

PCB STACK UP

LAYER 1 : TOP
LAYER 2 : SGND1
LAYER 3 : IN1
LAYER 4 : IN2
LAYER 5 : VCC
LAYER 6 : IN3
LAYER 7 : SGND2
LAYER 8 : BOT

Cable Docking
TV_OUT
VGA
RJ-45
CIR/Pwr btn
SPDIF Out
Stereo MIC
Headphone Jack
USB Port
VOL Cntr
PAG 38

SYSTEM CHARGER(MAX8724)
PAG 39

SYSTEM POWER MAX8743A
PAG 40

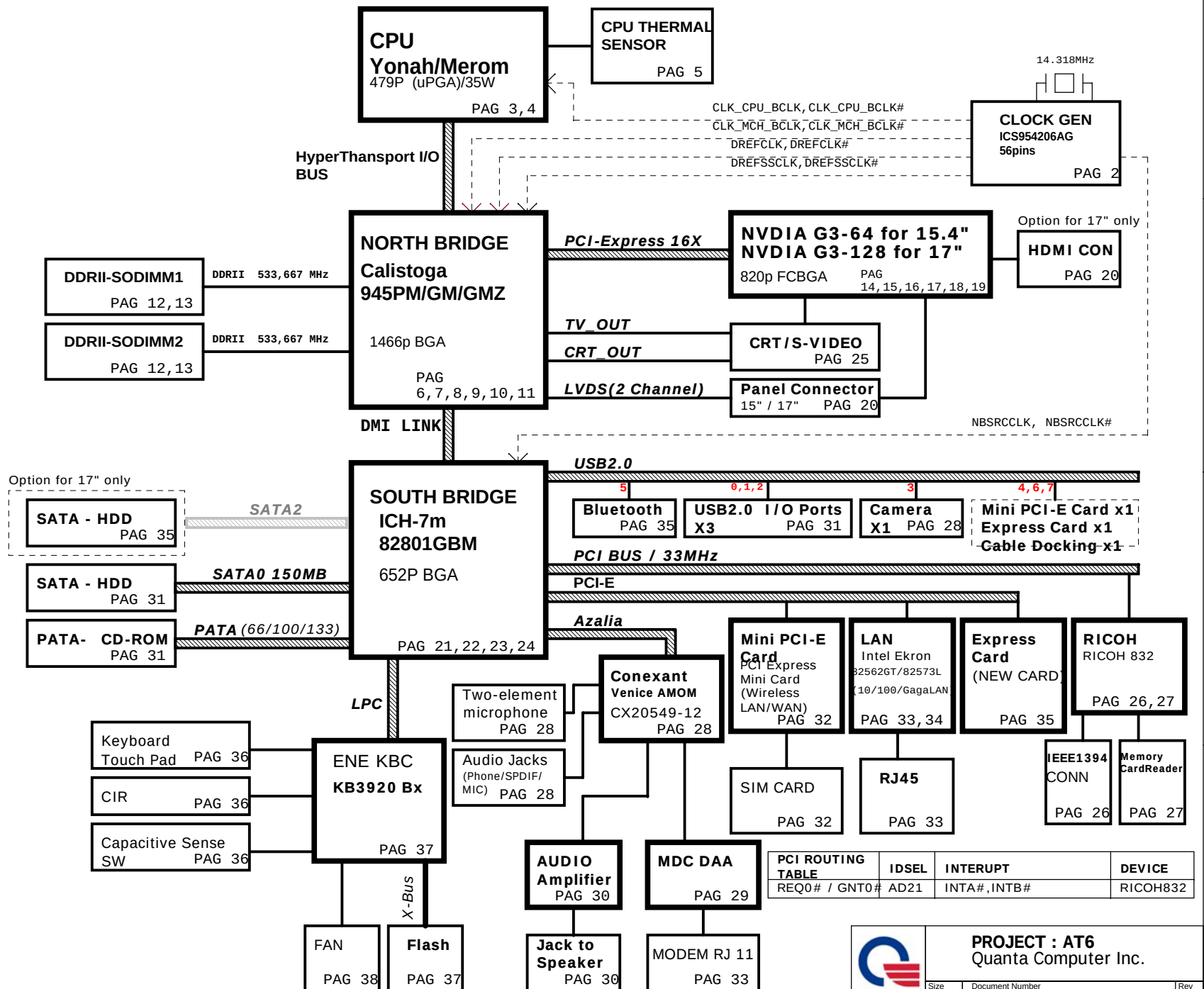
DDR II SMDDR_VTERM
1.8V/1.8VSUS(MAX8632)
PAG 41

VCCP +1.5V AND
GMCH 1.05V(MAX8743)
PAG 42

VGACORE(1.025V)MAX1992
PAG 43

CPU CORE MAX8771
PAG 44

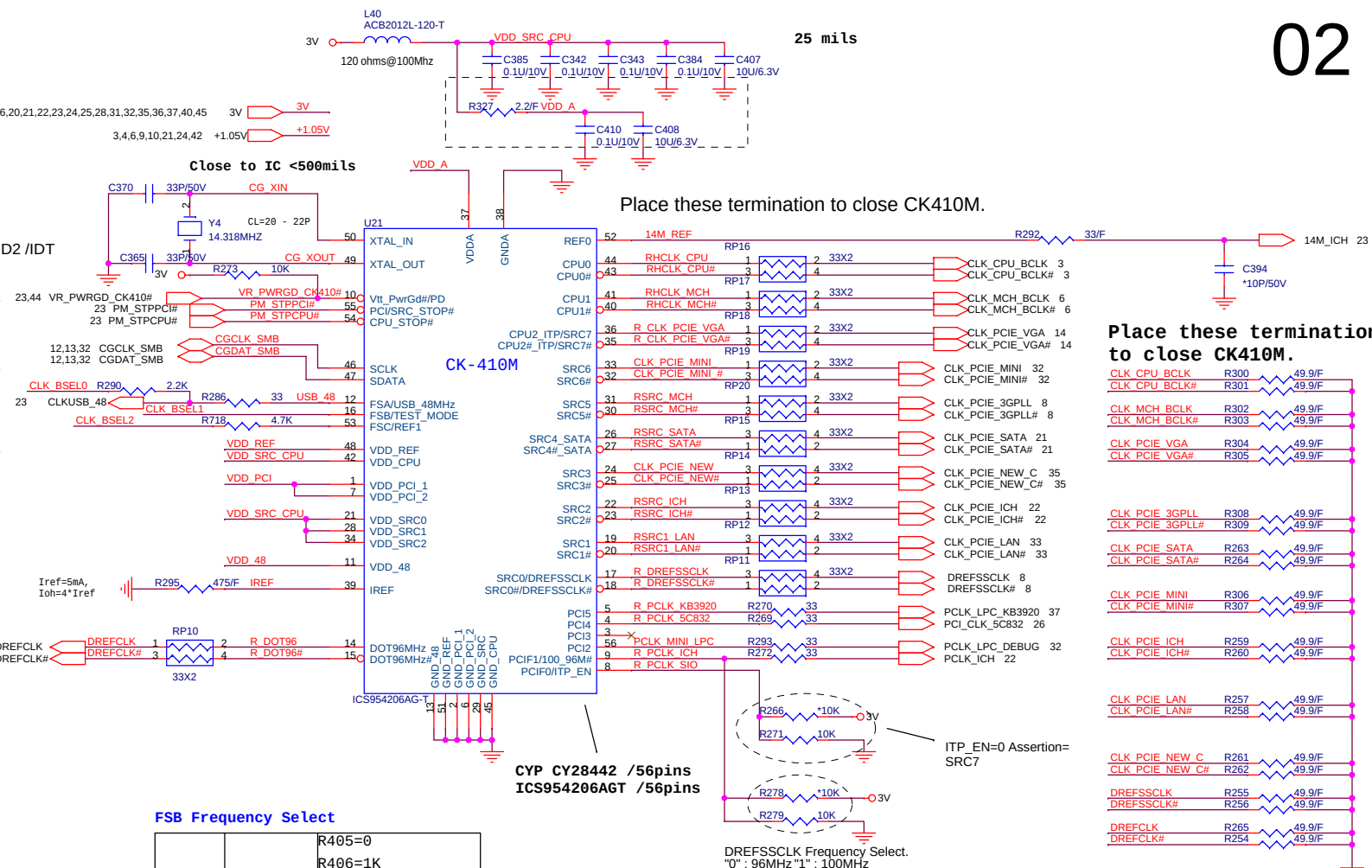
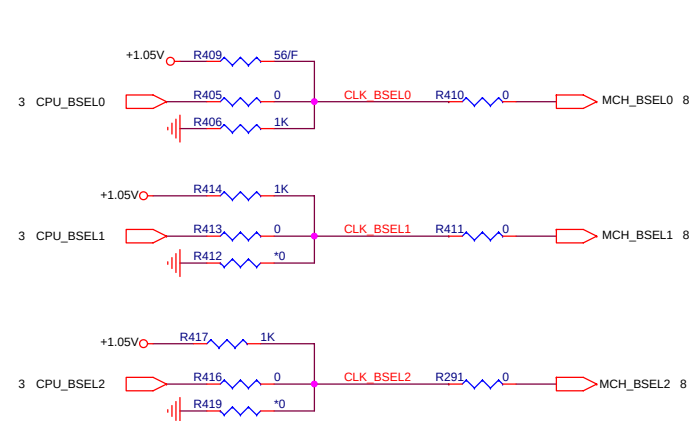
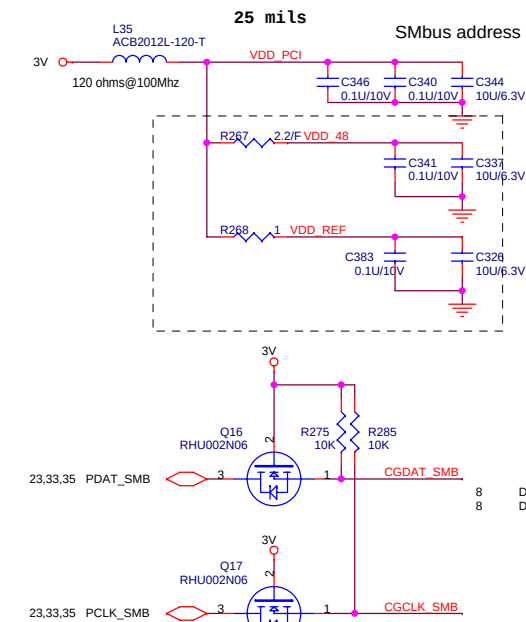
AT6 BLOCK DIAGRAM



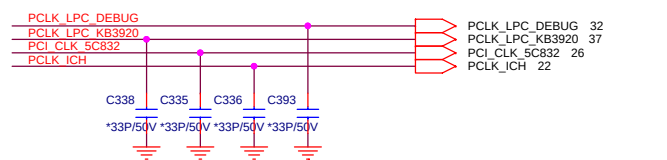
PROJECT : AT6
Quanta Computer Inc.

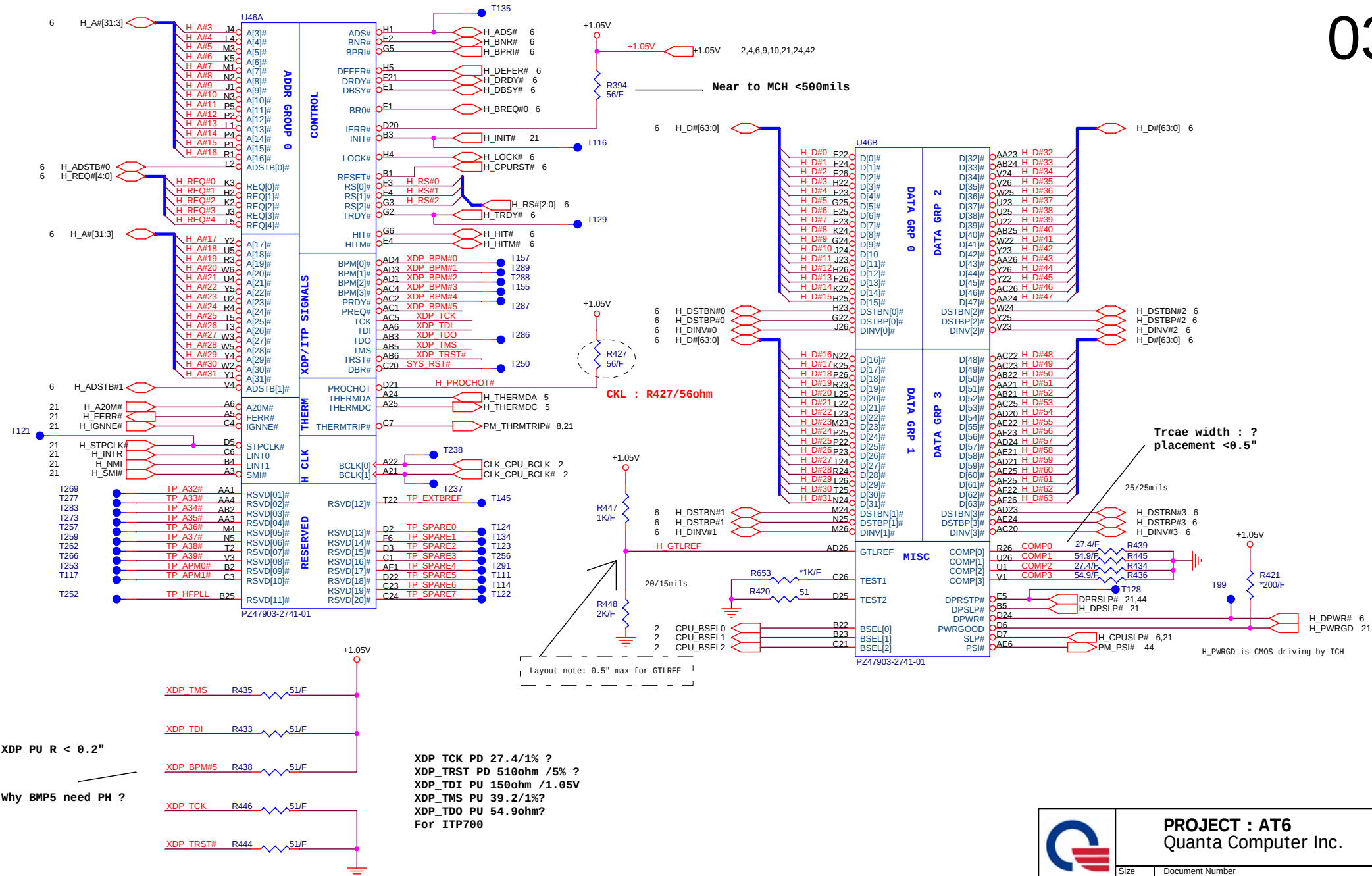
Size Custom Document Number BLOCK DIAGRAM Rev 1A
Date: Monday, May 22, 2006 Sheet 1 of 45

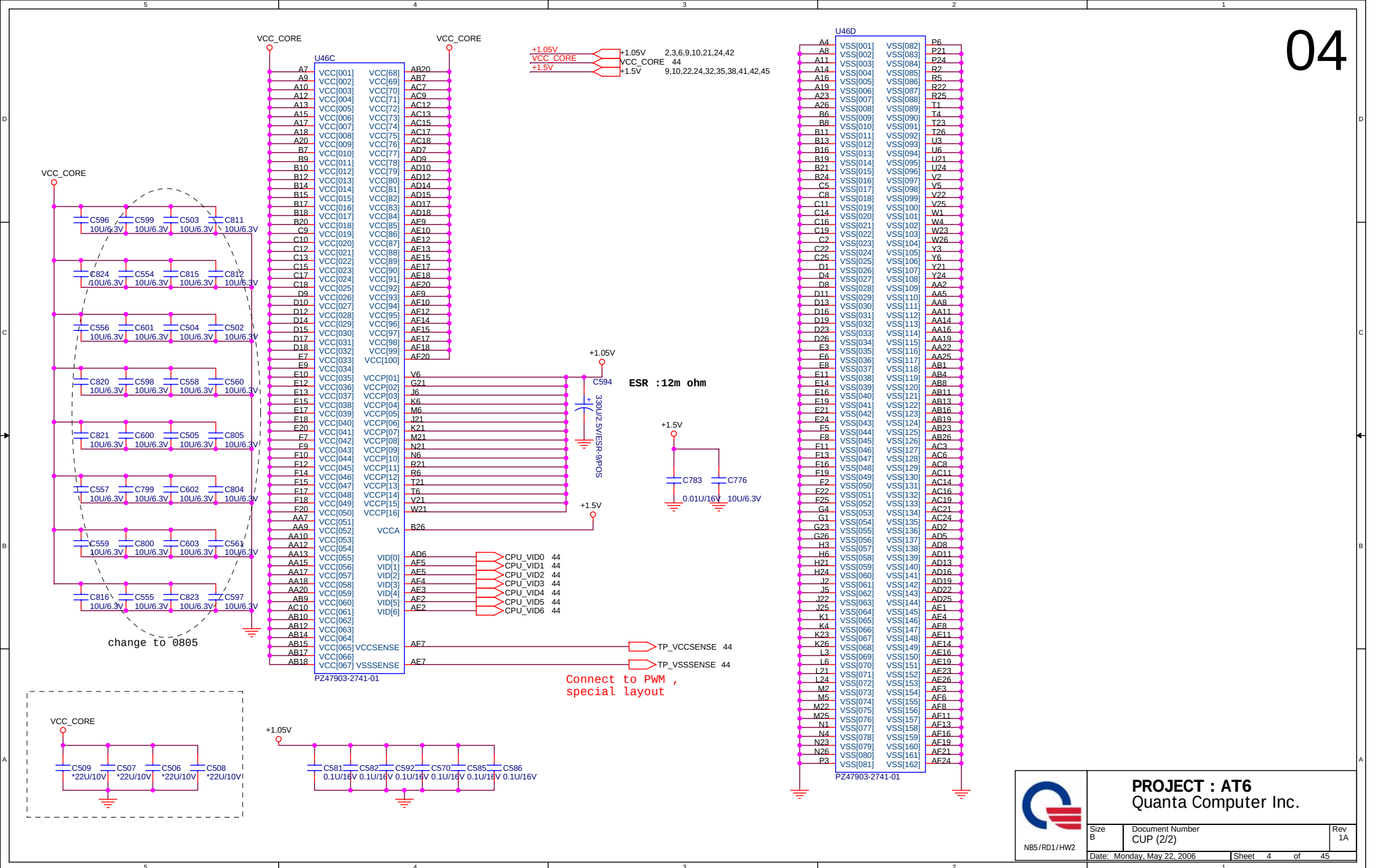
FSC	FSB	FSA	CPU	SRC	PCI	DOT
1	0	1	100	100	33	96
0	0	1	133	100	33	96
0	1	1	166	100	33	96
0	1	0	200	100	33	96
0	0	0	266	100	33	96
1	0	0	333	100	33	96
1	1	0	400	100	33	96
1	1	1	200	100	33	96

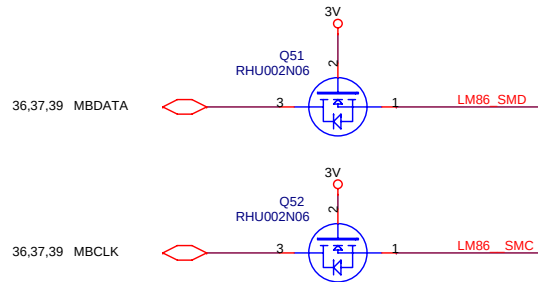
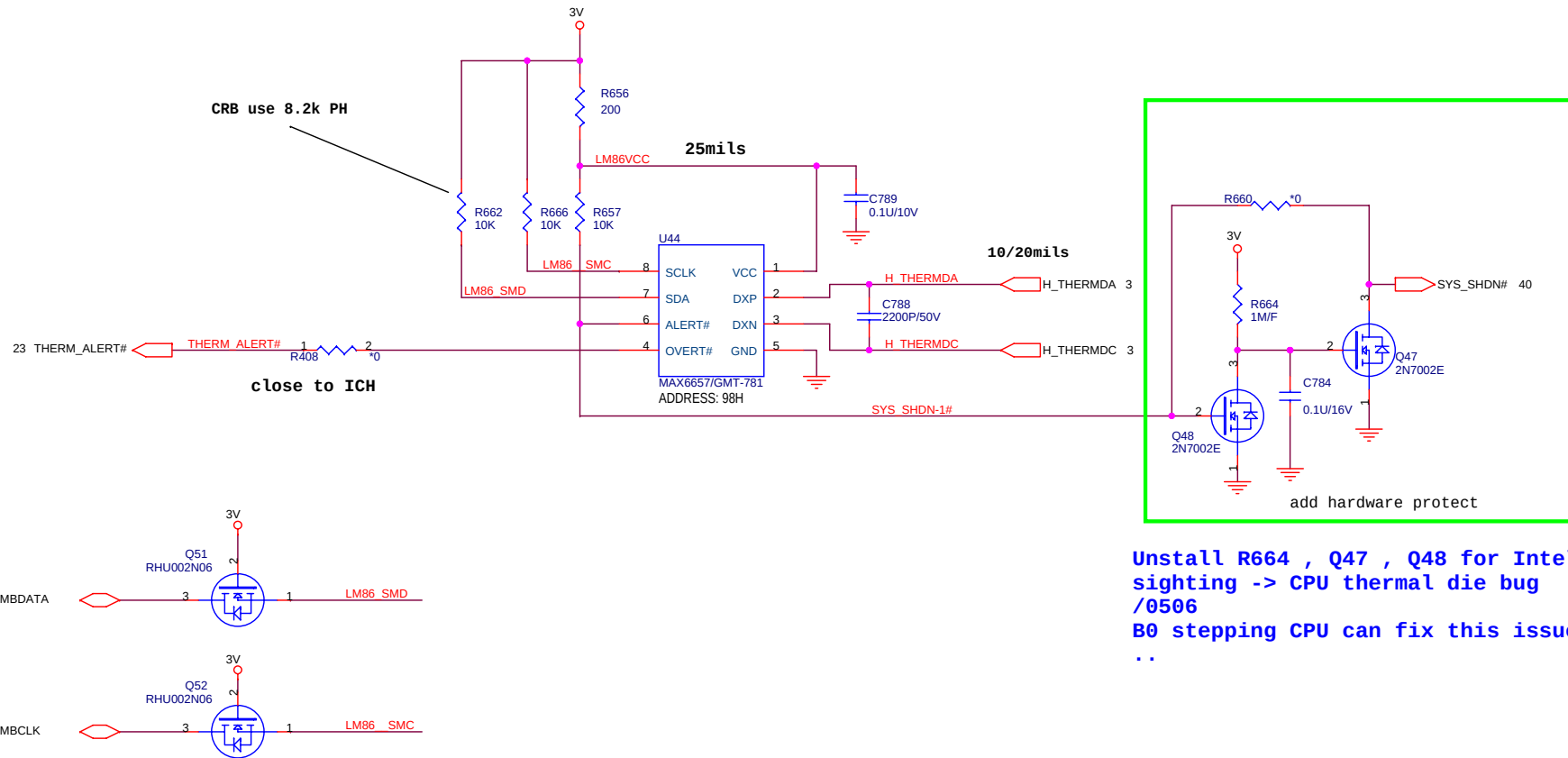


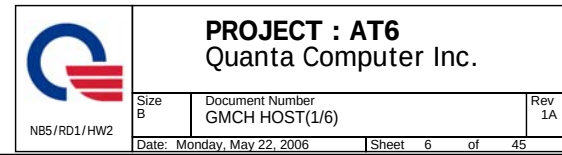
FSB Frequency Select		
FSB Freq (Mhz)	CPU DRIVEN (default)	R405=0
		R406=1K
		R413=0
		R414=1K
		R416=0
		R417=1K
	533	R405=NO STUFF
		R409=56/F
		R413=NO STUFF
		R412=0
		R416=NO STUFF
		R419=0
	667	R405=NO STUFF
		R409=56/F
		R413=NO STUFF
		R414=1K
		R416=NO STUFF
		R419=0

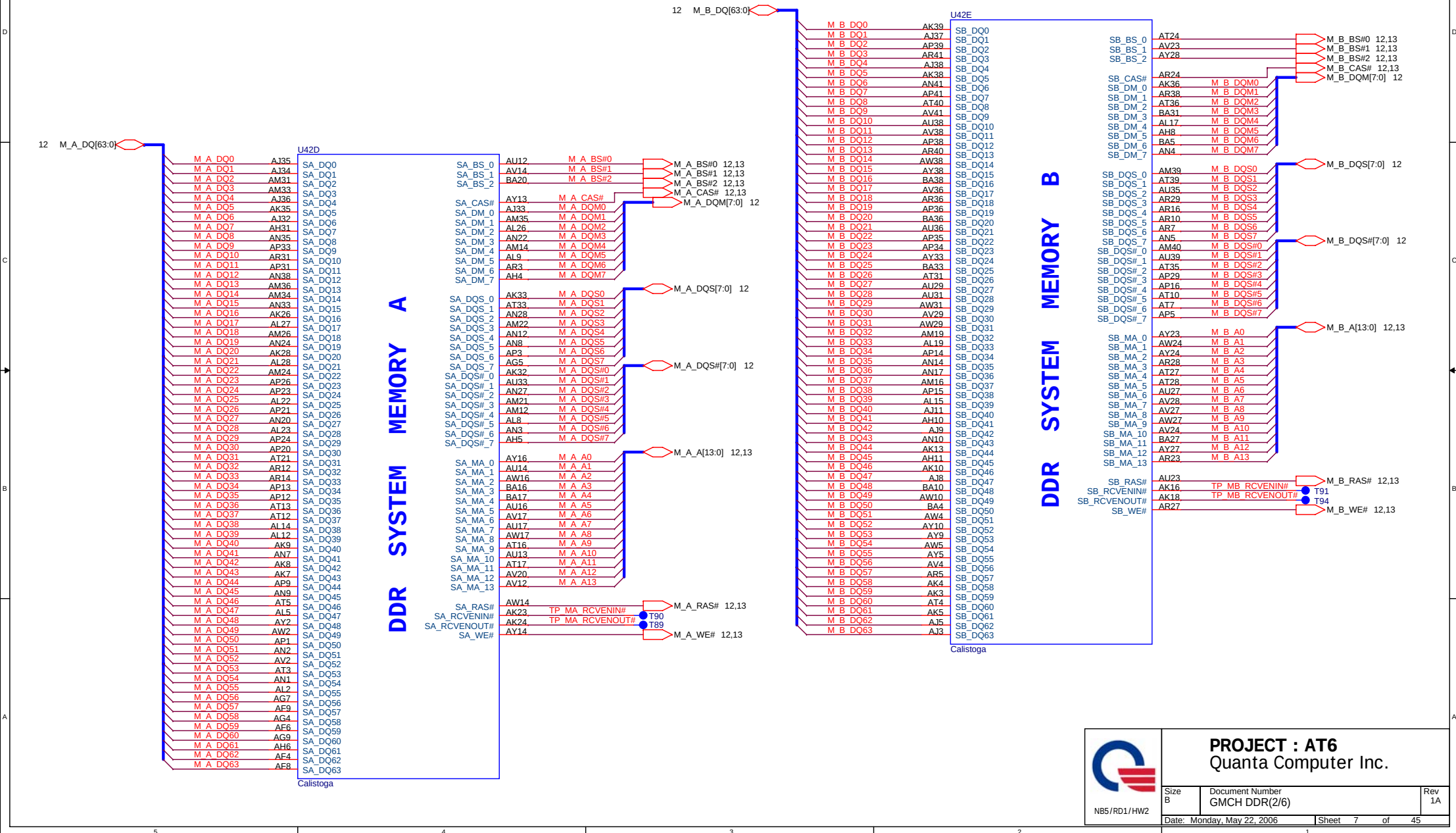






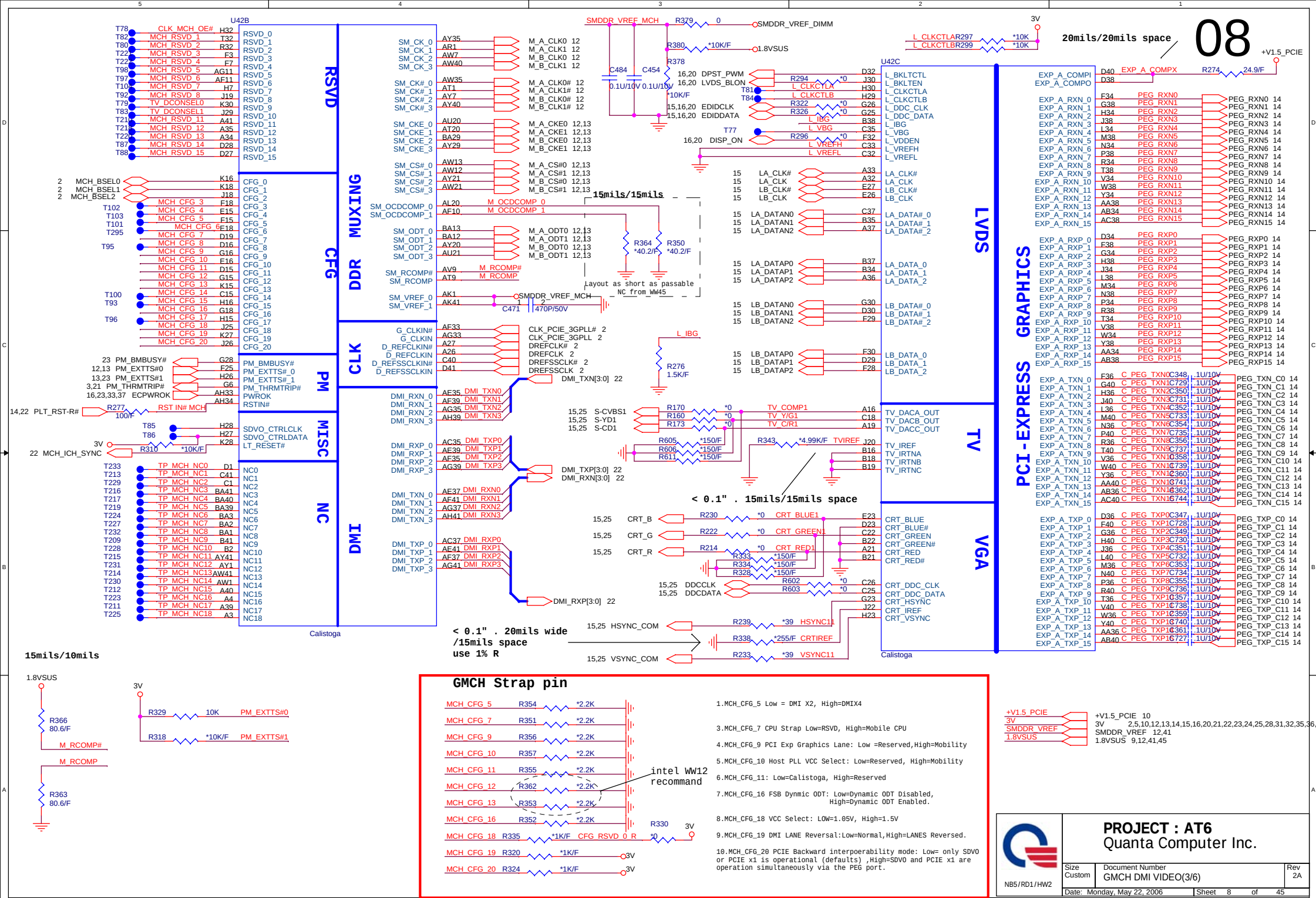


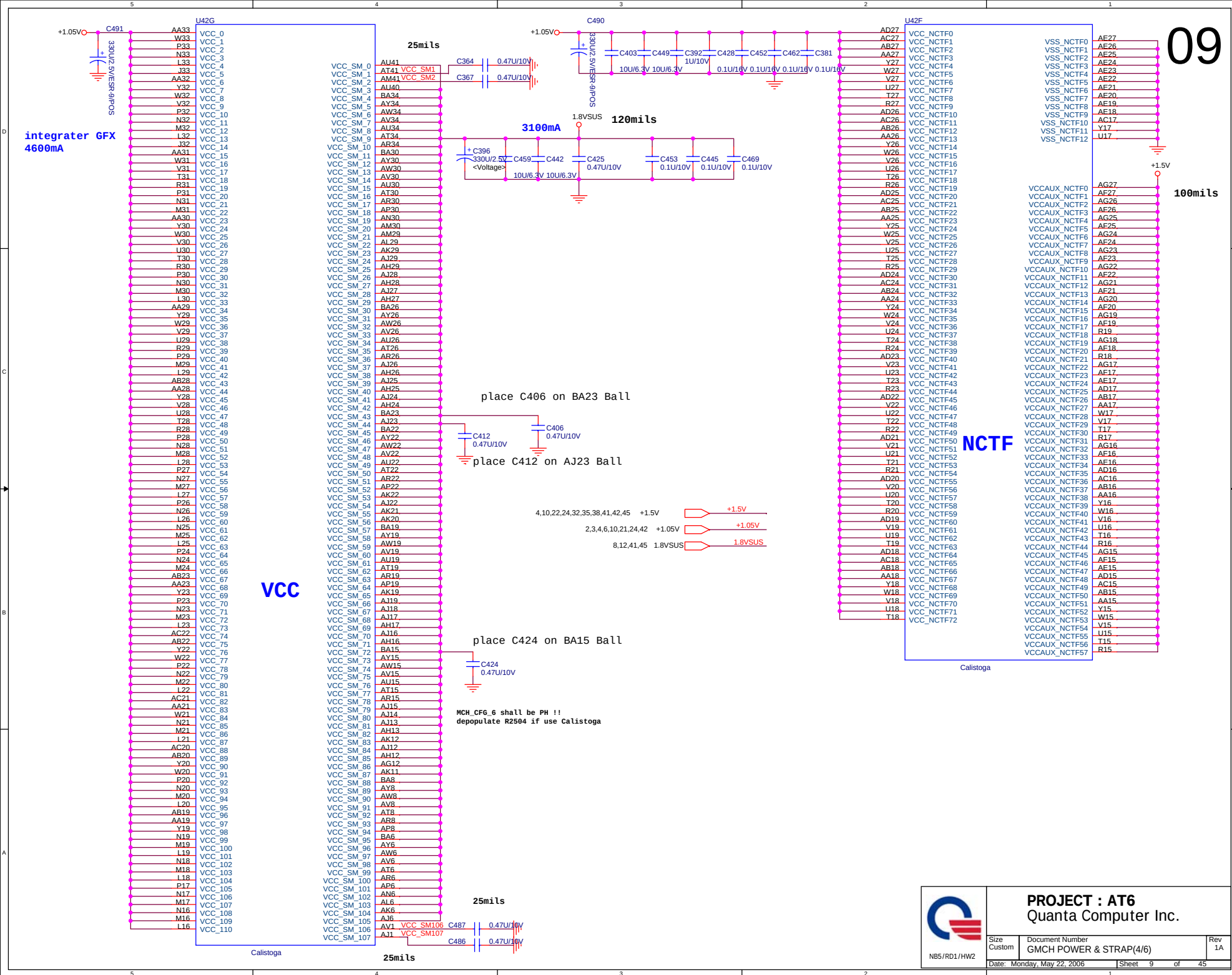


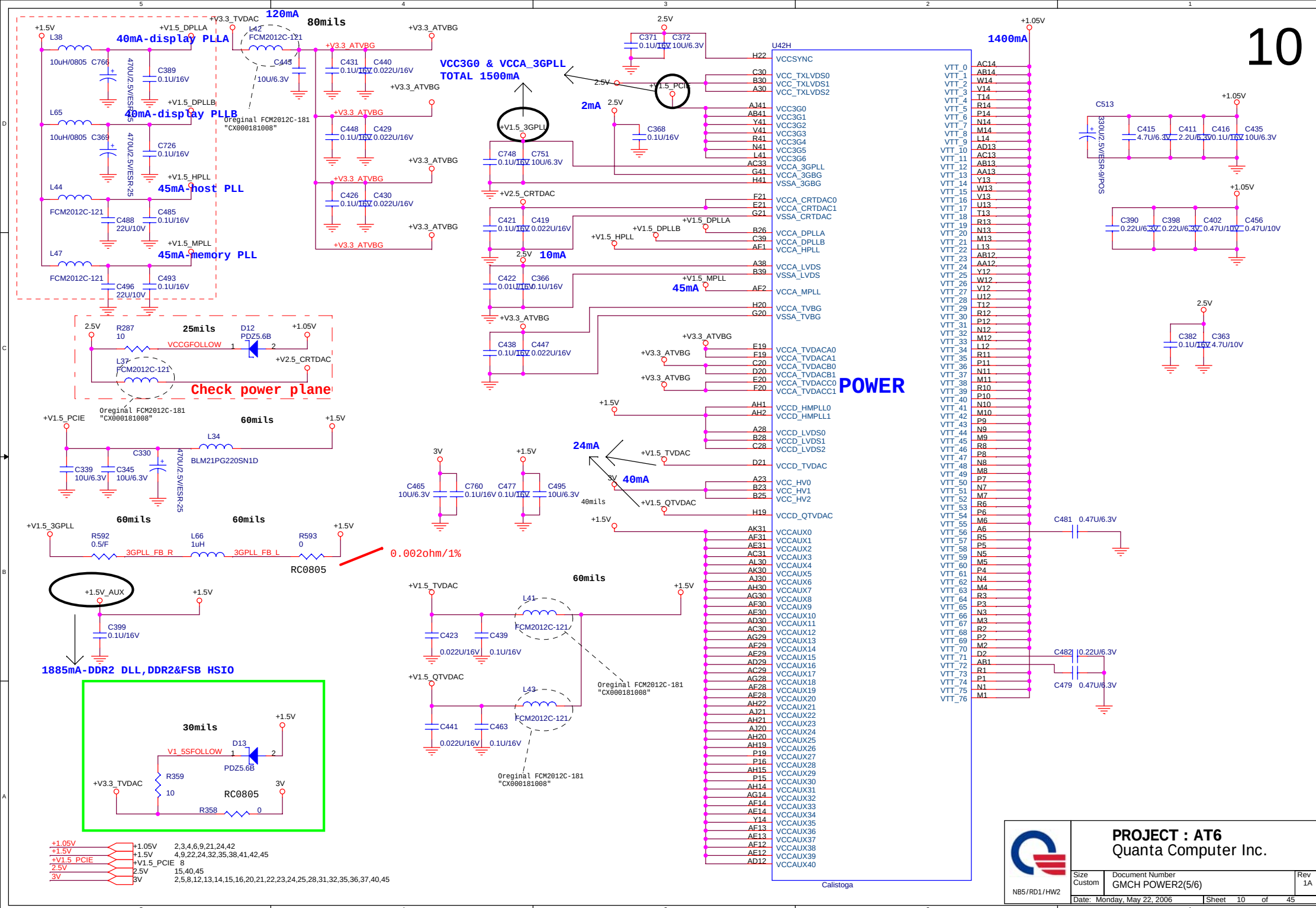


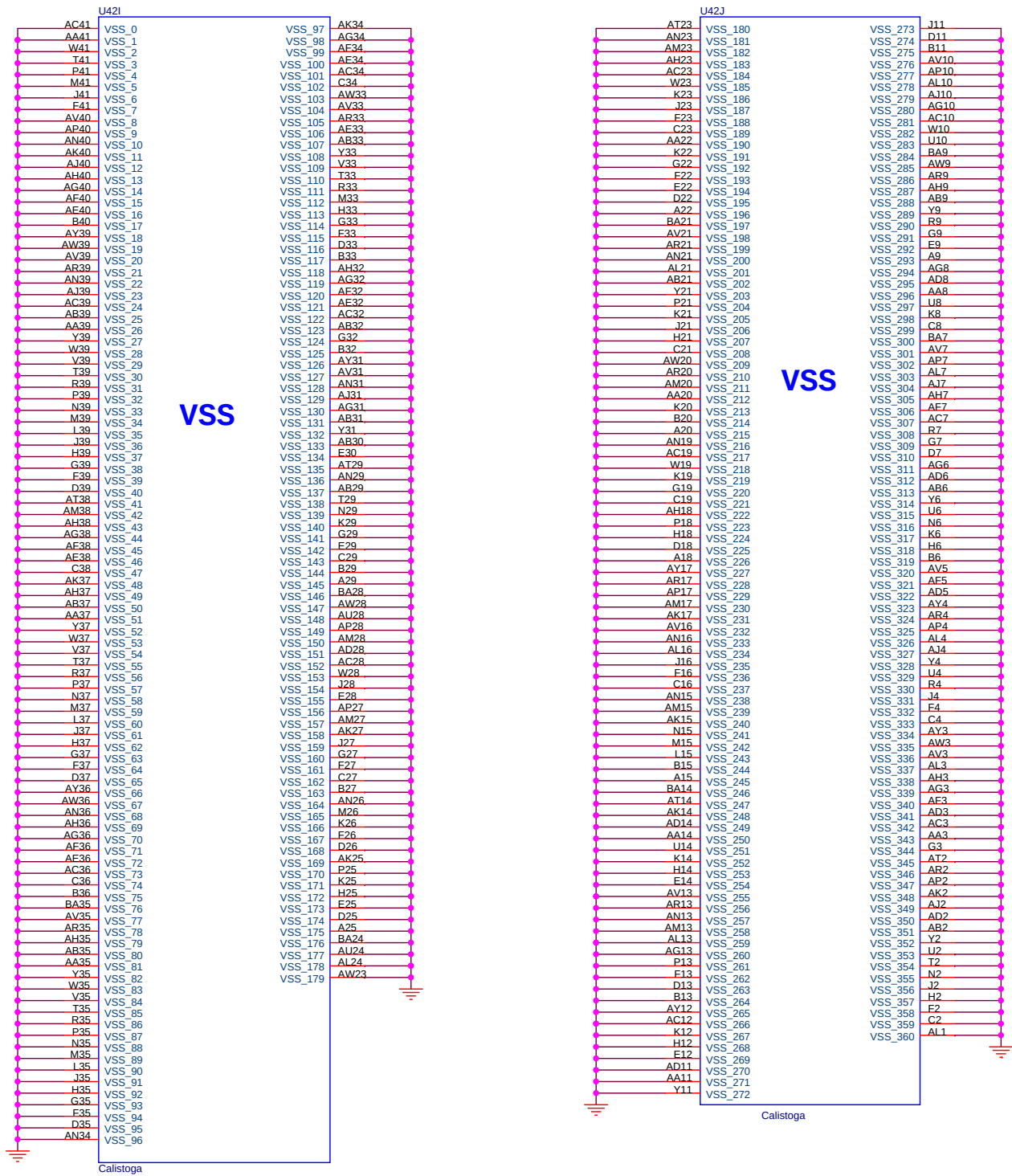
PROJECT : AT6
Quanta Computer Inc.

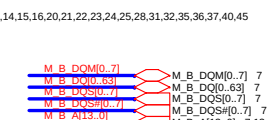
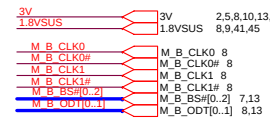
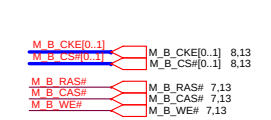
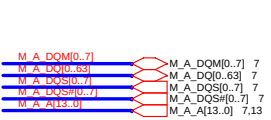
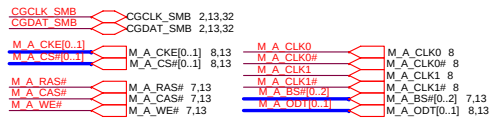
Size B	Document Number GMCH DDR(2/6)	Rev 1A
Date: Monday, May 22, 2006	Sheet 7 of 45	



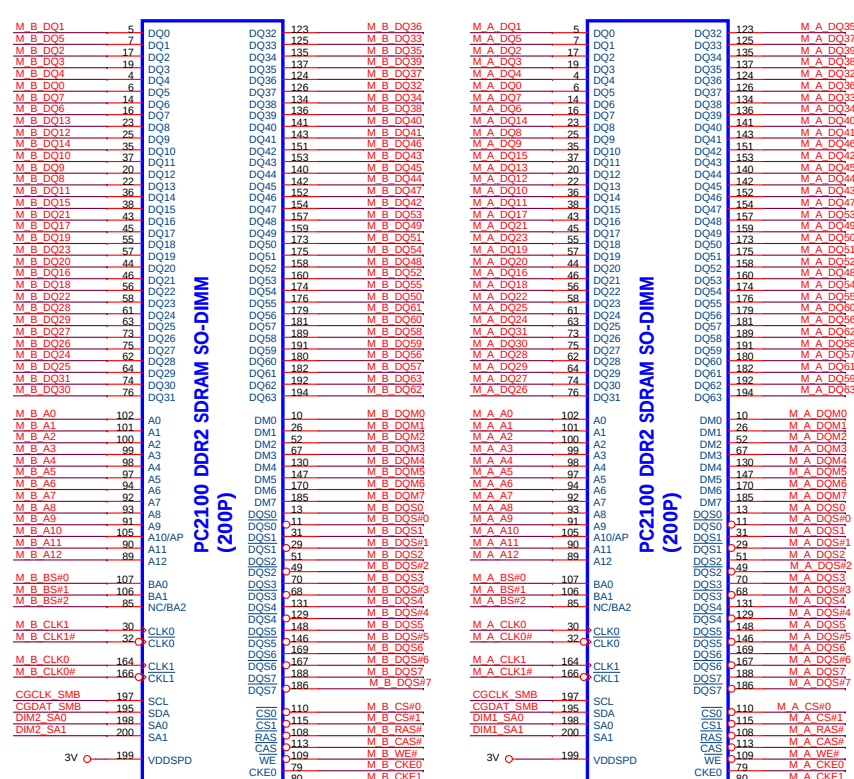








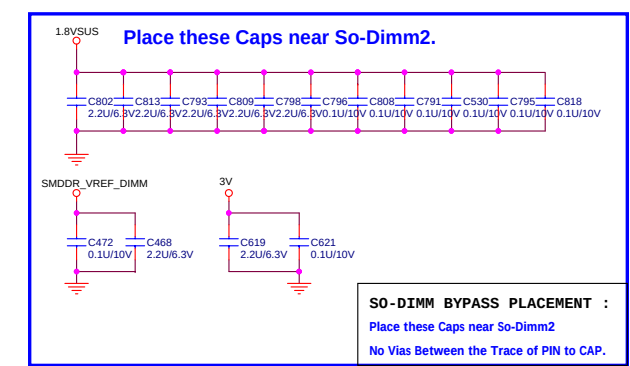
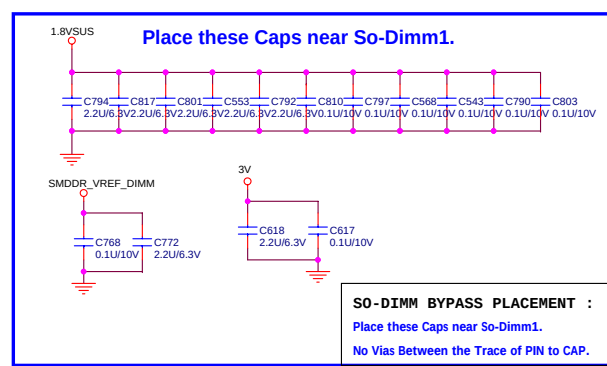
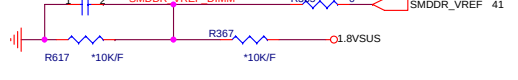
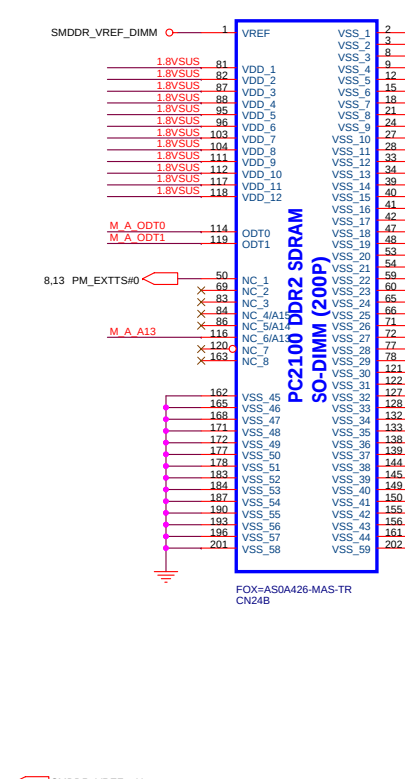
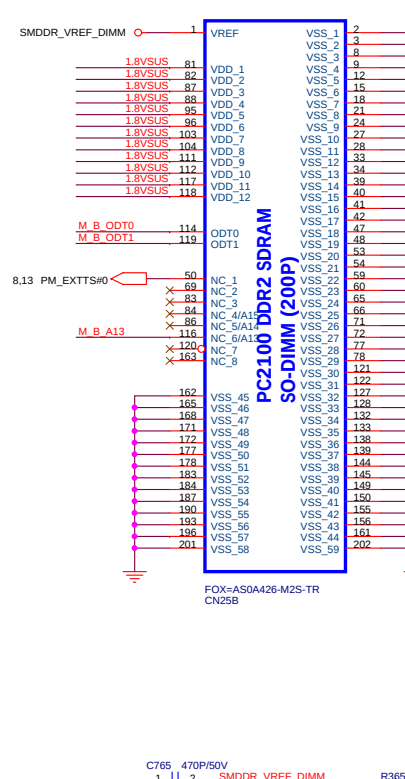
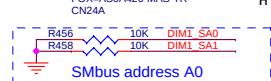
12



CKEA 0,1
H 9.2



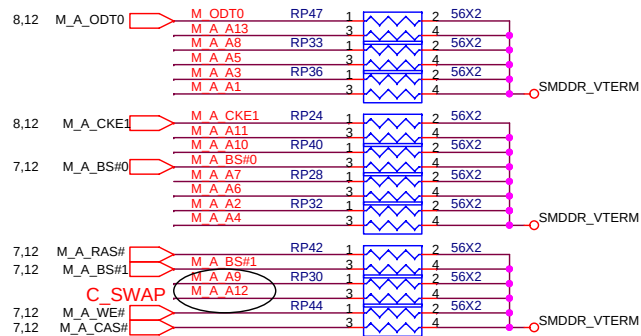
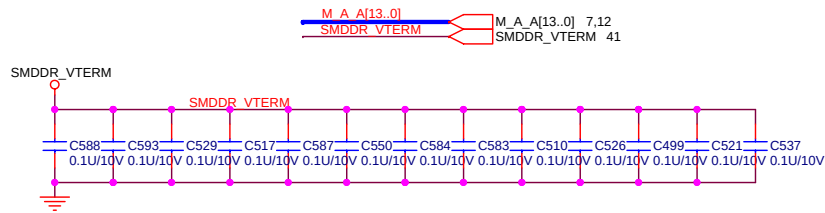
CKEB 0,1
H 5.2



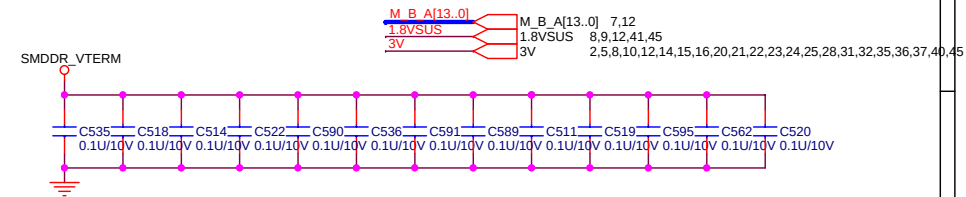
DDRII DUAL CHANNEL A, B.

13

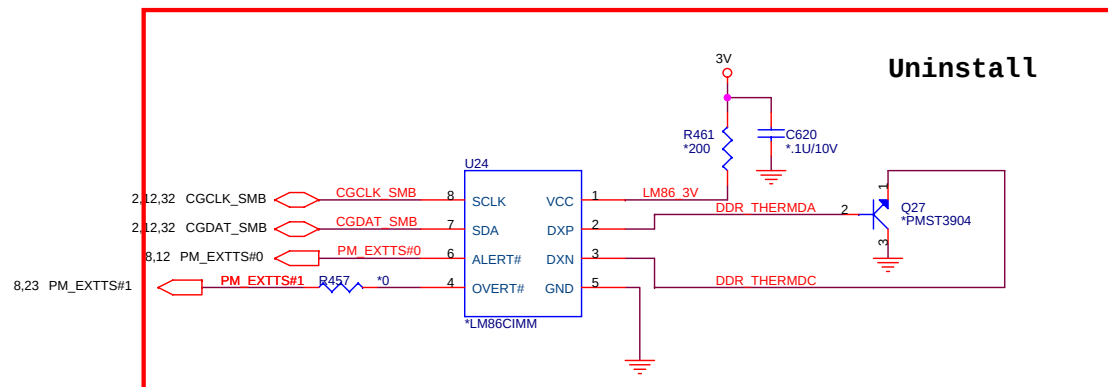
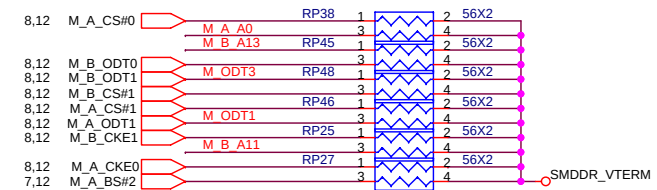
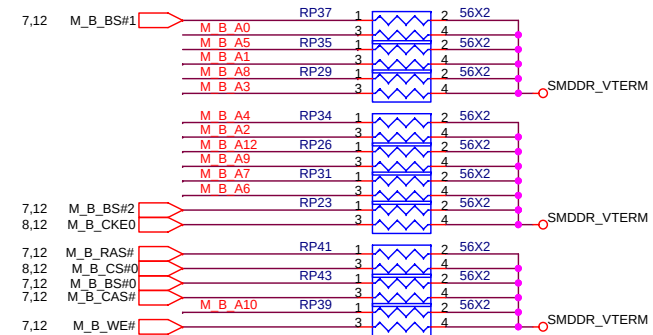
DDRII A CHANNEL

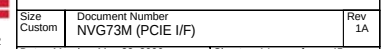


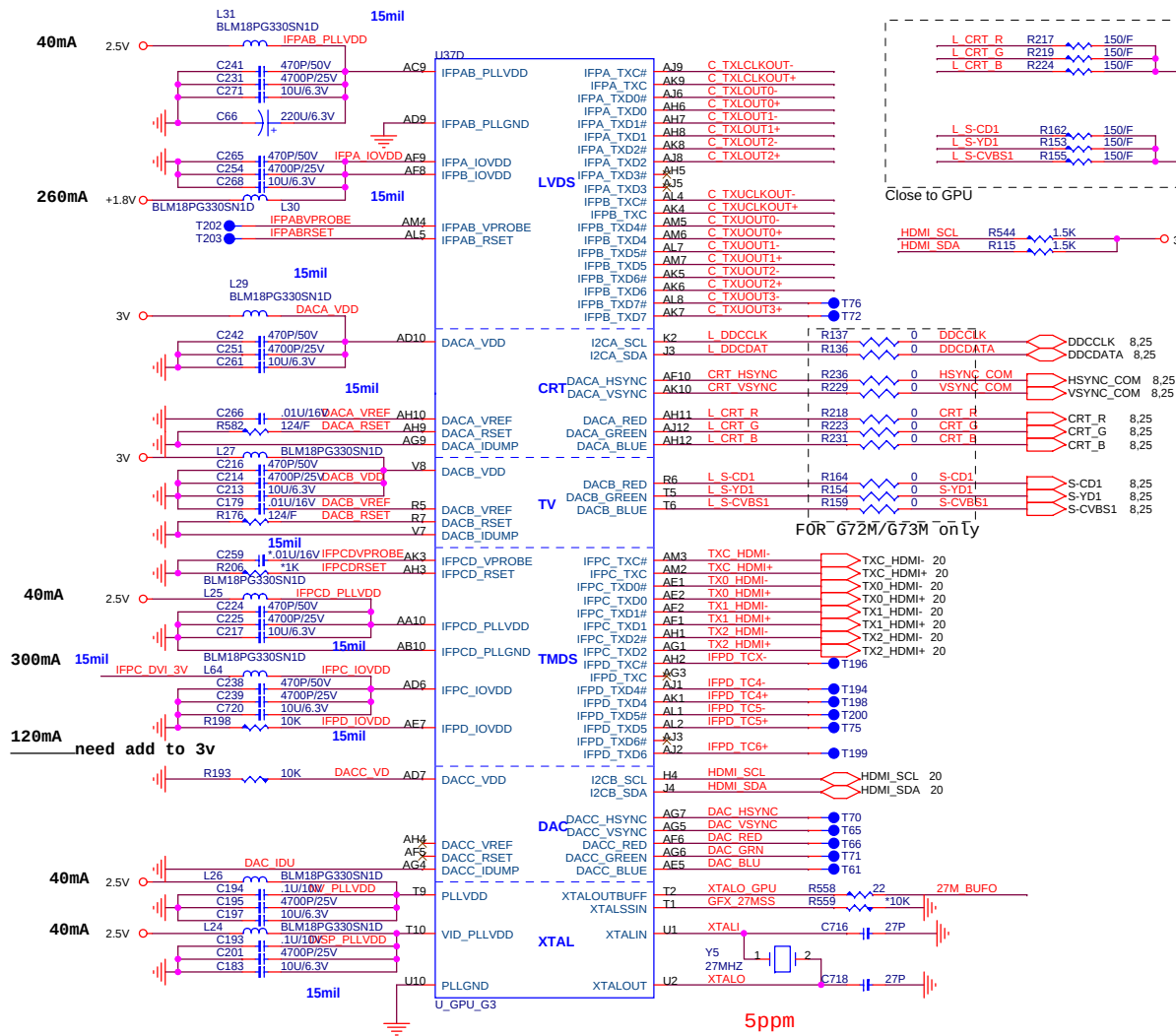
DDRII B CHANNEL



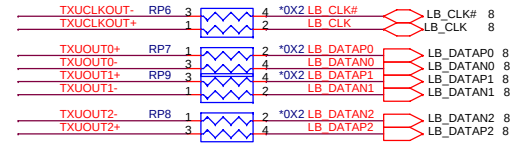
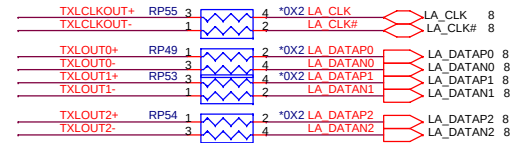
Layout note: Place one cap close to every 2 pullup resistors terminated to SMDR_VTERM



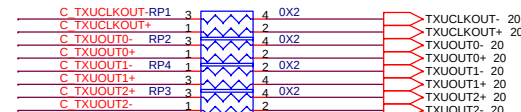
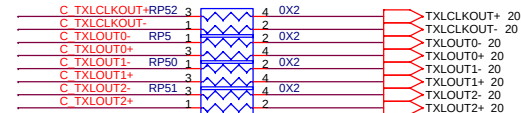




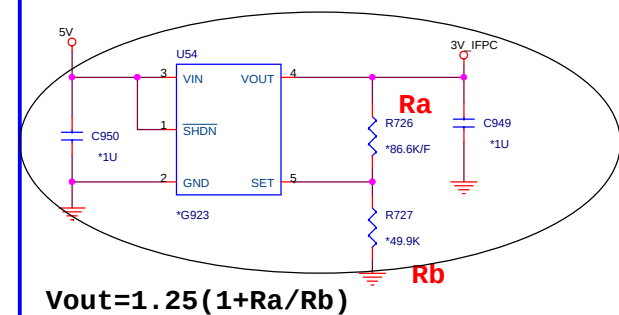
OPTION SIGNAL FROM NB FOR UMA VGA



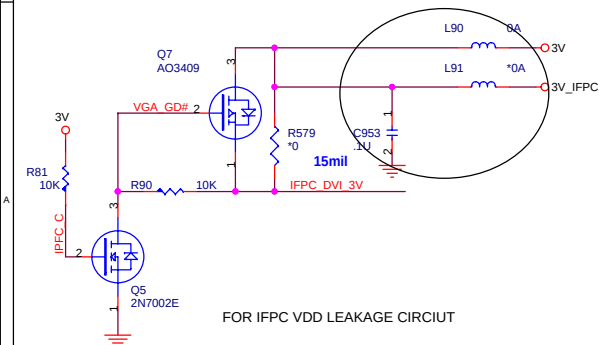
OPTION SIGNAL FROM Nvidia to VGA



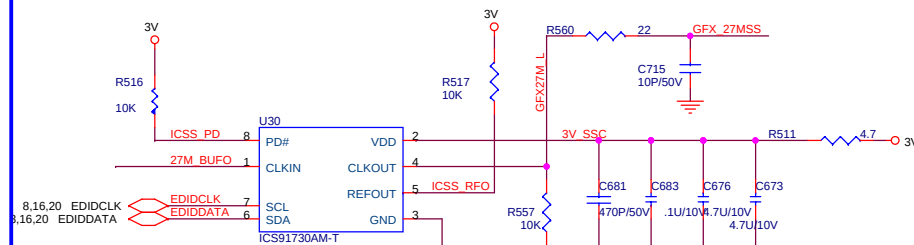
C. For HDMI Nvidia's PUN issue



C. For HDMI Nvidia's PUN issue



SPREAD SPECTRUM



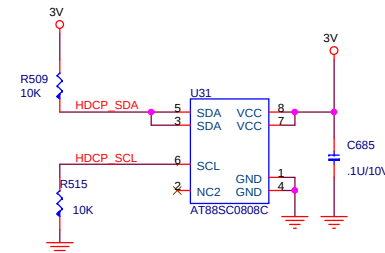
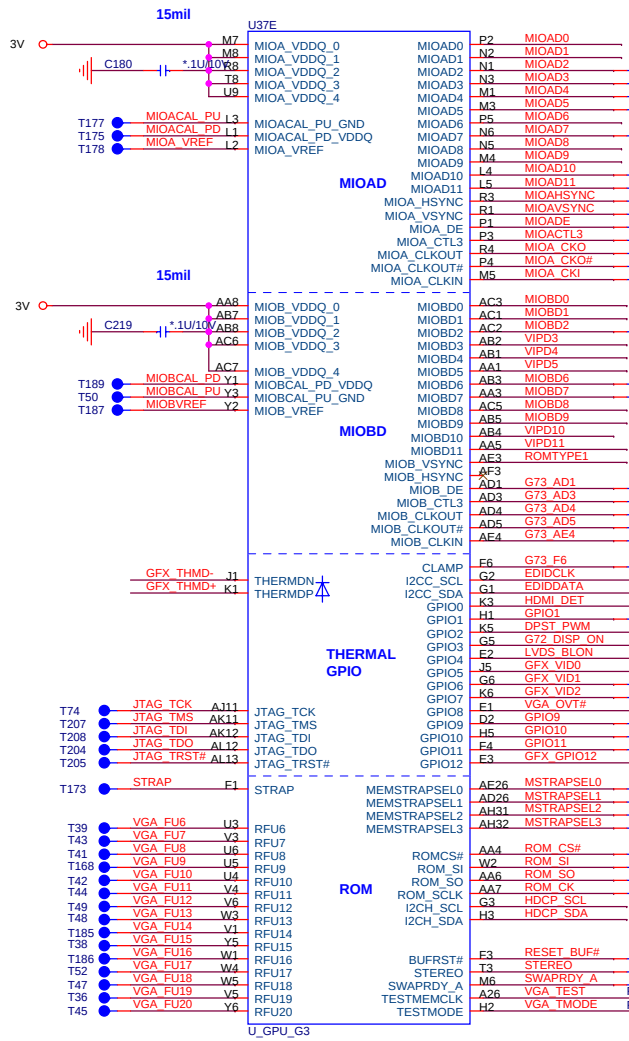
I2C ADDRESS: 0xD4H



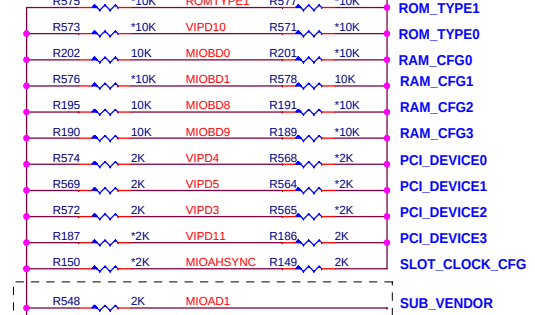
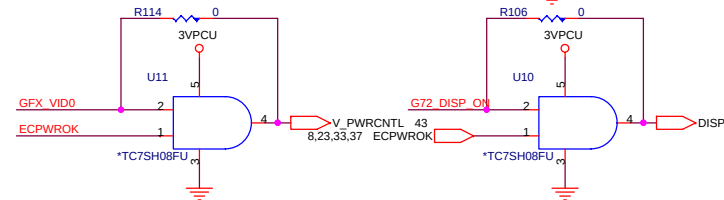
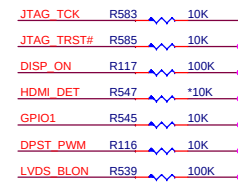
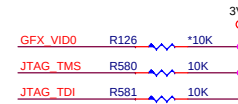
PROJECT : AT6
Quanta Computer Inc.

Size Custom	Document Number NVG73M (LVDS/DVI/CRT/TV)	Rev 2A
Date: Monday, May 22, 2006	Sheet 15 of 45	

need to reserve or cancel



PCI_DEVICE[3:0]	DESCRIPTION
1000	G72M/G73M
0110	G72M-Z
0111	G72M-V/G73M-V
others	Reserved



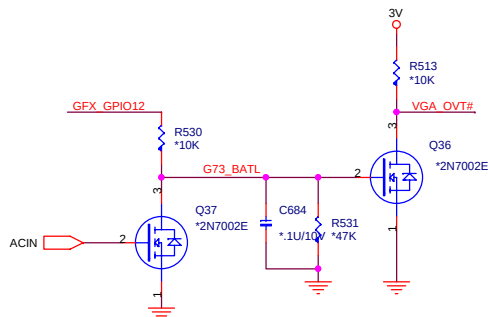
SHARE M/B SYSTEM BIOS, SUB VENDOR
ID NEED PULL DOWN .

G72M VRAM Configuration Table

RAM_CFG[3:0]	DESCRIPTION	Vendor
0000	DDR2 16Mx16x4, 64bit, 128MB	Elpida
0001	DDR2 16Mx16x4, 64bit, 128MB	Samsung
0010	DDR2 16Mx16x4, 64bit, 128MB	Infinion
0011	DDR2 16Mx16x4, 64bit, 128MB	Hynix
0100	Reserved	
0101	DDR2 32Mx16x4, 64bit, 256MB	Samsung
0110	DDR2 32Mx16x4, 64bit, 256MB	Infinion
0111	DDR2 32Mx16x4, 64bit, 256MB	Hynix
1000	DDR2 16Mx16x2, 32bit, 64MB	Elpida
1001	DDR2 16Mx16x2, 32bit, 64MB	Samsung
1010	DDR2 16Mx16x2, 32bit, 64MB	Infinion
1011	DDR2 16Mx16x2, 32bit, 64MB	Hynix
others	Reserved	

G73M VRAM Configuration Table

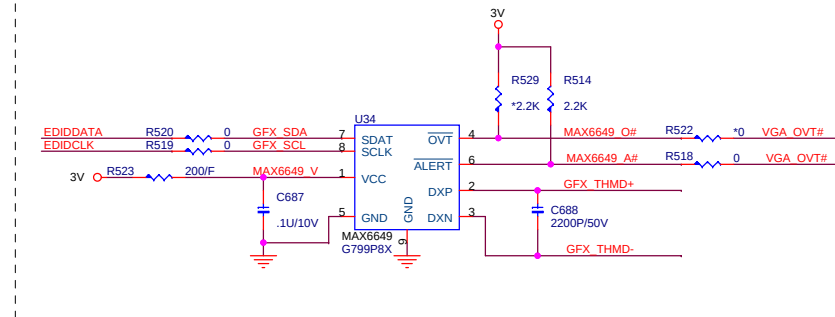
RAM_CFG[3:0]	DESCRIPTION	Vendor
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0001	DDR2 16Mx16x8, 128bit, 256MB	Samsung
0010	DDR2 16Mx16x8, 128bit, 256MB	Infineon
0011	DDR2 16Mx16x8, 128bit, 256MB	Hynix
0100	Reserved	
0101	DDR2 32Mx16x8, 128bit, 512MB	Samsung
0110	DDR2 32Mx16x8, 128bit, 512MB	Infineon
0111	DDR2 32Mx16x8, 128bit, 512MB	Elpida
1000	DDR2 16Mx16x4, 64bit, 128MB	Hynix
1001	DDR2 16Mx16x4, 64bit, 128MB	Elpida
1010	DDR2 16Mx16x4, 64bit, 128MB	Samsung
1011	DDR2 16Mx16x4, 64bit, 128MB	Infineon
1100	Reserved	
1101	DDR2 32Mx16x4, 64bit, 256MB	Samsung
1110	DDR2 32Mx16x4, 64bit, 256MB	Infineon
1111	DDR2 32Mx16x4, 64bit, 256MB	Hynix



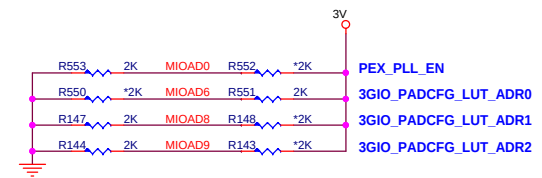
```

FOR BATTERY MODE FUNCTION
GFX_GPIO12=H ENABLE
GFX_GPIO12=L DISABLE

```



VGA THERMAIL CIRCUIT

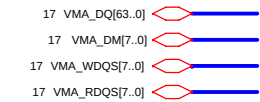
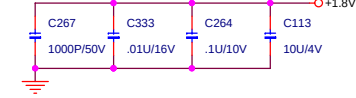
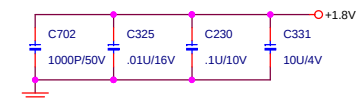
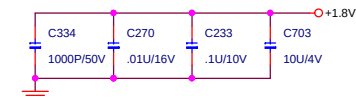
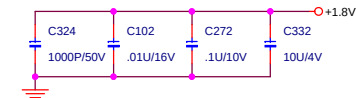
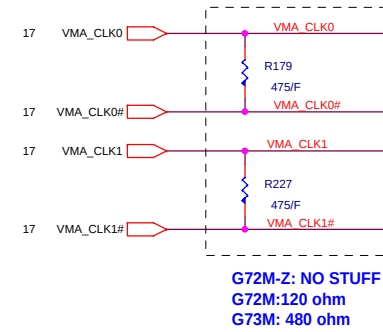
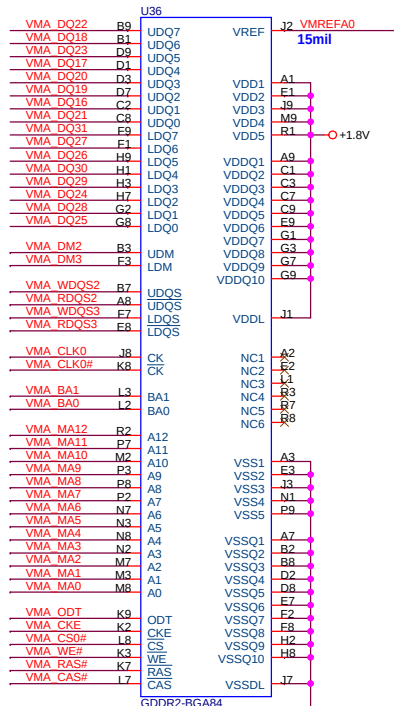
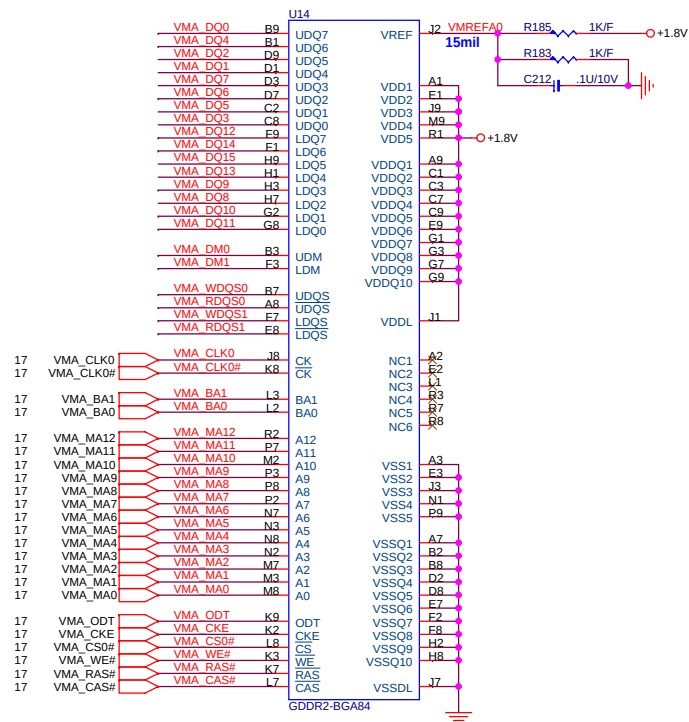


NB5/RD1/HW2

PROJECT : AT6
Quanta Computer Inc.

Size Custom	Document Number NVG73M (ROM/GPIO/STRAP)	Rev 2A
Date: Monday, May 22, 2006	Sheet 16 of 45	





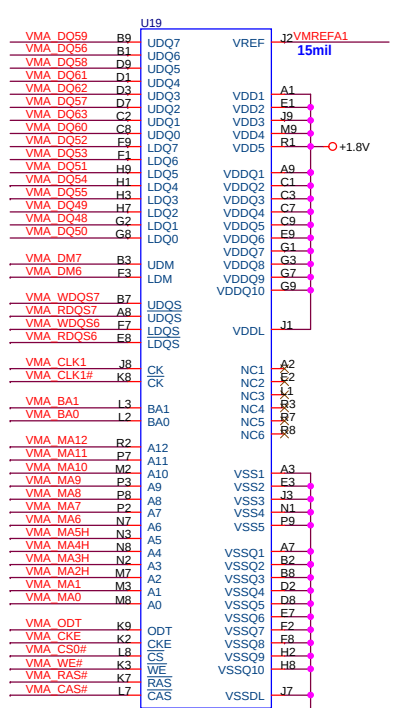
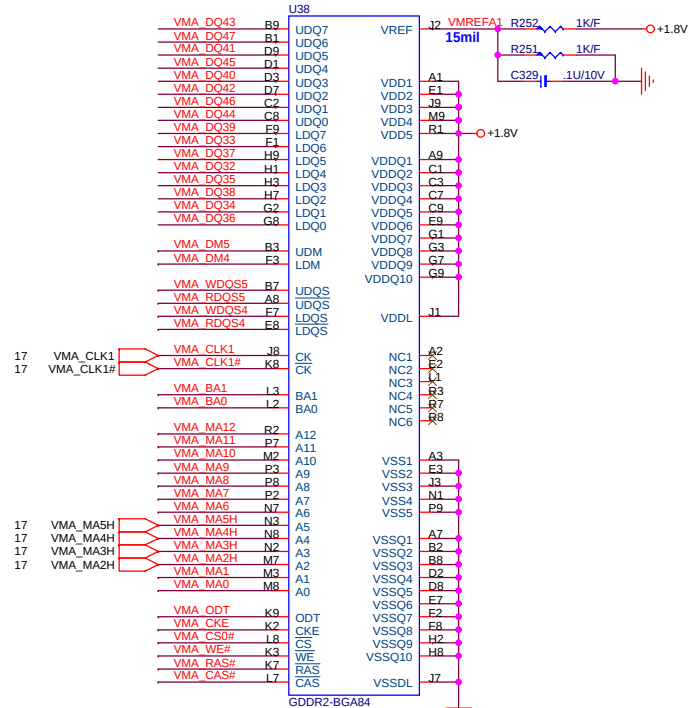
256Mb : AKD5JGAT*05

512Mb : AKD59G-T*01

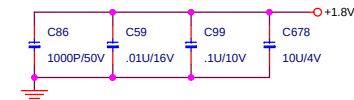
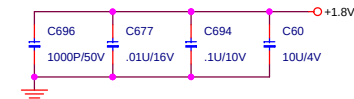
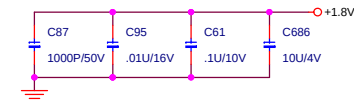
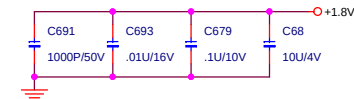


PROJECT : AT6
Quanta Computer Inc.

Size Custom	Document Number NVG73M VRAN-1(GDDR2 BGA84)	Rev 1A
Date: Monday, May 22, 2006	Sheet 18 of 45	



VMC CKE R521 10K



17 VMC_DQ[63..0]  

17 VMC_DM[7..0]  

17 VMC_WDQS[7..0]  

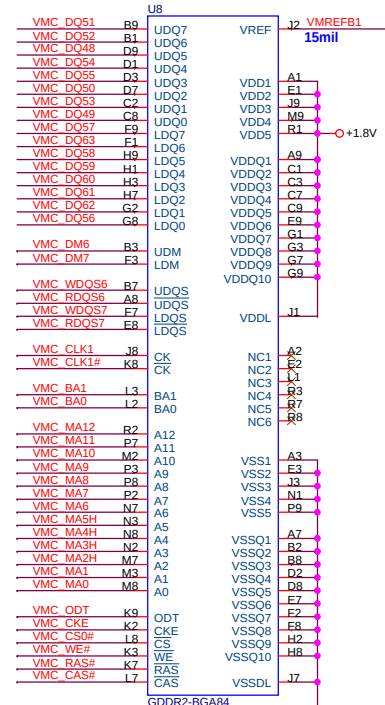
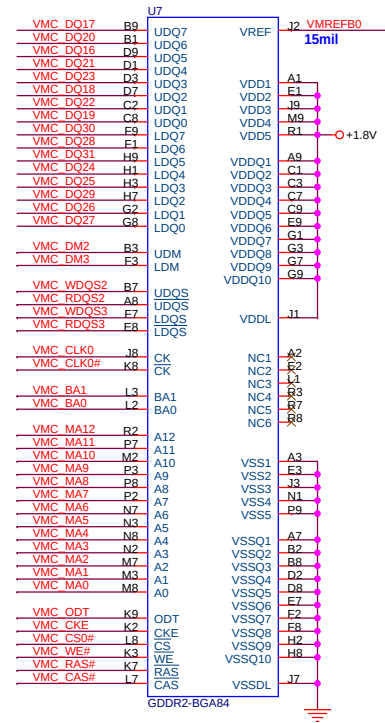
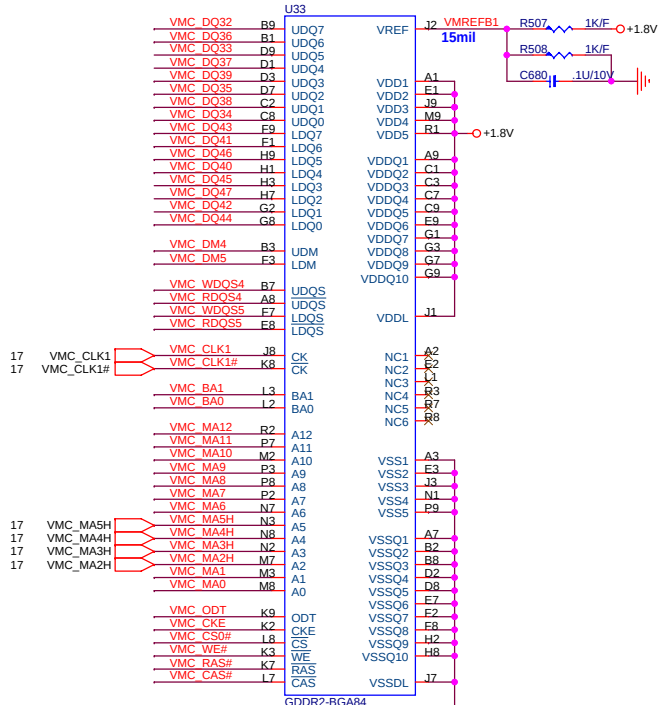
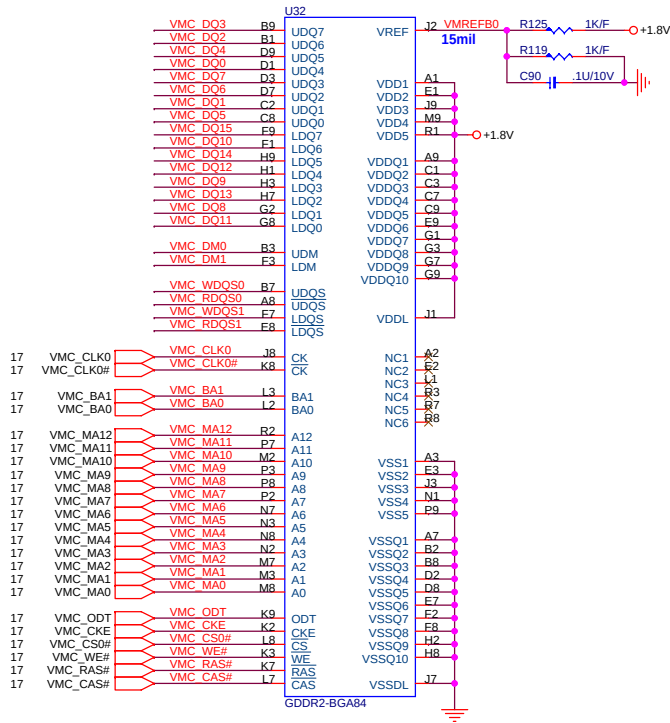
17 VMC_RDQS[7..0]  



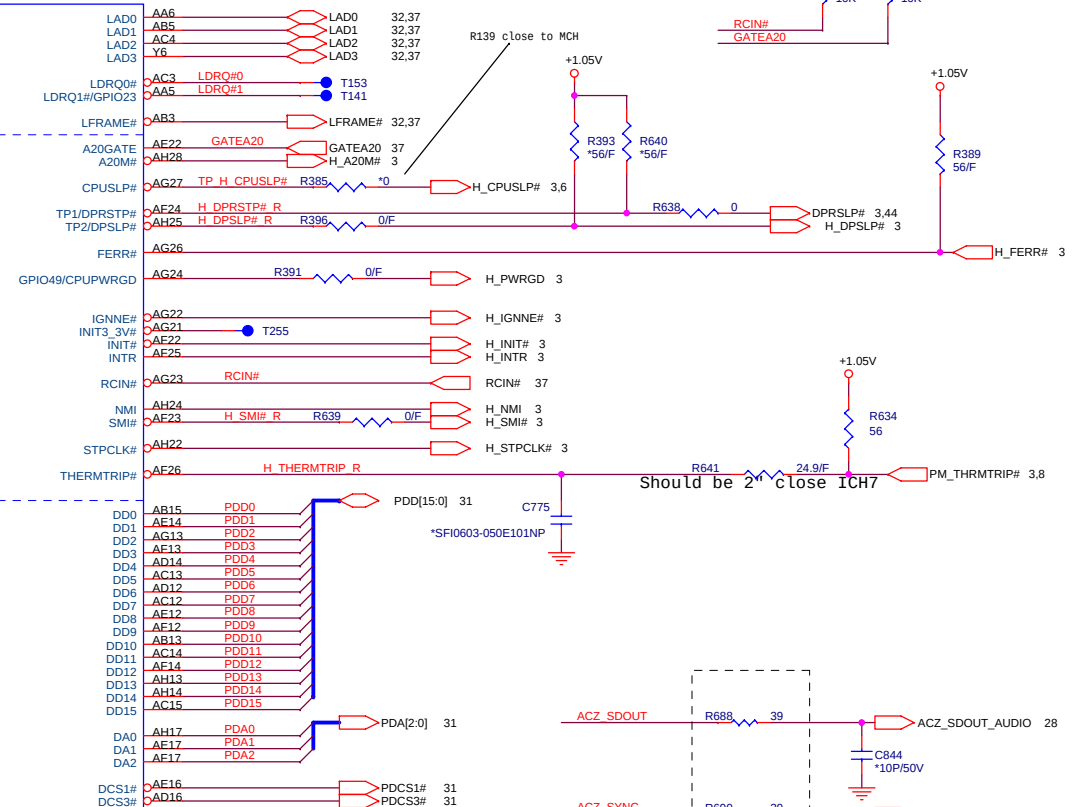
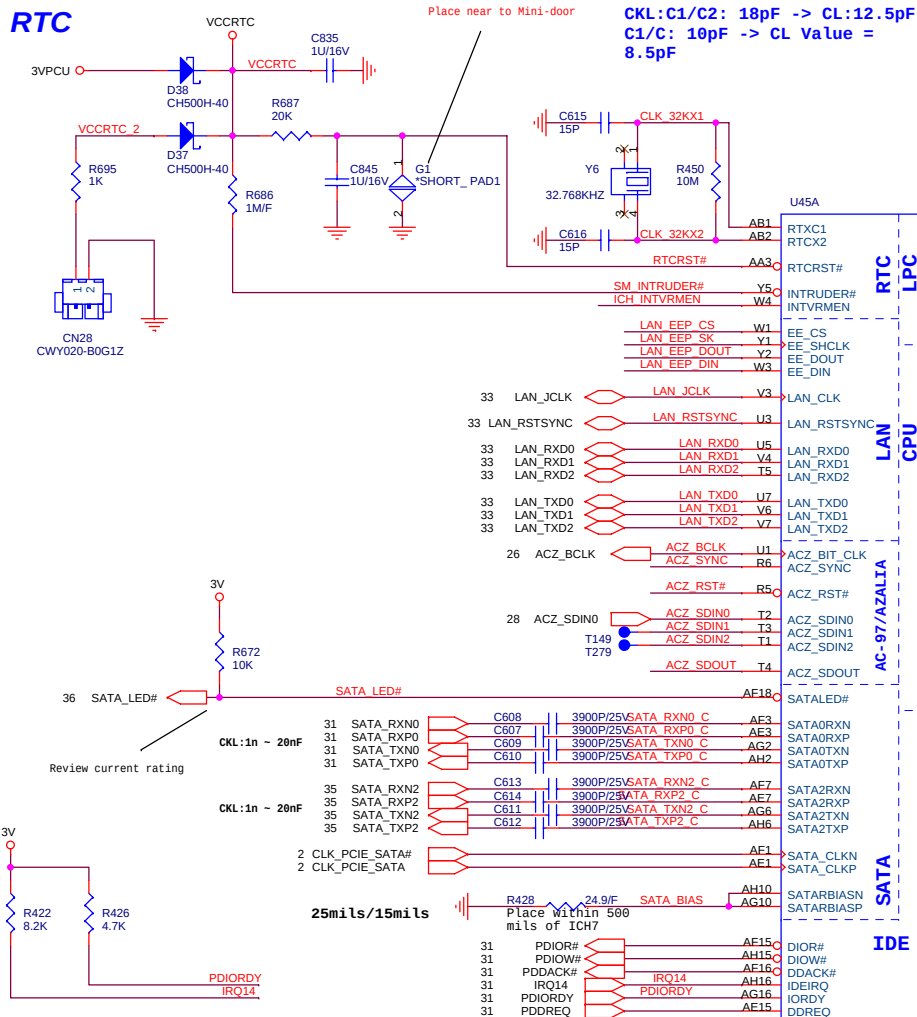
NB5/RD1/HW2

PROJECT : AT6
Quanta Computer Inc.

Size Custom	Document Number NVG73M VREM-2(GDDR2 BGA84)	Rev 1A
Date: Monday, May 22, 2006		Sheet 19 of 45

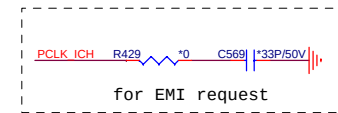
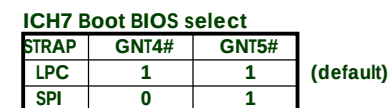
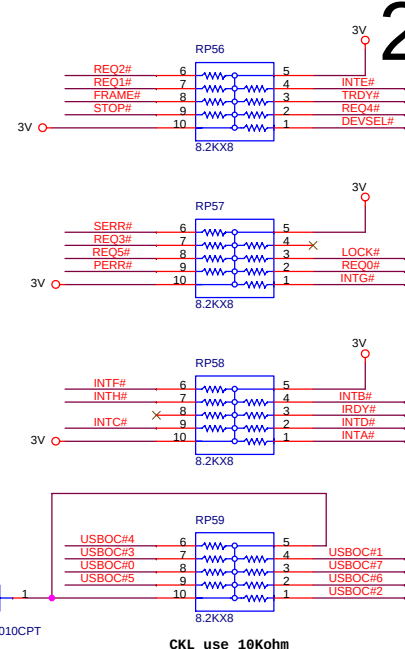


RTC



PROJECT : AT6
Quantia Computer Inc.

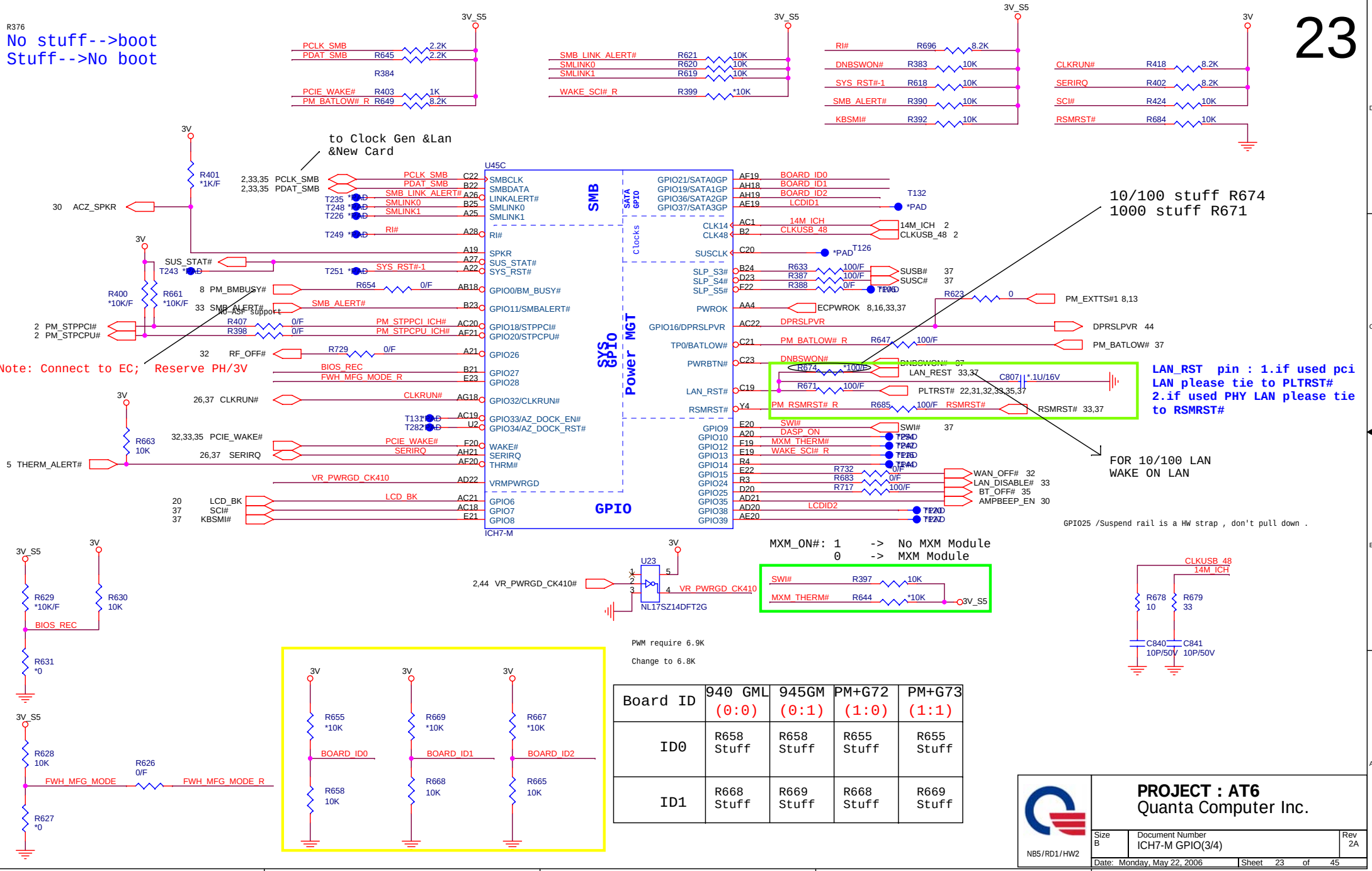
Size Custom	Document Number	Rev 2A
	ICH7-M HOST(1/4)	
Date: Monday, May 22, 2006	Sheet 21 of 45	



PCI ROUTING TABLE	IDSEL	INTERUPT	DEVICE
REQ0# / GNT0#	AD21	INTA#,INTB#	RICOH832

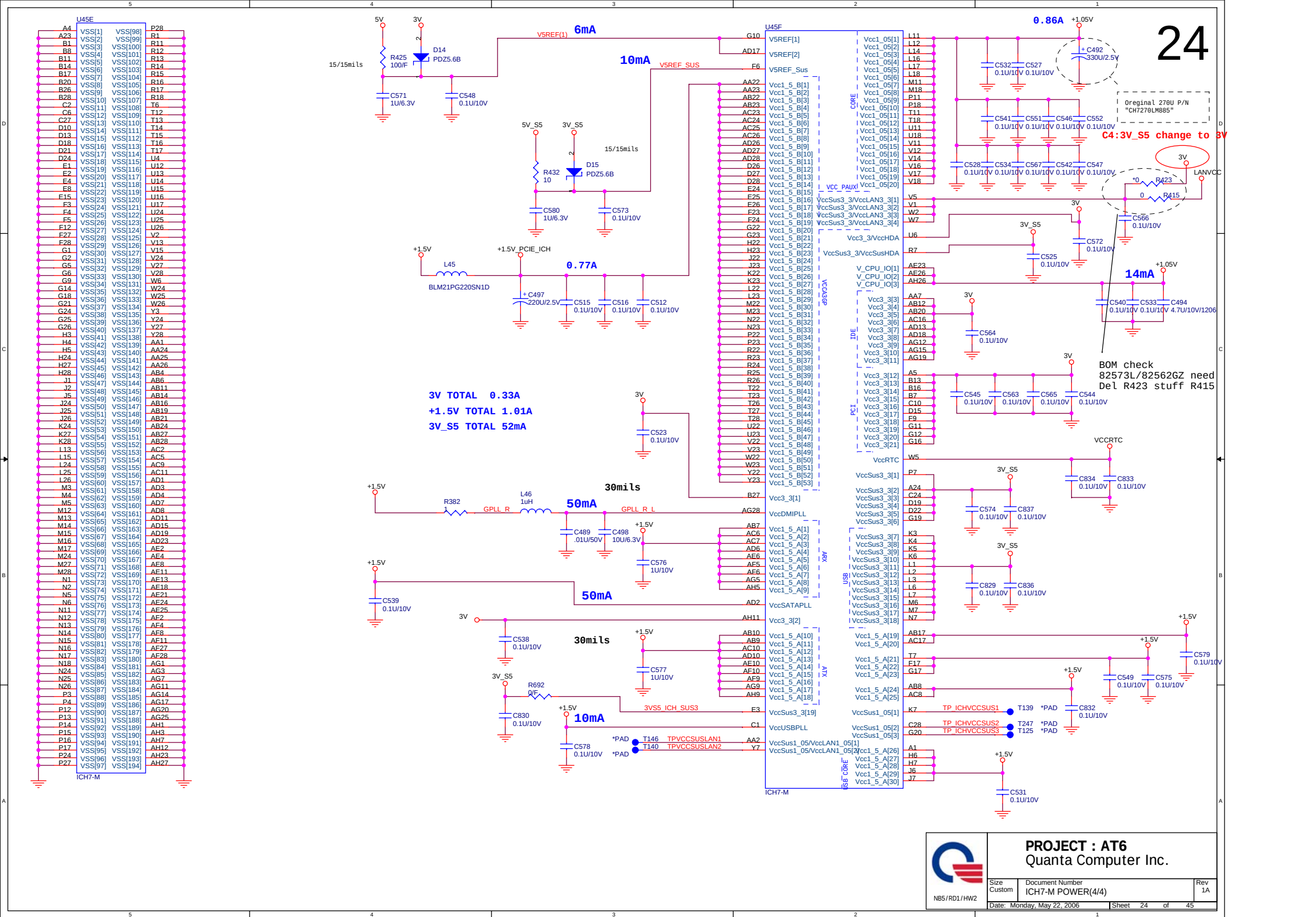
 NB5/RD1/HW2	PROJECT : AT6 Quanta Computer Inc.		
	Size Custom	Document Number ICH7-M M PCI E(2/4)	Rev 1A
Date: Monday, May 22, 2006	Sheet 22 of 45		

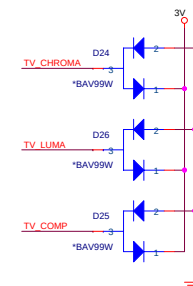
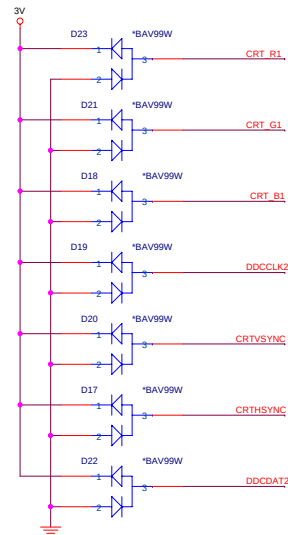
No stuff-->boot
Stuff-->No boot



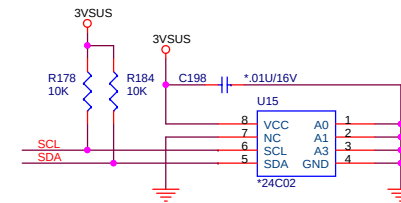
PROJECT : AT6
Quanta Computer Inc.

Size B	Document Number ICH7-M GPIO(3/4)	Rev 2A
Date: Monday, May 22, 2006	Sheet 23 of 45	





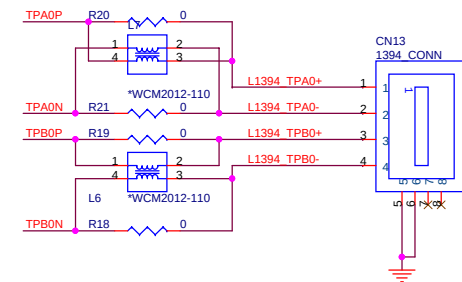
Serial EEPROM



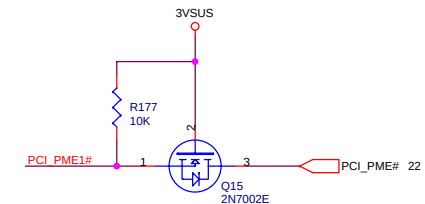
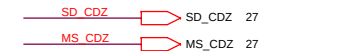
* NOT Use EEPROM :
R199 : installed
R207,U15,C198 : NOT installed

* Use EEPROM :
R207,U15,C198 : installed
R199 : NOT installed

AS CLOSE AS
POSSIBLE TO 1394
CONNECTOR.



*TPA/TPA# ,TPB/TPB# pair trace : As close as possible.
*TPA/TPA# ,TPB/TPB# pair trace : Same length
electrically And layout with shields
Termination resistor for TPA+/- TPB +/- : As close as possible to its cable driver (device pin out).

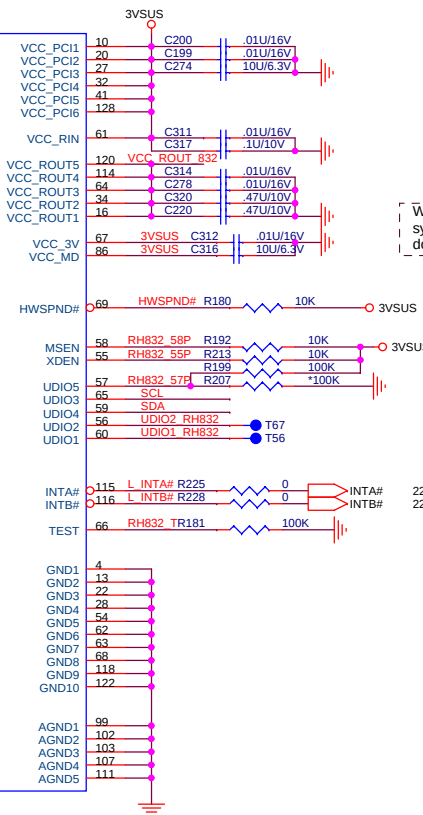


PROJECT : AT6
Quanta Computer Inc.

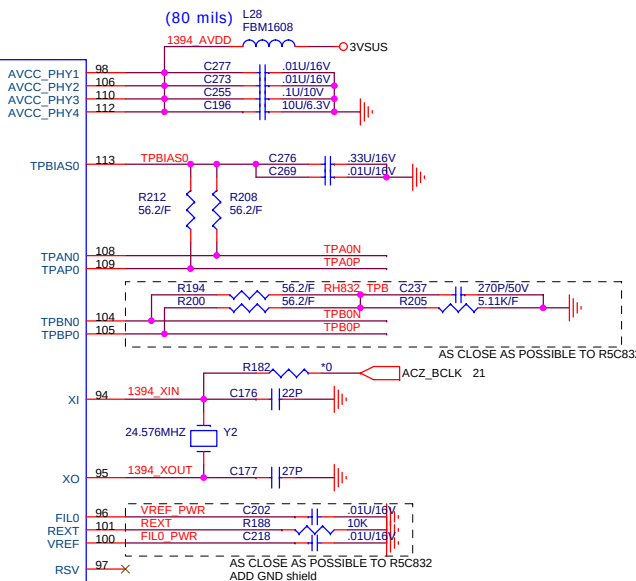
Size Custom	Document Number RICOH832 Controller	Rev 2A
Date: Monday, May 22, 2006	Sheet 26 of 45	

When HWSPND# is controlled by system, the pull-up resistor(R2) dose not need to apply.

PCI / OTHER

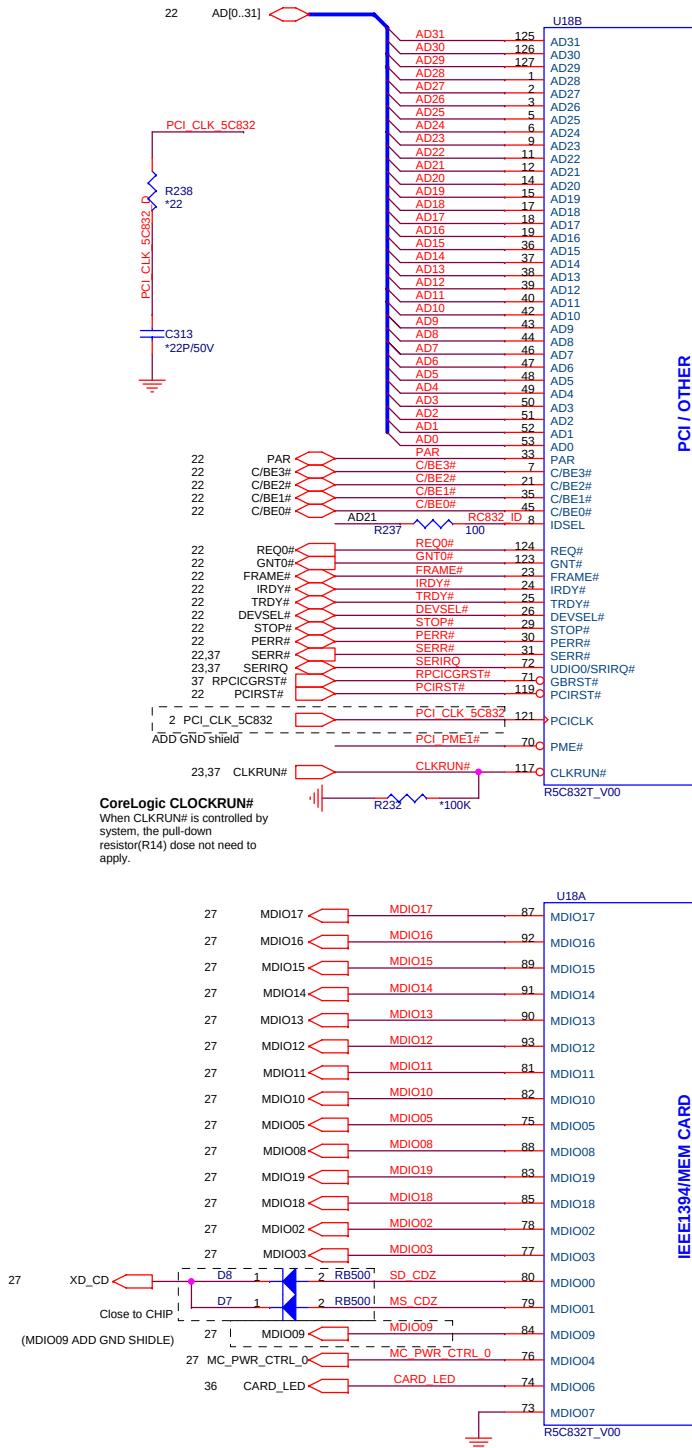


IEEE1394/MEM CARD

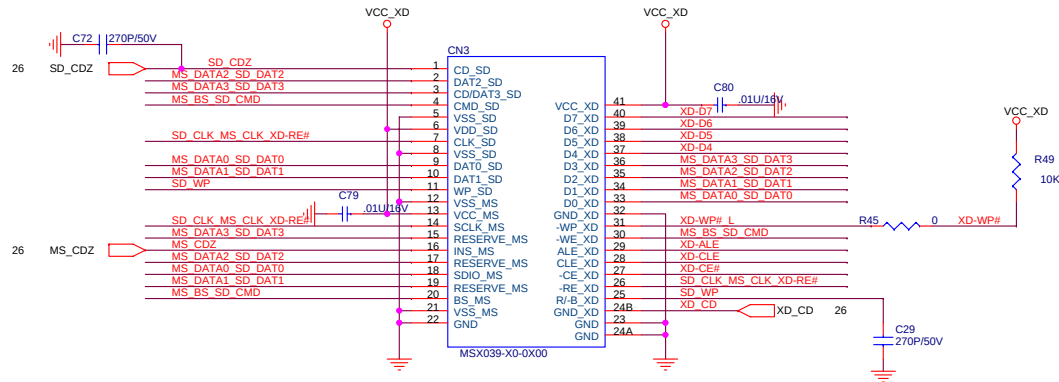


CoreLogic CLOCKRUN#

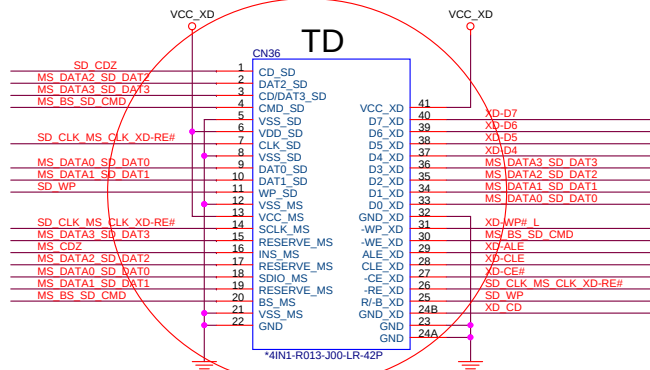
When CLKRUN# is controlled by system, the pull-down resistor(R14) dose not need to apply.



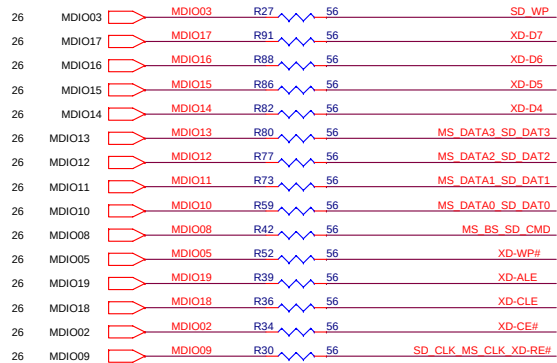
4 IN1 CARD READER XD, MMC/SD, MS/MSP



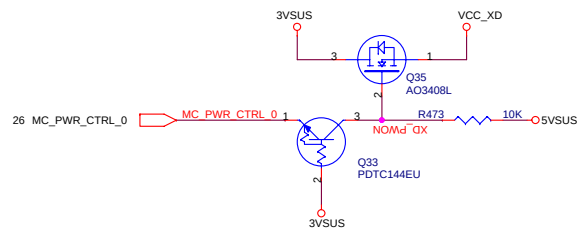
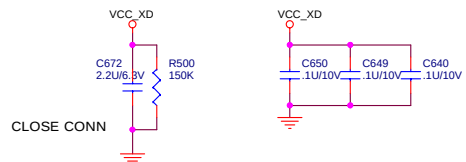
C7: change CN36 footprint



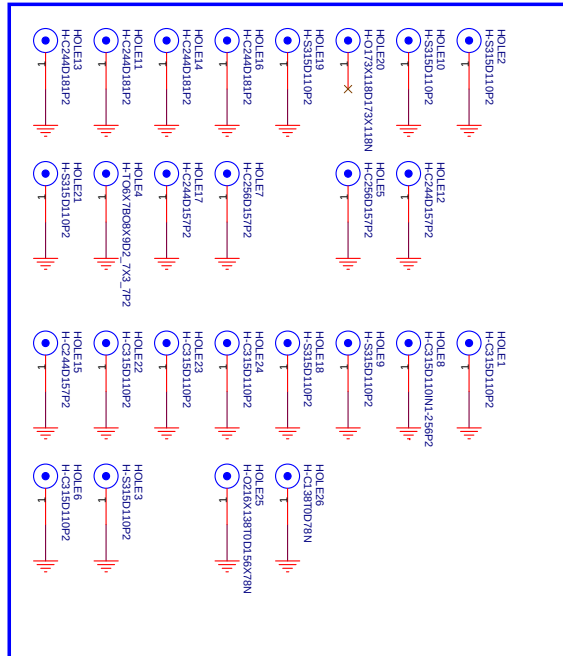
bom create 2'nd source



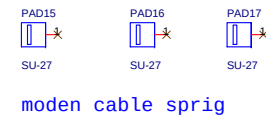
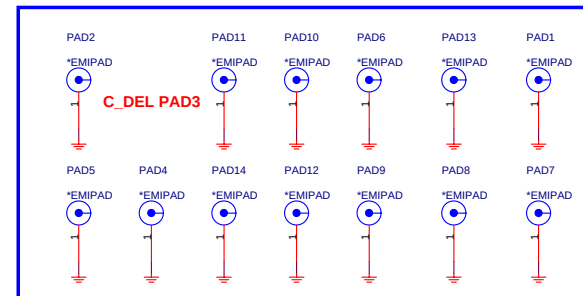
C_Delete reserve circuit for card reader power.



SCREW HOLE



EMI PAD

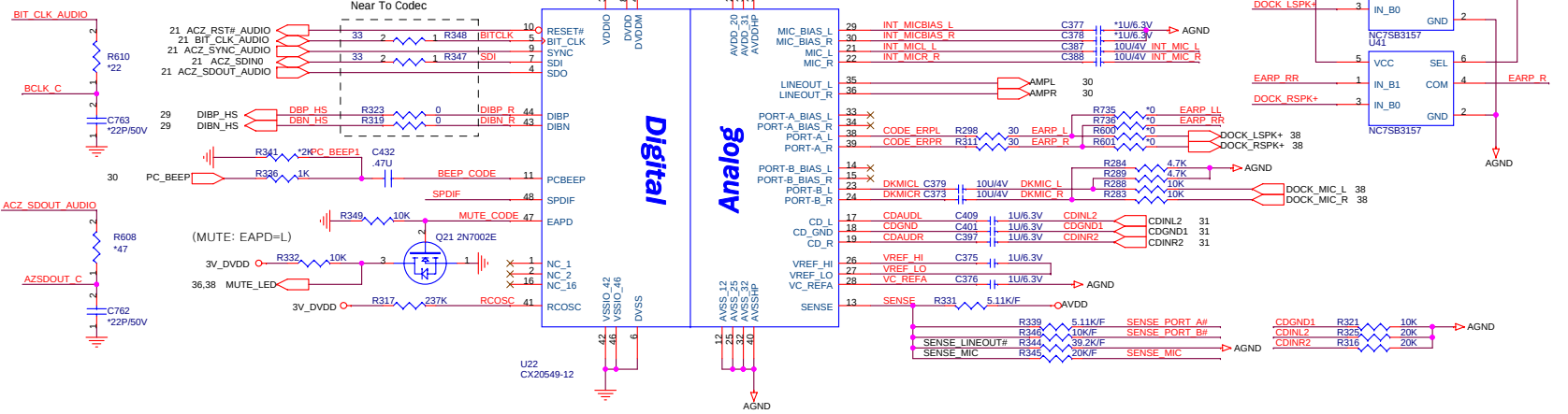


C8: Add lock bluetooth's cable sprig

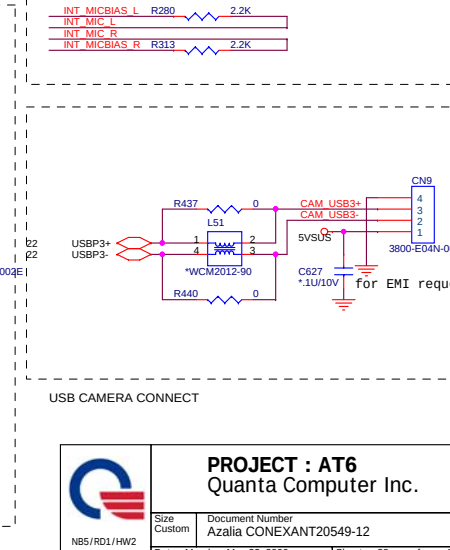
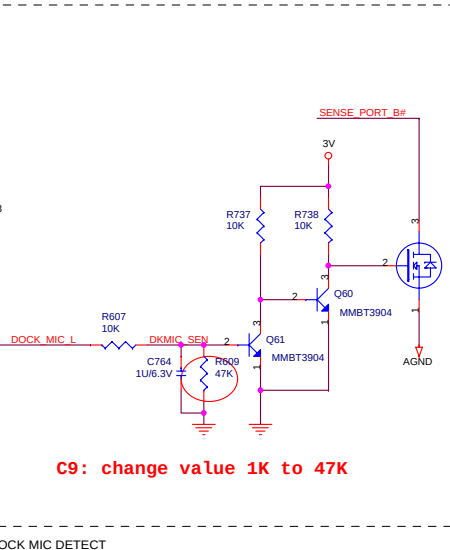
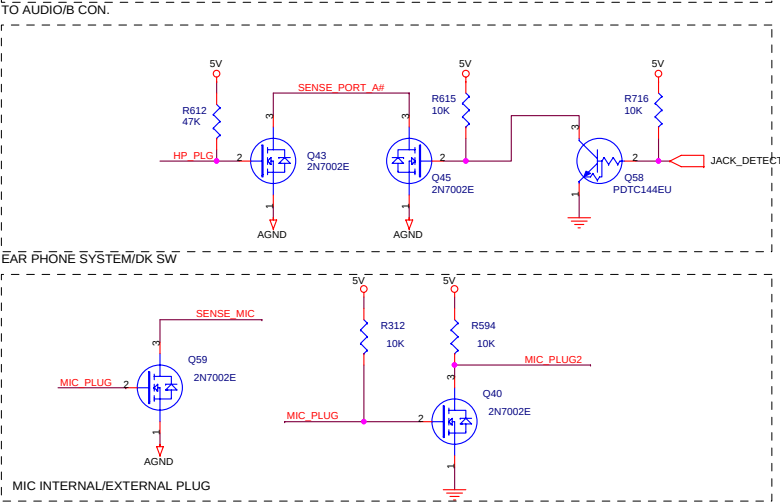
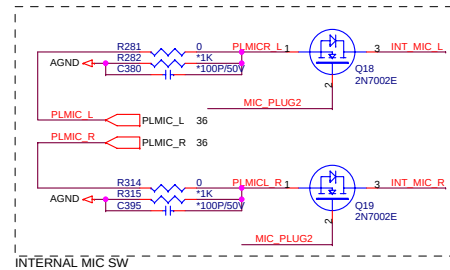
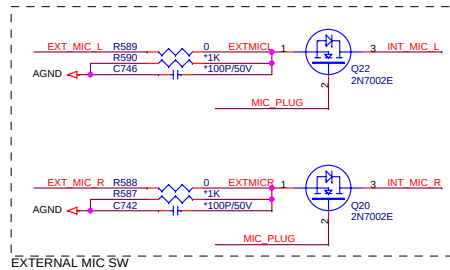
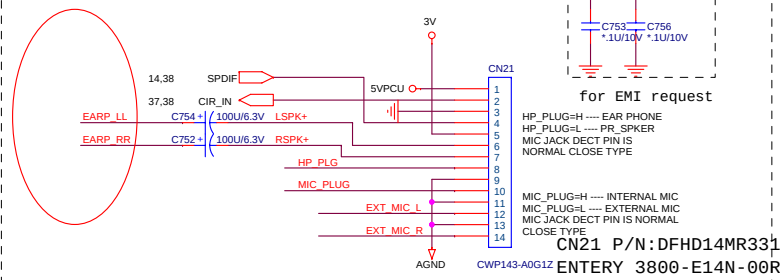
VDDIO is used in determining which HD Audio bus voltage is present on the system. When VDDIO is +1.5V, the device will use 1.5V signaling on the HDA interface pins; when VDDIO is +3.3V, the device will use 3.3V signaling on the HDA interface pins.

For associated Line Side Device portion of this design see Conexant RD02-D450 reference schematic

28



C10: layout del R595, R596, R597, R598

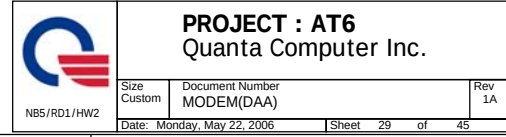


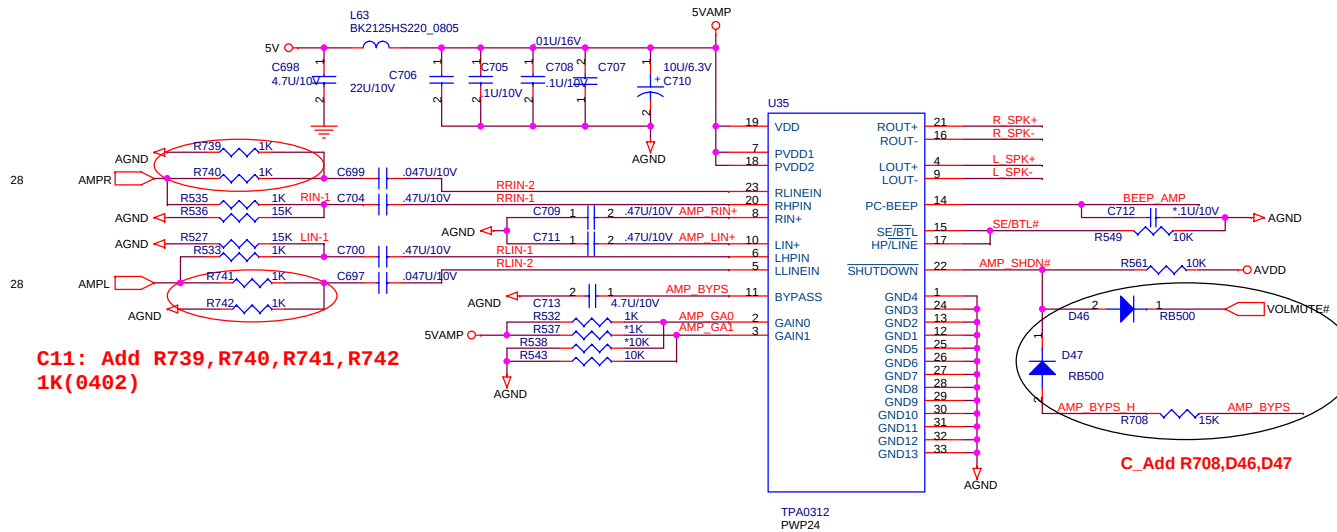
C9: change value 1K to 47K


```

28  DIBN_HS  F  DIBN_HS
28  DIBP_HS  F  DIBP_HS

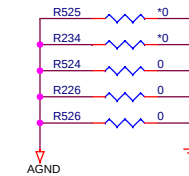
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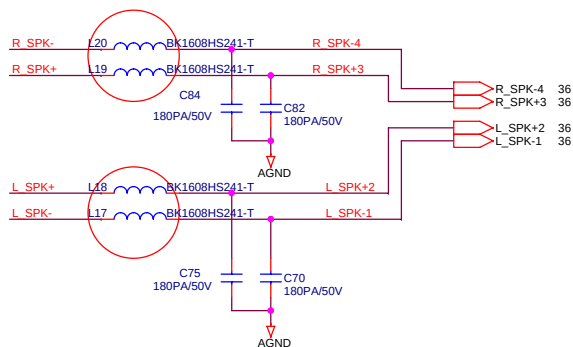
0312 Gain Table

GAIN0	GAIN1	SE/BTL	AV(INV)
0	0	0	6dB
0	1	0	10dB
1	0	0	15.6dB
1	1	0	21.6dB
x	x	1	4.1dB



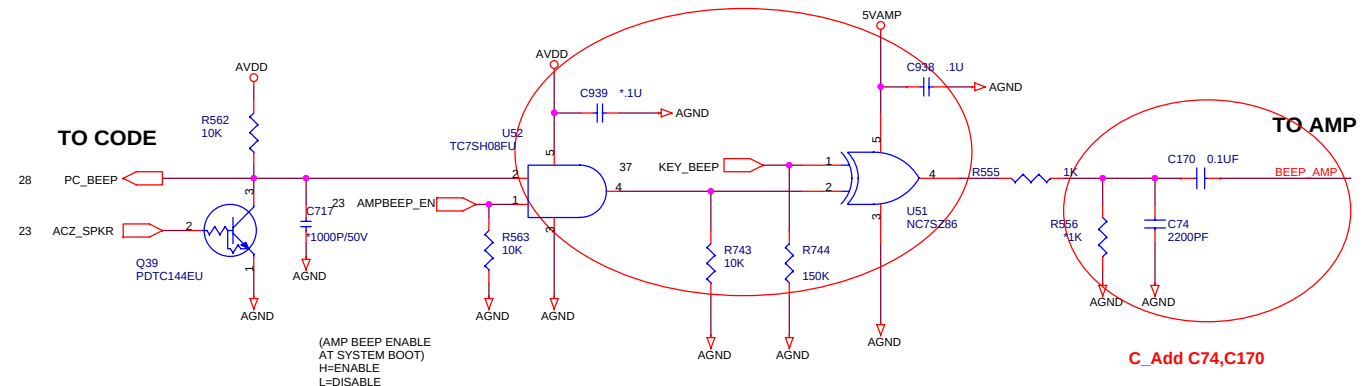
INT. SPEAKER

C12: change L17, L18, L19, L20 value to 240 Ohm

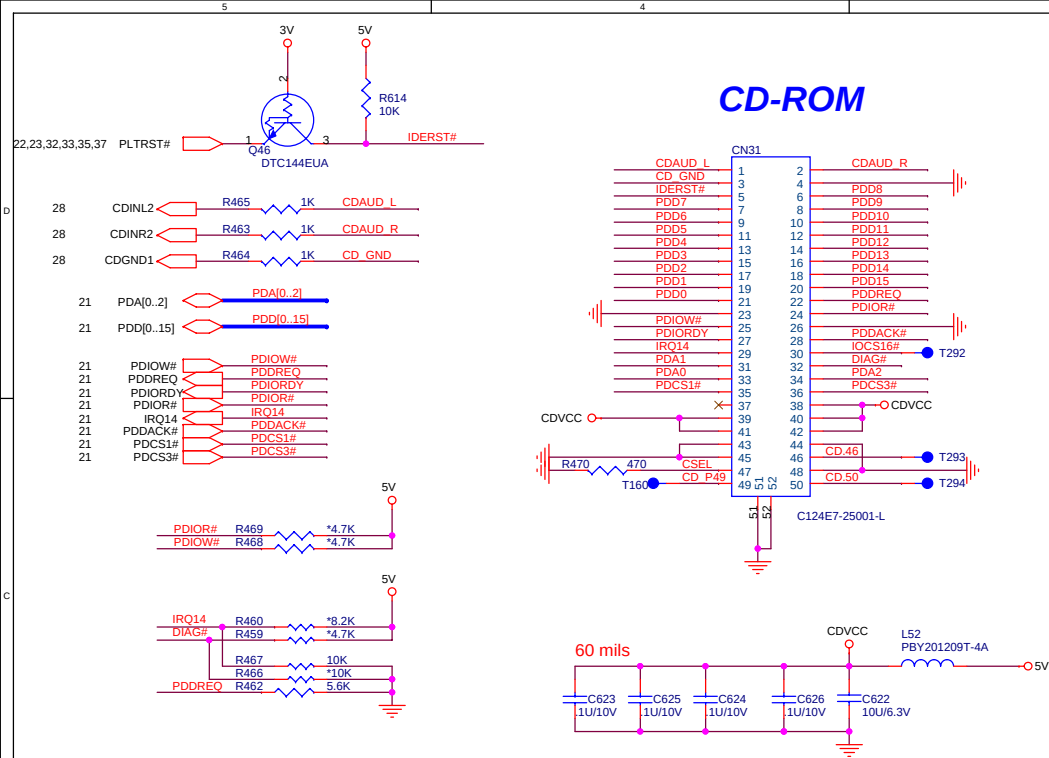


PCSPK BEEP

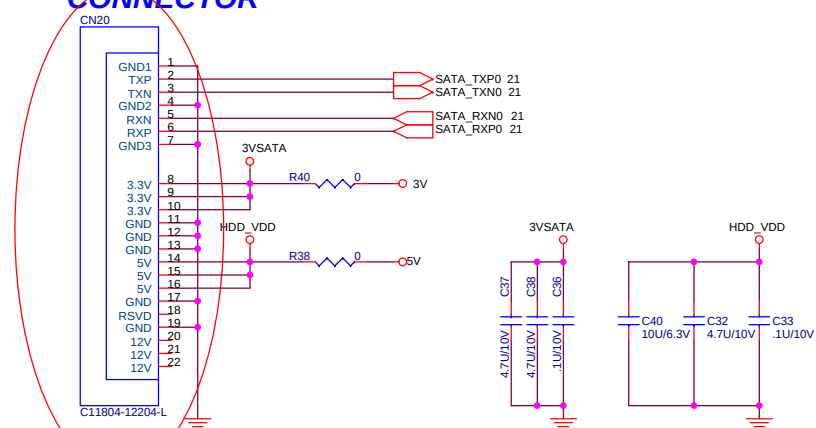
C13: Del Q57, R715, R554, C714 Add C938, U51, R774, R743, U52, C939, R563



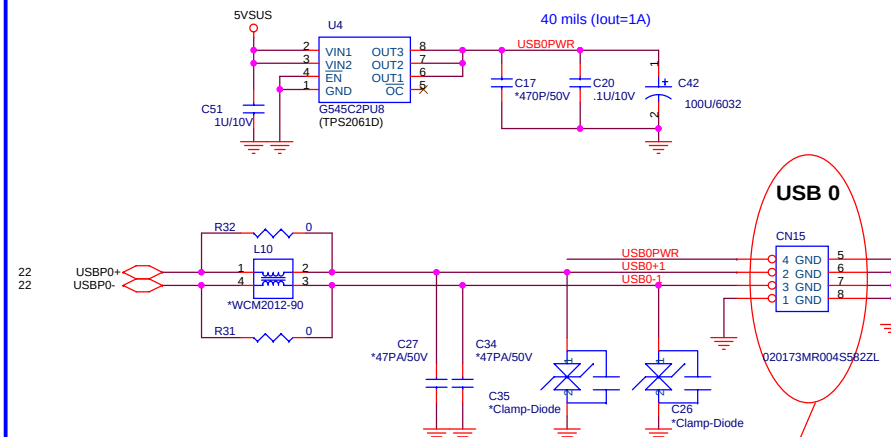
USBX2



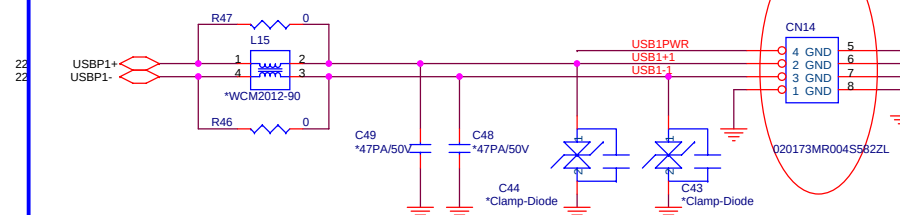
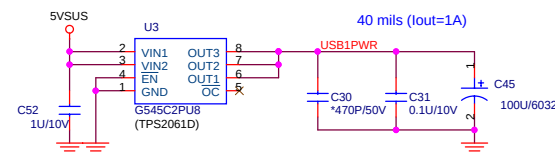
SATA_1
CONNECTOR



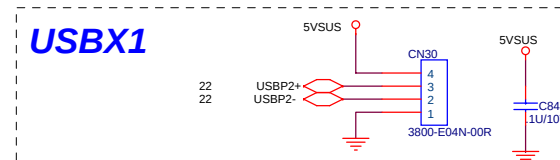
C14: change CN20 footprint



C15: change
CN14, CN15
footprint



USBX1



NB5/RD1/HW2

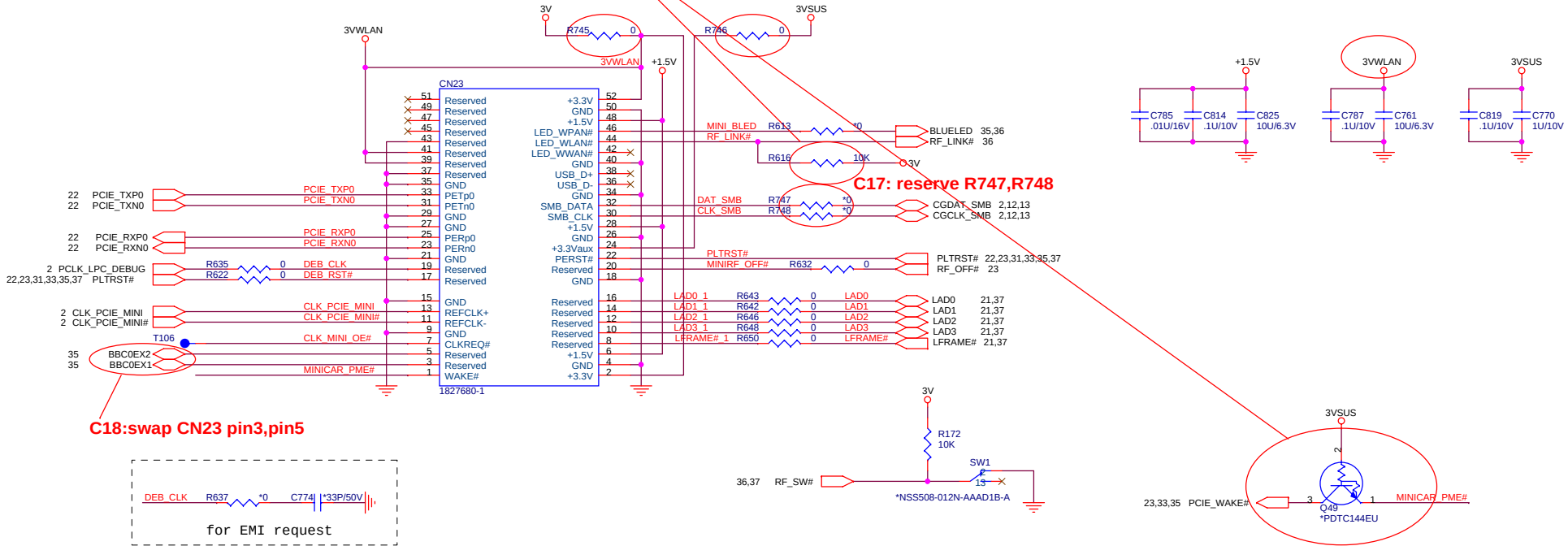
PROJECT : AT6
Quanta Computer Inc.

Size Custom	Document Number SATA HDD/CD-ROM/USBX3
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Rev	2A
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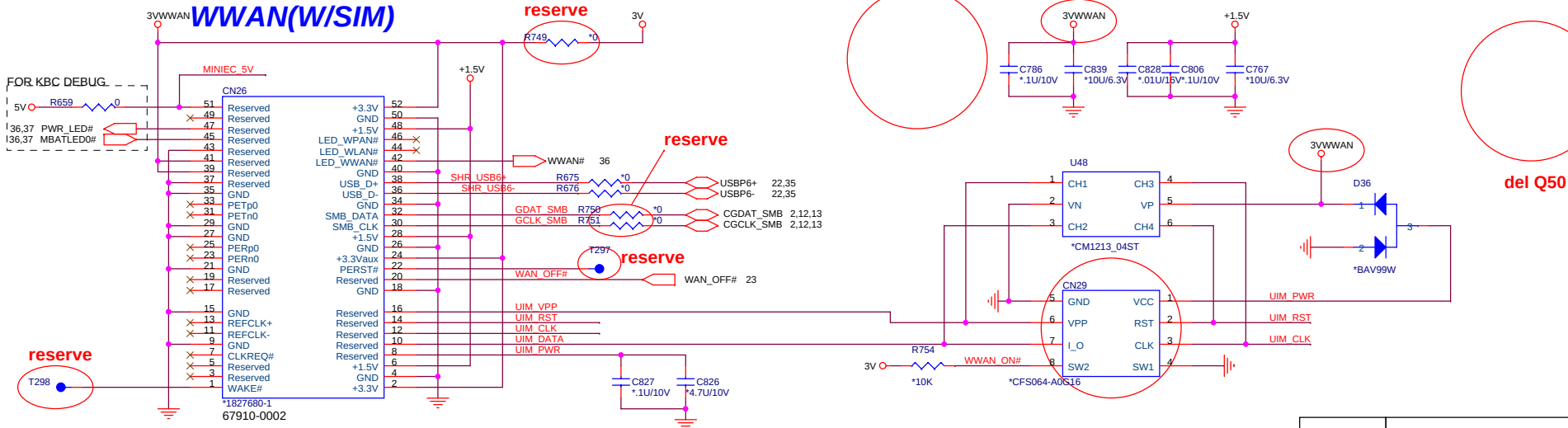
Mini PCI-E Card 1 WLAN

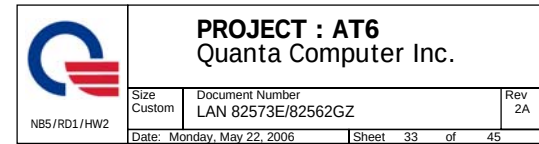
**C16: Add Bom R745(RC1206) R746(RC0603) and R616
Del Q49**



Mini PCI-E Card 2 WWAN(W/SIM)

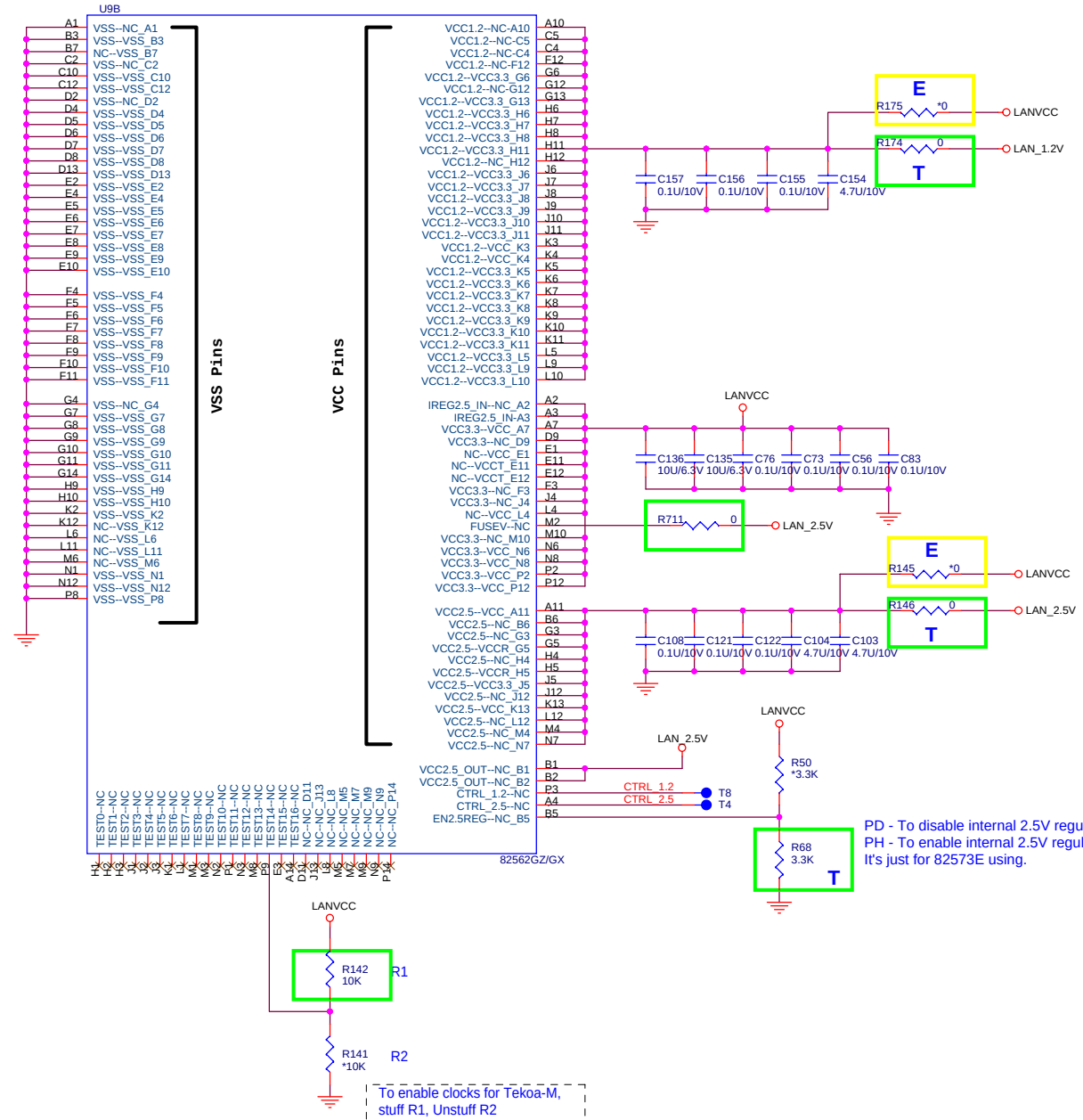
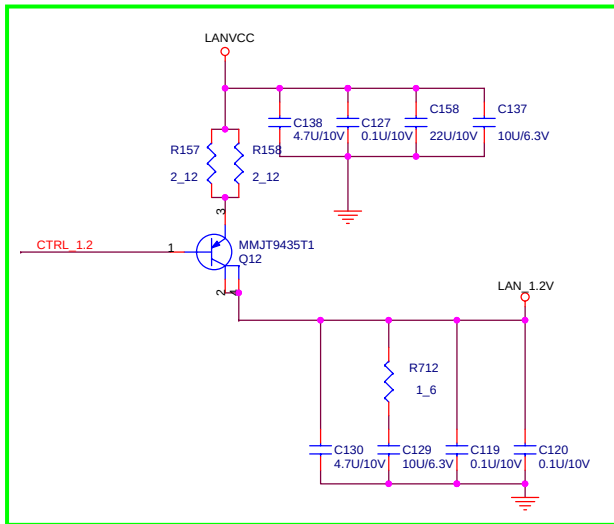
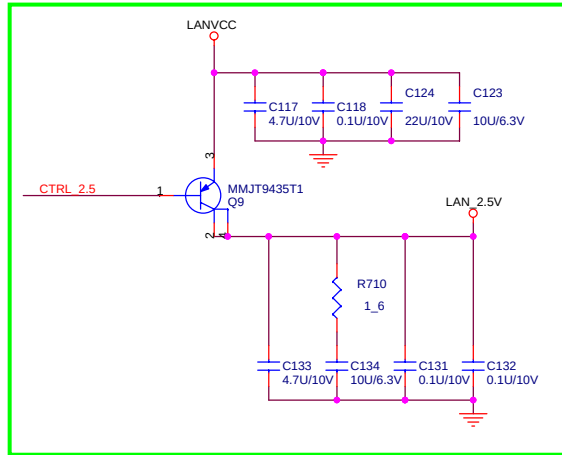
del C771, C822





T : Stuffed for 82573L(10/100/1000)

E : Stuffed for 8256GZ/GX(10/100)

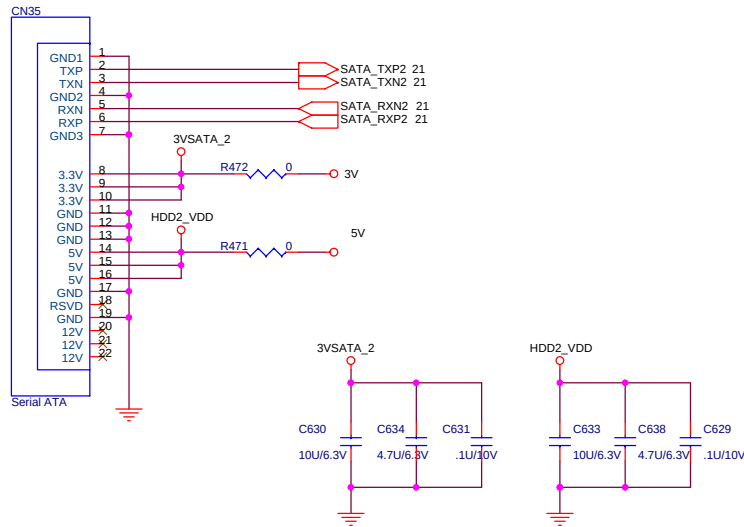


PROJECT : AT6
Quanta Computer Inc.

Size Custom	Document Number LAN POWER	Rev 2A
Date: Monday, May 22, 2006		Sheet 34 of 45

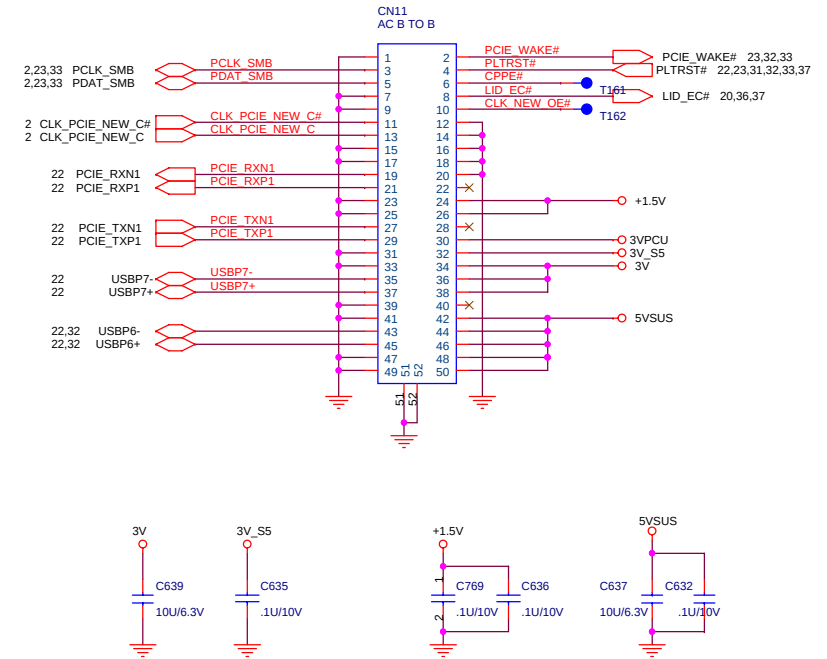
SATA_2 CONNECTOR

For 17"W Second HDD

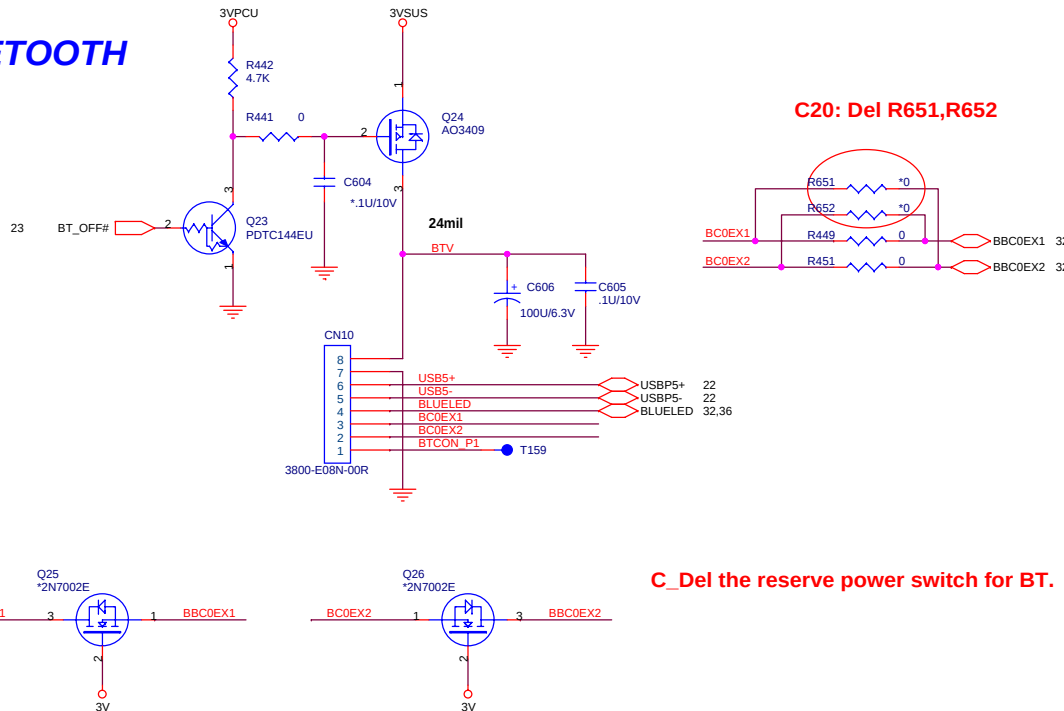


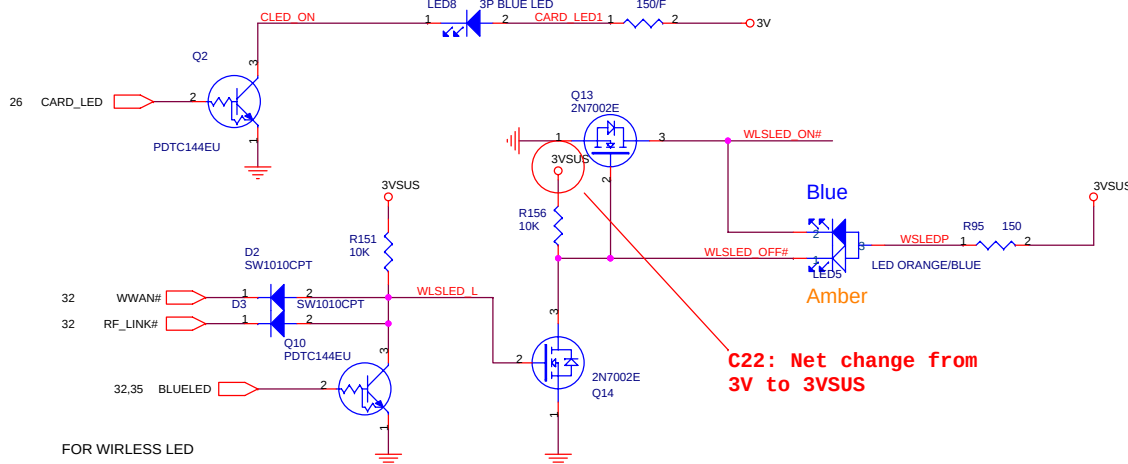
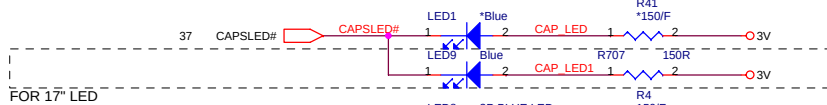
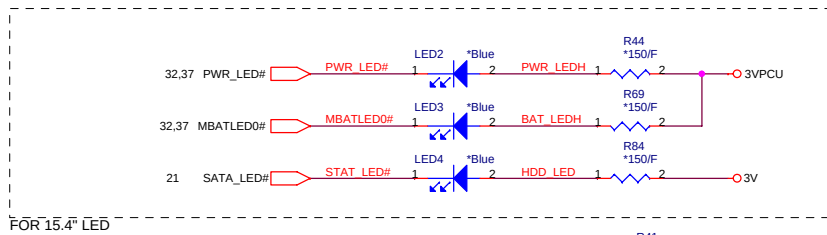
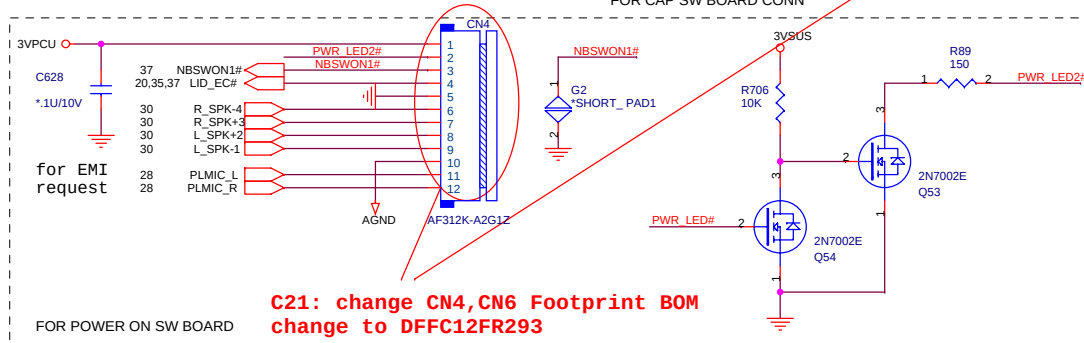
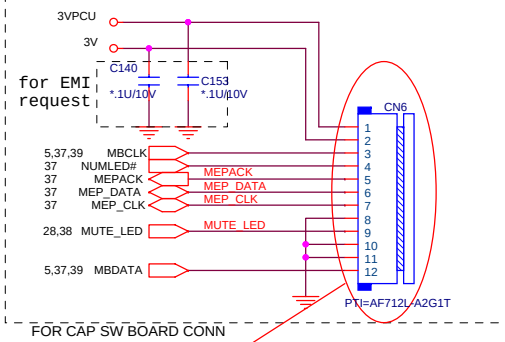
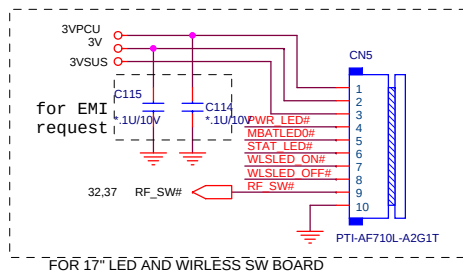
NEWCARD

35

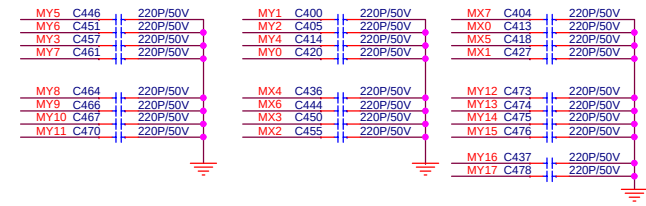


BLUETOOTH

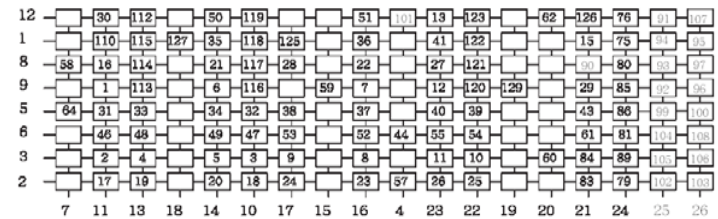
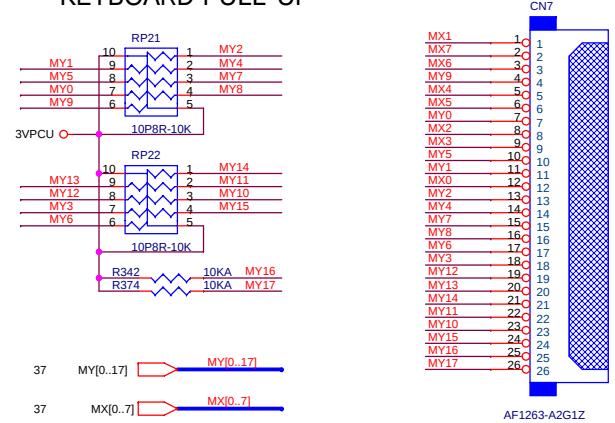




C22: Net change from 3V to 3VSUS



KEYBOARD PULL-UP



PROJECT : AT6
Quanta Computer Inc.

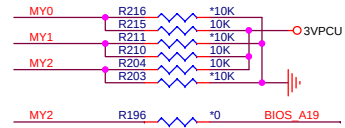
Size	Document Number	Rev
Custom	LED/KEYBOARD/SW	2A
Date: Monday, May 22, 2006	Sheet 36 of 45	

C23: SLP_BTN# change to DNBSWON# Add R753

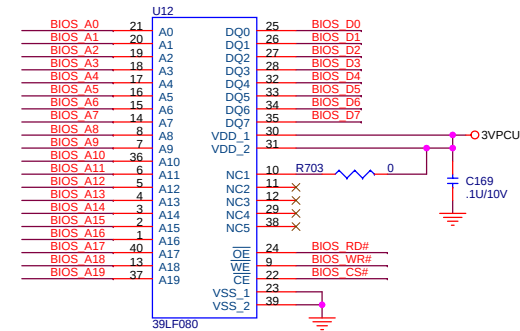


STRAP PIN

MY0	47	TP_TEST: Clock Test Mode Low: Test Mode. HIGH: 32kHz clock in normal running
MY1	48	TP_PLL: DPLL Test Mode Low: Test Mode. HIGH: Normal operation
MY2	49	TP_SPI: Default flash access Low: Boot from SPI flash part HIGH: Boot from ISA flash part
MY3	50	TP_ISP: In System Programming Mode Low: ISP Mode HIGH: Normal Mode



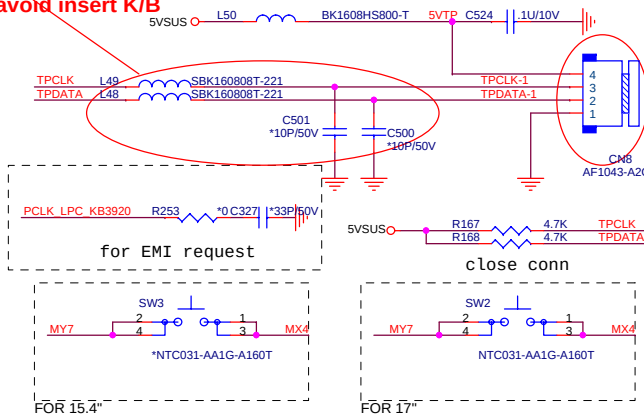
BIOS 1M FLASH ROM



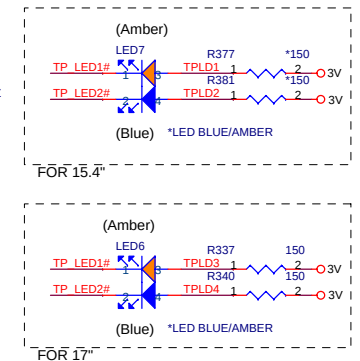
TOUCH PAD CONNECTOR

C25: layout Move
L48, L49, C500, C501 in order to
avoid insert K/B

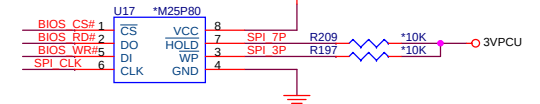
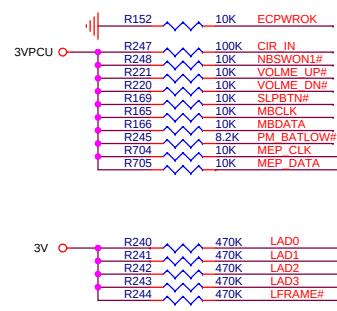
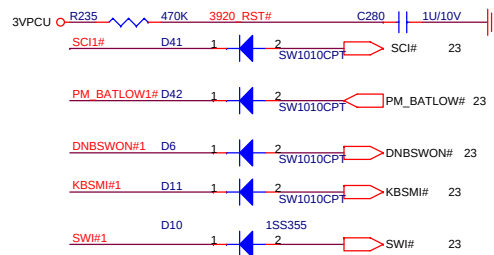
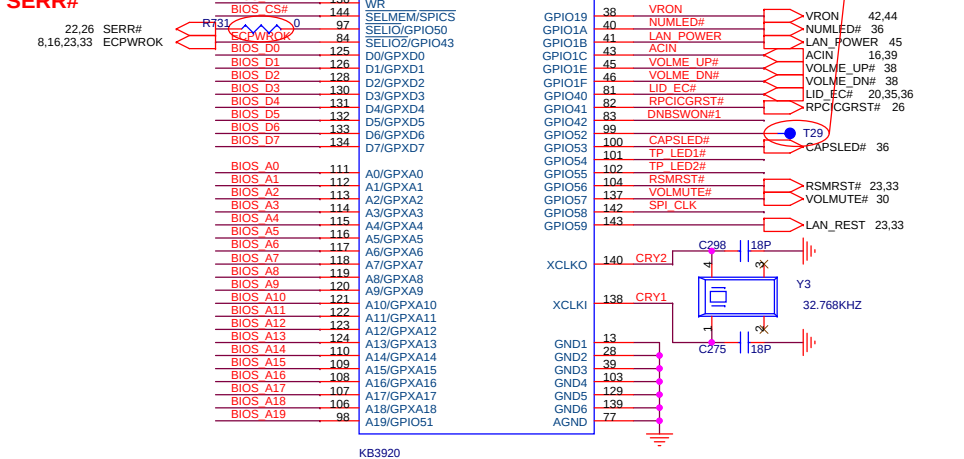
25 mils



C26: Change CN8 footprint



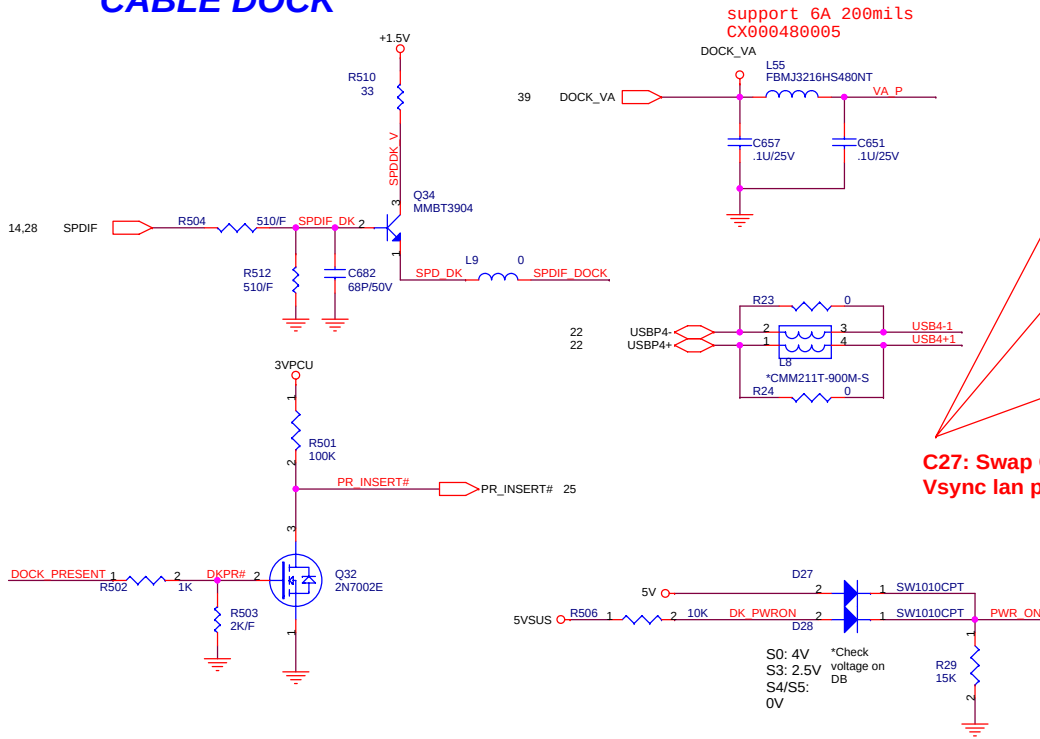
C24: add R731 for SERR#



PROJECT : AT6
Quanta Computer Inc.

Size Custom	Document Number KB3920/ROM/TP	Rev 2A
Date: Monday, May 22, 2006	Sheet 37 of 45	

CABLE DOCK



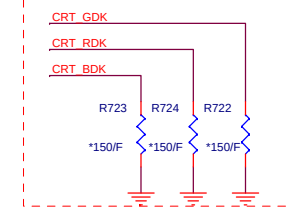
C28: Del R1,R2,R3,R5,R477,R478,R479,R480,R476,R12,R475,R474,R22

C27: Swap CRT Hsync and Vsync lan pin defind

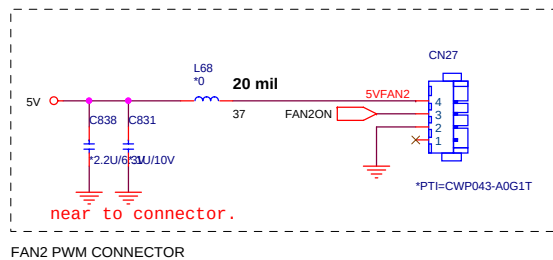
Alec, please change P/N to CH71001M6T5

C29: layout del R719,R720,R721

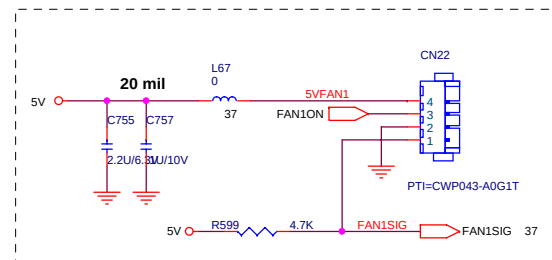
B_reserve CRT



FAN

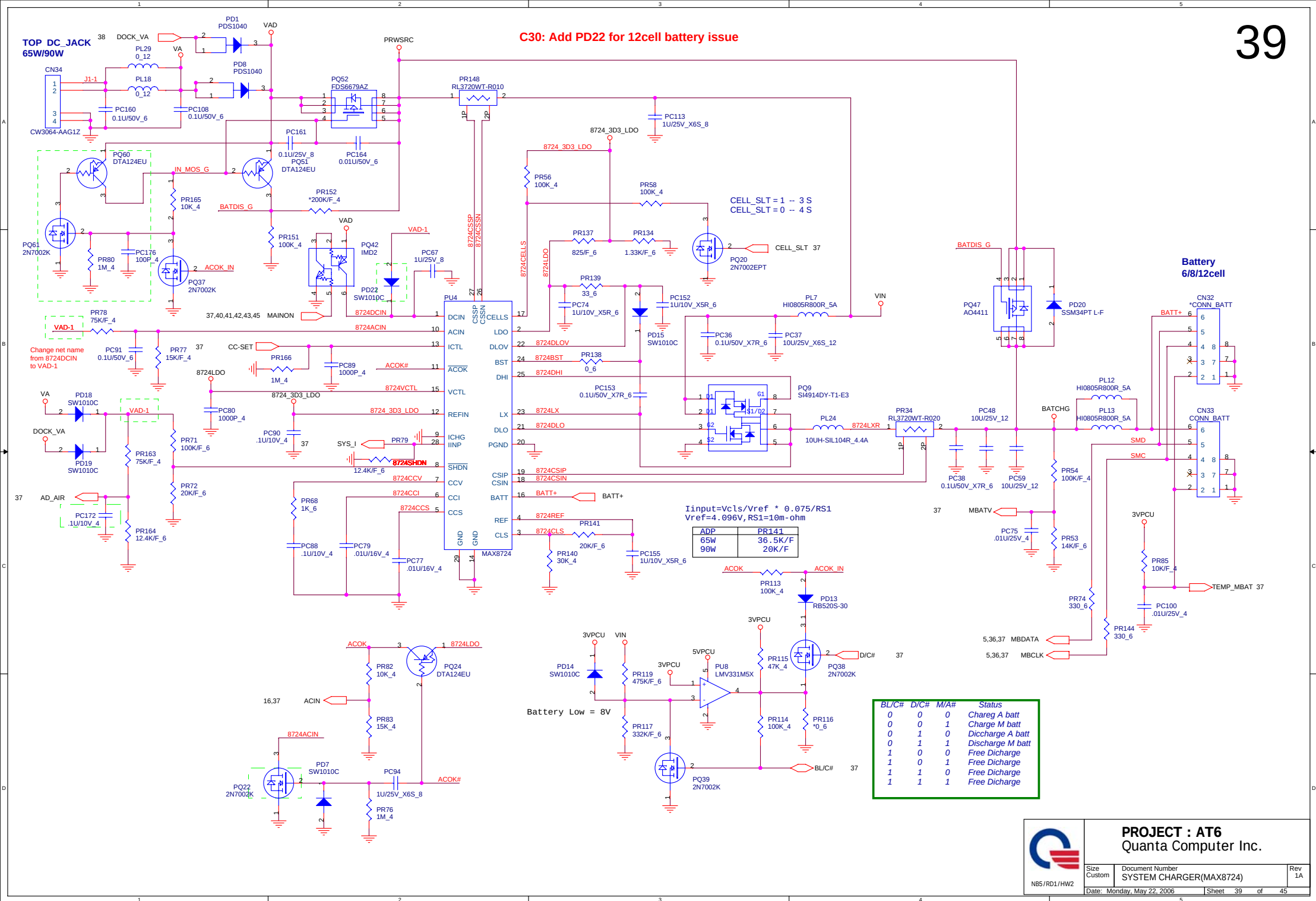


FAN2 PWM CONNECTOR



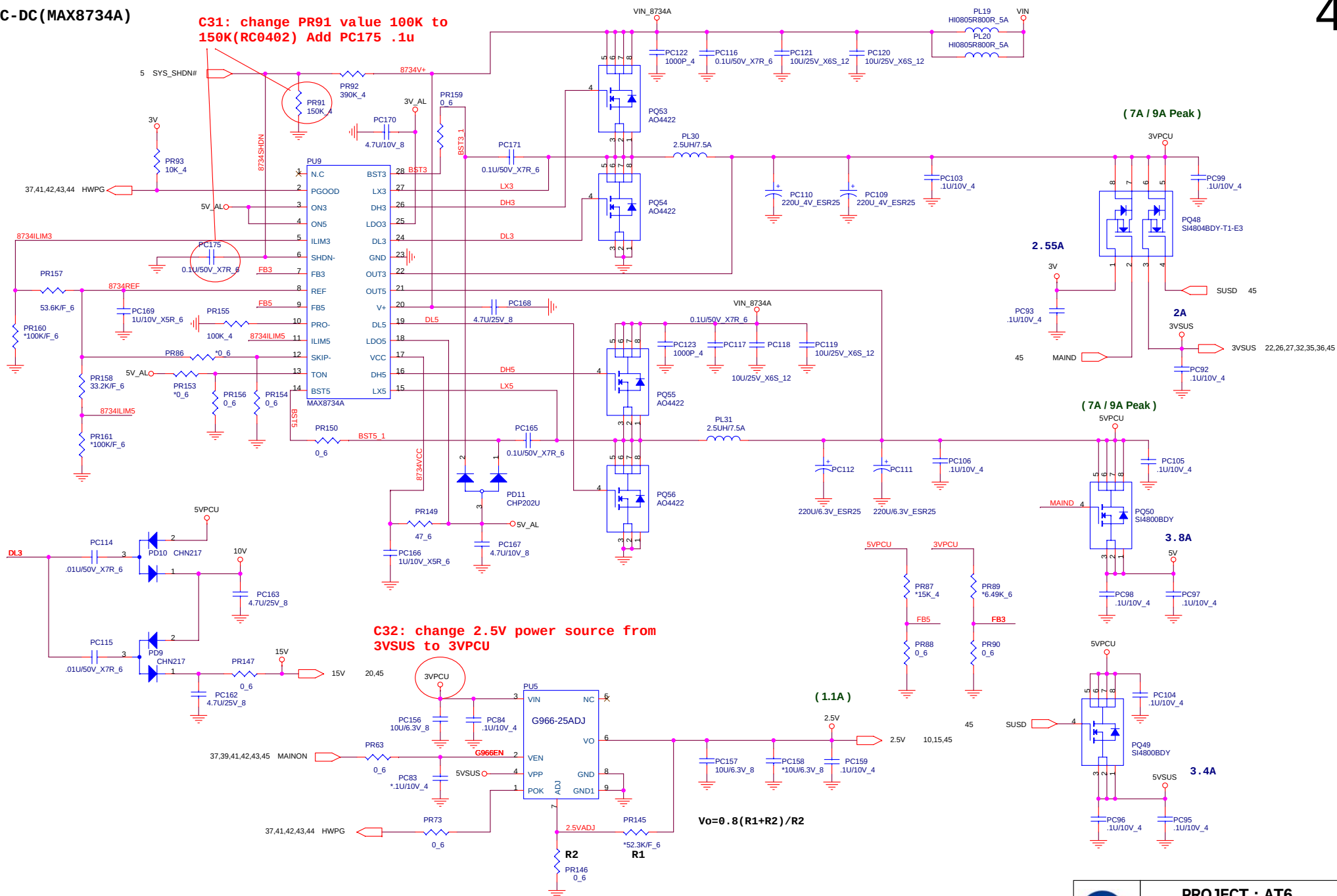
FAN1 PWM CONNECTOR

C30: Add PD22 for 12cell battery issue



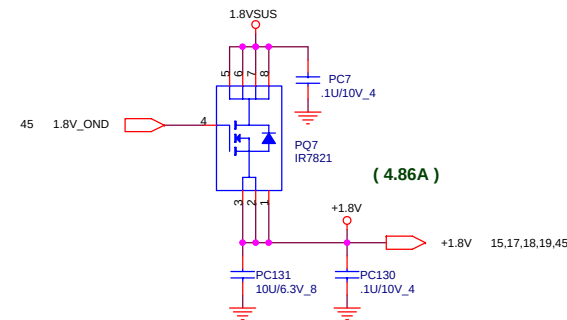
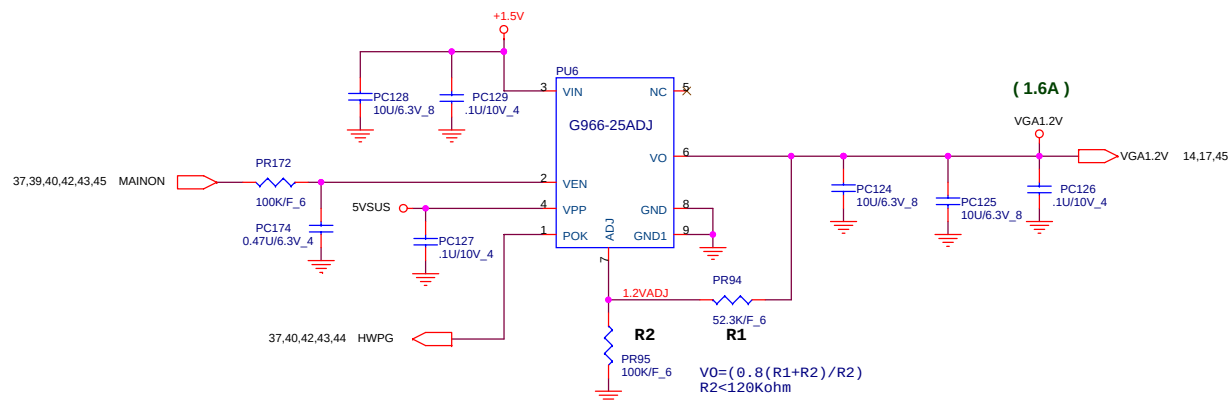
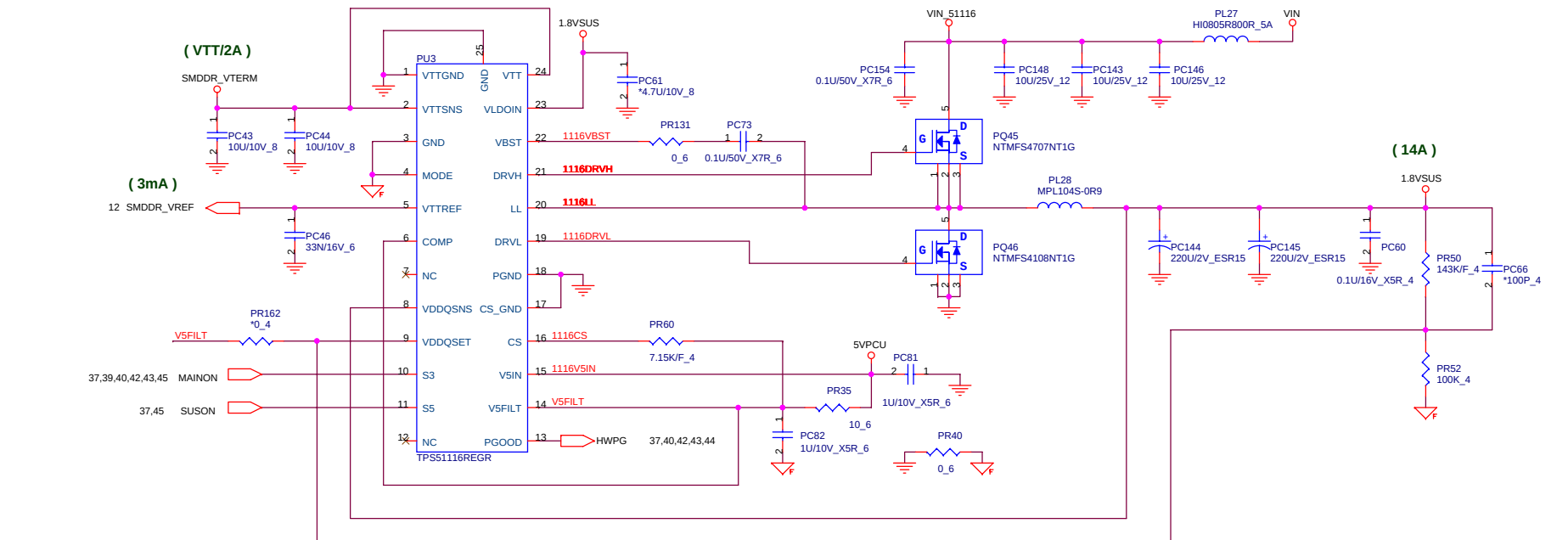
DC-DC (MAX8734A)

C31: change PR91 value 100K to 150K(RC0402) Add PC175 .1u



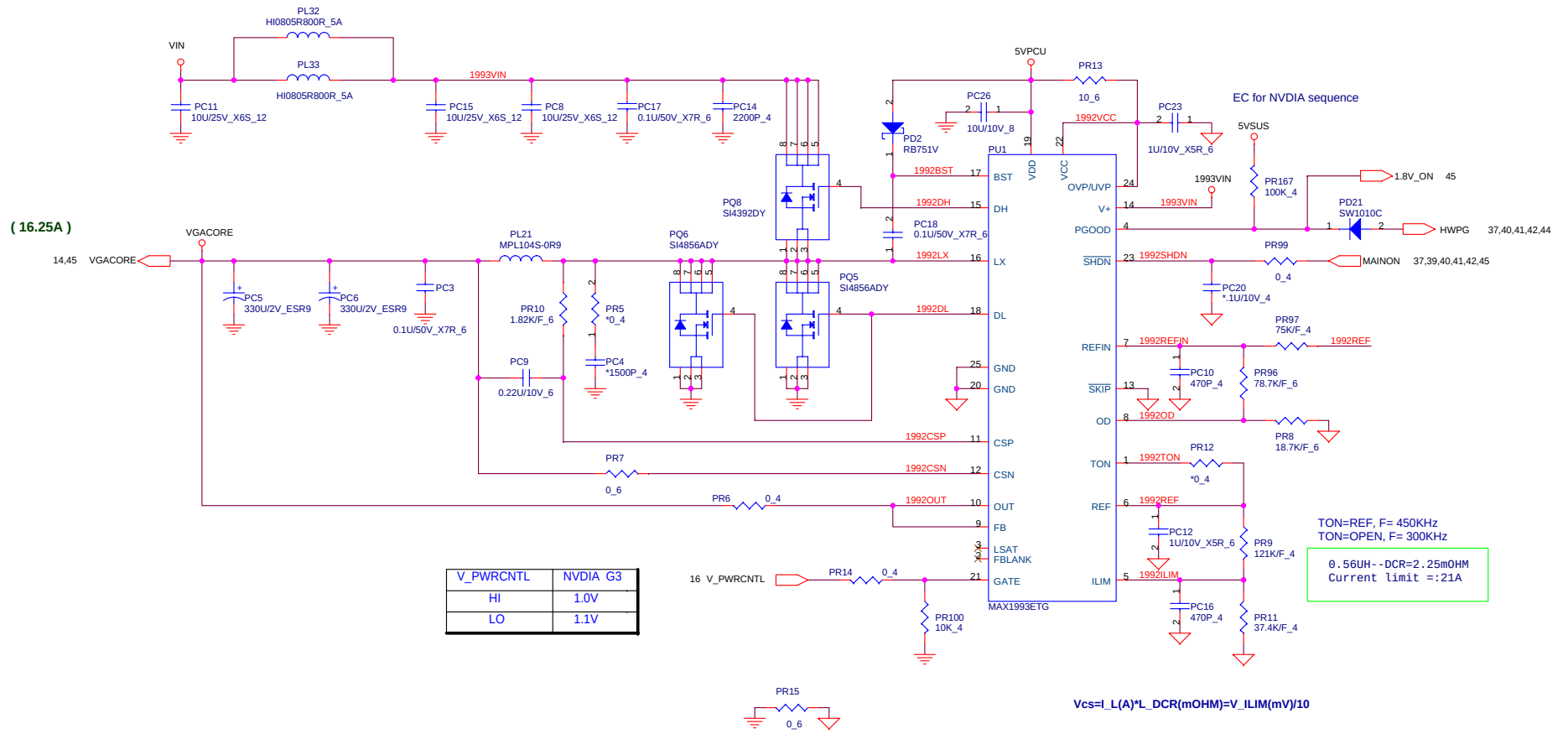
PROJECT : AT6
Quanta Computer Inc.

Size Custom	Document Number SYS PWR 5V/3.3V(MAX8734A)	Rev 2A
Date: Monday, May 22, 2006	Sheet 40 of 45	



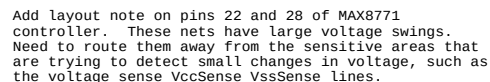
PROJECT : AT6
Quanta Computer Inc.

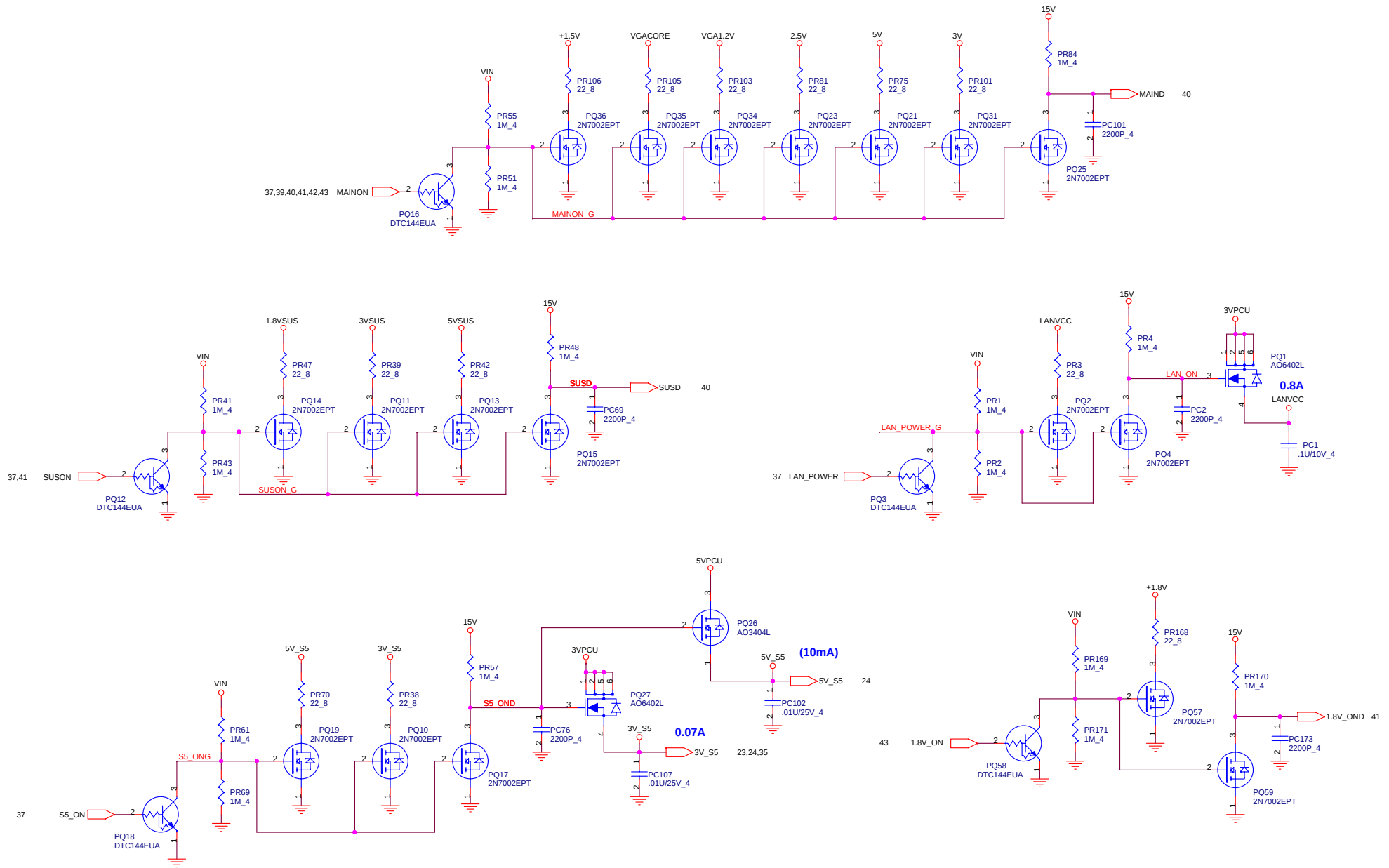
Size Custom	Document Number DDRII 1.8VSUS/SMDDR_VTERM	Rev 2A
Date: Monday, May 22, 2006	Sheet 41 of 45	



PROJECT : AT6
Quanta Computer Inc.

Size Custom	Document Number VGACORE (MAX1993)	Rev 2A
Date: Monday, May 22, 2006	Sheet 43 of 45	





PROJECT : AT6
Quanta Computer Inc.

Size Custom	Document Number DISCHARGE	Rev 2A
Date: Monday, May 22, 2006	Sheet 45 of 45	