

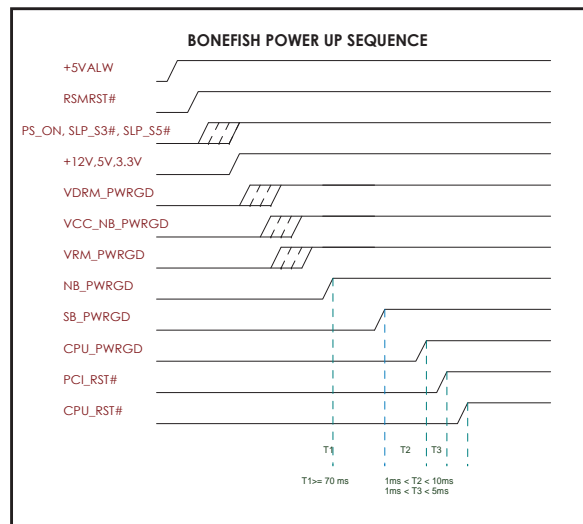


## PCB STACK UP

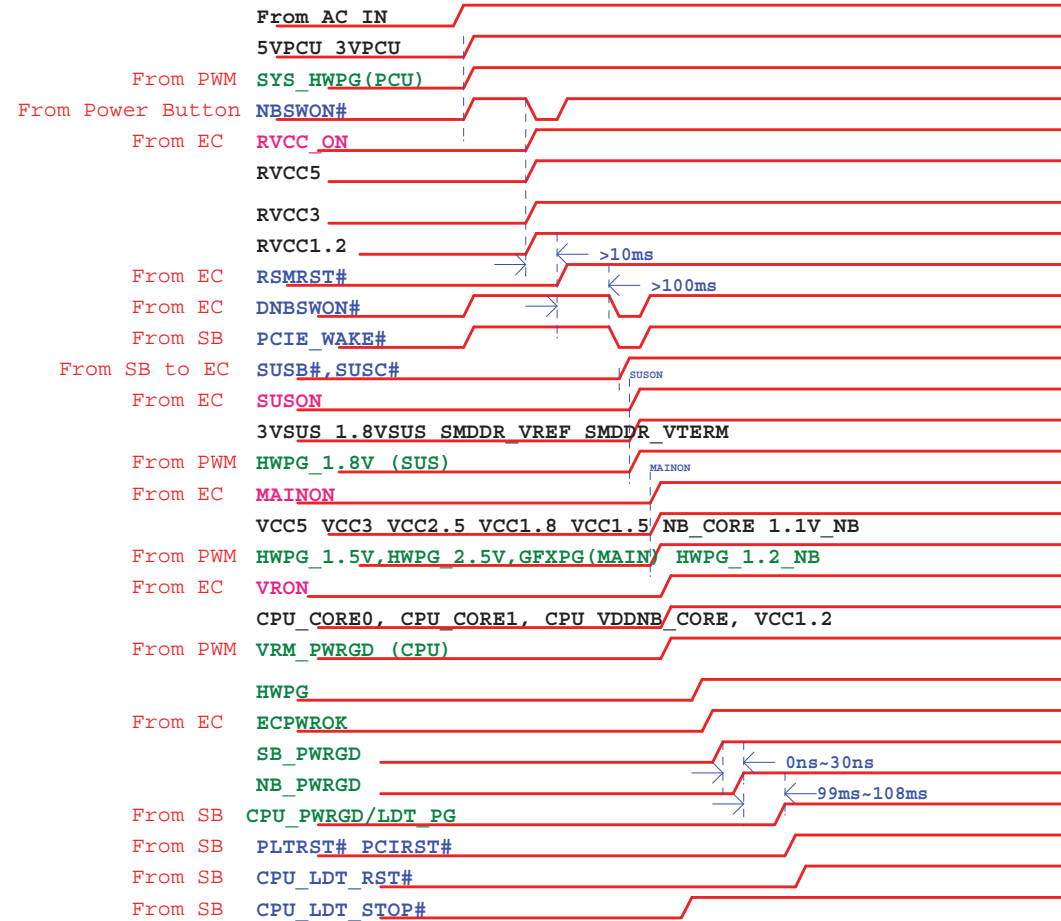
LAYER 1 : TOP  
LAYER 2 : VCC  
LAYER 3 : IN1  
LAYER 4 : IN2  
LAYER 5 : GND  
LAYER 6 : BOT

## Voltage Rails

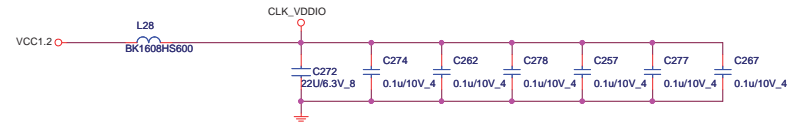
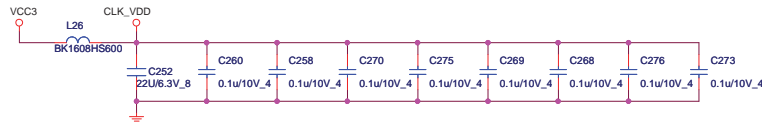
Power	Voltage	S0-S2	S3	S4	S5	Ctl Signal
15VPCU	15V	V	V	V	V	
5VPCU	5V	V	V	V	V	VIN
3VPCU	3V	V	V	V	V	VIN
RVCC3	3V	V	V	V	V	RVCC_ON
RVCC1.2	1.2V	V	V	V	V	RVCC_ON
5VSUS	5V	V	V			SUSD
1.8VSUS	1.8V	V	V			SUSON
VCC5	5V	V				MAIND
VCC3	3V	V				MAIND
VCC1.8	1.8V	V				MAIND
VCC1.5	1.5V	V				MAINON
VCC1.2	1.2V	V				MAINON
CPU_VDDA	2.5V	V				VCC3
NB_CORE	1.2V	V				VRON
SMDDR_VTERM	0.9V	V				SUSON
CPU_CORE	By CPU	V				VR_ON



## Power On Sequence

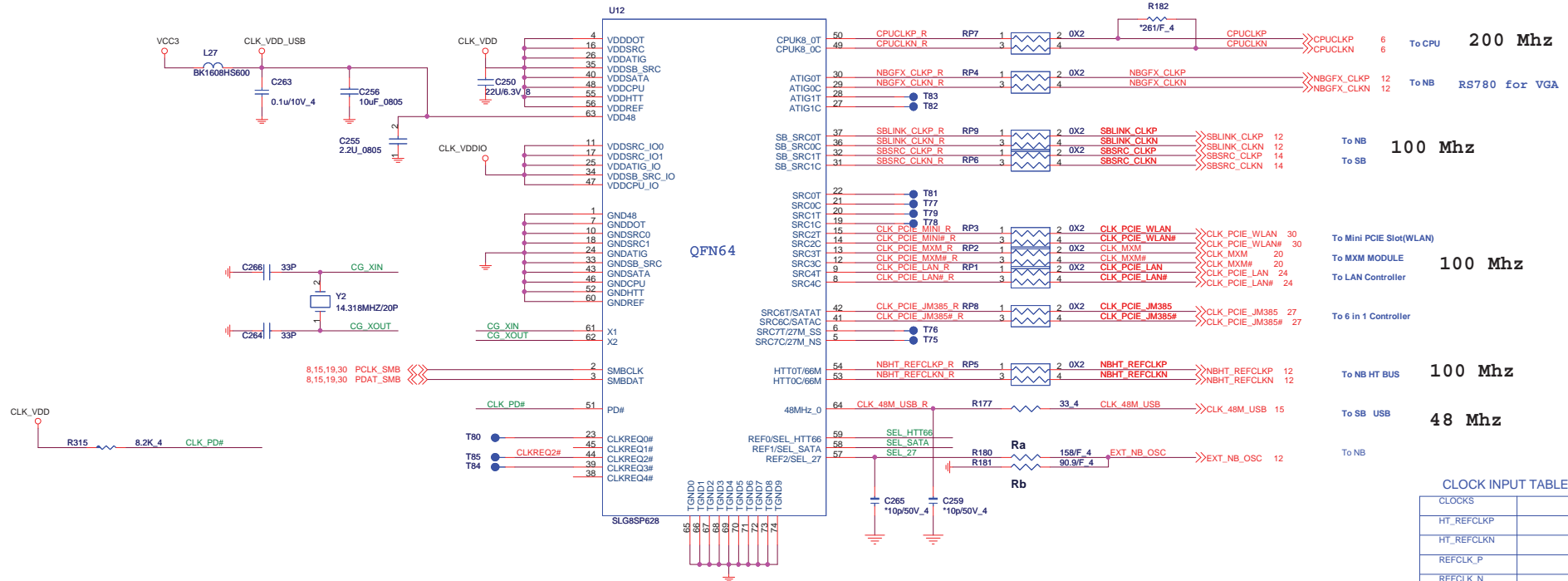


# CLK\_VGEN\_SLG8SP628



ICS9LPRS480 P/N : ALPRS480000  
SLG8SP628 P/N : AL8SP628000  
RTM880N-796 P/N : AL000880000

Clock chip has internal serial terminations for differential pairs, external resistors are reserved for debug purpose.  
Place within 0.5" of CLKGEN



CLOCK INPUT TABLE

CLOCKS	RS780
HT_REFCLKP	100M DIFF
HT_REFCLKN	100M DIFF
REFCLK_P	14M SE (1.1V)
REFCLK_N	vref
GFX_REFCLK	100M DIFF(IN/OUT)*
GPP_REFCLK	NC or 100M DIFF OUTPUT
GPPSB_REFCLK	100M DIFF

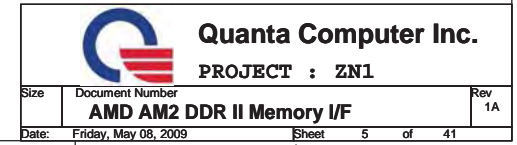
SEL_HTT66	1	66 MHz 3.3V single ended HTT clock
	0*	100 MHz differential HTT clock
SEL_SATA	1*	100 MHz non-spreading differential SRC clock
	0	100 MHz spreading differential SRC clock
SEL_27	1	27MHz and 27M SS outputs
	0*	100 MHz SRC clock

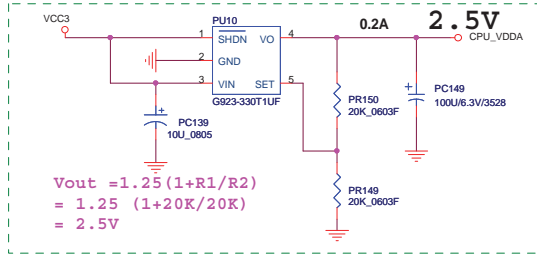
\* default

**Quanta Computer Inc.**  
PROJECT : ZN1

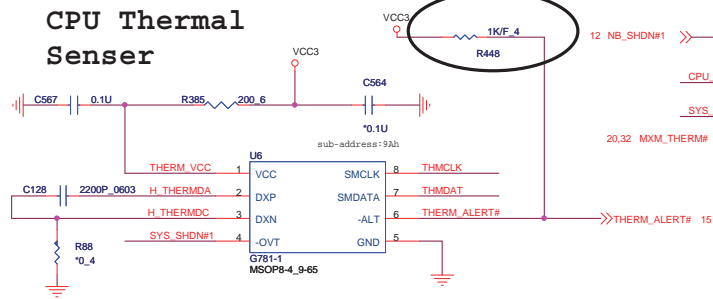
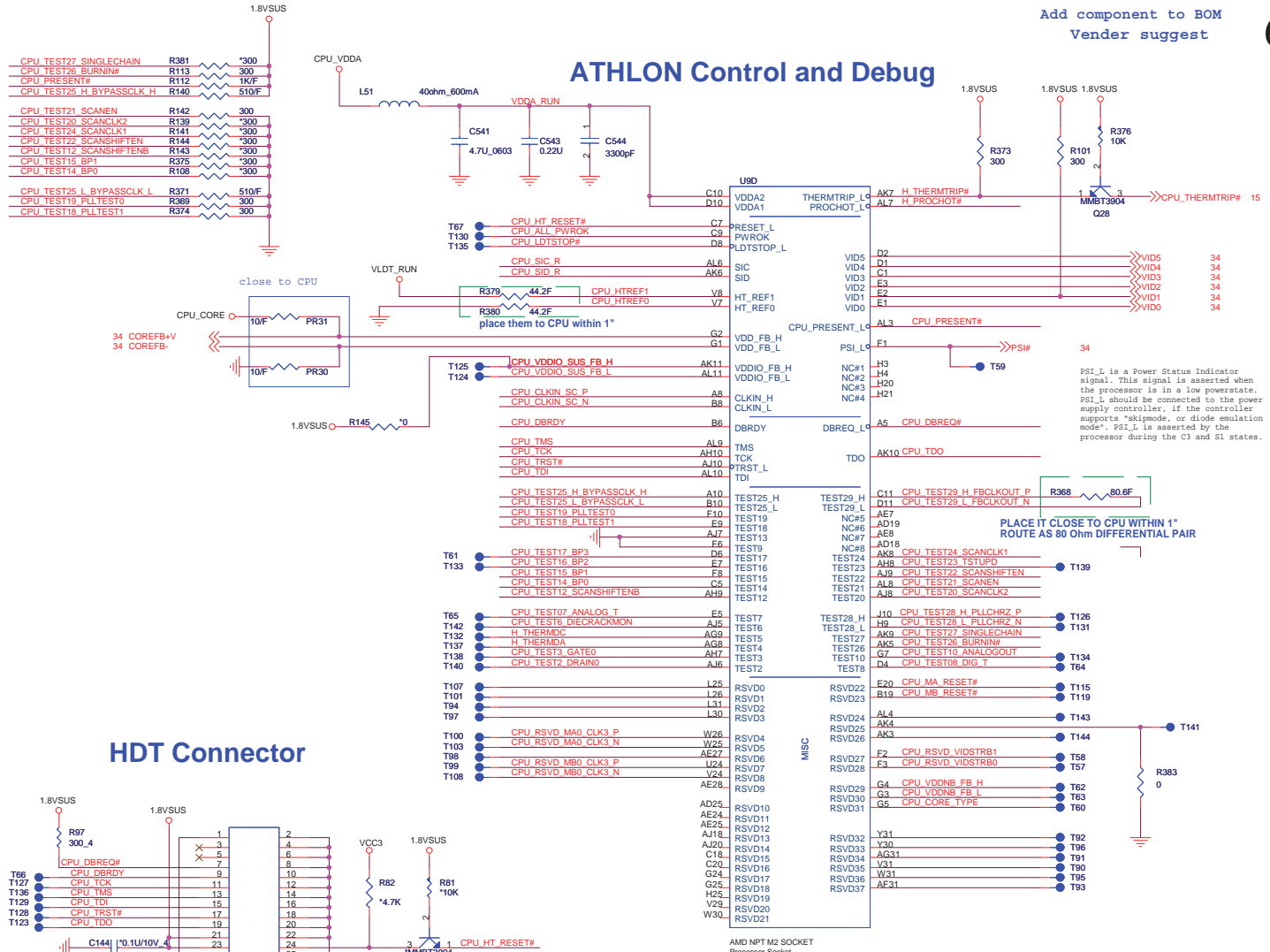
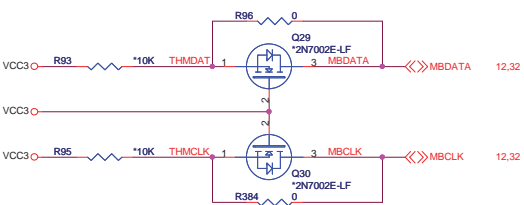
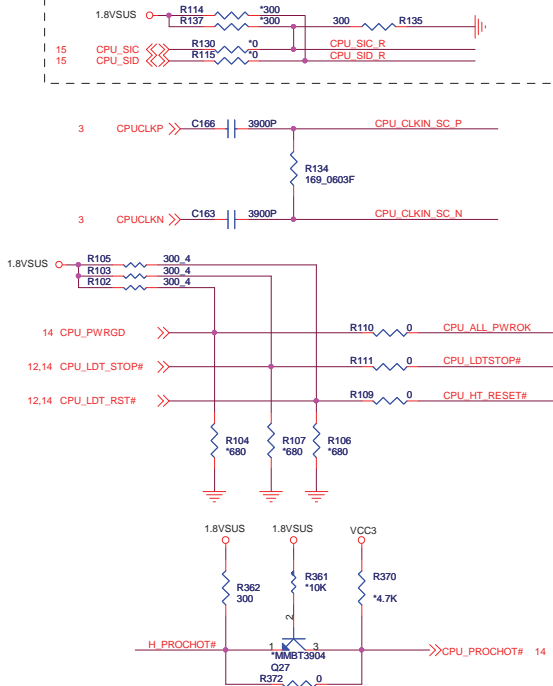
Size Document Number Rev 1A  
Clock Generator  
Date: Friday, May 08, 2009 Sheet 3 of 41





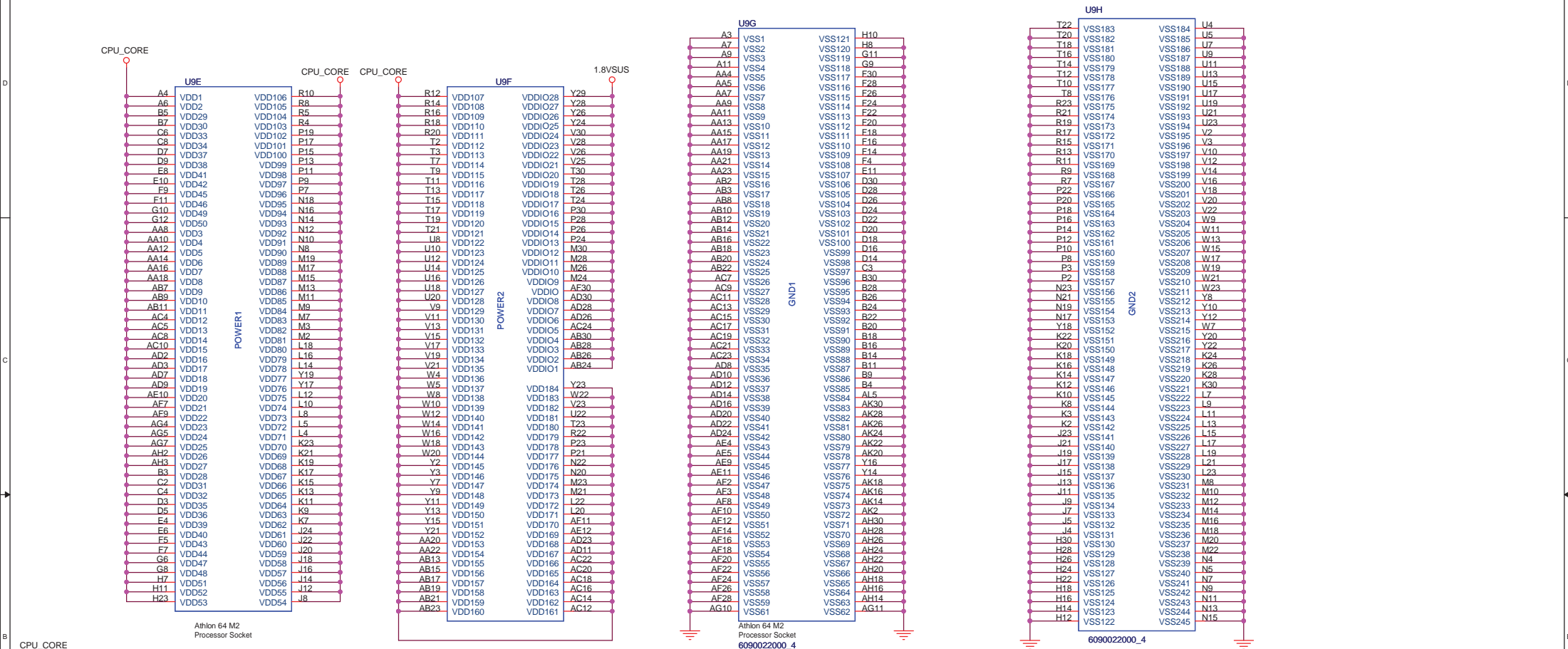


If AMD SI is not used, the SID pin can be left unconnected and SIC should have a 300- $\Omega$  ( $\pm 5\%$ ) pulldown to VSS.

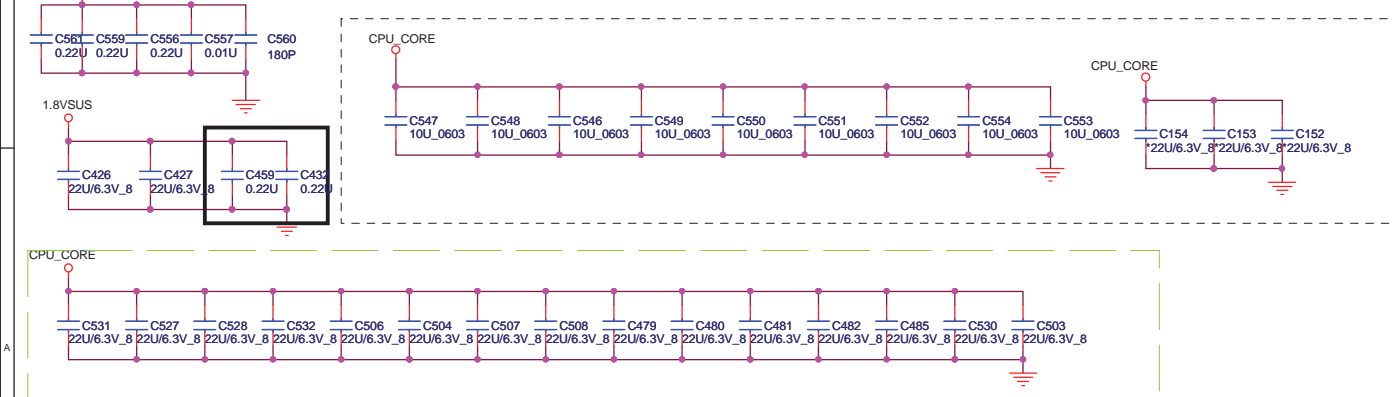


SMBUS SLAVE ADDRESS	
G781	98 (CPU)



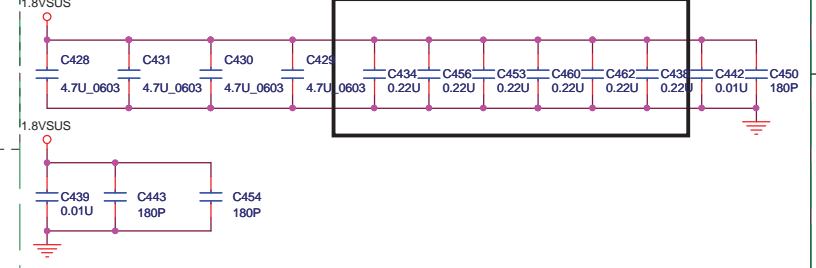


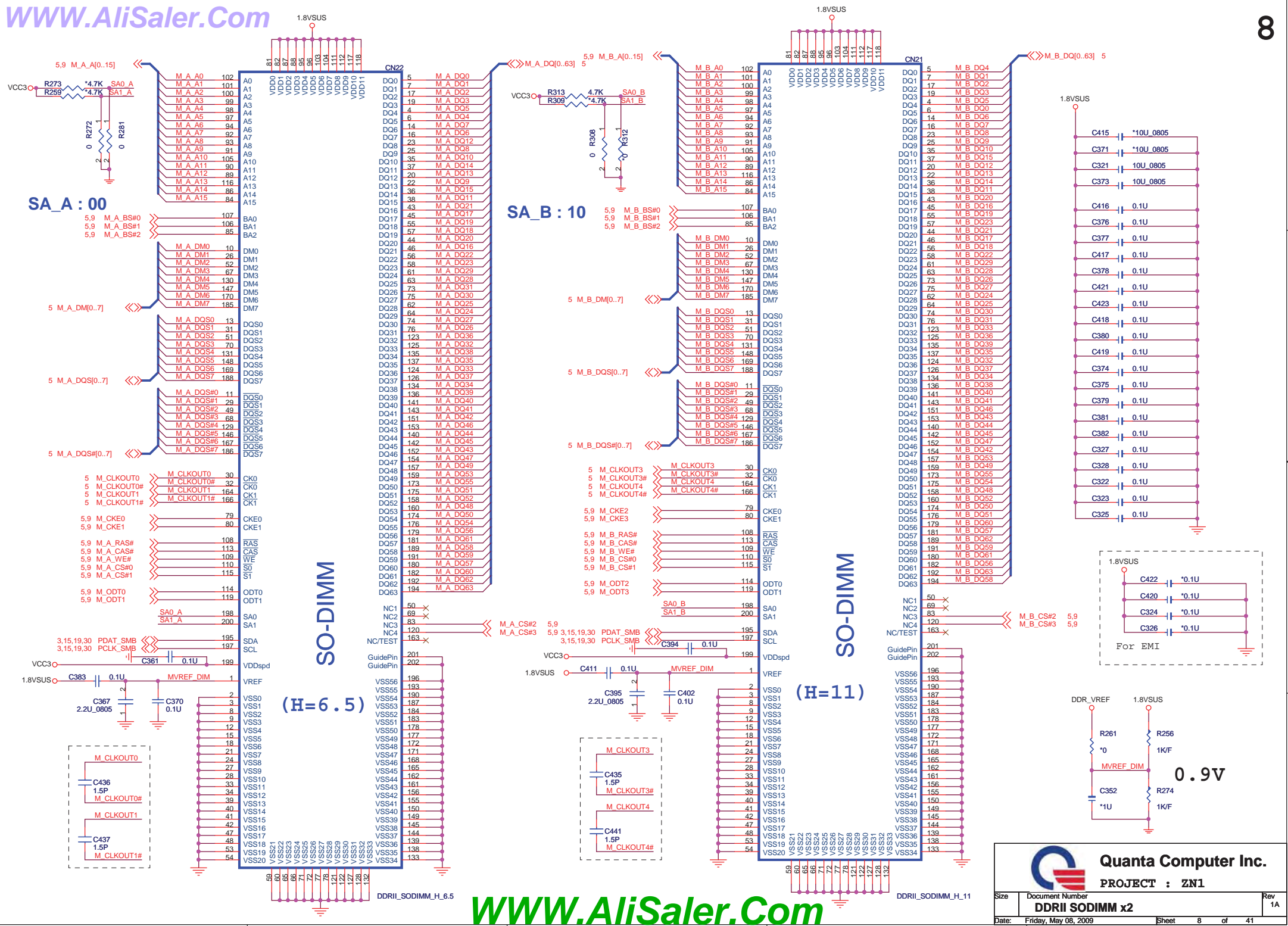
## BOTTOMSIDE DECOUPLING



## DECOUPLING BETWEEN PROCESSOR AND DIMMs

### PLACE CLOSE TO PROCESSOR AS POSSIBLE

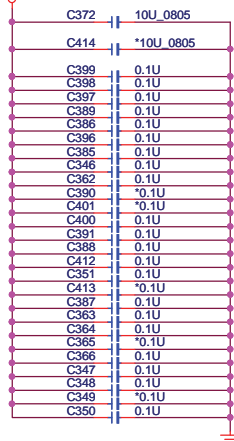






0.9V

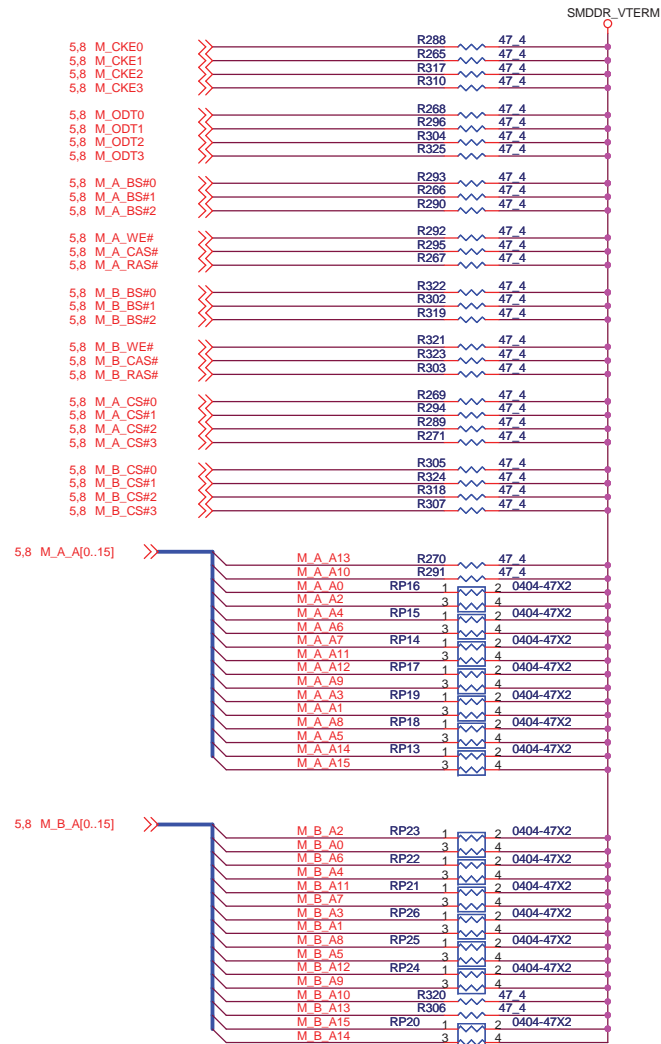
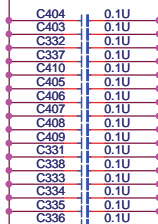
SMDDR\_VTERM



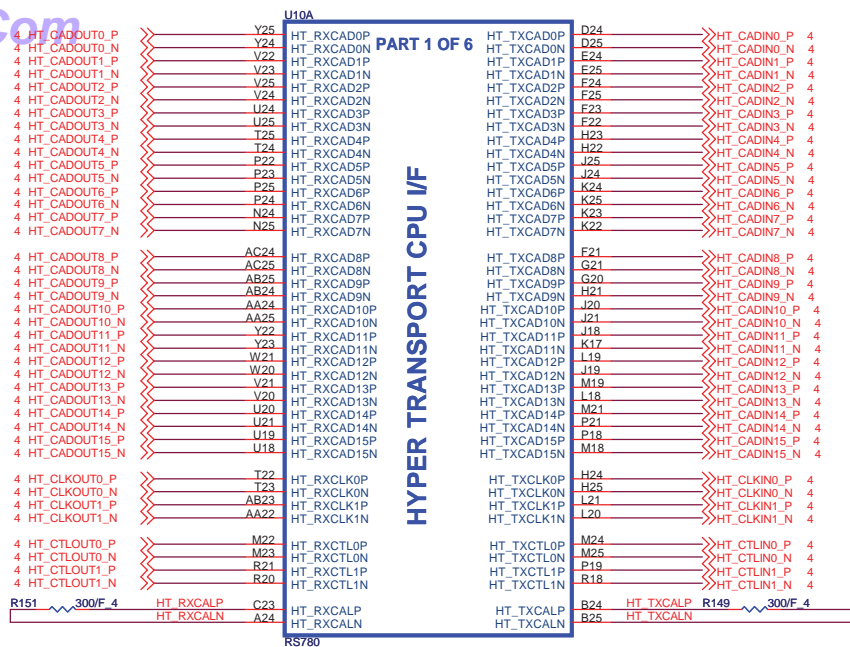
1.8VSUS

0.9V

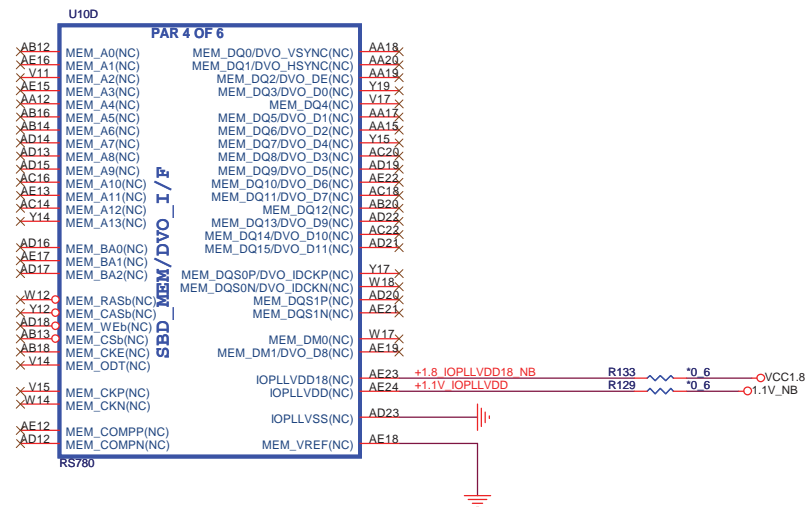
SMDDR\_VTERM

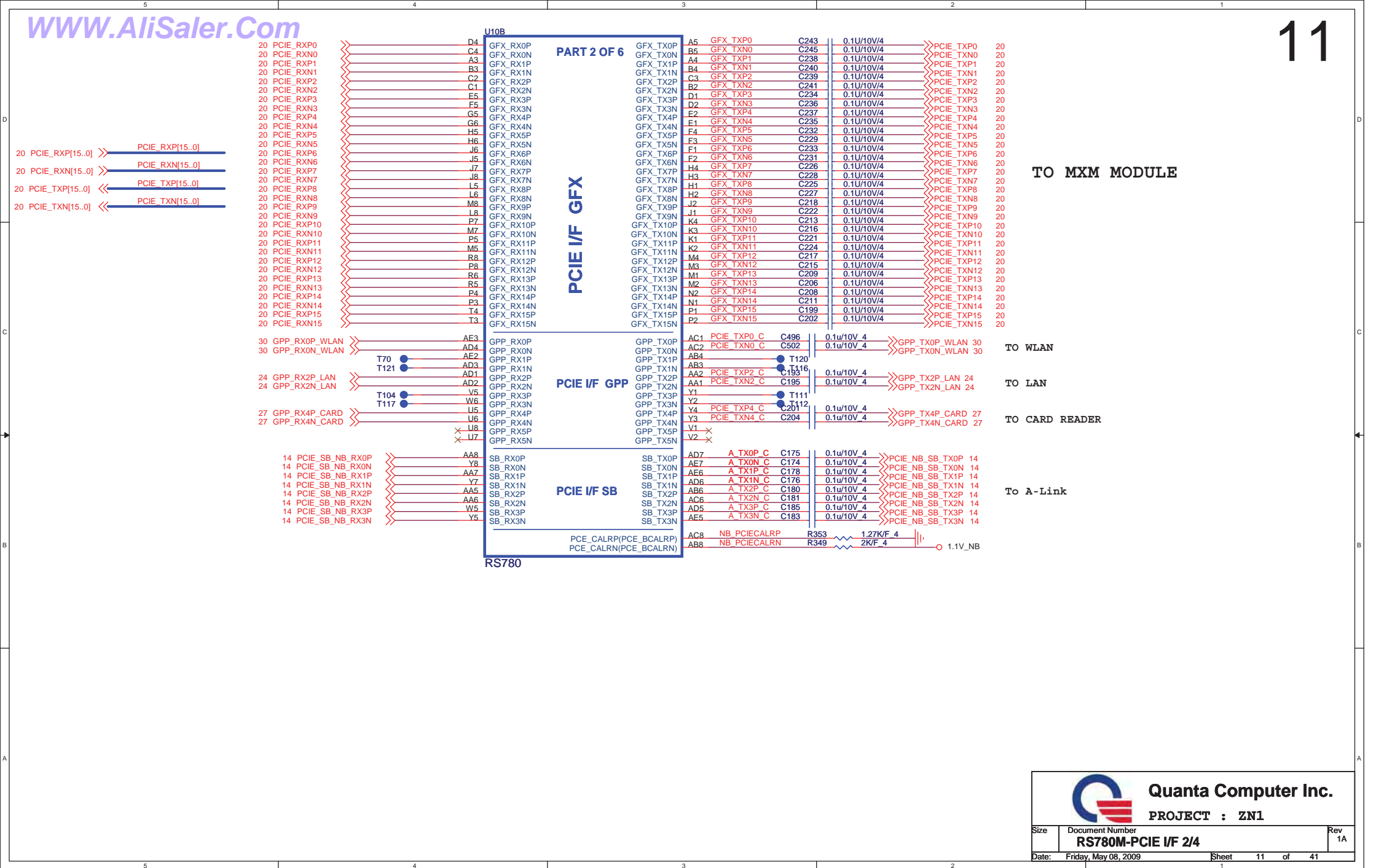


Quanta Computer Inc.  
PROJECT : ZN1

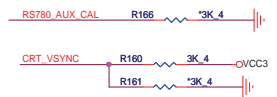
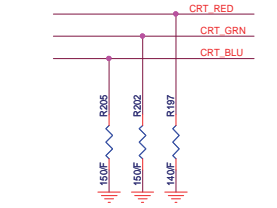
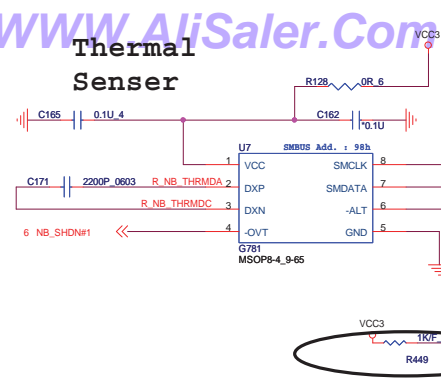


This block is for UMA RS780 only

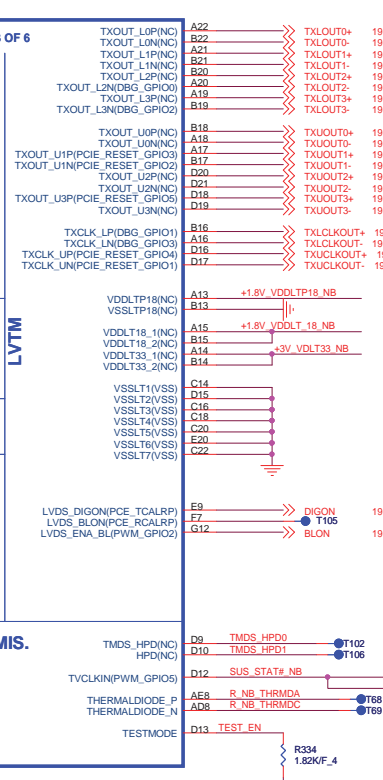
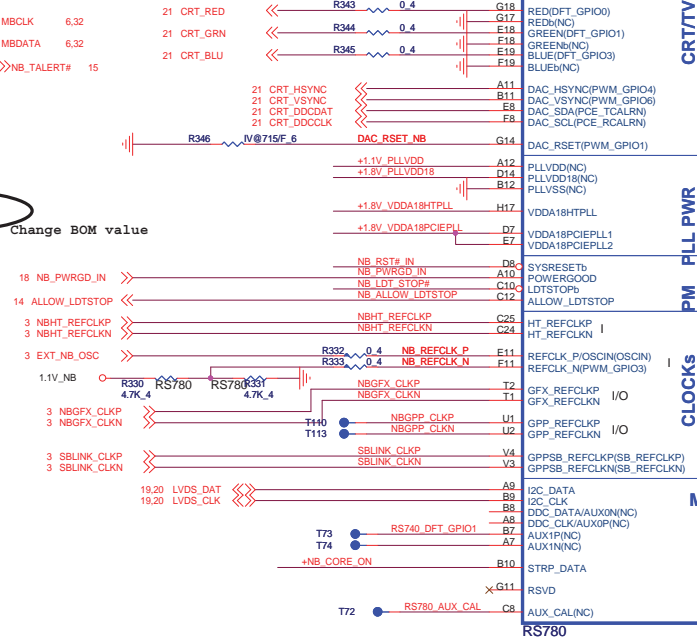




# Thermal Sensor

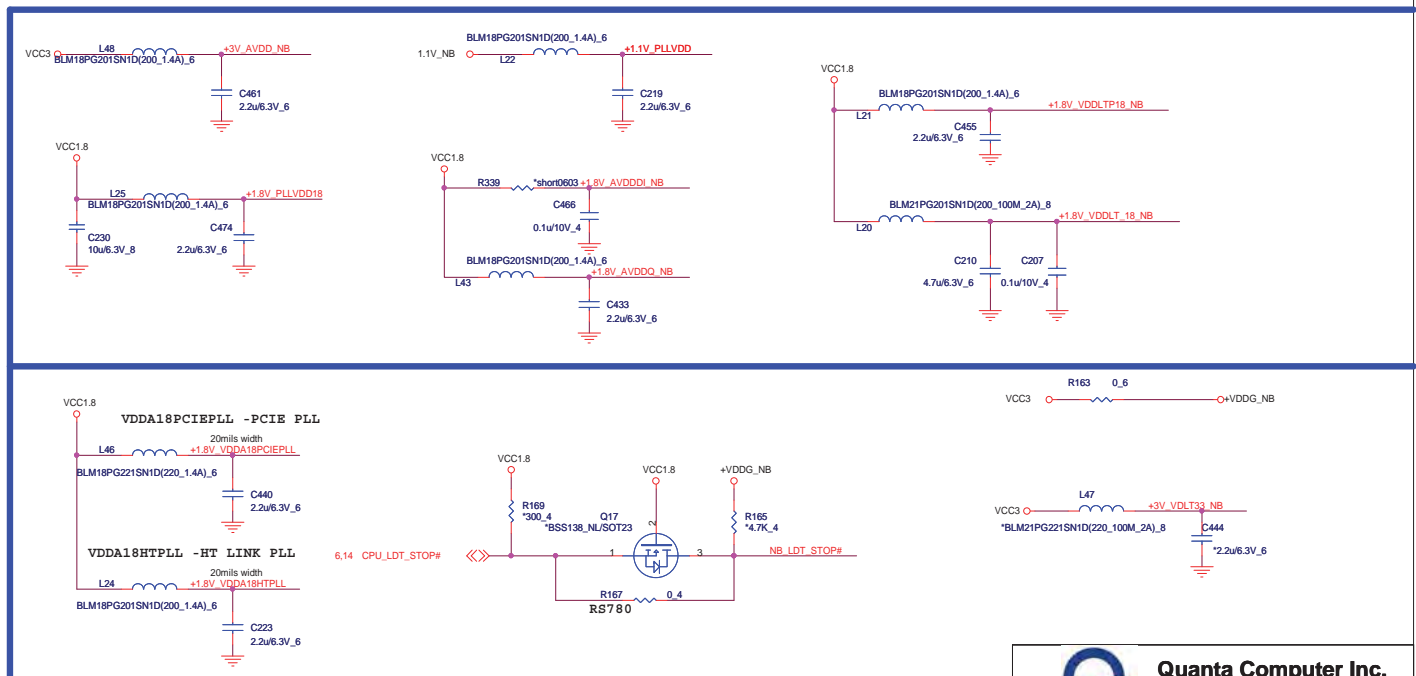


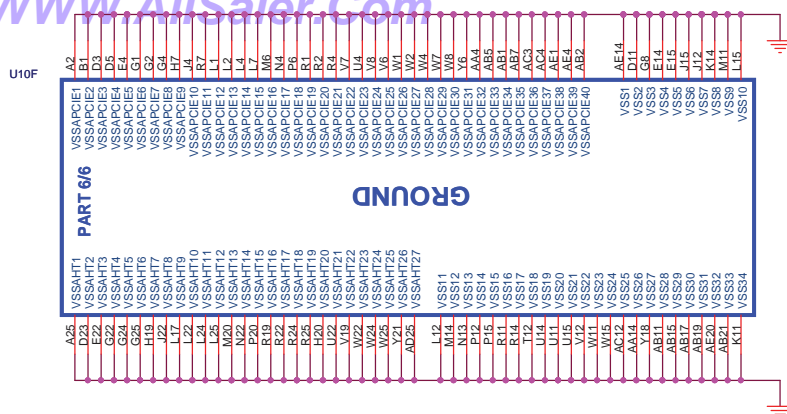
SMBUS SLAVE ADDRESS	
G781	98 (NB)
G781-1	9A (CPU)



To LVDS panel

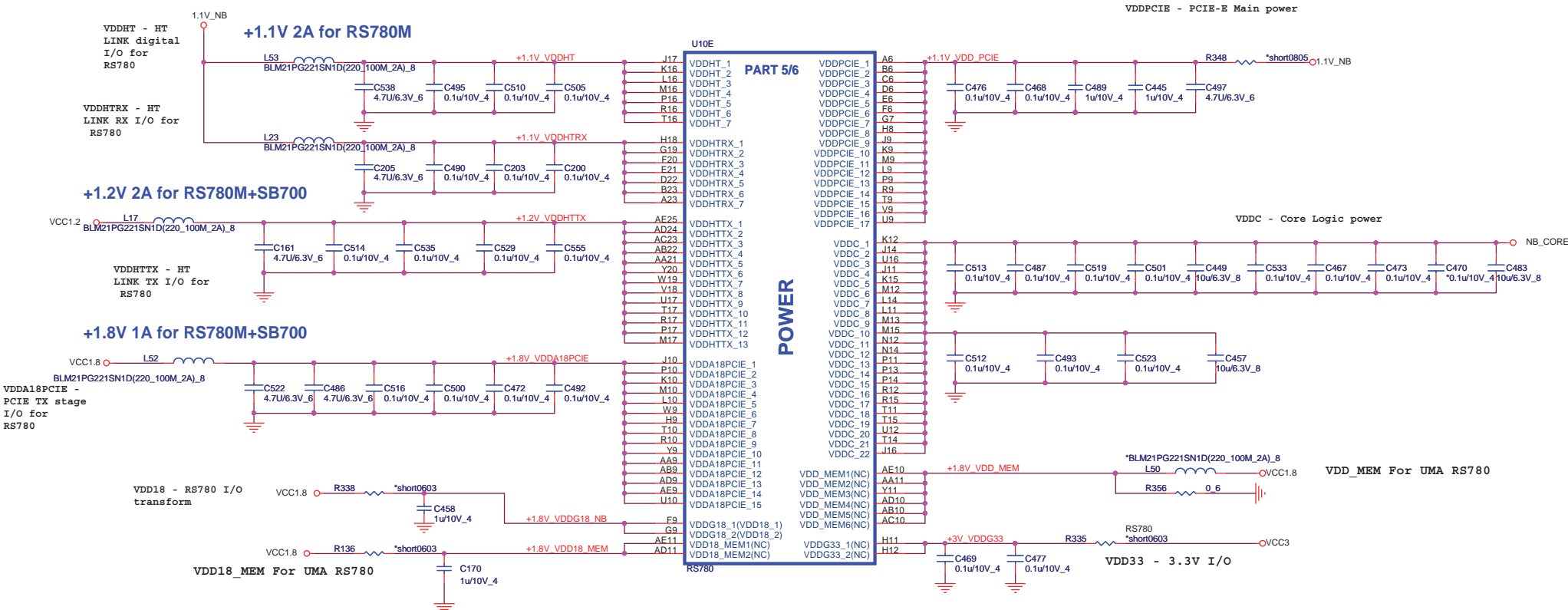
LVDS POWER

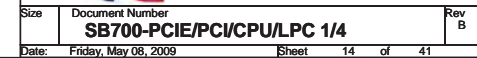




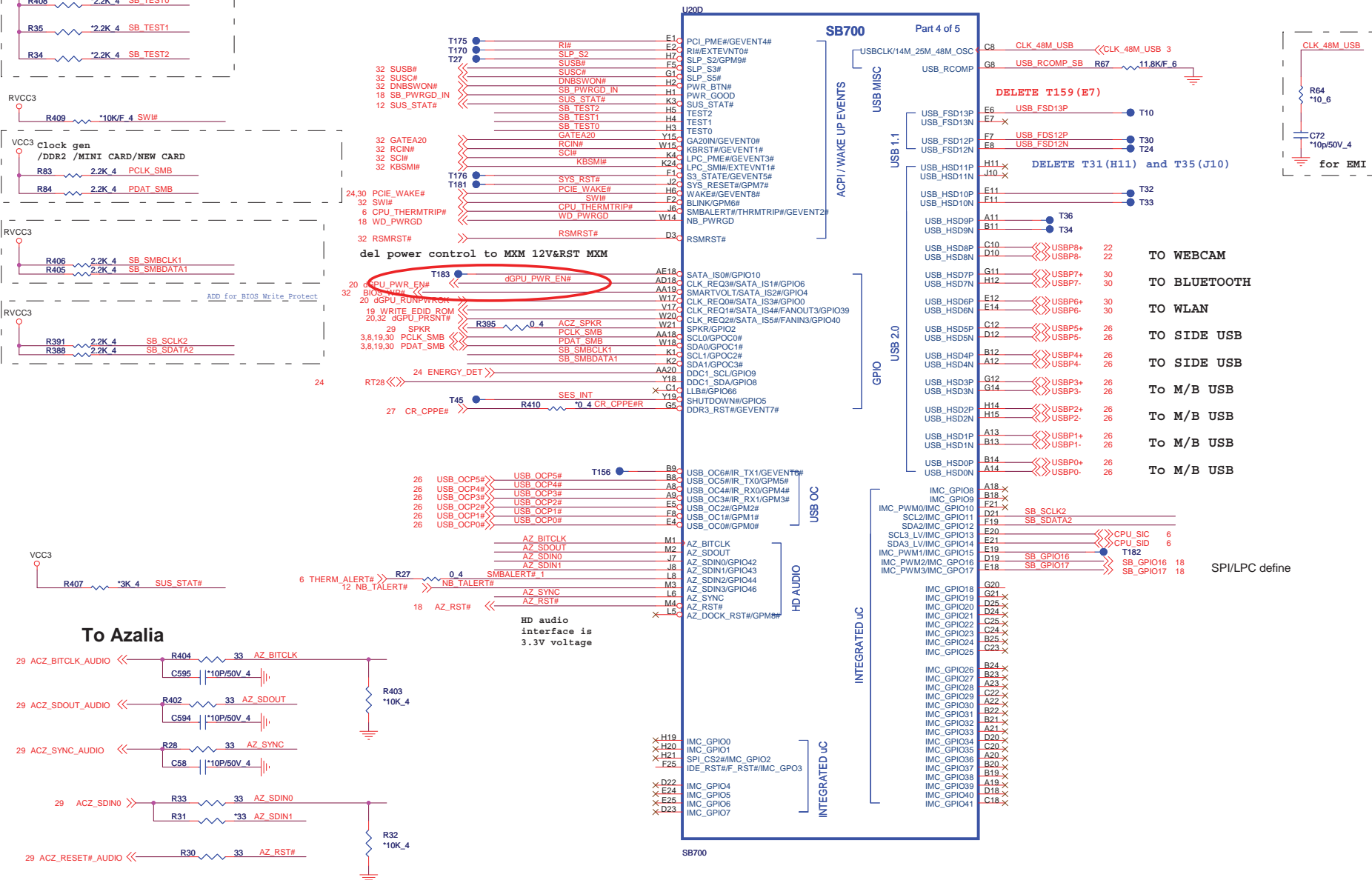
RS780 POWER DIFFERENCE TABLE

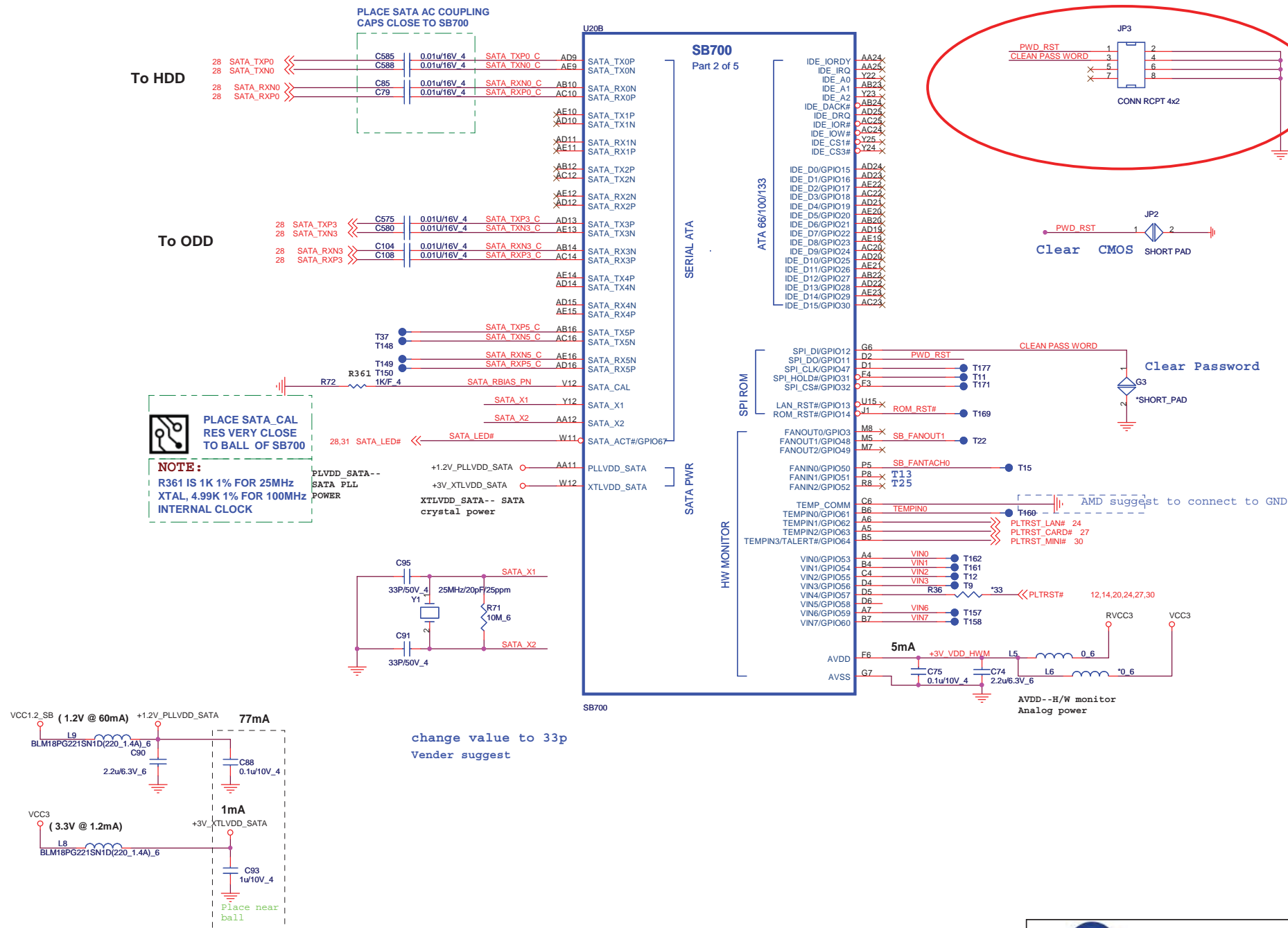
PIN NAME	RS780	PIN NAME	RS780
VDDHT	+1.1V	IOPLLVD	+1.1V
VDDHTRX	+1.1V	AVDD	+3.3V
VDDHTTX	+1.2V	AVDDI	+1.8V
VDDA18PCIE	+1.8V	AVDDQ	+1.8V
VDDG18	+1.8V	PLLVD	+1.1V
VDD18_MEM	+1.8V	PLLVD18	+1.8V
VDDPCIE	+1.1V	VDDA18PCIEPLL	+1.8V
VDDC	+1.1V	VDDA18HTPLL	+1.8V
VDD_MEM	+1.8V/1.5V	VDDLTP18	+1.8V
VDDG33	+3.3V	VDDL18	+1.8V
IOPLLVD18	+1.8V	VDDL33	NC

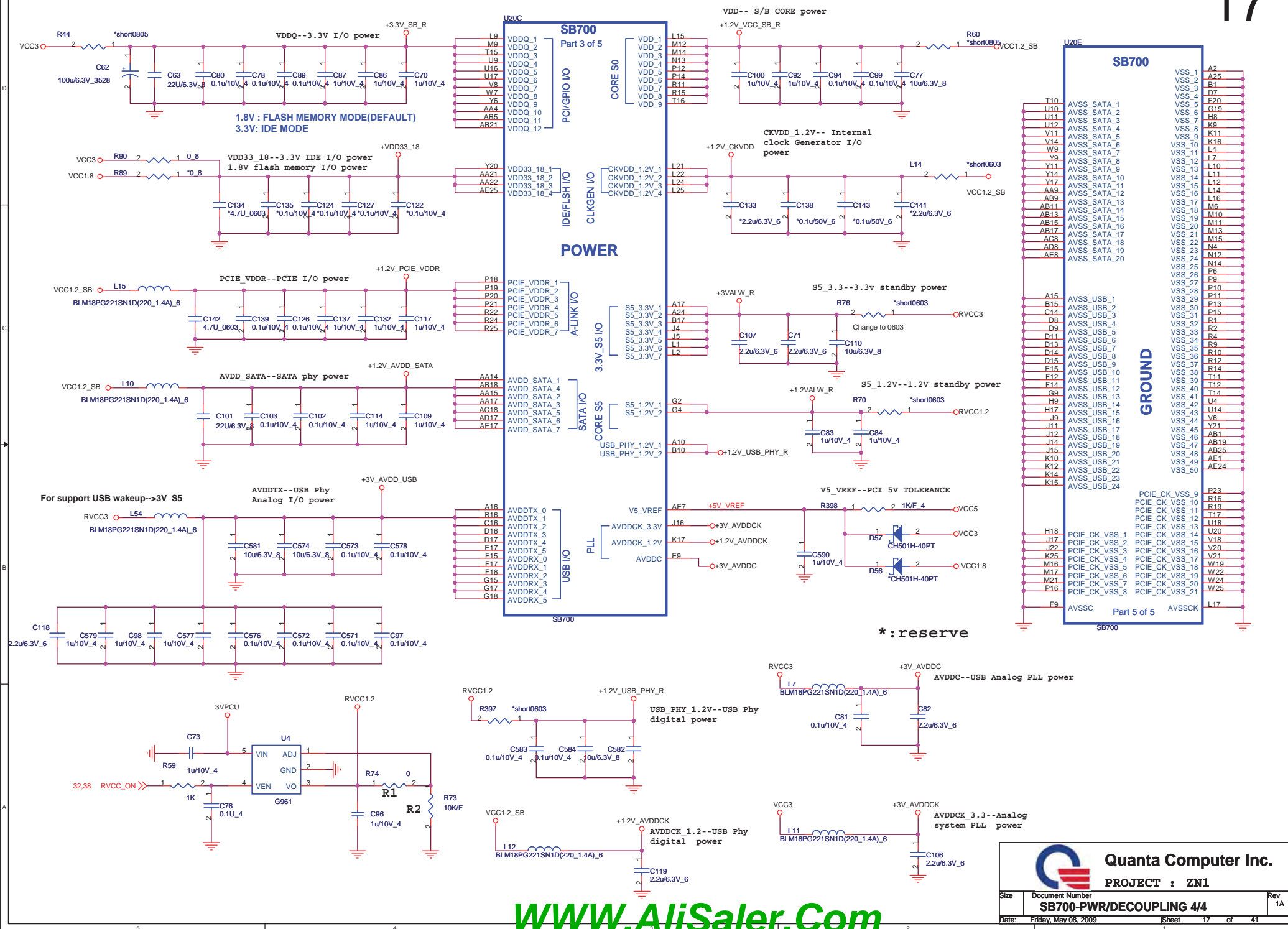


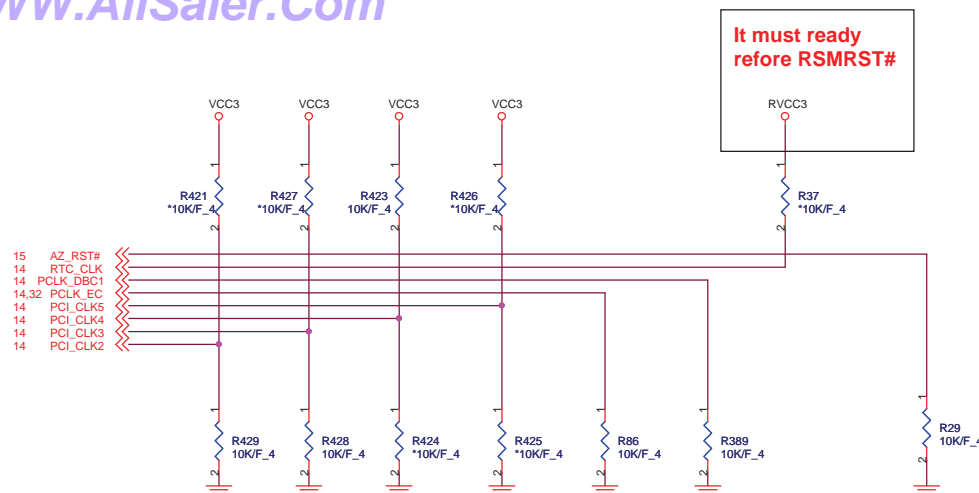






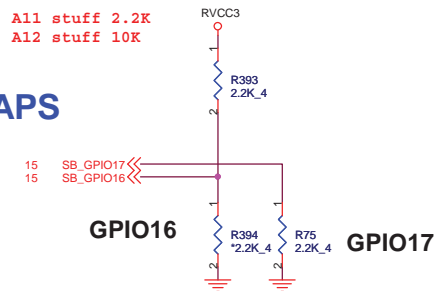






## REQUIRED STRAPS

All stuff 2.2K  
All stuff 10K



GPIO16 GPIO17

TYPE	GPIO16	GPIO17
FWH	L : 2.2K pull down	L : 2.2K pull down
LPC	NC	L : 2.2K pull down
SPI	L : 2.2K pull down	NC
RSVD	NC	NC

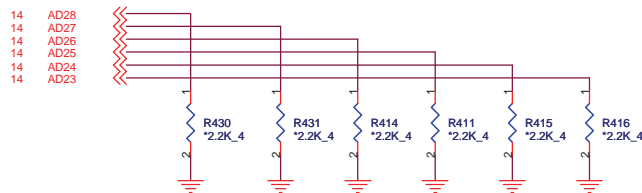
	PCI_CLK2	PCI_CLK3	PCI_CLK4	PCI_CLK5	LPC_CLK0	LPC_CLK1	RTC_CLK	AZ_RST#
PULL HIGH	BOOTFAIL TIMER ENABLED	USE DEBUG STRAPS	RESERVED	RESERVED	ENABLE PCI MEM BOOT	CLKGEN ENABLED	INTERNAL RTC  DEFAULT	EC ENABLED
PULL LOW	BOOTFAIL TIMER DISABLED DEFAULT	IGNORE DEBUG STRAPS DEFAULT			DISABLE PCI MEM BOOT DEFAULT	CLKGEN DISABLED DEFAULT	EXT. RTC (PD on X1, apply 32KHz to RTC_CLK)	EC DISABLED DEFAULT

EC  
ENABLED

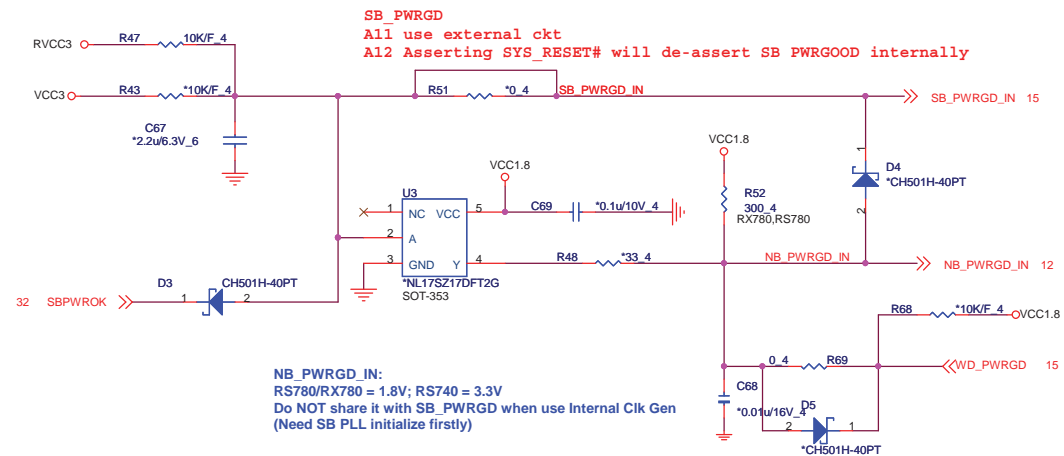
ENABLE PCI  
MEM BOOT

## DEBUG STRAPS

SB700 HAS 15K INTERNAL PU FOR PCI\_AD[28:23]



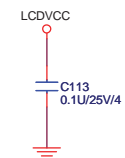
	PCI_AD28	PCI_AD27	PCI_AD26	PCI_AD25	PCI_AD24	PCI_AD23
PULL HIGH	USE LONG RESET DEFAULT	USE PCI PLL DEFAULT	USE ACPI BCLK DEFAULT	USE IDE PLL DEFAULT	USE DEFAULT PCIE STRAPS DEFAULT	RESERVED
PULL LOW	USE SHORT RESET	BYPASS PCI PLL	BYPASS ACPI BCLK	BYPASS IDE PLL	USE EEPROM PCIE STRAPS	

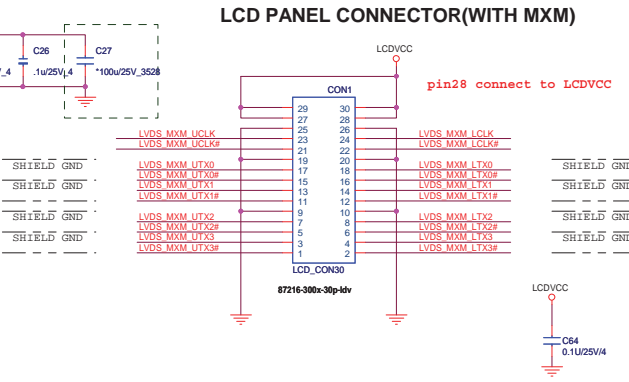
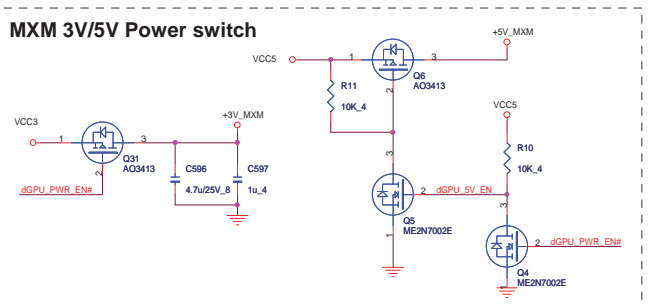
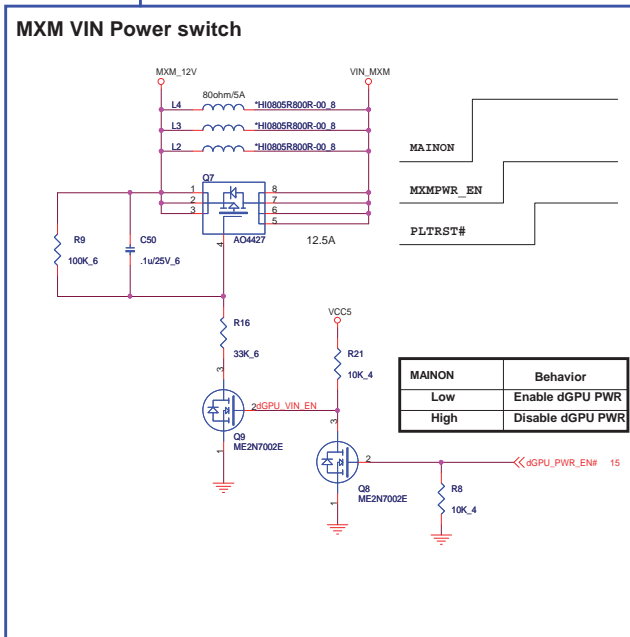
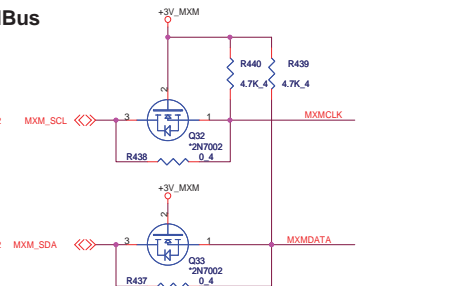
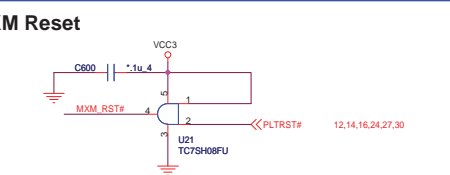
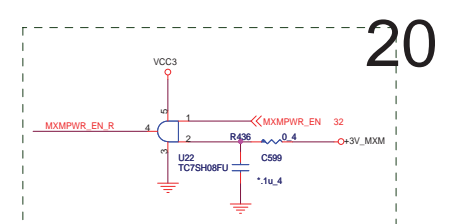
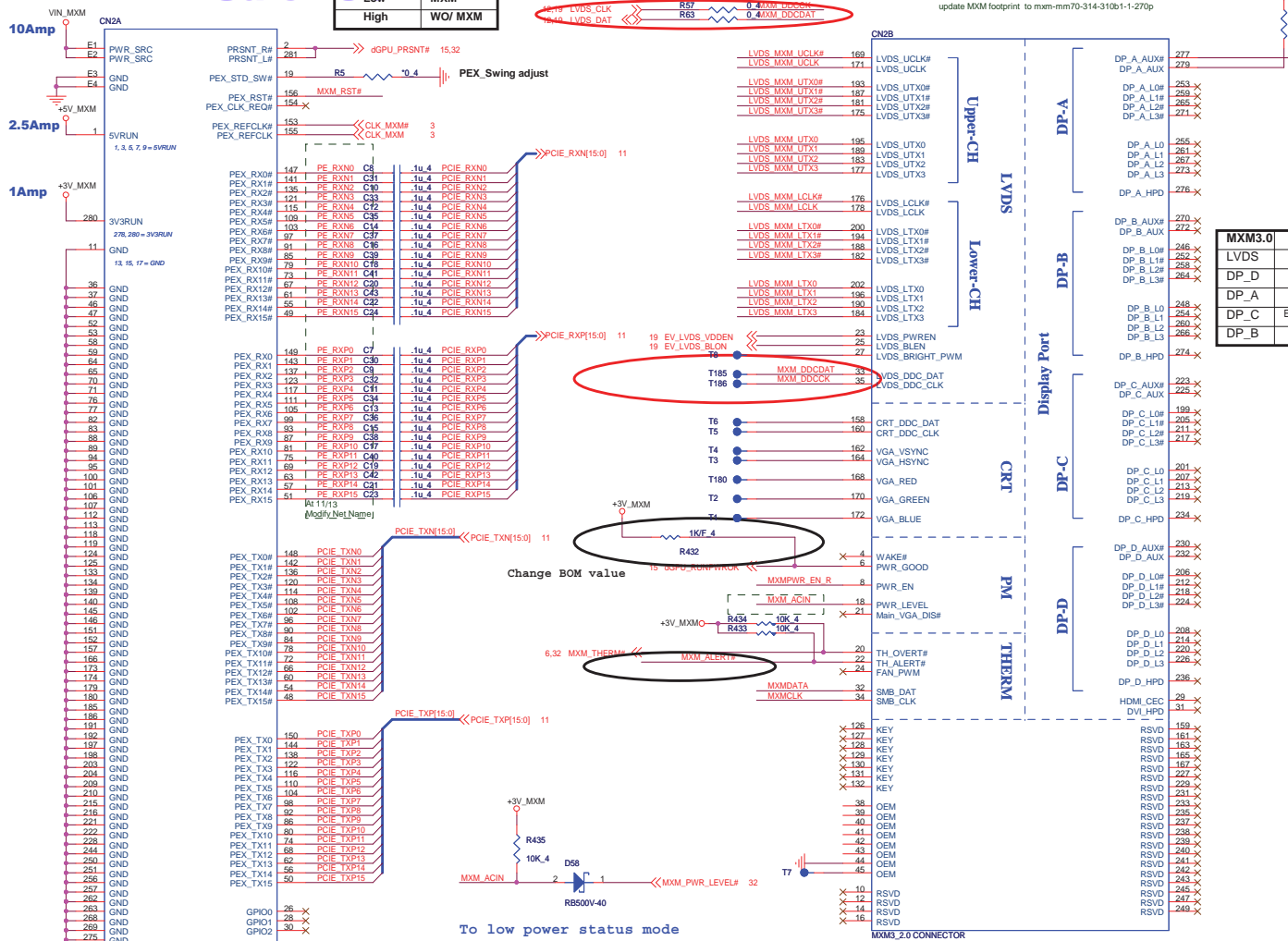


NB\_PWRGD\_IN:  
RS780/RX780 = 1.8V; RS740 = 3.3V  
Do NOT share it with SB\_PWRGD when use Internal Clk Gen  
(Need SB PLL initialize firstly)



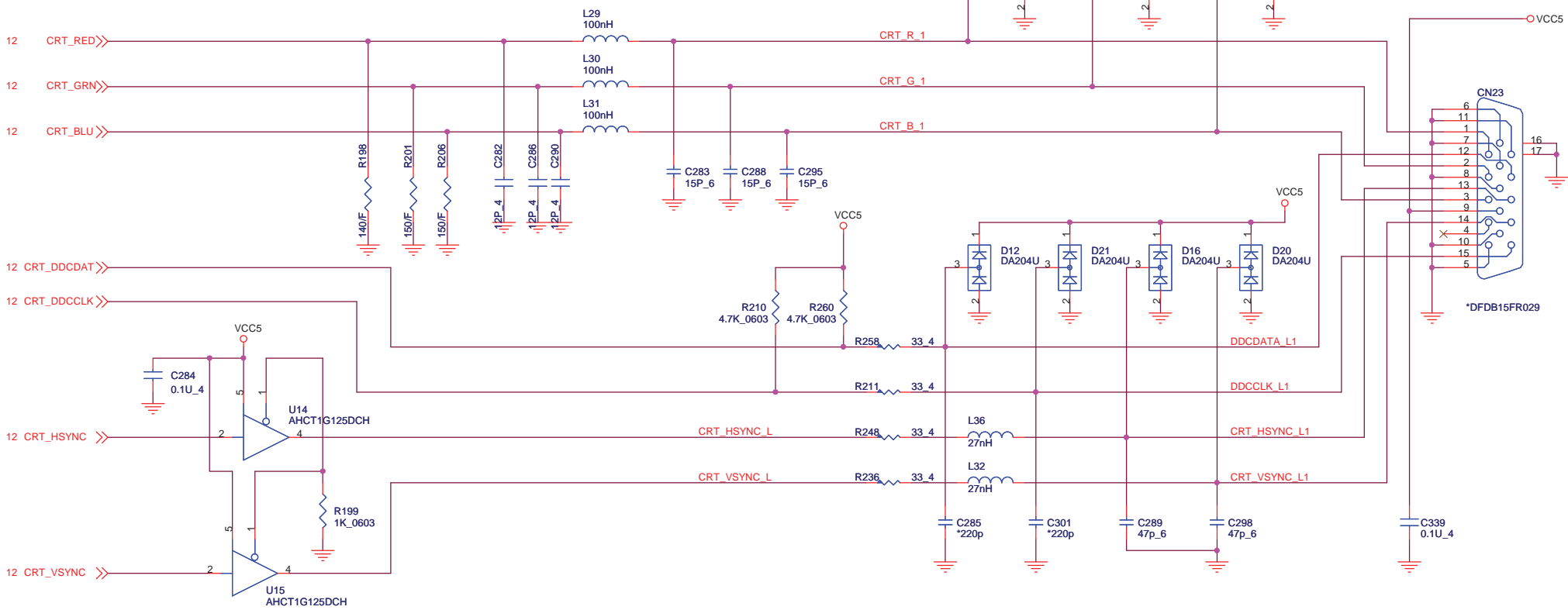
Quanta Computer Inc.  
PROJECT : ZN1






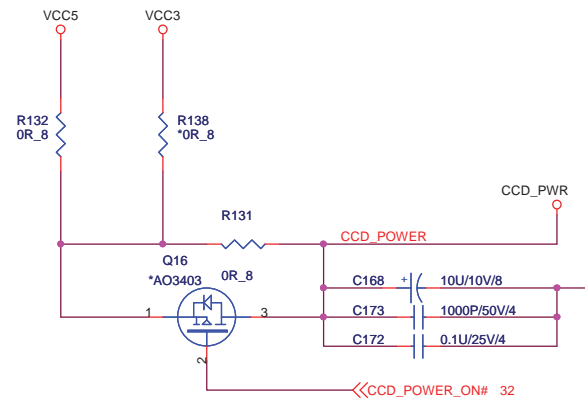
MAINON	Behavior
Low	Enable dGPU PWR
High	Disable dGPU PWR



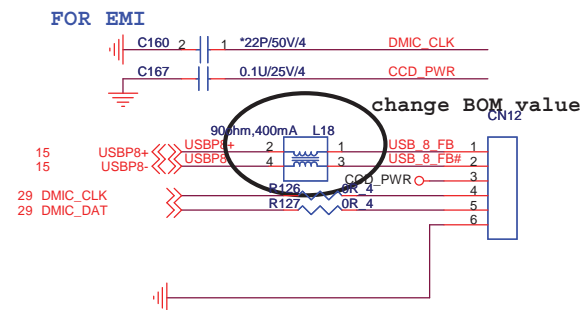


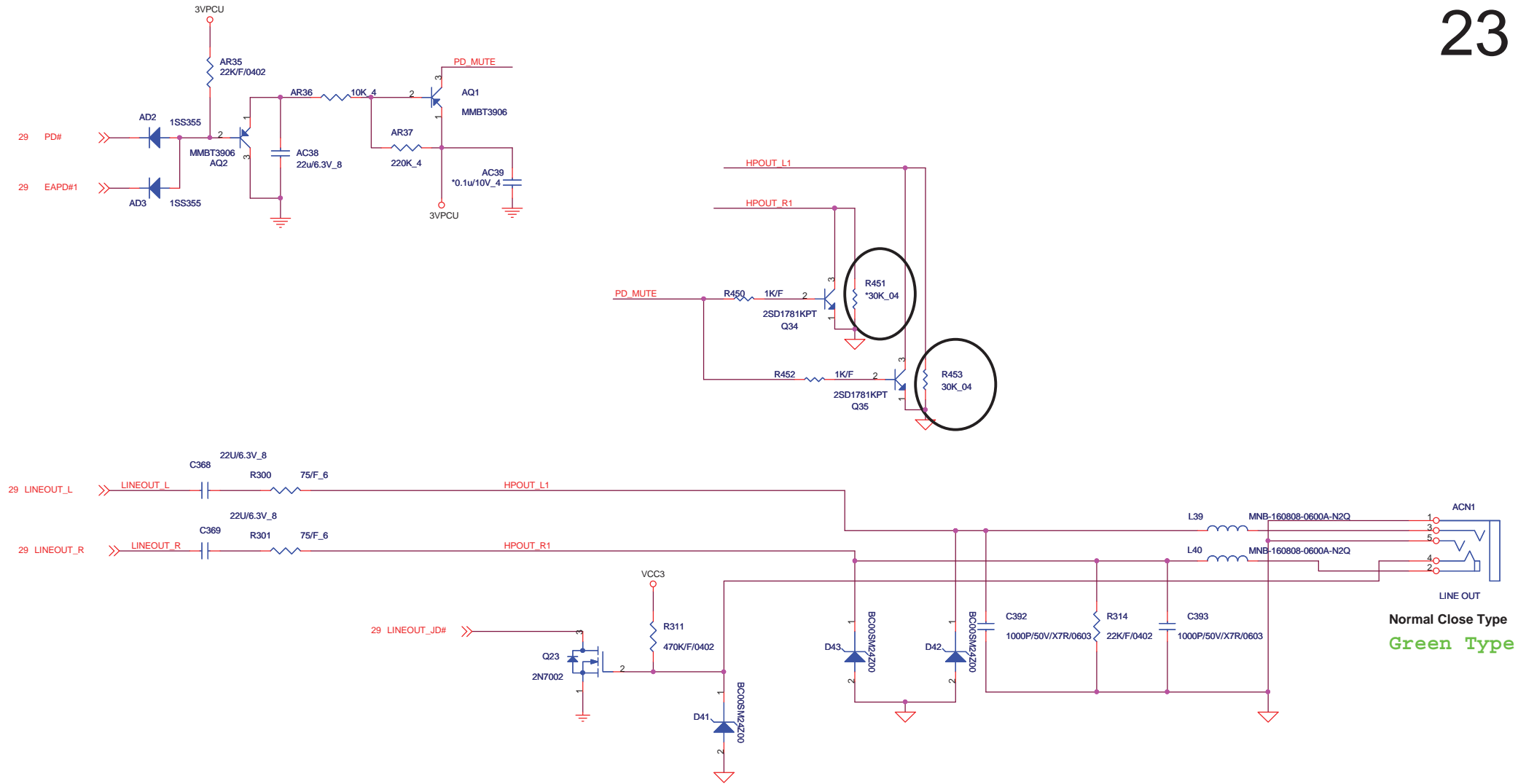
 <b>Quanta Computer Inc.</b> <b>PROJECT : ZN1</b>		Rev 1A
Date: Friday, May 08, 2009		Sheet 21 of 41

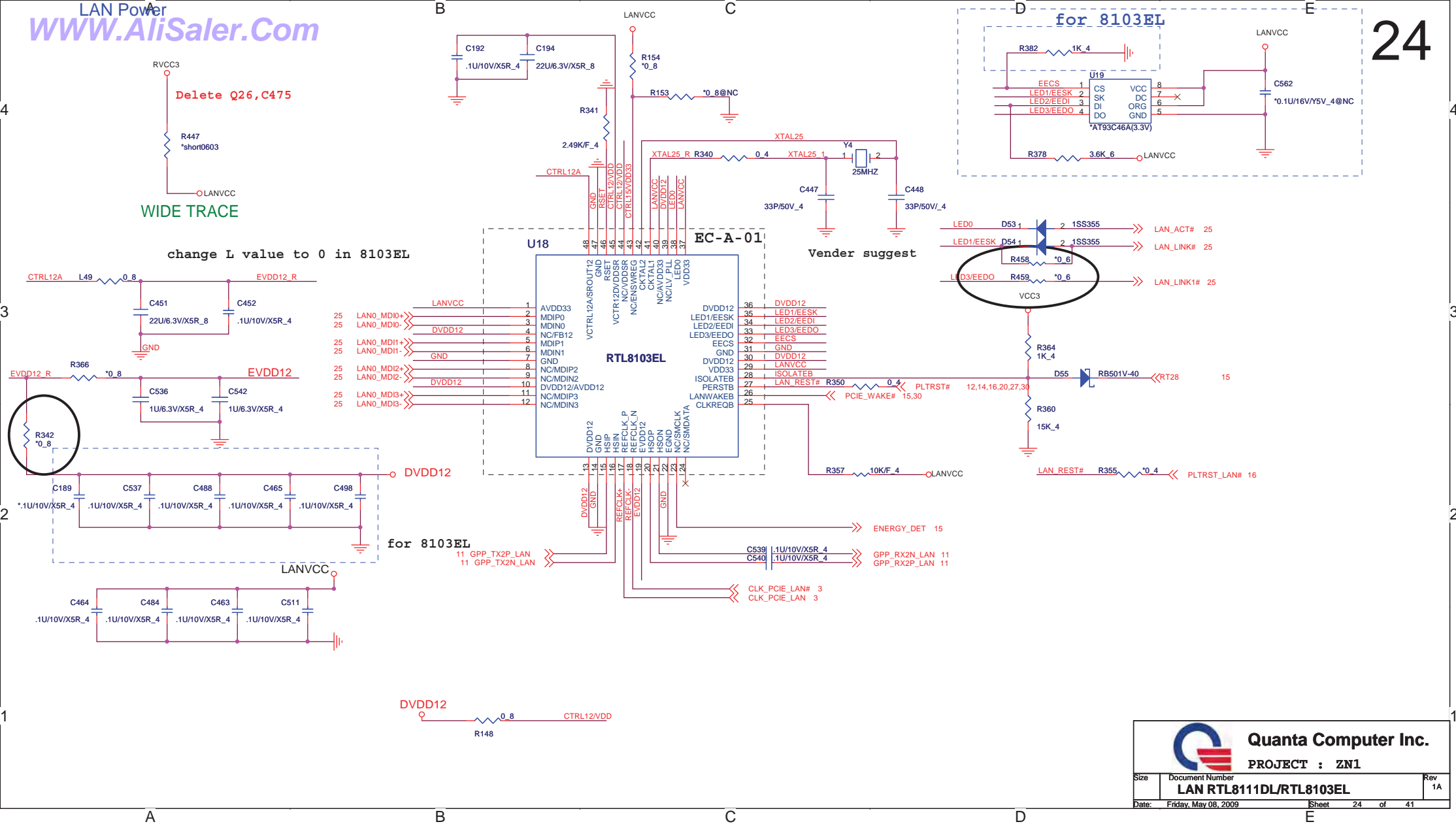
## CAMERA POWER CONTROL

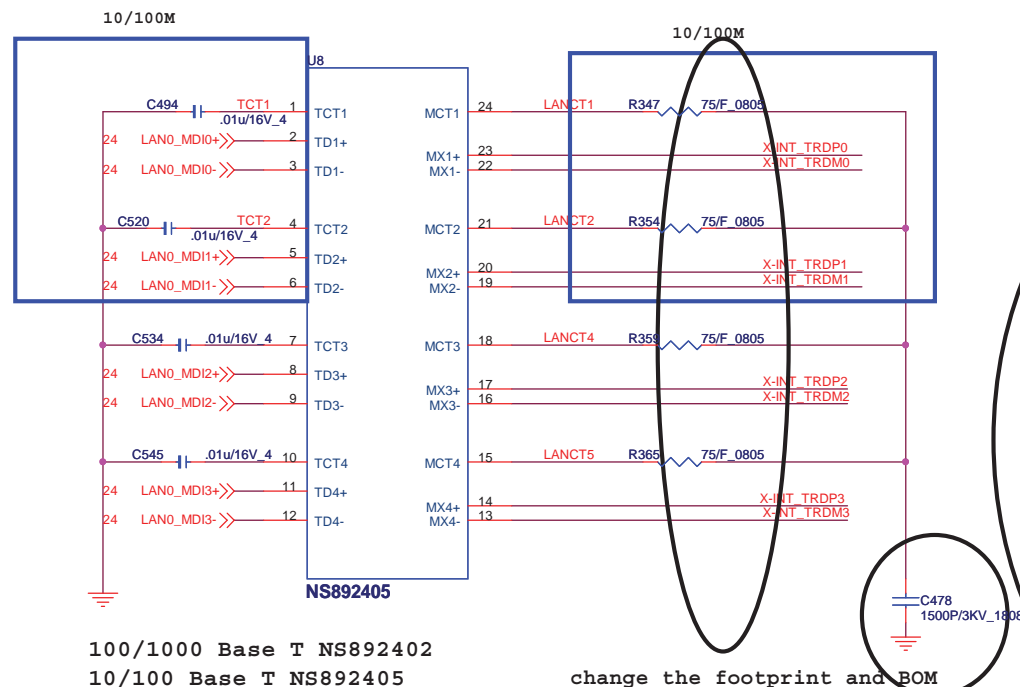


## TO WEB CAM MODULE

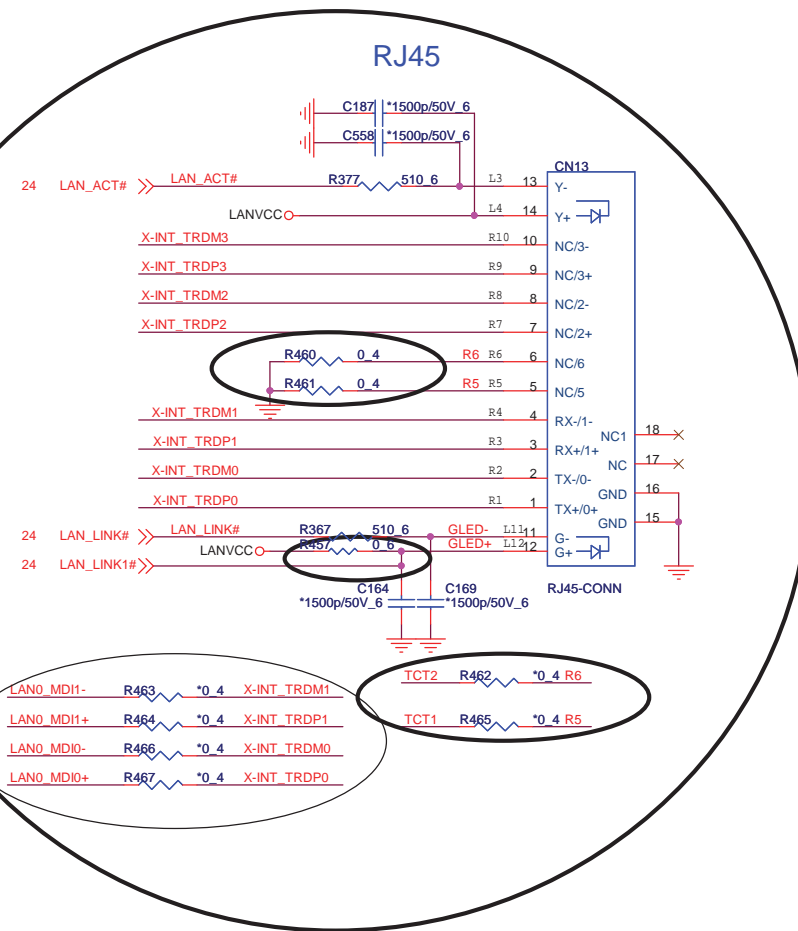


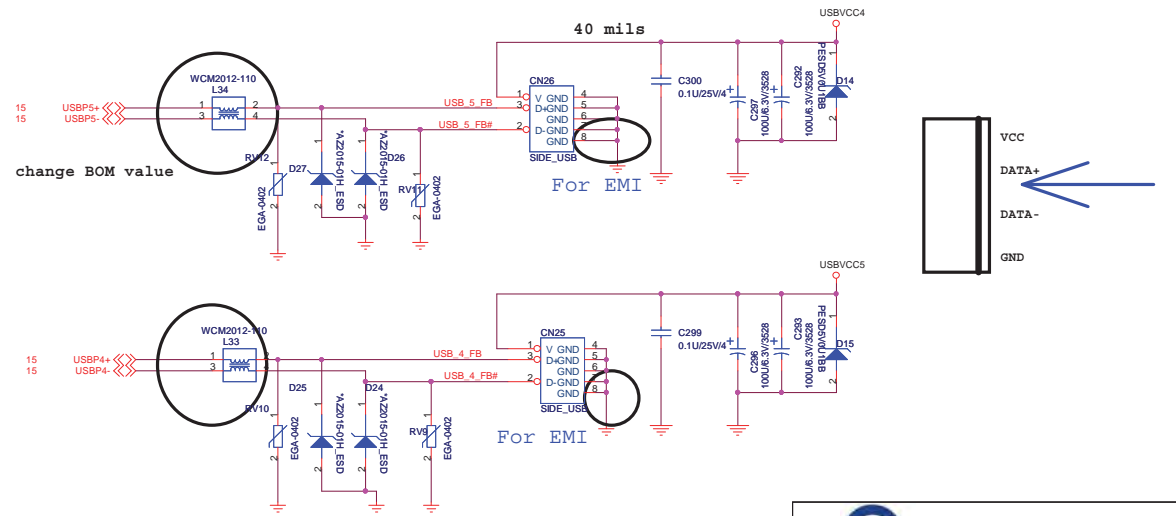
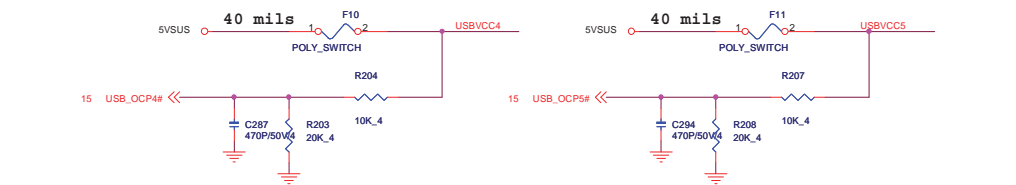
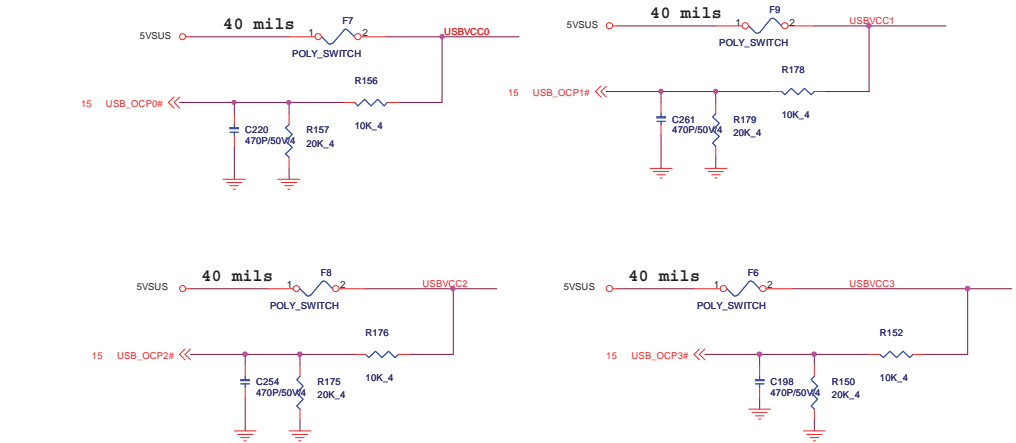
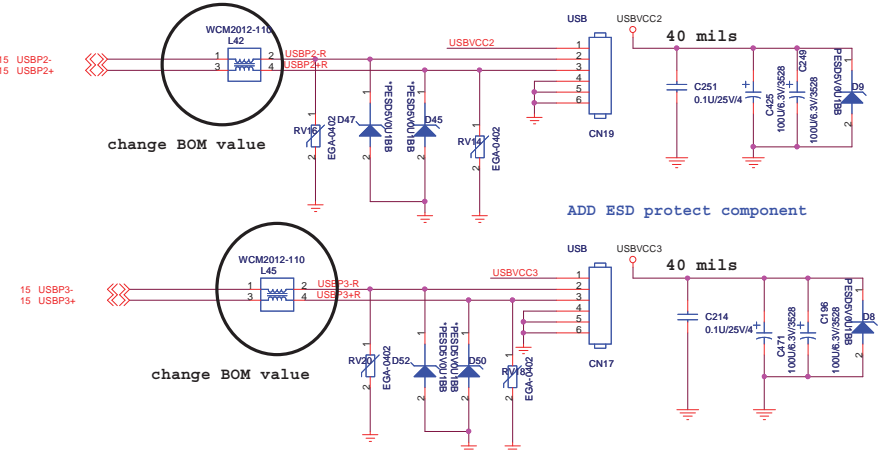
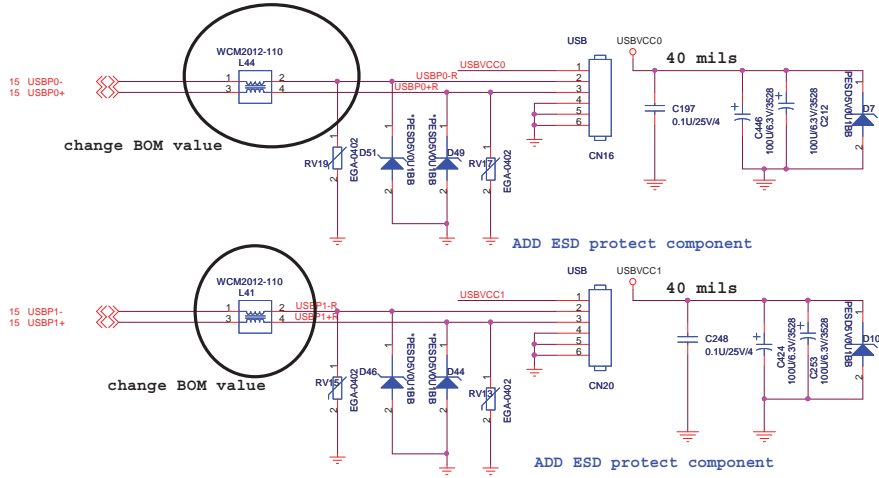




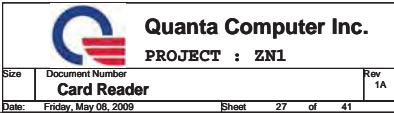


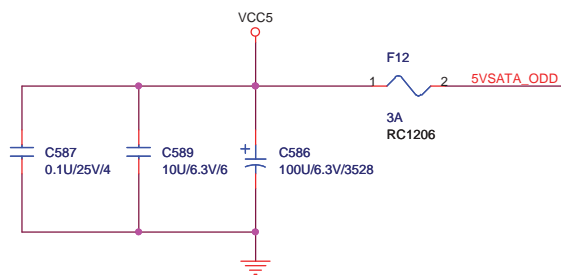
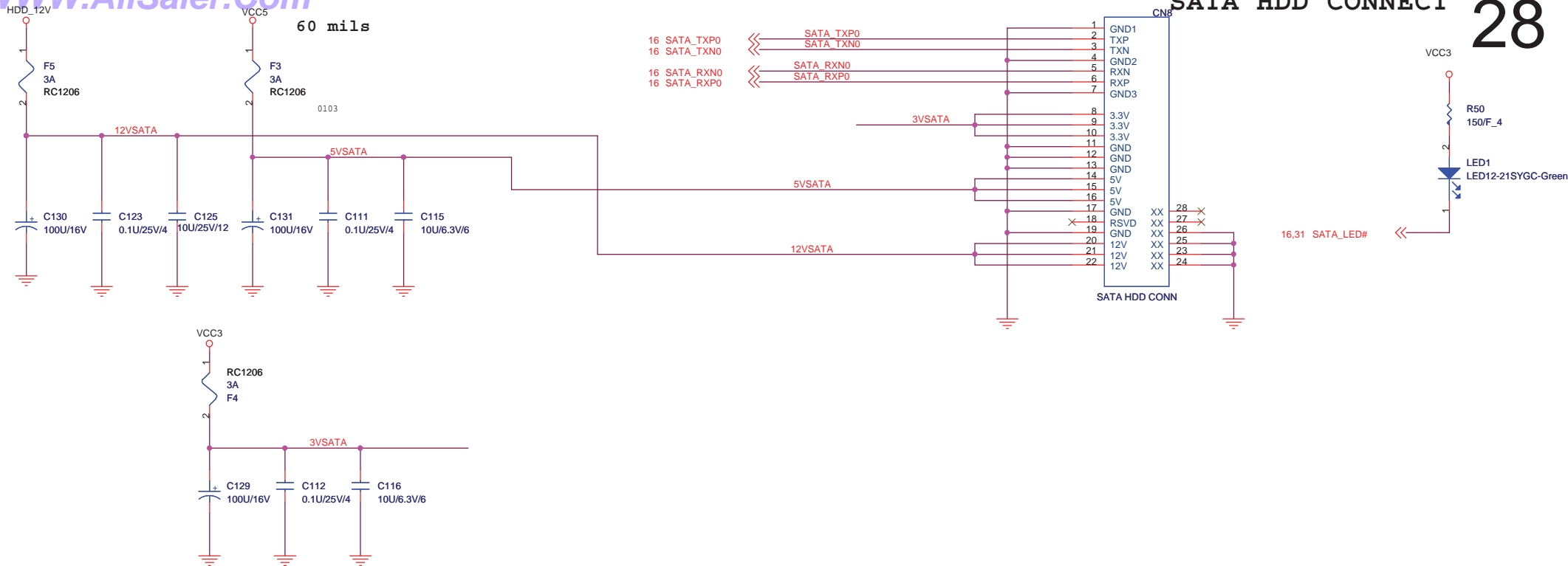
delete RV1-RV8



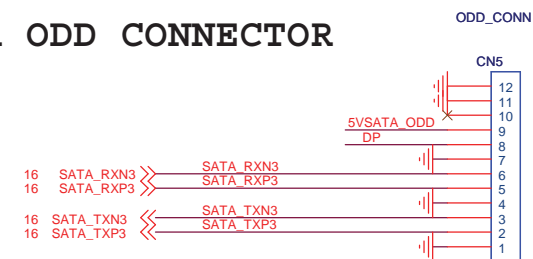






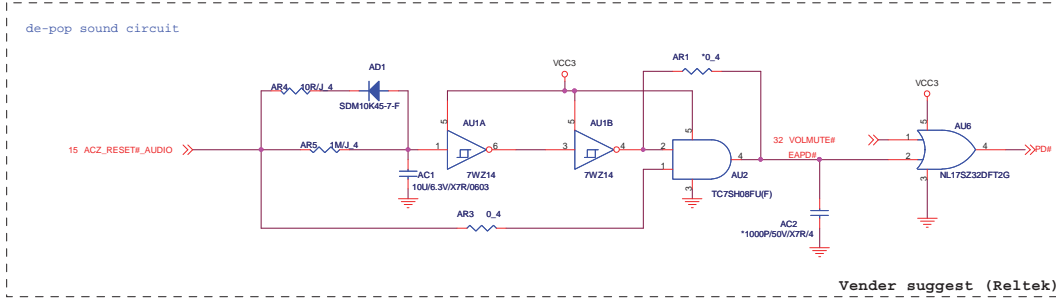
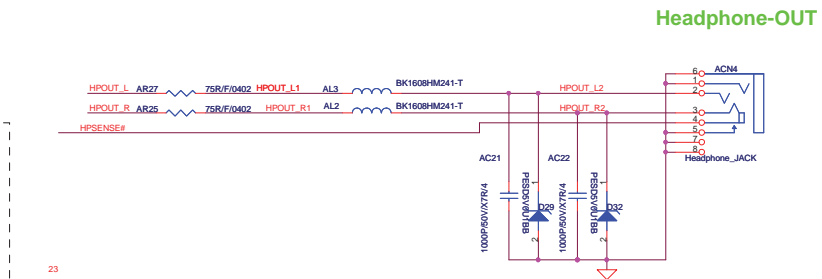
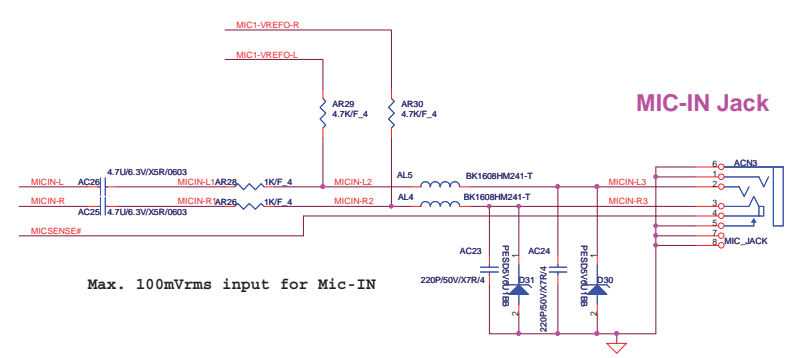
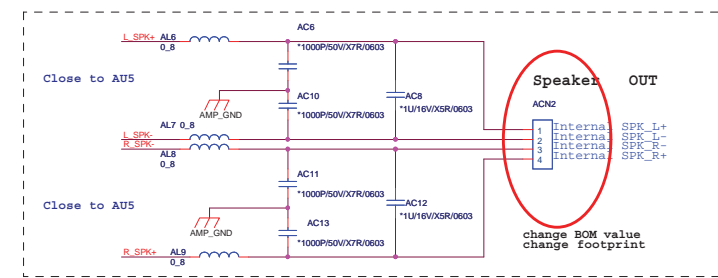
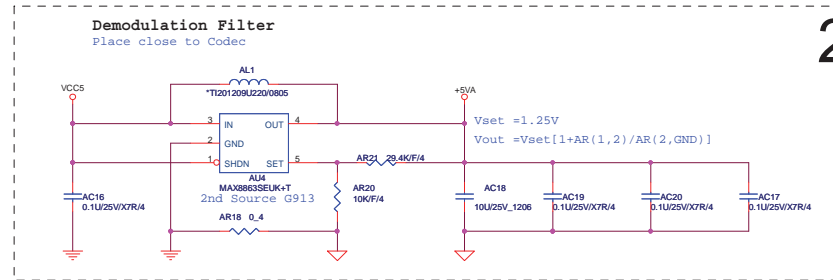
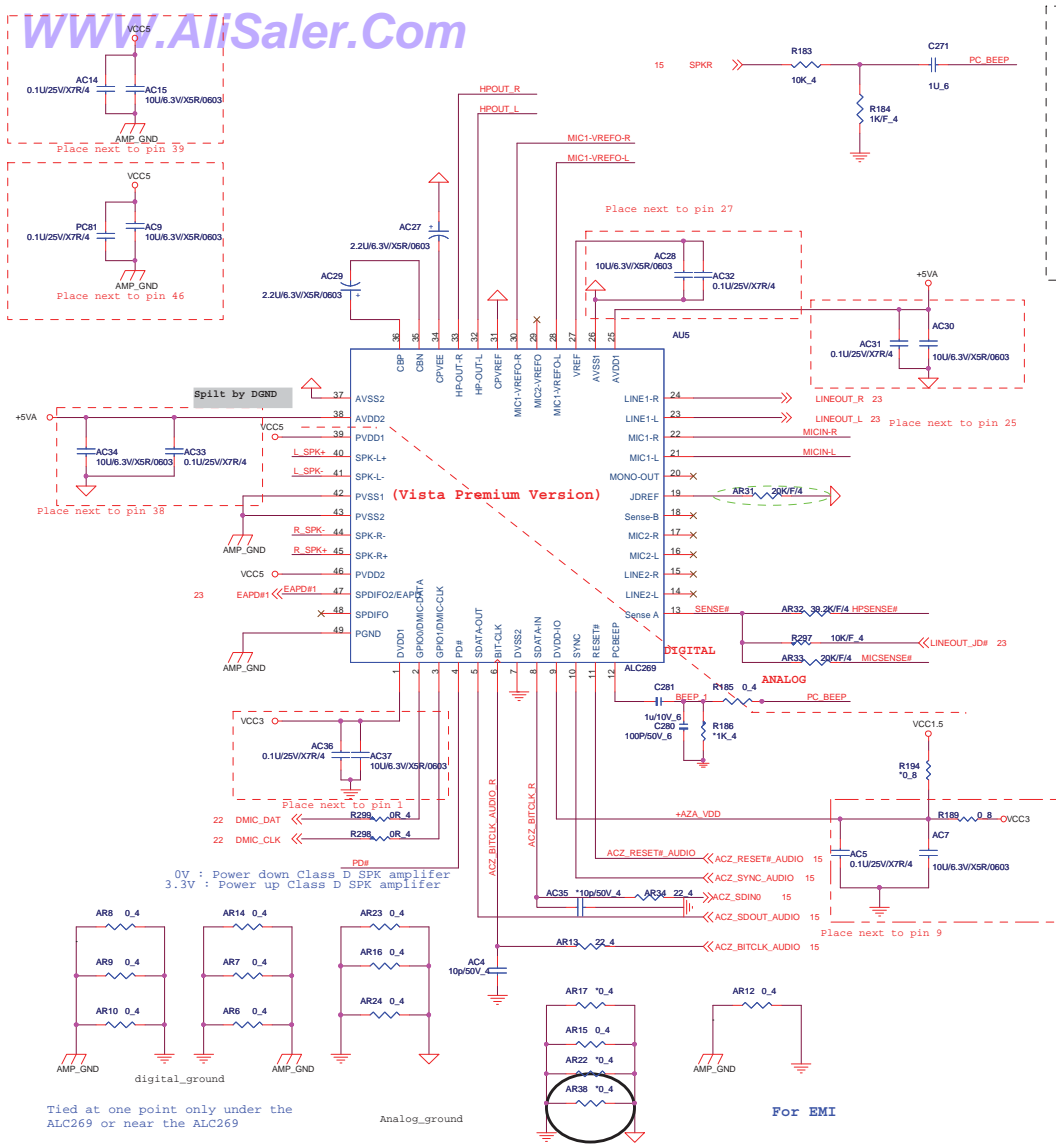


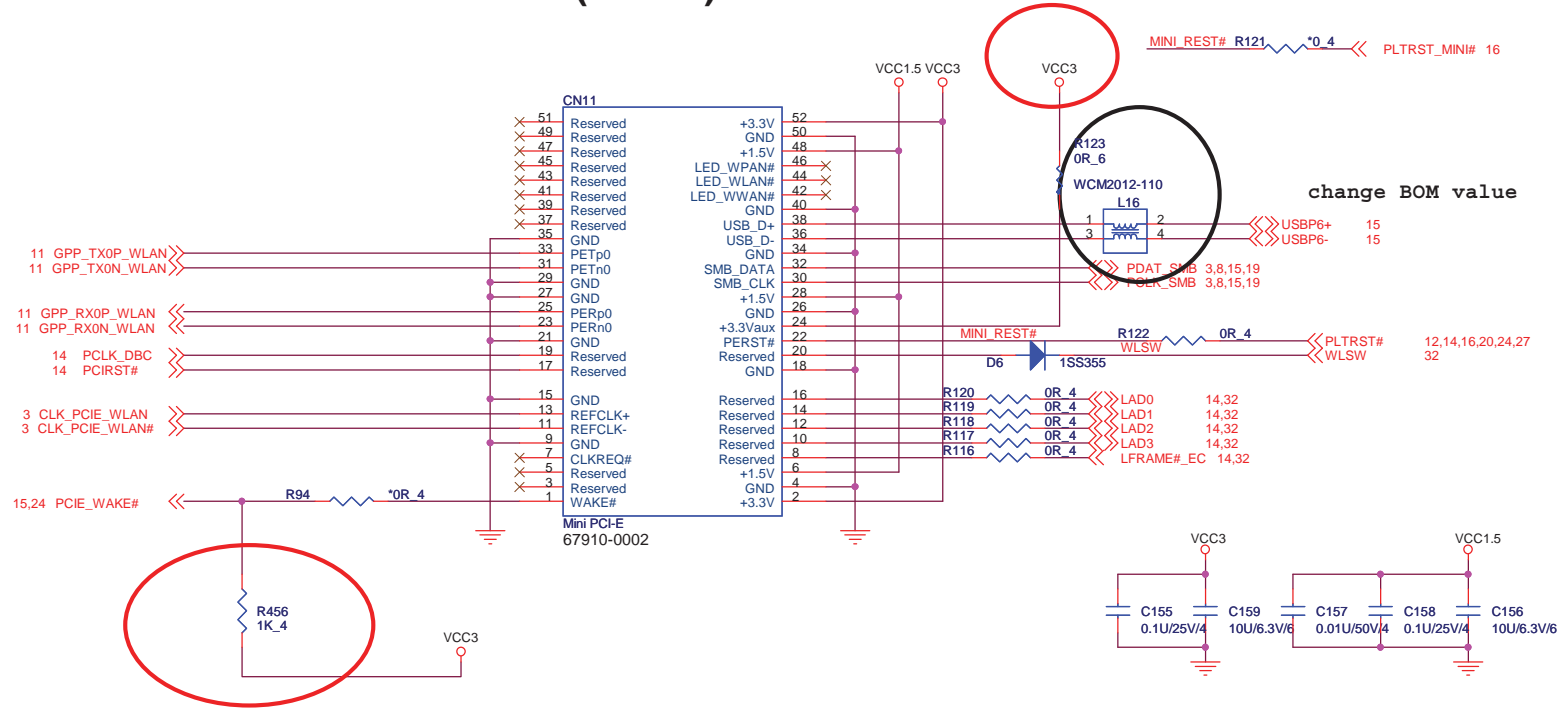
## SATA ODD CONNECTOR



**Quanta Computer Inc.**  
**PROJECT : ZN1**

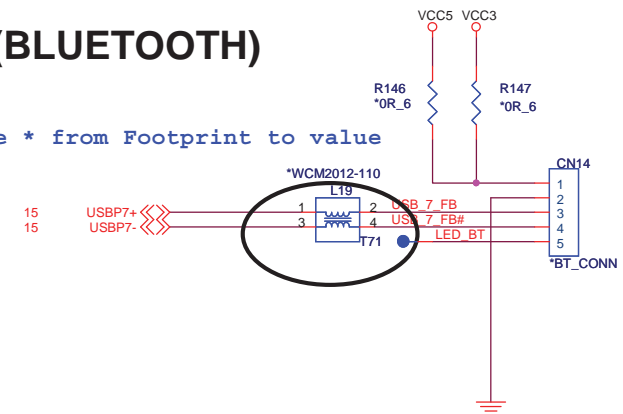
Size	Document Number	Rev
	<b>SATA HDD/ODD</b>	<b>A</b>
Date:	Friday, May 08, 2009	Sheet 28 of 41





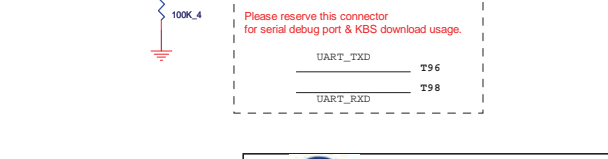
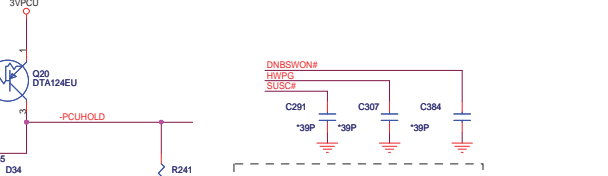
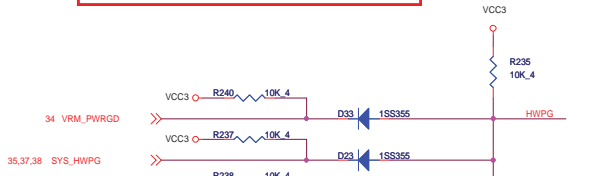
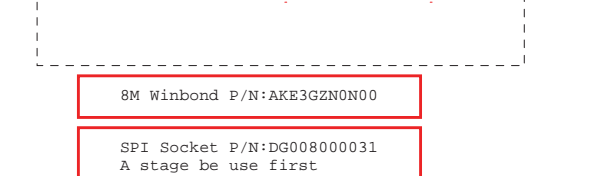
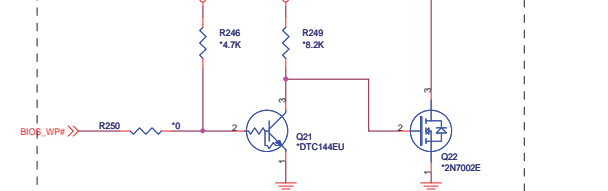
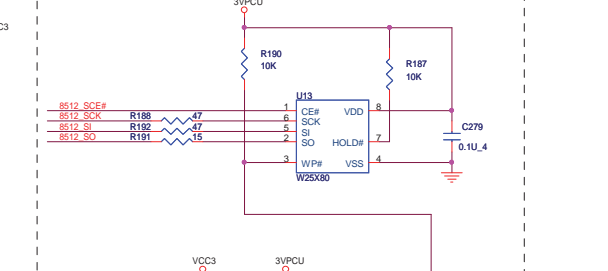
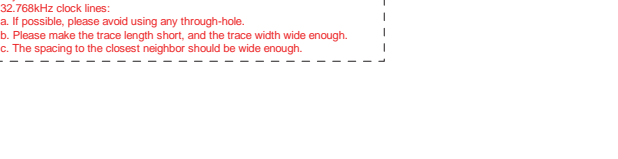
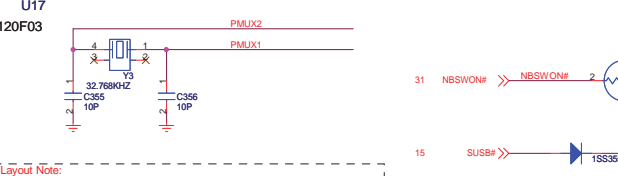
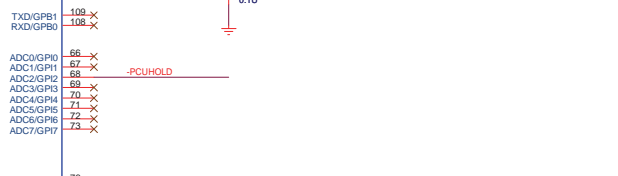
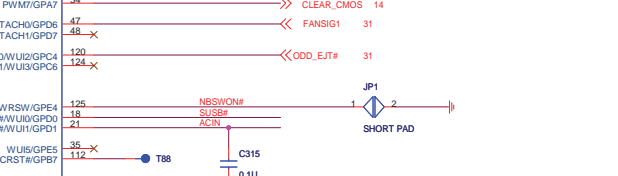
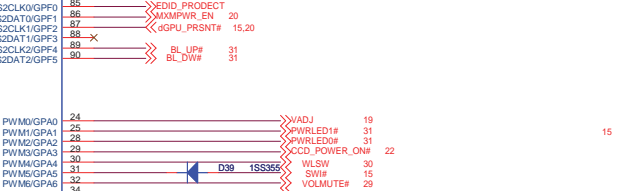
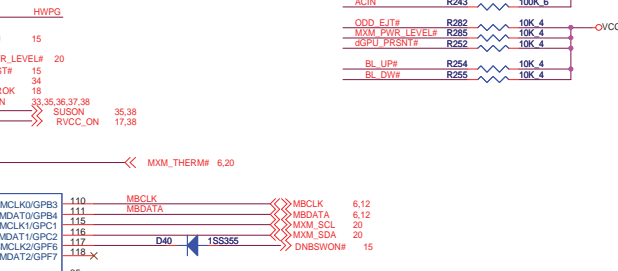
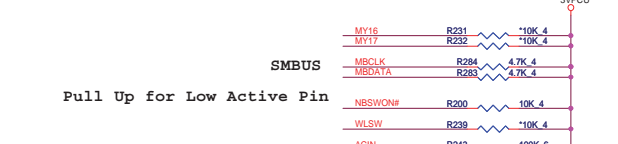
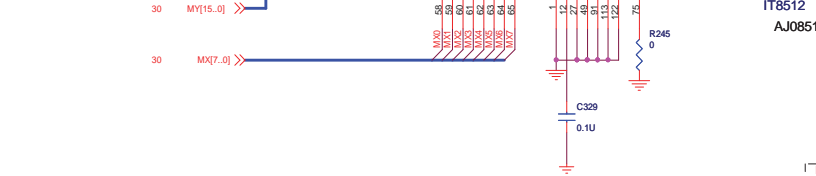
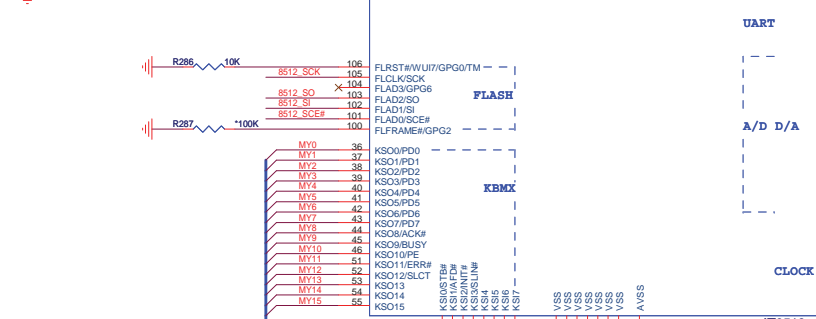
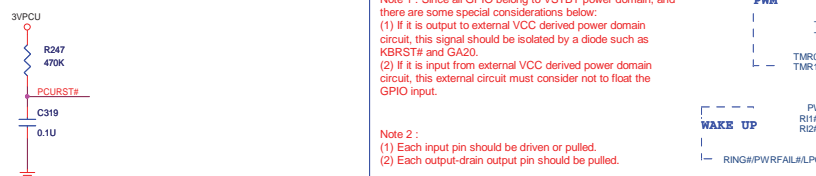
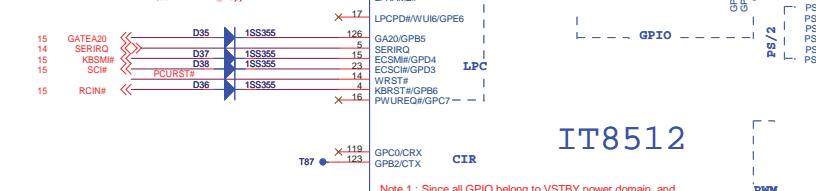
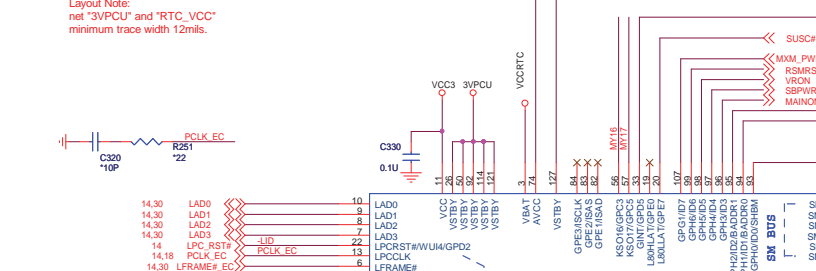
## USB(BLUETOOTH)

L19 change \* from Footprint to value



Change footprint  
change BOM value





Layout Note:  
32.768KHz clock lines:  
a. If possible, please avoid using any through-hole.  
b. Please make the trace length short, and the trace width wide enough.  
c. The spacing to the closest neighbor should be wide enough.

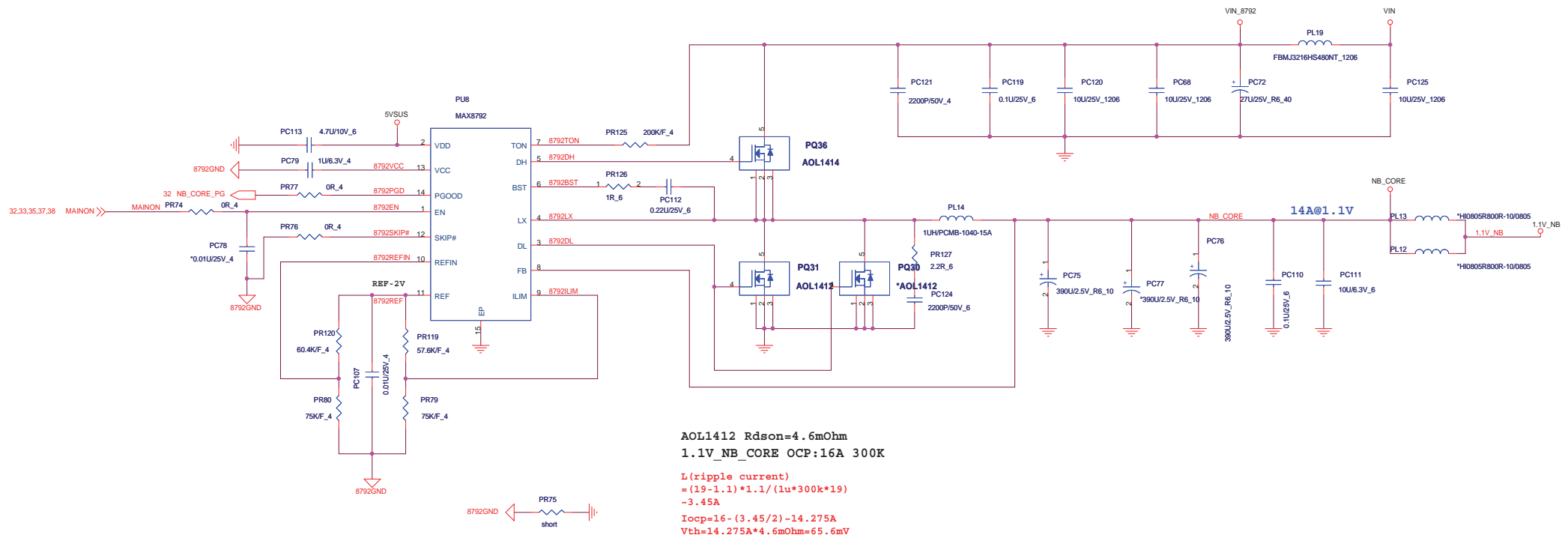
Layout Note:  
Place R471, R498, R534 within 500 mils from SPI Flash, place R567 within 500mils from R534;  
R520 within 500mils from R498 and R570 within 500mils from R471.



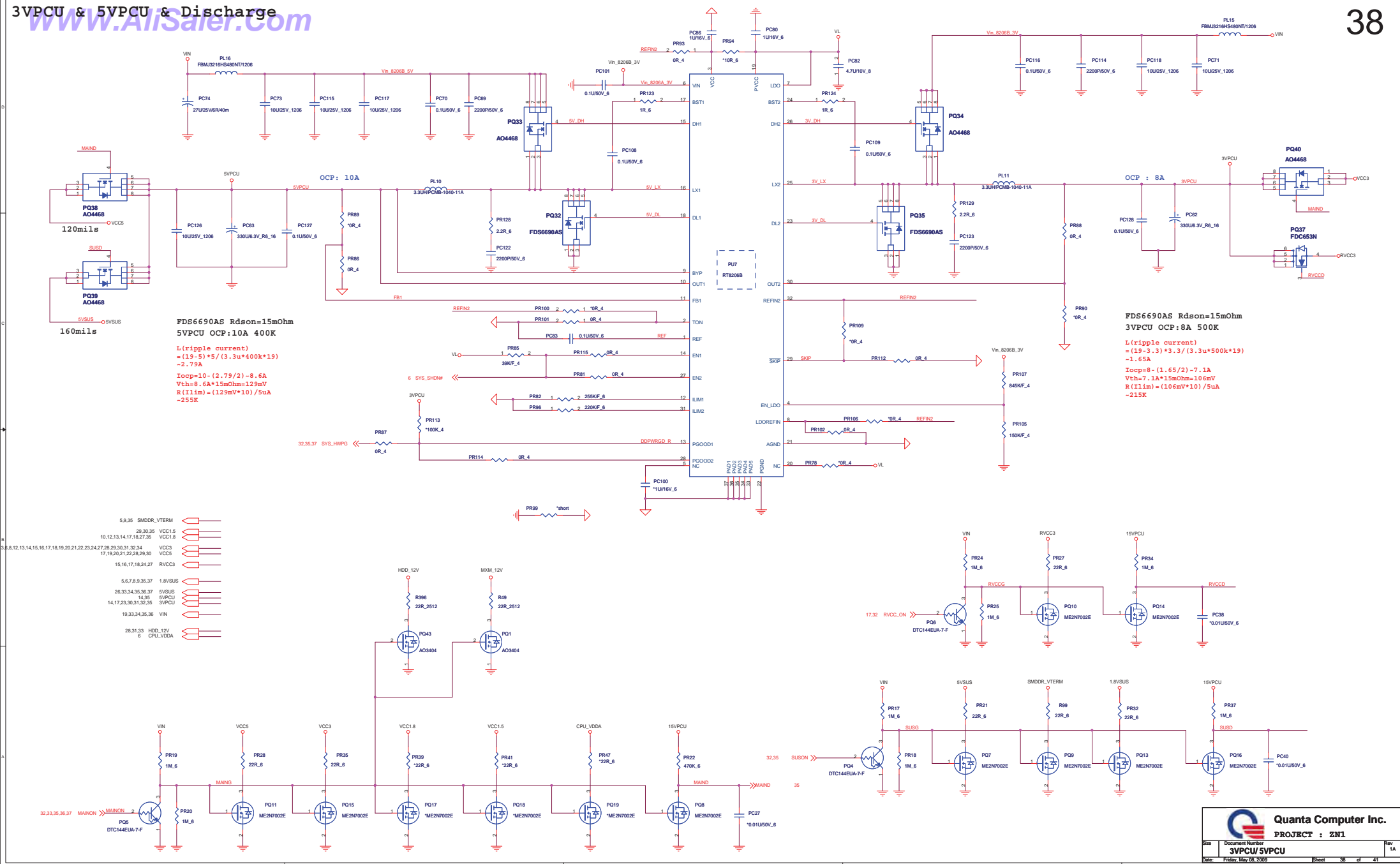


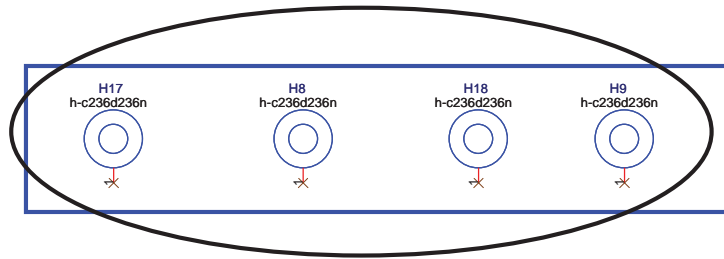




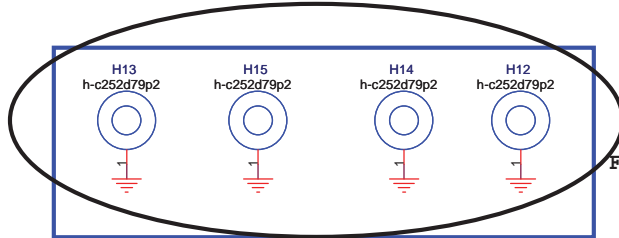




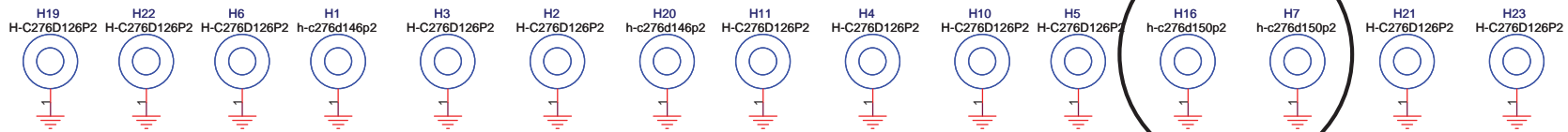




For cpu



For mini card



Quanta Computer Inc.

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DATE

Description

Note

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1.change RP1-RP9 to 47 ohm (AMD suggestion)----PAGE 3  
 2.add R448 10k to VCC3---PAGE 6  
 3.add R101 300ohm to 1.8VSUS---PAGE 6  
 4.add R449 10K ohm to VCC3---PAGE12  
 5.Reserve C612,C613,R441,Y6 to schematic---page14  
 6.add D59 and R446 10k to VCC3---page14  
 7.add R455,C621,C622 to schematic for EMI---page14  
 8.add write EDID rom net to control ---page15  
 9.delete R403 and R32 --page 15  
 10.change C91,c95 value to 33p---page 16  
 11.Add 2 short pin for clear cmos and clear password --page16  
 12.add R86 10k--page 18  
 13.delete D4,D5 ,C68 component and add R69 0ohm---page18  
 14.change netlist to SB control (write\_edid \_rom)and add R62 2.2k ohm--- page19  
 15.change Q8 control pin to main pin---page 20  
 16.change MXM reset from pltrst.---page20  
 17.add ine out mute function---page23  
     add component ar35,ar36,ar37,ac38,aq1,aq2,ad2,ad3,q34,q35,r450,r452--page23  
 18.delete Q26,c475 and change LANVCC net to RVCC3 to control ---page24  
 19.change C447,C448 to 33p---page 24  
 20.change CN13 footprint for LED pin change---page 25  
 21.add ESD protect RV17,RV19,RV13,RV15,RV14,RV16,  
     RV18,RV20,RV9,RV10,RV11,RV12---PAGE 26  
 22.Change CN25,CN26 footprint for ME---page26  
 23.add D18,D19 for XD detect and change net SD\_WP#/XD\_WP for SD write protect ---page27  
 24.change LED2 to Green type---page 27  
 25.change CN8 to rightangle and change odd connect to vertical type for ME---page 28  
 26.change au6 to OR-gate from AND-gate for pop sound---page 29  
 27.change fan control net from Vender suggestion.---page 31  
 28.add c614--618 0.1u for EMI--- page 31  
 29.add prl65 ,led3 for power line in ---page33  
 30.change VLDT\_ON net for power on sequence--PAGE 34  
 31.change prl37,prl38 type to BOM---page 34

B2B

33.LED RT value need to change



Quanta Computer Inc.

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[illegible]