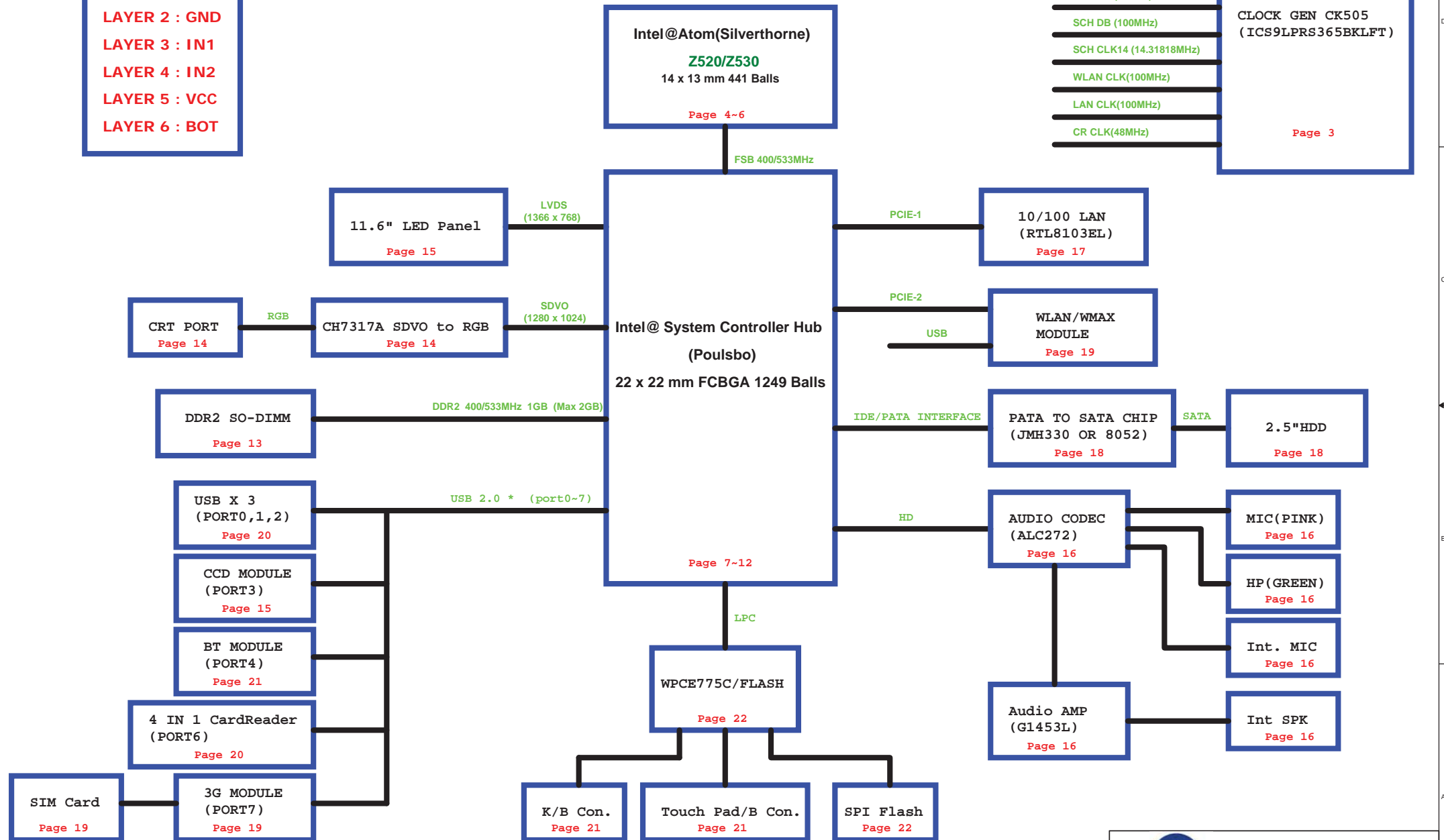


ZA5 PCB STACK UP

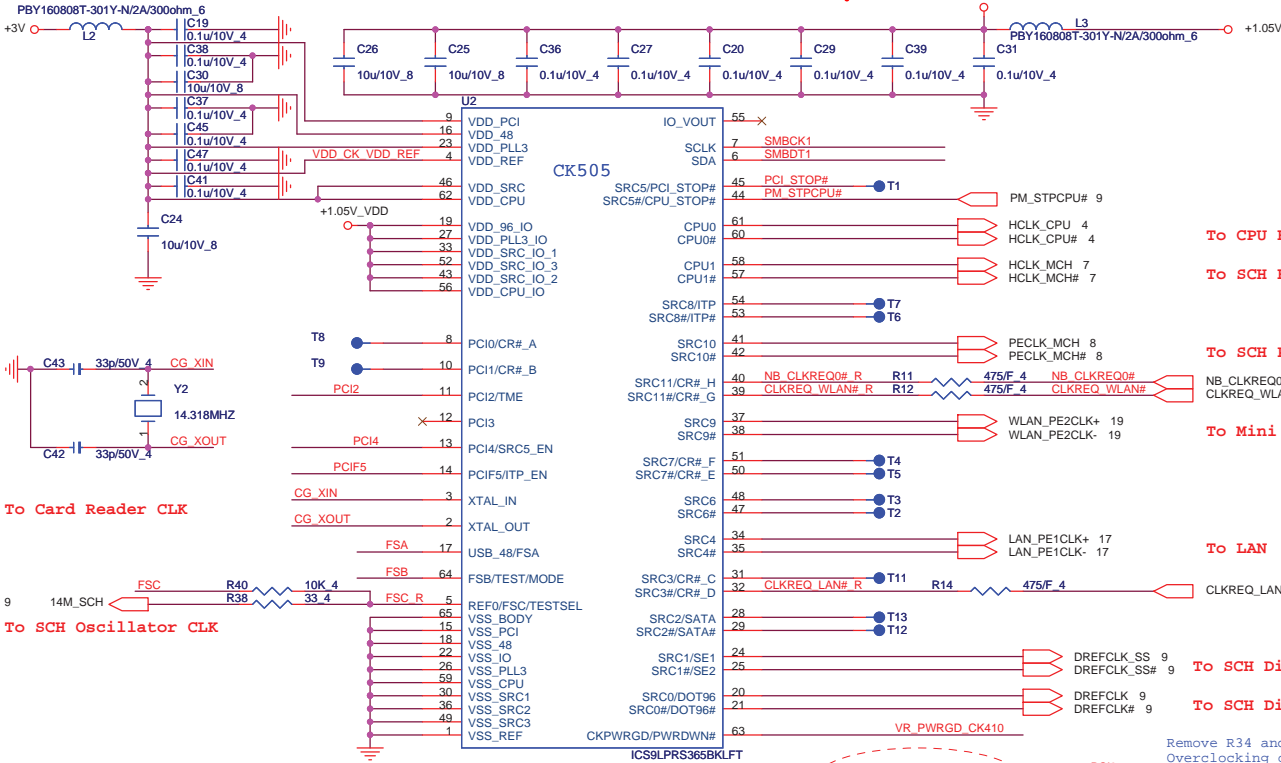
LAYER 1 : TOP
LAYER 2 : GND
LAYER 3 : IN1
LAYER 4 : IN2
LAYER 5 : VCC
LAYER 6 : BOT

ZA5(11.6") Block Diagram



Clock Generator(CLK)

http://hobi-elektronika.net



To Card Reader CLK

To SCH Oscillator CLK

To CPU FSB CLK

To SCH FSB CLK

To SCH PCIE CLK

To Mini Card 1 (WLAN/WMAX)

To LAN

To SCH Display PLLB CLK

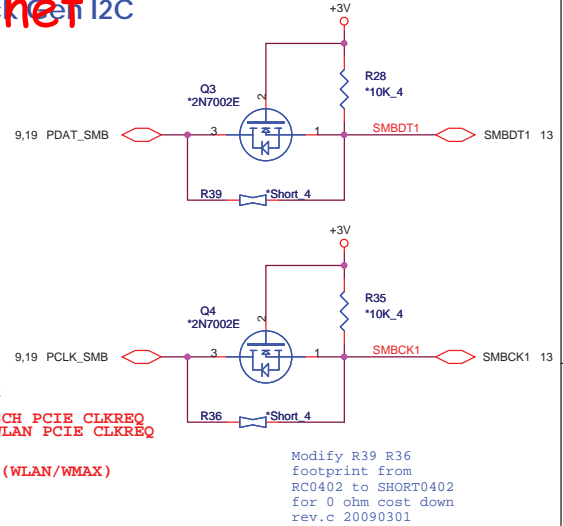
To SCH Display PLLA CLK

Remove R34 and stuff R33 (enable Overclocking of CPU and SRC)

	SLG8SP513VTR (AL8SP513000)	ICS9LPRS365 (ALPRS365000)	PULL HIGH	PULL DOWN
Pin 11	PCI2/TME	PCI2/TME	NO OVERCLOCKING (default)	NORMAL RUN
Pin 13	PCI4/27_Select	PCI4/SEL_LCDCLK#	PIN 24/25 IS 27MHz	PIN 24/25 IS SRC/DOT (default)
Pin 14	PCIF-5/ITP_EN	PCIF-5/ITP_EN	PIN 53/54 IS CPUITP	PIN 53/54 IS SRC8 (default)

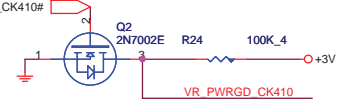
<MAIN> : SLG8SP513VTR(AL8SP513000)
<SECOND> : ICS9LPRS365BKLT(ALPRS365000)

	SEL2	SEL1	SEL0	Frequence select			
FD_SELECT	FSB	FSB	FSA	CPU	SRC	PCI	States
1	1	0	1	100	100	33	
0	0	0	1	133	100	33	Default



EMI

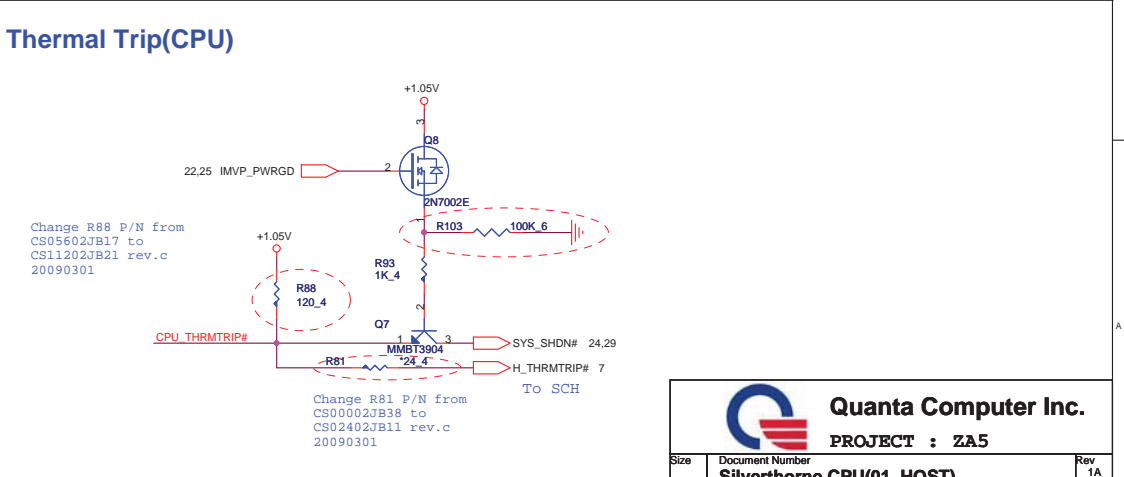
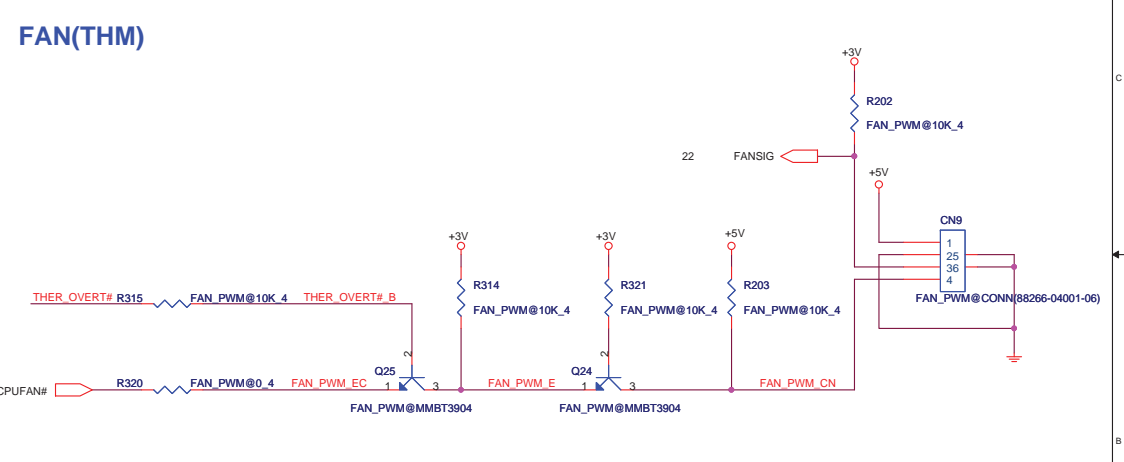
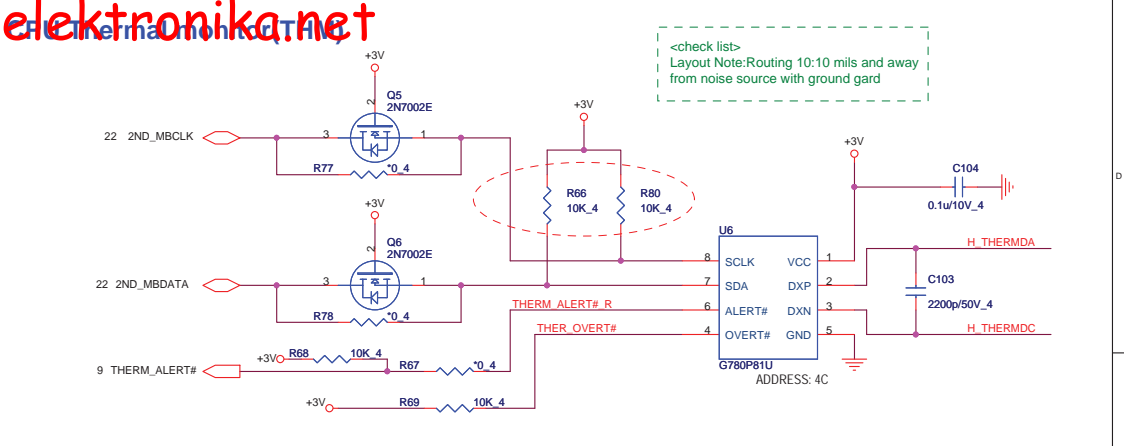
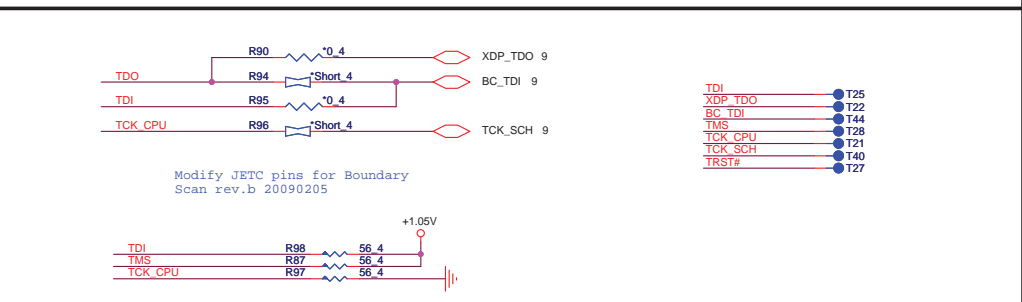
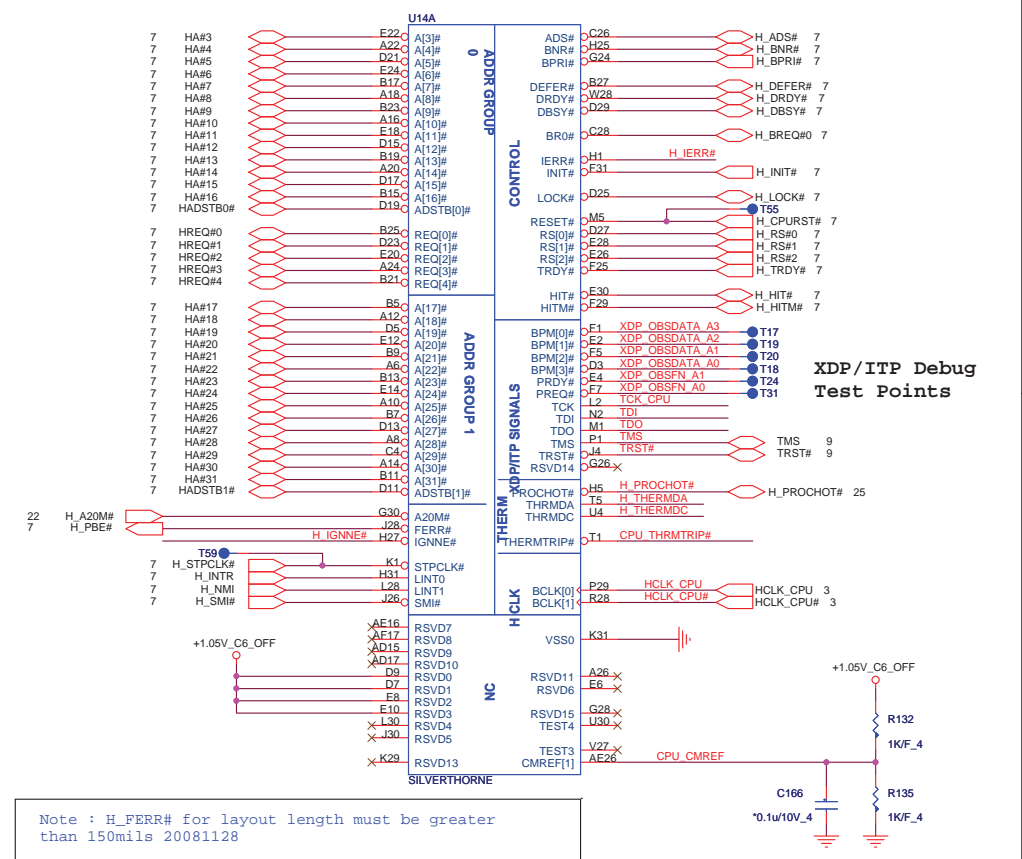
CLK GEN & PWR




Add R353 R354 for EC control FSB/DDR rev.d 20090323

Silverthorne(CPU)

http://hobi-elektronika.net





Quanta Computer Inc.

PROJECT : ZA5

Size

Document Number

Rev

Silverthorne CPU(01_HOST)

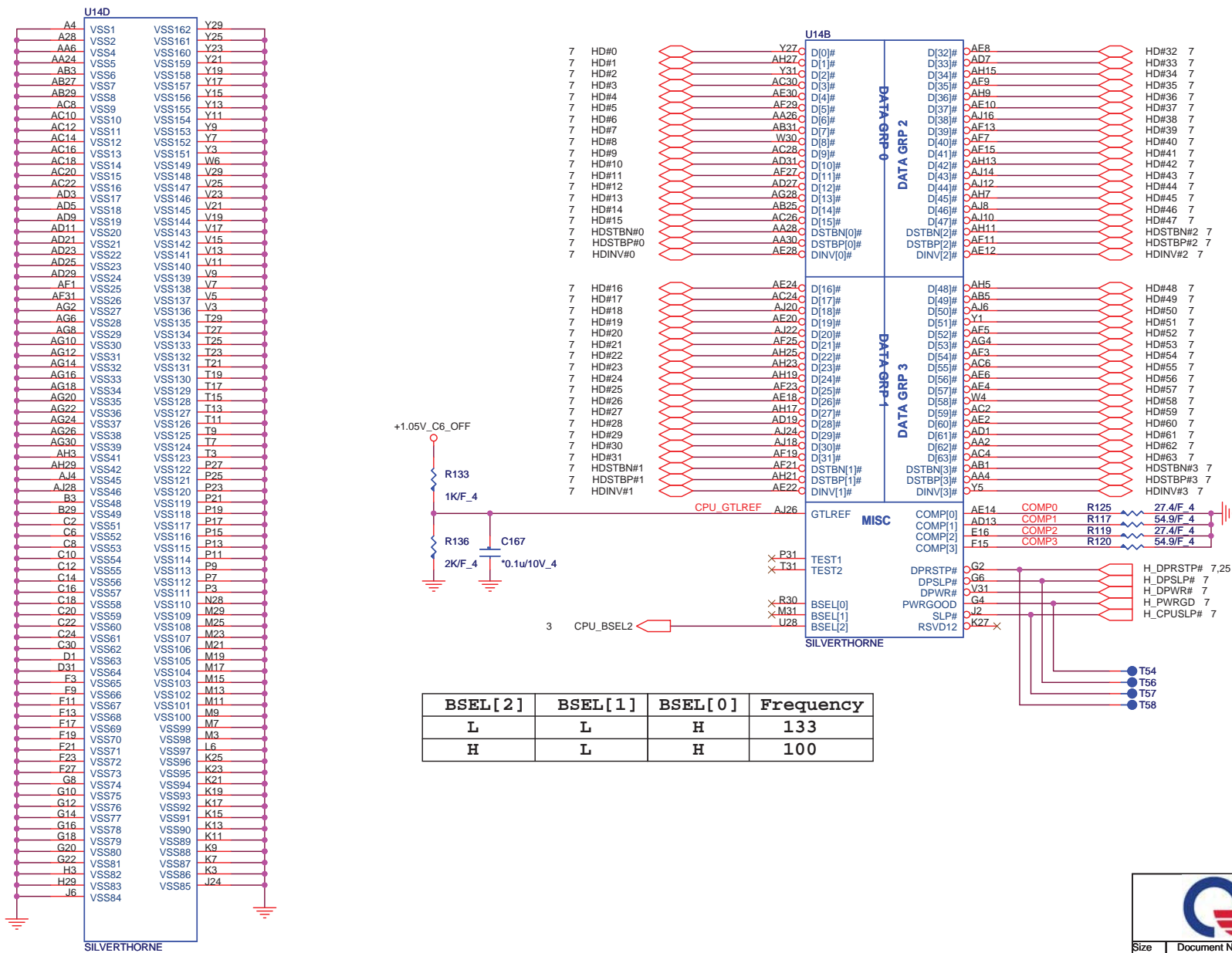
1A


Date: Thursday, April 09, 2009

Sheet 4 of 35

Silverthorne(CPU)

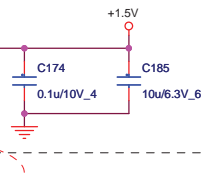
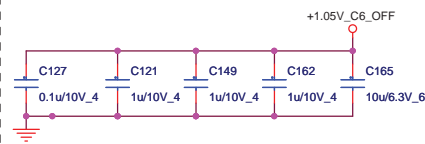
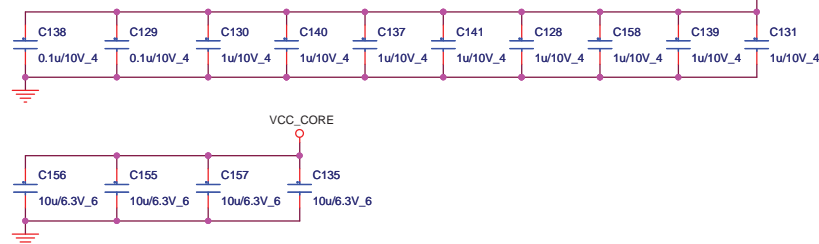
http://hobi-elektronika.net





Quanta Computer Inc.
PROJECT : ZA5

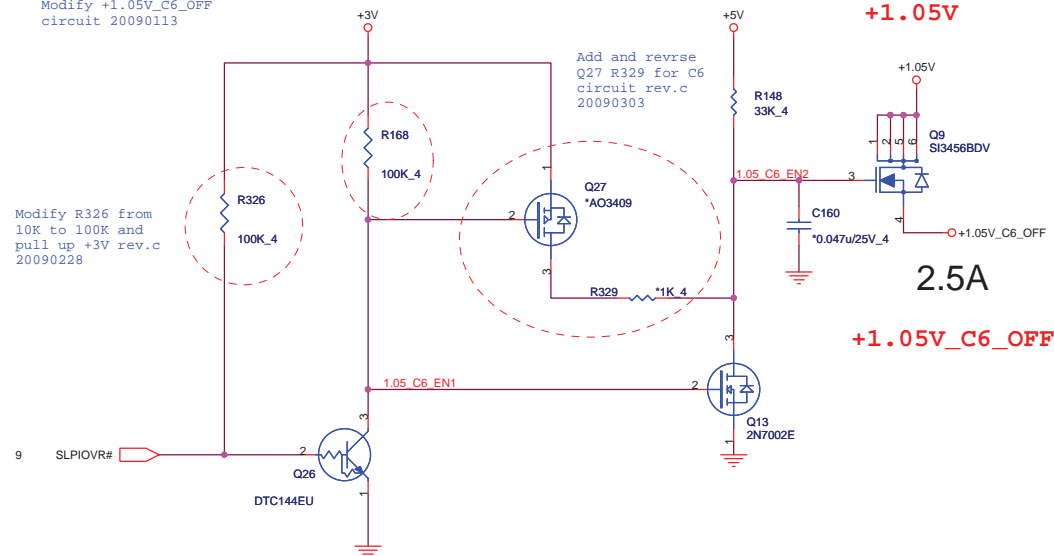
Size	Document Number	Rev
	Silverthorne CPU(02_HOST)	1A
Date:	Thursday, April 09, 2009	Sheet 5 of 35



Modify R168 P/N
from CS31002JB28
to CS41002JB20
rev.c 20090228

Modify +1.05V_C6_OFF
circuit 20090113

Modify R326 from
10K to 100K and
pull up +3V rev.c
20090228



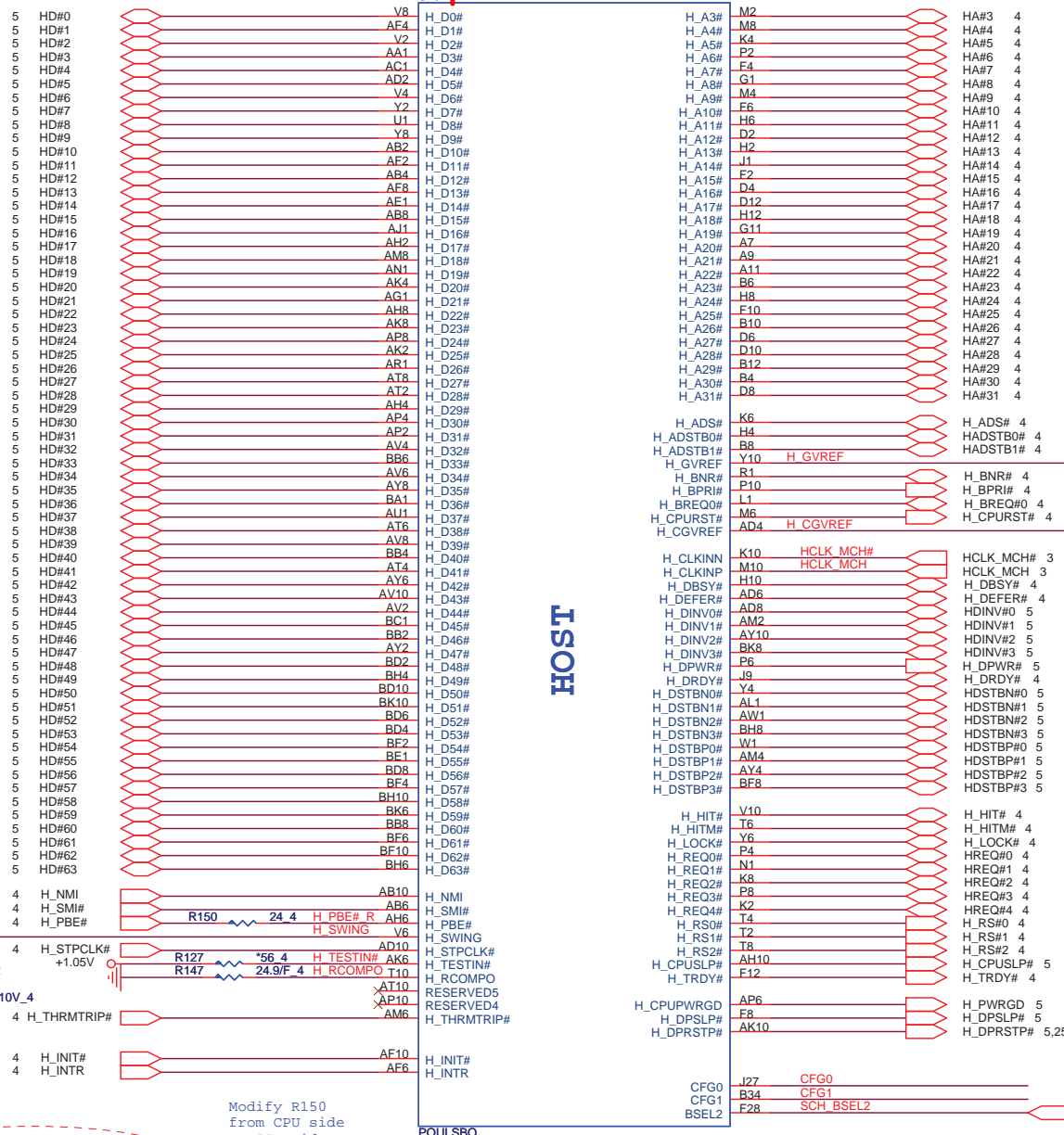
PROJECT : ZA5

Size	Document Number
	Silverthorne CPU(03_Power)


Date: Thursday, April 09, 2009

Sheet 6 of 35

Rev
1A

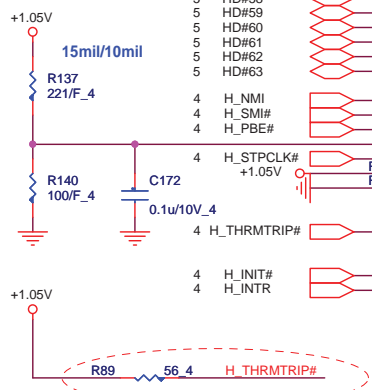


FD_SELECT	CFG0	FSB/GFX
0	1	133/200
1	0	100/200

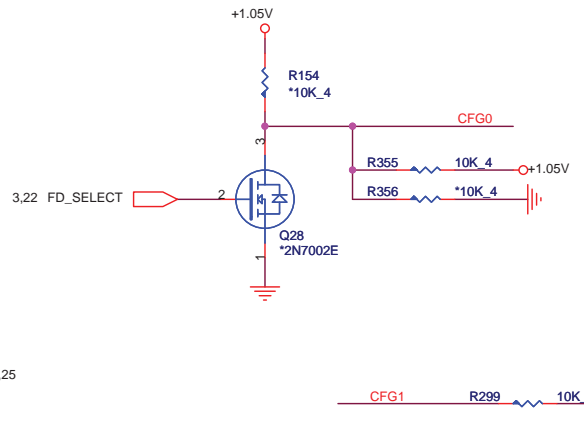


Quanta Computer Inc.
PROJECT : ZA5

Size	Document Number	Rev
	Poulsbo(01_HOST)	1A
Date:	Thursday, April 09, 2009	Sheet 7 of 35



Modify R150
from CPU side
to SCH side
rev.c
20090301

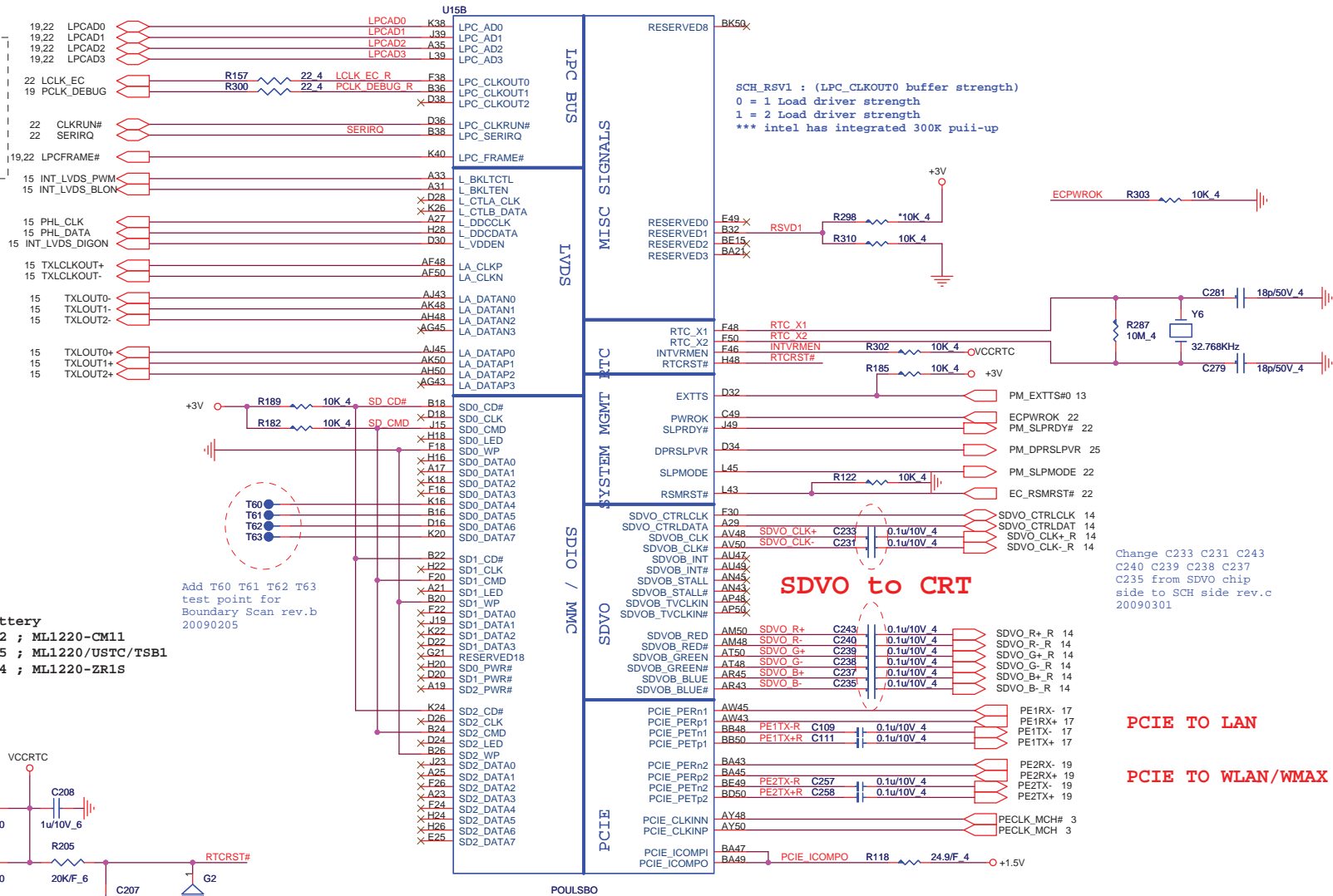
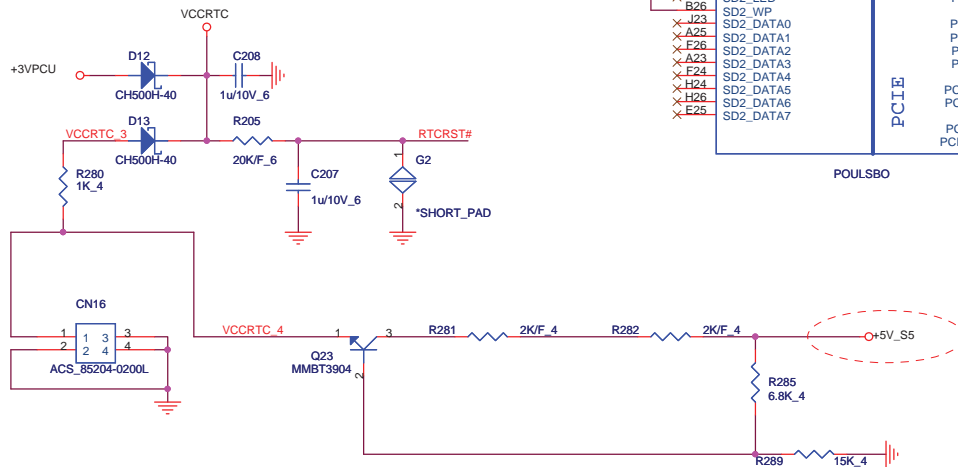


R	Value	Unit	Label
R311	10K	4	CLKRUN#
R312	10K	4	SERIRQ
R294	10K	4	PHL CLK
R293	10K	4	PHL DATA
R333	20K	4	LPCAD0
R334	20K	4	LPCAD1
R335	20K	4	LPCAD2
R336	20K	4	LPCAD3

EMI

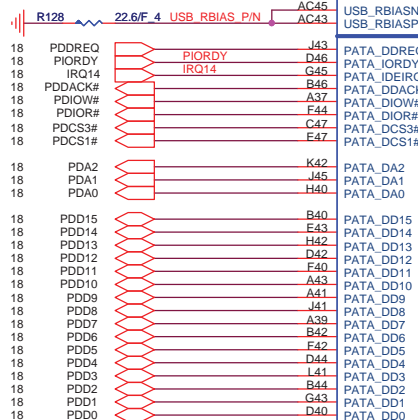
C192 | *22p/50V_4 LCLK_EC

RTC(RTC)

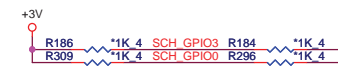


PCIE TO WLAN/WMAX


```
0--MB USB PORT1
1--MB USB PORT2
2--DB USB PORT3
3--CCD Module
4--BT Module
5--MINI WLAN/WMAX
6--CARD READER
7--MINI 3G Module
```

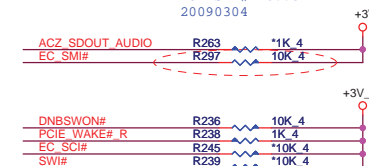
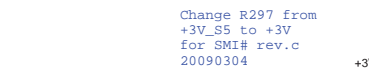
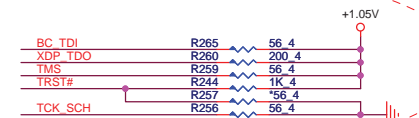
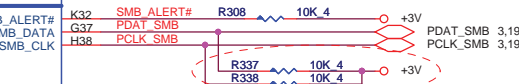
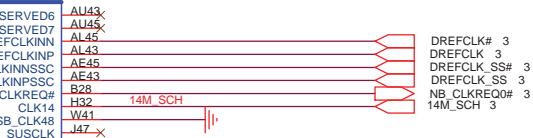
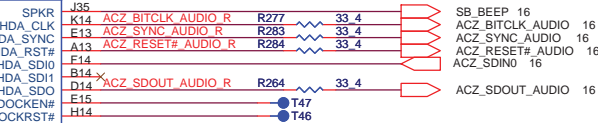
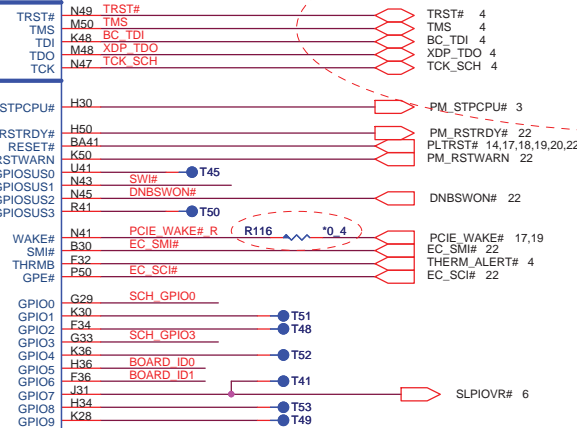
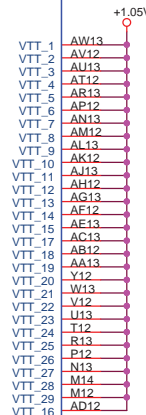


ID0	ID1	Functions
0	0	
0	1	SCH DPST Function
1	0	
1	1	



GPIO3	GPIO0	CMC Base Add
0	0	FFFB000h
0	1	FFFC000h
1	0	FFFD000h(*)
1	1	FFFE000h

* : Default



For intel suggest add R295 pull
down 20081218

clock
S Clock

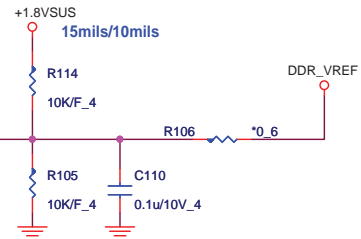
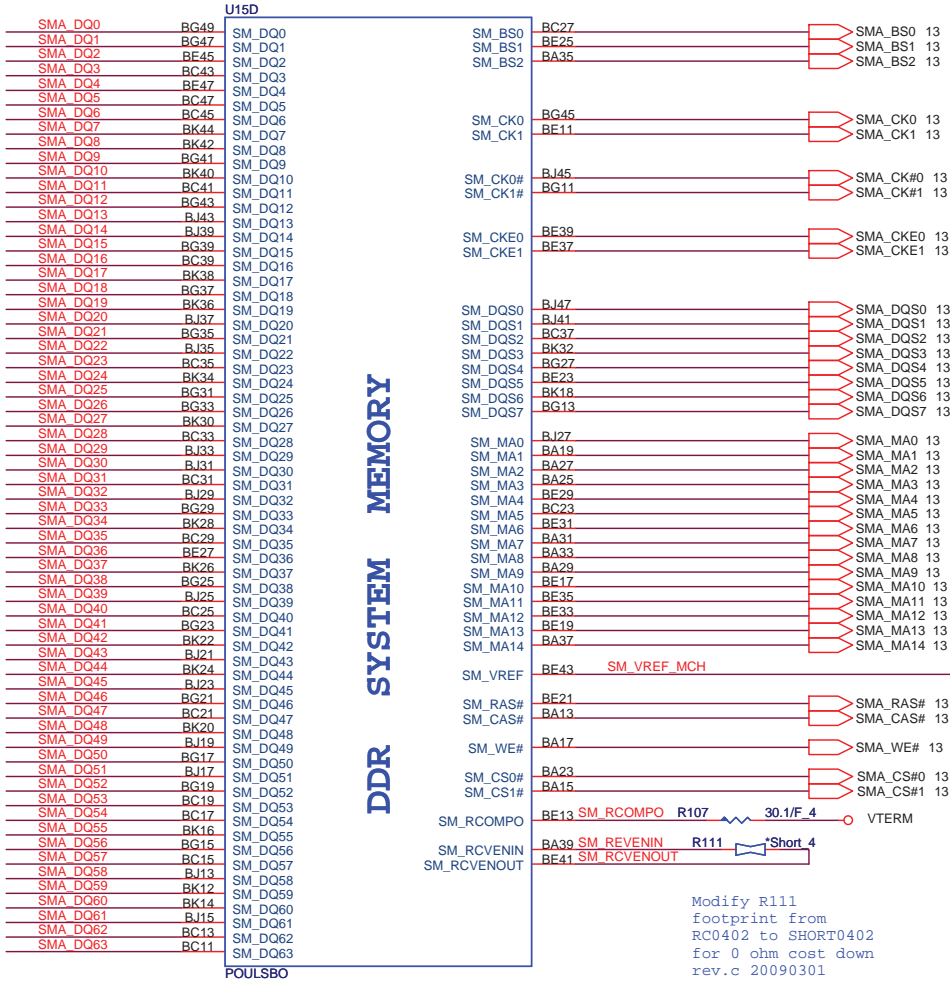


Quanta Computer Inc.

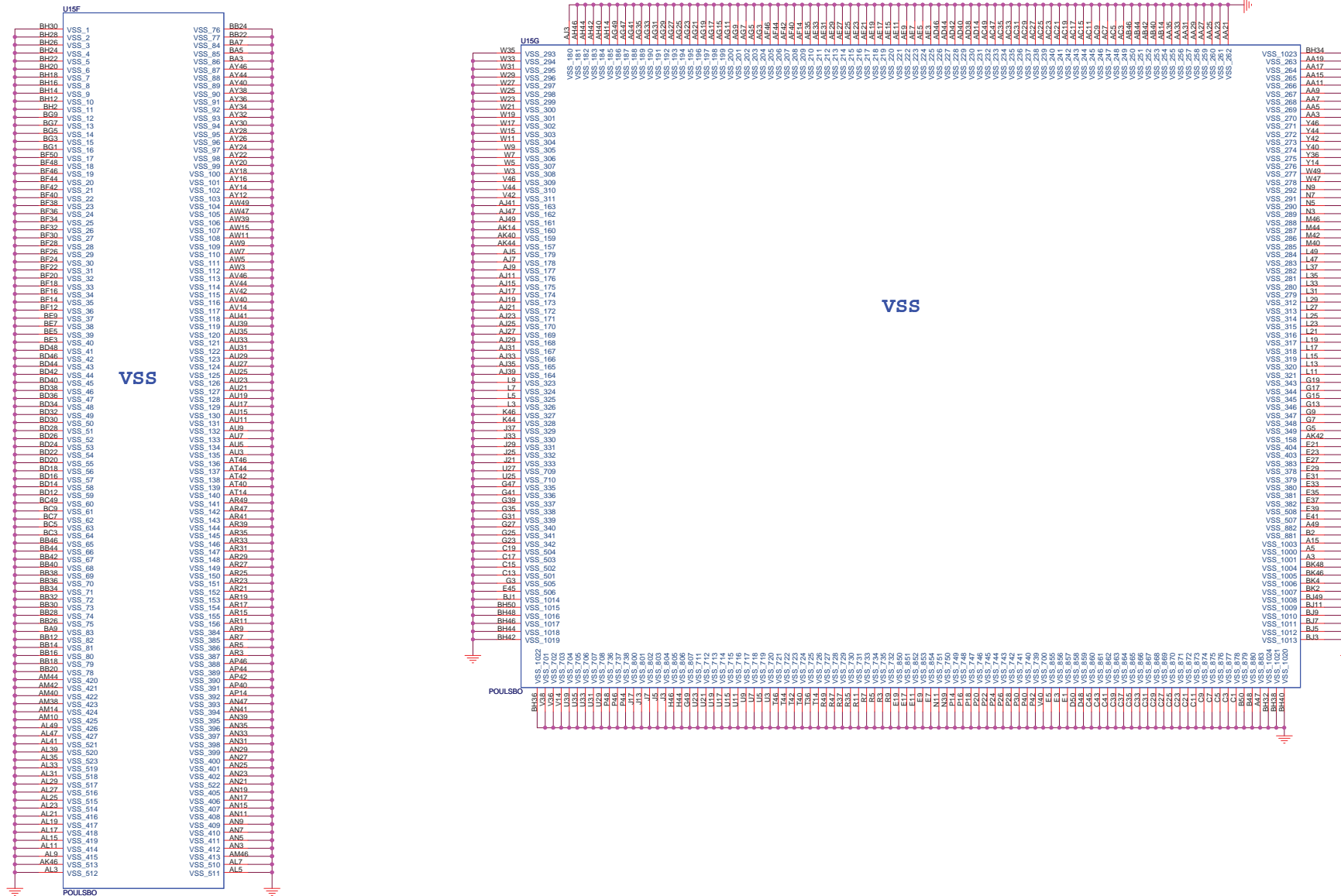
PROJECT : ZA5

Size	Document Number Poulsbo(03_USB/PATA/HD)	Rev 1A
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13 SMA_DQ[63..0]

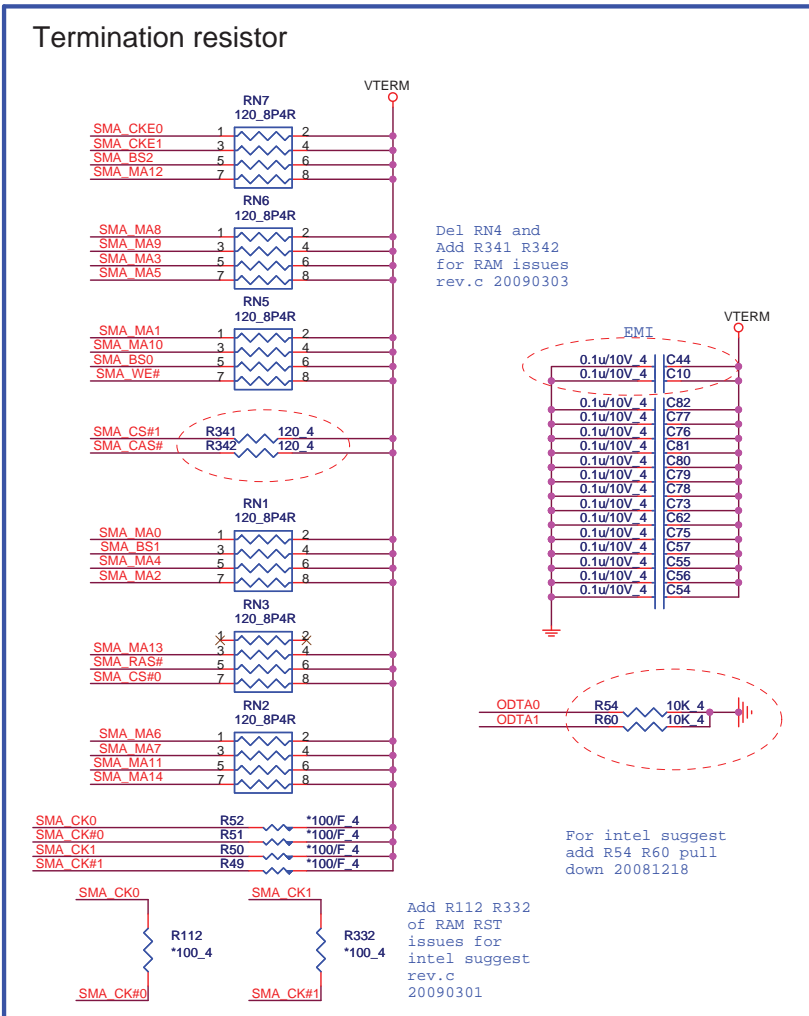
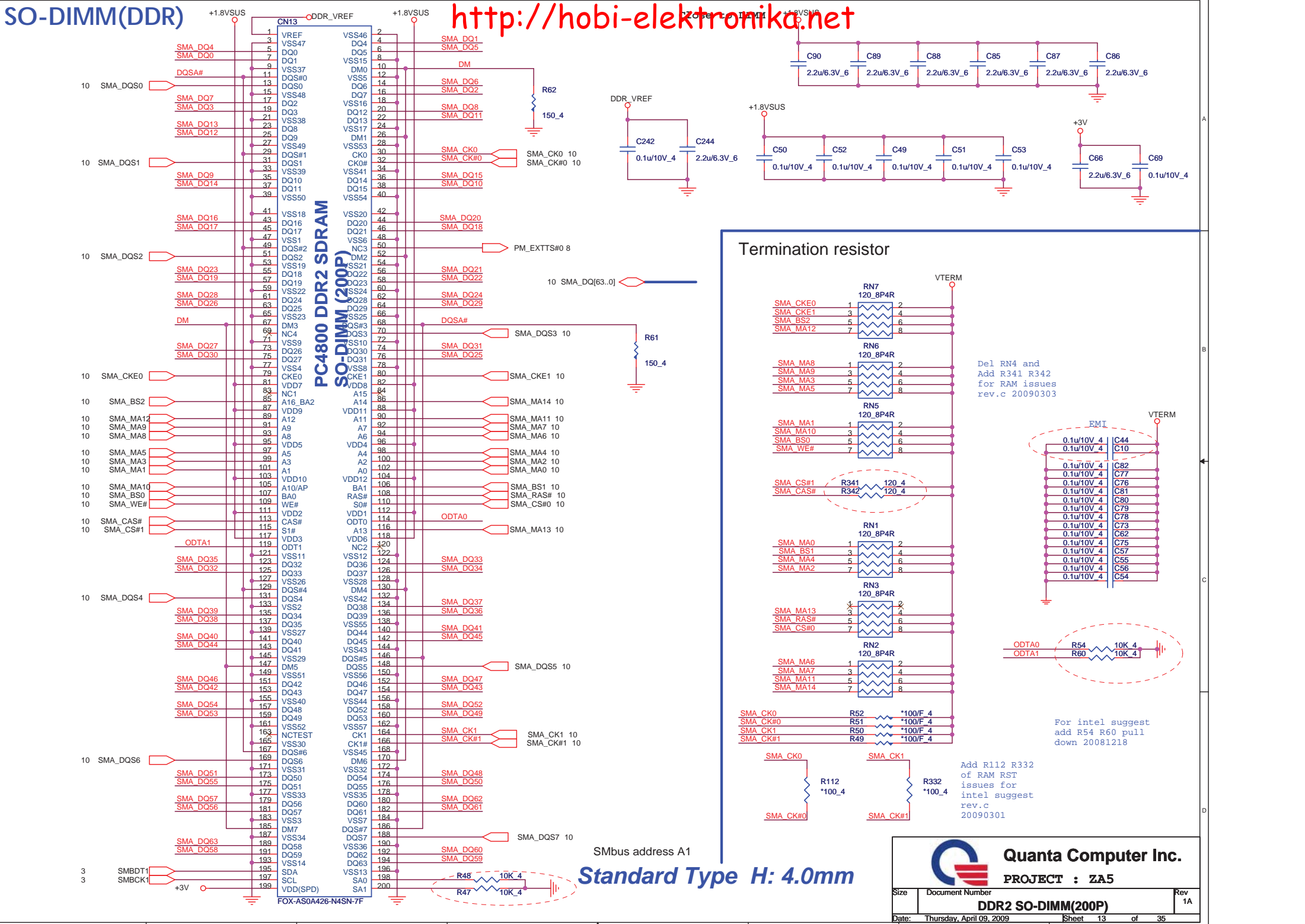


Modify R111
footprint from
RC0402 to SHORT0402
for 0 ohm cost down
rev.c 20090301



SO-DIMM(DDR)

<http://hobi-elektronika.net>

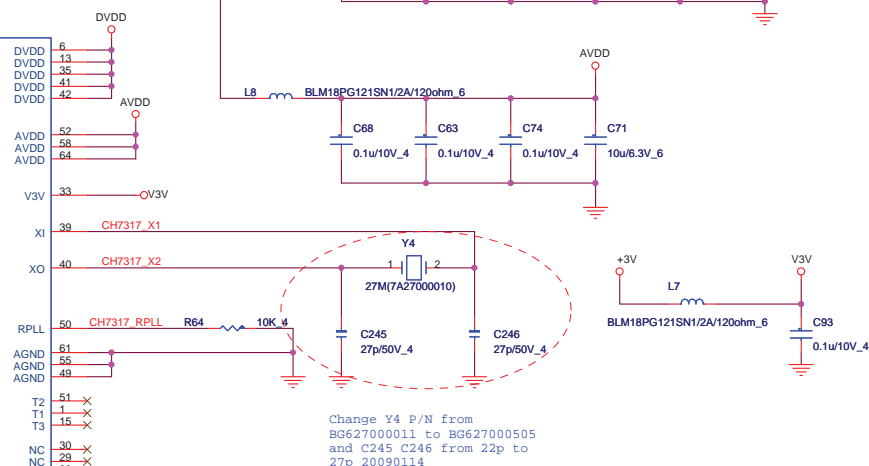


Quanta Computer Inc.
PROJECT : ZA5

Size Document Number
DDR2 SO-DIMM(200P)
Rev 1A

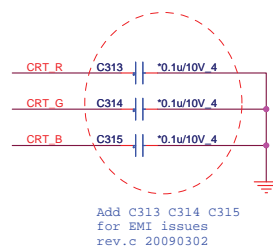
Date: Thursday, April 09, 2009 Sheet 13 of 35

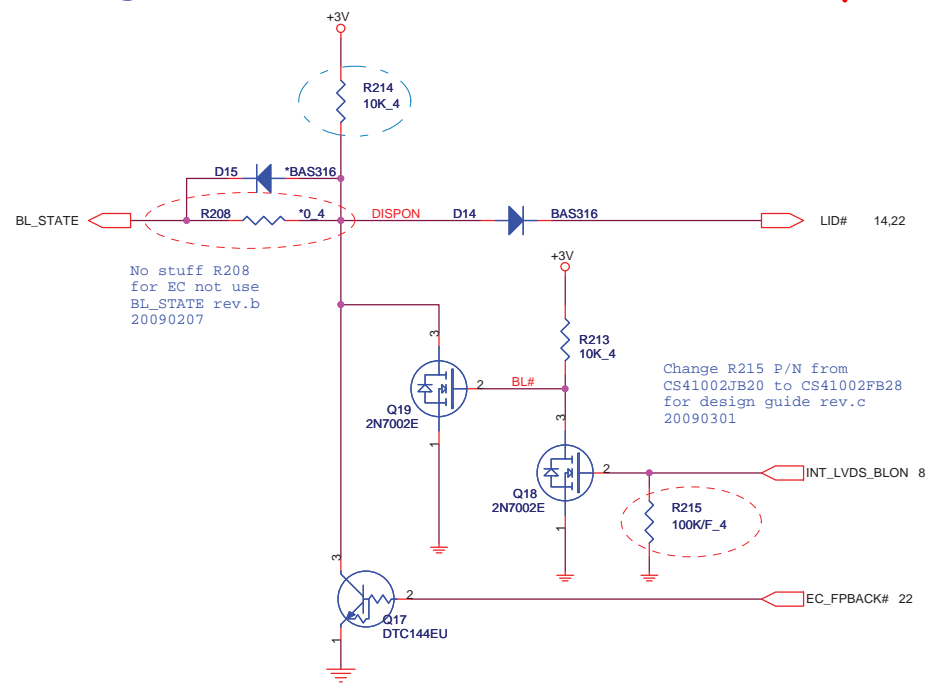
<http://hobi-elektronika.net>



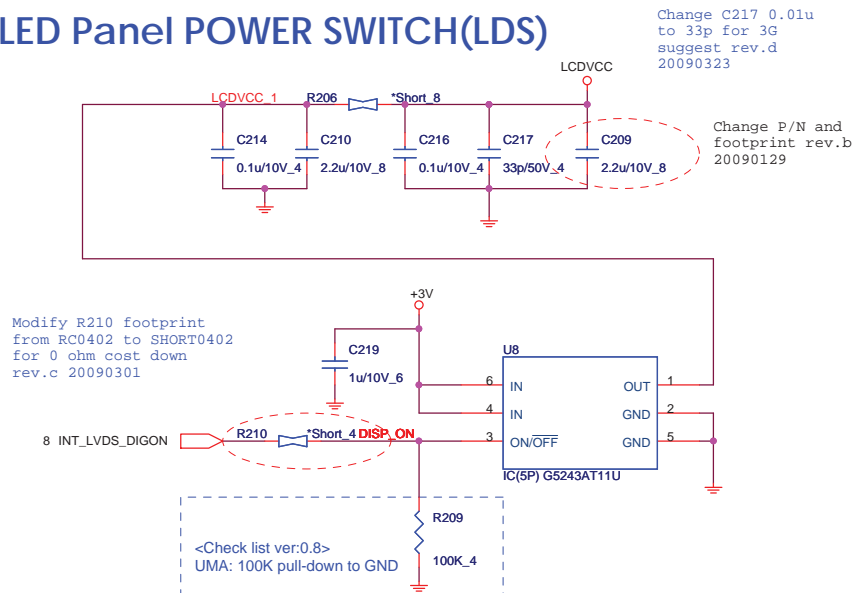
The diagram shows a vertical connector with 24 pins. The pin numbers are listed on the left side of the connector. The functions for each pin are listed on the right side:

- Pin 1: CRT_R
- Pin 2: CRT_G
- Pin 3: (unlabeled)
- Pin 4: (unlabeled)
- Pin 5: CRT_B
- Pin 6: V_GA_VSYNC
- Pin 7: (unlabeled)
- Pin 8: V_GA_HSYNC
- Pin 9: DDCCLK
- Pin 10: (unlabeled)
- Pin 11: DDCDATA
- Pin 12: (unlabeled)
- Pin 13: +5V
- Pin 14: CRT_SENSE#
- Pin 15: NBSWON#
- Pin 16: SATA_LED#
- Pin 17: CAPSLED#
- Pin 18: NUMLED#
- Pin 19: SUSLED#
- Pin 20: +3V
- Pin 21: PWRLED#
- Pin 22: LID#
- Pin 23: +3VPCU
- Pin 24: (unlabeled)



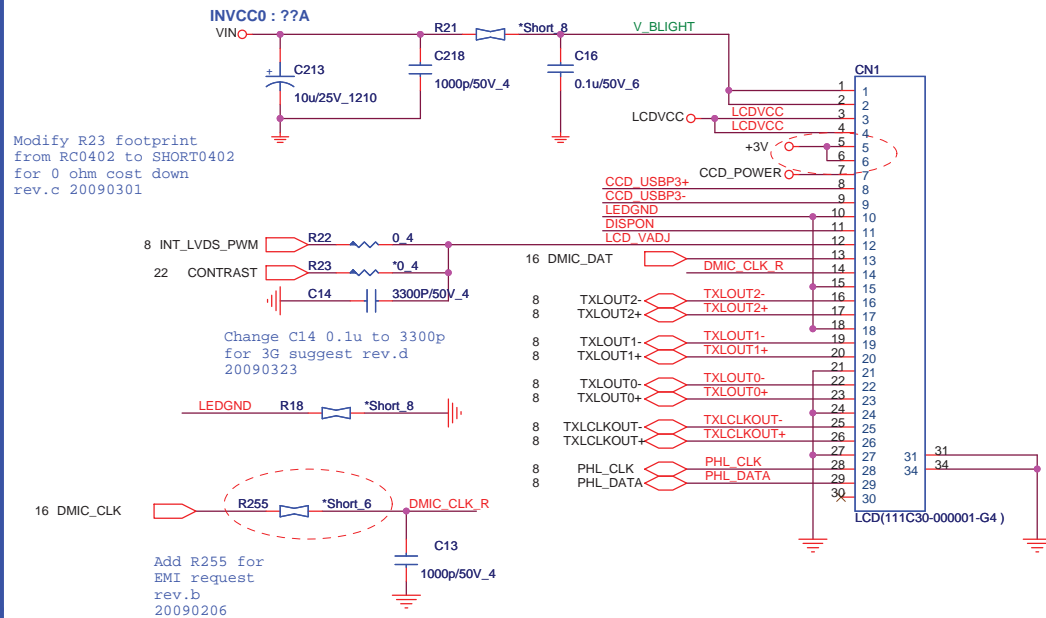


LED Panel POWER SWITCH(LDS)

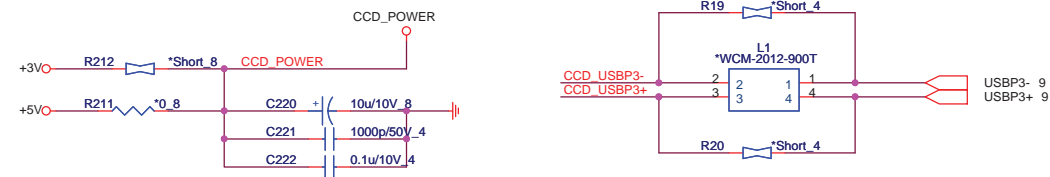


bi-elektron

V_BLIGHT : ?V ?A



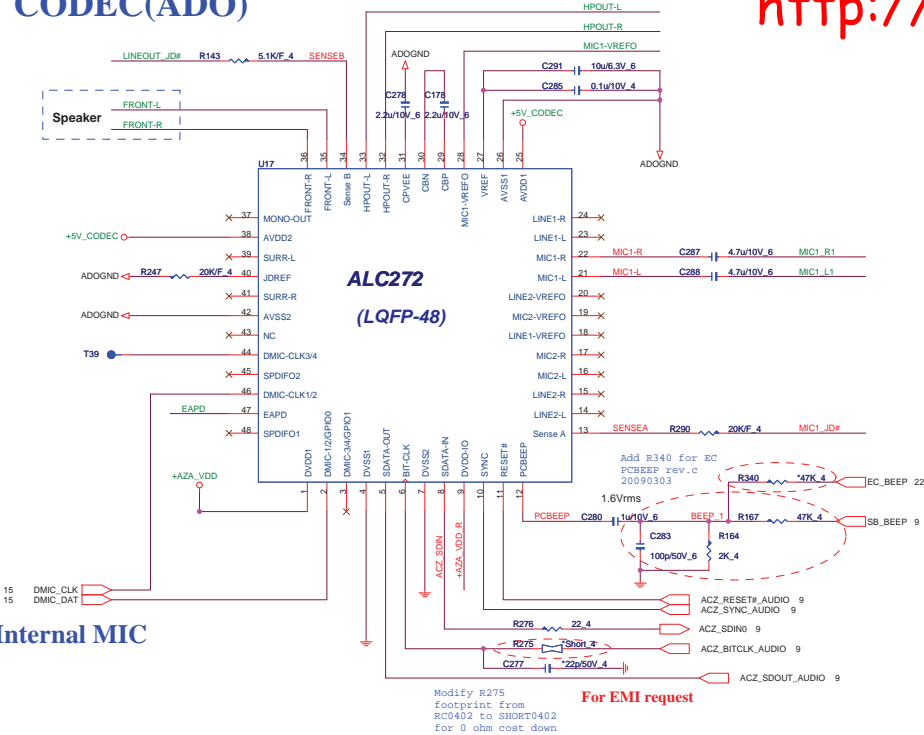
Camera(CCD)



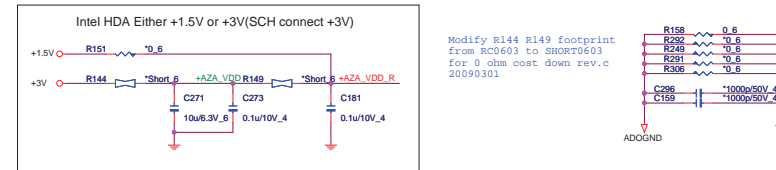
CODEC(ADO)

<http://hobi-elektronika.net>

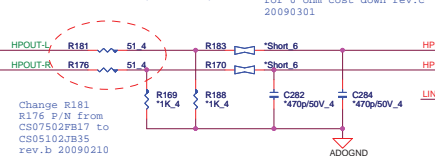
Codec Power(ADO)



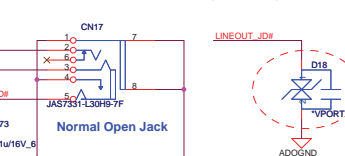
HDA Power(ADO)



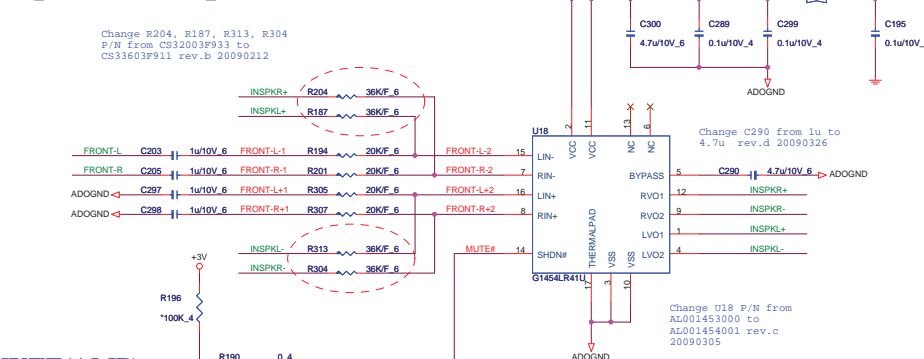
HP_Green(AMP)



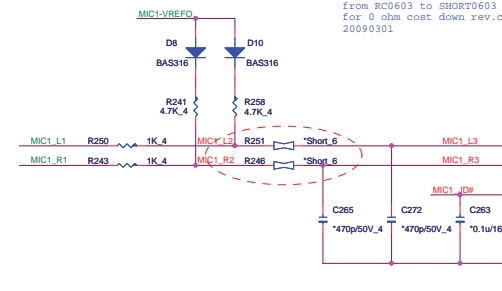
HP_Green ESD(EMC)



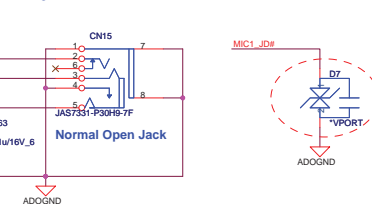
Speaker Amplifier(AMP)



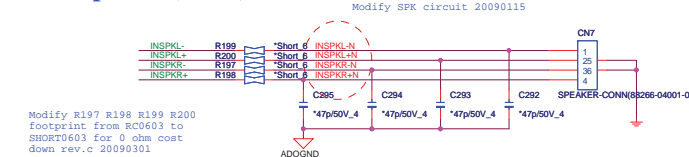
System MIC_Pink(AMP)



System MIC_Pink ESD(EMC)

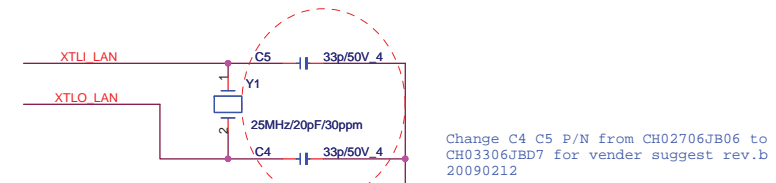
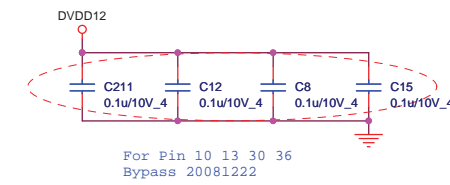
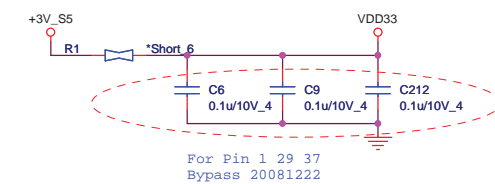
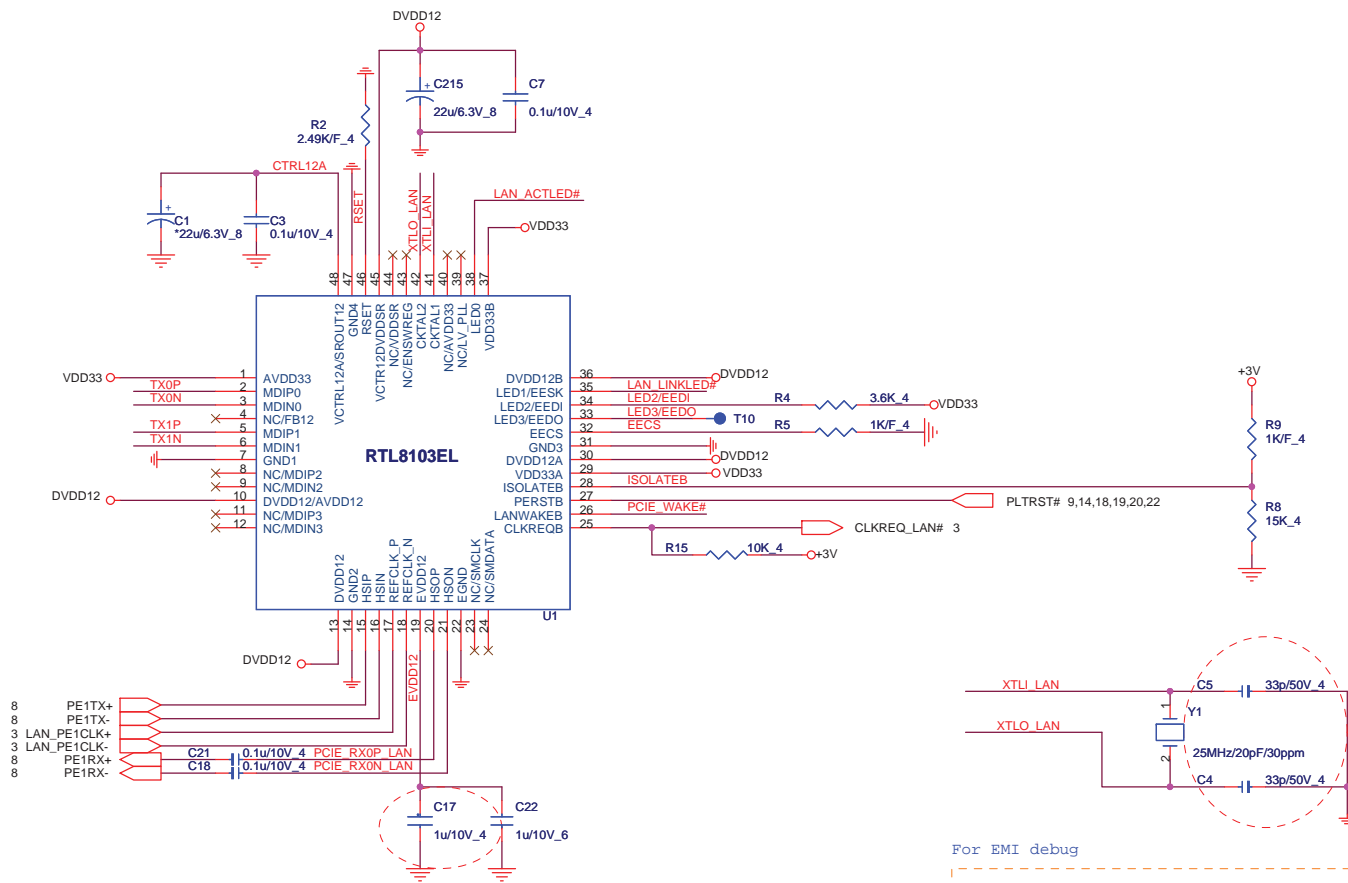


Speaker(AMP)

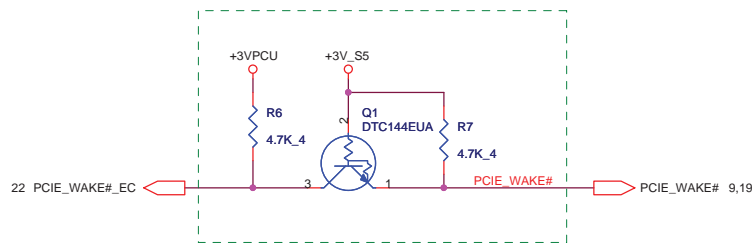
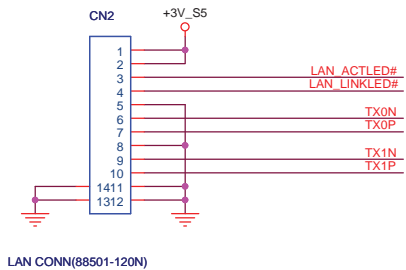


LAN RTL8103EL (LAN)

<http://hobi-elektronika.net>

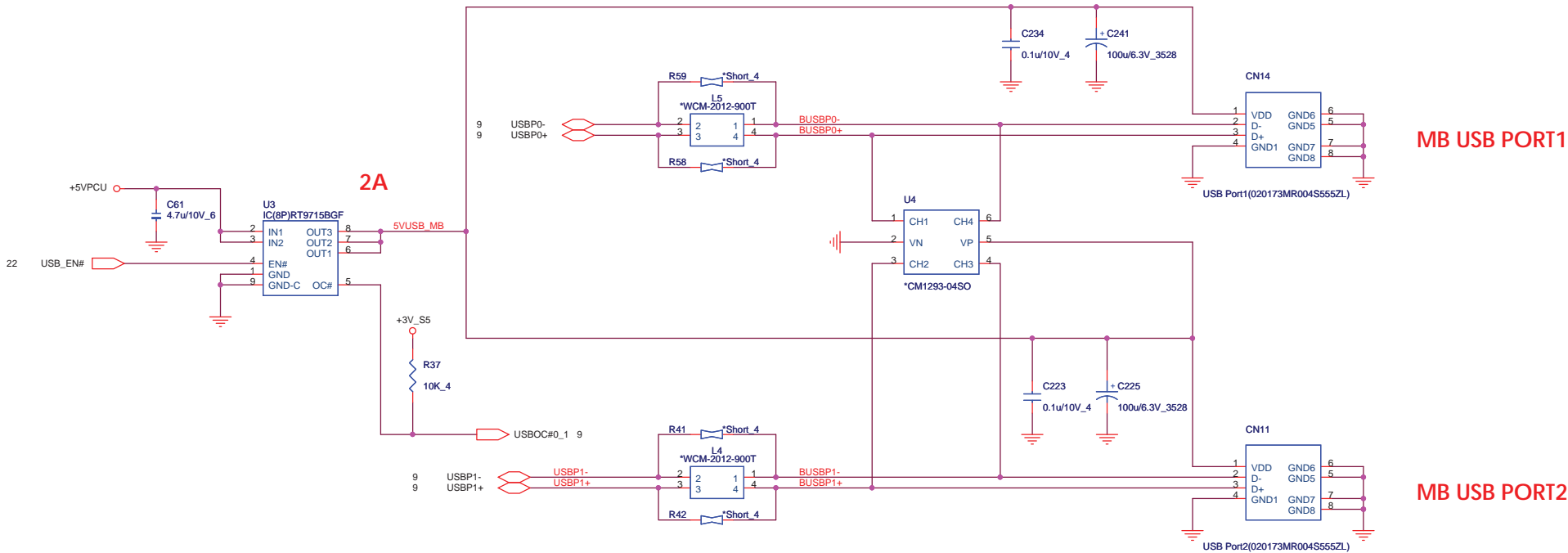


LAN D/B CONNECTER(LAN)

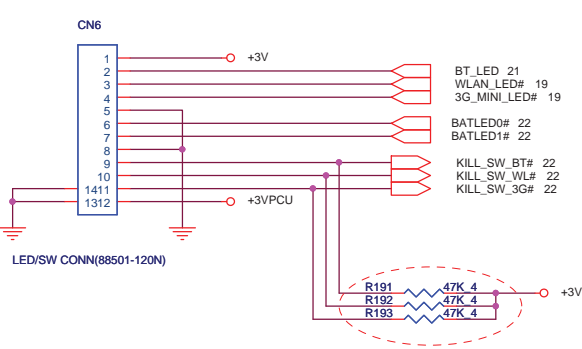


MB USB PORTS(USB)

<http://hobi-elektronika.net>

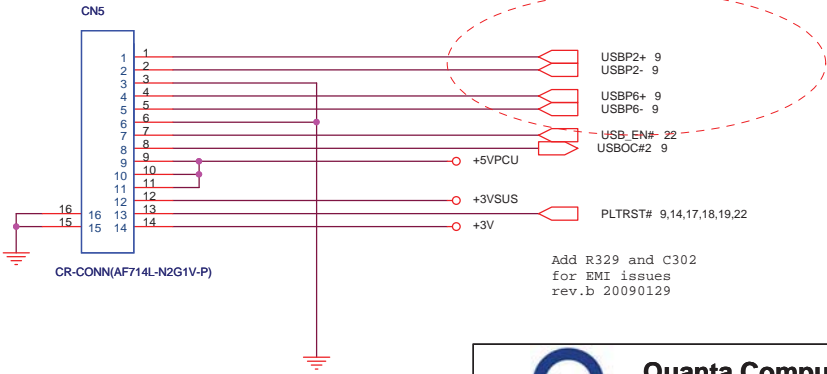



LED DB CONNECTER(UIF)



EC GPIO	Button
KILL_SW_WL#(GPIO57 PIN33)	WLAN Switch
KILL_SW_3G#(GPIO60 PIN34)	3G Switch
KILL_SW_BT#(GPIO12 PIN13)	BT Switch

Card Reader/USB DB CONNECTER(MMC)



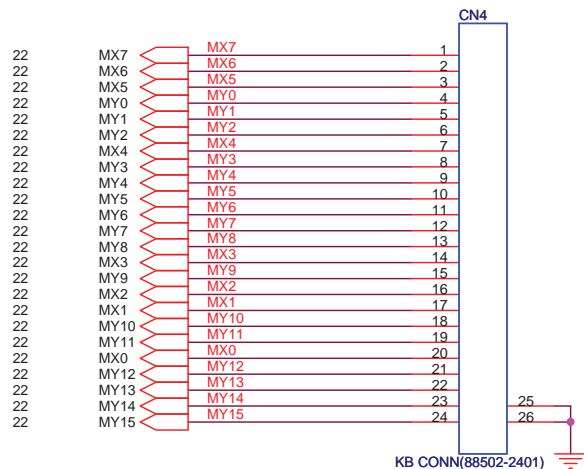


Quanta Computer Inc.

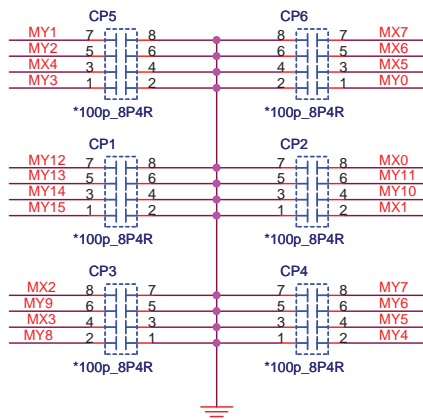
PROJECT : ZA5

Size	Document Number	Rev
	USB/SD_LED AND CR_USB_DB	1A
Date:	Thursday, April 09, 2009	Sheet 20 of 35

Keyboard (KBC)

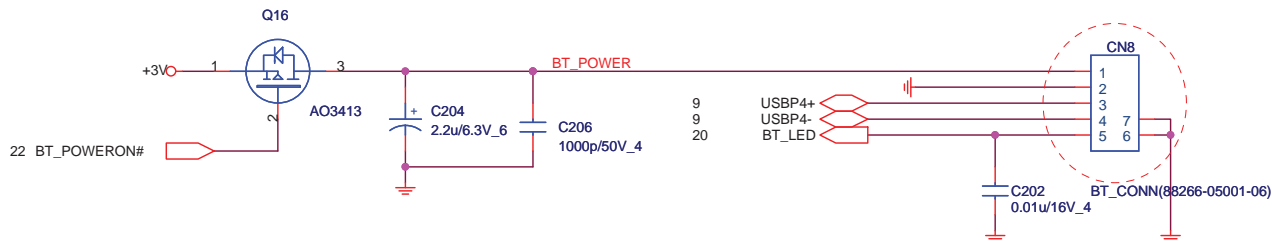


For EMI Reserve Caps for debug



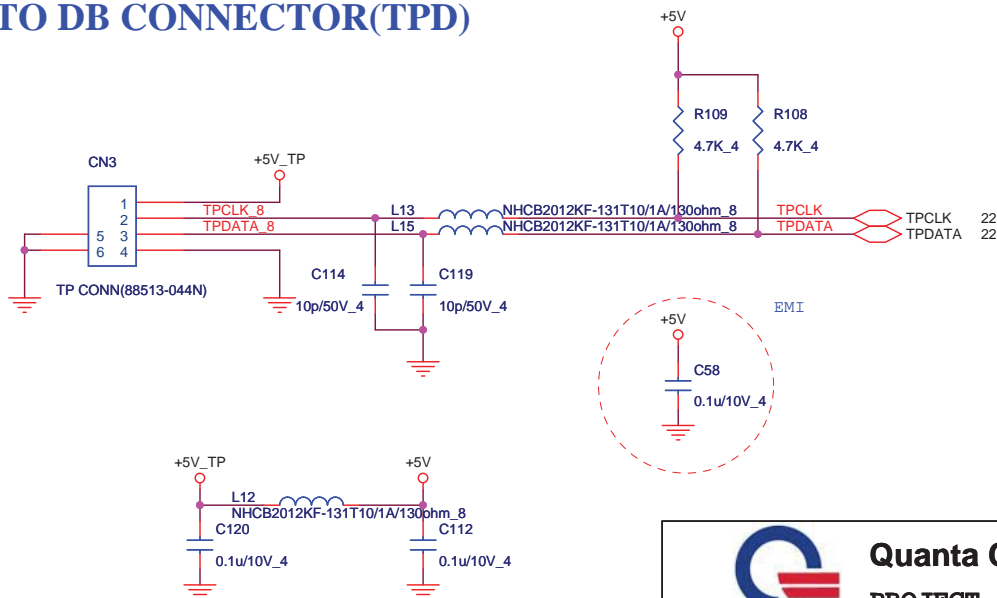
<http://hobi-elektronika.net>

BT CONNECTOR (BTM)



Modify CN8 footprint and pin define rev.c 20090301

TO DB CONNECTOR(TPD)



EMI

+5V

0.1u/10V_4

C58

TPCLK

TPDATA

22

22

TPCLK

TPDATA

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TPCLK

TPDATA

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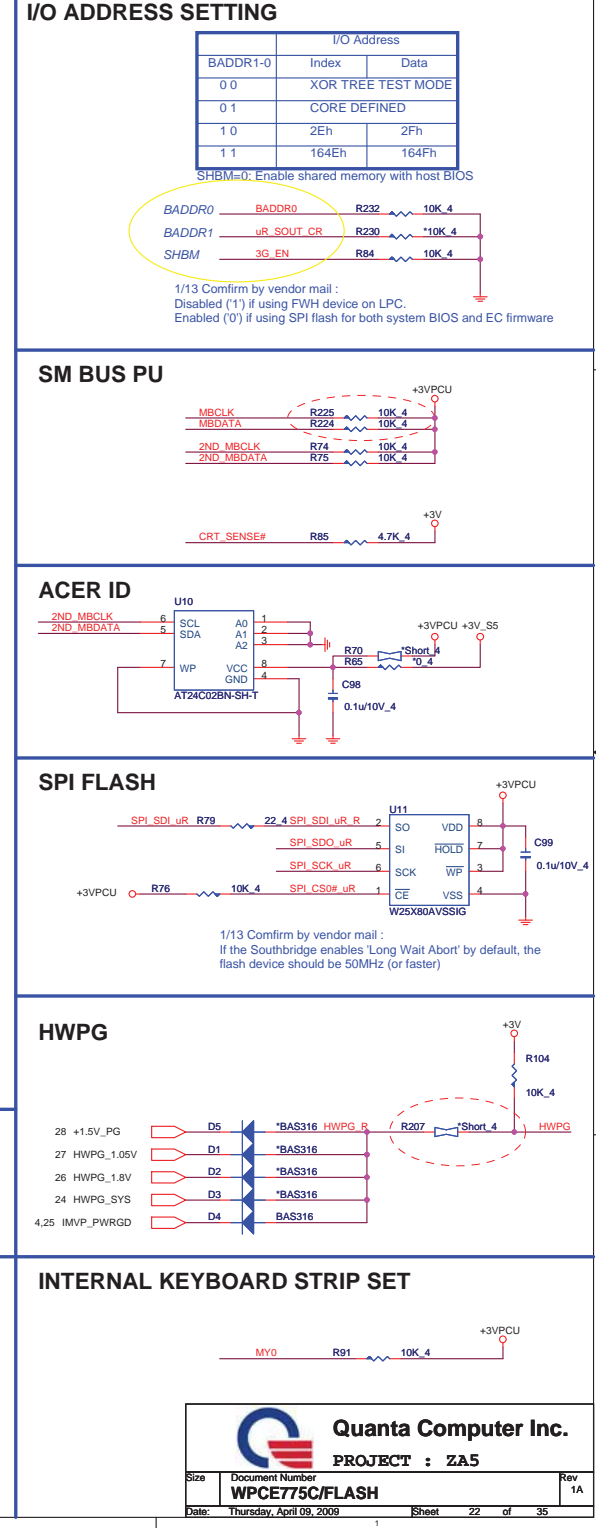
TPDATA

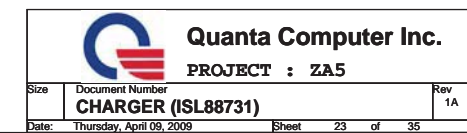
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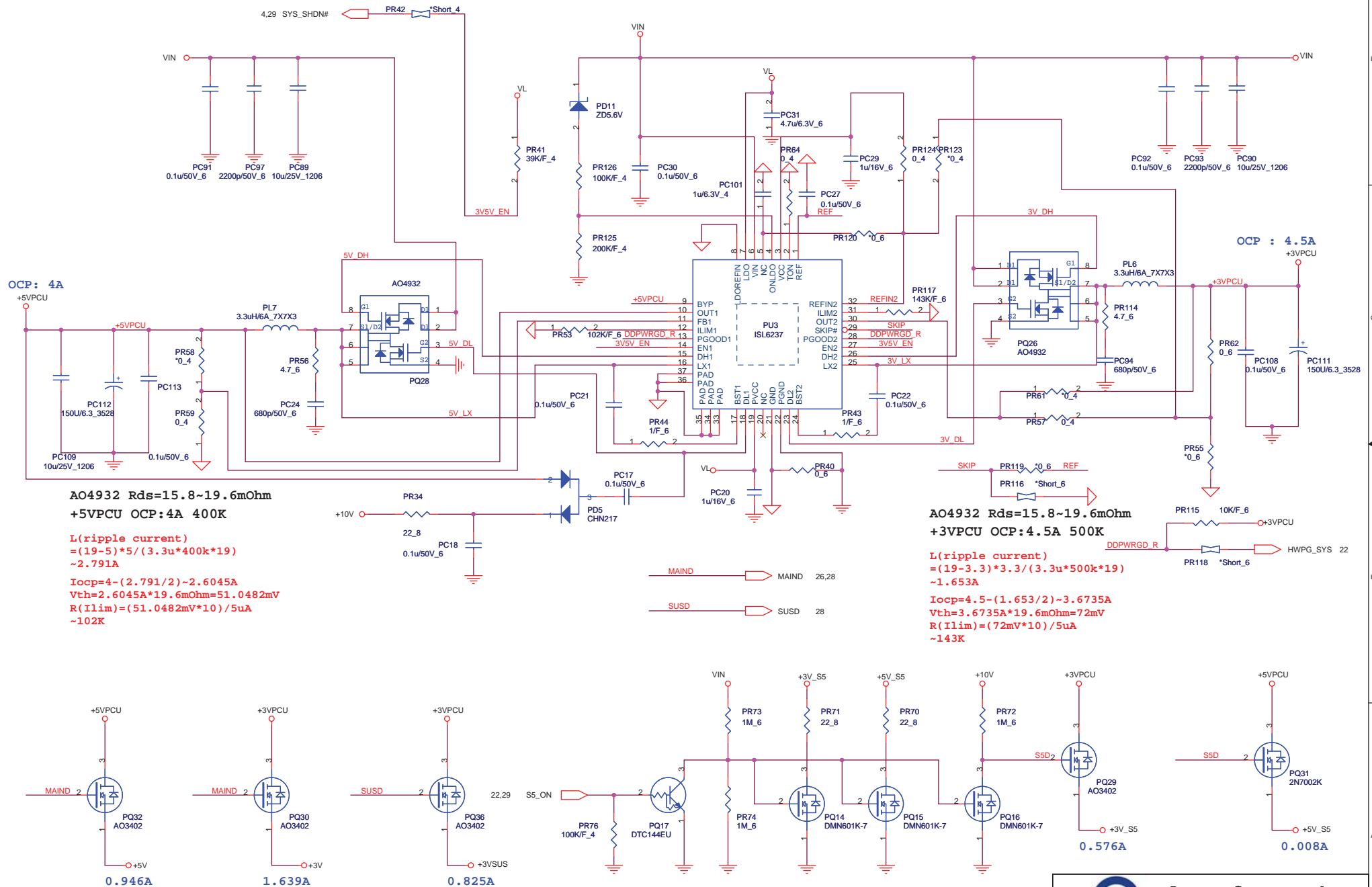
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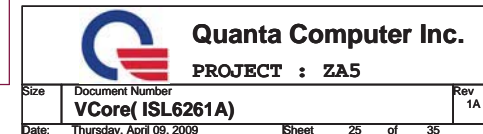
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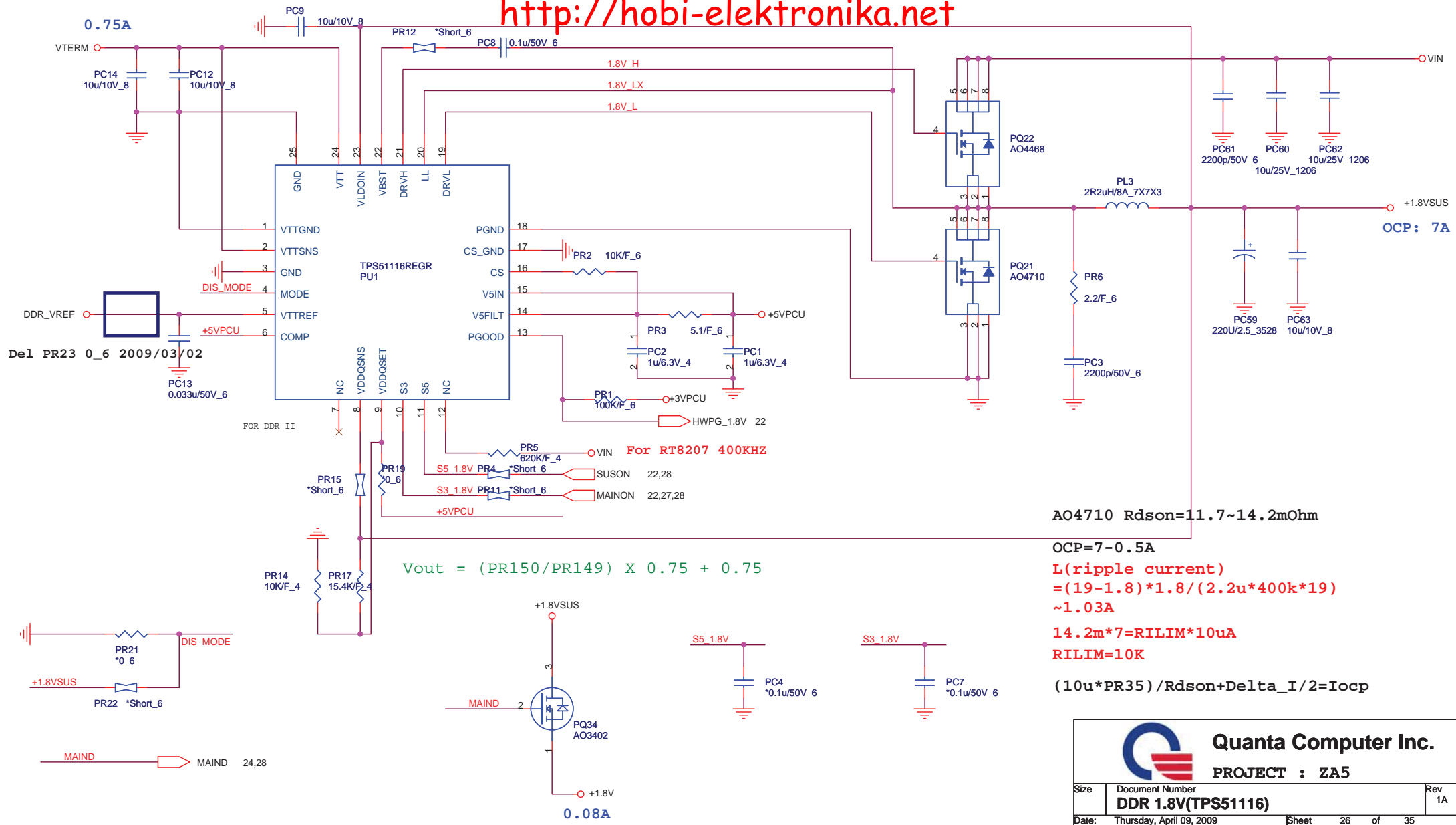
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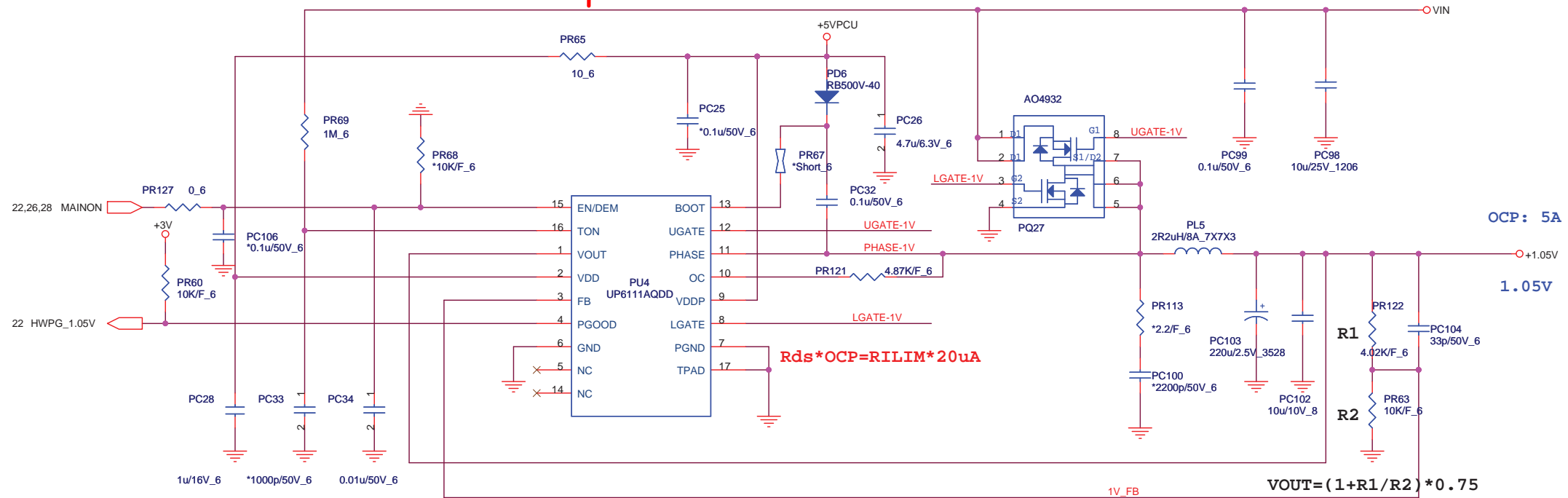






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$$TON = 3.85p * RTON * Vout / (Vin - 0.5)$$

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

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

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

AO4932 Rdson=15.8~19.6mOhm

OCP=7.2-0.8A

$$L(ripple\ current) = (19 - 1.05) * 1.05 / (3.3u * 272k * 19) \sim 1.105A$$

$$19.6m * 5 = RILIM * 20uA$$

$$RILIM = 4.9K(4.87K)$$



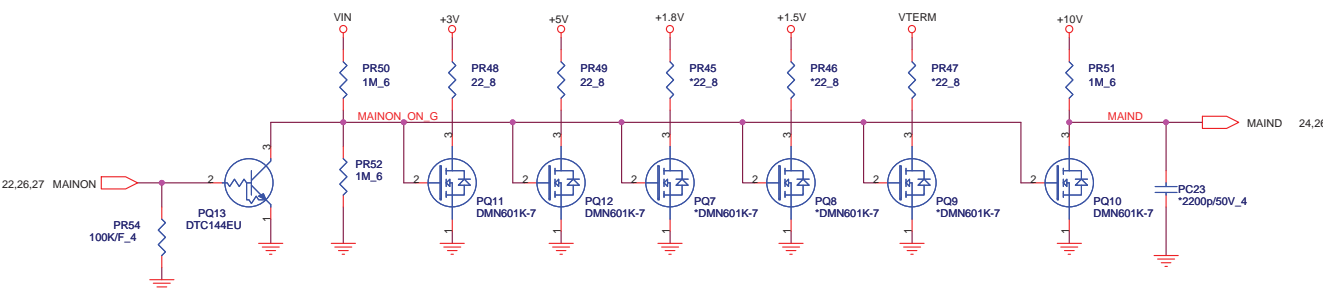
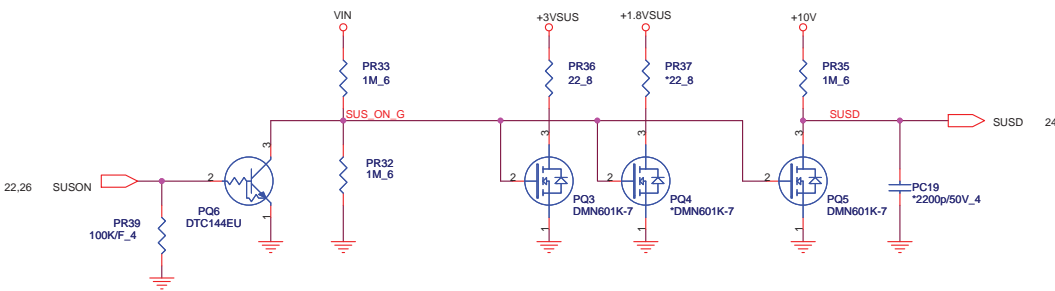
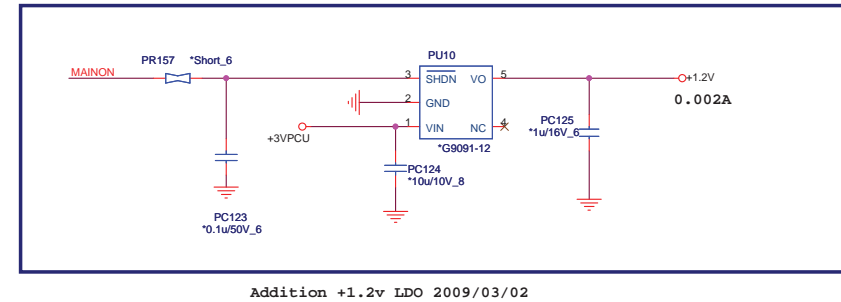
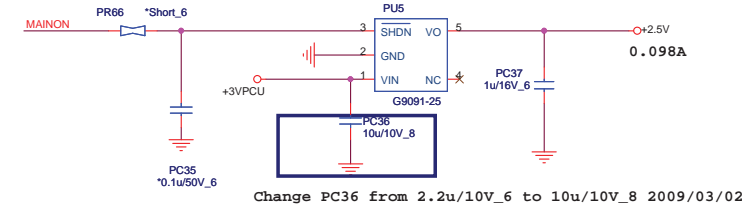
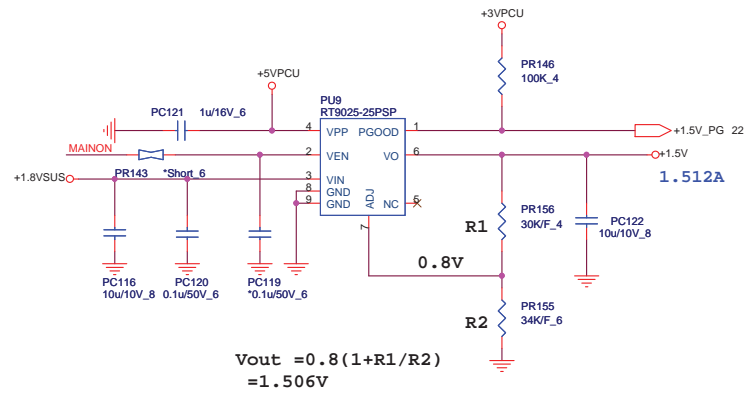
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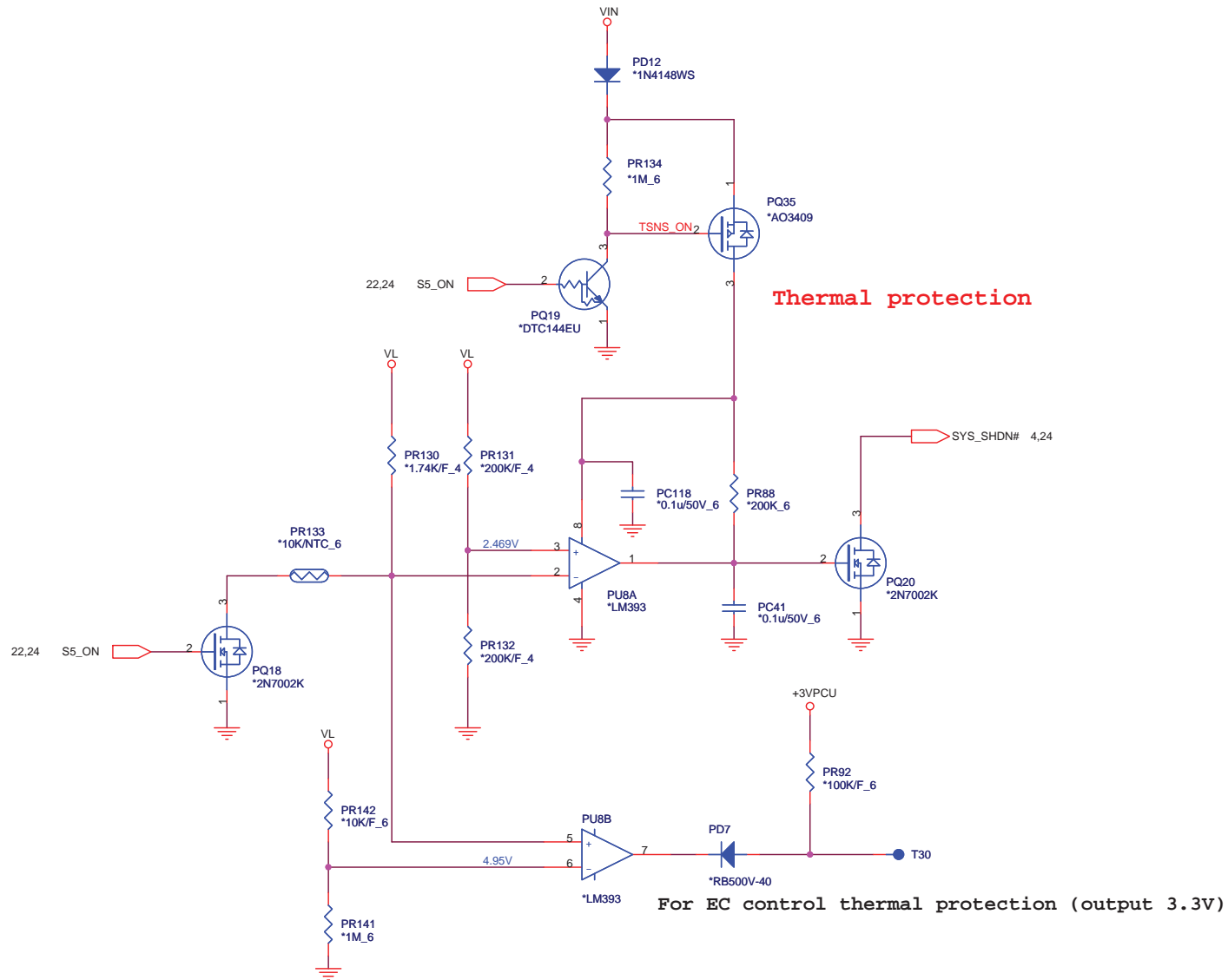
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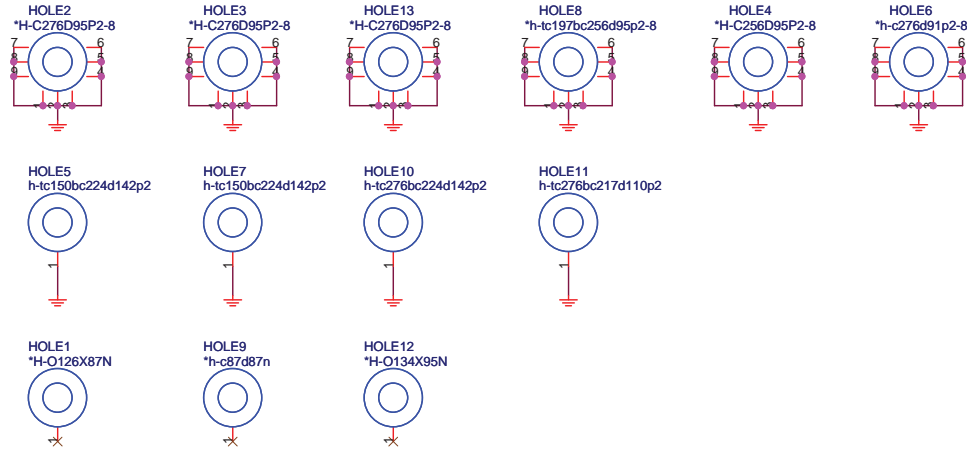
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HOLES

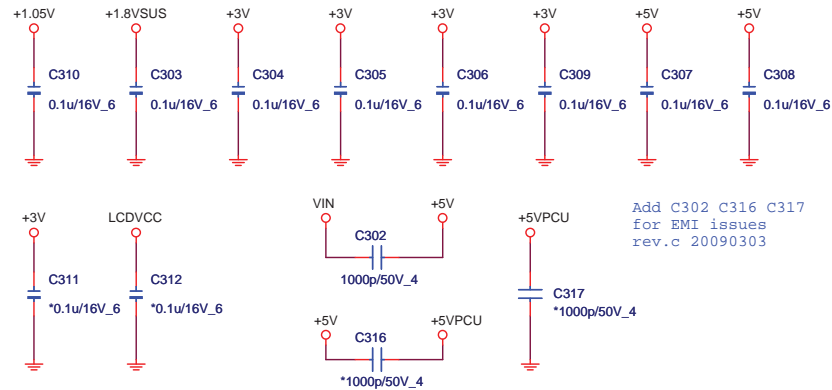
PAD



3G



EMI



Add C303 C304 C305 C306 C307
C308 for EMI request rev.b
20090206 Add C309 C310 for
EMI request rev.b 20090207

Add C302 C316 C317
for EMI issues
rev.c 20090303



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	HOLE	1A
Date:	Thursday, April 09, 2009	Sheet 30 of 35