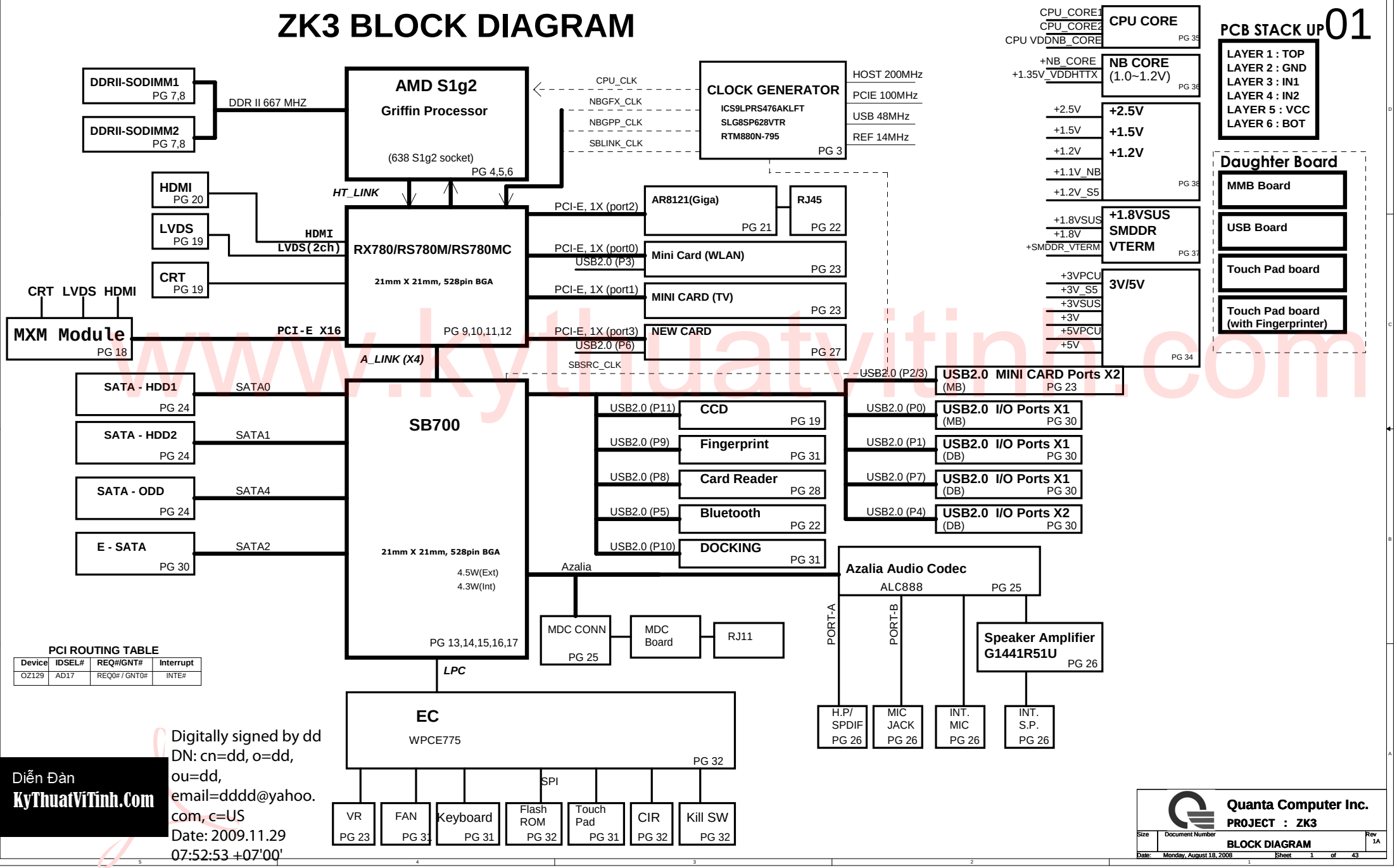
# ZK3 BLOCK DIAGRAM




**PCI ROUTING TABLE**

| Device | IDSEL# | REQ#/GNT# | Interrupt |
|---|---|---|---|
| OZ129 | AD17 | REQ0# / GNT0# | INTE# |


Digitally signed by dd
DN: cn=dd, o=dd, ou=dd, email=dddd@yahoo.com, c=US
Date: 2009.11.29 07:52:53 +07'00'

Diễn Đàn
KyThuatViTinh.Com

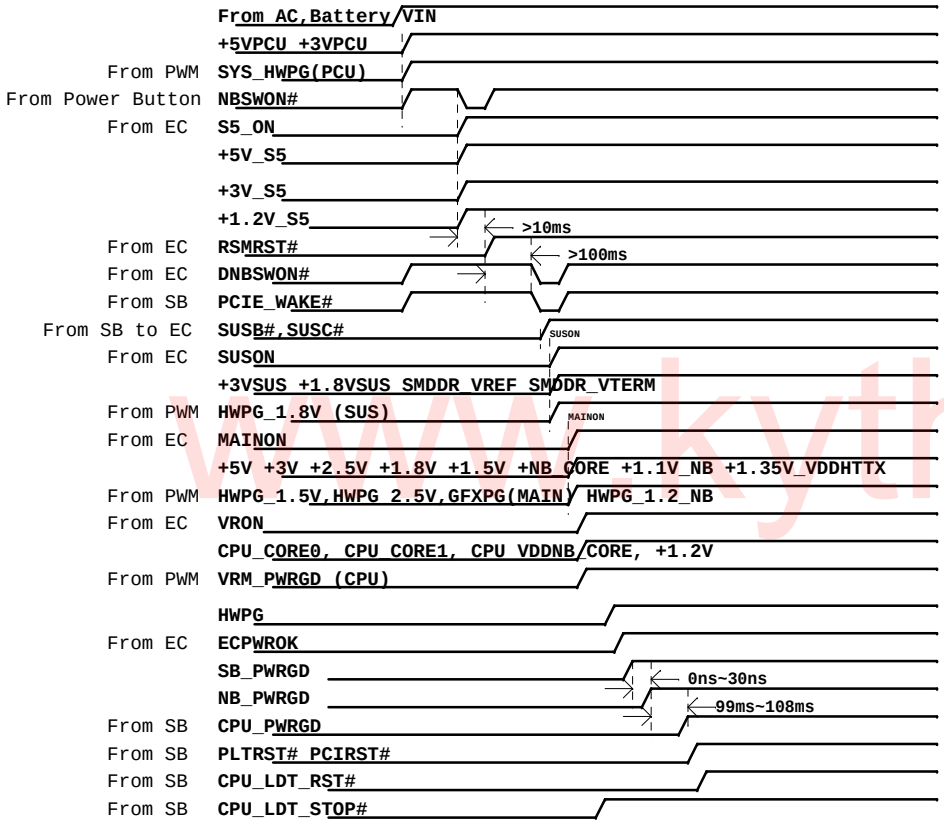
www.kythuatvitinh.com


Quanta Computer Inc.
PROJECT : ZK3

| Size | Document Number | Rev |
|---|---|---|
| | BLOCK DIAGRAM | 1A |

Date: Monday, August 18, 2008 Sheet 1 of 43

## BD3G Power On Sequence




## BOM naming rule

| Items | Function | BTO | Name | Description |
|---|---|---|---|---|
| 1 | CIR | v | CIR@ | |
| 2 | HDMI port | v | HDM@ | |
| 3 | HDMI transmitter | v | SI@ | Silicon image SiI 1392/1932 |
| 4 | HDMI-CEC | v | CEC@ | Renesas R8C/1B |
| 5 | Discrete VGA | | EV@ | External VGA stuff |
| 6 | UMA | | IV@ | Internal VGA stuff |
| 7 | New Card | | NEW@ | |
| 8 | RJ11 | v | MD@ | Modem |
| 9 | RJ45-10/100 | | 40@ | Marvell 8040T(10/100) |
| 10 | RJ45-1000 | | 55@ | Marvell 8055(Giga) |
| 11 | Option for RJ45-10/100 and RJ45-1000 | | 40@55@ | Option for 8040/8055 |
| 12 | TV | v | TV@ | |
| 13 | Cardbus | | CB@ | |
| 14 | FM transmitter | v | FM@ | |
| 15 | Mainstream ID LED | | MID@ | |
| 16 | Low cost ID LED | | LID@ | |
| 17 | CCD | v | CCD@ | |
| 18 | INT MIC | v | I_MIC@ | |
| 19 | AMD Hyper Flash | | HF@ | Only for AMD platform |
| 20 | North bridge(690MC/RS780MC) | | MC@ | Only for AMD platform |
| 21 | North bridge(RX780) | | RX@ | Only for AMD platform |
| 22 | PowerXpress | | PX@ | Only for AMD platform |
| 23 | PowerXpress with UMA SKU | | PX@IV@ | Only for AMD platform |
| 24 | PowerXpress with Discrete VGA SKU | | PX@EV@ | Only for AMD platform |
| 25 | Power player/Power Shift | | PP@ | Only for AMD platform |

***Note: EC will sampling SUSB# & SUSC# every 5ms.**

## AMD SB700 SMBUS Table

| | CLK GEN | RAM | Mini Card (HD-Decoder) | Mini-card(WL) | New Card | HDMI |
|---|---|---|---|---|---|---|
| SB700 SDATA0/SCLK0(+3V) | V | V | V | V | V | |
| SB700 SDATA1/SCLK1(+3V_S5) | | | | | | V |
| SB700 SDATA2/SCLK2(+3V_S5) | | | | | | |
| Power | +3V | +3V | +3V | +3V (Atheros) | +3V | +3V_S5 |
| Reserve MOS ckt | V | V | V | V | V | V |

## EC SMBUS Table

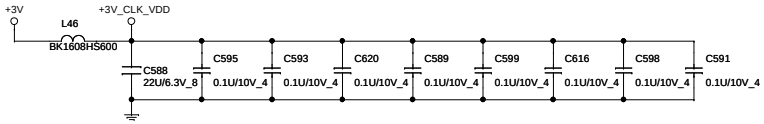
| | Battery | CPU thermal Sensor | EC EEPROM | VGA thermal Sensor | Touch Sensor | HDMI CEC |
|---|---|---|---|---|---|---|
| EC775 SDATA1/SCLK1(+3VPCU) | V | | | | | |
| EC775 SDATA2/SCLK2(+3VPCU) | | V | V | | | |
| EC775 SDATA3/SCLK3(+3VPCU) | | | | V | V | V |
| EC775 SDATA4/SCLK4(+3VPCU) | | | | | | |
| Power | +3VPCU | +3V | +3VPCU | +3V | +3VPCU | +5VPCU |
| Reserve MOS ckt | X | V | X | V | X | V |

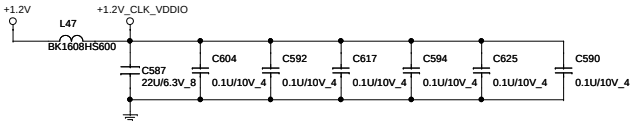
www.kythuatvitinh.com

Quanta Computer Inc.
PROJECT : ZK3
Size | Document Number | SYSTEM INFORMATION | Rev 1A
Date: Monday, August 18, 2008 | Sheet 2 of 43

# CLK_GEN_SLG8SP628





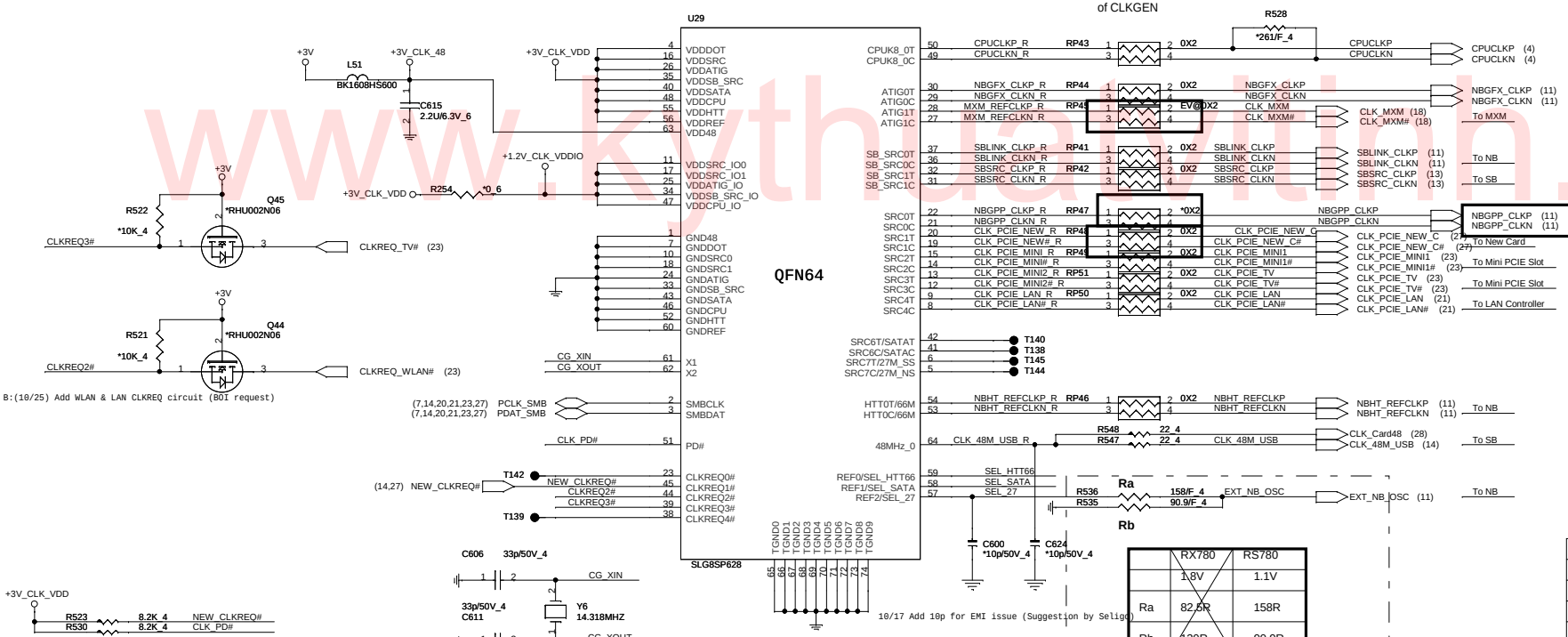

ICS9LPRS480 P/N :

SLG8SP628 P/N : AL8SP628000

RTM880N-796 P/N : AL000880000

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

Place within 0.5" of CLKGEN




| | RX780 | RS780 |
|---|---|---|
| | 1.8V | 1.1V |
| Ra | 82.5R | 158R |
| Rb | 130R | 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

NB CLOCK INPUT TABLE

| NB CLOCKS | RX780 | RS780 |
|---|---|---|
| HT_REFCLKP | 100M DIFF | 100M DIFF |
| HT_REFCLKN | 100M DIFF | 100M DIFF |
| REFCLK_P | 14M SE (1.8V) | 14M SE (1.1V) |
| REFCLK_N | NC | vref |
| GFX_REFCLK | 100M DIFF | 100M DIFF(IN/OUT)* |
| GPP_REFCLK | 100M DIFF | NC or 100M DIFF OUTPUT |
| GPPSB_REFCLK | 100M DIFF | 100M DIFF |

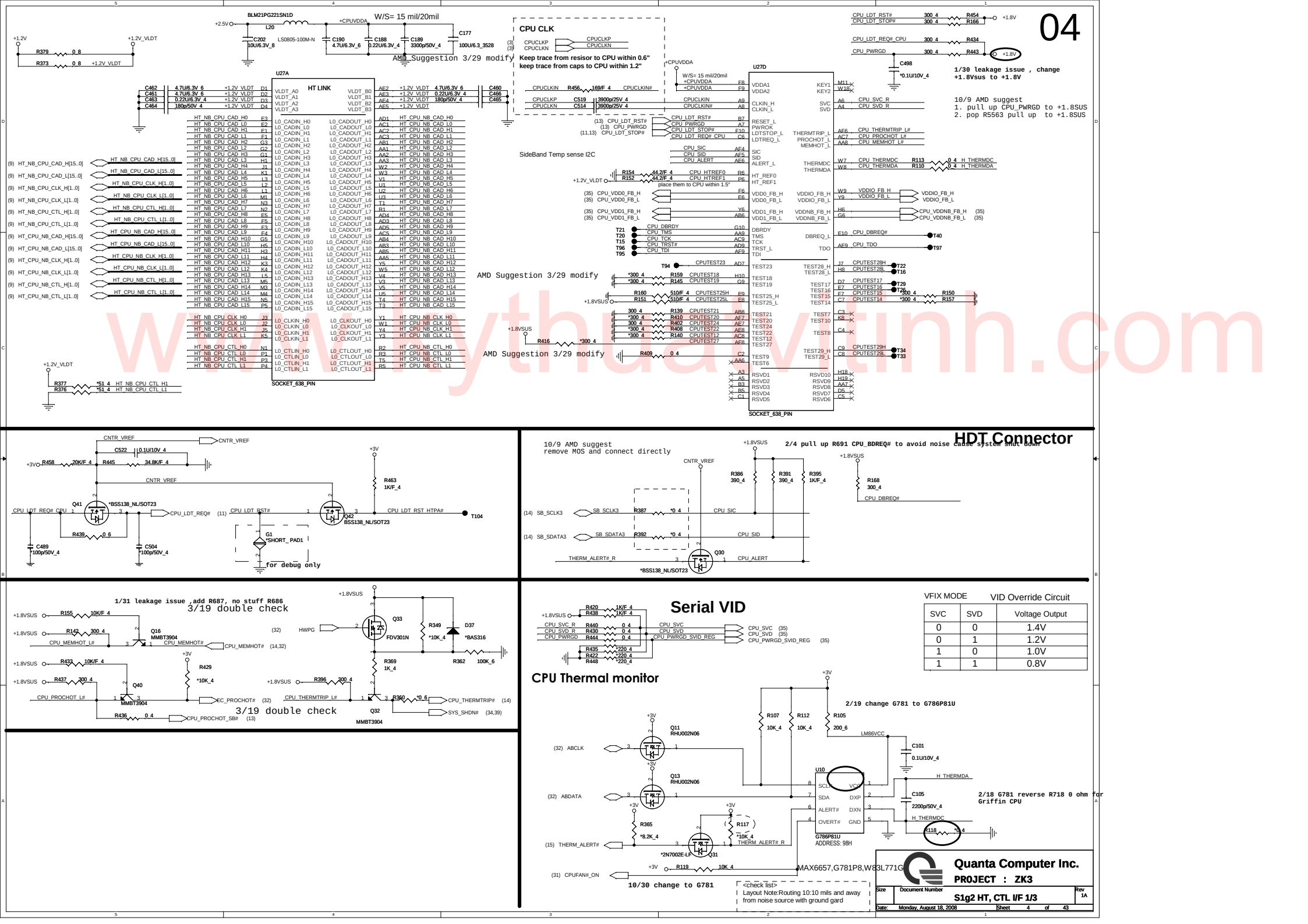
| CLOCKS name | RX780 | RS780 | Clock pin function |
|---|---|---|---|
| NBGFX_CLKP<br>NBGFX_CLKN | RP1001 STUFF | RP1001 STUFF | to NB for VGA reference clock |
| MXM_REFCLKP<br>MXM_REFCLKN | RP66 STUFF | RP66 NC | to M82-S external reference clock -RX780 only |
| NBGPP_CLKP<br>NBGPP_CLKN | RP1005 STUFF | RP1005 NC | to NB for RX780 for PCIEX2 interface reference clock only<br>RS780 is internal share with AC-LINK clock,RS780 not need |
| SBLINK_CLKP<br>SBLINK_CLKN | RP1003 STUFF | RP1003 STUFF | to NB for AC-LINK reference clock |
| | | | |

| | | |
|---|---|---|
| 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 and 27M SS outputs |
| | 0* | 100 MHz SRC clock |

* default

| | | | | |
|---|---|---|---|---|
| Quanta Computer Inc. | | | | |
| PROJECT : ZK3 | | | | |
| Size | Document Number | | | Rev |
| | CLOCK GENERATOR_SLG8SP628 | | | 1A |
| Date: Monday, August 18, 2008 | | Sheet 3 | of | 43 |

www.kythuatvinh.com




www.laythuatvtinh.com

# Processor Memory Interface

05

PLACE THEM CLOSE TO CPU WITHIN 1"

U27B

MEM:CMD/CTRL/CLK

+SMDDR_VTERM

750 mA

+1.8VSUS

+SMDDR_VREF

R192 2K/F_4

R173 Reserved *0_4

R179 2K/F_4

C218 0.1U/10V_4

C210 1000p/50V_4

R431 39.2/F_4 M_ZP

R432 39.2/F_4 M_ZN

SOCKET_638_PIN

U27C

MEM:DATA

Place close to socket

C534 4.7U/6.3V_6

C499 4.7U/6.3V_6

C507 4.7U/6.3V_6

C533 4.7U/6.3V_6

C200 0.22U/6.3V_4

C530 0.22U/6.3V_4

C511 0.22U/6.3V_4

C199 0.22U/6.3V_4

C520 1000p/50V_4

C201 1000p/50V_4

C529 1000p/50V_4

C176 1000p/50V_4

C185 180p/50V_4

C171 180p/50V_4

C517 180p/50V_4

C528 180p/50V_4

Close to CPU within 1500 mils

C544 1.5p/50V_4

C545 1.5p/50V_4

C532 1.5p/50V_4

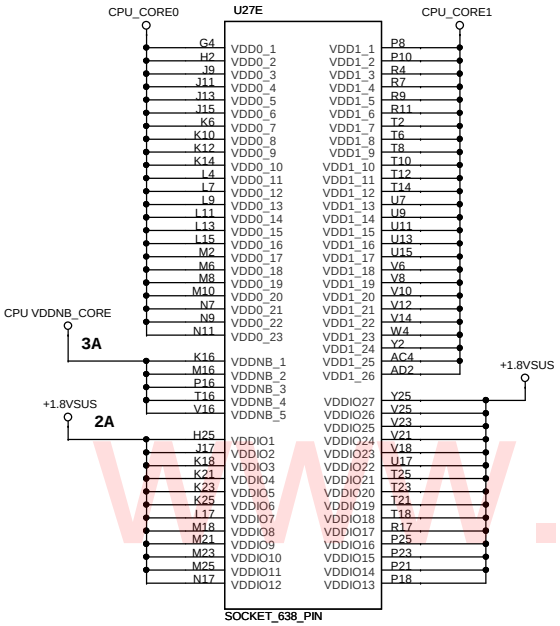
C557 1.5p/50V_4

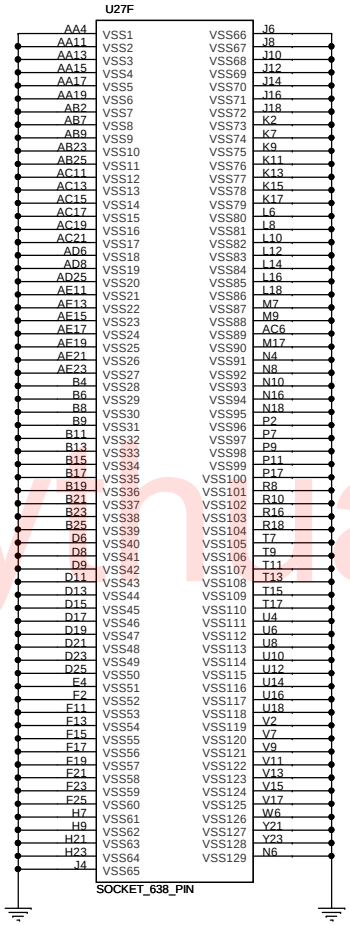
www.sythuatmay.com

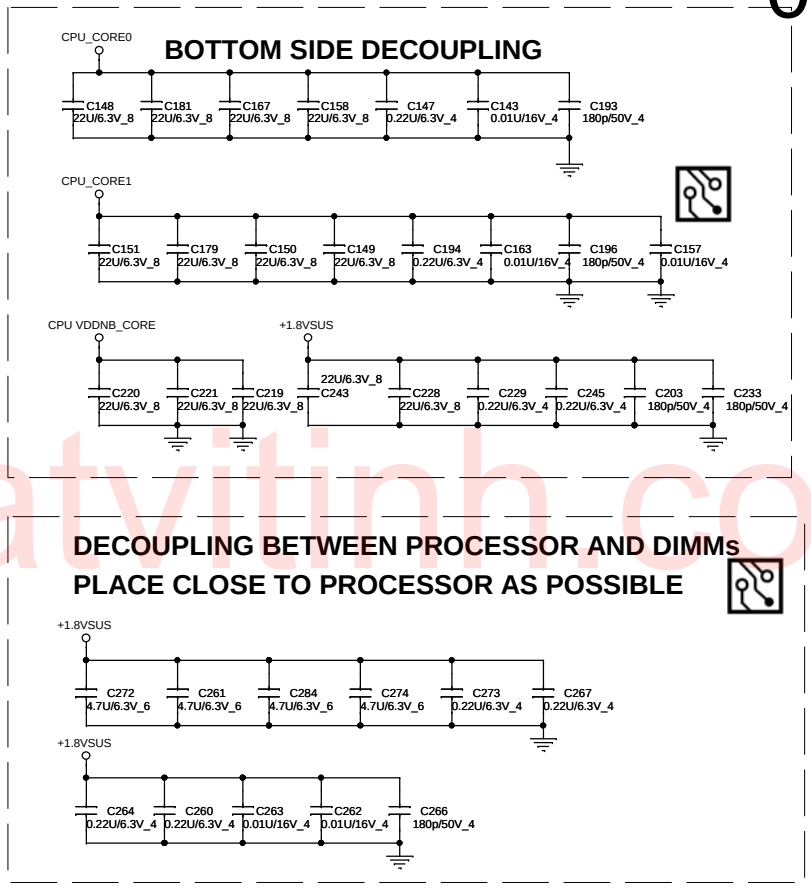
Quanta Computer Inc.

PROJECT : ZK3

| Size | Document Number | Rev |
|---|---|---|
| | S1G2 DDRII MEMORY I/F 2/3 | 1A |
| Date: Monday, August 18, 2008 | Sheet 5 of 43 | |



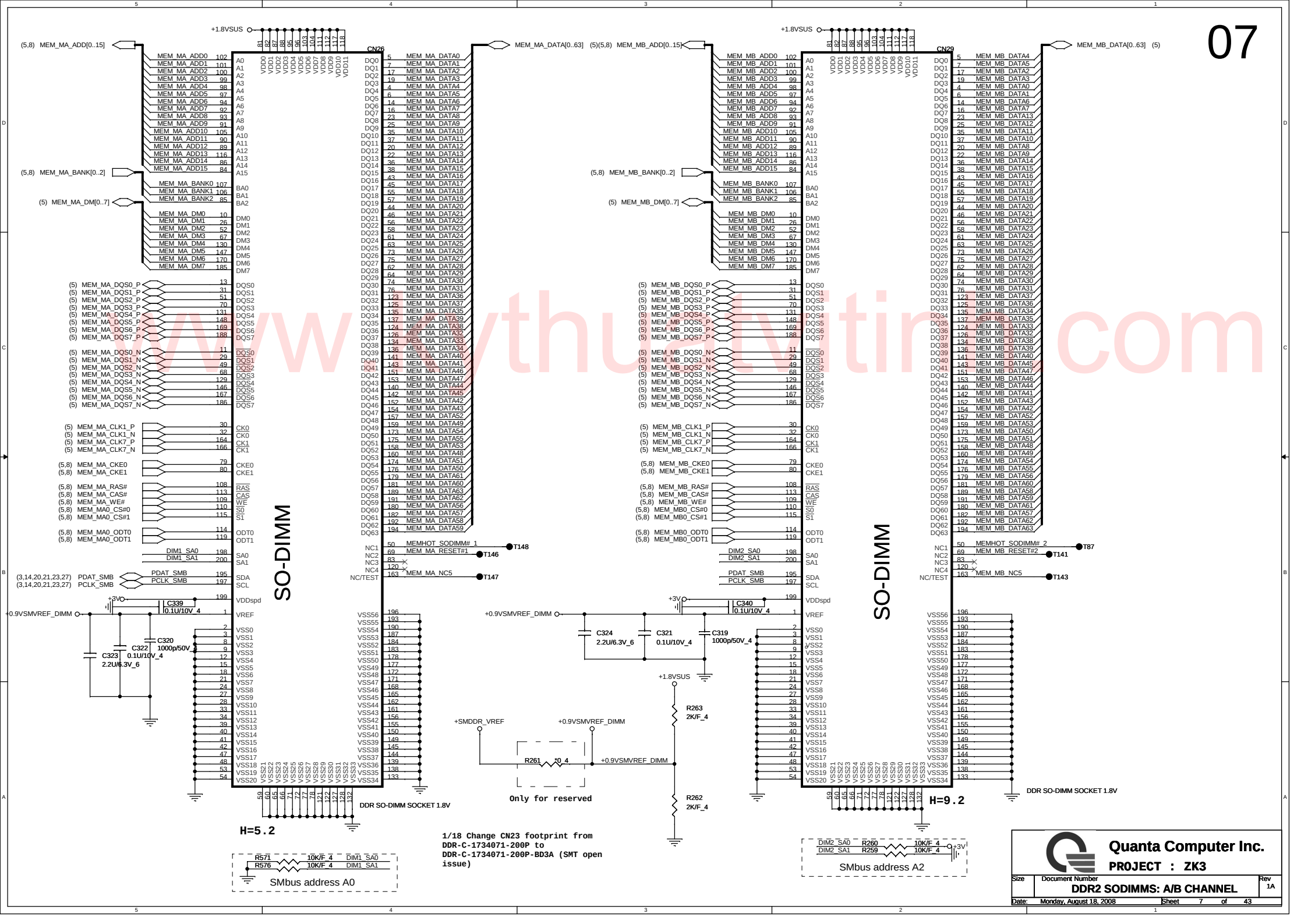




# PROCESSOR POWER AND GROUND

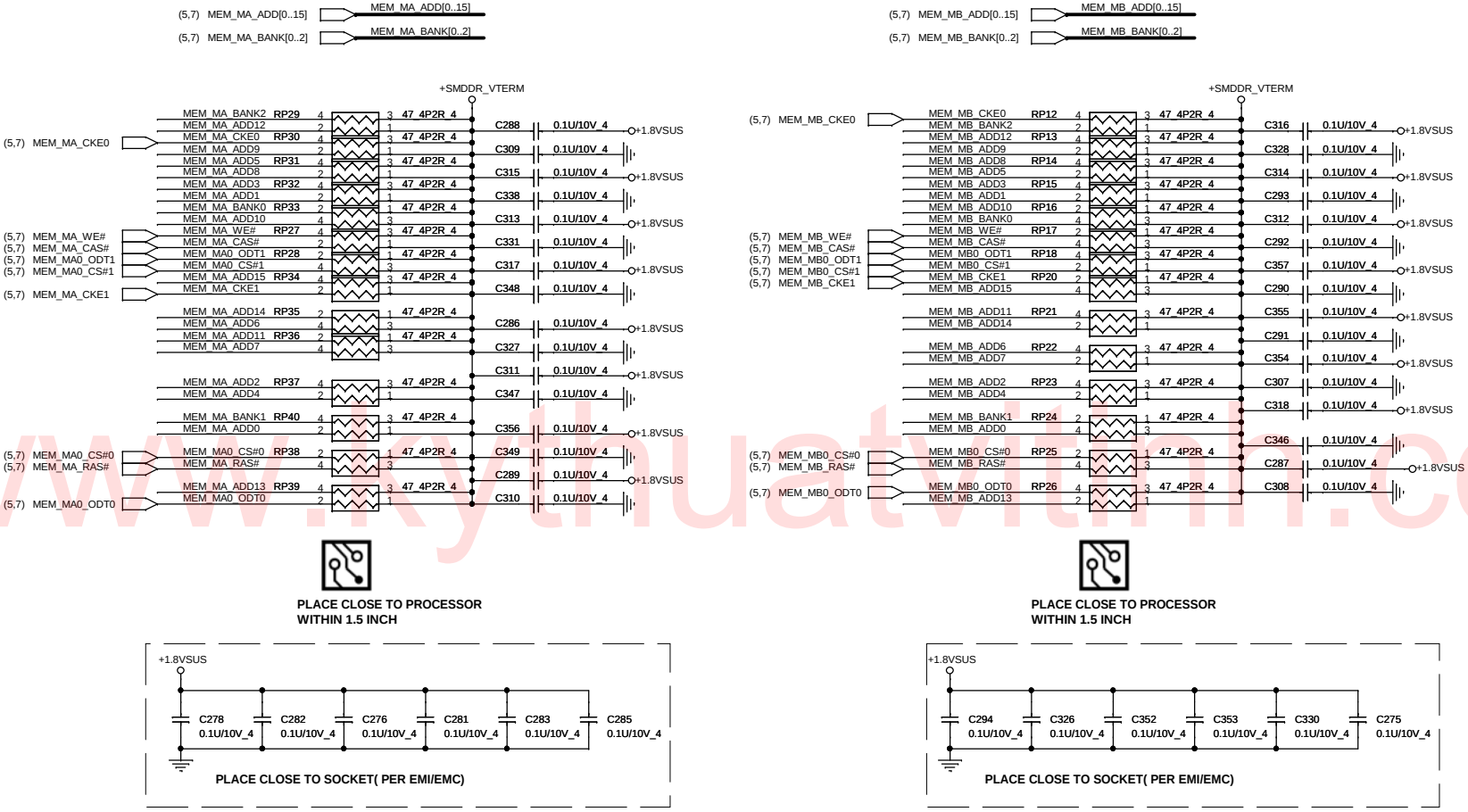
www.kynhatvitinh.com

| | | |
|---|---|---|
| Quanta Computer Inc. | | |
| PROJECT : ZK3 | | |
| Size | Document Number: S1G2 PWR & GND 3/3 | Rev: 1A |
| Date: Monday, August 18, 2008 | Sheet 6 of 43 | |



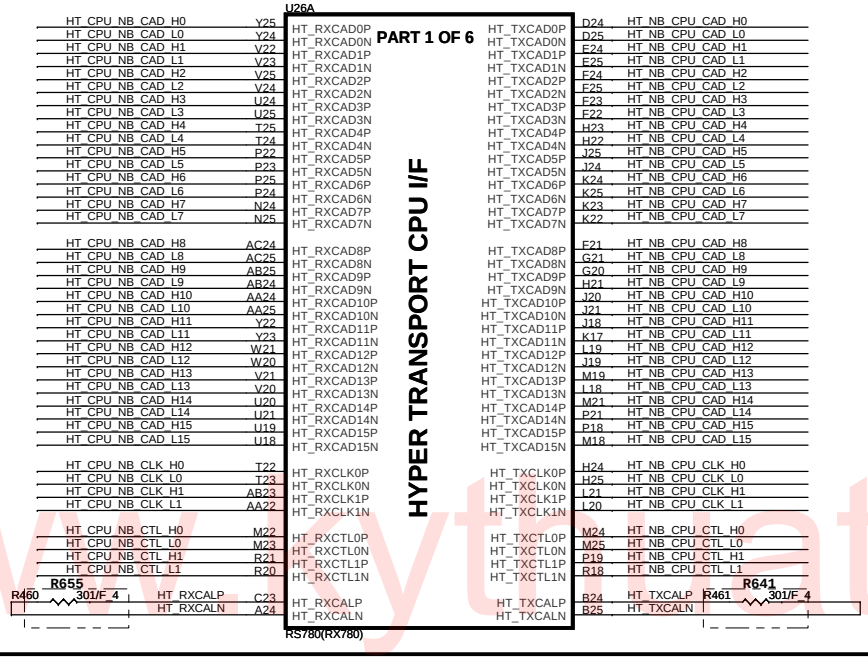

www.mythuatvn.com

| | | |
|---|---|---|
| Quanta Computer Inc. | | |
| PROJECT : ZK3 | | |
| Size | Document Number: DDR2 SODIMMS: A/B CHANNEL | Rev: 1A |
| Date: Monday, August 18, 2008 | Sheet 7 of 43 | |




www.KythuatVitinh.com

| | | |
|---|---|---|
| Quanta Computer Inc. | | |
| PROJECT : ZK3 | | |
| Size | Document Number: DDR2 SODIMMS TERMINATIONS | Rev: 1A |
| Date: Monday, August 18, 2008 | Sheet 8 of 43 | |




HT_CPU_NB_CAD_H[15..0] → HT_CPU_NB_CAD_H[15..0] (4)
HT_CPU_NB_CAD_L[15..0] → HT_CPU_NB_CAD_L[15..0] (4)
HT_CPU_NB_CLK_H[1..0] → HT_CPU_NB_CLK_H[1..0] (4)
HT_CPU_NB_CLK_L[1..0] → HT_CPU_NB_CLK_L[1..0] (4)
HT_CPU_NB_CTL_H[1..0] → HT_CPU_NB_CTL_H[1..0] (4)
HT_CPU_NB_CTL_L[1..0] → HT_CPU_NB_CTL_L[1..0] (4)
HT_NB_CPU_CAD_H[15..0] → HT_NB_CPU_CAD_H[15..0] (4)
HT_NB_CPU_CAD_L[15..0] → HT_NB_CPU_CAD_L[15..0] (4)
HT_NB_CPU_CLK_H[1..0] → HT_NB_CPU_CLK_H[1..0] (4)
HT_NB_CPU_CLK_L[1..0] → HT_NB_CPU_CLK_L[1..0] (4)
HT_NB_CPU_CTL_H[1..0] → HT_NB_CPU_CTL_H[1..0] (4)
HT_NB_CPU_CTL_L[1..0] → HT_NB_CPU_CTL_L[1..0] (4)

11/4 modify

| signals | RS780 | RX780 |
|---|---|---|
| HT_TXCALP<br>HT_TXCALN | R641<br>300 ohm 1% | R641<br>1.21k ohm 1% |
| HT_RXCALP<br>HT_RXCALN | R655<br>300 ohm 1% | R655<br>1.21k ohm 1% |

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

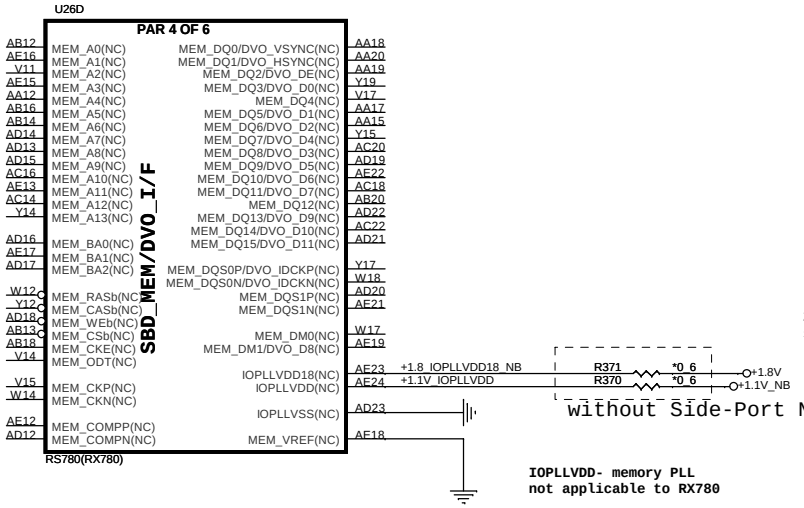
RES CHIP 300 1/16W +-1%(0402)
P/N : CS13002FB00

www.laptopschematic.com

**A12 version**
**RS780M AJ067400T05 100-CK2612(216-0674008-00)**
**RS780MC AJ067400T06 100-CK2613(216-0674010-00)**
**RX781 AJ067400T10 100-CK2642(215-0674024)**
**SB700 AJA12FG0T18 100-CK2614(218S7EALA12FG)**

**A13 version**
**RS780M AJ067400T18 100-CK2699(216-0674022)**
**RS780MC AJ067400T20 100-CK2704(216-0674024)**
**RX781 AJ067400T21 100-CK2706(215-0674034)**
**A12 version**
**SB700 AJA12FG0T18**

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



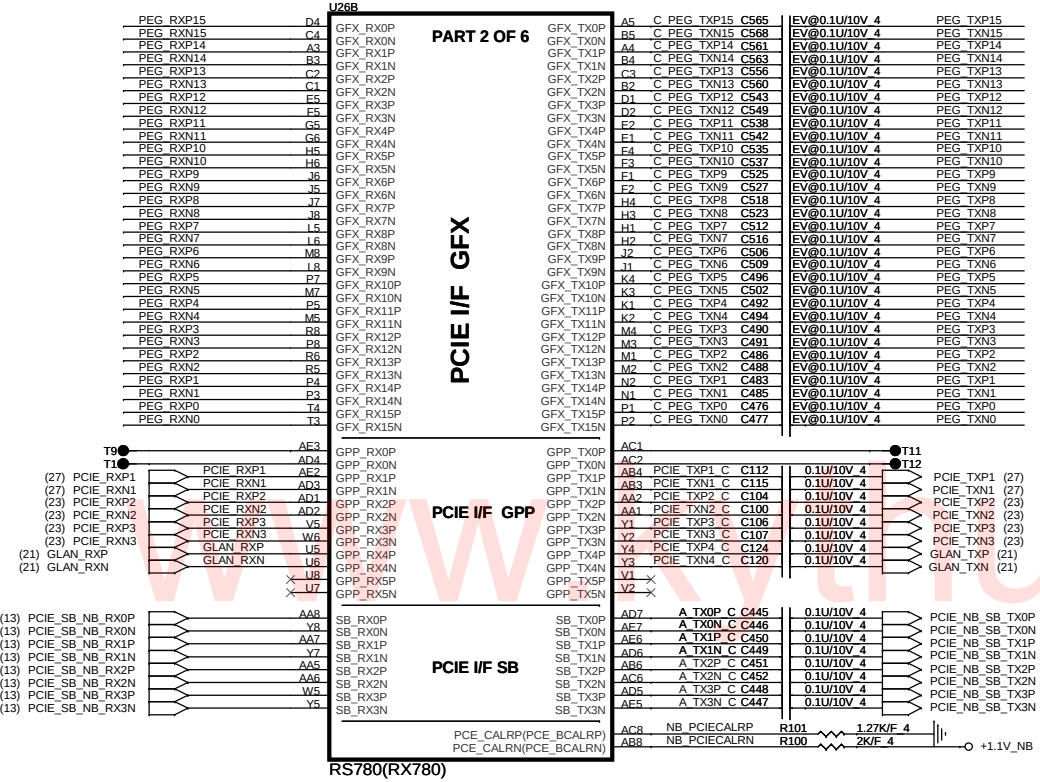

**2/1 R480,R479 no stuff when RS780M without side port / RX781**

without Side-Port NU 4/8

**IOPLLVDD- memory PLL not applicable to RX780**

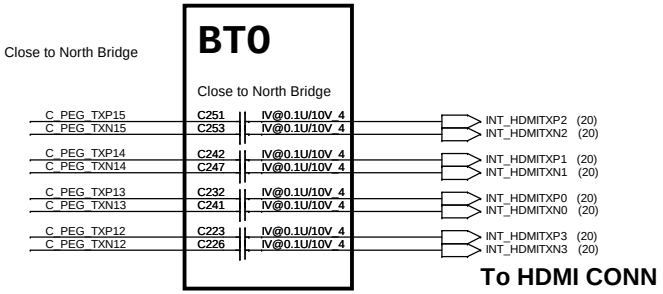
Quanta Computer Inc.
PROJECT : ZK3

| Size | Document Number | Rev |
|---|---|---|
| | RS740/RS780-HT LINK I/F 1/5 | 1A |
| Date: Monday, August 18, 2008 | Sheet 9 of 43 | |










TO EPRESS CARD
TO WLAN
TO MINI CARD
TO PCIE-LAN

**NOTE:**
RS780MC no support Graphic / HDMI

11/4 modify

**RX780/RS740/RS780 difference table (PCIE LINK)**

| | RS740 | RX780/RS780 |
|---|---|---|
| NB_PCIECALRP | 2.2R (GND) | 1.27K (GND) |
| GPP4 | NC | GPP4 |
| GPP5 | NC | GPP5 |

**RS780 Display Port Support (muxed on GFX)**

| | |
|---|---|
| DP0 | GFX_TX0,TX1,TX2 and TX3<br>AUX0 and HPD0 |
| DP1 | GFX_TX4,TX5,TX6 and TX7<br>AUX1 and HPD1 |

www.kythuatvitinh.com

Quanta Computer Inc.
PROJECT : ZK3

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

Date: Monday, August 18, 2008 Sheet 10 of 43

**RX780: Powered from the 1.8-V rail and driven by SB600 LDT_RST#, or SB700 LDT_RST# or A_RST#.**
**RS780: Powered from the 3.3-V rail and driven by SB600 LDT_RST#, or SB700 LDT_RST# or A_RST#.**

RS780
(13) NB_PLTRST# → NB_PLTRST#
**North Bridge RESET**

RX780
+1.1V_NB — R177 *2.2K_4 — INT_CRT_DDCDAT
R178 *2.2K_4 — INT_CRT_DDCCLK
10/9 add 2K pull up to DDCDAT /DDCCLK for RX780

**11/4 no stuff for RS780M/MC/RX781**

**12/22 stuff R48 2.2K for power play**

STRP_DATA — R191 *10K/F_4 — +3V
R196 2.2K_4

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**
RS780_AUX_CAL — R468 *3K_4

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

**RX780**
**Reserved only**

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

**RS780**
INT_VSYNC — R462 3K_4 — +3V
R465 *3K_4

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

**RS780**
INT_HSYNC — R464 3K_4 — +3V
R467 *3K_4

10/19 RS780M Databook rev 1.01 define High disable

U26C — PART 3 OF 6

CRT/TVOUT
- AVDD1(NC) F12
- AVDD2(NC) E12
- AVDDI(NC) F14
- AVSSDI(NC) G15
- AVDDQ(NC) H15
- AVSSQ(NC) H14
- C_Pr(DFT_GPIO5) F17
- Y(DFT_GPIO2) F17
- COMP_Pb(DFT_GPIO4) F15
- RED(DFT_GPIO0) G18
- REDb(NC) G17
- GREEN(DFT_GPIO1) E18
- GREENb(NC) F18
- BLUE(DFT_GPIO3) E19
- BLUEb(NC) F19
- DAC_HSYNC(PWM_GPIO4) A11
- DAC_VSYNC(PWM_GPIO6) B11
- DAC_SDA(PCE_TCALRN) E8
- DAC_SCL(PCE_RCALRN) F8
- DAC_RSET(PWM_GPIO1) G14

PLL PWR / LVTM
- PLLVDD(NC) A12
- PLLVDD18(NC) D14
- PLLVSS(NC) B12
- VDDA18HTPLL H17
- VDDA18PCIEPLL1 D7
- VDDA18PCIEPLL2 E7

PM
- SYSRESETb D8
- POWERGOOD A10
- LDTSTOPb C10
- ALLOW_LDTSTOP C12

CLOCKs
- HT_REFCLKP C25
- HT_REFCLKN C24
- REFCLK_P/OSCIN(OSCIN) E11
- REFCLK_N(PWM_GPIO3) F11
- GFX_REFCLKP T2
- GFX_REFCLKN T1
- GPP_REFCLKP U1
- GPP_REFCLKN U2
- GPPSB_REFCLKP(SB_REFCLKP) V4
- GPPSB_REFCLKN(SB_REFCLKN) V3

MIS.
- I2C_DATA A9
- I2C_CLK B9
- DDC_DATA/AUX0N(NC) B8
- DDC_CLK/AUX0P(NC) A8
- AUX1P(NC) B7
- AUX1N(NC) A7
- STRP_DATA B10
- RSVD G11
- AUX_CAL(NC) C8

RS780(RX780)

(18) INT_CRT_RED — R183 IV@140/F_4 — INT_CRT_RED
(18) INT_CRT_GRN — R181 IV@150/F_4 — INT_CRT_GRN
(18) INT_CRT_BLU — R182 IV@150/F_4 — INT_CRT_BLU
(18) INT_HSYNC — INT_HSYNC
(18) INT_VSYNC — INT_VSYNC
(18) INT_CRT_DDCDAT — INT_CRT_DDCDAT
(18) INT_CRT_DDCCLK — INT_CRT_DDCCLK
R163 IV@715/F_6 — DAC_RSET_NB
(17) NB_PWRGD_IN
(3) NBHT_REFCLKP
(3) NBHT_REFCLKN
(3) EXT_NB_OSC
+1.1V_NB — R184 4.7K_4 — R200 4.7K_4
(3) NBGFX_CLKP
(3) NBGFX_CLKN
(3) NBGPP_CLKP
(3) NBGPP_CLKN
(3) SBLINK_CLKP
(3) SBLINK_CLKN
(19) INT_LVDS_EDIDDATA
(19) INT_LVDS_EDIDCLK
(20) SDVO_CTRLDATA
(20) SDVO_CTRLCLK
T108 — T109 — RS740_DFT_GPIO1
(36) +NB_CORE_ON — R201 0_4 — STRP_DATA
T107 — RS780_AUX_CAL

+3V_AVDD_NB — +1.8V_AVDDDI_NB — +1.8V_AVDDQ_NB
+1.1V_PLLVDD — +1.8V_PLLVDD18 — +1.8V_VDDA18HTPLL — +1.8V_VDDA18PCIEPLL
NB_PLTRST# — NB_PWRGD_IN — NB_LDT_STOP# — NB_ALLOW_LDTSTOP
NBHT_REFCLKP — NBHT_REFCLKN
R210 0_4 — R194 0_4 — NB_REFCLK_P — NB_REFCLK_N
INT_LVDS_EDIDDATA — INT_LVDS_EDIDCLK — IV_HDMI_DDCDATA — IV_HDMI_DDCCLK

TXOUT_L0P(NC) A22 — INT_TXLOUT0+ (18)
TXOUT_L0N(NC) B22 — INT_TXLOUT0- (18)
TXOUT_L1P(NC) A21 — INT_TXLOUT1+ (18)
TXOUT_L1N(NC) B21 — INT_TXLOUT1- (18)
TXOUT_L2P(NC) B20 — INT_TXLOUT2+ (18)
TXOUT_L2N(DBG_GPIO0) A20 — INT_TXLOUT2- (18)
TXOUT_L3P(NC) A19 — T111
TXOUT_L3N(DBG_GPIO2) B19 — T106
TXOUT_U0P(NC) B18 — INT_TXUOUT0+ (18)
TXOUT_U0N(NC) A18 — INT_TXUOUT0- (18)
TXOUT_U1P(PCIE_RESET_GPIO3) A17 — INT_TXUOUT1+ (18)
TXOUT_U1N(PCIE_RESET_GPIO2) B17 — INT_TXUOUT1- (18)
TXOUT_U2P(NC) D20 — INT_TXUOUT2+ (18)
TXOUT_U2N(NC) D21 — INT_TXUOUT2- (18)
TXOUT_U3P(PCIE_RESET_GPIO5) D18 — T110
TXOUT_U3N(NC) D19 — T105
TXCLK_LP(DBG_GPIO1) B16 — INT_TXLCLKOUT+ (18)
TXCLK_LN(DBG_GPIO3) A16 — INT_TXLCLKOUT- (18)
TXCLK_UP(PCIE_RESET_GPIO4) D16 — INT_TXUCLKOUT+ (18)
TXCLK_UN(PCIE_RESET_GPIO1) D17 — INT_TXUCLKOUT- (18)
VDDLTP18(NC) A13 — +1.8V_VDDLTP18_NB — B13
VSSLTP18(NC)
VDDLT18_1(NC) A15 — +1.8V_VDDLT_18_NB — B15
VDDLT18_2(NC) A14 — +3V_VDLT33_NB — B14
VDDLT33_1(NC)
VDDLT33_2(NC)
VSSLT1(VSS) C14
VSSLT2(VSS) D15
VSSLT3(VSS) C16
VSSLT4(VSS) C18
VSSLT5(VSS) C20
VSSLT6(VSS) E20
VSSLT7(VSS) C22

**11/01 exchange LVDS_PWM /LVDS_BLON**
LVDS_DIGON(PCE_TCALRP) E9 — INT_LVDS_DIGON (19)
LVDS_BLON(PCE_RCALRP) F7 — L_BKLT_CTRL (19)
LVDS_ENA_BL(PWM_GPIO2) G12 — INT_LVDS_BLON (19)

TMDS_HPD(NC) D9 — TMDS_HPD0 — R205 IV@0_4 — TMDS_HPD# (20)
HPD(NC) D10 — TMDS_HPD1 — T39
TVCLKIN(PWM_GPIO5) D12 — SUS_STAT#_NB — R211 0_4 — SUS_STAT# (14)
THERMALDIODE_P AE8 — R_NB_THRMDA — T89
THERMALDIODE_N AD8 — R_NB_THRMDC — T90
TESTMODE D13 — TEST_EN — R203 1.82K/F_4
R252 *3K_4

**1/17 RX781 connect to GND**
**C104,C110,C646,C98,C136,C103,C118 change to CS00003J951**

+3V — L23 BLM18PG221SN1D — +3V_AVDD_NB — C172 10U/6.3V_6
**AVDD-DAC Analog not applicable to RX780**

+1.1V_NB — L22 BLM18PG221SN1D — +1.1V_PLLVDD — C192 2.2U/6.3V_6
**PLLVDD - Graphics PLL not applicable to RX780**

+1.8V — L27 BLM18PG221SN1D — +1.8V_PLLVDD18 — C236 10U/6.3V_8 — C175 22U/6.3V_8
**PLLVDD18 - Graphics PLL not applicable to RX780**

+1.8V — R197 0_6 — +1.8V_AVDDDI_NB — C162 2.2U/6.3V_6
**AVDDI-DAC Digital not applicable to RX780**

BLM18PG221SN1D — L29 — +1.8V_AVDDQ_NB — C246 2.2U/6.3V_6
**AVDDQ-DAC Bandgap Reference not applicable to RX780**

**11/4 no stuff for RS780M/MC**

+1.8V — BLM18PG221SN1D — L44 — +1.8V_VDDLTP18_NB — C173 2.2U/6.3V_6
**VDDLTP18 - LVDS or DVI/HDMI PLL not applicable to RX780**

BLM21PG221SN1D — L24 — +1.8V_VDDLT_18_NB — C215 4.7U/6.3V_6 — C207 0.1U/10V_4
**VDDLT18 - LVDS or DVI/HDMI digital not applicable to RX780**

**1/17 RX781 no stuff them**
**L2,L12,C124,L52,R76,L17,L51,L10,C115**

**1/31 voltage leakage issue**
**remove Q5,Q3,R83,R80,R97**
**stuff R88,R77**

+1.8V — L28 BLM18PG221SN1D — 20mils width — +1.8V_VDDA18PCIEPLL — C240 2.2U/6.3V_6
**VDDA18PCIEPLL -PCIE PLL**

L26 BLM18PG221SN1D — 20mils width — +1.8V_VDDA18HTPLL — C225 2.2U/6.3V_6
**VDDA18HTPLL -HT LINK PLL**

+1.8V — +VDDG_NB — Q18 *BSS138_NL/SOT23 — R215 *4.7K_4
(4,13) CPU_LDT_STOP# — NB_LDT_STOP# — R219 0_4 — **RS780**

+1.8V — +VDDG_NB — Q17 *BSS138_NL/SOT23 — R209 *4.7K_4
(4) CPU_LDT_REQ# — R214 0_4 — NB_ALLOW_LDTSTOP
(13) ALLOW_LDTSTOP — R208 0_4 — **RS780**

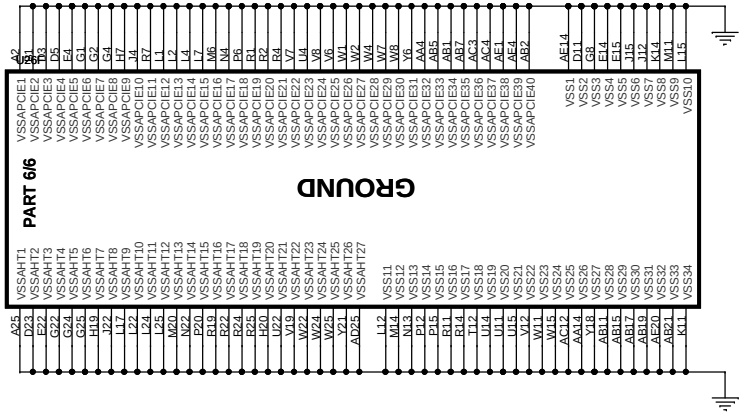
**RX780** +1.8V — R218 *0_6 — +VDDG_NB
**RS780** +3V — R217 *0_6 — +VDDG_NB

+3V — L43 *BLM21PG221SN1D — +3V_VDLT33_NB — C540 *2.2U/6.3V_6
**VDDLT33 - LVDS or DVI/HDMI ANALOG RS740 only**

www.kythatvltinh.com

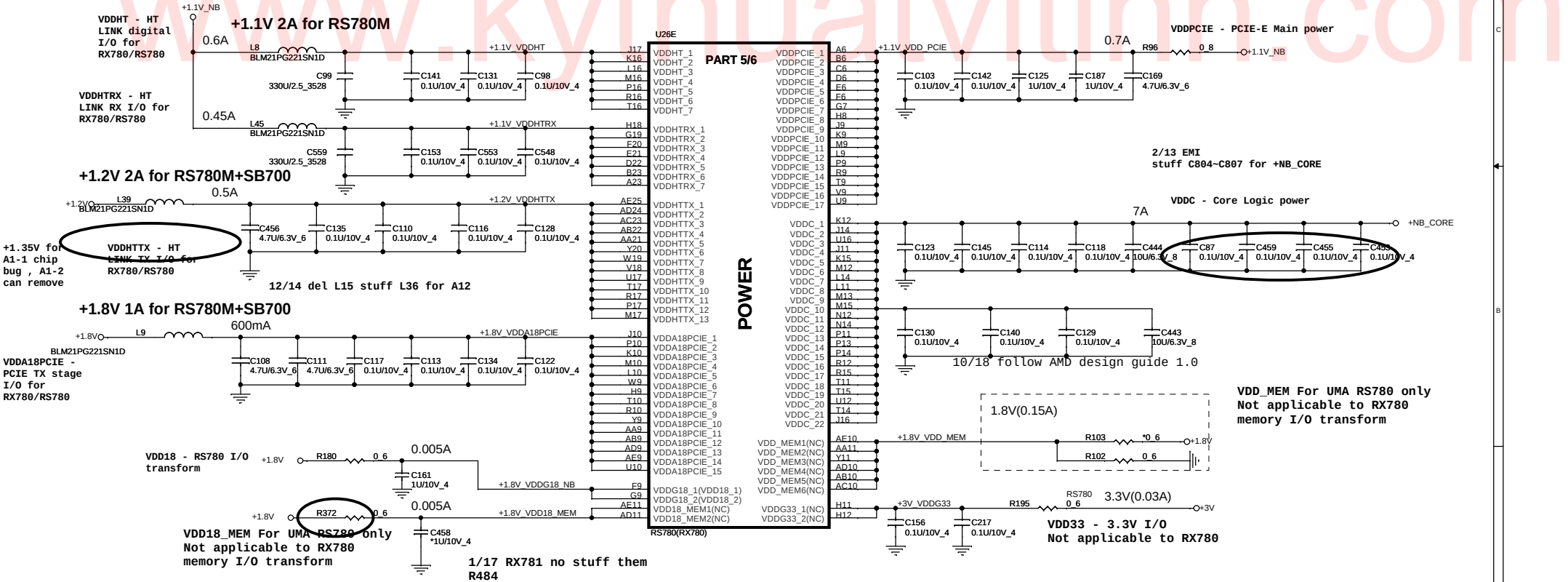
Quanta Computer Inc.
PROJECT : ZK3
Size | Document Number: RS740/RS780-SYSTEM I/F 3/5 | Rev 1A
Date: Monday, August 18, 2008 | Sheet 11 of 43

www.kythuatvitinh.com




**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 |




| | | |
|---|---|---|
| Quanta Computer Inc. | | |
| PROJECT : ZK3 | | |
| Size | Document Number: RS740/RS780-POWER5/5 | Rev: 1A |
| Date: Monday, August 18, 2008 | Sheet 12 of 43 | |

2/4 reserve C800 PLTRST#

PLACE THESE
PCIE AC
COUPLING CAPS
CLOSE TO U600

PCIE_PVDD-- PCIE PLL POWER

B test

1/31 voltage leakage remove R349

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

A11 default PCICLK5
A12 default GPIO41

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

Maybe can remove

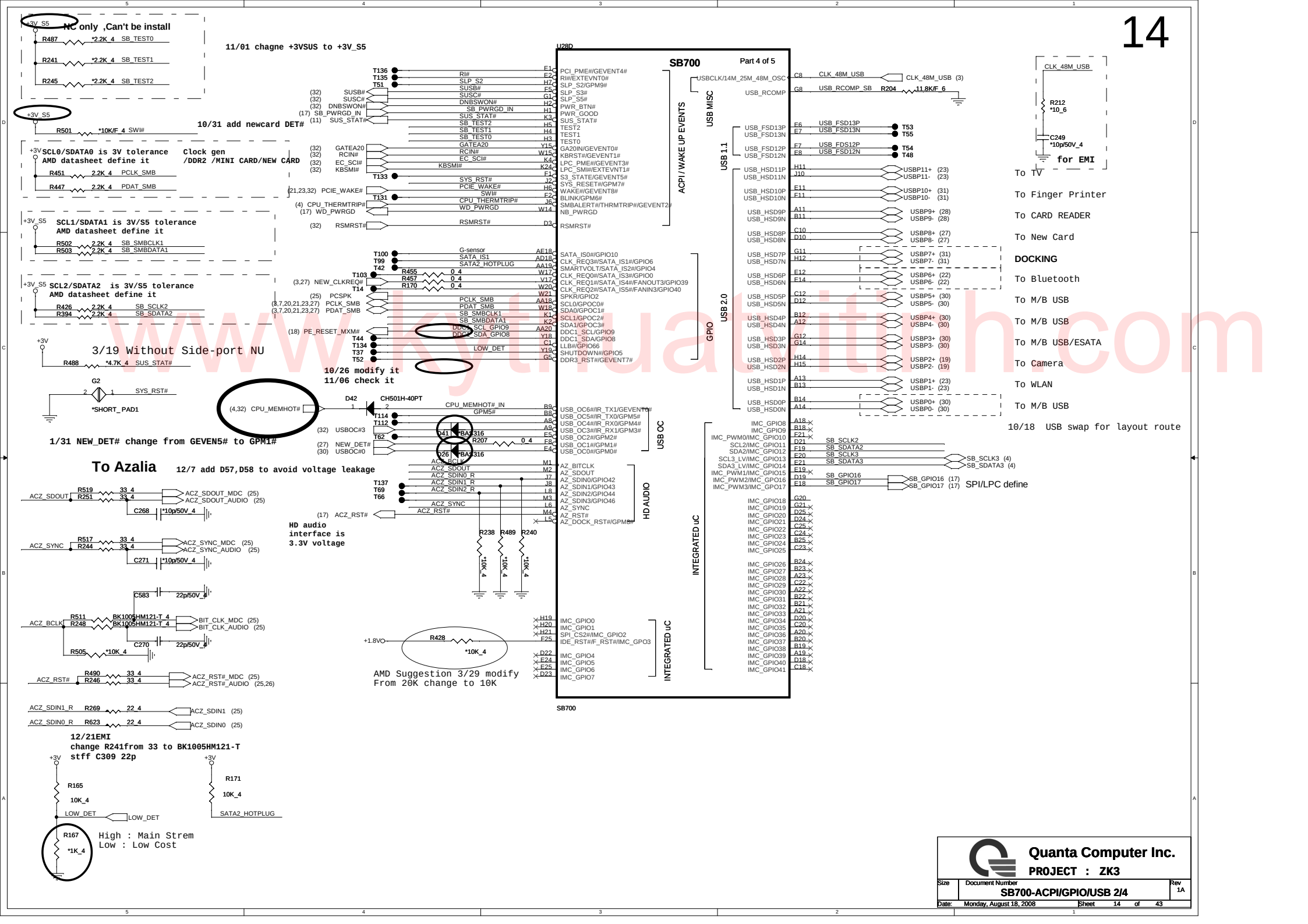
## RTC

R571+R667 = (5V - 0.2V-2V)/0.2mA = 14k

4/14
R527, change from 2k to 0.
R524 change from 2K to 16K
R529,change from 6.8k to 68.1k
R531 change form 15k to 150k

www.kythuatvitinh.com

| | | |
|---|---|---|
| Quanta Computer Inc. | | |
| PROJECT : ZK3 | | |
| Size | Document Number: SB700-PCIE/PCI/CPU/LPC 1/4 | Rev 1A |
| Date: Monday, August 18, 2008 | Sheet 13 of 43 | |




www.kythuatdtth.com

| | | |
|---|---|---|
| Quanta Computer Inc. | | |
| PROJECT : ZK3 | | |
| Size | Document Number: SB700-ACPI/GPIO/USB 2/4 | Rev: 1A |
| Date: Monday, August 18, 2008 | Sheet 14 of 43 | |

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

PLACE SATA AC COUPLING CAPS CLOSE TO SB700

## MB ID Selection Table

| Board ID | ID4 | ID3 | ID2 | ID1 | ID0 |
|---|---|---|---|---|---|
| NEW CARD CARD BUS | | | | | H L |
| CCFL Panel LED Panel | | | | H L | |
| W/ MXM W/O MXM | | | H L | | |
| W/ S-VIDEO W/O S-VIDEO | | H L | | | |
| W/ HDMI W/O HDMI | H L | | | | |

## MB ID

Mount R441 and Unmout R442 for non IR SKU

SATA1 / SATA2 / E-SATA / ODD

2/22 change SATA ODD from port3 to port4 (solve ODD post detect fail)

SATA PORT 4,5 are only support IDE mode

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

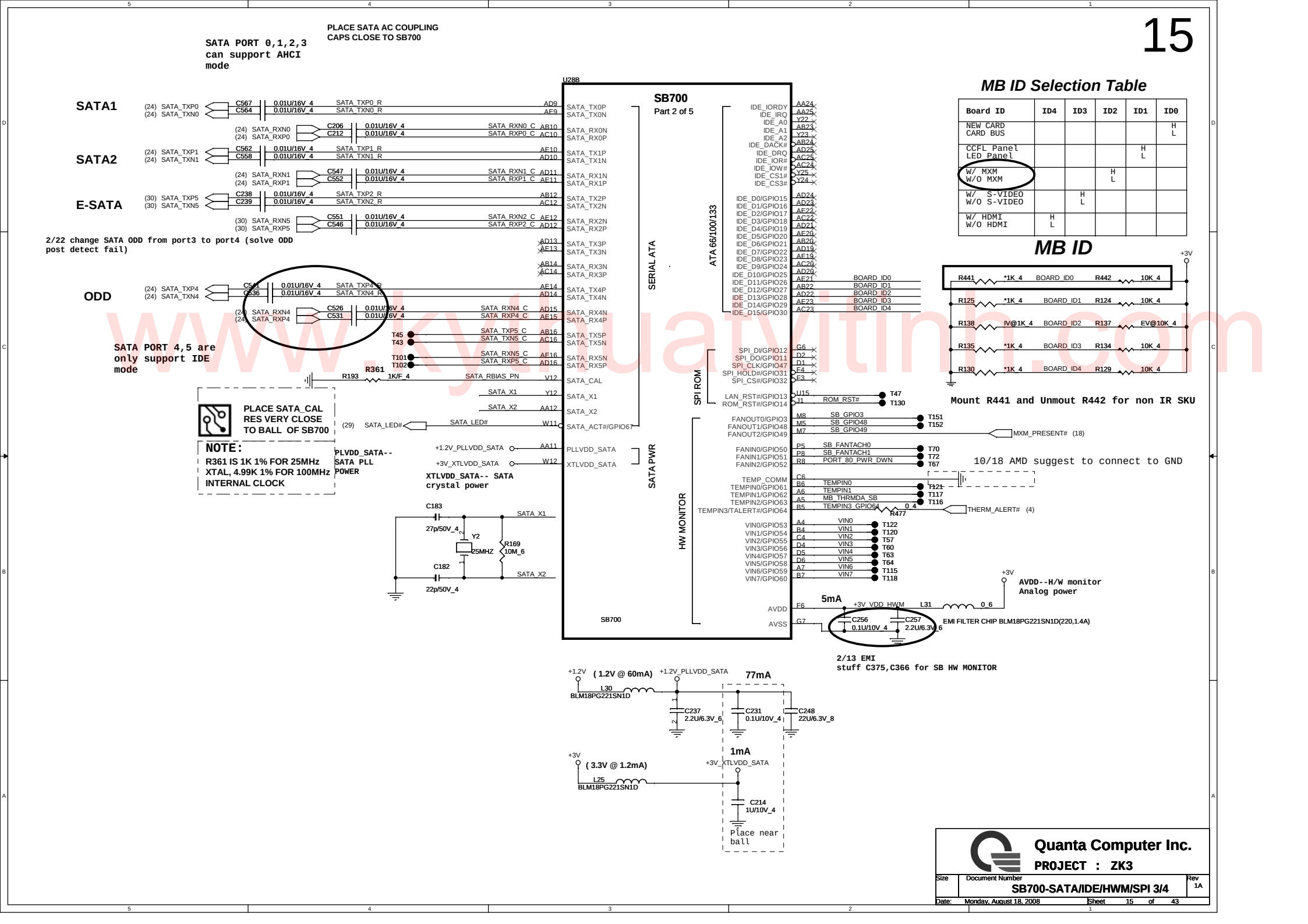
10/18 AMD suggest to connect to GND

AVDD--H/W monitor Analog power

2/13 EMI stuff C375,C366 for SB HW MONITOR

U28B SB700 Part 2 of 5

SERIAL ATA / ATA 66/100/133 / SPI ROM / SATA PWR / HW MONITOR




www.kythuatvitinh.com

Quanta Computer Inc.
PROJECT : ZK3

| Size | Document Number | Rev |
|---|---|---|
| | SB700-SATA/IDE/HWM/SPI 3/4 | 1A |

Date: Monday, August 18, 2008 Sheet 15 of 43

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

12/14 del R234 stuff R235 for A12



VDD-- S/B CORE power

VDDQ--3.3V I/O power

0.8A

1.8V : FLASH MEMORY MODE(DEFAULT)
3.3V: IDE MODE

10/18 change to +1.8V

2008-MAR CHECK LIST CHANGE TO 3V because no IDE device

PCIE_VDDR--PCIE I/O power

844mA

AVDD_SATA--SATA phy power

0.2A

For support USB wakeup-->3V_S5

AVDDTX--USB Phy
Analog I/O power

0.2A

CKVDD_1.2V-- Internal
clock Generator I/O
power

286mA

S5_3.3--3.3v standby power

0.01A

Change to 0603

S5_1.2V--1.2V standby power

0.22A

0.2A

V5_VREF--PCI 5V TOLERANCE

4mA

7mA

44mA

16mA

USB_PHY_1.2V--USB Phy
digital power

AVDDC--USB Analog PLL power

AVDDCK_1.2--USB Phy
digital power

AVDDCK_3.3--Analog
system PLL power

SB700

Part 3 of 5

POWER

GROUND

Part 5 of 5

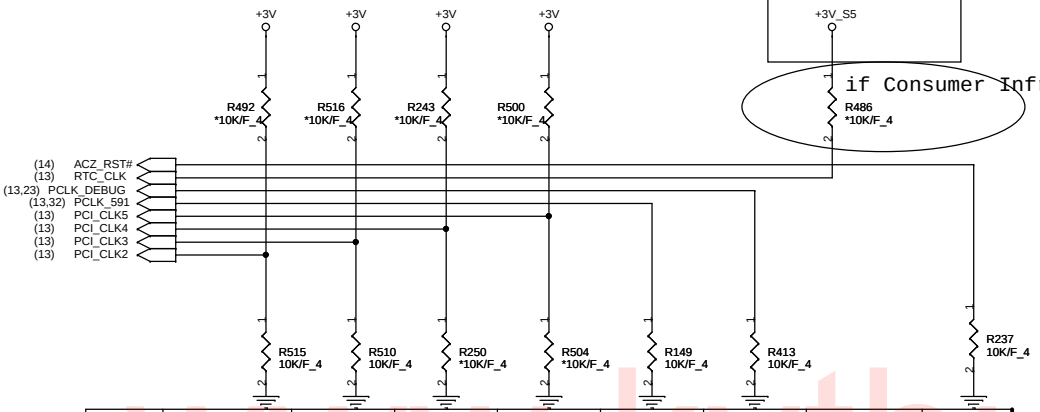
www.kythuatvitinh.com

Quanta Computer Inc.
PROJECT : ZK3

| Size | Document Number | Rev |
|---|---|---|
| | SB700-PWR/DECOUPLING 4/4 | 1A |
| Date: Monday, August 18, 2008 | Sheet 16 of 43 | |

OVERLAP COMMON PADS WHERE POSSIBLE FOR DUAL-OP RESISTORS.

It must ready refore RSMRST#

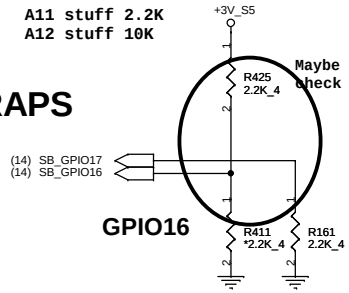



if Consumer Infrared is implemented

## REQUIRED STRAPS

| | PCI_CLK2 | PCI_CLK3 | PCI_CLK4 | PCI_CLK5 | LPC_CLK0 | LPC_CLK1 | RTC_CLK | AZ_RST# |
|---|---|---|---|---|---|---|---|---|
| PULL HIGH | BOOTFAIL TIMER ENABLED | USE DEBUG STRAPS | RESERVED | RESERVED | ENABLE PCI MEM BOOT | CLKGEN ENABLED | INTERNAL RTC DEFAULT | EC ENABLED |
| PULL LOW | BOOTFAIL TIMER DISABLED DEFAULT | IGNORE DEBUG STRAPS DEFAULT | | | DISABLE PCI MEM BOOT DEFAULT | CLKGEN DISABLED DEFAULT | EXT. RTC (PD on X1, apply 32KHz to RTC_CLK) | EC DISABLED DEFAULT |
| | | | | | EC ENABLED | | | ENABLE PCI MEM BOOT |

A11 stuff 2.2K
A12 stuff 10K



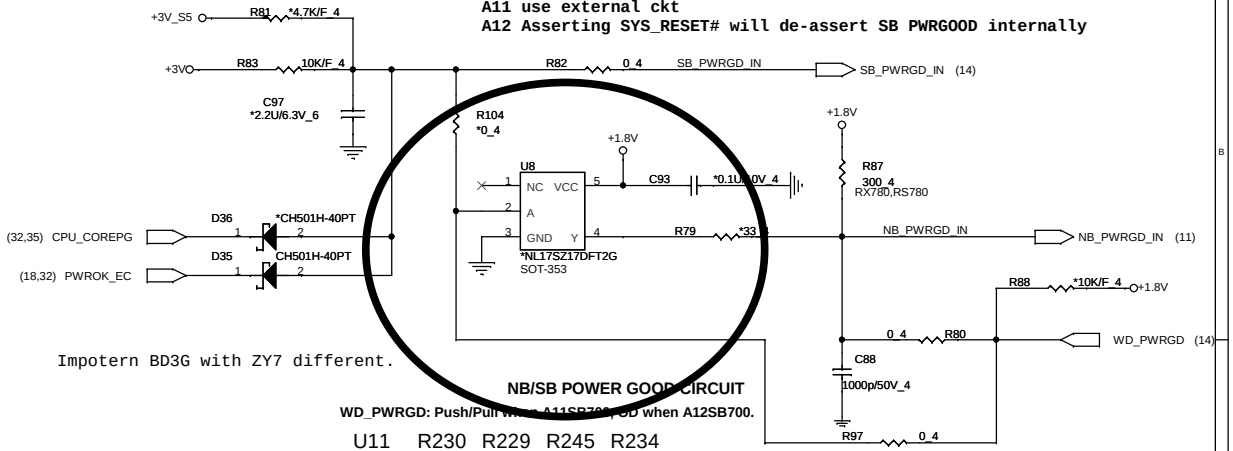

Maybe can be remove -- internla pull up check AMD

GPIO16 GPIO17

| 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 |

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)

SB_PWRGD
A11 use external ckt
A12 Asserting SYS_RESET# will de-assert SB PWRGOOD internally



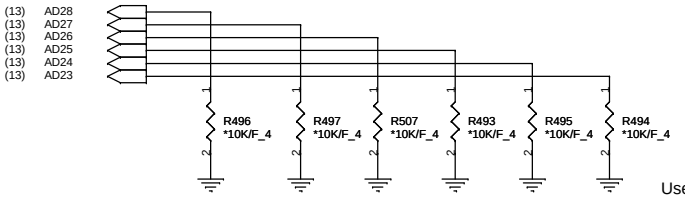

Impotern BD3G with ZY7 different.

NB/SB POWER GOOD CIRCUIT

WD_PWRGD: Push/Pull When A11SB700, OD when A12SB700.

## 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 | |

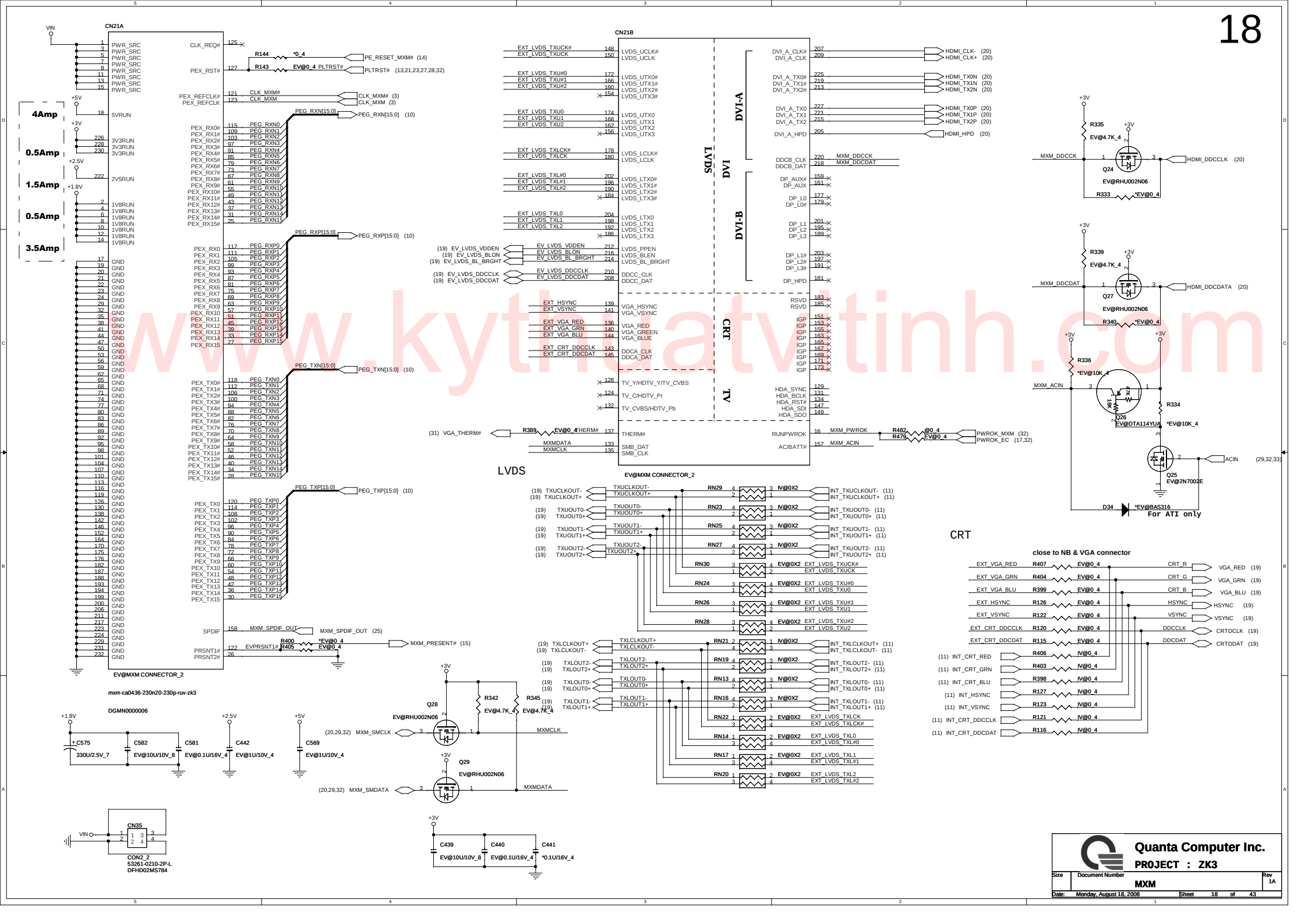
| | U11 | R230 | R229 | R245 | R234 |
|---|---|---|---|---|---|
| RX780 | V | V | V | X | X |
| RS780M | | | | | |

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

Quanta Computer Inc.
PROJECT : ZK3

| Size | Document Number | Rev |
|---|---|---|
| | SB700-STRAPS | 1A |
| Date: Monday, August 18, 2008 | Sheet 17 of 43 | |

www.kythuatvitinh.com

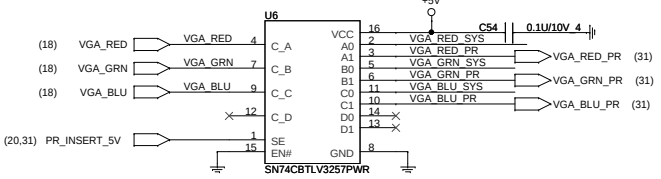



www.kythuatvtinh.com

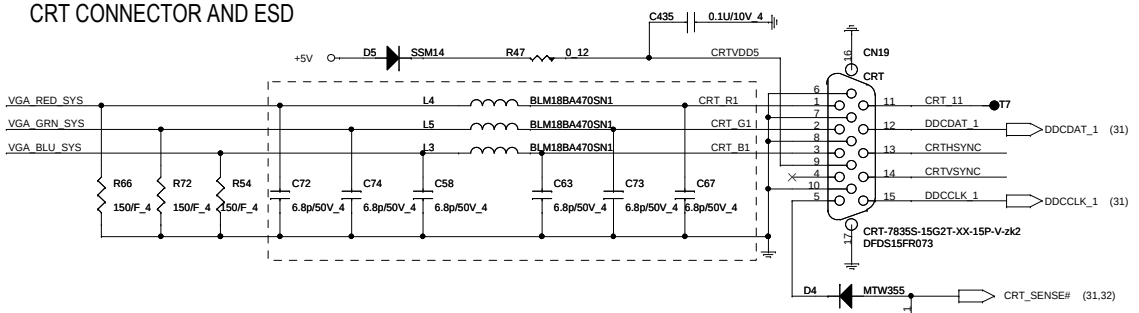
| | | | |
|---|---|---|---|
| Quanta Computer Inc. | | | |
| PROJECT : ZK3 | | | |
| Size | Document Number | | Rev |
| | MXM | | 1A |
| Date: Monday, August 18, 2008 | Sheet 18 of 43 | | |

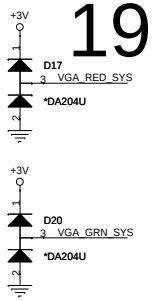
# CRT

## CRT SWITCH

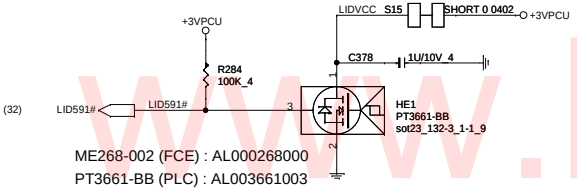



## CRT CONNECTOR AND ESD

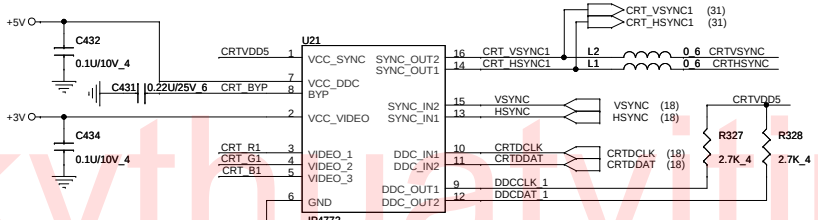


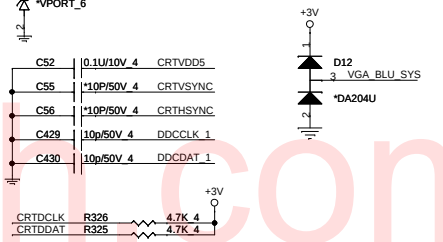




## Lid Switch



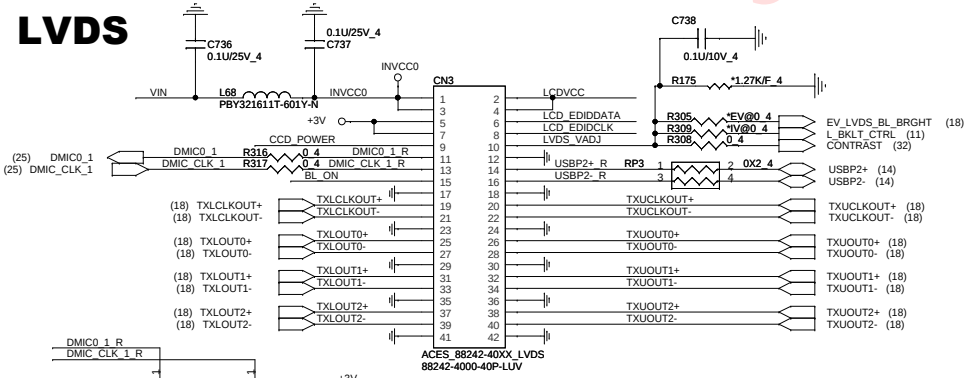

ME268-002 (FCE) : AL000268000
PT3661-BB (PLC) : AL003661003

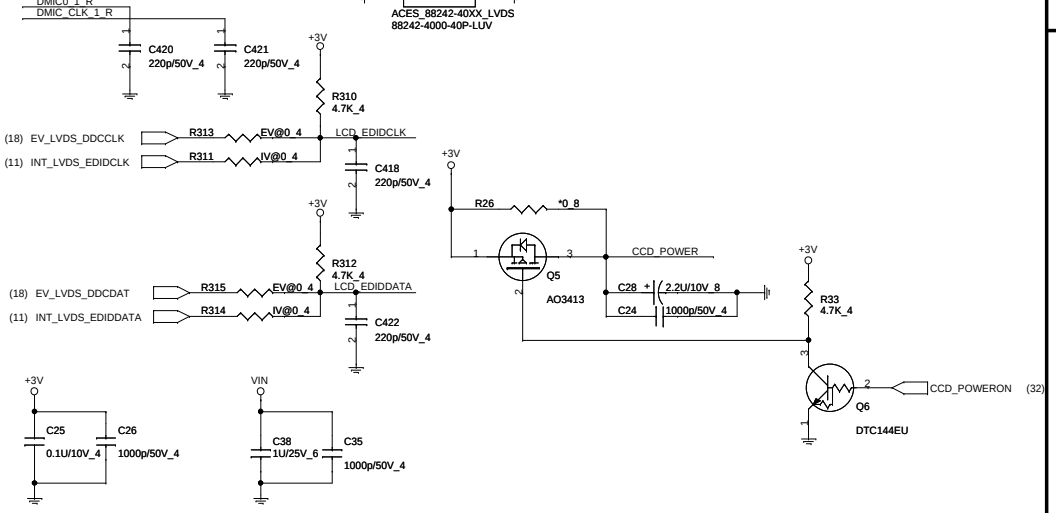


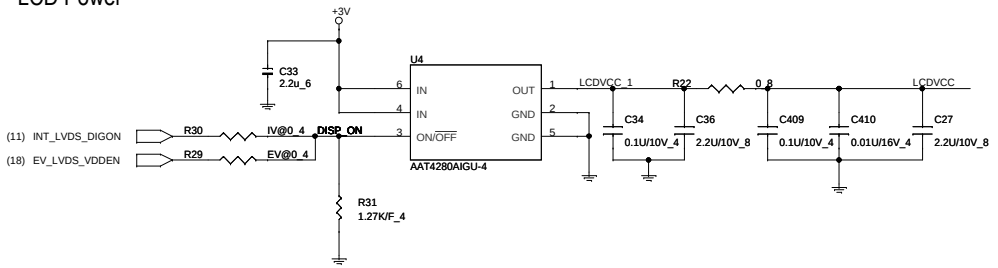

www.kythuatvitinh.com

# LVDS

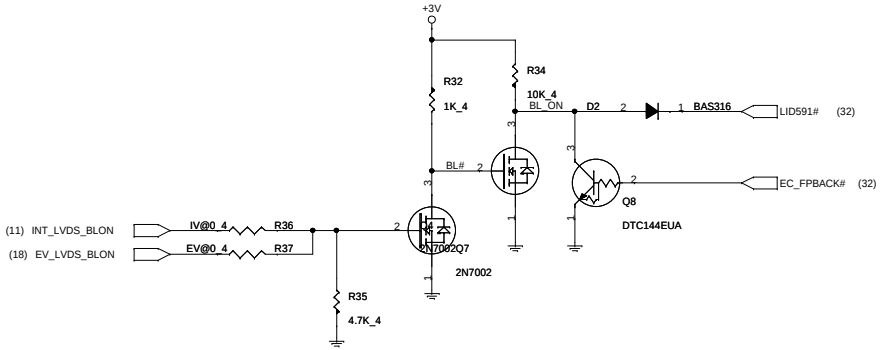



## LCD Power



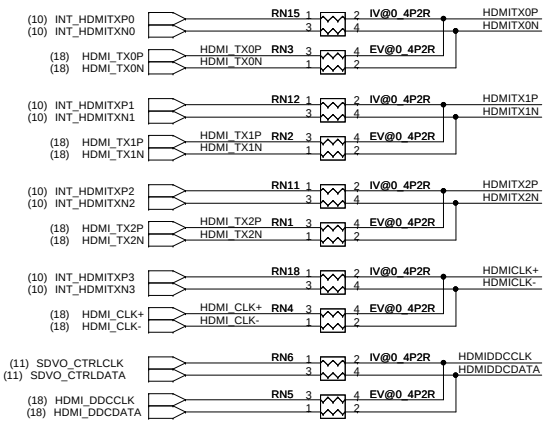

## Backlight Control & LID



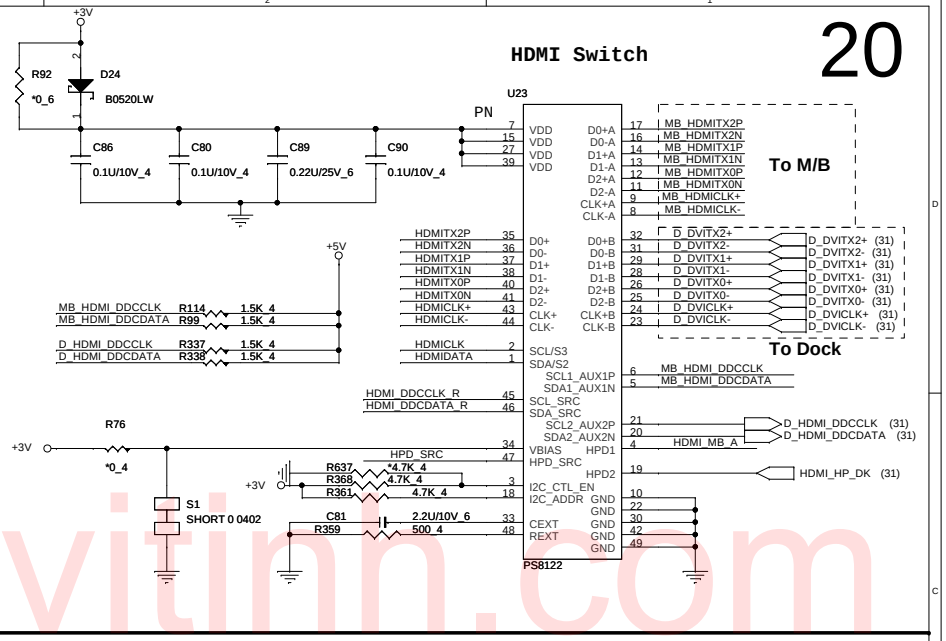

| | | |
|---|---|---|
| Quanta Computer Inc. | | |
| PROJECT : ZK3 | | |
| Size | Document Number | Rev |
| | CRT/LVDS/CAMERA/LID | 1A |
| Date: Monday, August 18, 2008 | Sheet 19 of 43 | |

# HDMI CONNECTOR (HDMI)



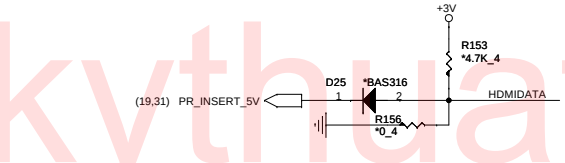



## HDMI Switch

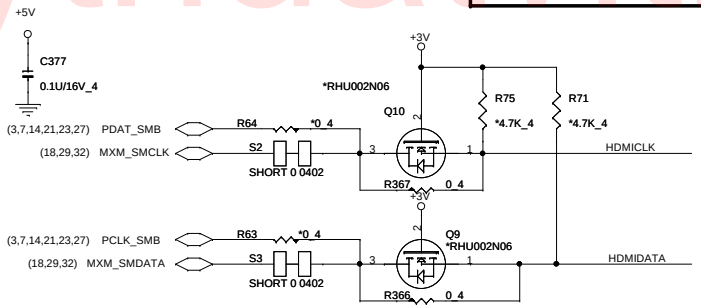


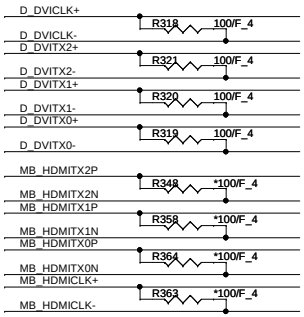


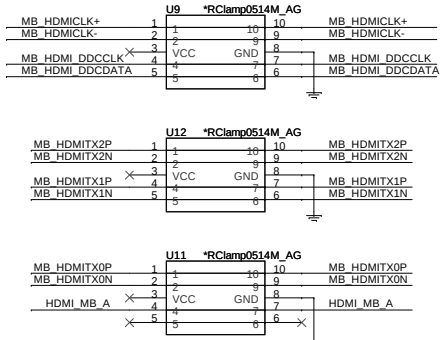





Double check

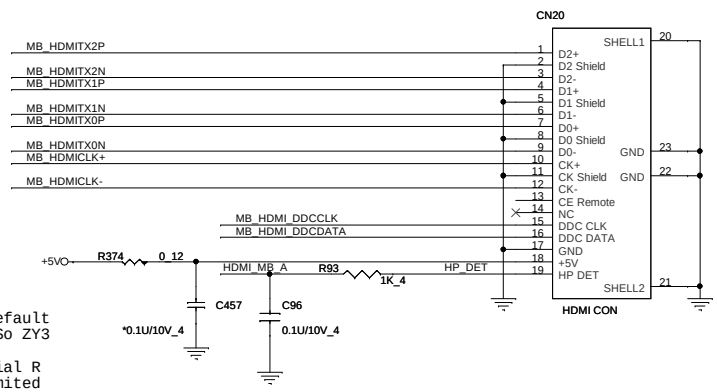


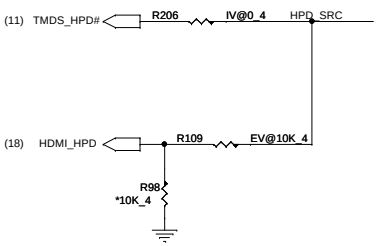




HDMI monitor default have PU to 5V.So ZY3 PD for level change.And serial R for current limited

## HDMI connector



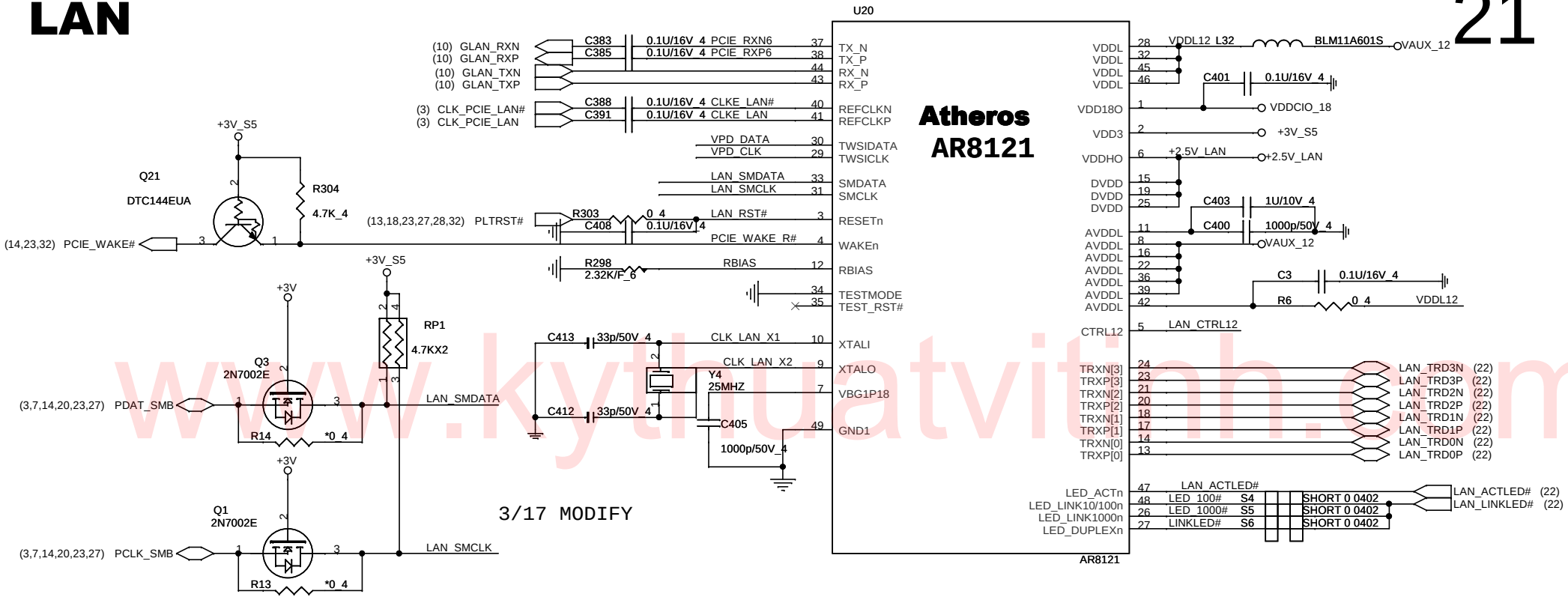




www.kythuatvitinn.com

| | | |
|---|---|---|
| Quanta Computer Inc. | | |
| PROJECT : ZK3 | | |
| Size | Document Number | Rev |
| | LVDS/HDMI/CAMERA/LID | 1A |
| Date: Monday, August 18, 2008 | Sheet 20 of 43 | |

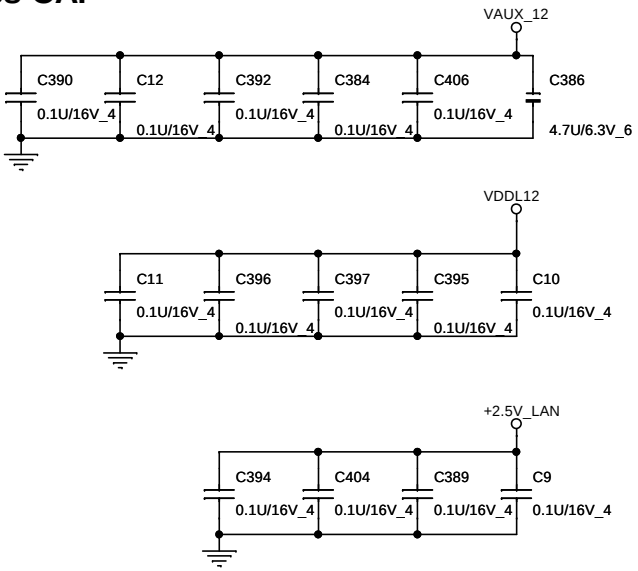
# LAN



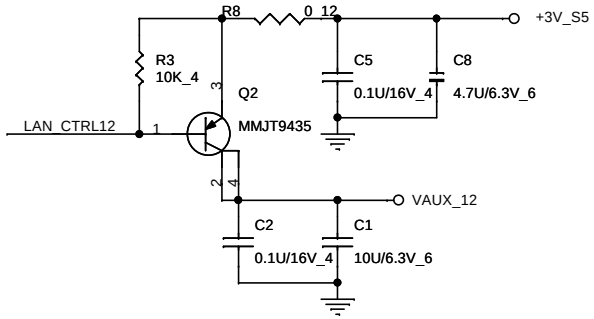



www.kythuatvitinh.com

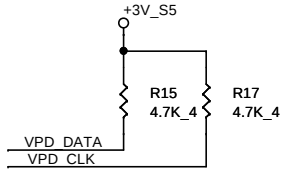
## Bypass CAP




## Regulator(1.2V)




## EEPROM

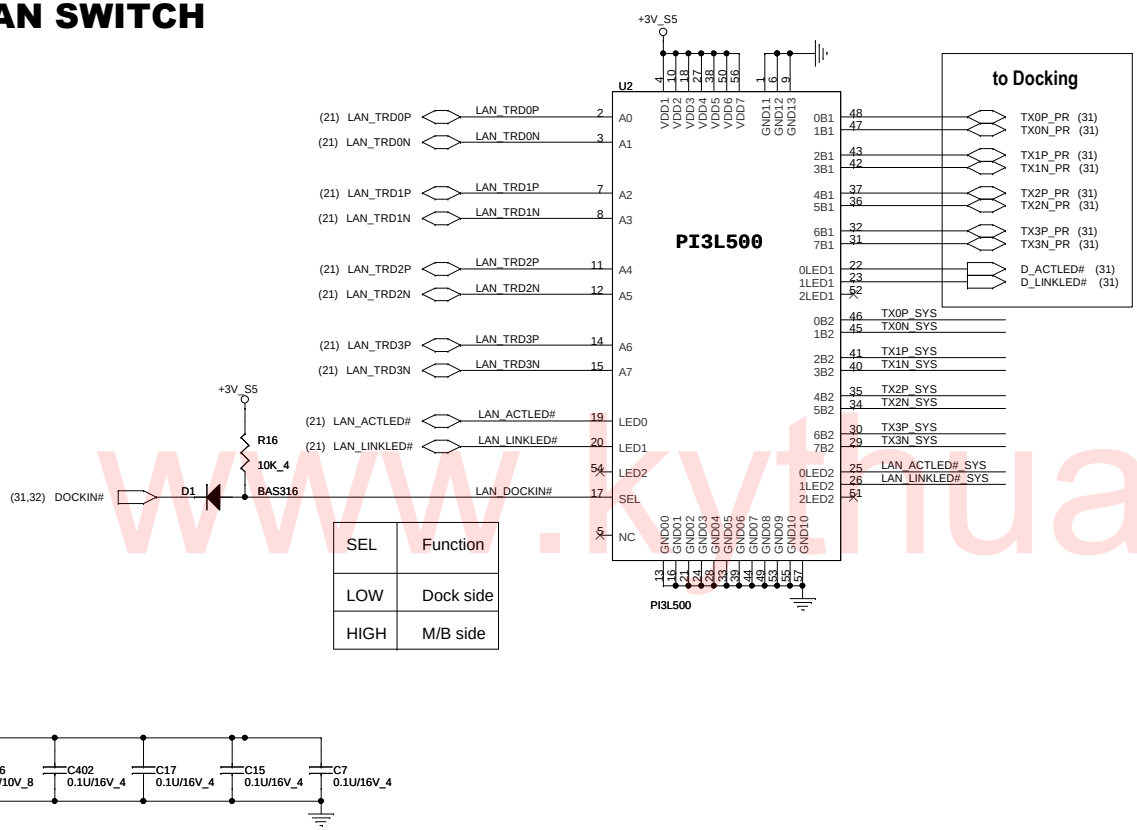



**Quanta Computer Inc.**

**PROJECT : ZK3**

| Size | Document Number | Rev |
|---|---|---|
| | AR8121 LAN | 1A |
| Date: Monday, August 18, 2008 | Sheet 21 of 43 | |

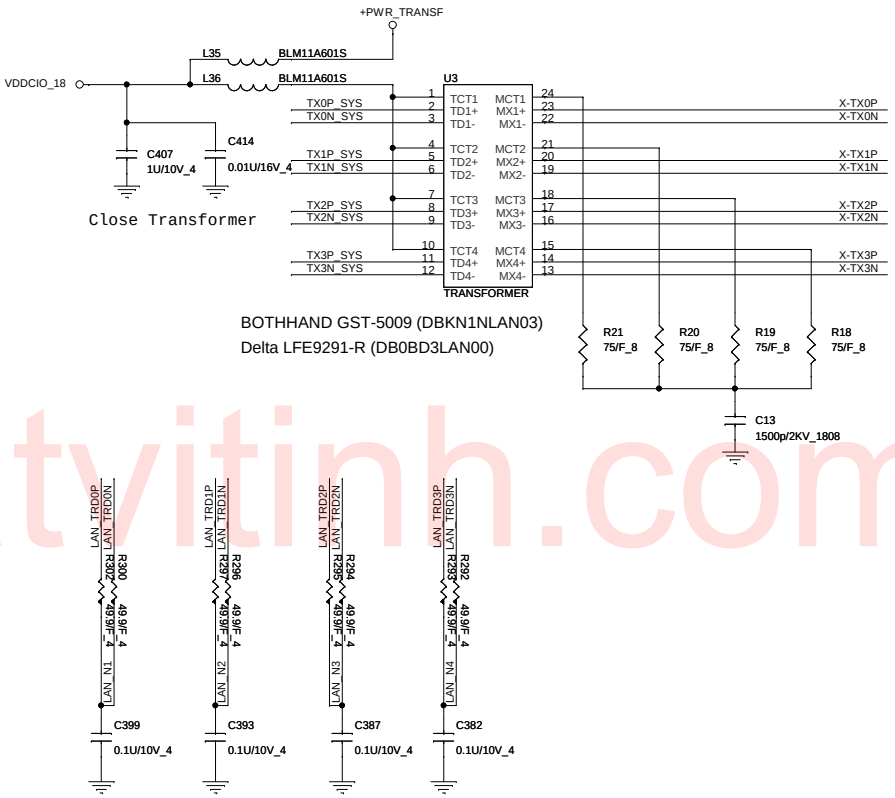
# LAN SWITCH




| SEL | Function |
|---|---|
| LOW | Dock side |
| HIGH | M/B side |

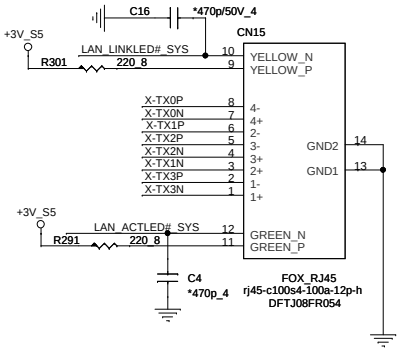



## TRANSFORMER

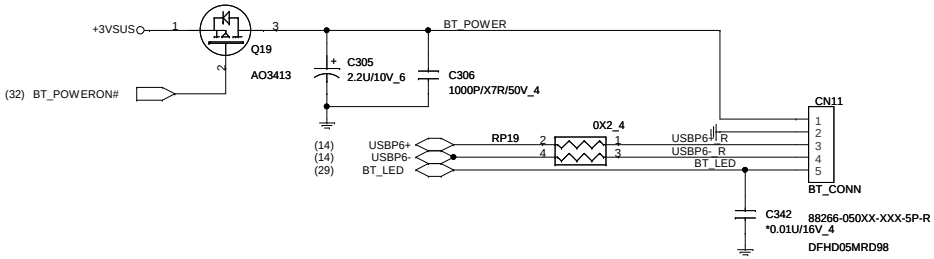



www.kythuatvitinh.com

## RJ45




## BLUETOOTH MODULE CONNECTOR



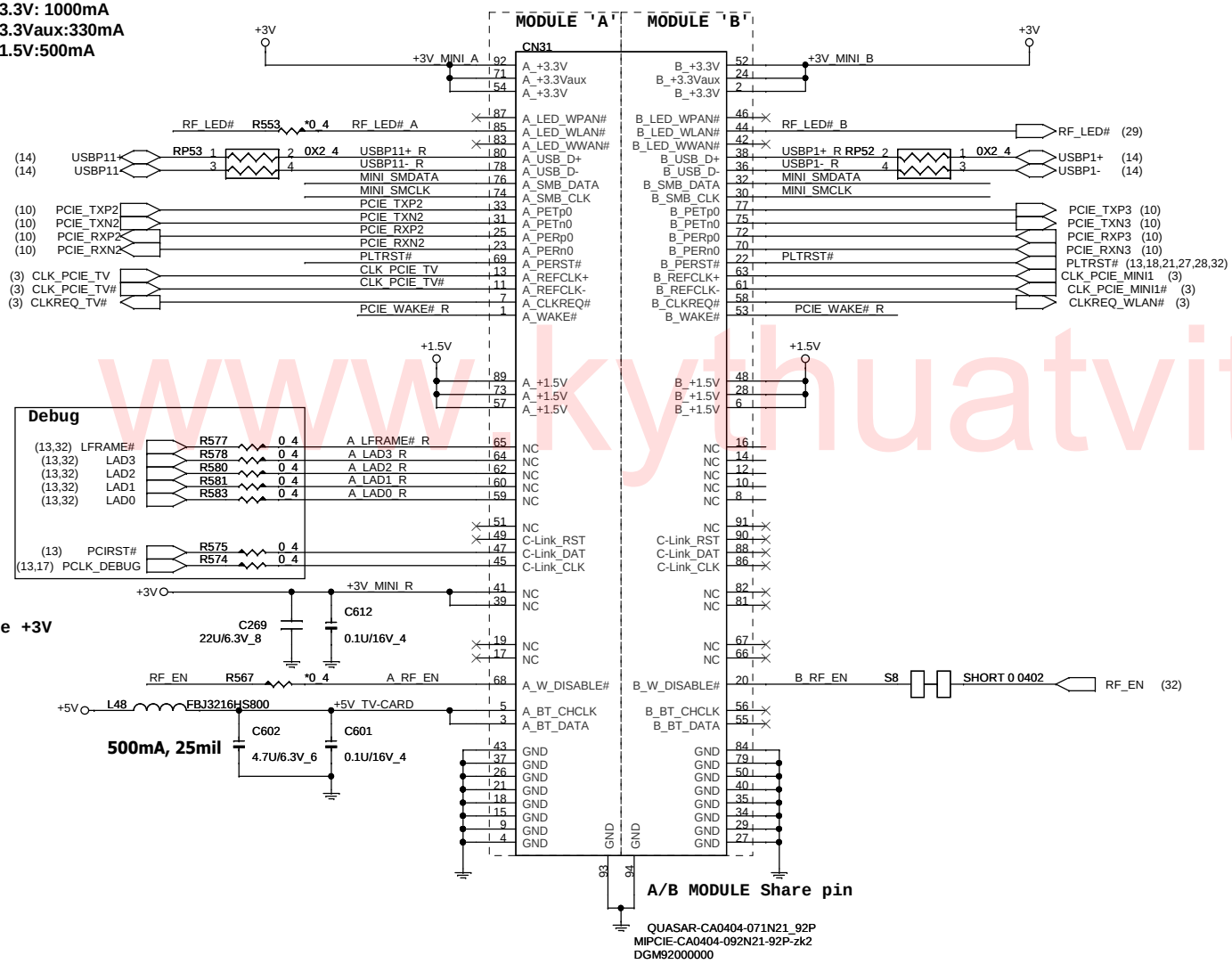

Quanta Computer Inc.
PROJECT : ZK3

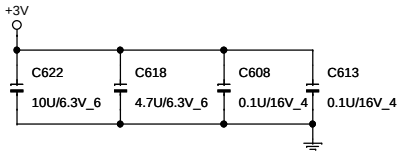
| Size | Document Number | Rev |
|---|---|---|
| | LAN SWITCH/TRANSFORMER/RJ45/BT | 1A |
| Date: Monday, August 18, 2008 | Sheet 22 of 43 | |

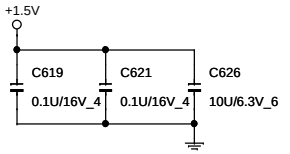
# MINI-CARD

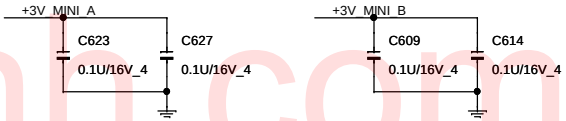


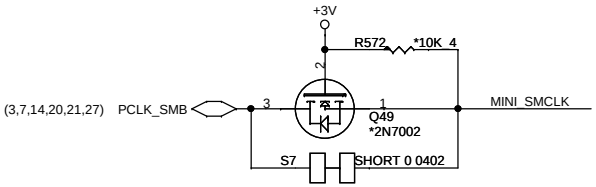
+3.3V: 1000mA
+3.3Vaux:330mA
+1.5V:500mA

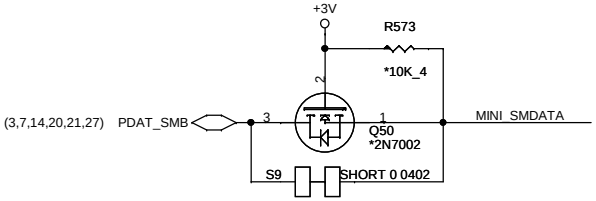


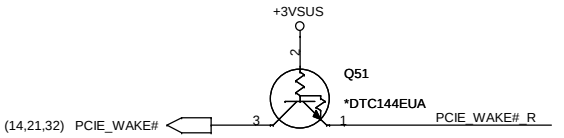



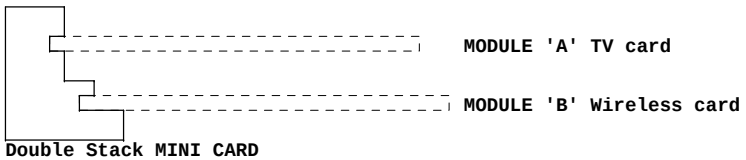



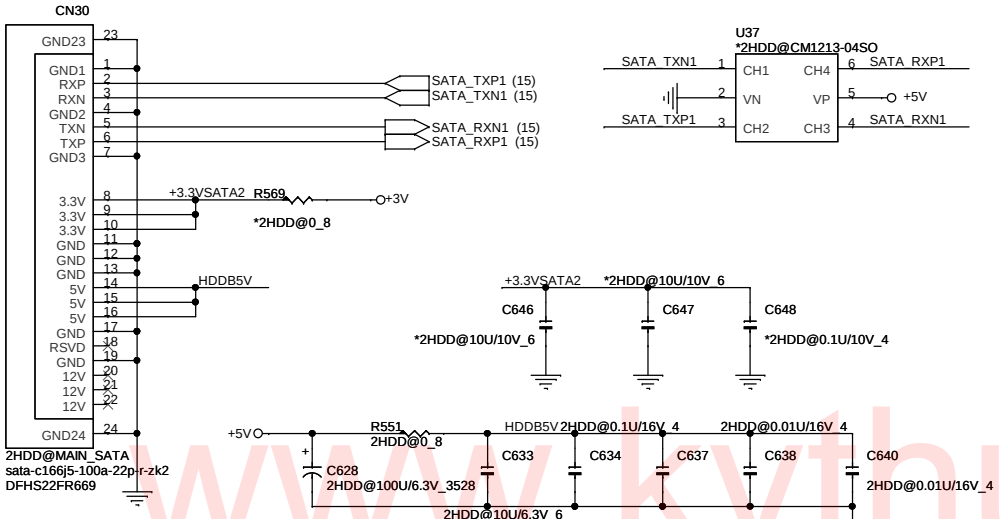



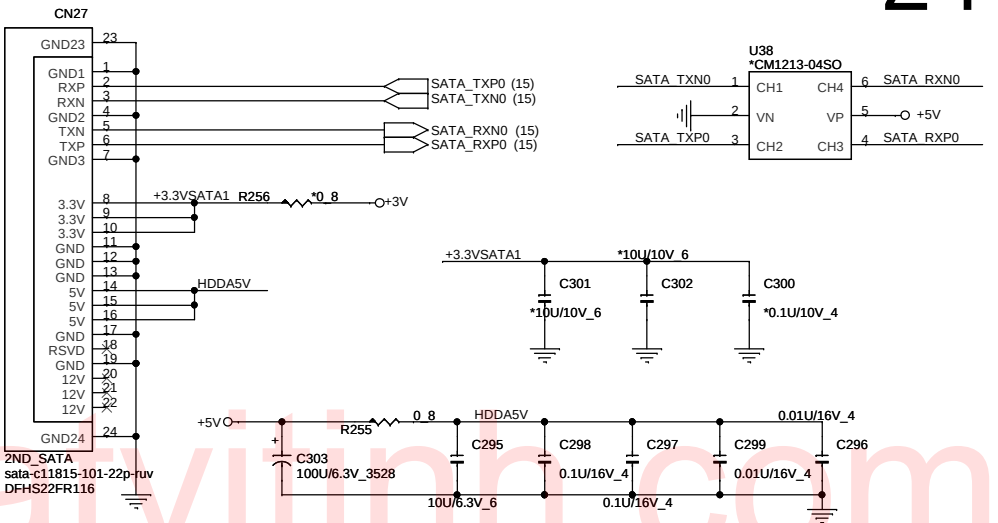

| | | |
|---|---|---|
| Quanta Computer Inc. | | |
| PROJECT : ZK3 | | |
| Size | Document Number: MINI PCI-E card/TV | Rev: 1A |
| Date: Monday, August 18, 2008 | Sheet 23 of 43 | |

www.kythuatvitinh.com

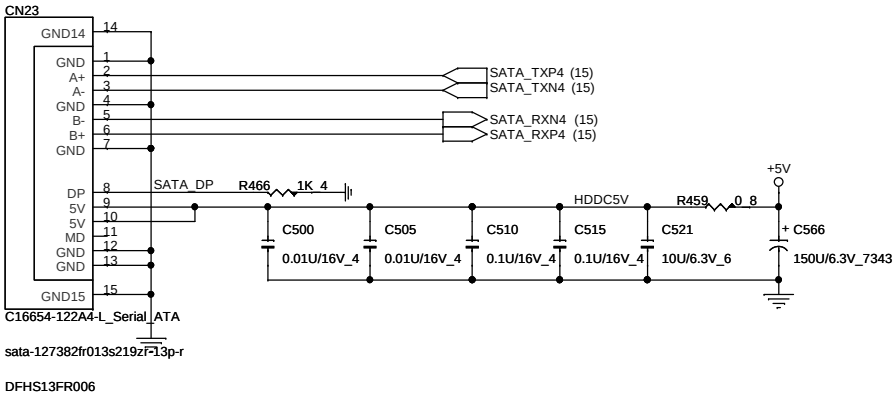
## 2ND SATA HDD




## SATA HDD




## ODD (SATA)




www.kythuatvitinh.com

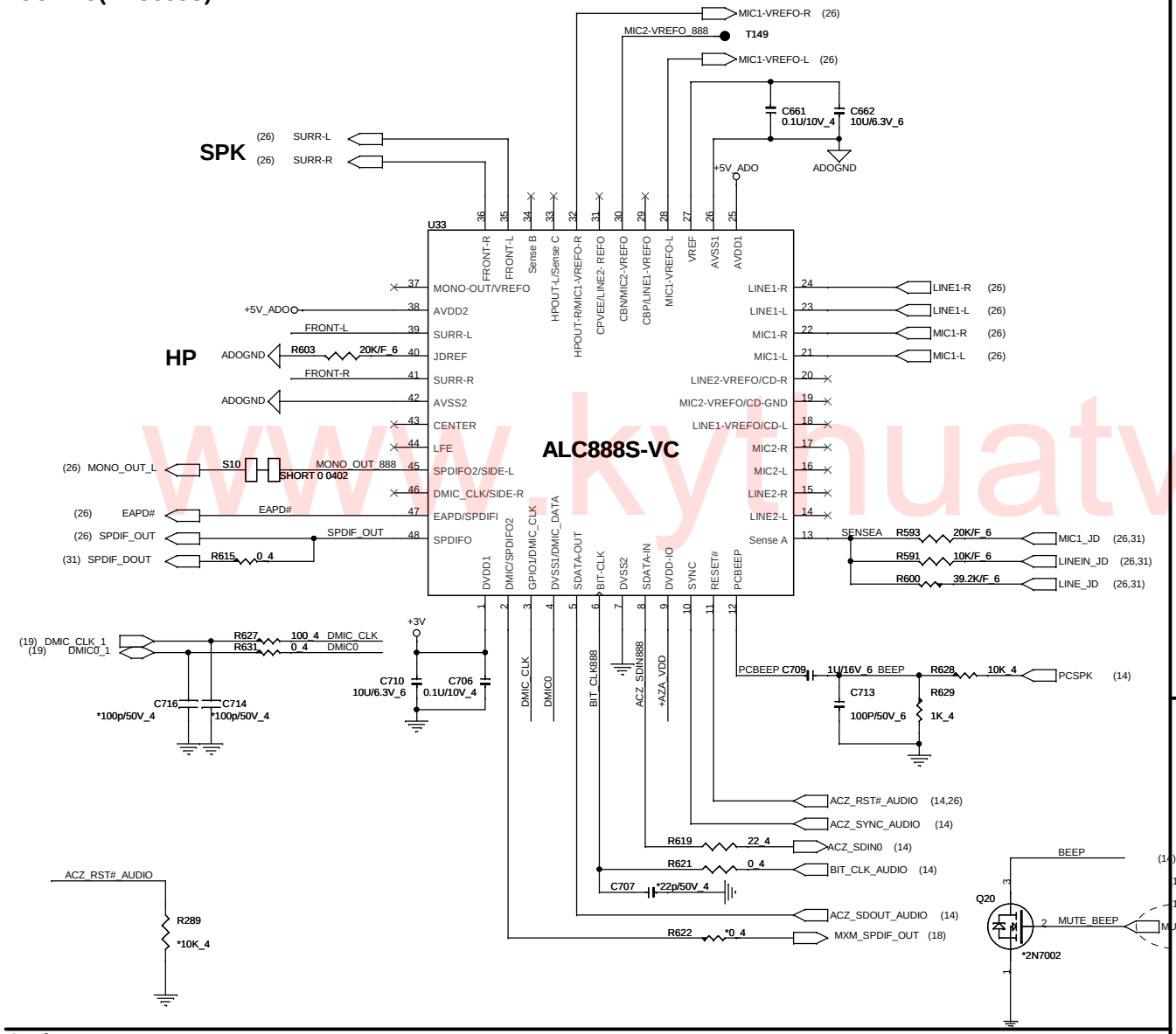
Quanta Computer Inc.

PROJECT : ZK3

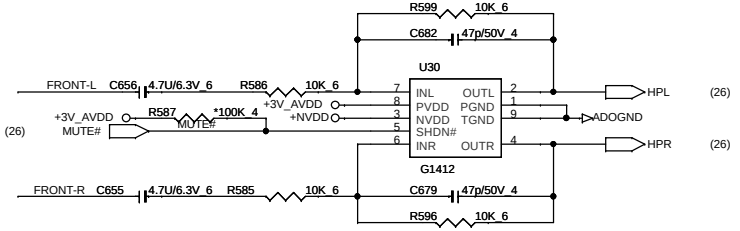
| Size | Document Number | Rev |
|---|---|---|
| | SATA-HDD/ODD/USB-ESATA | 1A |

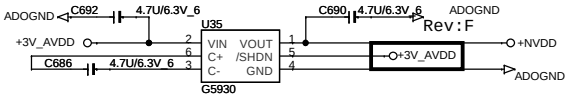
Date: Monday, August 18, 2008 Sheet 24 of 43

## CODEC(ALC888S)

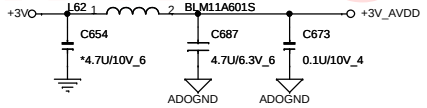



## LINE-Out Amplifier

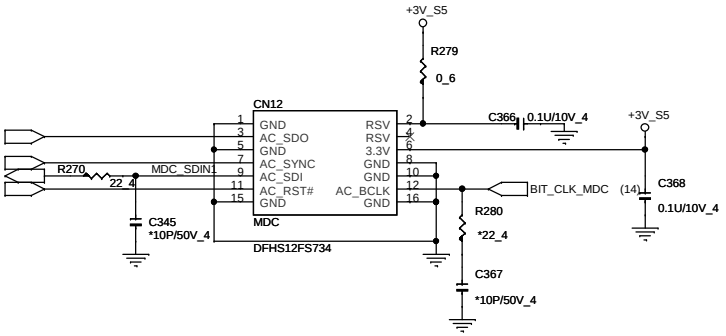


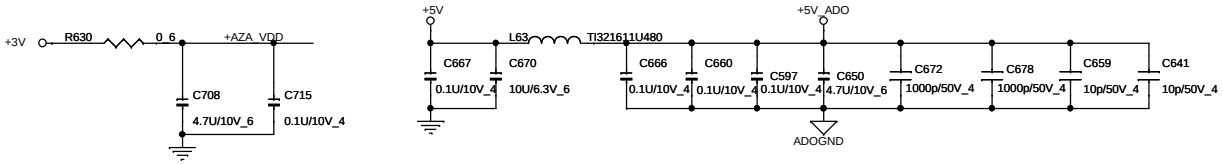

## LINE-Out Amplifier Power




## MDC




## Codec Power

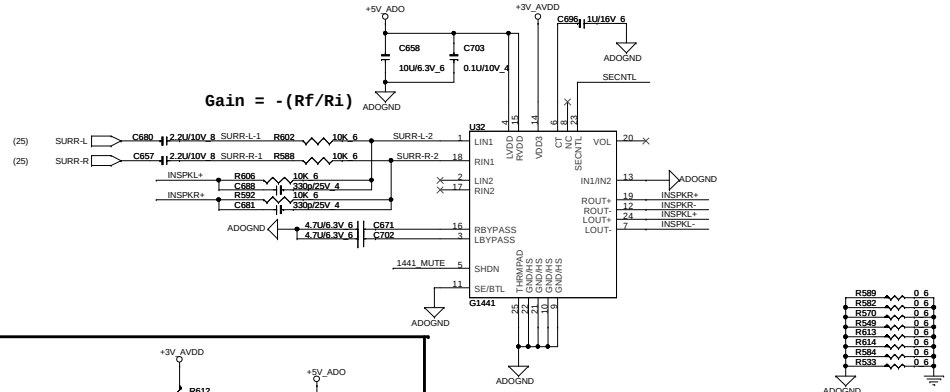



www.kythuatvitinh.com

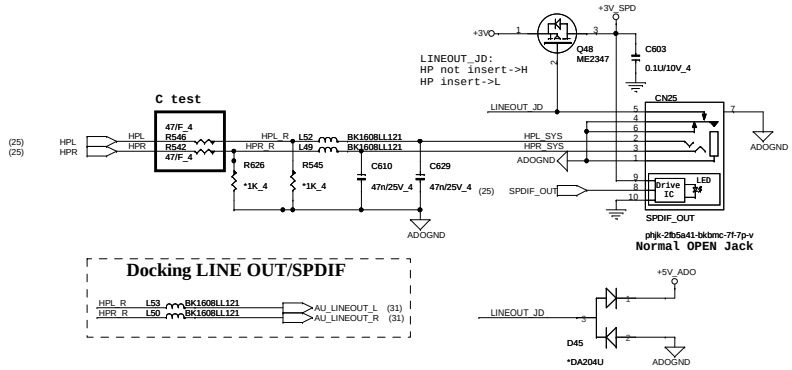
Quanta Computer Inc.
PROJECT : ZK3

| Size | Document Number | Rev |
|---|---|---|
| | REALTEK ALC663&888/MDC | 1A |
| Date: Monday, August 18, 2008 | Sheet 25 of 43 | |

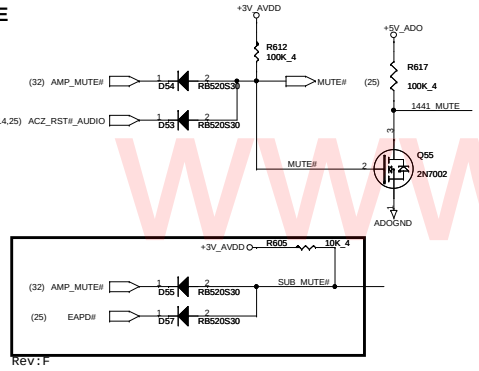
## SPEAKER AMP.



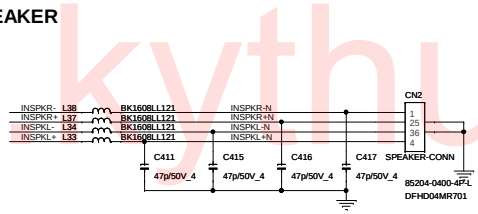

## LINE-OUT/SPDIFO

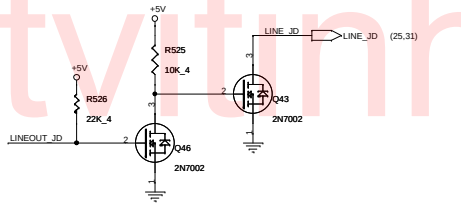



## MUTE

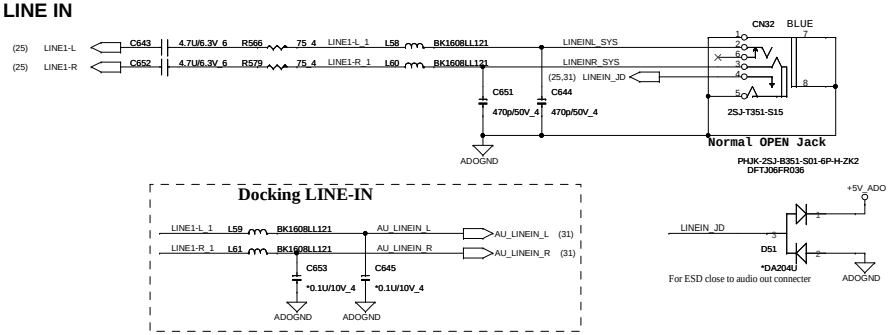



## SPEAKER

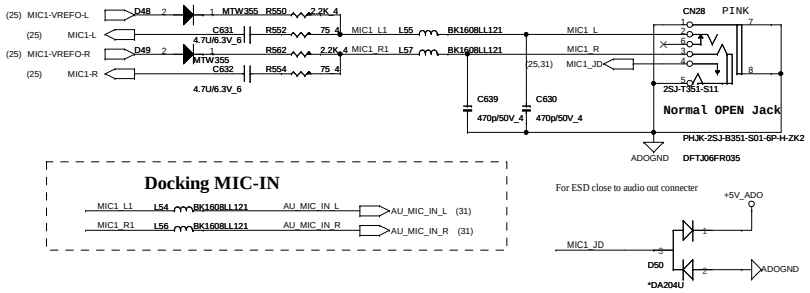


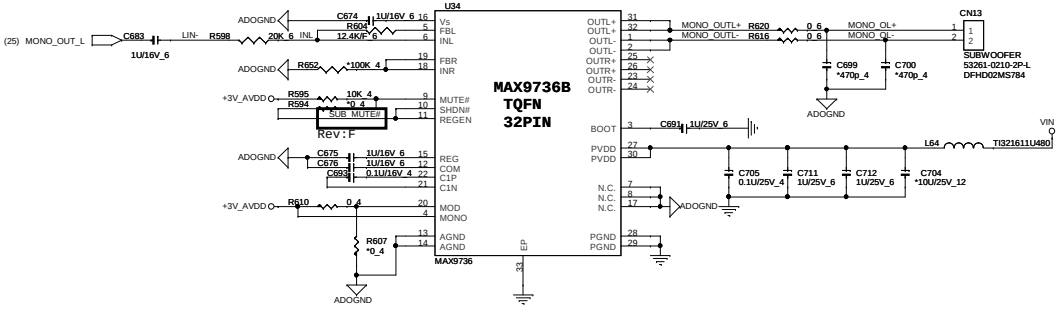

## LINE IN




## MIC




## SUBWOOFER

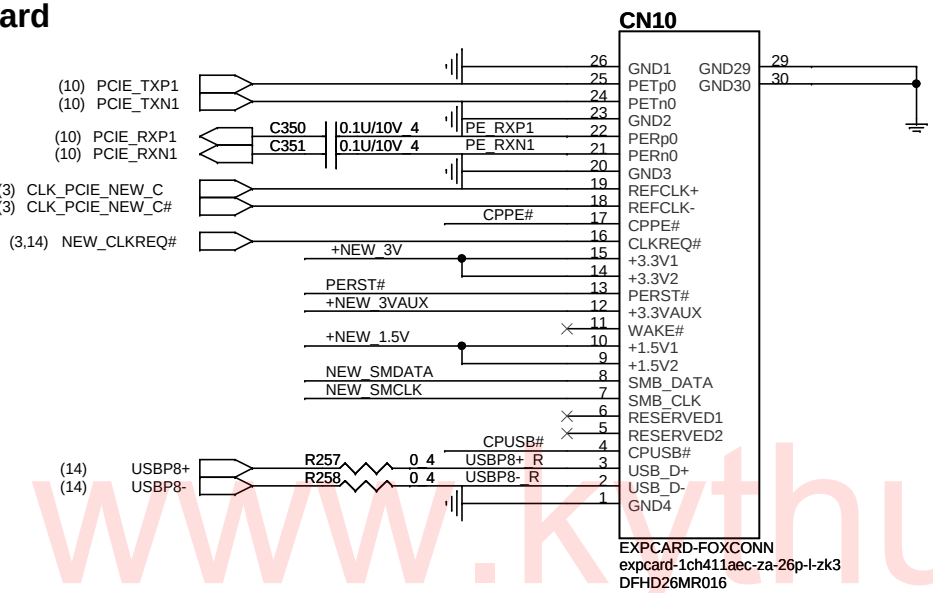



www.kythuatvitinh.com

Quanta Computer Inc.
PROJECT : ZK3

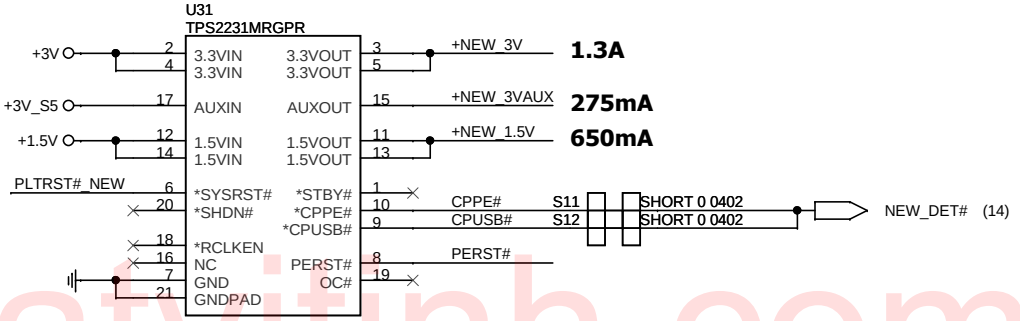
| Size | Document Number | Rev |
|---|---|---|
| | AMP /AUDIO JACK CONN | 1A |
| Date: Monday, August 18, 2008 | Sheet 26 of 43 | |

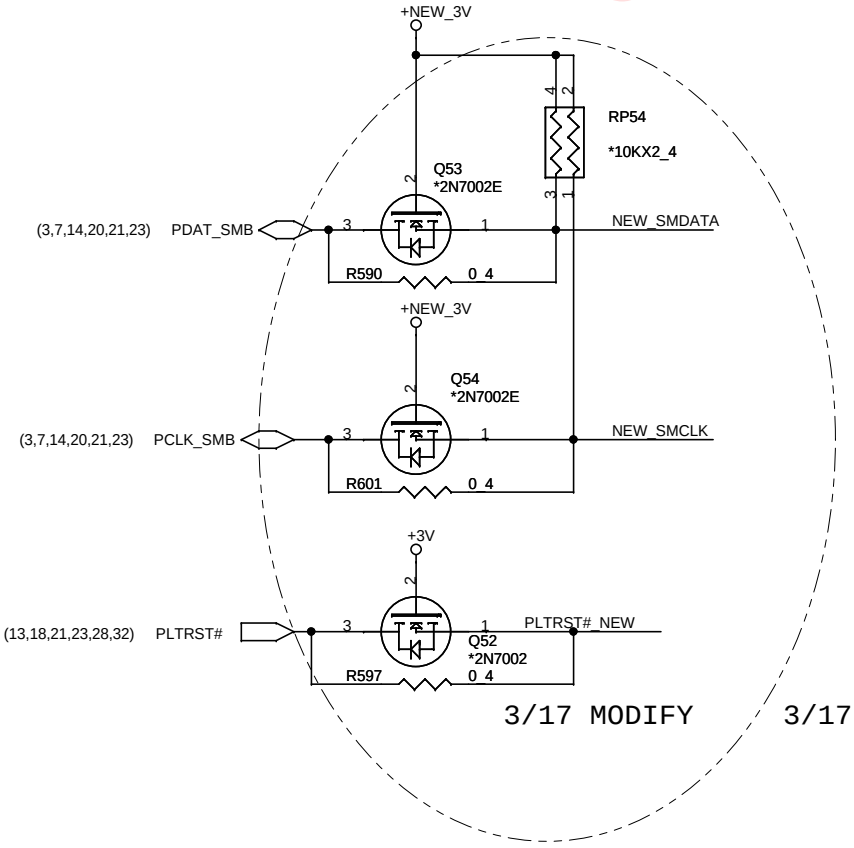
# New card

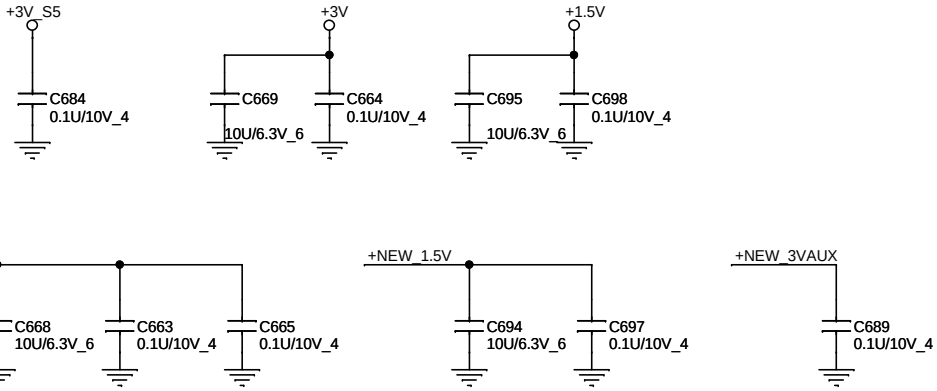



## NEW CARD'S POWER SWITCH

**TI: AL002231000**
**GMT: AL000577002**



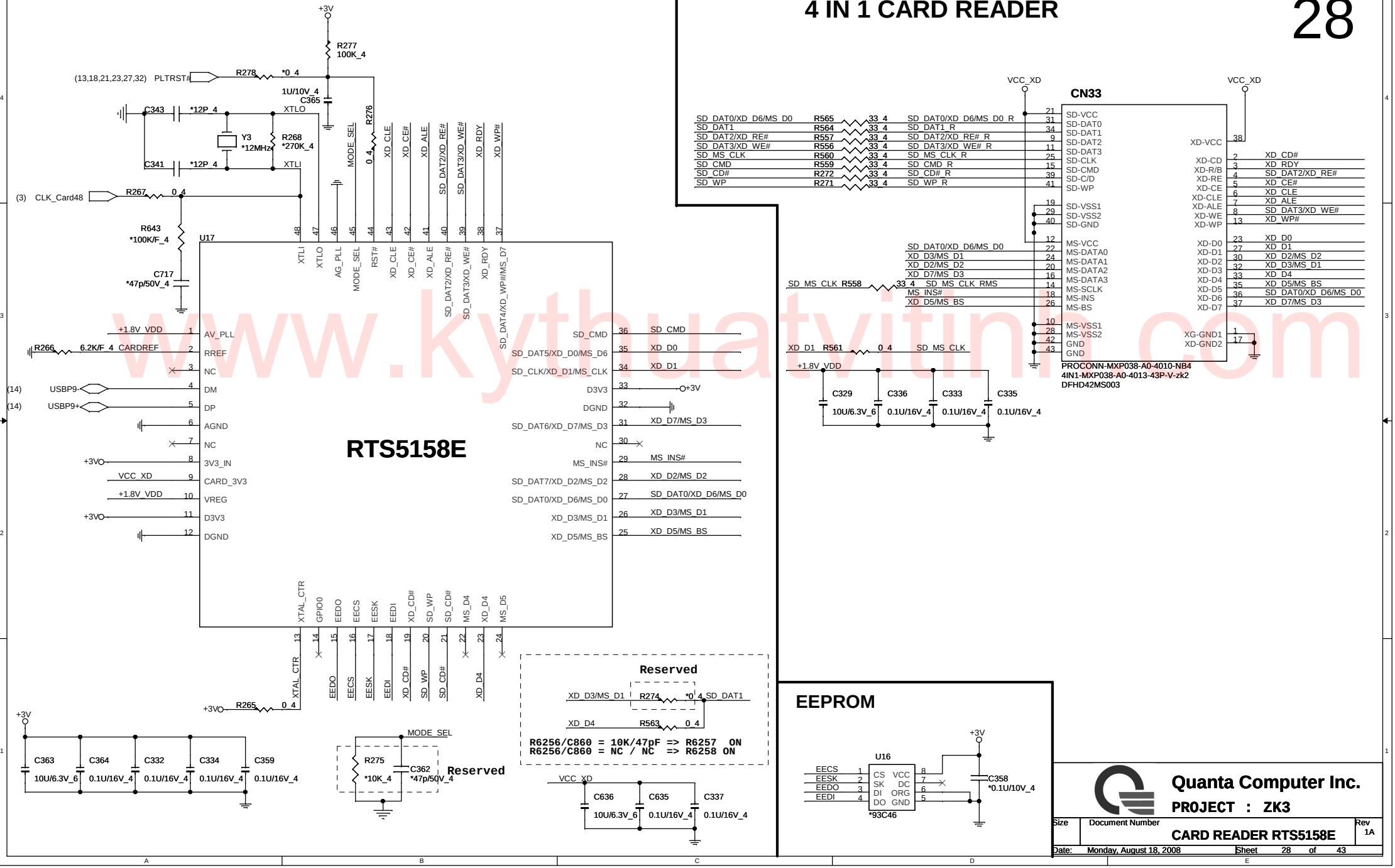

3/17 MODIFY 3/17 MODIFY

www.kythuatvitinh.com

| | | |
|---|---|---|
| Quanta Computer Inc. | | |
| PROJECT : ZK3 | | |
| Size | Document Number: NEW CARD | Rev: 1A |
| Date: Monday, August 18, 2008 | Sheet 27 of 43 | |

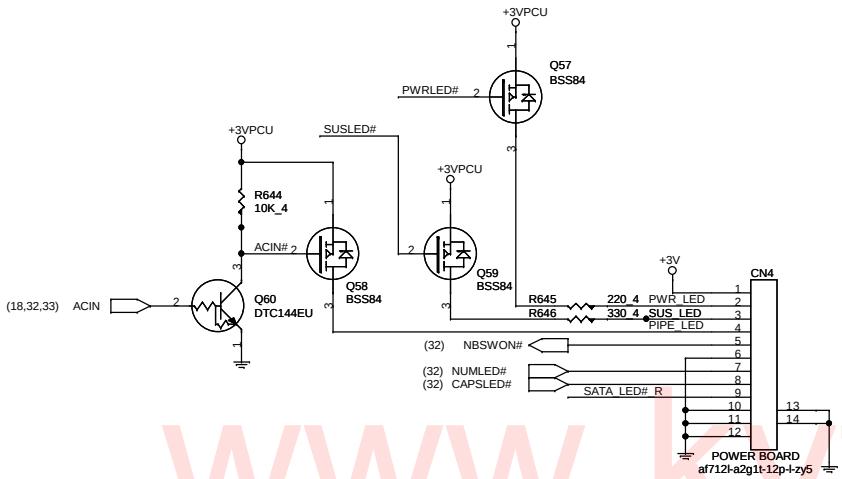
# 4 IN 1 CARD READER





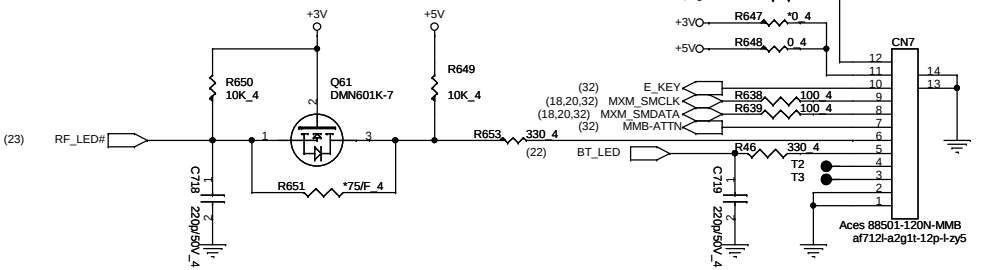

www.kythuatvitinh.com

# POWER BOARD




# MMB

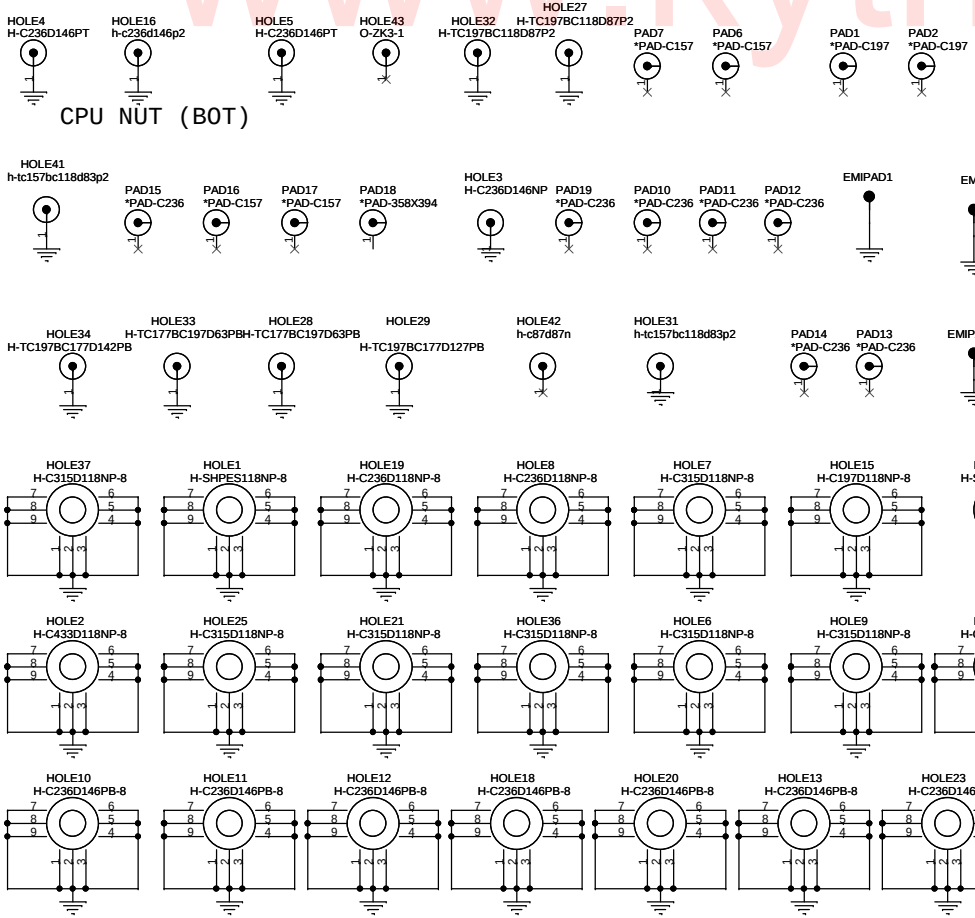
C test



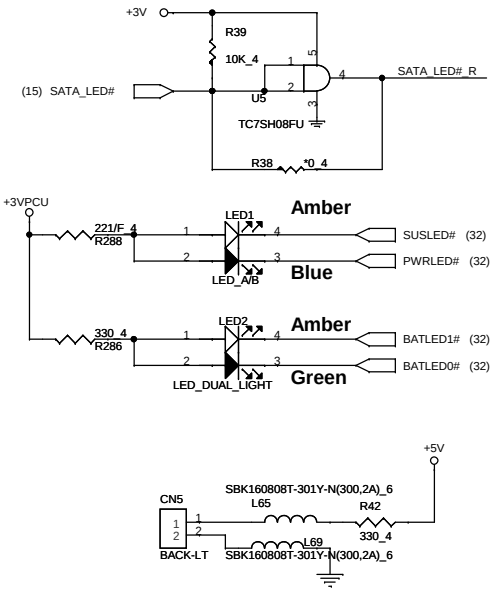

29

www.kythuatvitinh.com

## HOLES

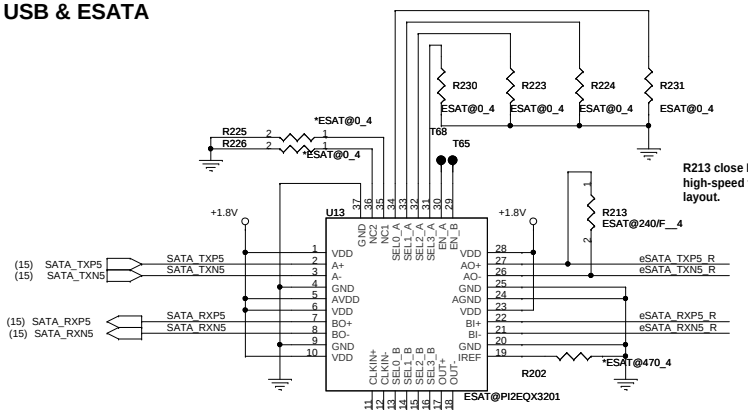



## LED

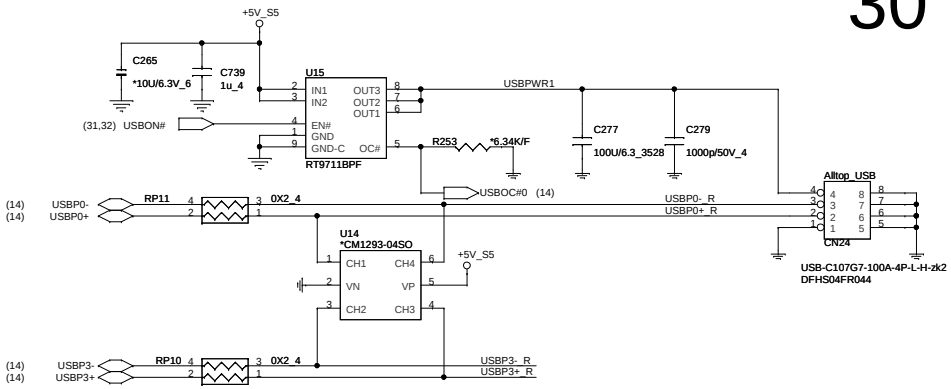


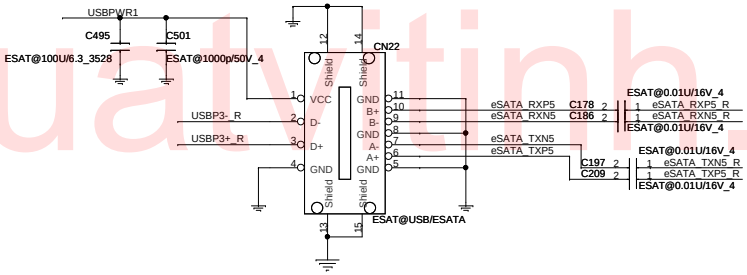

| | | |
|---|---|---|
| Quanta Computer Inc. | | |
| PROJECT : ZK3 | | |
| Size | Document Number | Rev |
| | POWER/MMB/LAUNCH/LED | 1A |
| Date: Monday, August 18, 2008 | Sheet 29 of 43 | |

## USB & ESATA



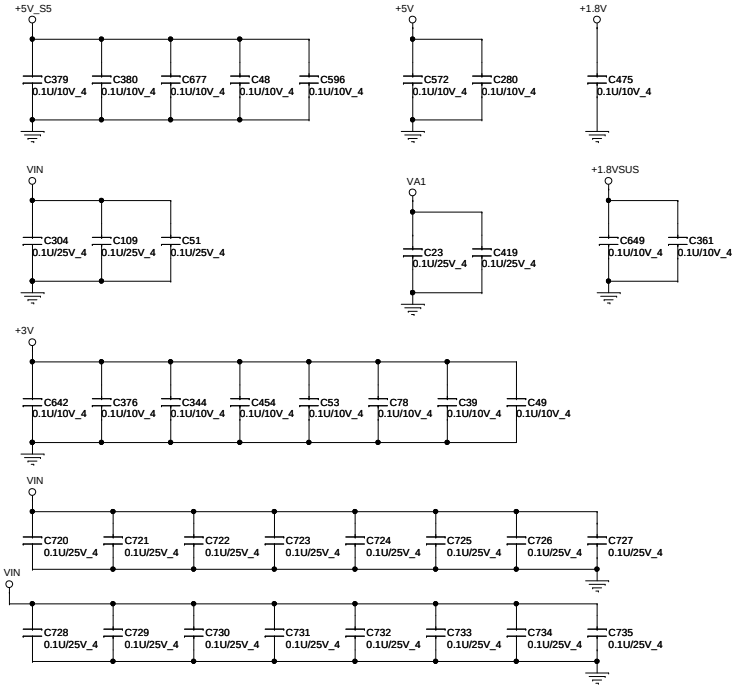

| SEL0_X | SEL1_X | Eq | SEL2_X | Swing | SEL3_X | De-Emphasis |
|---|---|---|---|---|---|---|
| 0 | 0 | 0dB | 0 | 1.0X | 0 | 0dB |
| 0 | 1 | 2.5dB | 1 | 1.2X | 1 | -3.5dB |
| 1 | 0 | 4.5dB | | | | |
| 1 | 1 | 6.5dB | | | | |



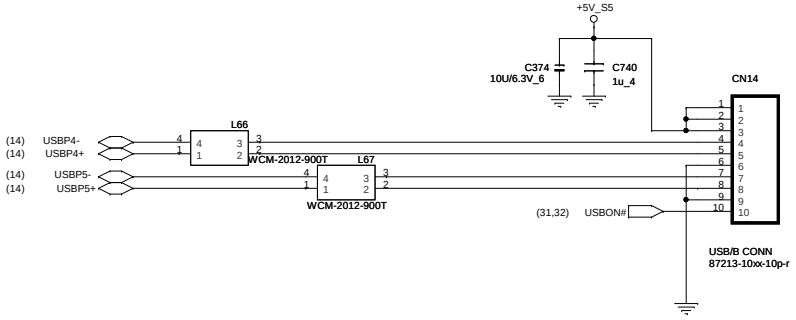




www.kythuatvitinh.com

## EMI cap




## USB/B




Quanta Computer Inc.

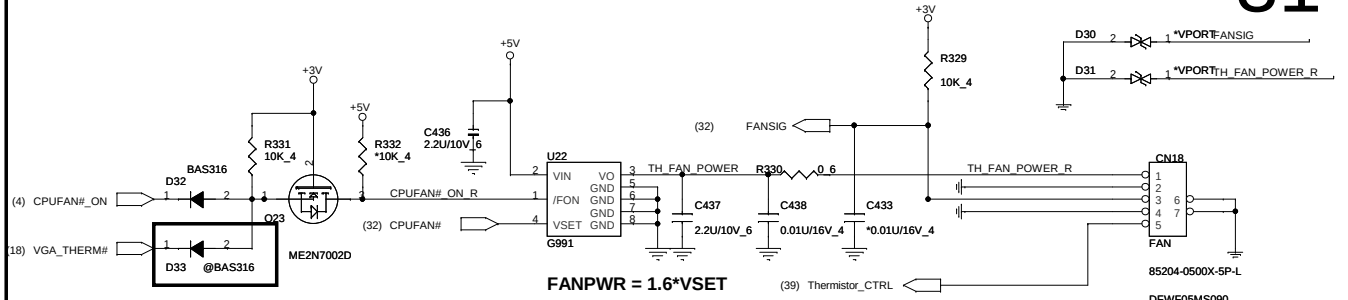
PROJECT : ZK3

| Size | Document Number | Rev |
|---|---|---|
| | USB | 1A |
| Date: Monday, August 18, 2008 | Sheet 30 of 43 | |

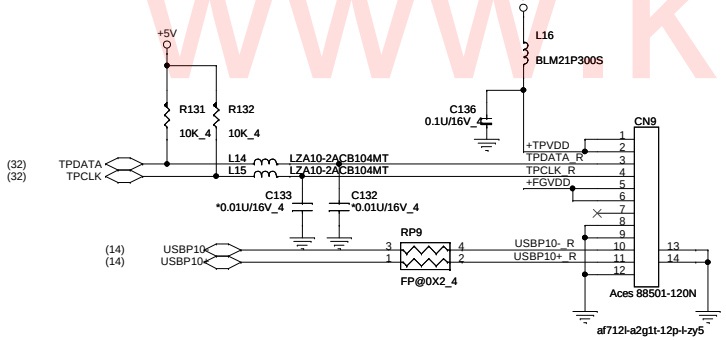
# INT K/B

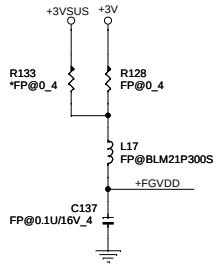



# CPU FAN



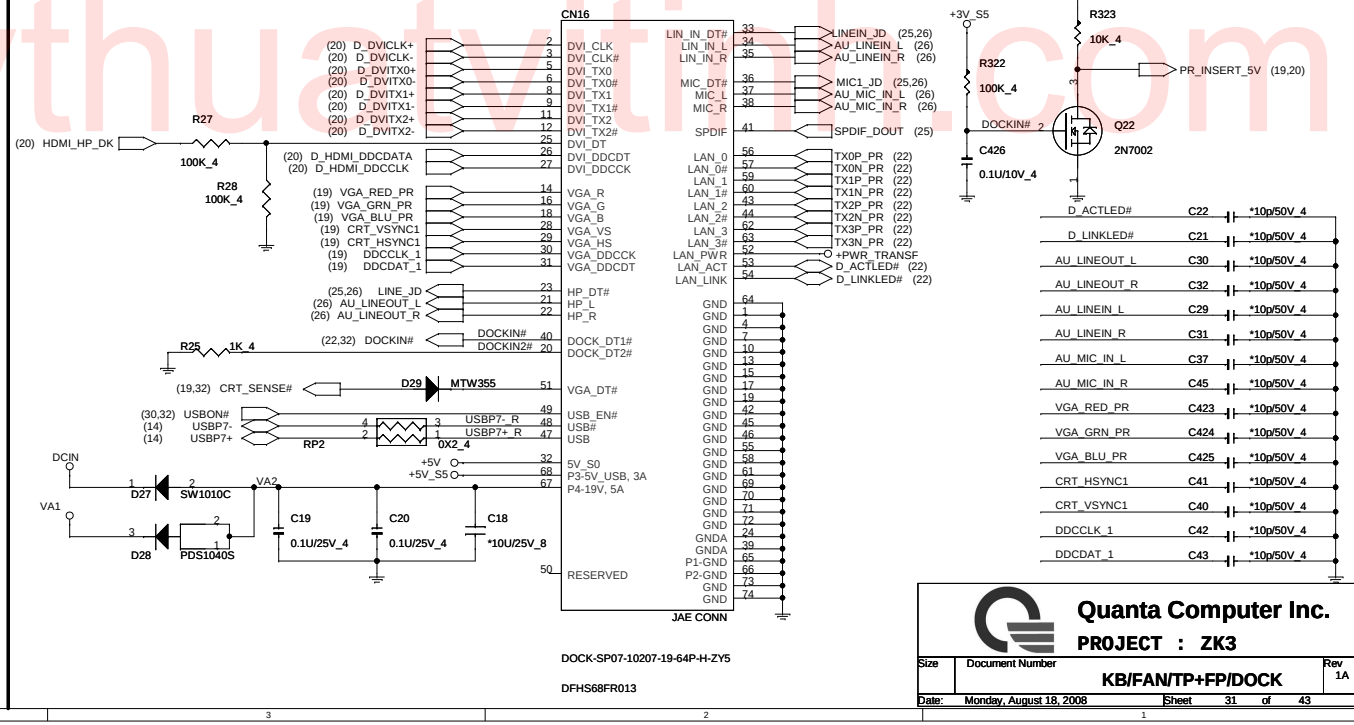

# TOUCHPAD & Finger Printer CONN.




# CABLE DOCK

C test (update PN)

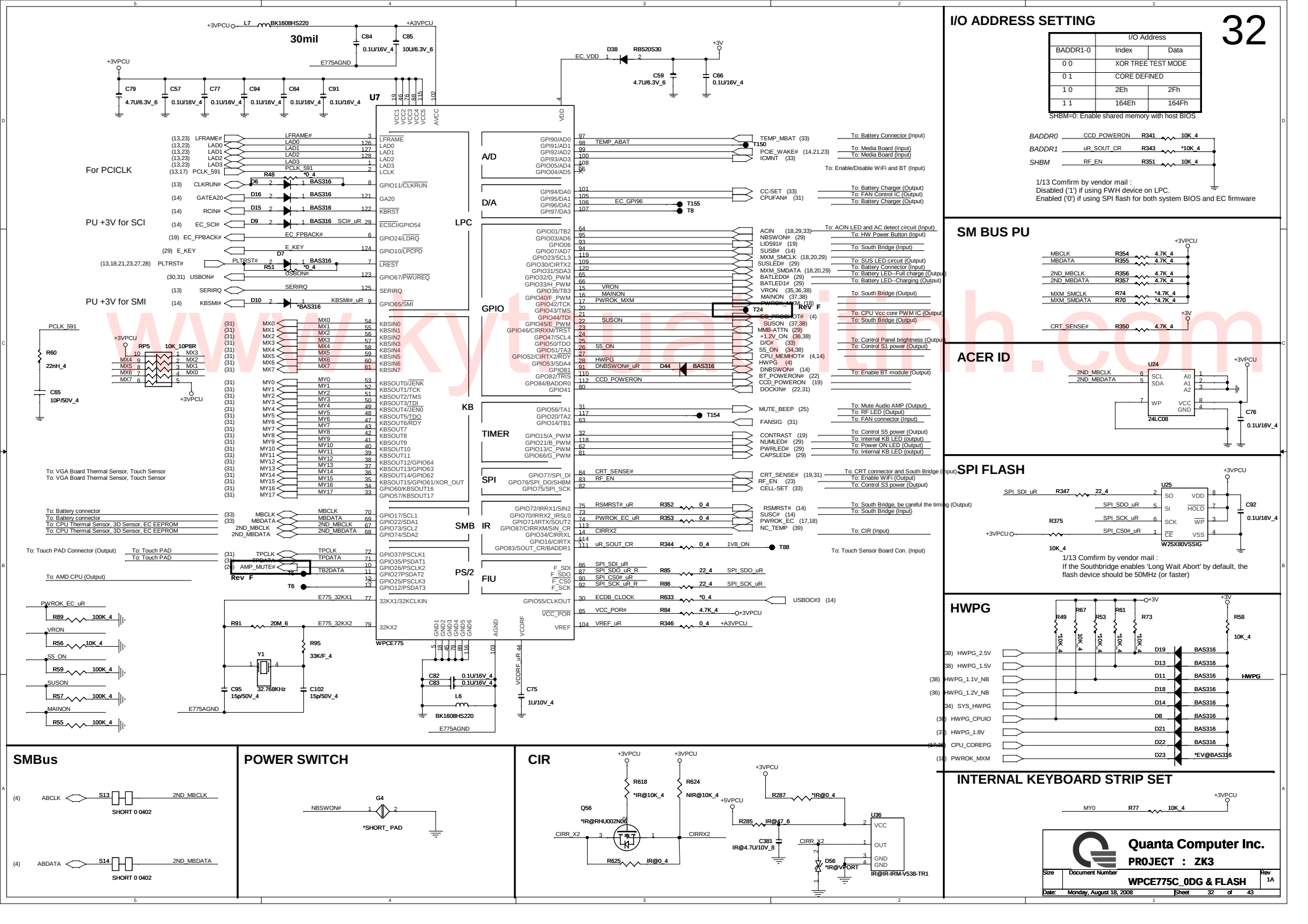



www.kythuatvitinh.com

Quanta Computer Inc.
PROJECT : ZK3

| Size | Document Number | Rev |
|---|---|---|
| | KB/FAN/TP+FP/DOCK | 1A |

Date: Monday, August 18, 2008 Sheet 31 of 43




## I/O ADDRESS SETTING

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

SHBM=0: Enable shared memory with host BIOS




1/13 Comfirm by vendor mail :
Disabled ('1') if using FWH device on LPC.
Enabled ('0') if using SPI flash for both system BIOS and EC firmware

## SM BUS PU




## ACER ID




## SPI FLASH




1/13 Comfirm by vendor mail :
If the Southbridge enables 'Long Wait Abort' by default, the flash device should be 50MHz (or faster)

## HWPG




## INTERNAL KEYBOARD STRIP SET



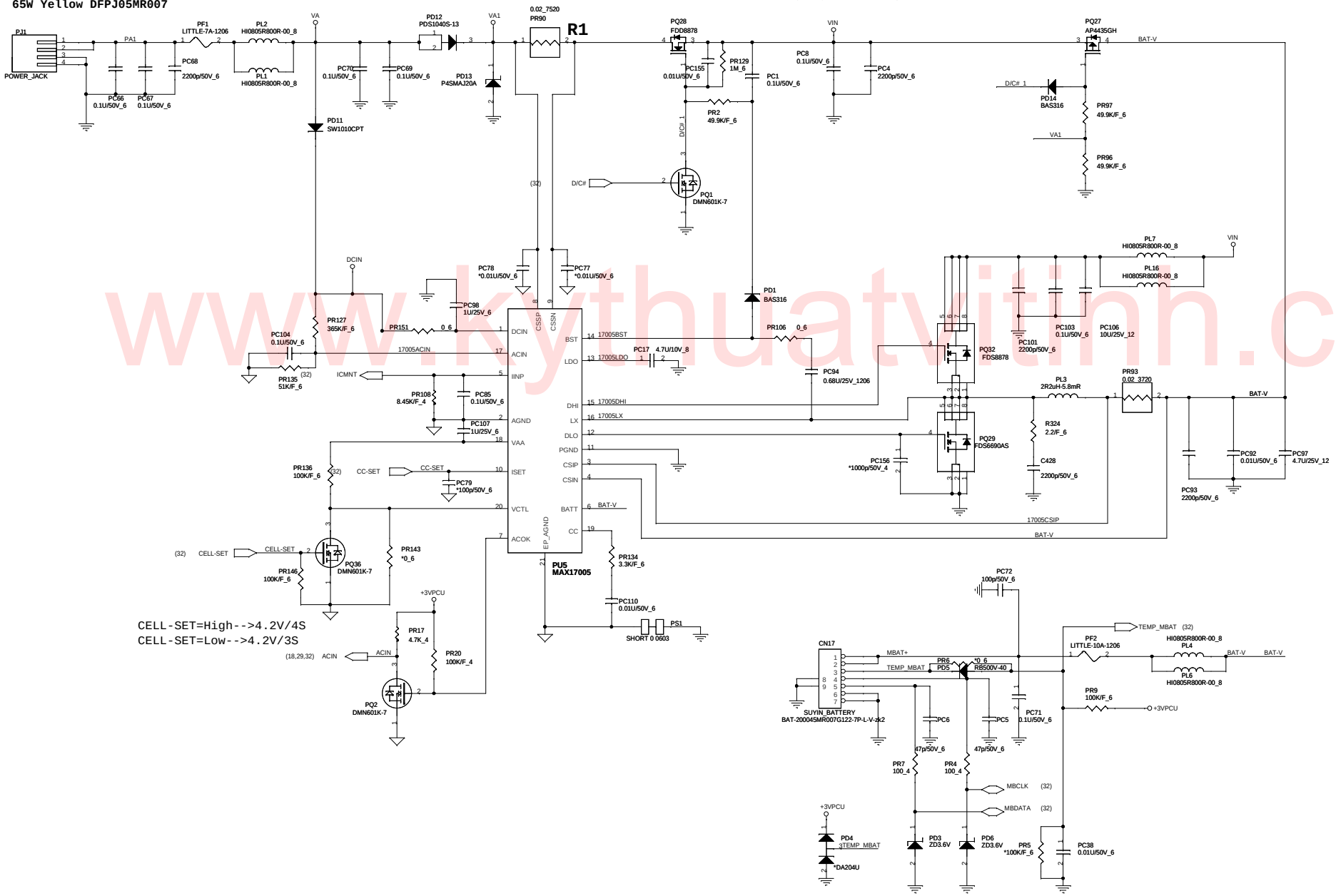

## SMBus

## POWER SWITCH

## CIR

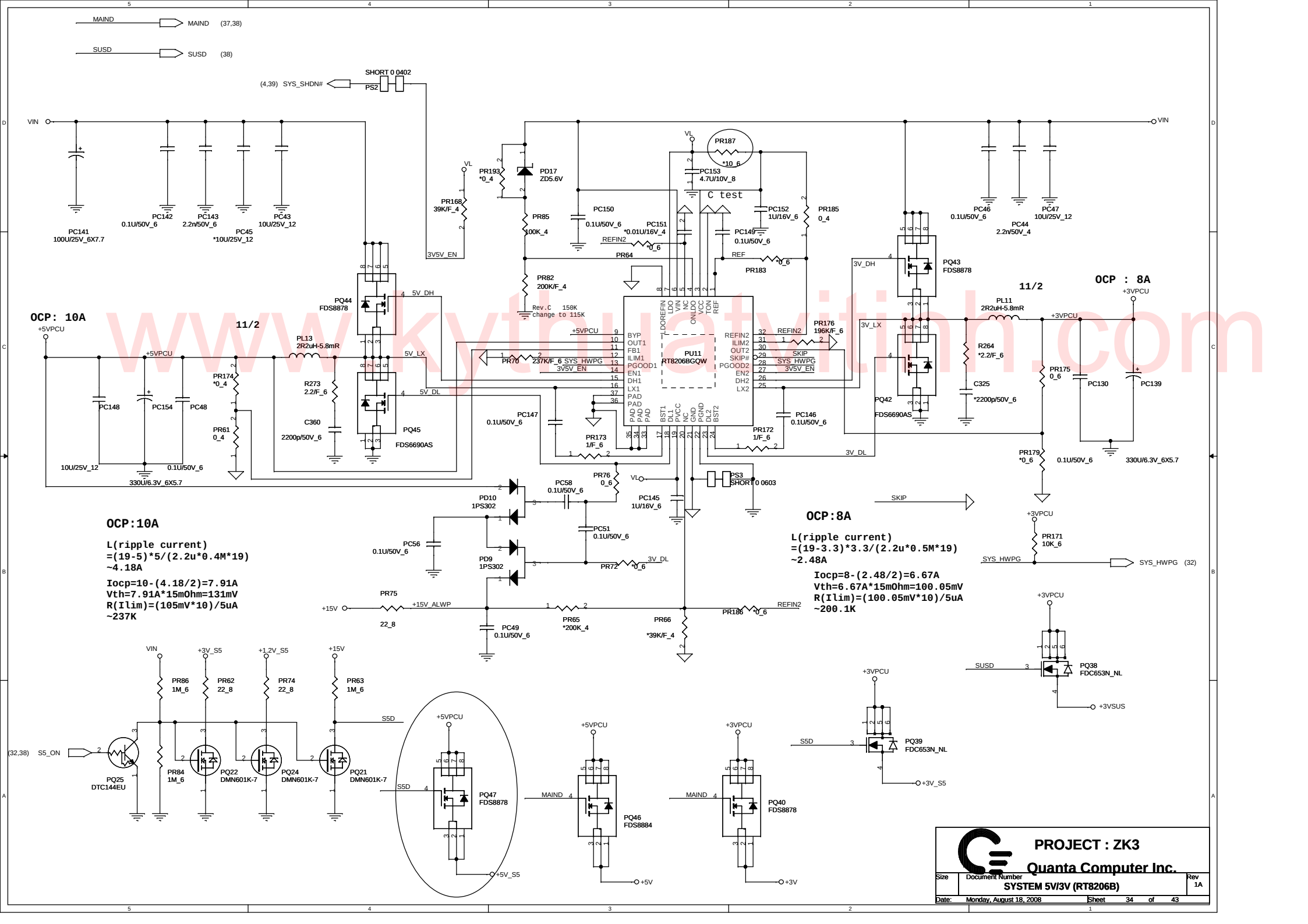
| Quanta Computer Inc. | | | |
|---|---|---|---|
| PROJECT : ZK3 | | | |
| Size | Document Number | WPCE775C_0DG & FLASH | Rev 1A |
| Date: Monday, August 18, 2008 | | Sheet 32 of 43 | |

www.kytuanh.com

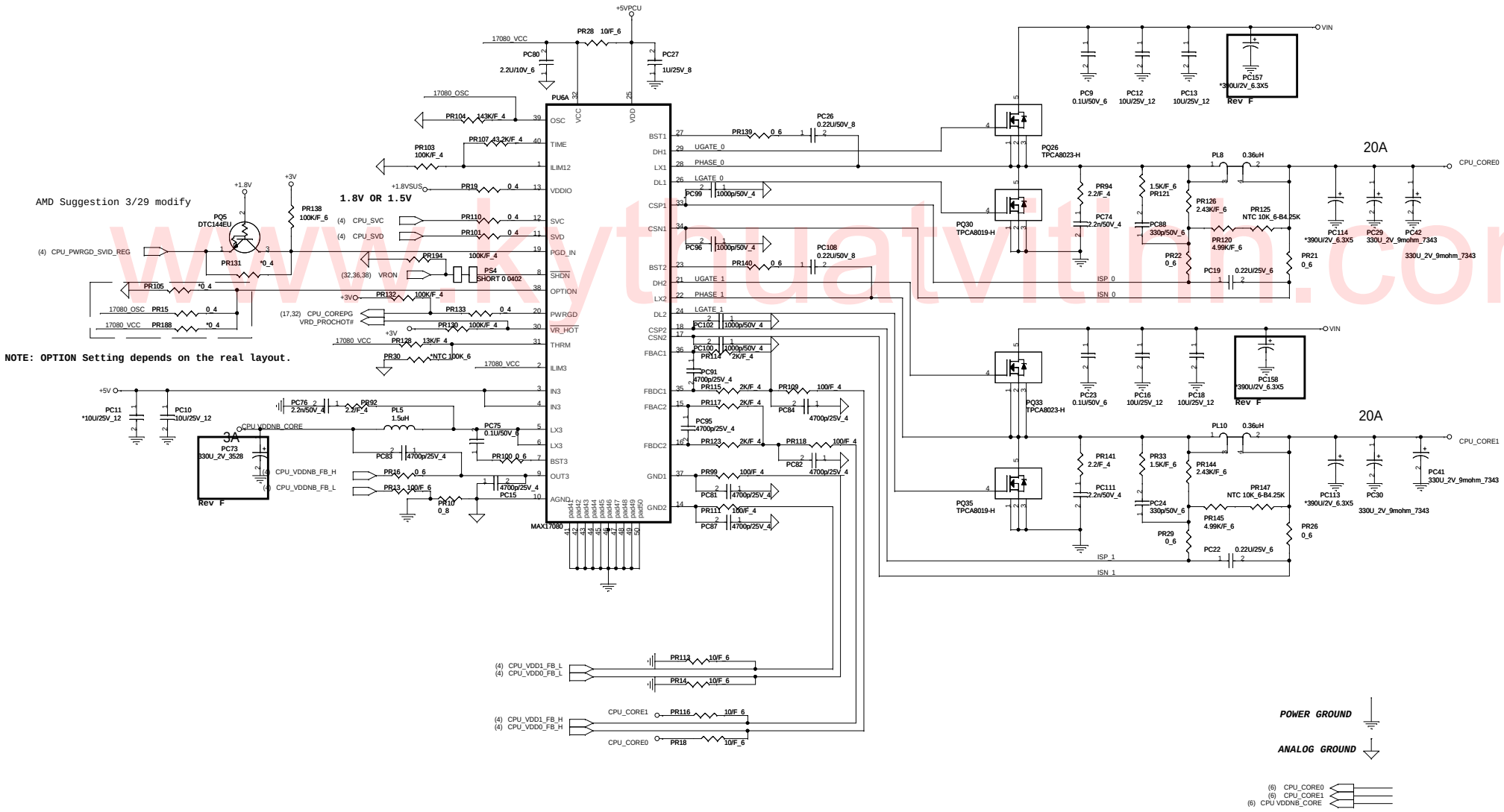



www.kythuatvitinh.com

| | | |
|---|---|---|
| PROJECT : ZK3 | | |
| Quanta Computer Inc. | | |
| Size: C | Document Number: CHARGER (MAX17005) | Rev: 1A |
| Date: Monday, August 18, 2008 | Sheet 33 of 43 | |

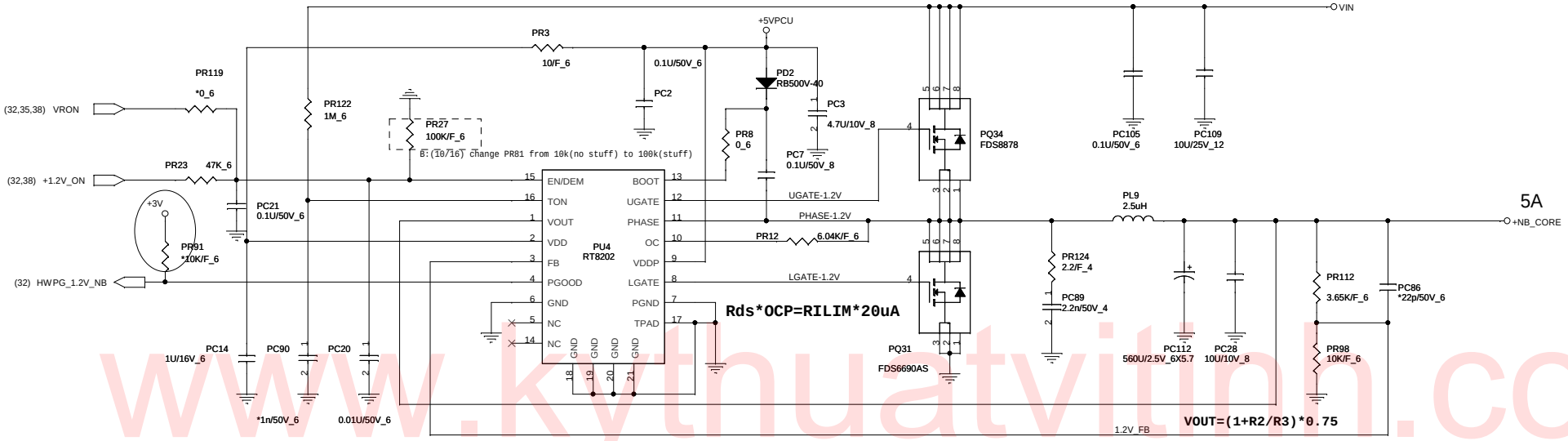



www.kythuatvitinh.com




www.kytuatvitinh.com

| | | |
|---|---|---|
| PROJECT : ZK3 | | |
| Quanta Computer Inc. | | |
| Size: C | Document Number: MAX17080 CPU | Rev: 1A |
| Date: Monday, August 18, 2008 | Sheet 35 of 43 | |

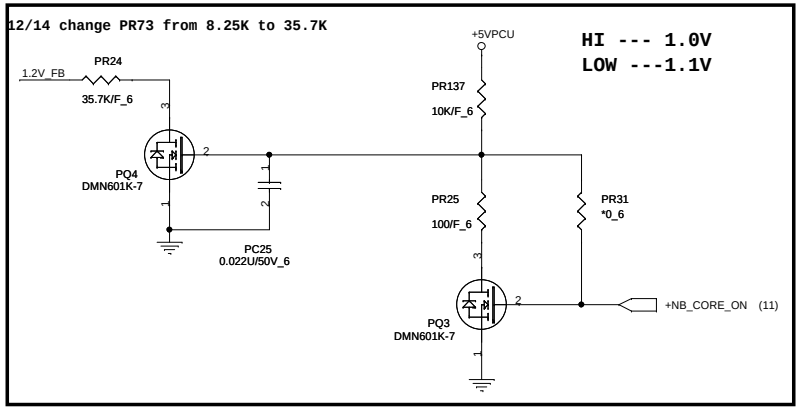


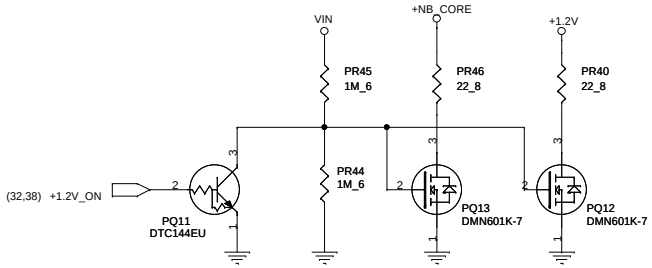

www.kythuatvitinh.com

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

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

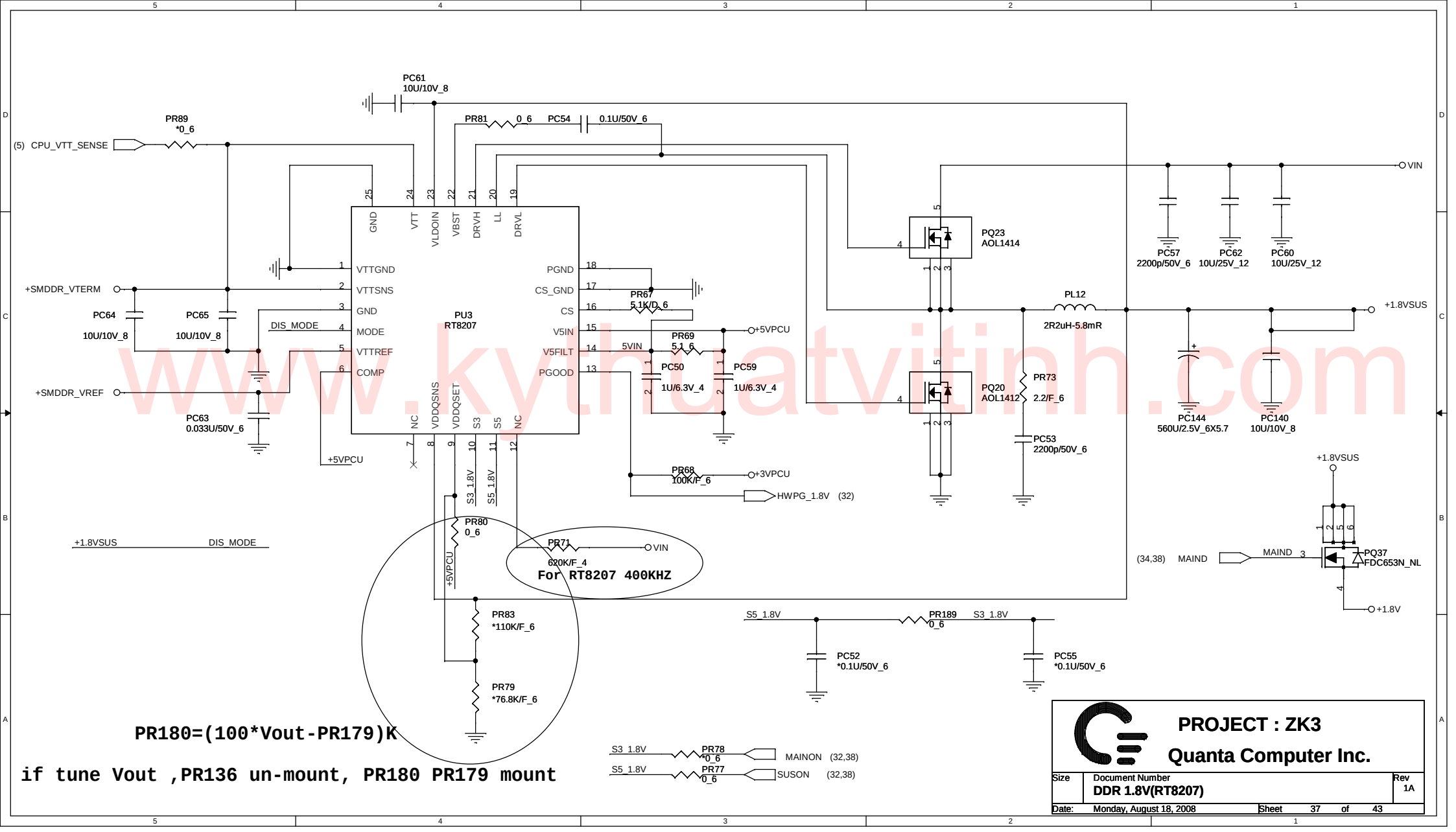
**6A OCP --- OC=4.53K**
**FDS6690AS Rds=15mOhm**




**PROJECT : ZK3**
**Quanta Computer Inc.**

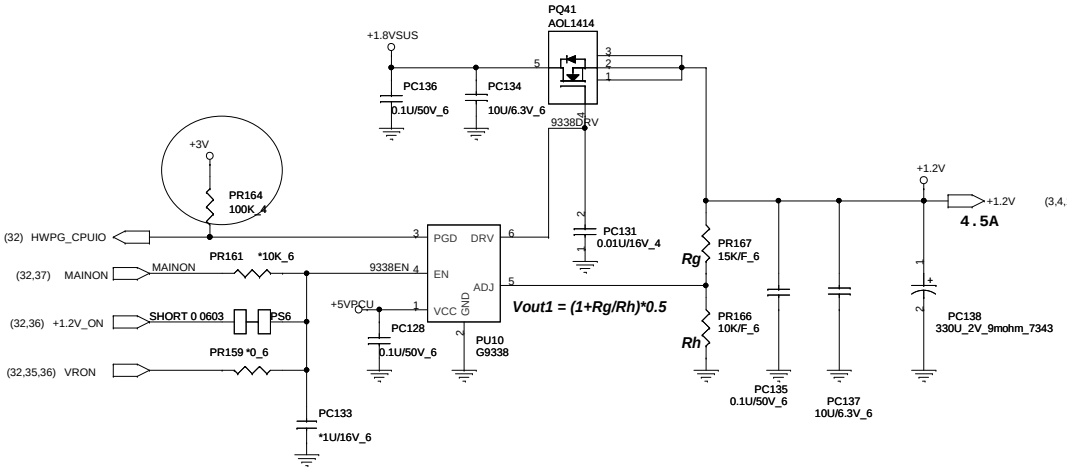
| Size | Document Number | Rev |
|---|---|---|
| | NB_VCC (RT8202) | 1A |
| Date: Monday, August 18, 2008 | Sheet 36 of 43 | |

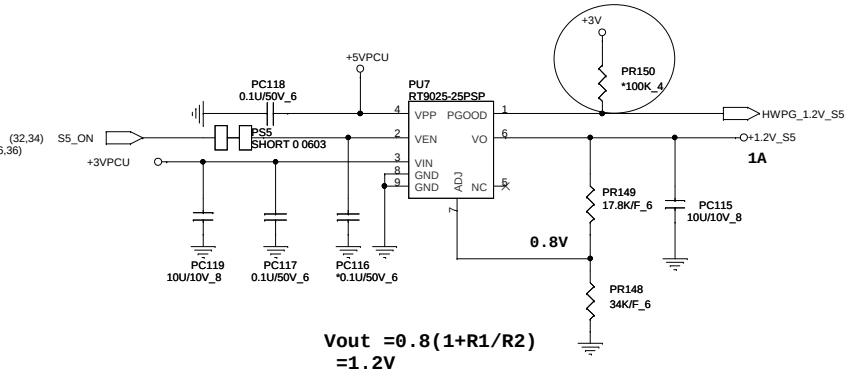


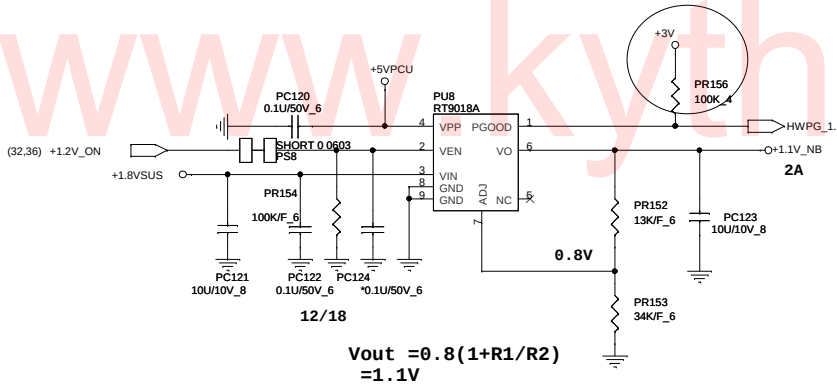

www.kythuatvitinh.com

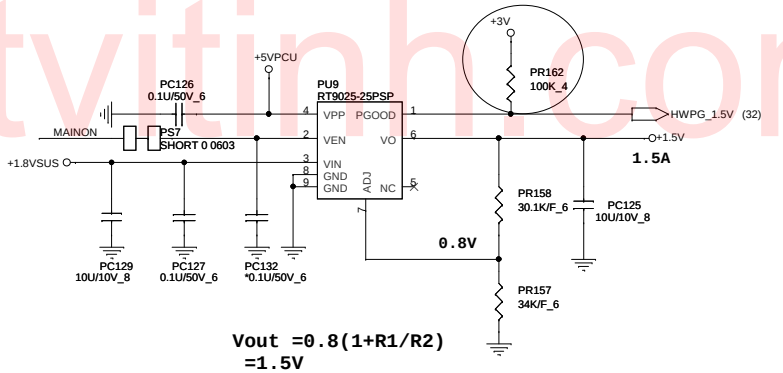
| | | |
|---|---|---|
| PROJECT : ZK3 | | |
| Quanta Computer Inc. | | |
| Size | Document Number: DDR 1.8V(RT8207) | Rev: 1A |
| Date: Monday, August 18, 2008 | Sheet 37 of 43 | |

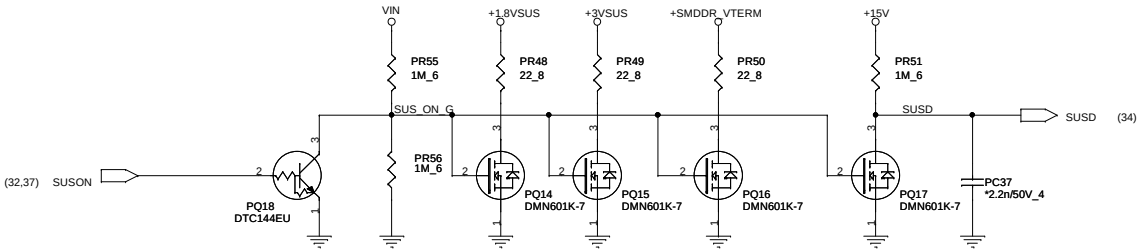
www.kythuatvitinh.com

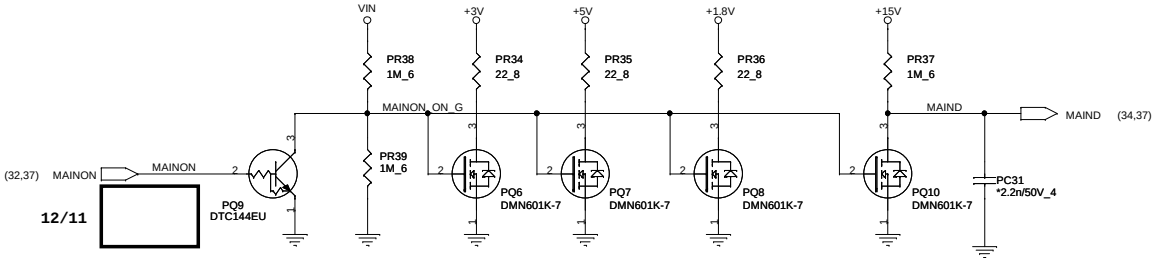


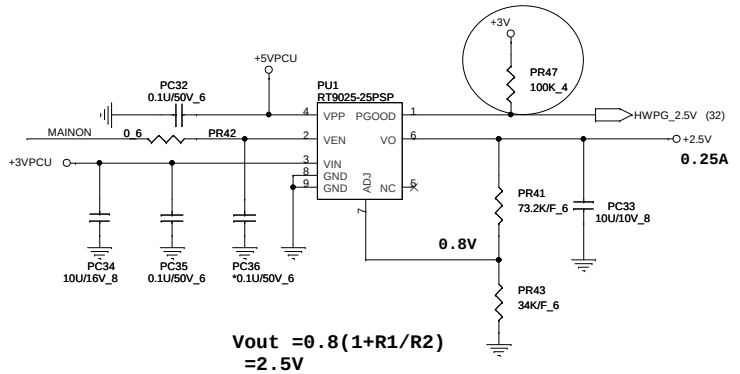



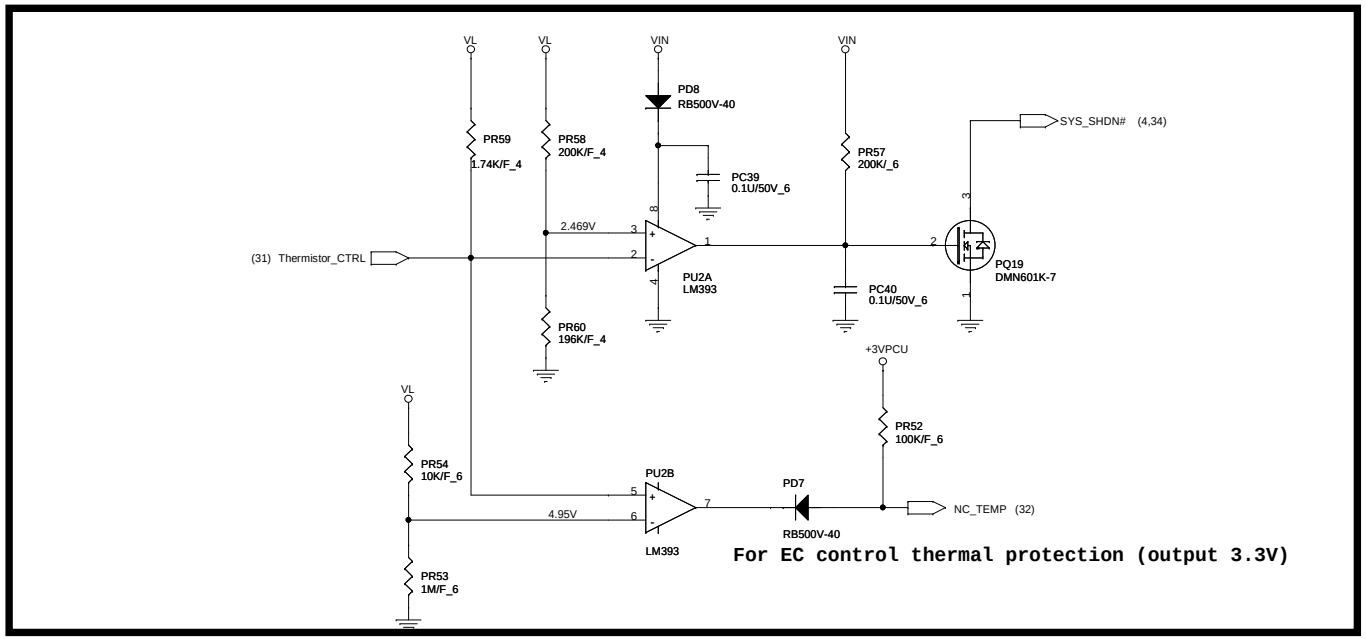

**PROJECT : ZK3**

**Quanta Computer Inc.**

| Size | Document Number | Rev |
|---|---|---|
| | Discharge (1.25V/1.5V) | 1A |
| Date: Monday, August 18, 2008 | Sheet 38 of 43 | |

www.kythuatvitinh.com

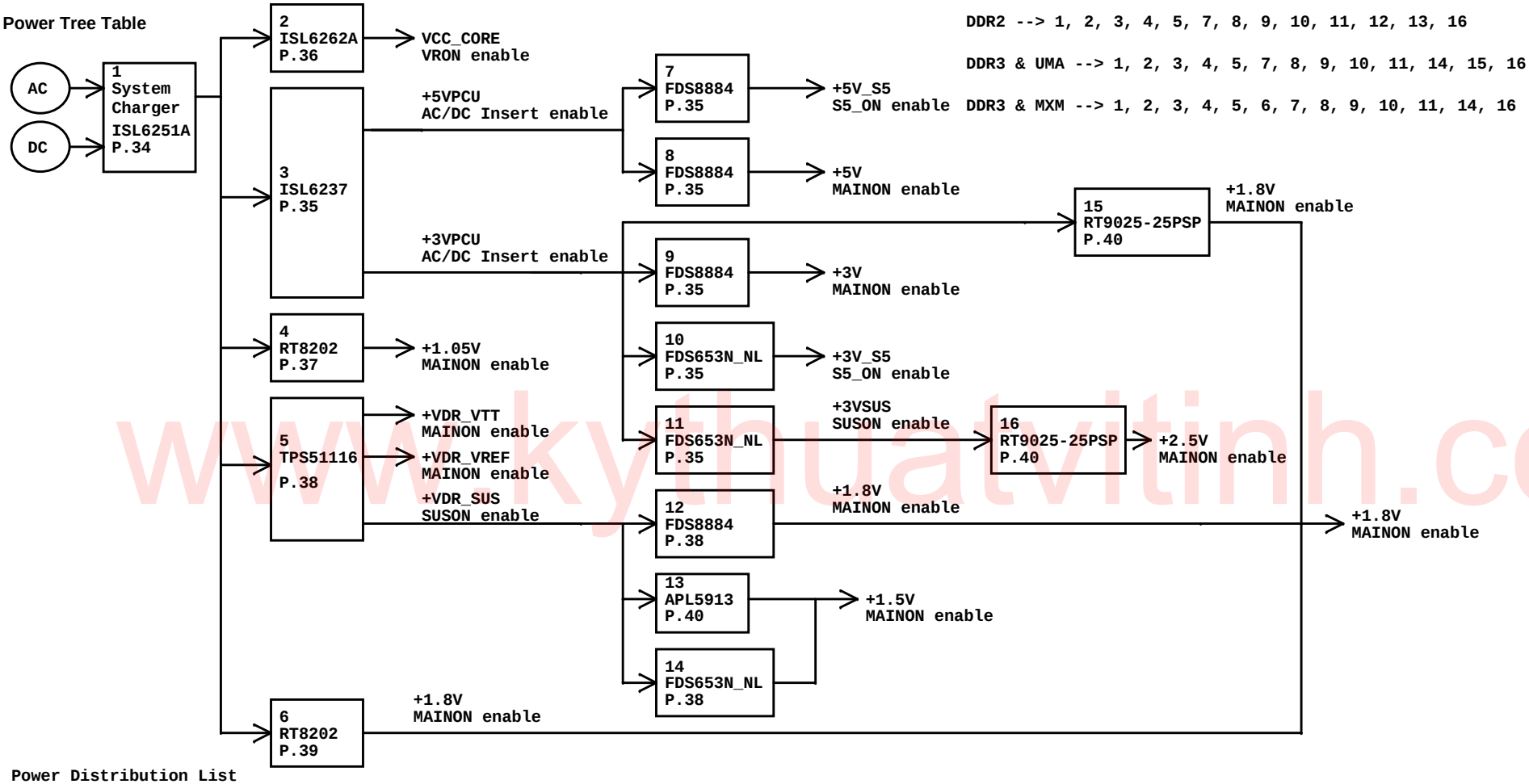
## thermal protection --0928




For EC control thermal protection (output 3.3V)

| | | |
|---|---|---|
| PROJECT : ZK3 | | |
| Quanta Computer Inc. | | |
| Size | Document Number: Thermal Protection | Rev: 1A |
| Date: Monday, August 18, 2008 | Sheet 39 of 43 | |

## Power Tree Table




www.kythuatvitinh.com

## Power Distribution List

| Power | Distribution |
|---|---|
| VCC_CORE | CPU |
| +5VPCU | ICH8M, RJ45/USB /B, USB/eSATA, Satellite LED, CIR |
| +3VPCU | RTC, HALL SENSOR, KB, TP/FP/LED /B, Power /B, Kill SW, EC, ID, SPI Flash, CIR |
| +1.5V | CPU, GMCH, ICH9M, Mini Card, New Card |
| +VDR_SUS | GMCH, DDR |
| +VDR_VREF | GMCH, DDR |
| +VDR_VTT | DDR |
| +1.05V | CPU, CLK, Thermal Trip, GMCH, ICH8M |
| +5V_S5 | ICH8M, G-SENSOR, Felica, USB/eSATA |
| +5V | CPU, ICH8M, VGA, Camera, CRT, HDMI, SATA HDD, PATA ODD, PCMCIA, TP/FP/LED /B, EC, Speaker, Headphone |
| +3V | CLK, CPU Thermal Monitor, FAN, GMCH, DDR, ICH8M, VGA, LCD/LED Panel, HALL SENSOR, CRT, HDMI, SATA HDD, PATA ODD, PCMCIA, Cardreader (OZ129T) Mini Card, KB, TP/FP/LED /B, RJ45/USB /B, Bluetooth, MMB, New Card, PC BEEP, EC, Codec (CX20561), VR, Headphone, MDC |
| +3V_S5 | ICH8M, Mini Card, RJ45/USB /B, New Card |
| +3VSUS | ICH8M, FP |
| +1.8V | Cardreader |
| +2.5V | MXM |

Quanta Computer Inc.
PROJECT : ZK3
Size | Document Number | Rev 1A
Power Tree Table
Date: Monday, August 18, 2008 | Sheet 40 of 43

# CHANGE LIST

| Model | REV | | MODEL | ZK3 FROM | ZK3 To |
|---|---|---|---|---|---|
| ZK3 MB | A1A | FIRST RELEASED: E200804-2783 (PCB: ) | | X | 1A |
| | A1A | | | X | 1A |

SMT inner document
1.Add RTC BATT (AHL03001401).
2.Del CRT BKT (FBZK1002010)  (Material shortage)
3.Del CPU BKT (FBZK2010010)  (Material shortage)
4.Page 38 : Change PC34,PC119,PC121,PC129 from CH6100KMEE3 to CH6103K9A00
5.Page 26 : Change C711,C712 from CH5103Z3905 to CH5104K9906
Change C675,C676 from CH41002KB93 to CH5103Z390
Change C683 from CH5222K9A09 to CH5103K9901
Change R612 from CS31002JB28 to CS41002JB20
6.Page 25 : Change C713 from CH11006J901 to CH11006K907
Change C650 from CH54702ZA38 to CH5472M9901
7.Page 21 : Change C405 from CH4103K1B08 to CH21006JB10.
Change C386,C8 from CH54702ZA38 to CH5471K9E07
Change R298 from CS21203F910(2.37K/F_6) to CS22372FB11(2.37K/F_4)
Change R8 from CS-1506J217 to CS00006J248
Change R3 from CS24702JB38 to CS31002JB28
8.Page 31 : Change C436,C437 from CH52202MA91 to CH5222K990
9.Page 20 : Change R374 from CS00006J248(0_12) to CS00002JB38(0_4)
10.Page 32 : Change U25 from AKE38ZP0N00 to AKE3GFP0N0
Change C95,C102 from CH01806JB07 to CH0156K0B06
Del R48,R51 (CS00002JB38)
Del R73,R61,R53,R49 (CS31002JB28)
Change C75 from CH5102M9B07 to CH5102K9B06
11.Page 35 : Change PR99, PR109, PR111, PR118 from CS41002FB28 to CS11002FB22
Change PR138 from CS31003J941 to CS41003F932.
Change PC88,PC24 from CH1336K1911 to CH13306K911.  (Material shortage)
Change PR107 from CS34322FB16 to CS34302FB17.  (Material shortage)
12.Page 09 : Change U26 from AJ067400T18 to AJ067400T2.  (Material shortage)
13.Page 30 : Change C419,C23 from from CH41002KB93 to CH4104K9B03
14.Page 22 : Change R291,R301 from CS12204JA44(220_8) to CS12203J947(220_6)
15.Page 34 : Add PR171 (CS31003J941)
16.Page 33 : Change PQ28 from BAM88780011 to BAM62T00000.  (Material shortage)
17.Page 29 : Change HOLE13,HOLE23,HOLE24 from MBZA1001012 to MBZK3001010
18.Page 28 : Change C365 from CH41003ZB35 to CH5102K9B06
19.Page 36 : Change PR3 from CS01003J953 to CS01003F93
20.Page 20 : R93 from CS00002JB38 to CS21002JB34
21.Page 19 : Change R47 from CS00006J248(0_12) to CS00002JB38(0_4)
Change L1,L2 from CX8BA220007 to CS00003J951
Add R35 (CS41002JB20)
Change C378 from CH5102M9B07 to CH5102K9B06

Below item for UMA sku only
22.Page 25 : Del R281 (CS00003J951)
Add R79 (CS41002JB20)
23.Add CN3 (DFWF40MS000)  Add CN1,CN5,CN6 (DFHD02MR311)
Add CN4,CN7,CN9 (DFFC12FR234)  Add CN11 (DFHD05MRD98)
Add CN2 (DFWF04MS079)  Add CN12 (DFHS12FS734)
Add CN10 (DFHS26FR001)  Add CN13 (DFHD02MS784)
Add CN8 (DFFC26FR261)

Modify items for B test

1.Update PCB footrptin :
Page 27 : New Card CN10 change to Z05
Page 20 : HDMI CN20 change to TE1M
Page 30 : ESATA CN22 change to TE1M
Page 28 : CardReader CN33 change to Z05
2.Page 24 : Update HDD connector PN (CN30) form DFHS22FR072 to DFHS22FR101
3.Page 07 : Update DDR connector PN : CN26 form DGMK0005791 to DGMK0005856, CN29 from DGMK0005627 to DGMK0000028
2008/0422
4.Page 29 : Del 3 EMIPAD. (EMIPAD197x134*2pcs, EMIPAD217x157*1pcs)

www.kythuatvitinh.com

Quanta Computer Inc.
PROJECT : ZK3
Size | Document Number: Change list | Rev: 1A
Date: Monday, August 18, 2008 | Sheet 41 of 43

| DOC NO. | PROJECT MODEL : | ZK3 | APPROVED BY: | | DATE: | 2008/ 4/21 |
|---|---|---|---|---|---|---|
| | PART NUMBER: | | DRAWING BY: | | REVISON: | 1A |

# CHANGE LIST

| Model | REV | |
|---|---|---|
| ZK3 MB | | Modify items for B test<br>5.Page 20 : Change R374 from 0402 to 1206 size.<br>Del Q34,Q35,Q38.<br>6.Page 19 : Change R47 from 0402 to 1206 size.<br>7.Page 21 : Change R298 from 0603 to 0402 size.<br>Connect C3, R6 from U20.pin5 to U20.pin 42 and stuff C3, R6.<br>8.Page 22 : Change R291, R301 from 0805 to 0603<br>Del R306,R307 due to haven't LAN GND.<br>Change LAN connector(CN15) differential pair routing.<br>9.Page 32 : Connect U7.98 pin to test point<br>Connect D56 to U36.1 pin.<br>Reserve R632 at U7.106pin, R633 at U7.30pin<br>2008/0423<br>10.Page 29 : Add R634,R635 to reserve +3VPCU and +3V power for MMB board<br>2008/0424<br>11.Page 15 : Modify U28.P5, U28.P8, U28.R8 net name and connect to Test point.<br>12.Page 29 : Update screw hole.<br>2008/0428<br>13.Page 38 : Change PR167 from 14K to 15K to modify 1.2V power rail.<br>14.Page 24 : Add ESD diode(U37,U38) at CN27,CN30.<br>15.Page 25 : Remove R626. (+1.5V) ; Remove R281(+1.5V_S5)<br>16.Page 26 : Update CN25(HP connector) pin definition ; Add R626<br>17.Page 19 : Change C33 from 0402(0.1u) to 0603(2.2u)<br>2008/0429<br>18.Page 29 : Change R634,R635 from 0402 to 0603<br>19.Page 30 : Remove U18,R282,C701,C373 and C375 ; Connect USBON# net to CN14 pin10.<br>20.Page 35 : Remove PR105 and mount PR15 for CPU issue<br>22.Page 38 : Change PC138 size for height limited issue<br>23.Page 35 : Reserve PR188.<br>24.Page 30 : Update U13 footprint (increase pad size) for SMT request.<br>25.Page 19 : Update CN19 footprint for SMT request.<br>26.Page 37 : Add PR189<br>27.Page 22 : Update U3 footprint for SMT request<br>28.Page 13 : Add R281.<br>2008/0430<br>29.Page 18 : Add R636<br>30.Page 20 : Connect R90 to HPD_SRC net.<br>31.Page 15 : Change C182 to 22p.<br>32.Page 21 : Change C412, C413 to 33p.<br>2008/0501<br>33.Page 19 : Change R35 from 100K to 4.7K.(Refer demo board)<br>34.Page 13 : Add R141.<br>35.Page 28 : Update CN33 PN for SMT issue.<br>36.Page 32 : Uninstall D23. | |
| | | B test SMT inner document | |

| MODEL | ZK3 | |
|---|---|---|
| | FROM | To |
| | X | 1A |
| | X | 1A |

www.kythuatvitinh.com

Quanta Computer Inc.
PROJECT : ZK3
Size | Document Number: Change list | Rev: 1A
Date: Monday, August 18, 2008 | Sheet 42 of 43

| DOC NO. | | | | | |
|---|---|---|---|---|---|
| PROJECT MODEL : | ZK3 | APPROVED BY: | | DATE: | 2008/ 4/21 |
| PART NUMBER: | | DRAWING BY: | | REVISON: | 1A |

| Model | REV | CHANGE LIST | MODEL | ZK3 | |
|---|---|---|---|---|---|
| | | | | FROM | To |
| | | | | X | 1A |
| | | | | X | 1A |

**ZK3 MB**

Modify items for C test

01.Remove JP1~JP9.

02.Page03：Reserve R640,R641 for SB A13 version ：Change Y6 to BG614318F33 for vendor recommend

03.Page04：Connect R160 to GND, R151 to +1.8VSUS (AMD design guide update)；Del R449(Reserve 0Ω)

04.Page11：Del R198, R199(Reserve 0Ω)；Change C172 to 10U.

05.Page13：Unmount R141, Reserve R642；Add T156, T157 test point；Del R484 and R527 (0Ω)

06.Page14：Remove some pull down resistor (R164, R158, R176, R452, R453, R172, R512, R513, R412, R397, R470)
Del R518,R239,R247,R236 and R384 (Azalia bus to MXM card)

07.Page15：Remove some pull down resistor (R480,R481,R229,R221,R222,R220,R471,R472,R474,R473,R475,R478,R235,R233,R232)

08.Page17：Change C88 to 1000pF, R81 to 4.7KΩ;unmount D36, R81;Mount R83.

09.Page19：Del R50,R68 and R69(Reserve 0Ω),Change R283 from 330Ω to 180Ω(Hall sensor issue)；Update HE1 footprint：
Add C736,C737,C738,L68. Del R23,R24(For EMI request)：Change CRT connector PN to DFDS15FR073：
Change L3,L4 and L5 to 47Ω bead, C72,C74,C58,C63,C73,C67 to 6.8p for UMA SKU

10.Page20：Update HDMI switch circuit；Change location R78-->S1,R65-->S2,R62-->S3；Del D40
Del R90,R378,R380,R383,R385,R388,R390,R393,R401,Q39,RP4,RP6~RP8,R111, R106,R414,R417,R419,Q36,Q37R381,R382,D38,D39(ND@)
Mount R318~R320 for EMI request

11.Page21：Del R2,R4；Change R298 to 2.32KΩ；Change R298 from 0402 to 0603 size；Change location R299-->S4,R11-->S5,R12-->S6

12.Page22：Swap LAN connector pin12 and pin10：Del C398 and connect CN15's pin13, 14 to GND：Change R18~R21 from 0402 to 0805：
Change R18~R21 from 0402 to 0805 for factory request：Del RN7~RN10,R9,R10：Change U3 to DBKN1NLAN03

13.Page23：Del R555,Change location R568-->S8,R450-->S7,R446-->S9

14.Page24：Swap SATA port0 and port1.Change U30 to DFHS22FR669.Change U27 to DFHS22FR116;

15.Page25：Change location R609-->S10

16.Page26：Remove D55 and D52；Change R546,R542 to 47Ω for vendor recommend；Change R604 to 12.4K to subwoofer gain

17.Page27：Change location R605-->S12,R608-->S11

18.Page28：Reserve R643,C717 for EMI request

19.Page29：Update power board's circuit.(Add Q60,Q58,Q59,Q57,R644,R645 and R646)
Update MMB board circuit(Add R647,R648,R650,Q61,R649,R638,R639：Add C719 for EMI request)
Add L65,L69,2 EMI PAD：Connect R42 to +5V：Del CN1,CN6：Connect HOLE18 to GND

20.Page30：Add R230,R223,R224,R231 to 0Ω,Add R213 to 240Ω for ESATA eye pattern issue.
Change CN22 to DFHS11FR025；Add L66,L67 for EMI request.Add C720~C735 for EMI request.

21.Page32：Change U7.117pin to be test point；Change location R44-->S12,R43-->S14；Add R60,C65 for EMI request.
Remove SW1.

22.Page33：Connect PR97 net from VA to VA1 for can't power on when docking attached and plug adaptor in docking side.
Del PR1；Del PR11,PR95；Change location PR142-->PS1;Add R324,C428 for EMI reqeust.

23.Page34：Change location PR184-->PS3,PR169-->PS2：PR180,PR177,PR178,PR170：Change PR182 from 150K to 115K

33.Page35：Del PR129；Change location PR102-->PS4
Add PR94,PC74,PR141,PC111 for EMI request.

34.Page36：Del PR32；Add PR124,PC89 for EMI request.

35.Page37：Del PR85,PR87,PR88,PR82；

36.Page38：PR160；Change location PR165-->PS6,PR163-->PS7,PR155-->PS8,PR151-->PS5

Modify items for C2 test

01.Page35：Add PL15,PL16 for EMI request.

Modify items for ramp

01.Page 04: Connect Q33.2 to HWPG for reboot shut down issue.

02.Page 11: Change C175 to 22u for improving UMA LCD flicker issue.

03.Page 18: Add C575 for improving UMA LCD flicker issue.

04.Page 19: Update U4 to AAT4280-4 to meet LCD power spec.

05.Page 22: Modify R291 and R301 from 0603 to 0805 for facotry request.

06.Page 23: Remove R544 and R538(0Ω)

07.Page 24: ADd U37,U38 for ESD issue.

08.Page 26: Change C685 (0.1u) to R652 (100K) for improving power comsuption;connecto D53 to EAPD# for audio power down noise.

09.Page 29: Change R648 and R288 to fine tune LED brightness；Modify LED1 PN to meet acer LED spec.

10.Page 31: Remove C60~C62,C68~C71 for unnecessary parts.

11.Page 32: Change RP5 pin5,10 from +3VSUS to +3VPCU for preventing EC enter debug mode

12.Page 33: Change CN17 to DFHD07MR059;Reserve PL16,PC155,PR129 for vendor recommend

www.kythuatvitinh.com

| Quanta Computer Inc. | DOC NO. | PROJECT MODEL : | ZK3 | APPROVED BY: | | DATE: | 2008/ 4/21 |
|---|---|---|---|---|---|---|---|
| PROJECT : ZK3 | | PART NUMBER: | | DRAWING BY: | | REVISON: | 1A |
| Size / Document Number: Change list / Rev: 1A | | | | | | | |
| Date: Monday, August 18, 2008 / Sheet 43 of 43 | | | | | | | |