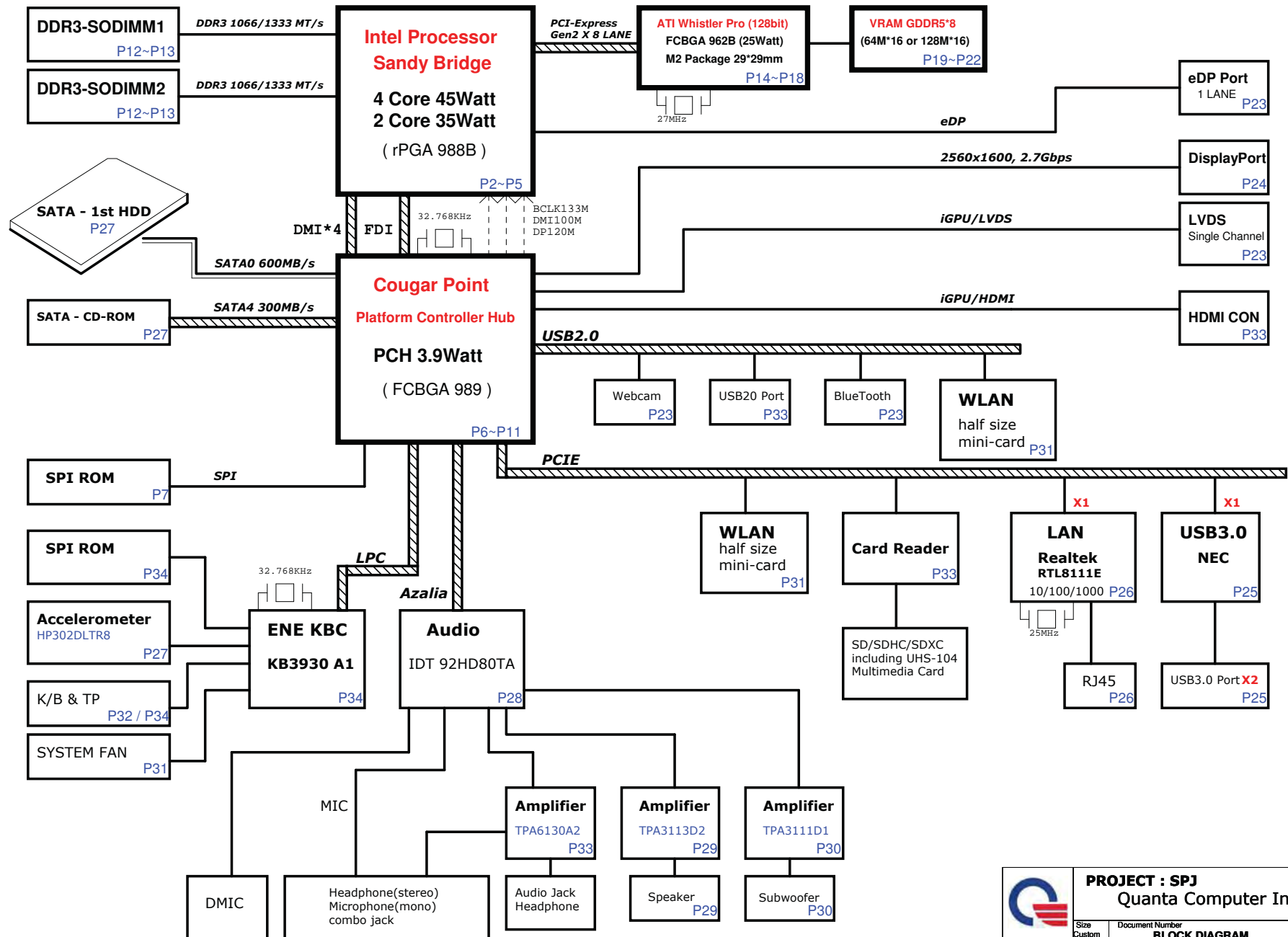
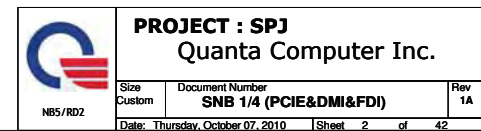
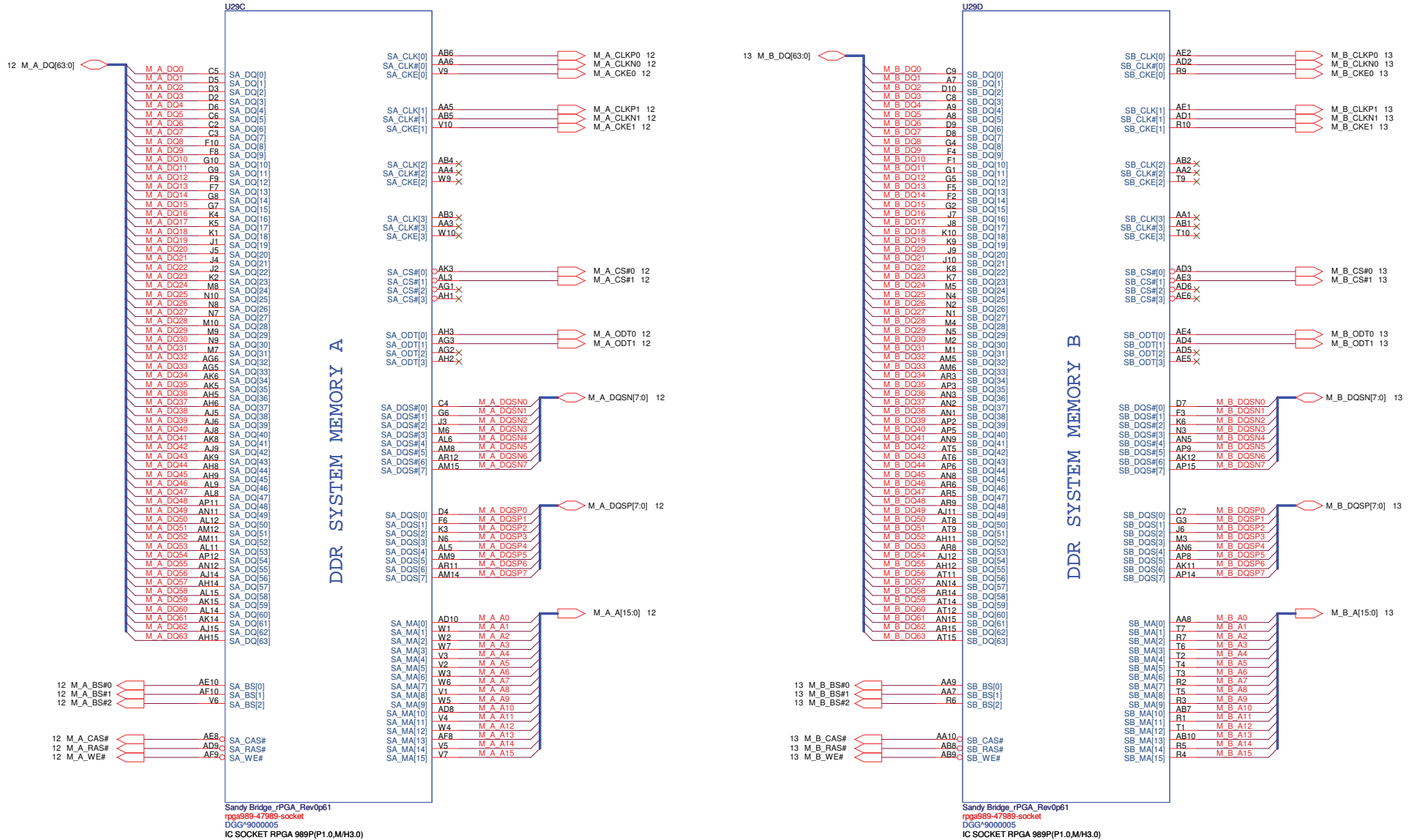


LAYER 1 : TOP
LAYER 2 : SGND
LAYER 3 : IN1(High)
LAYER 4 : IN2(Low)
LAYER 5 : SVCC
LAYER 6 : IN3(High)
LAYER 7 : SGND
LAYER 8 : IN4(High)
LAYER 9 : SGND
LAYER 10 : BOT






Sandy Bridge Processor (DDR3)

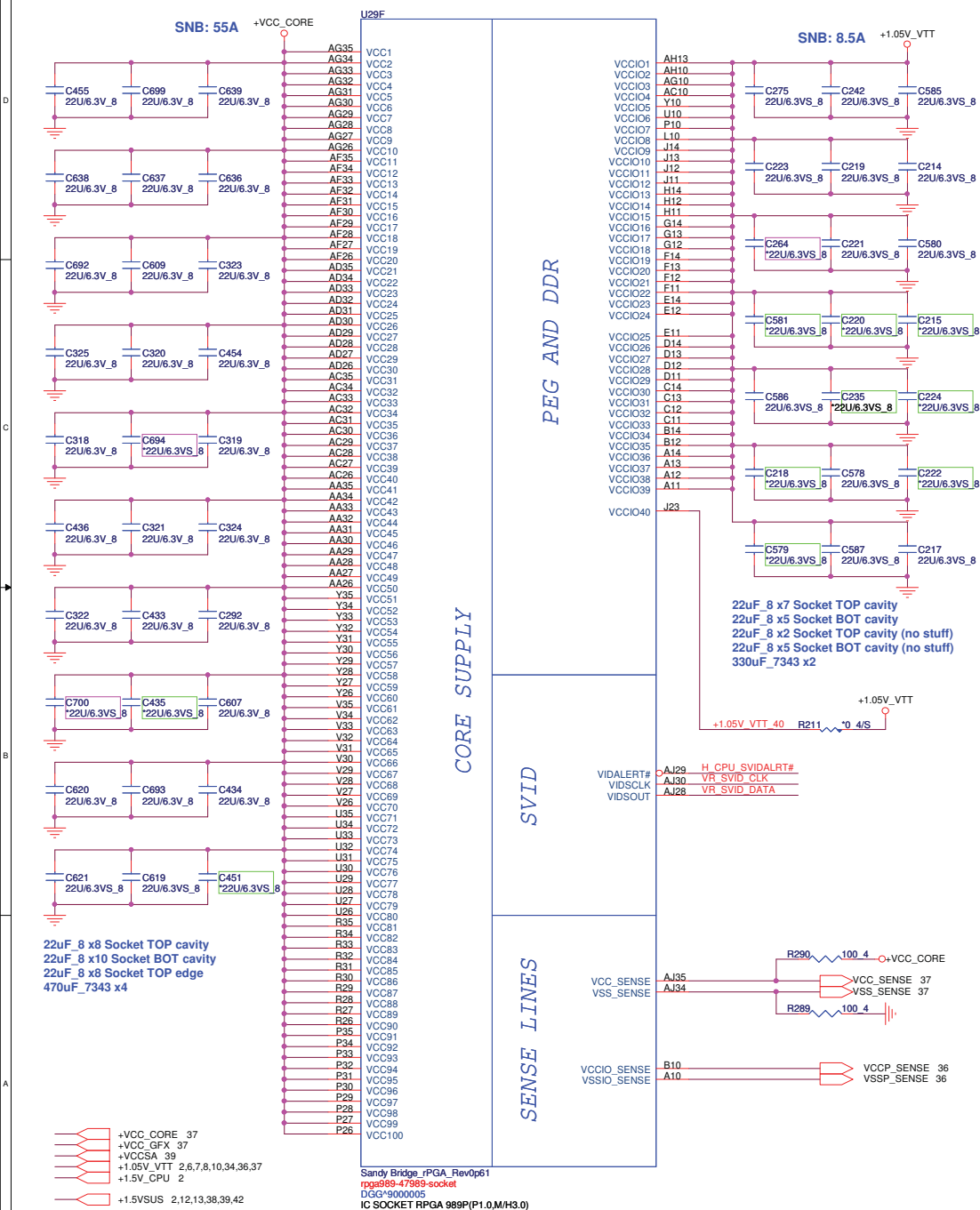


Sandy Bridge_rPGA_Rev0p61
rpg989-47989-socket
DGG*9000005
IC SOCKET RPGA 989P(P1.0,M/H3.0)

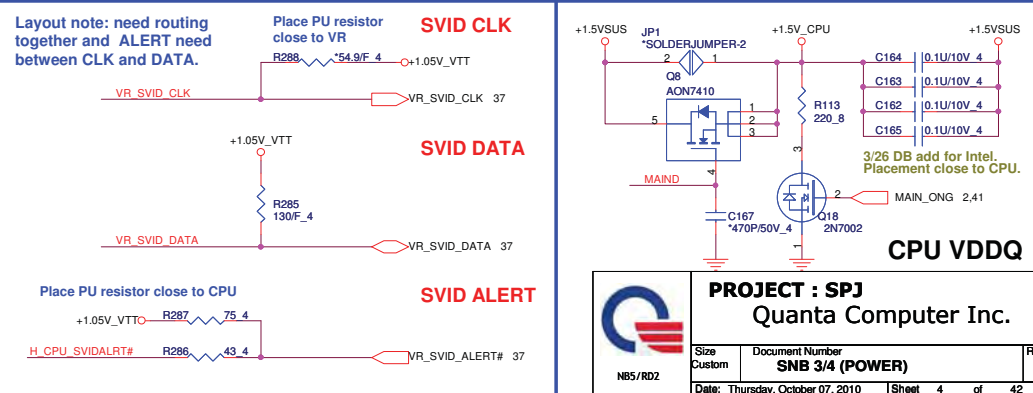
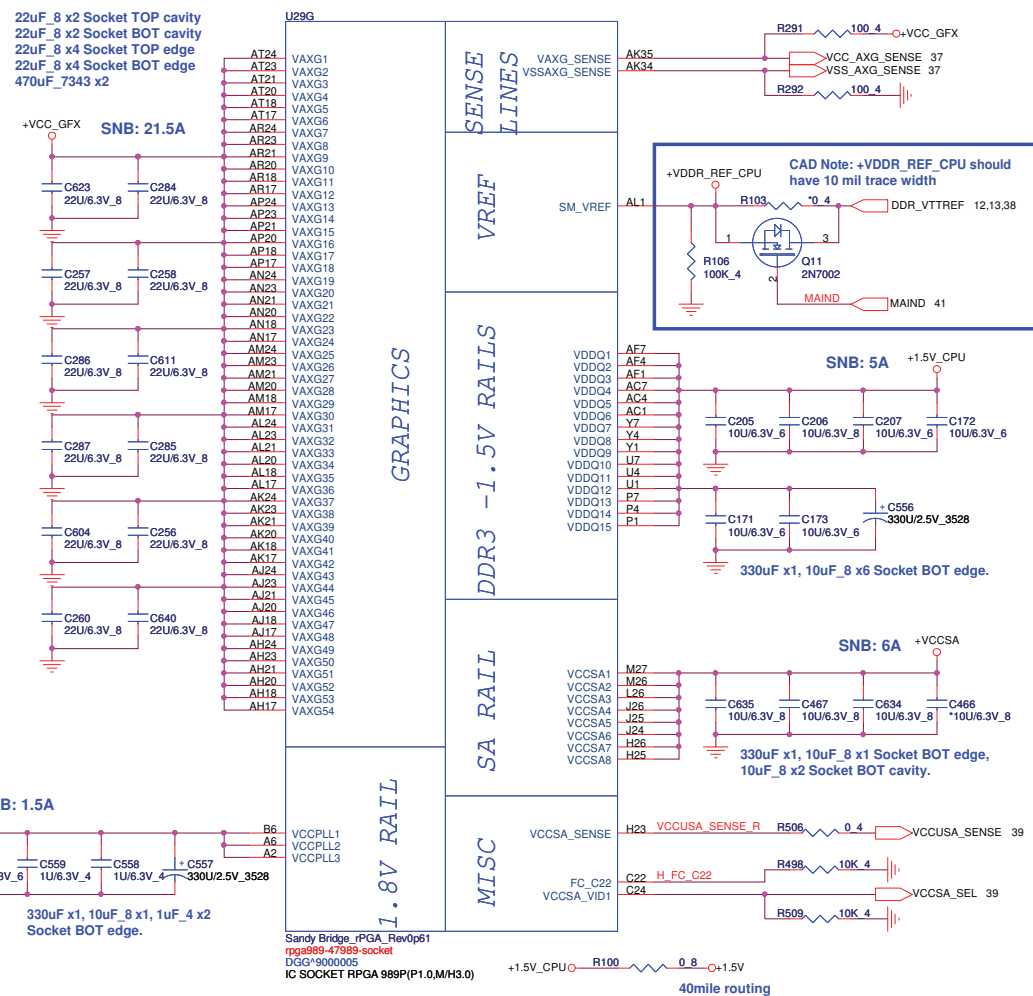
Sandy Bridge_rPGA_Rev0p61
rpg989-47989-socket
DGG*9000005
IC SOCKET RPGA 989P(P1.0,M/H3.0)

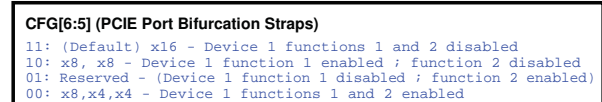
 PROJECT : SPJ Quanta Computer Inc.		
Size Custom	Document Number SNB 2/4 (DDR3 I/F)	Rev 1A
Date: Thursday, October 07, 2010 Sheet 3 of 42		

Sandy Bridge Processor (POWER)



Sandy Bridge Processor (GRAPHIC POWER)





CFG2 R282 *1K 4

CFG4 R281 *1K 4

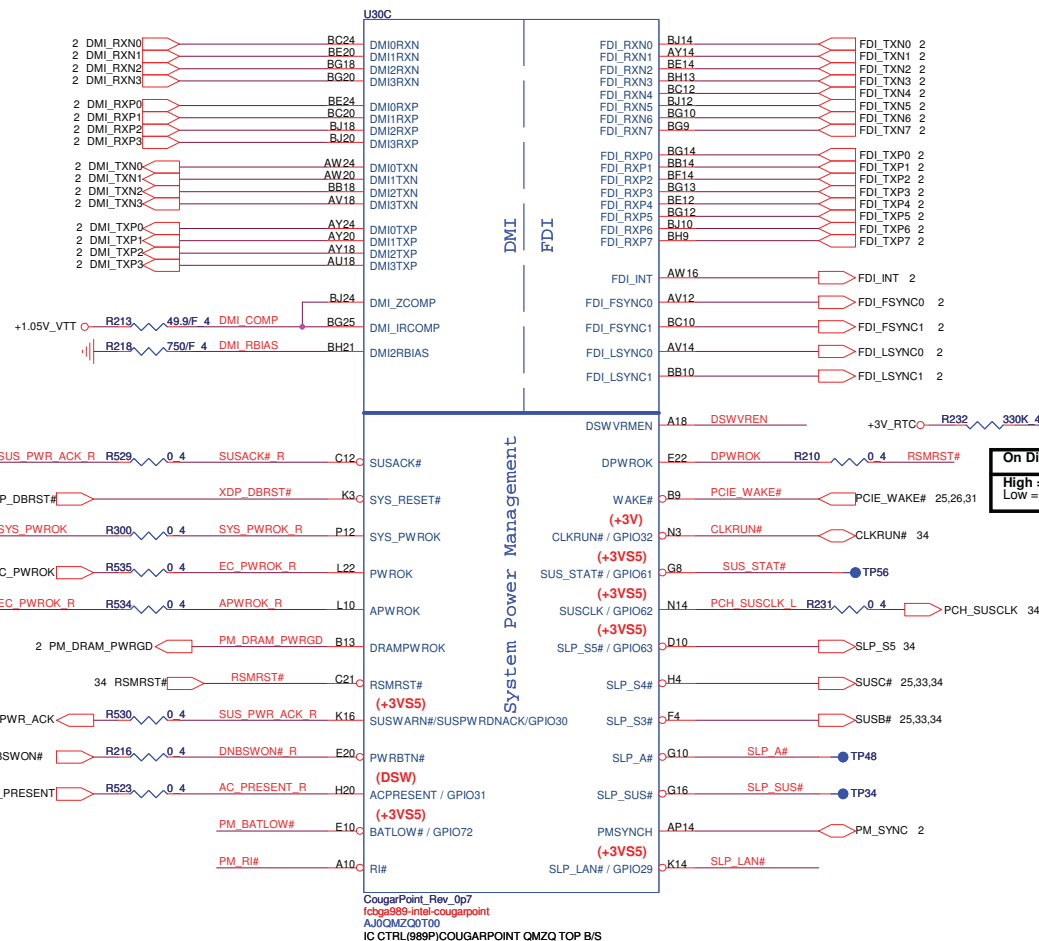
CFG7 R279 *1K 4

CFG5 R293 1K 4

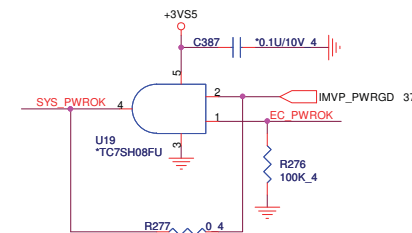
CFG6 R280 *1K 4







WWW.AliSaler.Com

Cougar Point (DMI, FDI, PM)



System PWR_OK(CLG)



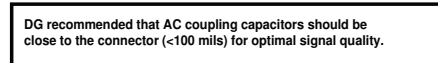
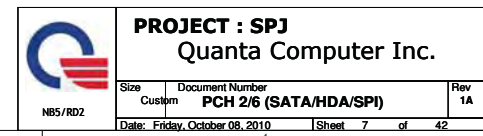
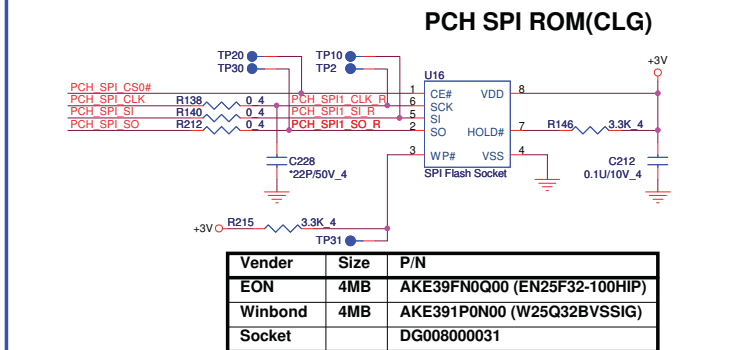
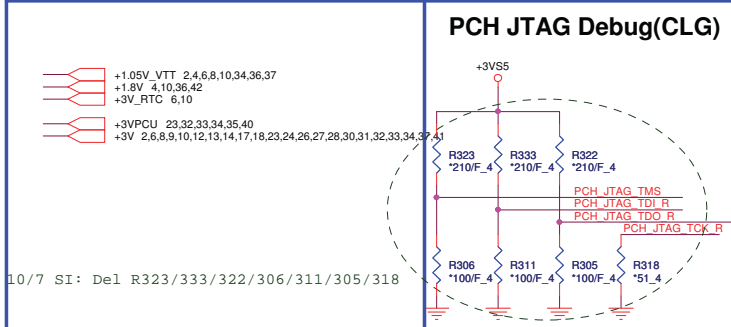
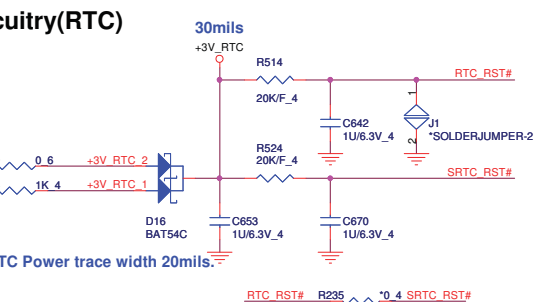
 +1.05V_VTT 2,4,7,8,10,34,36,37
 +3V_RTC 7,10
 +3VPCU 7,23,32,33,34,35,40
 +3VS5 2,7,8,9,10,23,29,35,36,37,41,42
 +3V 2,7,8,9,10,12,13,14,17,18,23,24,26,27,28,30,31,32,33,34,37,41
 +5V 7,10,18,23,24,27,28,31,32,33,41








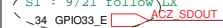





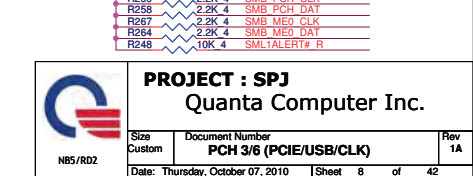
PROJECT : SPJ
Quanta Computer Inc.

Size Custom	Document Number PCH 1/6 (DMI/FDI/VIDEO)	Rev 1A
Date: Thursday, October 07, 2010		Sheet 6 of 42

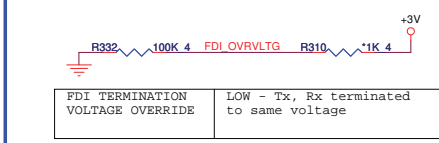
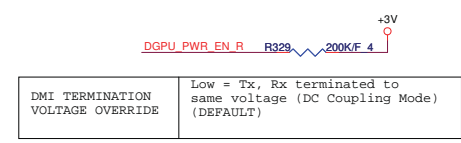
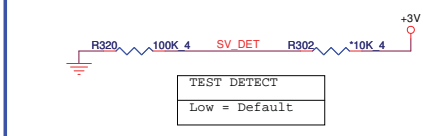
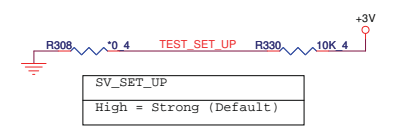
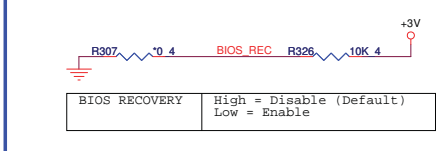
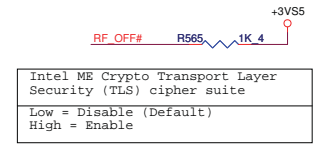
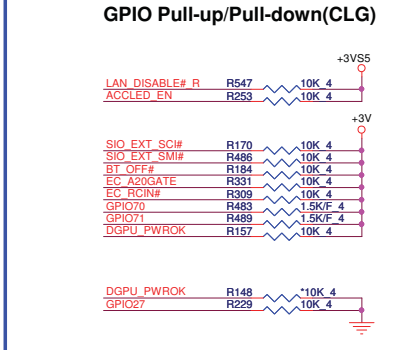
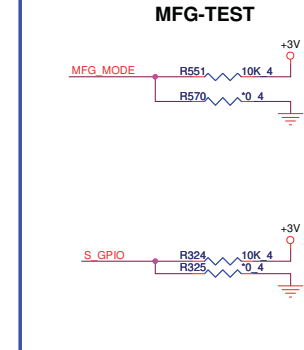
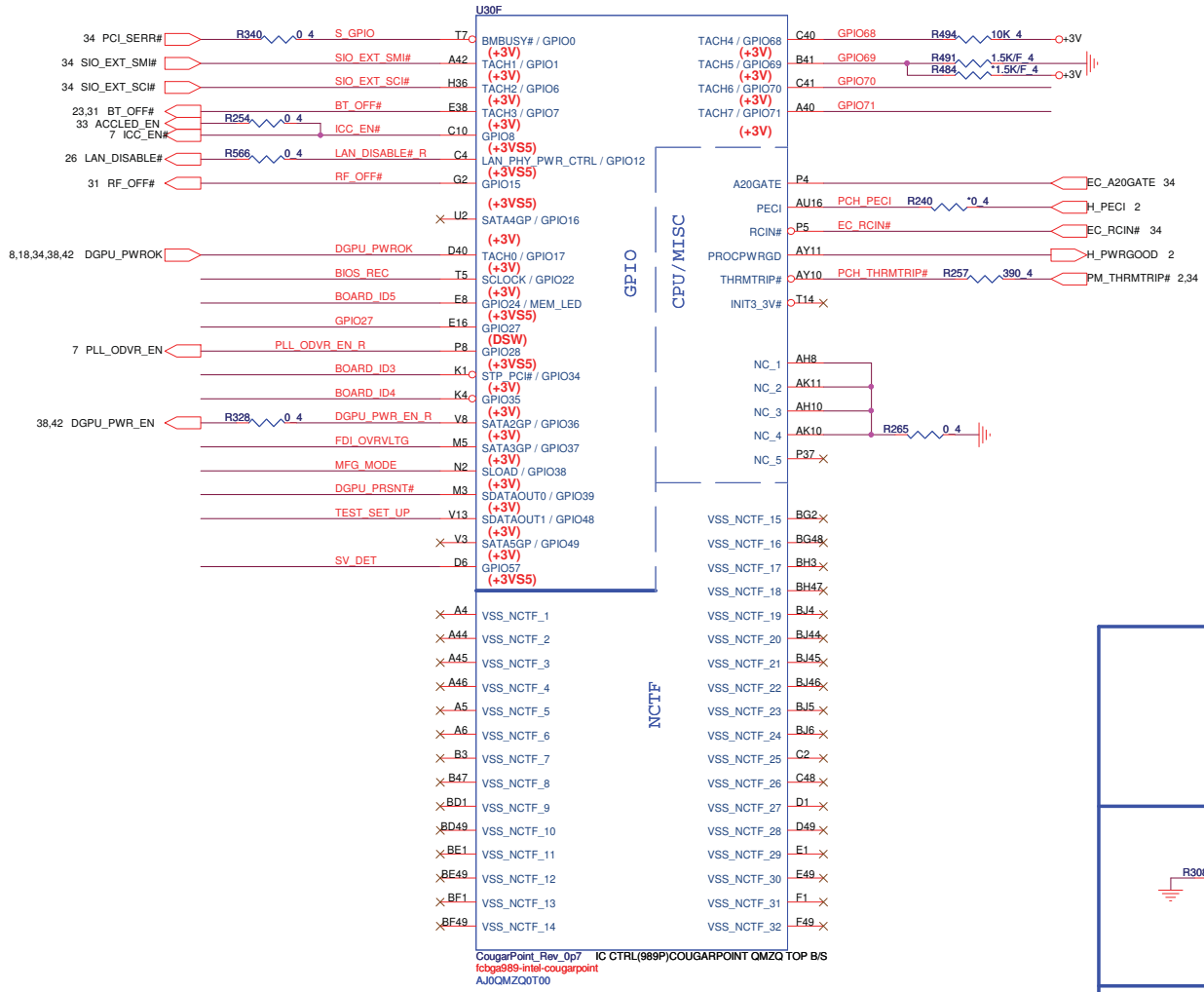
07



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 border="1" data-bbox="665 1133 873 1160"> <thead> <tr> <th>GNT1#</th><th>GNT0#</th><th>Boot Location</th></tr> </thead> <tbody> <tr> <td>1</td><td>0</td><td>SPI LPC</td></tr> </tbody> </table>	GNT1#	GNT0#	Boot Location	1	0	SPI LPC	[Need external pull-down for LPC BIOS] Default weak pull-up on GNT0/1#
GNT1#	GNT0#	Boot Location								
1	0	SPI 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							
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)							
SPI_MOSI	iTPM function Disable	APWROK	0 = Default (weak pull-down 20K) 1 = Enable							

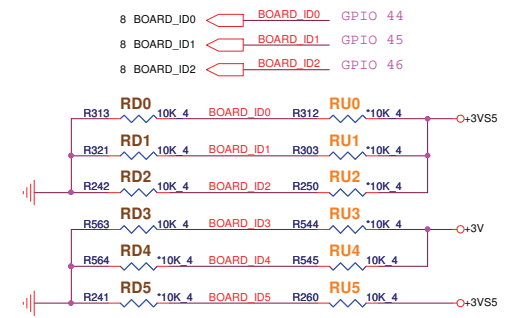


Cougar Point (GPIO,VSS_NCTF,RSVD)



BOARD ID SETTING

BOARD ID SETTING	0	1
BOARD_ID0 GPIO 44	14"	15"
BOARD_ID1 GPIO 45	CPU 35W	CPU 45W
BOARD_ID2 GPIO 46	LVDS	eDP
BOARD_ID3 GPIO 34	RESERVE	RESERVE
BOARD_ID4 GPIO 35	RESERVE	RESERVE
BOARD_ID5 GPIO 24	RESERVE	RESERVE



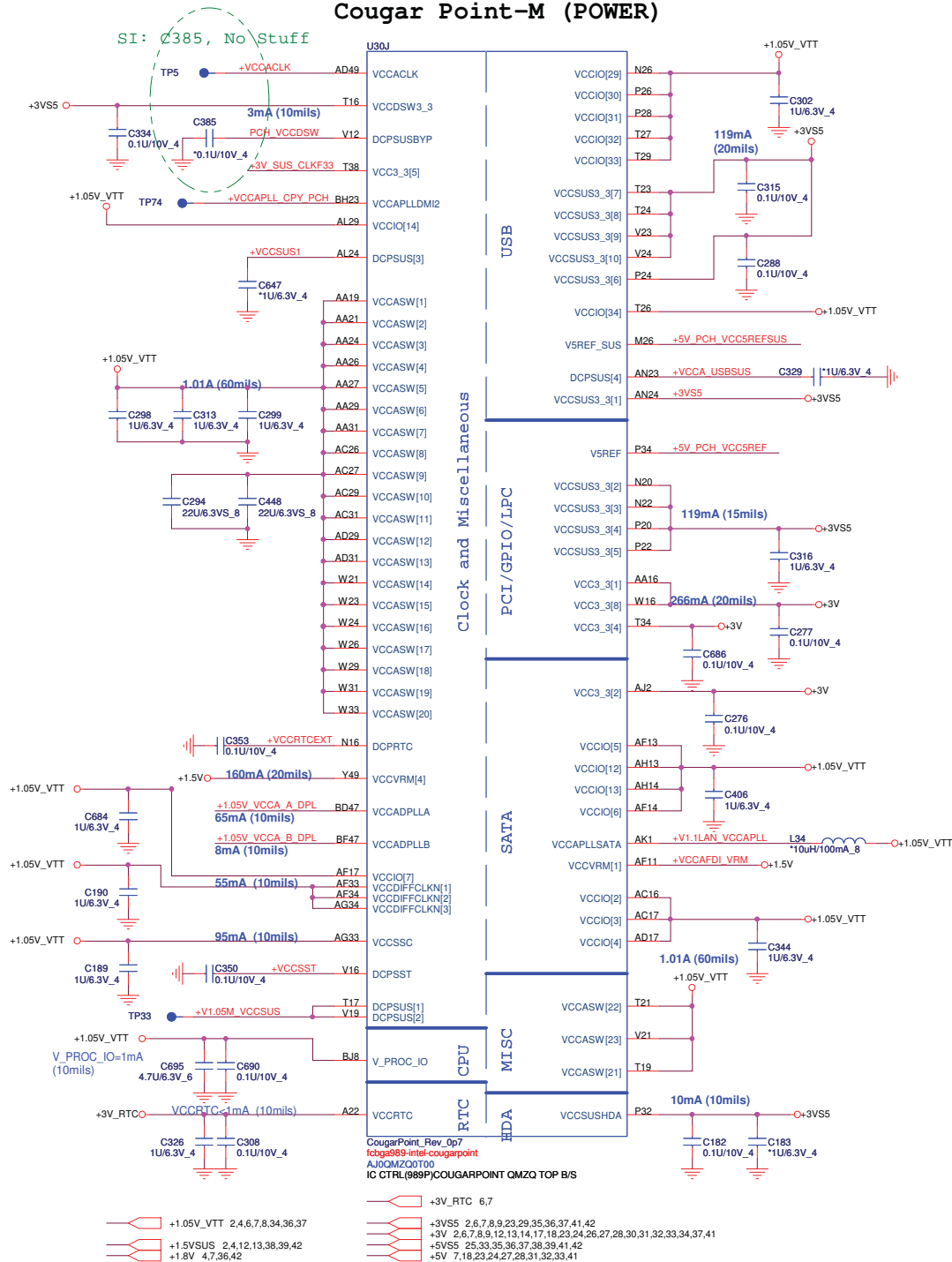
GFX Present

	SG	UMA
Stuff	Ra	Rb
NC	Rb	Ra

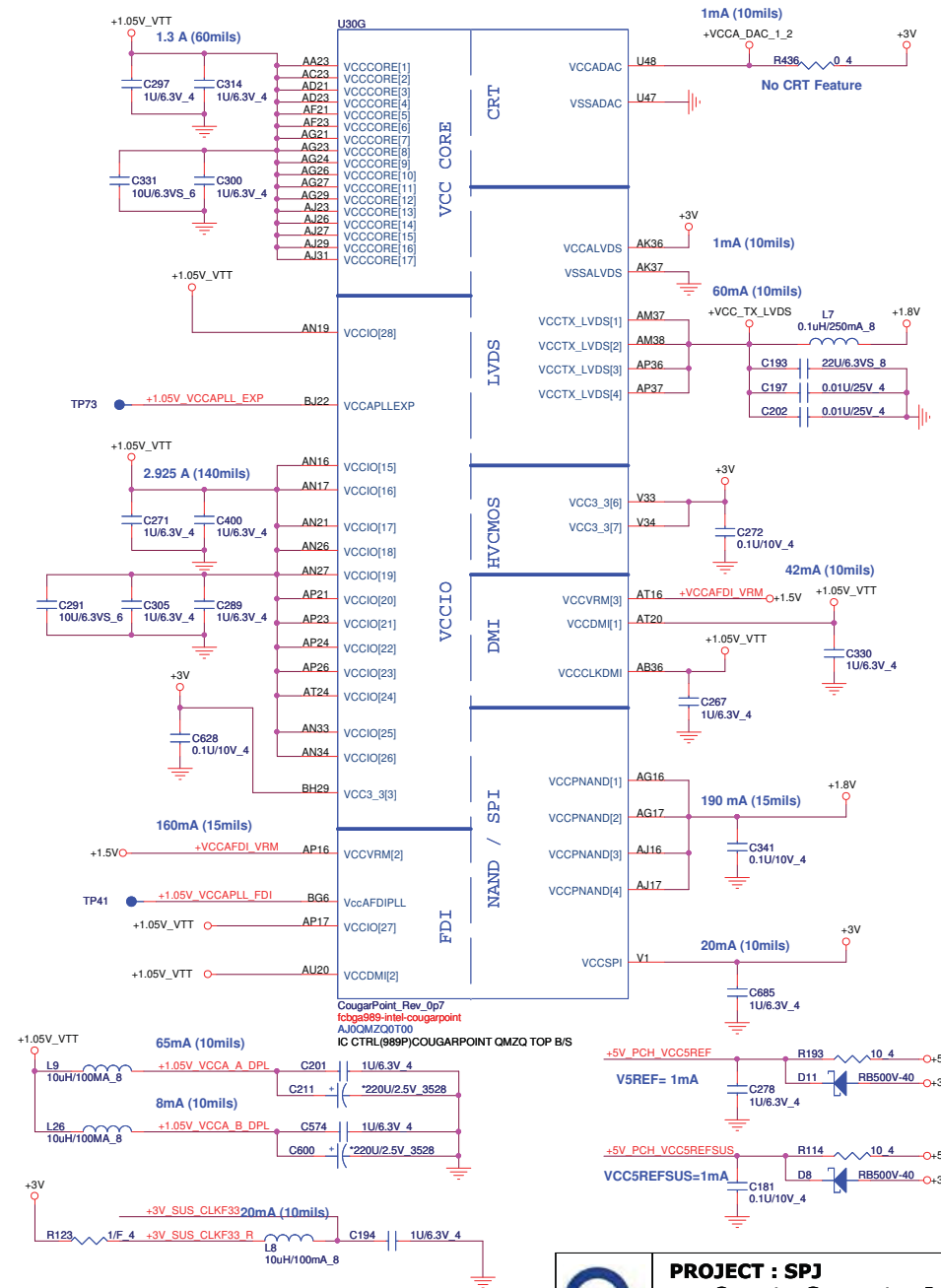
PROJECT : SPJ
Quanta Computer Inc.

Size Custom	Document Number PCH 4/6 (GPIO/MISC)	Rev 1A
Date: Thursday, October 07, 2010		Sheet 9 of 42

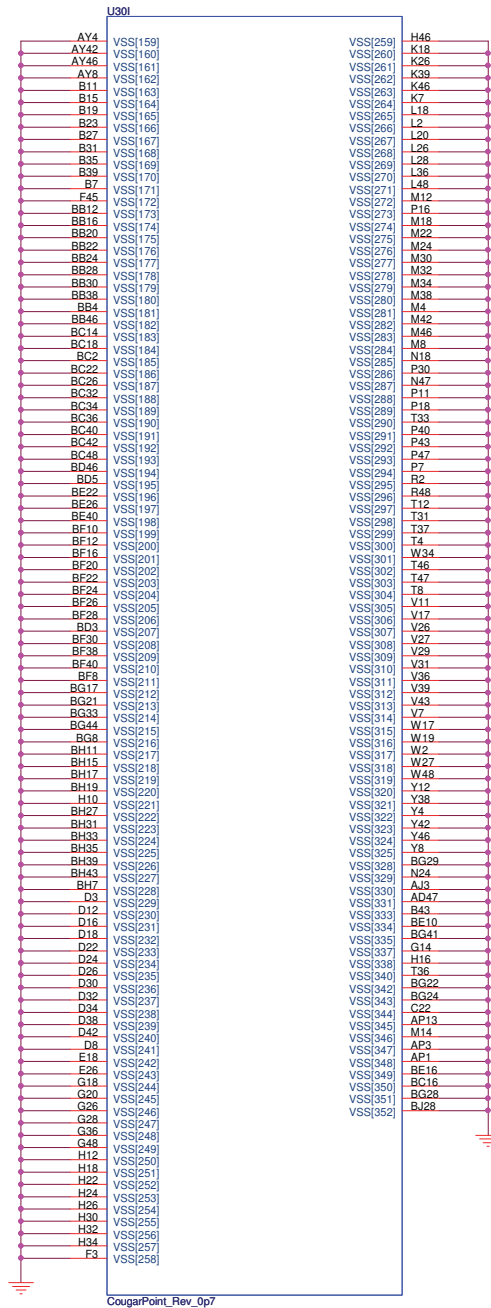
Cougar Point-M (POWER)



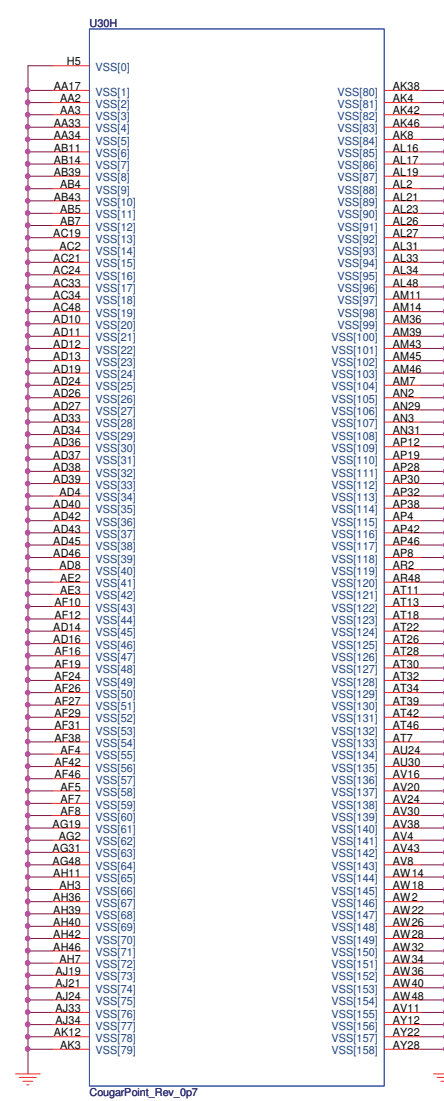
COUGAR POINT (POWER)




IBEX PEAK-M (GND)



IBEX PEAK-M (GND)



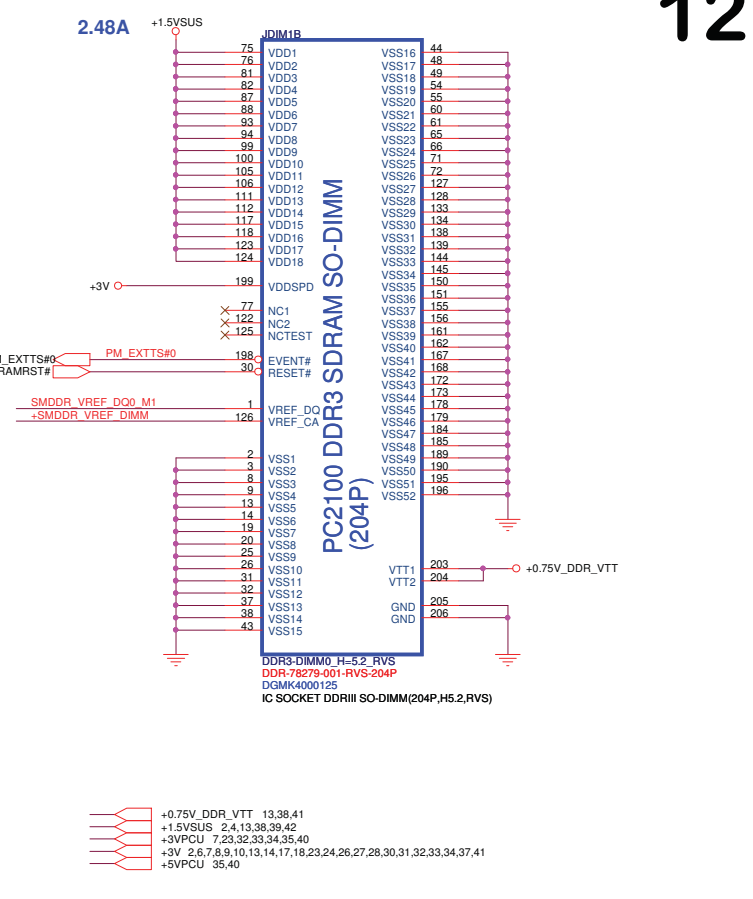
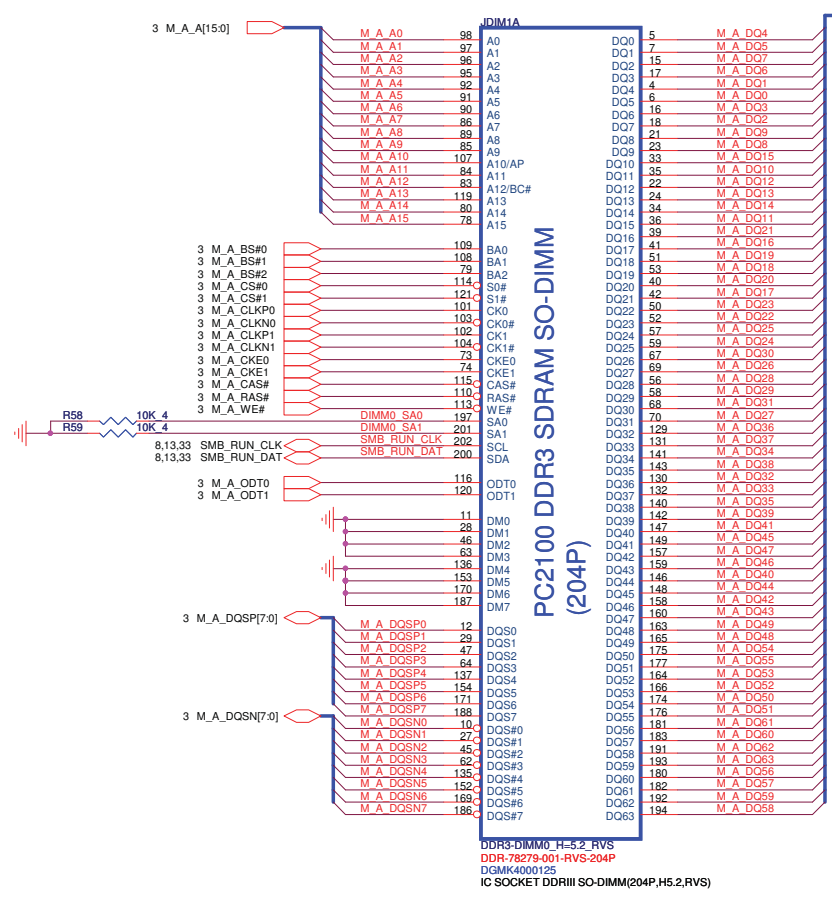


NBS/RD2

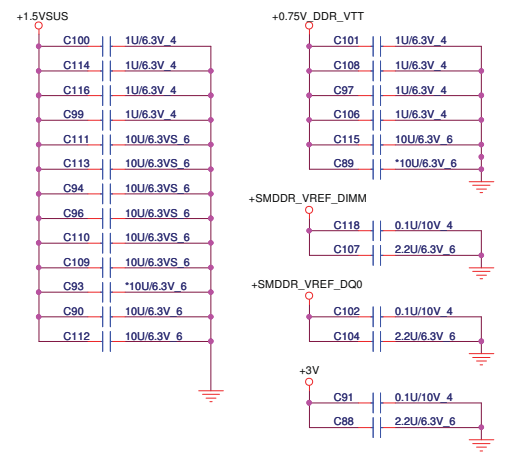
PROJECT : SPJ
Quanta Computer Inc.

Size	Document Number	Rev
Custom	PCH 6/6 (GND)	1A

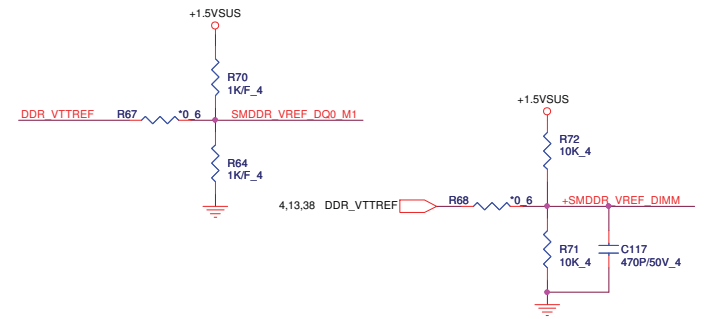
Date: Thursday, October 07, 2010 | Sheet 11 of 42




Place these Caps near So-Dimm0.



VREF DQ0 M1 Solution



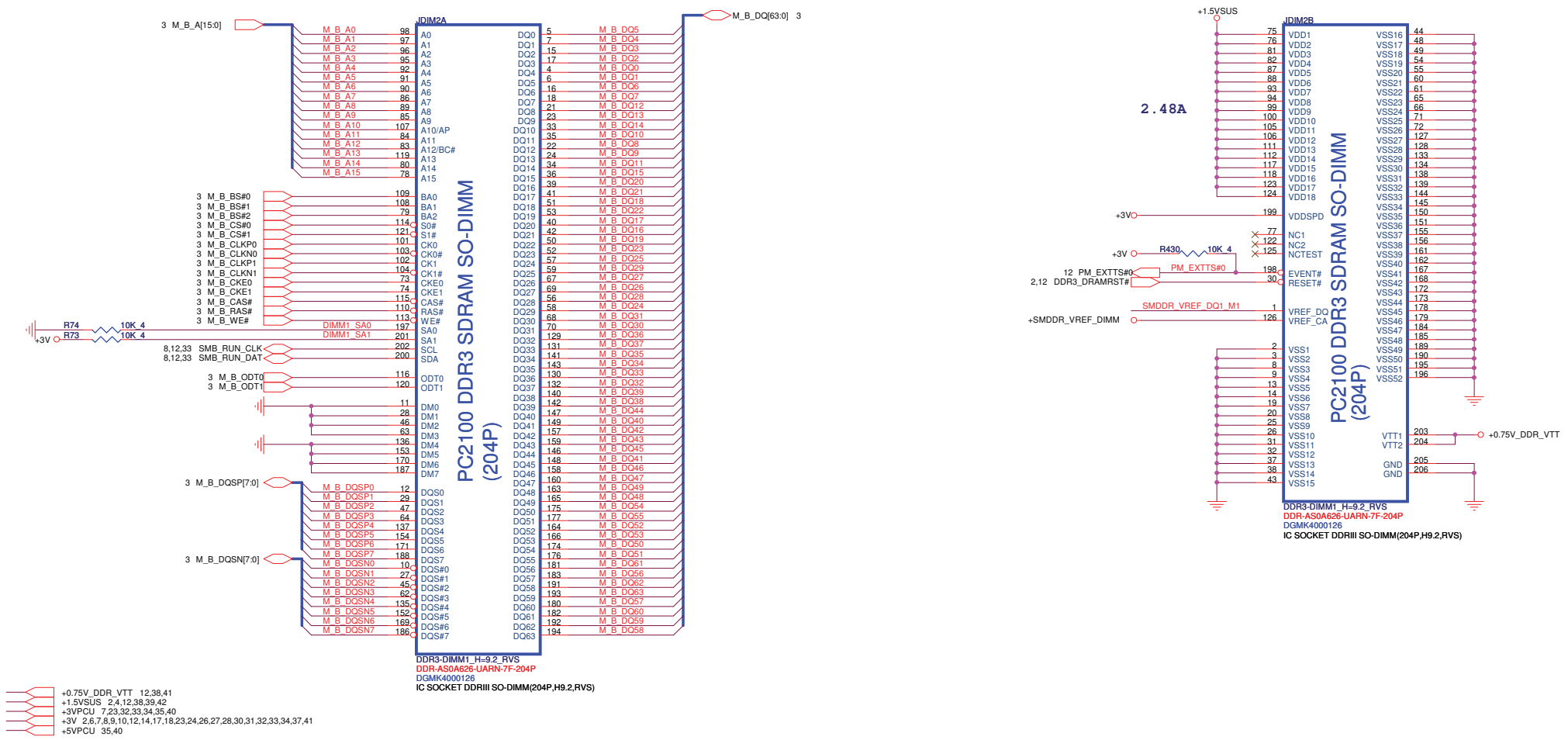


NBS/RD2

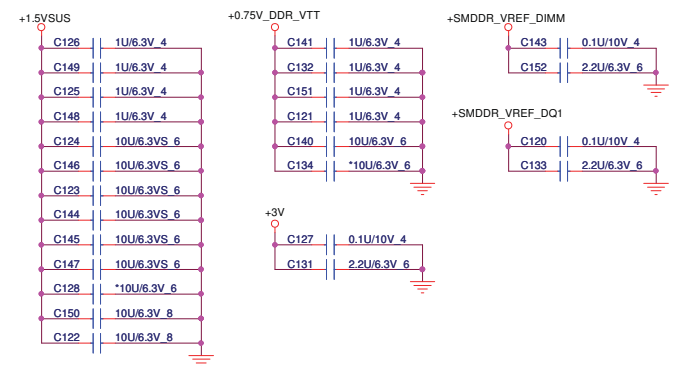
PROJECT : SPJ
Quanta Computer Inc.

Size	Document Number	Rev
Custom	DDR3 DIMM0-RVS (5.2H)	1A

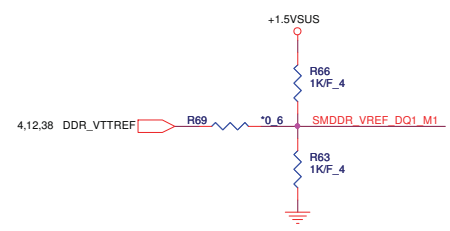
Date: Thursday, October 07, 2010 | Sheet 12 of 42




Place these Caps near So-Dimm1.



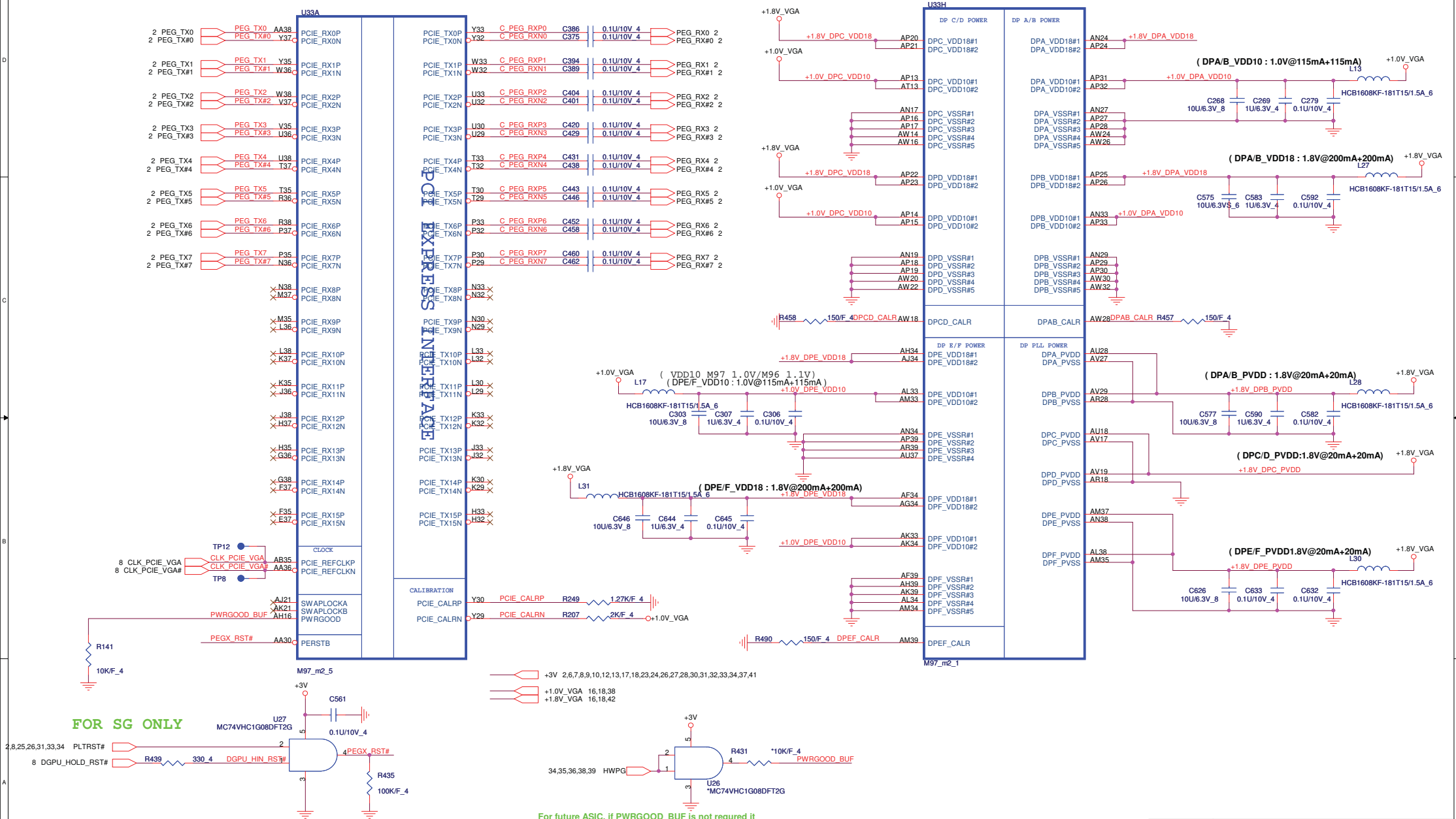
VREF DQ1 M1 Solution

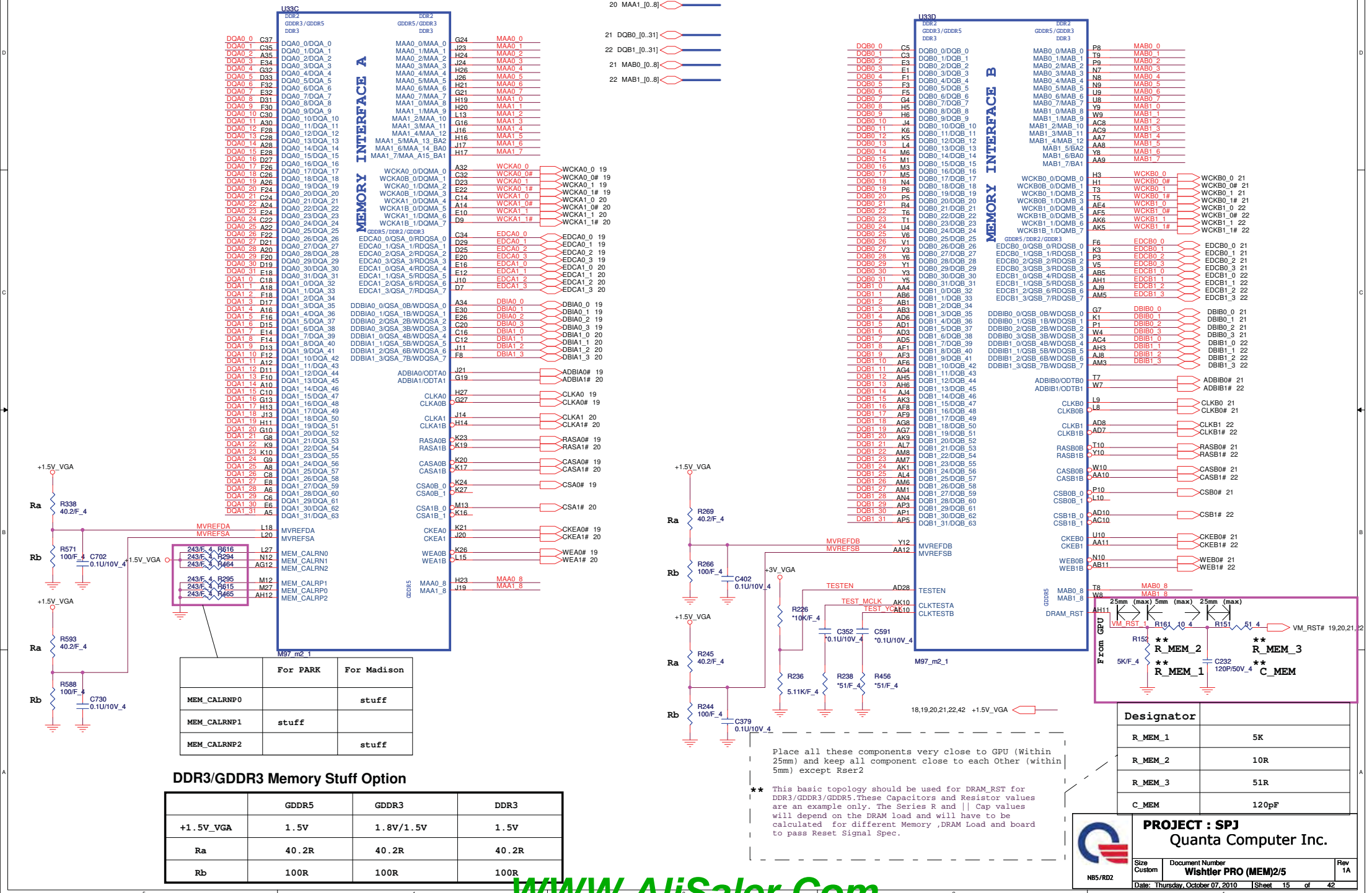




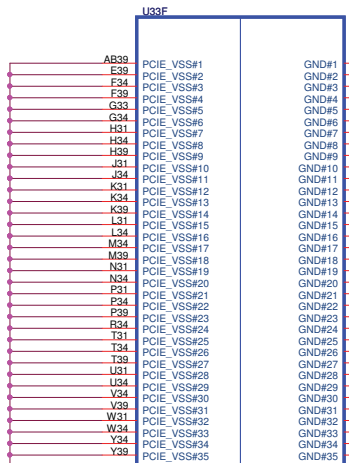
PROJECT : SPJ
Quanta Computer Inc.

Size	Document Number	Rev
Custom	DDR3 DIMM1-RVS (9.2H)	1A
Date: Thursday, October 07, 2010		Sheet 13 of 42

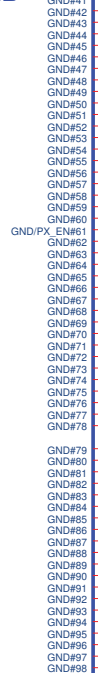


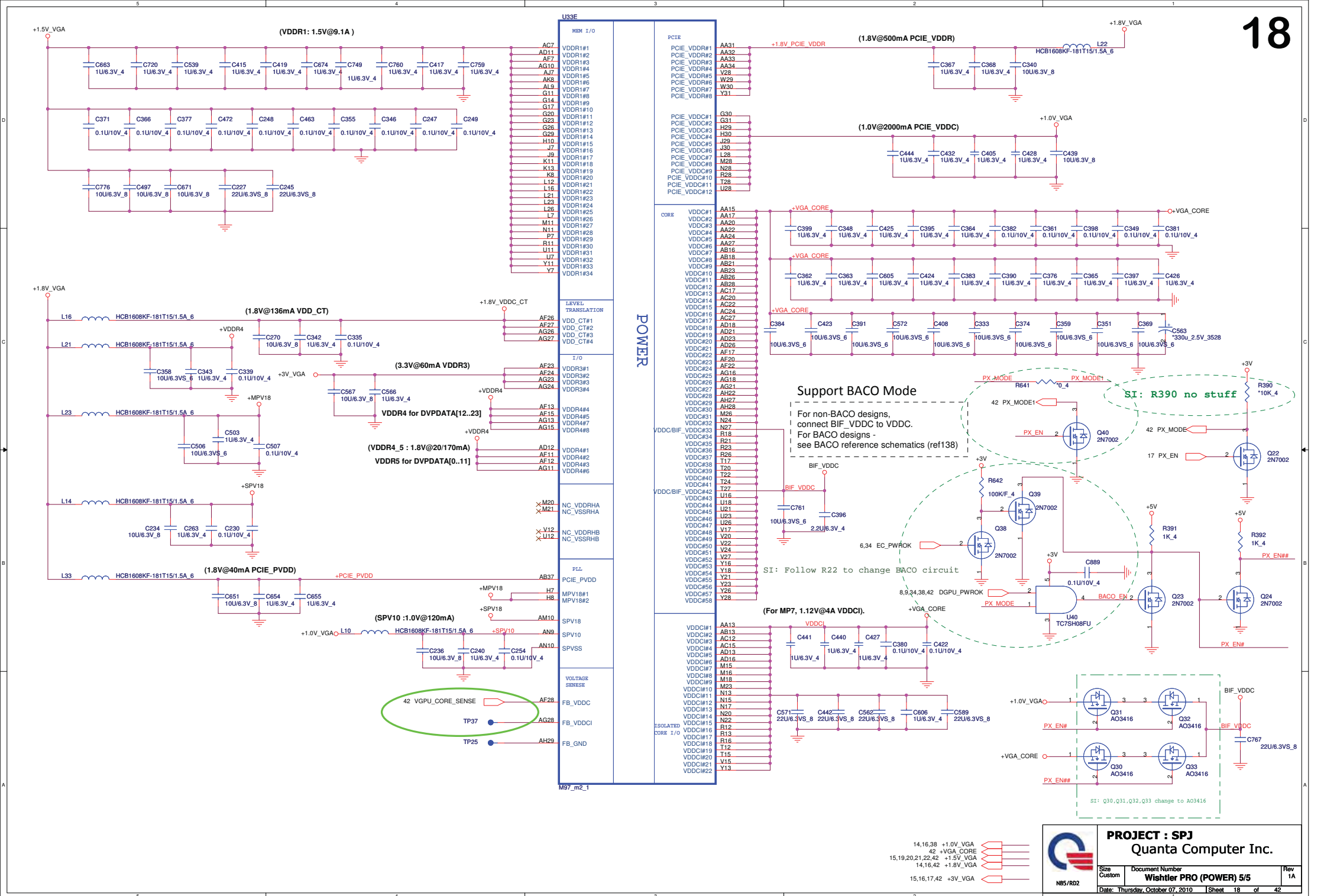




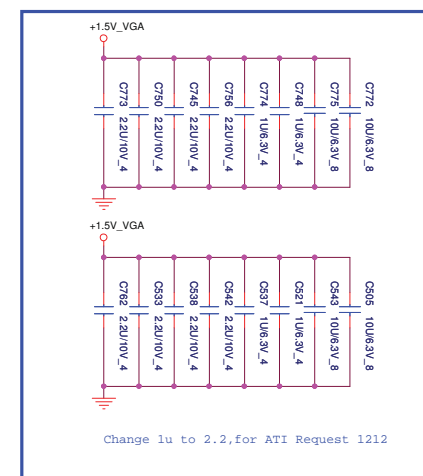
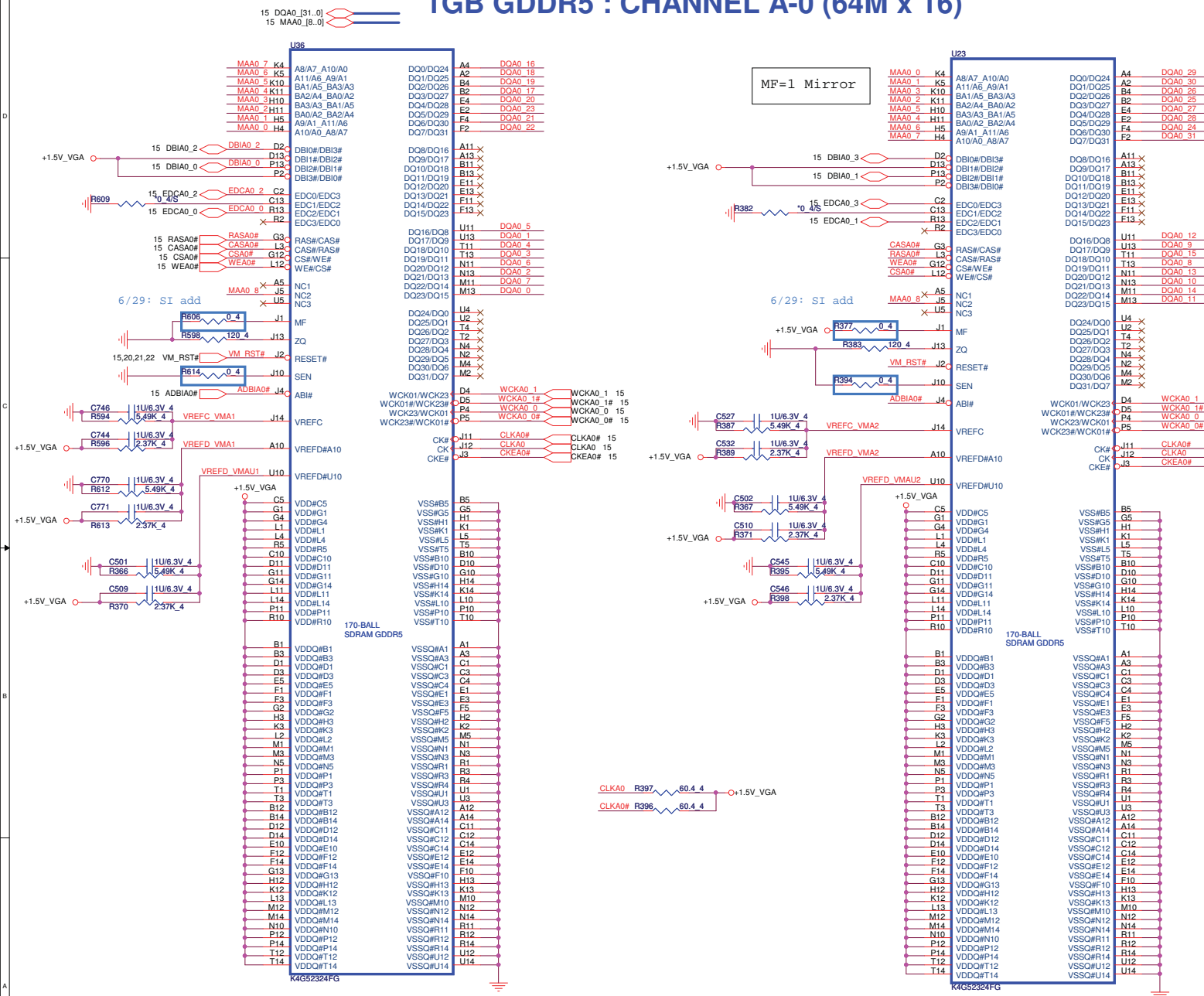


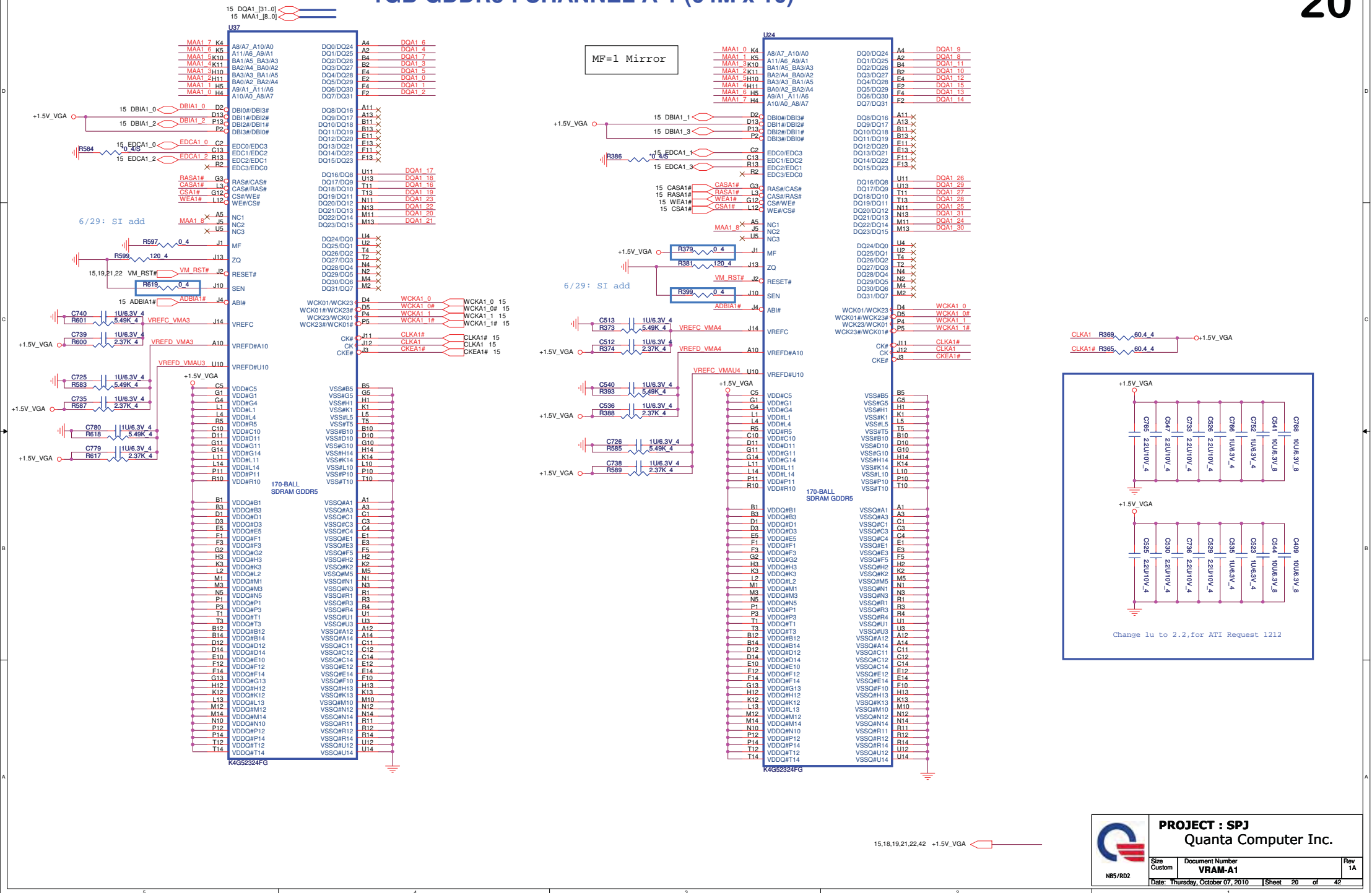
GND

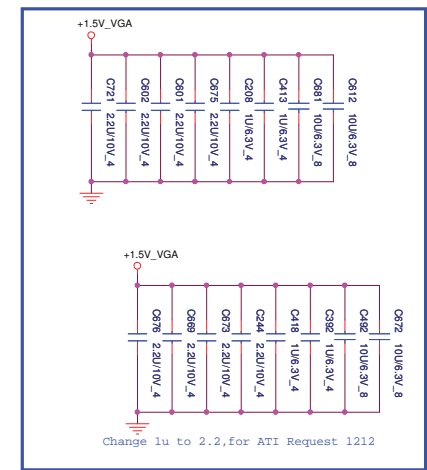




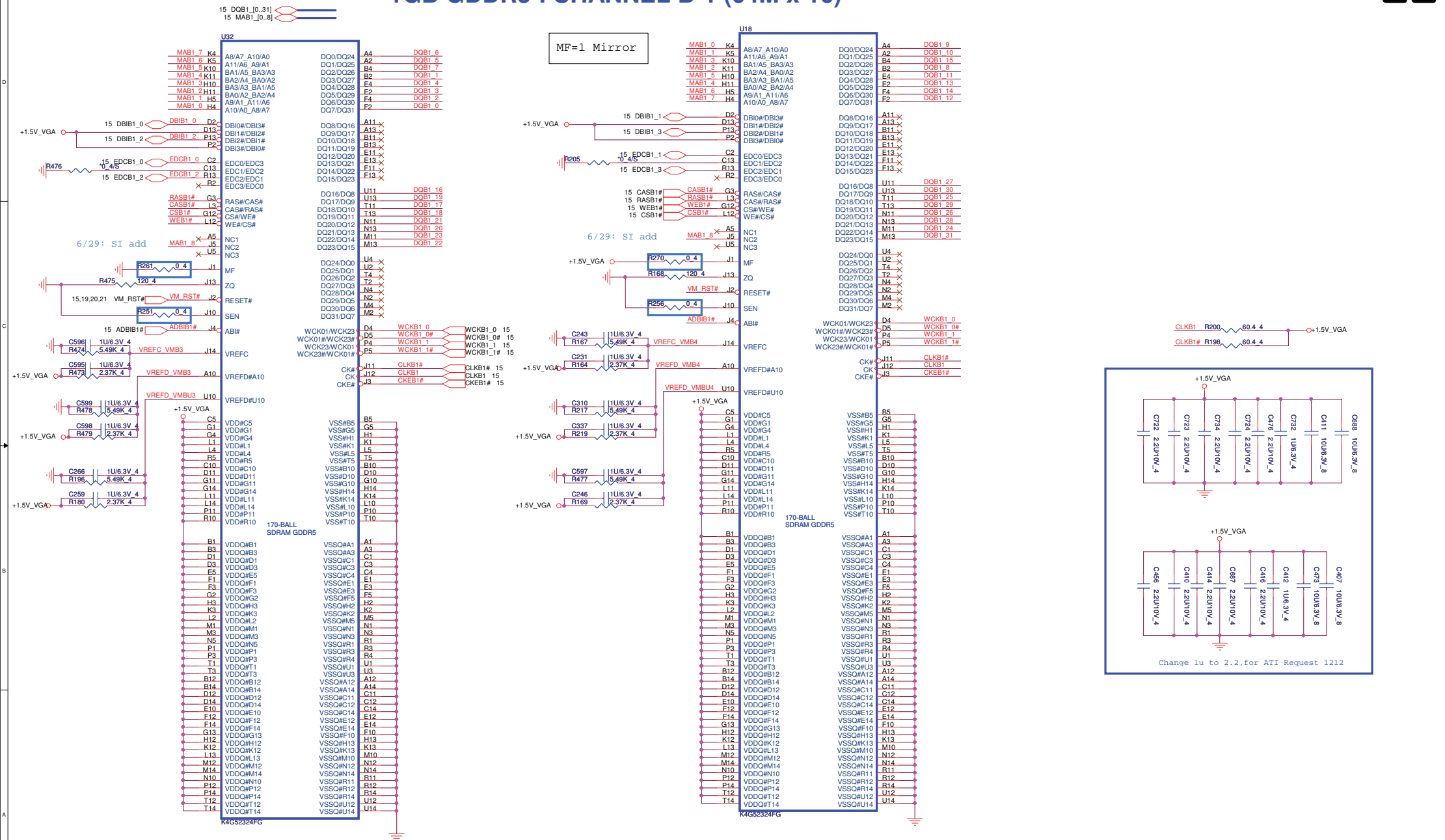
1GB GDDR5 : CHANNEL A-0 (64M x 16)



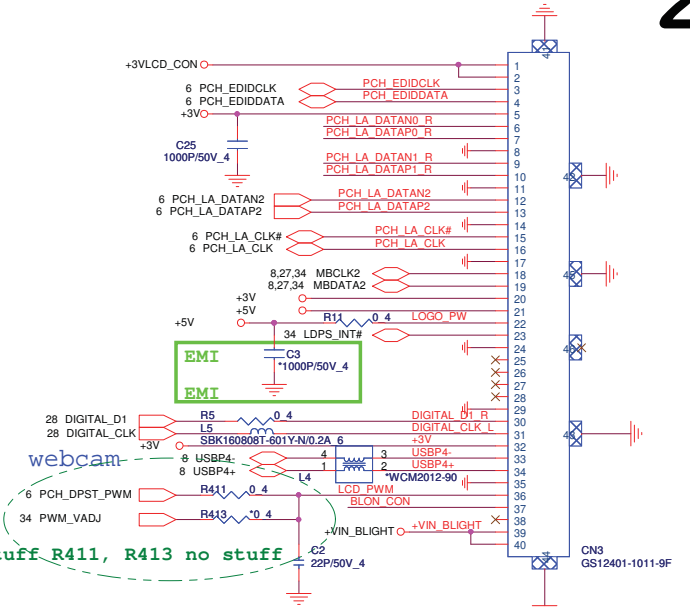
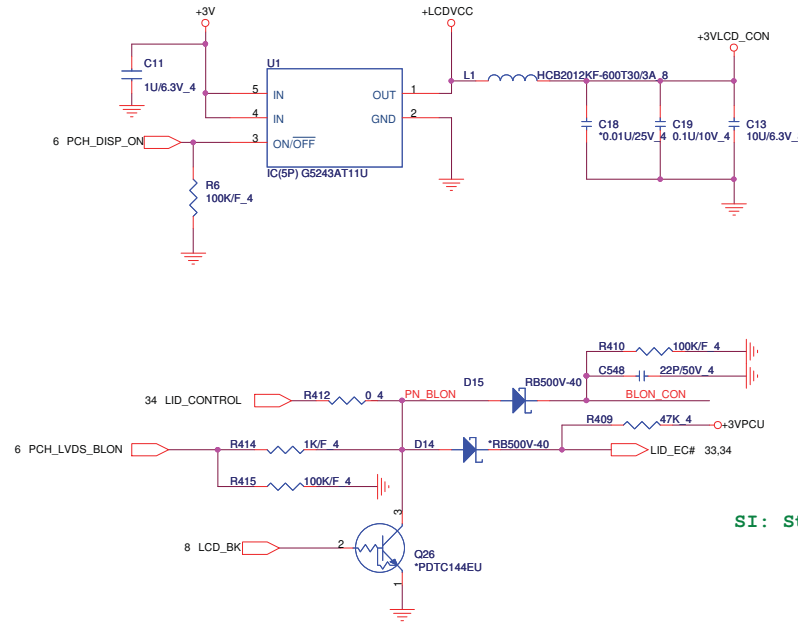
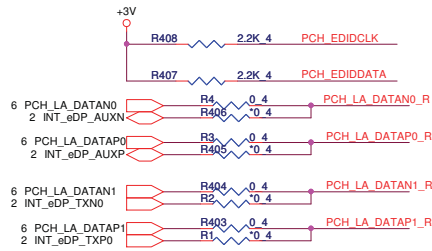




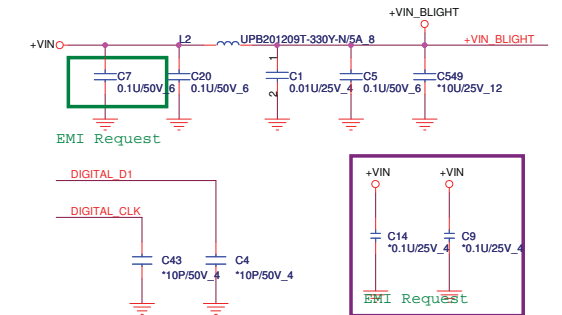
1GB GDDR5 : CHANNEL B-1 (64M x 16)



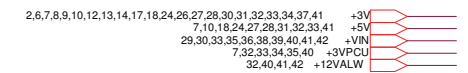
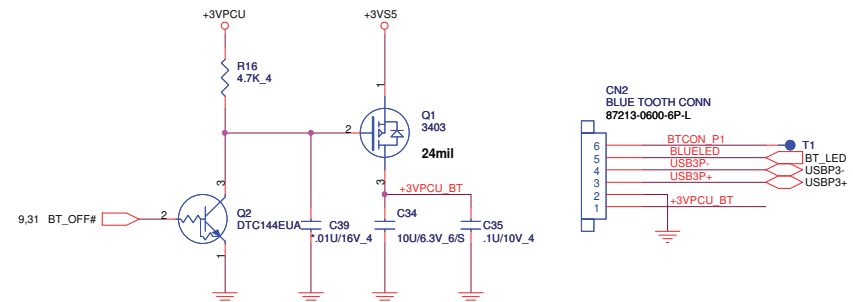
eDP/LVDS Option



SI: Stuff R411, R413 no stuff

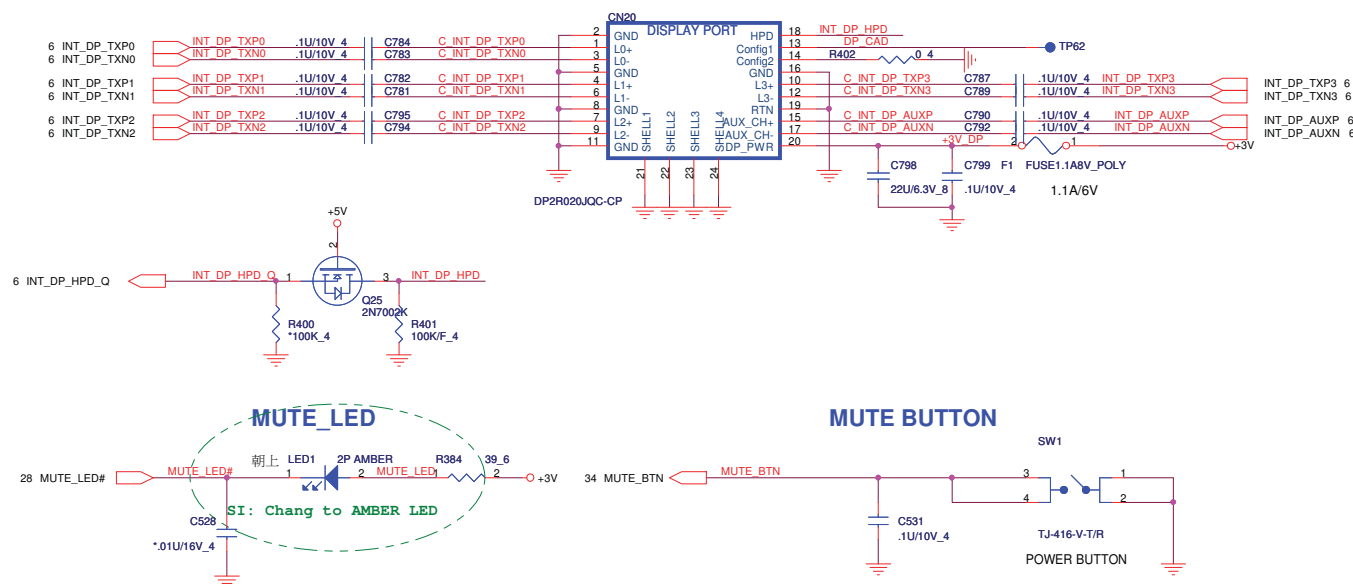


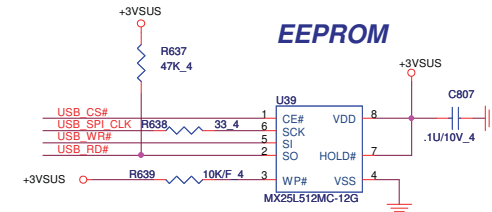
Softbreeze Bluetooth



	PROJECT : SPJ		
	Quanta Computer Inc.		
Size Custom	Document Number	LCD / BT CONN	
Date: Thursday, October 07, 2010	Sheet 23	of 42	

Standard Display Port Connector





WICM2012-90
R17

USB3P1- C 1
USB3P1+ C 4

+5VSUS USBP0 2
USB3P1- C 3
USB3P1+ C 3

USB30 RX1-
USB30 RX1+

USB30 TX1- C800 1U/10V 4
USB30 TX1+ C801 1U/10V 4

USB30 CTX1-
USB30 CTX1+

CN22

USB3.0 CONN

1 VBUS
2 D-
3 D+
4 GND
5 SSRX-
6 SSRX+
7 GND
8 SSTX-
9 SSTX+
10 GND

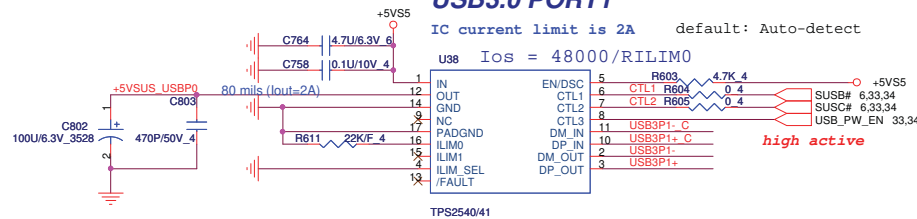
13
12
11
10
9
8
7
6
5
4
3
2
1

Clock select signal	
USB3.0_CSEL	High = External 48Mhz
	Low = 24MHz X'tal

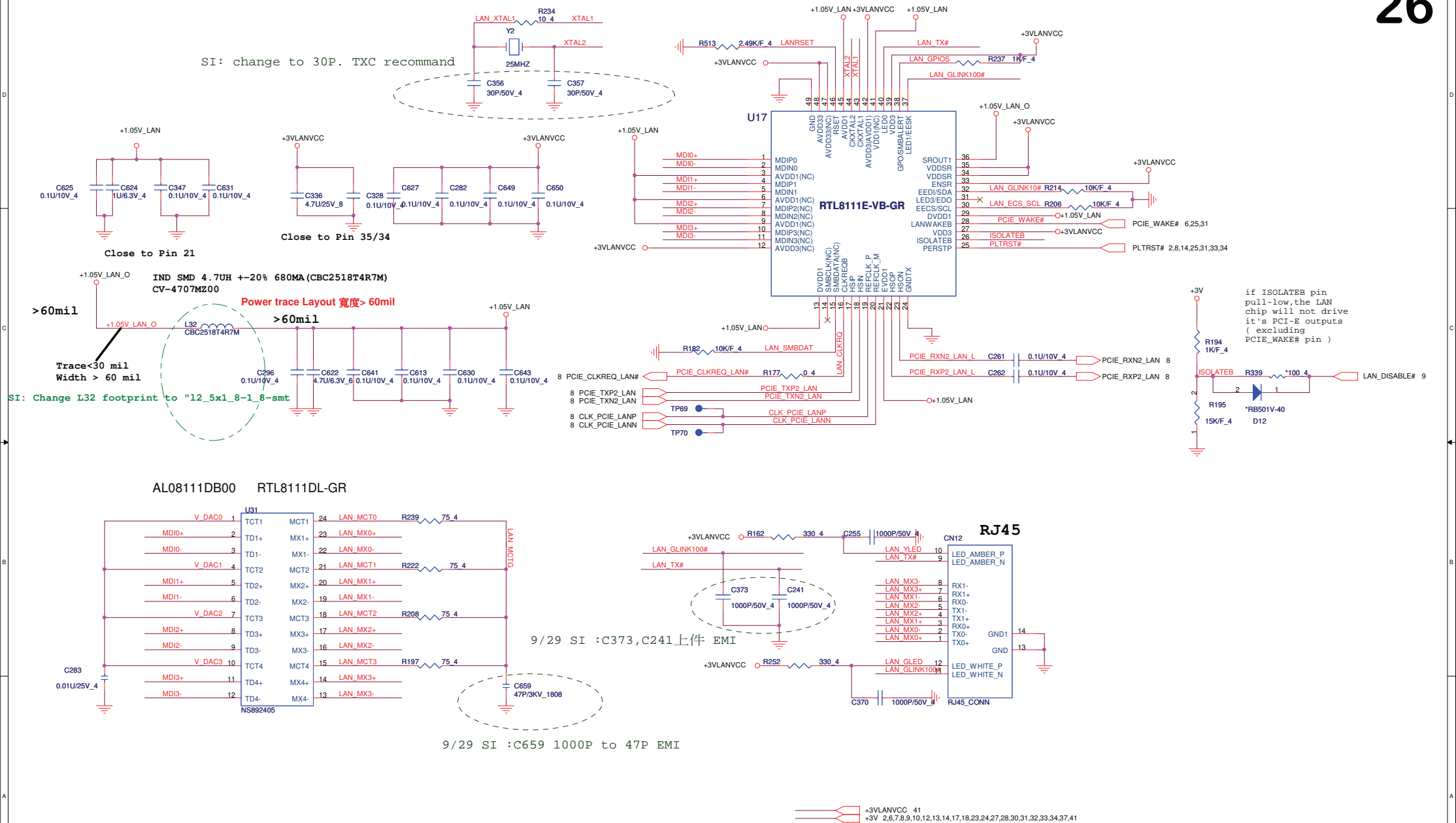
USB3.0 PORT1

IC current limit is 2A default: Auto-detect

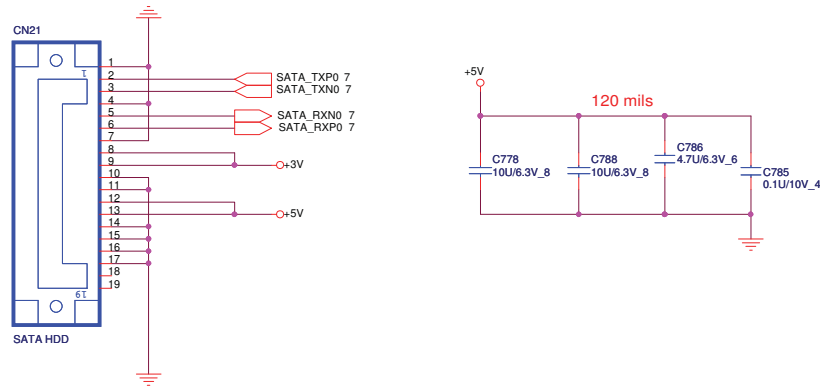
```
U38  IOS = 48000/RILIM0
```



Size Custom	Document Number USB3.0	Rev 1A
Date: Thursday, October 07, 2010		Sheet 25 of 42

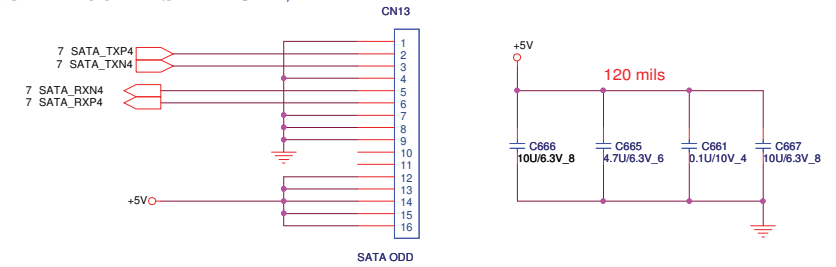


SATA_1 HDD CONNECTOR



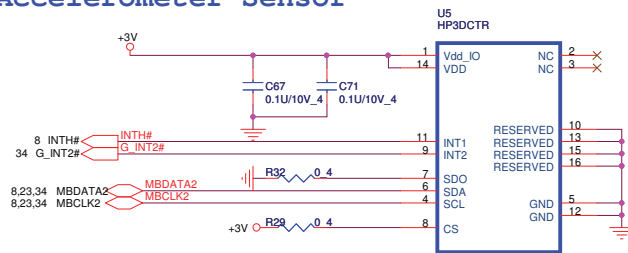
SATA_2 ODD CONNECTOR

2.5A >100mils TO M/B




Accelerometer Sensor

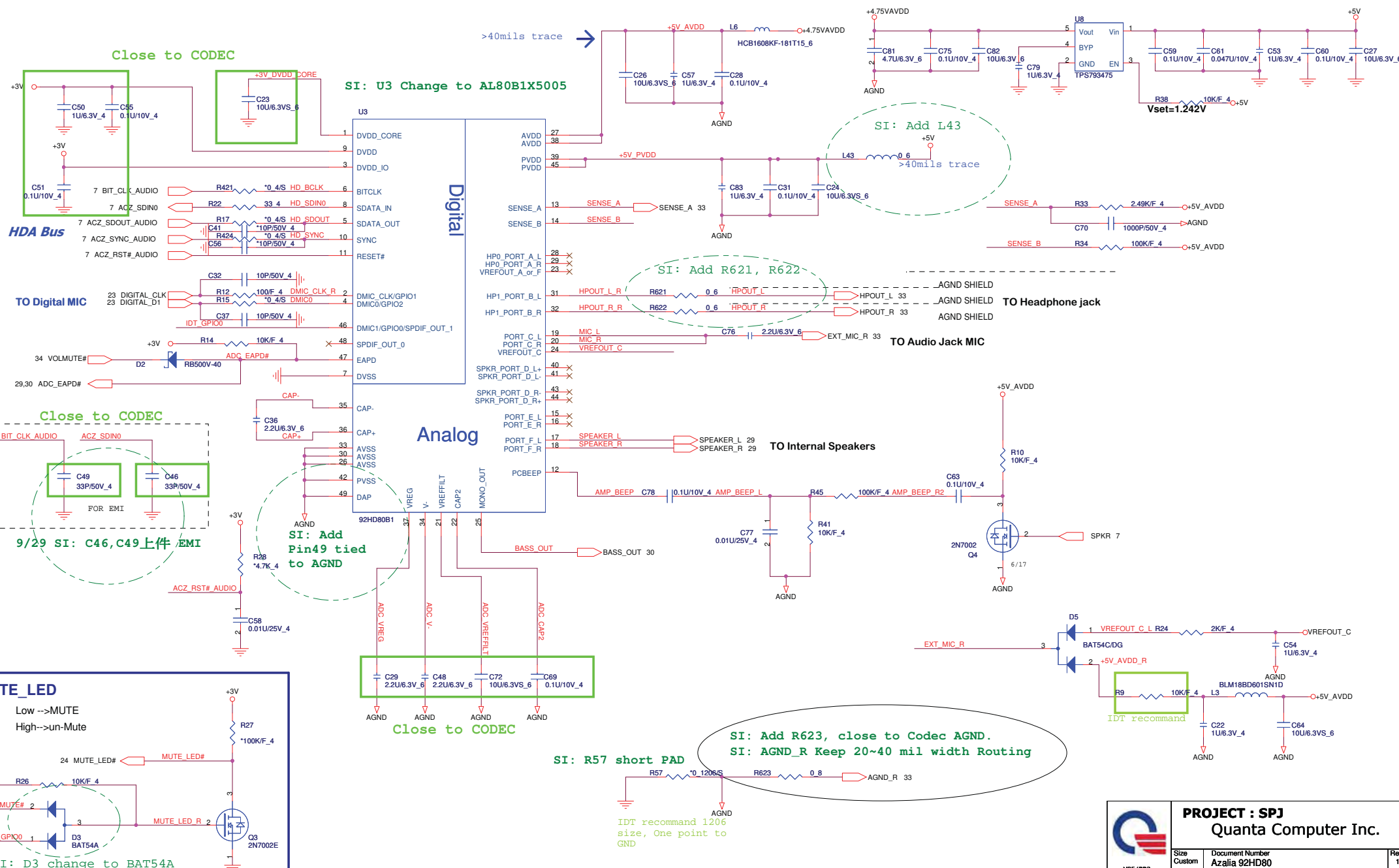
SGT-HP3DCTR interrupt pin default
is low / active Hi , BIOS need to
programming 22h to change status
from active Hi to low



Pin 12: Low 38hex
Pin 12: unconnected/floating 3Ahex

	PROJECT : SPJ		
	Quanta Computer Inc.		
Size Custom	Document Number HDD/ODD/G-Sen	Rev 1A	
Date: Thursday, October 07, 2010	Sheet 27	of 42	

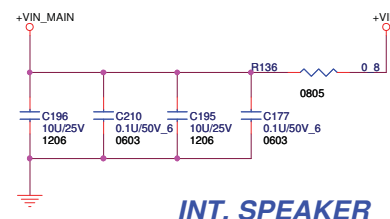
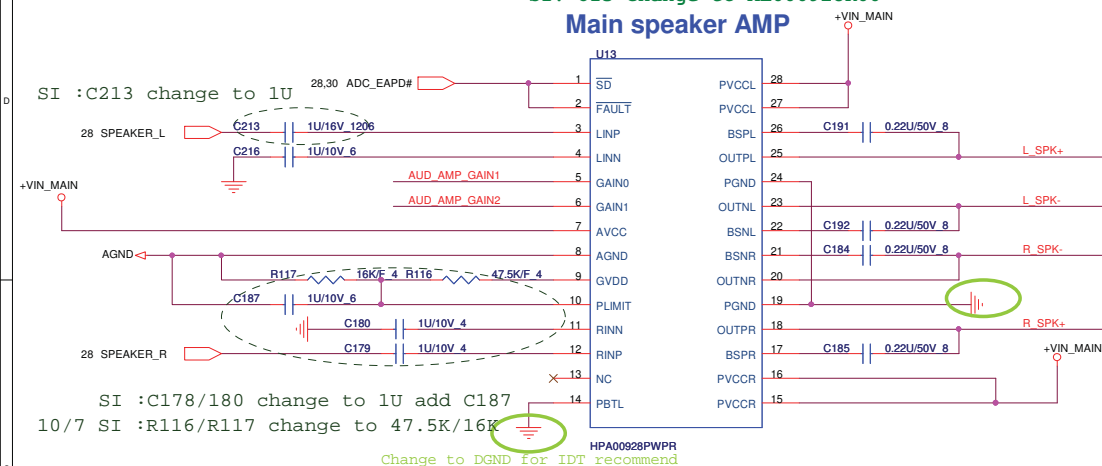
A minimum of 15 mils separation should be used between L/R signals to audio jacks and docks.



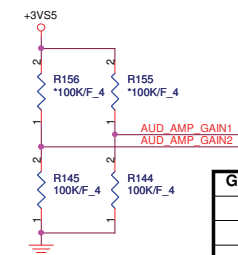
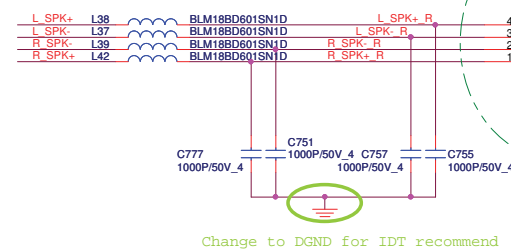
23,30,33,35,36,38,39,40,41,42 +VIN
2,6,7,8,9,10,23,35,36,37,41,42 +3V55

SI: U13 Change to AL000928K00

Main speaker AMP



SI: CN19 change to 4 Pin Connector

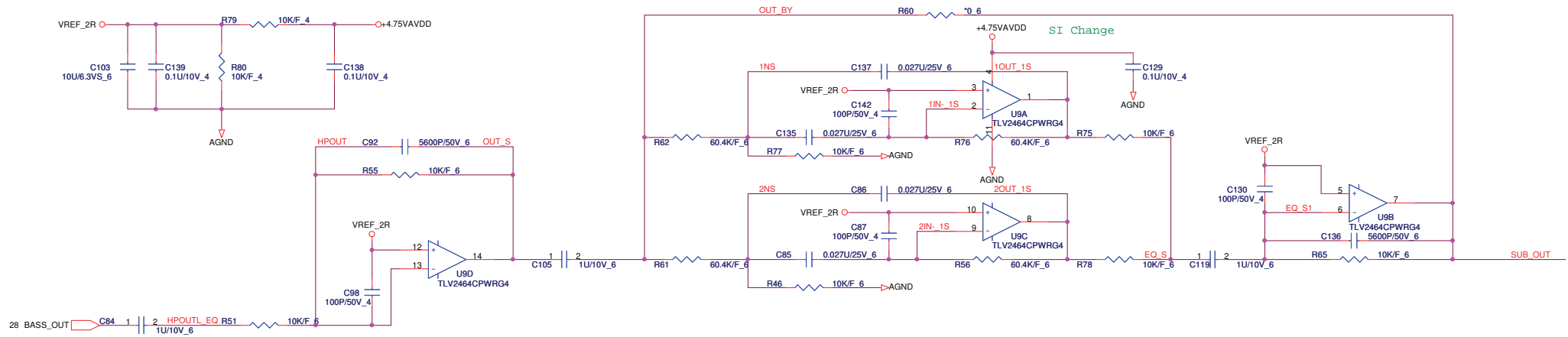


GAIN2	GAIN1	GAIN
0	0	20dB
0	1	26dB
1	0	32dB
1	1	36dB

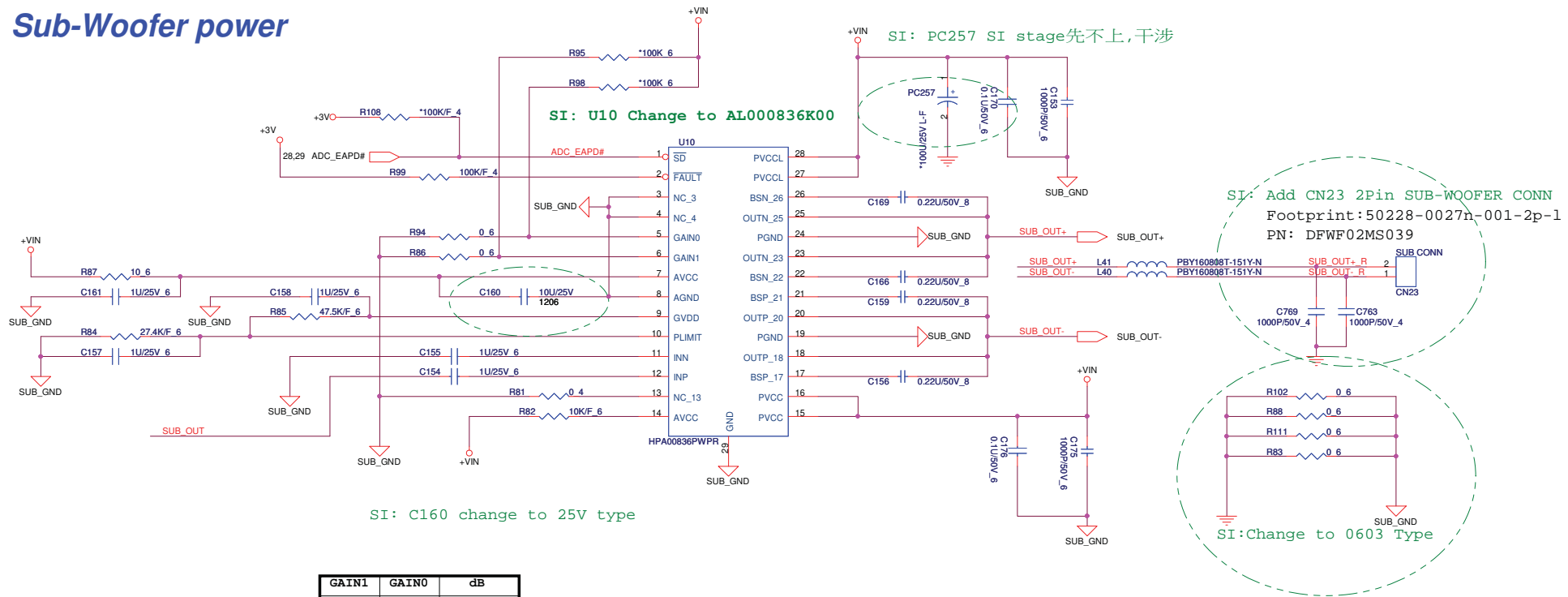


PROJECT : SPJ
Quanta Computer Inc.

Size Custom Document Number **Speaker/ AMP TPA3113D2** Rev 1A
Date: Friday, October 08, 2010 Sheet 29 of 42




Sub-Woofer power



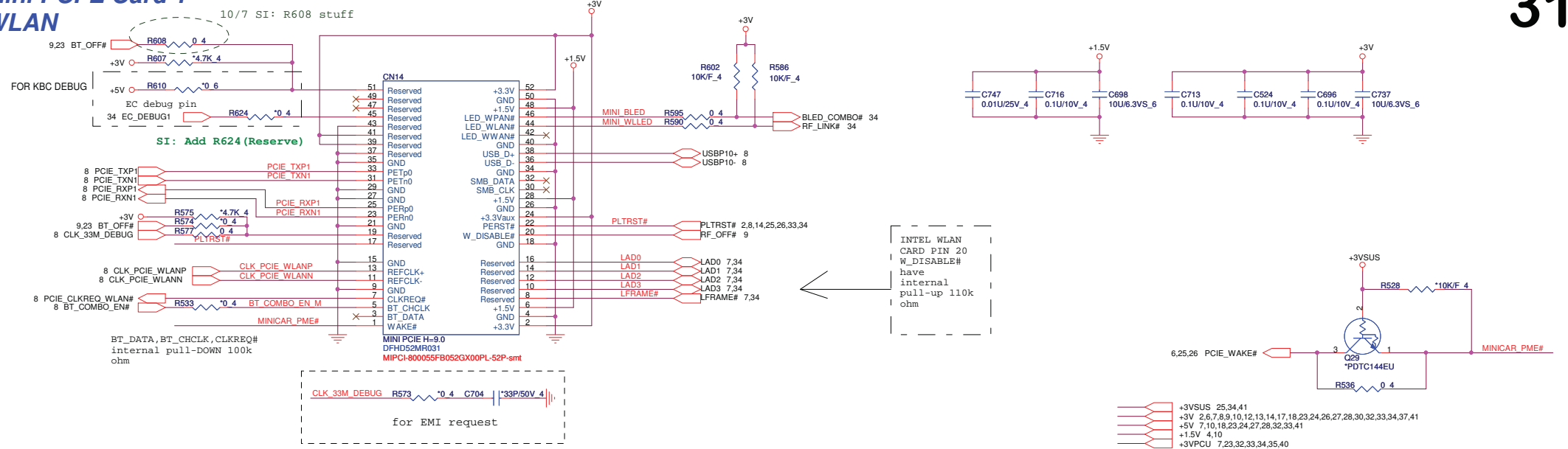
GAIN1	GAIN0	dB
0	0	20
0	1	26
1	0	32
1	1	36

+3V 2,6,7,8,9,10,12,13,14,17,18,23,24,26,27,28,31,32,33,34,37,41
+4.75VAVDD 28
+VIN 23,29,33,35,36,38,39,40,41,42

 PROJECT : SPJ Quanta Computer Inc.		
Size Custom	Document Number SUBWOOFER (EQ & AMP.)	Rev 1A
Date: Thursday, October 07, 2010 Sheet 30 of 42		

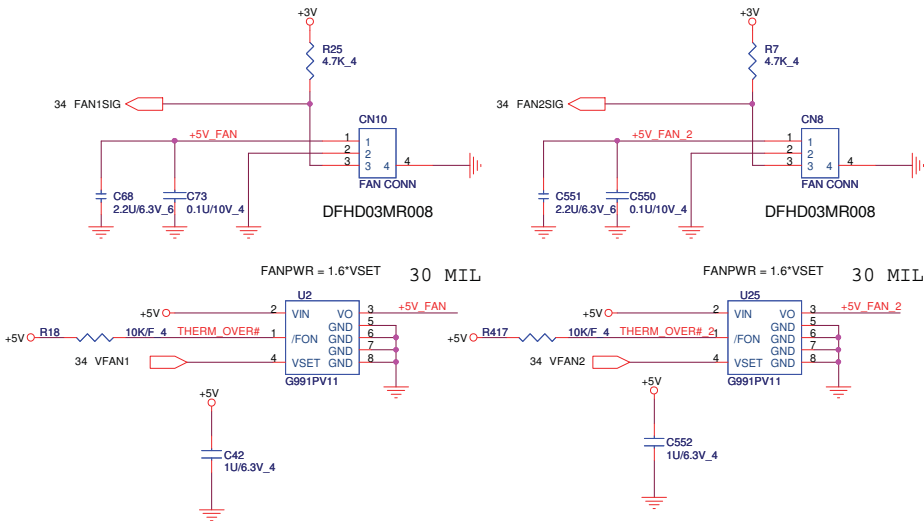
Mini PCI-E Card 1 WLAN


31



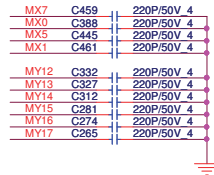
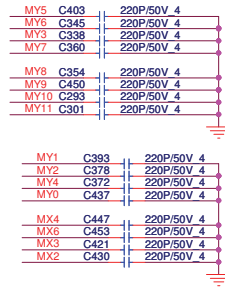
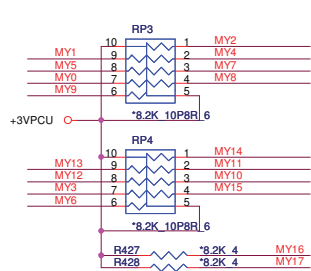
CPU FAN

GPU FAN



	PROJECT : SPJ		
	Quanta Computer Inc.		
	Size Custom	Document Number	Rev 1A
	MINI PCIE CONN/FAN		
NB5/RD2	Date: Friday, October 08, 2010	Sheet 31	of 42

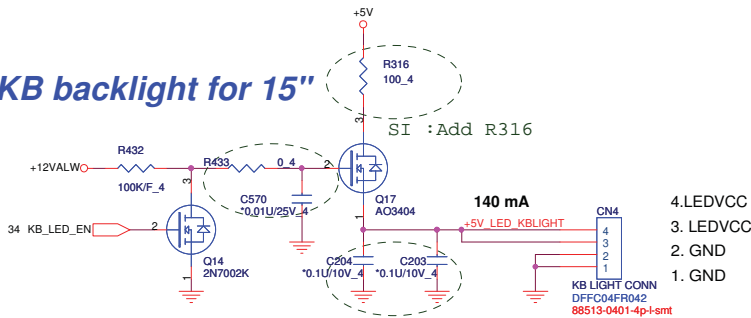
KEYBOARD PULL-UP



clear ABS 758 resin for key cap.

7 LEDs for 15.4" (total LED current 140mA)

KB backlight for 15"



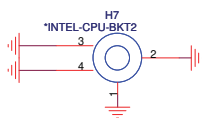
SI :R433 change to 0 ohm

SI :Del C570,C204,C203

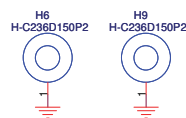
- 4.LEDVCC
- 3.LEDVCC
- 2.GND
- 1.GND

PCB Holes

CPU

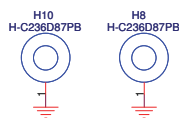


GPU



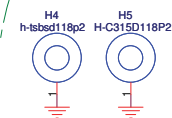
SI: Use NUT for GPU FAN
(BOT Side)
PN:MBSPJ001010

Wireless



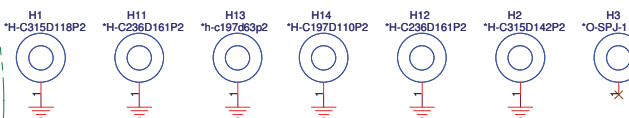
SI: Use NUT for Mini
Card
(BOTSide)
PN: MBKL1003010

FAN

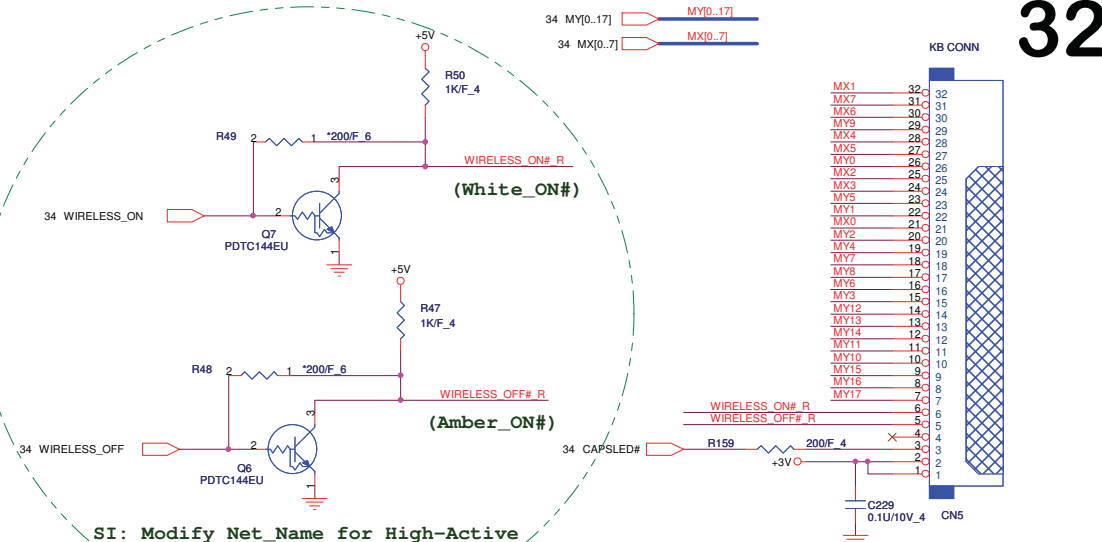


SI: Use NUT for FAN
(TOP Side)
PN:MBSPJ001010

Hole

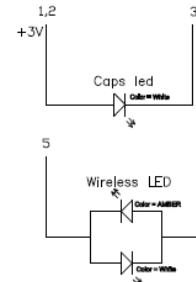


- +3V 2,6,7,8,9,10,12,13,14,17,18,23,24,26,27,28,30,31,33,34,37,41
- +5V 7,10,18,23,24,27,28,31,33,41
- +3VPCU 7,23,33,34,35,40
- +12VALW 40,41,42



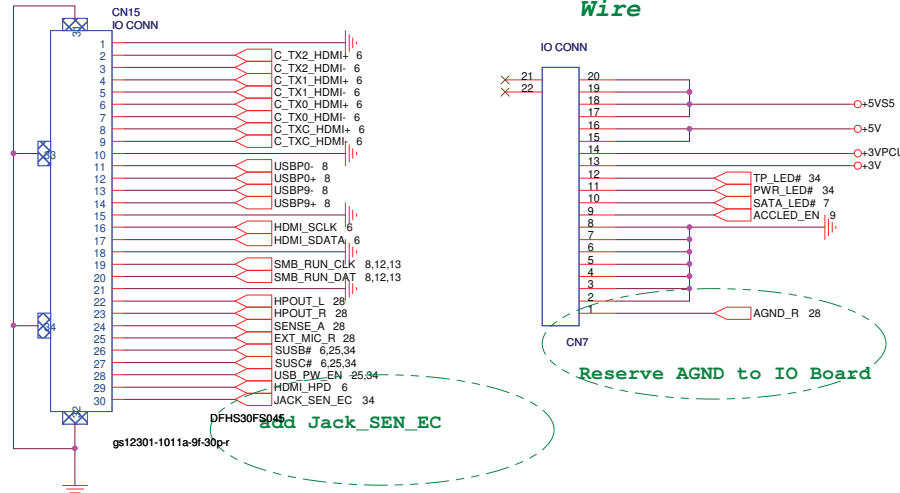
SI: Modify Net_Name for High-Active

PIN 8,7,4 NC



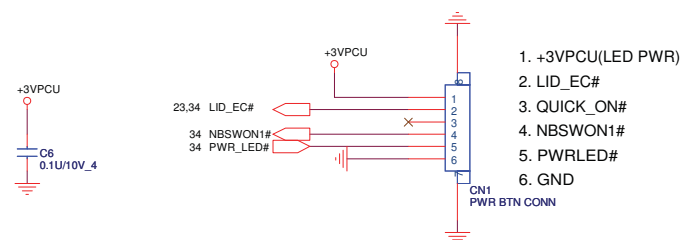
MX0	21	30	112	50	119	56	51	13	123	62	126	76
MX1	32	110	115	127	35	118	36	41	122	15	124	
MX2	25	58	16	114	21	117	28	22	27	121	80	
MX3	24	1	113	6	116	45	59	7	12	120	129	85
MX4	28	64	31	33	14	34	32	38	37	40	39	86
MX5	27	46	48	131	49	47	53	52	44	55	54	81
MX6	30	2	4	132	5	3	9	8	11	10	60	89
MX7	31	17	19	133	20	18	24	23	57	26	25	83
MY0	26	22	20	15	19	23	16	18	17	29	10	9
MY1												
MY2												
MY3												
MY4												
MY5												
MY6												
MY7												
MY8												
MY9												
MY10												
MY11												
MY12												
MY13												
MY14												
MY15												

To HDMI/ 2x USB2.0/Audio/HDD_LED/PowerLED

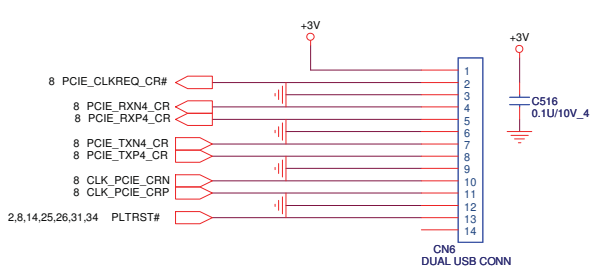


SI: Change CN15 Connector type, follow R11 LCD Conn. PN DFHS30FS045

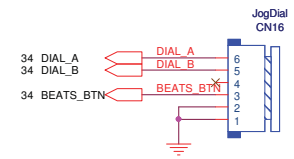
To PW_BT/Quick Board



To CR Board



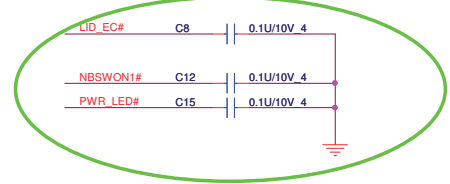
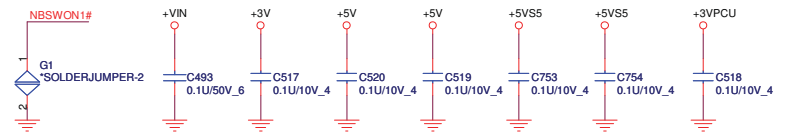
To JogDial Module



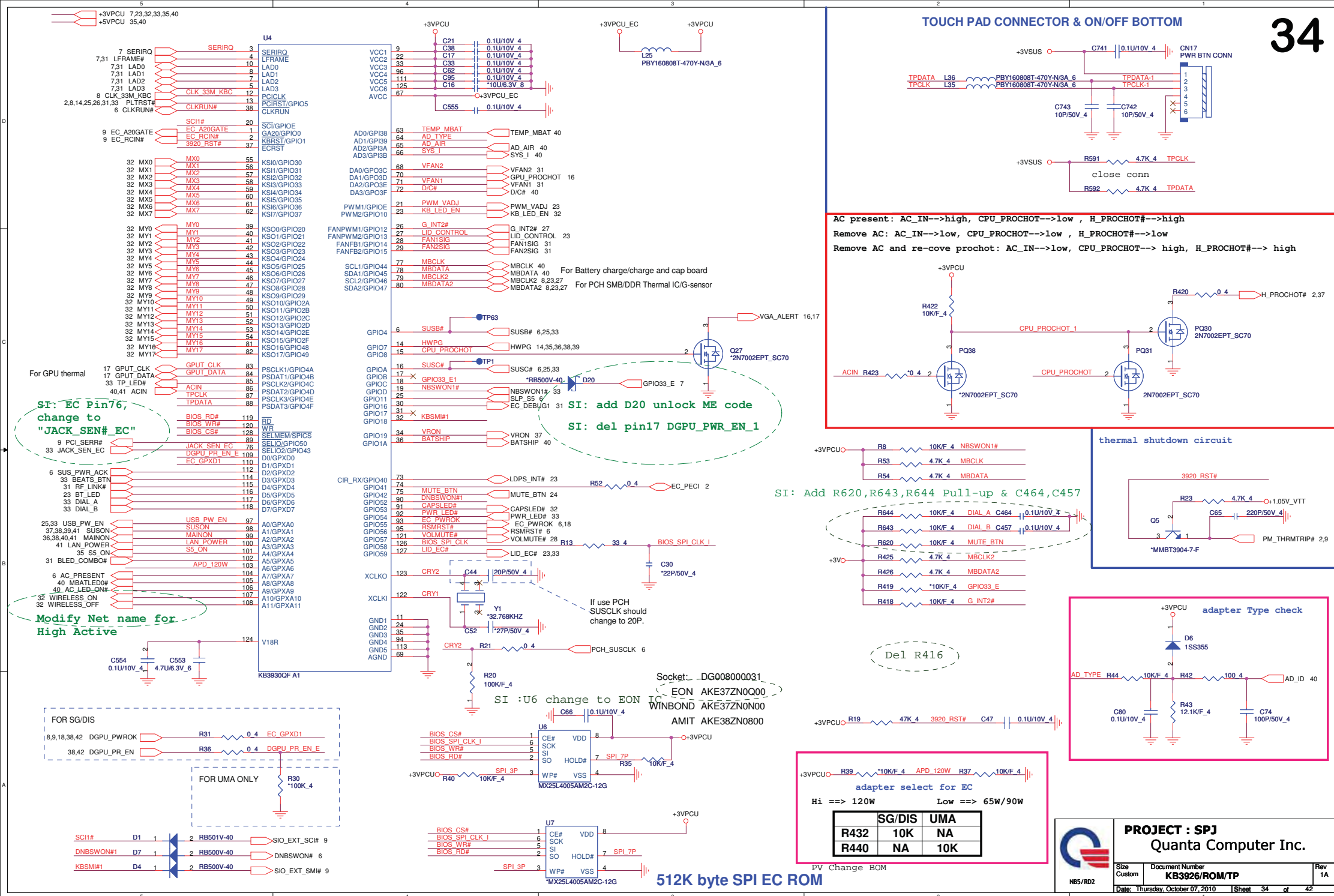
SI :Del C10

9/29 SI :C8,C12,C15土件 EMI

8/11 for EMI (DB)



	PROJECT : SPJ		
	Quanta Computer Inc.		
Size Custom	Document Number	BTB Connectors	
NBS/RD2	Date: Thursday, October 07, 2010	Sheet 33	of 42



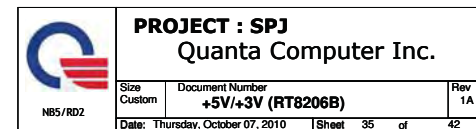


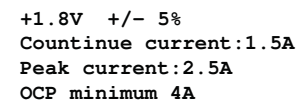
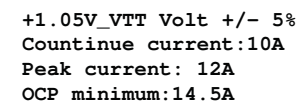
SI modify 10/1

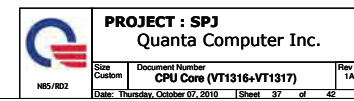
SI modify 9/24

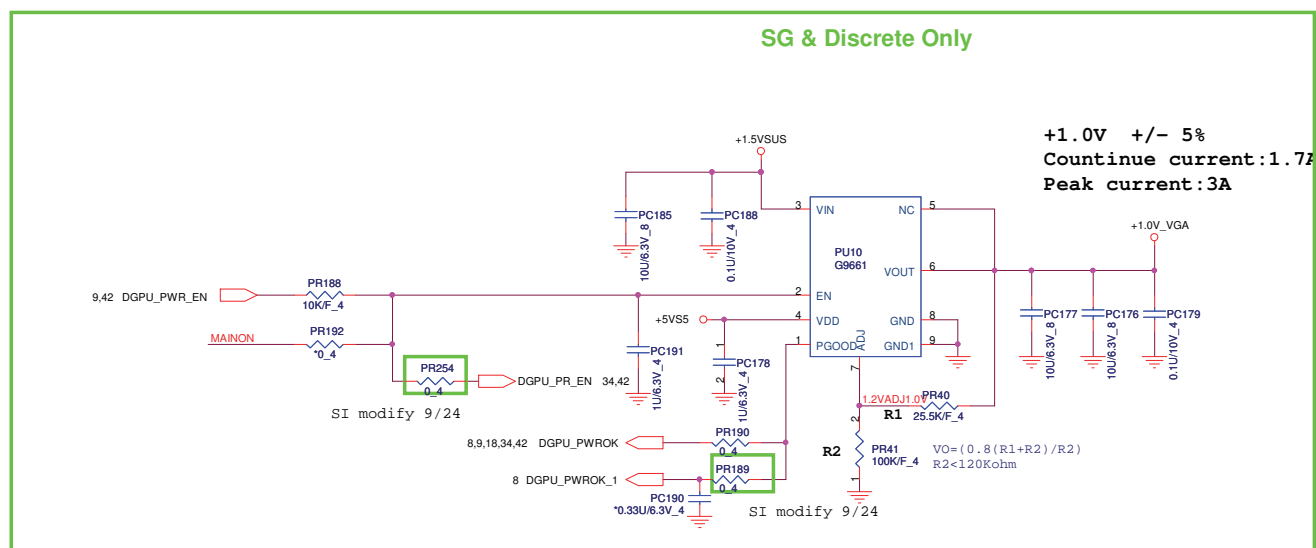
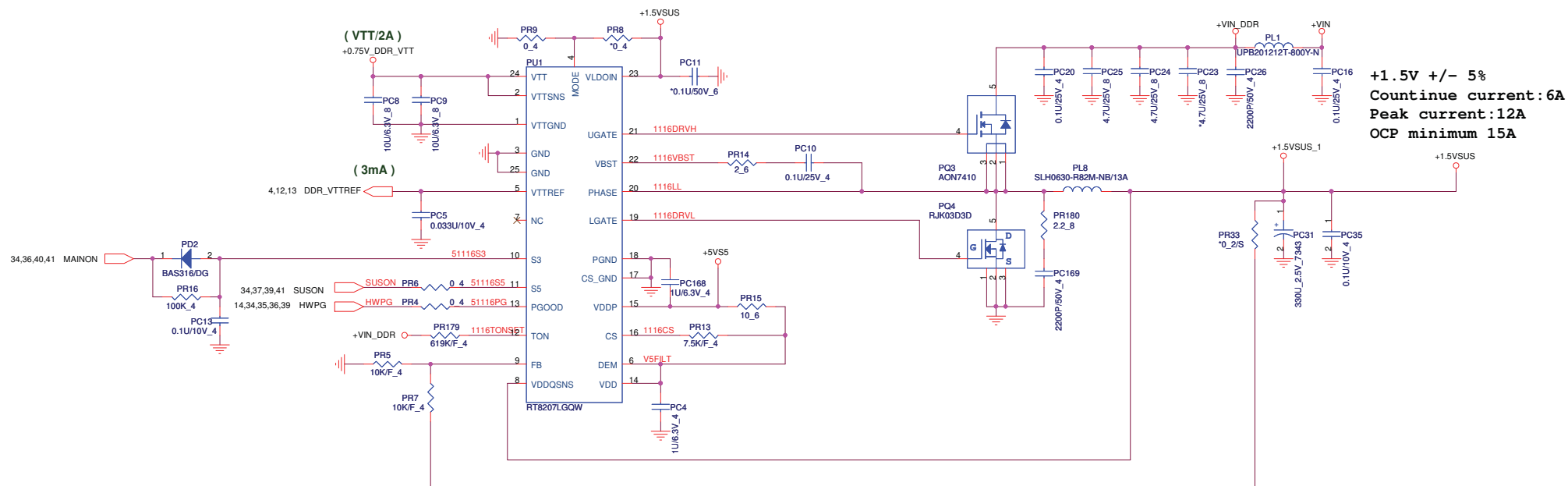
+3.3 Volt +/- 5%
Continue current:4A
Peak current:6A
OCP minimum:7.5A

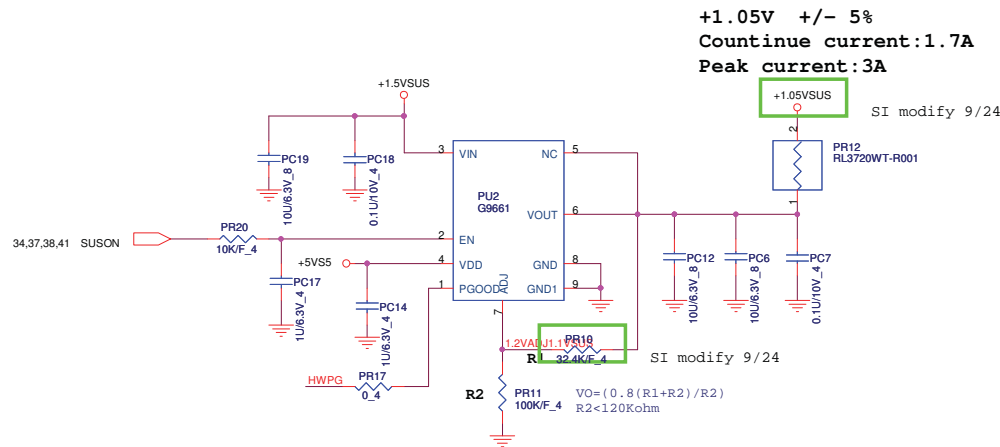
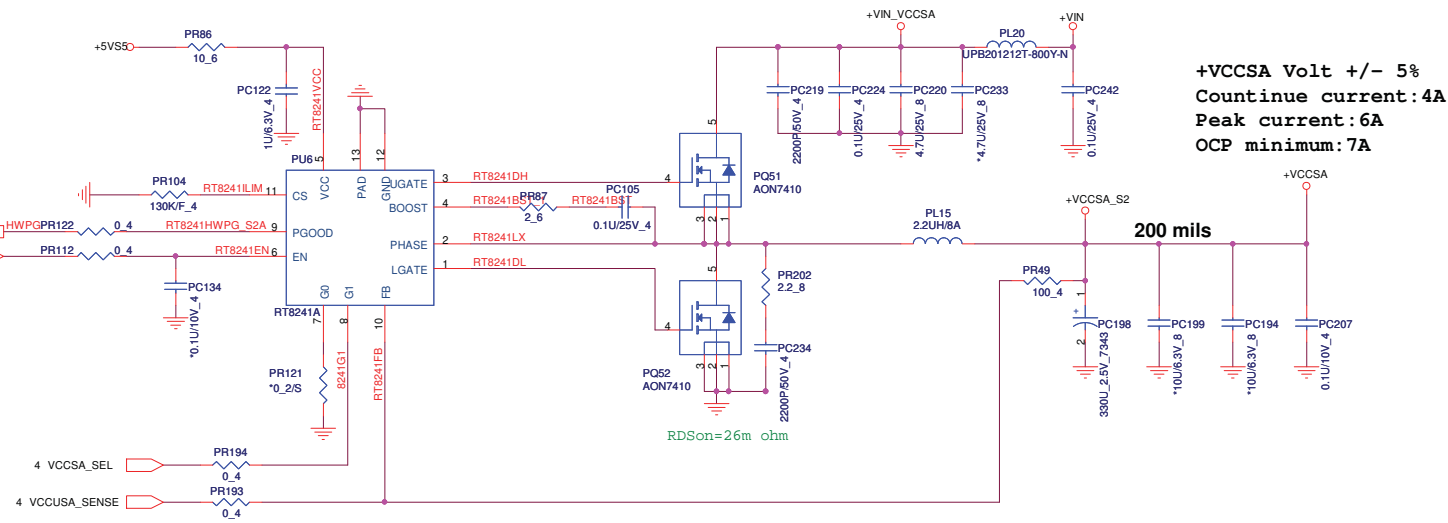
SI modify 9/24

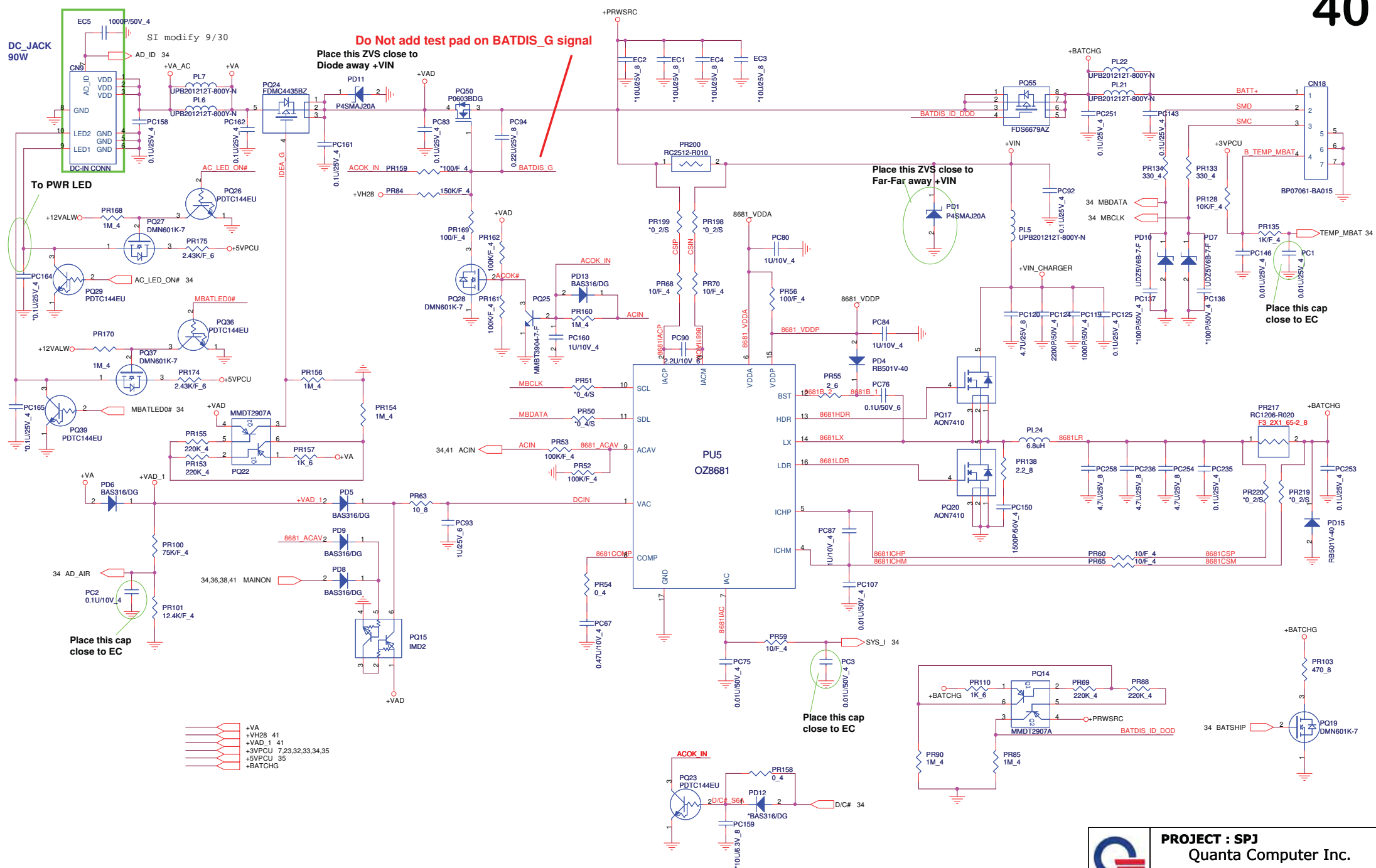


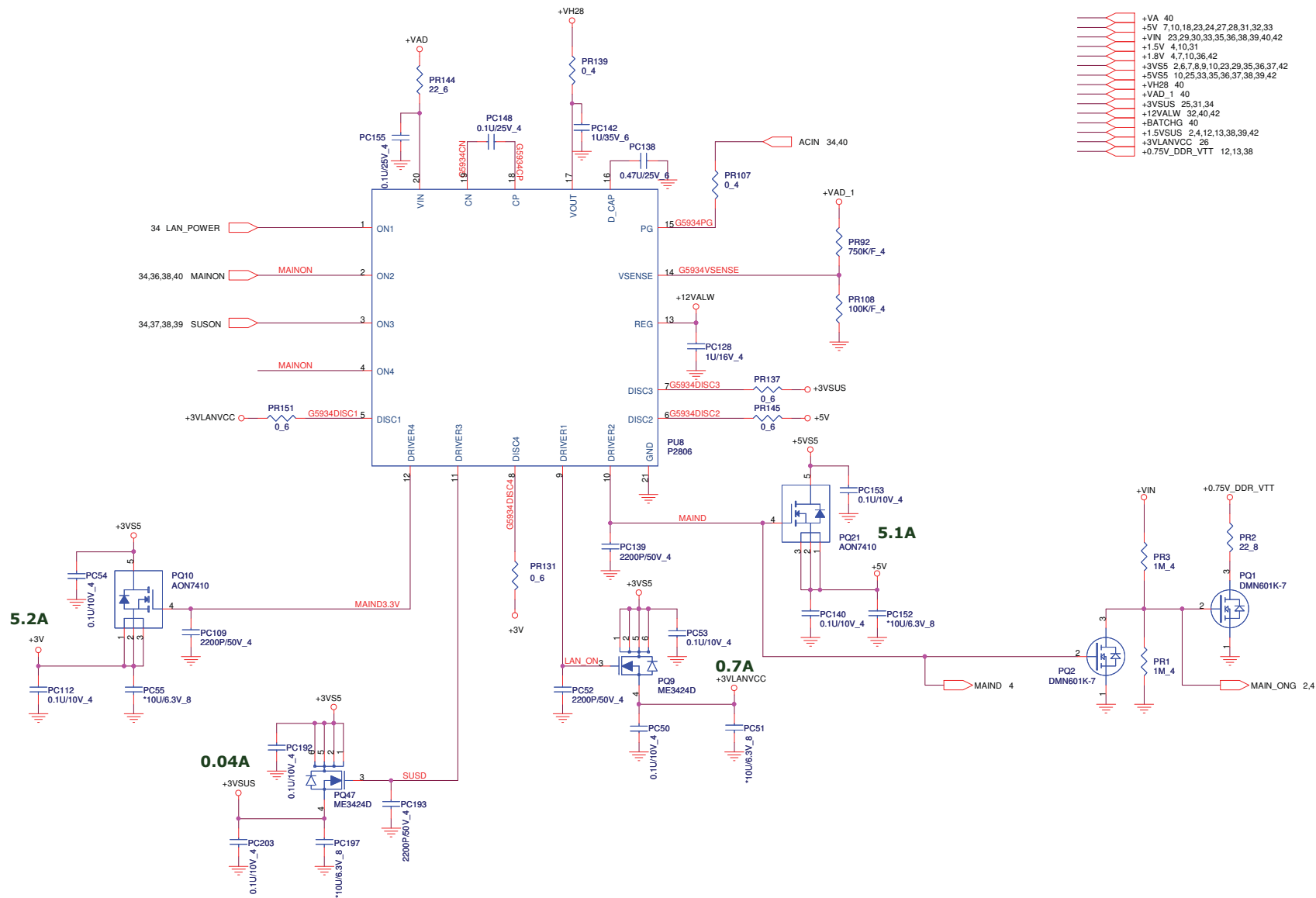


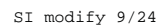












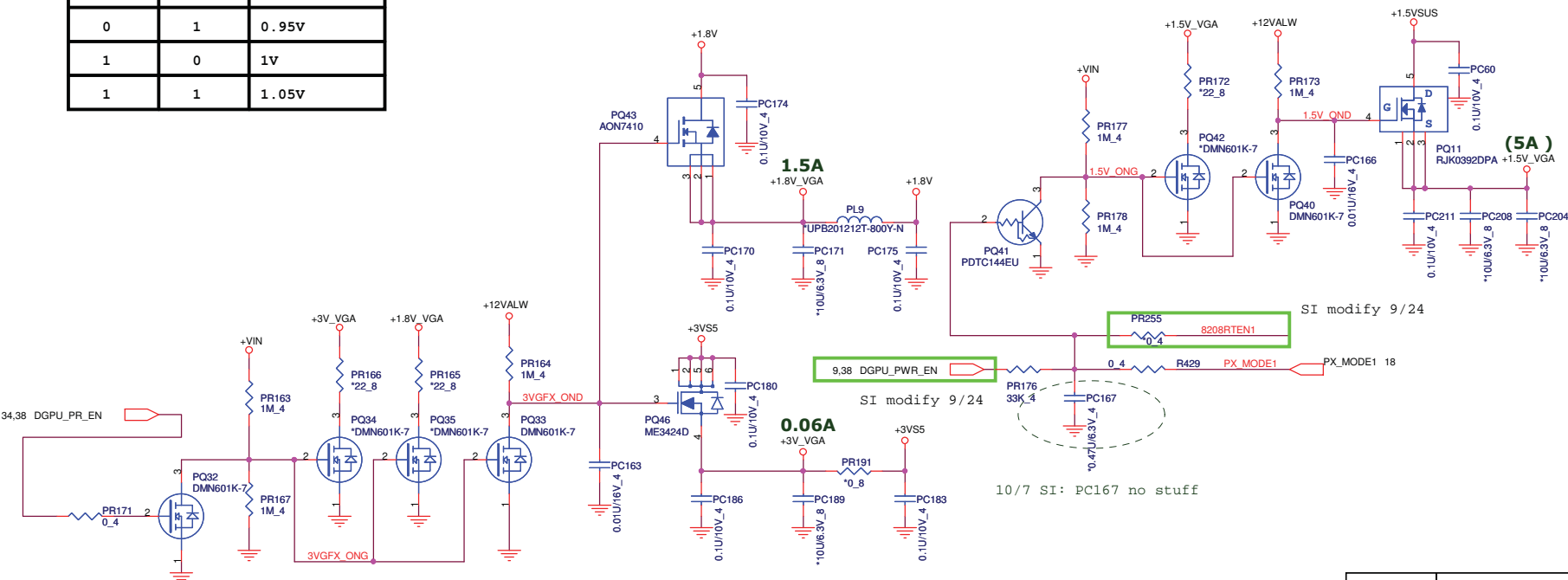
44 +VGACORE +/- 5%
Continue current:20A
Peak current:25A
OCP minimum 32A

600 mils

$$V_o = 0.75 (R_1 + R_2) / R_2$$

Whistler PRO G5

PWRCNTL0	PWRCNTL1	Voltage
0	0	0.9V
0	1	0.95V
1	0	1V
1	1	1.05V



PROJECT : SPJ
Quanta Computer Inc.

Size	Custom
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Document Number	+VGACORE (RT8208/1.8V)
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Rev
1A

Date: Friday, October 08, 2010

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