Jones/Cujo BLOCK DIAGRAM

01

PCB STACK UP
6L UMA

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

CPU
Penryn
478P (uPGA)/35W
PAGE 3,4

CPU THERMAL SENSOR
PAGE 4

FSB 667/800/1066

14.318MHz

CLOCK GEN
ALPRS355B MLF64PIN
PAGE 2

CLK_CPU_BCLK, CLK_CPU_BCLK#
CLK_MCH_BCLK, CLK_MCH_BCLK#
DREFCLK, DREFCLK#
DREFSSCLK, DREFSSCLK#

NORTH BRIDGE
Cantiga
PAGE 5~9

DDRII-SODIMM1
PAGE 10
DDRII 667/800 MHz

DDRII-SODIMM2
PAGE 10
DDRII 667/800 MHz

CH7318B-BF-TR
PAGE 20

HDMI CON
PAGE 13

CRT
PAGE 13

Dual Link
LCD CONN
PAGE 12

Cable Docking
PAGE 29
- VGA
- RJ-45
- CIR/Pwr btn
- SPDIF Out
- Stereo MIC
- Headphone Jack
- USB Port
- VOL Cntr

Mini PCI-E Card x2
Express Card x1
Cable Docking x1

DMI LINK

32.768KHz

NBSRCCLK, NBSRCCLK#

SOUTH BRIDGE
ICH-9M
PAGE 14~17

SATA - HDD
PAGE 24
SATA0 150MB

SATA - CD-ROM
PAGE 24
SATA1 150MB

SATA - 2ndHDD
PAGE 24
SATA4 150MB

E-SATA
PAGE 24
SATA5 150MB

Accelerometer LIS3LV02DL PAGE 20
SMBUS

USB2.0
4,7,10,11

0,1,8,9
USB2.0 Ports X4 PAGE 22

5
BlueTooth PAGE 22

3
Webcam PAGE 22

2
Fingerprint PAGE 22

6
Card Reader RTS5158E
PAGE 18

PCI-E

X3
Mini PCI-E Card
(Wireless LAN/ROBSON/TV)
PAGE 28

X1
LAN
Realtek PCIE-LAN
RTL8102EL
(10/100 LAN)
PAGE 23

X1
Express Card
(NEW CARD)
PAGE 24

Azalia

Analog
IDT92HD75
PAGE 19

32.768KHz
LPC

ENE KBC
KB3926 C0
PAGE 27

Keyboard PAGE 27
Touch Pad PAGE 27

Capacitive Sense SW PAGE 25

MDC CONN
PAGE 26

SPI for HDCP
PAGE 15

25MHz

AUDIO Amplifier TPA6047A4
PAGE 20

AUDIO Amplifier TPA3007D1
PAGE 21

RJ45
PAGE 23

microphone
PAGE 19

Audio Jacks (Phone/ MIC)
PAGE 19

Jack to Speaker
PAGE 20

Jack to Sub-Woofer
PAGE 21

GMT G9931P1U
FAN
PAGE 29

SPI
PAGE 27

SYSTEM CHARGER(ISL6251AHAZ-T)
PAGE 30

SYSTEM POWER ISL6237IRZ-T
PAGE 31

DDR II SMDDR_VTERM 1.8V/1.8VSUS(TPS51116REGR)
PAGE 34

VCCP +1.5V AND GMCH 1.05V(RT8204)
PAGE 32

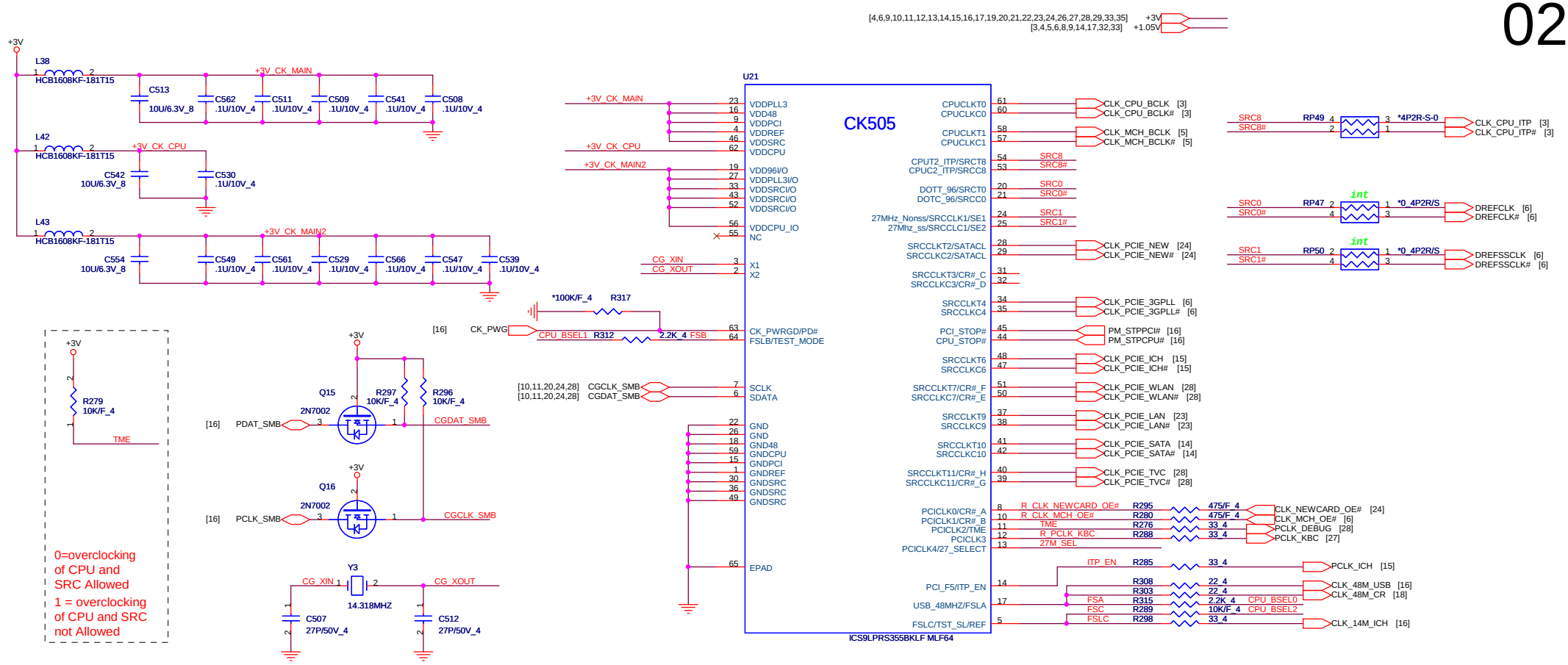
CPU CORE ISL6266A
PAGE 33

NB5

PROJECT : UT3/5
Quanta Computer Inc.

Size	Document Number	Rev
Custom	Block Diagram	PV

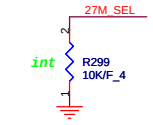
Date: Monday, October 20, 2008 | Sheet 1 of 35

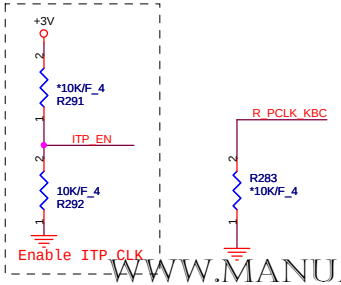


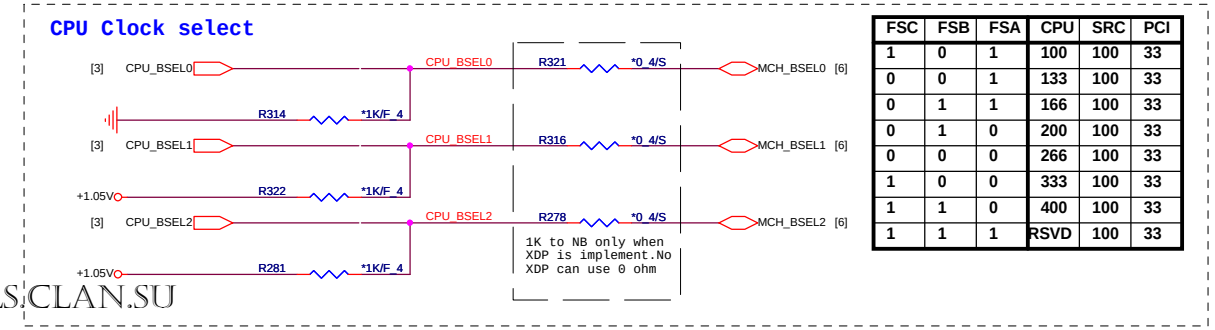
27M_SEL PIN13	PIN20	PIN21	PIN24	PIN25
0=UMA	DOT96T	DOT96C	SRCT1/LCDT_100	SRCT1/LCDT_100
1 = External VGA	SRCT0	SRCC0	27Mout-NSS	27Mout-SS

CK505 QFN64

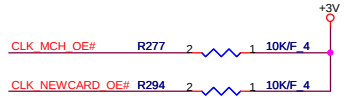
ICS	ICS9LPRS355BKLF	ALPRS355000
Silego	SLG8SP513VTR	AL8SP513000
Realtek	RTM875N-606-VD-GR	AL000875000

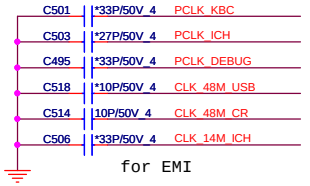






FSC	FSB	FSA	CPU	SRC	PCI
1	0	1	100	100	33
0	0	1	133	100	33
0	1	1	166	100	33
0	1	0	200	100	33
0	0	0	266	100	33
1	0	0	333	100	33
1	1	0	400	100	33
1	1	1	RSVD	100	33



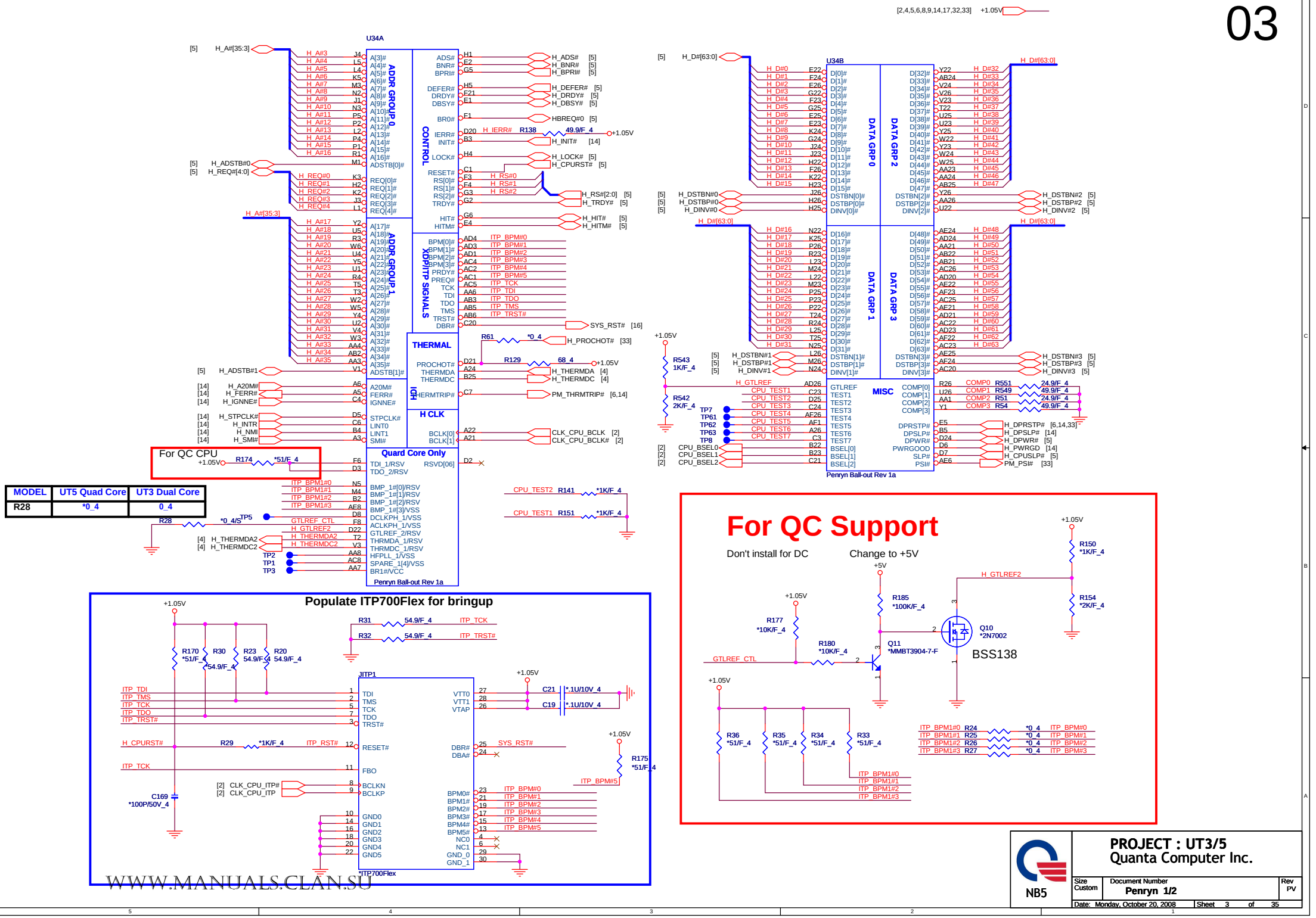


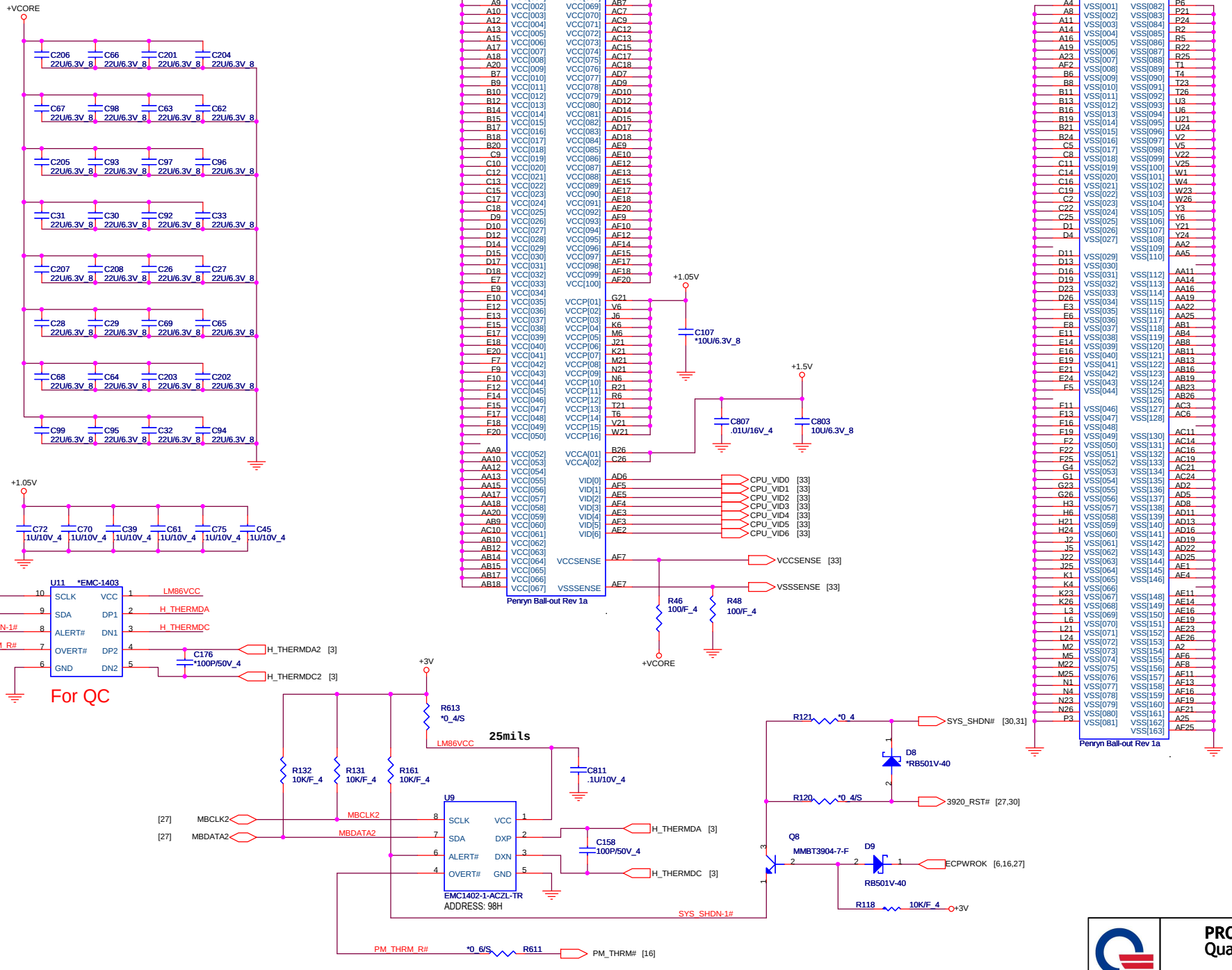
NB5

PROJECT : UT3/5
Quanta Computer Inc.

Size	Document Number	Rev
Custom	Clock Generator	PV

Date: Monday, October 20, 2008 Sheet 2 of 35



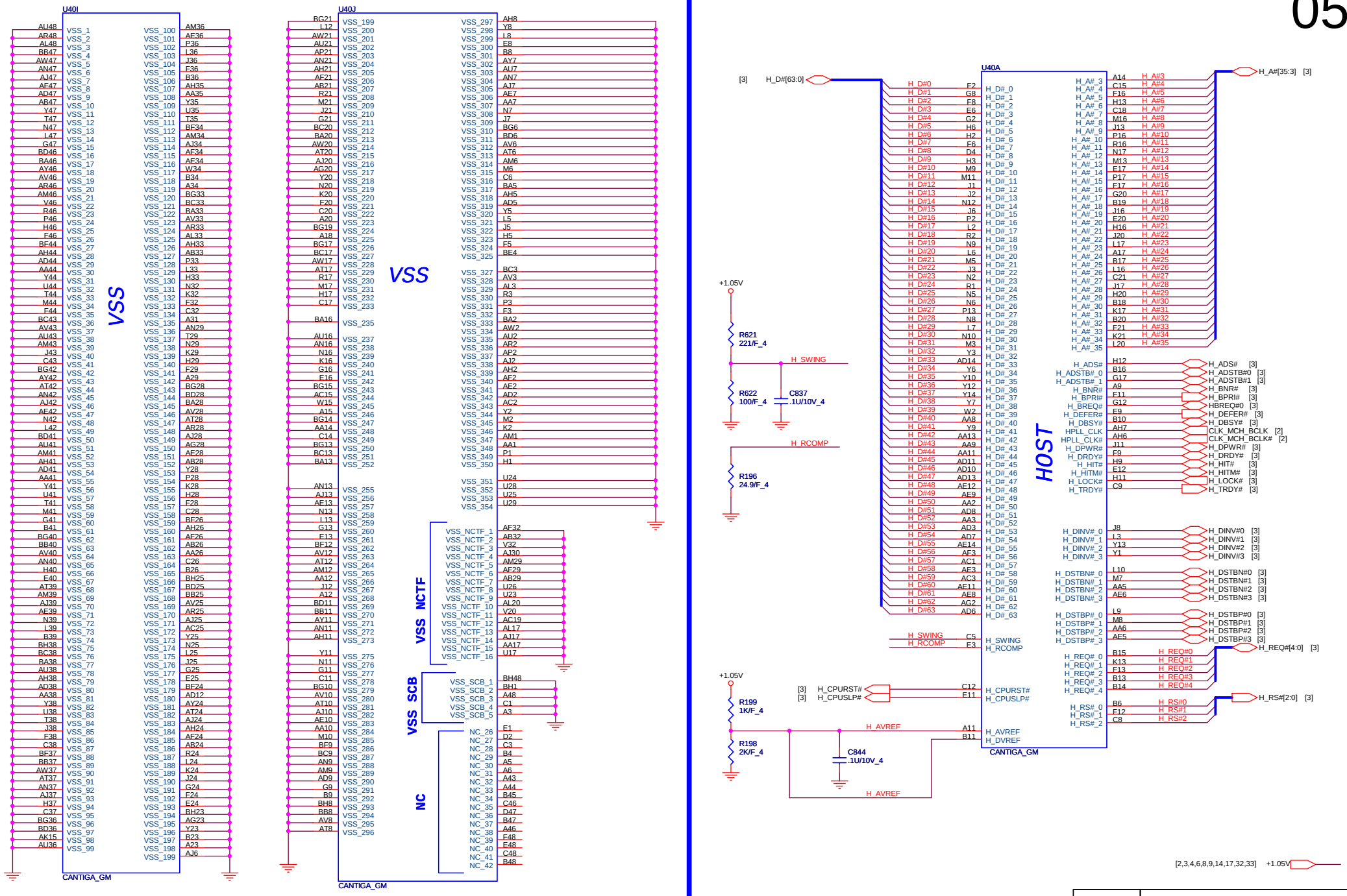


NB5

PROJECT : UT3/5
Quanta Computer Inc.

Size	Document Number	Rev
Custom	Penryn & TH Monitor 2/2	PV

Date: Monday, October 20, 2008 Sheet 4 of 35



05

NB5	PROJECT : UT3/5 Quanta Computer Inc.	
Size: Custom	Document Number: Cantiga Host & VSS 1/5	Rev: PV
Date: Monday, October 20, 2008	Sheet 5 of 35	

MCH_CFG_5 DMIx2 selection

Low: DMIx2
High: DMIx4 (Default)

MCH_CFG_16 FSB Dynamic ODT

Low: Dynamic ODT disabled
High: Dynamic ODT enabled (Default)

MCH_CFG_9 PCI Express Graphic Lane

Low: Reverse Lane
High: Normal operation(Default)

MCH_CFG_19 DMI Lane Reversal

Low: Normal (Default)
High: Lane Reserved

MCH_CFG_6 iTPM Host Interface

Low: iTPM Host Interface enabled
High: iTPM Host Interface disabled (Default)

MCH_CFG_7 Intel (R) Management Engine Crypto

Low: Intel (R) Management Engine Crypto
TLS cipher suite with no confidentiality
High: Intel (R) Management Engine Crypto
TLS cipher suite with no confidentiality (Default)

MCH_CFG_10 PCIe Lookback Enable

Low: Enabled
High: Disabled (Default)

MCH_CFG_12/13 XOR/ALLZ/CLOCK Un-gating

MCH_CFG_13	MCH_CFG_12	Configuration
0	0	Reserved
1	0	XOR Mode enabled
0	1	All-Z Mode enabled
1	1	Normal operation (Default)

U40B

RSVD
CLK / DDR CLK / CONTROL / COMPENSATION
ME JTAG
CFG
DMI
GRAPHICS VID
PM
ME
MISC
NC
HDA

U40C

LVDS
TV
VGA
PCI-EXPRESS GRAPHICS

CANTIGA_GM

For UMA HDMI Function

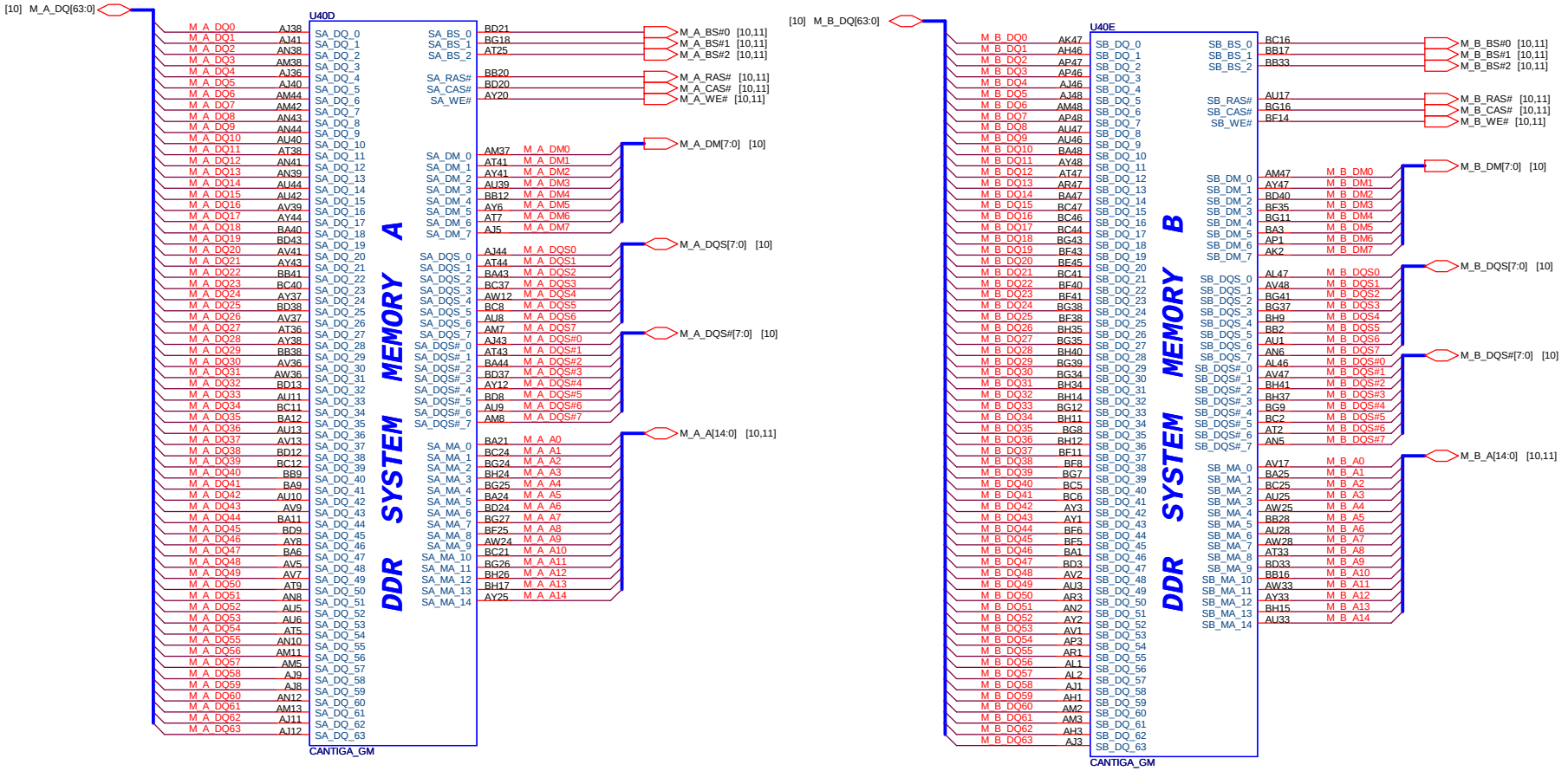
HPD# Inverting Level Shifting Circuit

PROJECT : UT3/5
Quanta Computer Inc.

NB5

Size: Custom | Document Number: Cantiga DMI/DISP 2/5 | Rev: PV

Date: Monday, October 20, 2008 | Sheet 6 of 35

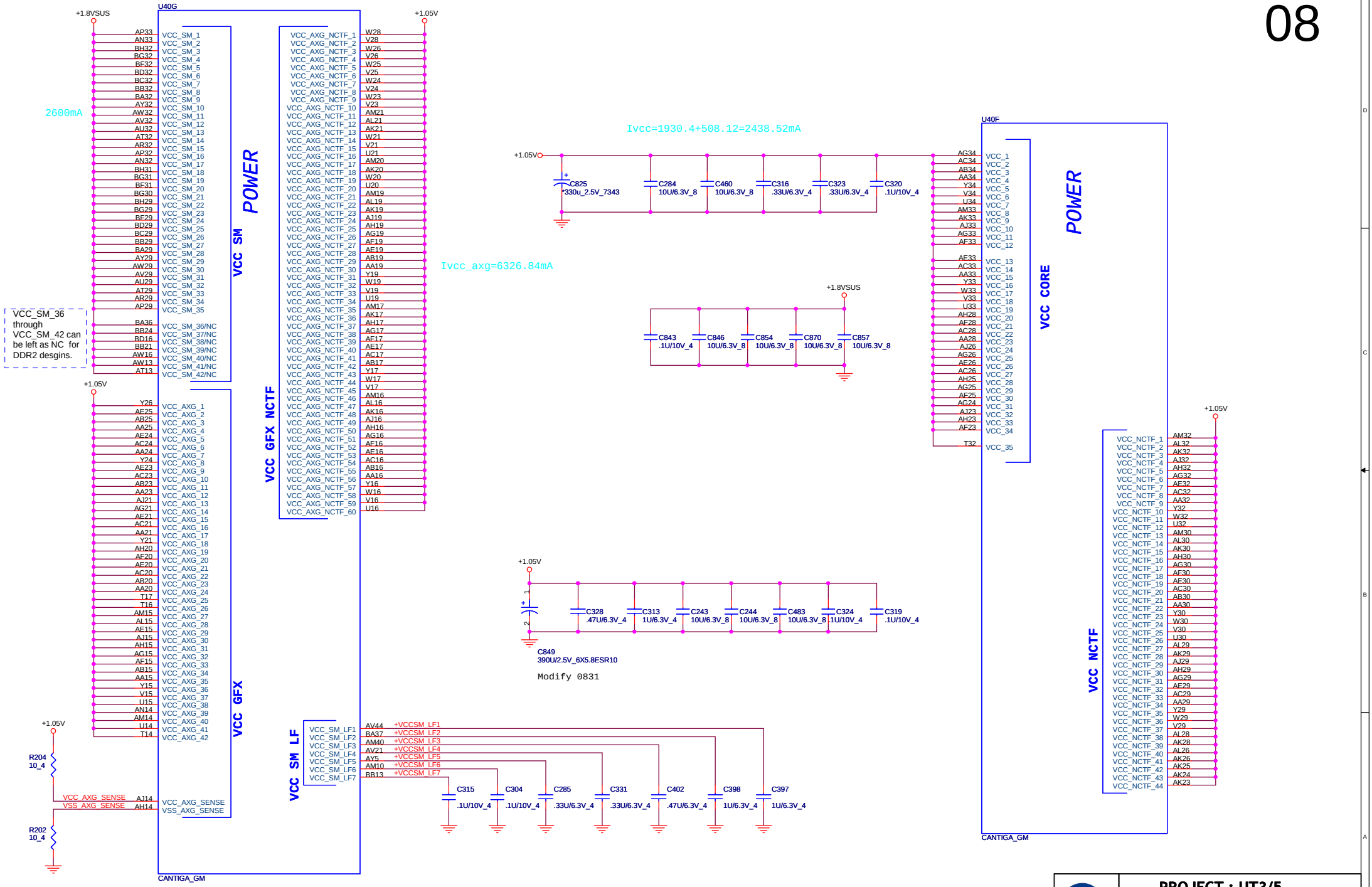


NB5

PROJECT : UT3/5
Quanta Computer Inc.

Size	Document Number	Rev
Custom	Cantiga DDR2 3/5	PV

Date: Monday, October 20, 2008 Sheet 7 of 35

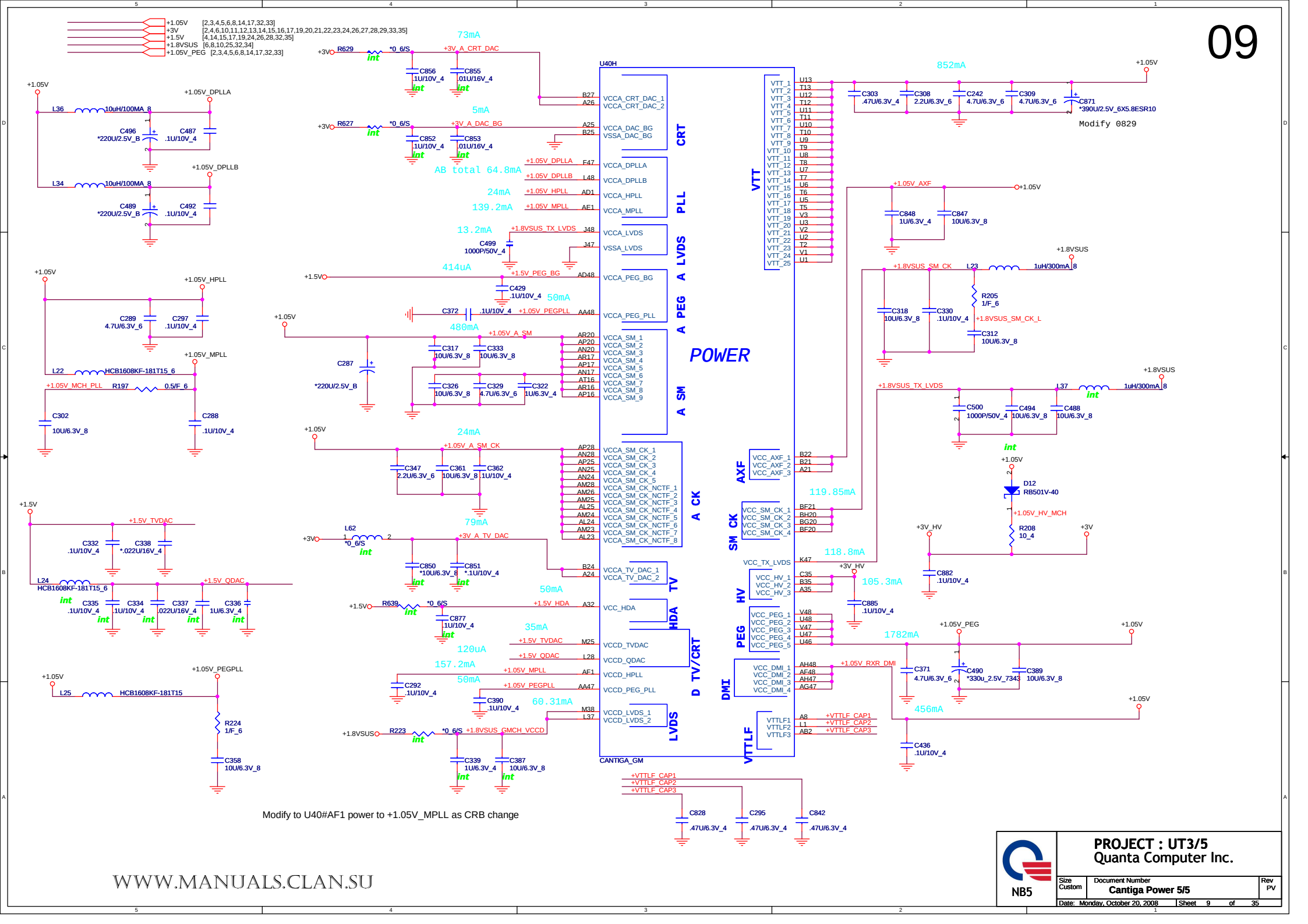


NB5

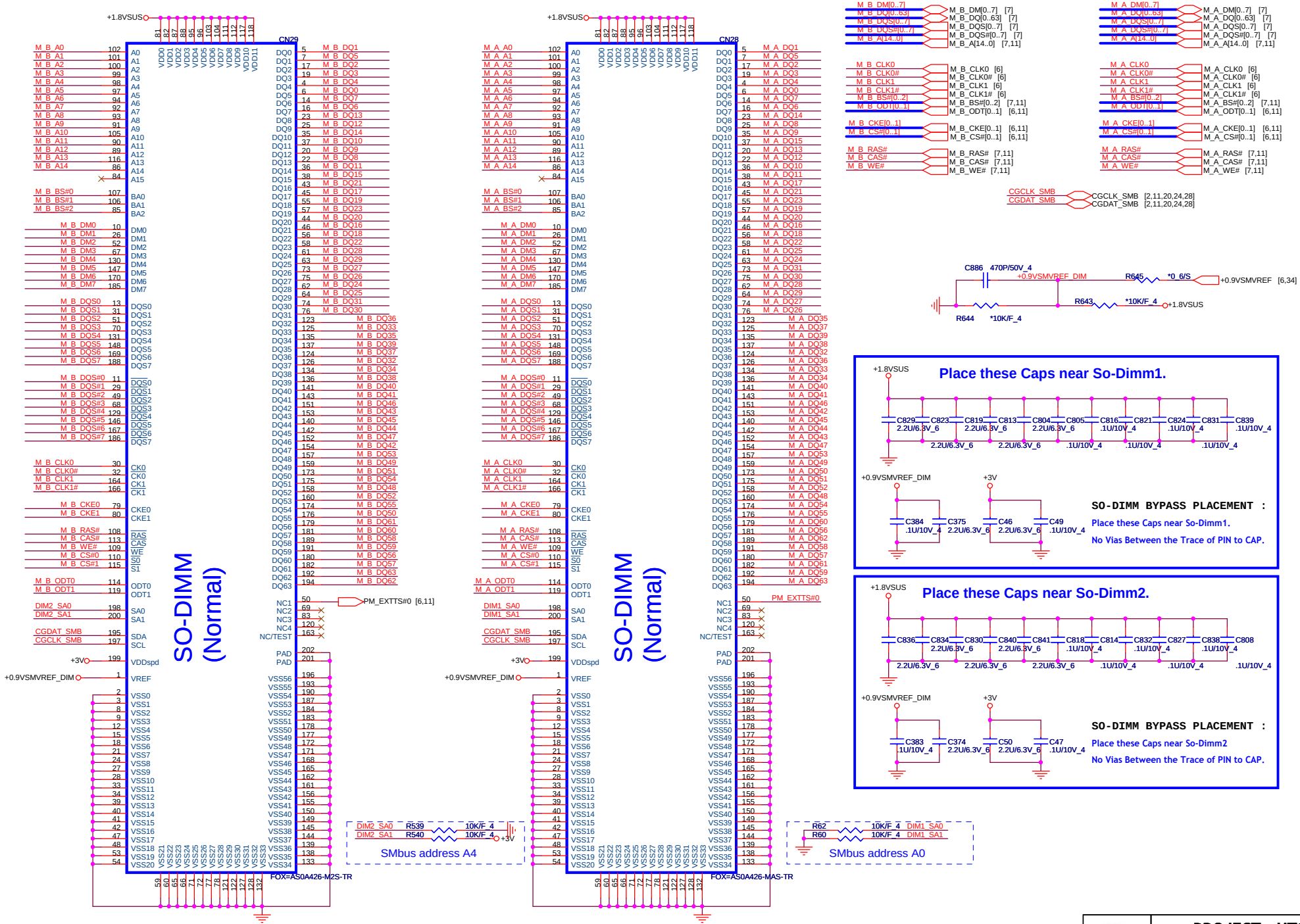
PROJECT : UT3/5
Quanta Computer Inc.

Size	Document Number	Rev
Custom	Cantiga Vcc 4/5	PV

Date: Monday, October 20, 2008 Sheet 8 of 35



NB5	PROJECT : UT3/5 Quanta Computer Inc.	
Size: Custom	Document Number: Cantiga Power 5/5	Rev: PV
Date: Monday, October 20, 2008	Sheet 9 of 35	



NB5

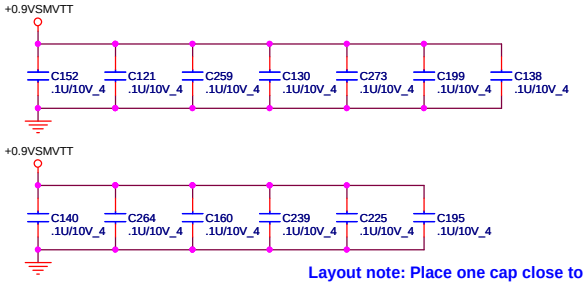
PROJECT : UT3/5
Quanta Computer Inc.

Size	Document Number	Rev
Custom	DDR2 DIMM	PV

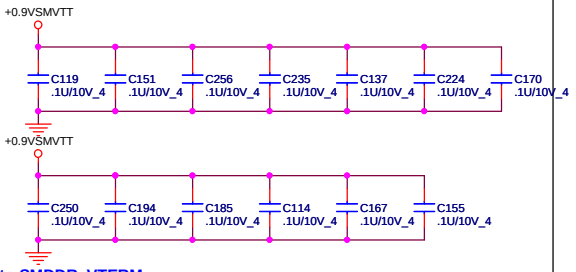
Date: Monday, October 20, 2008 Sheet 10 of 35

DDRII DUAL CHANNEL A,B.

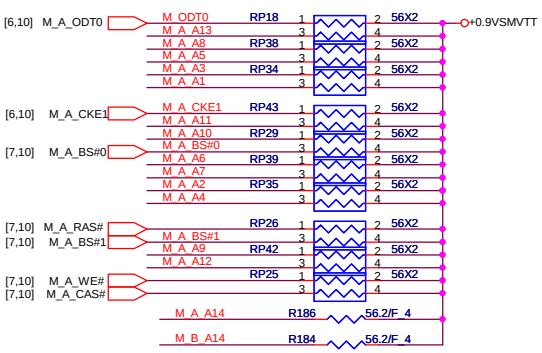
DDRII A CHANNEL

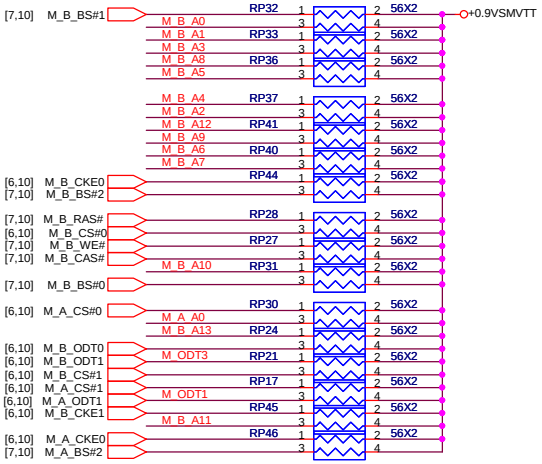


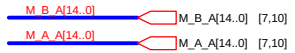
DDRII B CHANNEL

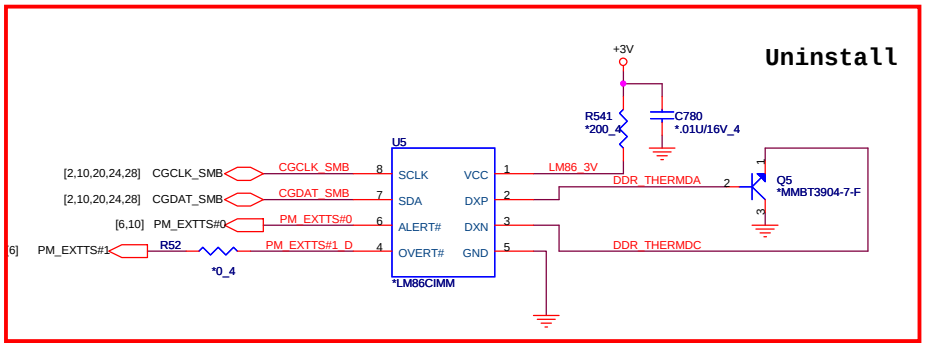


Layout note: Place one cap close to every 2 pullup resistors terminated to SMDDR_VTERM









+0.9VSMVTT [34]

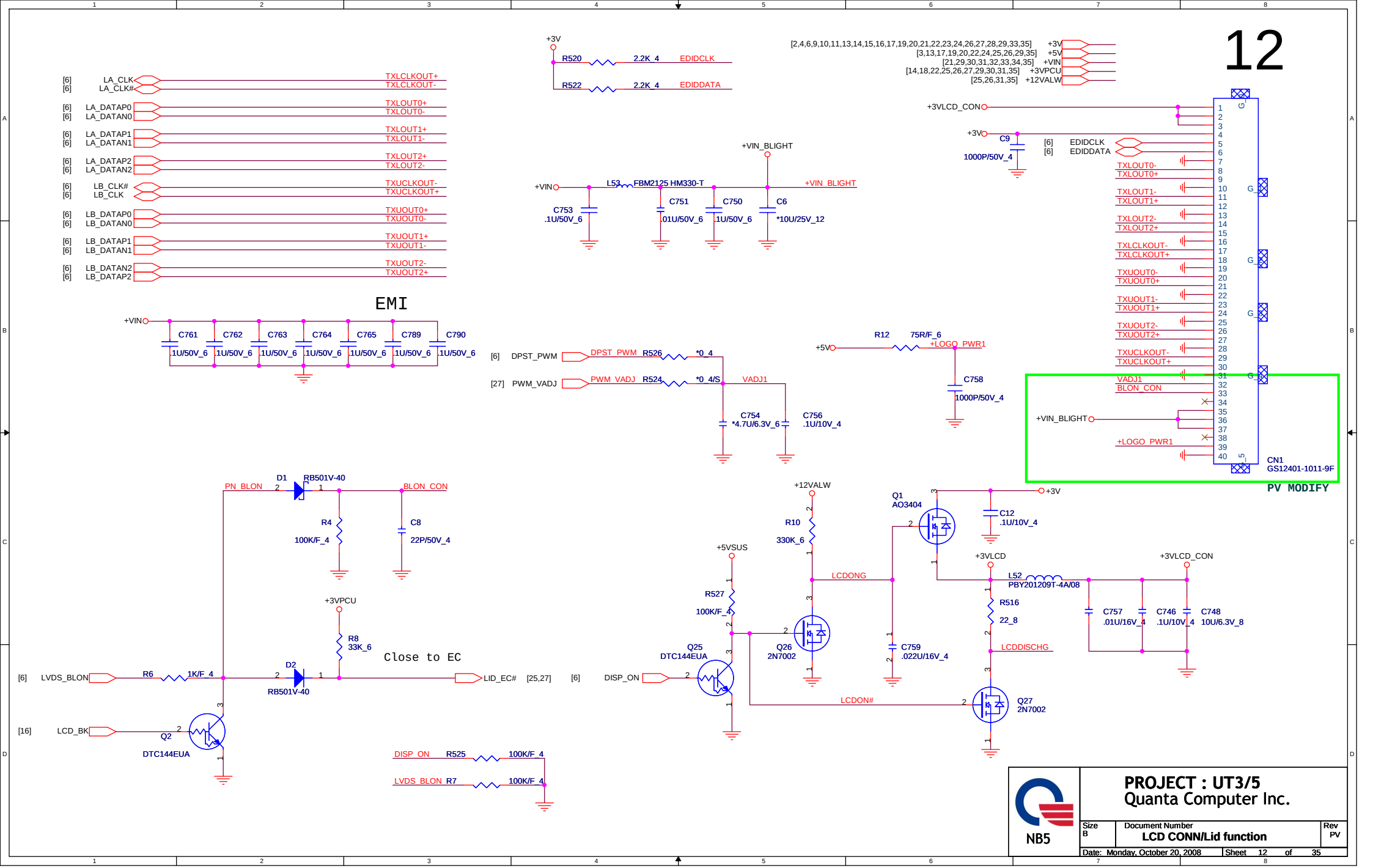
+3V [2,4,6,9,10,12,13,14,15,16,17,19,20,21,22,23,24,26,27,28,29,33,35]

NB5

PROJECT : UT3/5
Quanta Computer Inc.

Size	Document Number	Rev
Custom	DDR2 termination	PV

Date: Monday, October 20, 2008 | Sheet 11 of 35



MV modified For EMI request

CRT PORT

Change Layout footprint to dsub-070546fr015sx68zr-15p

Change ESD protection to +5V

CRT SWITCH

U3 74CBT3257

inputs		function
/E	SET	
L	L	Y - port 0
L	H	Y - port 1
H	X	Disconnect

MV modified

For UMA HDMI function

modify for SI Build

EQUALIZATION SETTING
PC1:PC0=0:0 8dB
PC1:PC0=0:1 4dB Recommanded
PC1:PC0=1:0 12dB
PC1:PC0=1:1 0dB

SCL2/SDA2 Low-level input/output Voltage
CFG1:CFG0=0:0 VIL:<0.4V VOL:0.6V (Default)
CFG1:CFG0=0:1 VIL:<0.36V VOL:0.55V
CFG1:CFG0=1:0 VIL:<0.4V VOL:0.65V
CFG1:CFG0=1:1 VIL:<0.36V VOL:0.6V

	PDT	CHR	PIM
R631	NC	0	0
R596	NC	4.7K	NC
R605	NC	NC	NC
R608	4.7K	NC	NC
R558	100K	NC	NC
R594	499	1.2K	4.7K
R550	7.5K	7.5K	NC
R552	20K	20K	NC
R595	NC	NC	4.7K
Q31	2N7002	NC	NC
R606	NC	4.7K	NC

Vendor:PDT P/N:AL008101000
Vendor:CHR P/N:AL007318001
Vendor:PIM P/N:ALP411LS001

HDMI PORT

for EMI request

PROJECT : UT3/5
Quanta Computer Inc.
NB5
Size C | Document Number CRT/ HDMI | Rev PV
Date: Monday, October 20, 2008 | Sheet 13 of 35

[12,18,22,25,26,27,29,30,31,35] +3VPCU
[17] +3VRTC
[2,4,6,9,10,11,12,13,15,16,17,19,20,21,22,23,24,26,27,28,29,33,35] +3V
[4,9,15,17,19,24,26,28,32,35] +1.5V
[2,3,4,5,6,8,9,17,32,33] +1.05V
[15,16,17,24,35] +3VS5

20MIL

modify for SI Build
For CR2032(Large)

update footprint (0830)

MV change R331,R327,R330,R326 to 49.9 ohm

Delete Pin AG7 for Lan_DISABLE#

Notice: GPIO33 is also a strap pin. Don't pull it to high.

HP Request

U45A
ICH9M REV 1.0

SATA HDD1

SATA ODD

For UT5 17" 2nd HDD only
SATA HDD2
DB modified

E-SATA CONNECT

SB Strap

ICH9-M Internal VR Enable strap (Internal VR for Vccsus1_05,VccSus1_5 and VccCL1_5)

INTVRMEN	Low = Internal VR disable High = Internal VR enable(Default)

ICH9-M LAN100_SLP Strap (Internal VR for VccLAN1_05 and VccCL1.05)

LAN100_SLP	Low = Internal VR disable High = Internal VR enable(Default)

XOR Chain Entrance Strap

ICH_TP3	HDA_SDOUT	Description
0	0	RSVD
0	1	Enter XOR Chain
1	0	Normal opration(Default)
1	1	Set PCIE port config bit 1

ICH9 Boot BIOS select

STRAP	PCI_GNT0#	SPI_CS#1
SPI	0	1
PCI	1	0
LPC	1	1

(default)

No Reboot Strap	
ACZ_SPKR	Low: Default Hi: No reboot

A16 swap override strap	
PCI_GNT#3	Low = A16 swap override enabled Hi = Default

TPM physical presence	
ICH_GPIO57	Low: Default

PROJECT : UT3/5
Quanta Computer Inc.

NB5

Size	Document Number	Rev
Custom	ICH9-M Host 1/4	PV

Date: Monday, October 20, 2008 Sheet 14 of 35

[4,9,14,17,19,24,26,28,32,35] +1.5V
[2,4,6,9,10,11,12,13,14,16,17,19,20,21,22,23,24,26,27,28,29,33,35] +3V
[16,18,22,28,32,33,35] +3VSUS

MINI CARD PCI-E(WLAN)

PCIE-LAN

TV CARD PCI-E

EXPRESS CARD (NEW CARD)

U45D

PCI-Express / Direct Media Interface

SPI

USB

ICH9M REV 1.0

USB Connector
E-SATA and USB Connector
FINGERPRINT
Carama USB
Docking
BLUETOOTH
Cardread
NEW CARD
USB Connector
USB Connector
Robson Min-Card
TV Min-Card

remove HDCP ROM

U19 *W25X40VSSIG

512K byte SPI ROM
For HDCP only

EMI 0828

RP54 10P8R-8.2K
RP64 10P8R-8.2K
RP56 10P8R-8.2K
RP55 10P8R-8.2K

U45B

PCI

Interrupt I/F

U44 *MC74VHC1G08DFT2G

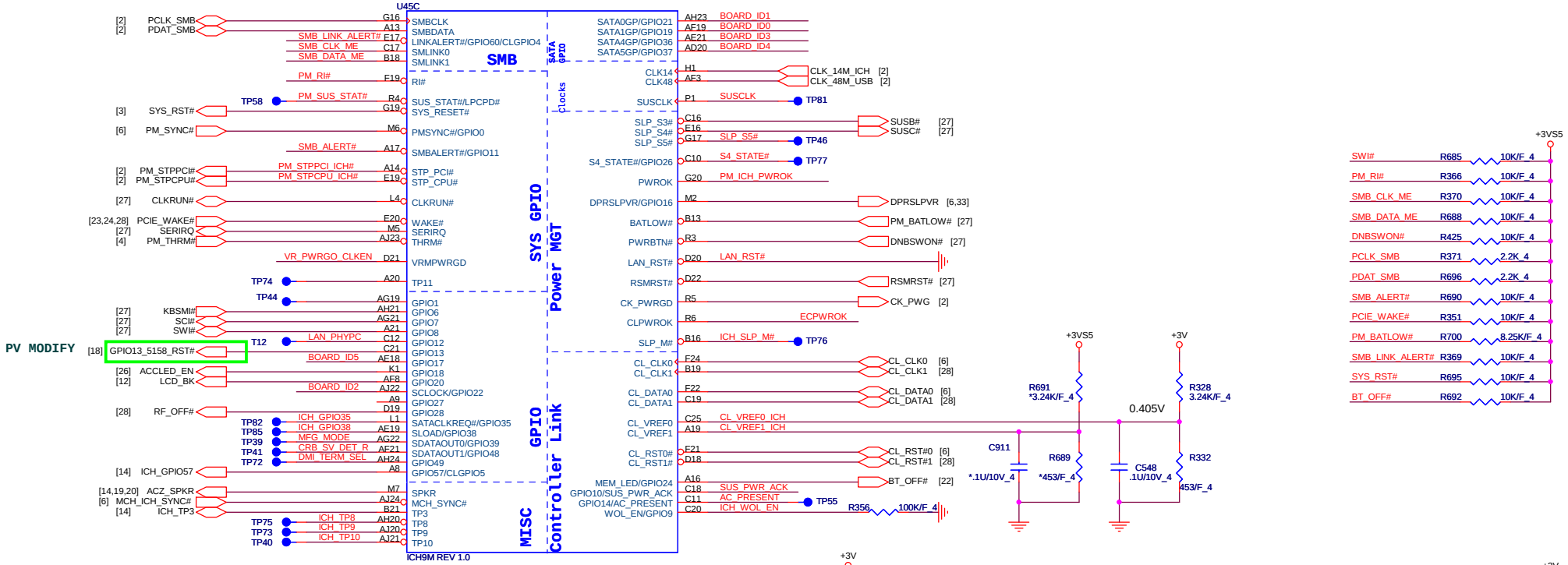
NB5

PROJECT : UT3/5
Quanta Computer Inc.

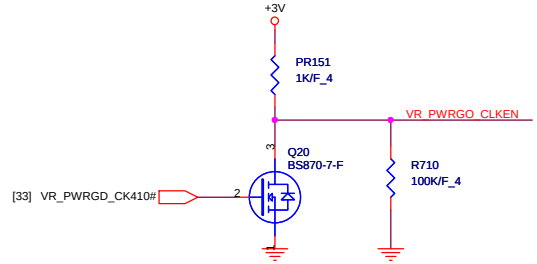
Size	Document Number	Rev
Custom	ICH9-M PCIE 2/4	PV

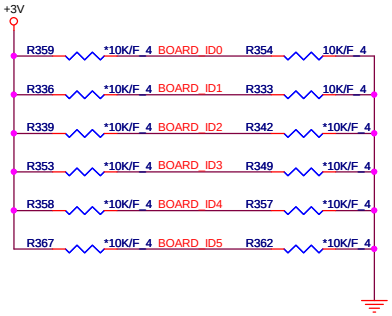
Date: Monday, October 20, 2008 Sheet 15 of 35

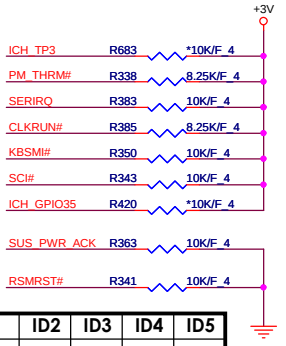
[4,9,14,15,17,19,24,26,28,32,35] +1.5V
[2,4,6,9,10,11,12,13,14,15,17,19,20,21,22,23,24,26,27,28,29,33,35] +3V
[14,15,17,24,35] +3VS5
[18,22,28,32,33,35] +3VSUS



Delete R361,G2 as Bios_Rec can be cover by Bios

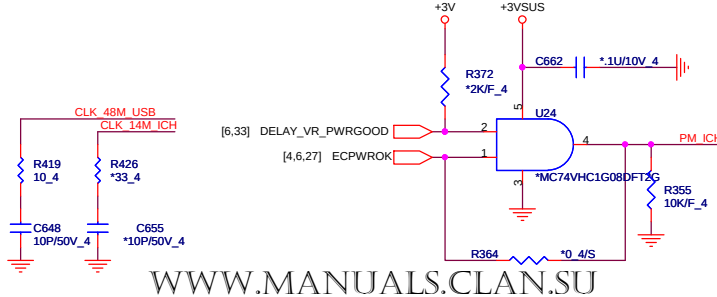






Board ID	ID0	ID1	ID2	ID3	ID4	ID5
UT3/Dis./9M	RD0 (0)	RU1 (1)	RD2 (0)	NC	NC	RD5 (0)
UT3/UMA	RD0 (0)	RD1 (0)	NC	NC	NC	NC
UT5/Dis./M92	RU0 (1)	RU1 (1)	RD2 (0)	NC	NC	RU5 (1)
UT5/Dis./M96	RU0 (1)	RU1 (1)	RU2 (1)	NC	NC	RD5 (0)
UT5/UMA	RU0 (1)	RD1 (0)	NC	NC	NC	NC
UT3D/Dis./M92	RD0 (0)	RU1 (1)	RD2 (0)	NC	NC	RU5 (1)
UT3D/Dis./M96	RD0 (0)	RU1 (1)	RU2 (1)	NC	NC	RD5 (0)

Board ID	ID0	ID1	ID2	ID3	ID4	ID5
UT3/5	0=UT3 1=UT5					
UMA/Dis.		0=UMA 1=Dis.				
NV9M			0			0
ATI M92			0			1
ATI M96			1			0

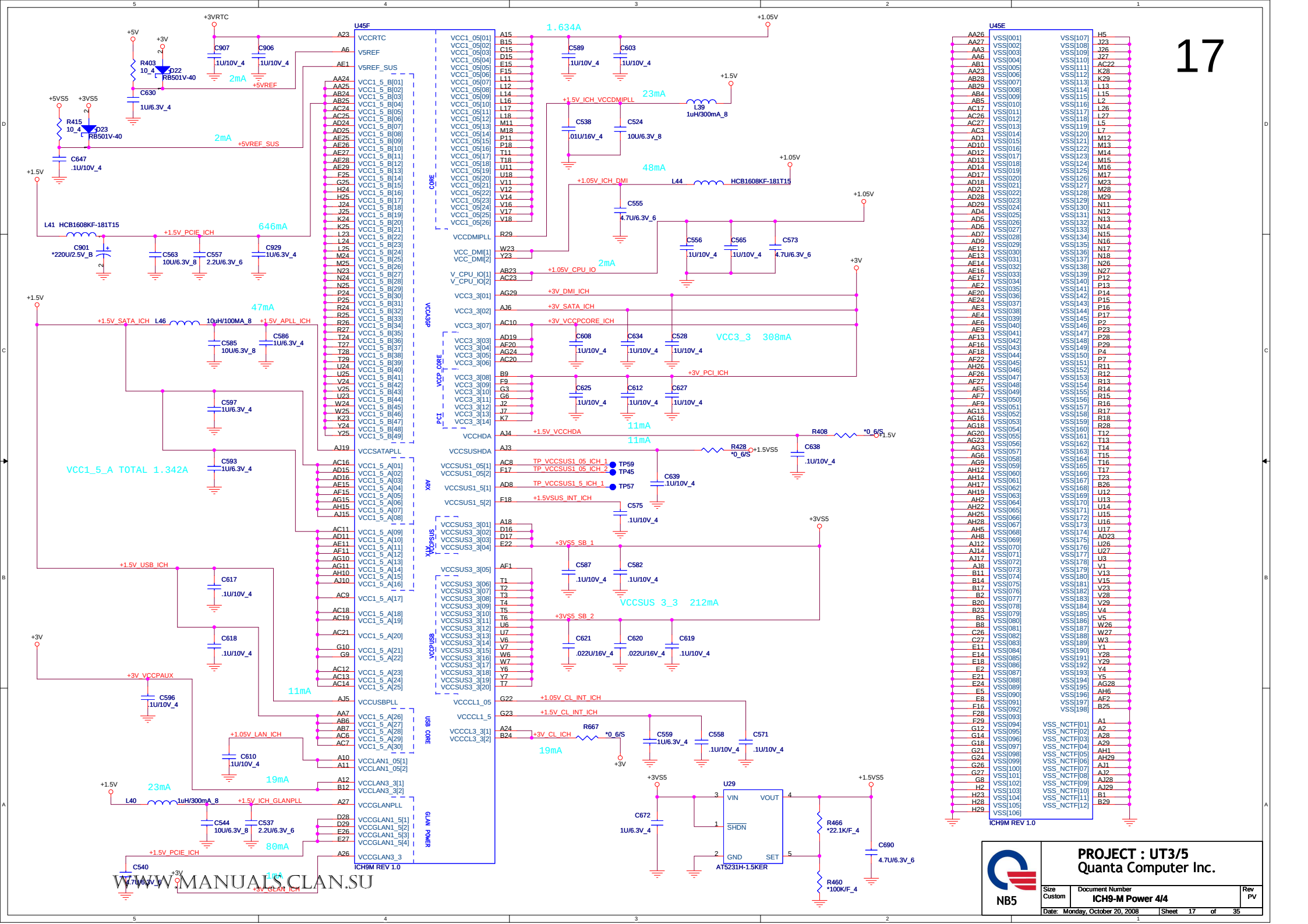


PROJECT : UT3/5
Quanta Computer Inc.

NB5

Size	Document Number	Rev
Custom	ICH9-M GPIO 3/4	PV

Date: Monday, October 20, 2008 Sheet 16 of 35



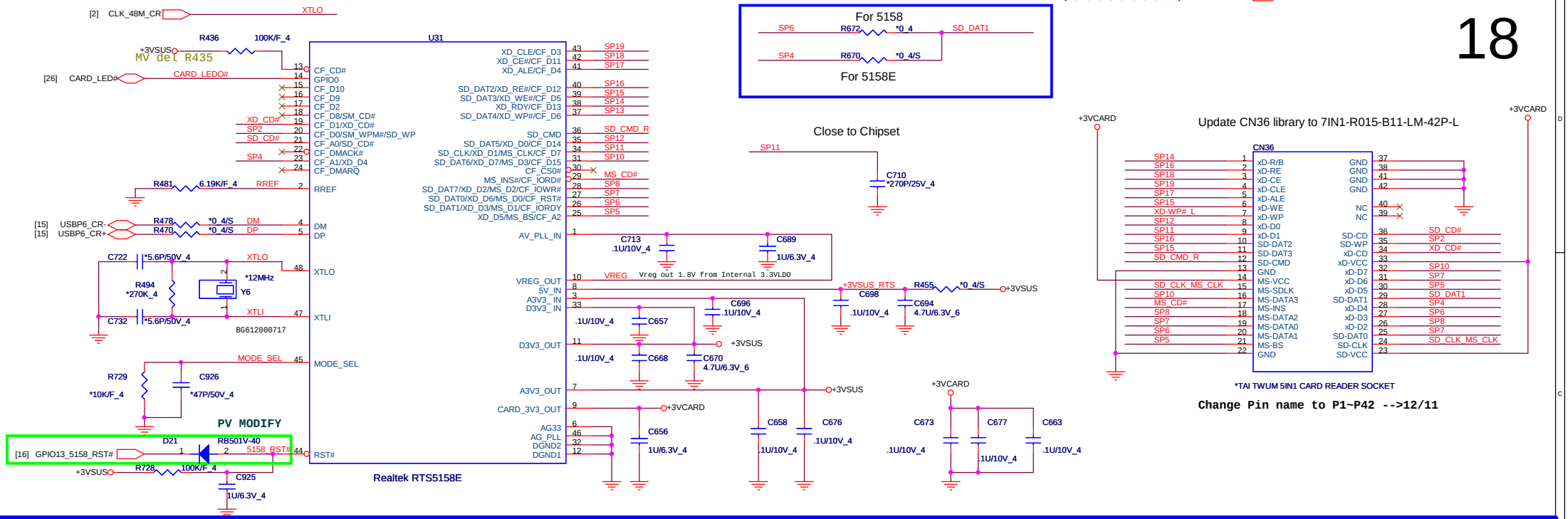
17

PROJECT : UT3/5
Quanta Computer Inc.

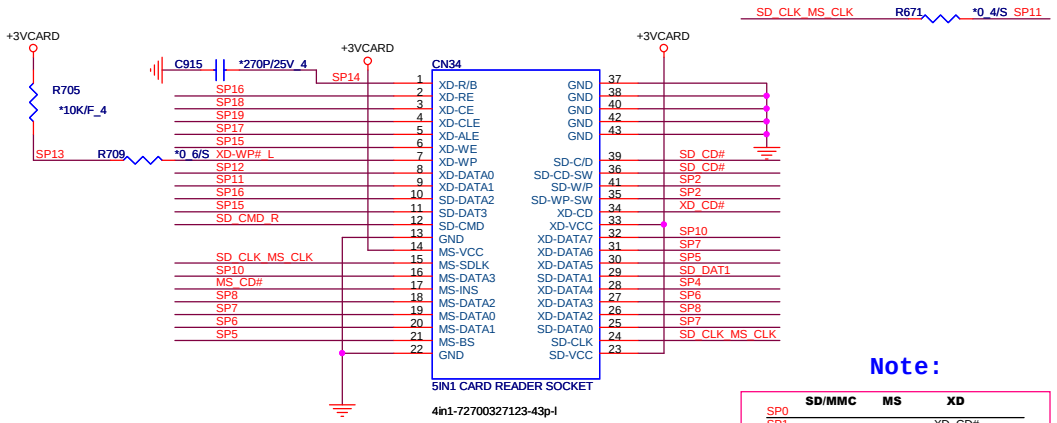
NB5

Size	Document Number	Rev
Custom	ICH9-M Power 4/4	PV

Date: Monday, October 20, 2008 Sheet 17 of 35



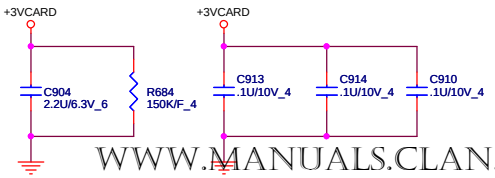
5 IN1 CARD READER XD,MMC/SD,MS/MSP

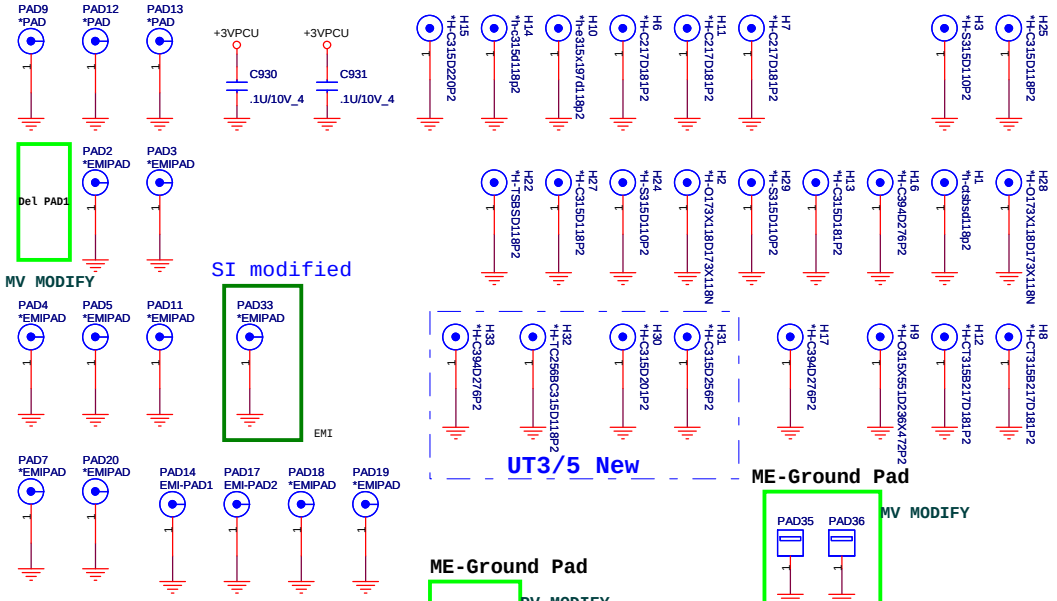


Note:

	SD/MMC	MS	XD
SP0			
SP1			XD_CD#
SP2	SD_WP		
SP3	SD_CD#		
SP4	SD_DAT1		XD_D4
SP5		MS_BS	XD_D5
SP6	SD_DAT1	MS_D1	XD_D3
SP7	SD_DAT0	MS_D0	XD_D6
SP8	SD_DAT7	MS_D2	XD_D2
SP9		MS_INS#	
SP10	SD_DAT6	MS_D3	XD_D7
SP11	SD_CLK	MS_SCLK	XD_D1
SP12	SD_DAT5		XD_D0
SP13	SD_DAT4		XD_WP#
SP14			XD_R/B#
SP15	SD_DAT3		XD_WE#
SP16	SD_DAT2		XD_RE#
SP17			XD_ALE
SP18			XD_CE#
SP19			XD_CLE

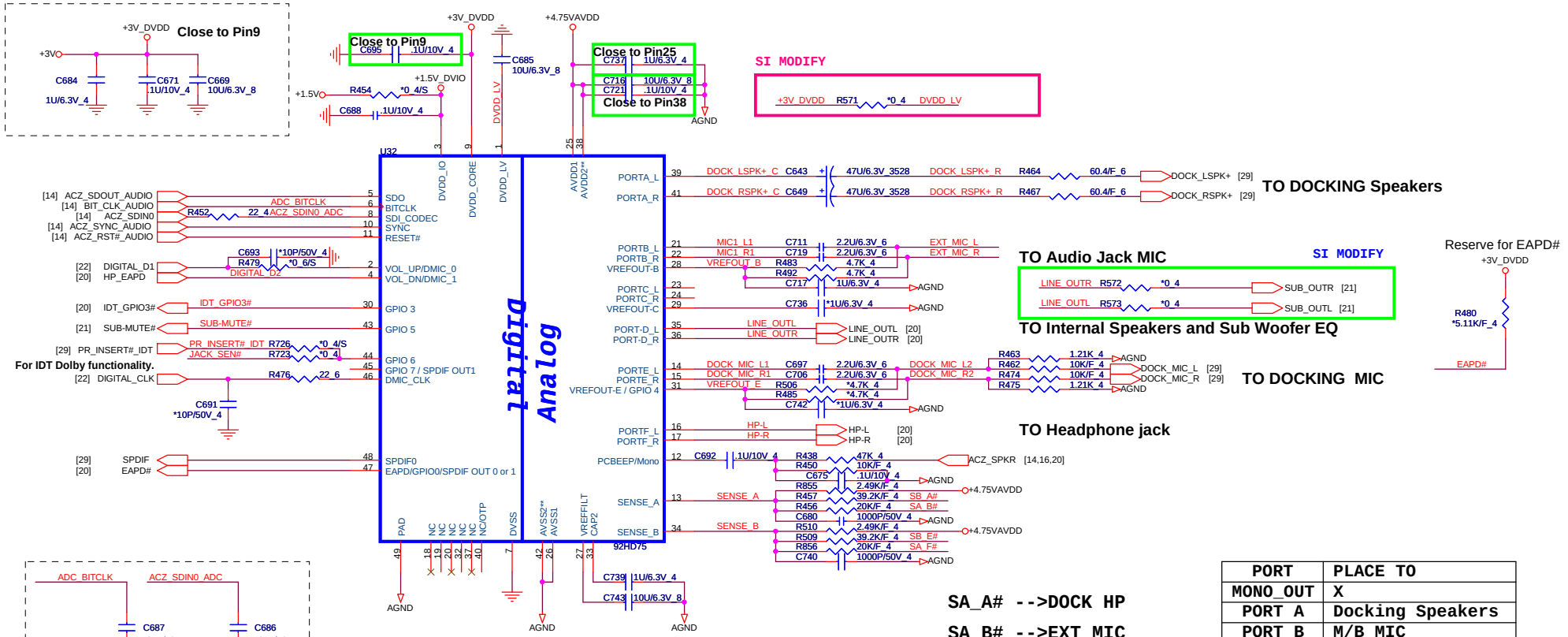
CLOSE CONN





PROJECT : UT3/5
Quanta Computer Inc.

Size	Document Number	Rev
Custom	RTS5158 & CR SOCKET &HOLE	PV
NB5	Date: Monday, October 20, 2008	Sheet 18 of 35



Codec

	92HD71	92HD75
R571	POP	NA
C685	NA	POP
R855 R510	5.11K	2.49K

5.11K P/N: CS25112FB15

SA_A# -->DOCK HP

SB_A# -->EXT MIC

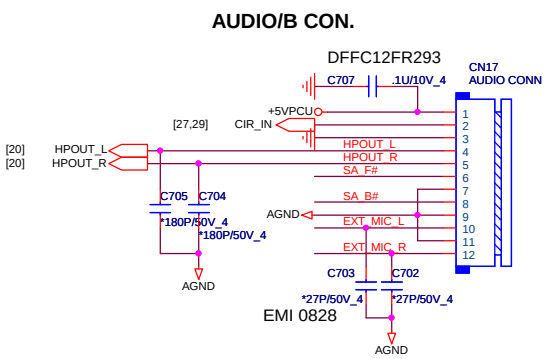
SB_E# -->DOCK MIC

SA_F# -->EXT HP

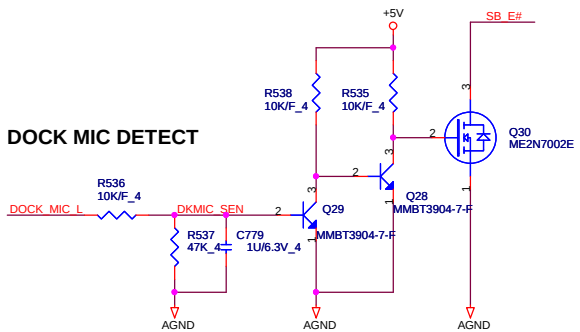
Audio JACK: Normal Open

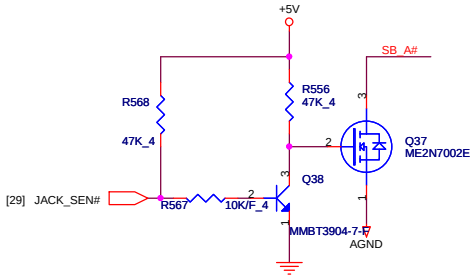
PORT	PLACE TO
MONO_OUT	X
PORT A	Docking Speakers
PORT B	M/B MIC
PORT C	X
PORT D	Internal Speckers
PORT E	Docking MIC
PORT F	HP OUT
DM	DIGITAL MIC

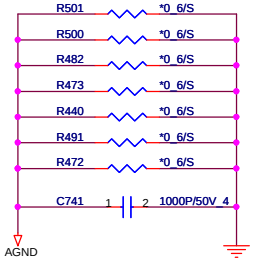
AUDIO/B CON.



DOCK MIC DETECT







NB5

PROJECT : UT3/5
Quanta Computer Inc.

Size	Document Number	Rev
Custom	Azalia IDT92HD75	PV

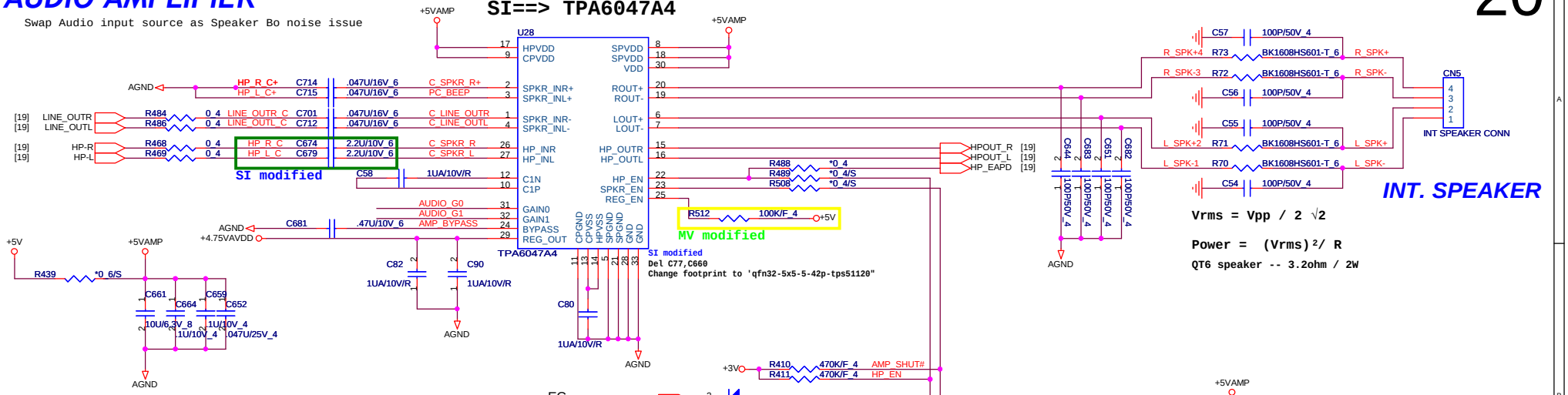
Date: Monday, October 20, 2008 Sheet 19 of 35

AUDIO AMPLIFIER

Swap Audio input source as Speaker Bo noise issue

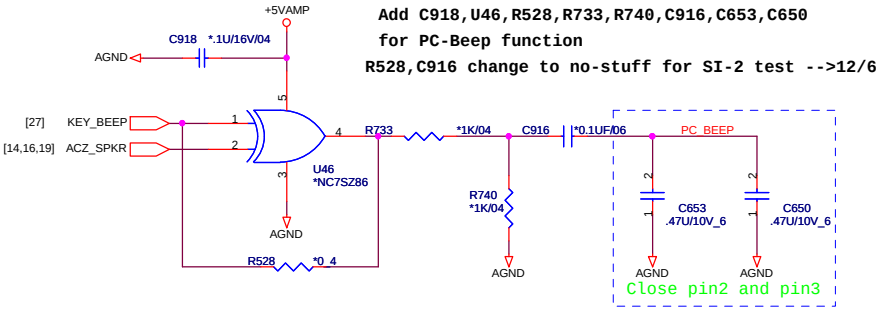
DB==> TPA6040A4

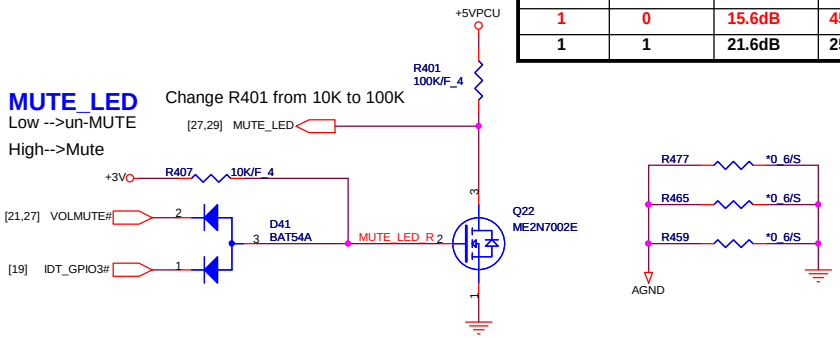
SI==> TPA6047A4



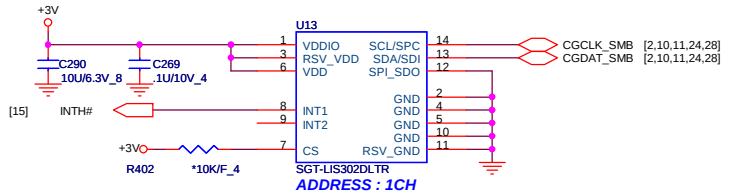
6047A2 Gain Table

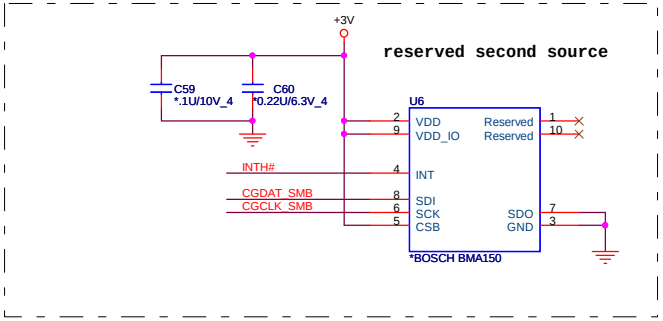
GAIN0	GAIN1	AV	RIN
0	0	6dB	90K
0	1	10dB	70K
1	0	15.6dB	45K
1	1	21.6dB	25K





Accelerometer Sensor





PROJECT : UT3/5
Quanta Computer Inc.

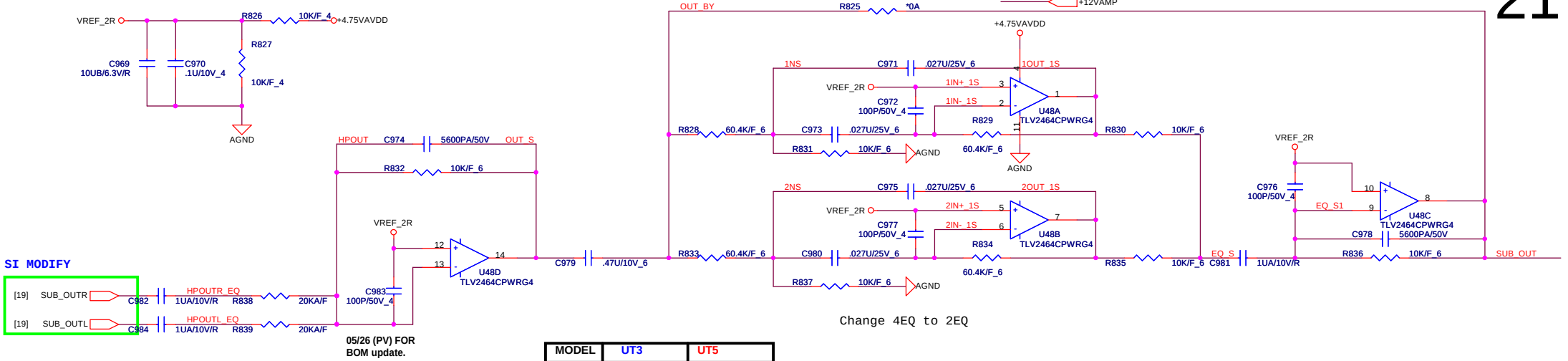
NB5

Size: Custom | Document Number: AMP_TPA6047A4/Accelerometer | Rev: PV

Date: Monday, October 20, 2008 | Sheet 20 of 35

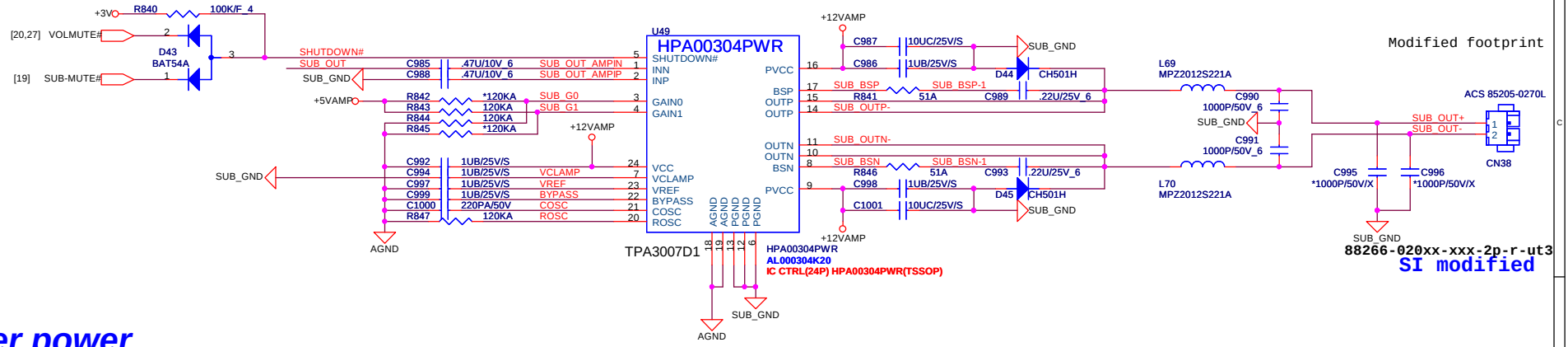
EQ FOR SUBWOOFER

+3V [2,4,6,9,10,11,12,13,14,15,16,17,19,20,22,23,24,26,27,28,29,33,35]
+5VAMP [20]
+4.75VAVDD [19,20]
+12VAMP



Change 4EQ to 2EQ

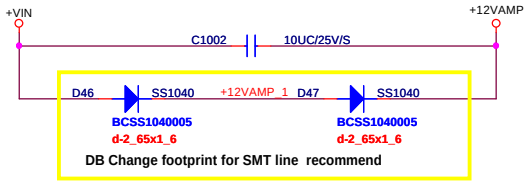
MODEL	UT3	UT5
R828	60.4K/F_6	40.2K/F_6
R833	60.4K/F_6	40.2K/F_6
R829	60.4K/F_6	80.6K/F_6
R834	60.4K/F_6	80.6K/F_6
C971	0.027U/25V_6	0.022U/50V_6
C973	0.027U/25V_6	0.022U/50V_6
C975	0.027U/25V_6	0.039U/16V_6
C980	0.027U/25V_6	0.039U/16V_6

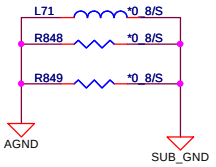


Modified footprint

SI modified

Sub-Woofer power





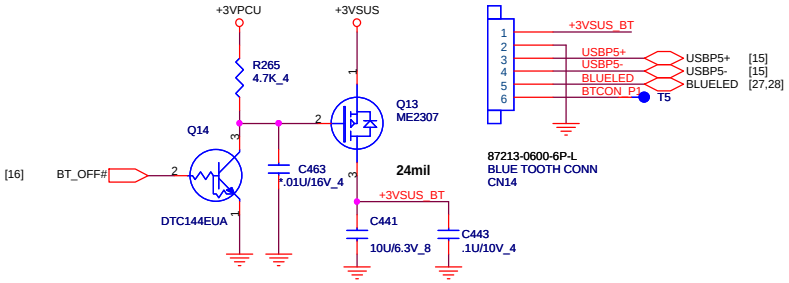
NB5

PROJECT : UT3/5
Quanta Computer Inc.

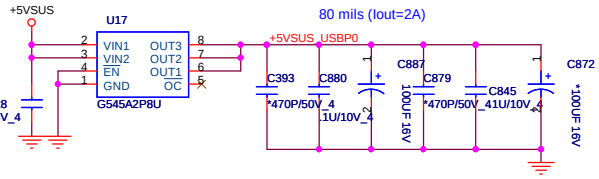
Size: Custom | Document Number: SUBWOOFER(EQ & AMP.) | Rev: PV

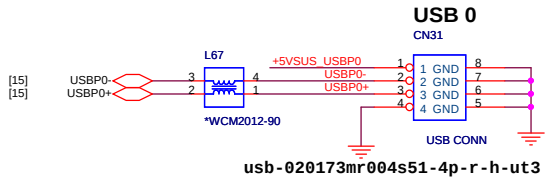
Date: Monday, October 20, 2008 | Sheet 21 of 35

BLUETOOTH

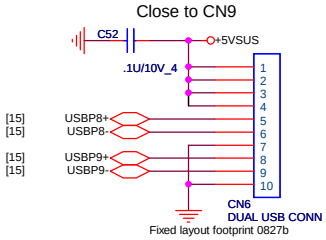


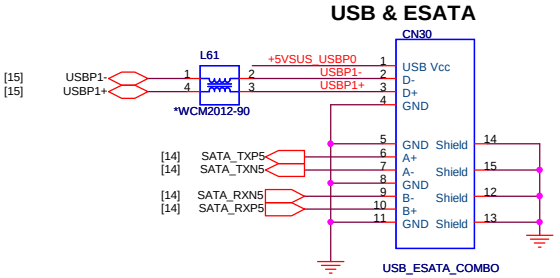
LEFT SIDE USBX1 and E-SATA/USB COMBO



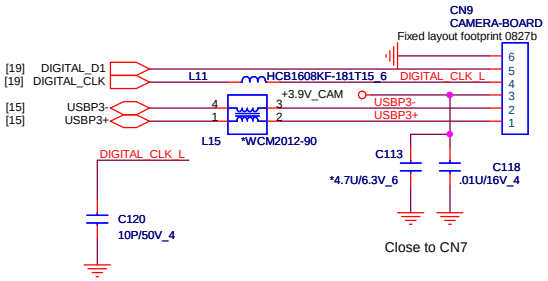


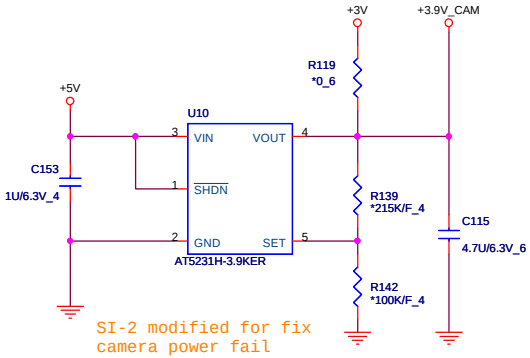
RIGHT SIDE USBX2





USB CAMERA /DIGITAL MIC CONNECT

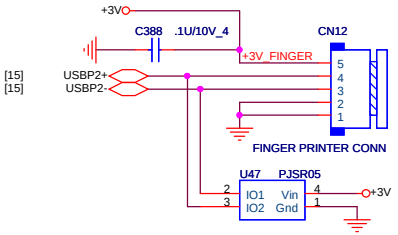




SI-2 modified for fix camera power fail

USB fingerprint CON

1. ESD GND
2. SYSTEM GND
3. USB-
4. USB+
5. USB PWR(+3V)



NB5

PROJECT : UT3/5
Quanta Computer Inc.

Size	Document Number	Rev
Custom	BT/WC/FT/TS/ESATA/USB	PV

Date: Monday, October 20, 2008 Sheet 22 of 35

+CTRL12DVDD R651 *0_6/S

Power trace Layout 寬度> 30mil

+DVDD12

C474 .1U/10V_4 C479 .1U/10V_4 C459 .1U/10V_4 C456 .1U/10V_4

CLOSE to Pin 10, 13, 30, 36

+EVDD12

C421 .1U/10V_4 C422 1U/10V_4

LAN-AGND

close to pin 19

+3VLANVCC

Power trace Layout 寬度> 30mil

LANVCC 1.2W 364mA

C385 4.7U/6.3V_6 C480 .1U/10V_4

+3V_LAN

C434 .1U/10V_4 C475 .1U/10V_4

CLOSE to Pin 29,37

+3V_A_LAN

C401 .1U/10V_4 C454 *.1U/10V_4

CLOSE to Pin 1

+CTRL12DVDD

C895 4.7U/6.3V_6 C896 .1U/10V_4

R231 2.49K/F_4 LANRSET

+CTRL12A

C209 10U/6.3V_8 C878 .1U/10V_4

XTAL2 XTAL1

Y2 25MHZ

C427 33P/50V_4 C420 33P/50V_4

PV MODIFY

LAN_TX# +3V_LAN

U18

RTL8102EL

AVDD33 MDIP0 MDIN0 NC/FB12 MDIP1 MDIN1 GND1 NC/MDIP2 NC/MDIN2 DVDD12/AVDD12 NC/MDIP3 NC/MDIN3

VCTRL12A/SROUT12 GND4 RSET VCTRL12VDDSR NC/VDDSR NC/ENSWREG CKTAL2 CKTAL1 NC/LV_PD3 NC/LV_PLL LED0 VDD33B

DVDD12B LED1/EESK LED2/EEDI LED3/EEDO EECS GND3 DVDD12A VDD33A ISOLATEB PERSTB LANWAKEB CLKREQB

DVDD12 GND2 HSIP HSIN REFCLK_P REFCLK_N EVDD12 HSOP HSON EGND NC/SMCLK NC/SMDATA

+3V_A_LAN +DVDD12 +DVDD12 +DVDD12 +3V_LAN +DVDD12 +DVDD12 LAN-AGND +EVDD12

MDI0+ MDI0- MDI1+ MDI1-

EESK_LED100# EEDI_LED10# EEDO EECS ISOLATEB LAN_RESET# PCIE_WAKE# LAN_CLKREQ

PCIE_WAKE# [16,24,28]

T3

R246 *0_4 R248 *0_4/S

LAN_REST# [27]

PLTRST# [15,24,27,28]

[15] PCIE_TXP1_LAN [15] PCIE_TXN1_LAN

[2] CLK_PCIE_LAN [2] CLK_PCIE_LAN#

CLK_PCIE_LAN CLK_PCIE_LAN#

PCIE_RXN1_LAN_L PCIE_RXP1_LAN_L

C452 .1U/10V_4 C442 .1U/10V_4

PCIE_RXN1_LAN [15] PCIE_RXP1_LAN [15]

+3V

Delete R261 and add D38 as current loss issue

R263 *1K/F_4

ISOLATEB

R262 15K/F_4

R261 100/F_4

D38 *RB501V-40

LAN_DISABLE# [27]

if ISOLATEB pin pull-low,the LAN chip will not drive it's PCI-E outputs (excluding PCIE_WAKE# pin)

R653 10K/F_4

U43

EECS EESK_LED100# EEDI_LED10# EEDO

CS SK DI DO VCC DC ORG GND

*M93C46-WMN6TP

+3V_LAN

C897 .1U/10V_4

R652 3.24K/F_4

+3V_LAN

R252 *0_4/S

R259 *0_4/S

LAN-AGND

DB modified to short-pad

LAN_Transformer

U33

MDI0+ MDI0- V_DAC_1 MDI1+ MDI1- V_DAC_2

RD+ RD- CT TD+ TD- CT

RX+ CT RX- TX- CMT TX+

LAN_MX0+ LAN_MCT0 LAN_MX0- LAN_MX1- LAN_MCT1 LAN_MX1+

NS681684

C783 .01U/16V_4 C782 .01U/16V_4

C898 0.01U/100V_0603 LAN_MCT0_1 R544 75/F_4

C899 0.01U/100V_0603 LAN_MCT0_2 R545 75/F_4

C781 1000P/3KV_1808

EEDI_LED10# EESK_LED100#

D36 BAT54A

LAN_GLED# LAN_TX# LAN_YLED#

Link

C48 *.01U/16V_4 C88 *.01U/16V_4

LAN_MX0+ [29] LAN_MX0- [29] LAN_MX1+ [29] LAN_MX1- [29]

FOR EMI

C89 *.1U/10V_4

RJ45

CN24

+3V_LAN R89 330/F_4 LAN_GLED LAN_GLED#

LED_GRE_P LED_GRE_N

LAN_MX1- LAN_MX1+ LAN_MX0- LAN_MX0+

RX1- RX1+ RX0- TX1- TX1+ RX0+ TX0- TX0+ GND1 GND

+3V_LAN R87 330/F_4 LAN_YLED LAN_YLED#

LED_YEL_P LED_YEL_N

RJ45_CONN

C81 *.1U/10V_4

FOR EMI

Fixed RJ45 Pin define (0829)

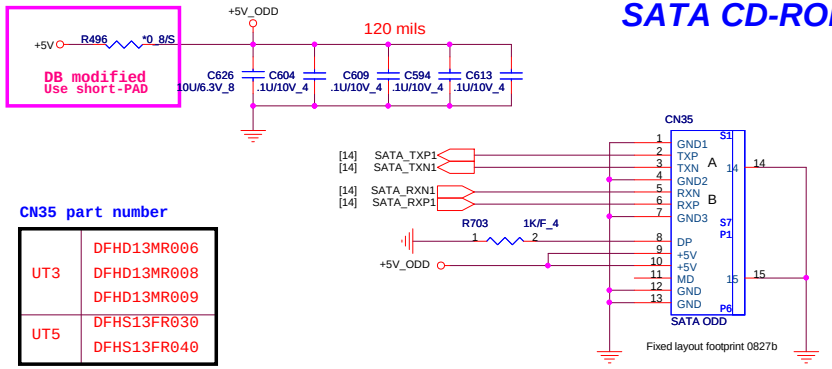
NB5

PROJECT : UT3/5
Quanta Computer Inc.

Size	Document Number	Rev
Custom	RTL8102EL/RJ45	PV

Date: Monday, October 20, 2008 Sheet 23 of 35

SATA CD-ROM

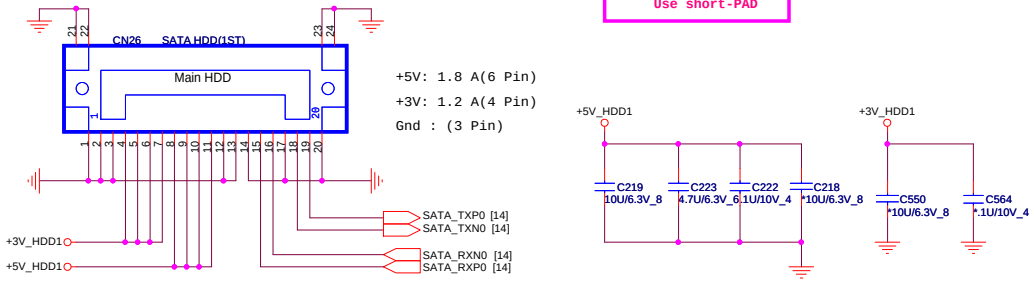


CN35 part number

UT3	DFHD13MR006
	DFHD13MR008
	DFHD13MR009
UT5	DFHS13FR030
	DFHS13FR040

SATA_1 CONNECTOR

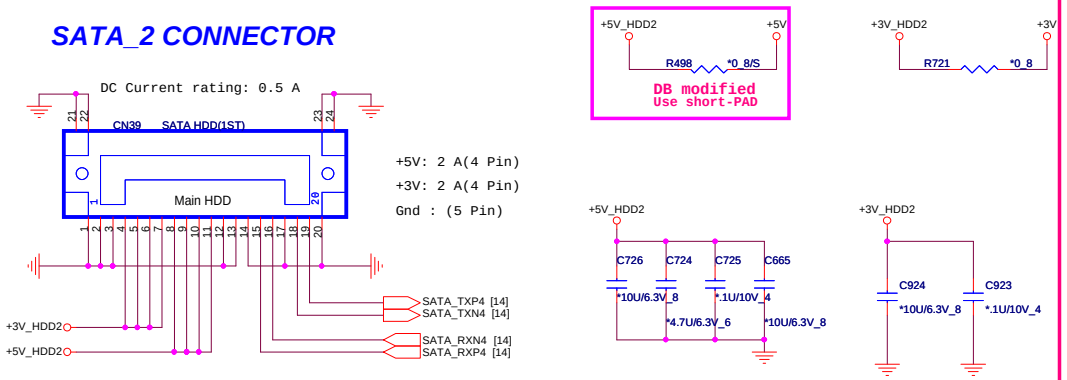
DC Current rating: 0.3 A



DB modified

SATA_2 CONNECTOR

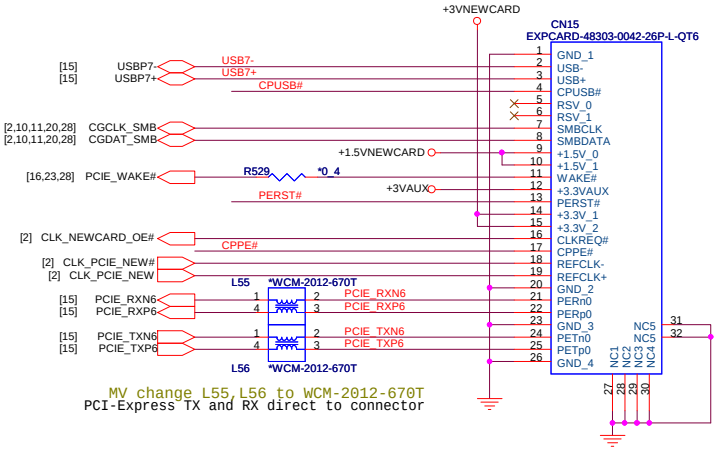
DC Current rating: 0.5 A



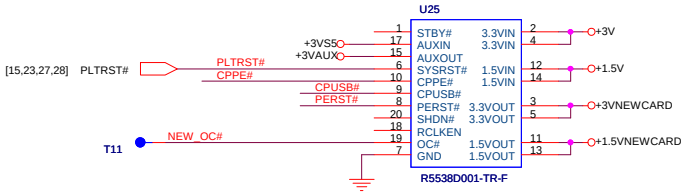
NEWCARD

NEWCARD (PCIEXPRESS*1 + USB*1)

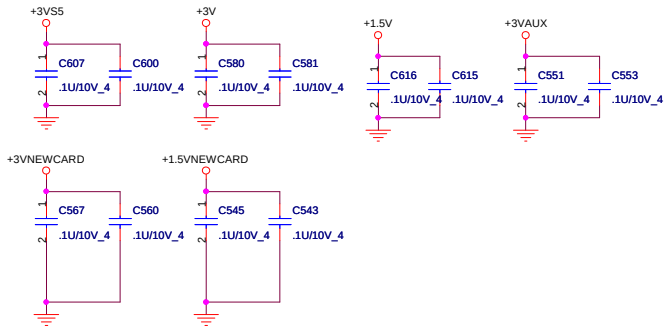
24



MV change L55,L56 to WCM-2012-670T
PCI-Express TX and RX direct to connector



Change net name from 3V_NEWAUX to 3VAUX

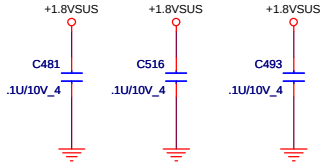


NB5

PROJECT : UT3/5
Quanta Computer Inc.

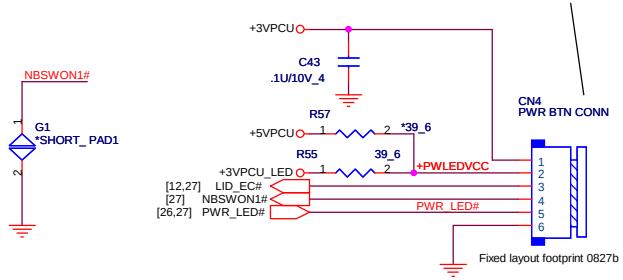
Size	Document Number	Rev
Custom	ODD/HDD/NEW CARD	PV

Date: Monday, October 20, 2008 Sheet 24 of 35



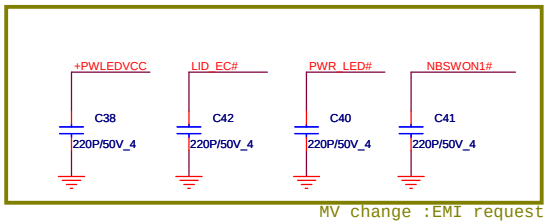
Close to U21 For EMI

Change CN4 to BL123-06R-6P-L-QT6-A



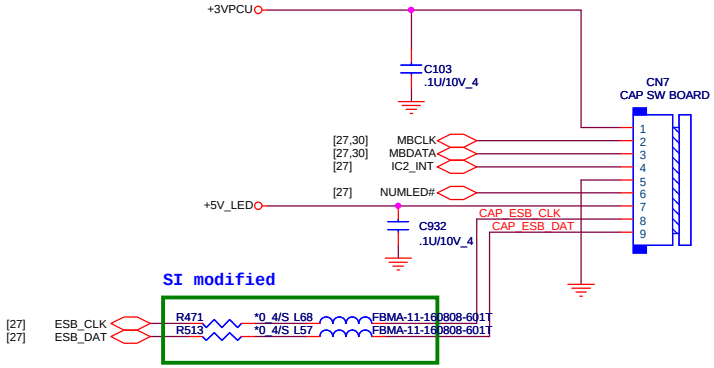
1. +3VPCU(LIDSWITCH PWR)
2. LEDVCC(+3VPCU)
3. LIDSWITCH
4. POWERON#
5. PWRLED#
6. GND

POWER BOTTON CONNECT



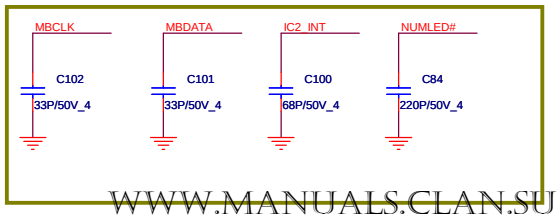
MV change :EMI request

CAP SW CONNECT

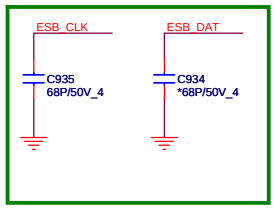


Change CN7 to BL123-09R-9P-L-QT6-A

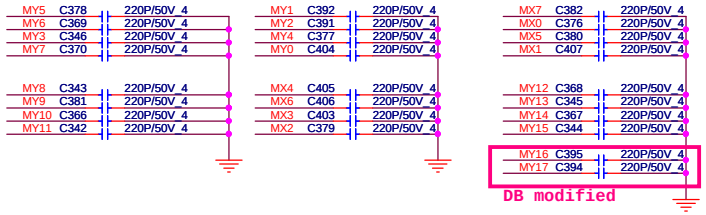
1. +3VPCU
2. MBCLK
3. MBDATA
4. CAP_INT
5. GND
6. NUM LOCK LED
7. +5V_LED
8. ESB_CLK
9. ESB_DAT



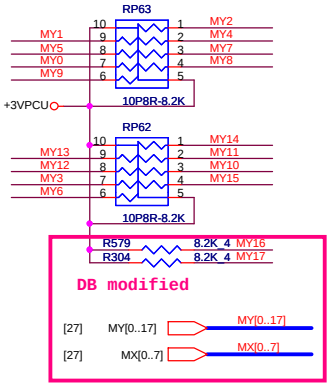
SI modified

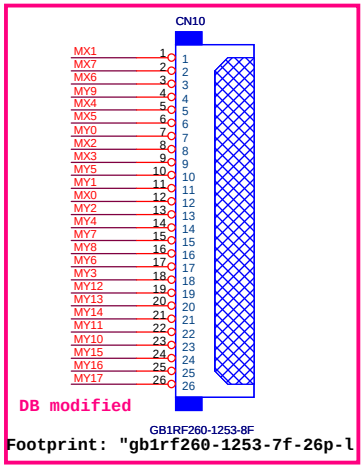


MV change :EMI request

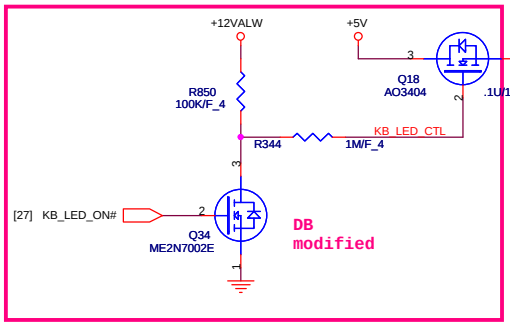


KEYBOARD PULL-UP



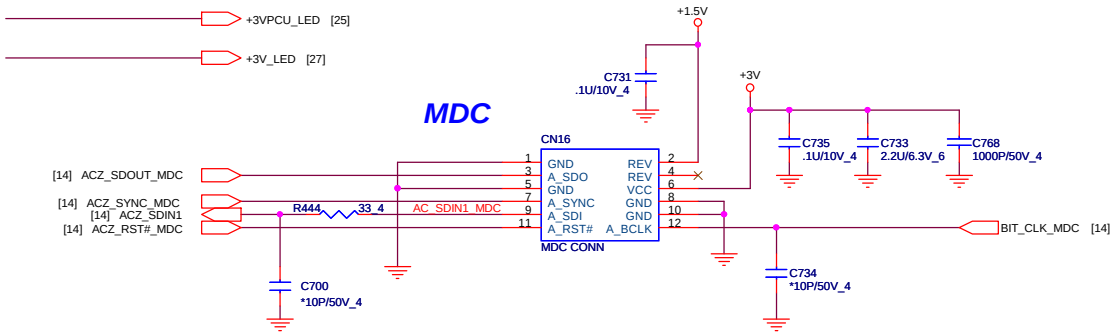


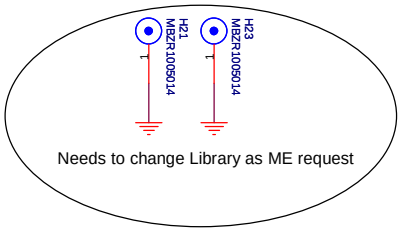
Max = 140 mA

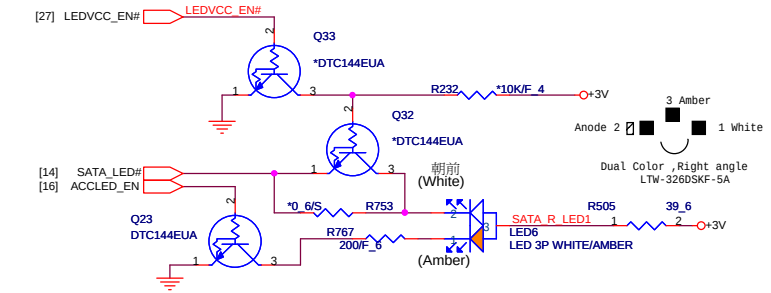


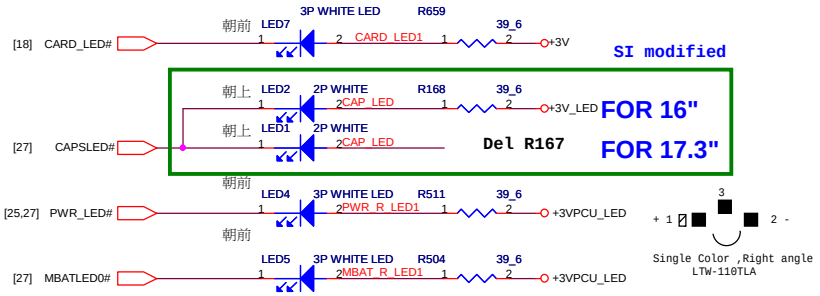
NB5	PROJECT : UT3/5 Quanta Computer Inc.	
Size: Custom	Document Number: KB/CAP/POWER CONN	Rev: PV
Date: Monday, October 20, 2008	Sheet 25 of 35	

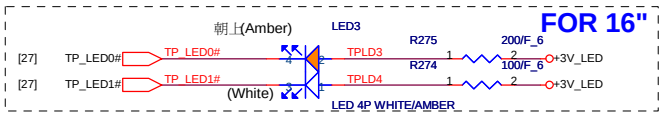
MDC

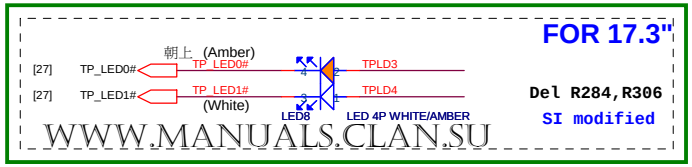


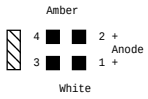




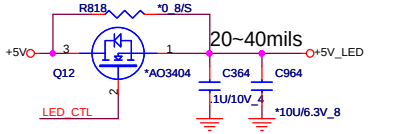


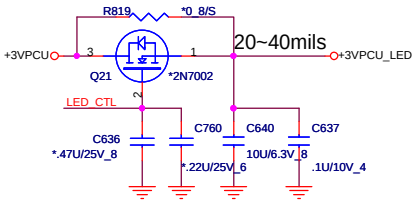


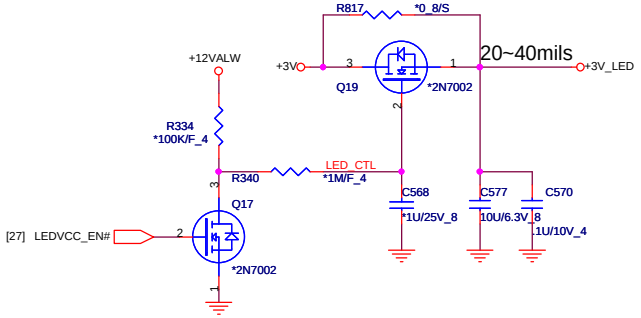




LED PWR CONTROL







NB5

PROJECT : UT3/5
Quanta Computer Inc.

Size	Document Number	Rev
Custom	MDC/LED	PV

Date: Monday, October 20, 2008 | Sheet 26 of 35

TOUCH PAD CONNECTOR

25 mils

Fixed Library 8/28

CN13
TOUCH PAD CONN

TOUCH PAD L/R FOR 16"

TMG-533-S-V-TR

TOUCH PAD ON/OFF FOR 16"

TMG-533-S-V-TR

close conn

TOUCH PAD L/R FOR 17.3"

Del R495,R453,C728,C730

SI modified

TOUCH SW

DB modified

TOUCH PAD ON/OFF FOR 17.3"

PA

TOUCH PAD EN SW

DB modified

ID	R851	R852
UT5	10K	N/A
UT3	N/A	10K

DB modified

SI modified

DB modified

user for B1

For KB3926 B, C version

Hi ==> 120W

Low ==> 65W/90W

R430 Change to 100k ohm ,pull low

Add Pin 117,103 for DSM,Pin 116 for Bluetooth,Pin 23 for Key Beep to Amplifier

Add T37,T38,T39 for EC

Delete T10 and tie pin 117 from Lan for DSM

2M byte SPI BIOS

SPI ROM

NB5

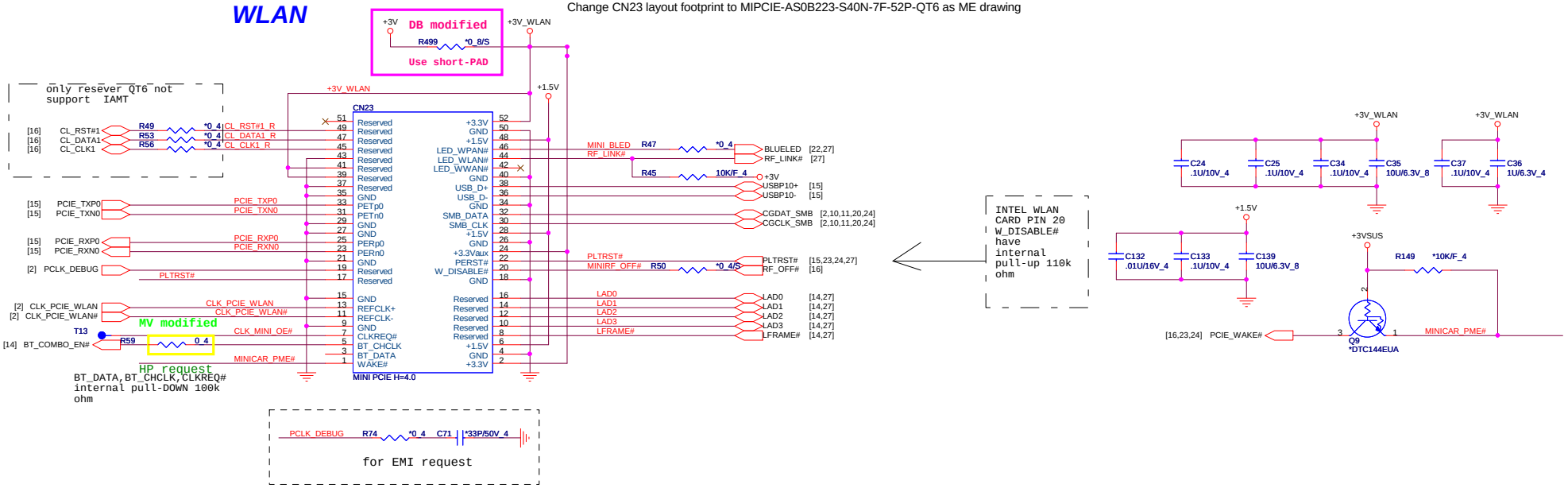
PROJECT : UT3/5
Quanta Computer Inc.

Size	Document Number	Rev
Custom	KB3926/ROM/TP	PV

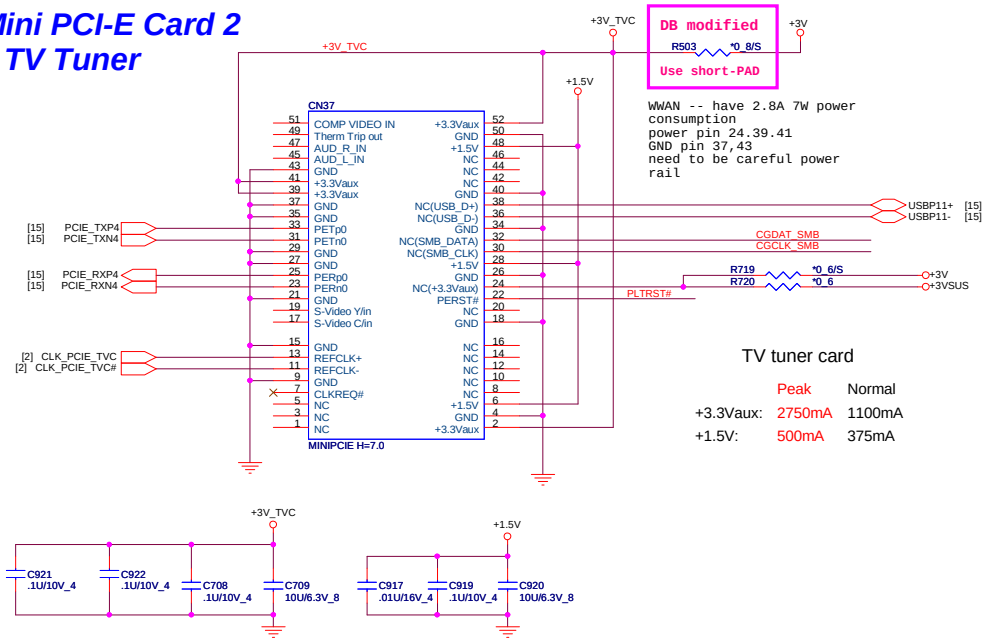
Date: Monday, October 20, 2008 Sheet 27 of 35

Mini PCI-E Card 1
WLAN

Delete R78 and tied the CN23#24 to R110 direction
Change CN23 layout footprint to MIPCIE-AS0B223-S40N-7F-52P-QT6 as ME drawing



Mini PCI-E Card 2
TV Tuner



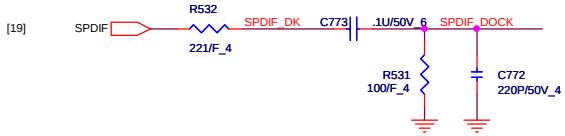
TV tuner card

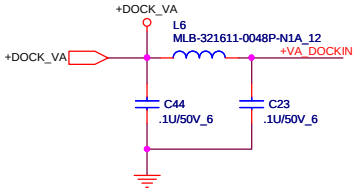
	Peak	Normal
+3.3Vaux:	2750mA	1100mA
+1.5V:	500mA	375mA

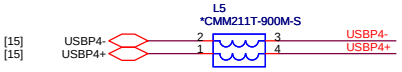
NB5	PROJECT : UT3/5 Quanta Computer Inc.
Size: Custom	Document Number: MINI PCIE CONN X3
Rev: PV	
Date: Monday, October 20, 2008	Sheet 28 of 35

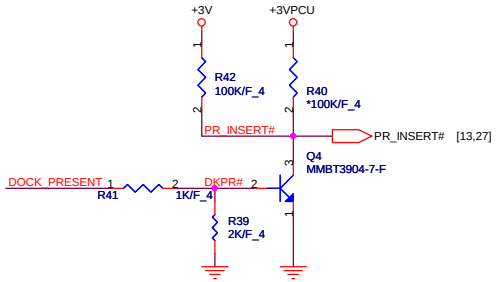
CABLE DOCK

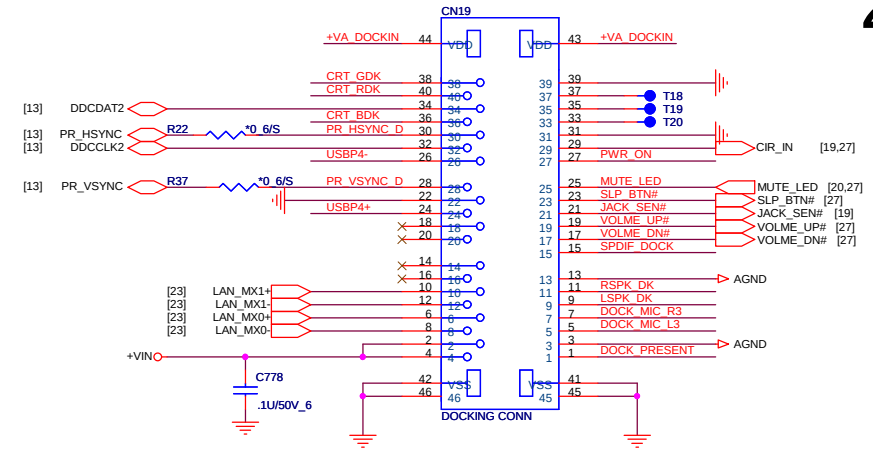
support 6A 200mils
CX000480005

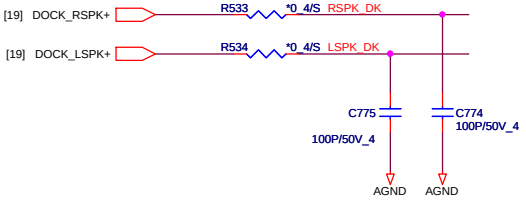


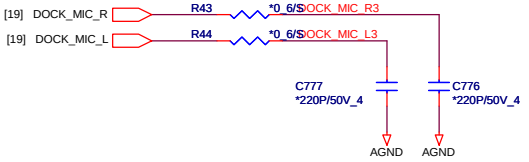




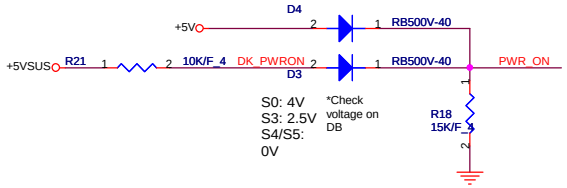


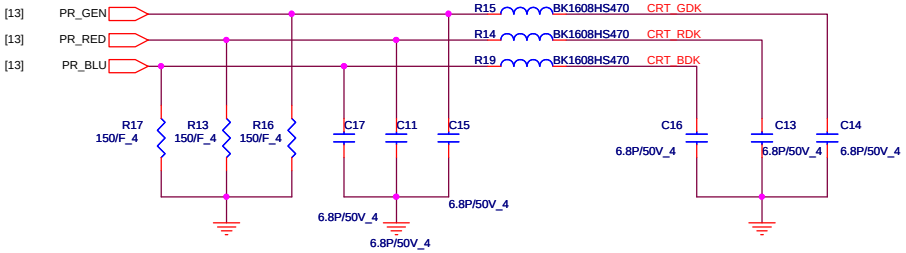




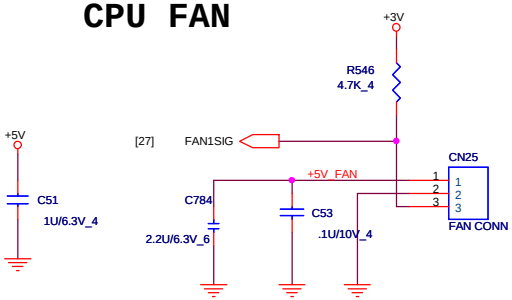


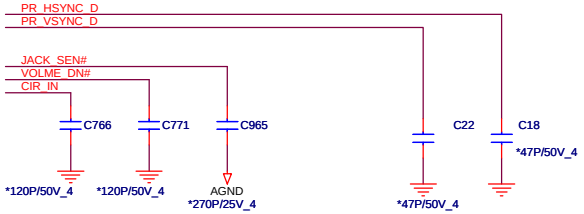
For IDT Dolby functionality. DB modified





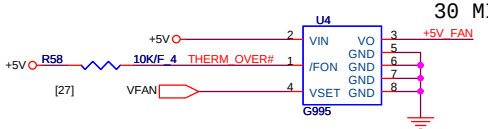
CPU FAN





FANPWR = 1.6*VSET

30 MIL



NB5

PROJECT : UT3/5
Quanta Computer Inc.

Size	Document Number	Rev
Custom	CABLE DOCKING/FAN	PV

Date: Monday, October 20, 2008 | Sheet 29 of 35

TOP DC_JACK
65W/90W

BATTERY CONNECTOR TYPE		
MODEL	PART NUMBER	FOOTPRINT
UT3	DFHD08MR015	BAT-BP02083-B09065-7F-9P-V-QT6
UT5	DFHD08MR030	bat-200045mr008g10jzr-8p-l-v

Change CN21 to BAT-BP02083-B09065-7F-9P-QT6

EMI

FOR 16"

FOR 17.3"

DB modified

SI modified

To PWR LED

ADP TYPE	PR63 VALUE	P/N
65W	40.2K/F	CS34022FB15
90W	3.48K/F	CS23482FB12

Size	Mounted	N/A
16"	PR185	PR184, PR186, PQ59
17.3"	PR184, PR186, PQ59	PR185

CELL_SLT = 1 -- 3 S (Cells = GND 3S)
CELL_SLT = 0 -- 4 S (Cells = VDD 4S)

Setting the Vin min to 12V
For ACSET 1.26V

Setting the Vin min to 17V
For EN = 1.06V

Charging Curret setting =
I chg = 165mV / Rsense * (Vchlim / 3.3V)

V ACLIM = VREF *
(Rl // 152K) / (Rhi // 152K + Rlow// 152K)
Input curretn = 2.9A (71.5K , 10K)
(0.05/Vref * Vaclim + 0.05) / Rsense

VADJ =
VERF >> 4.2V +5%
Float >> 4.2V
GND >> 4.2 -5%

Input Current monitor
V icm = 19.9 * (Vcsip - Vcsin)

PROJECT : UT3/5
Quanta Computer Inc.

NB5

Size: Custom | Document Number: Charger (ISL6251) | Rev: PV
Date: Monday, October 20, 2008 | Sheet 30 of 35

DC/DC +3V_ALW/+5V_ALW/+5V_ALW2 /+12V_ALW

Place these CAPs close to FETs

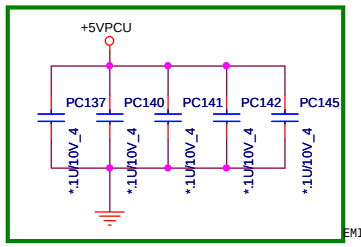
Place these CAPs close to FETs

5 Volt +/- 5%
Countinue current:5A
Peak current:7.5A
OCP minimum 10A

3.3 Volt +/- 5%
Countinue current:5A
Peak current:7.5A
OCP minimum 9A

SI modified

SI modified



PU2 RT8206BGQW

PQ55 Si4800BDY
PQ47 ME4410A
PQ49 Si4800BDY
PQ50 ME4410

PL8 2.5uH/7.5A
PL9 2.5uH_7.5A

Rds(on) 20m ohm
Rds(on) 20m ohm

PD12
PD13
BAV99
BAV99
PD20 PDZ5.6B

[4,30] SYS_SHDN#

PROJECT : UT3/5
Quanta Computer Inc.

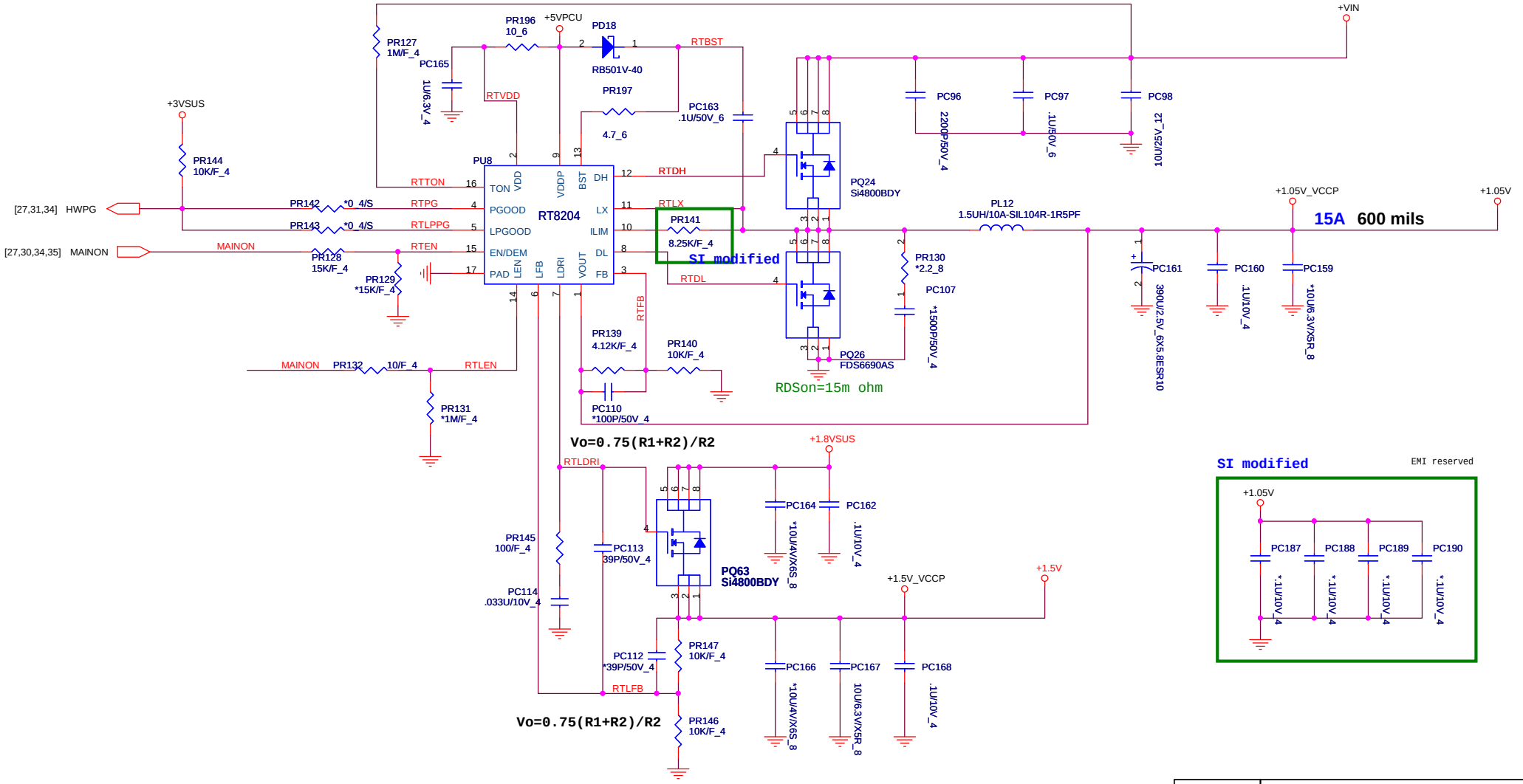
Size	Document Number	Rev
B	+5V/+3V (ISL6237)	PV

Date: Monday, October 20, 2008 Sheet 31 of 35

NB5

VCCP1.05V & +1.5V

+1.05Volt +/- 5%
Countinue current:7.5A
Peak current:10A
OCP minimum 12A

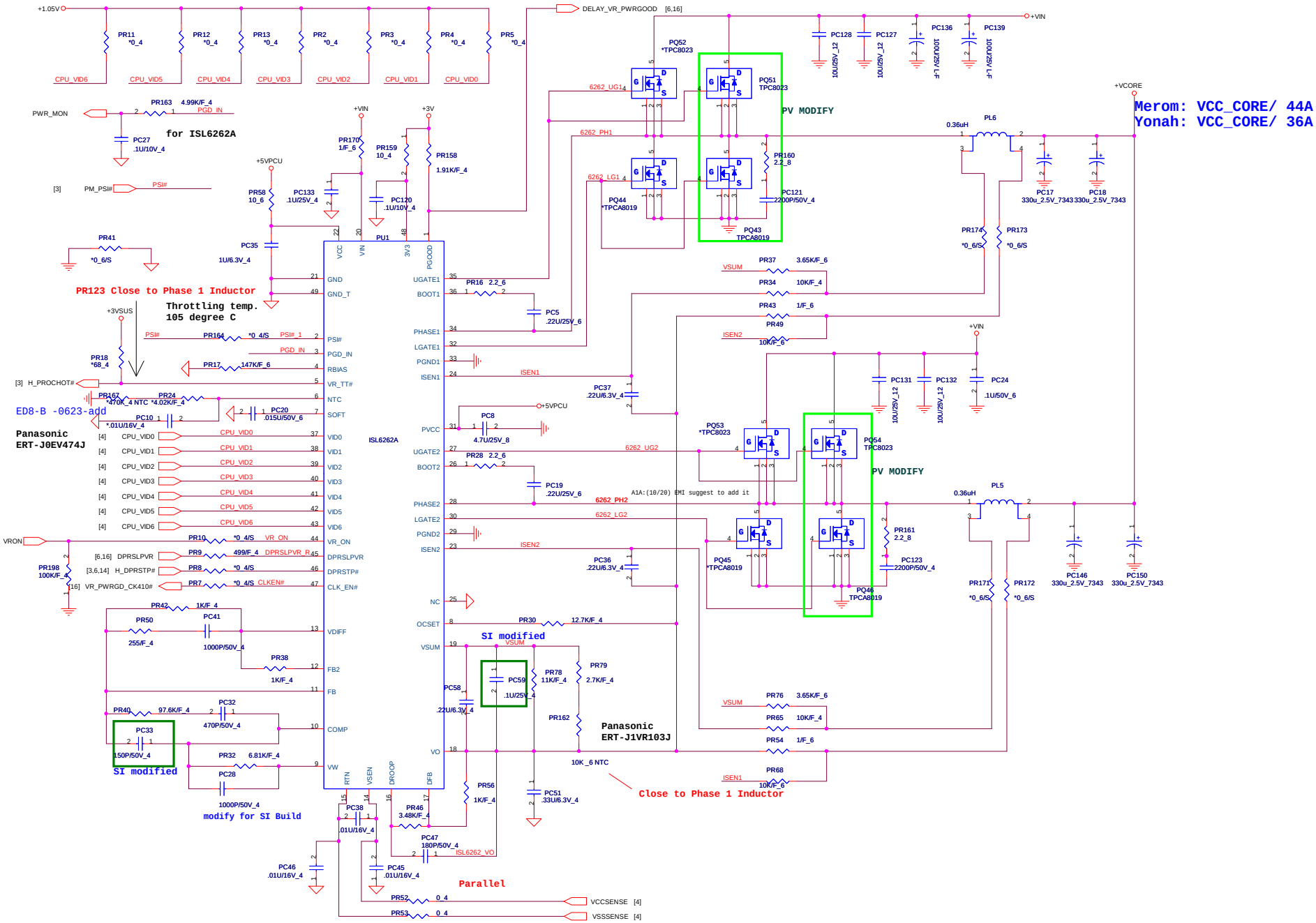


NB5

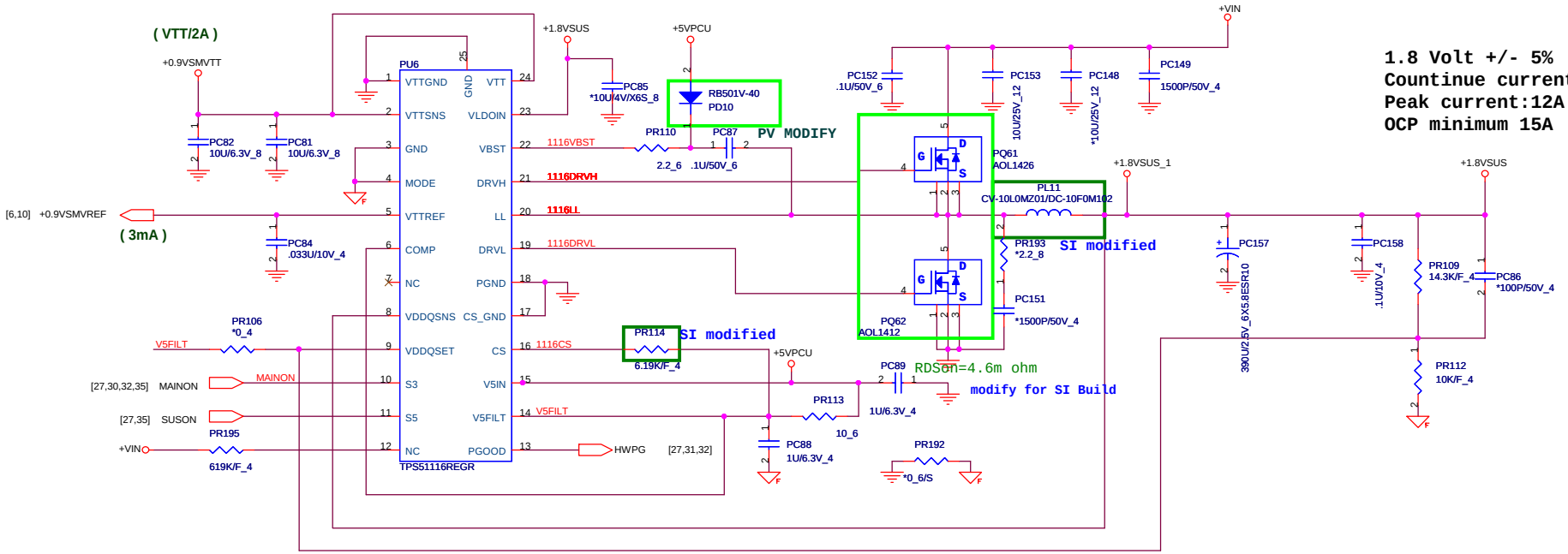
PROJECT : UT3/5
Quanta Computer Inc.

Size	Document Number	Rev
B	+1.05V/+1.5V (RT8204)	PV

Date: Monday, October 20, 2008 Sheet 32 of 35



NB5	PROJECT : UT3/5 Quanta Computer Inc.	
Size: Custom	Document Number: CPU Core (ISL6266A)	Rev: PV
Date: Monday, October 20, 2008	Sheet 33 of 35	



NB5

PROJECT : UT3/5
Quanta Computer Inc.

Size	Document Number	Rev
Custom	+1.8VSUS/DDR_VTER	PV

Date: Monday, October 20, 2008 | Sheet 34 of 35