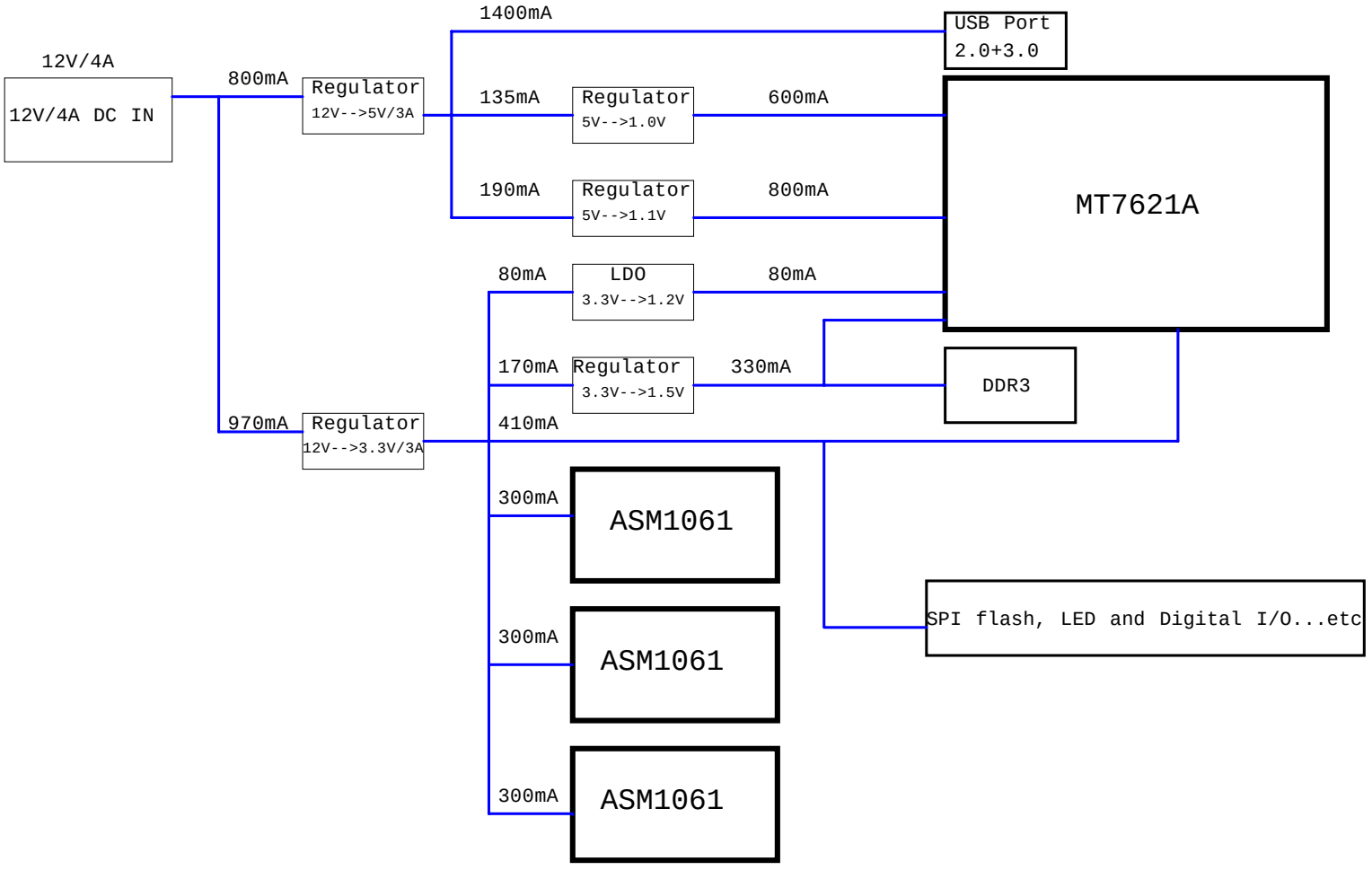
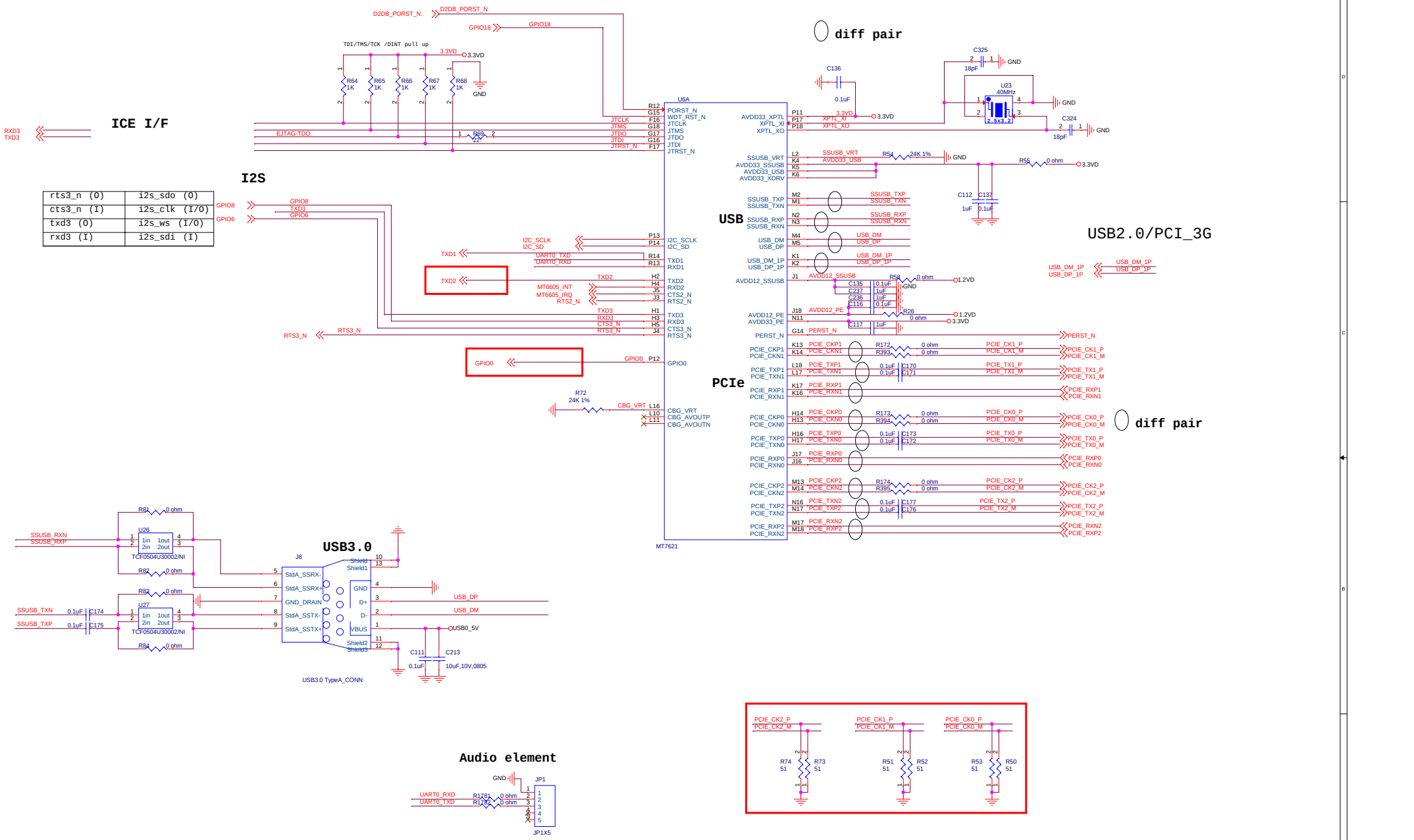
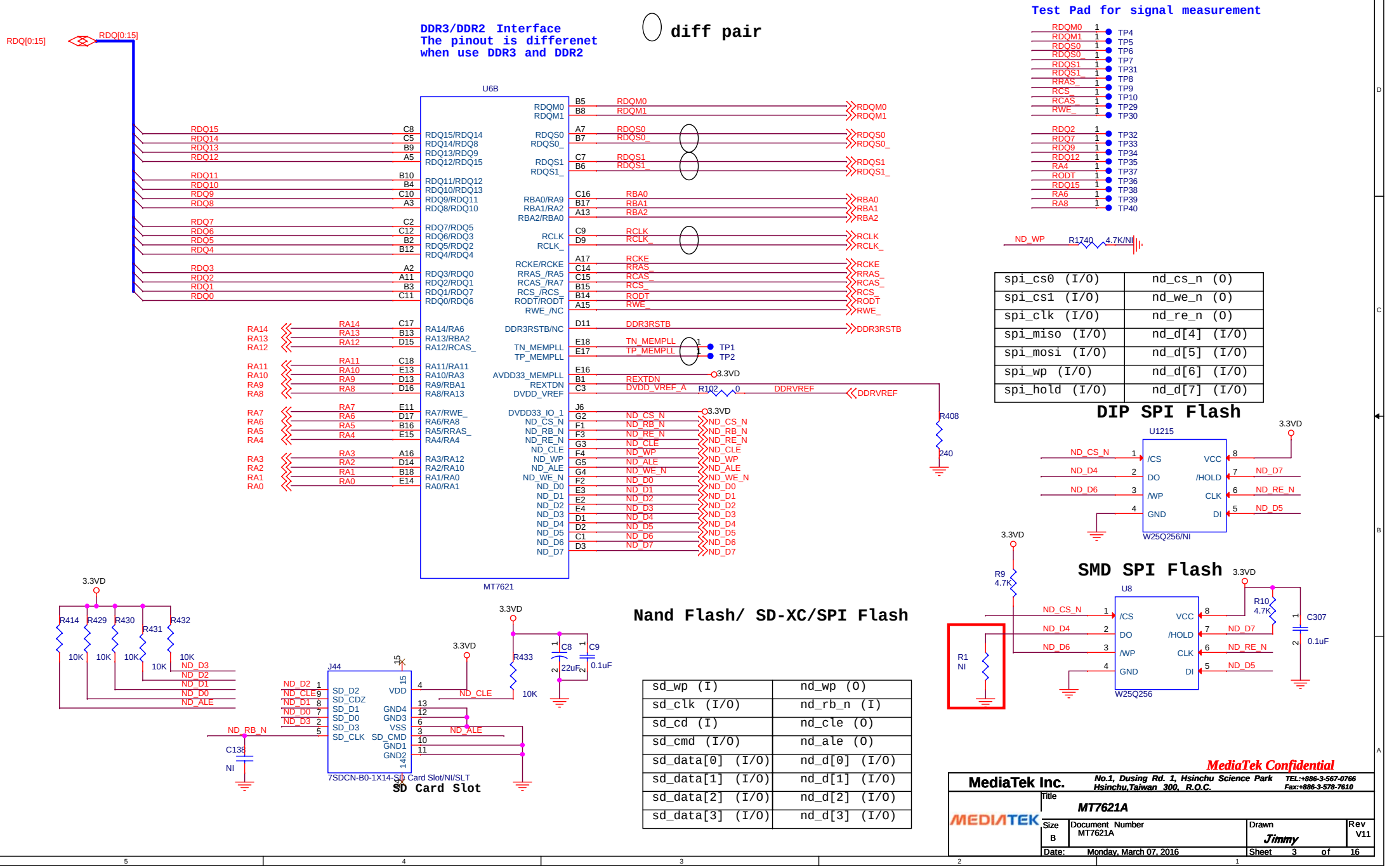

12V/4A
12V/4A DC IN
800mA
Regulator
12V-->5V/3A
970mA
Regulator
12V-->3.3V/3A
1400mA
USB Port
2.0+3.0
135mA
Regulator
5V-->1.0V
600mA
190mA
Regulator
5V-->1.1V
800mA
MT7621A
80mA
LDO
3.3V-->1.2V
80mA
170mA
Regulator
3.3V-->1.5V
330mA
DDR3
410mA
300mA
ASM1061
300mA
ASM1061
300mA
ASM1061
SPI flash, LED and Digital I/O...etc



rts3_n (O)	i2s_sdo (O)
cts3_n (I)	i2s_clk (I/O)
txd3 (O)	i2s_ws (I/O)
rxd3 (I)	i2s_sdi (I)

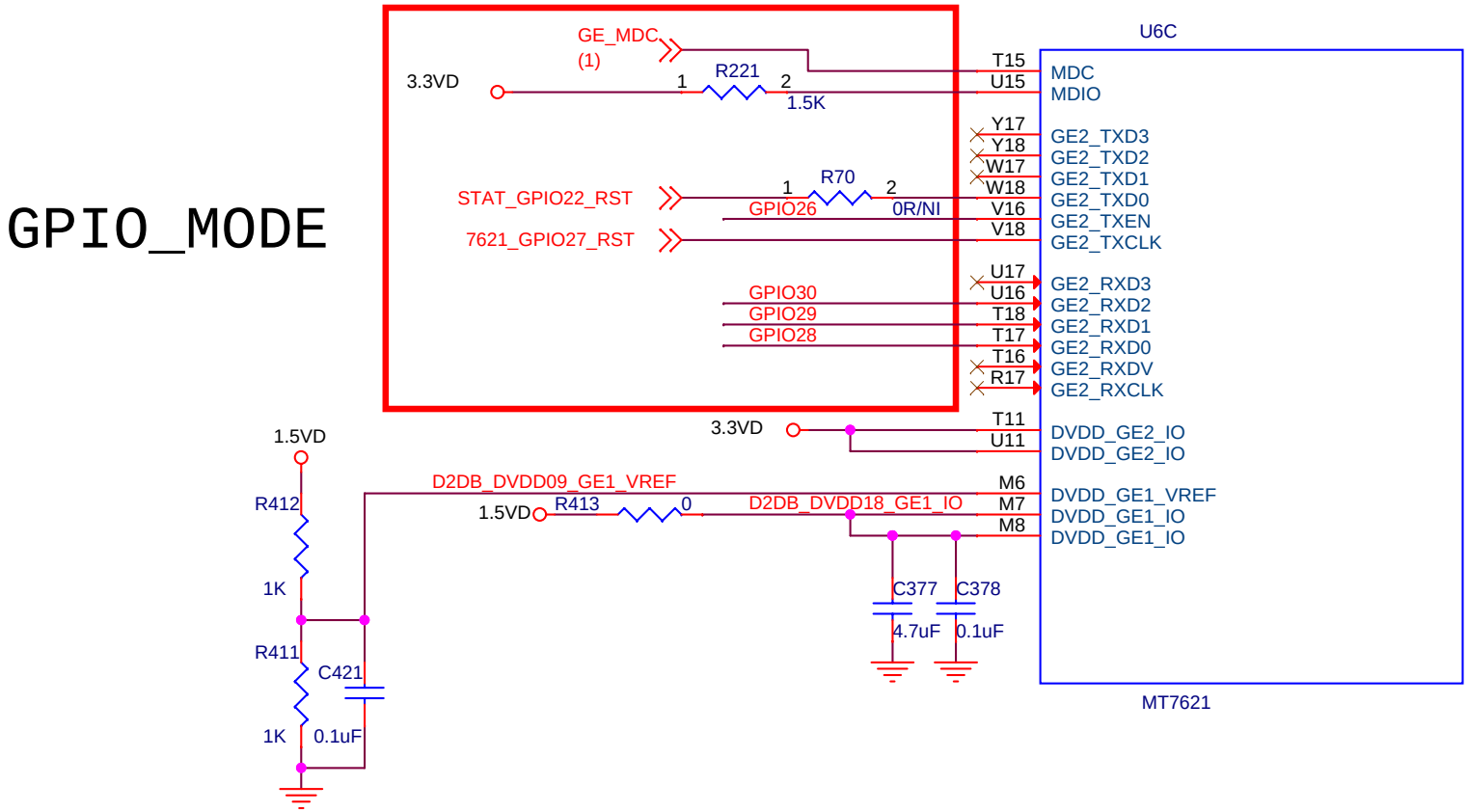
MediaTek Confidential

MediaTek Inc.	No.1, Dusing Rd. 1, Hsinchu Science Park Hsinchu,Taiwan 300, R.O.C.	TEL:+886-3-567-0766 Fax:+886-3-579-7610	
Title: MT7621A			
Size: C	Document Number: MT7621A	Drawn: Jimmy	Rev: V11
Date: Monday, March 07, 2016		Sheet 2 of 16	

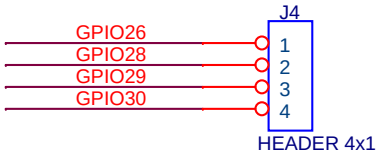

DDR3/DDR2 Interface
The pinout is differenet
when use DDR3 and DDR2
diff pair
Test Pad for signal measurement
U6B
MT7621
Nand Flash/ SD-XC/SPI Flash
DIP SPI Flash
SMD SPI Flash
SD Card Slot
U1215
W25Q256/NI
U8
W25Q256
7SDCN-B0-1X14-SD Card Slot/NI/SLT
J44
3.3VD
spi_cs0 (I/O) nd_cs_n (O)
spi_cs1 (I/O) nd_we_n (O)
spi_clk (I/O) nd_re_n (O)
spi_miso (I/O) nd_d[4] (I/O)
spi_mosi (I/O) nd_d[5] (I/O)
spi_wp (I/O) nd_d[6] (I/O)
spi_hold (I/O) nd_d[7] (I/O)
sd_wp (I) nd_wp (O)
sd_clk (I/O) nd_rb_n (I)
sd_cd (I) nd_cle (O)
sd_cmd (I/O) nd_ale (O)
sd_data[0] (I/O) nd_d[0] (I/O)
sd_data[1] (I/O) nd_d[1] (I/O)
sd_data[2] (I/O) nd_d[2] (I/O)
sd_data[3] (I/O) nd_d[3] (I/O)
MediaTek Confidential
MediaTek Inc.
No.1, Dusing Rd. 1, Hsinchu Science Park
Hsinchu,Taiwan 300, R.O.C.
TEL:+886-3-567-0766
Fax:+886-3-578-7610
MT7621A
Monday, March 07, 2016

RGMII Interface

GPIO_MODE



GPIO PART

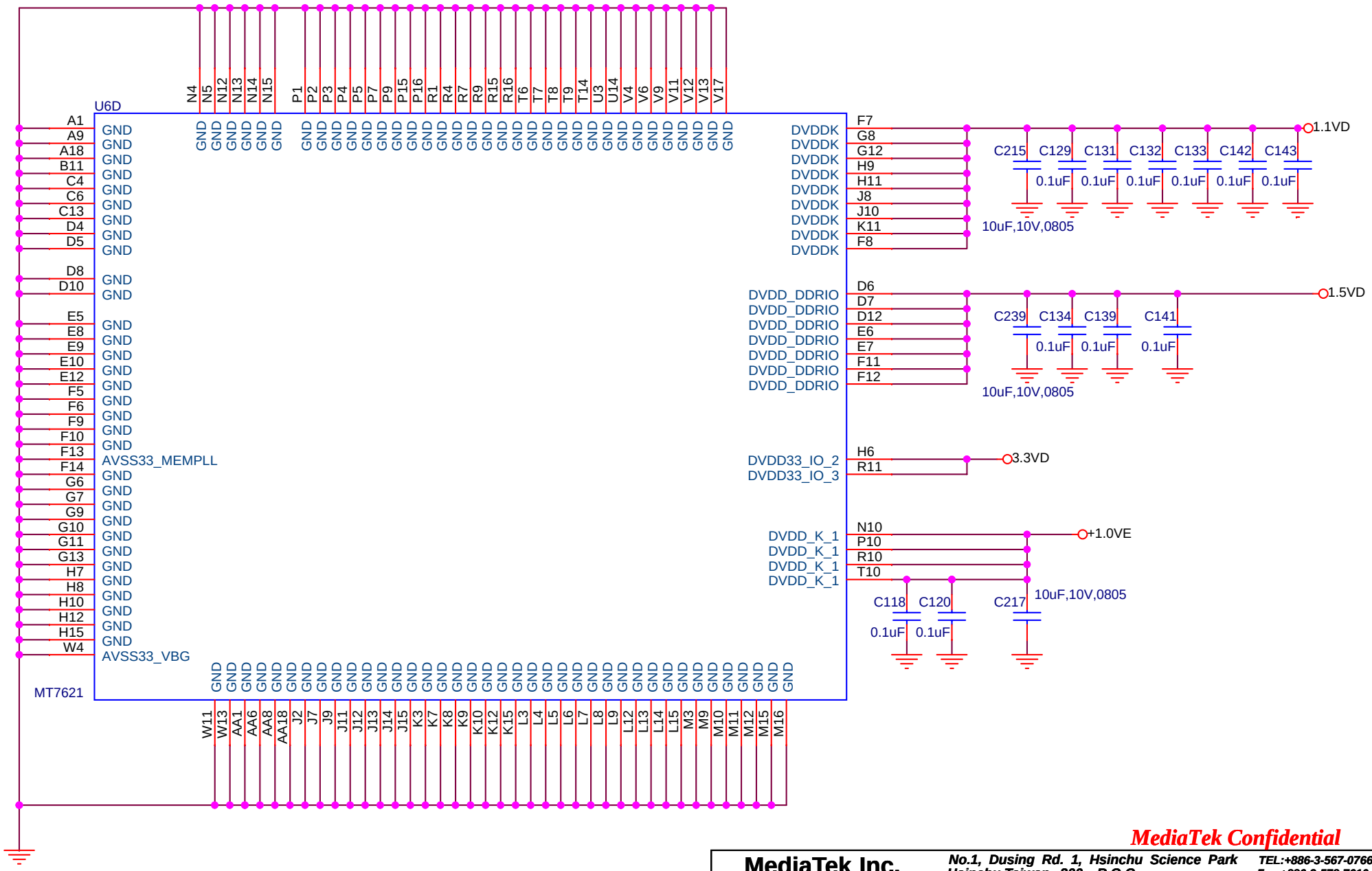


MediaTek Inc.
No.1, Dusing Rd. 1, Hsinchu Science Park
Hsinchu,Taiwan 300, R.O.C.
TEL:+886-3-567-0766
Fax:+886-3-578-7610

MEDIATEK

Title: MT7621A			
Size: A	Document Number: MT7621A	Drawn: Jimmy	Rev: V11
Date: Monday, March 07, 2016		Sheet 4 of 16	

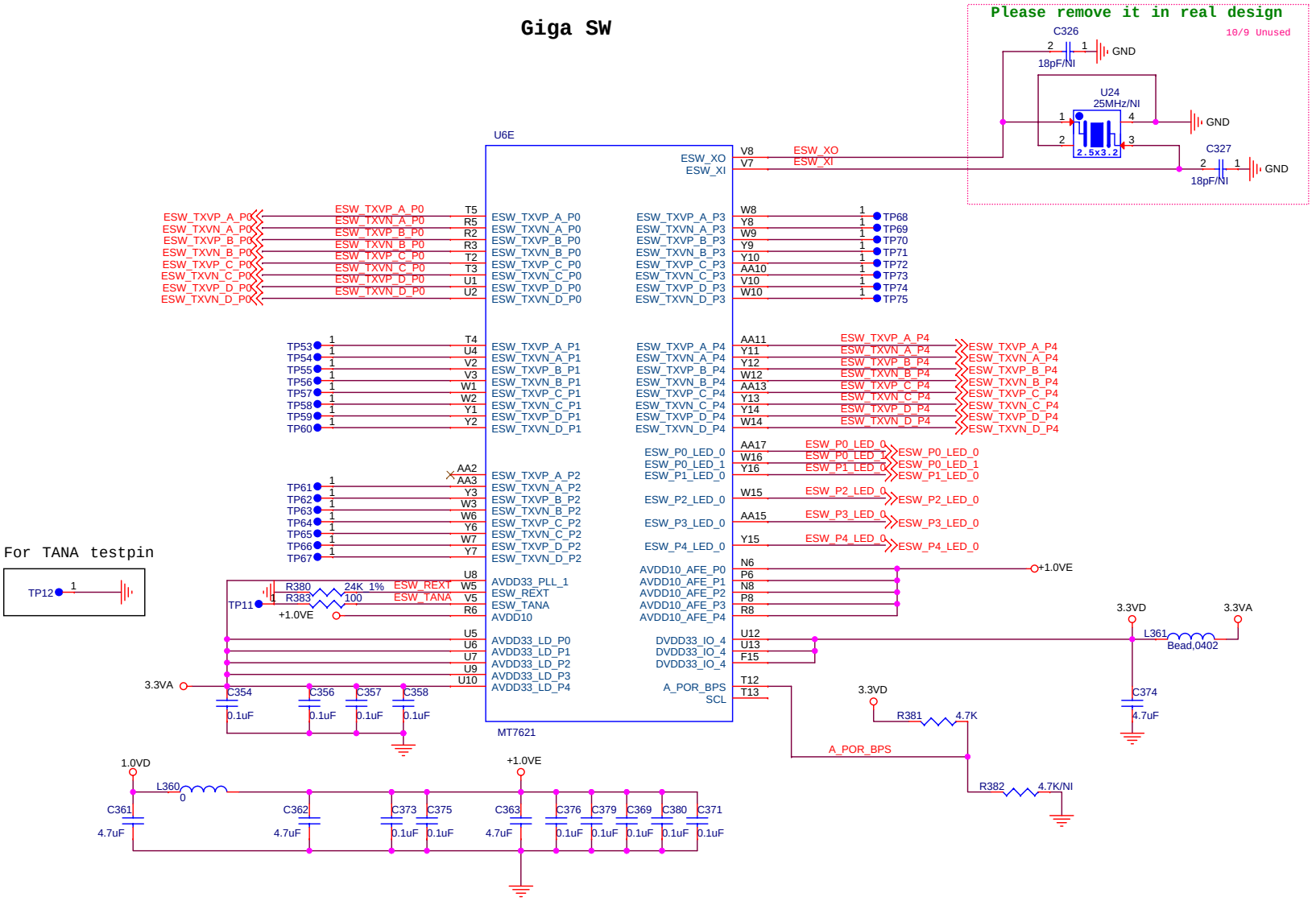
MT7621 Power



MediaTek Confidential

MediaTek Inc.	No.1, Dusing Rd. 1, Hsinchu Science Park Hsinchu,Taiwan 300, R.O.C.	TEL:+886-3-567-0766 Fax:+886-3-578-7610	
MEDIATEK	Title: MT7621A		
Size: A	Document Number: MT7621A	Drawn: Jimmy	Rev: V11
Date: Monday, March 31, 2014	Sheet 5 of 16		

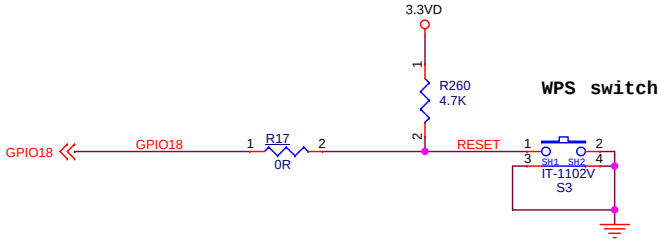
Giga SW



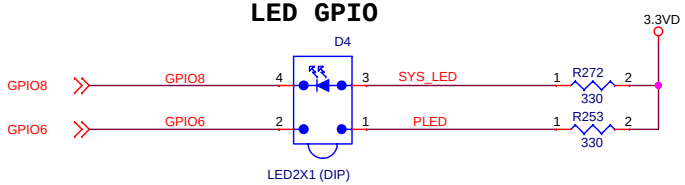
MediaTek Confidential

MediaTek Inc.	No.1, Dusing Rd. 1, Hsinchu Science Park Hsinchu,Taiwan 300, R.O.C.	TEL:+886-3-567-0766 Fax:+886-3-578-7610	
MEDIATEK	Title: MT7621A		
	Size: B	Document Number: MT7621A	Drawn: Jimmy / Rev: V11
	Date: Friday, February 26, 2016	Sheet 6 of 16	

GPIO18/WPS/RESET



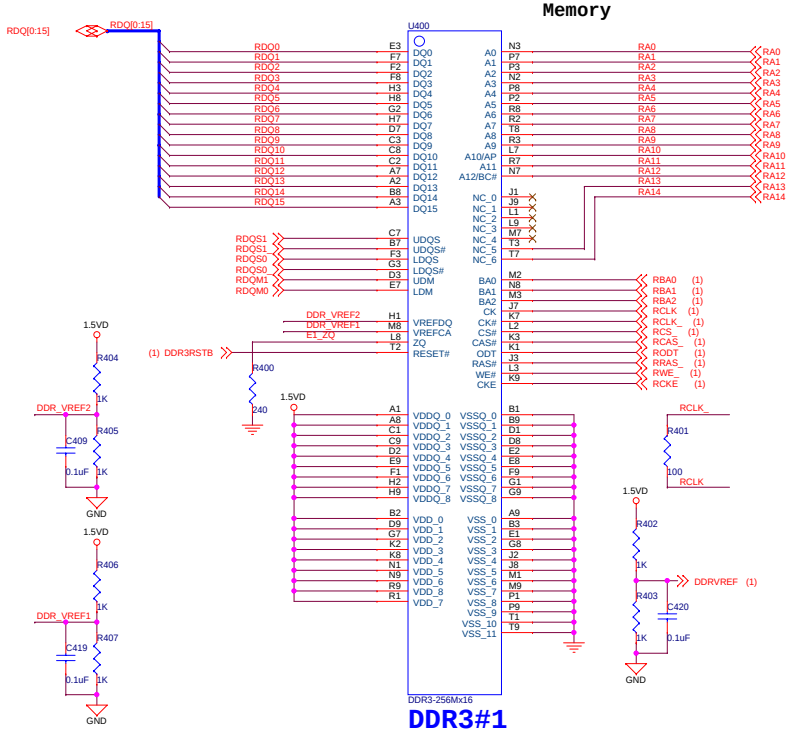
LED GPIO

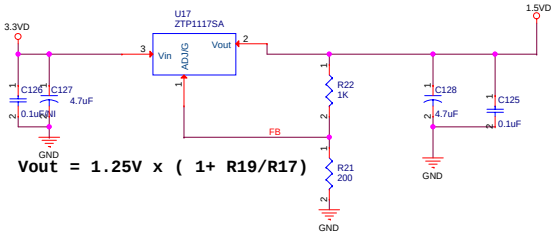


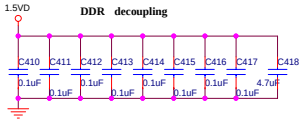
MediaTek Inc.
No.1, Dusing Rd. 1, Hsinchu Science Park
Hsinchu,Taiwan 300, R.O.C.
TEL:+886-3-567-0766
Fax:+886-3-578-7610

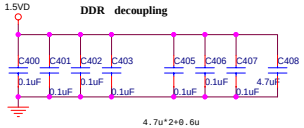
Title: MT7621A			
Size: B	Document Number: MT7621A	Drawn: Jimmy	Rev: V11
Date: Monday, March 07, 2016		Sheet 7 of 16	

Memory









MediaTek Confidential

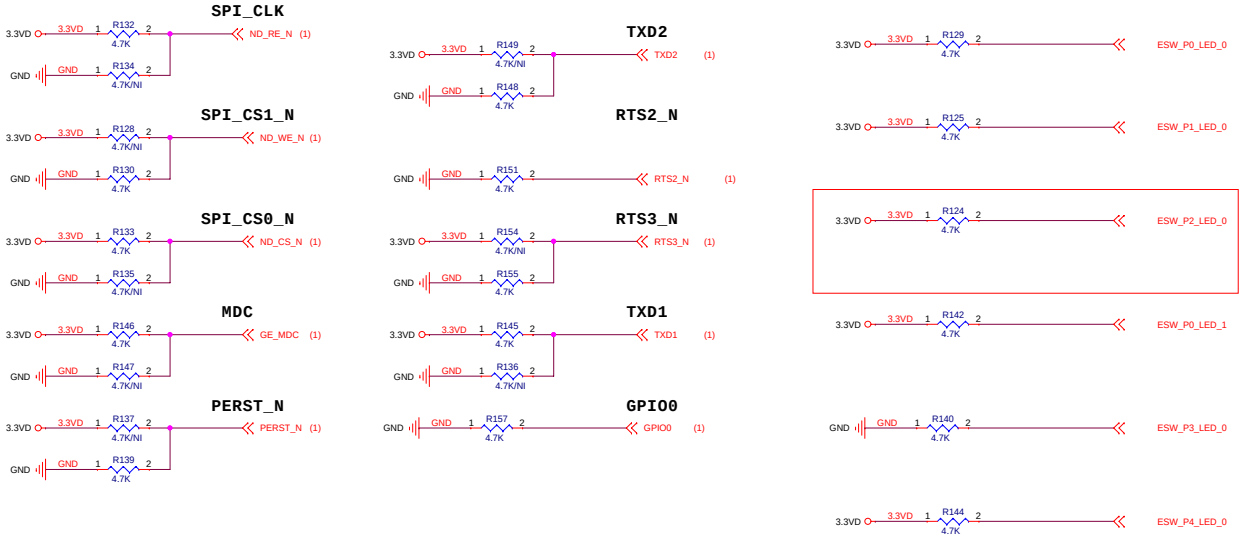
MediaTek Inc.	No.1, Dusing Rd. 1, Hsinchu Science Park, Hsinchu,Taiwan 300, R.O.C.	TEL:+886-3-567-0766 Fax:+886-3-579-7610	
Title: MT7621A			
Size: C	Document Number: MT7621A	Drawn: Jimmy	Rev: V11
Date: Monday, February 29, 2016		Sheet 8 of 16	

Boot Strapping

Pin Name	Description	Value	
SPI_CLK	DRAM_FROM_EE	For non scan mode: 0: DRAM/PLL configuration from EEPROM **1: DRAM configuration from Auto Detect**	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 **011: 40 MHz, Self Oscillation mode**	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	**0: 1:3** 1: 1:4	
TXD2	DRAM_TYPE	**0: DDR3** 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) **0010: Normal / Boot from SPI 3-byte address** 0011: Normal / Boot from SPI 4-byte address 0100: iNIC RGMI / Boot from ROM 0101: iNIC MII / Boot from ROM 0110: iNIC RVMII / 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	

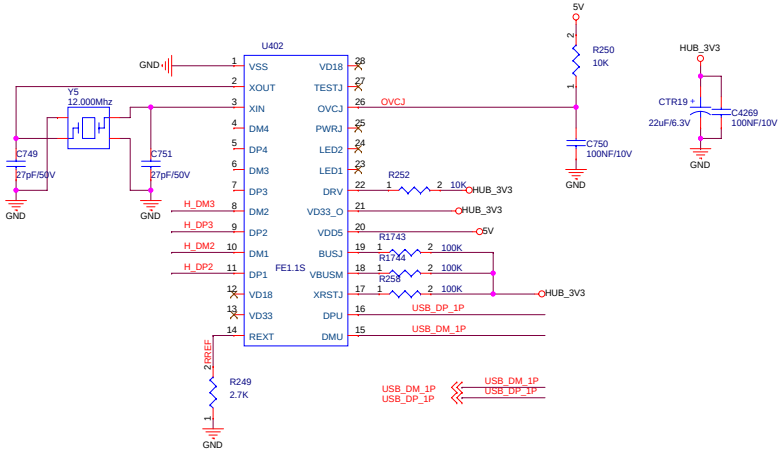
Giga Switch Hardware Trap

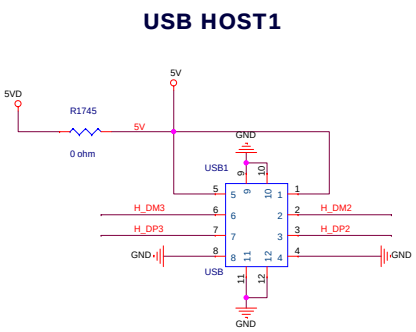
Pin Name	Trap	Fuction	Description	Default
P0_LED_0	HWTRAP[0]	HT_CHIP_MODE[0]	chip_mode[3:0] 4'b0000: IDDQ mode 4'b0001: IOTEST mode 4'b0010: NANDTREE mode 4'b0011: RING mode (both IO and std-cell) 4'b0100: MBIST 4'b0101: SCAN mode (internal) 4'b0110: SCAN-COMP mode (compression) 4'b0111: SCAN-MBIST-OLT 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]		



MediaTek Confidential

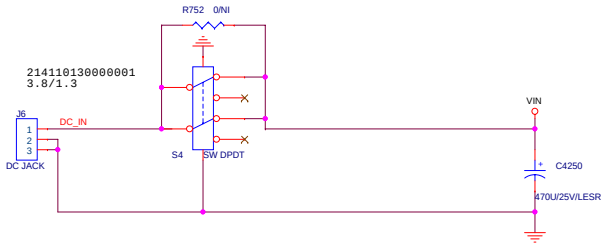
MediaTek Inc.	No.1, Dusing Rd. 1, Hsinchu Science Park, Hsinchu,Taiwan 300, R.O.C. TEL:+886-3-567-0766 Fax:+886-3-579-7610		
MEDIATEK	Title: MT7621A		
	Size: C	Document Number: MT7621A	Drawn: Jimmy / Rev: V11
	Date: Thursday, February 25, 2016	Sheet 9 of 16	



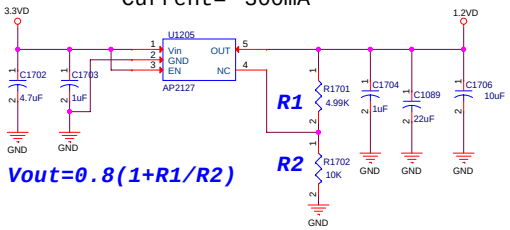


MediaTek Inc.	No.1, Dusing Rd. 1, Hsinchu Science Park Hsinchu,Taiwan 300, R.O.C.	TEL:+886-3-567-0766 Fax:+886-3-579-7610	
MEDIATEK	Title: MT7621A		
	Size: C	Document Number: MT7621A	Drawn: Jimmy / Rev: V11
	Date: Friday, February 26, 2016	Sheet 10 of 16	

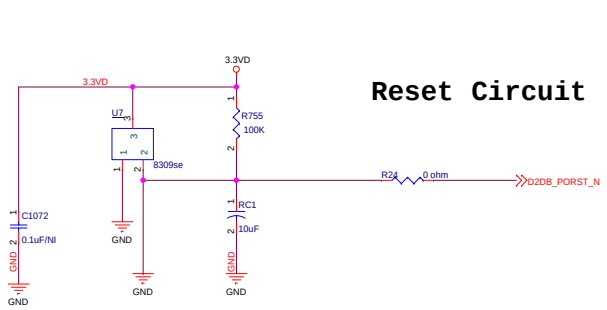
System Power



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

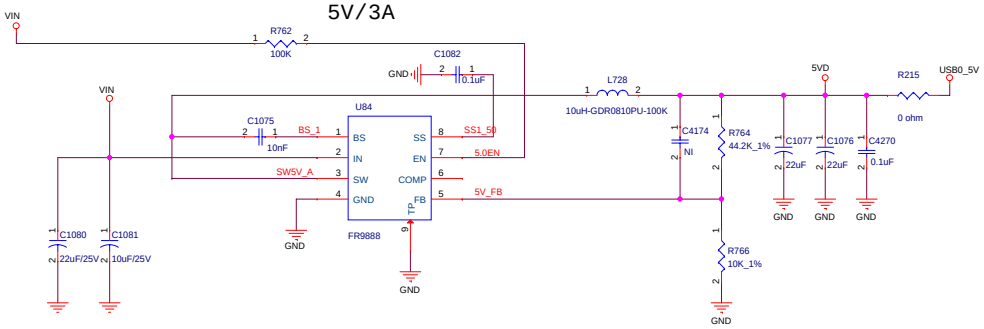


Vout=0.8(1+R1/R2)



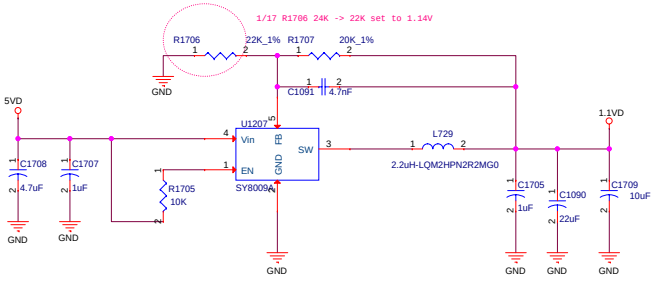
Reset Circuit

5V/3A

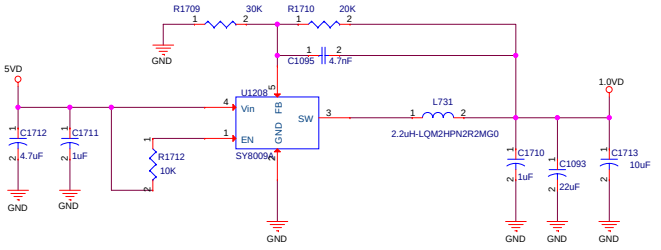


Vout=0.92(1+R255/R256)

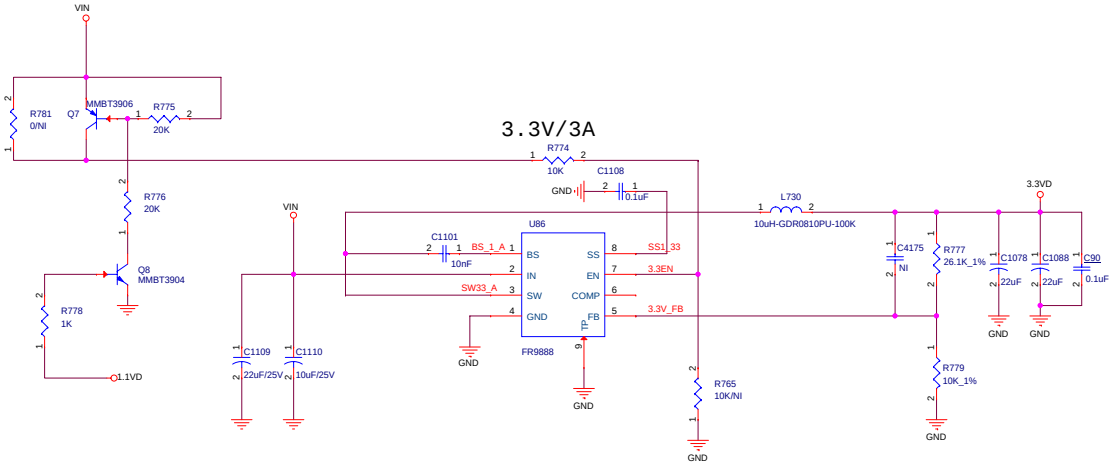
1.14V/1.5A



1.0V/1.5A

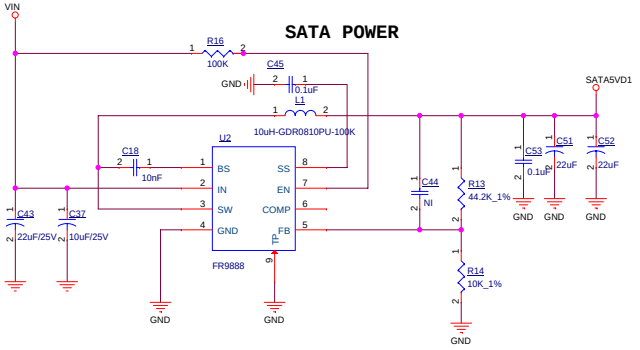


3.3V/3A



Vout=0.92(1+R251/R252)

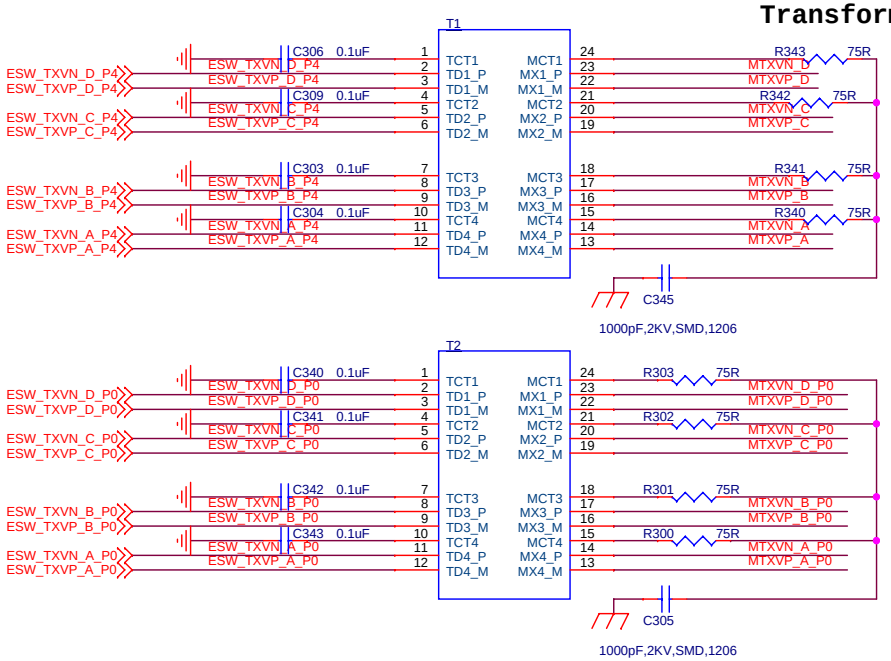
SATA POWER

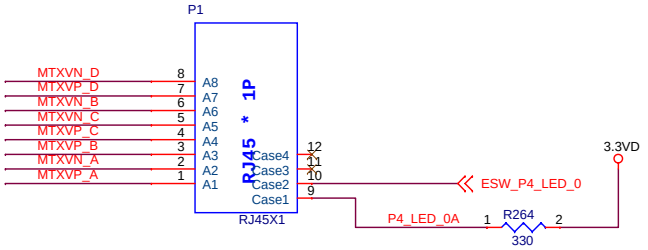


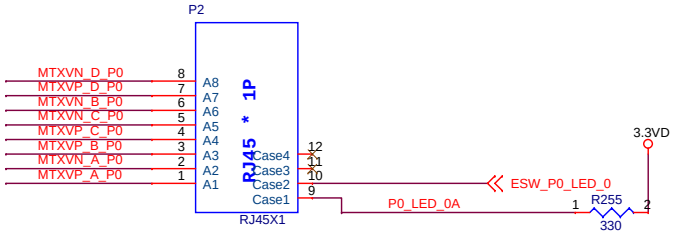
MediaTek Inc.
No.1, Dusing Rd. 1, Hsinchu Science Park
Hsinchu,Taiwan 300, R.O.C.
TEL:+886-3-567-0766
Fax:+886-3-579-7610

Title: MT7621A			
MEDIATEK	Size: C	Document Number: MT7621A	Drawn: Jimmy
	Date: Monday, March 07, 2016	Sheet 11 of 16	Rev: V11

Transformer





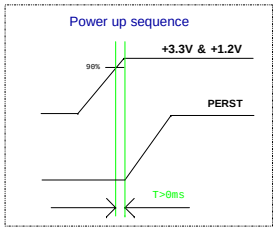


MediaTek Inc.
No.1, Dusing Rd. 1, Hsinchu Science Park
Hsinchu,Taiwan 300, R.O.C.
TEL:+886-3-567-0766
Fax:+886-3-578-7610

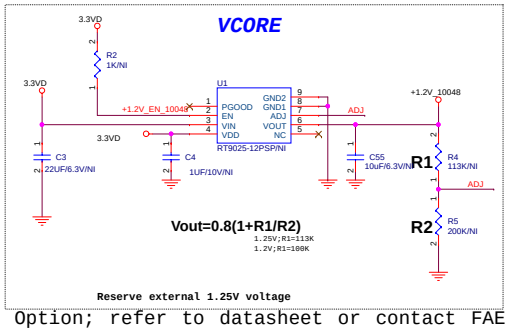
Title: MT7621A			
Size: B	Document Number: MT7621A	Drawn: Jimmy	Rev: V11
Date: Friday, February 26, 2016		Sheet 12 of 16	

PCIe to SATA

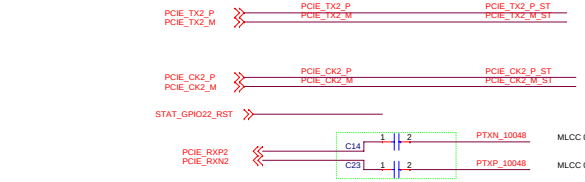
Power up sequence



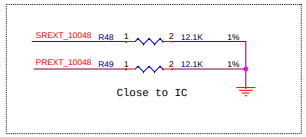
VCORE



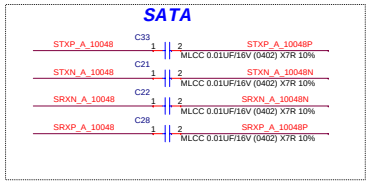
Option; refer to datasheet or contact FAE

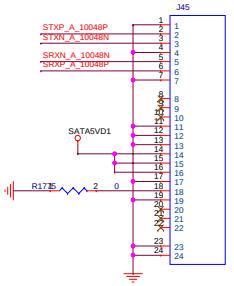


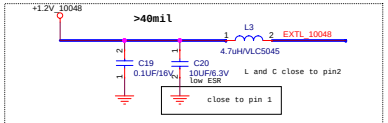
Close to PCIe Slot
X7R/0402 type



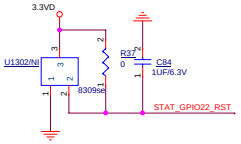
SATA

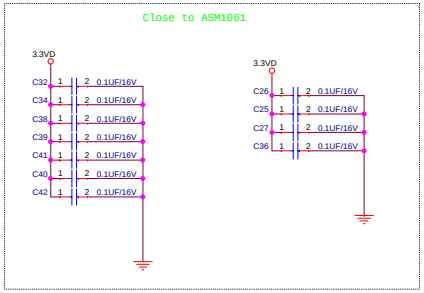




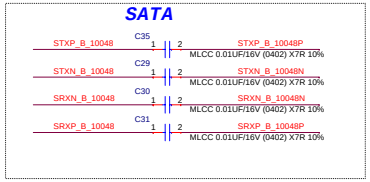


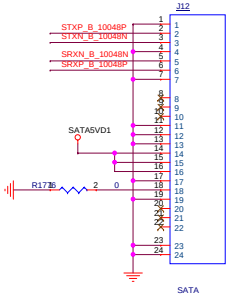
Internal 1.25V voltage **Cout is mandatory.**

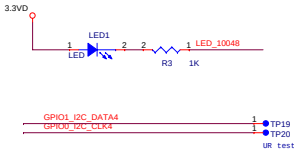


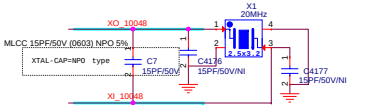


SATA

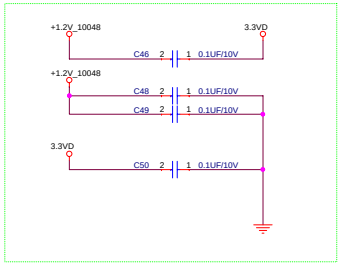








XI & XO follow differential layout rule for Min. jitter



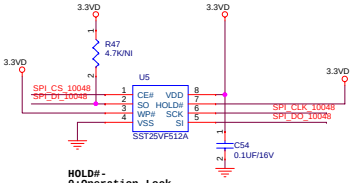
H/W Strapping

refer to datasheet:

SPI_DO
0: Spin up by H/W
1: Spin up by S/W

SPI ROM

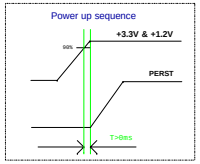
refer to support list

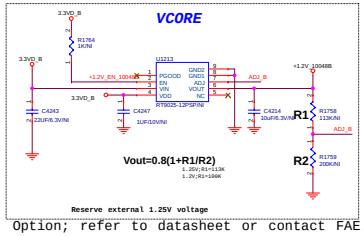


HOLD#-
0:Operation Lock
1:Normal Operation

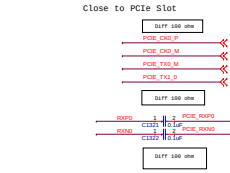
MediaTek Inc.	No.1, Dusing Rd. 1, Hsinchu Science Park, Hsinchu,Taiwan 300, R.O.C. TEL:+886-3-567-0766 Fax:+886-3-578-7610		
MEDIATEK	Title: MT7621A		
	Size: Custom	Document Number: MT7621A	Drawn: Jimmy / Rev: V11
	Date: Friday, February 26, 2016	Sheet 13 of 16	

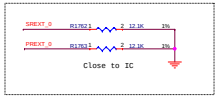
PCIe to SATA

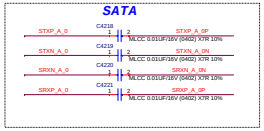


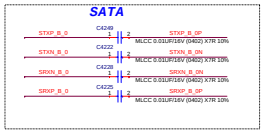


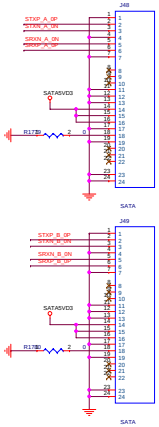
Option; refer to datasheet or contact FAE

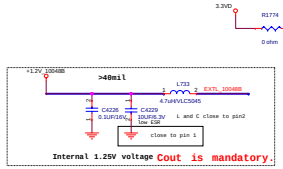


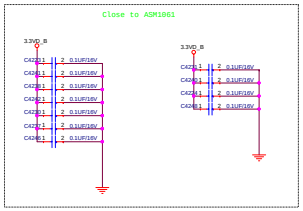


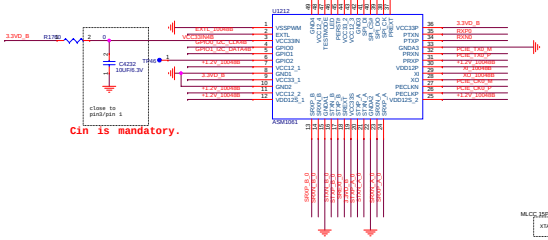


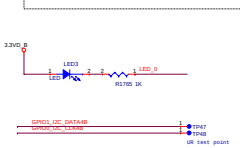


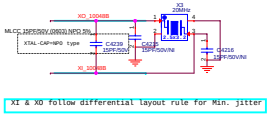


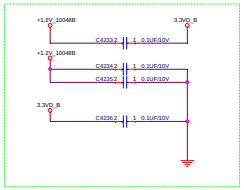








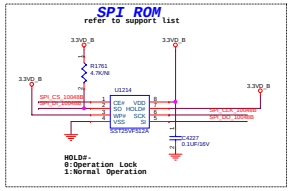


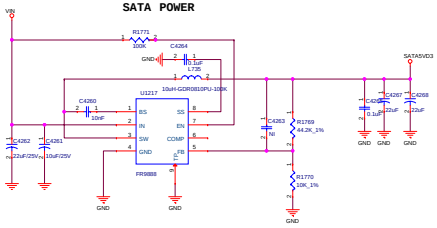


H/W Strapping

refer to datasheet:

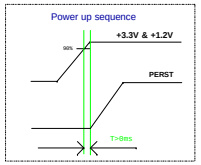
SPI_DO
0: Spin up by H/W
1: Spin up by S/W

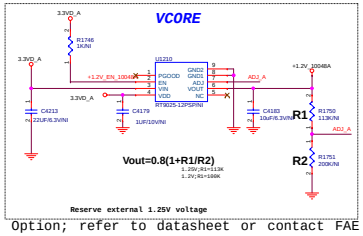




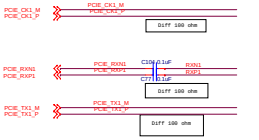
MediaTek Inc.	No.1, Dusing Rd. 2, Hsinchu Science Park, Hsinchu Taiwan 300, R.O.C. TEL:+886-3-567-0766 Fax:+886-3-579-7844
File	MT7603E IPA/LNA
Size	Document Number: MT7621A
Custom	Drawn: Henrych Chen
Date: Monday, March 07, 2016	Rev: V41
	Sheet 14 of 16

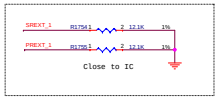
PCIe to SATA

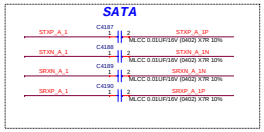


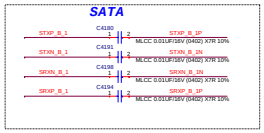


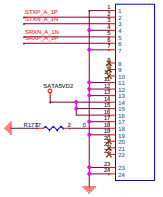
Option; refer to datasheet or contact FAE

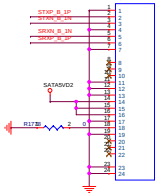


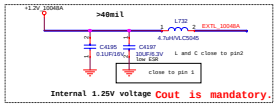


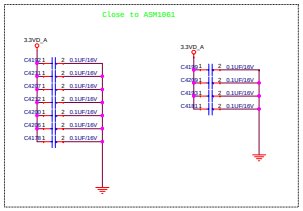


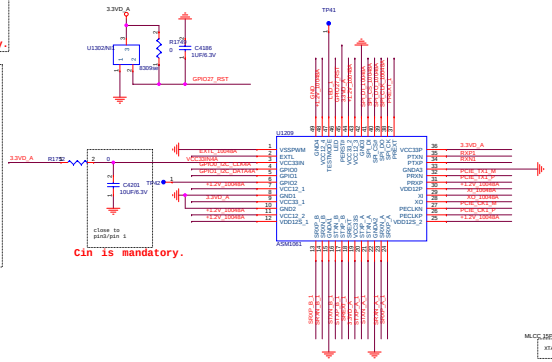


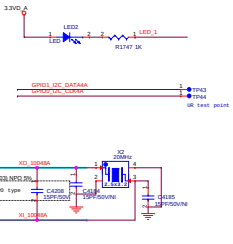


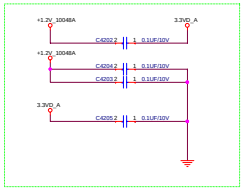








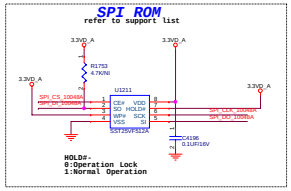


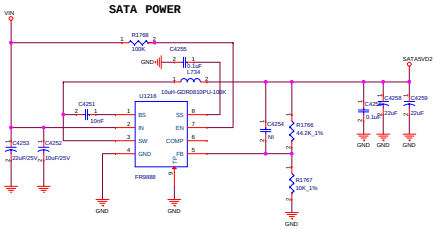


H/W Strapping

refer to datasheet:

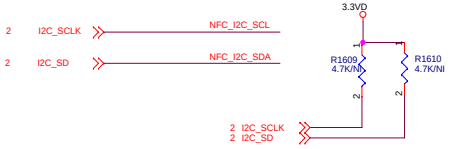
SPI_DO
0: Spin up by H/W
1: Spin up by S/W





MediaTek Inc.
No.1, Dusing Rd. 1, Hsinchu Science Park
Hsinchu Taiwan, 300, R.O.C.
TEL:+886-3-567-0766
Fax:+886-3-579-7618

Title	MT7621A		
Size	Document Number	Drawn	Rev
Custom	MT7621A	Jimmy	V0.1
Date: Monday, March 07, 2016		Sheet 14 of 16	



MediaTek Inc.
No.1, Dusing Rd. 1, Hsinchu Science Park
Hsinchu,Taiwan 300, R.O.C.
TEL:+886-3-567-0766
Fax:+886-3-579-7610

Title: MT7621A			
Size: C	Document Number: MT7621A	Drawn: Jimmy	Rev: V11
Date: Friday, February 26, 2016		Sheet 16 of 16	