Z05 SYSTEM BLOCK DIAGRAM

AMD Smarter Choice

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(TPS51116REGR) PAGE 29

SYSTEM POWER (ISL6237) PAGE 25

SYSTEM CHARGER (ISL6251A) PAGE 24

DDRII-SODIMM1 PAGE 6 — DDRII 667/800 MHz

DDRII-SODIMM2 PAGE 6 — DDRII 667/800 MHz

AMD Griffin Lion Sabie
S1G2 Processor
638P (uPGA)/35W
PAGE 2,3,4,5

CPU THERMAL SENSOR PAGE 4

CPU Fan PAGE 23

HT3 LINK

LVDS PAGE 14 — LVDS

CRT PAGE 14 — CRT

NORTH BRIDGE & SOUTH BRIDGE

MCP77M

27mm X 27mm, 836pin BGA

PAGE 7,8,9,10, 11,12,13

14.318MHz

SATA - HDD PAGE 18 — SATA0

ODD(SATA) PAGE 18 — SATA1

PCI-E

PCIE4 X1 — Mini PCI-E Card (Wireless LAN) PAGE 17

PCIE3 X1 — Express Card (NEW CARD) PAGE 17

PCIE2 X1 — LAN BRODCOM BCM8764M (10/100/GagaLAN) PAGE 15 — RJ45 PAGE 15

USB2.0

X1 USB 8

X1 USB 5

USB 0,1,7 X3 — USB2.0 Ports PAGE 16,24

USB 6 X1 — Bluetooth PAGE 16

USB 3 X1 — PC-cam PAGE 14

USB 10 X1 — Fingerprint PAGE 23

USB 2 X1 — Card Reader Realtek RTS5158E (7 in 1) PAGE 19

Azalia

Azalia AudioController RealTek ALC888 PAGE 20 — MDC 1.5 PAGE 20 — RJ11 PAGE 15

LPC

Keyboard PAGE 23 — KBC (WPCE775C) PAGE 22

Audio Amplifier PAGE 20

Int MIC PAGE 20

Touch Pad PAGE 18

SPI ROM PAGE 22

Speaker PAGE 20

SPIDF/Phone Jack PAGE 21

Line in PAGE 21

MIC Jack PAGE 21

PCB STACK UP

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

Quanta Computer Inc.
PROJECT : Z05

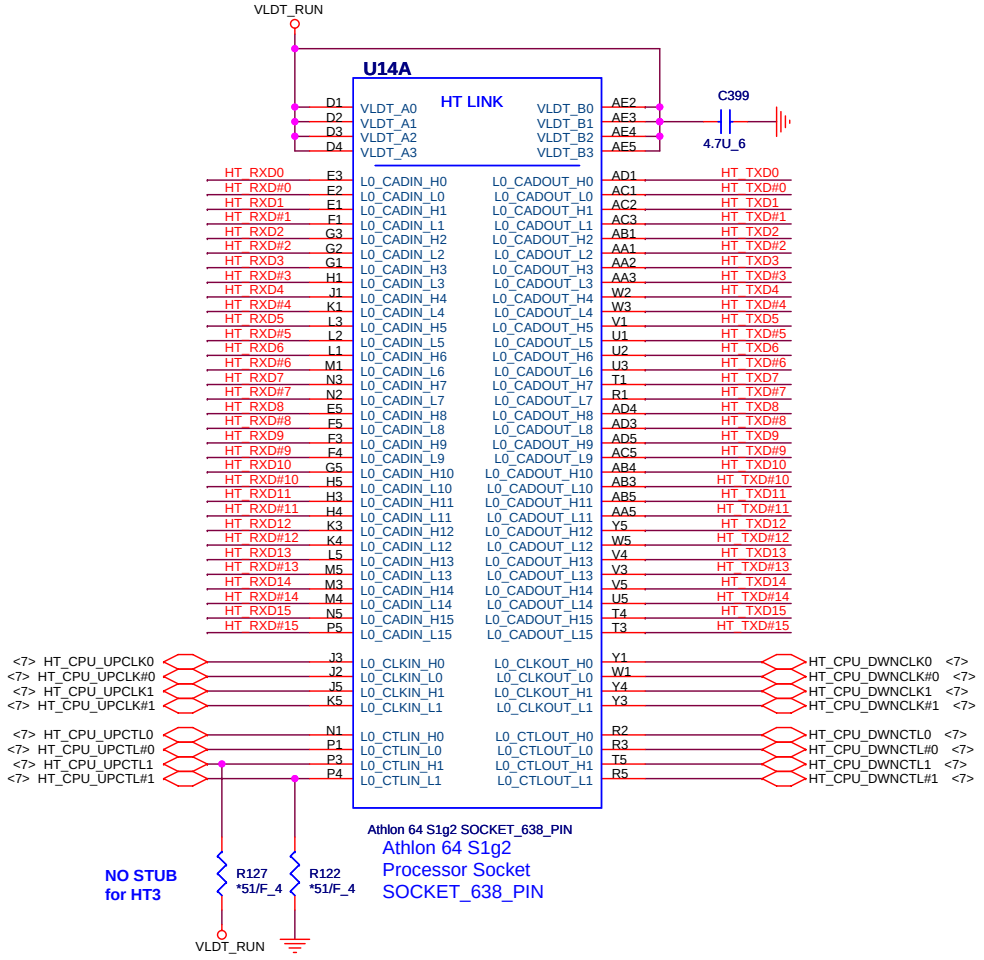
Size	Document Number	Rev
	Block Diagram	1D

Date: Friday, April 18, 2008 Sheet 1 of 35

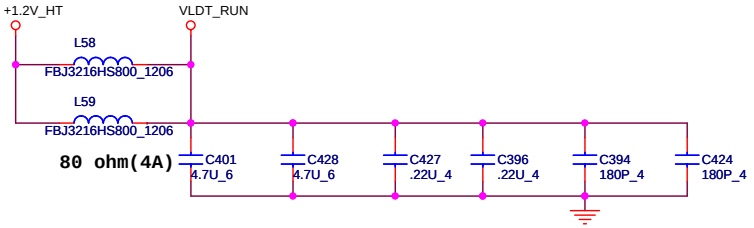
<7> HT_RXD#[15..0] HT_RXD#[15..0]
<7> HT_RXD[15..0] HT_RXD[15..0]
<7> HT_TXD[15..0] HT_TXD[15..0]
<7> HT_TXD#[15..0] HT_TXD#[15..0]

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

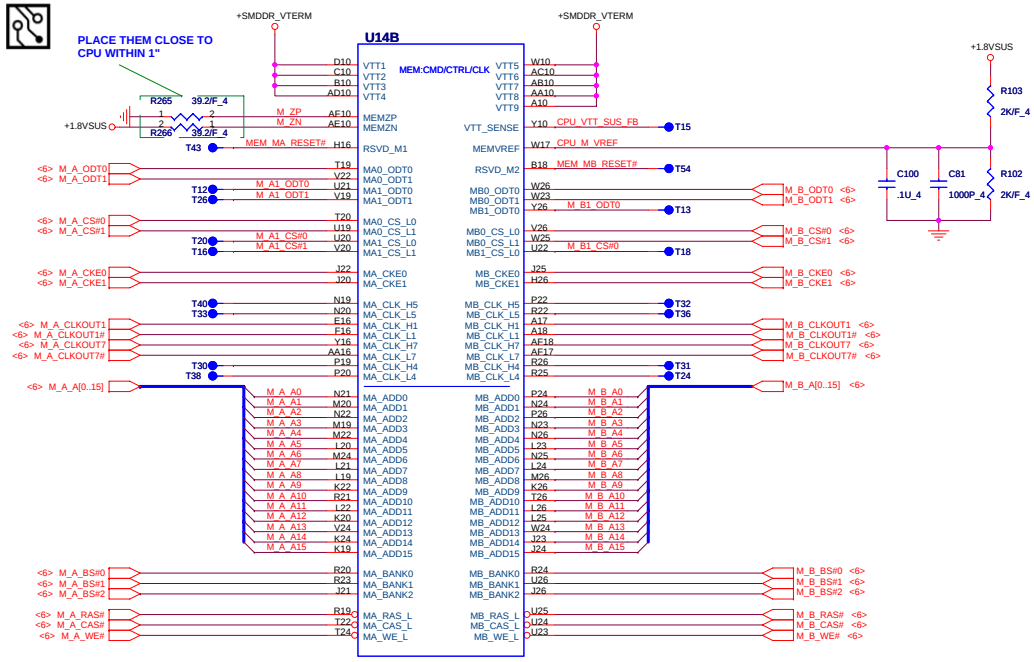
NEAR HT POWER PINS THAT ARE NOT CONNECTED DIRECTLY TO DOWNSTREAM HT DEVICE, BUT CONNECTED INTERNALLY TO OTHER HT POWER PINS
PLACE CLOSE TO VLDT0 POWER PINS

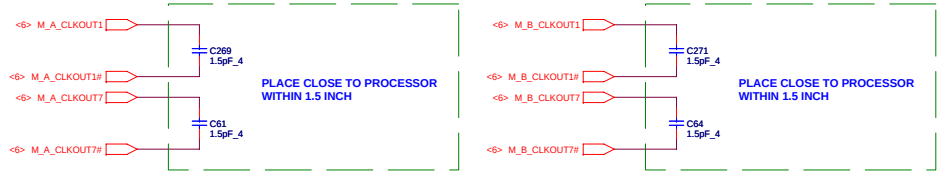
Quanta Computer Inc.
PROJECT : Z05

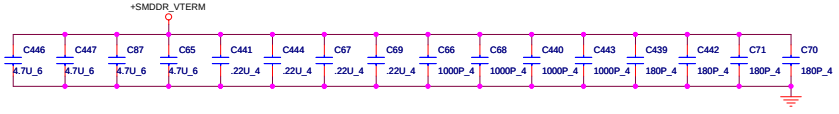
Size	Document Number	Rev
	AMD Griffin HT I/F	1D
Date: Friday, April 18, 2008	Sheet 2 of 35	

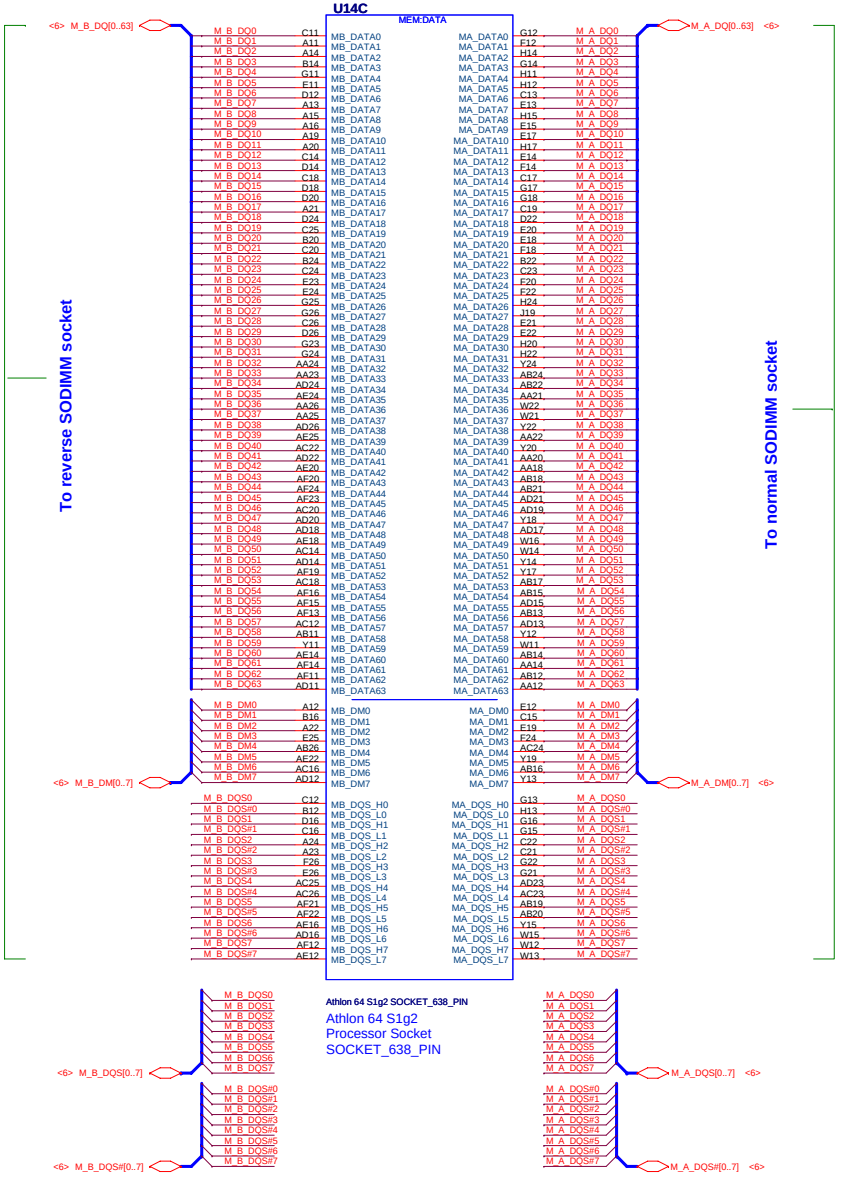
VDD_VTT_SUS_CPU IS CONNECTED TO THE VDD_VTT_SUS POWER SUPPLY THROUGH THE PACKAGE OR ON THE DIE. IT IS ONLY CONNECTED ON THE BOARD TO DECOUPLING NEAR THE CPU PACKAGE

Processor DDR2 Memory Interface







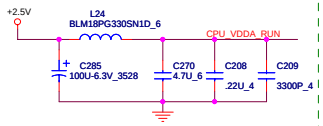


Quanta Computer Inc.			
PROJECT : Z05			
Size	Document Number		Rev
	AMD Griffin DDRII MEMORY I/F		1D
Date: Friday, April 18, 2008		Sheet 3 of 35	

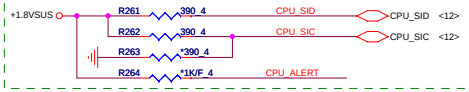
ATHLON Control and Debug

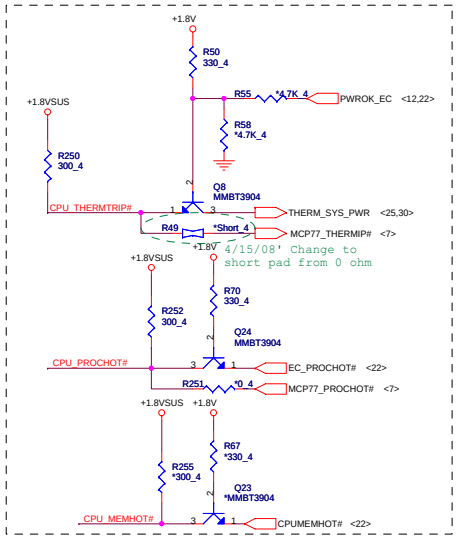
LAYOUT: ROUTE VDDA TRACE APPROX. 50 mils WIDE (USE 2x25 mil TRACES TO EXIT BALL FIELD) AND 500 mils LONG.

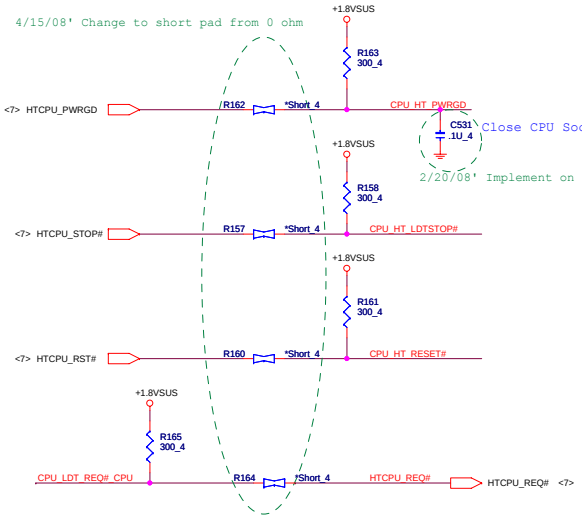
CPU_VDDA_RUN

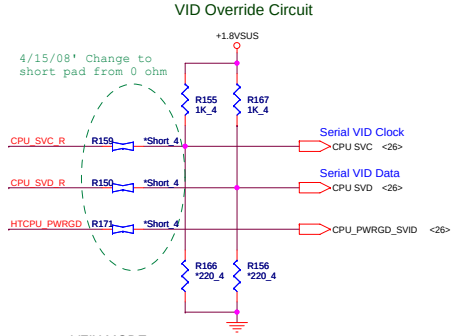


If AMD SI is not used, the SID pin can be left unconnected and SIC should have a 390-Ω (±5%) pulldown to VSS.



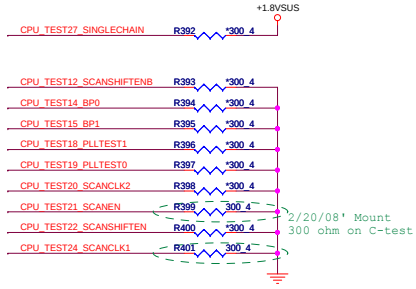


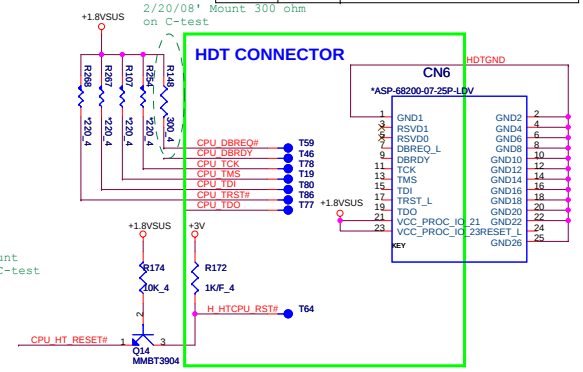




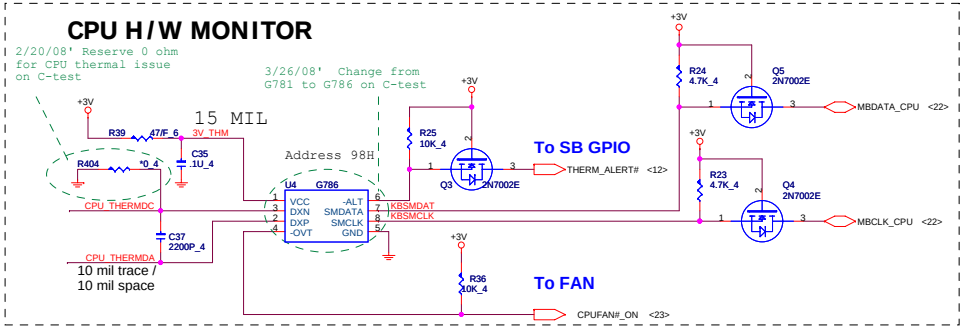
VFIX MODE

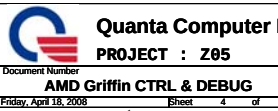
SVC	SVD	Voltage Output(CPU Power)
0	0	1.4V
0	1	1.2V
1	0	1.0V
1	1	0.8V



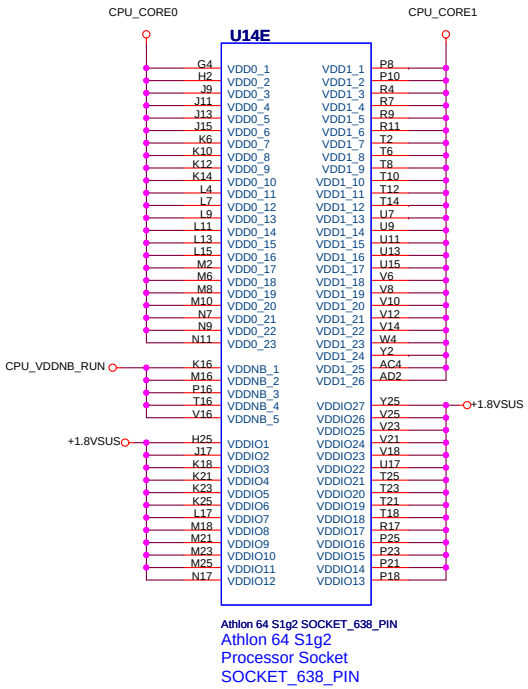


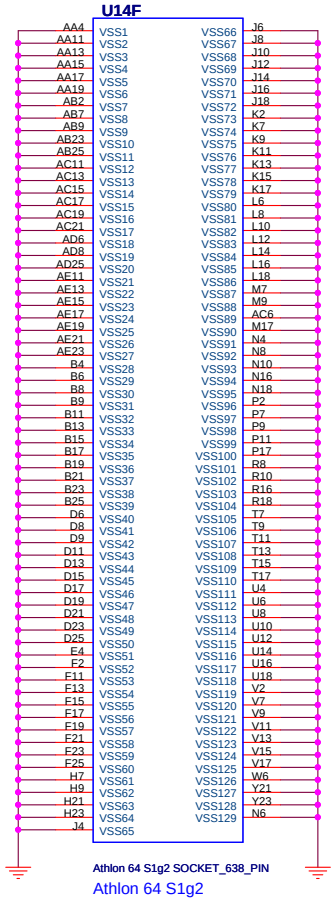
CPU H/W MONITOR

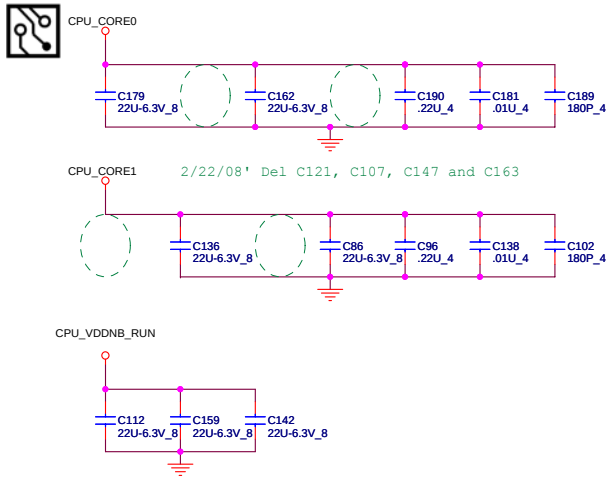




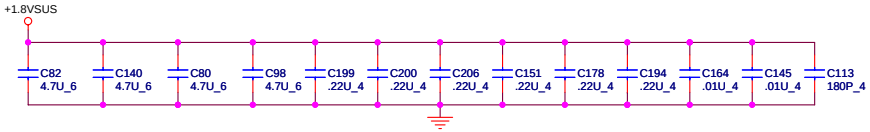
PROCESSOR POWER AND GROUND

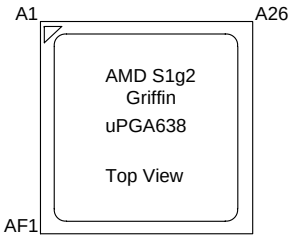




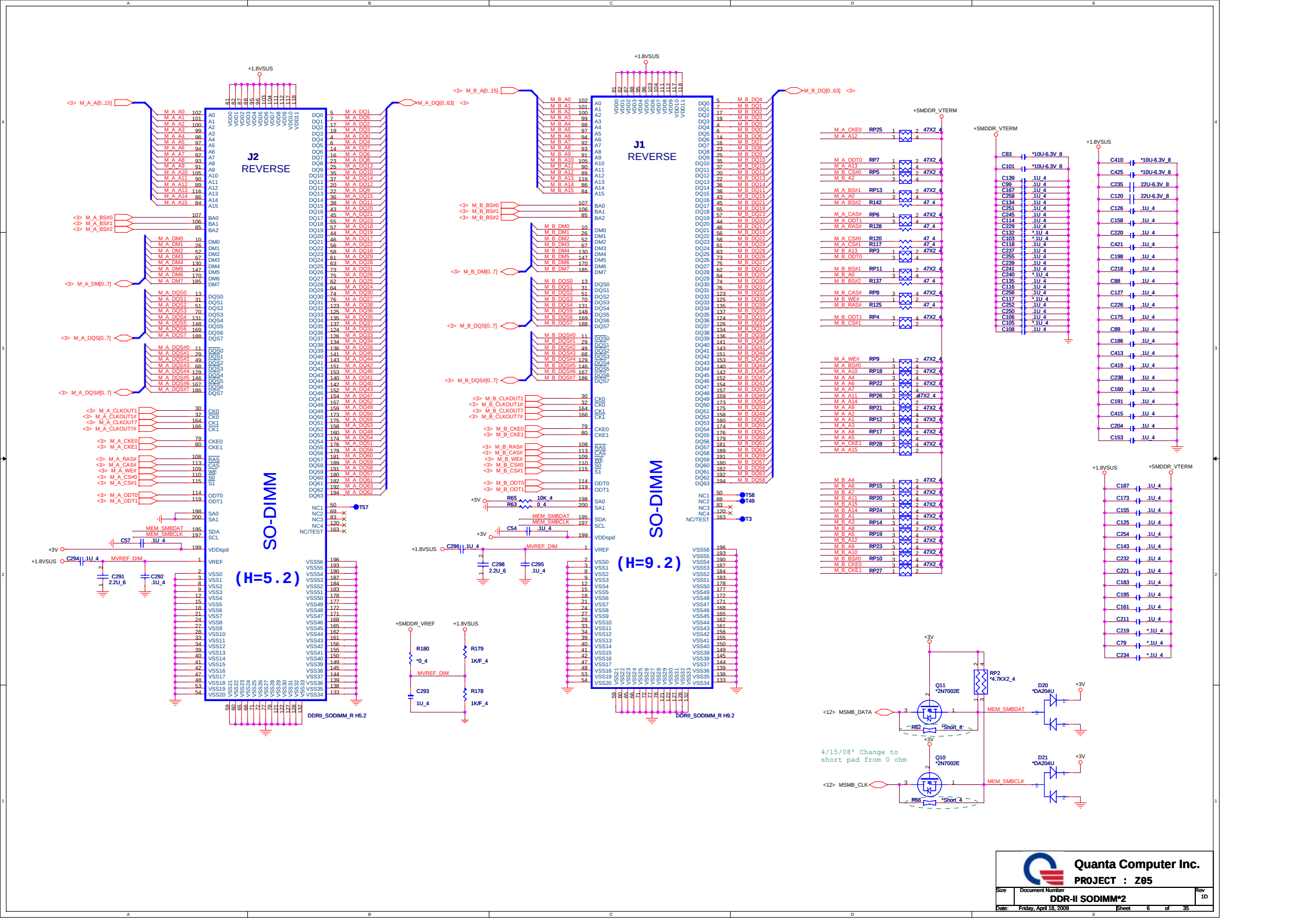


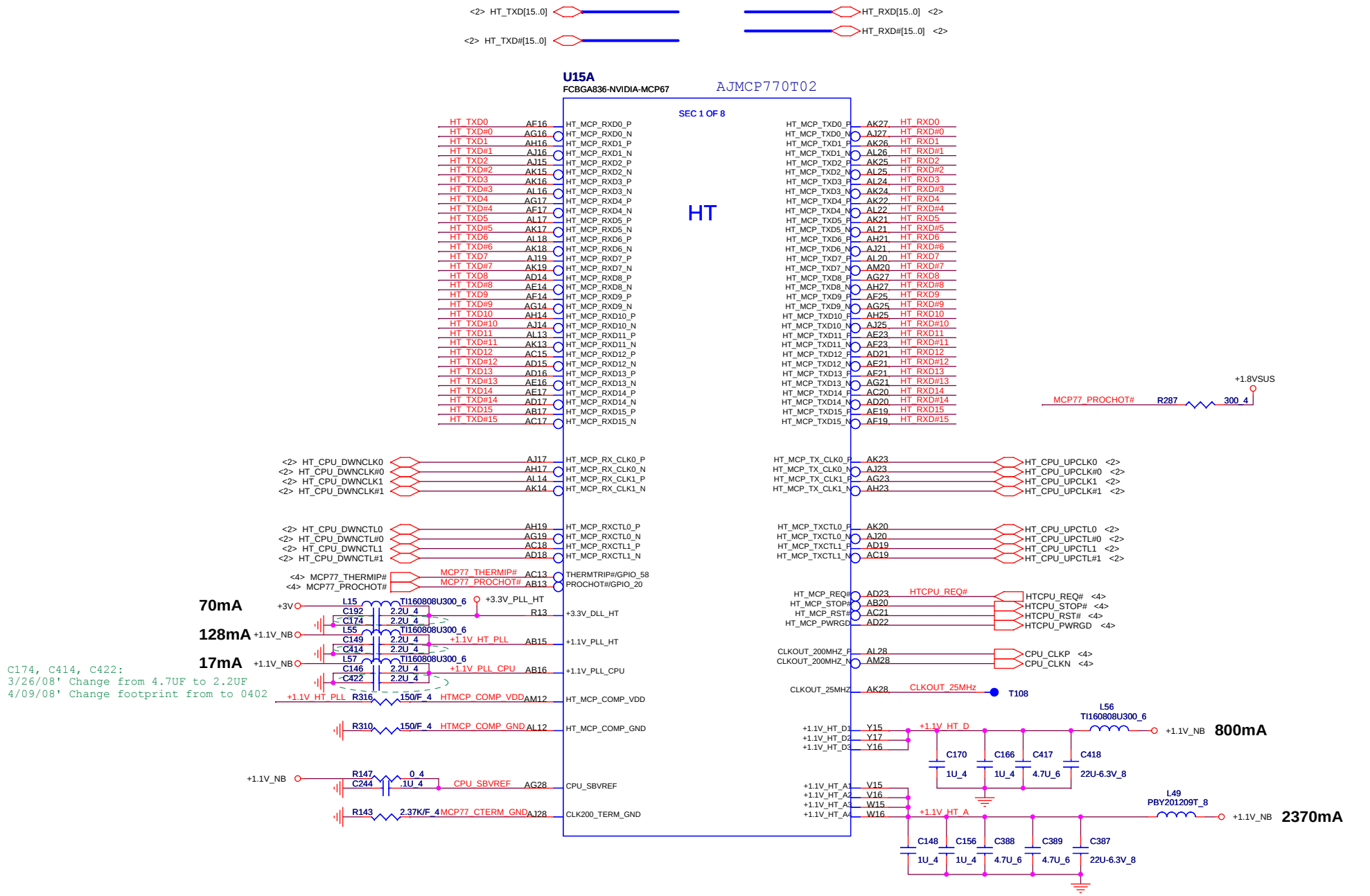
DECOUPLING BETWEEN PROCESSOR AND DIMMs
PLACE CLOSE TO PROCESSOR AS POSSIBLE



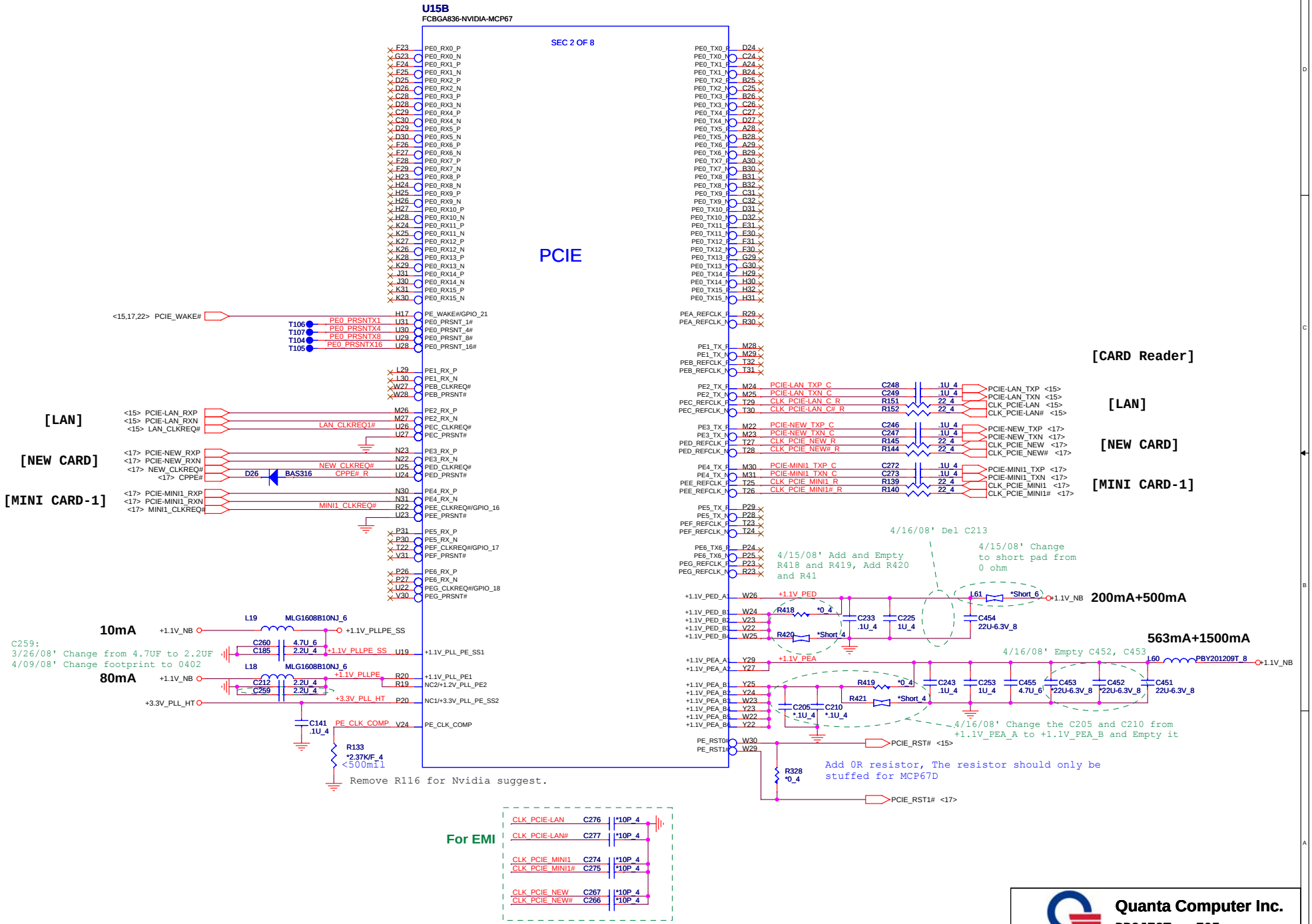


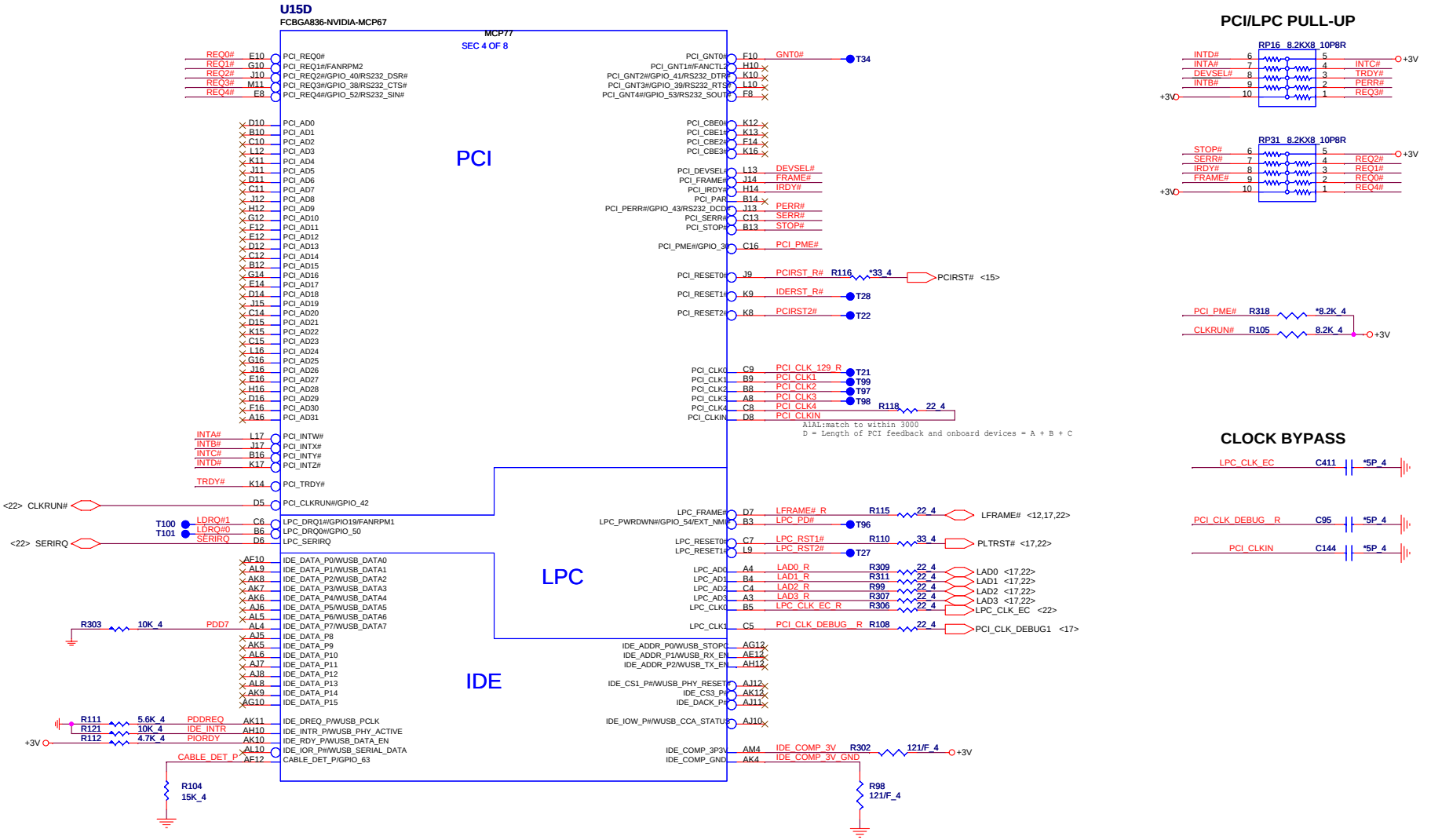
Quanta Computer Inc.		
PROJECT : Z05		
Size	Document Number: AMD Griffin PWR & GND	Rev: 1D
Date: Friday, April 18, 2008	Sheet 5 of 35	


J2
REVERSE
SO-DIMM
(H=5.2)
DDRII_SODIMM_R H5.2
J1
REVERSE
SO-DIMM
(H=9.2)
DDRII_SODIMM_R H9.2
+1.8VSUS
+SMDDR_VTERM
+SMDDR_VREF
+3V
MVREF_DIM
MEM_SMBDAT
MEM_SMBCLK
4/15/08' Change to
short pad from 0 ohm
Quanta Computer Inc.
PROJECT : Z05
DDR-II SODIMM*2
Rev 1D
Date: Friday, April 18, 2008
Sheet 6 of 35



Quanta Computer Inc.		
PROJECT : Z05		
Size	Document Number: MCP77 HyperTransport Bus	Rev: 1D
Date: Friday, April 18, 2008	Sheet 7 of 35	


U15B
FCBGA836-NVIDIA-MCP67
SEC 2 OF 8
PCIE
[LAN]
[NEW CARD]
[MINI CARD-1]
[CARD Reader]
[LAN]
[NEW CARD]
[MINI CARD-1]
10mA
80mA
200mA+500mA
563mA+1500mA
C259:
3/26/08' Change from 4.7UF to 2.2UF
4/09/08' Change footprint to 0402
4/16/08' Del C213
4/15/08' Add and Empty R418 and R419, Add R420 and R41
4/15/08' Change to short pad from 0 ohm
4/16/08' Empty C452, C453
4/16/08' Change the C205 and C210 from +1.1V_PEA_A to +1.1V_PEA_B and Empty it
Add 0R resistor, The resistor should only be stuffed for MCP67D
Remove R116 for Nvidia suggest.
For EMI
PCIE_WAKE#
PCIE_RST#
PCIE_RST1#
Quanta Computer Inc.
PROJECT : Z05
MCP77 PCI-Express Bus
Rev 1D
Friday, April 18, 2008
Sheet 8 of 35

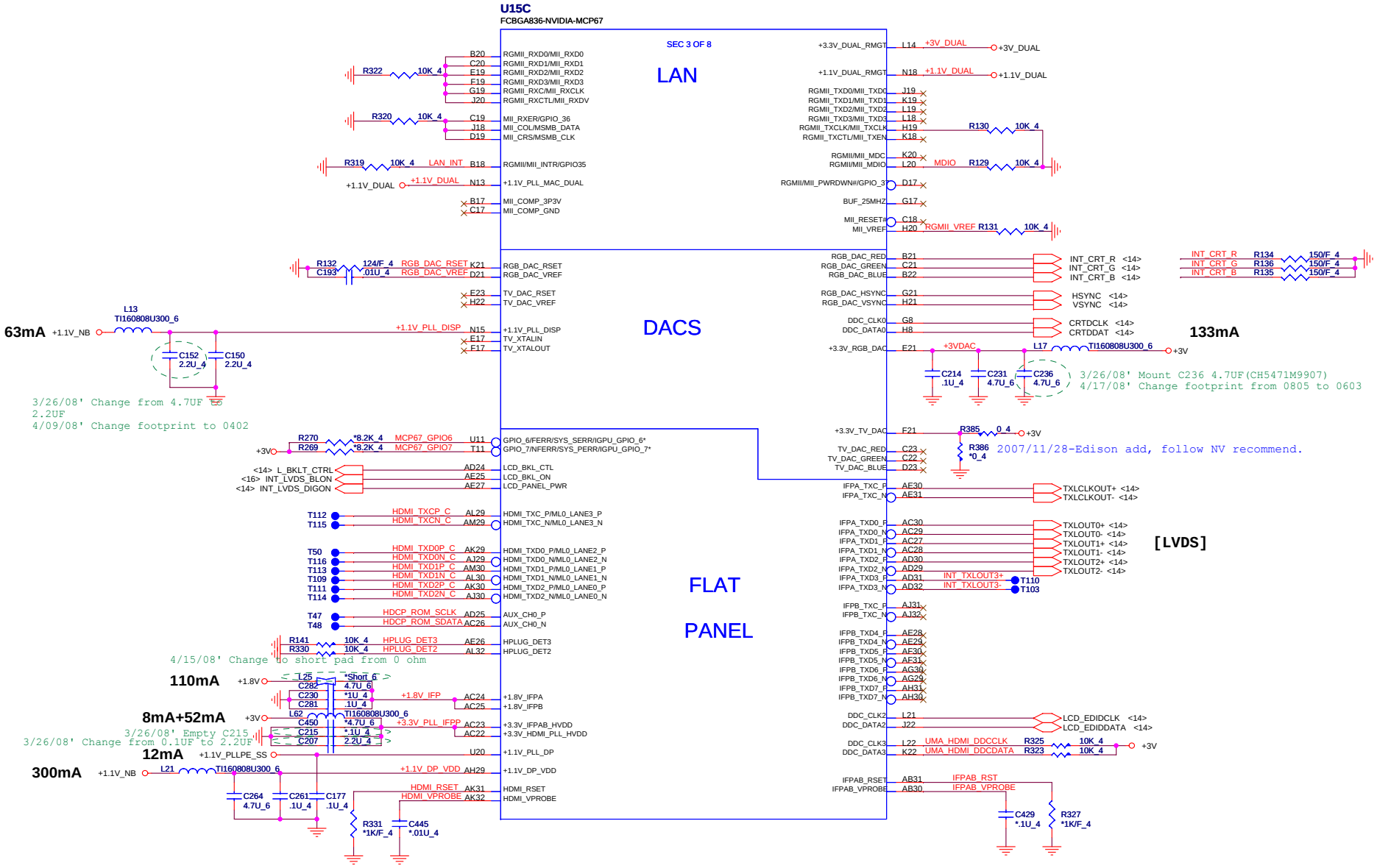


Quanta Computer Inc.

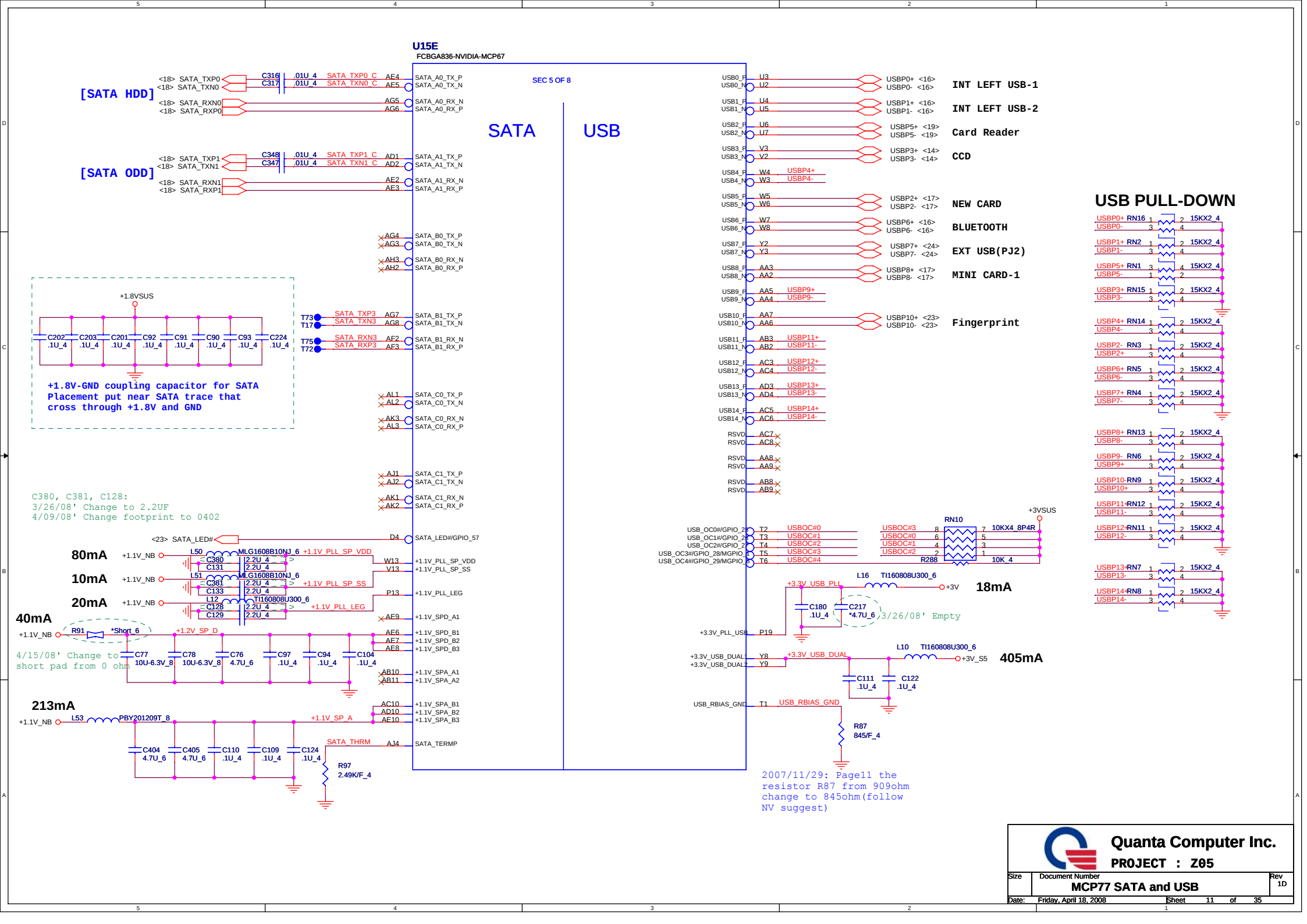
PROJECT : Z05

Size	Document Number	Rev
	MCP77 PCI/LPC/IDE	1D

Date: Friday, April 18, 2008 Sheet 9 of 35



Quanta Computer Inc.			
PROJECT : Z05			
Size	Document Number		Rev
	MCP77 LAN and Graphics		1D
Date: Friday, April 18, 2008	Sheet 10 of 35		



Quanta Computer Inc.

PROJECT : Z05

Size	Document Number	Rev
	MCP77 SATA and USB	1D
Date: Friday, April 18, 2008	Sheet 11 of 35	

HDA

HDA_SDOUT — R74 22_4 — HDA_SDOUT_ADO <20>, HDA_SDOUT_MDC <20>
HDA_SYNC — R77 22_4, R285 22_4 — HDA_SYNC_ADO <20>, HDA_SYNC_MDC <20>
HDA_BITCLK — R292 22_4, R81 22_4 — HDA_BITCLK_ADO <20>, HDA_BITCLK_MDC <20>
HDA_RESET# — R86 22_4, R284 22_4 — HDA_RESET#_ADO <20>, HDA_RESET#_MDC <20>
R291 22_4

MCP77 STRAPPING

HDA_RESET# (LAN)	
0	MII
1	RGMII (DEFAULT)

HDA_SDOUT_R_LFRAM1# (BIOS)	
00	LPC (DEFAULT)
01	PCI BIOS
10	SPI BIOS
11	RESERVED (SPI)

MCP_SPKR (Boot MODE)	
0	USER TABLE (DEFAULT)
1	SAFE TABLE

HDA_SYNC_R (SIO CLOCK)	
0	14.318MHz (DEFAULT)
1	24MHz

SPI_DO_SPI_CLK (SPI CLOCK)	
00	31MHz
01	42MHz
10	25MHz
11	1MHz

U15F

FCBGA836-NVIDIA-MCP67

SEC 6 OF 8

HDA

<20> HDA_SDIN0 — B2 HDA_SDATA_IN0/GPIO_22
<20> HDA_SDIN1 — A2 HDA_SDATA_IN1/GPIO_23/MGPIO_0
T10 — HDA_SDIN2 D1 HDA_SDATA_IN2/GPIO_24/MGPIO_2

HDA_DOCK_EN#/GPIO_5 — D3 MCP77_GPIO51 — T8
HDA_DOCK_RST#/GPIO40 — C3 MCP77_GPIO46 — T93
HDA_SDATA_OUT/GPIO_45 — B1 HDA_SDOUT
HDA_BITCLK — D2 HDA_BITCLK
HDA_RESET# — C2 HDA_RESET#
HDA_SYNC/GPIO_44 — C1 HDA_SYNC

EMI Solution

HDA_SDOUT — C373 10P_4
HDA_SYNC — C395 10P_4
HDA_RESET# — C393 10P_4
HDA_BITCLK — C392 10P_4
R300 0_4

MISC

R383 *10K_4
EC_SCI# — +3V
R384 *4.7K_4
KBSMI#

T11 — MCP77_GPIO1 P6 GPIO_1/PWRDN_OK/SPI_CS1
T39 — MXM_PRESENT# N11 GPIO_2/NMI/PS2_CLK0
T37 — MCP77_GPIO3 R11 GPIO_3/SMI#/PS2_DATA0
T7 — MXM_RUNPWROK M9 GPIO_4/SCI/PS2_CLK1
T29 — PE_RST_MXM# M10 GPIO_5/INIT#/PS2_DATA1
<18> SATA-ODD_PRESENT# — M4 GPIO_12/SUS_STAT/ACCLMTR_EXT_TRIG#
<22> GATEA20 — K7 A20GATE/GPIO_55/FANCTL3
<22> RCIN# — K6 KBRDRSTIN#/GPIO_56/FANRPM3
R83 0_4 — <22> EC_SCI# — SIO_PME# M6 SIO_PME#/GPIO_31/SPI_CS2
<22> KBSMI# — P4 EXT_SMI#/GPIO_32
T76 — RI# P5 RI#/GPIO33
<13> SM_INTRUDER# — L3 INTRUDER#
<16> MCP77_LID# — P5 LID#
T41 — PM_BATLOW# N10 LLB#

V9 FI_RSVD0
W9 FI_RSVD1
AC9 FI_RSVD2
W10 FI_RSVD3
Y10 FI_RSVD4
AA10 FI_RSVD5
W11 FI_RSVD6
Y11 FI_RSVD7
AA11 FI_RSVD8

C165 1U_4
R124 33_4
<22> DNBSWON# — PWRBTN# R10 PWRBTN#
T4 — RSTBTN# P9 RSTBTN#
<13> RTCRST# — M5 RTC_RST#
Delay 10ms after S5 powerOK
<22> RSMRST# — L4 PWRGD_SB
<4,22> PWROK_EC — T10 PWRGD
<22,29> HWPG_1.8V — M8 MEM_VLD
<22,30> HWPG_1.2V — R75 *Short_4 — HT_VLD P7 MCP_VLD/HT_VLD
<22,26> CPU_COREPG — M3 CPU_VLD
4/15/08' Change R75 to short pad from 0 ohm

T25 — MCP77_TDI U9 JTAG_TDI
T2 — MCP77_TDO T8 JTAG_TDO
T1 — MCP77_TMS T7 JTAG_TMS
R84 *10K_4 — R109 22K_4 — MCP77_TRST# U8 JTAG_TRST#
MCP77_TCK T9 JTAG_TCK

C73 33P_4
Y3 25MHZ
C74 33P_4 — XTAL1 H4 XTALIN — XTAL2 H3 XTALOUT
C72 18P_4 — CLK_32KX1 H2 XTALIN_RTC — CLK_32KX2 H1 XTALOUT_RTC
R71 *10M_6 — Y2 32.768KHz
C63 18P_4

R297 *22K_4
SLP_S3# — R3 SUSBR# — R296 0_4 — SUSB# <22>
SLP_RMGT# — P3 SLP_RMGT# — R88 *Short_4 — T95
SLP_S5# — R4 SUSCR# — SUSC# <22>
R79 *22K_4
4/15/08' Change R85 to short pad from 0 ohm

MCP_VID0/GPIO_13 — H5 VCORE1.2ID0_R — T5
MCP_VID1/GPIO_14 — H6 CR_CPPE# — T23
MCP_VID2/GPIO_15 — H7 CR_WAKE# — T35
SPKR — K4 — MCP_SPKR <20>
SMB_CLK0 — E3 — PCLK_SMB <15,17>
SMB_DATA0 — G3 — PDAT_SMB <15,17>
SMB_CLK1/MSMB_CLK — E2 — MSMB_CLK <6>
SMB_DATA1/MSMB_DATA — F2 — MSMB_DATA <6>
SMB_ALERT#/GPIO_6 — F3 SMB_ALERT#
THERM#/GPIO_5 — K5 — THERM_ALERT# <4>
THERM_SIC/GPIO_48/MSMB_CLK — AC14 — CPU_SIC <4>
THERM_SID/GPIO_49/MSMB_DATA — AB14 — CPU_SID <4>
THERM_ALERT#/GPIO_47/PWR_LED# — AD12 MCP77_GPIO47 — R286 1K_4 — +1.8VSUS
FANRPM0/GPIO_60 — F6 BOARDID0
FANCTL0/GPIO_61 — F5 BOARDID1
FANCTL1/GPIO_62 — F4 BOARDID2
MCPVDD_EN/HTVDD_EN — N3 HTVDD_EN — HTVDD_EN <27,30>
CPUVDD_EN — M2 — CPU_VRON <26>
SPI_CS0/GPIO_10 — K2 MCP77_GPIO10 — T94
SPI_CLK/GPIO_11 — K3 MCP_SPI_CLK
SPI_DI/GPIO_8 — M7 EMAIL_LED# — T9
SPI_DO/GPIO_9 — J2 MCP_SPI_DO
SUS_CLK/GPIO_34 — P2 SUS_CLK_R — T92
BUF_SIO_CLK — J3 SIO_CLK — T6
TEST_MODE_EN — P11 TESTMODE_EN
PKG_TEST — P10
R279 1K_4

+3V_S5
R280 10K_4 — R293 *10K_4 — HDA_RESET#
+3V
R273 *8.2K_4 — R256 8.2K_4 — HDA_SDOUT
R113 *8.2K_4 — R114 8.2K_4 — LFRAME# <9,17,22>
R95 *10K_4 — R96 10K_4 — MCP_SPKR
R78 *10K_4 — R295 10K_4 — HDA_SYNC
R299 10K_4 — R290 *10K_4 — MCP_SPI_DO
R298 *10K_4 — R289 10K_4 — MCP_SPI_CLK

Acer Suggest Reserve HDCP EEPROM 2007/12/05

HDCP EEPROM

+3V_S5
R388 *4.7K_4
C536 *1u/16V_4
U21
HDCP_WP
PCLK_SMB
PDAT_SMB
R389 *4.7K_4
VCC A0 WP A1 SCL NC SDA GND
*AT24C64

SMB/I2C PULL-UP

PCLK_SMB — R89 2.7K_4
PDAT_SMB — R88 2.7K_4
SMB_ALERT# — R294 2.7K_4 — +3V_S5
MSMB_CLK — R82 2.7K_4
MSMB_DATA — R271 2.7K_4 — +3V

+3V_S5
R100 10K_4 — R93 10K_4 — R92 10K_4
BOARDID0
BOARDID1
BOARDID2
R101 *10K_4 — R94 *10K_4 — R90 *10K_4

NO PN
CN12
*MCP JTAG HEADER

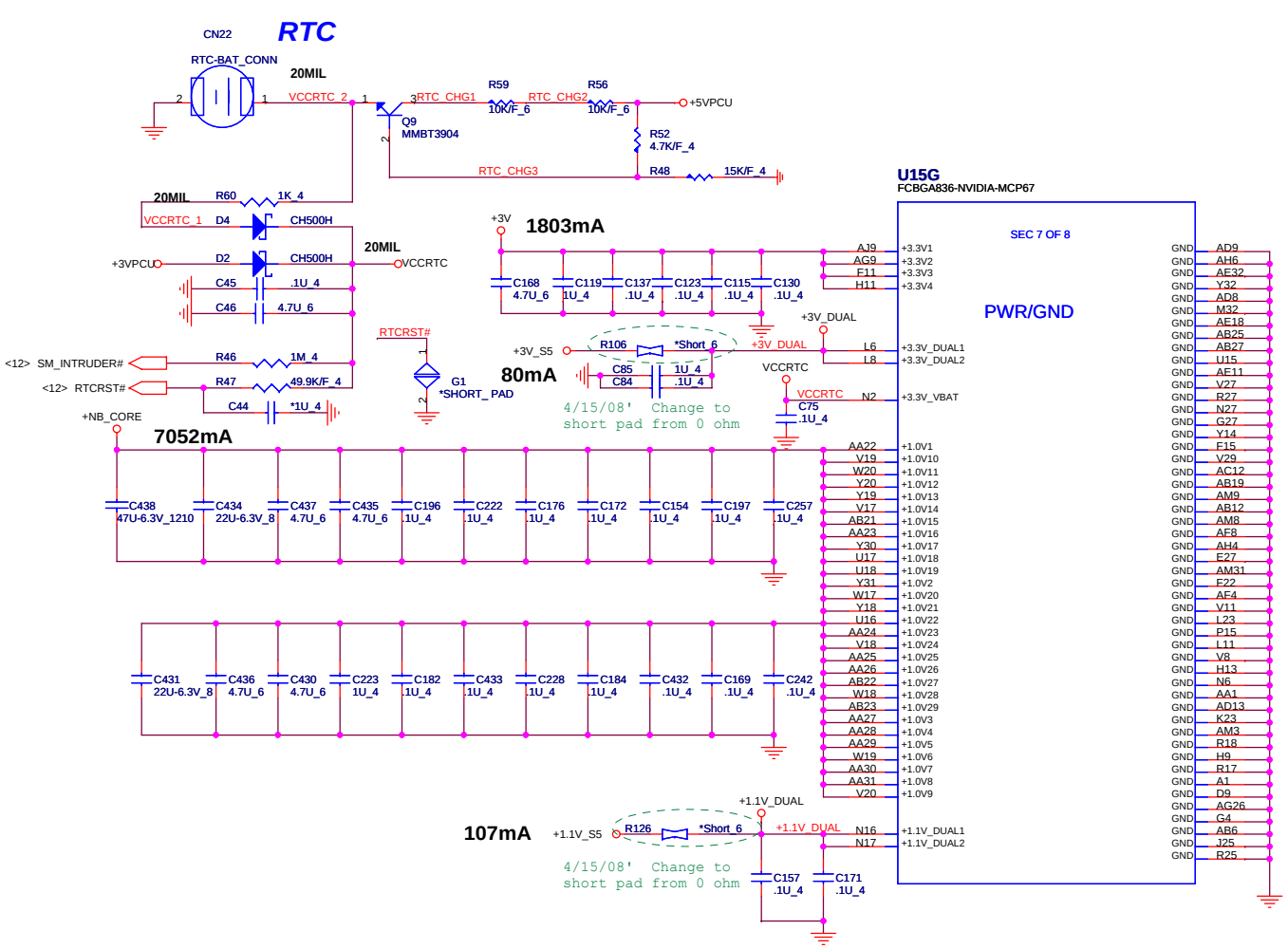
2007/11/28-Edison: Removethese part
R315, R317, R326, R324, C423, Q28, Q29

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

Quanta Computer Inc.
PROJECT : Z05
Size | Document Number: MCP77 HDA/SMB/PMU/GPIO | Rev 1D
Date: Friday, April 18, 2008 | Sheet 12 of 35

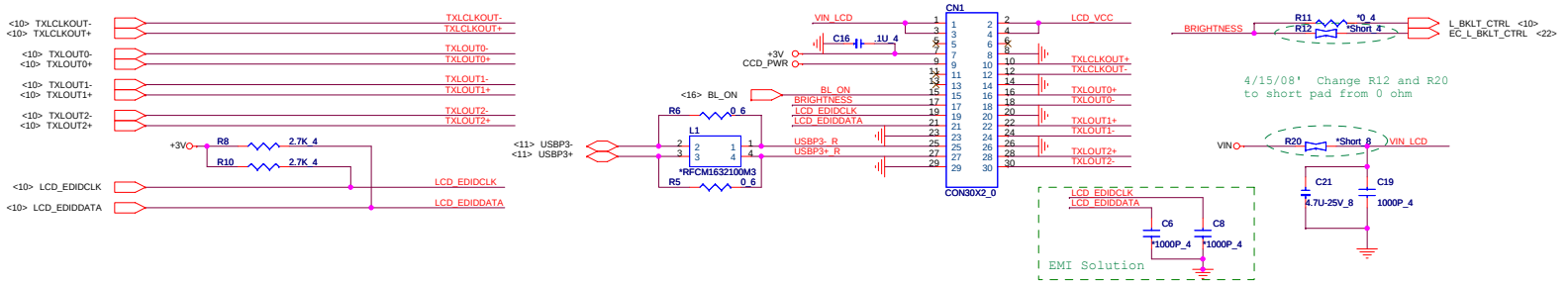
MCP77 POWER PLANE/GND & BYPASS



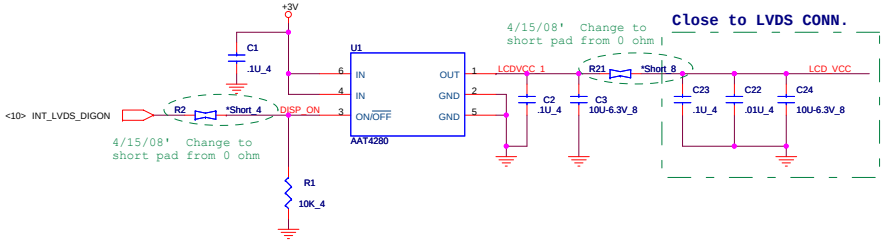
Quanta Computer Inc.		
PROJECT : Z05		
Size	Document Number: MCP77 POWER/GND/RTC	Rev: 1D
Date: Friday, April 18, 2008	Sheet 13 of 35	

LVDS

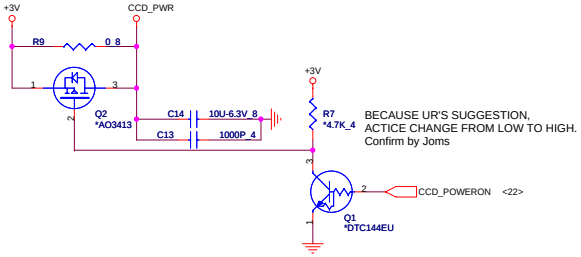
SINGLE_CH



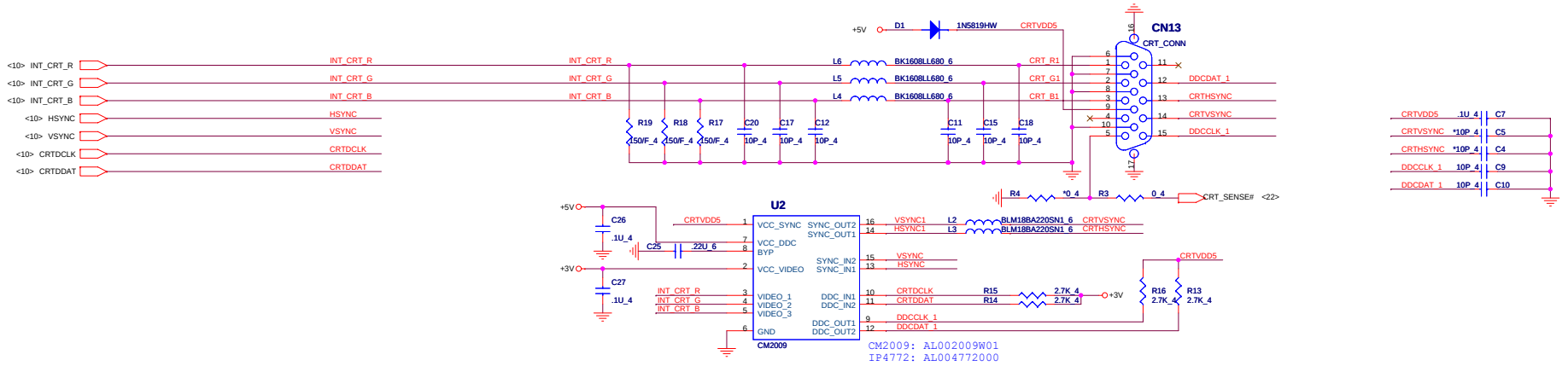
LCD POWER



CAMERA MODULE POWER



CRT

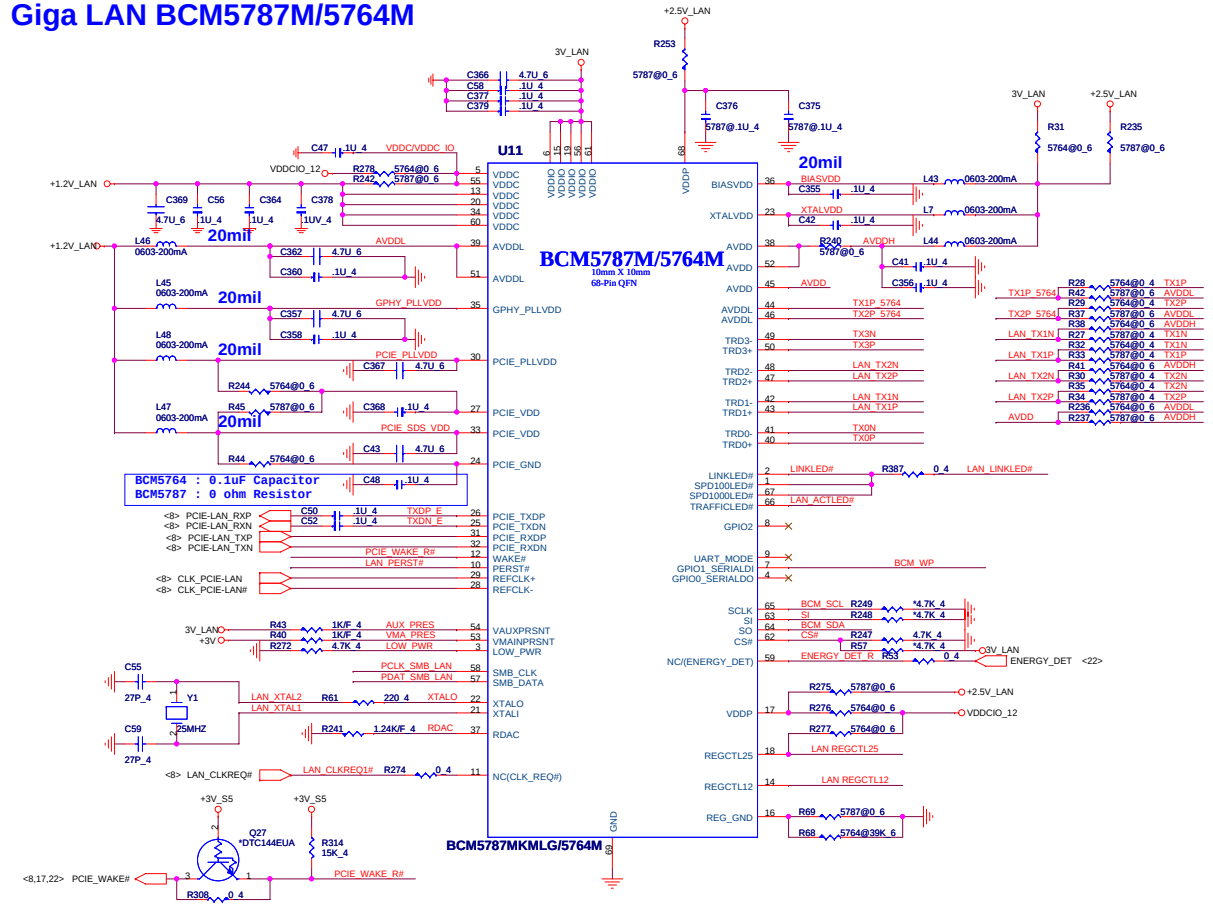


TV Out (SVHS) MiniDIN 7-pin

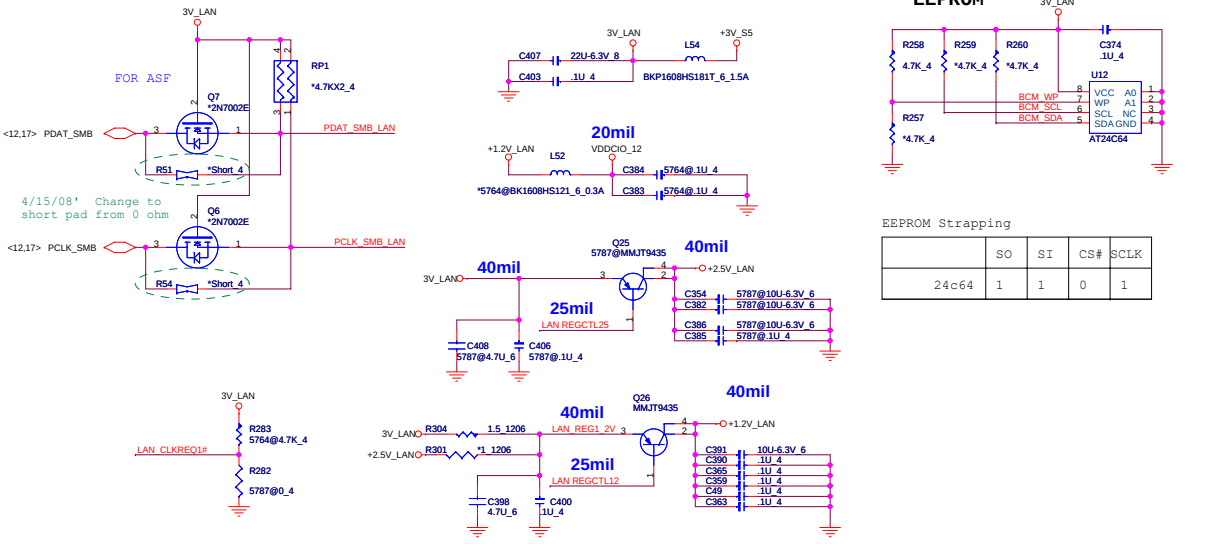
Delete TVOUT MiniDIN

Quanta Computer Inc.		
PROJECT : Z05		
Size	Document Number: LVDS/CRT/PC-Camera	Rev: 1D
Date: Friday, April 18, 2008	Sheet 14 of 35	

Giga LAN BCM5787M/5764M



LAN POWER



EEPROM

EEPROM Strapping

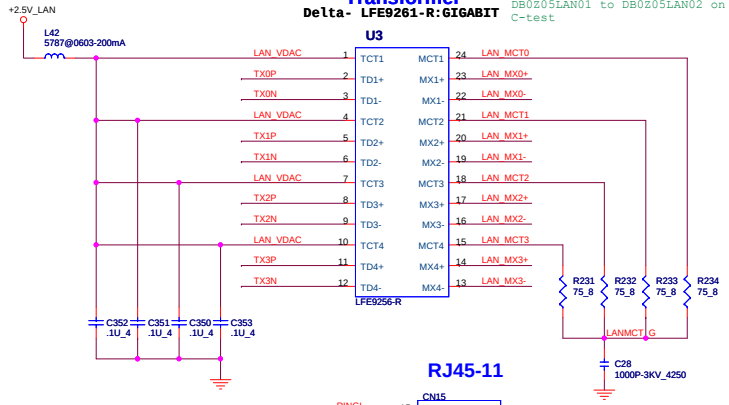
	SO	SI	CS#	SCLK
24c64	1	1	0	1

Delete LAN within DOCK Selector

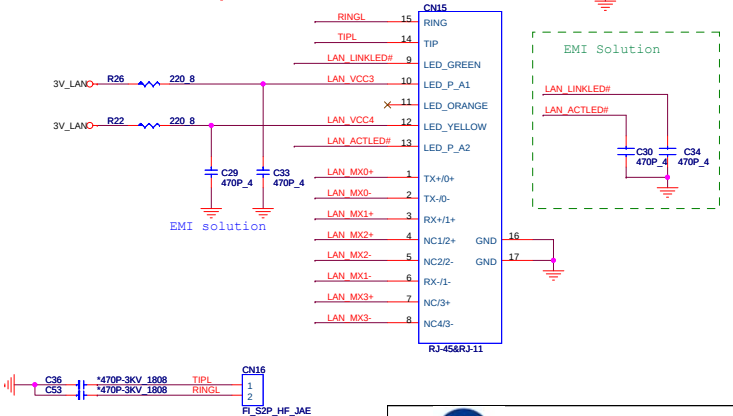
Transformer

Delta- LFE9261-R:GIGABIT

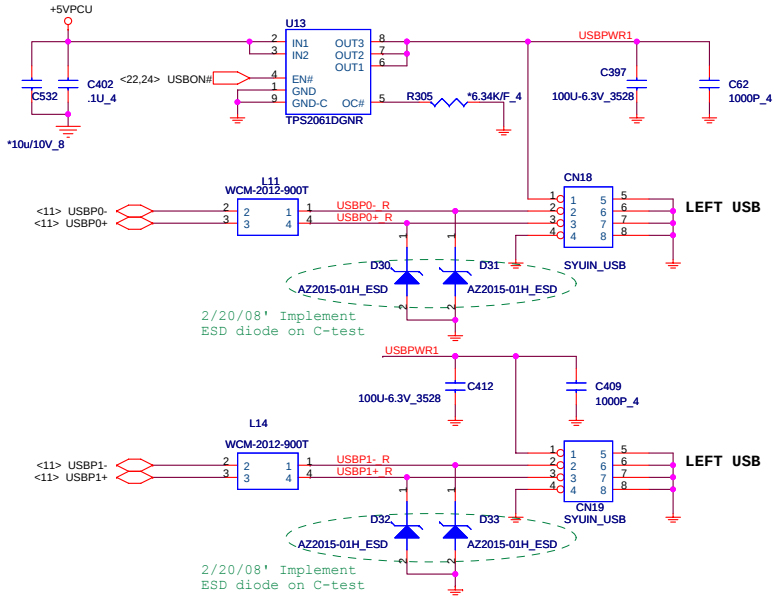
2/20/08' Change PN form DB0Z05LAN01 to DB0Z05LAN02 on C-test



RJ45-11

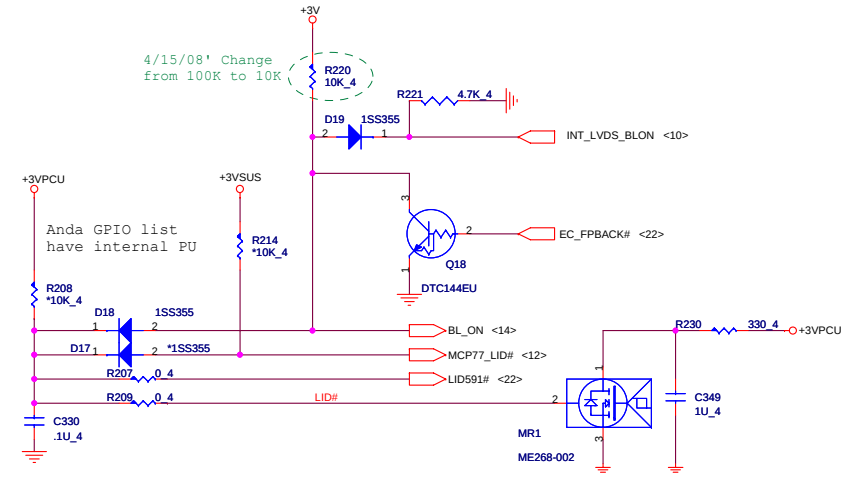


Quanta Computer Inc.	PROJECT : Z05	
Size	Document Number: GigaLAN BCM5787/RJ45 & RJ11	Rev 1D
Date: Friday, April 18, 2008	Sheet 15 of 35	



Delete CIR Function 2007/09/21

LID SWITCH



CPU

H16 h-tc213bc244d146p2
H17 h-tc213bc244d146p2
H12 h-tc213bc244d146p2
H13 h-tc213bc244d146p2

MDC

H23 h-tc118bc197d83p2
H26 h-tc118bc197d83p2

BLUETOOTH

H25 h-tc165bc118d79p2
H24 h-tc165bc118d79p2

Power Board

H9 h-c197d87p2
H10 h-c197d87p2

FAN

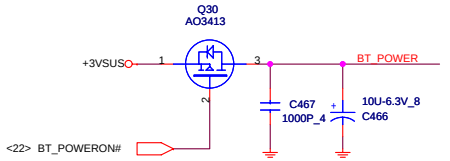
H15 H-C276D146P2
H6 h-c236d146p2
H5 h-c236d146p2

H7 h-c315d110p2-8
H22 h-c276d118p2-8
H20 h-c283d118p2-8
H29 H-C315D118P2-8
H11 H-sc315d118p2-8
H8 h-tc315be433x315d118p2-8
H14 h-c236d118p2
H2 H-C315D118P2-8
H32 H-C315D118P2-8
H28 H-C315D118P2-8
H30 h-c315d118p2-8
H1 H-C315D118P2-8
H21 H-C315D118P2-8
H18 h-c276d118p2-8
H19 h-c276d118p2-8
H27 h-c276d118p2-8

10/8

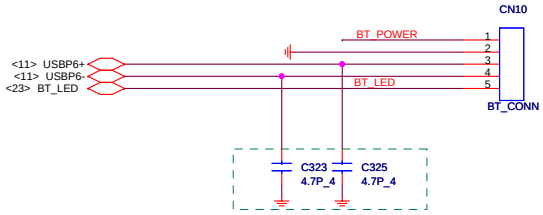
PAD2 *EMIPAD
PAD3 *EMIPAD
PAD4 *EMIPAD
PAD5 *EMIPAD
PAD10 *EMIPAD
PAD8 *EMIPAD
PAD11 *EMIPAD
PAD9 *EMIPAD
PAD1 *EMIPAD
PAD12 *EMIPAD
PAD7 *EMIPAD
PAD6 *EMIPAD

BLUETOOTH MODULE CONNECTOR



2007/12/4 add

H33 h-tp236bpsd118p2-7
H34 h-c65d65n



EMI solution

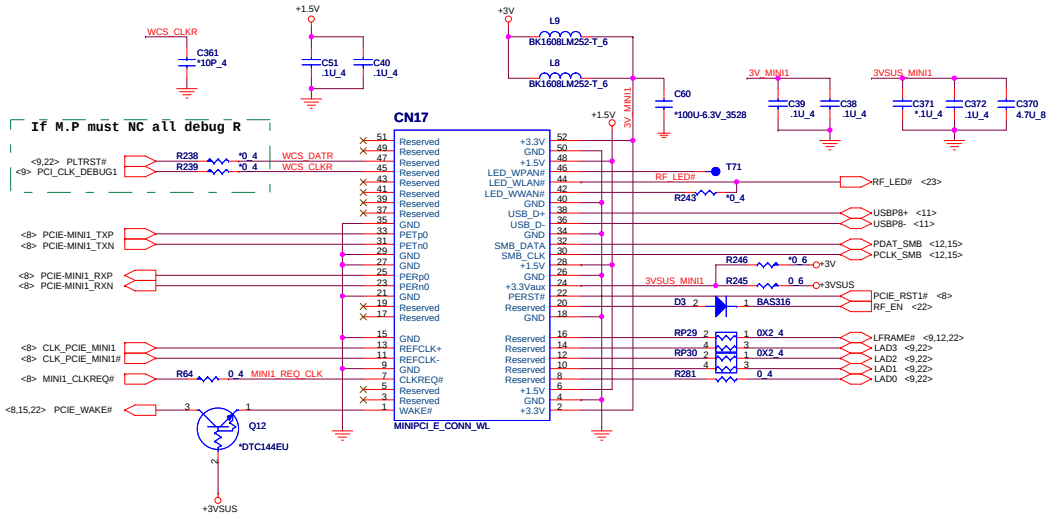
2007/12/4 add

PAD13 *ME-PAD
PAD14 *ME-PAD
PAD15 *ME-PAD
PAD16 *ME-PAD
PAD17 *ME-PAD
PAD18 *ME-PAD
PAD19 *ME-PAD
PAD20 *ME-PAD
PAD21 *ME-PAD
PAD22 *ME-PAD
PAD23 *ME-PAD
PAD25 *ME-PAD
PAD26 *ME-PAD

Quanta Computer Inc.
PROJECT : Z05
Size
Document Number
USB/BT/LID/HOLE
Rev
1D
Date: Friday, April 18, 2008
Sheet 16 of 35

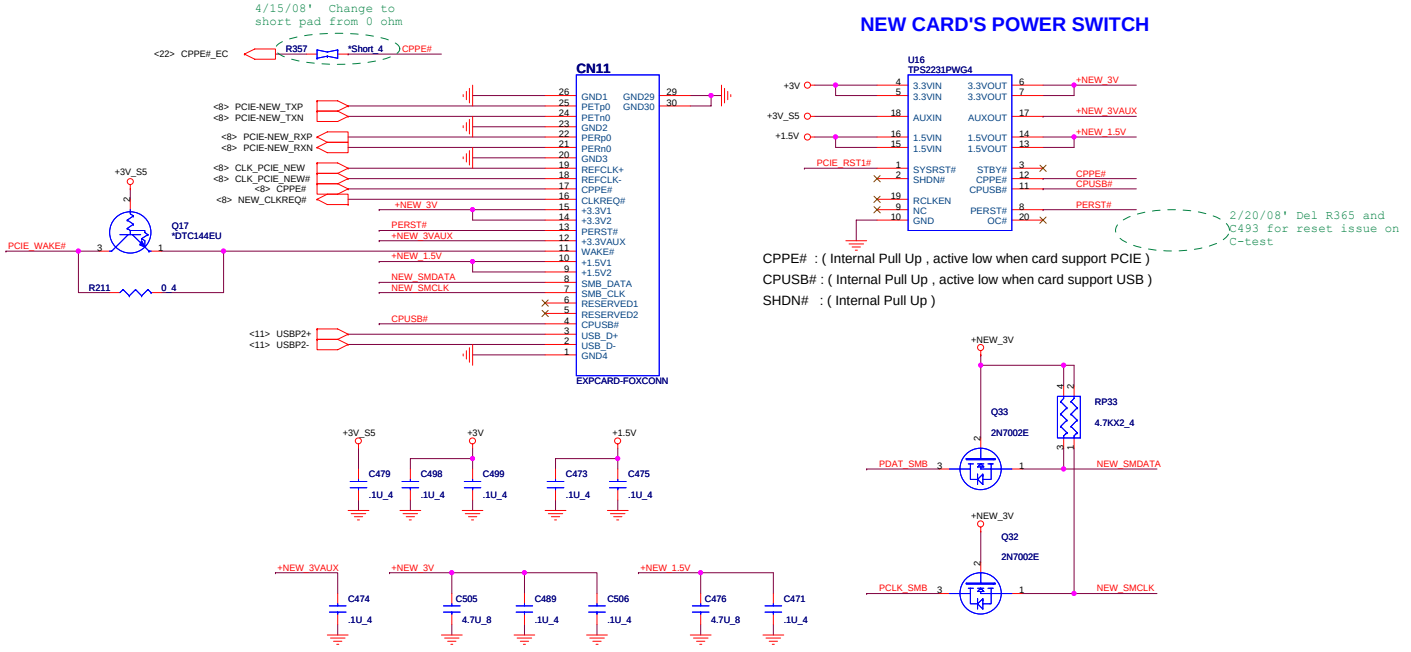
MINI-Card

MINI-Card Port-1

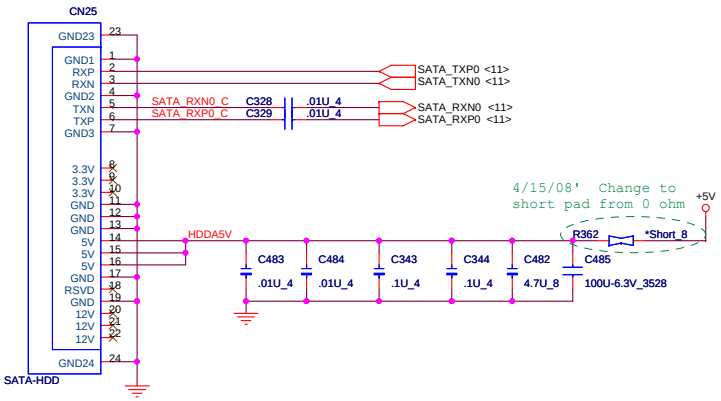


Delete MINI-Card Port-2

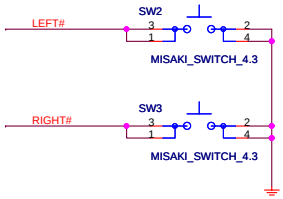
New card



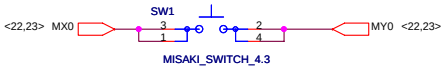
SATA HDD



TP SWITCH

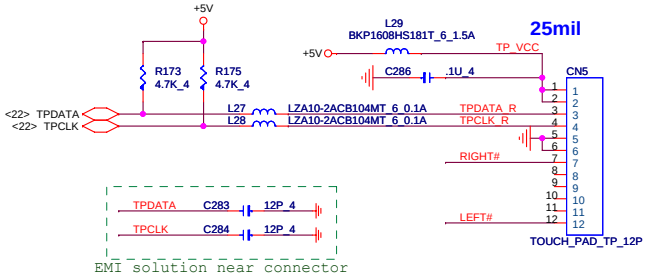


E-KEY

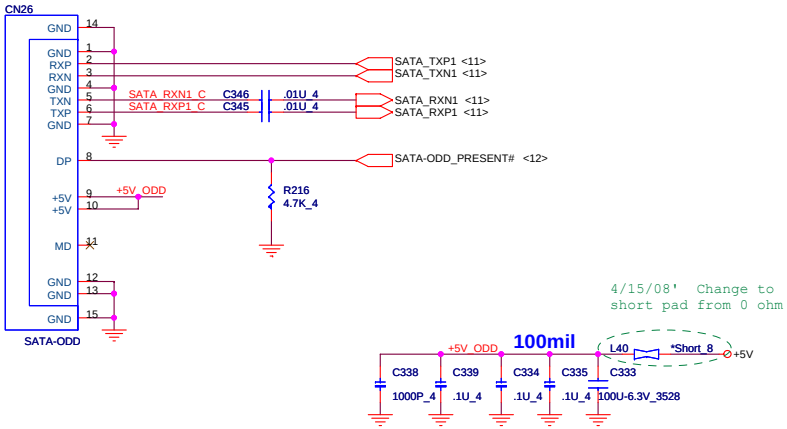


MX0 MY0:E-Key

TP CONN

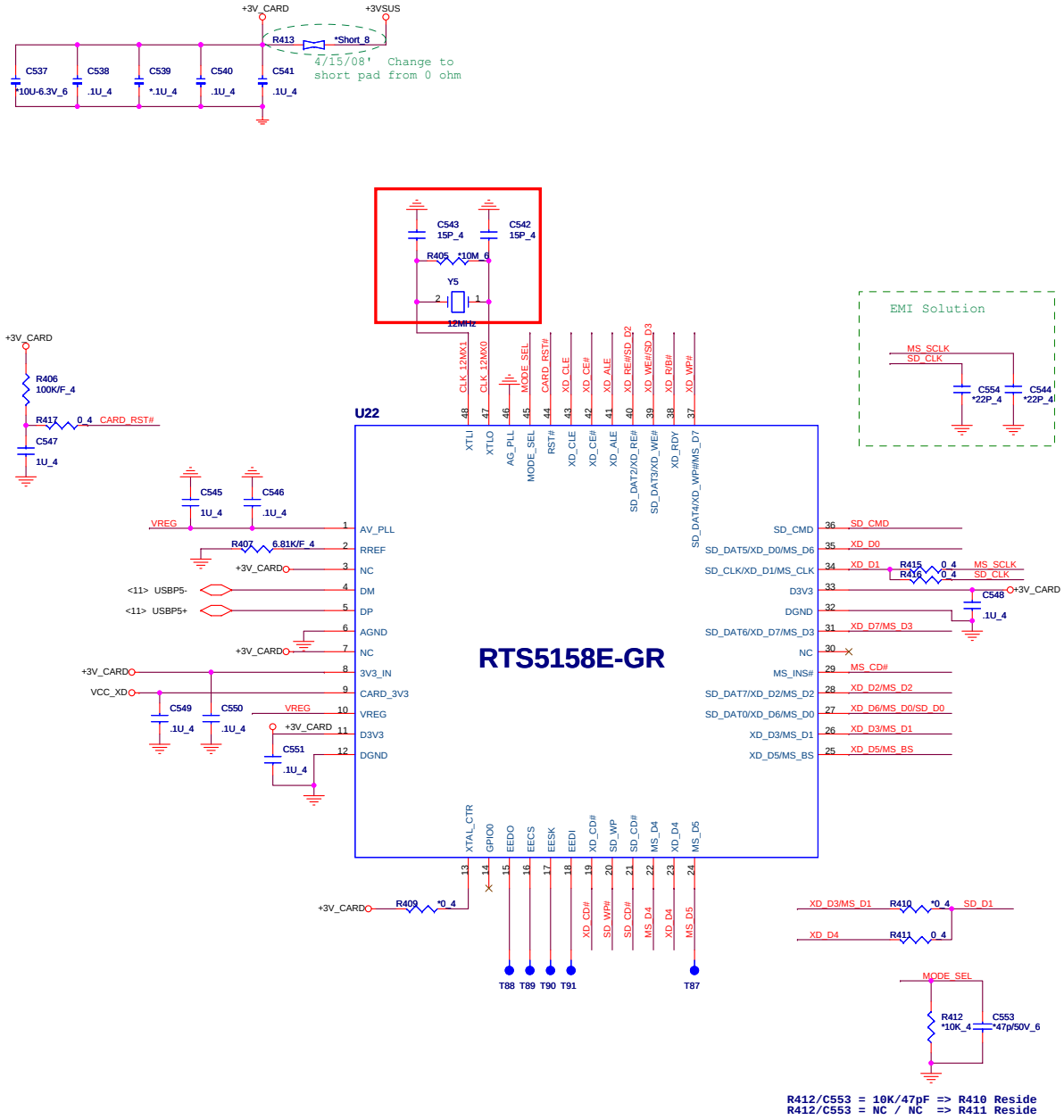


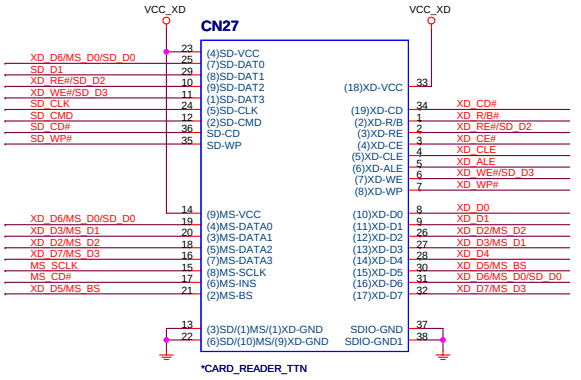
ODD (SATA)

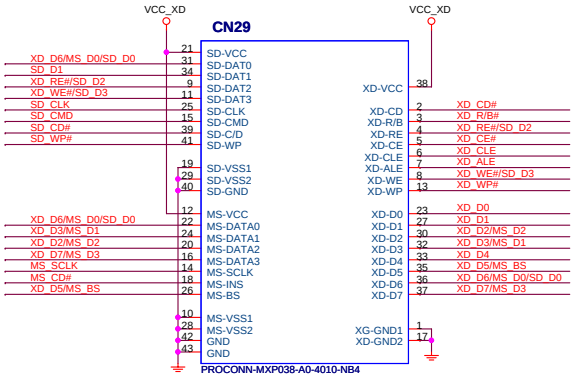


Quanta Computer Inc.		
PROJECT : Z05		
Size	Document Number	Rev
	SATA-HDD & SATA-ODD&TP	1D
Date: Friday, April 18, 2008	Sheet 18 of 35	

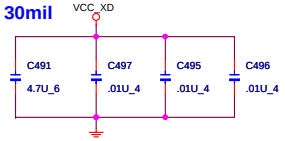
7 IN 1 CARD READER







CARDREADER POWER



Quanta Computer Inc.

PROJECT : Z05

Size	Document Number	Rev
	RTS5158E -Card Reader	1D
Date: Friday, April 18, 2008	Sheet 19 of 35	

CODEC(ALC268/ALC888S-VC)

2/20/08' Empty on C-test

4/15/08' Change to short pad from 0 ohm

SPK OUT

HP Jack

ALC268/ALC888S_VC

EMI Solution

CODEC(ALC268) Power

Vo=1.2*(R371+R372)/R371= 4.8V

INT MIC array

INT_MIC

4/15/08' Change to short pad from 0 ohm

EMI suggest 12/4

AGC-attack-time selection

AGC_Attack (4 pin)	Attack time
LOW	1 ms
Hi	2 ms

AGC ON/OFF selection

AGC_ON/OFF (6 pin)	AGC ON/OFF
LOW	ON
Hi	OFF

AGC-recovery-time selection

AGC_Recovery1 (10 pin)	AGC_Recovery2 (11 pin)	Recovery Time
LOW	LOW	1.0 s
LOW	Hi	2.0 s
Hi	LOW	4.0 s
Hi	Hi	8.0 s

AGC-on-level selection

AGC_Lv1 (2 pin)	AGC_Lv2 (3 pin)	AGC ON Level	Output Po (RL=8 ohm)
LOW	LOW	9.8 dBV	1.2 W
LOW	Hi	9.0 dBV	1.0 W
Hi	LOW	8.1 dBV	0.8 W
Hi	Hi	6.0 dBV	0.5 W

MDC

SPK

Beep

SP_STBY ON/OFF & HP_STBY ON/OFF

SP_STBY1 (33 pin)	SP_STBY2 (34 pin)	SP_STBY ON/OFF
LOW	LOW	ON
LOW	Hi	OFF
Hi	LOW	OFF
Hi	Hi	OFF

HP_STBY1 (35 pin)	HP_STBY2 (36 pin)	HP_STBY ON/OFF
LOW	LOW	ON
LOW	Hi	OFF
Hi	LOW	OFF
Hi	Hi	OFF

MUTE FUNCTION

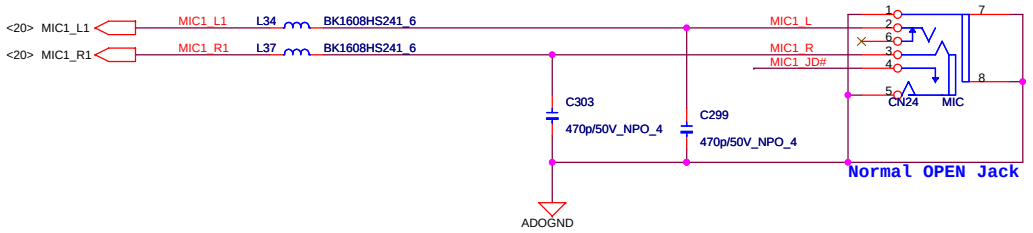
Panasonic AN12948A

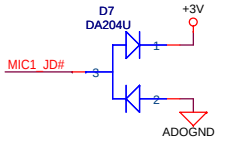
CPGND -- ISOLATED GND
Modify CPGND to CPGND_1~4

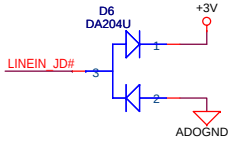
4/15/08' Change to short pad from 0 ohm

Quanta Computer Inc.	PROJECT : Z05
Size	Document Number: ALC268 & MDC/AMP/SPK/MIC
Rev	1D
Date: Friday, April 18, 2008	Sheet 20 of 35

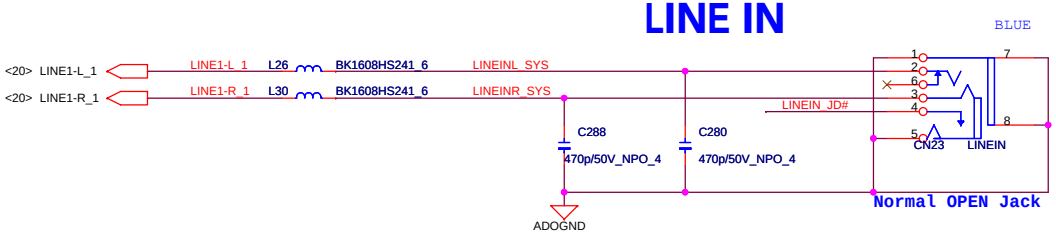
MIC

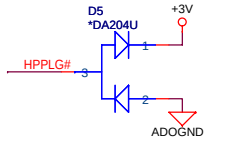




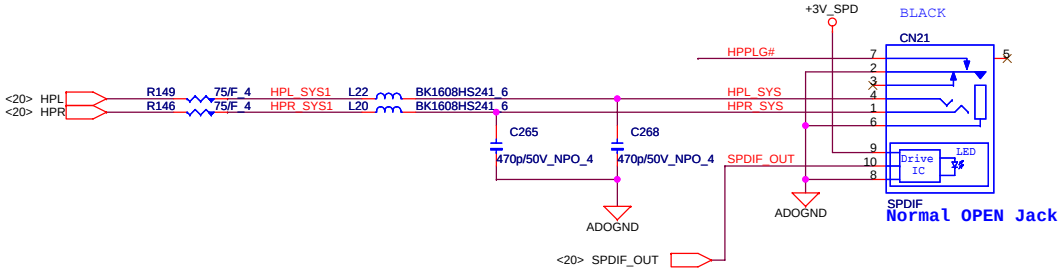


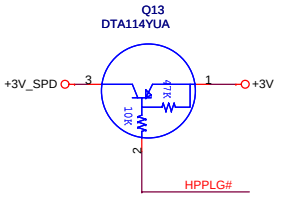
LINE IN



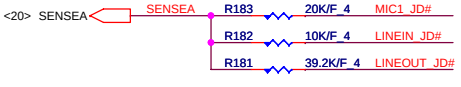


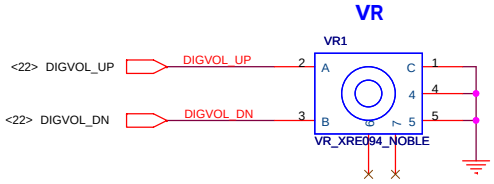
HeadPhone OUT/SPDIF

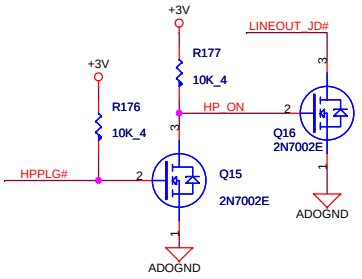




VR





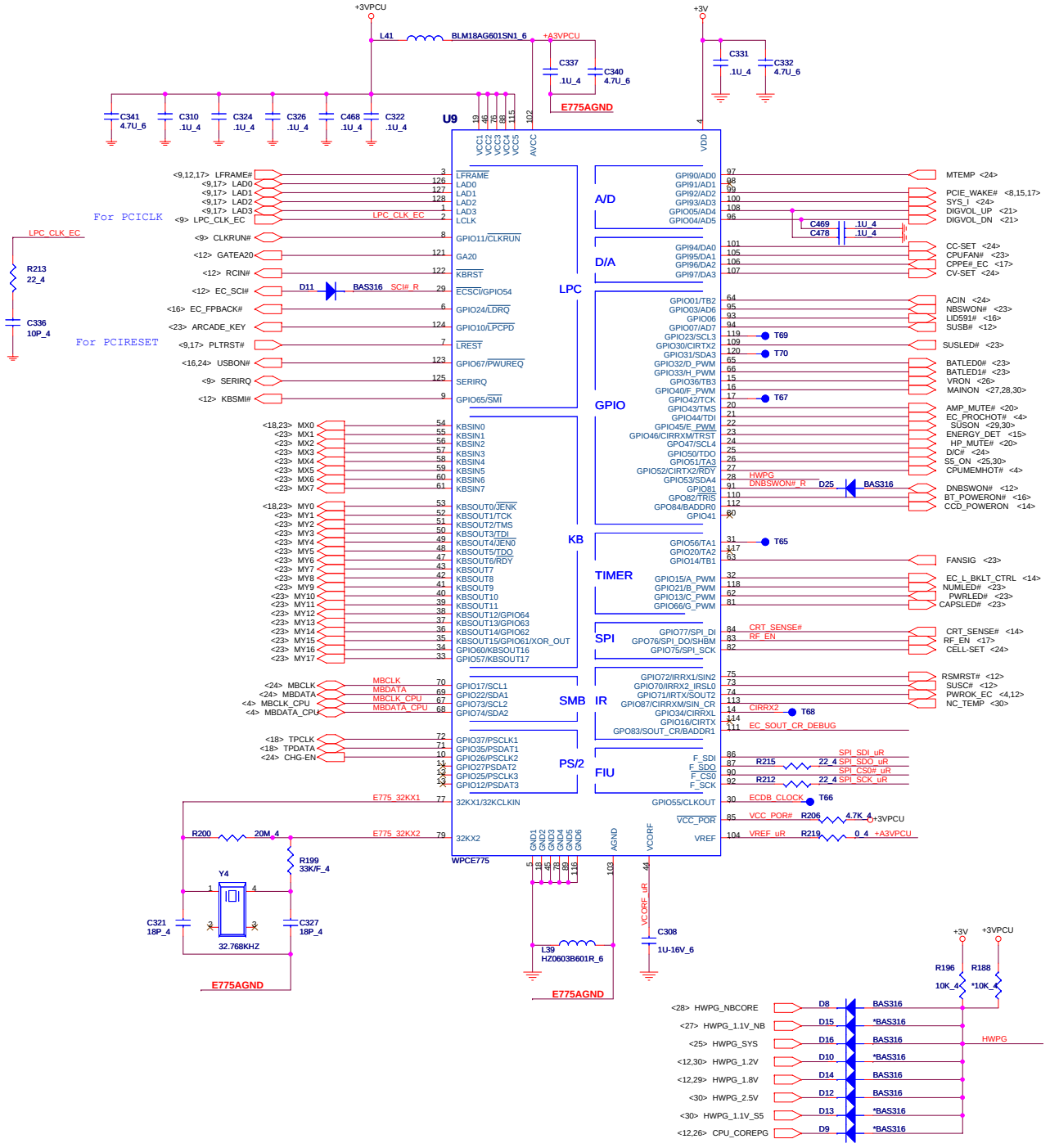


Quanta Computer Inc.

PROJECT : Z05

Size	Document Number	Rev
	Audio Jack	1D
Date: Friday, April 18, 2008	Sheet 21 of 35	

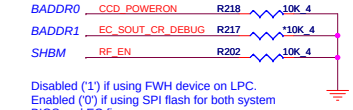
WPCE775C



I/O ADDRESS SETTING

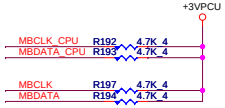
	I/O Address	
BADDR1-0	Index	Data
0 0	XOR TREE TEST MODE	
0 1	CORE DEFINED	
1 0	2Eh	2Fh
1 1	164Eh	164Fh

SHBM=0: Enable shared memory with host BIOS

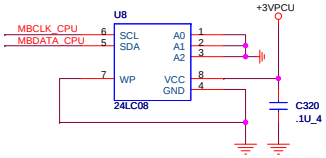


Disabled ('1') if using FWH device on LPC.
Enabled ('0') if using SPI flash for both system BIOS and EC firmware

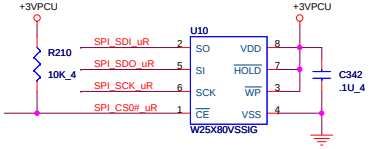
SMBUS PULL-UP



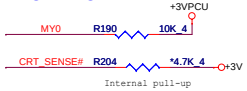
ACER ID



SPI FLASH

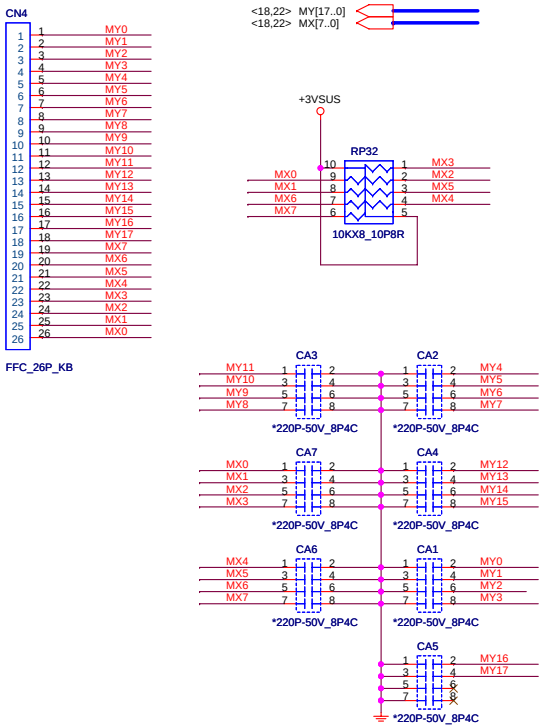


INTERNAL KEYBOARD STRIP SET

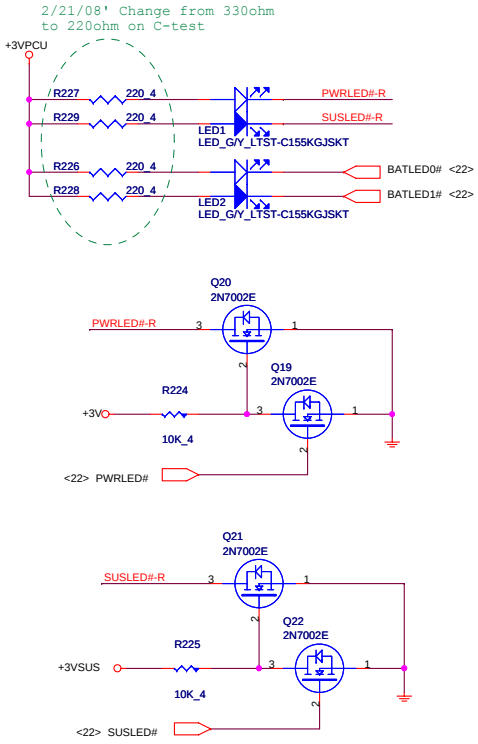


Quanta Computer Inc.			
PROJECT : Z05			
Size	Document Number		Rev
	EC WPCE775C_0DG & SPI		1D
Date: Friday, April 18, 2008		Sheet 22 of 35	

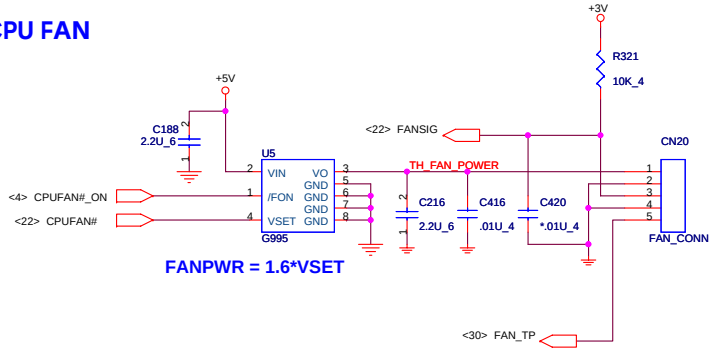
INT K/B



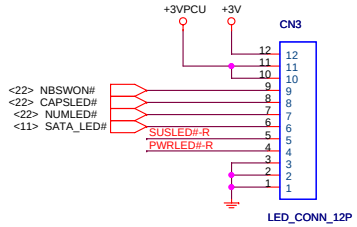
LED



CPU FAN



LED BOARD CONN.



Debug

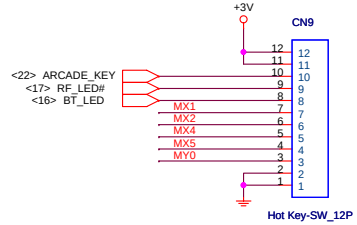
Delete Debug Port(PCI & IDE)

Fingerprint BOARD CONN.

Button BOARD CONN.

BUTTON MATRIX

	MY0
MX1	MAIL
MX2	WWW
MX4	WIRELESS
MX5	BLUETOOTH

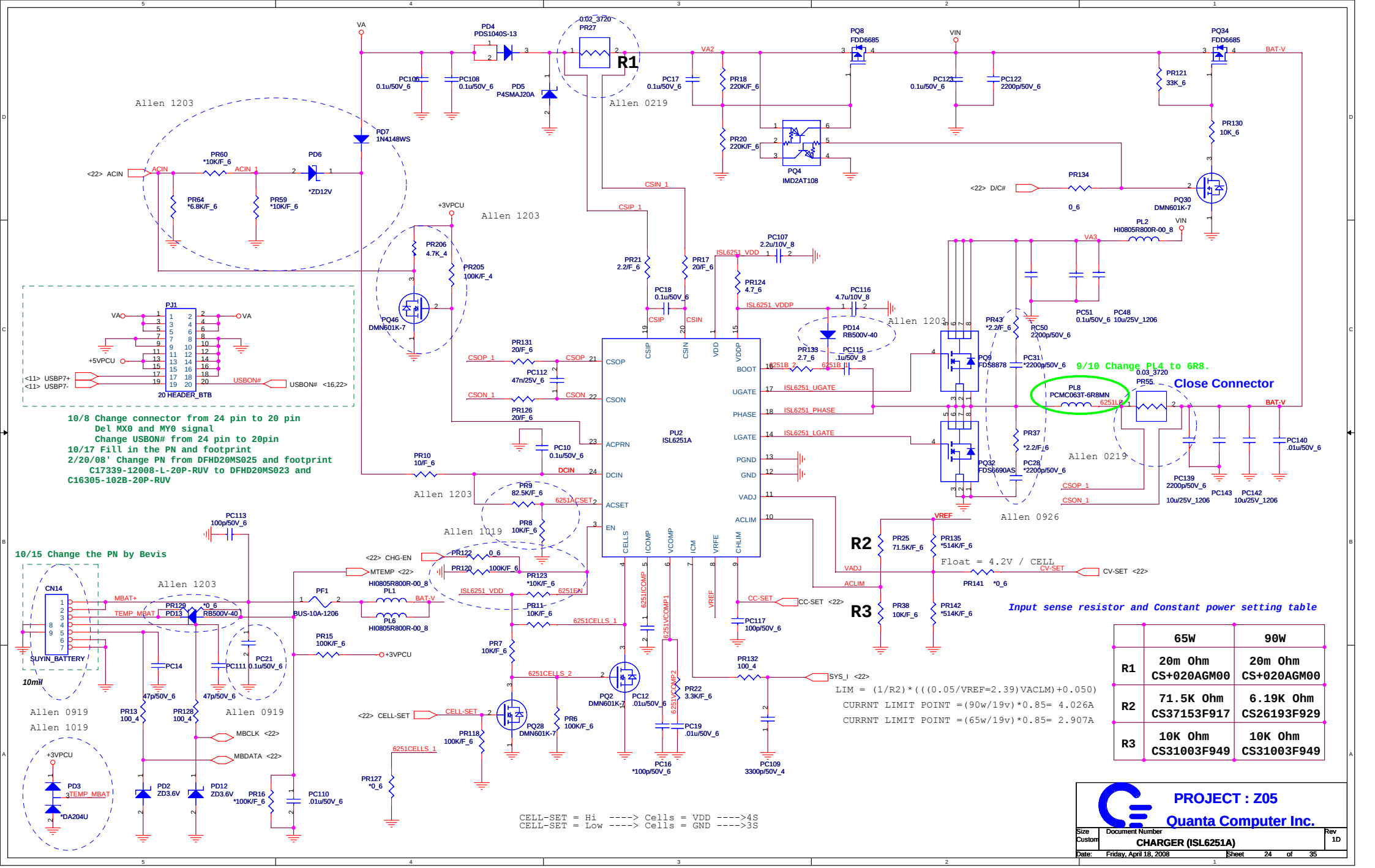


Quanta Computer Inc.

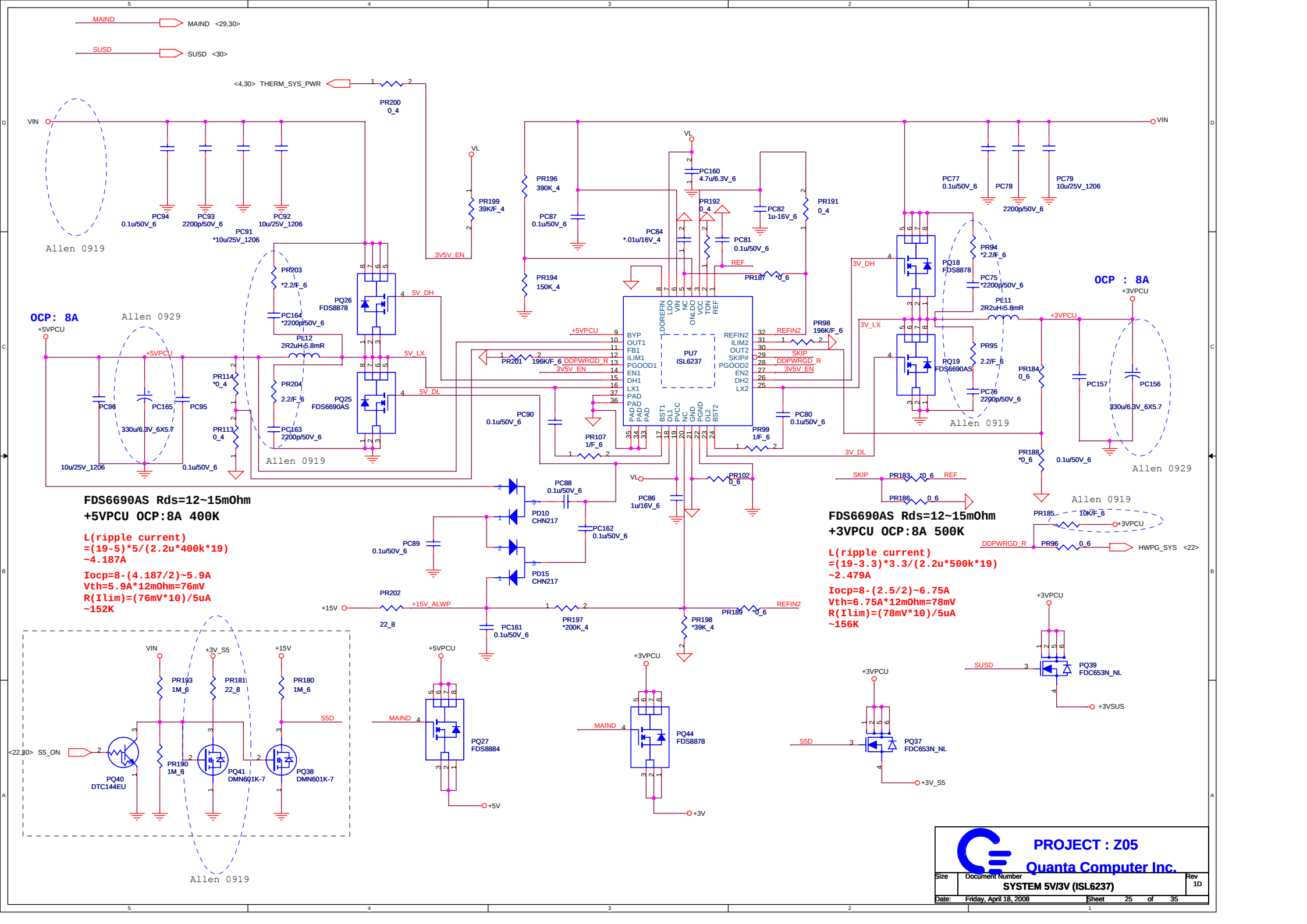
PROJECT : Z05

Size	Document Number	Rev
	FAN,SWITCH,LED,KB,FINGERPRINT	1D

Date: Friday, April 18, 2008 Sheet 23 of 35



	65W	90W
R1	20m Ohm CS+020AGM00	20m Ohm CS+020AGM00
R2	71.5K Ohm CS37153F917	6.19K Ohm CS26193F929
R3	10K Ohm CS31003F949	10K Ohm CS31003F949


MAIND
MAIND <29,30>
SUSD
SUSD <30>
<4,30> THERM_SYS_PWR
PR200 0_4
VIN
PC94 0.1u/50V_6
PC93 2200p/50V_6
PC91 *10u/25V_1206
PC92 10u/25V_1206
Allen 0919
VL
PR199 39K/F_4
3V5V_EN
PR196 390K_4
PC87 0.1u/50V_6
PR194 150K_4
PC160 4.7u/6.3V_6
PR192 0_4
PC82 1u-16V_6
PR191 0_4
PC84 *.01u/16V_4
PC81 0.1u/50V_6
REF
PR187 *0_6
PC77 0.1u/50V_6
PC78 2200p/50V_6
PC79 10u/25V_1206
OCP: 8A
Allen 0929
+5VPCU
PR203 *2.2/F_6
PC164 *2200p/50V_6
PQ26 FDS8878
5V_DH
PL12 2R2uH-5.8mR
5V_LX
PR204 2.2/F_6
PQ25 FDS6690AS
5V_DL
PC163 2200p/50V_6
PR114 *0_4
PR113 0_4
PC96
PC165 330u/6.3V_6X5.7
PC95
10u/25V_1206
0.1u/50V_6
PC90 0.1u/50V_6
PR107 1/F_6
PR201 196K/F_6
DDPWRGD_R
PU7 ISL6237
DOREFIN LDO VIN NC ONLOCC VCC TON REF
BYP OUT1 FB1 ILIM1 PGOOD1 EN1 DH1 LX1 PAD PAD PAD PAD
REFIN2 ILIM2 OUT2 SKIP# PGOOD2 EN2 DH2 LX2
BST1 DL1 PVCC NC GND PGND DL2 BST2
PR98 196K/F_6
REFIN2
SKIP
PR99 1/F_6
PC80 0.1u/50V_6
3V_DH
3V_LX
3V_DL
PQ18 FDS8878
PR94 *2.2/F_6
PC75 *2200p/50V_6
PL11 2R2uH-5.8mR
PQ19 FDS6690AS
PR95 2.2/F_6
PC76 2200p/50V_6
PR184 0_6
PR188 *0_6
PC157
PC156 330u/6.3V_6X5.7
OCP : 8A
Allen 0919
Allen 0929
FDS6690AS Rds=12~15mOhm
+5VPCU OCP:8A 400K
L(ripple current)
=(19-5)*5/(2.2u*400k*19)
~4.187A
Iocp=8-(4.187/2)~5.9A
Vth=5.9A*12mOhm=76mV
R(Ilim)=(76mV*10)/5uA
~152K
PC88 0.1u/50V_6
PD10 CHN217
PC162 0.1u/50V_6
PC89 0.1u/50V_6
PD15 CHN217
PC86 1u/16V_6
PR102 0_6
PR202 22_8
+15V
+15V_ALWP
PC161 0.1u/50V_6
PR197 *200K_4
PR198 *39K_4
PR189 *0_6
REFIN2
SKIP
PR183 *0_6
REF
PR186 0_6
FDS6690AS Rds=12~15mOhm
+3VPCU OCP:8A 500K
L(ripple current)
=(19-3.3)*3.3/(2.2u*500k*19)
~2.479A
Iocp=8-(2.5/2)~6.75A
Vth=6.75A*12mOhm=78mV
R(Ilim)=(78mV*10)/5uA
~156K
PR185 10K/F_6
+3VPCU
DDPWRGD_R
PR96 0_6
HWPG_SYS <22>
Allen 0919
VIN
+3V_S5
+15V
PR193 1M_6
PR181 22_8
PR180 1M_6
S5D
<22,30> S5_ON
PR190 1M_6
PQ40 DTC144EU
PQ41 DMN601K-7
PQ38 DMN601K-7
Allen 0919
+5VPCU
MAIND
PQ27 FDS8884
+5V
+3VPCU
MAIND
PQ44 FDS8878
+3V
+3VPCU
S5D
PQ37 FDC653N_NL
+3V_S5
+3VPCU
SUSD
PQ39 FDC653N_NL
+3VSUS
PROJECT : Z05
Quanta Computer Inc.
Size
Document Number
SYSTEM 5V/3V (ISL6237)
Rev 1D
Date: Friday, April 18, 2008
Sheet 25 of 35

OFS/VFIXEN	Offset & Droop	SVI	VFIX
GND	0	0	X
+3.3V	X	X	0
+5V	X	0	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

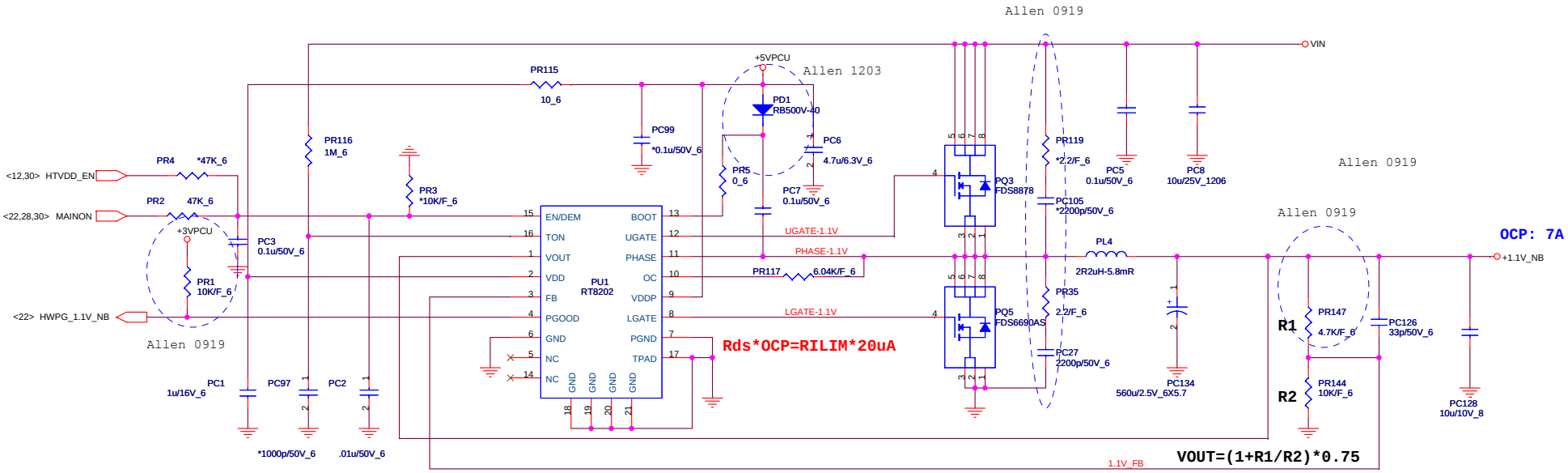
OCP:3A 260K

CPU_VDDNB_RUN
PL3 2.5uH_7.5A
<4> CPU_VDDNB_RUN_FB_H
<4> CPU_VDDNB_RUN_FB_L
PR24 10/F_6
PR23 10/F_6
PC11 330u_2V_7343
PC15 10u/25V_1206
LGATE_NB
UGATE_NB
PQ1 FDS6900AS
PC100 10u/25V_1206
PC101 10u/25V_1206
PC98 0.1u/50V_6
PC103 100u/25V_6X7.7
VIN
Allen 0919
+5VPCU
PR28 10/F_6
PC118 1u/16V_6
PR26 0_8
PR31 22.1K/F_4
PC119 1000p/50V_6
PC30 33p/50V_4
PC33 1200p/50V_4
PR46 44.2K/F_4
PR136 0_4
PR137 0_4
PR138 11.3K/F_6
PHASE_NB
PC29 0.1u/50V_6
PR42 1/F_6
PR207 2.2/F_6
PC166 2200p/50V_6
Allen 0219
PR139 10/F_6
PC120 0.1u/50V_6
+3VPCU
PR41 10K/F_6
PR39 0_4
PR32 *0_4
+3V
PR36 *10K/F_4
<12,22> CPU_COREPG
PR44 0_4
+1.8V
PQ33 DTC144EU
PR33 10K_6
<4> CPU_PWRGD_SVID
PR148 *0_4
Allen 0929
PR47 0_4
<4> CPU SVD
PR150 0_4
<4> CPU SVC
PR49 10K/F_4
PR50 *0_4
PR65 *0_4
<22> VRON
<12> CPU_VRON
Allen 1019
PR152 22K/F_4
PR153 100K/F_4
Allen 1203
PR57 255/F_4
PC37 4700p/25V_4
PR54 1K/F_4
PR156 54.9K/F_4
PC132 1200p/50V_4
PC129 180p/50V_4
PR157 6.81K/F_4
PC131 1000p/50V_6
PU9 ISL6265
Pin 49 is GND Pin
GND VIN VCC FB_NB COMP_NB FSET_NB VSEN_NB RTN_NB OCSET_NB PGND_NB LGATE_NB PHASE_NB UGATE_NB
OFS/VFIXEN PGOOD PWROK SVD SVC ENABLE RBIAS OCSET VDIFF_0 FB_0 COMP_0 VW_0
BOOT_NB BOOT_0 UGATE_0 PHASE_0 PGND_0 LGATE_0 PVCC LGATE_1 PGND_1 PHASE_1 UGATE_1 BOOT_1
ISP_0 ISN_0 VSEN_0 RTN_0 RTN_1 VSEN_1 VDIFF_1 FB_1 COMP_1 VW_1 ISP_1 ISN_1
PR143 1/F_6
PC121 0.1u/50V_6
PR159 1/F_6
PC136 0.1u/50V_6
+5VPCU
PC34 2.2u/10V_6
PR53 16.2K/F_4
PR56 4.02K/F_4
PC42 0.1u/50V_6
PR161 0_4
PR162 0_4
PR163 0_4
PR164 0_4
PC47 0.1u/50V_6
PR66 4.02K/F_4
PR68 16.2K/F_4
PR160 6.81K/F_4
PC137 1000p/50V_6
PC49 4700p/25V_4
PR63 1K/F_4
PC141 1200p/50V_4
PC138 180p/50V_4
PR67 255/F_4
PR165 54.9K/F_4
Close to CPU socket
CPU_CORE0
PR171 10/F_6
<4> CPU_VDD0_FB_H
<4> CPU_VDD0_FB_L
PR170 10/F_6
Parallel
Close to CPU socket
PR70 10/F_6
<4> CPU_VDD1_FB_L
<4> CPU_VDD1_FB_H
CPU_CORE1
PR69 10/F_6
Allen 0919
PQ6 AOL1414
PR14 *2.2/F_6
PC13 *2200p/50V_6
PC23 10u/25V_1206
PC24 10u/25V_1206
PC20 0.1u/50V_6
OCP:20A 300K
PL5 0.36uH
CPU_CORE0
PQ31 AOL1412
PR12 2.2/F_6
PC9 2200p/50V_6
PR30 0_6
PR29 0_6
PC25 330u_2V_7343
PC26 330u_2V_7343
PC168 330u_2V_7343
ISP_0
ISN_0
Allen 0219
PQ10 AOL1414
PR52 *2.2/F_6
PC36 *2200p/50V_6
PC44 10u/25V_1206
PC43 10u/25V_1206
PC46 0.1u/50V_6
OCP:20A 300K
PL9 0.36uH
CPU_CORE1
PQ35 AOL1412
PR166 2.2/F_6
PC144 2200p/50V_6
PR61 0_6
PR62 0_6
PC39 330u_2V_7343
PC40 330u_2V_7343
PC167 330u_2V_7343
Allen 0219

PROJECT : Z05
Quanta Computer Inc.

Size	Document Number	Rev
	AMD Gfiffin (ISL6265)	1D

Date: Friday, April 18, 2008 Sheet 26 of 35



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

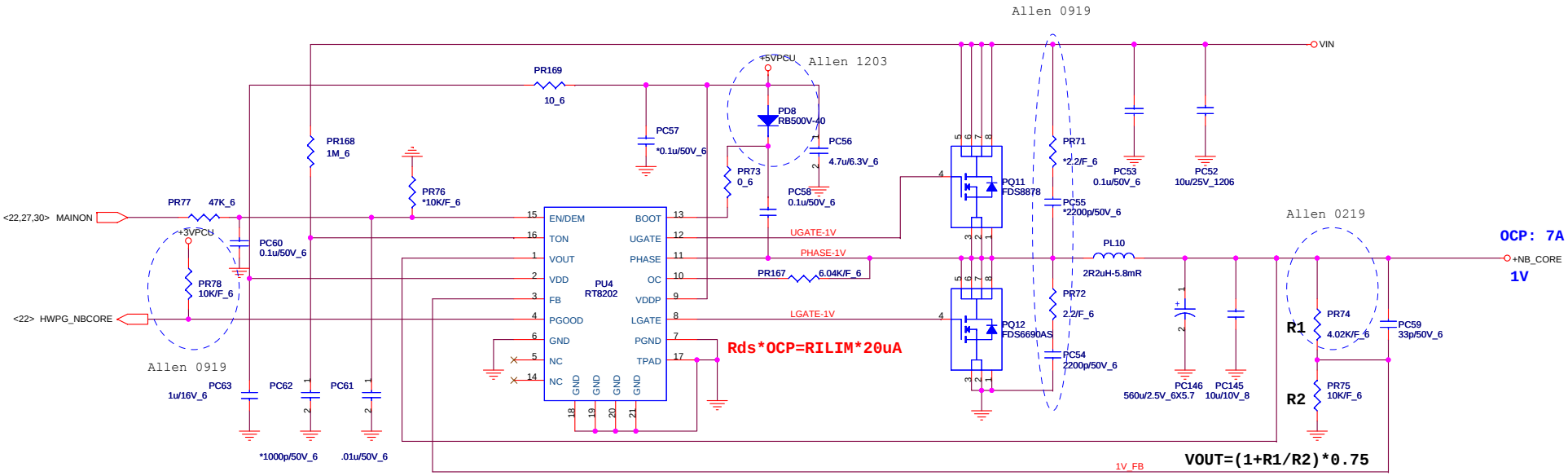
OCP=7-0.8A

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: NB_VCC (RT8202)	Rev: 1D
Date: Friday, April 18, 2008	Sheet 27 of 35	



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

Frequency=Vout/(Vin*TON)

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

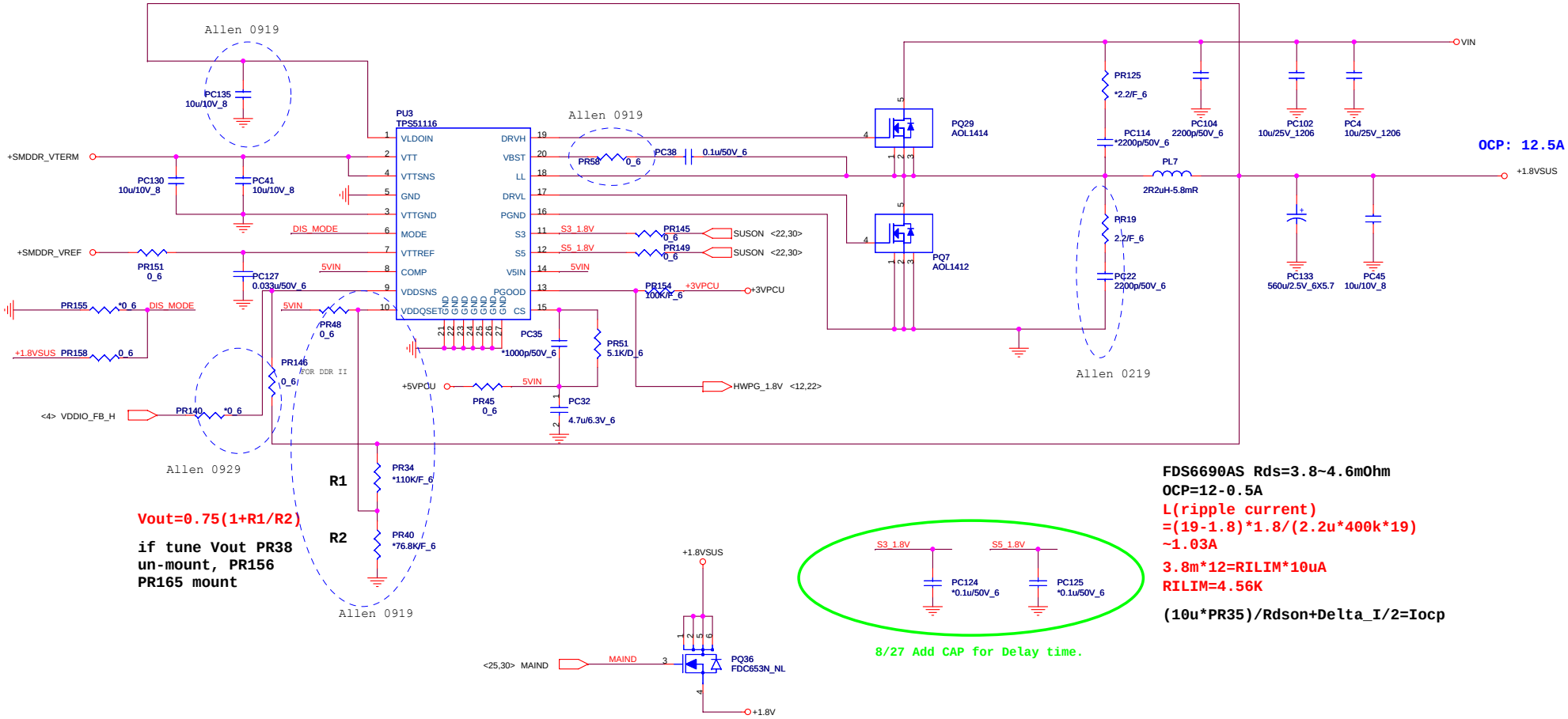
Frequency=1/(0.0036767)=272K

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.

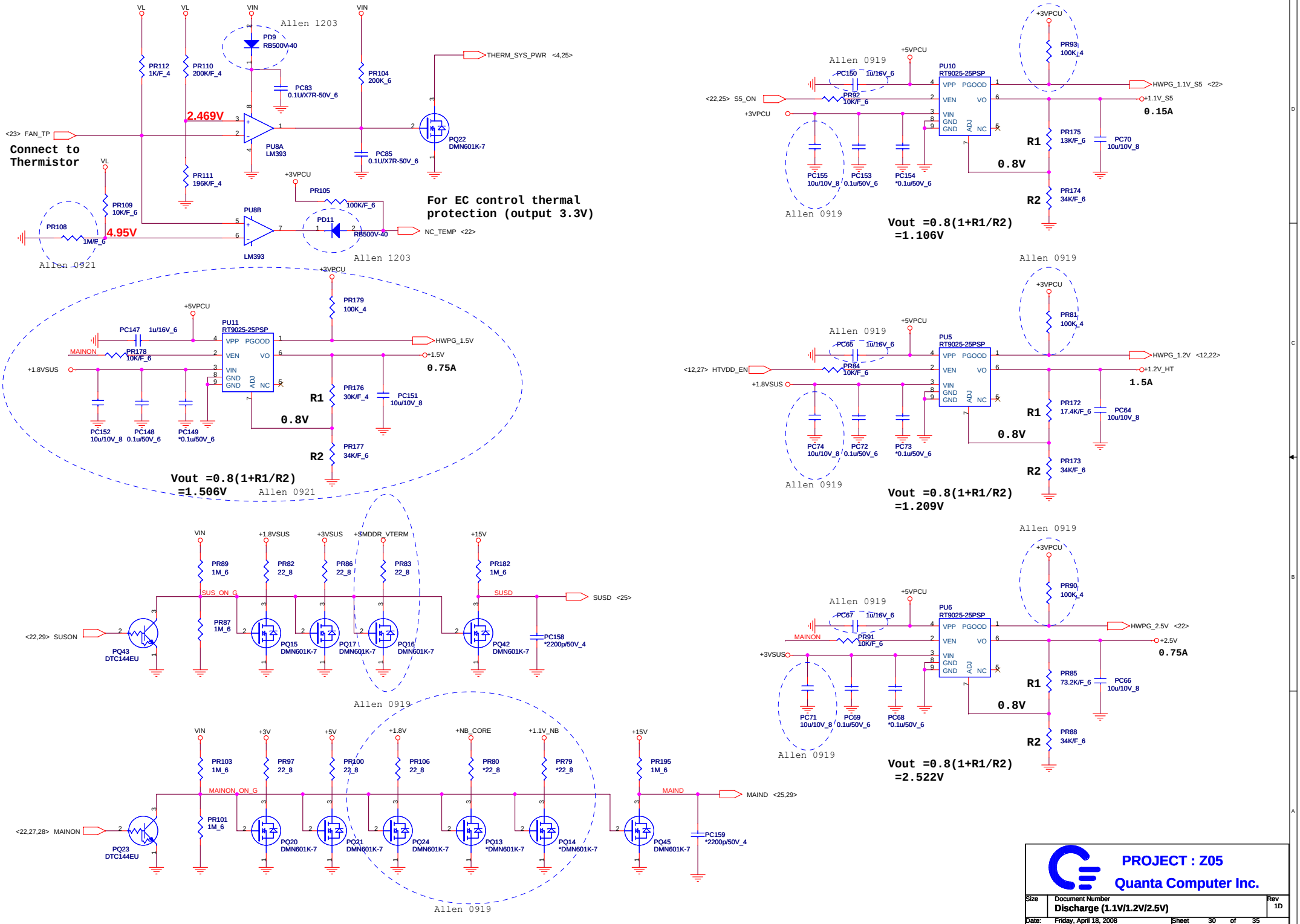
Size	Document Number	Rev
	NB_VCC (RT8202)	1D
Date: Friday, April 18, 2008	Sheet 28 of 35	

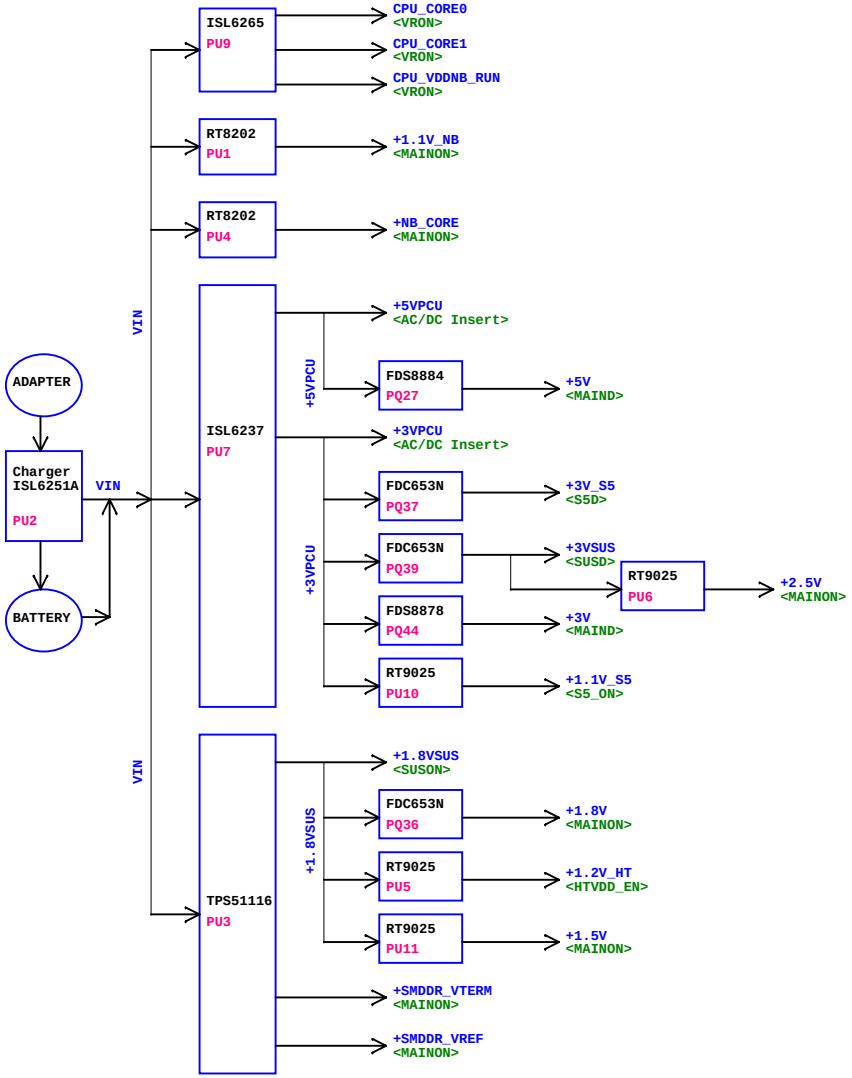


PROJECT : Z05

Quanta Computer Inc.

Size	Document Number	Rev
	DDR 1.8V(TPS51116)	1D
Date: Friday, April 18, 2008	Sheet 29 of 35	


Allen 1203
PD9
RB500V-40
PR112
1K/F_4
PR110
200K/F_4
PC83
0.1U/X7R-50V_6
PR104
200K_6
THERM_SYS_PWR <4,25>
2.469V
<23> FAN_TP
Connect to
Thermistor
PU8A
LM393
PQ22
DMN601K-7
PC85
0.1U/X7R-50V_6
PR111
196K/F_4
PR109
10K/F_6
PR108
1M/F_6
4.95V
PU8B
LM393
PR105
100K/F_6
PD11
RB500V-40
NC_TEMP <22>
For EC control thermal
protection (output 3.3V)
Allen 0921
Allen 1203
Allen 0919
PU10
RT9025-25PSP
PC150 1u/16V_6
PR92
10K/F_6
<22,25> S5_ON
PR93
100K_4
HWPG_1.1V_S5 <22>
+1.1V_S5
0.15A
PR175
13K/F_6
PC70
10u/10V_8
0.8V
PR174
34K/F_6
PC155
10u/10V_8
PC153
0.1u/50V_6
PC154
*0.1u/50V_6
Vout =0.8(1+R1/R2)
=1.106V
PU11
RT9025-25PSP
PC147 1u/16V_6
PR178
10K/F_6
MAINON
+1.8VSUS
PR179
100K_4
HWPG_1.5V
+1.5V
0.75A
PR176
30K/F_4
PC151
10u/10V_8
0.8V
PR177
34K/F_6
PC152
10u/10V_8
PC148
0.1u/50V_6
PC149
*0.1u/50V_6
Vout =0.8(1+R1/R2)
=1.506V
Allen 0921
PU5
RT9025-25PSP
PC65 1u/16V_6
PR84
10K/F_6
<12,27> HTVDD_EN
+1.8VSUS
PR81
100K_4
HWPG_1.2V <12,22>
+1.2V_HT
1.5A
PR172
17.4K/F_6
PC64
10u/10V_8
0.8V
PR173
34K/F_6
PC74
10u/10V_8
PC72
0.1u/50V_6
PC73
*0.1u/50V_6
Vout =0.8(1+R1/R2)
=1.209V
PR89
1M_6
PR82
22_8
PR86
22_8
PR83
22_8
PR182
1M_6
SUS_ON_G
SUSD
SUSD <25>
<22,29> SUSON
PR87
1M_6
PQ43
DTC144EU
PQ15
DMN601K-7
PQ17
DMN601K-7
PQ16
DMN601K-7
PQ42
DMN601K-7
PC158
*2200p/50V_4
PU6
RT9025-25PSP
PC67 1u/16V_6
PR91
10K/F_6
MAINON
+3VSUS
PR90
100K_4
HWPG_2.5V <22>
+2.5V
0.75A
PR85
73.2K/F_6
PC66
10u/10V_8
0.8V
PR88
34K/F_6
PC71
10u/10V_8
PC69
0.1u/50V_6
PC68
*0.1u/50V_6
Vout =0.8(1+R1/R2)
=2.522V
PR103
1M_6
PR97
22_8
PR100
22_8
PR106
22_8
PR80
*22_8
PR79
*22_8
PR195
1M_6
MAINON_ON_G
MAIND
MAIND <25,29>
<22,27,28> MAINON
PR101
1M_6
PQ23
DTC144EU
PQ20
DMN601K-7
PQ21
DMN601K-7
PQ24
DMN601K-7
PQ13
*DMN601K-7
PQ14
*DMN601K-7
PQ45
DMN601K-7
PC159
*2200p/50V_4
PROJECT : Z05
Quanta Computer Inc.
Size
Document Number
Discharge (1.1V/1.2V/2.5V)
Rev
1D
Date: Friday, April 18, 2008
Sheet 30 of 35



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. +3VCPU Thermal Sense, MCP77M, System Memory, LCD Panel, PC Camera, Mini card, New Card, Audio, Codec, Card Reader, KBC WPCE775C, LED
8. +2.5VCPU 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.

PROJECT : Z05
Quanta Computer Inc.
Size | Document Number | Rev 1D
Power Tree
Date: Friday, April 18, 2008 | Sheet 31 of 35