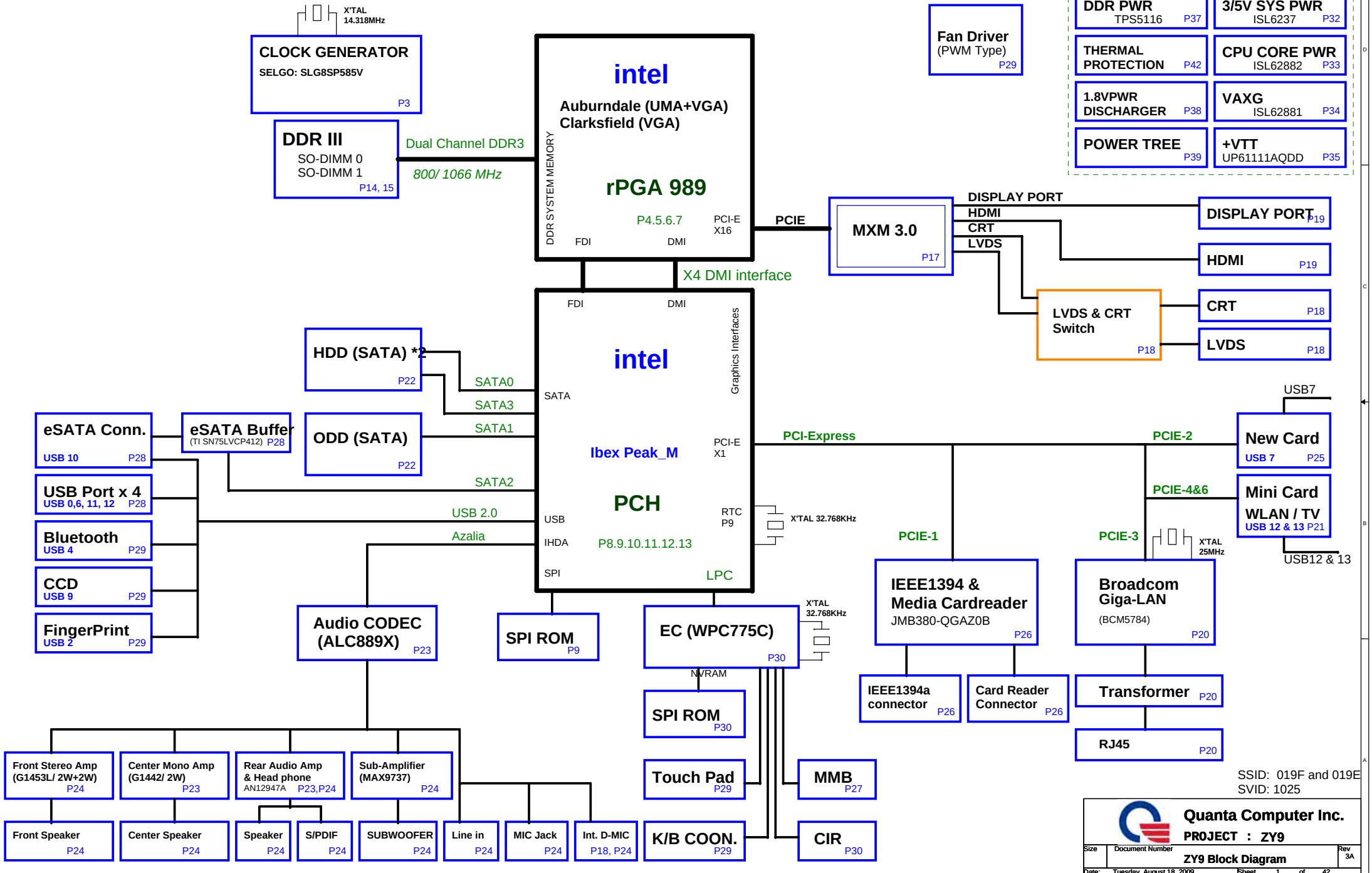
31ZY9MB0000
ZY9 MB ASSY(DC/GM/MXM)ASSY W/O CPU
31ZY9MB0010
ZY9 MB ASSY(QC/GM/MXM)ASSY W/O CPU

ZY9 SYSTEM BLOCK DIAGRAM



SSID: 019F and 019E
SVID: 1025

Quanta Computer Inc.
PROJECT : ZY9

Size	Document Number	Rev
	ZY9 Block Diagram	3A

Date: Tuesday, August 18, 2009 Sheet 1 of 42

Table of Contents

Power States

POWER PLANE	VOLTAGE	DESCRIPTION	CONTROL SIGNAL	ACTIVE IN
VIN	+10V~+19V	MAIN POWER		S0~S5
+RTC_CELL	+3V~+3.3V	RTC		S0~S5
+3VPCU	+3.3V	8051 POWER	ALWON	S0~S5
+5VPCU	+5V	CHARGE POWER	ALWON	S0~S5
+15V	+15V	LARGE POWER	+15V_ALWP	S0~S5
3V_LAN_S5	+3.3V	LAN POWER	AUX_ON	
+5VSUS	+5V		SUSD	
+3VSUS	+3.3V		SUSD	
+1.5VSUS	+1.5V	SODIMM POWER	SUSON	
+0.75V_DDR_VTT	+0.9V	SODIMM POWER	MAINON	
+5V	+5V		MAIND	
+3V	+3.3V		MAIND	
+1.8V	+1.8V		MAINON	
+1.5V	+1.5V	PCH POWER	MAIND	
+1.1V_VTT	+1.05V~+1.1V	CPU POWER	MAINON	
+1.05V	+1.05V	PCH POWER	MAINON	
+VCC_CORE	0V~+1.5V	CPU CORE POWER	VRON	
LCDVCC	+3.3V	LCD Power	LVDS_VDDEN	
MBAT+	+10V~+17V	MAIN BATTERY		
+5V_S5	+5V		S5_ON	
+3V_S5	+3.3V		S5D	

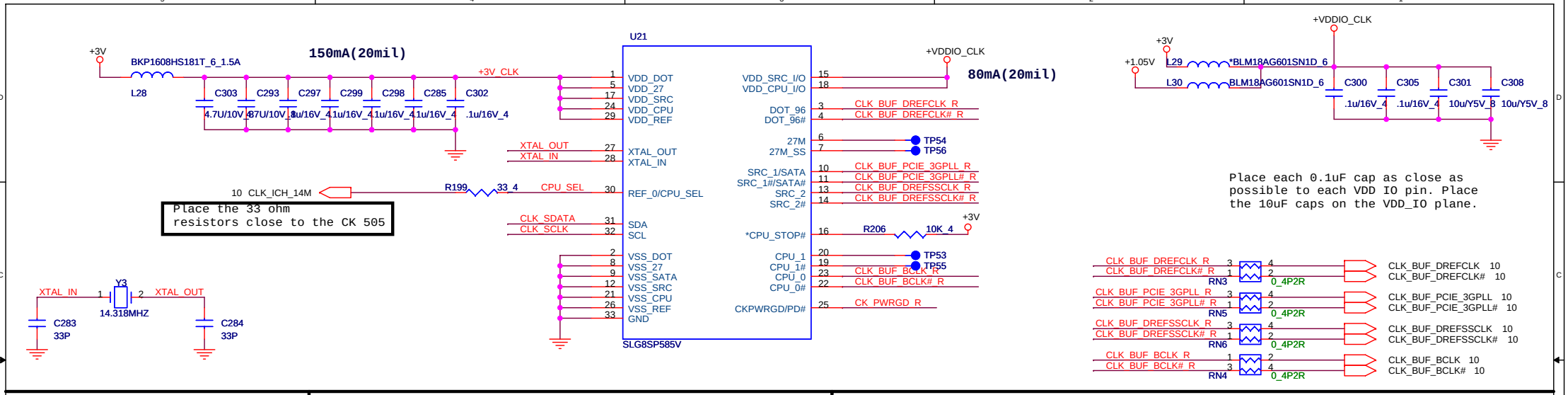
GND PLANE	PAGE	DESCRIPTION
LANGND	20	
E775AGND	30	
ADOGND	23.24	
GND	ALL	

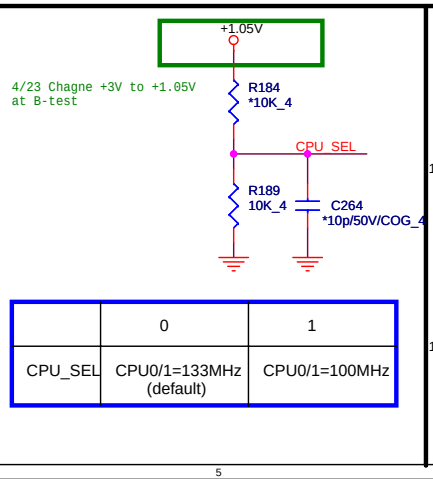
Quanta Computer Inc.

PROJECT : ZY9

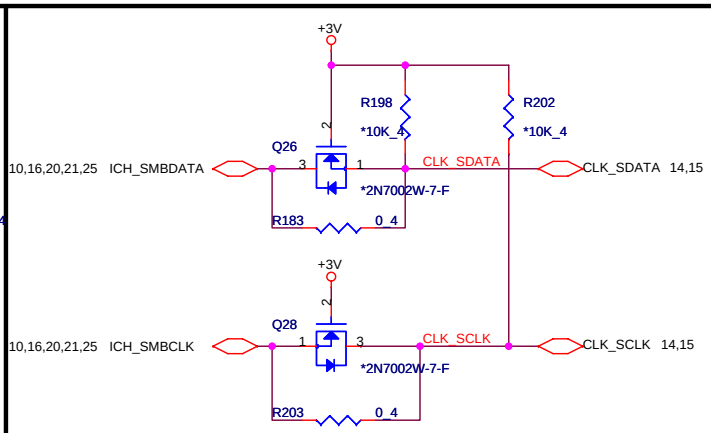
Size	Document Number	Rev
	Index & Power Status	3A

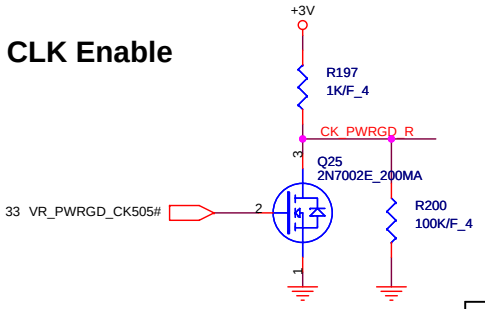
Date: Tuesday, August 18, 2009 Sheet 2 of 42





	0	1
CPU_SEL	CPU0/1=133MHz (default)	CPU0/1=100MHz





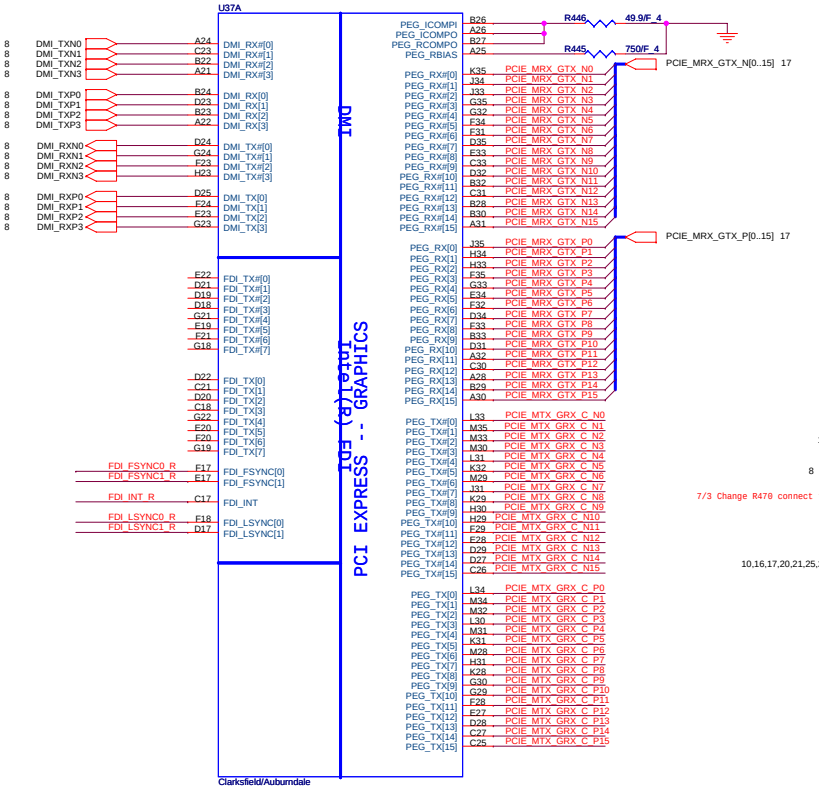
Quanta Computer Inc.

PROJECT : ZY9

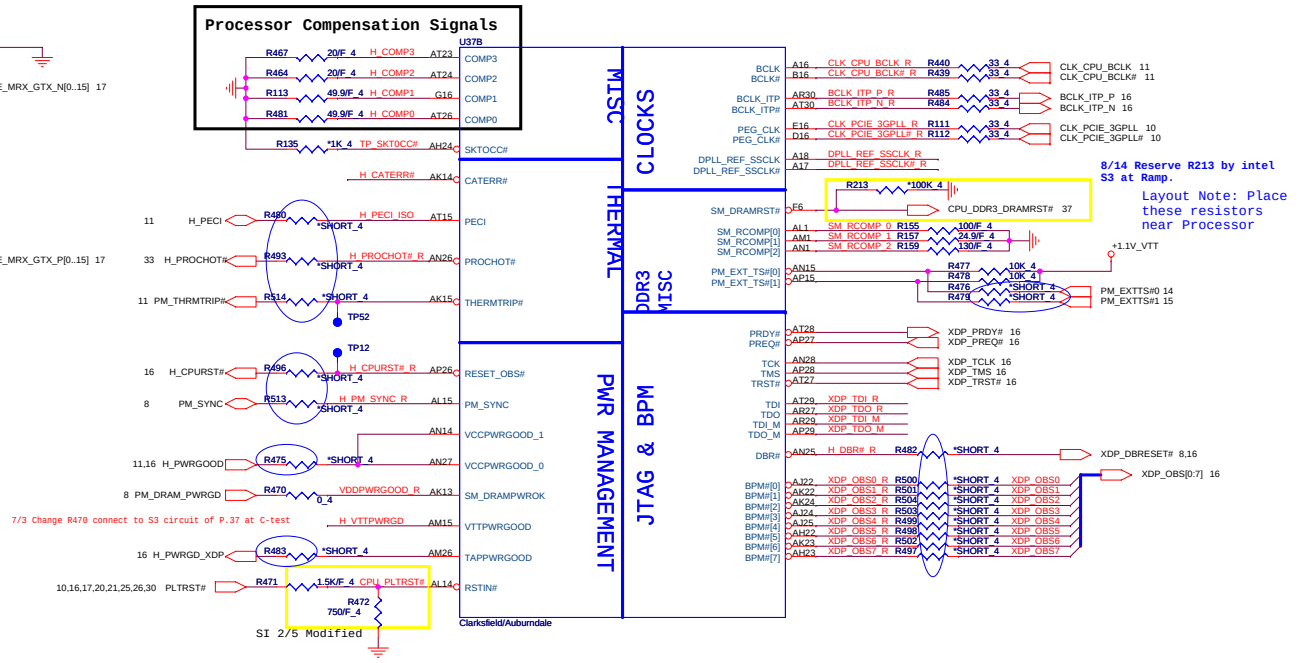
Size	Document Number	Rev
	Clock Generator	3A

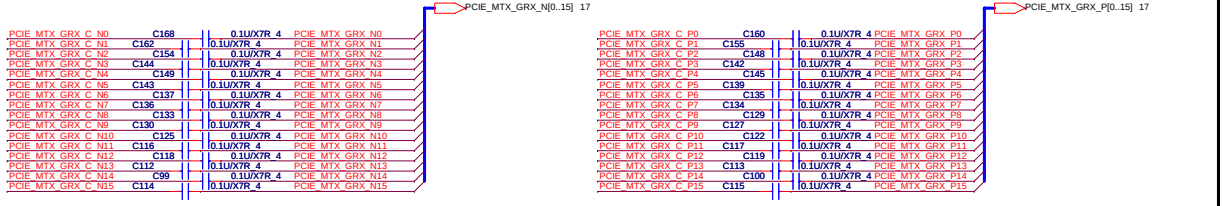
Date: Thursday, August 20, 2009 Sheet 3 of 42

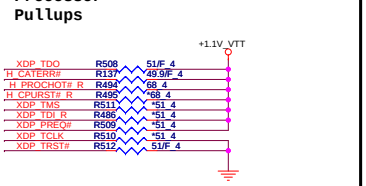
AUBURNDALE/CLARKSFIELD PROCESSOR (DMI,PEG,FDI)

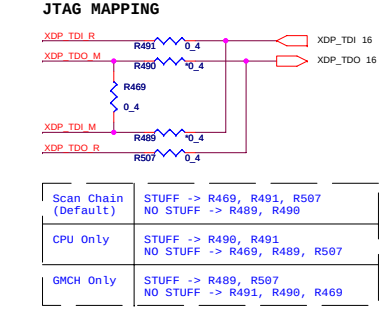


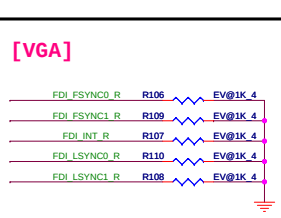
AUBURNDALE/CLARKSFIELD PROCESSOR (CLK,MISC,JTAG)

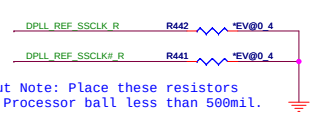


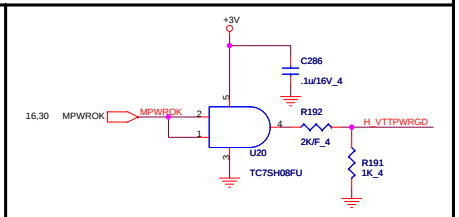






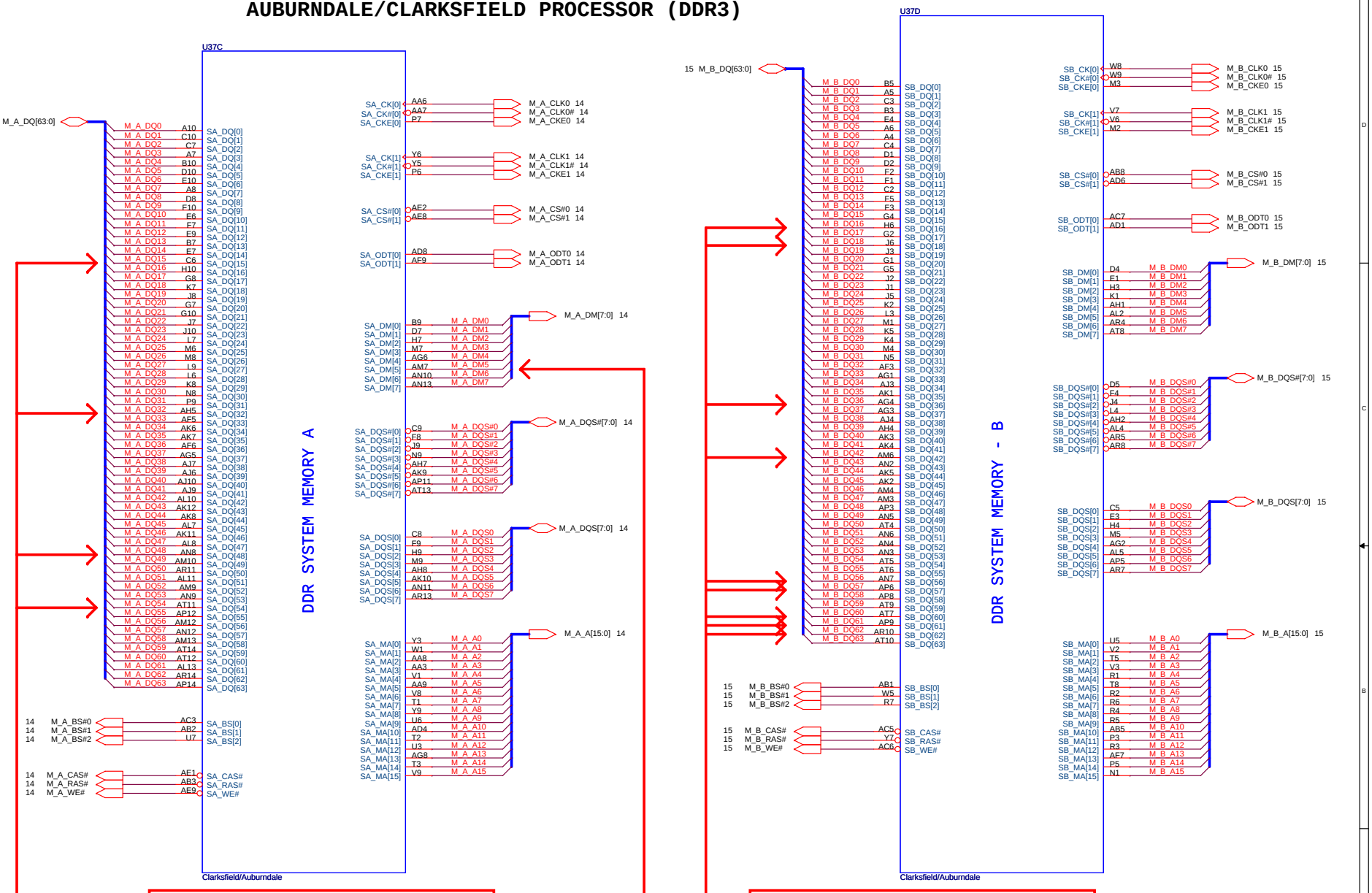






Quanta Computer Inc.	PROJECT : ZY9
Size:	Document Number: AUBURNDA 1/4 — Rev: 3A
Date: Tuesday, August 18, 2009	Sheet 4 of 42

AUBURNDALE/CLARKSFIELD PROCESSOR (DDR3)



Quanta Computer Inc.			
PROJECT : ZY9			
Size	Document Number		Rev
	AUBURNDA 2/4		3A
Date: Tuesday, August 18, 2009		Sheet 5 of 42	

AUBURNDALE/CLARKSFIELD PROCESSOR (GRAPHICS POWER)

CPU Core Power

+VCC_CORE

U37F

48A

1.1V RAIL POWER

CPU CORE SUPPLY

18A

VTT Rail Values are
Auburndal VTT=1.05V
Clarksfield VTT=1.1V

+1.1V_VTT

C501 10U_8
C506 10U_8
C525 10U_8
C531 10U_8
C519 10U_8
C523 10U_8
C504 10U_8
C214 22U_8
C205 22U_8
C511 22U_8
C500+ *330u/2V_7343

+1.1V_VTT

C223 22U_8
C237 22U_8
TP9
R122 *SHORT_4
R123 *SHORT_4
TP10
C98 1u/10V_4

(15mils)

For CRB use

POWER

CPU VIDS

PSI# AN33 H_PSI# 33

VID[0] AK35 H_VID0 H_VID0 33
VID[1] AK33 H_VID1 H_VID1 33
VID[2] AK34 H_VID2 H_VID2 33
VID[3] AL35 H_VID3 H_VID3 33
VID[4] AL33 H_VID4 H_VID4 33
VID[5] AM33 H_VID5 H_VID5 33
VID[6] AM35 H_VID6 H_VID6 33

PROC_DPRSLPVR AM34 ICH_DPRSLPVR 33

VTT_SELECT G15 H_VTTVID1 TP8

H_VTTVID1=Low, 1.1V
H_VTTVID1=High, 1.05V

SENSE LINES

ISENSE AN35 I_MON 33

VCC_SENSE AJ34 R150 100_4 VCC_CORE VCCSENSE 33
VSS_SENSE AJ35 R146 100_4 VSSSENSE 33

VTT_SENSE B15 VTT_SENSE
VSS_SENSE_VTT A15 TP_VSS_SENSE_VTT TP6 TP7

Clarksfield/Auburndale

U37G

GRAPHICS

SENSE LINES

VAXG_SENSE AR22
VSSAXG_SENSE AT22

GRAPHICS VIDS

GFX_VID[0] AM22
GFX_VID[1] AP22
GFX_VID[2] AN22
GFX_VID[3] AP23
GFX_VID[4] AM23
GFX_VID[5] AP24
GFX_VID[6] AN24

GFX_VR_EN AR25
GFX_DPRSLPVR AT25
GFX_IMON AM24

IMON R193 EV@1K_4

3A

+1.5V_CPUVDDQ

C188 1u/10V_4
C194 1u/10V_4
C241 1u/10V_4
C228 1u/10V_4
C221 1u/10V_4

C203 22U_8
C213 22U_8
C163 *330u/2V_7343

7/2 Change CPU VDDQ from +1.5V_S3 to +1.5V_CPUVDDQ at C test.

6/5 No stuff at RevC by DG1.6

DDR3 - 1.5V RAILS

FDI

+1.1V_VTT

C180 22U_8
C509 22U_8

PEG & DMI

+1.1V_VTT

C181 22U_8
C182 22U_8
C197 22U_8
C517 22U_8

1.1V

+1.1V_VTT

C184 10u/6.3V_6
C176 10u/6.3V_6
C507 22U_8
C508 22U_8

1.8V

+1.8V

C178 1u/10V_4
C179 1u/10V_4
C503 2.2U_6 H0.5
C502 4.7u_6
C505 22U_8

0.6A

Clarksfield/Auburndale

AUBURNDALE/CLARKSFIELD PROCESSOR (POWER)

+1.1V_VTT

R448 1K_4
R450 1K_4
R452 1K_4
R454 *1K_4
R456 *1K_4
R459 1K_4
R461 *1K_4
R466 1K_4
R463 *1K_4

H_VID0
H_VID1
H_VID2
H_VID3
H_VID4
H_VID5
H_VID6
ICH_DPRSLPVR
H_PSI#

R447 *1K_4
R449 *1K_4
R451 *1K_4
R453 1K_4
R455 1K_4
R458 *1K_4
R460 1K_4
R465 *1K_4
R462 1K_4

Note:
For Validating IMVP VR R6451 should be STUFF and R2N1 NO_STUFF

HFM_VID : Max 1.4V
LFM_VID : Min 0.65V

+VCC_CORE

C199 22U_8
C530 22U_8
C526 22U_8
C512 22U_8
C222 22U_8
C238 22U_8
C174 22U_8
C191 22U_8

C183 22U_8
C226 22U_8
C529 22U_8
C243 22U_8
C236 22U_8
C190 22U_8
C527 22U_8
C528 22U_8

C198 10u/6.3V_6
C234 10u/6.3V_6
C520 10u/6.3V_6
C209 10u/6.3V_6
C516 10u/6.3V_6
C514 10u/6.3V_6
C195 10u/6.3V_6
C217 10u/6.3V_6

C515 10u/6.3V_6
C513 10u/6.3V_6
C521 10u/6.3V_6
C518 10u/6.3V_6
C510 10u/6.3V_6
C232 10u/6.3V_6
C524 10u/6.3V_6
C196 10u/6.3V_6

C498 *330u/2V_7343
C480 330u/2V_7343
C208 *330u/2V_7343
C522 330u/2V_7343

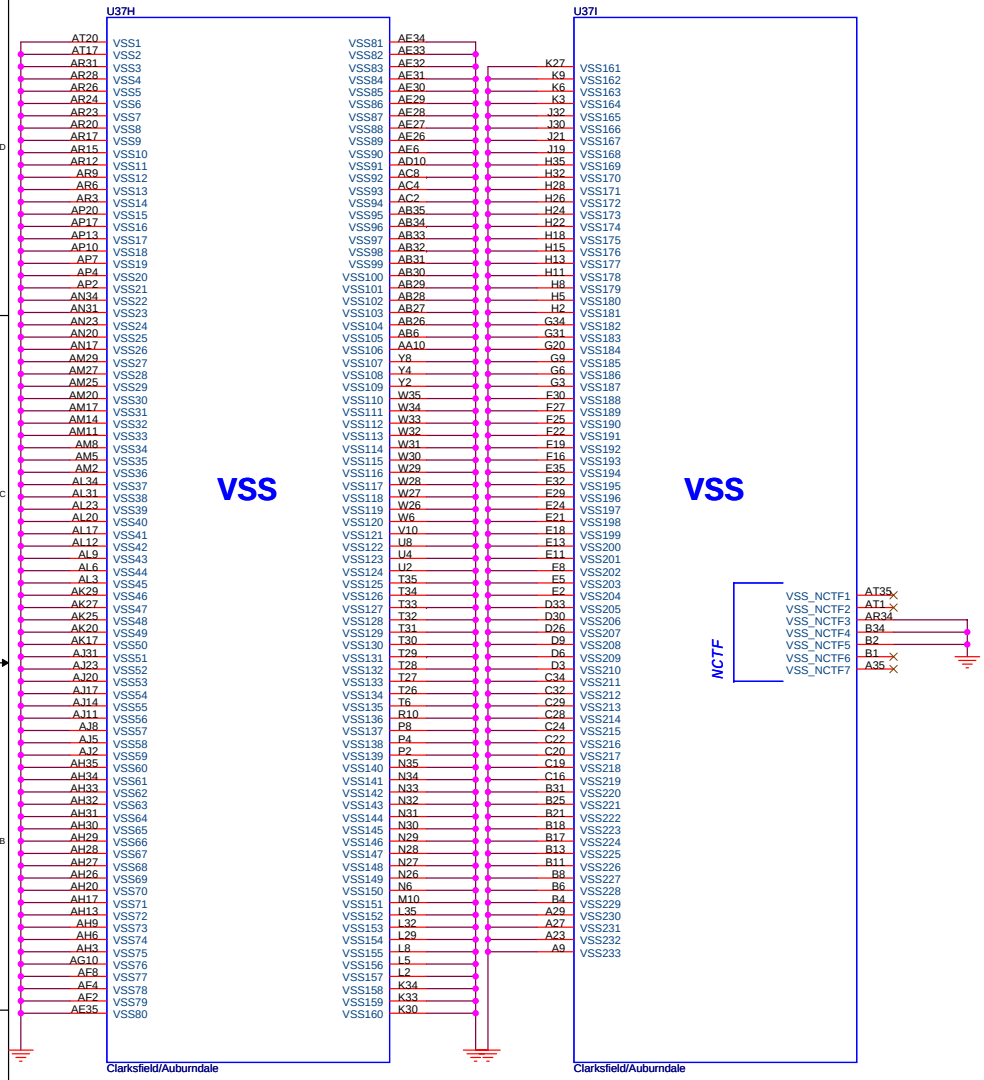
4,7,11,12,16,34,37 +1.1V_VTT
33 +VCC_CORE
11,12,37 +1.8V

Quanta Computer Inc.
PROJECT : ZY9

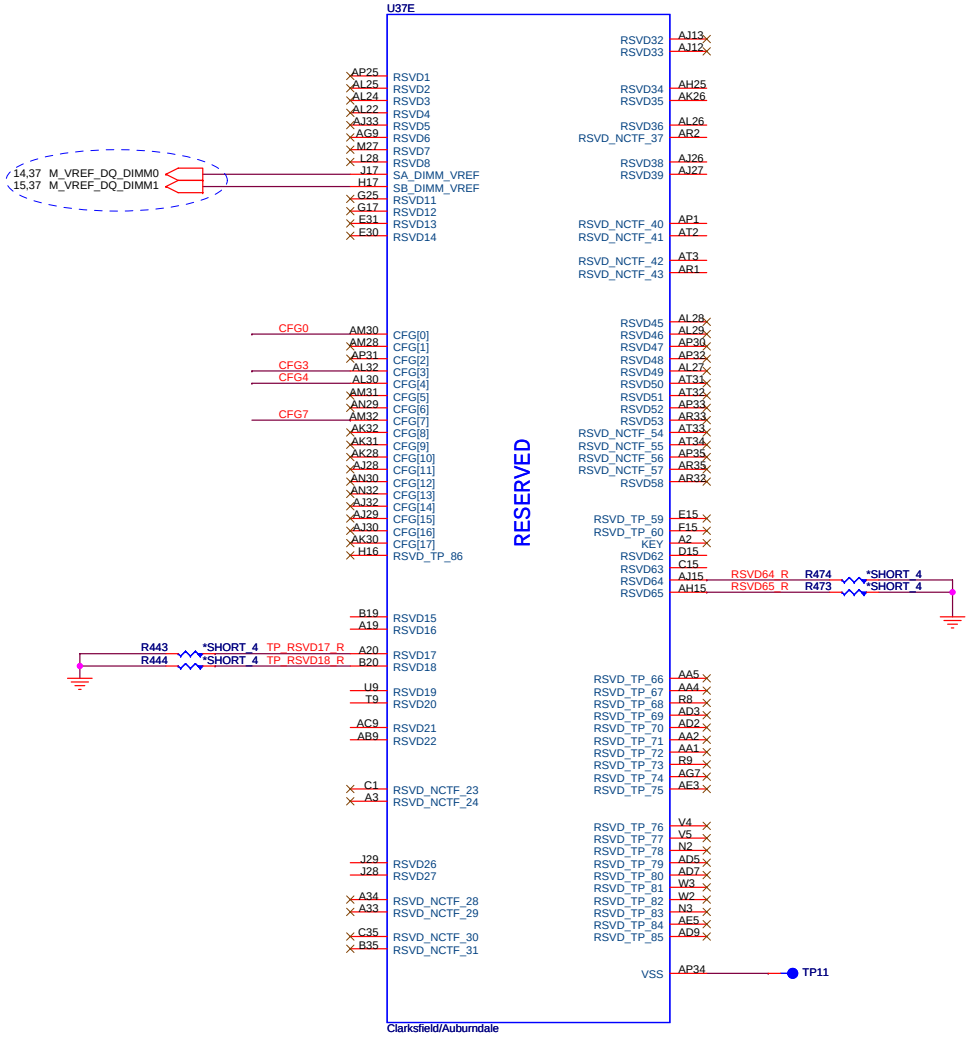
Size	Document Number	Rev
	AUBURNDA 3/4	3A

Date: Tuesday, August 18, 2009 Sheet 6 of 42

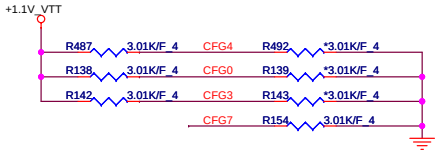
AUBURNDALE/CLARKSFIELD PROCESSOR (GND)



AUBURNDALE/CLARKSFIELD PROCESSOR(RESERVED, CFG)



The Clarkfield processor's PCI Express interface may not meet PCI Express 2.0 jitter specifications. Intel recommends placing a 3.01K +/- 5% pull down resistor to VSS on CFG[7] pin for both rPGA and BGA components. This pull down resistor should be removed when this issue is fixed.



Processor Strapping

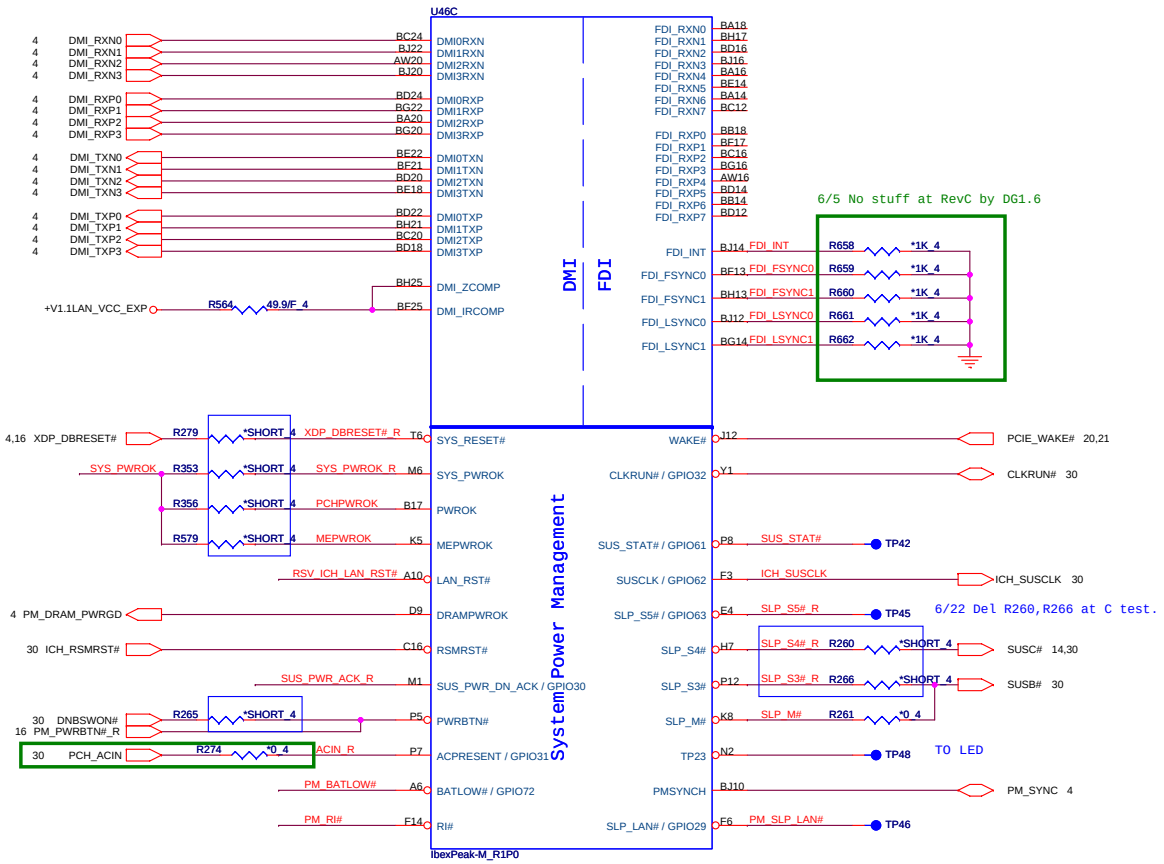
	1	0
CFG4 (Display Port Presence)	Disabled; No Physical Display Port attached to Embedded Diplay Port	Enabled; An external Display port device is connected to the Embedded Display port
CFG0 (PCI-Epress Configuration Select)	Single PEG	Bifurcation enabled
CFG3 (PCI-Epress Static Lane Reversal)	Normal Operation	Lane Numbers Reversed

CFG[1:0] - PCI_Epress Configuration Select
*** 11= 1 x 16 PEG**
*** 10= 2 x 8 PEG**

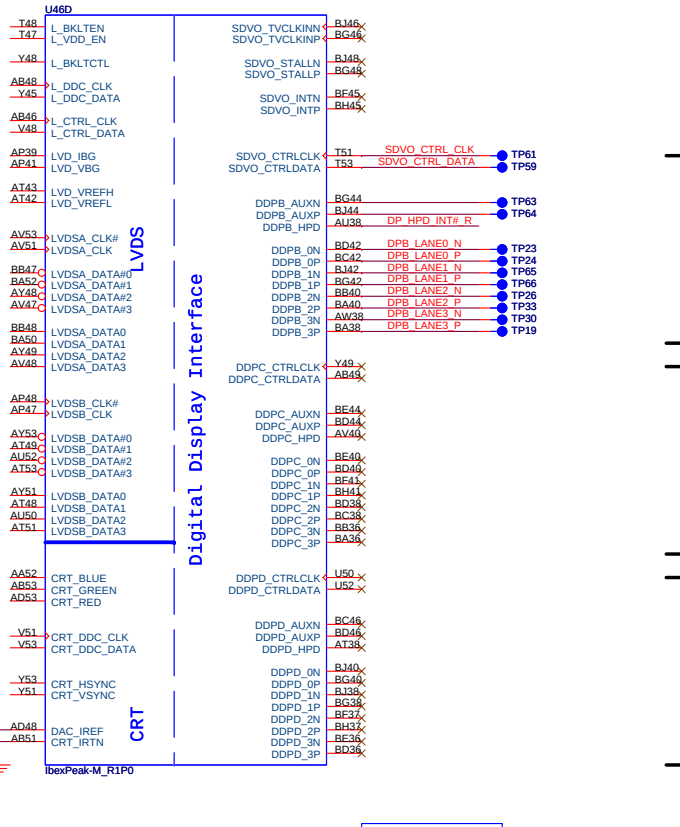
Quanta Computer Inc.
PROJECT : ZY9

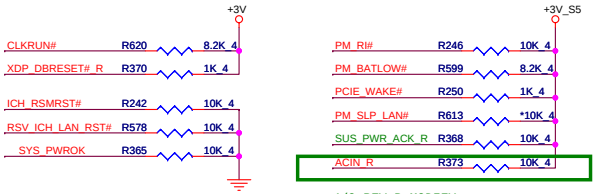
Size	Document Number	Rev
	AUBURNDA 4/4	3A
Date: Tuesday, August 18, 2009	Sheet 7 of 42	

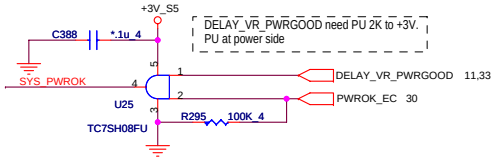
IBEX PEAK-M (DMI,FDI,GPIO)



IBEX PEAK-M (LVDS,DDI)







Quanta Computer Inc.			
PROJECT : ZY9			
Size	Document Number		Rev
	IBEX PEAK-M 1/6		3A
Date: Tuesday, August 18, 2009		Sheet 8 of 42	

IBEX PEAK-M (HDA,JTAG,SATA)

RTC Circuitry

CMOS Settings	J5
Clear CMOS	1-2
Save CMOS	1-X (Default)

TPM Settings	J4
Clear ME RTC registers	1-2
Save ME RTC registers	1-X (Default)

Cap values depend on Xtal

INTVRMEN - Integrated SUS 1.1V VRM Enable
High - Enable Internal VRs

7/1 change from +3V_S5 to +3V by intel.

6/21 Non stuff R233 by Intel at C-test.

Distance between the PCH and cap on the "P" signal should be identical distace between the PCH and cap on the "N" signal for the same pair.

Place all series terms close to PCH except for SDIN input lines,which should be close to source.Placement of R773, R775, R776 & R777 should equal distance to the T split trace point. Basically, keep the same distance from T for all series termination resistors.

For PCH 16Mbit (2M Byte), SPI/ 32Mbit (4M Byte), SPI

TPM Function	R591
Enable	Mount
Disable	NC (Default)

SATA HDD | **SATA ODD** | **E-SATA** | **2ND SATA HDD**

Quanta Computer Inc.
PROJECT : ZY9

Size	Document Number	Rev
	IBEX PEAK-M 2/6	3A

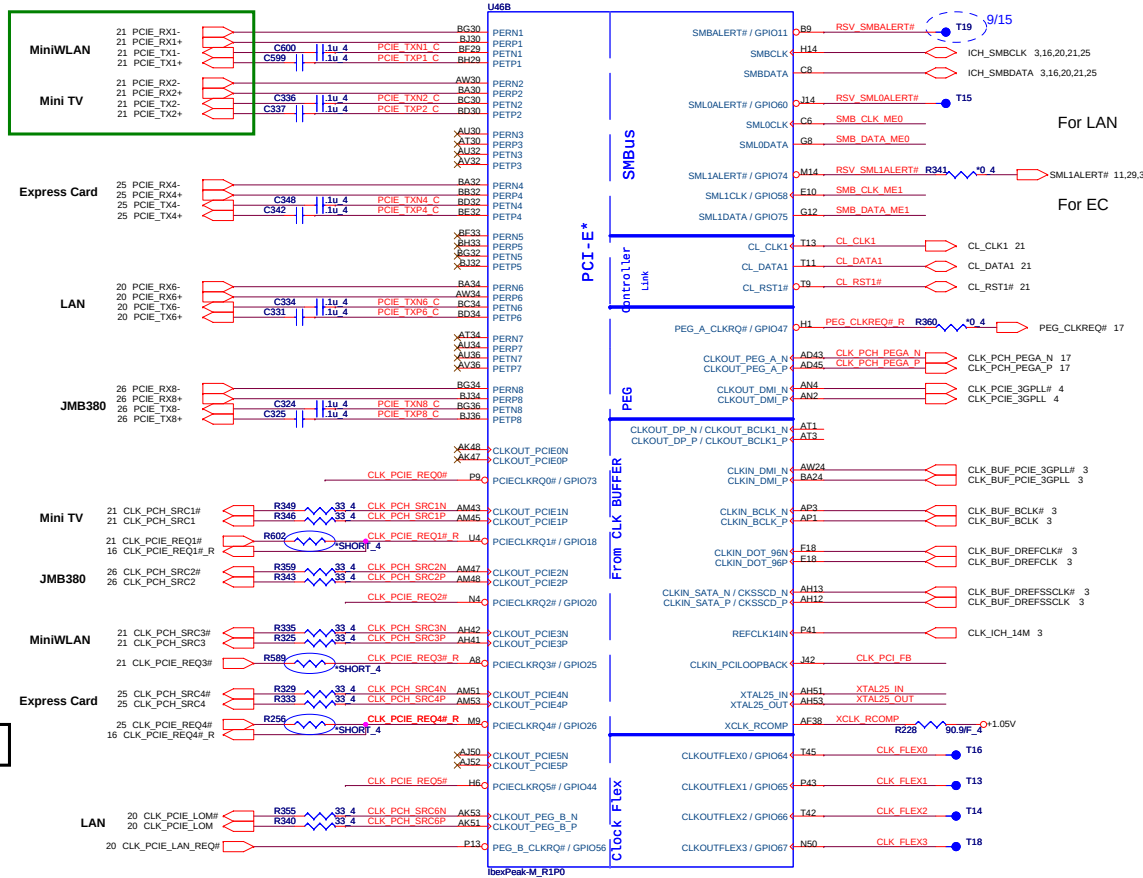
Date: Tuesday, August 18, 2009 Sheet 9 of 42

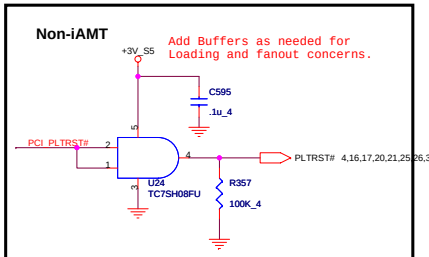
IBEX PEAK-M (PCI,USB,NVRAM)

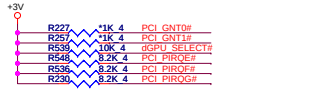
5/14 Change PCIE sequence beween CN21 and CN23 by BIOS at B-test.

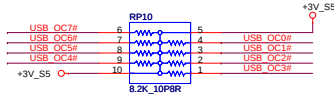
IBEX PEAK-M (PCI-E,SMBUS,CLK)

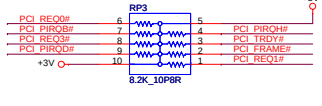
5/21 Change R540,R221 to 22ohm at B-test.

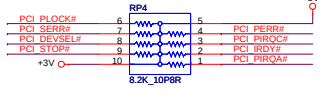


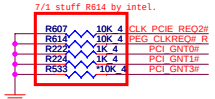




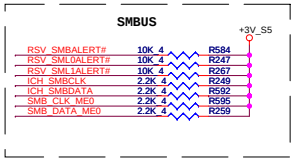


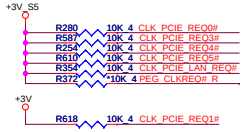


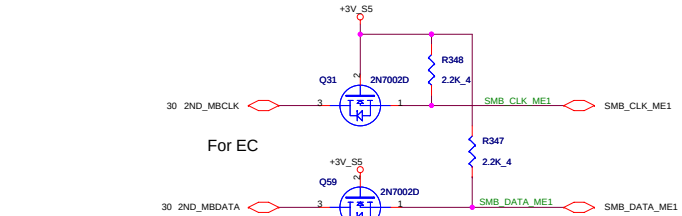


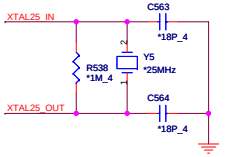


4/9 Stuff R227, R257; remove R222,R224

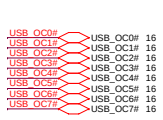








No stuff XTAL25_IN and XTAL25_OUT circuitry until integrated CG becomes PCH POR.



Boot BIOS Strap

GNT0#	GNT1#	Boot BIOS Location
0	0	LPC
0	1	Reserved (NAND)
1	0	PCI
1	1	SPI

A16 swap override Strap/Top-Block Swap Override jumper

PCI_GNT3#	Low = A16 swap override/Top-Block Swap Override enabled High = Default

Quanta Computer Inc.
PROJECT : ZY9

Size	Document Number	Rev
	IBEX PEAK-M 3/6	3A

Date: Tuesday, August 18, 2009 Sheet 10 of 42

IBEX PEAK-M (GPIO,VSS_NCTF,RSVD)

U46F

BMBUSY# / GPIO0
TACH1 / GPIO1
TACH2 / GPIO6
TACH3 / GPIO7
GPIO8
LAN_PHY_PWR_CTRL / GPIO12
GPIO15
SATA4GP / GPIO16
TACH0 / GPIO17
SCLOCK / GPIO22
GPIO24
GPIO27
GPIO28
STP_PCI# / GPIO34
SATACLKREQ# / GPIO35
SATA2GP / GPIO36
SATA3GP / GPIO37
SLOAD / GPIO38
SDATAOUT0 / GPIO39
PCIECLKRQ6# / GPIO45
PCIECLKRQ7# / GPIO46
SDATAOUT1 / GPIO48
SATA5GP / GPIO49
GPIO57

MISC
GPIO
CPU
NCTF
RSVD

16 BMBUSY#
30 SIO_EXT_SMI#
30 SIO_EXT_SCI#
7/1 change board_id0 to GPIO7 at C-test
RSV_GPIO8
TP60 LAN_DISABLE#
26 CR_WAKE#
16,17 dGPU_HOLD_RST#
17 dGPU_RUNPWROK R229 *SHORT_4
7/1 GPIO24 NC for Intel suggestion at C-test.
TP69 GPIO24
TP58 GPIO27
16 TP_PCH_GPIO28
STP_PCI#
28 SAVE_LED#
16 dGPU_PWR_EN#
16,17 dGPU_PRSNT#
8/8 Reserve R428 from GPIO46 by intel S3 suggestion at Ramp.
30,37 DDR3_DRAMRST#_EC R428 *0_4
16 SATA5GP
10,29,30 SML1ALERT# R351 0_4
5/12 Reverse R351 connect to EC for Temp Alert at B-test

SATA5GP / GPIO49 / TEMP_ALERT# is used to alert for EC when CPU or Graph/Memory controllers' temperature go out of limit. So connecting GPIO49 to EC and avoid this pin to be used for other purpose

VSS_NCTF_1 … VSS_NCTF_31

CLKOUT_PCIE6N / CLKOUT_PCIE6P → AH45 / AH46 → TP_PCH_PCIE6N / TP_PCH_PCIE6P → TP49 / TP50
CLKOUT_PCIE7N / CLKOUT_PCIE7P → AF48 / AF47 → TP_PCH_PCIE7N / TP_PCH_PCIE7P → TP51 / TP44
A20GATE → U2 → SIO_A20GATE 30
CLKOUT_BCLK0_N / CLKOUT_PCIE8N → AM3 → CLK_CPU_BCLK# 4
CLKOUT_BCLK0_P / CLKOUT_PCIE8P → AM1 → CLK_CPU_BCLK 4
PECI → BG10 → PCH_PECI_R R581 *SHORT_4 → H_PECI 4
RCIN# → T1 → SIO_RCIN# 30
PROCPWRGD → BE10 → H_PWRGOOD 4,16
THRMTRIP# → BD10 → PCH_THRMTRIP#_R R252 56/F_4 → PM_THRMTRIP# 4
+1.1V_VTT → R251 56/F_4

TP1 → BA22 → TP1_PCH → TP41
TP2 → AW22 → TP2_PCH → TP40
TP3 → BB22
TP4 → AY45
TP5 → AY46
TP6 → AV43
TP7 → AV45
TP8 → AF13
TP9 → M18
TP10 → N18
TP11 → AJ24
TP12 → AK41
TP13 → AK42
TP14 → M32
TP15 → N32
TP16 → M30
TP17 → N30
TP18 → H12
TP19 → AA23
NC_1 → AB45
NC_2 → AB38
NC_3 → AB42
NC_4 → AB41
NC_5 → T39
INIT3_3V# → P6 → TP_INT3_3V → TP68
TP24 → C10

Del R231 at C-test.

+3V_S5
CR_WAKE# R275 1K_4
RSV_GPIO8 R258 10K_4
TP_PCH_GPIO28 R634 10K_4
GPIO45 R625 10K_4
GPIO46 R624 10K_4
GPIO57 R621 *10K_4
LAN_DISABLE# R285 10K_4

+3V
SIO_EXT_SMI# R551 10K_4
SIO_EXT_SCI# R278 10K_4
dGPU_PWR_EN# R631 10K_4
dGPU_RUNPWROK_R R330 10K_4

+3V
SIO_RCIN# R601 10K_4
SIO_A20GATE R616 10K_4
dGPU_HOLD_RST# R282 10K_4
SATA5GP R605 10K_4
GPIO22 R276 10K_4
dGPU_PRSNT# R604 10K_4
SAVE_LED# R277 10K_4
STP_PCI# R623 10K_4
GPIO39 R600 10K_4
GPIO38 R603 10K_4

4,6,7,12,16,34,37 +1.1V_VTT
3,10,12,16,22,35,37 +1.05V
3,4,8,9,10,12,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,32,33,34,35,37 +3V
8,9,10,12,14,15,16,20,25,27,29,30,32,37 +3V_S5
6,12,37 +1.8V

+3V_S5 R641 *10K_4
BOARD_ID0 R640 10K_4
GPIO27 R669 *10K_4
RSV_GPIO8 R670 *1K_4
GPIO57 R671 10K_4
4/9 Reserve GPIO8 by ww14 MoW
7/1 Add R671 for GPIO57 PD and not PU for Intel suggestion at C-test.

Integrated Clock Chip Enable	
RSV_GPIO8	High = Disable Low = Enable
BOARD_ID0	High = Touch Screen Low = Discrete

10 NV_ALE R586 *1K_4
10 NV_CLE R606 *1K_4
+1.8V

Danbury Technology Enabled	
NV_ALE	High = Enable Low = Disable

DMI Termination Voltage	
NV_CLE	Set to Vcc when LOW Set to Vcc/2 when HIGH

5/12 Reverse Q12,Q11 connect to t SYS_SHDN# at B-test

+1.1V_VTT
8,33 DELAY_VR_PWRGOOD
Q12 *2N7002D
PM_THRMTRIP#
Q11 *MMBT3904
SYS_SHDN# 32,41

+3V
BMBUSY# R371 8.2K_4
SV_SET_UP R283 10K_4

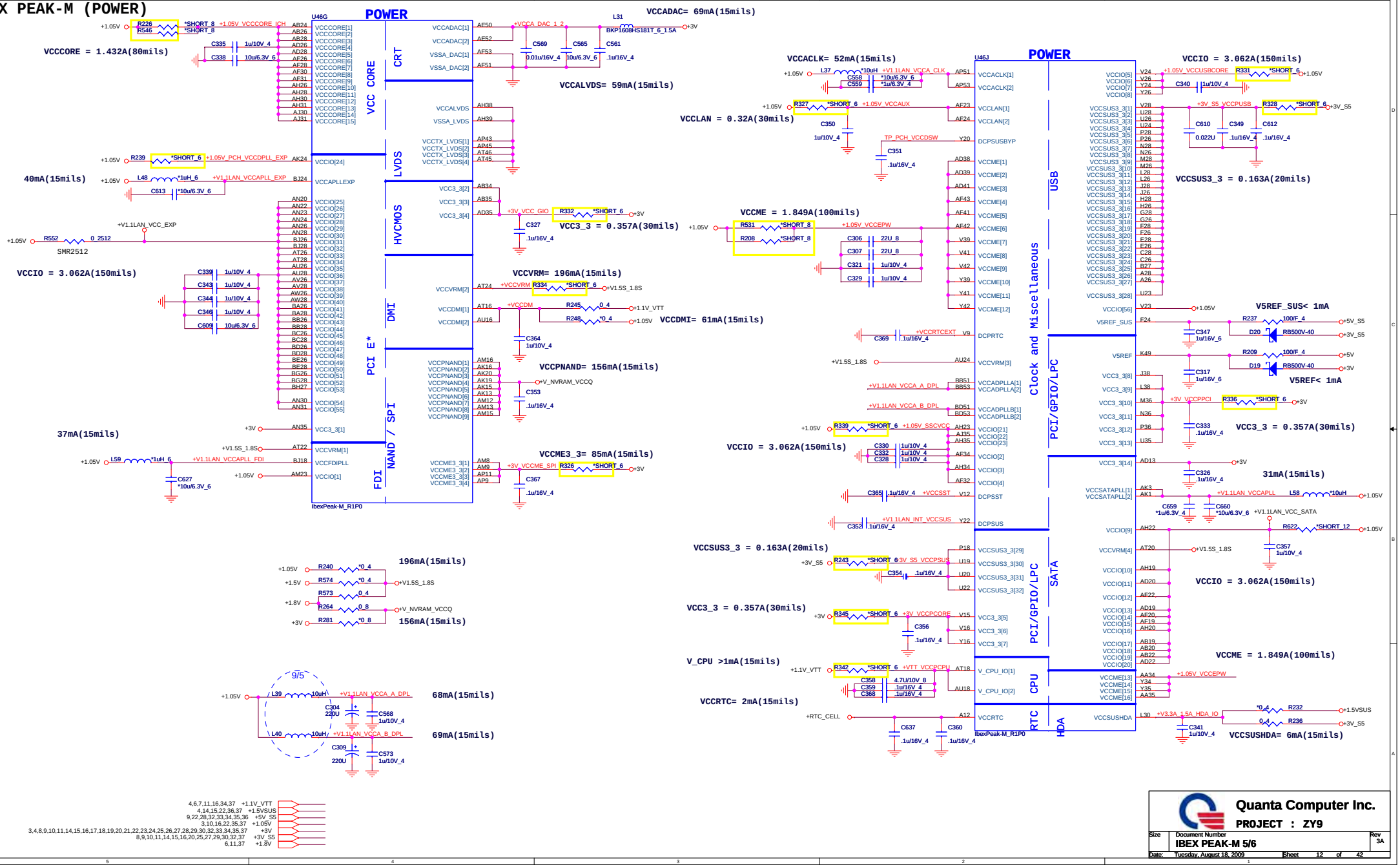
SV_SET_UP	1-X High = Strong (Default)

Quanta Computer Inc.
PROJECT : ZY9

Size	Document Number	Rev
	IBEX PEAK-M 4/6	3A

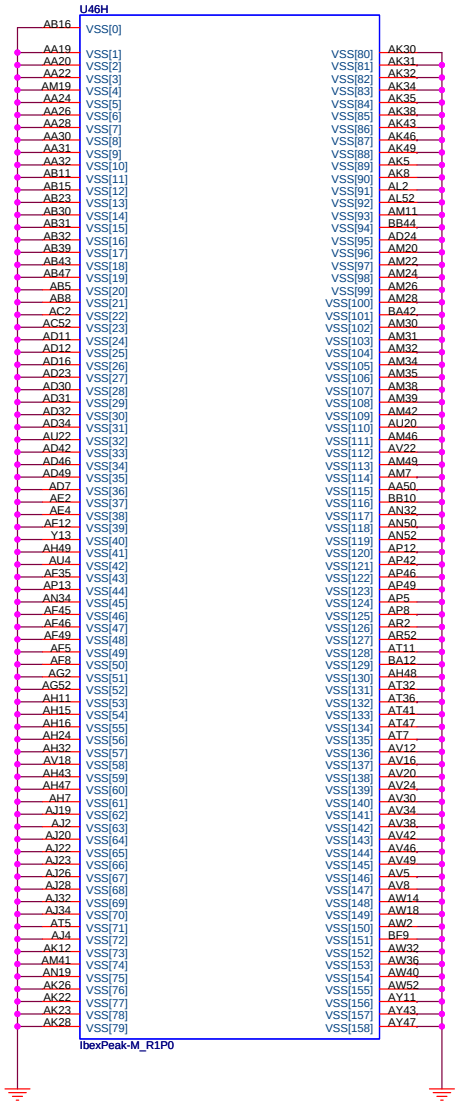
Date: Tuesday, August 18, 2009 Sheet 11 of 42

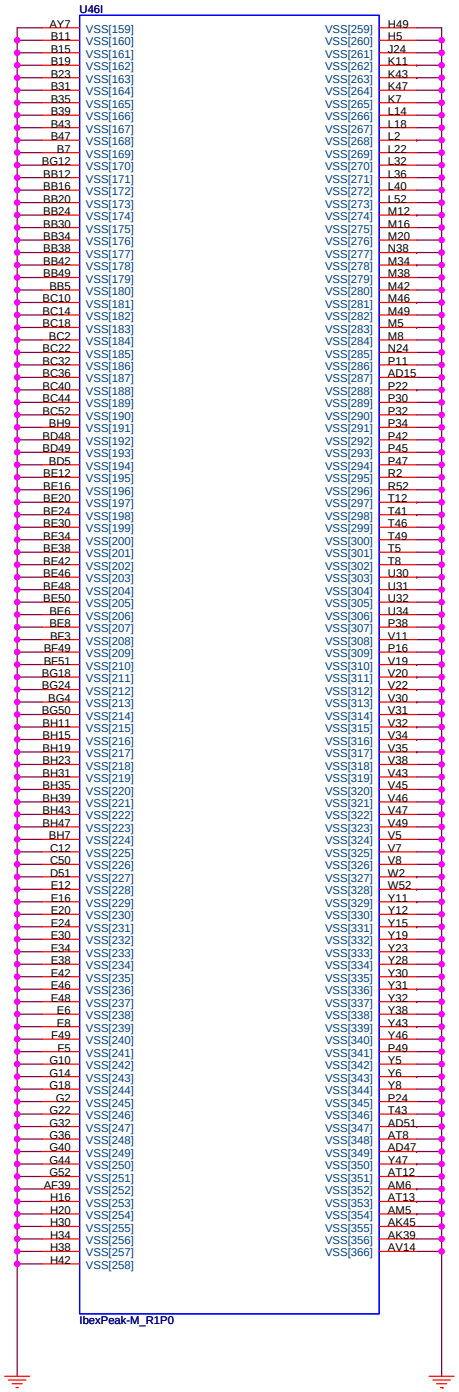
IBEX PEAK-M (POWER)



Quanta Computer Inc.	
PROJECT : ZY9	
Size	Document Number: IBEX PEAK-M 5/6 — Rev: 3A
Date: Tuesday, August 18, 2009	Sheet 12 of 42

IBEX PEAK-M (GND)



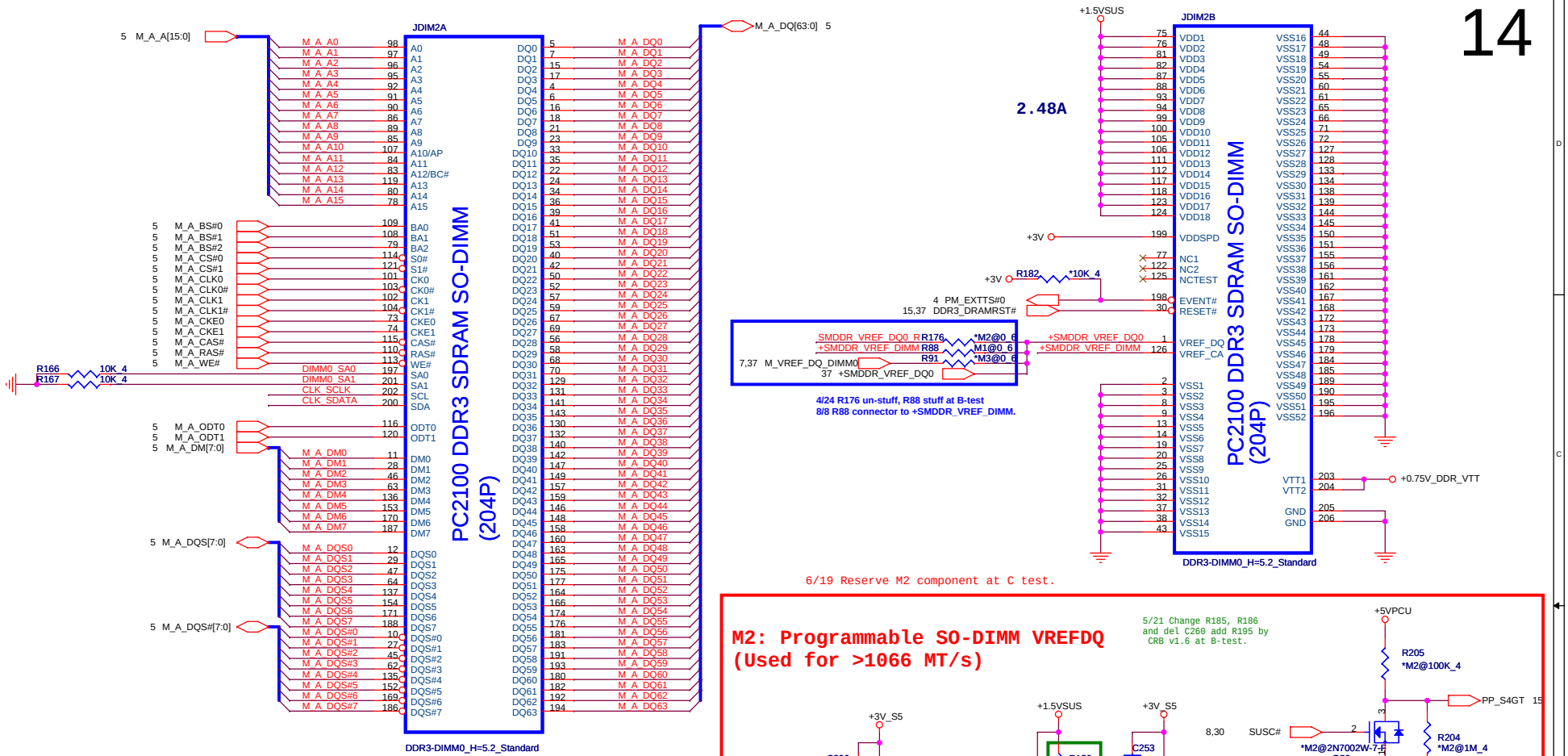


Quanta Computer Inc.

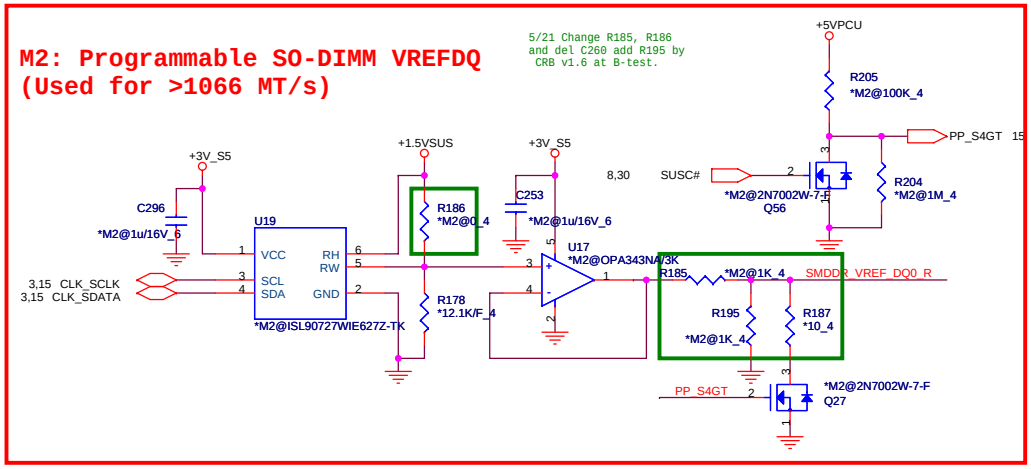
PROJECT : ZY9

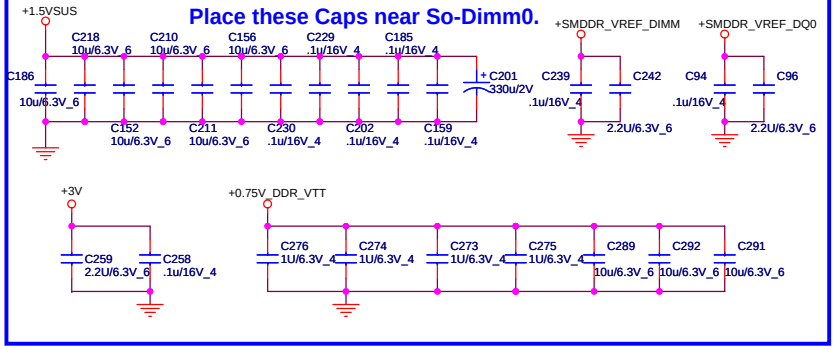
Size	Document Number	Rev
	IBEX PEAK-M 6/6	3A

Date: Tuesday, August 18, 2009 Sheet 13 of 42

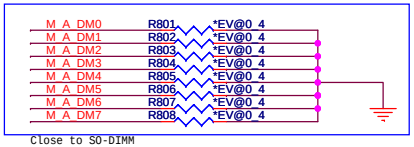


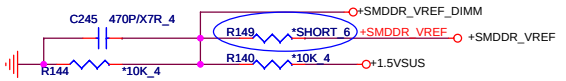
6/19 Reserve M2 component at C test.





6/22 Reserve R801~R808 at C test.



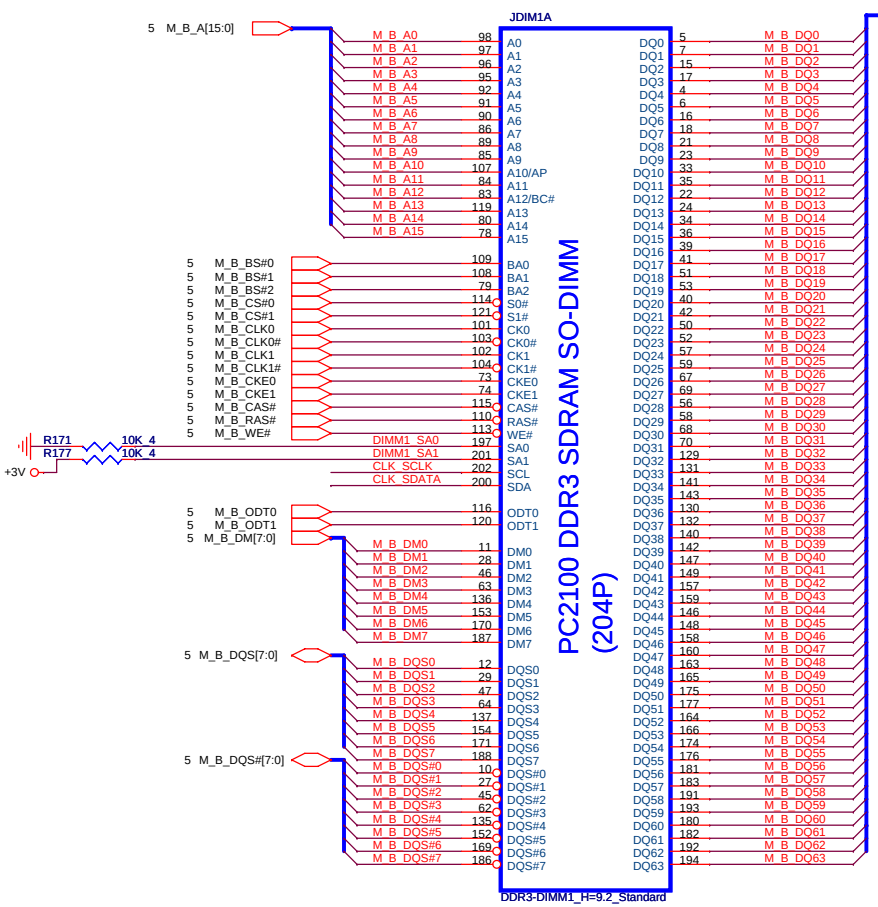


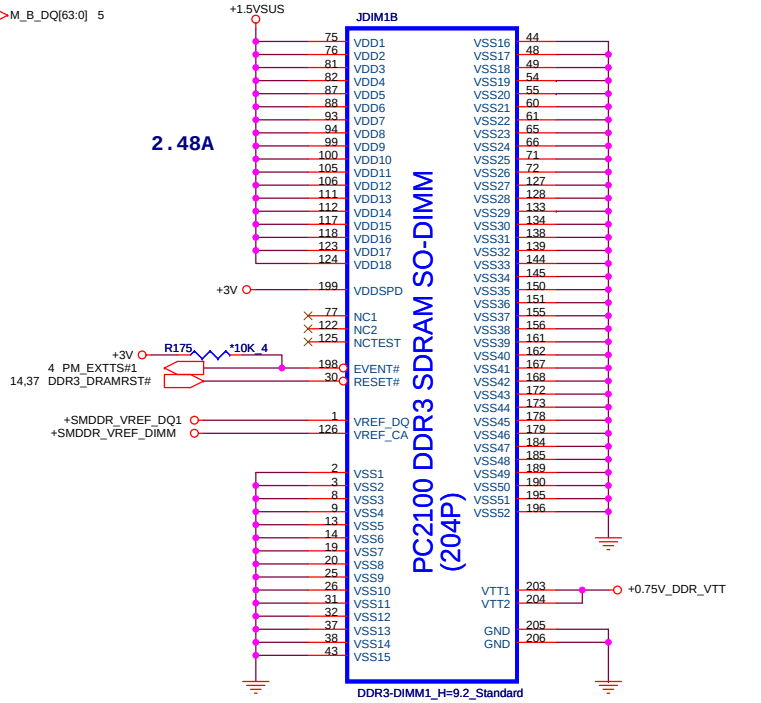
Quanta Computer Inc.

PROJECT : ZY9

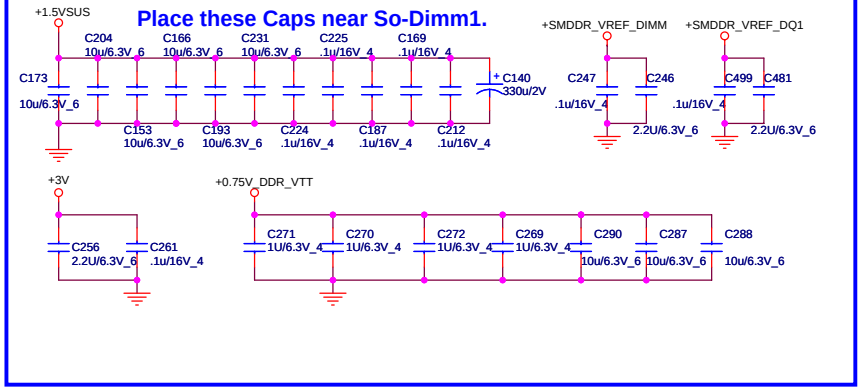
Size	Document Number	Rev
	DDRIII SO-DIMM-0	3A

Date: Tuesday, August 18, 2009 Sheet 14 of 42

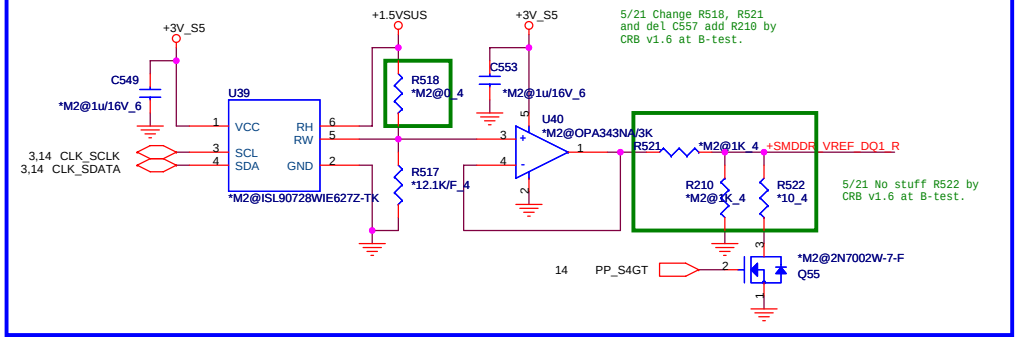




Place these Caps near So-Dimm1.

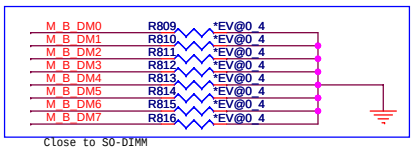


M2: Programmable SO-DIMM VREFDQ (Used for >1066 MT/s)



6/19 Reserve M2 component at C test.

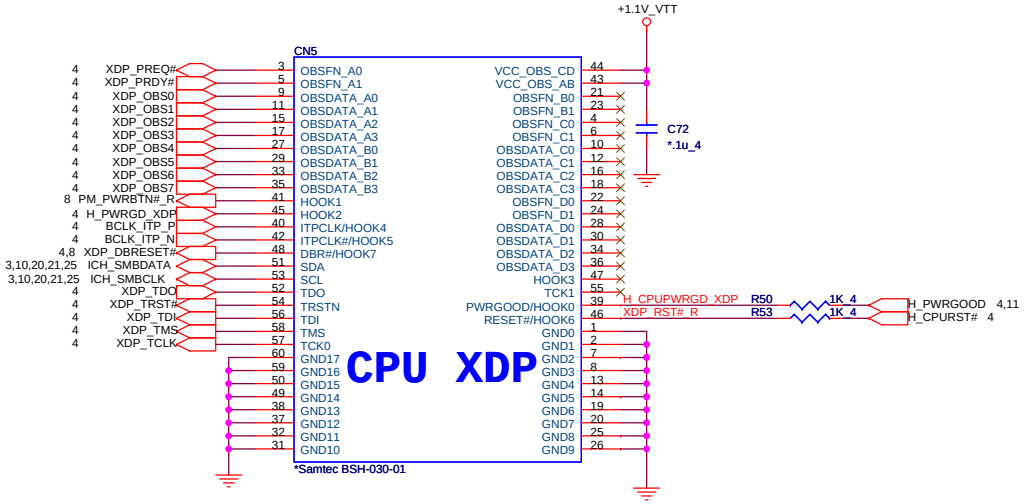
6/22 Reserve R809~R816 at C test.

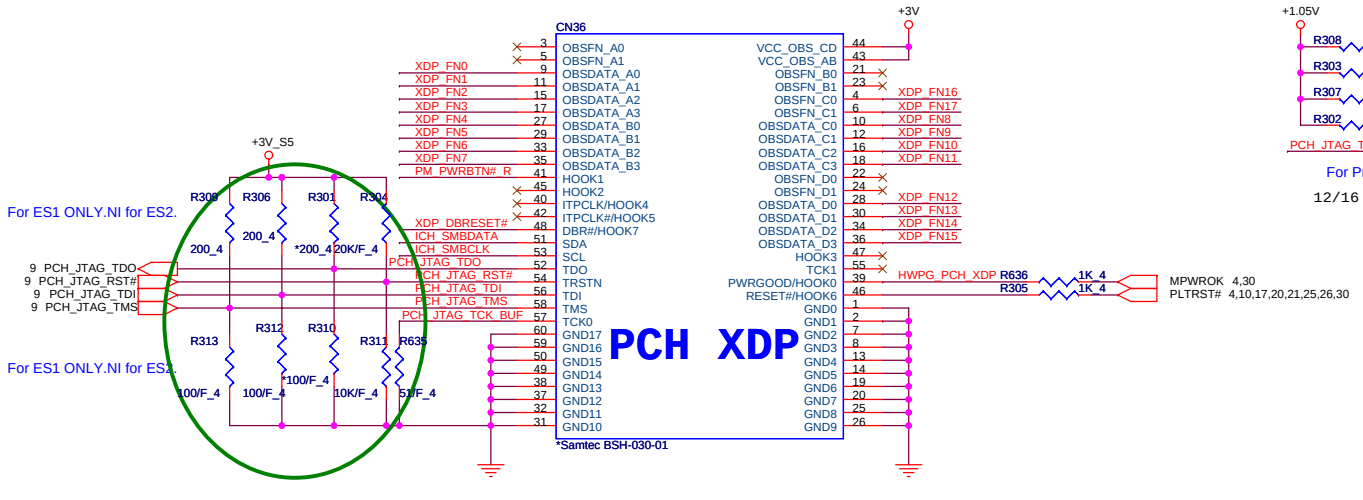


Quanta Computer Inc.
PROJECT : ZY9

Size	Document Number	Rev
	DDRIII SO-DIMM-1	3A

Date: Tuesday, August 18, 2009 Sheet 15 of 42





Quanta Computer Inc.

PROJECT : ZY9

Size	Document Number	Rev
	XDP/BRAIDWOOD	3A

Date: Tuesday, August 18, 2009 Sheet 16 of 42

MXM Module

6/25 Change CN22 pin define and footprint at C test.

At 11/21
update MXM footprint to mxm-mm70-314-310b1-1-270p

dGPU_PRSNT#	Sku
Low	MXM
High	WO/ MXM

MXM3.0	n-Vidia	AMD
LVDS	LVDS	LVDS/Int. DP
DP_D	N/A	X
DP_A	HDMI	HDMI
DP_C	Ext. DP/DVI	Ext. DP/DVI
DP_B	N/A	N/A

MXM3_2.0 CONNECTOR

PEX_Swing adjust

At 11/13
Modify Net Name

At 11/19
add Switch for HDA

6/25 Del R63 at C test.

At 11/14 Add it

MXM 3V/5V Power switch

MXM Reset

Thermo SMBus

Stuff isolate 2N7002 at C-test

change to 2N7002 at B-test

MXM VIN Power switch

At 11/18 Add it

PU it at B-test

MXM use SPDIF output at B-test

Quanta Computer Inc.	
PROJECT : ZY9	
Size	Document Number: MXM3.0 — Rev: 3A
Date: Tuesday, August 18, 2009	Sheet 17 of 42

CRT

5/22 Change L9,L10,L13 to 75ohm by EMI at B test.

8/12 del R431~R437 at Ramp-test

17 EV_CRT_RED
17 EV_CRT_GRN
17 EV_CRT_BLU
17 EV_VSYNC
17 EV_HSYNC
17 EV_CRTDDAT
17 EV_CRTDCLK

1A/30V
D24
RSX101M-30
+5V
C423 .22u_4
CRTVDD5
CN17
CRT
EV_CRT_RED
EV_CRT_GRN
EV_CRT_BLU
L13 BLM18BA750SN1D
L10 BLM18BA750SN1D
L9 BLM18BA750SN1D
CRT_R1
CRT_G1
CRT_B1
R35 150/F_4
R30 150/F_4
R28 150/F_4
C48 10p/50V_4
C38 10p/50V_4
C28 10p/50V_4
C27 10p/50V_4
C30 10p/50V_4
C45 10p/50V_4
CRT_11
DDCDAT_1
CRTHSYNC
CRTVSYNC
DDCCLK_1
T3
D3 MTW355
CRT_SENSE# 30
D4 *VPORT_6

+3V
C432 .1u_4
C425 22u/25V_6
CRT_BYP
C426 .1u_4
U29
VCC_SYNC SYNC_OUT2
SYNC_OUT1
VCC_DDC
BYP
VCC_VIDEO
SYNC_IN2
SYNC_IN1
VIDEO_1
VIDEO_2
VIDEO_3
DDC_IN1
DDC_IN2
DDC_OUT1
DDC_OUT2
GND
CM2009-02QR
CRT_VSYNC1
CRT_HSYNC1
EV_VSYNC
EV_HSYNC
EV_CRTDCLK
EV_CRTDDAT
DDCCLK_1
DDCDAT_1
R36 0_4
R29 0_4
R385 2.7K_4
R386 2.7K_4
R384 2.7K_4
R388 2.7K_4
C429 *.1u_4
C44 *10p/50V_4 CRTVSYNC
C31 *10p/50V_4 CRTHSYNC
C424 10p/50V_4 DDCCLK_1
C431 10p/50V_4 DDCDAT_1

LVDS

At 11/13 Modify
30 CONTRAST
17 EV_LVDS_BRIGHT
R401 0_4
R402 *0_4
LVDS_BRIGHT

3/11 NV request I2C pull-up 4.7K, and MXM module have 4.7K pull-up.

Remove R438, R639 at B-test
17 EV_LVDS_DDCDAT
17 EV_LVDS_DDCCLK
R397 4.7K_4
R398 4.7K_4
17 EV_LVDS_BLON
17 EV_LVDS_VDDEN
R656 *SHORT_4
R657 *SHORT_4
LVDS_BLON
LVDS_VDDEN

Reserve RV7,RV8 by ESD at B-test
RV7 *EGA-0402
RV8 *EGA-0402
DMIC_DAT
DMIC_CLK

+3V
C4 0.1u/50V_6
C2 1000p/50V_4
VIN
C3 4.7u/25V_8
C1 1000p/50V_4

0.8A
R3 *SHORT_8
R1 *SHORT_8
INVCC0
LCDVCC
CN1
EV_LVDS_DDCDAT
EV_LVDS_DDCCLK
LVDS_BRIGHT
BL_ON
23 DMIC_DAT
23 DMIC_CLK
EV_TXLCLKOUT+
EV_TXLCLKOUT-
EV_TXLOUT0+
EV_TXLOUT0-
EV_TXLOUT1+
EV_TXLOUT1-
EV_TXLOUT2+
EV_TXLOUT2-
EV_TXUCLKOUT+
EV_TXUCLKOUT-
EV_TXUOUT0+
EV_TXUOUT0-
EV_TXUOUT1+
EV_TXUOUT1-
EV_TXUOUT2+
EV_TXUOUT2-
10 USBP8+
10 USBP8-
GS12401-1011-40P-R-NH

LCD Power

+15V
R15 330K_6
+3VPCU
R11 100K_4
Q4 PDTC143TT
LVDS_VDDEN
R10 100K_4
LCDONG
C9 .01u/25V_4
Q7 2N7002D
+3V
65mil
Q6 AO3404
LCDVCC1
65mil
R9 22_8
LCDDISCHG
LCDON#
Q3 2N7002D
L2 *SHORT_6
L1 *SHORT_6
65mil
LCDVCC
C410 .1u/16V_4
C409 .01u/16V_4
C7 22U_8

Backlight Control

+3V
R2 10K_4
R14 10K_4
BL_ON
D2 BAS316
LID591# 29,30
BL#
Q2 2N7002D
Q1 DTC144EUA
EC_FPBACK# 30
LVDS_BLON
Q5 2N7002D
R13 100K_4

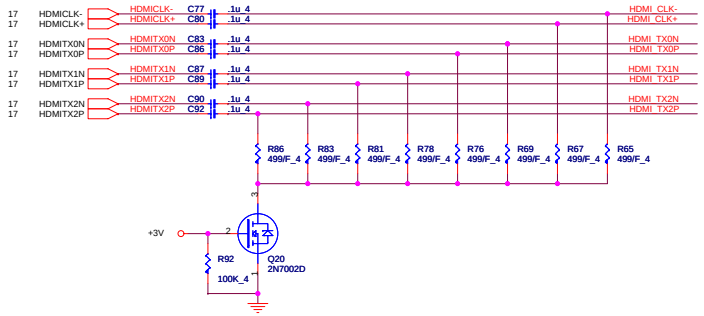
Quanta Computer Inc.
PROJECT : ZY9

Size	Document Number	Rev
	CRT/LVDS/LID	3A

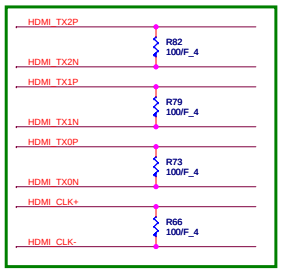
Date: Tuesday, August 18, 2009 Sheet 18 of 42

HDMI

TMDS (DC-coupled)
DP(AC-coupled)

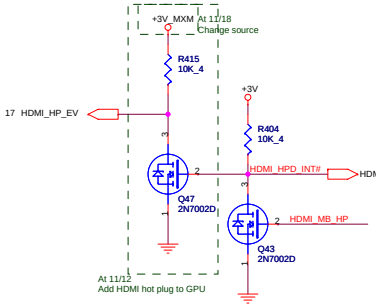


5/14 Stuff R82,R79,R73,R66 by EMI at B test.



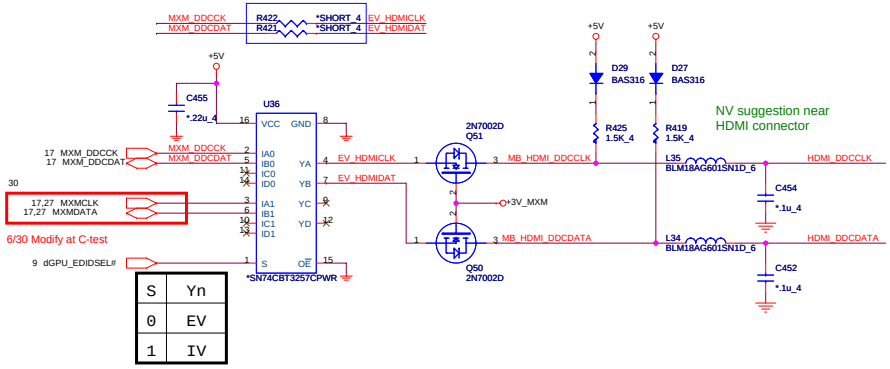
Close CN27

HDMI Hot-PLUG to SB and GPU



SDVO I2C Control

Bypass(default)

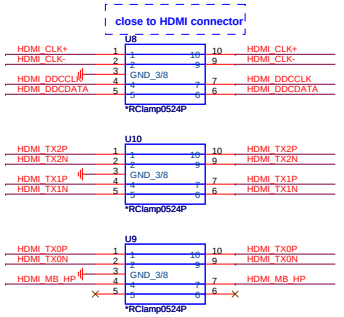


NV suggestion near HDMI connector

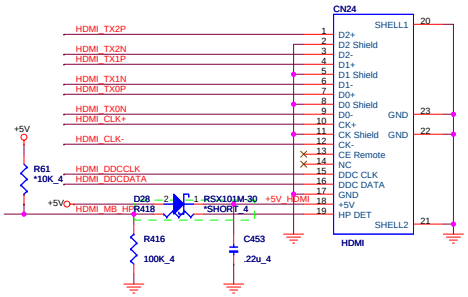
S	Yn
0	EV
1	IV

ESD Protect

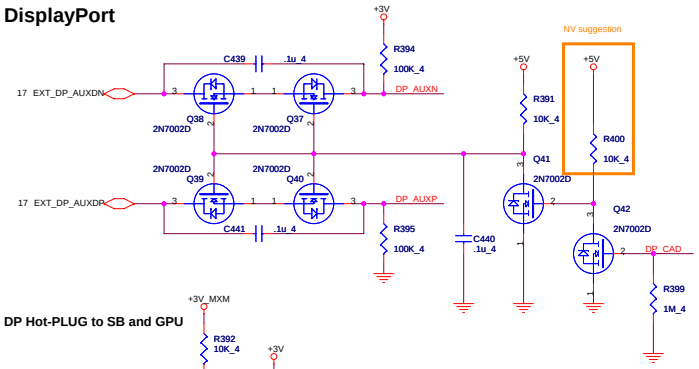
close to HDMI connector



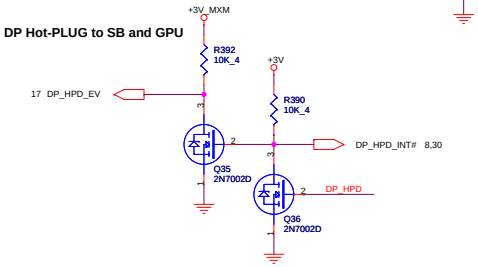
HDMI connector



DisplayPort



DP Hot-PLUG to SB and GPU

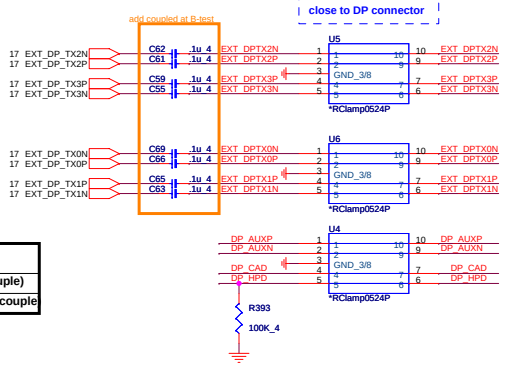


DP_CAD	Behavior
Low	DP signal (AC couple)
High	TMDS signal (DC couple

ESD Protect

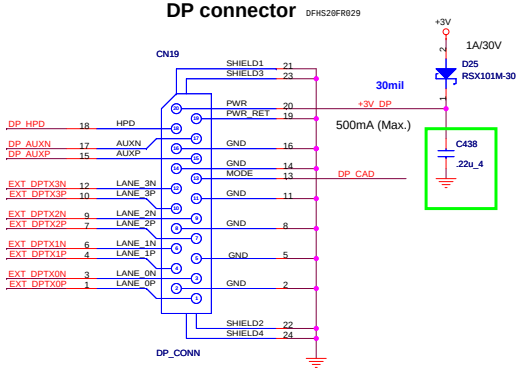
close to DP connector

add coupled at B-test



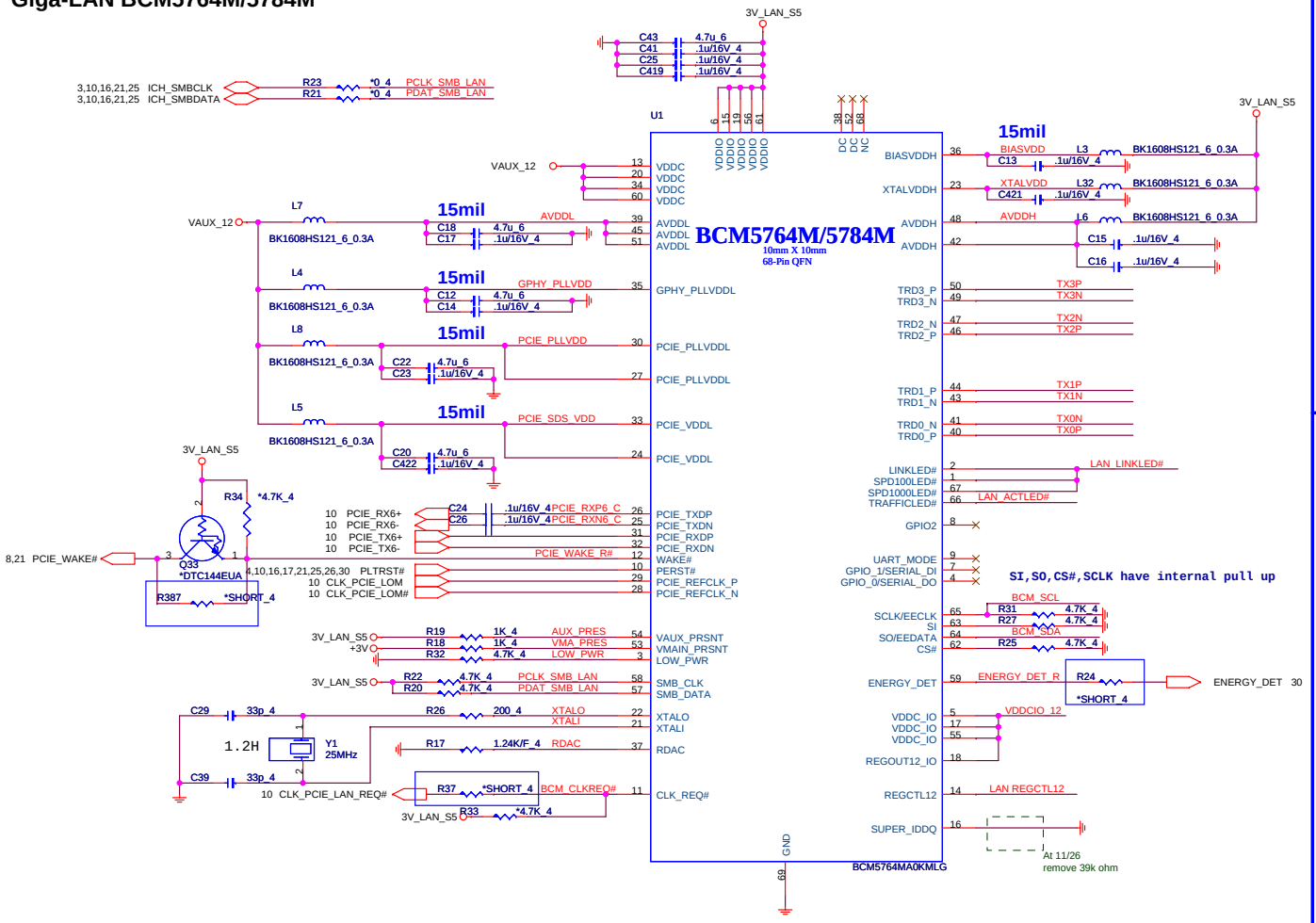
DP connector

DFHS20FR029



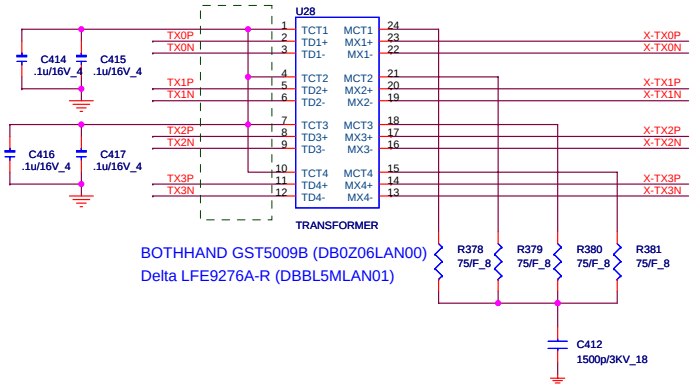
Quanta Computer Inc.		
PROJECT : ZY9		
Size	Document Number	Rev
	HDMI/DP	3A
Date: Thursday, August 20, 2009	Sheet 19 of 42	

Giga-LAN BCM5764M/5784M

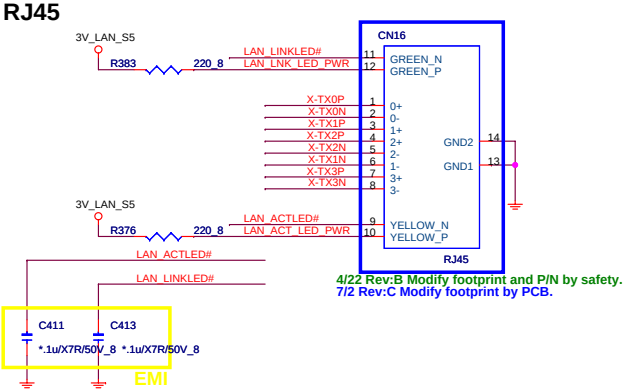


TRANSFORMER

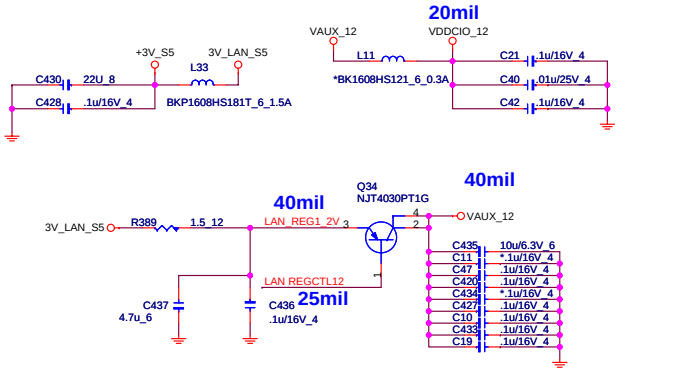
At 11/26
TCT1-4 pin connect toghter



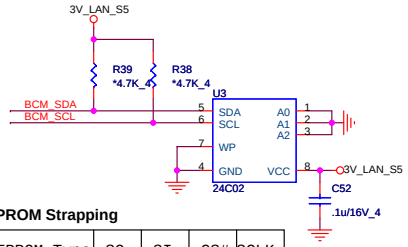
RJ45



LAN POWER



EEPROM



EEPROM Strapping

EEPROM Type	SO	SI	CS#	SCLK
24c02	1	0	0	0

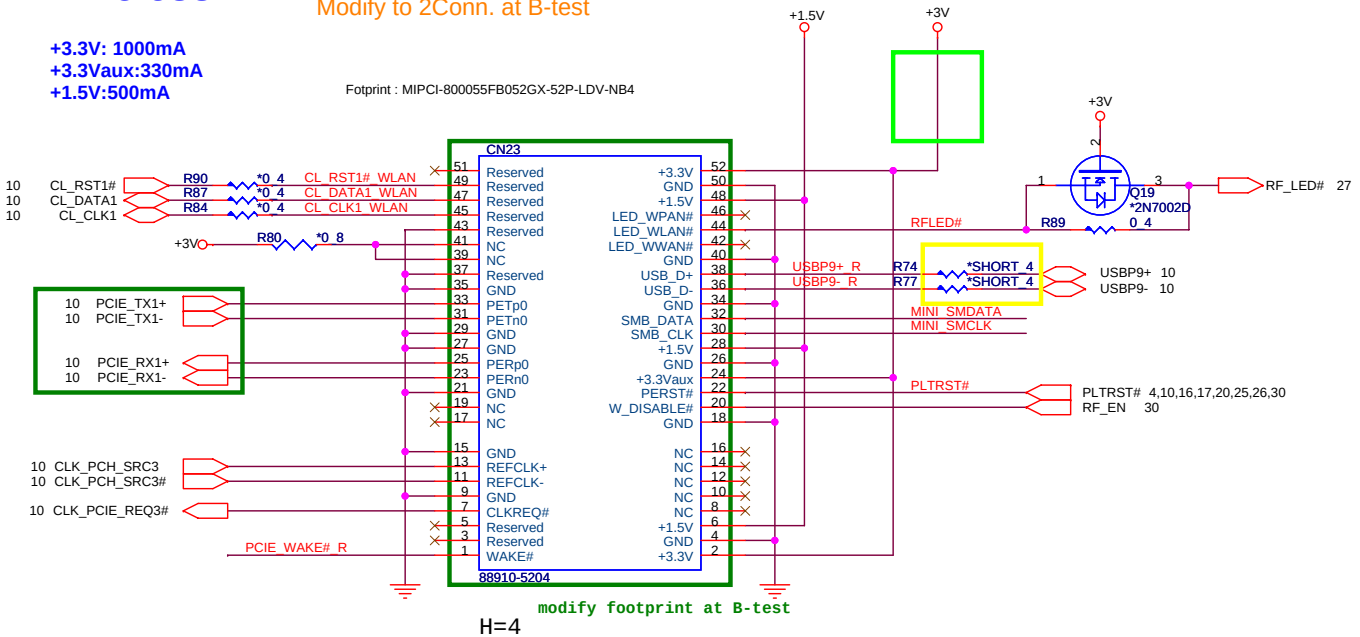
Quanta Computer Inc.
PROJECT : ZY9
Size | Document Number: LAN (BCM5764M/5784M) | Rev 3A
Date: Tuesday, August 18, 2009 | Sheet 20 of 42

Wireless

Modify to 2Conn. at B-test

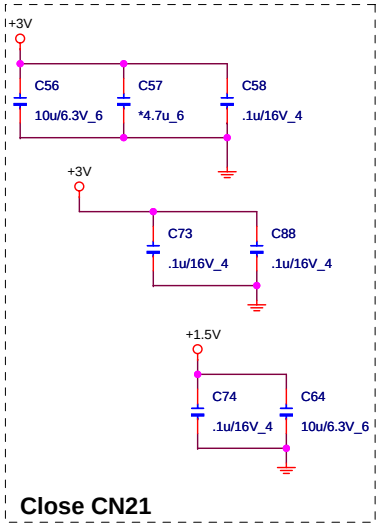
+3.3V: 1000mA
+3.3Vaux:330mA
+1.5V:500mA

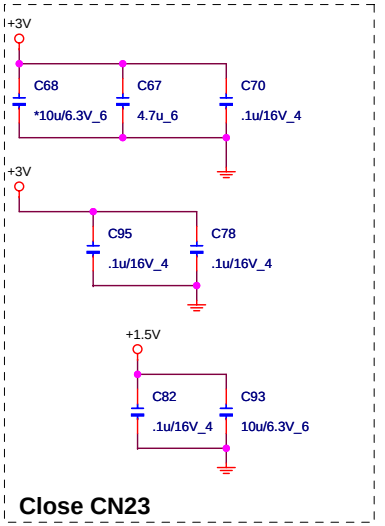
Fotprint : MIPCI-800055FB052GX-52P-LDV-NB4



modify footprint at B-test

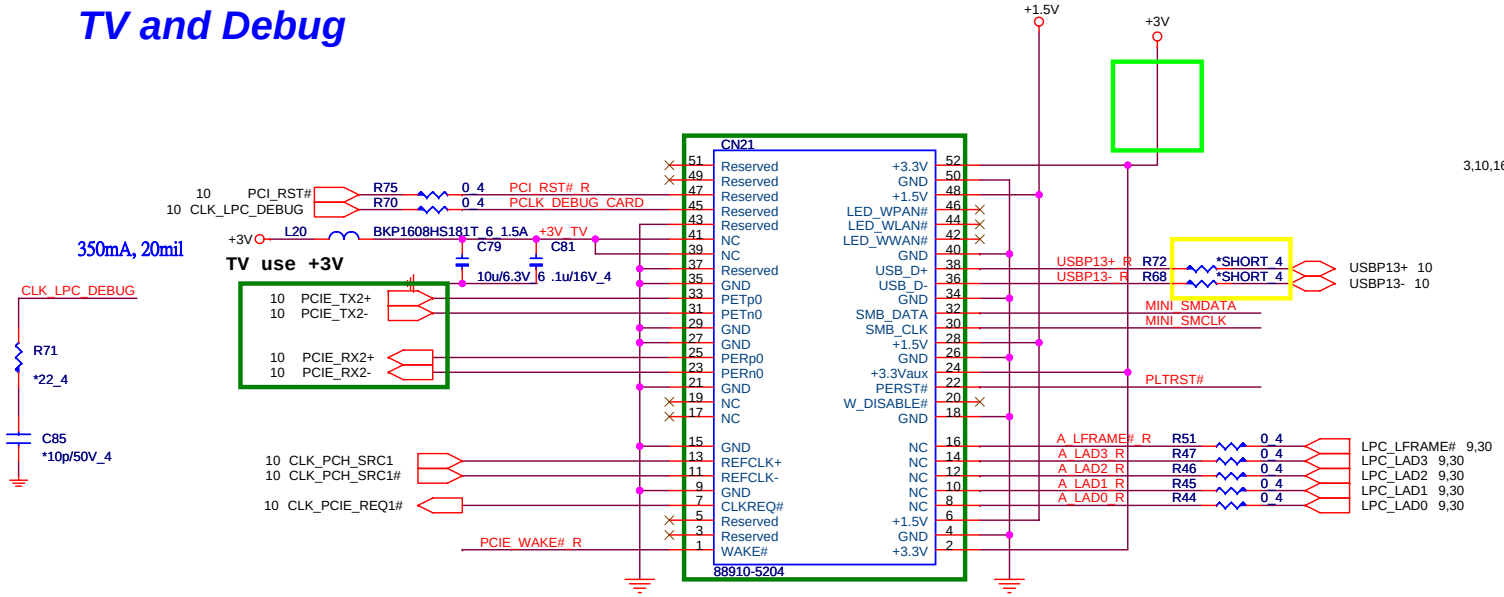
H=4





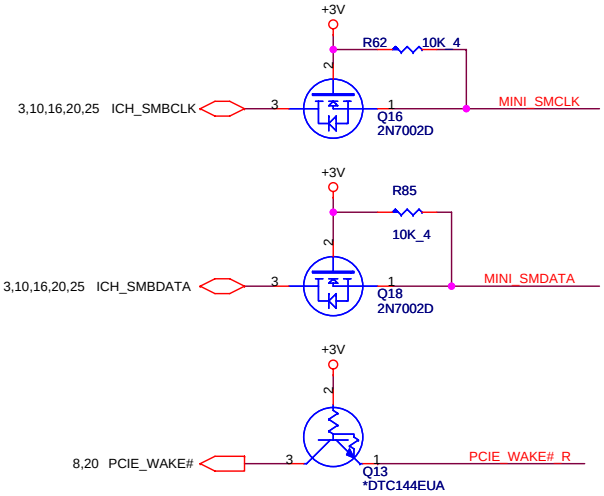
5/14 Change PCIE sequence beween CN21 and CN23 by BIOS at B-test.

TV and Debug



modify footprint at B-test

H=9

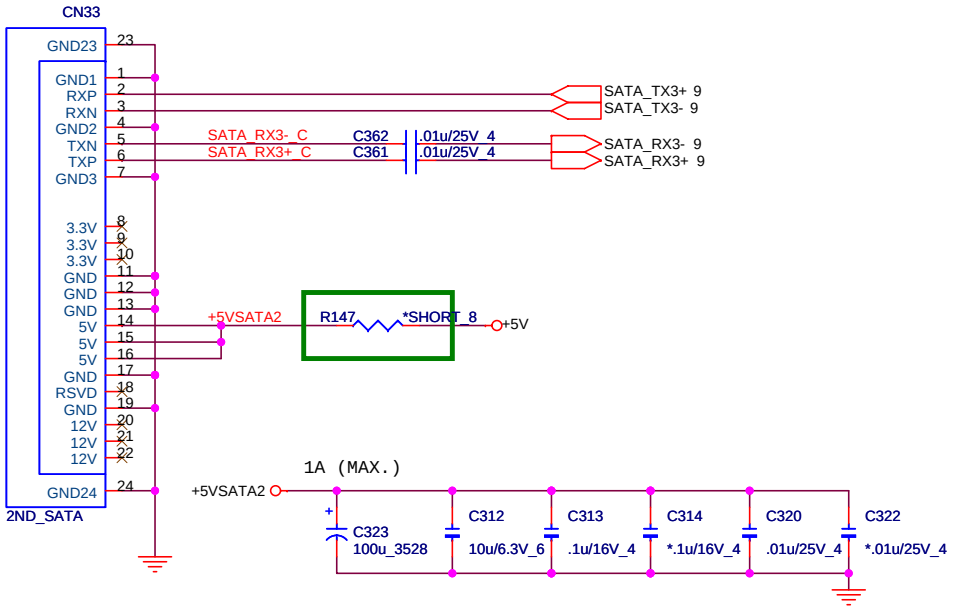


Quanta Computer Inc.

PROJECT : ZY9

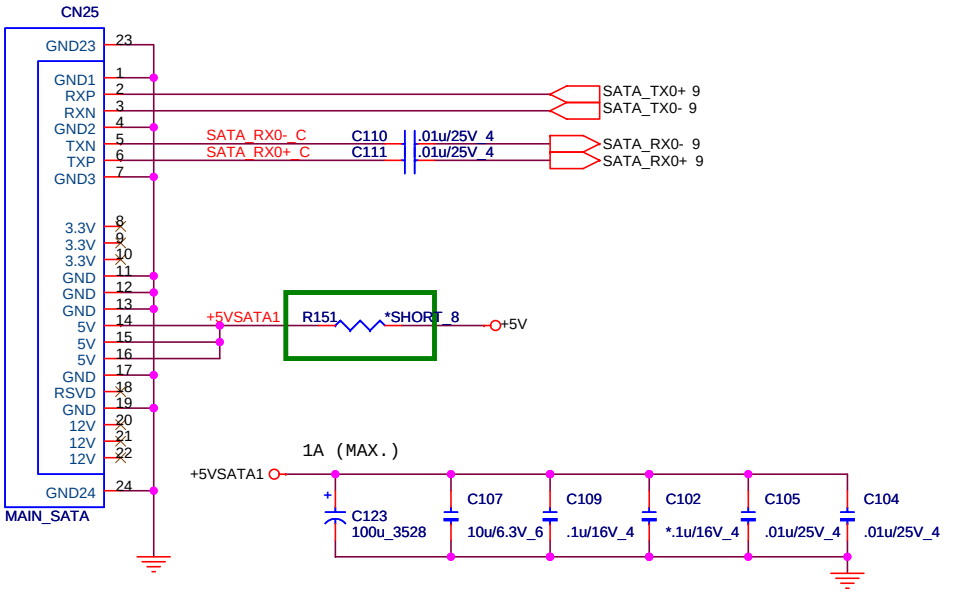
Size	Document Number	Rev
	MINI PCI-E card/TV	3A
Date: Tuesday, August 18, 2009	Sheet 21 of 42	

2nd SATA HDD (edge of board)

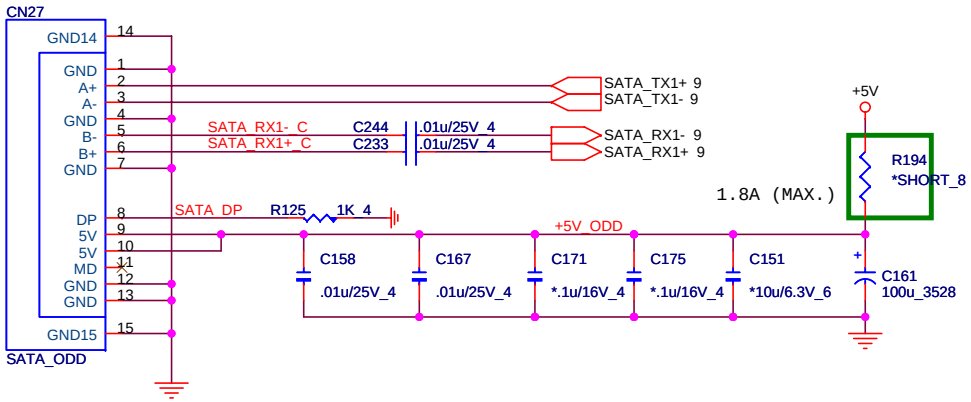


5/13 Add R147,R151,R197 for power consumption measure at B-test.

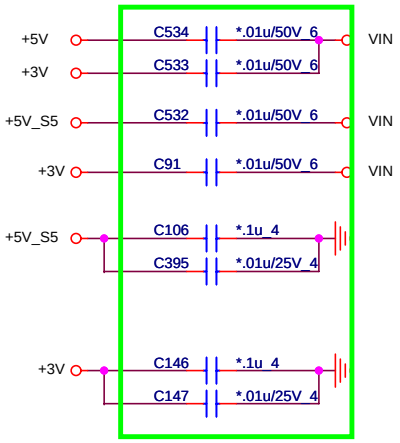
MAIN SATA HDD

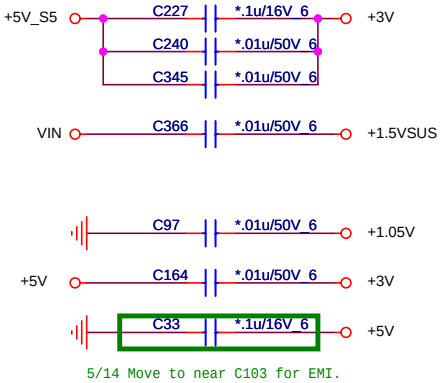


ODD (SATA)



EE RETURN-PATH CAPACITORS





5/14 Move to near C103 for EMI.

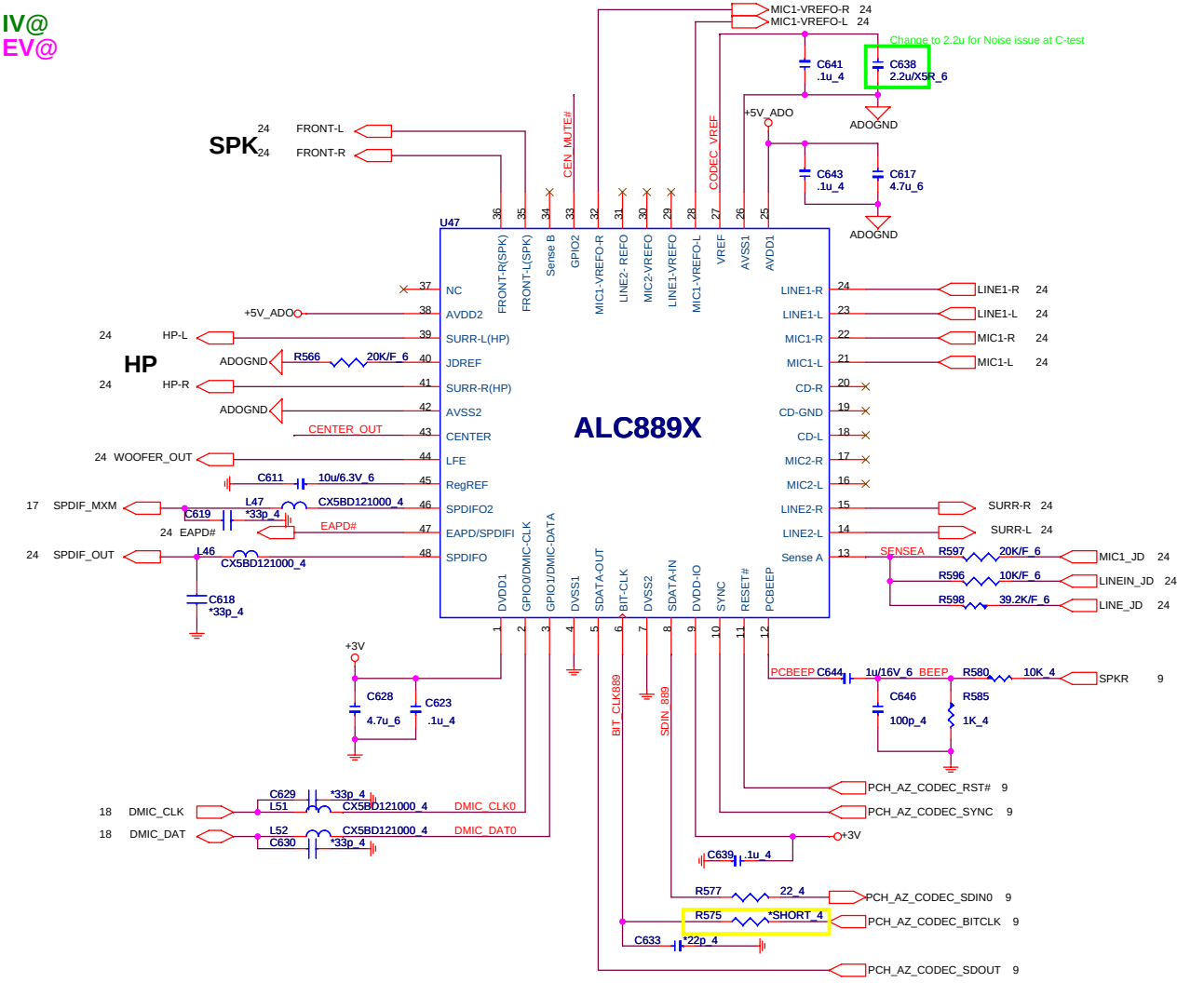
Quanta Computer Inc.

PROJECT : ZY9

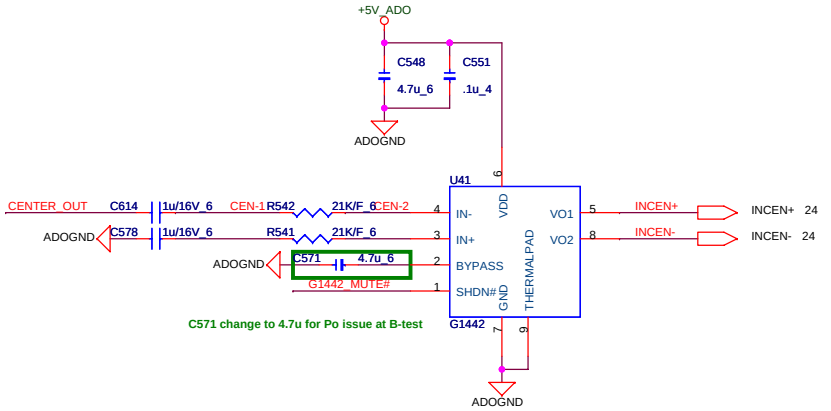
Size	Document Number	Rev
	SATA-HDD/ODD	3A
Date: Tuesday, August 18, 2009	Sheet 22 of 42	

CODEC(ALC889X)

IV@
EV@

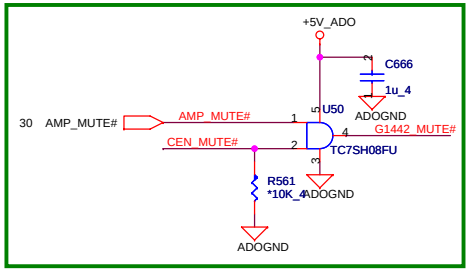


CENTER MONO

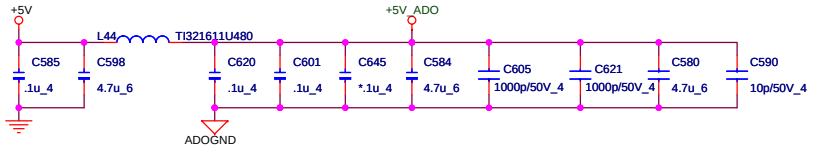


EAPD pin

5/11: Add U50, C666 and R561 for Po issue at B-test



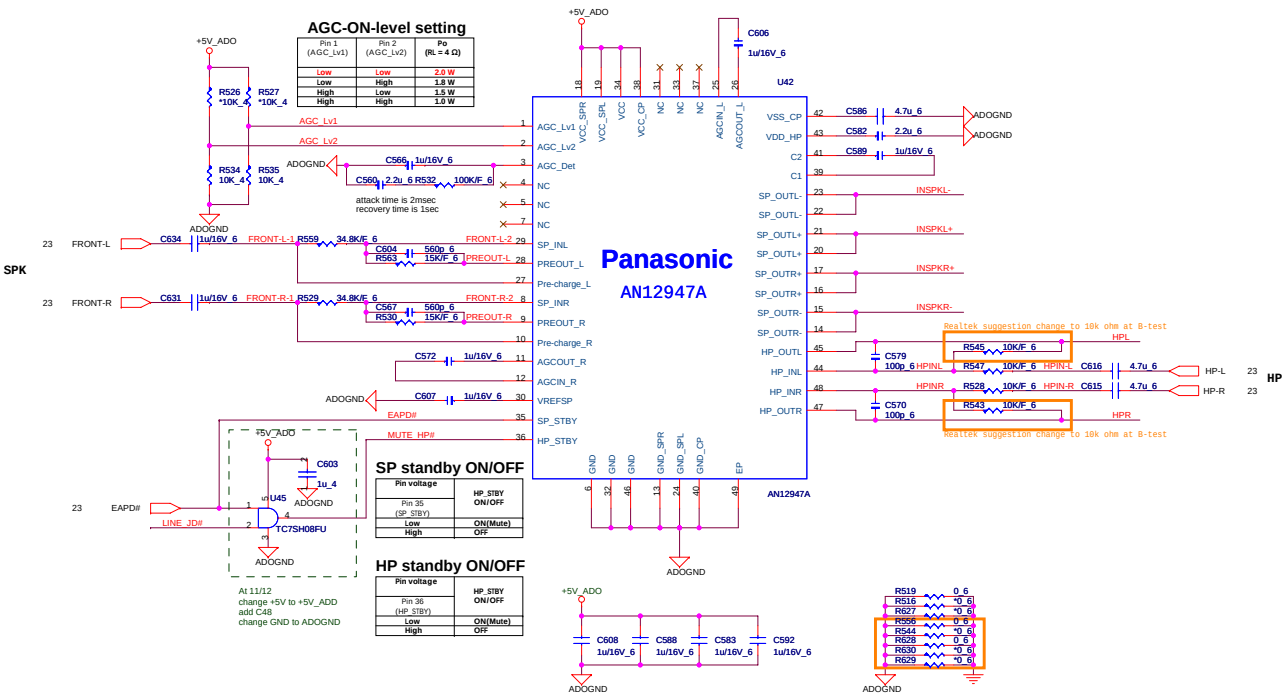
CODEC/AMP Power



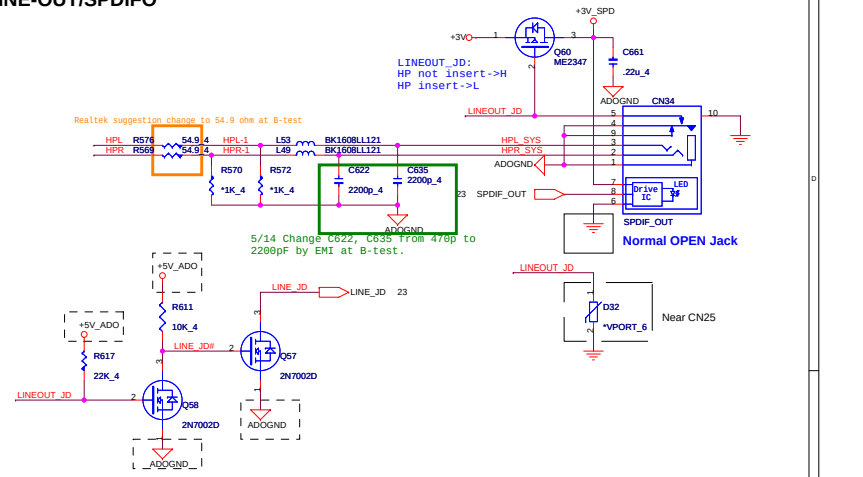
Quanta Computer Inc.
PROJECT : ZY9

Size	Document Number	Rev
	REALTEK ALC889X/MONO-AMP	3A
Date: Tuesday, August 18, 2009	Sheet 23 of 42	

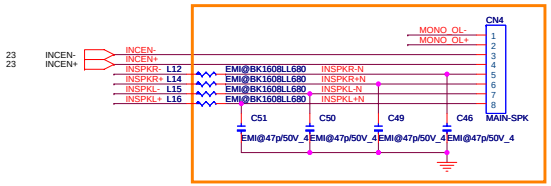
SPEAKER/HP AMP.



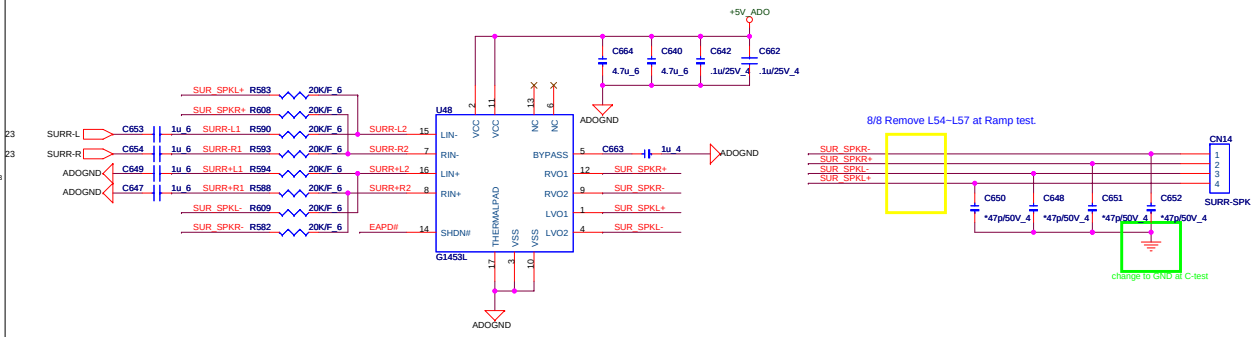
LINE-OUT/SPDIFO



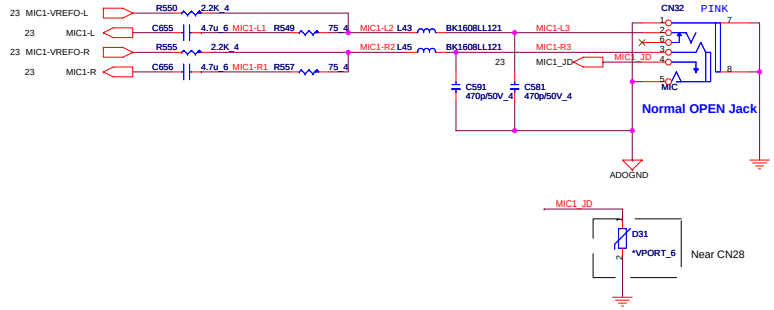
Main SPK/Center/Subwoofer EMI



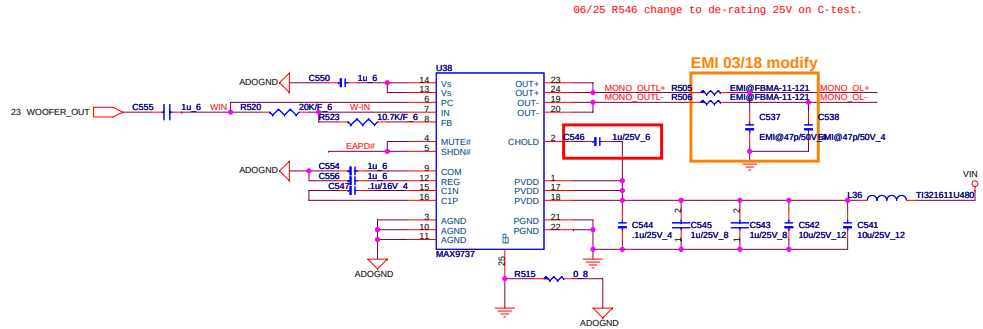
SURR-SPK



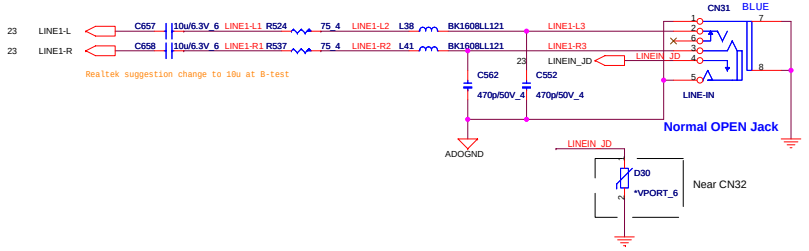
MIC



SUBWOOFER



LINE IN



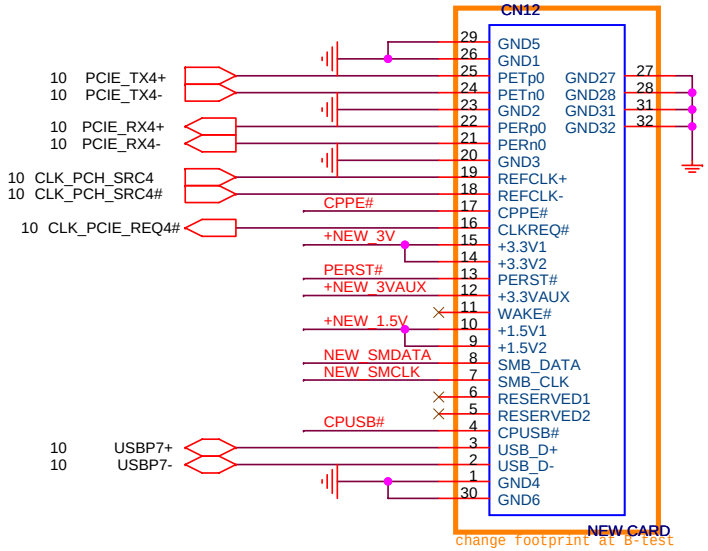
Quanta Computer Inc.

PROJECT : ZY9

Size	Document Number	Rev
	AMP/AUDIO JACK/WOOFER	3A

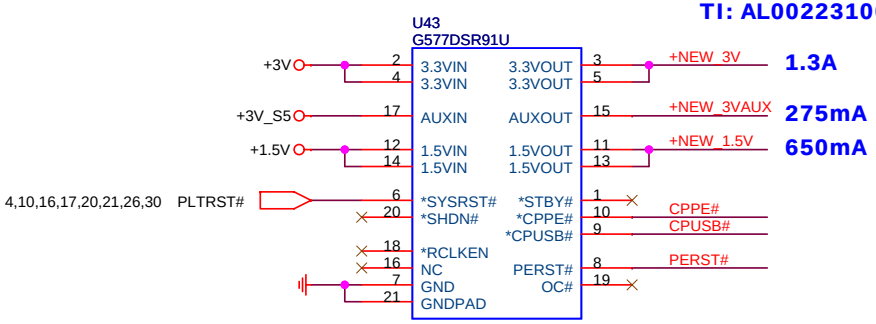
Date: Tuesday, August 18, 2009 Sheet 24 of 42

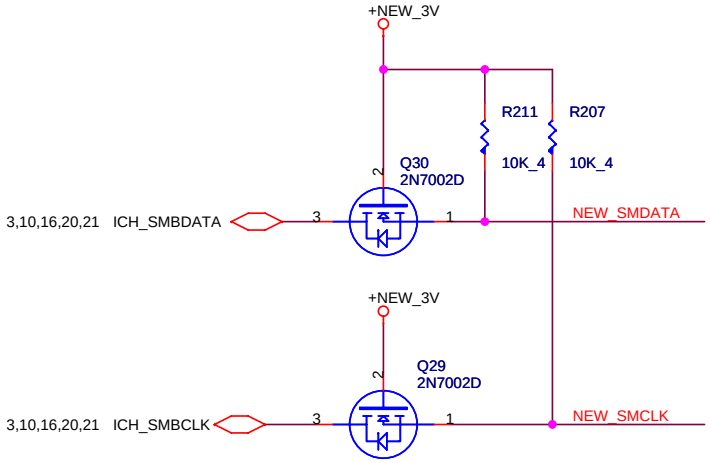
NEW CARD

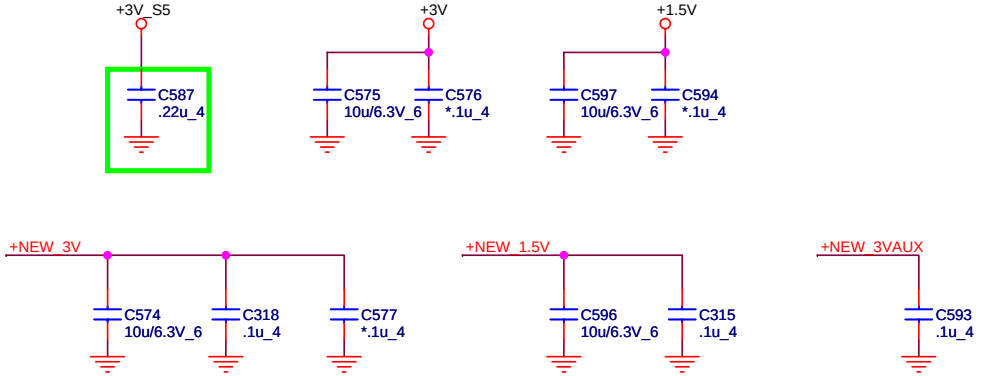


At 11/18
Change GMT cost down version.

NEW CARD'S POWER SWITCH **GMT: AL000577002**
TI: AL002231000

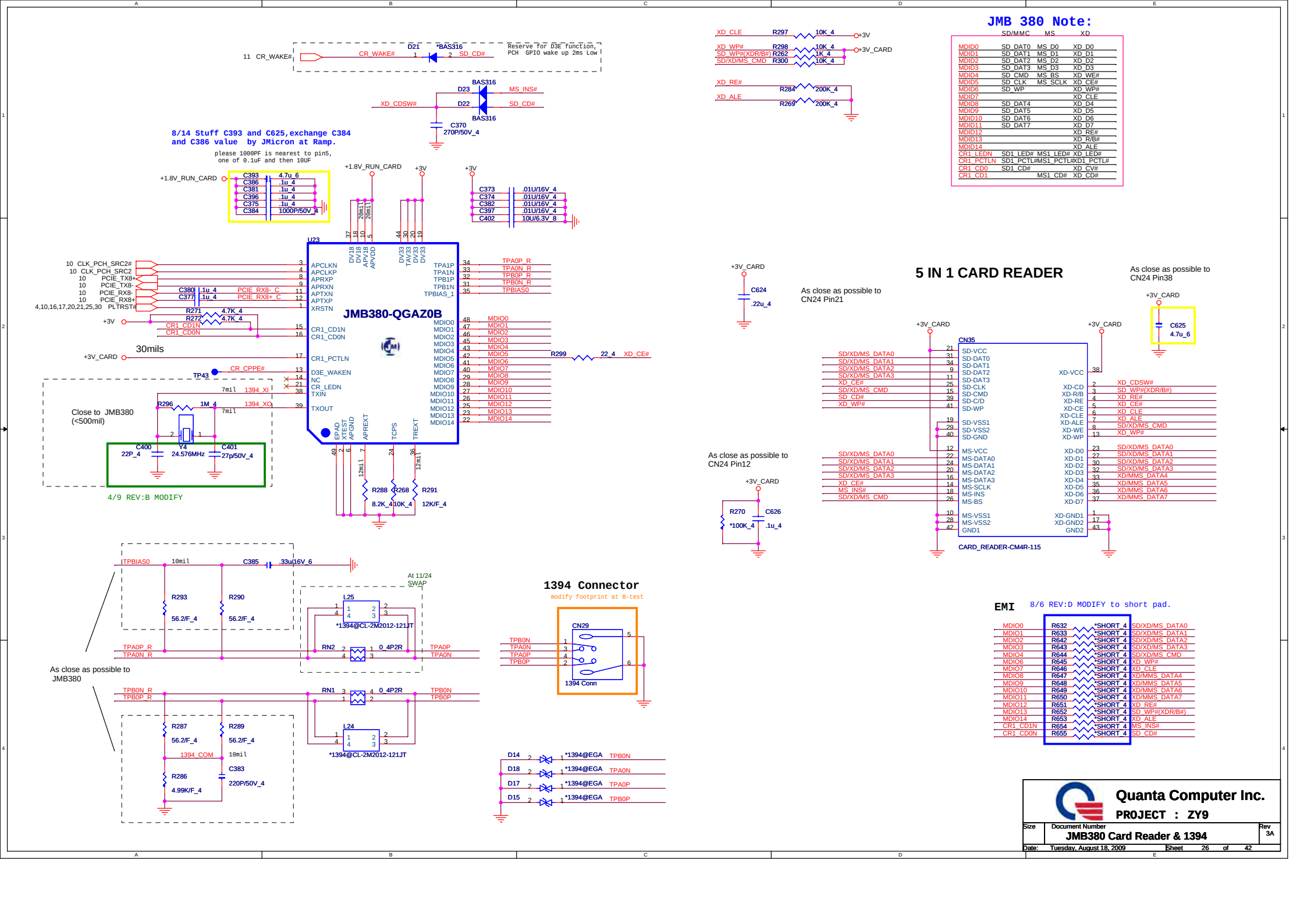




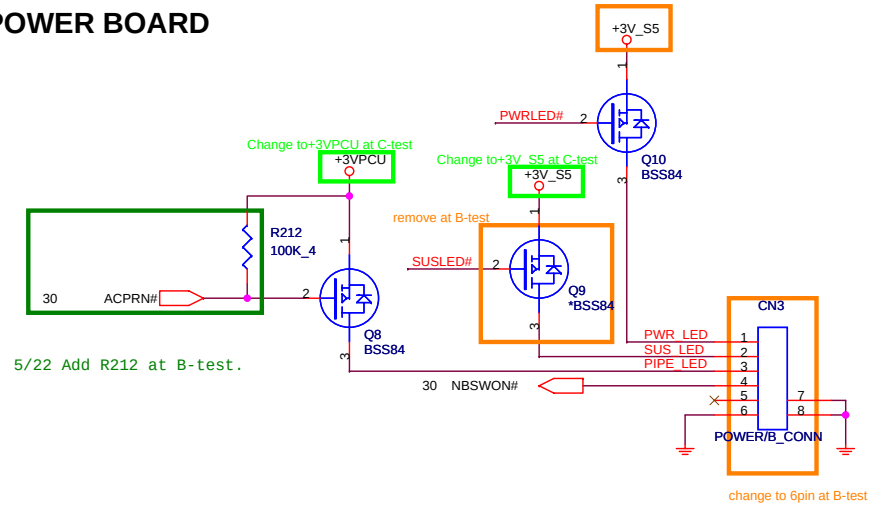


Quanta Computer Inc.
PROJECT : ZY9

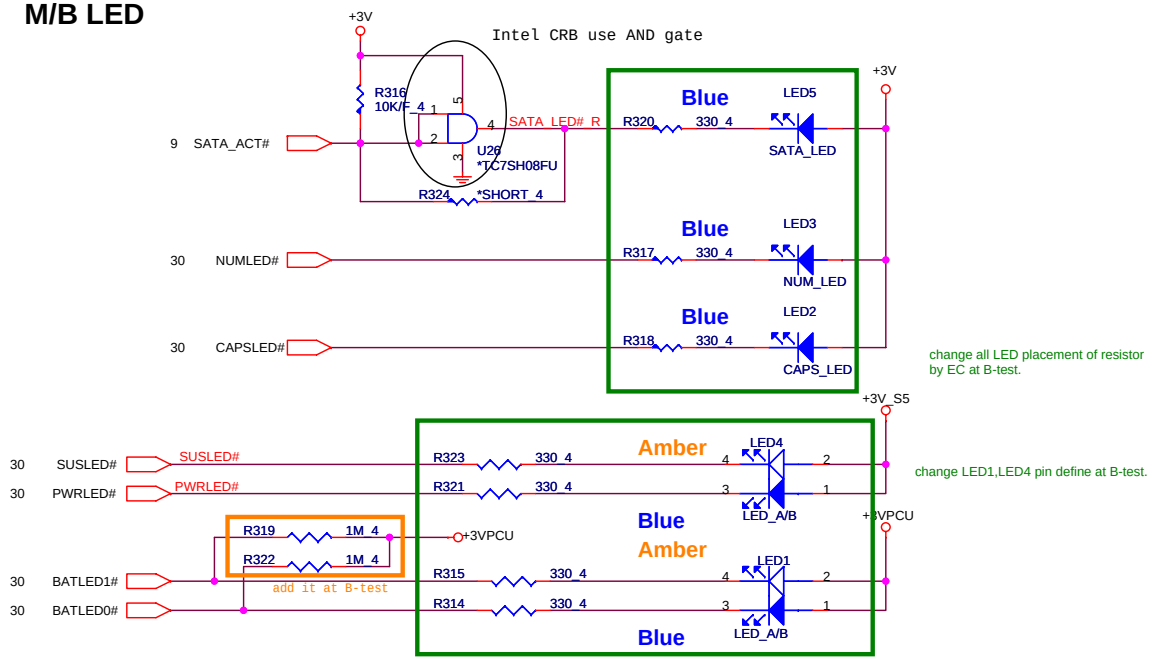
Size	Document Number	Rev
	NEW CARD	3A
Date: Tuesday, August 18, 2009	Sheet 25 of 42	


JMB 380 Note:
SD/MMC MS XD
MDID0 SD_DAT0 MS_D0 XD_D0
MDID1 SD_DAT1 MS_D1 XD_D1
MDID2 SD_DAT2 MS_D2 XD_D2
MDID3 SD_DAT3 MS_D3 XD_D3
MDID4 SD_CMD MS_BS XD_WE#
MDID5 SD_CLK MS_SCLK XD_CE#
MDID6 SD_WP XD_WP#
MDID7 XD_CLE
MDID8 SD_DAT4 XD_D4
MDID9 SD_DAT5 XD_D5
MDID10 SD_DAT6 XD_D6
MDID11 SD_DAT7 XD_D7
MDID12 XD_RE#
MDID13 XD_R/B#
MDID14 XD_ALE
CR1_LEDN SD1_LED# MS1_LED# XD_LED#
CR1_PCTLN SD1_PCTL# MS1_PCTL# XD1_PCTL#
CR1_CD0 SD1_CD# XD_CV#
CR1_CD1 MS1_CD# XD_CD#
XD_CLE R297 10K_4 +3V
XD_WP# R298 10K_4
SD_WP#(XDR/B#) R262 1K_4 +3V_CARD
SD/XD/MS_CMD R300 10K_4
XD_RE# R284 200K_4
XD_ALE R269 200K_4
11 CR_WAKE#
CR_WAKE# D21 *BAS316 SD_CD#
Reserve for D3E function, PCH GPIO wake up 2ms Low
XD_CDSW# D22 BAS316 MS_INS# D23 BAS316 SD_CD#
C370 270P/50V_4
8/14 Stuff C393 and C625,exchange C384 and C386 value by JMicron at Ramp.
please 1000PF is nearest to pin5, one of 0.1uF and then 10UF
+1.8V_RUN_CARD
C393 4.7u_6
C386 .1u_4
C381 .1u_4
C396 .1u_4
C375 .1u_4
C384 1000P/50V_4
+1.8V_RUN_CARD +3V +3V
C373 .01U/16V_4
C374 .01U/16V_4
C382 .01U/16V_4
C397 .01U/16V_4
C402 10U/6.3V_8
U23
JMB380-QGAZ0B
APCLKN APCLKP APRXP APRXN APTXN APTXP XRSTN
CR1_CD1N CR1_CD0N CR1_PCTLN D3E_WAKEN NC CR_LEDN TXIN TXOUT
TPA1P TPA1N TPB1P TPB1N TPBIAS_1
MDIO0 MDIO1 MDIO2 MDIO3 MDIO4 MDIO5 MDIO6 MDIO7 MDIO8 MDIO9 MDIO10 MDIO11 MDIO12 MDIO13 MDIO14
10 CLK_PCH_SRC2#
10 CLK_PCH_SRC2
10 PCIE_TX8+
10 PCIE_TX8-
10 PCIE_RX8-
10 PCIE_RX8+
4,10,16,17,20,21,25,30 PLTRST#
C380 .1u_4 PCIE_RX8- C
C377 .1u_4 PCIE_RX8+ C
R271 4.7K_4
R272 4.7K_4
+3V
CR1_CD1N
CR1_CD0N
30mils
+3V_CARD
CR_CPPE#
TP43
7mil 1394_XI
1394_XO 7mil
R296 1M_4
Close to JMB380 (<500mil)
C400 22P_4
Y4 24.576MHz
C401 27p/50V_4
4/9 REV:B MODIFY
R299 22_4 XD_CE#
R288 8.2K_4
R268 10K_4
R291 12K/F_4
TPBIAS0 10mil C385 .33u/16V_6
R293 56.2/F_4
R290 56.2/F_4
TPA0P_R TPA0N_R
At 11/24 SWAP
L25 *1394@CL-2M2012-121JT
RN2 0_4P2R
TPA0P TPA0N
As close as possible to JMB380
TPB0N_R TPB0P_R
RN1 0_4P2R
TPB0N TPB0P
R287 56.2/F_4
R289 56.2/F_4
1394_COM 10mil
C383 220P/50V_4
R286 4.99K/F_4
L24 *1394@CL-2M2012-121JT
1394 Connector
modify footprint at B-test
CN29 1394 Conn
TPB0N TPA0N TPA0P TPB0P
D14 D18 D17 D15 *1394@EGA
+3V_CARD
C624 .22u_4
As close as possible to CN24 Pin21
As close as possible to CN24 Pin12
R270 *100K_4
C626 .1u_4
5 IN 1 CARD READER
As close as possible to CN24 Pin38
C625 4.7u_6
CN35
SD-VCC SD-DAT0 SD-DAT1 SD-DAT2 SD-DAT3 SD-CLK SD-CMD SD-C/D SD-WP SD-VSS1 SD-VSS2 SD-GND
MS-VCC MS-DATA0 MS-DATA1 MS-DATA2 MS-DATA3 MS-SCLK MS-INS MS-BS MS-VSS1 MS-VSS2 GND1
XD-VCC XD-CD XD-R/B XD-RE XD-CE XD-CLE XD-ALE XD-WE XD-WP XD-D0 XD-D1 XD-D2 XD-D3 XD-D4 XD-D5 XD-D6 XD-D7 XD-GND1 XD-GND2 GND2
CARD_READER-CM4R-115
EMI 8/6 REV:D MODIFY to short pad.
MDIO0 R632 *SHORT_4 SD/XD/MS_DATA0
MDIO1 R633 *SHORT_4 SD/XD/MS_DATA1
MDIO2 R642 *SHORT_4 SD/XD/MS_DATA2
MDIO3 R643 *SHORT_4 SD/XD/MS_DATA3
MDIO4 R644 *SHORT_4 SD/XD/MS_CMD
MDIO6 R645 *SHORT_4 XD_WP#
MDIO7 R646 *SHORT_4 XD_CLE
MDIO8 R647 *SHORT_4 XD/MMS_DATA4
MDIO9 R648 *SHORT_4 XD/MMS_DATA5
MDIO10 R649 *SHORT_4 XD/MMS_DATA6
MDIO11 R650 *SHORT_4 XD/MMS_DATA7
MDIO12 R651 *SHORT_4 XD_RE#
MDIO13 R652 *SHORT_4 SD_WP#(XDR/B#)
MDIO14 R653 *SHORT_4 XD_ALE
CR1_CD1N R654 *SHORT_4 MS_INS#
CR1_CD0N R655 *SHORT_4 SD_CD#
Quanta Computer Inc.
PROJECT : ZY9
Size Document Number JMB380 Card Reader & 1394 Rev 3A
Date: Tuesday, August 18, 2009 Sheet 26 of 42

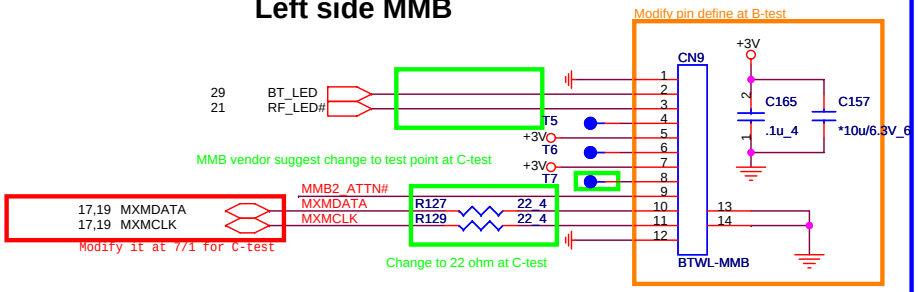
POWER BOARD



M/B LED

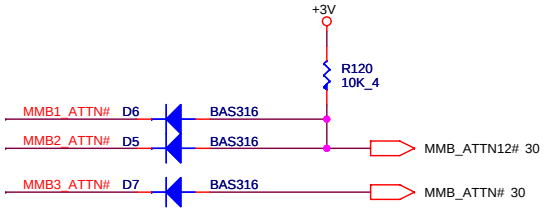


Left side MMB

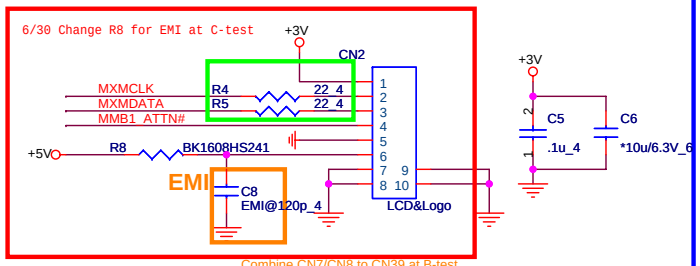


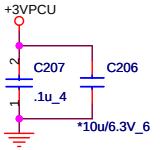
MXMCLK=MXM_SMCLK; MXMDATA=MXM_SMDATA12
MMB1 and MMB2 need add ISOLATE circuit where are on MXM page.

MMB Status

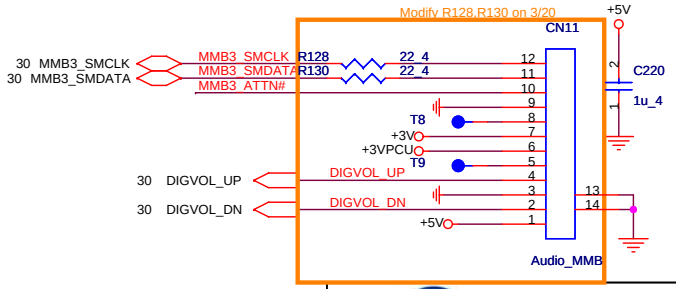


LCD BL_ON/OFF MMB & Backlight Logo LED





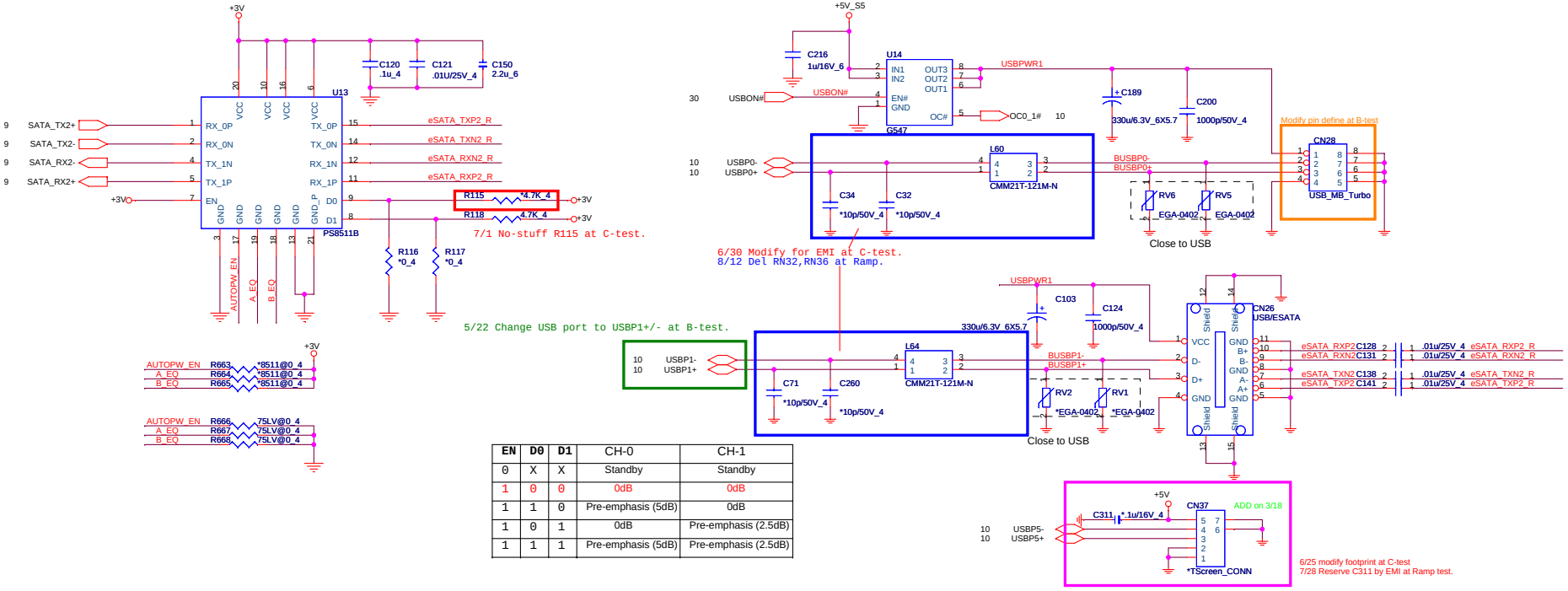
Right Side MMB



Quanta Computer Inc.
PROJECT : ZY9

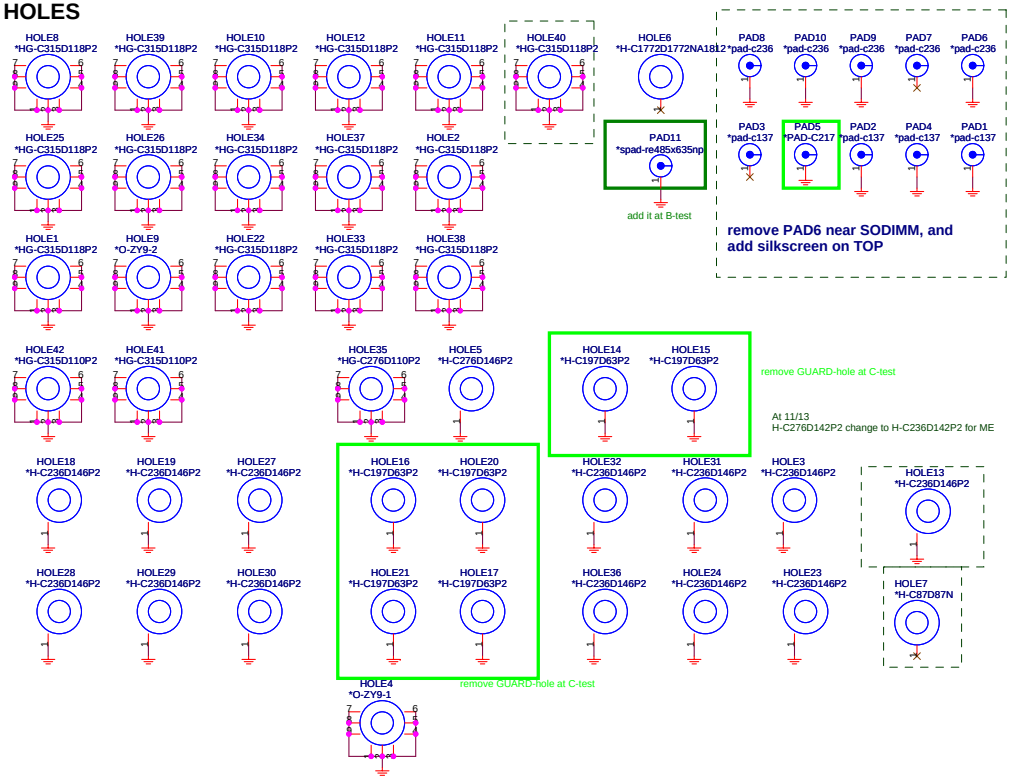
Size	Document Number	Rev
	POWER/MMB/LAUNCH/LED	3A
Date: Tuesday, August 18, 2009	Sheet 27 of 42	

USB & ESATA

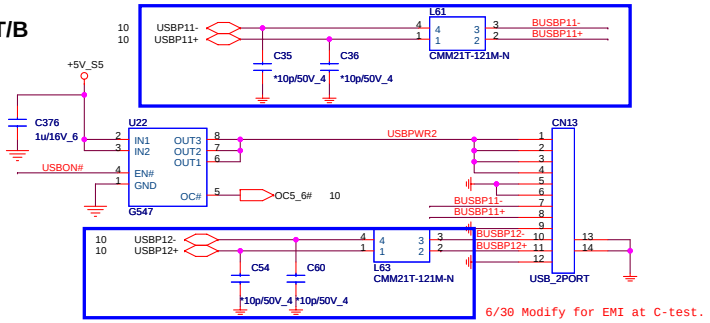


EN	D0	D1	CH-0	CH-1
0	X	X	Standby	Standby
1	0	0	0dB	0dB
1	1	0	Pre-emphasis (5dB)	0dB
1	0	1	0dB	Pre-emphasis (2.5dB)
1	1	1	Pre-emphasis (5dB)	Pre-emphasis (2.5dB)

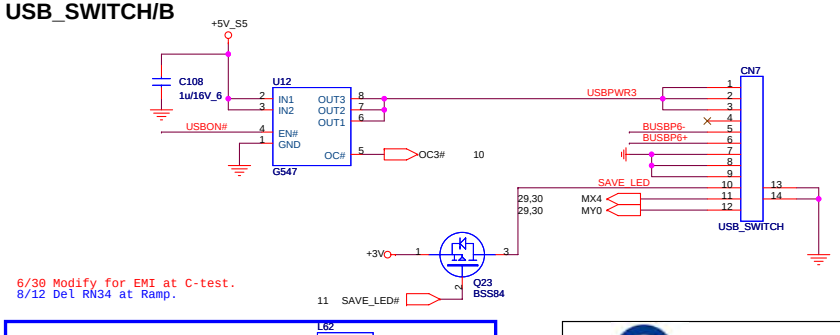
HOLES



USB_2PORT/B



USB_SWITCH/B



Quanta Computer Inc.
PROJECT : ZY9

Size	Document Number	Rev
	USB/eSATA	3A
Date: Thursday, August 20, 2009	Sheet 28 of 42	

INT K/B

At 11/18 SWAP

CP6 CP5 CP1 CP2 CP3 CP4 *100p_8P4C

C75 C76 *100p_4

CN6 KB

RP2 10K_10P8R

+3VPCU

TOUCHPAD & Finger-Printer CONN.

+5V L21 BLM21P300S

R121 10K_4 R124 10K_4

C170 .1u/16V_4 20mil

TPDATA TPCLK L22 L23 LZA10-2ACB104MT

C177 *.01u/25V_4 C172 *.01u/25V_4

+3V Q24 BSS84 TP_LED#

+TPVDD TPDATA_R TPCLK_R USBP2- USBP2+ MX2 MY0 TP_LED LID591# +3VPCU

CN10 TP_FP_CONN

RV3 RV4 *EGA-0402 USBP2- USBP2+

add ESD protect at B-test

BLUETOOTH CONNECTOR

+3V_S5 Q32 AO3413

C387 0.33u/10V_6 R292 47K_4 C399 2.2u_6 C394 1000p/50V_4

30mil BT_POWER

R294 4.7K_4 BT_POWERON#

USBP4+ USBP4- BT_LED

CN15 BT_CONN

C398 *.01u/16V_4

Keyboard LED control

+5V C101 *2.2u_6

U11 VIN /FON VSET VO GND GND GND GND *G991

R114 *10K_4 KB_LED

20mil KB_LED_PWR

C126 10u/6.3V_6 C132 .01u/25V_4

KBPWR = 1.6*VSET

change pin define at B-test

CN8 KB_LED

check pin define

+5V +5V R119 10K_4 Q22 AO3413 KB_LED#

Q21 DTC144EUA

7/2 Stuff Q22,Q21R119 and no stuff U11,C101 at C-test.

CPU FAN

+3V R408 10K_4 R420 10K_4 FAN_PWM_E

R375 *0_4 SML1ALERT# CPUFAN#

Q49 MMBT3904 Q48 MMBT3904

+3V +5V R417 10K_4 R407 10K_4

+3V +5V R403 10K_4 FANSIG

FAN_PWM_CN 30mil

CN20 FAN CONN

5/13 Reserve R375 by EC at B-test.

6/25 Stuff R375 by EC at C-test.

7/22 Un-stuff R375 by EC at Ramp.

Quanta Computer Inc.

PROJECT : ZY9

Size	Document Number	Rev
	KB/FAN/TP+FP/BT	3A

Date: Tuesday, August 18, 2009 Sheet 29 of 42

EC

6/19 Change R196 to 2.2 by EC at C-test.

+3VPCU L27 BK1608HS220_6_1A 30mil C265 .1u/16V_4 C267 10u/6.3V_6 +A3VPCU

E775AGND

+3VPCU R196 2.2_6 +3VPCU_EC 0.03A(30mils)

C235 4.7u_6 C295 .1u/16V_4 C268 *.1u/16V_4 C263 .1u/16V_4 C250 *.1u/16V_4 C215 .1u/16V_4

U16

VCC1 VCC2 VCC3 VCC4 VCC5 AVCC VDD

LFRAME LAD0 LAD1 LAD2 LAD3 LCLK

9,21 LPC_LFRAME# — LPC_LFRAME# 3
9,21 LPC_LAD0 — LPC_LAD0 126
9,21 LPC_LAD1 — LPC_LAD1 127
9,21 LPC_LAD2 — LPC_LAD2 128
9,21 LPC_LAD3 — LPC_LAD3 1
10 CLK_PCI_775 — CLK_PCI_775 2

CLK_PCI_775 R168 *22_4 C255 *10p/50V_4

8 CLKRUN# — GPIO11/CLKRUN 8
11 SIO_A20GATE — GA20 121
11 SIO_RCIN# — KBRST 122
11 SIO_EXT_SCI# — D13 BAS16 SCI#_uR — ECSCI/GPIO54 29
18 EC_FPBACK# — EC_FPBACK# — GPIO24/LDRQ 6
37 +V1.1S1.5S_PWRGD — +V1.1S1.5S_PWRGD — GPIO10/LPCPD 124
4,10,16,17,20,21,25,26 PLTRST# — PLTRST# — LRESET 7
28 USBON# — USBON# — GPIO67/PWUREQ 123
9 IRQ_SERIRQ — IRQ_SERIRQ — SERIRQ 125
11 SIO_EXT_SMI# — GPIO65/SMI 9

LPC

Del R190 at C-test

KBSIN0 KBSIN1 KBSIN2 KBSIN3 KBSIN4 KBSIN5 KBSIN6 KBSIN7

29 MX0 — MX0 54
29 MX1 — MX1 55
29 MX2 — MX2 56
29 MX3 — MX3 57
28,29 MX4 — MX4 58
29 MX5 — MX5 59
29 MX6 — MX6 60
29 MX7 — MX7 61

KBSOUT0/JENK KBSOUT1/TCK KBSOUT2/TMS KBSOUT3/TDI KBSOUT4/JEN0 KBSOUT5/TDO KBSOUT6/RDY KBSOUT7 KBSOUT8 KBSOUT9 KBSOUT10 KBSOUT11 KBSOUT12/GPIO64 KBSOUT13/GPIO63 KBSOUT14/GPIO62 KBSOUT15/GPIO61/XOR_OUT GPIO60/KBSOUT16 GPIO57/KBSOUT17

28,29 MY0 — MY0 53
29 MY1 — MY1 52
29 MY2 — MY2 51
29 MY3 — MY3 50
29 MY4 — MY4 49
29 MY5 — MY5 48
29 MY6 — MY6 47
29 MY7 — MY7 43
29 MY8 — MY8 42
29 MY9 — MY9 41
29 MY10 — MY10 40
29 MY11 — MY11 39
29 MY12 — MY12 38
29 MY13 — MY13 37
29 MY14 — MY14 36
29 MY15 — MY15 35
29 MY16 — MY16 34
29 MY17 — MY17 33

KB

31 MBCLK — MBCLK 70
31 MBDATA — MBDATA 69
10 2ND_MBCLK — 2ND_MBCLK 67
10 2ND_MBDATA — 2ND_MBDATA 68

GPIO017/SCL1 GPIO022/SDA1 GPIO073/SCL2 GPIO074/SDA2

SMB

29 TPCLK — TPCLK 72
29 TPDATA — TPDATA 71
8 PCH_ACIN — PCH_ACIN 10
29 BT_POWERON# — BT_POWERON# 11
34,35,36,37 MAINON — 12
17 VGA_THERM# — 13

GPIO037/PSCLK1 GPIO035/PSDAT1 GPIO026/PSCLK2 GPIO027PSDAT2 GPIO025/PSCLK3 GPIO012/PSDAT3

PS/2

8 ICH_SUSCLK — R457 *781@0_6 — E775_32KX1 77

32KX1/32KCLKIN

R156 20M_6 — E775_32KX2 79

32KX2

4/23 Add net PCH_ACIN connet to PCH at REV:B

R158 33K/F_4

Y2 32.768KHz

C248 15p_4 C251 15p_4

E775AGND

WPCE775

GND1 GND2 GND3 GND4 GND5 GND6 AGND VCORF

C249 .1u/16V_4 C266 .1u/16V_4 L26 BK1608HS220_6_1A C219 1u_4

E775AGND

change footprint to lqfp128-16x16-4-zy8 at C-test

+3V D16 BAS316 C254 4.7u_6 C252 .1u/16V_4

7/22 Add C281 near EC on top side.

C281 0.01u/50V_6 E775AGND

7/22 Reserve C282 near EC on top side.

ICMNT C282 *4.7u_6 E775AGND

Near TP on TOP side

+3V R179 47K_6 RT1 THERMISTOR_100K/1%(NTC) E775AGND

A/D

97 GPI90/AD0 — TEMP_MBAT 31
98 GPI91/AD1 — SML1ALERT# 10,11,29
99 GPI92/AD2 — TPD_TRIP
100 GPI93/AD3 — ICMNT 31
108 GPIO05/AD4 — DIGVOL_UP 27
96 GPIO04/AD5 — DIGVOL_DN 27

D/A

101 GPI94/DA0 — S5_DIS 32
105 GPI95/DA1 — KB_LED 29
106 GPI96/DA2 — TP_LED# 29
107 GPI97/DA3 — MAINON_DIS 37

5/19 Add D42 near JP1 at B-test.

GPIO

64 GPIO01/TB2 — NBSWON# R — D42 BAS16 — ACIN 17,31
95 GPIO03/AD6 — LID591# — NBSWON# 27
93 GPIO06 — LID591# 18,29
94 GPIO07/AD7 — SUSB# 8
119 GPIO23/SCL3 — MMB3_SMCLK — MMB3_SMCLK 27
109 GPIO30/CIRTX2 — MMB3_SMDATA — ACPRN# 27
120 GPIO31/SDA3 — MMB3_SMDATA 27
65 GPIO32/D_PWM — BATLED0# — BATLED0# 27
66 GPIO33/H_PWM — BATLED1# — BATLED1# 27
15 GPIO36/TB3 — VRON 33
16 GPIO40/F_PWM — SUSLED# — SUSLED# 27
17 GPIO42/TCK — MXMPWR_EN 17
20 GPIO43/TMS — A#_MVREF 23
21 GPIO44/TDI — DDR3_DRAMRST#_EC — DDR3_DRAMRST#_EC 11,23
22 GPIO45/E_PWM — CPUPWM# 23
23 GPIO46/CIRRXM/TRST — MMB_ATTN# 27
24 GPIO47/SCL4 — MXM_SMCLK12 17
25 GPIO50/TDO — D/C# 31
26 GPIO51/TA3 — S5_ON 32,41
27 GPIO52/CIRTX2/RDY — HDMI_HPD_INT# 19
28 GPIO53/SDA4 — MXM_SMDATA12 17
91 GPIO81 — DNBSWON# 8
110 GPO82/TRIS — CL_RST_OUT — T11
112 GPO84/BADDR0 — BADDR0_EC_R
80 GPIO41 — DP_HPD_INT# 8,19

Modify Net name on 3/17

TIMER

31 GPIO56/TA1 — MMB_ATTN12# 27
117 GPIO20/TA2 — SUSON 36
63 GPIO14/TB1 — FANSIG 29
32 GPIO15/A_PWM — CONTRAST 18
118 GPIO21/B_PWM — NUMLED# — NUMLED# 27
62 GPIO13/C_PWM — PWRLED# — PWRLED# 27
81 GPIO66/G_PWM — CAPSLED# — CAPSLED# 27

SPI

84 GPIO77/SPI_DI — CRT_SENSE# — CRT_SENSE# 18
83 GPO76/SPI_DO/SHBM — SHBM_R
82 GPIO75/SPI_SCK — ENERGY_DET 20

Modify Net name on 3/17

IR

75 GPIO72/IRRX1/SIN2 — RSMRST#_uR — R148 *SHORT_4 — ICH_RSMRST# 8
73 GPIO70/IRRX2_IRSL0 — SUSC# 8,14
74 GPIO71/IRTX/SOUT2 — PWROK_EC_uR — R145 *SHORT_4 — PWROK_EC 8
113 GPIO87/CIRRXM/SIN_CR — RF_EN 21
14 GPIO34/CIRRXL — CIRR_X2
114 GPIO16/CIRTX — HWPG
111 GPO83/SOUT_CR/BADDR1 — BADDR1_EC_R

FIU

86 F_SDI — SPI_SDI_uR
87 F_SDO — SPI_SDO_uR — R163 22_4 — SPI_SDO_uR
90 F_CS0 — SPI_CS0#_uR
92 F_SCK — SPI_SCK_uR — R169 22_4 — SPI_SCK_uR

30 GPIO55/CLKOUT — ECDB_CLOCK — T10
85 VCC_POR# — VCC_POR — R161 47K/F_4 — +3VPCU
104 VREF — VREF_uR — R172 *SHORT_4 — A3VPCU

SM BUS ARRANGEMENT TABLE

SM Bus 1	Battery
SM Bus 2	CPU Thermal 1 (98h) and CPU Thermal 2 (9Ah)
SM Bus 3	MMB3 and EEPROM (+3VPCU)
SM Bus 4	MMB1, MMB2 and VGA Thermal (+3V)

I/O ADDRESS SETTING

BADDR1-0	I/O Address	
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

BADDR0 — BADDR0_EC_R R188 10K_4
BADDR1 — BADDR1_EC_R R181 *10K_4
SHBM — SHBM_R R160 10K_4
7/1 Add R12 by EC at C-test. — SPI_SDI_uR R12 100K_4

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

SM BUS PU

+3VPCU

MBCLK R141 10K_4
MBDATA R136 10K_4
MMB3_SMCLK R173 10K_4
MMB3_SMDATA R174 10K_4

+3V

CRT_SENSE# R162 *10K_4
2ND_MBCLK R132 10K_4
2ND_MBDATA R133 10K_4
MXM_SMCLK12 R152 2.2K_4
MXM_SMDATA12 R153 2.2K_4

change to 10K ohm,
2nd MBCLK/MBDATA and MXM_SMCLK12/MXM_SMDATA12 PU to +3V at B-test

ACER ID

+3VPCU Change to PU +3VPCU at C-test

MMB3_SMCLK MMB3_SMDATA

U15 *24C02 — SCL SDA A0 A1 A2 WP VCC GND

C192 .1u/16V_4

5/14 Stuff C192 by EMI at B-test

SPI FLASH

+3VPCU

SPI_SDI_uR R164 22_4 SPI_SDI_uR_R
R16 100K_4 — 8/17 Add R16 by EC at Ramp
SPI_SDO_uR
SPI_SCK_uR
+3VPCU R165 10K_4 SPI_CS0#_uR

U18 W25X16AVSSIG — SO SI SCK CE VDD HOLD WP VSS

C294 .1u/16V_4

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

At 11/24 add

Winbond	W25X16AVSSIG	AKE38ZP0N01
MXIC	MX25L1605AM2C-15G	AKE37P0Z13
EON	EN25F16-100HIP	AKE38ZA0Q00
AMIC	A25L016	AKE38ZN0800

HWPG

+3V R134 10K_4

37 HWPG_1.8V — D11 BAS316
34,35,37 HWPG_1.05V — D12 BAS316
36 HWPG_1.5V — D10 *BAS316
32 SYS_HWPG — D9 BAS316

HWPG R126 0_4 MPWROK 4,16

ESD Protection

D34	*VARISTOR ESD	BT_POWERON#	
D35	*VARISTOR ESD	LID591#	Near CN10.11
D36	*VARISTOR ESD	NUMLED#	Near R317
D37	*VARISTOR ESD	PWRLED#	Near R321
D38	*VARISTOR ESD	SUSLED#	Near R323
D39	*VARISTOR ESD	CAPSLED#	Near R318
D40	*VARISTOR ESD	BATLED0#	Near R319
D41	*VARISTOR ESD	BATLED1#	Near R320

5/12 Reserve ESD components by EC vendor at B-test

VR Cap.

+3V R170 *10K_4 R180 *10K_4

DIGVOL_UP DIGVOL_DN

C257 .1u/16V_4 C262 .1u/16V_4

Place two near EC

POWER-ON Switch

NBSWON# JP1 2 1 *SHORT PAD

CIR

+3VPCU +3V_S5 R637 *10K_4

CIRR_X2

C665 4.7U/10V_8

U49 — VCC OUT GND GND

D33 *VPORT_6

CIR@IRM-V538-TR1 Change Footprint at C-test

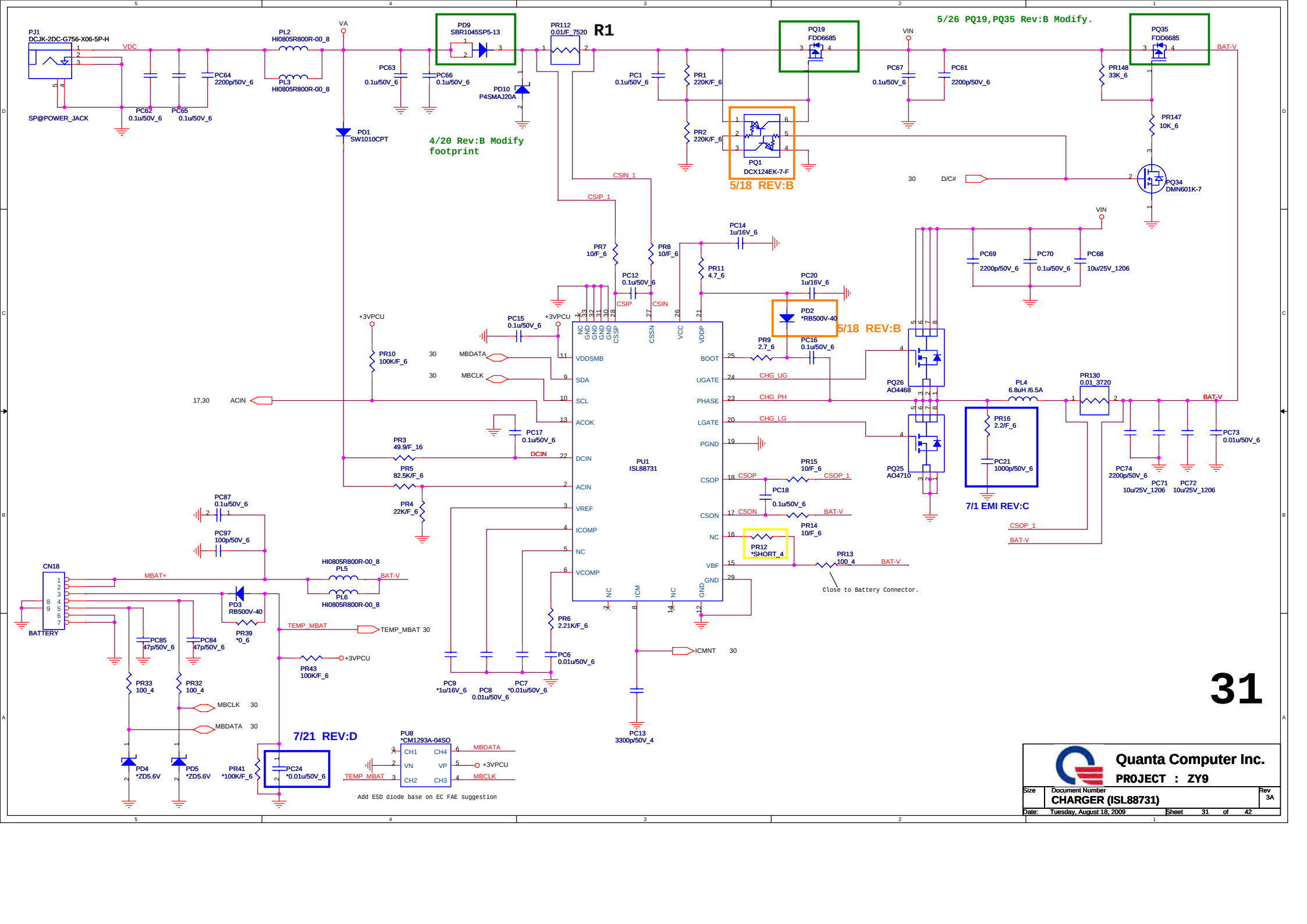
INTERNAL KEYBOARD STRIP SET

+3VPCU MY0 R131 10K_4

Quanta Computer Inc.
PROJECT : ZY9

Size	Document Number	Rev
	WPCE775C_0DG & FLASH	3A

Date: Thursday, August 20, 2009 Sheet 30 of 42


5/26 PQ19,PQ35 Rev:B Modify.
R1
4/20 Rev:B Modify footprint
5/18 REV:B
5/18 REV:B
7/1 EMI REV:C
7/21 REV:D
Close to Battery Connector.
Add ESD diode base on EC FAE suggestion
PJ1
DCJK-2DC-G756-X06-5P-H
SP@POWER_JACK
PD1
SW1010CPT
PD9
SBR1045SP5-13
PD10
P4SMAJ20A
PQ19
FDD6685
PQ35
FDD6685
PQ1
DCX124EK-7-F
PQ34
DMN601K-7
PQ2
*RB500V-40
PQ26
AO4468
PQ25
AO4710
PU1
ISL88731
PU8
*CM1293A-04SO
PD3
RB500V-40
PD4
*ZD5.6V
PD5
*ZD5.6V
CN18
BATTERY
PL2
HI0805R800R-00_8
PL3
HI0805R800R-00_8
PL4
6.8uH /6.5A
PL5
HI0805R800R-00_8
PL6
HI0805R800R-00_8
VDC
VA
VIN
BAT-V
MBAT+
+3VPCU
ACIN
MBDATA
MBCLK
DCIN
CSIN_1
CSIP_1
CSIP
CSIN
CHG_UG
CHG_PH
CHG_LG
CSOP
CSOP_1
CSON
TEMP_MBAT
ICMNT
D/C#
PR112 0.01/F_7520
PC64 2200p/50V_6
PC63 0.1u/50V_6
PC66 0.1u/50V_6
PC62 0.1u/50V_6
PC65 0.1u/50V_6
PC1 0.1u/50V_6
PR1 220K/F_6
PR2 220K/F_6
PC67 0.1u/50V_6
PC61 2200p/50V_6
PR148 33K_6
PR147 10K_6
PR7 10/F_6
PR8 10/F_6
PR11 4.7_6
PC12 0.1u/50V_6
PC14 1u/16V_6
PC20 1u/16V_6
PC15 0.1u/50V_6
PC16 0.1u/50V_6
PR9 2.7_6
PR10 100K/F_6
PR3 49.9/F_16
PR5 82.5K/F_6
PR4 22K/F_6
PC17 0.1u/50V_6
PC87 0.1u/50V_6
PC97 100p/50V_6
PR15 10/F_6
PC18 0.1u/50V_6
PR14 10/F_6
PR12 *SHORT_4
PR13 100_4
PR6 2.21K/F_6
PC6 0.01u/50V_6
PC9 *1u/16V_6
PC8 0.01u/50V_6
PC7 *0.01u/50V_6
PC13 3300p/50V_4
PC69 2200p/50V_6
PC70 0.1u/50V_6
PC68 10u/25V_1206
PR16 2.2/F_6
PC21 1000p/50V_6
PR130 0.01_3720
PC73 0.01u/50V_6
PC74 2200p/50V_6
PC71 10u/25V_1206
PC72 10u/25V_1206
PC85 47p/50V_6
PC84 47p/50V_6
PR39 *0_6
PR43 100K/F_6
PR33 100_4
PR32 100_4
PR41 *100K/F_6
PC24 *0.01u/50V_6
NC
GND
CSSP
CSSN
VCC
VDDP
VDDSMB
SDA
SCL
ACOK
DCIN
ACIN
VREF
ICOMP
NC
VCOMP
BOOT
UGATE
PHASE
LGATE
PGND
CSOP
CSON
NC
VBF
GND
NC
ICM
NC
GND
CH1
CH4
VN
VP
CH2
CH3
Quanta Computer Inc.
PROJECT : ZY9
Size
Document Number
CHARGER (ISL88731)
Rev
3A
Date: Tuesday, August 18, 2009
Sheet 31 of 42
31

[PWM]

MAIND → MAIND 36,37

COMPLEX MARGIN TEST:

For ISL6237 ADJ
mount PR92 , PR80 , PR108 , PR95
No mount PR88 , PR83

For RT8206 ADJ
mount PR88 , PR83 , PR108 , PR95
No mount PR92 , PR80

For ISL6237 & RT8206 Fix
mount PR92 , PR108 , PR80
No mount PR88 , PR83

For TPS51427
PC40 mount 1u/6.3V_4

32

11,41 SYS_SHDN# → PS2 *SHORT_4 → PR84 39K/F_4 → VL

PS1 *SHORT_4 (5V_EN)
PS3 *SHORT_4 (3V_EN)

5/25 REV:B
Reduce ripple noise

VIN
4/22 REV_B del JP
PC125 27u/25V_6.3X5.7
PC51 0.1u/50V_6
PC58 2200p/50V_6
PC50 *10u/25V_1206

4/22 REV_B del JP
VIN
PC54 10u/25V/X6S_1206
PC60 *10u/25V/X6S_1206
PC52 0.1u/50V_6
PC59 2.2n/50V_4
PC57 10u/25V/X6S_1206

6/29 REV:C
Acoustic issue

PD14 ZD5.6V
PC49 0.1u/50V_6
PC53 1u/10V_4
PR82 *0_6
PR104 100K/F_4
PC56 4.7u/10V_8
PR79 0_4
PC48 1u/16V_6
PR80 0_4
PR83 *0_4
REF
PC47 0.1u/50V_6
PR81 200K/F_4

13A

5V_DH
PQ6 AOL1448
5V_LX
PQ7 AOL1718
5V_DL

+5VPCU
PL1 1.5uH
PR107 *0_6
PR86 0_6
PR109 2.2/F_6
PC164 1000p/50V_6
PC122 330u/6.3V_105C
PC159 10u/25V/X6S_1206
PC55 330u/6.3V_105C
PC169 0.1u/50V_6

5/18 REV:B
EMI issue

PU5 RT8206BGQW
LDOREFIN LDO VIN NC ONLDO VCC TON REF
BYP OUT1 FB1 ILIM1 PGOOD1 EN1 DH1 LX1 PAD PAD PAD PAD
REFIN2 ILIM2 OUT2 SKIP# PGOOD2 EN2 DH2 LX2 BST1 DL1 PVCC NC GND PGND DL2 BST2

5/18 REV:B
RT 2nd Source

PR85 95.3K /F_6
DDPWRGD_R
5V_EN
PR105 196K/F_6
REFIN2
SKIP
DDPWRGD_R
3V_EN
PC167 0.1u/50V_6
PR87 1/F_6
PC170 0.1u/50V_6
PR89 1/F_6
PR103 *0_6
PR90 *SHORT_6
PC171 1u/16V_6
PR102 0_6

8.5A

3V_DH
PQ48 AO4468
3V_LX
PQ47 AO4710
3V_DL
PL13 2.2uH
PR106 2.2/F_6
PC160 1000p/50V_6

5/18 REV:B
EMI issue

+3VPCU
PC162 0.1u/50V_6
PC124 330u/6.3V_105C
PR108 0_6
PR95 *0_6

OCP:8A
L(ripple current)
=(19-3.3)*3.3/(2.2uH*0.5MHz*19)
~2.48A
Iocp=8-(2.48/2)=6.67A
Vth=6.67A*15mOhm=94.714mV
R(Ilim)=(94.714mV*10)/5uA
~191K

AOL1718 Rds=3~4.3mOhm
+5VPCU OCP:4A 400K

L(ripple current)
=(19-5)*5/(1.5u*400kHz*19)
~6.14A
Iocp=14-(6.14/2)~10.93A
Vth=10.93A*4.3mOhm=46.999mV
R(Ilim)=(46.999mV*10)/5uA
=93.9~95.3K

PD13 CHN217UPT
PD12 CHN217UPT
PC172 0.1u/50V_6
PC151 0.1u/50V_6
PC161 0.1u/50V_6
PC171 1u/16V_6
PR102 0_6

+15V
+15V_ALWP
PR98 22_8
PC173 0.1u/50V_6

SKIP
PR101 *0_6 REF
PR99 0_6

+3VPCU
PR91 *10K/F_6
DDPWRGD_R
PS4 *SHORT_4
SYS_HWPG 30

VIN
PR111 *1M/F_6
S5_DIS_G
PR159 1M/F_6
30 S5_DIS
PQ12 *PDTC144EU
5/18 REV:B

+3V_S5
PR93 22_8
PQ10 DMN601K-7

+5V_S5
PR97 22_8
PQ17 DMN601K-7

VIN
PR100 1M/F_6
S5_ON_G
PR96 1M/F_6
30,41 S5_ON
PQ9 PDTC144EU
5/18 REV:B

+15V
PR94 1M/F_6
S5D
PQ8 DMN601K-7

+5VPCU
PQ11 AO6402A
+5V_S5
3.75A

PR123 0_4
S5_DIS_G — S5_ON_G

+5VPCU
MAIND
PQ13 AO4468
+5V
8A

+3VPCU
MAIND
PQ14 AO4468
+3V
5A

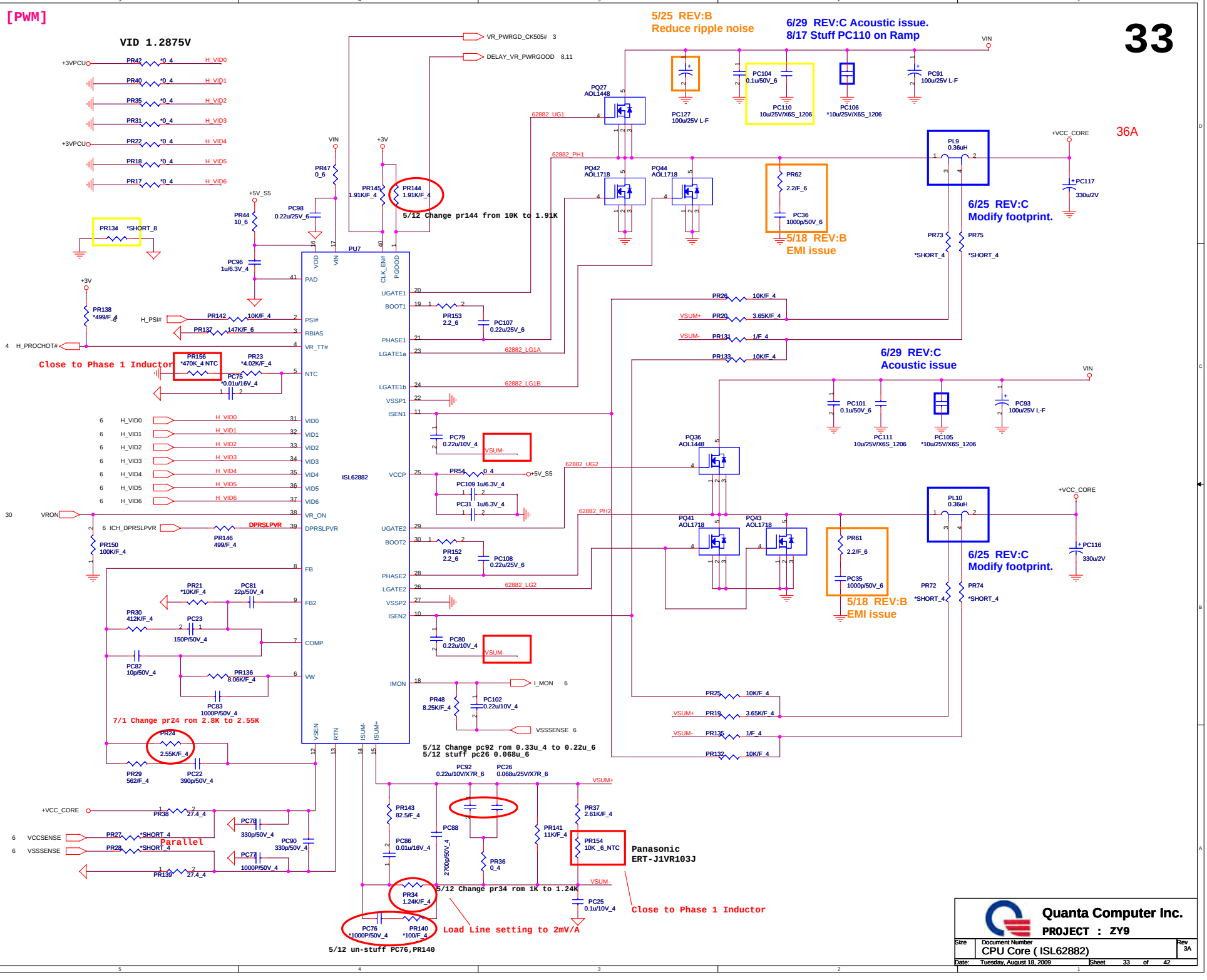
+3VPCU
S5D
PQ15 AO6402A
+3V_S5
3A

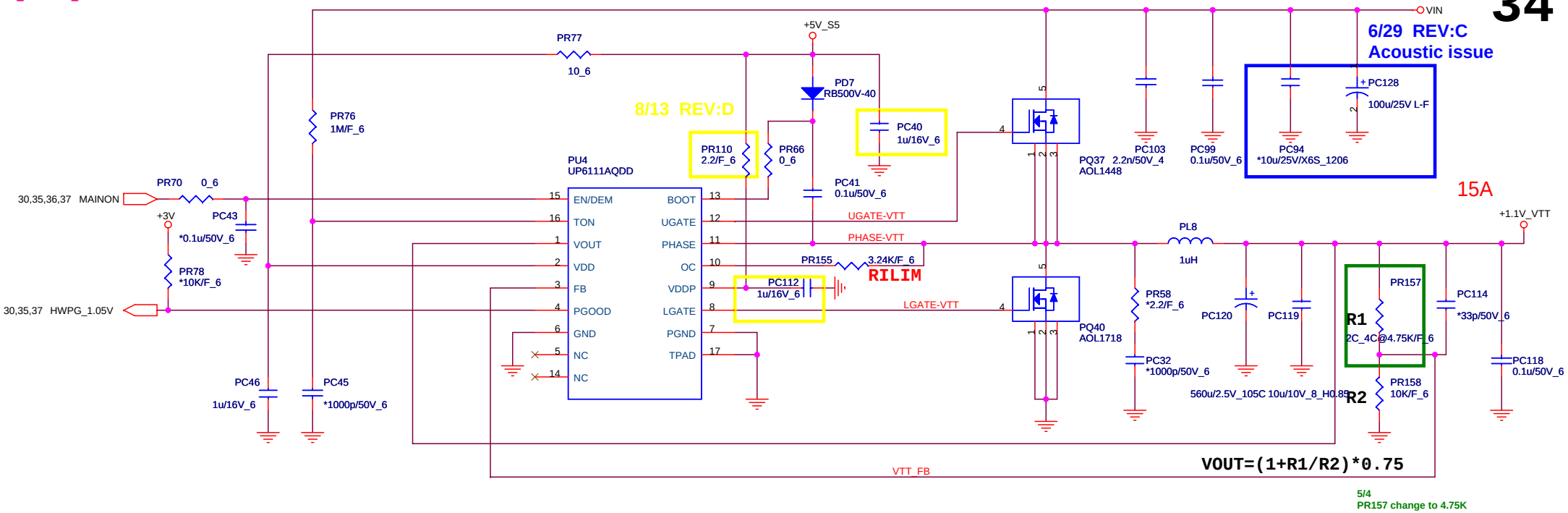
5/25 stuff PR123, no stuff PQ12,PR111,PR159 at B test.

Quanta Computer Inc.
PROJECT : ZY9

Size	Document Number	Rev
	SYSTEM 5V/3V (ISL6237)	3A

Date: Tuesday, August 18, 2009 Sheet 32 of 42


[PWM]
33
VID 1.2875V
5/25 REV:B
Reduce ripple noise
6/29 REV:C Acoustic issue.
8/17 Stuff PC110 on Ramp
36A
VR_PWRGD_CK505# 3
DELAY_VR_PWRGOOD 8,11
VIN
+3VPCU
+3V
+5V_S5
+VCC_CORE
PR42 *0_4 H_VID0
PR40 *0_4 H_VID1
PR35 *0_4 H_VID2
PR31 *0_4 H_VID3
PR22 *0_4 H_VID4
PR18 *0_4 H_VID5
PR17 *0_4 H_VID6
PR134 *SHORT_8
PR47 0_6
PR145 1.91K/F_4
PR144 1.91K/F_4
5/12 Change pr144 from 10K to 1.91K
PC98 0.22u/25V_6
PR44 10_6
PC96 1u/6.3V_4
PU7
ISL62882
VDD
VIN
CLK_EN#
PGOOD
PAD
UGATE1
BOOT1
PHASE1
LGATE1a
LGATE1b
VSSP1
ISEN1
VCCP
UGATE2
BOOT2
PHASE2
LGATE2
VSSP2
ISEN2
IMON
VSEN
RTN
ISUM-
ISUM+
PSI#
RBIAS
VR_TT#
NTC
VID0
VID1
VID2
VID3
VID4
VID5
VID6
VR_ON
DPRSLPVR
FB
FB2
COMP
VW
62882_UG1
62882_PH1
62882_LG1A
62882_LG1B
62882_UG2
62882_PH2
62882_LG2
PQ27 AOL1448
PQ42 AOL1718
PQ44 AOL1718
PQ36 AOL1448
PQ41 AOL1718
PQ43 AOL1718
PC127 100u/25V L-F
PC104 0.1u/50V_6
PC110 10u/25V/X6S_1206
PC106 *10u/25V/X6S_1206
PC91 100u/25V L-F
PL9 0.36uH
PL10 0.36uH
PC117 330u/2V
PC116 330u/2V
PR62 2.2/F_6
PC36 1000p/50V_6
PR61 2.2/F_6
PC35 1000p/50V_6
5/18 REV:B
EMI issue
6/25 REV:C
Modify footprint.
PR73 *SHORT_4
PR75 *SHORT_4
PR72 *SHORT_4
PR74 *SHORT_4
PR153 2.2_6
PC107 0.22u/25V_6
PR152 2.2_6
PC108 0.22u/25V_6
PR26 10K/F_4
PR20 3.65K/F_4
PR131 1/F_4
PR133 10K/F_4
PR25 10K/F_4
PR19 3.65K/F_4
PR135 1/F_4
PR132 10K/F_4
VSUM+
VSUM-
6/29 REV:C
Acoustic issue
PC101 0.1u/50V_6
PC111 10u/25V/X6S_1206
PC105 *10u/25V/X6S_1206
PC93 100u/25V L-F
PR54 0_4
PC109 1u/6.3V_4
PC31 1u/6.3V_4
PC79 0.22u/10V_4
PC80 0.22u/10V_4
PC102 0.22u/10V_4
PR48 8.25K/F_4
I_MON 6
VSSSENSE 6
PR138 *499/F_4
PR142 10K/F_4
PR137 147K/F_6
H_PSI#
H_PROCHOT#
4
Close to Phase 1 Inductor
PR156 *470K_4 NTC
PR23 *4.02K/F_4
PC75 *0.01u/16V_4
H_VID0
H_VID1
H_VID2
H_VID3
H_VID4
H_VID5
H_VID6
VRON
30
ICH_DPRSLPVR 6
PR146 499/F_4
PR150 100K/F_4
PR21 *10K/F_4
PC81 22p/50V_4
PR30 412K/F_4
PC23 150P/50V_4
PC82 10p/50V_4
PR136 8.06K/F_4
PC83 1000P/50V_4
7/1 Change pr24 rom 2.8K to 2.55K
PR24 2.55K/F_4
PR29 562/F_4
PC22 390p/50V_4
5/12 Change pc92 rom 0.33u_4 to 0.22u_6
5/12 stuff pc26 0.068u_6
PC92 0.22u/10V/X7R_6
PC26 0.068u/25V/X7R_6
PR143 82.5/F_4
PC88
PC86 0.01u/16V_4
2700p/50V_4
PR36 0_4
PR141 11K/F_4
PR37 2.61K/F_4
PR154 10K_6_NTC
Panasonic
ERT-J1VR103J
5/12 Change pr34 rom 1K to 1.24K
PR34 1.24K/F_4
PC25 0.1u/10V_4
Close to Phase 1 Inductor
PC76 *1000P/50V_4
PR140 *100/F_4
Load Line setting to 2mV/A
5/12 un-stuff PC76,PR140
+VCCSENSE
VCCSENSE 6
VSSSENSE 6
PR38 27.4_4
PR27 *SHORT_4
PR28 *SHORT_4
PR139 27.4_4
PC78 330p/50V_4
PC77 1000P/50V_4
PC90 330p/50V_4
Parallel
Quanta Computer Inc.
PROJECT : ZY9
Size
Document Number
CPU Core (ISL62882)
Rev
3A
Date: Tuesday, August 18, 2009
Sheet 33 of 42



AO1718 Rdson=3~4.3mOhm

L(ripple current)
=(19-1.05)*1.05/(1u*272k*19)
~3.64A

4.3m*15=RILIM*20uA
RILIM=3.24K(3.22K)

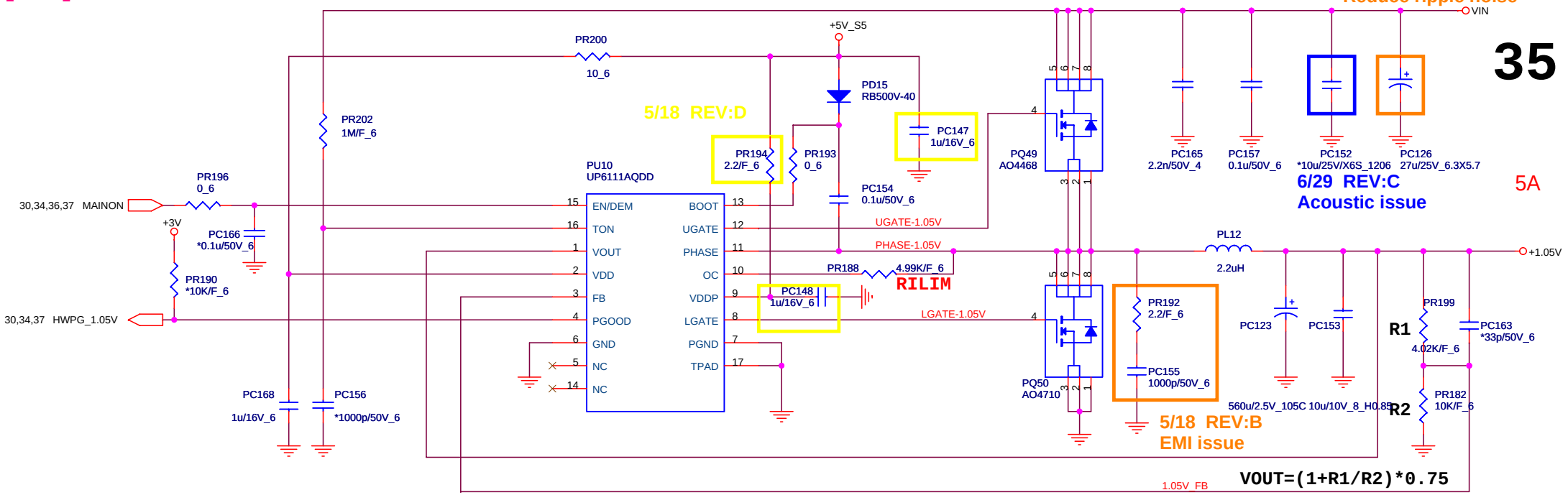
Aurbundale (1.05V) R1 = 4.02K (CS24023F928)
Clarksfield(1.1V) R1 = 4.75K (CS24753F919)

Quanta Computer Inc.		
PROJECT : ZY9		
Size	Document Number: +VTT (UP6111A)	Rev: 3A
Date: Tuesday, August 18, 2009	Sheet 34 of 42	

[PWM]

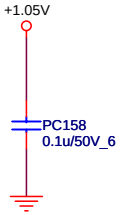
5/25 REV:B
Reduce ripple noise

35



AO4710 Rdson=11.8~14.2mOhm
OCP=7.2-0.8A
L(ripple current)
=(19-1.05)*1.05/(2.2u*272k*19)
~1.6577A

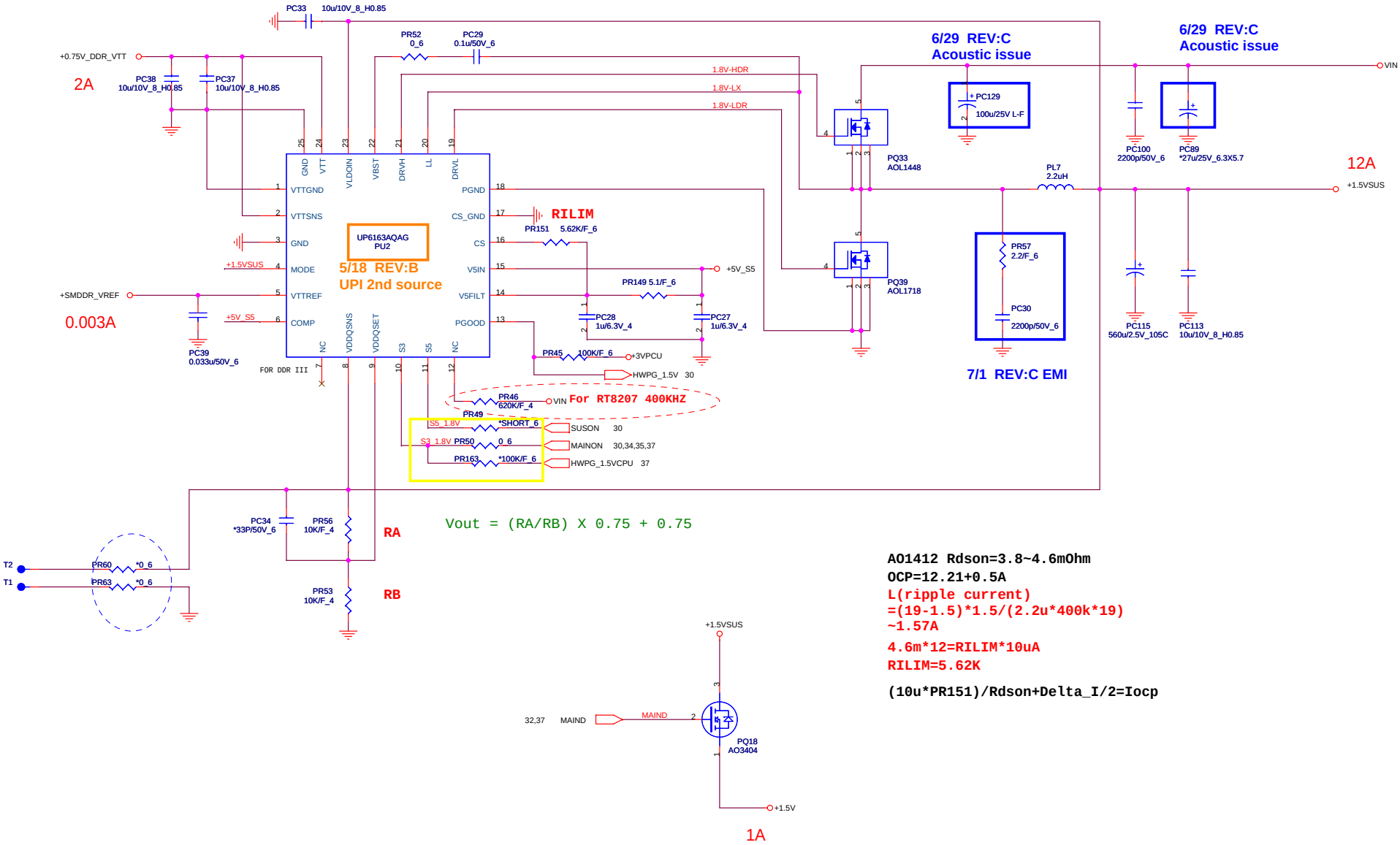
14.2m*7=RILIM*20uA
RILIM=4.99K(4.97K)



Quanta Computer Inc.
PROJECT : ZY9

Size	Document Number	Rev
	+1.05V(UP6111AQDD)	3A

Date: Tuesday, August 18, 2009 Sheet 35 of 42

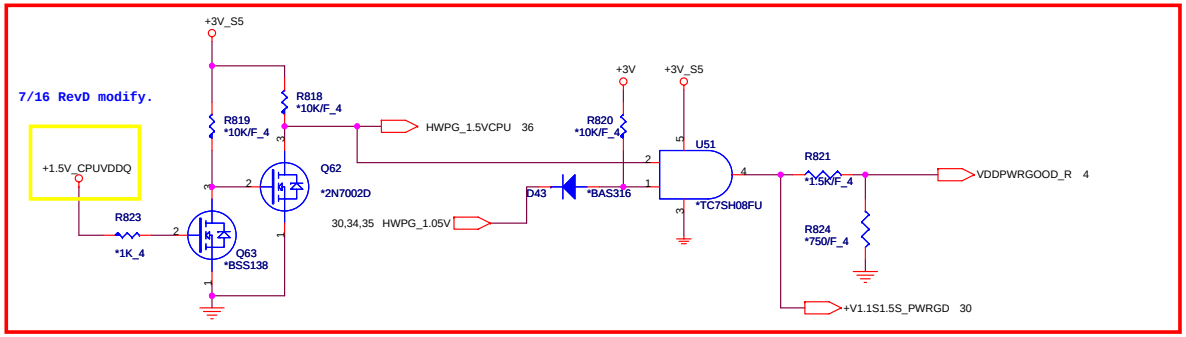


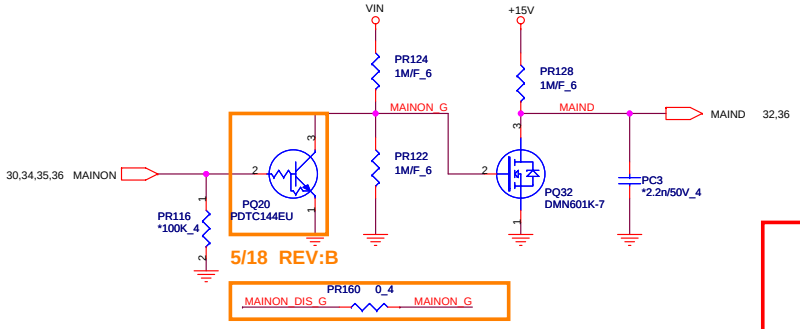
AO1412 Rdson=3.8~4.6mOhm
OCP=12.21+0.5A
L(ripple current)
=(19-1.5)*1.5/(2.2u*400k*19)
~1.57A

4.6m*12=RILIM*10uA
RILIM=5.62K

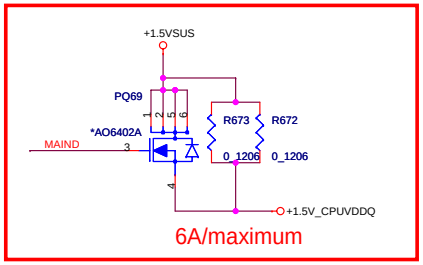
(10u*PR151)/Rdson+Delta_I/2=Iocp

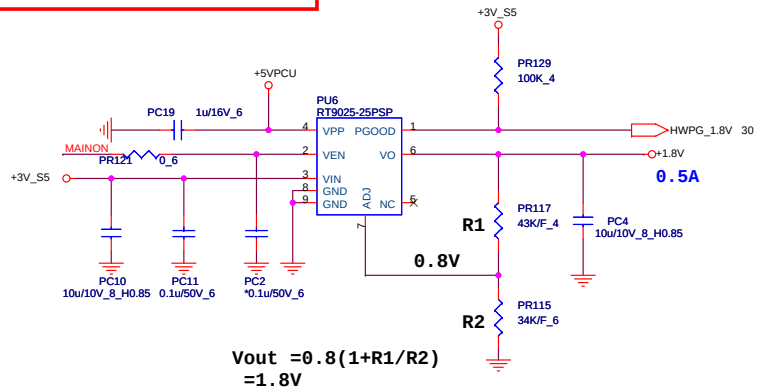
Quanta Computer Inc.		
PROJECT : ZY9		
Size	Document Number: DDR 1.5V(TPS51116)	Rev: 3A
Date: Tuesday, August 18, 2009	Sheet 36 of 42	





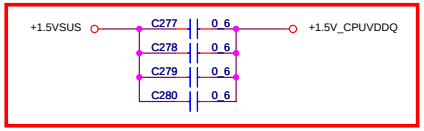
5/25 stuff PR160, no stuff PQ24,PR126,PR125 at B test.

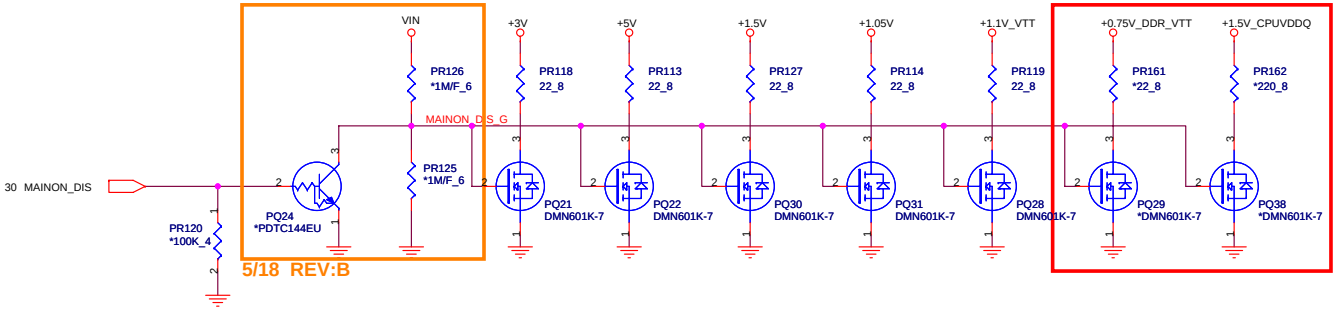


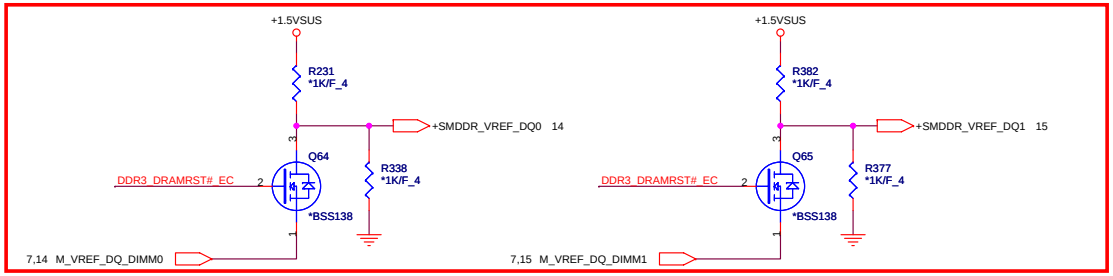


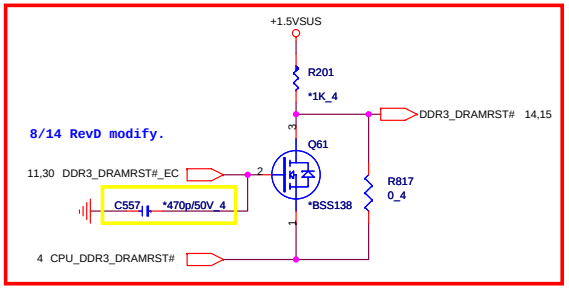
Vout =0.8(1+R1/R2)
=1.8V

S3 power solution: C277~C280 stuff 0.1uF cap;
Normal : Stuff 0ohm to short.





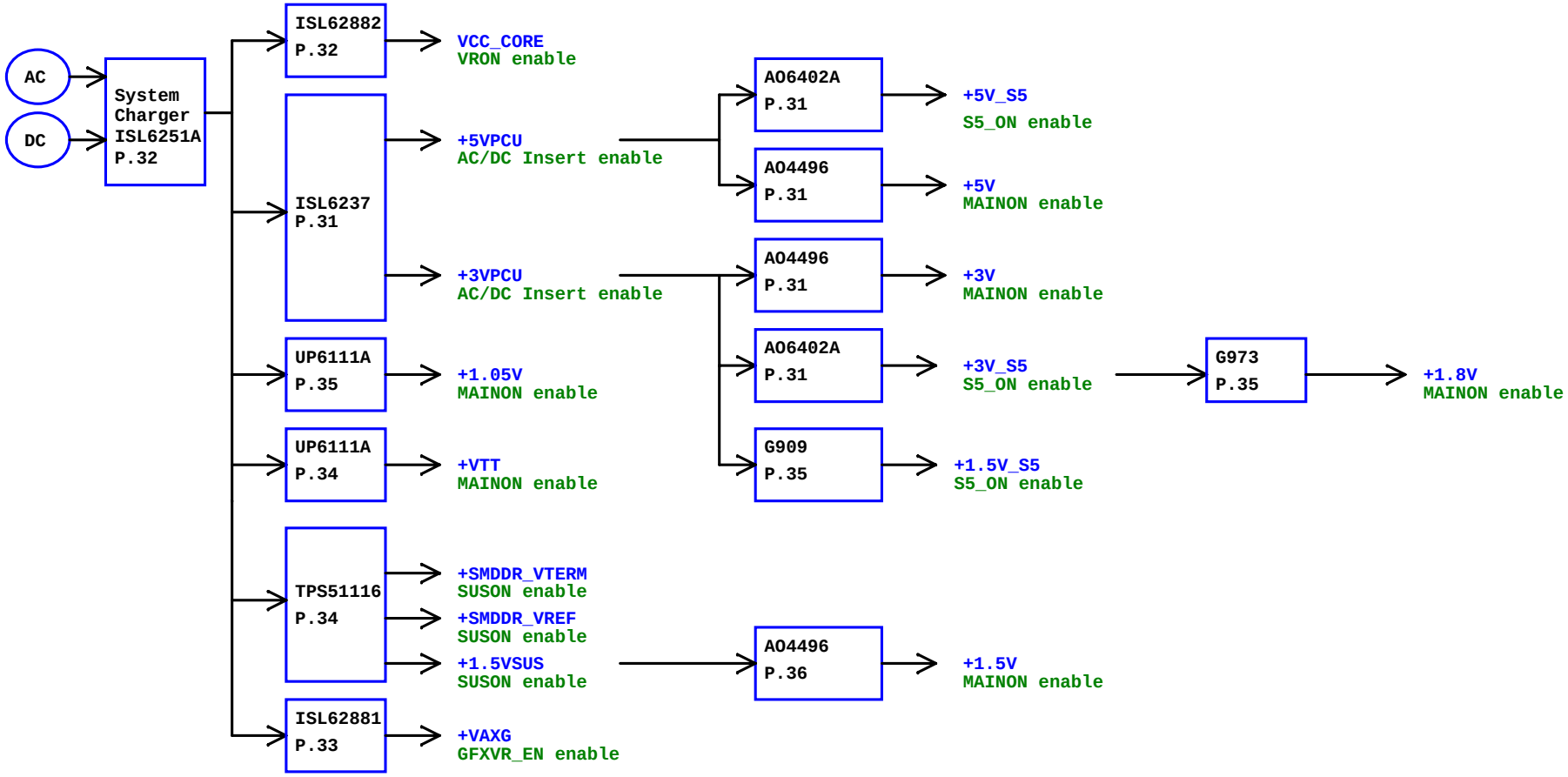




12,21,25,36 +1.5V
6 +1.5V_CPUVDDQ

Quanta Computer Inc.
PROJECT : ZY9

Size	Document Number	Rev
	Discharge (1.5V_S5/1.8V)	3A
Date: Tuesday, August 18, 2009	Sheet 37 of 42	



Power Distribution List

Power	Distribution
VCC_CORE	CPU
+5VPCU	ICH8M, RJ45/USB /B, USB/eSATA, Satellite LED, CIR
+3VPCU	RTC, HALL SENSOR, KB, TP/FP/LED /B, Power /B, Kill SW, EC, ID, SPI Flash, CIR
+1.5V	CPU, GMCH, ICH9M, Mini Card, New Card
+1.5VSUS	GMCH, DDR
+SMDDR_VREF	GMCH, DDR
+SMDDR_VTERM	DDR
+1.05V	CPU, CLK, Thermal Trip, GMCH, ICH8M
+5V_S5	ICH8M, G-SENSOR, Felica, USB/eSATA
+5V	CPU, ICH8M, VGA, Camera, CRT, HDMI, SATA HDD, PATA ODD, PCMCIA, TP/FP/LED /B, EC, Speaker, Headphone
+3V	CLK, CPU Thermal Monitor, FAN, GMCH, DDR, ICH8M, VGA, LCD/LED Panel, HALL SENSOR, CRT, HDMI, SATA HDD, PATA ODD, PCMCIA, Mini Card, KB, TP/FP/LED /B, RJ45/USB /B, Bluetooth, MMB, New Card, PC BEEP, EC, Codec (CX20561), VR, Headphone, MDC, Cardreader (OZ129T)
+3V_S5	ICH8M, Mini Card, RJ45/USB /B, New Card
+3VSUS	ICH8M, FP
+1.8V	HDMI, Cardreader (OZ129T)
+1.25V	CLK, GMCH, ICH8M

Quanta Computer Inc.
PROJECT : ZY9
Size | Document Number: POWER TREE TABLE | Rev 3A
Date: Tuesday, August 18, 2009 | Sheet 38 of 42

PCH POWER PLANE

39

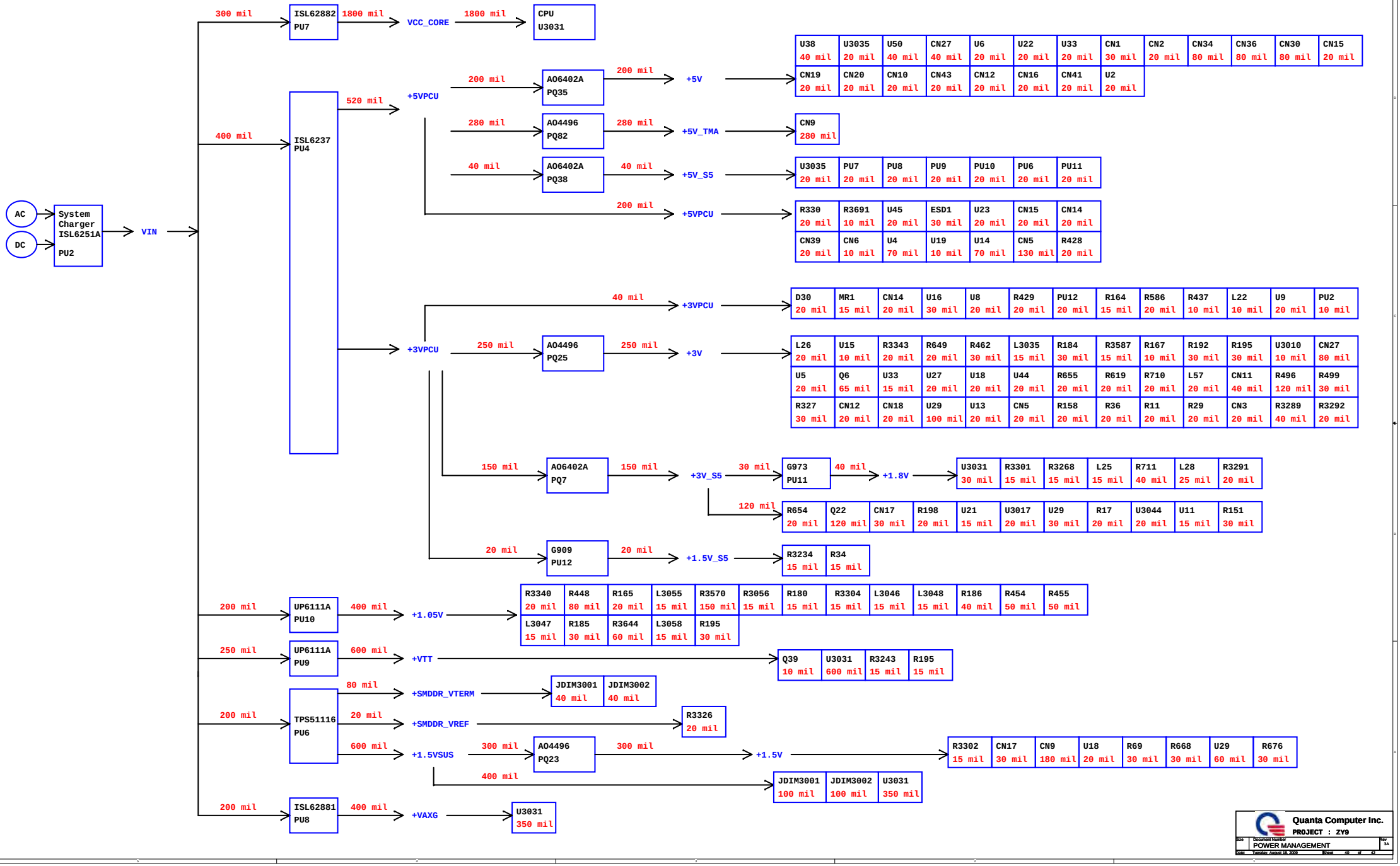
LOGIC	SUPPLY	LEVEL	S0	S3	S4	S5
Fast Flash	VccpNAND	+1.8V/+3.3V	ON	OFF	OFF	OFF
Core	DcpSusByp	+1.05V	ON	OFF	OFF	OFF
CPU	V_CPU_IO	+VTT	ON	OFF	OFF	OFF
PCI	V5REF	+5V/+3V	ON	OFF	OFF	OFF
USB	V5REF_Sus	+5V_S5/+3V_S5	ON	ON	ON	ON
DisplayPort, SATA, PCI	VCC3_3	+3V	ON	OFF	OFF	OFF
Core	VccCore	+1.05V	ON	OFF	OFF	OFF
PCIE/DMI	VccDMI	+VTT/+1.05V	ON	OFF	OFF	OFF
Fast Flash	VccME3_3	+3V	ON	OFF	OFF	OFF
PCIE/DMI,SATA,USB	VccIO	+1.05V	ON	OFF	OFF	OFF
Core	VccLAN	+1.05V	ON	OFF	OFF	OFF
Core	VccME	+1.05V	ON	OFF	OFF	OFF
RTC	VccRTC	+VCCRTC	ON	ON	ON	ON
USB&PCI	VccSus3_3	+3V_S5	ON	ON	ON	ON
IntelR HD Audio	VccSusHDA	+1.5V_S5	ON	ON	ON	ON
Core	VccVRM	+V1.5S_1.8S	ON	OFF	OFF	OFF
CLK	VccAClk	+1.05V	ON	OFF	OFF	OFF
CRT	VccADAC	+3V	ON	OFF	OFF	OFF
DPLL	VccADPLLA	+1.05V	ON	OFF	OFF	OFF
DPLL	VccADPLLB	+1.05V	ON	OFF	OFF	OFF
PCIe/DMI	VccapllEXP	+1.05V	ON	OFF	OFF	OFF
IntelR FDI	VccFDIPLL	+1.05V	ON	OFF	OFF	OFF
SATA	VccSATAPLL	+1.05V	ON	OFF	OFF	OFF
Display	VccTX_LVDS	+1.8V	ON	OFF	OFF	OFF

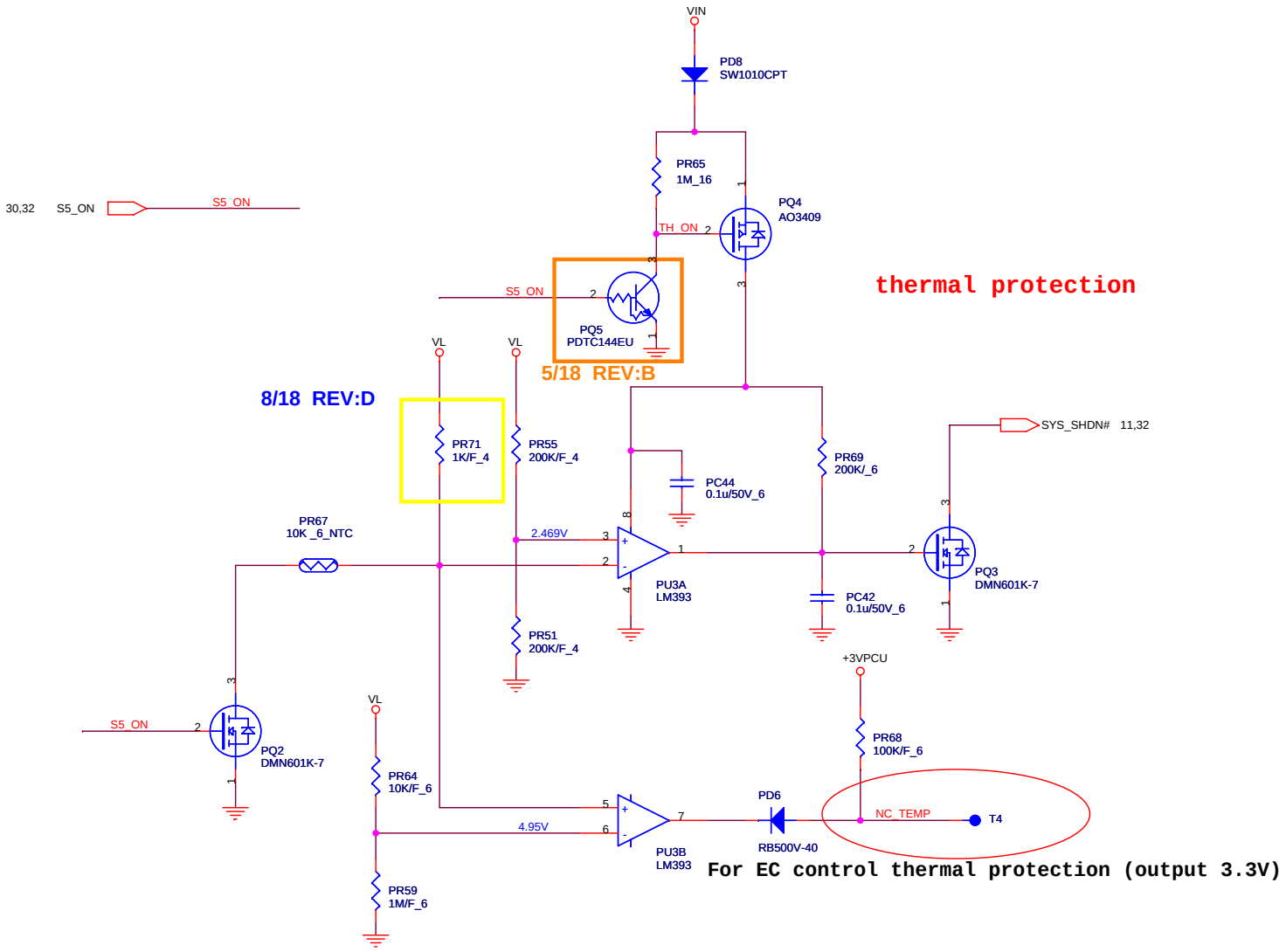
Quanta Computer Inc.

PROJECT : ZY9

Size	Document Number	Rev
	PCH POWER PLANE	3A

Date: Tuesday, August 18, 2009 Sheet 39 of 42


AC
DC
System Charger ISL6251A PU2
VIN
300 mil
ISL62882 PU7
1800 mil
VCC_CORE
1800 mil
CPU U3031
400 mil
ISL6237 PU4
520 mil
+5VPCU
200 mil
AO6402A PQ35
200 mil
+5V
U38 40 mil | U3035 20 mil | U50 40 mil | CN27 40 mil | U6 20 mil | U22 20 mil | U33 20 mil | CN1 30 mil | CN2 20 mil | CN34 80 mil | CN36 80 mil | CN30 80 mil | CN15 20 mil
CN19 20 mil | CN20 20 mil | CN10 20 mil | CN43 20 mil | CN12 20 mil | CN16 20 mil | CN41 20 mil | U2 20 mil
280 mil
AO4496 PQ82
280 mil
+5V_TMA
CN9 280 mil
40 mil
AO6402A PQ38
40 mil
+5V_S5
U3035 20 mil | PU7 20 mil | PU8 20 mil | PU9 20 mil | PU10 20 mil | PU6 20 mil | PU11 20 mil
200 mil
+5VPCU
R330 20 mil | R3691 10 mil | U45 20 mil | ESD1 30 mil | U23 20 mil | CN15 20 mil | CN14 20 mil
CN39 20 mil | CN6 10 mil | U4 70 mil | U19 10 mil | U14 70 mil | CN5 130 mil | R428 20 mil
40 mil
+3VPCU
D30 20 mil | MR1 15 mil | CN14 20 mil | U16 30 mil | U8 20 mil | R429 20 mil | PU12 20 mil | R164 15 mil | R586 20 mil | R437 10 mil | L22 10 mil | U9 20 mil | PU2 10 mil
+3VPCU
250 mil
AO4496 PQ25
250 mil
+3V
L26 20 mil | U15 10 mil | R3343 20 mil | R649 20 mil | R462 30 mil | L3035 15 mil | R184 30 mil | R3587 15 mil | R167 10 mil | R192 30 mil | R195 30 mil | U3010 10 mil | CN27 80 mil
U5 20 mil | Q6 65 mil | U33 15 mil | U27 20 mil | U18 20 mil | U44 20 mil | R655 20 mil | R619 20 mil | R710 20 mil | L57 20 mil | CN11 40 mil | R496 120 mil | R499 30 mil
R327 30 mil | CN12 20 mil | CN18 20 mil | U29 100 mil | U13 20 mil | CN5 20 mil | R158 20 mil | R36 20 mil | R11 20 mil | R29 20 mil | CN3 20 mil | R3289 40 mil | R3292 20 mil
150 mil
AO6402A PQ7
150 mil
+3V_S5
30 mil
G973 PU11
40 mil
+1.8V
U3031 30 mil | R3301 15 mil | R3268 15 mil | L25 15 mil | R711 40 mil | L28 25 mil | R3291 20 mil
120 mil
R654 20 mil | Q22 120 mil | CN17 30 mil | R198 20 mil | U21 15 mil | U3017 20 mil | U29 30 mil | R17 20 mil | U3044 20 mil | U11 15 mil | R151 30 mil
20 mil
G909 PU12
20 mil
+1.5V_S5
R3234 15 mil | R34 15 mil
200 mil
UP6111A PU10
400 mil
+1.05V
R3340 20 mil | R448 80 mil | R165 20 mil | L3055 15 mil | R3570 150 mil | R3056 15 mil | R180 15 mil | R3304 15 mil | L3046 15 mil | L3048 15 mil | R186 40 mil | R454 50 mil | R455 50 mil
L3047 15 mil | R185 30 mil | R3644 60 mil | L3058 15 mil | R195 30 mil
250 mil
UP6111A PU9
600 mil
+VTT
Q39 10 mil | U3031 600 mil | R3243 15 mil | R195 15 mil
200 mil
TPS51116 PU6
80 mil
+SMDDR_VTERM
JDIM3001 40 mil | JDIM3002 40 mil
20 mil
+SMDDR_VREF
R3326 20 mil
600 mil
+1.5VSUS
300 mil
AO4496 PQ23
300 mil
+1.5V
R3302 15 mil | CN17 30 mil | CN9 180 mil | U18 20 mil | R69 30 mil | R668 30 mil | U29 60 mil | R676 30 mil
400 mil
JDIM3001 100 mil | JDIM3002 100 mil | U3031 350 mil
200 mil
ISL62881 PU8
400 mil
+VAXG
U3031 350 mil
Quanta Computer Inc.
PROJECT : ZY9
Document Number
POWER MANAGEMENT
Rev 3A
Date: Tuesday, August 18, 2009
Sheet 40 of 42



Quanta Computer Inc.		
PROJECT : ZY9		
Size	Document Number: Thermal Protection	Rev: 3A
Date: Tuesday, August 18, 2009	Sheet 41 of 42	

CHANGE LIST

Model	REV	CHANGE LIST
ZY9 MB	1A	FIRST RELEASED: E20080?-???? (PCB: DA0ZY8MB6A0)
	2A (4/9 modify)	Page4 : R468 change from 4.75K to 1.1Kohm & R488 change from 12K to 3Kohm by DG1.52
		Page8 : Add R373 to pull up ACIN on PCH side, R274 net PCH_ACIN connector to EC pin10.
		Page10 : Stuff R227, R257; remove R222,R224
		Q2,Q5, Q15~Q20,Q29~Q31,Q35~Q43,Q45~Q47,Q50,Q51,Q57~Q59 : 2N7002E(BAM700200F6) change to 2N7002D(BAM700200H2) with ESD protection by SMT.
		Page21 : Modify LAN connector footprint and material by safety.
		Page21 : Modify CN21,CN23 footprint.
		Page28 : Add PAD11.
		Page31 :Chang PD9 footprint to power-6_5-1_84-3p by SMT.
	(4/23 modify)	Page37 : Stuff PQ28,PQ30,PQ31,PR114,PR119,PR127 by S3 discharge issue.
		Page3 : Chagne CPU_SEL PU +3V to +1.05V at B-test by SLG.
		Page14 : R176 un-stuff, R88 stuff at B-test.
		Page15 : R525 un-stuff, R429 stuff at B-test.
		Page23 : Change C571 to 4.7u for Po issue when boot at B-test
		Page26 : Chagne C400 to 22pF, C401 change to 27pF at B-test by HHC.
		Page32 : Del power net ISL6237_3V and all JP.
		Page33 : Stuff PR61,PR62,PC35,PC36 by EMI.
	(5/4 modify)	Page20 : Change CN16 footprint to rj45-jm36111-n2a22-7h-12p-h by safety test.
		Page34 : Change PR157 from 4.02K to 4.75K ohm for Clarksfield CPU.
		Page18 : Remove R438, R639 and Reserve RV7,RV8 by ESD at B-test.
		Page23 : Add U50, C666 and R561 for Po issue by Realtek at B-test.
		Page11 : Reverse R351 connect GPIO49 to EC for Temp Alert & Reverse Q12,Q11 connect to t SYS_SHDN# at B-test.
		Page30 : Add ESD components D34~D41 with EC signals ; Stuff C192 by EMI & Add D42 near JP1 at B-test.
		Page29 : Reserve R375 connect to Temp_Alert from PCH at B-test.
	(5/14 modify)	Page22 : Add R147,R151,R197 for power consumption measure & move C33 near C103 for EMI at B-test.
		Page21 : Change PCIE bus sequence beween CN21 and CN23 by BIOS at B-test.
		Page24 : Change C622, C635 to CH22206KB16 by EMI at B-test.
	(5/18 modify)	Page34 : Add PR110 at B-test.
		Page35 : Add PR194 at B-test.
		Page9 : 5/21 Change R233 to 1Kohm by Intel at B-test.
	(5/21 modify)	Page14: 5/21 No stuff R187 and change R185,R186; del C260 add R195 by CRB v1.6 at B-test.
		Page15: 5/21 No stuff R522 and change R518,R521; del C557 add R210 by CRB v1.6 at B-test.
		Page18: 5/21 change L9,L10,L13(CX8BA750006) from 47ohm to 75ohm by EMI at B-test.
		Page27: 5/22 Add R212 by pipe LED at B-test.
		Page10: 5/22 change ESATA USB port10 to port1 and rename OC0_1#, OC3#,OC5_6#; R565 connect to OC5_6# by BIOS at B-test.
		Page28: 5/22 change ESATA USB port10 to port1 and rename OC0_1#, OC3#,OC5_6# by BIOS at B-test.
		Page32: 5/25 stuff PR123, no stuff PQ12,PR111,PR159 at B test.
		Page37: 5/25 stuff PR160, no stuff PQ24,PR126,PR125 at B test.
		Page31: 5/25 Change PQ19, PQ35 to FDD6685 by power at B test.
	3A	Page14: 6/19 Reserve M2 component and reserve R801~R808 DM connect to GND BY DG1.6 at C test.
		Page15: 6/19 Reserve M2 component and reserve R809~R816 DM connect to GND BY DG1.6 at C test.
		Page30: 6/19 Change R196 to 2.2 by EC at C-test.
		Page9 : 6/21 Non stuff R233 by Intel & R235 change to connect to +3V at C-test.
		Page17: 6/25 Delete R63 & Change CN22 pin define and footprint at C test.
		Page8: 6/25 Change some 0_4 to *short pad footprint; no stuff R366 at C-test.
		Page29 : 6/25 Stuff R375 by EC at C-test.
		Page11 : 7/1 Add R671 for GPIO57 PD and not PU; change board_id0 to GPIO7 by Intel suggestion at C-test.
		Page 29 : 7/2 Stuff Q22,Q2,1R119 & no stuff U11,C101 by cost down at C-test.
		Page37 : 7/2 Add Intel S3 power reduction circuit at C-test.
		Page28 : 7/2 no stuff R115 by Parade & add USB EMI chock at C-test.
		Page17 : 7/2 no stuff R406 R409 and stuff R411,R412,Q45,Q46 by S3 leakage at C-test.
		Page6 : 7/2 Change CPU VDDQ from +1.5V_S3 to +1.5V_CPUVDDQ by Intel at C test.
		Page33 : 7/5 Change PC79,PC80 connection from GND to VSUM- by ISL at C test.
	3B	Page29: 7/22 Un-stuff R375 by EC at Ramp.
		Page30: 7/22 Add C281 and reserve C282 near EC on top side by battery LED abnormal & change RT1 connet form GND to AGND.
		Page33: 7/28 Change PU7 from AL062882000 to AL062882001 by Power shutdown issue and stuff PC110 by power on Ramp.
		Page28: 7/28 Reserve C311 and change L60~L64 by EMI at Ramp test.
		Page26: change resistor to short pad which MDIO0~14, CR1_CD0N,CR1_CD1N short to card reader connector at Ramp test.
		Page11: 8/8 Reserve R428 from GPIO46 by intel S3 suggestion at Ramp test.
		Page14: 8/8 R88 connector to +SMDDR_VREF_DIMM at Ramp test.
		Page24: 8/8 Remove L54~L57 at Ramp test.
		Page18: 8/12 del R431~R437 at Ramp-testt; change R29,R36 to 0 ohm.
		Page28: 8/12 del RN32~RN36 at Ramp-testt.
		Page34: 8/13 Replace and stuff PC112; change PC40 from 4.7uF to 1uF; PR110 from 0 to 2.2ohm by power at Ramp-testt.
		Page35: 8/13 Replace and stuff PC148; change PC147 from 4.7uF to 1uF; PR194 form 0 to 2.2ohm by power at Ramp-testt.
		Page26: 8/14 Stuff C393 and C625,exchange C384 and C386 value by JMicron at Ramp.
		Page4: 8/14 Reserve R213 by intel S3 at Ramp.
		Page37: 8/14 Reserve C557 connect to DDR3_DRAMRST#_EC by intel S3 at Ramp.
		Page36: 8/14 Reserve PR163 connect to S3_1.8V by intel S3 at Ramp.
		Page30: 8/17 SPI_SDI_uR add PD R16 by EC for saving S5 power at Ramp.
		Page41: 8/18 Change PR71 to 1K by power at Ramp.
	3C	

MODEL: ZY9

FROM	To
X	1A
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
2A	3A
2A	3A
2A	3A
2A	3A
2A	3A
2A	3A
2A	3A
2A	3A
2A	3A
2A	3A
2A	3A
2A	3A
2A	3A
2A	3A
2A	3A
2A	3A
2A	3A
3A	3B
3A	3B
3A	3B
3A	3B
3A	3B
3A	3B
3A	3B
3A	3B
3A	3B
3A	3B
3A	3B
3A	3B
3A	3B
3A	3B
3A	3B
3A	3B
3A	3B
3A	3B
3A	3B
3A	3B
3A	3B
3A	3B
3A	3B
3A	3B
3A	3B
3A	3B
3A	3B
3A	3B
3A	3B