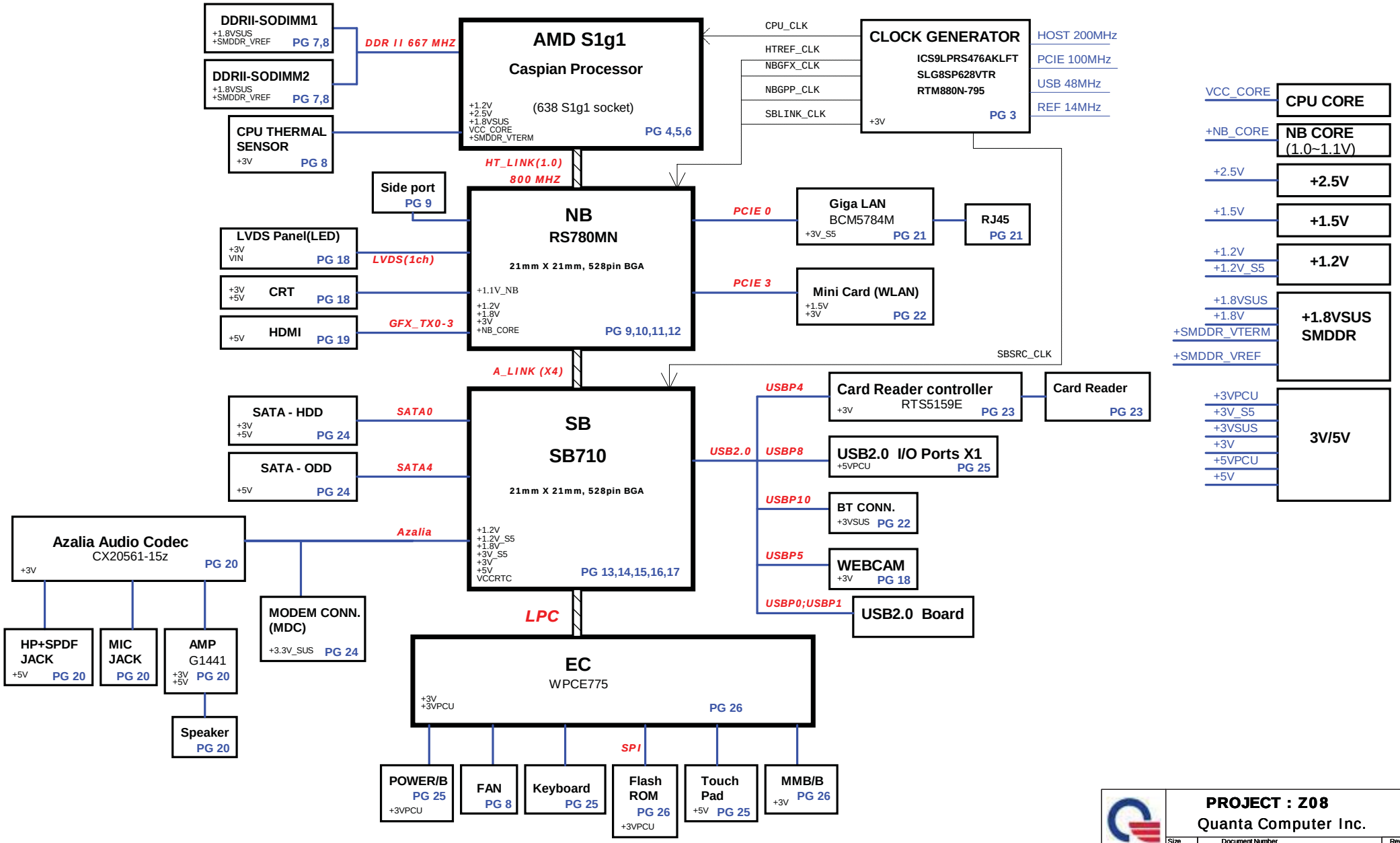
Z08 SYSTEM BLOCK DIAGRAM

01



PROJECT : Z08

Quanta Computer Inc.

Size	Document Number	Rev
	BLOCK DIAGRAM	1A
Date: Tuesday, April 28, 2009	Sheet 1 of 36	

Model	REV	DATE	CHANGE LIST	NOTE
HW	C1A	2009/04/09	1.Page 11: Exchange Pin define for LVDS ON & PWM. 2.Page 21: U20 Footprint change to trf-10-1-24p-nb4. 3.Page 16: L39 Footprint from RC0603 chenge to RC0805. 4.Page 21: R389,R425 P/N change to CS12204JA44. 5.Page 22: CN23 Footprint change to mipcie-as0b223-s40n-7f-52p-nb4.	
		2009/04/16	6.Page 23: R460 change to 33 ohm;C586 change to 10P for EMI.	
		2009/04/17	7.Page 26: Add Q37,Q38,R484,R485 for MMB leakage. And 3RD_MBCLK & 3RD_MBDATA pull high from +3V to +3VPCU.	
		2009/04/21	8.Page 26: Add CP8,CP9 for EMI. 9.Page 24: Remove R284;mount C347 for EMI. 10.Page 20: Remove R312;mount C365 for EMI. 11.Page 3: Mount C248 and change to 15P for EMI. 12.Page 23: Remove R295;Mount C358 and change to 15P for EMI. 13.Page 12: Add C597,C598 30P (+NB_CORE) for EMI. Add C599,C600 30P (+1.2V_VDDHTTX) for EMI. Add C601,C602 30P (+1.2V) for EMI. 14.R120,R112,R388,R116,R387 change to short pad_0402.	
		2009/04/22	15.Page 19: Del Q20,Q21,R196,R204;add R486,R487 for AMD suggestion. 16.Page 18: CN2 footprint from msc-rb30-5-fg-30p-l to msc-rb30-5-fg-30p-l-nb4. 17.R8,R10,R214,R216,R437,R200,R28,R4,R419,R266,R265,R275,R287,R293, R314,R319,R325,R332,R334,R258,R283,R146,R148,R198 change to short pad_0402. 18.R106,R79,R117,R118,R480,R267,R482,L1 change to short pad_0603. 19.R105,R438,R223,R249,R29,R181,L21 change to short pad_0805.	
		2009/04/23	20.Page 19:Modify HDMI detect circuit_Del R174,R447,R441,Q35,Q36,R442;add R312,R488,D31. 21.Page 18:U2 pin7 modify voltage from +5V to +3V. 22.Page 26:Swap NET CP8,CP9.	
		2009/04/27	23.Page 20:Mount U14,C435,C418;unmount L47 for Audio noise issue.	
		2009/04/28	24.Page 26:Modify Y1 Footprint.	
Power		2009/04/10	1.Page27：Mount PR141(10K ohm) for Charger Issue. 2.Page32：Change Z08A PU5 part number from AL009338014 to AL009334000. 3.Page32：Change PC77 from 10u/4V_8 to 10u/10V_8. 4.PL5,PL8,PL10,PL11 Footprint change to choke-etqp4lr36wfc-nb4.	
		2009/04/17	5.page27: 1.add PC163 2.PR110,PR139,PR149 change to short pad 3.PR141 un-mount 6.page28: 1.PR87,PR90,PR106,PR190,PR91 change to short pad. 2.JP2,JP3 remove 3.PR92 un-mount 4.PR101 mount 7.page29: 1.JP4,JP5 remove 2.PR44,PR43,PR18,PR19,PR128,PR131, PR117,PR5 change to short pad. 3.add PC164,PC165 4.add PR197,PR196 8.page30: 1.Remove JP8,JP9 9.page31: 1.Remove JP1,JP6,JP7 2.PR35,PR41,PR155,PR148 change to short pad. 3.+1.8VSUS_SRC net name change to +1.8VSUS 4.VIN_1.8 net name change to VIN. 5.+1.8V_out net name change to +1.8VSUS	
		2009/04/22	10.PL3,PL7 Footprint change to choke-spm10040t-r45m200-4p.	
		2009/04/23	11.page28: Del NET RT8206_VIN. 12.page29: Add PC166 27uF/25V to VIN.	
		2009/04/27	13.page28: Modify component from AO4496 to AO6402A..	

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Quanta Computer Inc.
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CLK_GEN_SLG8SP628(CLK)

03

SLG8SP628 P/N : AL8SP628000

ICS9LPRS480 P/N : ALPRS480000

RTM880N-796 P/N : AL000880000

Clock chip has internal serial terminations for differencial pairs, external resistors are reserved for debug purpose.

change to short pad 4/22

Place within 0.5" of CLKGEN

3/10 Modify for AMD suggestion.

4/21 Mount C248 and change to 15P for EMI.

0226 Modify for AMD suggestion.

CLOCKS name	RX780	RS780	Clock pin function
NBGFX_CLKP NBGFX_CLKN	RP1001 STUFF	RP1001 STUFF	to NB for VGA reference clock
MXM_REFCLKP MXM_REFCLKN	RP66 STUFF	RP66 NC	to M82-S external reference clock -RX780 only
NBGPP_CLKP NBGPP_CLKN	RP1005 STUFF	RP1005 NC	to NB for RX780 for PCIEX2 interface reference clock only RS780 is internal share with AC-LINK clock,RS780 not need
SBLINK_CLKP SBLINK_CLKN	RP1003 STUFF	RP1003 STUFF	to NB for AC-LINK reference clock

NB CLOCK INPUT TABLE

NB CLOCKS	RX780	RS780
HT_REFCLKP	100M DIFF	100M DIFF
HT_REFCLKN	100M DIFF	100M DIFF
REFCLK_P	14M SE (1.8V)	14M SE (1.1V)
REFCLK_N	NC	vref
GFX_REFCLK	100M DIFF	100M DIFF(IN/OUT)*
GPP_REFCLK	100M DIFF	NC or 100M DIFF OUTPUT
GPPSB_REFCLK	100M DIFF	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

PROJECT : Z08

Quanta Computer Inc.

Size	Document Number	Rev
	CLOCK GENERATOR_SLG8SP628	1A
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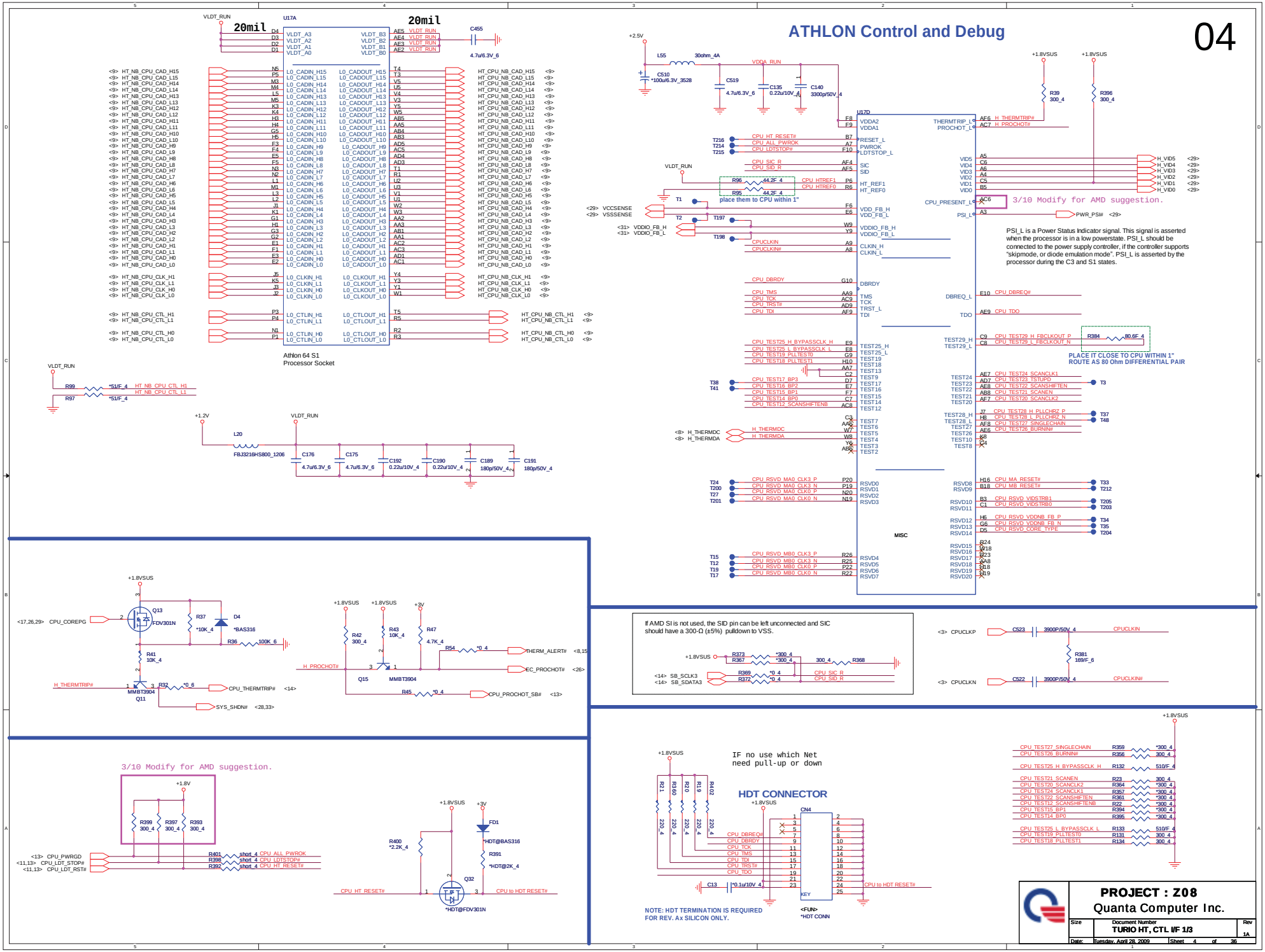
ATHLON Control and Debug

04



Processor DDR2 Memory Interface

05

PLACE THEM CLOSE TO CPU WITHIN 1"

15-20mil

20-200mil

To SODIMM socket B (Far)

To SODIMM socket A (near)

U17B

DDR II: CMD/CTRL/CLK
Athlon 64 S1
Processor Socket

U17C

DDR: DATA
Athlon 64 S1
Processor Socket

PROJECT : Z08
Quanta Computer Inc.

Size	Document Number	Rev
	TURION 64 DDRII I/F	1A
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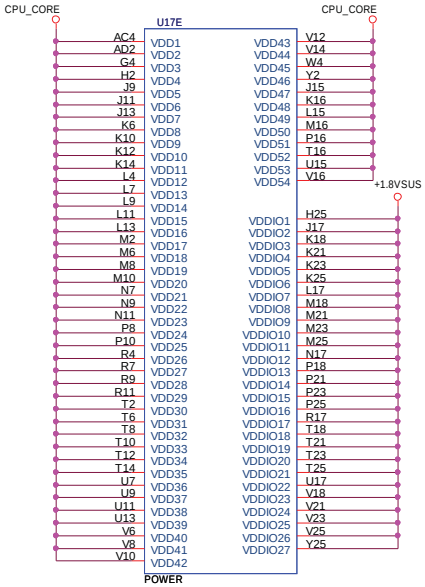
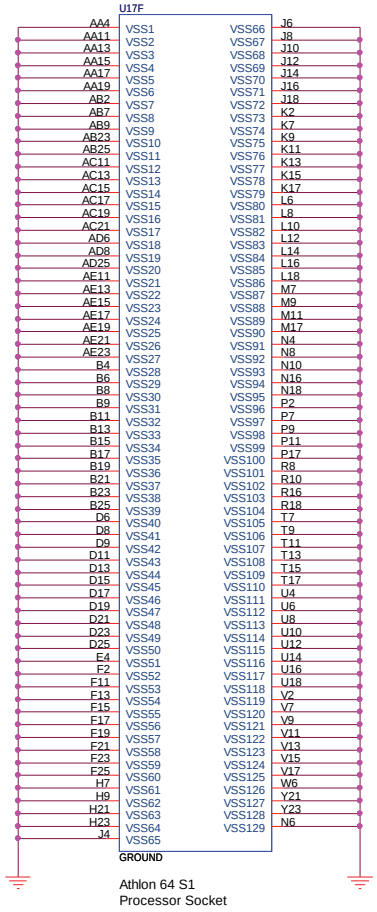
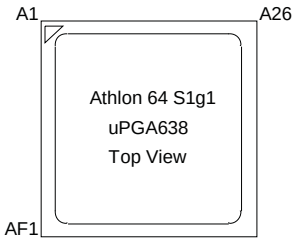
PROCESSOR POWER AND GROUND

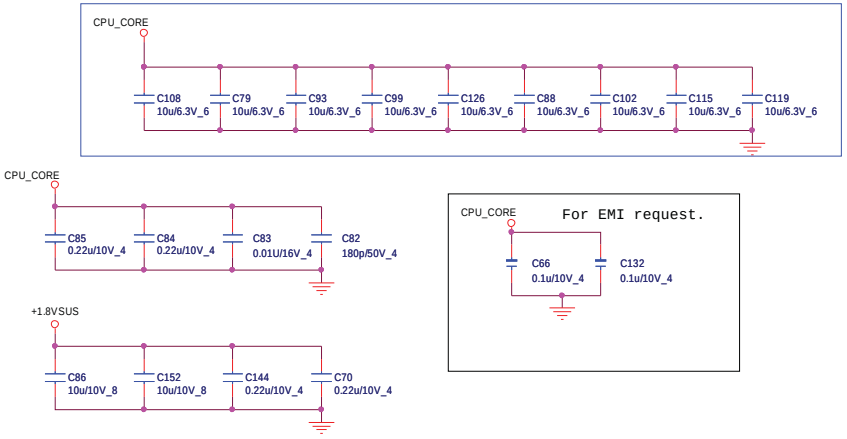
06



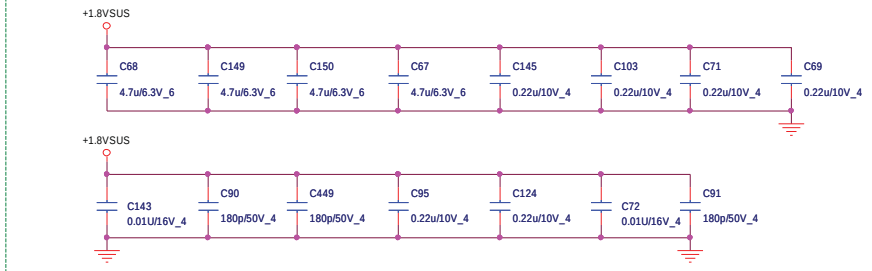


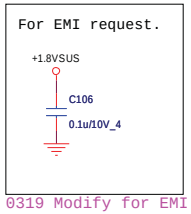


BOTTOMSIDE DECOUPLING



DECOUPLING BETWEEN PROCESSOR AND DIMMs
PLACE CLOSE TO PROCESSOR AS POSSIBLE





0319 Modify for EMI.

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Quanta Computer Inc.

Size	Document Number	Rev
	TURION 64 PWR & GND	1A
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Follow AMD schematic, change DIMM2 SPD Address from 0xA4 to 0xA2

+1.8VSUS

<5,8> MEM_MA_ADD[0..15]

<5,8> MEM_MA_BANK[0..2]

<5> MEM_MA_DM[0..7]

REVERSE

SPD Address:0xA0

SO-DIMM

(H=5.2)

CN13

TYC_1-1734074-1_5.2

<5,8> MEM_MB_ADD[0..15]

MEM_MA_DATA[0..63] <5>

<5,8> MEM_MB_BANK[0..2]

<5> MEM_MB_DM[0..7]

REVERSE

SPD Address:0xA2

SO-DIMM

(H=9.2)

CN14

TYC_2-1734073-2_9.2

MEM_MB_DATA[0..63] <5>

Only for reserved

change to short pad 4/21

change to short pad 4/22

SA_A : '0' ,'0'

SMbus address A0

SA_B : '0','1'

SMbus address A2

1.This part should not contain any substances which are specified in SS-00259-1

2.Purchase ink, paint, wire rods and molding resins only from the business partners that Sony approves as Green Partners.

PROJECT : Z08

Quanta Computer Inc.

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	DDRII SODIMM X 2	1A
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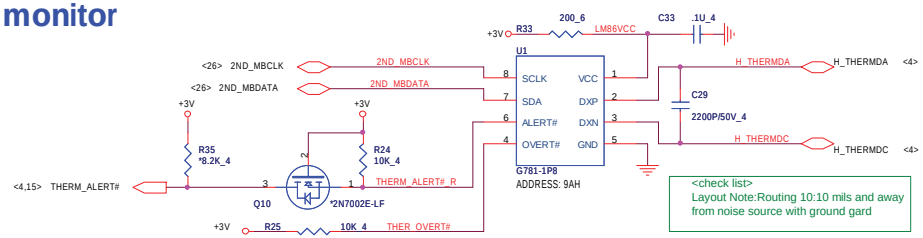
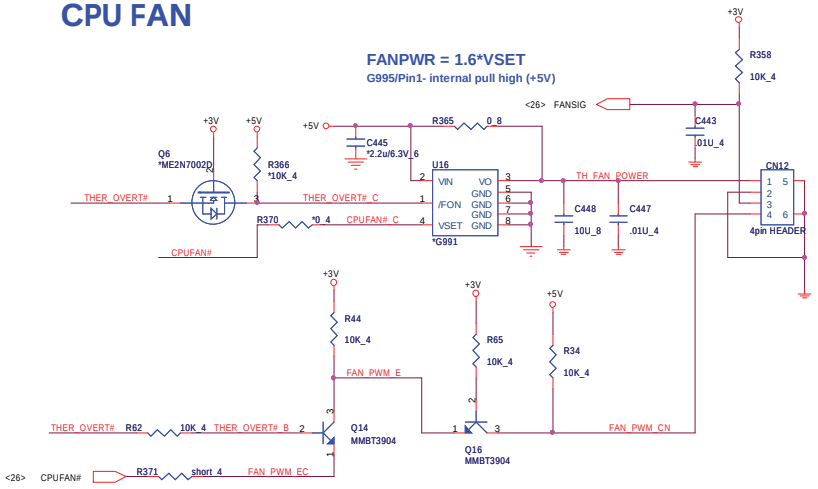
08

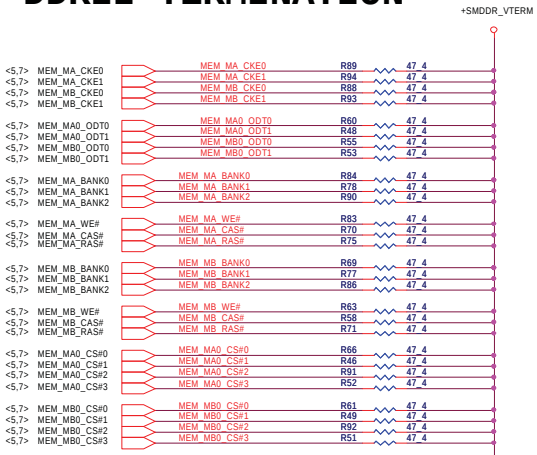
CPU Thermal monitor

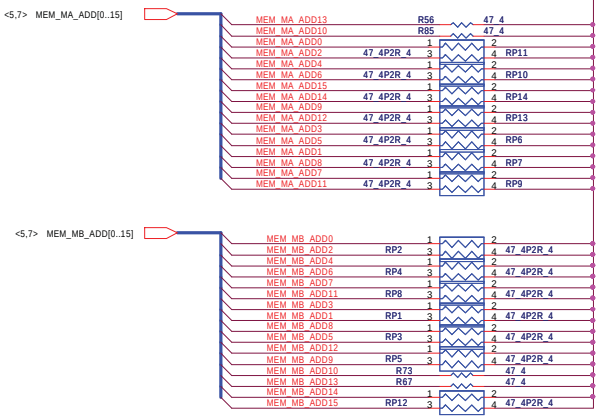


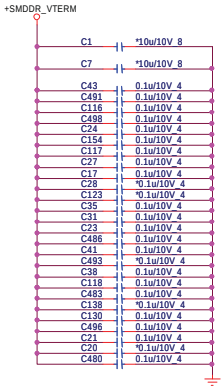
CPU FAN

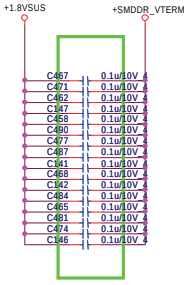


DDRII TERMINATION









Please put the CAP between +1.8VSUS & +SMDDR_VTERM

	PROJECT : Z08 Quanta Computer Inc.	
Size	Document Number DDRII TERMINATION/THM/FAN	Rev 1A
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42479_rs780_scl_nda_1.03.doc

9-2	HT_RXCALP, HT_RXCALN	RS740: HT_RXCALP connected to GND through a 49.9-Ω 1% resistor. HT_RXCALN connected to VDDHTTX through a 49.9-Ω 1% resistor. RS780: Connected together through a 301-Ω 1% resistor. RX780: Connected together through a 1.21-kΩ 1% resistor.
9-3	HT_TXCALP, HT_TXCALN	RS740: Connected together through a 100-Ω 1% resistor. RS780: Connected together through a 301-Ω 1% resistor. RX780: Connected together through a 1.21-kΩ 1% resistor.

signals	RS780	RX780
HT_TXCALP	R641 300 ohm 1%	R641 1.21k ohm 1%
HT_TXCALN		
HT_RXCALP	R655 300 ohm 1%	R655 1.21k ohm 1%
HT_RXCALN		

RES CHIP 1.21K 1/16W +-1%(0402)
P/N : CS21212FB18

RES CHIP 300 1/16W +-1%(0402)
P/N : CS13002FB00

U18A PART 1 OF 6 HYPER TRANSPORT CPU I/F

HT_CPU_NB_CAD_H[15..0] <4>
HT_CPU_NB_CAD_L[15..0] <4>
HT_CPU_NB_CLK_H[1..0] <4>
HT_CPU_NB_CLK_L[1..0] <4>
HT_CPU_NB_CTL_H[1..0] <4>
HT_CPU_NB_CTL_L[1..0] <4>
HT_NB_CPU_CAD_H[15..0] <4>
HT_NB_CPU_CAD_L[15..0] <4>
HT_NB_CPU_CLK_H[1..0] <4>
HT_NB_CPU_CLK_L[1..0] <4>
HT_NB_CPU_CTL_H[1..0] <4>
HT_NB_CPU_CTL_L[1..0] <4>

HT_CPU_NB_CAD_H0 Y25 HT_RXCAD0P
HT_CPU_NB_CAD_L0 Y24 HT_RXCAD0N
HT_CPU_NB_CAD_H1 V22 HT_RXCAD1P
HT_CPU_NB_CAD_L1 V23 HT_RXCAD1N
HT_CPU_NB_CAD_H2 V25 HT_RXCAD2P
HT_CPU_NB_CAD_L2 V24 HT_RXCAD2N
HT_CPU_NB_CAD_H3 U24 HT_RXCAD3P
HT_CPU_NB_CAD_L3 U25 HT_RXCAD3N
HT_CPU_NB_CAD_H4 T25 HT_RXCAD4P
HT_CPU_NB_CAD_L4 T24 HT_RXCAD4N
HT_CPU_NB_CAD_H5 P22 HT_RXCAD5P
HT_CPU_NB_CAD_L5 P23 HT_RXCAD5N
HT_CPU_NB_CAD_H6 P25 HT_RXCAD6P
HT_CPU_NB_CAD_L6 P24 HT_RXCAD6N
HT_CPU_NB_CAD_H7 N24 HT_RXCAD7P
HT_CPU_NB_CAD_L7 N25 HT_RXCAD7N
HT_CPU_NB_CAD_H8 AC24 HT_RXCAD8P
HT_CPU_NB_CAD_L8 AC25 HT_RXCAD8N
HT_CPU_NB_CAD_H9 AB25 HT_RXCAD9P
HT_CPU_NB_CAD_L9 AB24 HT_RXCAD9N
HT_CPU_NB_CAD_H10 AA24 HT_RXCAD10P
HT_CPU_NB_CAD_L10 AA25 HT_RXCAD10N
HT_CPU_NB_CAD_H11 Y22 HT_RXCAD11P
HT_CPU_NB_CAD_L11 Y23 HT_RXCAD11N
HT_CPU_NB_CAD_H12 W21 HT_RXCAD12P
HT_CPU_NB_CAD_L12 W20 HT_RXCAD12N
HT_CPU_NB_CAD_H13 V21 HT_RXCAD13P
HT_CPU_NB_CAD_L13 V20 HT_RXCAD13N
HT_CPU_NB_CAD_H14 U20 HT_RXCAD14P
HT_CPU_NB_CAD_L14 U21 HT_RXCAD14N
HT_CPU_NB_CAD_H15 U19 HT_RXCAD15P
HT_CPU_NB_CAD_L15 U18 HT_RXCAD15N
HT_CPU_NB_CLK_H0 T22 HT_RXCLK0P
HT_CPU_NB_CLK_L0 T23 HT_RXCLK0N
HT_CPU_NB_CLK_H1 AB23 HT_RXCLK1P
HT_CPU_NB_CLK_L1 AA22 HT_RXCLK1N
HT_CPU_NB_CTL_H0 M22 HT_RXCTL0P
HT_CPU_NB_CTL_L0 M23 HT_RXCTL0N
HT_CPU_NB_CTL_H1 R21 HT_RXCTL1P
HT_CPU_NB_CTL_L1 R20 HT_RXCTL1N
HT_RXCALP C23
HT_RXCALN A24
R379 301/F_4 R655
HT_TXCALP B24
HT_TXCALN B25
R380 301/F_4 R641
RS780MN

HT_TXCAD0P D24 HT_NB_CPU_CAD_H0
HT_TXCAD0N D25 HT_NB_CPU_CAD_L0
HT_TXCAD1P E24 HT_NB_CPU_CAD_H1
HT_TXCAD1N E25 HT_NB_CPU_CAD_L1
HT_TXCAD2P F24 HT_NB_CPU_CAD_H2
HT_TXCAD2N F25 HT_NB_CPU_CAD_L2
HT_TXCAD3P F23 HT_NB_CPU_CAD_H3
HT_TXCAD3N F22 HT_NB_CPU_CAD_L3
HT_TXCAD4P H23 HT_NB_CPU_CAD_H4
HT_TXCAD4N H22 HT_NB_CPU_CAD_L4
HT_TXCAD5P J25 HT_NB_CPU_CAD_H5
HT_TXCAD5N J24 HT_NB_CPU_CAD_L5
HT_TXCAD6P K24 HT_NB_CPU_CAD_H6
HT_TXCAD6N K25 HT_NB_CPU_CAD_L6
HT_TXCAD7P K23 HT_NB_CPU_CAD_H7
HT_TXCAD7N K22 HT_NB_CPU_CAD_L7
HT_TXCAD8P F21 HT_NB_CPU_CAD_H8
HT_TXCAD8N G21 HT_NB_CPU_CAD_L8
HT_TXCAD9P G20 HT_NB_CPU_CAD_H9
HT_TXCAD9N H21 HT_NB_CPU_CAD_L9
HT_TXCAD10P J20 HT_NB_CPU_CAD_H10
HT_TXCAD10N J21 HT_NB_CPU_CAD_L10
HT_TXCAD11P J18 HT_NB_CPU_CAD_H11
HT_TXCAD11N K17 HT_NB_CPU_CAD_L11
HT_TXCAD12P L19 HT_NB_CPU_CAD_H12
HT_TXCAD12N J19 HT_NB_CPU_CAD_L12
HT_TXCAD13P M19 HT_NB_CPU_CAD_H13
HT_TXCAD13N L18 HT_NB_CPU_CAD_L13
HT_TXCAD14P M21 HT_NB_CPU_CAD_H14
HT_TXCAD14N P21 HT_NB_CPU_CAD_L14
HT_TXCAD15P P18 HT_NB_CPU_CAD_H15
HT_TXCAD15N M18 HT_NB_CPU_CAD_L15
HT_TXCLK0P H24 HT_NB_CPU_CLK_H0
HT_TXCLK0N H25 HT_NB_CPU_CLK_L0
HT_TXCLK1P L21 HT_NB_CPU_CLK_H1
HT_TXCLK1N L20 HT_NB_CPU_CLK_L1
HT_TXCTL0P M24 HT_NB_CPU_CTL_H0
HT_TXCTL0N M25 HT_NB_CPU_CTL_L0
HT_TXCTL1P P19 HT_NB_CPU_CTL_H1
HT_TXCTL1N R18 HT_NB_CPU_CTL_L1
HT_TXCALP
HT_TXCALN

U18D PAR 4 OF 6 SBD_MEM/DVO_I/F

VMA_MA0_IV AB12 MEM_A0(NC)
VMA_MA1_IV AE16 MEM_A1(NC)
VMA_MA2_IV V11 MEM_A2(NC)
VMA_MA3_IV AE15 MEM_A3(NC)
VMA_MA4_IV AA12 MEM_A4(NC)
VMA_MA5_IV AB16 MEM_A5(NC)
VMA_MA6_IV AB14 MEM_A6(NC)
VMA_MA7_IV AD14 MEM_A7(NC)
VMA_MA8_IV AD13 MEM_A8(NC)
VMA_MA9_IV AD15 MEM_A9(NC)
VMA_MA10_IV AC16 MEM_A10(NC)
VMA_MA11_IV AE13 MEM_A11(NC)
VMA_MA12_IV AC14 MEM_A12(NC)
T21 Y14 MEM_A13(NC)
VMA_BA0_IV AD16 MEM_BA0(NC)
VMA_BA1_IV AE17 MEM_BA1(NC)
VMA_BA2_IV AD17 MEM_BA2(NC)
VMA_RAS#_IV W12 MEM_RASb(NC)
VMA_CAS#_IV Y12 MEM_CASb(NC)
VMA_WE#_IV AD18 MEM_WEb(NC)
VMA_CS0#_IV AB13 MEM_CSb(NC)
VMA_CKE_IV AB18 MEM_CKE(NC)
VMA_ODT_IV V14 MEM_ODT(NC)
VMA_CLK0_IV V15 MEM_CKP(NC)
VMA_CLK0#_IV W14 MEM_CKN(NC)
R81 40.2/F_4 SPM_COMPP AE12 MEM_COMPP(NC)
R76 40.2/F_4 SPM_COMPN AD12 MEM_COMPN(NC)
+1.8V

MEM_DQ0/DVO_VSYNC(NC) AA18 VMA_DQ0_IV
MEM_DQ1/DVO_HSYNC(NC) AA20 VMA_DQ1_IV
MEM_DQ2/DVO_DE(NC) AA19 VMA_DQ2_IV
MEM_DQ3/DVO_D0(NC) Y19 VMA_DQ3_IV
MEM_DQ4(NC) V17 VMA_DQ4_IV
MEM_DQ5/DVO_D1(NC) AA17 VMA_DQ5_IV
MEM_DQ6/DVO_D2(NC) AA15 VMA_DQ6_IV
MEM_DQ7/DVO_D4(NC) Y15 VMA_DQ7_IV
MEM_DQ8/DVO_D3(NC) AC20 VMA_DQ8_IV
MEM_DQ9/DVO_D5(NC) AD19 VMA_DQ9_IV
MEM_DQ10/DVO_D6(NC) AE22 VMA_DQ10_IV
MEM_DQ11/DVO_D7(NC) AC18 VMA_DQ11_IV
MEM_DQ12(NC) AB20 VMA_DQ12_IV
MEM_DQ13/DVO_D9(NC) AD22 VMA_DQ13_IV
MEM_DQ14/DVO_D10(NC) AC22 VMA_DQ14_IV
MEM_DQ15/DVO_D11(NC) AD21 VMA_DQ15_IV
MEM_DQS0P/DVO_IDCKP(NC) Y17 VMA_WDQS0_IV
MEM_DQS0N/DVO_IDCKN(NC) W18 VMA_RDQS0_IV
MEM_DQS1P(NC) AD20 VMA_WDQS1_IV
MEM_DQS1N(NC) AE21 VMA_RDQS1_IV
MEM_DM0(NC) W17 VMA_DM0_IV
MEM_DM1/DVO_D8(NC) AE19 VMA_DM1_IV
IOPLLVDD18(NC) AE23 +1.8_IOPLLVDD18_NB
IOPLLVDD(NC) AE24 +1.1V_IOPLLVDD
IOPLLVSS(NC) AD23
MEM_VREF(NC) AE18 VMREFA1
RS780MN

IOPLLVDD- memory PLL
not applicable to RX780

+1.8V +1.1V_NB
0226 Modify for AMD suggestion.
L5 SPM@BLM21PG221SN1D L3 SPM@BLM21PG221SN1D
C63 SPM@2.2u/6.3V_6 C57 SPM@2.2u/6.3V_6

VMREFA1 R74 SPM@1K/F_4 +1.8V_VDD_MEM
R82 SPM@1K/F_4
C77 SPM@0.1u/10V_4
0318 Modify for AMD suggestion.

SPM(CLG)

VMA_CLK0_IV R40 *SPM@100/F_4 VMA_CLK0#_IV

U15 SPM@K4N1G164QQ-HC25

VMA_DQ15_IV B9 UDQ7
VMA_DQ9_IV B1 UDQ6
VMA_DQ13_IV D9 UDQ5
VMA_DQ11_IV D1 UDQ4
VMA_DQ8_IV D3 UDQ3
VMA_DQ10_IV D7 UDQ2
VMA_DQ12_IV C2 UDQ1
VMA_DQ14_IV C8 UDQ0
VMA_DQ1_IV F9 LDQ7
VMA_DQ7_IV F1 LDQ6
VMA_DQ3_IV H9 LDQ5
VMA_DQ4_IV H1 LDQ4
VMA_DQ5_IV H3 LDQ3
VMA_DQ0_IV H7 LDQ2
VMA_DQ6_IV G2 LDQ1
VMA_DQ2_IV G8 LDQ0
VMA_DM1_IV B3 UDM
VMA_DM0_IV F3 LDM
VMA_WDQS1_IV B7 UDQS
VMA_RDQS1_IV A8 UDQS
VMA_WDQS0_IV F7 LDQS
VMA_RDQS0_IV E8 LDQS
VMA_CLK0_IV J8 CK
VMA_CLK0#_IV K8 CK
VMA_BA2_IV L1 BA2
VMA_BA1_IV L3 BA1
VMA_BA0_IV L2 BA0
VMA_MA12_IV R2 A12
VMA_MA11_IV P7 A11
VMA_MA10_IV M2 A10
VMA_MA9_IV P3 A9
VMA_MA8_IV P8 A8
VMA_MA7_IV P2 A7
VMA_MA6_IV N7 A6
VMA_MA5_IV N3 A5
VMA_MA4_IV N8 A4
VMA_MA3_IV N2 A3
VMA_MA2_IV M7 A2
VMA_MA1_IV M3 A1
VMA_MA0_IV M8 A0
VMA_ODT_IV K9 ODT
VMA_CKE_IV K2 CKE
VMA_CS0#_IV L8 CS
VMA_WE#_IV K3 WE
VMA_RAS#_IV K7 RAS
VMA_CAS#_IV L7 CAS

VREF J2 VMREFA0 15mil
R57 SPM@1K/F_4 +1.8V
R64 SPM@1K/F_4
C61 SPM@0.1u/10V_4

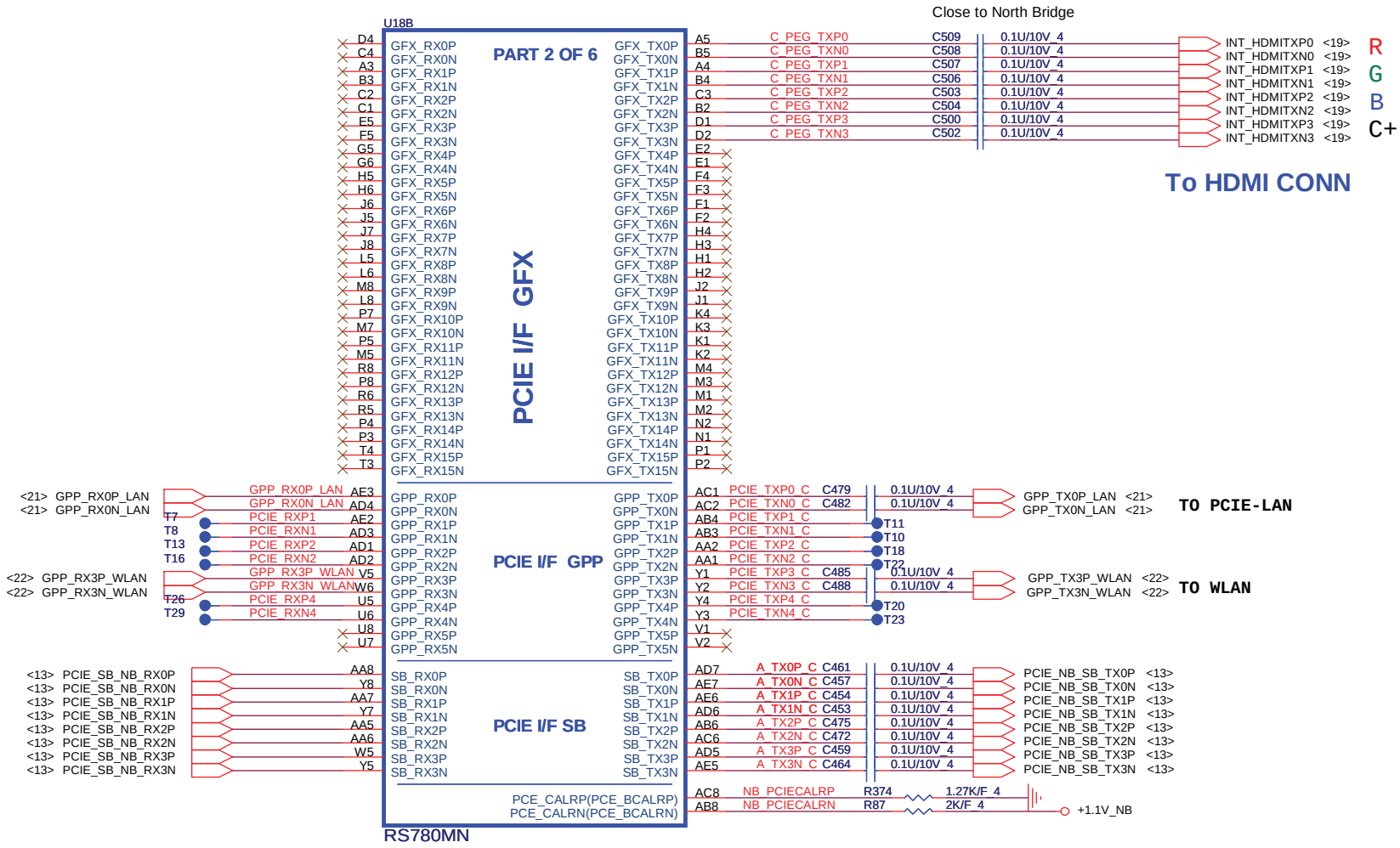
VDD1 A1
VDD2 E1
VDD3 J9
VDD4 M9
VDD5 R1
VDDQ1 A9
VDDQ2 C1
VDDQ3 C3
VDDQ4 C7
VDDQ5 C9
VDDQ6 E9
VDDQ7 G1
VDDQ8 G3
VDDQ9 G7
VDDQ10 G9
VDDL J1
+1.8V_SPM
C52 SPM@0.1u/10V_4 C46 SPM@0.1u/10V_4 C37 SPM@0.1u/10V_4 C36 SPM@0.1u/10V_4
L2 SPM@BLM21PG221SN1D
C44 SPM@1U/10V_4
+1.8V
0226 Modify for AMD suggestion.

NC1 A2
NC2 E2
NC4 B3
NC5 E7
NC6 B8

VSS1 A3
VSS2 E3
VSS3 J3
VSS4 N1
VSS5 P9
VSSQ1 A7
VSSQ2 B2
VSSQ3 B8
VSSQ4 D2
VSSQ5 D8
VSSQ6 E7
VSSQ7 F2
VSSQ8 F8
VSSQ9 H2
VSSQ10 H8
VSSDL J7

PROJECT : Z08
Quanta Computer Inc.

Size	Document Number	Rev
	RS780MN-HT LINK I/F 1/4	1A
Date: Tuesday, April 28, 2009	Sheet 9 of 36	



RX780/RS740/RS780 difference table (PCIE LINK)

	RS740	RX780/RS780
NB_PCIECALRP	562R (GND)	1.27K (GND)
GPP4	NC	GPP4
GPP5	NC	GPP5

RS780 Display Port Support (muxed on GFX)

DP0	GFX_TX0,TX1,TX2 and TX3 AUX0 and HPD0
DP1	GFX_TX4,TX5,TX6 and TX7 AUX1 and HPD1

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	RS780MN-PCIE I/F 2/4	1A
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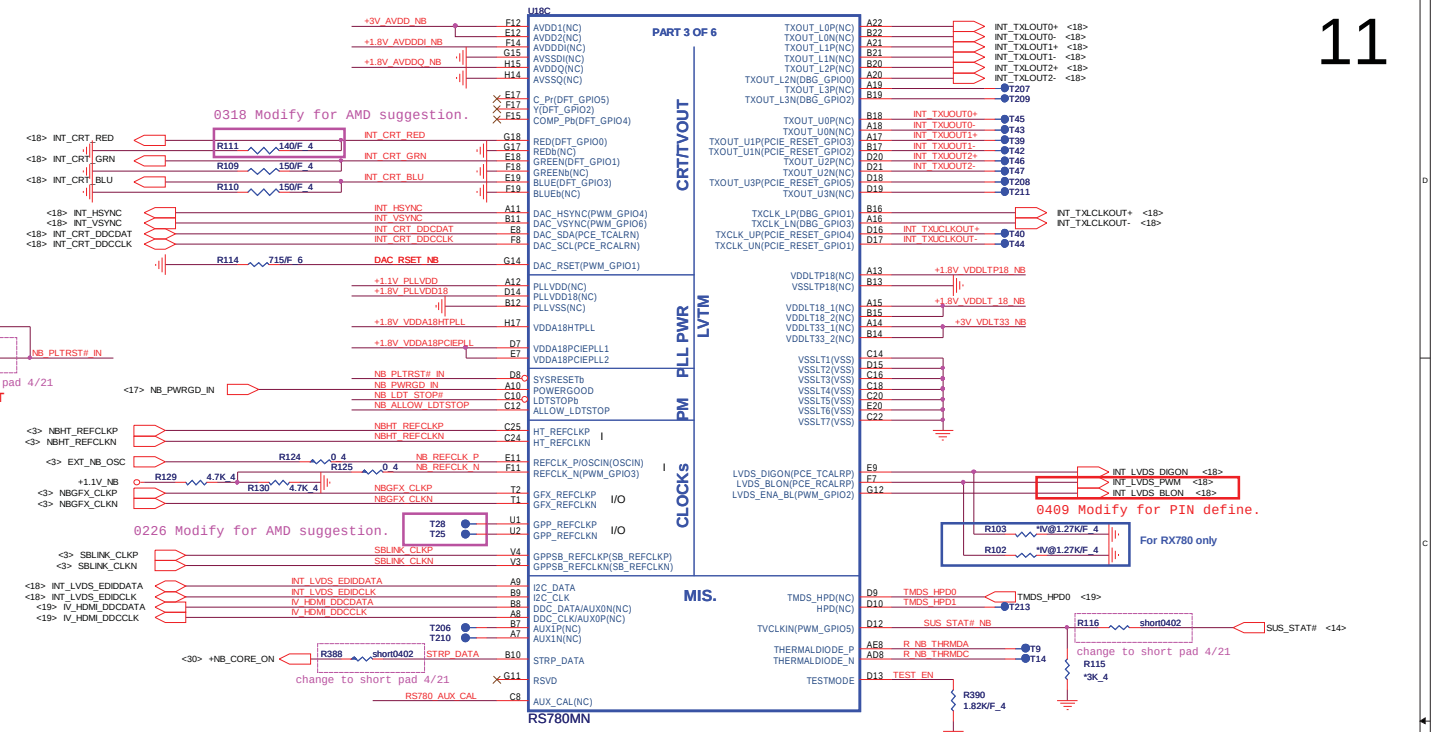
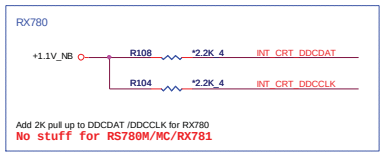
RX780: Powered from the 1.8-V rail and driven by SB600 LDT_RST#, or SB700 LDT_RST# or A_RST#.
RS780: Powered from the 3.3-V rail and driven by SB600 LDT_RST#, or SB700 LDT_RST# or A_RST#.

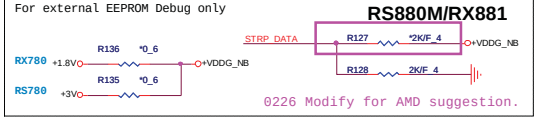




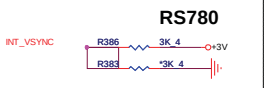
STRP_DATA Level	Northbridge Core Voltage
0	1.0 V
1	1.1 V

selects Loading of straps from EPROM
1 : use default vaule , default
0 : I2C Master can load strap values from EEPROM if connected, or use default values if not connected
RX780 --RS780_AUX_CAL
RS780 -- SUS_ATAT

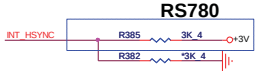
For external EEPROM Debug only

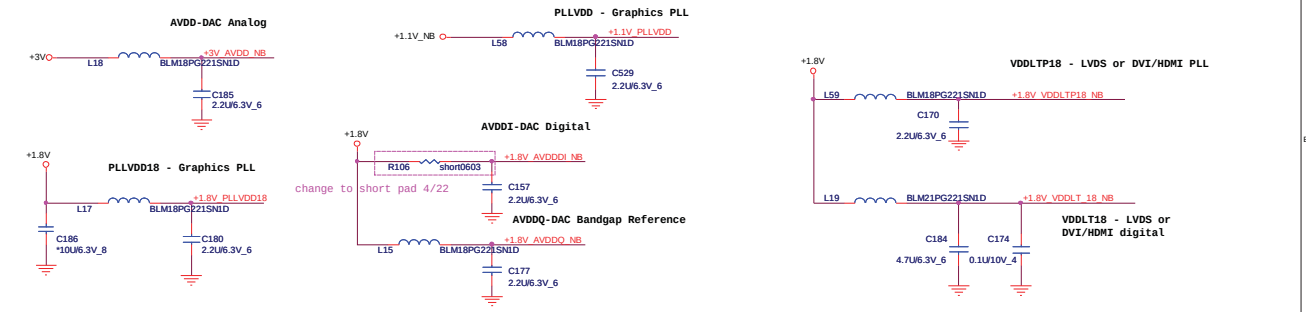


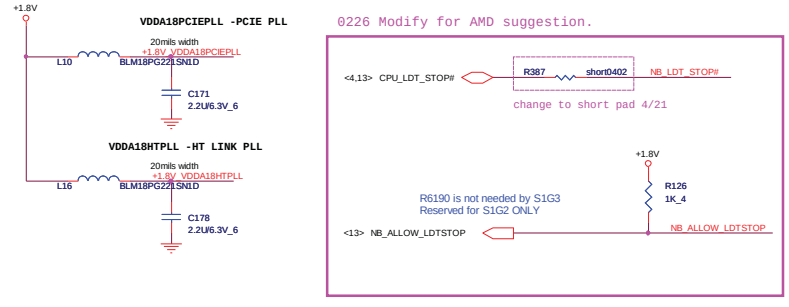
Enables Debug Bus acess through memory T/O pads and GPIO.
1 : Enable RS780 , Default
0 : Disable RS780
(RS780 use VSYNC#)

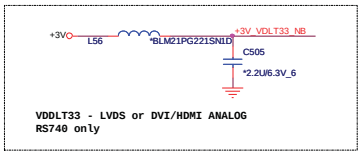


Indicates if memory Side port is available or not
0: available RS780 , Default
1: Not available RS780
(RS780 use HSYNC#)



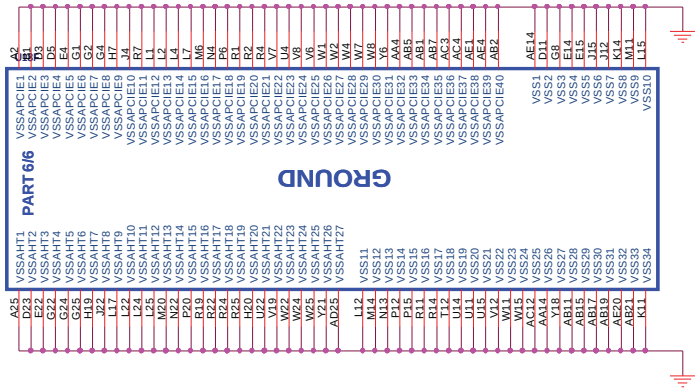






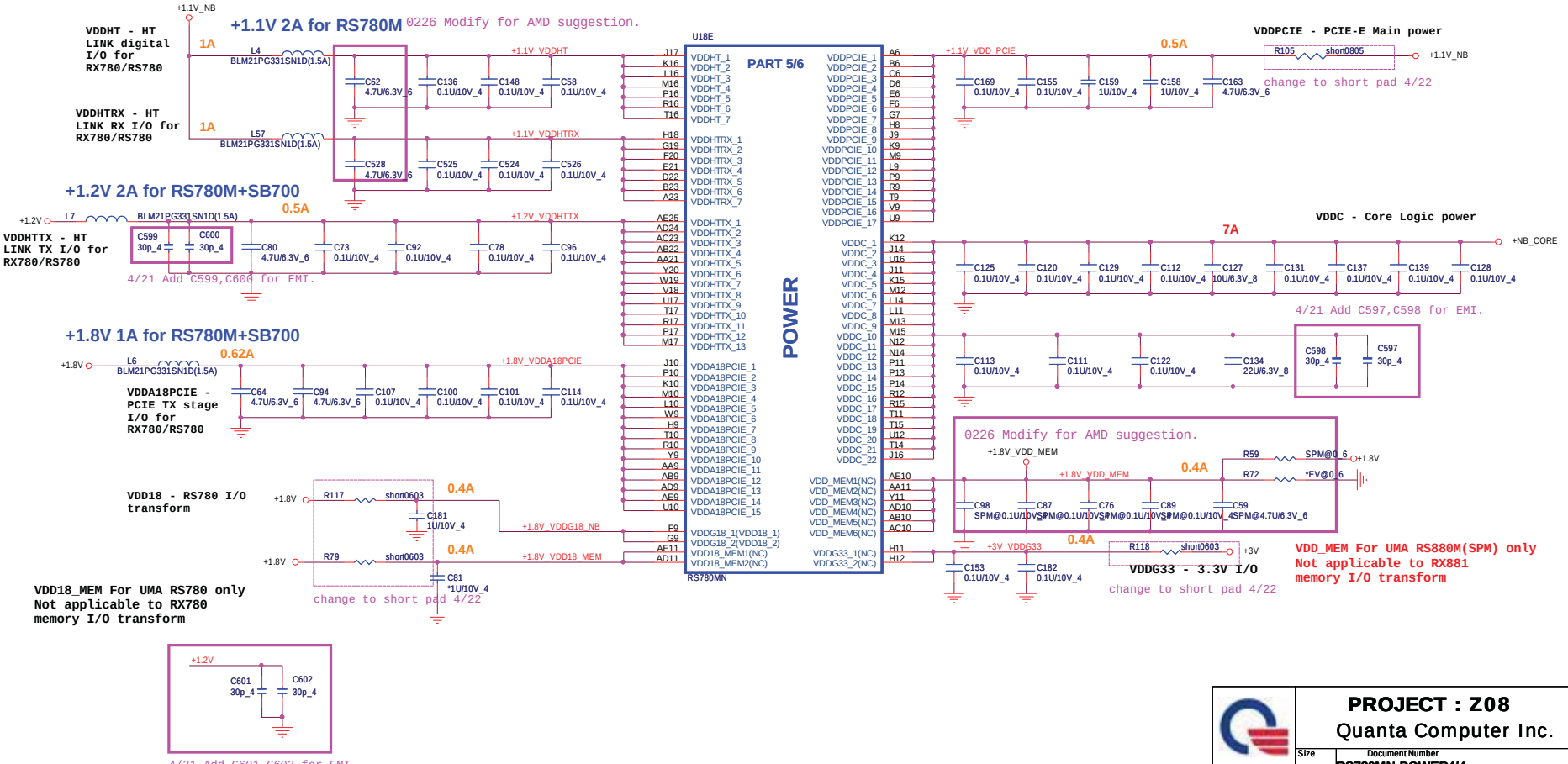
PROJECT : Z08
Quanta Computer Inc.

Size	Document Number	Rev
	RS780MN-SYSTEM I/F 3/4	1A
Date: Tuesday, April 28, 2009	Sheet 11 of 36	



RX780/RS780 POWER DIFFERENCE TABLE

PIN NAME	RX780	RS780	PIN NAME	RX780	RS780
VDDHT	+1.1V	+1.1V	IOPLLVDD	NC	+1.1V
VDDHTRX	+1.1V	+1.1V	AVDD	NC	+3.3V
VDDHTTX	+1.2V	+1.2V	AVDDDI	NC	+1.8V
VDDA18PCIE	+1.8V	+1.8V	AVDDQ	NC	+1.8V
VDDG18	+1.8V	+1.8V	PLLVDD	NC	+1.1V
VDD18_MEM	NC	+1.8V	PLLVDD18	NC	+1.8V
VDDPCIE	+1.1V	+1.1V	VDDA18PCIEPLL	+1.8V	+1.8V
VDDC	+1.1V	+1.1V	VDDA18HTPLL	+1.8V	+1.8V
VDD_MEM	NC	+1.8V/1.5V	VDDLTP18	NC	+1.8V
VDDG33	NC	+3.3V	VDDLT18	NC	+1.8V
IOPLLVDD18	NC	+1.8V	VDDLT33	NC	NC



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Quanta Computer Inc.			
Size	Document Number		Rev
	RS780MN-POWER4/4		1A
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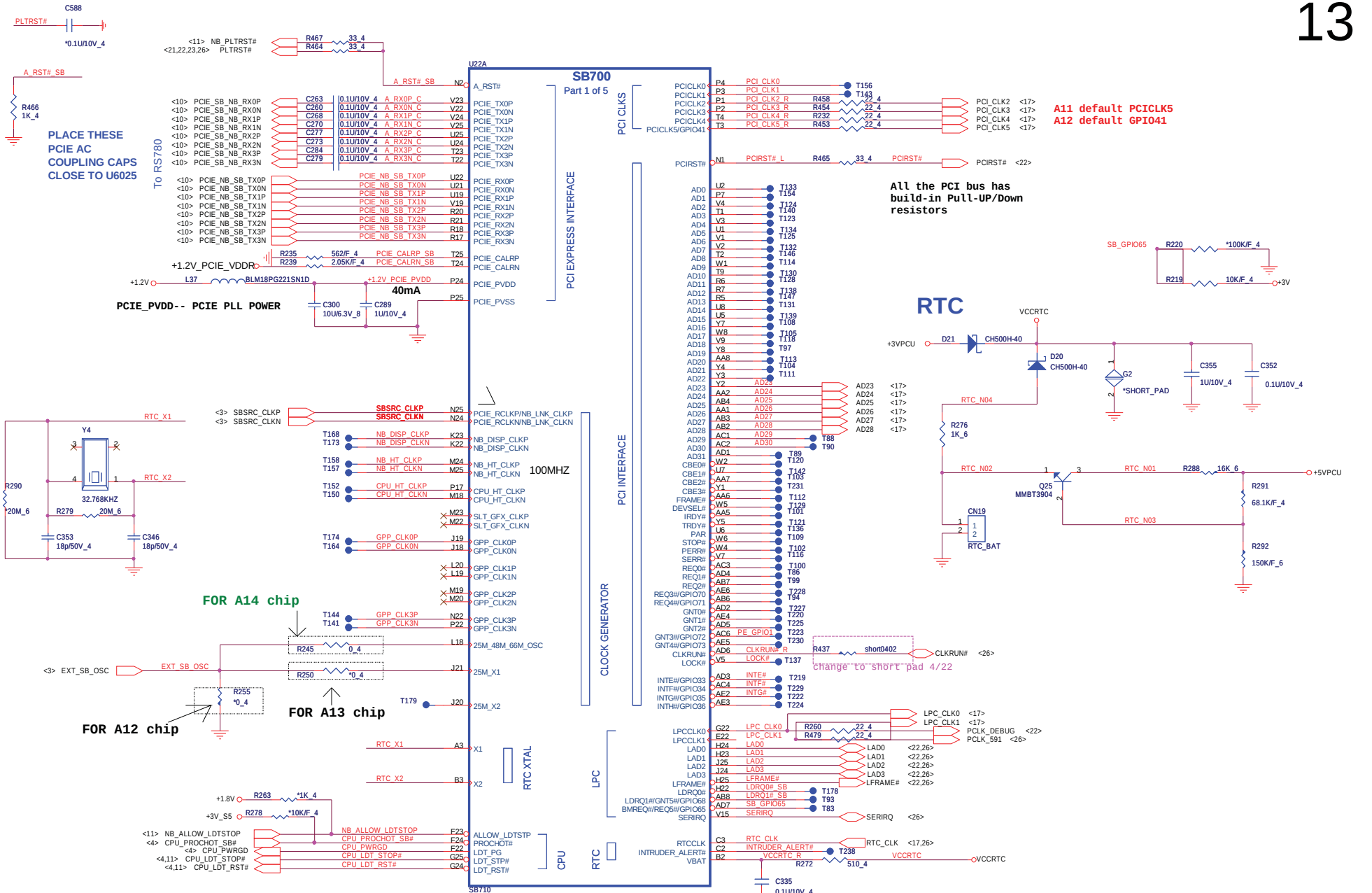
SB700
Part 1 of 5
U22A
SB710
PLACE THESE
PCIE AC
COUPLING CAPS
CLOSE TO U6025
To RS780
PCIE_PVDD-- PCIE PLL POWER
40mA
PCI CLKS
PCI EXPRESS INTERFACE
PCI INTERFACE
CLOCK GENERATOR
LPC
RTC
CPU
RTC XTAL
100MHZ
FOR A14 chip
FOR A12 chip
FOR A13 chip
A11 default PCICLK5
A12 default GPIO41
All the PCI bus has
build-in Pull-UP/Down
resistors
change to short pad 4/22
RTC
32.768KHZ
RTC_BAT
MMBT3904
CH500H-40
*SHORT_PAD

0318 Modify for AMD suggestion.

+3V_S5
R476 *2.2K_4 SB_TEST0
R257 *2.2K_4 SB_TEST1
R261 *2.2K_4 SB_TEST2
R475 *2.2K_4 DNBSWON#
+3VSUS
R477 *10K/F_4 SW#

+3V
R218 2.2K_4 PCLK_SMB
R222 2.2K_4 PDAT_SMB
SCL0/SDATA0 is 3V tolerance
AMD datasheet define it
Clock gen
/DDR2 /MINI CARD/LAN

+3V_S5
R474 2.2K_4 SB_SMBCLK1
R473 2.2K_4 SB_SMBDATA1
SCL1/SDATA1 is 3V/S5 tolerance
AMD datasheet define it

+3V
R472 4.7K_4 SUS_STAT#
G3
2 1 SYS_RST#
*SHORT_PAD1

To Azalia

<20> BIT_CLK_AUDIO R470 33_4 ACZ_BITCLK
<24> BIT_CLK_MDC R471 33_4
<20> ACZ_SDOUT_AUDIO R469 33_4 ACZ_SDOUT
<24> ACZ_SDOUT_MDC R468 33_4
<20> ACZ_SYNC_AUDIO R243 33_4 ACZ_SYNC
<24> ACZ_SYNC_MDC R247 33_4
<20> ACZ_RST#_AUDIO R237 33_4 ACZ_RST#
<24> ACZ_RST#_MDC R234 33_4
R241 10K_4
+3V
R226 10K_4 SATA2_HOTPLUG

U22D
SB700 Part 4 of 5

T235 RI# E1
T236 SLP_S2 H7
T172 SUSB# F5
<26> SUSB#
<26> SUSC# SUSC# G1
<26> DNBSWON# DNBSWON# H2
<17> SB_PWRGD_IN SB_PWRGD_IN H1
<11> SUS_STAT# SUS_STAT# K3
SB_TEST2 H5
SB_TEST1 H4
SB_TEST0 H3
<26> GATEA20 GATEA20 Y15
<26> RCIN# RCIN# W15
<26> EC_SCI# EC_SCI# K4
<26> KBSMI# KBSMI# K24
T233 SYS_RST# F1
<21,22,26> PCIE_WAKE# PCIE_WAKE# H6
T234 SWI# F2
<4> CPU_THERMTRIP# CPU_THERMTRIP# J6
<17> WD_PWRGD WD_PWRGD W14
<26> RSMRST# RSMRST# D3

PCI_PME#/GEVENT4#
RI#/EXTEVNT0#
SLP_S2/GPM9#
SLP_S3#
SLP_S5#
PWR_BTN#
PWR_GOOD
SUS_STAT#
TEST2
TEST1
TEST0
GA20IN/GEVENT0#
KBRST#/GEVENT1#
LPC_PME#/GEVENT3#
LPC_SMI#/EXTEVNT1#
S3_STATE/GEVENT5#
SYS_RESET#/GPM7#
WAKE#/GEVENT8#
BLINK/GPM6#
SMBALERT#/THRMTRIP#/GEVENT2#
NB_PWRGD
RSMRST#
ACPI / WAKE UP EVENTS

T91 SATA_IS0 AE18
T87 SATA_IS1 AD18
SATA2_HOTPLUG AA19
T110 W17
T135 V17
T119 W20
<20> PCBEEP PCBEEP W21
<3,7,21,22> PCLK_SMB PCLK_SMB AA18
<3,7,21,22> PDAT_SMB PDAT_SMB W18
SB_SMBCLK1 K1
SB_SMBDATA1 K2
T92 VGA_MBDATA AA20
T127 VGA_MBDATA Y18
T237 PM_BATLOW# C1
T126 SES_INT Y19
T180 GEVENT7# G5

SATA_IS0#/GPIO10
CLK_REQ3#/SATA_IS1#/GPIO6
SMARTVOLT/SATA_IS2#/GPIO4
CLK_REQ0#/SATA_IS3#/GPIO0
CLK_REQ1#/SATA_IS4#/FANOUT3/GPIO39
CLK_REQ2#/SATA_IS5#/FANIN3/GPIO40
SPKR/GPIO2
SCL0/GPOC0#
SDA0/GPOC1#
SCL1/GPOC2#
SDA1/GPOC3#
DDC1_SCL/GPIO9
DDC1_SDA/GPIO8
LLB#/GPIO66
SHUTDOWN#/GPIO5
DDR3_RST#/GEVENT7#
GPIO

D30 CH501H-40PT
<26> CPU_MEMHOT# CPU_MEMHOT#_IN B9
T246 GPM5# B8
T239 GPM4# A8
T245 GPM3# A9
T183 GPM2# E5
T194 GPM1# F8
<25> USB_OC0# D19 *BAS316 E4

USB_OC6#/IR_TX1/GEVENT6#
USB_OC5#/IR_TX0/GPM5#
USB_OC4#/IR_RX0/GPM4#
USB_OC3#/IR_RX1/GPM3#
USB_OC2#/GPM2#
USB_OC1#/GPM1#
USB_OC0#/GPM0#
USB OC

ACZ_BITCLK M1
ACZ_SDOUT M2
<20> ACZ_SDIN0 ACZ_SDIN0 J7
<24> ACZ_SDIN1 ACZ_SDIN1 J8
T165 ACZ_SDIN2 L8
T153 ACZ_SDIN3 M3
ACZ_SYNC L6
<17> ACZ_RST# ACZ_RST# M4
L5
HD audio interface is 3.3V voltage
R242 R246 R240 R251 *10K_4

AZ_BITCLK
AZ_SDOUT
AZ_SDIN0/GPIO42
AZ_SDIN1/GPIO43
AZ_SDIN2/GPIO44
AZ_SDIN3/GPIO46
AZ_SYNC
AZ_RST#
AZ_DOCK_RST#/GPM8#
HD AUDIO

+1.8V R262 *10K_4
H19 IMC_GPIO0
H20 IMC_GPIO1
H21 SPI_CS2#/IMC_GPIO2
F25 IDE_RST#/F_RST#/IMC_GPO3
D22 IMC_GPIO4
E24 IMC_GPIO5
E25 IMC_GPIO6
D23 IMC_GPIO7
INTEGRATED uC

USBCLK/14M_25M_48M_OSC C8 CLK_48M_USB CLK_48M_USB <3>
USB_RCOMP G8 USB_RCOMP_SB R256 11.8K/F_6
USB MISC

USB_FSD13P E6 USB_FSD13P T193
USB_FSD13N E7 USB_FSD13N T190
USB_FSD12P F7 USB_FDS12P T195
USB_FSD12N E8 USB_FDS12N T185
USB 1.1

USB_HSD11P H11 WL_USBP11+ <22>
USB_HSD11N J10 WL_USBP11- <22> To WLAN
USB_HSD10P E11 BT_USBP10+ <22>
USB_HSD10N F11 BT_USBP10- <22> To BT
USB_HSD9P A11 T240
USB_HSD9N B11 T250
USB_HSD8P C10 USBP8+ <25>
USB_HSD8N D10 USBP8- <25> To M/B USB
USB_HSD7P G11 T170
USB_HSD7N H12 T182
USB_HSD6P E12 T186
USB_HSD6N E14 T191
USB_HSD5P C12 CCD_USBP5+ <18>
USB_HSD5N D12 CCD_USBP5- <18> To Camera
USB_HSD4P B12 CR_USBP4+ <23>
USB_HSD4N A12 CR_USBP4- <23> To Card Reader
USB_HSD3P G12 T181
USB_HSD3N G14 T184
USB_HSD2P H14 T176
USB_HSD2N H15 T169
USB_HSD1P A13 USBP1+ <25>
USB_HSD1N B13 USBP1- <25> To U/B USB2
USB_HSD0P B14 USBP0+ <25>
USB_HSD0N A14 USBP0- <25> To U/B USB1
USB 2.0

IMC_GPIO8 A18
IMC_GPIO9 B18
IMC_PWM0/IMC_GPIO10 F21
SCL2/IMC_GPIO11 D21 SB_SCLK2
SDA2/IMC_GPIO12 F19 SB_SDATA2
SCL3_LV/IMC_GPIO13 E20 SB_SCLK3 SB_SCLK3 <4>
SDA3_LV/IMC_GPIO14 E21 SB_SDATA3 SB_SDATA3 <4>
IMC_PWM1/IMC_GPIO15 E19
IMC_PWM2/IMC_GPIO16 D19 SB_GPIO16 SB_GPIO16 <17>
IMC_PWM3/IMC_GPIO17 E18 SB_GPIO17 SB_GPIO17 <17> SPI/LPC define
IMC_GPIO18 G20
IMC_GPIO19 G21
IMC_GPIO20 D25
IMC_GPIO21 D24
IMC_GPIO22 C25
IMC_GPIO23 C24
IMC_GPIO24 B25
IMC_GPIO25 C23
IMC_GPIO26 B24
IMC_GPIO27 B23
IMC_GPIO28 A23
IMC_GPIO29 C22
IMC_GPIO30 A22
IMC_GPIO31 B22
IMC_GPIO32 B21
IMC_GPIO33 A21
IMC_GPIO34 D20
IMC_GPIO35 C20
IMC_GPIO36 A20
IMC_GPIO37 B20
IMC_GPIO38 B19
IMC_GPIO39 A19
IMC_GPIO40 D18
IMC_GPIO41 C18
INTEGRATED uC

SB710

CLK_48M_USB
R273 *10_6
C338 *10p/50V_4
for EMI

+3V_S5
R281 2.2K_4 SB_SCLK2
R280 2.2K_4 SB_SDATA2
SCL2/SDATA2 is 3V/S5 tolerance
AMD datasheet define it

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Quanta Computer Inc.		
Size	Document Number	Rev
	SB710-ACPI/GPIO/USB 2/4	1A
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PLACE SATA AC COUPLING CAPS CLOSE TO SB710

HDD

<24> SATA_TXP0_C
<24> SATA_TXN0_C
C578 0.01U/16V_4 SATA_TXP0
C577 0.01U/16V_4 SATA_TXN0

<24> SATA_RXN0
<24> SATA_RXP0
C579 0.01U/16V_4 SATA_RXN0_C
C580 0.01U/16V_4 SATA_RXP0_C

T80 T85 SATA_TX1P SATA_TX1N
T95 T82 SATA_RX1N SATA_RX1P
T115 T84 SATA_TX2P SATA_TX2N
T77 T78 SATA_RX2N SATA_RX2P
T96 T79 SATA_TX3P SATA_TX3N
T106 T81 SATA_RX3N SATA_RX3P

PLACE SATA AC COUPLING CAPS CLOSE TO SB710

ODD

<24> SATA_TXP4_C
<24> SATA_TXN4_C
C582 0.01U/16V_4 SATA_TXP4
C581 0.01U/16V_4 SATA_TXN4

<24> SATA_RXN4
<24> SATA_RXP4
C584 0.01U/16V_4 SATA_RXN4_C
C583 0.01U/16V_4 SATA_RXP4_C

T98 T107 SATA_TX5P SATA_TX5N
T221 T226 SATA_RX5N SATA_RX5P

R233 1K/F_4 SATA_RBIAS_PN V12 SATA_CAL
SATA_X1 Y12 SATA_X1
SATA_X2 AA12 SATA_X2

<26> SATA_LED# SATA_LED# W11 SATA_ACT#/GPIO67
+3V R224 *10K/F_4

PLACE SATA_CAL RES VERY CLOSE TO BALL OF SB700

NOTE :
R6171 IS 1K 1% FOR 25MHz XTAL, 4.99K 1% FOR 100MHz INTERNAL CLOCK

+1.2V_PLLVDD_SATA AA11 PLLVDD_SATA
+3V_XTLVDD_SATA W12 XTLVDD_SATA

PLVDD_SATA-- SATA PLL POWER

XTLVDD_SATA-- SATA crystal power

C254 27p/50V_4 SATA_X1
Y2 25MHZ R207 10M_6
C253 22p/50V_4 SATA_X2

+1.2V (1.2V @ 60mA) +1.2V_PLLVDD_SATA **77mA**
L32 BLM18PG221SN1D
C259 2.2U/6.3V_6
C256 0.1U/10V_4

+3V (3.3V @ 1.2mA) +3V_XTLVDD_SATA **1mA**
L35 BLM18PG221SN1D
C278 1U/10V_4
Place near ball

U22B
SB700
Part 2 of 5
SB710

SERIAL ATA
SATA_TX0P SATA_TX0N AD9 AE9
SATA_RX0N SATA_RX0P AB10 AC10
SATA_TX1P SATA_TX1N AE10 AD10
SATA_RX1N SATA_RX1P AD11 AE11
SATA_TX2P SATA_TX2N AB12 AC12
SATA_RX2N SATA_RX2P AE12 AD12
SATA_TX3P SATA_TX3N AD13 AE13
SATA_RX3N SATA_RX3P AB14 AC14
SATA_TX4P SATA_TX4N AE14 AD14
SATA_RX4N SATA_RX4P AD15 AE15
SATA_TX5P SATA_TX5N AB16 AC16
SATA_RX5N SATA_RX5P AE16 AD16

ATA 66/100/133
IDE_IORDY AA24
IDE_IRQ AA25
IDE_A0 Y22
IDE_A1 AB23
IDE_A2 Y23
IDE_DACK# AB24
IDE_DRQ AD25
IDE_IOR# AC25
IDE_IOW# AC24
IDE_CS1# Y25
IDE_CS3# Y24
IDE_D0/GPIO15 AD24
IDE_D1/GPIO16 AD23
IDE_D2/GPIO17 AE22
IDE_D3/GPIO18 AC22
IDE_D4/GPIO19 AD21
IDE_D5/GPIO20 AE20
IDE_D6/GPIO21 AB20
IDE_D7/GPIO22 AD19
IDE_D8/GPIO23 AE18
IDE_D9/GPIO24 AC20
IDE_D10/GPIO25 AD20
IDE_D11/GPIO26 AE21 BOARD_ID0
IDE_D12/GPIO27 AB22 BOARD_ID1
IDE_D13/GPIO28 AD22 BOARD_ID2
IDE_D14/GPIO29 AE23 BOARD_ID3
IDE_D15/GPIO30 AC23 BOARD_ID4

SPI ROM
SPI_DI/GPIO12 G6
SPI_DO/GPIO11 D2
SPI_CLK/GPIO47 D1
SPI_HOLD#/GPIO31 F4
SPI_CS#/GPIO32 F3
LAN_RST#/GPIO13 U15
ROM_RST#/GPIO14 J1 ROM_RST# T232 T122

HW MONITOR
FANOUT0/GPIO3 M8 SB_GPIO3 T167
FANOUT1/GPIO48 M5 SB_GPIO48 T160
FANOUT2/GPIO49 M7 SB_GPIO49 T161
FANIN0/GPIO50 P5 SB_FANTACH0 T148
FANIN1/GPIO51 P8 SB_FANTACH1 T149
FANIN2/GPIO52 R8 PORT_80_PWR_DWN T117
TEMP_COMM C6
TEMPIN0/GPIO61 B6 TEMPIN0 T244
TEMPIN1/GPIO62 A6 TEMPIN1 T248
TEMPIN2/GPIO63 A5 MB_THRMDA_SB T241
TEMPIN3/TALERT#/GPIO64 B5 THERM_ALERT# <4,8>
VIN0/GPIO53 A4 VIN0 T247
VIN1/GPIO54 B4 VIN1 T242
VIN2/GPIO55 C4 VIN2 T188
VIN3/GPIO56 D4 VIN3 T189
VIN4/GPIO57 D5 VIN4 T192
VIN5/GPIO58 D6 VIN5 T187
VIN6/GPIO59 A7 VIN6 T249
VIN7/GPIO60 B7 VIN7 T243

SATA PWR
AVDD F6
AVSS G7

5mA
+3V_VDD_HWM L42 0_6
C340 0.1U/10V_4
C315 2.2U/6.3V_6

0226 Modify for AMD suggestion.
+3V_S5
AVDD--H/W monitor Analog power
EMI FILTER CHIP BLM18PG221SN1D(220,1.4A)

MB ID Selection Table

Board ID	ID4	ID3	ID2	ID1	ID0
For ZK8/Z08 ZK8=0, Z08=1					H L
TBD				H L	
UMA/MXM UMA=0,MXM=1			H L		
For side_port W/O=0, W/ = 1		H L			
TBD	H L				

MB ID

+3V
R210 *1K_4 BOARD_ID0 R211 10K_4
R229 *1K_4 BOARD_ID1 R228 *10K_4
R212 1K_4 BOARD_ID2 R213 *10K_4
R217 *1K_4 BOARD_ID3 R221 SPM@10K_4
R227 *1K_4 BOARD_ID4 R225 *10K_4

PROJECT : Z08			
Quanta Computer Inc.			
Size	Document Number		Rev
	SB710-SATA/IDE/HWM/SPI 3/4		1A
Date: Tuesday, April 28, 2009	Sheet 15 of 36		

PLACE ALL THE DECOUPLING CAPS ON
THIS SHEET CLOSE TO SB AS POSSIBLE.

change to short pad 4/22

VDDQ--3.3V I/O power

1.8V : FLASH MEMORY MODE(DEFAULT)
3.3V: IDE MODE

PCIE_VDDR--PCIE I/O power

AVDD_SATA--SATA phy power

For support USB wakeup-->3V_S5

AVDDTX--USB Phy
Analog I/O power

VDD-- S/B CORE power

CKVDD_1.2V-- Internal
clock Generator I/O
power

S5_3.3--3.3v standby power

S5_1.2V--1.2V standby power

V5_VREF--PCI 5V TOLERANCE

AVDDCK_3.3--Analog
system PLL power

AVDDCK_1.2--USB Phy
digital power

USB_PHY_1.2V--USB Phy
digital power

AVDDC--USB Analog
PLL power

SB700
Part 3 of 5

POWER

GROUND

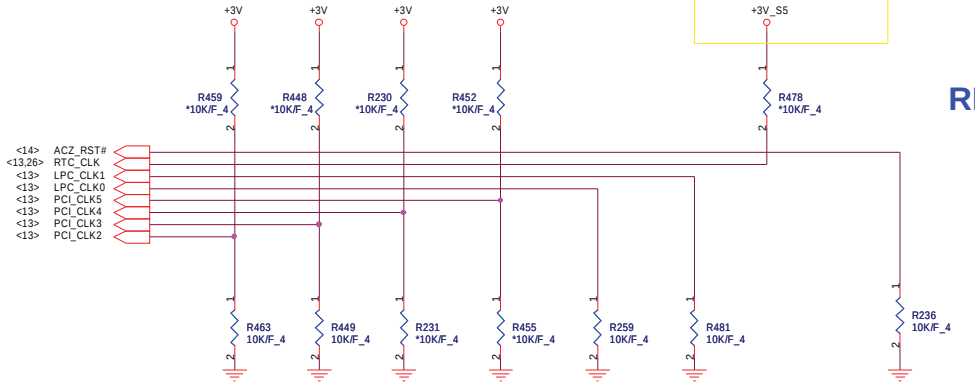
SB700
Part 5 of 5

PROJECT :	Z08
Quanta Computer Inc.	
Size	Document Number: SB710-PWR/DECOUPLING 4/4
Rev	1A
Date:	Tuesday, April 28, 2009
Sheet	16 of 36

OVERLAP COMMON PADS WHERE POSSIBLE FOR DUAL-OP RESISTORS.

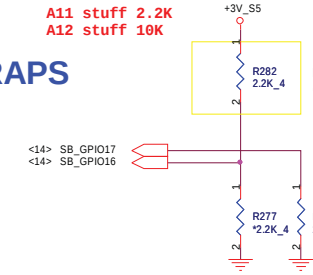
It must ready refore RSMRST#

REQUIRED STRAPS



	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

A11 stuff 2.2K
A12 stuff 10K



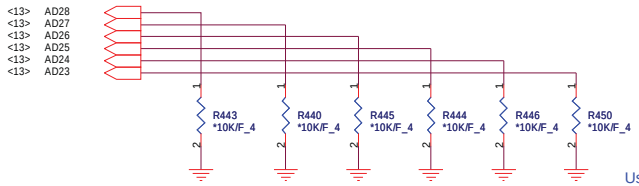
Maybe can be remove -- internla pull up check AMD

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

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)

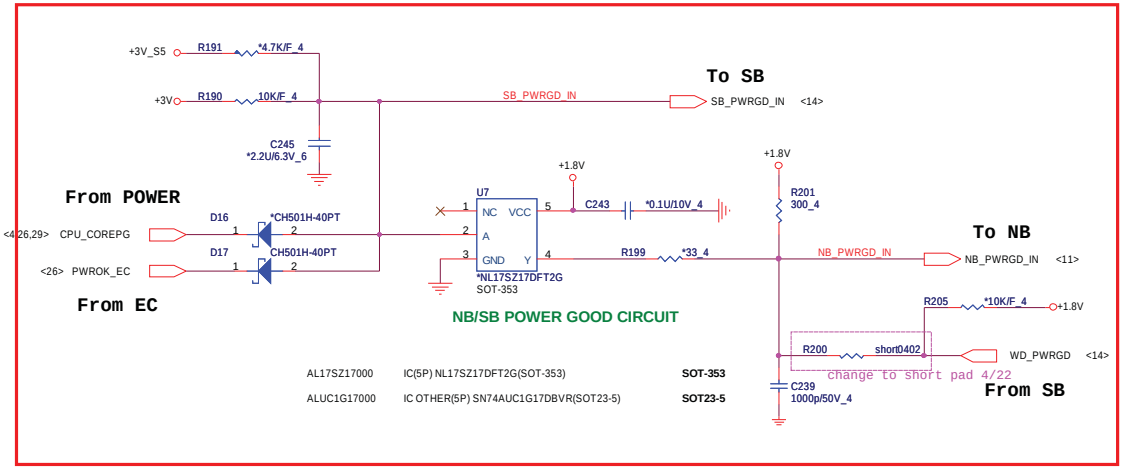
DEBUG STRAPS

SB700 HAS 15K INTERNAL PU FOR PCI_AD[28:23]



Use 2.2K PD.

	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	

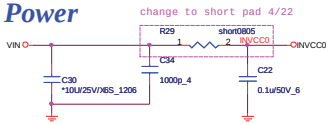


AL17SZ17000	IC(5P) NL17SZ17DFT2G(SOT-353)	SOT-353
ALUC1G17000	IC OTHER(5P) SN74AUC1G17DBVR(SOT23-5)	SOT23-5

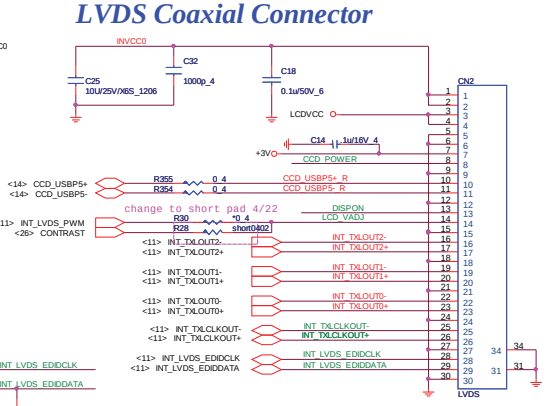
PROJECT : Z08
Quanta Computer Inc.

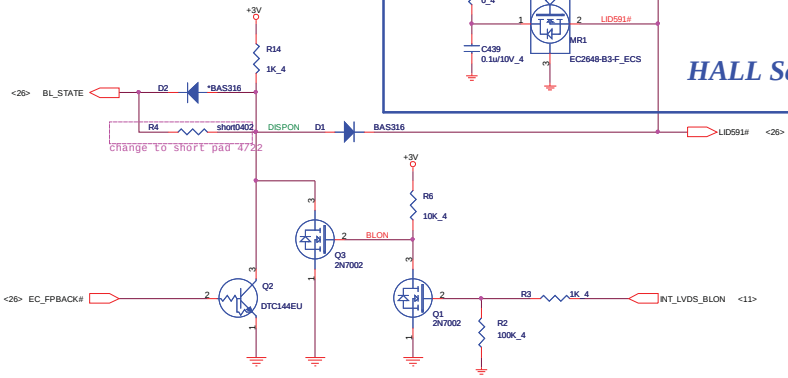
Size	Document Number	Rev
	SB710-STRAPS	1A
Date: Tuesday, April 28, 2009	Sheet 17 of 36	

Backlight Power
(LDS)



LVDS Coaxial Connector

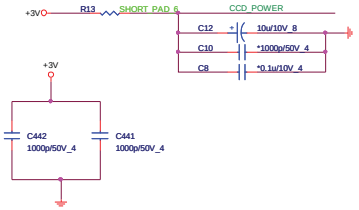




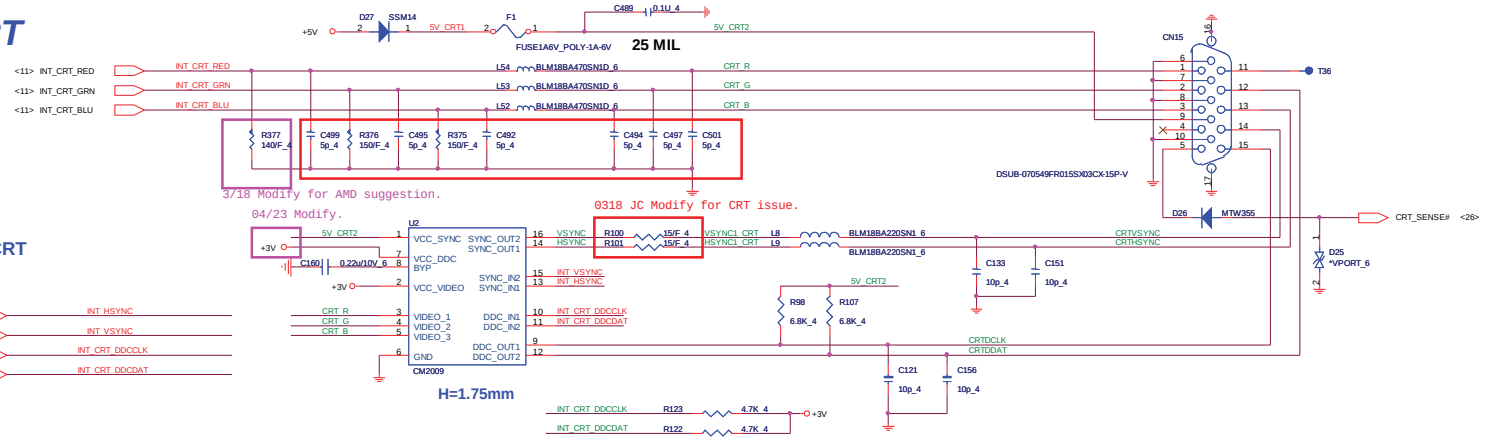
HALL Sensor
(HSR)

Panel Power
(LDS)

CAMERA Module
(CCD)

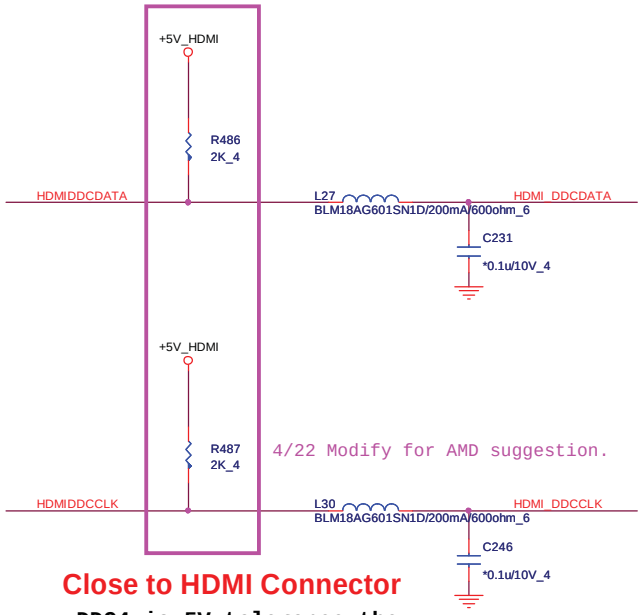


CRT PORT
(CRT)



PROJECT : Z08
Quanta Computer Inc.

Size	Document Number	Rev
	LCD/LED PANEL/LID/CAMERA	1A
Date: Tuesday, April 28, 2009	Sheet 18 of 36	

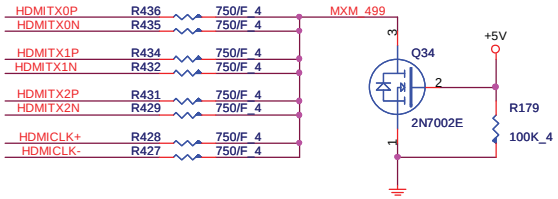


4/22 Modify for AMD suggestion.

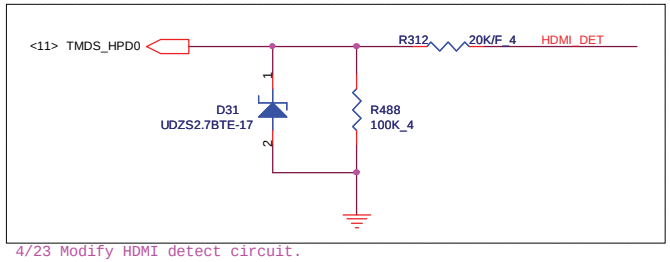
Close to HDMI Connector

DDC4 is 5V tolerance,the MOSFET level shifter no need.

(HDM)

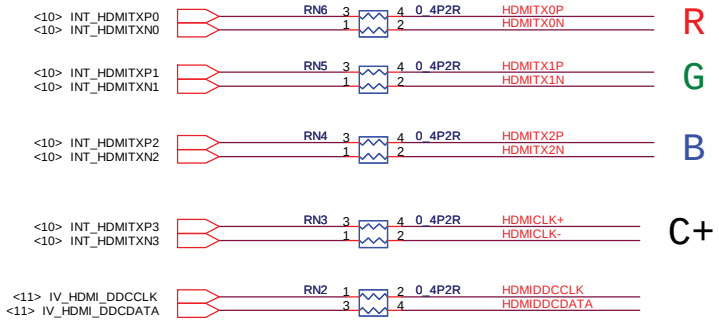


HDMI HPD SENSE



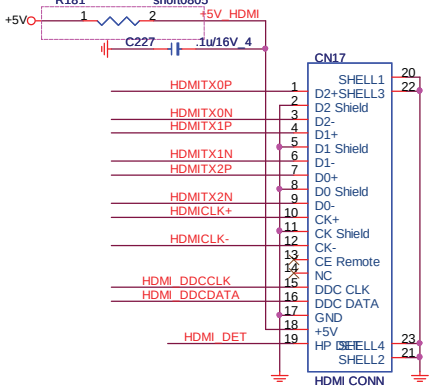
4/23 Modify HDMI detect circuit.

(HDM)



HDMI connector

change to short pad 4/22



	PROJECT : Z08 Quanta Computer Inc.	
Size	Document Number **HDMI**	Rev 1A
Date: Tuesday, April 28, 2009	Sheet 19 of 36	

(CX20561-15Z for QFN)

(ADO)

For EMI Request

4/21 Remove R312;mount C365 for EMI.

add EAPD 8/21

04/27 Mount U14,C435,C418;
unmount L47 for Audio noise issue.

CX20561-12Z Not support digital MIC
CX20561-13Z support digital MIC

PC Beep GAIN CONTROL

GAIN	GPIO1	GPIO2
0dB	10K	10K
-6dB	omit	omit
-12dB	10K	omit
-18dB	omit	omit

Port A -- System headphone Jack (JD : HP_PLG)
Port C -- System Stereo Microphone Jack (JD : MIC1_PLG)
Port D -- System Speaker (JD : N/A)

Int. Stereo Speakers

INT Single MIC

PC BEEP

EXT. Mic in

Normal Open Type

(AMP)

AUDIO AMPLIFIER G1441

Speaker Amplifier

40mil

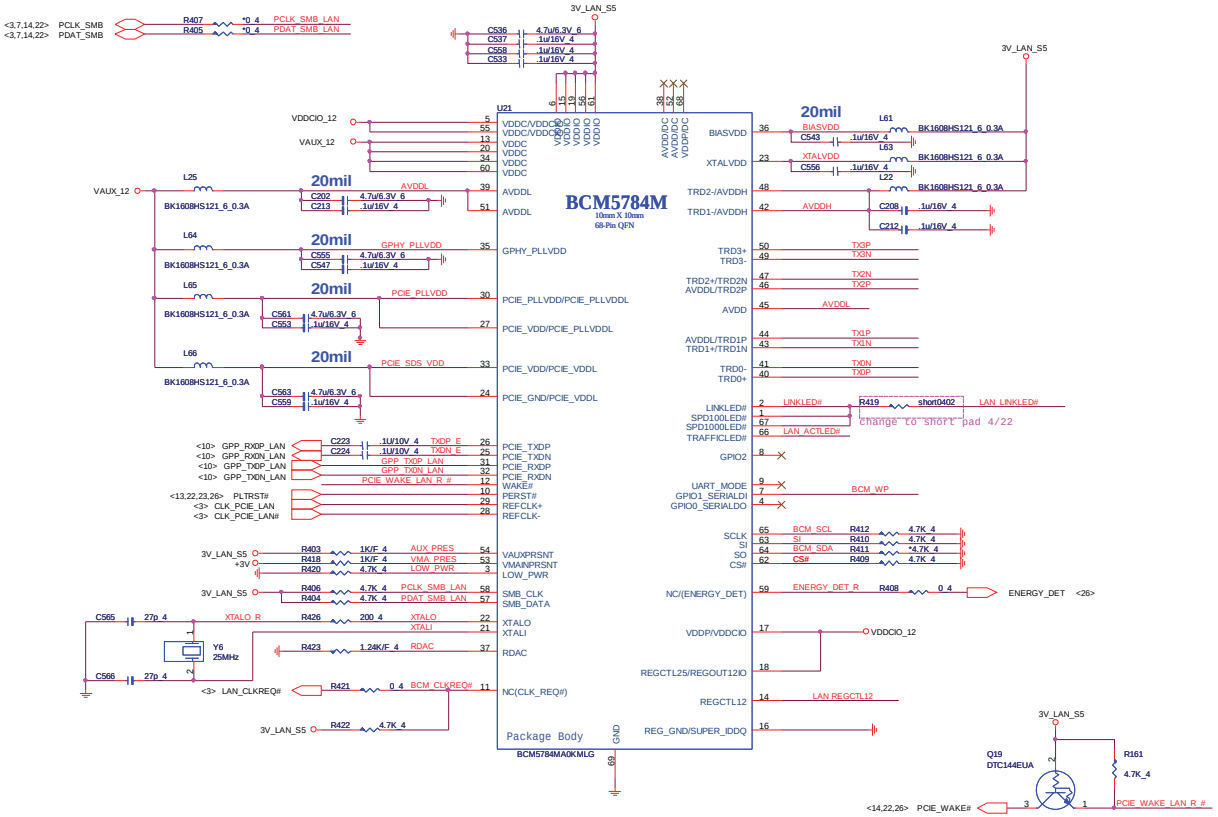
Headphone out + Spdif Out (normal open)

(Normal open)

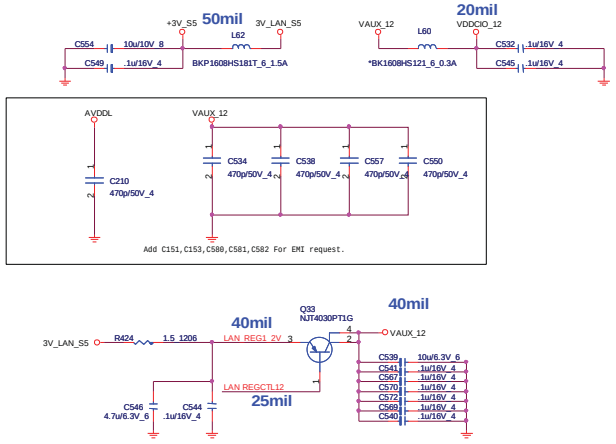
PROJECT : Z08	
Quanta Computer Inc.	
Size	Document Number: CX20561/AMP/MDC — Rev: 1A
Date: Tuesday, April 28, 2009	Sheet 20 of 36

LAN

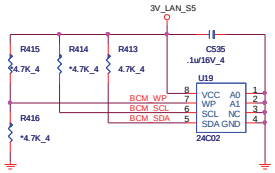
Giga LAN BCM5784M



LAN POWER



EEPROM

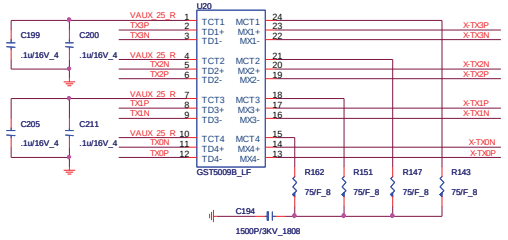


EEPROM Strapping

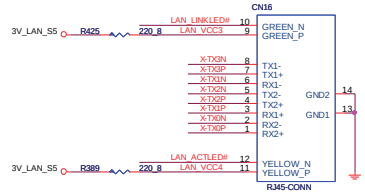
	SO	SI	CS#	SCLK
24c02	1	0	0	0

Transfomer

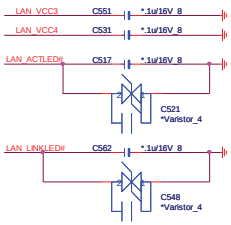
Source 1: Bothhand GST5009B DB0Z06LAN00



RJ45 connector

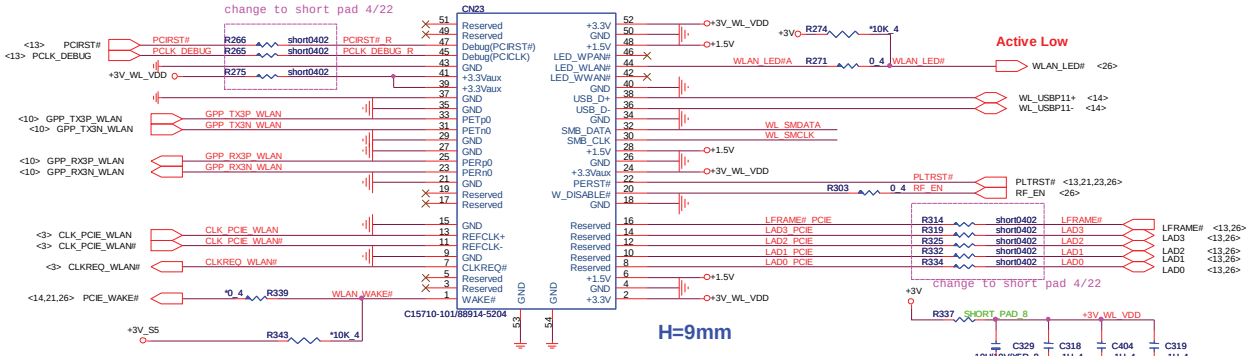


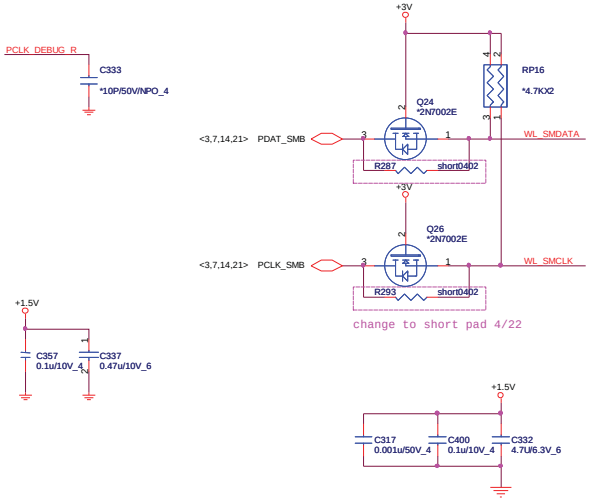
EMI



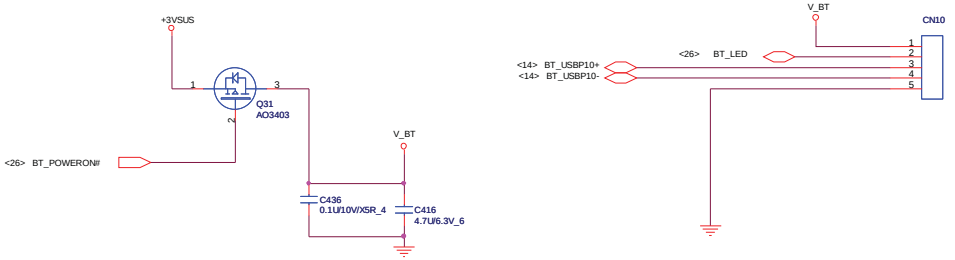
PROJECT : Z08			
Quanta Computer Inc.			
Size	Document Number		Rev
	BCM5784M		1A
Date: Tuesday, April 28, 2009	Sheet 21	of	36

MINI-Card I (WLAN)



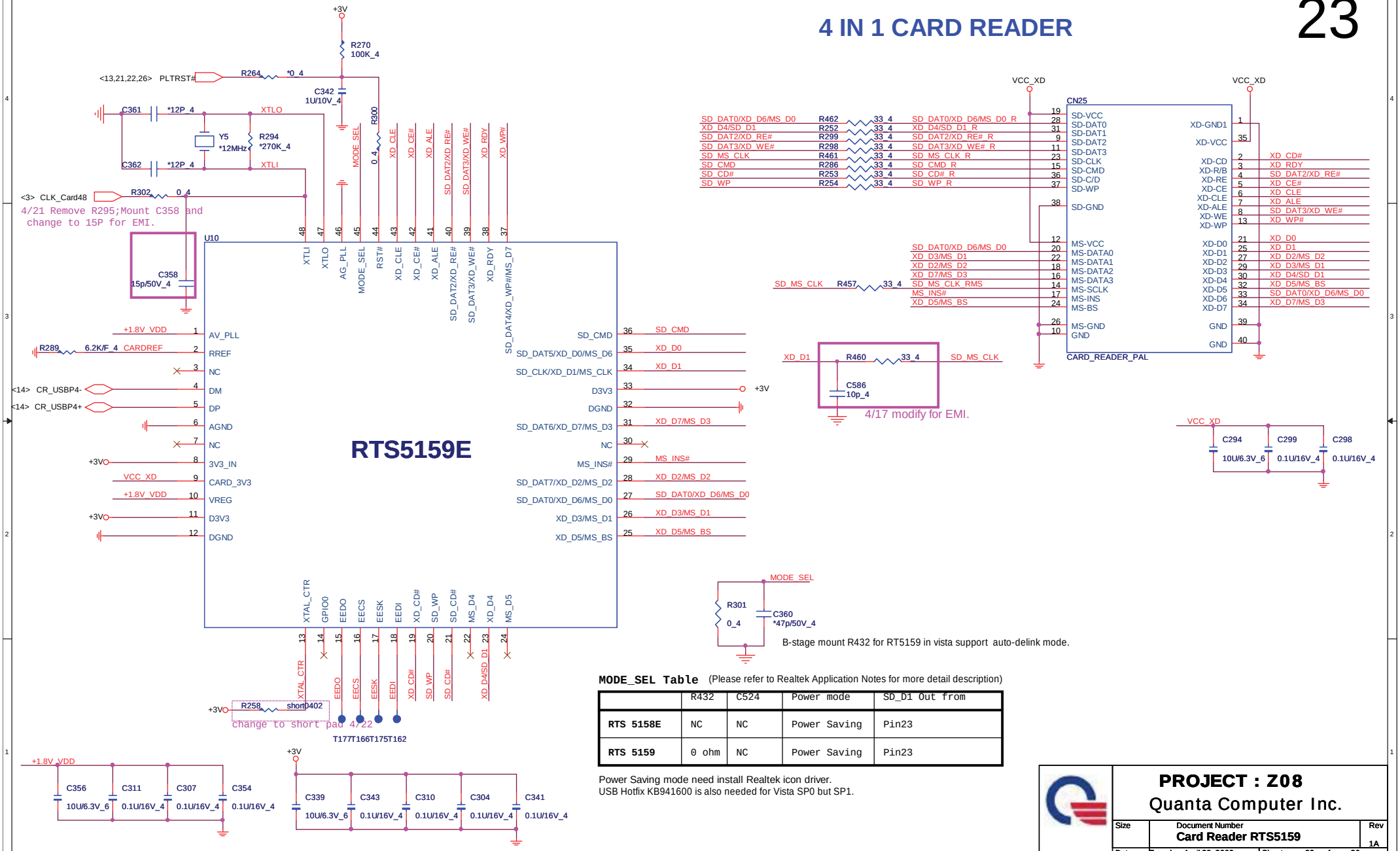


BLUETOOTH CONNECTOR



PROJECT : Z08		
Quanta Computer Inc.		
Size	Document Number: Mini-Card/WL	Rev: 1A
Date: Tuesday, April 28, 2009	Sheet 22 of 36	

4 IN 1 CARD READER



B-stage mount R432 for RT5159 in vista support auto-delink mode.

MODE_SEL Table (Please refer to Realtek Application Notes for more detail description)

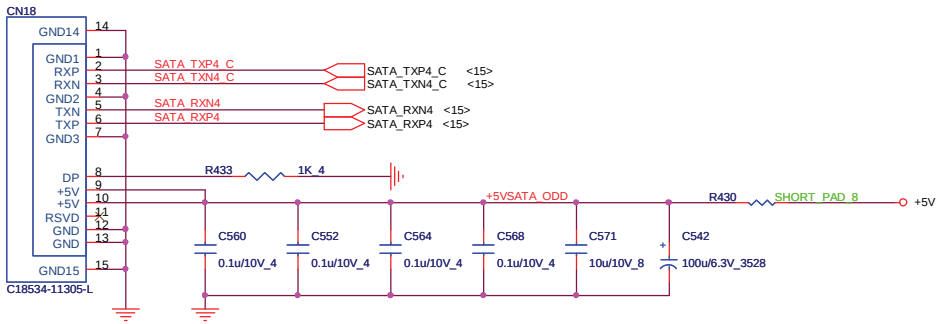
	R432	C524	Power mode	SD_D1 Out from
RTS 5158E	NC	NC	Power Saving	Pin23
RTS 5159	0 ohm	NC	Power Saving	Pin23

Power Saving mode need install Realtek icon driver.
USB Hotfix KB941600 is also needed for Vista SP0 but SP1.

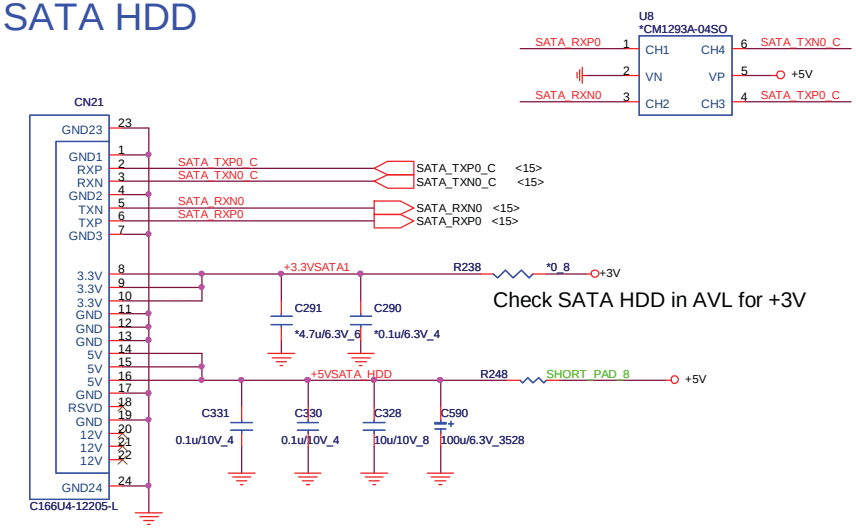
PROJECT : Z08
Quanta Computer Inc.

Size	Document Number	Rev
	Card Reader RTS5159	1A
Date: Tuesday, April 28, 2009	Sheet 23 of 36	

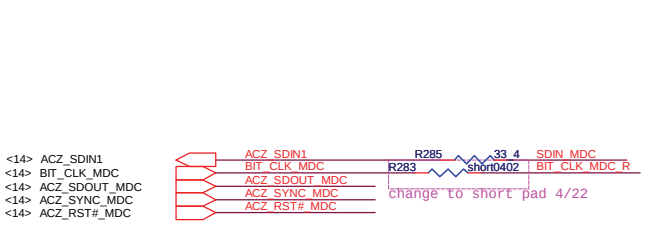
SATA ODD

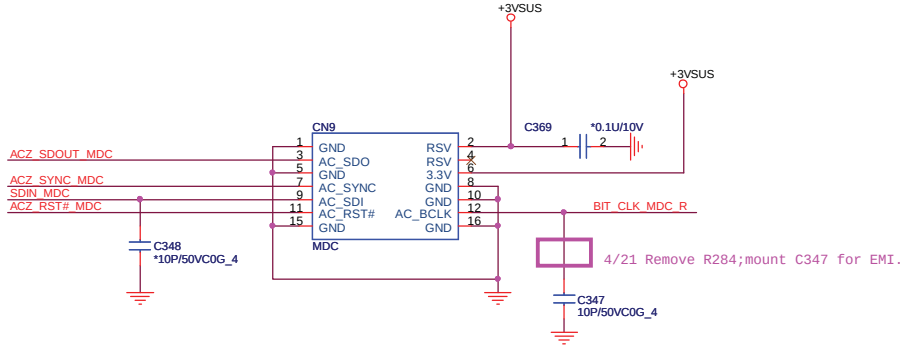


SATA HDD



For MDC Module



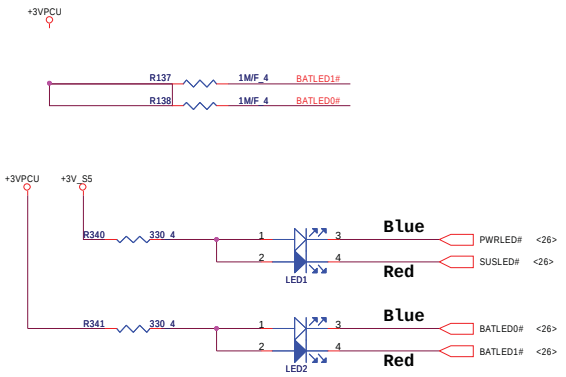


PROJECT : Z08

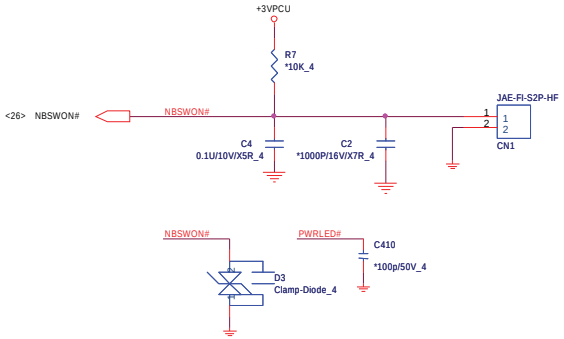
Quanta Computer Inc.

Size	Document Number	Rev
	SATA/HDD&ODD/MDC	1A
Date: Tuesday, April 28, 2009	Sheet 24 of 36	

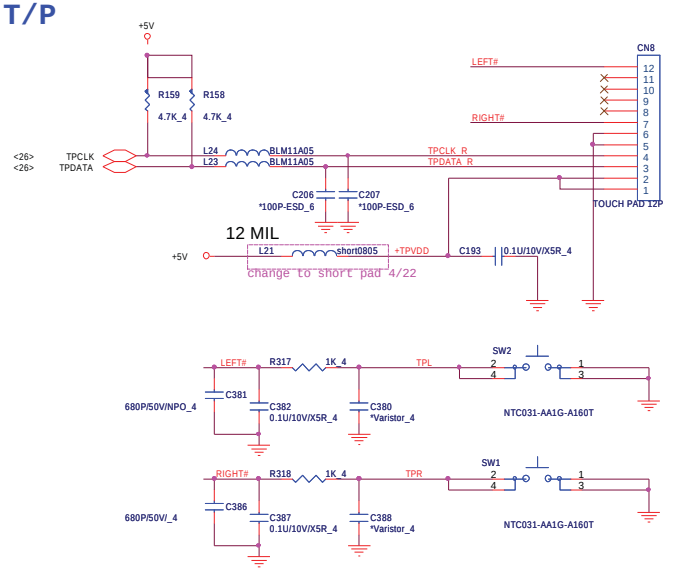
LED



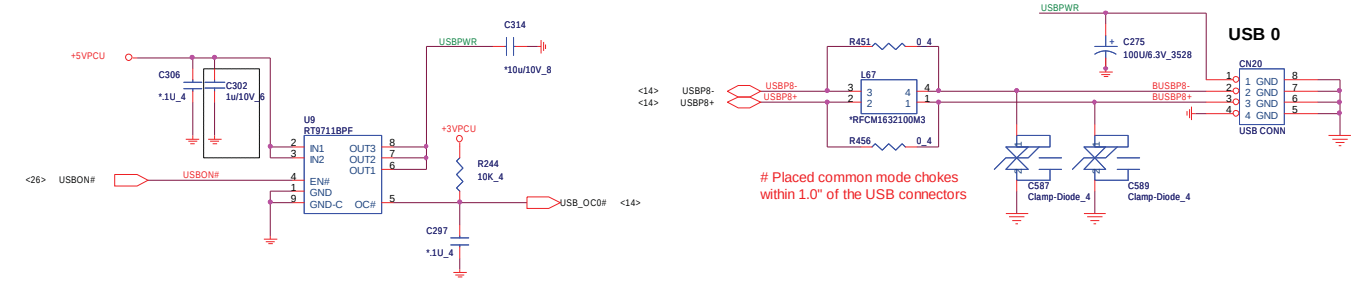
To Power Board



T/P

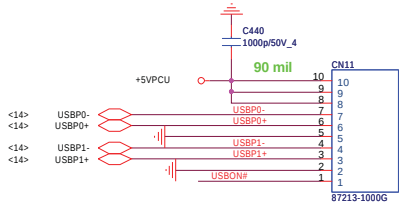


USB PORT(X1)



Please reserve Cin = 1uF(stuff),Cout = 10uF(don't stuff) for Richtek RT9711BPF
Please reserve Cin = 4.7uF(stuff),Cout = 10uF(don't stuff) for GMT solution

To USB Board



PROJECT : Z08
Quanta Computer Inc.

Size	Document Number	Rev
	FP/ TP/ USB /BT/FELICA/FM	1A
Date: Tuesday, April 28, 2009	Sheet 25 of 36	

(KBC)

U4 — WPCE775

- A/D
- D/A
- LPC
- GPIO
- KB
- TIMER
- SPI
- SMB
- IR
- PS/2
- FIU

I/O ADDRESS SETTING(KBC)

	I/O Address	
BADDR1-0	Index	Data
0 0	XOR TREE TEST MODE	
0 1	CORE DEFINED	
1 0	2Eh	2Fh
1 1	164Eh	164Fh

SHBM=0: Enable shared memory with host BIOS

BADDR0 — +1.2V_ON — R187 10K_4
BADDR1 — SOUT_CR — R186 *10K_4
SHBM — SHBM — R160 10K_4

1/13 Comfirm by vendor mail :
Disabled ('1') if using FWH device on LPC.
Enabled ('0') if using SPI flash for both system BIOS and EC firmware

KEYBOARD

CN6 — Aces 88502-2641

SM BUS PU(KBC)

MBCLK R144 10K_4 / R142 10K_4
3RD_MBCLK R188 10K_4
3RD_MBDATA R189 10K_4
4/17 modify from +3V to +3VPCU for MMB leakage

2ND_MBCLK R140 10K_4
2ND_MBDATA R139 10K_4
CRT_SENSE# R156 10K_4

ACER ID(KBC)

U3 — 24LC02
3RD_MBCLK, 3RD_MBDATA
C198 0.1u/16V_4

SPI FLASH(KBC)

U5 — A25L080M-F
SPI_SDI_uR R167 22_4 SPI_SDI_uR_R
SPI_SDO_uR
SPI_SCK_uR
SPI_CS0#_uR R177 10K_4
C214 0.1u/16V_4

If the Southbridge enables 'Long Wait Abort' by default, the flash device should be 50MHz (or faster)

HWPG(KBC)

R155 10K_4, R163 10K_4, R417 10K_4, R176 10K_4, R178 10K_4

<32> HWPG_1.5V — D14 BAS316
<32> HWPG_1.1V_NB — D28 BAS316
<30> HWPG_NBCORE — D11 BAS316
<28> SYS_HWPG — D10 BAS316
<32> HWPG_1.2V — D9 BAS316
<31> HWPG_1.8V — D8 BAS316
<3,17,29> CPU_COREPG — D7 BAS316
<32> HWPG_1.2V_S5 — D6 BAS316
→ HWPG

INTERNAL KEYBOARD STRIP SET(KBC)

MY0 — R141 10K_4 — +3VPCU

Thermistor(THM)

R203 47K_6
RT1 THERMISTOR_100K/F_4(NTC)
TPD_TRIP
Near TP on TOP side

POWER SWITCH(KBC)

NBSWON# — G1 — *SHORT_PAD

MMB

4/17 Add Q37,Q38,R484,R485 for MMB leakage

Q37 2N7002E, Q38 2N7002E
R484 4.7K_4, R485 4.7K_4
3RD_MBCLK_R, 3RD_MBDATA_R

PR46 SHORT_PAD_6 — MMB_VCC
C9 *Varistor_4
<22> BT_LED
<15> SATA_LED#
<22> WLAN_LED#
3RD_MBCLK_R, 3RD_MBDATA_R, MMB-ATTN
CN3 — MMB 12P

4/21 Add CP8,CP9 for EMI

CP8: SATA_LED#, NUMLED#, CAPSLED#, BT_LED
CP9: MMB-ATTN, 3RD_MBDATA_R, 3RD_MBCLK_R, WLAN_LED#

CP5, CP1, CP4, CP7, CP2, CP3, CP6 — *220PX4

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Quanta Computer Inc.	
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dcjk-2dc-g213-q53-5p-v-nb4

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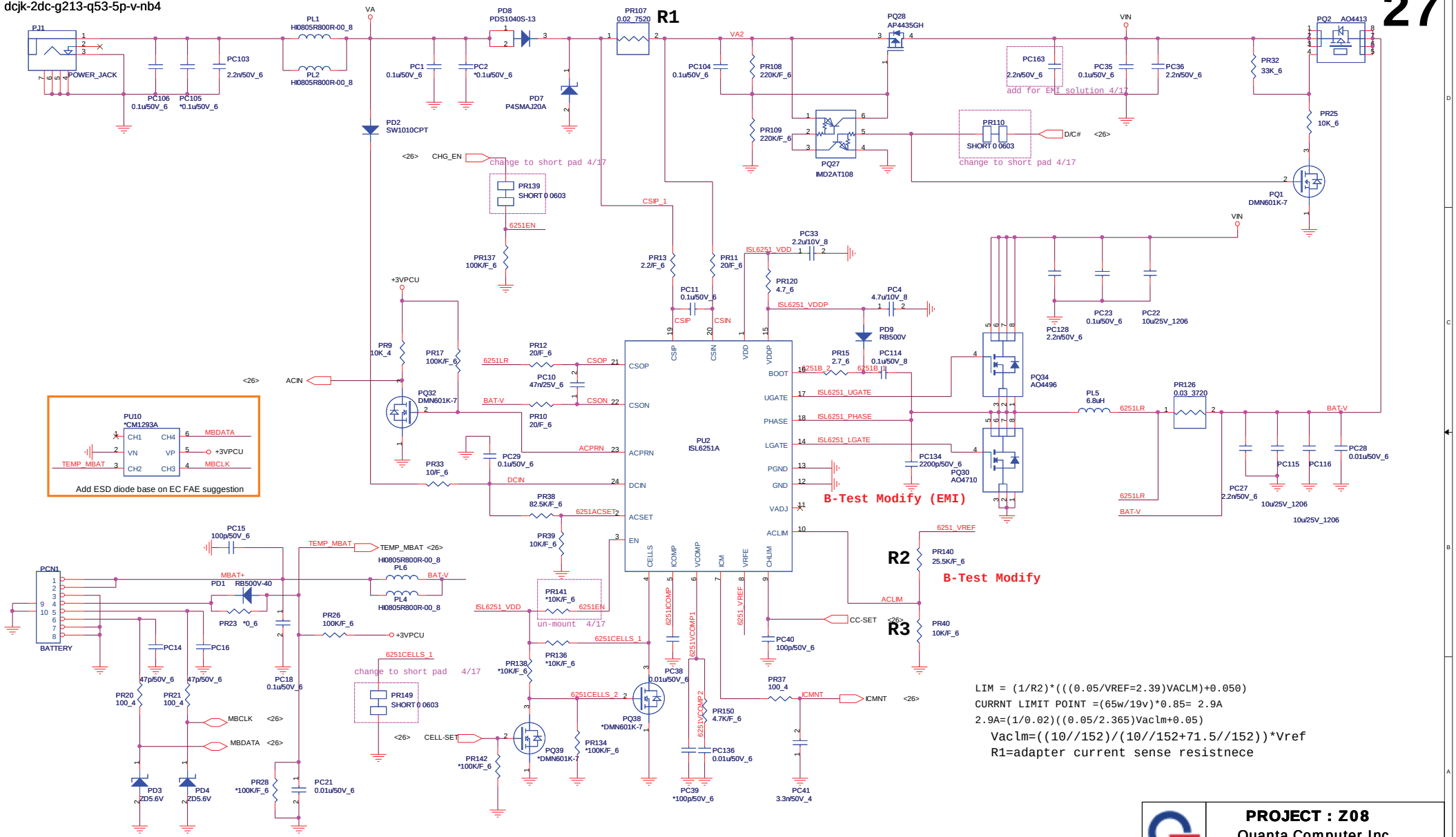
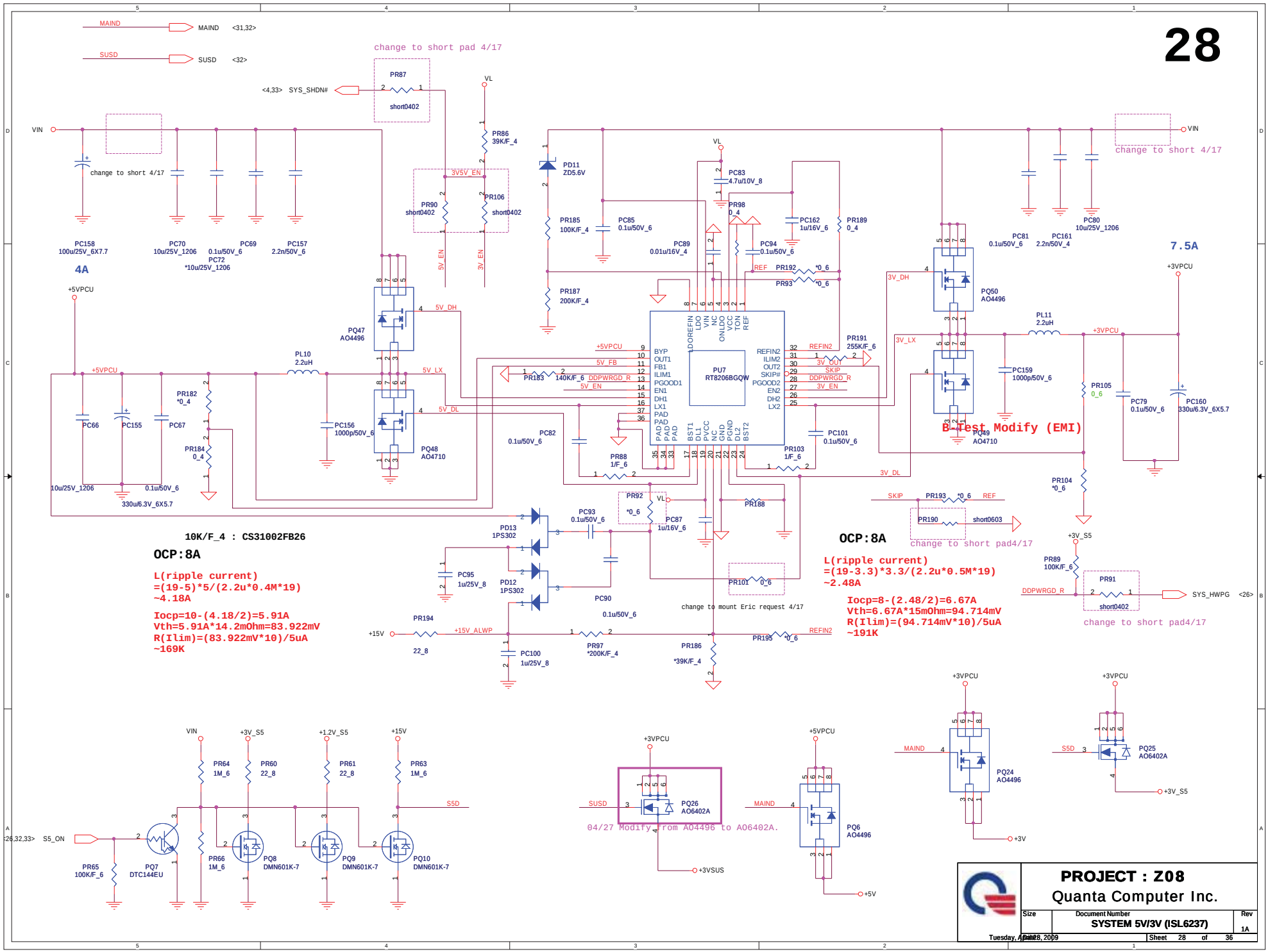


PROJECT : Z08

Quanta Computer Inc.

Size	Document Number	Rev
	CHARGER (ISL6251A)	1A
Date: Tuesday, April 28, 2009	Sheet 27 of 36	



PROJECT : Z08

Quanta Computer Inc.

Size	Document Number	Rev
	SYSTEM 5V/3V (ISL6237)	1A

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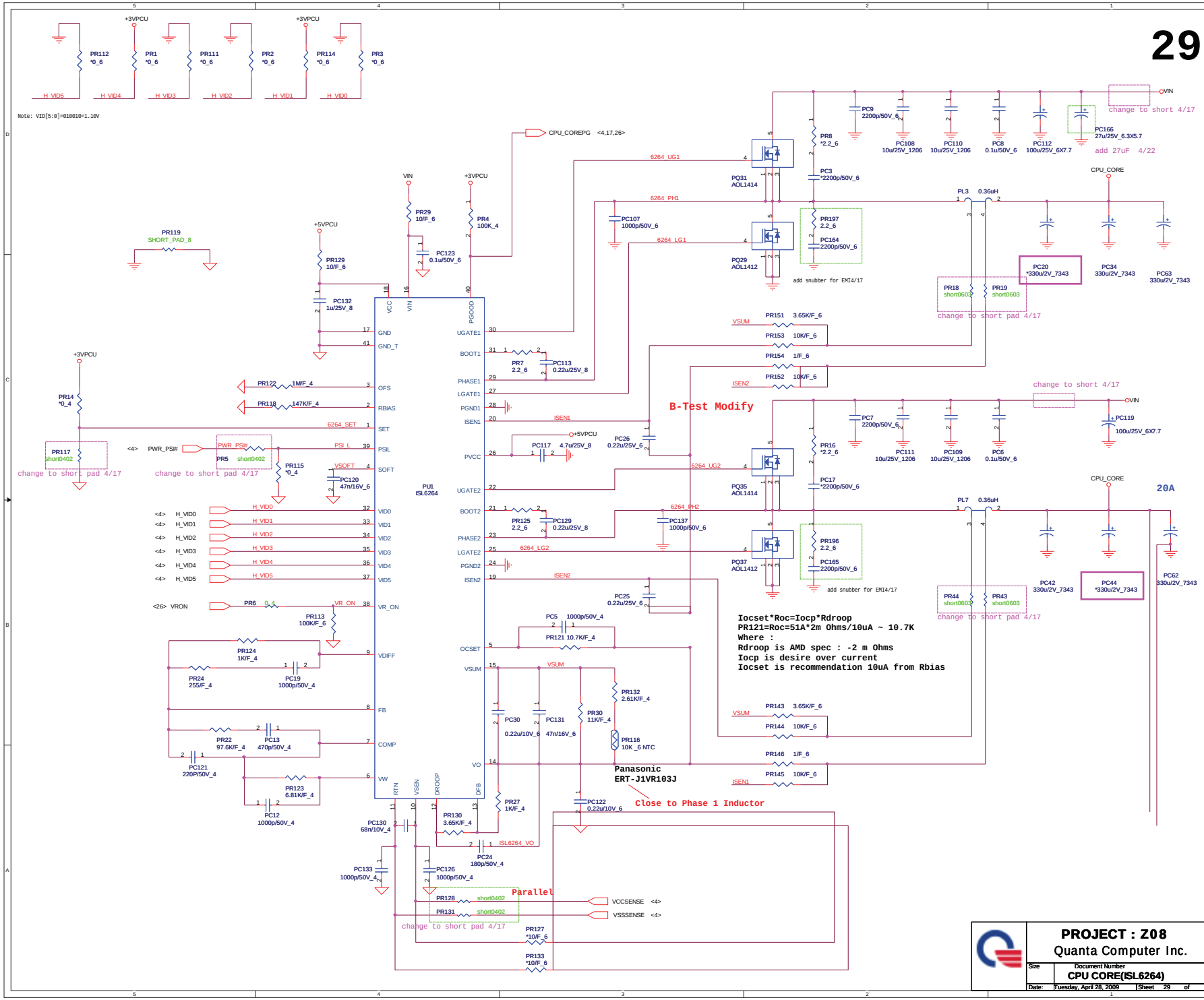
29
+3VPCU
PR112 *0_6
PR1 *0_6
PR111 *0_6
PR2 *0_6
PR114 *0_6
PR3 *0_6
H_VID5
H_VID4
H_VID3
H_VID2
H_VID1
H_VID0
Note: VID[5:0]=010010=1.10V
CPU_COREPG <4,17,26>
VIN
PR29 10/F_6
PR4 100K_4
PC123 0.1u/50V_6
+5VPCU
PR129 10/F_6
PC132 1u/25V_8
PR119 SHORT_PAD_8
PU1 ISL6264
VCC
VIN
PGOOD
GND
GND_T
UGATE1
BOOT1
PHASE1
LGATE1
PGND1
ISEN1
PVCC
UGATE2
BOOT2
PHASE2
LGATE2
PGND2
ISEN2
OFS
RBIAS
SET
PSIL
SOFT
VID0
VID1
VID2
VID3
VID4
VID5
VR_ON
VDIFF
FB
COMP
VW
RTN
VSEN
DROOP
DFB
OCSET
VSUM
VO
PR122 1M/F_4
PR118 147K/F_4
6264_SET
PR117 short0402
PWR_PSI#
PR5 short0402
PSI_L
PR115 *0_4
VSOFT
PC120 47n/16V_6
H_VID0
H_VID1
H_VID2
H_VID3
H_VID4
H_VID5
VRON
PR6 0_4
PR113 100K/F_6
PR124 1K/F_4
PR24 255/F_4
PC19 1000p/50V_4
PR22 97.6K/F_4
PC13 470p/50V_4
PC121 220P/50V_4
PR123 6.81K/F_4
PC12 1000p/50V_4
PC5 1000p/50V_4
PR121 10.7K/F_4
PC30 0.22u/10V_6
PC131 47n/16V_6
PR132 2.61K/F_4
PR30 11K/F_4
PR116 10K_6 NTC
PR27 1K/F_4
PC130 68n/10V_4
PR130 3.65K/F_4
PC24 180p/50V_4
PC133 1000p/50V_4
PC126 1000p/50V_4
PC122 0.22u/10V_6
PR128 short0402
PR131 short0402
Parallel
VCCSENSE <4>
VSSSENSE <4>
PR127 *10/F_6
PR133 *10/F_6
change to short pad 4/17
PR7 2.2_6
PC113 0.22u/25V_8
PC117 4.7u/25V_8
PC26 0.22u/25V_6
PR125 2.2_6
PC129 0.22u/25V_8
PC25 0.22u/25V_6
6264_UG1
6264_PH1
6264_LG1
PQ31 AOL1414
PQ29 AOL1412
PC107 1000p/50V_6
PR8 *2.2_6
PC3 *2200p/50V_6
PR197 2.2_6
PC164 2200p/50V_6
add snubber for EMI4/17
PC9 2200p/50V_6
PC108 10u/25V_1206
PC110 10u/25V_1206
PC8 0.1u/50V_6
PC112 100u/25V_6X7.7
PC166 27u/25V_6.3X5.7
add 27uF 4/22
PL3 0.36uH
PC20 *330u/2V_7343
PC34 330u/2V_7343
PC63 330u/2V_7343
CPU_CORE
PR18 short0603
PR19 short0603
change to short pad 4/17
VSUM
PR151 3.65K/F_6
PR153 10K/F_6
PR154 1/F_6
PR152 10K/F_6
ISEN2
B-Test Modify
change to short 4/17
PC119 100u/25V_6X7.7
PR16 *2.2_6
PC17 *2200p/50V_6
PR196 2.2_6
PC165 2200p/50V_6
PC7 2200p/50V_6
PC111 10u/25V_1206
PC109 10u/25V_1206
PC6 0.1u/50V_6
PQ35 AOL1414
PQ37 AOL1412
6264_UG2
6264_PH2
6264_LG2
PC137 1000p/50V_6
PL7 0.36uH
PC42 330u/2V_7343
PC44 *330u/2V_7343
PC62 330u/2V_7343
20A
PR44 short0603
PR43 short0603
Iocset*Roc=Iocp*Rdroop
PR121=Roc=51A*2m Ohms/10uA ~ 10.7K
Where :
Rdroop is AMD spec : -2 m Ohms
Iocp is desire over current
Iocset is recommendation 10uA from Rbias
PR143 3.65K/F_6
PR144 10K/F_6
PR146 1/F_6
PR145 10K/F_6
Panasonic
ERT-J1VR103J
Close to Phase 1 Inductor
PROJECT : Z08
Quanta Computer Inc.
Size
Document Number
CPU CORE(ISL6264)
Rev
1A
Date: Tuesday, April 28, 2009
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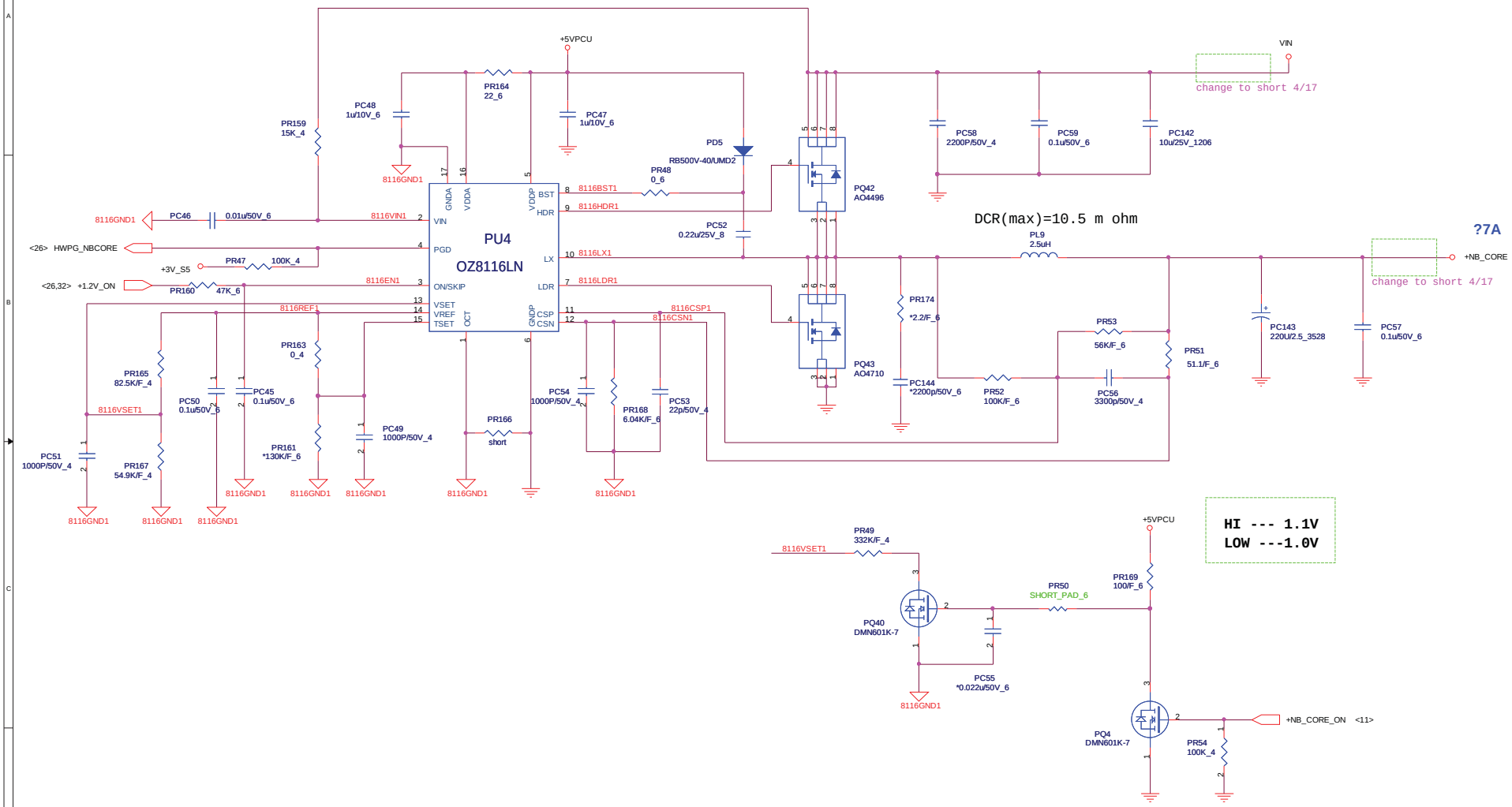
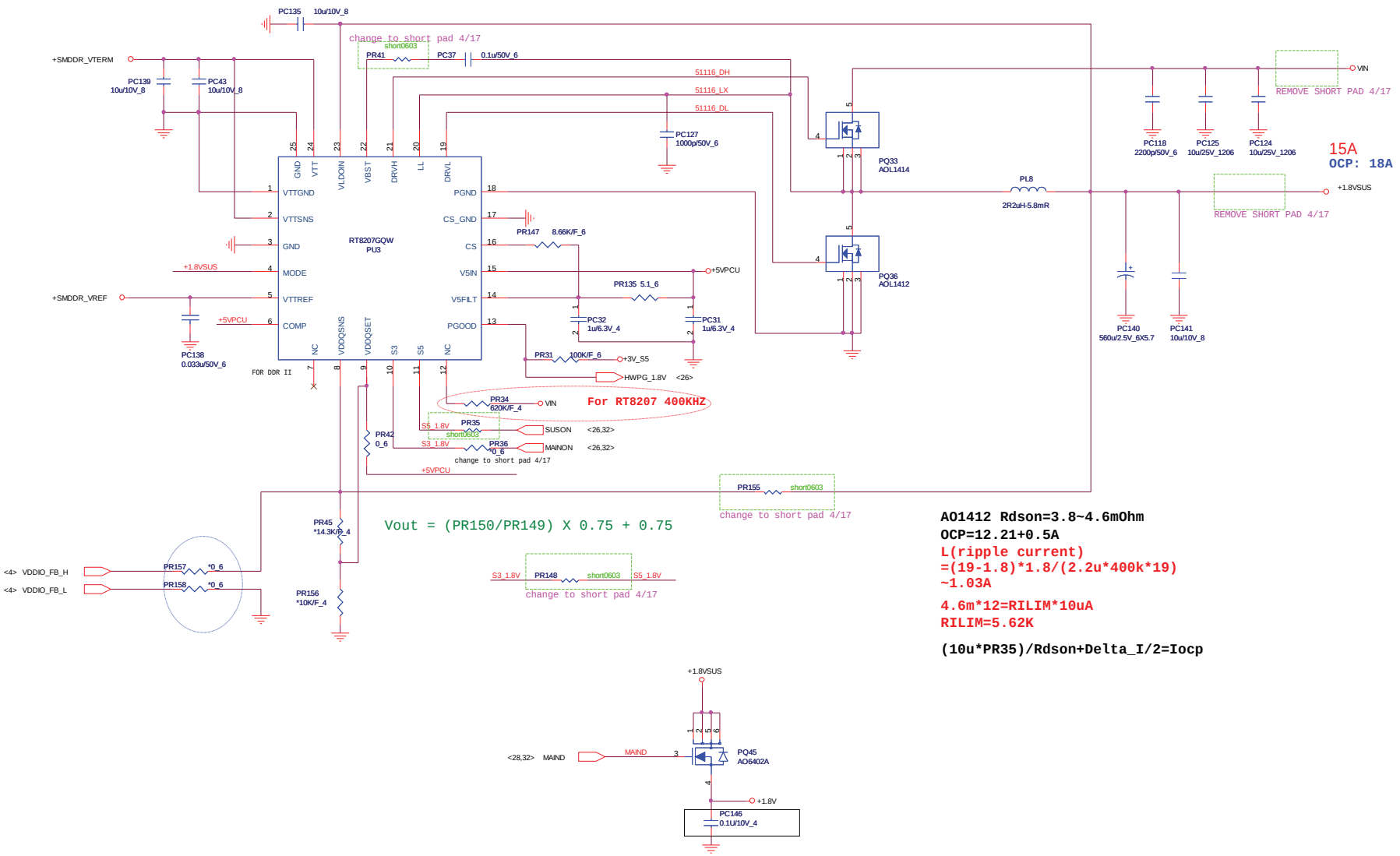


PROJECT : Z08

Quanta Computer Inc.

Size	Document Number	Rev
	NB_CORE (OZ8116LN)	1A
Date: Tuesday, April 28, 2009	Sheet 30 of 36	



PROJECT : Z08		
Quanta Computer Inc.		
Size	Document Number: DDR 1.8V(TPS51116)	Rev: 1A
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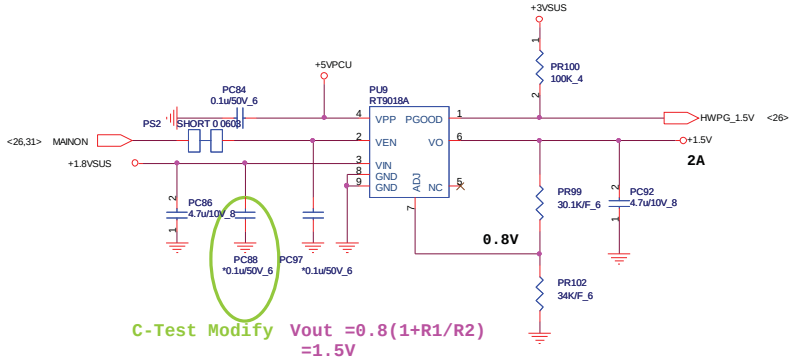

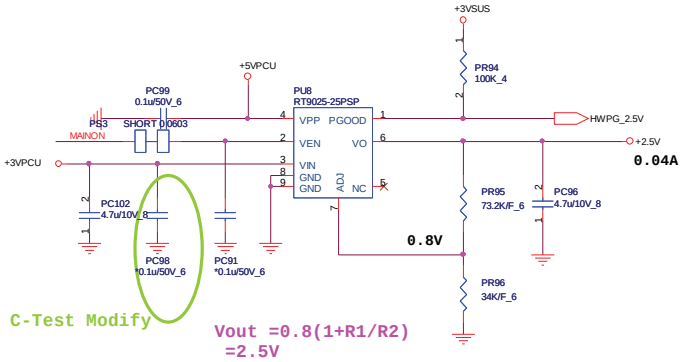

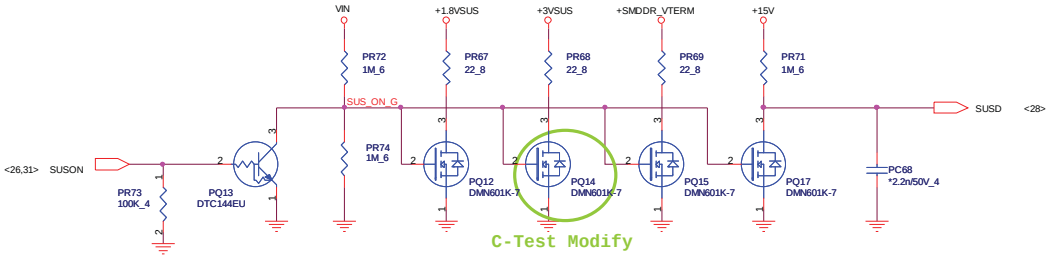

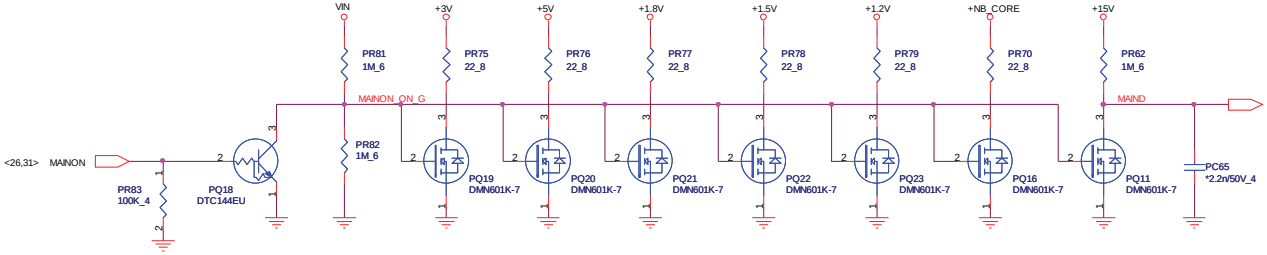

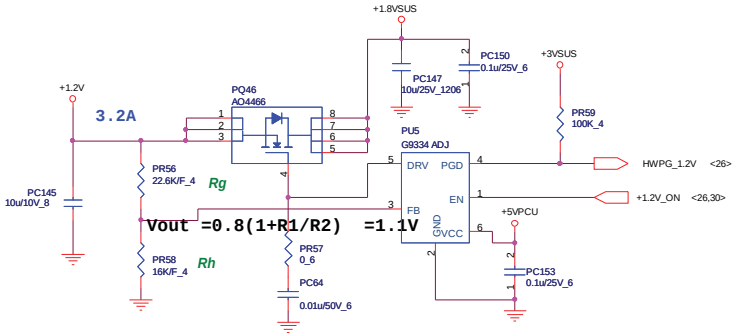

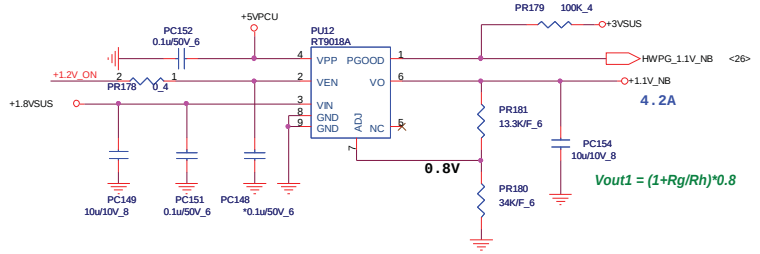

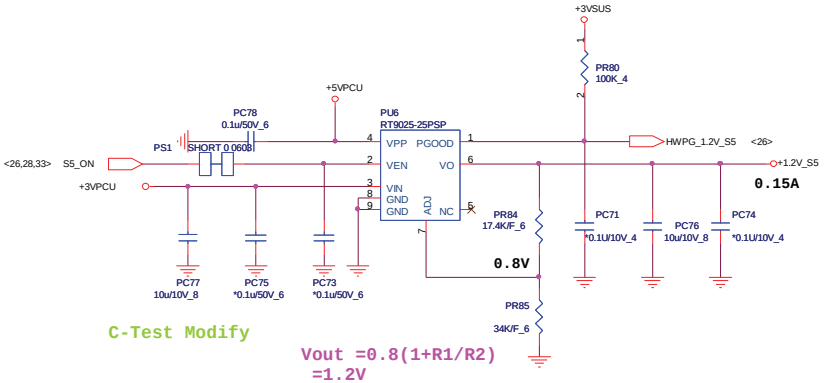

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Quanta Computer Inc.

Size	Document Number	Rev
	Discharge (1.25V/1.5V)	1A
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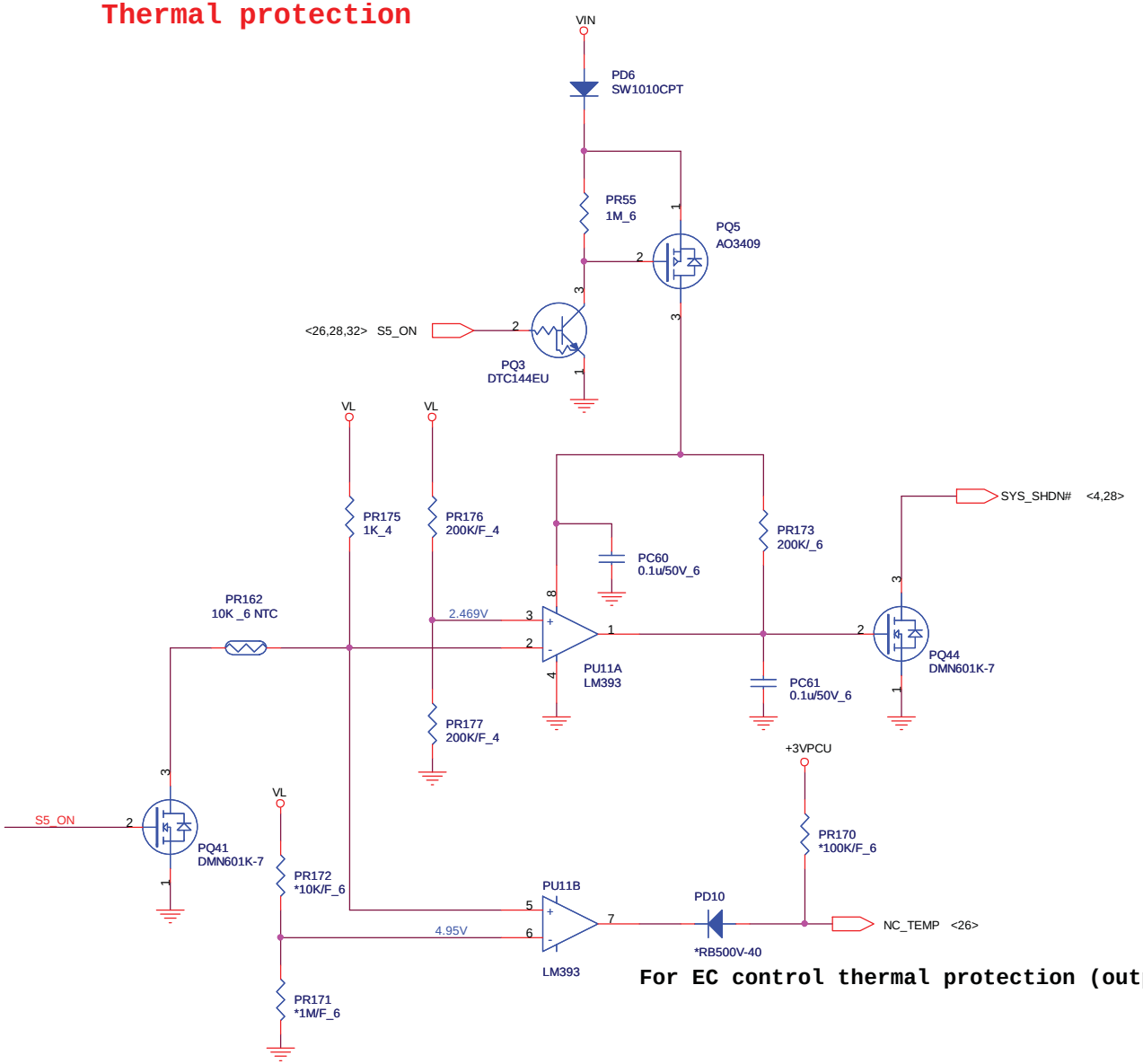
Thermal protection



For EC control thermal protection (output 3.3V)

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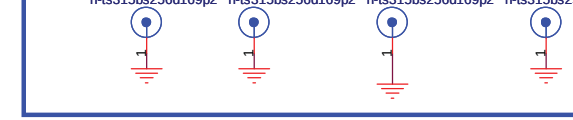
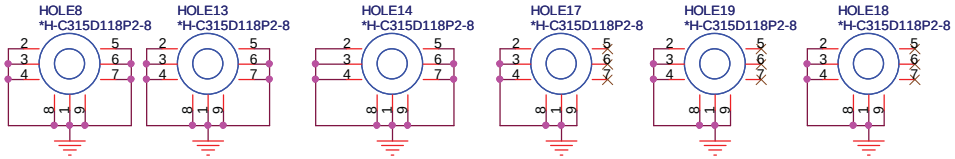
CPU HOLE

HOLE9 *h-ts315bs256d169p2
HOLE7 *h-ts315bs256d169p2
HOLE10 *h-ts315bs256d169p2
HOLE6 *h-ts315bs256d169p2



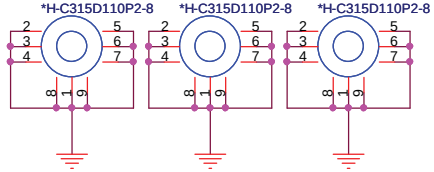
8 X 3.0

HOLE8 *H-C315D118P2-8
HOLE13 *H-C315D118P2-8
HOLE14 *H-C315D118P2-8
HOLE17 *H-C315D118P2-8
HOLE19 *H-C315D118P2-8
HOLE18 *H-C315D118P2-8



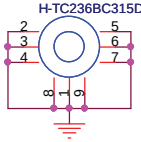
8 X 2.8

HOLE1 *H-C315D110P2-8
HOLE4 *H-C315D110P2-8
HOLE5 *H-C315D110P2-8

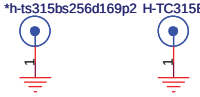


TOP 8 X 3.6
BOT 6 X 3.6

HOLE2 H-TC236BC315D142P2-8



HOLE12 *h-ts315bs256d169p2
HOLE11 H-TC315BC236D142P2

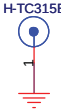


HOLE15 *h-ts315bs256d169p2

HOLE3 *h-ts315bs256d169p2

MDC

HOLE16 H-TC315BC236D142P2



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Quanta Computer Inc.

Size	Document Number	Rev
	Blank	1A
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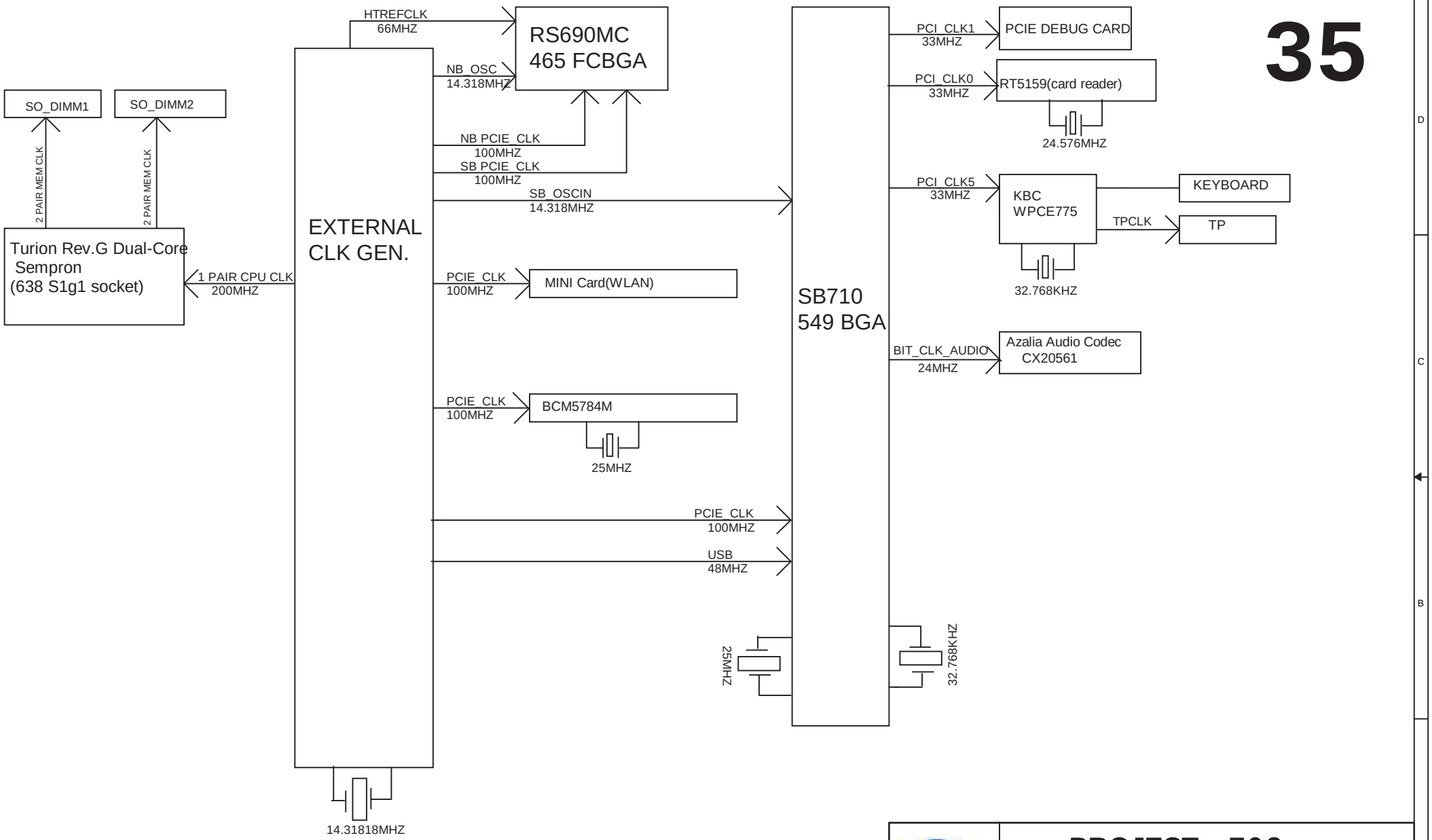

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Quanta Computer Inc.

Size	Document Number	Rev
	Clock distribution diagram	1A
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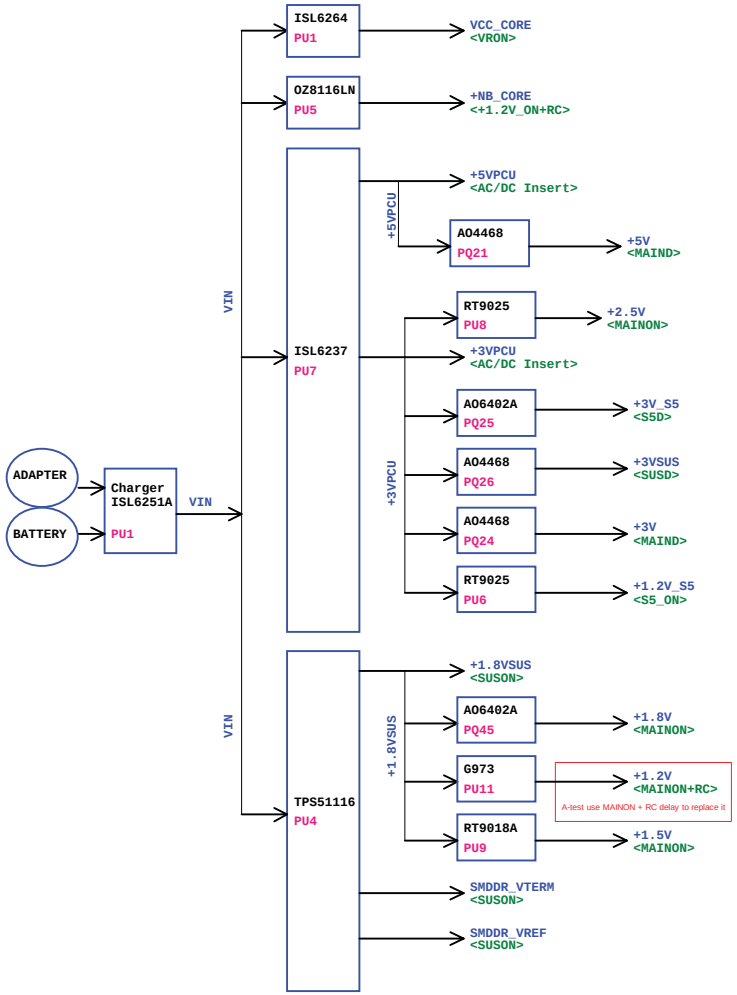

POWER	Distribution
VCC_CORE	CPU
+5VPCU	Battery LED , Power LED , USB , CIR , RTC
+3VPCU	HALL SENSOR , Battery LED , RF LED , kill SW , Jumper LED , KB , Power Board , EC , ID , SPI Flash , CIR
+NB_CORE	RS690M
+5V	CAMERA , Card Reader LED , ODD/HDD LED , Felica , T/P , T/sensor , CRT , HDMI , SB600 , CPU FAN , MXM , Headphone , EC , INT SPK AMP
+3V	HALL SENSOR , LCD PANEL , LVDS , WLAN , HD Decoder , NEW CARD , KB , KB LED , XD LED , Blue tooth , Touch sensor , Card Reader (OZ129) , ODD/HDD , HDMI , CRT , TVOUT , REQUIRED STRAPS , DEBUG STRAPS , SB600 , RS690M , DDR , CPU Thermal monitor , CPU FAN , CLK , MXM , VR , FM Tuner MDC , Headphone , EC , LAN , Codec(CX 20561)
+3V_S5	WLAN , NEW CARD , SB600 , MXM , LAN
+3VSUS	Finger print , SB600
+2.5V	CPU
+1.2V_S5	SB600
+1.8VSUS	SB600 , DDR , CPU , HDT
+1.8V	SB600 , LCD , LVDS , RS690M
+1.2V	SB600 , RS690M , CPU , WLAN , HD Decoder , NEW CARD
+SMDDR_VTERM	DDR , CPU
+SMDDR_VREF	DDR
+5V_S5	

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