

01

LAYER 1 : TOP
LAYER 2 : SGND
LAYER 3 : IN1
LAYER 4 : SGND1
LAYER 5 : SVCC
LAYER 6 : IN2
LAYER 7 : SGND2
LAYER 8 : BOT

Docking

CRT
LAN/RJ-45
Headphone Jack
USB Port

PAGE 34

SYSTEM CHARGER(ISL6251AH-AZ-T)
PAGE 35

SYSTEM POWER ISL6237IRZ-T

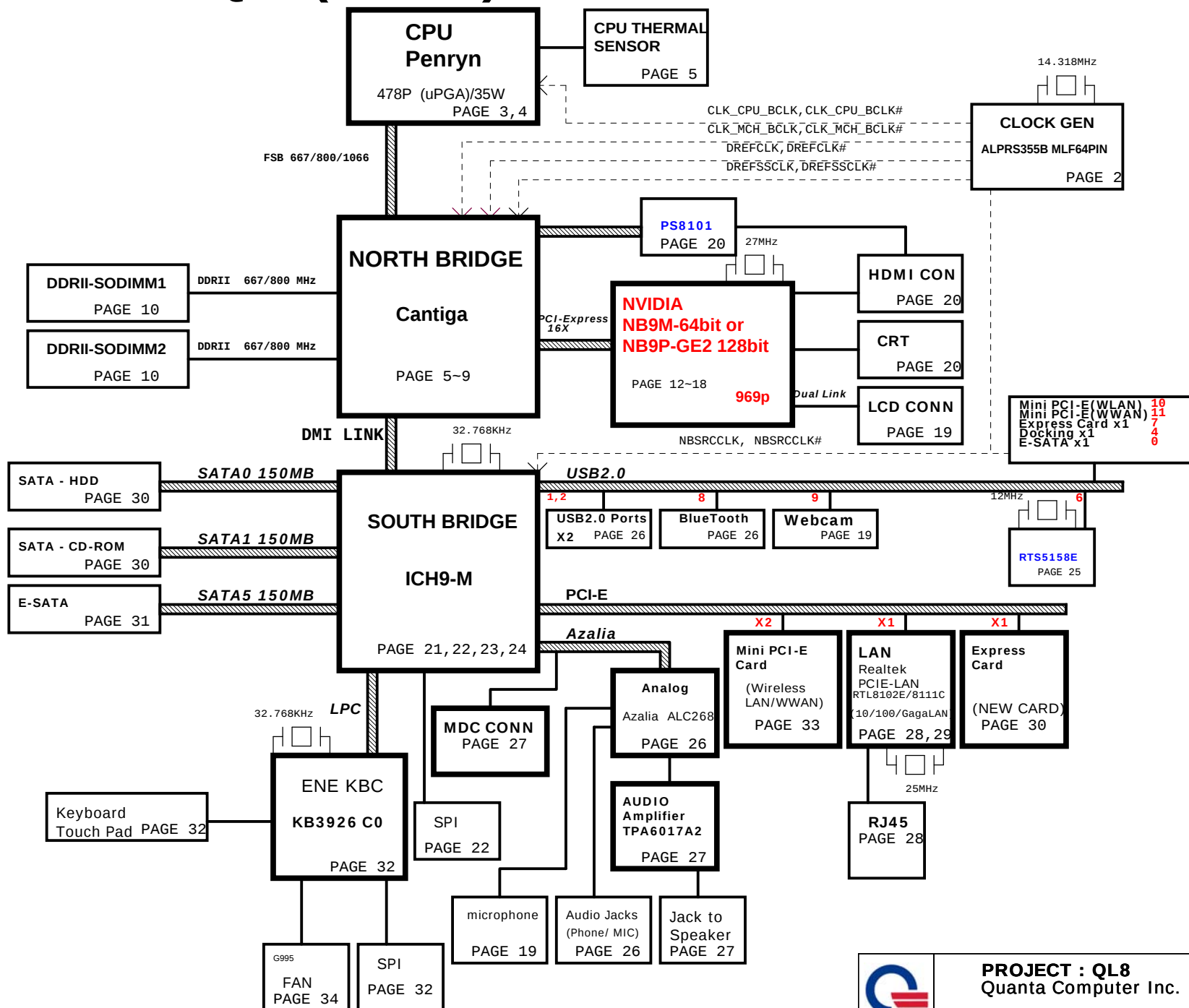
VCCP +1.5V AND GMCH
1.05V(RT8204)

PAGE 37

CPU CORE ISL6266A PAGE 38

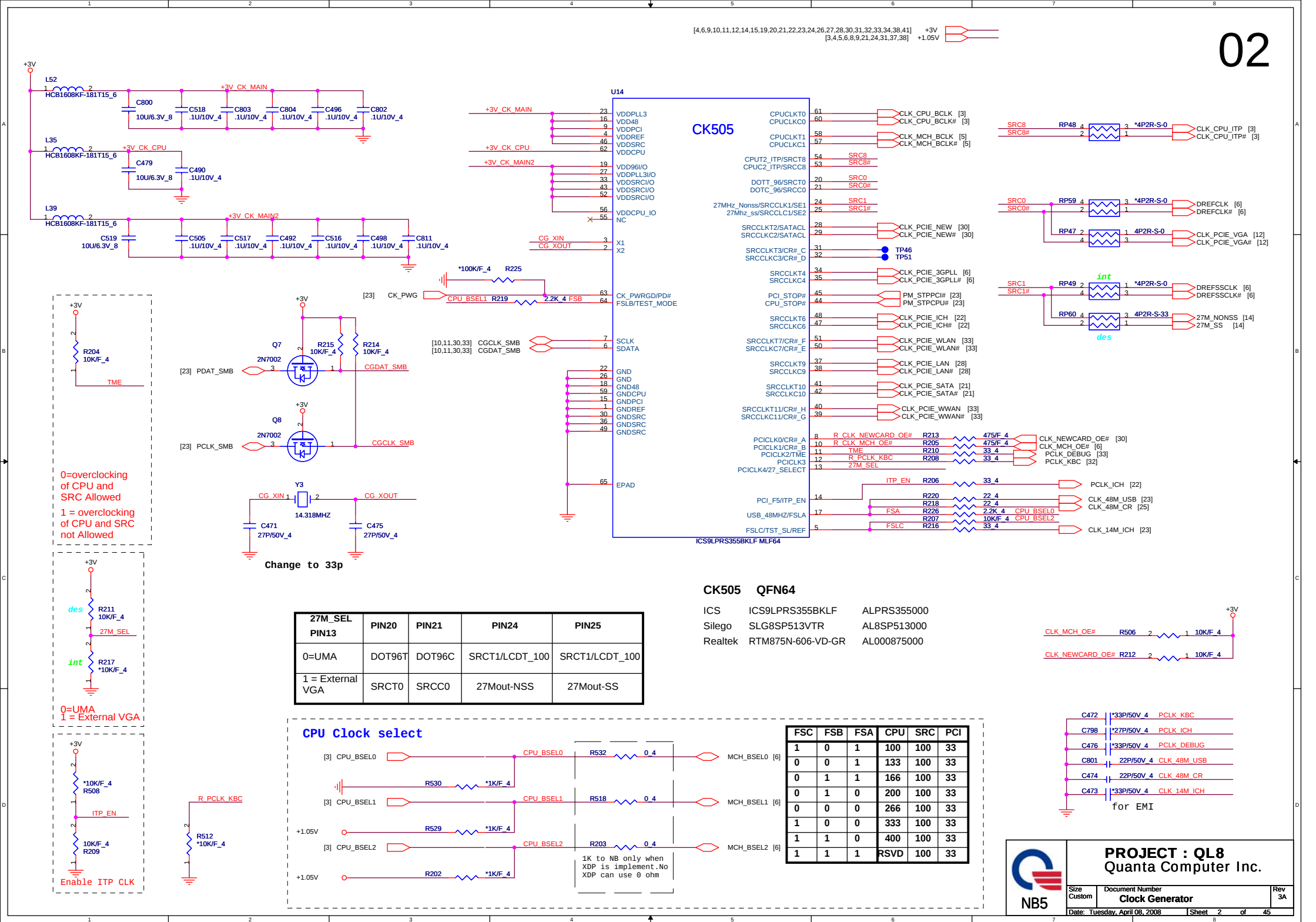
VGACORE(1.025V)Oz8118
PAGE 39

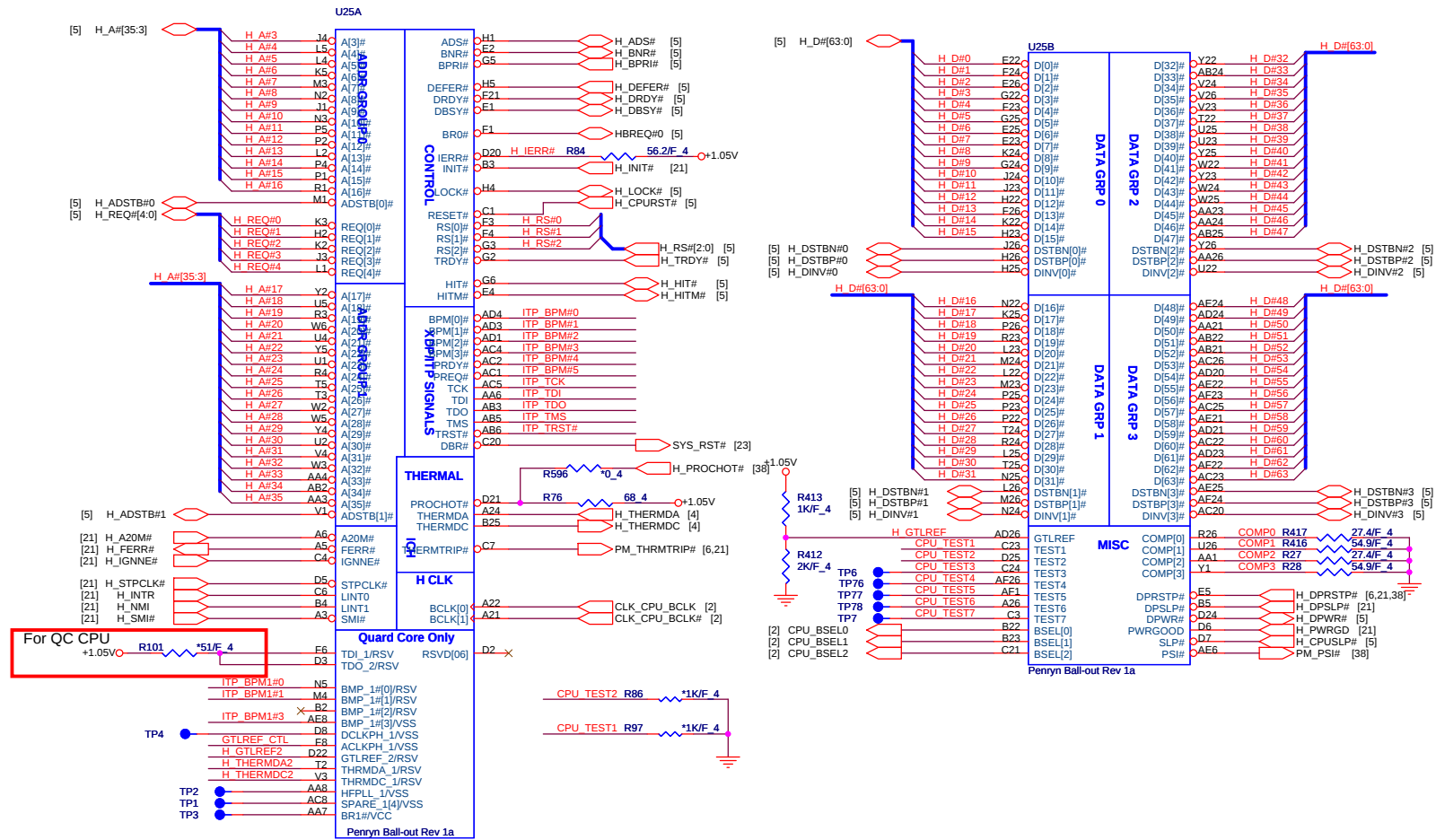
DDR II SMDDR_VTERM
1.8V/1.8VSUS(TPS51116REGR)
PAGE 40



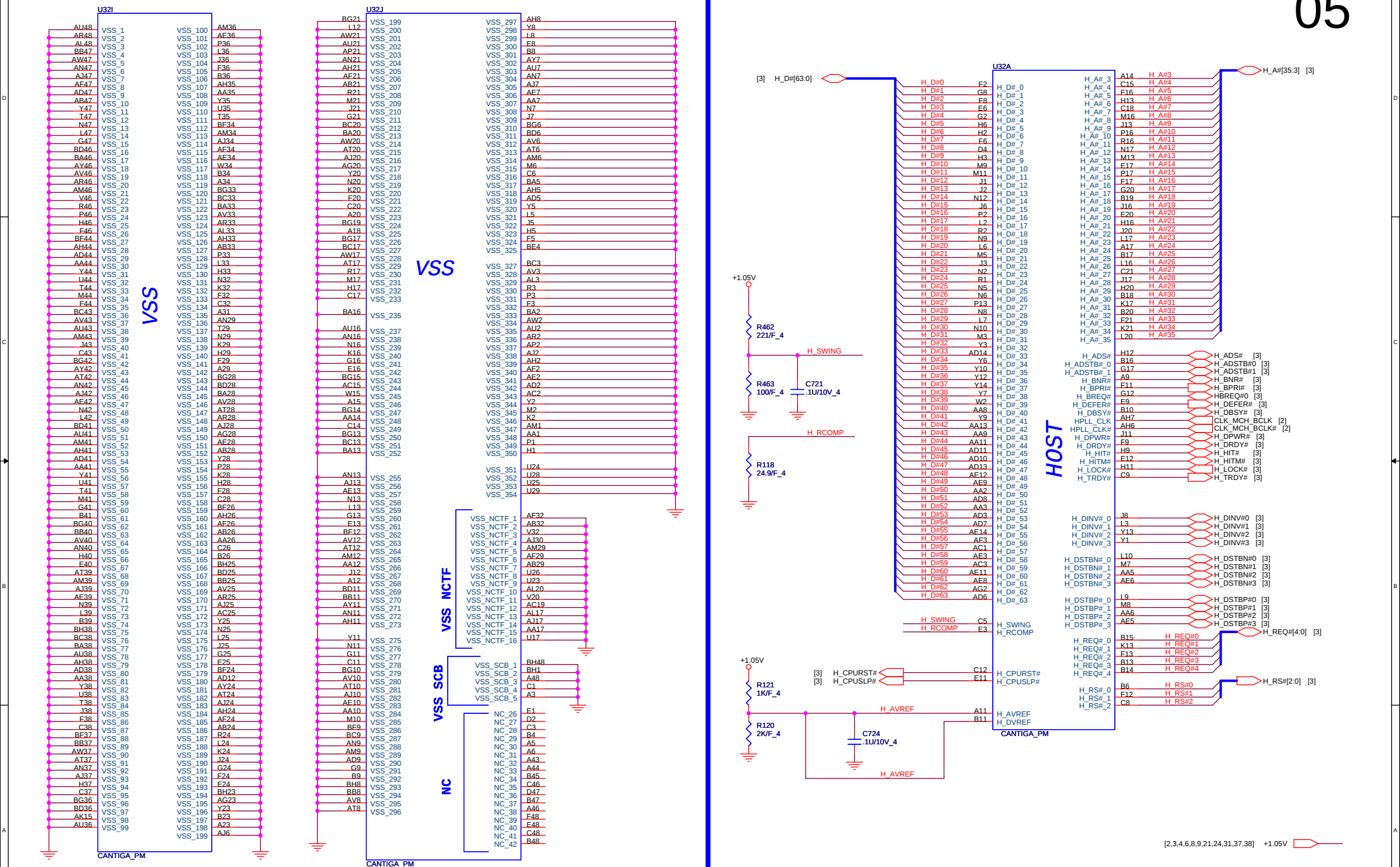
PROJECT : QL8
Quanta Computer Inc.

Size Custom	Document Number Block Diagram	Rev 3
Date: Wednesday, April 02, 2008		Sheet 1 of 45

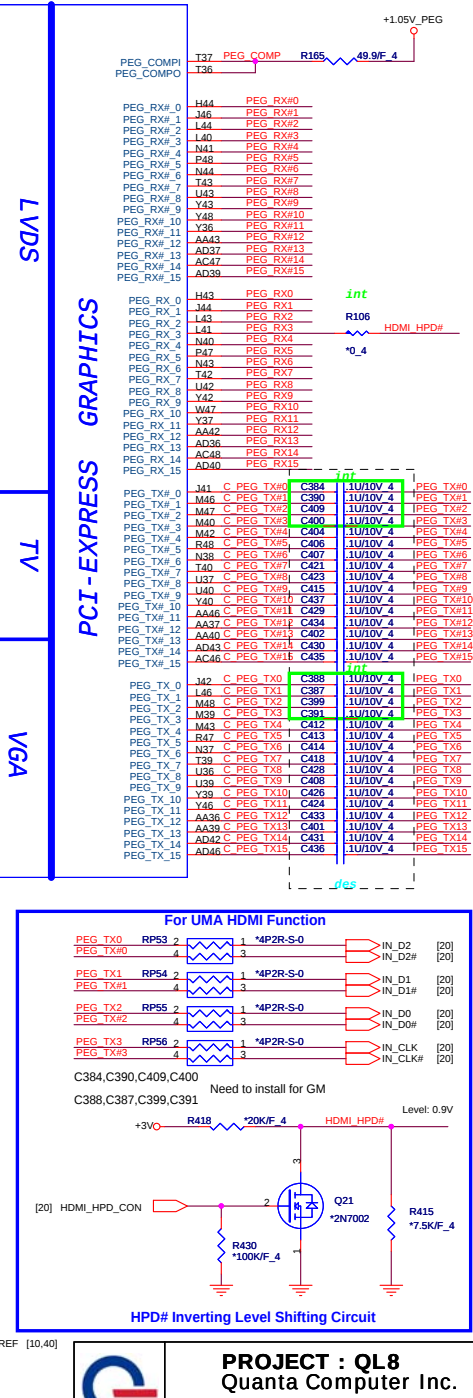
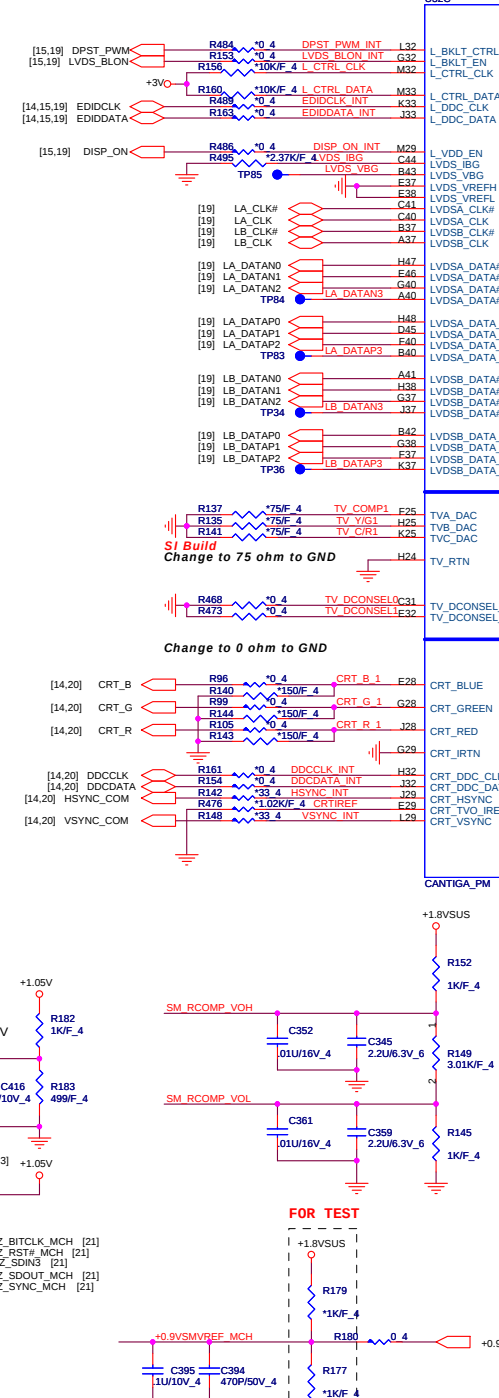




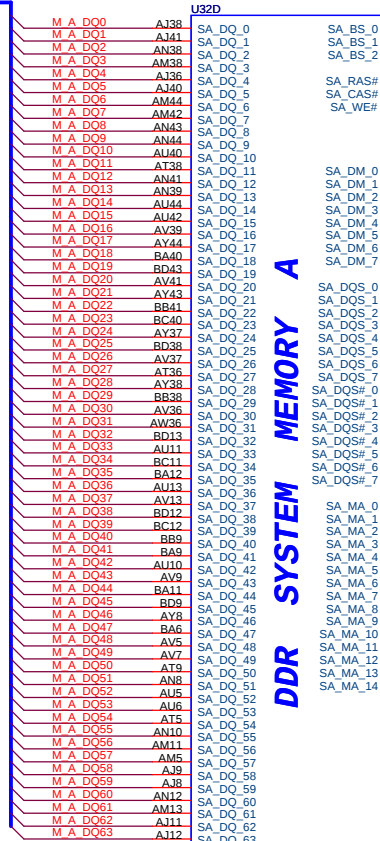




5

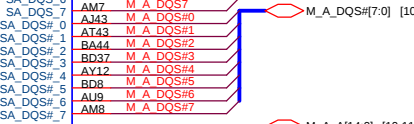
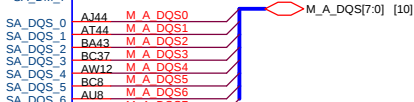
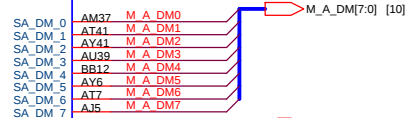
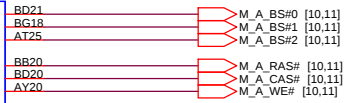


[10] M_A_DQ[63:0]

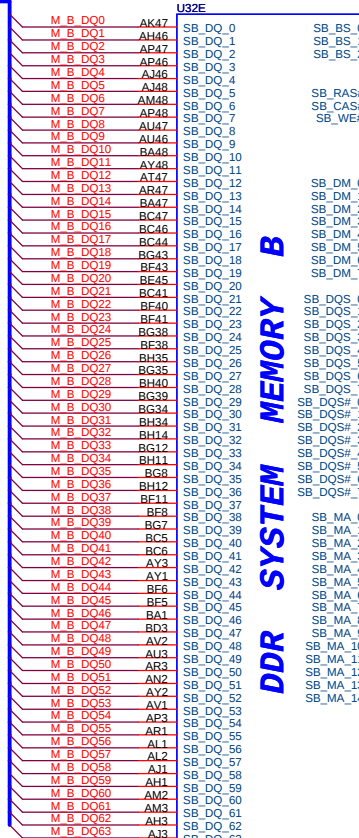


DDR SYSTEM MEMORY A

CANTIGA_PM

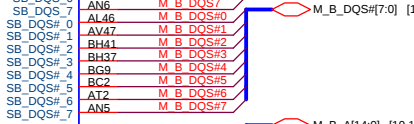
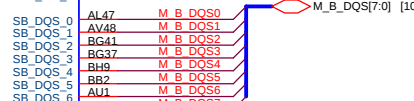
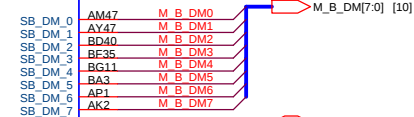
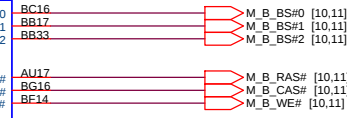


[10] M_B_DQ[63:0]



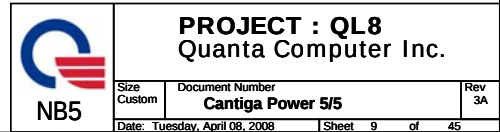
DDR SYSTEM MEMORY B

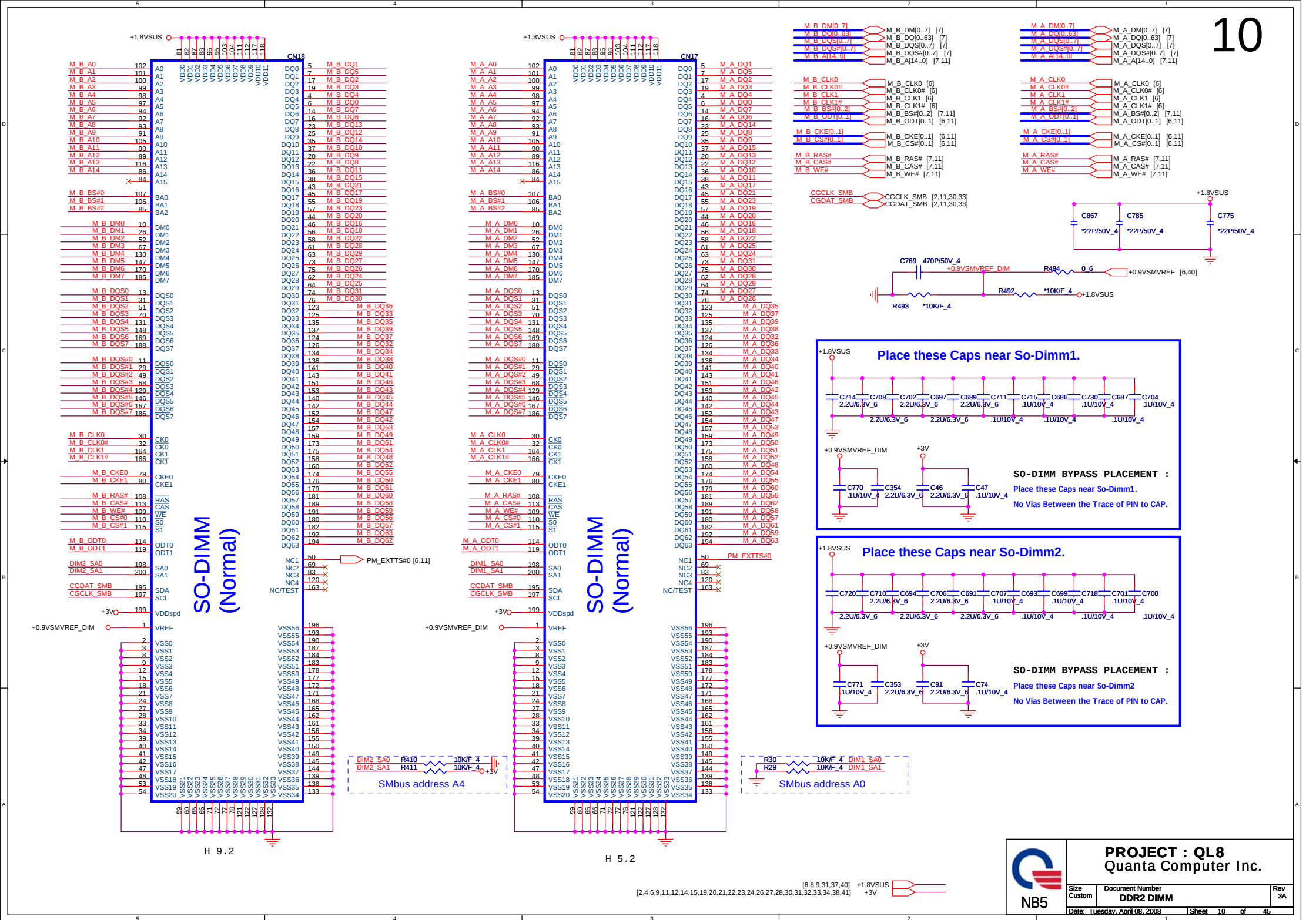
CANTIGA_PM



PROJECT : QL8
Quanta Computer Inc.

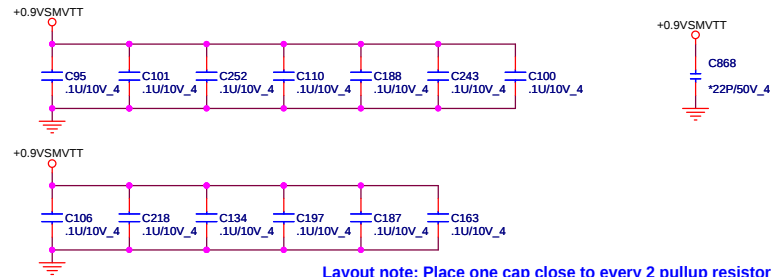






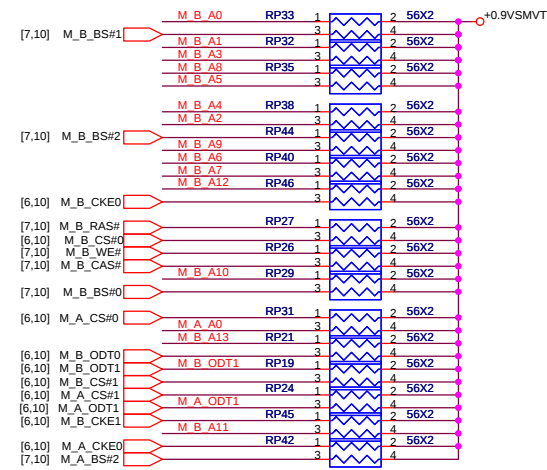
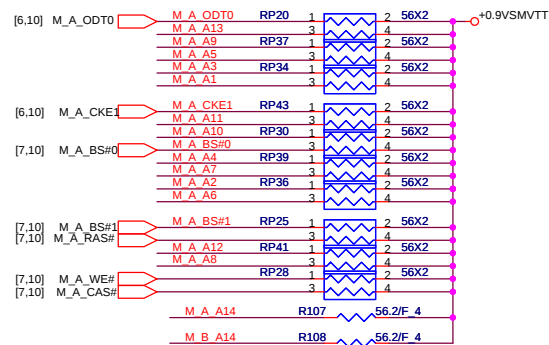
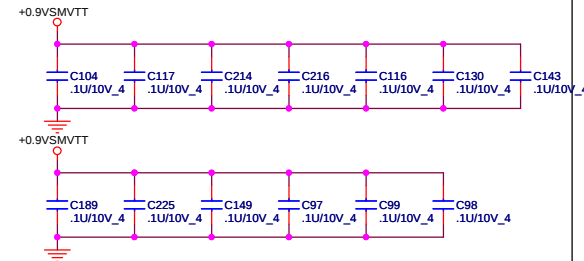
DDRII DUAL CHANNEL A, B.

DDRII A CHANNEL

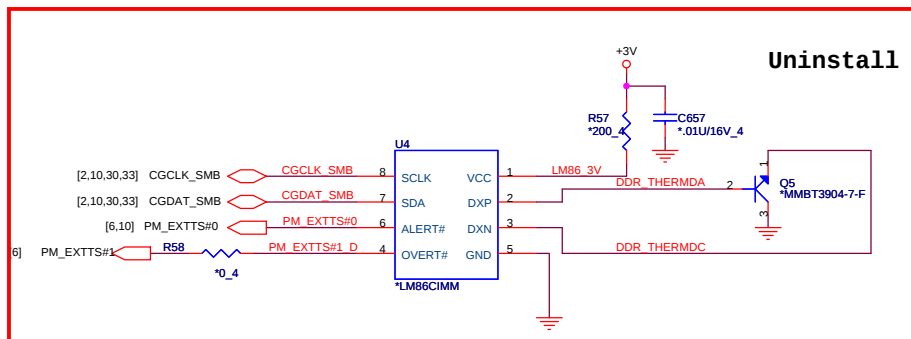


Layout note: Place one cap close to every 2 pullup resistors terminated to SMDR_VTERM

DDRII B CHANNEL



M_B_A[14..0] M_B_A[14..0] [7..10]
M_A_A[14..0] M_A_A[14..0] [7..10]

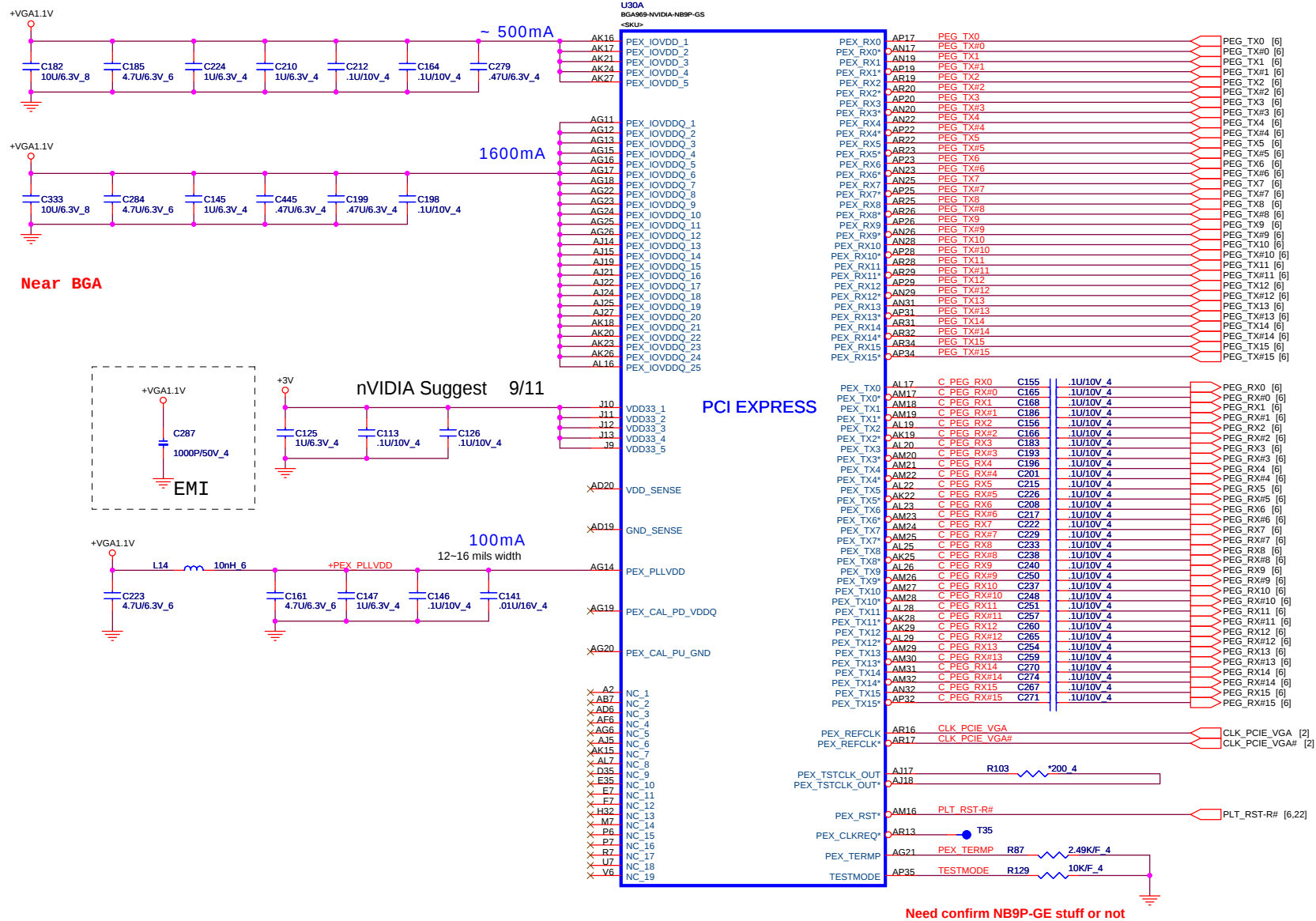


+0.9VSMVTT [40]
+3V [2,4,6,9,10,12,14,15,19,20,21,22,23,24,26,27,28,30,31,32,33,34,38,41]



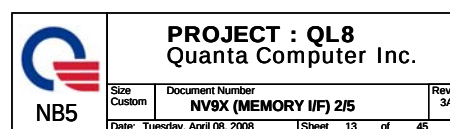
PROJECT : QL8
Quanta Computer Inc.

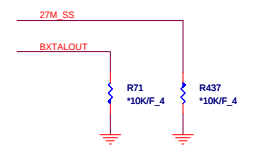
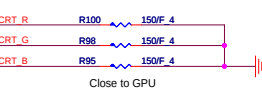
Size Custom	Document Number DDR2 termination	Rev 3A
Date: Tuesday, April 08, 2008	Sheet 11 of 45	



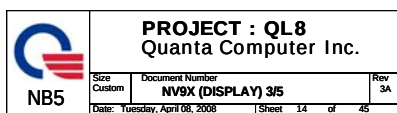
PROJECT : QL8
Quanta Computer Inc.

Size	Document Number	Rev
Custom	NV9X (PCIE I/F) 1/5	3A
Date: Tuesday, April 06, 2008	Sheet 12 of 45	

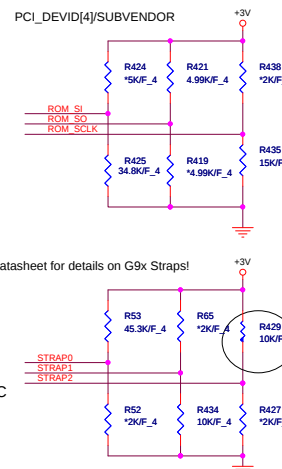




Install it when not connected to Spread spectrum d

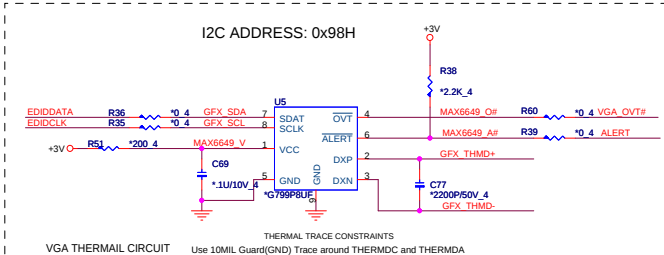
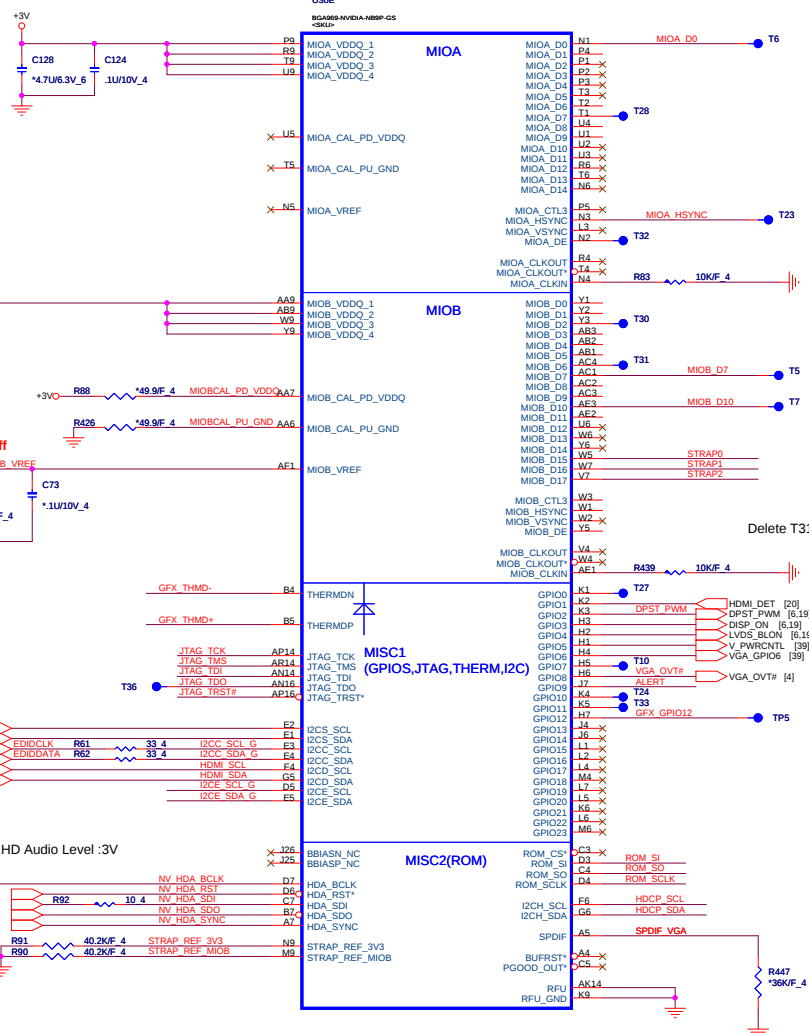
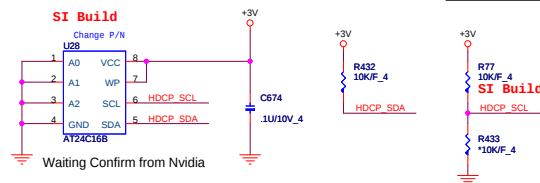
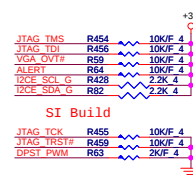


GPIO	I/O	ACTIVE	USAGE
0	IN	N/A	PRIMARY DVI HOTPLUG
1	IN	N/A	SECONDARY DVI HOTPLUG
2	OUT	HIGH	PANEL BACKLIGHT PWM
3	OUT	HIGH	PANEL POWER ENABLE
4	OUT	HIGH	PANEL BACKLIGHT ENABLE
5	OUT	N/A	NVVDD VID0
6	OUT	N/A	NVVDD VID1
7	OUT	N/A	FBVDD VID0
8	IN	LOW	THERMAL ALERT
9	OUT	LOW	FAN PWM
10	OUT	N/A	FBVREF SELECT
11	OUT	N/A	SLI SYNC0
12	IN	N/A	AC DETECT
13	OUT	LOW	PS CONTROL OR HDMI_CEC
14	OUT	HIGH	PS CONTROL

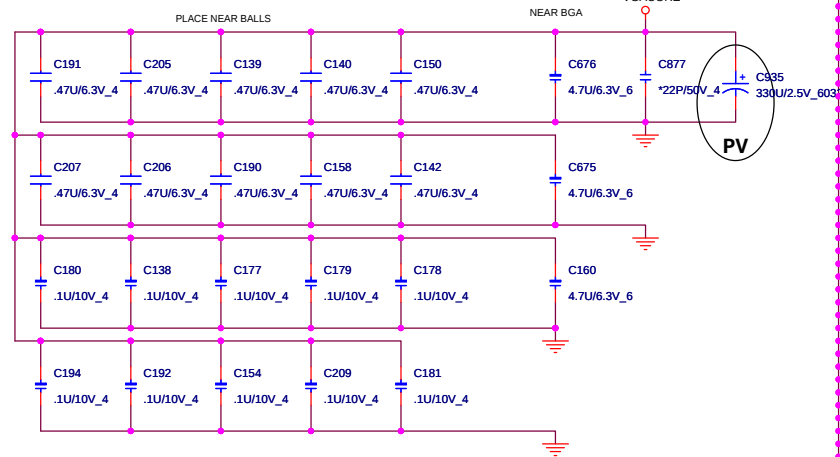
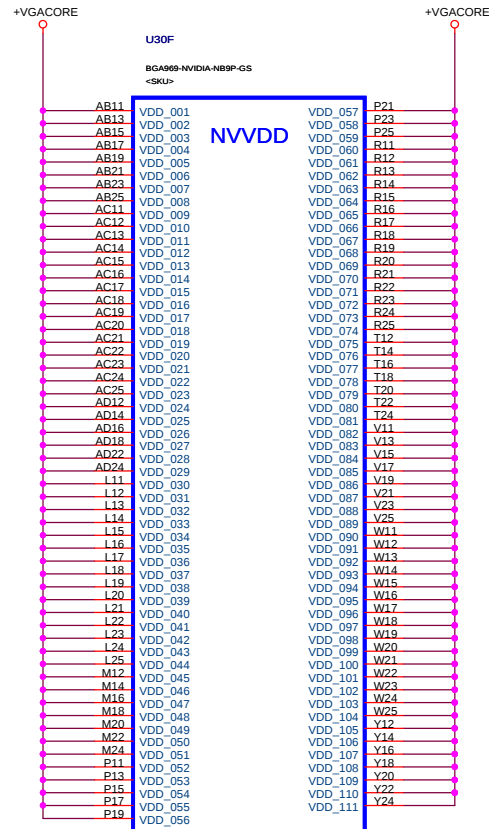


Logical Strap Bit Mapping

			Logical-to-Physical Mapping		
			PU-VDD	PD	
			5K	1000	0000
DB	9P-GE2 Qimonda	9M-GS-Hynix	10K	1001	0001
R425	CS33482FB22 35K	CS34532FB18 45K	15K	1010	0010
			20K	1011	0011
			25K	1100	0100
R429	CS24992FB26 4.99K	CS24992FB26 10K	30K	1101	0101
			35K	1110	0110
			45K	1111	0111



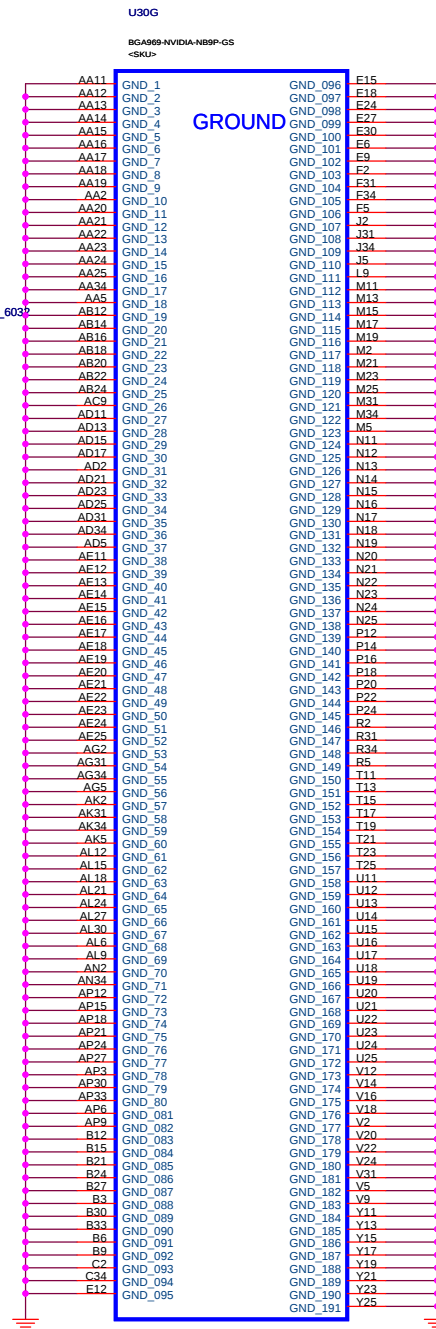
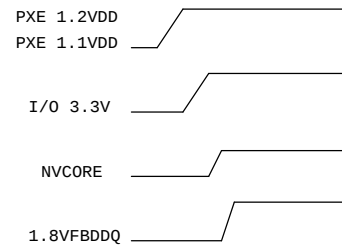
NVVDD Decoupling

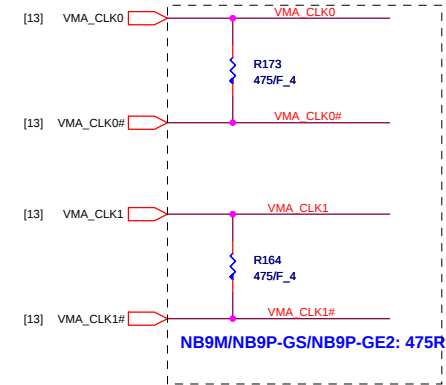
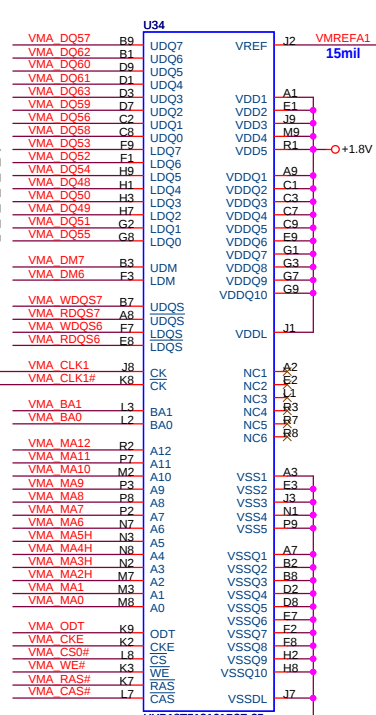
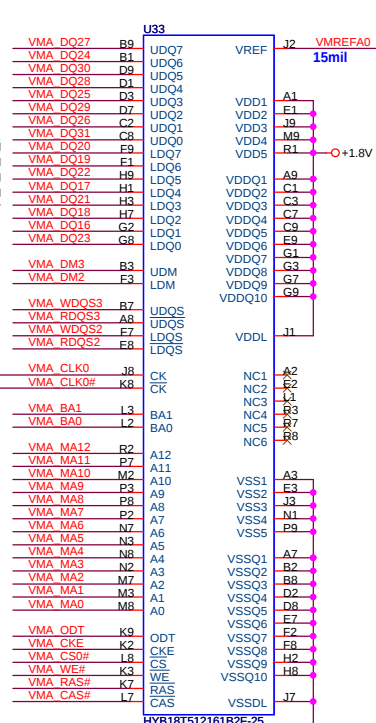
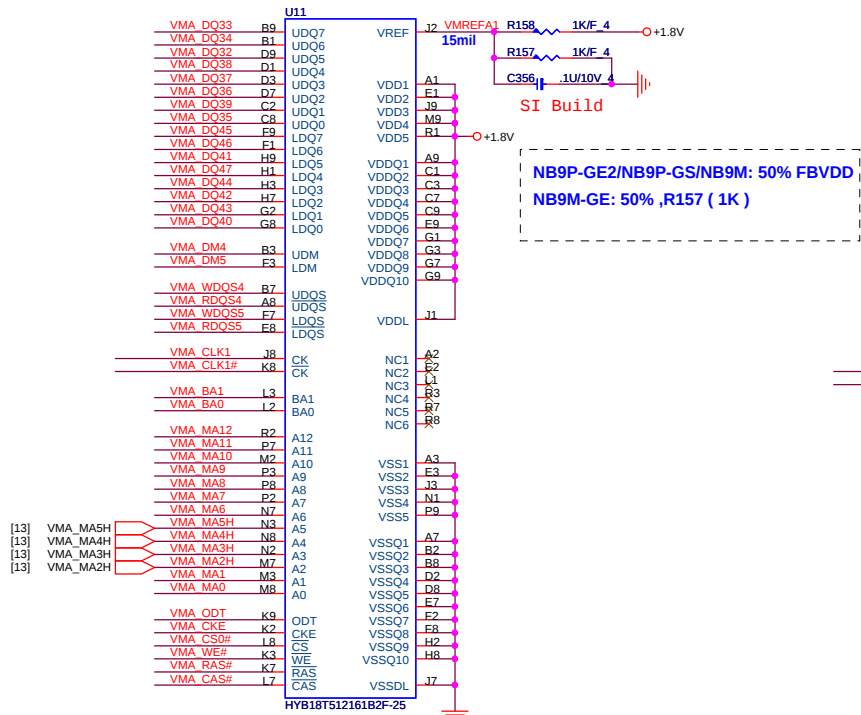
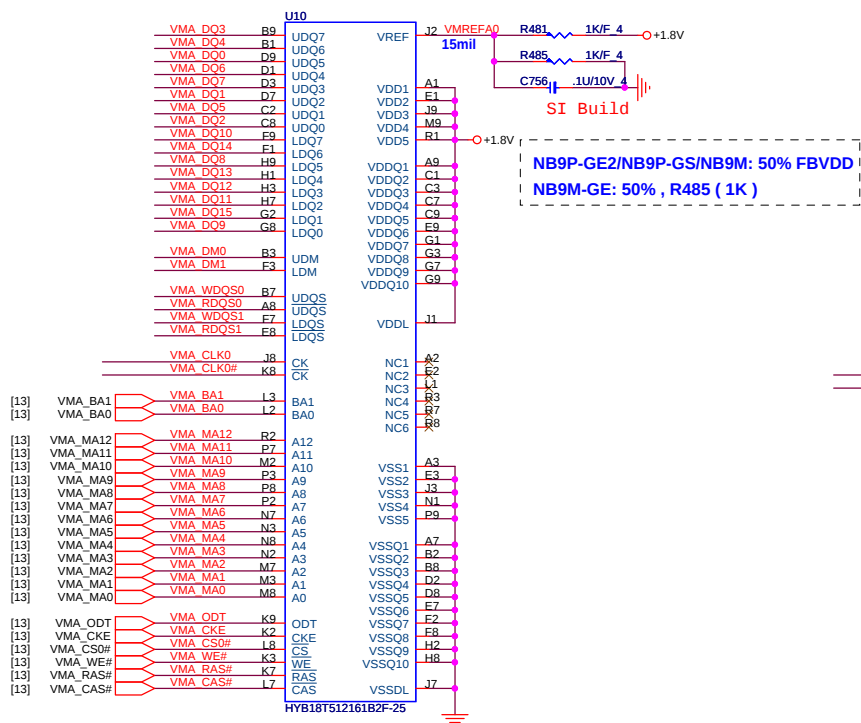


Follow Design Guide DG-03276-001 4.7uFx3
and 0.47x10 uF instead of 0.1uF x10

NB9M: VGACORE +0.90V (Normal) , +1.09V

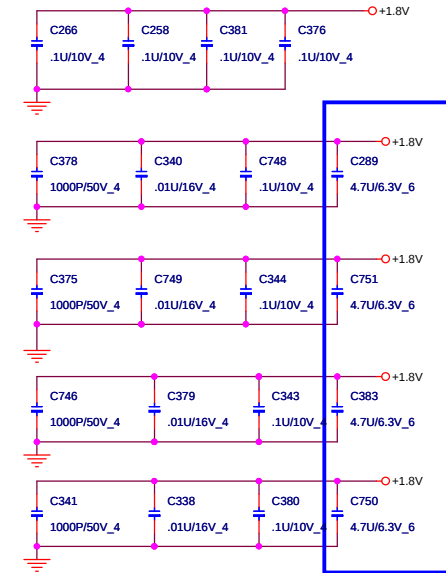
power up sequence





CS14752FB11 RES CHIP 475 1/16W +-1%(0402)

(By pass capacitor)

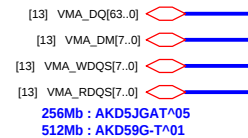


For DB:

NB9P : AKD59G-T502(Samsung,32M*16)

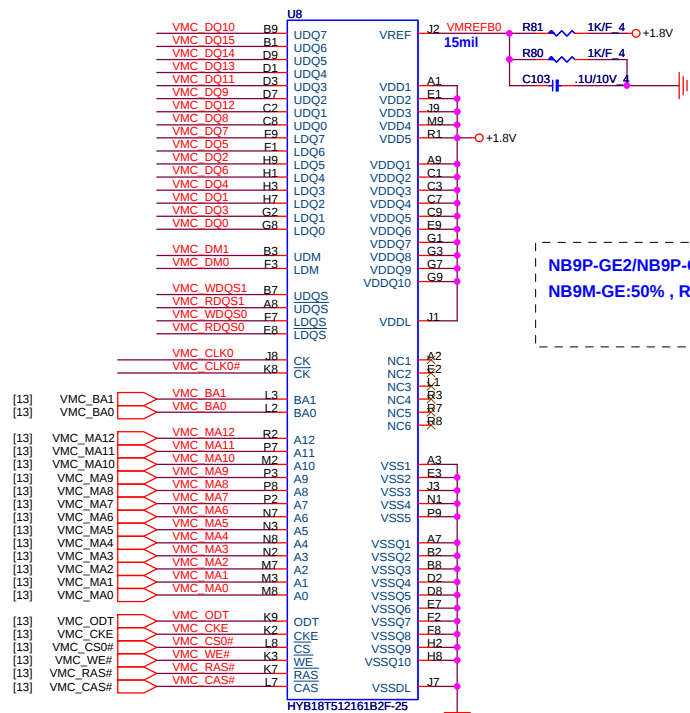
NB9M : AKD5FG-TW31(Hynix,32M*16)

AKD5FG-T*03(Qimonda 32M*16)

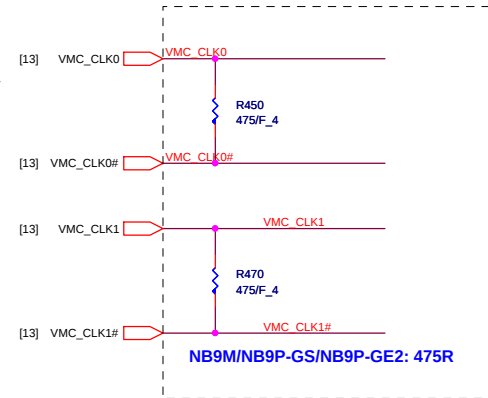
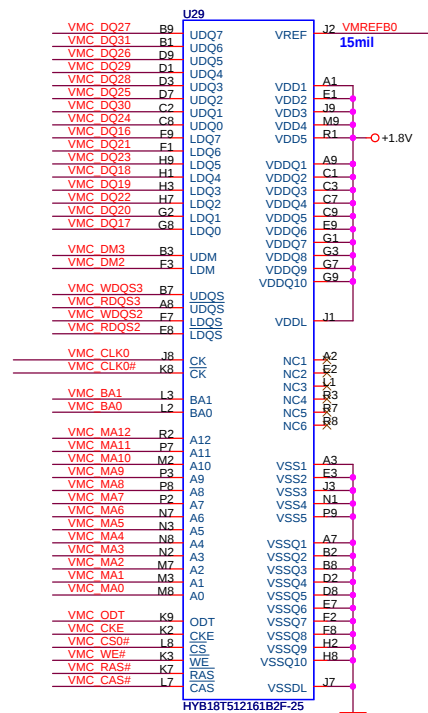


PROJECT : QL8
Quanta Computer Inc.

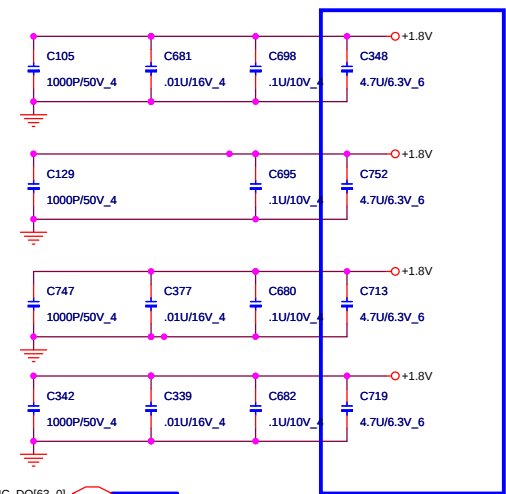
Size Custom	Document Number	Rev 3A
	NV9X VRAM-1(GDDR2 BGA84)	
Date: Tuesday, April 08, 2008	Sheet 17 of 45	



NB9P-GE2/NB9P-GS/NB9M: 50% FBVDD
NB9M-GE:50%, R80(1K)



CS14752FB11 RES CHIP 475 1/16W +1%(0402)



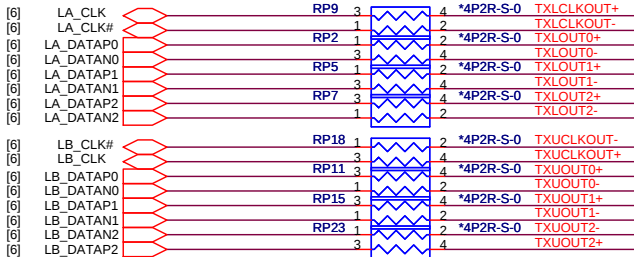
For DV1:

NB9P AKD5FG-T*03 IC SDRAM(84P)HYB18T512161B2F-25(TFBGA) Qimonda
NB9M AKD5FG-TW31 IC SDRAM(84P)HY5PS121621CFP-25(FBGA) Hynix

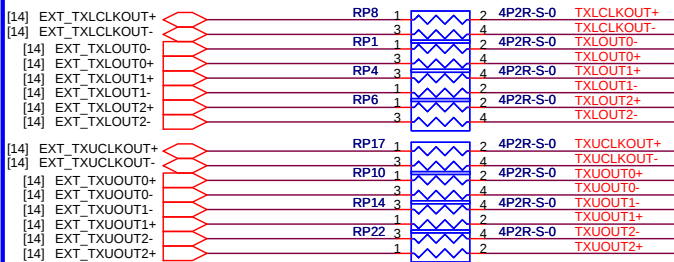
NB5	PROJECT : QL8 Quanta Computer Inc.	
	Size Custom	Document Number NV9X VRAM-2(GDDR2 BGA84)
Date: Tuesday, April 08, 2008		Rev 3A
Sheet 18 of 45		

1. If LCD connector near GPU, then place these series Resistors near GPU
2. If LCD connector near N/B, then place these series Resistors near N/B

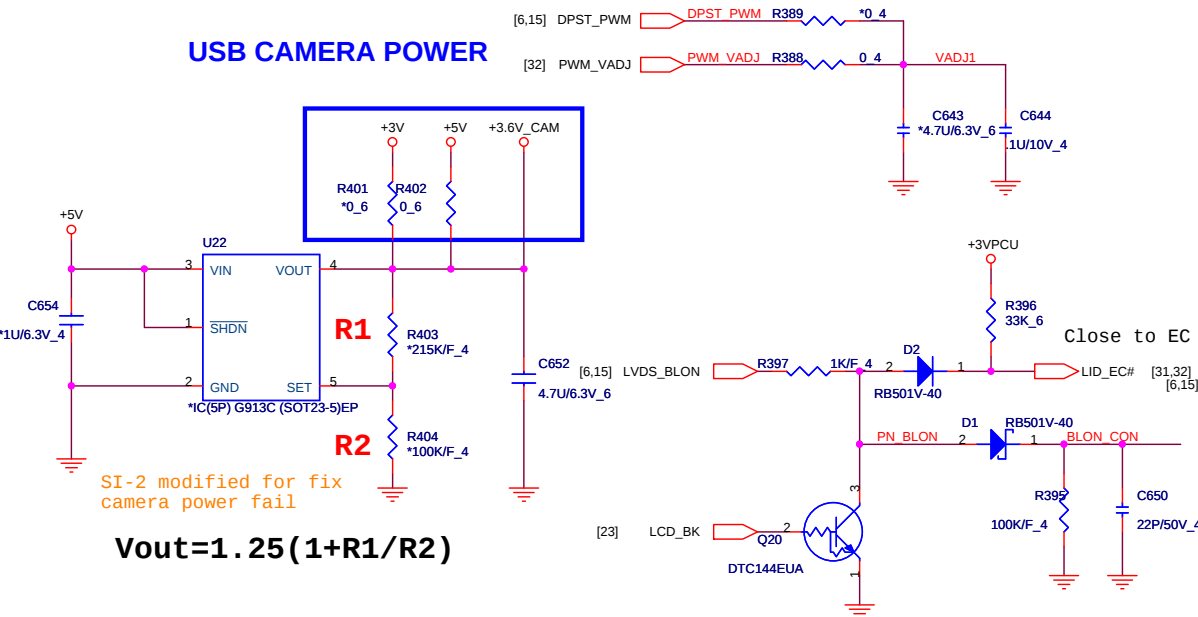
OPTION SIGNAL FROM NB FOR UMA VGA



OPTION SIGNAL FROM Nvidia to VGA



USB CAMERA POWER



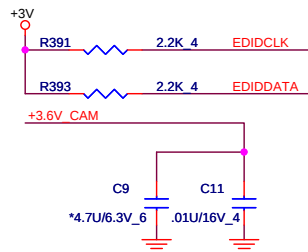
[2,4,6,9,10,11,12,14,15,20,21,22,23,24,26,27,28,30,31,32,33,34,38,41]

[20,24,26,27,30,33,34,41]

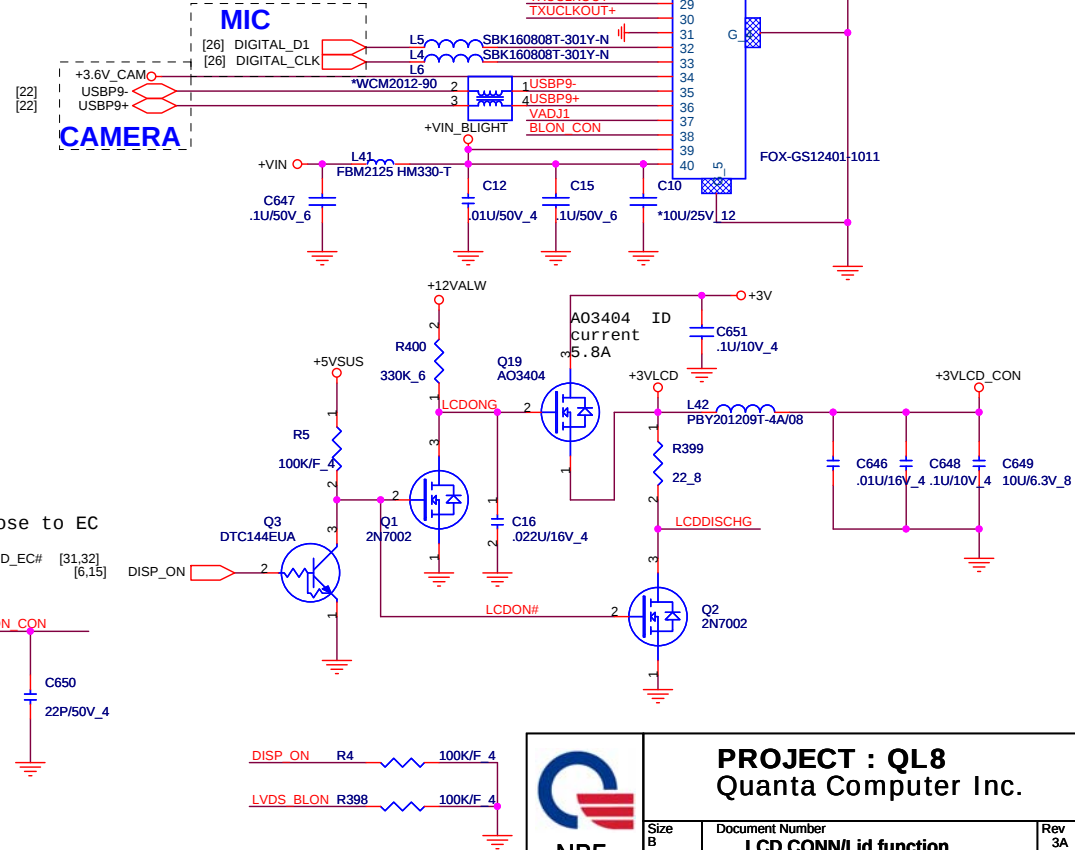
[35,36,37,38,39,40,41]

[21,27,31,32,34,35,36,39,41]

[36,41]



CAMERA

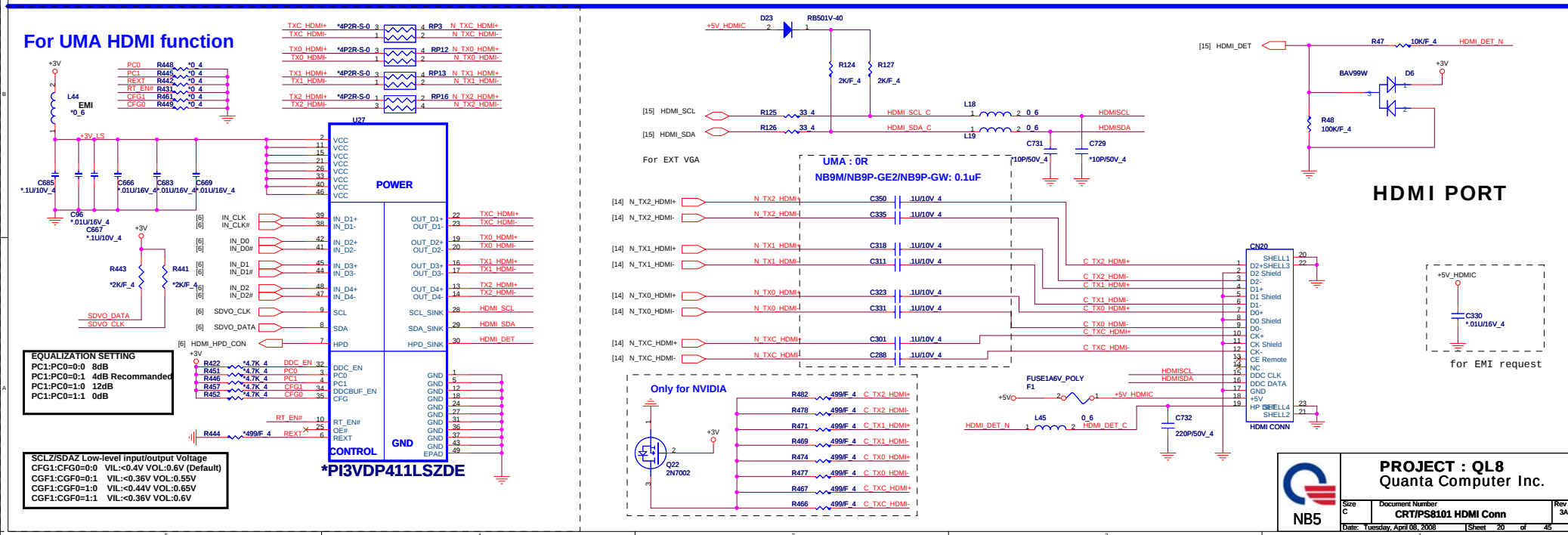
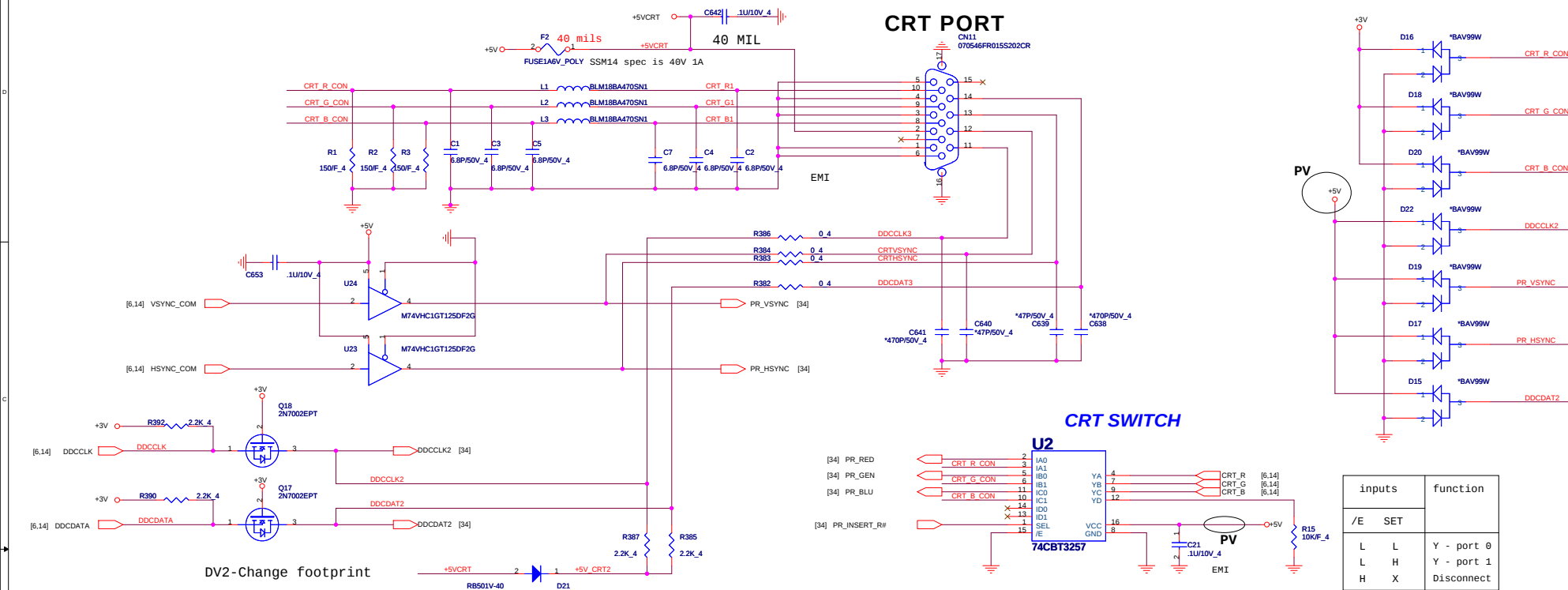


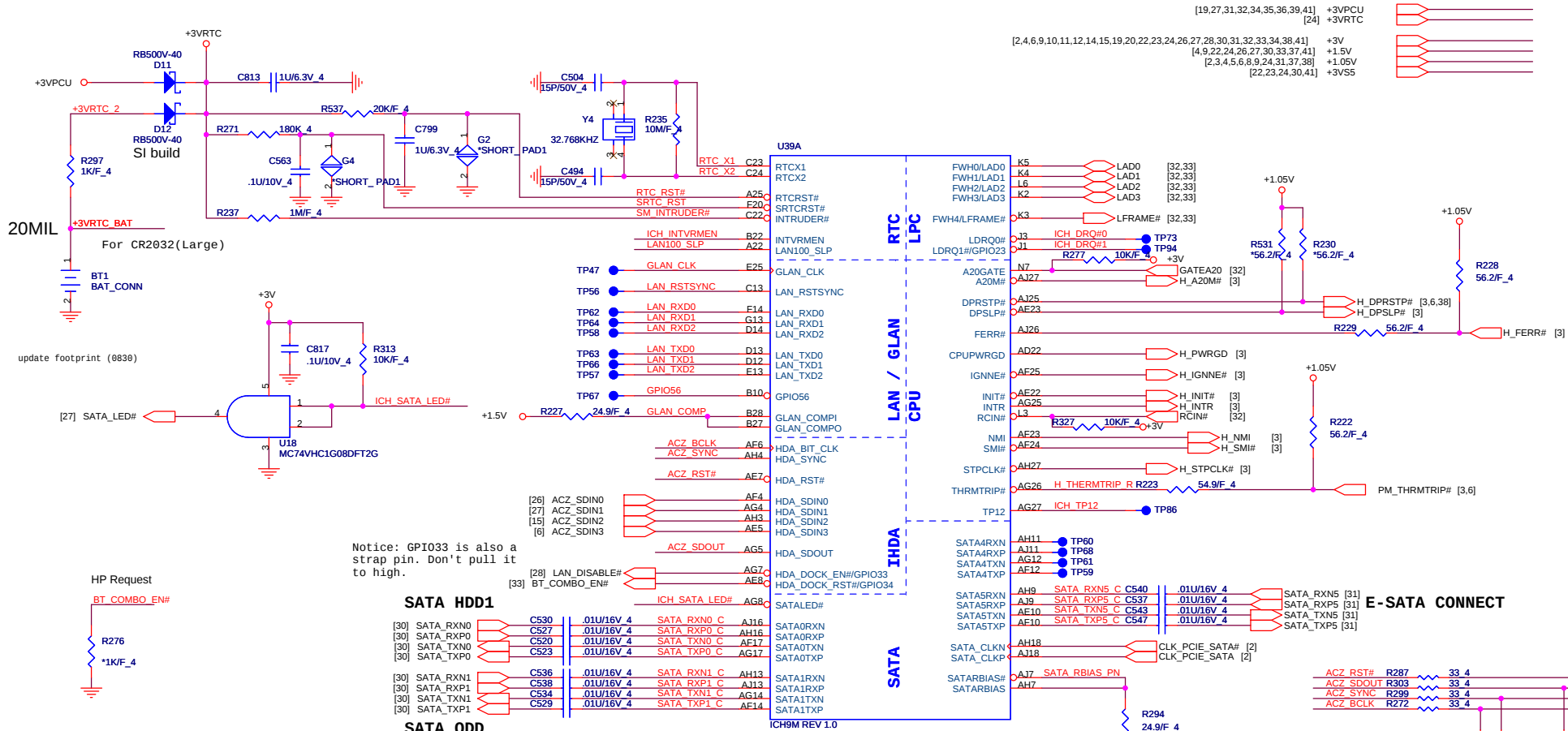
19



PROJECT : QL8
Quanta Computer Inc.

Size	Document Number	Rev
B	LCD CONN/Lid function	3A
Date: Tuesday, April 08, 2008	Sheet 19 of 45	





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)
R541 332K/F_4	

ICH9-M LAN100_SLP Strap
(Internal VR for VccLAN1_05 and VccCL1_05)

LAN100_SLP	Low = Internal VR disable High = Internal VR enable(Default)
R544 332K/F_4	

XOR Chain Entrance Strap

ICH_TP3	HDA_SDOUT	Description
0	0	RSVD
0	1	Enter XOR Chain
1	0	Normal operation(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 R290	GNT0# [22]
*1K/F_4 R238	SPI_CS#1_R [22]

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

*1K/F_4 R289	GNT3# [22]
--------------	------------

No Reboot Strap	
ACZ_SPKR	Low: Default Hi: No reboot

R279 *1K/F_4	ACZ_SPKR [23,26]
--------------	------------------

TPM physical presence	
ICH_GPIO57	Low: Default

*3V5S	
R563 *10K/F_4	
R564 100K/F_4	
	ICH_GPIO57 [23]



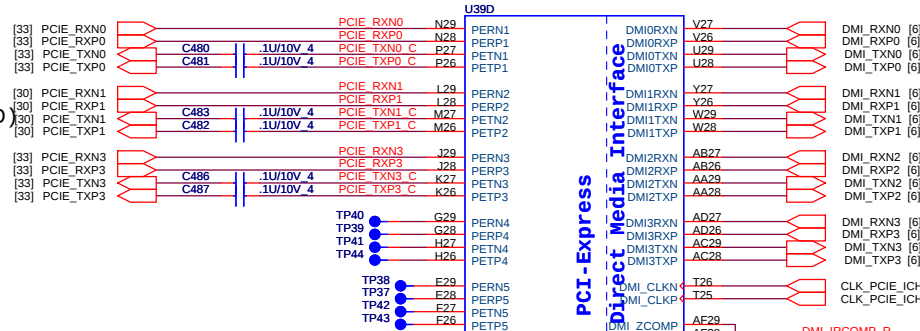
PROJECT : QL8
Quanta Computer Inc.

Size	Document Number	Rev
Custom	ICH9-M Host 1/4	3A
Date: Tuesday, April 08, 2008	Sheet 21 of 45	

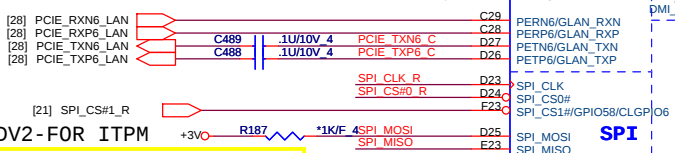
MINI CARD PCI-E(WLAN)

EXPRESS CARD (NEW CARD)

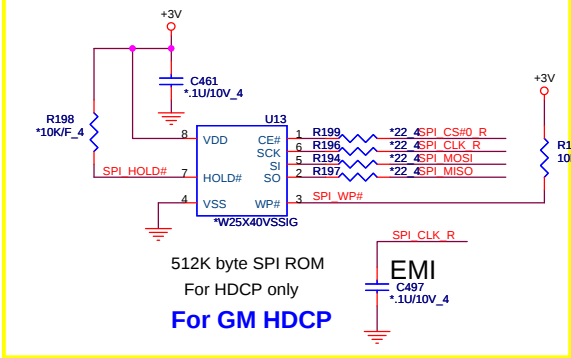
MINI CARD PCI-E(WWAN)



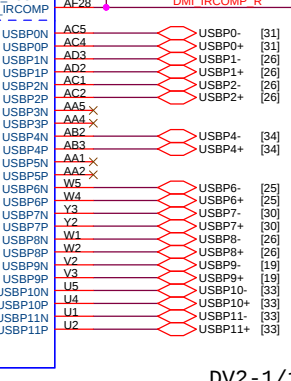
PCIE-LAN



DV2-FOR ITPM



USB



E-SATA and USB Connector

USB Connector

USB Connector

Docking

Card reader

NEW CARD

BLUETOOTH

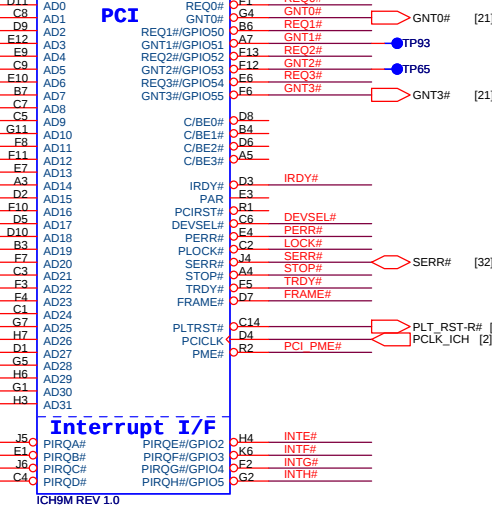
Carama USB

WLAN Min-Card

WWAN Min-Card

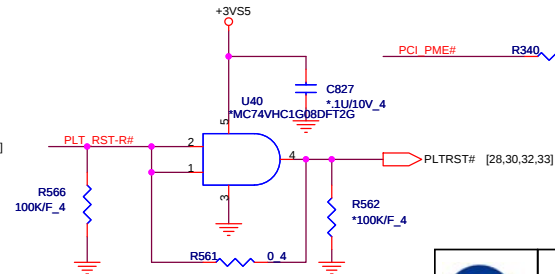
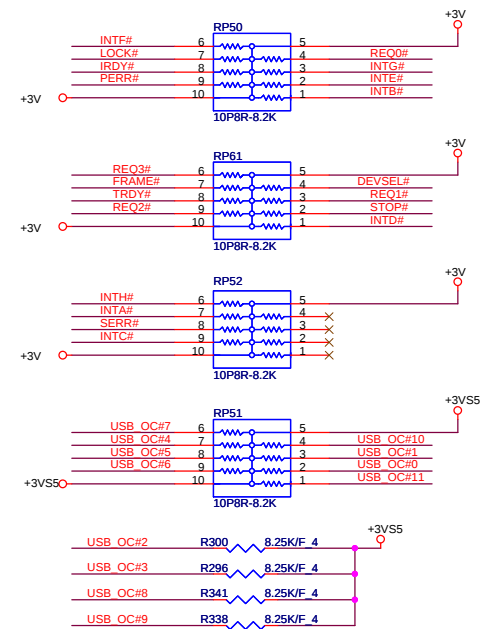
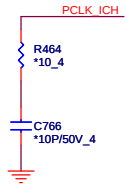
DV2-1/15

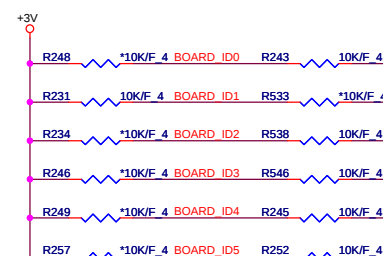
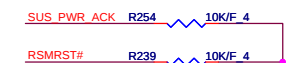
PCI



Interrupt I/F

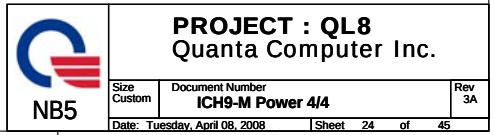
PV

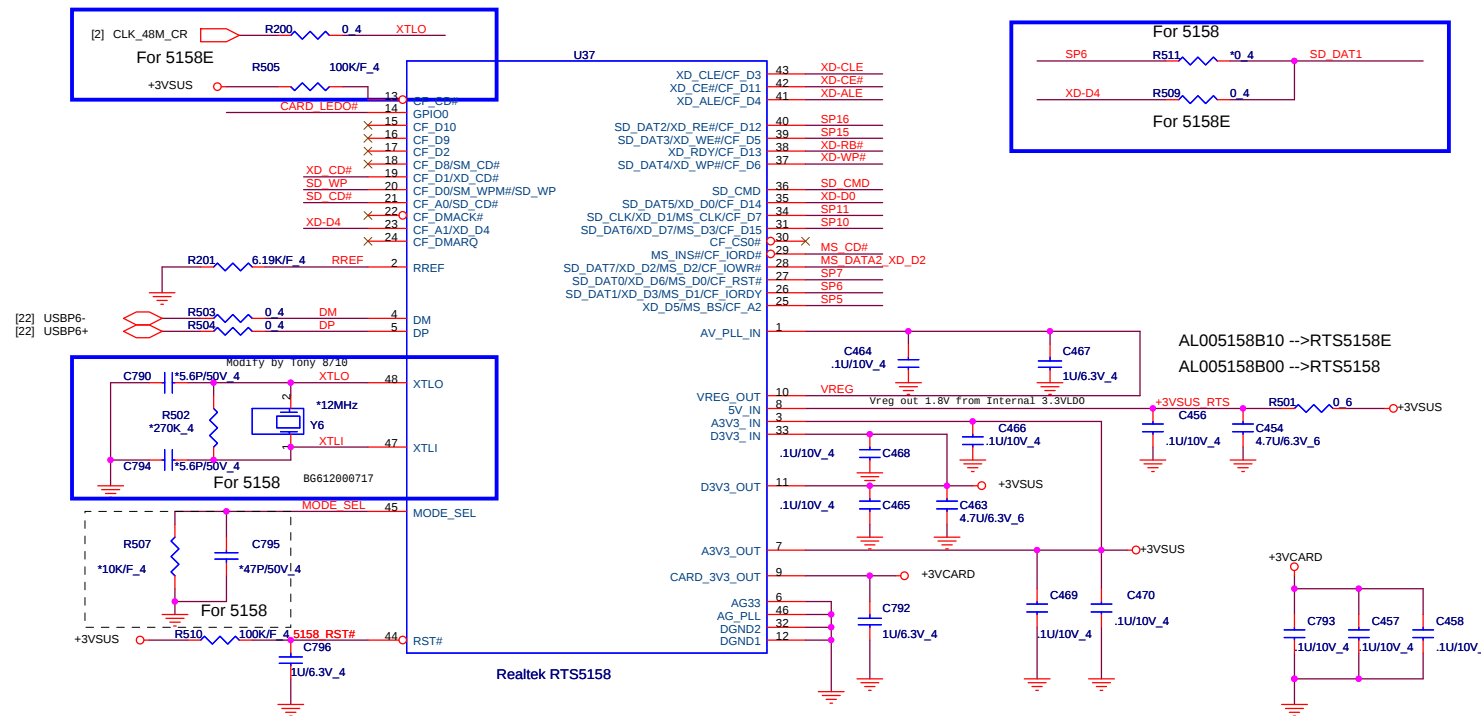
PROJECT : QL8
Quanta Computer Inc.



	Board ID 3	ID 2	ID 1	ID 0
QL8 UMA	0	0	0	0
9M	0	0	0	1
9P	0	0	1	0

	Board ID 3	ID 2	ID 1	ID 0
TW8 UMA	0	1	0	1
9M	0	1	1	0
9P	0	1	1	1





Note:

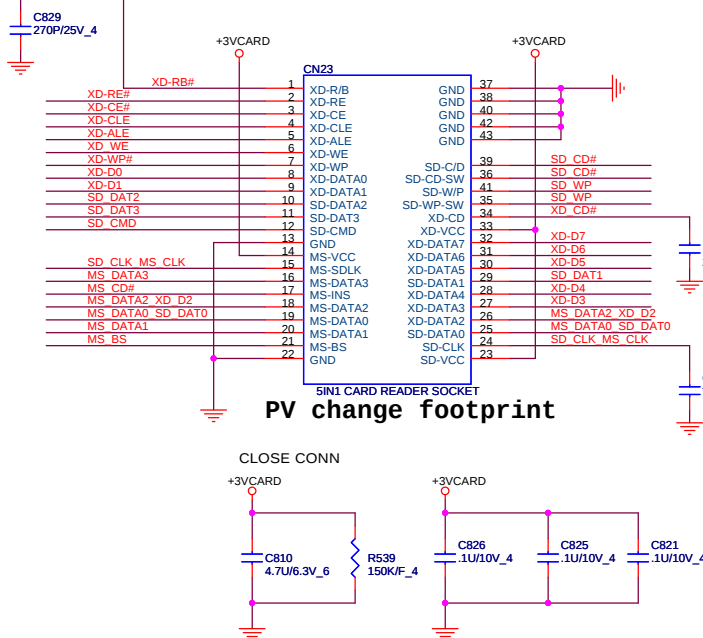
SD/MMC	MS	XD
SP0	SD WP	XD CD#
SP1	SD CD#	XD D4
SP2	SD DAT1	XD D5
SP3	SD D0	XD D6
SP4	SD D1	XD D7
SP5	SD D2	XD D8
SP6	SD D3	XD D9
SP7	SD D4	XD D10
SP8	SD D5	XD D11
SP9	SD D6	XD D12
SP10	SD D7	XD D13
SP11	SD D8	XD D14
SP12	SD D9	XD D15
SP13	SD D10	XD D16
SP14	SD D11	XD D17
SP15	SD D12	XD D18
SP16	SD D13	XD D19
SP17	SD D14	XD D20
SP18	SD D15	XD D21
SP19	SD D16	XD D22

For RTS5158

SP7	R525	0.4	MS DATA0	SD DAT0
SP6	R526	0.4	MS DATA1	SD DAT1
SP16	R514	0.4	SD DAT2	XD-RE#
SP5	R515	0.4	MS BS	XD-D5
SP15	R520	0.4	SD DAT3	XD WE
SP11	R522	0.4	SD CLK	MS CLK
SP10	R523	0.4	MS DATA3	XD-D7

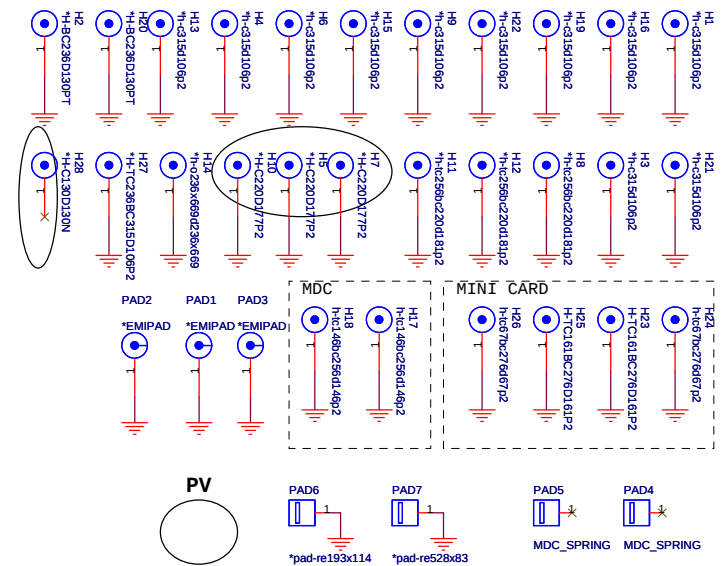
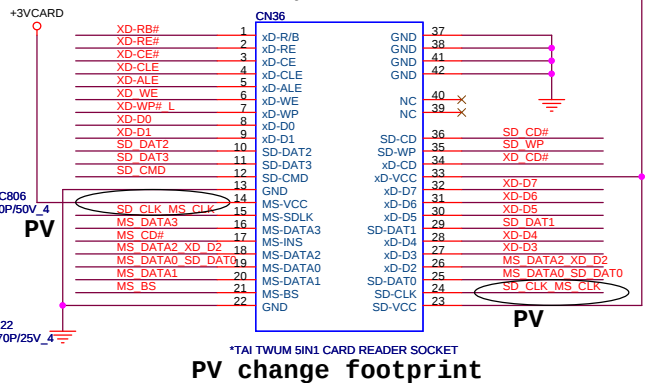
5 IN1 CARD READER

XD, MMC/SD, MS/MSP



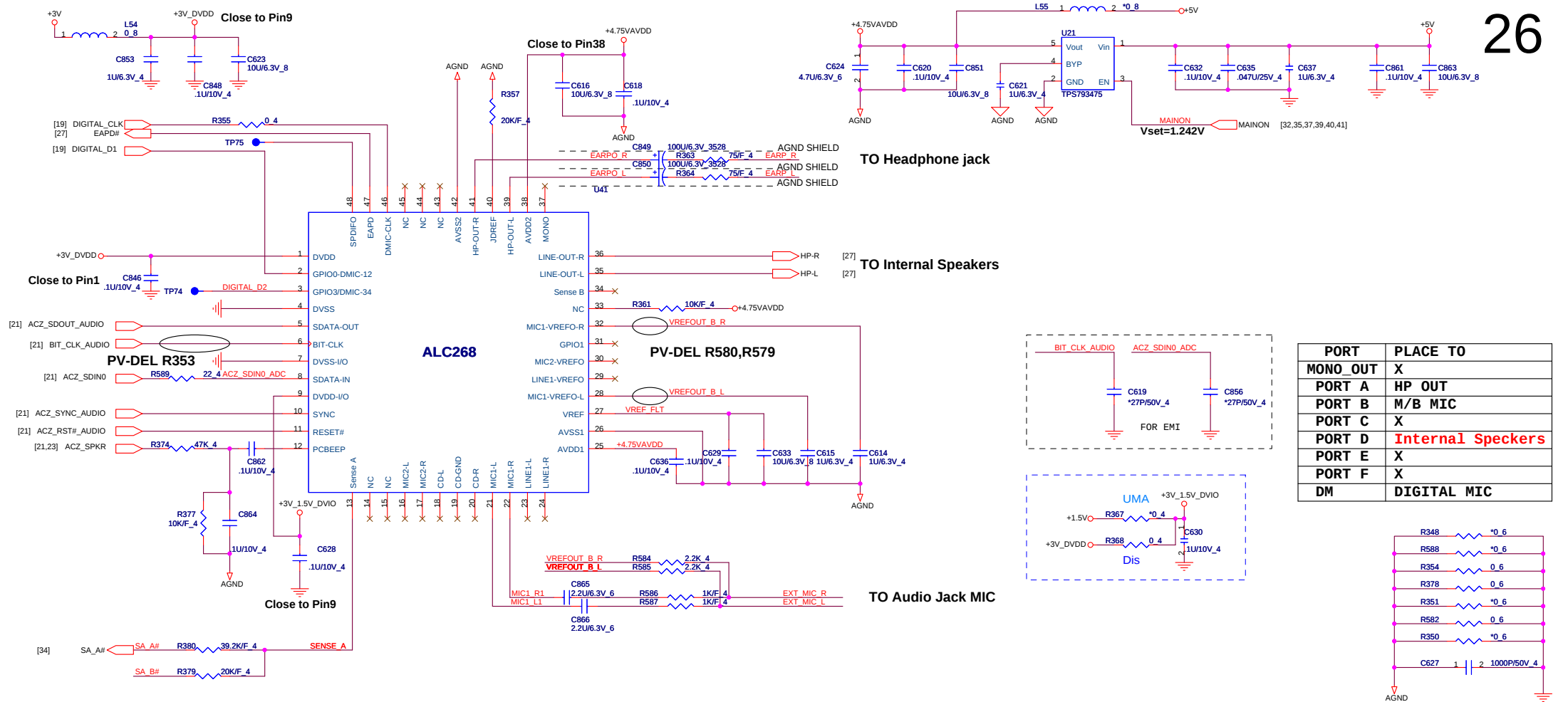
DV2 add 2'nd source

Co-lay card reader

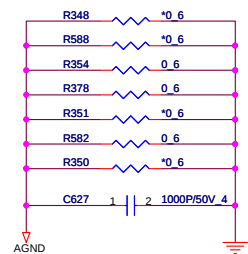


PROJECT : QL8
Quanta Computer Inc.

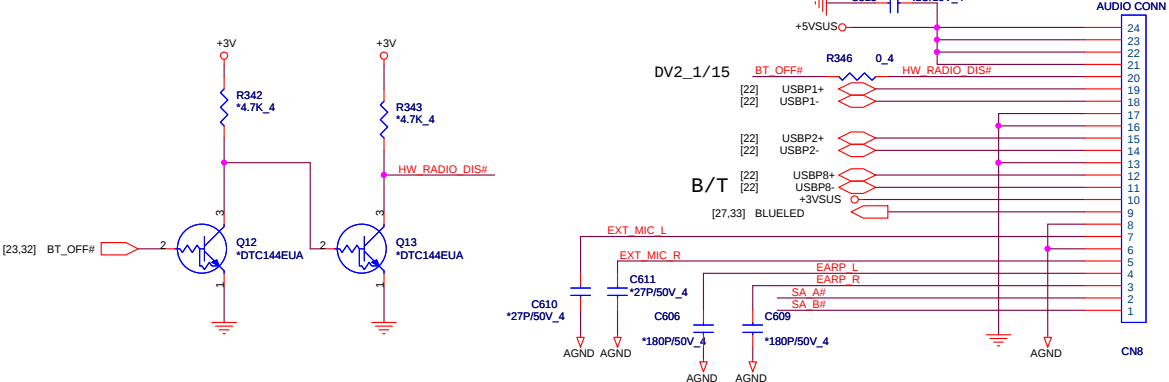
Size	Document Number	Rev
Custom	RTS5158E & CR SOCKET & HOLE	3A
Date: Tuesday, April 08, 2008	Sheet 25 of 45	



PORT	PLACE TO
MONO_OUT	X
PORT A	HP OUT
PORT B	M/B MIC
PORT C	X
PORT D	Internal Speakers
PORT E	X
PORT F	X
DM	DIGITAL MIC

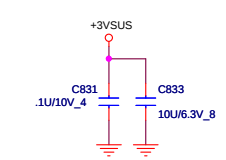
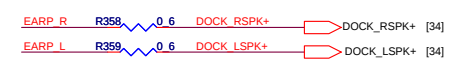


TO AUDIO/B CON.



BLUETOOTH

Audio

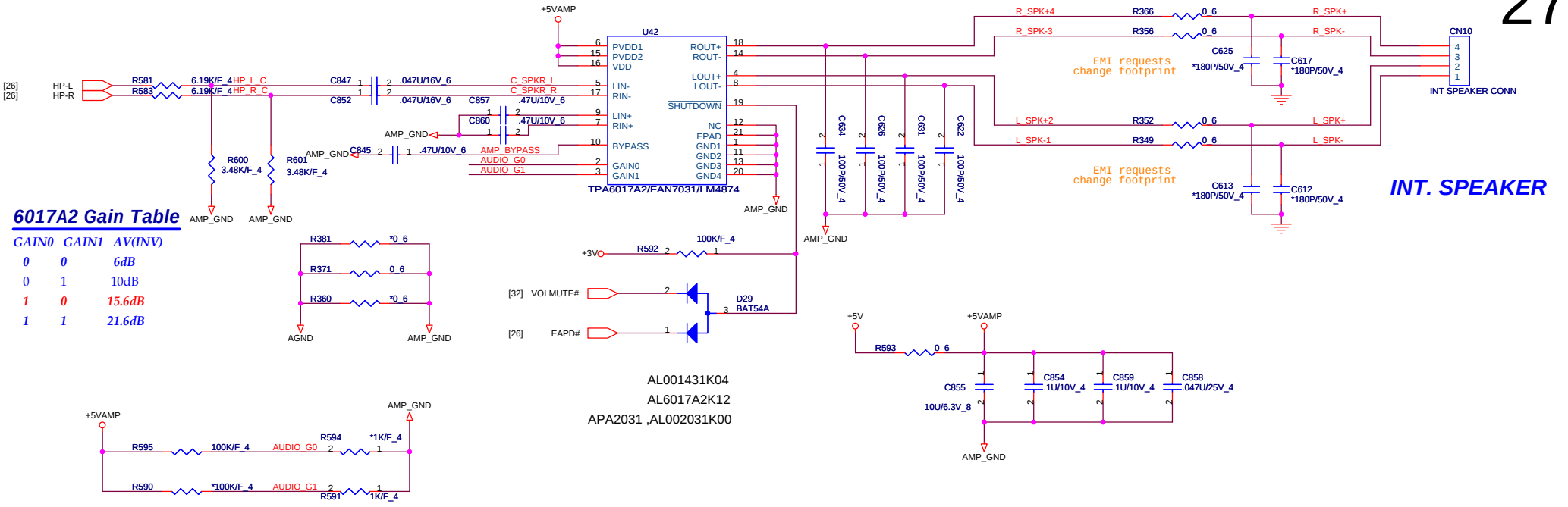


SA_A# -->EXT HP
SA_B# -->EXT MIC
Audio JACK: Normal Open

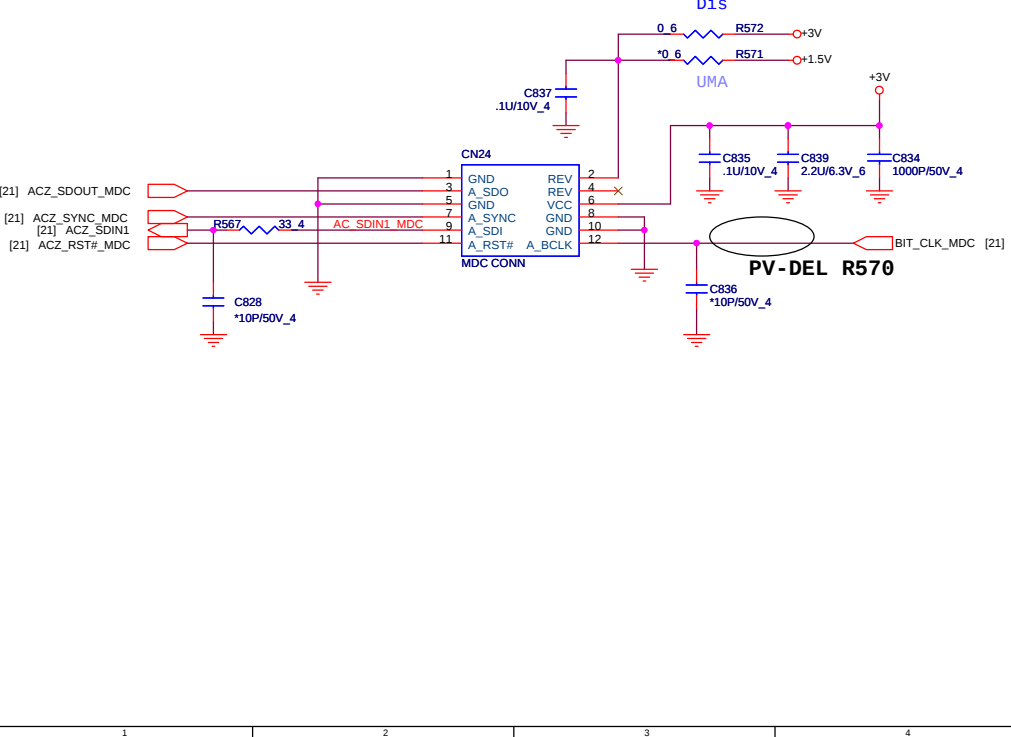
PROJECT : QL8
Quanta Computer Inc.

Size Custom	Document Number Azalia ALC268	Rev 3A
Date: Tuesday, April 08, 2008		
Sheet 26 of 45		

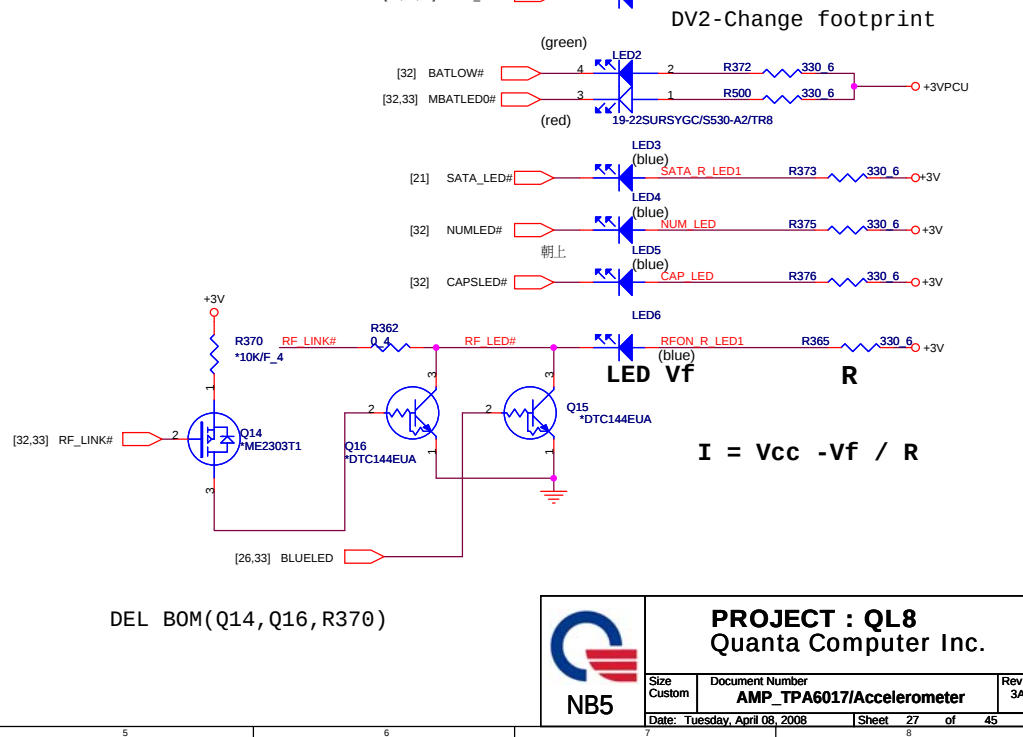
AUDIO AMPLIFIER



MDC CONNECTOR



LED

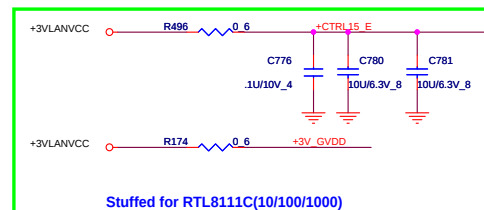


T : Stuffed for RTL8111C(10/100/1000)

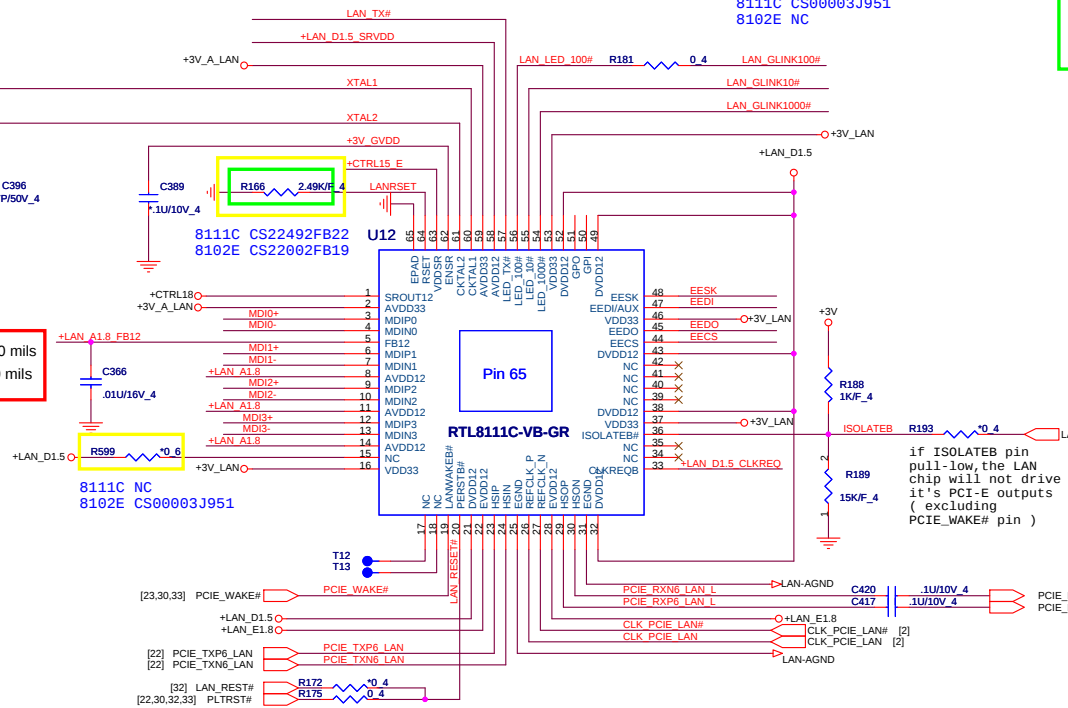
E : Stuffed for 8102E(10/100)

[29] +CTRL15 $\rightarrow$ R498 $\rightarrow$ 0.6 $\rightarrow$ +CTRL15 E
 Stuffed for 8102E

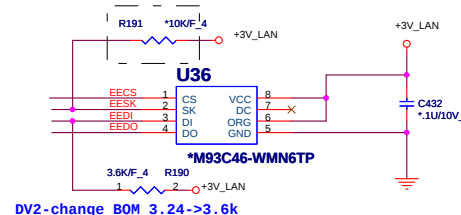
[29] +LAN_D1.5 $\rightarrow$ R499 $\rightarrow$ 0.6 $\rightarrow$ +LAN_D1.5 SRVDD
 +FB12 $\rightarrow$ R490 $\rightarrow$ 0.6 $\rightarrow$ +LAN_A1.8 FB12
 8111C CS00003J951
 8102E NC



U12#63 wider than 40 mils
 U12#1 wider than 60 mils

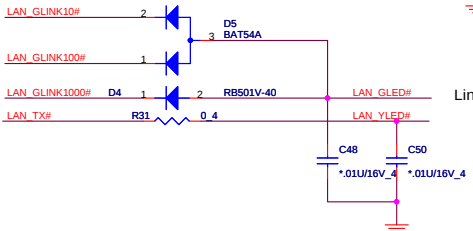
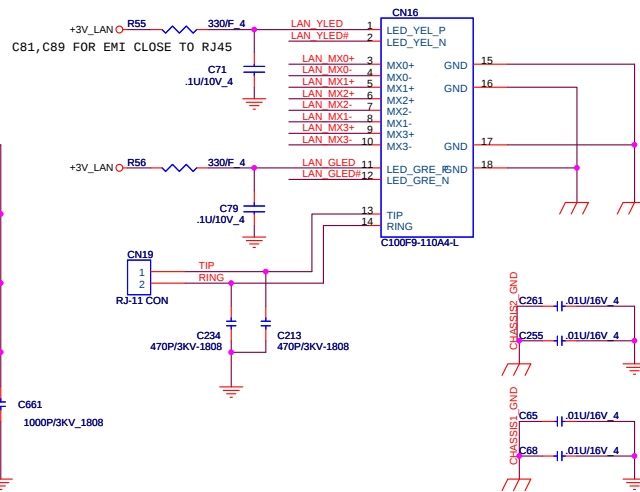


for 93C56 used. NC if 93C46 is used.



GIGABIT AL08111C001 RTL8111C-VB-GR(QFN)
10/100 AL08102E001 RTL8102E-VB-GR
 AL08101E005 TL8101E-GR(QFN)

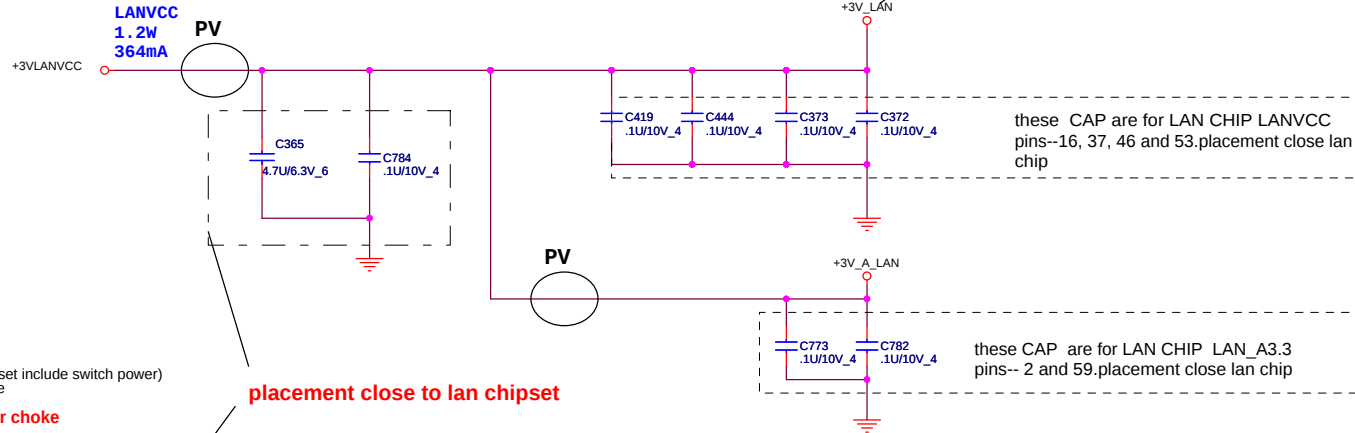
RJ45



NS892402:GIGABIT DB0AT9LAN05
 NS892405:10/100 DB0ZB1LAN04

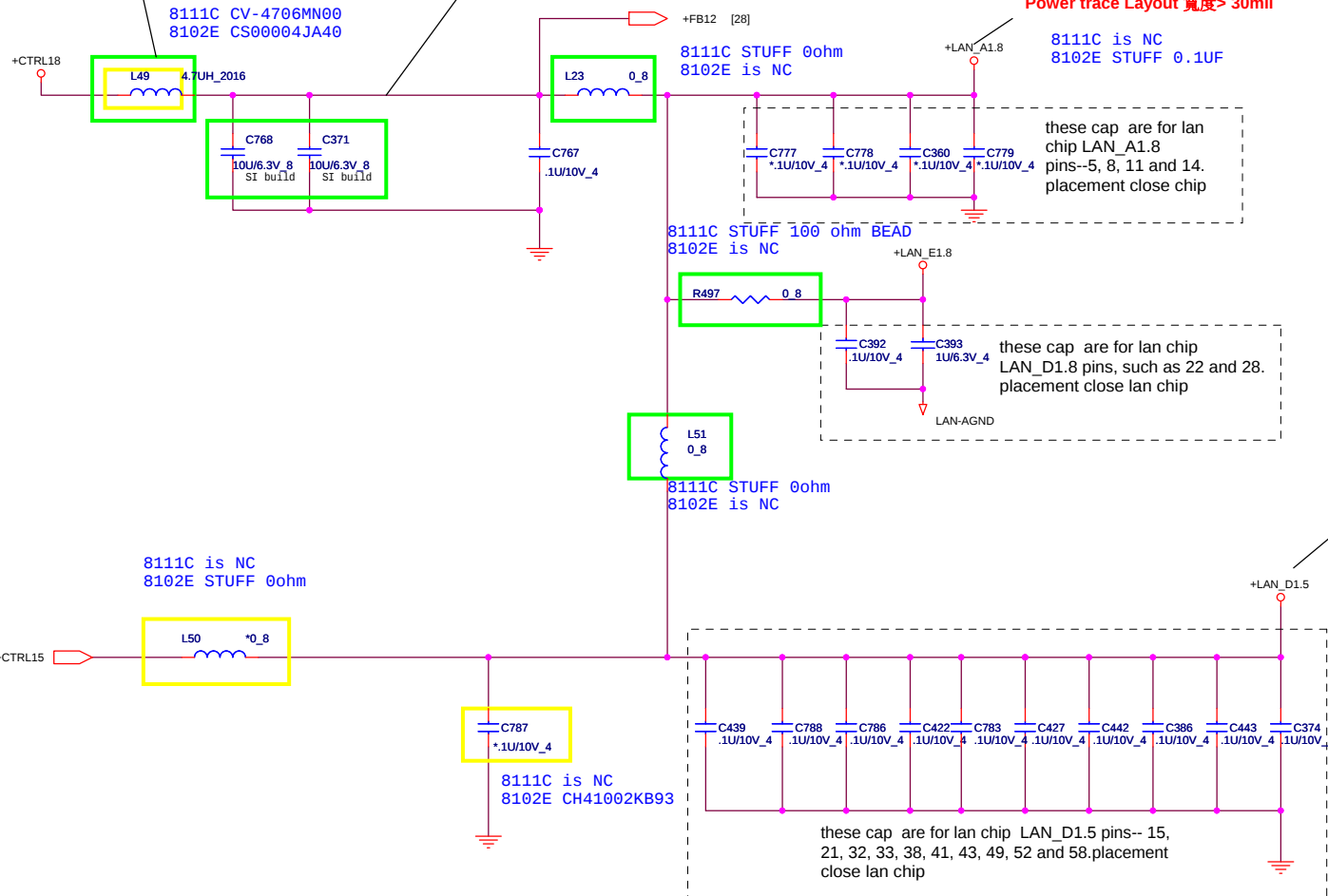
T : Stuffed for RTL8111C(10/100/1000)

E : Stuffed for 8102E(10/100)



For Giga must change L65 to Inductor (Chipset include switch power)
+CTRL18 will become to switch power phase

L54 for Giga lan use 4.7uH power choke
A>500mA tolerance ±15%



Power domain chart

	RTL8111B / RTL8101E	RTL8111C
LANVCC	3.3V	3.3V
LAN_D1.8	1.8V	1.2V
LAN_A1.8	1.8V	1.2V
LAN_D1.5	1.5V	1.2V



PROJECT : QL8
Quanta Computer Inc.

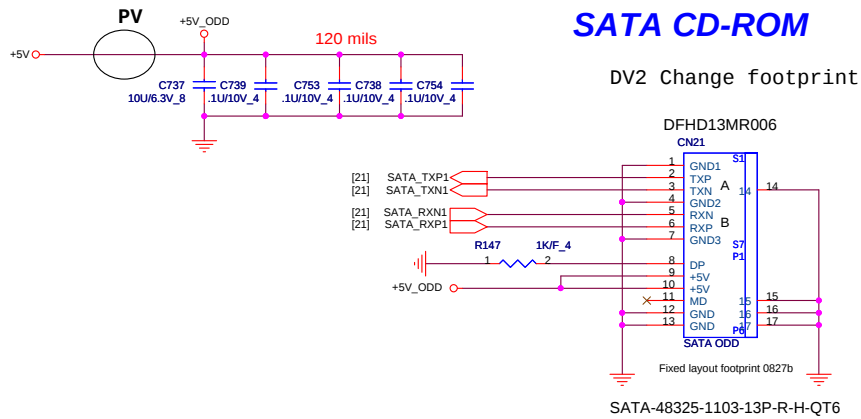
Size
A3

Document Number
LAN Power

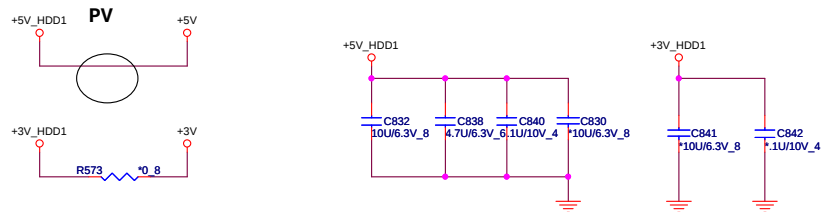
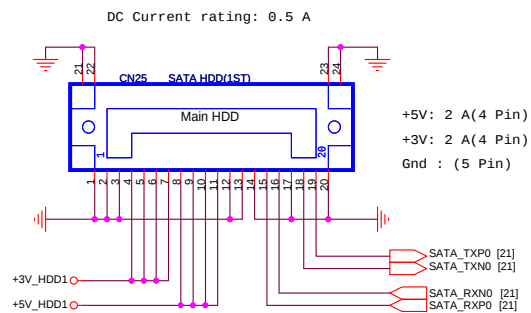
Rev
3A

Date: Tuesday, April 08, 2008

Sheet 29 of 45

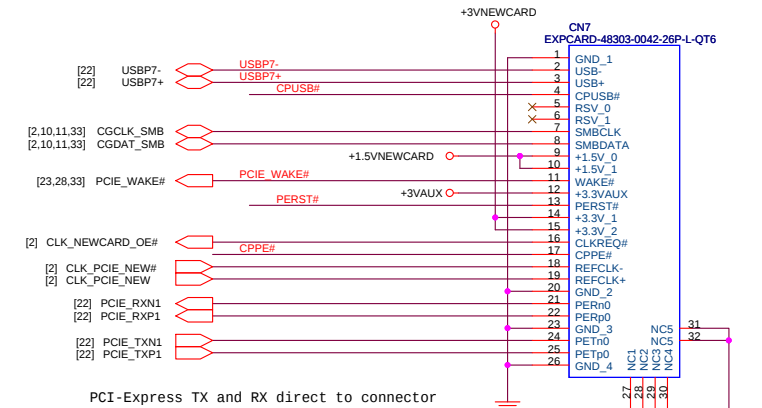


SATA_1 CONNECTOR

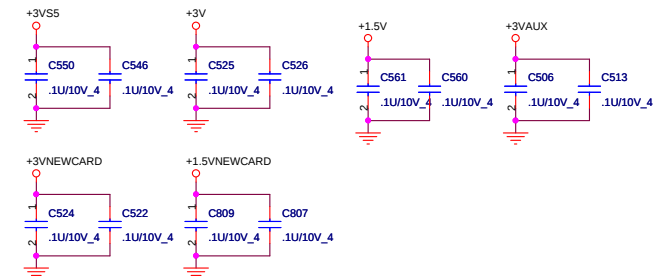
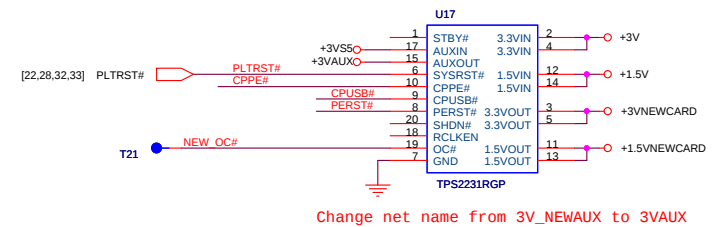


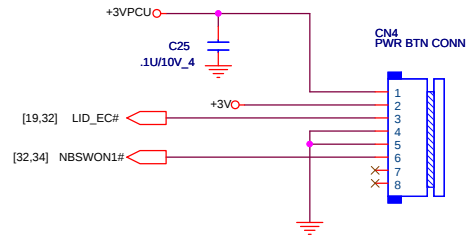
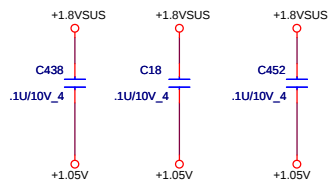
NEWCARD

NEWCARD (PCIEXPRESS*1 + USB*1)



Change CN15#31,32 as ME request for Hole pad
expcard-48303-0042-26P-1-QT6 as ME modify Pad size(pin31,32)
Move CN15#29,30 Pin as ME request(Molex confirm drawing)



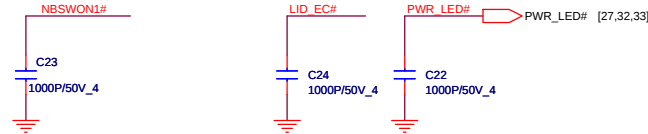


1. +3VPCU(LIDSWITCH PWR)
2. +3V
3. LIDSWITCH
4. GND
5. GND
6. POWERON#
7. NC
8. NC

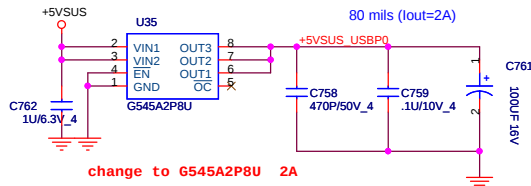
Close to U21 For EMI



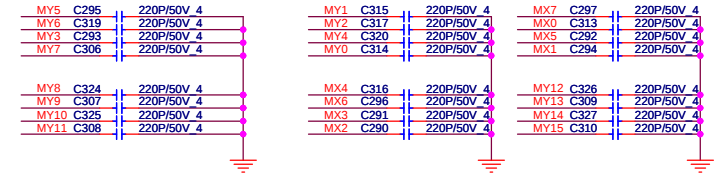
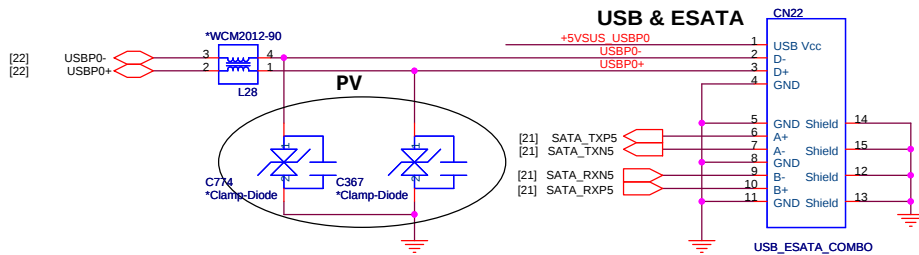
POWER BOTTON CONNECT



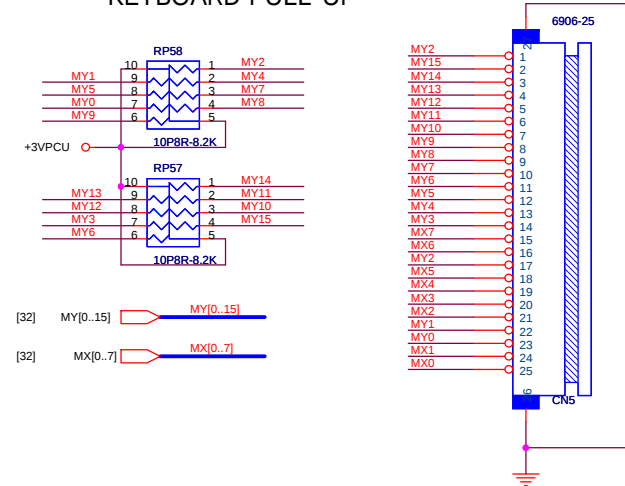
E-SATA/USB COMBO



change to G545A2P8U 2A



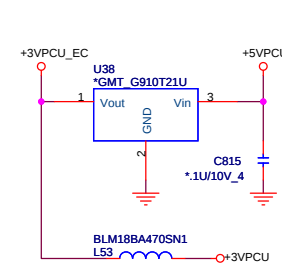
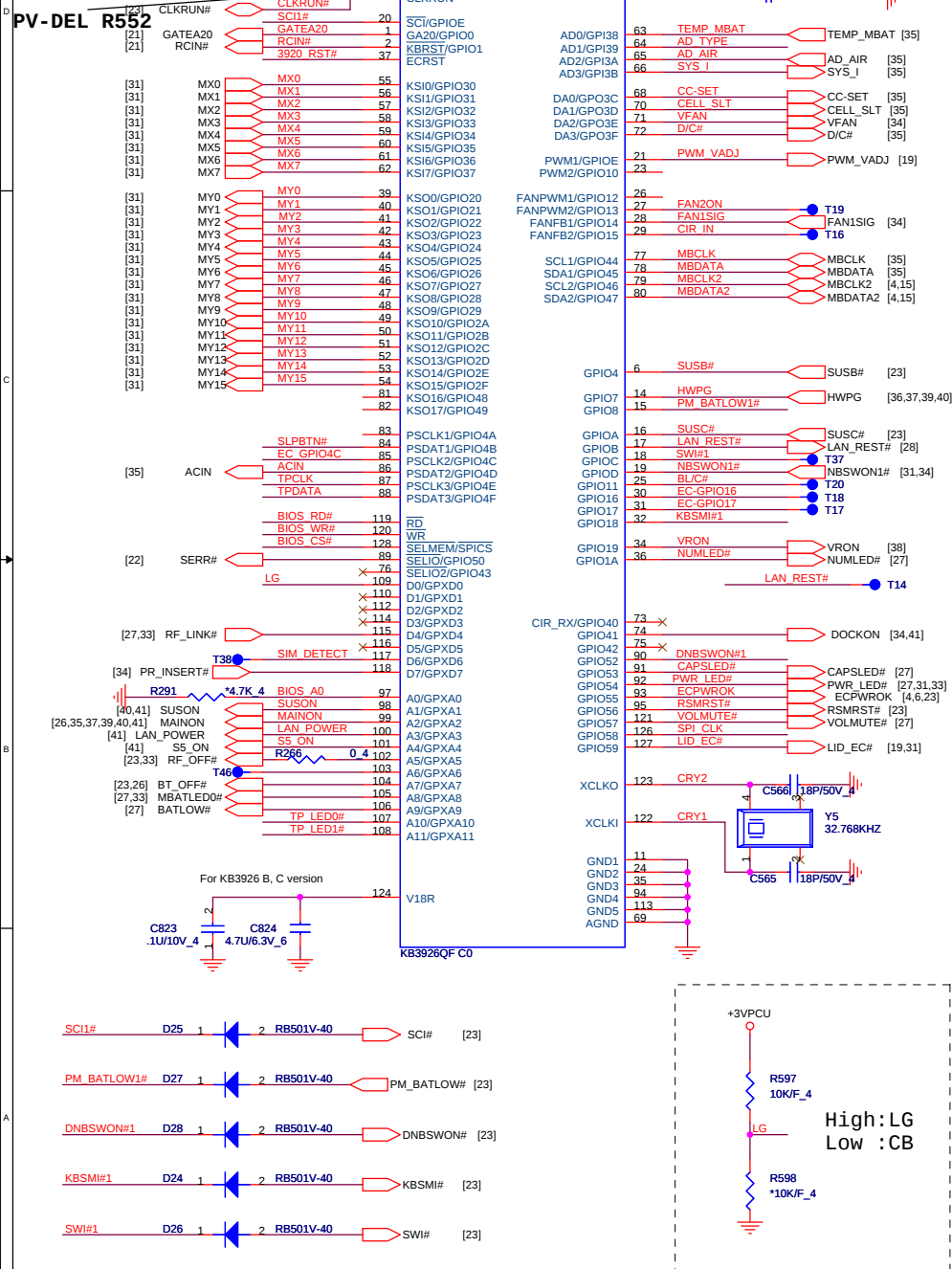
KEYBOARD PULL-UP



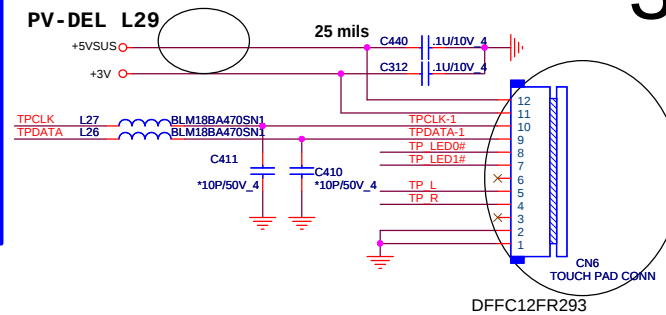
PROJECT : QL8
Quanta Computer Inc.

Size	Document Number	Rev
Custom	KB/CAP/POWER CONN	3A
Date: Tuesday, April 08, 2008	Sheet 31 of 45	

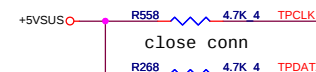
PV-DEL R552



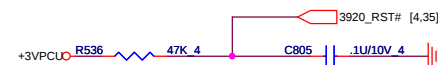
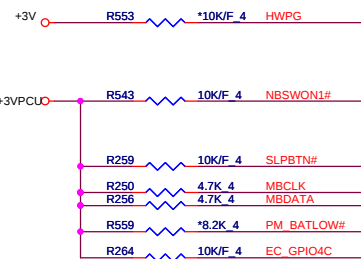
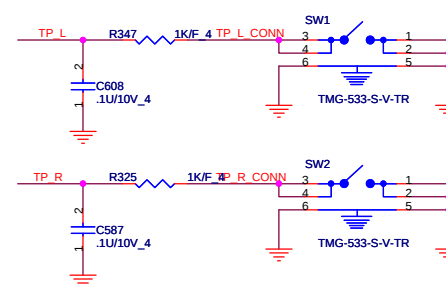
TOUCH PAD CONNECTOR



PV modify footprint for N-ZIF

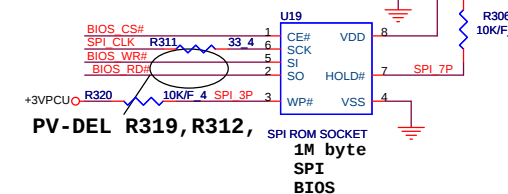


TOUCH PAD L/R



Socket: DG008000031

MXIC: AKE5GFK0Z09

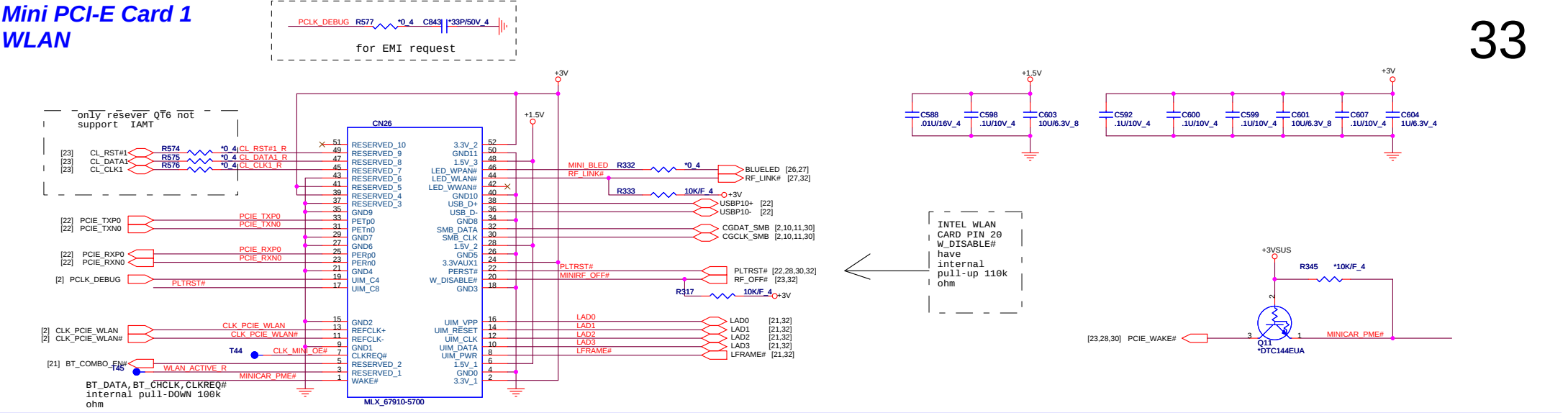


PROJECT : QL8

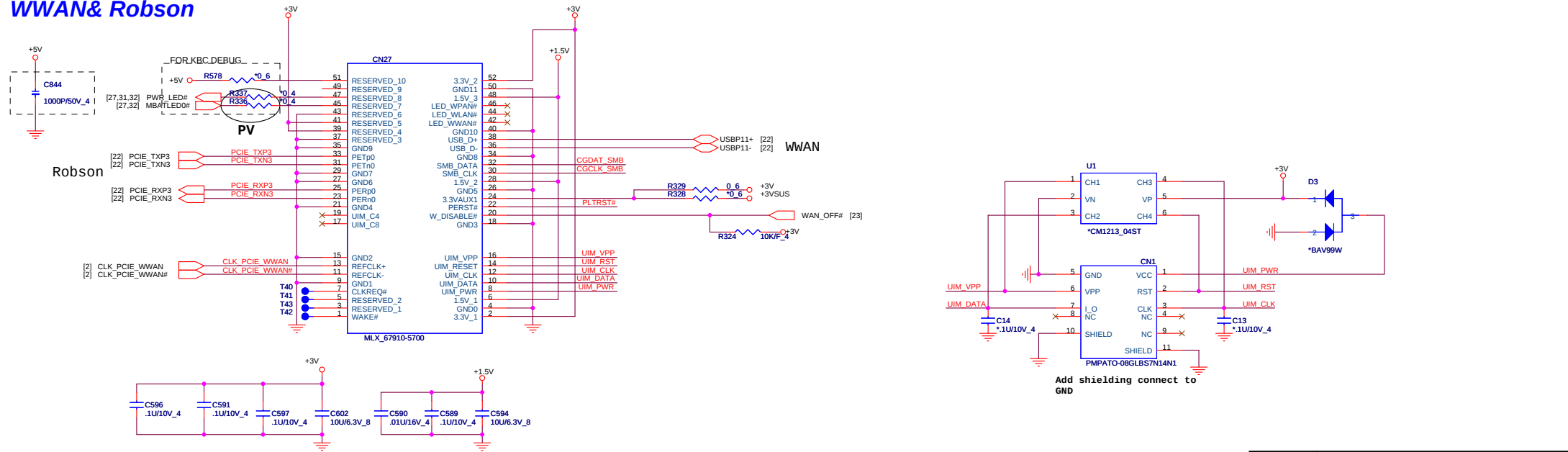
Quanta Computer Inc.

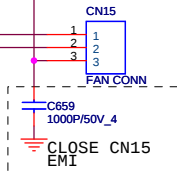
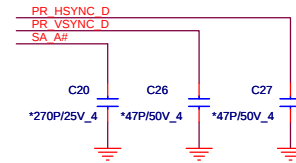
Size	Document Number	Rev
Custom	KB3926/ROM/TP	3A
Date: Tuesday, April 08, 2008	Sheet 32 of 45	

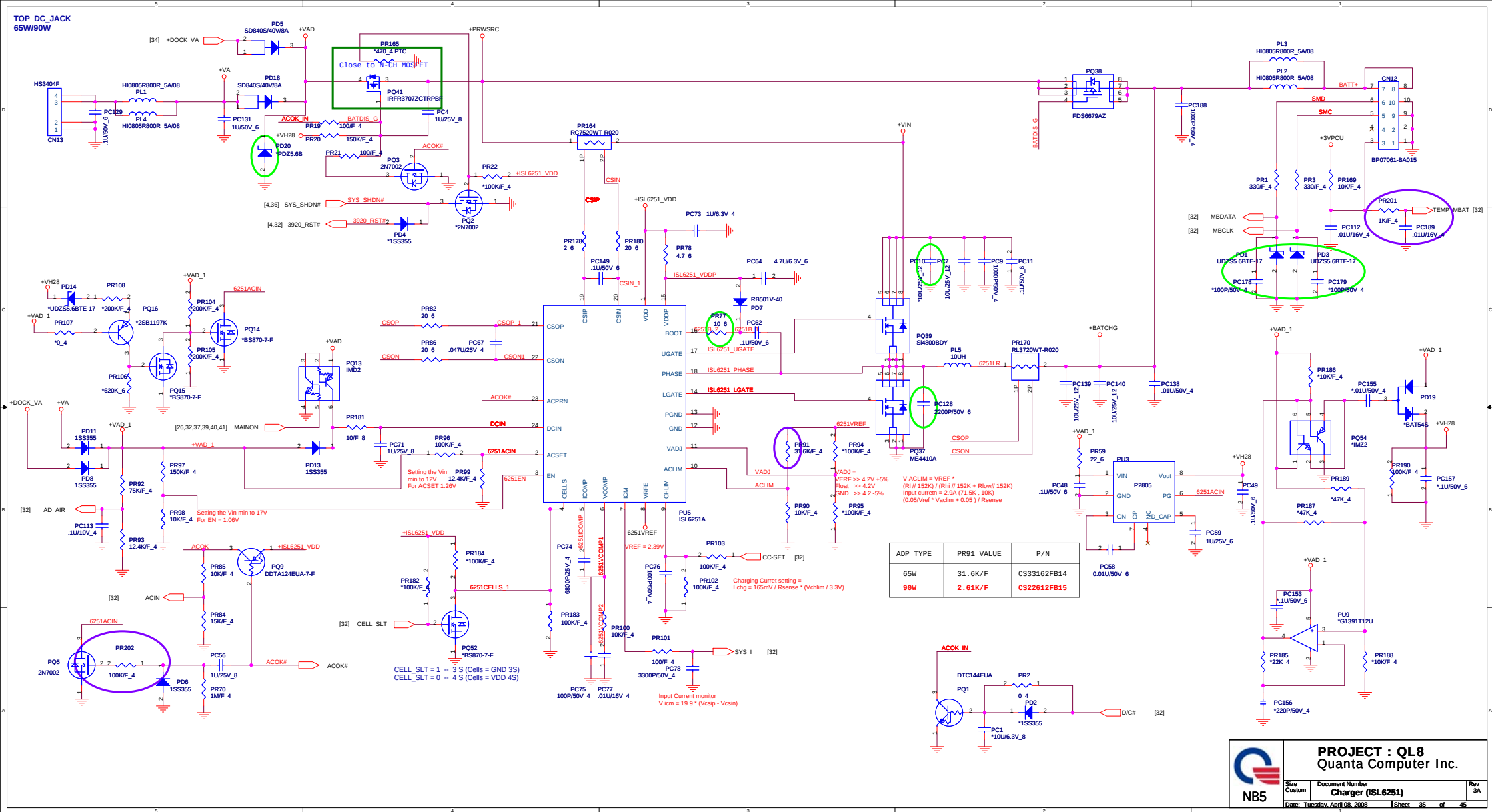
Mini PCI-E Card 1
WLAN



Mini PCI-E Card 2
WWAN& Robson



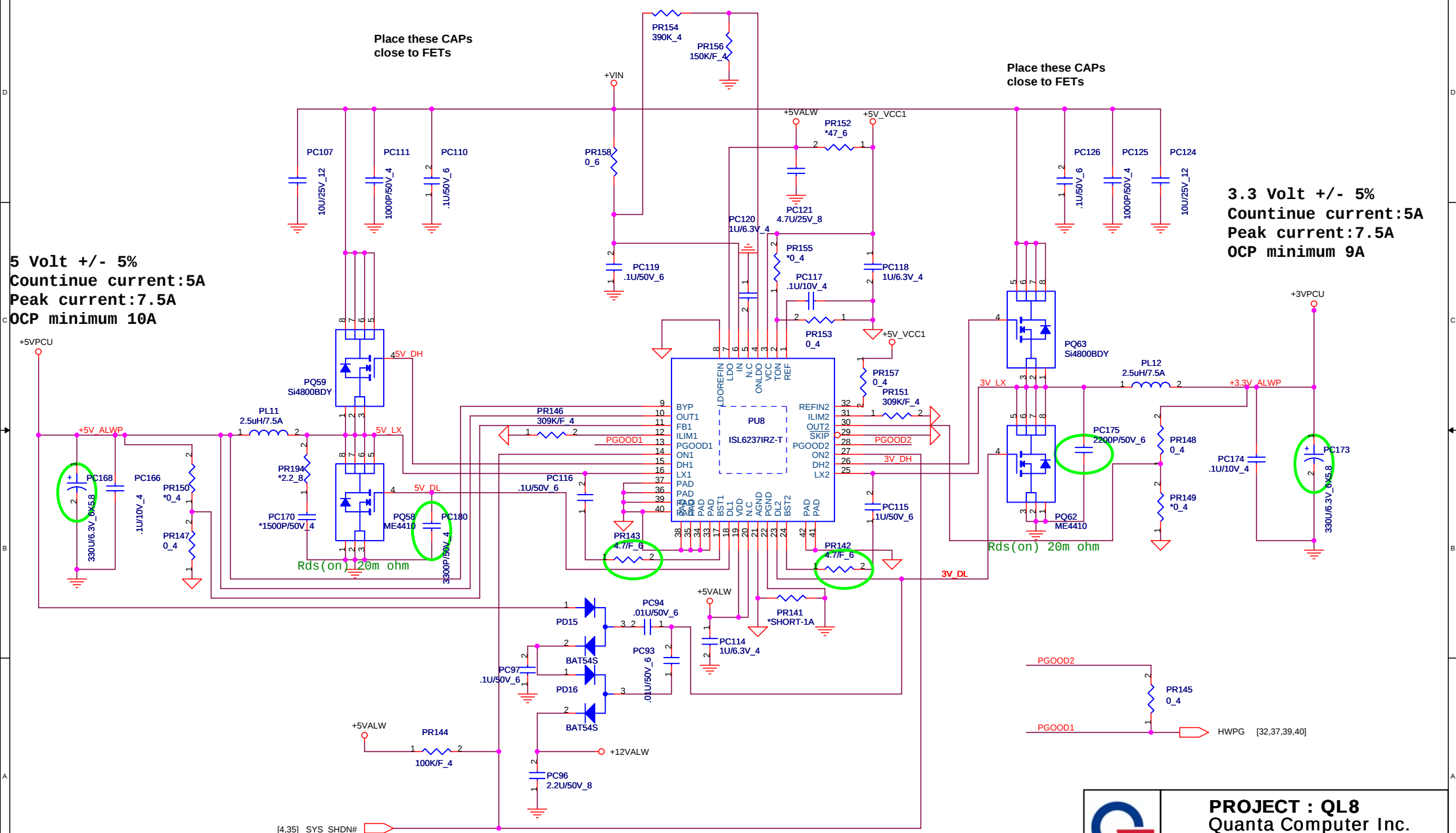




DC/DC +3V_ALW/+5V_ALW/+5V_ALW2 /+12V_ALW

5 Volt +/- 5%
Countinue current:5A
Peak current:7.5A
OCP minimum 10A

3.3 Volt +/- 5%
Countinue current:5A
Peak current:7.5A
OCP minimum 9A



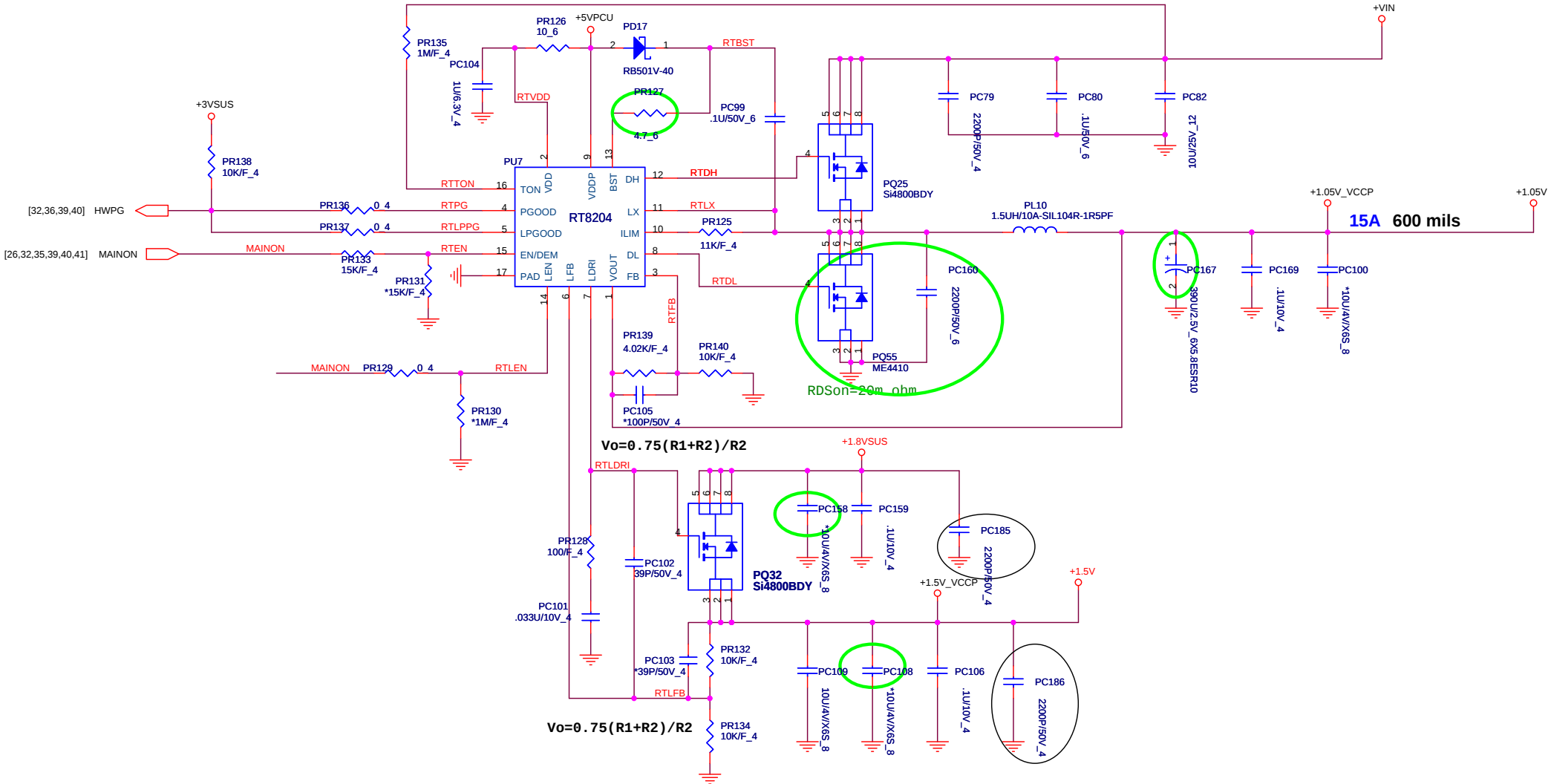
PROJECT : QL8
Quanta Computer Inc.

Size	Document Number	Rev
B	+5V/+3V (ISL6237)	3A

Date: Tuesday, April 08, 2008 Sheet 36 of 45

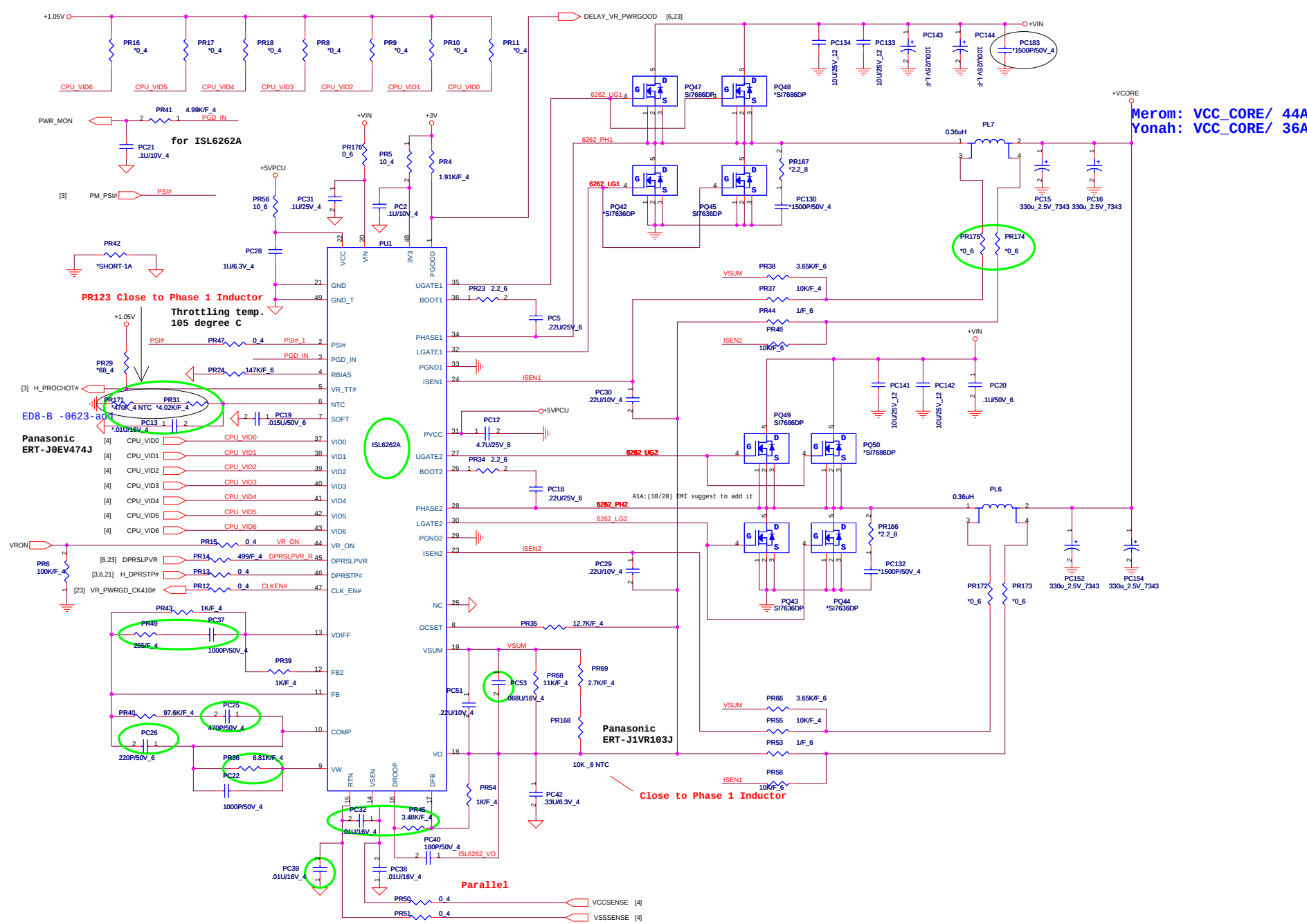
VCCP1.05V & +1.5V

+1.05Volt +/- 5%
 Countinue current 6A
 Peak current:8A
 OCP minimum 12A



PROJECT : QL8
 Quanta Computer Inc.

Size B	Document Number +1.05V/+1.5V (RT8204)	Rev 3A
Date: Tuesday, April 08, 2008	Sheet 37 of 45	



Merom: VCC_CORE/ 44A
Yonah: VCC_CORE/ 36A

