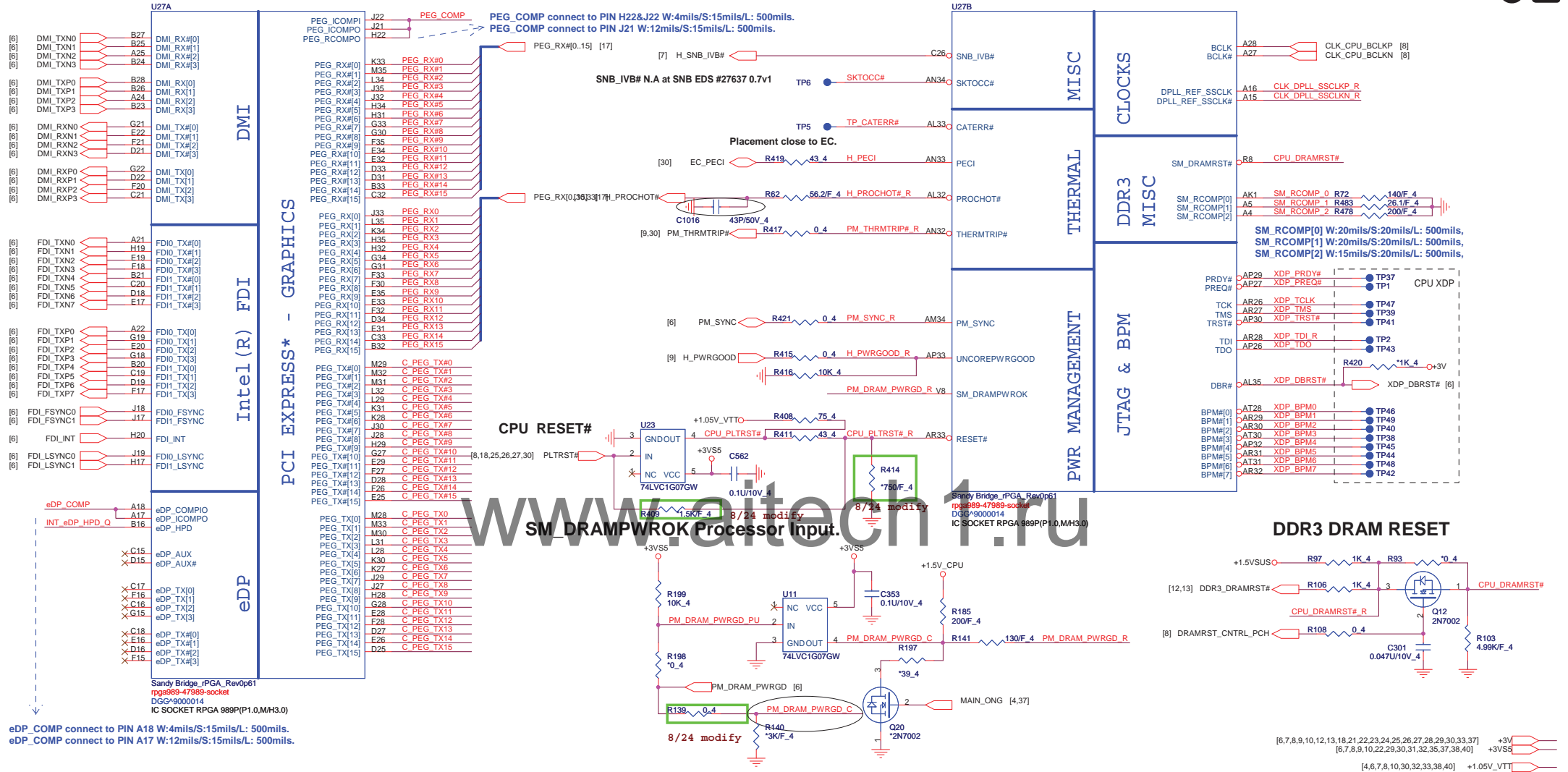
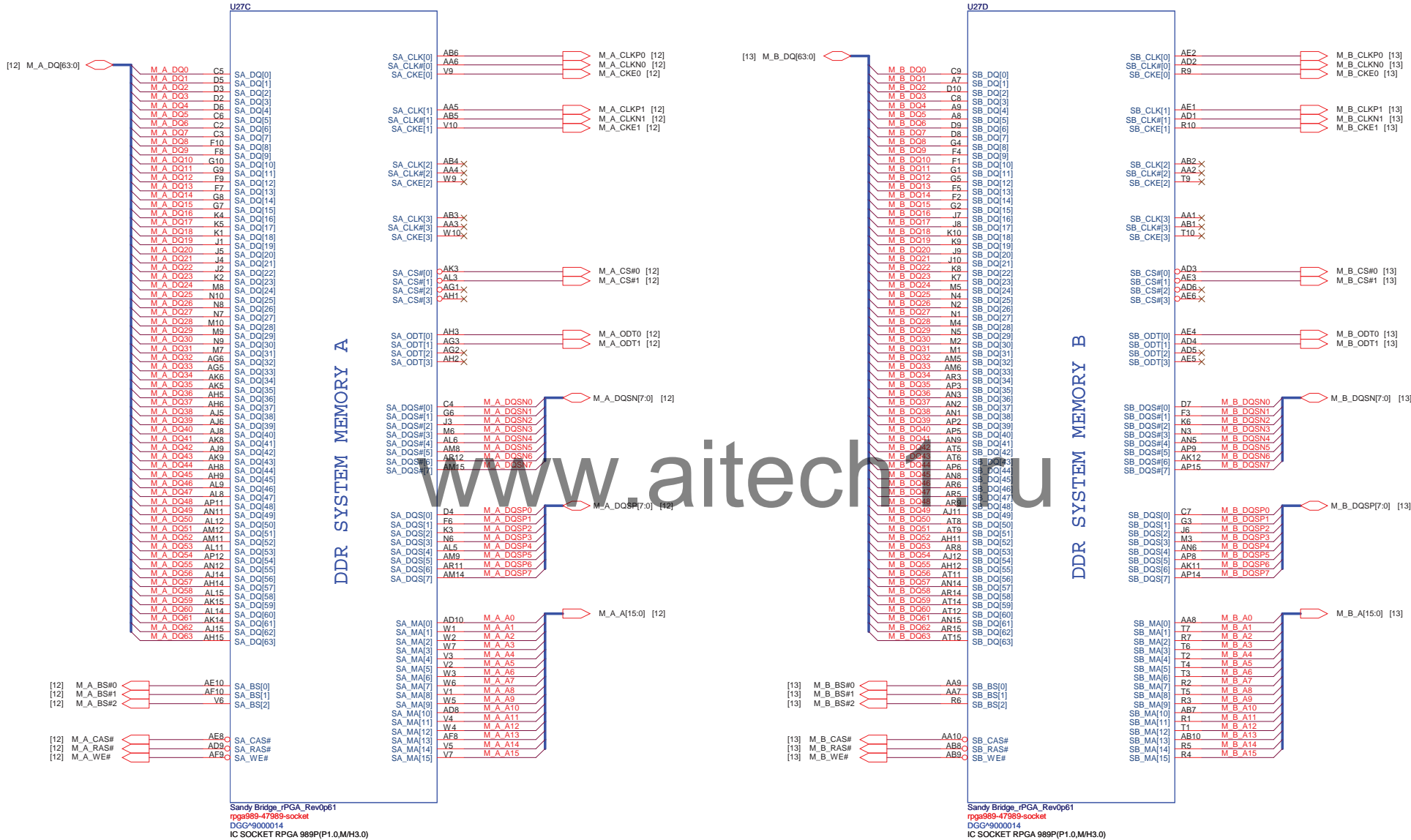
	PROJECT : SWH Quanta Computer Inc.		
	Size Custom	Document Number	Rev 1A
	Block Diagram		
Date: Tuesday, October 26, 2010		Sheet 1 of 41	

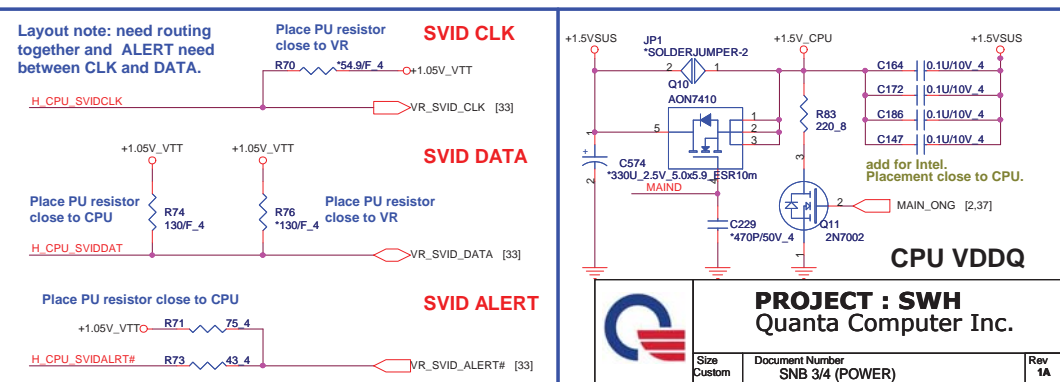


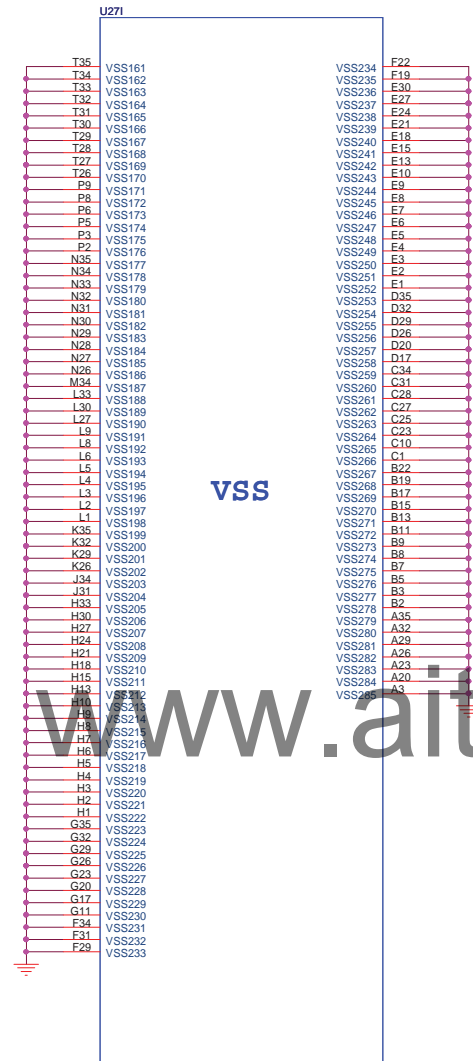
Sandy Bridge Processor (DDR3)



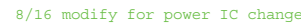
Sandy Bridge_rPGA_Rev0p61
rpg989-47989-socket
DGG-9000014
IC SOCKET RPGA 989P(P1.0,MH3.0)

Sandy Bridge_rPGA_Rev0p61
rpg989-47989-socket
DGG-9000014
IC SOCKET RPGA 989P(P1.0,MH3.0)

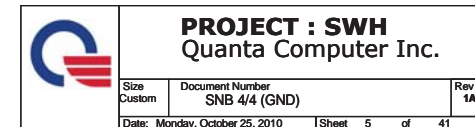




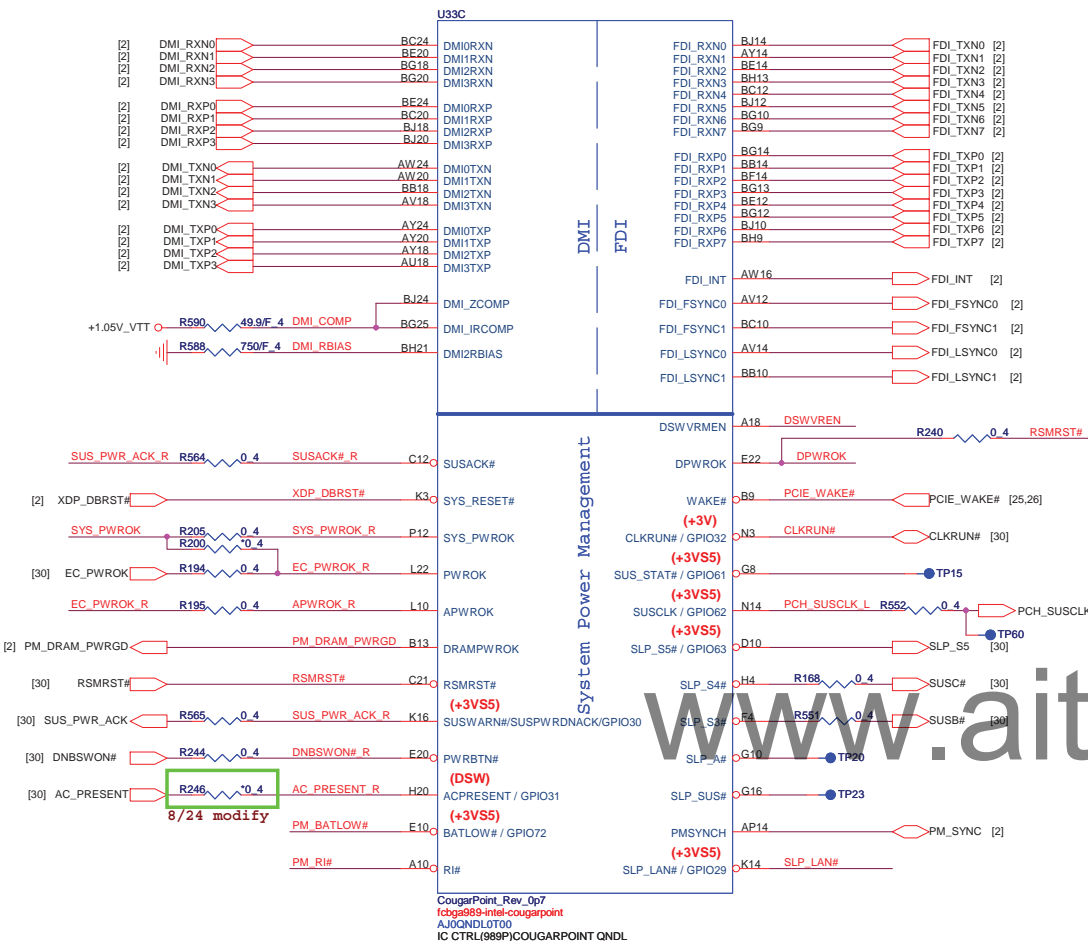
Sandy Bridge_rPGA_Rev0p61
rpga989-47989-socket
DGG^9000014
IC SOCKET RPGA 989P(P1.0,M/H3.0)



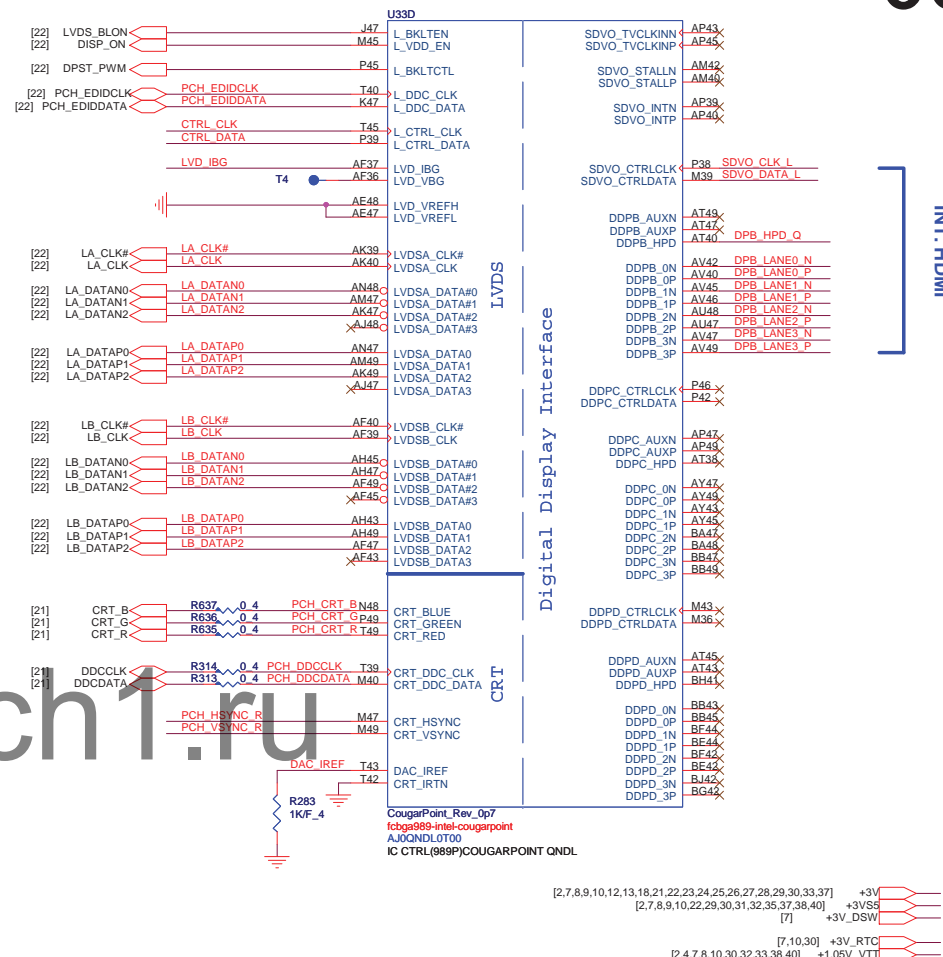
```
CFG[6:5] (PCIe Port Bifurcation Straps)
11: (Default) x16 - Device 1 functions 1 and 2 disabled
10: x8, x8 - Device 1 function 1 enabled ; function 2 disabled
01: Reserved - (Device 1 function 1 disabled ; function 2 enabled)
00: x8,x4,x4 - Device 1 functions 1 and 2 enabled
```



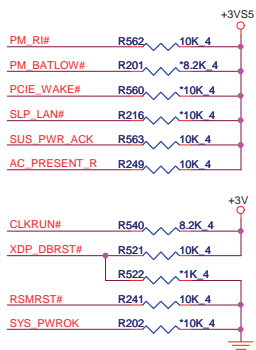
Cougar Point (DMI, FDI, PM)



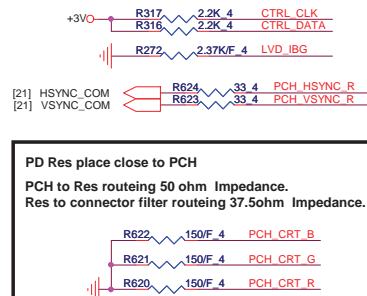
Cougar Point (LVDS, DDI)



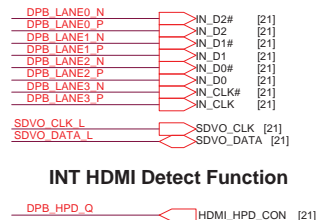
PCH Pull-high/low(CLG)



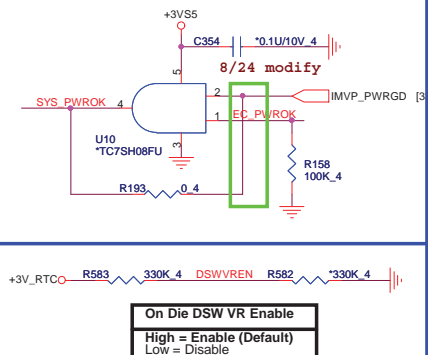
**INT LVDS & CRT disable
(DIS only remove)**



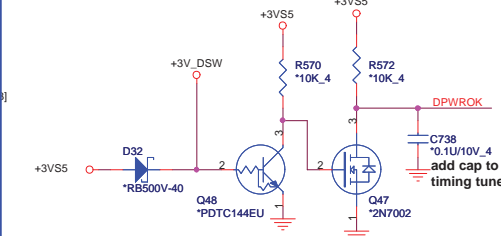
INT HDMI disable (DIS only remove)



System PWR_OK(CLG)



DPWROK FOR DSW

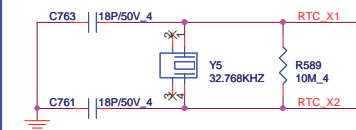


PROJECT : SWH
Quanta Computer Inc.

Size	Document Number
Custom	PCH 1/6 (DMI/FDI/VIDEO)

	Rev 1A
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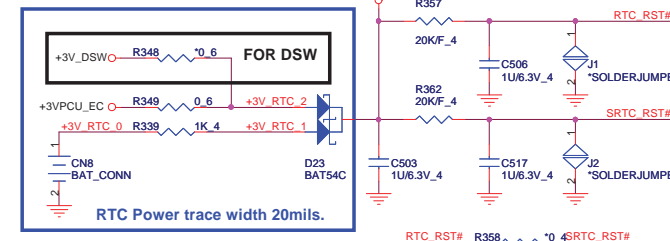
07



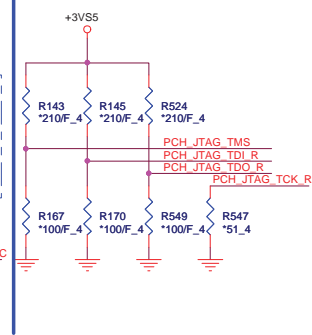
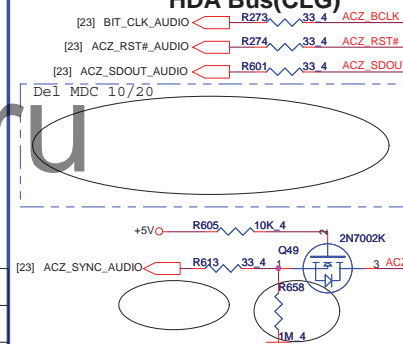
[28]
HDD0 (SATA3 6.0Gb/s)

[28] ODD (SATA3 6.0Gb/s)

DG recommended that AC coupling capacitors should be close to the connector (<100 mils) for optimal signal quality.

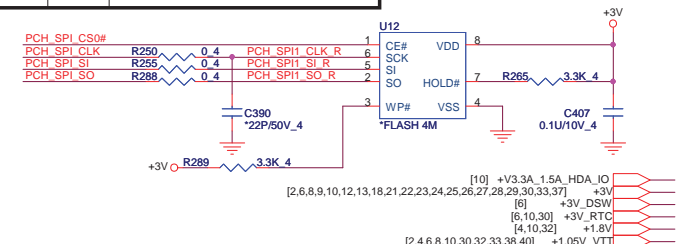


PCH JTAG Debug(CLG)



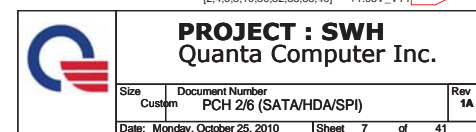
PCH SPI ROM(CLG)

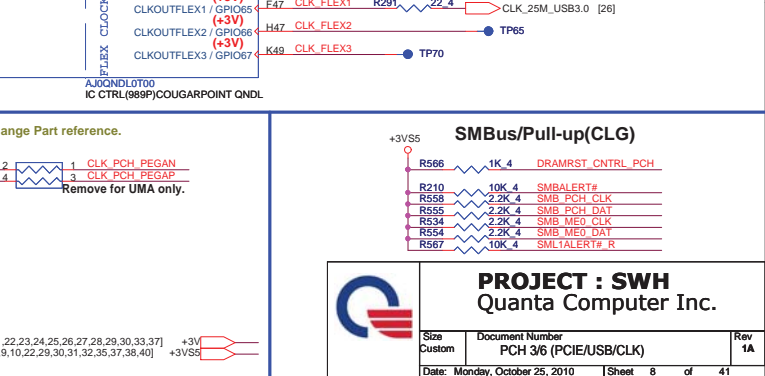
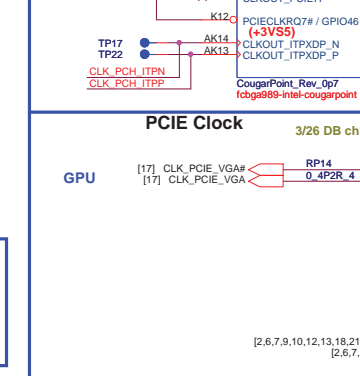
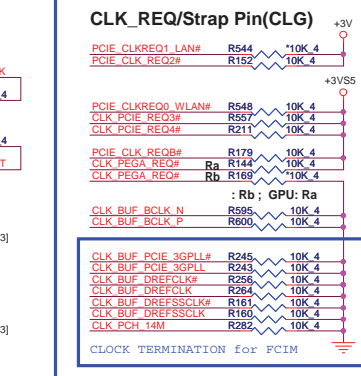
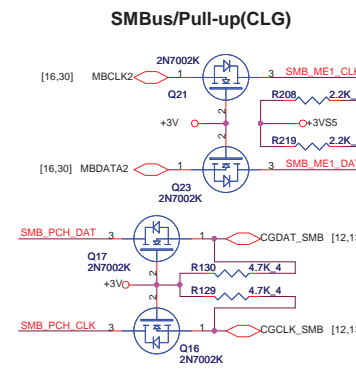
Vender	Size	P/N
EON	4MB	AKE39FN0Q00 (EN25F32-100HIP)
Winbond	4MB	AKE391P0N00 (W25Q32BVSSIG)
Socket		DG008000031



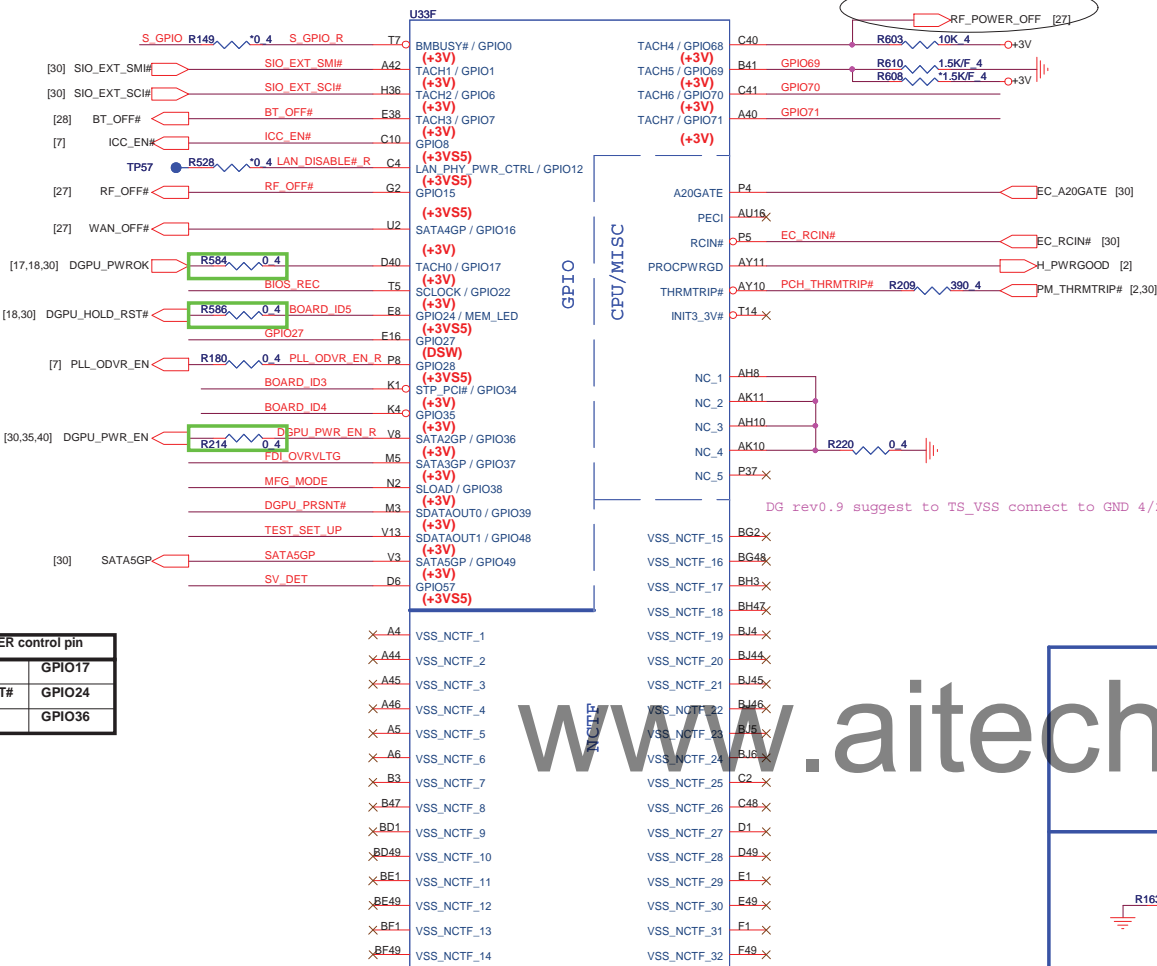
CougarPoint_Rev_0p7
fcbga989-intel-cougarpoint
AJ0QNDL0T00
IC CTRL(989P)COUGARPOINT ONDI

Pin Name	Strap description	Sampled	Configuration	Circuit									
SPKR <div>Different from Calpella</div>	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><tr><th>GNT1#</th><th>GNT0#</th><th>Boot Location</th></tr><tr><td>1</td><td>0</td><td>SPI</td></tr><tr><td>0</td><td>1</td><td>LPC</td></tr></table>	GNT1#	GNT0#	Boot Location	1	0	SPI	0	1	LPC	<div>(Need external pull-down for LPC BIOS) Default weak pull-up on GNT0/1#</div>
GNT1#	GNT0#	Boot Location											
1	0	SPI											
0	1	LPC											
GPIO19 <div>Different from Calpella</div>	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 <div>Different from Calpella</div>	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										

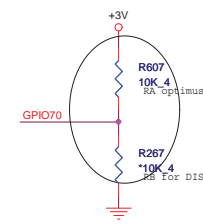




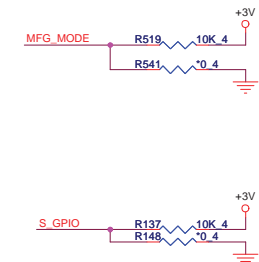
Cougar Point (GPIO,VSS_NCTF,RSVD)



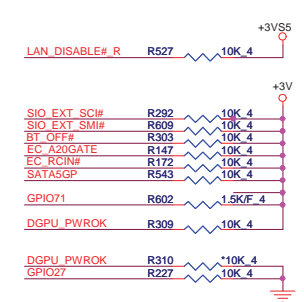
Clock Gen Power OK (CLG)



MFG-TEST



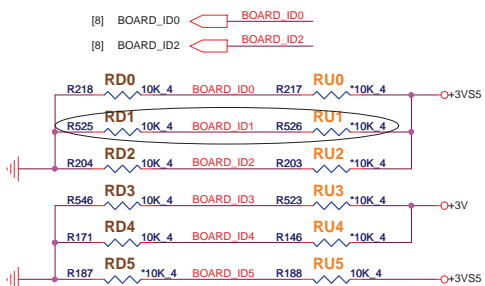
GPIO Pull-up/Pull-down(CLG)



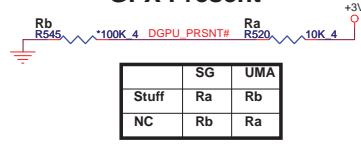
www.aitech1.ru

BOARD ID SETTING

Board ID	ID0	ID1	ID2	ID3	ID4	ID5	ID6
LG/CB	0=LG 1=CB						
15.6" / 14"			0=QLH/TWH 1=QLC/SWH				
dolby					0=NO 1=YES		



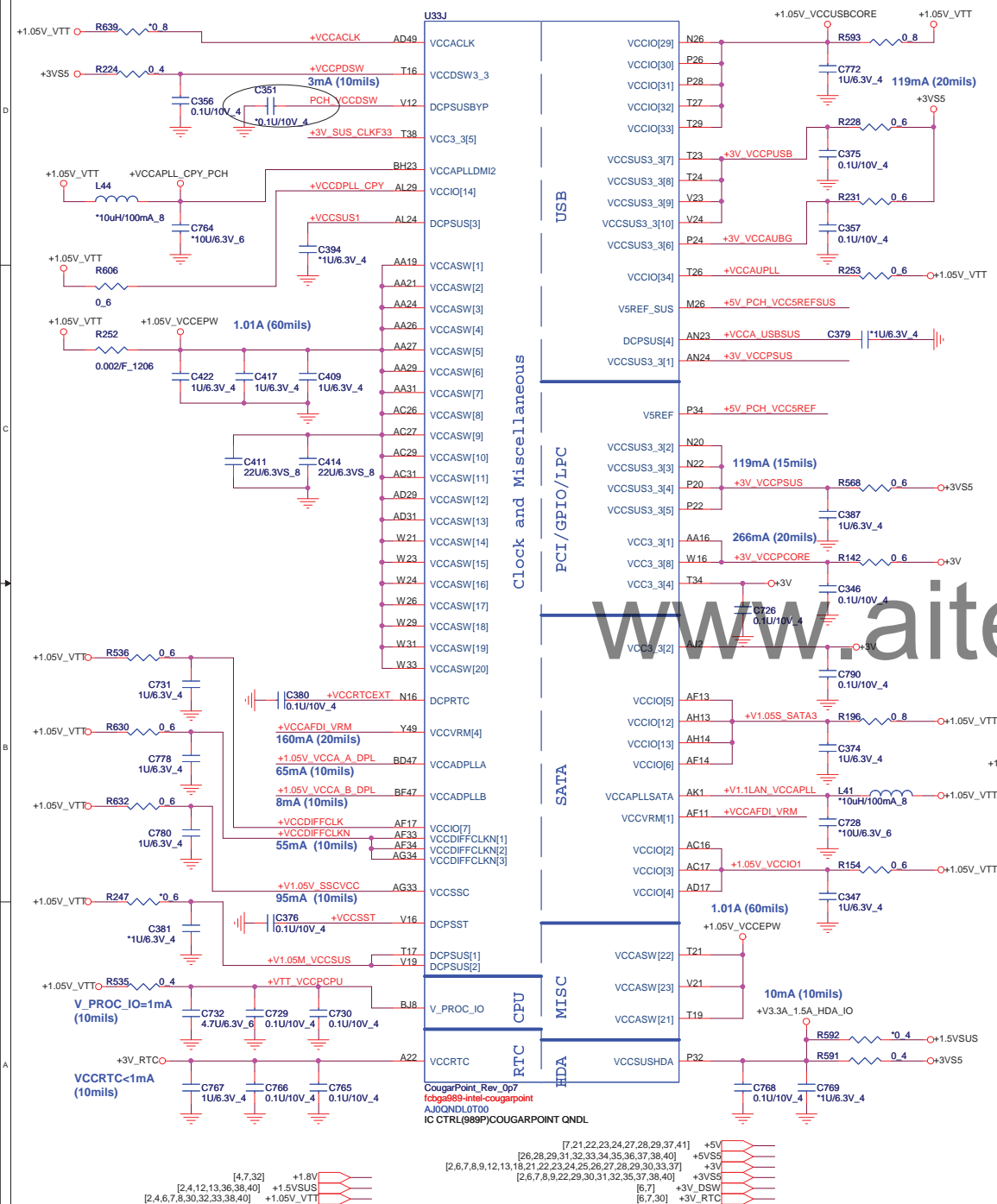
GFX Present



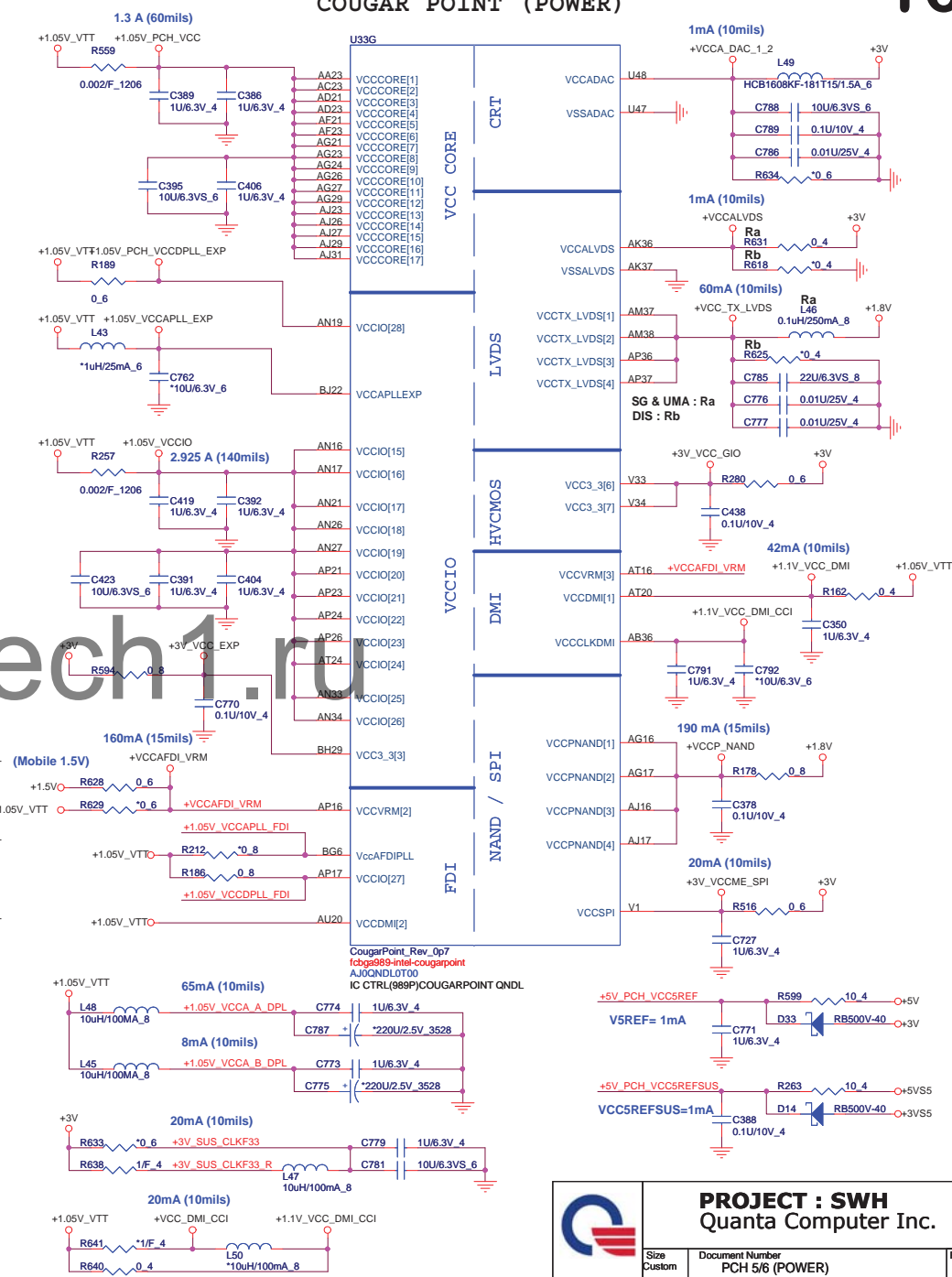
PROJECT : SWH
Quanta Computer Inc.

Size	Document Number	Rev
Custom	PCH 4/6 (GPIO/MISC)	1A
Date: Monday, October 25, 2010	Sheet 9 of 41	

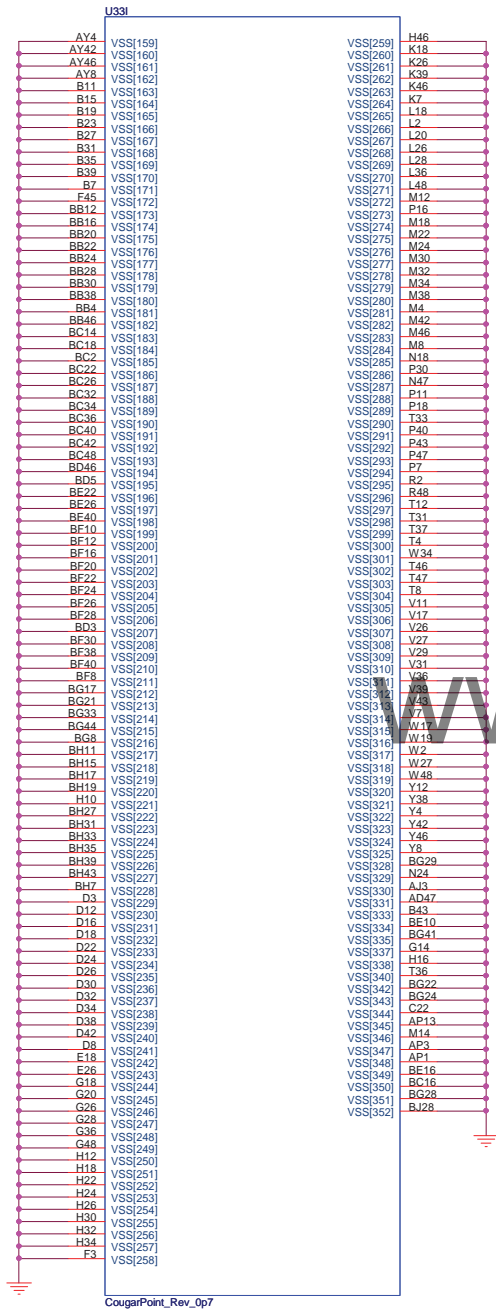
Cougar Point-M (POWER)



COUGAR POINT (POWER)



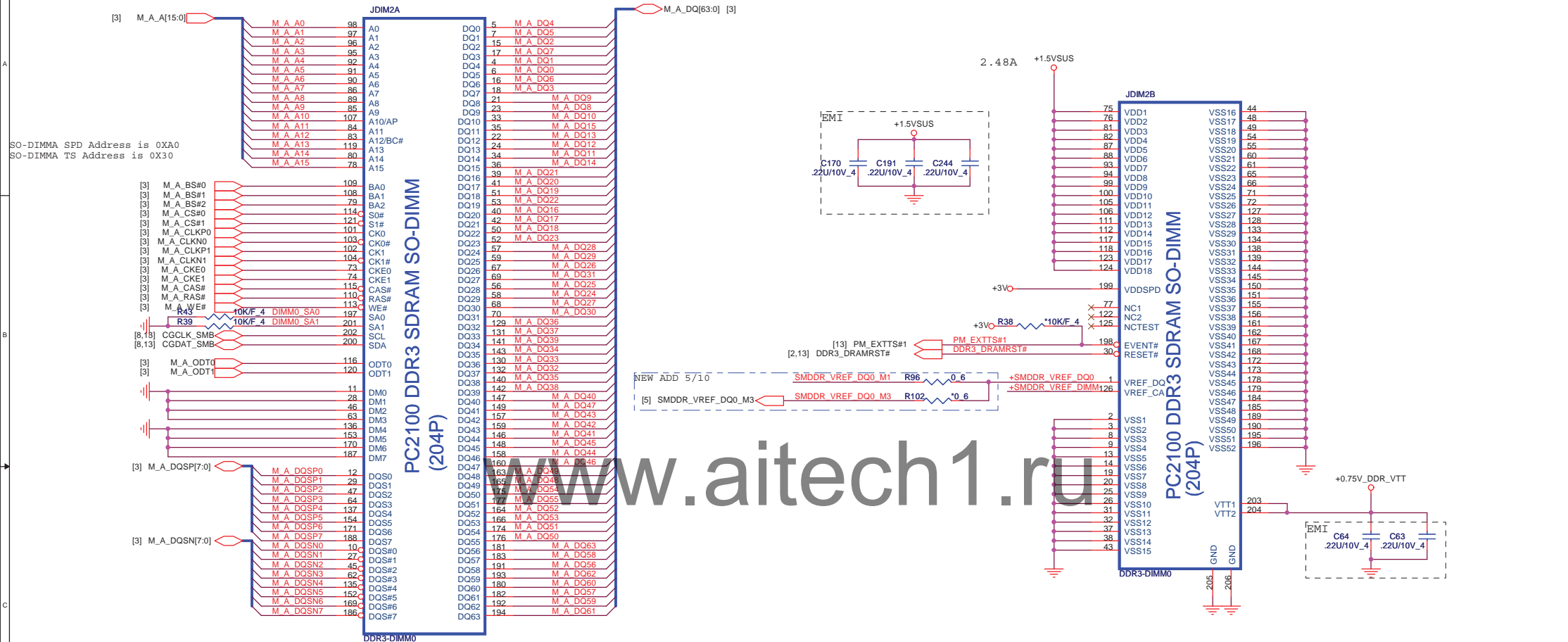
IBEX PEAK-M (GND)



IBEX PEAK-M (GND)

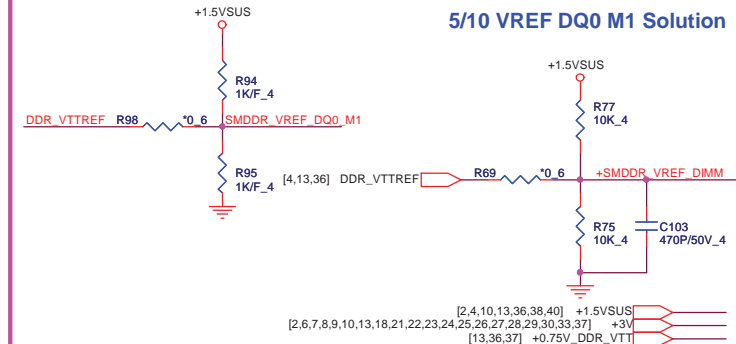


www.aitech1.com

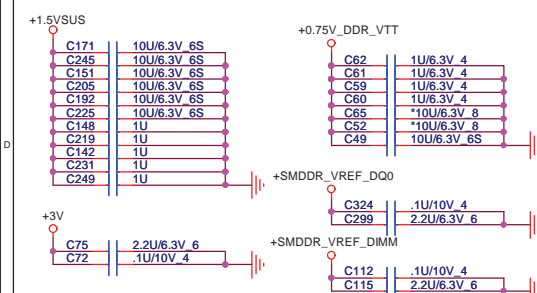


6/22:Document Number: 436996
Intel remove the DDR3 verf M2
circuitry

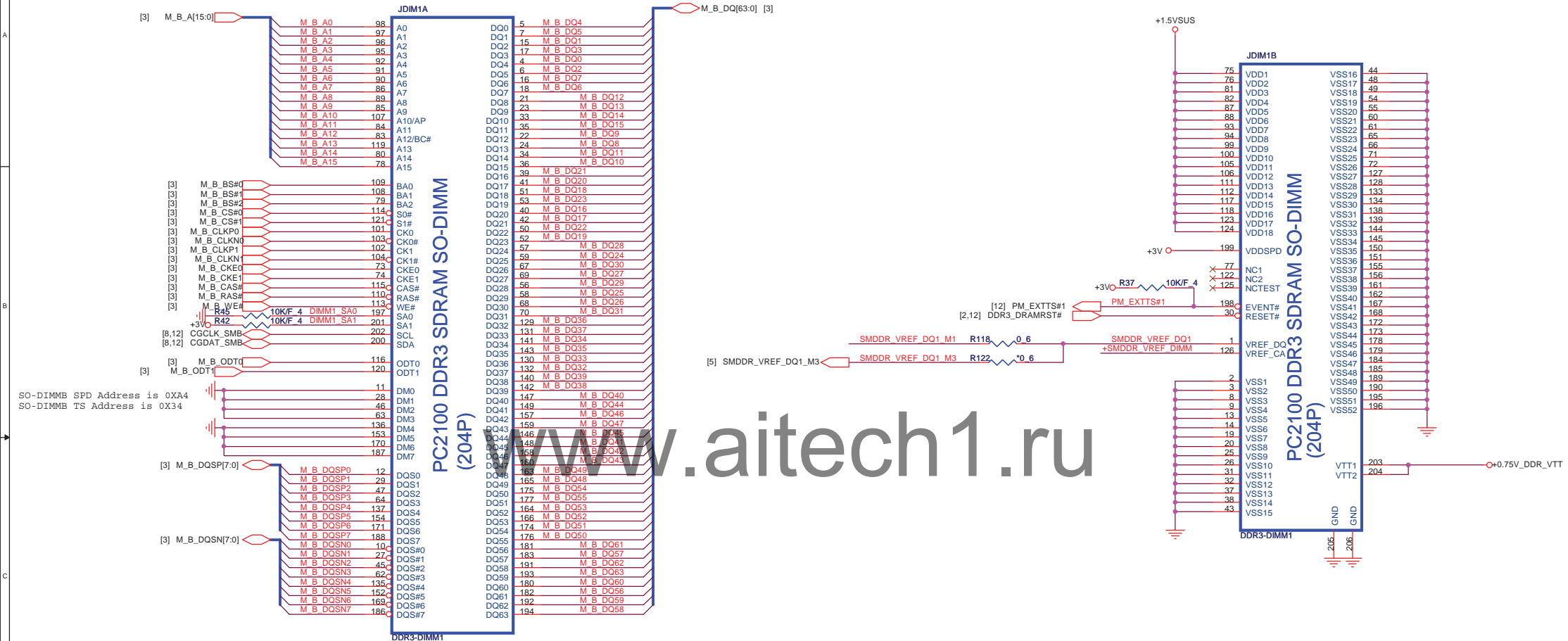
VREF DQ0 M2 Solution

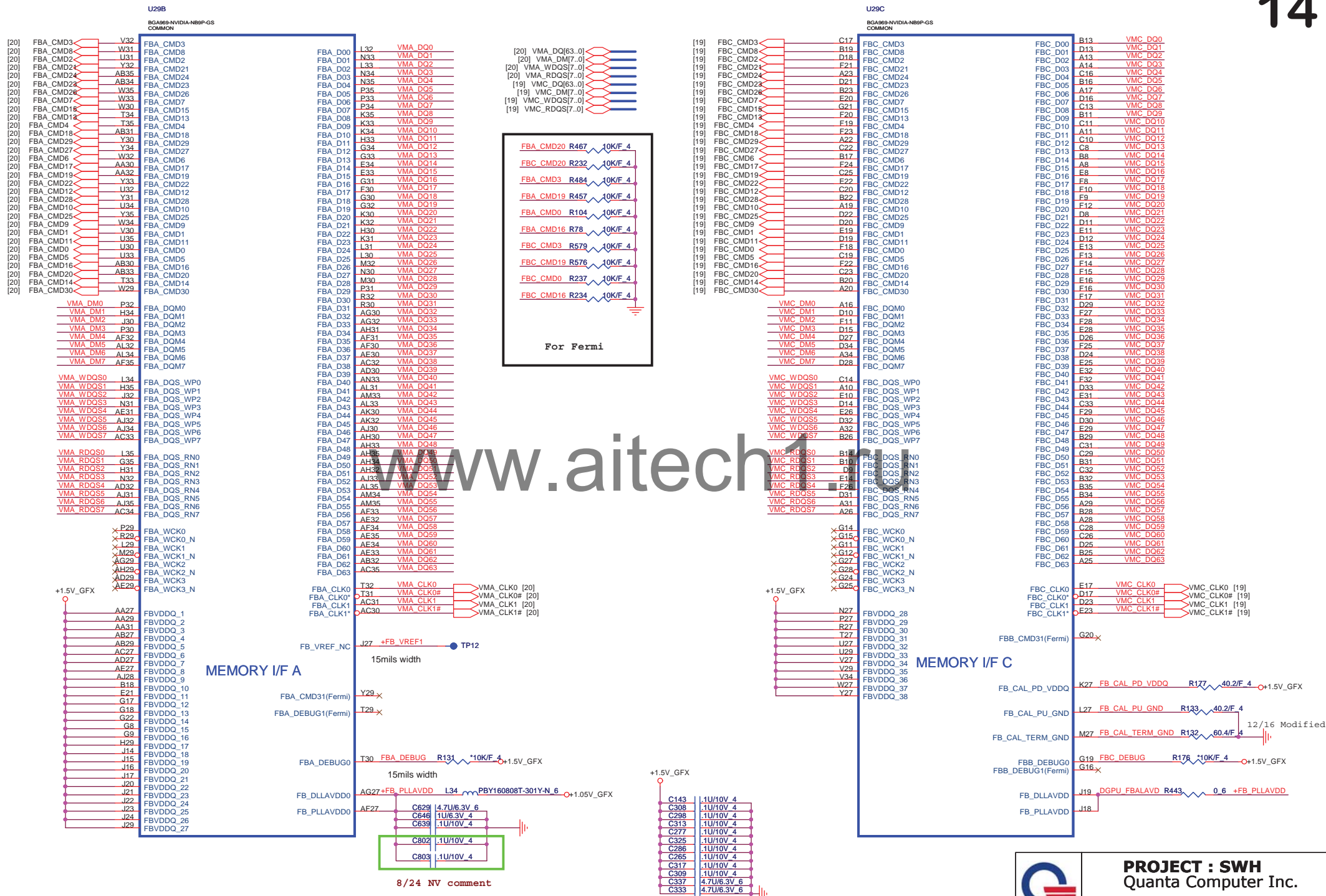


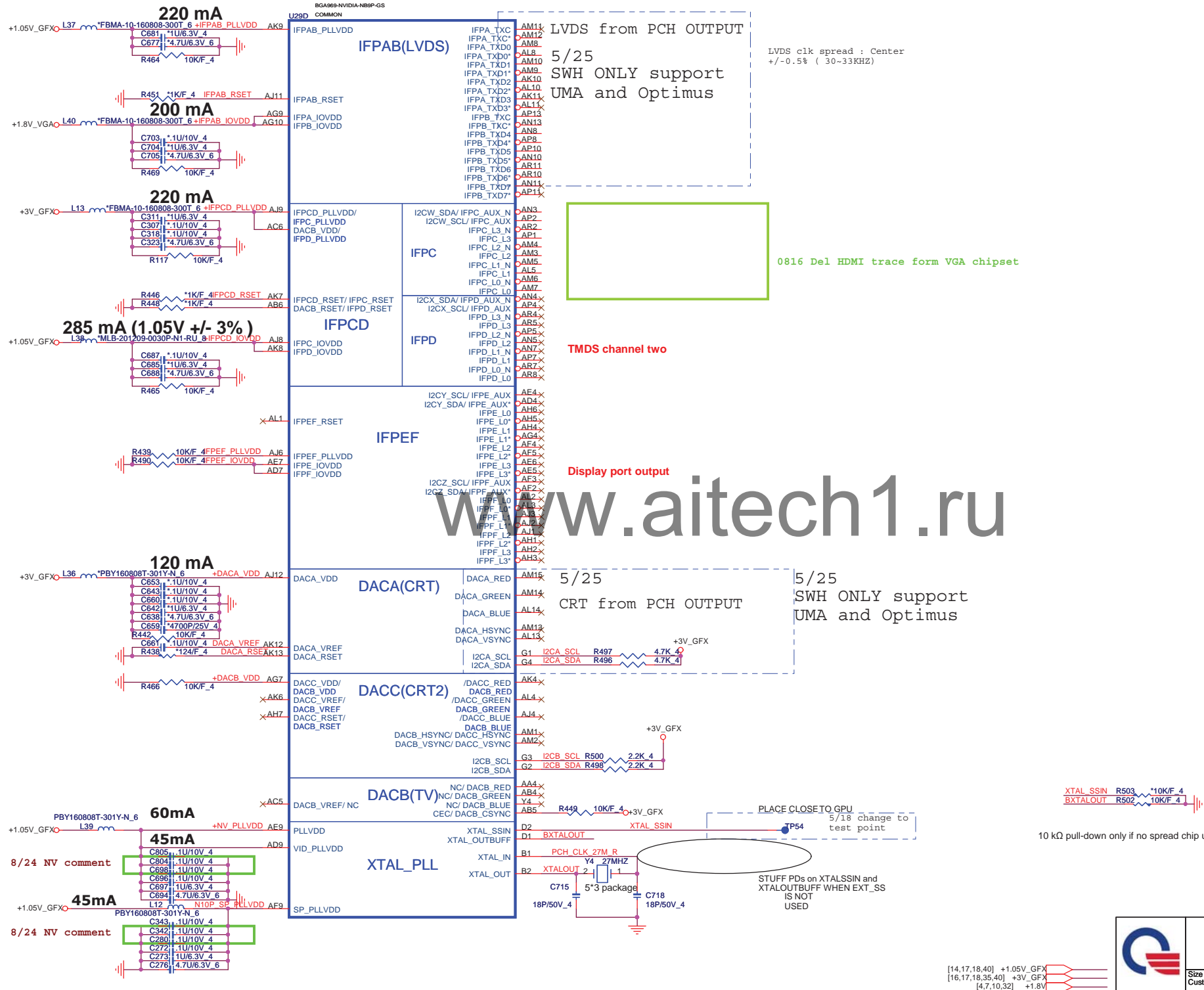
Place these Caps near So-Dimm0.^{11/6}



PROJECT : SWH
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PROJECT : SWH
Quanta Computer Inc.

Size	Document Number	Rev
Custom	N11x-Fermi	1A
Date: Monday, October 25, 2010 Sheet 15 of 41		

[14,17,18,40] +1.05V_GFX
[16,17,18,35,40] +3V_GFX
[4,7,10,32] +1.8V

Fermi :
1 : C149 , C80 stuff 0 ohm
2 : R151 , R172 unstuff

8/25 NV comment

8/25 NV comment

Logical Strap Bit Mapping

	PU-VDD	PD
5K	1000	0000
10K	1001	0001
15K	1010	0010
20K	1011	0011
25K	1100	0100
30K	1101	0101
35K	1110	0110
45K	1111	0111

Default: Hynix VRAM

4.99K/F 4: CS24992FB26 [RES CHIP 4.99K 1/16W +1% (0402)]
10K/F 4: CS31002FB26 [RES CHIP 10K 1/16W +1% (0402)]
15K/F 4: CS31502FB24 [RES CHIP 15K 1/16W +1% (0402)]
30.1K/F 4: CS33012FB18 [RES CHIP 30.1K 1/16W +1% (0402)]
35.7K/F 4: CS33572FB13 [RES CHIP 35.7K 1/16W +1% (0402)]
45.3K/F 4: CS34532FB18 [RES CHIP 45.3K 1/16W +1% (0402)]

20K/F 4: CS32002FB29 RES CHIP 20K 1/16W +1% (0402)

	Logical Strapping Bit3	Logical Strapping Bit2	Logical Strapping Bit1	Logical Strapping Bit0	
ROM_SO NB10X	XCLK_417	FB_0_BAR_SIZE	SMB_ALT_ADDR	VGA_DEVICE	0001
ROM_SCLK	PCI_DEVID[4]	SUB_VENDOR	SLOT_CLK_CFG	PEX_PLL_EN_TERM	0010
ROM_SI	RAMCFG[3]	RAMCFG[2]	RAMCFG[1]	RAMCFG[0]	XXXX
STRAP2	PCI_DEVID[3]	PCI_DEVID[2]	PCI_DEVID[1]	PCI_DEVID[0]	1000
STRAP1	3GIO_PADCFG[3]	3GIO_PADCFG[2]	3GIO_PADCFG[1]	3GIO_PADCFG[0]	0001
STRAP0	USER[3]	USER[2]	USER[1]	USER[0]	1111

VRAM Configuration Table

RAMCFG [3:0]	DESCRIPTION	Vendor	Vendor P/N	ROM_SI
0000	Reserved	Reserved	Reserved	PD 10K
0001	DDR3 64Mx16x8, 128bit, 1GB,800MHz	Qimonda	IDGH1G-04A1F1C-16X	PD 15K
0010	DDR3 64Mx16x8, 128bit, 1GB,800MHz	Hynix	H5TQ1G63BFR-12C	PD 20K
0011	DDR3 64Mx16x8, 128bit, 1GB,800MHz	Samsung	K4W1G1646E-HC12	
0101	Reserved	Reserved	Reserved	
0110	Reserved	Reserved	Reserved	
XXXX	DDR3 64Mx16x8, 128bit, 1GB,667MHz	Hynix	H5TQ1G63AFR-14C	
XXXX	DDR3 64Mx16x8, 128bit, 1GB,667MHz	Samsung	K4W1G1646D-EC12	

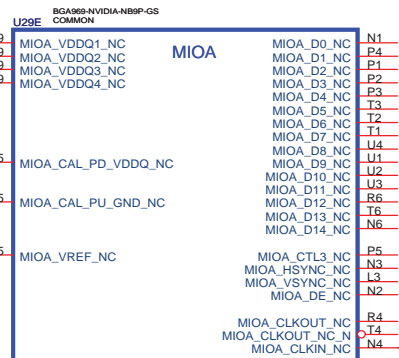
GPIO ASSIGNMENTS

GPIO	I/O	ACTIVE	USAGE
0	N/A	N/A	
1	IN	N/A	Hot plug detect for IFP link C
2	OUT	HIGH	PANEL BACKLIGHT PWM
3	OUT	HIGH	PANEL POWER ENABLE
4	OUT	HIGH	PANEL BACKLIGHT ENABLE
5	OUT	N/A	NVVD VID0
6	OUT	N/A	NVVD VID1
7	OUT	N/A	NVVD VID2 11/13
8	I/O	LOW	OVERT
9	I/O	LOW	ALERT
10	OUT	N/A	FBVREF SELECT
11	OUT	N/A	SLI SYNC0
12	IN	N/A	PWR_LEVEL 11/13
13	OUT	N/A	MEM_VID or power supply control
14	OUT	N/A	PS CONTROL



PROJECT : SWH
Quanta Computer Inc.

Size	Document Number	Rev
Custom	N11x-Fermi	1A
Date: Monday, October 25, 2010	Sheet 16 of 41	



MIOA_CLKIN *10K/F_4

MIOB_CLKIN *10K/F_4

8/24 NV comment

AKD58GGT*01
AKD5LZGTW00
AKD5LGGT502

V_PWRCNTL [35]
VGA_GPIO6 [35]

VGA_OVT# [30]

ALERT

GPIO10

GPIO11

GPIO12

GPIO13

GPIO14

GPIO15

GPIO16

GPIO17

GPIO18

GPIO19

GPIO20

GPIO21

GPIO22

GPIO23

GPIO24

GPIO25

GPIO26

GPIO27

GPIO28

GPIO29

GPIO30

GPIO31

GPIO32

GPIO33

GPIO34

GPIO35

GPIO36

GPIO37

GPIO38

GPIO39

GPIO40

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GPIO204

GPIO205

GPIO206

GPIO207

GPIO208

GPIO209

GPIO210

GPIO211

GPIO212

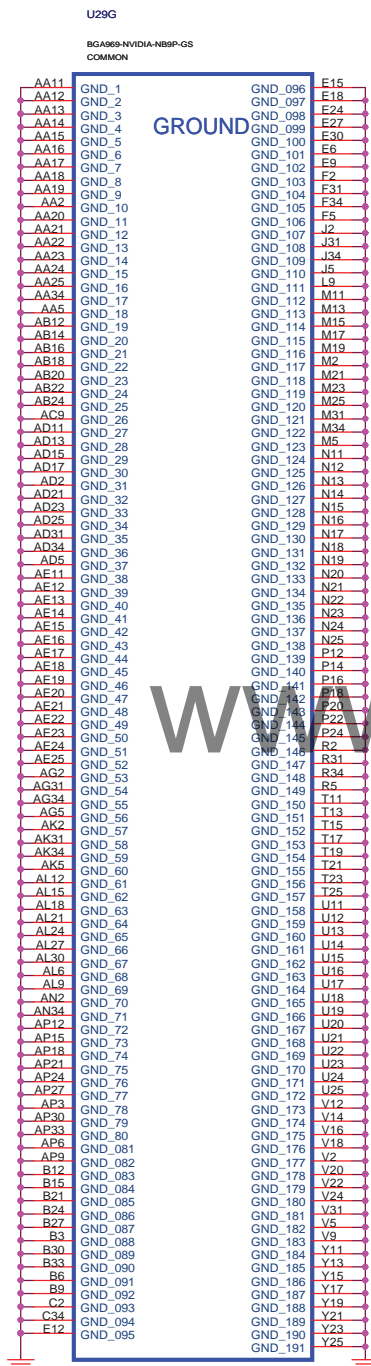
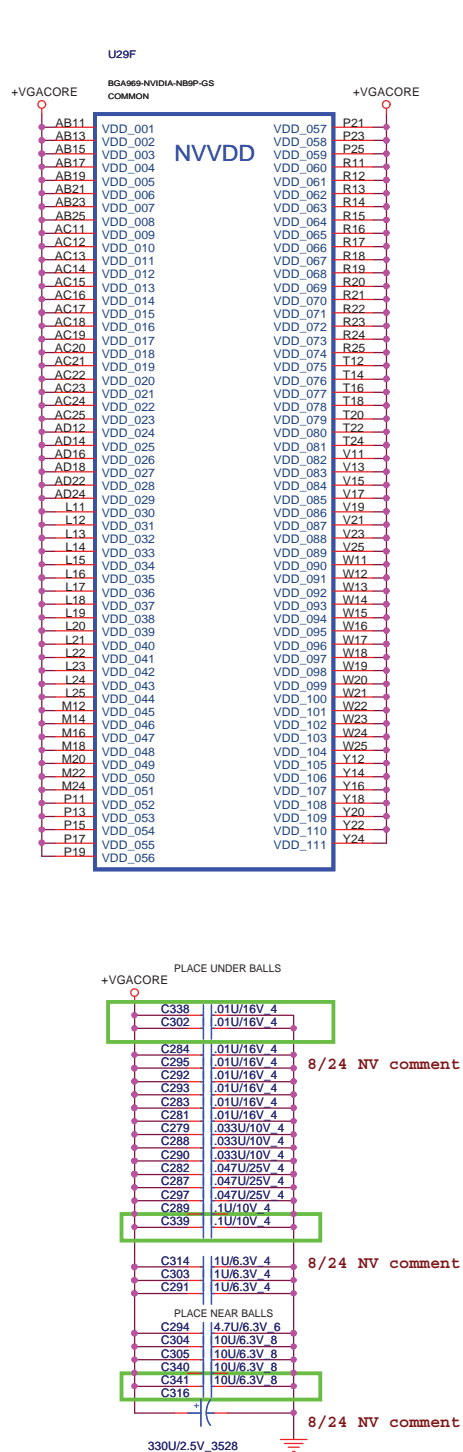
GPIO213

GPIO214

GPIO215

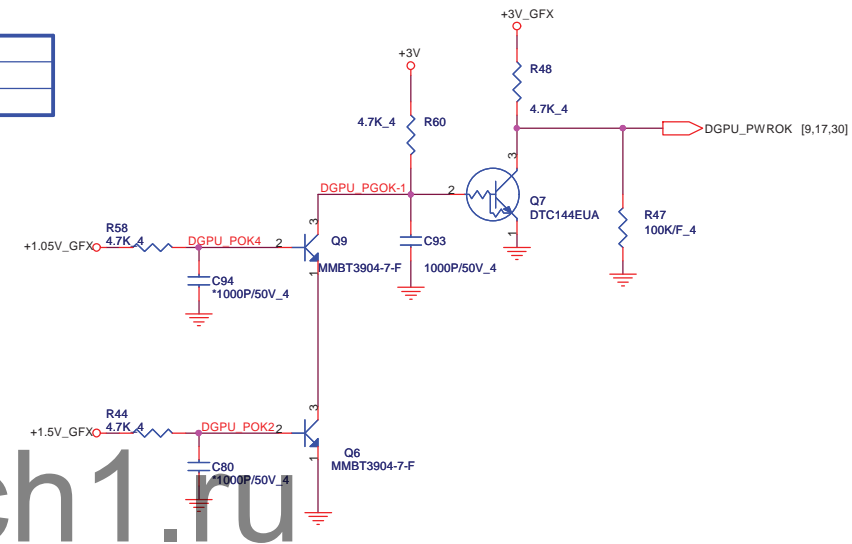
GPIO216

GPIO217

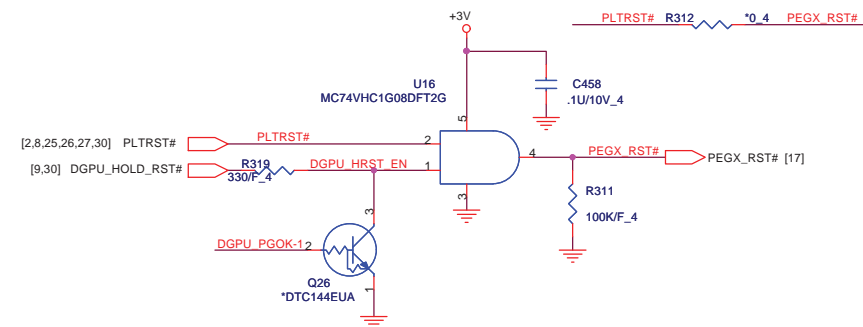


SELx	Ay
LOW	B1
HIGH	B2

SEL	FUNCTION
LOW	DGPU
HIGH	IGPU



Discrete Only



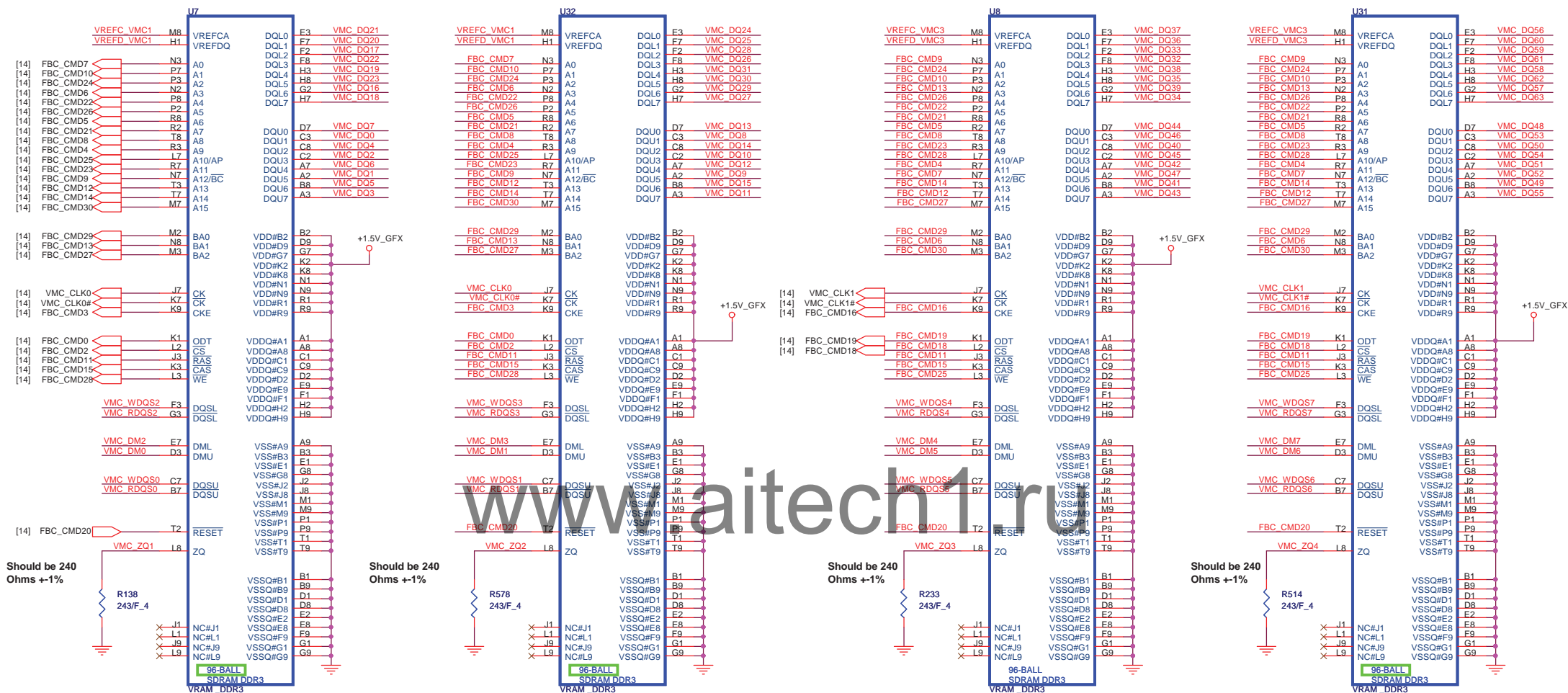
PROJECT : SWH
Quanta Computer Inc.

Size	Document Number	Rev
Custom	N11x-Fermi	1A
Date: Monday, October 25, 2010	Sheet 18 of 41	

[35] +VGACORE

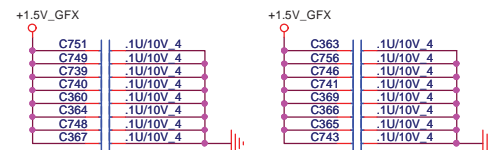
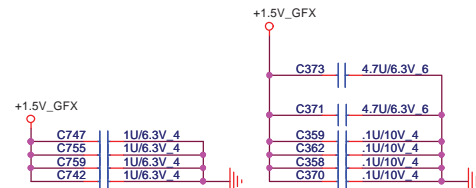
[14] VMC_DQ[63..0]
[14] VMC_DM[7..0]
[14] VMC_WDQS[7..0]
[14] VMC_RDQS[7..0]

CHANNEL B: 256MB/512MB DDR3



Fermi : Change to 160 ohm
1 : CS11602JB00 ,RES CHIP 160 1/16W +-5% (0402)
2 : CS11622FB07 ,RES CHIP 162 1/16W +-1% (0402)

Fermi : Change to 160 ohm
1 : CS11602JB00 ,RES CHIP 160 1/16W +-5% (0402)
2 : CS11622FB07 ,RES CHIP 162 1/16W +-1% (0402)

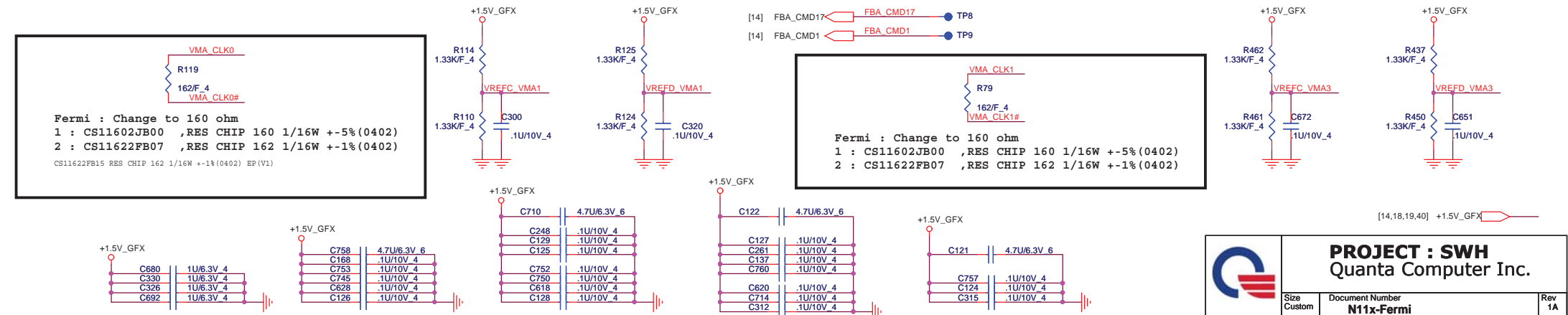


[14,18,20,40] +1.5V_GFX

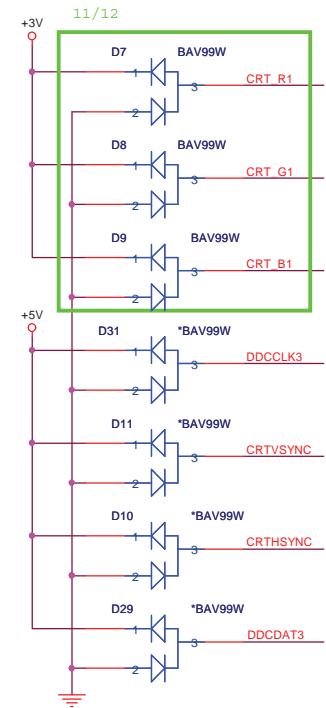
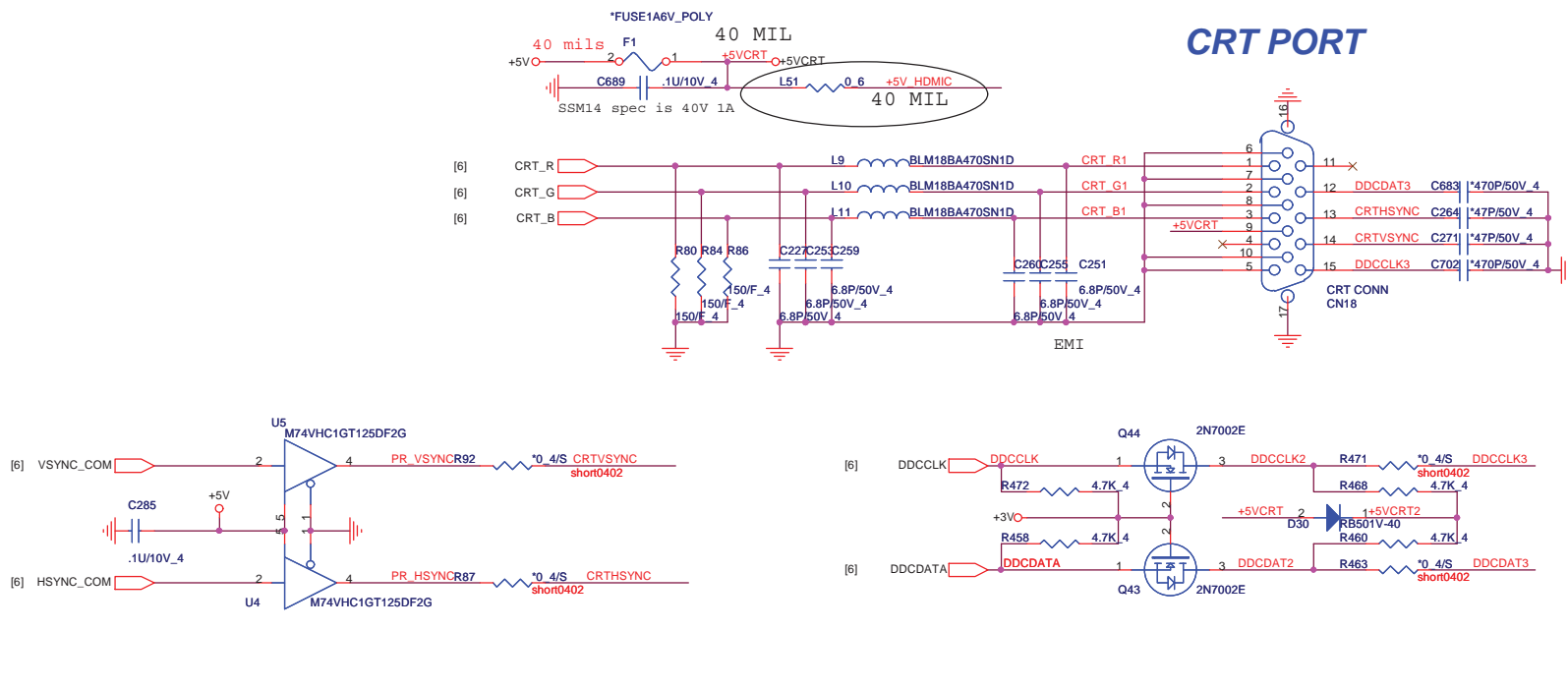


PROJECT : SWH
Quanta Computer Inc.

Size Custom Document Number **N11x-Fermi** Rev 1A
Date: Monday, October 25, 2010 Sheet 19 of 41

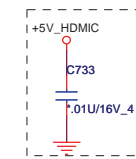
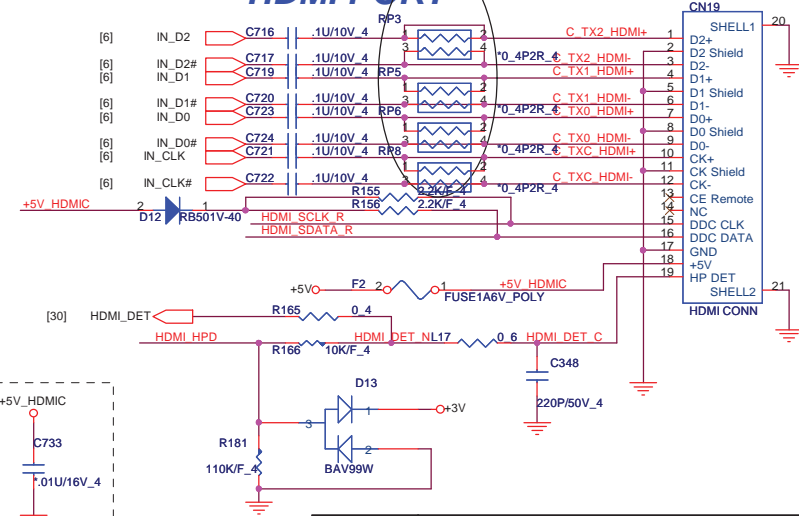
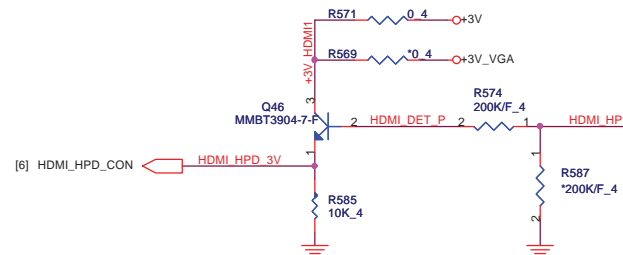
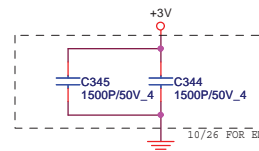
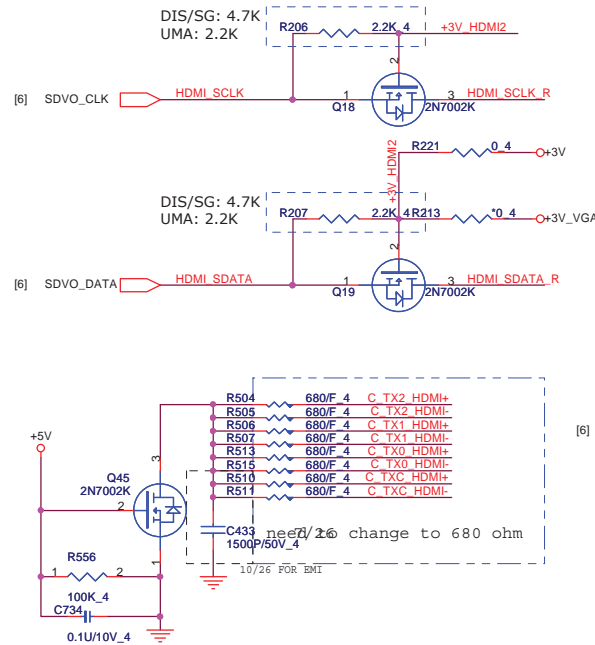


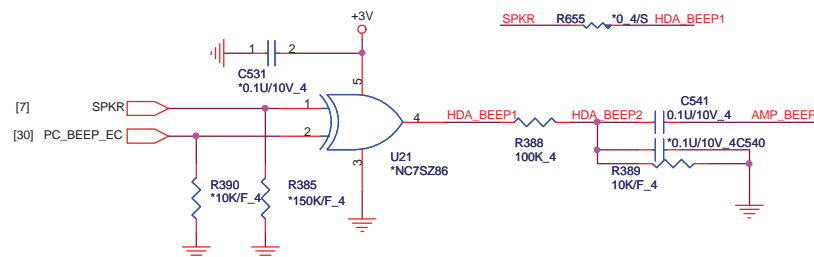
CRT PORT



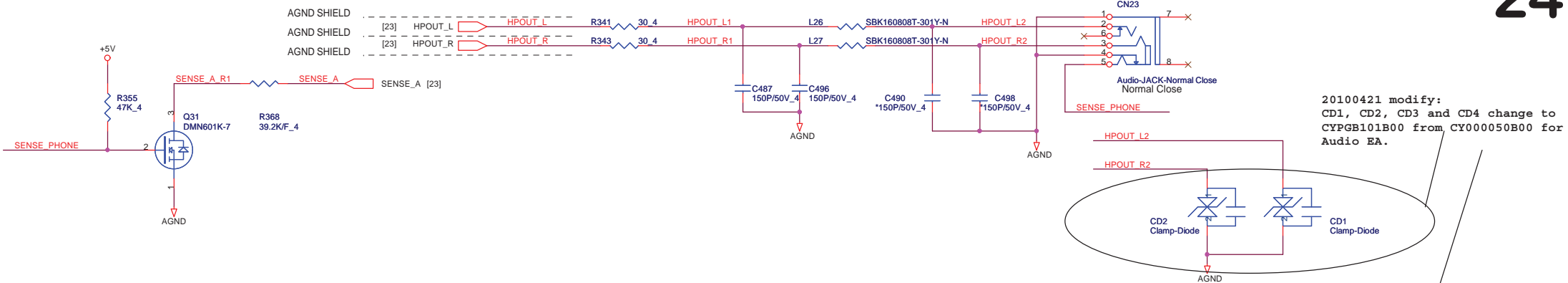
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HDMI PORT

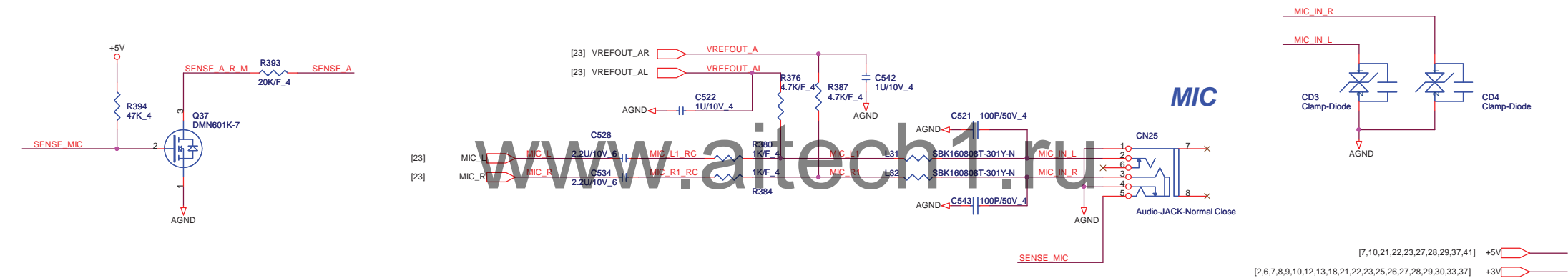




Line out



MIC

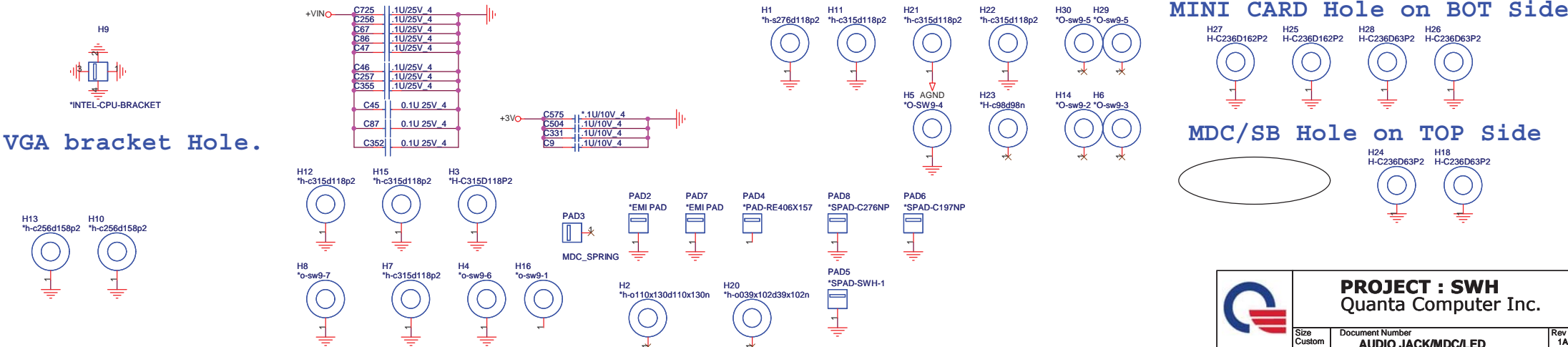


CPU bracket Hole. EMI capacitive

PAD and HOLE

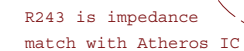
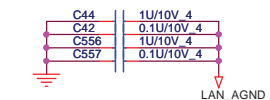
MINI CARD Hole on BOT Side

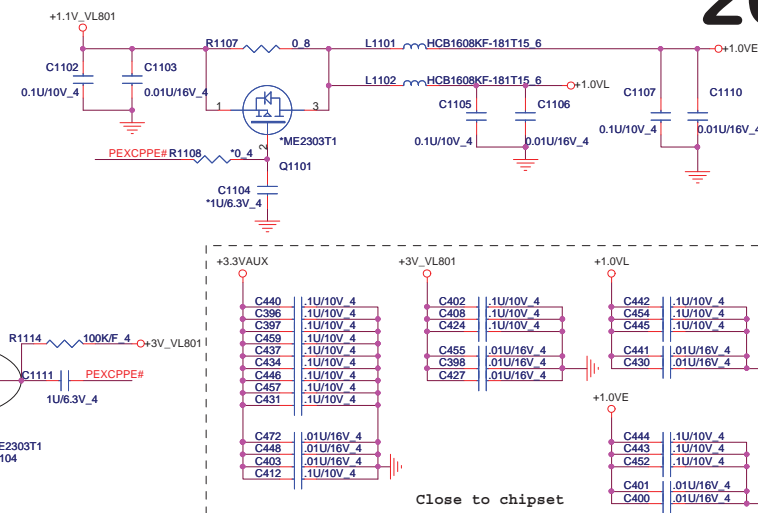
MDC/SB Hole on TOP Side



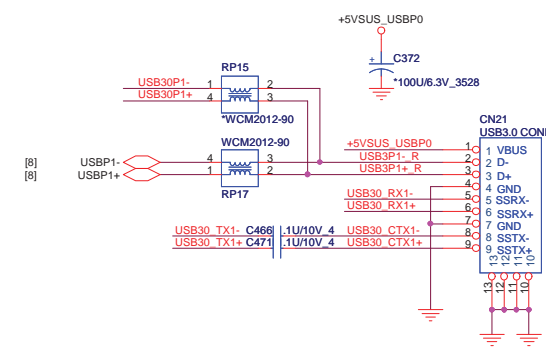
PROJECT : SWH
Quanta Computer Inc.

Size	Document Number	Rev
Custom	AUDIO JACK/MDC/LED	1A
Date: Monday, October 25, 2010	Sheet 24 of 41	

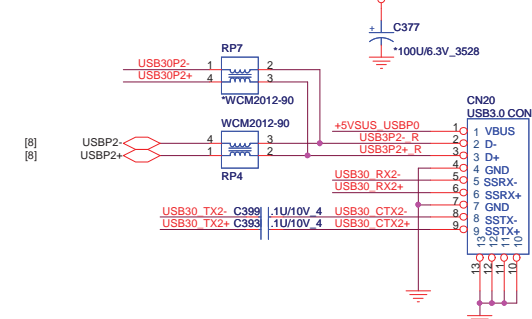




USB3.0 PORT1



USB3.0 PORT2

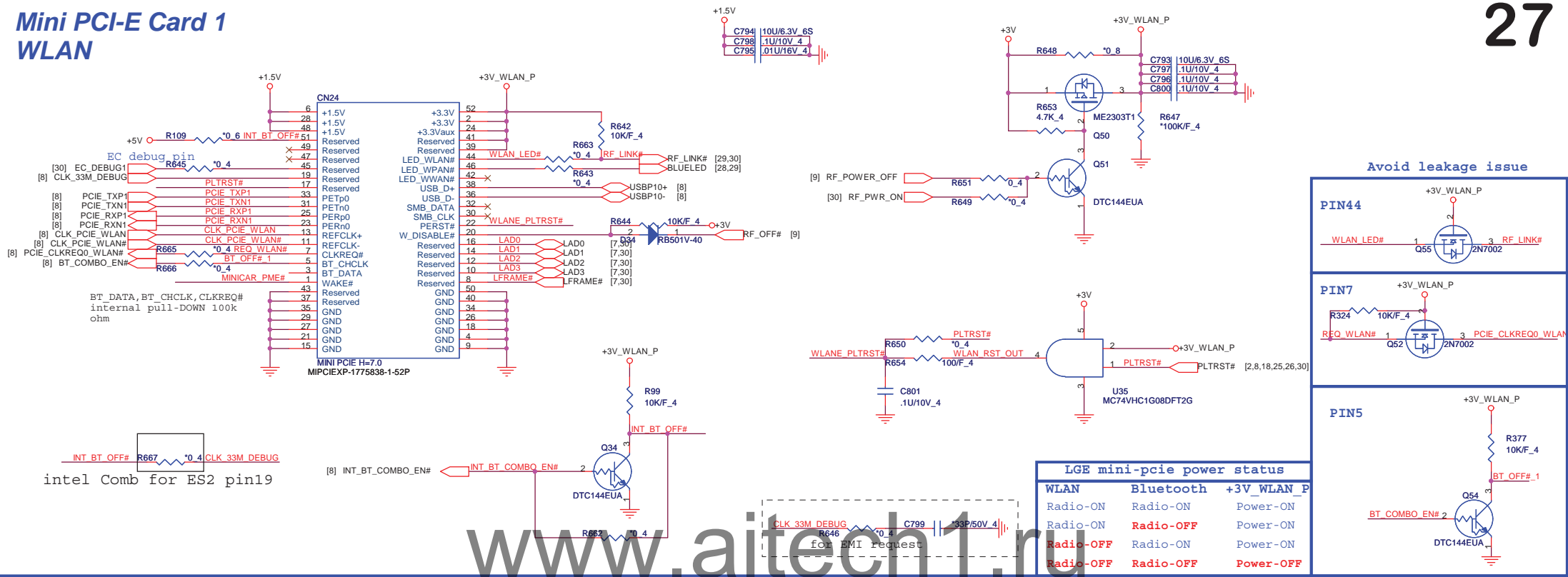


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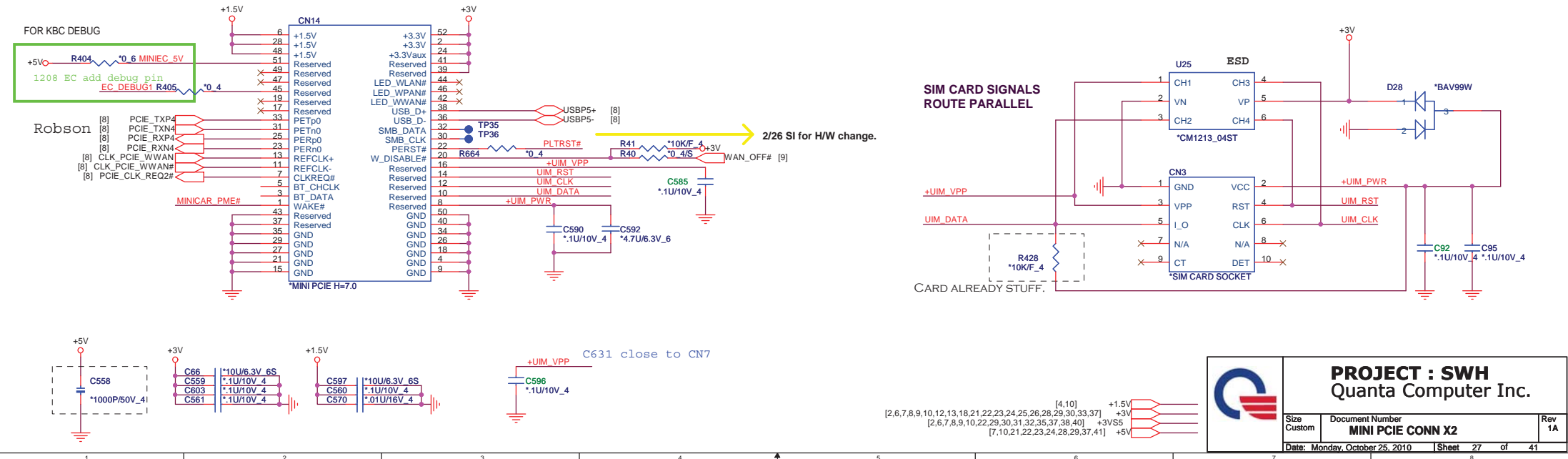
Size Custom	Document Number USB3.0	Revision 1A
Date: Monday, October 25, 2010		Sheet 26 of 41

Mini PCI-E Card 1 WLAN

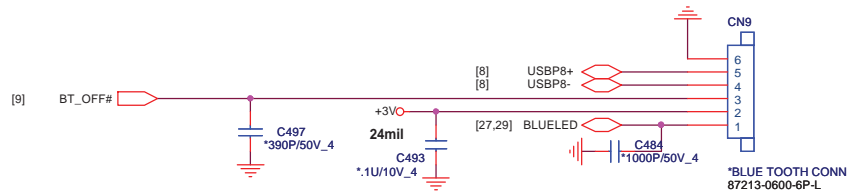
27



Mini PCI-E Card 2



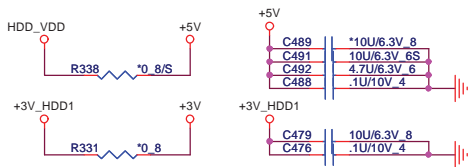
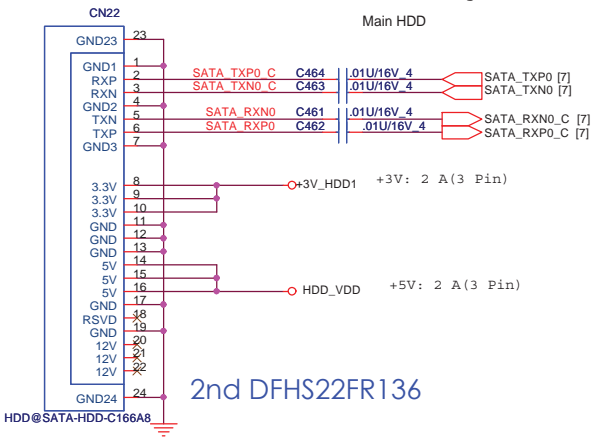
Bluetooth



SATA_1 CONNECTOR

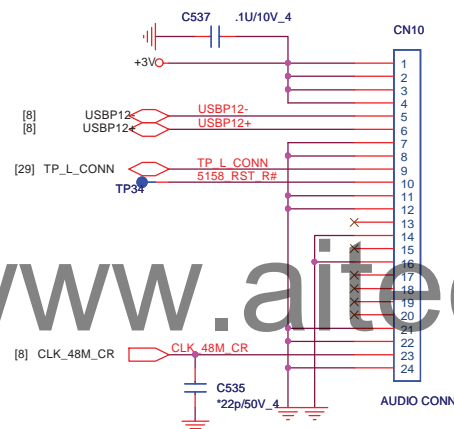
DC Current rating: 0.5 A

Main HDD



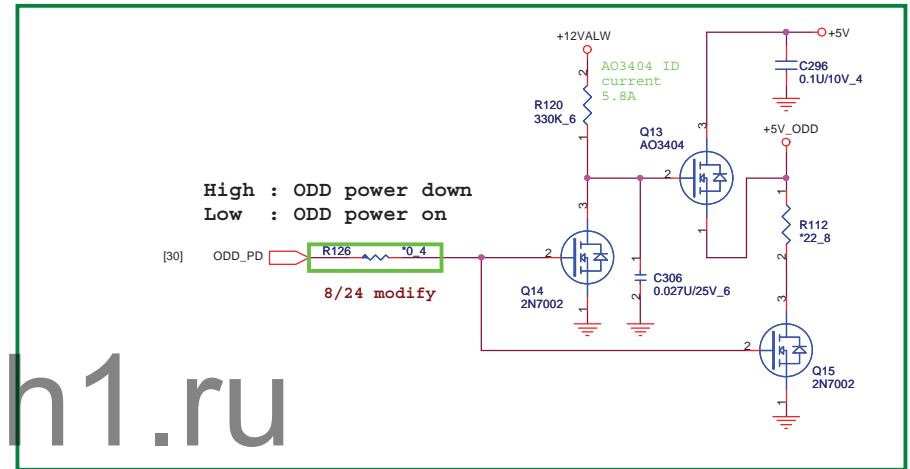
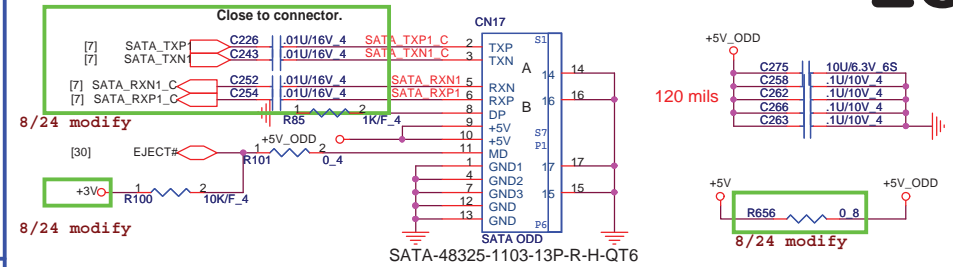
MDC CONNECTOR

M/B to Cardreader small board

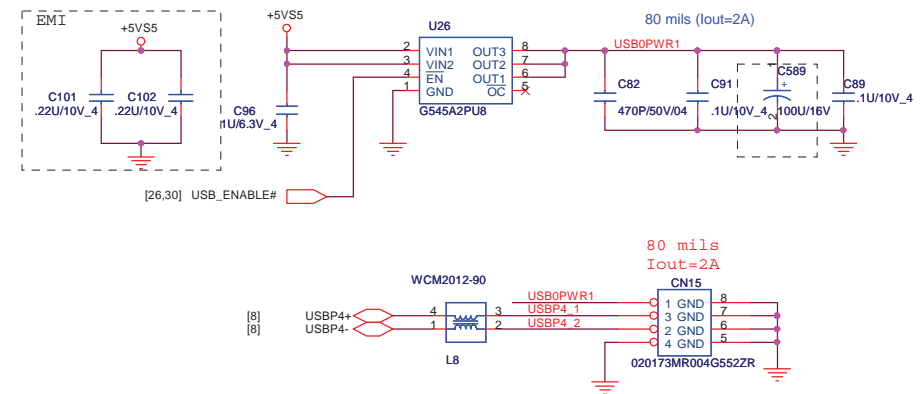


PV Change CN2 footprint 88501-2001-24p-l-nb5

SATA ODD



USB CONNECTOR



PQ Add ESD Protector



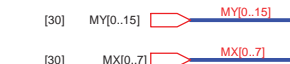
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[2,6,7,8,9,10,12,13,18,21,22,23,24,25,26,27,29,30,33,37] +3V
[7,10,21,22,23,24,27,29,37,41] +5V
[10,26,29,31,32,33,34,35,36,37,38,40] +5VS5

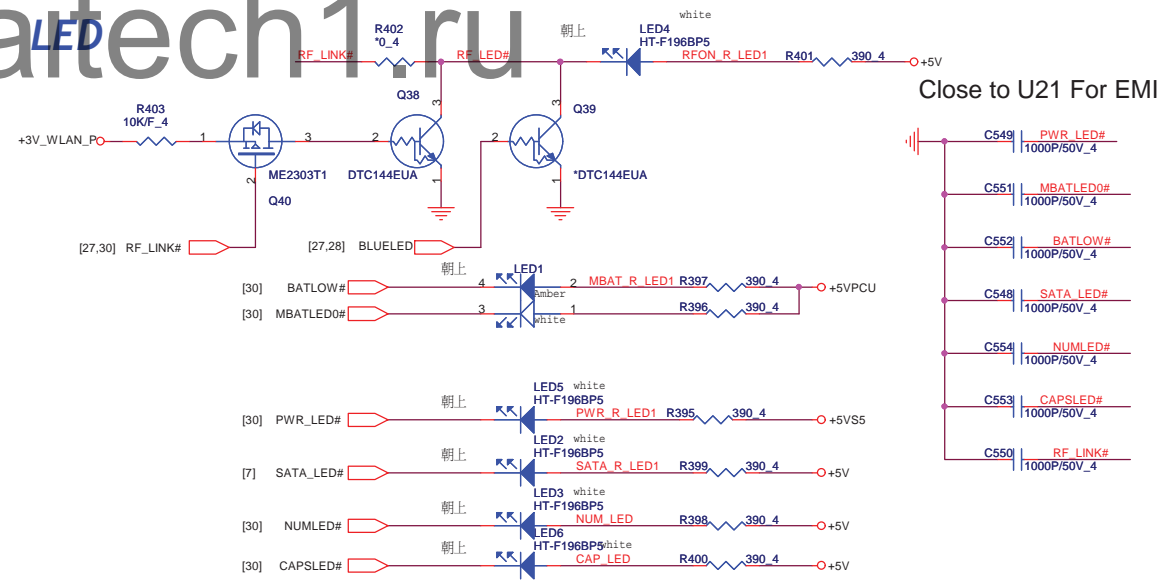
Size Custom Document Number
ODD/HDD/NEW CARD/TP
Date: Monday, October 25, 2010 Sheet 28 of 41

KEYBOARD Con.

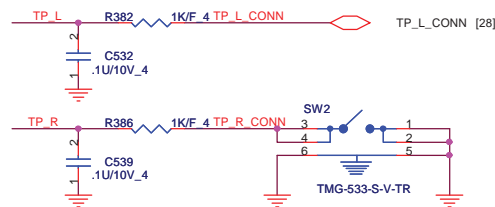
Cell Label	Part Number	Voltage	Capacity
MY6	C158	220P/50V	4
MY5	C181	220P/50V	4
MY3	C157	220P/50V	4
MY7	C159	220P/50V	4
MY1	C153	220P/50V	4
MY2	C178	220P/50V	4
MY4	C180	220P/50V	4
MY0	C175	220P/50V	4
MX7	C179	220P/50V	4
MX0	C174	220P/50V	4
MX5	C155	220P/50V	4
MX1	C152	220P/50V	4
MY8	C182	220P/50V	4
MY9	C160	220P/50V	4
MY10	C183	220P/50V	4
MY11	C161	220P/50V	4
MX4	C177	220P/50V	4
MX6	C156	220P/50V	4
MX3	C154	220P/50V	4
MX2	C176	220P/50V	4
MY12	C184	220P/50V	4
MY13	C162	220P/50V	4
MY14	C185	220P/50V	4
MY15	C163	220P/50V	4



LED

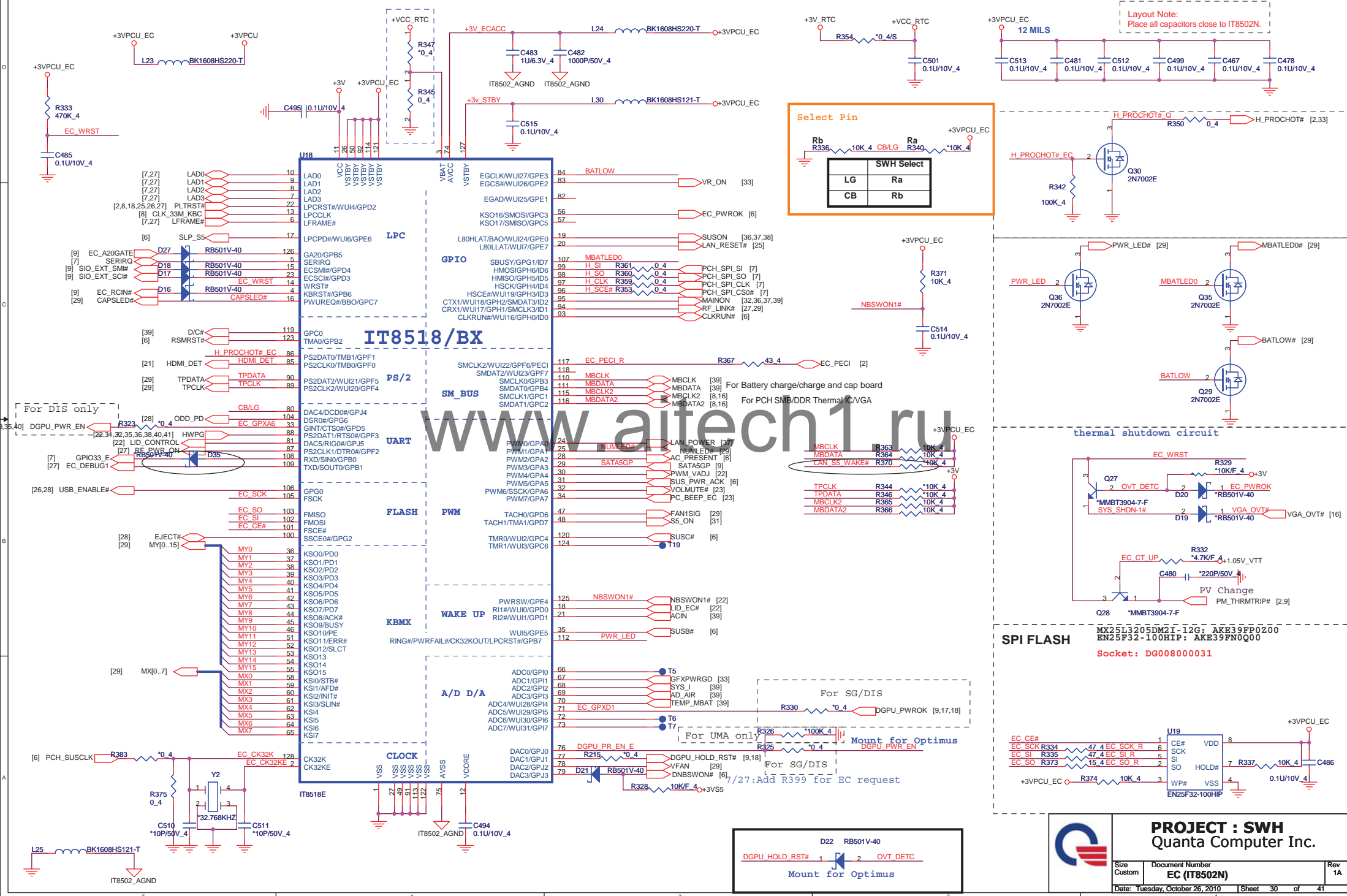


[7,10,21,22,23,24,27,28,37,41] +5V
[2,6,7,8,9,10,12,13,18,21,22,23,24,25,26,27,28,30,33,37] +3V
[2,6,7,8,9,10,22,30,31,32,35,37,38,40] +3VS5



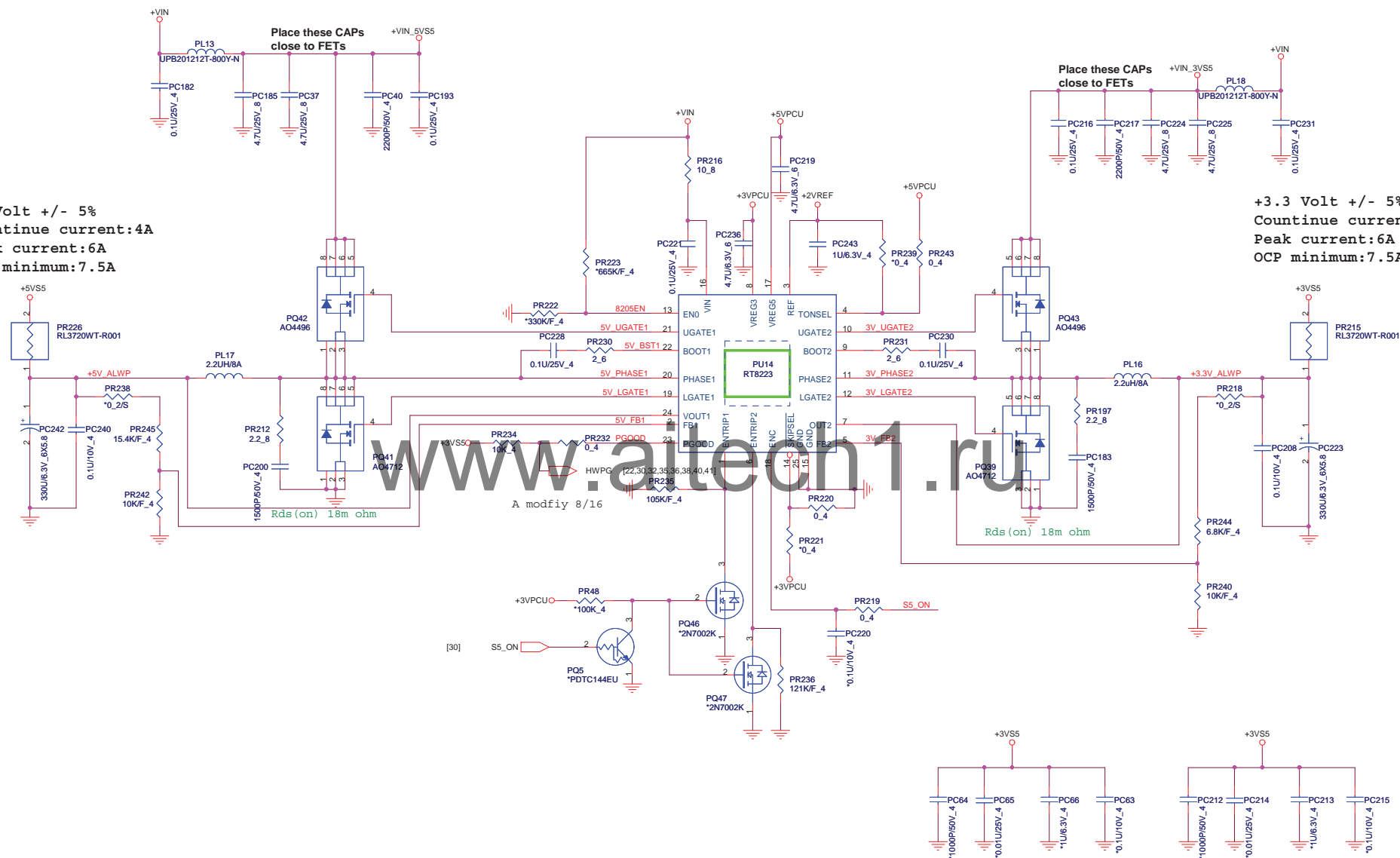
PROJECT : SWH
Quanta Computer Inc.

Size Custom	Document Number KB/PWR/FAN/CAM/MIC	Rev 1A
Date: Monday, October 25, 2010	Sheet 29 of	41



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

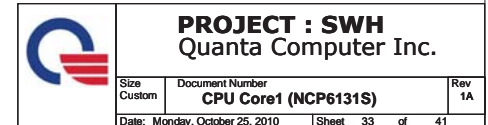
+3.3 Volt +/- 5%
 Countinue current:4A
 Peak current:6A
 OCP minimum:7.5A

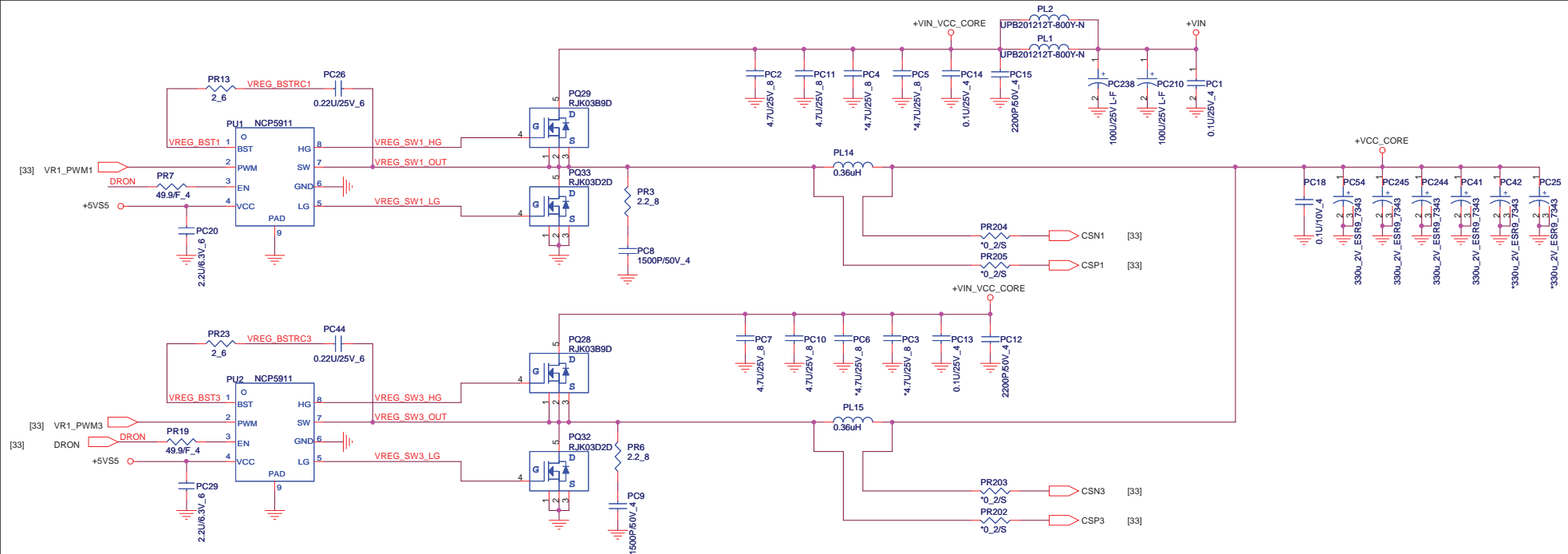




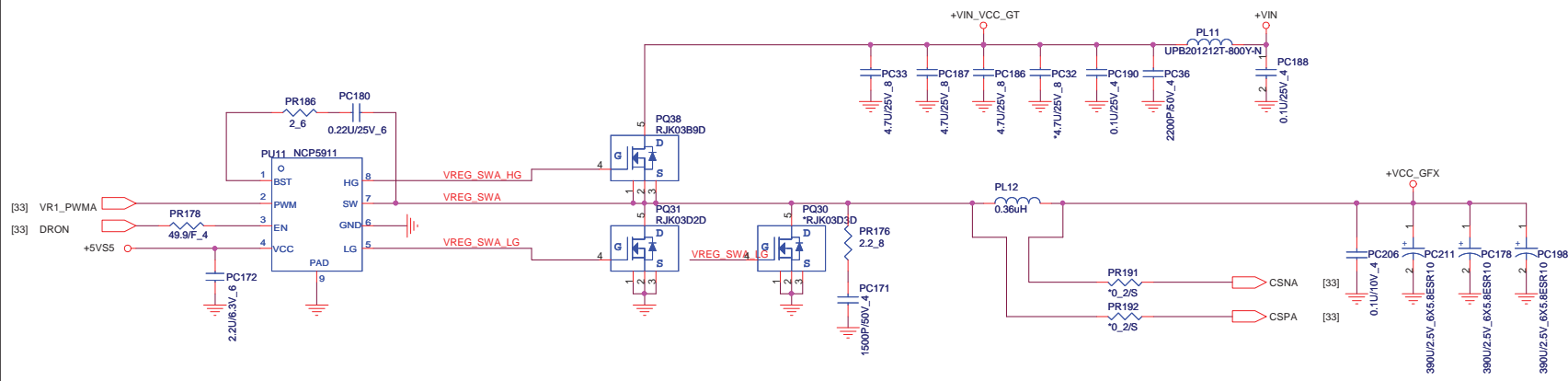
B	
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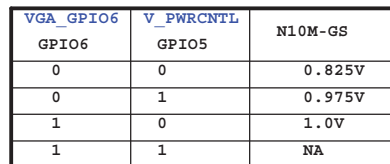



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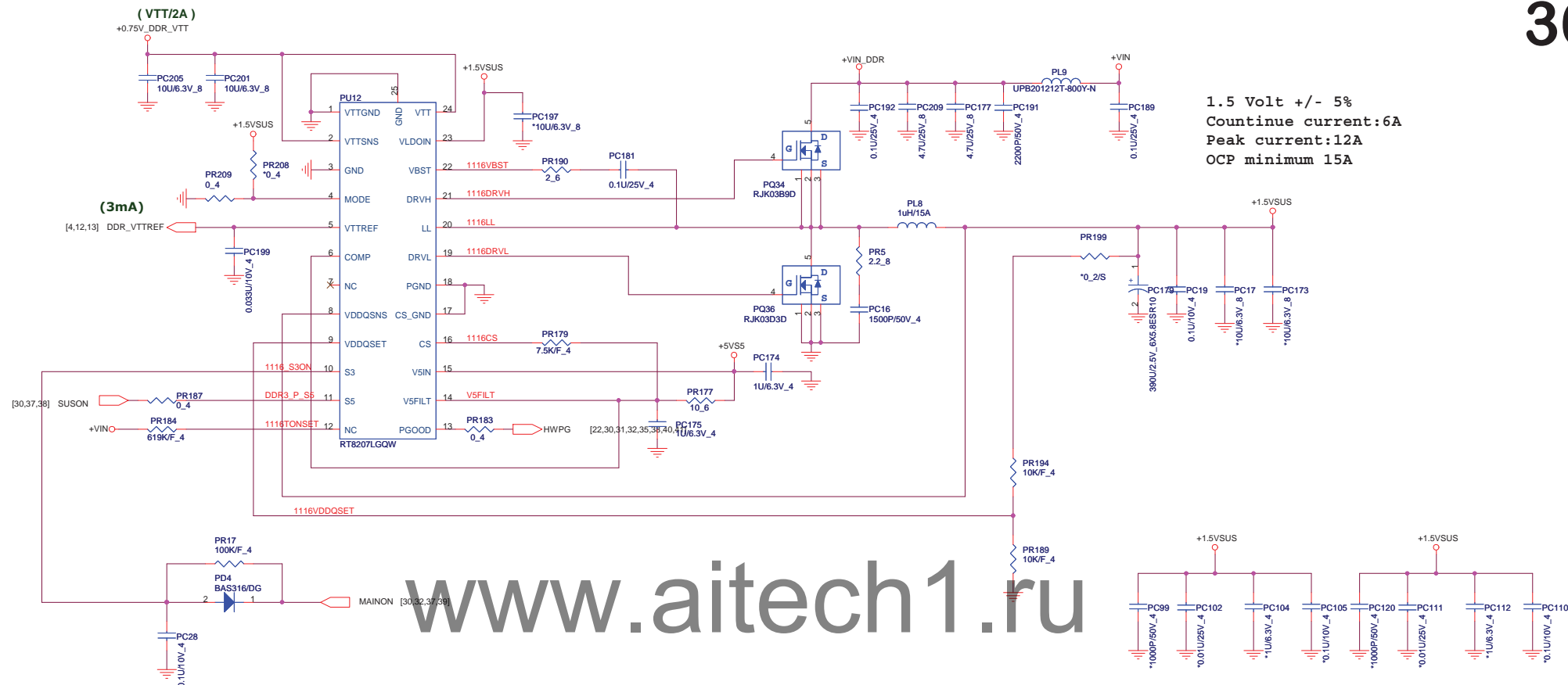


PROJECT : SWH
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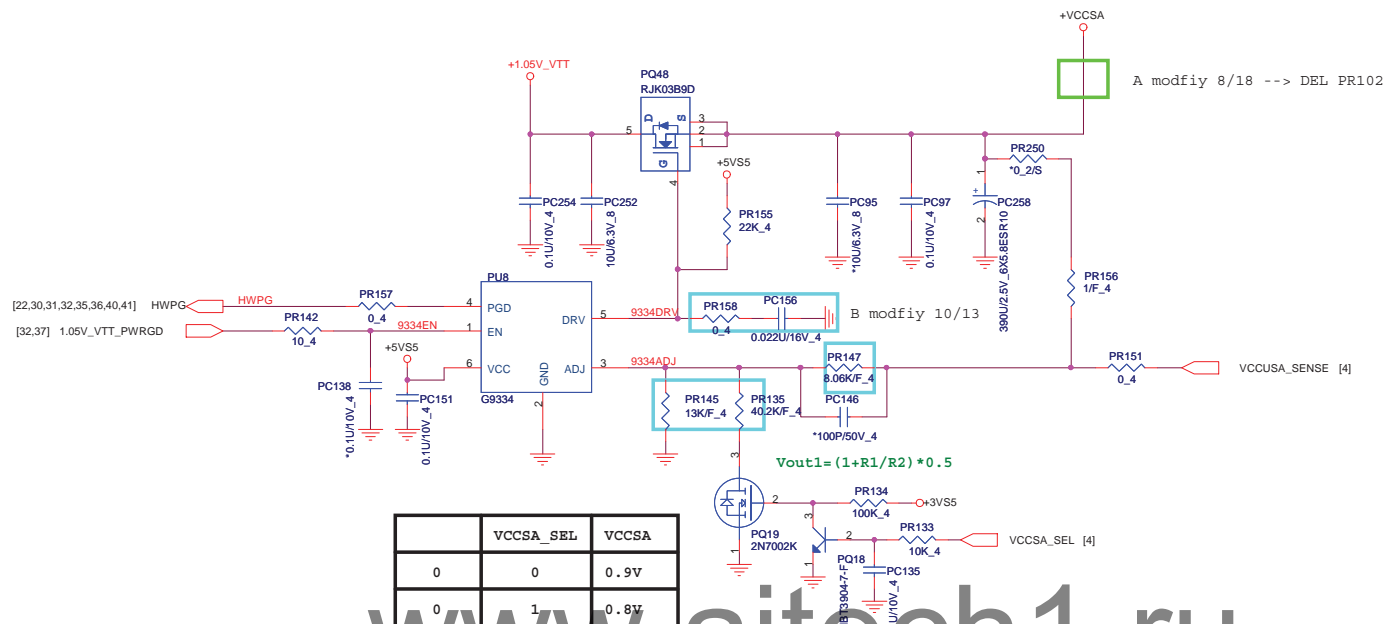
Size Custom	Document Number CPU Core2 (NCP5911)	Rev 1A
Date: Monday, October 25, 2010	Sheet 34 of 41	



- | | | | |
|---|---|---|------------------|
|  | PROJECT : SWH
Quanta Computer Inc. | | |
| | Size Custom | Document Number
+1.1V_VTT/VGA Core RT820A | Rev
1A |
| | Date: Monday, October 25, 2010 | Sheet
35 of | 41 |



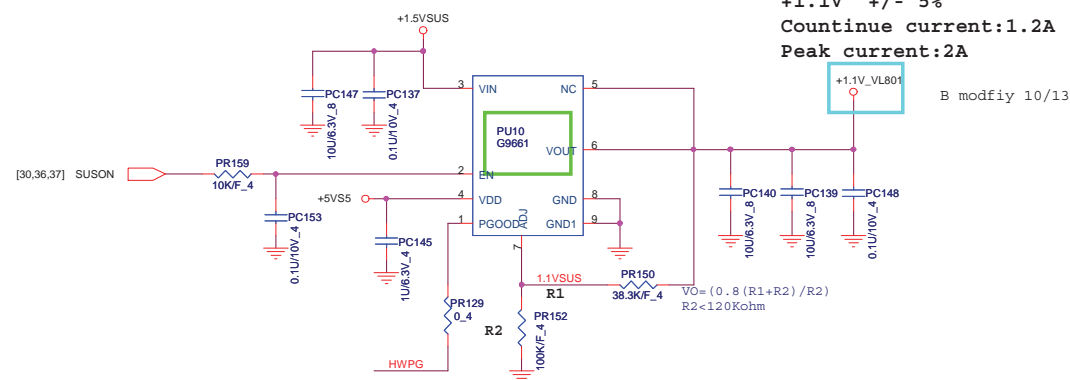
0.85V Volt +/- 5%
Continue current 3A~6A



	VCCSA_SEL	VCCSA
0	0	0.9V
0	1	0.8V

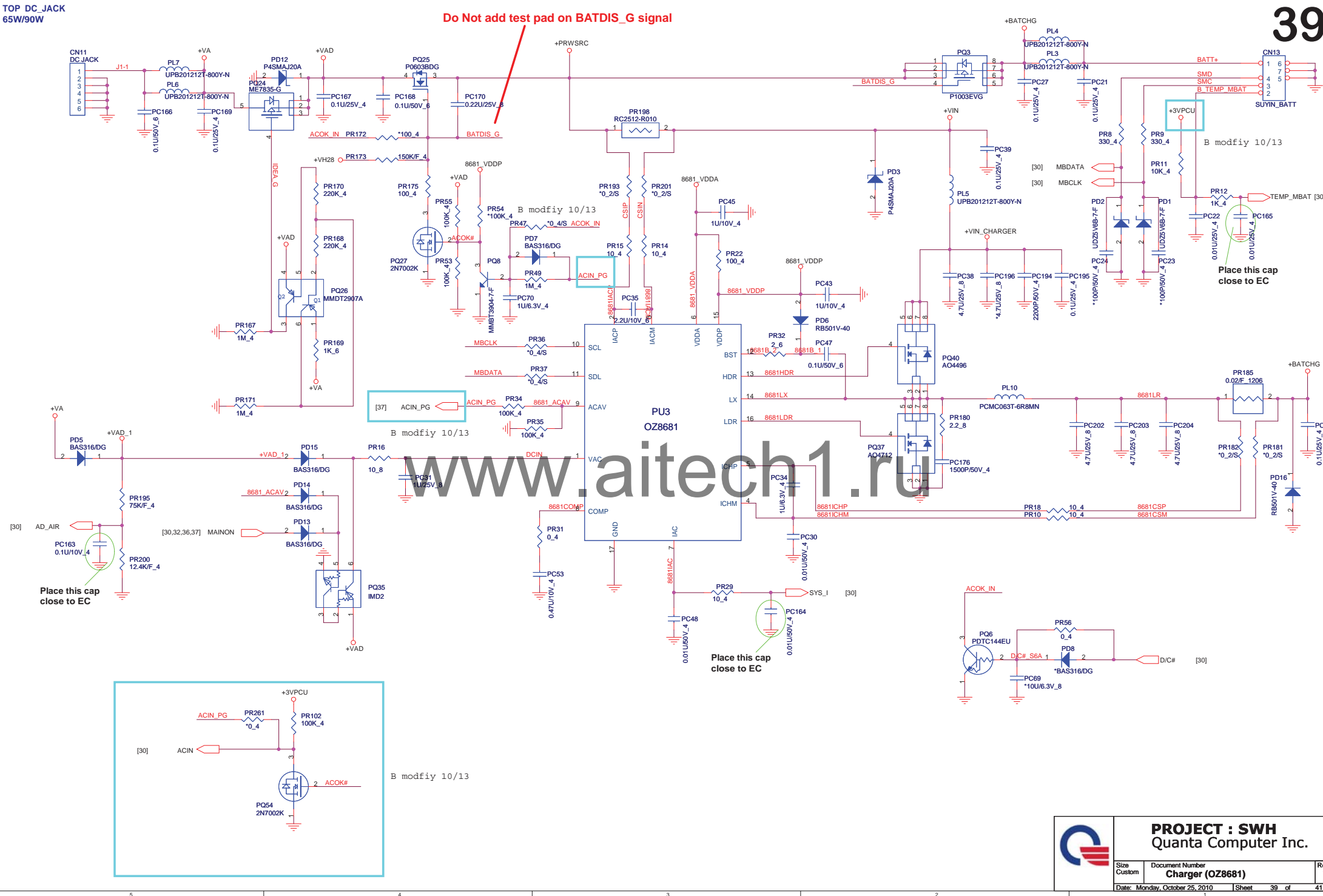
www.aitech1.ru

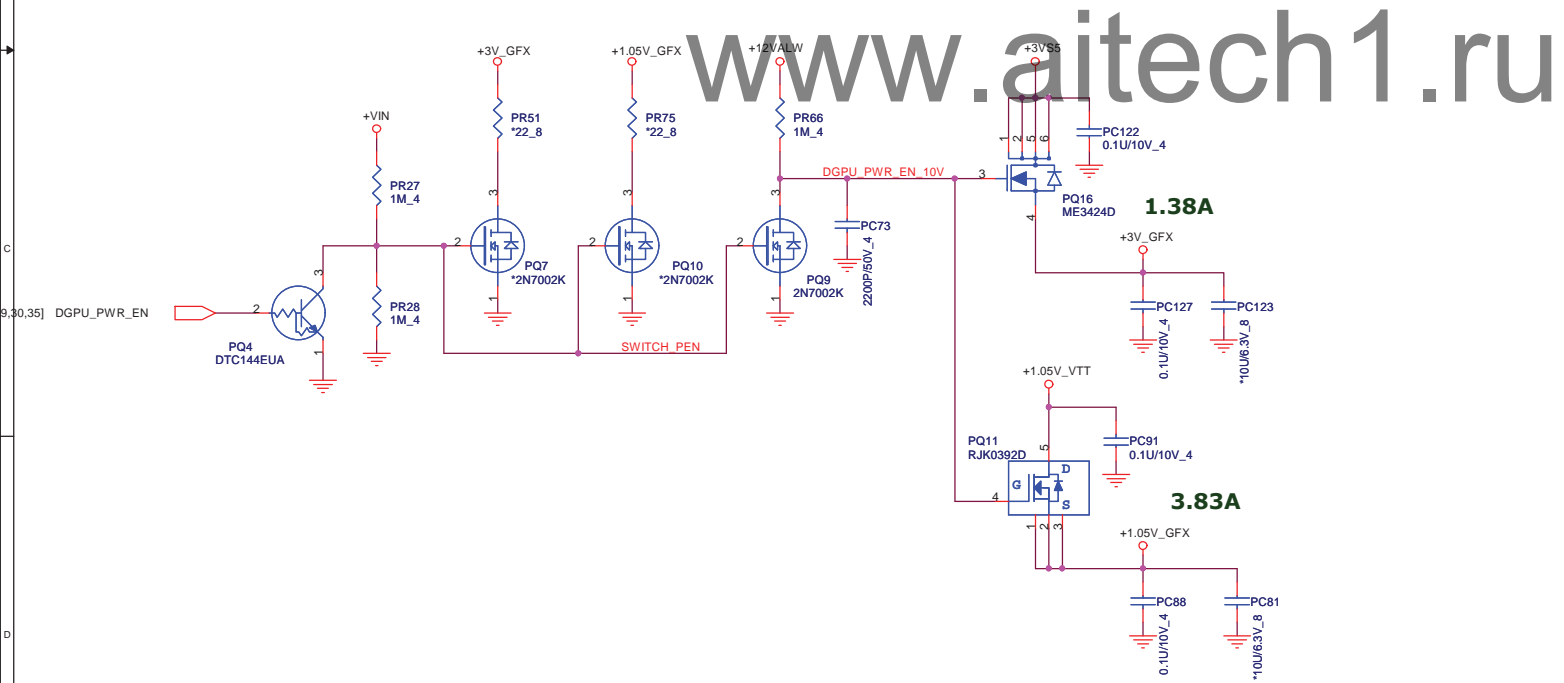
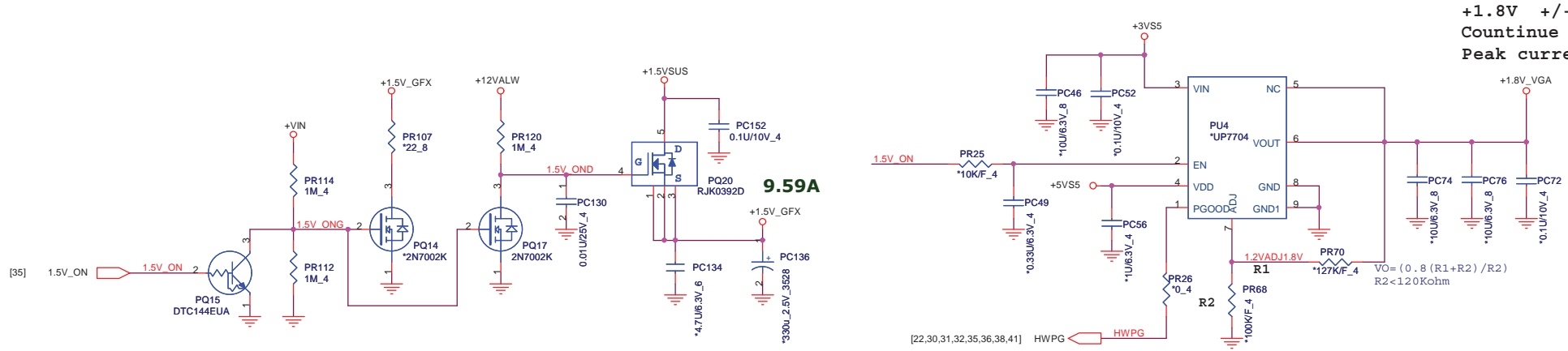
+1.1V +/- 5%
Continue current:1.2A
Peak current:2A



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Size Custom	Document Number +1.05V_VTT (VT358)	Rev 1A
Date: Monday, October 25, 2010		Sheet 38 of 41





Vender	Size	P/N
EON	128KB 512KB	AKE37ZN0Q01 (EN25F40-100HIP
Winbond	128KB 512KB	AKE35FN0N00 (W25X10BVSNG) AKE37FN0N01 (W25X40BVSSIG)
Socket		DG008000031