UT12(UMA) SYSTEM DIAGRAM

01

PCB STACK UP

- LAYER 1 : TOP
- LAYER 2 : IN1
- LAYER 3 : IN2
- LAYER 4 : VCC
- LAYER 5 : IN3
- LAYER 6 : BOT

DDRII-SODIMM1 PAGE 6,7 — DDRII 667/800 MHz

DDRII-SODIMM2 PAGE 6.7 — DDRII 667/800 MHz

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

CPU THERMAL SENSOR PAGE 5

AMD Smarter Choice

14.318MHz

CLOCK GEN
ICS9LPRS480-->HP
SLG628(QFN-64)-->HP
RTM880N-796 -->HP
PAGE 2

CPU_CLK
NBGFX_CLK
NBGPP_CLK
SBLINK_CLK

HT3

PCI-E

NORTH BRIDGE
RX781 / RS780MN
A12
21mm X 21mm, 528pin BGA
PAGE 8,9,10,11,

HDMI PAGE 18

CRT PAGE 17

LVDS PAGE 18

Side port

256mb RAM for UMA only PAGE 8

ALINK X4

SBSRC_CLK

USB2.0

SOUTH BRIDGE
SB700 A12
21mm X 21mm, 528pin BGA
4.5W(Ext)
4.3W(Int)
PAGE 12,13.14.15.16

SATA0,1 150MB

SATA0 150MB

SATA4 150MB

Azalia

SMBUS

LPC

X1 PCIE Card reader
JMICRON
JMB380
PAGE 19

1394 PAGE 19

X1 LAN
Realtek
PCIE-LAN
RTL8103E/8111DL
(10/100/GagaLAN)
PAGE 26,27

RJ45 PAGE 27

X1 Express Card
(NEW CARD)
PAGE 28

X2 Mini PCI-E Card
(Wireless LAN/TV TUNNER)
PAGE 31

10 PCI-E WLAN Card x1 PAGE 31

11 TV-TUNER Card x1 PAGE 31

7 Express Card x1 PAGE 28

4 Cable Docking x1 PAGE 32

TWO SATA - HDD PAGE 28

SATA - CD-ROM PAGE 28

E-SATA PAGE 25

1,8,5 USB2.0 Ports X3 PAGE 25

9 Blueflame PAGE 25

2 Webcam X1 PAGE 25

6 Fingerprint PAGE 25

3 Flash Media for RTS5158E PAGE 20

SYSTEM CHARGER(ISL6251A) PAGE 39

SYSTEM POWER ISL6237 PAGE 33

DDR II SMDDR_VTERM
1.8V/1.8VSUS(TPS51116REGR) PAGE 36

VCCP +1.1V AND +1.2V(RT8204) PAGE 34

CPU CORE ISL6265A PAGE 35

Accelerometer
LIS3LV02DL PAGE 22

Keyboard PAGE 29
Touch Pad PAGE 30

CIR (AUDIO CONN) PAGE 30

Capacitive Sense SW PAGE 29

ENE KBC
KB3926 Cx
PAGE 30

FAN PAGE 32

SPI PAGE 30

MDC CONN PAGE 24

IDT 92HP61B7 PAGE 21

AUDIO Amplifier TPA6047A4 PAGE 22

SUBWOOFER PAGE 23

Digital MIC PAGE 21

AUDIO CONN (Phone/ MIC) PAGE 21

Audio Conn PAGE 22

Cable Docking PAGE 32
- VGA
- RJ-45
- CIR/Pwr btn
- SPDIF Out
- Stereo MIC
- Headphone Jack
- USB Port
- VOL Cntr

SMBUS TABLE

SB--SCL0/SD0	Clock gen/Robson/TV tuner /DDR2/DDR2 thermal/Accelerometer Wlan Card	+3V
	epress card	+3VS5
EC --SCL/SD	Battery charge/discharge	+3VPCU
EC--SCL2/SD2	VGA thermal/system thermal	+3V

NB5

PROJECT : UT12
Quanta Computer Inc.

Size	Document Number	Rev
Custom	Block Diagram	1A

Date: Monday, November 10, 2008 Sheet 1 of 40

+1.2V — L49 BLM18PG181SN1D(180,1.5A)_6 — 60 ohm, 0.5A — 600 ohms@100Mhz
C523 10U/6.3V_8; C518, C496, C527, C521, C476, C515 0.1U/10V_4
+1.2V_CLKVDDIO

DCR: 0.5 ohm
600 ohms@100Mhz
+3V — L51 BLM18PG181SN1D(180,1.5A)_6 — 60 ohm, 0.5A — +3V_CLKVDD
C541 10U/6.3V_8; C468, C473, C512, C522, C508, C500, C474, C471, C469 0.1U/10V_4

Clock chip has internal serial terminations for differencial pairs, external resistors are reserved for debug purpose.

U10
QFN64
RTM880N-796_QFN64

+3V_CLKVDD
VDDDOT 4
VDDSRC 16
VDDATIG 26
VDDSB 35
VDD_SATA 40
VDDCPU 48
VDDHTT 55
VDDREF 56
VDD48 63

Place very close to C/G
+3V_CLKVDD — L42 BLM18PG181SN1D(180,1.5A)_6 — +3V_CLK_VDDA
C464 10U/6.3V_8; C482 0.1U/10V_4

+1.2V_CLKVDDIO
VDDSRC_IO 11
VDDSRC_IO 17
VDDATIG_IO 25
VDDSB_IO 34
VDDCPU_IO 47

GND48 1
GNDDOT 7
GNDSRC 10
GNDSRC 18
GNDATIG 24
GNDSB 33
GNDSATA 43
GNDCPU 46
GNDHTT 52
GNDREF 60

C466 33P/50V_4 — CG_XIN
Y2 14.318MHZ
C465 33P/50V_4 — CG_XOUT
CG_XIN 61 X1
CG_XOUT 62 X2

can remove MOSFET level shift
SB/clock gen / DDR2 is 3.3V/S0 power level

6,7,13,22,31 PCLK_SMB
6,7,13,22,31 PDAT_SMB
PCLK_SMB 2 SMBCLK
PDAT_SMB 3 SMBDAT

CLK_PD# 51 PD#

+3V
EXT_NWD_CLK_REQ# — 8.2K_4 — R219
CLK_PD# — 8.2K_4 — R204
28 EXT_NWD_CLK_REQ#
EXT_NWD_CLK_REQ# 23 *CLKREQ0#
CLKREQ4# 38 *CLKREQ4#
CLKREQ3# 39 *CLKREQ3#
CLKREQ2# 44 *CLKREQ2#
CLKREQ1# 45 *CLKREQ1#

C952 *10P/50V_4 EXT_NB_OSC
C953 *10P/50V_4 CLK_48M_USB
C954 *10P/50V_4 CLK_48M_CR

+3V
R1123 *8.2K_4 CLKREQ1#
R757 *8.2K_4 CLKREQ2#
R758 *8.2K_4 CLKREQ3#
R759 *8.2K_4 CLKREQ4#
if use clock request pin , need to pull Hi for default sttting

TGND 65

CPUK8_0T 50 CPUCLKP — RP43 — *0_4P2R_4 — CPUCLKP — CPUCLKP 3
CPUK8_0C 49 CPUCLKN — CPUCLKN — CPUCLKN 3

Place within 0.5" of CLKGEN
R196 *261_4

ATIG0T 30 NBGFX_CLKP — RP54 — *0_4P2R_4 — NBGFX_CLKP — NBGFX_CLKP 10
ATIG0C 29 NBGFX_CLKN — NBGFX_CLKN — NBGFX_CLKN 10
ATIG1T 28
ATIG1C 27
to NB for external Graphics reference clock

SB_SRC0T 37 PCIE_MINI2_CLKP — RP48 — *0_4P2R_4 — PCIE_MINI2_CLKP — PCIE_MINI2_CLKP 31
SB_SRC0C 36 PCIE_MINI2_CLKN — PCIE_MINI2_CLKN — PCIE_MINI2_CLKN 31
SB_SRC1T 32 CLK_PCIE_CARD — RP55 — *0_4P2R_4 — CLK_PCIE_CARD — CLK_PCIE_CARD 19
SB_SRC1C 31 CLK_PCIE_CARD# — CLK_PCIE_CARD# — CLK_PCIE_CARD# 19
to TV TUNER CARD
to PCIE-CARD READER

SRC0T 22 PCIE_NEW_CLKP — RP51 — *0_4P2R_4 — PCIE_NEW_CLKP — PCIE_NEW_CLKP 28
SRC0C 21 PCIE_NEW_CLKN — PCIE_NEW_CLKN — PCIE_NEW_CLKN 28
SRC1T 20 PCIE_MINI1_CLKP — RP49 — *0_4P2R_4 — PCIE_MINI1_CLKP — PCIE_MINI1_CLKP 31
SRC1C 19 PCIE_MINI1_CLKN — PCIE_MINI1_CLKN — PCIE_MINI1_CLKN 31
SRC2T 15 SBLINK_CLKP — RP47 — *0_4P2R_4 — SBLINK_CLKP — SBLINK_CLKP 10
SRC2C 14 SBLINK_CLKN — SBLINK_CLKN — SBLINK_CLKN 10
SRC3T 13 SBSRC_CLKP — RP45 — *0_4P2R_4 — SBSRC_CLKP — SBSRC_CLKP 12
SRC3C 12 SBSRC_CLKN — SBSRC_CLKN — SBSRC_CLKN 12
SRC4T 9 PCIE_LAN_CLKP — RP44 — *0_4P2R_4 — PCIE_LAN_CLKP — PCIE_LAN_CLKP 27
SRC4C 8 PCIE_LAN_CLKN — PCIE_LAN_CLKN — PCIE_LAN_CLKN 27
SRC7T/27M_SS 6
SRC7C/27M 5
SRC6T/SATAT 42
SRC6C/SATAC 41
to EPRESS CARD
to WLAN
to NB for AC-LINK reference clock
to SB
to PCIE-LAN

HTT0T/66M 54 NBHTREFCLK0P — RP66 — *0_4P2R_4 — NBHTREFCLK0P — NBHT_REFCLKP 10
HTT0C/66M 53 NBHTREFCLK0N — NBHTREFCLK0N — NBHT_REFCLKN 10

48MHz_0 64 CLK_48M_CR_L — R201 22_4 — CLK_48M_CR — CLK_48M_CR 20
R192 22_4 — CLK_48M_USB — CLK_48M_USB 13

REF0/SEL_HTT66 59 SEL_HT66
REF1/SEL_SATA 58 SEL_SATA
REF2/SEL_27 57 SEL_27

R977 *158/F_4 — Ra — R186 Ra 158/F_4
R184 1 2 90.9/F_4 — Rb — EXT_NB_OSC 10
R978 1 2 *90.9/F_4 — Rb — EXT_SB_OSC 12

1.2V

+3V_CLKVDD
R195 8.2K_4 SEL_27
R189 *8.2K_4
SEL_SATA
SEL_HT66
R203 8.2K_4
R202 *8.2K_4
not need to stuff , R185 have pull LOW

	SB700 A2	RS780MN/RX781
	1.2V	1.1V
Ra	158R	158R
Rb	90.9R	90.9R

RES CHIP 130 1/16W +-1%(0402)L-F -->CS11302FB15
RES CHIP 158 1/16W +-1%(0402) -->CS11582FB00
RES CHIP 90.9 1/16W +-1%(0402) -->CS09092FB15
RES CHIP 82.5 1/16W +-1%(0402) -->CS08252FB11

ICS ICS9LPRS480
SLG SLG628(QFN-64)
RTL RTM880N-796-- AL000880001

* default

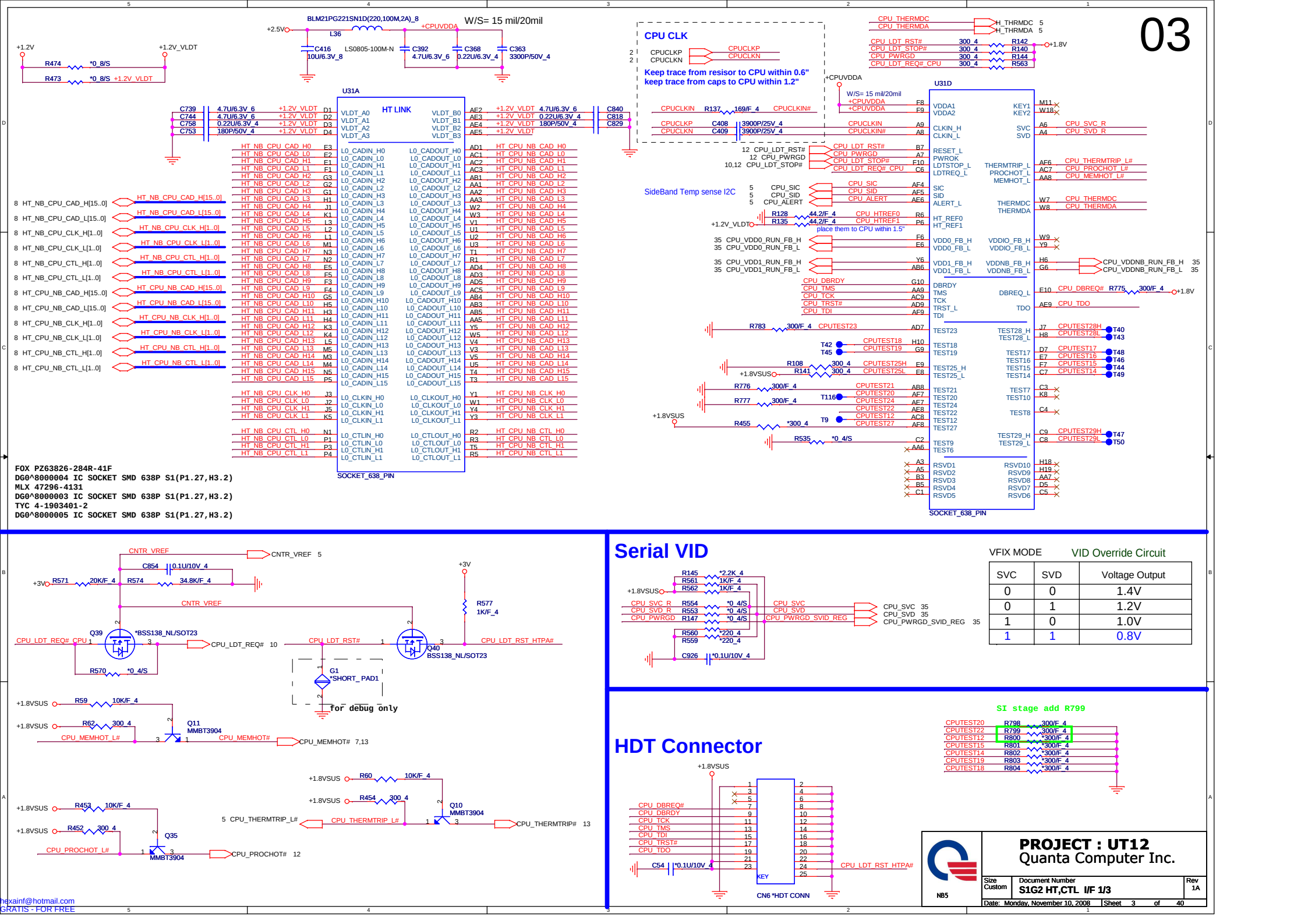
SEL_HTT66	1	66 MHz 3.3V single ended HTT clock
	0*	100 MHz differential HTT clock
SEL_SATA	1	100 MHz non-spreading differential SRC clock
	0*	100 MHz spreading differential SRC clock
SEL_27	1*	27MHz non-spreading singled clock
	0	100 MHz spreading differential SRC clock

NB5

PROJECT : UT12
Quanta Computer Inc.

Size	Document Number	Rev
Custom	Clock Generator	1A

Date: Monday, November 10, 2008 Sheet 2 of 40



Processor Memory Interface

04

PLACE THEM CLOSE TO CPU WITHIN 1"

U31B

MEM:CMD/CTRL/CLK

+0.9VSMVTT

750 mA

+1.8VSUS

R459 39.2/F_4 M_ZP

R458 39.2/F_4 M_ZN

T41 MEM_MA_RESET#

R81 2K/F_4

R82 *0_4 Reserved

+0.9VSMVREF 6,36

CPU_VTT_SENSE 36

R77 2K/F_4

C197 0.1U/10V_4

C177 1000P/50V_4

6 MEM_MB_DATA[0..63]

MEM_MA_DATA[0..63] 6

6,7 MEM_MA0_ODT0

6,7 MEM_MA0_ODT1

6,7 MEM_MA0_CS#0

6,7 MEM_MA0_CS#1

6,7 MEM_MA_CKE0

6,7 MEM_MA_CKE1

6 MEM_MA_CLK1_P

6 MEM_MA_CLK1_N

6 MEM_MA_CLK7_P

6 MEM_MA_CLK7_N

6,7 MEM_MA_ADD[0..15]

MEM_MB_ADD[0..15] 6,7

6,7 MEM_MA_BANK0

6,7 MEM_MA_BANK1

6,7 MEM_MA_BANK2

6,7 MEM_MA_RAS#

6,7 MEM_MA_CAS#

6,7 MEM_MA_WE#

SOCKET_638_PIN

U31C

MEM:DATA

6 MEM_MB_DM[0..7]

MEM_MA_DM[0..7] 6

6 MEM_MB_DQS0_P

6 MEM_MB_DQS0_N

6 MEM_MB_DQS1_P

6 MEM_MB_DQS1_N

6 MEM_MB_DQS2_P

6 MEM_MB_DQS2_N

6 MEM_MB_DQS3_P

6 MEM_MB_DQS3_N

6 MEM_MB_DQS4_P

6 MEM_MB_DQS4_N

6 MEM_MB_DQS5_P

6 MEM_MB_DQS5_N

6 MEM_MB_DQS6_P

6 MEM_MB_DQS6_N

6 MEM_MB_DQS7_P

6 MEM_MB_DQS7_N

SOCKET_638_PIN

Place close to socket

+0.9VSMVTT

C112 4.7U/6.3V_6

C399 4.7U/6.3V_6

C99 4.7U/6.3V_6

C398 4.7U/6.3V_6

C213 0.22U/6.3V_4

C369 0.22U/6.3V_4

C364 0.22U/6.3V_4

C201 0.22U/6.3V_4

+0.9VSMVTT

C401 1000P/50V_4

C202 1000P/50V_4

C400 1000P/50V_4

C185 1000P/50V_4

C183 180P/50V_4

C189 180P/50V_4

C390 180P/50V_4

C396 180P/50V_4

Close to CPU within 1500 mils

MEM_MB_CLK7_P

C736 1.5P/50V_4

MEM_MB_CLK7_N

MEM_MB_CLK1_P

C366 1.5P/50V_4

MEM_MB_CLK1_N

MEM_MA_CLK7_P

C734 1.5P/50V_4

MEM_MA_CLK7_N

MEM_MA_CLK1_P

C367 1.5P/50V_4

MEM_MA_CLK1_N

NB5

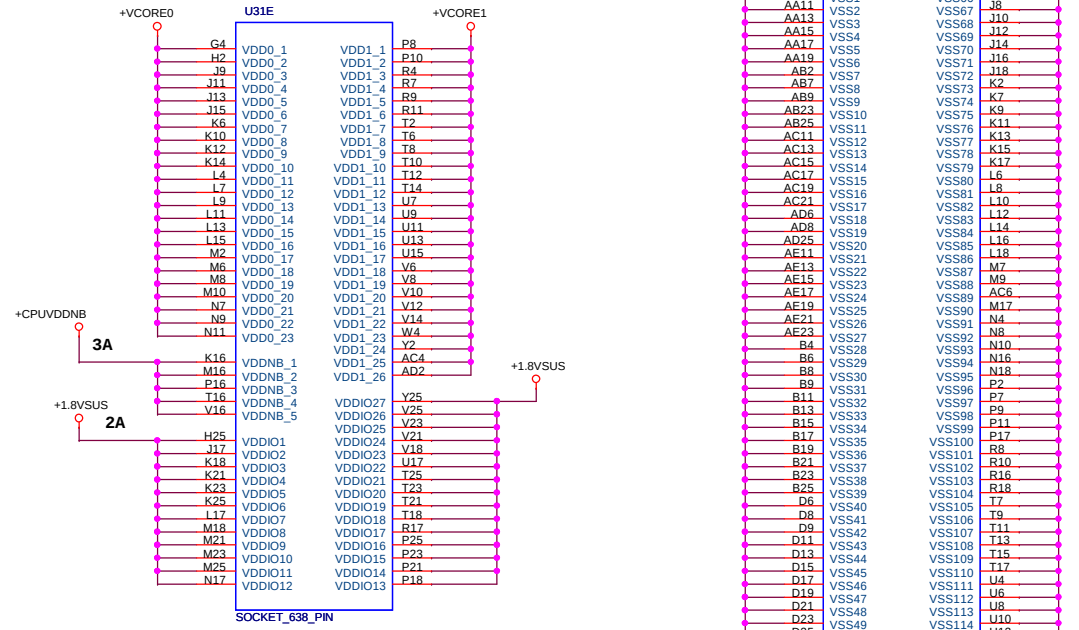
PROJECT : UT12

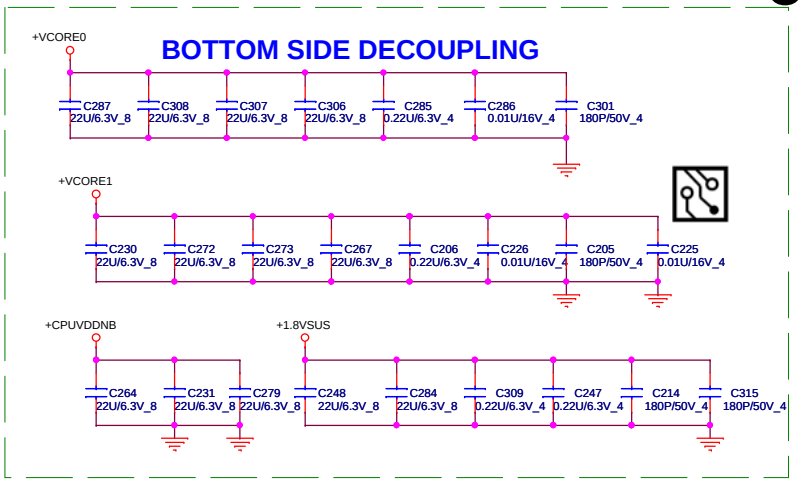
Quanta Computer Inc.

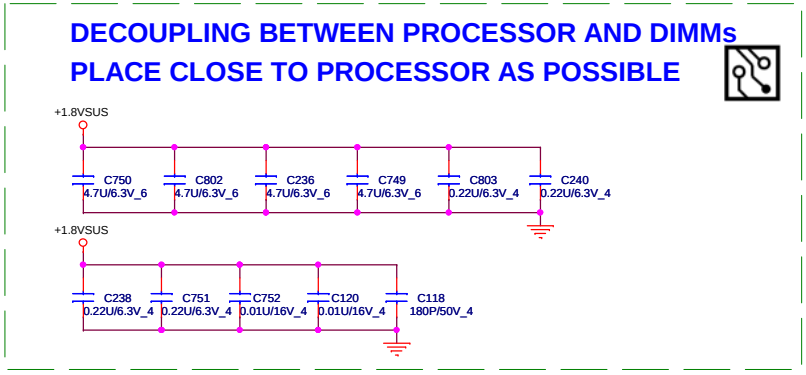
Size	Document Number	Rev
Custom	S1G2 DDRII MEMORY I/F 2/3	1A

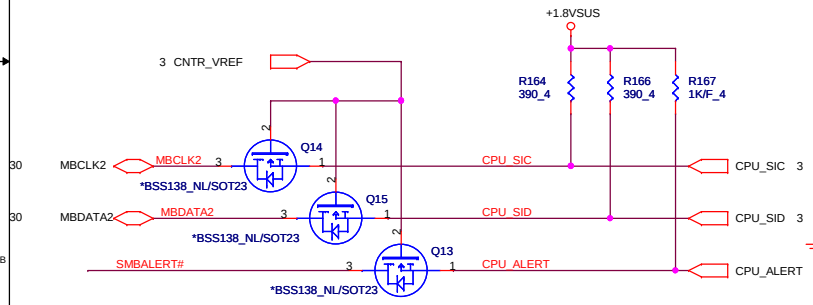
Date: Monday, November 10, 2008 Sheet 4 of 40

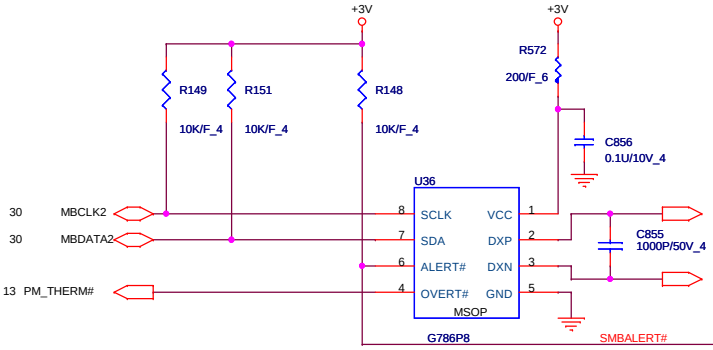
PROCESSOR POWER AND GROUND

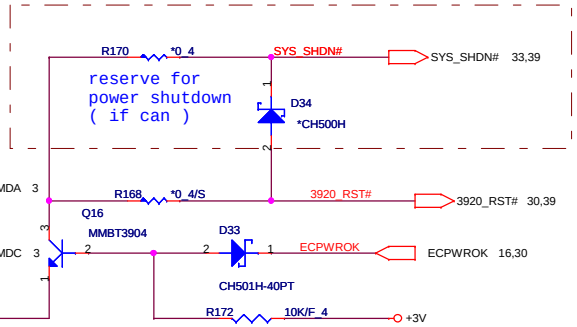


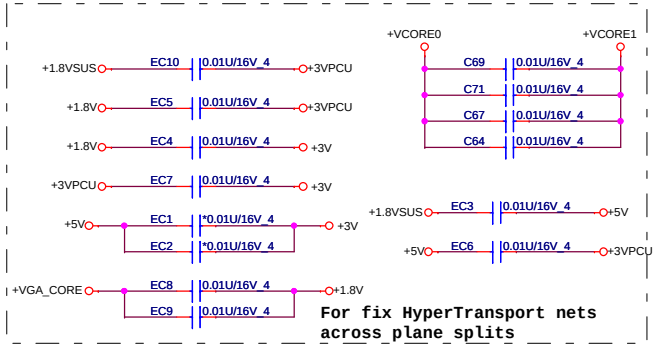


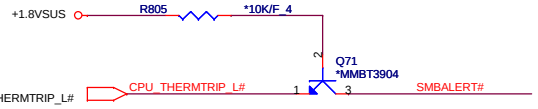


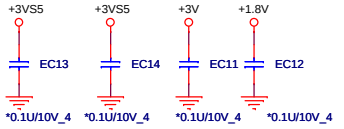




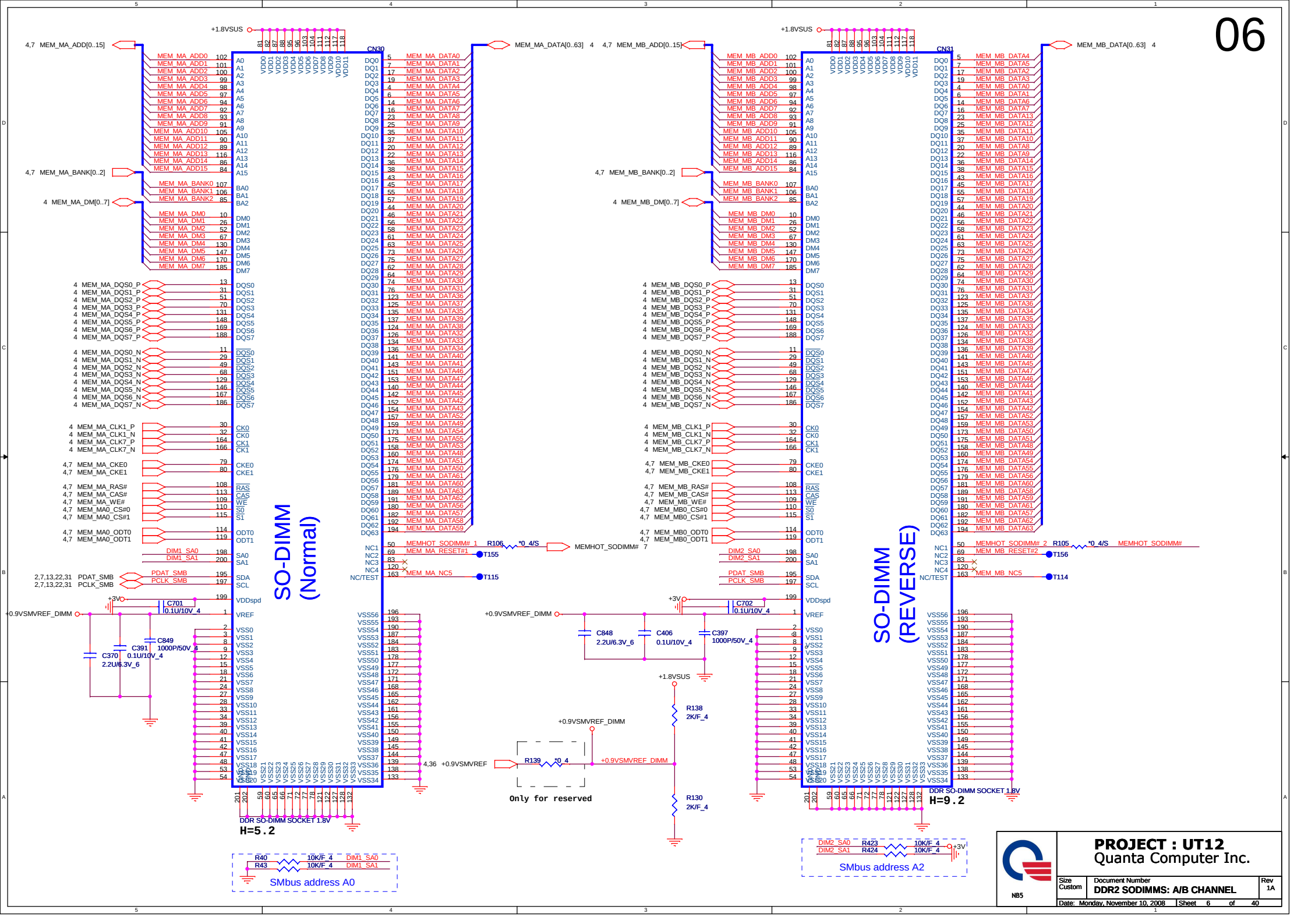




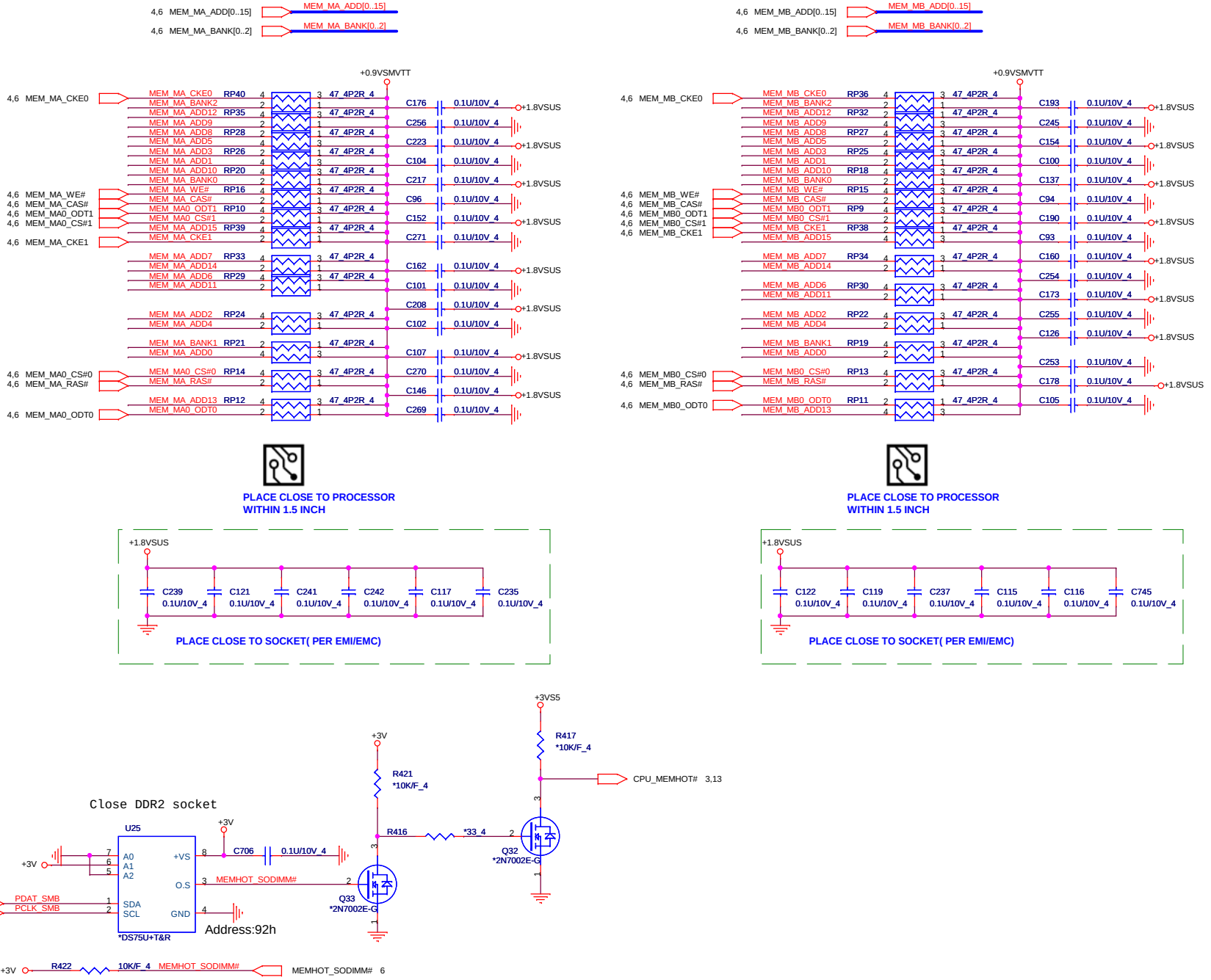




NB5	PROJECT : UT12 Quanta Computer Inc.	
Size: Custom	Document Number: S1G2 PWR & GND 3/3	Rev: 1A
Date: Monday, November 10, 2008	Sheet 5 of 40	



PROJECT : UT12 Quanta Computer Inc.		
Size: Custom	Document Number: DDR2 SODIMMS: A/B CHANNEL	Rev: 1A
NB5	Date: Monday, November 10, 2008	Sheet 6 of 40



PROJECT : UT12 Quanta Computer Inc.			
Size: Custom	Document Number: DDR2 SODIMMS TERMINATIONS		Rev: 1A
NB5	Date: Monday, November 10, 2008	Sheet 7 of 40	

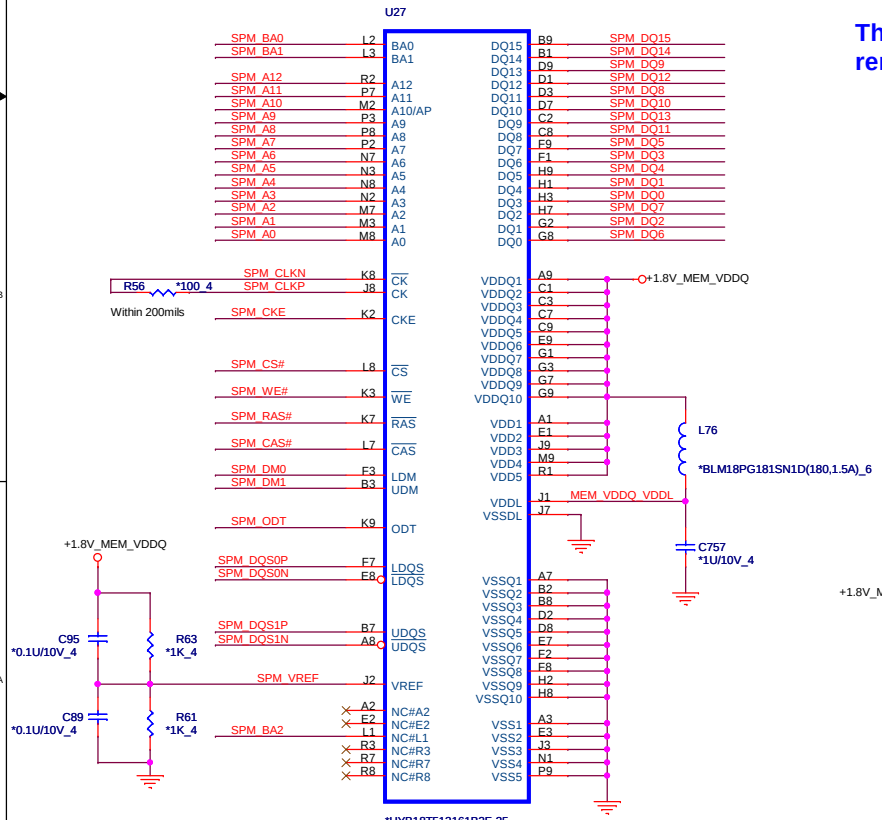
HT_CPU_NB_CAD_H[15..0] HT_CPU_NB_CAD_H[15..0] 3
HT_CPU_NB_CAD_L[15..0] HT_CPU_NB_CAD_L[15..0] 3
HT_CPU_NB_CLK_H[1..0] HT_CPU_NB_CLK_H[1..0] 3
HT_CPU_NB_CLK_L[1..0] HT_CPU_NB_CLK_L[1..0] 3
HT_CPU_NB_CTL_H[1..0] HT_CPU_NB_CTL_H[1..0] 3
HT_CPU_NB_CTL_L[1..0] HT_CPU_NB_CTL_L[1..0] 3
HT_NB_CPU_CAD_H[15..0] HT_NB_CPU_CAD_H[15..0] 3
HT_NB_CPU_CAD_L[15..0] HT_NB_CPU_CAD_L[15..0] 3
HT_NB_CPU_CLK_H[1..0] HT_NB_CPU_CLK_H[1..0] 3
HT_NB_CPU_CLK_L[1..0] HT_NB_CPU_CLK_L[1..0] 3
HT_NB_CPU_CTL_H[1..0] HT_NB_CPU_CTL_H[1..0] 3
HT_NB_CPU_CTL_L[1..0] HT_NB_CPU_CTL_L[1..0] 3

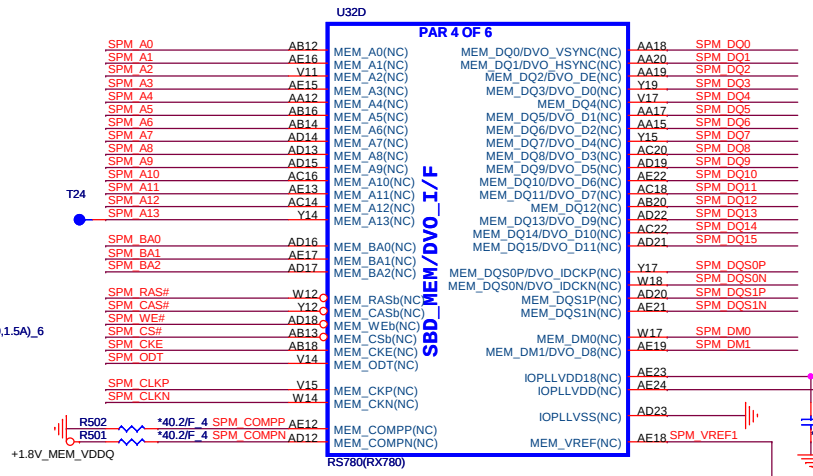
signals	RS780	RX780
HT_TXCALP	R641 301 ohm 1%	R641 1.21k ohm 1%
HT_TXCALN		
HT_RXCALP	R655 301 ohm 1%	R655 1.21k ohm 1%
HT_RXCALN		

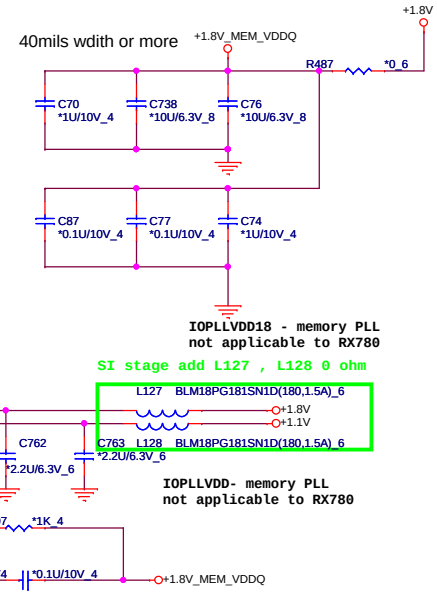
RES CHIP 1.21K 1/16W +-1%(0402)
P/N : CS21212FB18

RES CHIP 301 1/16W +-1%(0402)
P/N : CS13012FB14

This block is for UMA RS780 only , RX780 can remove all component





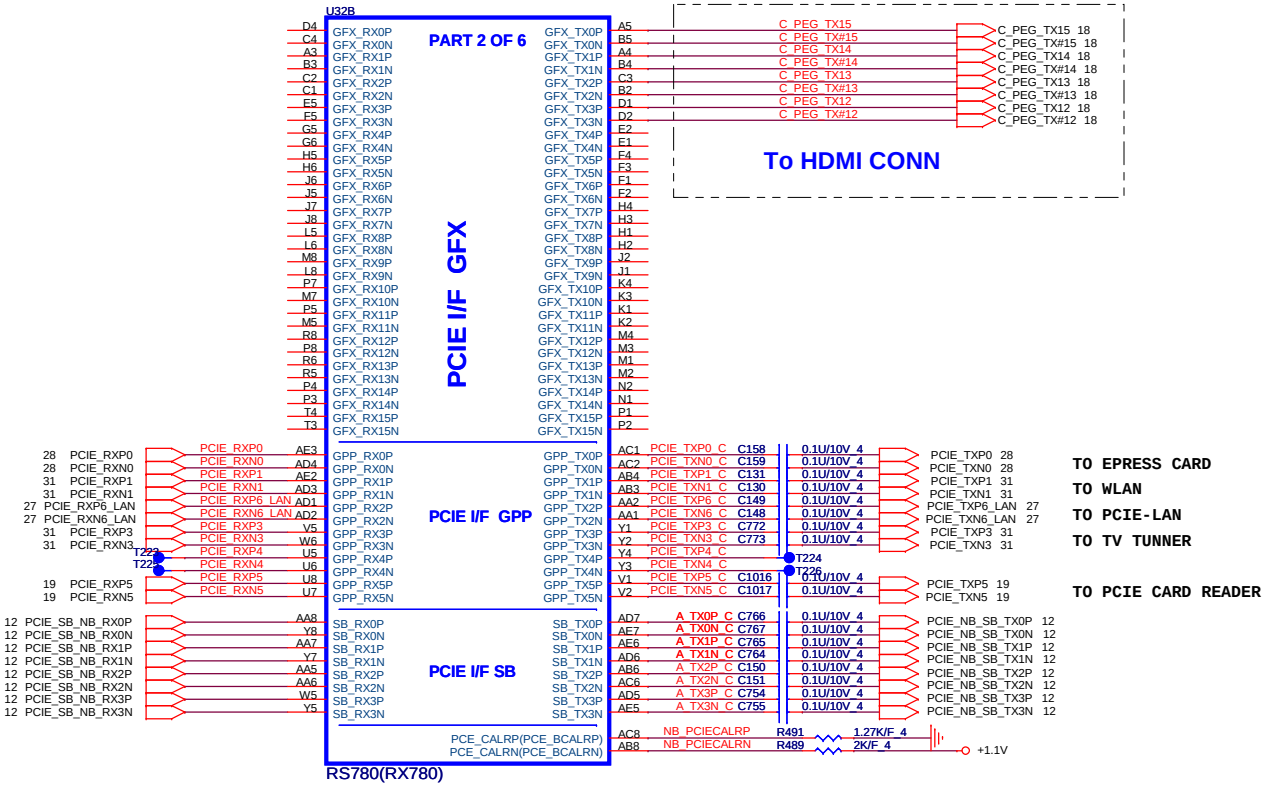


PROJECT : UT12
Quanta Computer Inc.

Size	Document Number	Rev
Custom	RS740/RS780-HT LINK I/F 1/5	1A

NB5

Date: Monday, November 10, 2008 Sheet 8 of 40



RX780/RS740/RS780 difference table (PCIE LINK)

	RS740	RX780/RS780
NB_PCIECALRP	562R (GND)	1.27K (GND)
GPP4	NC	GPP4
GPP5	NC	GPP5

RS780 Display Port Support (muxed on GFX)

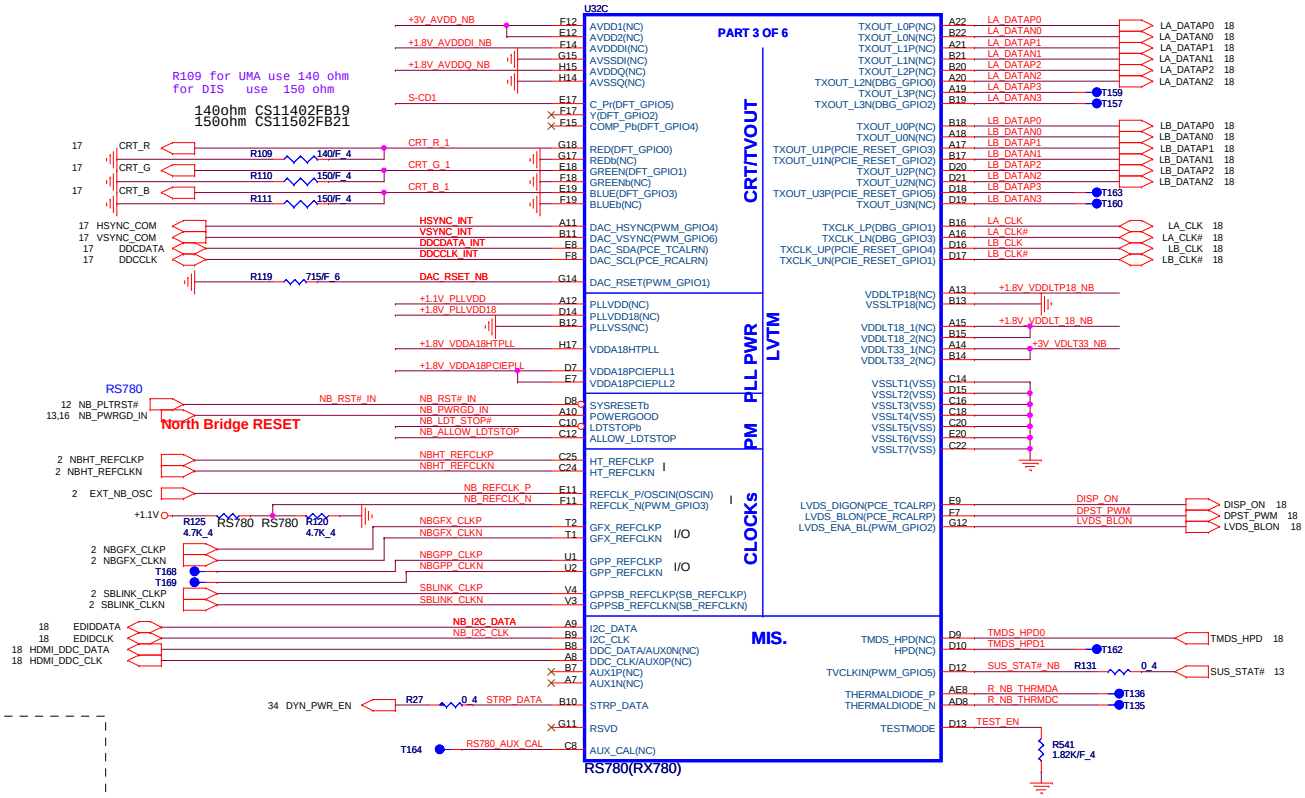
DP0	GFX_TX0,TX1,TX2 and TX3 AUX0 and HPD0
DP1	GFX_TX4,TX5,TX6 and TX7 AUX1 and HPD1

PROJECT : UT12
Quanta Computer Inc.

Size	Document Number	Rev
Custom	RS740/RS780-PCIE I/F 2/5	1A

Date: Monday, November 10, 2008 | Sheet 9 of 40

NB5



selects Loading of straps from EPROM
1 : use default vaule , default
0 : I2C Master can load strap values from EEPROM
if connected, or use default values if not connected
RX780 --RS780_AUX_CAL
RS780 -- SUS_ATAT

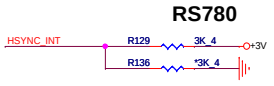
RX780

Enables Debug Bus acess through memory T/O pads and GPIO.
0 : Enable RS780 , Default
1 : Disable RS780
(RS780 use VSYNC#)

RS780

Indicates if memory Side port is available or not
0: available RS780 , Default
1: Not available RS780
(RS780 use HSYNC#)

RS780



For extrnal EEPROM Debug only

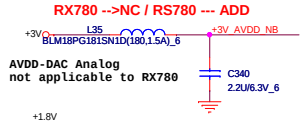
RS780/RX780

Enables Debug Bus acess through memory T/O pads and GPIO.
1 : Enable RX780 , Default
0 : Disable RX780

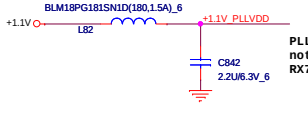
RX780

Reserved only

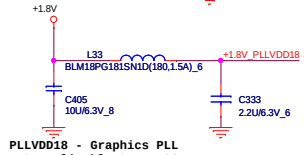
RX780 -->NC / RS780 --- ADD



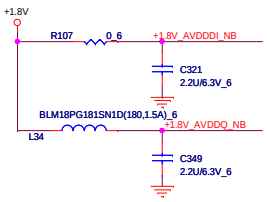
AVDD-DAC Analog
not applicable to RX780



PLLVDD - Graphics PLL
not applicable to RX780

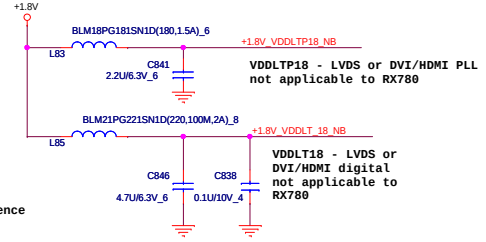


PLLVDD18 - Graphics PLL
not applicable to RX780



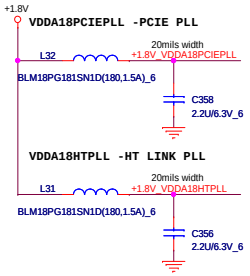
AVDDI-DAC Digital
not applicable to RX780

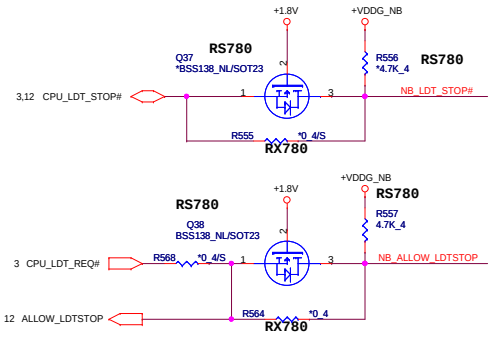
AVDDQ-DAC Bandgap Reference
not applicable to RX780

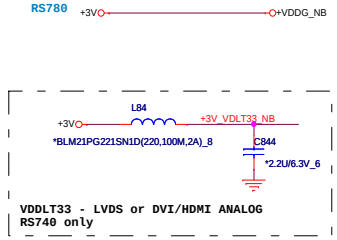


VDDLTP18 - LVDS or DVI/HDMI PLL
not applicable to RX780

VDDLT18 - LVDS or DVI/HDMI digital
not applicable to RX780







VDDLT33 - LVDS or DVI/HDMI ANALOG
RS740 only

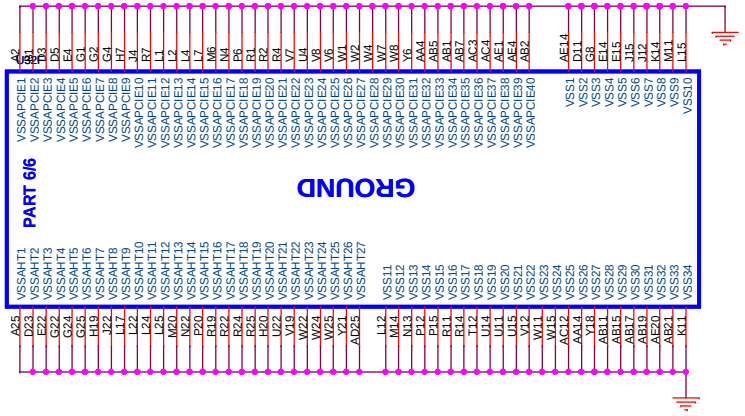
PROJECT : UT12
Quanta Computer Inc.

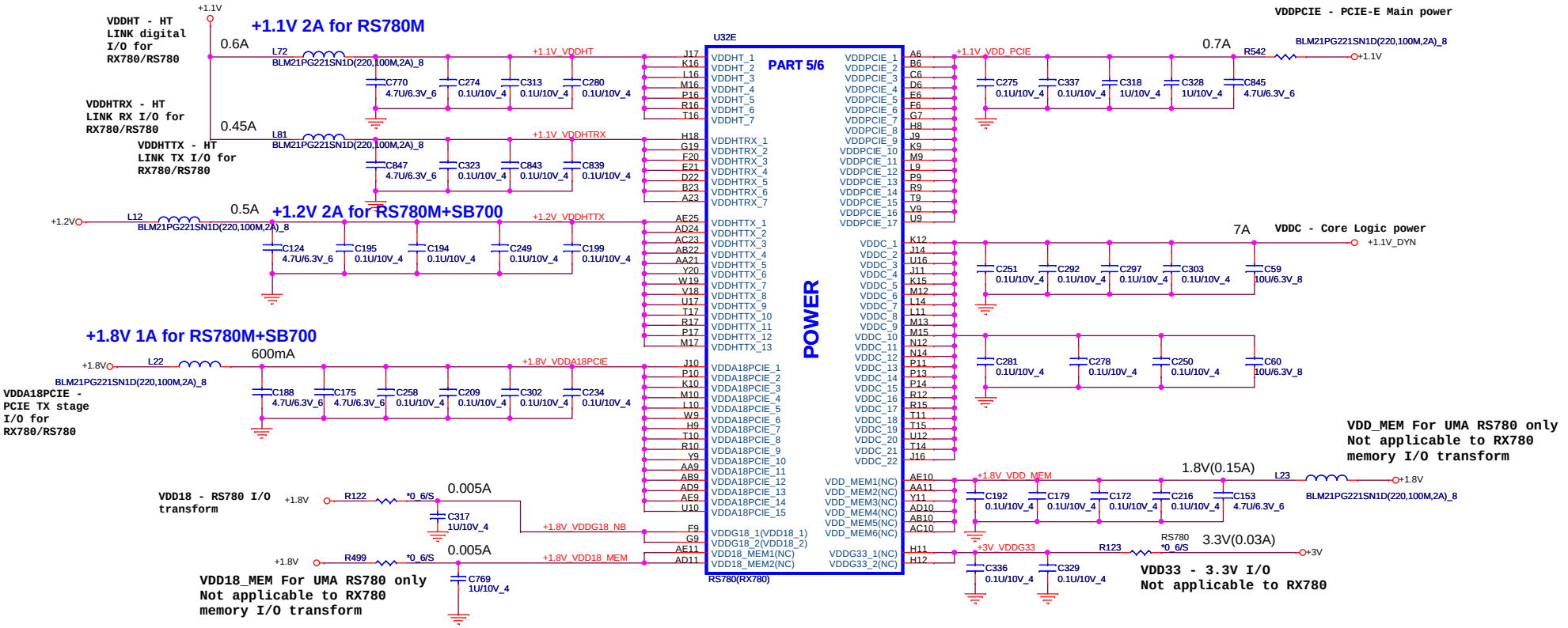
Size	Document Number	Rev
Custom	RS740/RS780-SYSTEM I/F 3/5	1A
Date: Monday, November 10, 2008	Sheet 10 of 40	

N85

RX780/RS780 POWER DIFFERENCE TABLE

PIN NAME	RX780	RS780	PIN NAME	RX780	RS780
VDDHT	+1.1V	+1.1V	IOPLLVDD	NC	+1.1V
VDDHTRX	+1.1V	+1.1V	AVDD	NC	+3.3V
VDDHTTX	+1.2V	+1.2V	AVDDDI	NC	+1.8V
VDDA18PCIE	+1.8V	+1.8V	AVDDQ	NC	+1.8V
VDDG18	+1.8V	+1.8V	PLLVDD	NC	+1.1V
VDD18_MEM	NC	+1.8V	PLLVDD18	NC	+1.8V
VDDPCIE	+1.1V	+1.1V	VDDA18PCIEPLL	+1.8V	+1.8V
VDDC	+1.1V	+1.1V	VDDA18HTPLL	+1.8V	+1.8V
VDD_MEM	NC	+1.8V/1.5V	VDDLTP18	NC	+1.8V
VDDG33	NC	+3.3V	VDDLT18	NC	+1.8V
IOPLLVDD18	NC	+1.8V	VDDLT33	NC	NC





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PROJECT : UT12
Quanta Computer Inc.

Size	Document Number	Rev
Custom	RS740/RS780-POWER5/5	1A

Date: Monday, November 10, 2008 | Sheet 11 of 40

NB5

PLACE THESE
PCIE AC
COUPLING CAPS
CLOSE TO U600

To RS780

U37A
SB700
Part 1 of 5

PCIE_PVDD-- PCIE PLL POWER

40mA

100MHZ

FOR A13 chip

L18 pin 3.3V level
FOR A14 chip

FOR A12 chip

J21 pin
1.25V
level

All the PCI bus has
build-in Pull-UP/Down
resistors

INTRUDER_ALERT# Left not connected (Southbridge has 50-kohm internal pull-up to VBAT).

SB700
IC CTRL(528P) SB700 A11(218S7EALA11FG)
P/N : AJALA110T00

PROJECT : UT12
Quanta Computer Inc.

Size	Document Number	Rev
Custom	SB700-PCIE/PCI/CPU/LPC 1/4	1A

Date: Monday, November 10, 2008 | Sheet 12 of 40

NC only ,Can't be install

+3VSUS
R297 *2.2K_4 SB_TEST0
R240 *2.2K_4 SB_TEST1
R287 *2.2K_4 SB_TEST2

+3VSUS
R289 *10K/F_4 SWI#

+3V SCL0/SDATA0 is 3V tolerance
AMD datasheet define it
R245 2.2K_4 PCLK_SMB
R253 2.2K_4 PDAT_SMB

Clock gen/Robson/TV tuner /DDR2/DDR2 thermal/Accelerometer

+3VS5 SCL1/SDATA1 is 3V/S5 tolerance
AMD datasheet define it
R648 10K/F_4 SB_SMBCLK1
R649 10K/F_4 SB_SMBDATA1

remove pull hi
(chip internal
have pull hi)

+3VS5 SCL2/SDATA2 is 3V/S5 tolerance
AMD datasheet define it
R222 10K/F_4 SB_SCLK2
R227 10K/F_4 SB_SDATA2

+3V
R276 4.7K_4 SUS_STAT#
R349 *0_4 SYS_RST#

+3VS5
R763 2.2K_4 DNBSWON#

To Azalia

ACZ_SDOUT R644 33_4 → ACZ_SDOUT_AUDIO 21 (C908 *10P/50V_4)
ACZ_SYNC R290 33_4 → ACZ_SYNC_AUDIO 21 (C569 *10P/50V_4)
ACZ_BCLK R646 33_4 → BIT_CLK_AUDIO 21 (C910 10P/50V_4)
ACZ_RST# R296 33_4 → ACZ_RST#_AUDIO 21
ACZ_SDIN0_R → ACZ_SDIN0 21

To Modem Board

ACZ_SDOUT R645 33_4 → ACZ_SDOUT_AUDIO_MDC 24 (C909 *10P/50V_4)
ACZ_SYNC R292 33_4 → ACZ_SYNC_AUDIO_MDC 24 (C577 *10P/50V_4)
ACZ_BCLK R647 33_4 → BIT_CLK_AUDIO_MDC 24 (C911 10P/50V_4)
ACZ_RST# R293 33_4 → ACZ_RST#_AUDIO_MDC 24
ACZ_SDIN1_R → ACZ_SDIN1 24

28 NEWCARD_DETECT → NEWCARD_DETECT R283 0_4 NEWCARD_DETECT_R
T211, T99 → RI#, SLP_S2
30 SUSB# R271 *0_4/S SUSB#
30 SUSC# R191 *0_4/S SUSC#
30 DNBSWON# R233 *0_4/S DNBSWON#
16 SB_PWRGD_IN → SB_PWRGD_IN
10 SUS_STAT# → SUS_STAT#
SB_TEST2, SB_TEST1, SB_TEST0
30 GATEA20 → GATEA20
30 RCIN# → RCIN#
30 SCI# → SCI#
30 KBSMI# → KBSMI#
T109 → GEVENT5#
SYS_RST#
27,31 PCIE_WAKE# R307 0_4 PCIE_WAKE#_R
30 SWI# R211 *0_4/S SWI#
3 CPU_THERMTRIP# R786 0_4 SB_THERMTRIP#
10,16 WD_PWRGD → WD_PWRGD
30 RSMRST# R284 *0_4/S RSMRST#

T63, T194 → SATA_IS1
27,30 LAN_DISABLE# R217 *0_4 LAN_DISABLE#_SB
T222 → SB_NWD_CLK_REQ#
21,22 ACZ_SPKR R302 *0_4/S ACZ_SPKR
2,6,7,22,31 PCLK_SMB → PCLK_SMB
2,6,7,22,31 PDAT_SMB → PDAT_SMB
SB_SMBCLK1, SB_SMBDATA1
T69, T75 → PM_BATLOW#, SES_INT
30 PM_BATLOW#
T72 → 19 D3E_SCI#

3,7 CPU_MEMHOT# R275 *0_4 SMBALERT#_1
5 PM_THERM# R279 10K/F_4 +3VS5
CPU_MEMHOT#_IN
28 NEWCARD_WAKE# R285 *0_4 NEWCARD_WAKE#_R
SB_JTAG_TDO, SB_JTAG_TCK, SB_JTAG_TDI, SB_JTAG_RST#

R246, R249, R254, R308 10K/F_4 → ACZ_SDIN0_R, ACZ_SDIN1_R, ACZ_SDIN2_R, ACZ_SDIN3_R
ACZ_SYNC, ACZ_RST#
16 ACZ_RST#

HD audio interface is 3.3S5 voltage

U37D

SB700

Part 4 of 5

PCI_PME#/GEVENT4#
RI#/EXTEVNT0#
SLP_S2/GPM9#
SLP_S3#
SLP_S5#
PWR_BTN#
PWR_GOOD
SUS_STAT#
TEST2
TEST1
TEST0
GA20IN/GEVENT0#
KBRST#/GEVENT1#
LPC_PME#/GEVENT3#
LPC_SMI#/EXTEVNT1#
S3_STATE/GEVENT5#
SYS_RESET#/GPM7#
WAKE#/GEVENT8#
BLINK/GPM6#
SMBALERT#/THRMTRIP#/GEVENT2#
NB_PWRGD
RSMRST#

ACPI / WAKE UP EVENTS

SATA_IS0#/GPIO10
CLK_REQ3#/SATA_IS1#/GPIO6
SMARTVOLT/SATA_IS2#/GPIO4
CLK_REQ0#/SATA_IS3#/GPIO0
CLK_REQ1#/SATA_IS4#/FANOUT3/GPIO39
CLK_REQ2#/SATA_IS5#/FANIN3/GPIO40
SPKR/GPIO2
SCL0/GPOC0#
SDA0/GPOC1#
SCL1/GPOC2#
SDA1/GPOC3#
DDC1_SCL/GPIO9
DDC1_SDA/GPIO8
LLB#/GPIO66
SHUTDOWN#/GPIO5
DDR3_RST#/GEVENT7#

GPIO

USB_OC6#/IR_TX1/GEVENT6#
USB_OC5#/IR_TX0/GPM5#
USB_OC4#/IR_RX0/GPM4#
USB_OC3#/IR_RX1/GPM3#
USB_OC2#/GPM2#
USB_OC1#/GPM1#
USB_OC0#/GPM0#

USB OC

AZ_BITCLK
AZ_SDOUT
AZ_SDIN0/GPIO42
AZ_SDIN1/GPIO43
AZ_SDIN2/GPIO44
AZ_SDIN3/GPIO46
AZ_SYNC
AZ_RST#
AZ_DOCK_RST#/GPM8#

HD AUDIO

IMC_GPIO0
IMC_GPIO1
SPI_CS2#/IMC_GPIO2
IDE_RST#/F_RST#/IMC_GPO3
IMC_GPIO4
IMC_GPIO5
IMC_GPIO6
IMC_GPIO7

INTEGRATED uC

USBCLK/14M_25M_48M_OSC ← C8 CLK_48M_USB ← CLK_48M_USB 2
USB_RCOMP ← G8 USB_RCOMP_SB R267 11.8K/F_6

USB MISC

USB_FSD13P E6
USB_FSD13N E7
USB_FSD12P E7 → USB_FSD12P → T91
USB_FSD12N E8 → USB_FSD12N → T93

USB 1.1

USB_HSD11P H11 → USBP11+ 31 — TV Min-Card
USB_HSD11N J10 → USBP11- 31
USB_HSD10P E11 → USBP10+ 31 — WLAN Min-Card
USB_HSD10N F11 → USBP10- 31
USB_HSD9P A11 → USBP9+ 25 — BLUETOOTH
USB_HSD9N B11 → USBP9- 25
USB_HSD8P C10 → USBP8+ 25 — USB Connector
USB_HSD8N D10 → USBP8- 25
USB_HSD7P G11 → USBP7+ 28 — NEW CARD
USB_HSD7N H12 → USBP7- 28
USB_HSD6P E12 → USBP6+ 25 — FINGERPRINT
USB_HSD6N E14 → USBP6- 25
USB_HSD5P C12 → USBP5+ 25 — USB Connector
USB_HSD5N D12 → USBP5- 25
USB_HSD4P B12 → USBP4+ 32 — Docking
USB_HSD4N A12 → USBP4- 32
USB_HSD3P G12 → USBP3+ 20 — USB card reader or Touch screen
USB_HSD3N G14 → USBP3- 20
USB_HSD2P H14 → USBP2+ 25 — Carama USB
USB_HSD2N H15 → USBP2- 25
USB_HSD1P A13 → USBP1+ 25 — E-SATA and USB Connector
USB_HSD1N B13 → USBP1- 25
USB_HSD0P B14 → USBP0+ 25 — USB Connector
USB_HSD0N A14 → USBP0- 25

USB 2.0

IMC_GPIO8 A18
IMC_GPIO9 B18
IMC_PWM0/IMC_GPIO10 F21
SCL2/IMC_GPIO11 D21 → SB_SCLK2
SDA2/IMC_GPIO12 F19 → SB_SDATA2
SCL3_LV/IMC_GPIO13 E20 → SB_SCLK3
SDA3_LV/IMC_GPIO14 F21 → 5158_RST_R# → T64 → 5158_RST_R# 20
IMC_PWM1/IMC_GPIO15 E19
IMC_PWM2/IMC_GPIO16 D19 → SB_GPIO16 → SB_GPIO16 16
IMC_PWM3/IMC_GPO17 E18 → SB_GPIO17 → SB_GPIO17 16 SPI/LPC define

IMC_GPIO18 G20
IMC_GPIO19 G21
IMC_GPIO20 D25
IMC_GPIO21 D24
IMC_GPIO22 C25
IMC_GPIO23 C24
IMC_GPIO24 B25
IMC_GPIO25 C23
IMC_GPIO26 B24
IMC_GPIO27 B23
IMC_GPIO28 A23
IMC_GPIO29 C22
IMC_GPIO30 A22
IMC_GPIO31 B22
IMC_GPIO32 B21
IMC_GPIO33 A21
IMC_GPIO34 D20
IMC_GPIO35 C20
IMC_GPIO36 A20
IMC_GPIO37 B20
IMC_GPIO38 B19
IMC_GPIO39 A19
IMC_GPIO40 D18
IMC_GPIO41 C18

CLK_48M_USB → C554 *2.2P/50V_4

for EMI & del R268 change 2.2P

+3VS5 R764 2K/04 +3V
28 SCLK_WLAN → Q66 2N7002EPT → PCLK_SMB
+3VS5 R765 2K/04 +3V
28 SDATA_WLAN → 2N7002EPT Q67 → PDAT_SMB

CN16 +3VSUS C462 10P/50V_4
SB_JTAG_TCK, SB_JTAG_TDO, SB_JTAG_TDI, SB_TEST1, SB_JTAG_RST#
SB JTAG
*S/W JTAG DEBUG

NB5	**PROJECT : UT12** Quanta Computer Inc.	
Size Custom	Document Number **SB700-ACPI/GPIO/USB 2/4**	Rev 1A
Date: Monday, November 10, 2008	Sheet 13 of 40	

SATA PORT 0,1,2,3 can support AHCI mode

PLACE SATA AC COUPLING CAPS CLOSE TO SB600

SATA1

SATA ODD

E-SATA

SATA HDD2

SATA PORT 4,5 are only support IDE mode

U37B

SB700

Part 2 of 5

SERIAL ATA

ATA 66/100/133

SPI ROM

SATA PWR

HW MONITOR

SB700

IF THERE IS NO IDE, TEST POINTS FOR DEBUG BUS IS MANDATORY

SIDE_PORT_ID1	SIDE_PORT_ID0	
0	0	Samsung
0	1	Qimonda
1	0	Hynix
1	1	no supprot side port

PLACE SATA_CAL RES VERY CLOSE TO BALL OF SB700

NOTE:

R361 IS 1K 1% FOR 25MHz XTAL, 4.99K 1% FOR 100MHz INTERNAL CLOCK

PLVDD_SATA-- SATA PLL POWER

XTLVDD_SATA-- SATA crystal power

AVDD--H/W monitor Analog power

5mA

1mA

77mA

(1.2V @ 60mA)

(3.3V @ 1.2mA)

SI stage remove C548 , C551

Place near ball

ID3	ID2	ID1	ID0	
0	0	0	0	UT1 UMA
0	0	0	1	UT2 UMA
0	0	1	0	UT1 M92
0	0	1	1	UT2 M92
0	1	0	0	UT1 M96
0	1	0	1	UT2 M96
0	1	1	0	
0	1	1	1	

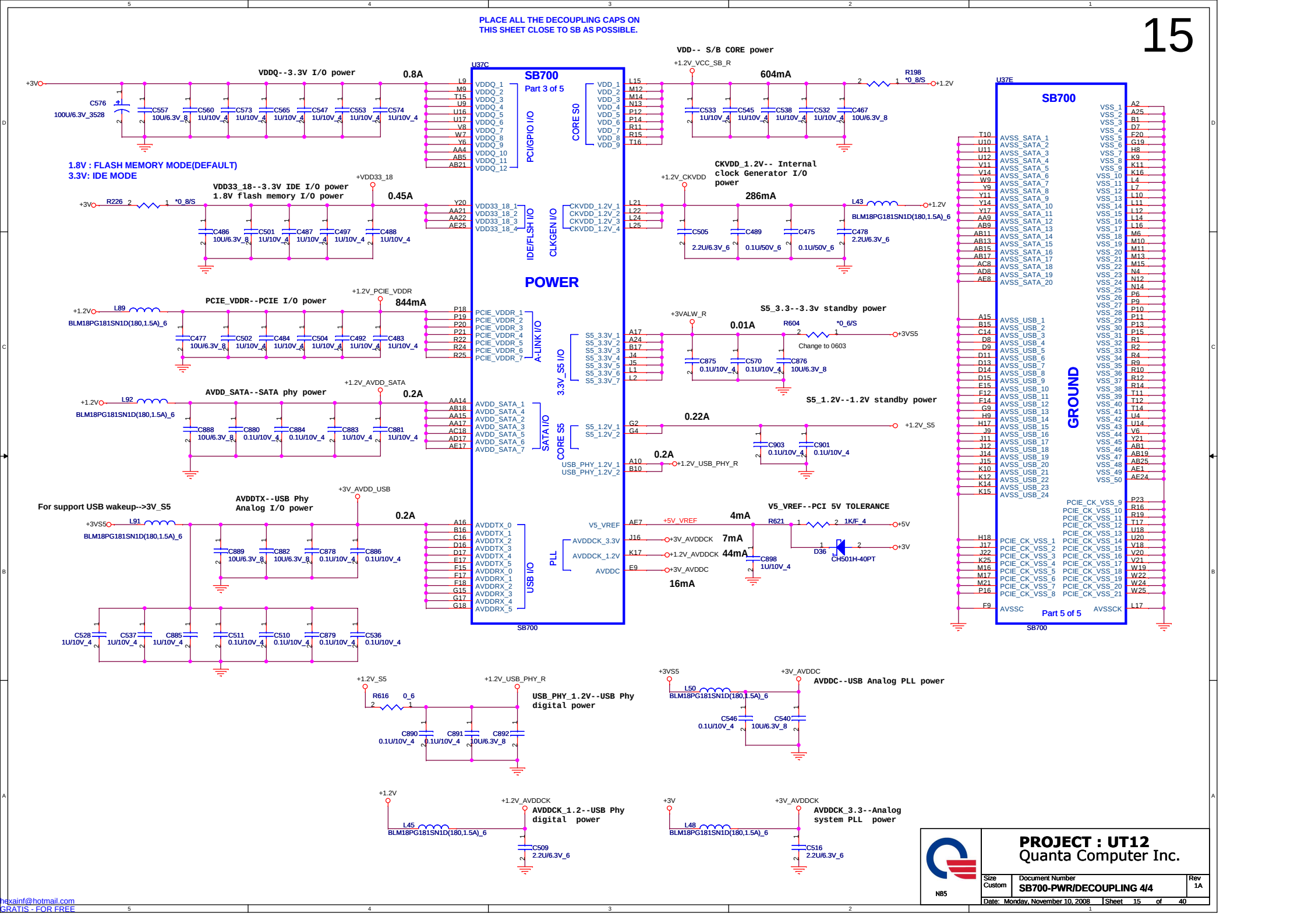
PROJECT : UT12
Quanta Computer Inc.

NB5

Size: Custom | Document Number: SB700-ACPI/GPIO/USB 2/4 | Rev: 1A

Date: Monday, November 10, 2008 | Sheet 14 of 40

PLACE ALL THE DECOUPLING CAPS ON
THIS SHEET CLOSE TO SB AS POSSIBLE.



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PROJECT : UT12
Quanta Computer Inc.

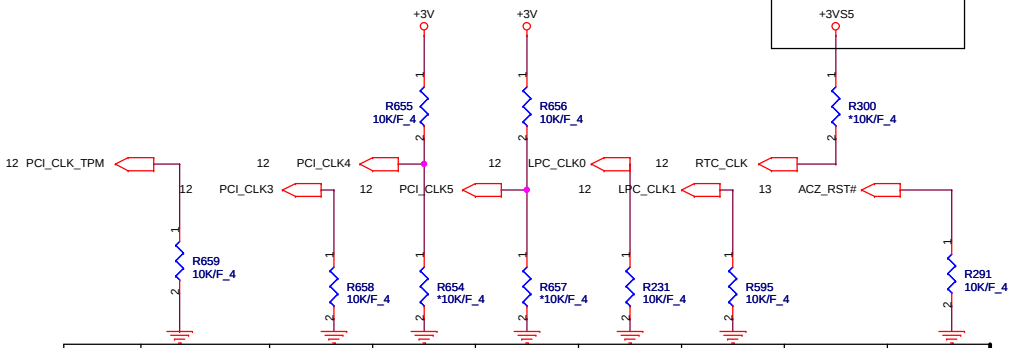
Size	Document Number	Rev
Custom	SB700-PWR/DECOUPLING 4/4	1A

Date: Monday, November 10, 2008 | Sheet 15 of 40

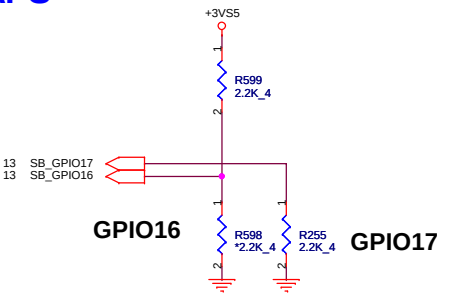
OVERLAP COMMON PADS WHERE POSSIBLE FOR DUAL-OP RESISTORS.

It must ready refore RSMRST#

REQUIRED STRAPS



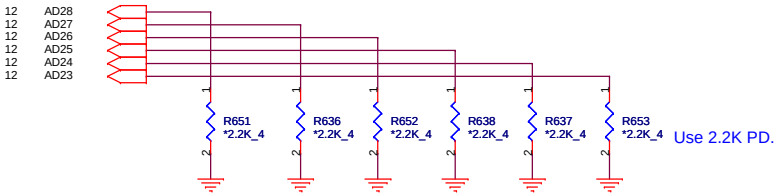
	PCI_CLK_TPM	PCI_CLK3	PCI_CLK4	PCI_CLK5	LPC_CLK0	LPC_CLK1	RTC_CLK	AZ_RST#
PULL HIGH	BOOTFAIL TIMER ENABLED	USE DEBUG STRAPS	RESERVED	RESERVED	IMC ENABLED	CLKGEN ENABLED	INTERNAL RTC DEFAULT	ENABLE PCI ROM BOOT
PULL LOW	BOOTFAIL TIMER DISABLED DEFAULT	IGNORE DEBUG STRAPS DEFAULT			IMC DISABLED DEFAULT	CLKGEN DISABLED DEFAULT	EXT. RTC (PD on X1, apply 32KHz to RTC_CLK)	DISABLE PCI ROM BOOT DEFAULT



TYPE	GPIO16	GPIO17
FWH	L : 2.2K pull down	L : 2.2K pull down
LPC	NC	L : 2.2K pull down
SPI	L : 2.2K pull down	NC
RSVD	NC	NC

DEBUG STRAPS

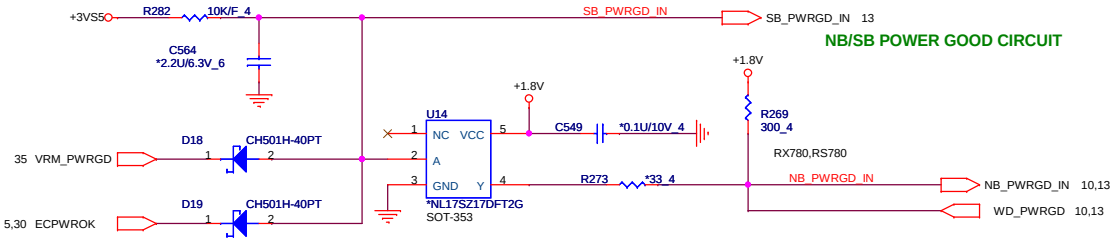
SB700 HAS 15K INTERNAL PU FOR PCI_AD[28:23]



Use 2.2K PD.

	PCI_AD28	PCI_AD27	PCI_AD26	PCI_AD25	PCI_AD24	PCI_AD23
PULL HIGH	USE LONG RESET DEFAULT	USE PCI PLL DEFAULT	USE ACPI BCLK DEFAULT	USE IDE PLL DEFAULT	USE DEFAULT PCIE STRAPS DEFAULT	RESERVED
PULL LOW	USE SHORT RESET	BYPASS PCI PLL	BYPASS ACPI BCLK	BYPASS IDE PLL	USE EEPROM PCIE STRAPS	

NB_PWRGD_IN:
RS780/RX780 = 1.8V; RS740 = 3.3V
Do NOT share it with SB_PWRGD when use Internal Clk Gen
(Need SB PLL initialize firstly)



AL17SZ17000	IC(5P) NL17SZ17DFT2G(SOT-353)	SOT-353
ALUC1G17000	IC OTHER(5P) SN74AUC1G17DBVR(SOT23-5)	SOT23-5

NB5

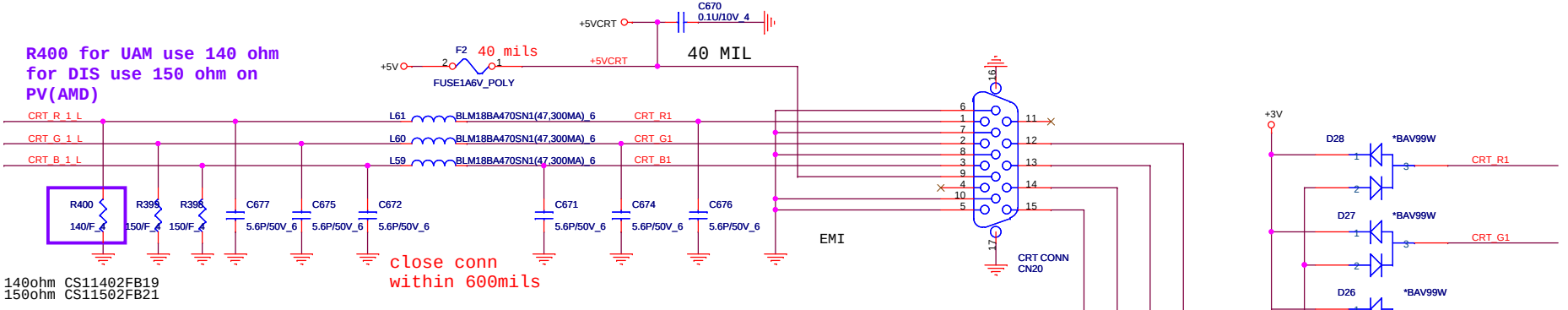
PROJECT : UT12
Quanta Computer Inc.

Size	Document Number	Rev
Custom	SB700-STRAPS	1A

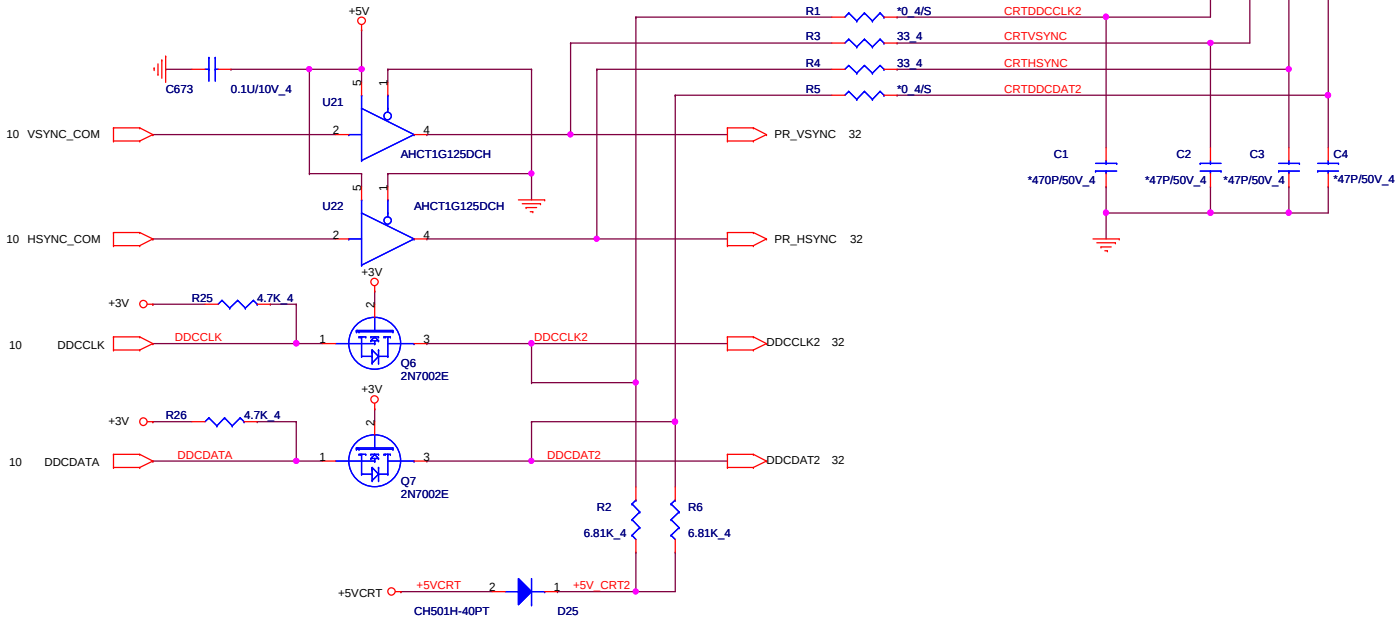
Date: Monday, November 10, 2008 | Sheet 16 of 40

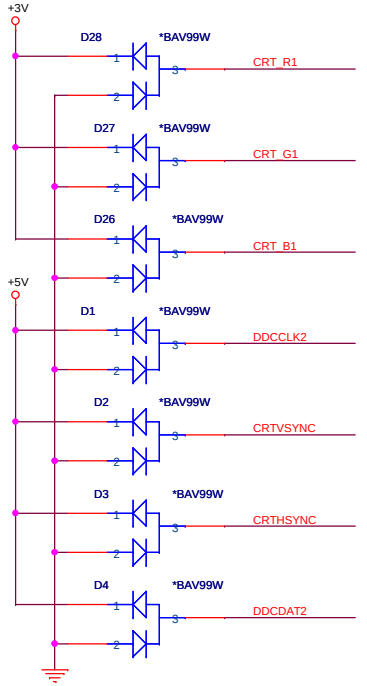
CRT PORT

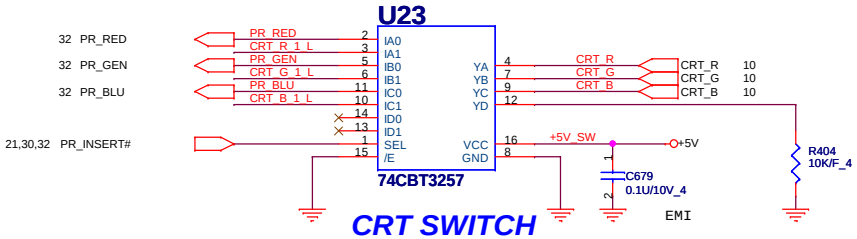
R400 for UAM use 140 ohm
for DIS use 150 ohm on
PV(AMD)



140ohm CS11402FB19
150ohm CS11502FB21



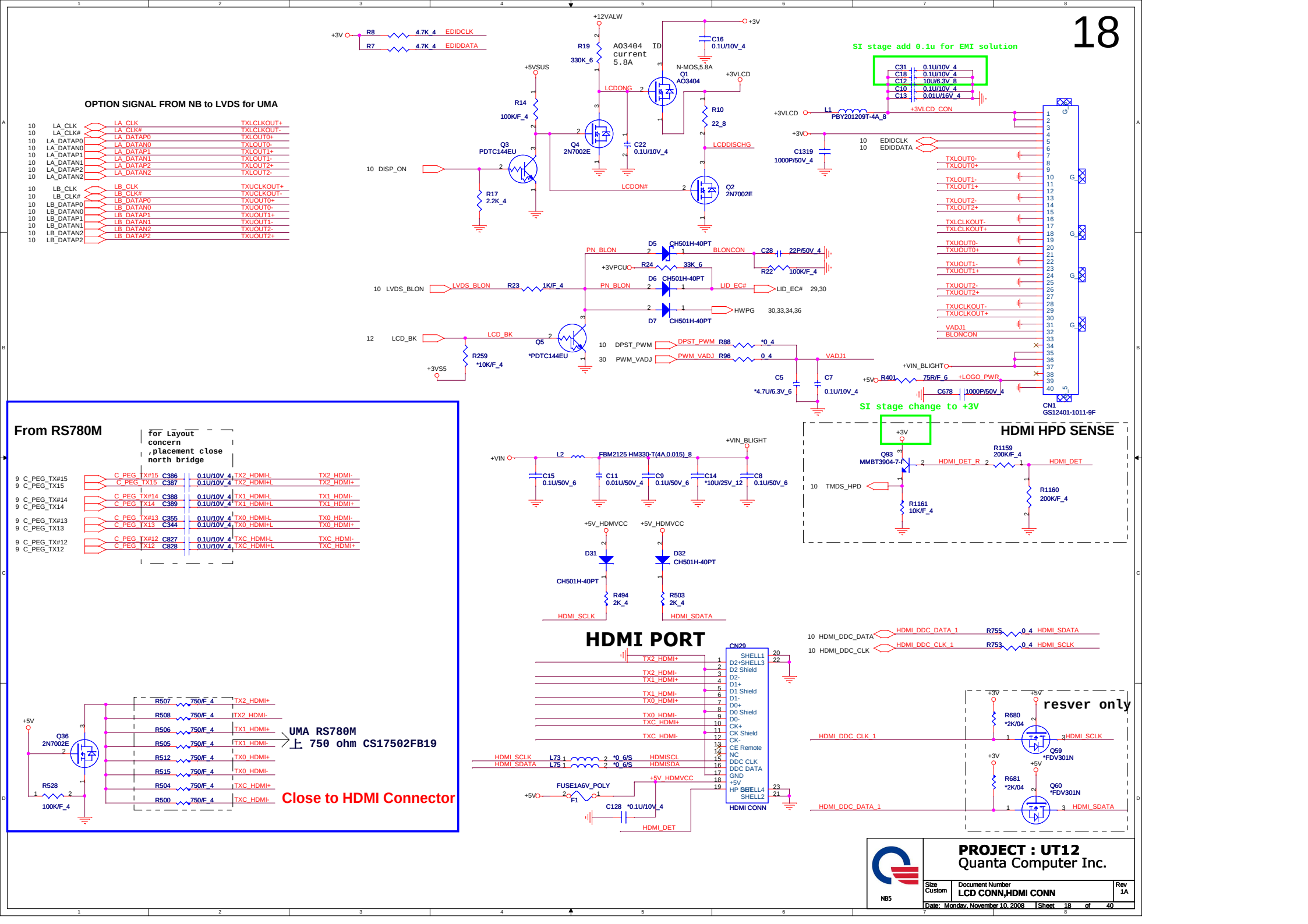




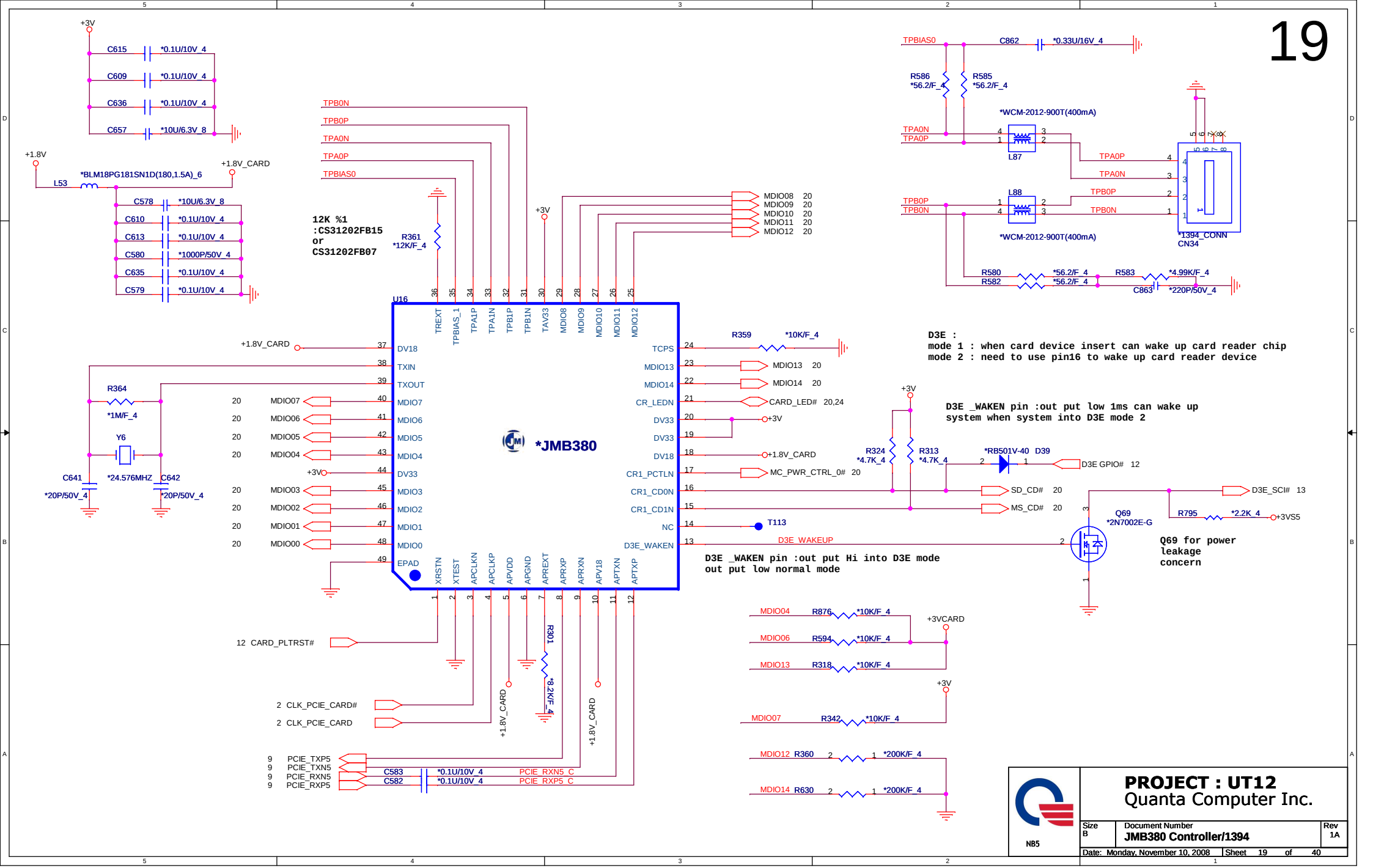
CRT SWITCH

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

NB5	PROJECT : UT12 Quanta Computer Inc.	
Size: Custom	Document Number: CRT	Rev: 1A
Date: Monday, November 10, 2008	Sheet 17 of 40	



PROJECT : UT12	
Quanta Computer Inc.	
Size: Custom	Document Number: LCD CONN,HDMI CONN
Rev: 1A	
Date: Monday, November 10, 2008	Sheet 18 of 40
N85	



PROJECT : UT12
Quanta Computer Inc.

Size	Document Number	Rev
B	JMB380 Controller/1394	1A

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NB5

For 5158E/5159

2 CLK_48M_CR — R397 0_4 — XTLO

+3VSUS — R321 100K/F_4

19,24 CARD_LED# — R320 0_4 — CARD_LED0

U19

CF_CD# (14) GPIO0 (13) CF_D10 (15) CF_D9 (16) CF_D2 (17) CF_D8/SM_CD# (18) CF_D1/XD_CD# (19) CF_D0/SM_WPM#/SD_WP (20) CF_A0/SD_CD# (21) CF_DMACK# (22) CF_A1/XD_D4/SD_DAT1 (23) CF_DMARQ (24)

XD_CD# — SP2 — SD_CD# — SP4

R362 6.19K/F_4 — RREF (2)

13 USBP3- — DM (4)
13 USBP3+ — DP (5)

C665 *5.6P/50V_4 — XTLO (48)
R395 *270K_4
*12MHz — Y5
C668 *5.6P/50V_4 — XTLI (47)

only For 5158

MODE_SEL (45)
R394 0_4

+3VSUS — R667 100K/F_4 — 5158_RST# — C925 1U/10V_4 — RST# (44)

RTS5158E 時, R394=NC
RTS5159時, R394 = short

RTS5159

XD_CLE/CF_D3 (43) — SP19
XD_CE#/CF_D11 (42) — SP18
XD_ALE/CF_D4 (41) — SP17

SD_DAT2/XD_RE#/CF_D12 (40) — SP16
SD_DAT3/XD_WE#/CF_D5 (39) — SP15
XD_RDY/CF_D13 (38) — SP14
SD_DAT4/XD_WP#/CF_D6 (37) — SP13

SD_CMD_R (36) — SP11
SD_CMD (35) — SP12
SD_DAT5/XD_D0/CF_D14 (34) — SP11
SD_CLK/XD_D1/MS_CLK/CF_D7 (33) — SP10
SD_DAT6/XD_D7/MS_D3/CF_D15 (31)
CF_CS0# (30)
MS_CD# (29)
MS_INS#/CF_IORD# (28) — SP8
SD_DAT7/XD_D2/MS_D2/CF_IOWR# (27) — SP7
SD_DAT0/XD_D6/MS_D0/CF_RST# (26) — SP6
XD_D3/MS_D1/CF_IORDY (25) — SP5
XD_D5/MS_BS/CF_A2

AV_PLL_IN (1) — C647 0.1U/10V_4 — C918 1U/10V_4

VREG_OUT (10) — VREG
D3V3_IN. (8)
A3V3_ IN (3)
D3V3_ IN (33)

C634 0.1U/10V_4 — C633 0.1U/10V_4 — C593 0.1U/10V_4 — C598 4.7U/6.3V_6 — +3VSUS

D3V3_OUT (11) — C612 0.1U/10V_4 — C589 4.7U/6.3V_6 — +3VSUS

A3V3_OUT (7) — +3VSUS

CARD_3V3_OUT (9) — +3VCARD

AG33 (6) — C629 1U/10V_4
AG_PLL (46)
DGND2 (32) — C624 0.1U/10V_4 — C917 0.1U/10V_4
DGND1 (12)

+3VCARD — C628 0.1U/10V_4 — C618 0.1U/10V_4 — C617 0.1U/10V_4

AL005158B10 -->RTS5158E
???? -->RTS5159

Note:

	SD/MMC	MS	XD
SP1			XD_CD#
SP2	SD_WP		
SP3	SD_CD#		
SP4	SD_DAT1		XD_D4
SP5		MS_BS	XD_D5
SP6		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

SP7	R315 0_4	MS_DATA0_SD_DAT0
	R316 0_4	XD-D6
SP6	R334 0_4	MS_DATA1
	R338 0_4	XD-D3
SP8	R345 0_4	MS_DATA2_XD_D2
SP16	R666 0_4	SD_DAT2
	R676 0_4	XD-RE#
SP5	R327 0_4	MS_BS
	R335 0_4	XD-D5
SP15	R675 0_4	SD_DAT3
	R390 0_4	XD_WE
SP11	R354 0_4	SD_CLK_MS_CLK
	R358 0_4	XD-D1
SP2	R319 0_4	SD_WP
SP13	R677 0_4	XD-WP#
SP19	R393 0_4	XD-CLE
SP4	R317 0_4	XD-D4
SP10	R351 0_4	MS_DATA3
	R348 0_4	XD-D7
SP14	R389 0_4	XD-RB#
SP12	R369 0_4	XD-D0
SP17	R391 0_4	XD-ALE
SP18	R392 0_4	XD-CE#
SD_CMD_R	R372 0_4	SD_CMD
SP4	R333 0_4	SD_DAT1

*CH501H-40PT
D23 1 2 MS_CD#
XD_CD# — D24 1 2 SD_CD#
*CH501H-40PT
C873 *270P/25V_4
for Jmicron only

5158_RST# 2 — CH501H-40PT — 1 5158_RST_R# — 5158_RST_R# 13
D49
for RT5158/RT5158E/5159only

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

C905 *270P/25V_4

+3VCARD — R678 *10K/F_4 — XD-WP#

CN36 — 5IN1 CARD READER SOCKET

XD-R/B	1	37	GND
XD-RE	2	38	GND
XD-CE	3	40	GND
XD-CLE	4	42	GND
XD-ALE	5	43	GND
XD-WE	6		
XD-WP	7	39	SD-C/D
XD-DATA0	8	36	SD-CD-SW
XD-DATA1	9	41	SD-W/P
XD-DATA2	10	35	SD-WP-SW
XD-DATA3	11	34	XD-CD
SD-CMD	12	33	XD-VCC
GND	13	32	XD-DATA7
MS-VCC	14	31	XD-DATA6
MS-SDLK	15	30	XD-DATA5
MS-DATA3	16	29	XD-DATA1
MS-INS	17	28	XD-DATA4
MS-DATA2	18	27	XD-DATA3
MS-DATA0	19	26	XD-DATA2
MS-DATA1	20	25	XD-DATA0
MS-BS	21	24	SD-CLK
GND	22	23	SD-VCC

XD-RB# XD-RE# XD-CE# XD-CLE XD-ALE XD_WE XD-WP# XD-D0 XD-D1 SD_DAT2 SD_DAT3 SD_CMD SD_CLK_MS_CLK MS_DATA3 MS_CD# MS_DATA2_XD_D2 MS_DATA0_SD_DAT0 MS_DATA1 MS_BS

SD_CD# SD_CD# SD_WP SD_WP XD_CD# XD-D7 XD-D6 XD-D5 XD-D4 XD-D3 MS_DATA2_XD_D2 MS_DATA0_SD_DAT0 SD_CLK_MS_CLK

19 MS_CD# — MS_CD#

SD_CD# (19)

CN42 — *TAI TWUM 5IN1 CARD READER SOCKET

xD-R/B	1	37	GND
xD-RE	2	38	GND
xD-CE	3	41	GND
xD-CLE	4	42	GND
xD-ALE	5		
xD-WE	6	40	NC
xD-WP	7	39	NC
xD-D0	8		
xD-D1	9	36	SD-CD
SD-DAT2	10	35	SD-WP
SD-DAT3	11	34	xD-CD
SD-CMD	12	33	xD-VCC
GND	13	32	xD-D7
MS-VCC	14	31	xD-D6
MS-SDLK	15	30	xD-D5
MS-DATA3	16	29	SD-DAT1
MS-INS	17	28	xD-D4
MS-DATA2	18	27	xD-D3
MS-DATA0	19	26	xD-D2
MS-DATA1	20	25	SD-DAT0
MS-BS	21	24	SD-CLK
GND	22	23	SD-VCC

XD-RB# XD-RE# XD-CE# XD-CLE XD-ALE XD_WE XD-WP# XD-D0 XD-D1 SD_DAT2 SD_DAT3 SD_CMD SD_CLK_MS_CLK MS_DATA3 MS_CD# MS_DATA2_XD_D2 MS_DATA0_SD_DAT0 MS_DATA1 MS_BS

SD_CD# SD_WP XD_CD# XD-D7 XD-D6 XD-D5 SD_DAT1 XD-D4 XD-D3 MS_DATA2_XD_D2 MS_DATA0_SD_DAT0 SD_CLK_MS_CLK

MDIO00 — R611 *0_4 — MS_DATA0_SD_DAT0
MDIO01 — R623 *0_4 — XD-D0
R608 *0_4 — SD_DAT1
R610 *0_4 — MS_DATA1
R622 *0_4 — XD-D1
MDIO02 — R612 *0_4 — MS_DATA2_XD_D2
R620 *0_4 — SD_DAT2
MDIO03 — R614 *0_4 — MS_DATA3
R619 *0_4 — SD_DAT3
R606 *0_4 — XD-D3
MDIO04 — R618 *0_4 — SD_CMD
R609 *0_4 — MS_BS
R627 *0_4 — XD_WE
R617 *47/F_4 — SD_CLK_MS_CLK
MDIO05 — R634 *47/F_4 — XD-CE#
MDIO06 — R593 *0_4 — SD_WP
R591 *0_4 — XD-WP#
MDIO07 — R633 *0_4 — XD-CLE
MDIO08 — R605 *0_4 — XD-D4
MDIO09 — R603 *0_4 — XD-D5
MDIO10 — R602 *0_4 — XD-D6
MDIO11 — R601 *0_4 — XD-D7
MDIO12 — R679 *0_4 — XD-RE#
MDIO13 — R635 *0_4 — XD-RB#
MDIO14 — R628 *0_4 — XD-ALE

PAD14 — *MDC_SPRING
PAD15 — *MDC_SPRING
PAD16 — *MDC_SPRING

C872 2.2U/6.3V_6 — R607 150K/F_4

CLOSE CONN

Q25 *AO3409 — +3V — +3VCARD

19 MC_PWR_CTRL_0# — XD_PWON R387 *10K/F_4 — +5V

R332 *0_8 — +3VCARD

RESERVED for JMicron -- after programming can out-put +3.3V throught MC_PWR_CTRL_0# signal

C887 0.1U/10V_4 — C894 0.1U/10V_4 — C874 0.1U/10V_4

H38 *H-d98x790908X790N
H26 *H-1S0118p2
H34 *H-C315D118P2
H37 *H-C315D118P2
H35 *H-c315d256p2

PAD8 *MDC_SPRING — PAD9 *MDC_SPRING — PAD10 *MDC_SPRING — PAD11 MDC_SPRING

H32 *H-S315D110P2 — H31 *H-S315D110P2 — H13 *H-OT73X118D173X118N — PAD7 *MDC_SPRING

H22 *H-S315D110P2 — H23 *H-C244D181P2 — H6 *H-C217D157P2 — H9 *H-C217D157P2 — H8 *H-C217D157P2 — H3 *H-C256D157P2 — H2 *H-S315D110P2

PAD4 MDC_SPRING

H12 — H7 *H-S315D110P2 — H25 *H-C315D118P2 — H17 *H-C256D217P2

PAD5 MDC_SPRING — PAD2 *MDC_SPRING

K/B SCREW HOLE

PAD17 *GND PAD — PAD18 *GND PAD

PAD6 MDC_SPRING

SI stage add for EMI solution

H5 *H-S315D110P2 — H1 *H-C315D118p2 — H4 *H-C217D181P2

PAD19 *GND PAD — PAD20 *GND PAD — PAD21 *GND PAD

for MDC cable routing

Mini Card Hole

PAD13 *MDC_SPRING

H20 *H-C256D217P2 — H14 *H-C256D217P2 — H28 *H-C236D87P2 — H29 *H-C236D87P2 — H30 *H-C236D87P2 — H27 *H-C256D217P2

PAD12 *MDC_SPRING

PAD22 *GND PAD

NB5

PROJECT : UT12
Quanta Computer Inc.

Size	Document Number	Rev
Custom	RTS5158 & CR SOCKET &HOLE	1A

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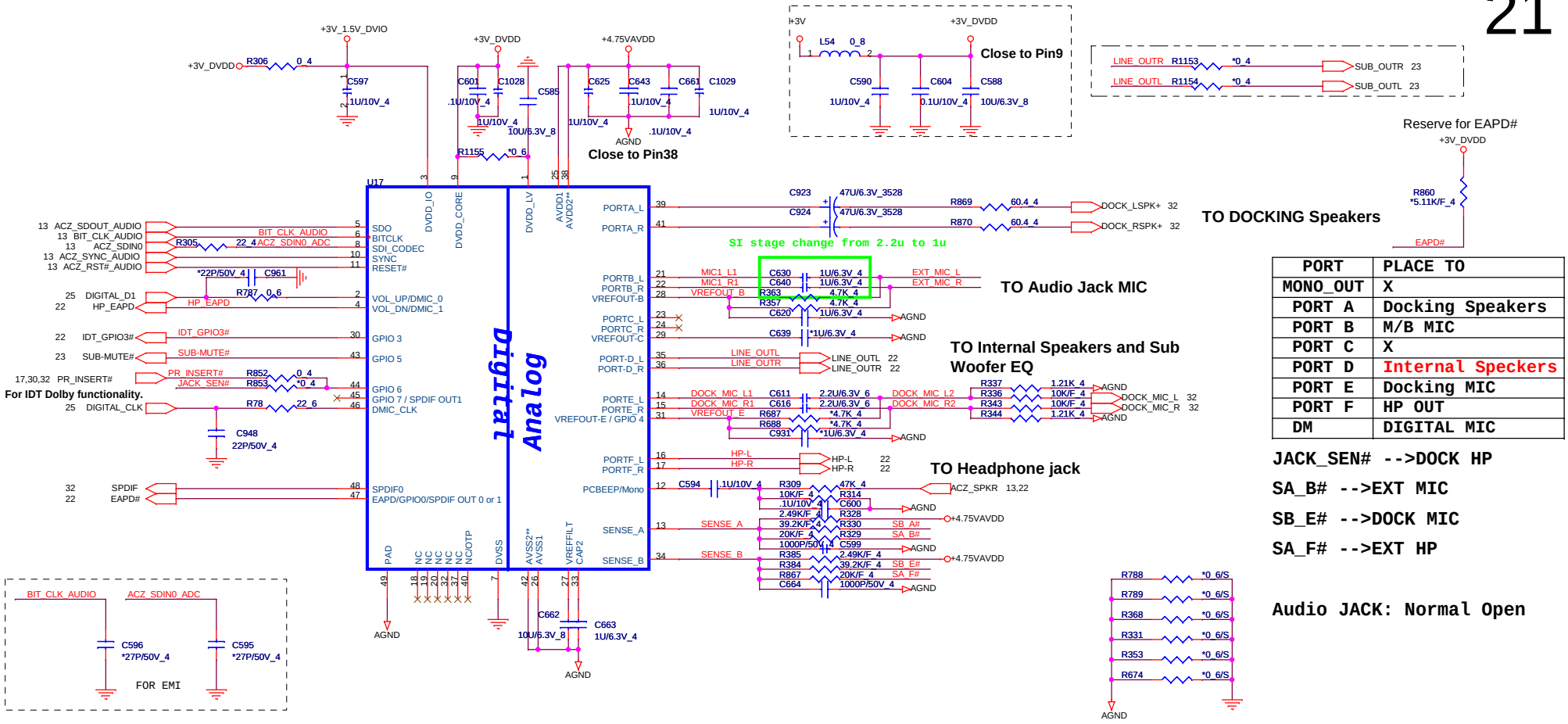
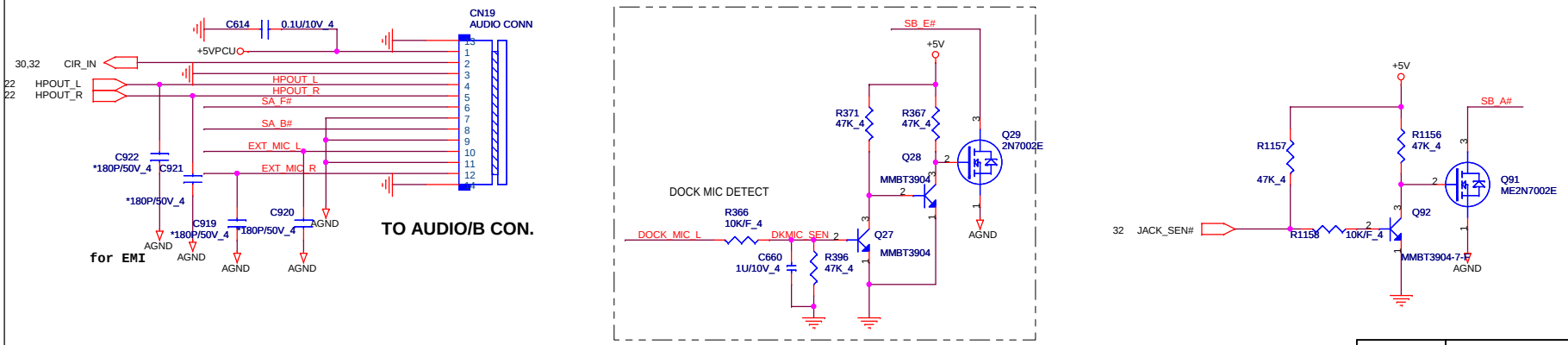


PORT	PLACE TO
MONO_OUT	X
PORT A	Docking Speakers
PORT B	M/B MIC
PORT C	X
PORT D	Internal Speckers
PORT E	Docking MIC
PORT F	HP OUT
DM	DIGITAL MIC



PROJECT : UT12
Quanta Computer Inc.
NB5
Size: Custom
Document Number: Azalia AD1883
Rev: 1A
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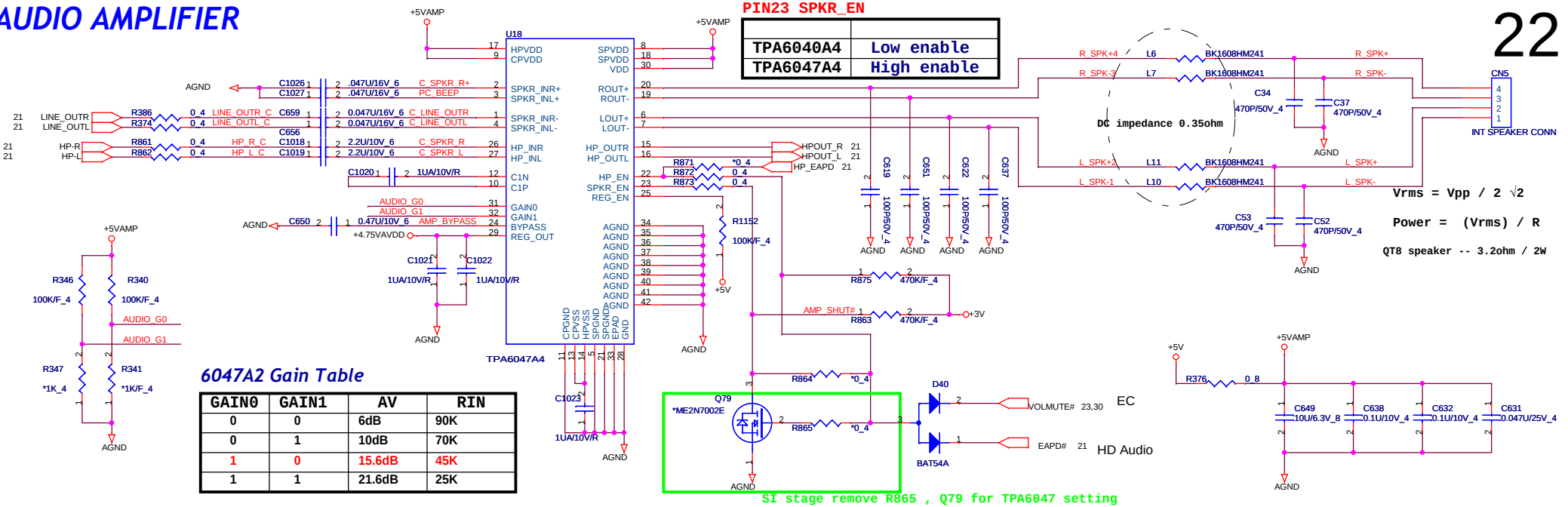
AUDIO AMPLIFIER

PIN23 SPKR_EN

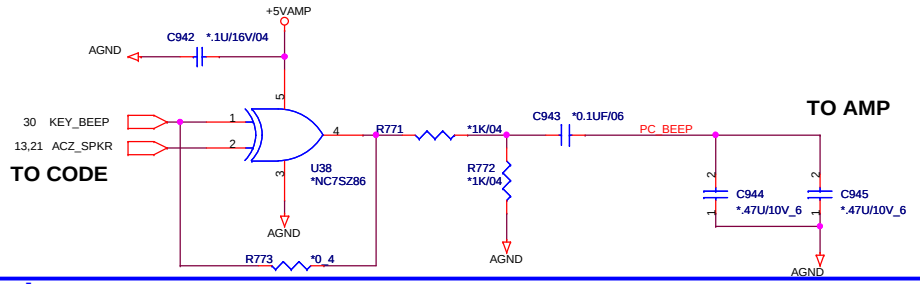
TPA6040A4	Low enable
TPA6047A4	High enable



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

PC-BEEP

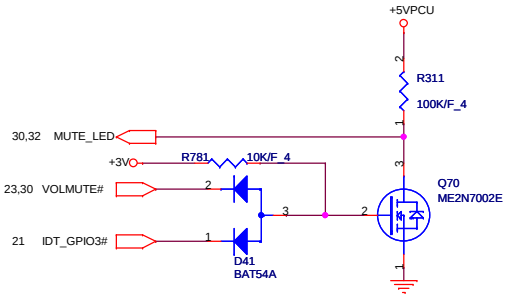


INT. SPEAKER

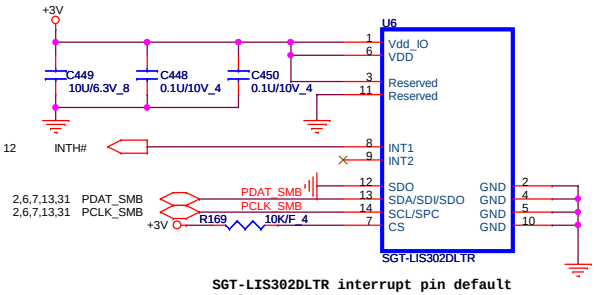
MUTE_LED

Low -->un-MUTE

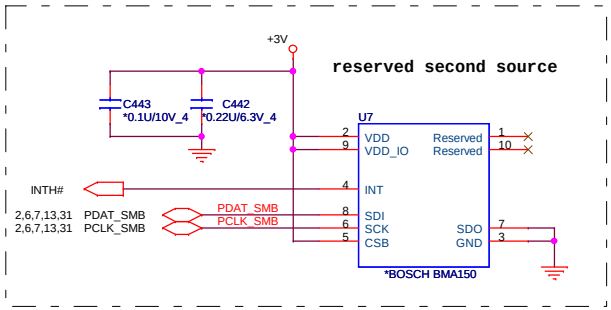
High-->Mute



Acceleration sensor



SGT-LIS302DLTR interrupt pin default is low / active Hi , BIOS need to programming 22h to change status from active Hi to low



PROJECT : UT12
Quanta Computer Inc.

Size	Document Number	Rev
Custom	AMP_TPA6017/INT SPK	1A

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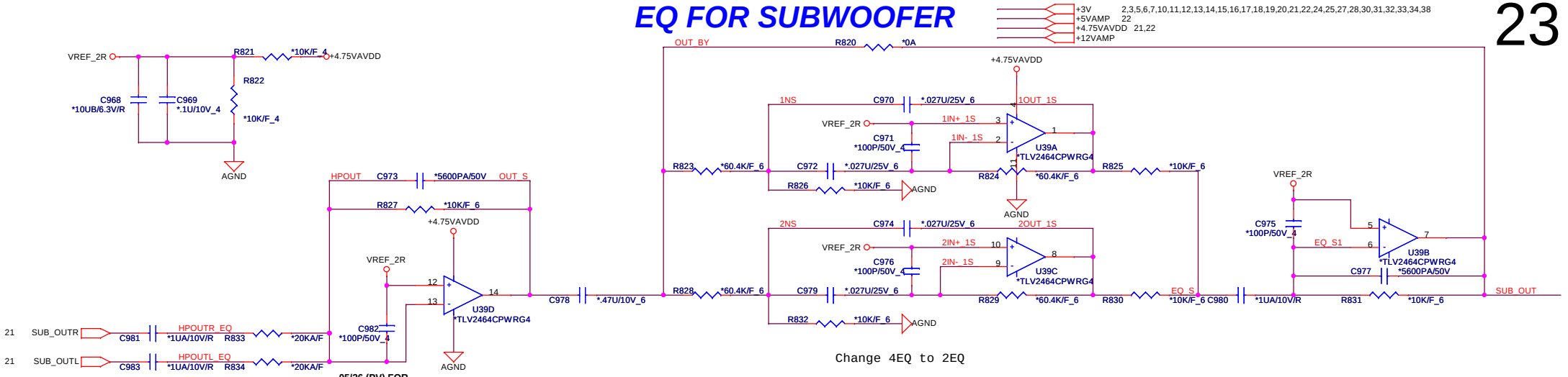
NB5

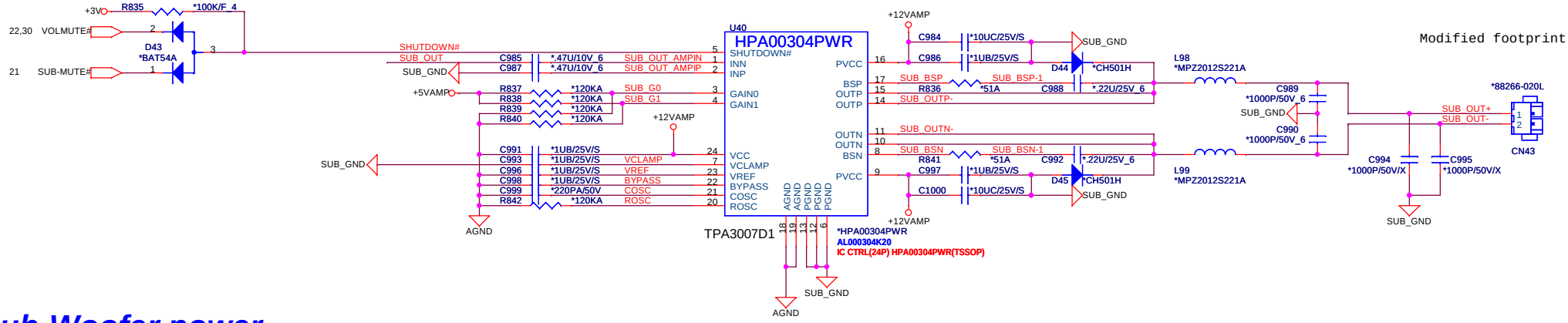
EQ FOR SUBWOOFER



05/26 (PV) FOR BOM update.

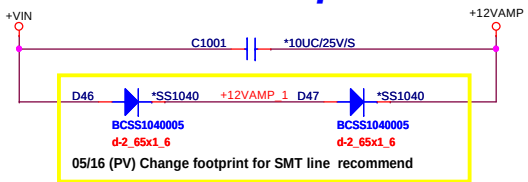
Change 4EQ to 2EQ

MODEL	UT1	UT2
R823	60.4K/F_6	40.2K/F_6
R824	60.4K/F_6	40.2K/F_6
R828	60.4K/F_6	80.6K/F_6
R829	60.4K/F_6	80.6K/F_6
C970	0.027U/25V_6	0.022U/50V_6
C972	0.027U/25V_6	0.022U/50V_6
C974	0.027U/25V_6	0.039U/16V_6
C976	0.027U/25V_6	0.039U/16V_6

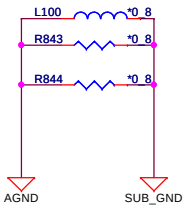


Modified footprint

Sub-Woofer power



05/16 (PV) Change footprint for SMT line recommend



PROJECT : UT12
Quanta Computer Inc.

Size	Document Number	Rev
Custom	SUBWOOFER(EQ & AMP.)	1A

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NB5

Modem CONN

H21 H-C217D63P2

H19 H-C217D63P2

MDC

CN18 MDC CONN

13 ACZ_SDOUT_AUDIO_MDC → ACZ_SDOUT_AUDIO_MDC

13 ACZ_SYNC_AUDIO_MDC → ACZ_SYNC_AUDIO_MDC

13 ACZ_SDIN1 → AC_SDIN1_MDC

13 ACZ_RST#_AUDIO_MDC

GND A_SDO GND A_SYNC A_SDI A_RST# A_BCLK

REV REV VCC GND GND A_BCLK

R326 33_4

C603 *10P/50V_4

+3V

C653 0.1U/10V_4

C654 2.2U/6.3V_6

C658 1000P/50V_4

R377 0_4 BIT_CLK_AUDIO_MDC 13

For EMI

C652 *10P/50V_4

+3V

R750 *10K/F_4

Q65 *PDTC144EU

Q64 *PDTC144EU

R766 0_6

30 LEDVCC_EN#

14 SATA_LED#

Q26 PDTC144EU

14 ACCLED_EN

(White) (Amber)

R767 200/F_6

LED4 LED 3P WHITE/AMBER

SATA_R_LED1 R381 39_6 +3V

LED6 2P WHITE LED PWR_R_LED1 R378 39_6 +3VPCU_LED

29,30 PWR_LED#

LED5 2P WHITE LED MBAT_R_LED1 R379 39_6 +3VPCU_LED

30 MBATLED0#

LED7 2P WHITE LED CARD_LED1 R584 39_6 +3V

19,20 CARD_LED#

Single Color ,Right angle
LTW-110TLA

LED PWR CONTROL

+15VALW

R180 *1M_4

R178 *1M/F_4 LED_CTL

30 LEDVCC_EN# → LEDVCC_EN#

Q17 *2N7002E

R817 0_8

Q18 *2N7002E

+3V → +3V_LED → +3V_LED

20~40mils

C457 10U/6.3V_8

C460 0.1U/10V_4

C451 *1U/25V_8

C932 *.22U/25V_6

C933 *.22U/25V_6

add LED auto dim function

R818 0_8

Q23 *2N7002E

+3VPCU → +3VPCU_LED → +3VPCU_LED

20~40mils

LED_CTL

C566 10U/6.3V_8

C568 0.1U/10V_4

R819 0_8

Q12 *AO3404

+5V → +5V_LED

20~40mils

LED_CTL

C410 0.1U/10V_4

C556 *10U/6.3V_8

FOR UT2 17.3"

LED1 *2P WHITE CAP_LED

30 CAPSLED# R185 39_6 +3V_LED

FOR UT1 16"

LED9 2P WHITE CAP_LED

30 CAPSLED#

Dual Color ,Right angle
LTW-326DSKF-5A

FOR UT1 16"

LED Vf

R

Vcc

(Amber)

30 TP_LED1# → TP_LED1# TPLD3 R183 200/F_6 +3V_LED

30 TP_LED2# → TP_LED2# TPLD4 R182 39_6 +3V_LED

(White)

LED3 LED 4P WHITE/AMBER

(Amber)

I = Vcc -Vf / R

朝上

30 TP_LED1# → TP_LED1# TPLD3

30 TP_LED2# → TP_LED2# TPLD4

(White)

LED8 *LED 4P WHITE/AMBER

FOR UT2 17.3"

Amber

Anode

White

PROJECT : UT12
Quanta Computer Inc.

Size	Document Number	Rev
Custom	MDC1.5 Con Accelerometer/ILED	1A

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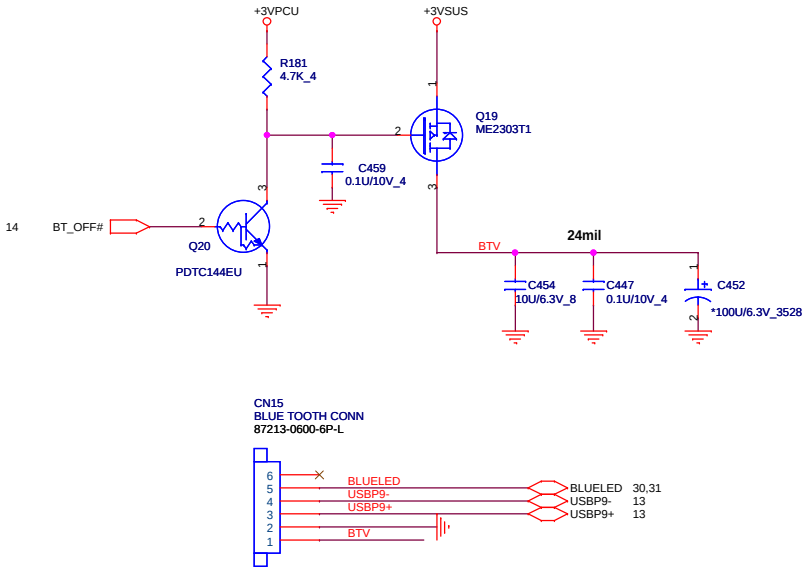
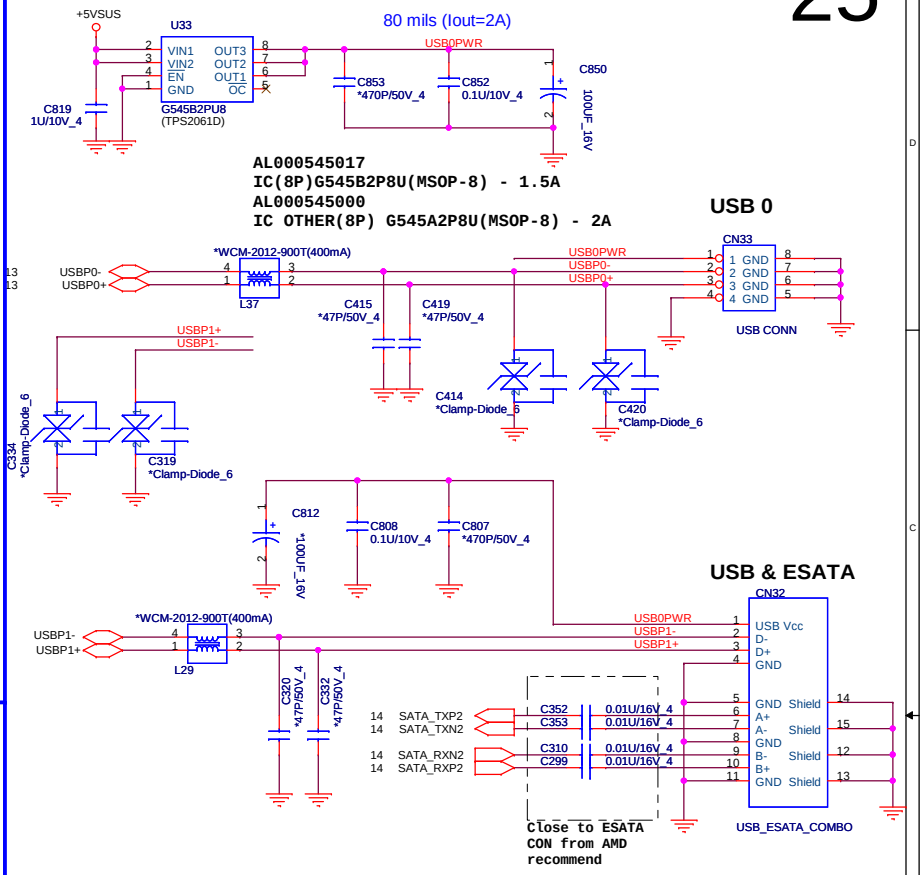
NB5

BLUETOOTH

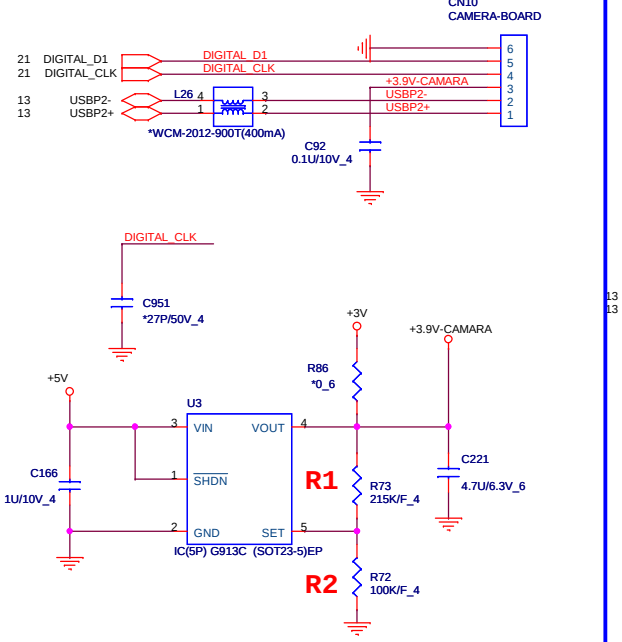


LEFT SIDE USBX1 and E-SATA/USB COMBO

25

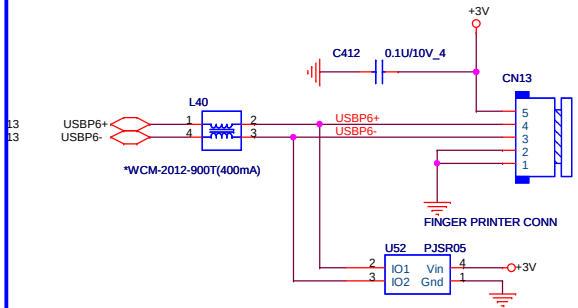


USB CAMERA CONNECT

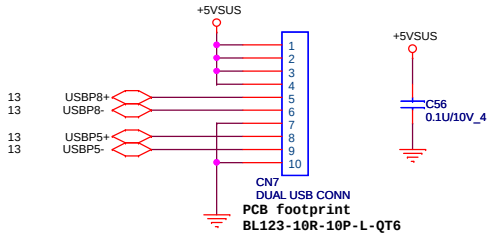


USB Fingerprint CON

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



RIGHT SIDE USBX2



PROJECT : UT12
Quanta Computer Inc.

Size	Document Number	Rev
Custom	BT/WEBCAM/FT/USBX4/ESATA	1A

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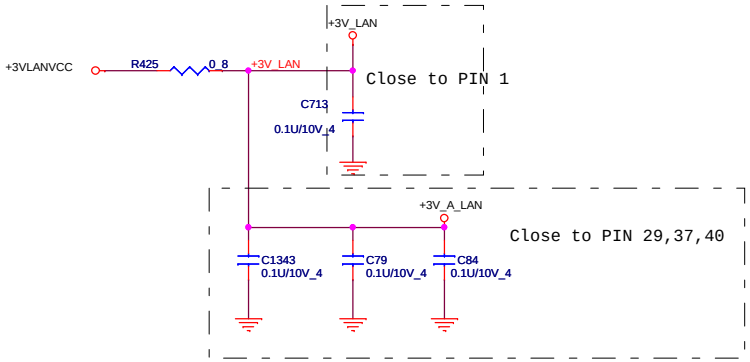
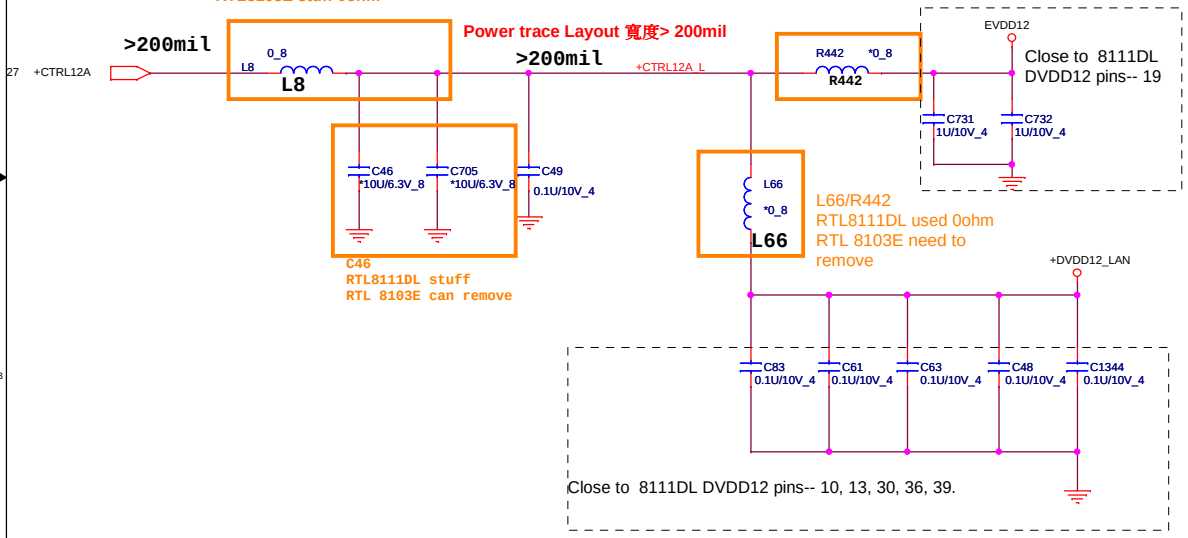
NB5



L8
RTL8111DL (Gaga lan) use 4.7uH
power choke A>600mA tolerance
±15%
RTL8103E stuff 0ohm



NB5

PROJECT : UT12
Quanta Computer Inc.

Size	Document Number	Rev
Custom	LAN Power	1A

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for RTL8111DL use

close Pin 44,45

C1342 *10U/6.3V_8

C1340 *10U/6.3V_8

C1341 0.1U/10V_4

+CTRL12DVDD

for RTL8111DL use

R462 *0_6 +3V_LAN

+CTRL12DVDD R38 0_6 +DVDD12_LAN

for RTL8103E use

R461

ENSWREG R461 *0_6 +3V_LAN

R463 *0_6

R463

R461 and R463 are used in RTL8111DL , remove R463 if switching regulator is enable , Remove R461 external power is used.

+3V

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

R456 *1K/F_4

ISOLATEB R457 100_4 LAN_DISABLE# 13,30

*RB501V-40

D42

R441 15K/F_4

Y1 25MHZ

C45 30P/50V_4

C44 30P/50V_4

XTAL1

XTAL2

+CTRL12DVDD R37 2.49K/F_4 LANRSET

+3V_LAN +DVDD12_LAN

LAN_TX#

26 +CTRL12A

U2

RTL8103EL/8111DL

SI stage change pull high resistor R427 from EEDO to EEDI

+3V_A_LAN

+DVDD12_LAN

MDI0+ MDI0- MDI1+ MDI1- MDI2+ MDI2- +DVDD12_LAN MDI3+ MDI3-

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

VCTRL12A/SROUT12 GND4 RSET VCTR12DVDDSR NC/VDDSR NC/ENSWREG CKTAL2 CKTAL1 NC/AVDD33 NC/LV_PLL LED0 VDD33B

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

LAN_GLINK100# LAN_GLINK10# LAN_GLINK1000# EECS ISOLATEB LAN_REST_R# PCIE_WAKE#

R427 3.6K_6

+DVDD12_LAN +3V_LAN

for RTL8103E use

R1162 1K/F_4

R460 *0_4

LAN_REST# 30

PCIE_WAKE# 13,31

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

+DVDD12_LAN

LAN CABLE DETECT 30

9 PCIE_TXP6_LAN PCIE_TXP6_LAN

9 PCIE_TXN6_LAN PCIE_TXN6_LAN

2 PCIE_LAN_CLKP PCIE_LAN_CLKP

2 PCIE_LAN_CLKN PCIE_LAN_CLKN

PCIE_RXN6_LAN_L C82 0.1U/10V_4 PCIE_RXN6_LAN 9

PCIE_RXP6_LAN_L C81 0.1U/10V_4 PCIE_RXP6_LAN 9

EVDD12

RJ45

CN27

+3V_LAN R58 330_4 LAN_GLED LAN_GLED# 12 10

LED_GRE_P LED_GRE_N

LAN_MX3- LAN_MX3+ LAN_MX1- LAN_MX2- LAN_MX2+ LAN_MX1+ LAN_MX0- LAN_MX0+ 8 7 6 5 4 3 2 1

RX1- RX1+ RX0- TX1- TX1+ RX0+ TX0- TX0+

GND1 14

GND 13

+3V_LAN R34 330_4 LAN_YLED LAN_YLED# 9 11

LED_YEL_P LED_YEL_N

RJ45_CONN

AL08111DB00 RTL8111DL-GR

AL08103EB00 RTL8103EL-GR

LAN_GLINK10# LAN_GLINK100# D37 BAT54A

LAN_GLINK1000# D38 RB501V-40 LAN_GLED#

LAN_TX# LAN_YLED#

Link

C39 *0.01U/16V_4 C85 *0.01U/16V_4

+3V_LAN C733 0.1U/10V_4

12 LAN_PLTRST# LAN_PLTRST# LAN_REST_R#

U28 TC7SH08FU

U26 NS892405

C709 0.01U/16V_4 C68 0.01U/16V_4 C62 0.01U/16V_4 C65 0.01U/16V_4

V_DAC

MDI0+ MDI0- MDI1+ MDI1- MDI2+ MDI2- MDI3+ MDI3-

TCT1 TD1+ TD1- TCT2 TD2+ TD2- TCT3 TD3+ TD3- TCT4 TD4+ TD4-

MCT1 MX1+ MX1- MCT2 MX2+ MX2- MCT3 MX3+ MX3- MCT4 MX4+ MX4-

LAN_MCT0 LAN_MX0+ LAN_MX0- LAN_MCT1 LAN_MX1+ LAN_MX1- LAN_MCT2 LAN_MX2+ LAN_MX2- LAN_MCT3 LAN_MX3+ LAN_MX3-

C927 0.01U/100V_6 R39 75/F_4 LAN_MX0+ 32 LAN_MX0- 32

C928 0.01U/100V_6 R44 75/F_4 LAN_MX1+ 32 LAN_MX1- 32

C929 0.01U/100V_6 R47 75/F_4 LAN_MX2+ 32 LAN_MX2- 32

C930 0.01U/100V_6 R51 75/F_4 LAN_MX3+ 32 LAN_MX3- 32

C708 1000P/3KV_1808

LAN_YLED LAN_GLED

EMI

C88 *0.1U/50V_6 C40 *0.1U/50V_6

NS892402:GIGABIT

NS892405:10/100

DB0AT9LAN05

DB0ZB1LAN04

N85

PROJECT : UT12

Quanta Computer Inc.

Size	Document Number	Rev
Custom	RTL8111C/8101E/RJ11-RJ45 CN	1A

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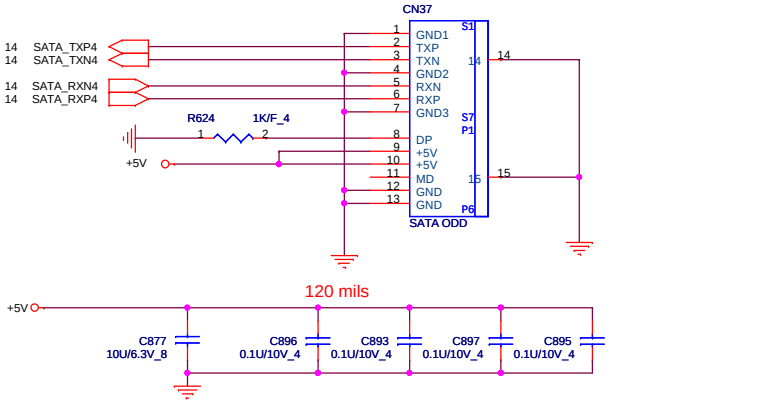
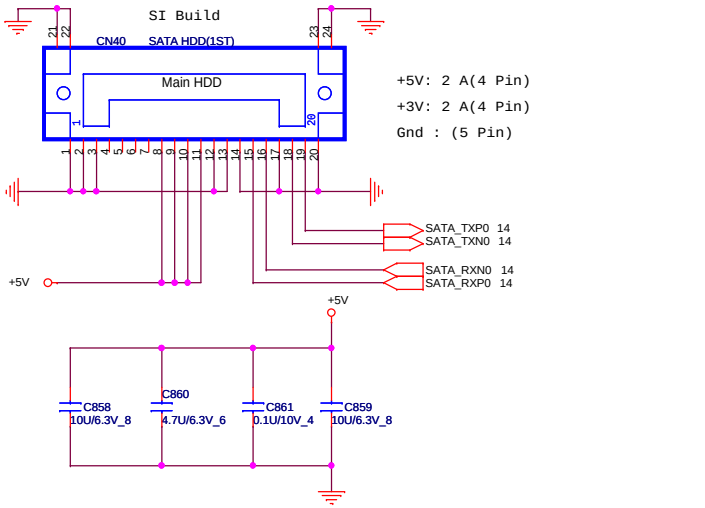
SATA CD-ROM

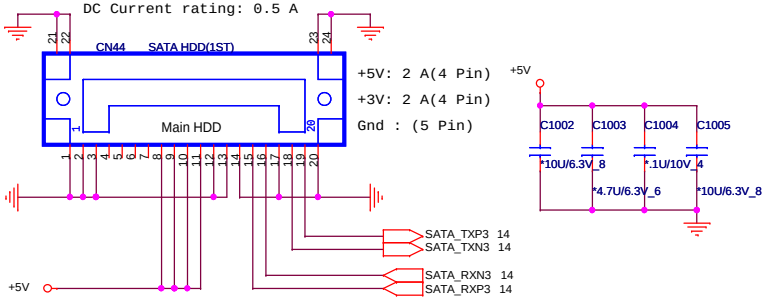
17.3 ODD P/N : DFHS13FR030 or DFHS13FR040
16.3 ODD P/N : DFHD13MR006 , DFHD13MR009 , DFHD13MR008



SATA_1 HDD CONNECTOR



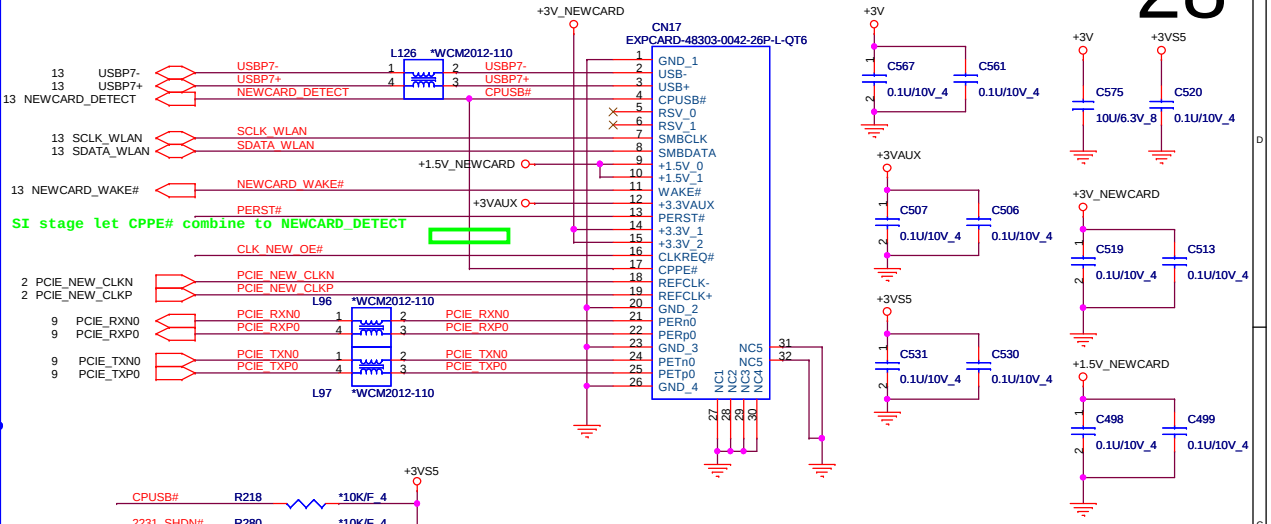
SATA_2 CONNECTOR

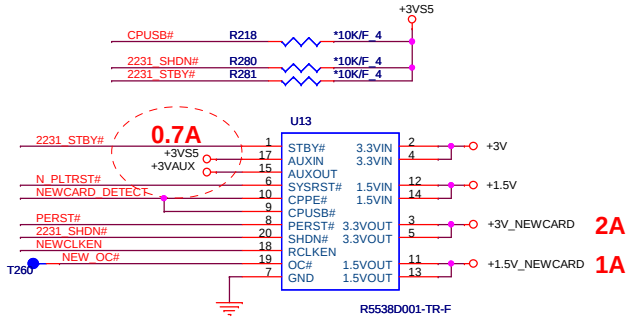


NEWCARD

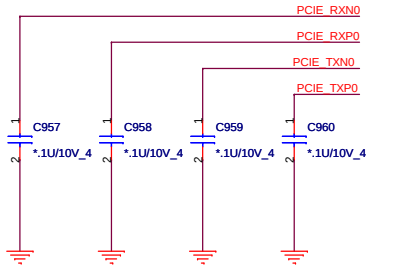
NEWCARD (PCIEXPRESS*1 + USB*1)

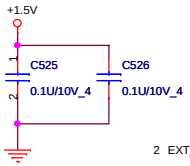
28

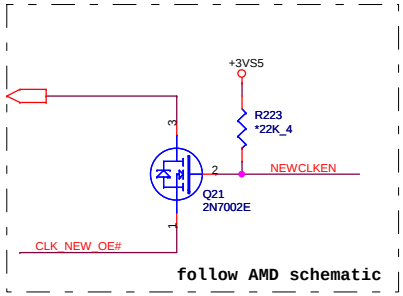


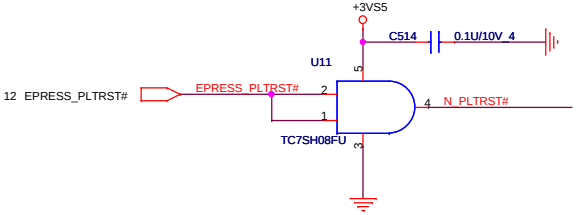


R5538 NEW CARD POWER SWITCH	
pin name	pull hi/low
CPPE#	internal pull up to AUXIN
SYSRST#	internal pull up to AUXIN
CPUSB##	internal pull up to AUXIN
PERST#	a logic level power good
SHDN#	internal pull up to AUXIN
RCLKEN	internal pull up to AUXIN
OC#	over current status
STBY#	internal pull up to AUXIN









NB5	PROJECT : UT12 Quanta Computer Inc.
Size: Custom	Document Number: NEW CARD/SATA ODD/SATA HDD
Rev: 1A	
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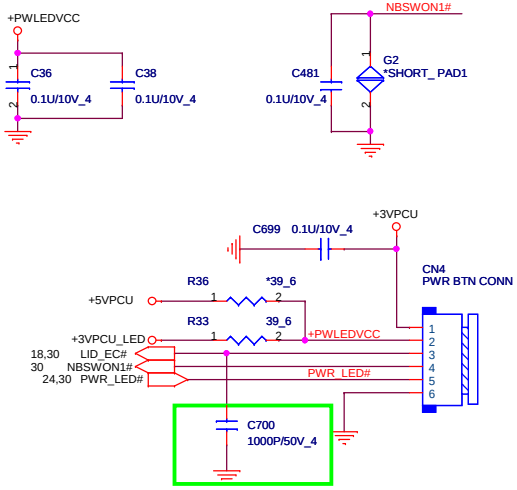
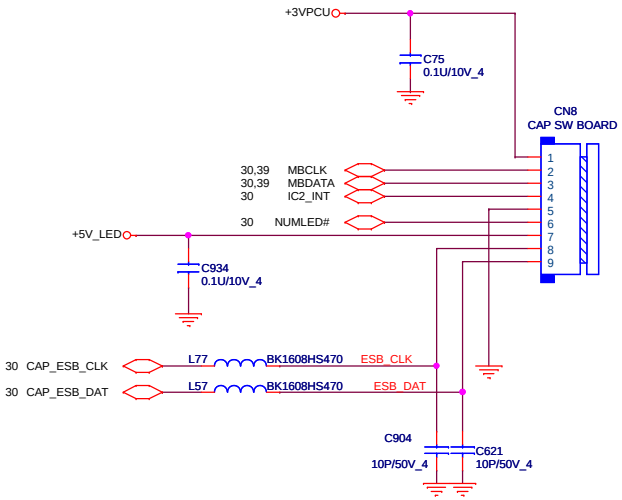
POWER BUTTON CONNECT



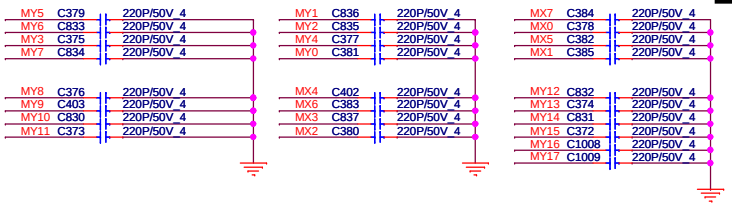
1. +3VPCU(LIDSWITCH PWR)
2. LEDVCC(+3VPCU)
3. LIDSWITCH
4.POWERON#
5. PWRLED#
6. GND

SI stage add 1000P for EMI solution

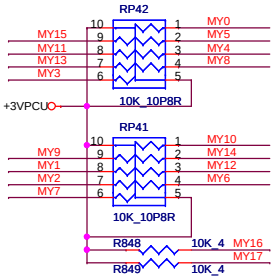
CAP SW CONNECT

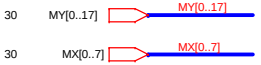


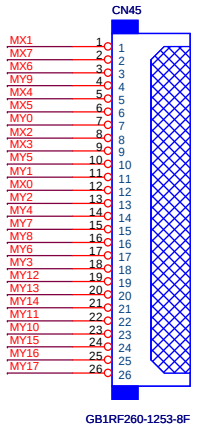
1. +3VPCU
2. MBCLK
3. MBDATA
4. CAP_INT
5. GND
6. NUM LOCK LED
7. +5V
8. ESB_CLK
9. ESB_DAT



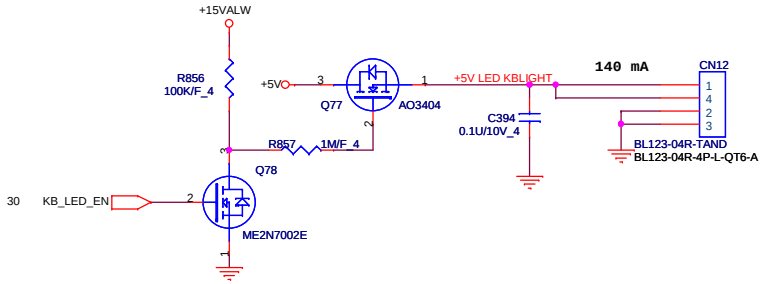
KEYBOARD PULL-UP

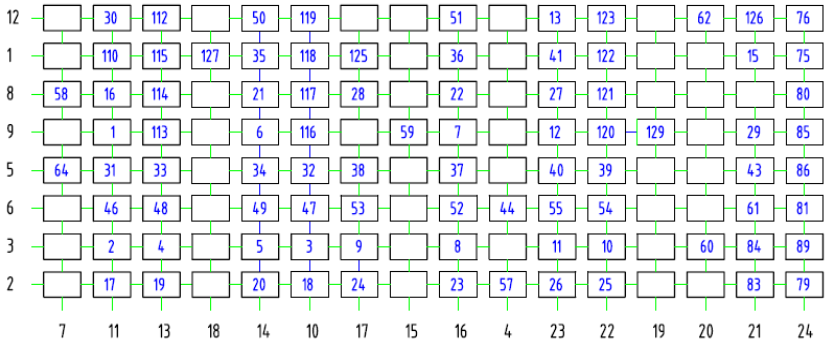






Footprint: "gb1rf260-1253-7f-26p-l





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Quanta Computer Inc.

Size	Document Number	Rev
Custom	LED/KEYBOARD/SW	1A

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NB5

U9 KB3926

Battery charge/discharge Cap button

VGA thermal system thermal

Project Model	GPIO42
UT1 16"	Low
UT2 17.3"	High

GPIO42 control fan table

Project Model	GPIO43
UT1(65W/90W)	Low
UT2(65W/90W)	Low
UT2(120W)	High

Hi ==> 120W

Low ==> 65W/90W

GPIO43 read adapter type , if worog can not power on

SI stage change from 18P to 27P

For KB3926 C version

64.9K -->65W

33.7K -->90W

SB internal pull Hi 10k to 3v_s5

SB internal pull Hi 10k to 3v_s5

SB780 internal have pull hi

SST	AKE5GFK0Z09
WINBOND	AKE3GFP0N08
PME	AKE3GZP0500
EON	AKE3GZP0Q00

1M byte SPI BIOS

close conn

TOUCH PAD CONNECTOR

25 mils

CN14 TOUCH PAD CONN

FOR UT1 16"

TOUCH PAD ON/OFF

TOUCH PAD L/R

FOR UT2 17.3"

TOUCH PAD ON/OFF

TOUCH PAD L/R

PROJECT :	UT12
	Quanta Computer Inc.
Size: Custom	Document Number: KB3926/ROM/TP
Rev:	1A
Date:	Monday, November 10, 2008
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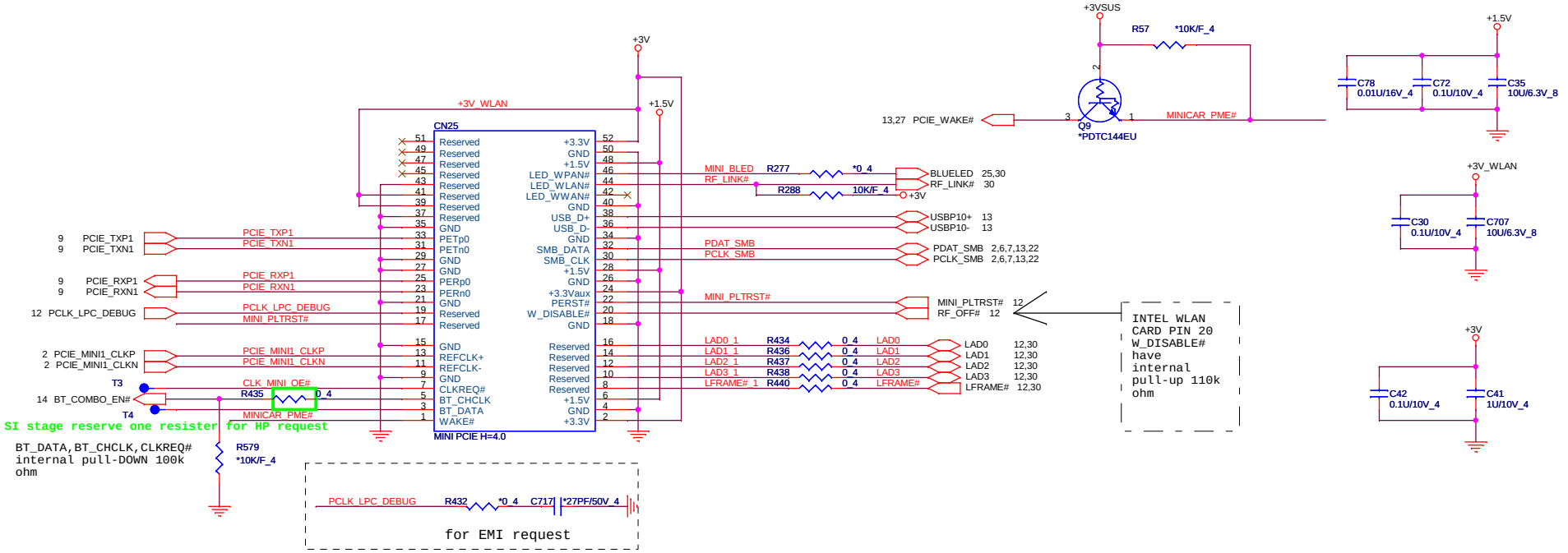
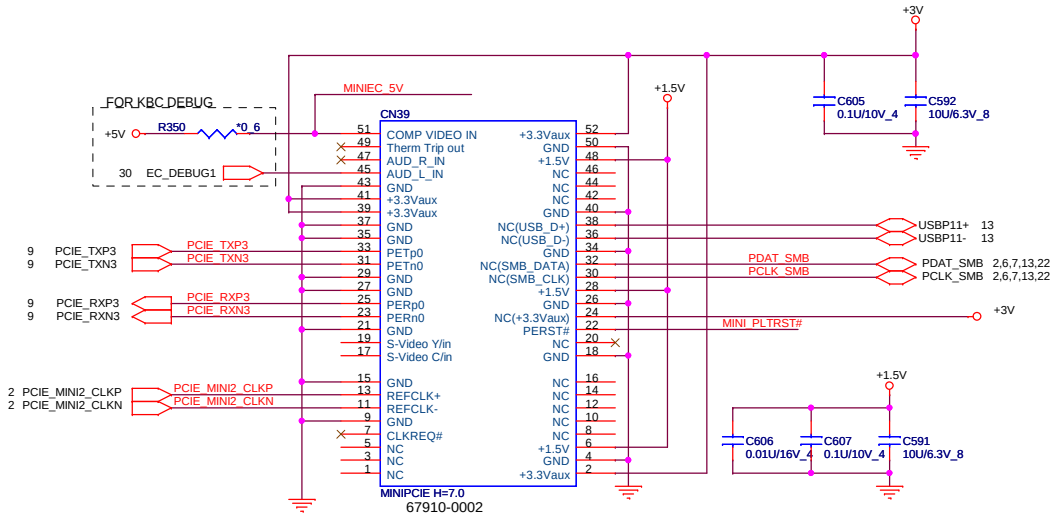
Mini PCI-E Card 1 WLAN



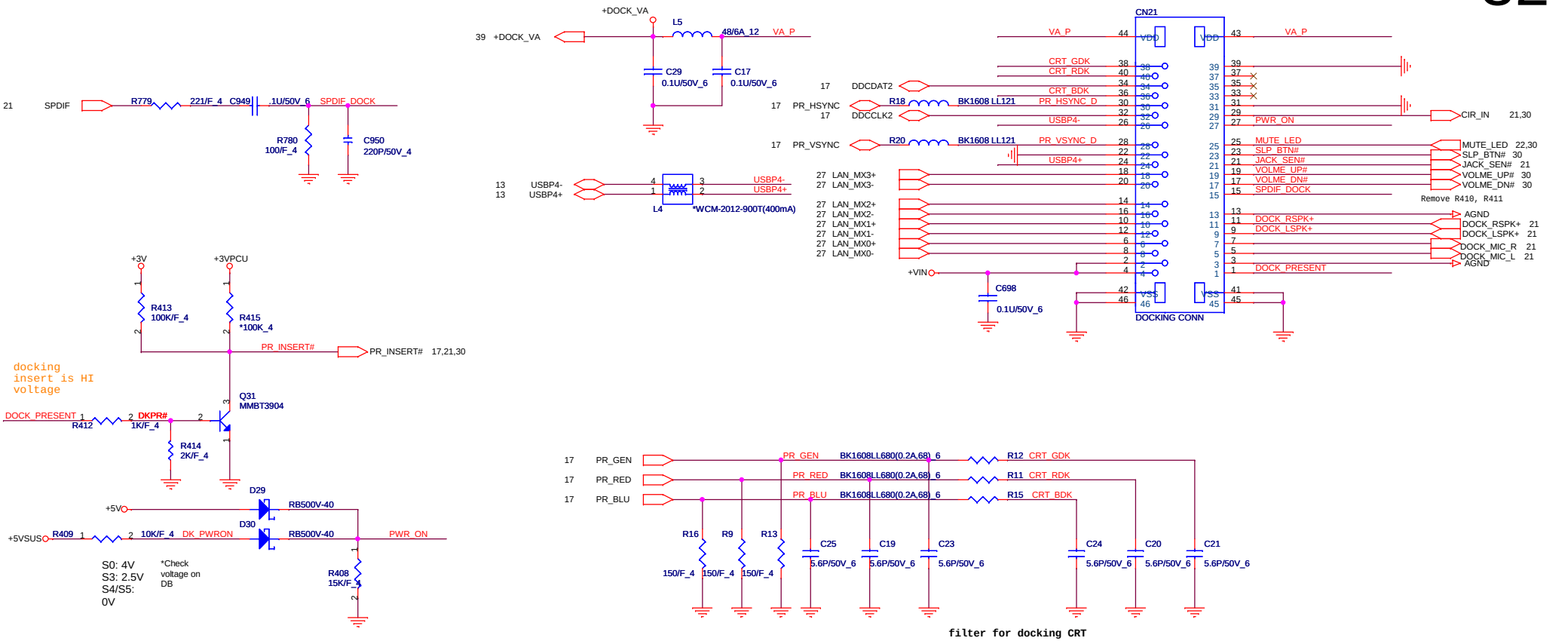
Mini PCI-E Card 2 TV tuner card



NB5	**PROJECT : UT12** Quanta Computer Inc.	
Size: Custom	Document Number: Mini CARD X 3	Rev: 1A
Date: Monday, November 10, 2008	Sheet 31 of 40	

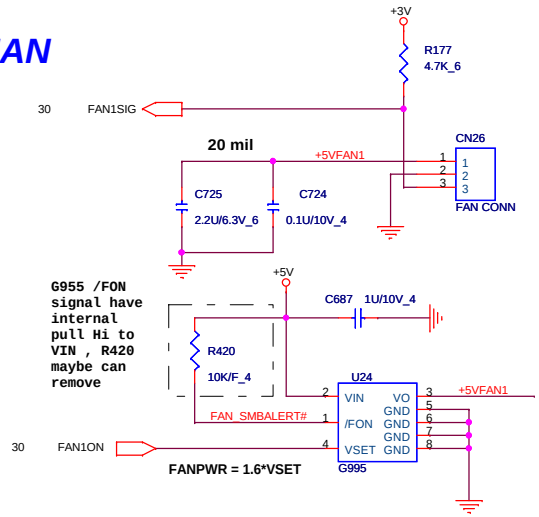
CABLE DOCK

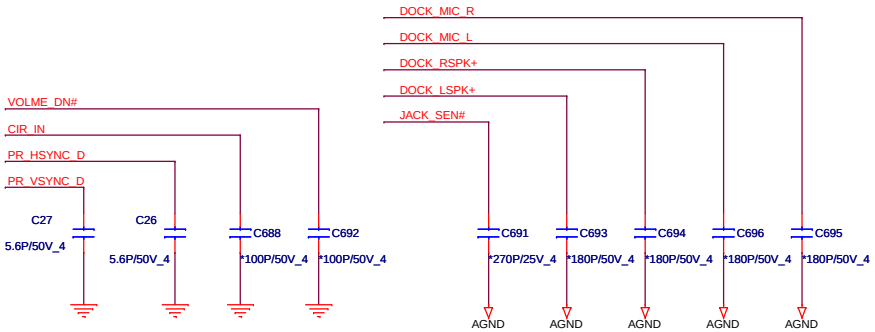
support 6A 200mils
CX000480005

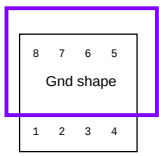


filter for docking CRT

CPU FAN







G995 layout notice

PROJECT : UT12
Quanta Computer Inc.

Size	Document Number	Rev
Custom	CABLE DOCKING/FAN	1A

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NB5

DC/DC +3VPCU/+ 5VPCU/ +12VALW

+3V 2,3,5,6,7,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,27,28,30,31,32,34,38

+5VPCU 21,22,29,30,34,35,36,37
+3VPCU 5,12,18,24,25,29,30,32,35,36,37,39
+3VSUS 13,20,25,31,34,36,38
+3VS5 5,7,12,13,14,15,16,18,19,28,38
+5VSUS 18,25,30,32,38
+5V 5,15,17,18,20,21,22,24,25,28,29,31,32,34,37,38
+LANVCC

TON: 5V / 3.3V
GND = 400 / 500KHz
REF = 400 / 300KHz
VCC = 200 / 300KHz

5 Volt +/- 5%
+5VPCU
C/C:8A
P/C:10A

Place these CAPs close to FETs

Vout=0.7(Ra+Rb)/Rb
Rb around 49.9k

I_lim*MOSFET(RDSON)=V_ILIM(mV)/10
V_ILIM(mV)=5uA*R_ILIM

Rds(on) 15m ohm

3.3 Volt +/- 5%
+3VPCU
C/C:8A
P/C:10A

Place these CAPs close to FETs

Rds(on) 15m ohm

+3V
6.76A
S0-S1

+3VS5
0.5A
S0-S5

+3VSUS
1.84A
S0-S3

+5V
4.31A
S0-S1

+5VSUS
4.5A
S0-S3

+LANVCC
0.27A

For EMI-SI

PROJECT : UT12
Quanta Computer Inc.

Size	Document Number	Rev
Custom	+5V/+3V(ISL6237)	1A
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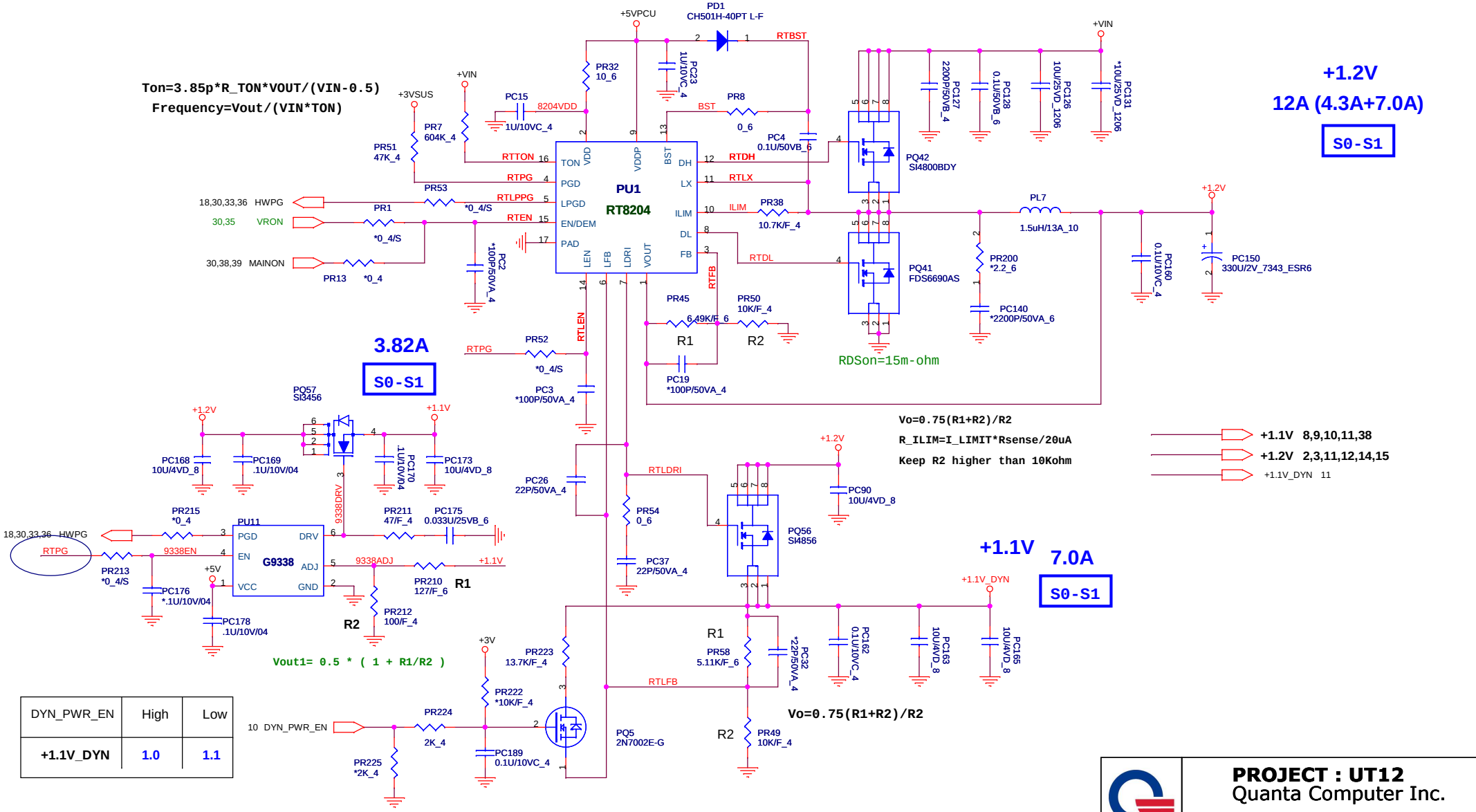
+1.1V & +1.2V


Ton=3.85p*R_TON*VOUT/(VIN-0.5)
Frequency=Vout/(VIN*TON)
+1.2V
12A (4.3A+7.0A)
S0-S1
PU1
RT8204
PD1
CH501H-40PT L-F
PQ42
SI4800BDY
PQ41
FDS6690AS
PL7
1.5uH/13A_10
PC150
330U/2V_7343_ESR6
RDSon=15m-ohm
3.82A
S0-S1
PQ57
SI3456
PU11
G9338
9338DRV
9338EN
9338ADJ
R1
R2
Vout1= 0.5 * (1 + R1/R2)
Vo=0.75(R1+R2)/R2
R_ILIM=I_LIMIT*Rsense/20uA
Keep R2 higher than 10Kohm
+1.1V 8,9,10,11,38
+1.2V 2,3,11,12,14,15
+1.1V_DYN 11
+1.1V
7.0A
S0-S1
PQ56
SI4856
PQ5
2N7002E-G
Vo=0.75(R1+R2)/R2
DYN_PWR_EN | High | Low
+1.1V_DYN | 1.0 | 1.1
PROJECT : UT12
Quanta Computer Inc.
Size B
Document Number
+1.2V & +1.1V(RT8204)
Rev 1A
Date: Monday, November 10, 2008
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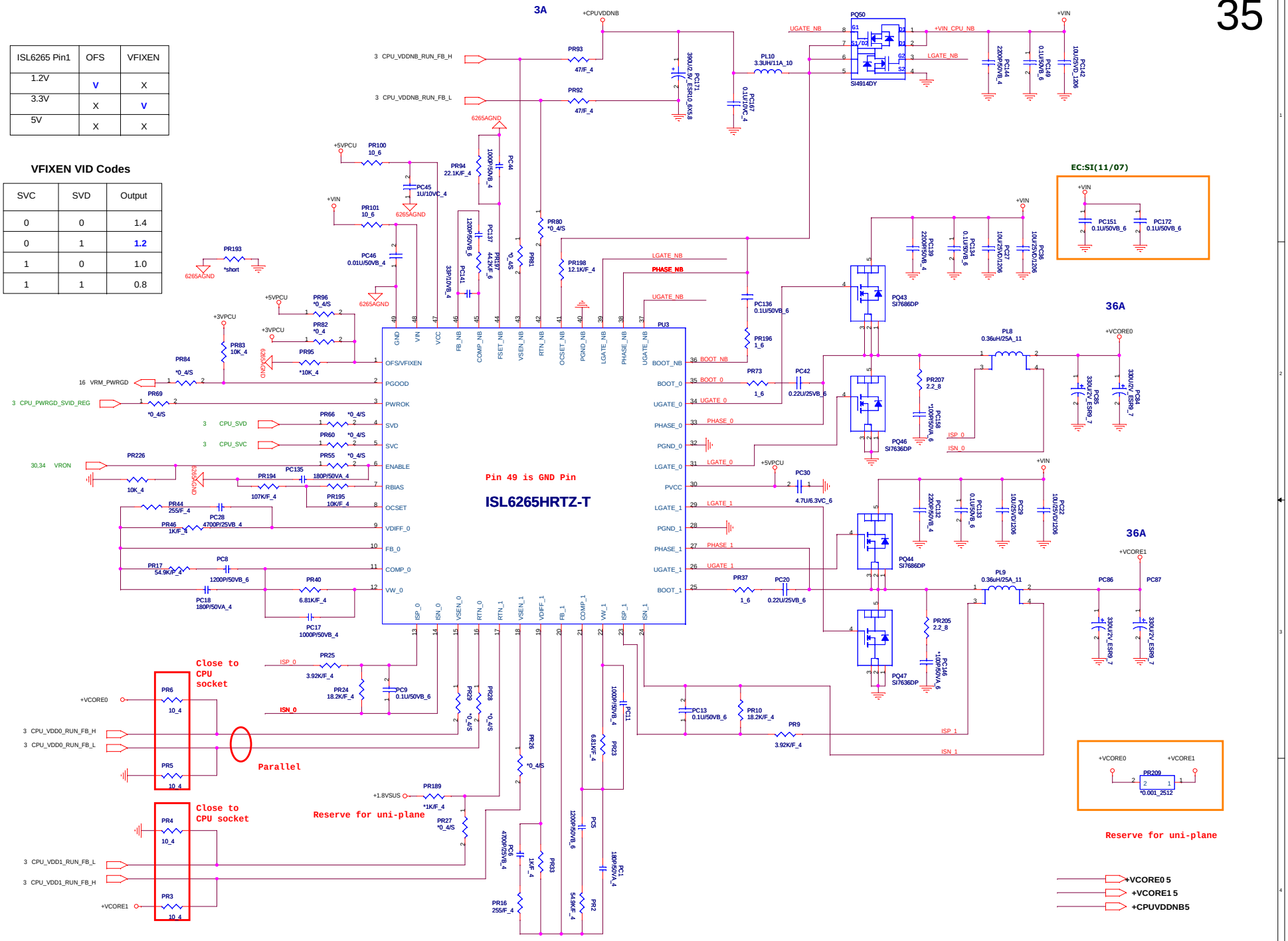
NB5

ISL6265 Pin1	OFS	VFIXEN
1.2V	V	X
3.3V	X	V
5V	X	X

VFIXEN VID Codes

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



PROJECT : UT12
Quanta Computer Inc.

Size	Document Number	Rev
C	CPU_CORE(ISL6265)	1A

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NB5

+2.5V 3
+1.8VSUS 3,4,5,6,7,35,37

EC:SI(11/07)

+VIN
PC154 0.1U/50VB_6

+VIN
PC159 *100U/25V_6.3X7.7
PC164 *100U/25V_6.3X7.7
PC47 *10U/25VD_1206
PC48 10U/25VD_1206
PC34 0.1U/50VB_6
PC33 2200P/50VB_4

EC:SI(11/07)
PD22 CH501H-40PT
+5VPCU
PC25 2.2U/6.3VC_6
PR39 10_6
51116_V5FILT
PC16 1U/10VC_4
+3VSUS
PR31 10K_4
HWPG 18,30,33,34

I_lim(Valley)=10uA*R_ILIM/RDS_ON
For OCP set.

23.65A
S0~S3

+1.8VSUS
PC143 390U/2.5V_6X5.8ESR10
PC153 0.1U/10VC_4
PL6 1.5uH/10A_10
PR221 2.2_6
2200P/50VA_6 PC152
PQ39 AOL1426
PQ48 AOL1412
PC39 0.1U/50VB_6
PR71 2.2_6

PU2 TI51116
BST 22
VBST
V5IN 15
V5FILT 14
CS 16
PR48 8.45K/F_6
PGOOD 13
1.8V_DH 21
DRVH
1.8V_LX 20
LL
1.8_DL 19
DRVL
S5 11
S3 10
S5ON
S3ON
PR18 *0_4/S
PR19 *0_4/S
SUSON 30,38
VLDOIN 23
+1.8VSUS
PC40 1U/10VC_4
*100P/50VA_4 PC7
PC14
VTTGND 1
MODE 4
VTT 24
VTTSNS 2
PGND 18
PAD 25
PC41 10U/4VD_8
PC38 10U/4VD_8
+0.9VSMVTT
+0.9VSMVTT 4,7
VTTSNS
PR56 *0_4/S
PR57 *0_4
CPU_VTT_SENSE 4
MODE
PR47 *0_4/S
+1.8VSUS
1.8V_OUT 8
VDDQSNS
9
VDDQSET
COMP 6
COMP
NC 7
NC 12
VTTREF
CS_GND
GND
PR41 *0_4/S
51116_V5FILT
PR64 619K/F_4
+VIN
PR43 *0_6/S
EC:1108 SI
4,6 +0.9VSMVREF
PR204 *SHORT-1A
PC35 0.033U/25VB_6

+0.9VSMVTT
2.25A
S0~S3

Ra
PR21 147K/F_4
PC10 *100P/50VA_4
Fix 1.8V Output
PR36 *0_4
Rb
PR20 100K/F_4
Ra=(Vout-0.75)/0.75*Rb
Rb value from 100K to 300K ohm

Add 0.1u CAP PC211, PC212, PC213 for EMI
+1.8VSUS
PC211 0.1U/10VC_4
PC212 0.1U/10VC_4
PC213 0.1U/10VC_4

Mode	Discharge Mode
V5IN	No discharge
VDDQ	Tracking discharge
Gnd	Non-tracking discharge

+2.5V
0.25A
S0~S1

Close to CPU
SI power

30 VR2.5_ON
PR167 10K_4
PU9 G913C
SHDN 1
VIN 3
GND 2
VOUT 4
SET 5
+3VPCU
PC112 0.1U/10VC_4
PC113 1U/10VC_4
+2.5V
PC111 4.7U/6.3VC_6
R1
PR166 100K/F_4
Vout=1.25(1+R1/R2)
R2
PR165 100K/F_4

V_TRIP(mV)=R_TRIP(Kohm)*10(uA)
I_OCP=V_trip/Rds_on+I_Ripple/2

VDDQSET	VDDQ(V)	VTTREF and Vtt	Note
GND	2.5	V_ vddqsns/2	DDR
V5IN	1.8	V _vddqsns/2	DDR2
FB	adjustable	V_VDDQSNS/2	1.5V<VDDQ<3V

+1.8VSUS
38 1.8V_OND
PQ27 SI4856
PC196 0.1U/10VC_4
For EMI-SI
+1.8V
10.4A
S0~S1
+1.8V
PC197 0.1U/10VC_4
For EMI-SI
+1.8V 3,5,8,10,11,16,19,38

Discrete:SI4856
UMA:SI4800

NB5

PROJECT : UT12
Quanta Computer Inc.

Size	Document Number	Rev
Custom	1.8VSUS/DDR_VTER/+1.8V/2.5V	1A
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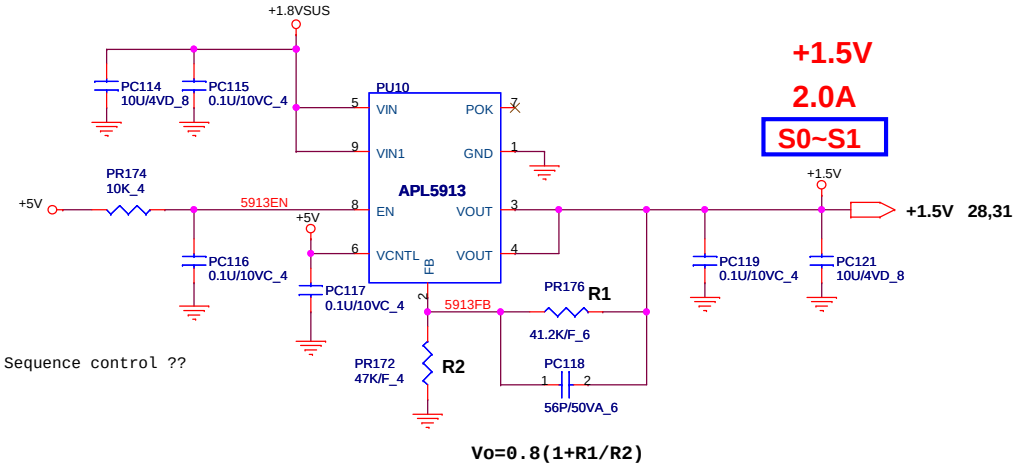

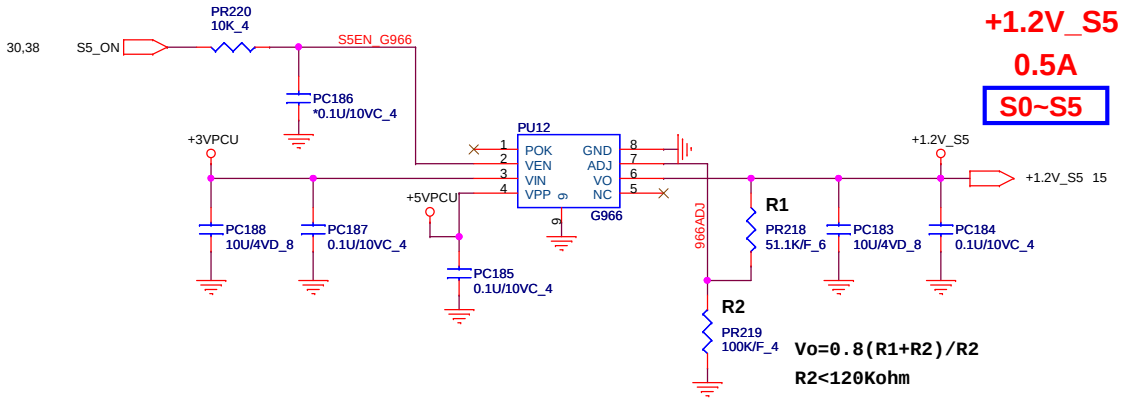

NB5

PROJECT : UT12
Quanta Computer Inc.

Size	Document Number	Rev
B	VGA PWR OZ8118/1.2V_S5/+1.5	1A

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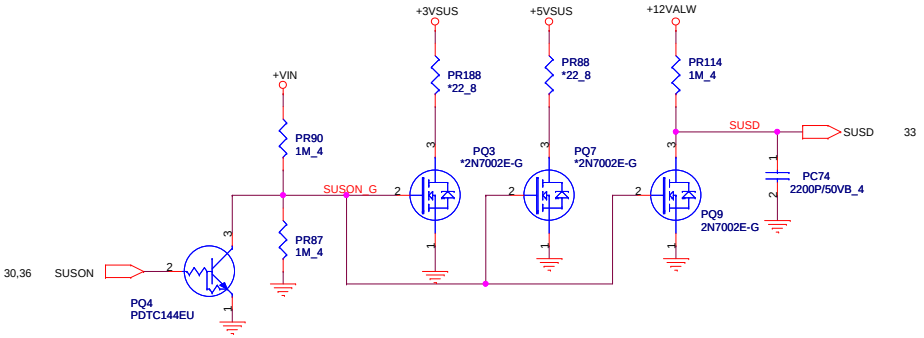
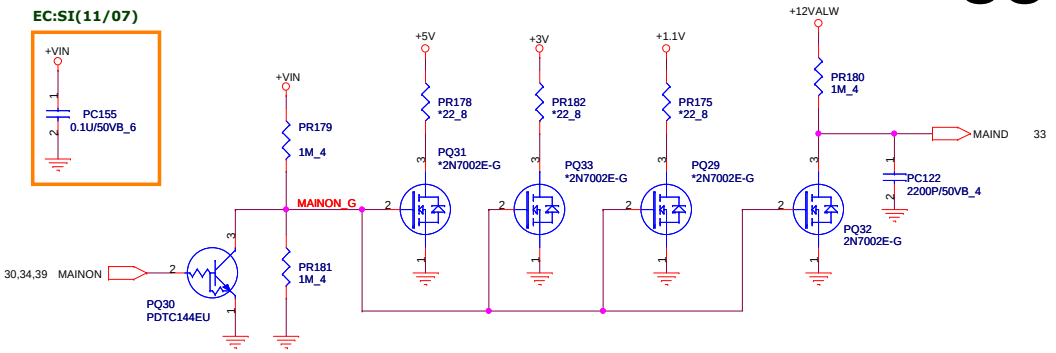
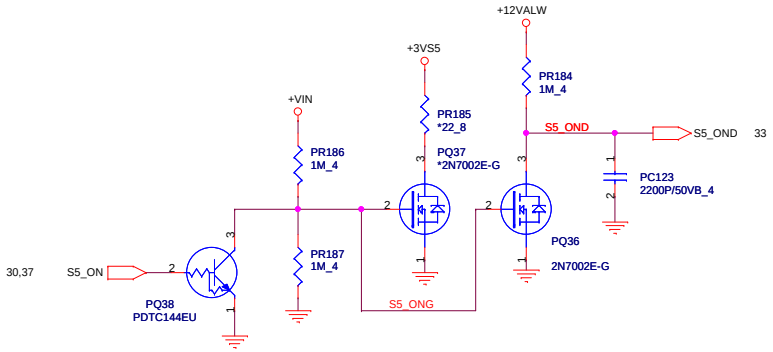
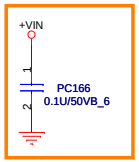


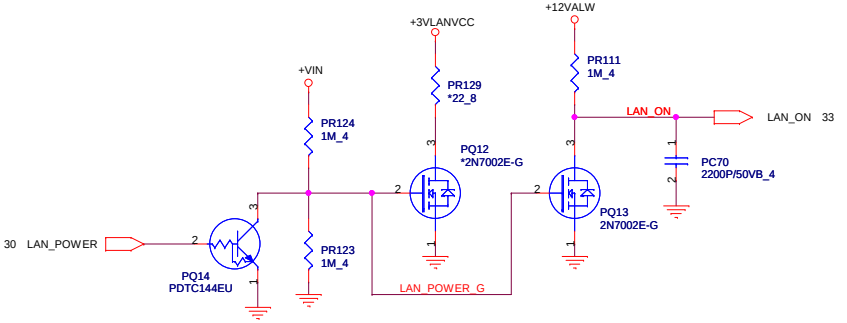
EC:SI(11/07)

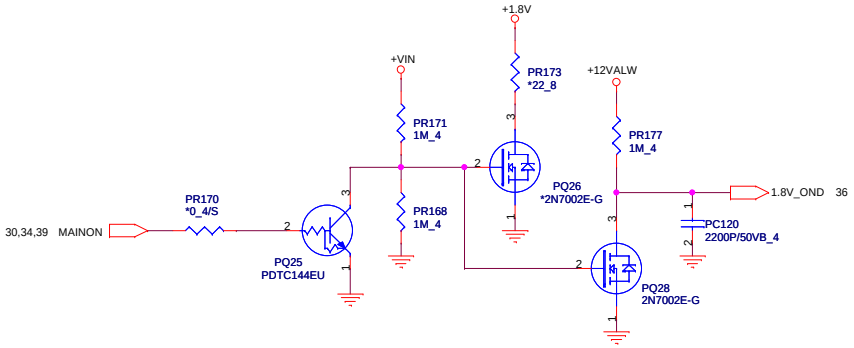




EC:SI(11/07)







N85

PROJECT : UT12
Quanta Computer Inc.

Size	Document Number	Rev
Custom	DISCHARGE	1A
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TOP DC_JACK
65W/90W

ISL6251A

QT8 only support
3S battery pack

Setting the Vin min to 11.42V
For ACSET
1.26V

Setting the Vin min to 15.88V
For EN = 1.06V

Close to AC soft start MOSFET

For VAD noise

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

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

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

CLOSE TO EC SIDE

ADP TYPE	PR72 Value	P/N
65W	40.2K/F	CS34022FB15
90W	27K/F	CS32702FB16

FOR 17.3"

Size	Document Number	Rev
Custom	CHARGER (ISL6251)	1A

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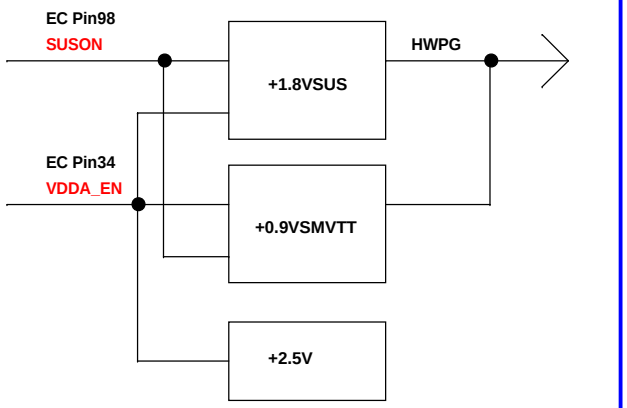
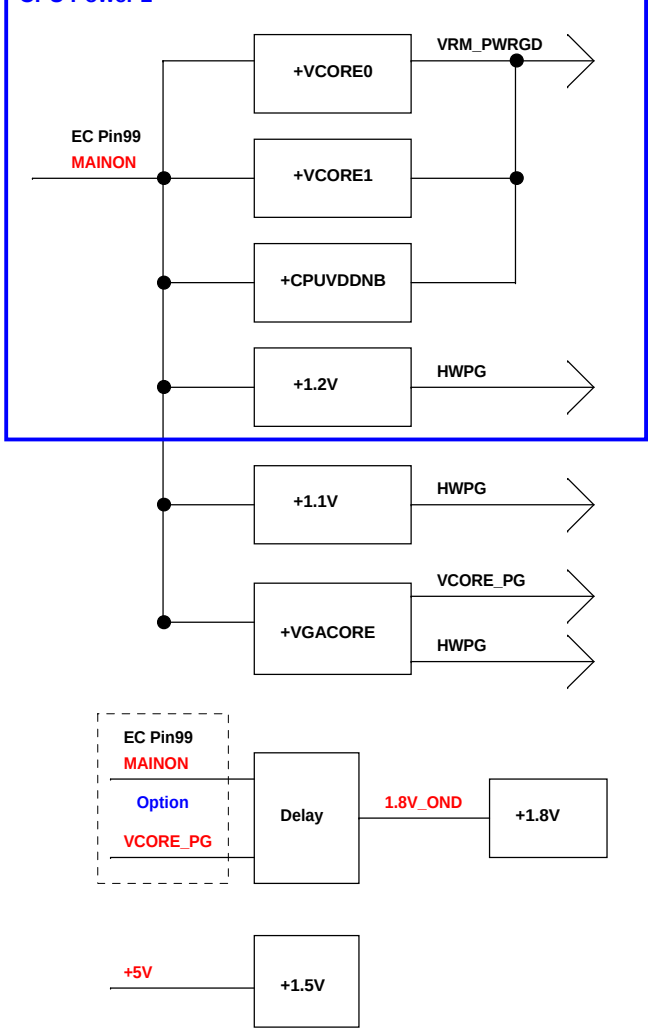
PROJECT : UT12
Quanta Computer Inc.

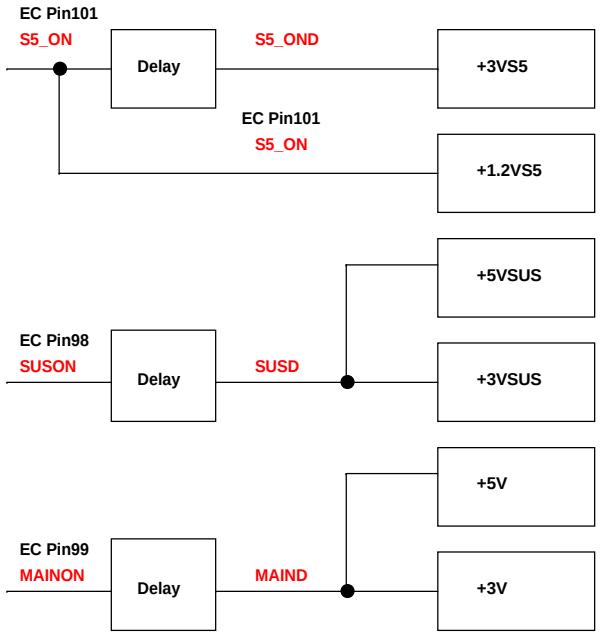
NB5

CPU Power 1



CPU Power 2





1 S5_ON, S5_OND, RSMRST# → 2 SUSON, SUSD → 3 MAINON, MAIND → 4 HWPG, VCORE_PG, VRM_PWRGD → EC Pin76 ECPWROK, Delay 600ms → SB_PWRGD_IN, 3.3V → NB_PWRGD_IN, 1.8V

NB5	**PROJECT : UT12** Quanta Computer Inc.	
Size: Custom	Document Number: **Power control**	Rev: 1A
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