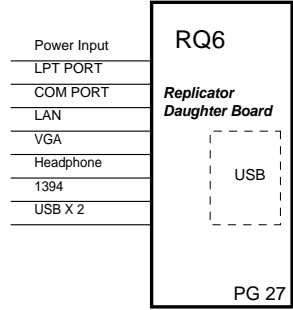
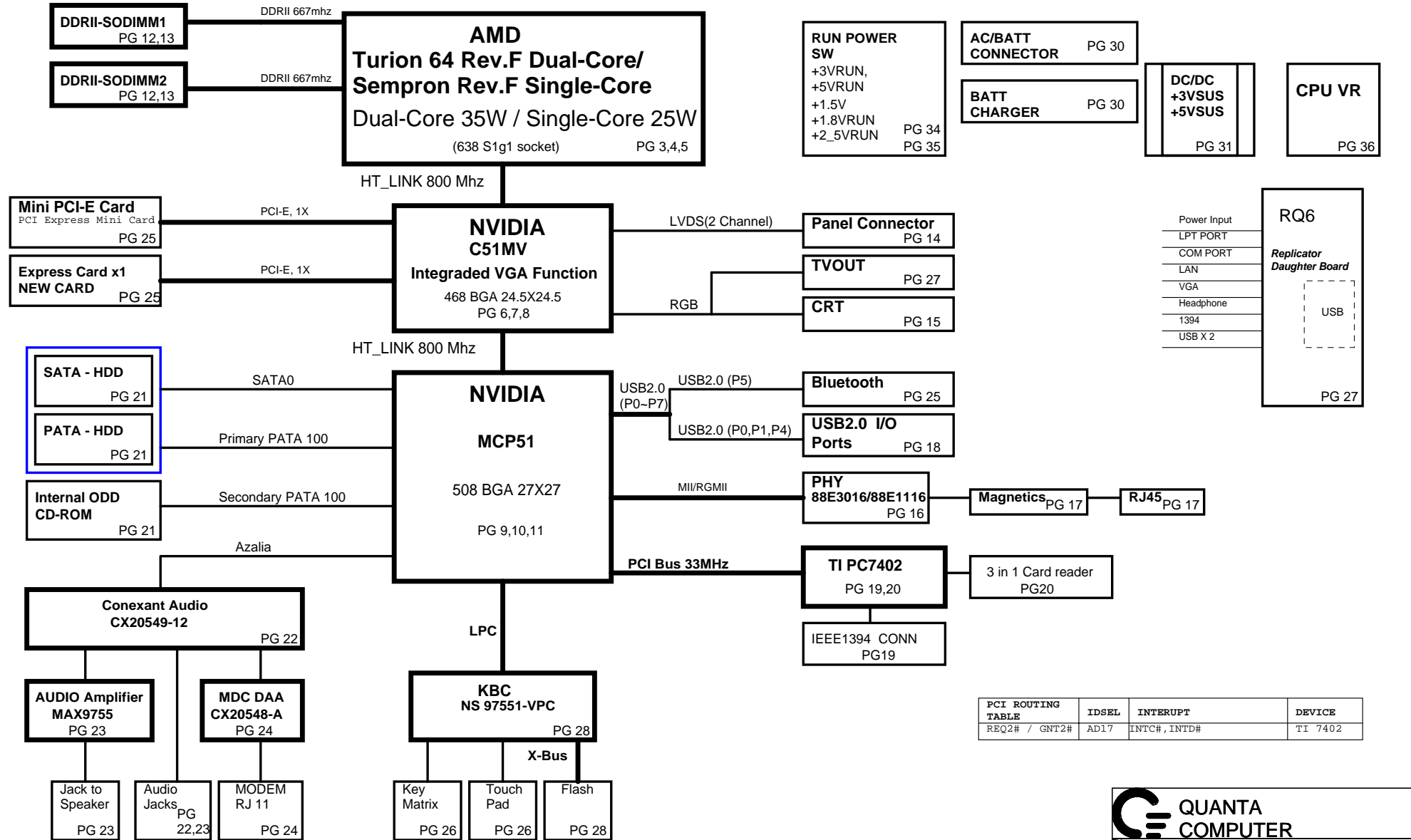


# TW2Q- Block Diagram

## PCB STACK UP

- LAYER 1 : TOP
- LAYER 2 : GND
- LAYER 3 : IN1
- LAYER 4 : IN2
- LAYER 5 : VCC
- LAYER 6 : BOT



PCI ROUTING TABLE	IDSEL	INTERUPT	DEVICE
REQ2# / GNT2#	AD17	INTC#, INTD#	TI 7402

**QUANTA COMPUTER**









Title: **BLOCK DIAGRAM**

Size: Custom Document Number: **TW2Q** Rev: 1A

Date: Tuesday, May 23, 2006 Sheet 1 of 37







## Board Stack up Description (8 Layer)


### PCB Layers

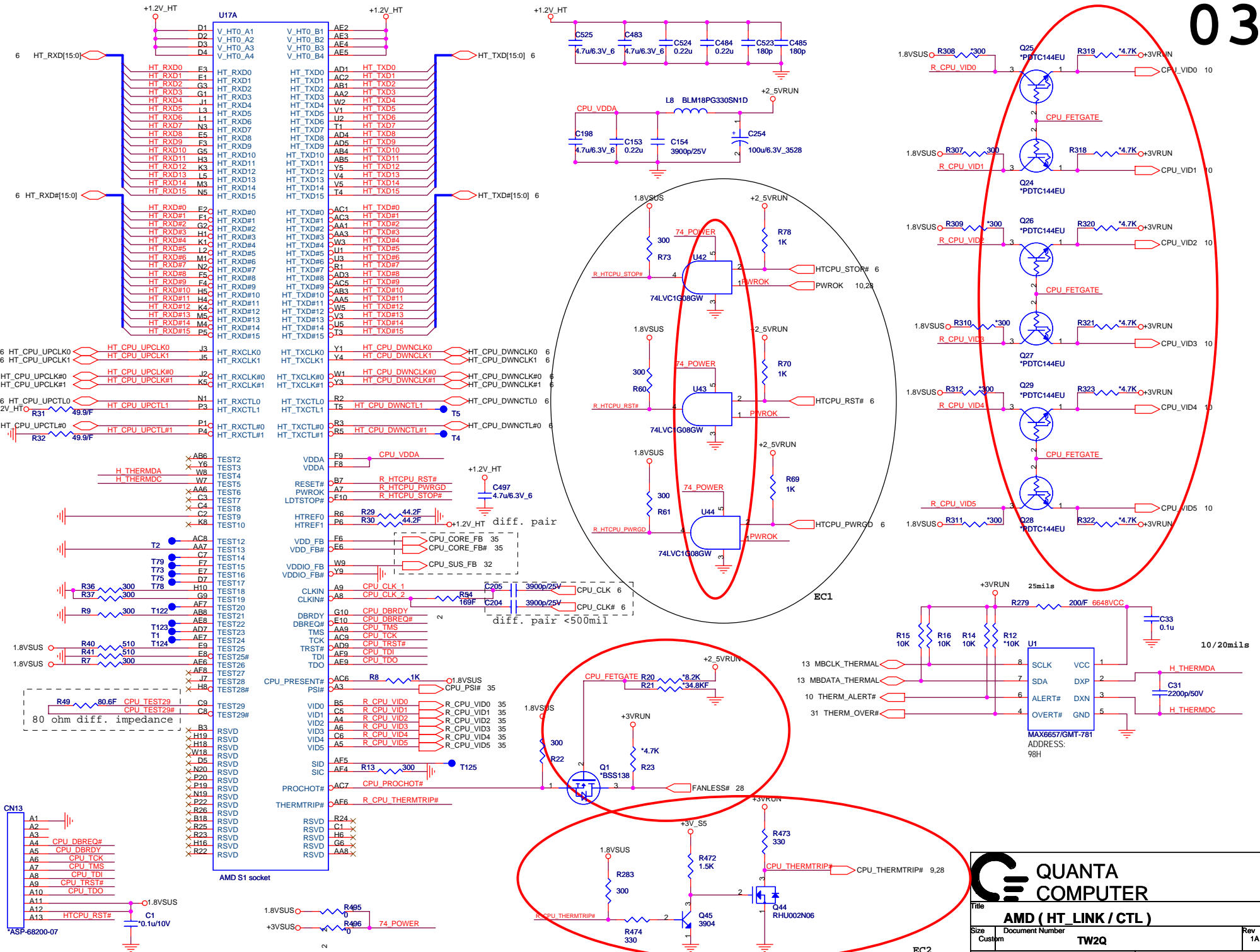
Layer 1		TOP (Component, Other)
Layer 2		Ground Plane
Layer 3		IN1
Layer 4		Ground Plane
Layer 5		Ground Plane
Layer 6		IN2
Layer 7		Power Plane
Layer 8		BOTTOM

## Board Stack up Description (6 Layer)

### PCB Layers

Layer 1		TOP (Component, Other)
Layer 2		Ground Plane
Layer 3		IN1
Layer 4		IN2
Layer 5		Power Plane
Layer 6		BOTTOM

 QUANTA COMPUTER			
Title: FRONTPAGE			
Size: Custom	Document Number: TW2Q		Rev: 1A
Date: Tuesday, May 23, 2006			
Sheet 2 of 37			



**QUANTA COMPUTER**

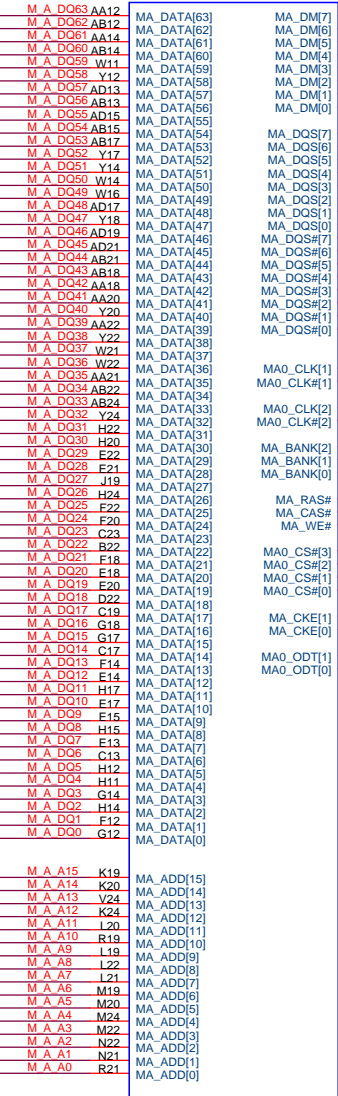
Title: **AMD (HT\_LINK / CTL)**

Size: Custom    Document Number: **TW2Q**    Rev: 1A

Date: Tuesday, May 23, 2006    Sheet: 3 of 37

12 M\_A\_DQ[63:0]

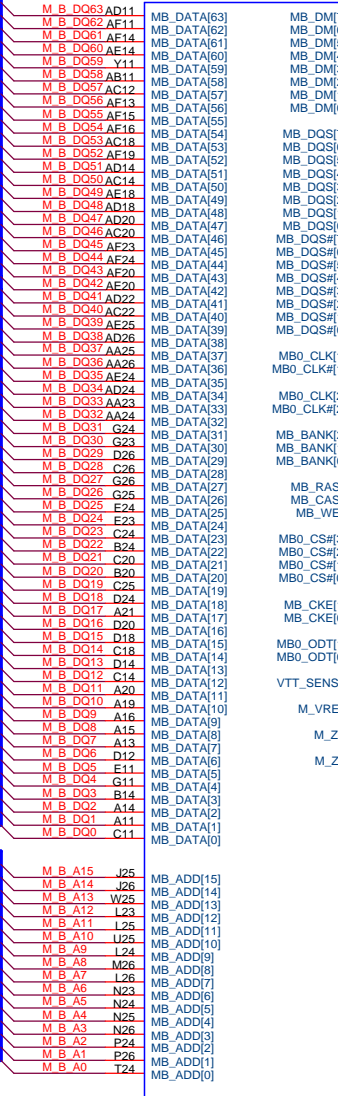
U17B



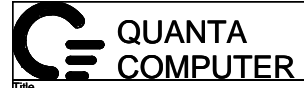
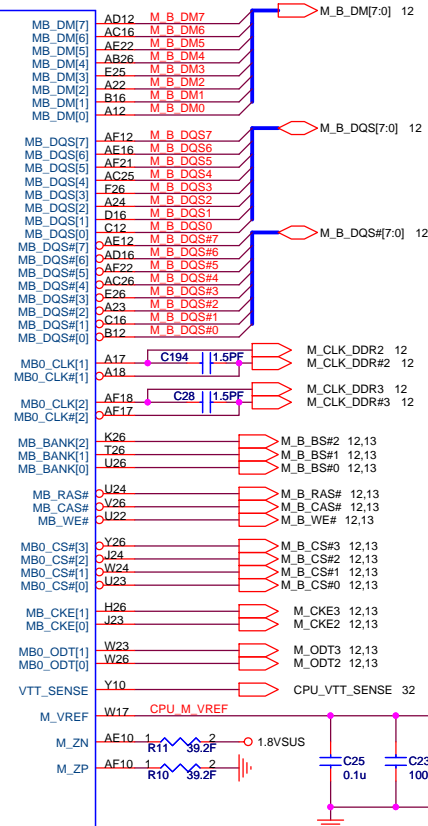
AMD S1 socket

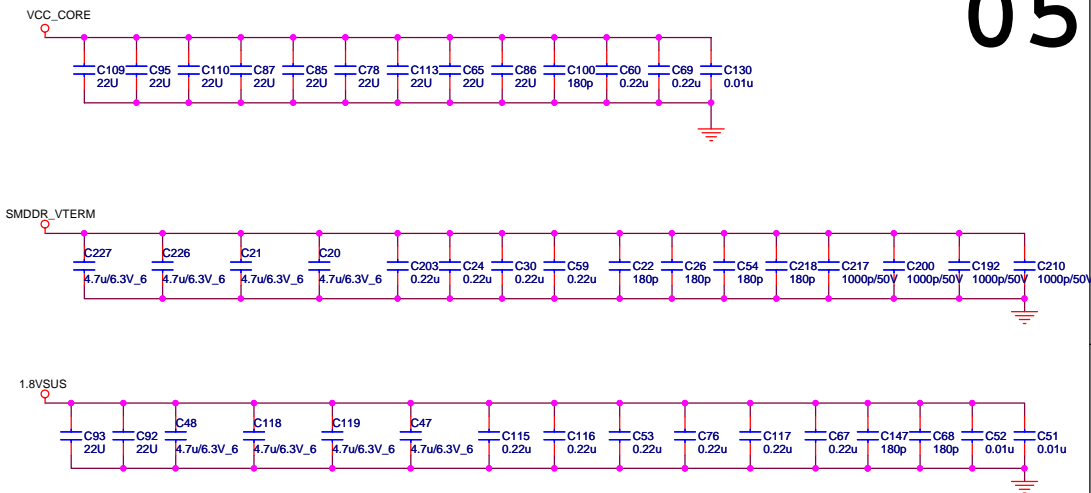
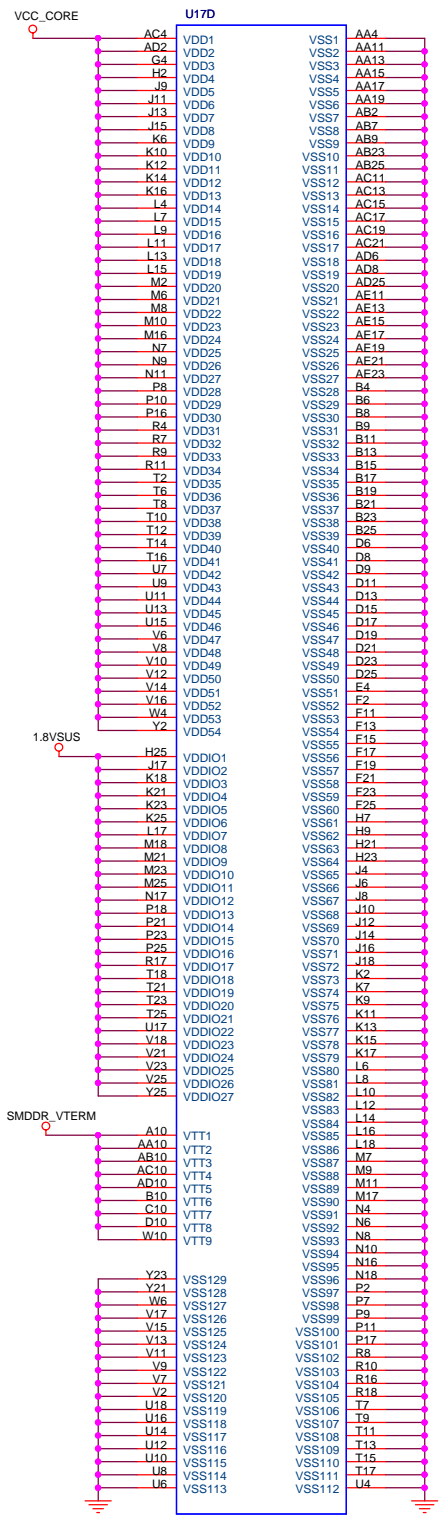
12 M\_B\_DQ[63:0]

U17C



AMD S1 socket



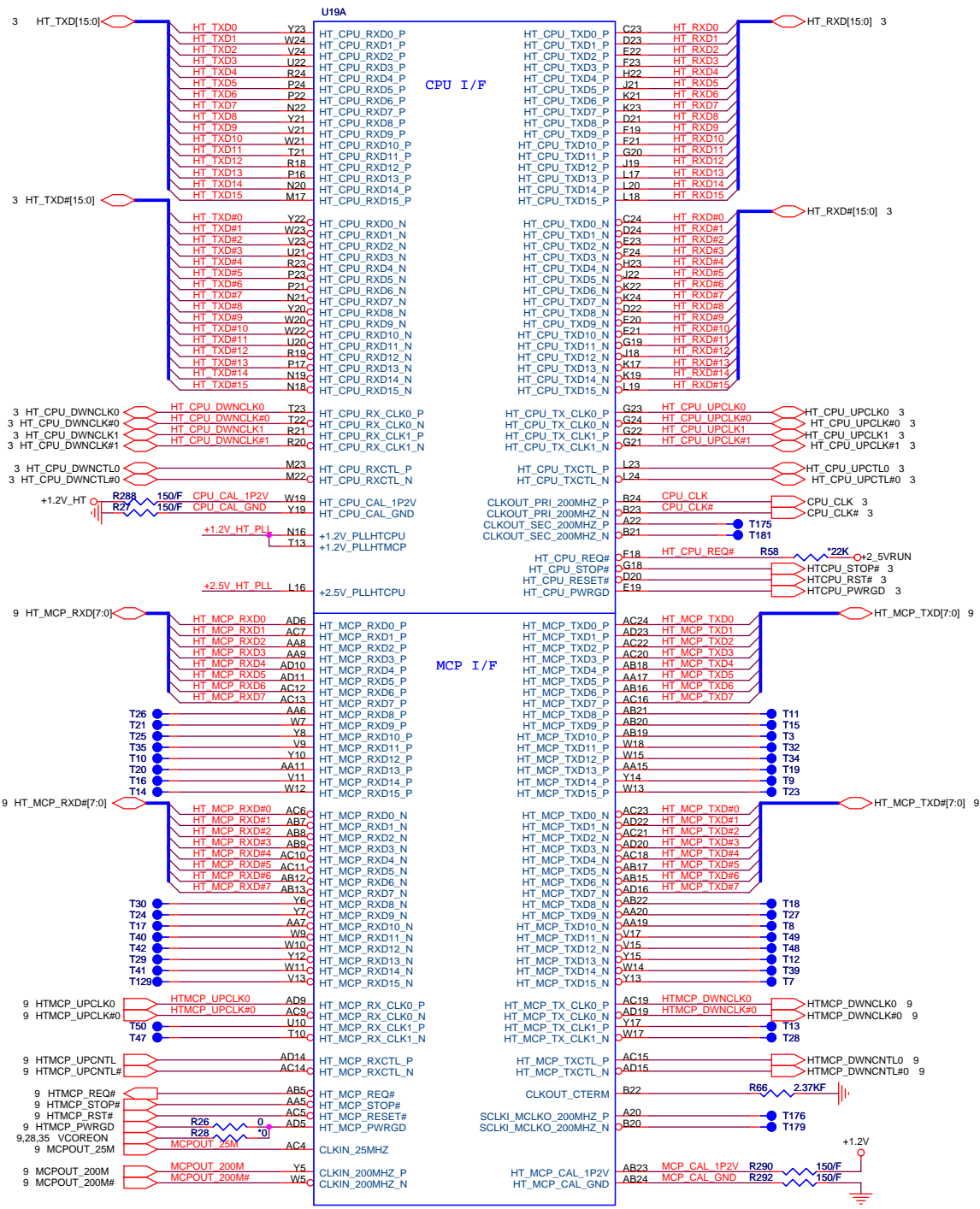


**QUANTA COMPUTER**

Title: **AMD (HT\_LINK / CTL)**

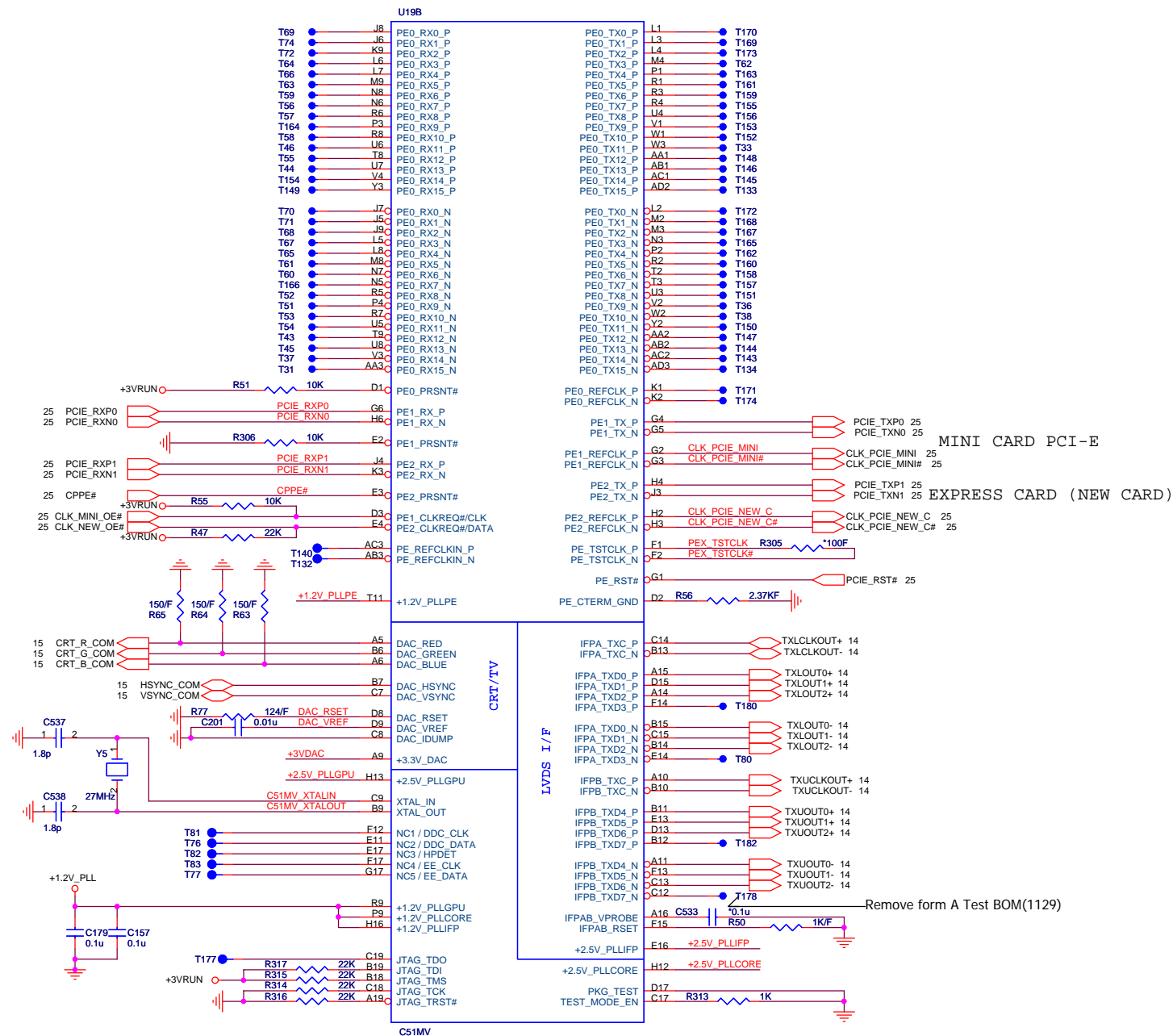
Size: Custom Document Number: **TW2Q** Rev: 1A

Date: Tuesday, May 23, 2006 Sheet: 5 of 37

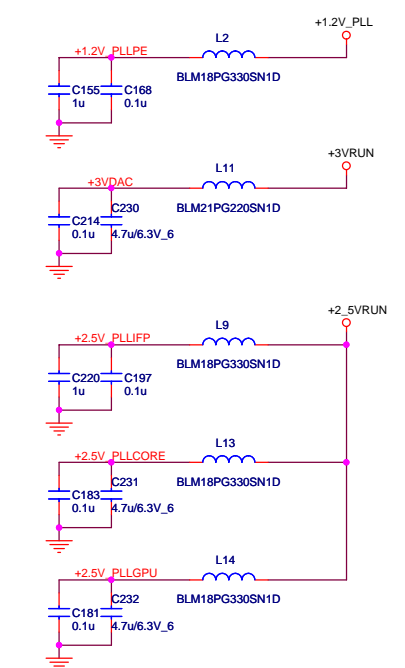


	R26	R28
MCP51 A2 Version	NA	POP
MCP51 A3 Version	POP	NA





MINI CARD PCI-E  
EXPRESS CARD (NEW CARD)



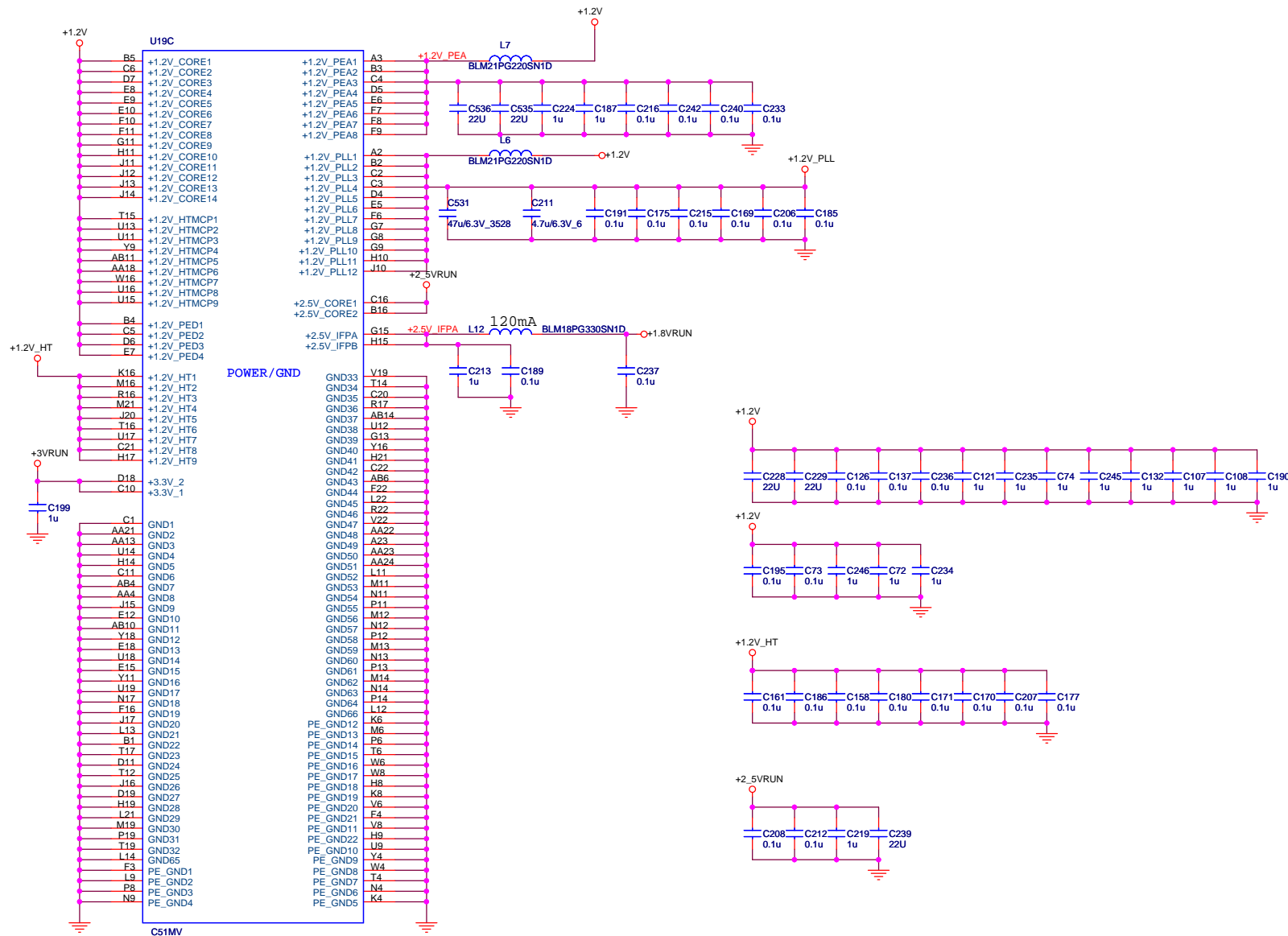
Remove form A Test BOM(1129)


**QUANTA COMPUTER**

Title: **C51MV (PCIE/LCD/RGB)**

Size: Document Number  
Custm: **TW2Q**

Date: Tuesday, May 23, 2006 Sheet 7 of 37

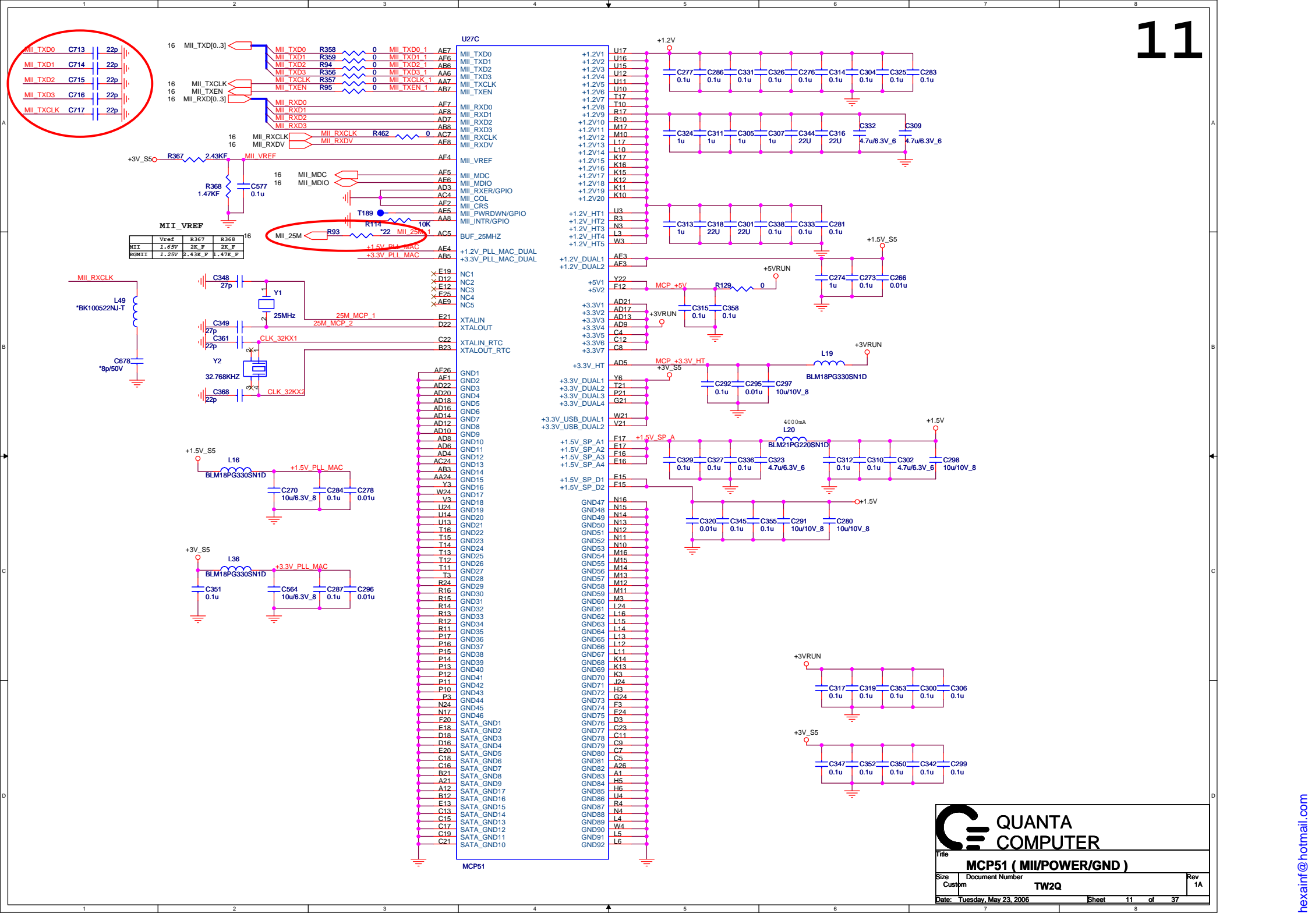


 <b>QUANTA COMPUTER</b>			
Title <b>C51MV ( POWER/GND )</b>			
Size	Document Number		Rev
Custom	<b>TW2Q</b>		1A
Date:	Tuesday, May 23, 2006	Sheet	8 of 37







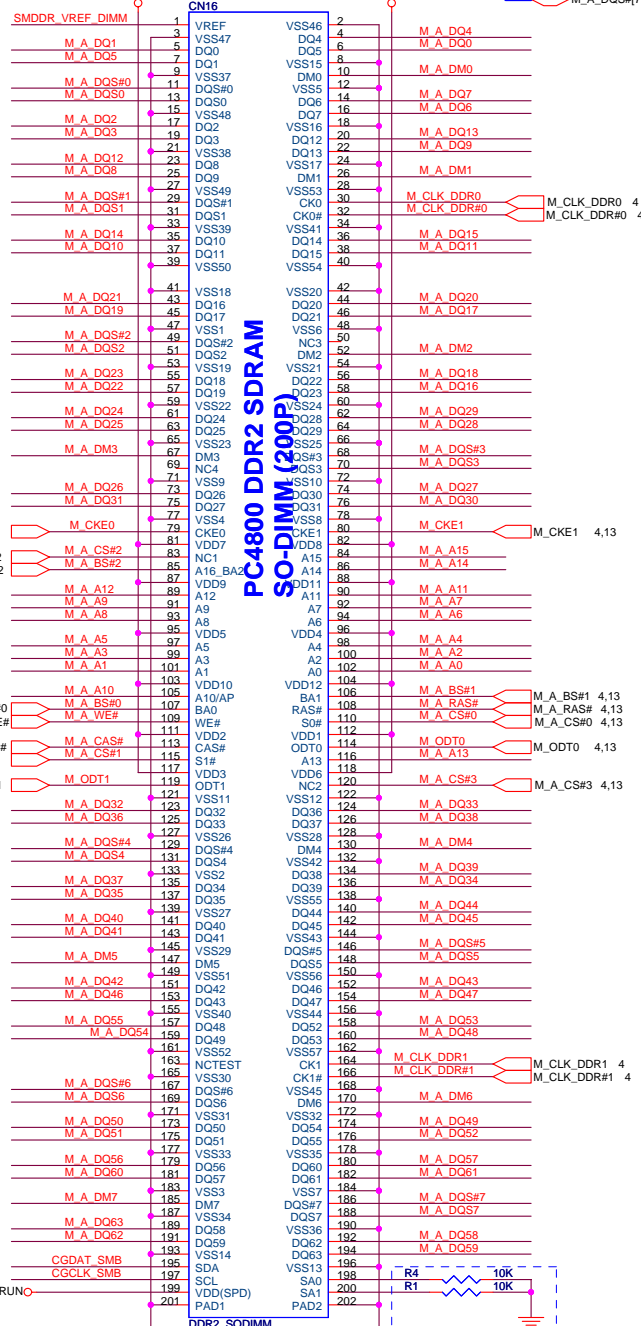
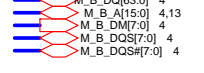
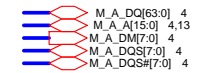
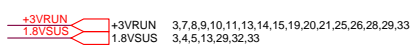


**QUANTA COMPUTER**

Title: **MCP51 ( MII/POWER/GND )**

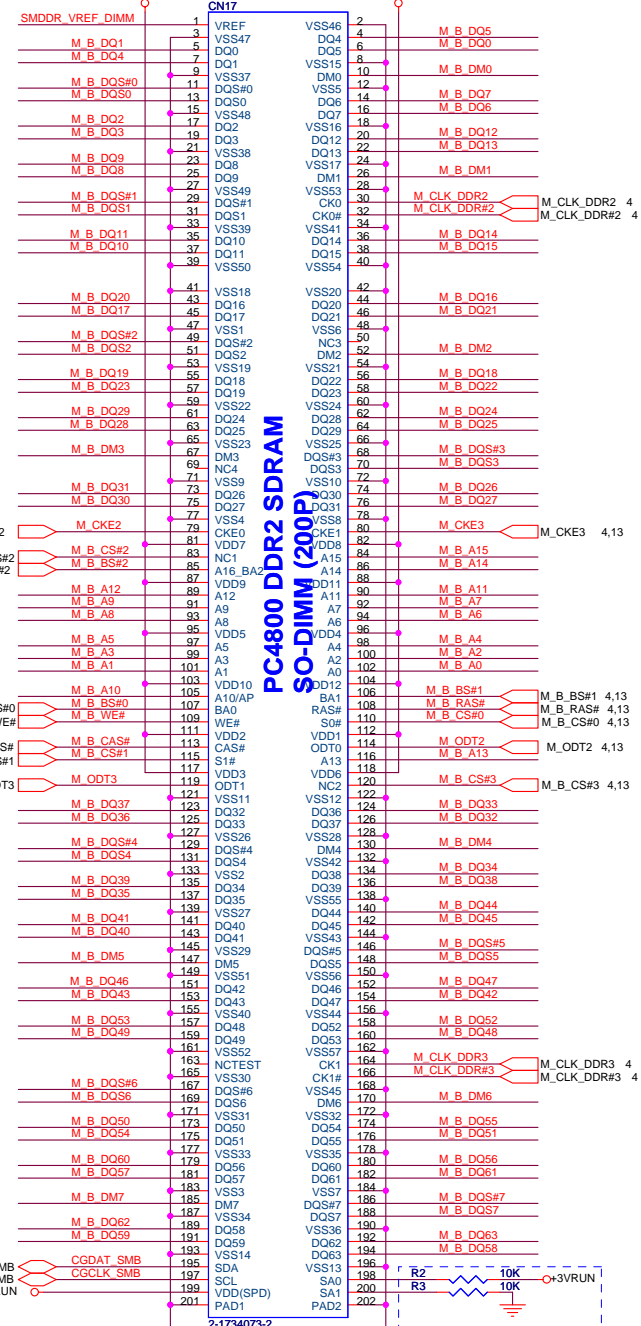
Size: Document Number  
Custm: **TW2Q**

Date: Tuesday, May 23, 2006 Sheet 11 of 37



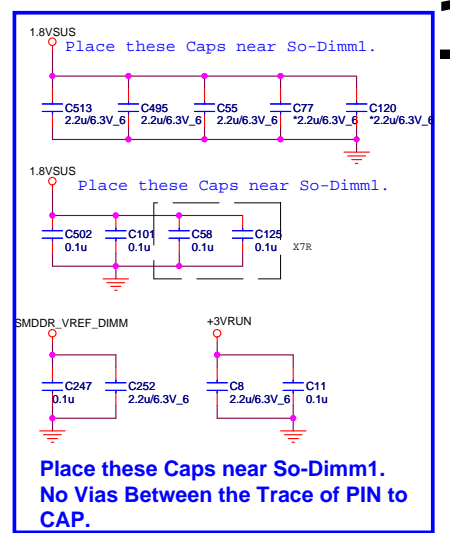
PC4800 DDR2 SDRAM SO-DIMM (200P)

CLOCK 0,1 CKE 0,1 H 9.2

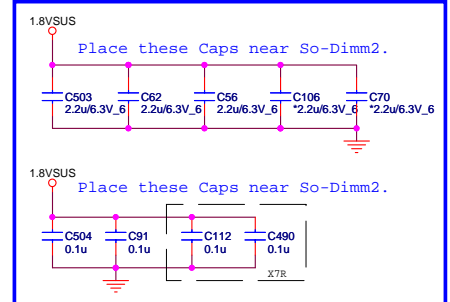


PC4800 DDR2 SDRAM SO-DIMM (200P)

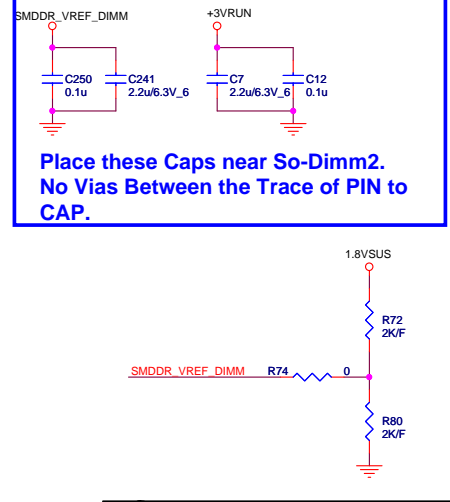
CLOCK 3,4 CKE 2,3 H 5.2



Place these Caps near So-Dimm1. No Vias Between the Trace of PIN to CAP.



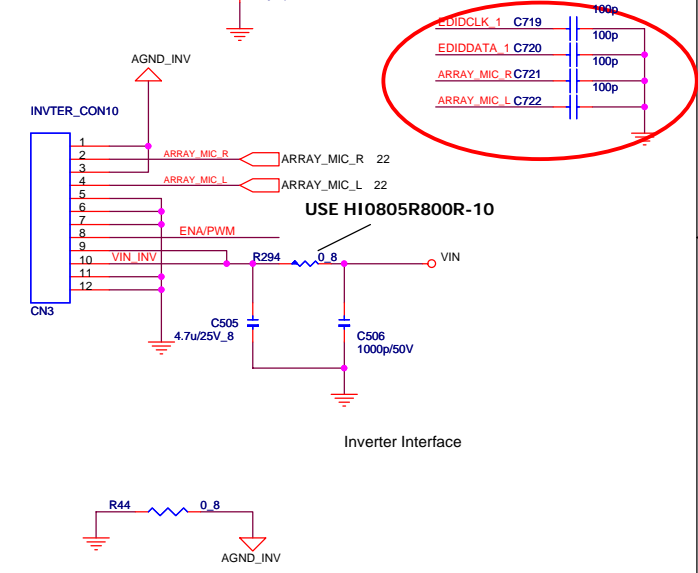
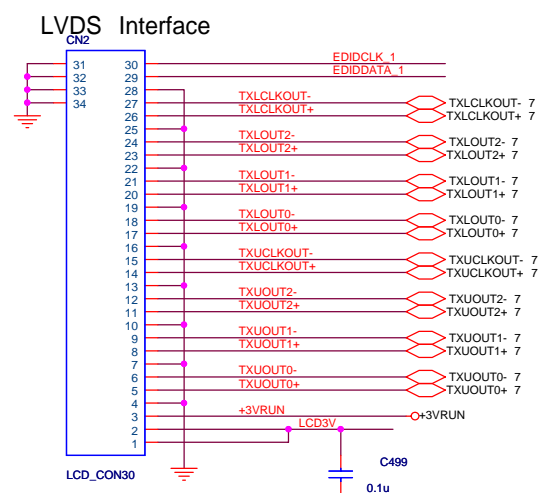
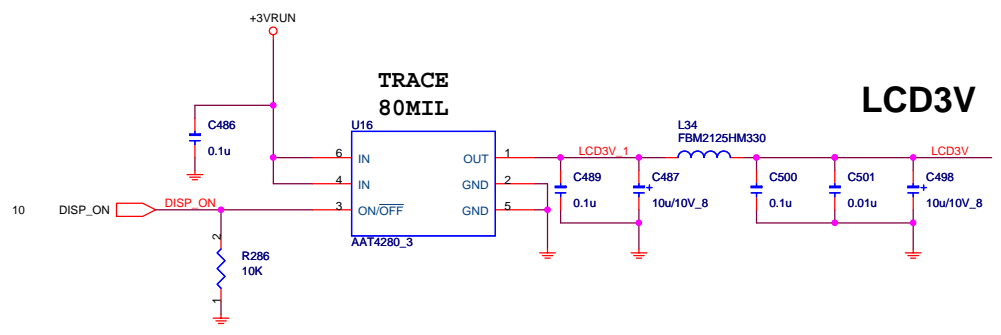
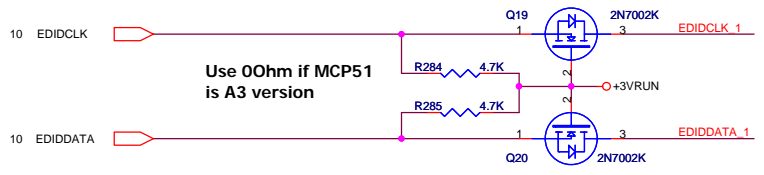
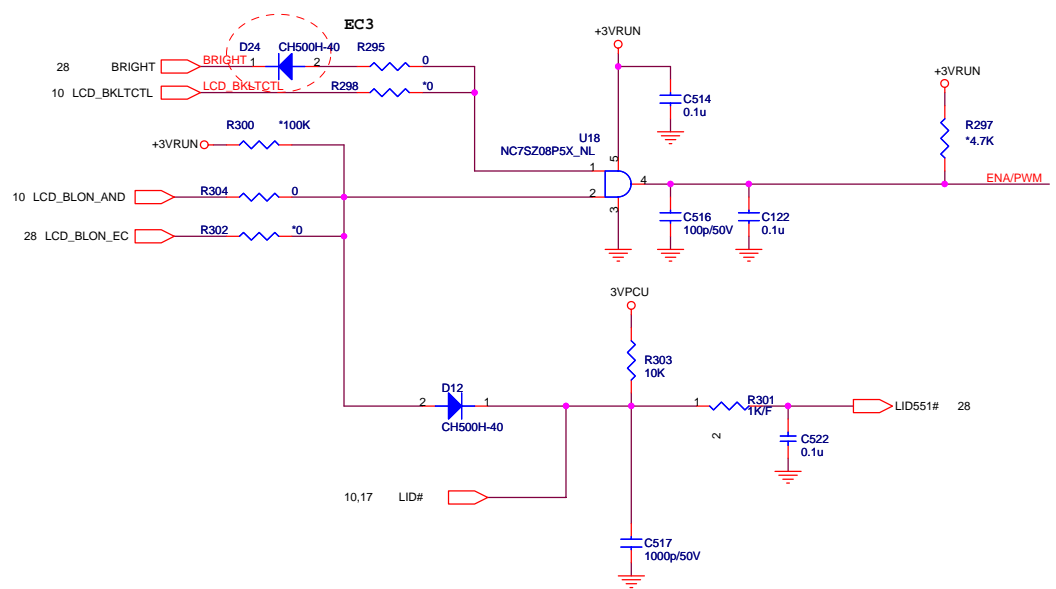
Place these Caps near So-Dimm2. No Vias Between the Trace of PIN to CAP.

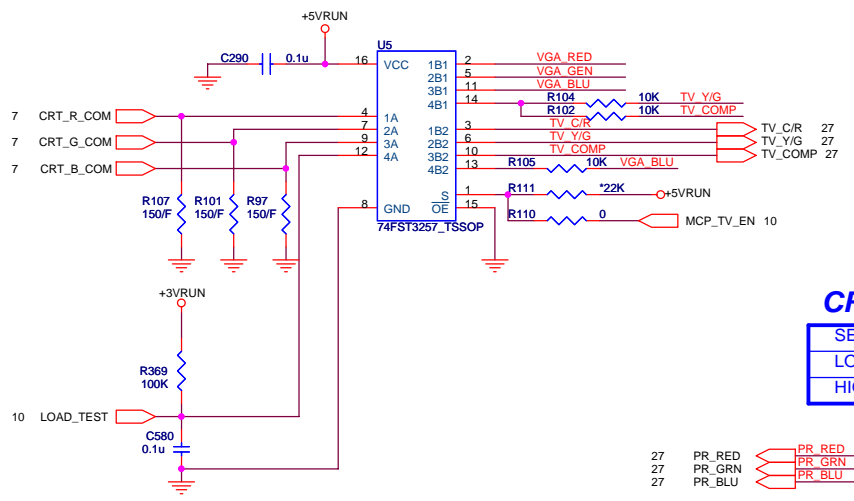
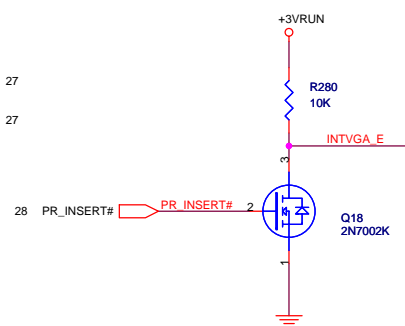
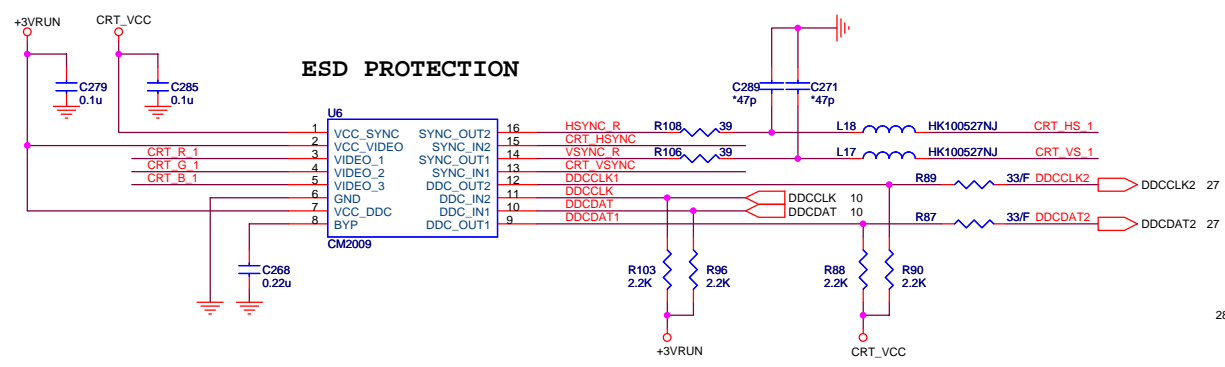
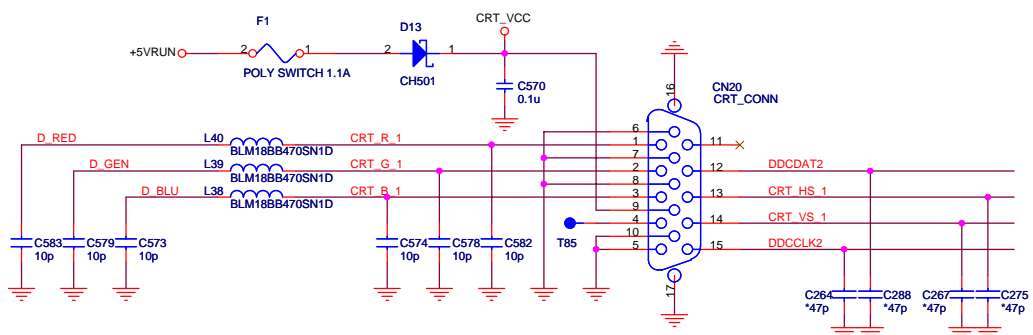


Place these Caps near So-Dimm2. No Vias Between the Trace of PIN to CAP.



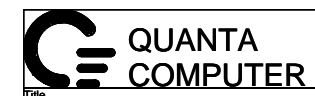
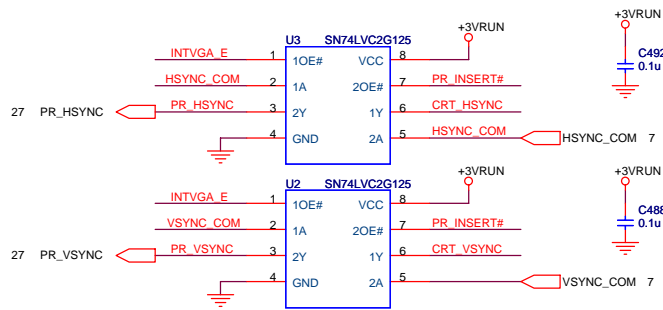
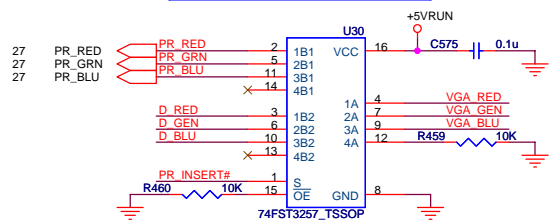


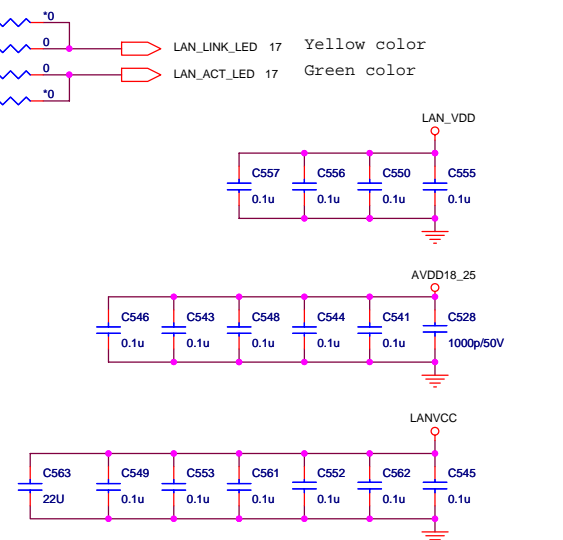
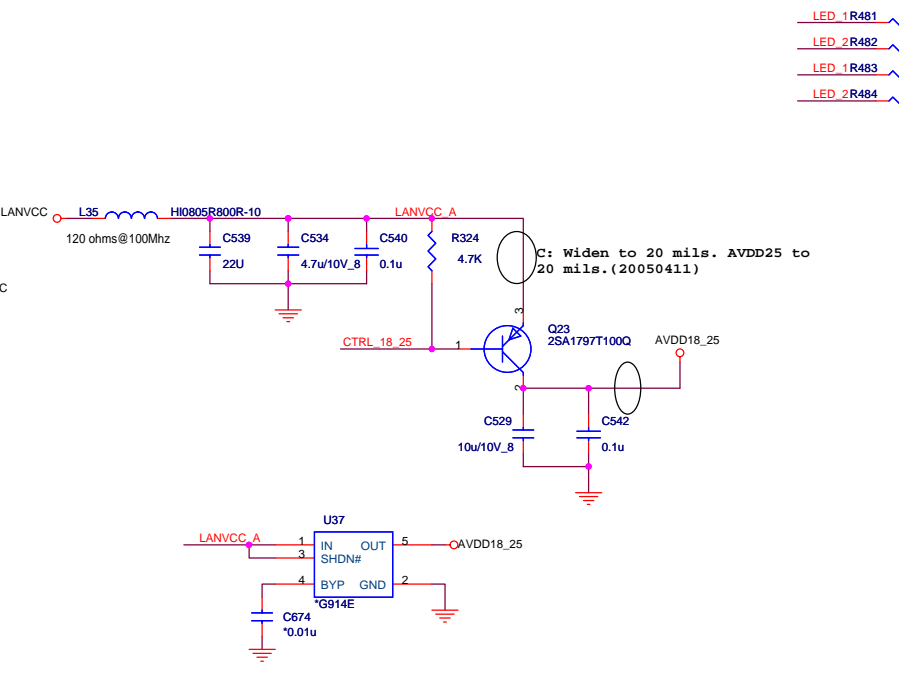
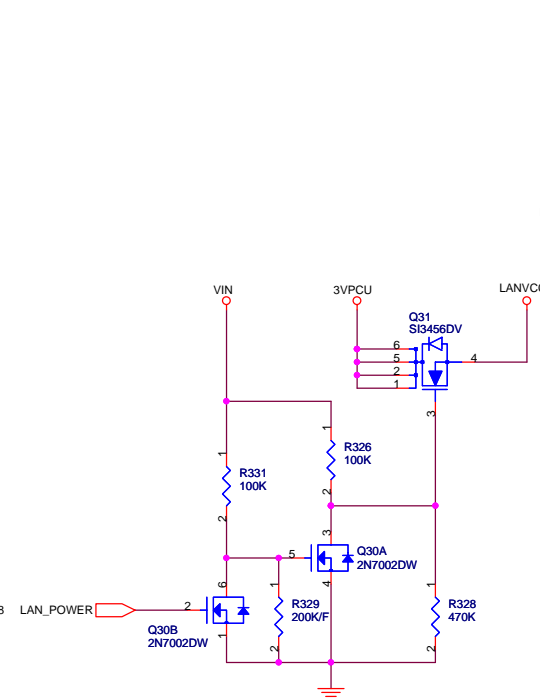
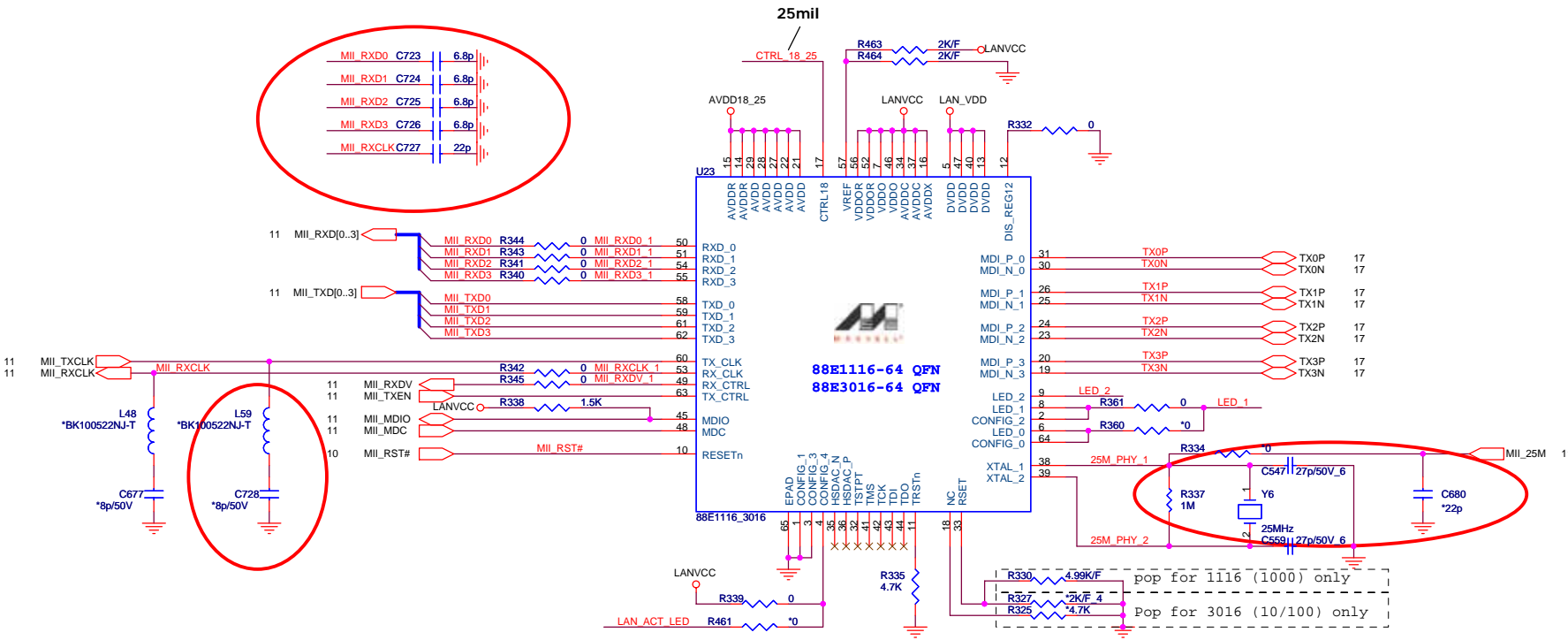




### CRT SWITCH

SEL	FUNCTION(COM)
LOW	IN_B0
HIGH	IN_B1





**QUANTA COMPUTER**

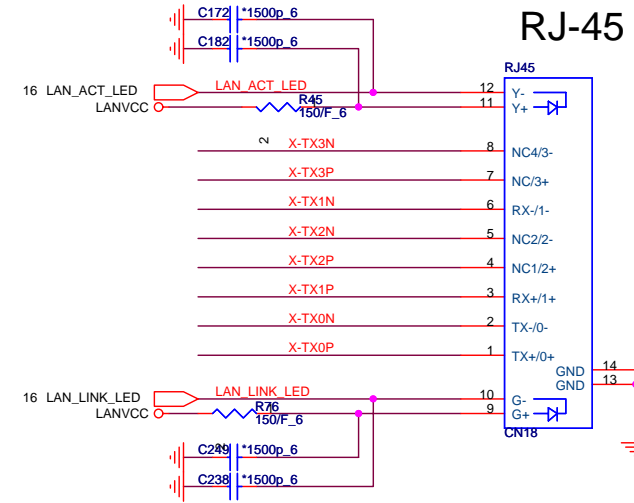
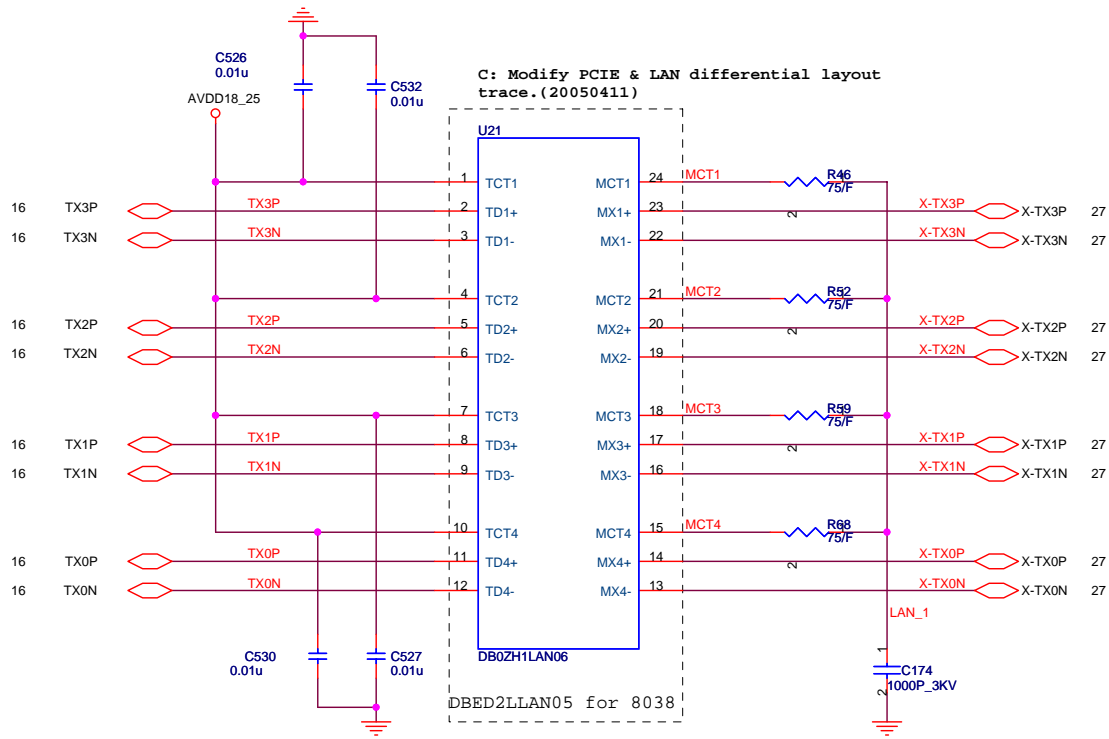
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Size: Document Number  
 Custom: **TW2Q**

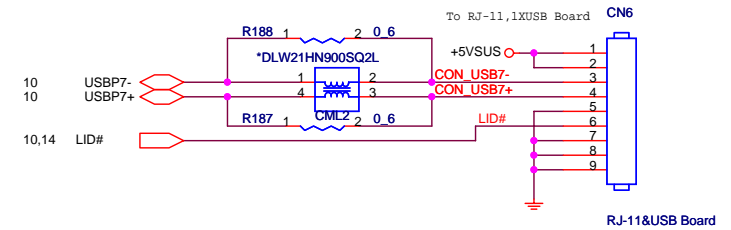
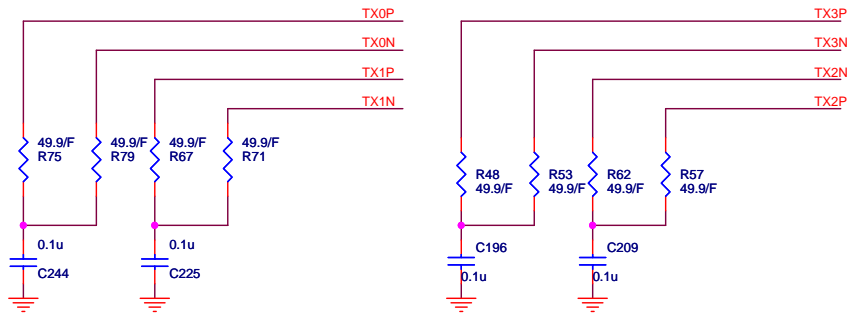
Date: Tuesday, May 23, 2006 Sheet 16 of 37



C: Modify PCIE & LAN differential layout trace. (20050411)

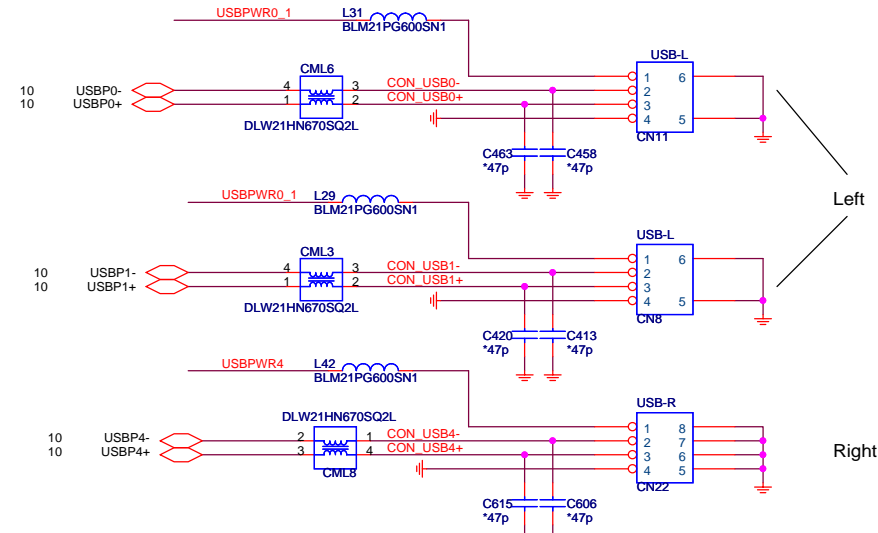


### GigaLAN transformer

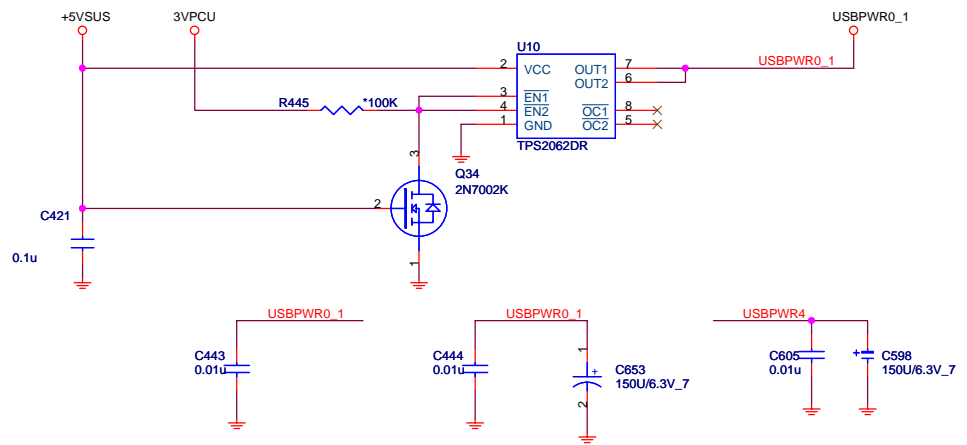
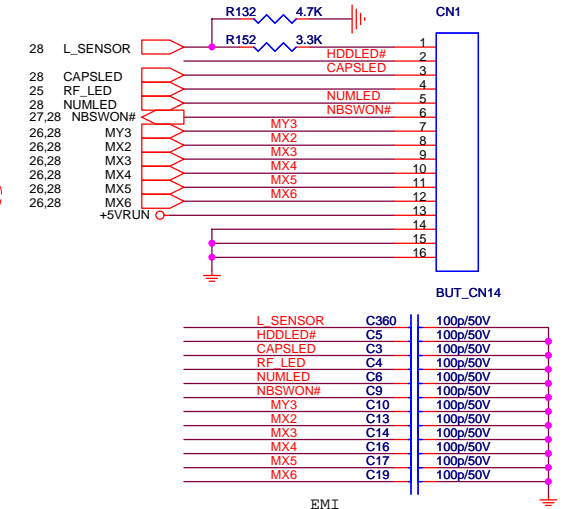


		<b>QUANTA COMPUTER</b>	
		<b>LAN SW CONN &amp; MDC CONN</b>	
Title	<b>LAN SW CONN &amp; MDC CONN</b>		Rev
Size	Document Number	<b>TW2Q</b>	1A
Date:	Tuesday, May 23, 2006	Sheet	17 of 37

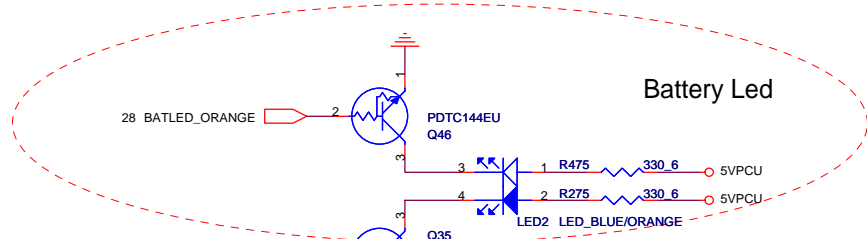
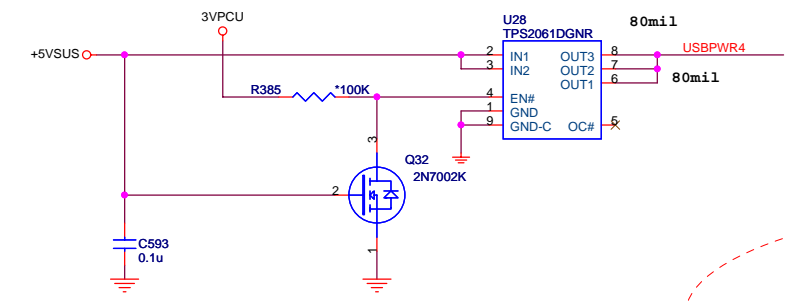
## USB Port



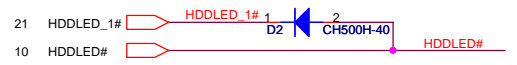
## For Bottom Board



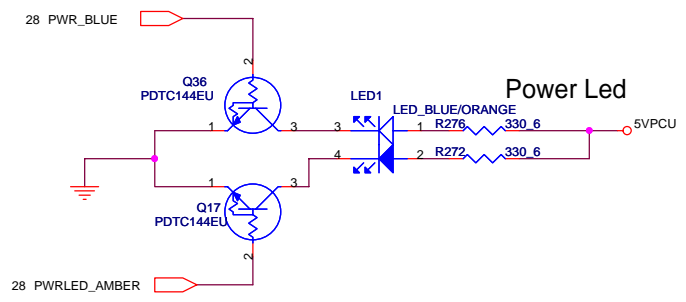
C:Change U1 from G528 to TPS2061



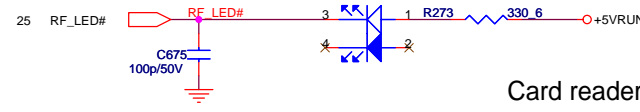
## HDD,SATA Led



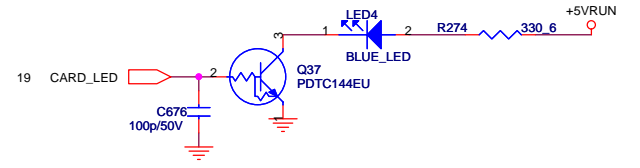
## Power Led



## Wireless Led



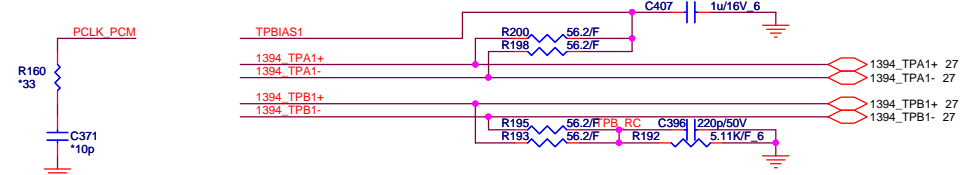
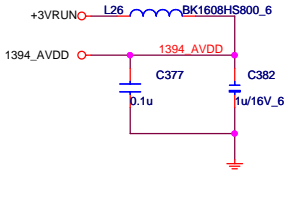
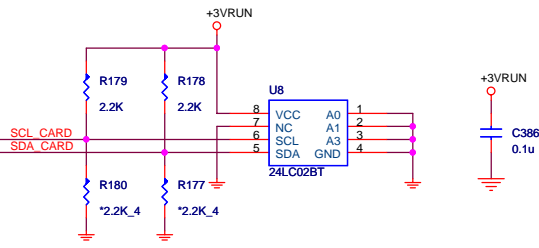
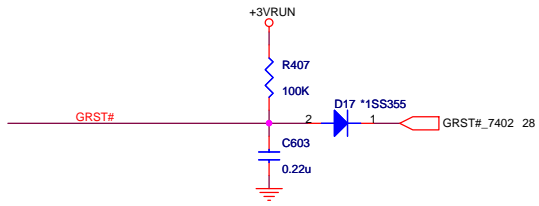
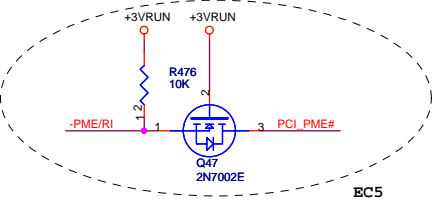
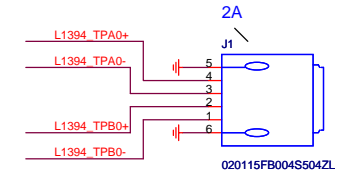
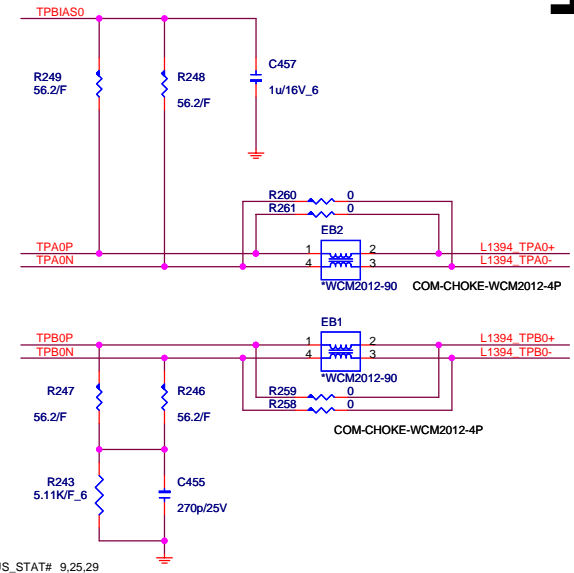
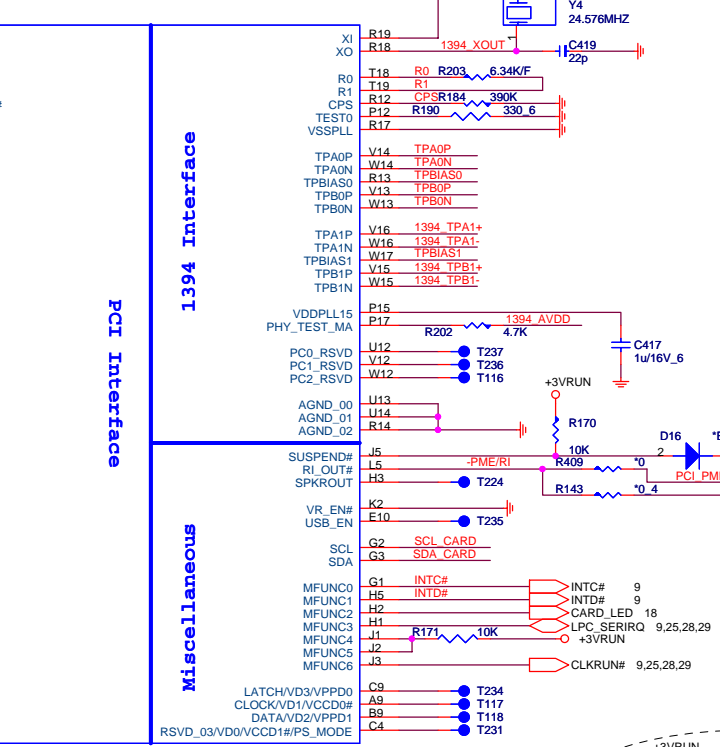
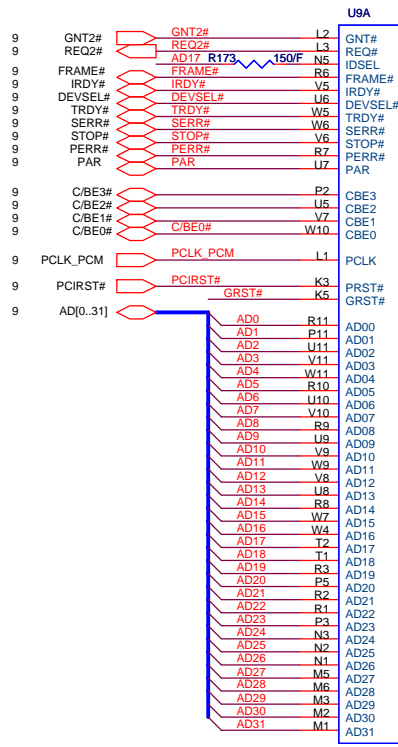
## Card reader Led



### QUANTA COMPUTER

**USB,LED,BOTTOM CONN**

Title			Rev
Size	Document Number	TW2Q	1A
Date:	Tuesday, May 23, 2006	Sheet	18 of 37



**QUANTA COMPUTER**

Title: **PCI7402-IEEE1394**

Size: Document Number  
 Custom: **TW2Q**

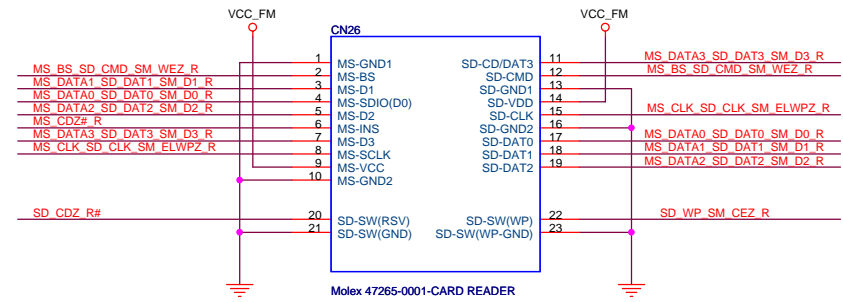
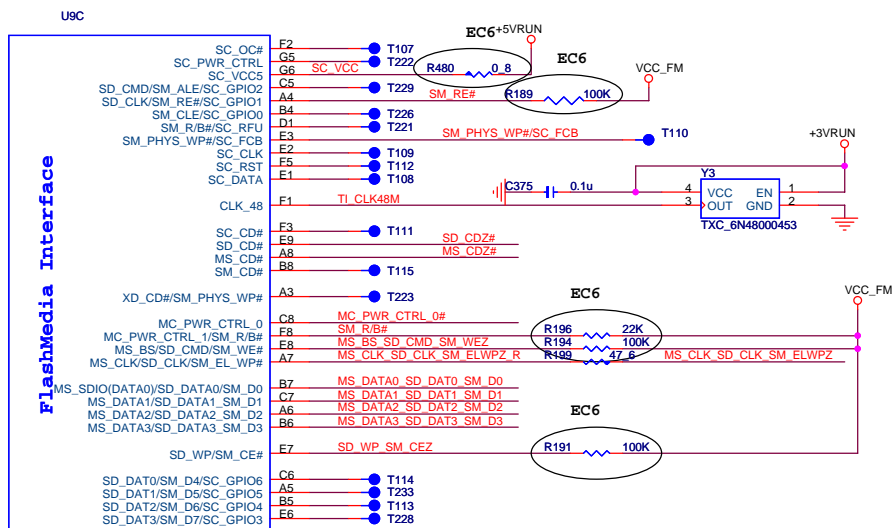
Date: Tuesday, May 23, 2006

Sheet: 19 of 37

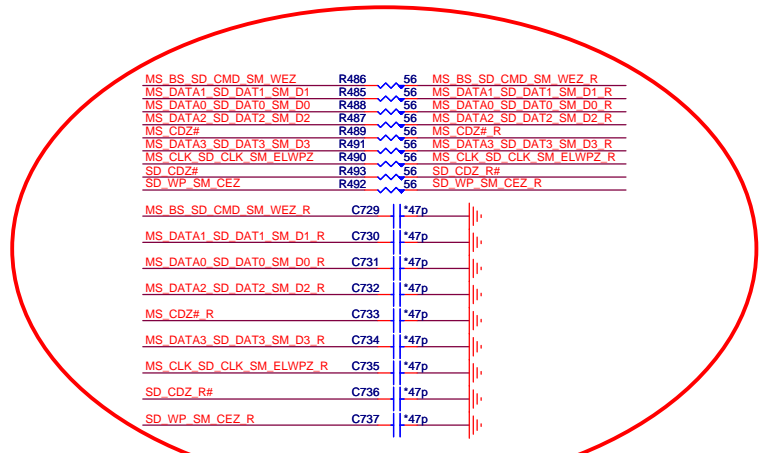
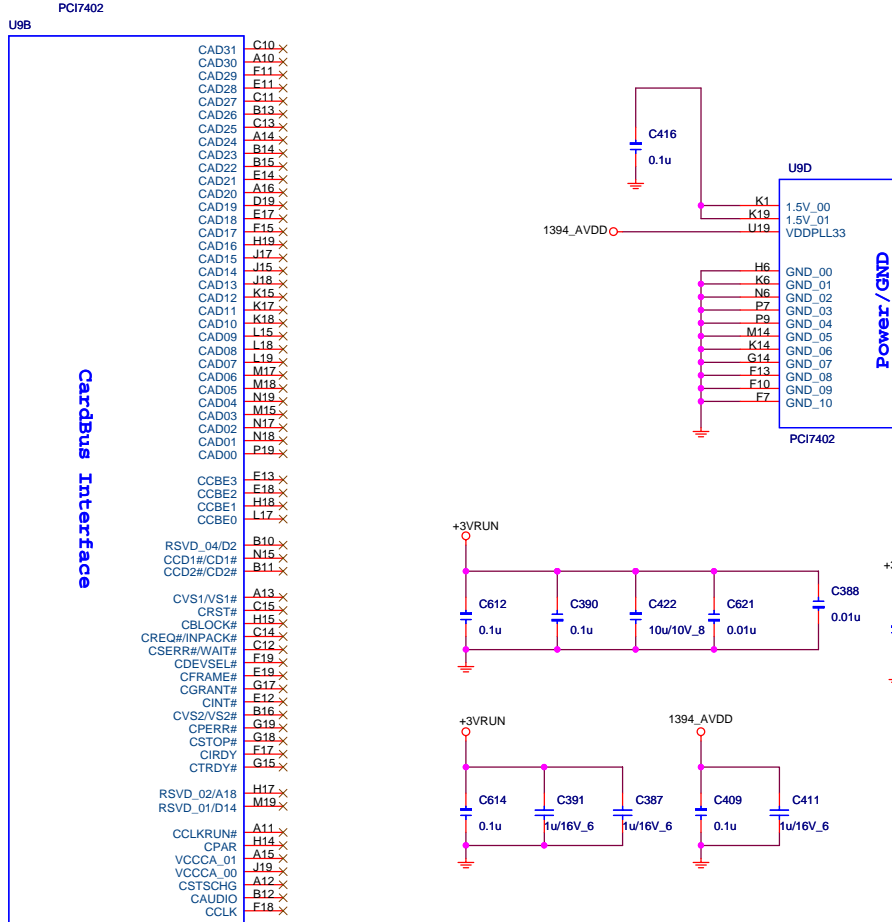
Rev: 1A

DO NOT INSERT SD/MMC, MEMORYSTICK AND XD SIMULTANEOUSLY.

### 3 IN1 CARD READER (push-push)



Supporting MMC/SD/MS Cards  
Foxconn P/N:DFHS19FR012



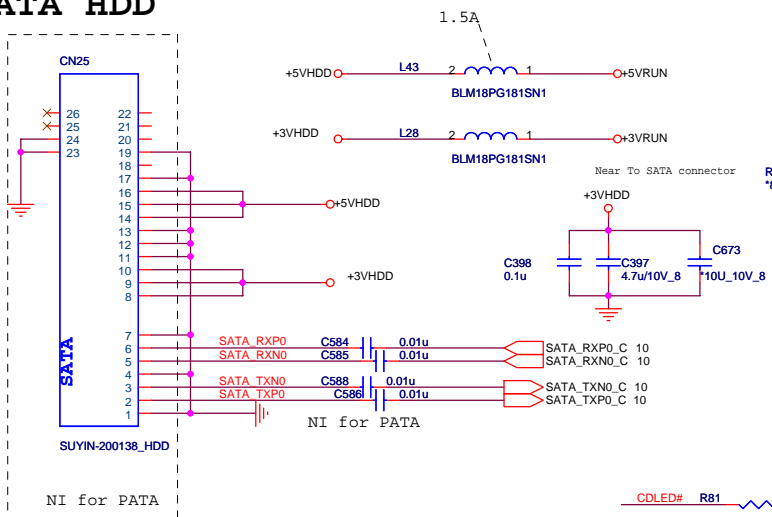
**QUANTA COMPUTER**

Title: **PCI7402-CARD READER**

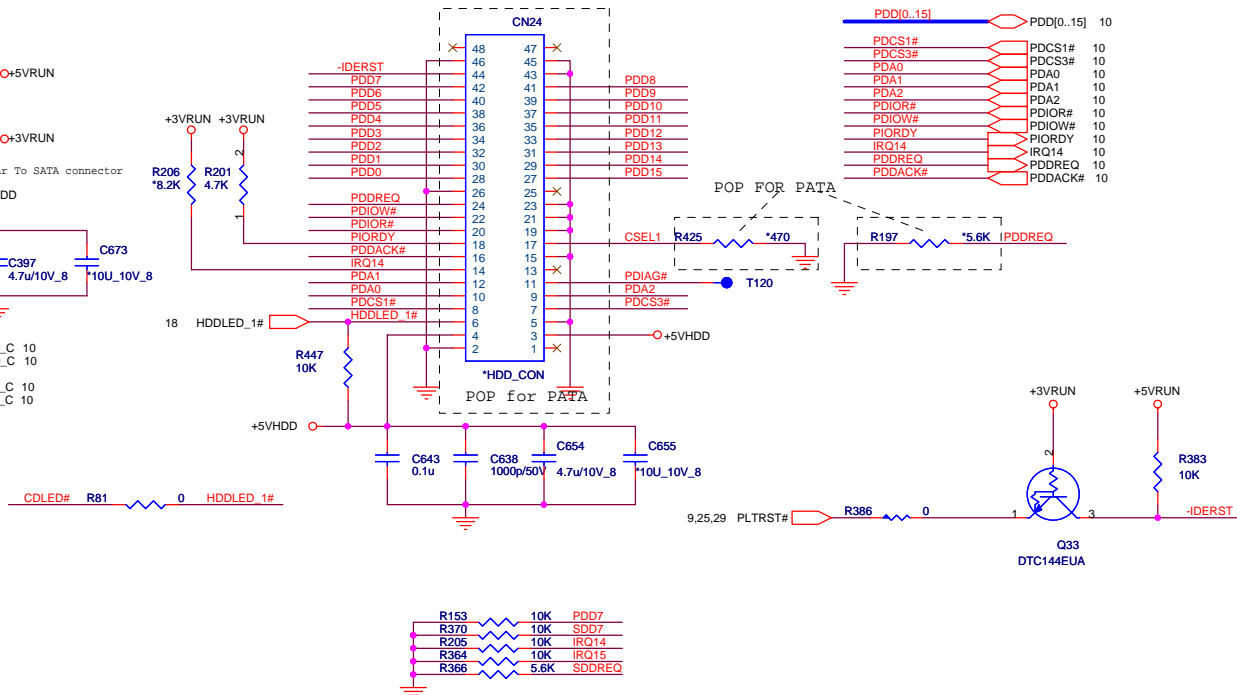
Size: Document Number  
 Custom: **TW2Q**

Date: Tuesday, May 23, 2006 Sheet 20 of 37

## SATA HDD



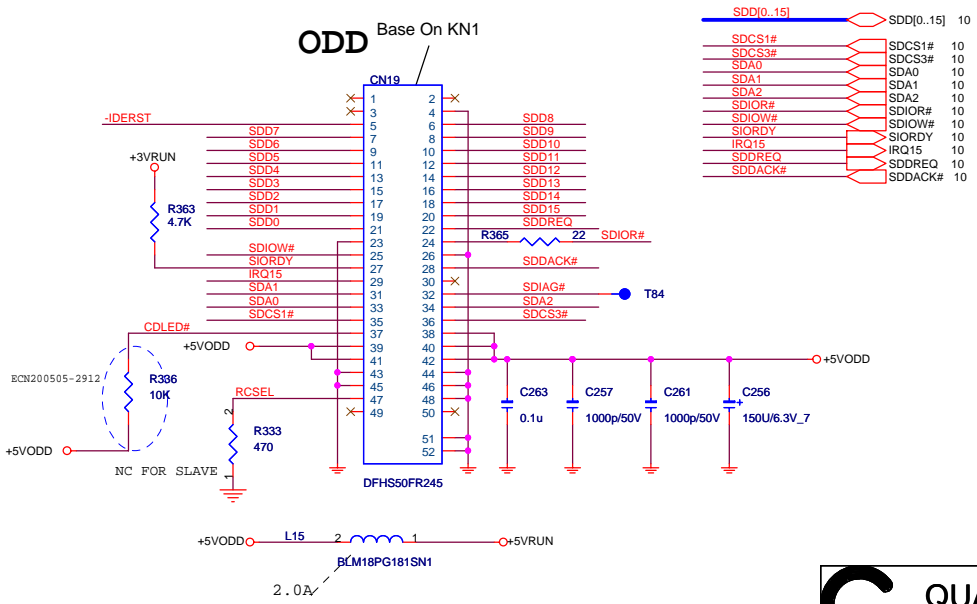
## PATA HDD



### FOR PATA HDD

CN25	NI
C584	NI
C585	NI
C586	NI
C588	NI
R425	470
R197	5.6K
CN24	HDD CON

## ODD Base On KN1



**QUANTA  
COMPUTER**

Title: **SATA (HDD & CD\_ROM)**

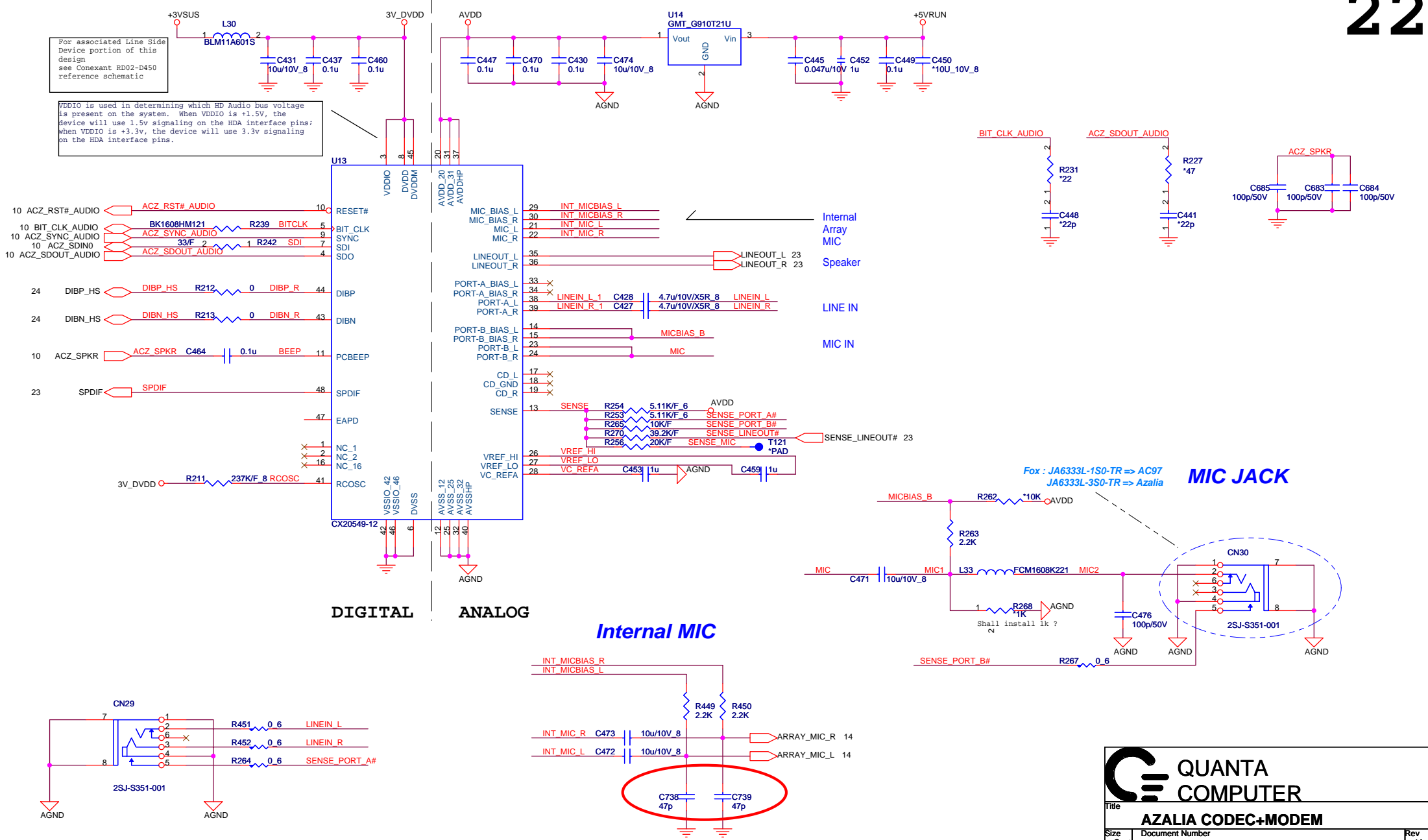
Size: Document Number  
Custm: **TW2Q**

Date: Tuesday, May 23, 2006 Sheet 21 of 37

hexainf@hotmail.com

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

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.



**DIGITAL**

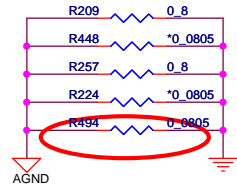
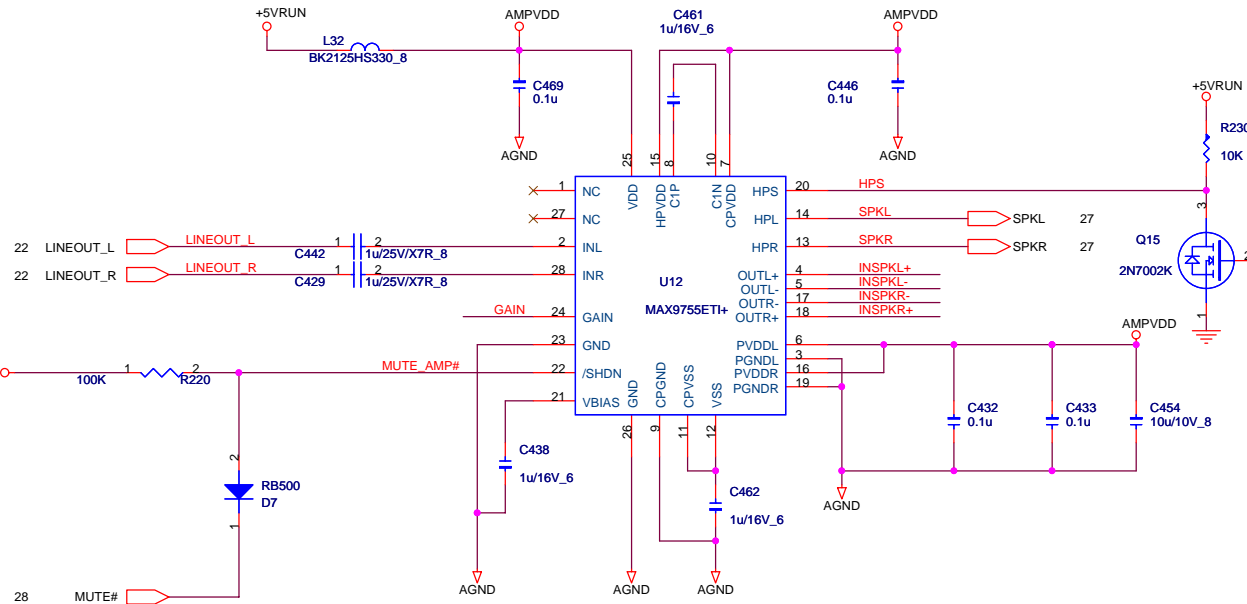
**ANALOG**

**Internal MIC**

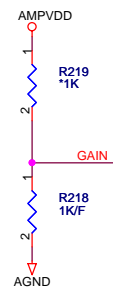
**MIC JACK**

<b>QUANTA COMPUTER</b>	
<b>AZALIA CODEC+MODEM</b>	
Title Size Custpm	Document Number <b>TW2Q</b>
Date: Tuesday, May 23, 2006	Sheet 22 of 37
Rev 1A	

0816a

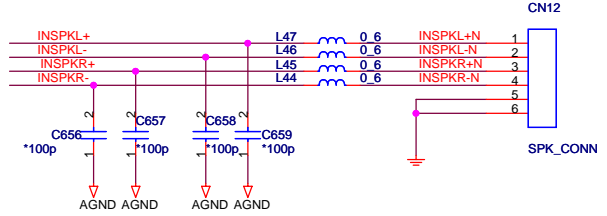


GAIN	SPKR MODE	HP MODE
0	10.5	3
1	9	0

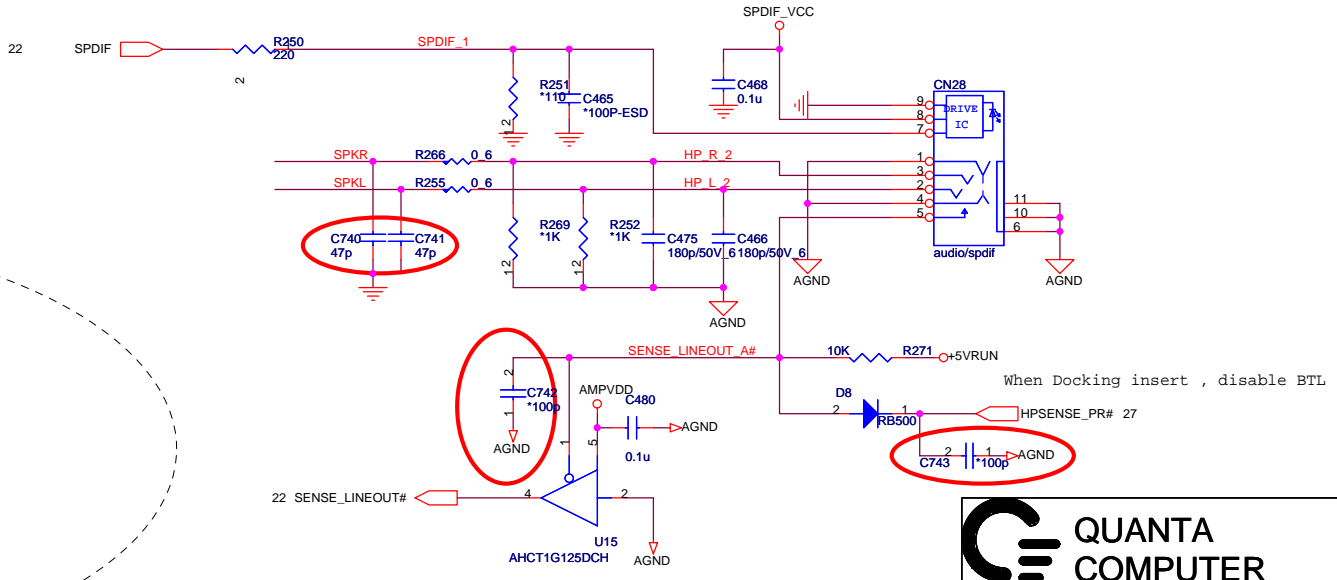


EAPD low:mute

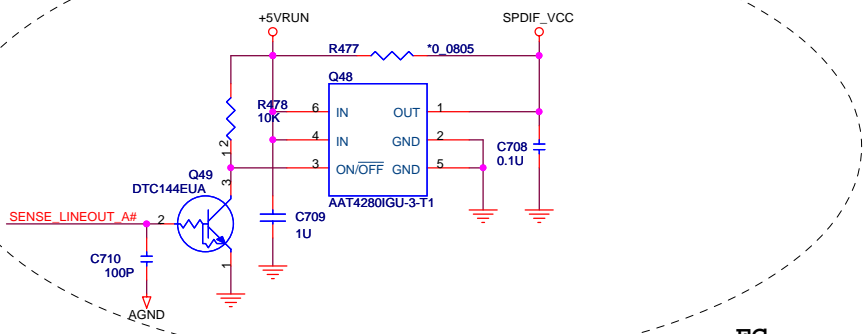
SPEAKER CON.



HEADPHONE OUT/SPDIF



SPDIF Power Switch



**QUANTA COMPUTER**

**AUDIO AMPLIFIER**

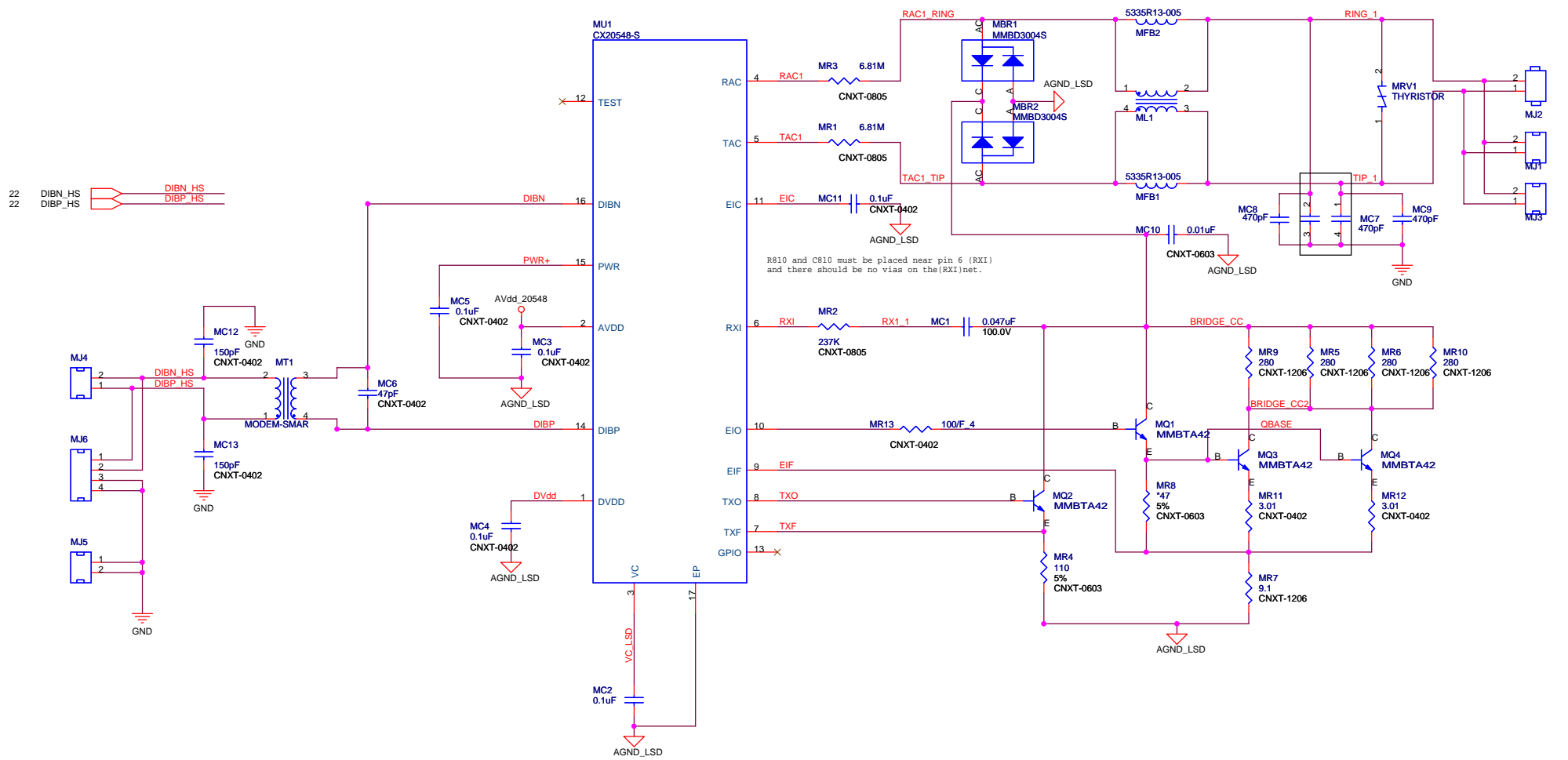
Size Custom Document Number **TW2Q** Rev 1A

Date: Tuesday, May 23, 2006 Sheet 23 of 37

he.kant@normal.com

## Revision History

REV	Description	Date
0	Initial Release	April 26, 2005



**QUANTA  
COMPUTER**

Title: **MODEM ( DAA )**

Size: Document Number  
Custm: **TW2Q**

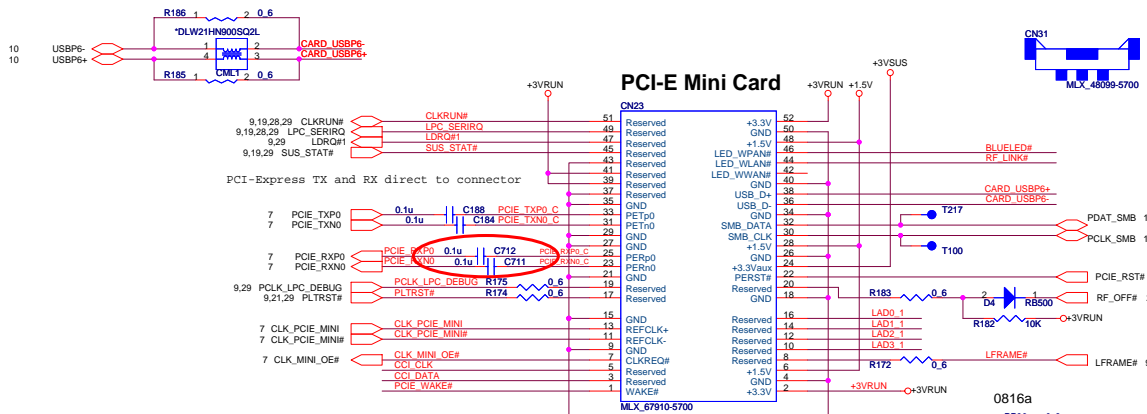
Date: Tuesday, May 23, 2006

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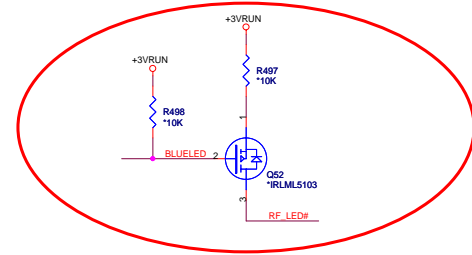
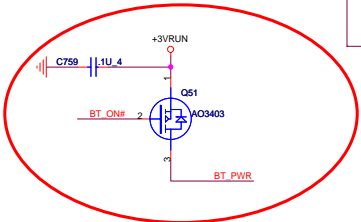
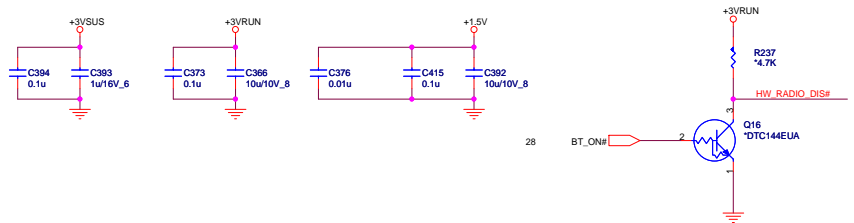
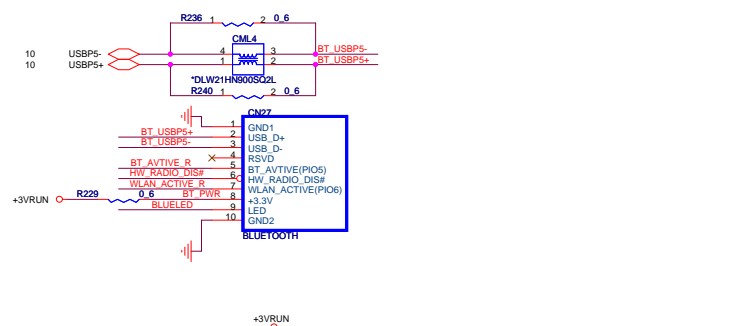
Rev: 1A



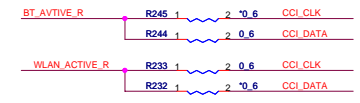
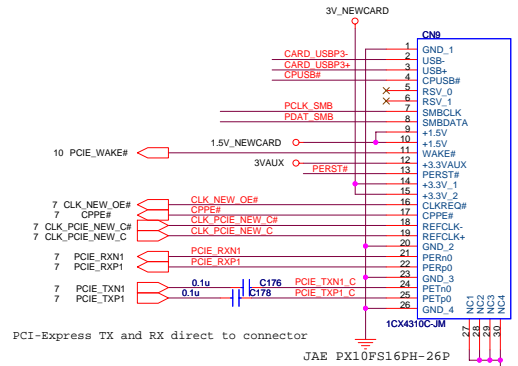
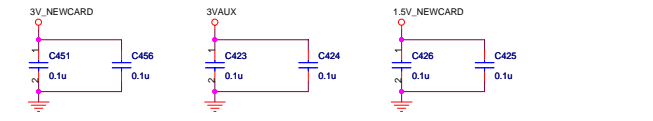
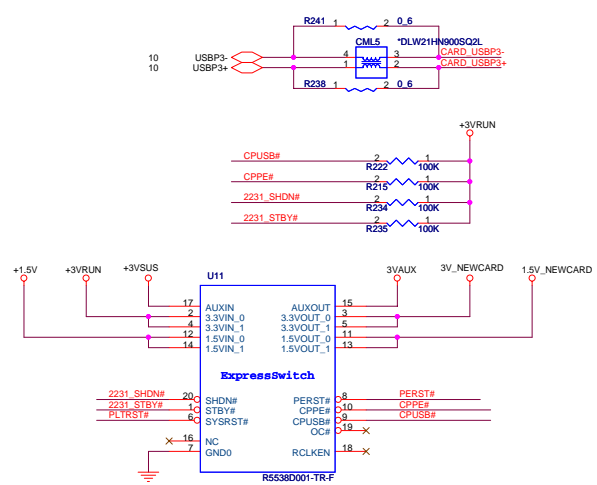
Need one more wireless LED /mini card on MB ?  
currently , No LED here



### BLUETOOTH CONNECTOR



### NEWCARD (PCIEXPRESS\*1 + USB\*1)



**QUANTA COMPUTER**

Title: **NEW CARD,MINI PCIE,BT**

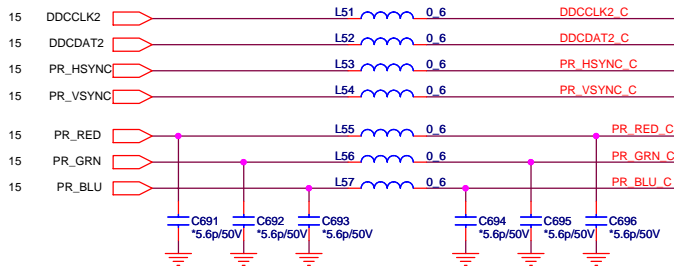
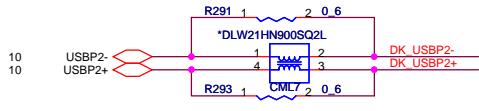
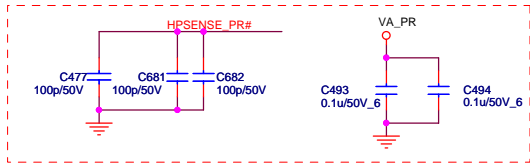
Size C Document Number: **TW2Q**

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hexaint@hotmail.com



# CABLE DOCKING CONNECTOR

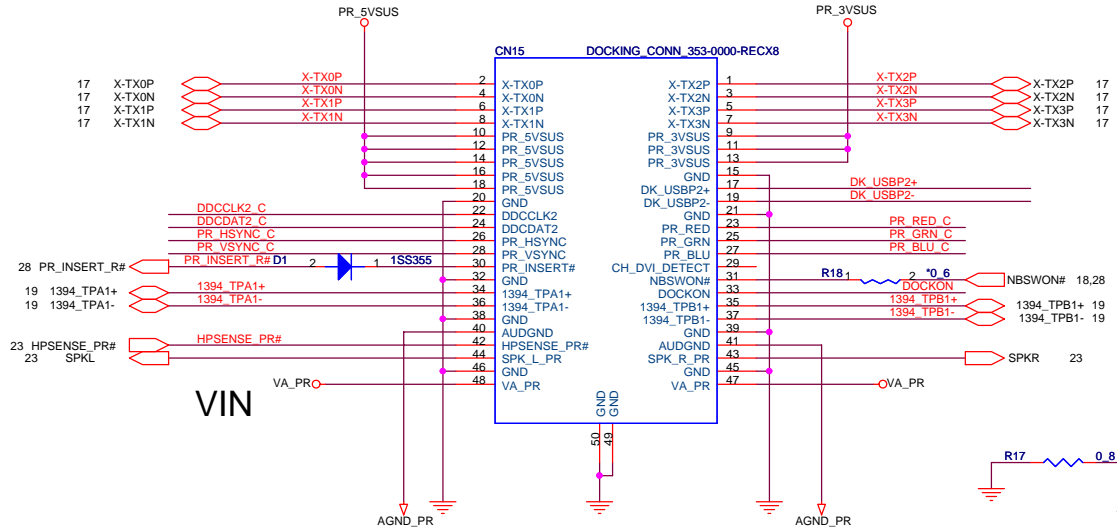


LAN

CRT

1394

AUDIO



LAN

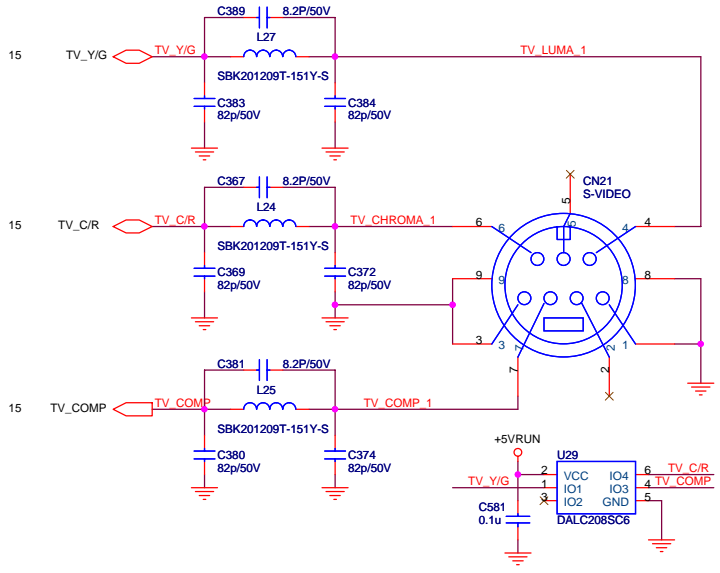
CRT

PWRON

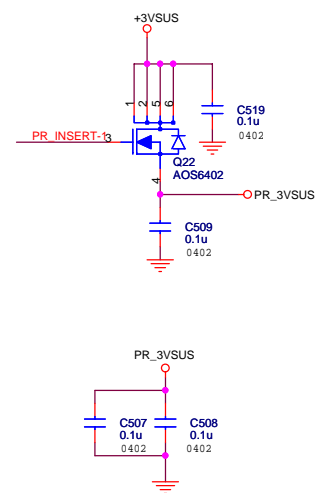
1394

AUDIO

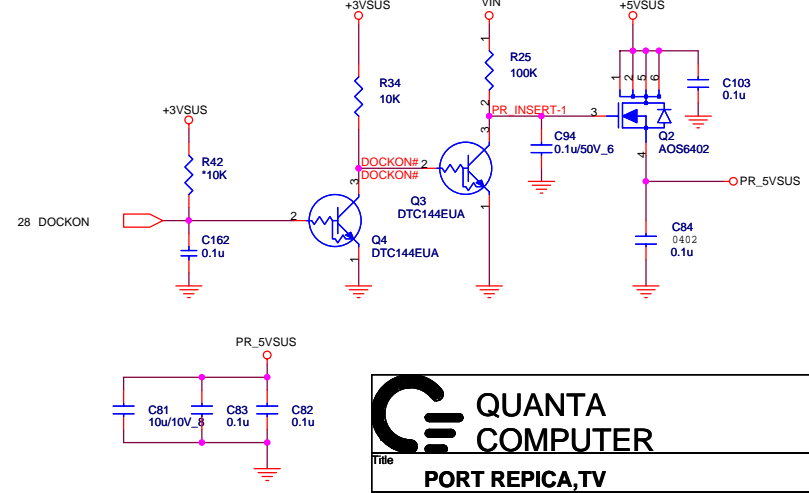
## TV-OUT



## PR\_3VSUS



## PR\_5VSUS

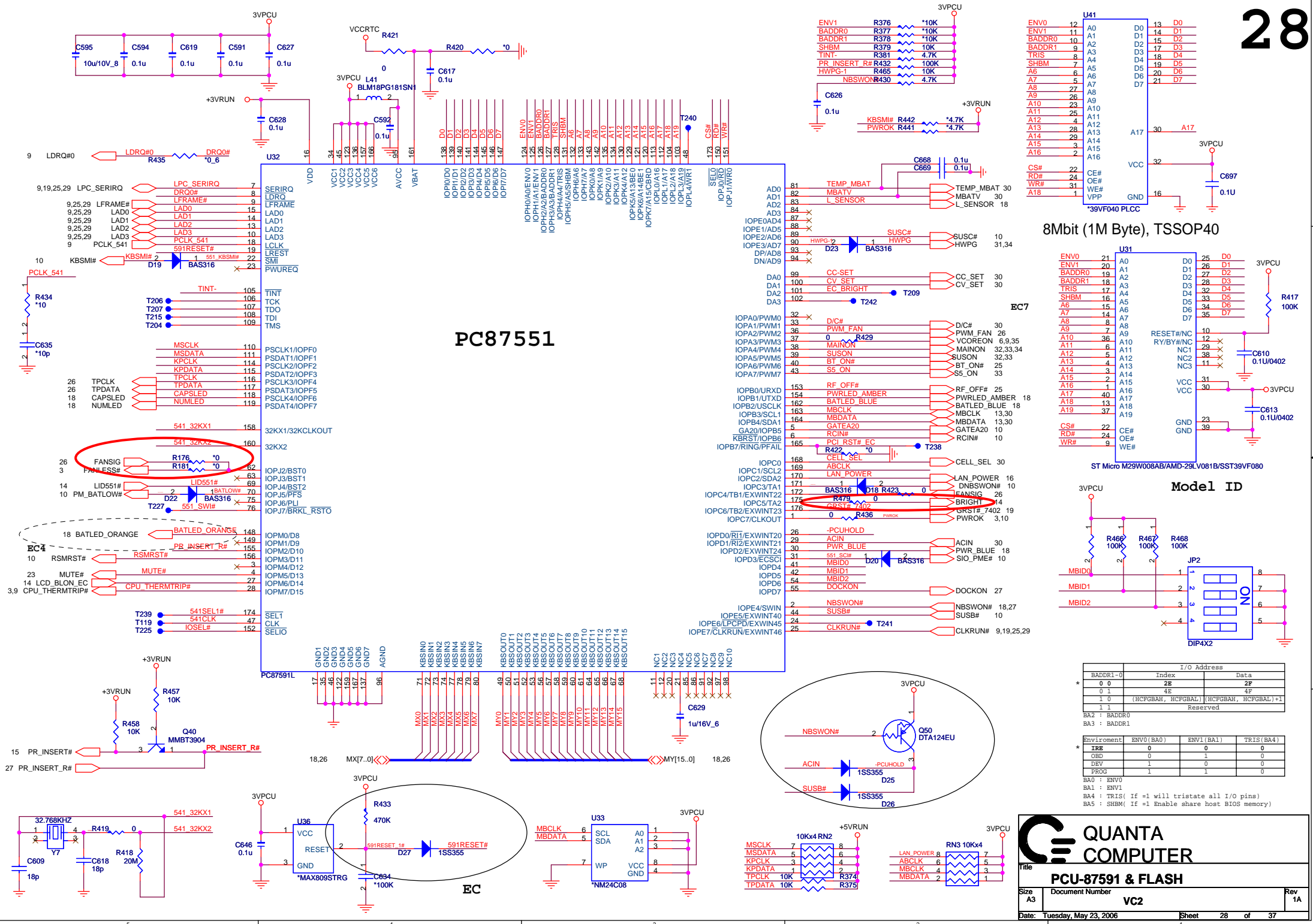


**QUANTA COMPUTER**

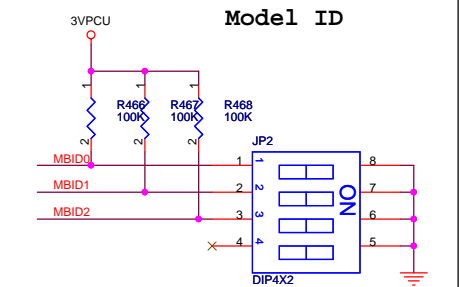
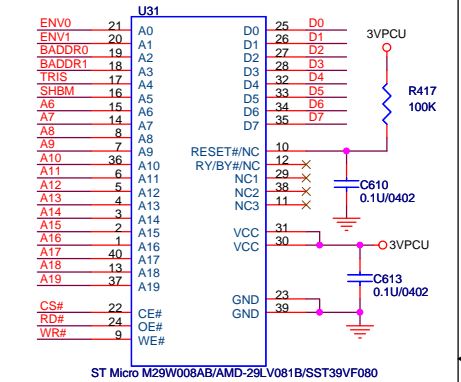
Title: **PORT REPICA,TV**

Size: Document Number	Rev: 1A
Custom: TW2Q	

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8Mbit (1M Byte), TSSOP40



Model ID

I/O Address		
BADDR1-0	Index	Data
0 0	2E	2F
0 1	4E	4F
1 0	(HCFGBAL, HCFGBAL)	(HCFGBAH, HCFGBAL)+1
1 1		Reserved

Environment	ENV0 (BA0)	ENV1 (BA1)	TRIS (BA4)
1RX	0	0	0
OBP	0	0	0
DEV	1	0	0
PROG	1	1	0

BA0 : ENV0  
BA1 : ENV1  
BA4 : TRIS ( If =1 will tristate all I/O pins)  
BA5 : SHBM ( If =1 Enable share host BIOS memory)

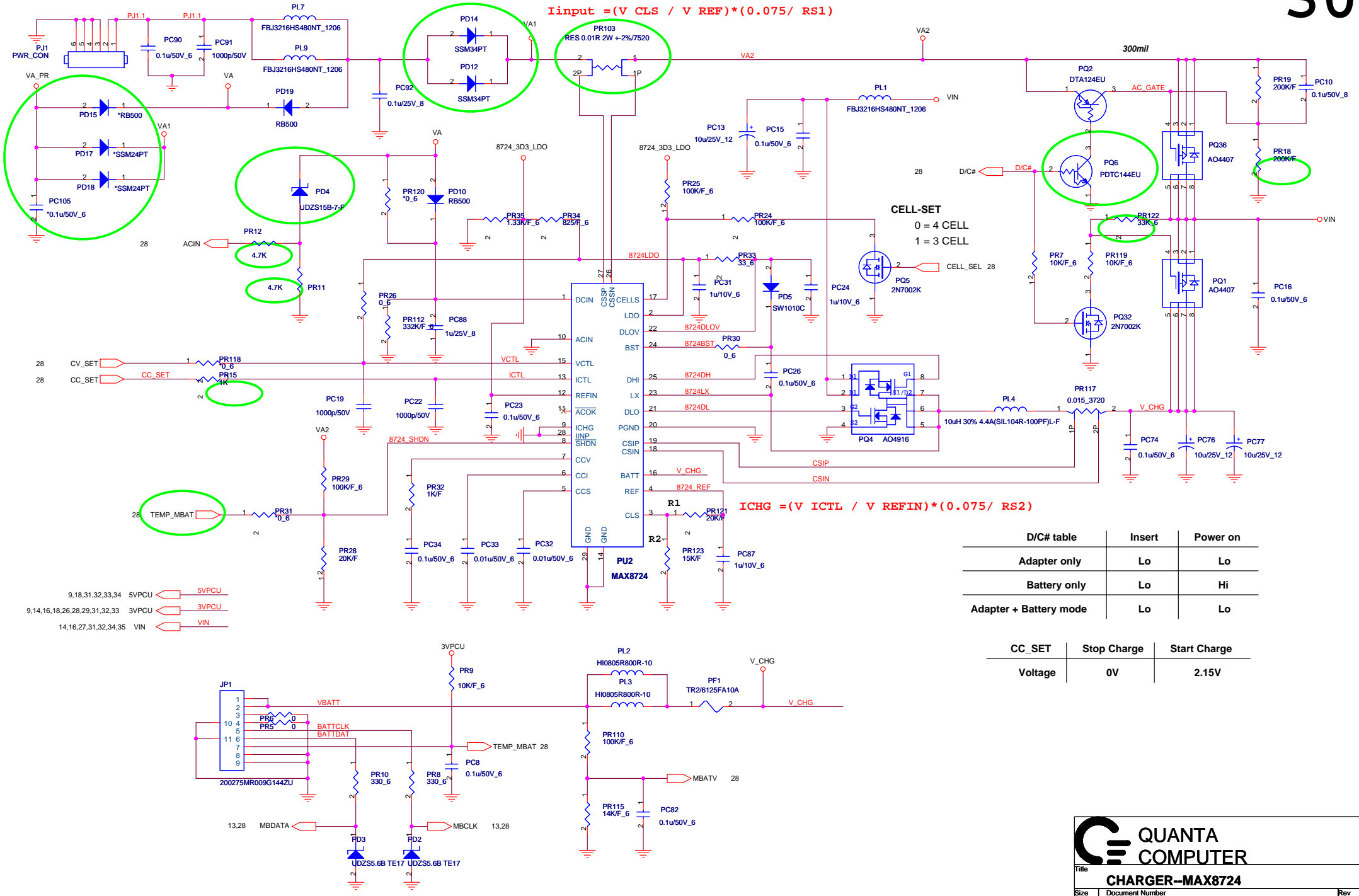
**QUANTA COMPUTER**

**PCU-87591 & FLASH**

Size A3	Document Number	VC2	Rev 1A
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Date: Tuesday, May 23, 2006 Sheet 28 of 37





**QUANTA COMPUTER**

Title: **CHARGER-MAX8724**

Size: Custom	Document Number: TW2Q	Rev: 1A
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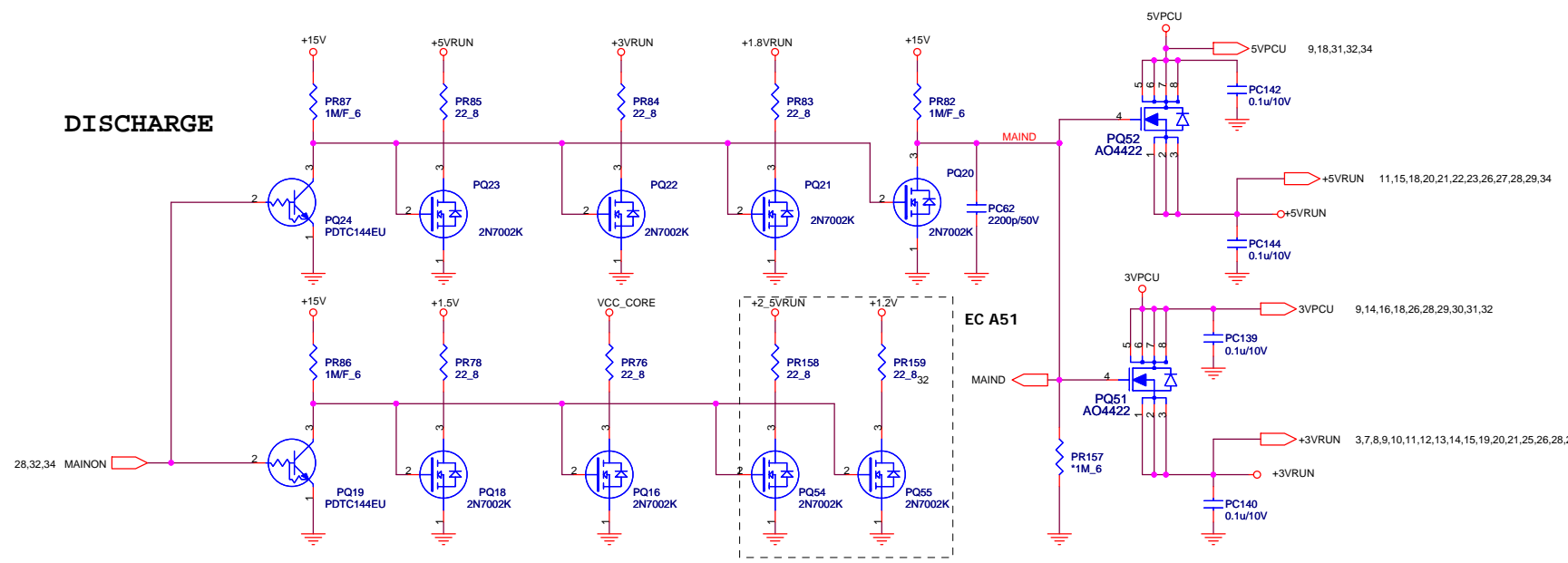
Date: Tuesday, May 23, 2006 Sheet 30 of 37



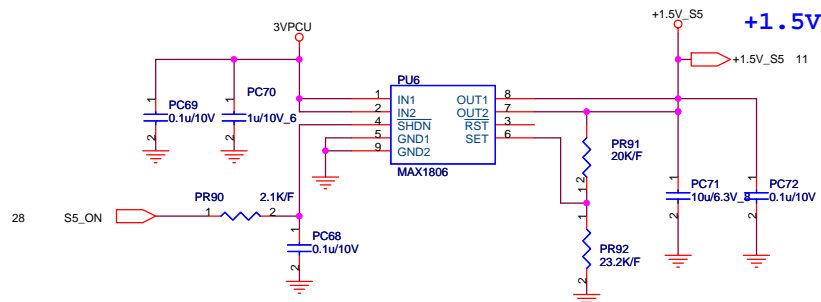




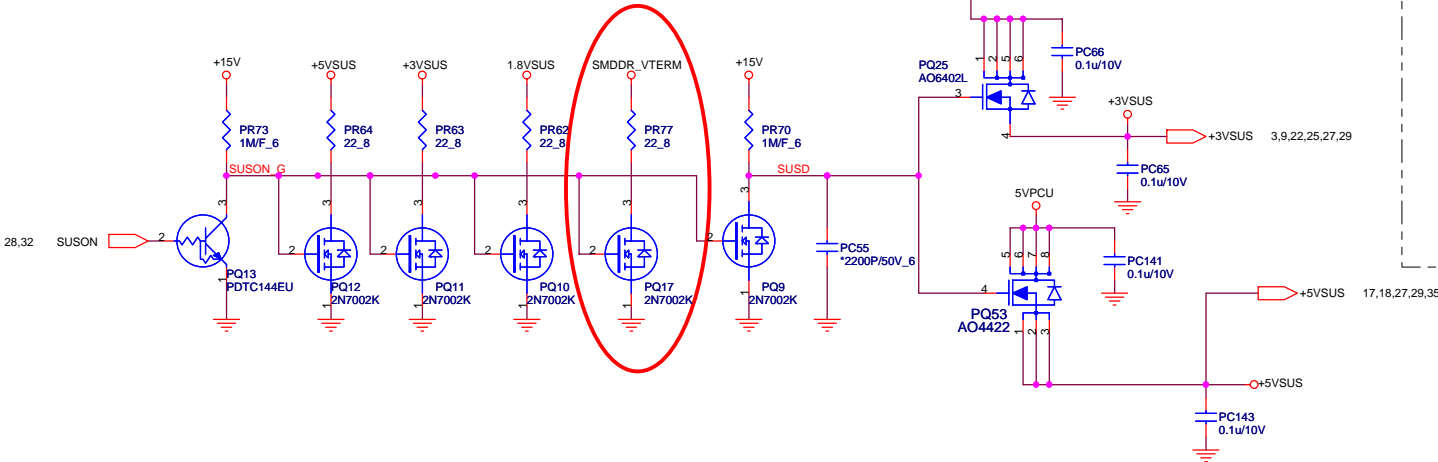
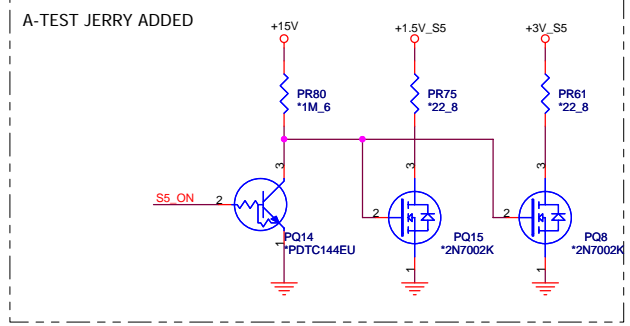
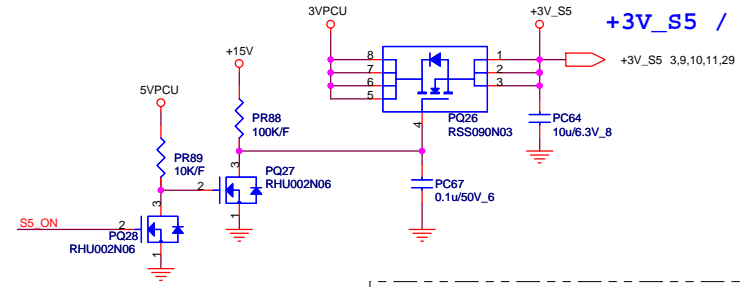
## DISCHARGE



### +1.5V\_S5 / 250mA



### +3V\_S5 / 500mA

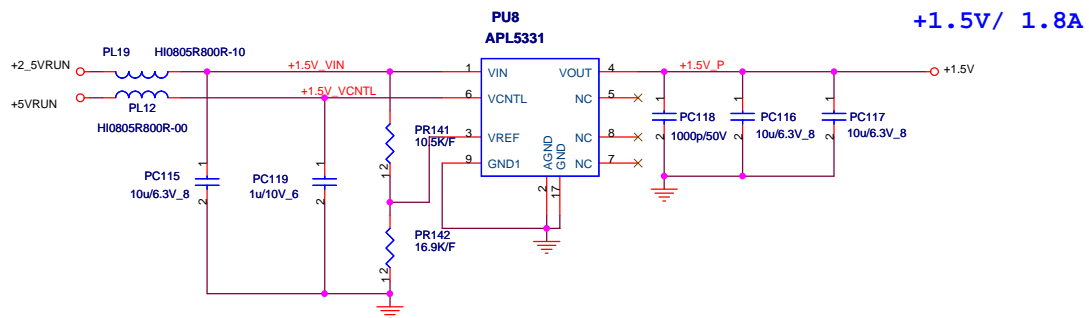
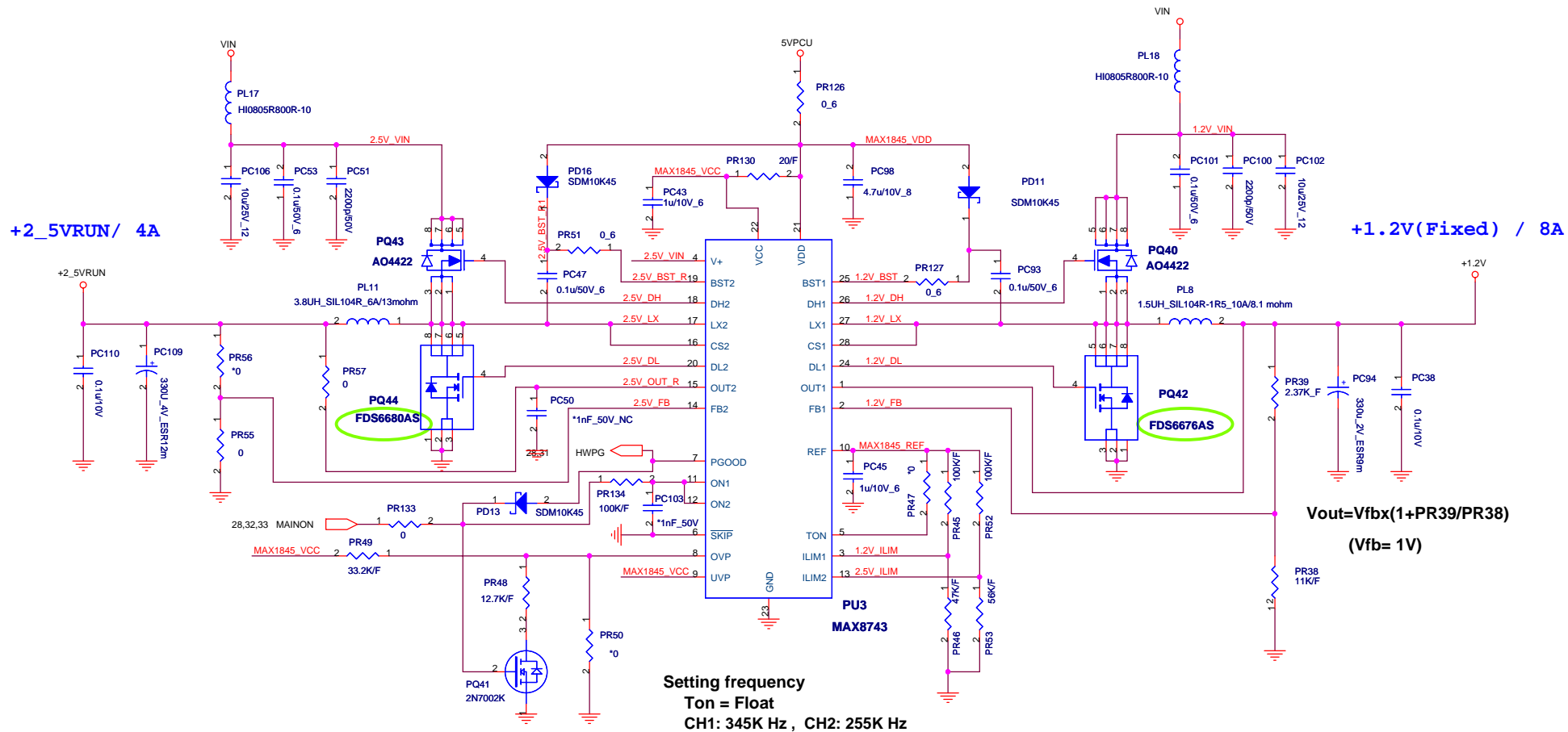


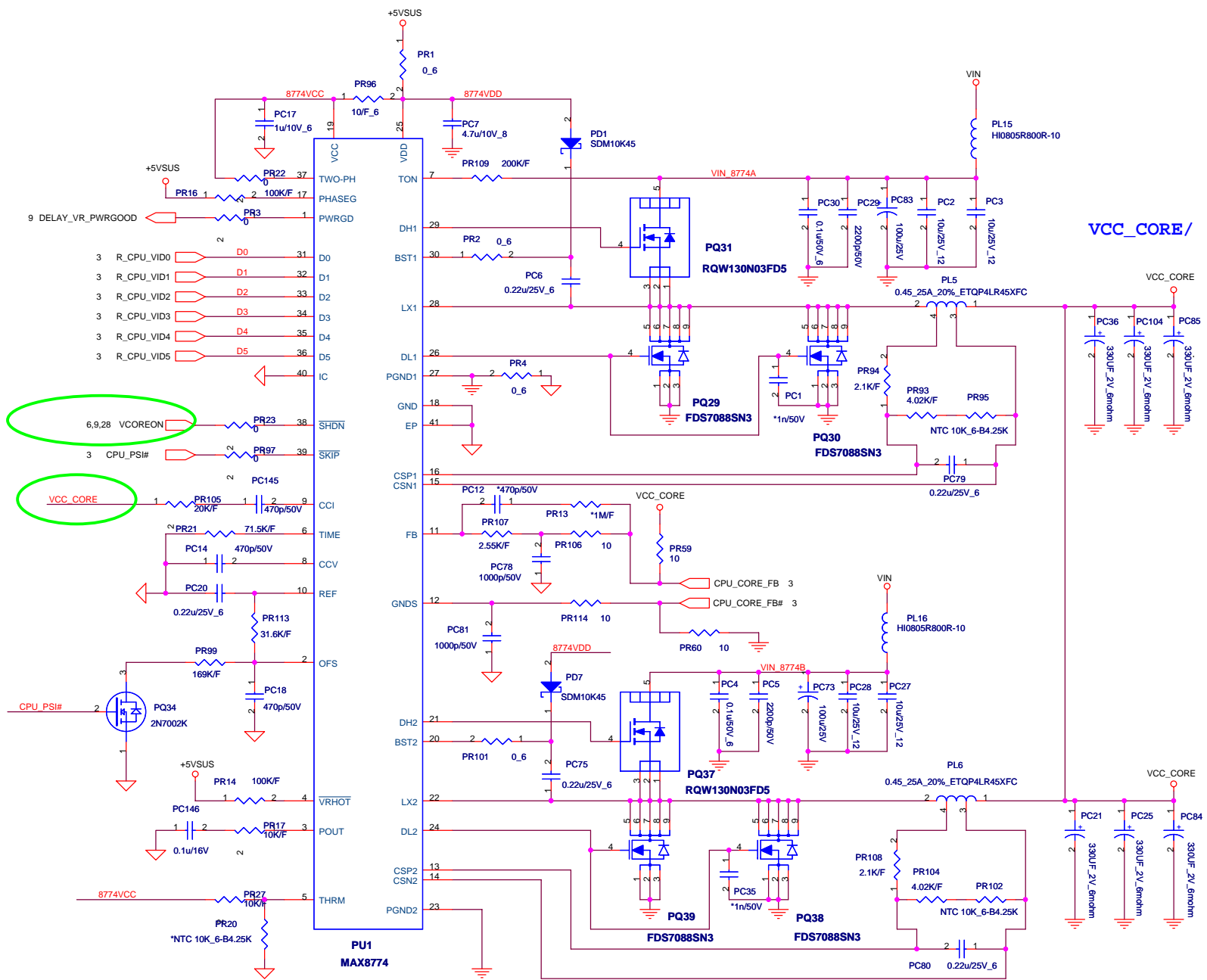
**QUANTA COMPUTER**

Title: **+1.2V\_S5/+3V\_S5/DC CKT**

Size: Custom Document Number: **TW2Q** Rev: 1A

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VCC\_CORE/ 35A

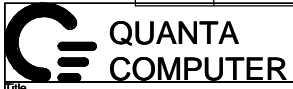
**QUANTA COMPUTER**

Title: **AMD CPU POWER ( MAX8774 )**

Size: Document Number  
 Custom: **TW2Q**

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MODEL	REV	CHANGE LIST		Model	TW2 M/B	
		Page	Description	Page	From	To
TW2 M/B 8 Layer				1		
				2		
		3	A01 : Change R78, R70, R69 Pull Up form +3VSUS to +3VRUN	3		
		3	A02 : Change C254 to 3528 type	4		
		6	A03 : Change R58 Pull Up form +3VRUN to +2_5VRUN (delete R58 in BOM)	5		
		6, 9	A04 : Change HT_MCP_TX/HT_MCP_RX to 8 bits (Delete R289, R287, R361, R360)	6		
		10	A05 : Add R453, R454 for LCD_BKLTCTL, LCD_BLON_AND Pull Down	7		
		10	A06 : Add D21 and R455 for PM_BATLOW#	8		
		16	A07 : Sperate config_0 and config_2(Add R360,R361, R461)	9		
		9	A08 : Add R456 pull up to +3VRUN for SUS_STAT#	10		
		19, 28, 29	A09 : Change SERIRQ to LPC_SERIRQ	11		
		22	A10 : Change +3VRUN to +3VSUS	12		
		3, 13	A11 : Change I2C Pull up for Thermal IC	13		
		28	A12 : Change layout for U36	14		
		35	A13 : Change CPU power form 5VPCU to +5VSUS	15		
		32	A14 : Changes the PC54 and PC108 from 220uF/ 2.5V/ ESR15m to 330uF/ 2.5V/ ESR15m	16		
		34	A15 : change PR56 from 0 ohm to N.C and PR55 from N.C to 0 ohm	17		
		11, 19, 7,	A16 : change all capacity vaule of crystal	18		
		28		19		
		22, 23	A17 : change capacity of Audio Line IN/Out.	20		
		21	A18 : Reserve C673 for HDD voltage	21		
		24	A19 : Change QCI P/N to BA000420Z07 for MODEN low performance.	22		
		18, 28	A20 : Delete TUCHLED net.	23		
		18, 25	A21 : Add Q14 for RF LED control, change net TUCHLED of CN1 to RF_LED	24		
		18	A22 : Change LED2, LED3 to dual color type for cost down and unify brightness and color.	25		
		26	A23 : Change CN4 footprint to "afn250-a2g1t-25p-l" for SMT issue	26		
		25	A24 : Change MiniPCIE to molex part then sperate connector and latch	27		
		18	A25 : Change CN8, CN11 to DIP type	28		
		27, 28	A26 : Delete D14, Add R457, R458, Q40 and change R432 to 100K for PR leakage current	29		
		21	A27 : disconnected pin 25, pin 26 to GND of CN25.	30		
		21	A28 : Change C584, C585 to 0.01U	31		
		10, 14	A29 : Delete D9, D10 for MCP51 is A3 version	32		
		3	A30 : Delete D11, Change R12, R23 to NoASM	33		
		7	A31 : Change C533 to NoASM	34		
		26	A32 : Change Hole5~Hole9 footprint	35		
		16	A33 : Reserve U37 and C674 for 88E3016 2.5V	36		
		28	A34 : Delete U30 BIOS PLCC socket	37		
		15	A35 : Add U30, R459, R460 to replace U24, U25, U26, C576, C607.	38		
	34	A36 : Change PJP7, PJP9, JP2 to PL17, PL18, PL19. Delete JP3, Change PJP4, PJP8 to PR163, PR164, Change PR141 to 10.5K, PR142 to 16.9K, PR39 to 2.37K, PR38 to 11K. PD16, PD11 change to SDM10K45				
	35	A37 : Change MAX8760 to MAX8774.Add PC145, PC146. Change PJP5, PJP6 to PL15, PL16				
	32	A38 : Change PJP10 to PL20 and delete PJP1. Change JP3, PJP4 to PR165. Change PC42 from NC to 10uF. PD26 change to SDM10K45.				
	31	A39 : Change PJP11, PJP12 to PL21, PL22. PJP13, PJP14 change to PR166, PR167 PD23, PD22 change to SDM10K45				
	9	A40 : Change for chargable RTC.				
	18	A41 : Add C675, C676 for EMI issue				
	22	A42 : Change R239 form 330Ohm to 00hm				
	26	A43 : Change R278 for 10K to 4.7K and C482 form 0.01u to 47p				
	26	A44 : Add Hol19 for MCP51 support				
	10	A45 : Add C597 to 22p for EMI				



**QUANTA  
COMPUTER**

Title: **CHANGE LIST 1**

Size: Custom Document Number: TW2Q Rev: 1A

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PROJECT: TW2	PCBA NO.	REV:	DOC. NO :
APPROVED BY :	CHECK BY :	DRAWING BY :	DATE :
			SHEET 1

MODEL	REV	CHANGE LIST		Model	TW2 M/B	
				Page	From	To

TW2 M/B 8 Layer		Page	Description	1		
		11, 16	A46 : Add R462, L48, L49, L50, C677, C678, C679, C680 for EMI	2		
		27	A47 : add C681, C682, and change C477 to 100p for EMI (HPSENSE_PR#)	3		
		22	A48 : add C683, C684, C685 to 100p for EMI (ACZ_SPKR)	4		
		22	A49 : Change R239 form 00hm to BK1608HM121 for EMI	5		
		30	A50 : Change PC10 from 1uF to 0.1uF. PQ1, PQ36 change to AO4407	6		
		33	A51 : Add PR158, PR159, PQ54, PQ55(discharge CKT)	7		
		3	A52 : Delete Q21, U4, U20 then add U38, U39, U40 for AMD errata and R69, R70, R78 Pull up to +2_5VRUN.	8		
				9		
		31, 32, 34	A53 : Delete PR163, PR164, PR165, PR166, PR167	10		
		16	A54 : Change C529 form 4.7u to 10u	11		
		9	A55 : Change R122 form 20K to 49.9KF	12		
		10	A56 : Change R126, R405 to +3V_S5	13		
		9	A57 : Change QCI P/N of CN7	14		
		24	A58 : Add MR11, MR12, MR13, Change MR5, MR6, MR9, MR10 to 280Ohm, No ASM MR8.	15		
		29	A59 : Add C670, C671, C686~C690 for EMI	16		
		16	A60 : Add R463, R464 for 1/2LANVCC for PHY Vref.	17		
		14	A61 : Change bright control form SB to EC.	18		
		27	A62 : Add PI fifter for EMI	19		
		11	A63 : Chage Y1 to 2pin device	20		
		24	A64 : Delete MTH1 due to same place as hole 15	21		
				22		
				23		
				24		
				25		
				26		
				27		
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				36		
				37		
				38		

**QUANTA  
COMPUTER**

Title **CHANGE LIST 2**

Size	Document Number	Rev
Custom	<b>TW2Q</b>	<b>1A</b>

Date: **Tuesday, May 23, 2006** Sheet **37** of **37**

PROJECT: TW2	PCBA NO.	REV:	DOC. NO :
APPROVED BY :	CHECK BY :	DRAWING BY :	DATE :
			SHEET 2

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