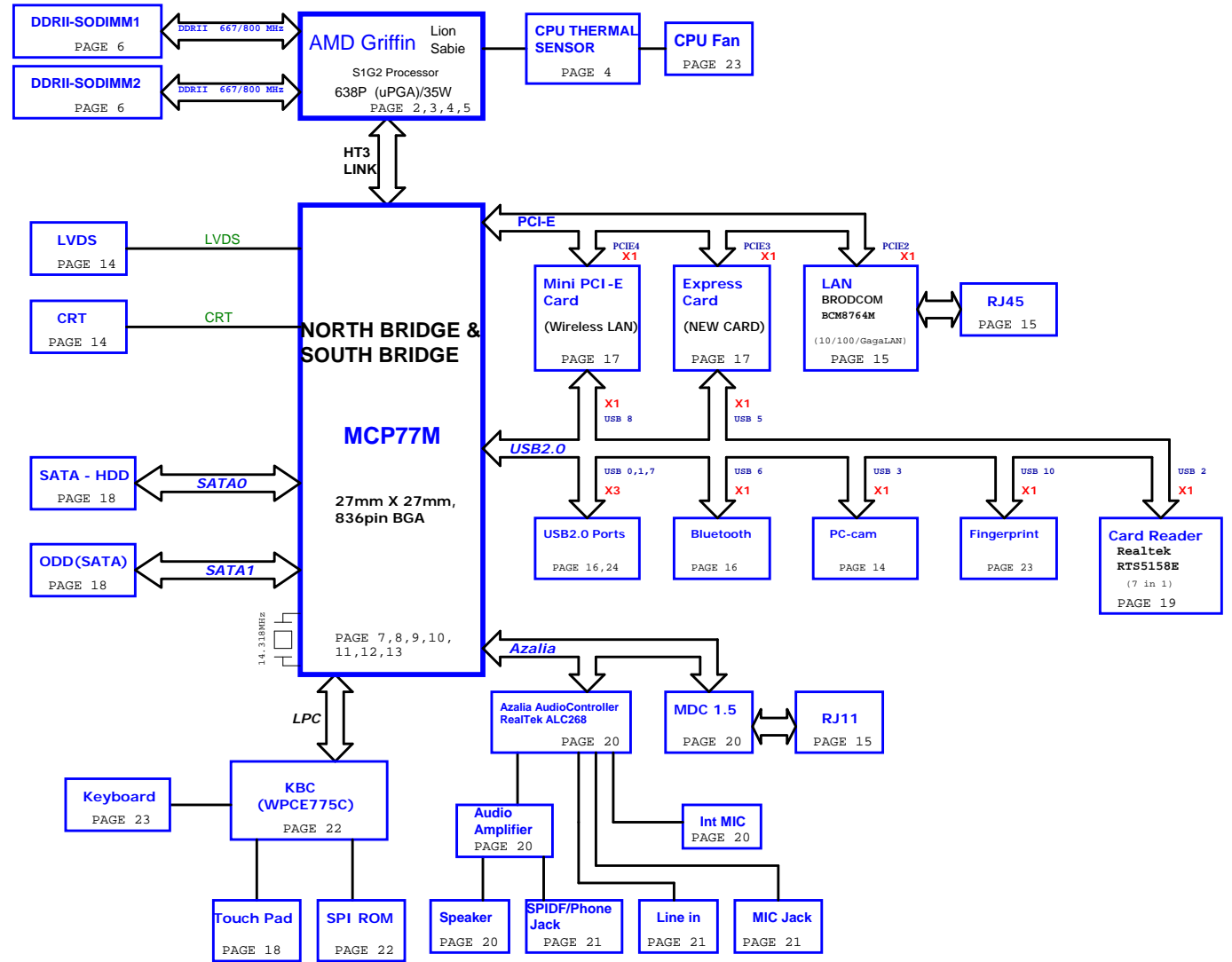


Z05 SYSTEM BLOCK DIAGRAM



- CPU CORE / VDDNB (ISL6265A) PAGE 26
- NB_CORE +1.1V (RT8202) PAGE 28
- +1.1V_NB (RT8202) PAGE 27
- DDR II SMDDR_VTERM 1.8VSUS(TPSS51116REG) PAGE 29
- SYSTEM POWER (ISL6237) PAGE 25
- SYSTEM CHARGER (ISL6251A) PAGE 24

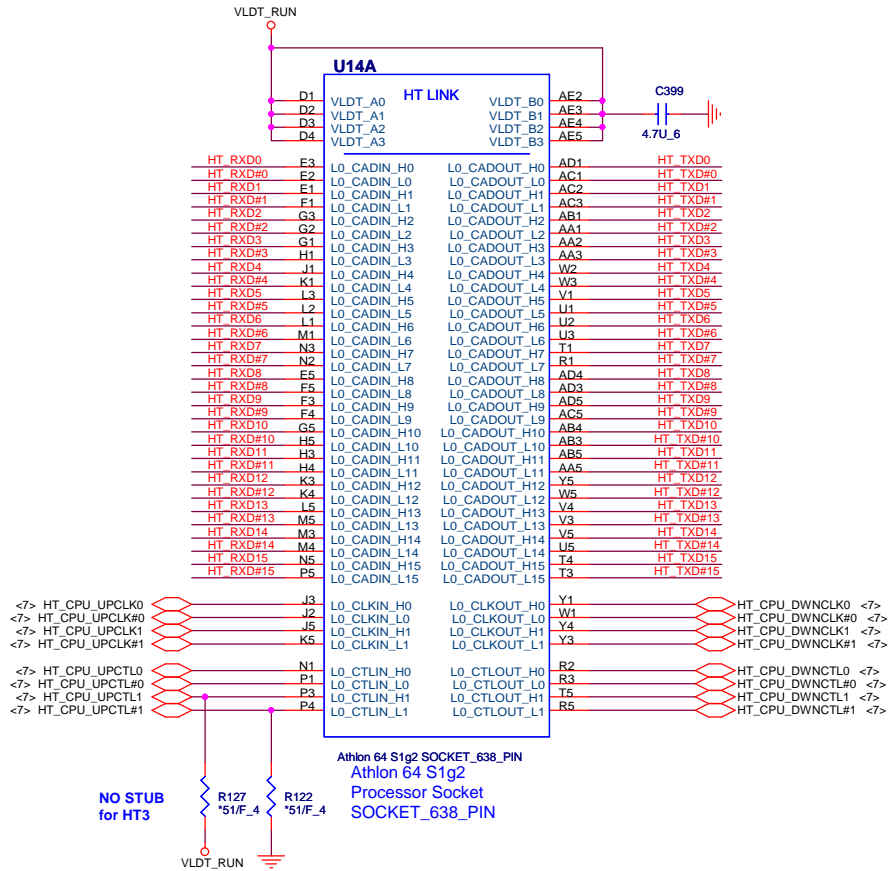


- PCB STACK UP**
- LAYER 1 : TOP
 - LAYER 2 : GND
 - LAYER 3 : IN1
 - LAYER 4 : IN2
 - LAYER 5 : VCC
 - LAYER 6 : BOT

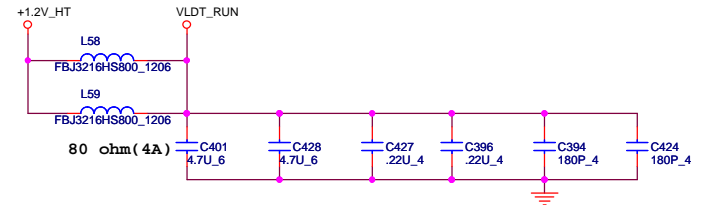


PROCESSOR HYPERTRANSPORT INTERFACE

VLDT_Ax AND VLDT_Bx ARE CONNECTED TO THE LDT_RUN POWER SUPPLY THROUGH THE PACKAGE OR ON THE DIE. IT IS ONLY CONNECTED ON THE BOARD TO DECOUPLING NEAR THE CPU PACKAGE




Note: on MCP77, (HT=+1.1V) and CPU(HT=+1.2V) and therefore cannot be connected to the same HT power rail.



LAYOUT: Place bypass cap on topside of board

NEAR HT POWER PINS THAT ARE NOT CONNECTED DIRECTLY TO DOWNSTREAM HT DEVICE, BUT CONNECTED INTERNALLY TO OTHER HT POWER PINS
PLACE CLOSE TO VLDT0 POWER PINS

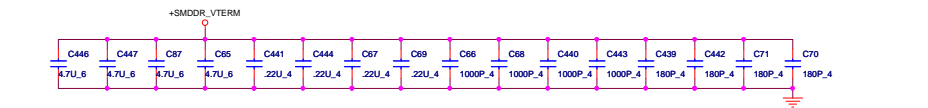
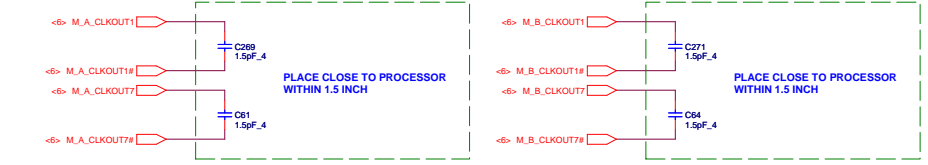
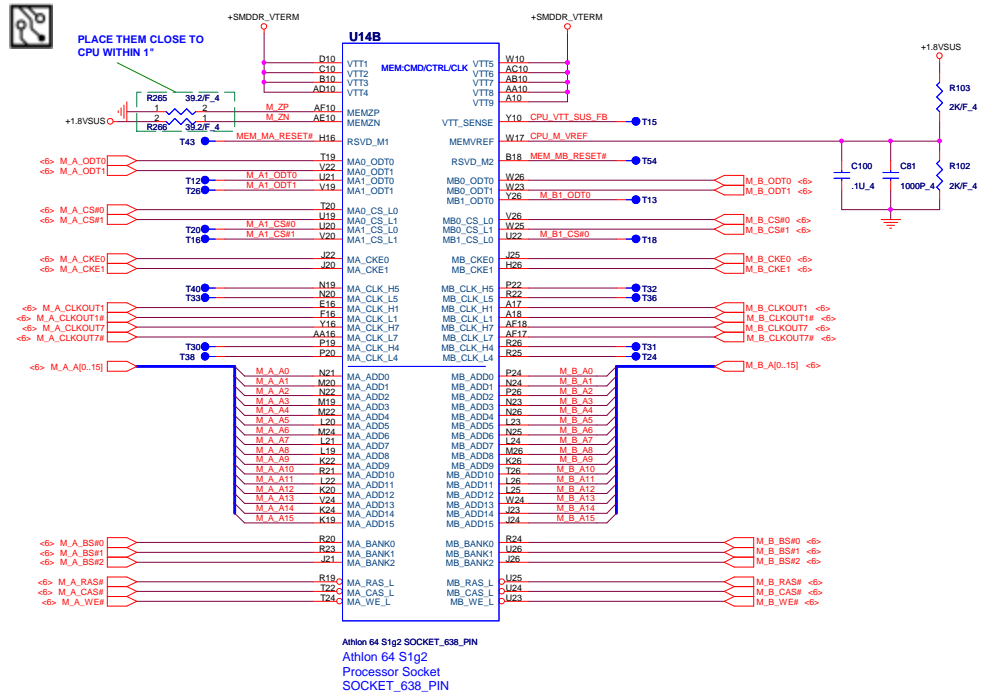




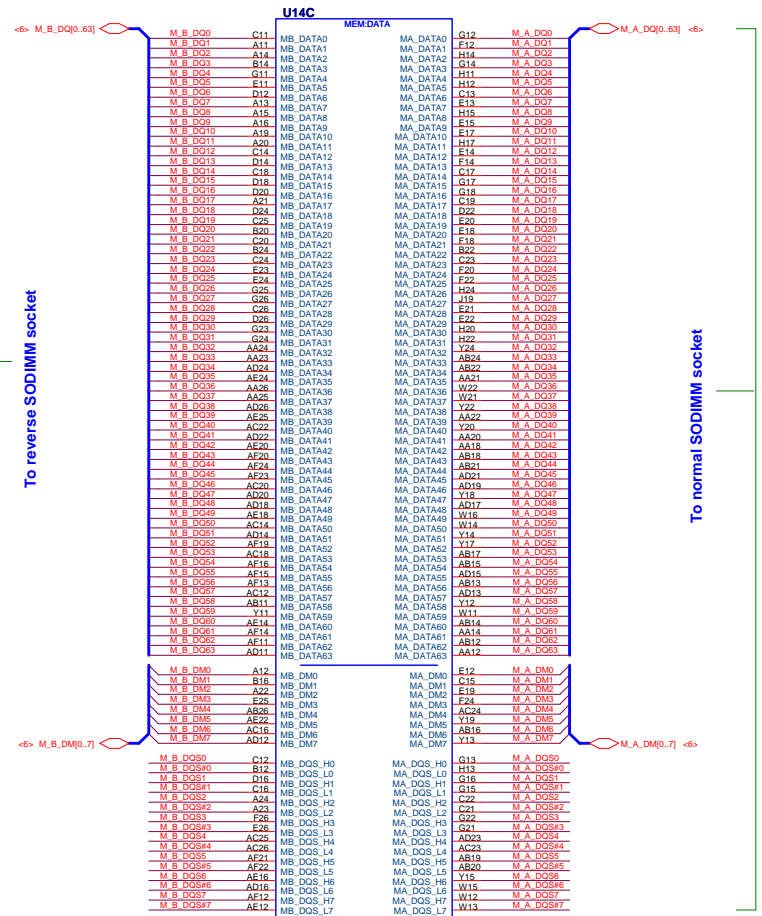
Quanta Computer Inc.
PROJECT : Z05

Size	Document Number	Rev
	AMD Griffin HT I/F	1A
Date:	Mondsy, February 25, 2008	Sheet 2 of 34

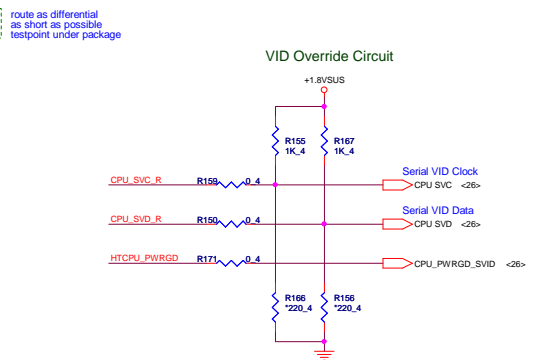
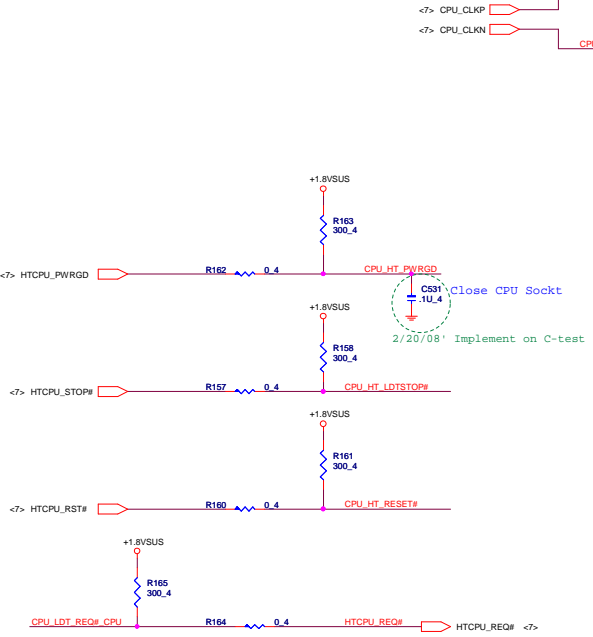
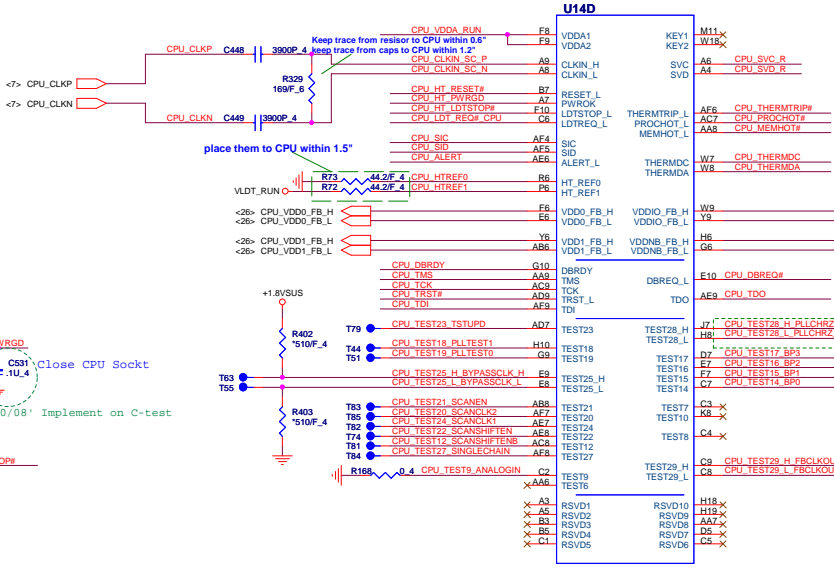
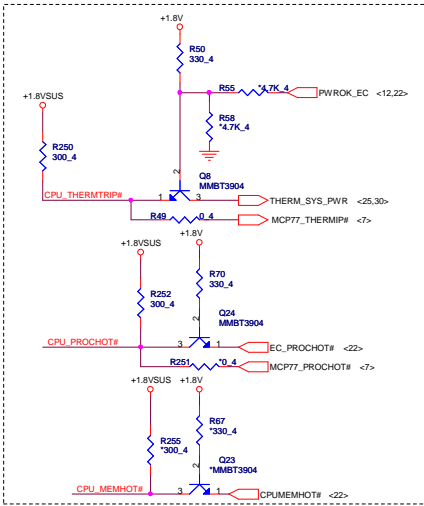
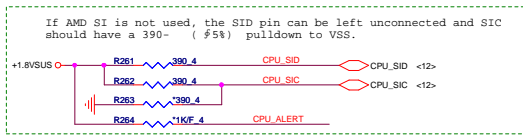
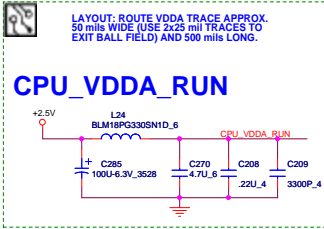
VDD_VTT_SUS_CPU IS CONNECTED TO THE VDD_VTT_SUS POWER SUPPLY THROUGH THE PACKAGE OR ON THE DIE. IT IS ONLY CONNECTED ON THE BOARD TO DECOUPLING NEAR THE CPU PACKAGE



Processor DDR2 Memory Interface

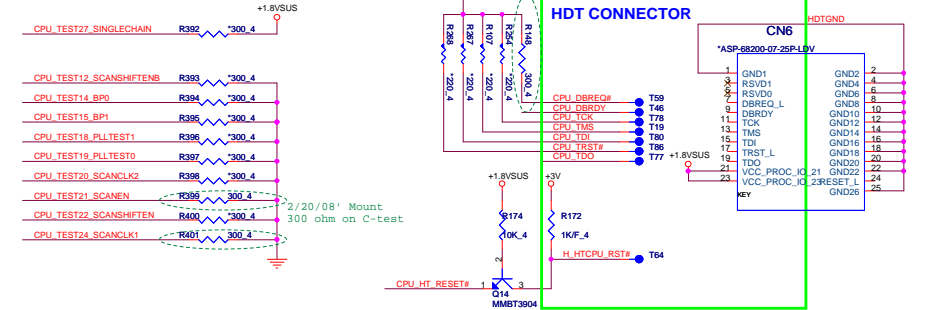
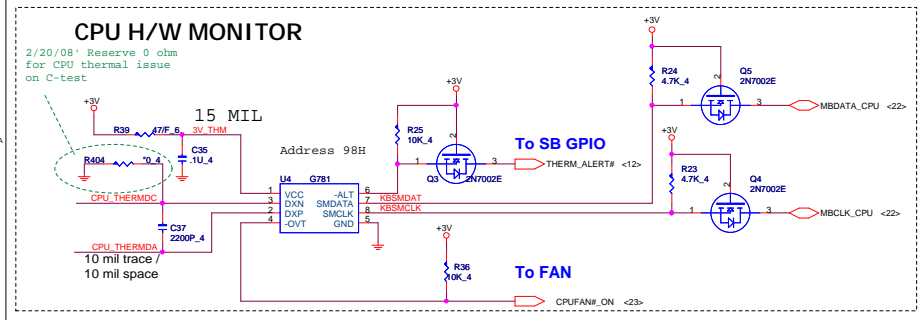


ATHLON Control and Debug



VFIX MODE

SVC	SVD	Voltage Output(CPU Power)
0	0	1.4V
0	1	1.2V
1	0	1.0V
1	1	0.8V

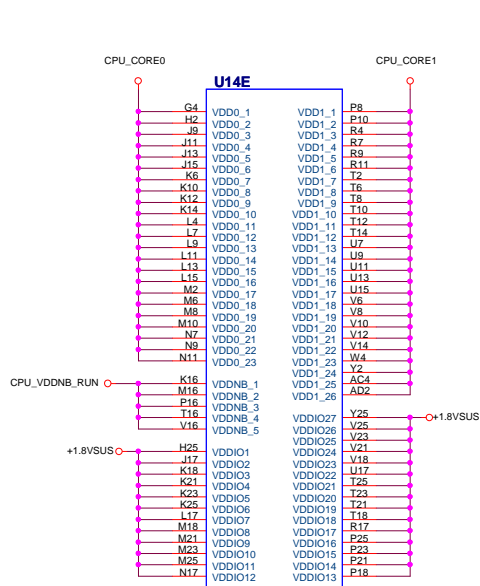


Quanta Computer Inc.
PROJECT : Z05

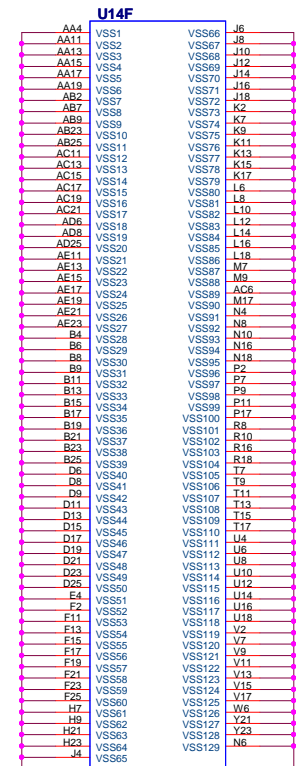
Size Document Number
AMD Griffin CTRL & DEBUG

Date: Monday, February 26, 2008 Sheet 4 of 34

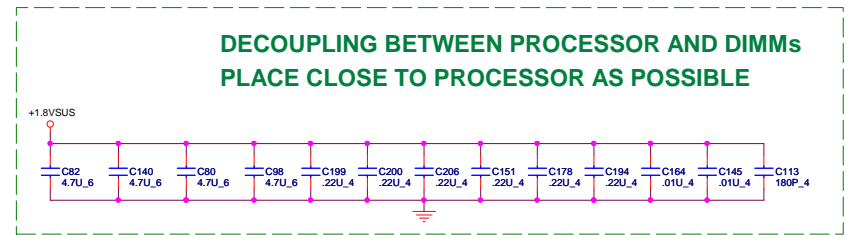
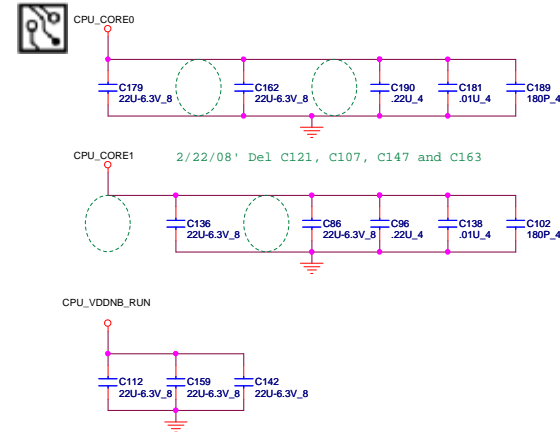
PROCESSOR POWER AND GROUND



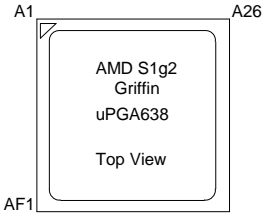
Athlon 64 S1g2 SOCKET_638_PIN
Athlon 64 S1g2
Processor Socket
SOCKET_638_PIN



Athlon 64 S1g2 SOCKET_638_PIN
Athlon 64 S1g2
Processor Socket
SOCKET_638_PIN



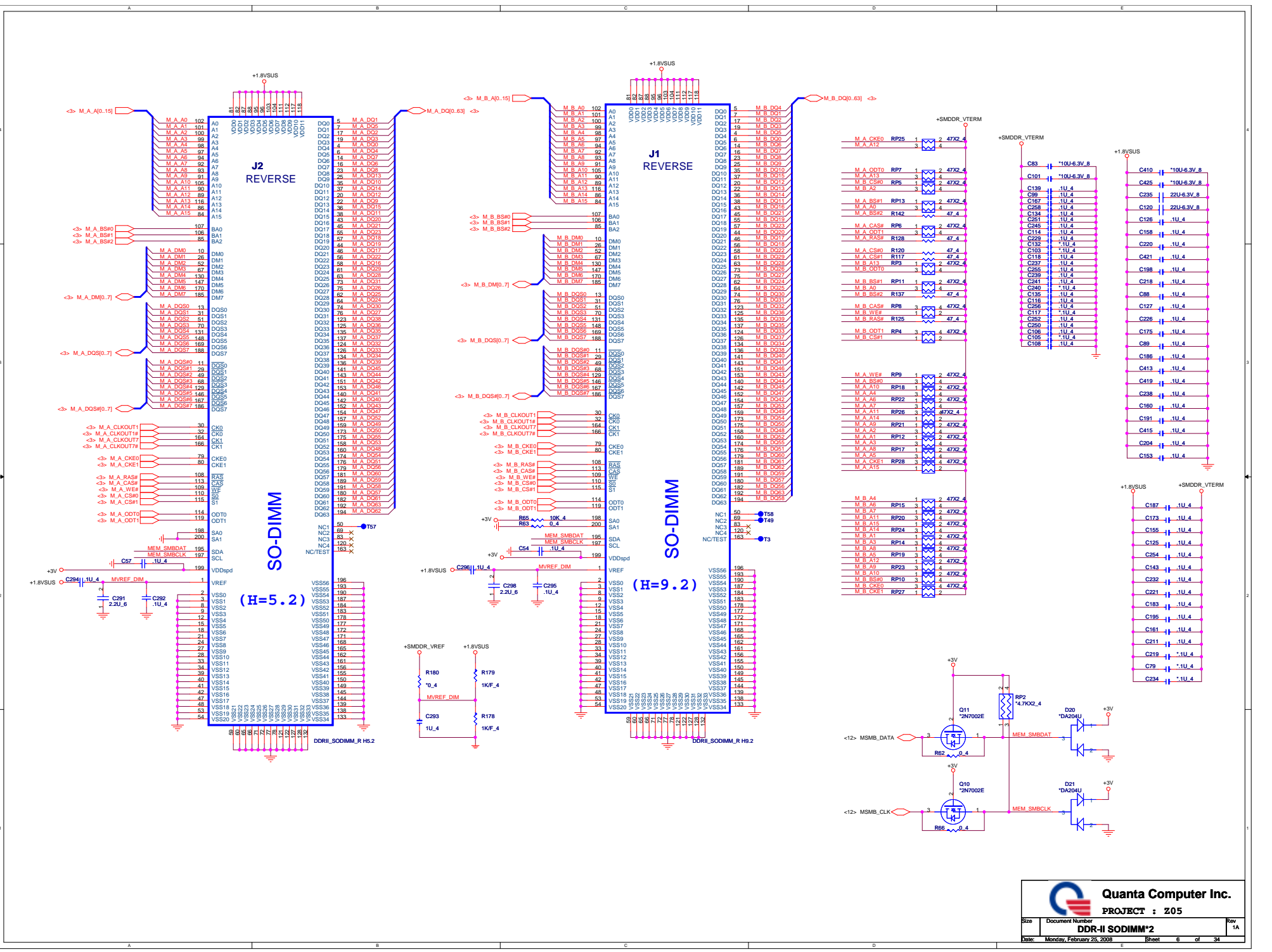
**DECOUPLING BETWEEN PROCESSOR AND DIMMs
PLACE CLOSE TO PROCESSOR AS POSSIBLE**



AMD S1g2
Griffin
uPGA638
Top View

Quanta Computer Inc.
PROJECT : Z05

Size	Document Number	Rev
	AMD Griffin PWR & GND	1A
Date:	Monday, February 25, 2008	Sheet 5 of 34



Quanta Computer Inc.
PROJECT : Z05

Size	Document Number	Rev
	DDR-II SODIMM*2	1A
Date:	Monday, February 25, 2008	Sheet 6 of 34

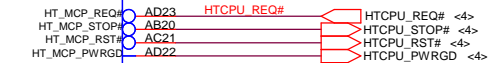
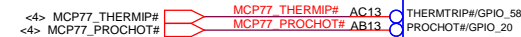
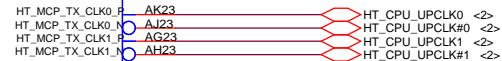
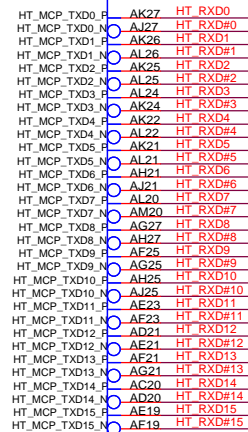
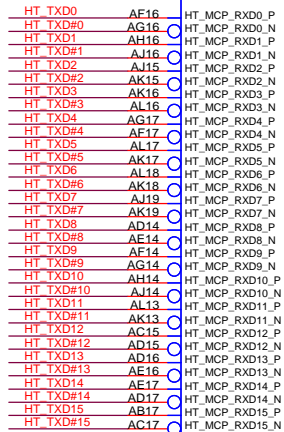
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 <2> HT_TXD#[15..0]

HT_RXD[15..0] <2>
 HT_RXD#[15..0] <2>

U15A
 FCBGA836-NVIDIA-MCP67 AJMCP770T02

SEC 1 OF 8

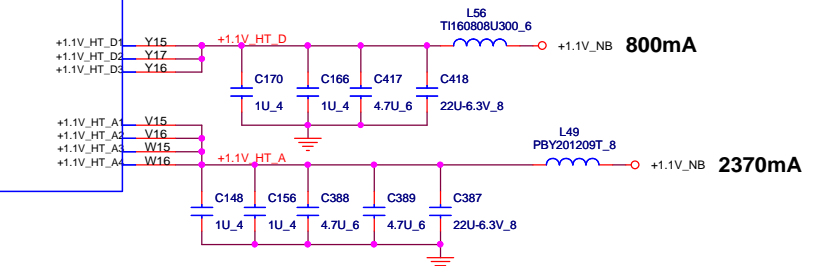
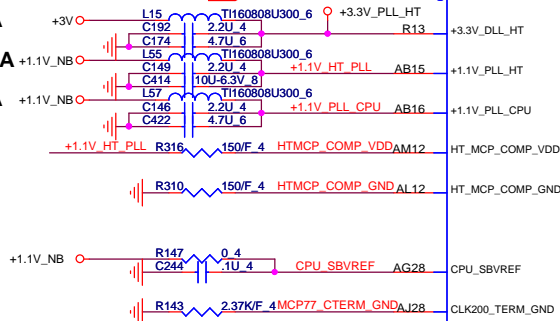
HT



70mA

128mA

17mA



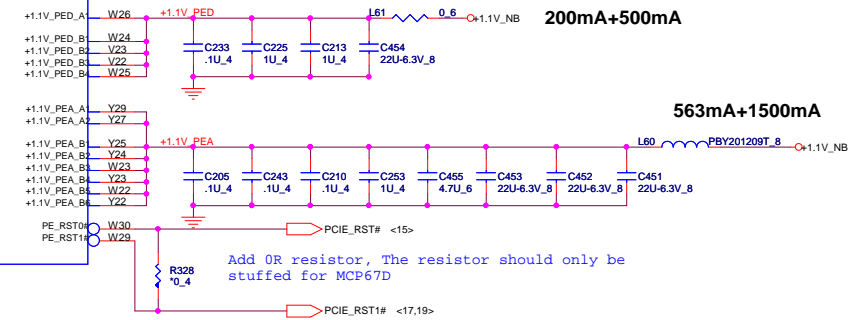
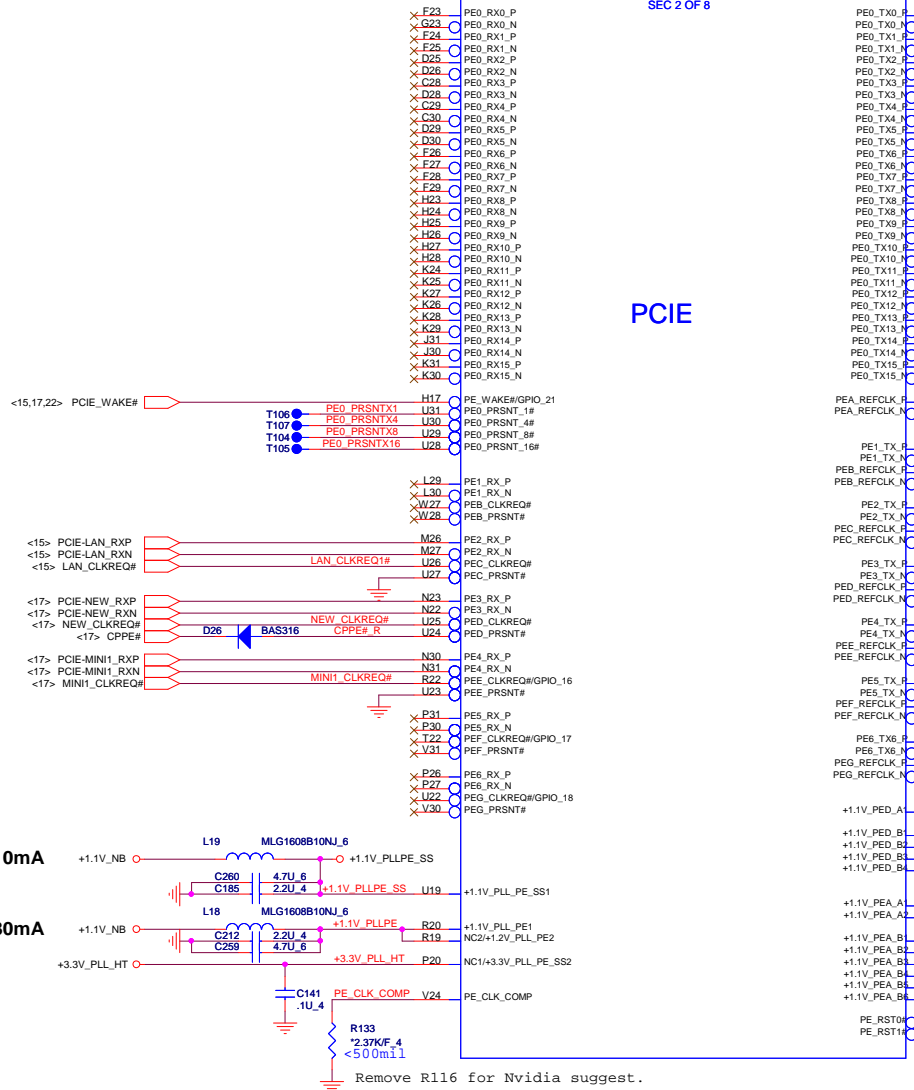
PROJECT : Z05		
Size	Document Number	Rev 1A
MCP77 HyperTransport Bus		
Date: Monday, March 10, 2008	Sheet 7 of 34	

U15B
FCBGAS36-NVIDIA-MCP67

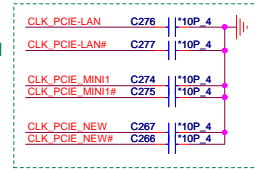
SEC 2 OF 8

PCIE

- [LAN]
- [NEW CARD]
- [MINI CARD-1]

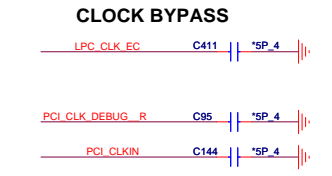
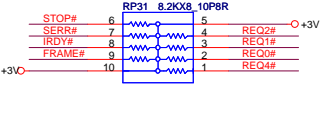
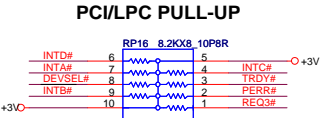
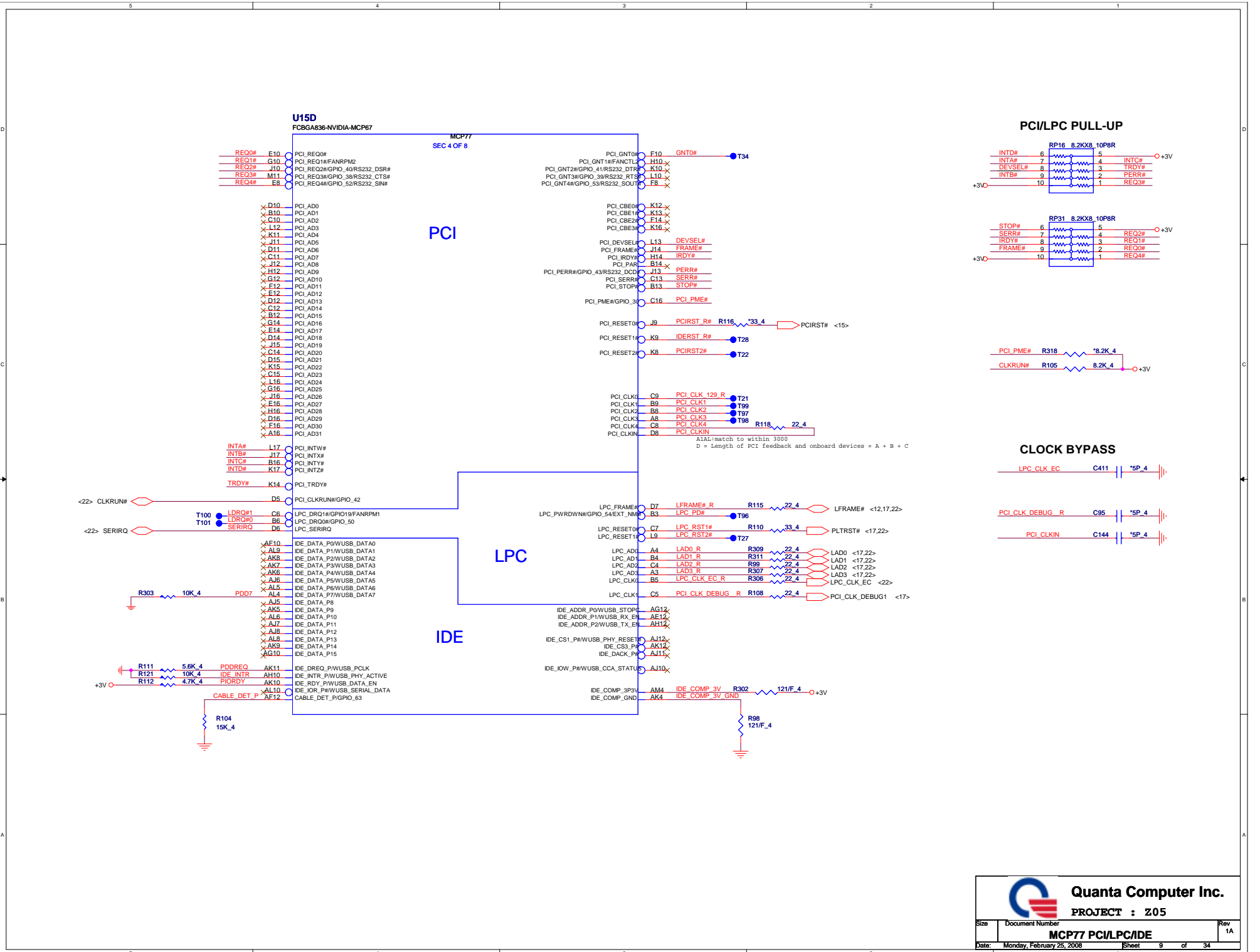


- [CARD Reader]
- [LAN]
- [NEW CARD]
- [MINI CARD-1]



Quanta Computer Inc.
PROJECT : Z05

Size	Document Number	Rev
	MCP77 PCI-Express Bus	1A
Date:	Monday, March 10, 2008	Sheet 8 of 34

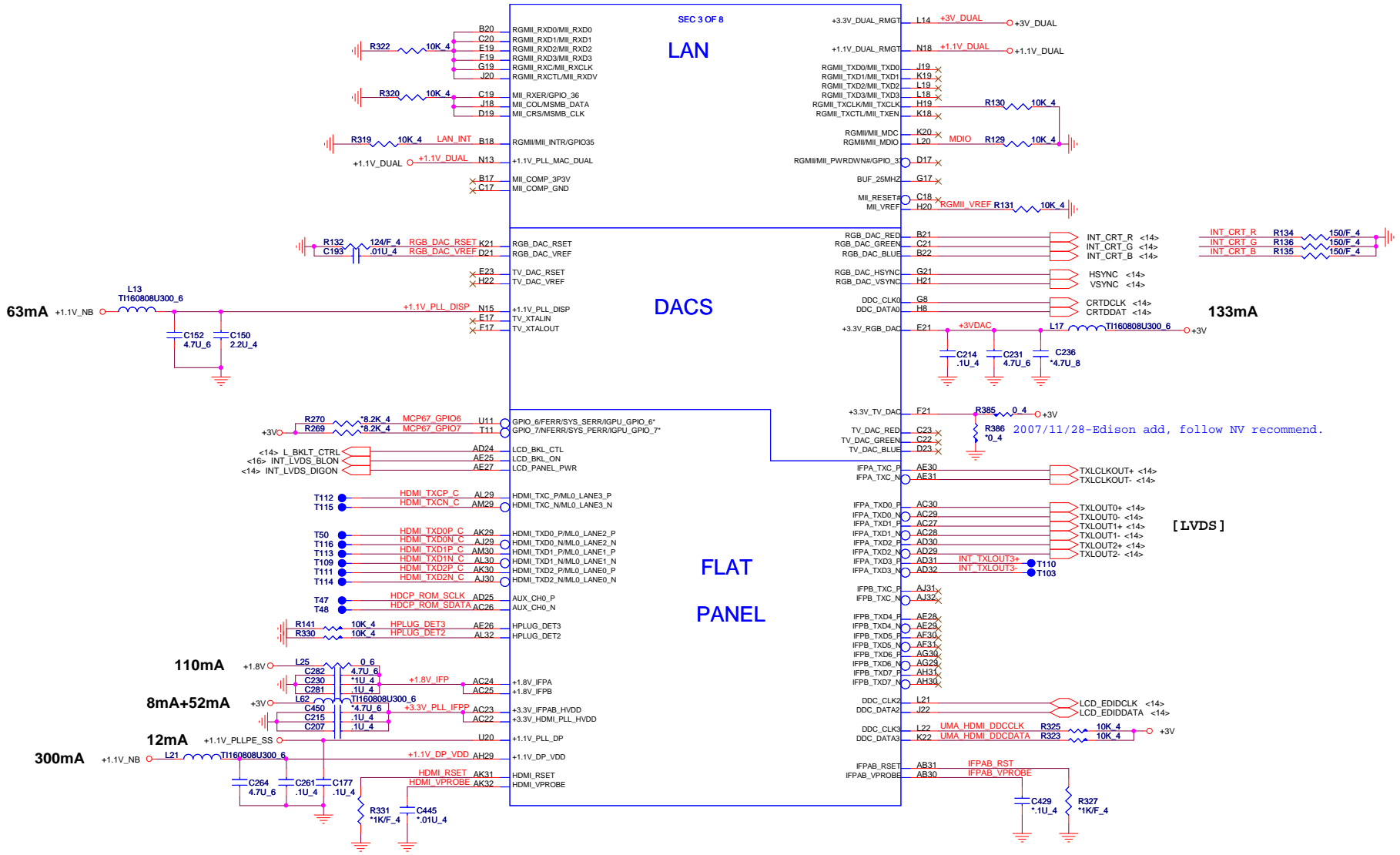


U15C
FCBGA836-NVIDIA-MCP67

LAN

DACS

FLAT
PANEL



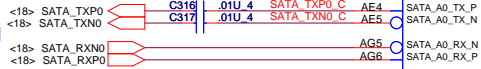
		Quanta Computer Inc.
		PROJECT : Z05
Size	Document Number	MCP77 LAN and Graphics
Date	Monday, February 25, 2008	
		Rev 1A
		Sheet 10 of 34

U15E
FCBG836-NVIDIA-MCP67

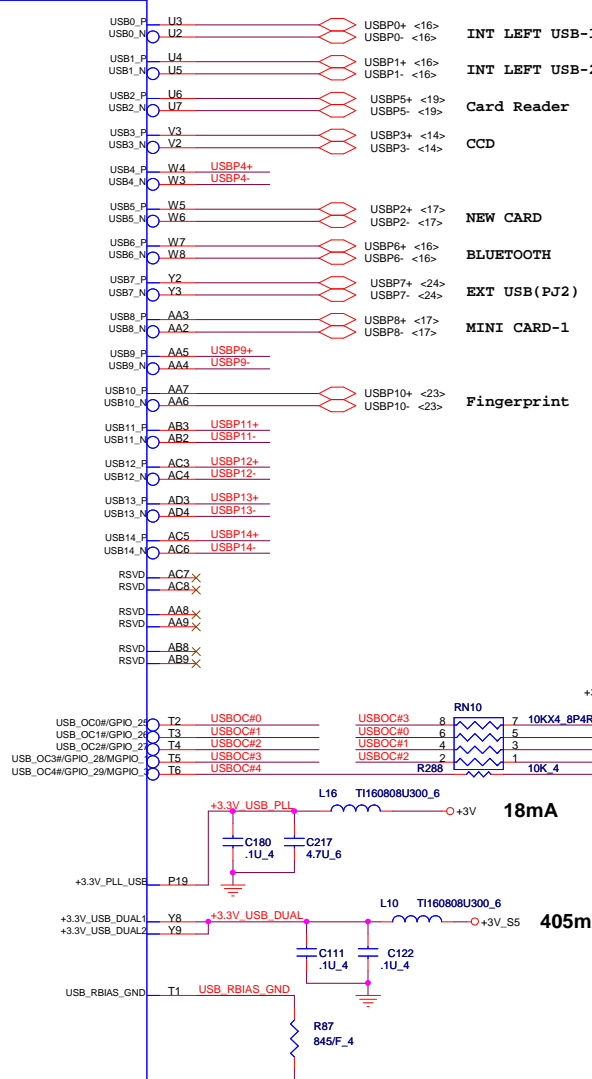
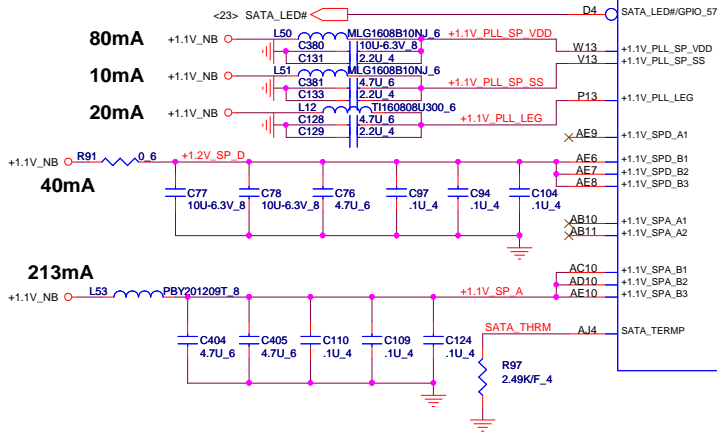
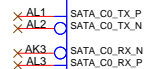
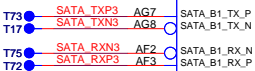
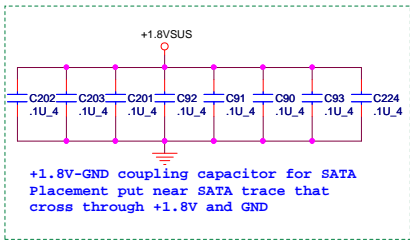
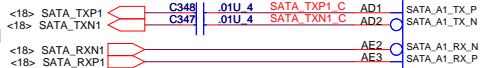
SEC 5 OF 8

SATA USB

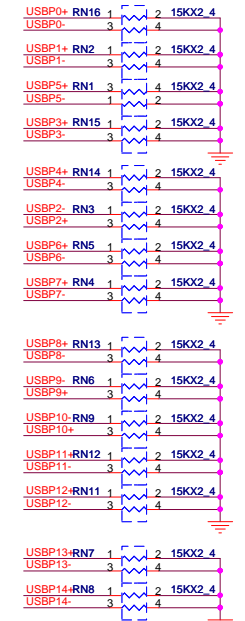
[SATA HDD]



[SATA ODD]



USB PULL-DOWN



2007/11/29: Pagell the resistor R87 from 909ohm change to 845ohm (follow NV suggest)

Quanta Computer Inc.
PROJECT : Z05

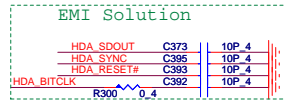
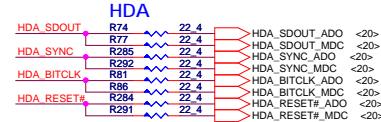
Size	Document Number	Rev
	MCF77 SATA and USB	1A
Date:	Sunday, March 09, 2008	Sheet 11 of 34

U15F
FCBGA836-NVIDIA-MCP67

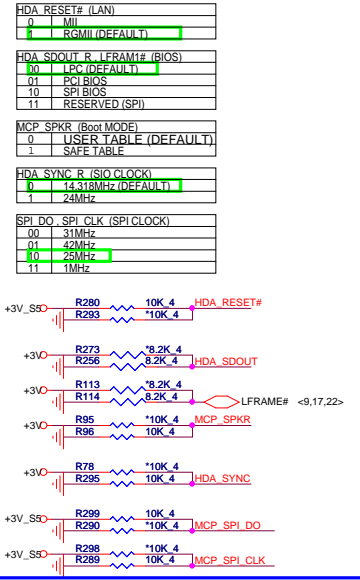
SEC 6 of 8

HDA

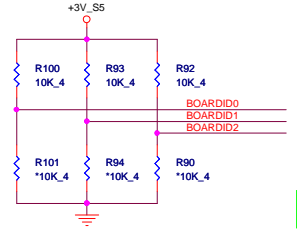
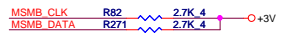
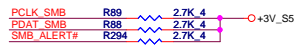
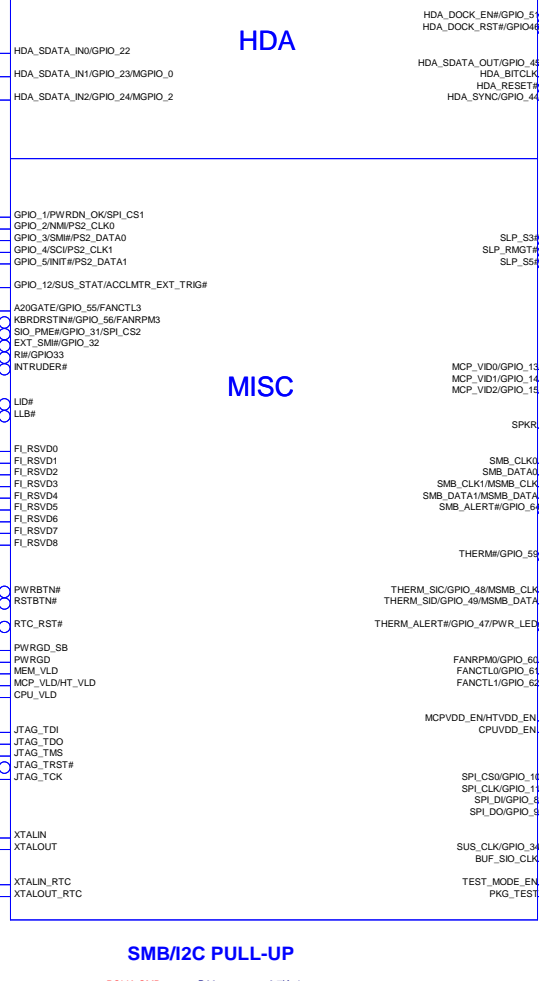
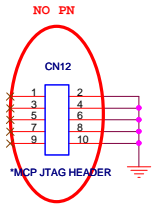
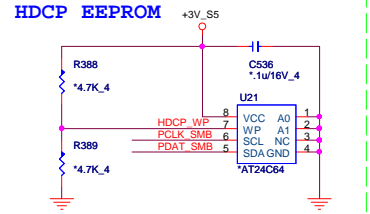
MISC



MCP77 STRAPPING



Acer Suggest Reserve HDCP EEPROM 2007/12/05



M/B ID for 14"/17"

ID0	ID1	ID2	M/B
0	0	0	17" D
0	0	1	X
0	1	0	15" D
1	0	0	15" U
1	0	1	14" Dual Core CPU & MXM
1	1	0	14" Dual Core CPU & UMA
1	1	1	14" Single Core CPU & UMA

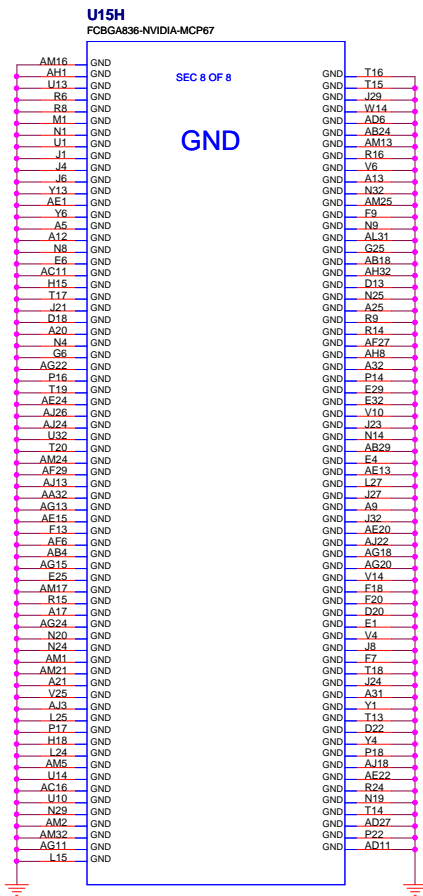
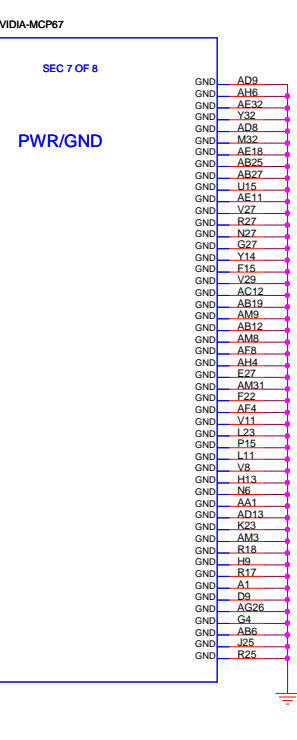
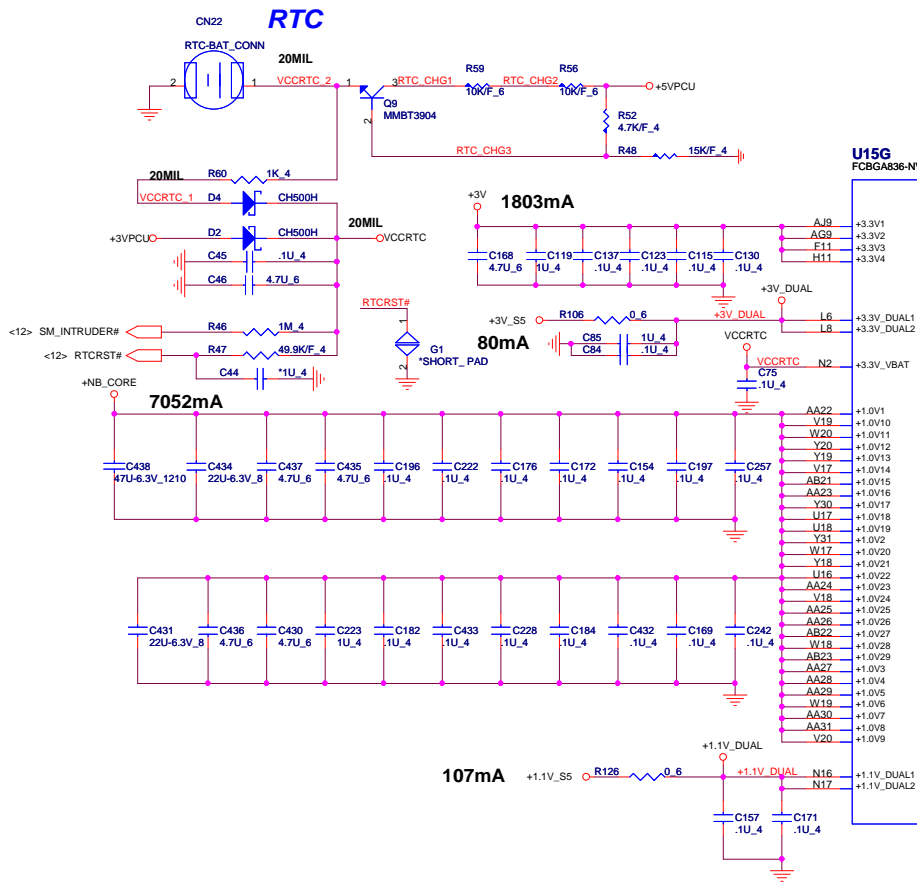
2007/11/28-Edison: Removethese part
R315, R317, R326, R324, C423, Q28, Q29


Delay 10ms
after S5 powerOK

Quanta Computer Inc.
PROJECT : Z05

Size	Document Number	Rev
	MCP77 HDA/SMB/PMU/GPIO	1A
Date:	Sunday, March 08, 2008	Sheet 12 of 34

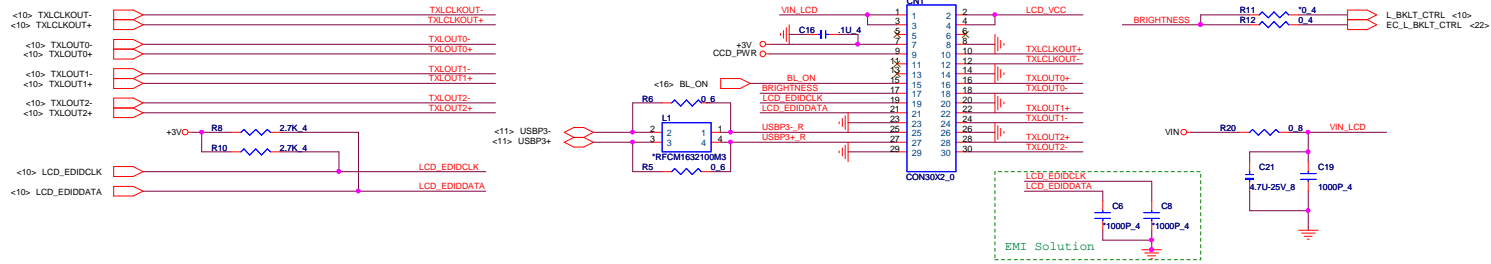
MCP77 POWER PLANE/GND & BYPASS



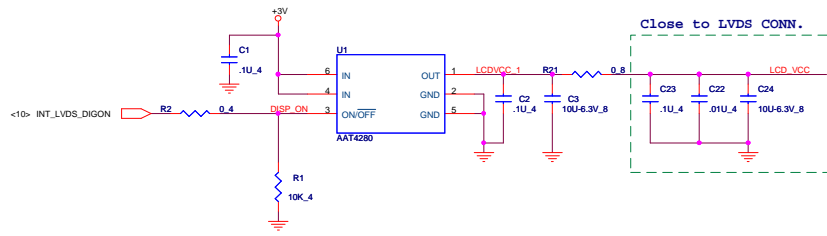

Quanta Computer Inc.
 PROJECT : Z05
 Size Document Number
MCP77 POWER/GND/RTC
 Date: Monday, February 25, 2008 Sheet 13 of 34 Rev 1A

LVDS

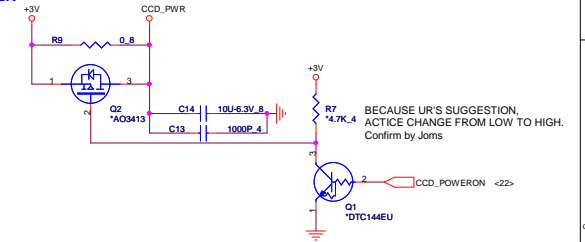
SINGLE_CH



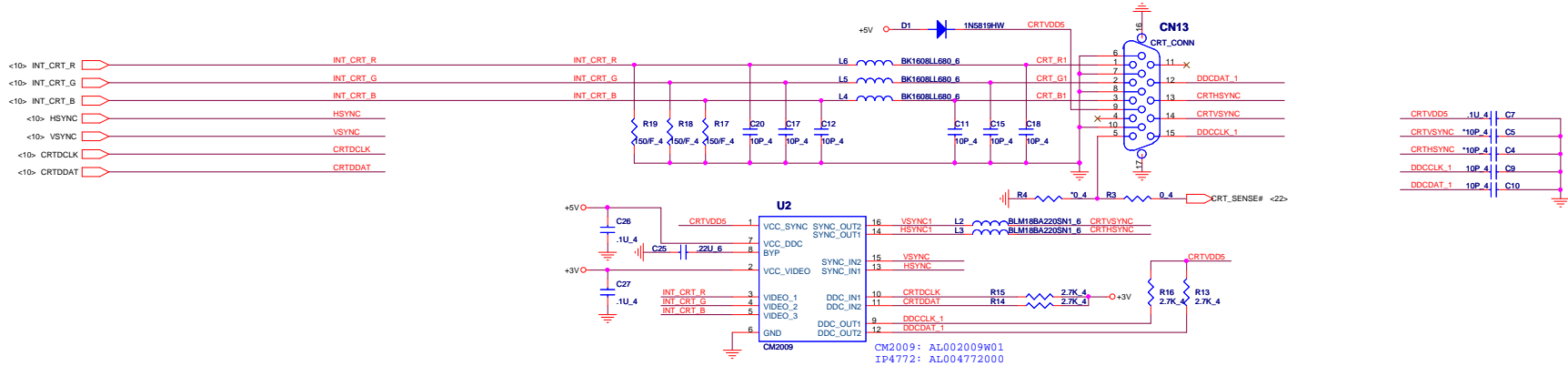
LCD POWER



CAMERA MODULE POWER



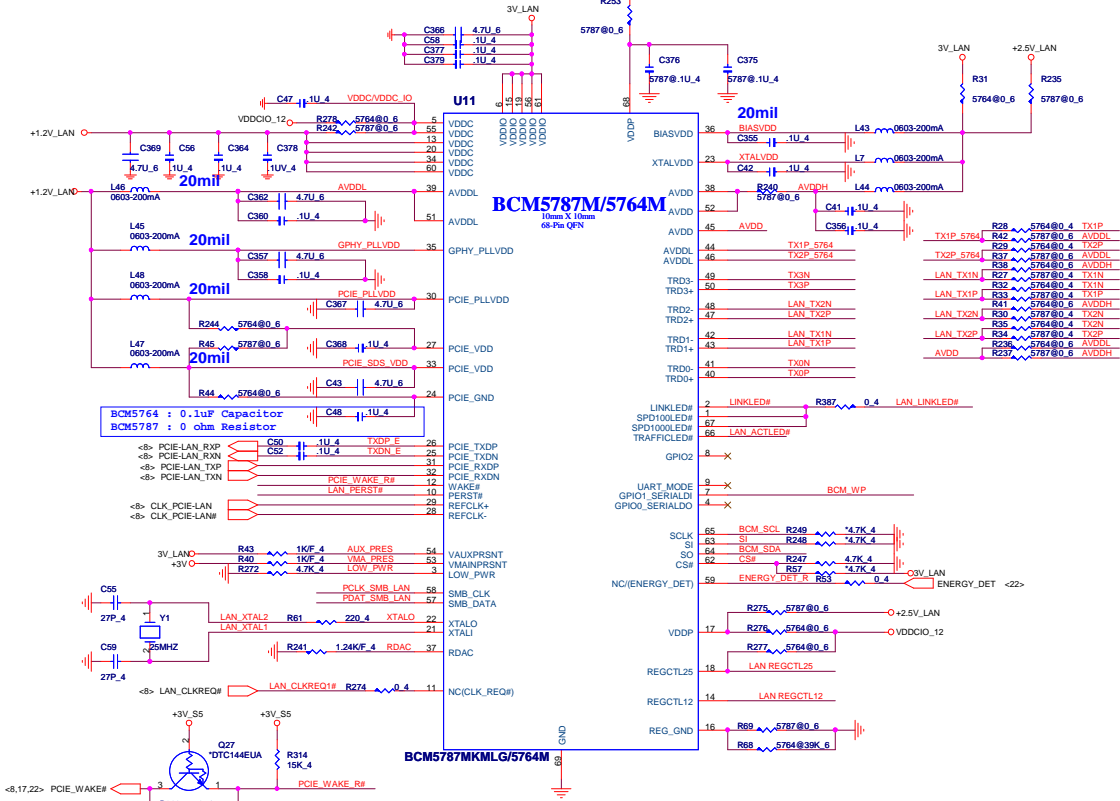
CRT



TV Out (SVHS) MiniDIN 7-pin

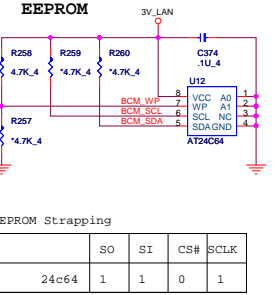
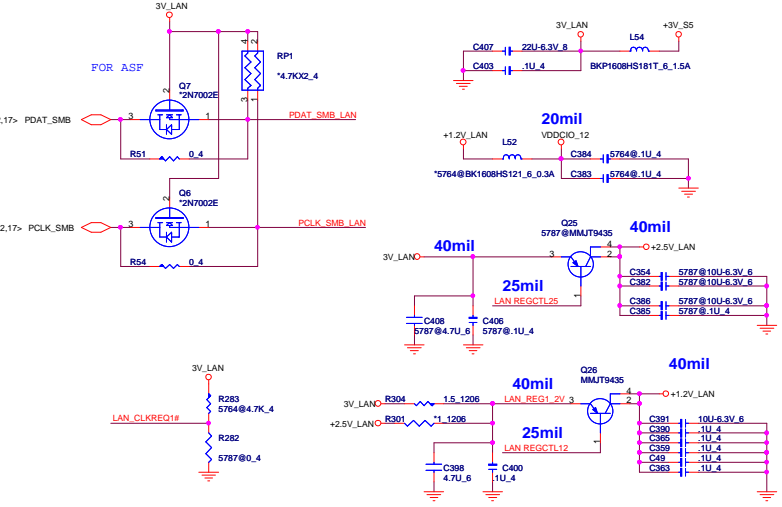
Delete TVOUT MiniDIN

Giga LAN BCM5787M/5764M

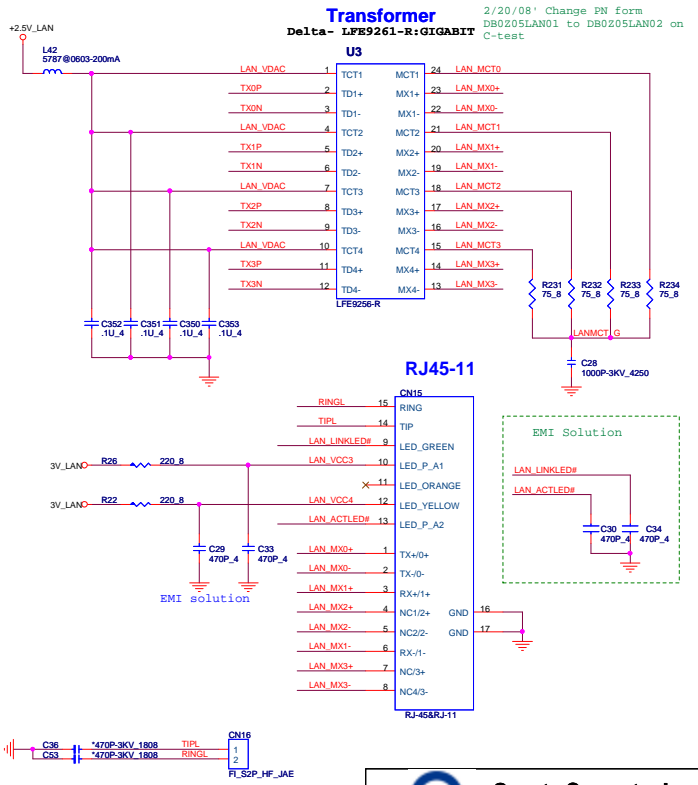


BCM5787M/5764M
 Theta X 11mm
 68-Pin QFN

LAN POWER



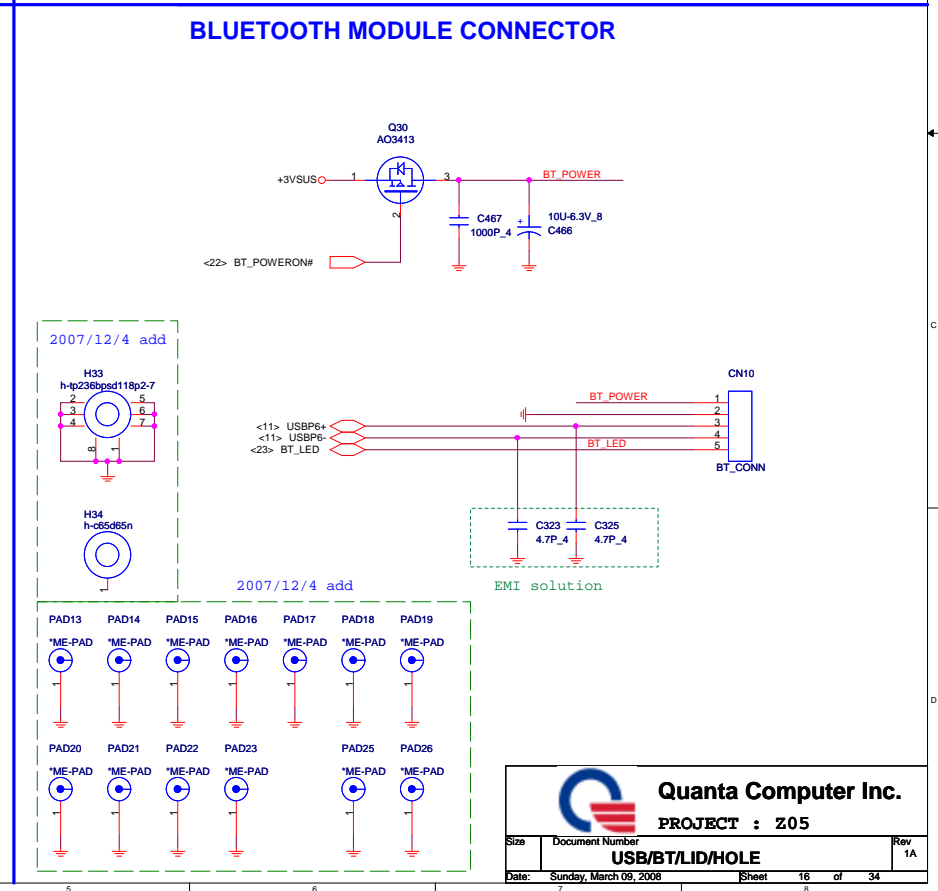
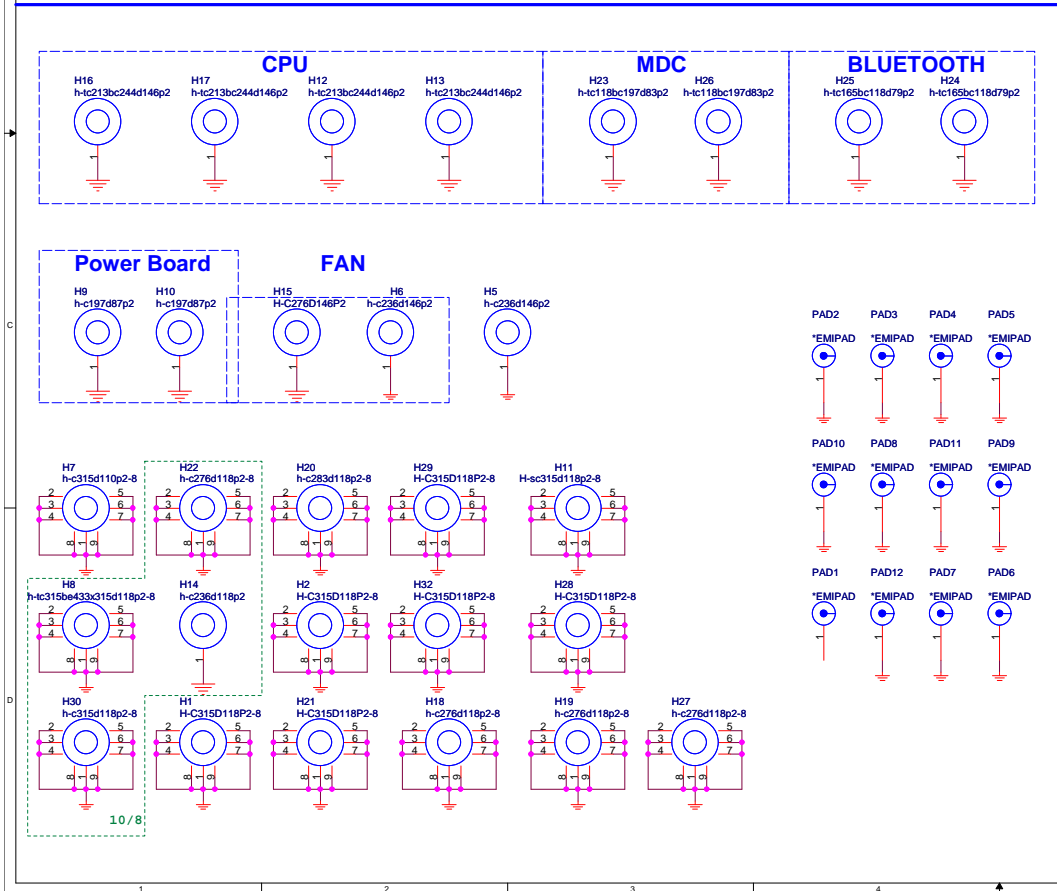
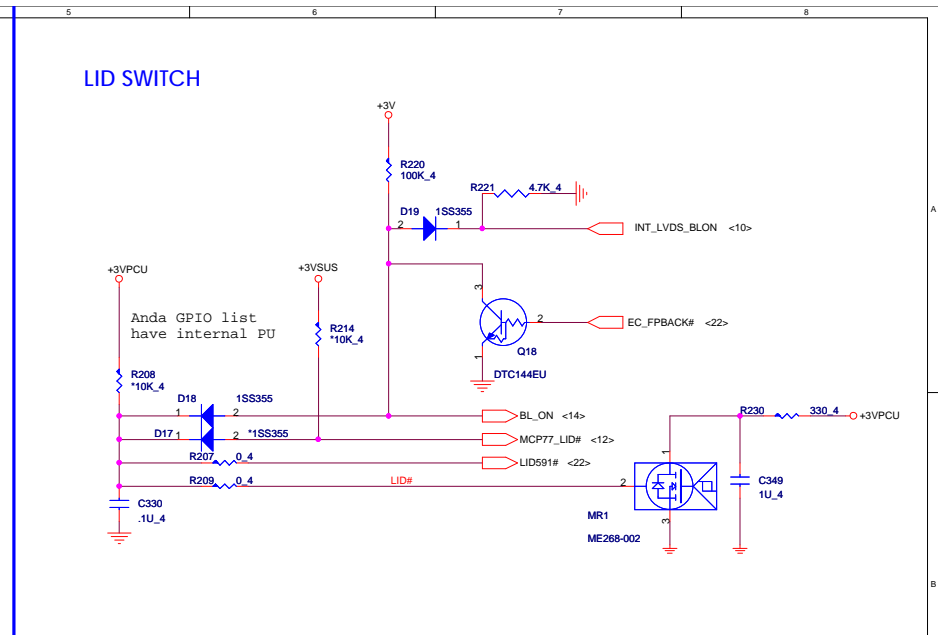
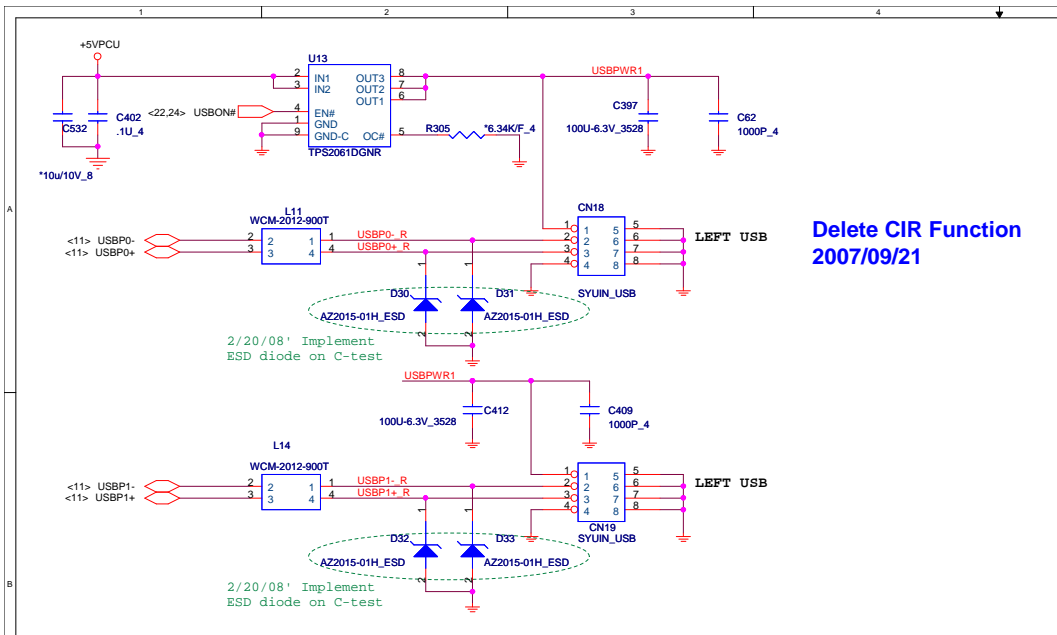
Delete LAN within DOCK Selector



Quanta Computer Inc.
PROJECT : Z05

Size Document Number
GigaLAN BCM5787/RJ45 & RJ11 Rev 1A

Date: Friday, March 07, 2008 Sheet 15 of 34



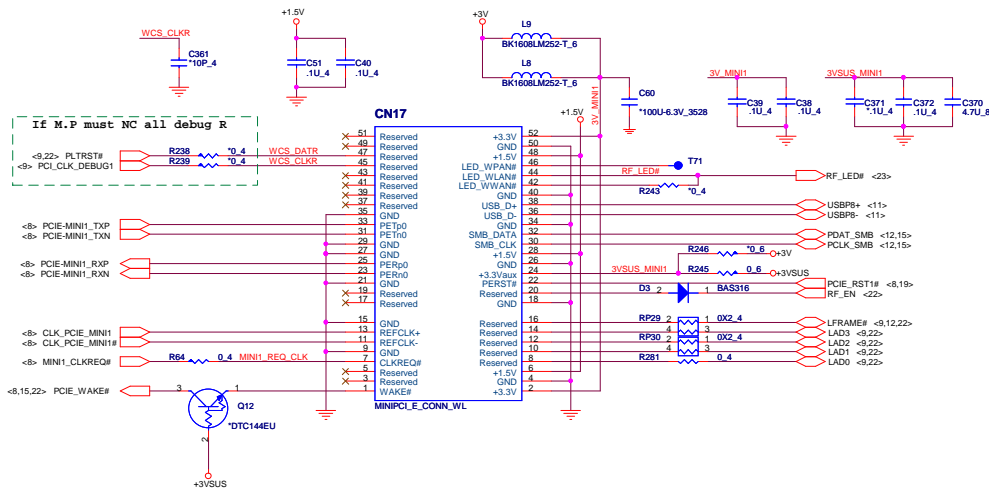
Quanta Computer Inc.

PROJECT : Z05

Size	Document Number	Rev
	USB/BT/LID/HOLE	1A
Date: Sunday, March 08, 2008	Sheet 16 of 34	

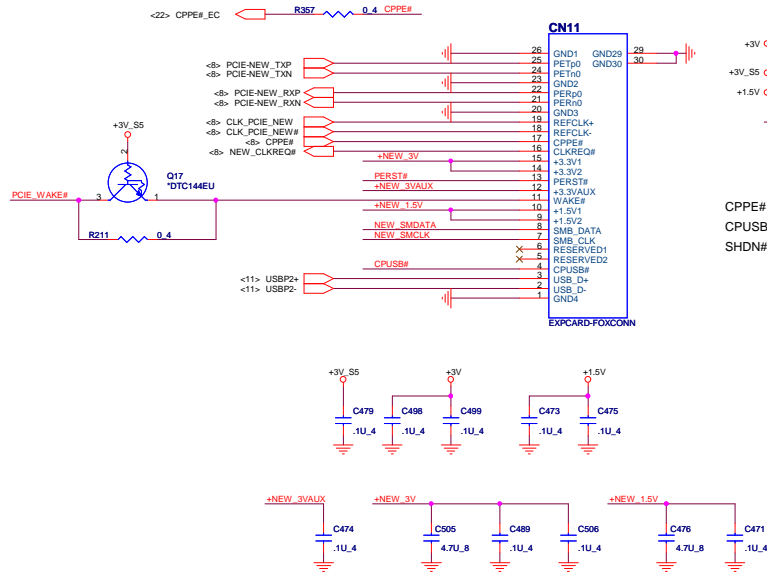
MINI-Card

MINI-Card Port-1

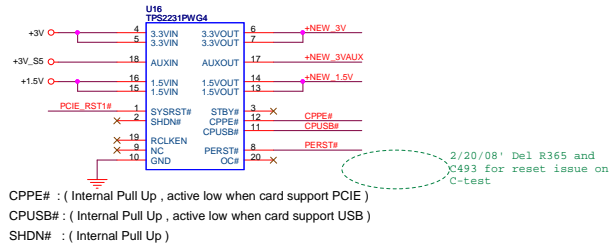


Delete MINI-Card Port-2

New card

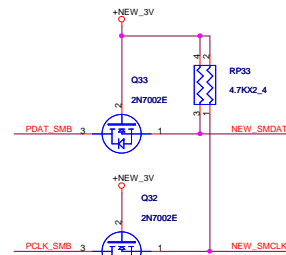


NEW CARD'S POWER SWITCH

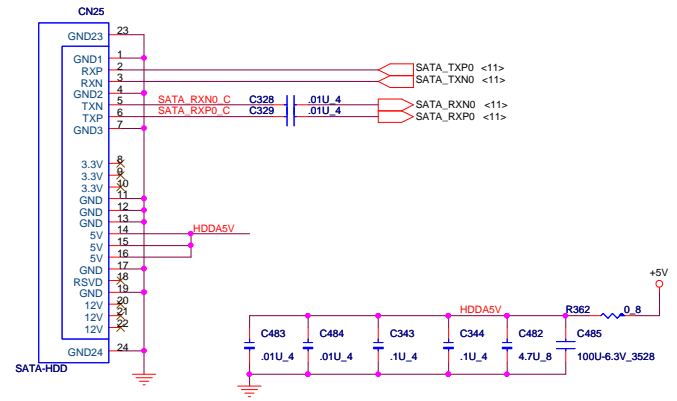


2/20/08' Del R365 and X493 for reset issue on C-test

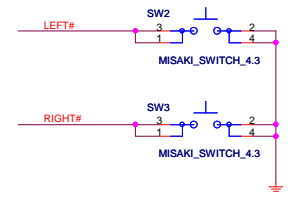
CPPE# : (Internal Pull Up , active low when card support PCIe)
 CPUSE# : (Internal Pull Up , active low when card support USB)
 SHDN# : (Internal Pull Up)



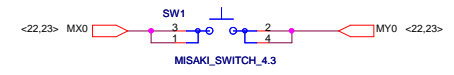
SATA HDD



TP SWITCH

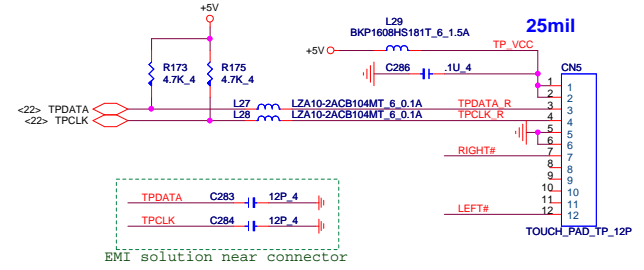


E-KEY

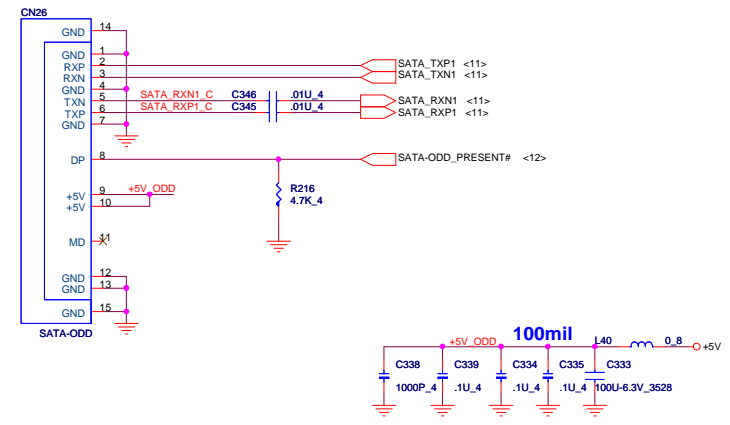


MX0 MY0:E-Key

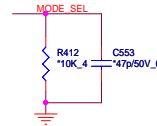
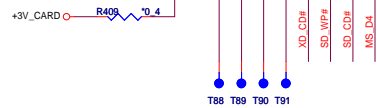
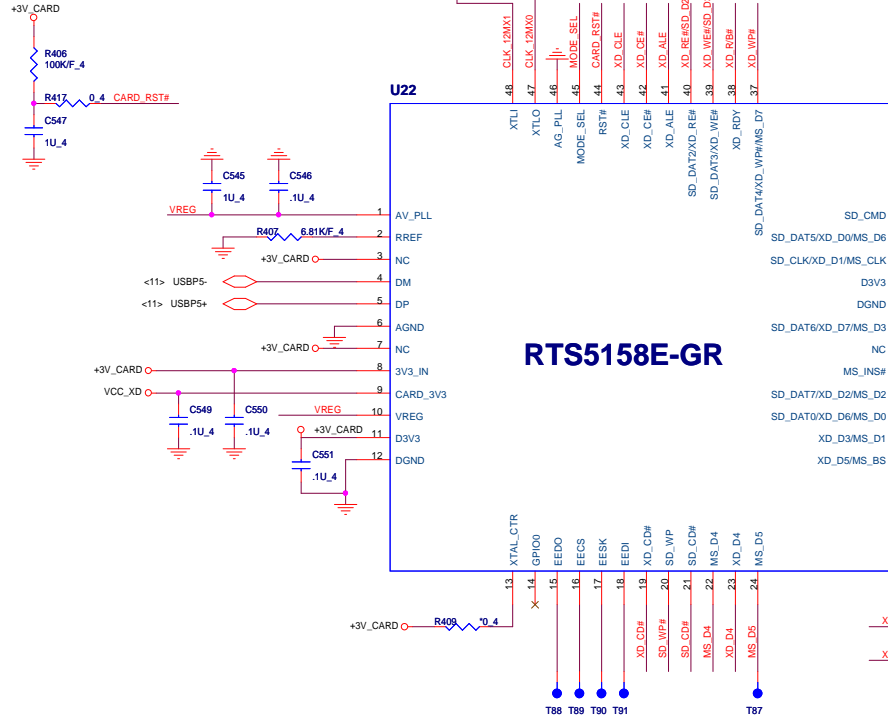
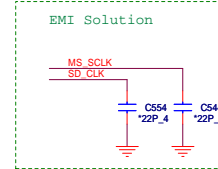
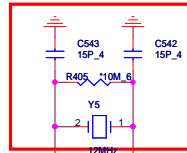
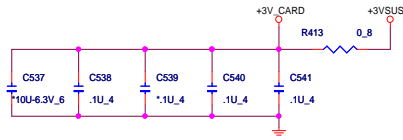
TP CONN



ODD (SATA)

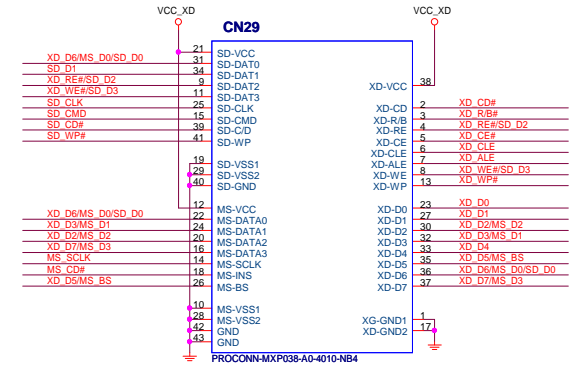
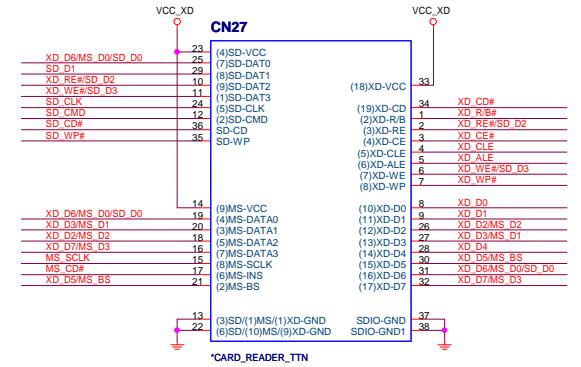


		Quanta Computer Inc. PROJECT : Z05	
		Size Document Number SATA-HDD & SATA-ODD&TP	Rev 1A
Date: Monday, February 25, 2008		Sheet 18 of 34	

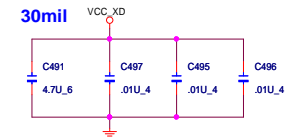


R412/C553 = 10K/47pF => R410 Reside
 R412/C553 = NC / NC => R411 Reside

7 IN 1 CARD READER



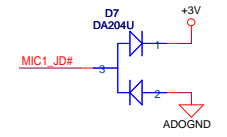
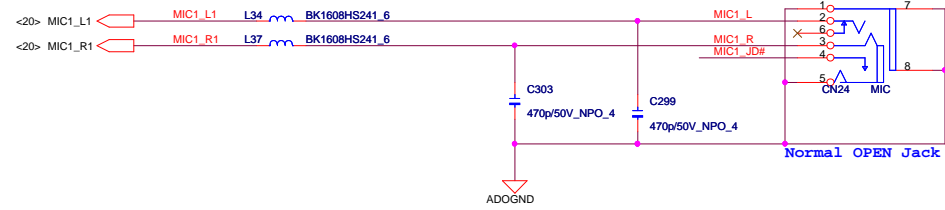
CARDREADER POWER



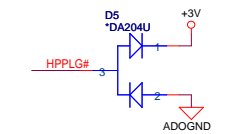
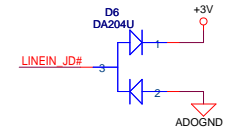
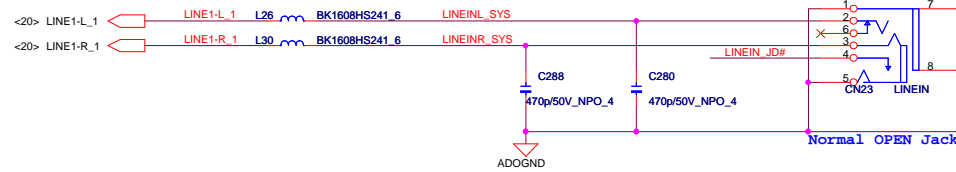
Quanta Computer Inc.
 PROJECT : Z05

Size	Document Number	Rev
	RTS5158E-Card Reader	1A
Date:	Monday, March 10, 2008	Sheet 19 of 34

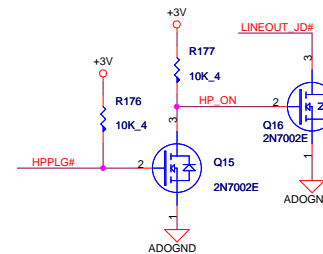
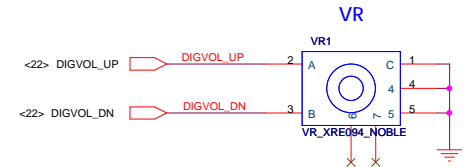
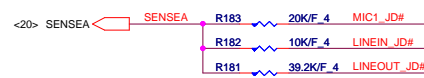
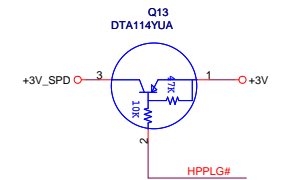
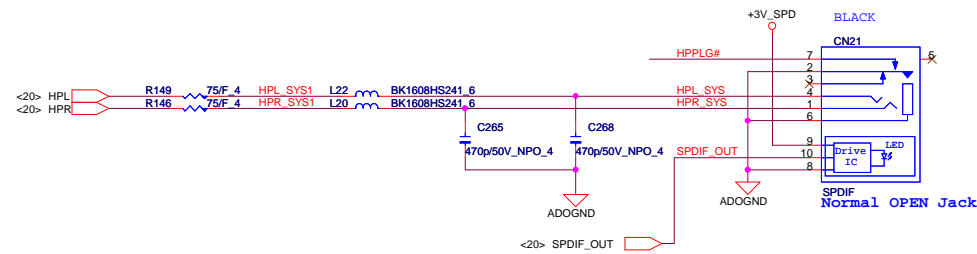
MIC



LINE IN



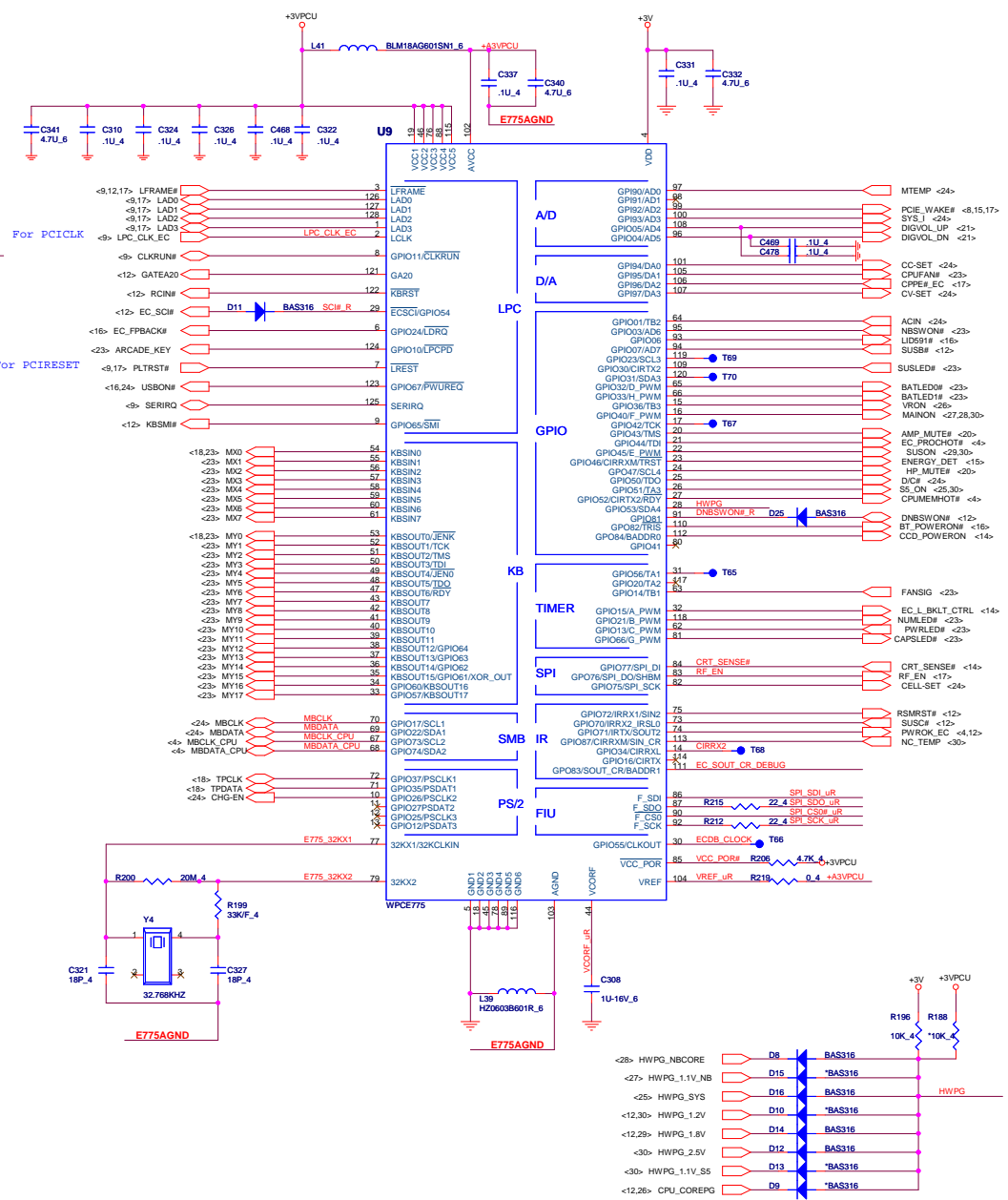
HeadPhone OUT/SPDIF



Quanta Computer Inc.
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	Audio Jack	1A
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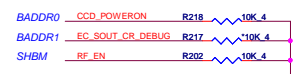
WPCE775C



I/O ADDRESS SETTING

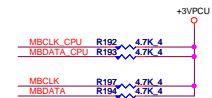
I/O Address		
BADDR1-0	Index	Data
0 0	XOR TREE TEST MODE	
0 1	CORE DEFINED	
1 0	2Eh	2Fh
1 1	164Eh	164Fh

SHBM=0: Enable shared memory with host BIOS

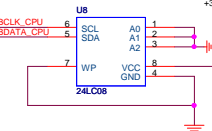


Disabled (*) if using FWH device on LPC.
Enabled (*) if using SPI flash for both system BIOS and EC firmware

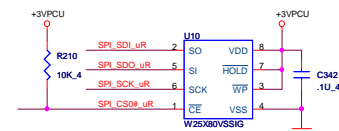
SMBUS PULL-UP



ACER ID



SPI FLASH



INTERNAL KEYBOARD STRIP SET



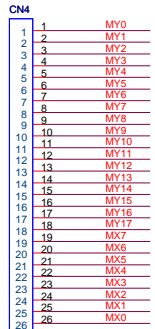
Quanta Computer Inc.
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Rev: 1A

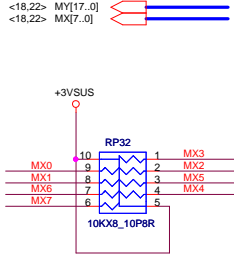
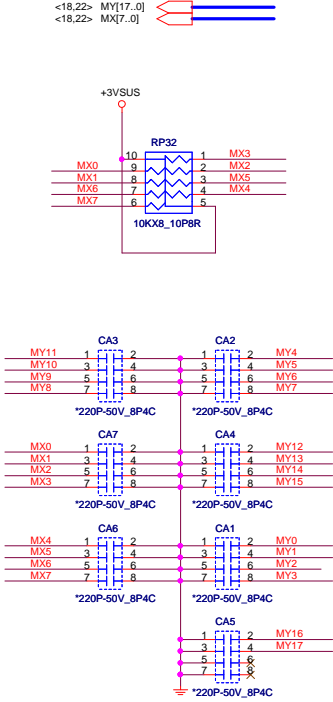
EC WPCE775C_ODG & SPI

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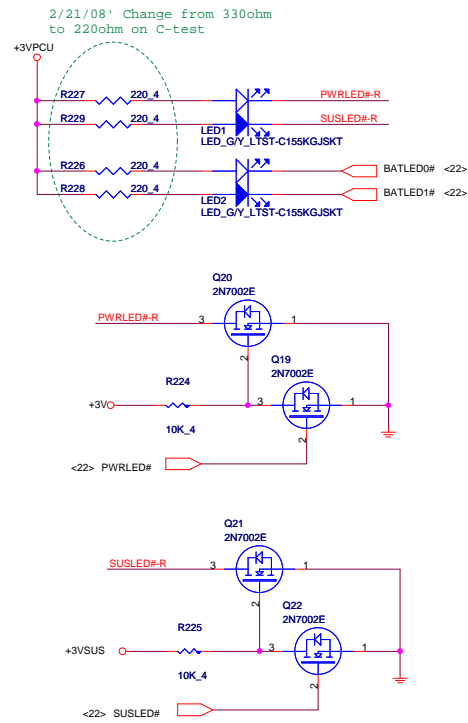
INT K/B



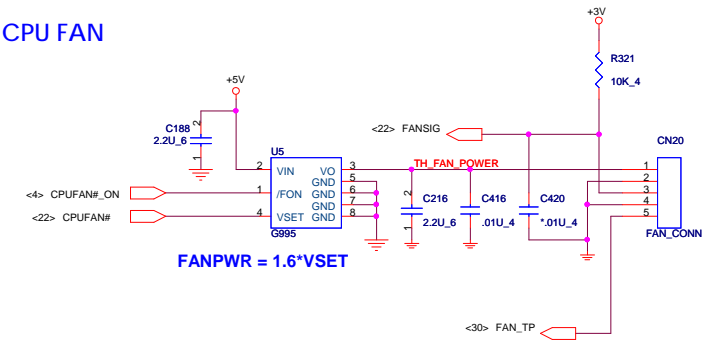
FFC_26P_KB



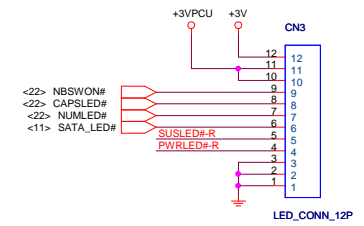
LED



CPU FAN



LED BOARD CONN.



Debug

Delete Debug Port(PCI & IDE)

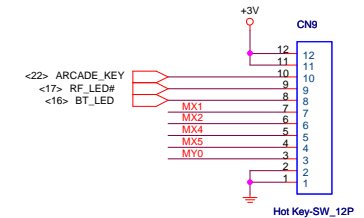
Fingerprint BOARD CONN.



Button BOARD CONN.

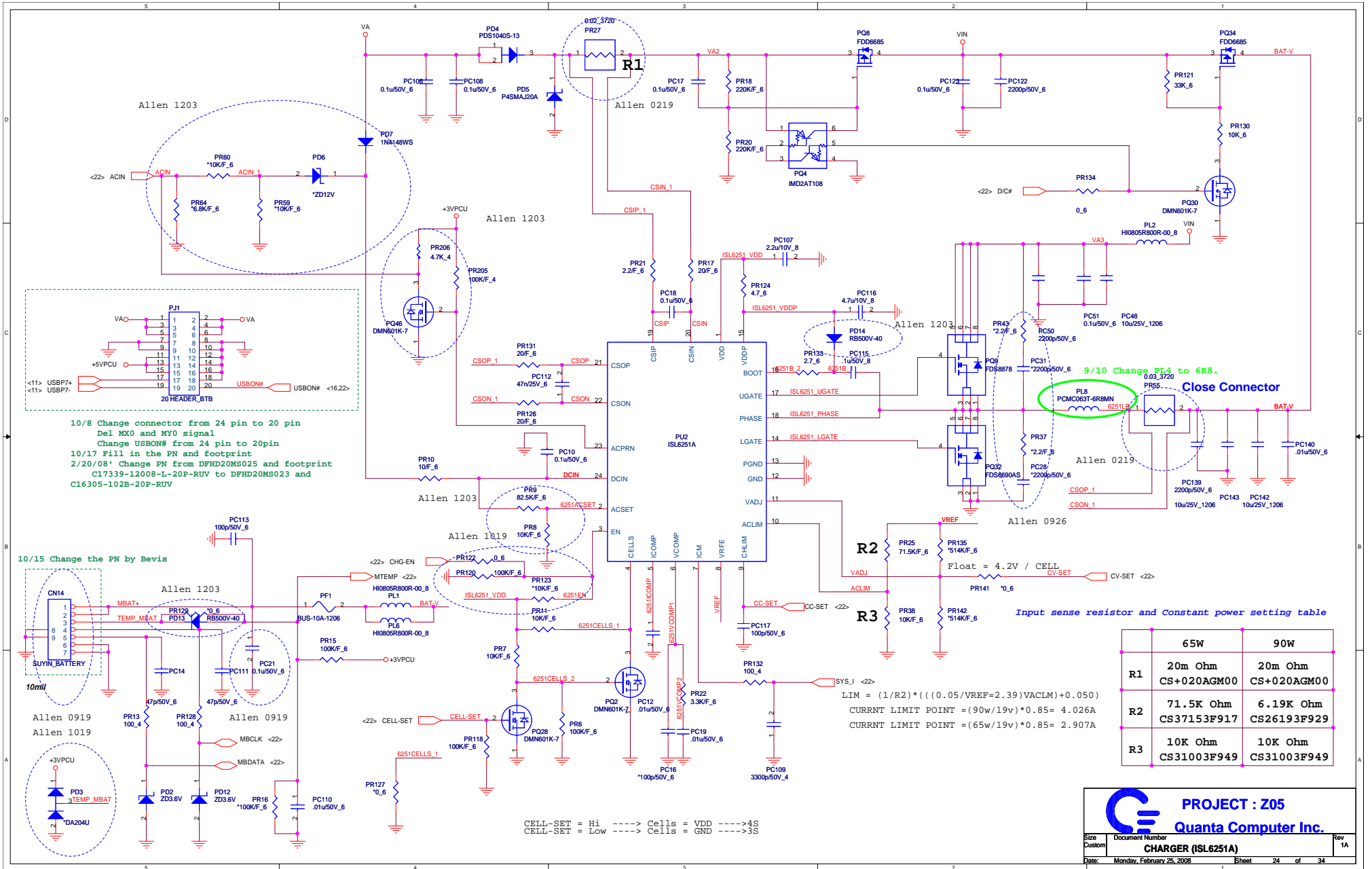
BUTTON MATRIX

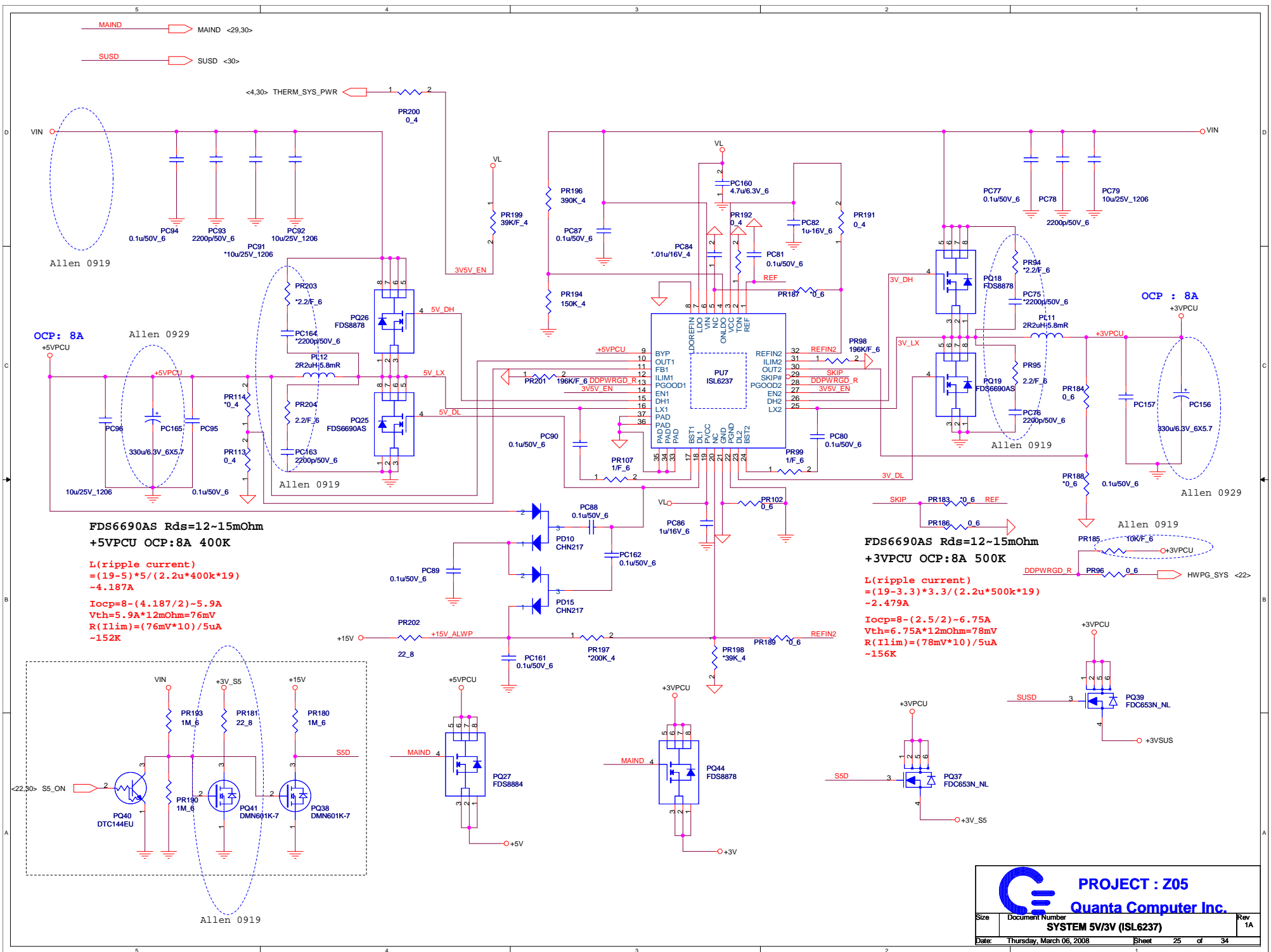
	MY0
MX1	MAIL
MX2	WWW
MX4	WIRELESS
MX5	BLUETOOTH



Quanta Computer Inc.
PROJECT : Z05

Size	Document Number	Rev
	FAN,SWITCH,LED,KB,FINGERPRINT	1A
Date:	Sunday, March 08, 2008	Sheet 23 of 34





PROJECT : Z05
Quanta Computer Inc.

Size	Document Number	Rev
	SYSTEM 5V/3V (ISL6237)	1A
Date:	Thursday, March 06, 2008	Sheet 25 of 34

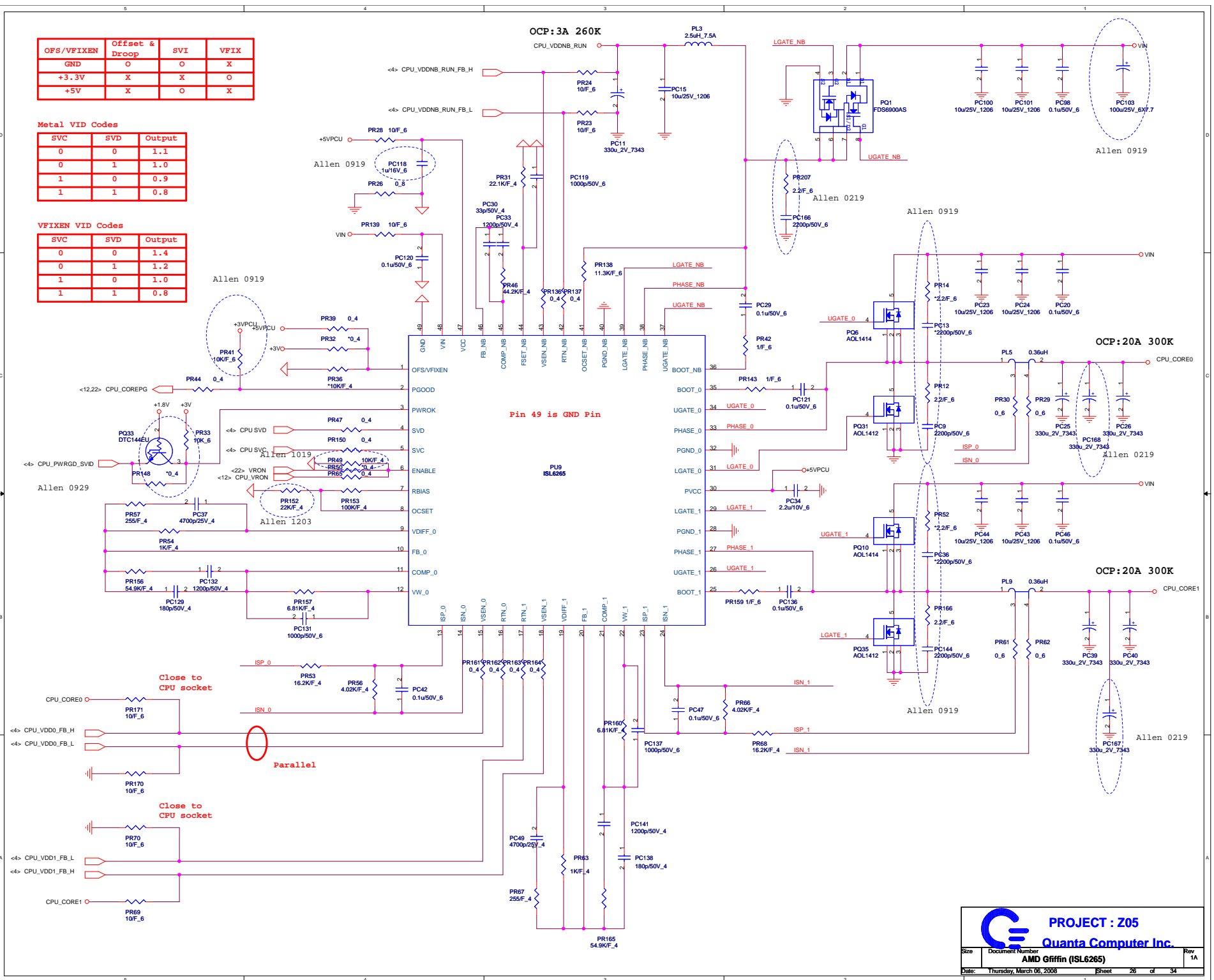
OFS/VFIXEN	Offset & Droop	SVI	VFIX
GND	O	O	X
+3.3V	X	X	O
+5V	X	O	X

Metal VID Codes

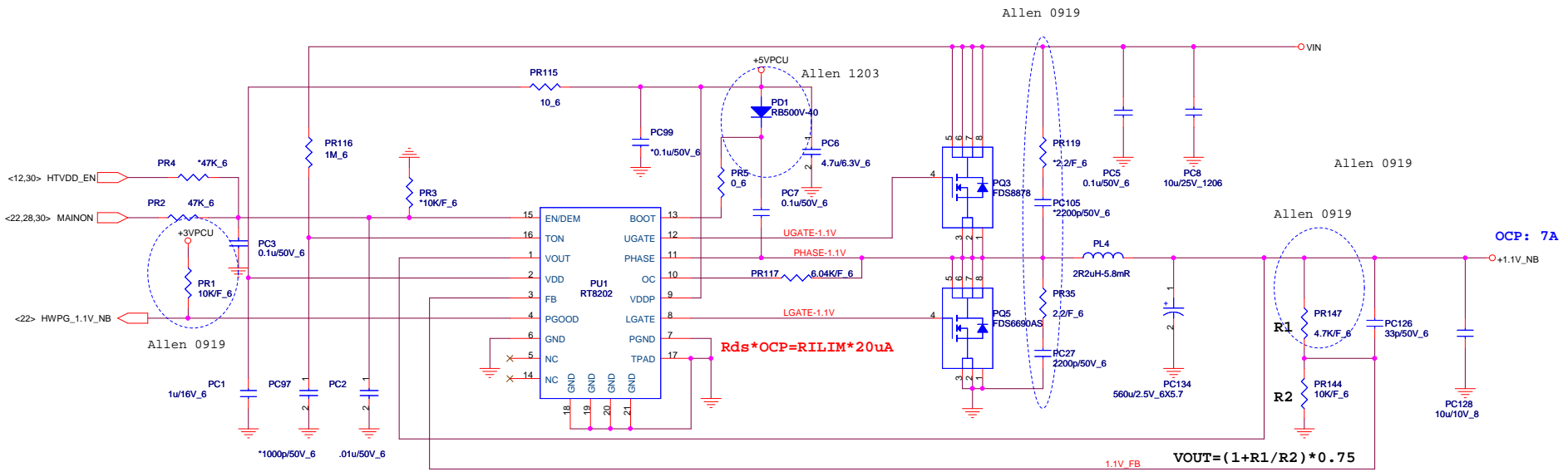
SVC	SVD	Output
0	0	1.1
0	1	1.0
1	0	0.9
1	1	0.8

VFIXEN VID Codes

SVC	SVD	Output
0	0	1.4
0	1	1.2
1	0	1.0
1	1	0.8



PROJECT : Z05
Quanta Computer Inc.
 AMD Gffinn (ISL6265)
 Size: Document Number: Rev 1A
 Date: Thursday, March 06, 2008 Sheet 26 of 34



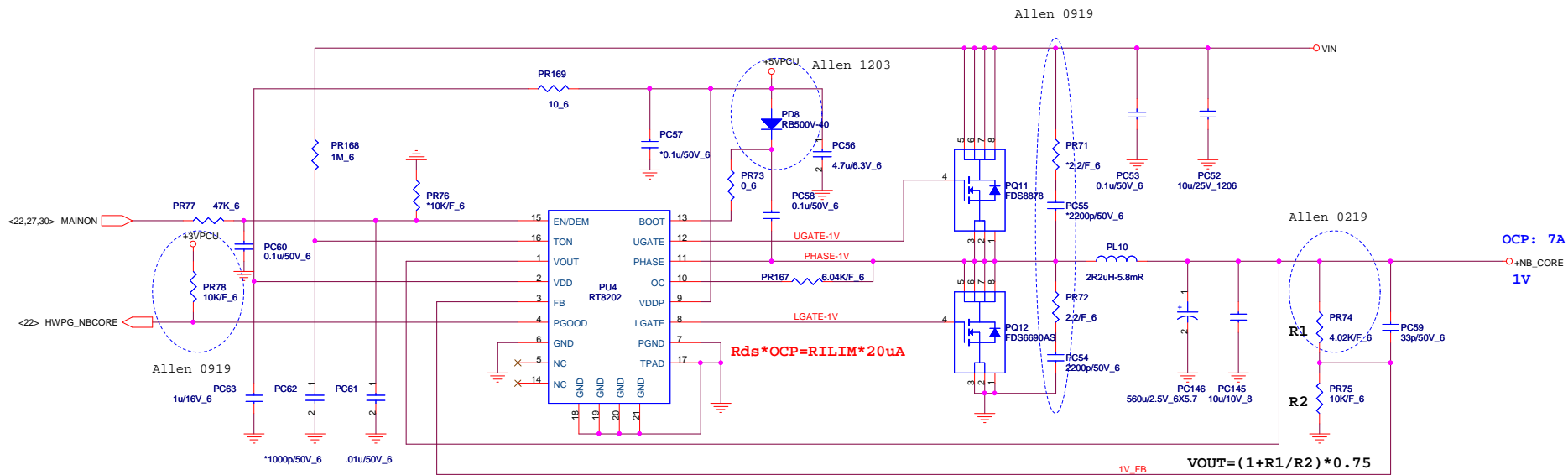
$TON = 3.85p * RTON * Vout / (Vin - 0.5)$
 $Frequency = Vout / (Vin * TON)$
 $TON = 3.85p * 1M * 1 / (Vin - 0.5)$
 $Frequency = 1 / (0.0036767) = 272K$

FDS6690AS Rds=12-15mOhm
OCP=7-0.8A
L(ripple current)
= (19-1) * 1 / (2.2u * 272k * 19)
~1.58A
12m*6=RILIM*20uA
RILIM=3.6K(2.5~8K)

PROJECT : Z05

Quanta Computer Inc.

Size	Document Number	Rev
Date	NB_VCC (RT8202)	1A
Monday, February 25, 2008	Sheet 27 of 34	



$$TON = 3.85p * RTON * Vout / (Vin - 0.5)$$

$$Frequency = Vout / (Vin * TON)$$

$$TON = 3.85p * 1M * 1 / (Vin - 0.5)$$

$$Frequency = 1 / (0.0036767) = 272K$$

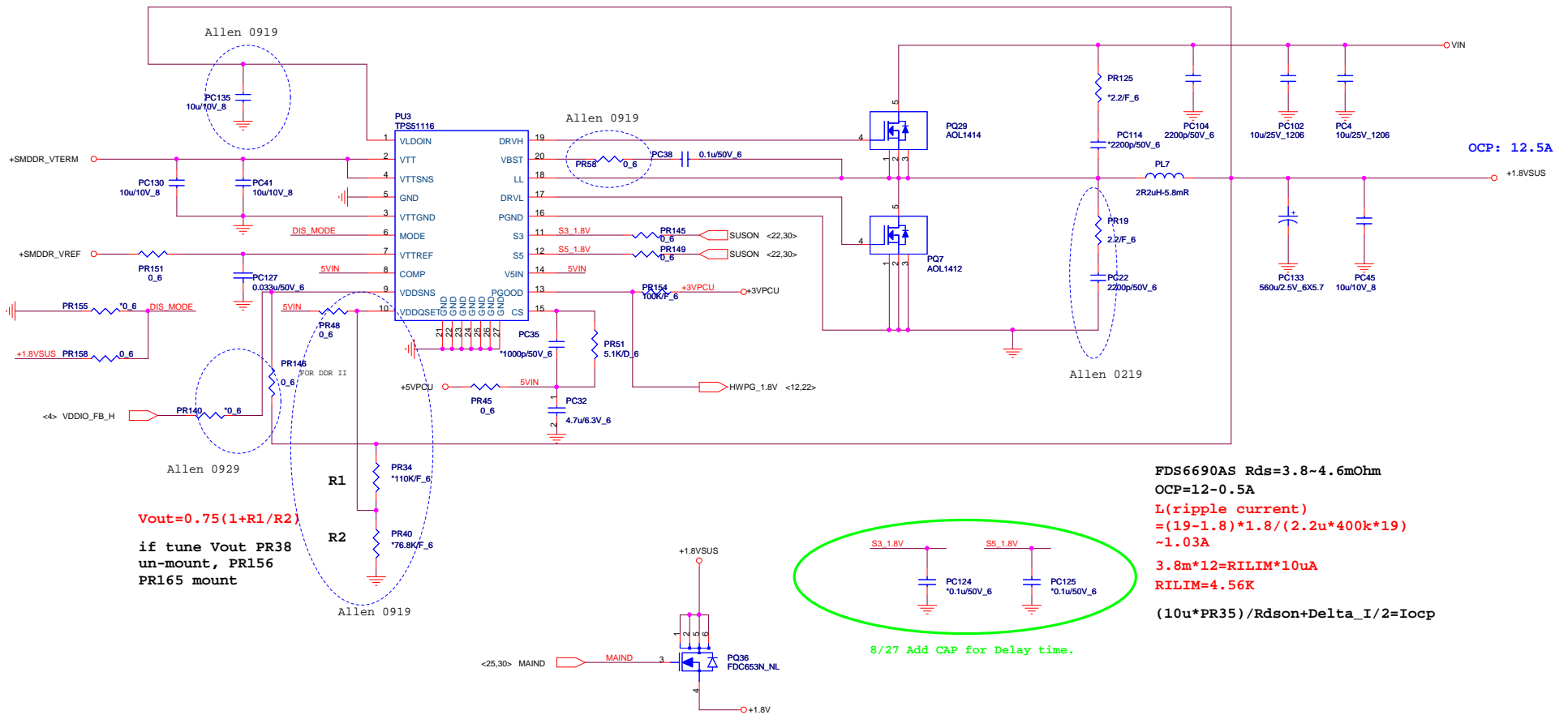
$$FDS6690AS \ Rds = 12-15m\Omega$$

$$OCP = 7-0.8A$$

$$L(\text{ripple current}) = (19-1) * 1 / (2.2u * 272k * 19) \sim 1.58A$$

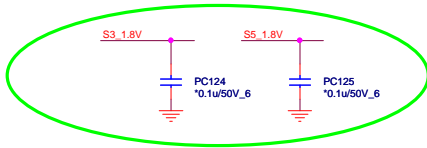
$$12m * 6 = RILIM * 20uA$$

$$RILIM = 3.6K (2.5-8K)$$

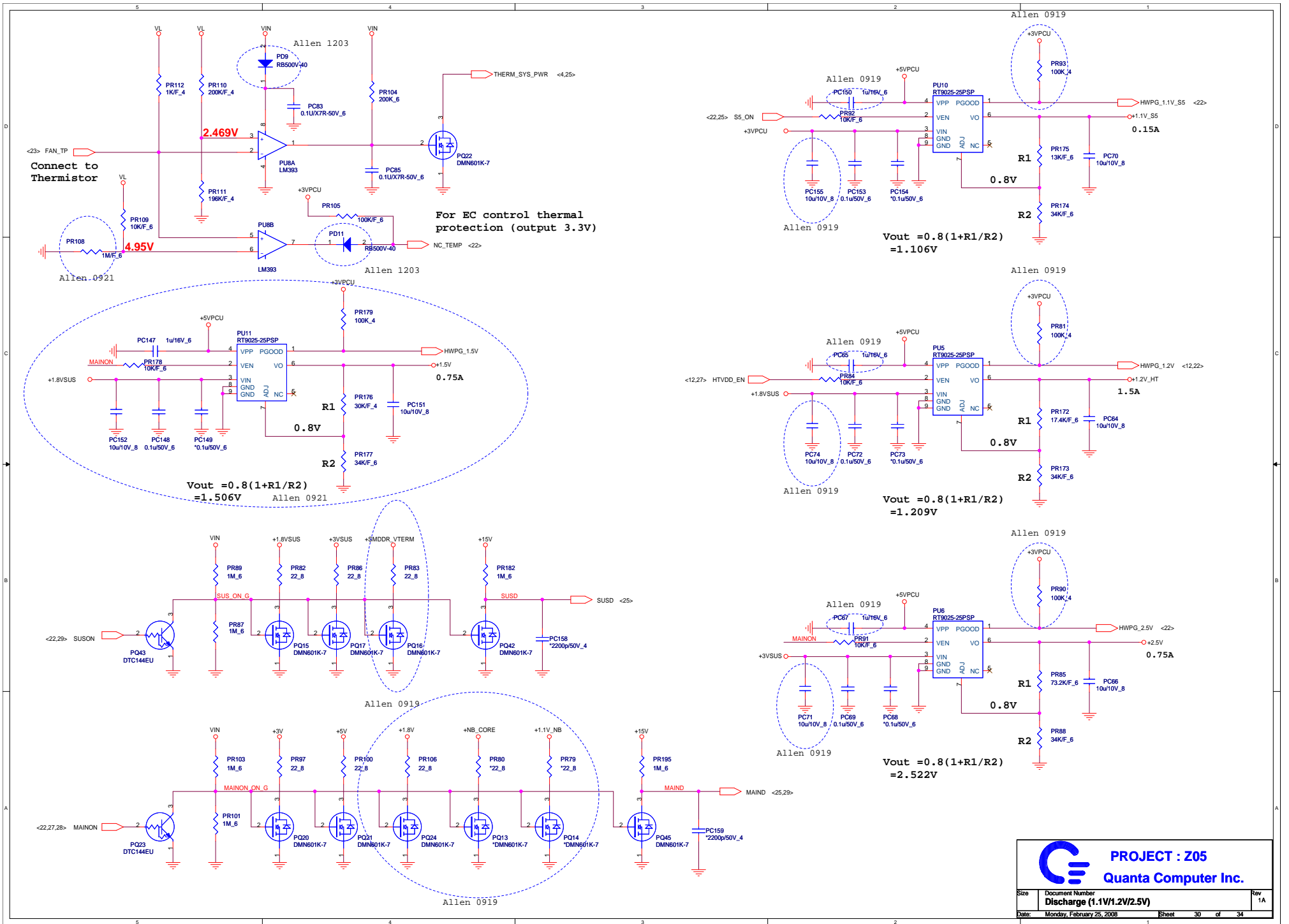


Vout=0.75(1+R1/R2)
 if tune Vout PR38
 un-mount, PR156
 PR165 mount

FDS6690AS Rds=3.8~4.6mOhm
 OCP=12-0.5A
 L(ripple current)
 =(19-1.8)*1.8/(2.2u*400k*19)
 ~1.03A
 3.8m*12=RILIM*10uA
 RILIM=4.56K
 (10u*PR35)/Rdson+Delta_I/2=Iocp

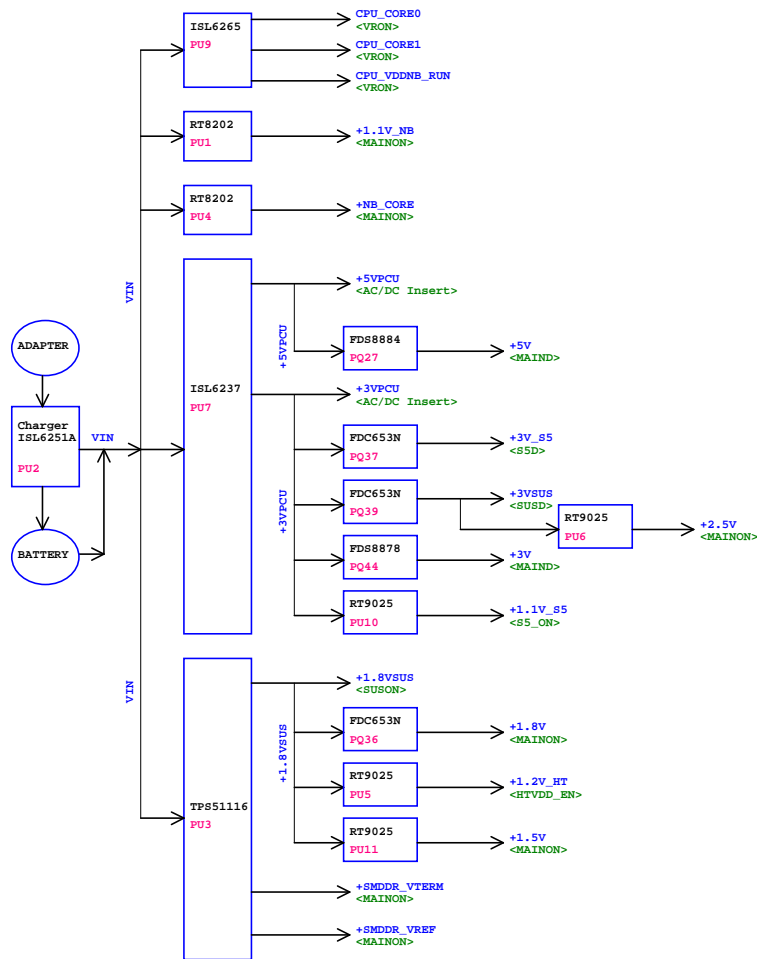


8/27 Add CAP for Delay time.



PROJECT : Z05
Quanta Computer Inc.

Size	Document Number	Rev
	Discharge (1.1V/1.2V/2.5V)	1A
Date:	Monday, February 25, 2008	Sheet 30 of 34



1. +1.1V_S5MCP77M Power(+1.1V_DUAL)
2. +5VPCUPower IC VCC, USB PORT POWER(S3 control)
3. +5VAudio, FAN, Touch pad, SATA HDD, ODD, CRT
4. +3V_S5MCP77M, New Card, LAN Power
5. +3VPCUKBC WPCE755C,SPI ROM, LED, LID Switch, Fingerprint Module
6. +3VSUSBluetooth, Mini Card, MDC
7. +3VPCU Thermal Sense, MCP77M, System Memory, LCD Panel, PC Camera, Mini card, New Card, Audio, Codec, Card Reader, KBC WPCE775C, LED
8. +2.5VPCU VDDA
9. +3V_LANLAN Power(BCM5764M)
10. +1.2V_LANLAN Power(BCM5764M)
11. +2.5V_LANLAN Power(BCM5787M)
12. +1.5VMini Card, New Card
13. +1.8VSUSCPU VDD I/O, System Memory
14. SMDDR_VTEMCPU Memory Interface , SYSTEM DDR DIMM Memory Termination
15. +1.8VMCP77M LCD Interface
16. +1.1V_NBMCP77M (HT Interface, PCI-E Interface, I/O Power, SATA Interface)
17. +NB_COREMCP77M Core Power
18. +1.2V_HTCPU HT Power
19. CPU_CORE0 CPU Power
20. CPU_CORE1 CPU Power
21. CPU_VDDNB_RUNCPU NB Power
- 22.