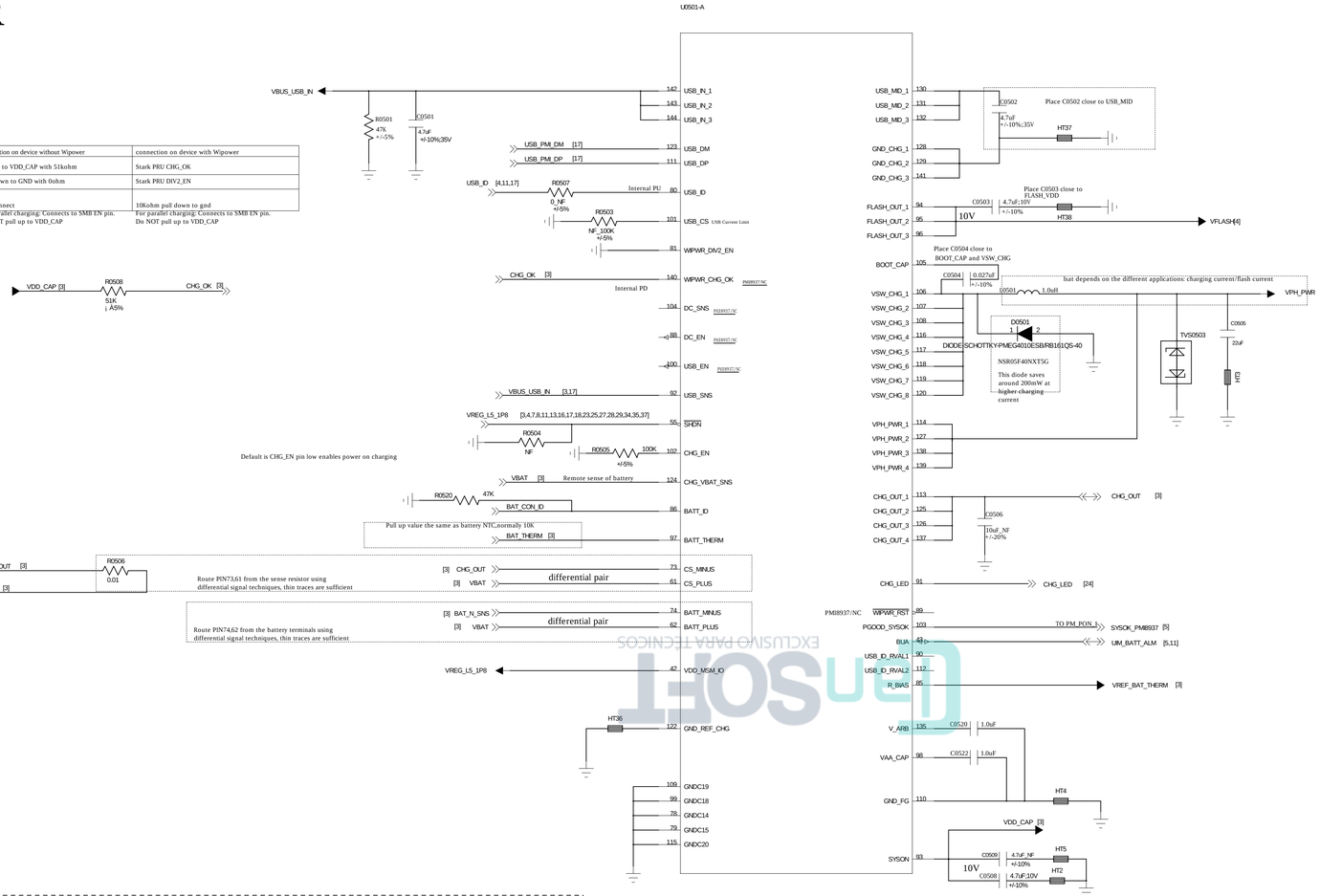
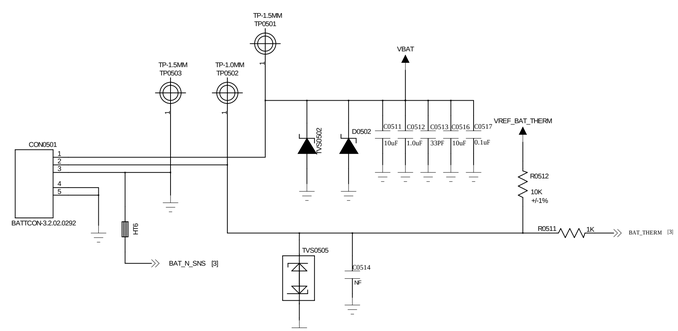
PMI8940 CHARGER

PMI PIN	connection on device without Wipower	connection on device with Wipower
CHG_OK	Pull up to VDD_CAP with 51kohm	Stark PRU CHG_OK
DVI2_EN	Pull down to GND with 0ohm	Stark PRU DIV2_EN
GPIO2	No Connect For parallel charging: Connects to SMB EN pin. Do NOT pull up to VDD_CAP	10Kohm pull down to gnd For parallel charging: Connects to SMB EN pin. Do NOT pull up to VDD_CAP



PMI_VDD_CAP net is 5VDC,cap is 0603.
Do not use 0402 as may derate to -80%.

BATTERY CONNECTOR



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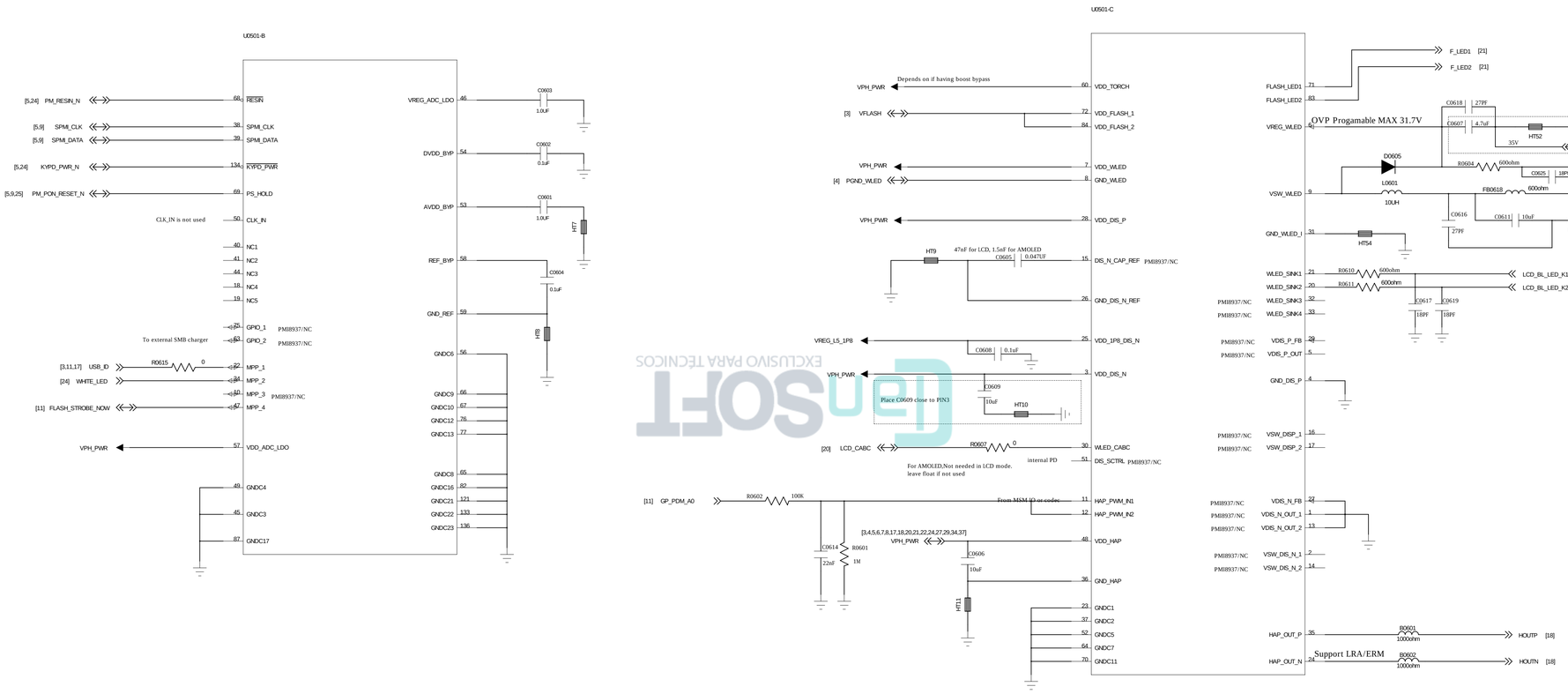
Size | Name | Rev

Date: | Sheet of

PMI8940 Control/Interface



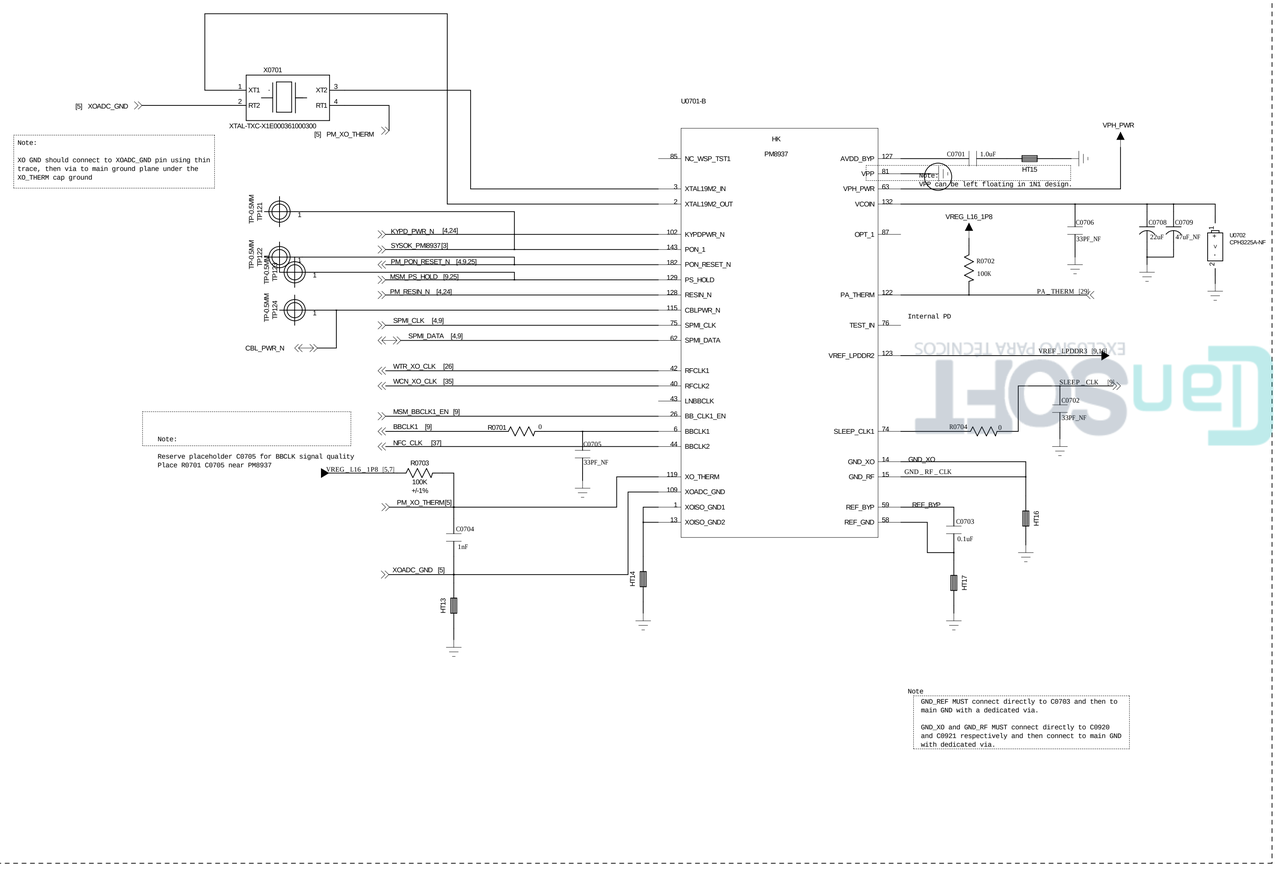
QUALCOMM Technologies, Inc.
5775 Morehouse Drive
San Diego, CA 92121-1714
U.S.A.

Title

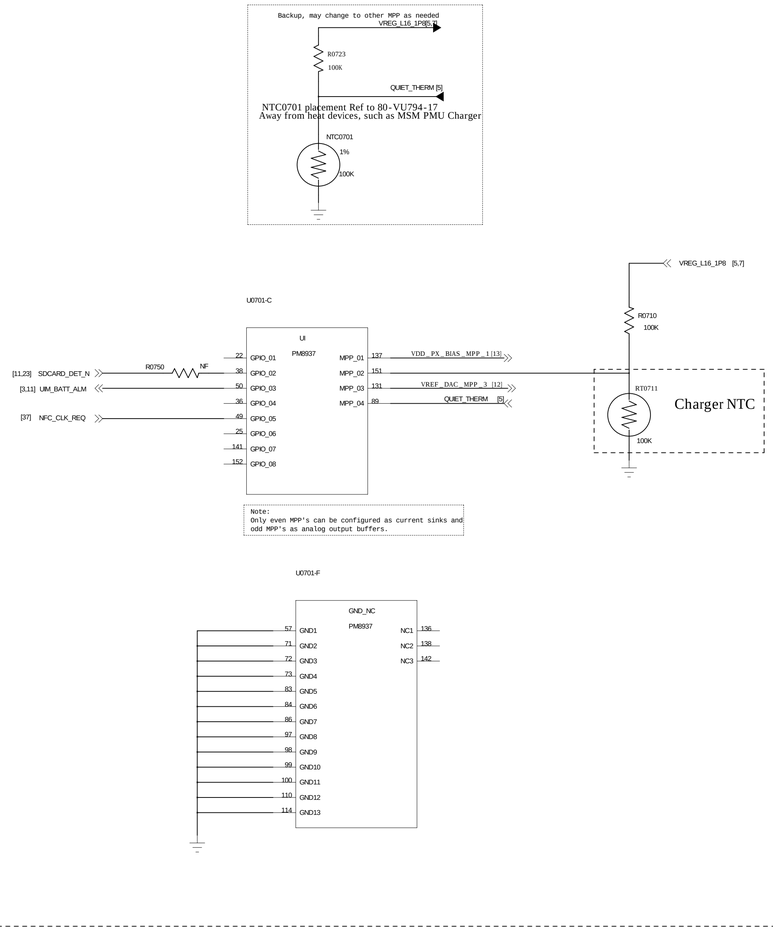
Size | Name | Rev

Date: | Sheet | of

PM8937 Control



PM8937 MPPs



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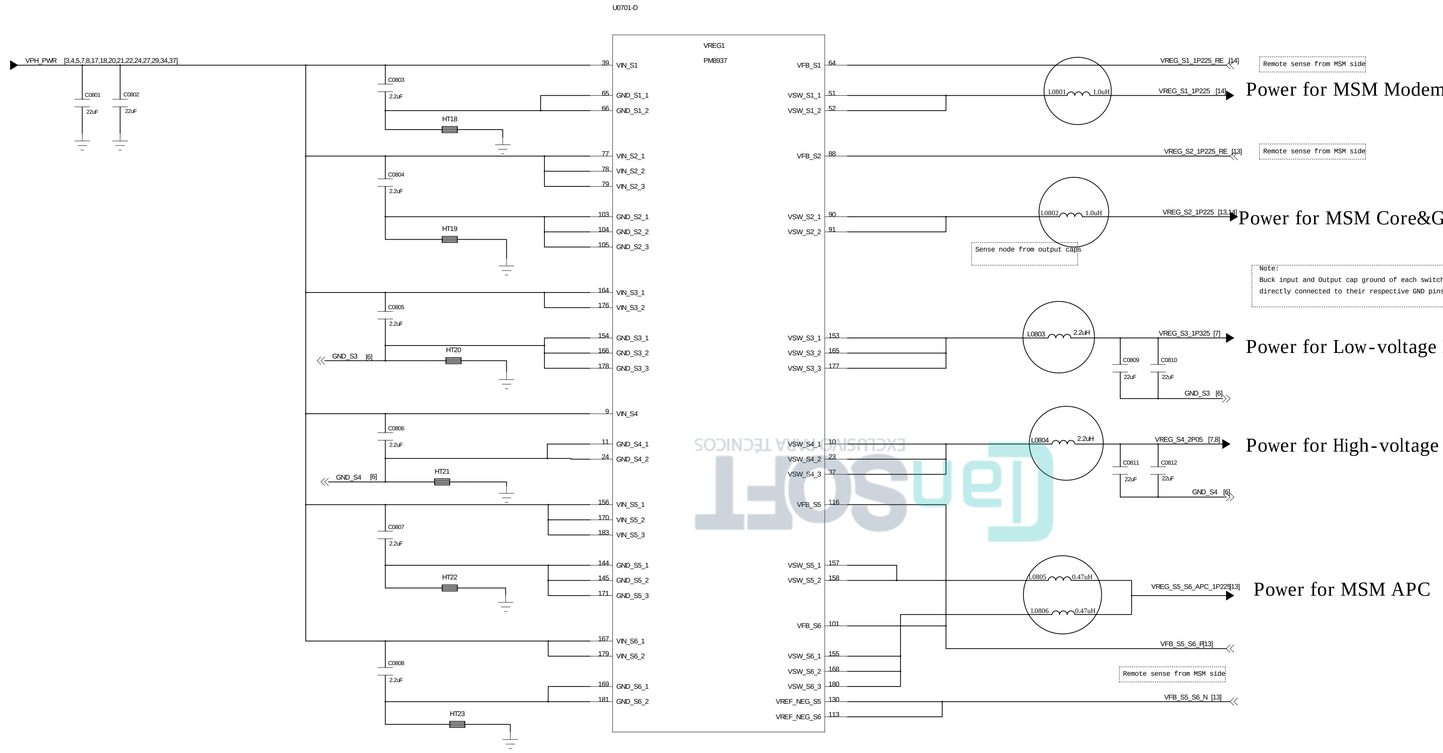
PM8937 BUCK CONVERTER



Title

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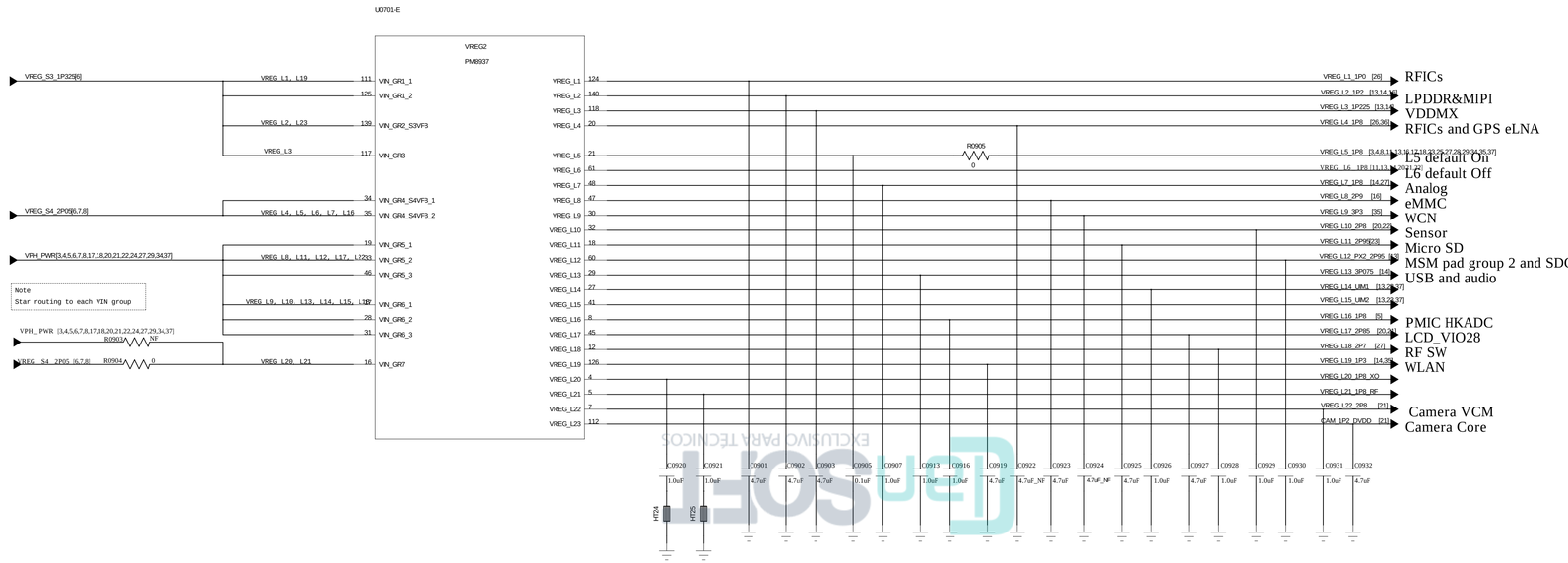
Size | Name | Rev

Date: | Sheet of

PM8937 LDO CIRCUITS



PSEUDO CAPLESS LDOs

L4*, L6, L8*, L9*, L10, L11*, L12, L14, L15, L17*, L18, L22, L23

L4*, L8*, L9*, L11*, L17*, still need validation as Pseudo-capless

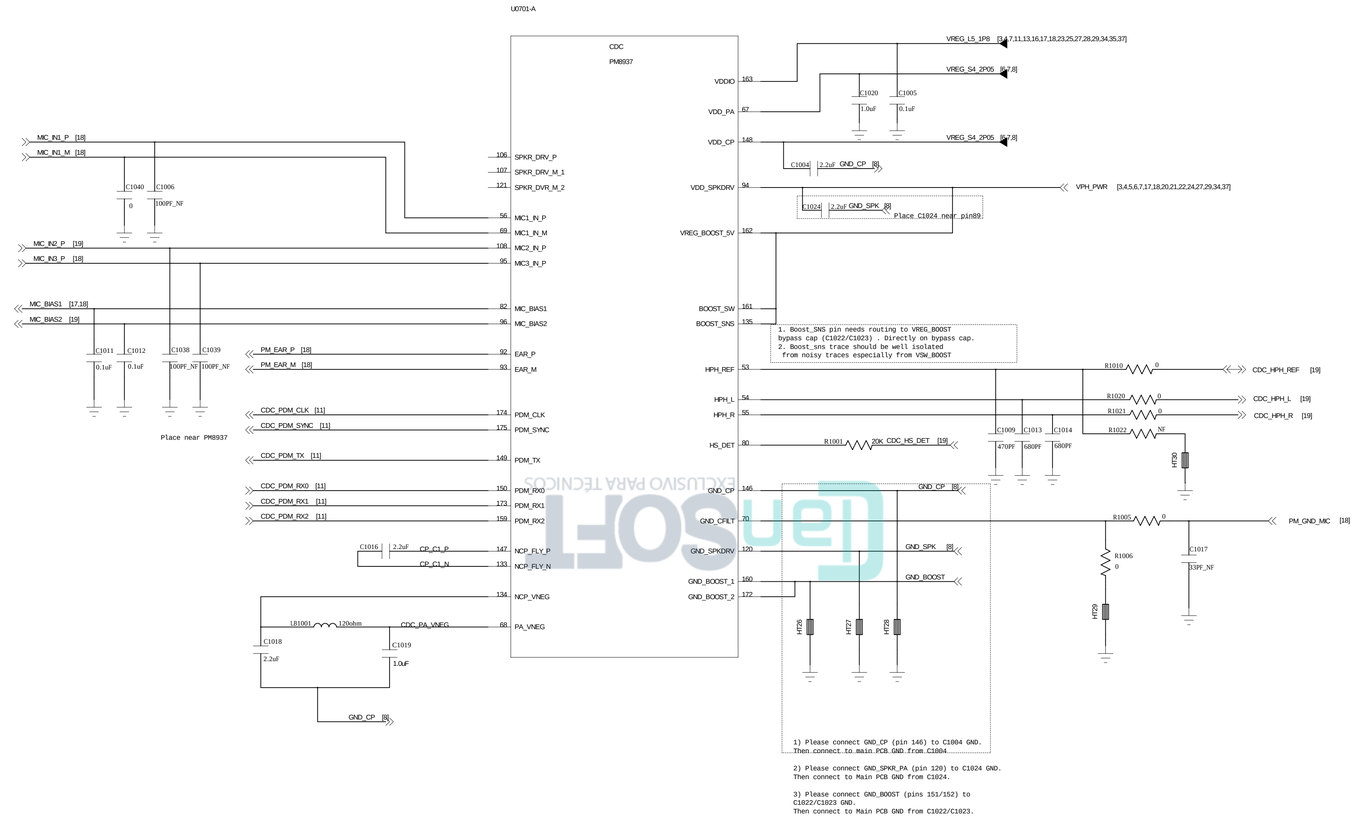
L5, L7, L13, L16 have internal PMIC Loads and require local CAPs.

Title

Size | Name | Rev

Date: | Sheet | of

PM8937 Codec



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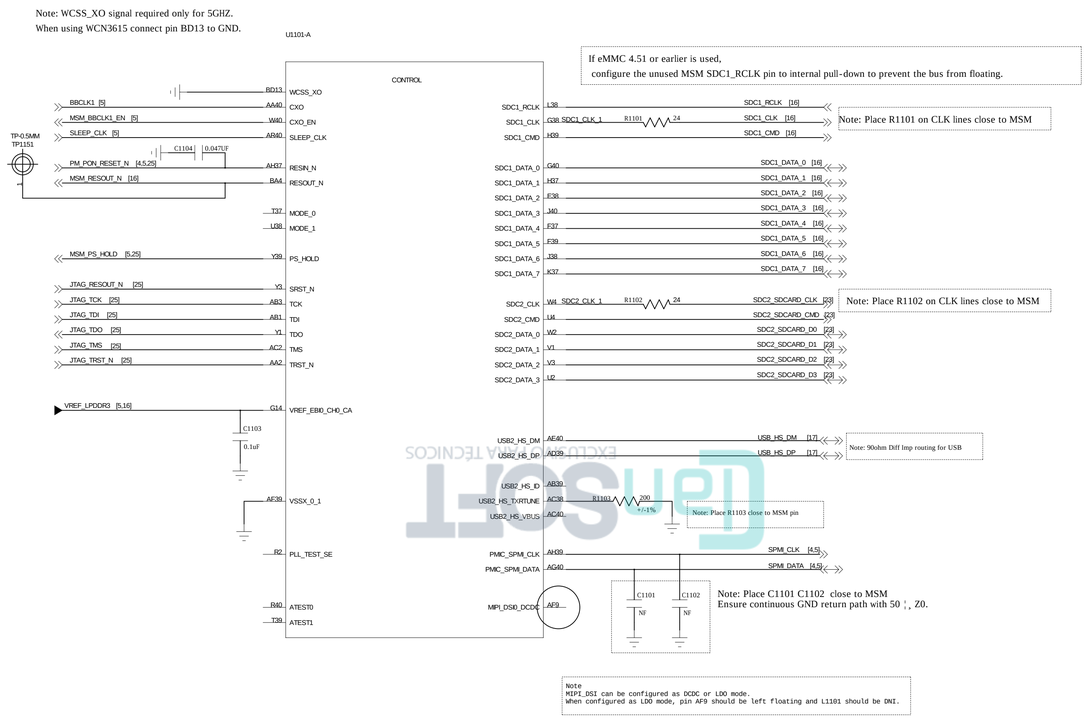
Size Name Rev
Date: Sheet of

MSM8917 Control



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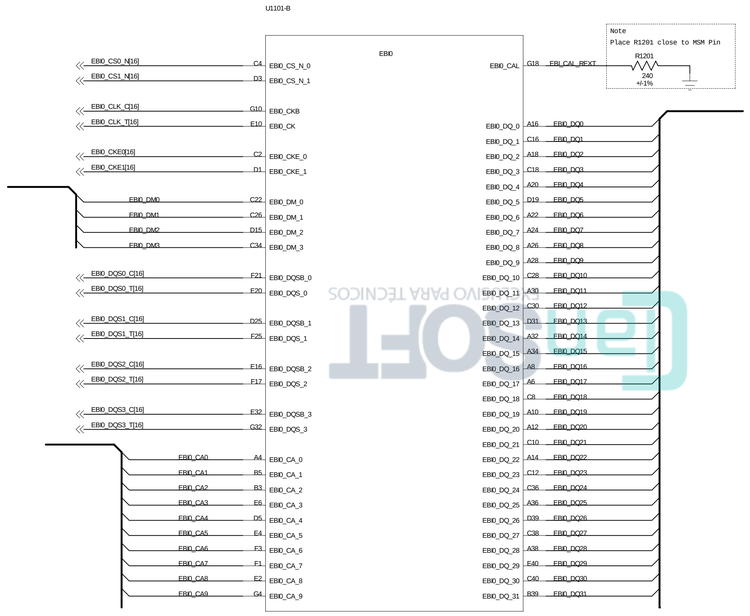
Date:	Sheet of	

MSM8917 EBI



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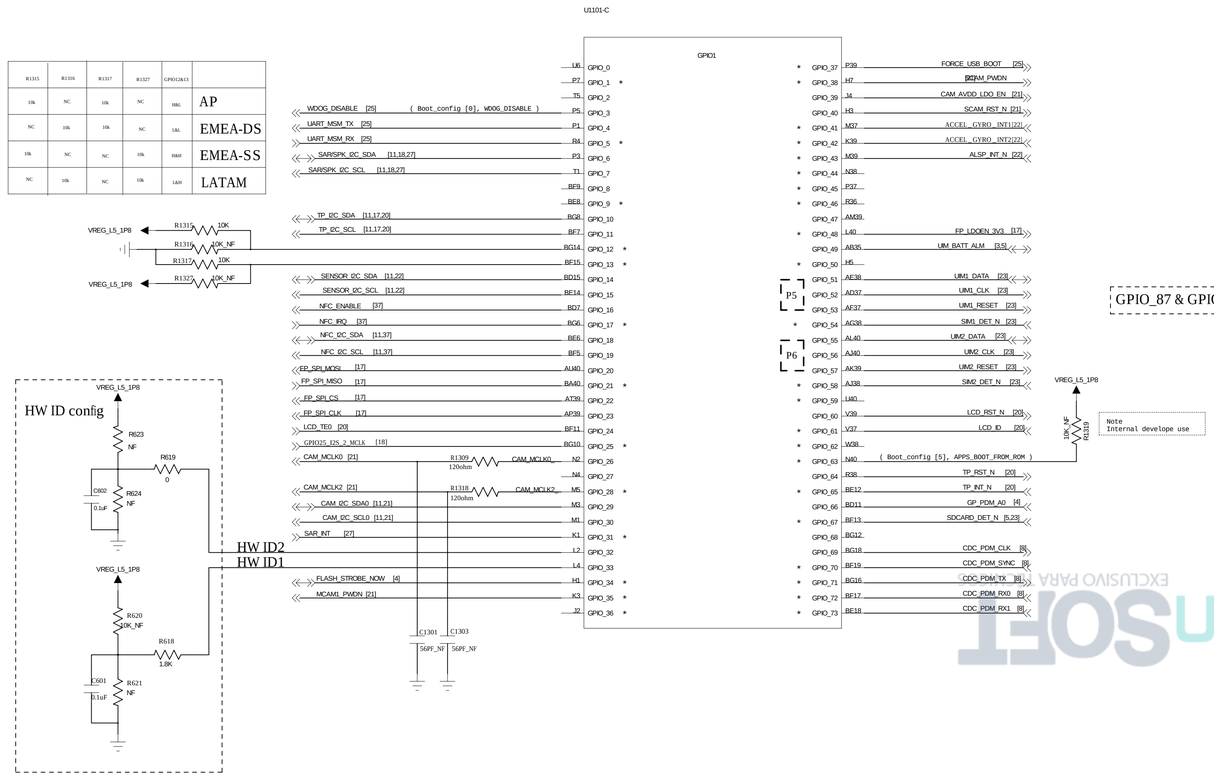
Size Name Rev
Date: Sheet of

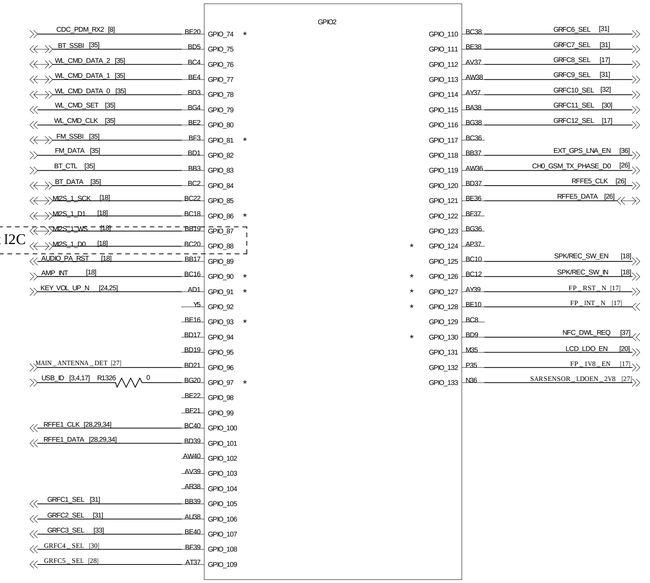
MSM8917 GPIO

Note: Asterisks (*) indicate modem power management (MPM) wake-up pins

R1315	R1316	R1317	R1327	GPIO12&13	
10k	NC	10k	NC	H&L	AP
NC	10k	10k	NC	L&L	EMEA-DS
10k	NC	NC	10k	H&H	EMEA-SS
NC	10k	NC	10k	L&H	LATAM



GPIO_87 & GPIO_88 on MSM8937/17/40 donot support I2C



Note: Do not have pull-ups on the following GPIOs unless intend for boot or secure- boot related configurations:
GPIO_91, 107, 109

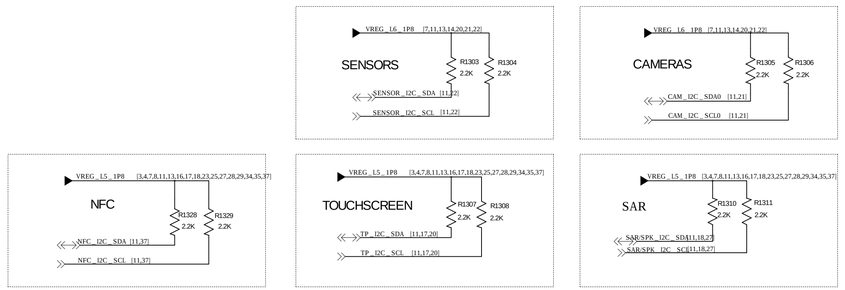
GPIO	BOOT_CONFIG
GPIO_3	BOOT_CONFIG[0]/WDOG_DISABLE
GPIO_111	BOOT_CONFIG[1]
GPIO_112	BOOT_CONFIG[2]
GPIO_88	BOOT_CONFIG[3]

BOOT_CONFIG[3:1]	BOOT_CONFIG
0b000	SDC1 -> SDC2 -> USB2.0
0b010	SDC1
0b100	SDC2-> SDC1

Default Boot Config (0b000) is SDC1(eMMC)

I2C PULL-UP RESISTORS

Note: Ensure SW sets these GPIOs (Sensor, CTP and Camera I2C bus) to inout pull down when the peripherals are powered off to eliminate leakage.



Title
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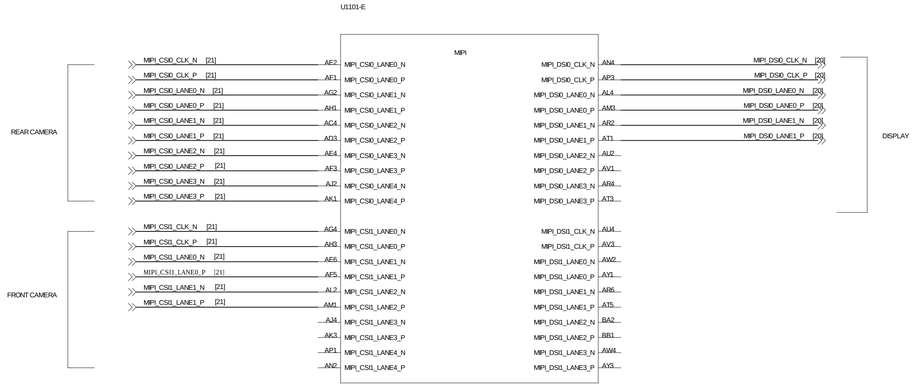
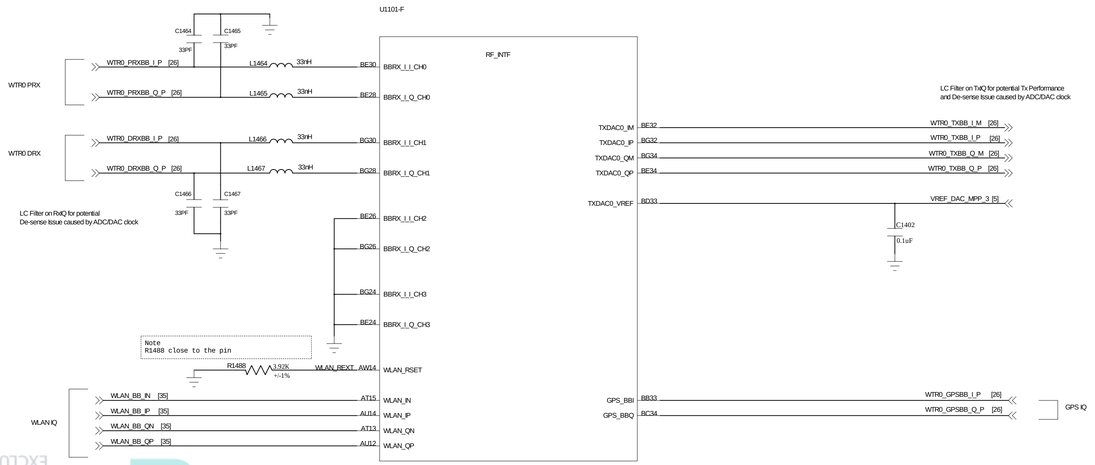
MSM8917 MIPI



Note: If best EMI practices are followed for MIPI CSI/DSI signals, there is no need for common mode choke filters. You may choose to have placeholders for common mode depending upon your design constraints.
Extreme care must be taken that no stubs are created by doing so.

MSM8917 RF Control



Title
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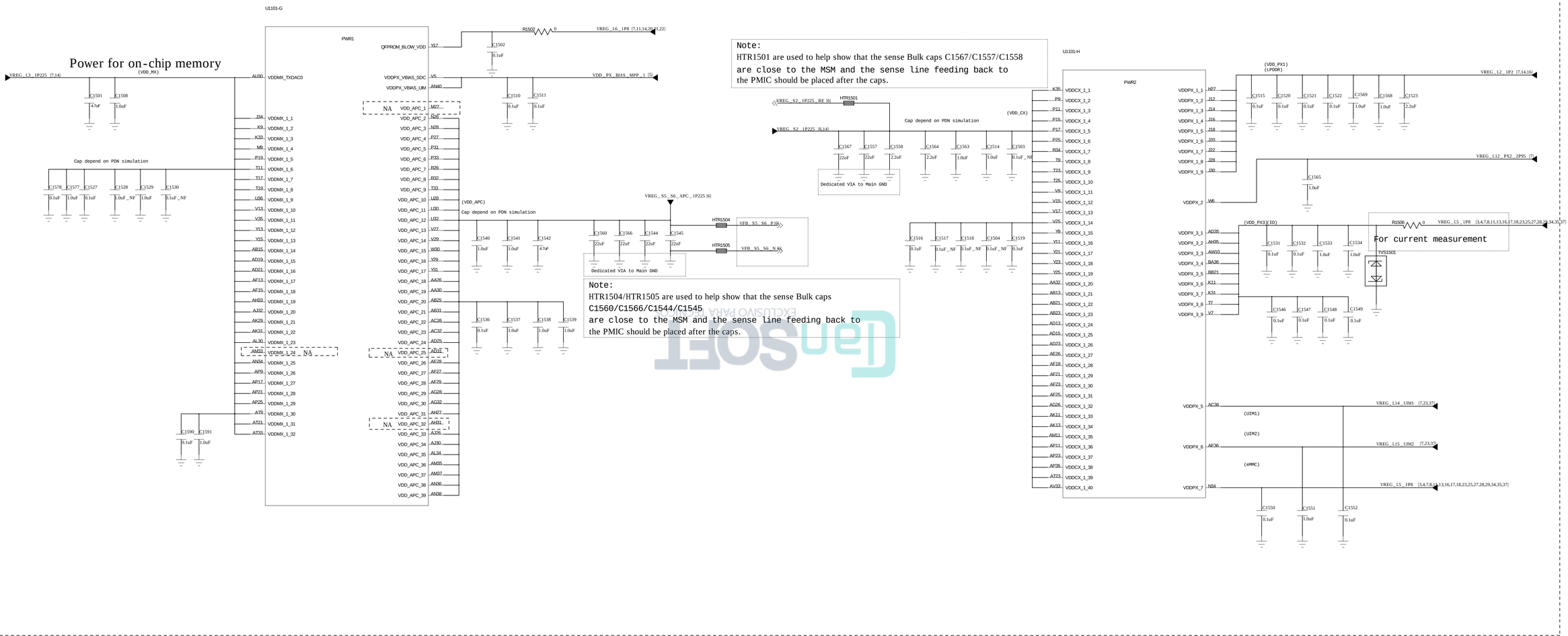
Date: Sheet of

MSM8917 POWER1



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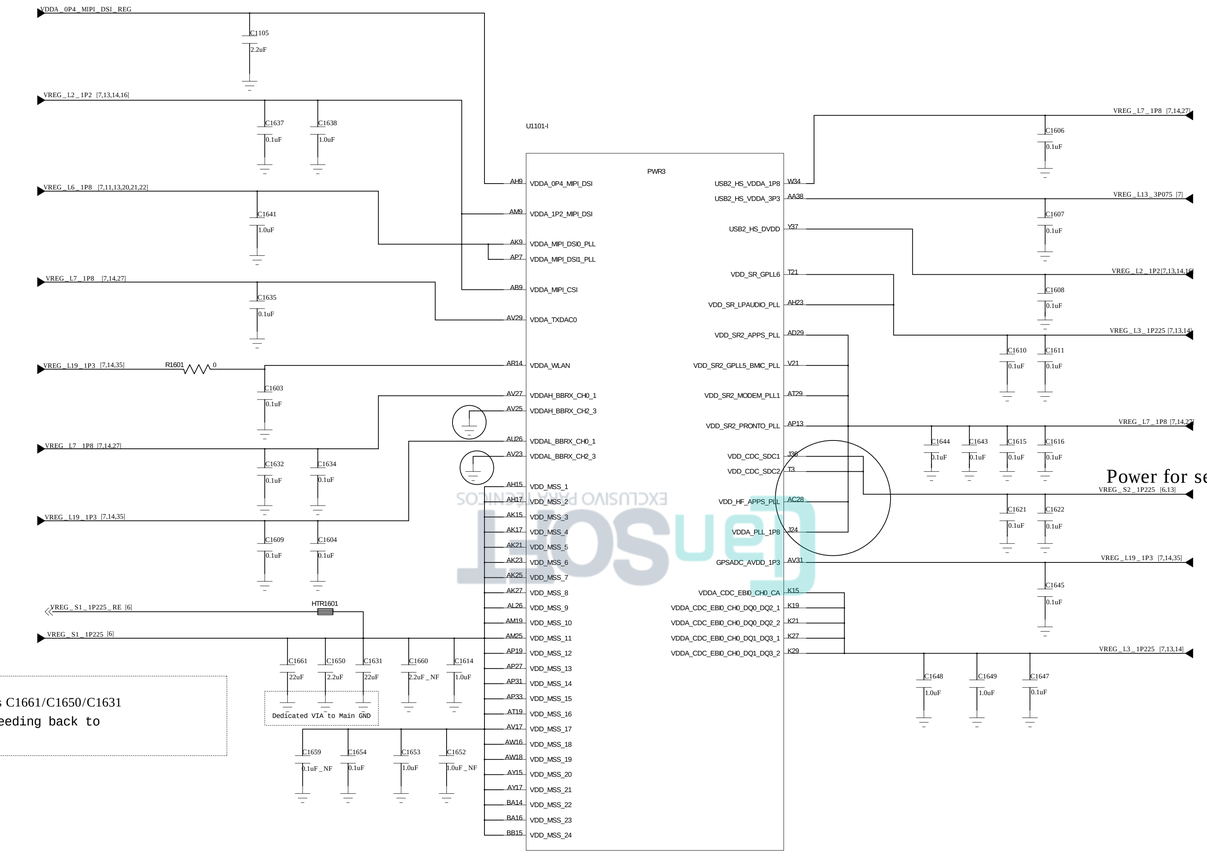
Date: | Sheet of

MSM8917 POWER2



Power for secure digital calibration delay circuits

Note:
HTR1601 are used to help show that the sense Bulk caps C1661/C1650/C1631 are close to the MSM and the sense line feeding back to the PMIC should be placed after the caps.

Title
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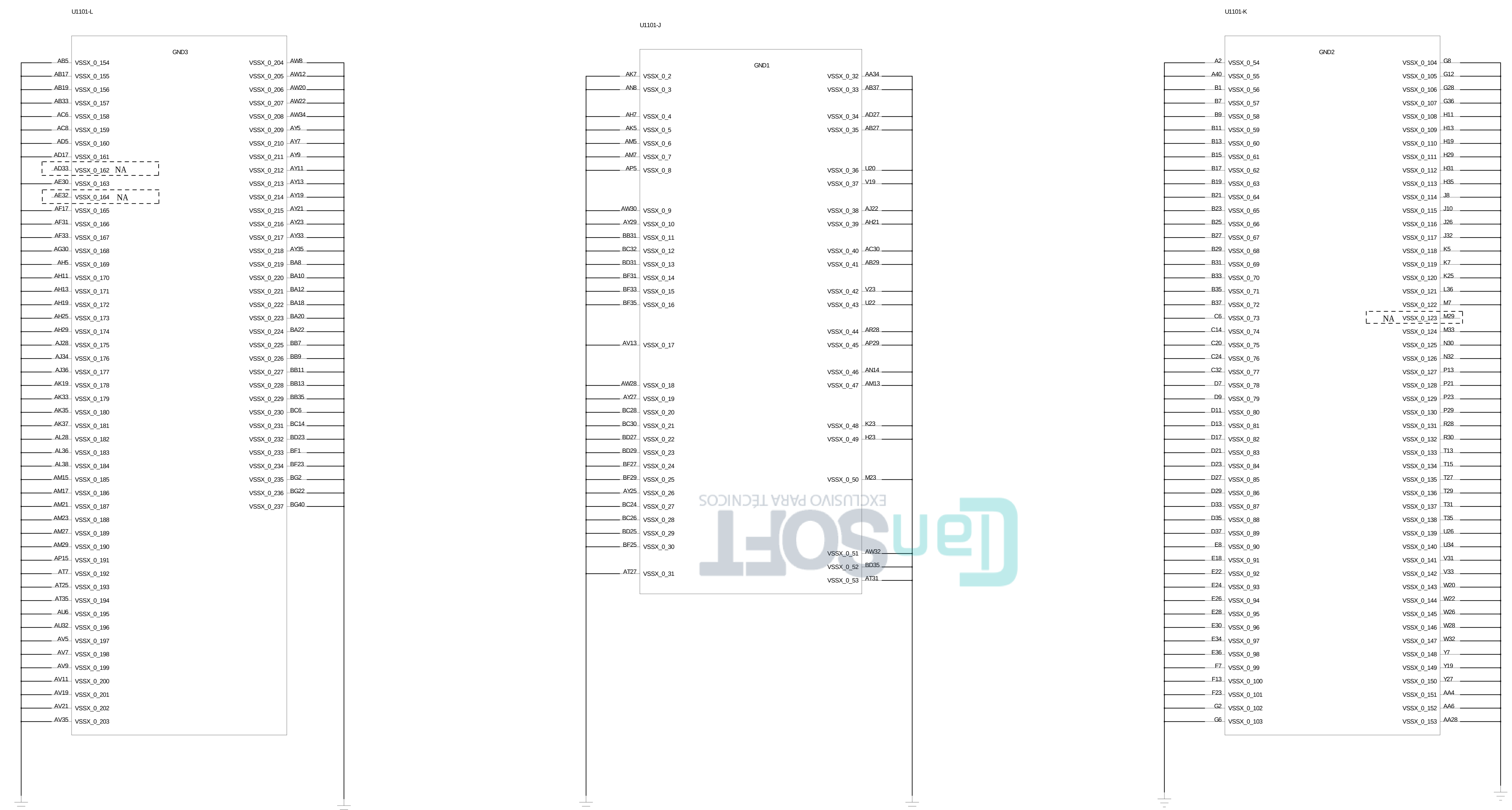
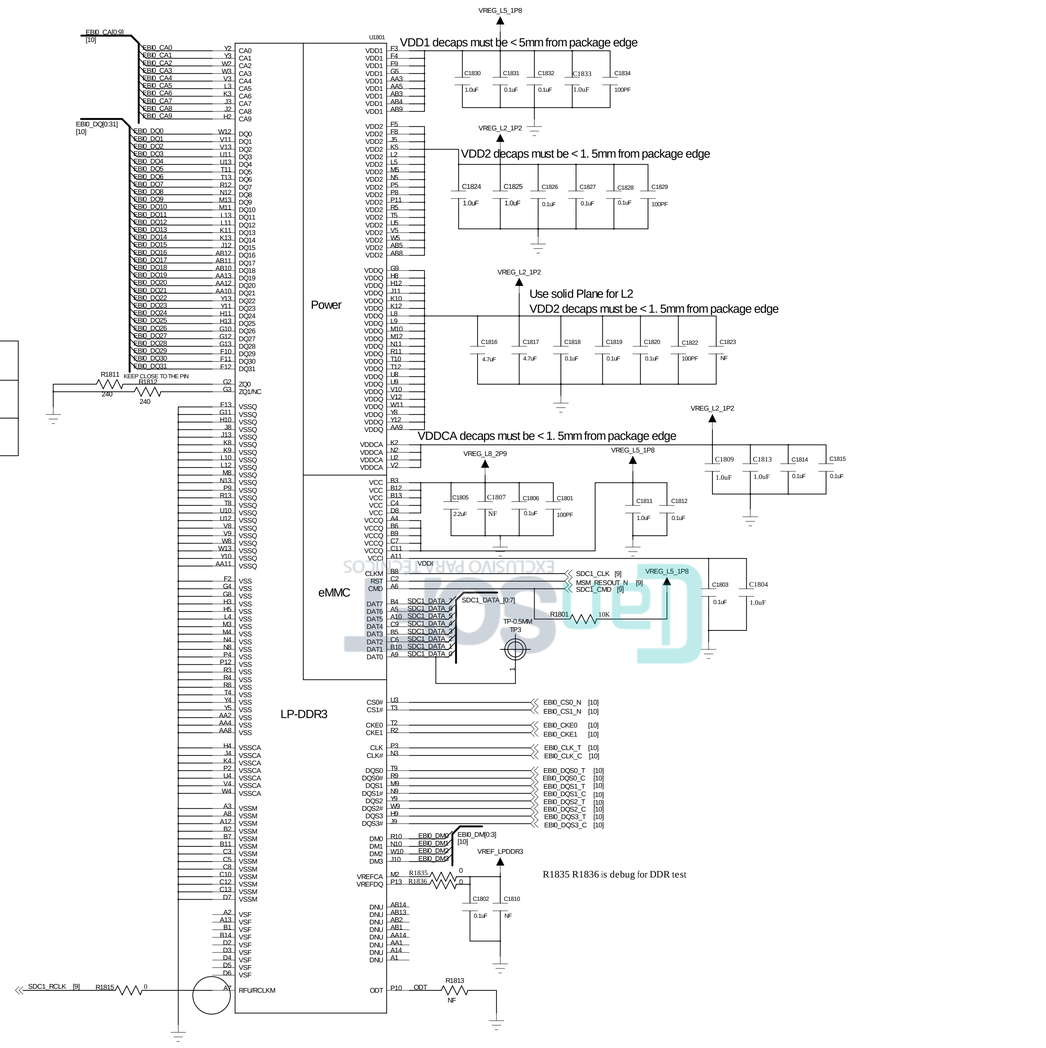
GND



Title
Size Sheet Name Rev
Date: Sheet of

MEMORY:LPDDR3+EMMC

	MICRO/HYNIX	SAMSUNG
U1501.G3	ZQ1	NC
U1501.A7	RFU	RCLK



Title

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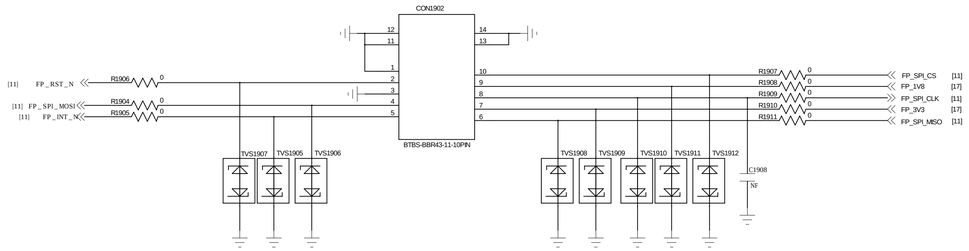
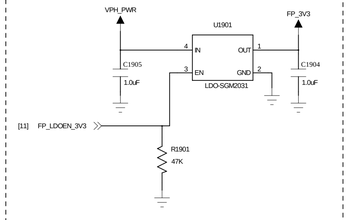
Size | Name | Rev

Date: | Sheet of

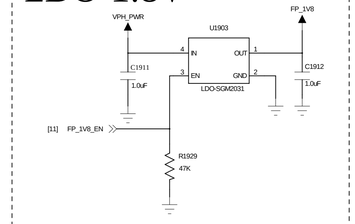
FingerPrint



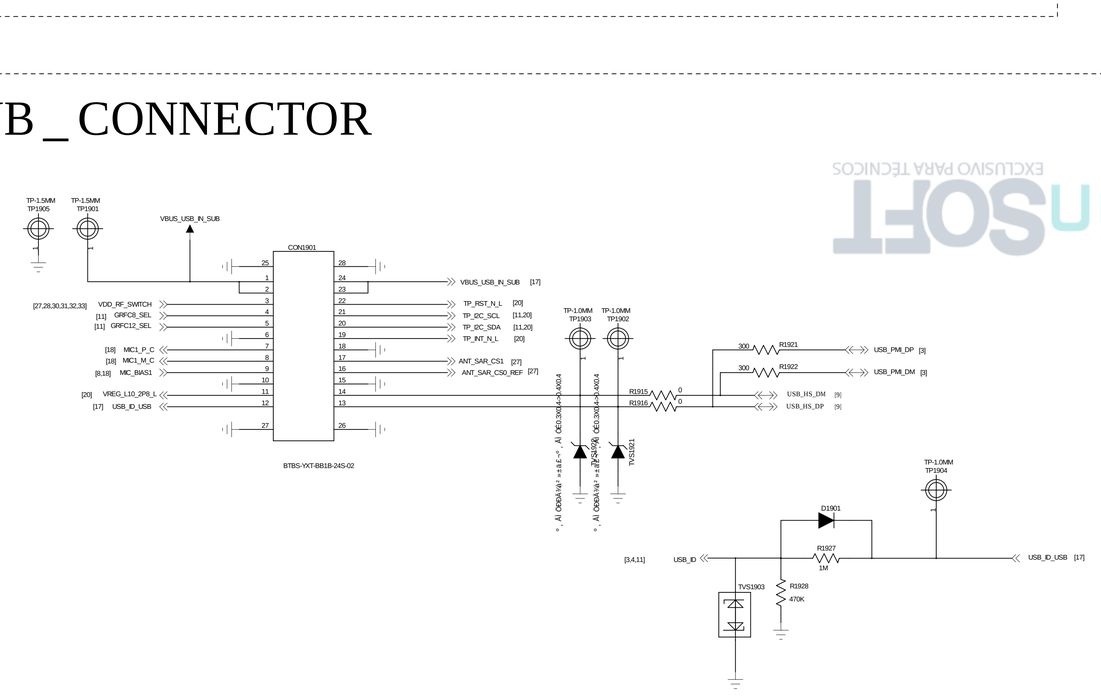
LDO-3.3V



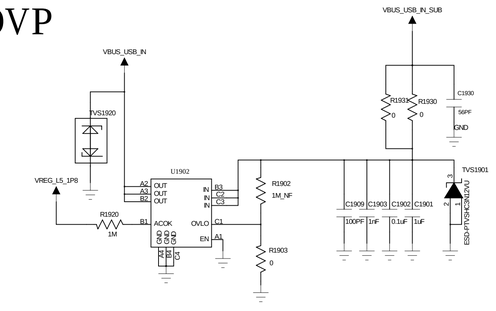
LDO-1.8V



SUB _ CONNECTOR



OVP



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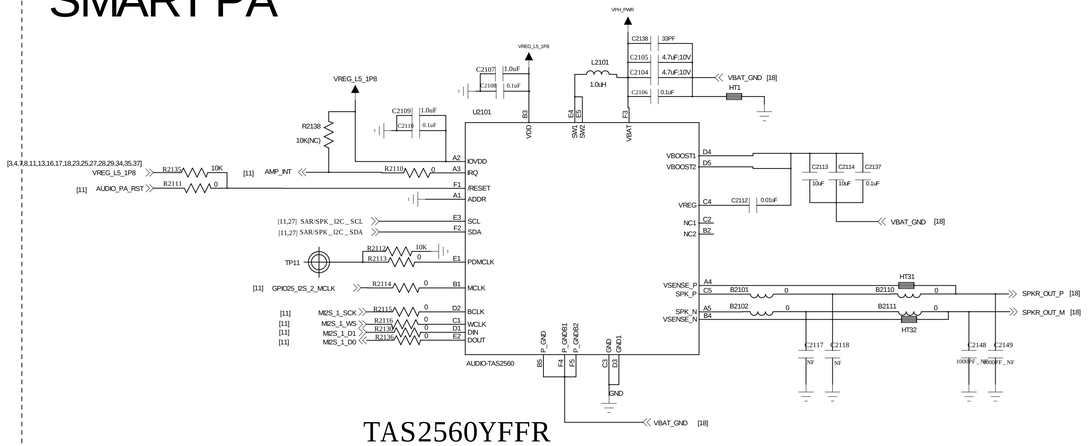
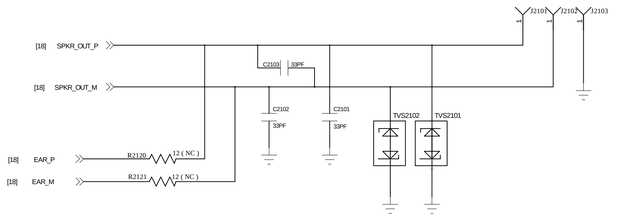
SMART PA



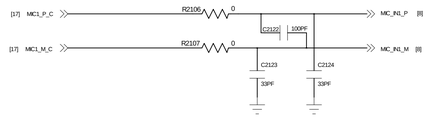
TAS2560YFFR

REC&SPK

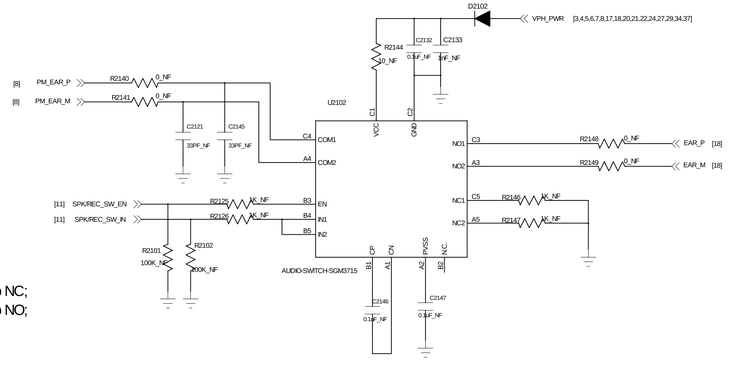


PRIMARY MIC

CLOSE TO CODEC

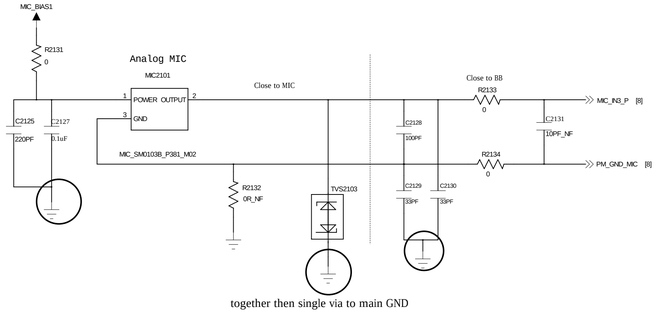


SWITCH-ANOLOG-SGM3715



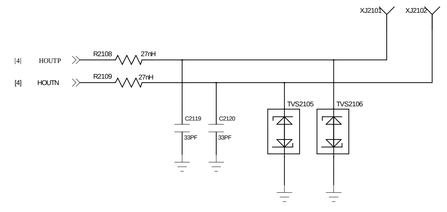
IN=0, COM Connected to NC;
IN=1, COM Connected to NO;

AUXMIC



together then single via to main GND

MOTOR



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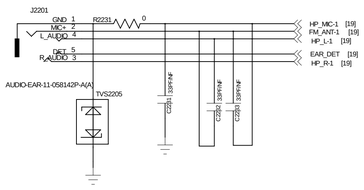
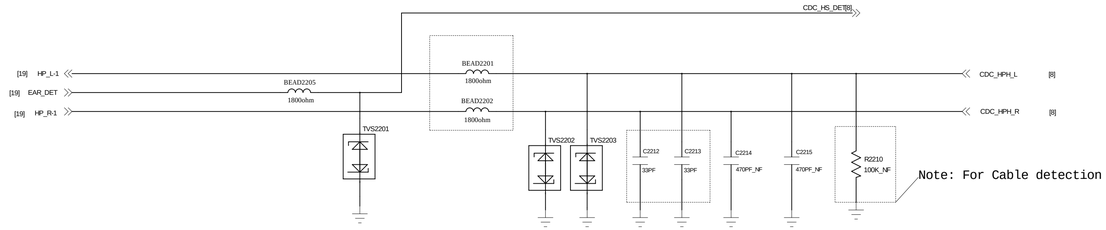
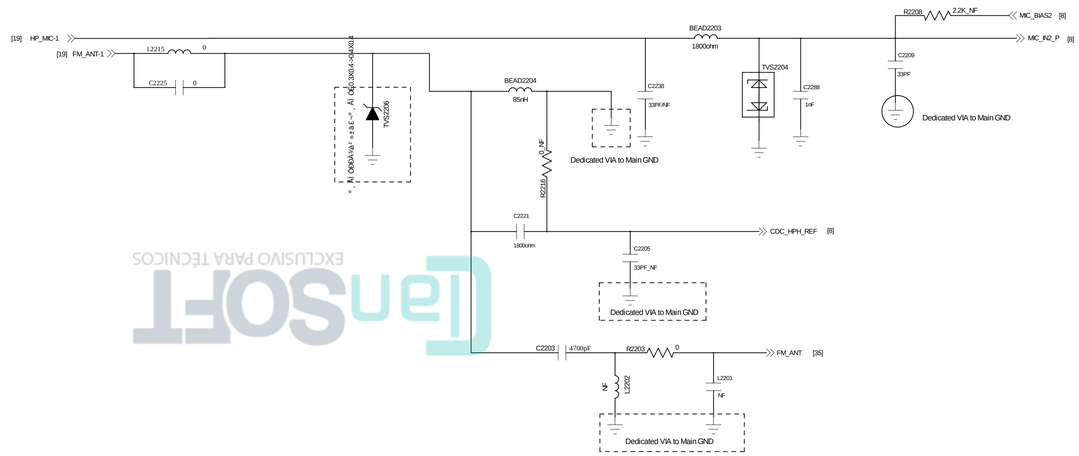
EARPHONE

Note: Ferrite beads and their corresponding bypass capacitors on CDC_HPH_L, CDC_HPH_R and CDC_HPH_REF are needed to reduce noise generated by audio/FM concurrency







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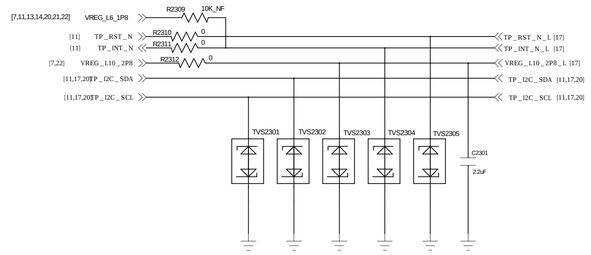
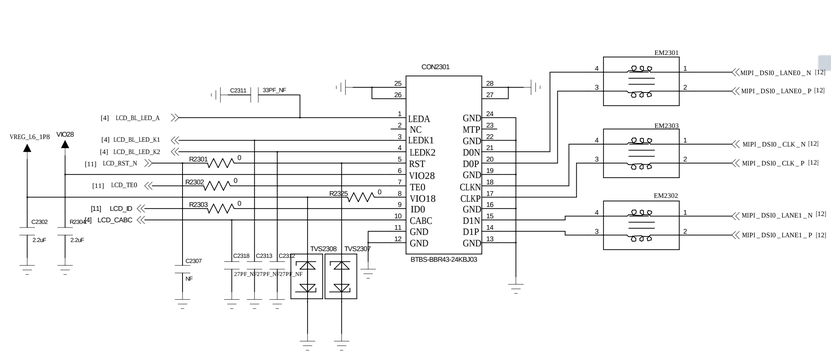
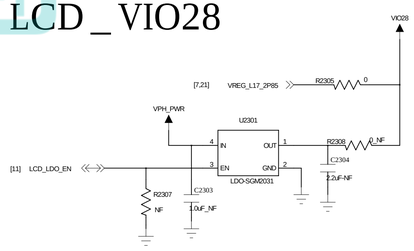
CTP



LCD



LCD _ VIO28



Note: If best EMI practices are followed for MIPI CSI/DSI signals, there is no need for common mode choke filters. You may choose to have placeholders for common mode depending upon your design constraints.
Extreme care must be taken that no stubs are created by doing so.

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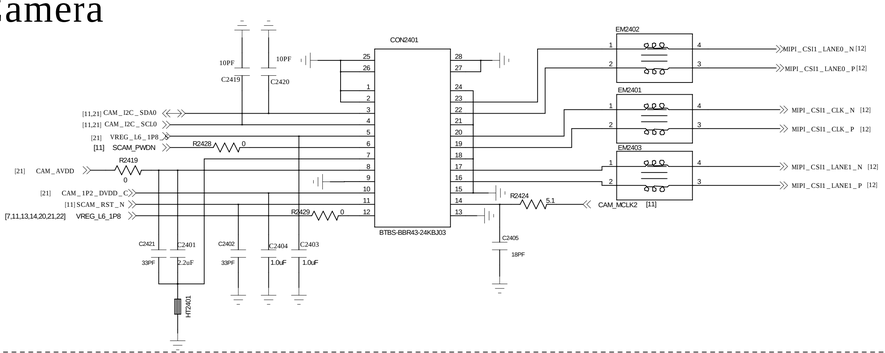
Front Camera

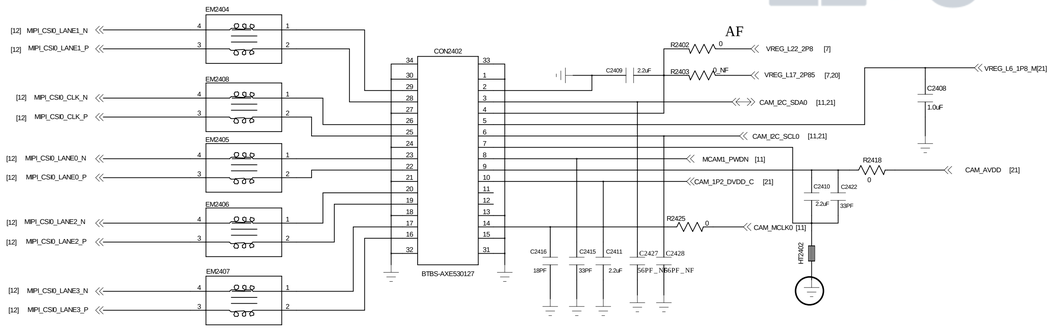


PIN	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
	GND	GND	SDA	SCL	DOVDD	CAM_PDN (NC)	AGND	AVDD	GND	DVDD	CAM_RST	NC	GND	CMMCLK	GND	RDP1_A	RDN1_A	GND	RCP_A	RCN_A	GND	RDP0_A	RDN0_A	GND

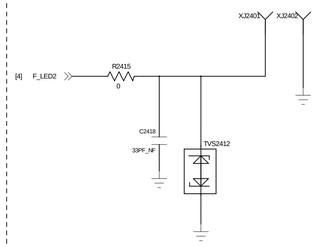
Main Camera / Sub Camera share power domain design
should double check the voltage level is compatible

PIN	
1	DGND
2	AF-GND
3	SDA
4	AF-VCC
5	DOVDD
6	SCL
7	AGND
8	PWDN
9	AVDD
10	DVDD
11	NC
12	NC
13	DGND
14	XCLK
15	DGND
16	MDP3
17	MDN3
18	DGND
19	MDP2
20	MDN2
21	DGND
22	MDP0
23	MDN0
24	DGND
25	MCP
26	MCN
27	DGND
28	MDP1
29	MDN1
30	DGND

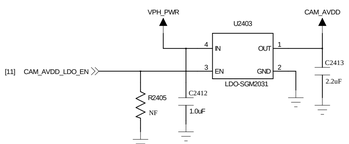
Main Camera



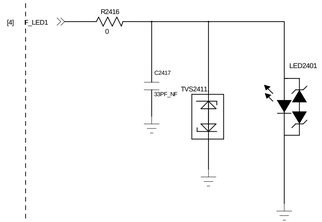
Front Flash LED



EXT _AVDD



Main Flash LED



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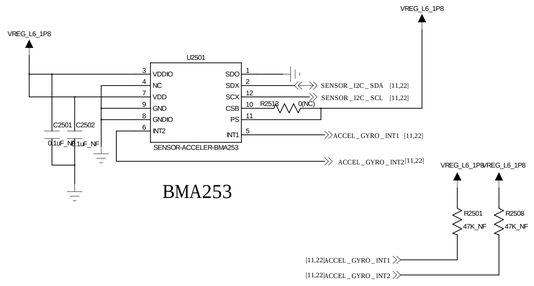
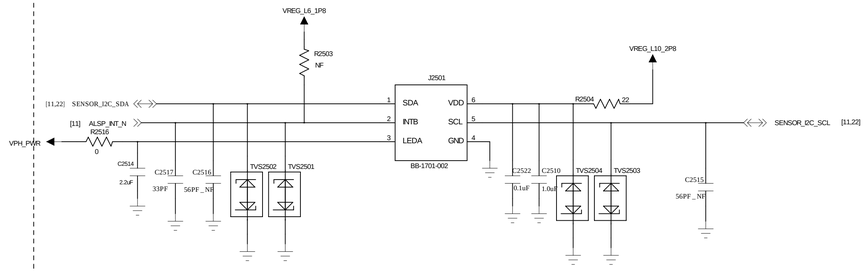
G-Sensor

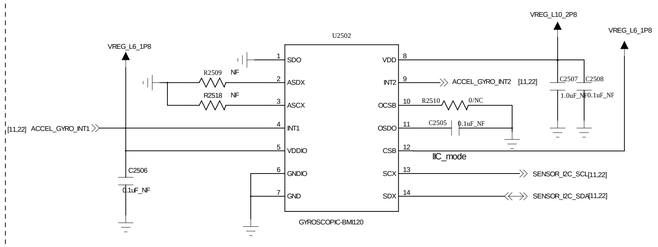


BMA253

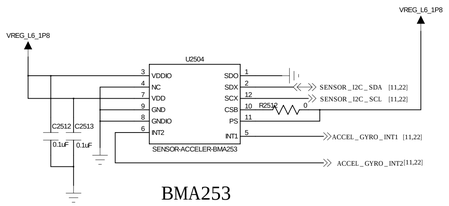
ALS+PS+IR



Gyroscope



G-Sensor



BMA253

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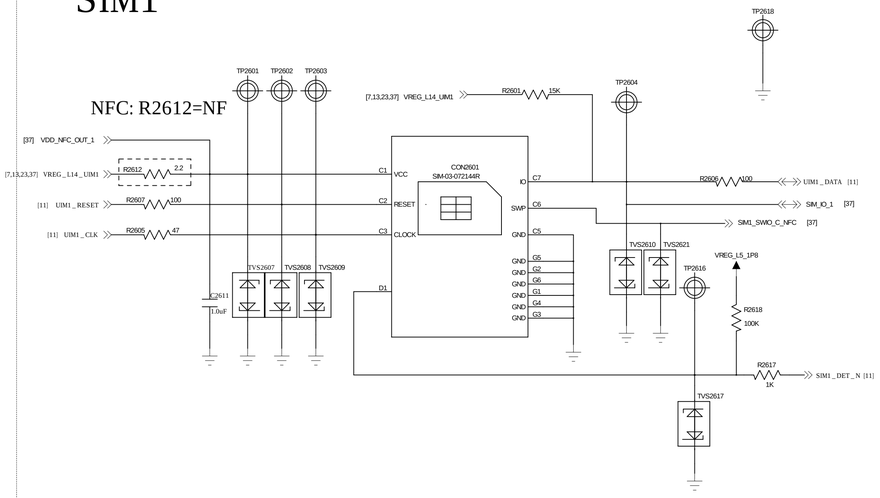
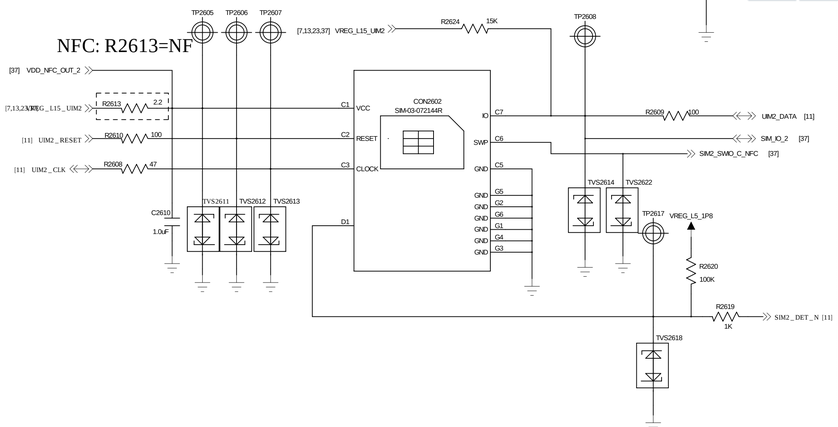
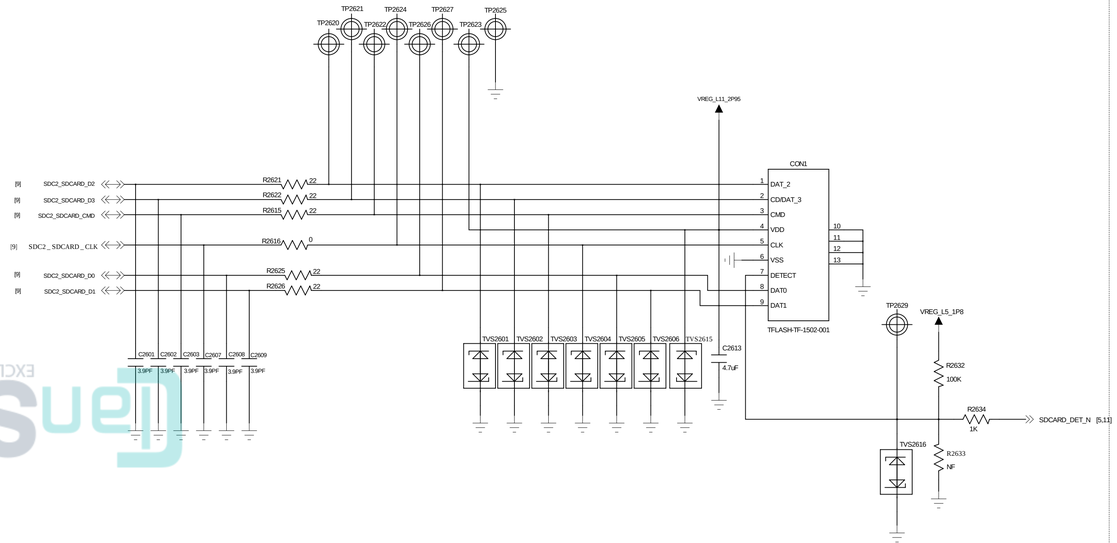
SIM1



SIM2



TF



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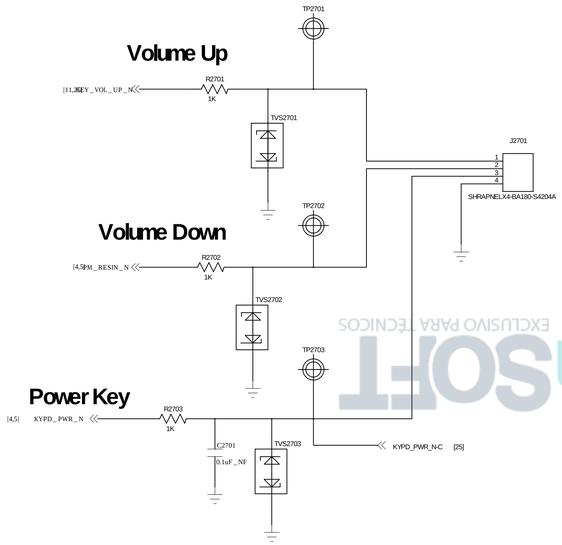
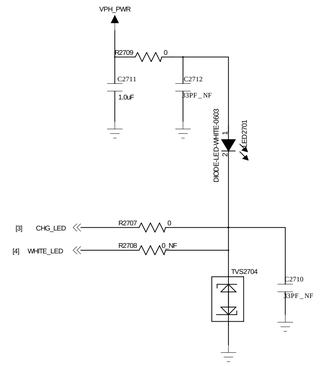
KEYPAD

Signal	Description
KEY_VOL_UP_N	Volume Up
PM_RESIN_N	Volume Down
KYPD_PWR_N	PWER_ON
PM_RESIN_N + KYPD_PWR_N	Hardware Reset



INDICATOR LED



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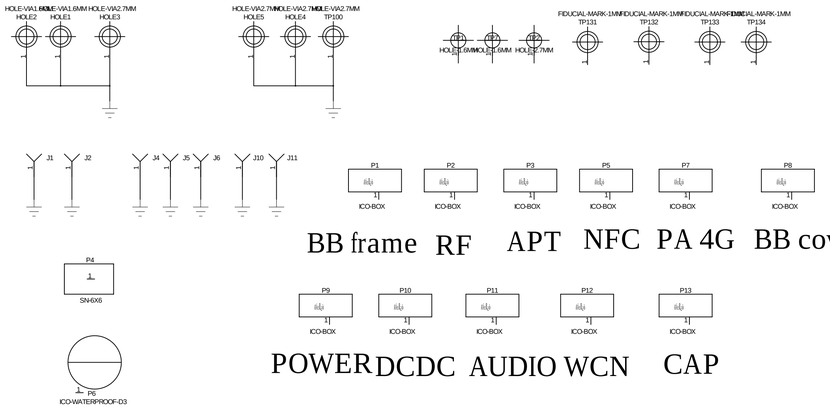
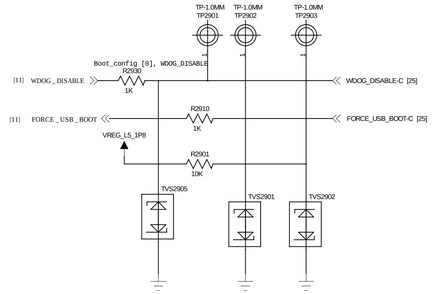
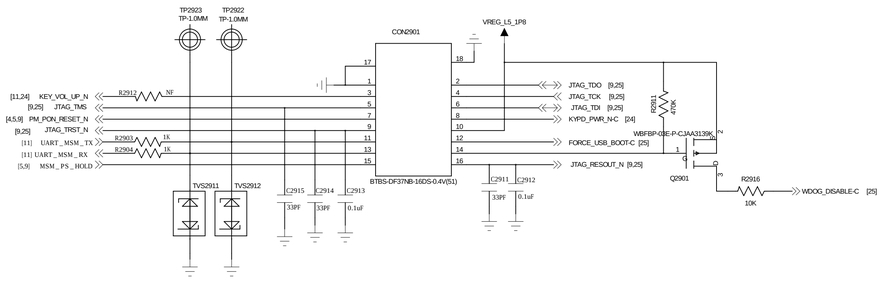


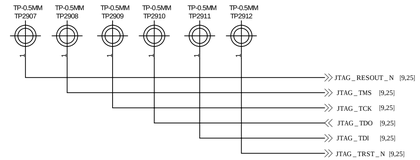
Test Point



JTAG CONNECTOR



JTAG POINT



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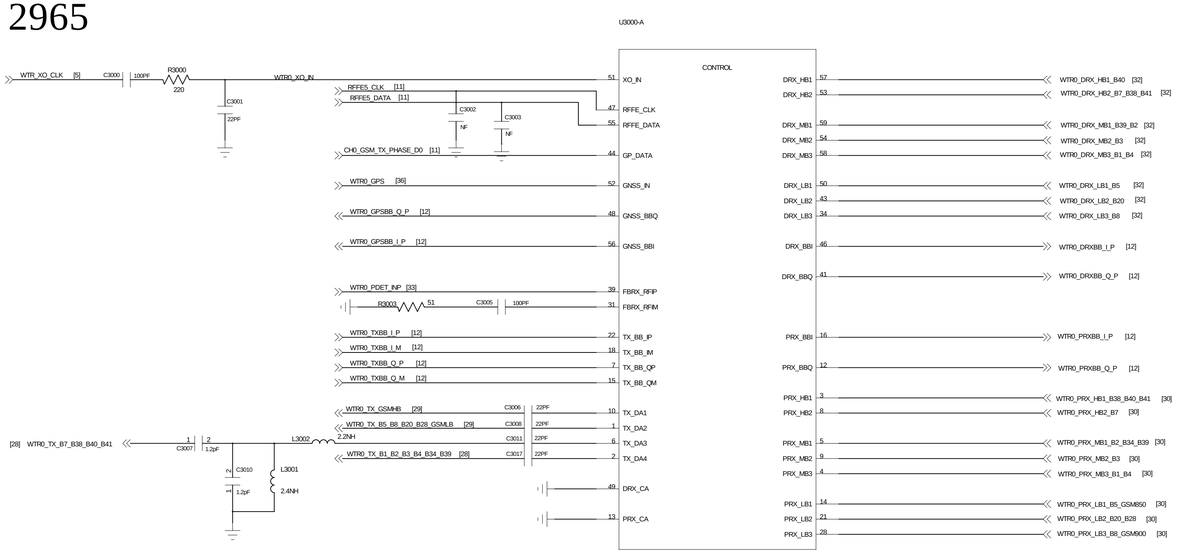
WTR 2965



WTR2965 Tx port mapping

RF port	GSM	CDMA	WCDMA	LTE-FDD	LTE-TDD	TD-SCDMA
Tx_DA1	850, 900, 1800, 1900	0, 10	8, 11	8, 11, 12, 13, 17, 21, 28	39	34, 39
Tx_DA2	850,900	0, 10	5, 6, 8, 19	5, 6, 8, 18, 19, 20, 26, 27, 28		
Tx_DA3				7, 30	38, 40, 41	
Tx_DA4	1800, 1900	1, 6, 14, 15	1, 2, 3, 4, 9, 10, 11, 25	1, 2, 3, 4, 9, 10, 11, 21, 25, 66	34, 39	34, 39

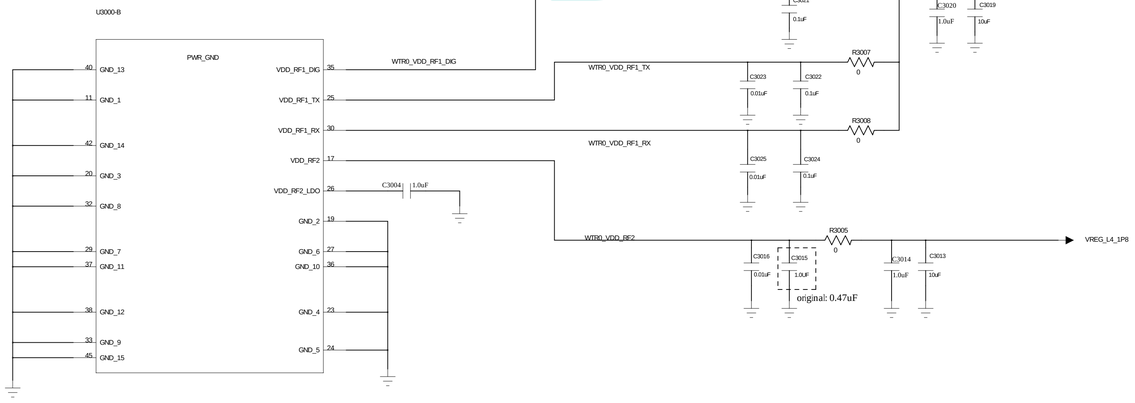
Note:RX ports have DC at the pin,
so it need DC block,please make sure
there is no DC short to other voltages and GND

Rx port mapping

WTR2965

	CDMA	GSM	WCDMA	LTE-FDD	TD-SCDMA	LTE-TDD	Remarks
PRx_LB1	BC0,10	850,900 850 SAWless, 900 SAWless	5, 6, 8, 19	5, 6, 8, 18, 19, 26, 27			SAWless and SAW mode is not supported at the same time
PRx_LB2				12, 13, 17, 20, 28			
PRx_LB3	BC0,10	850, 900	5, 8	5, 6, 8, 13, 18, 19, 20, 26, 27, 28, 29			
PRx_MB1	BC15 BC1,14	1900 1800 SAWless, 1900 SAWless,	2, 4, 10, 11, 25	2, 4, 10, 11, 21, 25, 32	34 SAW/SAWless 39 SAW/SAWless	34 SAW/SAWless 39 SAW/SAWless	SAWless and SAW mode is not supported at the same time
PRx_MB2	BC1, 14	1800, 1900	2, 3, 9, 25	2, 3, 9, 25	34, 39	34, 39	
PRx_MB3	BC6, 15	1800	1, 3, 4, 9, 10	1, 3, 4, 9, 10, 66			
PRx_HB1				30		38, 40, 41	
PRx_HB2				7		38, 41	

	CDMA	GSM	WCDMA	LTE-FDD	TD-SCDMA	LTE-TDD	
DRx_LB1	BC0, 10	850, 900	5, 6, 8, 19	5, 6, 8, 18, 19, 26, 27			
DRx_LB2				12, 13, 17, 20, 28			
DRx_LB3	BC0, 10	850, 900	5, 8	5, 6, 8, 13, 18, 19, 20, 26, 27, 28, 29			
DRx_MB1	BC15, BC1,14	1900	2, 4, 10, 11, 25	2, 4, 10, 11, 21, 25, 32	34, 39	34, 39	
DRx_MB2	BC1, 14	1800, 1900	2, 3, 9, 25	2, 3, 9, 25	34, 39	34, 39	
DRx_MB3	BC6, 15	1800	1, 3, 4, 9, 10	1, 3, 4, 9, 10, 66			
DRx_HB1				30		38, 40, 41	
DRx_HB2				7		38, 41	



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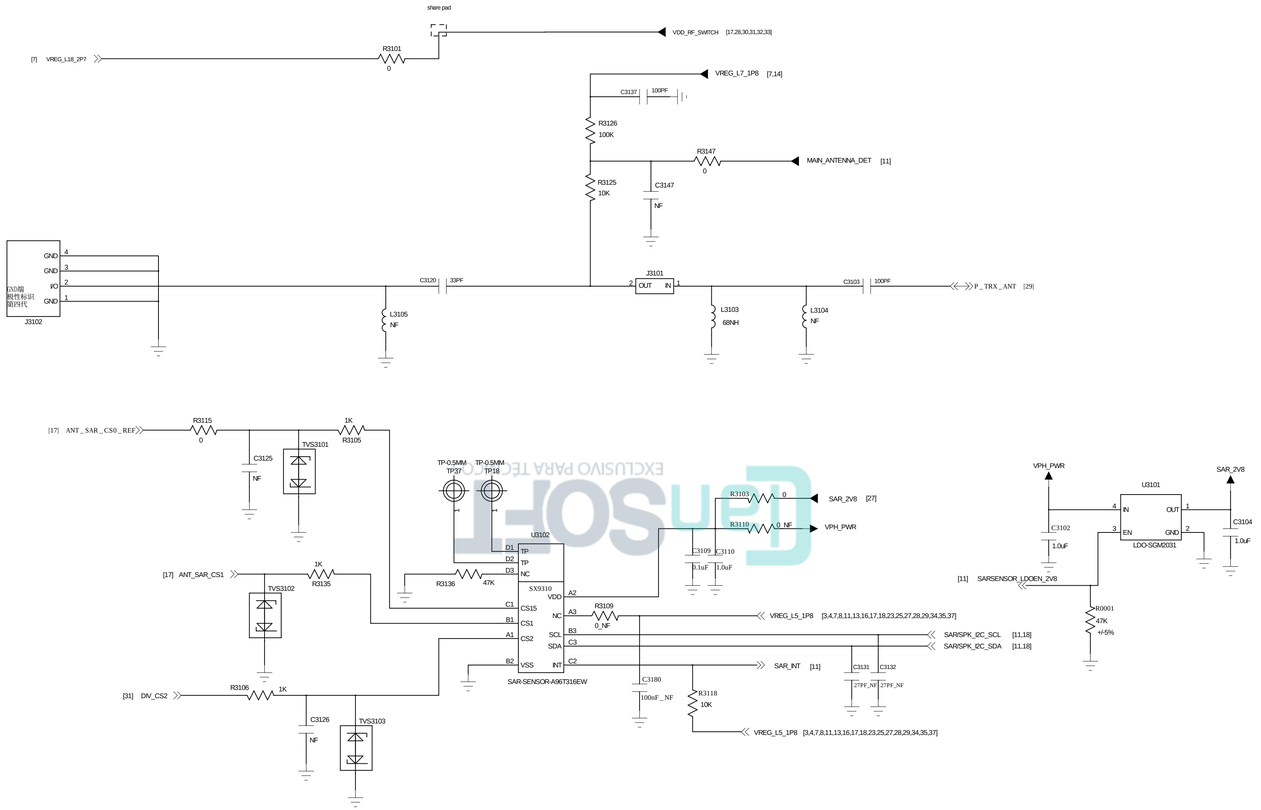
PRIMARY _ ANT



		Title Sheet Size Name Rev Date: Sheet of

3/4G PA

Band7

Band40

Band4

Band3

Band1

Band2

Band5/BC0

Band20/28A

Band8

Band28B

Note:The SAW BW=120MHz

Band38/41

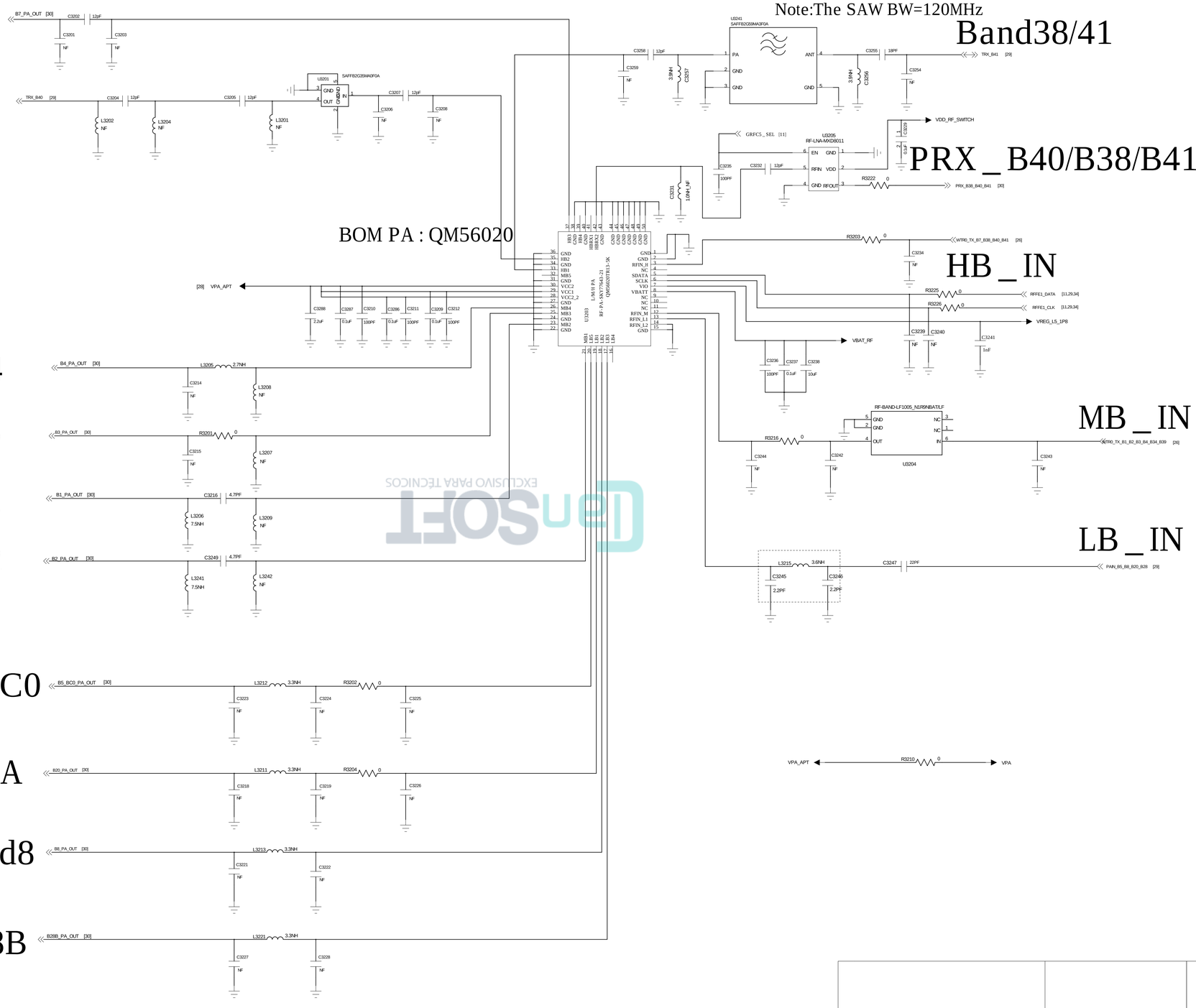
PRX _ B40/B38/B41

BOM PA : QM56020

HB _ IN

MB _ IN

LB _ IN



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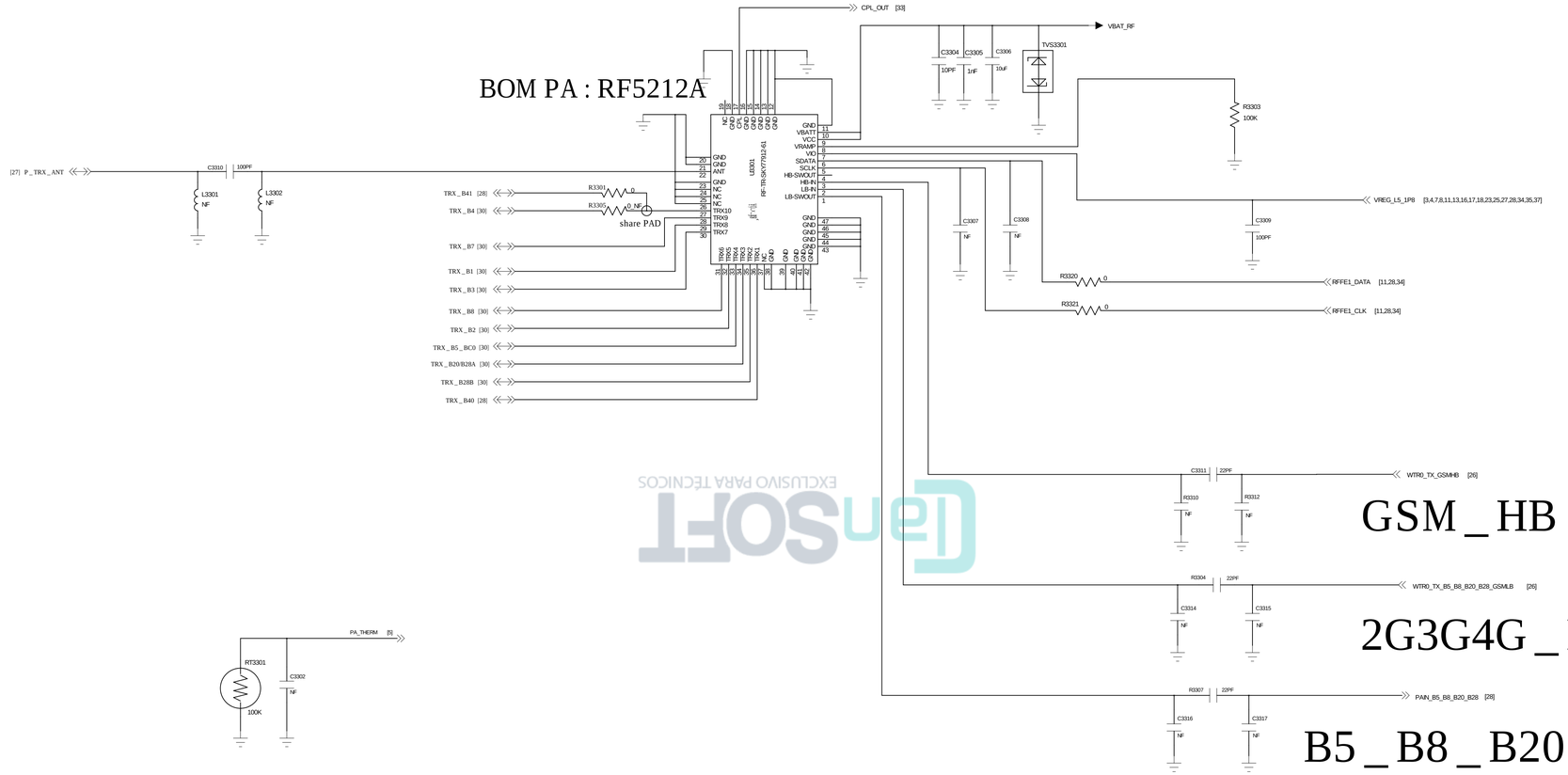
2G PA

BOM PA : RF5212A



GSM _ HB

2G3G4G _ LB

B5 _ B8 _ B20 _ B28

Title
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Name
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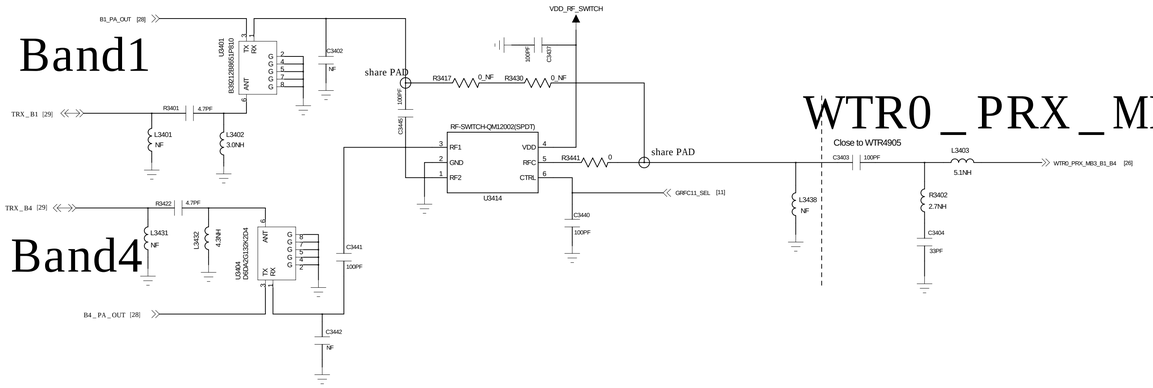
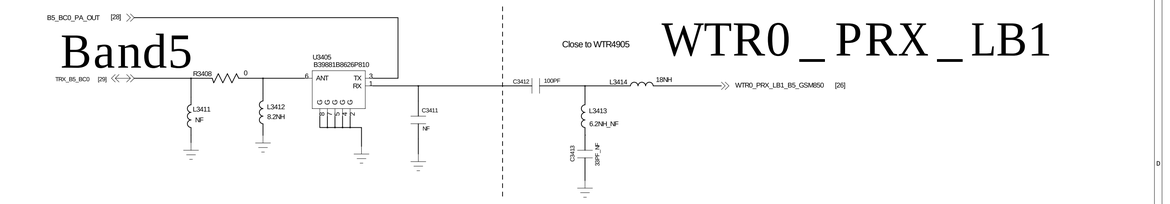
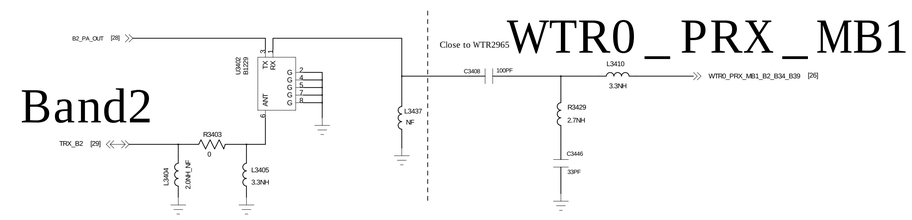
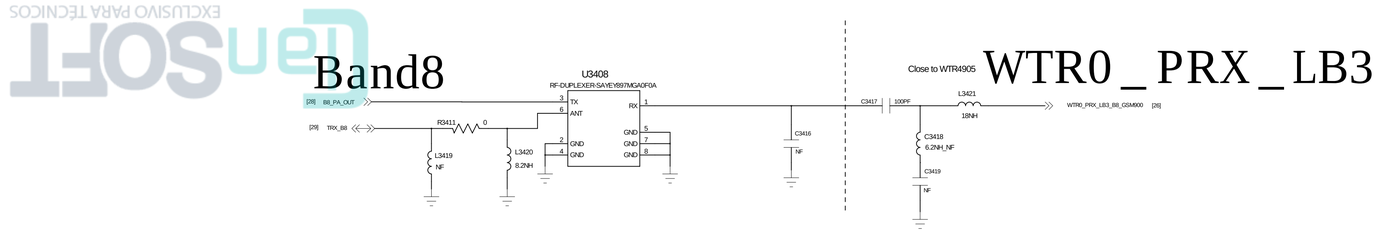
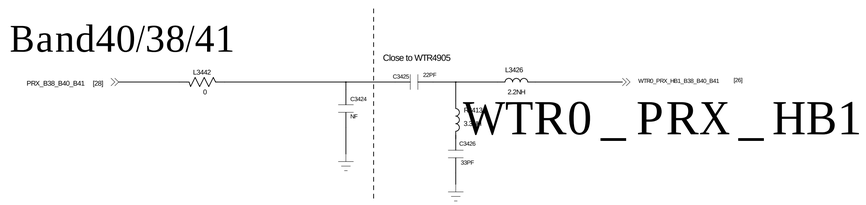


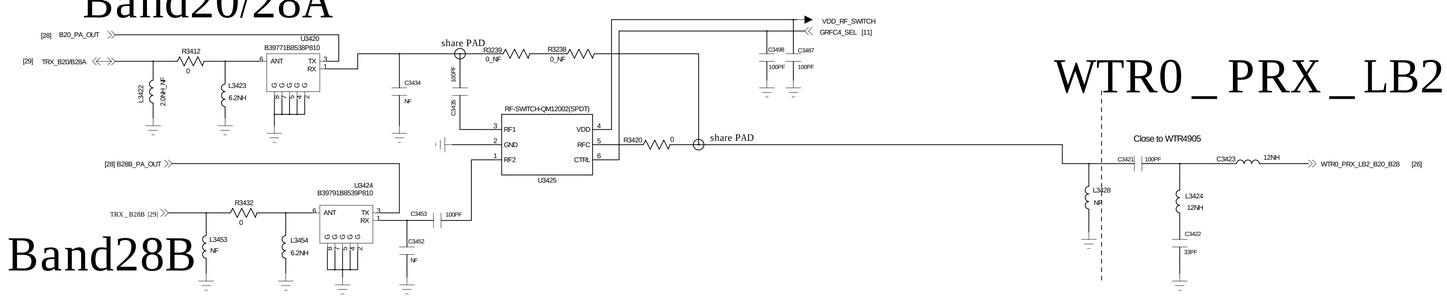


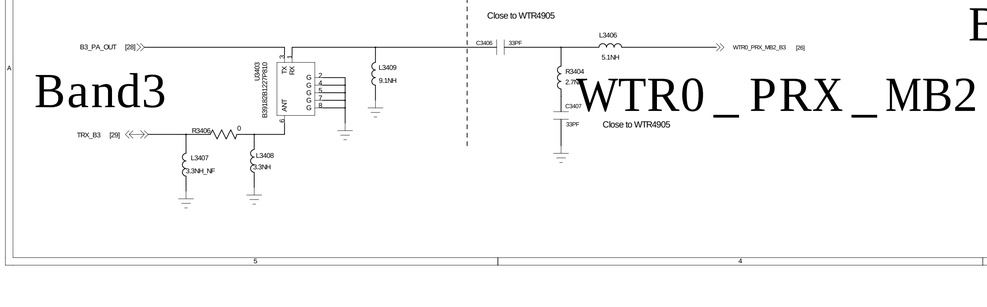
India: GSM1900 SAW 1411 Package for Co-PCB with Band2 1814 DPX







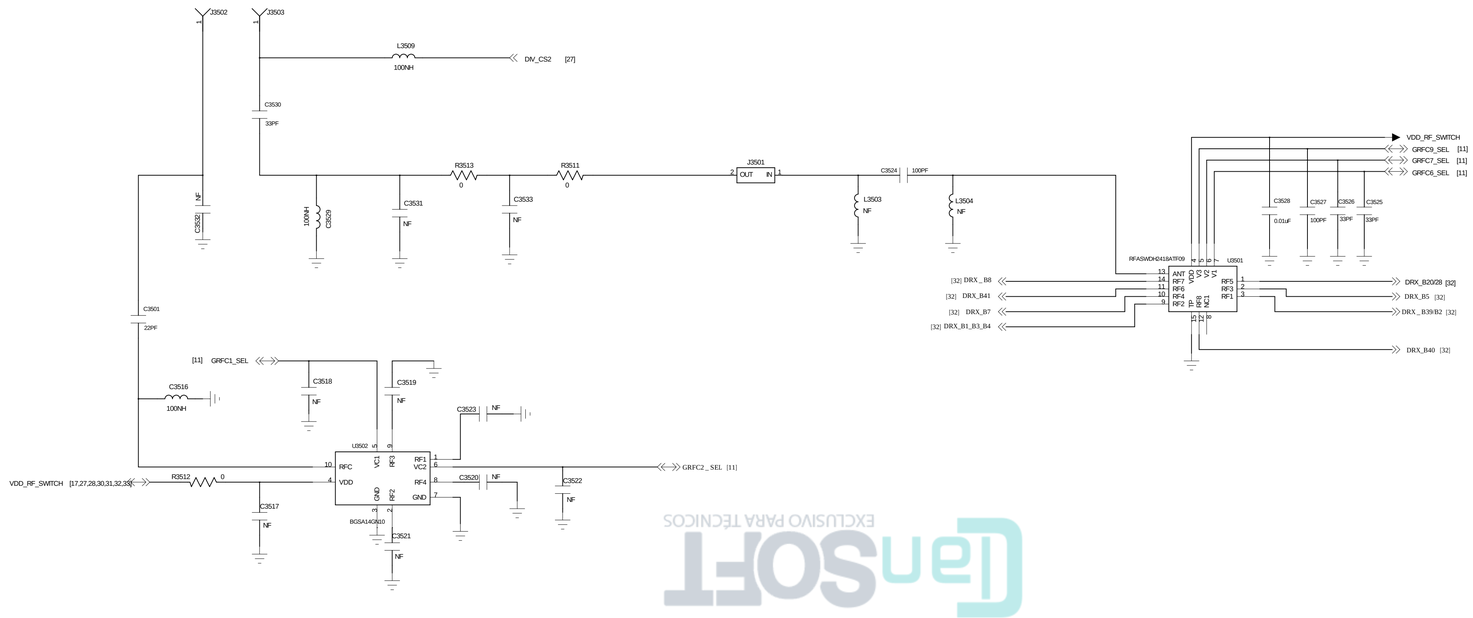




Note:The matching need
close to WTR, RX ports have
DC at the pin, so it need DC block,

		Title Sheet Size Name Rev Date: Sheet of

DRX _ ANT



Title

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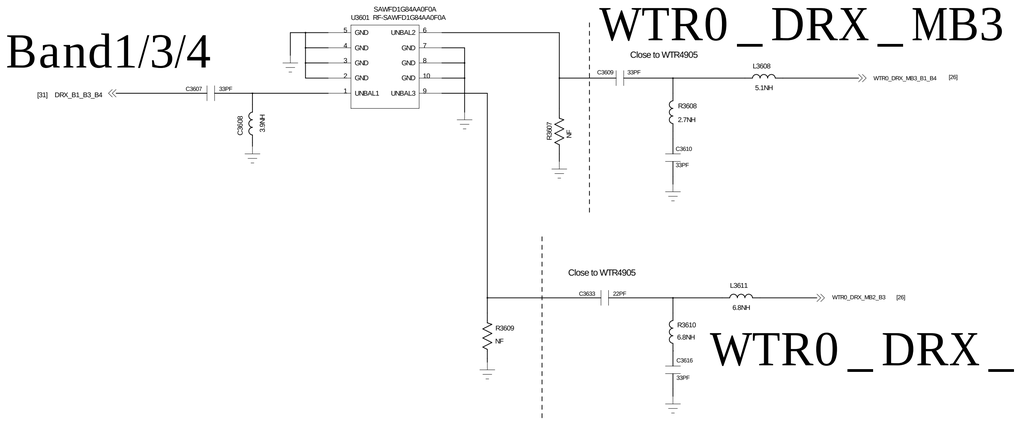
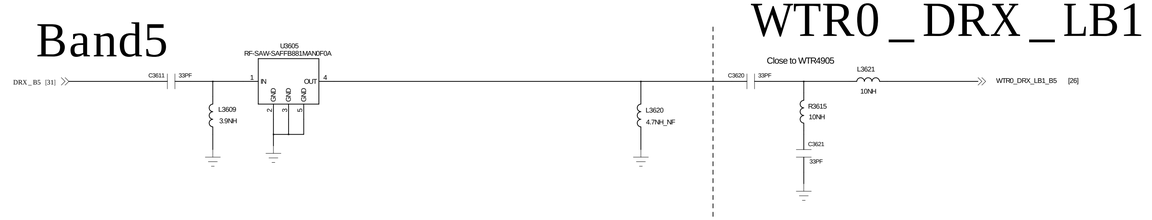
Date: | Sheet | of

Band1/3/4



WTR0 _ DRX _ MB3

Band5



WTR0 _ DRX _ LB1

WTR0 _ DRX _ MB2

Band20/B28

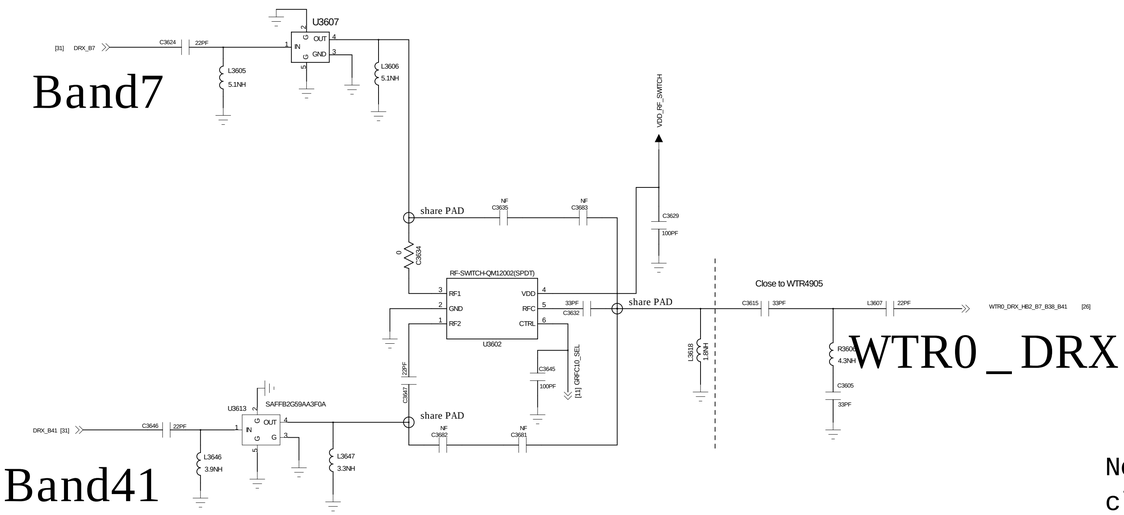
WTR0 _ DRX _ LB2

WTR0 _ DRX _ LB3

Band8

Band2

WTR0 _ DRX _ MB1



Band7

Band41

WTR0 _ DRX _ HB2

Band40

WTR0 _ DRX _ HB1

Note:The matching need
close to WTR, RX ports have
DC at the pin, so it need DC block,

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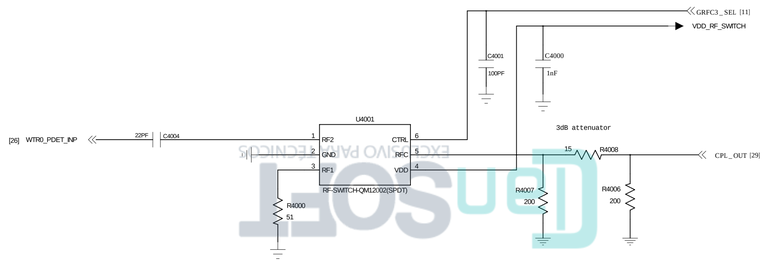
SPDT



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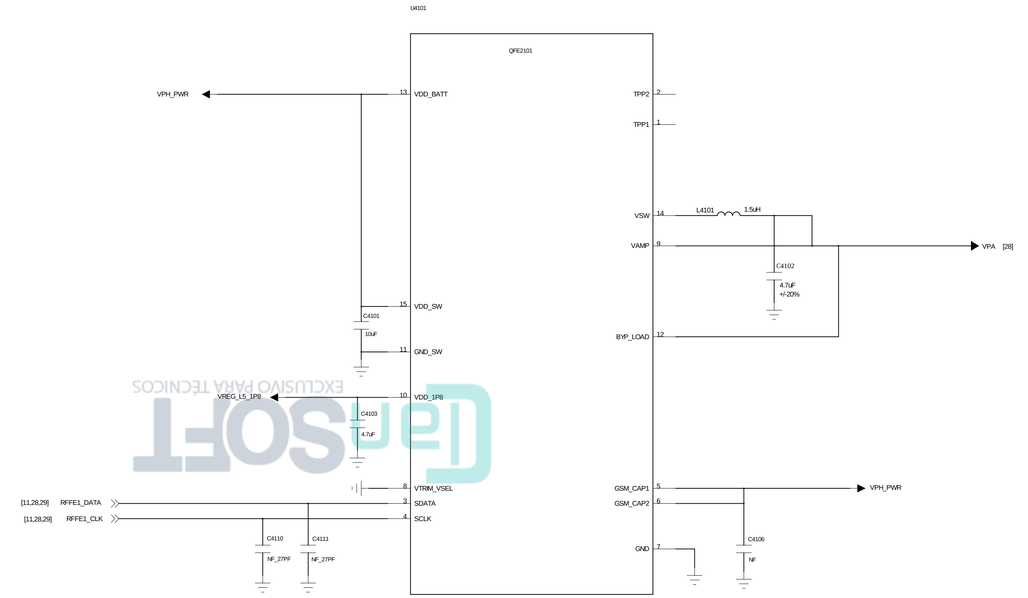
		Size Name Rev
		Date: Sheet of

APT

Note: Use a signle low impedance power plane/fill VPA for all ET PA VCC1/VCC2.

Refer to 80-NA681-91 rev.B or later revisions for more layout details.



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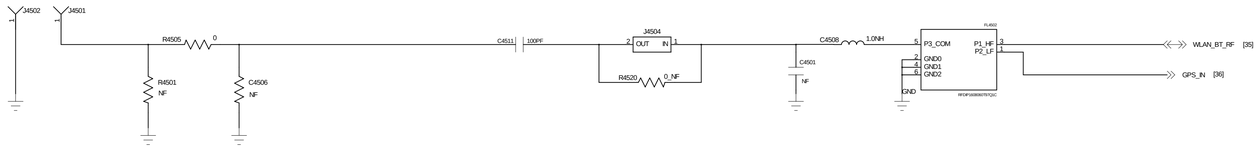
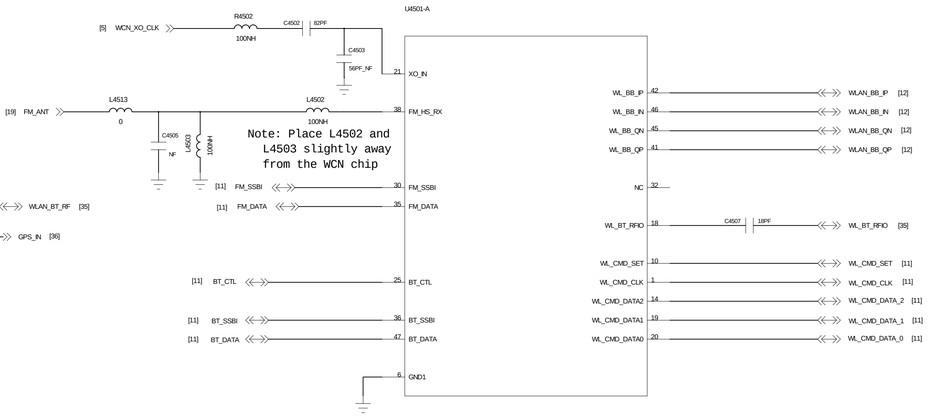
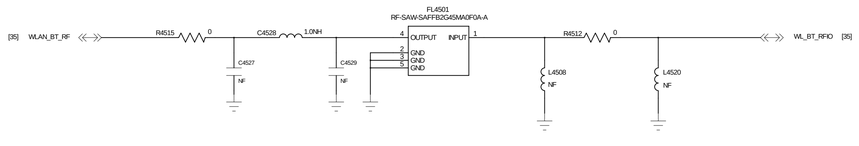
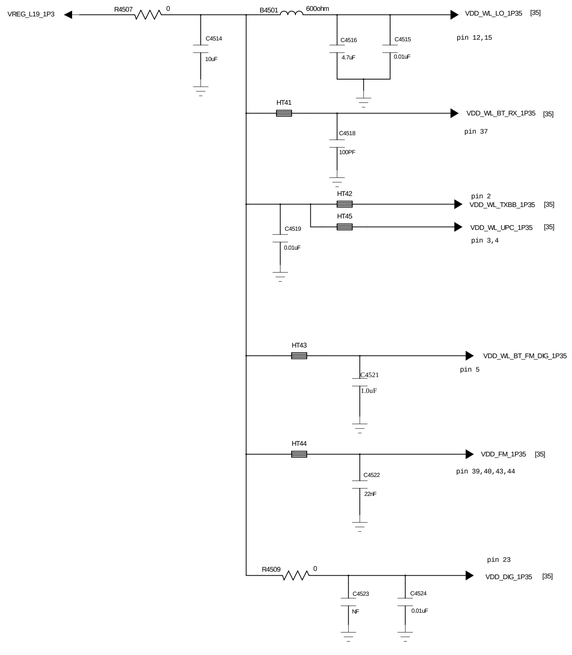
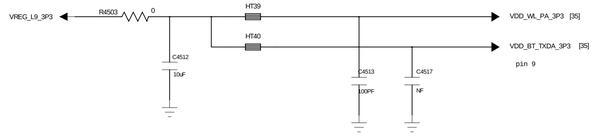
WCN3615

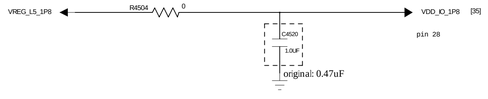


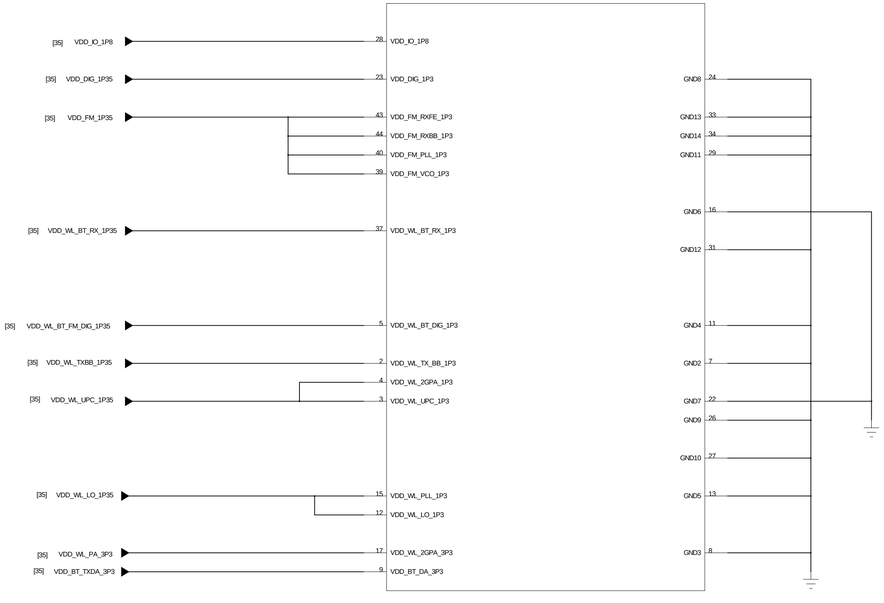












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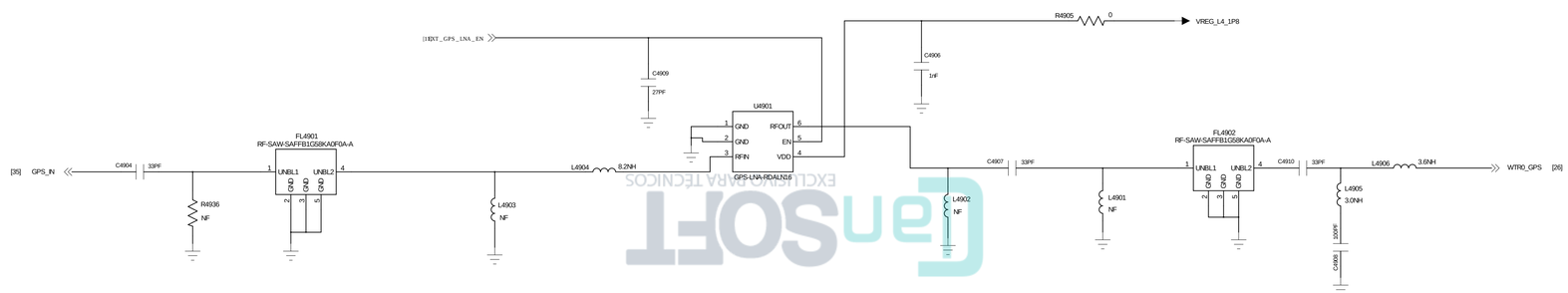
GPS



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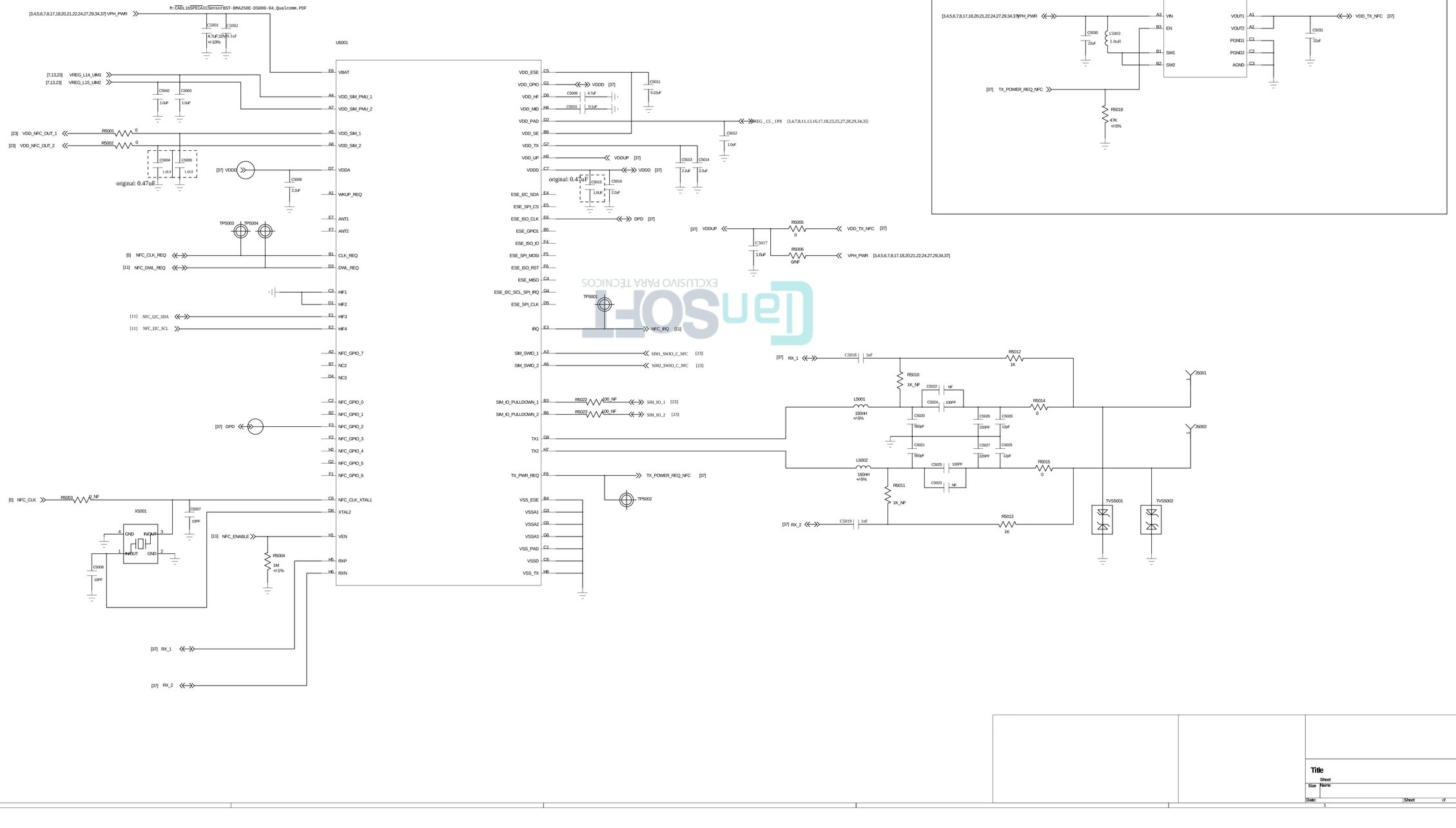

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