
[7,11]

BLM03AX2415SN1
L3905

R3905
R0201_0R

VDD_WL_LO_1P3
[27]

pin 12,15

C0402_4.7UF_M
C3913
GRM155R60J475ME87D//CL05A475MQSNRNC//JMK105BBJ475MV-F

C0201_100PF_25V_J
C3914

C0402_10UF
C3923

WL_VDD_TX8B_1P3
[27]

pin 37

C3915

C0201_100PF_25V_J

WL_VDD_TX8B_1P3
[27]

pin2, 3,4

C3916
C0201_10NF

WL_VDD_TX8B_1P3
[27]

pin 5

C3918
C0201_10NF

WL_VDD_TX8B_1P3
[27]

pin 39,40,43,44

C3901
C0201_22NF

share pad

R3920
R0201_0R

VDD_DIG_1P2
[27]

pin 23

C0201_NC
C3947

C0201_10NF
C3919

VREG_L9_3P3
[11]

R3917
R0201_0R

VREG_WLAN_3P3
[27]

pin 17 pin9

C0201_100PF_25V_J
C3912

C0402_10UF
C3929

VREG_WLAN_3P3
[27]

pin 9

C0201_NC
C3946

VREG_L5_1P8
[3,5,6,11,12,14,18,19,25,27]

C0201_0.47UF_M
C3917

VREG_L5_1P8
[3,5,6,11,12,14,18,19,25,27]

pin 28

U3903-8
WCN3610

VREG_L5_1P8
[3,5,6,11,12,14,18,19,25,27]

28	VDD_IO_1P8	
23	VDD_DIG_1P2	VDD_DIG_1P2 [27]
43	VDD_FM_RXFE_1P3	WL_VDD_TX8B_1P3 [27]
44	VDD_FM_RXBB_1P3	
40	VDD_FM_PLL_1P3	
39	VDD_FM_VCO_1P3	
37	VDD_WL_RX_1P3	WL_VDD_TX8B_1P3 [27]
5	VDD_WL_BT_DIG_1P3	WL_VDD_TX8B_1P3 [27]
2	VDD_WL_TX_BB_1P3	WL_VDD_TX8B_1P3 [27]
4	VDD_WL_2GPA_1P3	WL_VDD_TX8B_1P3 [27]
3	VDD_WL_UPC_1P3	
15	VDD_WL_PLL_1P3	VDD_WL_LO_1P3 [27]
12	VDD_WL_LO_1P3	
17	VDD_WL_2GPA_3P3	VREG_WLAN_3P3 [27]
9	VDD_BT_DA_3P3	VREG_WLAN_3P3 [27]

24	GND8	
33	GND13	
34	GND14	
29	GND11	
16	GND6	
31	GND12	
11	GND4	
7	GND2	
22	GND7	
26	GND9	
27	GND10	
13	GND5	
8	GND3	

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