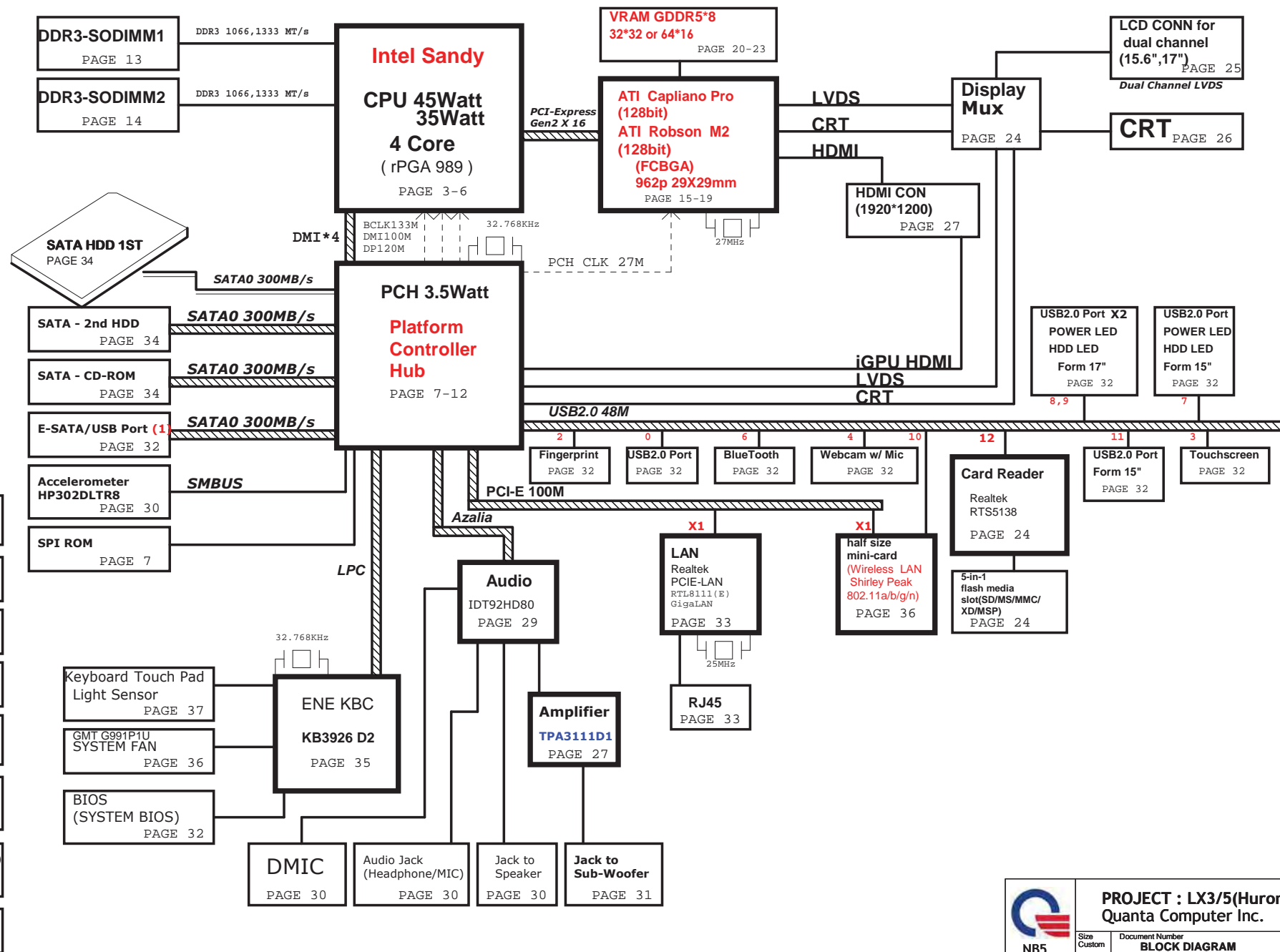



Dis.  
PCB 8L STACK UP

LAYER 1 : TOP  
LAYER 2 : SGND  
LAYER 3 : IN1(High)  
LAYER 4 : IN2(Low)  
LAYER 5 : SVCC  
LAYER 6 : IN3(High)  
LAYER 7 : SGND  
LAYER 8 : BOT

# LX3/5 (Huron River) BLOCK DIAGRAM



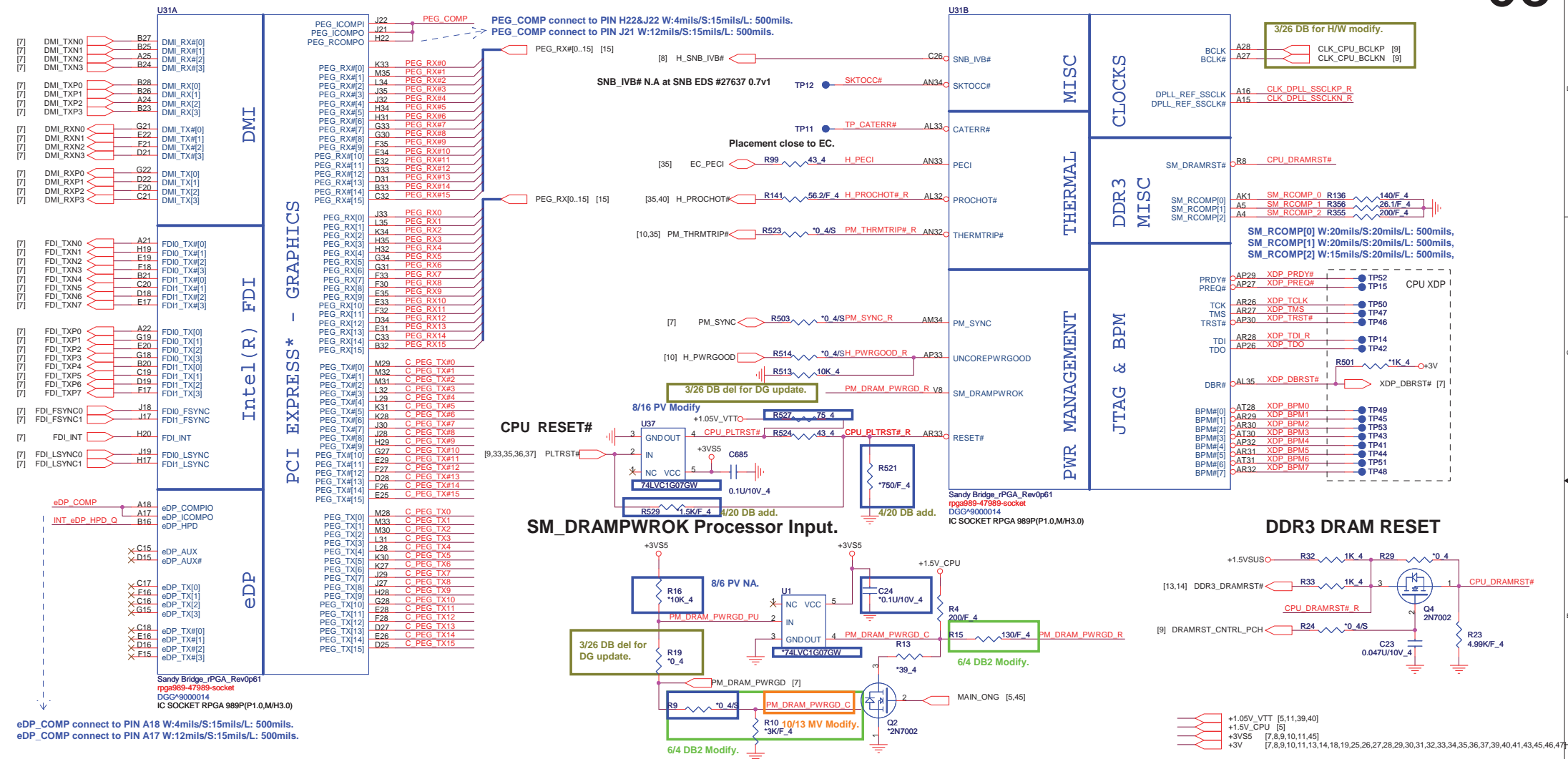
4/7 DB del for PDC update.

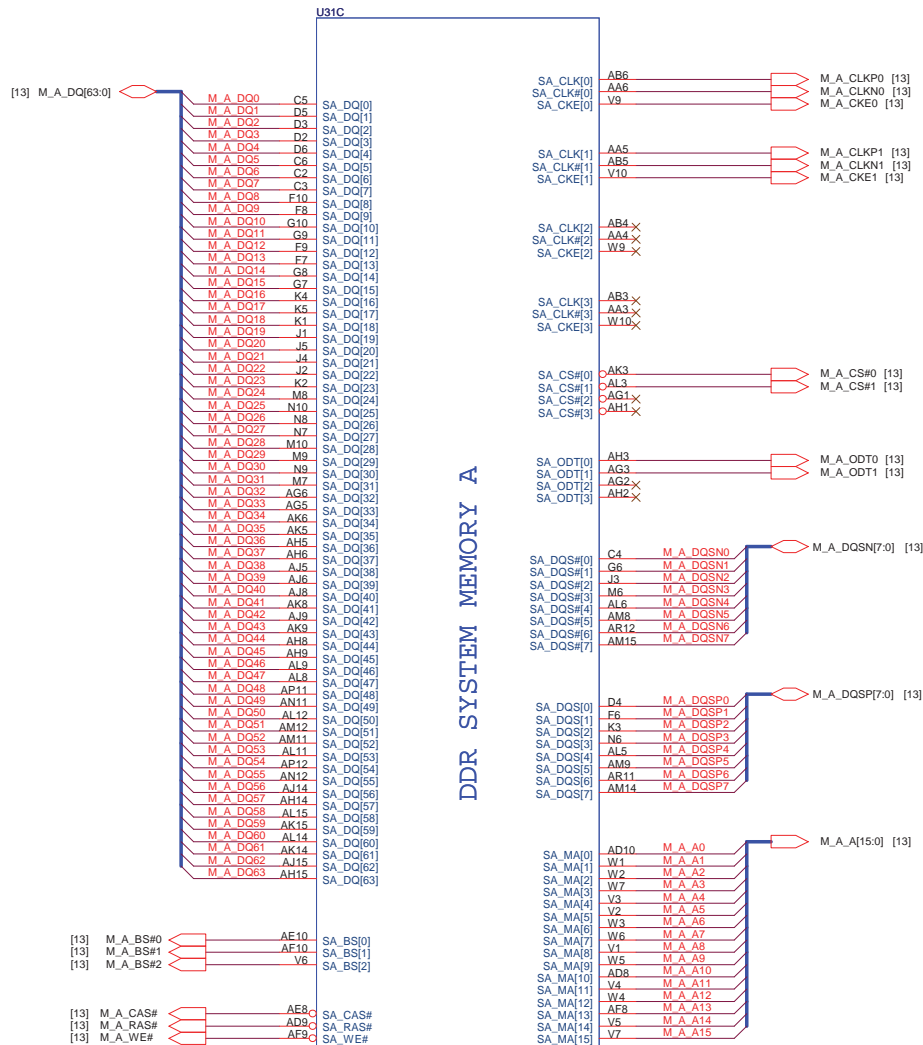


NB5

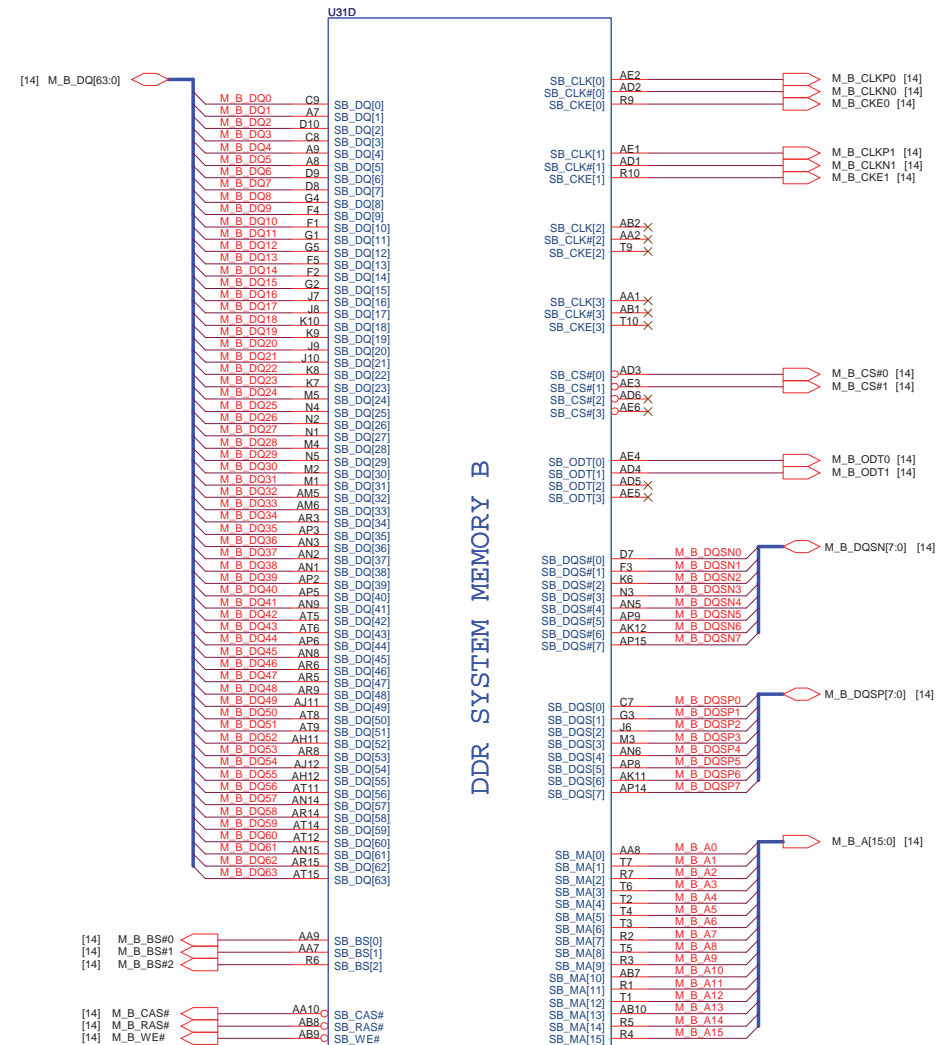
**PROJECT : LX3/5(Huron River)**  
**Quanta Computer Inc.**

Size Custom	Document Number Clock Gen(9LRS3197)/HOLES	Rev 1A
Date: Friday, October 01, 2010		Sheet 2 of 47





Sandy Bridge\_rPGA\_Rev0p61  
rpga989-47989-socket  
DGG^9000014  
IC SOCKET RPGA 989P(P1.0,M/H3.0)

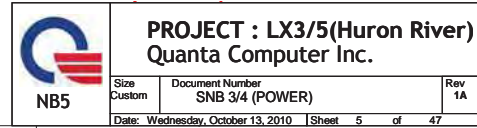


Sandy Bridge\_rPGA\_Rev0p61  
rpga989-47989-socket  
DGG^9000014  
IC SOCKET RPGA 989P(P1.0,M/H3.0)



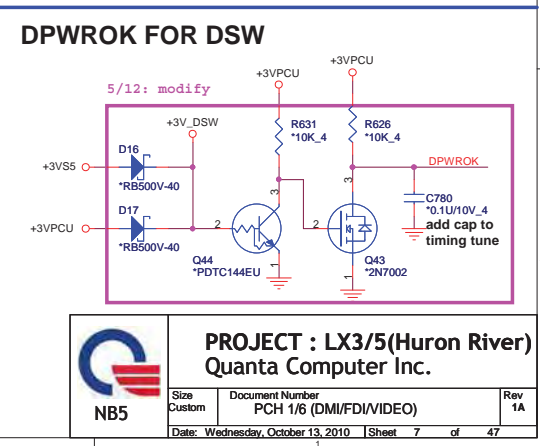
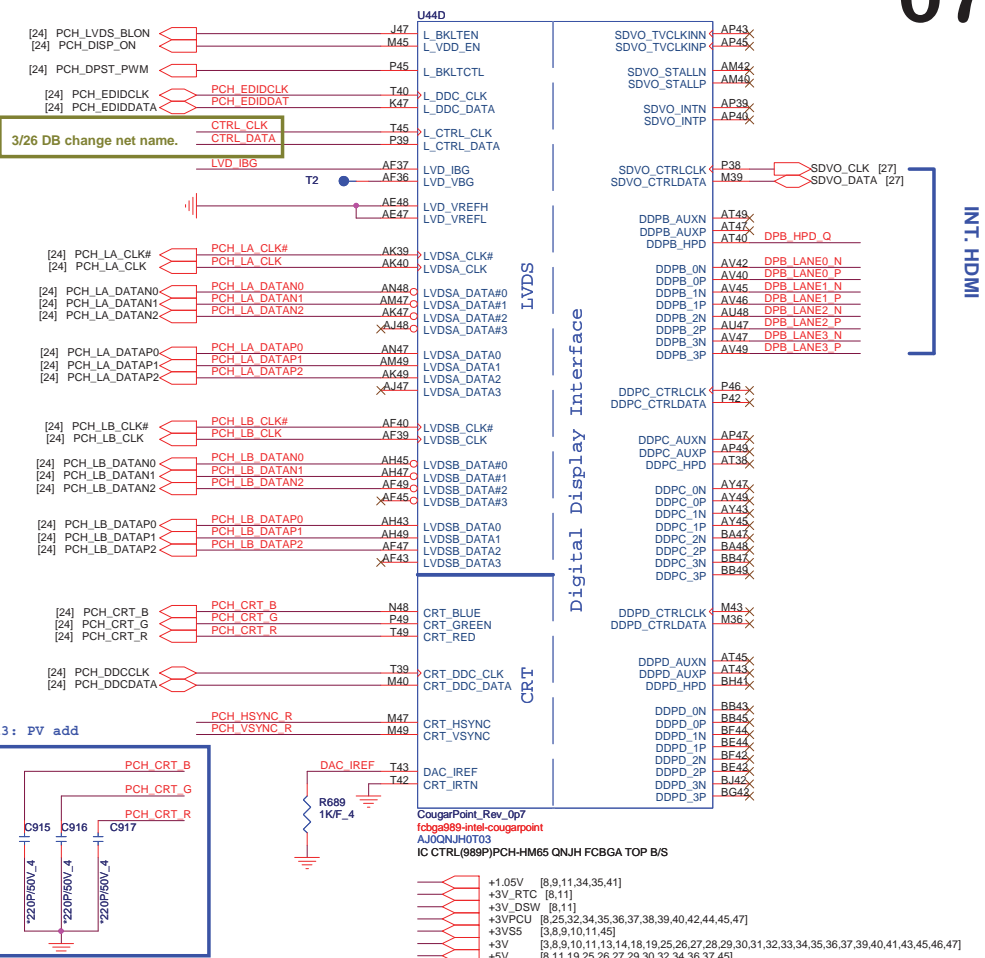
**PROJECT : LX3/5(Huron River)**  
**Quanta Computer Inc.**

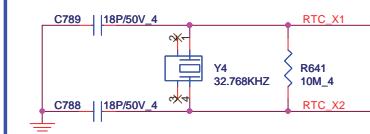
Size Custom	Document Number SNB 2/4 (DDR3 I/F)	Rev 1A
Date: Wednesday, October 13, 2010		Sheet 4 of 47



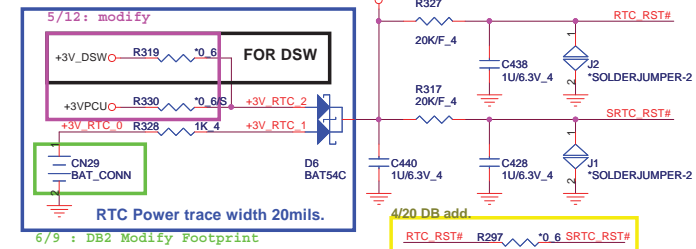




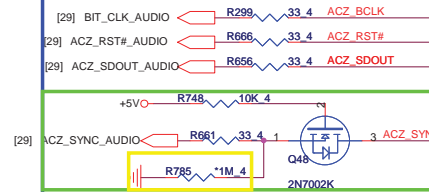




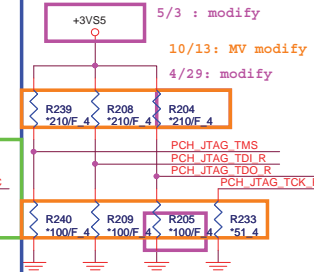
### RTC Circuitry(RTC)



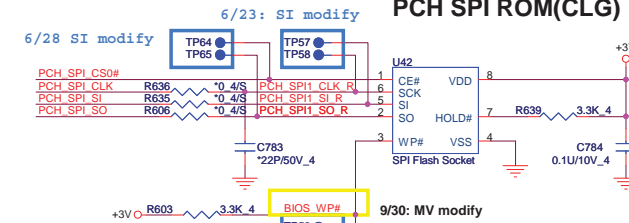
## HDA Bus(CLG)



## PCH JTAG Debug(CLG)



### PCH SPI ROM(CLG)



Vender	Size	P/N
EON	4MB	AKE39FN0Q00 (EN25F32-100HIP)
Winbond	4MB	AKE391P0N00 (W25Q32BVSSIG)
Socket		DG008000031



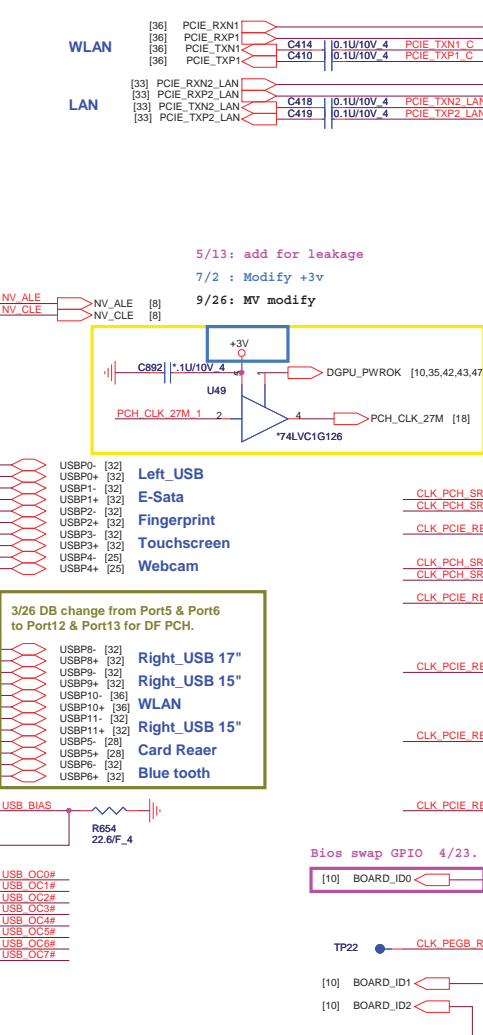
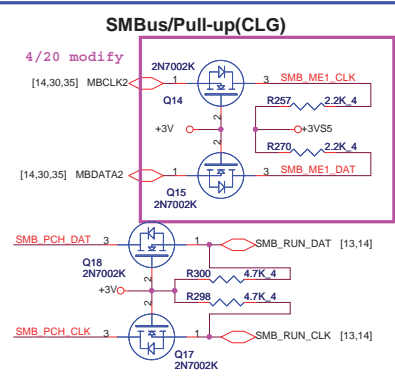
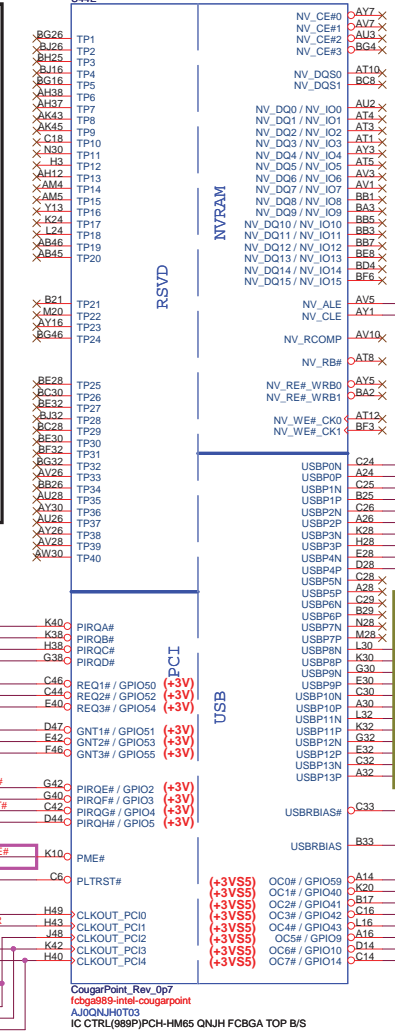
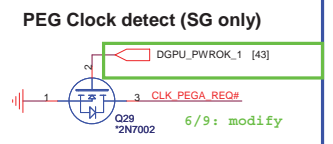
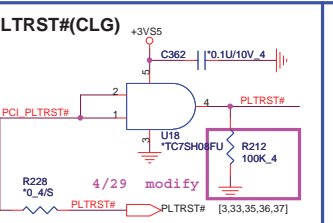
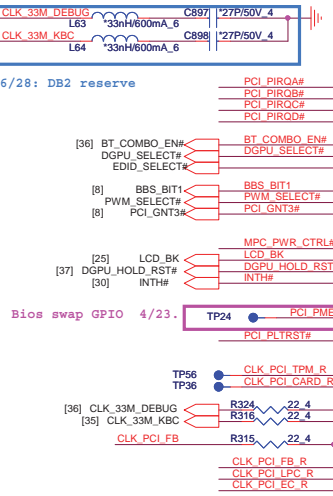
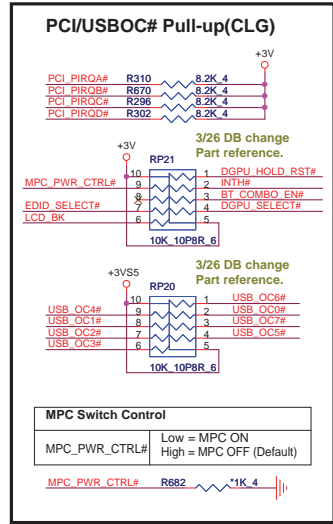
**PROJECT : LX3/5(Huron River)**  
**Quanta Computer Inc.**

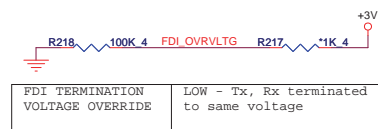
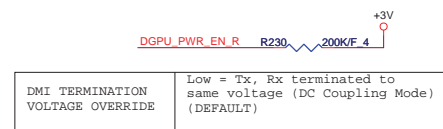
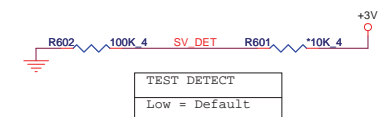
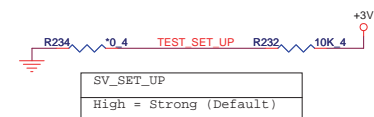
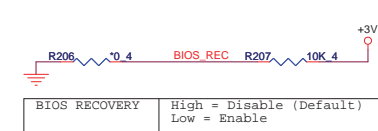
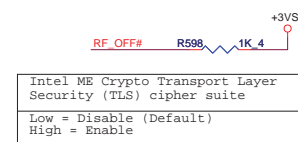
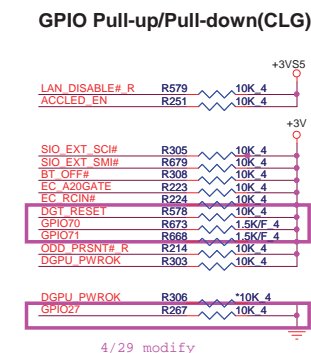
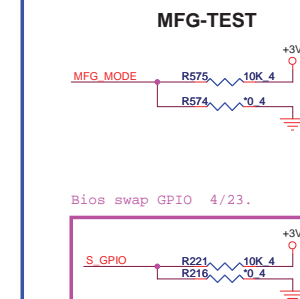
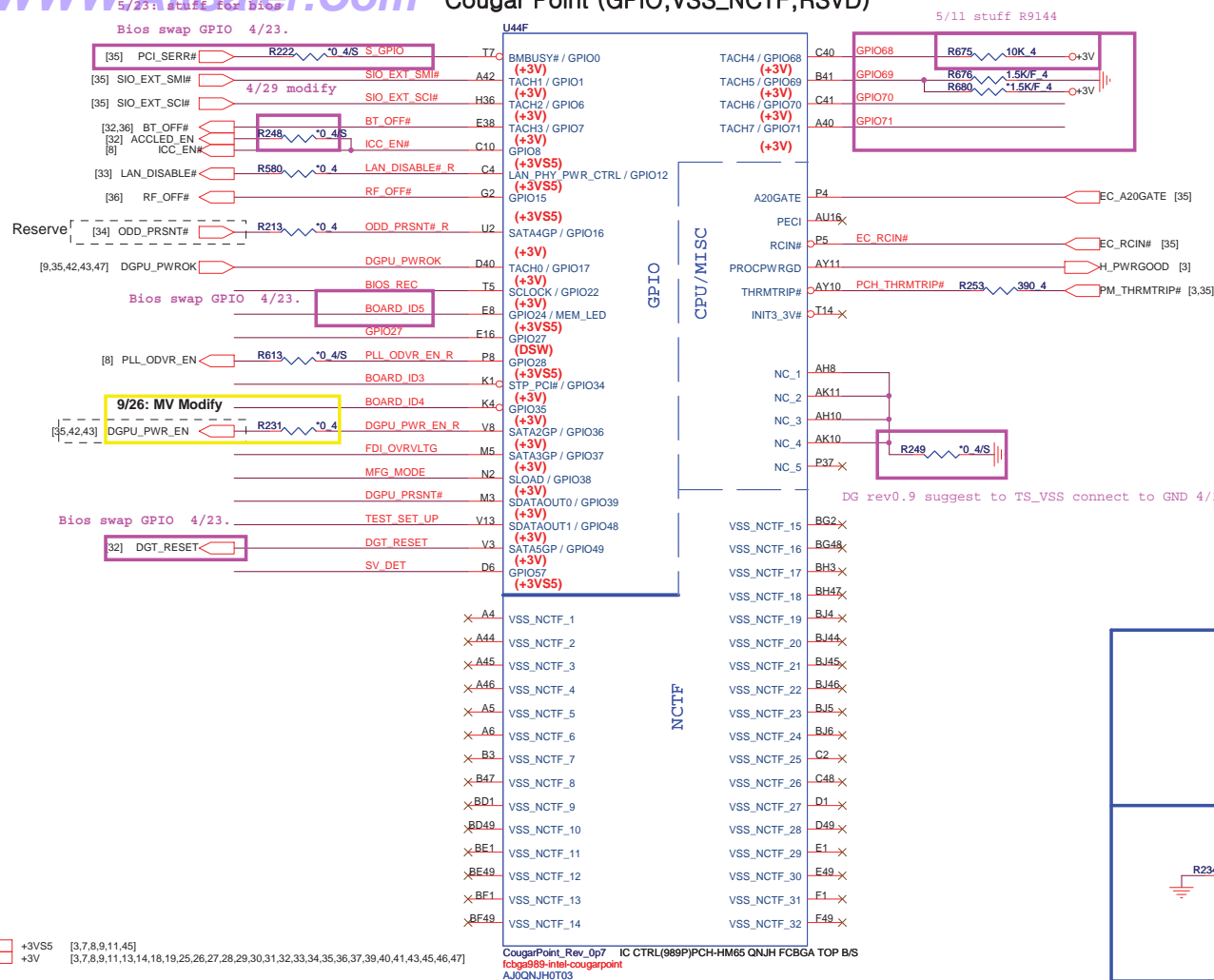
Size Custom	Document Number PCH 2/6 (SATA/HDA/SPI)	Rev 1A
Date: Wednesday, October 13, 2010	Sheet 8 of 47	

### PCH Strap Table

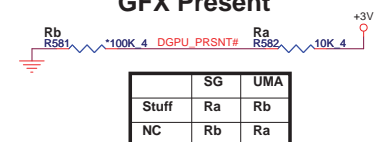
Pin Name	Strap description	Sampled	Configuration	Circuit									
SPKR	Different from Calpella No reboot mode setting	PWROK	0 = Default (weak pull-down 20K) 1 = Setting to No-Reboot mode										
GNT3# / GPIO55	Top-Block Swap Override	PWROK	0 = "top-block swap" mode 1 = Default (weak pull-up 20K)										
INTVRMEN	Integrated 1.05V VRM enable	ALWAYS	Should be always pull-up										
HDA_DOCK_EN#/GPIO33	Flash Descriptor Security Only for Interposer	PWROK	0 = Override 1 = Default (weak pull-up 20K)										
GNT1# / GPIO51	Boot BIOS Selection 1 [bit-1]	PWROK	<table><thead><tr><th>GNT1#</th><th>GNT0#</th><th>Boot Location</th></tr></thead><tbody><tr><td>1</td><td>0</td><td>SPI</td></tr><tr><td>0</td><td>0</td><td>LPC</td></tr></tbody></table>	GNT1#	GNT0#	Boot Location	1	0	SPI	0	0	LPC	
GNT1#	GNT0#	Boot Location											
1	0	SPI											
0	0	LPC											
GPIO19	Different from Calpella Boot BIOS Selection 0 [bit-0]	PWROK											
GNT2# / GPIO53	ESI strap (Server only)	PWROK	Should not be pull-down (weak pull-up 20K)	USE GPIO PIN									
NV_ALE	Intel Anti-Theft HDD protection Only for Interposer	PWROK	0 = Disable (Internal pull-down 20kohm)										
NV_CLE	DMI Termination voltage	PWROK	weak pull-down 20kohm 4/29 modify										
HDA_SYNC	On-Die PLL VR Voltage Select	RSMRST	0 = Support by 1.8V (weak pull-down) 1 = Support by 1.5V										
HDA_SDO	Flash Descriptor Security	PWROK	0 = Override 1 = Default (weak pull-up 20K)										
GPIO8	Integrated Clock Chip Enable	RSMRST#	Should be pull-down (weak pull-up 20K)										
GPIO28	Different from Calpella On-die PLL Voltage Regulator	RSMRST#	0 = Disable 1 = Enable (Default)										
SPL_MOSI	iTPM function Disable	APWROK	0 = Default (weak pull-down 20K) 1 = Enable										



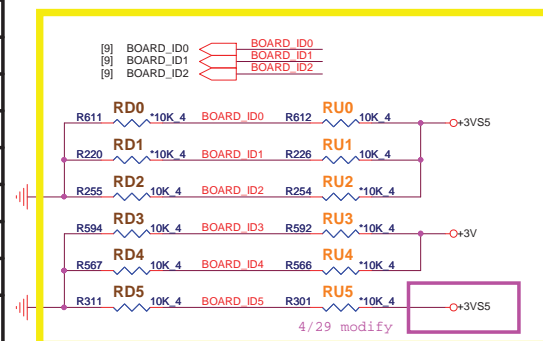




**GFX Present**

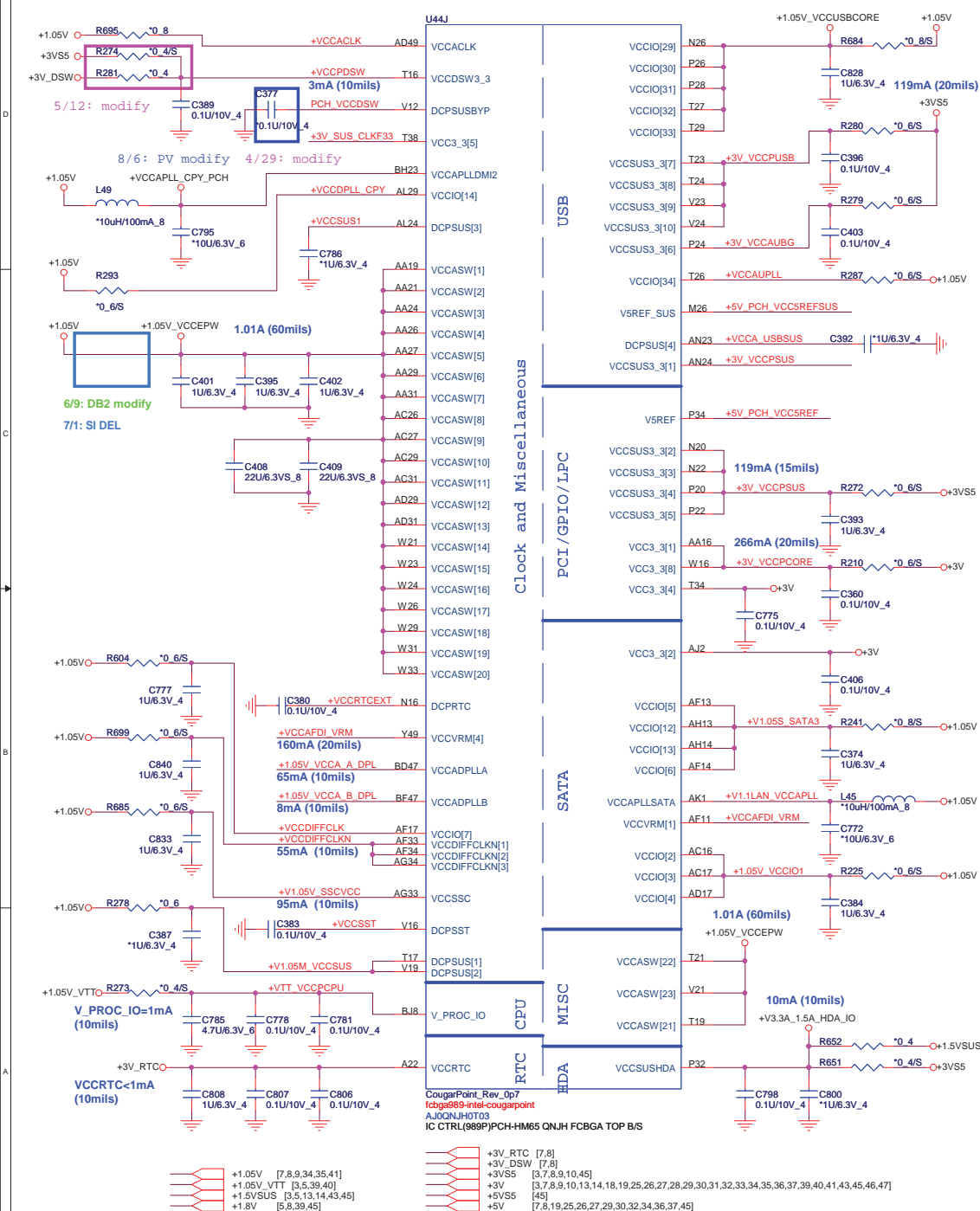


Model	BOARD_ID5	BOARD_ID4	BOARD_ID3	BOARD_ID2	BOARD_ID1	BOARD_ID0
LX3 UMA	0	0	0	0	0	0
LX5 UMA	0	0	0	0	0	1
L	0	0	0	0	1	0
X	0	0	0	0	1	1
LX3 Capilano GT - SG	0	0	0	1	0	0
LX5 Capilano GT - SG	0	0	0	1	0	1
LX5 Capilano XT SG/Subwoofer	0	0	0	1	1	0
LX5 DISCRETE Subwoofer	0	0	0	1	1	1

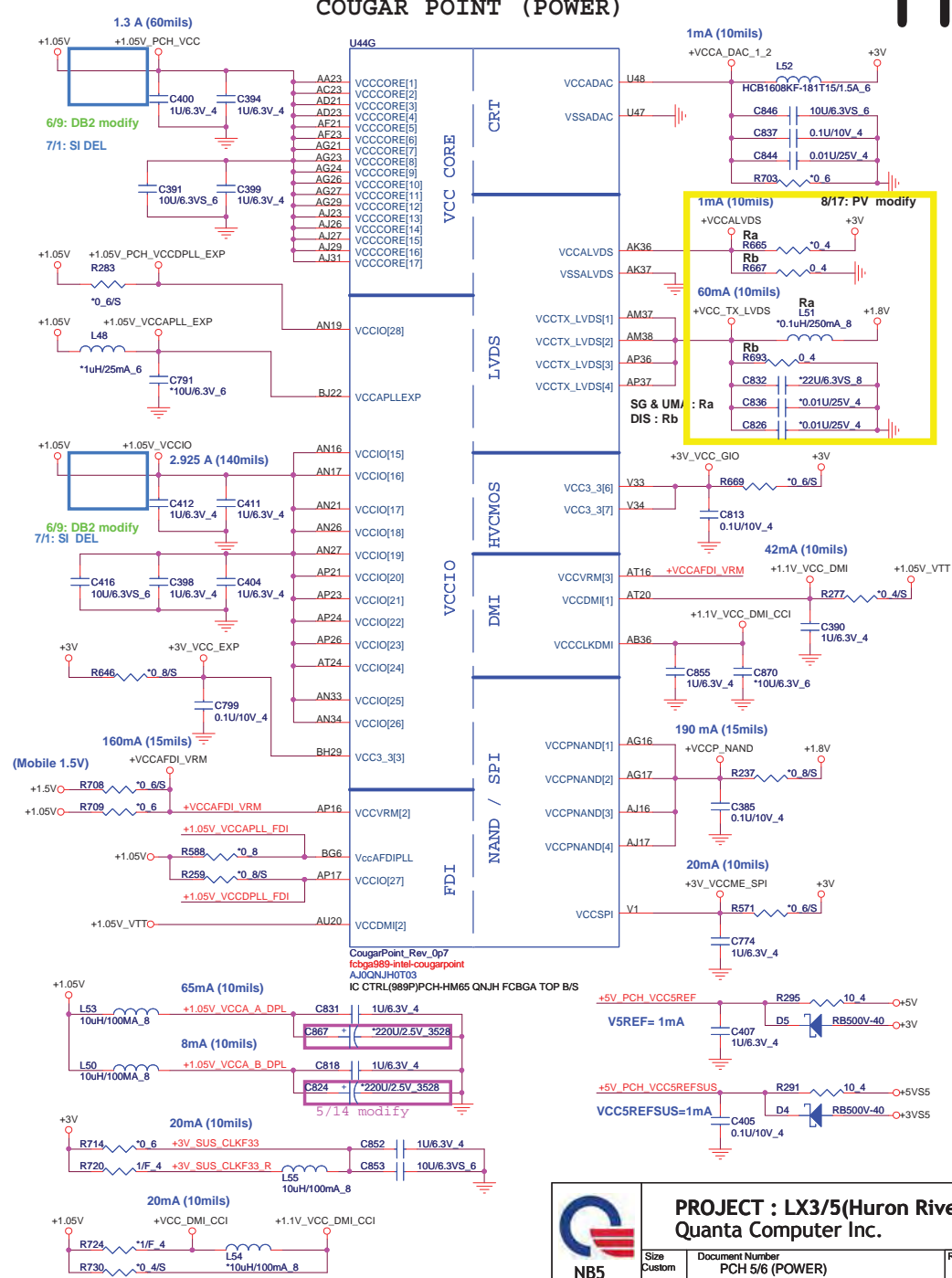


**PROJECT : LX3/5(Huron River)**  
**Quanta Computer Inc.**

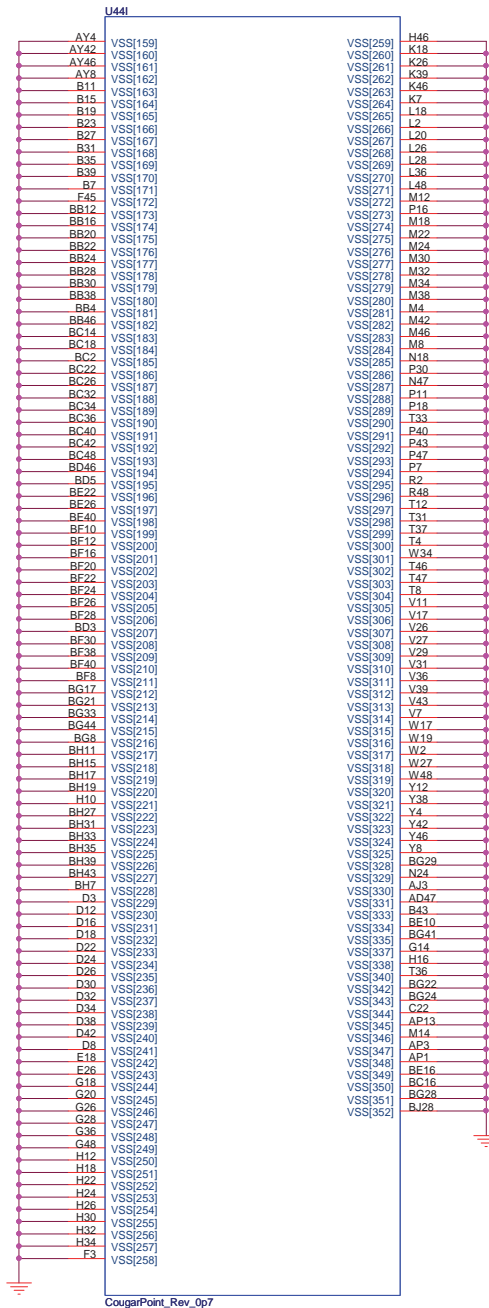
Size Custom	Document Number PCH 4/6 (GPIO/MISC)	Rev 1A
Date: Wednesday, October 13, 2010		Sheet 10 of 47



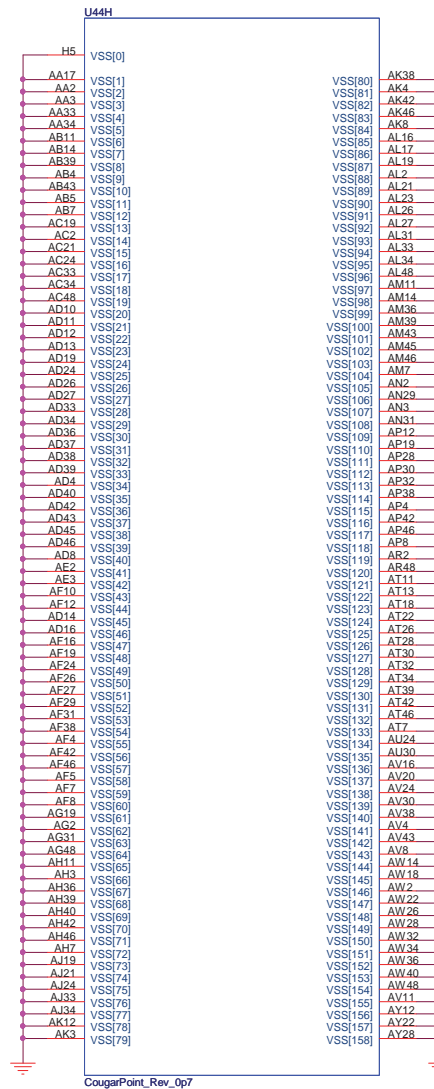
## COUGAR POINT (POWER)



IBEX PEAK-M (GND)



IBEX PEAK-M (GND)

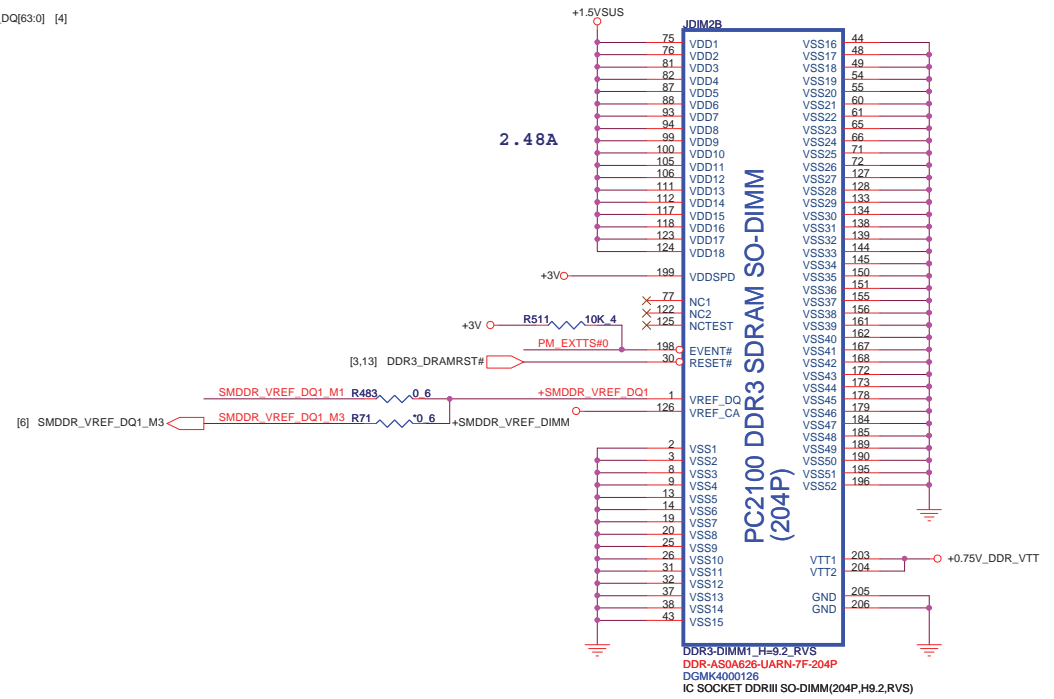




4/27: layout modify  
5/23: na    6/28: SI del C717

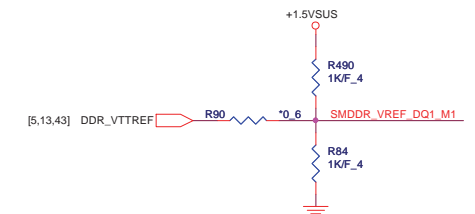
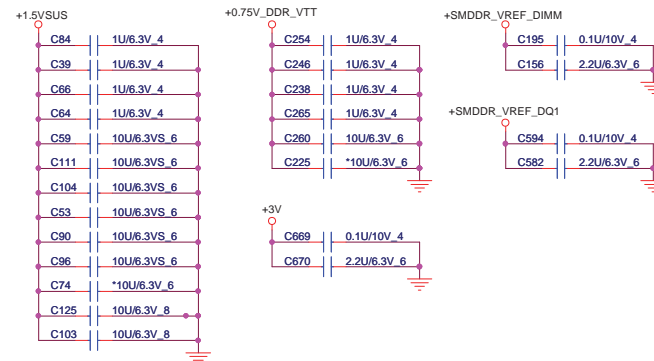






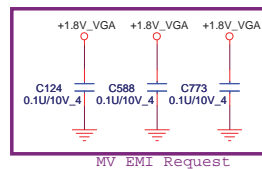
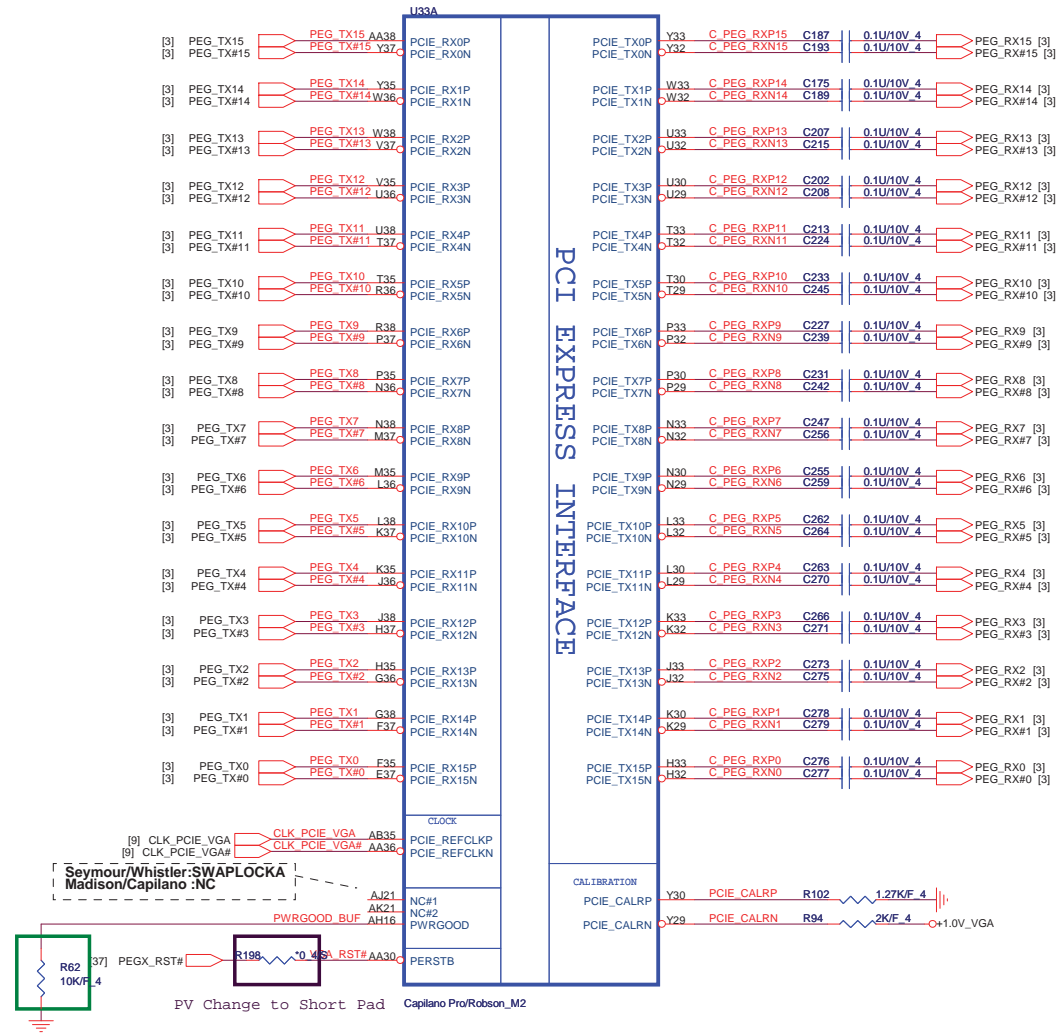
### VREF DQ1 M1 Solution

6/23 : Del M2 solution

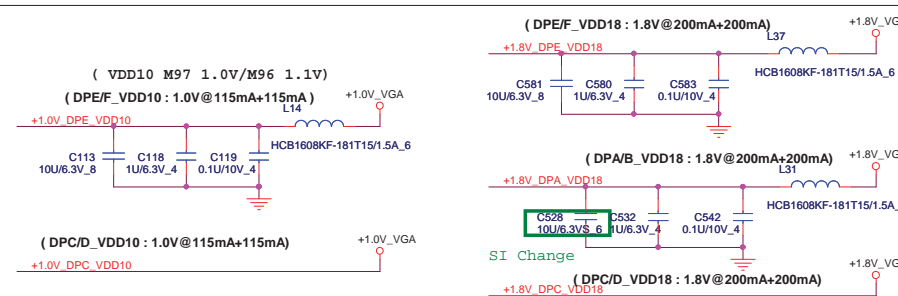


4/29 reserve M2 solution

## PCI EXPRESS INTERFACE



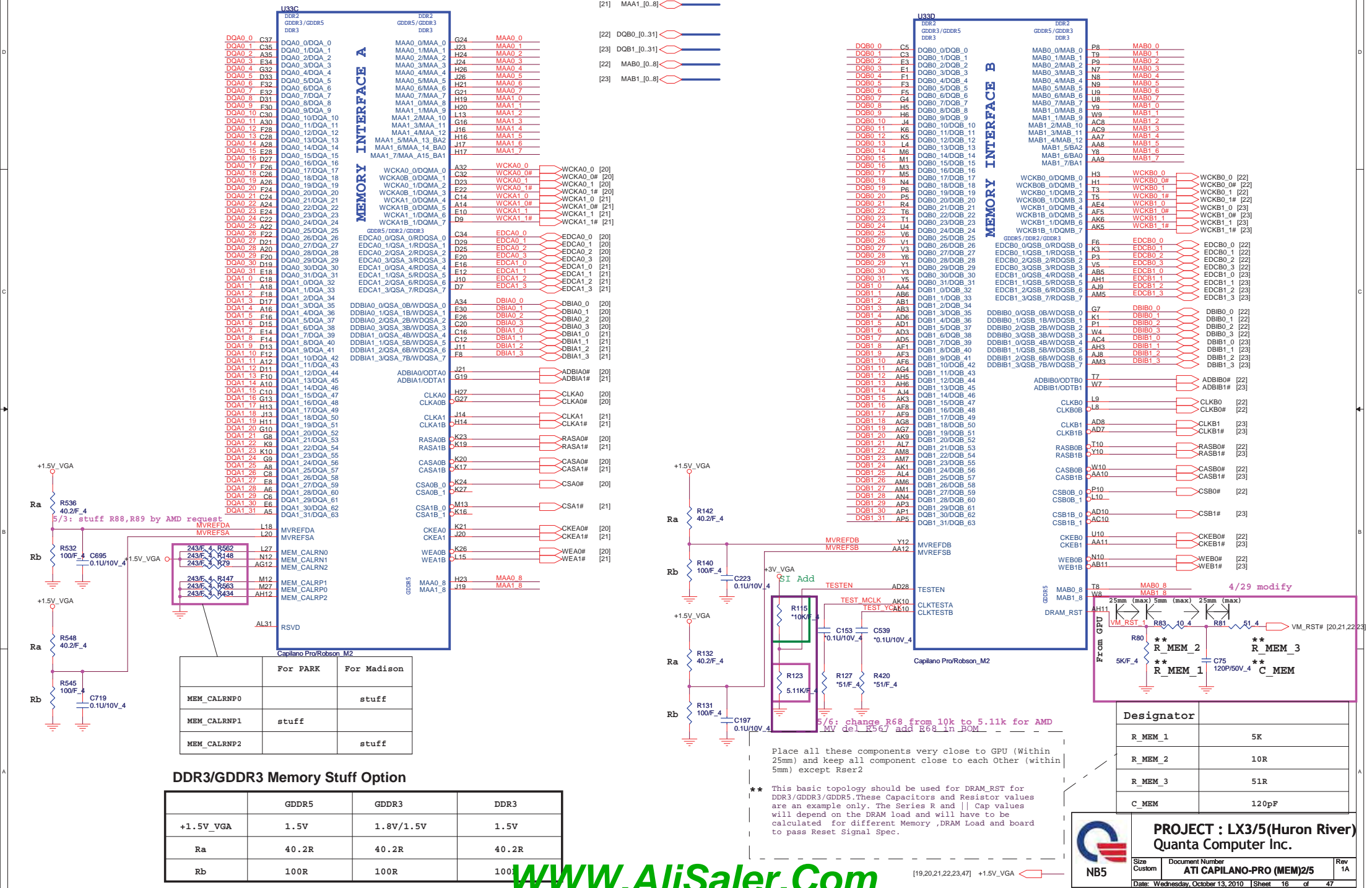
SI Del R43,R38,C57

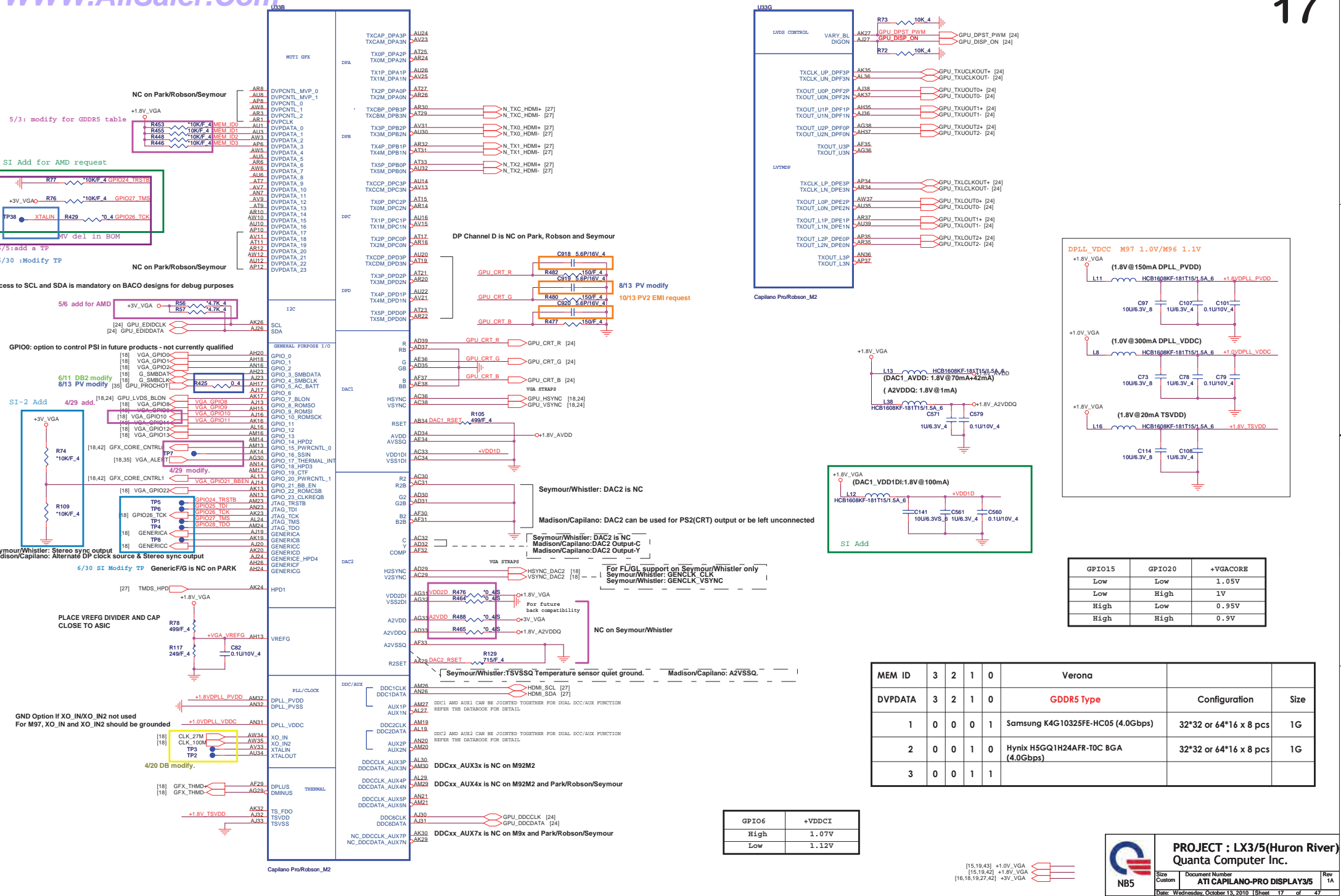


**PROJECT : LX3/5(Huron River)**  
**Quanta Computer Inc.**

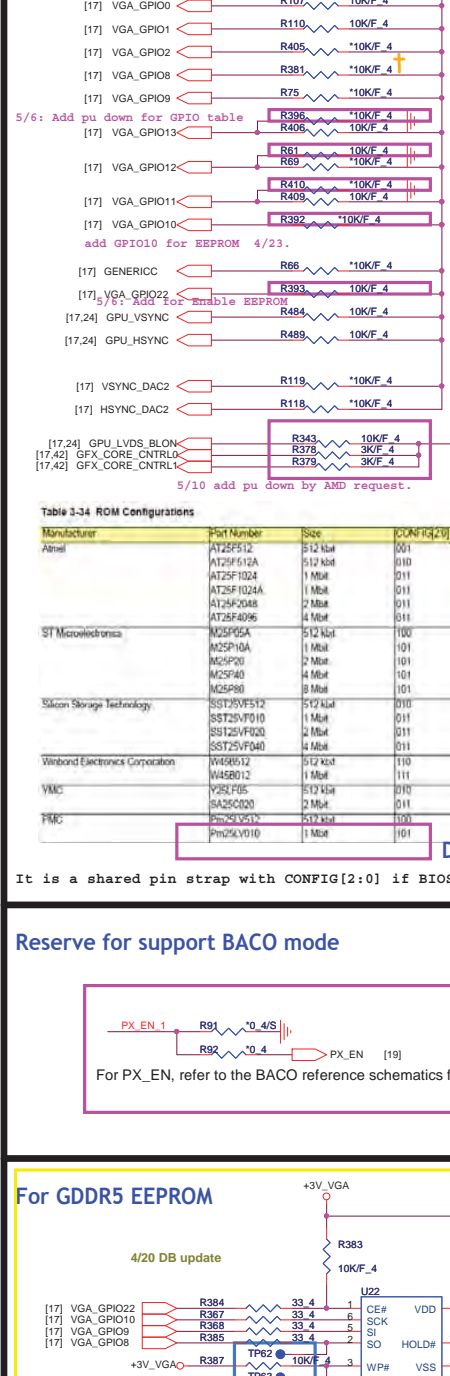
Size Custom Document Number  
**CATI APILANO-PRO (MEM)1/5**  
Date: Wednesday, October 13, 2010 Sheet 15 of 47

### Park, M92M Use Channel B Memory Interface Only









### 27MHz + 100MHz OSC Option

4/29 reserve PCH\_CLK

6/23: SI modify

5/10 modify

TP60

Y3

27MHZ

1M/F\_4

C551

12P/50V\_4

C543

12P/50V\_4

TP61

R444

R447

R451

R452

R442

R437

10K/F\_4

10K/F\_4

10K/F\_4

10K/F\_4

SS\_SELO

SS\_SEL1

+3V

+3V\_VGA

L7

L4

HCB1608KF-181T15\_6

\*HCB1608KF-181T15\_6

C537

C556

SS\_SELO

SS\_SEL1

1.1U/10V\_4

1.1U/10V\_4

U28

XTALIN

XTALOUT

100M\_OUT

27M\_OUT

GND\_100M

GND\_27M

GND\_PAD

SL16010DCT

R449

R445

R433

R435

0.4/S

0.4/S

0.4/S

0.4/S

C546

C530

10P/50V\_4

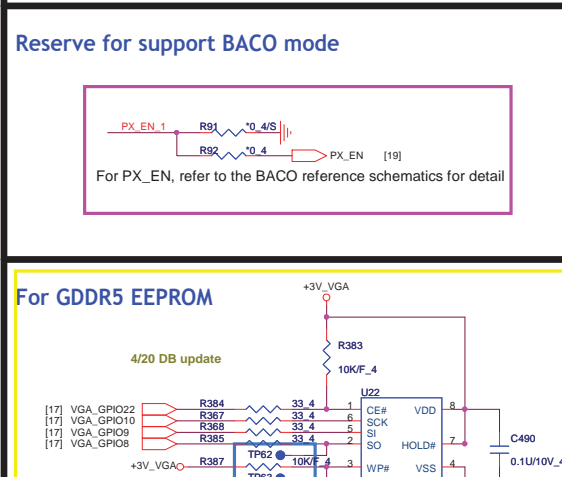
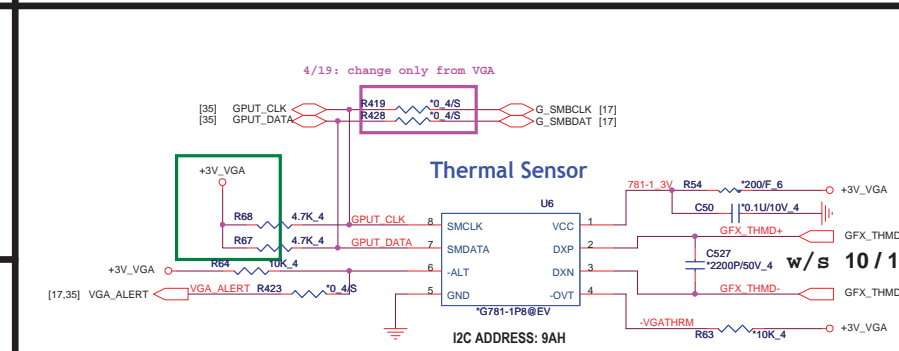
10P/50V\_4

GENERICA [17]

CLK\_100M [17]

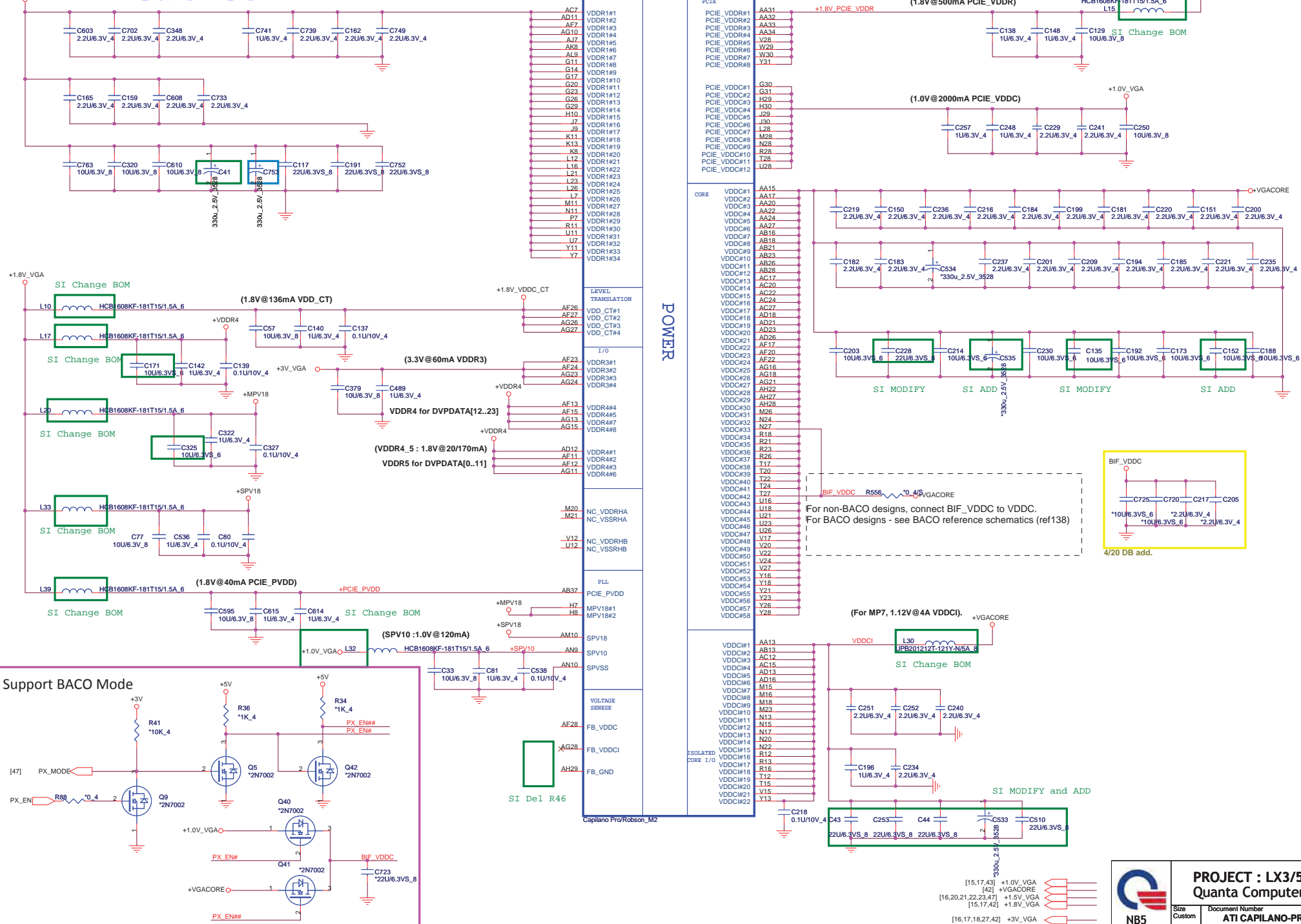
GPIO26\_TCK [11]

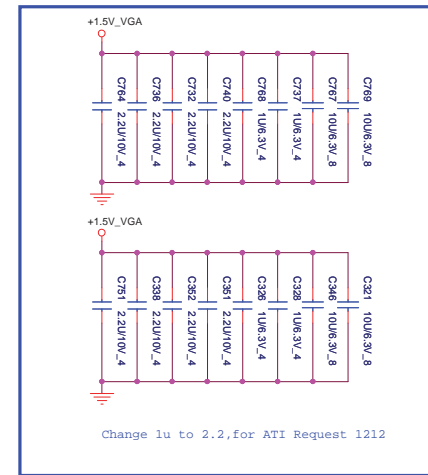
CLK\_27M [17]

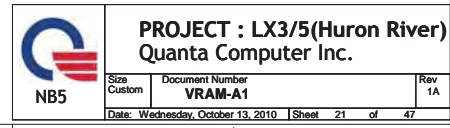


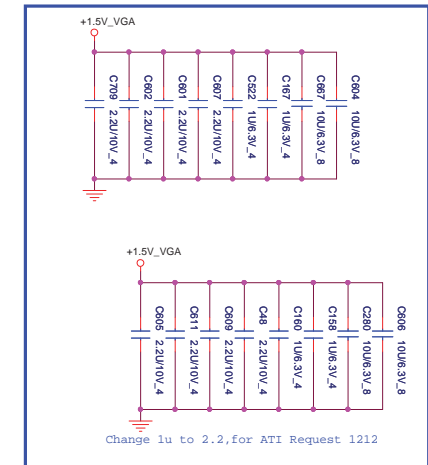
**WWW.AliSaler.Com**

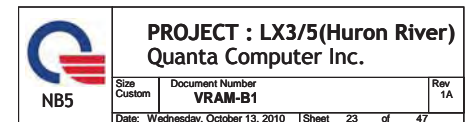








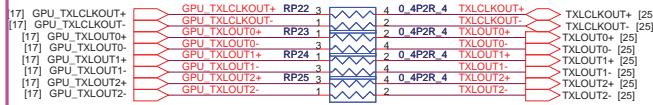






FOR DIS ONLY

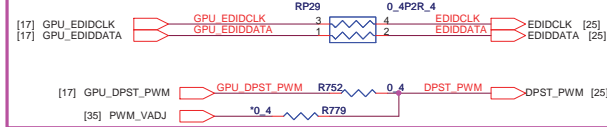
OPTION SIGNAL FROM NB to LVDS for DIS



OPTION Back Light SIGNAL FROM NB to LVDS for DIS

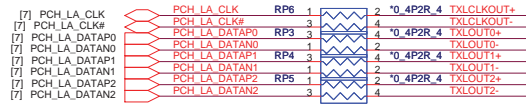


OPTION SIGNAL FROM NB to LVDS for DIS

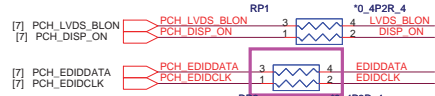


FOR UMA ONLY

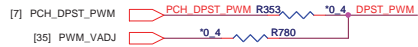
OPTION SIGNAL FROM NB to LVDS for UMA



OPTION Back Light SIGNAL FROM NB to LVDS for UMA



OPTION SIGNAL FROM NB to LVDS for UMA

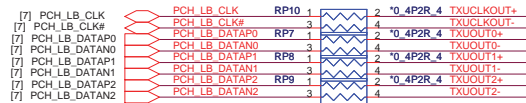


FOR UMA/SG

FOR 17"DIS ONLY

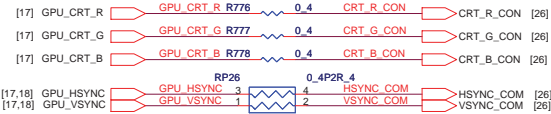


FOR 17"UMA ONLY

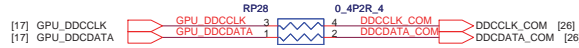


FOR DIS ONLY

OPTION SIGNAL FROM NB to CRT for DIS

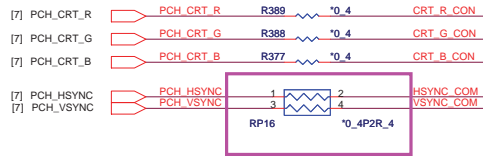


OPTION SIGNAL FROM NB to CRT for DIS



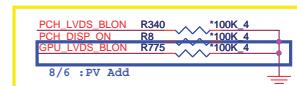
FOR UMA ONLY

OPTION SIGNAL FROM NB to CRT for UMA

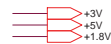


5/11: for Layout modify

OPTION SIGNAL FROM NB to CRT for UMA



9/26 :MV Modify

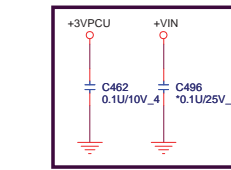
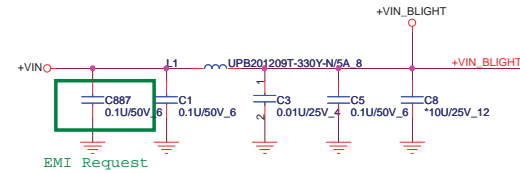
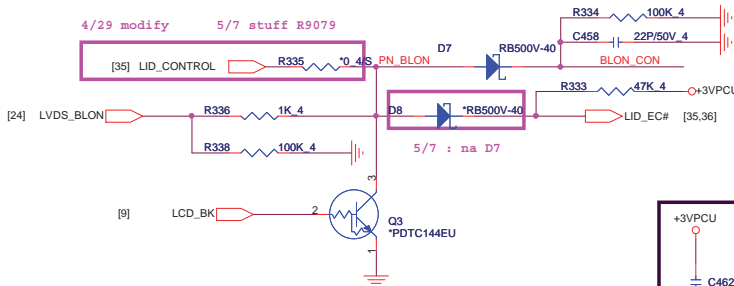
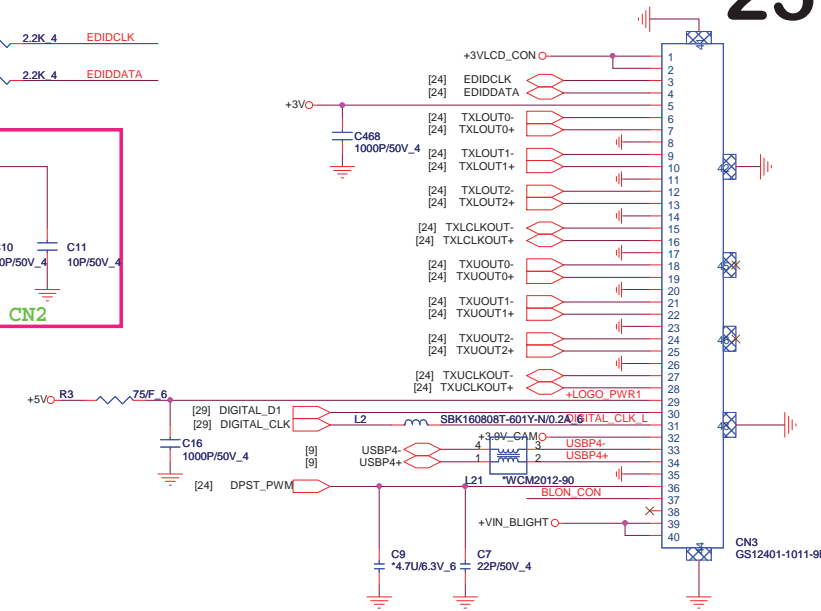
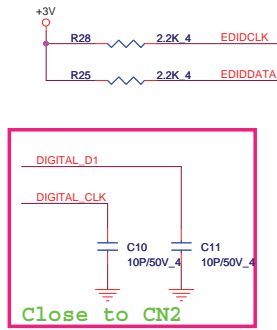
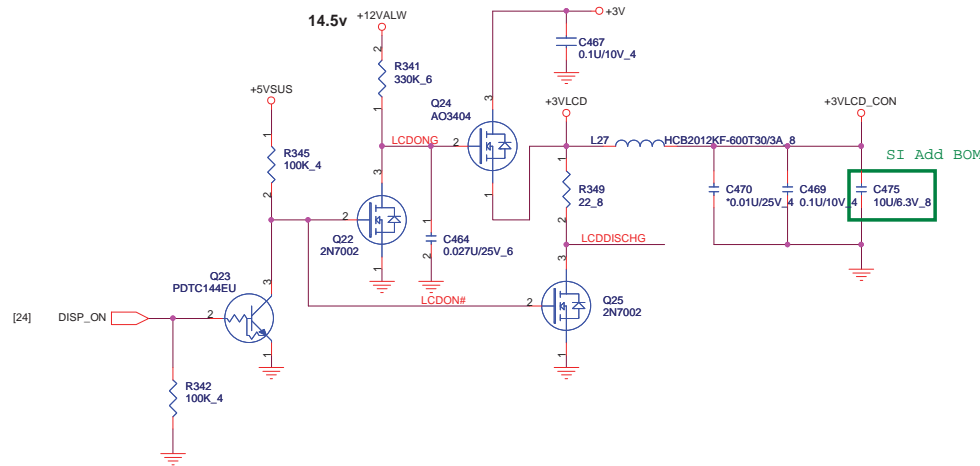


[3,7,8,9,10,11,13,14,18,19,25,26,27,28,29,30,31,32,33,34,35,36,37,39,40,41,43,45,46,47]  
[7,8,11,19,25,26,27,29,30,32,34,36,37,45]  
[5,8,11,39,45]

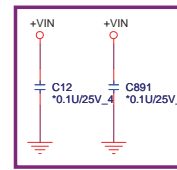


PROJECT : LX3/5(Huron River)  
Quanta Computer Inc.

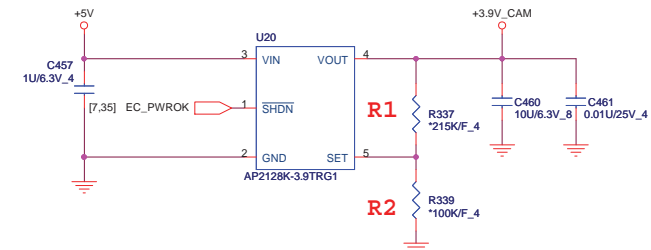
Size Custom	Document Number <b>SWITCHABLE</b>	Rev 1A
Date: Wednesday, October 13, 2010	Sheet 24 of 47	



PV EMI request



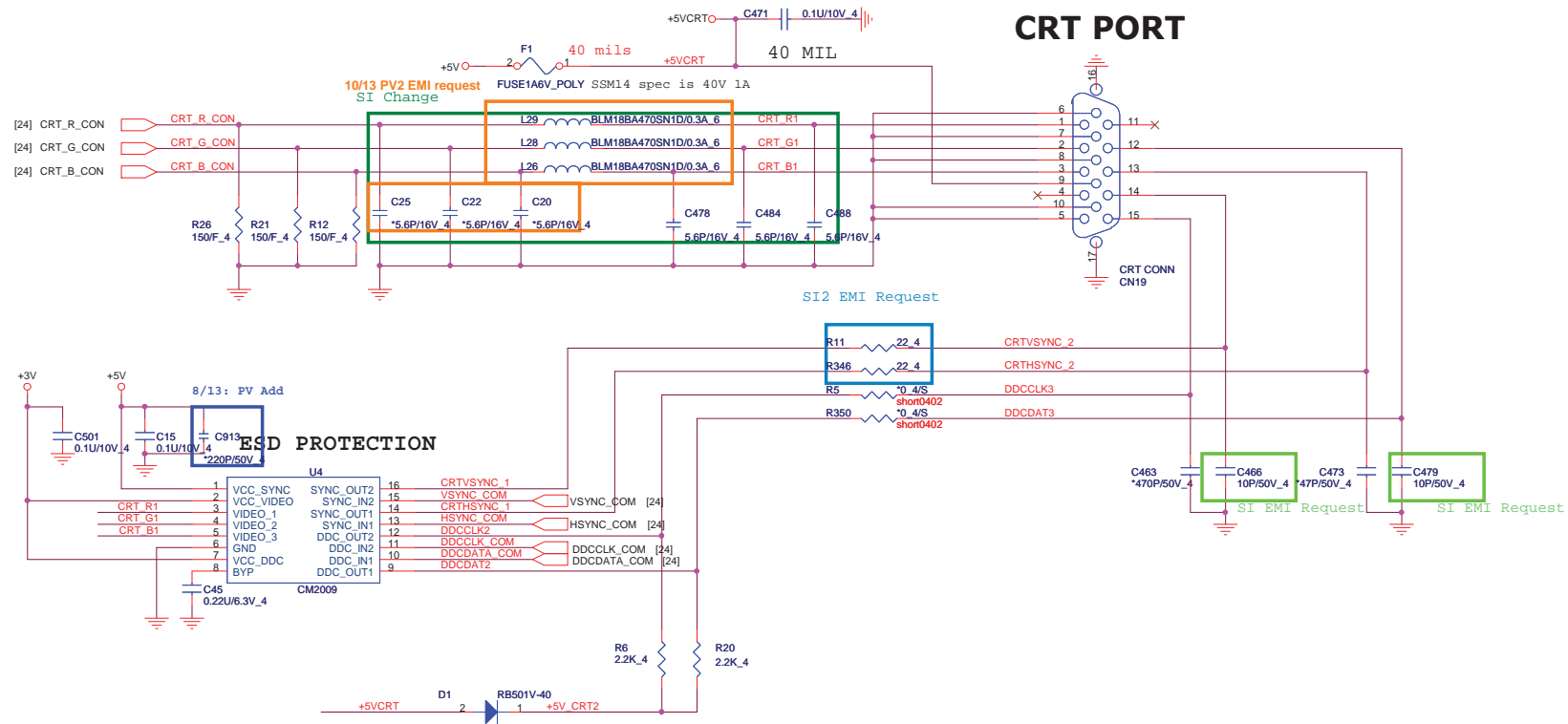
MV EMI Request



$$V_{out} = 1.25 (1 + R1/R2)$$

[3,7,8,9,10,11,13,14,18,19,26,27,28,29,30,31,32,33,34,35,36,37,39,40,41,43,45,46,47] +3V  
 [7,8,11,19,26,27,29,30,32,34,36,37,45] +5V  
 [31,38,39,41,42,43,44,45] +VIN  
 [7,8,32,34,35,36,37,38,39,40,42,44,45,47] +3VPCU  
 [34,37,42,44,45] +12VALW

	PROJECT : LX3/5(Huron River) Quanta Computer Inc.		
	Size Custom	Document Number LCD CONN/LID function	Rev 1A
Date: Wednesday, October 13, 2010   Sheet 25 of 47			



## DIS/SG HDMI

[17] N_TXC_HDMI-	N_TXC_HDMI-	C618	0.1U/10V_4	C_TXC_HDMI-
[17] N_TXC_HDMI+	N_TXC_HDMI+	C620	0.1U/10V_4	C_TXC_HDMI+
[17] N_TX0_HDMI-	N_TX0_HDMI-	C624	0.1U/10V_4	C_TX0_HDMI-
[17] N_TX0_HDMI+	N_TX0_HDMI+	C630	0.1U/10V_4	C_TX0_HDMI+
[17] N_TX1_HDMI-	N_TX1_HDMI-	C637	0.1U/10V_4	C_TX1_HDMI-
[17] N_TX1_HDMI+	N_TX1_HDMI+	C641	0.1U/10V_4	C_TX1_HDMI+
[17] N_TX2_HDMI-	N_TX2_HDMI-	C649	0.1U/10V_4	C_TX2_HDMI-
[17] N_TX2_HDMI+	N_TX2_HDMI+	C655	0.1U/10V_4	C_TX2_HDMI+

[17] HDMI_SDA	HDMI_SDA	R473	0.4	HDMI_SDA_R
[17] HDMI_SCL	HDMI_SCL	R468	0.4	HDMI_SCL_R

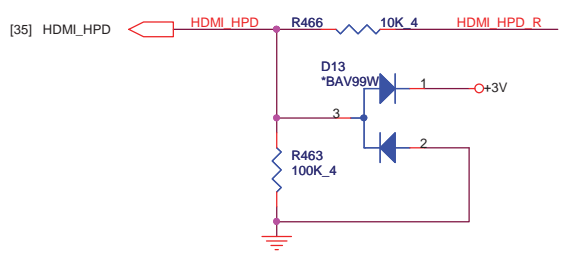
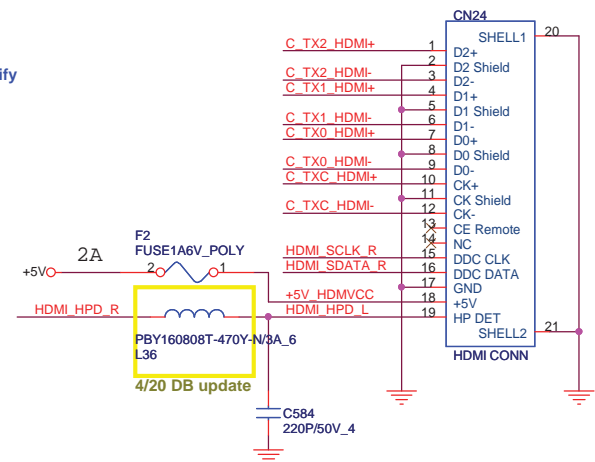
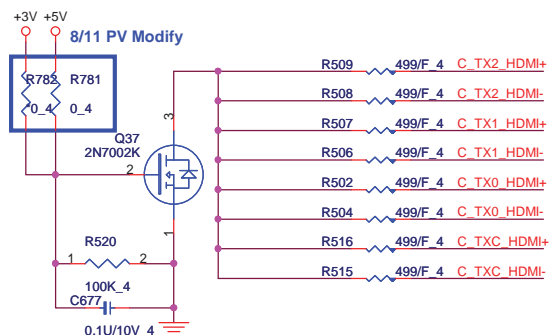
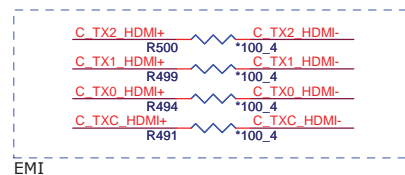
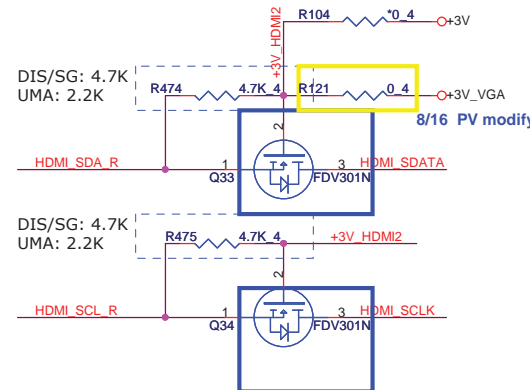
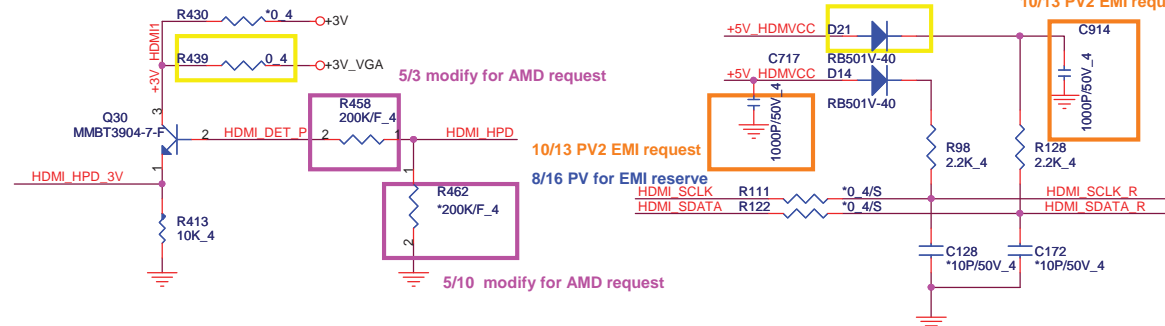
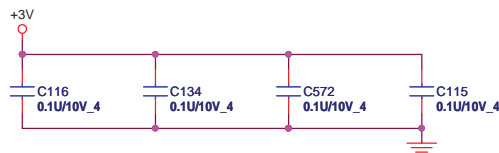
[17] TMDS_HPD	TMDS_HPD	R421	0.4	HDMI_HPD_3V
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## UMA ONLY HDMI

[7] IN_CLK#	IN_CLK#	C190	*0.1U/10V_4	C_TXC_HDMI-
[7] IN_CLK	IN_CLK	C204	*0.1U/10V_4	C_TXC_HDMI+
[7] IN_D0#	IN_D0#	C210	*0.1U/10V_4	C_TX0_HDMI-
[7] IN_D0	IN_D0	C222	*0.1U/10V_4	C_TX0_HDMI+
[7] IN_D1#	IN_D1#	C243	*0.1U/10V_4	C_TX1_HDMI-
[7] IN_D1	IN_D1	C244	*0.1U/10V_4	C_TX1_HDMI+
[7] IN_D2#	IN_D2#	C268	*0.1U/10V_4	C_TX2_HDMI-
[7] IN_D2	IN_D2	C269	*0.1U/10V_4	C_TX2_HDMI+

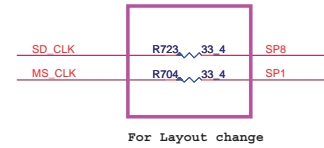
[7] SDVO_DATA	SDVO_DATA	R486	*0.4	HDMI_SDA_R
[7] SDVO_CLK	SDVO_CLK	R487	*0.4	HDMI_SCL_R

[7] HDMI_HPD_CON	HDMI_HPD_CON	R418	*0.4	HDMI_HPD_3V
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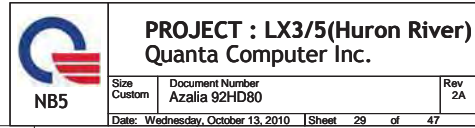


**PROJECT : LX3/5(Huron River)**  
**Quanta Computer Inc.**

Size Custom	Document Number <b>KB/POWER CONN</b>	Rev 1A
Date: Wednesday, October 13, 2010   Sheet 27 of 47		

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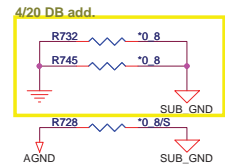
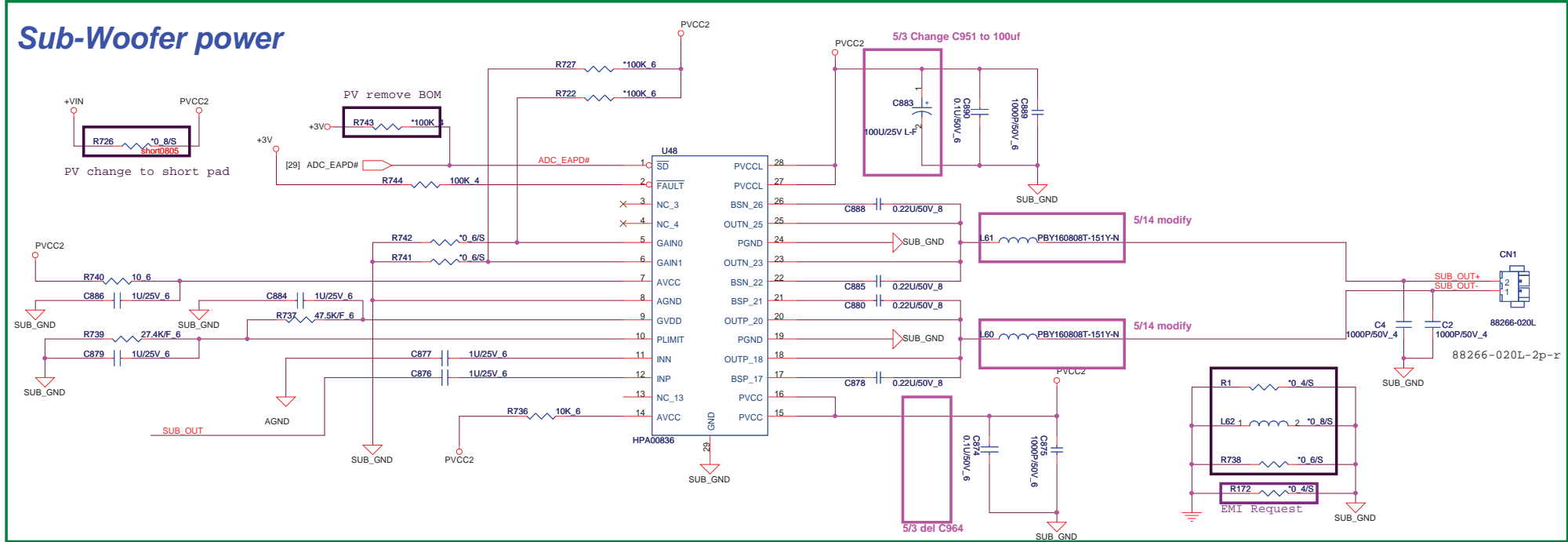
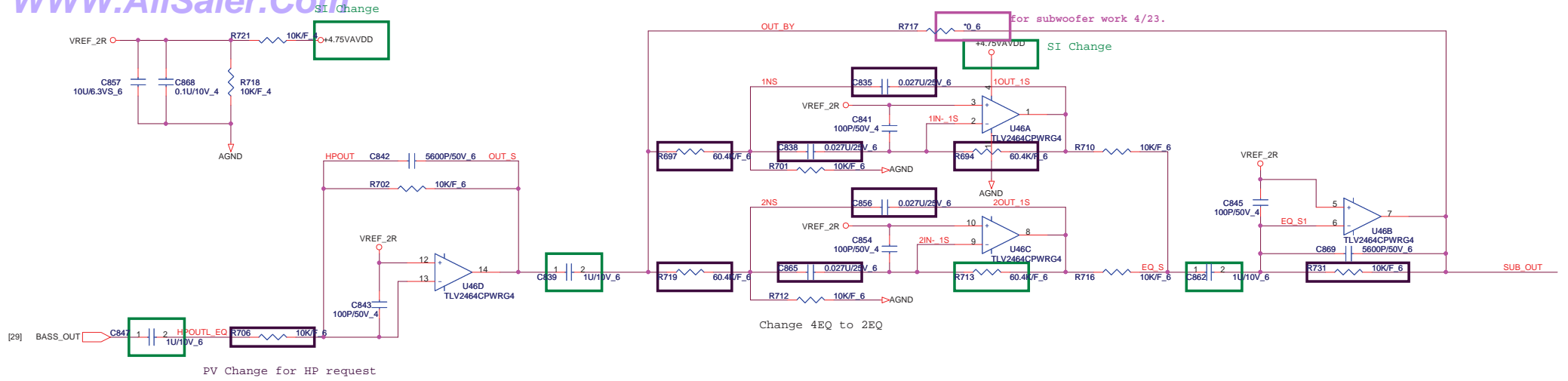




## Accelerometer Sensor



 <b>NB5</b>	<b>PROJECT : LX3/5(Huron River)</b> <b>Quanta Computer Inc.</b>		
	<b>Size</b> Custom	<b>Document Number</b> <b>Audio Jack/Accelerometer</b>	<b>Rev</b> 1A
Date: Wednesday, October 13, 2010    Sheet   30   of   47			



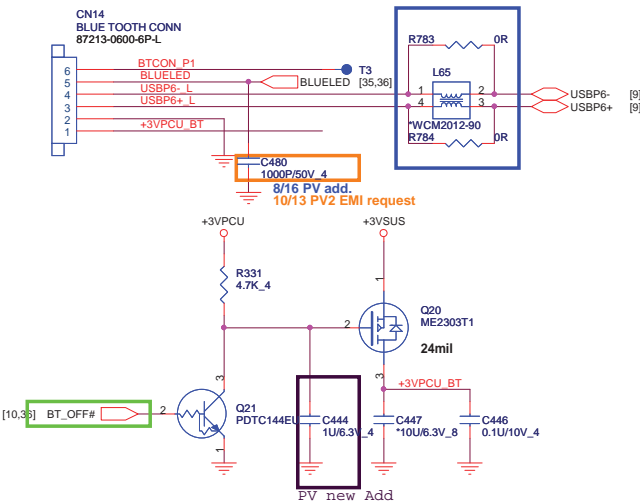
GAIN1	GAIN0	dB
0	0	12
0	1	18
1	0	23.6
1	1	36

+3V [3,7,8,9,10,11,13,14,18,19,25,26,27,28,29,30,32,33,34,35,36,37,39,40,41,43,44,45]  
+4.75VAVDD [29]  
+VIN [25,36,39,41,42,43,44,45]

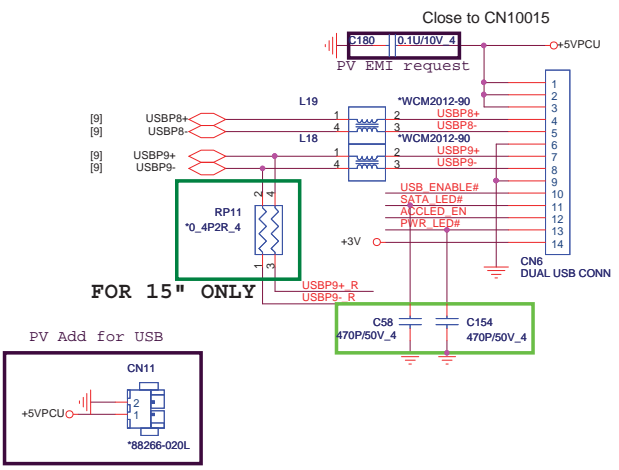
PROJECT : LX3/5(Huron River)  
Quanta Computer Inc.

Size Custom Document Number SUBWOOFER (EQ & AMP.) Rev 1A

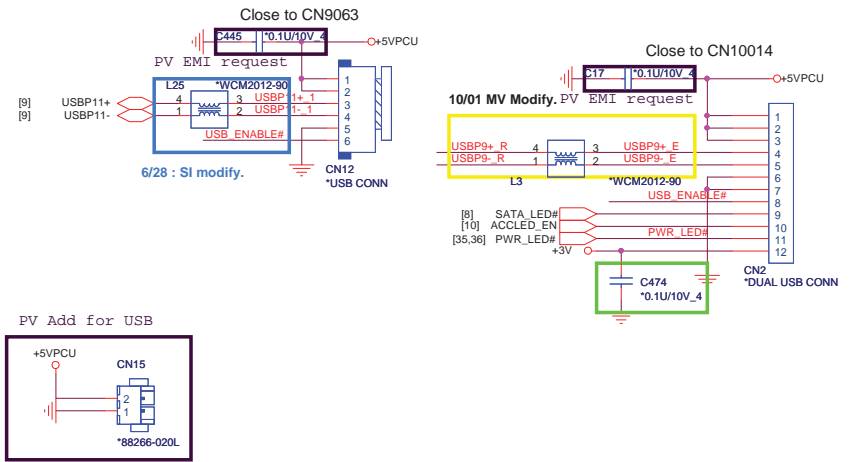
Date: Wednesday, October 13, 2010 Sheet 31 of 47



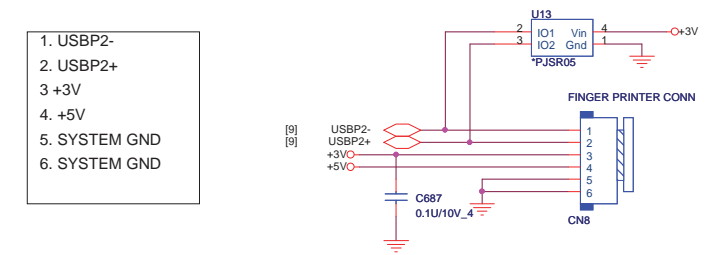
RIGHT SIDE USBX2 for 17"



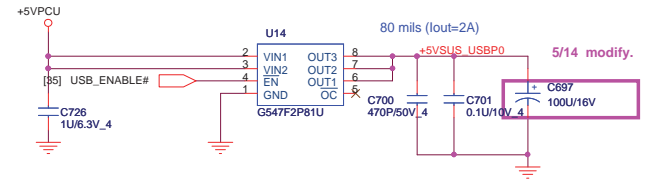
RIGHT SIDE USB for 15"



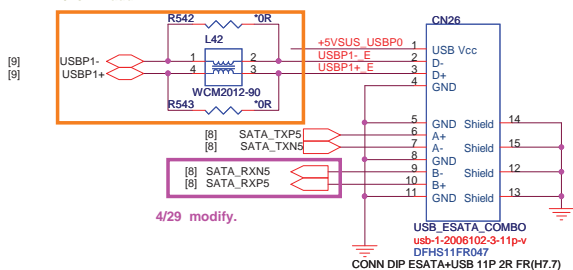
USB fingerprint CON



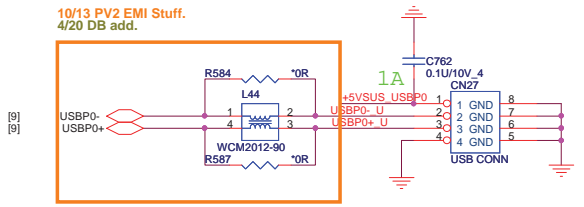
E-SATA



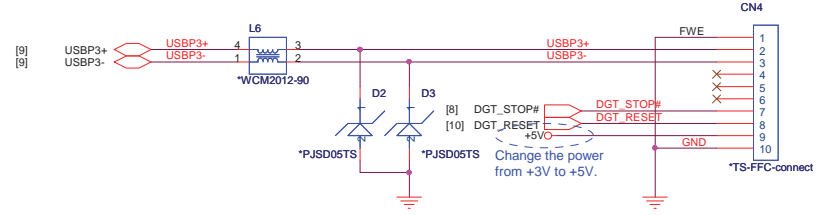
10/13 PV2 EMI Stuff.



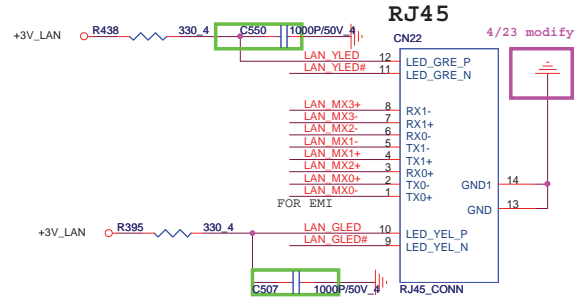
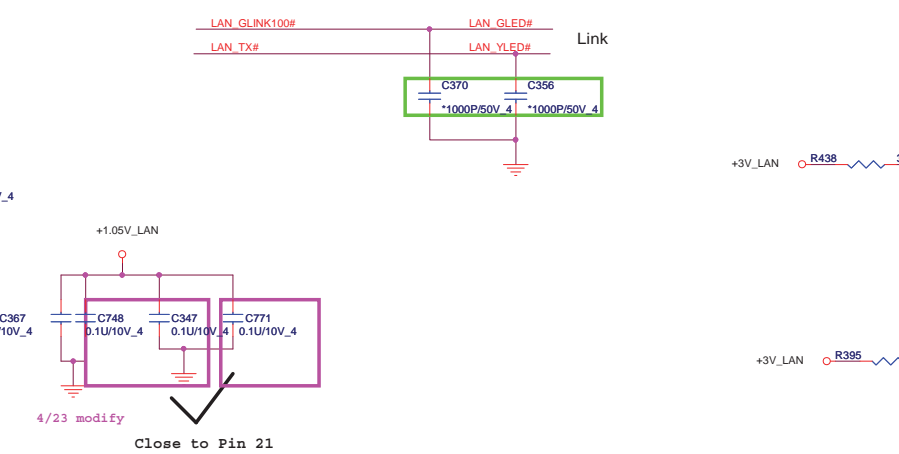
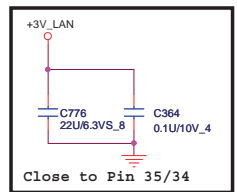
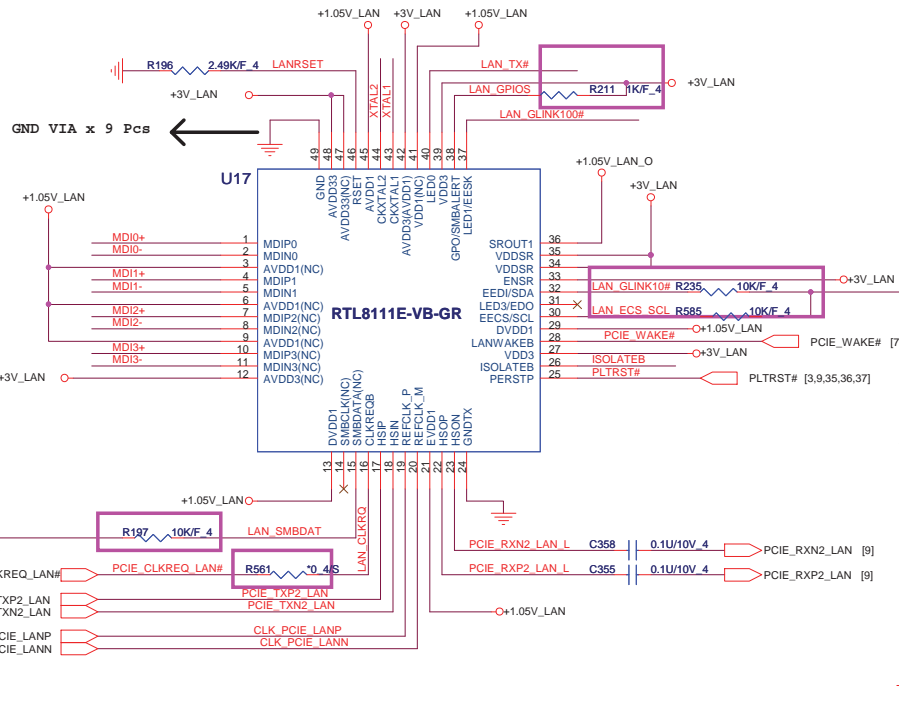
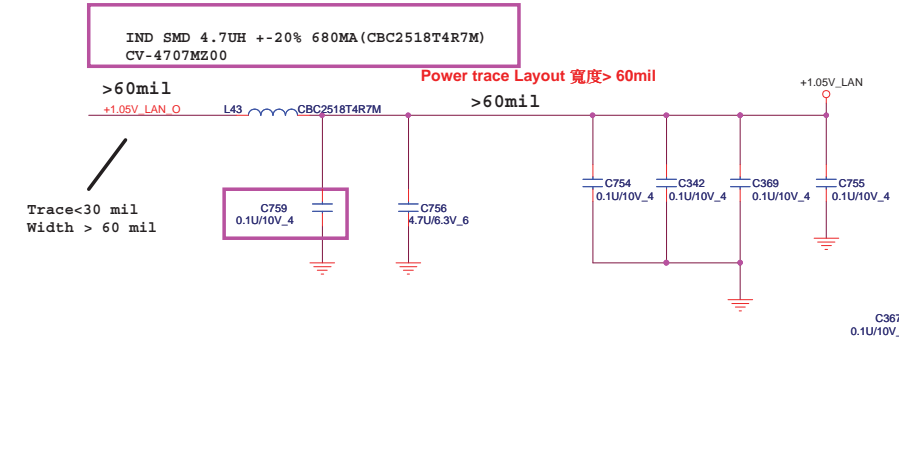
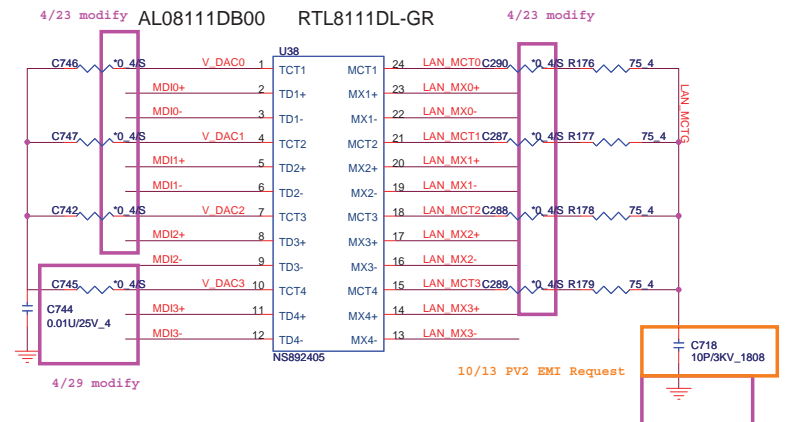
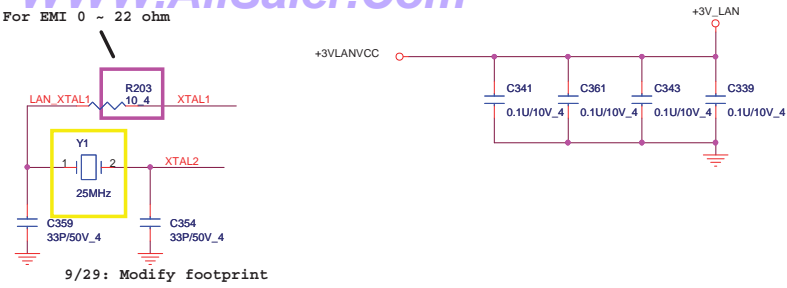
LEFT USB PORT



Touch screen for 15"

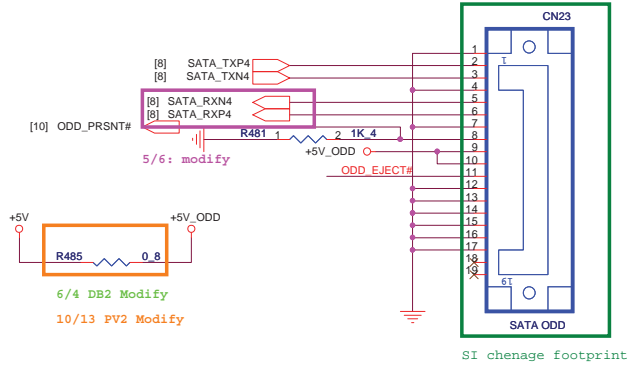
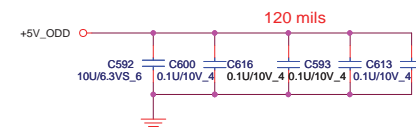
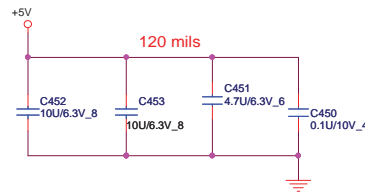
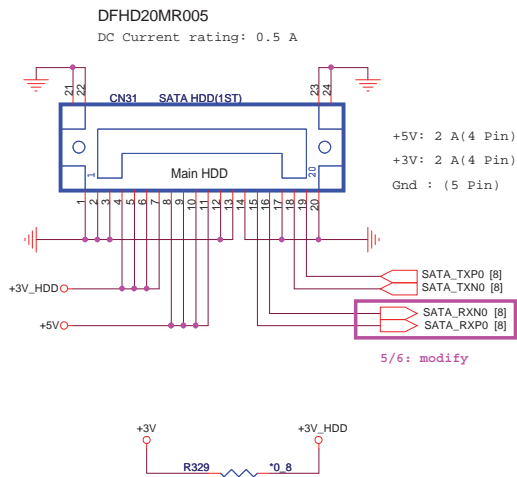


For EMI 0 ~ 22 ohm

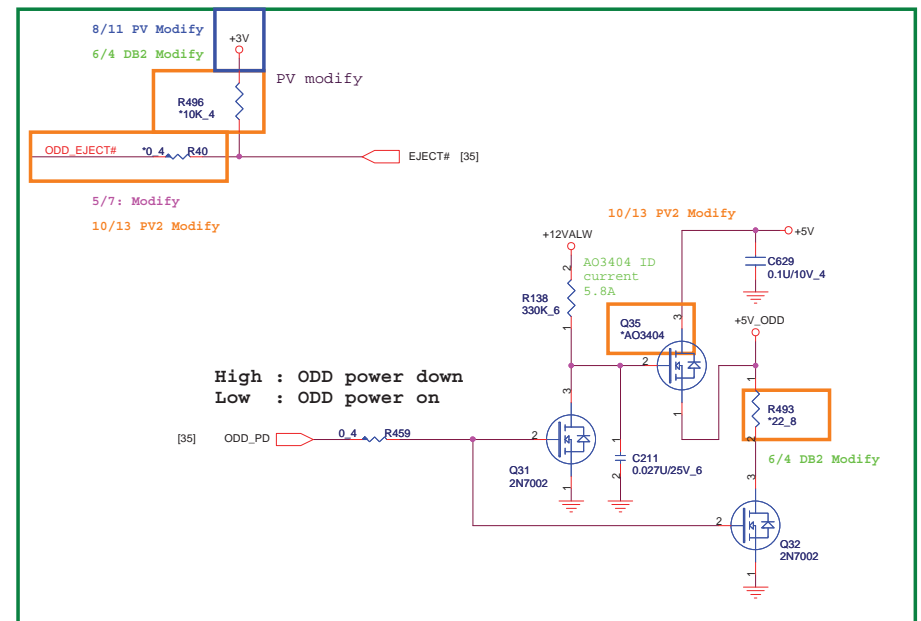
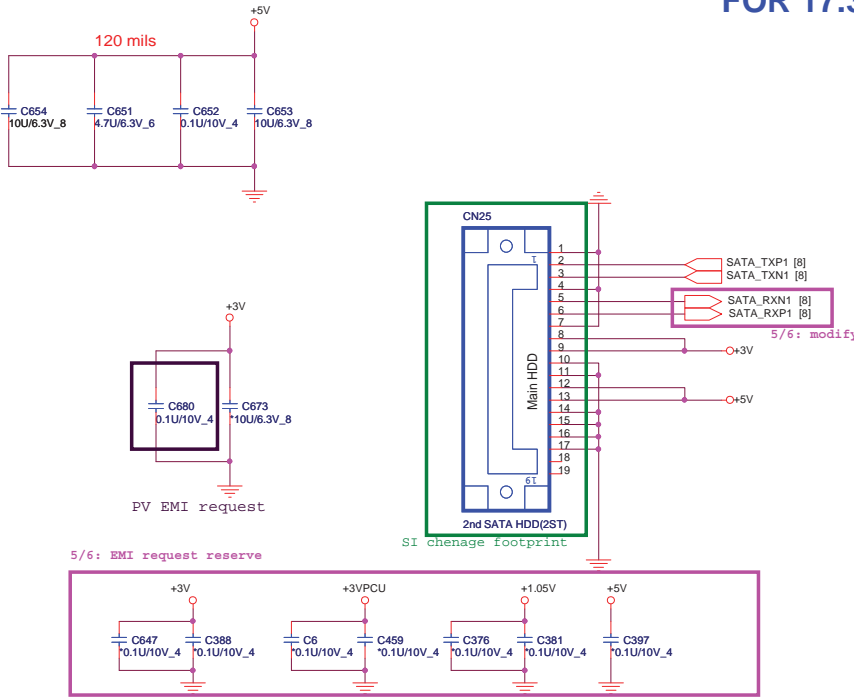


	PROJECT : LX3/5(Huron River)		
	Quanta Computer Inc.		
	Size Custom	Document Number	Rev 1A
		RTL 8111EL/RJ45	
	Date: Wednesday, October 13, 2010	Sheet 33	of 47



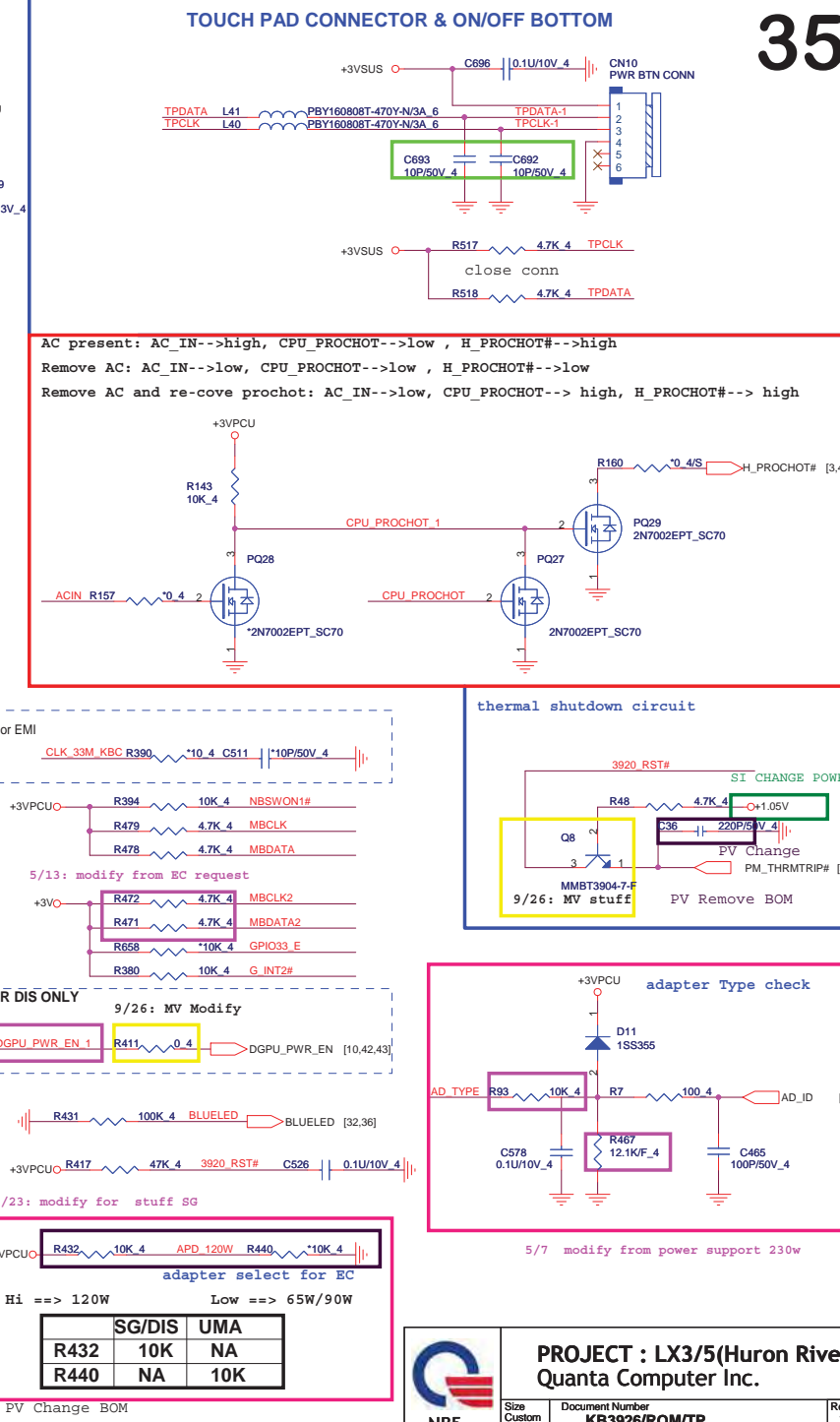
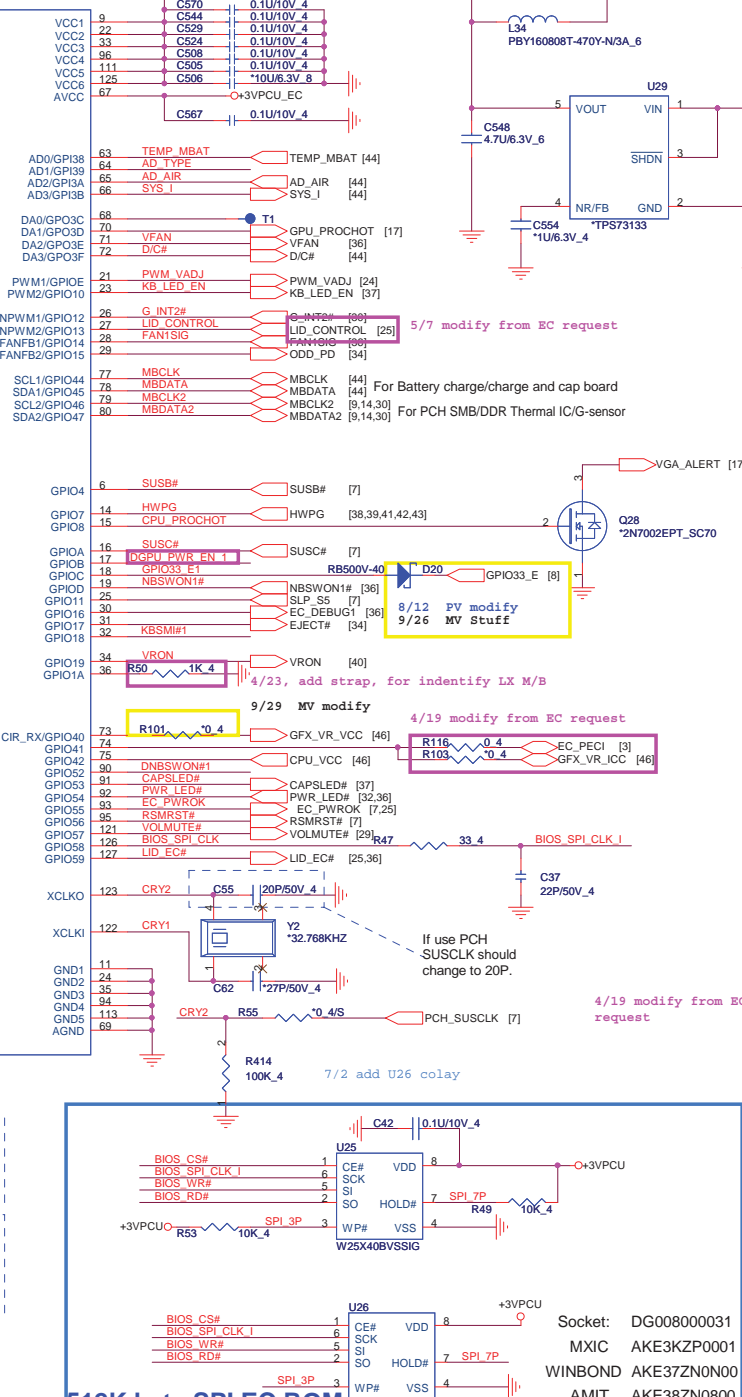
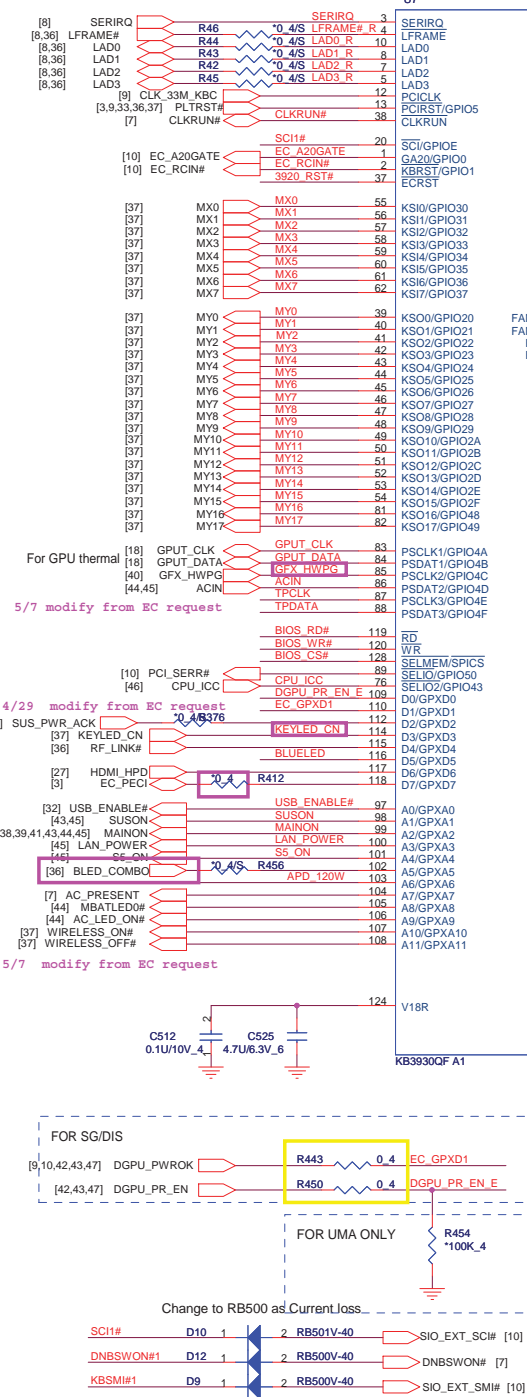


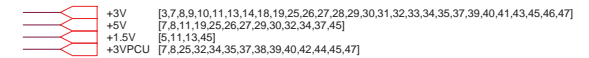
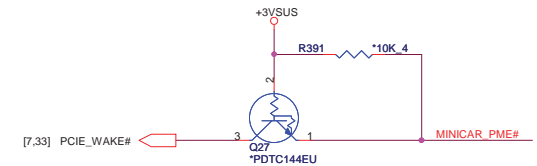
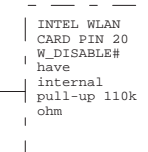
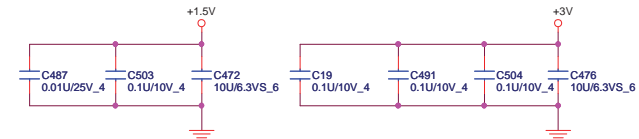
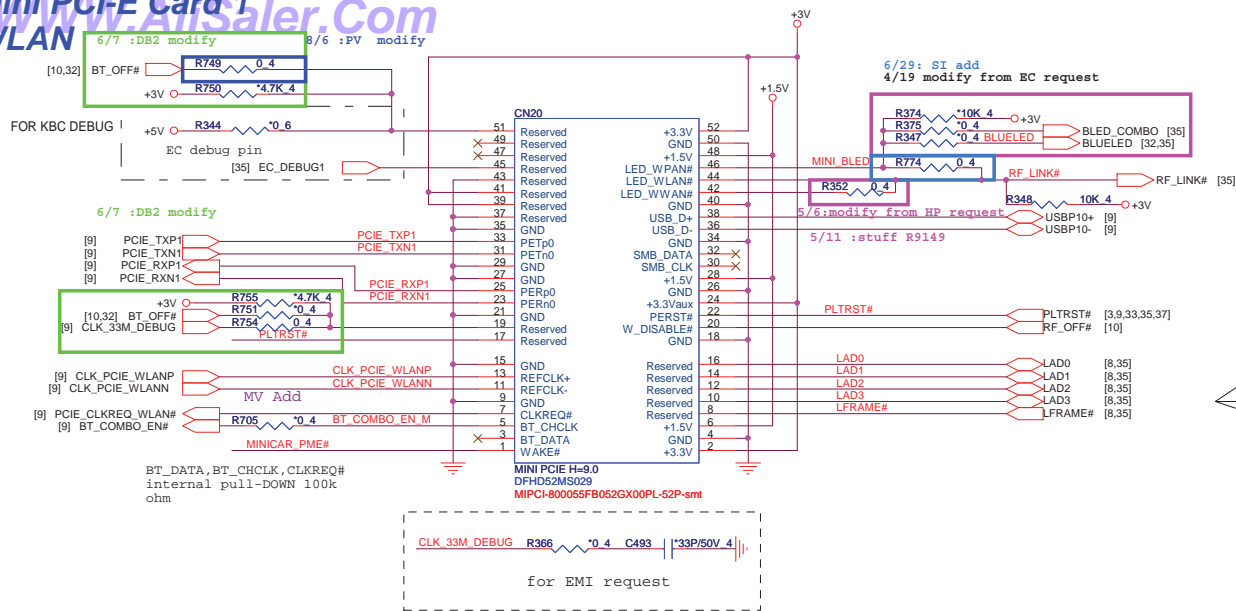
SATA\_2 CONNECTOR FOR 17.3"



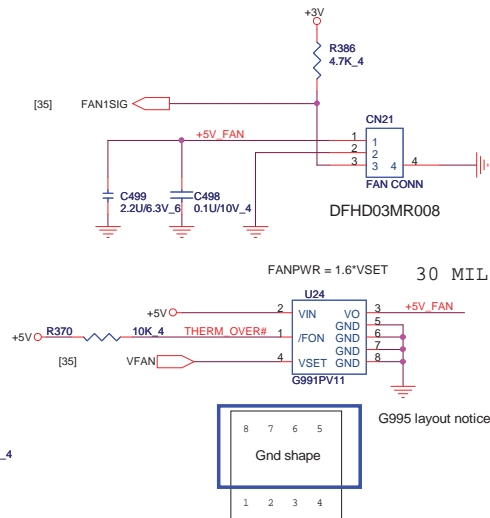
- +3VPCU [7,8,25,32,35,36,37,38,39,40,42,44,45,47]
- +1.05V [7,8,9,11,35,41]
- +3V [3,7,8,9,10,11,13,14,18,19,25,26,27,28,29,30,31,32,33,35,36,37,39,40,41,43,45,46,47]
- +5V [7,8,11,19,25,26,27,29,30,32,36,37,45]
- +12VALW [25,37,42,44,45]

			<b>PROJECT : LX3/5(Huron River)</b> <b>Quanta Computer Inc.</b>	
Size Custom	Document Number <b>ODD/HDD/ANT</b>	Rev 1A		
Date: Wednesday, October 13, 2010   Sheet 34 of 47				

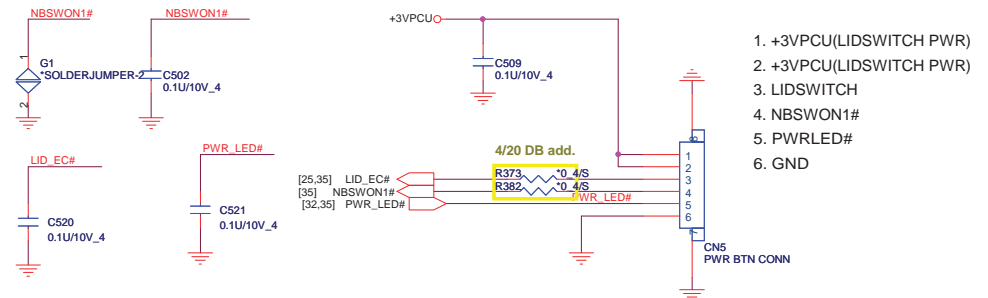


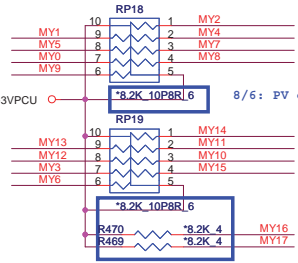


## CPU FAN

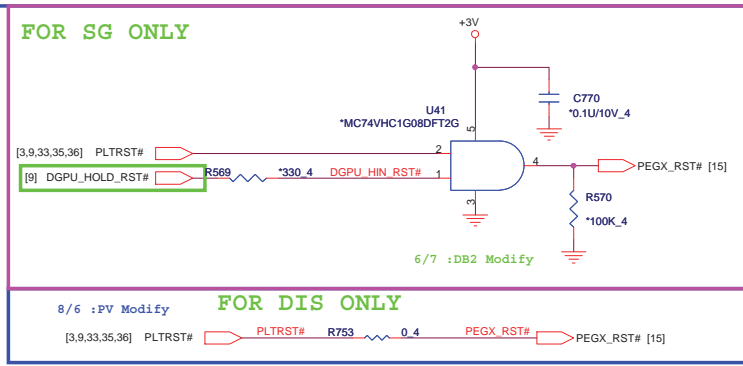
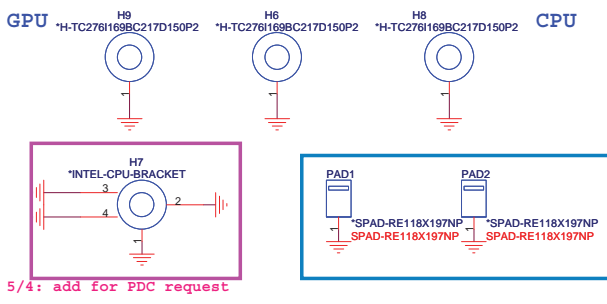
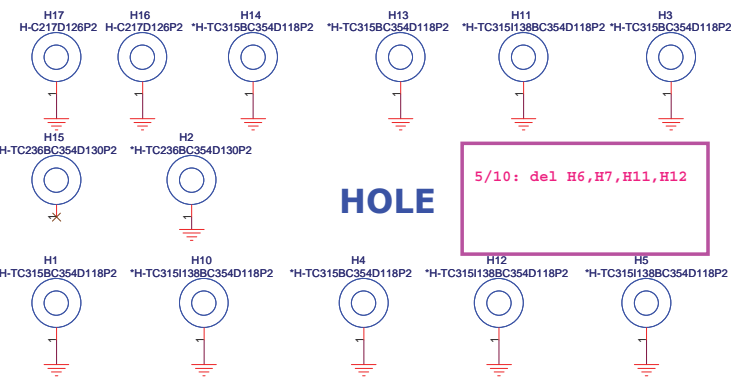
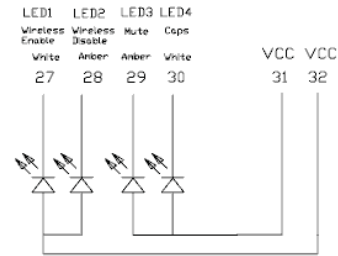
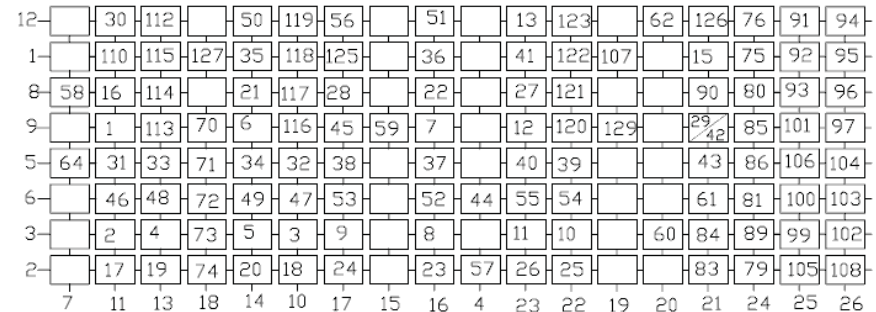
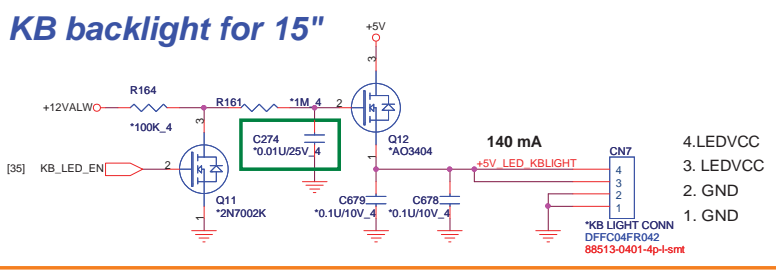
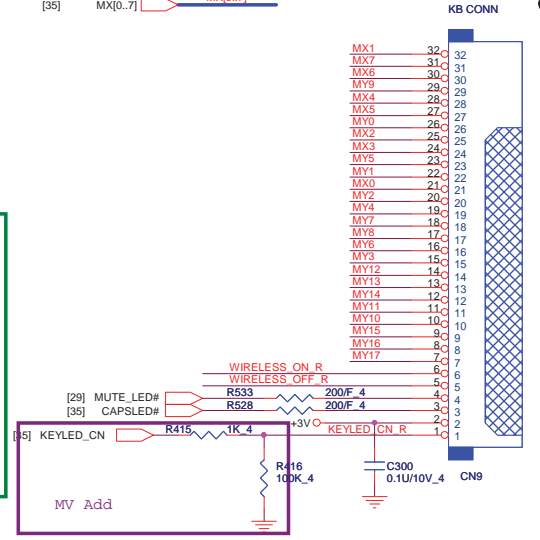
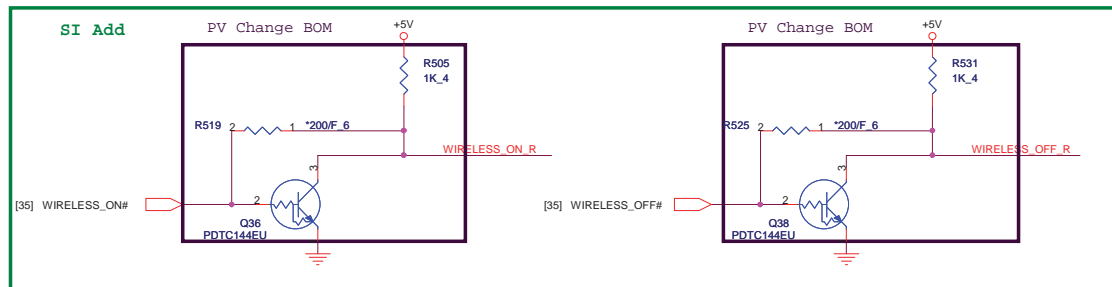
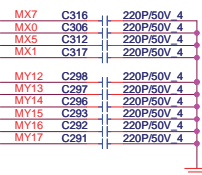
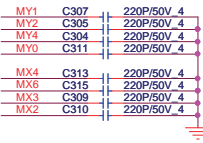
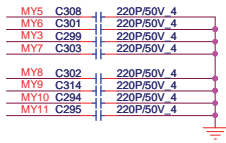


## POWER BOTTON CONNECT





clear ABS 758 resin for key cap.  
7 LEDs for 15.4" (total LED current 140mA)  
11 LEDs for 17" (Total LED current 220mA)

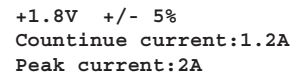
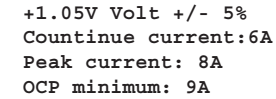


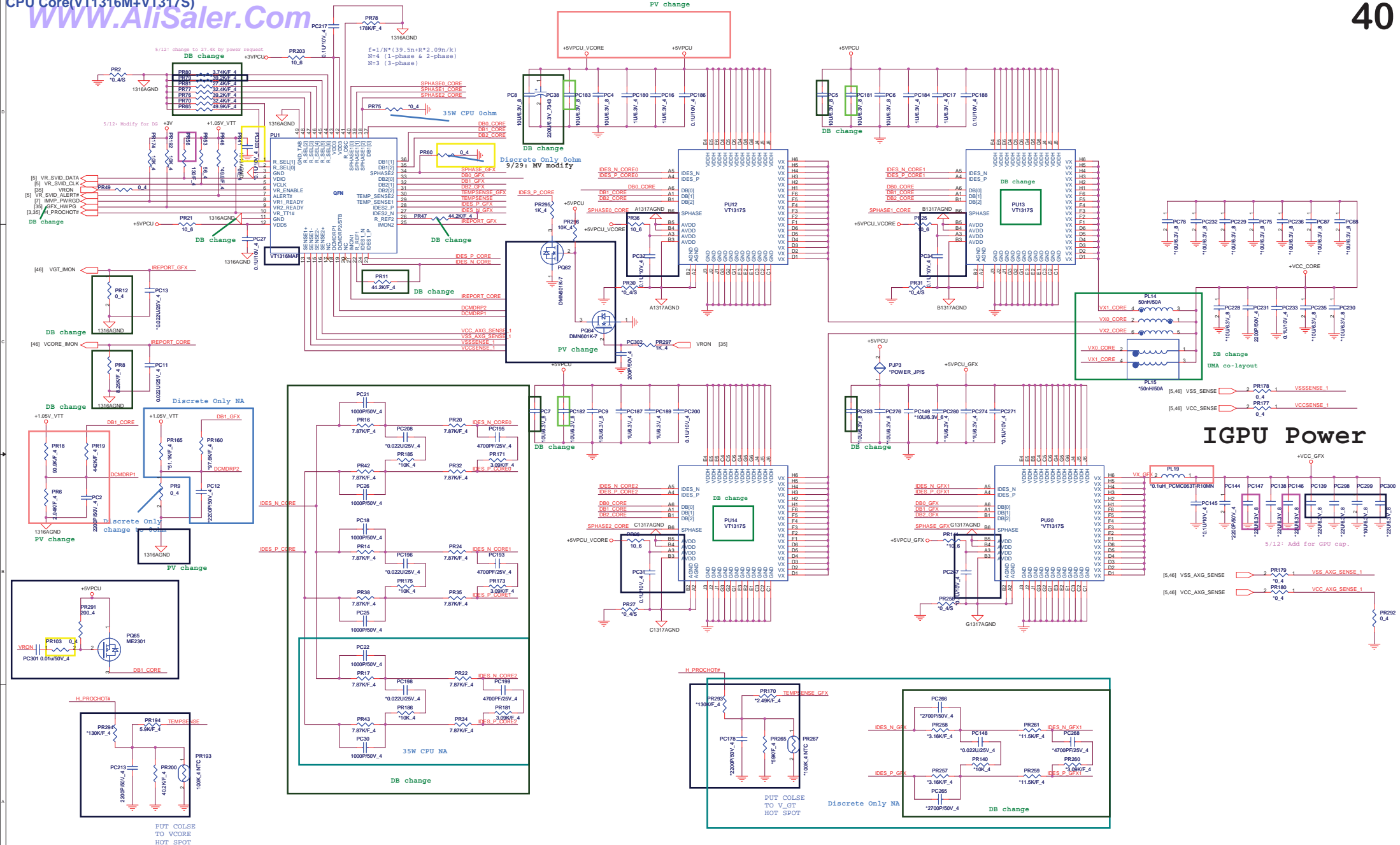
- +3V [3,7,8,9,10,11,13,14,18,19,25,26,27,28,29,30,31,32,33,34,35,36,39,40,41,43,45,46,47]
- +5V [7,8,11,19,25,26,27,29,30,32,34,36,45]
- +3VPCU [7,8,25,32,34,35,36,38,39,40,42,44,45,47]
- +3V\_VGA [16,17,18,19,27,42]
- +12VALW [25,34,42,44,45]
- +1.0V\_VGA [15,17,19,43]
- +1.5V\_VGA [16,19,20,21,22,23,47]
- +1.8V\_VGA [15,17,19,42]

Size Custom	Document Number <b>+5V/+3V (RT8206B)</b>	Rev 1A
Date: Wednesday, October 13, 2010	Sheet 38 of 47	



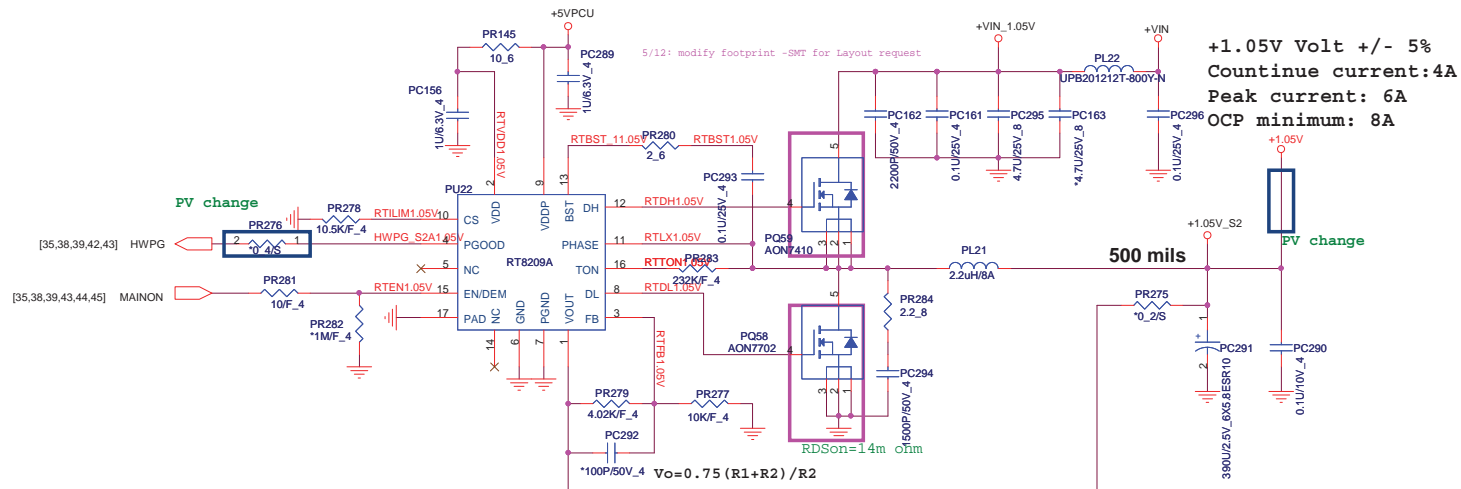
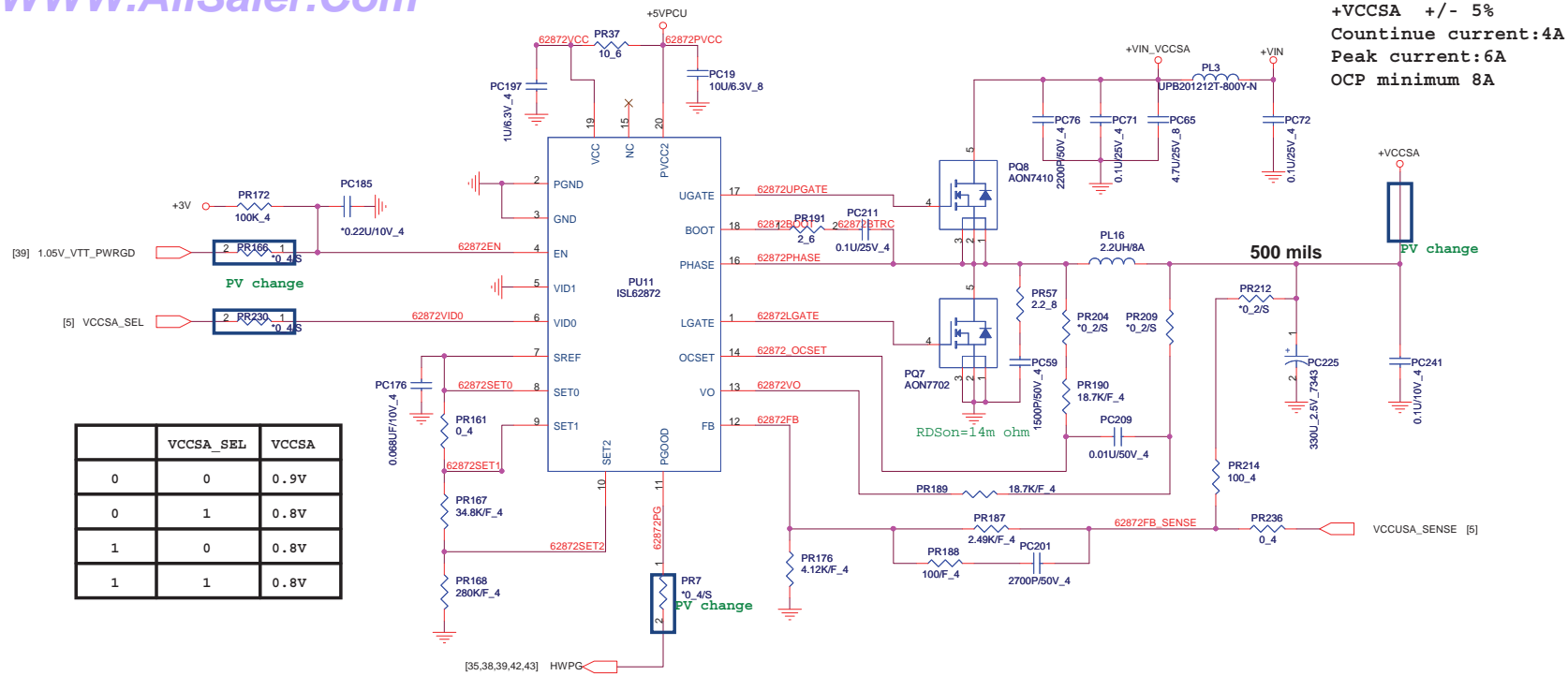


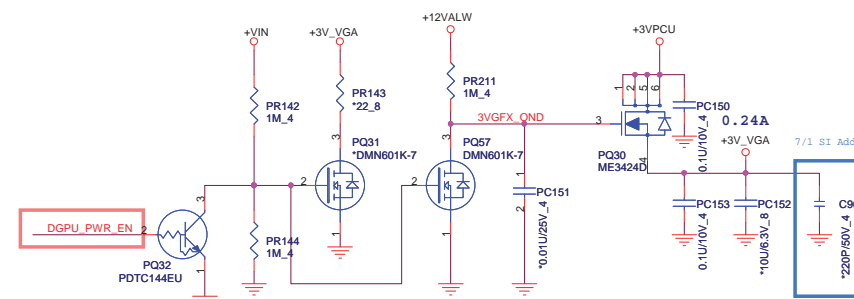
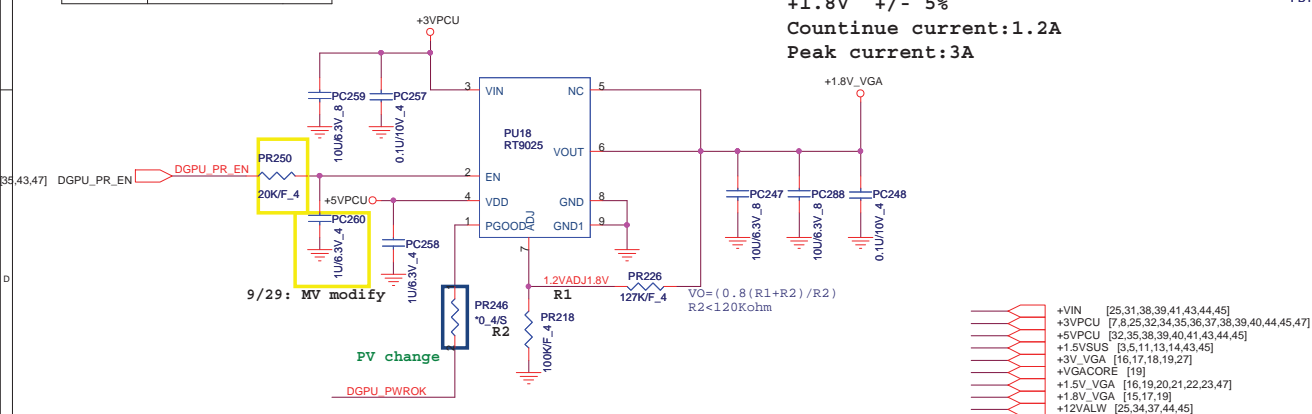


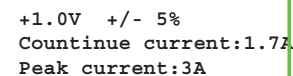
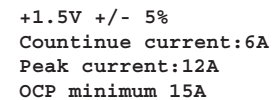


PROJECT : LX3/5(Huron River)  
Quanta Computer Inc.

Size Custom	Document Number +VCC_CORE (ISL95831)	Rev 1A
Date: Wednesday, October 13, 2010 13:20:10 Sheet 40 of 47		

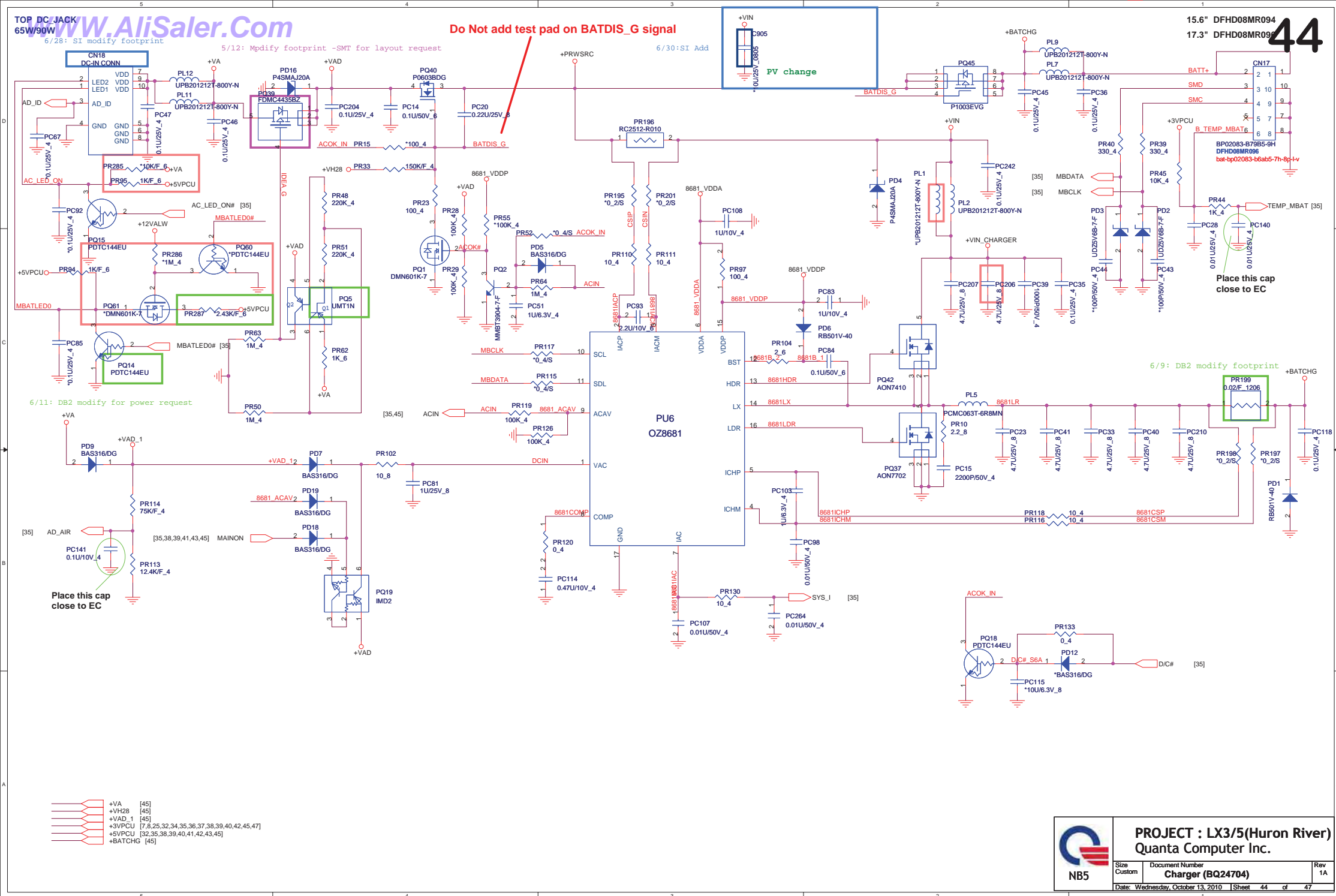


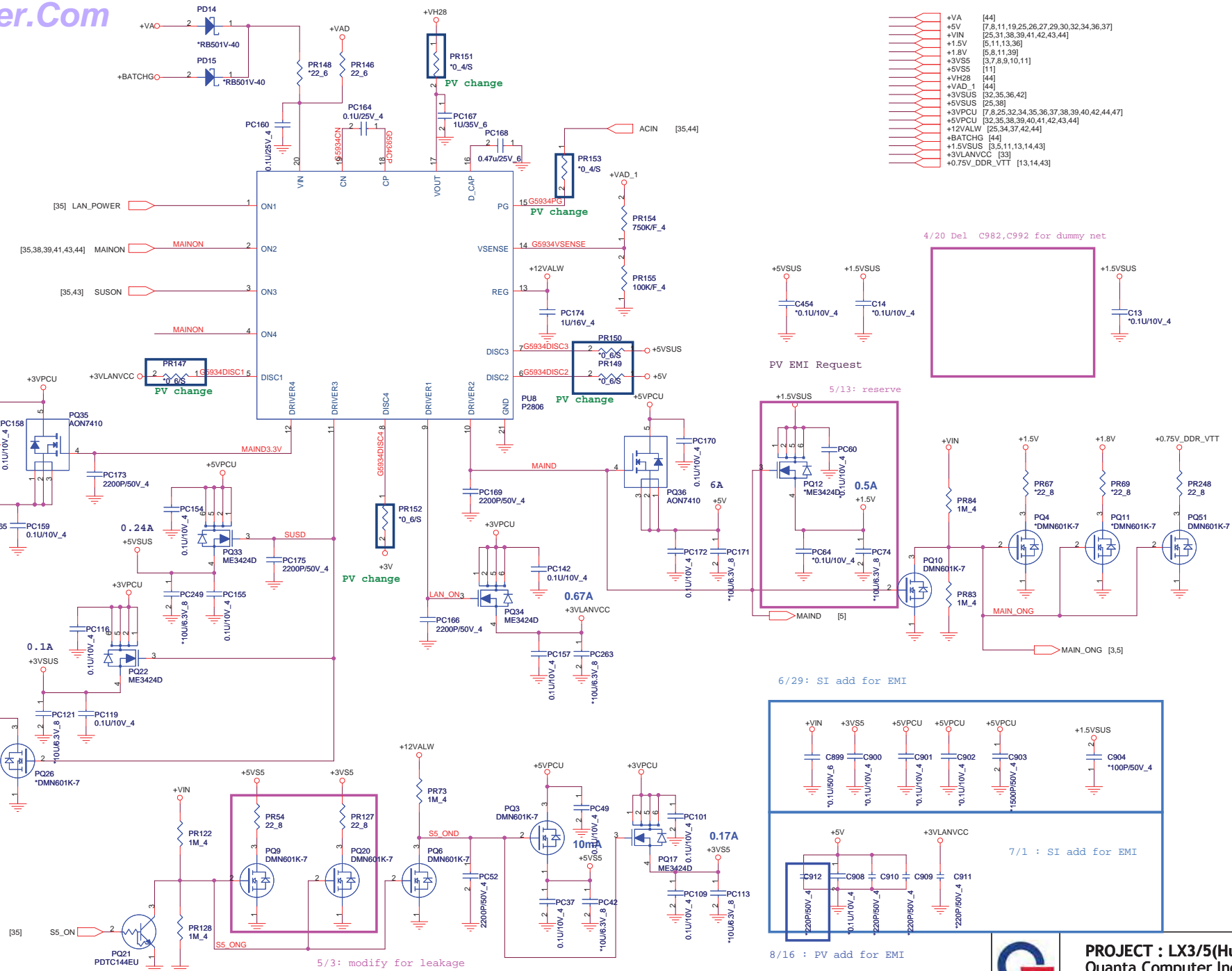




**PROJECT : LX3/5(Huron River)**  
**Quanta Computer Inc.**

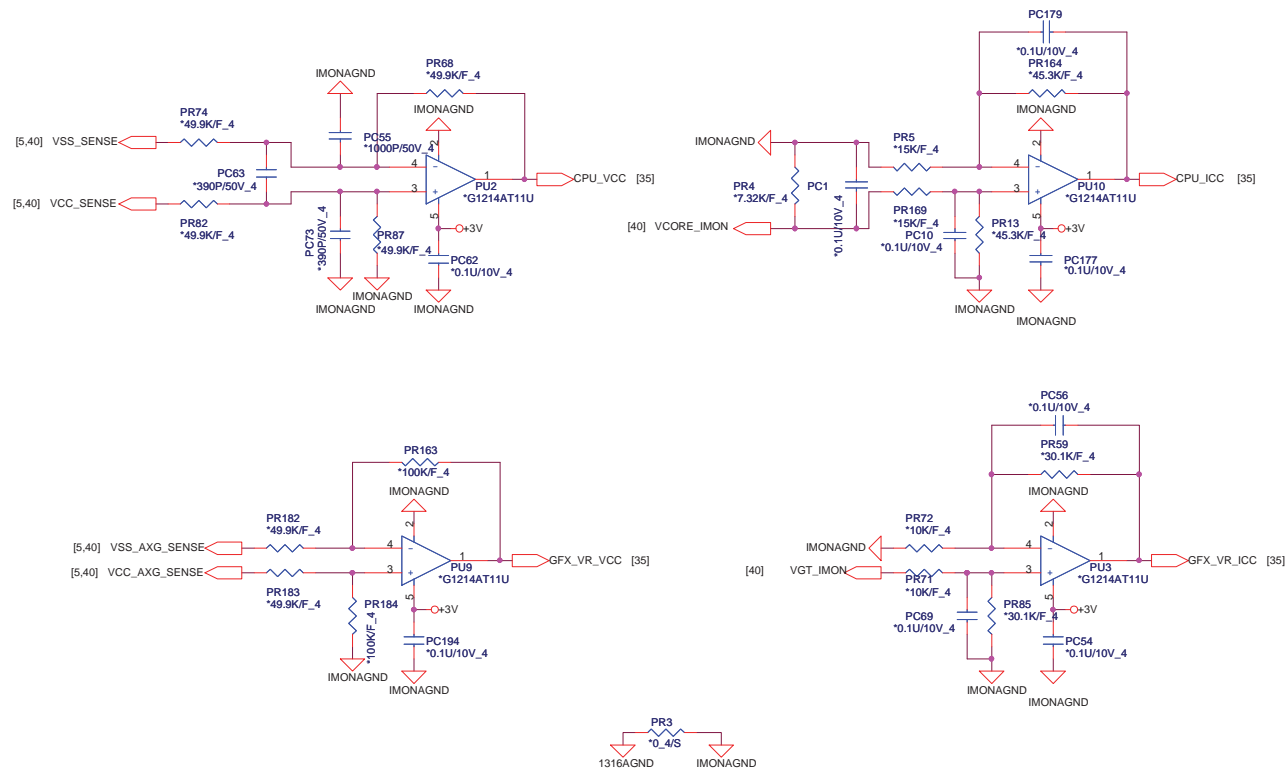







**PROJECT : LX3/5(Huron River)**  
**Quanta Computer Inc.**

Size	Document Number	Rev
Custom	Dis-charge IC (P2806)	1A
Date: Wednesday, October 13, 2010	Sheet 45 of 47	



Vender	Size	P/N
EON	128KB	AKE37ZN0Q01 (EN25F40-100HIP)
Winbond	128KB	AKE35FN0N00 (W25X10BVSNIG)
	512KB	AKE37FN0N01 (W25X40BVSSIG)
Socket		DG008000031

 <b>NB5</b>	<b>PROJECT : LX3/5(Huron River)</b> <b>Quanta Computer Inc.</b>		
	Size Custom	Document Number <b>IMON</b>	Rev 1A
	Date: Wednesday, October 13, 2010   Sheet 46 of 47		

