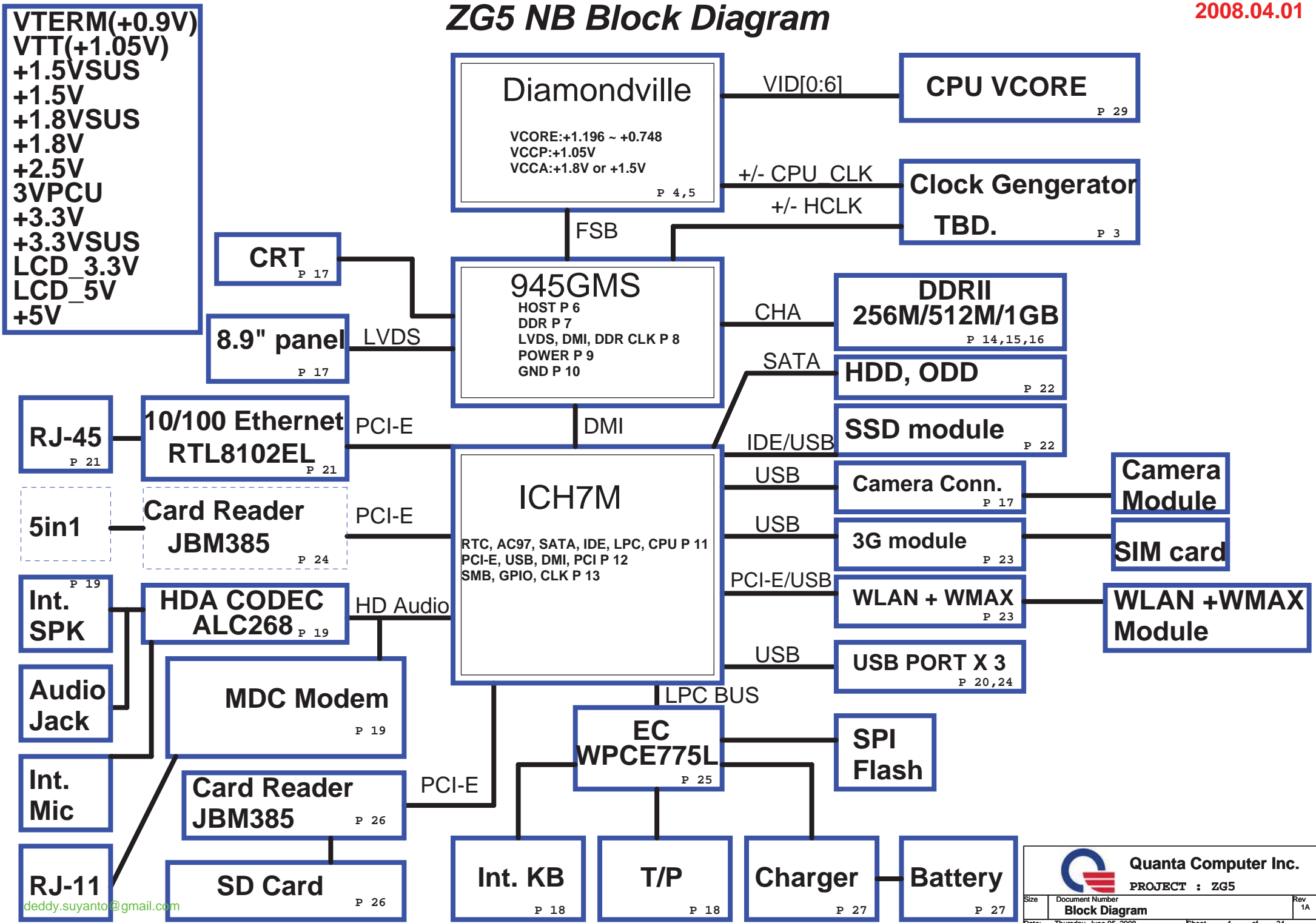
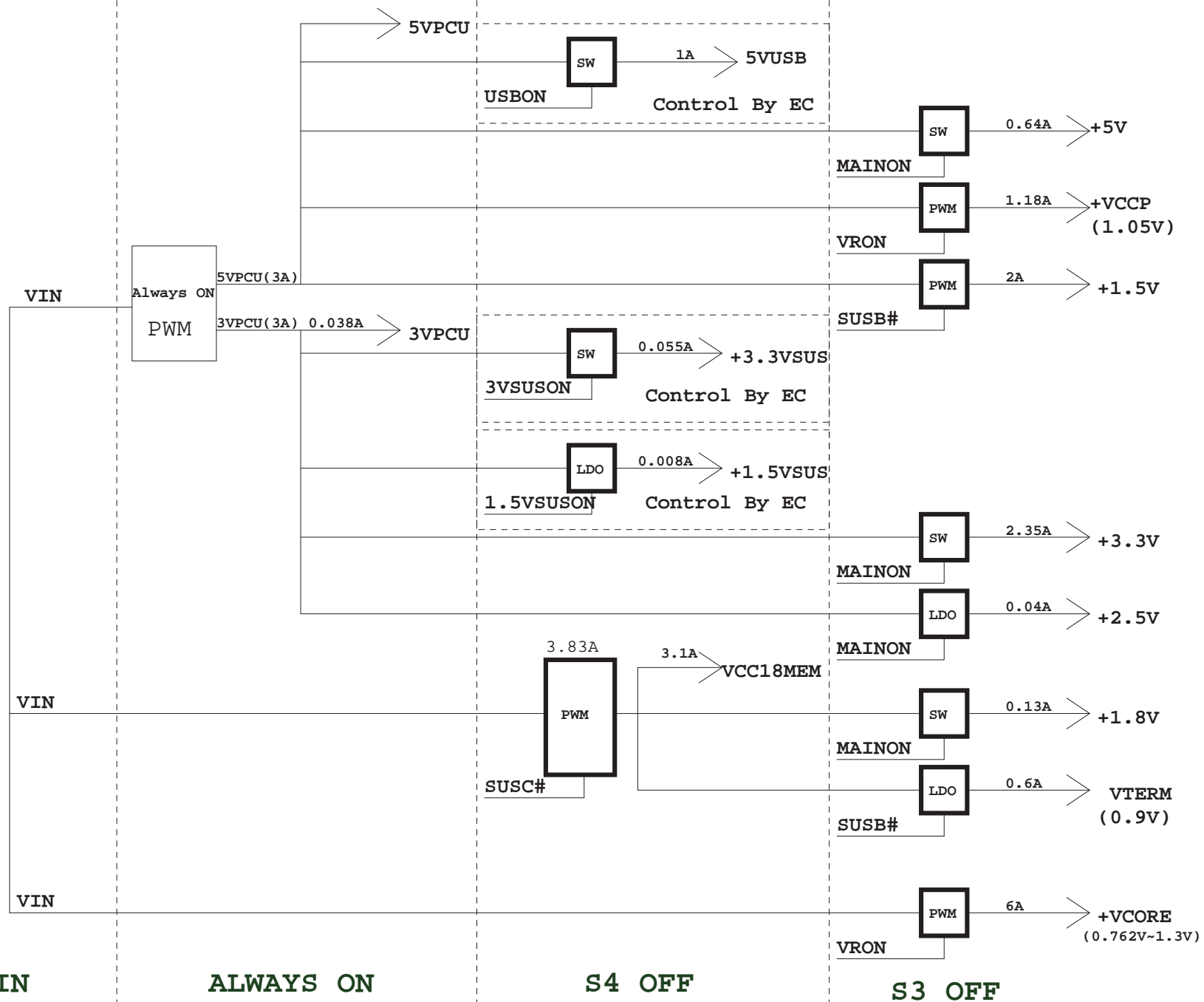
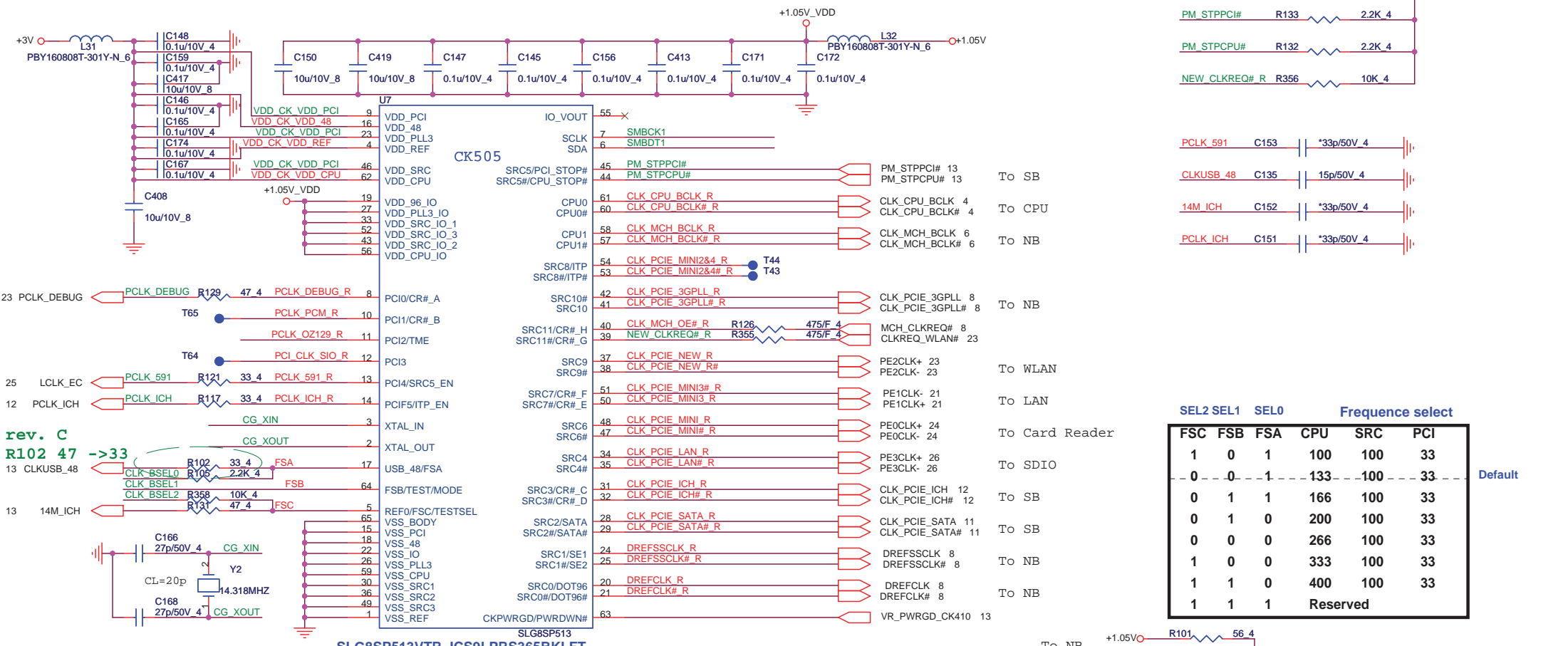


# ZG5 NB Block Diagram

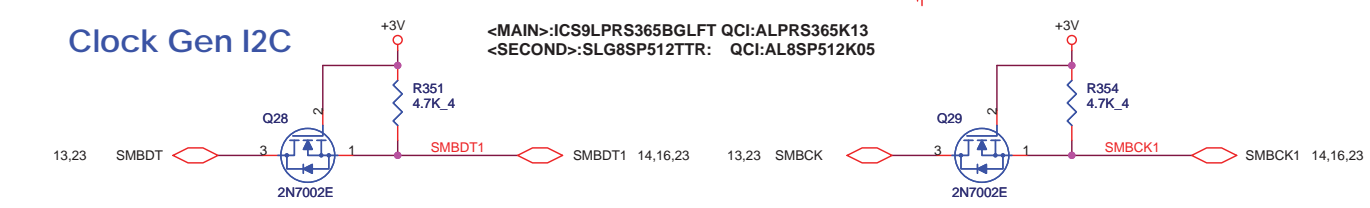





# Clock Generator



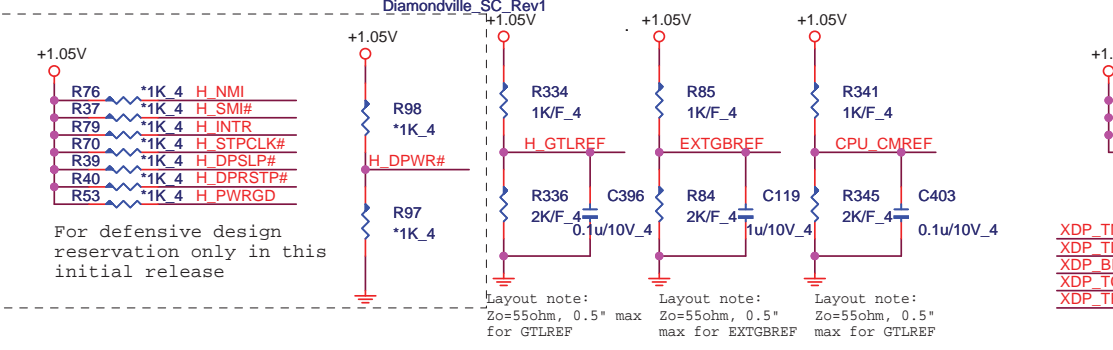
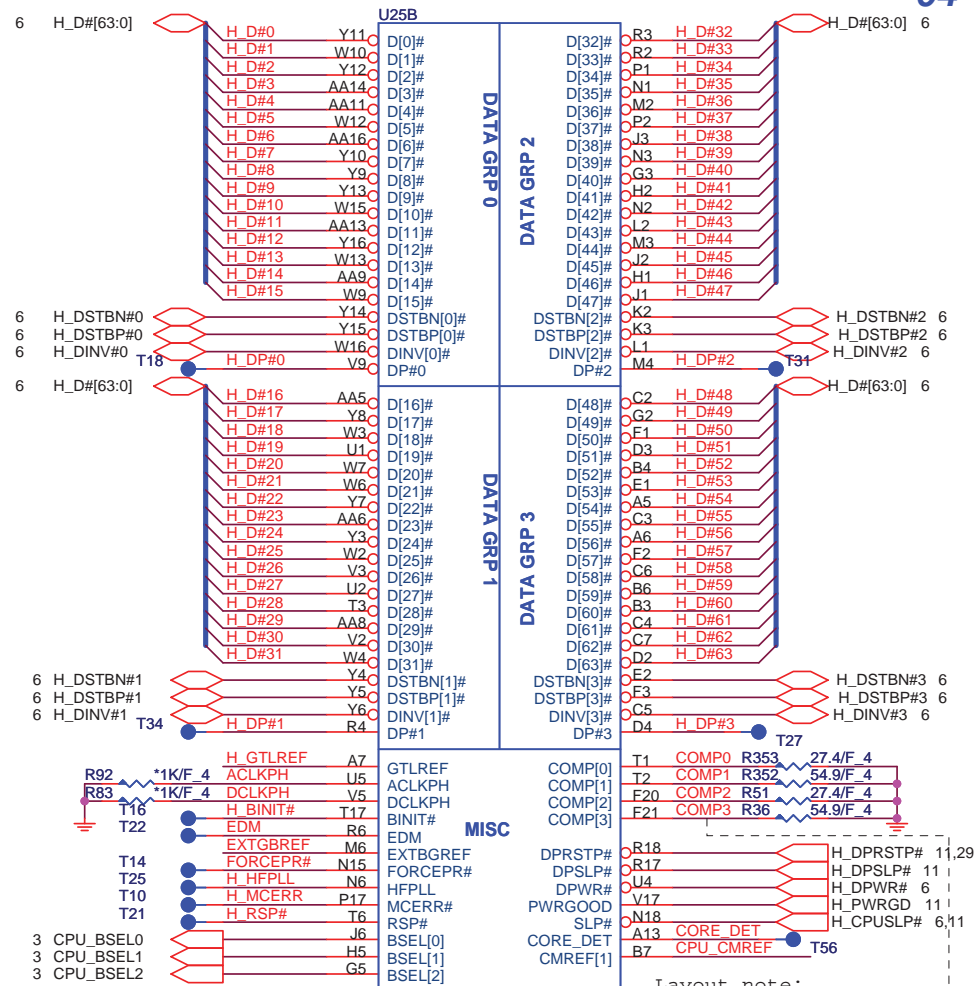
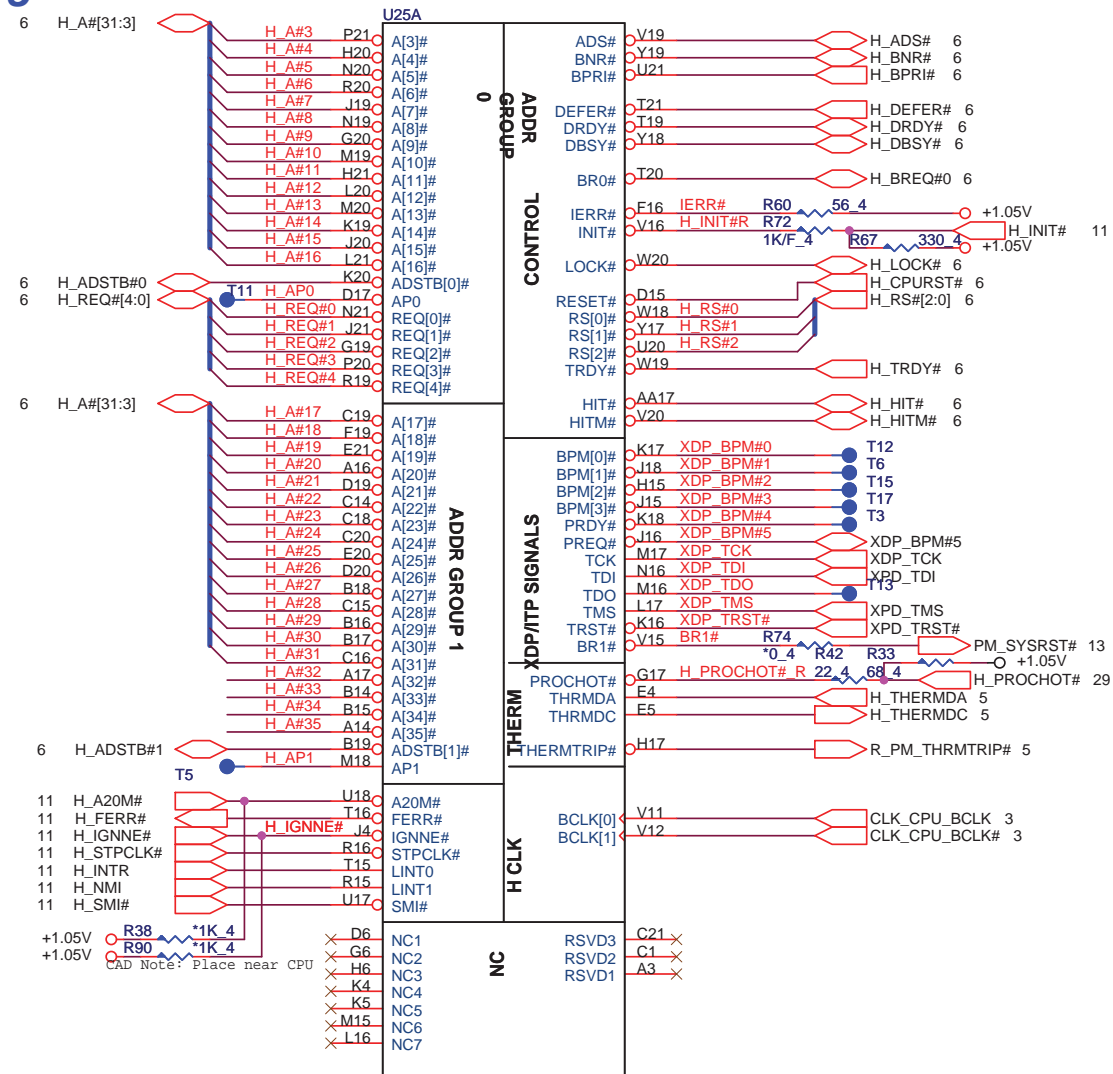
	ICS9LPRS365 (ALPRS365K13)	RTM8751-606 (AL000875K06)	PULL HIGH	PULL DOWN
Pin 11	PCI2/TME	internal PD	NO OVERCLOCKING (default)	NORMAL RUN
Pin 12	PCI-3	PCI-3/SRC5_EN internal PD	PIN37/38 IS SRC5	PIN37/38 IS PCI_STOP/CPU_STOP (default)
Pin 13	PCI-4/27M_SEL	internal PD	PIN 17/18 IS 27MHz	PIN 17/18 IS SRC/DOT (default)
Pin 14	PCIF-5/ITP_EN	internal PD	PIN 46/47 IS CPUITP	PIN 46/47 IS SRC8 (default)





**Quanta Computer Inc.**  
PROJECT : ZG5

Size	Document Number	Rev
	<b>CLOCK GENERATOR</b>	1A
Date:	Thursday, June 05, 2008	Sheet 3 of 34




Layout note: --- Zo=27.4ohm, make trace length shorter than 0.5"

Comp0,2 connect with Zo=55ohm, make trace length shorter than 0.5"

Comp1,3 connect with Zo=55ohm, make trace length shorter than 0.5"

Rev : B

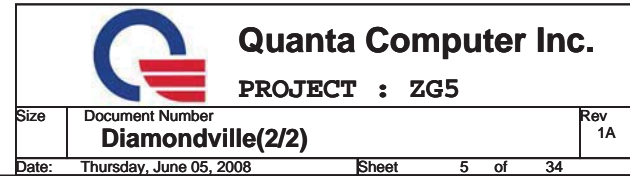
No stuff - R37 ,R38 ,R39 ,R40 ,R70 ,R90 ,R98 from Intel info.



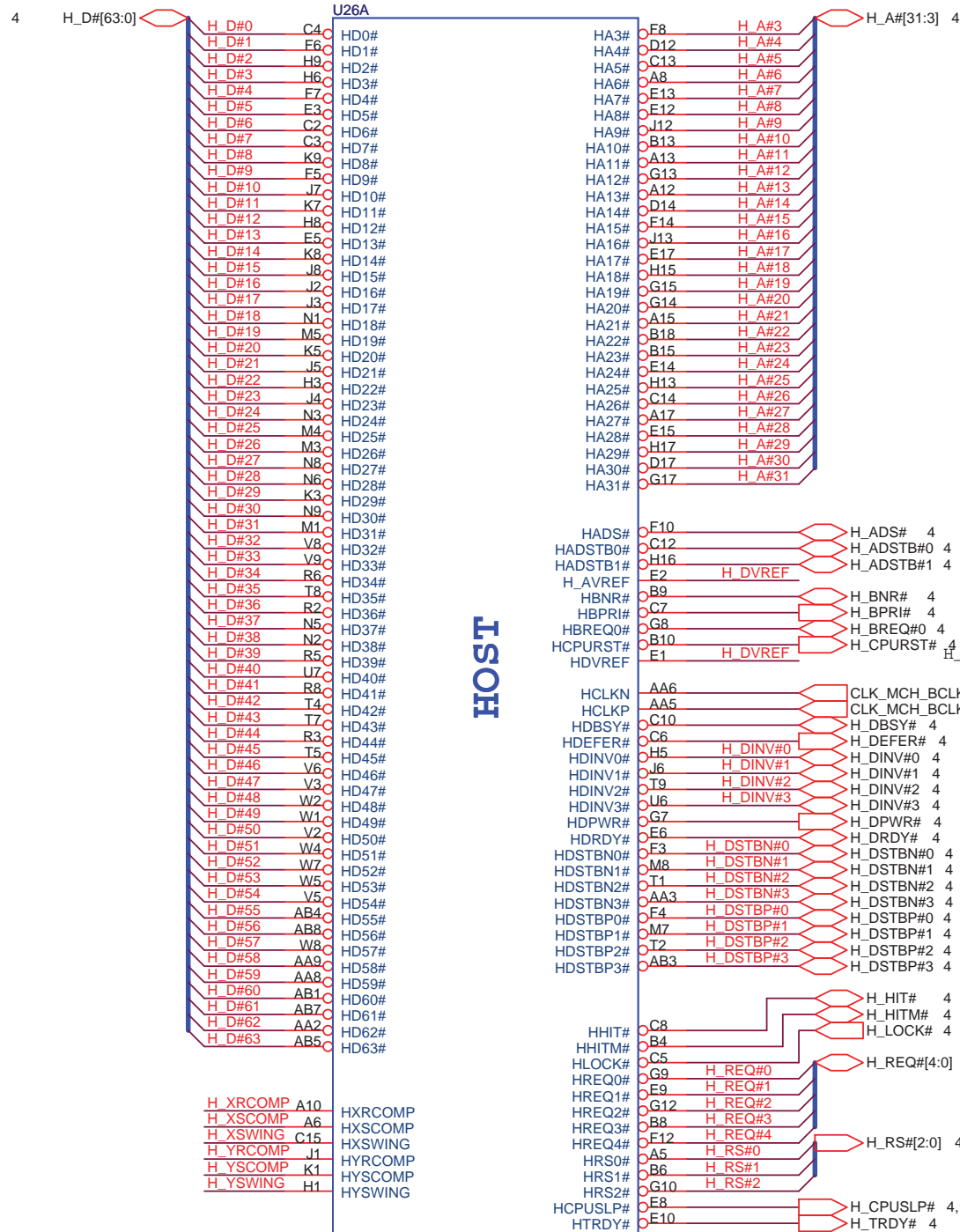
**Quanta Computer Inc.**

**PROJECT : ZG5**

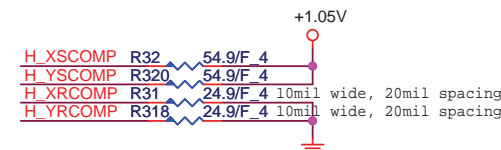
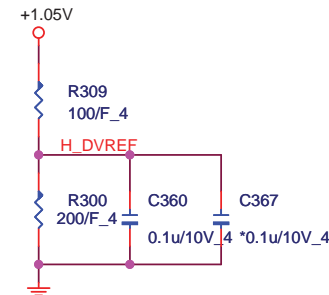
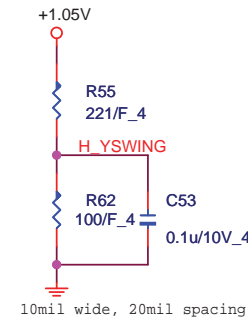
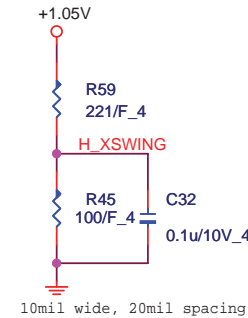
Size	Document Number	Rev
	<b>Diamondville(1/2)</b>	1A
Date:	Thursday, June 05, 2008	Sheet 4 of 34







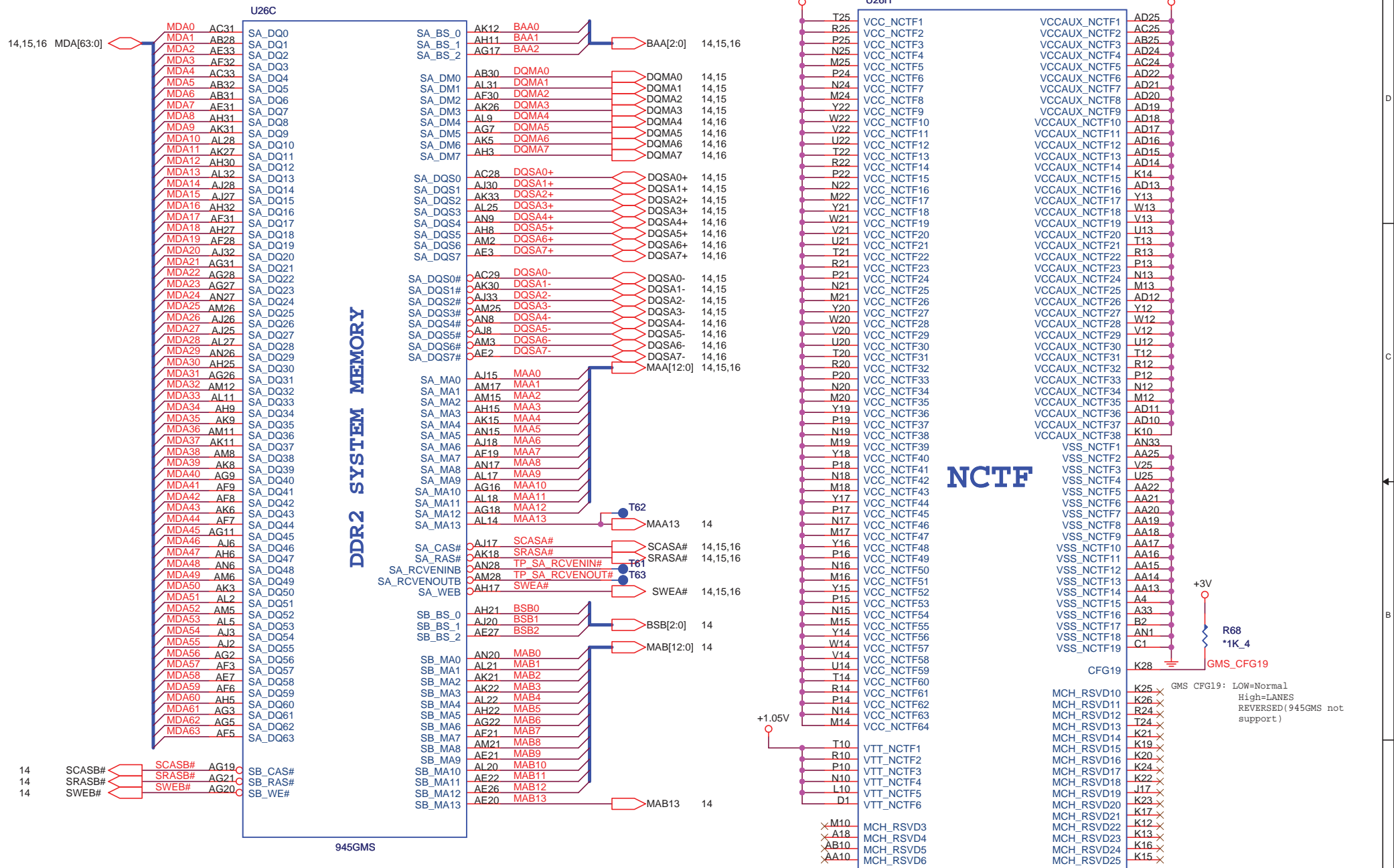
HOST



Quanta Computer Inc.

PROJECT : ZG5

Size	Document Number	Rev
	<b>945GMS HOST</b>	1A
Date:	Thursday, June 05, 2008	Sheet 6 of 34



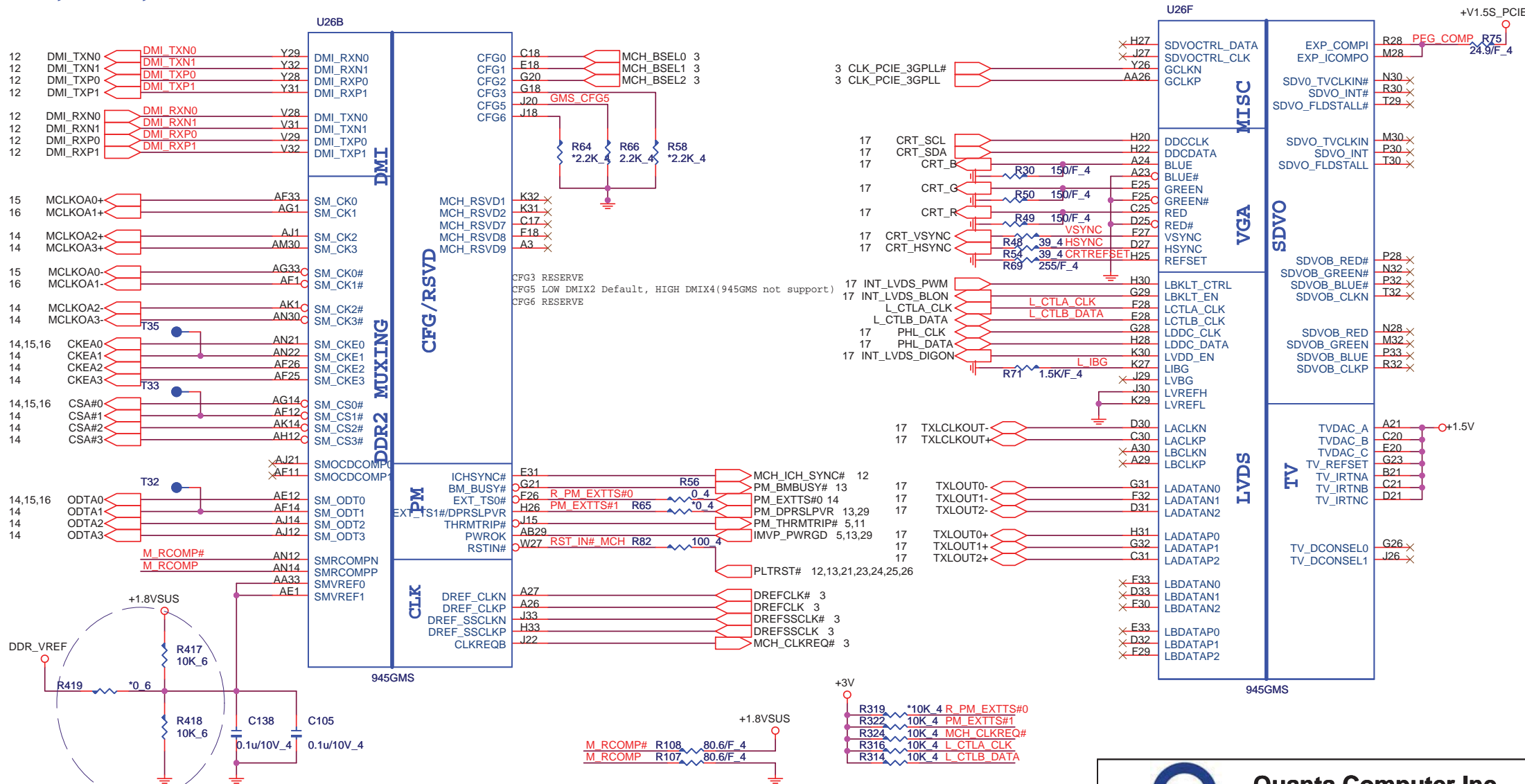
Quanta Computer Inc.

PROJECT : ZG5


Size	Document Number	Rev
	<b>945GMS DDR</b>	1A
Date:	Thursday, June 05, 2008	Sheet 7 of 34

# DMI, LVDS, DDR CLK

08



rev. D  
Add in R417 , R418 , R419

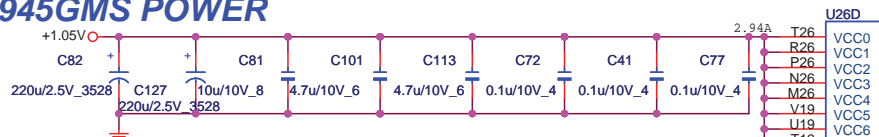


**Quanta Computer Inc.**  
PROJECT : ZG5

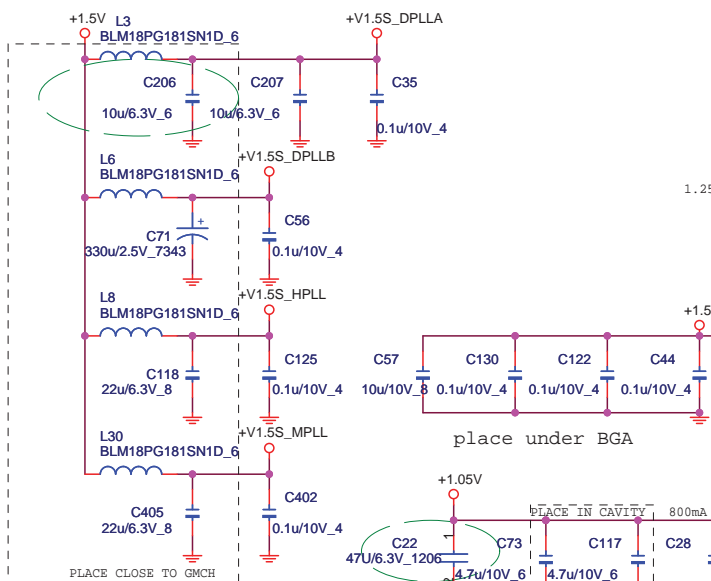
Size	Document Number	Rev
	<b>945GMS LVDS, DMI, DDR CLK</b>	1A
Date:	Thursday, June 05, 2008	Sheet 8 of 34



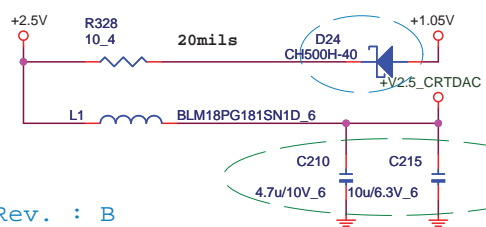
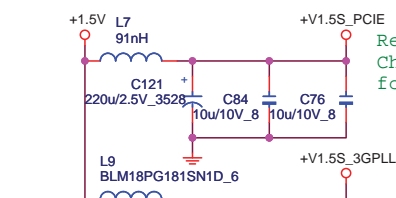
## 945GMS POWER



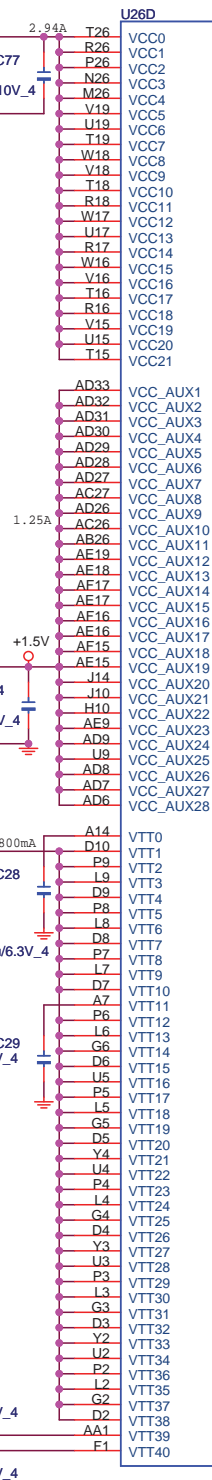
Rev. : C  
Del C17 & Add in C206,C207  
for M/E interference



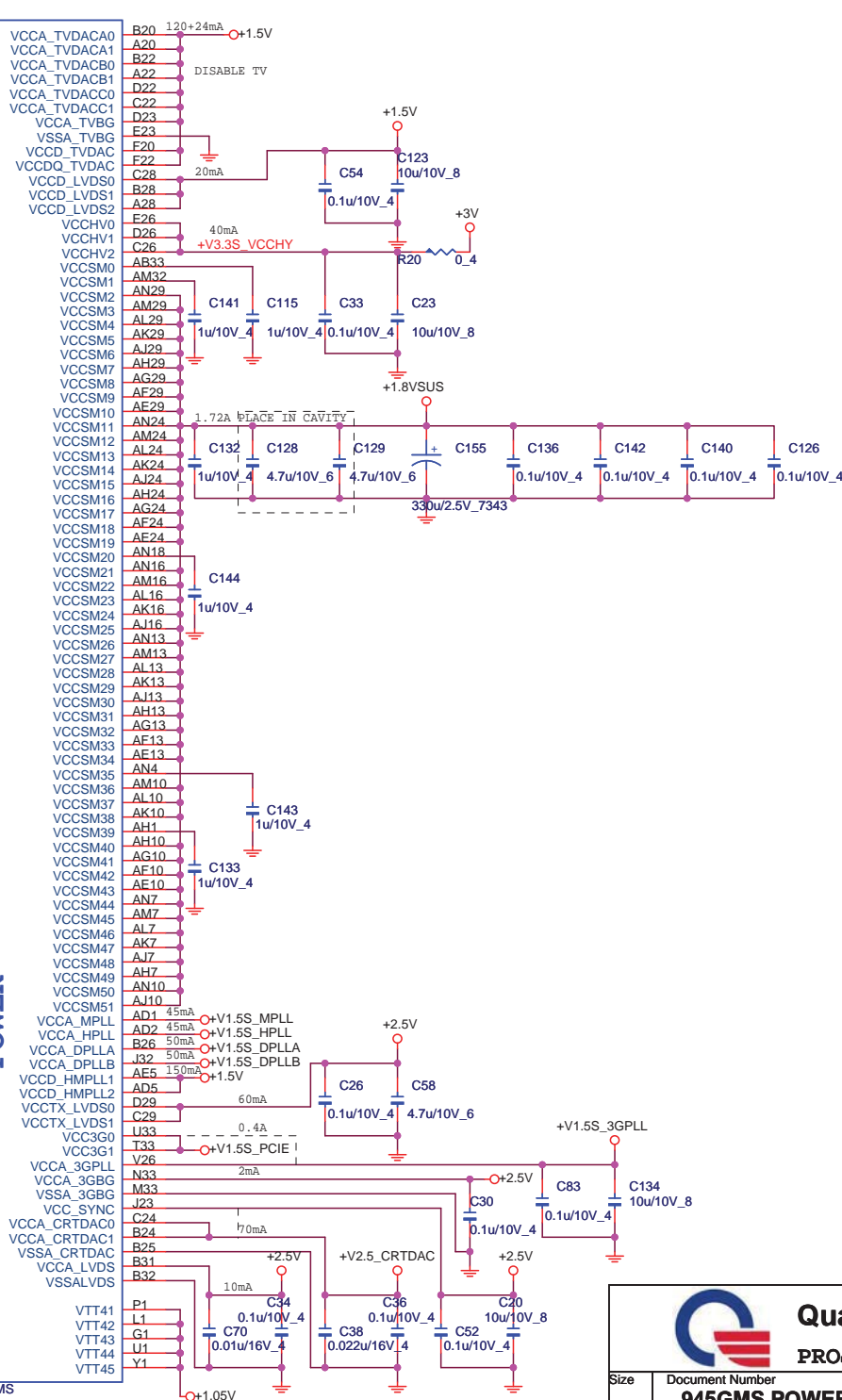
Rev. : C  
Change C22 size to 1206  
for M/E interference



Rev. : B  
Change D24 schottky diode  
Rev. : C  
Del C21 & Add in C210,C215  
for M/E interference



## POWER

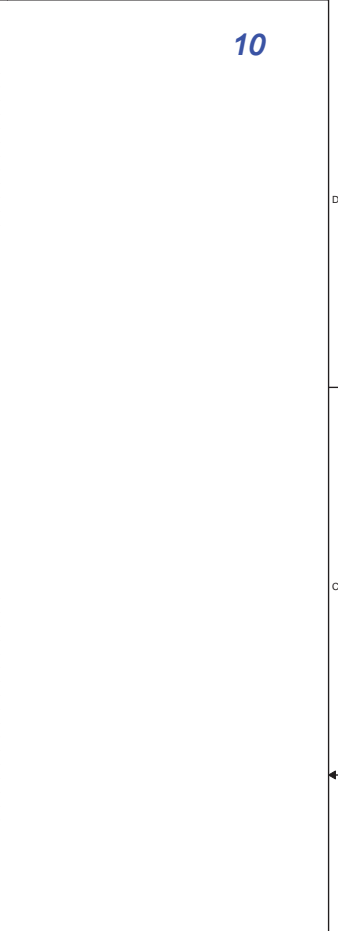
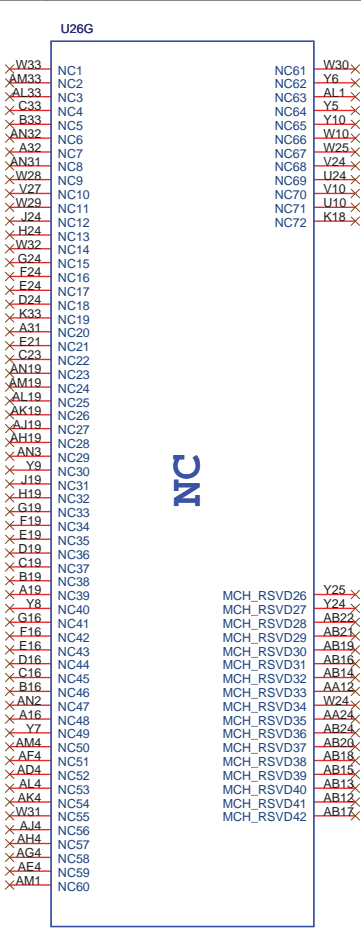
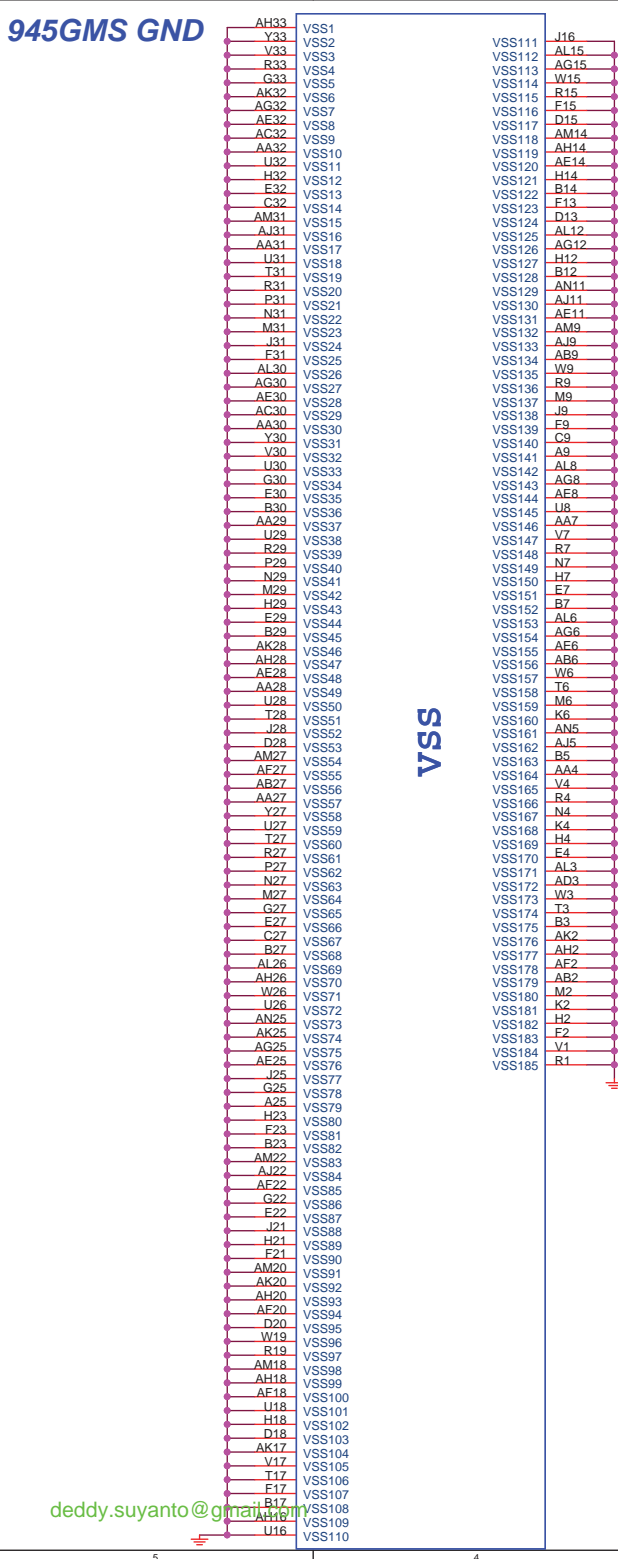


Quanta Computer Inc.


PROJECT : ZG5

Size	Document Number	Rev
	945GMS POWER	1A
Date:	Thursday, June 05, 2008	Sheet 9 of 34

945GMS GND



10



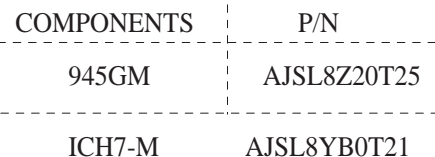
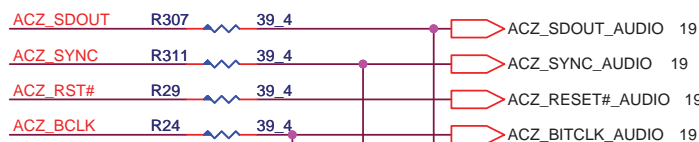
Quanta Computer Inc.

PROJECT : ZG5

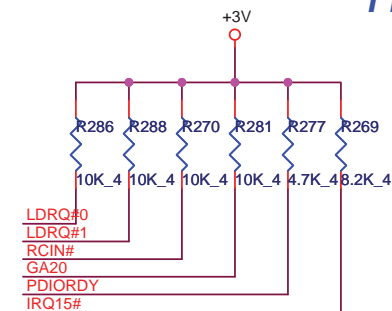
Size	Document Number	Rev
	945GMS GND	1A
Date:	Thursday, June 05, 2008	Sheet 10 of 34

deddy.suyanto@gmail.com

Change x'tal package to low U2A profile



## 11

[illegible]

```
- Change RTC battery holder
  Change R379 , R381 , R378
    , R377 value for RTC charge function
```



**PROJECT : ZG5**

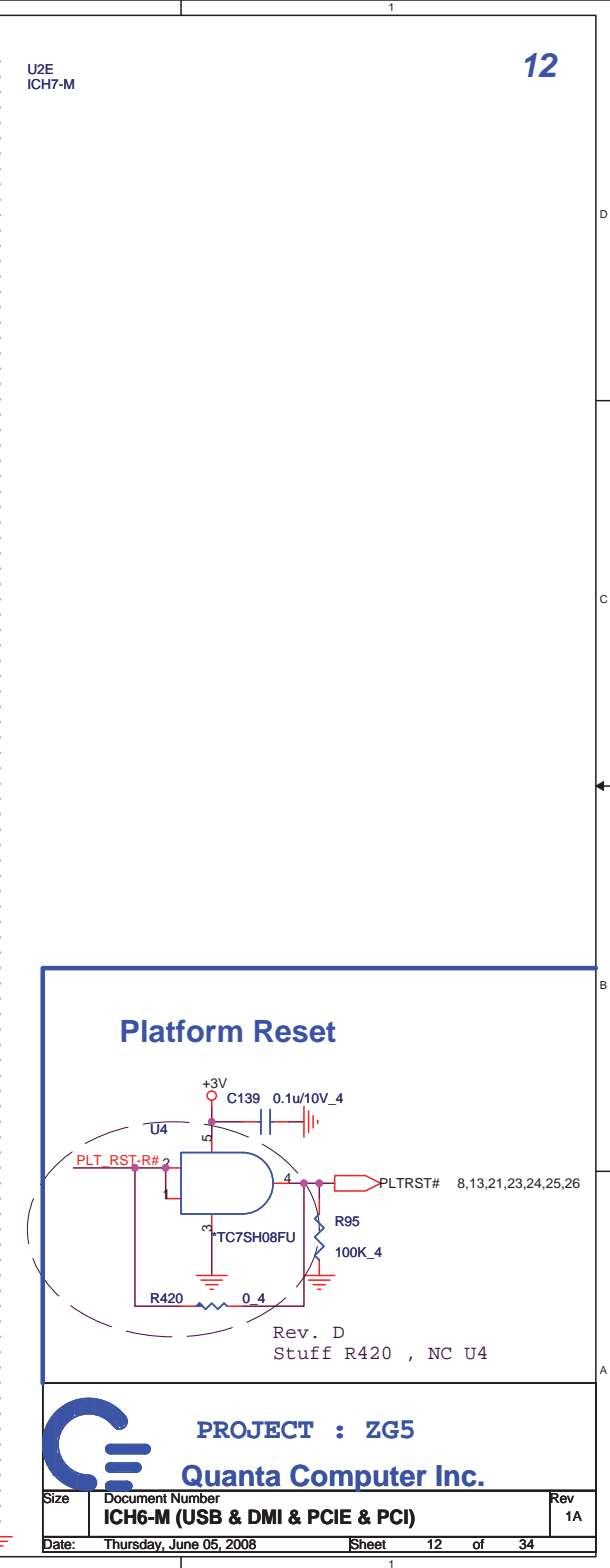
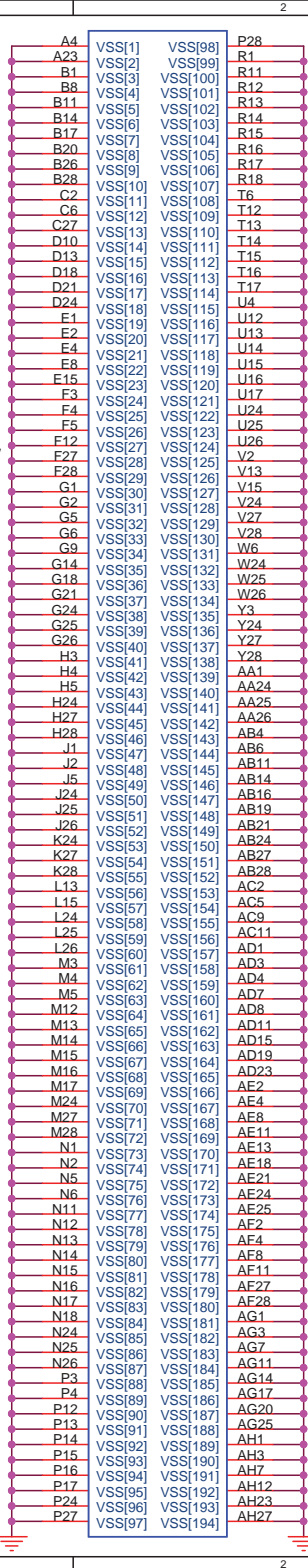
**Quanta Computer Inc.**

Size	Document Number <b>ICH7-M (CPU, SATA, IDE,LPC)</b>
------	---

Date: Thursday, June 05, 2008

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Rev	1A
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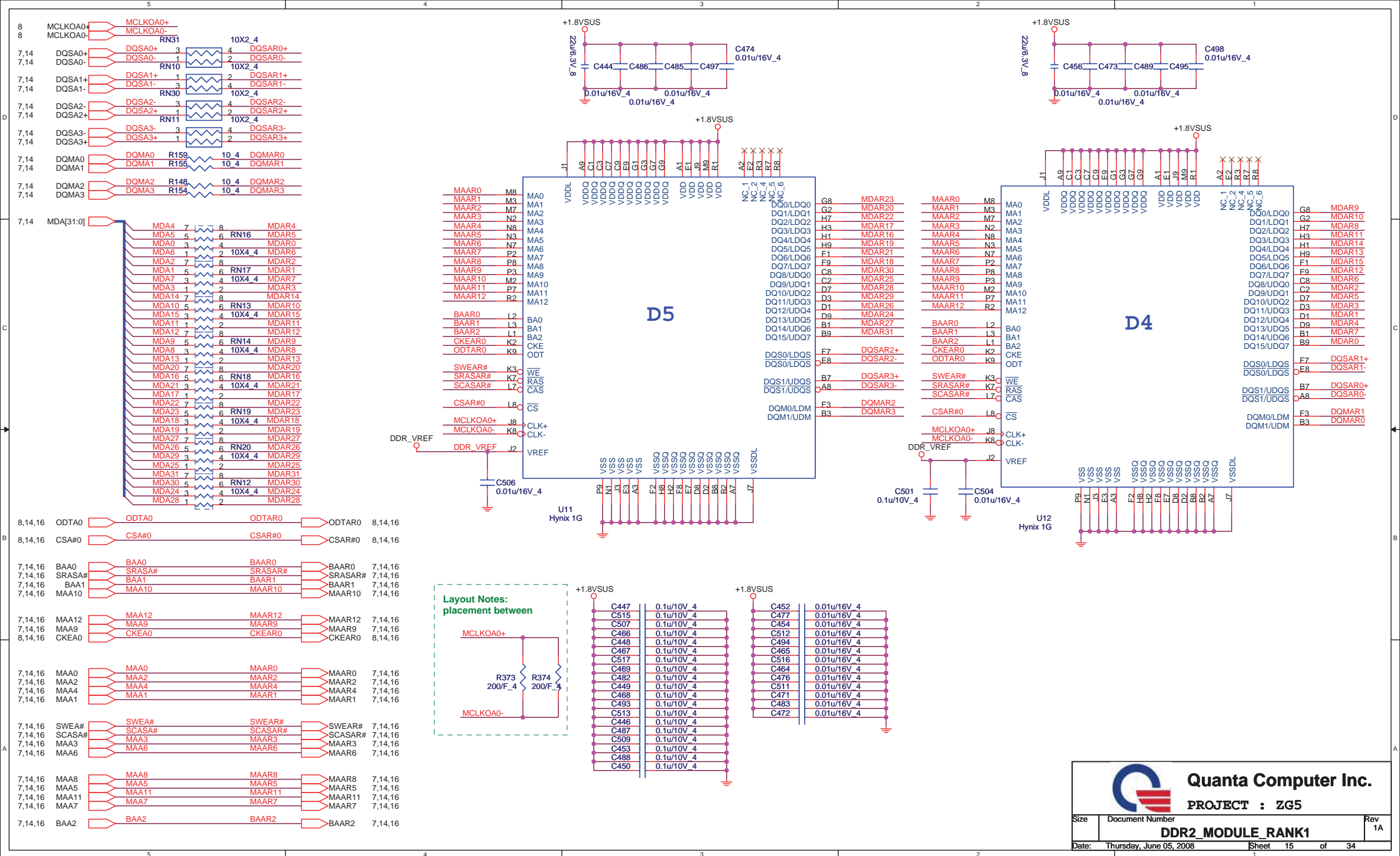


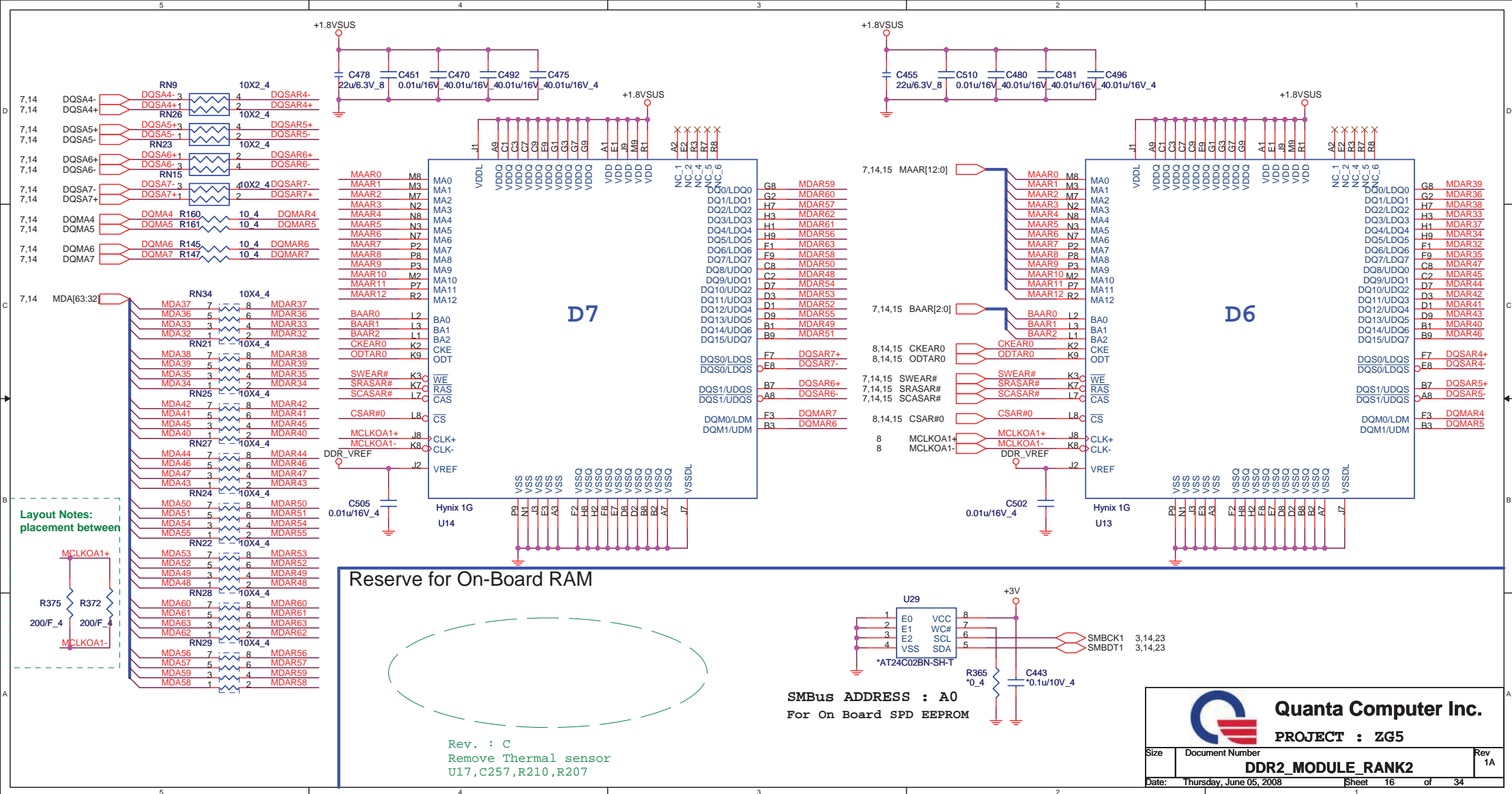






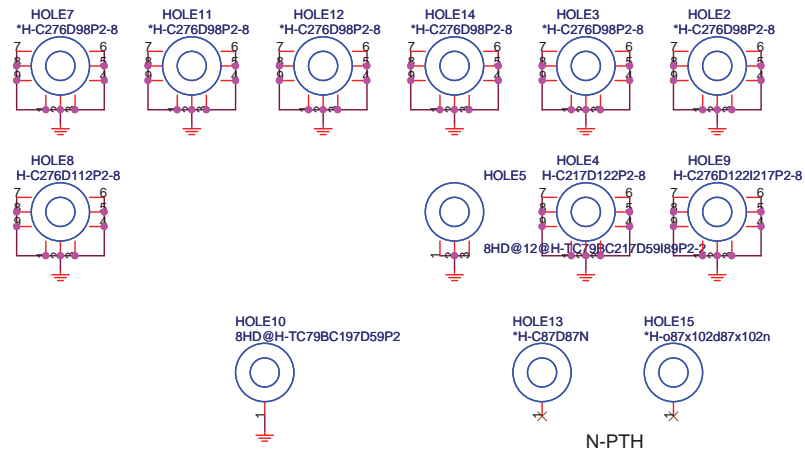






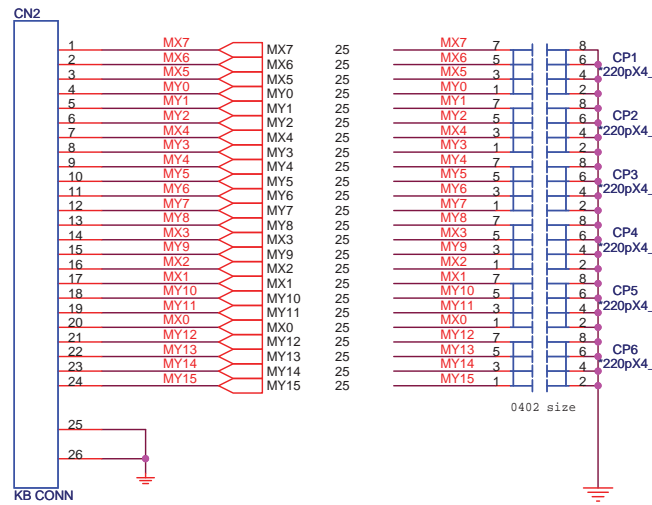


## SCREW HOLE



Rev. : B  
Remove HOLE 1 , HOLE 6  
Add HOLE 15

## KEYBOARD



## 12" TOUCH PAD BOARD

Rev. : B  
Remove T/P conn.-CN4 , C210 , C206 , C207

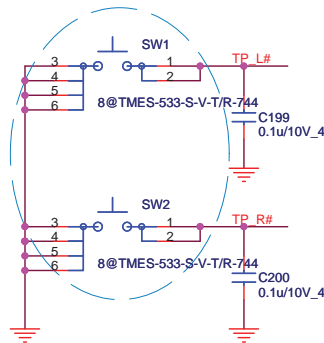
MM20050ICI2 CF@ x 2, HD@ x 2, ODD@ x 2

SSD x 2

HDD x 2

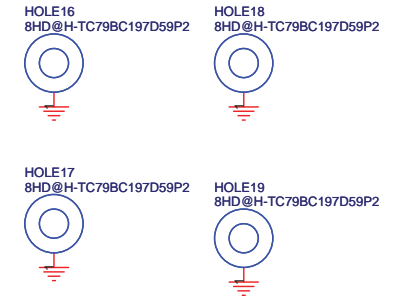
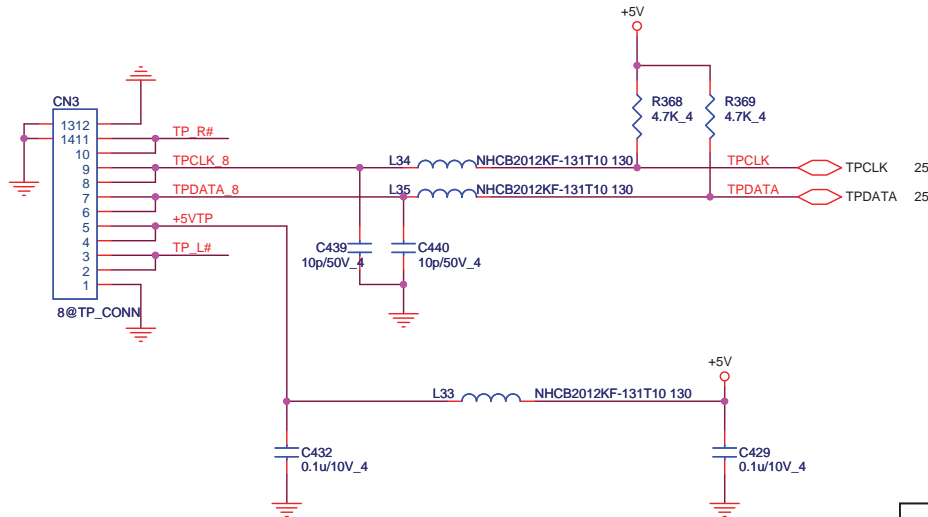
12" x 4

## 8.9" TOUCH PAD CONNECTOR



Rev. : B  
Swap pin2 & 3 for touch pad  
function fail .

Rev. : C  
SMT line suggest to change switch P/N



Quanta Computer Inc.

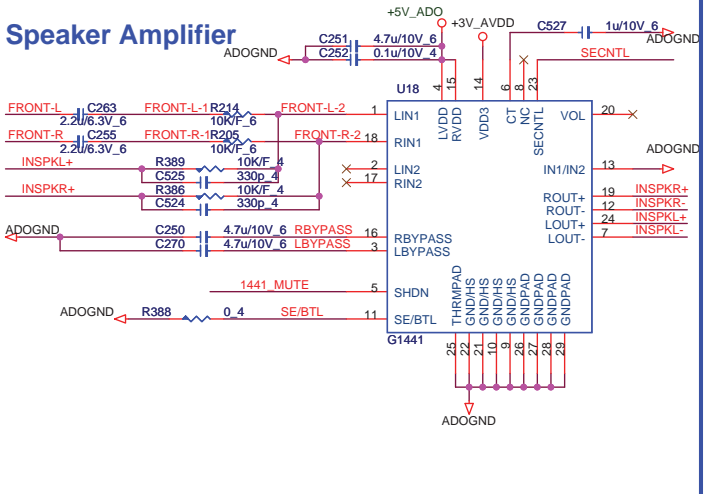
PROJECT : ZG5

Size	Document Number	Rev
	KB/TP/HOLE	1A

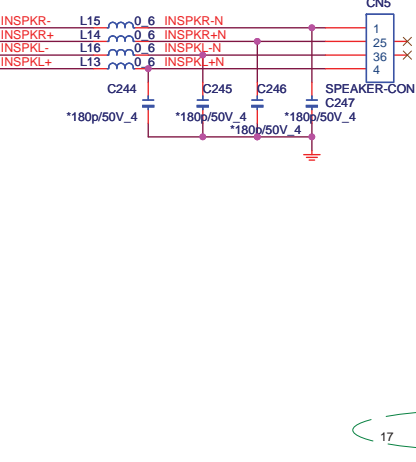
Date: Thursday, June 05, 2008 Sheet 18 of 34



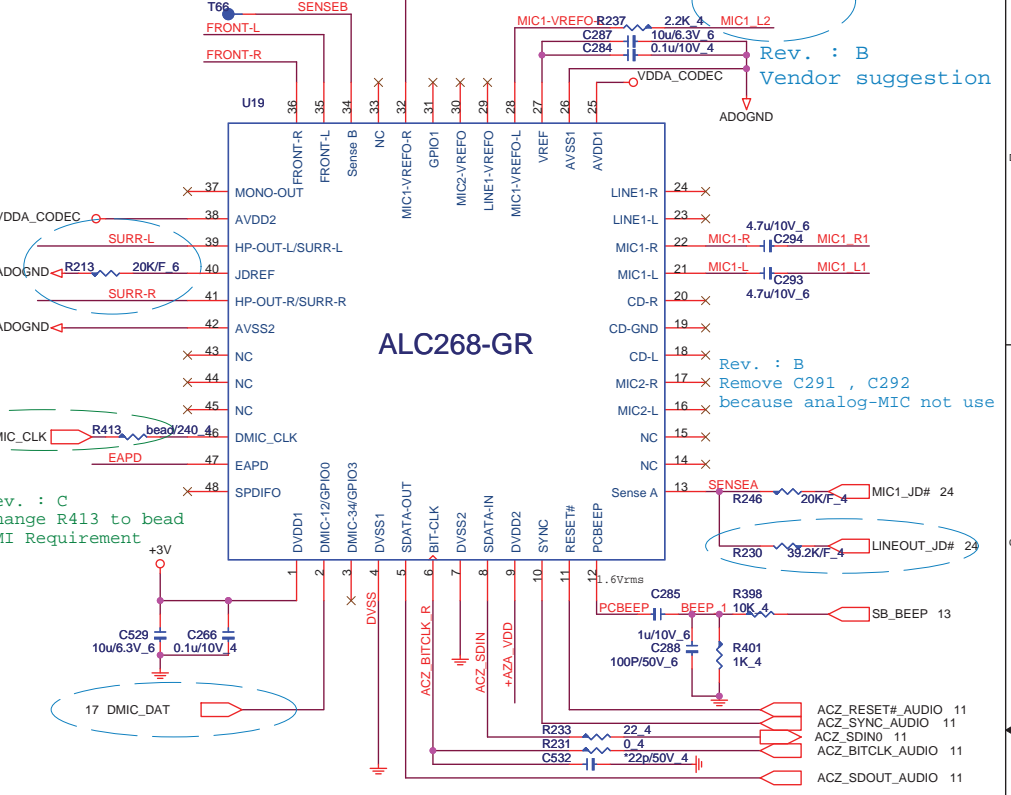
Speaker Amplifier



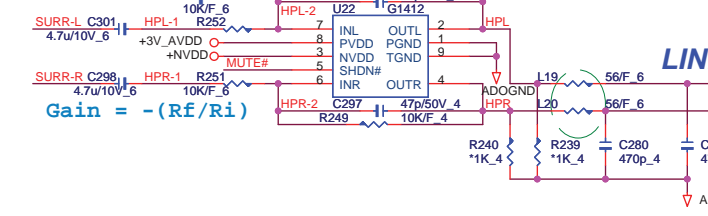
SPEAKER



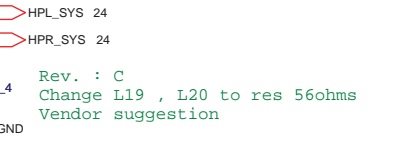
CODEC



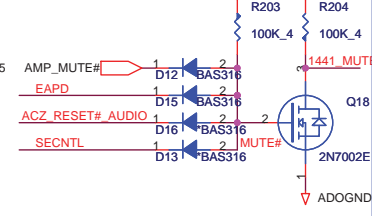
LINE OUT Amplifier



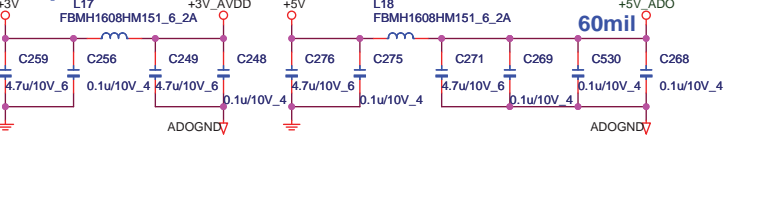
LINE OUT



MUTE



Amplifier POWER

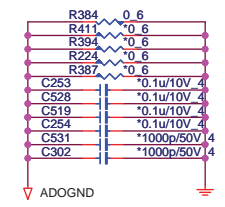


MDC

Rev. : B  
Remove CN9 , R26 , R22 , R297 ,  
R289 , C342 , C343 , C347

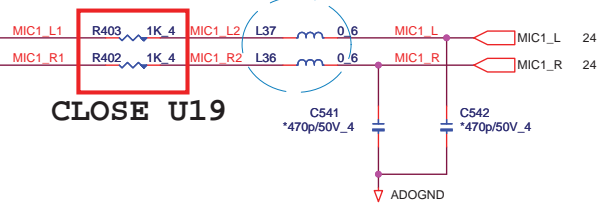
12.1" Audio Conn.

Rev. : B  
Remove CN22 , CN20 , CN24 , R208 , R211 ,  
R218 , R221 , R223 , R229 , C258 , C260 ,  
C264 , C265 , C267 , C274 , R235 , R236 ,  
R189 , C228 , R289



Tied at one point only  
under the codec or  
near the codec

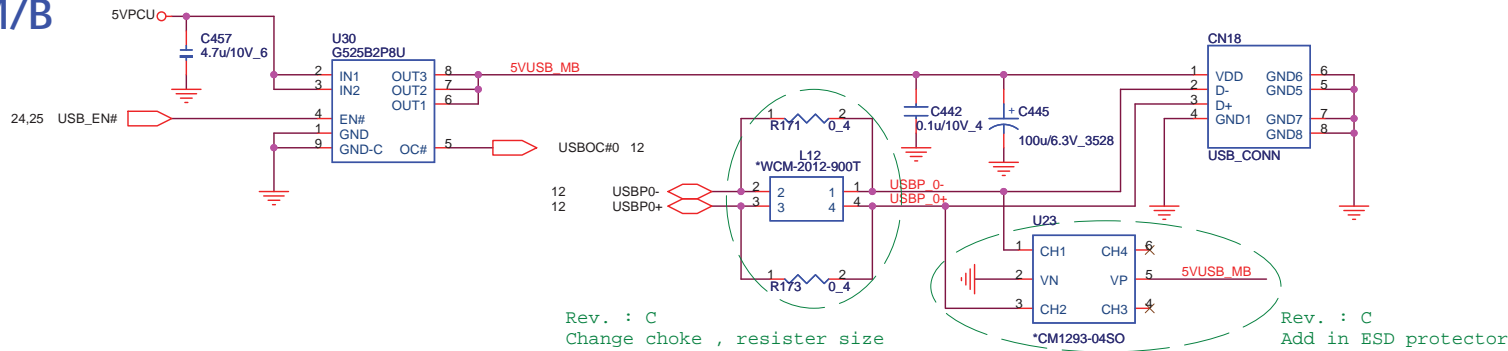
MICROPHONE



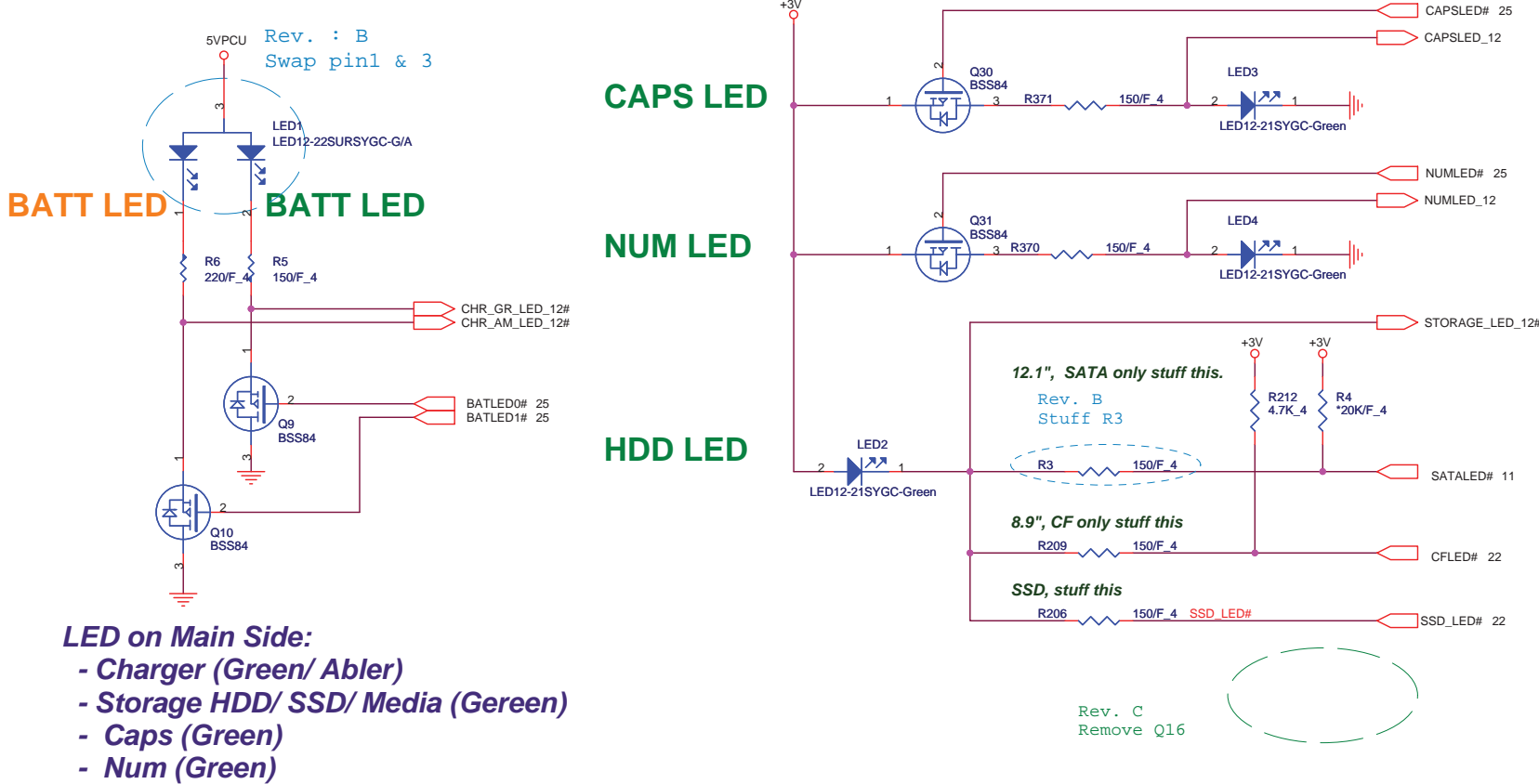
INT. MIC.

Rev. : B  
Remove R234 , R238 , C278  
for internal-MIC

# USB on M/B




# LED on M/B



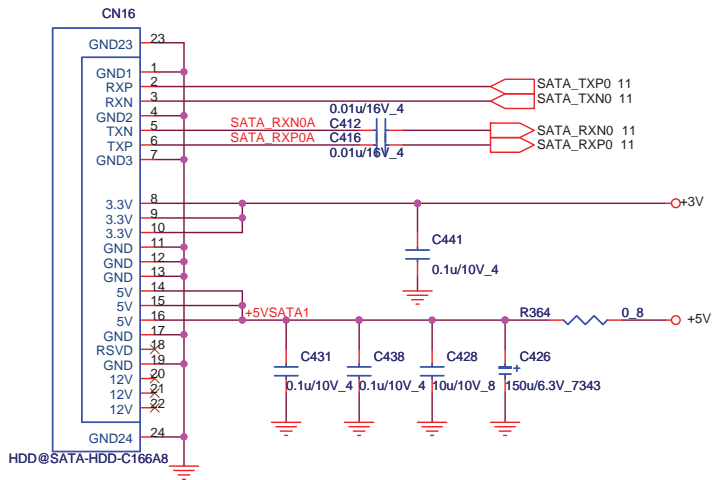
## LED on Main Side:

- Charger (Green/ Abler)
- Storage HDD/ SSD/ Media (Gereen)
- Caps (Green)
- Num (Green)

 <b>Quanta Computer Inc.</b> <b>PROJECT : ZG3</b>		Rev 1A
		Size Document Number
<b>USB on Board/LED</b>		
Date:	Thursday, June 05, 2008	Sheet 20 of 34



# SATA HDD

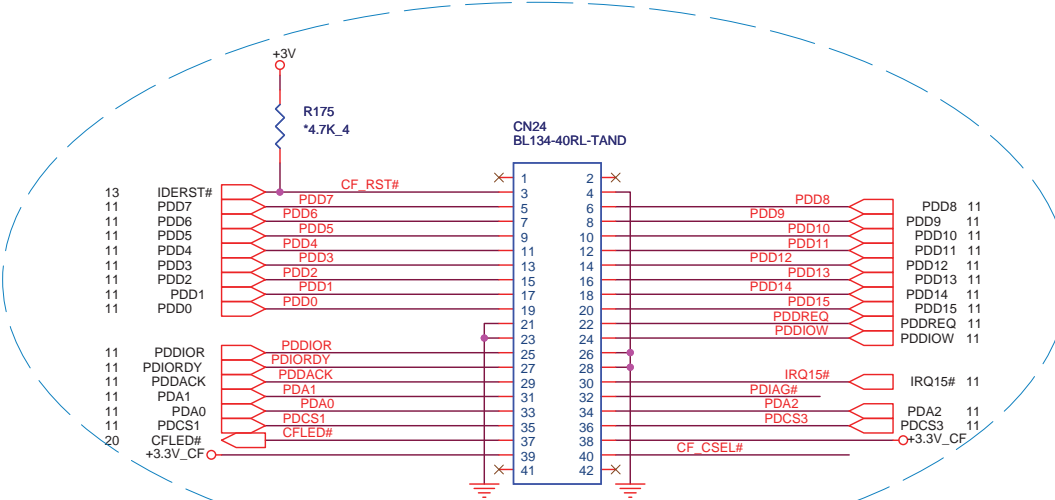


# SATA ODD

Rev. B  
Remove R191 , C240 , C229 , C237 , C235 , C230

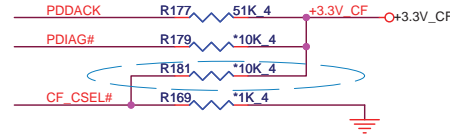
Rev. C  
Remove SATA ODD  
Delete C538 , C543 , R193 from BOM

# ZT4 card connector

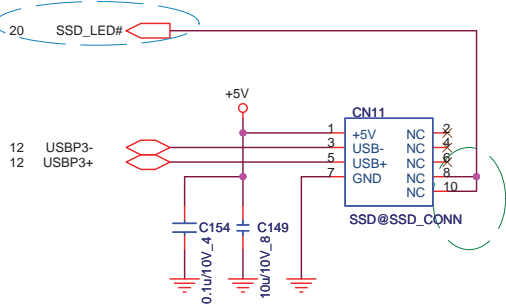
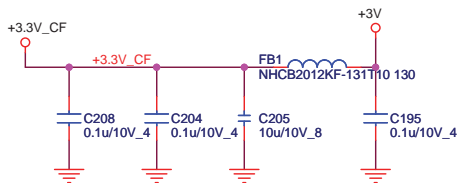


Rev. : B  
Change connector from CF(CN17) to ZIF(CN24)  
Change R172 from 33 to 0 ohms

# SSD connector



Rev. : B  
Change R169 to NA  
Remove R166 , R153 , R184 , R135 , R181, R170



Rev. : C  
Change pin 8 to low active  
pin8 for sandisk  
pin10 for intel



**Quanta Computer Inc.**  
**PROJECT : ZG3**

Size	Document Number	Rev
	<b>SATA-HDD/ODD/CF/SSD</b>	1A
Date:	Thursday, June 05, 2008	Sheet 22 of 34



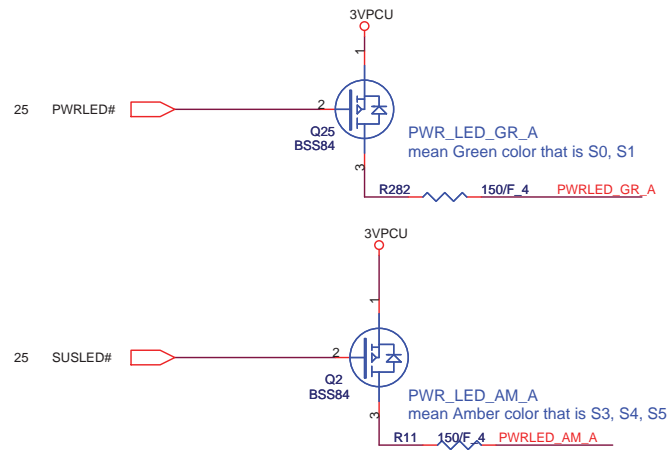


Rev. : B  
Remove RN43 , RN44

USB#1=> 8.9" (Left side) or 12.1" (Right-Front side)

## 12" USB/PWR BTN Board USB/LED Board

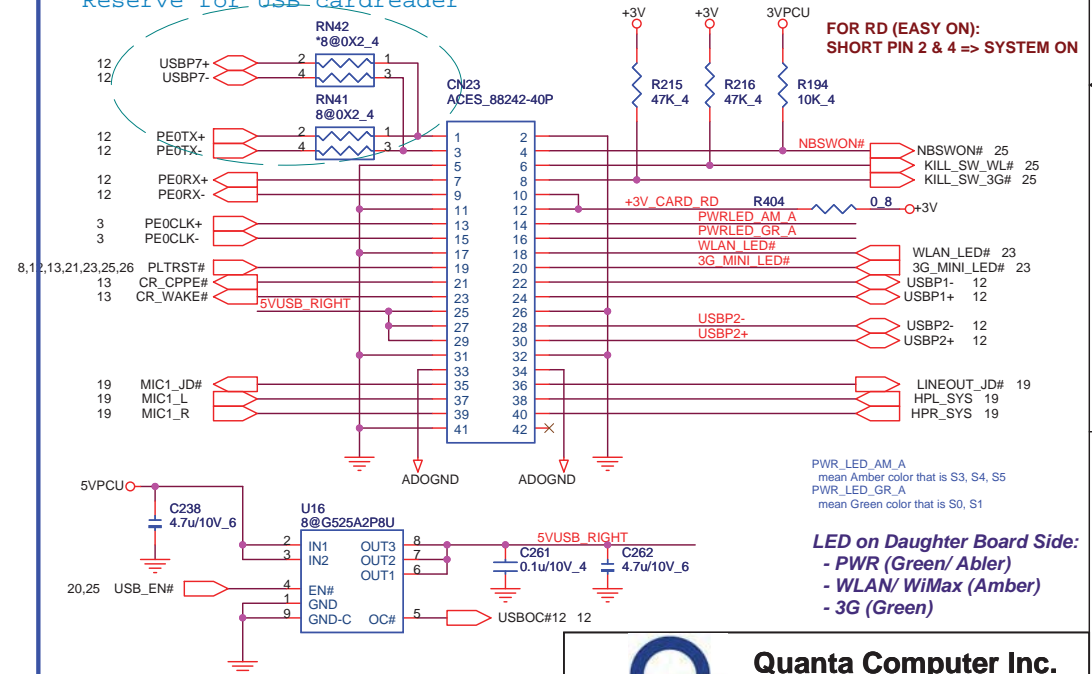
Rev. : B  
Remove CN7 , CN26 , U23 , U3 ,  
C286 , C300 , C75 ,C295



Rev. : B  
Remove WLAN & 3G LED driving transistor  
(Q19 , Q13 , R241 , R178)

## 8.9" Card-Reader / USB / Kill SW / POWER SW

Rev. : B  
Reserve for USB cardreader

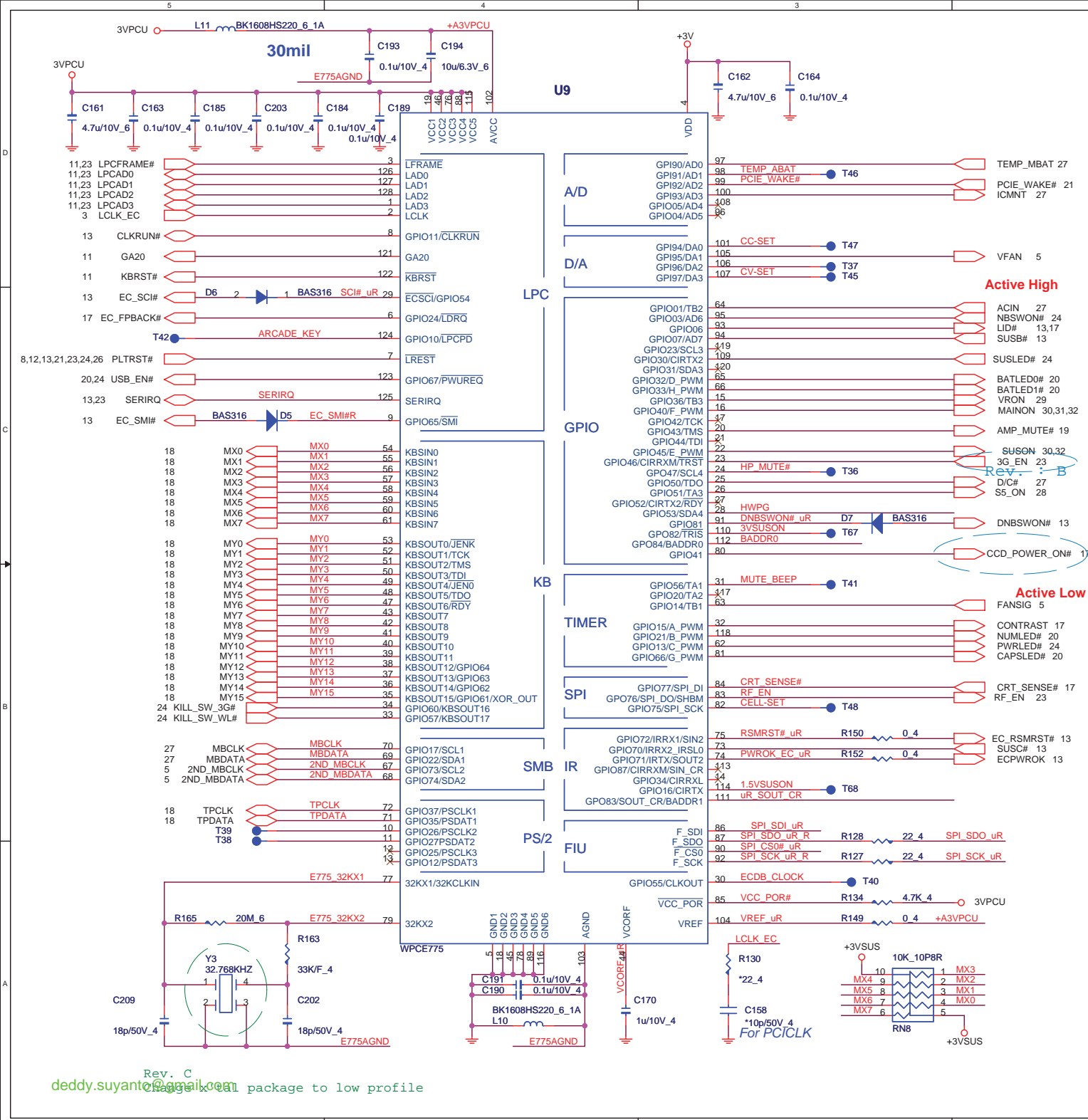


Quanta Computer Inc.

PROJECT : ZG3

Size	Document Number	Rev
	PCle-Cardreader/External-USB	1A

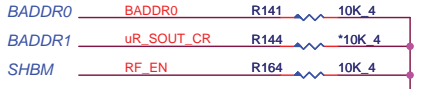
Date: Thursday, June 05, 2008 Sheet 24 of 34



I/O ADDRESS SETTING

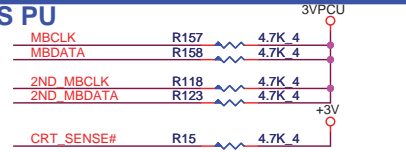
I/O Address		
BADDR1-0	Index	Data
0 0	XOR TREE TEST MODE	
0 1	CORE DEFINED	
1 0	2Eh	2Fh
1 1	164Eh	164Fh

SHBM=0: Enable shared memory with host BIOS

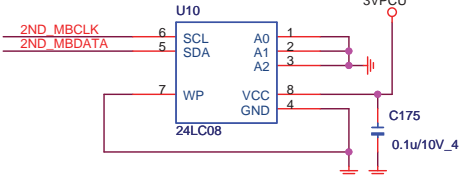


1/13 Confirm by vendor mail :  
Disabled (\*1) if using FW device on LPC.  
Enabled (0) if using SPI flash for both system BIOS and EC firmware

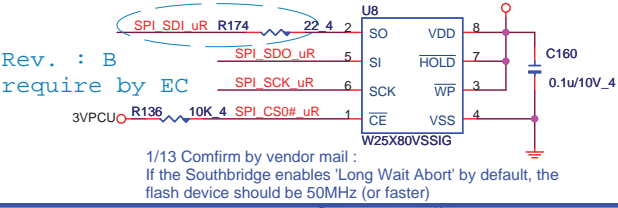
SM BUS PU



ACER ID



SPI FLASH




1/13 Confirm 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

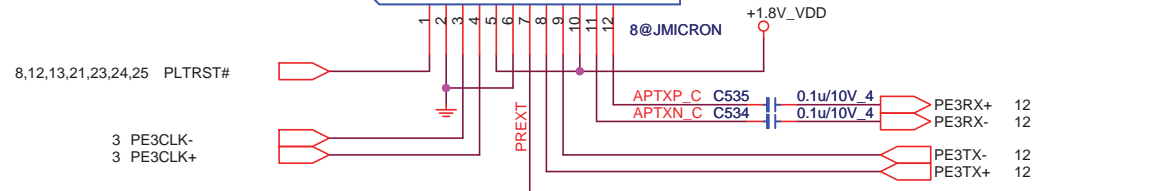
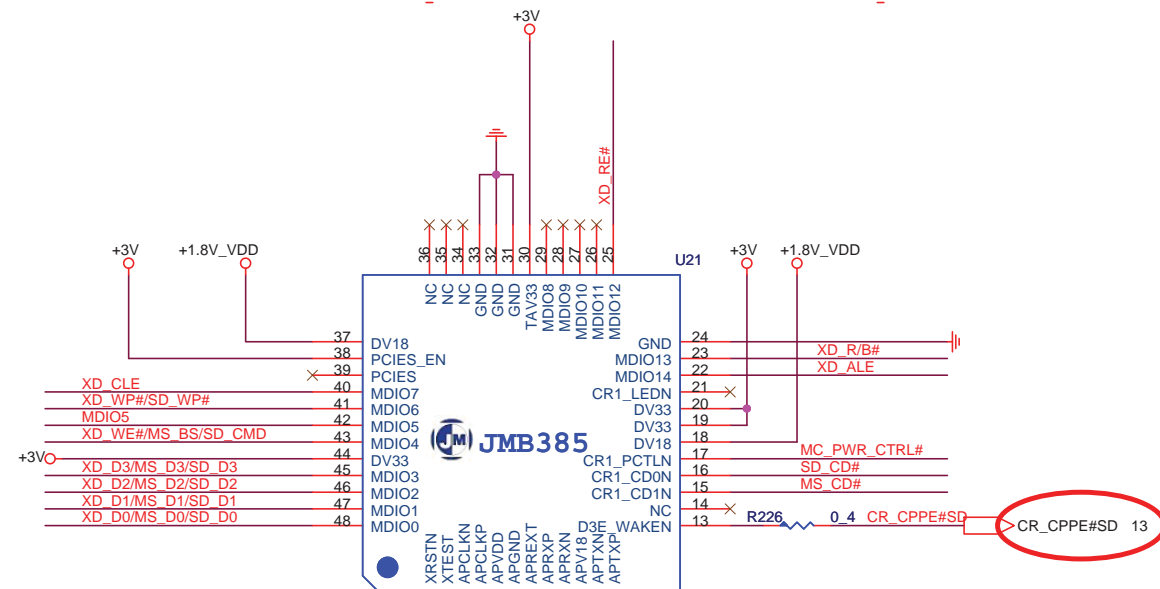
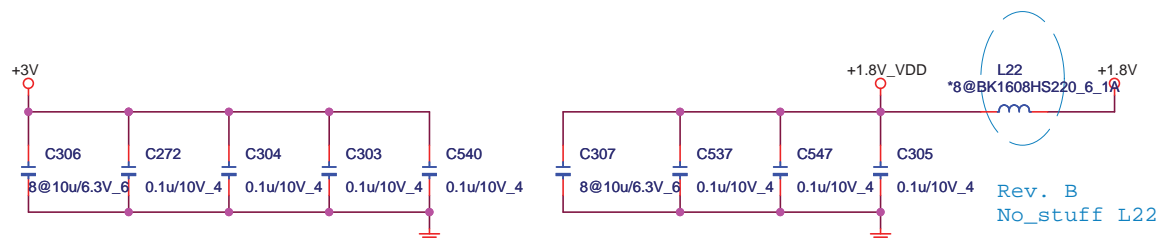




**Quanta Computer Inc.**

**PROJECT : ZG5**

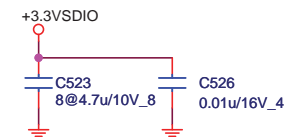
Size	Document Number	Rev
	<b>WPCE775C_0DG &amp; FLASH</b>	<b>1A</b>
Date:	Thursday, June 05, 2008	Sheet 25 of 34



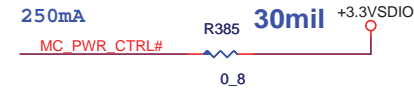
APVDD(pin5) must put C601/1000pF close to APVDD(pin5) (length must under 120mil) and trace width = 20mil, after C601, pls put one more 0.1uF for it.

deddy.suyanto@gmail.com

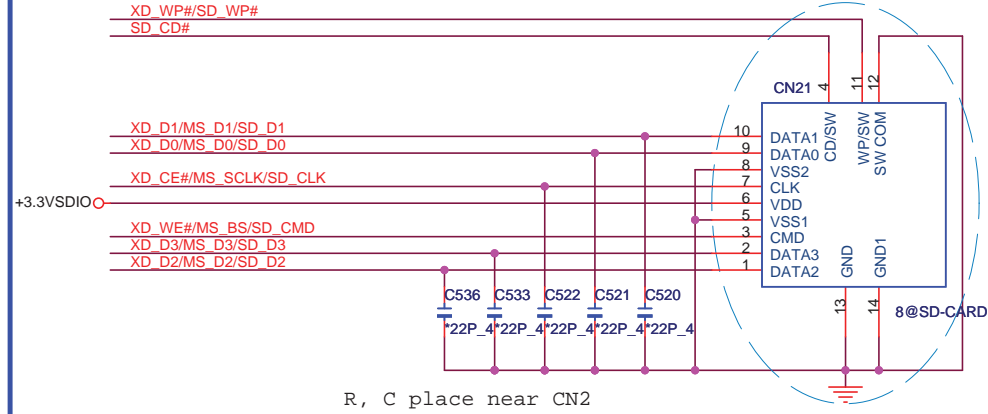
## Memory Card Power Supply



Use 0805 type and over 20 mils trace width on both side



## SD CONNDETOR



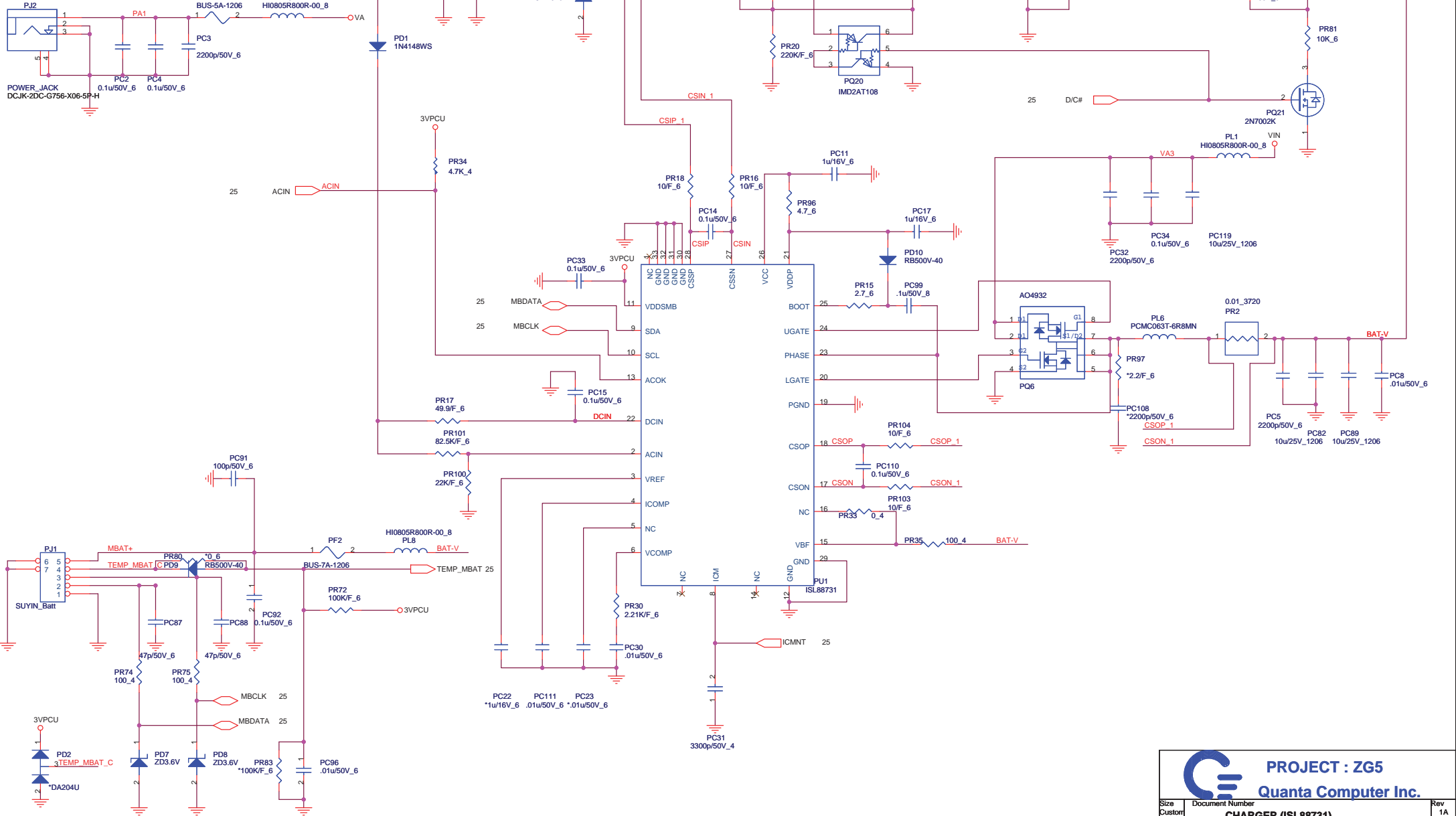
Rev. : B  
Swap pin & change conn. P/N

**Quanta Computer Inc.**  
PROJECT : ZG5

Size	Document Number	Rev
	<b>JMB385 SIDO</b>	1A
Date:	Thursday, June 05, 2008	Sheet 26 of 34

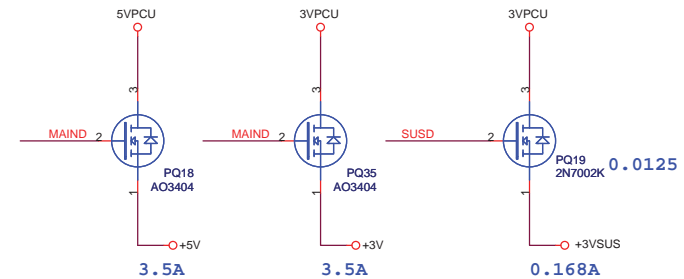
# DC-IN JACK


65W Yellow DFPJ05MR007



```
PR148 mount 10_6 ( CS01003J953 )
PC126 mount 0.1uF ( CH4104K9B03 )
PR151 mount 0_6 ( CS00003J951 )
```

PC126 mount 1u/6.3V\_4 ( CH5101K9B01 )

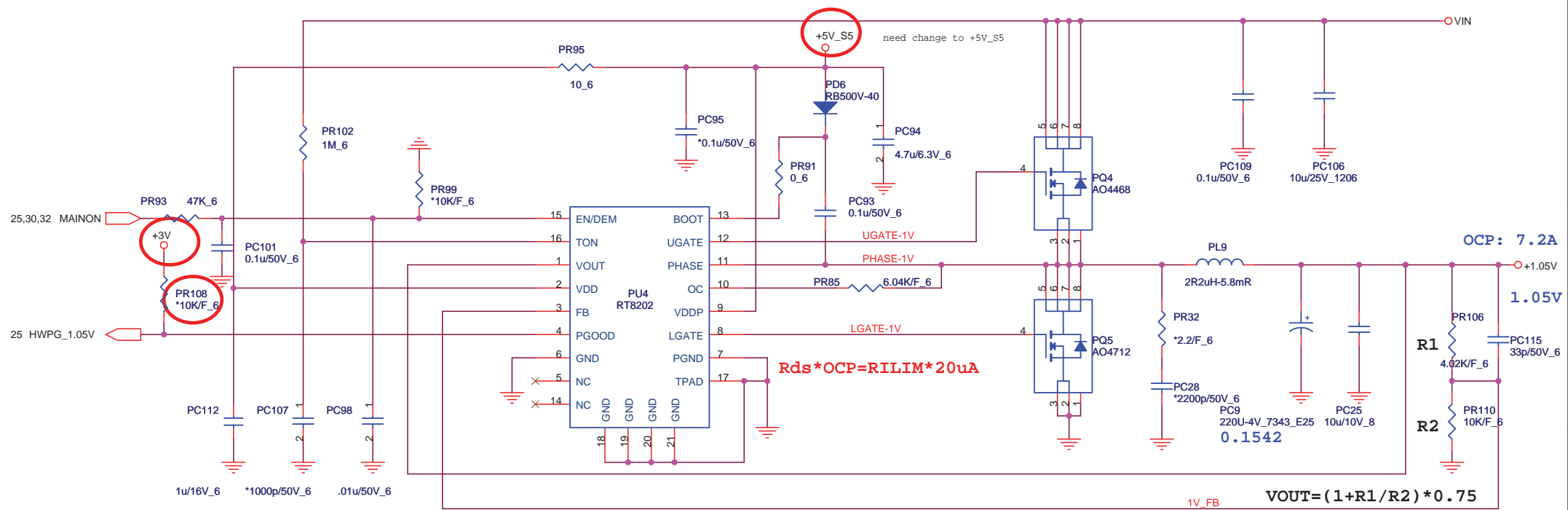


 <div style="text-align: right;"> <b>PROJECT : ZG5</b>  <b>Quanta Computer Inc.</b> </div>	
Size	Document Number
<b>SYSTEM 5V/3V (ISL6237)</b>	
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$$TON = 3.85p * R_{TON} * V_{out} / (V_{in} - 0.5)$$

$$Frequency = V_{out} / (V_{in} * TON)$$

$$TON = 3.85p * 1M * 1 / (V_{in} - 0.5)$$

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


AO4712  $R_{dson} = 15 \sim 18m\Omega$

OCP = 7.2 - 0.8A

$$L(\text{ripple current}) = (19 - 1.05) * 1.05 / (2.2u * 272k * 19) \sim 1.63A$$

$$18m * 7 = RILIM * 20uA$$

$$RILIM = 6K(2.5 \sim 8K)$$

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## B test change list

Page 27 : Change PQ6 to BAM49320000  
Page 28 : Change PR134 to CS41963F916  
Page 28 : Change PD3 to BCBAV99W022  
Page 28 : Change PC73 , PC75 to CH73301M8B9  
Page 28 : Change PQ10 to BAM49320000  
Page 28 : Change PQ11 to BAM47120000  
Page 28 : Change PQ12 to BAM44680003  
Page 29 : Change PQ1 to BAM49320000  
Page 29 : Change PC103 , PC116 to CH7330LM8812  
Page 30 : Change PR65 to CS-5103F916  
Page 30 : Change PR66 to CS31433B917  
Page 30 : Change PC67 , PC72 to CH5101K9B01  
Page 30 : Change PQ16 to BAM47100000  
Page 30 : Change PQ17 to BAM44680003  
Page 30 : Change PU3 to AL051116008  
Page 31 : Change PQ4 to BAM44680003  
Page 31 : Change PQ5 to BAM47120000  
Page 32 : Change PQ7 to BAM44660000

## C test change list

Page 28 : Change PL3 , PL4 footprint to CDRH104R-zg5  
Page 28 : Add layout location PR151  
Page 29 : Change PU5 footprint to qfn40-6X6-5-41p-0\_9h-zg5  
Page 30 : Add layout location PR149 , PR150

## D test change list


Page 28 : Change PR55 to CS41152FB08  
Page 28 : Add PD11 Component

M/B sku 2 : Change PU7 to RT8206 (AL008206000)

Change PU3 to RT8207 (AL008207000)

Add PR147 620K/F\_6 (CS46202FB00)

Page 27 : Del PR84 0\_6  
Page 29 : Del PR3 , PR78 , PR8 , PR79 , PR88 , PR13 , PR92 0\_4  
Page 32 : Del PR118 0\_4

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