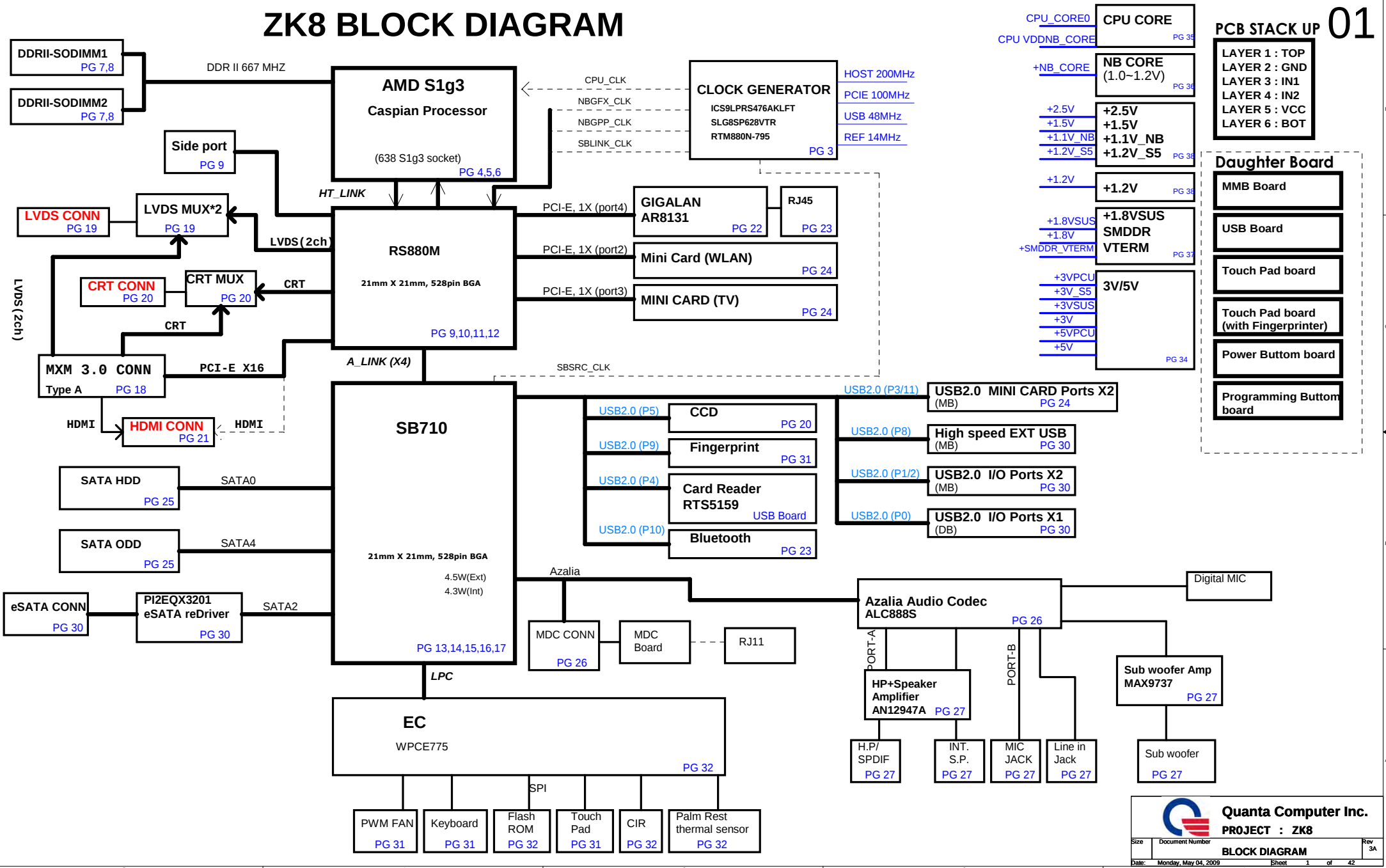
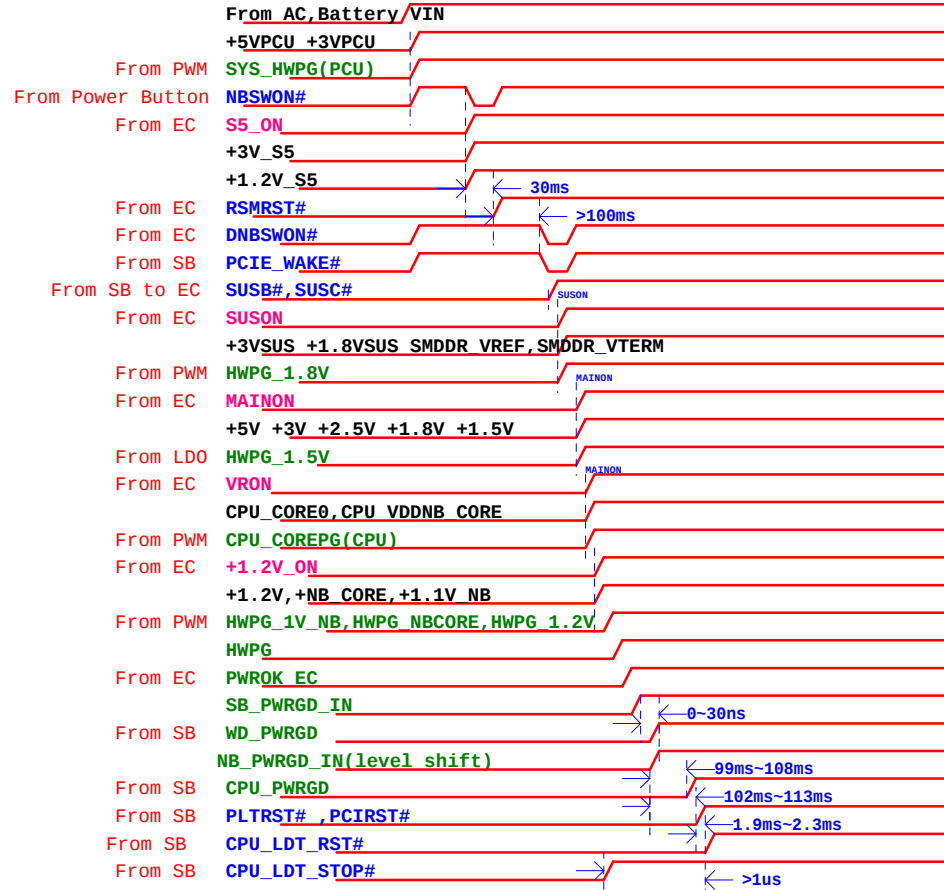


CPU\_CORE0 CPU CORE PCB STACK UP 01



ZK8 Power On Sequence



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

AMD SB710 SMBUS Table

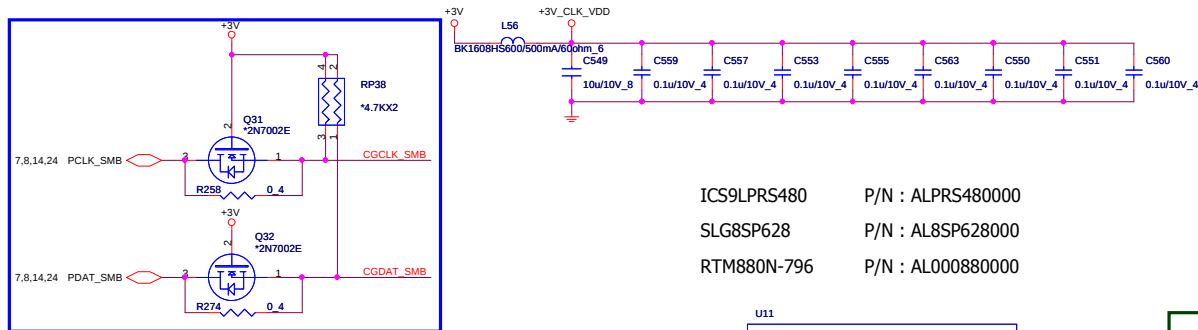
|                            | CLK GEN | RAM | Mini Card TV) | Mini-card(WL) | LAN           |
|----------------------------|---------|-----|---------------|---------------|---------------|
| SB710 SDATA0/SCLK0(+3V)    | V       | V   | V             | V             | V             |
| SB710 SDATA1/SCLK1(+3V_S5) |         |     |               |               |               |
| SB710 SDATA2/SCLK2(+3V_S5) |         |     |               |               |               |
| Power                      | +3V     | +3V | +3V           | +3V           | +3V (Atheros) |
| Reserve MOS ckt            | V       | X   | V             | V             | X             |

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       |

EC SMBUS Table

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

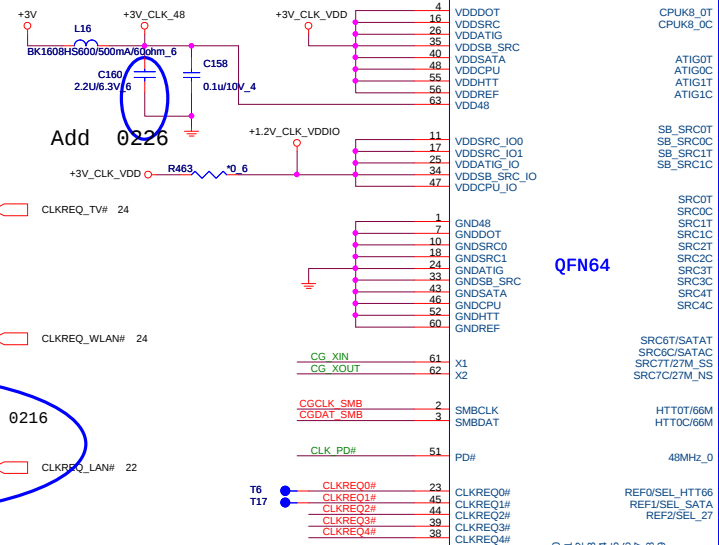


|             |                   |
|-------------|-------------------|
| ICS9LPRS480 | P/N : ALPRS480000 |
| SLG8SP628   | P/N : AL8SP628000 |
| RTM880N-796 | P/N : AL000880000 |

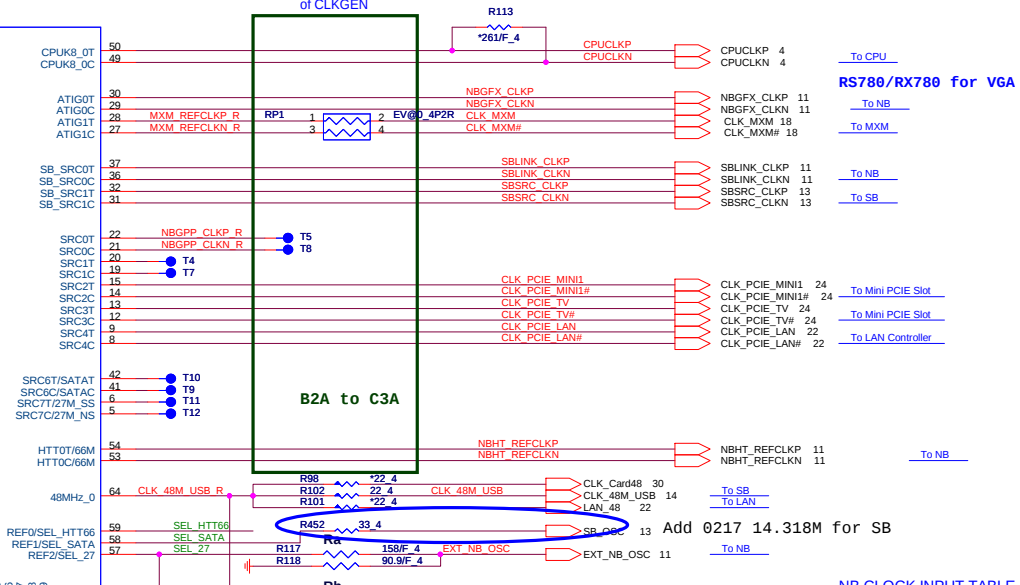
- ! Clock chip has internal serial terminations
- ! for differential pairs, external resistors are
- ! reserved for debug purpose.

Place within 0.5'

Add 0216



QFN64



RS780/RX780 for VGA

To NB

100

To NB

To SB

24 To Mini PCIe

To LAN Con

11

1 for SB

NB CLOCS

|           |
|-----------|
| HT RECLKP |
|-----------|

|            |
|------------|
| HT_REFCLKN |
|------------|

REFCLK\_P

|            |
|------------|
| GFX_REFCLK |
|------------|

|            |
|------------|
| GPP_REFCLK |
|------------|

GPPSB\_REFC

[illegible]

Q

[illegible]Date: Thurs  


---

| 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(N/OUT)*      |
| GPP_REFCLK   | 100M DIFF     | NC or 100M DIFF OUTPUT |
| GPPSB_REFCLK | 100M DIFF     | 100M DIFF              |

|           |    |                                              |
|-----------|----|----------------------------------------------|
| 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

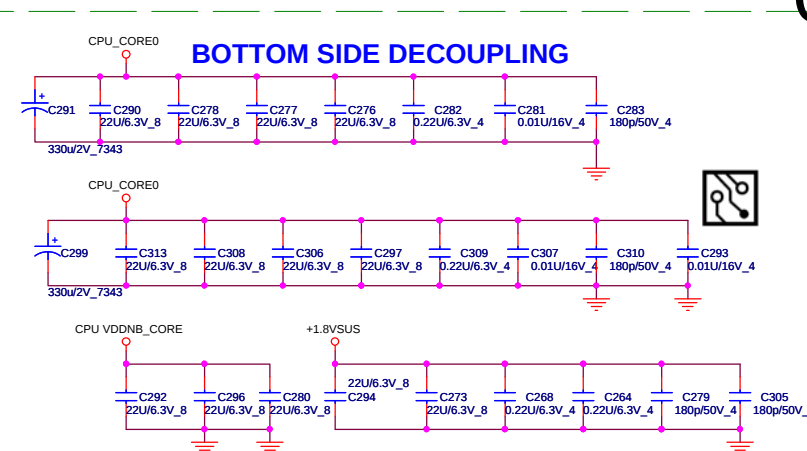
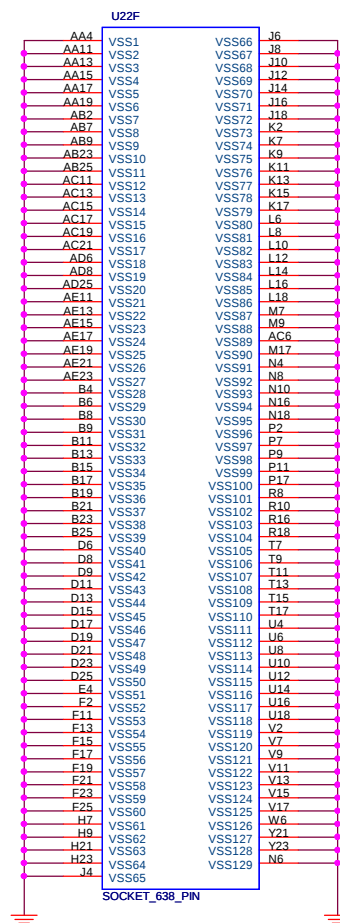
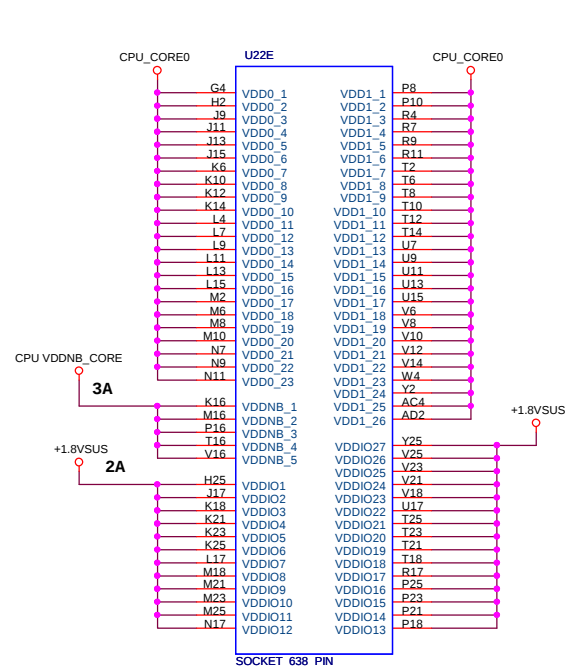
|                                                                                                                                                          |                                  |               |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|---------------|
|  <div> <b>Quanta Computer Inc.</b><br/> <b>PROJECT : ZK8</b> </div> |                                  |               |
| Size                                                                                                                                                     | Document Number                  | Rev           |
|                                                                                                                                                          | <b>CLOCK GENERATOR_SLG8SP628</b> | <b>3A</b>     |
| Date:                                                                                                                                                    | Thursday, May 21, 2009           | Sheet 3 of 42 |

1

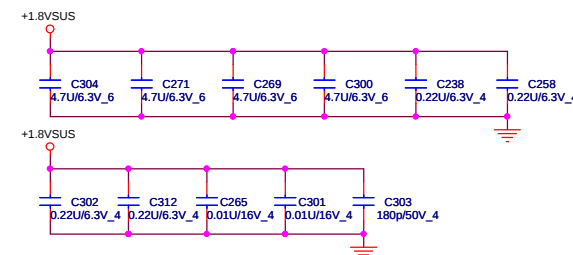




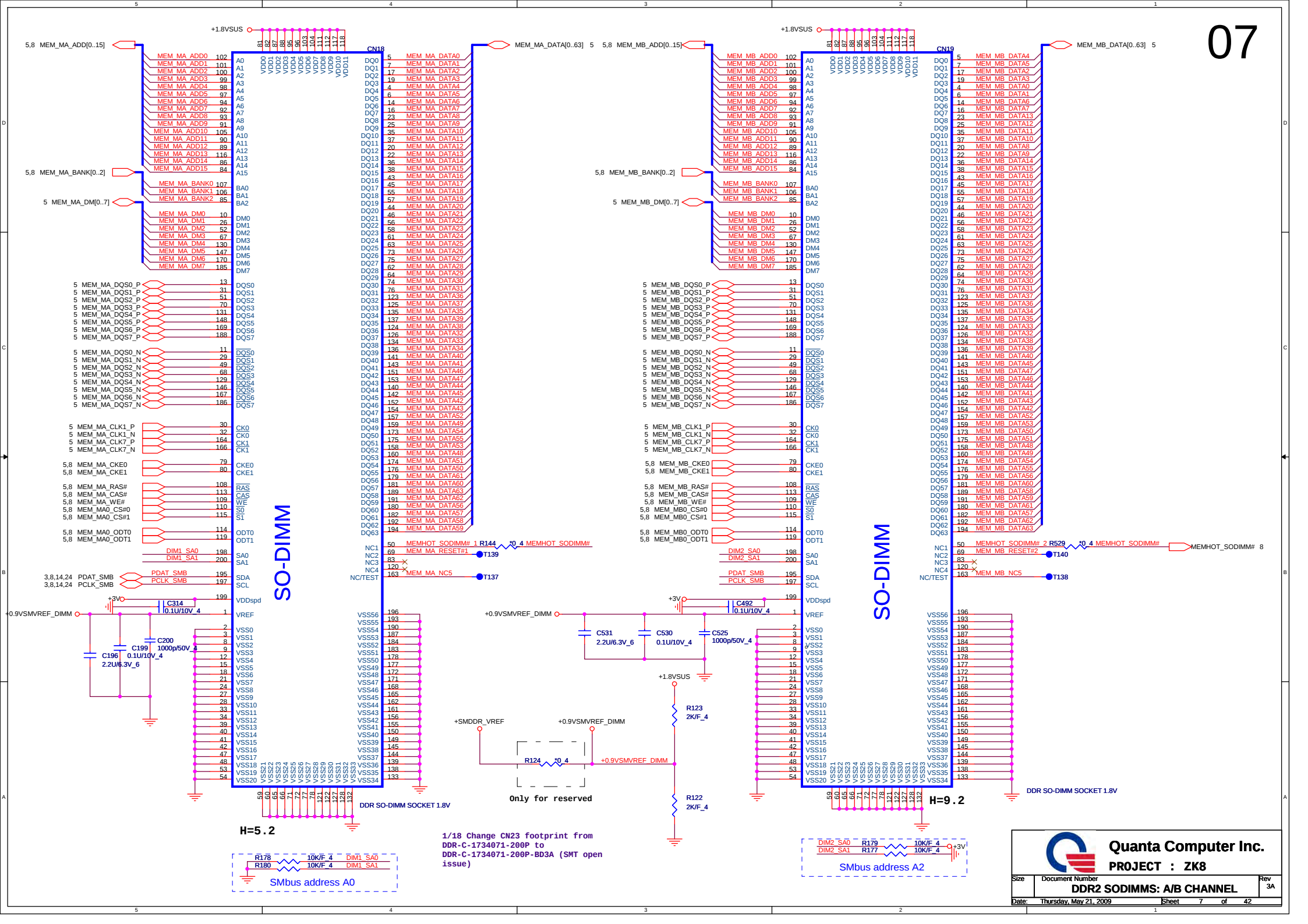
|       |                                  |               |
|-------|----------------------------------|---------------|
| Size  | Document Number                  | Rev           |
|       | <b>S1G3 DDRII MEMORY I/F 2/3</b> | <b>3A</b>     |
| Date: | Thursday, May 21, 2009           | Sheet 5 of 42 |

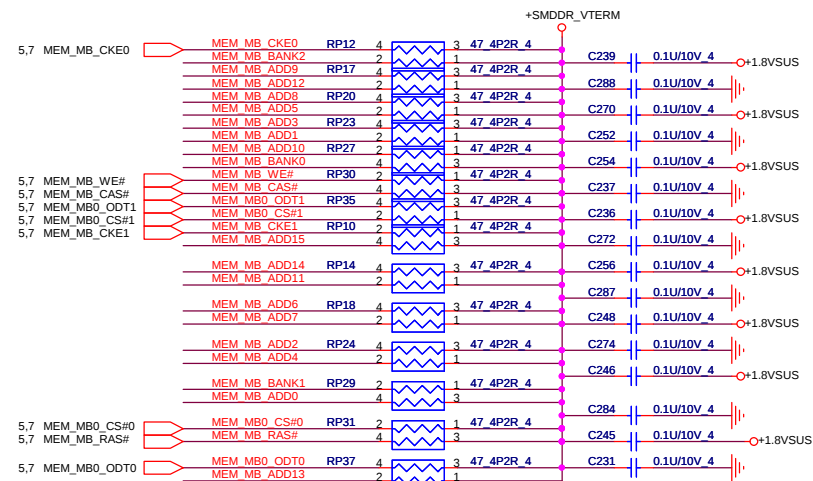


### DECOUPLING BETWEEN PROCESSOR AND DIMMS PLACE CLOSE TO PROCESSOR AS POSSIBLE

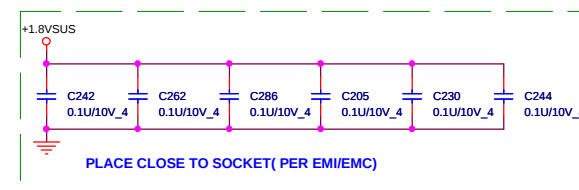


## PROCESSOR POWER AND GROUND





PLACE CLOSE TO PROCESSOR  
WITHIN 1.5 INCH

[illegible]



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

11/4 modifv

RES CHIP 1.21K 1/16W +-1%(0402)  
P/N : CS21212EB18

RES CHIP 300 1/16W +-1%(0402)  
P/N : GS13002FB00

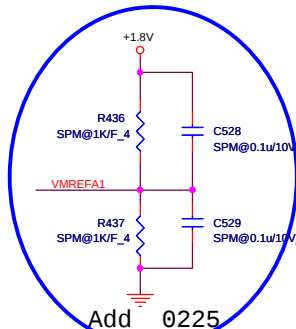
```
A12 version
RS780M AJ067400T05 100-CK2612(216-0674008-00)
RS780MC AJ067400T06 100-CK2613(216-0674010-00)
RX781 AJ067400T10 100-CK2642(215-0674024)
SB700 AJA12FG0T18 100-CK2614(218S7EALA12FG)
```

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

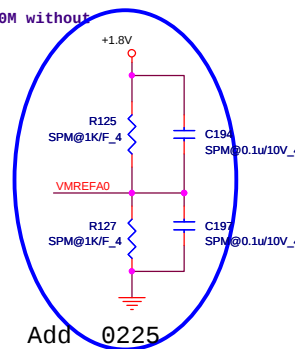
A12 version  
SB700 AJA12FG0T18

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

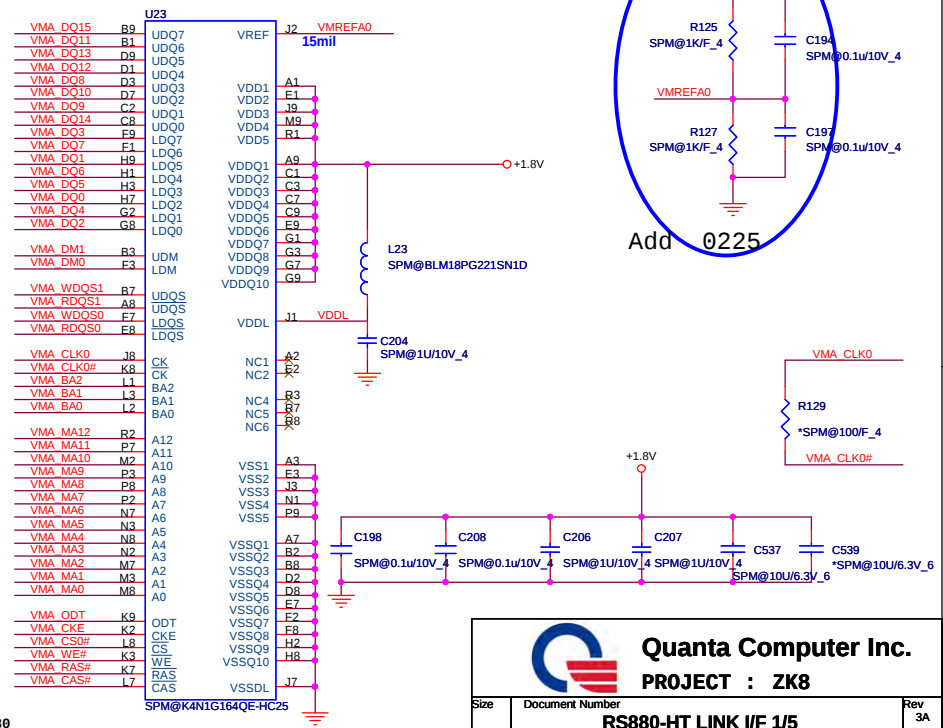
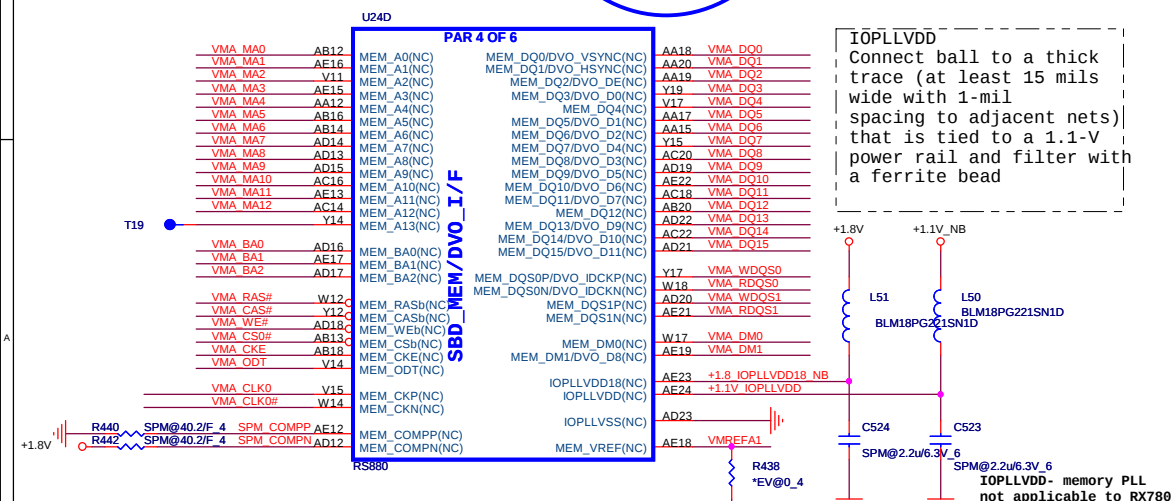
2/1 R480,R479 no stuff when RS780M without  
side port / RX781

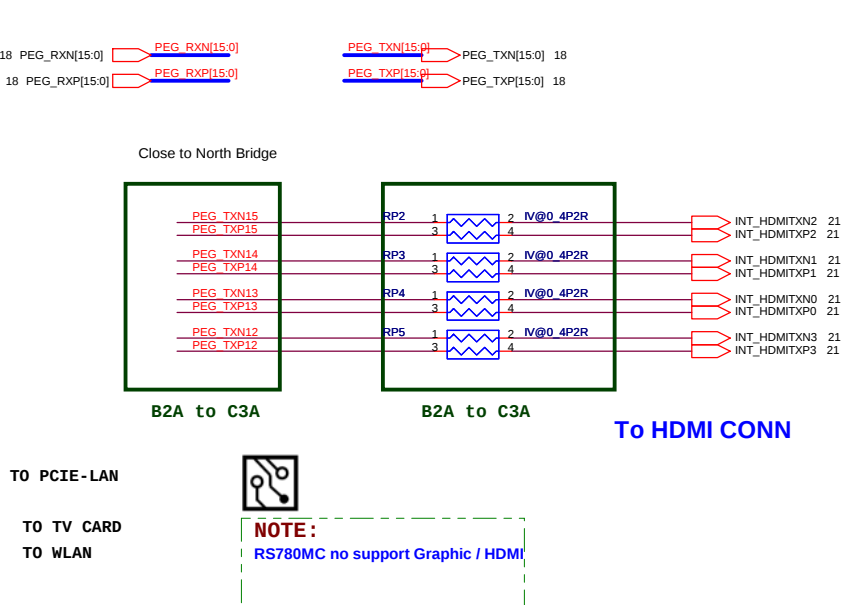
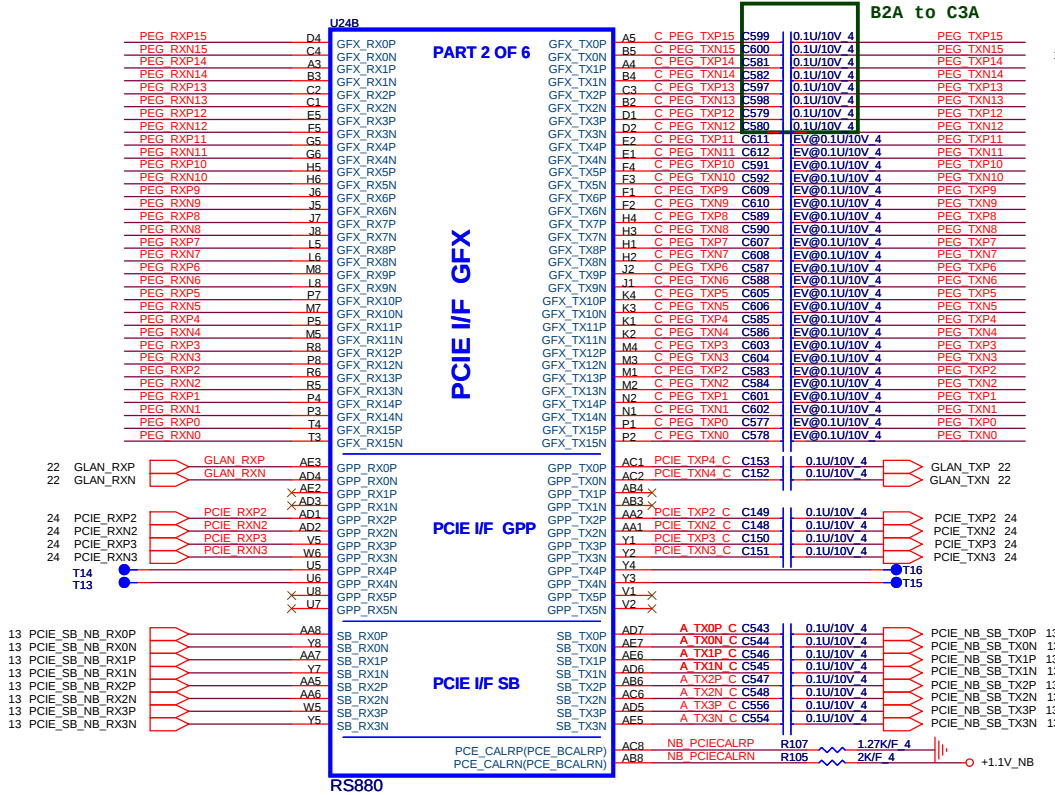


**IOPLLVDD18**  
Connect ball to a thick trace (at least 15 mils wide with 10-mil spacing from adjacent nets) tied to a 1.8-V power rail and filter with a ferrite bead.



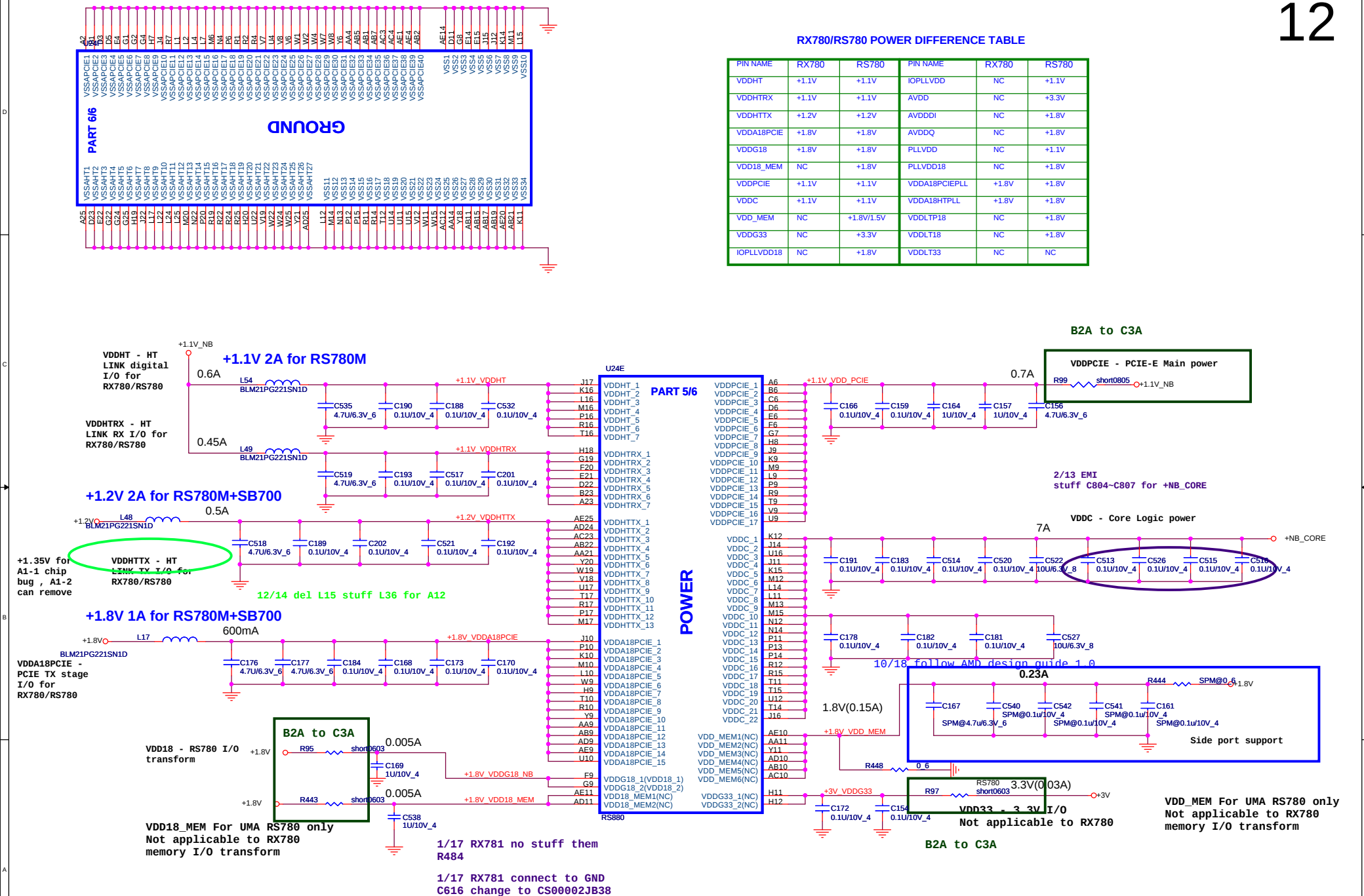
IOPLLVD0  
Connect ball to a thick  
trace (at least 15 mils  
wide with 1-mil  
spacing to adjacent nets)  
that is tied to a 1.1-V  
power rail and filter with  
a ferrite bead

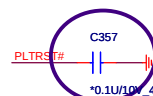




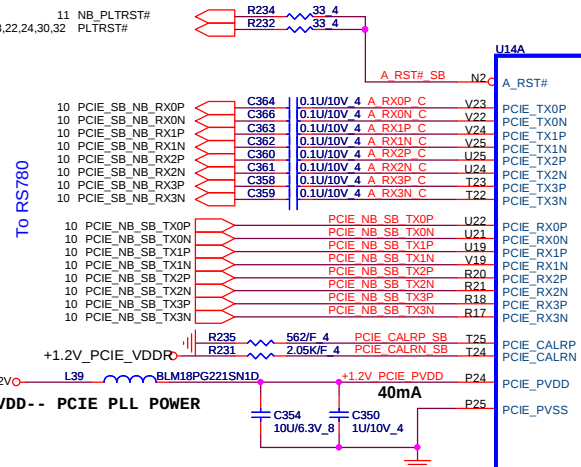


| PIN NAME   | RX780 | RS780      | PIN NAME      | RX780 | RS780 |
|------------|-------|------------|---------------|-------|-------|
| VDDHT      | +1.1V | +1.1V      | IOPLLVD       | NC    | +1.1V |
| VDDHTRX    | +1.1V | +1.1V      | AVDD          | NC    | +3.3V |
| VDDHTTX    | +1.2V | +1.2V      | AVDDI         | NC    | +1.8V |
| VDDA18PCIE | +1.8V | +1.8V      | AVDDQ         | NC    | +1.8V |
| VDDG18     | +1.8V | +1.8V      | PLLVD         | NC    | +1.1V |
| VDD18_MEM  | NC    | +1.8V      | PLLVD18       | 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      | VDDL18        | NC    | +1.8V |
| IOPLLVD18  | NC    | +1.8V      | VDDL18        | NC    | NC    |

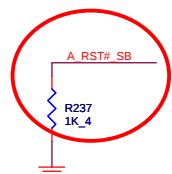




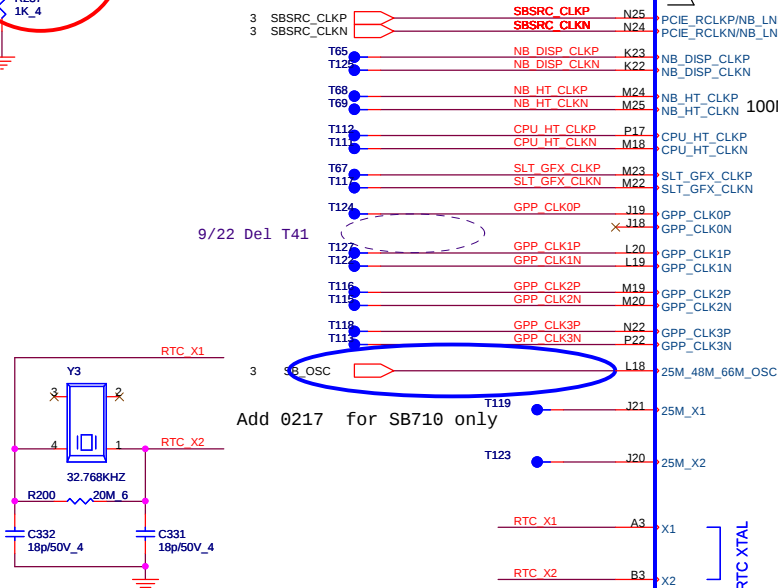
PLACE THESE  
PCIE AC  
COUPLING CAPS  
CLOSE TO U600



To RS780

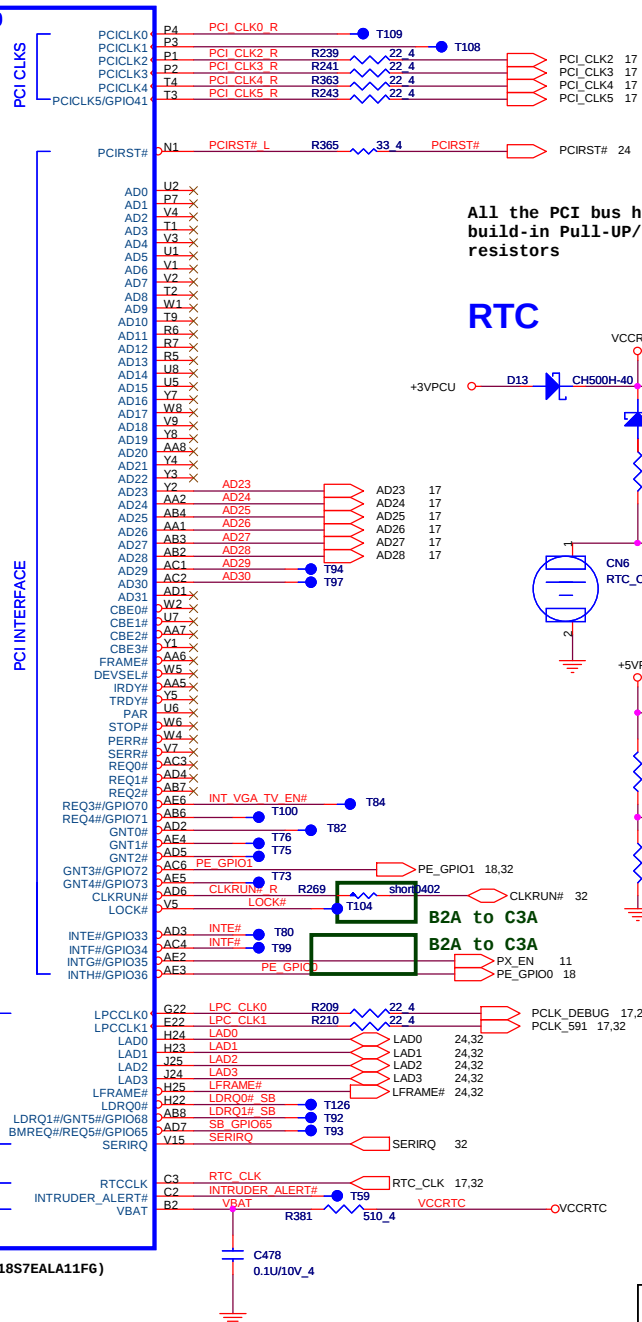
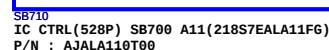


est



Add 0217 for SB710 only

1/31 voltage leakage remove R349

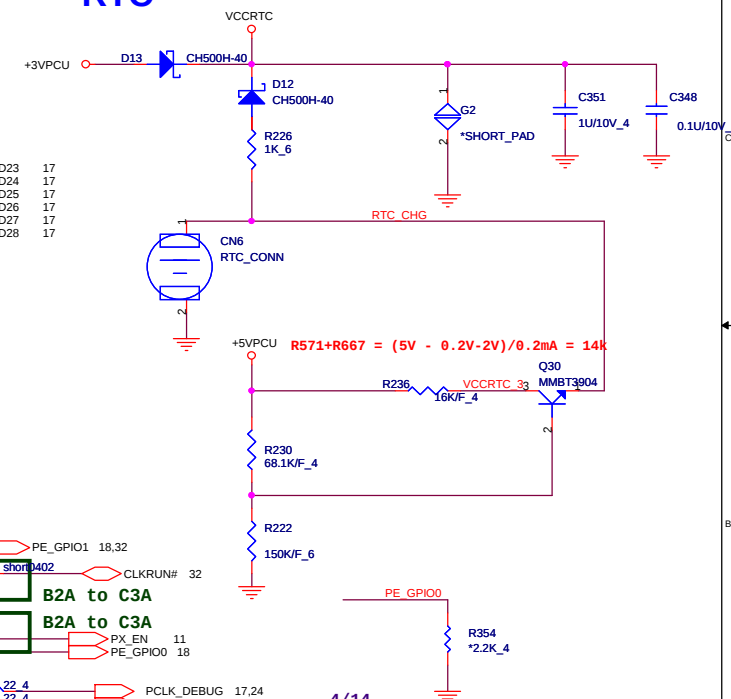


A11 default PCICLK5  
A12 default GPIO41

Maybe can remove

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

## RTC



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

3V S5 NC only ,Can't be install

11/01 chagne +3VSUS to +3V\_S5

+3V S5

10/31 add newcard DET#

+3V SCL0/SDATA0 is 3V tolerance

Clock gen /DDR2 /MINI CARD/NEW CARD

AMD datasheet define it

+3V S5 SCL1/SDATA1 is 3V/S5 tolerance

AMD datasheet define it

+3V S5 SCL2/SDATA2 is 3V/S5 tolerance

AMD datasheet define it

3/19 Without Side-port NU

0225 unstuff D6037 for Sig3 CPU not support this function

1/31 NEW\_DET# change from GEVEN5# to GPM1#

To Azalia

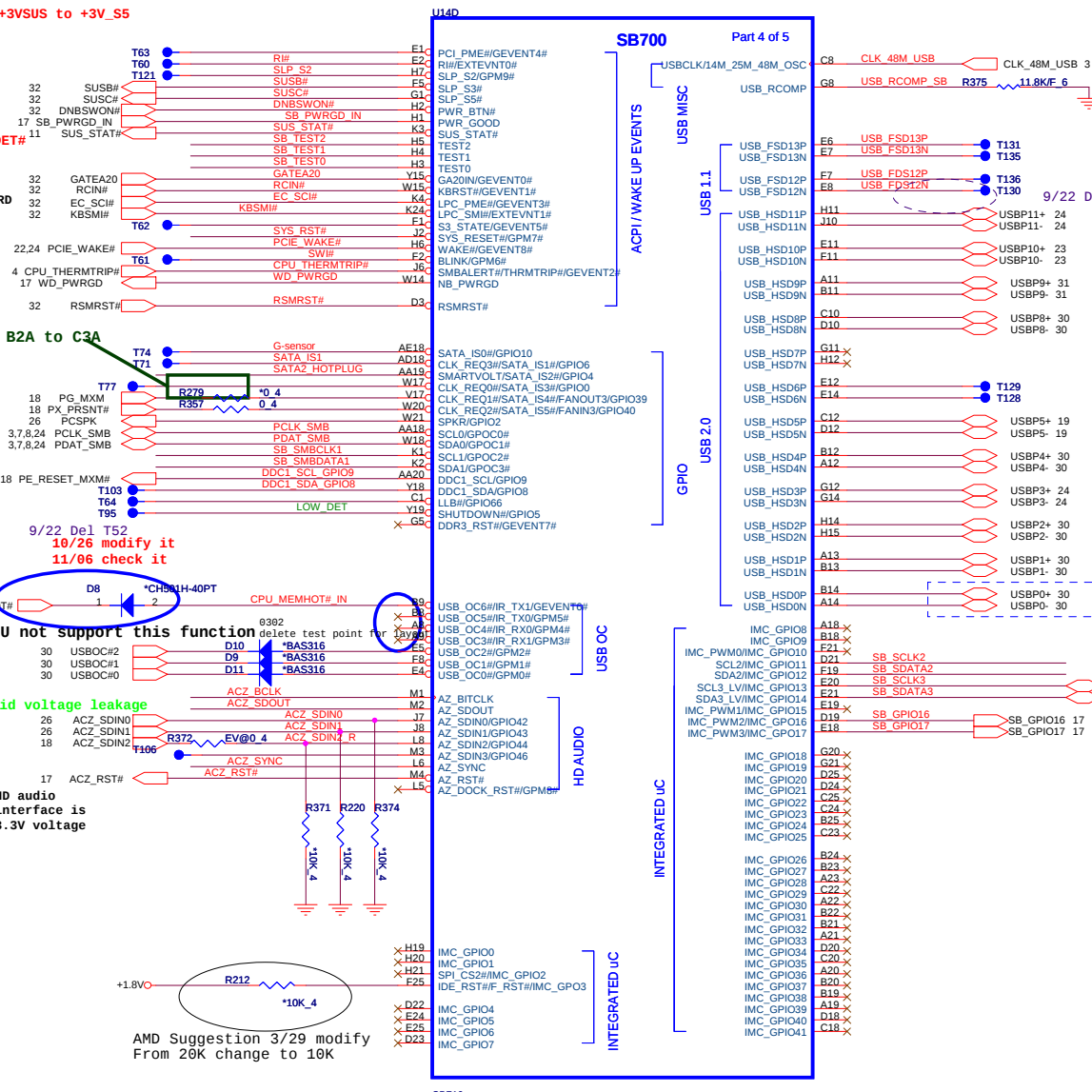
12/7 add D57,D58 to avoid voltage leakage

HD audio interface is 3.3V voltage

AMD Suggestion 3/29 modify From 20K change to 10K

12/21EMI change R241from 33 to BK1005HM121-T stff C309 22p

High : Main Stream  
Low : Low Cost

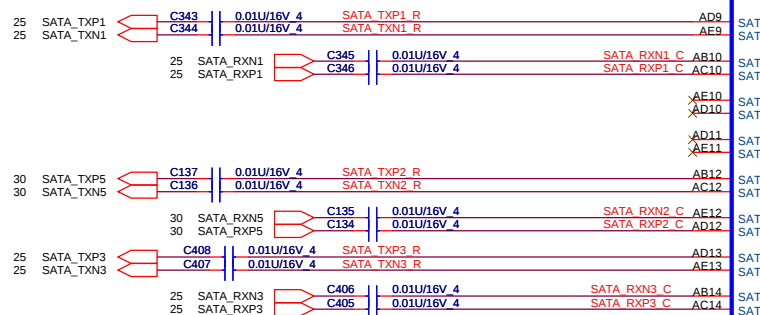


To WLAN  
To Bluetooth  
To Finger Printer  
To M/B H\_S USB  
To CCD  
To CARD READER  
To TV  
To USB board  
To M/B USB  
To M/B USB/ESATA

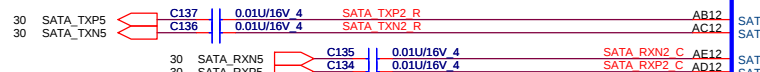
SATA PORT 0,1,2,3  
can support AHCI  
mode

PLACE SATA AC COUPLING  
CAPS CLOSE TO SB700

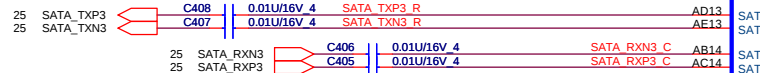
## SATA



## 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



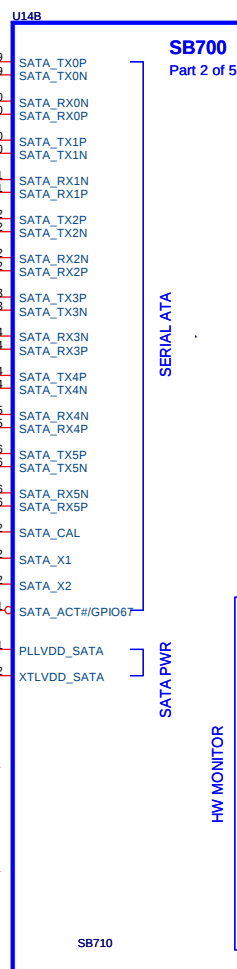
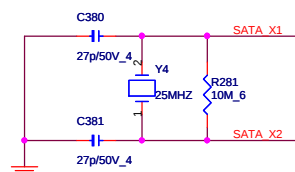
PLACE SATA\_CAL  
RES VERY CLOSE  
TO BALL OF SB700

## NOTE:

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

PLVDD\_SATA--  
SATA PLL  
POWER

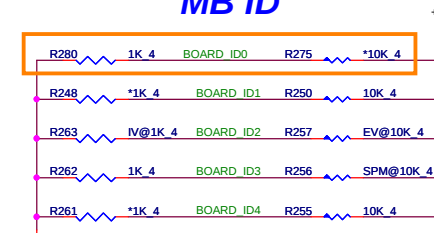
+1.2V\_PLLVDD\_SATA  
+3V\_XTLVDD\_SATA  
XTLVDD\_SATA-- SATA  
crystal power



## MB ID Selection Table

| Board ID                      | ID4    | ID3    | ID2    | ID1    | ID0    |
|-------------------------------|--------|--------|--------|--------|--------|
| Z08<br>ZK8                    |        |        |        |        | H<br>L |
| CCFL Panel<br>LED Panel       |        |        |        | H<br>L |        |
| W/ MXM<br>w/o MXM             |        |        | H<br>L |        |        |
| W/ side_port<br>w/o side_port |        | H<br>L |        |        |        |
| W/ HDMI<br>w/o HDMI           | H<br>L |        |        |        |        |

## MB ID



Mount R441 and Unmount R442 for non IR SKU

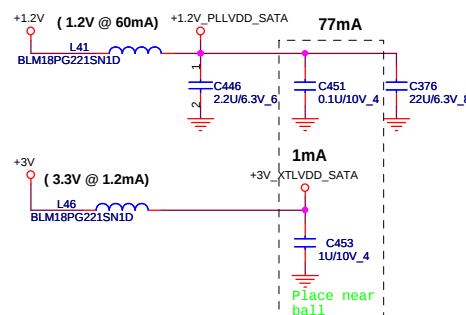
10/18 AMD suggest to connect to GND

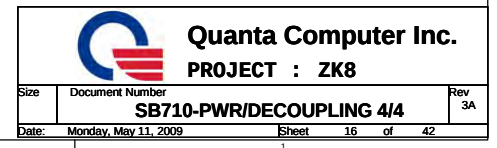
B2A to C3A

0220  
change from +3V to  
+3V\_S5 follow AMD  
checklist

5mA  
+3V VDD HWM  
AVDD--H/W monitor  
Analog power  
EMI FILTER CHIP BLM18PG221SN1D(220,1.4A)

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

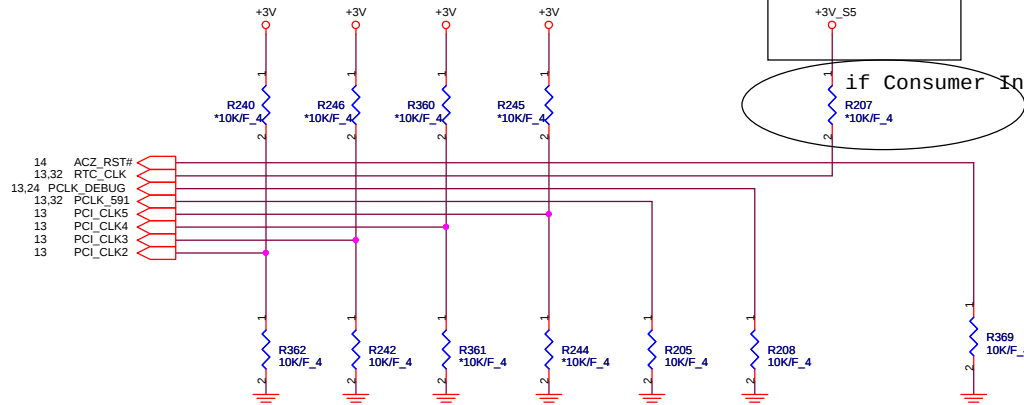






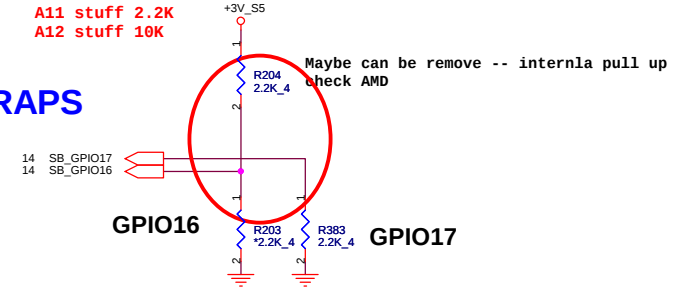
OVERLAP COMMON PADS WHERE  
POSSIBLE FOR DUAL-OP RESISTORS.

17



## REQUIRED STRAPS

A11 stuff 2.2K  
A12 stuff 10K



| TYPE | GPIO16                | GPIO17                |
|------|-----------------------|-----------------------|
| FWH  | L : 2.2K<br>pull down | L : 2.2K<br>pull down |
| LPC  | NC                    | L : 2.2K<br>pull down |
| SPI  | L : 2.2K<br>pull down | NC                    |
| RSVD | NC                    | NC                    |

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

EC  
ENABLED

ENABLE PCI  
MEM BOOT

SB\_PWRGD

A11 use external ckt

A12 Asserting SYS\_RESET# will de-assert

SB\_PWRGD internally

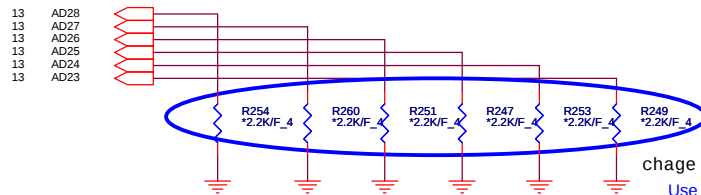
NB\_PWRGD\_IN:

RS780/RX780 = 1.8V; RS740 = 3.3V

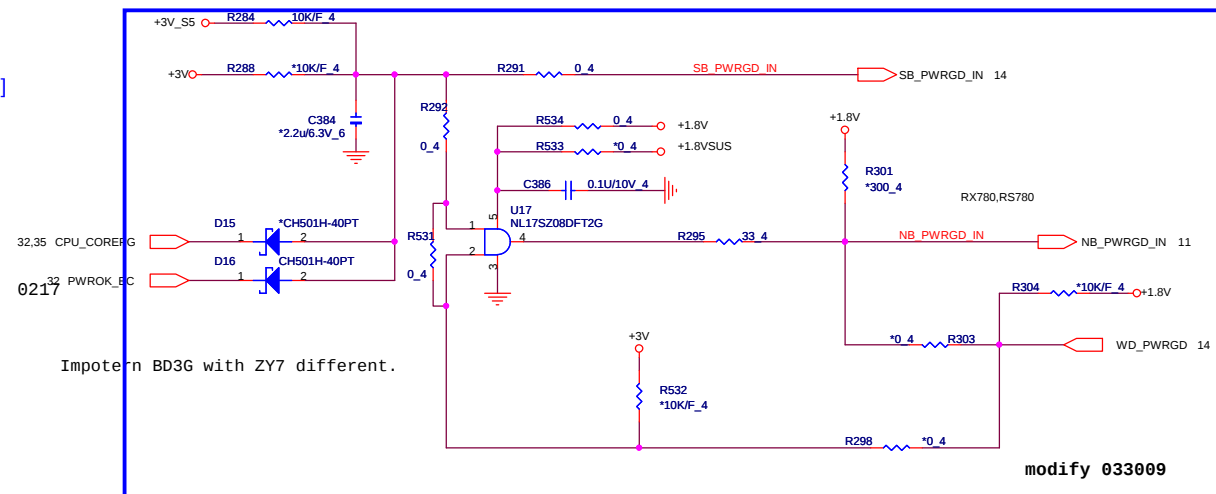
Do NOT share it with SB\_PWRGD when use Internal Clk Gen  
(Need SB PLL initialize firstly)

## DEBUG STRAPS

SB700 HAS 15K INTERNAL PU FOR PCI\_AD[28:23]



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



NB/SB POWER GOOD CIRCUIT

WD\_PWRGD: Push/Pull when A11SB700, OD when A12SB700.

U11 R230 R229 R245 R234

RX780  
RS780M

V V V X X

AL17SZ17000 IC(5P) NL17SZ17DFT2G(SOT-353)

SOT-353

ALUC1G17000 IC OTHER(5P) SN74AUC1G17DBVR(SOT23-5)

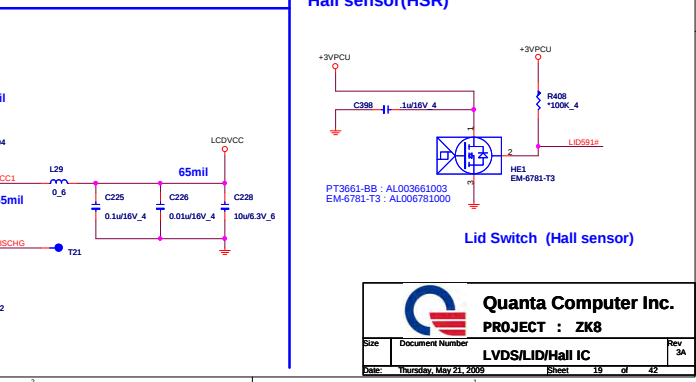
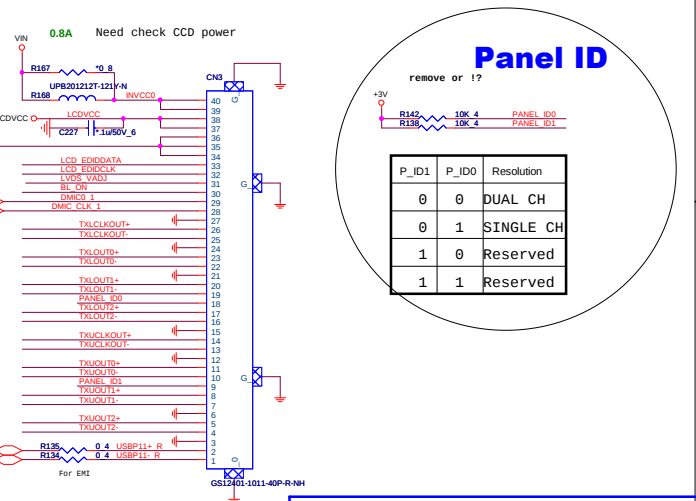
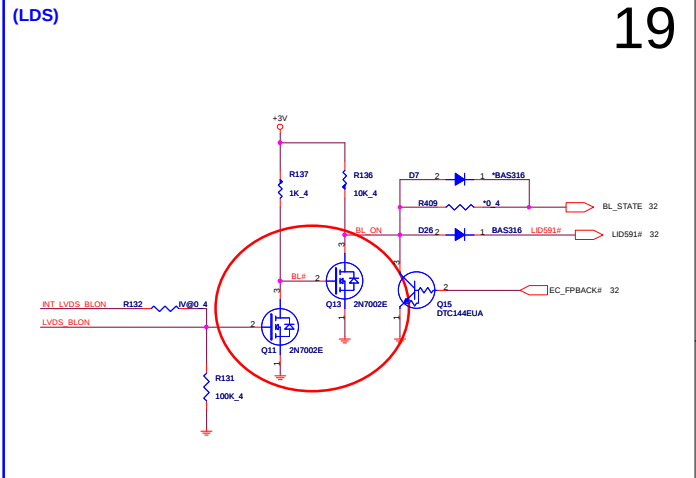
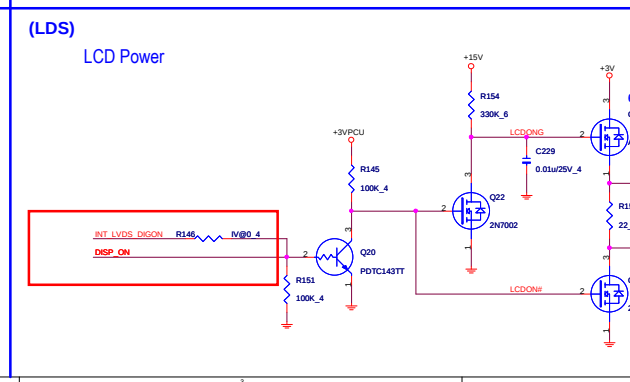
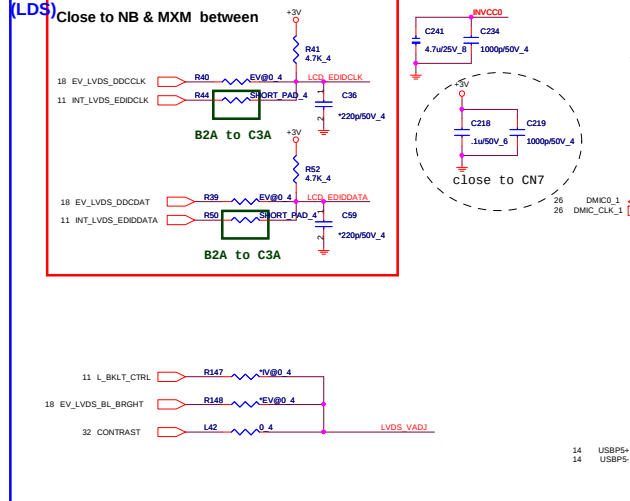
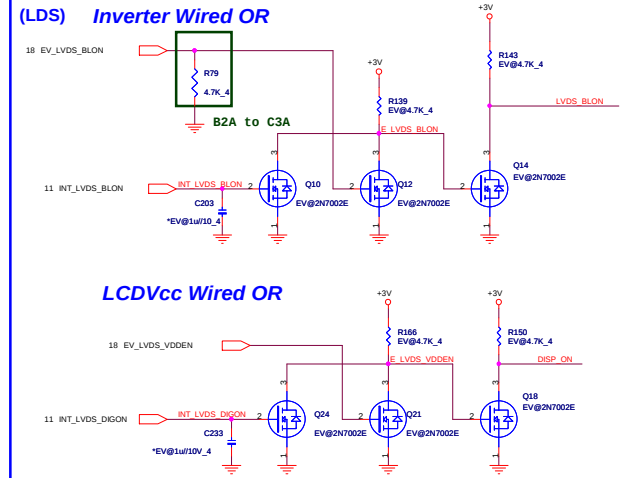
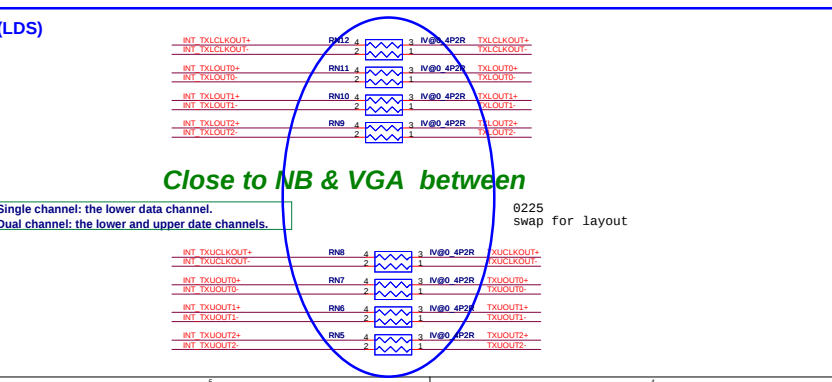
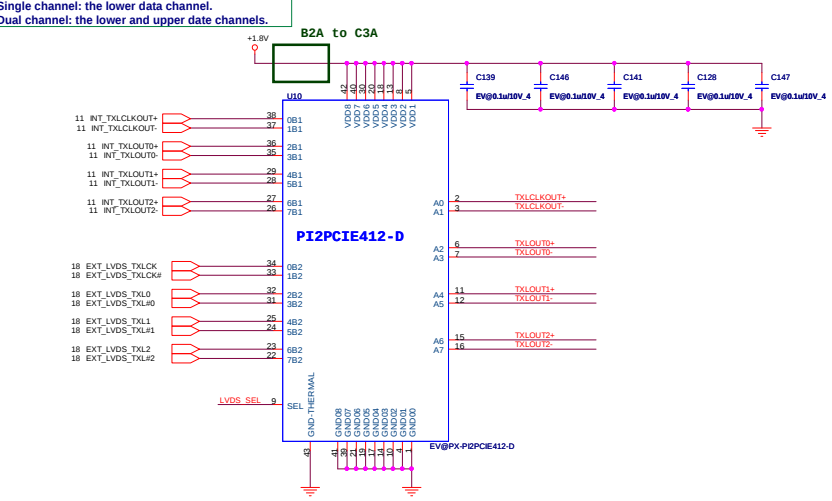
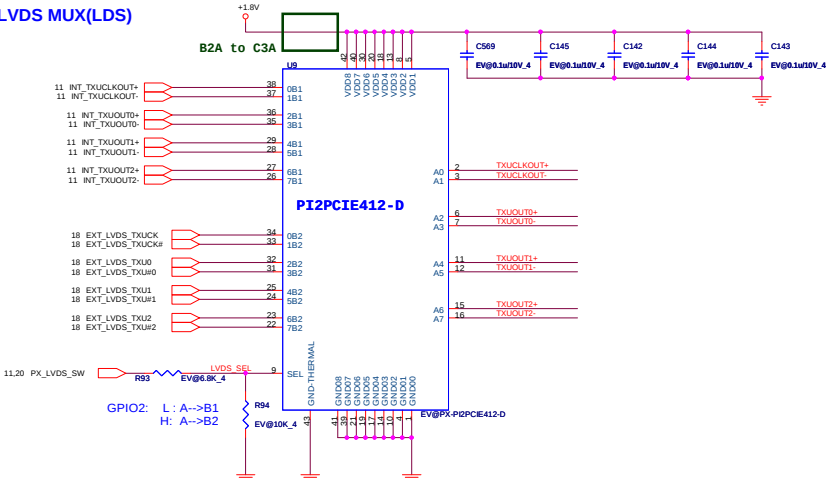
SOT23-5



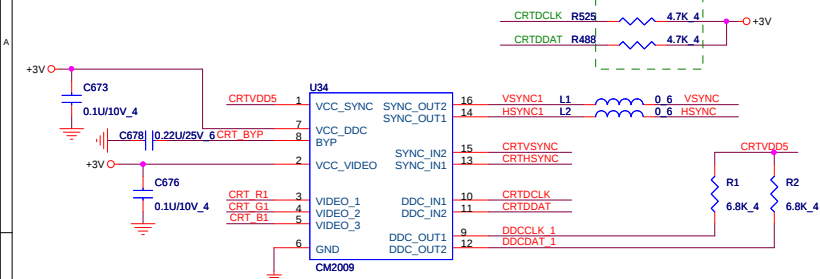
Quanta Computer Inc.  
PROJECT : ZK8

| Size  | Document Number        | Rev            |
|-------|------------------------|----------------|
|       | SB710-STRAPS           | 3A             |
| Date: | Thursday, May 21, 2009 | Sheet 17 of 42 |

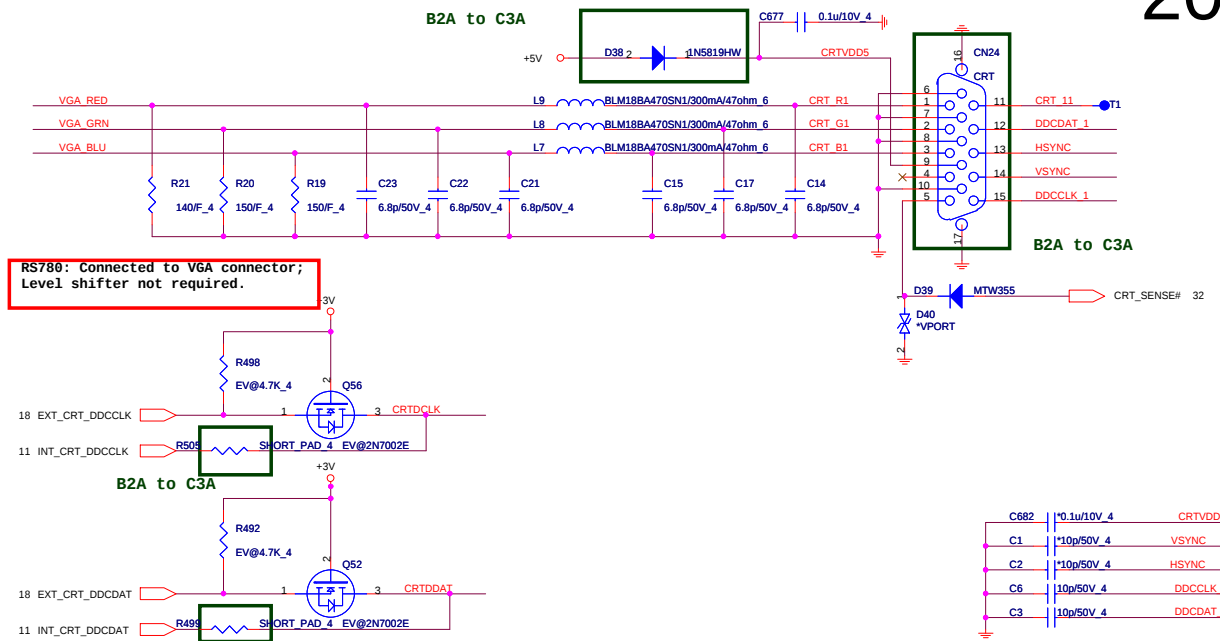




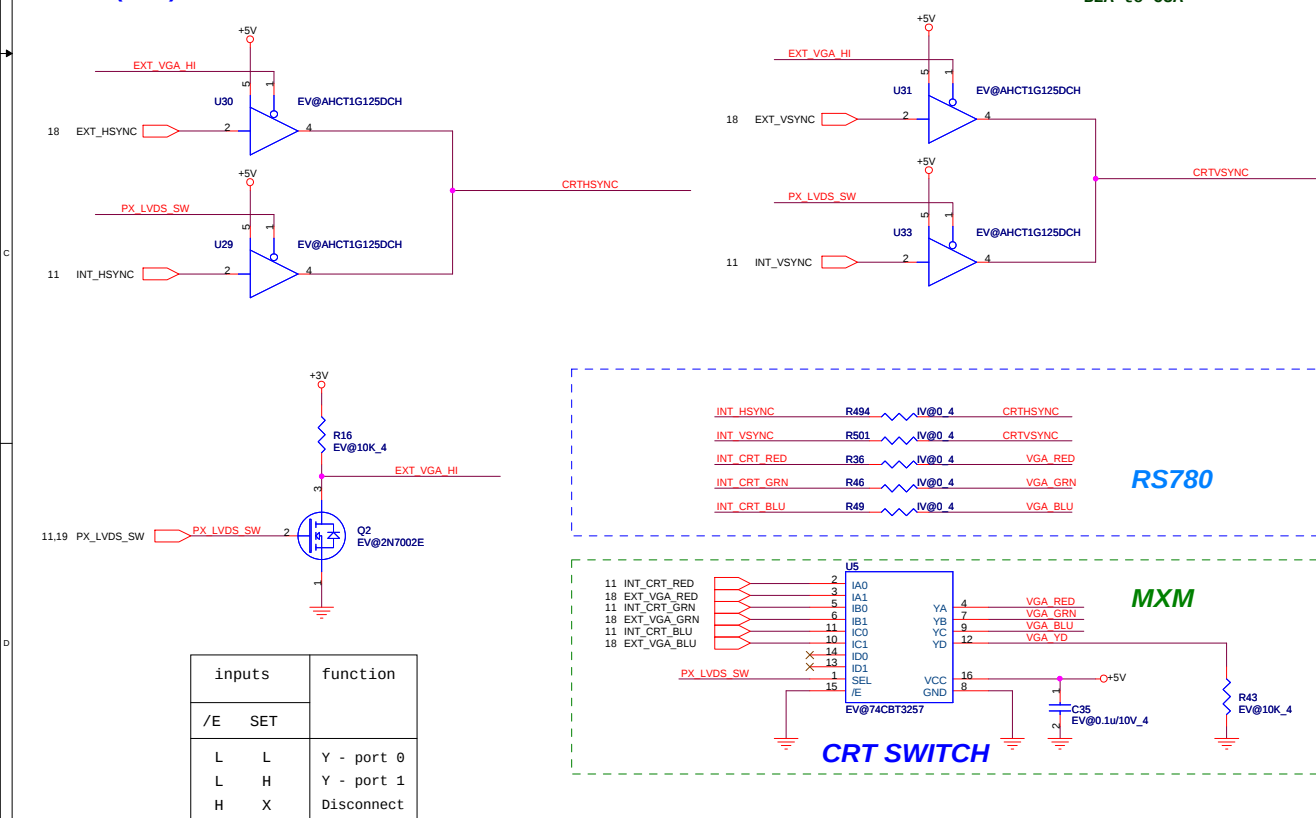
## ESD(CRT)



## CRT(CRT)



## CRT MUX(CRT)

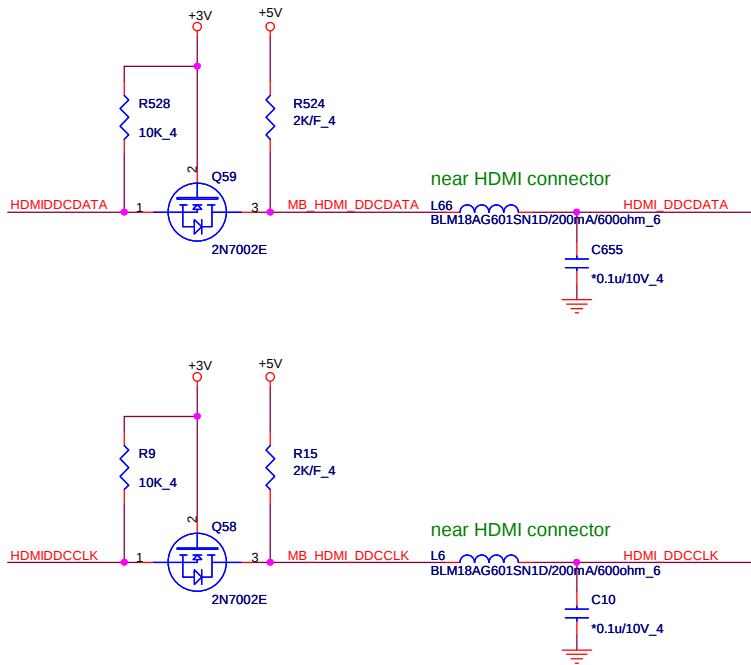
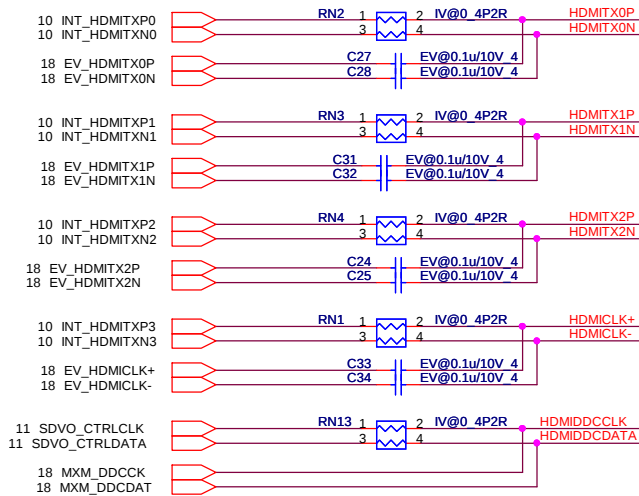


## DISPLAY SUPPORT TABLE

|                    | PX_EN | PE_GPIO2_NB | INT_VGA_EN# | DISPLAY OUTPUT                   |
|--------------------|-------|-------------|-------------|----------------------------------|
| IGP only mode      | 0     | X           | 0           | IGP( LVDS,VGA,HDMI,DP)           |
| MXM only mode      | 0     | X           | 1           | MXM( LVDS,VGA,HDMI,DP)           |
| Power Express mode | 1     | 0/1         | X           | *MXM(VGA,HDMI,DP); MXM/IGP(LVDS) |
| IGP + MXM          | 0     | X           | 0           | IGP( LVDS,VGA,HDMI)              |

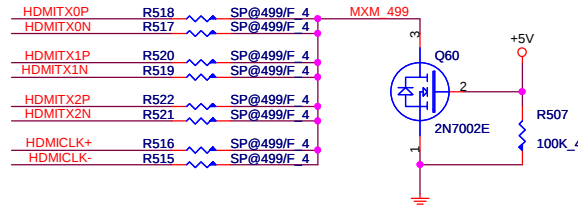
PX mode display device auto detection method:  
 VGA: I2C interface to NB  
 HDMI/DVI: HPD, I2C is optional  
 DP: HPD

(HDM)

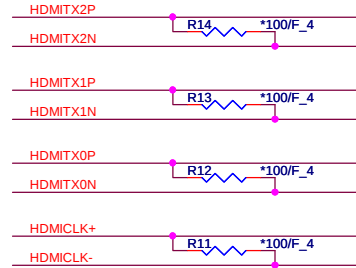


(HDM)

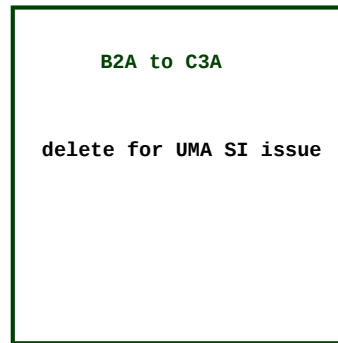
EV @ 499R/F CS14992FB24  
IV @ 750R/F CS17502FB19



(HDM) for EMI

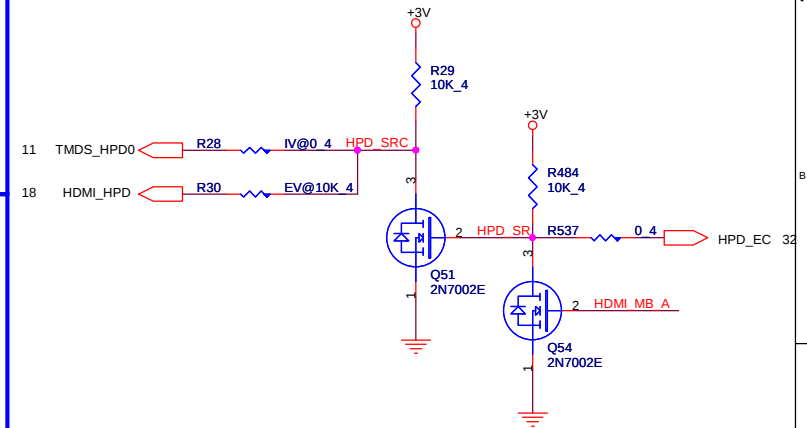
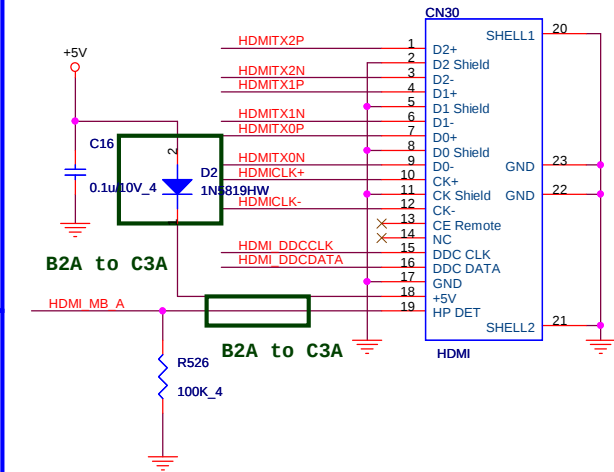


(HDM) CLOSE CN9



(HDM)

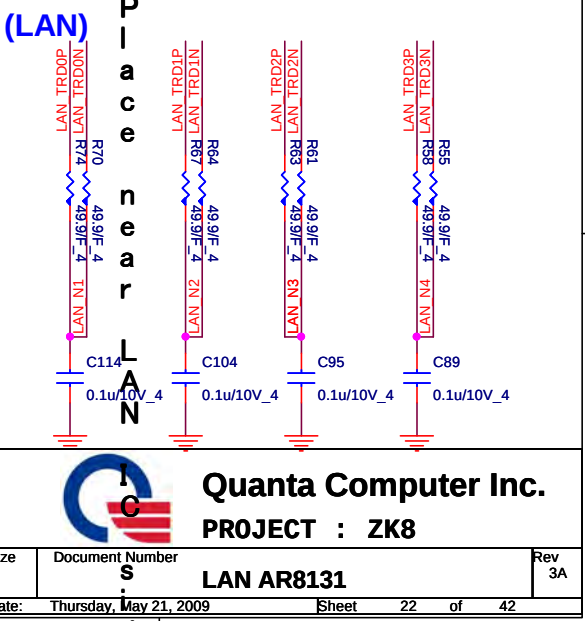
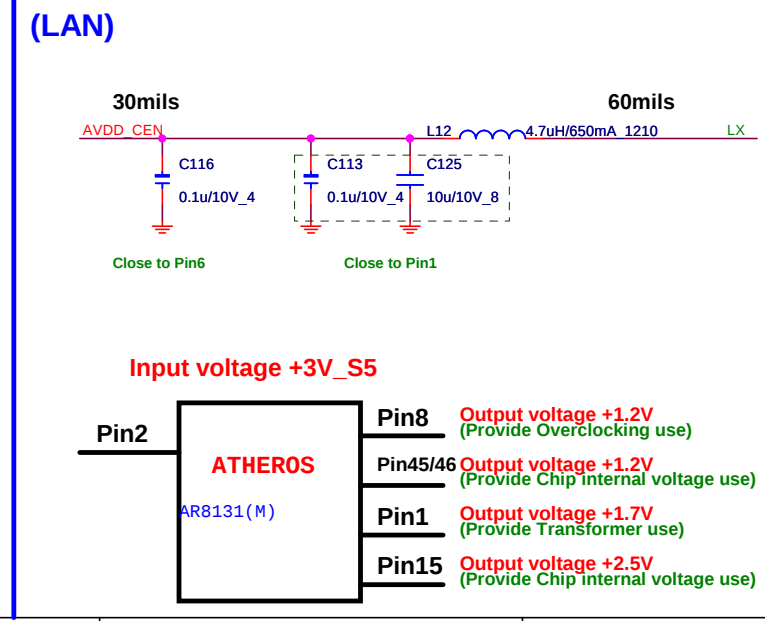
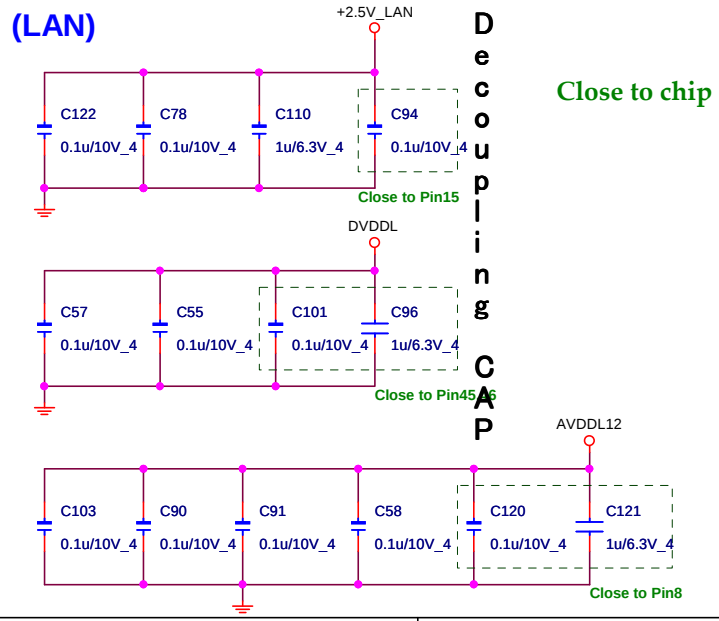
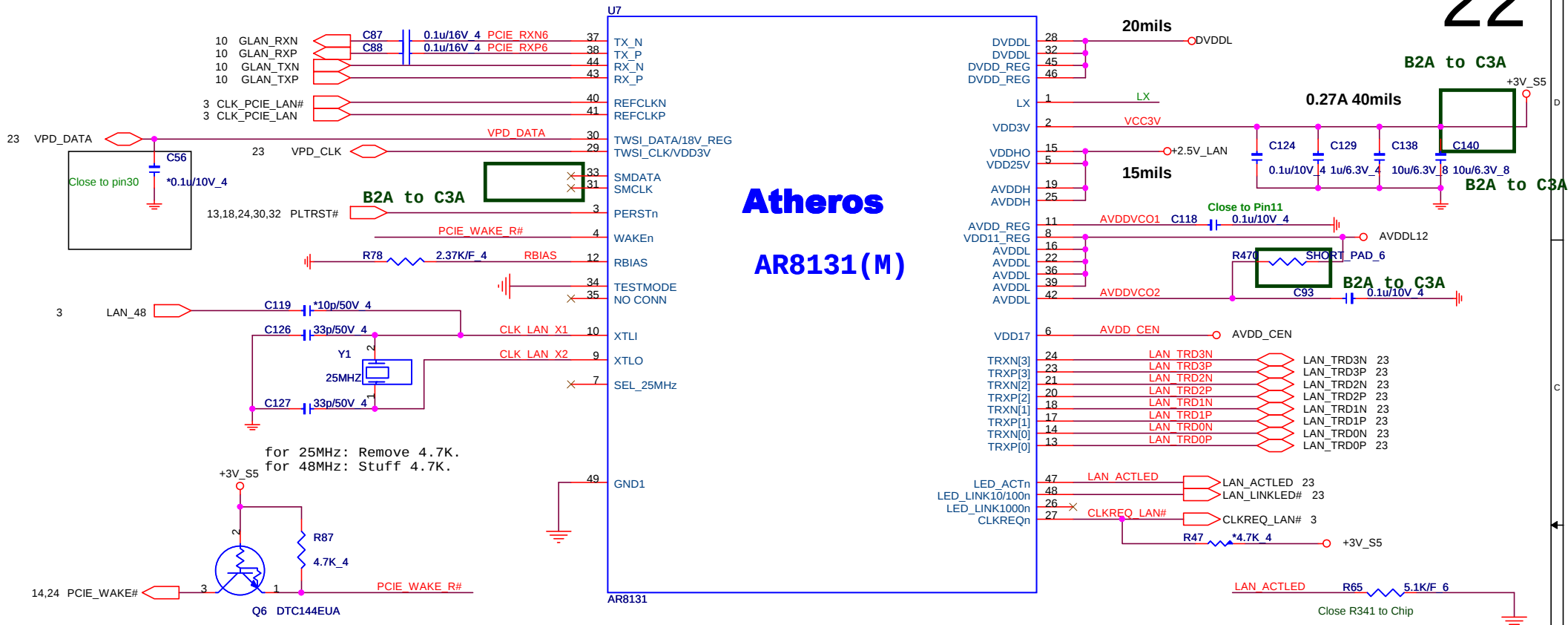
HDMI connector



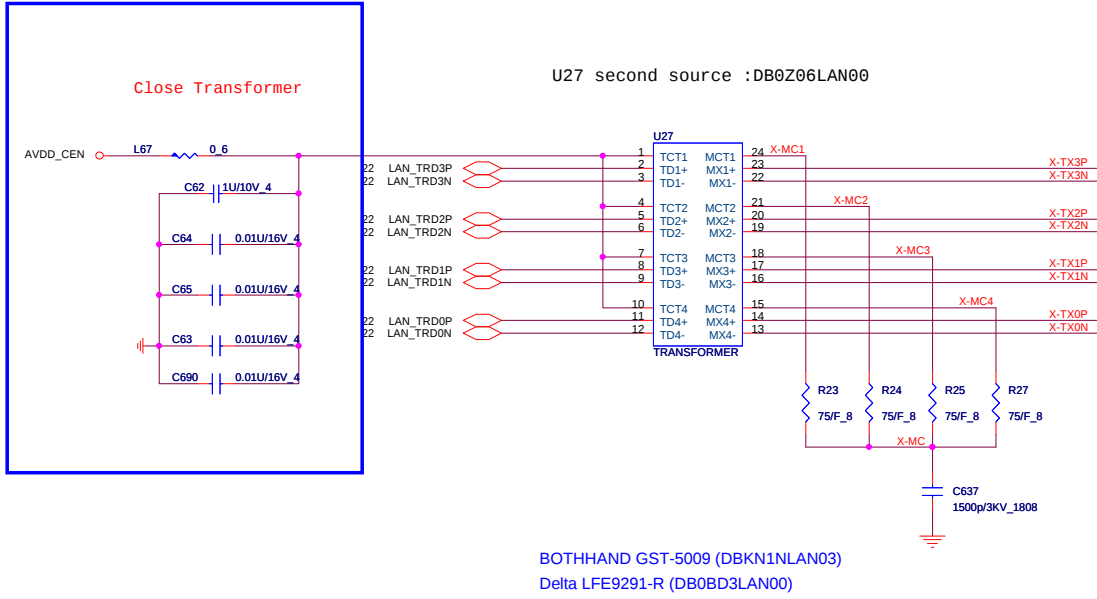
Quanta Computer Inc.  
PROJECT : ZK8

| Size  | Document Number        | Rev            |
|-------|------------------------|----------------|
|       | HDMI                   | 3A             |
| Date: | Thursday, May 21, 2009 | Sheet 21 of 42 |

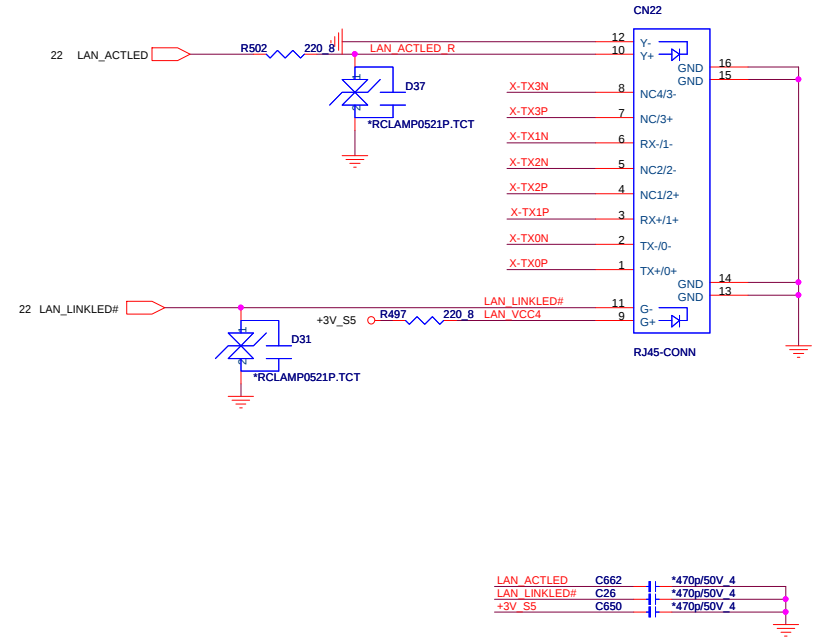
# LAN(LAN)



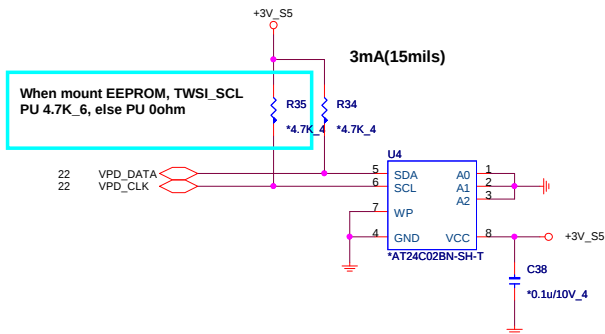
TRANSFORMER(LAN)



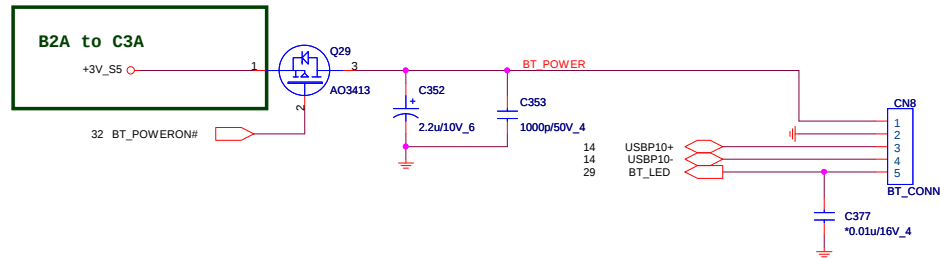
RJ45(LAN)



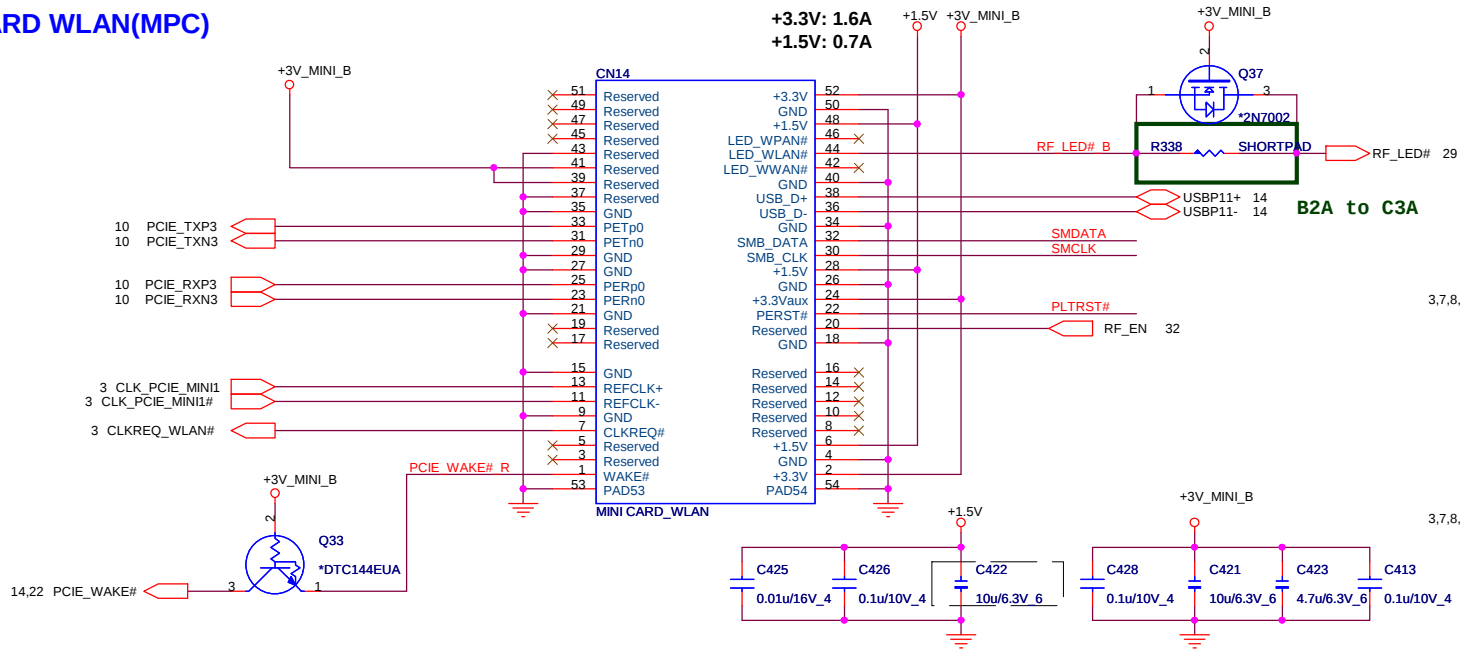
EEPROM(LAN)



BLUETOOTH MODULE CONNECTOR(BTM)



# MINI-CARD WLAN(MPC)



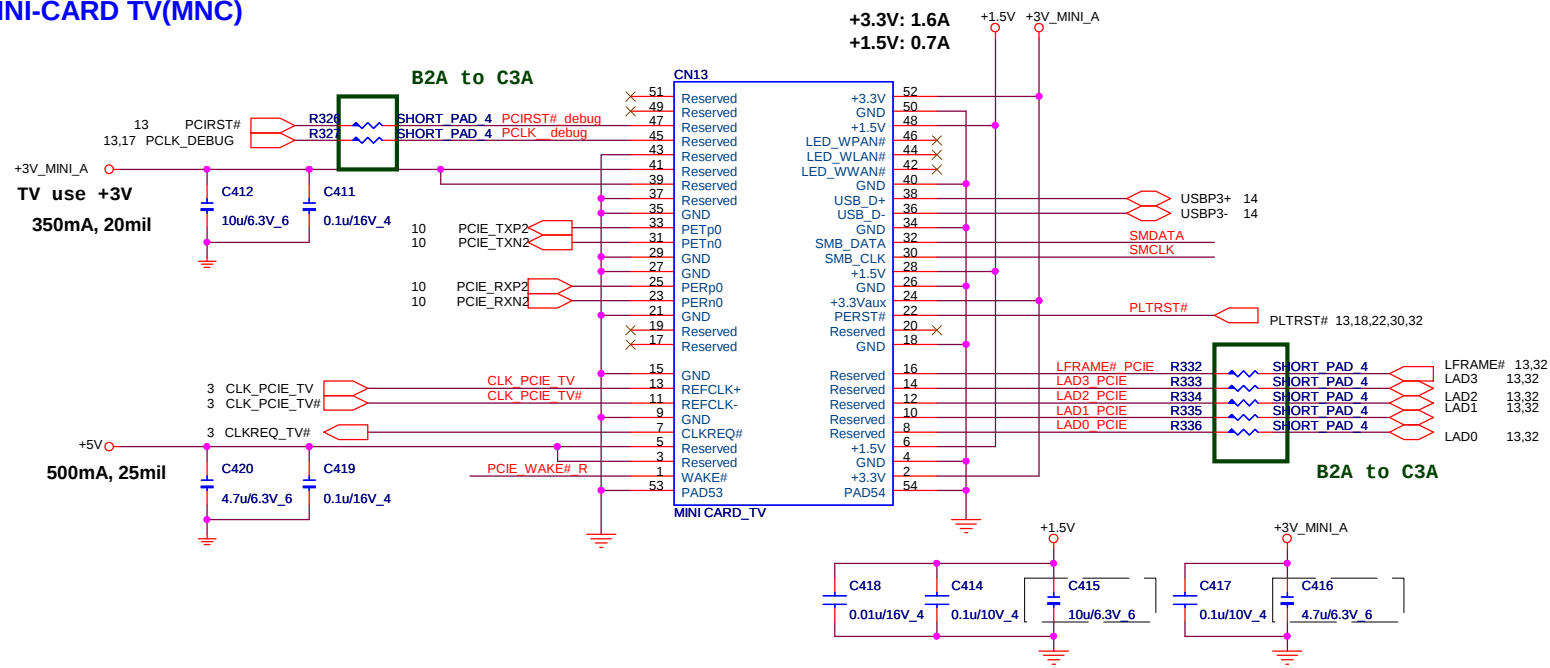
B2A to C3A

B2A to C3A

B2A to C3A

B2A to C3A

# MINI-CARD TV(MNC)



B2A to C3A

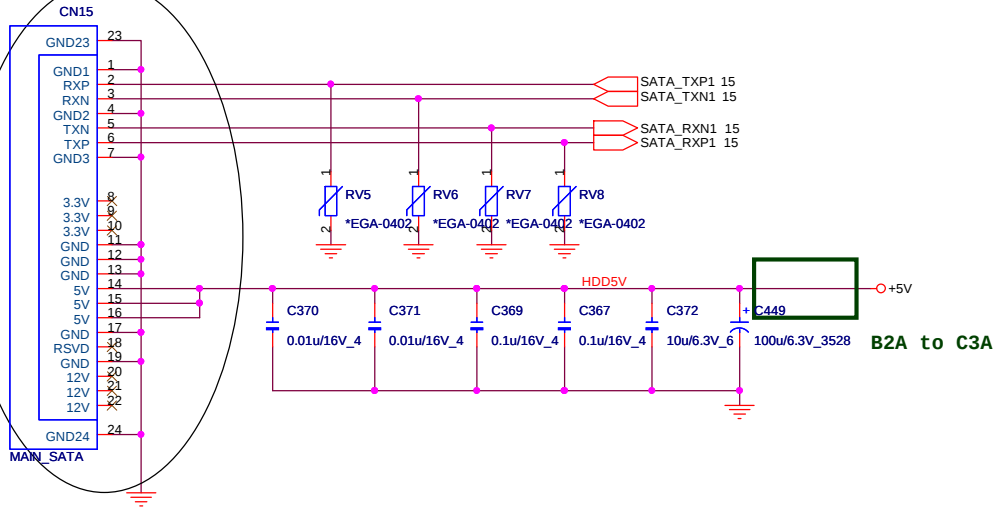
B2A to C3A

**Quanta Computer Inc.**

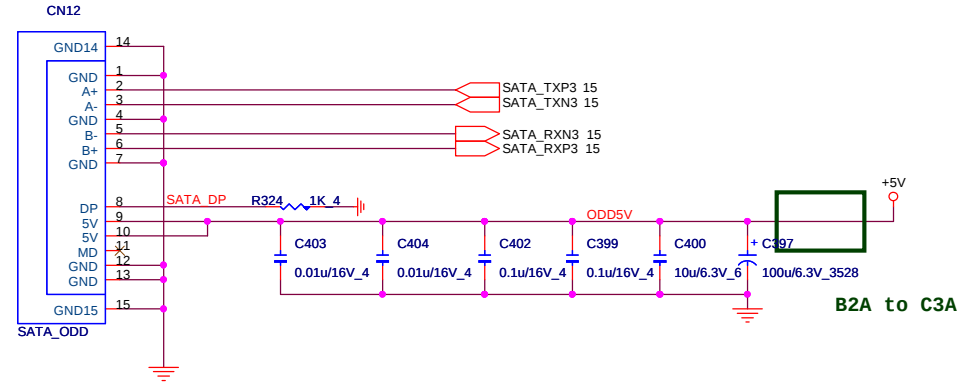
**PROJECT : ZK8**

|                              |                 |        |
|------------------------------|-----------------|--------|
| Size                         | Document Number | Rev 3A |
| <b>MINI PCI-E card/TV</b>    |                 |        |
| Date: Thursday, May 21, 2009 | Sheet 24 of 42  |        |

# SATA HDD(HDD)



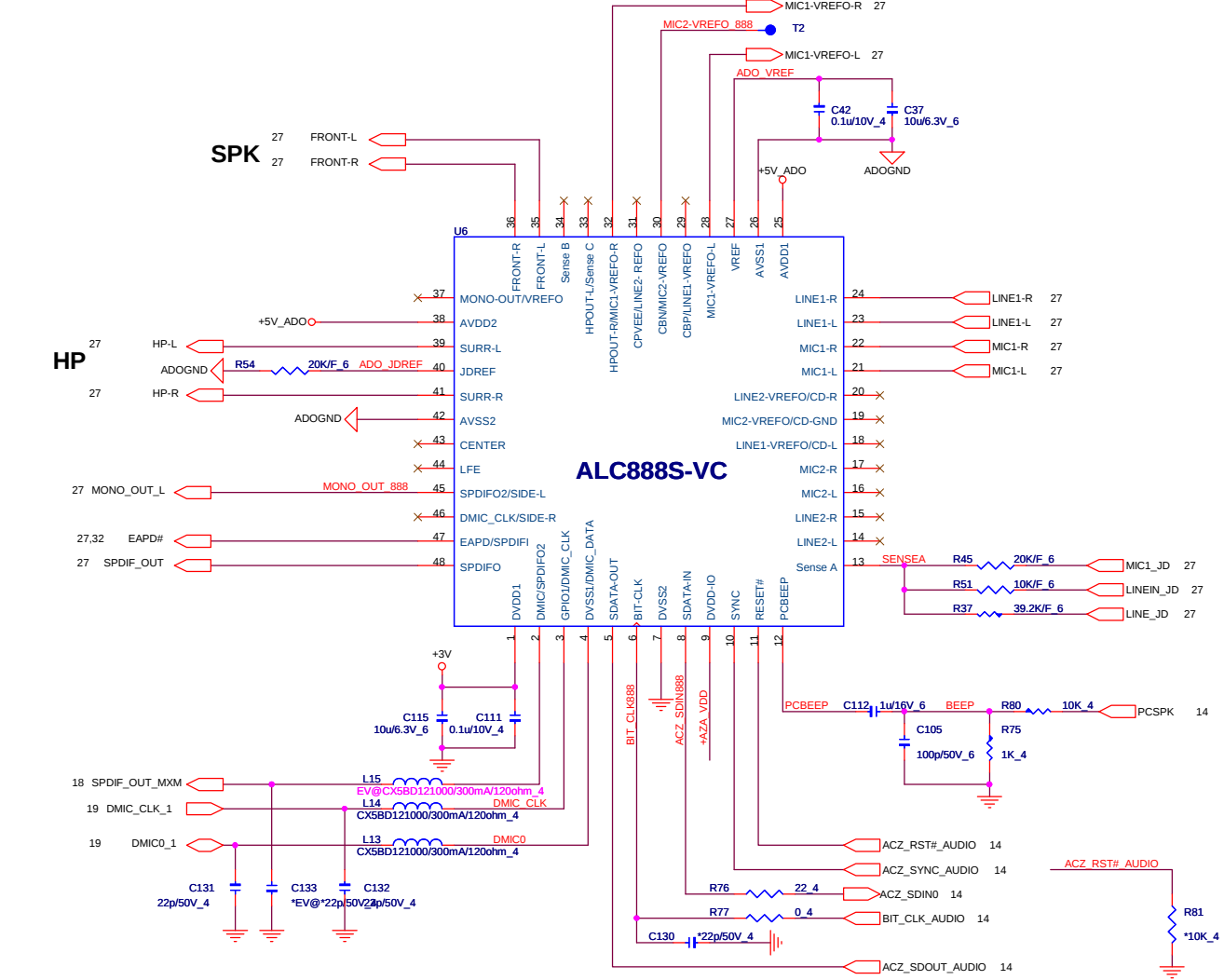
# ODD (ODD)



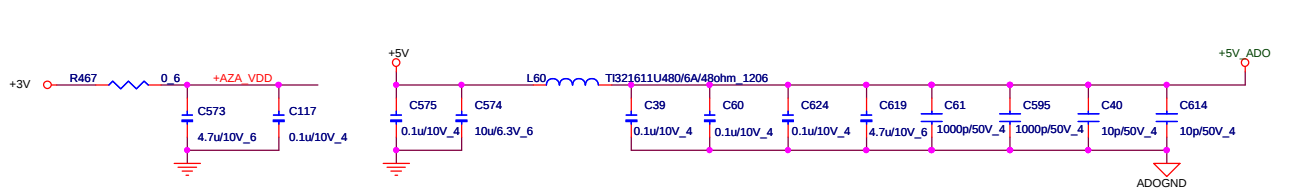
**Quanta Computer Inc.**  
**PROJECT : ZK8**

|       |                          |                |
|-------|--------------------------|----------------|
| Size  | Document Number          | Rev            |
|       | <b>SATA-HDD/ODD/HOLE</b> | 3A             |
| Date: | Thursday, May 21, 2009   | Sheet 25 of 42 |

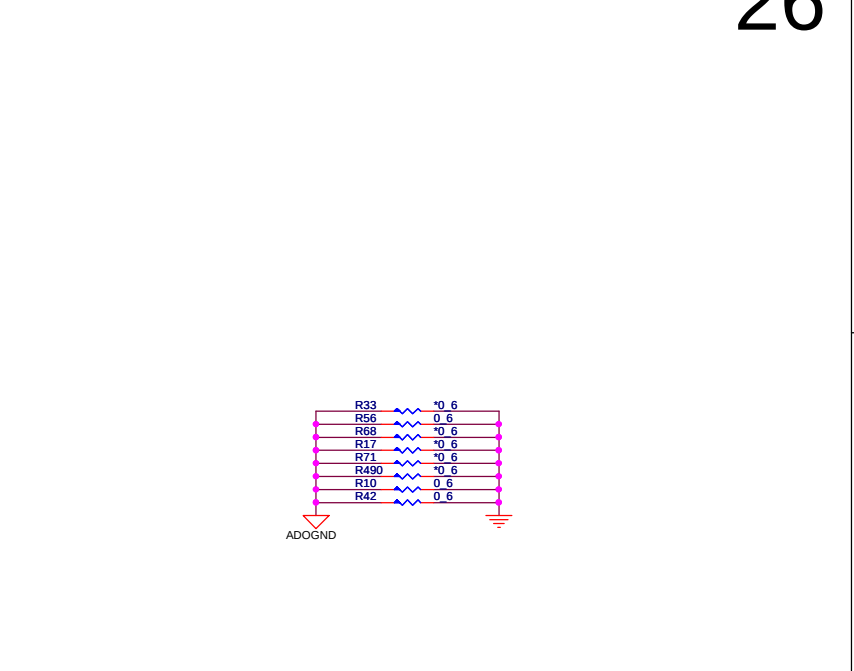
CODEC(ALC888S)(ADO)



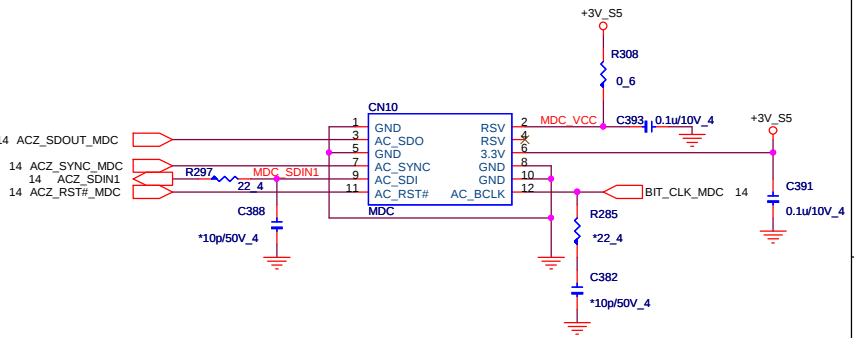
Codec Power(ADO)



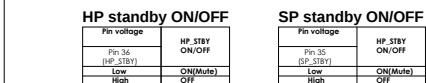
(ADO)



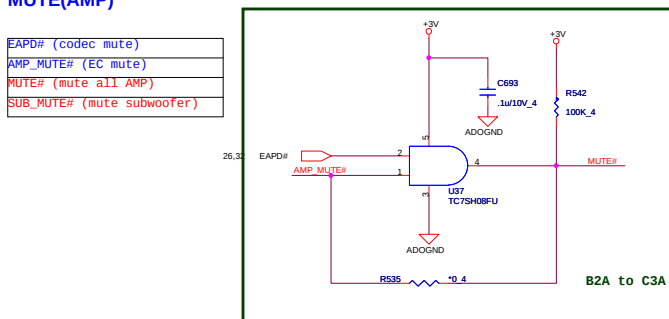
MDC(MDC)



## 27



|                            |
|----------------------------|
| EAPD# (codec mute)         |
| AMP_MUTE# (EC mute)        |
| MUTE# (mute all AMP)       |
| SUB_MUTE# (mute subwoofer) |



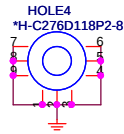
**B2A to C3A**

[illegible][illegible]

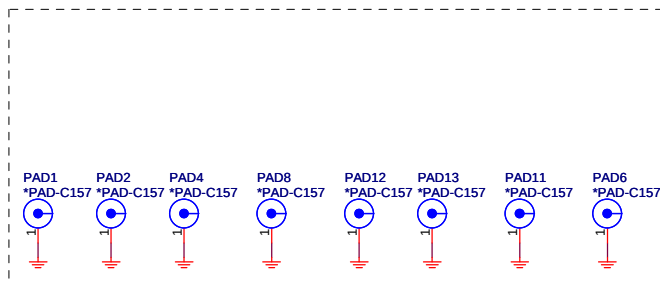
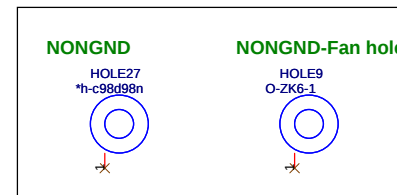
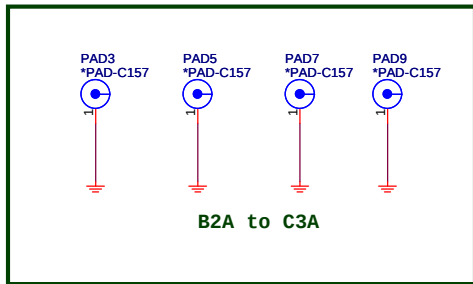
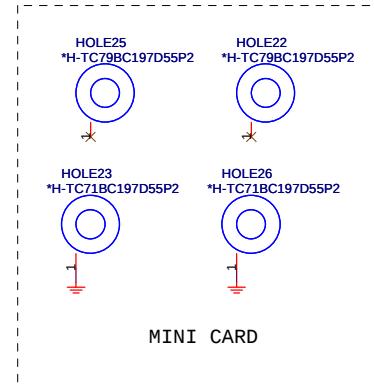
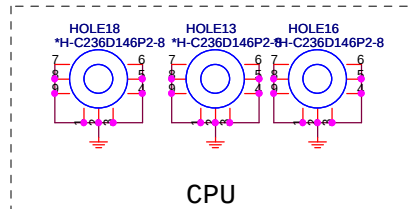
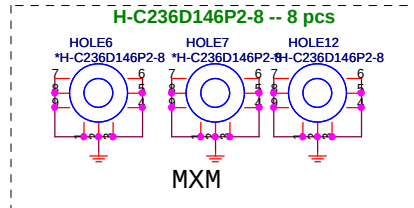
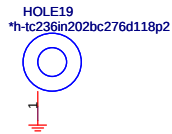
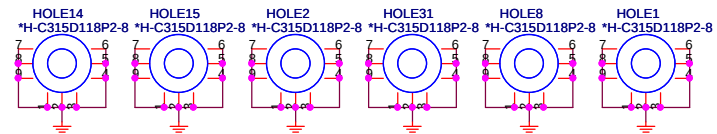
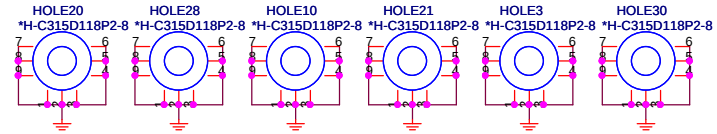
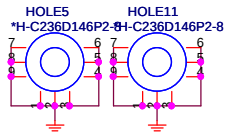
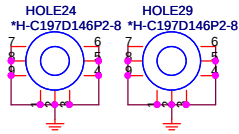
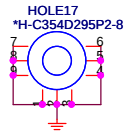
For ESD close to audio out connector

Quanta Computer Inc.  
PROJECT : ZK8

H-C276D118P2-8 -- 1 pcs



H-C354D295P2-8 -- 1 pcs



## HOLES

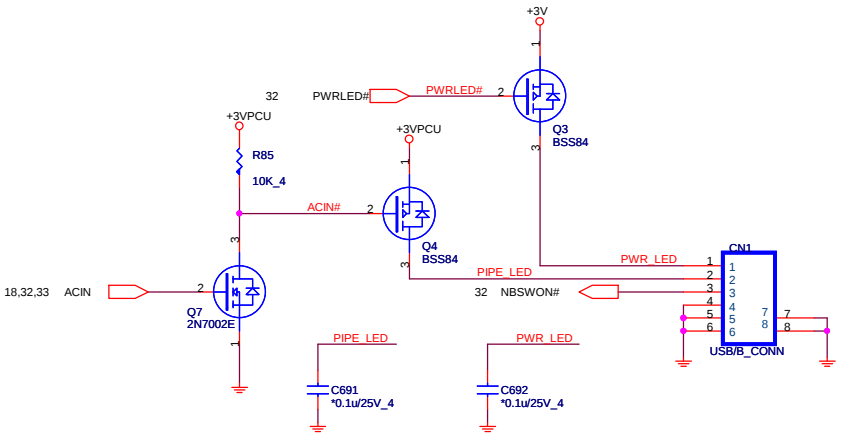


**Quanta Computer Inc.**  
**PROJECT : ZK8**

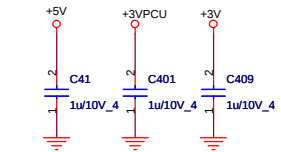
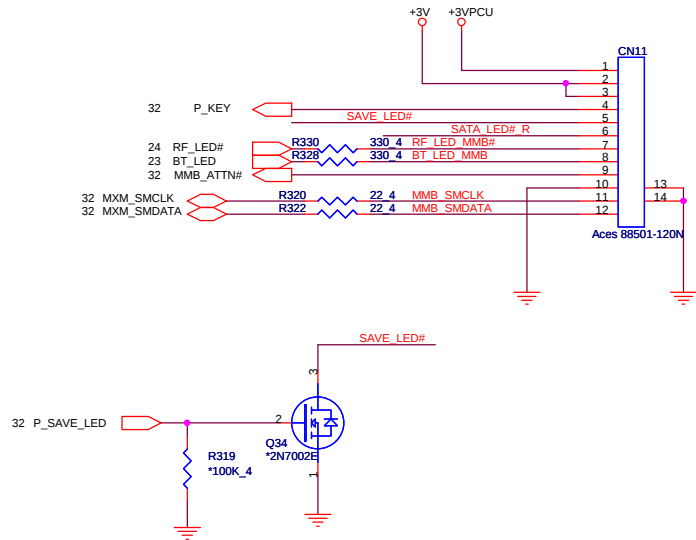
|       |                      |                |
|-------|----------------------|----------------|
| Size  | Document Number      | Rev            |
|       |                      | 3A             |
| Date: | Friday, May 22, 2009 | Sheet 28 of 42 |

holes

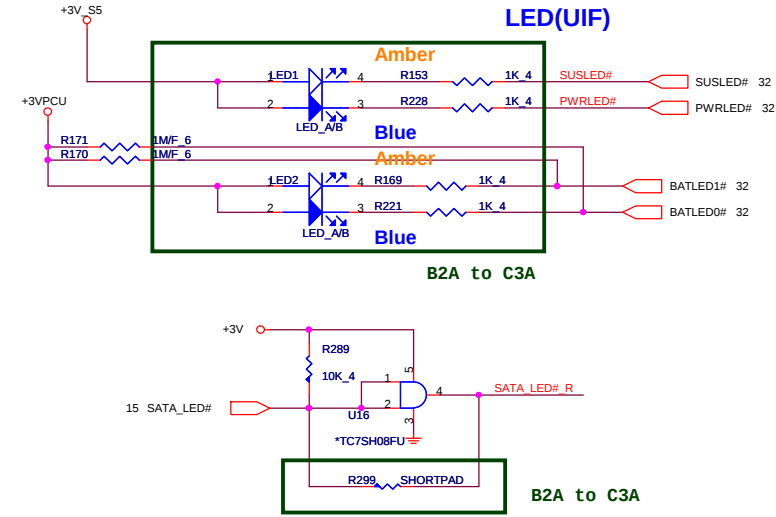
POWER BOARD(UIF)



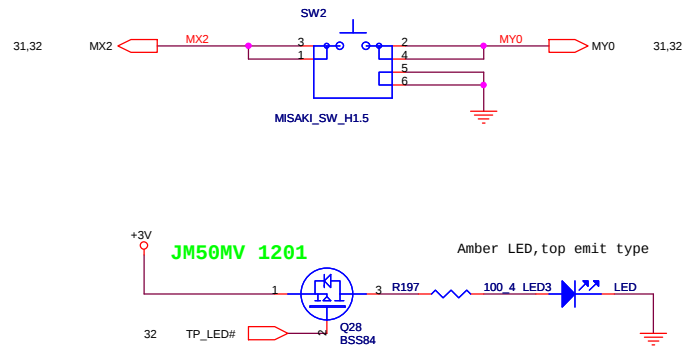
MMB(MMB)



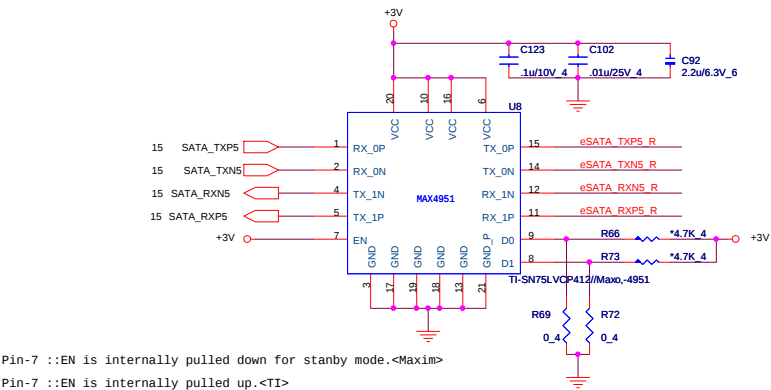
LED(UIF)



TP\_LOCK BUTTON(UIF)



eSATA Redriver(ESA)



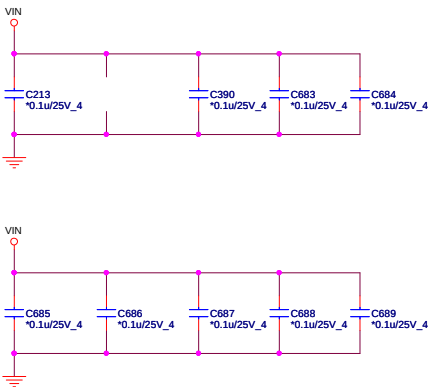
| EN | BA/D0 | BB/D1 | CH-0/A             | CH-1/B             |
|----|-------|-------|--------------------|--------------------|
| 0  | X     | X     | Standby            | Standby            |
| 1  | 0     | 0     | 0dB                | 0dB                |
| 1  | 1     | 0     | Pre-emphasis (5dB) | 0dB                |
| 1  | 0     | 1     | 0dB                | Pre-emphasis (5dB) |
| 1  | 1     | 1     | Pre-emphasis (5dB) | Pre-emphasis (5dB) |

x=don't care

DG2.1 4.2.4 Terminating Unused SATA Interface  
SATA[1:0]RXp/n, SATA[5:4]RXp/n connect to GND while  
SATA not be implemented

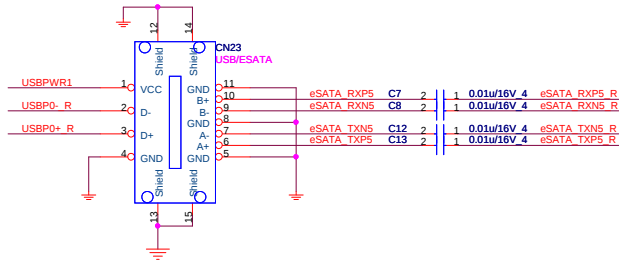


EMI CAPS

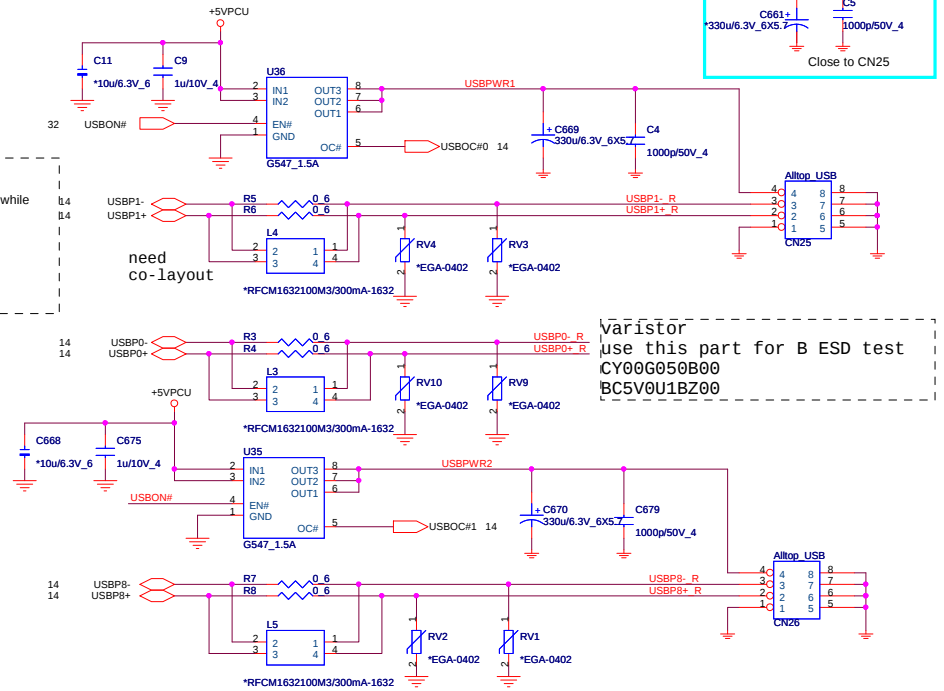


USB&ESATA(ESA)

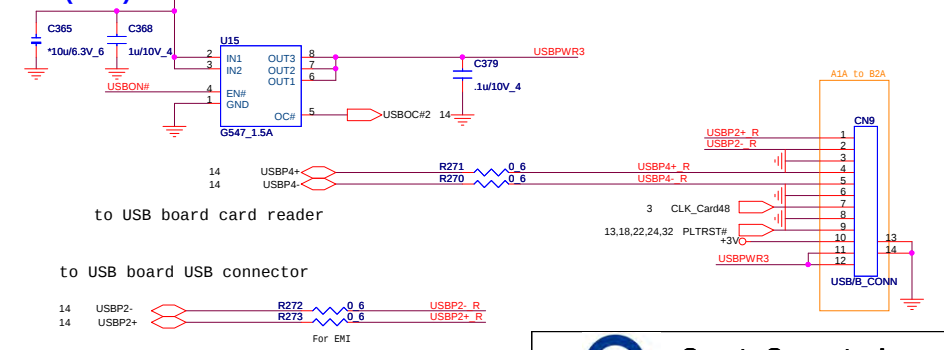
30



(USB)



USB/B(USB)



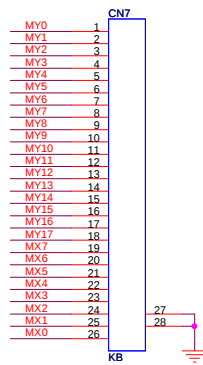
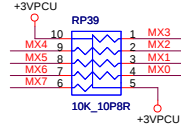
[illegible]

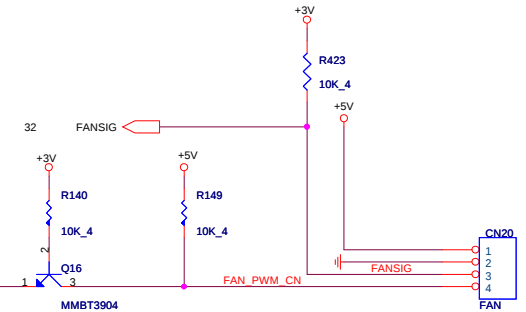
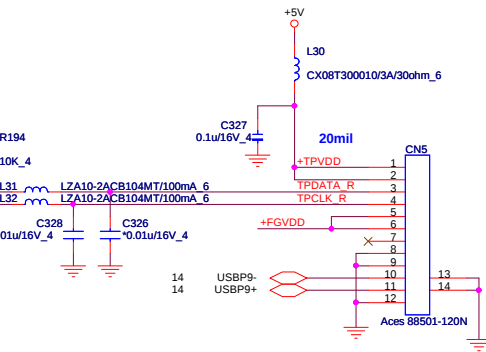
Figure 10 shows the pin connections for the MX2-MX15 modules. The diagram is organized into two main sections, each with a vertical column of pins on the left and a vertical column of pins on the right. The left column pins are numbered 1 through 7 from bottom to top. The right column pins are numbered 8 from bottom to top. Connections are indicated by lines between the pins. The connections are as follows:

- CP3:** Pin 1 connects to MX2 (pin 8), MX3 (pin 5), MX4 (pin 6), and MX5 (pin 2).
- CP1:** Pin 1 connects to MX6 (pin 8), MX7 (pin 5), MX17 (pin 6), and MX15 (pin 2).
- CP6:** Pin 1 connects to MY3 (pin 8), MY2 (pin 5), MY1 (pin 6), and MY0 (pin 2).
- CP5:** Pin 1 connects to MY7 (pin 8), MY6 (pin 5), MY5 (pin 6), and MY4 (pin 2).
- CP4:** Pin 1 connects to MY11 (pin 8), MY10 (pin 5), MY9 (pin 6), and MY8 (pin 2).
- CP2:** Pin 1 connects to MY15 (pin 8), MY14 (pin 5), MY13 (pin 6), and MY12 (pin 2).
- C434:** Pin 1 connects to MX1 (pin 8).
- C435:** Pin 1 connects to MX0 (pin 8).

A ground symbol is shown at the bottom left of the diagram.

4 CPUFAN#\_ON  R152  10K 4 THER\_OVRT#2  Q17  
MMBT390

32 CPUFAN#  FAN\_PWM\_EC

[illegible]



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

SHBM=0: Enable shared memory with host BIOS

**ADDR0** +1.2V ON **R342** 775@10K 4

0400001      10R SOLT CB      R244      1775@10K

BADDR1 — 0K\_5001\_CR R344 7750 10K 4

SHBM SHBM R346 10K\_4

1/13 Confirm by vendor mail :  
Disabled (11) if using FM/LL device on LDC

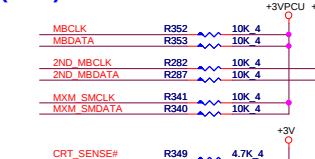
Enabled ('0') if using SPI flash for both system BIOS and

Enabled (0) if using SPI flash for both system BIOS and

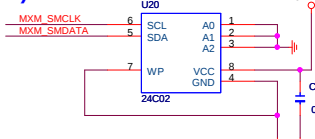
---

(KBC)

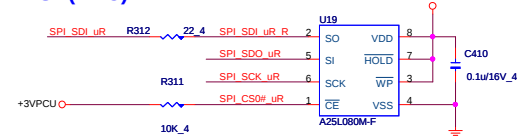
## SM BUS PU(KBC)



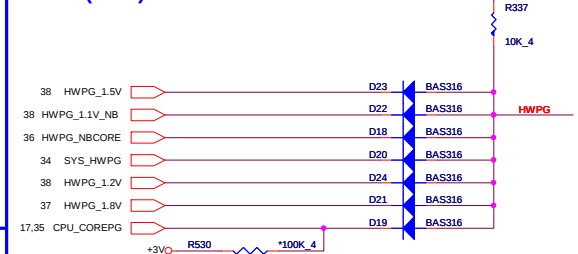
## ACER ID(KBC)



## SPI FLASH(KBC)



## HWPG(KBC)



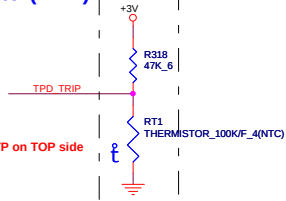
## INTERNAL KEYBOARD STRIP SET(KBC)



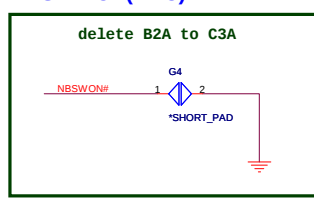
**Quanta Computer Inc.**  
**PROJECT : ZK8**

|       |                                 |                |
|-------|---------------------------------|----------------|
| Size  | Document Number                 | Rev            |
|       | <b>WPCE775C_0DG &amp; FLASH</b> | <b>3A</b>      |
| Date: | Thursday, May 21, 2009          | Sheet 32 of 42 |

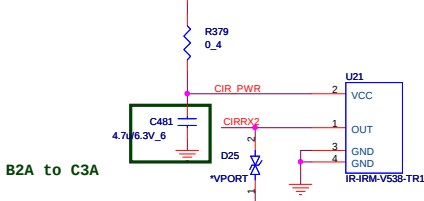
## Thermistor (THM)



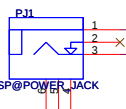
## POWER SWITCH(KBC)



**CIR(FIR)**



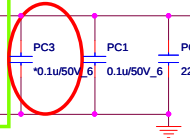
## DC-IN JACK



UMA / DFPJ05MR007  
MXM / DFPJ05MR006

Adapter connector color:  
UMA :yellow  
MXM :?

## B-Test change



## B-Test change



## B-Test change



## R1



## B-Test change



## B-Test change



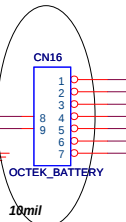
## B-Test change



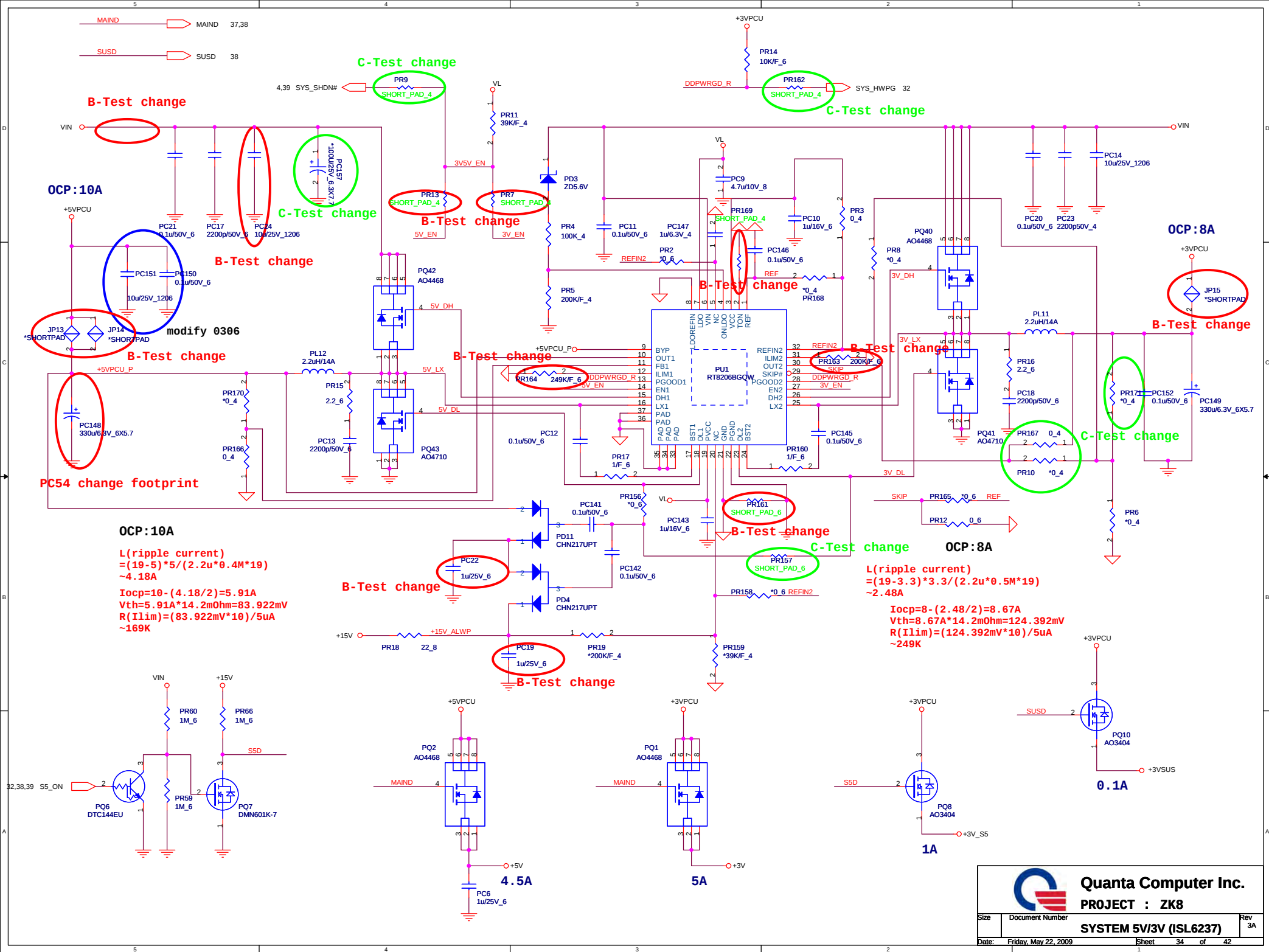
## B-Test change



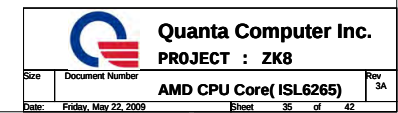
## C-Test change

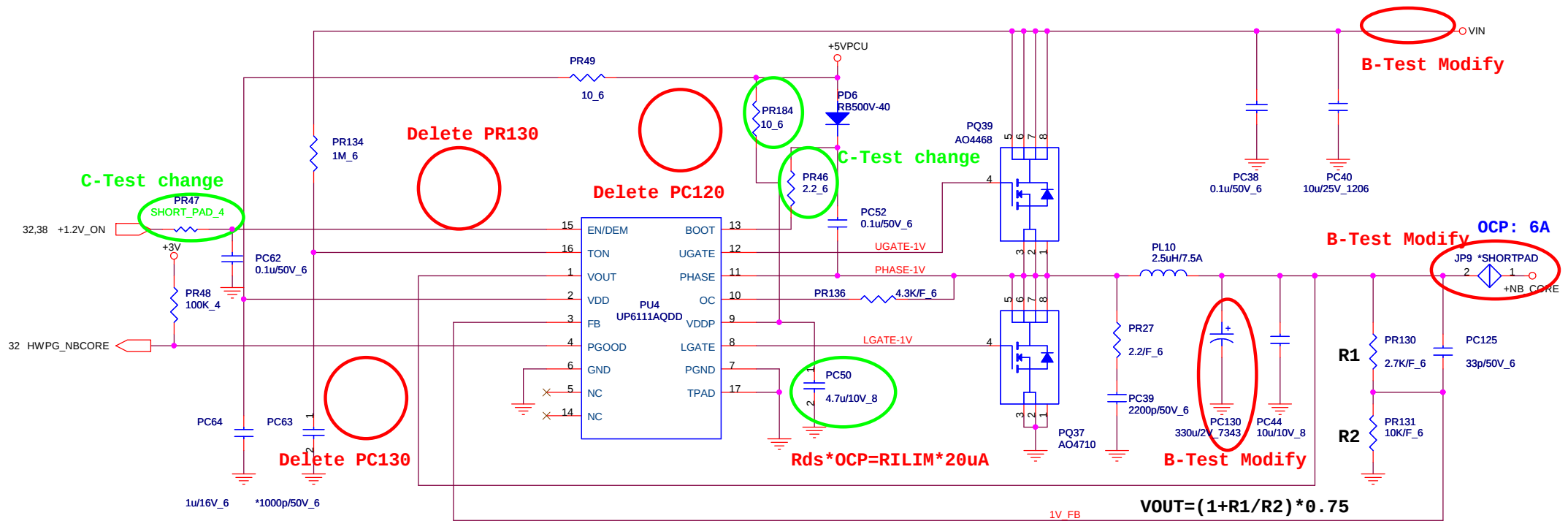


10mil



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



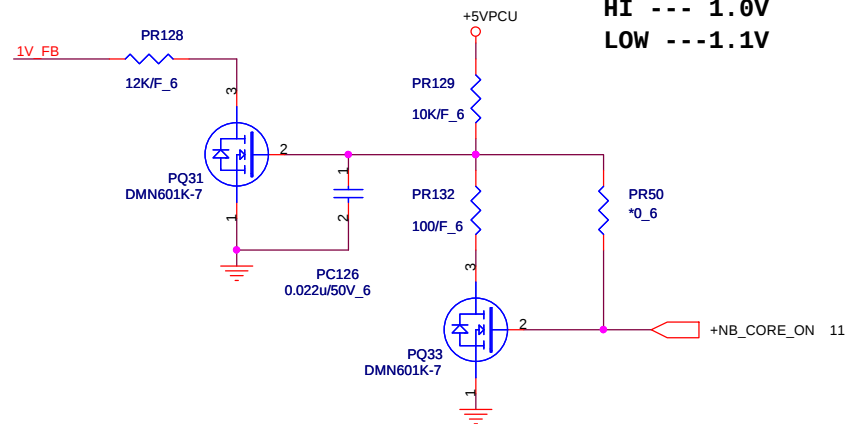


$$TON = 3.85p * RTON * Vout / (Vin - 0.5)$$

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

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

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

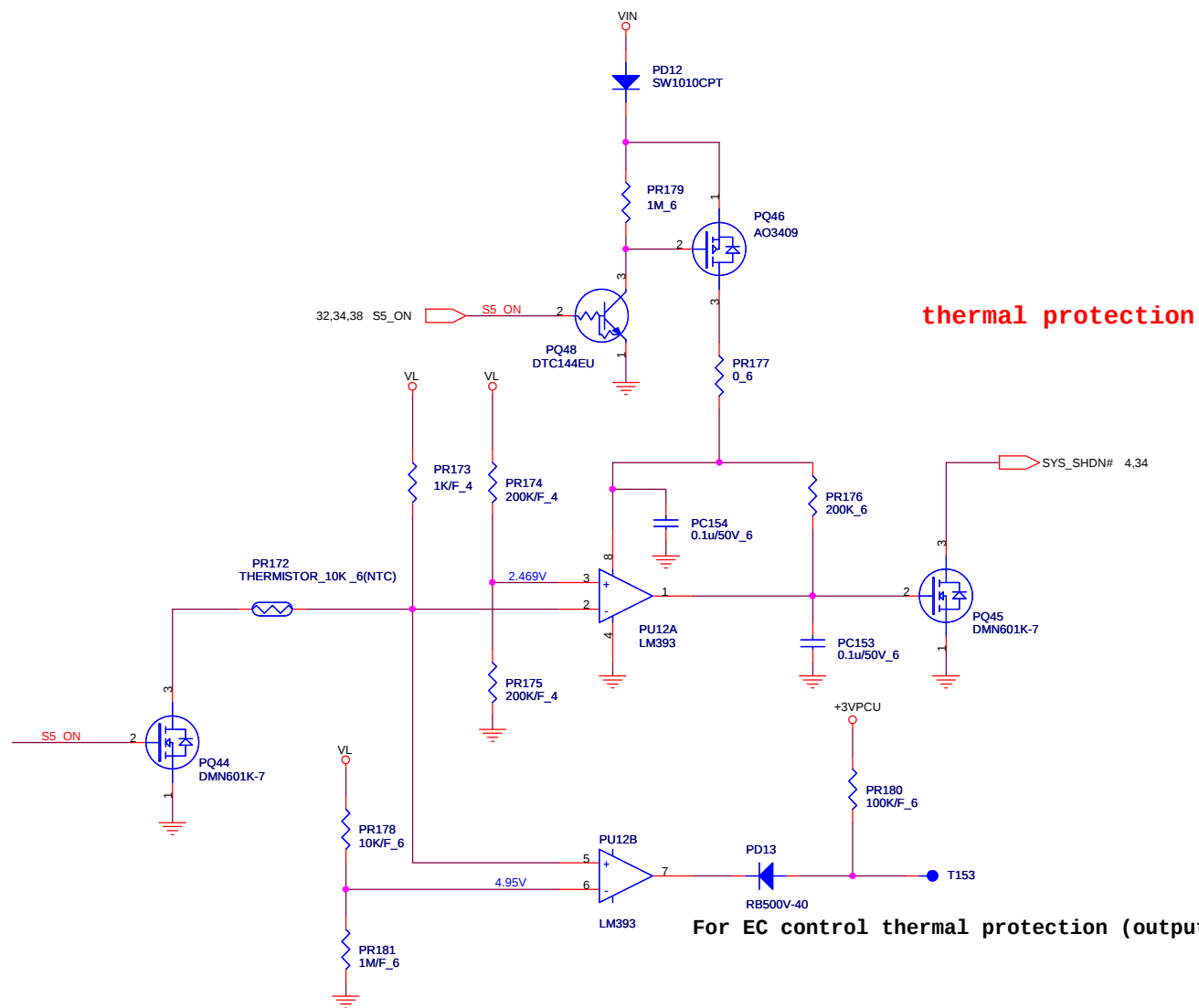


HI --- 1.0V  
LOW --- 1.1V

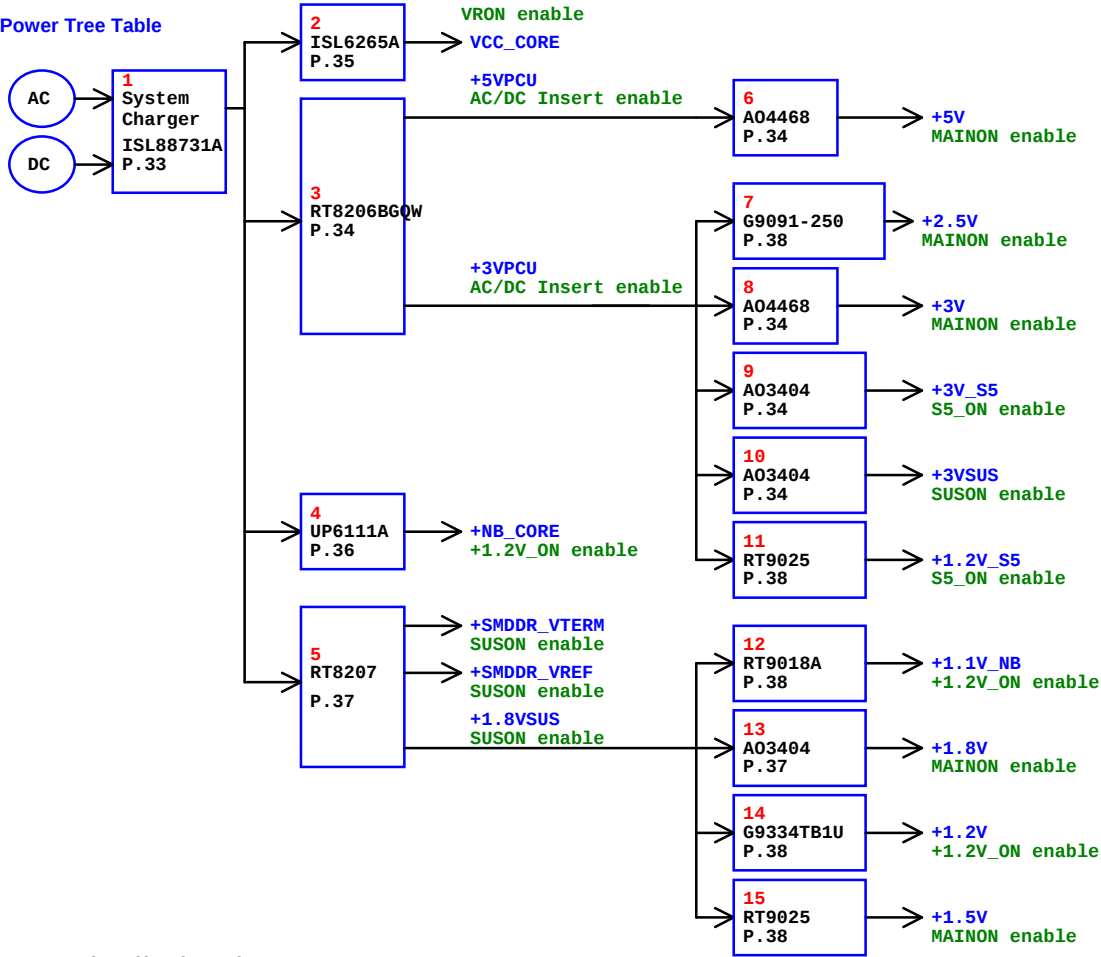
A04710 Rdson=14.2mOhm  
OCP=7.2-0.8A  
L(ripple current)  
=(19-1.05)\*1.05/(2.2u\*272k\*19)  
~1.63A  
14.2m\*6=RILIM\*20uA  
RILIM=4.3K







Power Tree Table



Power Distribution List

| Power        | Distribution                                                                                                   |
|--------------|----------------------------------------------------------------------------------------------------------------|
| VCC_CORE     | CPU                                                                                                            |
| +5VPCU       | RTC charge,USB,+5V                                                                                             |
| +3VPCU       | RTC, HALL SENSOR, KB, TP/FP/LED /B, Power /B, Kill SW, EC, ID, SPI Flash                                       |
| +1.8V        | RS880, SB710, LVDS switch                                                                                      |
| +SMDDR_VTERM | CPU, DDR                                                                                                       |
| +SMDDR_VREF  | CPU, DDR                                                                                                       |
| +1.8VSUS     | CPU, DDR                                                                                                       |
| +NB_CORE     | RS880                                                                                                          |
| +1.2V_S5     | SB710                                                                                                          |
| +5V          | SB710,MXM,CRT,HDMI,TV CARD,HDD,ODD,AUDIO,FAN,TP                                                                |
| +3V          | CLK, CPU Thermal Monitor, FAN, RS880, DDR, SB710, VGA, LCD/LED Panel, HALL SENSOR, CRT, HDMI, MXM,ESATA        |
| +3V_S5       | Mini Card, KB, TP/FP/LED /B, RJ45/USB /B, Bluetooth, MMB, New Card, PC BEEP, EC, Codec (ALC889), VR, Headphone |
| +3VSUS       | BT                                                                                                             |
| +1.1V_NB     | RS880                                                                                                          |
| +2.5V        | CPU                                                                                                            |
| +1.2V        | CPU,CLK,RS880,SB710                                                                                            |
| +1.5V        | Mini Card,                                                                                                     |

| Model |  |  |  | REV |  |  |  | CHANGE LIST             |  |  |  | MODEL |  | ZK8  |  |    |  |
|-------|--|--|--|-----|--|--|--|-------------------------|--|--|--|-------|--|------|--|----|--|
|       |  |  |  | 1A  |  |  |  | FIRST RELEASED: (PCB:A) |  |  |  |       |  | FROM |  | To |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | X    |  | 1A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  | 1A   |  | 2A |  |
|       |  |  |  |     |  |  |  |                         |  |  |  |       |  |      |  |    |  |

