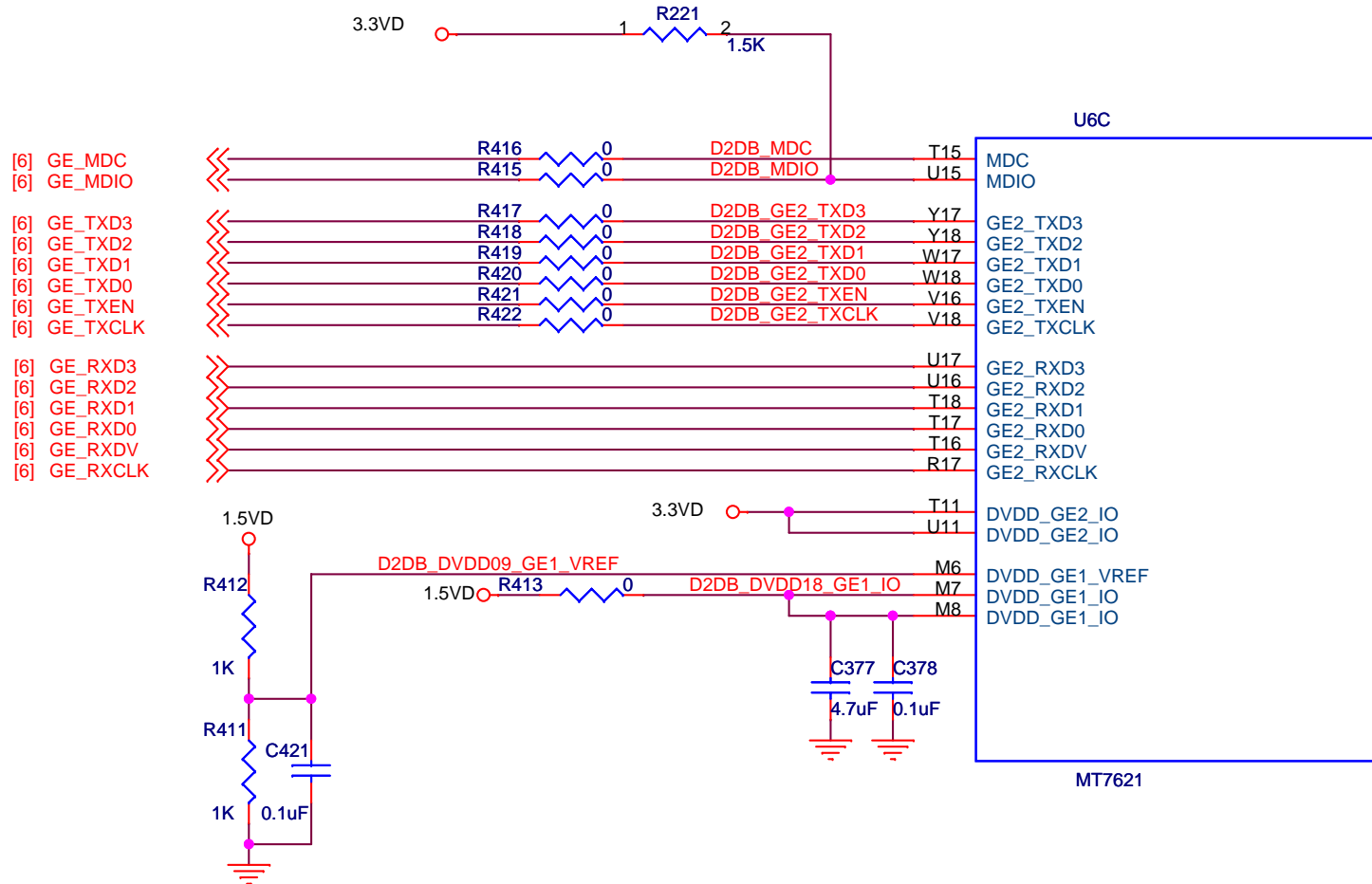





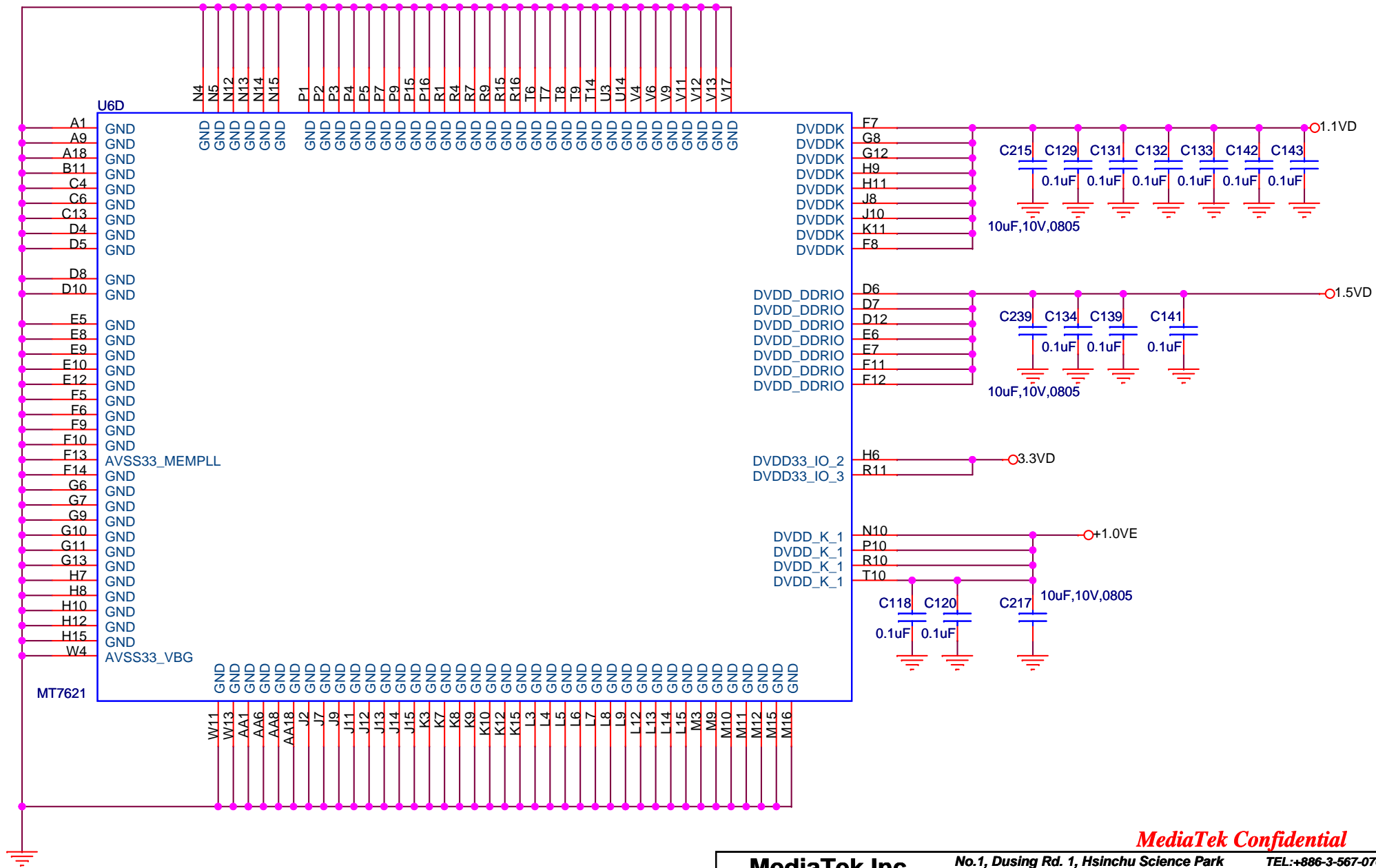
## RGMI Interface



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<b>MediaTek Inc.</b>		<i>No.1, Dusing Rd. 1, Hsinchu Science Park Hsinchu,Taiwan 300, R.O.C.</i>		<i>TEL: +886-3-567-0766 Fax: +886-3-578-7610</i>	
	Title <b>MT7621A</b>				
	Size A	Document Number MT7621A		Drawn <i>Jimmy</i>	Rev V11
	Date:	Thursday, October 10, 2013		Sheet 3 of 16	

# MT7621 Power



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Fax: +886-3-578-7610

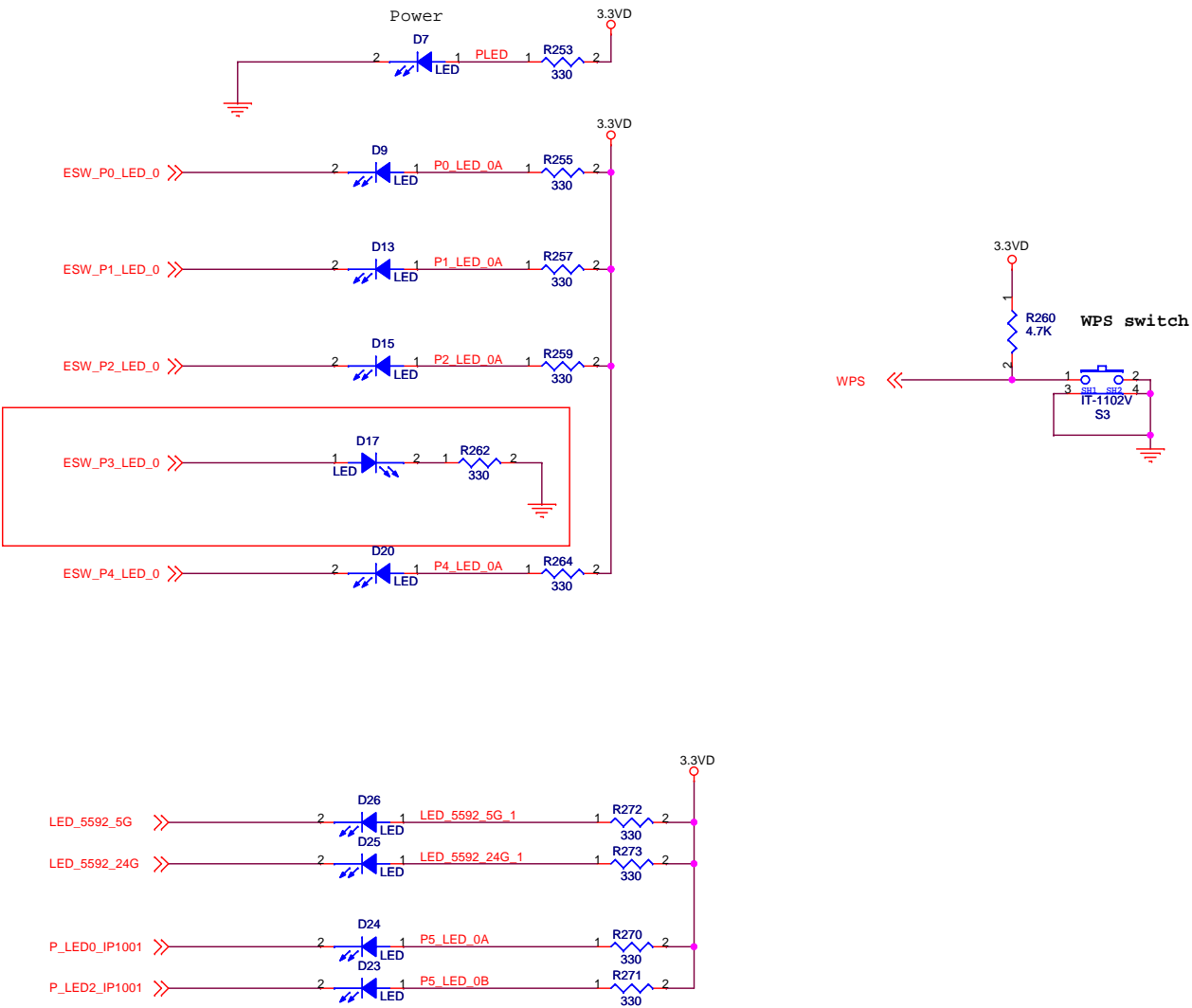
**MEDIA/TEK**

Title <b>MT7621A</b>			
Size A	Document Number MT7621A	Drawn <b>Jimmy</b>	Rev V11
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LED





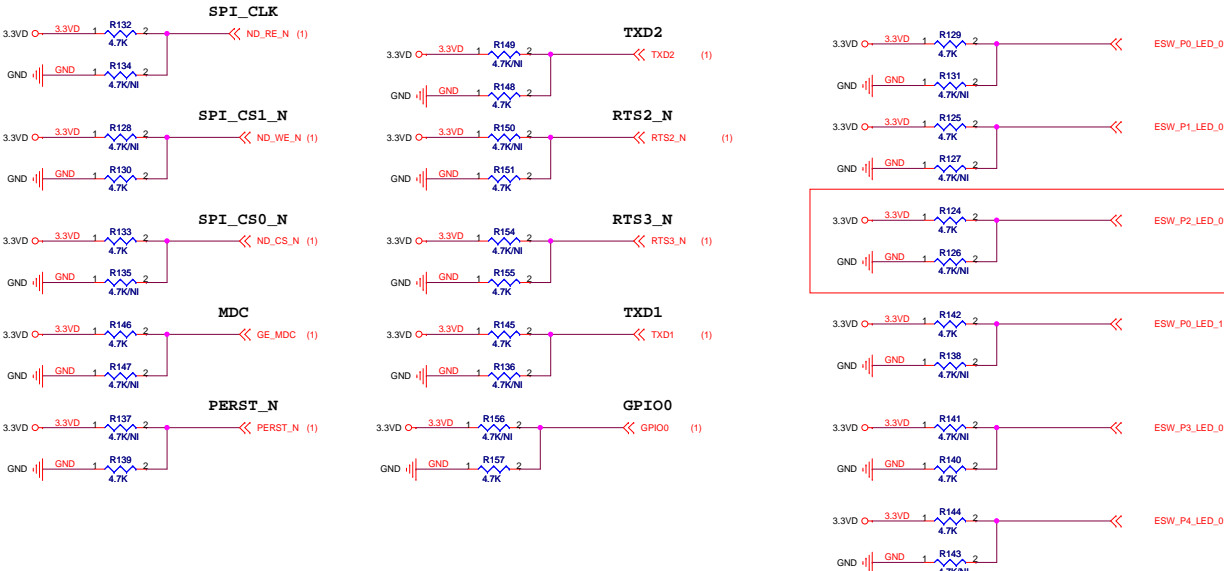


# Boot Strapping

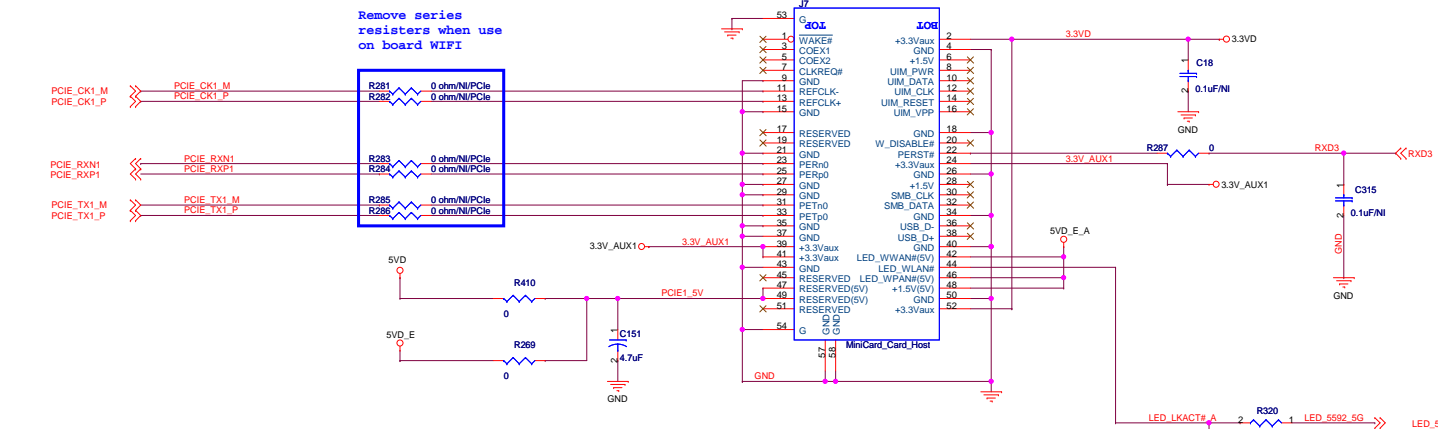
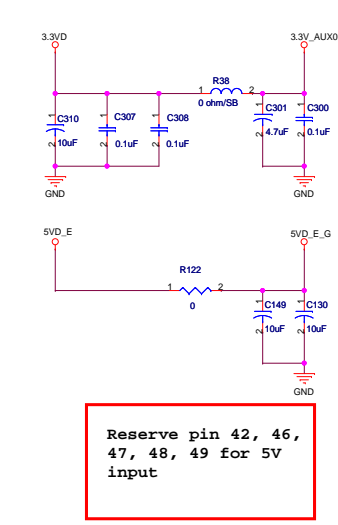
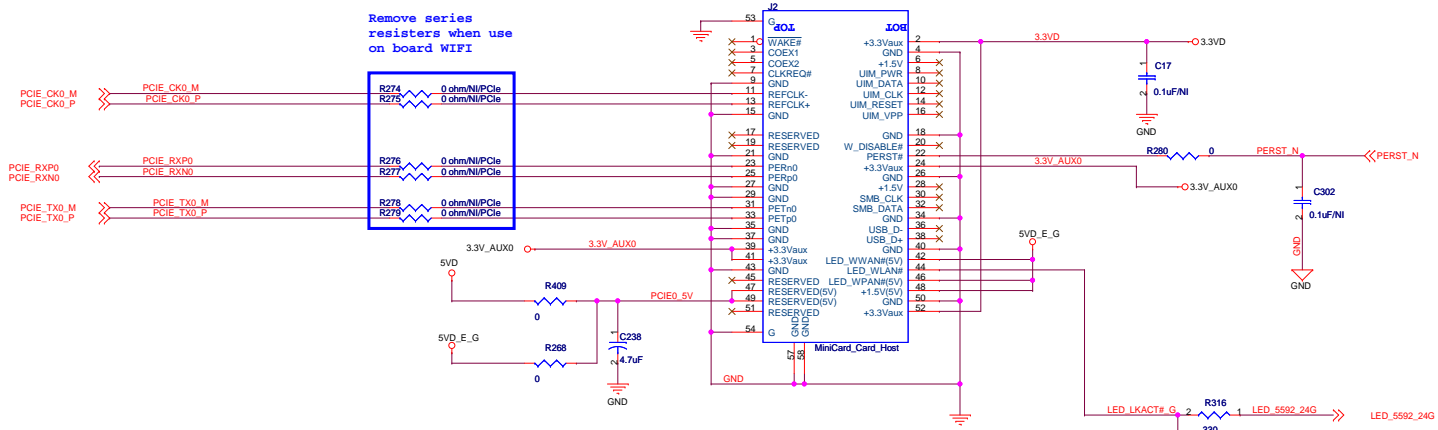
Pin Name	Description	Value	
SPI_CLK	DRAM_FROM_EE	For non scan mode: 0: DRAM/PLL configuration from EEPROM <b>1: DRAM configuration from Auto Detect</b>	For FT mode: 0: SUTIF 1: 3-wire SPI
{SPI_CS1_N, SPI_CS0_N, MDC }	XTAL_MODE	000: 20 MHz, Self Oscillation mode 001: 20 MHz, Single end input 010: 20 MHz, differential input <b>011: 40 MHz, Self Oscillation mode</b>	100: 40 MHz, Single end input 101: 40 MHz, differential input 110: 25 MHz, Self Oscillation mode 111: 25 MHz, Single end input
PERST_N	OCP_RATIO	<b>0: 1:3</b> 1: 1:4	
TXD2	DRAM_TYPE	<b>0: DDR3</b> 1: DDR2	
{RTS2_N, RTS3_N, TXD1, GPIO0}	CHIP_MODE[3:0]	0000: Normal / Boot from SPI 4-byte address and XTAL clock 0001: Normal / Boot from ROM (NAND page 2k+64 bytes) <b>0010: Normal / Boot from SPI 3-byte address</b> 0011: Normal / Boot from SPI 4-byte address 0100: iNIC RGMII / Boot from ROM 0101: iNIC MII / Boot from ROM 0110: iNIC RVMMI / Boot from ROM 0111: iNIC PHY / Boot from ROM 1000: iNIC RGMII / Boot from ROM and XTAL clock 1001: Normal / Boot from internal SRAM 1010: Normal / Boot from ROM (NAND page 2k+128 bytes) 1011: Normal / Boot from ROM (NAND page 4k+128 bytes) 1100: Normal / Boot from ROM (NAND page 4k+224 bytes) 1101: Debug mode 1110: Scan mode 1111: Final Test	

# Giga Switch Hardware Trap

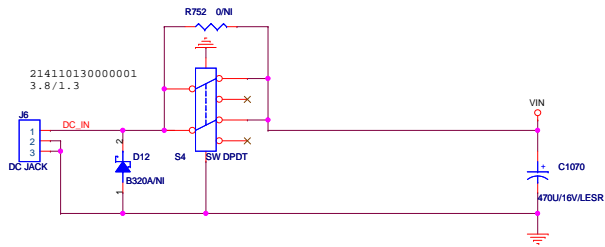
Pin Name	Trap	Fuction	Description	Default
P0_LED_0	HWTRAP[0]	HT_CHIP_MODE[0]	chip_mode[3:0] 4'b0000: IDDQ mode 4'b0001: IOTEST mode 4'b0010: NANDTREE mode 4'b0011: RING mode (both IO and std-cell) 4'b0100: MBIST 4'b0101: SCAN mode (internal) 4'b0110: SCAN-COMP mode (compression) 4'b0111: SCAN-MBIST-OLT mode 4'b1000: AFE-OLT mode 4'b1001: GPHY ATE mode 4'b1010: GPHY ADUMP mode 4'b1011: GPHY ADUMP probe mode 4'b1100: Reserved 4'b1101: Reserved 4'b1110: bootup probe mode 4'b1111: normal mode	4'b1111
P1_LED_0	HWTRAP[1]	HT_CHIP_MODE[1]		
P2_LED_0	HWTRAP[2]	HT_CHIP_MODE[2]		
P0_LED_1	HWTRAP[3]	HT_CHIP_MODE[3]		
P3_LED_0	HWTRAP[9]	HT_XTAL_FSEL[0]	External Crystal Frequency Selection xtal_freq_sel[1:0] 2'b01: 20MHz 2'b10: 40MHz 2'b11: 25MHz	2'b10
P4_LED_0	HWTRAP[10]	HT_XTAL_FSEL[1]		



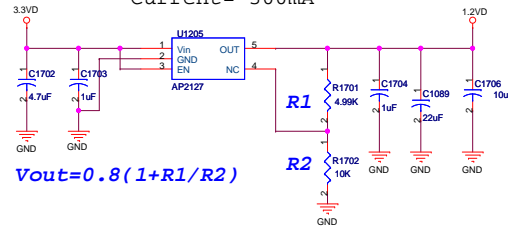
# PCIe Slot



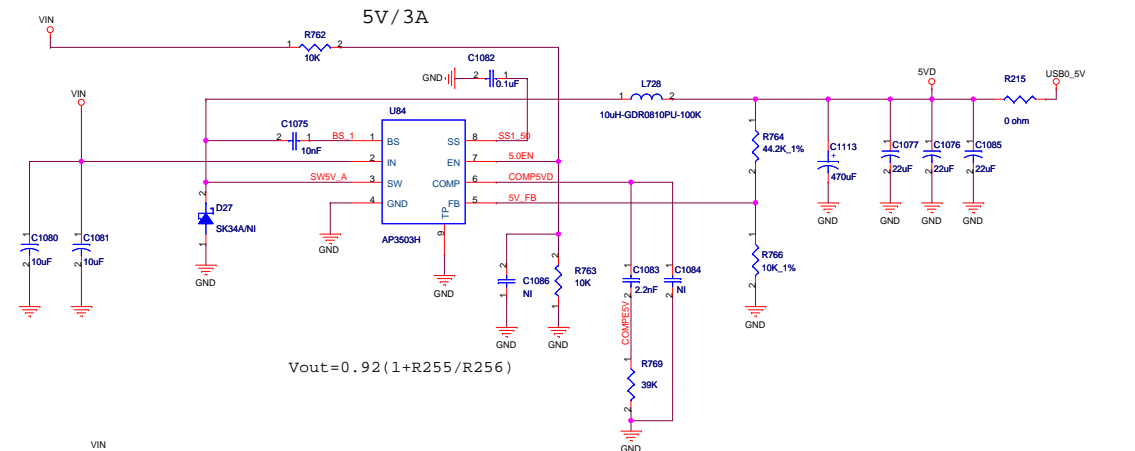
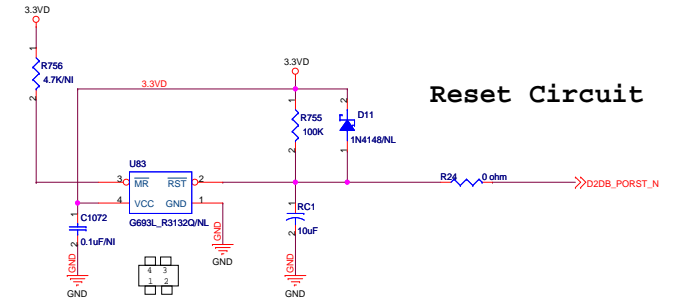
# System Power



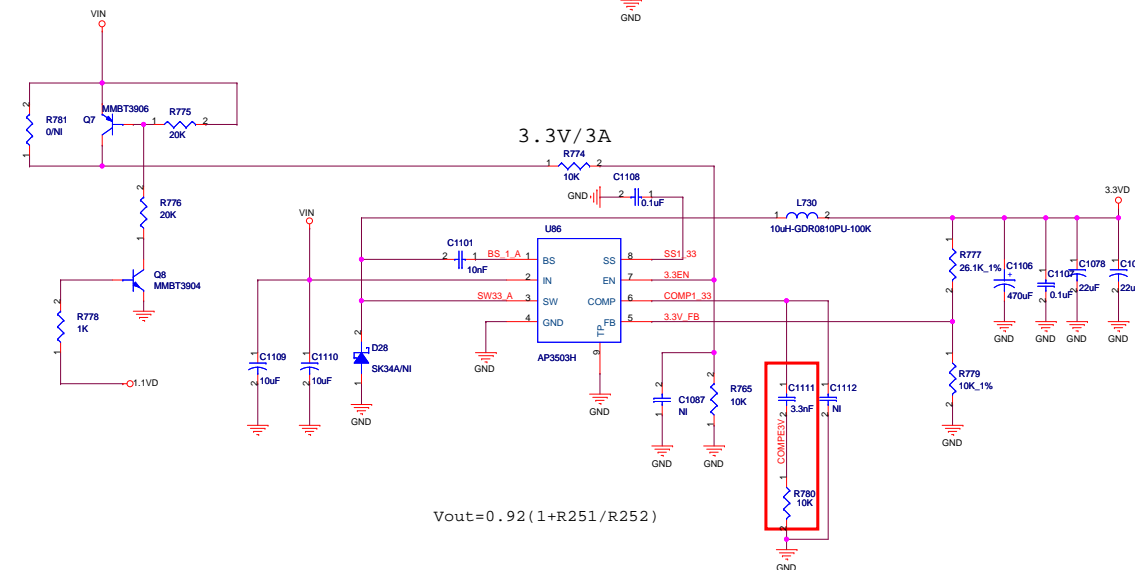
For USB/PCIe PHY Power (1.2V)  
Current= 300mA



$$V_{out}=0.8(1+R1/R2)$$

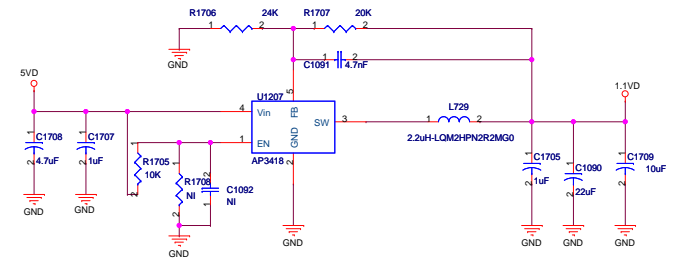


$$V_{out}=0.92(1+R255/R256)$$

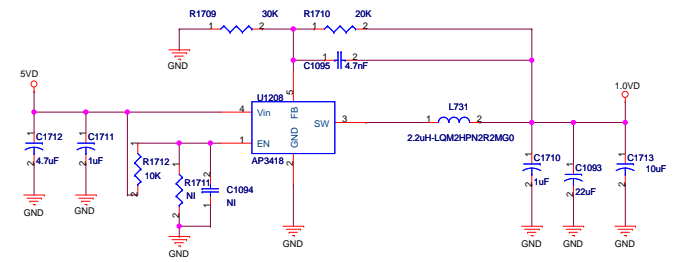


$$V_{out}=0.92(1+R251/R252)$$

1.1V/1.5A



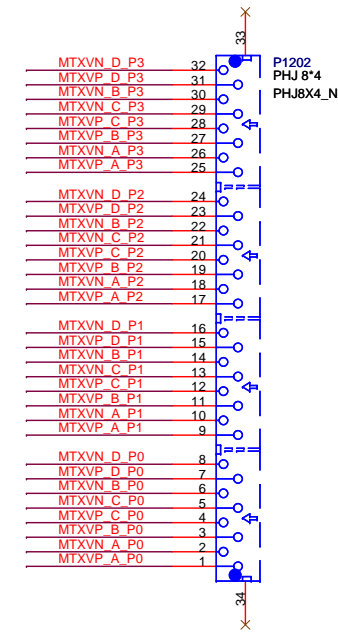
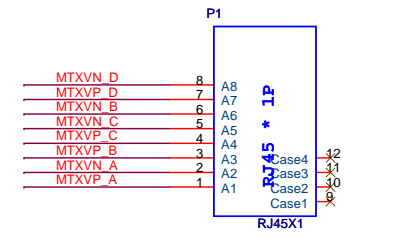
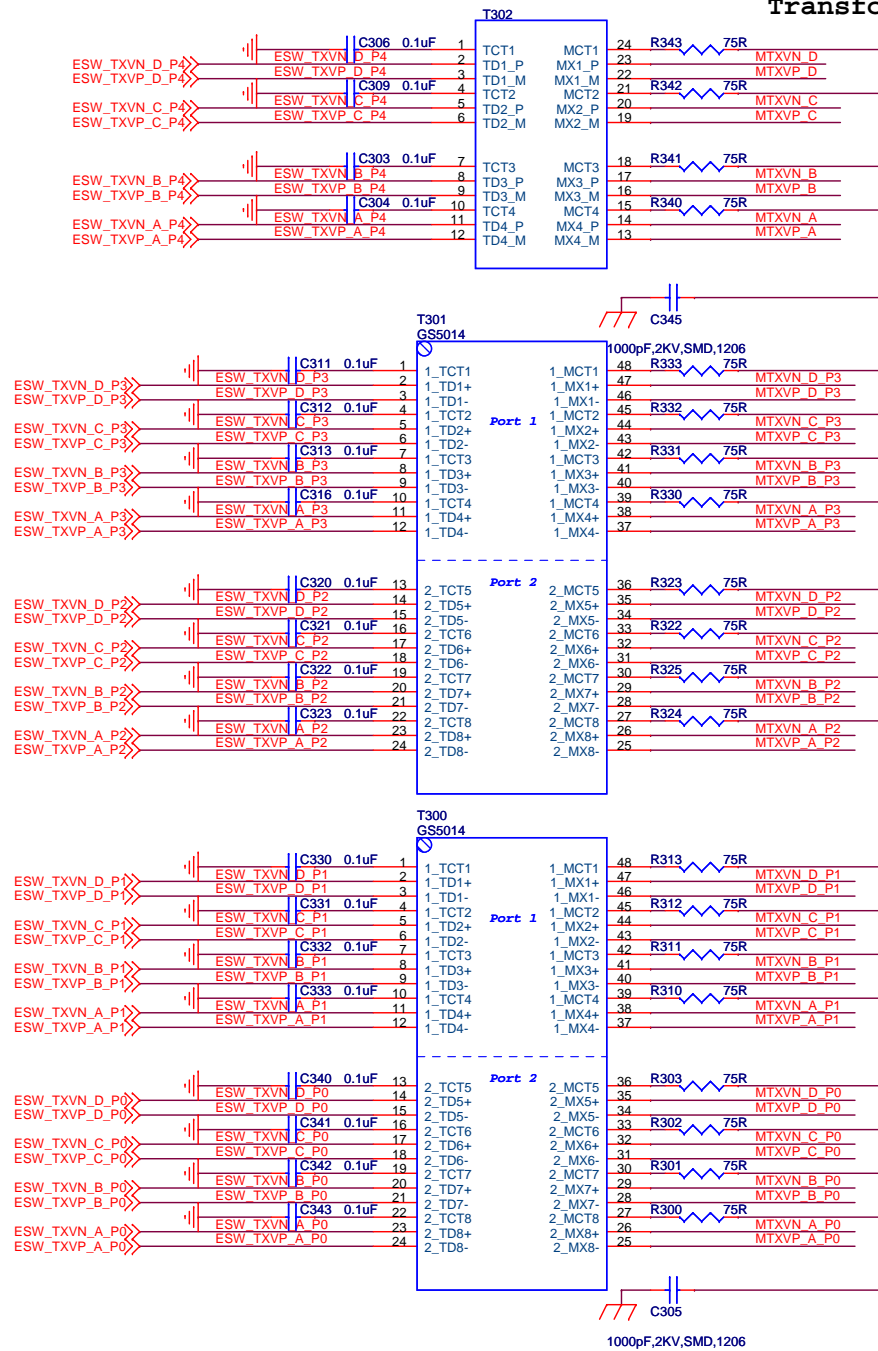
1.0V/1.5A



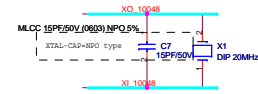
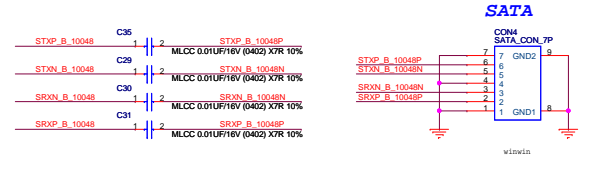
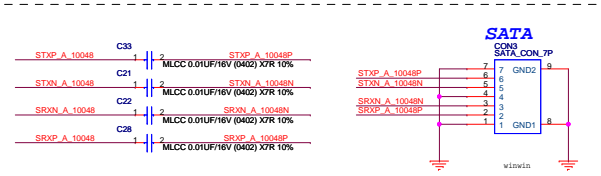
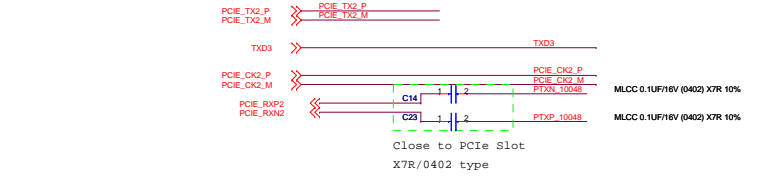
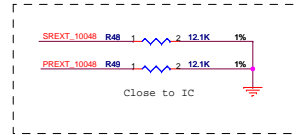
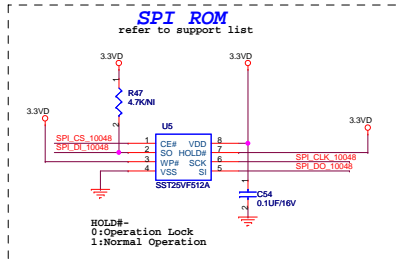
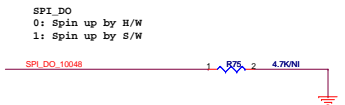
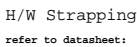
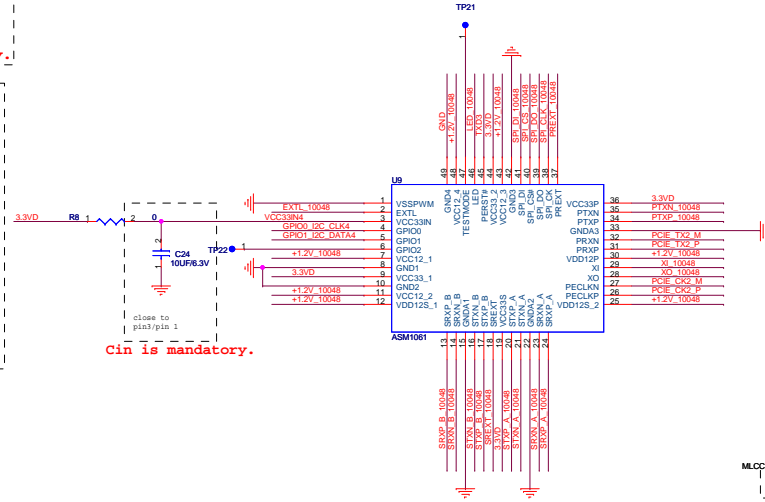
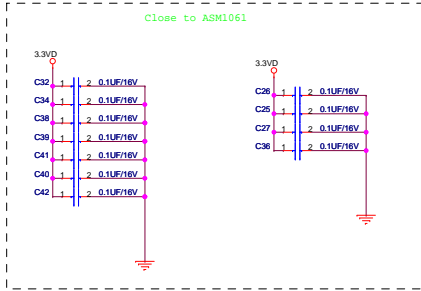
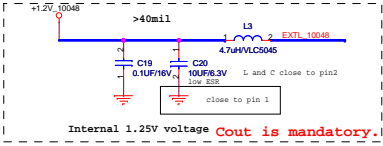
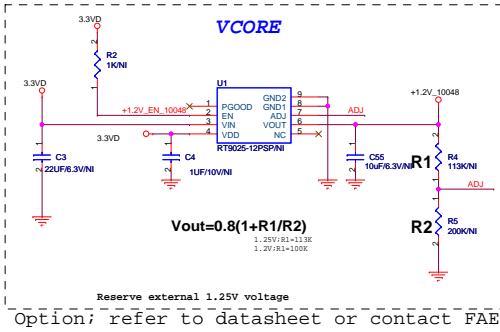
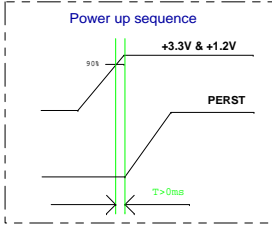
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File		M77621A		Rev	
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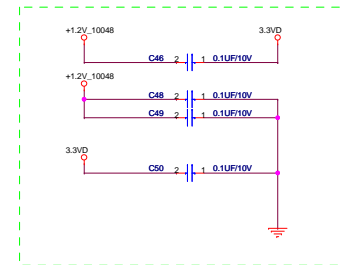
# Transformer

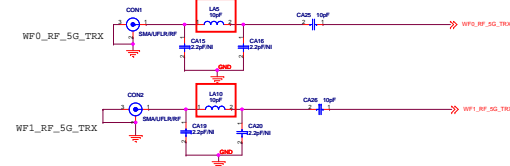
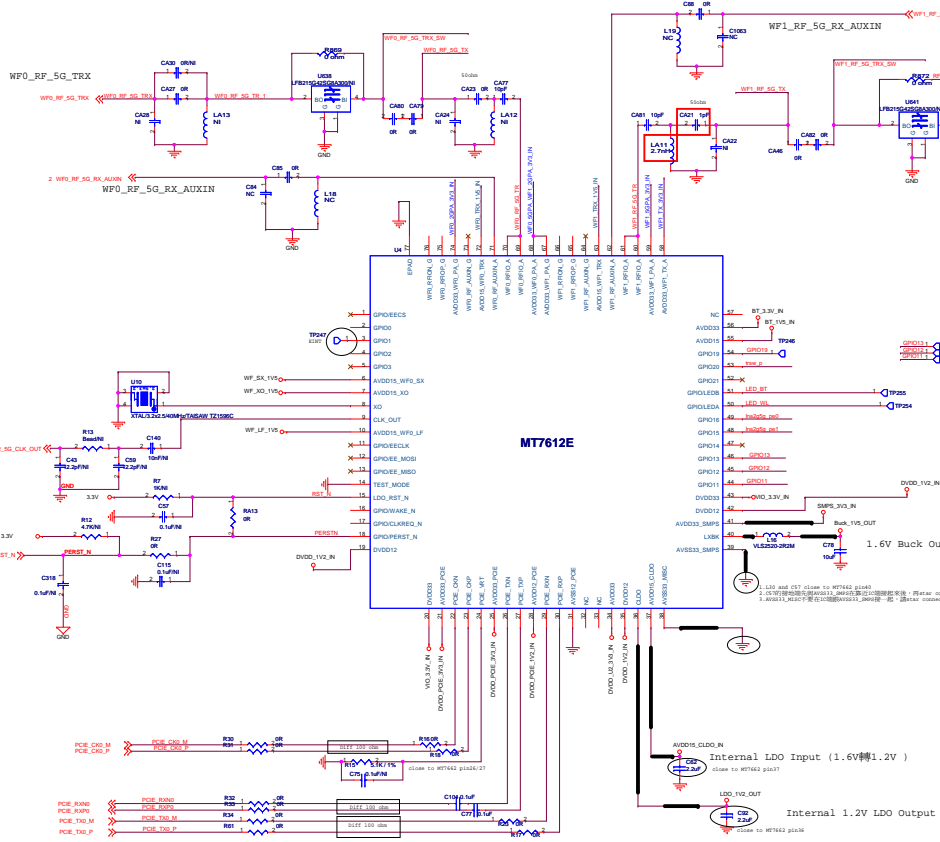


## PCIe to SATA

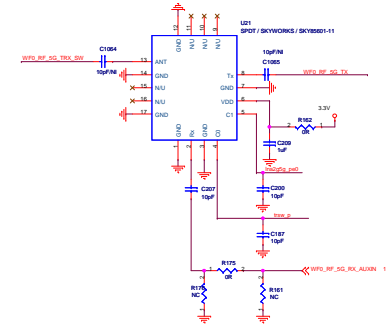


XI & XO follow differential layout rule for Min. jitter

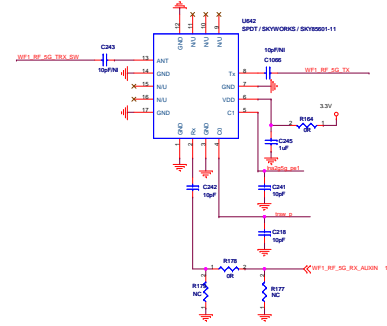




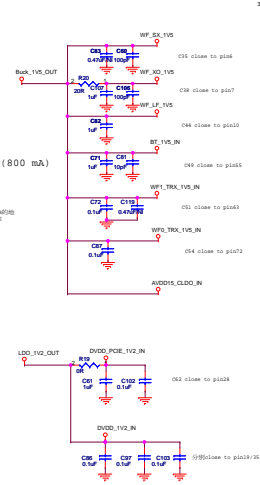
5G External SW/LNA Circuit (WF0)

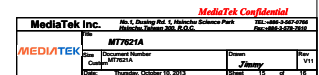


5G External SW/LNA Circuit (WF1)

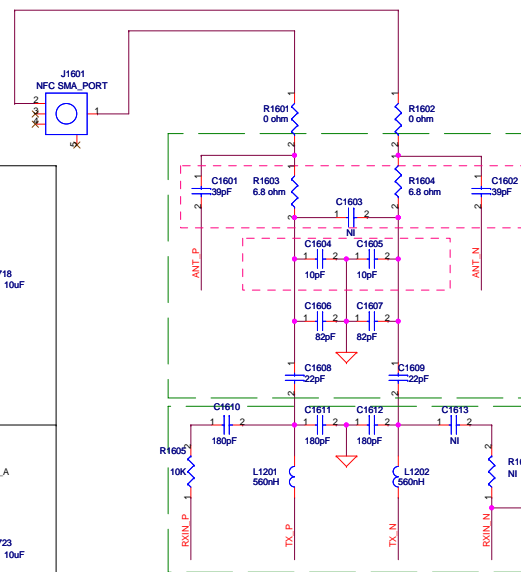
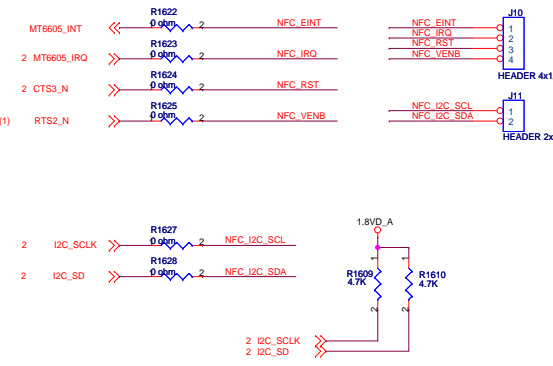
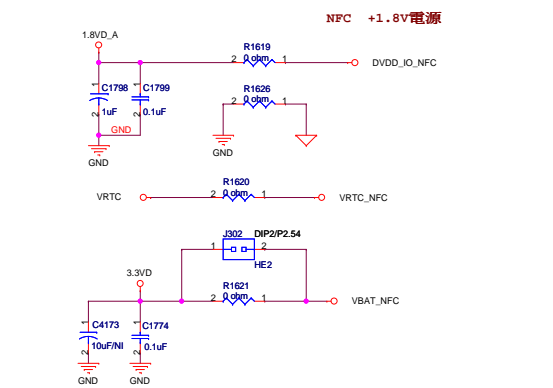
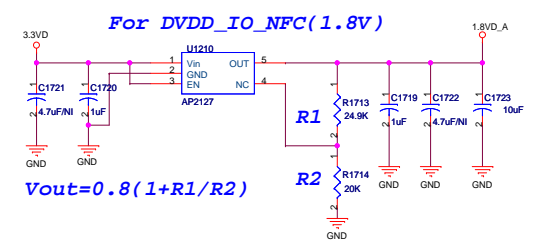
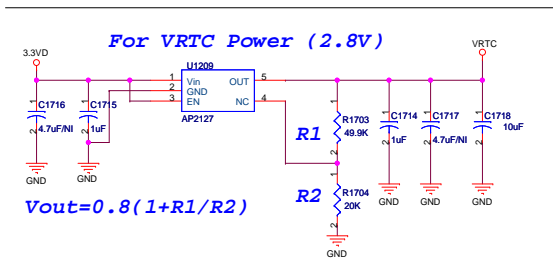


WiFi先暫放0.47uF 0402 電容,但會假PCB空間延縮成0.1uF 0201電容.









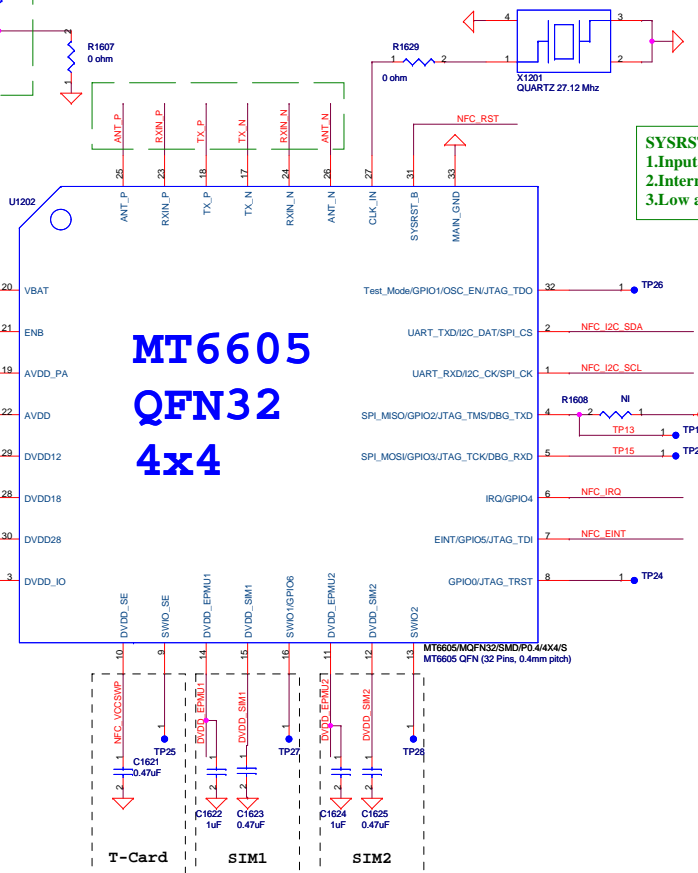
C1601,C1602,C1603,C1604,C1605,C1606,C1607, C1608, C1609 need to use 2% accuracy and 50V tolerance capacitor  
PS: 0201 cap can't tolerance 50V

10/9 Pine tune  
C1604,C1605 15pF->10pF  
R1603,R1604 6.8ohm->3.2ohm  
C1601,C1602 56pF->39pF

Components in this region use 5% accuracy

**ENB (NFC\_VEN)**  
1.Input pin  
2.Internal pull low  
3.Low active  
4.If default NFC would like to disable, please configure to high

C1615 close to pin19



**POWER MODE[1:0]=[NFC\_RST:NFC\_VENB]**

Power Mode	NFC_RST	NFC_VENB
NFC enable (configure, R/W, card, polling loop, polling loop card listening)	1	0
NFC disable (HPD)	0	1
High battery card listening	1	1
Reset	0	0

**SYSRST\_B (NFC\_RST)**  
1.Input pin  
2.Internal pull high  
3.Low active

Only can use HW I2C.  
SW I2C is not allowed.

R1608 NC : XTAL MODE  
R1608 10K : Co-Clock

IRQ(NFC\_IRQ) , OSC\_EN(NFC\_OSC\_EN) are output pin, and both are high active