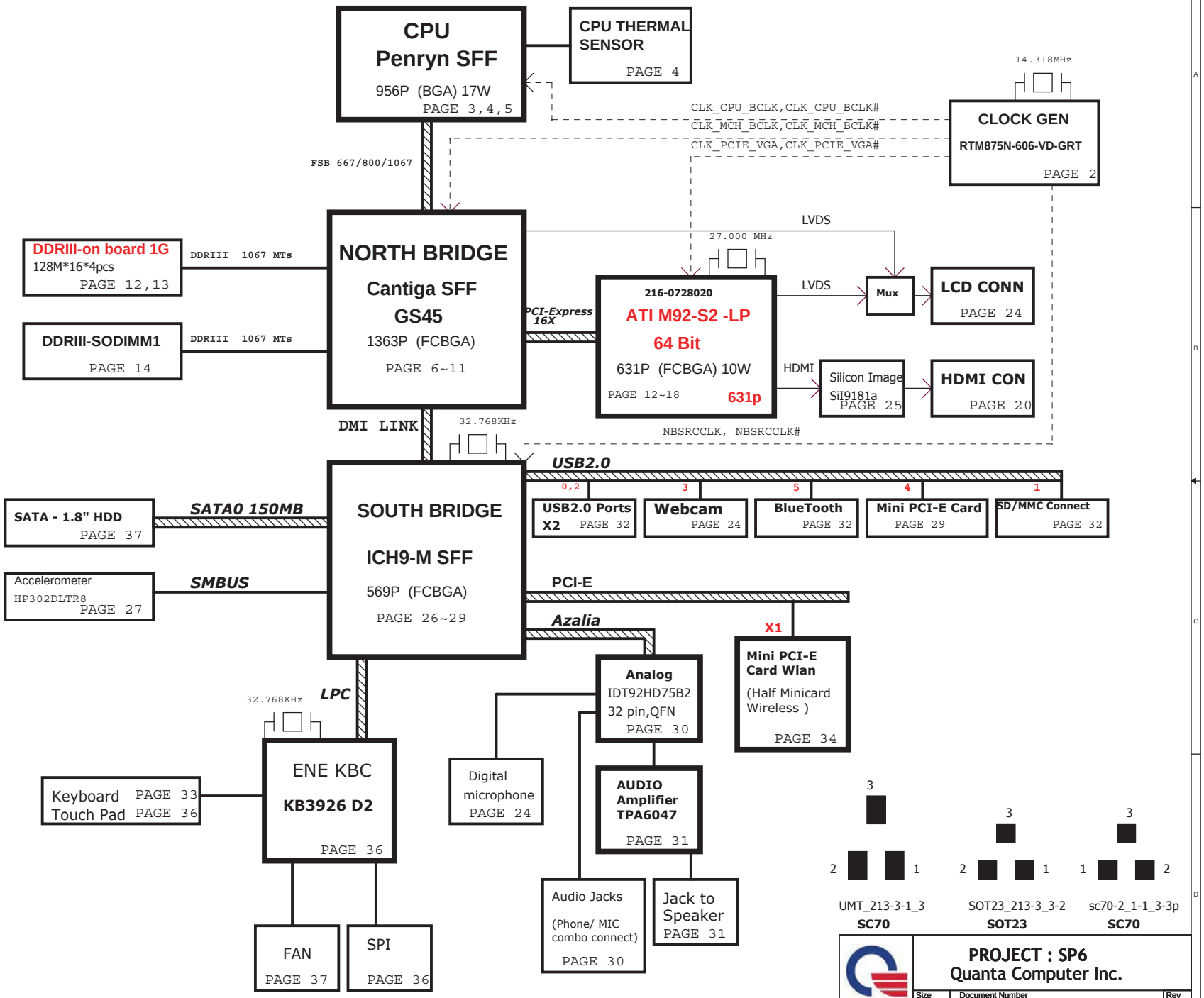
Bond, SP6 BLOCK DIAGRAM

01

PCB STACK UP

12L HDI

TOP
GND1
IN1
GND2
IN2
GND3
VCC
IN3
GND4
IN4
GND3
BOT



SYSTEM CHARGER(ISL6251AHAZ-T) PAGE 37

SYSTEM POWER ISL6237IRZ-T PAGE 38

DDR II SMDDR_VTERM 1.8V/1.8VSUS(TPS51116REGR) PAGE 42

VCCP +1.5V AND GMCH 1.05V(RT8204) PAGE 39

VGACORE(1.025V)Oz8119 PAGE 41

CPU CORE ISL6262A PAGE 40

PROJECT : SP6
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(4,7,10,12,14,24,25,26,27,28,29,30,31,32,33,34,35,36,45) +3V
(3,4,5,6,7,9,10,26,29,42,44) +1.05V

U12

CK505

RTM875N-606-VD-GRT

CLKREQ	SRC Port
CR#_B SRC 1,4	CLK_MCH_OE# SRC4
CR#_A SRC 0,2	CLK_VGA_OE# SRC2
CR#_G SRC 9	CLK_SATA_OE# SRC9
CR#_H SRC 10	CLK_MINI_OE# SRC10

1 = overclocking of CPU and SRC not Allowed

Change to 33p

14.318MHz
30PPM,CL=20PF

0=UMA

27M_SEL PIN13	PIN20	PIN21	PIN24	PIN25
0=UMA	DOT96T	DOT96C	SRCT1/LCDT_100	SRCT1/LCDT_100
1 = External VGA	SRCT0	SRCC0	27Mout-NSS	27Mout-SS

For Realtek reserve

CPU Clock select

FSC	FSB	FSA	CPU	SRC	PCI
1	0	1	100	100	33
0	0	1	133	100	33
0	1	1	166	100	33
0	1	0	200	100	33
0	0	0	266	100	33
1	0	0	333	100	33
1	1	0	400	100	33
1	1	1	RSVD	100	33

1K to NB only when XDP is implement.No XDP can use 0 ohm

for EMI

CK505	QFN64	
Realtek	RTM875N-606-VD-GR	AL000875000
Silego	SLG8SP513VTR	AL8SP513000

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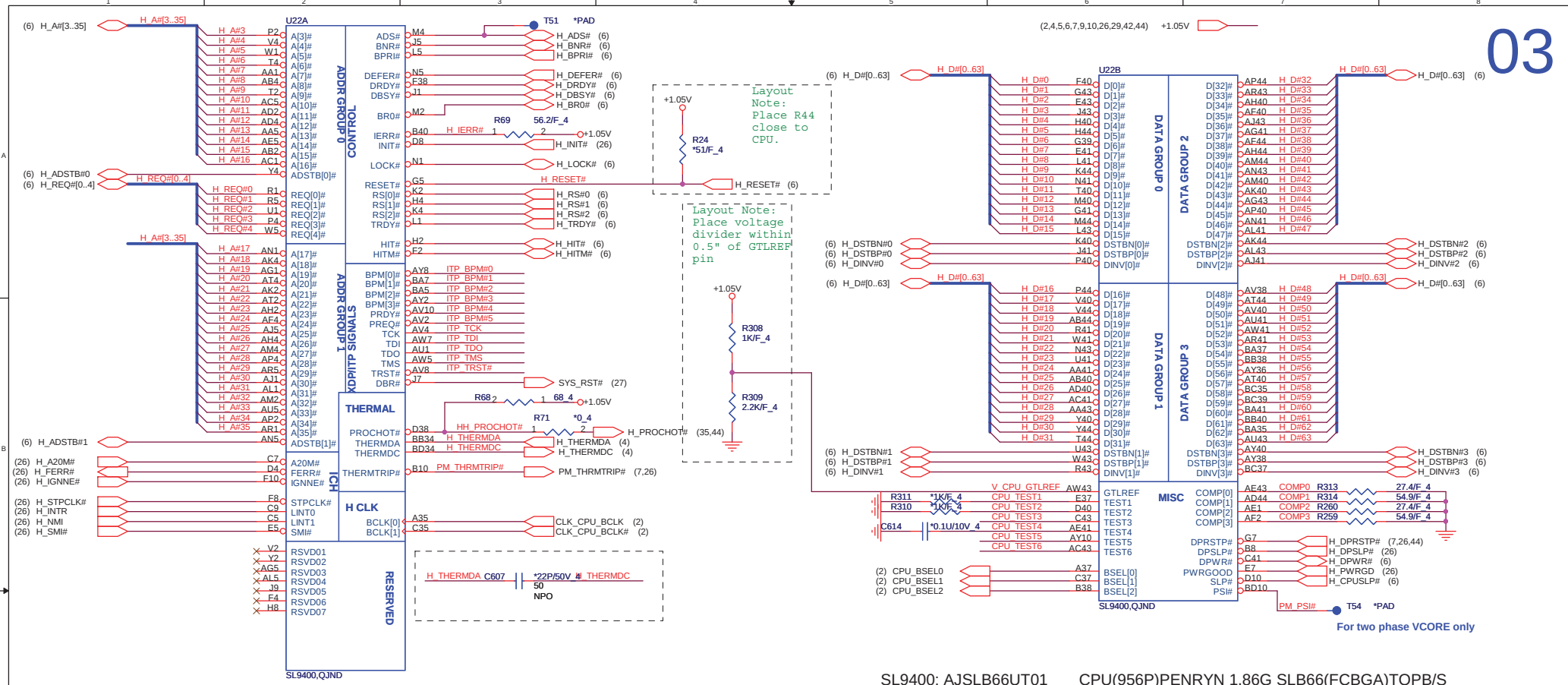
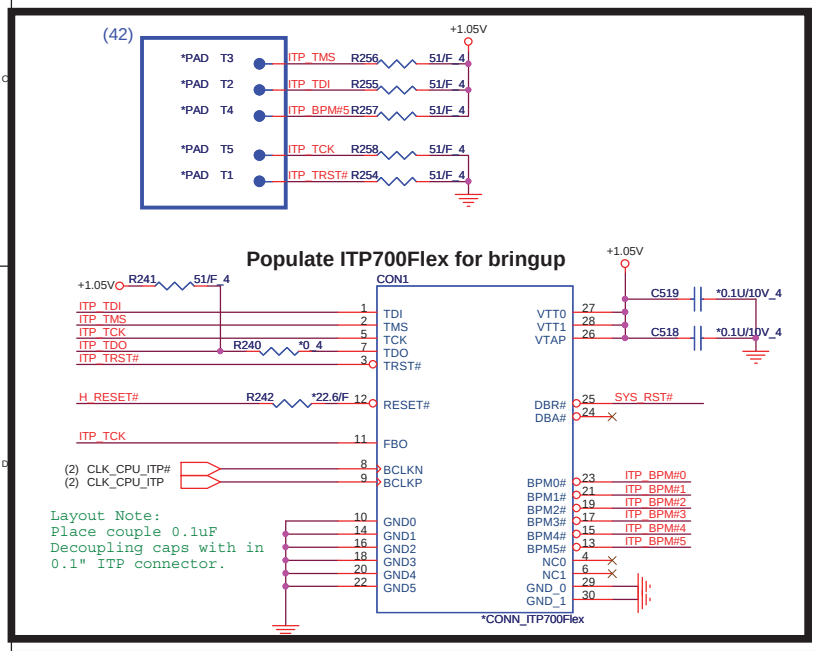


SL9400: AJSLB66UT01 CPU(956P)PENRYN 1.86G SLB66(FCBGA)TOPB/S
SL9400: AJSLB66UT02 CPU(956P)PENRYN 1.86G SLB66(FCBGA)

SL9600: AJSLGEQUT01 CPU(956P)PENRYN 2.13G SLGEQ(BGA)TOPB/S
SL9600: AJSLGEQUT00 CPU(956P)PENRYN 2.13G SLGEQ(BGA)



For the purpose of testability, route these signals through a ground referenced Z0 = 55ohm trace that ends in a via that is near a GND via and is accessible through an oscilloscope connection.

Signal	ITP disable guidelines		
TDI	Resistor Value		
TMS	150 ohm +/- 5%	Connect To	Resistor Placement
TRST#	39 ohm +/- 5%	VTT	Within 2.0" of the ITP
TCK	680 ohm +/- 5%	VTT	Within 2.0" of the ITP
TDO	27 ohm +/- 5%	OpenGND	Within 2.0" of the ITP
ITP_EN		GND	Within 2.0" of the ITP
	R268 Depop	VTT	Within 2.0" of the ITP
		+3VRUN	Close to CK410M Pin8

NB5

PROJECT : SP6
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Size	Document Number	Rev
Custom	Penryn (HOST BUS) 1/3	1A

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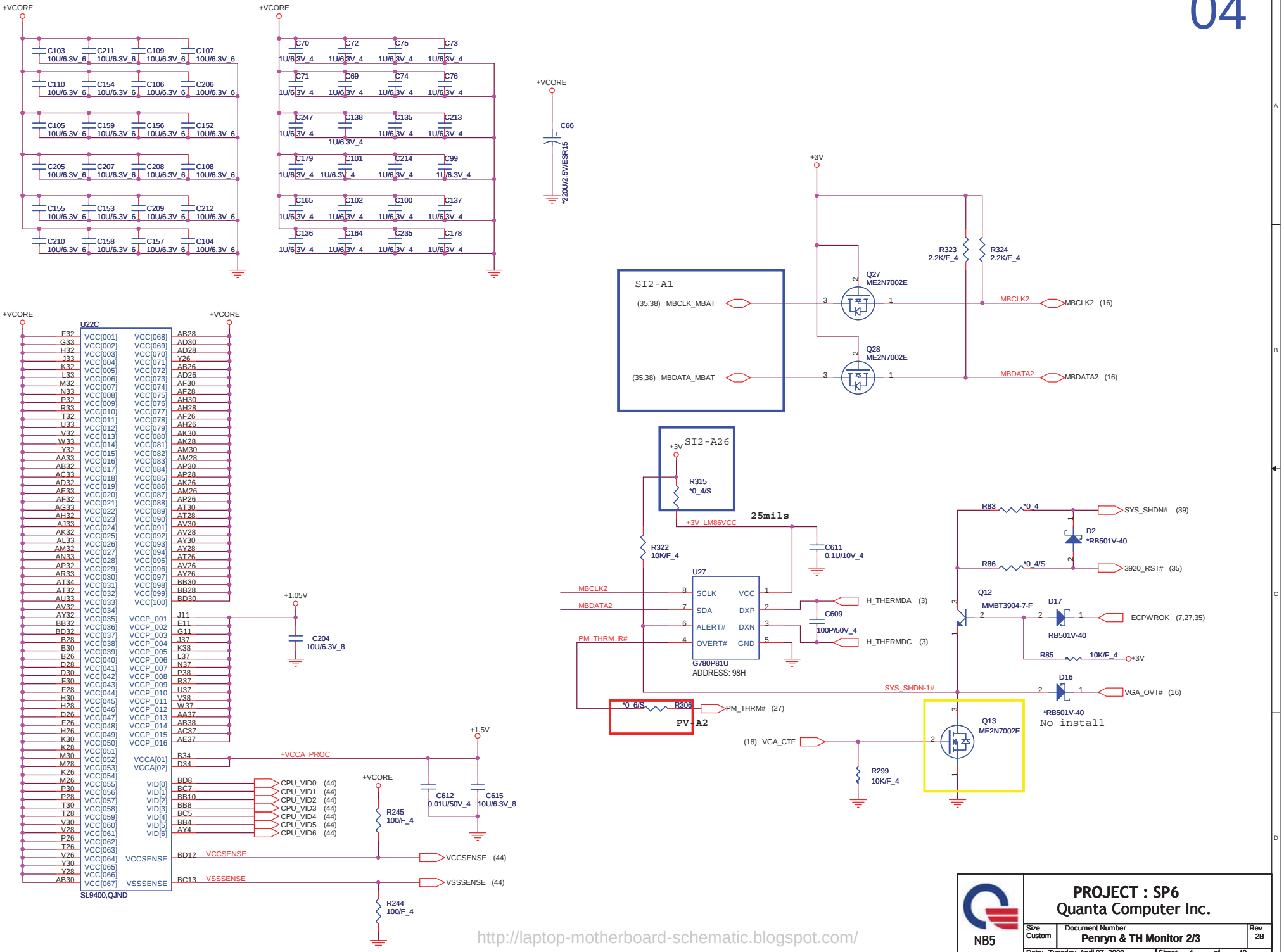
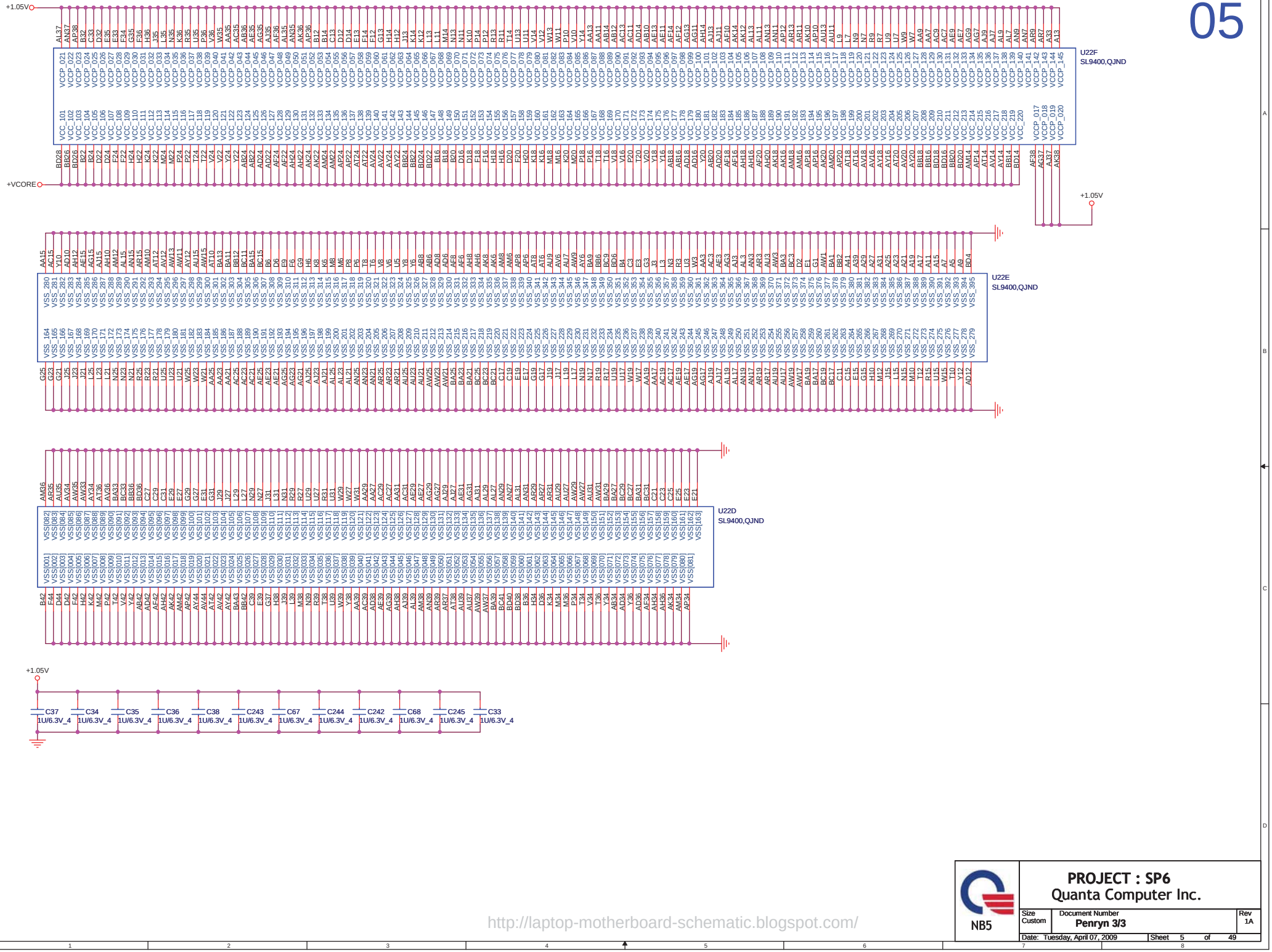
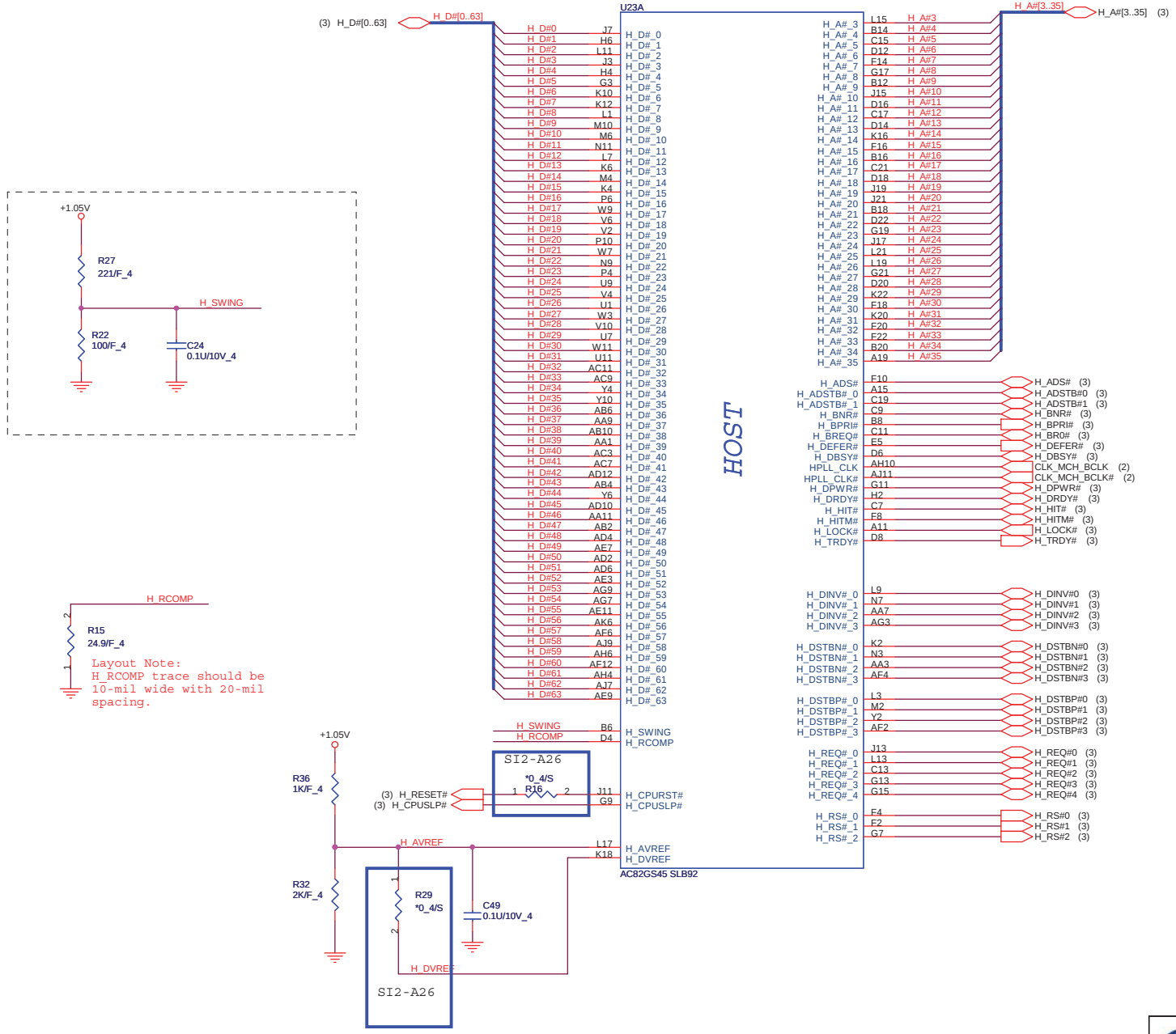
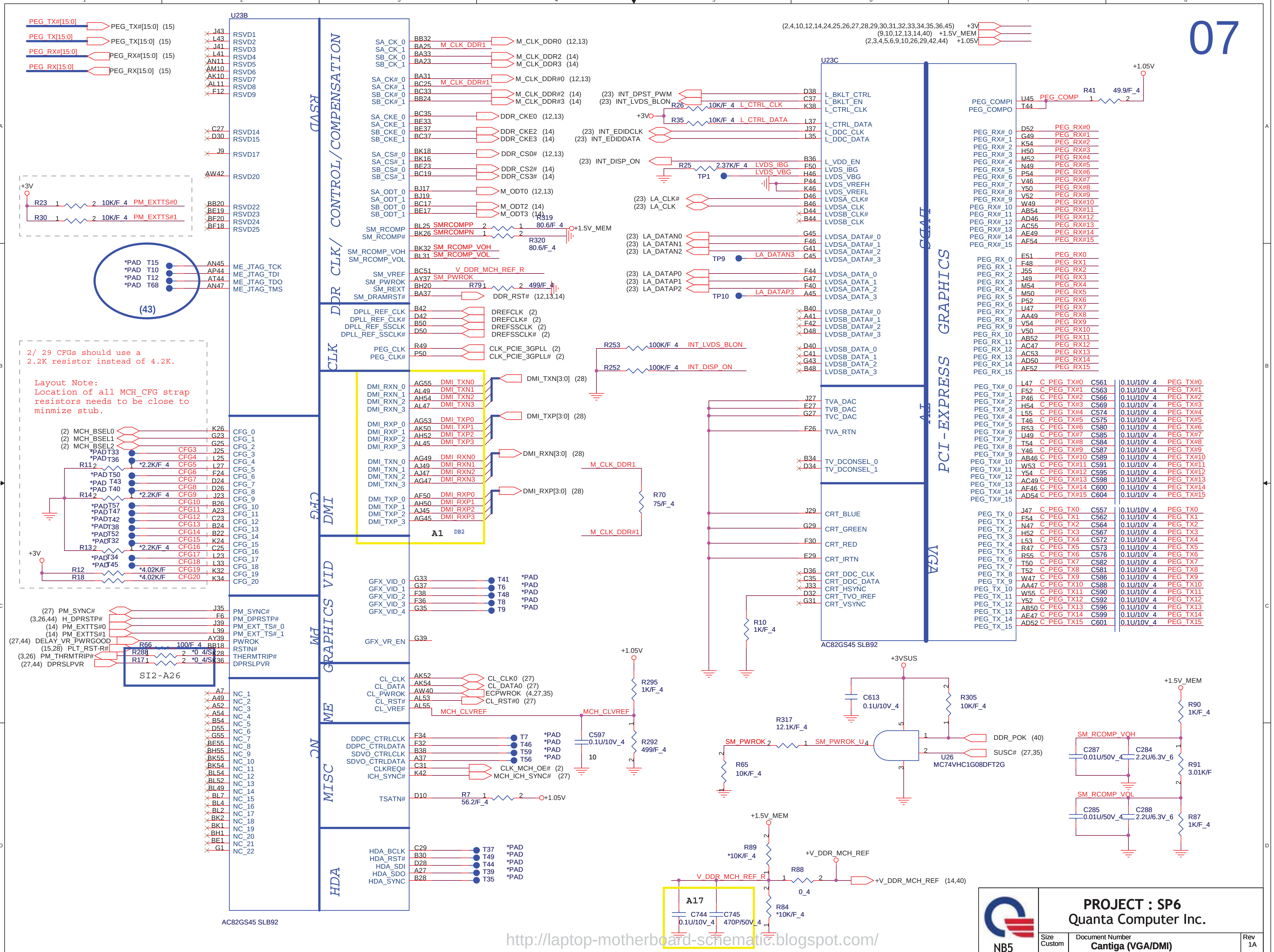






NB5	PROJECT : SP6 Quanta Computer Inc.	
Size: Custom	Document Number: Cantiga hot	Rev: 1A
Date: Tuesday, April 07, 2009	Sheet 6 of 49	



PROJECT : SP6	
Quanta Computer Inc.	
Size: Custom	Document Number: Cantiga (VGA/DMI)	Rev: 1A
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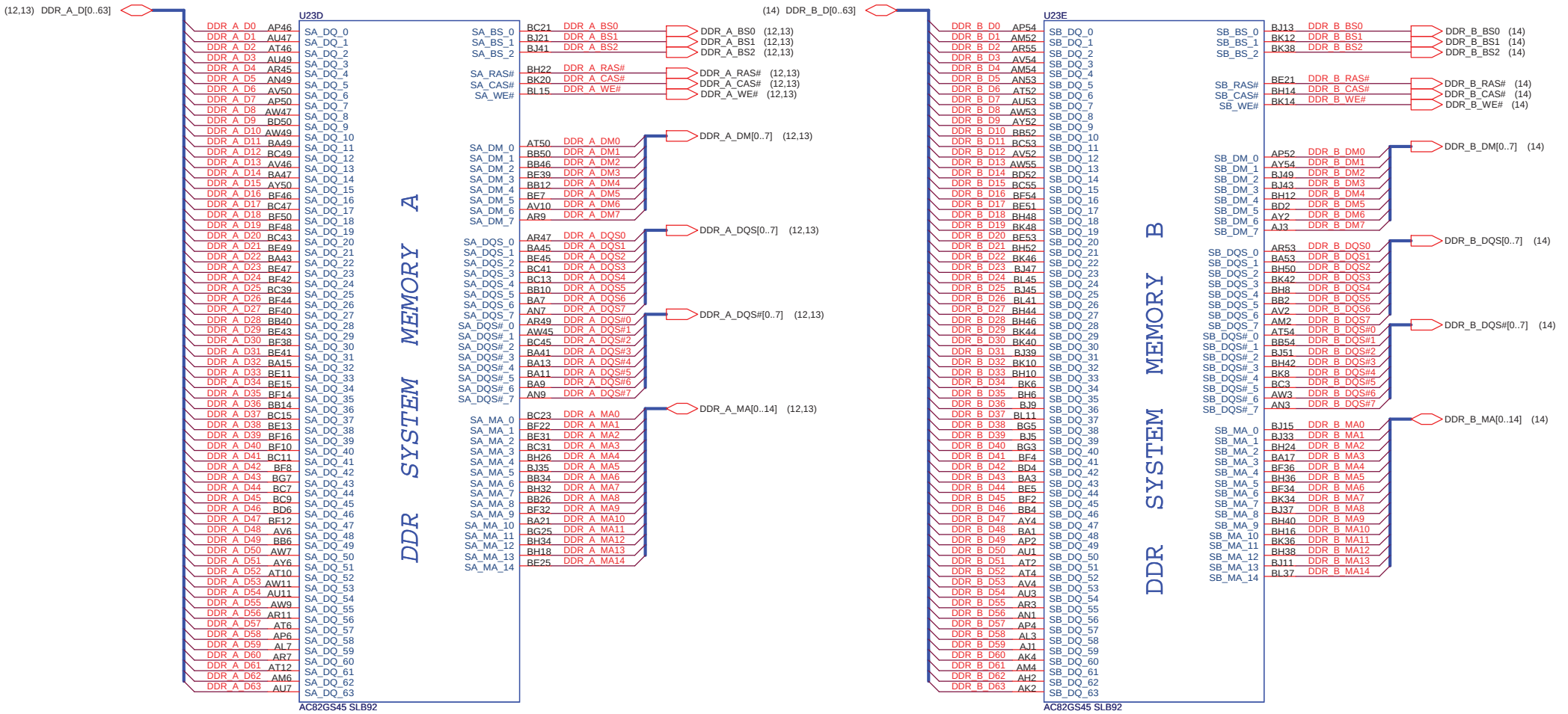

NB5

PROJECT : SP6
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Size	Document Number	Rev
Custom	Cantiga (DDR interface)	1A
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Ivcc_sm (DDR3,1.5V,1066MTs) -->4140mA

220U_7343 USE HEIGHT = 1.8mm

IVCC_AXG-->7700mA(GS45)

U23G

U23F

Layout Note:
370 mils from edge.

Layout Note:
Inside GMCH cavity.

Layout Note:
370 mils from edge.

VCC SM

VCC GFX NCTF

VCC GFX

VCC SM LF

VCC CORE

VCC NCTF

POWER

AC82GS45 SLB92

render standby feature is not implemented can be left

PROJECT : SP6
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Size: Custom | Document Number: Cantiga (Vcc) | Rev: 1A

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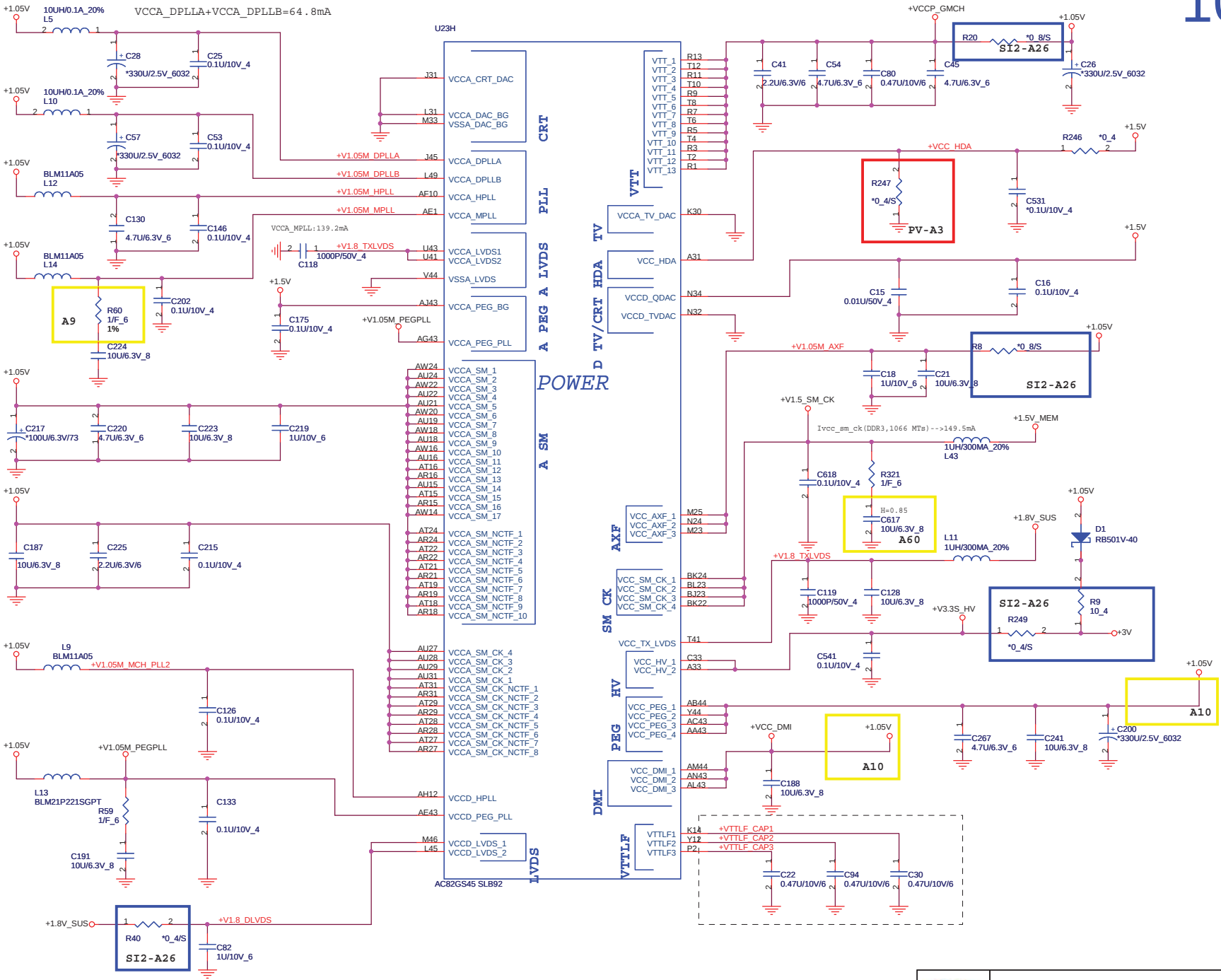
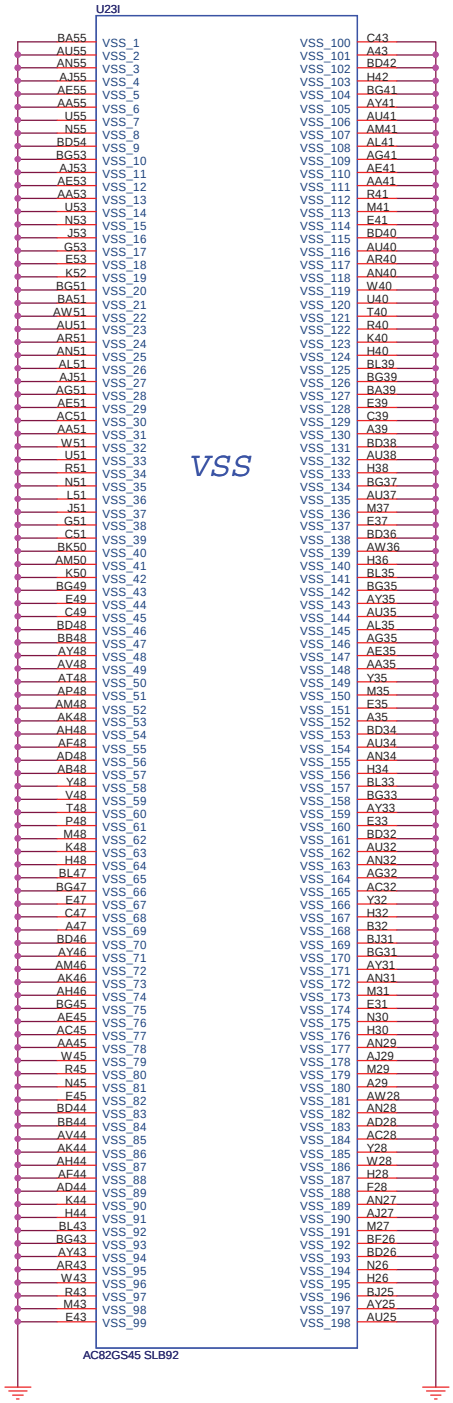
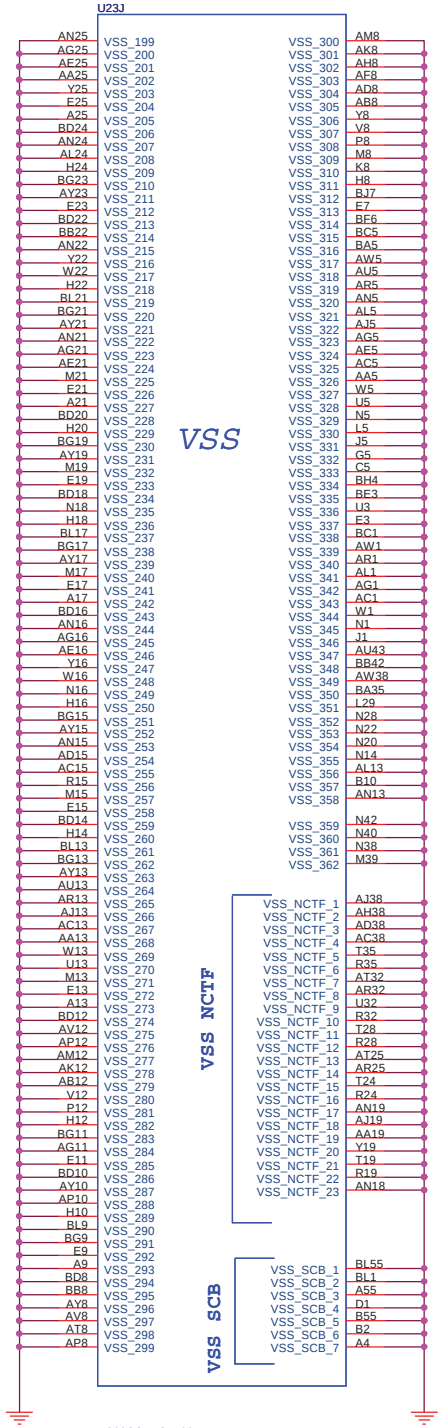


	PROJECT : SP6 Quanta Computer Inc.	
Size: Custom	Document Number: Cantiga (Power)	Rev: 1A
NB5	Date: Tuesday, April 07, 2009	Sheet 10 of 49





PROJECT : SP6	
Quanta Computer Inc.	
Size: Custom	Document Number: Cantiga (Vss)
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Date: Tuesday, April 07, 2009	Sheet 11 of 49

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(7,9,10,13,14,40) +1.5V_MEM
(2,4,7,10,14,24,25,26,27,28,29,30,31,32,33,34,35,36,45) +3V
(7,14,40) +V_DDR_MCH_REF

D0

U5 — K4B2G1646B-HCF8

(8,13) DDR_A_MA[0..14]
DDR_A_MA0 N4 … DDR_A_MA14 T8, DDR_A_MA12 N8, DDR_A_MA13 T4, M8
A0 A1 A2 A3 A4 A5 A6 A7 A8 A9 A10/AP A11 A12 NC1_A13 NC2_A14 NC3_A15

DDR_A_D[0..63] (8,13)
LDQ0 LDQ1 LDQ2 LDQ3 LDQ4 LDQ5 LDQ6 LDQ7 UDQ0 UDQ1 UDQ2 UDQ3 UDQ4 UDQ5 UDQ6 UDQ7
DDR_A_D1 DDR_A_D3 DDR_A_D7 DDR_A_D6 DDR_A_D0 DDR_A_D2 DDR_A_D5 DDR_A_D4 DDR_A_D14 DDR_A_D15 DDR_A_D12 DDR_A_D8 DDR_A_D11 DDR_A_D13 DDR_A_D9 DDR_A_D10

UDQS LDQS UDQS# LDQS#
DDR_A_DQS1 (8) DDR_A_DQS0 (8) DDR_A_DQS#1 (8) DDR_A_DQS#0 (8)

UDM LDM
DDR_A_DM1 (8) DDR_A_DM0 (8)

(8,13) DDR_A_BS0 (8,13) DDR_A_BS1 (8,13) DDR_A_BS2 (7,13) DDR_CS0# (7,13) M_CLK_DDR0 (7,13) M_CLK_DDR#0 (7,13) DDR_CKE0 (8,13) DDR_A_CAS# (8,13) DDR_A_RAS# (8,13) DDR_A_WE#
BA0 BA1 BA2 CS# CK CK# CKE CAS# RAS# WE#

(7,13) M_ODT0 — ODT

+1.5V_MEM — VDD_1 … VDD_9, VDDQ_1 … VDDQ_9

VSS1 … VSS12, VSSQ1 … VSSQ9

M_VREF_DQ_MD — VREFDQ
M_VREF_CA_MD — VREFCA
C347 0.1U/10V_4, C324 0.1U/10V_4

NC1 NC2 NC3 NC4 NC/ODT1 NC/CS1#

RESET# — DDR_RST# (7,13,14)
ZQ/ZQ0 — DDR_ZQ1
NC/CE1
NC/ZQ1 — R118 240/F_4

D1

U6 — K4B2G1646B-HCF8

(8,13) DDR_A_MA[0..14]
DDR_A_MA0 N4 … DDR_A_MA14 T8, DDR_A_MA10 L8, DDR_A_MA11 R8, DDR_A_MA12 N8, DDR_A_MA13 T4, M8
A0 A1 A2 A3 A4 A5 A6 A7 A8 A9 A10/AP A11 A12 NC1_A13 NC2_A14 NC3_A15

DDR_A_D[0..63] (8,13)
LDQ0 LDQ1 LDQ2 LDQ3 LDQ4 LDQ5 LDQ6 LDQ7 UDQ0 UDQ1 UDQ2 UDQ3 UDQ4 UDQ5 UDQ6 UDQ7
DDR_A_D19 DDR_A_D16 DDR_A_D18 DDR_A_D20 DDR_A_D21 DDR_A_D23 DDR_A_D22 DDR_A_D17 DDR_A_D30 DDR_A_D24 DDR_A_D28 DDR_A_D29 DDR_A_D27 DDR_A_D26 DDR_A_D25 DDR_A_D31

UDQS LDQS UDQS# LDQS#
DDR_A_DQS3 (8) DDR_A_DQS2 (8) DDR_A_DQS#3 (8) DDR_A_DQS#2 (8)

UDM LDM
DDR_A_DM3 (8) DDR_A_DM2 (8)

(8,13) DDR_A_BS0 (8,13) DDR_A_BS1 (8,13) DDR_A_BS2 (7,13) DDR_CS0# (7,13) M_CLK_DDR0 (7,13) M_CLK_DDR#0 (7,13) DDR_CKE0 (8,13) DDR_A_CAS# (8,13) DDR_A_RAS# (8,13) DDR_A_WE#
BA0 BA1 BA2 CS# CK CK# CKE CAS# RAS# WE#

(7,13) M_ODT0 — ODT

+1.5V_MEM — VDD_1 … VDD_9, VDDQ_1 … VDDQ_9

VSS1 … VSS12, VSSQ1 … VSSQ9

M_VREF_DQ_MD — VREFDQ
M_VREF_CA_MD — VREFCA
C358 0.1U/10V_4, C322 0.1U/10V_4

NC1 NC2 NC3 NC4 NC/ODT1 NC/CS1#

RESET# — DDR_RST# (7,13,14)
ZQ/ZQ0 — DDR_ZQ2
NC/CE1
NC/ZQ1 — R127 240/F_4

+0.75V_DDR_VTT
C383 1U/10V_6 0603 10
C404 1U/10V_6 0603 10

Please these resistor closely DIMMA,all trace length<750 mil.

+0.75V_DDR_VTT

RN5 36X4
(8,13) DDR_A_MA6 (8,13) DDR_A_MA7 (8,13) DDR_A_MA4 (8,13) DDR_A_MA9

RN6 36X4
(8,13) DDR_A_MA14 (8,13) DDR_A_MA8 (8,13) DDR_A_MA11 (8,13) DDR_A_MA13

RN4 36X4
(8,13) DDR_A_MA1 (8,13) DDR_A_MA2 (8,13) DDR_A_BS1 (8,13) DDR_A_MA5

RN3 36X4
(8,13) DDR_A_MA12 (8,13) DDR_A_MA0 (8,13) DDR_A_BS2 (8,13) DDR_A_MA3

RN1 36X4
(7,13) DDR_CKE0 (8,13) DDR_A_CAS# (7,13) M_ODT0 (8,13) DDR_A_RAS#

RN2 36X4
(8,13) DDR_A_MA10 (8,13) DDR_A_BS0 (7,13) DDR_CS0# (8,13) DDR_A_WE#

+0.75VSMVREF_DIM
R123 *0_4/S — M_VREF_DQ_MD — M_VREF_DQ_MD (13)
R137 *0_4/S — M_VREF_CA_MD — M_VREF_CA_MD (13)
C700 0.1U/10V_4, C421 2.2U/6.3V_6

SI2-A26

+3V
10 *0.1U/10V_4 C362 X7R

U10 — *M34C02-RDW6TP
VCC NC SCL SDA — A0 A1 A2 VSS
(2,14,32,34) CGCLK_SMB
(2,14,32,34) CGDAT_SMB
R109 *1K/F_4, R110 *1K/F_4

(7,13) M_CLK_DDR0
R96 30.1/F_4
C312 3.3P/16V_4
R97 30.1/F_4
C300 0.1U/10V_4
(7,13) M_CLK_DDR#0

128M*16*4pcs
Samsung
K4B2G1646B-HCF8 AKD5MG4T500 Qunata Buy
AKD5MG4T502 TOP B/S

+1.5V_MEM
C303 1U/10V_6, C314 1U/10V_6, C372 1U/10V_6, C311 1U/10V_6, C313 1U/10V_6, C370 1U/10V_6, C361 1U/10V_6, C315 1U/10V_6

+1.5V_MEM
A59
+1.5V_MEM (7,9,10,13,14,40)
C293 10U/6.3V_8, C290 10U/6.3V_8, C292 10U/6.3V_8, C298 10U/6.3V_8, C294 10U/6.3V_8, C295 10U/6.3V_8, C297 10U/6.3V_8, C291 10U/6.3V_8, C296 220U/2.5V/ESR15

NB5

PROJECT : SP6
Quanta Computer Inc.

Size	Document Number	Rev
Custom	DDR3 (A) On Board_A,1Rank	1A

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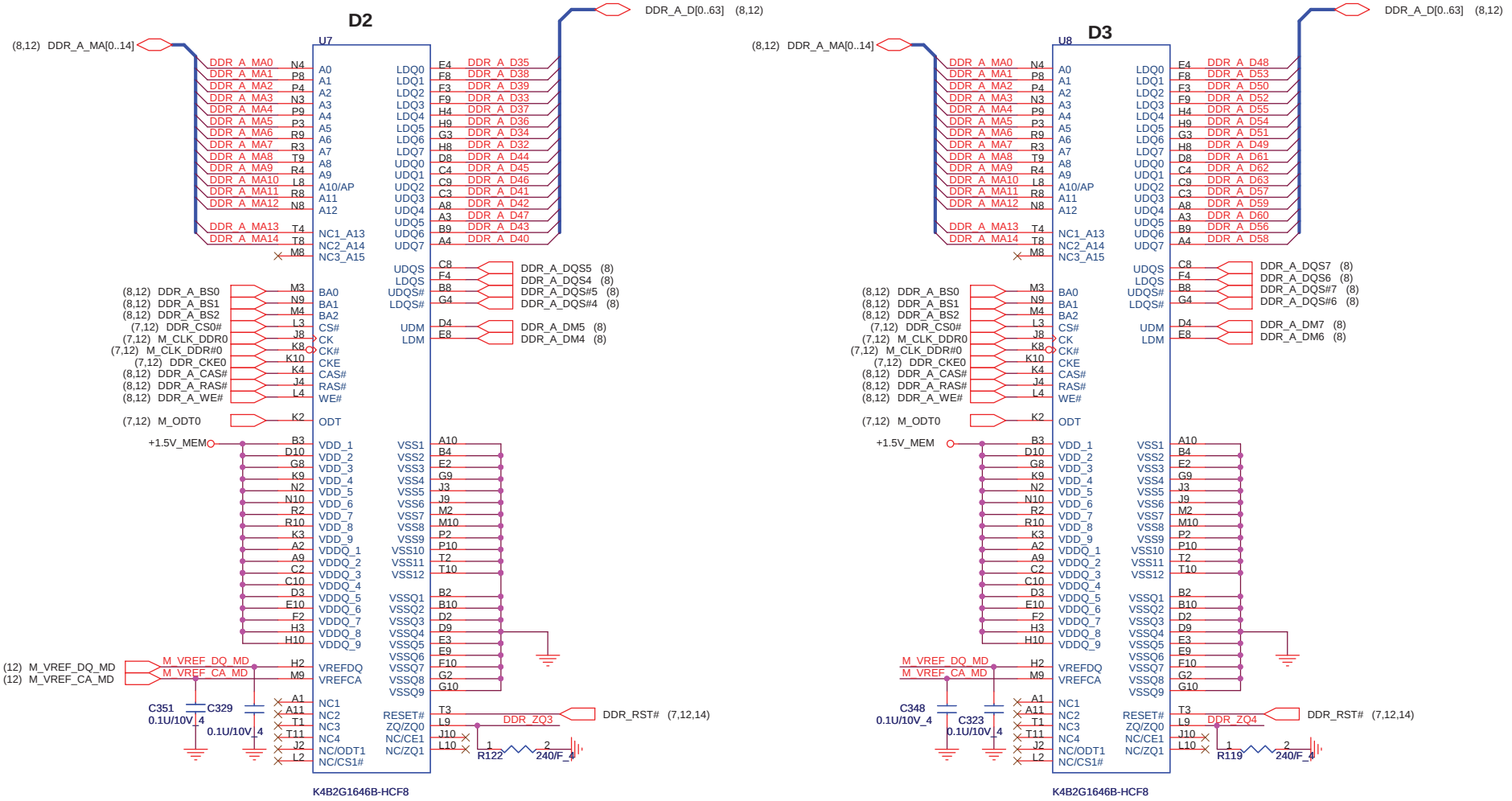

NB5

PROJECT : SP6
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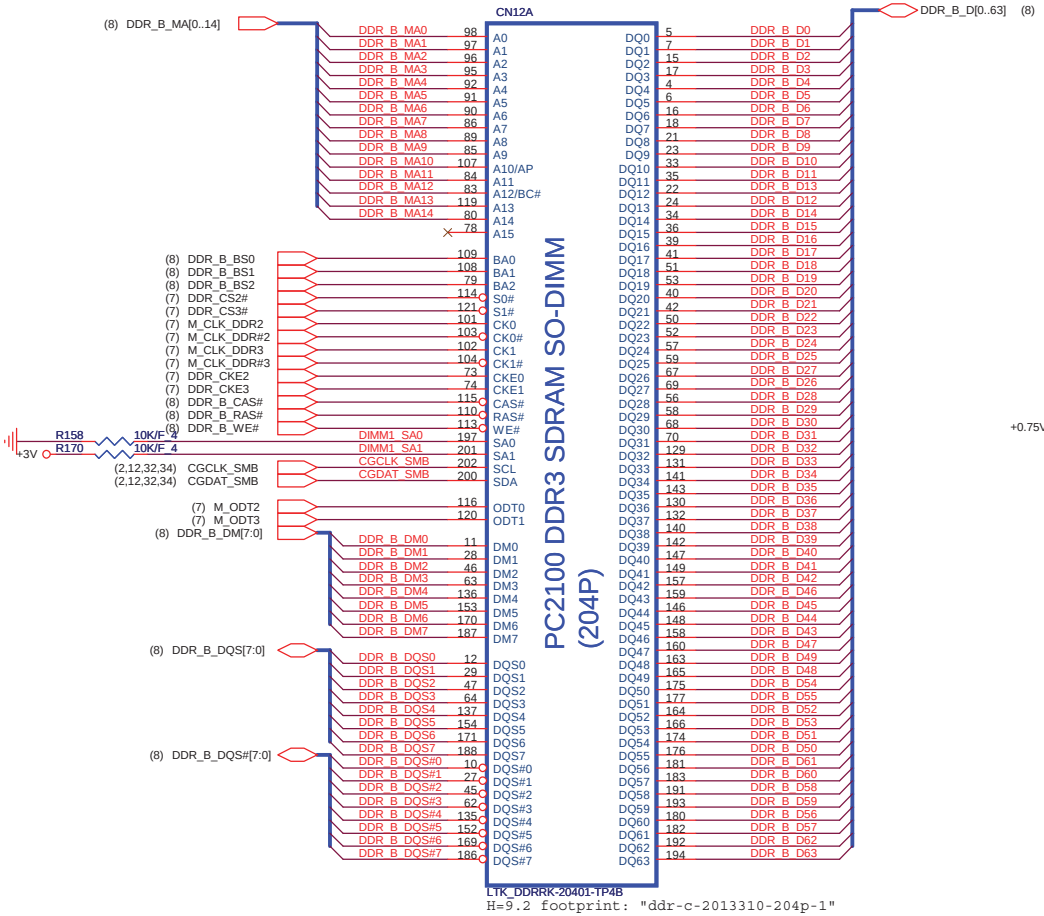
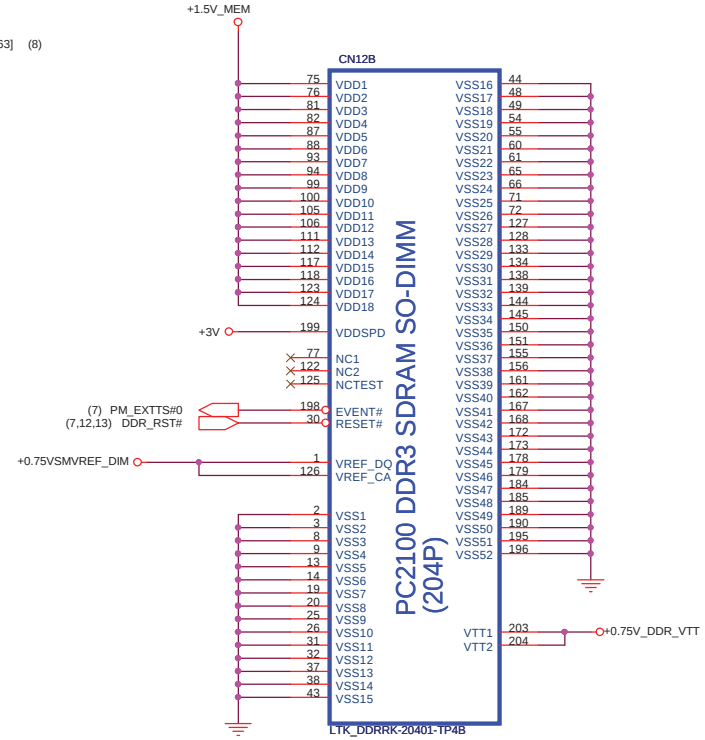
Size	Document Number	Rev
B	DDR3 (A) On Board_B,1Rank	1A
Date: Tuesday, April 07, 2009	Sheet 13 of 49	

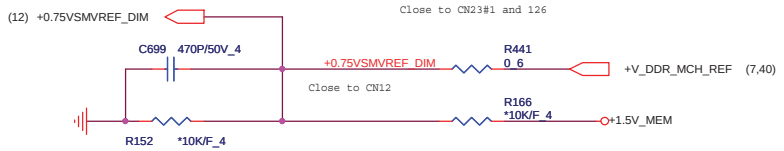
0922-->CN23 update library to DDR-AS0A62X-U4RN-7F-204P type

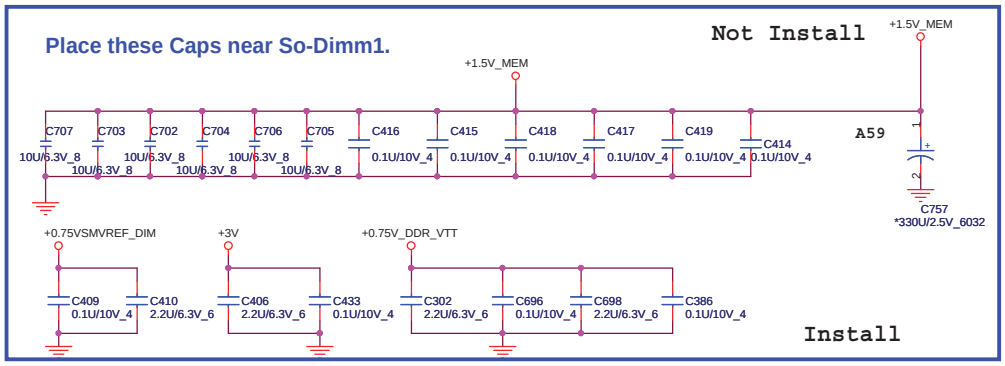
(7,9,10,12,13,40) +1.5V_MEM
(2,4,7,10,12,24,25,26,27,28,29,30,31,32,33,34,35,36,45) +3V
(12,40) +0.75V_DDR_VTT

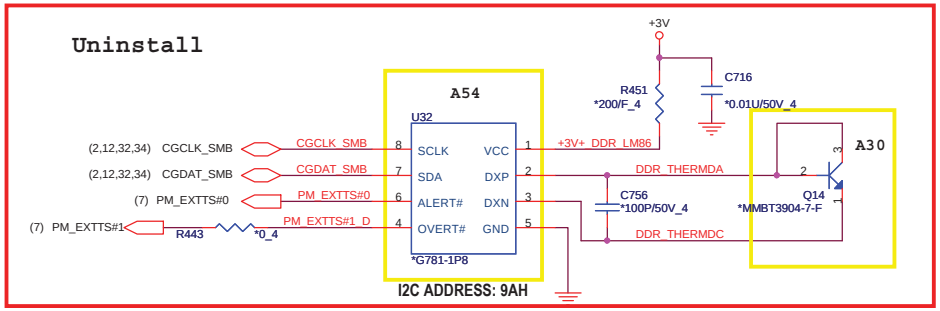
(12,40) +0.75V_DDR_VTT











NB5

PROJECT : SP6
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Size	Document Number	Rev
Custom	DDR3 Connect	1A

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(17,18,19,20,40) +1.1V

U24A

PART 1 OF 10

PCI-EXPRESS INTERFACE

(7) PEG_TX0	AF30	PCIE_RX0P	PCIE_TX0P	AH30	C_PEG_RX0	0.1U/10V_4	2	1 C40	PEG_RX0 (7)
(7) PEG_TX#0	AE31	PCIE_RX0N	PCIE_TX0N	AG31	C_PEG_RX#0	0.1U/10V_4	2	1 C29	PEG_RX#0 (7)
(7) PEG_TX1	AE29	PCIE_RX1P	PCIE_TX1P	AG29	C_PEG_RX1	0.1U/10V_4	2	1 C42	PEG_RX1 (7)
(7) PEG_TX#1	AD28	PCIE_RX1N	PCIE_TX1N	AF28	C_PEG_RX#1	0.1U/10V_4	2	1 C52	PEG_RX#1 (7)
(7) PEG_TX2	AD30	PCIE_RX2P	PCIE_TX2P	AF27	C_PEG_RX2	0.1U/10V_4	2	1 C56	PEG_RX2 (7)
(7) PEG_TX#2	AC31	PCIE_RX2N	PCIE_TX2N	AF26	C_PEG_RX#2	0.1U/10V_4	2	1 C77	PEG_RX#2 (7)
(7) PEG_TX3	AC29	PCIE_RX3P	PCIE_TX3P	AD27	C_PEG_RX3	0.1U/10V_4	2	1 C89	PEG_RX3 (7)
(7) PEG_TX#3	AB28	PCIE_RX3N	PCIE_TX3N	AD26	C_PEG_RX#3	0.1U/10V_4	2	1 C79	PEG_RX#3 (7)
(7) PEG_TX4	AB30	PCIE_RX4P	PCIE_TX4P	AC25	C_PEG_RX4	0.1U/10V_4	2	1 C92	PEG_RX4 (7)
(7) PEG_TX#4	AA31	PCIE_RX4N	PCIE_TX4N	AB25	C_PEG_RX#4	0.1U/10V_4	2	1 C111	PEG_RX#4 (7)
(7) PEG_TX5	AA29	PCIE_RX5P	PCIE_TX5P	Y23	C_PEG_RX5	0.1U/10V_4	2	1 C132	PEG_RX5 (7)
(7) PEG_TX#5	Y28	PCIE_RX5N	PCIE_TX5N	Y24	C_PEG_RX#5	0.1U/10V_4	2	1 C145	PEG_RX#5 (7)
(7) PEG_TX6	Y30	PCIE_RX6P	PCIE_TX6P	AB27	C_PEG_RX6	0.1U/10V_4	2	1 C116	PEG_RX6 (7)
(7) PEG_TX#6	W31	PCIE_RX6N	PCIE_TX6N	AB26	C_PEG_RX#6	0.1U/10V_4	2	1 C129	PEG_RX#6 (7)
(7) PEG_TX7	W29	PCIE_RX7P	PCIE_TX7P	Y27	C_PEG_RX7	0.1U/10V_4	2	1 C149	PEG_RX7 (7)
(7) PEG_TX#7	V28	PCIE_RX7N	PCIE_TX7N	Y26	C_PEG_RX#7	0.1U/10V_4	2	1 C162	PEG_RX#7 (7)
(7) PEG_TX8	V30	PCIE_RX8P	PCIE_TX8P	W24	C_PEG_RX8	0.1U/10V_4	2	1 C167	PEG_RX8 (7)
(7) PEG_TX#8	U31	PCIE_RX8N	PCIE_TX8N	W23	C_PEG_RX#8	0.1U/10V_4	2	1 C182	PEG_RX#8 (7)
(7) PEG_TX9	U29	PCIE_RX9P	PCIE_TX9P	V27	C_PEG_RX9	0.1U/10V_4	2	1 C183	PEG_RX9 (7)
(7) PEG_TX#9	T28	PCIE_RX9N	PCIE_TX9N	U26	C_PEG_RX#9	0.1U/10V_4	2	1 C201	PEG_RX#9 (7)
(7) PEG_TX10	T30	PCIE_RX10P	PCIE_TX10P	U24	C_PEG_RX10	0.1U/10V_4	2	1 C203	PEG_RX10 (7)
(7) PEG_TX#10	R31	PCIE_RX10N	PCIE_TX10N	U23	C_PEG_RX#10	0.1U/10V_4	2	1 C221	PEG_RX#10 (7)
(7) PEG_TX11	R29	PCIE_RX11P	PCIE_TX11P	T26	C_PEG_RX11	0.1U/10V_4	2	1 C230	PEG_RX11 (7)
(7) PEG_TX#11	P28	PCIE_RX11N	PCIE_TX11N	T27	C_PEG_RX#11	0.1U/10V_4	2	1 C222	PEG_RX#11 (7)
(7) PEG_TX12	P30	PCIE_RX12P	PCIE_TX12P	T24	C_PEG_RX12	0.1U/10V_4	2	1 C251	PEG_RX12 (7)
(7) PEG_TX#12	N31	PCIE_RX12N	PCIE_TX12N	T23	C_PEG_RX#12	0.1U/10V_4	2	1 C266	PEG_RX#12 (7)
(7) PEG_TX13	N29	PCIE_RX13P	PCIE_TX13P	P27	C_PEG_RX13	0.1U/10V_4	2	1 C237	PEG_RX13 (7)
(7) PEG_TX#13	M28	PCIE_RX13N	PCIE_TX13N	P26	C_PEG_RX#13	0.1U/10V_4	2	1 C249	PEG_RX#13 (7)
(7) PEG_TX14	M30	PCIE_RX14P	PCIE_TX14P	P24	C_PEG_RX14	0.1U/10V_4	2	1 C274	PEG_RX14 (7)
(7) PEG_TX#14	L31	PCIE_RX14N	PCIE_TX14N	P23	C_PEG_RX#14	0.1U/10V_4	2	1 C277	PEG_RX#14 (7)
(7) PEG_TX15	L29	PCIE_RX15P	PCIE_TX15P	M27	C_PEG_RX15	0.1U/10V_4	2	1 C273	PEG_RX15 (7)
(7) PEG_TX#15	K30	PCIE_RX15N	PCIE_TX15N	N26	C_PEG_RX#15	0.1U/10V_4	2	1 C268	PEG_RX#15 (7)

(2) CLK_PCIE_VGA	AK30	PCIE_REFCLKP	PCIE_CALRN
(2) CLK_PCIE_VGA#	AK32	PCIE_REFCLKN	PCIE_CALRP
	AL27	PERSTB	

AA22 PCIE_CALRN 2K/F_4 R265 +1.1V

Y22 PCIE_CALRP 1.27K R264

M92-S2_LP_A12

100 MHz (+/-300 ppm)
input frequency, 0-0.7 V
single-ended swing.
clock must be provided
less than 400ns
after CLKREQ# is asserted

+3V_VGA

A49

C534 0.1U/50V_6

(35) DIS_RESET#

(7,28) PLT_RST-R#

U21 *MC74VHC1G08DFT2G

VGA_RESET# (25)

R494 *0_4/S PV-A4

M92-S2-LP	AJ072800T18	100-CG1798(216-0728020)
M92-S2-LP	AJ072800T21	100-CG1798(216-0728020)

NB5

PROJECT : SP6
Quanta Computer Inc.

Size	Document Number	Rev
B	M92 PCIE interface	1A

Date: Tuesday, April 07, 2009 Sheet 15 of 49

MEMORY INTERFACE

(22) VMA_WDQS[7..0]
(22) VMA_RDQS[7..0]
(22) VMA_BA[2..0]
(22) VMA_MA[12..0]
(22) VMA_DM[7..0]
(22) VMA_DQ[63..0]

U24C
PART 3 OF 10
MEMORY INTERFACE
M92-S2_LP_A12

DIVIDER RESISTORS	DDR3
MVREF TO 1.5V	100R
MVREF TO GND	100R

For DDR3

(20,22,43) +1.5V_VGA
(15,18,19,20,25,35,45) +3V_VGA

THERMAL MONITOR

SI2-A26
U25
G781-1P8
I2C ADDRESS: 9AH

w/s 10 / 10

SI2-A7

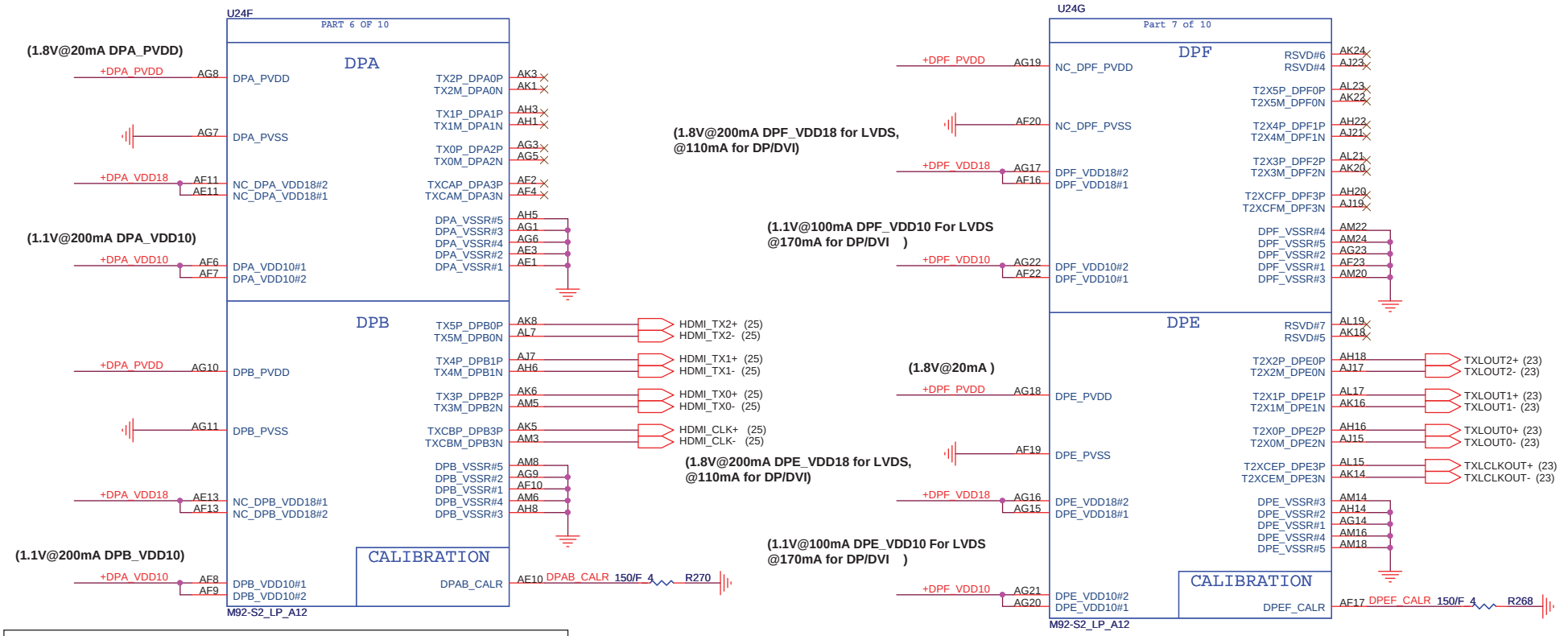
route 50ohms
single-ended/100ohms diff
and keep short

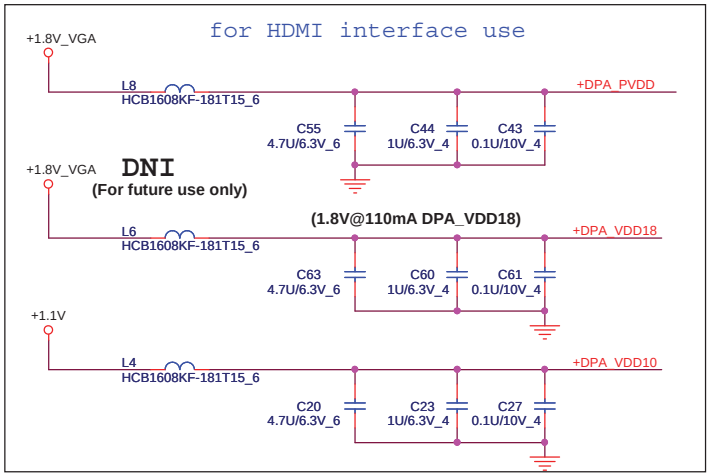
PROJECT : SP6
Quanta Computer Inc.
NB5
Size Custom | Document Number M92 Memory/Thermal | Rev 1A
Date: Tuesday, April 07, 2009 | Sheet 16 of 49

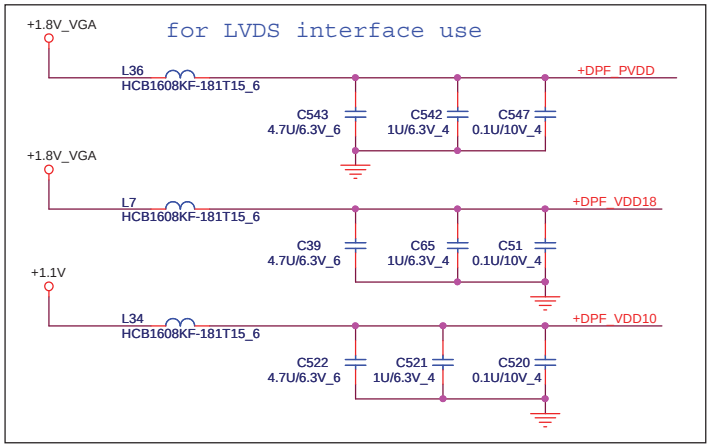
TMDP(HDMI) INTERFACE

LVDS INTERFACE

(15,18,19,20,40) +1.1V







NB5

PROJECT : SP6
Quanta Computer Inc.

Size	Document Number	Rev
B	M92 HDMI/LVDS interface	1A
Date: Tuesday, April 07, 2009	Sheet 17 of 49	

MEMORY APERTURE SIZE SELECT				
MEMORY SIZE	CFG3 GPIO9	CFG2 GPIO13	CFG1 GPIO12	CFG0 GPIO11
128MB		0	0	0
256MB		0	0	1
64MB		0	1	0
512MB		1	0	0

Defult

Memory Straps DDR3	RAM_TYPE _CFG3	RAM_TYPE _CFG2	RAM_TYPE _CFG1	RAM_TYPE _CFG0
667MHz K4W1G1646D-EC15 (64M*16) Samsung	X	X	0	1
700MHz H5TQ1G63BFR-14C (64M*16) Hynix	X	X	0	0
Blank	X	X	0	0
Blank	X	X	0	0

GPIO Straps table	DESCRIPTION OF DEFAULT SETTINGS	SP6 setting
GPIO0	GPIO(0) - TX_PWRS_ENB (Transmitter Power Savings Enable) 0: 50% Tx output swing for mobile mode 1: full Tx output swing (Default setting for Desktop)	1
GPIO1	GPIO(1) - TX_DEEMPH_EN (Transmitter De-emphasis Enable) 0: Tx de-emphasis disabled for mobile mode 1: Tx de-emphasis enabled (Default setting for Desktop)	1
GPIO2	GPIO(2) - BIF_GEN2_EN (5.0 GT/s Enable) 0 : Default. (Driver Controlled Gen2) 1 : Strap Controlled Gen2	0
GPIO3	ATI reserved configuration straps.	0
GPIO4	ATI reserved configuration straps.	0
GPIO5	GPIO_5_AC_BATT 0 : Battery saving mode = 0.0 V 1 : AC (Performance mode) = 3.3 V	0
GPIO6	ATI Internal use only	0

For M92-S2 set to NC
For M93-S3 set to install
A36

SI2-A9
For S2: Install R496
For S3: Uninstall R496

For M92-S2 R486 (PU to +1.8V_VGA)
For M93-S3 R487 (PD to GND)
A34

R271 install for Samsung
R271 NC for Hynix

A33

No Stuff
Spread Spectrum
If U4, the discrete spread spectrum chip is not used, then pop R48 in order to pull-down BXTALOUT for EMI reasons.

	S0
-1.75% (DOWN)	0

DO NOT INSTALL for M93-S3
(Use Only for M92-S2 if Applicable)
(3.3V@65mA A2VDD)
(1.8V@2mA A2VDDQ)
(1.8V@40mA VDD2DI)
check can remove or not

PROJECT : SP6
Quanta Computer Inc.
NB5
Size Custom | Document Number M92 IO/GPIO | Rev 2A
Date: Tuesday, April 07, 2009 | Sheet 18 of 49

(20,41) +VCC_GFX_CORE

(15,17,18,20,40) +1.1V
(15,16,18,20,25,35,45) +3V_VGA

U24J
Part 10 of 10
XTAL / PLL

T16 *PAD
H7 NC_SPV18
J7 SPVSS
H8 SPV10
AM28 XTALIN
AK28 XTALOUT
L8 NC_MPV18

DPLL_PVDD AE14 +DPLL_PVDD 1.8V,200mA
DPLL_PVSS AE14
DPLL_VDDC AD14 +DPLL_VDDC 1.1V,300mA
PCIE_PVDD AM30 +PCIE_PVDD

+1.8V_VGA
L1 HCB1608KF-181T15_6
C9 0.01U/50V_4
C13 0.1U/10V_4
C6 10U/6.3V_8
C11 10U/6.3V_8

+1.1V
L33 HCB1608KF-181T15_6
C537 0.01U/50V_4
C525 0.1U/10V_4
C529 1U/6.3V_4
C523 10U/6.3V_8

+1.8V_VGA
L39 HCB1608KF-181T15_6
C556 1U/6.3V_4
C555 0.01U/50V_4
C554 0.1U/10V_4
C552 10U/6.3V_8

M92-S2_LP_A12

(0.9~1.2V)
+VCC_GFX_CORE
L18 HCB1608KF-181T15_6
reserve part for cost down
+SPV10
C256 1U/6.3V_4
C264 1U/6.3V_4
C269 0.1U/10V_4
C248 0.01U/50V_4

XTALIN
XTALOUT
Ext_Crystal
R250 *1M/F_4
Y2
27MHZ/20PPM
27mhz ,+/- 10ppm
R248 1M/F_4
C533 12P/50V_4
C535 12P/50V_4

U24H
Part 8 of 10
I2C / DDC / AUX

AC1 DDC6CLK
AC3 DDC6DATA
TMDP / DAC1
AUX1P AD2
AUX1N AD4
DDC1CLK AE6
DDC1DATA AE5
AUX2P AD13
AUX2N AD11
DDC2CLK AC11
DDC2DATA AC13
LVTMDP / DAC2
DDCCLK_AUX5P AE16
DDCDATA_AUX5N AD16
R1 SCL
R3 SDA
NC_DDCCLK_AUX7P AD20
NC_DDCDATA_AUX7N AC20

EXT_EDIDCLK (23)
EXT_EDIDDATA (23)
HDMI_SCL (25)
HDMI_SDA (25)

7/29
ATI FAE suggest use DDC2CLK/DDC2DATA for HDMI.

HDMI
+3V_VGA
EXT_EDIDCLK R279 2.2K/F_4
EXT_EDIDDATA R282 2.2K/F_4

M92-S2_LP_A12

LVDS

U24I
Part 9 of 10
TSS FDO

+1.8V_VGA
1.8V,20mA
L35 HCB1608KF-181T15_6
+TSVDD
C530 1U/6.3V_4
C526 0.1U/10V_4
GND
AD17 TSVDD
AC17 TSVSS
TS_FDO R5
DPLUS T4 VGA_THERMDP (16)
DMINUS T2 VGA_THERMDN (16)

M92-S2_LP_A12

NB5

PROJECT : SP6
Quanta Computer Inc.

Size	Document Number	Rev
Custom	M92 XTAL/I2C	1A

Date: Tuesday, April 07, 2009 Sheet 19 of 49

(1.8V@2200mA VDDR1+VDDRHA+VDDRHB)

+1.5V_VGA

C232 1U/6.3V_4, C239 1U/6.3V_4, C261 1U/6.3V_4, C238 1U/6.3V_4, C260 1U/6.3V_4, C401 0.1U/10V_4, C258 0.1U/10V_4, C393 0.1U/10V_4, C262 0.1U/10V_4, C246 0.1U/10V_4

C299 1U/6.3V_4, C227 1U/6.3V_4, C231 1U/6.3V_4, C236 1U/6.3V_4, C263 1U/6.3V_4, C253 1U/6.3V_4, A43, C257 1U/6.3V_4, C259 1U/6.3V_4, A43, C755 330U_2.5V_3528

C403 10U/6.3V_8, C402 10U/6.3V_8, C398 10U/6.3V_8, C399 10U/6.3V_8, C400 10U/6.3V_8

(0.9~1.2V)

+VCC_GFX_CORE — L41 0_6 — +BBP

(19,41) +VCC_GFX_CORE
(17,18,19,25,45) +1.8V_VGA
(15,17,18,19,40) +1.1V
(15,16,18,19,25,35,45) +3V_VGA
(16,22,43) +1.5V_VGA

Q23 *ME2N7002E — +VCC_GFX_CORE

Q22 *AO3413 — +1.8V_VGA

Set to NC

BBEN_GATE — R278 *100K/F_4 — +5V

(18) BB_ENA — Q26 *ME2N7002E — R289 10K/F_4

For BBP support

U24D

PART 4 OF 10

MEM I/O

VDDR1#1 H13
VDDR1#2 H16
VDDR1#3 H19
VDDR1#4 J10
VDDR1#5 J23
VDDR1#6 J24
VDDR1#7 J9
VDDR1#8 K10
VDDR1#9 K23
VDDR1#10 K24
VDDR1#11 K9
VDDR1#12 L11
VDDR1#13 L12
VDDR1#14 L13
VDDR1#15 L20
VDDR1#16 L21
VDDR1#17 L22

LEVEL TRANSLATION

VDD_CT#1 AA20
VDD_CT#2 AA21
VDD_CT#3 AB20
VDD_CT#4 AB21

M93-S3/M92-S2

VDDR3#1 AA17
VDDR3#2 AA18
VDDR3#3 AB17
VDDR3#4 AB18

NC#1/VDDR4 AA11
DVCLK/VDDR4 Y11
VDDR4#2 Y12

TESTEN#2/VDDR5 U11
VDDR4#3/VDDR5#2 U12
NC#3/VDDR5#3 V11
VDDR4#1/VDDR5#4 V12

MEM CLK

VDDRHA L17
VSSRHA L16

BACK BIAS

BBP#1 M11
BBP#2 M12

POWER

PCIE

PCIE_VDDR#1 AB23
PCIE_VDDR#2 AC23
PCIE_VDDR#3 AD24
PCIE_VDDR#4 AE24
PCIE_VDDR#5 AE25
PCIE_VDDR#6 AE26
PCIE_VDDR#7 AF25
PCIE_VDDR#8 AG26

PCIE_VDDC#1 L23
PCIE_VDDC#2 L24
PCIE_VDDC#3 L25
PCIE_VDDC#4 L26
PCIE_VDDC#5 M22
PCIE_VDDC#6 N22
PCIE_VDDC#7 N23
PCIE_VDDC#8 N24
PCIE_VDDC#9 R22
PCIE_VDDC#10 T22
PCIE_VDDC#11 U22
PCIE_VDDC#12 V22

CORE

VDDC#1 AA15
VDDC#4 N15
VDDC#5 N17
VDDC#6 R13
VDDC#7 R16
VDDC#8 R18
VDDC#9 R21
VDDC#10 T12
VDDC#11 T15
VDDC#12 T17
VDDC#13 T20
VDDC#14 U13
VDDC#15 U16
VDDC#16 U18
VDDC#17 U21
VDDC#18 V15
VDDC#19 V17
VDDC#20 V20
VDDC#24 Y18
VDDC#22 Y13
VDDC#23 Y16

VDDC#25/BIF_VDDC Y21
VDDC#21/BIF_VDDC V21

ISOLATED CORE I/O

VDDCI#1 M13
VDDCI#2 M15
VDDCI#3 M16
VDDCI#4 M17
VDDCI#5 M18
VDDCI#6 M20
VDDCI#7 M21
VDDCI#8 N20

M92-S2_LP_A12

(For M96/92, 0.95V-1.1V@2A VDDCI)

+1.5V_VGA — L17 HCB1608KF-181T15_6 — +VDDRH1

C228 1U/6.3V_4, C229 1U/6.3V_4

+BBP — C282 1U/6.3V_4, C280 0.1U/10V_4

For S2: Install L16 and DO not Install L46

For S3: Install L46 and DO not Install L16

SI2-A8

+VCC_GFX_CORE — HCB1608KF-181T15_6 L16 — +BIF_VDDC

*HCB1608KF-181T15_6 L46 — +1.1V

C761 10U/6.3V_8, C233 1U/6.3V_4

(1.8V@136mA VDD_CT)

+1.8V_VGA — L3 HCB1608KF-181T15_6 — +VDD_CT

C10 10U/6.3V_8, C84 0.1U/10V_4, C86 1U/6.3V_4, C87 1U/6.3V_4, C85 0.1U/10V_4

(3.3V@60mA VDDR3)

+3V_VGA

C47 10U/6.3V_8, C64 1U/6.3V_4, C83 1U/6.3V_4, C31 0.1U/10V_4, C93 0.1U/10V_4

(1.8V@170mA VDDR4)
(1.8V@170mA VDDR5)

+1.8V_VGA

C46 1U/6.3V_4, C32 0.1U/10V_4, C58 1U/6.3V_4, C134 0.1U/10V_4

+VDDR5

+1.8V_VGA — R498 0_4

(18) TEST_EN — R497 *0_4 — +VDDR5

For S2: Install R490,R498 and Remove R497

For S3: Remove R490,R498 and Install R497

VDDR4 for DVPDATA[12..23]

VDDR5 for DVPDATA[0..11]

SI2-A9

(1.8V@500mA PCIE_VDDR)

+1.8V_VGA

C120 0.01U/50V_4, C150 0.01U/50V_4, C59 1U/6.3V_4, C81 1U/6.3V_4, C88 1U/6.3V_4, C97 1U/6.3V_4, C91 1U/6.3V_4, C48 10U/6.3V_8

(1.1V@2000mA PCIE_VDDC)

+1.1V

C198 1U/6.3V_4, C166 1U/6.3V_4, C199 1U/6.3V_4, C190 1U/6.3V_4, C151 1U/6.3V_4, C140 1U/6.3V_4, C181 1U/6.3V_4, C218 4.7U/6.3V_6

1uf/6.3 * 26 10uf/6.3 * 7

+VCC_GFX_CORE (0.9~1.2V)

C121 1U/6.3V_4, C172 1U/6.3V_4, C142 1U/6.3V_4, C173 1U/6.3V_4, C123 1U/6.3V_4, C193 1U/6.3V_4, C171 1U/6.3V_4, C115 1U/6.3V_4, C189 1U/6.3V_4, C125 1U/6.3V_4

C122 1U/6.3V_4, C170 1U/6.3V_4, C169 1U/6.3V_4, C144 1U/6.3V_4, C117 1U/6.3V_4, C160 1U/6.3V_4, C176 1U/6.3V_4, C127 1U/6.3V_4, C194 1U/6.3V_4, C174 1U/6.3V_4

C163 1U/6.3V_4, C90 1U/6.3V_4, C192 1U/6.3V_4, C180 1U/6.3V_4, C143 1U/6.3V_4, C168 1U/6.3V_4

C141 10U/6.3V_8, C114 10U/6.3V_8, C95 10U/6.3V_8, C579 10U/6.3V_8, C578 10U/6.3V_8, C593 10U/6.3V_8, C594 10U/6.3V_8

+BIF_VDDC — SI2-A8

(0.9~1.2V)

+VCC_GFX_CORE — HCB1608KF-181T15_6 L15

+VDDCI

C197 1U/6.3V_4, C196 1U/6.3V_4, C195 1U/6.3V_4, C216 10U/6.3V_8

NB5

PROJECT : SP6
Quanta Computer Inc.

Size	Document Number	Rev
Custom	M92 POWER/GND	2B

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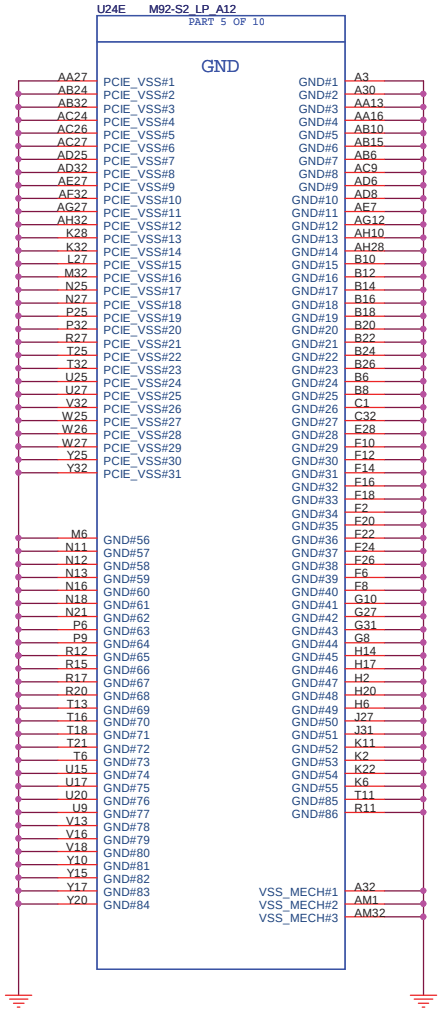

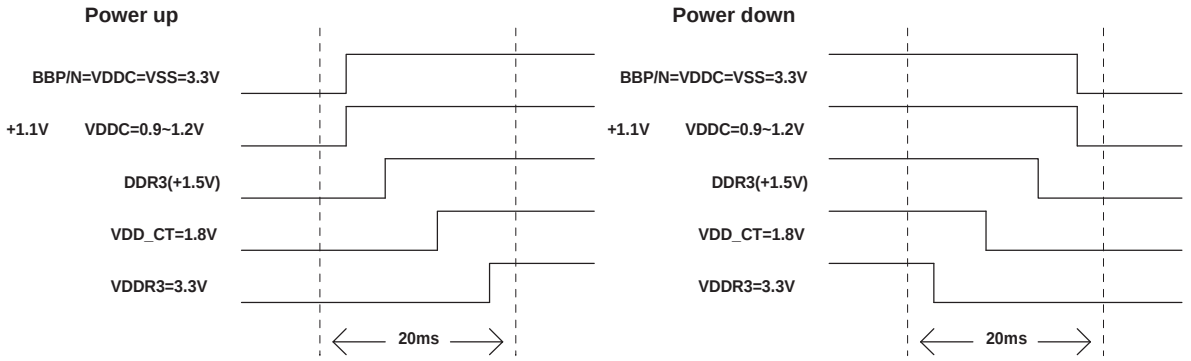

CONFIGURATION STRAPS

ALLOW FOR PULLUP PADS FOR THESE STRAPS AND IF THESE GPIOS ARE USED, THEY MUST NOT CONFLICT DURING RESET

RECOMMENDED SETTINGS
0= DO NOT INSTALL RESISTOR
1 = INSTALL 10K RESISTOR
X = DESIGN DEPENDANT
NA = NOT APPLICABLE

STRAPS	PIN	DESCRIPTION OF DEFAULT SETTINGS	
TX_PWRS_ENB	GPIO0	PCIE FULL TX OUTPUT SWING	X
TX_DEEMPH_EN	GPIO1	PCIE TRANSMITTER DE-EMPHASIS ENABLED	X
BIF_GEN2_EN_A	GPIO2	PCIE GEN2 ENABLED	X
RSVD	GPIO8		0
BIF_VGA_DIS	GPIO9	VGA ENABLED	0
RSVD	GPIO21		0
BIOS_ROM_EN	GPIO_22_ROMCSB	ENABLE EXTERNAL BIOS ROM	X
ROMIDCFG(2:0)	GPIO[13:11]	SERIAL ROM TYPE OR MEMORY APERTURE SIZE SELECT	X X X
VIP_DEVICE_STRAP_ENA	V2SYNC	IGNORE VIP DEVICE STRAPS	X
RSVD	GENERICC		0
AUD[1]	HSYNC	AUD[1] AUD[0]	0
AUD[0]	VSYNC	0 0 No audio function 0 1 Audio for DisplayPort and HDMI if dongle is detected 1 0 Audio for DisplayPort only 1 1 Audio for both DisplayPort and HDMI	X X

NB5

PROJECT : SP6
Quanta Computer Inc.

Size	Document Number	Rev
Custom	M92-S2-LP_G_GND	1A

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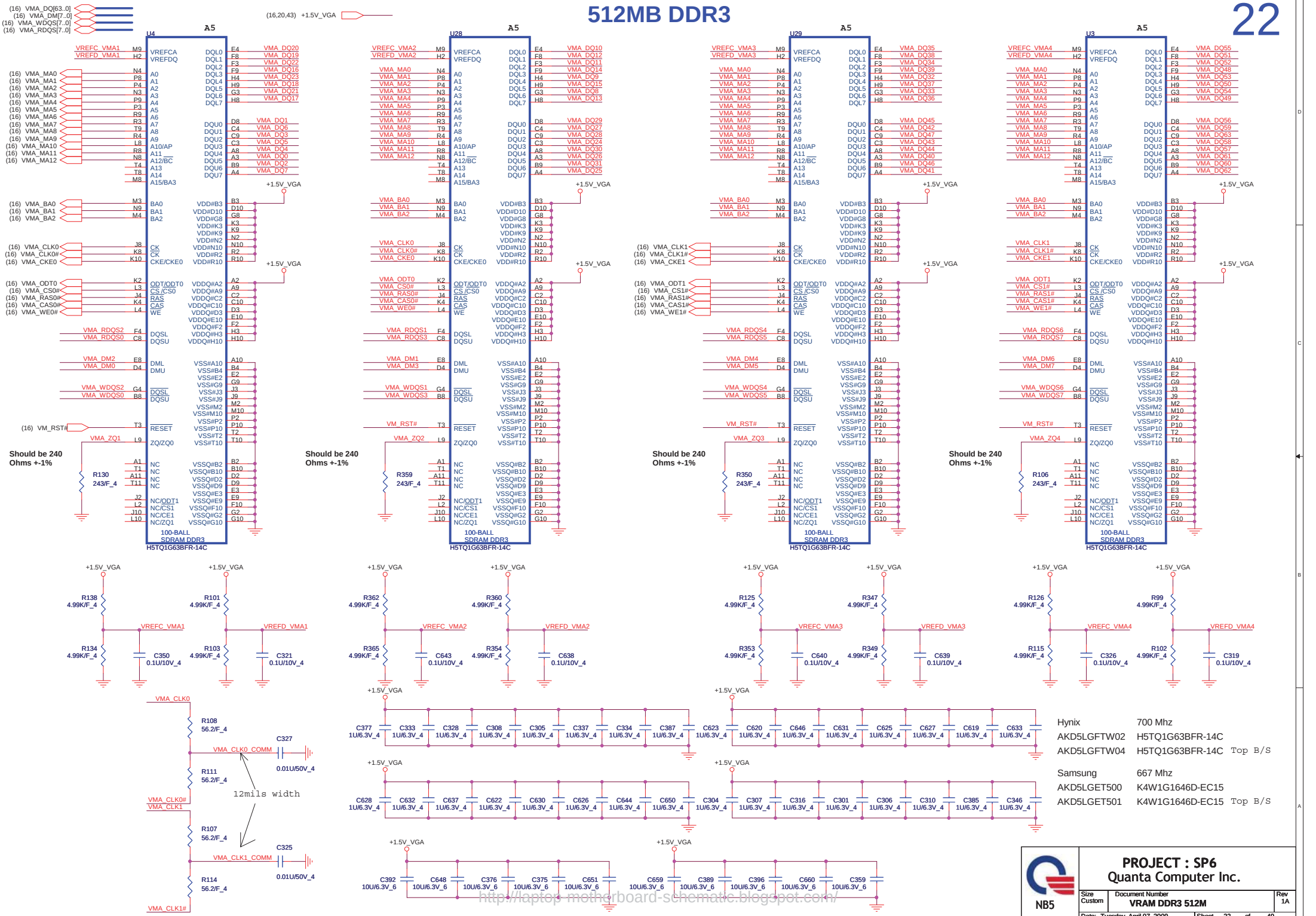
512MB DDR3



Hynix	700 Mhz	
AKD5LGFTW02	H5TQ1G63BFR-14C	
AKD5LGFTW04	H5TQ1G63BFR-14C	Top B/S
Samsung	667 Mhz	
AKD5LGET500	K4W1G1646D-EC15	
AKD5LGET501	K4W1G1646D-EC15	Top B/S

NB5

PROJECT : SP6
Quanta Computer Inc.

Size	Document Number	Rev
Custom	VRAM DDR3 512M	1A

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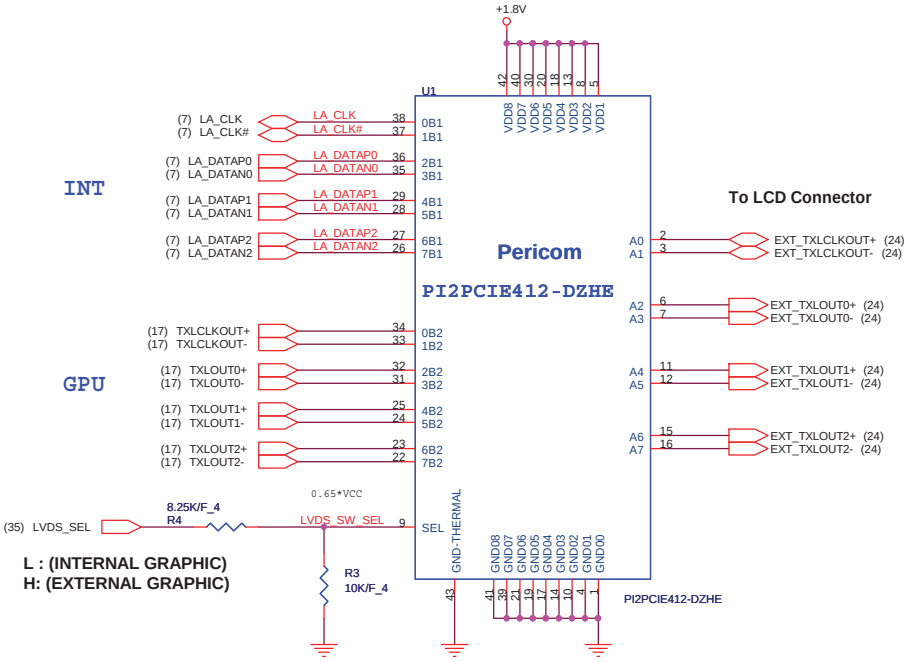

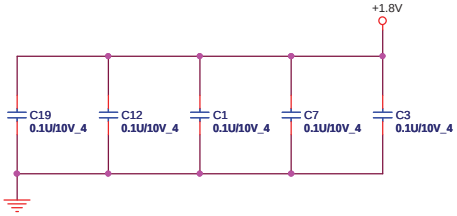

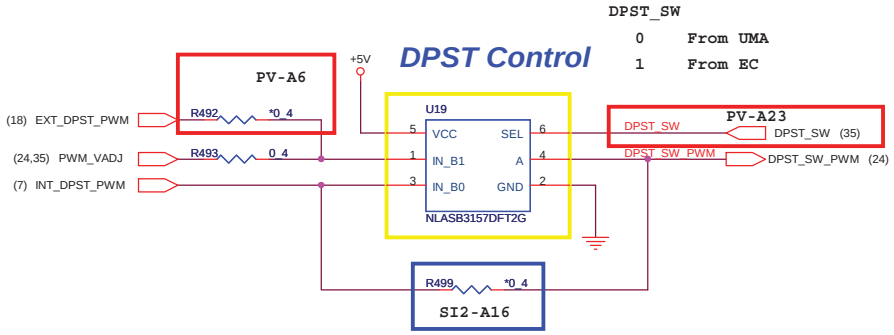

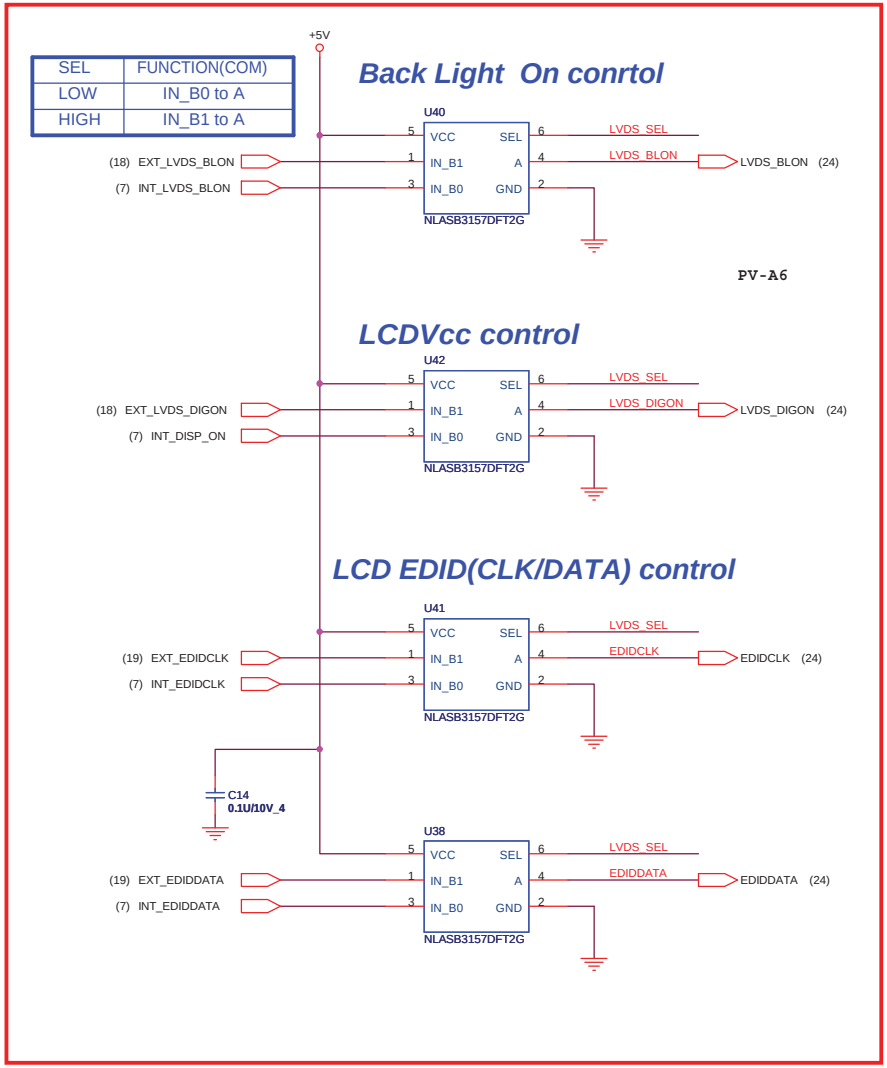

PROJECT : SP6
Quanta Computer Inc.
NB5
Size Custom | Document Number LVDS Hyper_Switch | Rev 1A
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USB CAMERA /DIGITAL MIC CONNECT

(2,4,7,10,12,14,25,26,27,28,29,30,31,32,33,34,35,36,45) +3V
(20,23,25,29,31,36,45) +5V
(37,39,40,41,42,43,44,45) +VIN
(26,32,33,35,37,38,39,43,44,45) +3VPCU

Vout=1.25(1+R1/R2)

+5V
+3V
+3.9V_CAM
Fixed 3.9V
R263 *0_6
U20
VIN VOUT
SHDN
GND SET
AT5231H-3.9KER
C524 1U/6.3V_4
R1
R261 *215K/F_4
C532 4.7U/6.3V_6
R2
R277 *100K/F_4

Add for EMI solution
DIGITAL_CLK_L
C560 10P/50V_4
Close to LCD#21

LVD-A30SFYG+
A42
CN1 LCD CONN
TOPANEL
A21

+3V
R290 2.2K/F_4 EDIDCLK
R286 2.2K/F_4 EDIDDATA
+3VLCD_CON
C570 1000P/50V_4
(23) EDIDCLK
(23) EDIDDATA
(23) EXT_TXLOUT0-
(23) EXT_TXLOUT0+
(23) EXT_TXLOUT1-
(23) EXT_TXLOUT1+
(23) EXT_TXLOUT2-
(23) EXT_TXLOUT2+
(23) EXT_TXLCLKOUT-
(23) EXT_TXLCLKOUT+
(30) DIGITAL_D1
(30) DIGITAL_CLK
L40 BLM11A05 DIGITAL_CLK_L
+3.9V_CAM
(28) USBP3-
(28) USBP3+
C551 *4.7U/6.3V_6
C553 0.01U/50V_4
+VIN_BLIGHT
VADJ1
BLON_CON
+VIN
L37 PBY201209T-330Y-N
C538 0.1U/50V_6
C539 0.01U/50V_4
C540 0.1U/50V_6
Close to LCD Connector
A50

PN_BLON
D15 RB501V-40
BLON_CON
R243 100K/F_4
C536 22P/50V_4

+3VPCU
R165 33K_6
Close to EC
(23) LVDS_BLON
R238 1K/F_4
D7 RB501V-40
LID_EC# (33,35)
(27) LCD_BK
Q20 DTC144EUA

LVDS_DIGON R281 100K/F_4
LVDS_BLON R239 100K/F_4

From Switch
PV-A29
(23) DPST_SW_PWM
R275 1K/F_4
(23,35) PWM_VADJ
From EC
R274 *0_4
VADJ1
C550 *4.7U/6.3V_6
PV-A29
C548 22P/50V_4

Close to Q24#4
+3VPCU
SI2-A10
R276 10K/F_4
LCDON#
R280 10K/F_4
Q21 DTC144EUA
(23) LVDS_DIGON
C558 1U/10V_6
4A
Q24 FDC624P
+3V
C559 0.1U/10V_4
+3VLCD_CON_R
C565 0.1U/10V_4
C568 10U/6.3V_8
L42 PBY201209T-330Y-N
R284 22_8
LCDDISCHG
LCDON#
Q25 ME2N7002E
C577 0.01U/50V_4
C571 0.1U/10V_4
C583 10U/6.3V_8
+3VLCD

NB5

PROJECT : SP6
Quanta Computer Inc.

Size	Document Number	Rev
Custom	LVDS/Camera/Digital MIC	1A

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+1.8V_VGA
+DVDD18
R457 *0_6/S
SI2-A26
Ripple: +/- 50mV
C671 10U/6.3V_8
C674 0.1U/10V_4
C720 0.1U/10V_4
+1.8V_VGA
+AVCC18
R460 *0_6/S
SI2-A26
C722 10U/6.3V_8
C682 0.1U/10V_4
C717 0.1U/10V_4
C688 0.1U/10V_4
+AVCC33
+3V_VGA
R402 *0_6/S
SI2-A26
C679 0.1U/10V_4
C711 0.1U/10V_4
C689 10U/6.3V_8

HPDIN

STATE	Status
LOW	Without HDMI Device
HIGH	HDMI Device detect

(TPWR/I2CADDR)

STATE	ADDRESS
LOW	0xC0/0xD0/0xE0 (DEFAULT)
HIGH	0xC4/0xD4/0xE4

PLACE AC CAPS
CLOSE TO CONNECTOR

U33
SiI9181ACNU

Silicon Image
IN SiI9181 OUT

PV-A8
+AVCC18
R445 820_4
EXT_SW
ExtSWING

HPD1
RPWR1
DSDA1
DSCL1
R404 *499/F_4

(17) HDMI_CLK-
(17) HDMI_CLK+
C723 0.1U/10V_4 C_TXC_HDMI-
C724 0.1U/10V_4 C_TXC_HDMI+
R1XC-
R1XC+

(17) HDMI_TX0-
(17) HDMI_TX0+
C718 0.1U/10V_4 C_TX0_HDMI-
C714 0.1U/10V_4 C_TX0_HDMI+
R1X0-
R1X0+

(17) HDMI_TX1-
(17) HDMI_TX1+
C709 0.1U/10V_4 C_TX1_HDMI-
C701 0.1U/10V_4 C_TX1_HDMI+
R1X1-
R1X1+

(17) HDMI_TX2-
(17) HDMI_TX2+
C692 0.1U/10V_4 C_TX2_HDMI-
C690 0.1U/10V_4 C_TX2_HDMI+
R1X2-
R1X2+

TX2-
TX2+
EXT_HDMI_TX2-
EXT_HDMI_TX2+
TX1-
TX1+
EXT_HDMI_TX1-
EXT_HDMI_TX1+
TX0-
TX0+
EXT_HDMI_TX0-
EXT_HDMI_TX0+
TXC-
TXC+
EXT_HDMI_TXC-
EXT_HDMI_TXC+
TSCL
TSDA
TPWR/I2CADDR
HPDIN
4.7K_4 R398

CEC_A
CEC_D
LSDA/PSEL0
4.7K_4 R448
+AVCC33
I2CSEL/INT
4.7K_4 R452
LSCL/PSEL1
4.7K_4 R449
RESET#
VGA_RESET# (15)

AGND AGND AGND AGND AGND AGND AGND AGND AGND AGND AGND AGND AGND THM DGND DGND TEST

+3V_VGA
Q35 MMBT3904-7-F
HDMI_DET_R
R422 200K/F_4
HPDIN
(18) EXT_HDMI_DET
R444 10K/F_4
R438 *47K/F_4

MAKE SURE THE MOSFET IS OFF
DURING SYSTEM IN STANDBY

Close to U19_Input side
R184 100K/F_4
+5V
Q36 ME2N7002E
HDMI_PD
R420 499/F_4 C_TX2_HDMI+
R423 499/F_4 C_TX2_HDMI-
R442 499/F_4 C_TX1_HDMI+
R447 499/F_4 C_TX1_HDMI-
R450 499/F_4 C_TX0_HDMI+
R453 499/F_4 C_TX0_HDMI-
R454 499/F_4 C_TXC_HDMI+
R455 499/F_4 C_TXC_HDMI-

+5V_HDMIC
PV-A9
D20 RB501V-40 +5V_HDMIC_SCL
D6 RB501V-40 +5V_HDMIC_SDA

+3V_VGA
R421 10K/F_4
R394 10K/F_4
(19) HDMI_SCL
(19) HDMI_SDA
Q32 FDV301N
Q33 FDV301N
SI2-A13
R149 2.2K/F_4
R161 2.2K/F_4
HDMISCL
HDMISDA
A55

HDMI PORT
DFHD19MR021
SI-2 A21
CN10
SHELL1
D2+
D2 Shield
D2-
D1+
D1 Shield
D1-
D0+
D0 Shield
D0-
CK+
CK Shield
CK-
CE Remote
NC
DDC CLK
DDC DATA
GND
+5V
HP DET
SHELL2
HDMI CONN

EXT_HDMI_TX2+
EXT_HDMI_TX2-
EXT_HDMI_TX1+
EXT_HDMI_TX1-
EXT_HDMI_TX0+
EXT_HDMI_TX0-
EXT_HDMI_TXC+
EXT_HDMI_TXC-
HDMISCL
HDMISDA

F1 FUSE1A6V_POLY
+5V
+5V_HDMIC
+5V_HDMIC
C666 0.01U/50V_4
C437 *0.1U/10V_4
(35) HPDIN
HPDIN
+3V
D22 *BAV99W
PV-A11

PV-A10
EXT_HDMI_TXC-
330 ohm
R388 330/F_4
1pf
C758 1P/50V_4
EXT_HDMI_TXC+

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(24,32,33,35,37,38,39,43,44,45) +3VPCU
(29) +3VRTC
(2,4,7,10,12,14,24,25,27,28,29,30,31,32,33,34,35,36,45) +3V
(4,10,28,29,34,40) +1.5V
(2,3,4,5,6,7,9,10,29,42,44) +1.05V
(27,28,29,45) +3VS5

SI build
RB500V-40
D19
D18
RB500V-40
SI build
+3VPCU
+3VRTC
+3VRTC_2
C635 1U/6.3V_4
R364 20K/F_4
R336 20K/F_4
C629 1U/6.3V_4
G2 *SHORT_PAD1
C636 1U/6.3V_4
G3 *SHORT_PAD1
R352 1M/F_4
20MIL
+3VRTC_BAT
R328 1K/F_4
CN8
RTC CONN
update footprint (0830)

C653 18P/50V_4
A57
Y3 32.768KHZ
R369 10M_4
C652 18P/50V_4
RTC_X1
RTC_X2
RTC_RST#
SRTC_RST
SM_INTRUDER#
ICH_INTVRMEN
LAN100_SLP

U30A

RTCX1 E25
RTCX2 G25
RTCRST# G24
SRTCRST# C24
INTRUDER# C23
INTVRMEN E25
LAN100_SLP D25
RTC / LPC

GLAN_CLK G22
LAN_RSTSYNC D14
LAN_RXD0 A14
LAN_RXD1 D12
LAN_RXD2 B14
LAN_TXD0 D13
LAN_TXD1 C13
LAN_TXD2 A13
GPIO56 D15
GLAN_COMPI H22
GLAN_COMPO H21
LAN / GLAN

HDA_BIT_CLK AE7
HDA_SYNC AB7
HDA_RST# AA7
HDA_SDIN0 AB6
HDA_SDIN1 AE6
HDA_SDIN2 AC6
HDA_SDIN3 AA5
HDA_SDOUT AC7
HDA_DOCK_EN#/GPIO33 AD8
HDA_DOCK_RST#/GPIO34 AB8
SATALED# AC9
IHDA

SATA0RXN AE14
SATA0RXP AD14
SATA0TXN AC15
SATA0TXP AD15
SATA1RXN AD13
SATA1RXP AC13
SATA1TXN AA14
SATA1TXP AB14
SATA

AM82801IUX SLB8N

FWH0/LAD0 H3
FWH1/LAD1 J3
FWH2/LAD2 K5
FWH3/LAD3 L3
FWH4/LFRAME# J2
LDRQ0# H1
LDRQ1#/GPIO23 J1
A20GATE N3
A20M# AB23
DPRSTP# AE23
DPSLP# AE24
FERR# AD25
CPUPWRGD AE22
IGNNE# AD23
INIT# AE21
INTR AD24
RCIN# L1
NMI AD21
SMI# AC21
STPCLK# AC25
THRMTRIP# AC23
TP11
AC22
SATA4RXN AD12
SATA4RXP AE12
SATA4TXN AB12
SATA4TXP AA12
SATA5RXN AC11
SATA5RXP AD11
SATA5TXN AB10
SATA5TXP AA10
SATA_CLKN AC16
SATA_CLKP AB16
SATARBIAS# AD10
SATARBIAS AE10

LAD0 (34,35)
LAD1 (34,35)
LAD2 (34,35)
LAD3 (34,35)
LFRAME# (34,35)
ICH_DRQ#0
ICH_DRQ#1
TP21
TP22
GATEA20 (35)
H_A20M# (3)
H_DPRSTP# (3,7,44)
H_DPSLP# (3)
H_FERR# (3)
H_PWRGD (3)
H_IGNNE# (3)
H_INIT# (3)
H_INTR (3)
RCIN# (35)
H_NMI (3)
H_SMI# (3)
H_STPCLK# (3)
H_THERMTRIP_R
ICH_TP12
TP25
PM_THRMTRIP# (3,7)
CLK_PCIE_SATA# (2)
CLK_PCIE_SATA (2)
SATA_RBIAS_PN

+1.05V
R434 *56.2/F_4
R410 *56.2/F_4
R387 56.2/F_4
R386 56.2/F_4
R383 56.2/F_4
R382 54.9/F_4
GATEA20 R375 8.25K/F_4 +3V
RCIN# R368 10K/F_4 +3V

TP23 GLAN_CLK
TP19 LAN_RSTSYNC
TP14 LAN_RXD0
TP5 LAN_RXD1
TP20 LAN_RXD2
TP6 LAN_TXD0
TP12 LAN_TXD1
TP13 LAN_TXD2
TP16 GPIO56
R135 24.9/F_4 GLAN_COMP +1.5V

+3V
C447 0.1U/10V_4
R183 10K/F_4
(32) SATA_LED#
ICH_SATA_LED#
U13
MC74VHC1G08DFT2G

HP Request
BT_COMBO_EN#
R416 *1K/F_4

(30) ACZ_SDIN0
TP8
(34) BT_COMBO_EN#
ACZ_BCLK
ACZ_SYNC
ACZ_RST#
ACZ_SDOUT

SATA HDD1
(36) SATA_RXN0
(36) SATA_RXP0
(36) SATA_TXN0
(36) SATA_TXP0
C684 0.01U/50V_4 SATA_RXN0_C
C683 0.01U/50V_4 SATA_RXP0_C
C685 0.01U/50V_4 SATA_TXN0_C
C686 0.01U/50V_4 SATA_TXP0_C

R417 24.9/F_4

For HD Audio
ACZ_RST# R412 33_4 ACZ_RST#_AUDIO (30)
ACZ_SDOUT R414 33_4 ACZ_SDOUT_AUDIO (30)
ACZ_SYNC R415 33_4 ACZ_SYNC_AUDIO (30)
ACZ_BCLK R413 33_4 BIT_CLK_AUDIO (30)
C693 *10P/50V_4
C695 *10P/50V_4
C694 *10P/50V_4

SB Strap

ICH9-M Internal VR Enable strap (Internal VR for Vccsus1_05,VccSus1_5 and VccCL1_5)

INTVRMEN	Low = Internal VR disable High = Internal VR enable(Default)

ICH9-M LAN100_SLP Strap (Internal VR for VccLAN1_05 and VccCL1.05)

LAN100_SLP	Low = Internal VR disable High = Internal VR enable(Default)

XOR Chain Entrance Strap

ICH_TP3	HDA_SDOUT	Description
0	0	RSVD
0	1	Enter XOR Chain
1	0	Normal opration(Default)
1	1	Set PCIE port config bit 1

ICH9 Boot BIOS select

STRAP	PCI_GNT0#	SPI_CS#1	
SPI	0	1	
PCI	1	0	
LPC	1	1	(default)

*1K/F_4 R120 GNT0# (28)
*1K/F_4 R376 ICH_SPI_CS1#_R (28)

A16 swap override strap

PCI_GNT#3	Low = A16 swap override enabled Hi = Default

*1K/F_4 R112 GNT3# (28)

No Reboot Strap

ACZ_SPKR	Low: Default Hi: No reboot

+3V R366 *1K/F_4 ACZ_SPKR (27,30)

TPM physical presence

ICH_GPIO57	Low: Default

+3VS5 R329 *10K/F_4 ICH_GPIO57 (27)
R334 100K/F_4

+3VRTC R358 332K/F_4 ICH_INTVRMEN R361 *0_4
+3VRTC R356 332K/F_4 LAN100_SLP R357 *0_4
+3V R424 *1K/F_4 ACZ_SDOUT R331 *1K/F_4 ICH_TP3 (27)

NB5

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Quanta Computer Inc.

Size	Document Number	Rev
Custom	ICH9 (SATA/CPU)	1A

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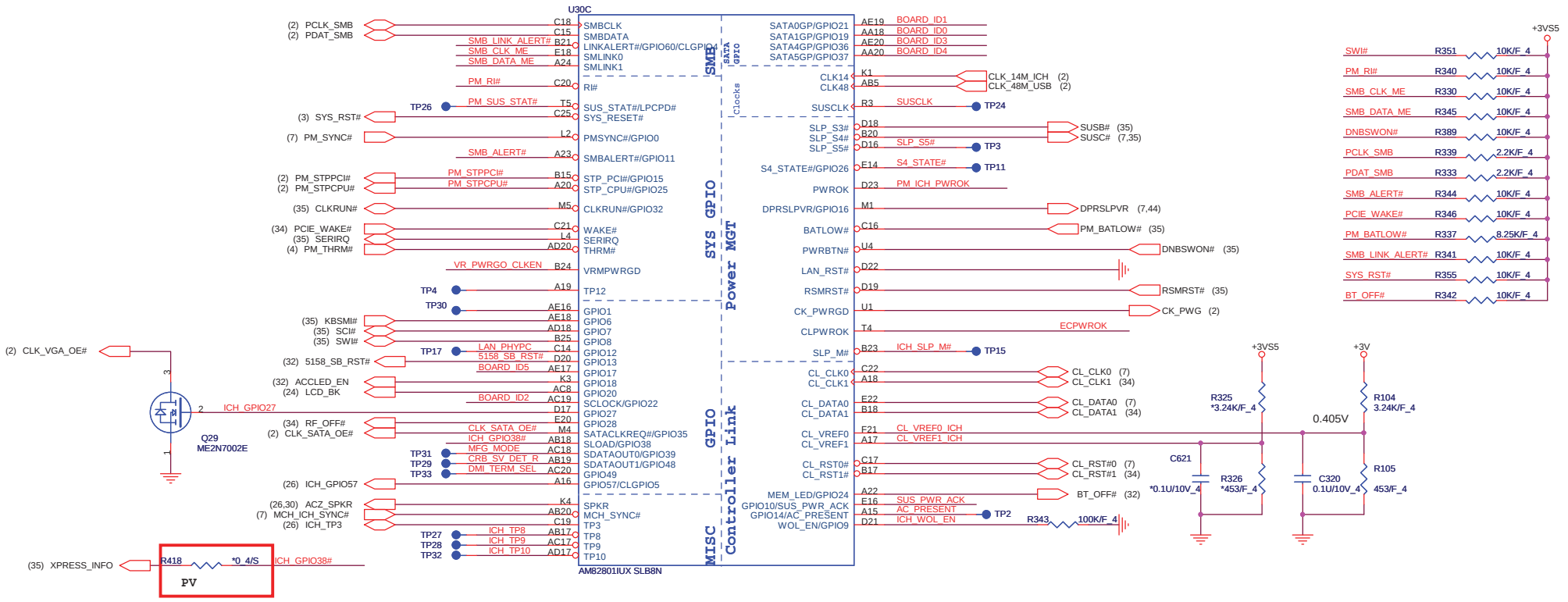

PV

Update Board ID table

	Memory Select			CPU Select		
	Board ID 0 GPIO19	Board ID 1 GPIO21	Board ID 2 GPIO22	Board ID 3 GPIO36	Board ID 4 GPIO37	Board ID 5 GPIO17
RESERVE	0	0	0	0	0	0
Samsung 1G	1	0	0	0	0	0
RESERVE	0	0	0	0	0	0
RESERVE	0	0	0	0	0	0
L9600 2.13G	0	0	0	1	0	0
L9400 1.86G	0	0	0	0	1	0
U9600 1.6G	0	0	0	0	0	1

NB5

PROJECT : SP6
Quanta Computer Inc.

Size	Document Number	Rev
Custom	ICH9 (PM/GPIO)	1A

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Place TX DC blocking caps close ICH9.

WLAN

(34) PCIE_RXN0
(34) PCIE_RXP0
(34) PCIE_TXN0
(34) PCIE_TXP0

C661 0.1U/10V_4 10 PCIE_TXN0_C
C662 0.1U/10V_4 10 PCIE_TXP0_C

Delete R121,R378 due have the same pd in page 26

A3

U30D

PCI-Express / Direct Media Interface

PERN1 PERP1 PETN1 PETP1
PERN2 PERP2 PETN2 PETP2
PERN3 PERP3 PETN3 PETP3
PERN4 PERP4 PETN4 PETP4
PERN5 PERP5 PETN5 PETP5
PERN6/GLAN_RXN PERP6/GLAN_RXP PETN6/GLAN_TXN PETP6/GLAN_TXP

DMI0RXN DMI0RXP DMI0TXN DMI0TXP
DMI1RXN DMI1RXP DMI1TXN DMI1TXP
DMI2RXN DMI2RXP DMI2TXN DMI2TXP
DMI3RXN DMI3RXP DMI3TXN DMI3TXP
DMI_CLKN DMI_CLKP
DMI_ZCOMP DMI_IRCOMP

DMI_RXN0 (7) DMI_RXP0 (7) DMI_TXN0 (7) DMI_TXP0 (7)
DMI_RXN1 (7) DMI_RXP1 (7) DMI_TXN1 (7) DMI_TXP1 (7)
DMI_RXN2 (7) DMI_RXP2 (7) DMI_TXN2 (7) DMI_TXP2 (7)
DMI_RXN3 (7) DMI_RXP3 (7) DMI_TXN3 (7) DMI_TXP3 (7)
CLK_PCIE_ICH# (2) CLK_PCIE_ICH (2)

+1.5V
R160 24.9/F_4
DMI_IRCOMP_R

T80 *PAD T79 *PAD
(26) ICH_SPI_CS1#_R
T23 *PAD T81 *PAD

SPI_CLK SPI_CS0# SPI_CS1#/GPIO58/CLGPIO6 SPI_MOSI SPI_MISO

SPI

USB

USBP0N USBP0P USBP1N USBP1P USBP2N USBP2P USBP3N USBP3P USBP4N USBP4P USBP5N USBP5P USBP6N USBP6P USBP7N USBP7P USBP8N USBP8P USBP9N USBP9P USBP10N USBP10P USBP11N USBP11P

USBP0- (32) USBP0+ (32) USBP1- (32) USBP1+ (32) USBP2- (32) USBP2+ (32) USBP3- (24) USBP3+ (24) USBP4- (34) USBP4+ (34) USBP5- (32) USBP5+ (32)

USB Connector
Card reader
USB Connector
Carama USB
WLAN Min-Card
BLUETOOTH

SI2-A23
(32) USB_OC#0
(32) USB_OC#2

USB_OC#0 USB_OC#1 USB_OC#2 USB_OC#3 USB_OC#4 USB_OC#5 USB_OC#6 USB_OC#7 USB_OC#8 USB_OC#9 USB_OC#10 USB_OC#11

OC0#/GPIO59 OC1#/GPIO40 OC2#/GPIO41 OC3#/GPIO42 OC4#/GPIO43 OC5#/GPIO29 OC6#/GPIO30 OC7#/GPIO31 OC8#/GPIO44 OC9#/GPIO45 OC10#/GPIO46 OC11#/GPIO47

USBRBIAS_PN
USBRBIAS USBRBIAS#
R411 22.6/F

AM82801IUX SLB8N

USB port	Assignment function
USB0	USB Connector
USB1	USB Card reader
USB2	USB Connector
USB3	USB Camera module
USB4	Reserve for Mini Card
USB5	Bluetooth
USB6	NA
USB7	NA
USB8	NA
USB9	NA
USB10	NA
USB11	NA

RP3 10P8R-8.2K
INTC# INTG# REQ0# SERR# PERR# TRDY# IRDY# INTB#

RP2 10P8R-8.2K
LOCK# REQ3# STOP# INTD# REQ2# REQ1# FRAME# DEVSEL#

RP4 10P8R-8.2K
INTH# INTF# INTE# INTA#

RP6 10P8R-8.2K
USB_OC#7 USB_OC#6 USB_OC#10 USB_OC#11 USB_OC#4 USB_OC#1 USB_OC#2 USB_OC#5

+3V +3VS5

A14

A14 R373 delete

SI2-A23

USB_OC#0	R393	8.25K/F_4
USB_OC#3	R372	8.25K/F_4
USB_OC#8	R374	8.25K/F_4
USB_OC#9	R381	8.25K/F_4
PCI_PME#	R384	10K/F_4

U30B

PCI

AD0 AD1 AD2 AD3 AD4 AD5 AD6 AD7 AD8 AD9 AD10 AD11 AD12 AD13 AD14 AD15 AD16 AD17 AD18 AD19 AD20 AD21 AD22 AD23 AD24 AD25 AD26 AD27 AD28 AD29 AD30 AD31

REQ0# GNT0# REQ1#/GPIO50 GNT1#/GPIO51 REQ2#/GPIO52 GNT2#/GPIO53 REQ3#/GPIO54 GNT3#/GPIO55

GNT0# (26) TP18 TP7 GNT3# (26)

C/BE0# C/BE1# C/BE2# C/BE3#
IRDY# PAR PCIRST# DEVSEL# PERR# PLOCK# SERR# STOP# TRDY# FRAME#

SERR# (35)

PLTRST# PCICLK PME#
PLT_RST-R# (7,15) PCLK_ICH (2) PCI_PME#

Interrupt I/F

PIRQA# PIRQB# PIRQC# PIRQD#
PIRQE#/GPIO2 PIRQF#/GPIO3 PIRQG#/GPIO4 PIRQH#/GPIO5

INTA# INTB# INTC# INTD#
INTE# INTF# INTG# INTH#
INTH# (32)

AM82801IUX SLB8N

U9 *MC74VHC1G08DFT2G
C349 *0.1U/10V_4
PLT_RST-R#
R113 100K/F_4
R117 *100K/F_4
PLTRST# (34,35)
R116 *0_4/S
SI2-A26

http://laptop-motherboard-schematic.blogspot.com/

PROJECT : SP6
Quanta Computer Inc.

Size	Document Number	Rev
Custom	ICH9 (USB/PCIE/DMI)	1A

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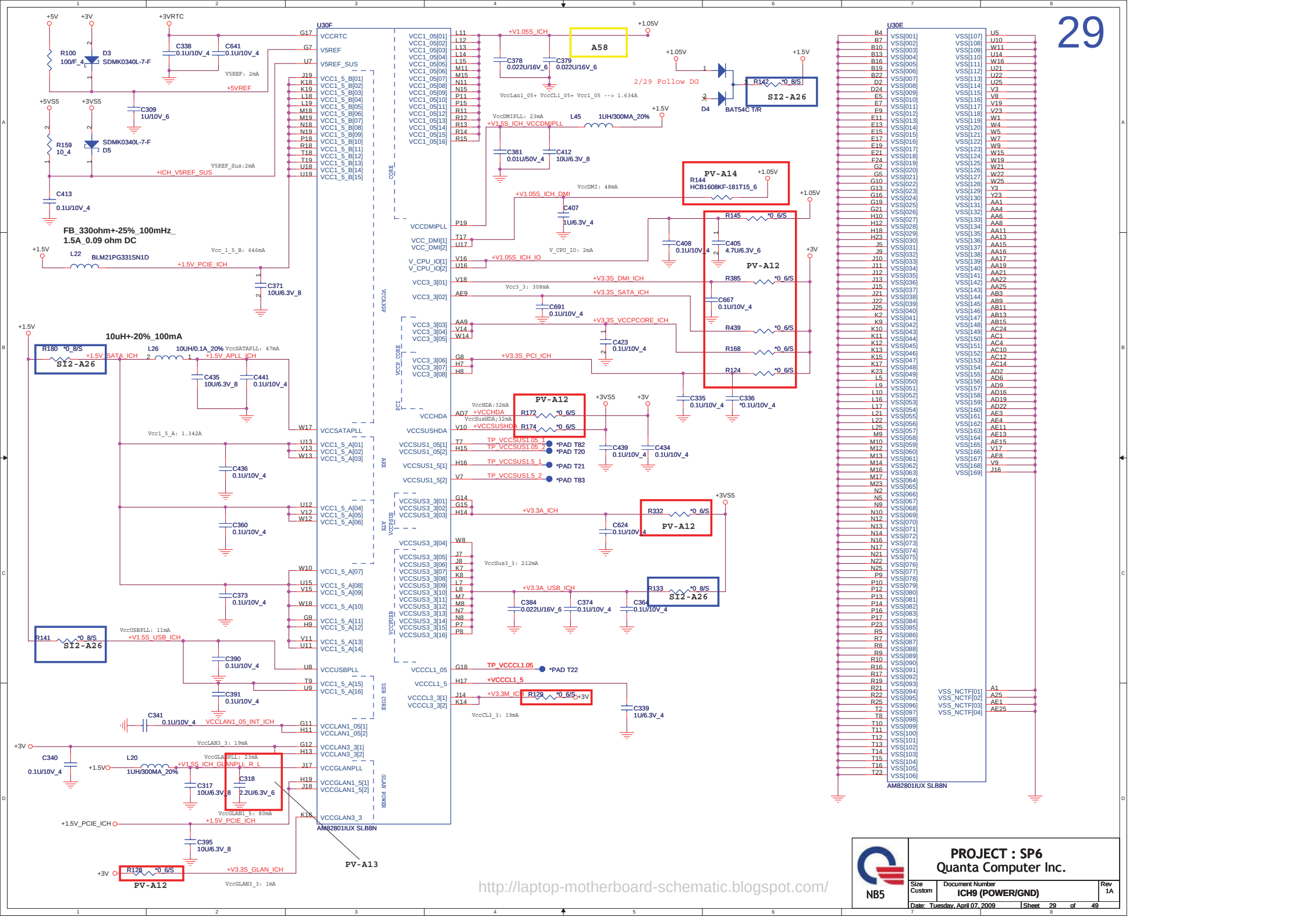

29
U30F
U30E
FB_330ohm+-25%_100mHz_
1.5A_0.09 ohm DC
10uH+-20%_100mA
PV-A12
PV-A13
PV-A14
A58
2/29 Follow DG
SI2-A26
BAT54C T/R
HCB1608KF-181T15_6
AM82801IUX SLB8N
PROJECT : SP6
Quanta Computer Inc.
NB5
ICH9 (POWER/GND)
Tuesday, April 07, 2009
http://laptop-motherboard-schematic.blogspot.com/

PORT	PLACE TO
MONO_OUT	X
PORT A	HP OUT
PORT B	External MIC
PORT C	X
PORT D	Internal Speckers
DM	DIGITAL MIC

Internal regulator

Close to Pin6

From Audio Amplifier TPA6040

IDT 92HD75B2H5NLGXYBX

A59

HD Audio Bus

(26) ACZ_SDOUT_AUDIO
(26) BIT_CLK_AUDIO
(26) ACZ_SDIN0
(26) ACZ_SYNC_AUDIO
(26) ACZ_RST#_AUDIO

R201 22_4 ACZ_SDIN0_ADC

TO Digital MIC

(24) DIGITAL_CLK
(24) DIGITAL_D1

R205 22_6 DMIC_CLK
R204 *0_6/S DMIC0
PV-A15

C482 *10P/50V_4
C483 10P/50V_4

(31) IDT_GPIO2#

Reserve for EAPD#

R203 *5.11K/F_4
(31) EAPD#

U16

Digital

SDO
BITCLK
SDI_CODEC
SYNC
RESET#
DMIC_CLK
DMIC0 / GPIO1
GPIO 2 / SPDIF OUT1
SPDIF0
EAPD/GPIO0/SPDIF OUT 0 or 1
DAP

Analog

PORTA_L
PORTA_R
PORTB_L
PORTB_R
VREFOUT-B
PORT-D_L
PORT-D_R
PORTC_L
PORTC_R
VREFOUT-C
PORTE_L
PORTE_R
PCBEEP/Mono
SENSE_A
SENSE_B

EXP_HP-L → EXP_HP-L (31)
EXP_HP-R → EXP_HP-R (31)
AGND SHIELD

MIC1_L1 C465 2.2U/6.3V_6
MIC1_R1 C466 2.2U/6.3V_6 EXT_MIC_R
VREFOUT_B_L C475 1U/6.3V_4 AGND
VREFOUT_B_L

LINE_OUTL (31)
LINE_OUTR (31)

AMP_BEEP
C468 0.1U/10V_4
C457 0.1U/10V_4 AGND
R195 10K/F_4
R198 47K/F_4
ACZ_SPKR (26,27)

SENSE_A R199 2.49K/F_4 +4.75VAVDD
C469 1000P/50V_4 AGND

SENSE_B R202 100K/F_4 +4.75VAVDD
C481 *1000P/50V_4 AGND

C479 1U/6.3V_4 CAP2_AU AGND
C472 10U/6.3V_8 VREF_FLT AGND

R472 560K/F_4
R471 10K/F_4
R477 120K/F_4
U37 LMV331M5X
EXP_MIC_R
EX_MIC_DET
0.18*4.75v=0.83v

D21 BAT54C T/R
EXT_MIC_R
2.2K/F_4 R200 VREFOUT_B_L
100K/F_4 R464 +4.75VAVDD
A46

BIT_CLK_AUDIO
ACZ_SDIN0_ADC
C478 *27P/50V_4
C476 *27P/50V_4
FOR EMI

SA_A# -->Headphone out
SA_B# -->EXT MIC

Normal Close

SI-1	JACK_SEN#	EX_MIC_DET
None	Low	HIGH
Normal HP	HIGH	Low
HP+MIC	HIGH	HIGH

don't need to install due shape short in SGND

R461 R463 R467 R459 R466 R478 R469 *0_6
C456 *1000P/50V_4

Combo Jack (Headphone/MIC)

Normal Close

AUDIO JACK CONN
CN19
2SJ-0960-C07
A40

(31) HPOUT_L
(31) HPOUT_R
HPOUT_L R232 30.1/F_4
HPOUT_R R235 30.1/F_4
EXT_MIC_R

BLM18BD601SN1D L31
BLM18BD601SN1D L32
BLM18BD601SN1D L30

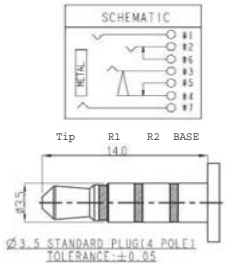
EXP_HPOUT_L
EXP_HPOUT_R
JACK_SEN#
EXP_MIC_R

R234 20K/F_4
R237 20K/F_4
C515 0.01U/50V_4
C517 0.01U/50V_4
C513 220P/50V_4
C514 1U/6.3V_4
C516 1U/6.3V_4
A32

R479 39.2K/F_4 SENSE_A
R480 20K/F_4 SENSE_A
Q37 2N7002EPT_SC70
A46

+4.75VAVDD
R482 100K/F_4
JACK_SEN#
Q38 2N7002EPT_SC70
C743 220P/50V_4
SI2-A17
A19

TIP Headphone Left
R1 Headphone Right
R2 GND
BASE MIC



NB5

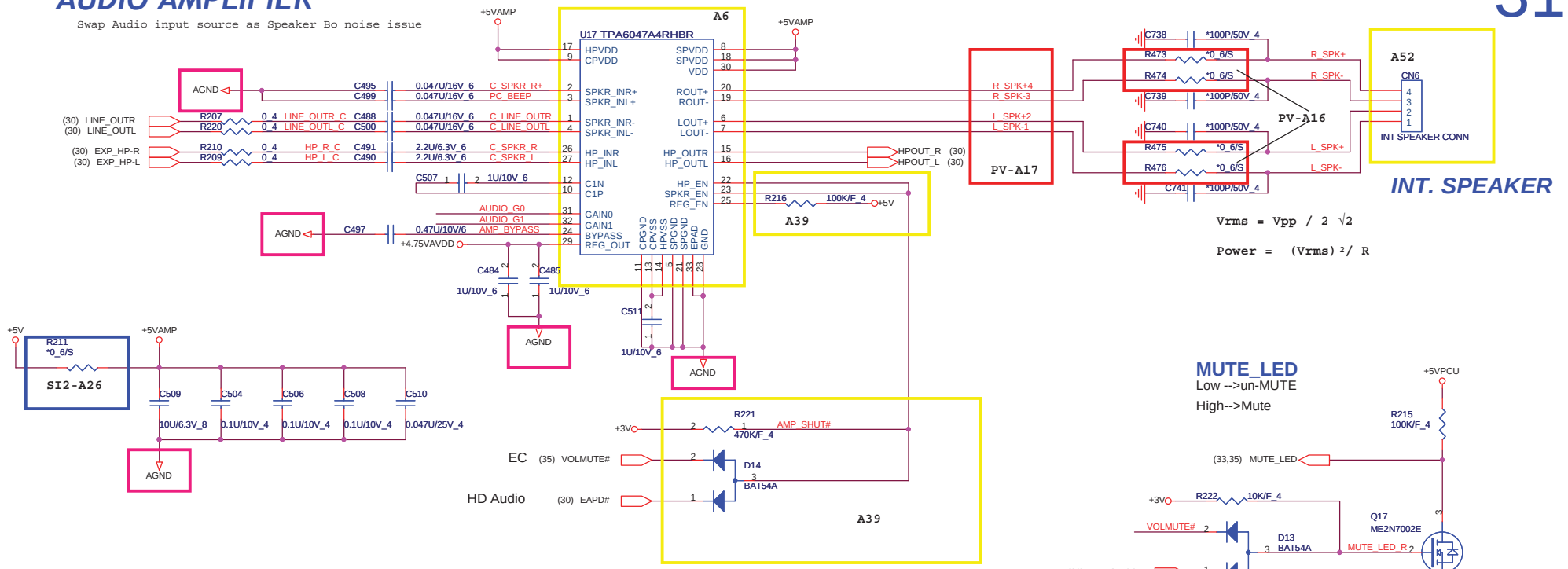
PROJECT : SP6
Quanta Computer Inc.

Size	Document Number	Rev
Custom	Azalia IDT92HD75B2	1A

Date: Tuesday, April 07, 2009 Sheet 30 of 49

AUDIO AMPLIFIER

Swap Audio input source as Speaker Bo noise issue



Vrms = Vpp / 2 √2

Power = (Vrms)²/ R

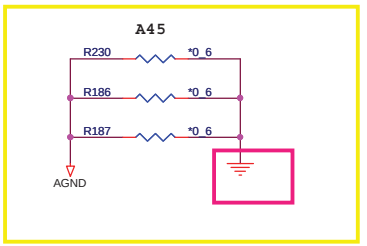
A31

6047A2 Gain Table

GAIN0	GAIN1	AV	RIN
0	0	6dB	90K
0	1	10dB	70K
1	0	15.6dB	45K
1	1	21.6dB	25K

PIN23 SPKR_EN

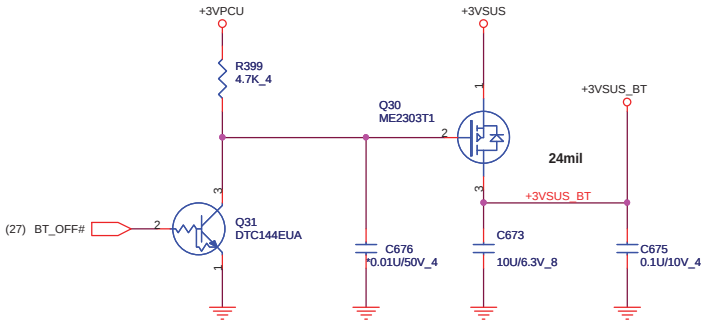
TPA6047A4	High enable

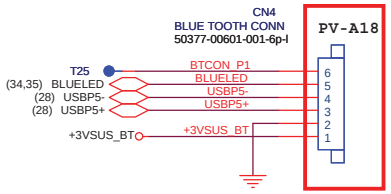


PROJECT : SP6
Quanta Computer Inc.

Size	Document Number	Rev
Custom	Audio Amplifier TPA6047A4	1A
NB5	Date: Tuesday, April 07, 2009	Sheet 31 of 49

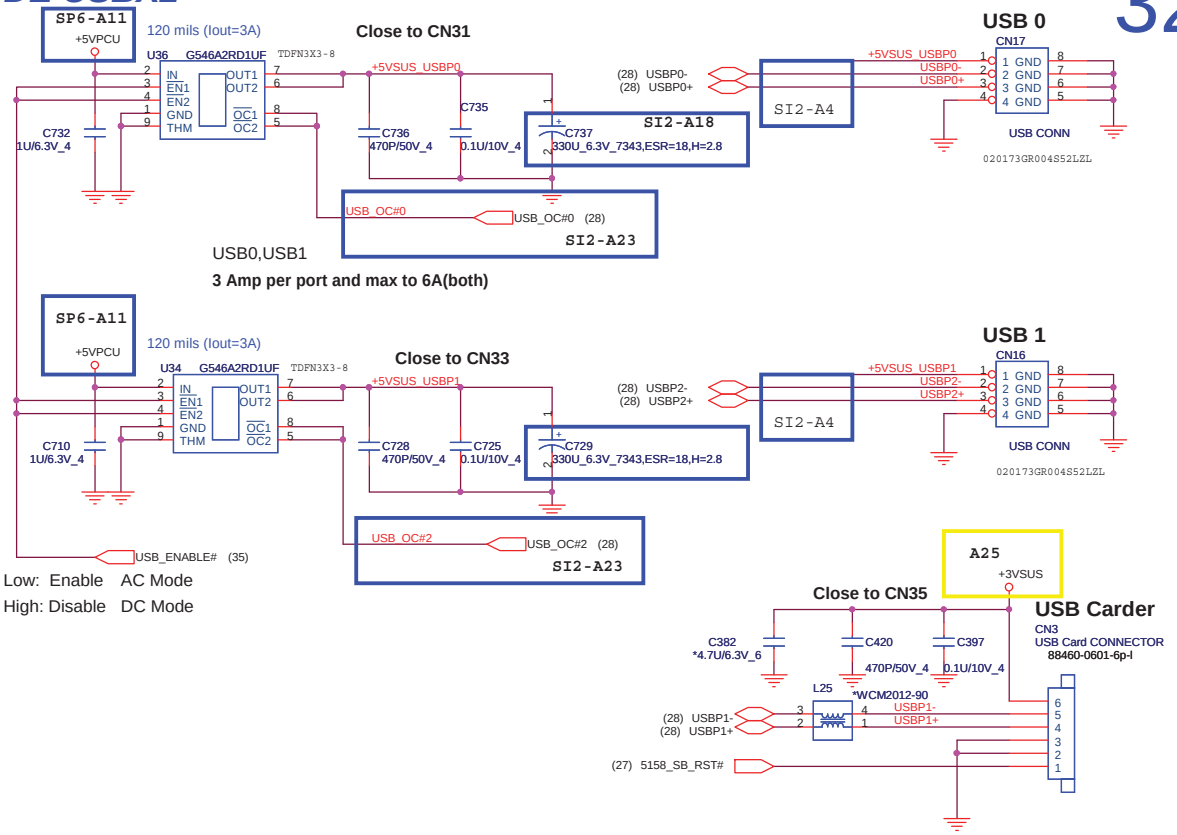
BLUETOOTH





Change CN4 layout footprint to 50377-00601-001-6p-l

LEFT SIDE USBX2

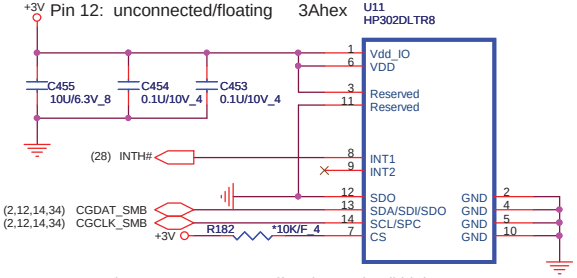


Accelerometer Sensor

SGT-LIS302DLTR interrupt pin default is low / active Hi , BIOS need to programming 22h to change status from active Hi to low

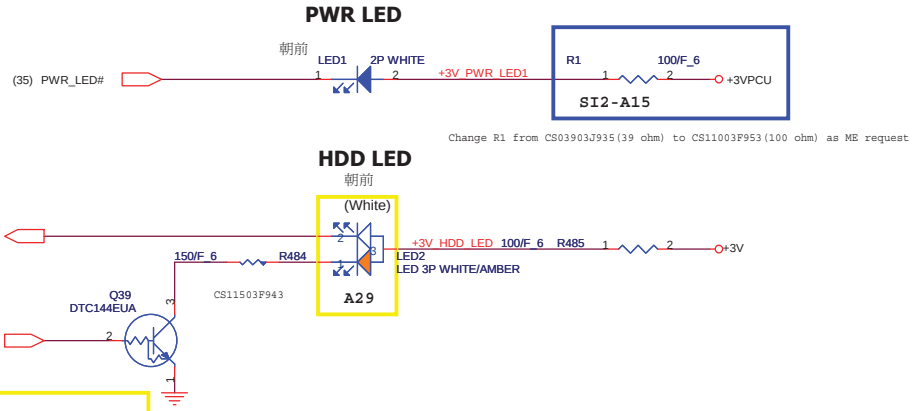
Pin 12: Low 38hex

Pin 12: unconnected/floating 3Ahex



Change R181 to no stuff as internal pull high

LED



use a single 80 mil copper fill between digital ground and audio ground. None of the 0 ohm resistors should be used.

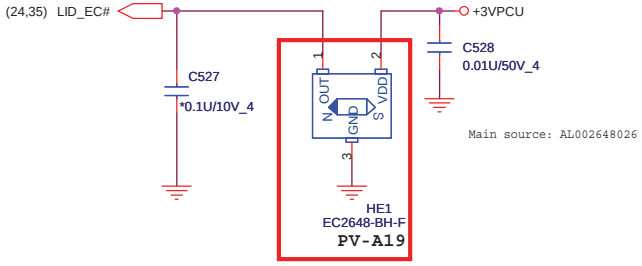
NB5

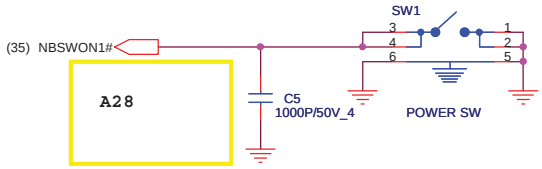
PROJECT : SP6
Quanta Computer Inc.

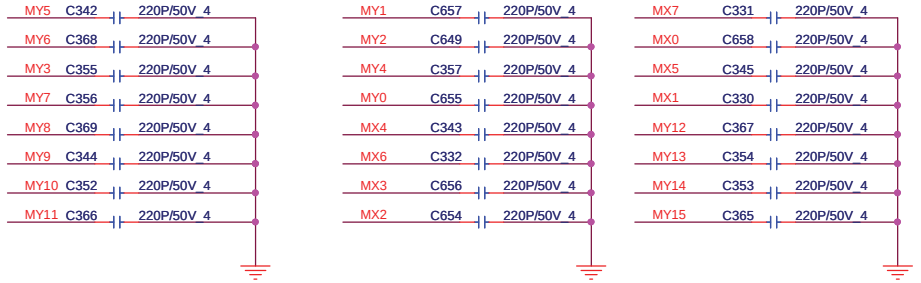
Size	Document Number	Rev
Custom	BT/WC/FP/USB/G-sensor	1A

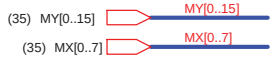
Date: Tuesday, April 07, 2009 Sheet 32 of 49

POWER SW



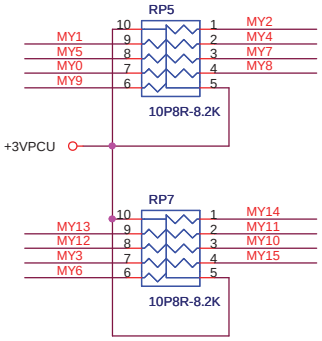


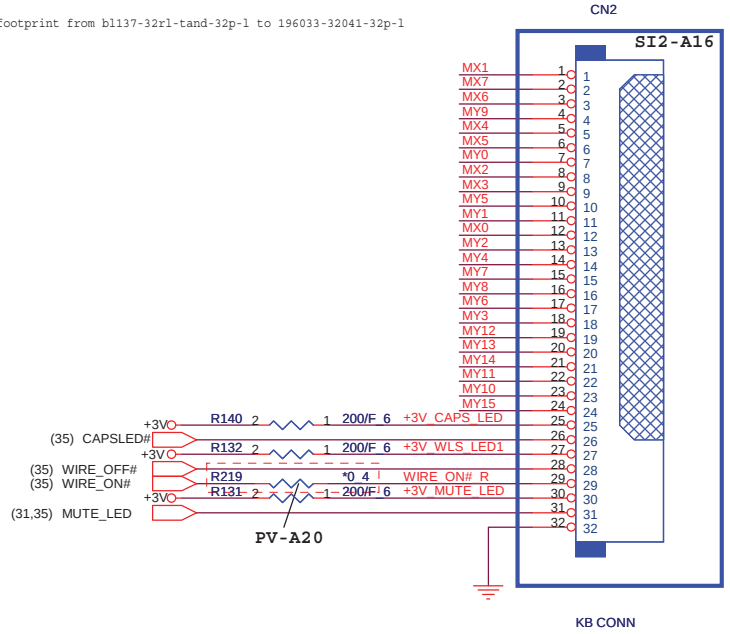


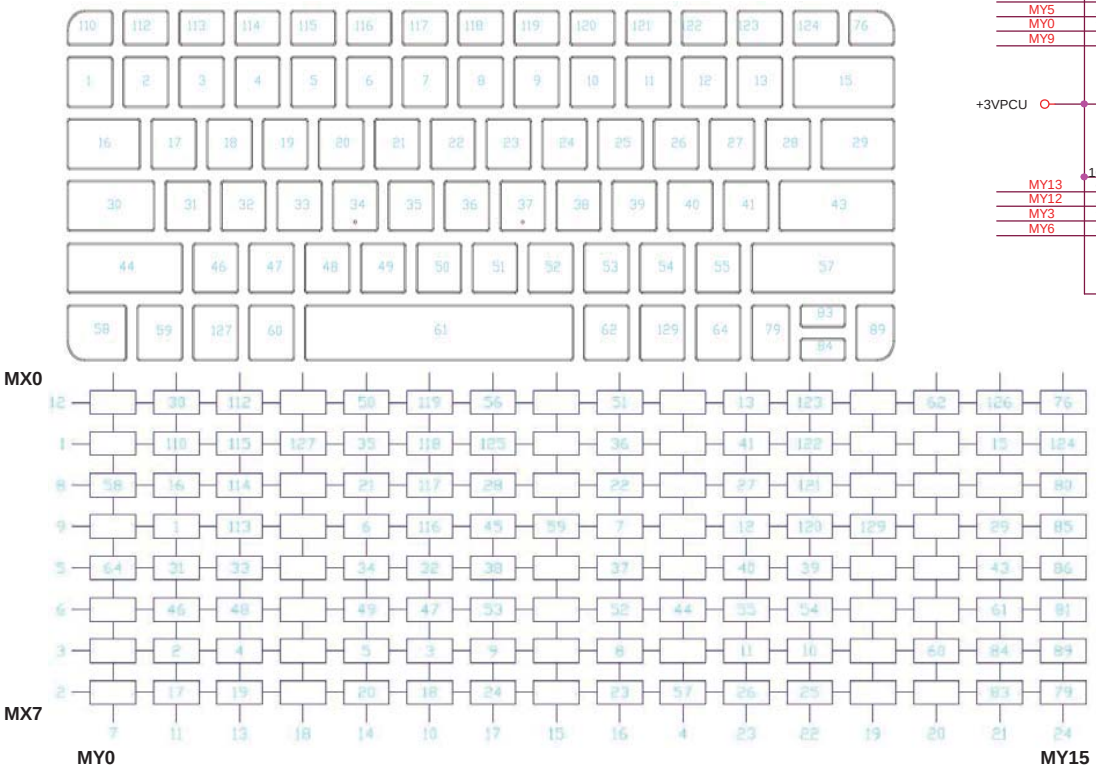


Modify CN2 footprint from bl137-32rl-tand-32p-1 to 196033-32041-32p-1

KEYBOARD PULL-UP







Caps Lock LED	2 Pins	30mA
Wireless LED	3 pins	
MUTE LED	2 Pins	
Charge LED	3 pins	

NB5

PROJECT : SP6
Quanta Computer Inc.

Size	Document Number	Rev
B	KB/CAP	1A
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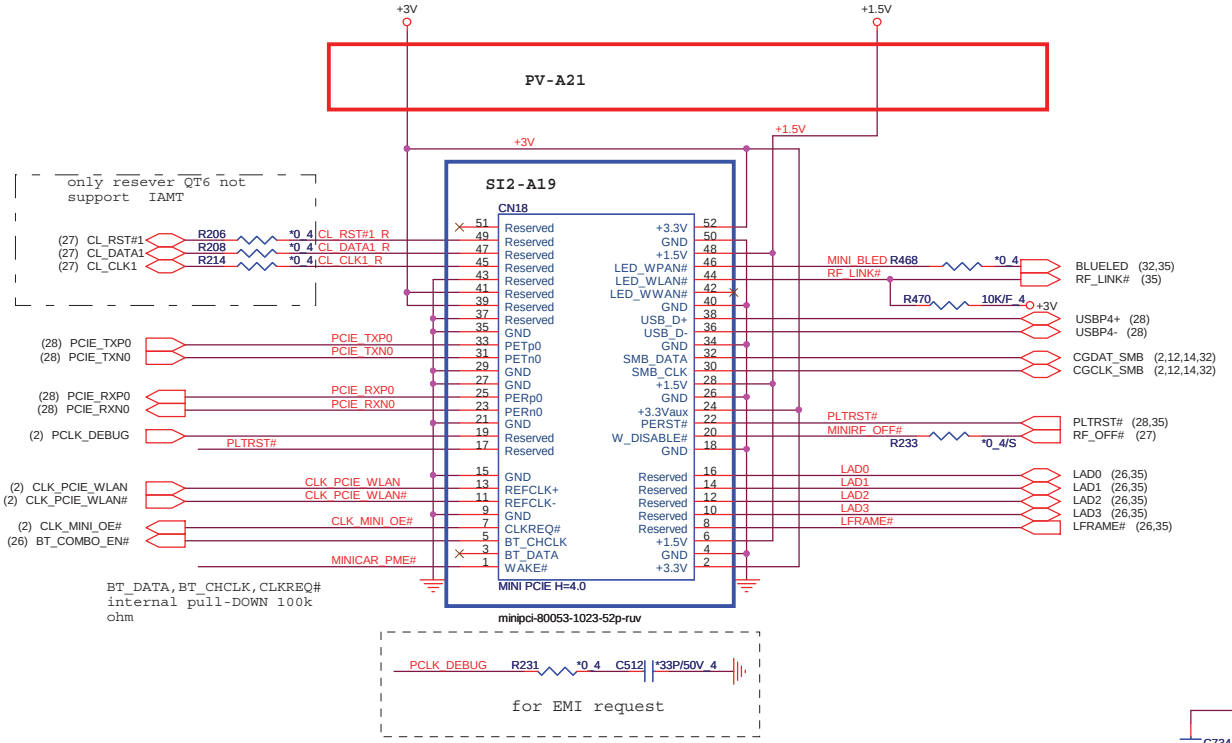
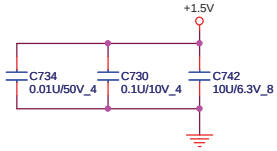
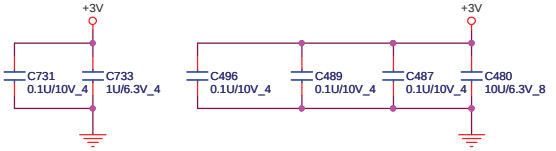
Full size Mini-Card
WLAN

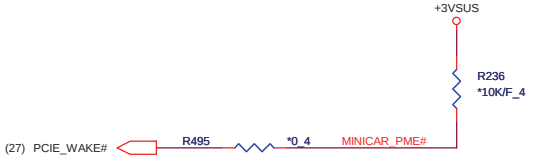


Modify CN18 footprint from from minipci-asob241-r40n-7h-52p-ruv to minipci-80053-1023-52p-ruv

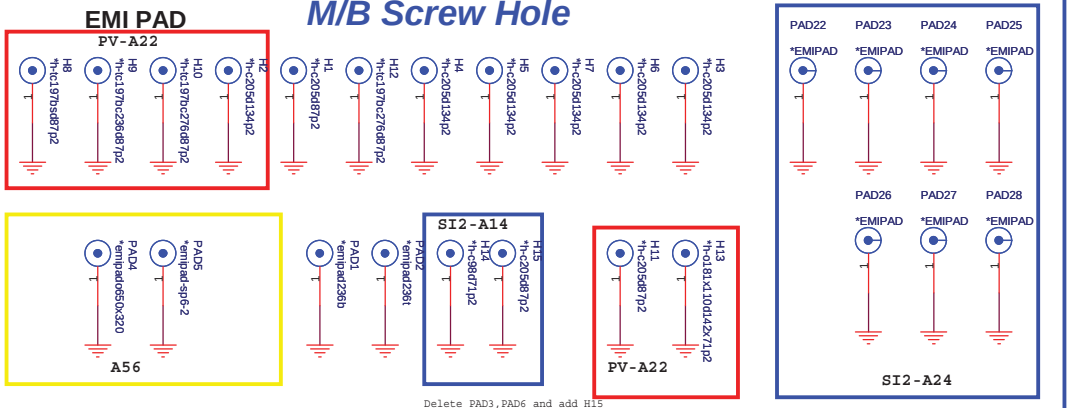


Close to CN38





M/B Screw Hole



Delete PAD3,PAD6 and add H15

NB5

PROJECT : SP6
Quanta Computer Inc.

Size	Document Number	Rev
Custom	MINIPCIE/Hole	1A

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Change U20 layout footprint

to LQFP128-16X16-4-AA1

U14

KB3926QF D2 A47

TOUCH PAD CONNECTOR

25 mils

Change CN5 to DFFC06FR044

	SI-1	SI-2
Pin1	VDD	X
Pin2	DATA	X
Pin3	CLK	GND
Pin4	GND	CLK
Pin5	X	DATA
Pin6	X	VDD

close conn

SI2-A11

SI2-A12

PV-A23

PV-A26

PV-A27

SI2-A3

PV-A24

PV-A25

SI2-A25

A16

A27

A48

R323 remove for KB3926 C version

DB modified

For KB3926 B, C version

Change to RB500 as Current loss

Change U35 from X6179-10XXXX-8P-SOCKET to SOIC8-8-1_27

2M byte SPI BIOS

SI2-A2

MX25L1605DM2I-12G

Socket: DG008000031

	DB-2 8M bit	From SI-1 16M bit	
MXIC	AKE5GFK0Z09	AKE38FP0Z00	
WINBOND	AKE3GFP0N08	AKE38ZP0N01	AKE38FP0N01
EON	AKE3GZP0Q00	AKE38ZA0Q00	
AMIC	AKE3GZP0801	AKE38ZN0800	

AC_LED_ON#	MBATLED0#	
0	0	DC mode
0	1	AC mode
1	0	Charge mode

R430 Change to 100k ohm ,pull low

Add Pin 117,103 for DSM,116 for Bluetooth,Pin 23 for Key Beep to Amplifier

Add T37,T38,T39 for EC

Delete T10 and tie pin 117 from Lan for DSM

NB5

PROJECT : SP6

Quanta Computer Inc.

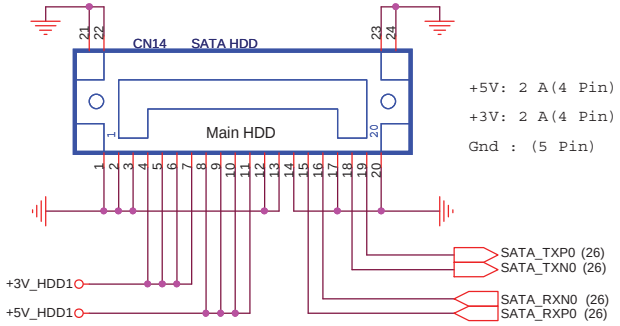
Size	Document Number	Rev
Custom	KB3926/ROM/TP	2B

Date: Tuesday, April 07, 2009 Sheet 35 of 49

SATA 1.8" HDD CONNECTOR

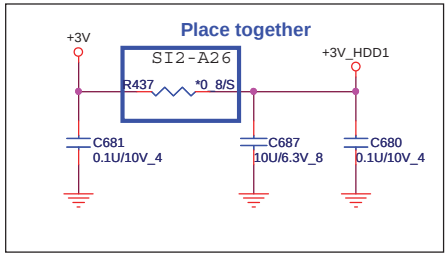
DFHD20MR005

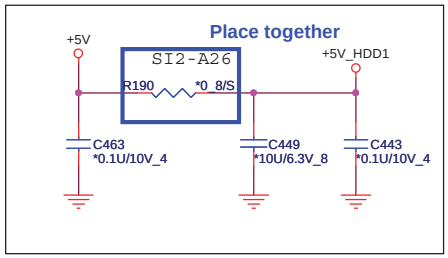
DC Current rating: 0.5 A



Modify 固定孔 Size as SMT request

GS12201-1011-9F-20P-L-QT6

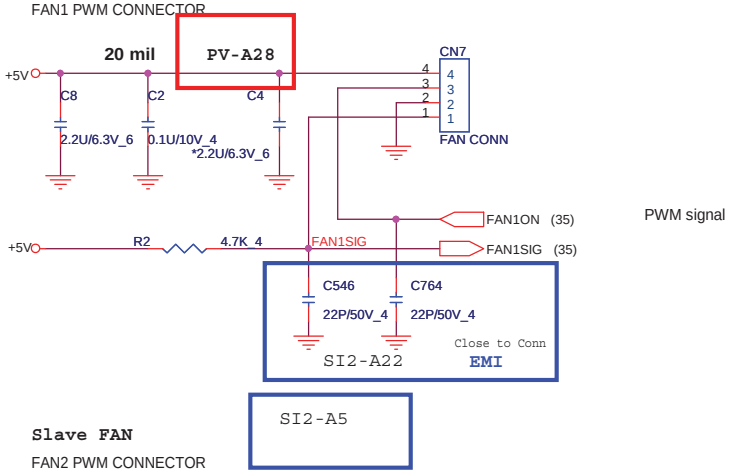




RPM Control

Master FAN

FAN1 PWM CONNECTOR

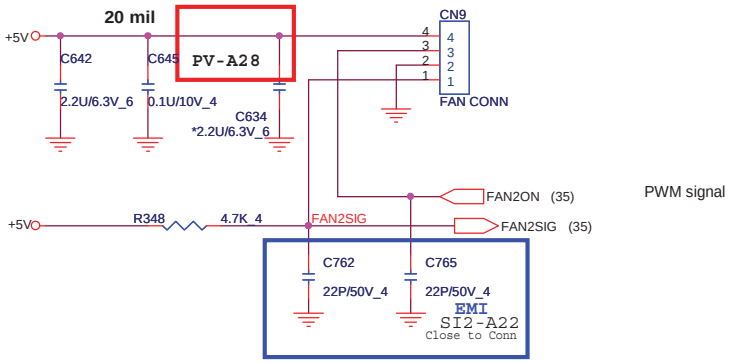


PWM signal

SI2-A5

Slave FAN

FAN2 PWM CONNECTOR



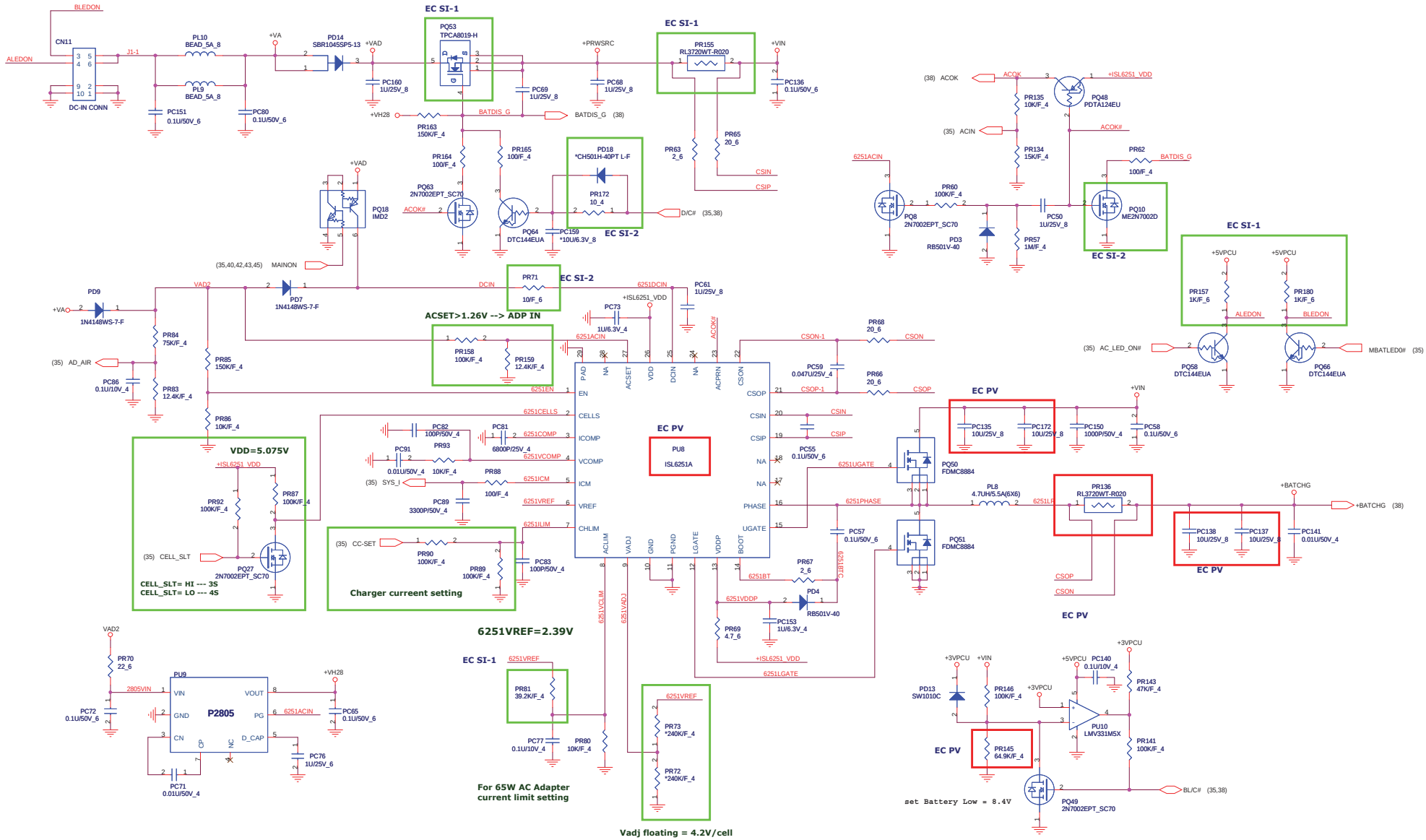
PWM signal

NB5

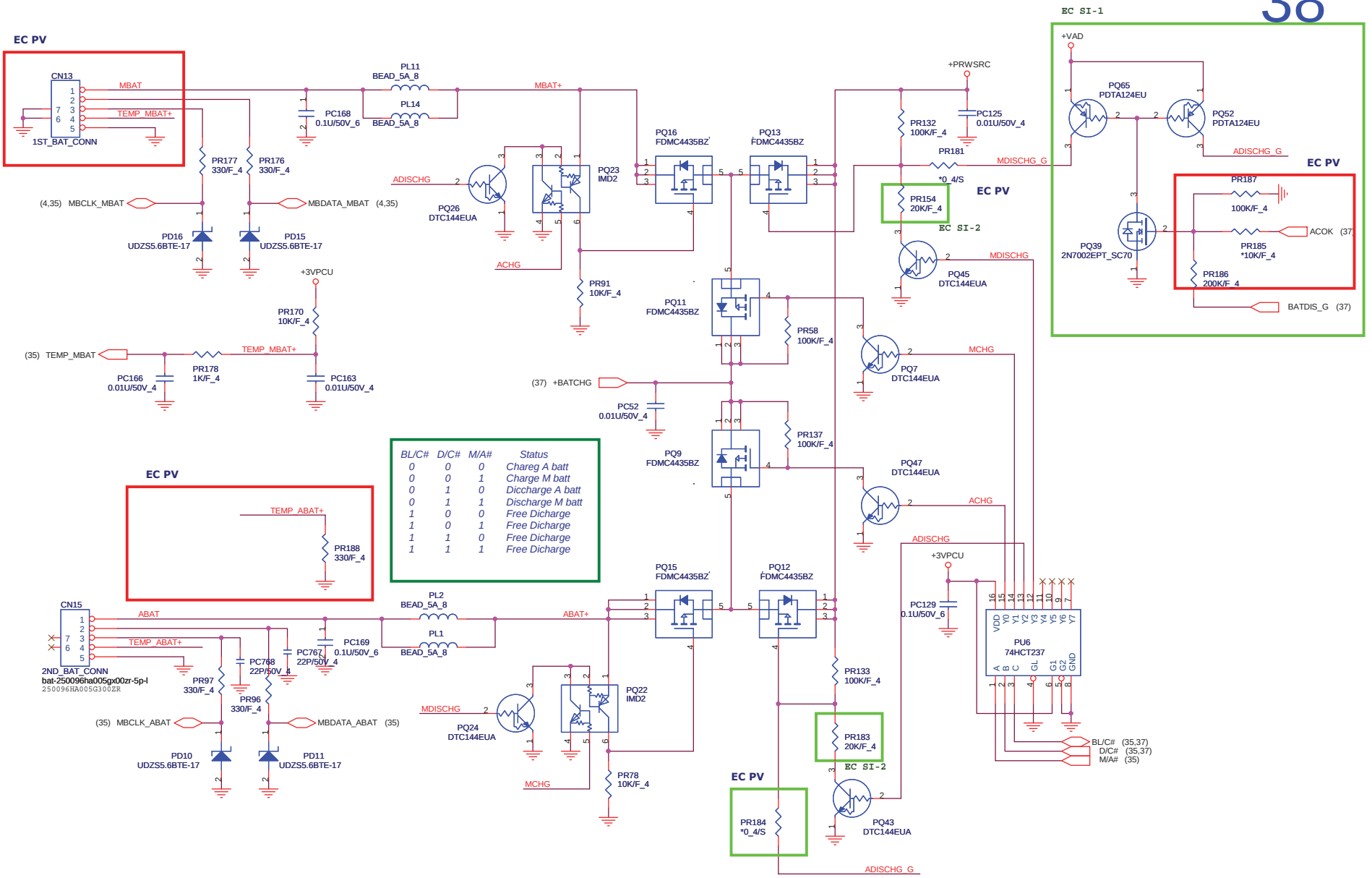
PROJECT : SP6
Quanta Computer Inc.

Size	Document Number	Rev
B	Fan1 and Fan2	1A

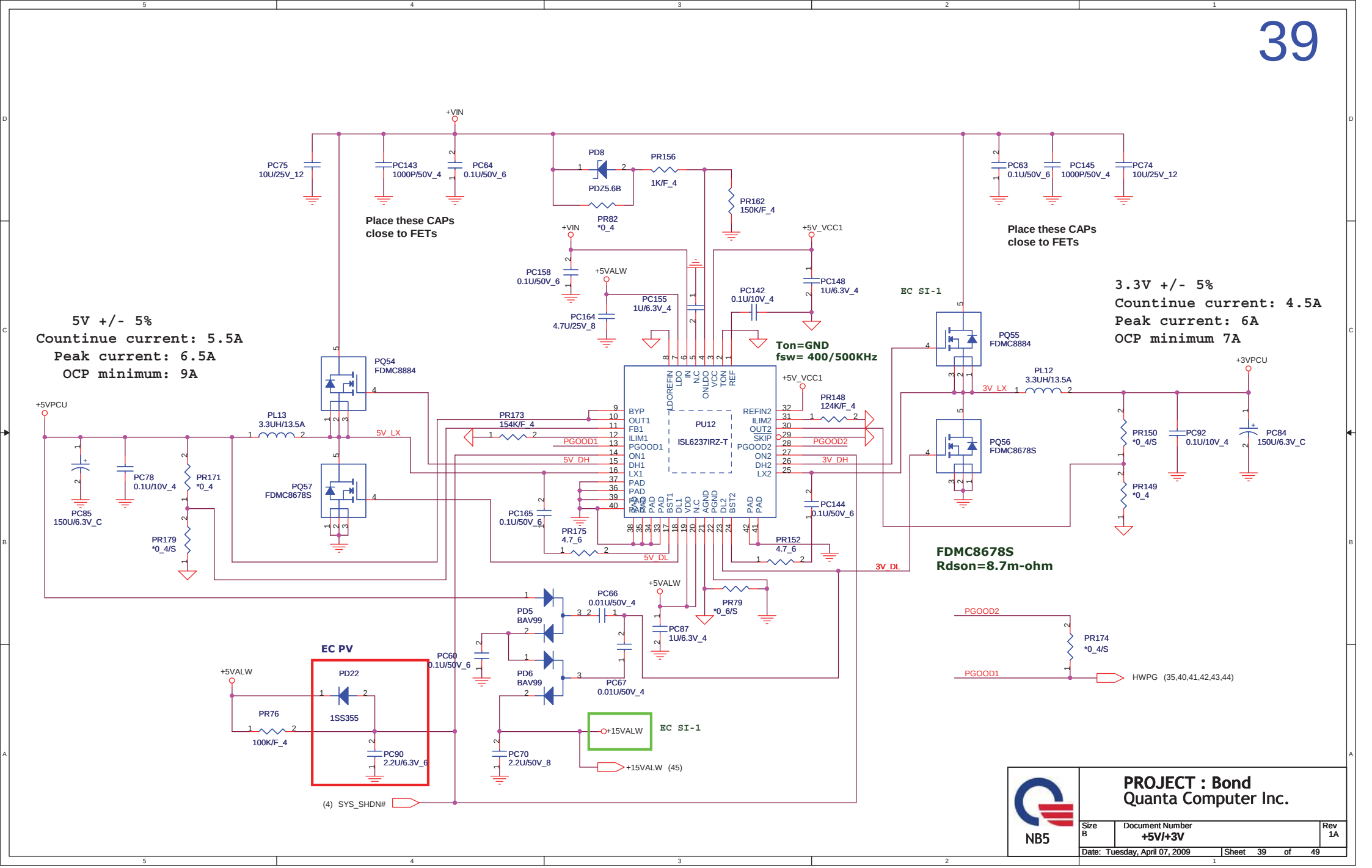
Date: Tuesday, April 07, 2009 Sheet 36 of 49



NB5	PROJECT : Bond Quanta Computer Inc.	
Size: C	Document Number: CHARGER	Rev: 1A
Date: Tuesday, April 07, 2009	Sheet 37 of 49	



NB5	PROJECT : Bond Quanta Computer Inc.
Size: Custom	Document Number: BATTERY SELECTOR
Rev: 1A	
Date: Tuesday, April 07, 2009	Sheet 38 of 49



NB5	PROJECT : Bond Quanta Computer Inc.	
	Size: B Document Number: +5V/+3V	Rev: 1A
	Date: Tuesday, April 07, 2009	Sheet 39 of 49

(7,9,10,12,13,14) +1.5V_MEM

(VTT/1.5A)

+0.75V_DDR_VTT

PC154 10U/6.3V_8

PC147 10U/6.3V_8

PU11

TPS51116REGR

VTTGND, VTTSNS, GND, MODE, VTTREF, COMP, NC, VDDQSNS, VDDQSET, S3, S5, NC, GND, VTT, VLDOIN, VBST, DRVH, LL, DRVL, PGND, CS_GND, CS, V5IN, V5FILT, PGOOD

+1.5V_MEM

PC139 *10U/6.3V_8

+5VPCU

PD12 RB501V-40

PR142 2.2_6

PC134 0.1U/50V_6

1116VBST

1116DRVH

1116LL

1116DRVL

1116CS

V5FILT

(3mA)

(7,14) +V_DDR_MCH_REF

PC152 0.033U/10V_4

(35,37,42,43,45) MAINON

(35,43,45) SUSON

+VIN

PR144 619K/F_4

PR139 10K/F_4

PC132 1U/6.3V_4

PR138 10_6

PC133 1U/6.3V_4

PR151 *0_6/S

+VIN

PC124 0.1U/50V_6

PC127 10U/25V_12

PC48 10U/25V_12

PC123 1500P/50V_4

EC SI-1

PQ41 FDMC8884

PQ46 FDMC8678S

PL7 1.5UH/18A (7X7)

1.5V_MEM +/- 5%

Peak current:10.4A

+1.5V_MEM

PC131 330U/2.5V_3528

EC SI-2

PC130 0.1U/10V_4

PR153 10K/F_4

PC146 *100P/50V_4

PR147 10K/F_4

VDDQSET

PR140 *0_4

HWPG (35,39,41,42,43,44)

PR128 *0_4/S

DDR_POK (7)

+1.1V +/- 5%

Peak current:2.77A

+1.5V_MEM

PU7

RT9018B-18PSP

VIN, NC, VOUT, GND, GND1, PGOOD, EN, VDD, ADJ

PC56 10U/6.3V_8

PC54 0.1U/10V_4

A12

(35,41,43) VGA_PWROK

PR59 *0_4/S

PR64 100K/F_4

(35,41) VGACOREON

9018EN

+5VPCU

PC53 *0.33U/6.3V_4

EC SI-1

PC51 1U/6.3V_4

+1.1V

PC46 0.1U/10V_4

PC47 220U_2.5V_3528

EC SI-1

+1.1V (15,17,18,19,20)

R1

PR56 38.3K/F_4

9018ADJ

R2

PR55 100K/F_4

VO=(0.8(R1+R2)/R2)

R2<120Kohm

+1.5V_MEM

EC SI-1

(45) MAIND

PQ44 FDMC8884

PC128 0.1U/10V_4

PC126 0.1U/10V_4

+1.5V +/- 5%

Peak current:2.3A

+1.5V (4,10,26,28,29,34)

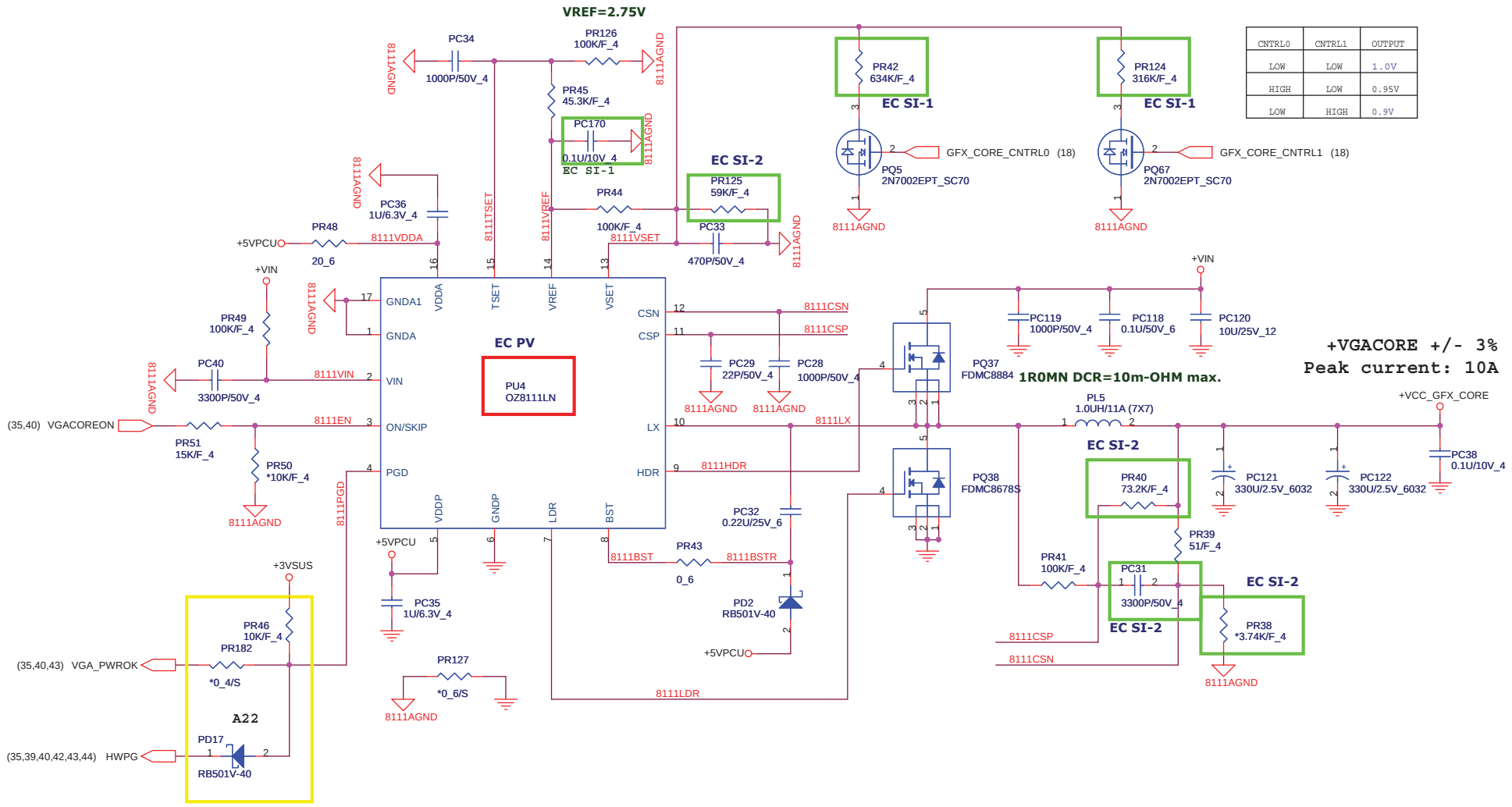
NB5

PROJECT : Bond

Quanta Computer Inc.

Size	Document Number	Rev
B	+1.5V_MEN/+1.1V	1A

Date: Tuesday, April 07, 2009 Sheet 40 of 49



PROJECT : Bond Quanta Computer Inc.		
NB5	Size: B Document Number: VGACORE	Rev: 1A
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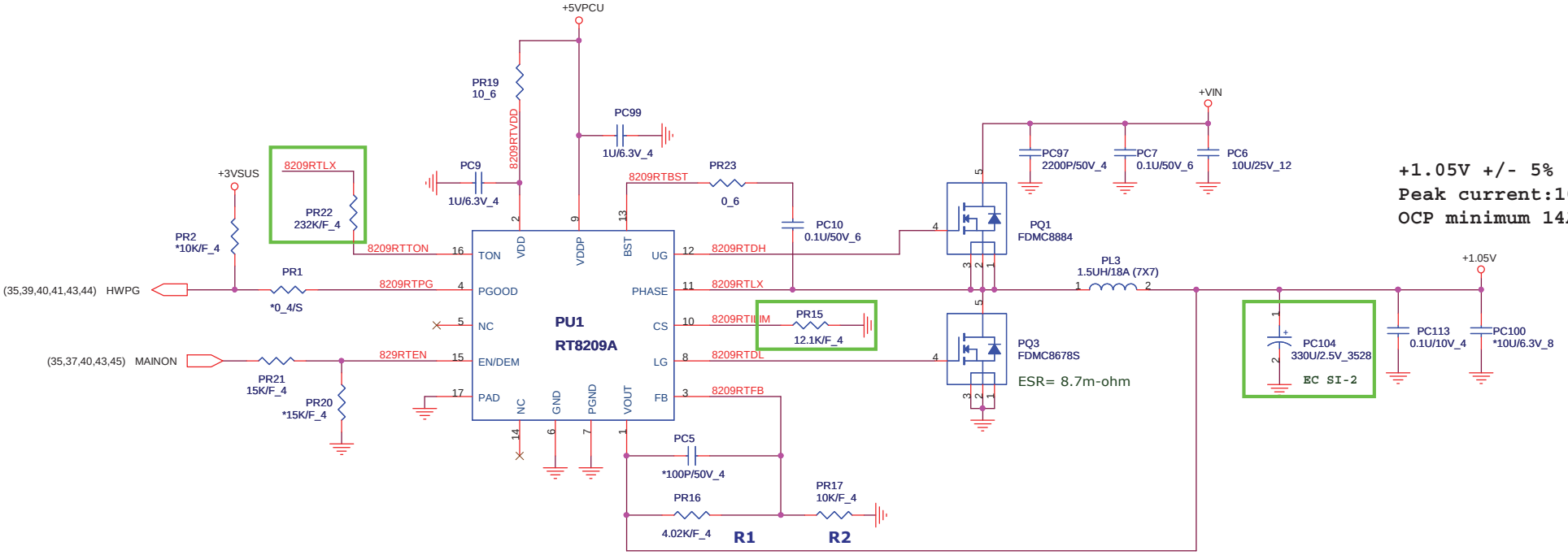
VCCP1.05V



+1.05V +/- 5%
Peak current:10.6A
OCP minimum 14A

Vo=0.75(R1+R2)/R2

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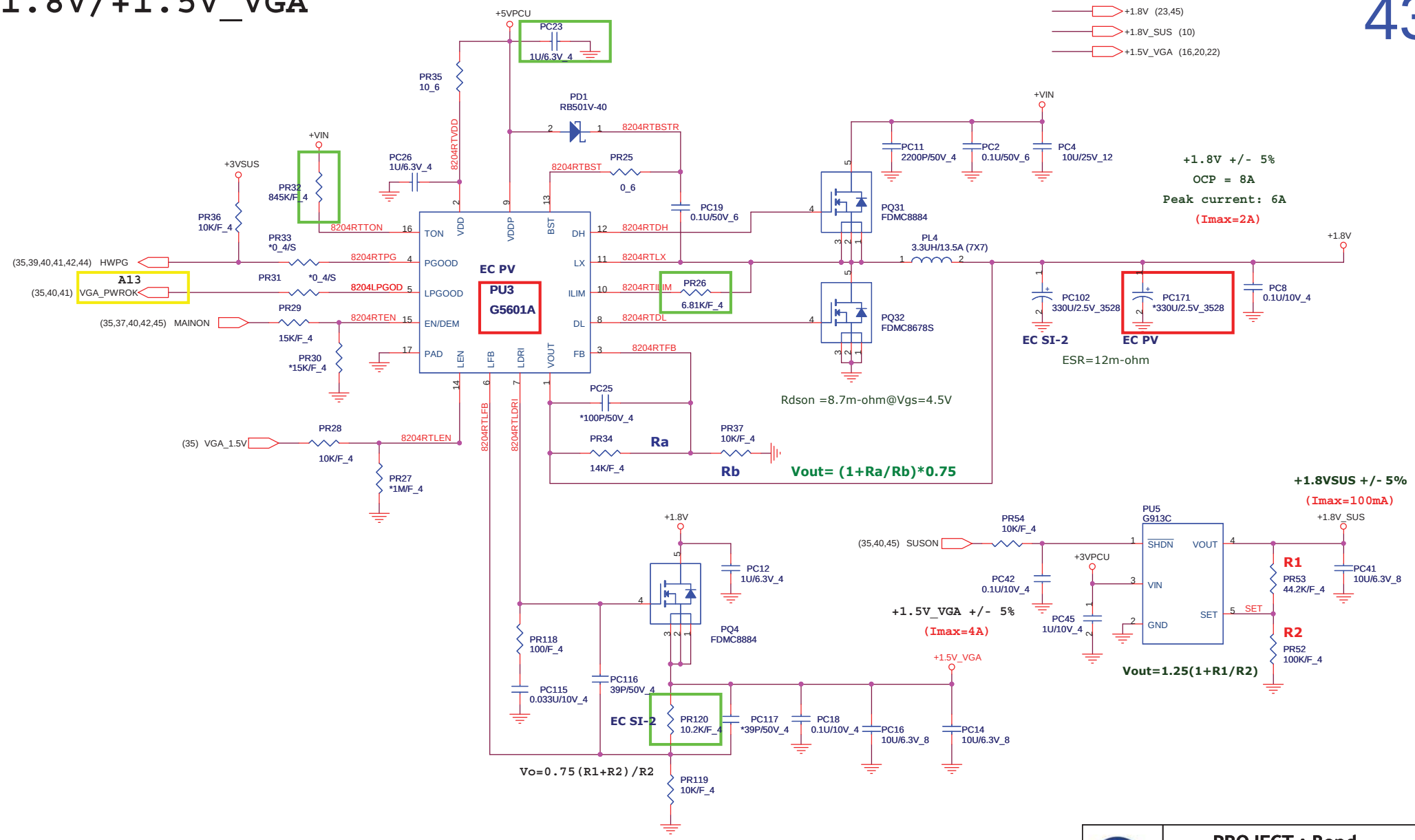
+1.8V/+1.5V_VGA



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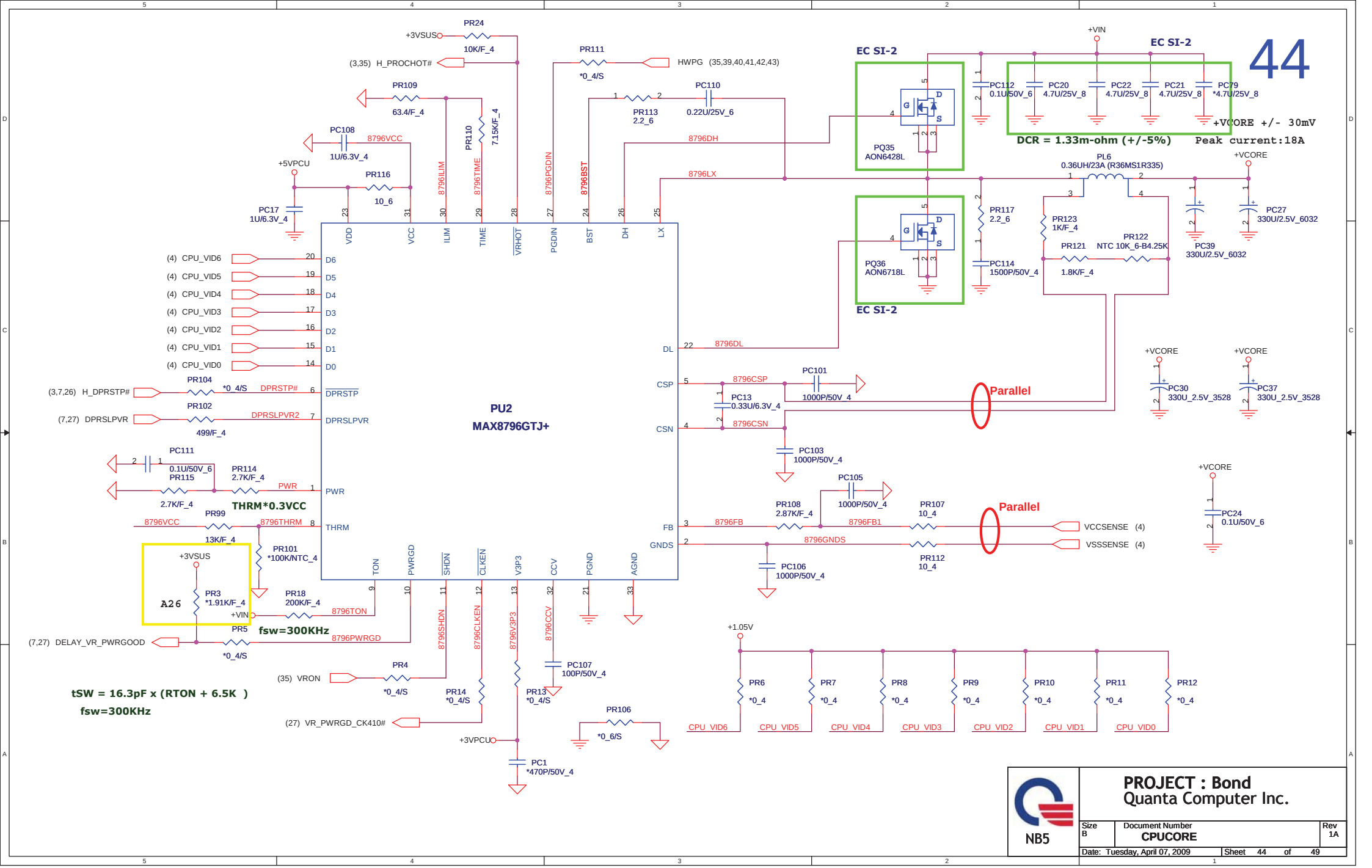

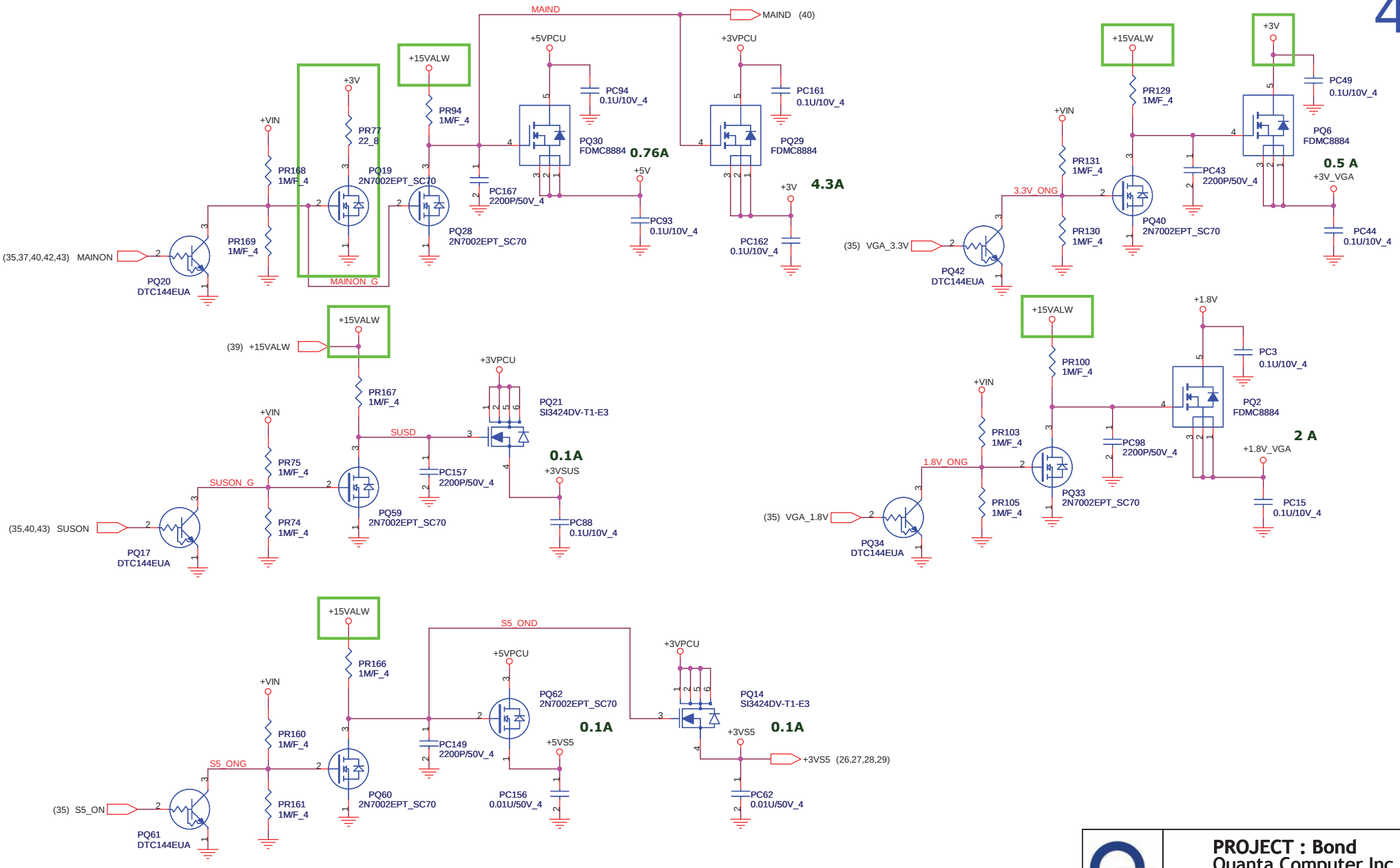

NB5

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