

MODEL	REV	CHANGE LIST	Model	CT3/5 MB BOARD	
			Page	FROM	TO
CT3/5 MB 31CT3MB0015 31CT3MB0031	1A	<p>PAGE 2 --- Enable CLK48M from clock generator for the PLL circuit of 7411, and disable the oscillator circuit of PCI7411 PLL.</p> <p>PAGE 3 --- Remove H/W shutdown circuit that supported ADM1032.</p> <p>PAGE 4 --- Use X7R type to replace Y5V type for CPU Decoupling/Bypass capacitor.</p> <p>PAGE 10 --- Add a terminal resistor R706 for -CODE_RST# to improve signal quality.</p> <p>PAGE 11 --- 1. Add a 10K pull-up resistor on MCH_SYNC# for booting. 2. Change the power plane of PCIE_WAKE# from 3VSUS to 3V_S5 to solve system can't turn off issue. 3. Change the power plane of ICH_THRM# and SCI_# from 3VSUS to +3V to reduce leakage.</p> <p>PAGE 12 --- We can also use 5VSUS to instead of 5V_S5 to save cost of MOSFET(A06402).</p> <p>PAGE 15 --- Add a level-shift circuit for EDID interface.</p> <p>PAGE 17 --- 1. Add a off-page and a EMI solution for CLK48M. 2. Remove the reserve resistors (R693~R695) of parallel interface for PCI1510.</p> <p>PAGE 18 --- Remove R696, connect controller and power switch directly .</p> <p>PAGE 19 --- Change R682&amp;R683 value from 56 ohms to 0 ohm cause of BOM error at A-test.</p> <p>PAGE 22 --- 1. Change MC3 type from Y5V to X7R to improve signal quality. 2. Connect H1/H3 to AGND via a 0 ohm resistor by Conexant's comment.</p> <p>PAGE 23 --- 1. Add a terminal resistor R707 for RTL8100/8110 id selection. 2. Add a 0.1uF to make Q40 turn on slowly to avoid 3VPCU drop issue.</p> <p>PAGE 24 --- Modified transformer circuit cause of CT can't connect each other on 10/100M application.</p> <p>PAGE 26 --- Add a flashrom as PLCC32 type for BIOS debugging.</p> <p>PAGE 27 --- 1. Change R352 value from 120K ohms to 20M ohms. 2. Add a LPC debug port for software team to debug convenient.</p> <p>PAGE 30 --- Add GMT fan controller for B-test to costdown.</p> <p>PAGE 31 --- 1. Add ESD protection circuit for S-VIDEO signal to Docking. 2. Add R713 to enable the mux in the Tampa-2 cable</p> <p>PAGE 33 --- Change PR143 value from 100K to 10K to solve display abnormal issue.</p> <p>PAGE 35 --- 1. Move 5V_S5 circuit to Page 36. 2. De-populate PQ129 and PR182. 3. Change PR178 value from 22 ohm to 47 ohm.</p> <p>PAGE 36 --- Remove PC170 and PQ127 but reserve 5V_S5 power circuit.</p>	1	1A	
			2	1A	2A
			3	1A	2A
			4	1A	2A
			5	1A	
			6	1A	
			7	1A	
			8	1A	
			9	1A	
			10	1A	2A
			11	1A	2A
			12	1A	2A
			13	1A	
			14	1A	
			15	1A	2A
			16	1A	
			17	1A	2A
			18	1A	2A
			19	1A	2A
			20	1A	
			21	1A	
			22	1A	2A
			23	1A	2A
			24	1A	2A
			25	1A	
			26	1A	2A
			27	1A	2A
			28	1A	
			29	1A	
			30	1A	2A
			31	1A	2A
			32	1A	
			33	1A	2A
			34	1A	
			35	1A	2A
			36	1A	2A
			37	1A	
			38	1A	
			39	1A	

MODEL	REV	CHANGE LIST	Model	CT3/5 MB BOARD	
			Page	FROM	TO
CT3/5 MB 31CT3MB0015 31CT3MB0031	2A	PAGE 2 --- 1. Add C1048 for CLK48M to get better EMI performance.  PAGE 3 --- 1. Add R733 as pull-up resistor for PREQ#. PAGE 11 --- 1. Add RF_OFF# and BT_OFF# PAGE 17 ---- 1. Populate R704 and C1046 to get better EMI performance.  2. Remove R701 & R702 for unused PCI1510RVGF circuit. PAGE 18 --- 1. Disconnect SM_PHYS_WP on controller side. 2. Tie SM_EL_WP with SM_PHYS_WP on conn side to allow for normal operation of SD and SM. 3. Add a discharge circuit for media card power. 4. Add R718 to solve cross-talk issue of MS-Pro card. 5. Add R717 to solve SM card can't write protect issue. 6. Add R719~R736 as terminal on all multi-function pins. 7. Add pull-up circuit.  PAGE 27 --- 1. Reserve 0R for RF_OFF# and BT_OFF# circuit. 2. Modify LPC pin name.  PAGE 28 --- 1. Change HDD and ODD select definition. PAGE 30 --- Adjust Capacitors and Bead to improve CRT timing issue. 1. Change L66, L67, L68 from BK1608HM470 to 0R. 2. Remove C931, C932, C933. 3. Change C934, C935, C936 from 22P to 5.6P. 4. Change C6, C14, C350 from 10P to 5.6P. 5. Change L1, L26, L27 from BK1608HM470 to BLM18BA750SN1T.  PAGE 31 --- 1. Change L5,L6,L7,C57,C58,C64,C77,C113,C121 value to improve S-video quality. 2. Reserve S-video impedance match circuit.	1	1A	
			2	2A	3A
			3	2A	3A
			4	2A	
			5	1A	
			6	1A	
			7	1A	
			8	1A	
			9	1A	
			10	2A	
			11	2A	
			12	1A	
			13	1A	
			14	1A	
			15	2A	
			16	1A	
			17	2A	3A
			18	2A	3A
			19	2A	
			20	1A	
			21	1A	
			22	2A	
			23	2A	
			24	2A	
			25	1A	
			26	2A	2A
			27	2A	
			28	1A	2A
			29	1A	
			30	2A	
			31	2A	
			32	1A	
			33	2A	
			34	2A	
			35	2A	
			36	2A	
			37	2A	
			38	2A	
			39	2A	

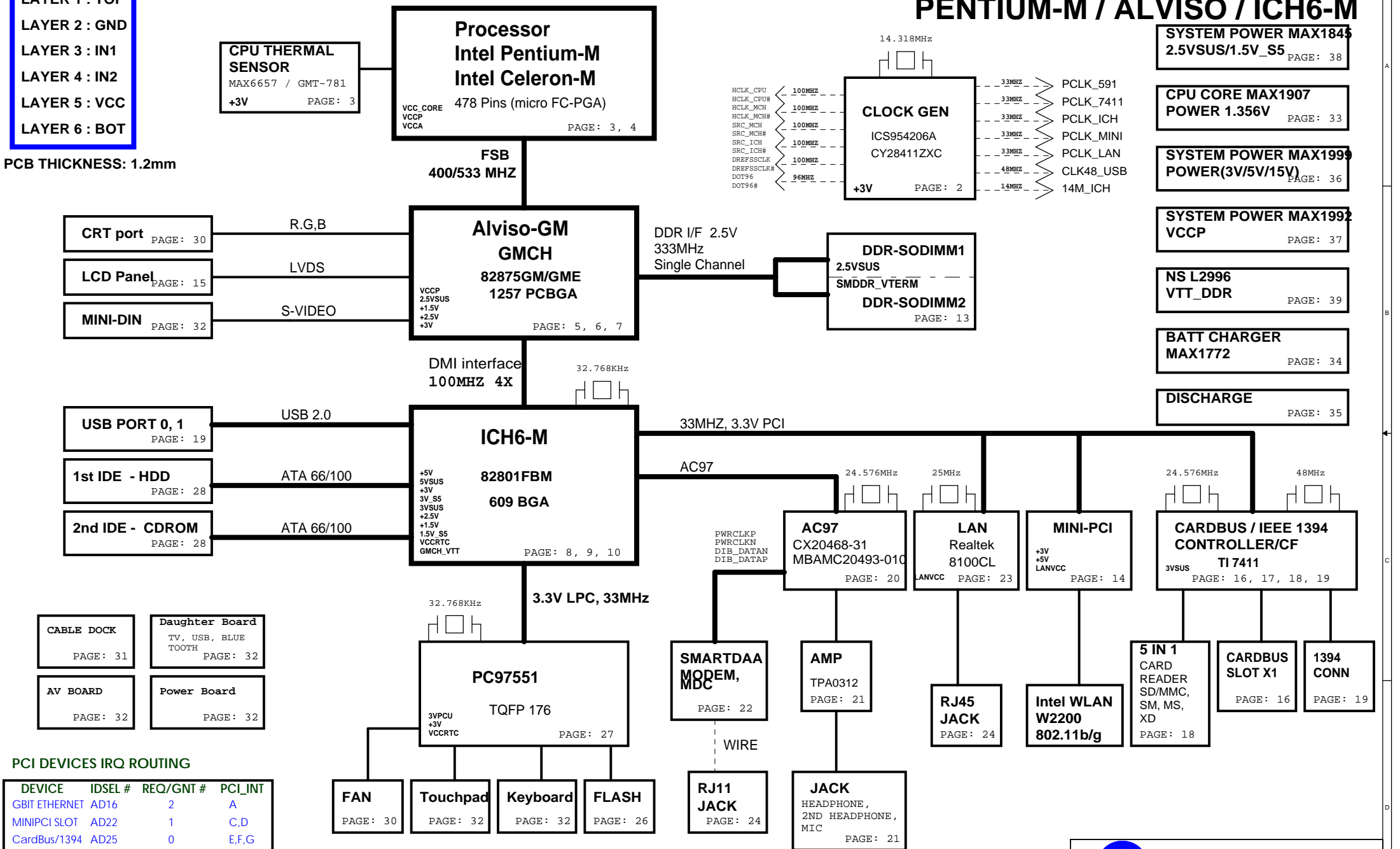
PCB STACK UP

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

PCB THICKNESS: 1.2mm

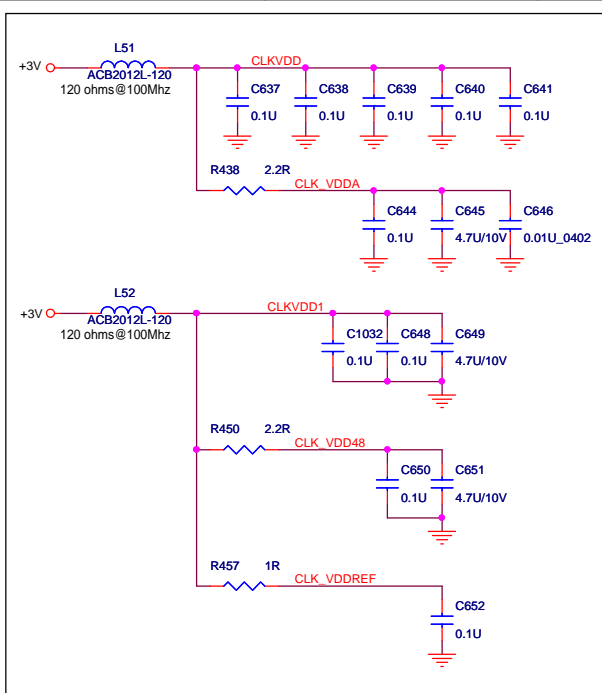
CT3 BLOCK DIAGRAM

PENTIUM-M / ALVISO / ICH6-M



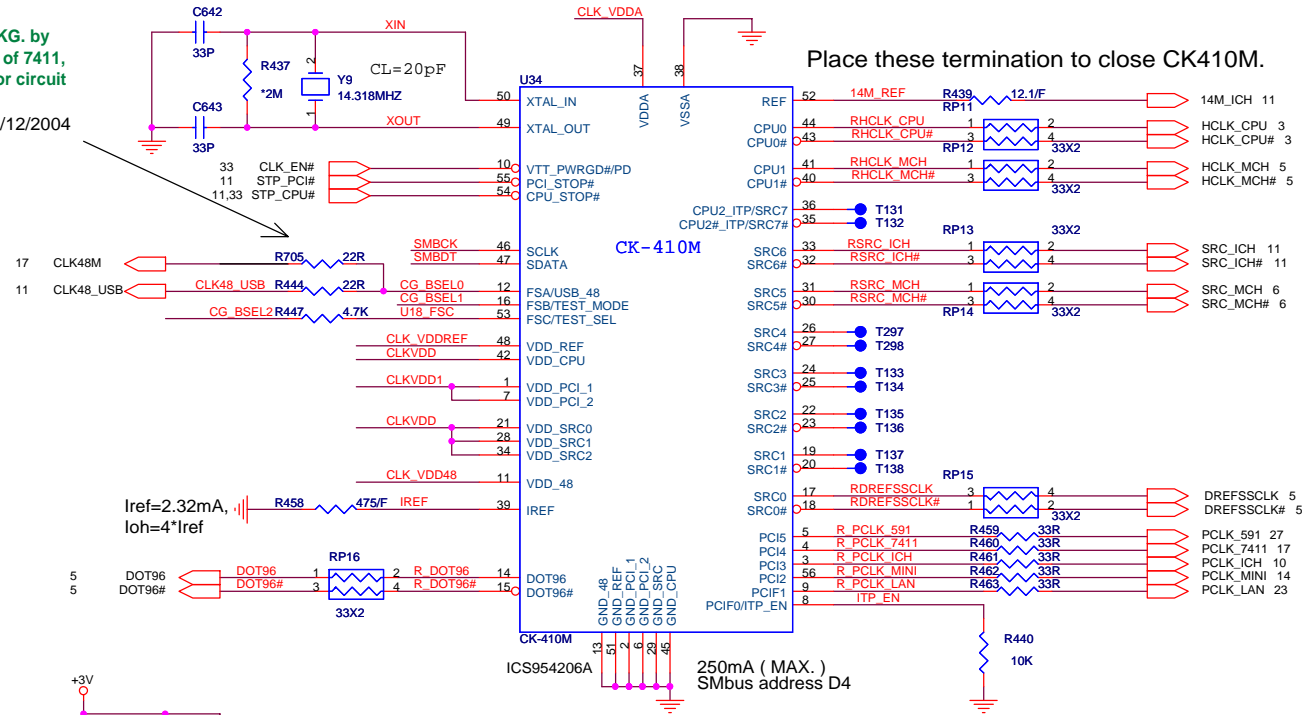
PCI DEVICES IRQ ROUTING

DEVICE	IDSEL #	REQ/GNT #	PCI_INT
GBIT ETHERNET	AD16	2	A
MINIPCI SLOT	AD22	1	C,D
CardBus/1394	AD25	0	E,F,G



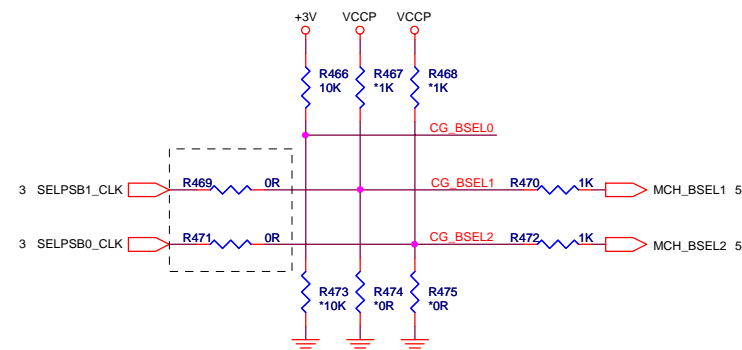
SI stage:  
Enable CLK48M from CKG. by  
R705 for the PLL circuit of 7411,  
and disable the oscillator circuit  
at PCI7411 side.

Sting 10/12/2004



FSC	FSB	FSA	CPU	SRC	PCI	
1	0	1	100	100	33	DOTHAN FSB 400
0	0	1	133	100	33	DOTHAN FSB 533
0	1	1	166	100	33	
0	1	0	200	100	33	
0	0	0	266	100	33	
1	0	0	333	100	33	
1	1	0	400	100	33	
1	1	1	RESERVED			

\* Frequency select by CPU auto sense.

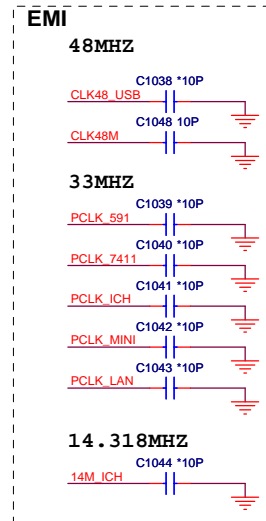


R469,R471

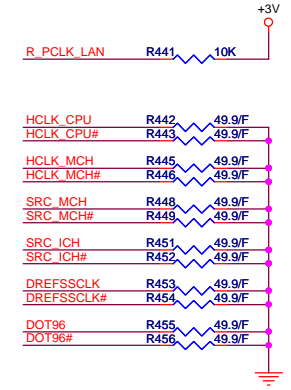
Dothan-A can remove so that the FSB frequency will be selected by  
hardware setting(R474,R475,R467,R468).  
Dothan-B should be populated.

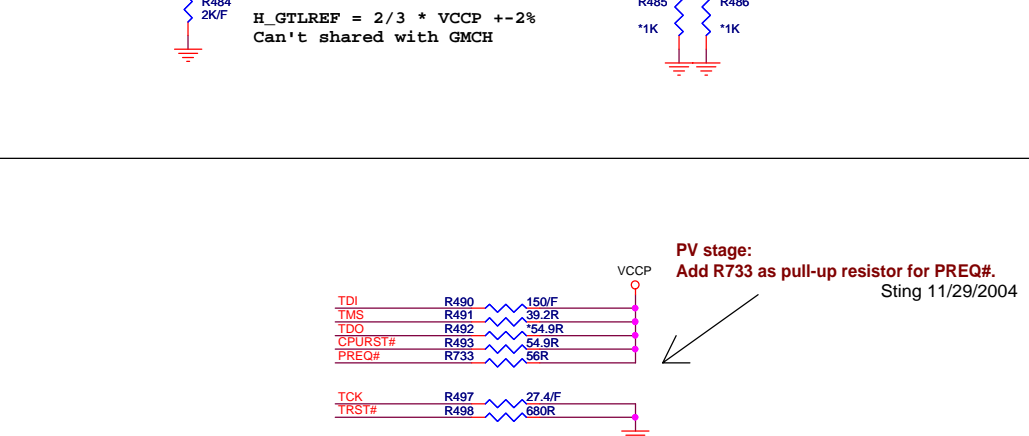
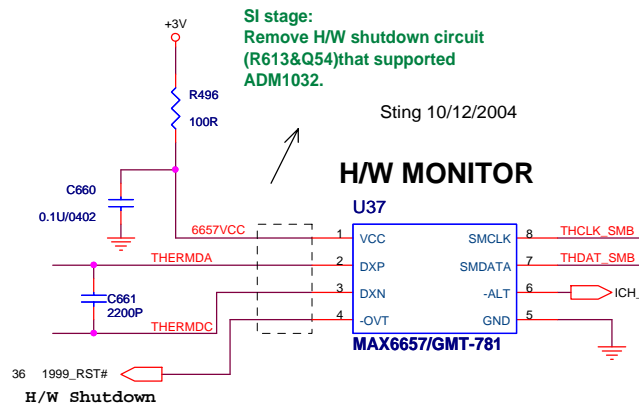
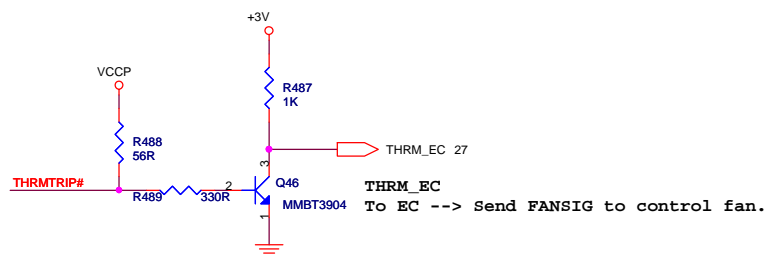
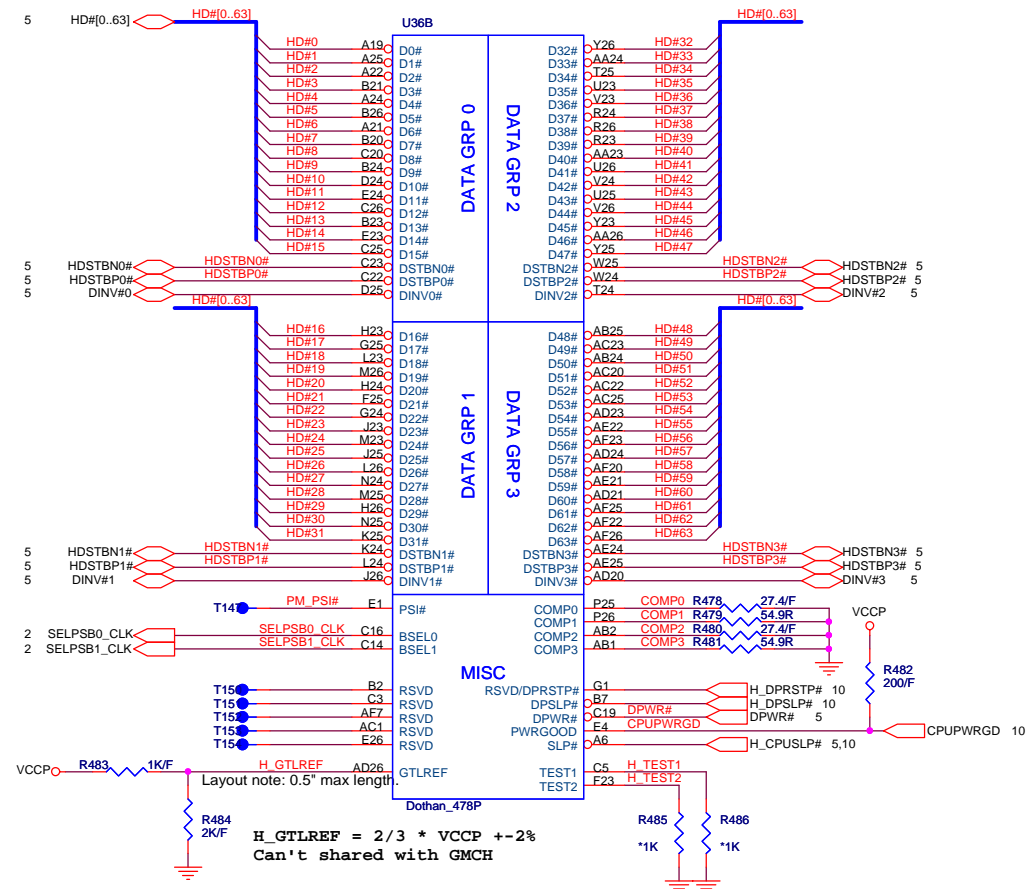
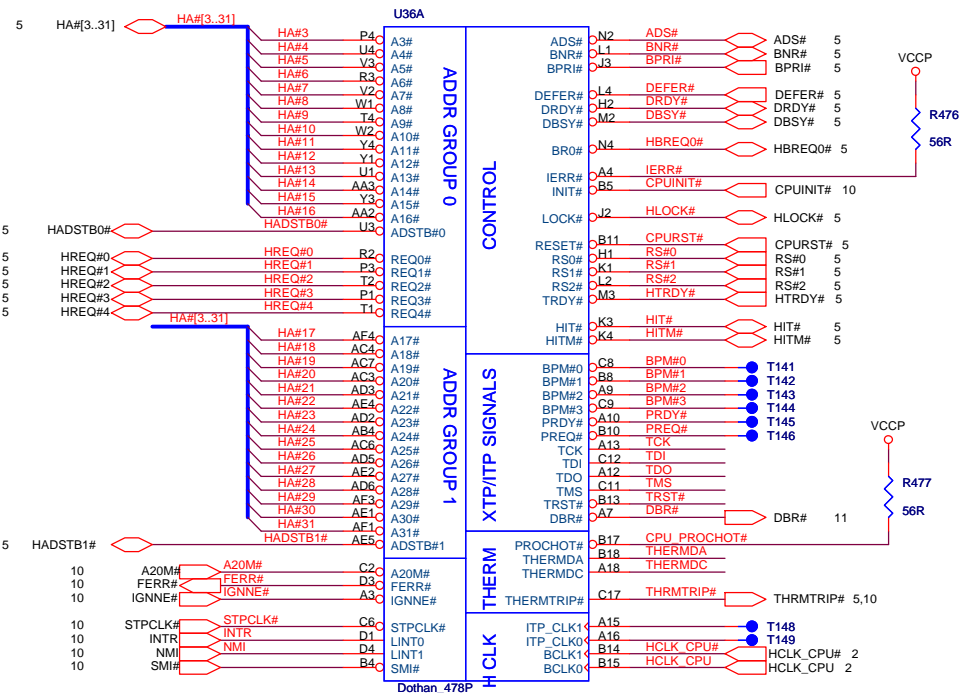
PV stage:  
Add C1048 for CLK48M to get better EMI  
performance.

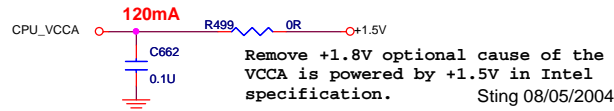
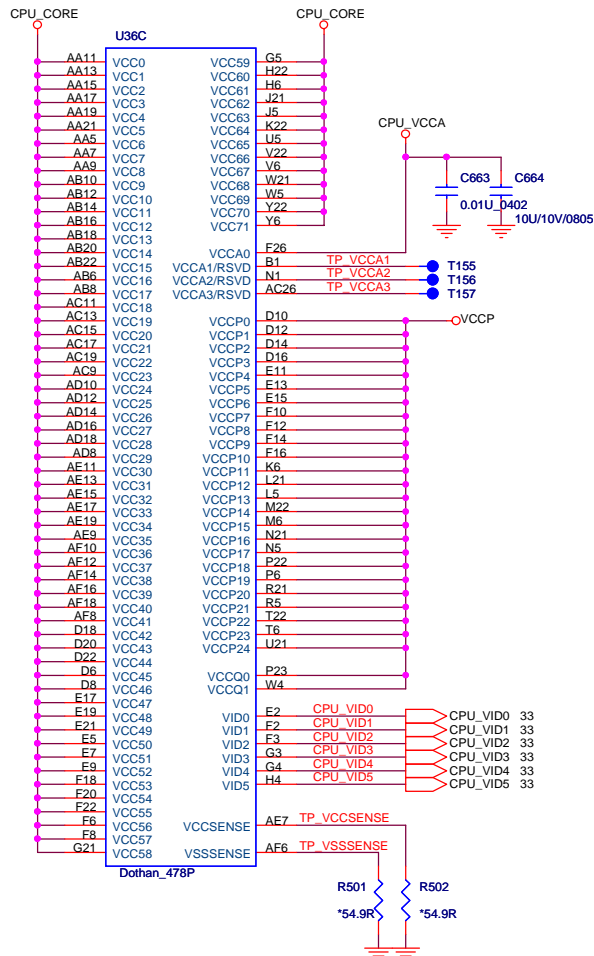
Sting 11/29/2004



R\_PCLK\_LAN ITP\_EN  
0: SRCCLK=96MHZ 0: SRC\_7 Pair  
1: SRCCLK=100MHZ 1: CPU\_2 ITP Pair

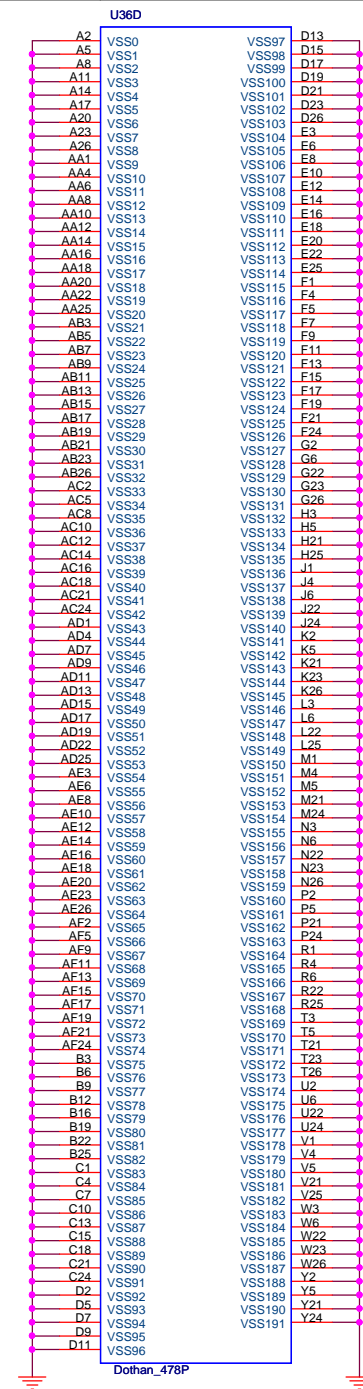
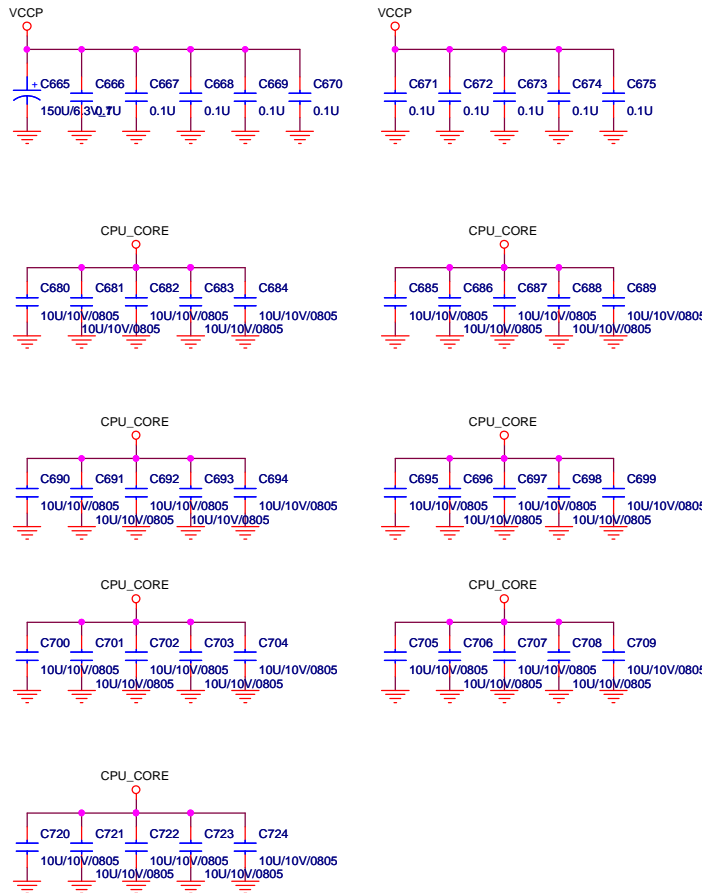






SI stage:  
Use X7R type to replace Y5V type  
for Decoupling/Bypass capacitor.

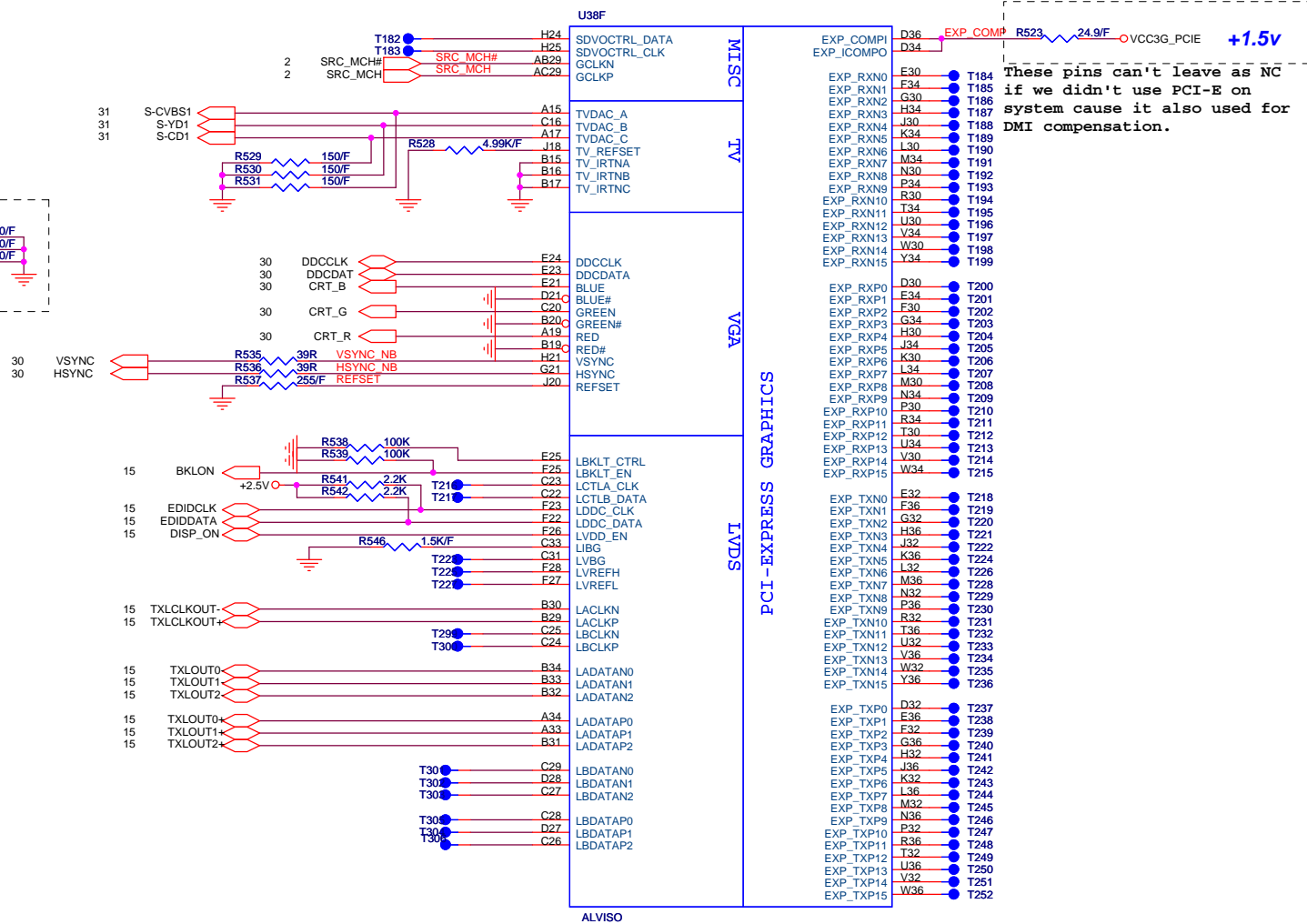
Sting 10/12/2004



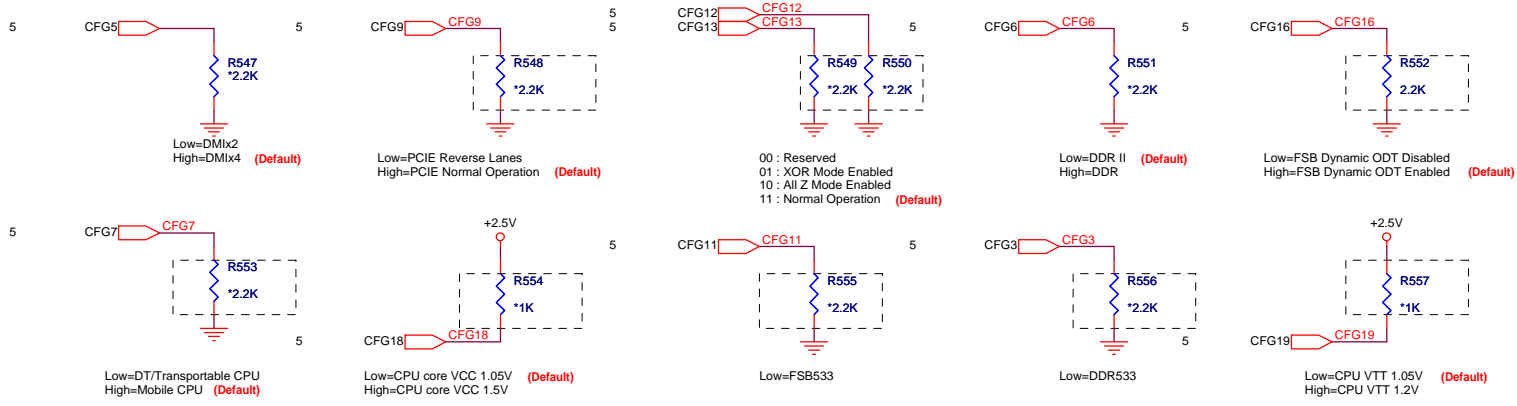
PROJECT : CT3  
Quanta Computer Inc.





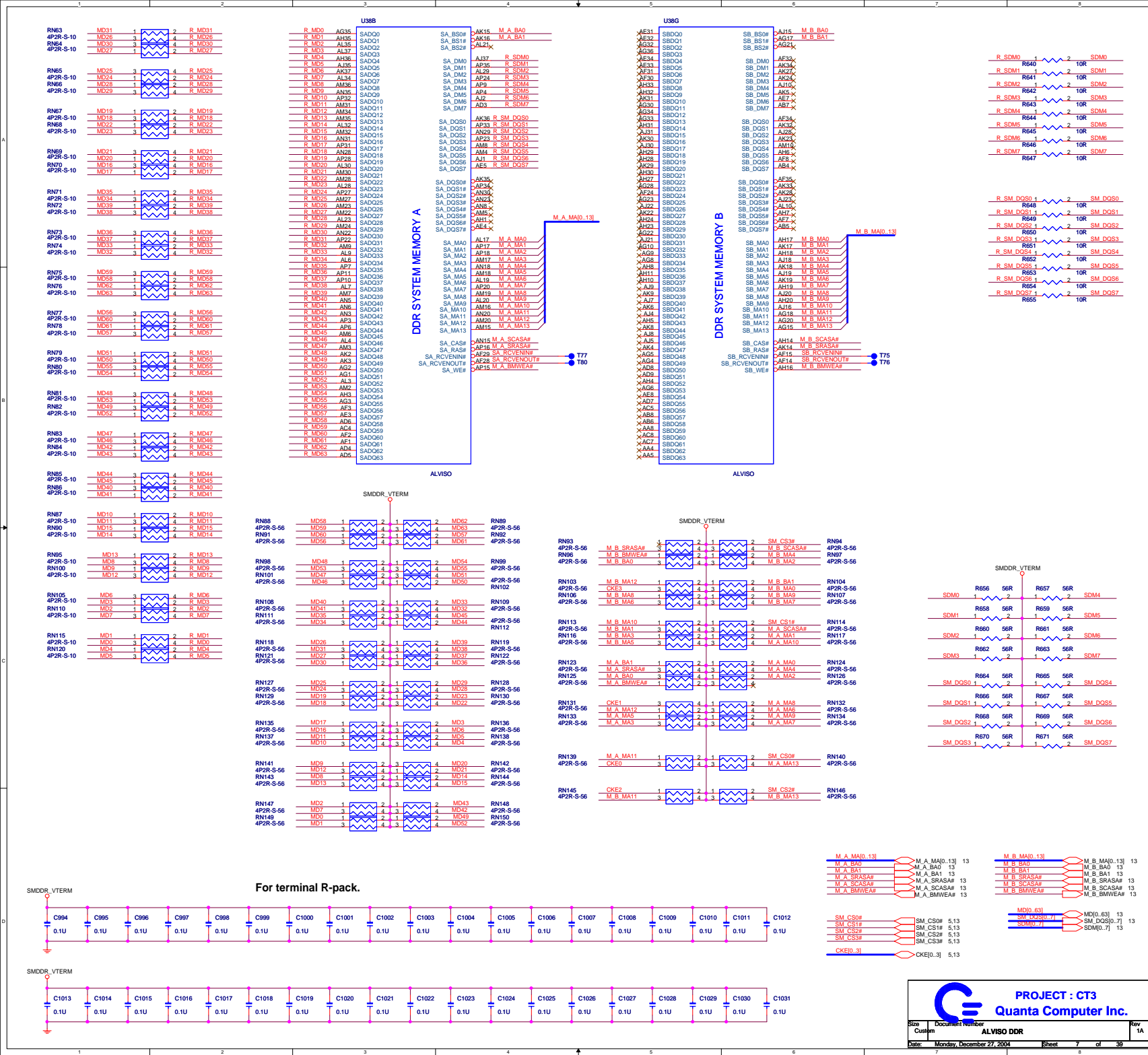


# Strapping

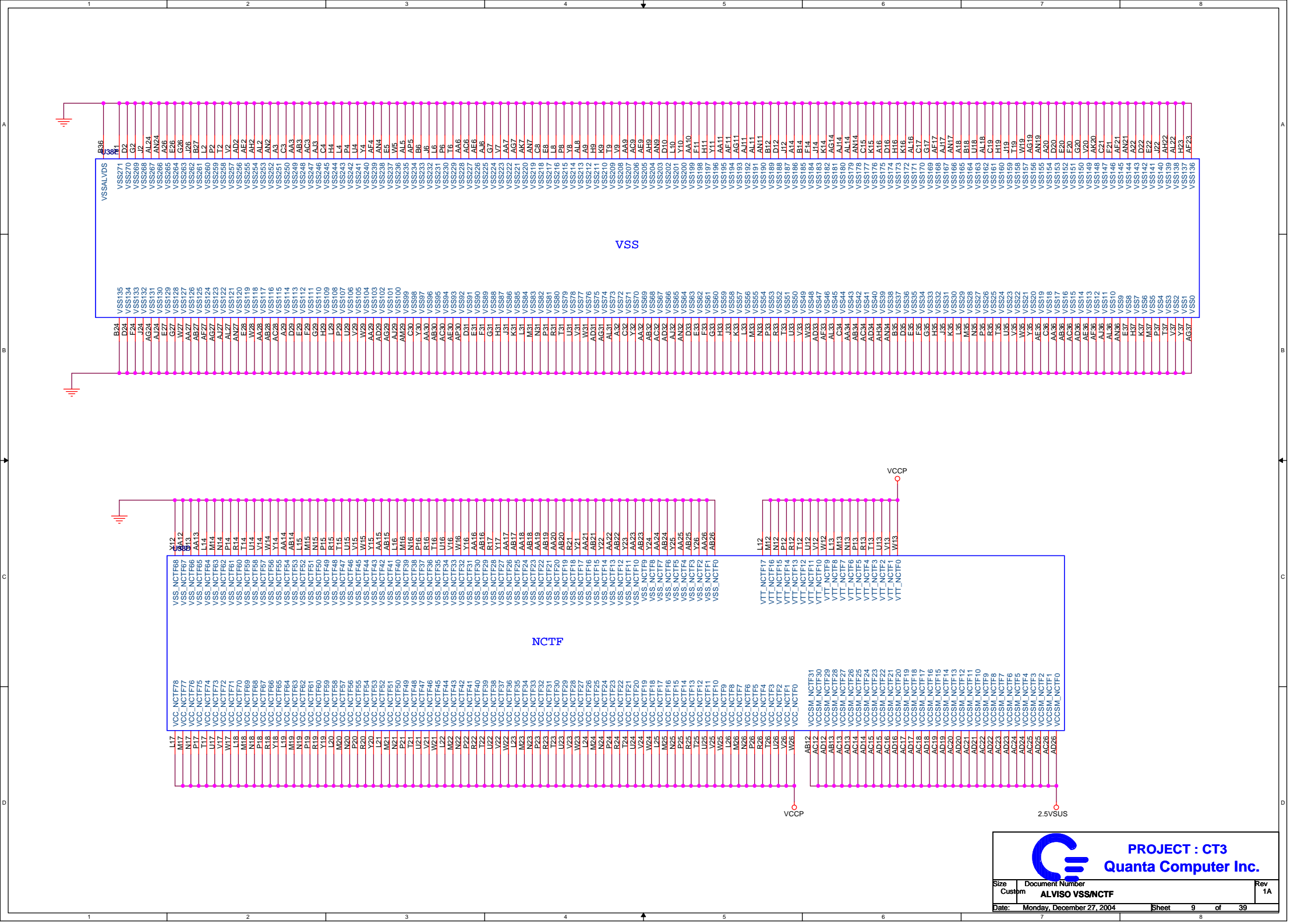


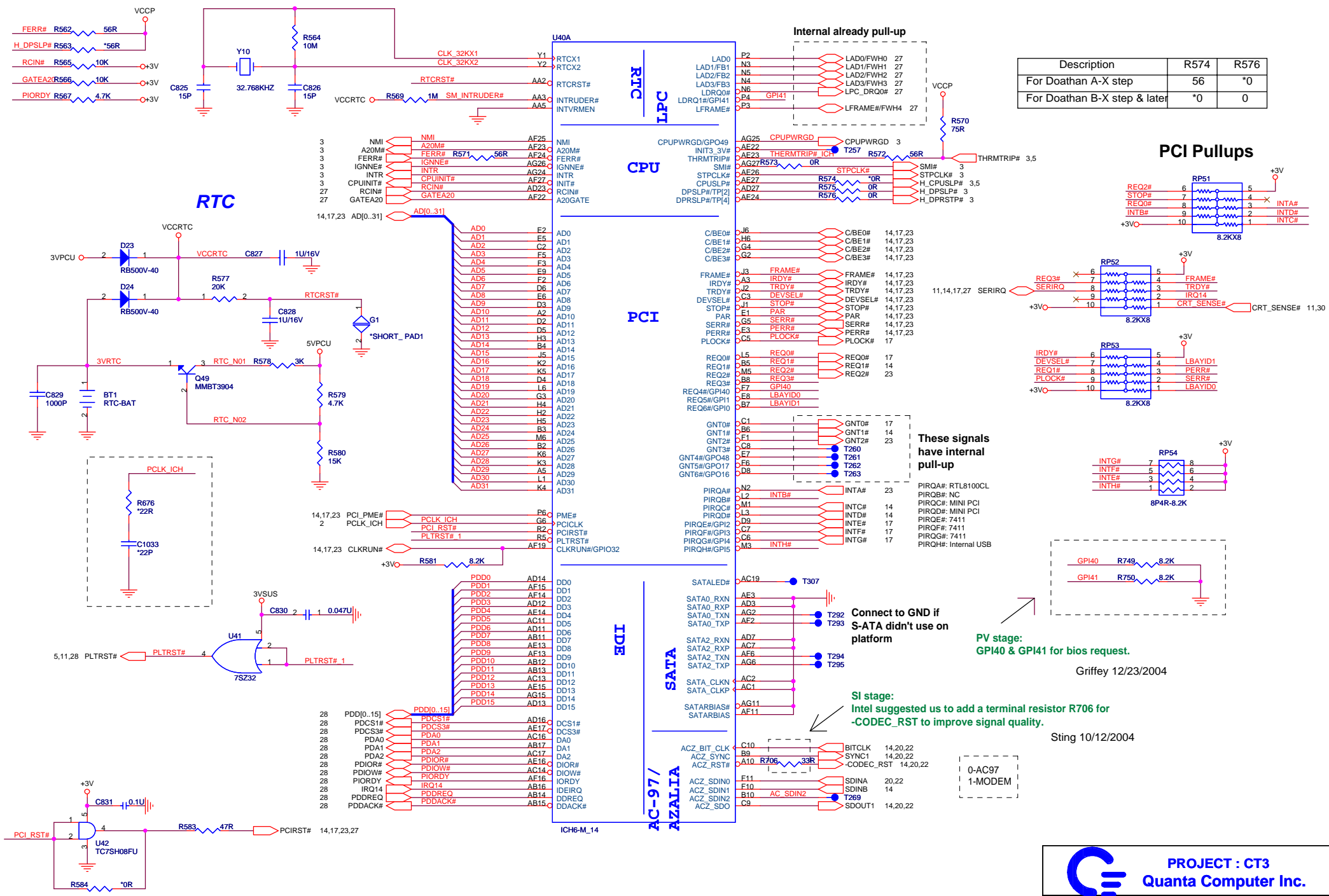
CFG[2:0]  
001=533MT/S FSB  
101=400MT/S FSB  
CFG[3:17] have internal pullup.  
CFG[18:19] have internal pulldown.





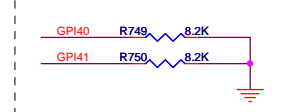
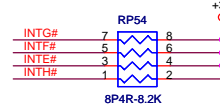
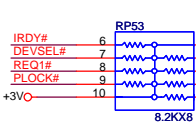
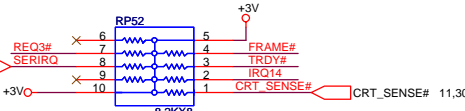
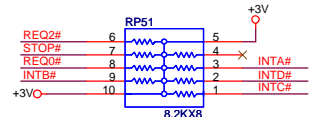






Description	R574	R576
For Doathan A-X step	56	*0
For Doathan B-X step & later	*0	0

PCI Pullups



These signals have internal pull-up

- PIRQA#
- PIRQB#
- PIRC#
- PIRD#
- PIRE#
- PIRF#
- PIRG#
- PIRH#

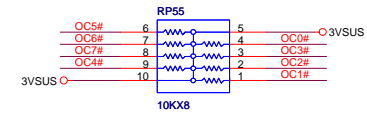
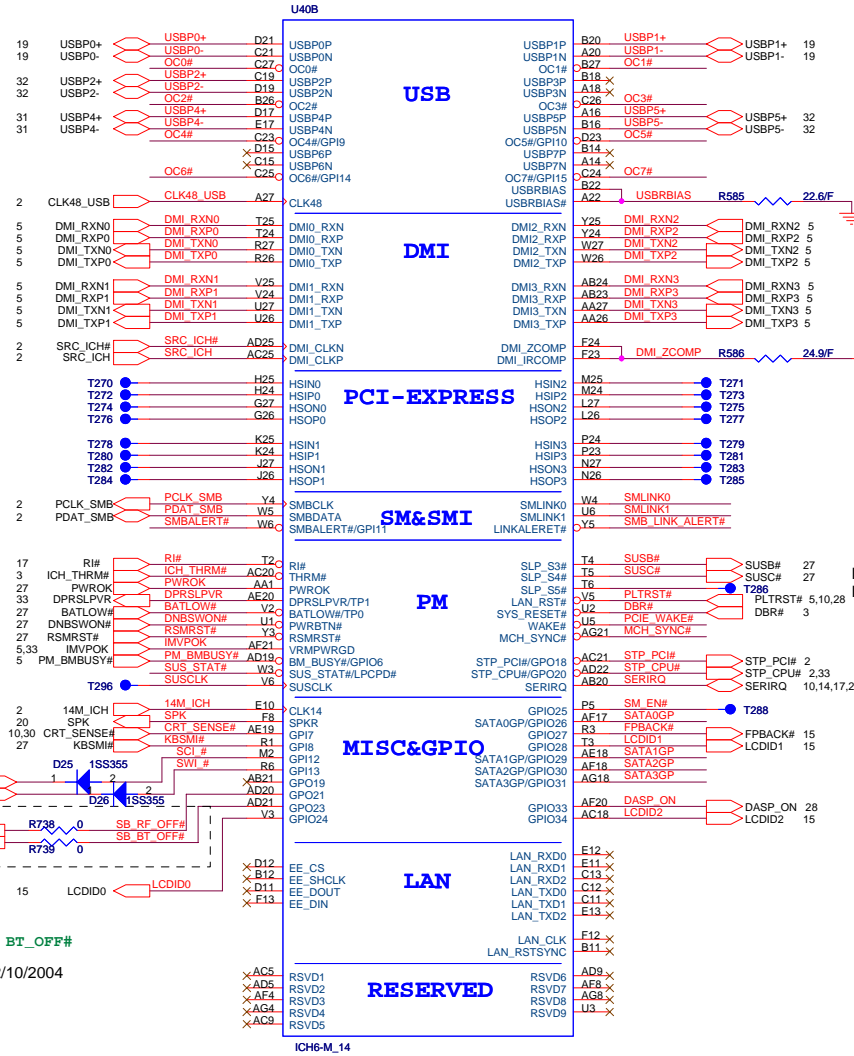
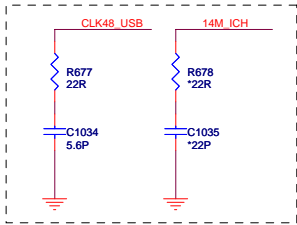
Connect to GND if S-ATA didn't use on platform

SI stage: Intel suggested us to add a terminal resistor R706 for -CODEC\_RST to improve signal quality.

PV stage: GPI40 & GPI41 for bios request.

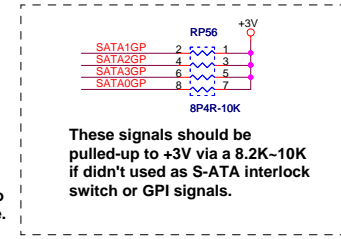
Griffey 12/23/2004

Sting 10/12/2004



Place within 500mils of ICH-6

Place within 500mils of ICH-6

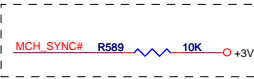


These signals should be pulled-up to +3V via a 8.2K-10K if didn't used as S-ATA interlock switch or GPI signals.

LAN\_RST# should be connected to PLTRST# if internal LAN didn't use.

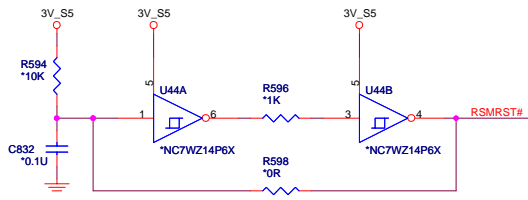
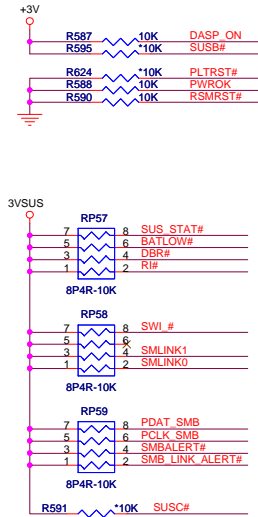
PV stage:  
1. Add RF\_OFF# and BT\_OFF# circuit.

Griffey 12/10/2004



SI stage:  
R589 should be populated, because MCH\_SYNC# is internally ANDed with PWROK. System will not booting without this pulled-up resistor.

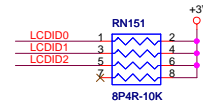
Sting 09/24/2004



1. Change the power plane of PCIE\_WAKE# from 3VSUS to 3V\_S5 to solve system can't turn off issue.  
2. Change the power plane of ICH\_THRM# and SCI\_# from 3VSUS to +3V to solve leakage issue.

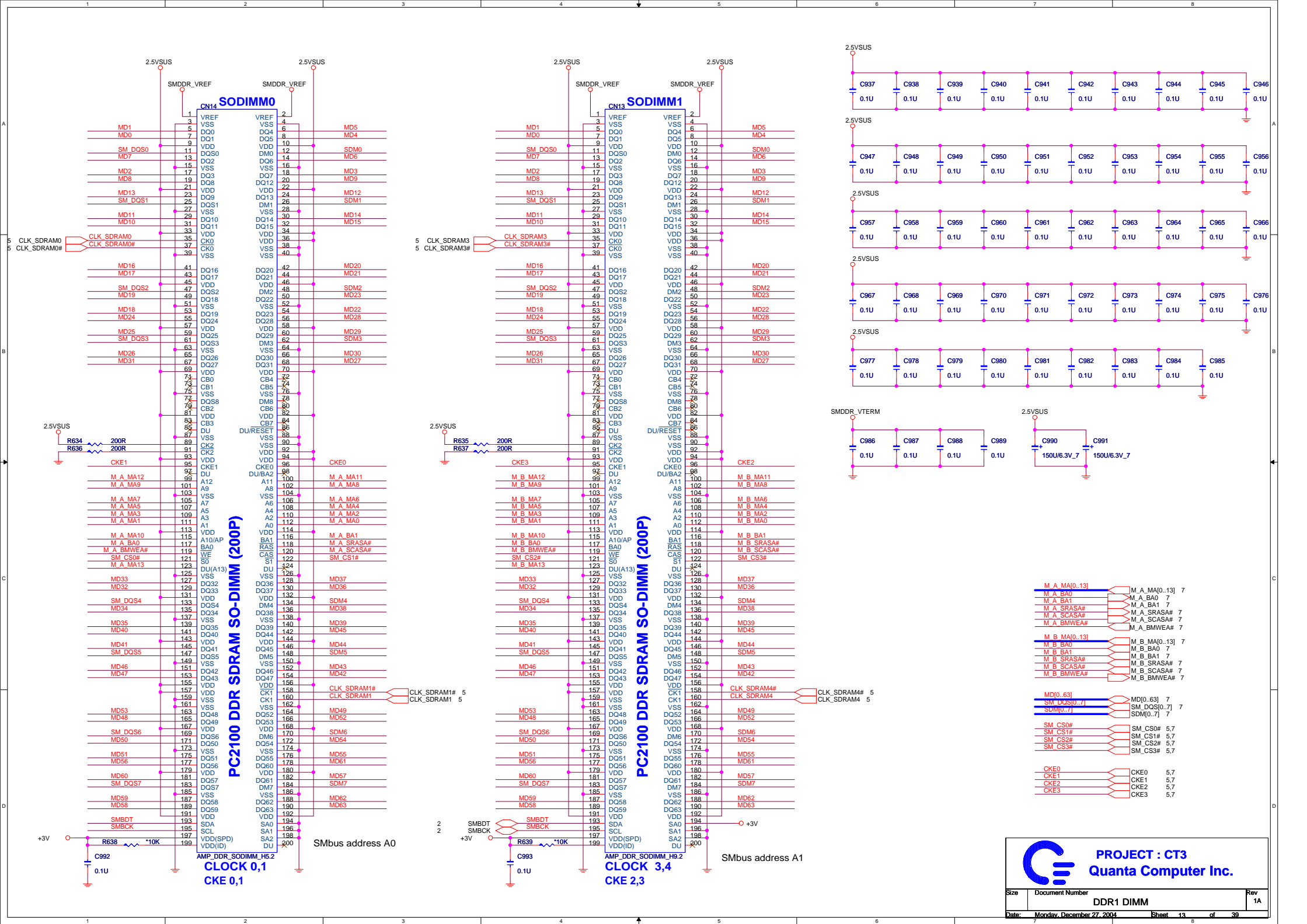
Sting 10/06/2004

Enable Cable ID





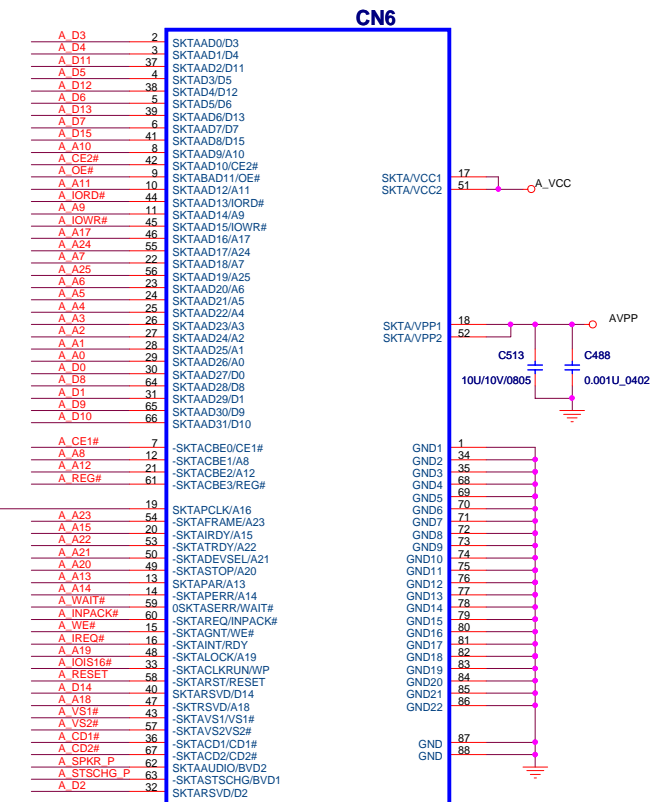
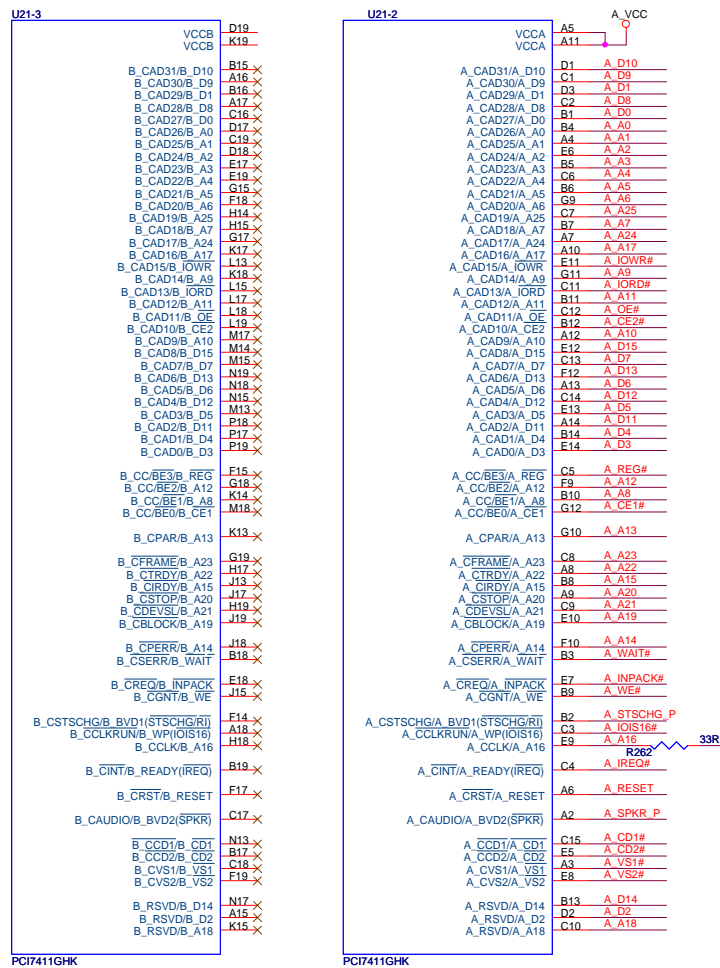
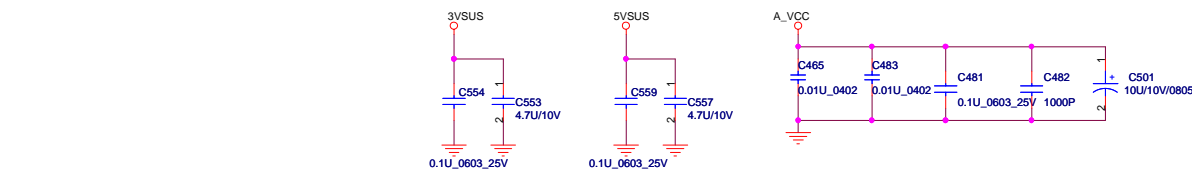








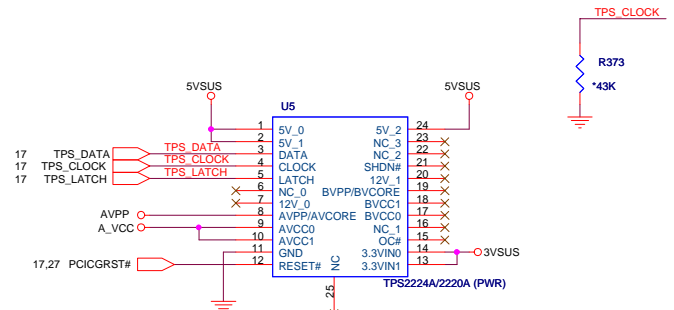
CardBus Connector



CARDBUS SLOT  
FOX=WZ21131-G2

CARDBUS POWER SWITCH

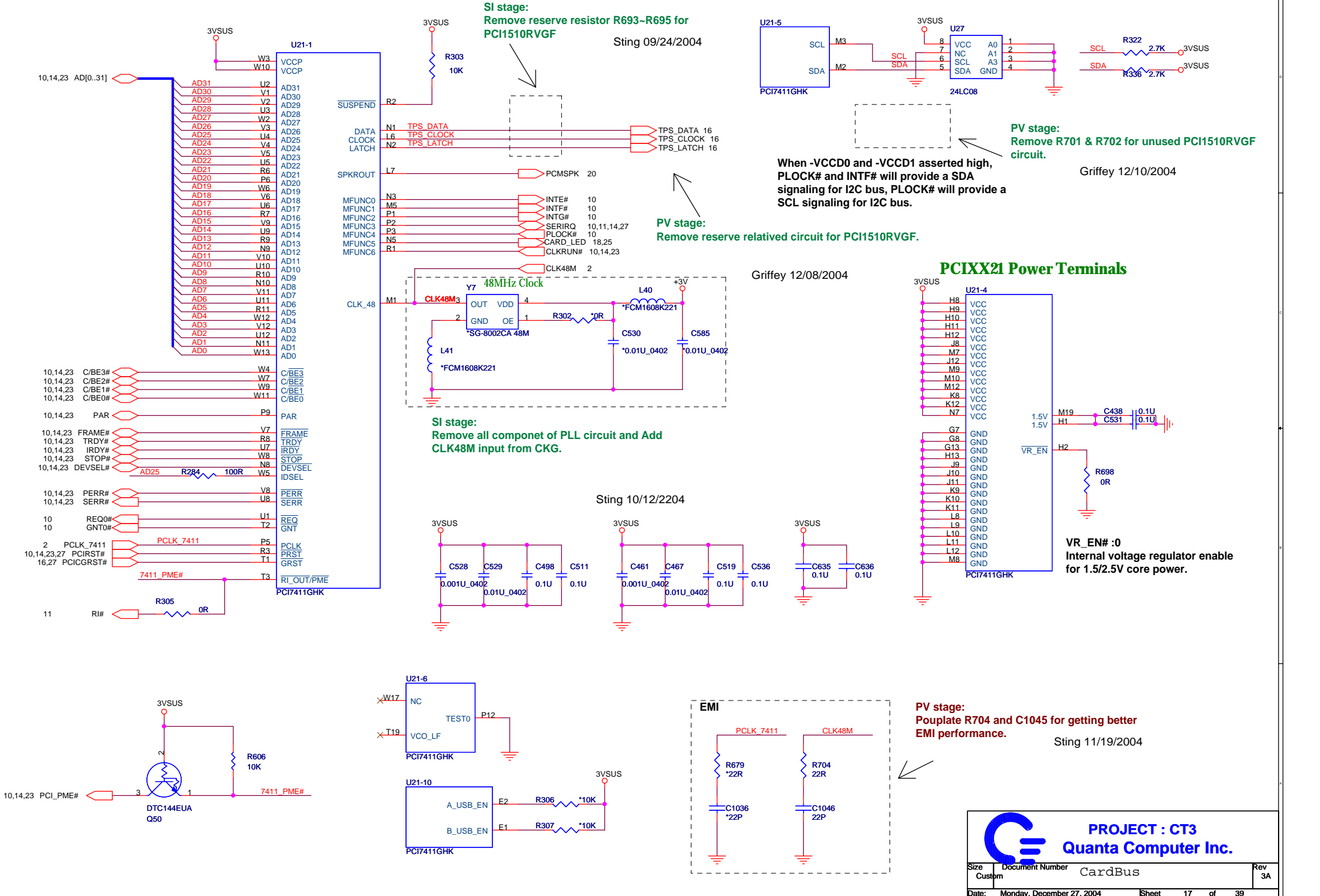
For PCI7411



For PCI1510

PV stage:  
Remove unused PCI1510RVGF circuit.  
Griffey 12/08/2004

CardBus



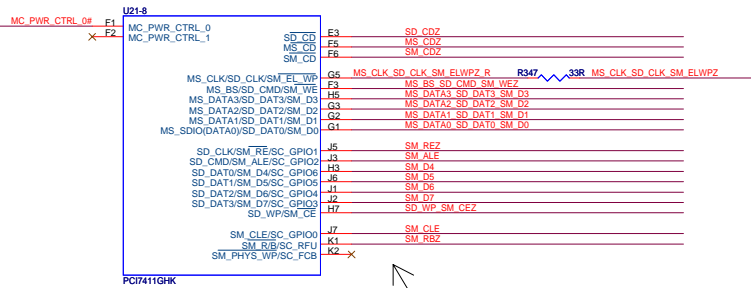
## CARD POWER CONTROL

PV stage:  
Remove reserve circuit for  
PC11510RVGF.  
Griffey 12/08/2004

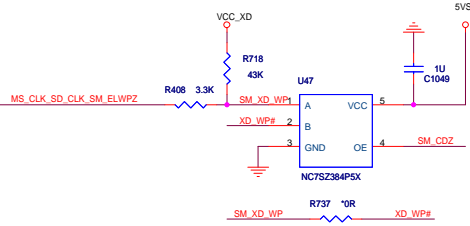
SI stage:  
Remove reserve resistor R696 fro  
PC11510RVGF.  
Sting 10/12/2004

Reserve for smart card which is powered by 5V.

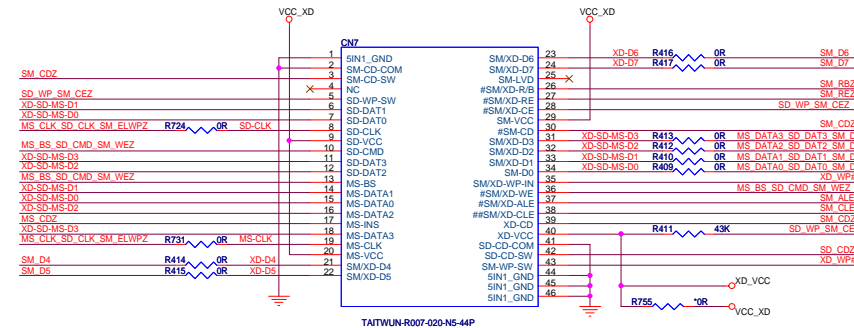
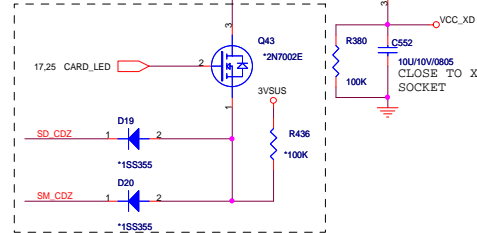
PV stage:  
Add a discharge circuit for media  
card power.  
Sting 11/19/2004



PV stage:  
1. Disconnect SM\_PHYS\_WP.  
2. Tie SM\_EL\_WP with SM\_PHYS\_WP of SM card to allow  
for normal operation of SD and SM.  
Sting 11/19/2004



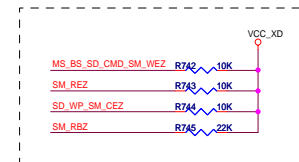
PV stage:  
1. Add quick switch circuit.



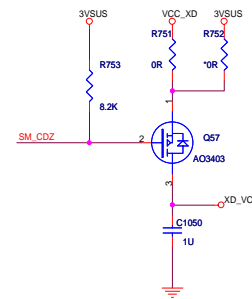
## 5 IN1 CARD READER

PV stage:  
1. Add pull-up circuit.

Griffey 12/20/2004

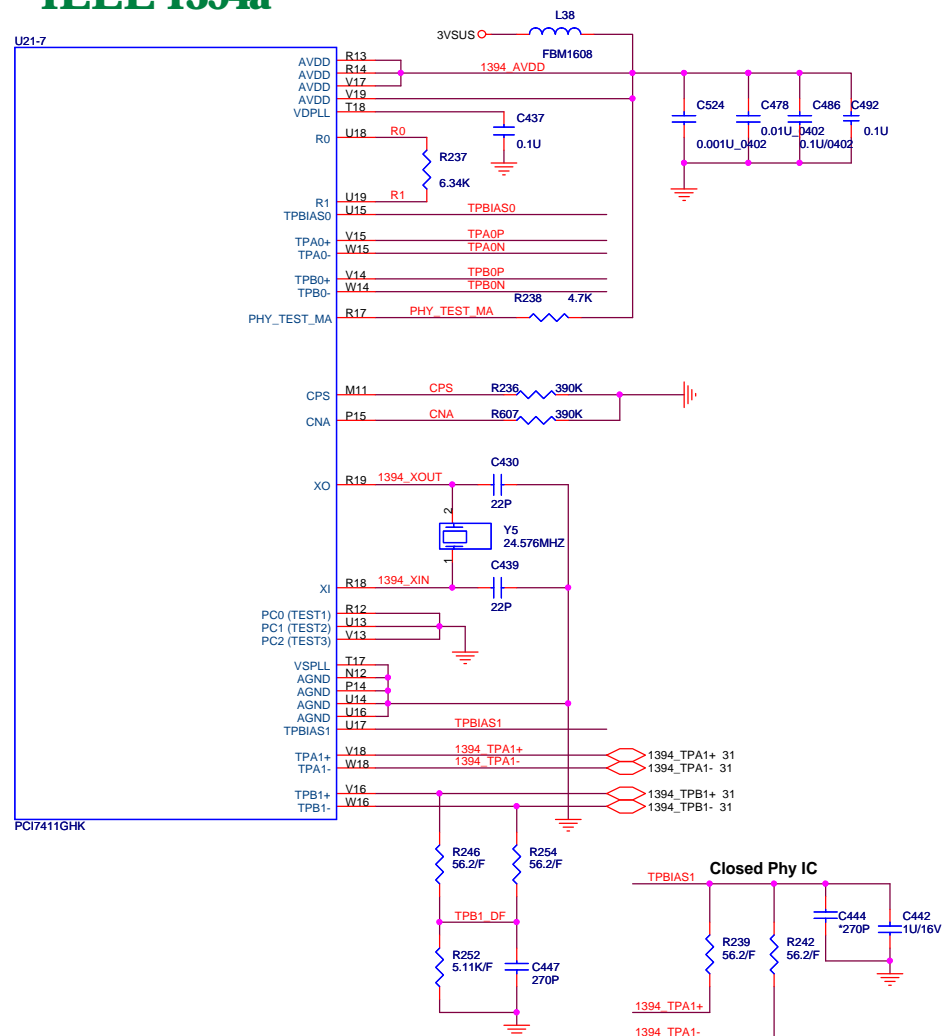


PV stage:  
1. Add R717 to solve SM card can't write protect issue.  
2. Add R718 to solve cross-talk issue of MS-PRO card.  
3. Add R719-R736 as terminal on all multi-funton pin.  
Sting 11/19/2004

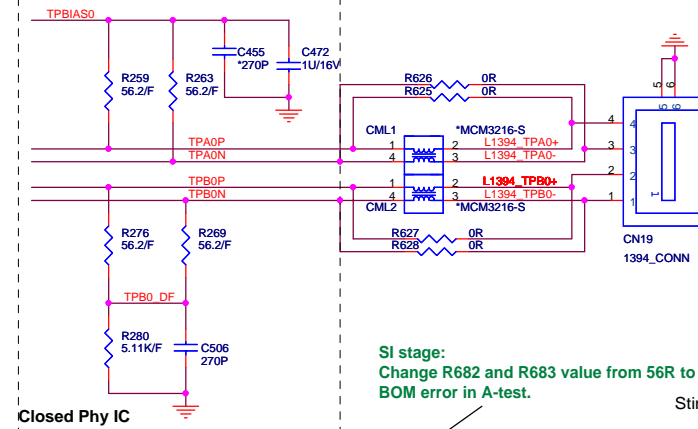




# IEEE 1394a



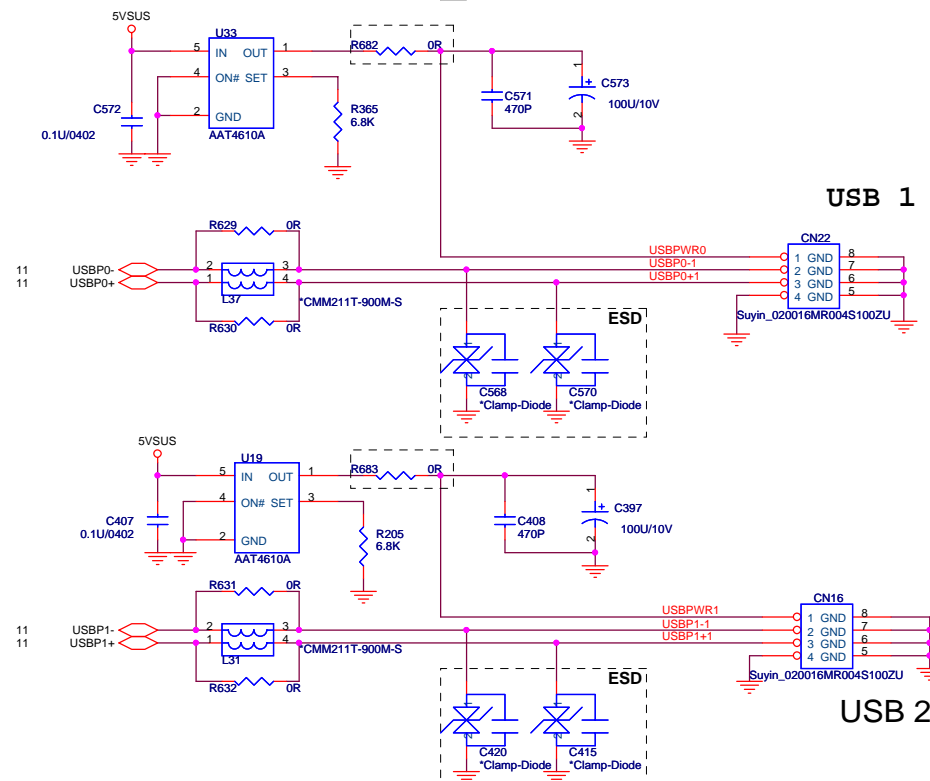
## IEEE 1394 CONNECTOR



SI stage:  
Change R682 and R683 value from 56R to 0R cause of  
BOM error in A-test.

Sting 09/24/2004

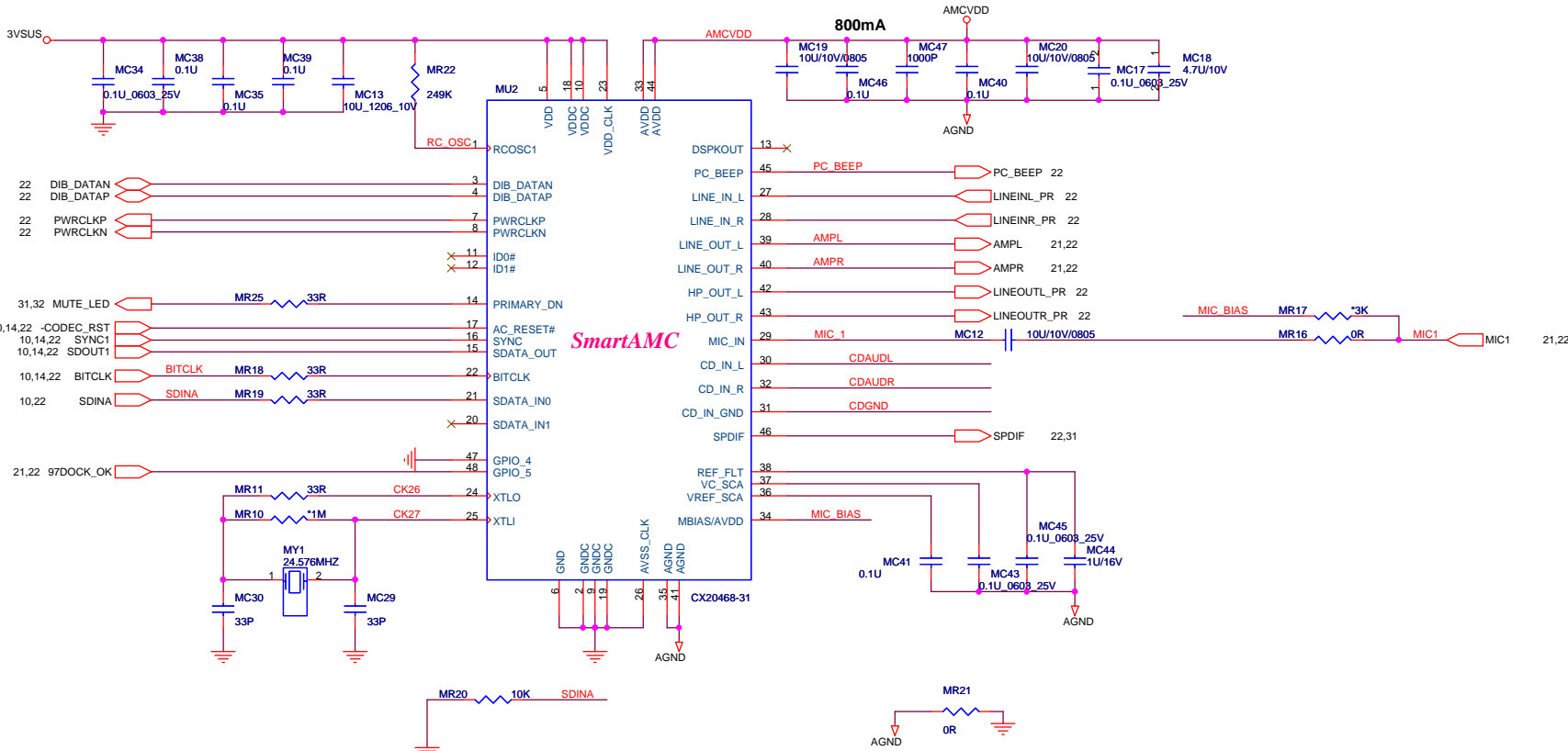
### Closed Phy IC



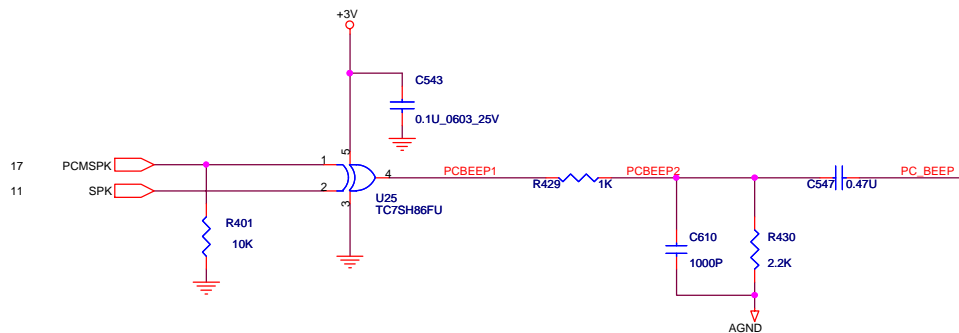
### USB 1

### USB 2

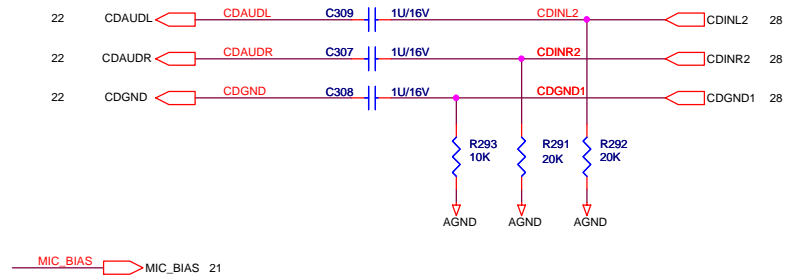
The AMC20493-001 modem is used for mother board family MBAMC20493-010.



## PC SPEAKER



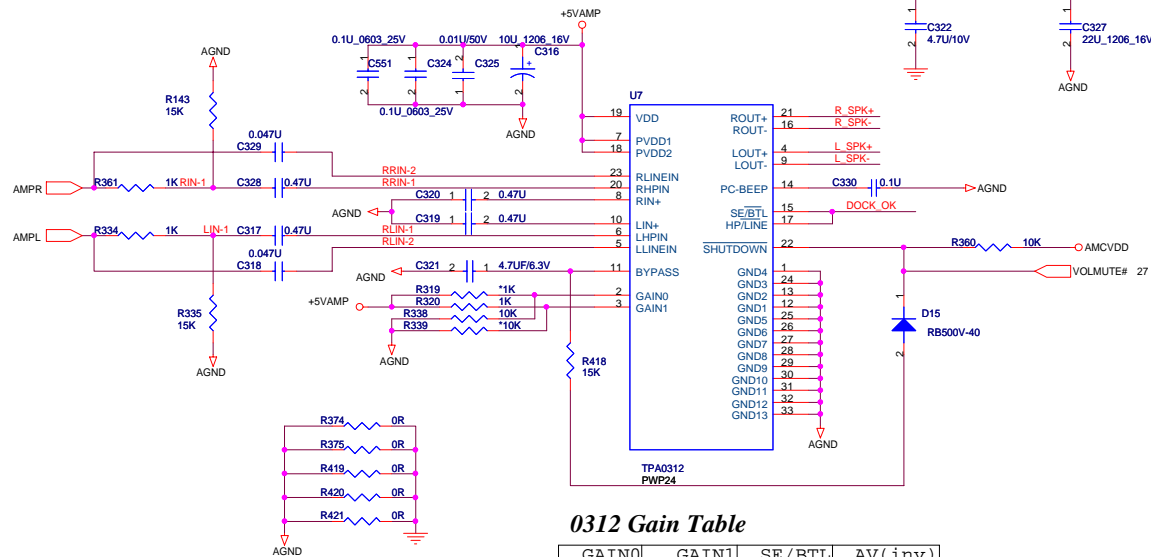
**FROM CD-ROM**



**PROJECT : CT3**  
**Quanta Computer Inc.**

Size	Document Number	Rev
	AMC97 CODEC	1A
Date:	Monday, December 27, 2004	Sheet 20 of 39

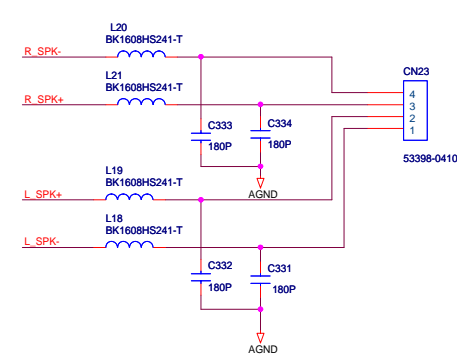
# AUDIO AMPLIFIER



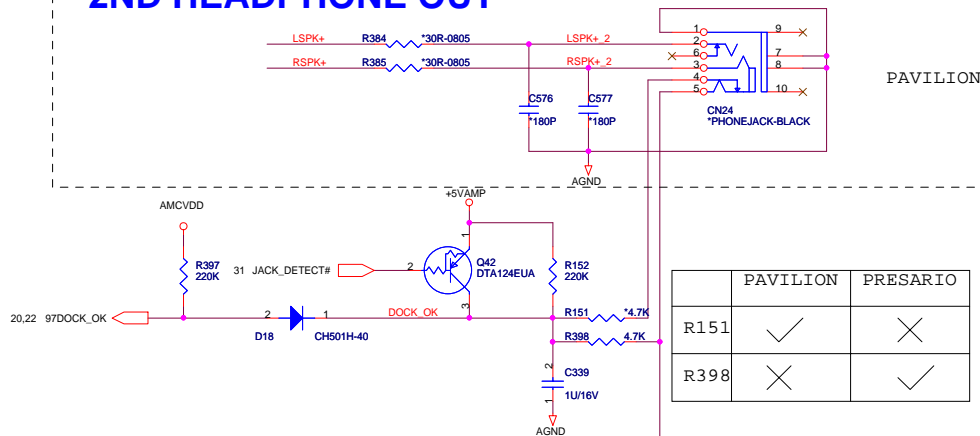
0312 Gain Table

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

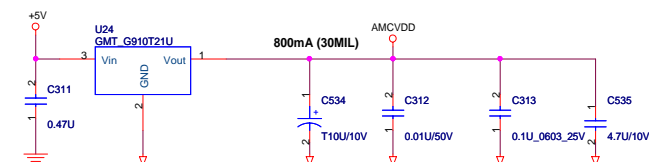
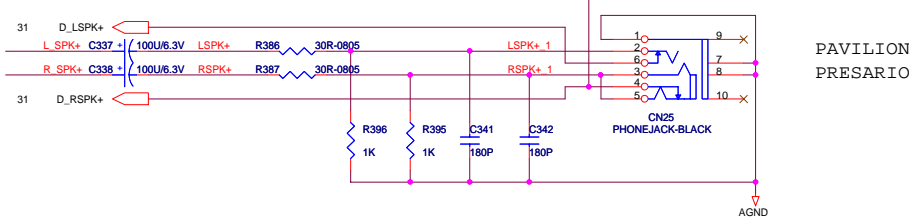
# SPEAKER OUT



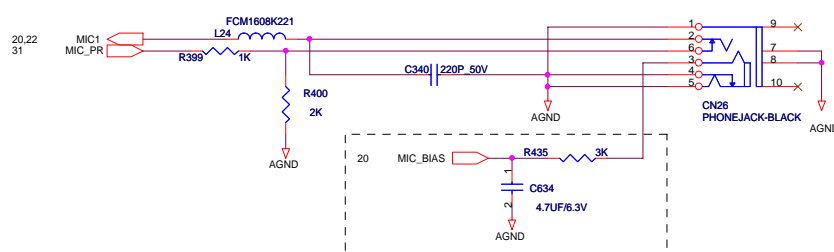
## 2ND HEADPHONE OUT



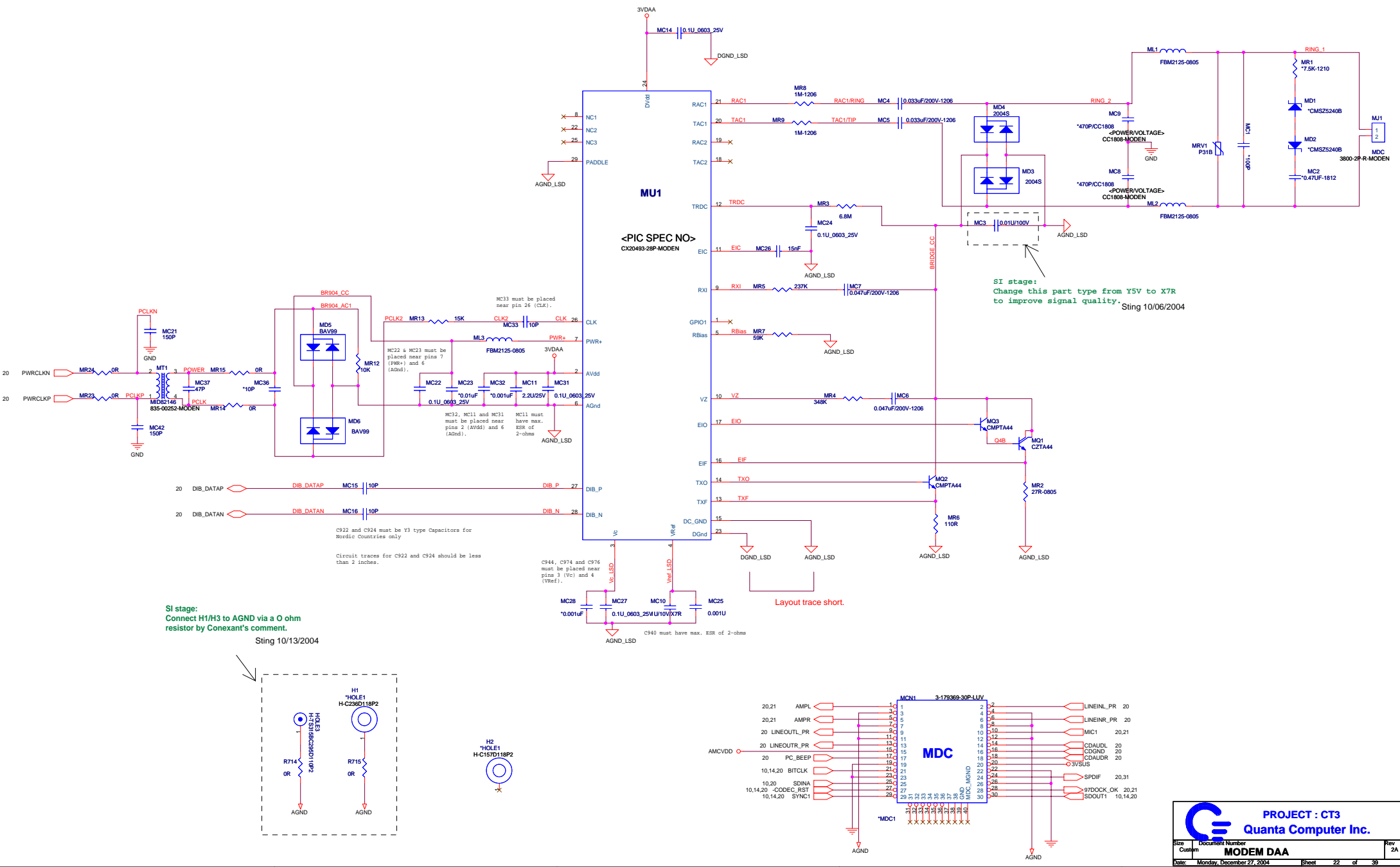
## HEADPHONE OUT



## MICROPHONE



PROJECT : CT3  
Quanta Computer Inc.

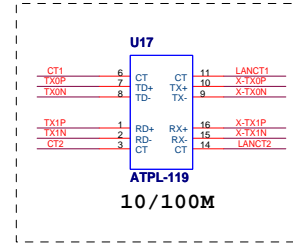
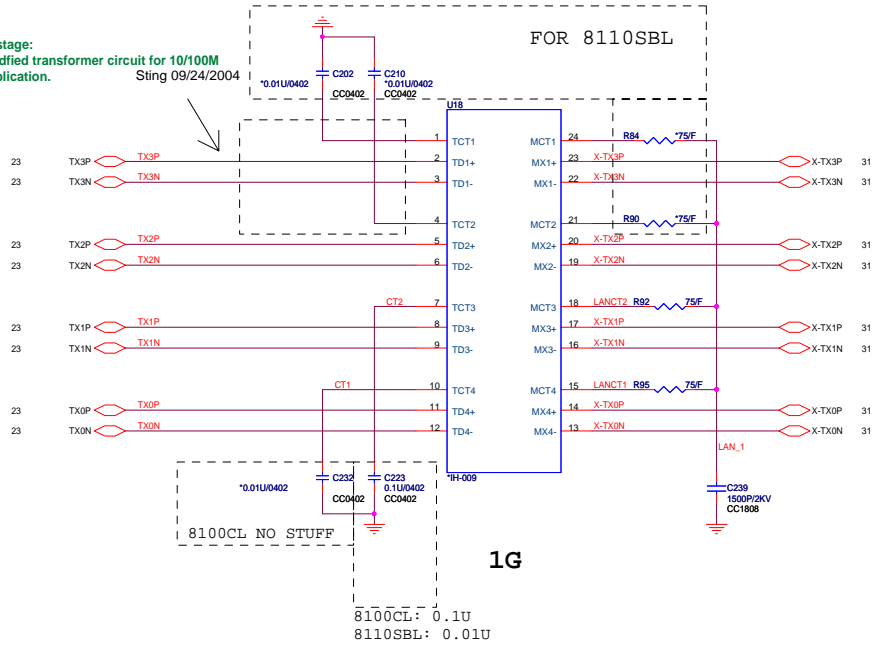




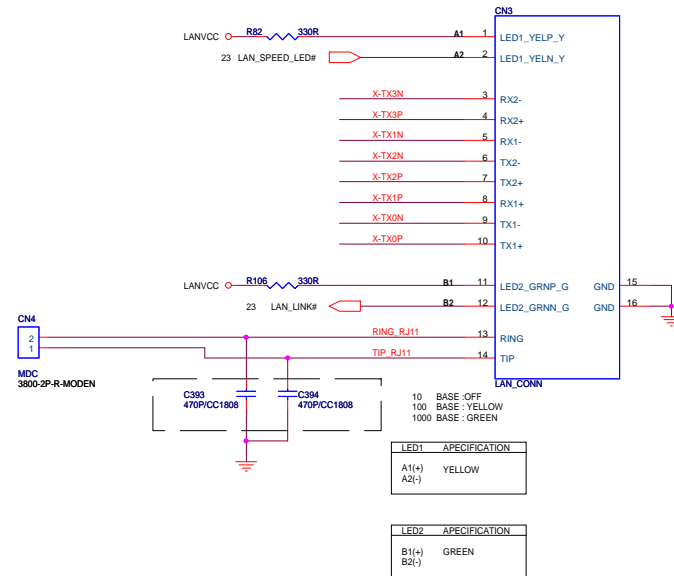
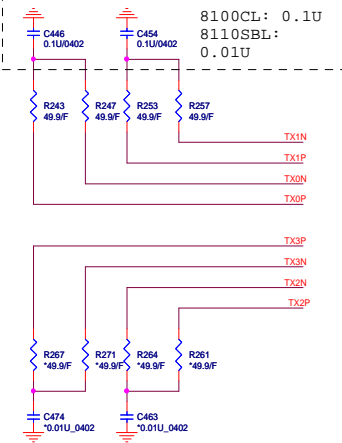
SI stage:  
Modified transformer circuit for 10/100M application.

Sting 09/24/2004

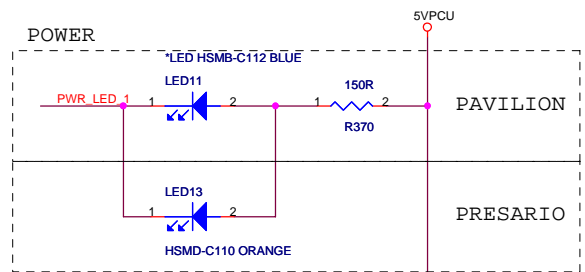
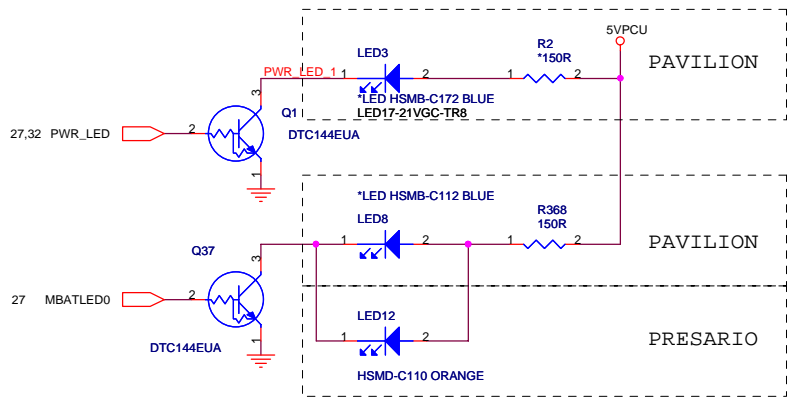
FOR 8110SBL



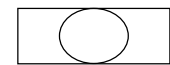
Close to Chip



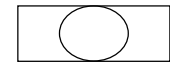




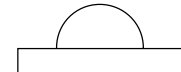
LED HSMD-C170 ORANGE



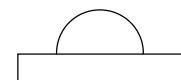
LED HSMB-C172 BLUE



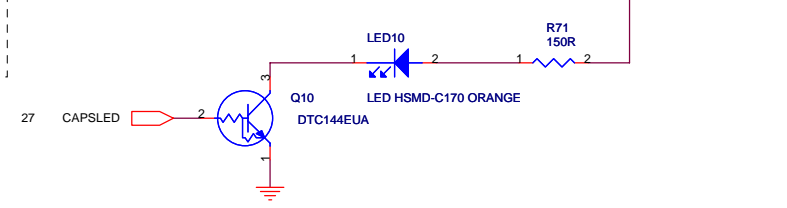
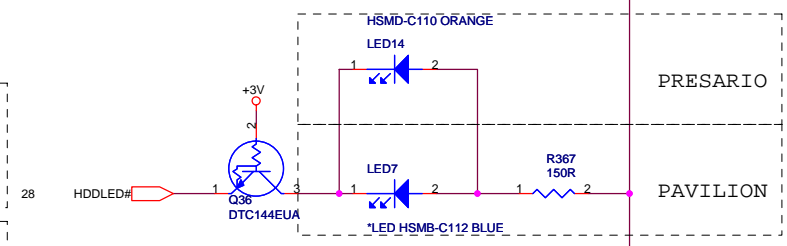
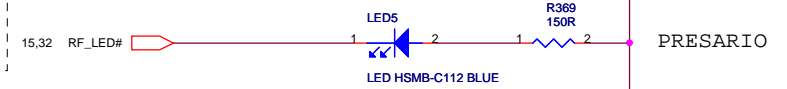
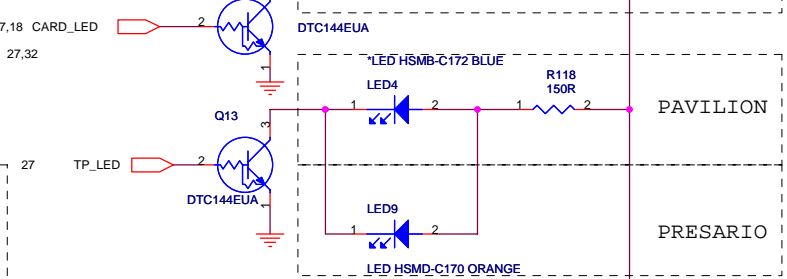
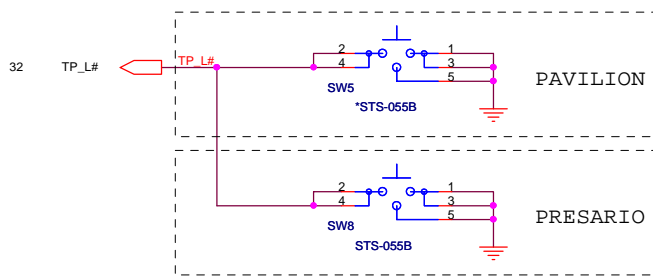
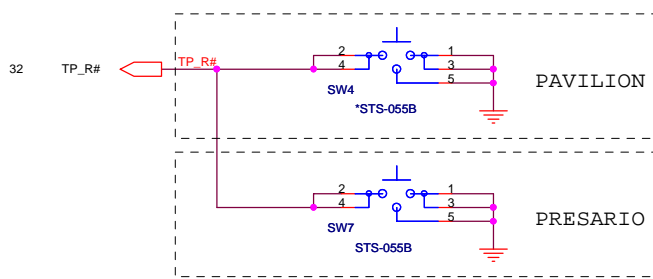
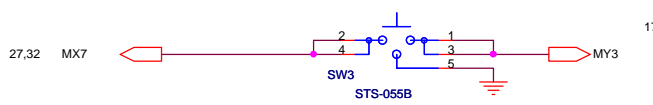
LED HSMD-C110 ORANGE



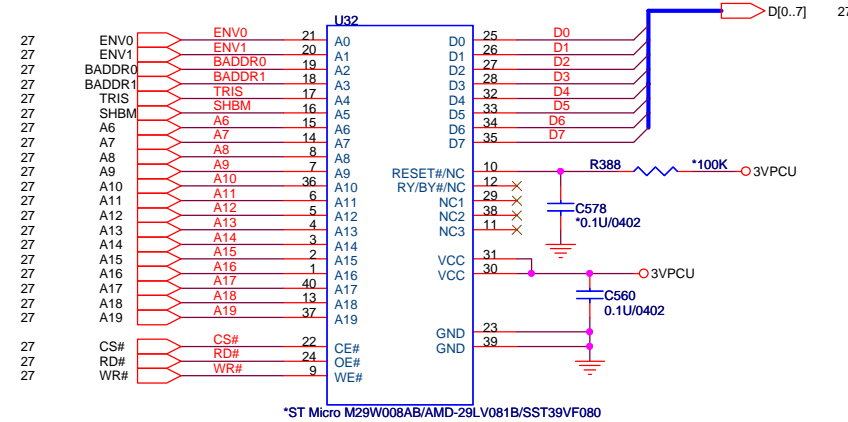
LED HSMD-C112 BLUE



## Touchpad control



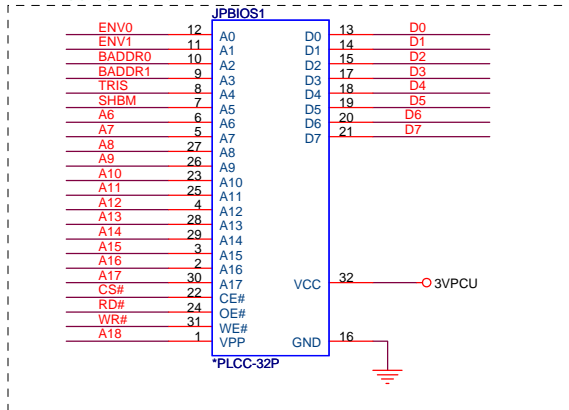
## 8Mbit (1M Byte), TSSOP40



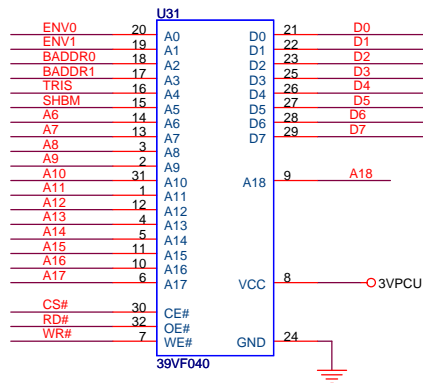
- 1.AMD-29LV081B require MAX 500nS Tready for it's hardware reset.And MAX6326 \_UR29 has >100mS reset timing.So we can tie it's reset# pin to +3VALW directly.
- 2.SIO has internal 20 mS delay of VCC1\_PWROK

AMD :Pin 10 is RESET# ; Pin12 is RY/BY#  
SST :Pin10,12 are NC

SI stage:  
Add PLCC32 cause of it is convenient for Bios debugging.  
Sting 10/01/2004



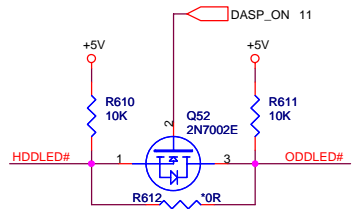
## 4Mbit (512k Byte), TSSOP32



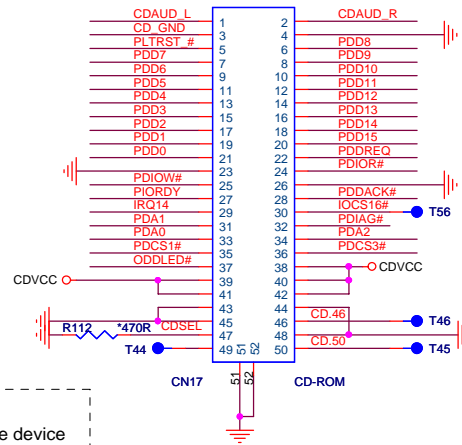


## HDD, CD-ROM

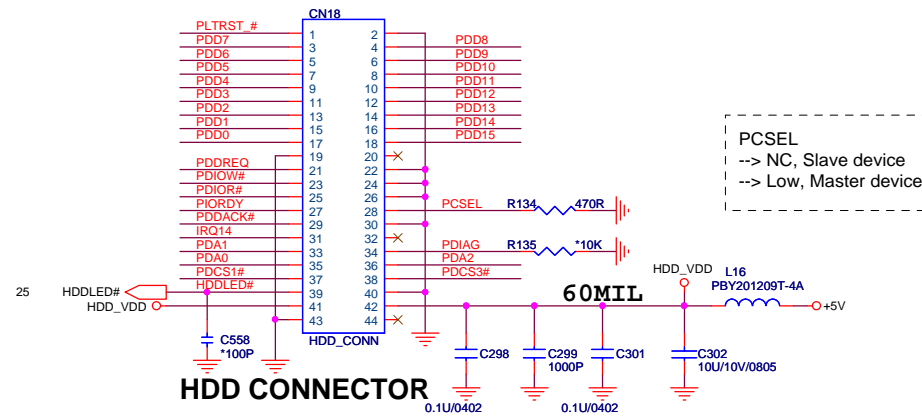
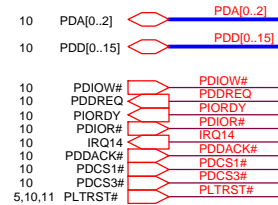
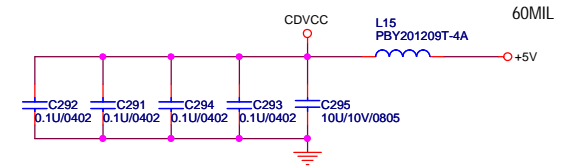
## CD-ROM



ADD DASP\_ON FOR IDE CABLE SELECT



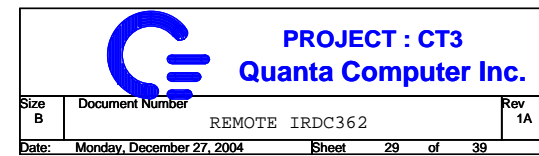
- | CDSEL
- | --> NC, Slave device
- | --> Low, Master device

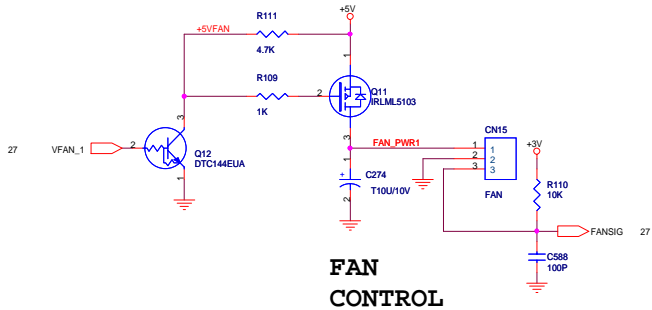


- | PCSEL
- | --> NC, Slave device
- | --> Low, Master device

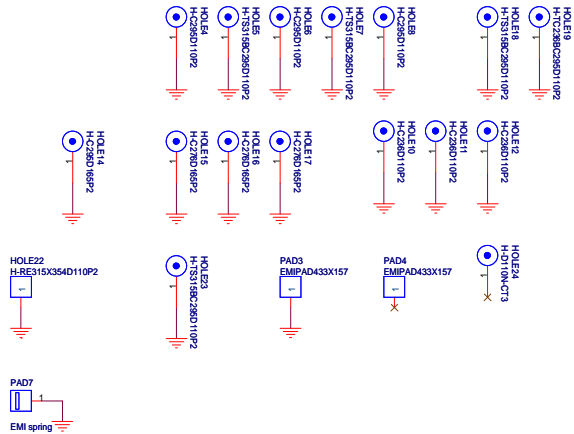
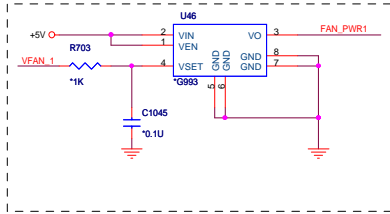


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**Quanta Computer Inc.**

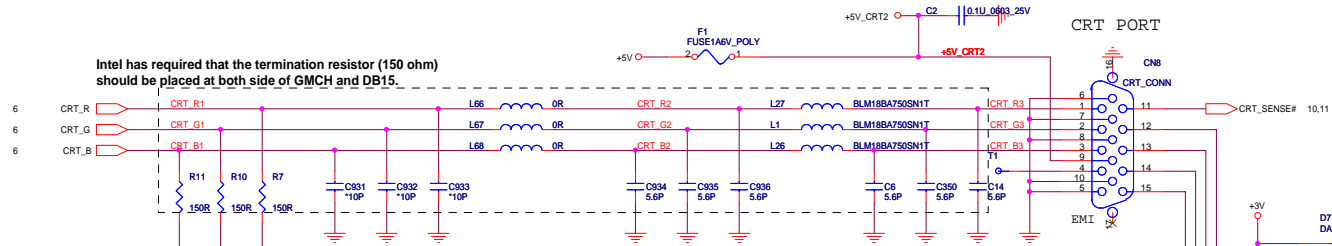




SI stage:  
Add GMT solution for B-test to costdown.  
Sting 09/24/2004

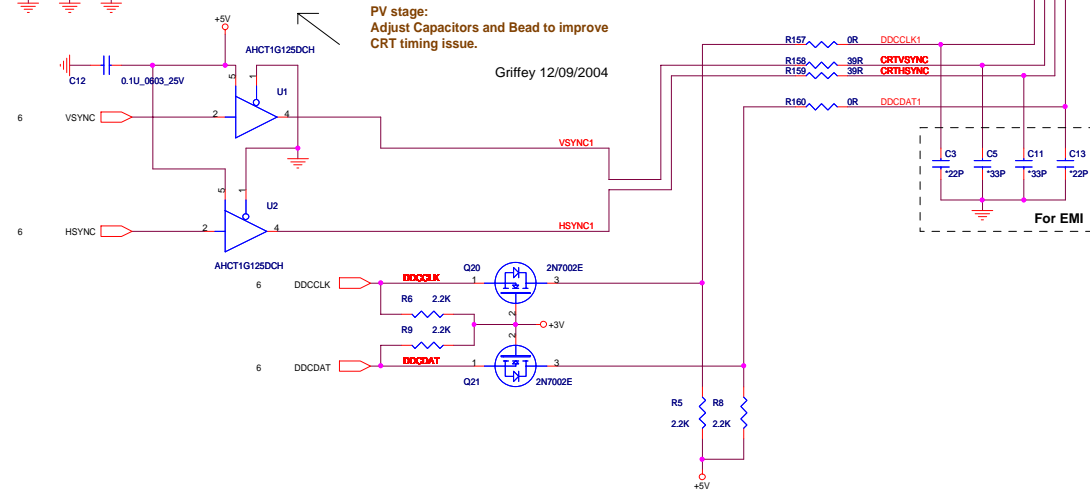


Intel has required that the termination resistor (150 ohm) should be placed at both side of GMCH and DB15.

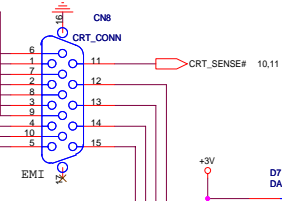


PV stage:  
Adjust Capacitors and Bead to improve  
CRT timing issue.

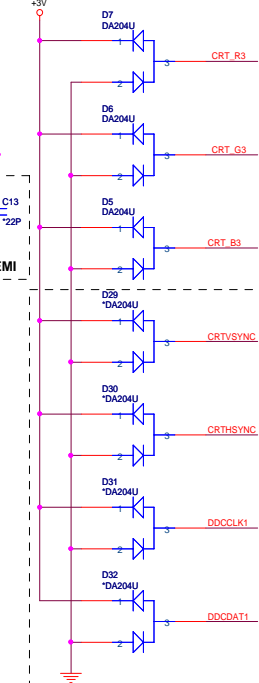
Griffey 12/09/2004



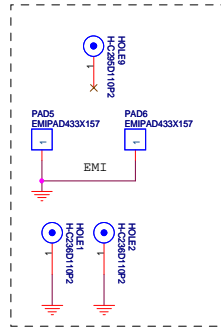
CRT PORT



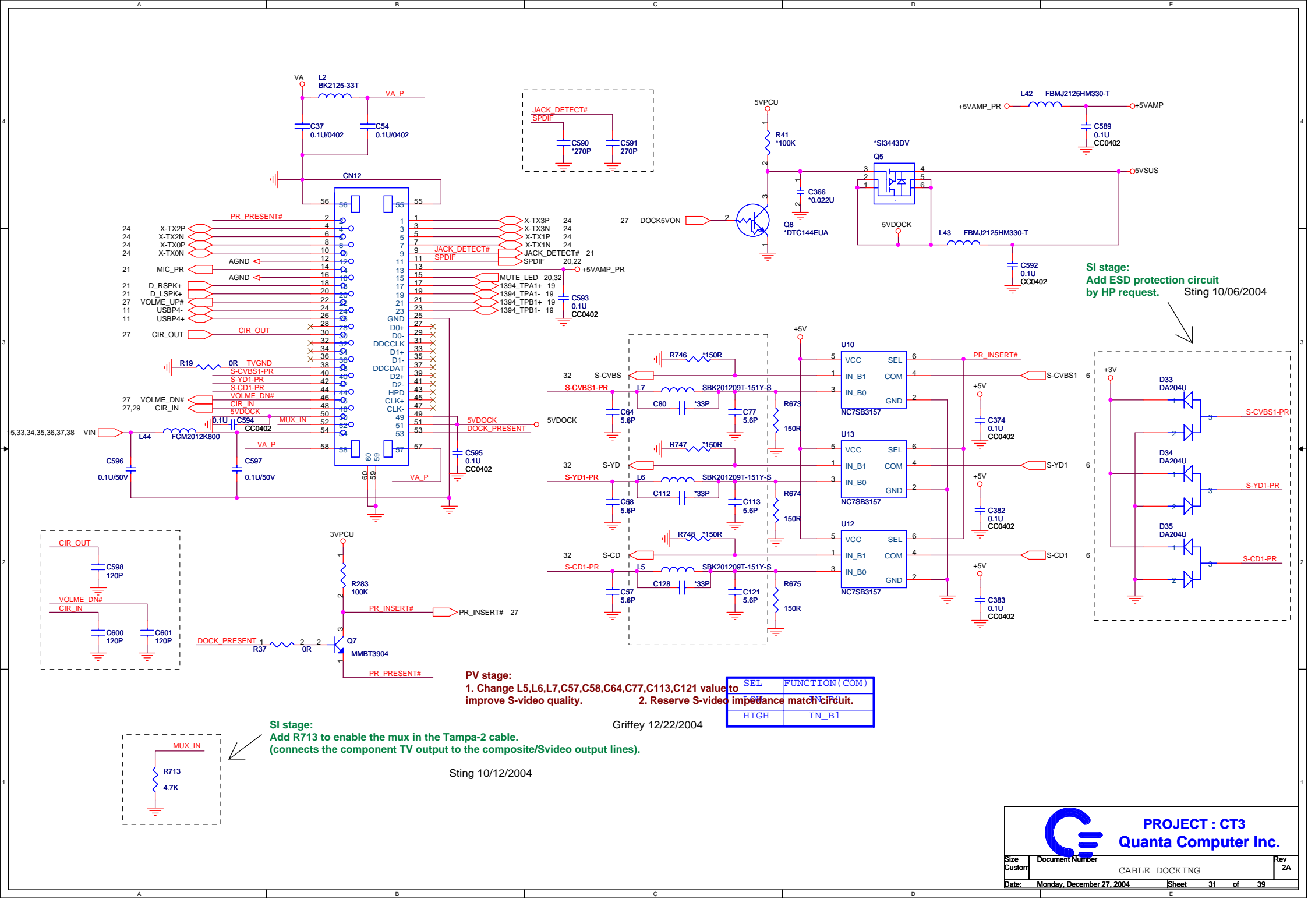
For EMI



Add ESD protection by Sting 08/03/2004







SI stage:  
Add ESD protection circuit  
by HP request. Sting 10/06/2004

PV stage:  
1. Change L5,L6,L7,C57,C58,C64,C77,C113,C121 value to improve S-video quality.  
2. Reserve S-video impedance match circuit.

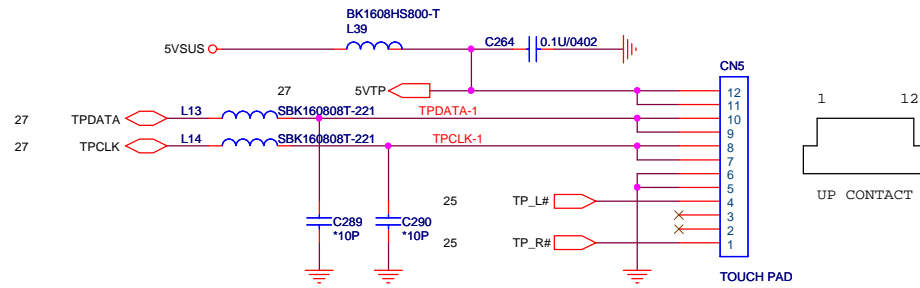
SEL	FUNCTION (COM)
HIGH	IN_B1

Griffey 12/22/2004

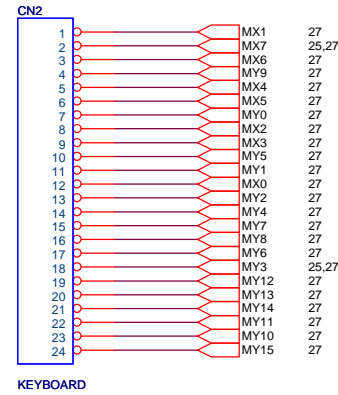
SI stage:  
Add R713 to enable the mux in the Tampa-2 cable.  
(connects the component TV output to the composite/Svideo output lines).

Sting 10/12/2004

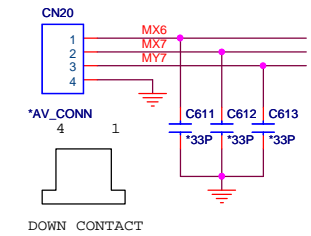
## TOUCH PAD CONNECTOR



## KEYBOARD CONNECTOR

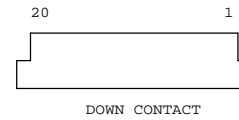
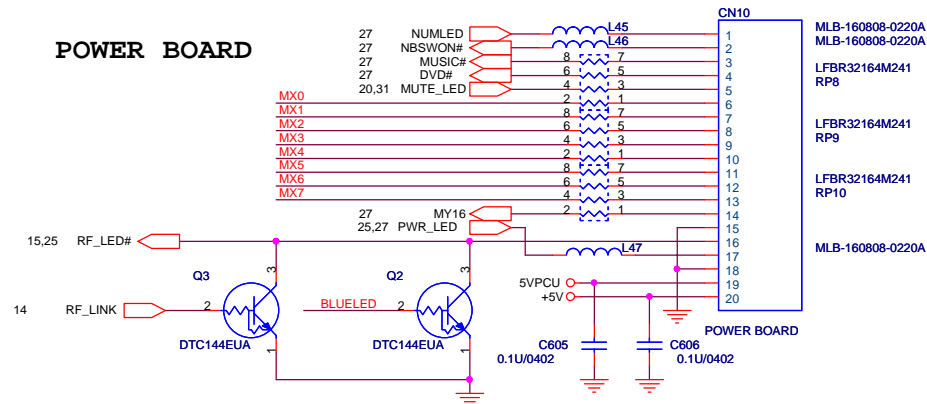


## AV BOARD



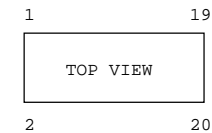
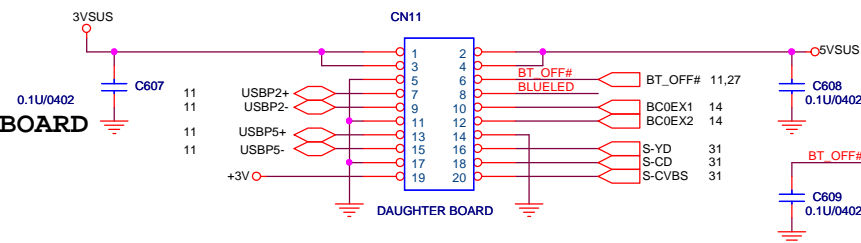
MX6	MX7
ENTER	MENU

## POWER BOARD



MX0	MX1	MX2	MX3	MX4	MX5	MX6	MX7
BACK	PLAY/PAUSE	FORWARE	STOP	VOL UP	MUTE	VOL DN	WIRELESS

## DAUGHTER BOARD



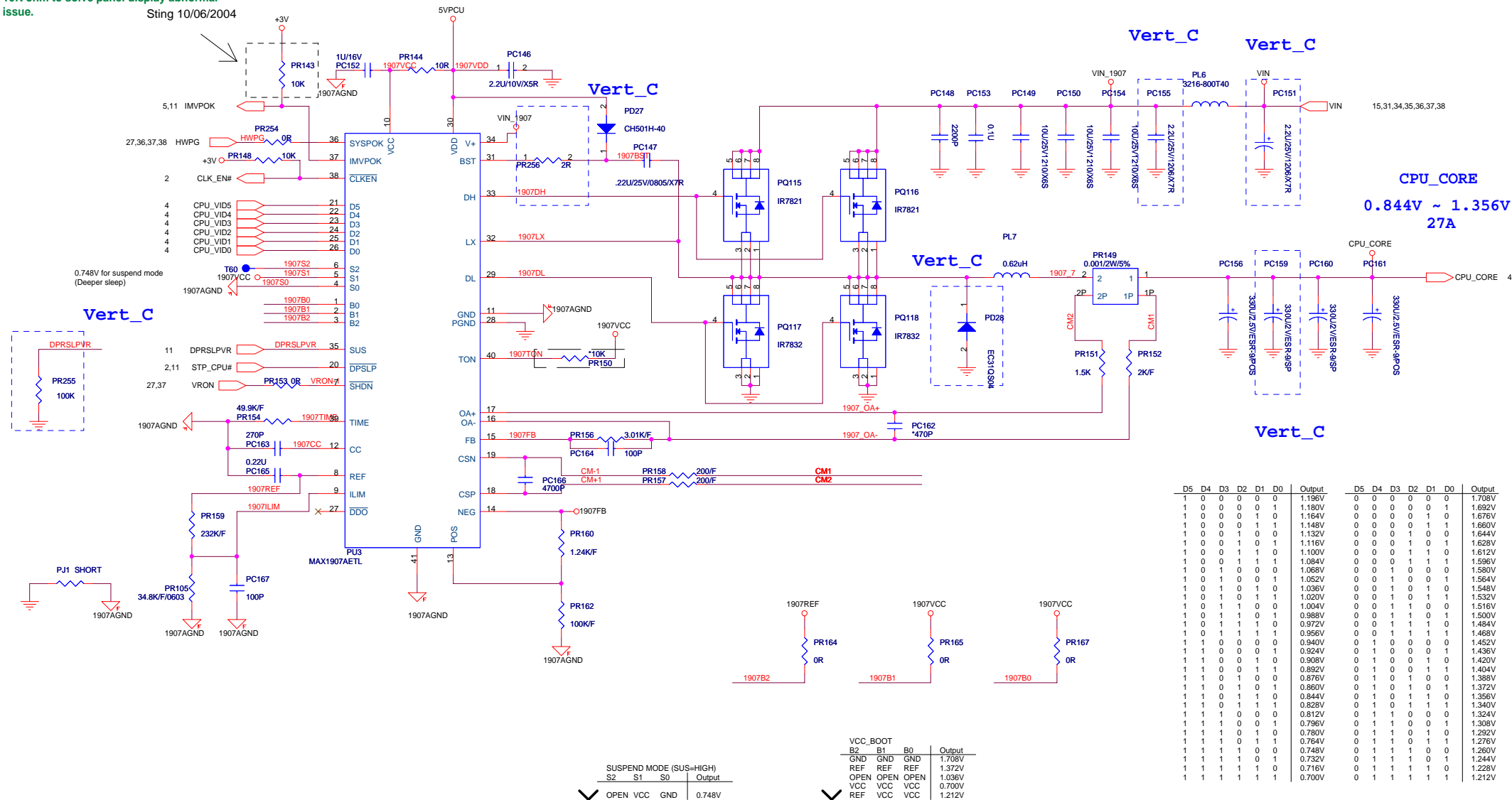
PROJECT : CT3  
Quanta Computer Inc.

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SI stage:  
Change PR143 value from 100K ohms to 10K ohm to solve panel display abnormal issue.

Sting 10/06/2004

CPU VCC\_CORE  
(MAX1907)



D5	D4	D3	D2	D1	D0	Output	D5	D4	D3	D2	D1	D0	Output
1	0	0	0	0	0	1.196V	0	0	0	0	0	0	1.708V
1	0	0	0	0	1	1.180V	0	0	0	0	0	1	1.692V
1	0	0	0	1	0	1.164V	0	0	0	0	1	0	1.676V
1	0	0	1	0	0	1.148V	0	0	0	1	0	0	1.660V
1	0	0	1	0	1	1.132V	0	0	0	1	0	1	1.644V
1	0	0	1	1	0	1.116V	0	0	0	1	0	1	1.628V
1	0	0	1	1	1	1.100V	0	0	0	1	1	1	1.612V
1	0	1	0	0	0	1.084V	0	0	0	1	1	0	1.596V
1	0	1	0	0	1	1.068V	0	0	0	1	1	1	1.580V
1	0	1	0	1	0	1.052V	0	0	1	0	0	1	1.564V
1	0	1	0	1	1	1.036V	0	0	1	0	1	0	1.548V
1	0	1	1	0	0	1.020V	0	0	1	0	1	1	1.532V
1	0	1	1	0	1	1.004V	0	0	1	1	0	0	1.516V
1	0	1	1	1	0	0.988V	0	0	1	1	0	1	1.500V
1	0	1	1	1	1	0.972V	0	0	1	1	1	0	1.484V
1	0	1	1	1	1	0.956V	0	0	1	1	1	1	1.468V
1	1	0	0	0	0	0.940V	0	1	0	0	0	0	1.452V
1	1	0	0	0	1	0.924V	0	1	0	0	1	0	1.436V
1	1	0	0	1	0	0.908V	0	1	0	0	1	1	1.420V
1	1	0	0	1	1	0.892V	0	1	0	0	1	1	1.404V
1	1	0	1	0	0	0.876V	0	1	0	1	0	0	1.388V
1	1	0	1	0	1	0.860V	0	1	0	1	0	1	1.372V
1	1	0	1	1	0	0.844V	0	1	0	1	1	0	1.356V
1	1	0	1	1	1	0.828V	0	1	0	1	1	1	1.340V
1	1	1	0	0	0	0.812V	0	1	1	0	0	0	1.324V
1	1	1	0	0	1	0.796V	0	1	1	0	1	0	1.308V
1	1	1	0	1	0	0.780V	0	1	1	0	1	1	1.292V
1	1	1	0	1	1	0.764V	0	1	1	0	1	1	1.276V
1	1	1	1	0	0	0.748V	0	1	1	1	0	0	1.260V
1	1	1	1	0	1	0.732V	0	1	1	1	0	1	1.244V
1	1	1	1	1	0	0.716V	0	1	1	1	1	0	1.228V
1	1	1	1	1	1	0.700V	0	1	1	1	1	1	1.212V

VCC_BOOT			Output
B2	B1	B0	
GND	GND	GND	1.708V
REF	REF	REF	1.372V
OPEN	OPEN	OPEN	1.036V
VCC	VCC	VCC	0.700V
REF	VCC	VCC	1.121V

SUSPEND MODE (SUS=HIGH)			
S2	S1	S0	Output
✓ OPEN	VCC	GND	0.748V

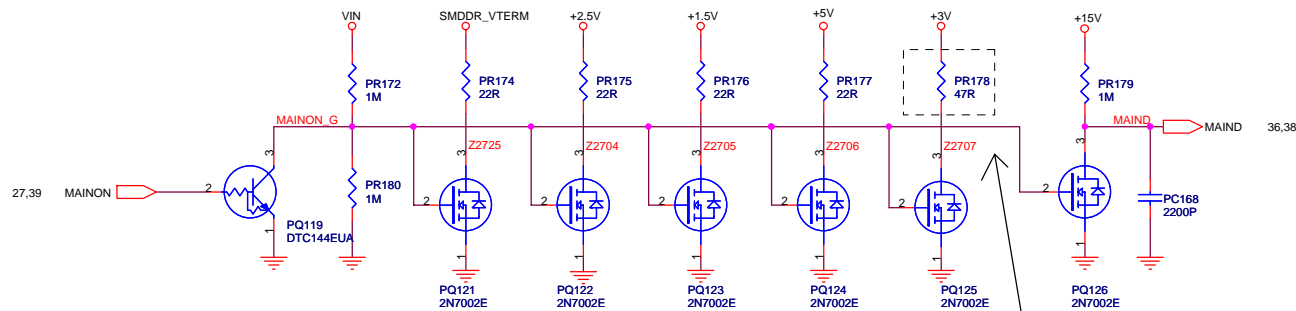


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**Quanta Computer Inc.**

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CPU CORE POWER		
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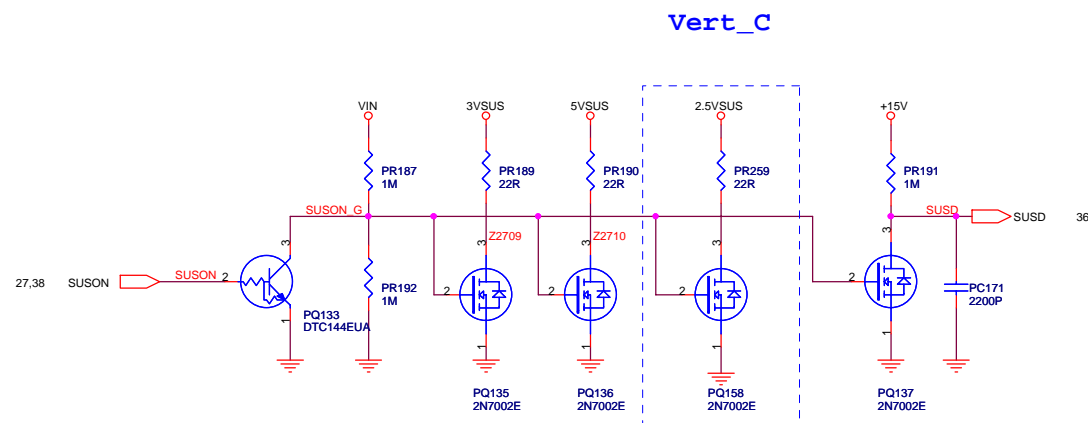
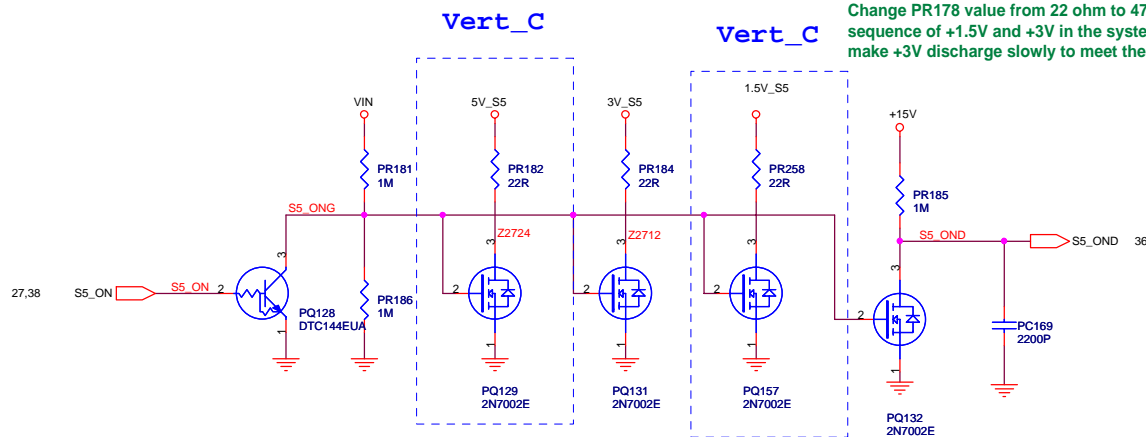
## Vert\_C





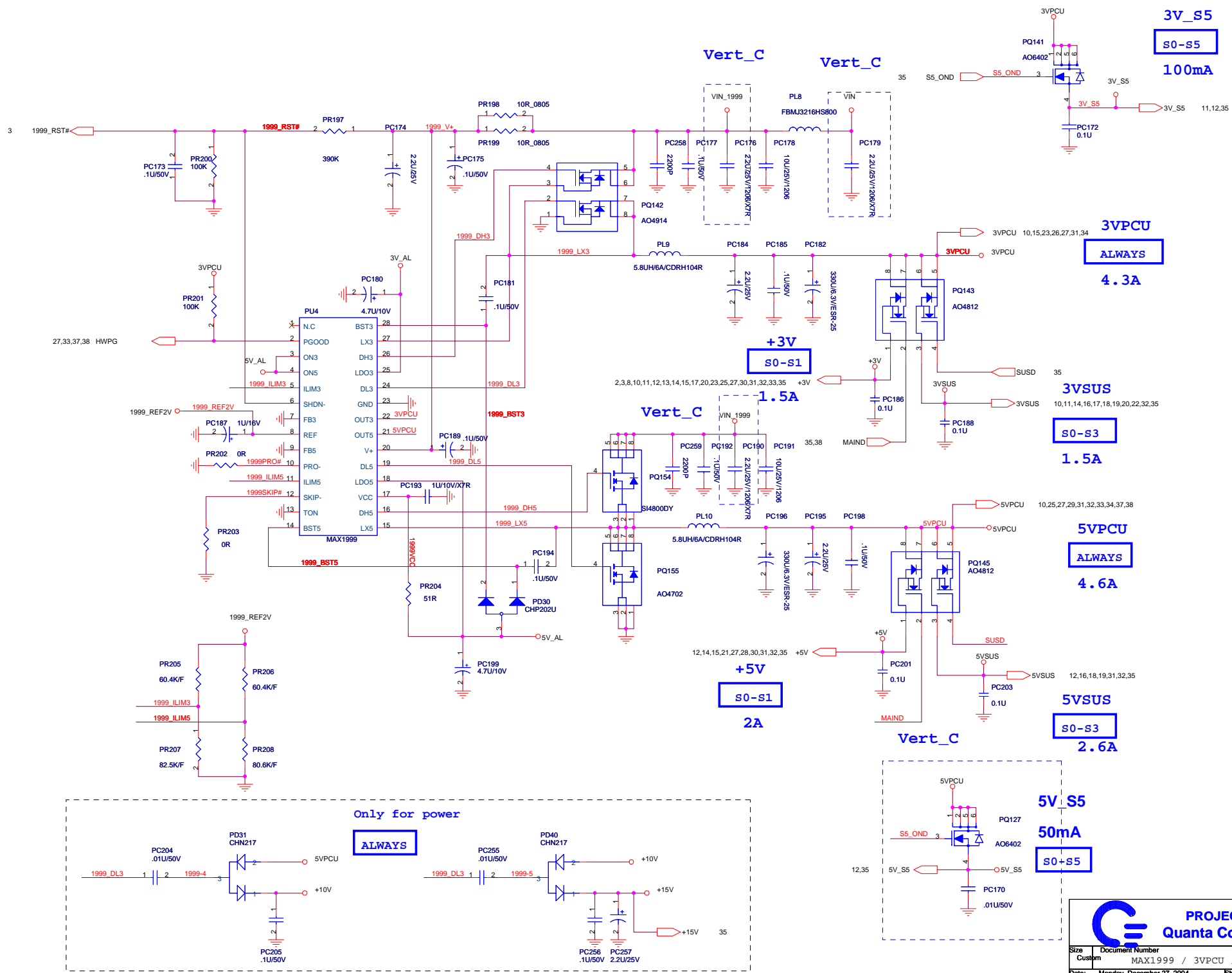
SI stage:  
Change PR178 value from 22 ohm to 47 ohm, Intel has required the timing sequence of +1.5V and +3V in the system, we'd like to increase the value to make +3V discharge slowly to meet the specification of falling time.

Sting 10/19/2004

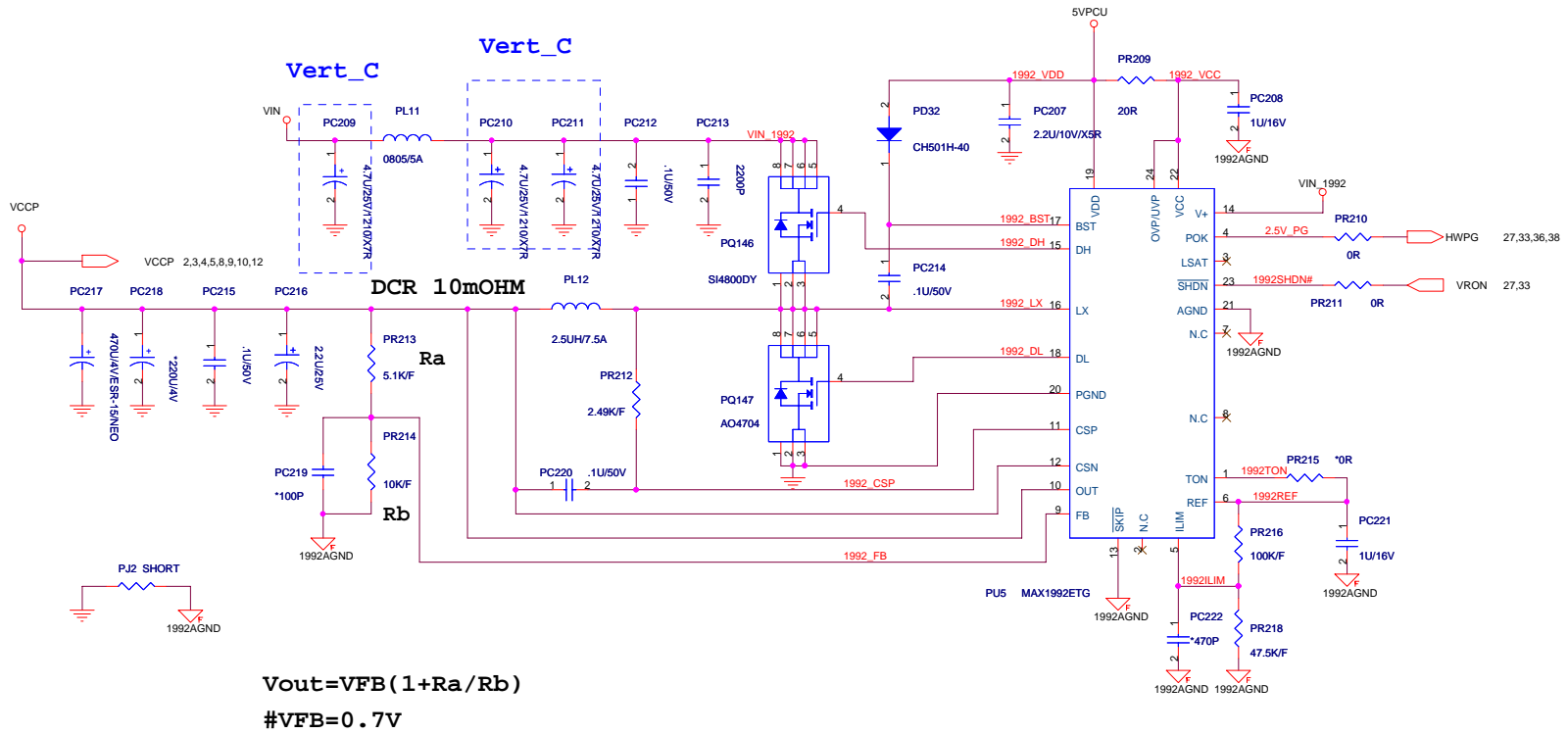


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Quanta Computer Inc.

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DISCHARGE		
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**VCCP**  
**1.05V**  
**6.5A**  
**S0-S1**



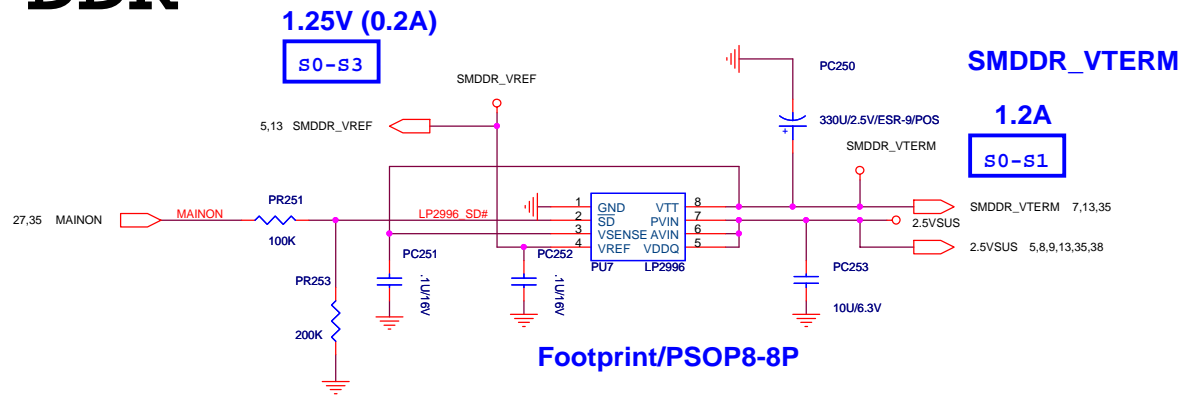
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**Quanta Computer Inc.**

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# DDR



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Quanta Computer Inc.

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