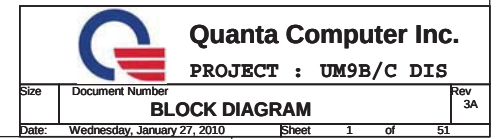
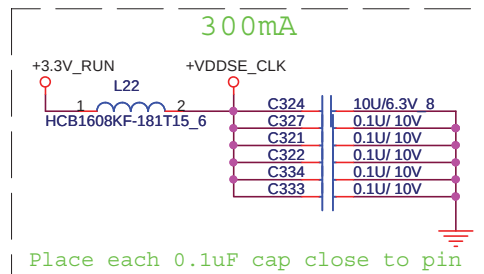
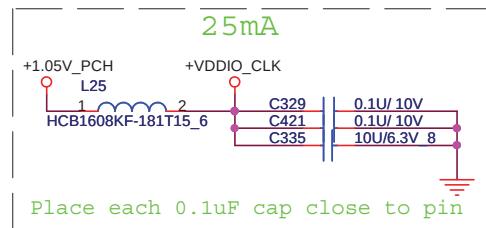
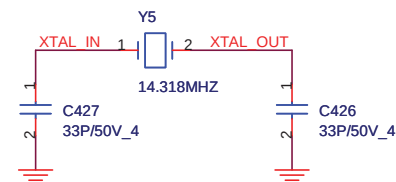
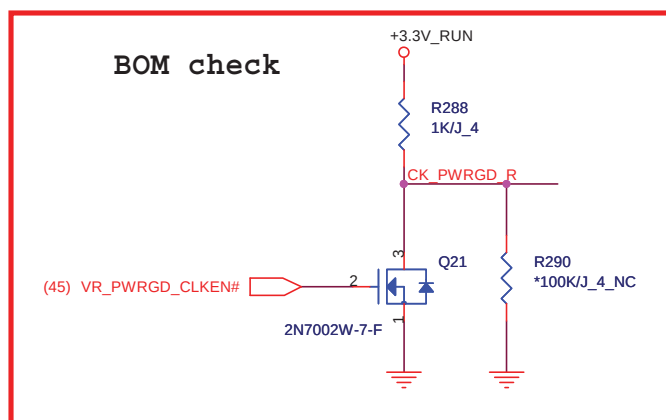
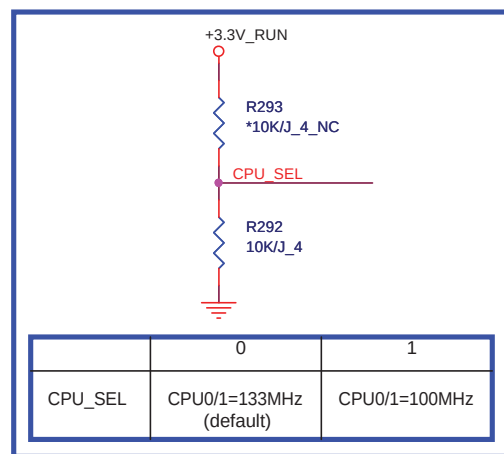
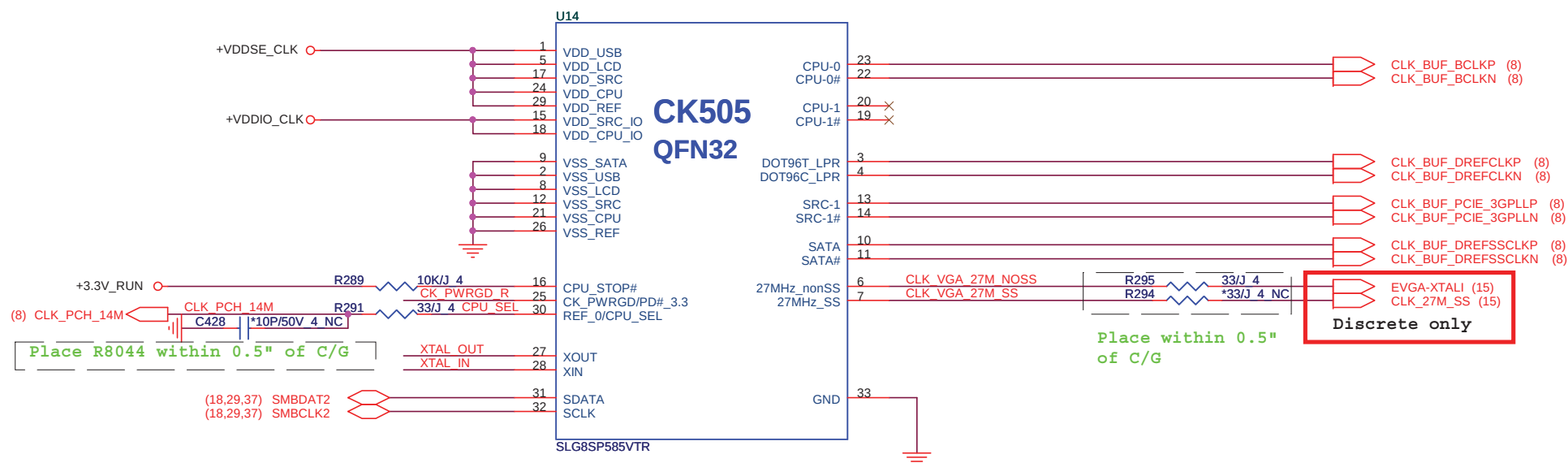


 14.318MHz



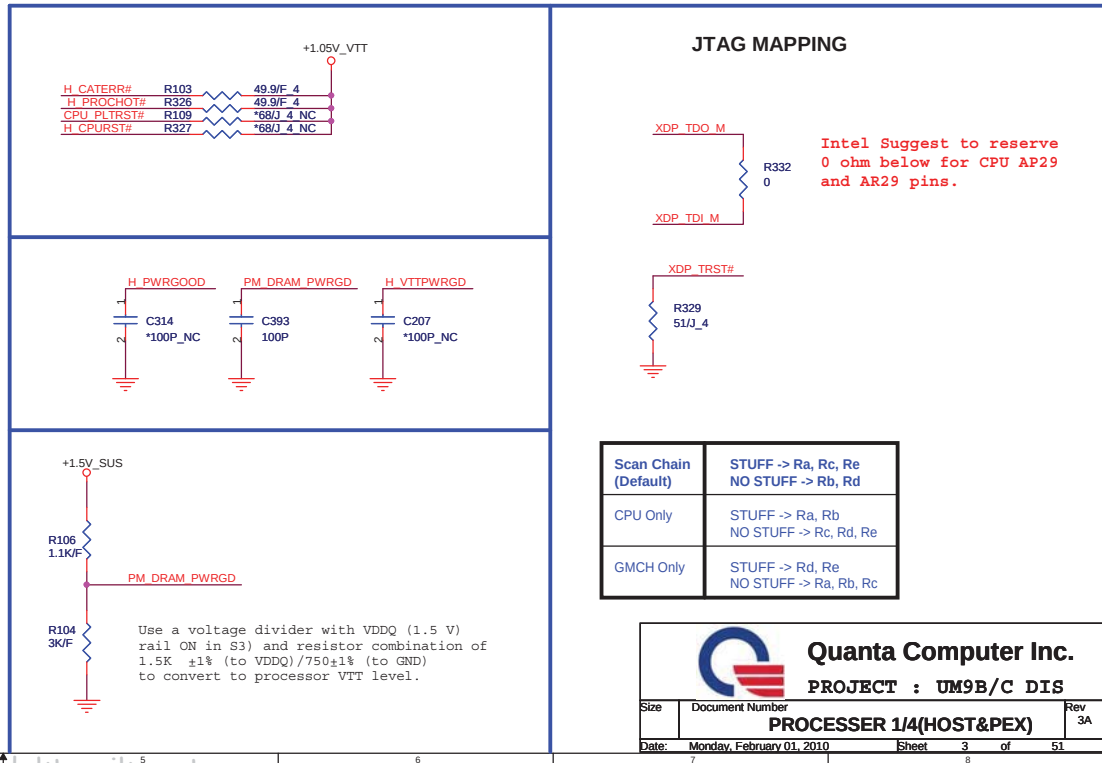
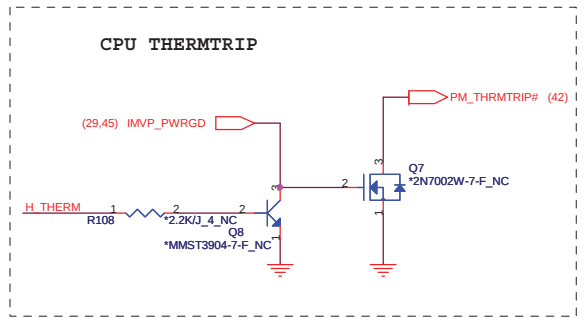
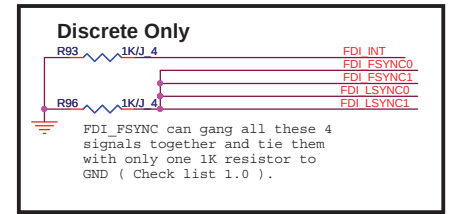
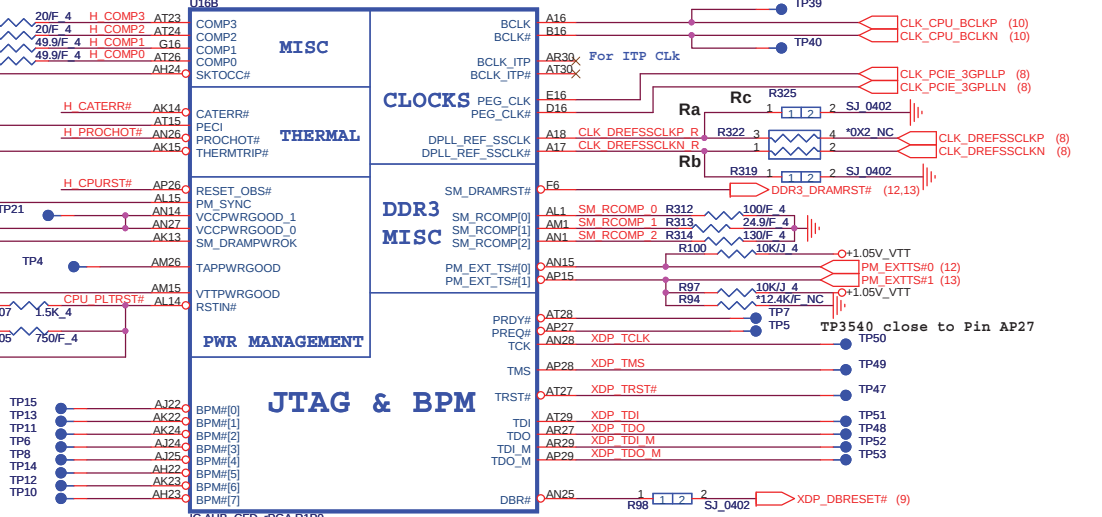
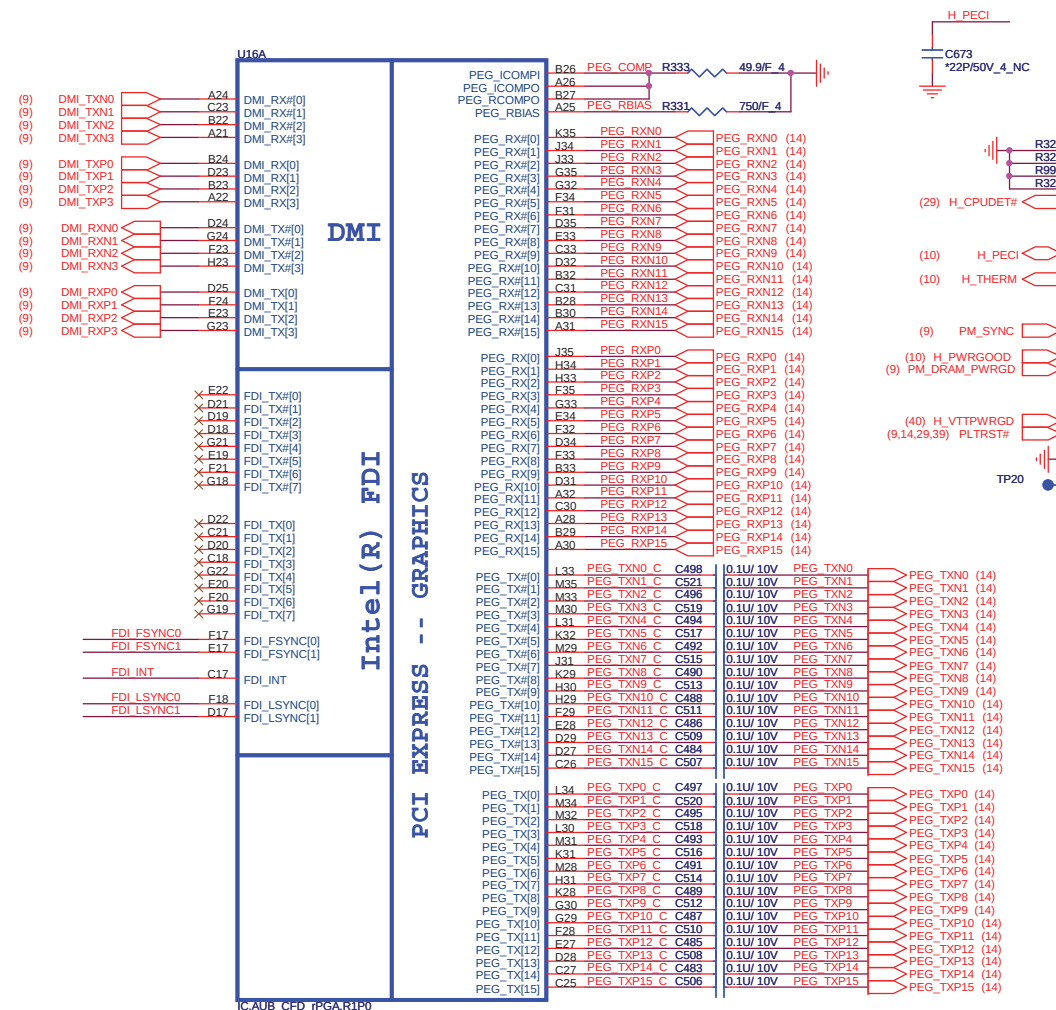


PDC (Power Cap quantities follow UM3)



	DIS	UMA
Ra	NA	0 ohm
Rb	0 ohm	NA
Rc	0 ohm	NA

DPLL_REF_SSCLK: Embedded Display Port PLL Differential Clock In. If no eDP, do we need implement these R?



Scan Chain (Default)	STUFF -> Ra, Rc, Re NO STUFF -> Rb, Rd
CPU Only	STUFF -> Ra, Rb NO STUFF -> Rc, Rd, Re
GMCH Only	STUFF -> Rd, Re NO STUFF -> Ra, Rb, Rc

Quanta Computer Inc.

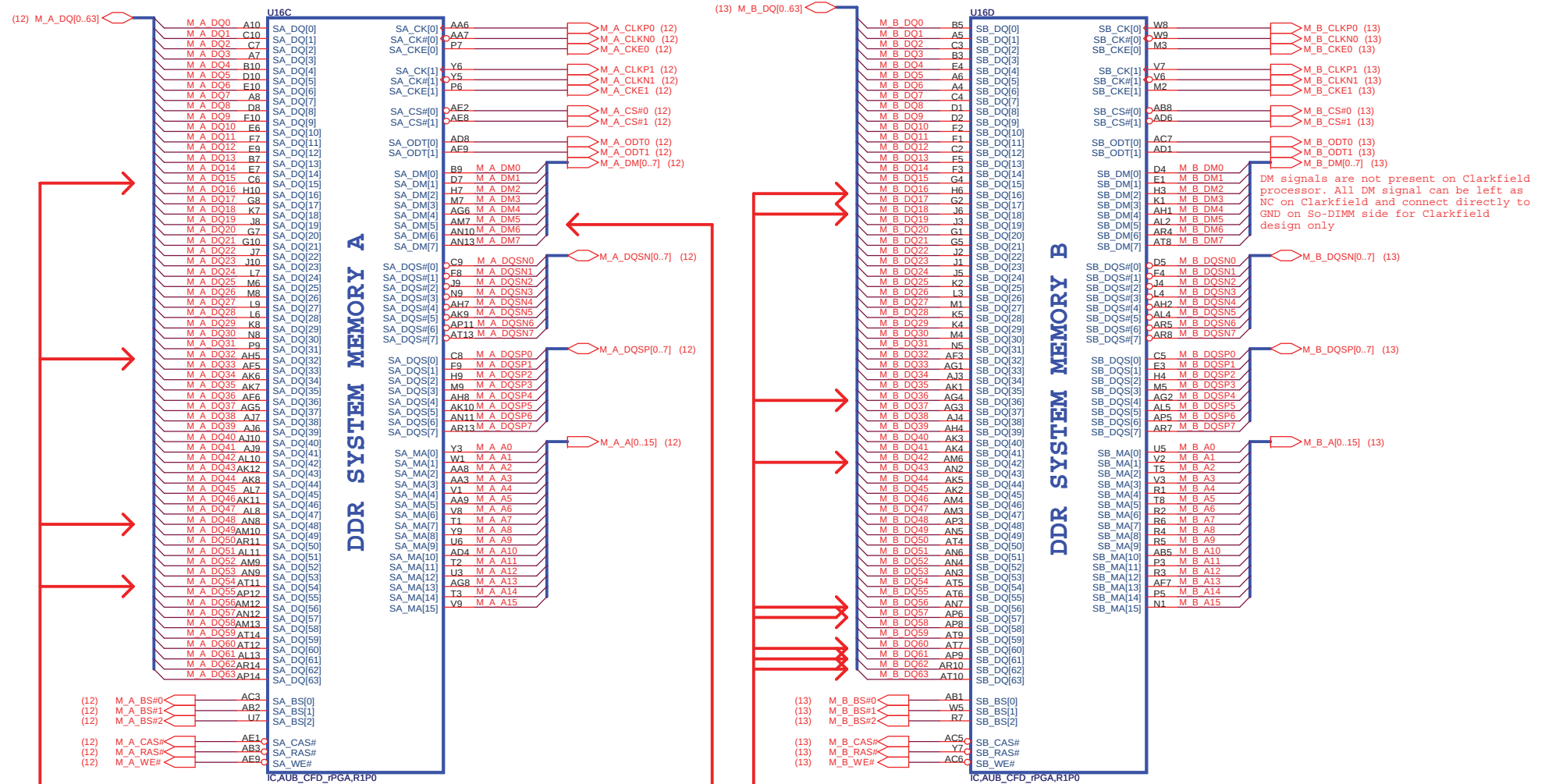
PROJECT : UM9B/C DIS

PROCESSOR 1/4(HOST&PXE)

Size: Document Number: Rev: 3A

Date: Monday, February 01, 2010 Sheet: 3 of 51

AUBURNDALE/CLARKSFIELD PROCESSOR (DDR3)



Channel A DQ[15,32,48,54], DM[5]
Requires minimum 12mils spacing
with all other signals, including data signals.

Channel B DQ[16,18,36,42,56,57,60,61,62]
Requires minimum 12mils spacing
with all other signals, including data signals.



Quanta Computer Inc.

PROJECT : UM9B/C DIS

Name different with power

+VCC_CORE

C477	*22U/6.3V 8 NC	AG35	VCC1
C479	*22U/6.3V 8 NC	AG34	VCC2
C501	*22U/6.3V 8 NC	AG32	VCC3
C472	*22U/6.3V 8 NC	AG31	VCC4
C203	*22U/6.3V 8 NC	AG30	VCC6
C202	22U/6.3V 8	AG29	VCC7
C470	22U/6.3V 8	AG28	VCC8
C469	22U/6.3V 8	AG27	VCC9
C499	22U/6.3V 8	AG26	VCC10
C214	22U/6.3V 8	AF35	VCC11
C204	22U/6.3V 8	AF34	VCC12
C504	22U/6.3V 8	AF32	VCC15
C500	*10U/6.3V 8 NC	AF33	VCC13
C200	*10U/6.3V 8 NC	AF31	VCC14
C205	*10U/6.3V 8 NC	AF30	VCC16
C476	*10U/6.3V 8 NC	AF29	VCC17
C213	10U/6.3V 8	AF28	VCC18
C201	10U/6.3V 8	AF27	VCC19
C478	10U/6.3V 8	AD26	VCC20
C217	10U/6.3V 8	AD35	VCC21
C219	10U/6.3V 8	AD34	VCC22
C471	10U/6.3V 8	AD33	VCC23
C218	10U/6.3V 8	AD32	VCC24
C503	10U/6.3V 8	AD31	VCC25
C475	10U/6.3V 8	AD30	VCC26
C215	10U/6.3V 8	AD29	VCC27
C502	10U/6.3V 8	AD28	VCC28
C216	10U/6.3V 8	AD27	VCC29
		AD26	VCC30
		AC35	VCC31
		AC34	VCC32
		AC33	VCC33
		AC32	VCC34
		AC31	VCC35
		AC30	VCC36
		AC29	VCC37
		AC28	VCC38
		AC27	VCC39
		AC26	VCC40
		AA35	VCC41
		AA34	VCC42
		AA33	VCC43
		AA32	VCC44
		AA31	VCC45
		AA30	VCC46
		AA29	VCC47
		AA28	VCC48
		AA27	VCC49
		AA26	VCC50
		Y35	VCC51
		Y34	VCC52
		Y33	VCC53
		Y32	VCC54
		Y31	VCC55
		Y30	VCC56
		Y29	VCC57
		Y28	VCC58
		Y27	VCC59
		Y26	VCC60
		V35	VCC61
		V34	VCC62
		V33	VCC63
		V32	VCC64
		V31	VCC65
		V30	VCC66
		V29	VCC67
		V28	VCC68
		V27	VCC69
		V26	VCC70
		U35	VCC71
		U34	VCC72
		U33	VCC73
		U32	VCC74
		U31	VCC75
		U30	VCC76
		U29	VCC77
		U28	VCC78
		U27	VCC79
		U26	VCC80
		R35	VCC81
		R34	VCC82
		R33	VCC83
		R32	VCC84
		R31	VCC85
		R30	VCC86
		R29	VCC87
		R28	VCC88
		R27	VCC89
		R26	VCC90
		P35	VCC91
		P34	VCC92
		P33	VCC93
		P32	VCC94
		P31	VCC95
		P30	VCC96
		P29	VCC97
		P27	VCC98
		P26	VCC99
			VCC100

IC_AUB_CFD_PGAR1P0

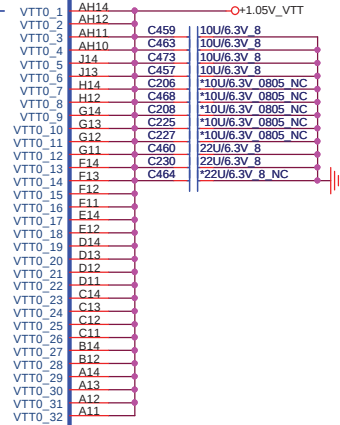
1.1V RAIL POWER

CPU CORE SUPPLY

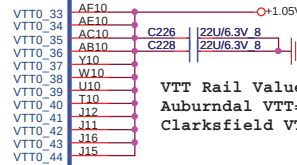
POWER

CPU VIDS

SENSE LINES

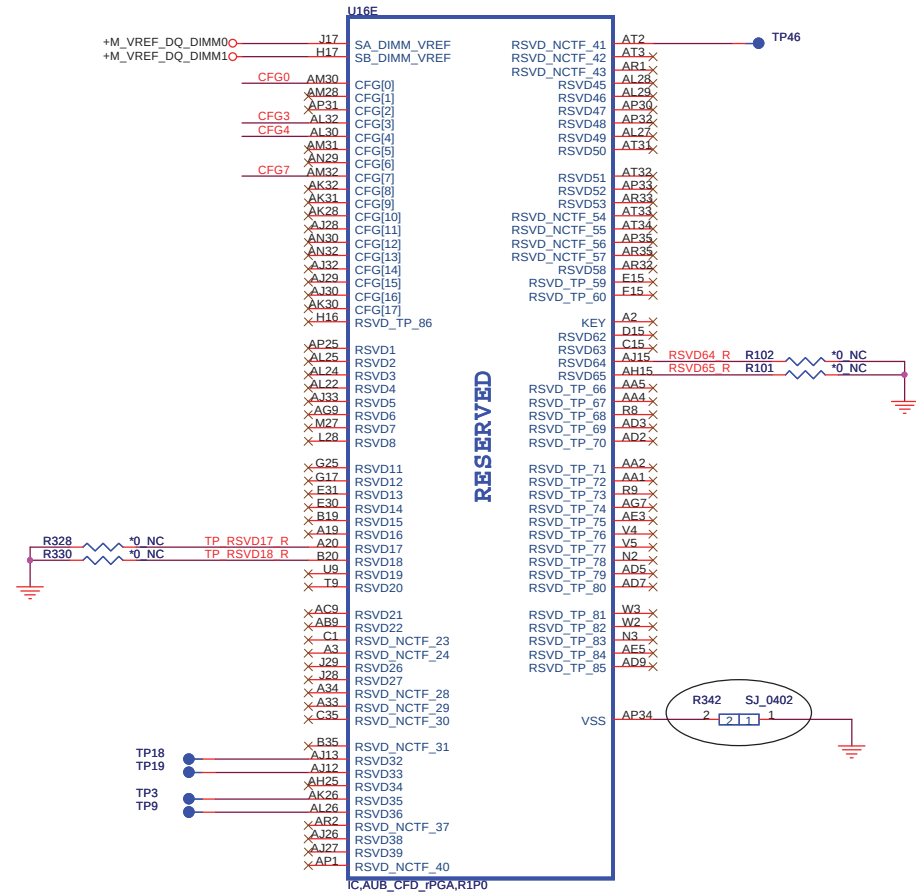
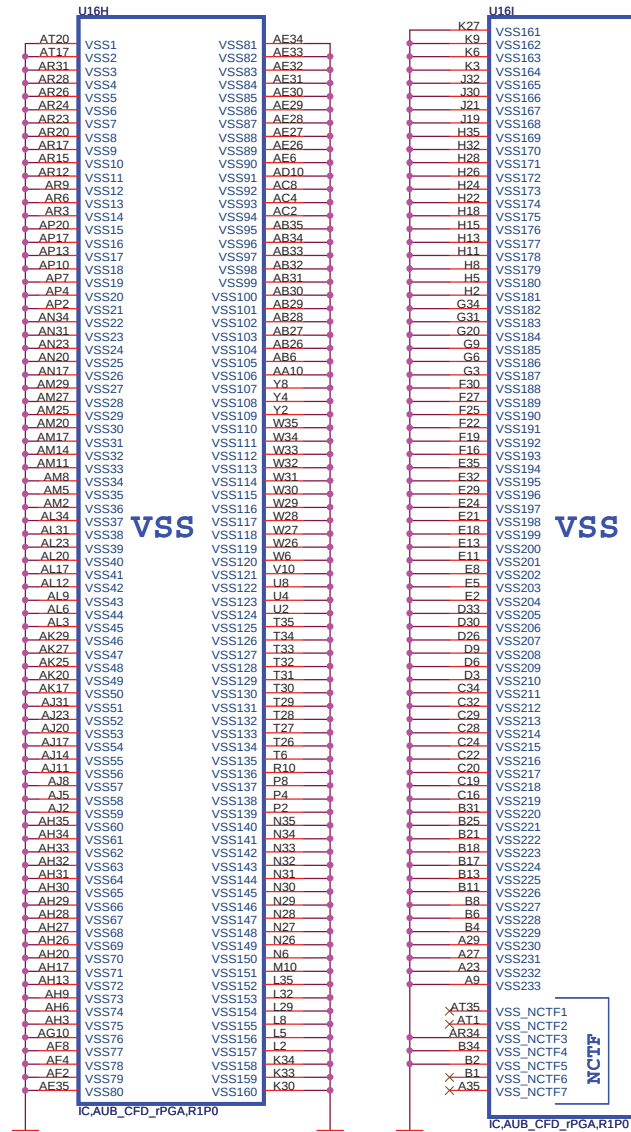


VTT Rail Values are
Auburndal VTT=1.05V
Clarkfield VTT=1.1V



AUBURNDALE/CLARKSFIELD PROCESSOR (GND)

AUBURNDALE/CLARKSFIELD PROCESSOR(RESERVED, CFG)



For Discrete only

CFG[1:0] - PCI_Epress Configuration Select

* 11= 1 x 16 PEG

* 10= 2 x 8 PEG



Quanta Computer Inc.

PROJECT : UM9B/C DIS

Size Document Number

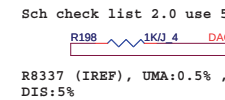
PROCESSOR 4/4 (GND)

Date: Wednesday, January 27, 2010 Sheet 6 of 51

	1	0
CFG4 (Display Port Presence)	Disabled; No Physical Display Port attached to Embedded Display 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 15 -> 0 , 14 -> 1

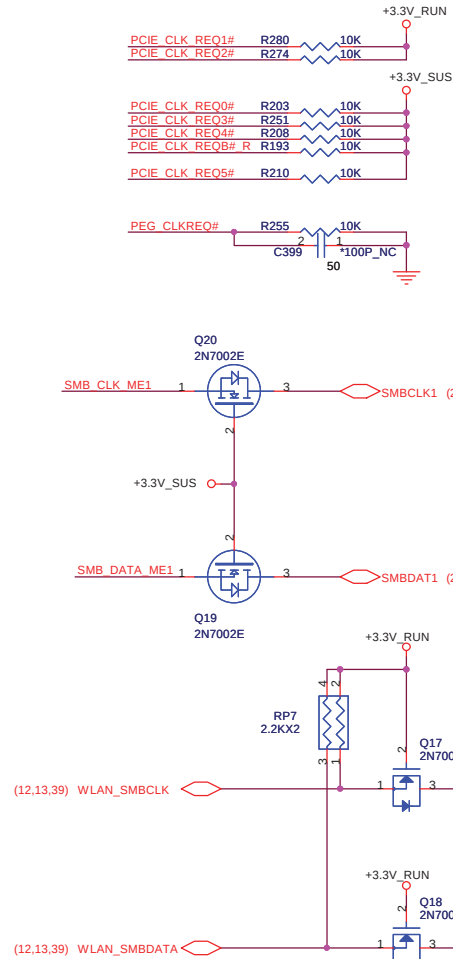
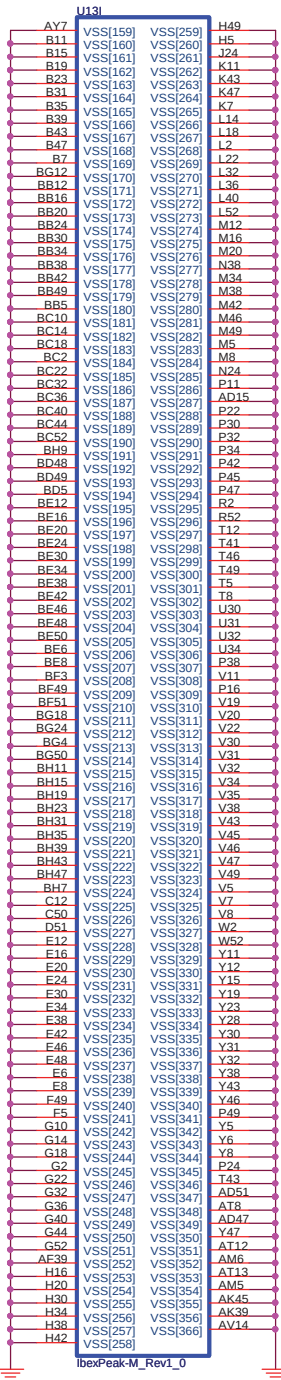
http://www.elektronika.net

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.



Size	Document Number	Rev
	PCH 1/5 (SATA,HDA,LPC)	3A
Date:	Monday, February 01, 2010	Sheet 7 of 51

IBEX PEAK-M (GND)



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

[WWAN]

[WLAN]

[LAN]

PCIECLKRQ0#/GPIO73 Internal 20K PU

MiniWLAN

MiniWWAN

LAN

U13B

Ibex-M
2 OF 10

SMBus

(+3V_S5) SMBALERT# / GPIO11

SMBCLK

SMBDATA

(+3V_S5) SMLALERT# / GPIO60

SMLCLK

SMLDATA

(+3V_S5) SML1ALERT# / GPIO74

SML1CLK / GPIO58

SML1DATA / GPIO75

Controller

Link

CL_CLK1

CL_DATA1

CL_RST1#

PCI-E*

PEG

(+3V_S5) PEG_A_CLKREQ# / GPIO47

CLKOUT_PEG_A_N

CLKOUT_PEG_A_P

CLKOUT_DMI_N

CLKOUT_DMI_P

CLKOUT_DP_N / CLKOUT_BCLK1_N

CLKOUT_DP_P / CLKOUT_BCLK1_P

CLKIN_DMI_N

CLKIN_DMI_P

CLKIN_BCLK_N

CLKIN_BCLK_P

CLKIN_DOT_96N

CLKIN_DOT_96P

CLKIN_SATA_N / CKSSCD_N

CLKIN_SATA_P / CKSSCD_P

REFCLK14IN

CLKIN_PCILOOPBACK

XTAL25_IN

XTAL25_OUT

XCLK_RCOMP

(+3V) CLKOUTFLEX0 / GPIO64

(+3V) CLKOUTFLEX1 / GPIO65

(+3V) CLKOUTFLEX2 / GPIO66

(+3V) CLKOUTFLEX3 / GPIO67

Clock Flex

+3.3V_SUS

R239

R225

R222

R221

R212

R213

R201

R229

R228

R228

R228

R228

R228

R228

R228

R228

R228

R228

R228

R228

R228

R228

R228

R228

R228

R228

R228

R228

R228

R228

R228

R228

R228

R228

R228

R228

R228

R228

R228

R228

R228

R228

R228

R228

R228

R228

R228

R228

R228

R228

R228

R228

R228

R228

R228

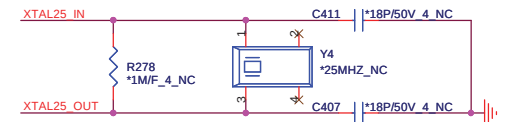
R228

R228

R228

R228

For UMA



Quanta Computer Inc.

PROJECT : UM9B/C DIS

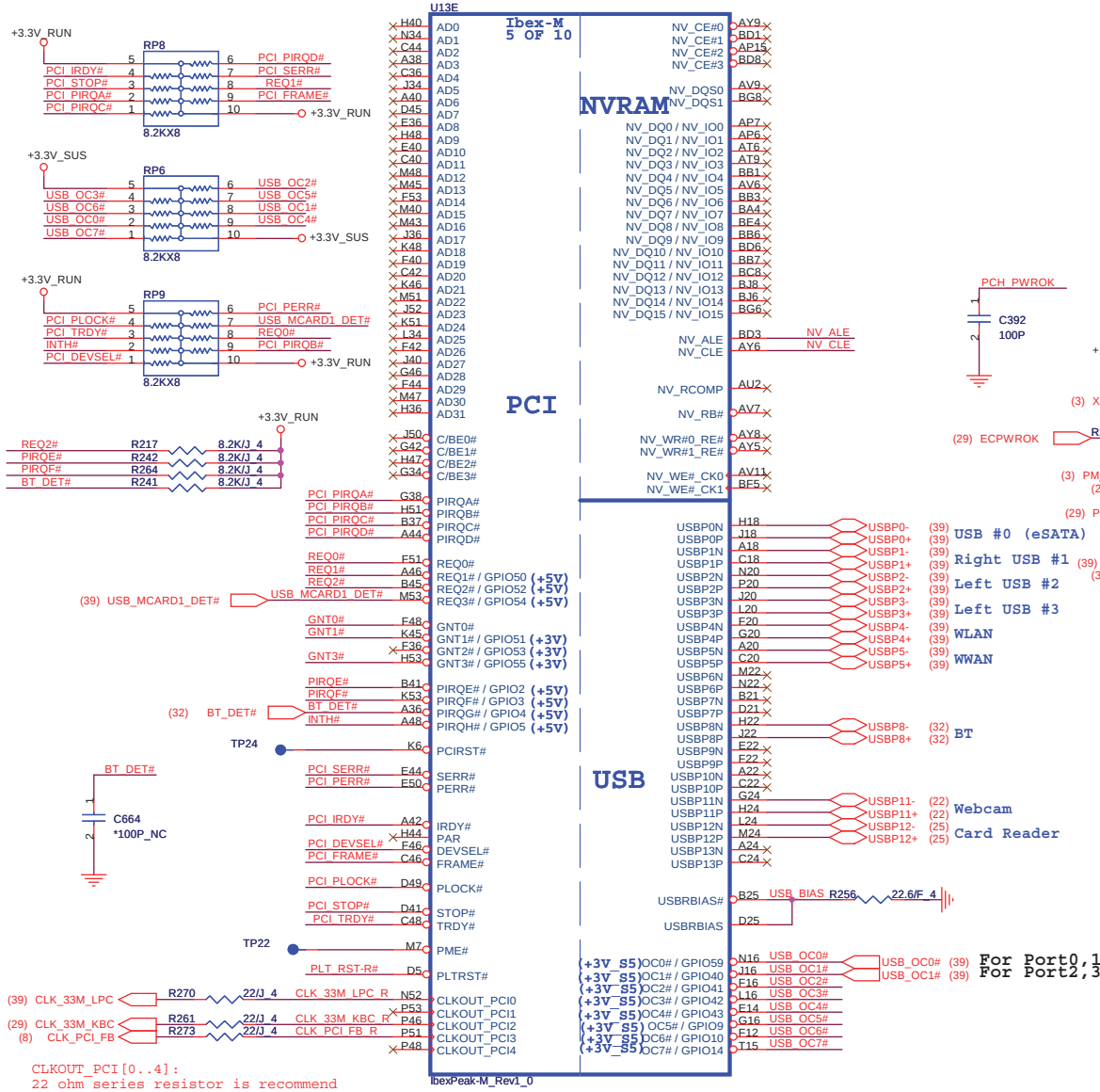
Size Document Number

PCH 2/5 (PCI-E, SMBUS, CK)

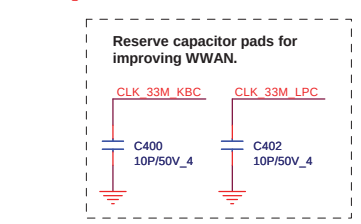
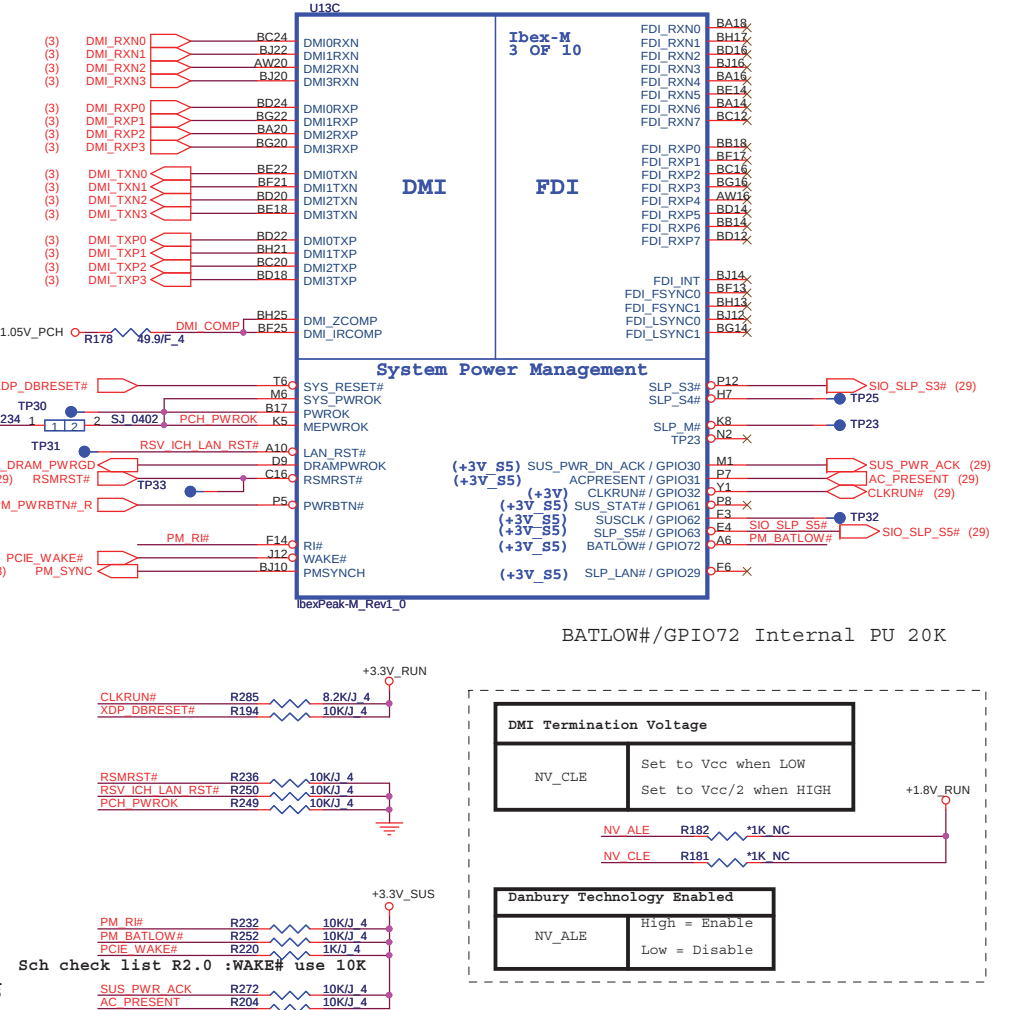
Rev 3A

Date: Monday, February 01, 2010 Sheet 8 of 51

IBEX PEAK-M (PCI,USB,NVRAM)

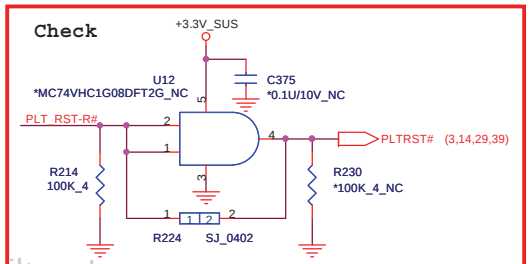
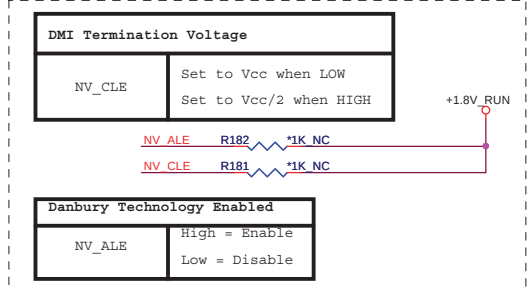


IBEX PEAK-M (DMI,FDI,GPIO)



Boot BIOS Strap		
PCI_GNT0#	GNT#1	Boot BIOS Location
0	0	LPC
0	1	Reserved (NAND)
1	0	PCI
1	1	SPI

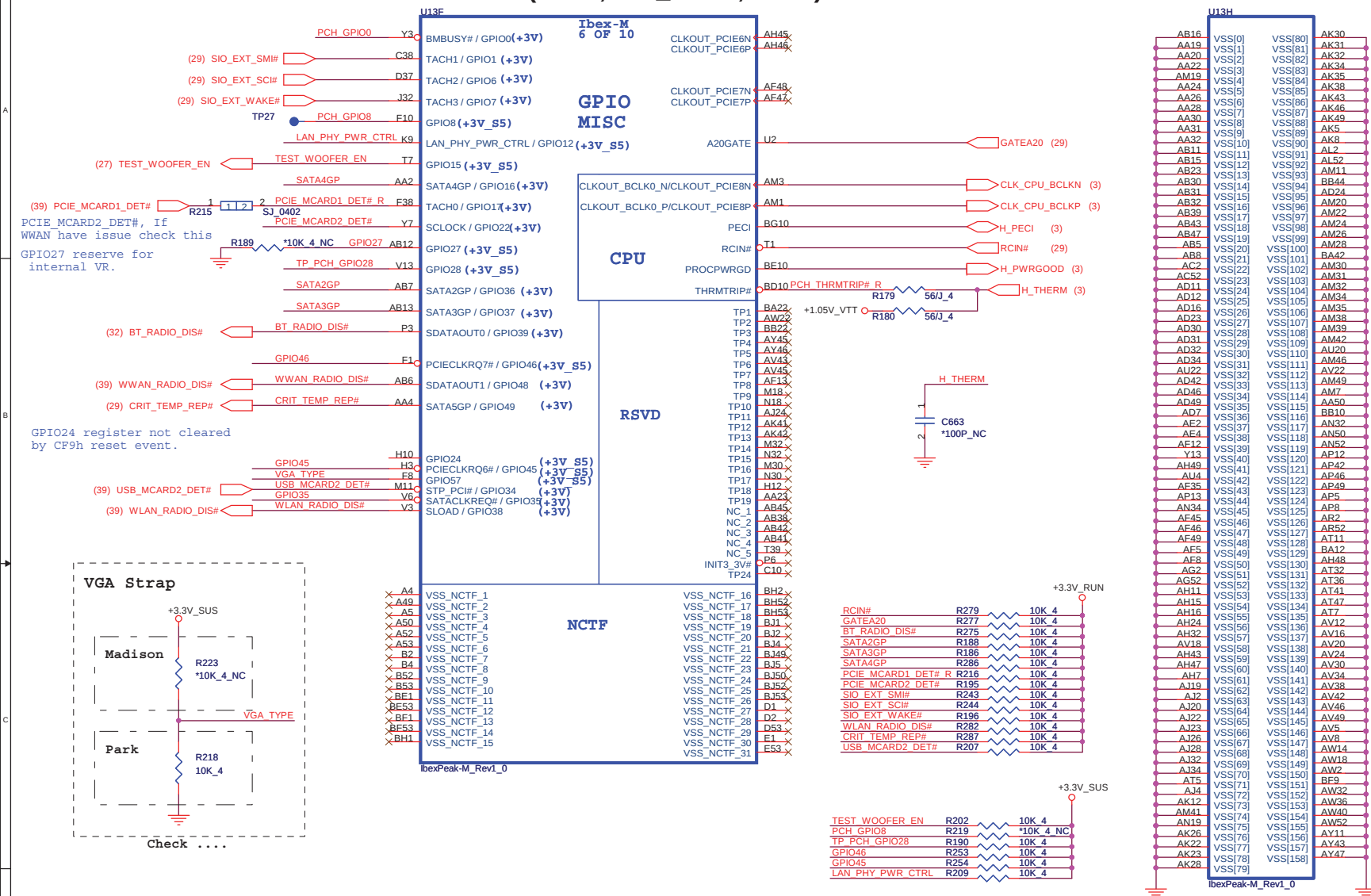
A16 swap override Strap/Top-Block Swap Override jumper	
GNT3#	Low = A16 swap override/Top-Block Swap Override enabled High = Default



IBEX PEAK-M (GPIO,VSS_NCTF,RSVD)

IBEX PEAK-M (GND)

10



GPIO[7,6,1,17], PCIECLKRQ6#/GPIO45,
GPIO28 Internal 20K PU

TEST_WOOFER_EN R202 10K 4
PCH_GPIO8 R219 10K 4 NC
TP_PCH_GPIO28 R190 10K 4
GPIO46 R253 10K 4
GPIO45 R264 10K 4
LAN_PHY_PWR_CTRL R209 10K 4

BMBUSY# (Intel feedback)
Follow CRB checklist, 1K is for intel BIOS validation purpose.

BMBUSY#:
If not used, require a weak pull-up (8.2- 10K to 10K) to Vcc3.3.
CRB (V1.0) P28: it has 1K PU and 100 ohm on this net for validation purpose.

WWAN_RADIO_DIS# 1-X High = Strong (Default)

<http://hobi-elektronika.net>



Quanta Computer Inc.

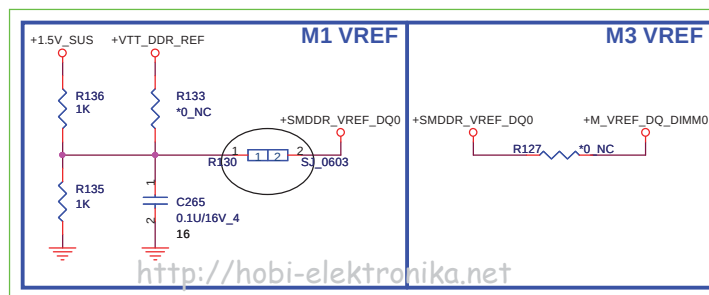
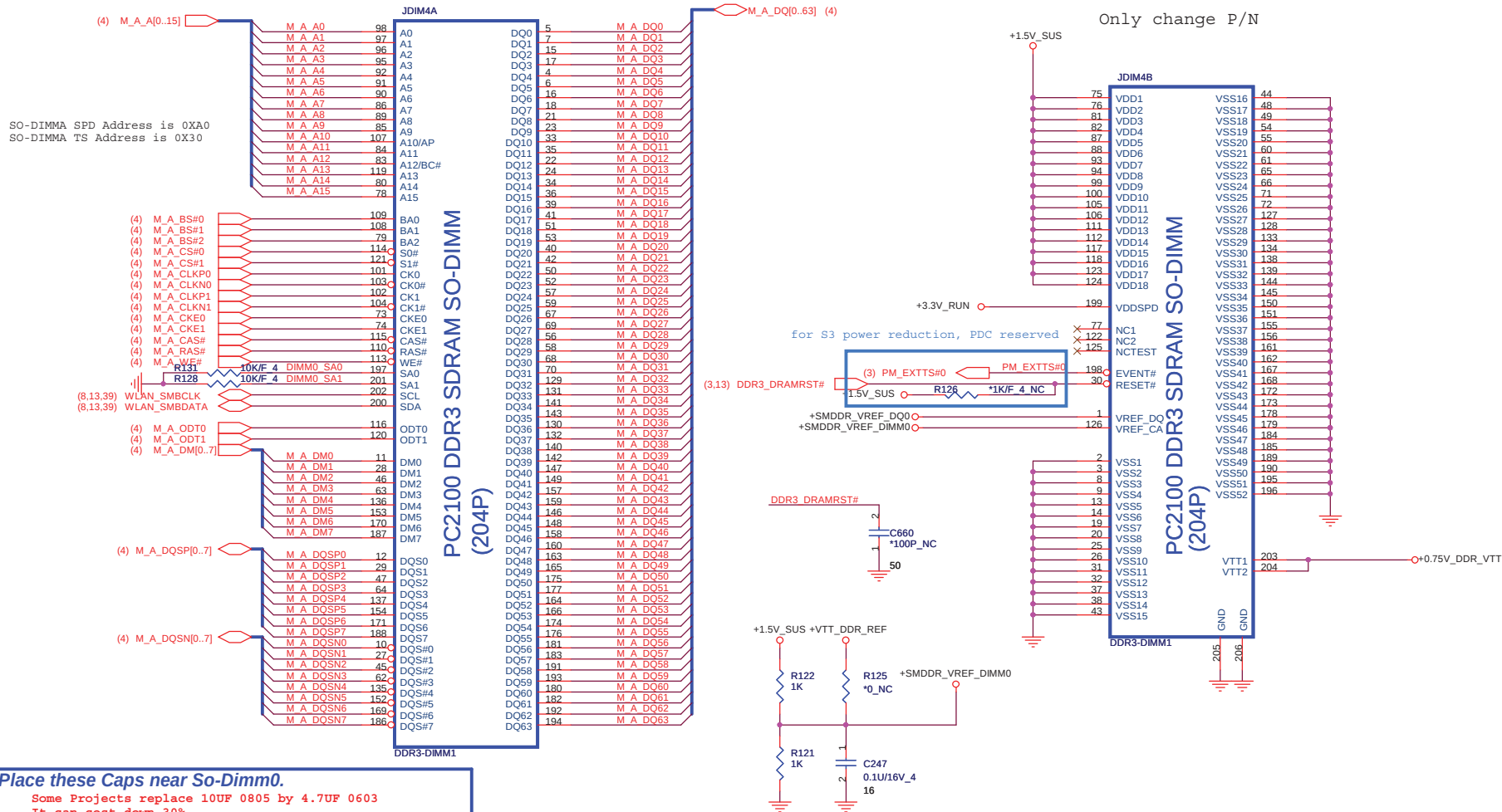
PROJECT : UM9B/C DIS

Size	Document Number	Rev
	PCH 4/5 (GPIO & Strap)	3A
Date:	Monday, February 01, 2010	Sheet 10 of 51



Only change P/N

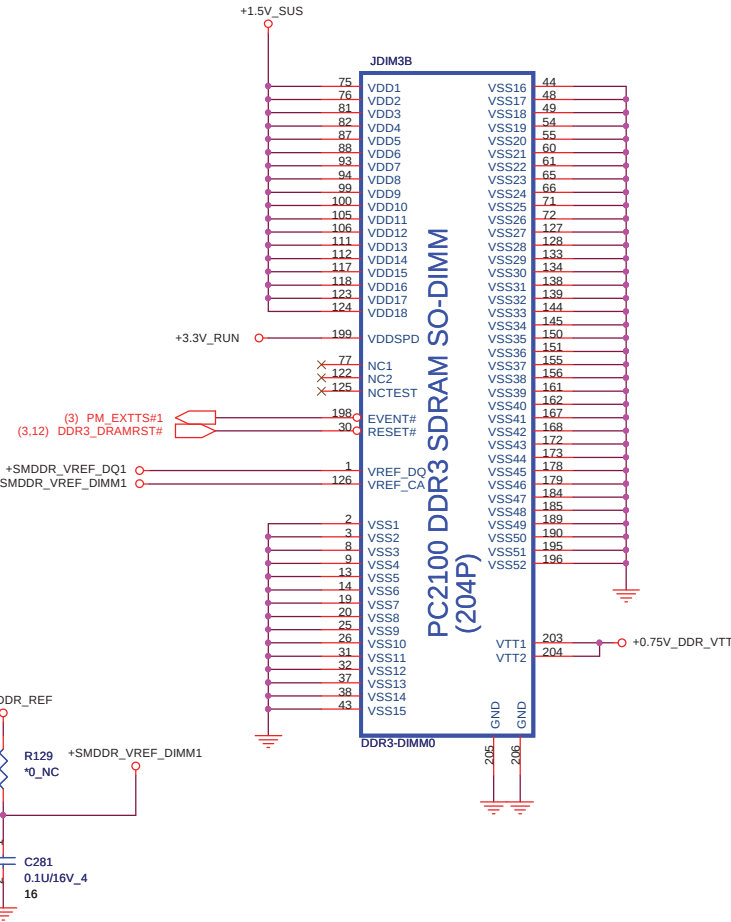
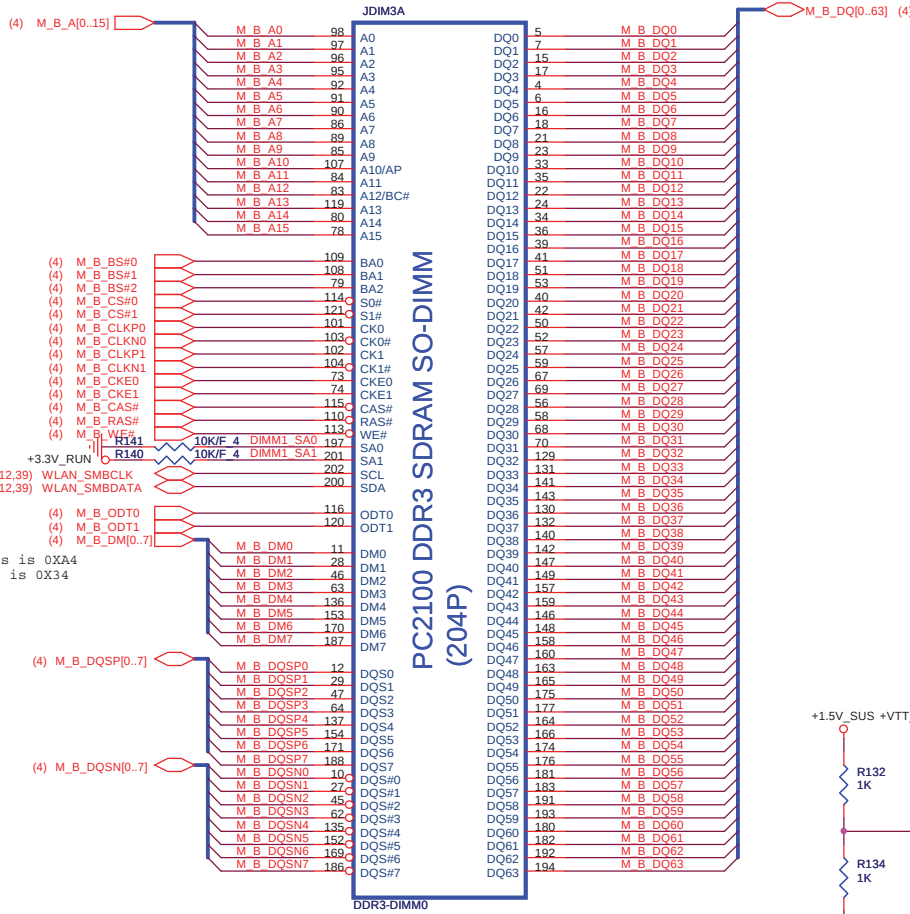
Only change P/N



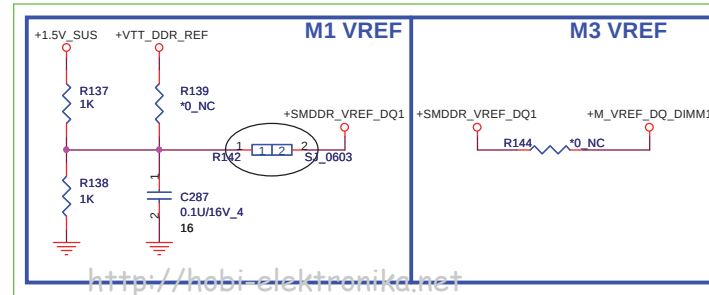
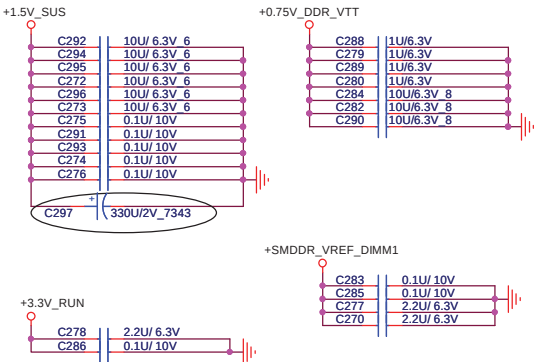
Quanta Computer Inc.
PROJECT : UM9B/C DIS

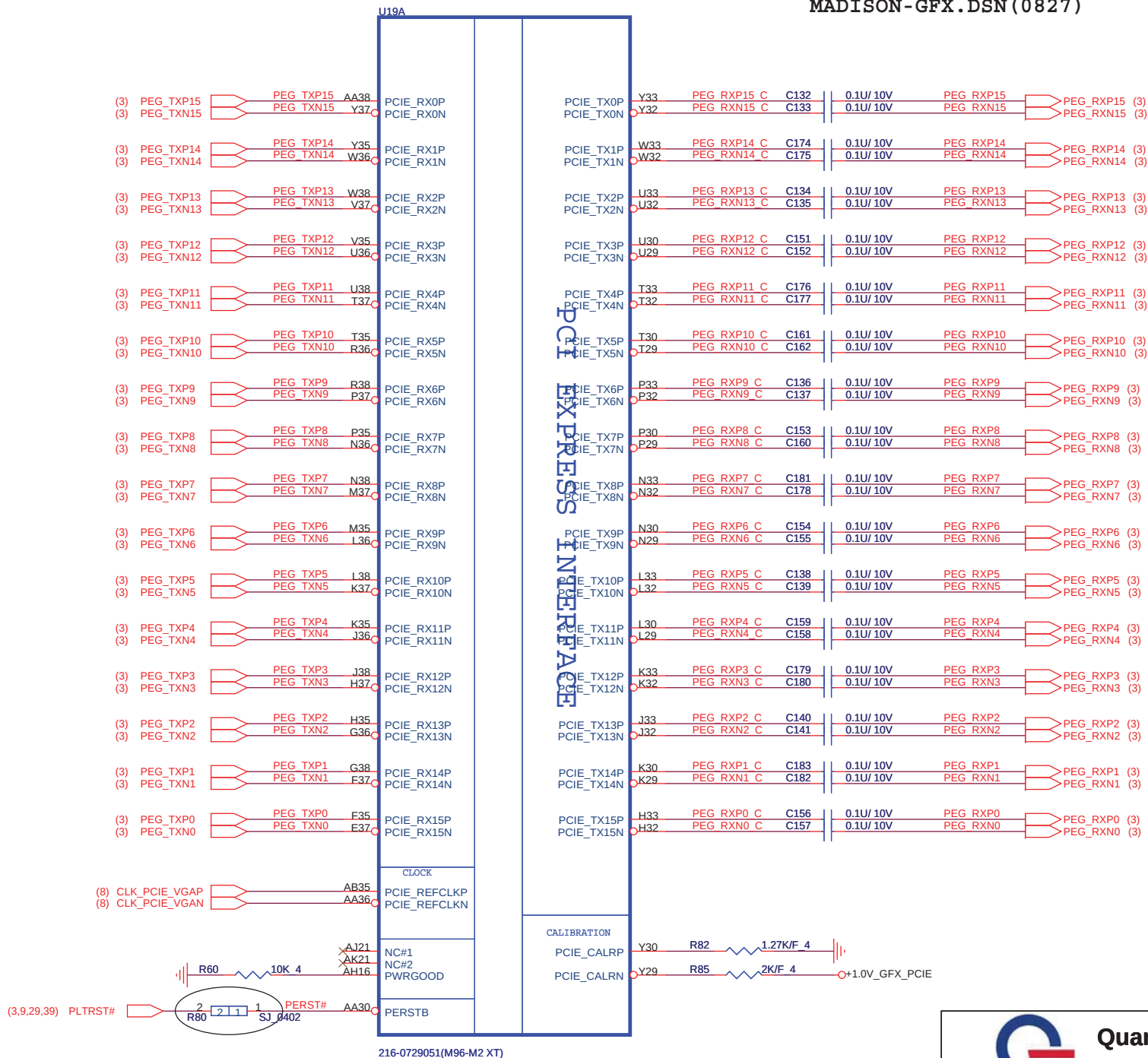
Only change P/N

Only change P/N



Place these Caps near So-Dimm1.
Some Projects replace 10UF 0805 by 4.7UF 0603
It can cost down 30%

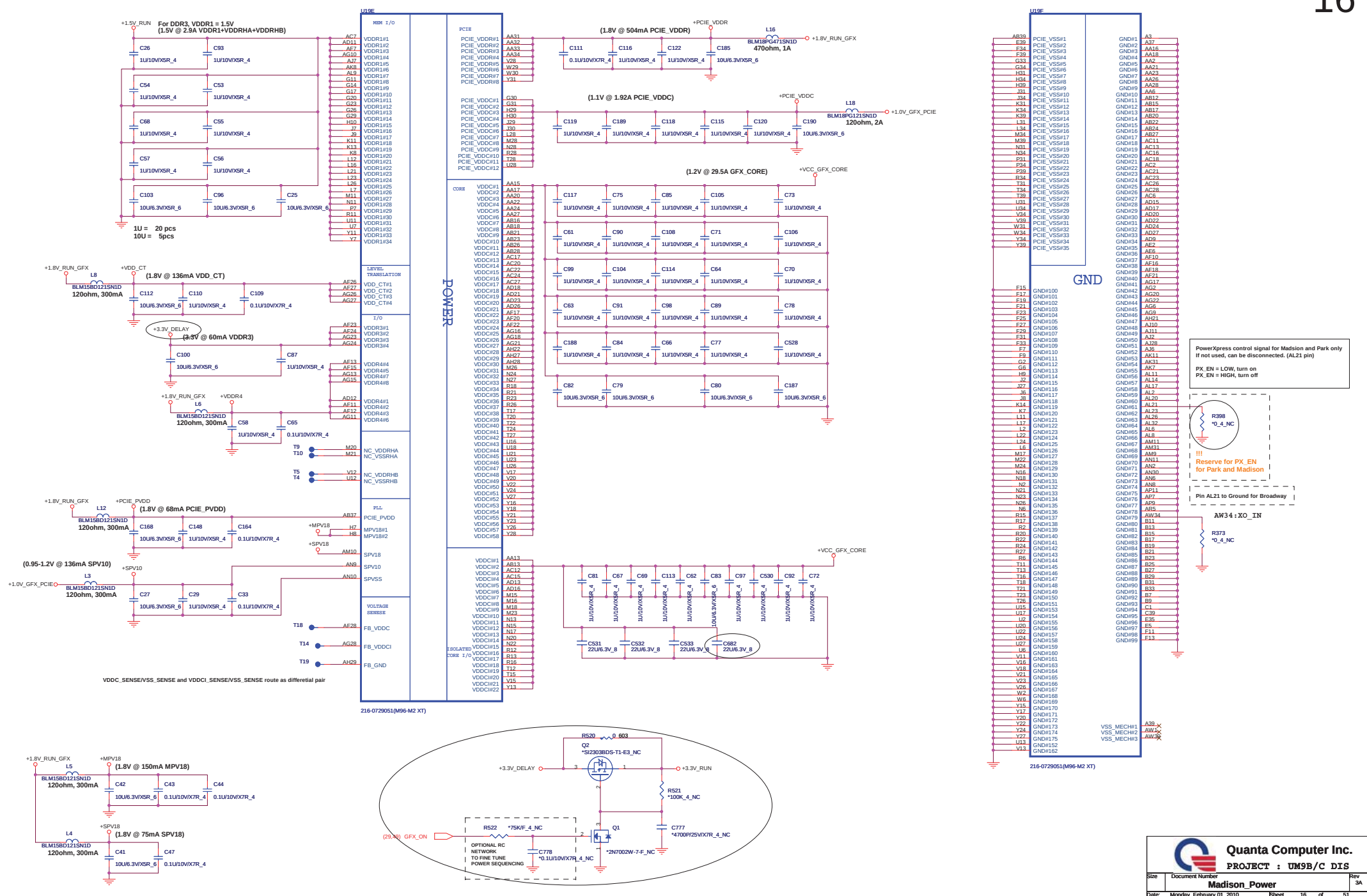




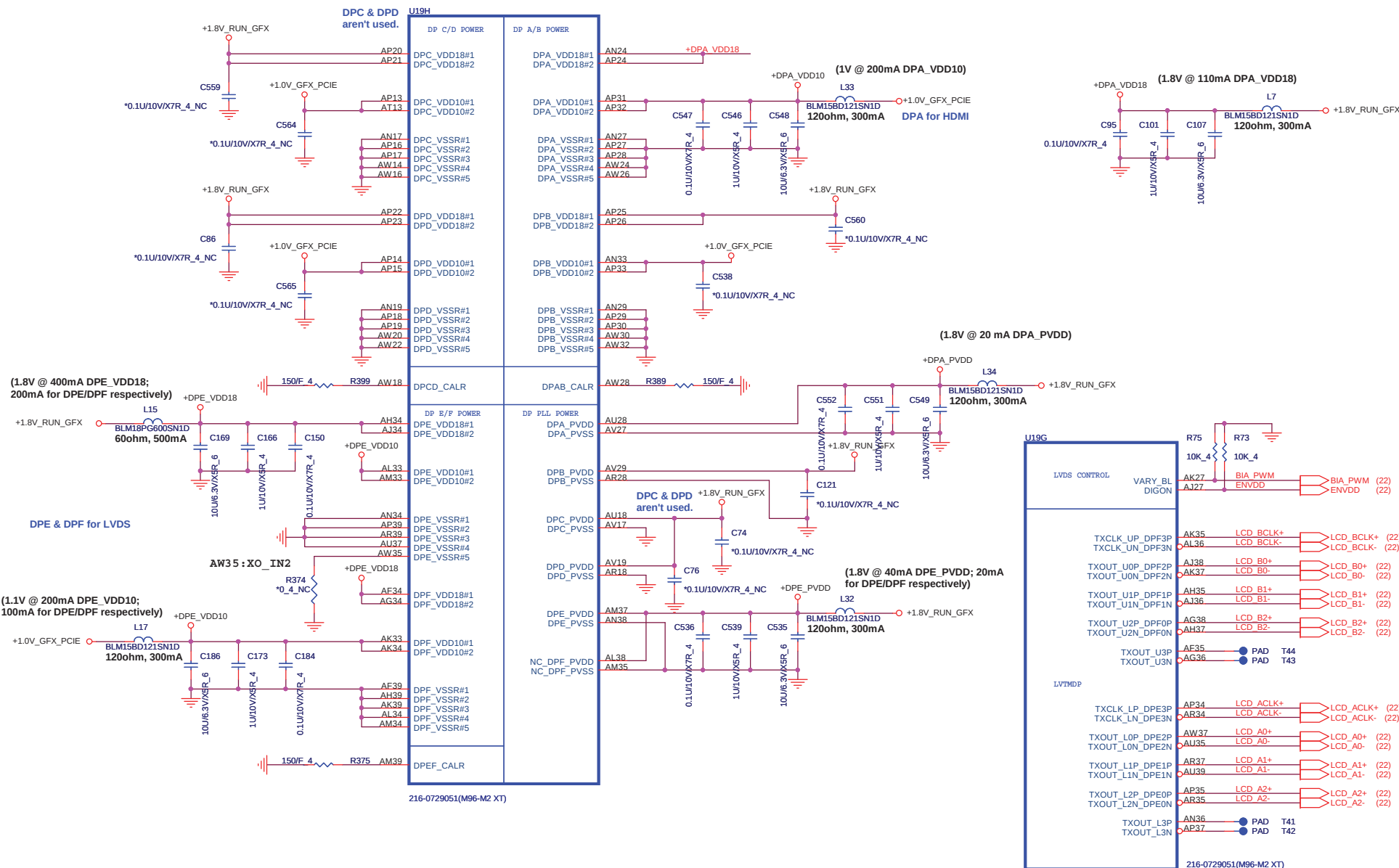
Quanta Computer Inc.

PROJECT : UM9B/C DIS

Size	Document Number	Rev
	Madison PCIE I/F	3A
Date:	Monday, February 01, 2010	Sheet 14 of 51

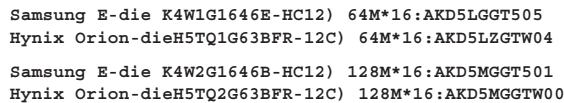


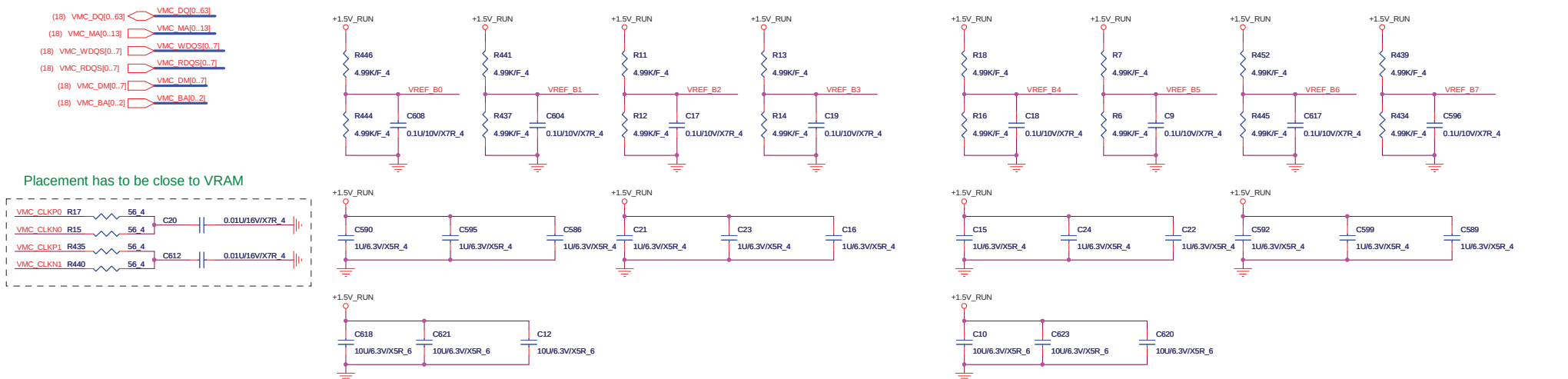
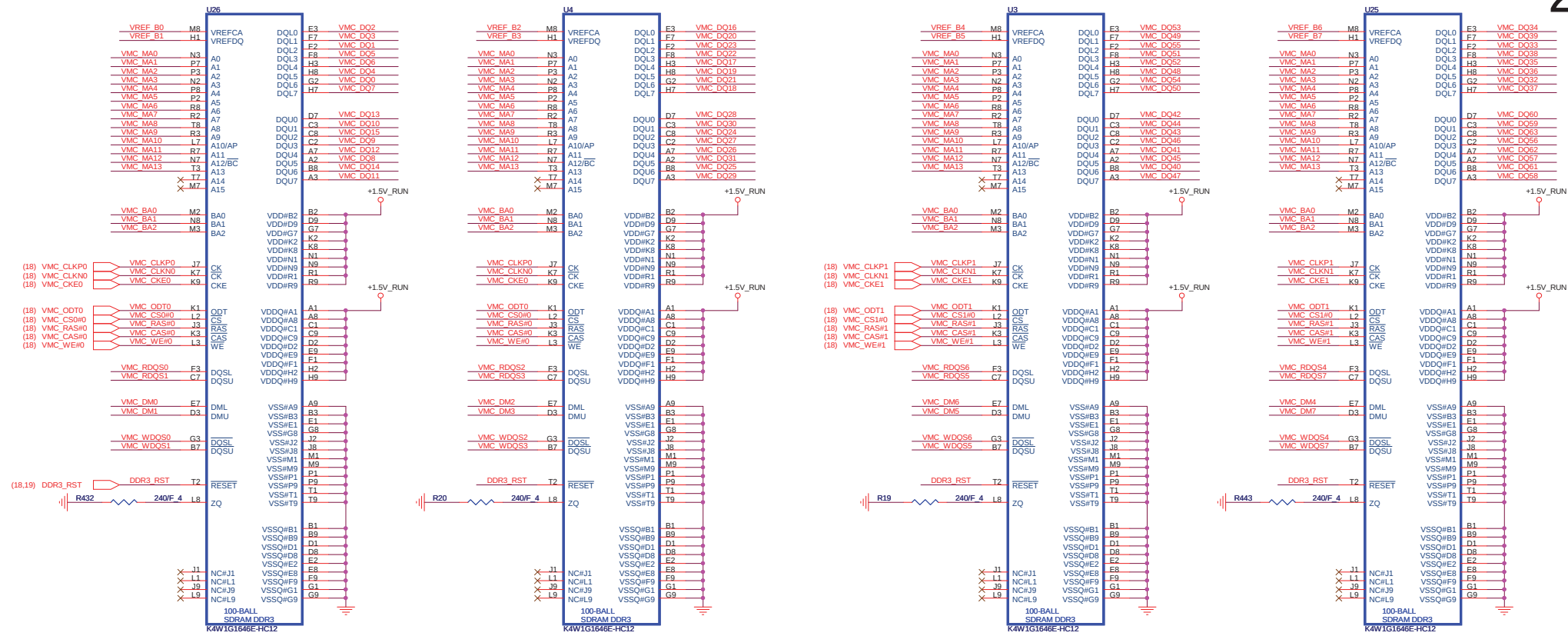
!!!
For M96/92, DPx_VDD10 = 1.1V
For M97 DPx_VDD10 = 1.0V



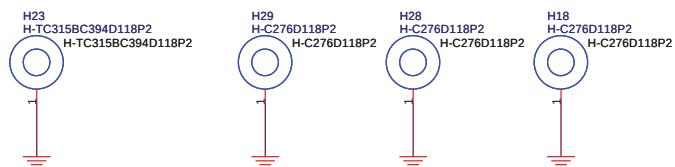
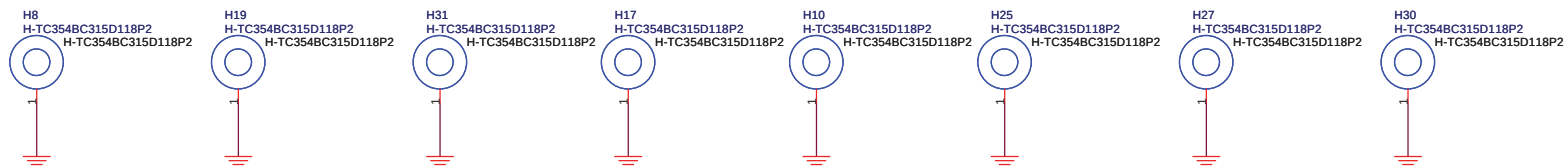
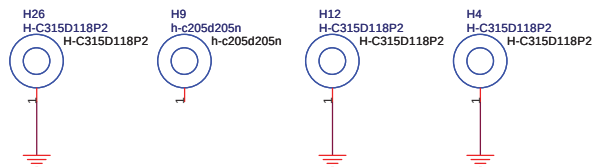
MEMORY INTERFACE B

 Quanta Computer Inc. PROJECT : UM9B/C DIS	
Size	Document Number
Madison_MEMORY/THERM	
Date: Monday, February 01, 2010	Sheet 18 of 51

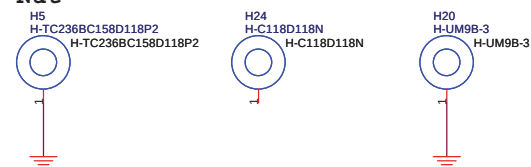


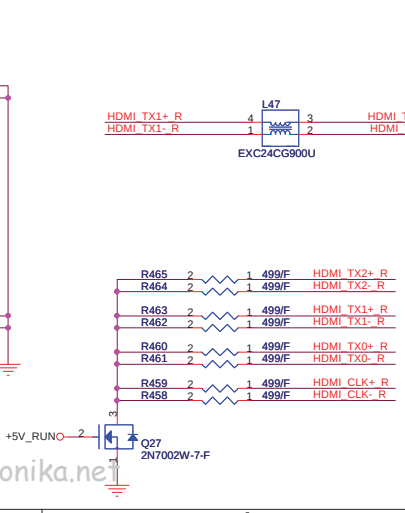
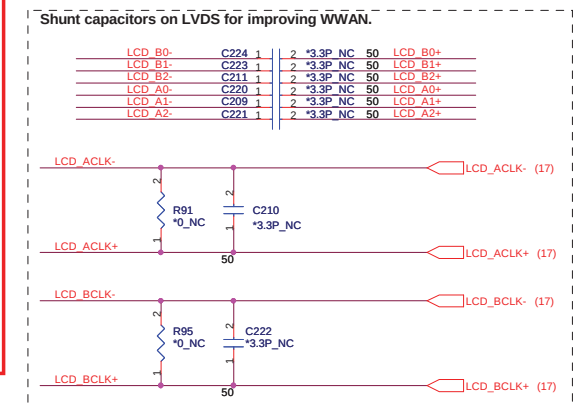
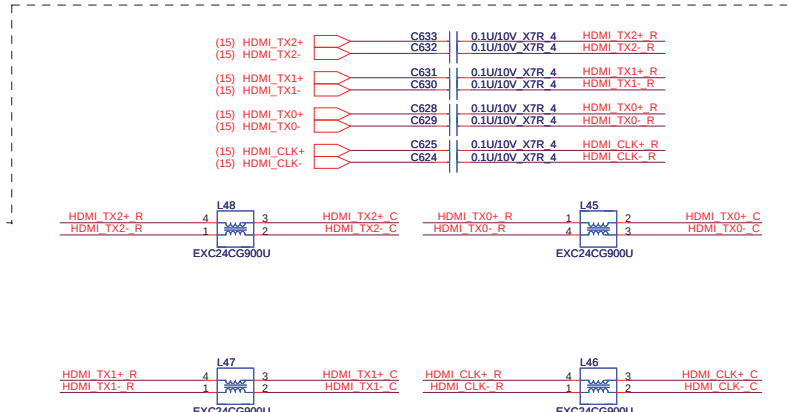
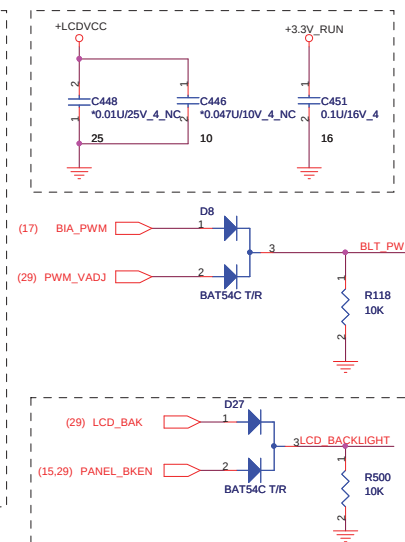


Follow 9/9 mail, check GND.



Nut





UM3

This page to CRT board

<http://hobi-elektronika.net>



Quanta Computer Inc.

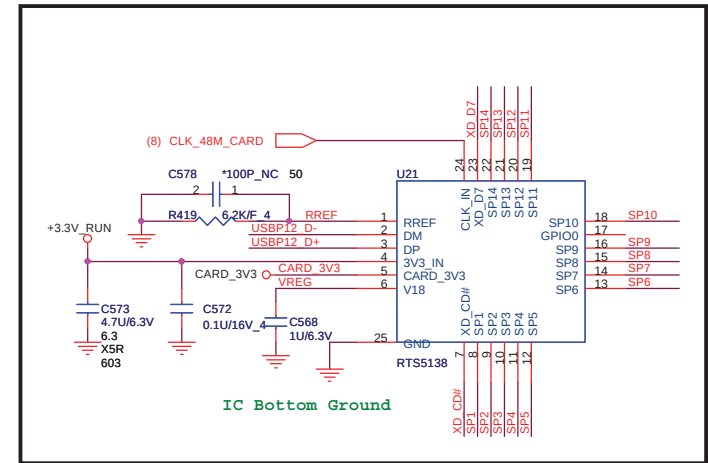
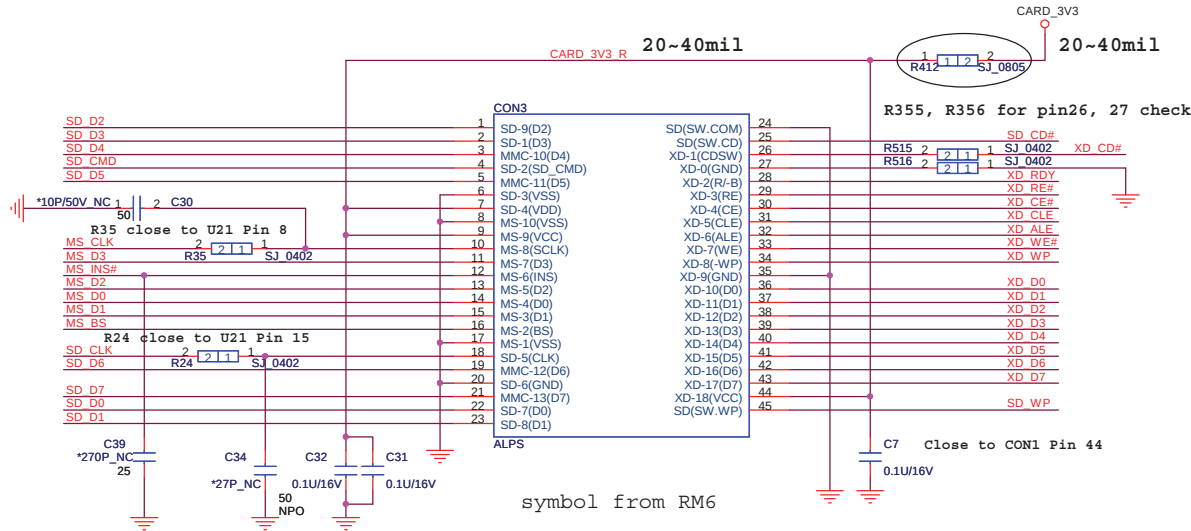
PROJECT : UM9B/C DIS

Size	Document Number	Rev
	CRT CONN	3A
Date:	Wednesday, January 27, 2010	Sheet 23 of 51

To CRT BOARD

		Quanta Computer Inc.	
		PROJECT : UM9B/C DIS	
Size	Document Number		Rev
	DB CONN/Left USB		3A
Date:	Wednesday, January 27, 2010	Sheet	24 of 51

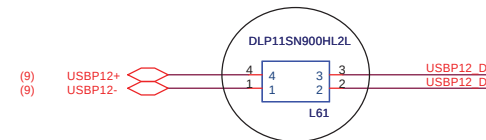
Check PIn Definition

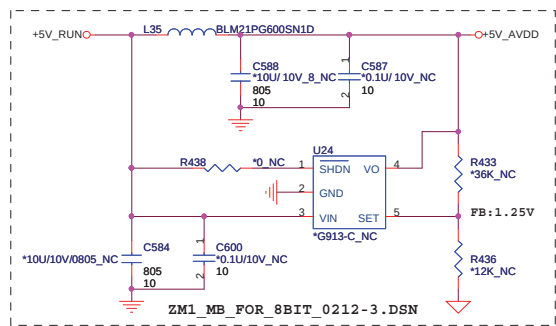


RTS5138-QFN24

SP1	XD RDY	SD WP	MS CLK
SP2	XD RE#	SD D1	MS INS#
SP3	XD CE#	SD D0	MS D3
SP4	XD CLE	SD D7	MS D7
SP5	XD ALE	SD CD#	MS D6
SP6	XD WE#	SD D6	MS D2
SP7	XD WP	SD D5	MS D0
SP8	XD D0	SD D4	MS D4
SP9	XD D1	SD D3	MS D1
SP10	XD D2	SD D2	MS D5
SP11	XD D3	SD D1	MS BS
SP12	XD D4	SD D0	
SP13	XD D5		
SP14	XD D6		

Share Pin





UM3, symbol from PDC

*NOTE: ALC269_VB type add the LDO circuit in IC

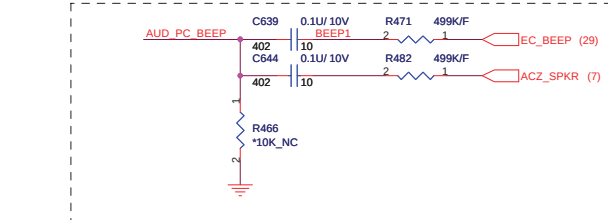
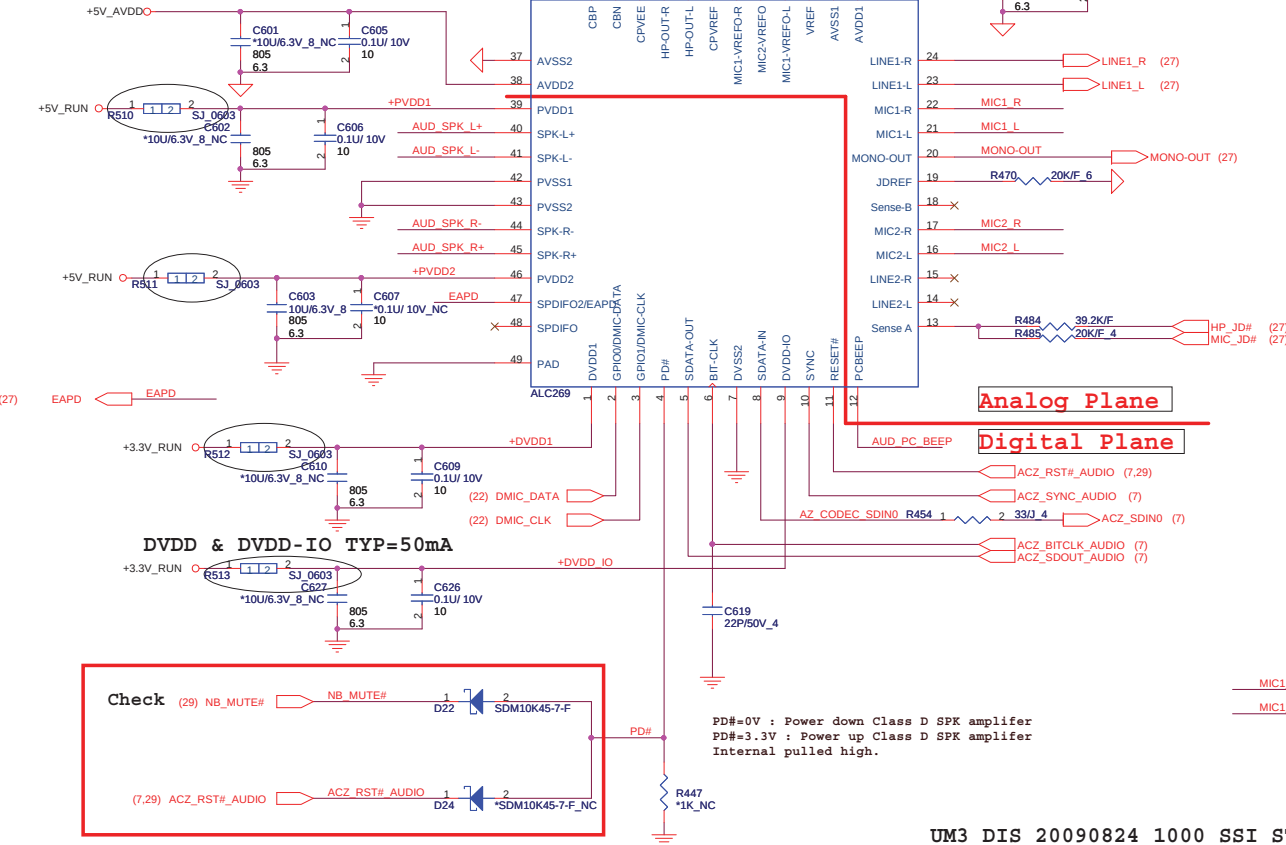
PIN NAME	R457	R455	R456	C636	CODEC IC
28 MIC1_VREF0-L			POP	NC	ALC269
31 CPVREF	POP	NC			VA

PIN NAME	R457	R455	R456	C636	CODEC IC
28 MIC1_VREF0-L			NC	POP	ALC269
31 CPVREF	NC	POP			VB

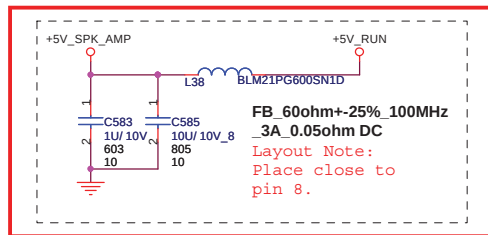
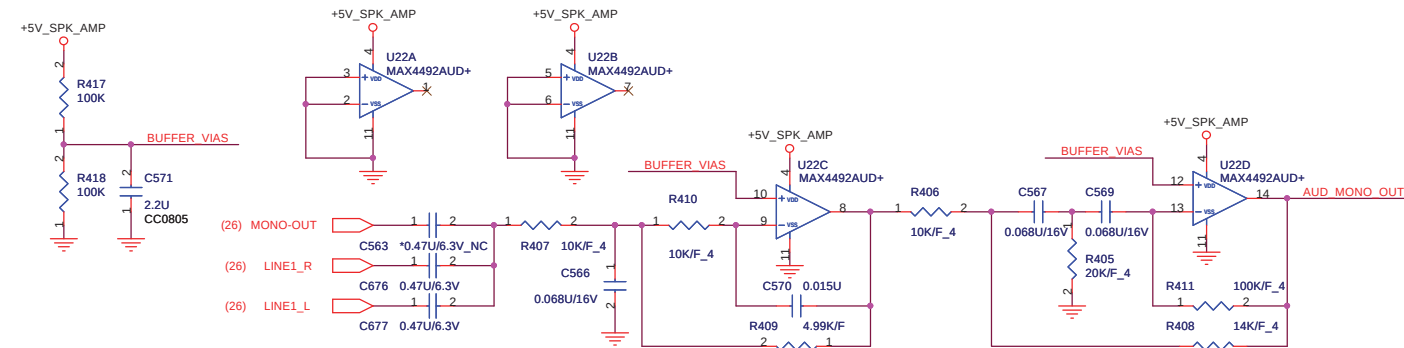
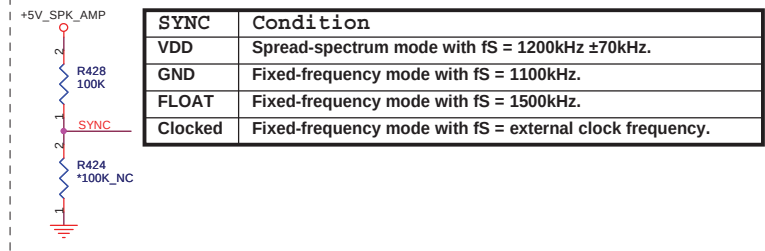
VA type: PIN28 作為MIC之偏壓
PIN31接A-GND

VB type: PIN31 作為MIC之偏壓
PIN28接CAP作為內部LDO
output 輸出濾波用

AVDD1, AVDD2 TYP=48mA

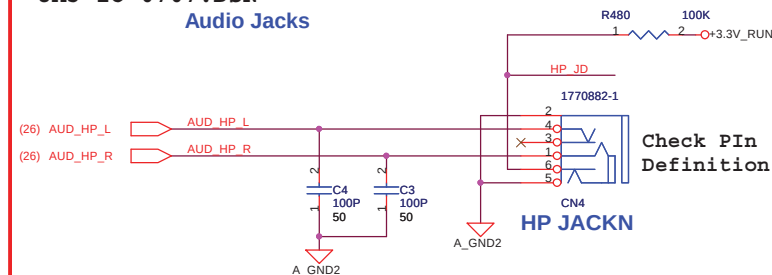


INTERNAL SUBWOOFER AMP Only for 17''

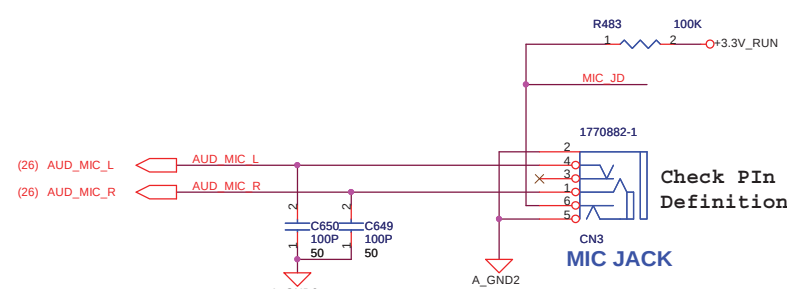


NB_MUTE#	TEST_WOOFER_EN	AUD_SPK_PD#	SUB_MUTE#
0	0	L (Disable SPK)	L (Disable Woofer)
0	1	L (Disable SPK)	H (Test Woofer)
1	0	H (Test SPK)	L (Disable Woofer)
1	1	H (Test SPK)	H (Test Woofer)

UM3-IO-0707.DSN Audio Jacks

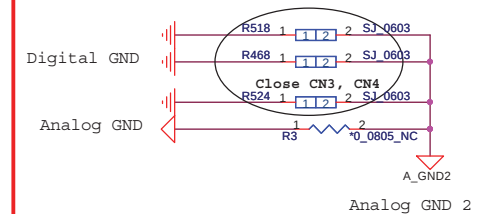
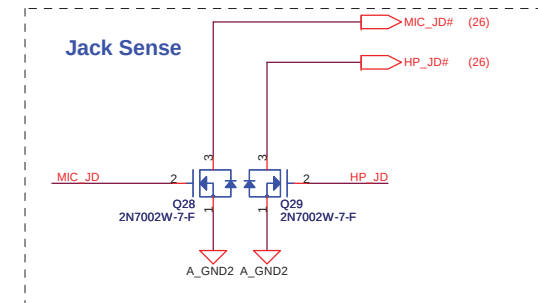
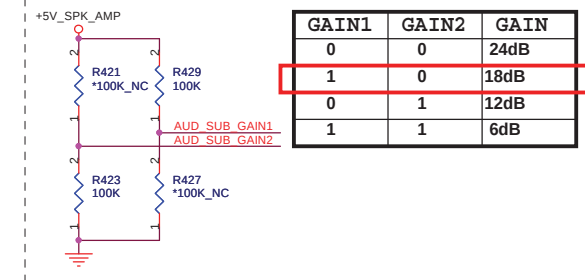
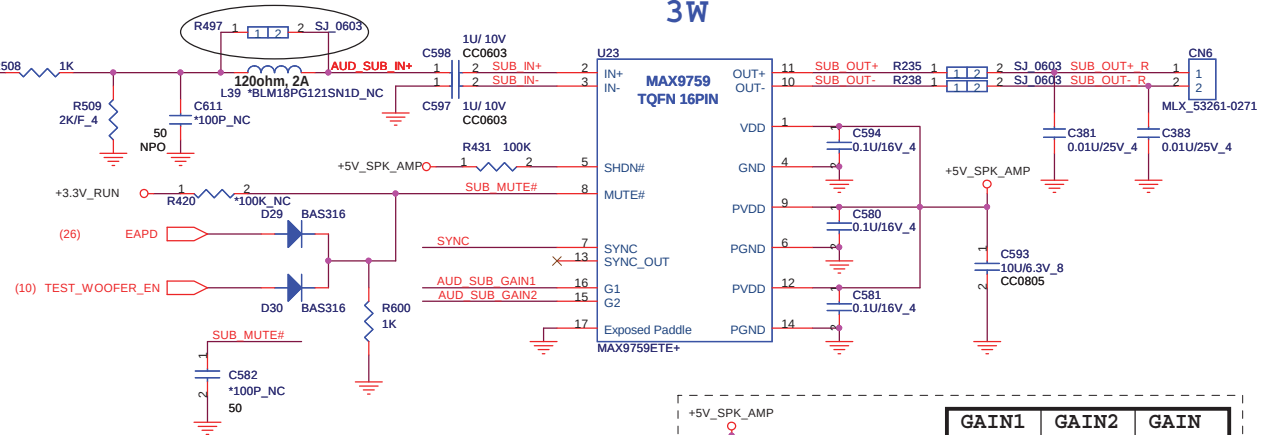


UM3-IO-0707.DSN

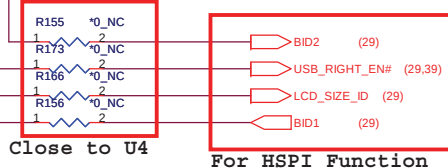


<http://hobi-elektronika.net>

3W







UM3

WWAN To DB

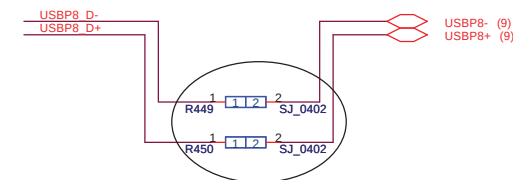
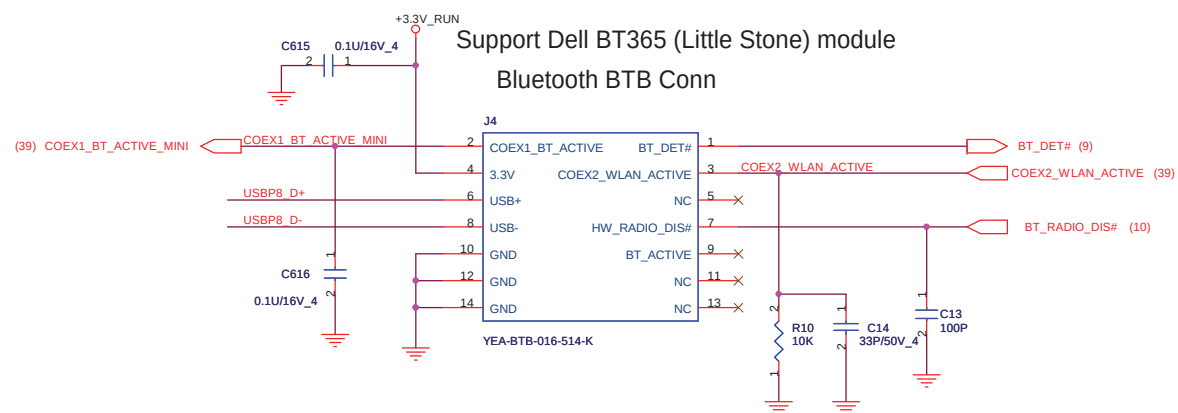


Quanta Computer Inc.

PROJECT : UM9B/C DIS

Size	Document Number	Rev
	MINI-Card WWAN	3A
Date:	Wednesday, January 27, 2010	Sheet 31 of 51

WLAN To DB



eSATA and USB To DB

<http://hobi-elektronika.net>

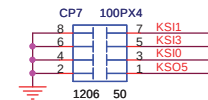
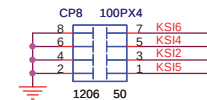
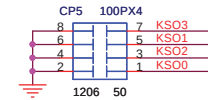
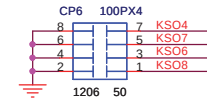
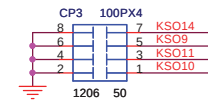
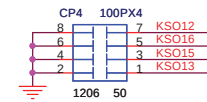
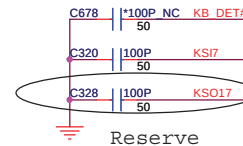
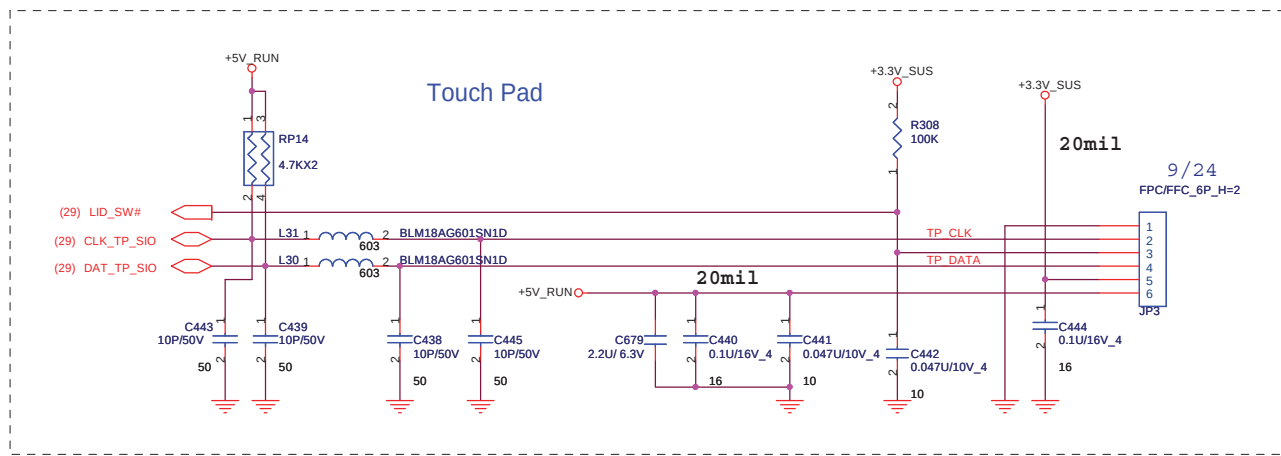


Quanta Computer Inc.

PROJECT : UM9B/C DIS

Size	Document Number	Rev
	eSATA & Right USB	3A

Date: Wednesday, January 27, 2010 Sheet 33 of 51



100P CAPS CLOSE TO JKB3

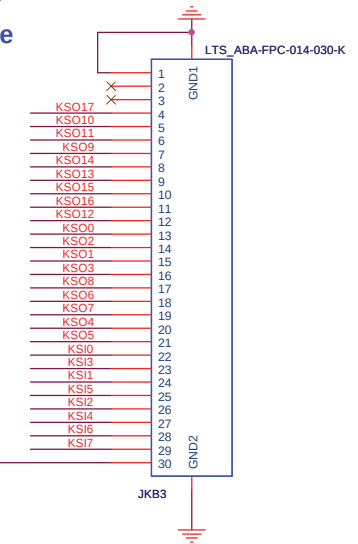
UM3 KEYBOARD CONNECTOR

Top side

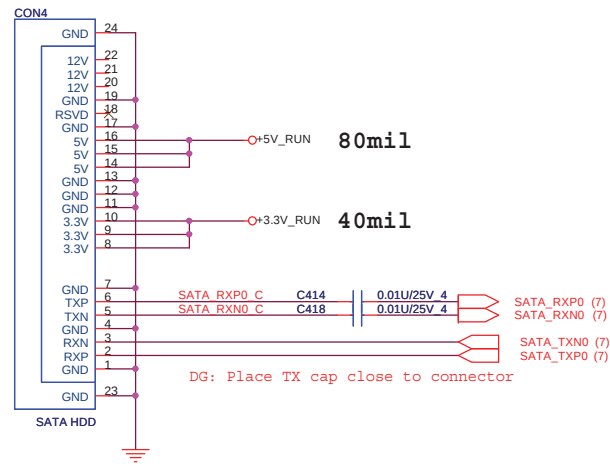
(29) KSO[0..17]
(29) KSI[0..7]

Check KB detect function
UM9 no KSO17

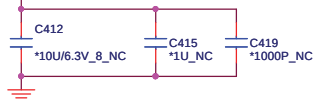
(29) KB_DET#



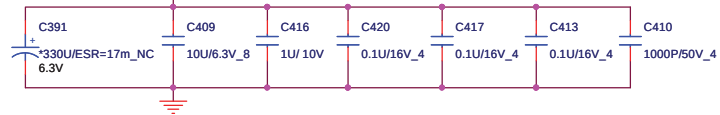
SATA Connector.



+3.3V_RUN Place caps close to connector.

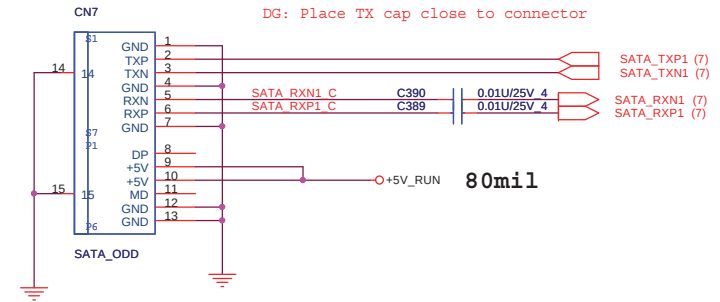


+5V_RUN Place caps close to connector.

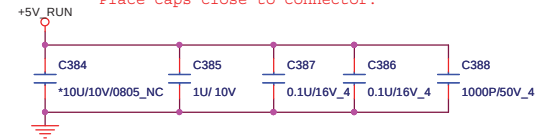


UM3

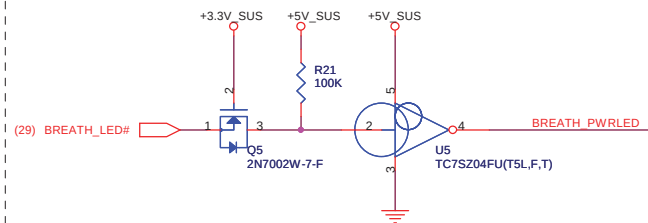
ODD Connector



Place caps close to connector.

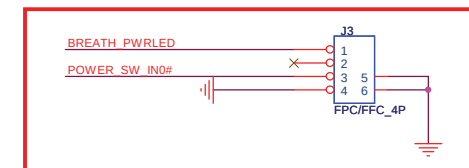


Power

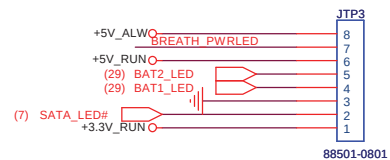


UM3

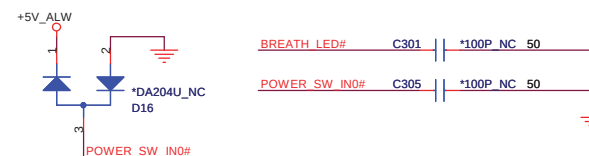
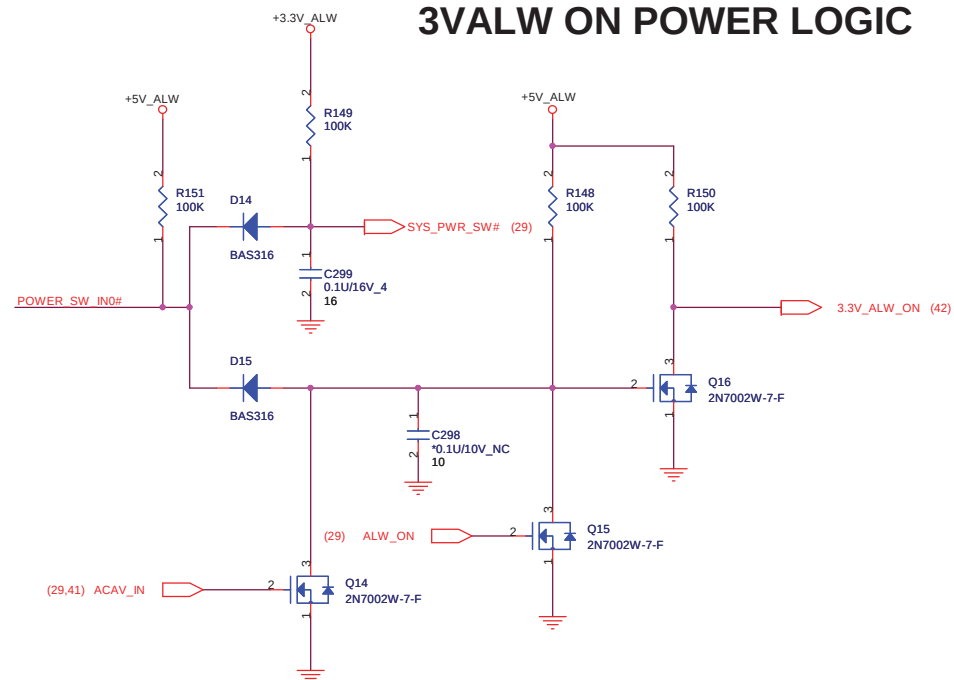
Power button Cable



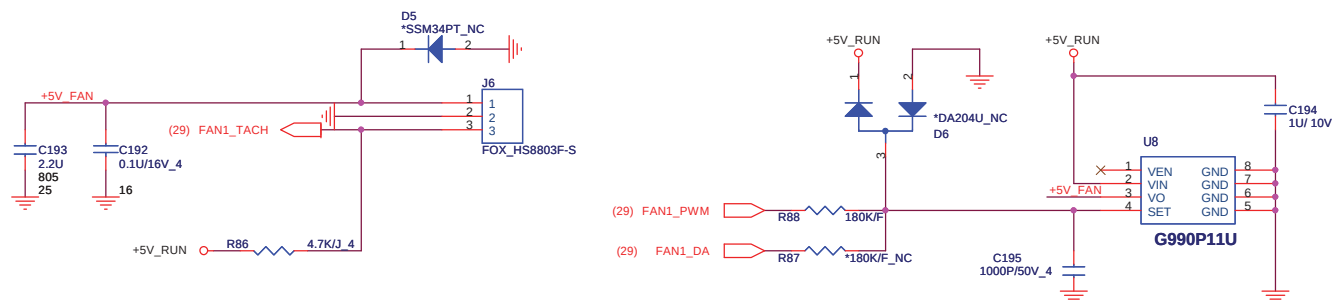
Check Connector P/N and footprint



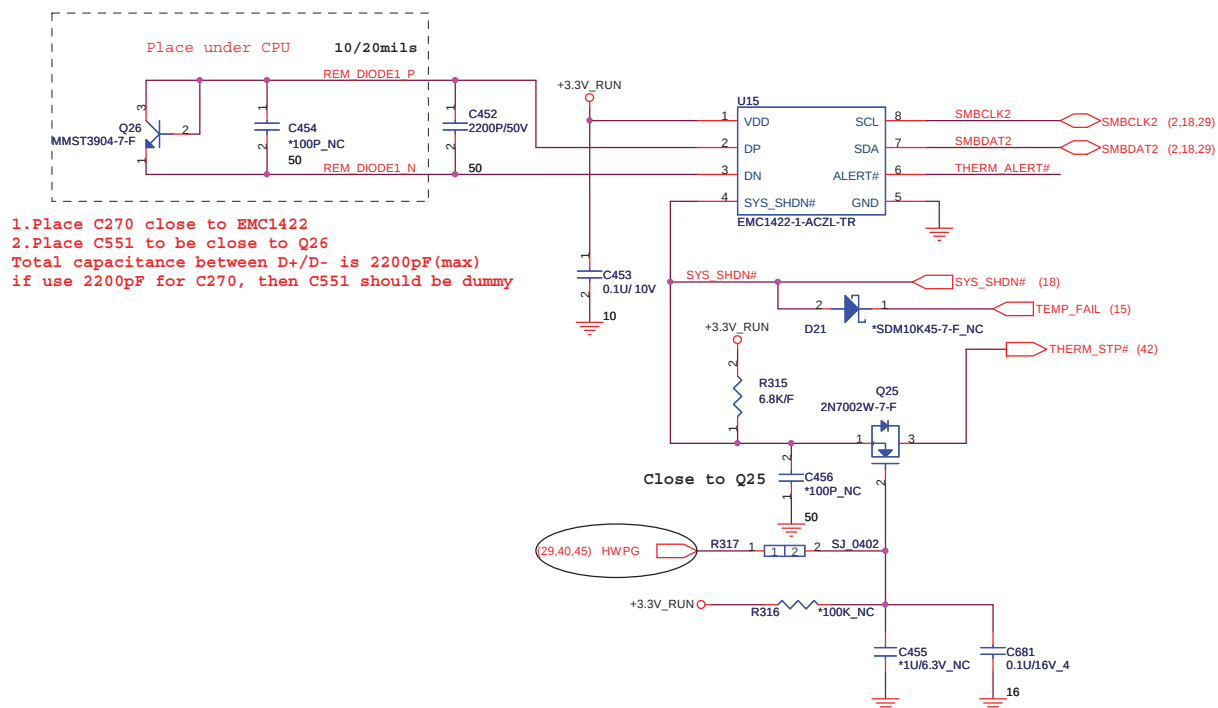
3VALW ON POWER LOGIC



6/23 COPY FROM RM6



UM3



OTP 85 degree C



<http://hobi-elektronika.net>



Quanta Computer Inc.

PROJECT : UM9B/C DIS

FAN & THERMAL

Size	Document Number	Rev
	FAN & THERMAL	3A
Date:	Monday, February 01, 2010	Sheet 37 of 51

Date: Monday, February 01, 2010 Sheet 37 of 51

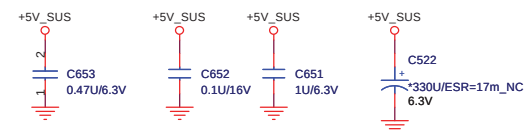
LAN To DB

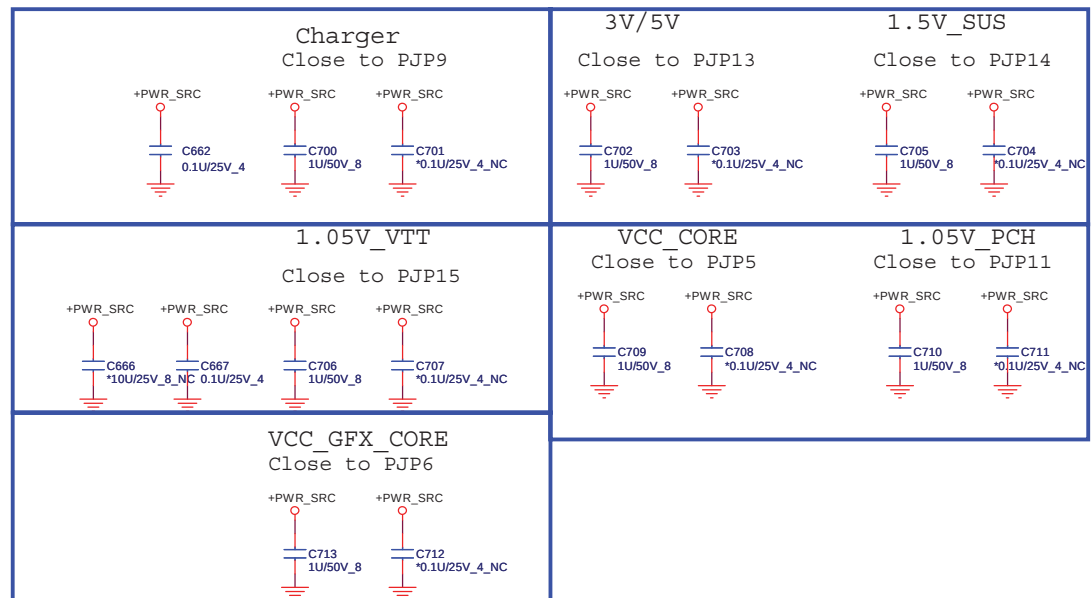
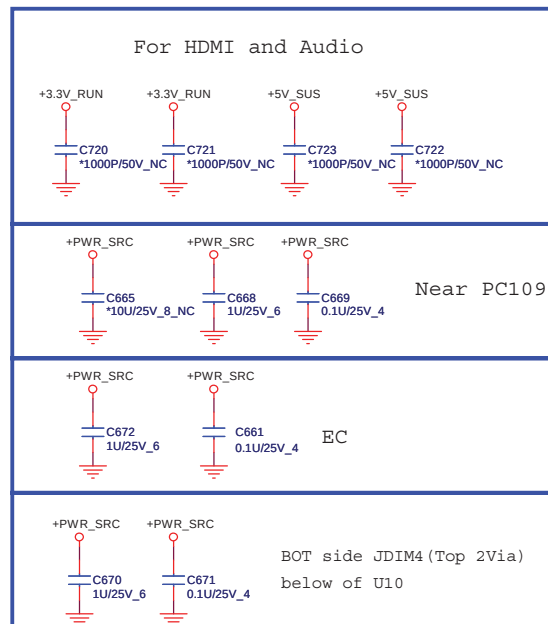
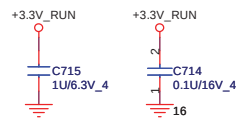
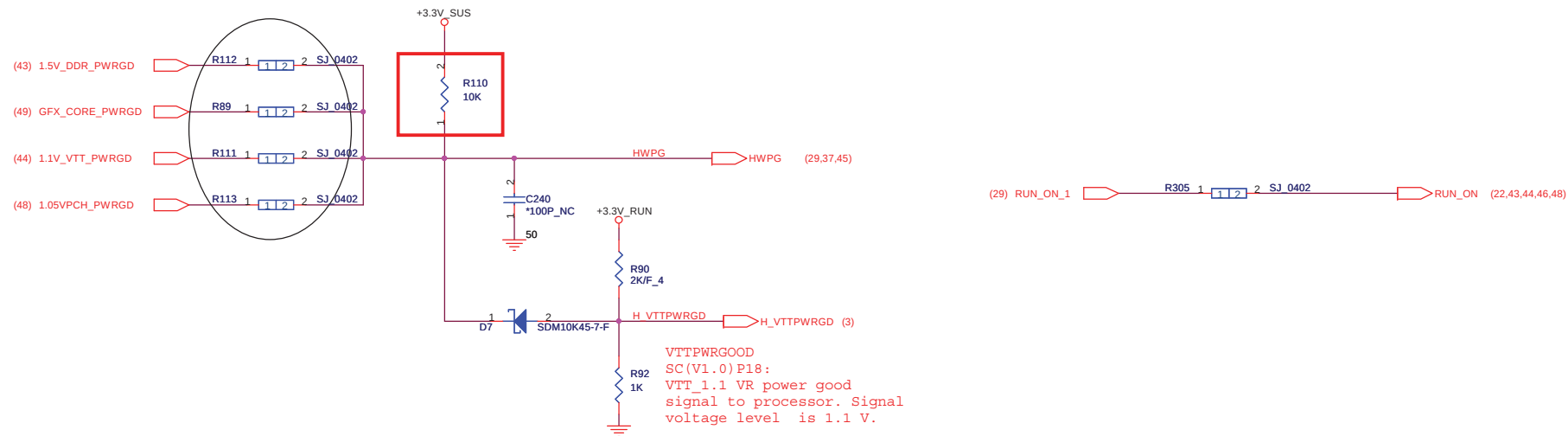


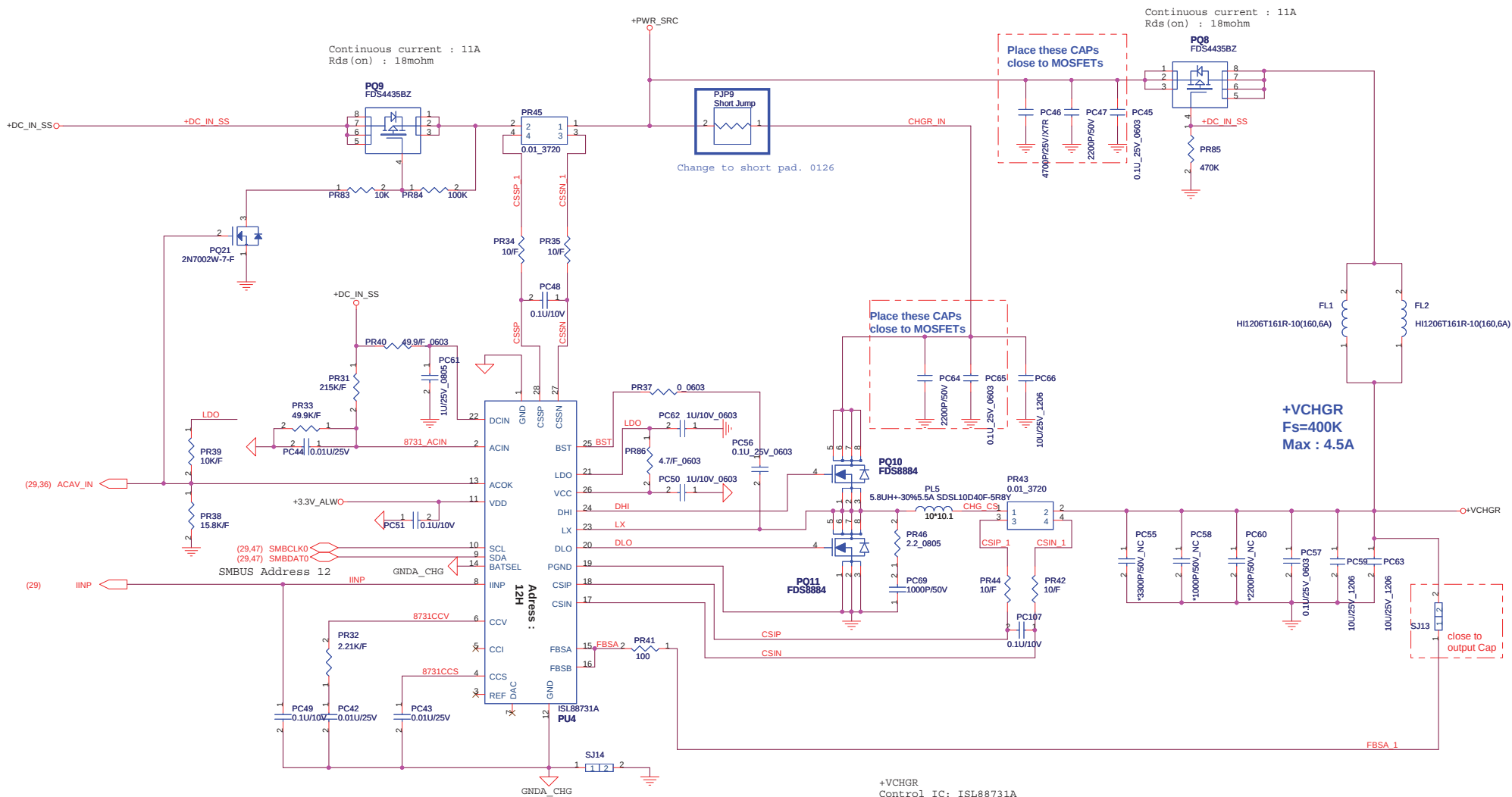
Quanta Computer Inc.

PROJECT : UM9B/C DIS

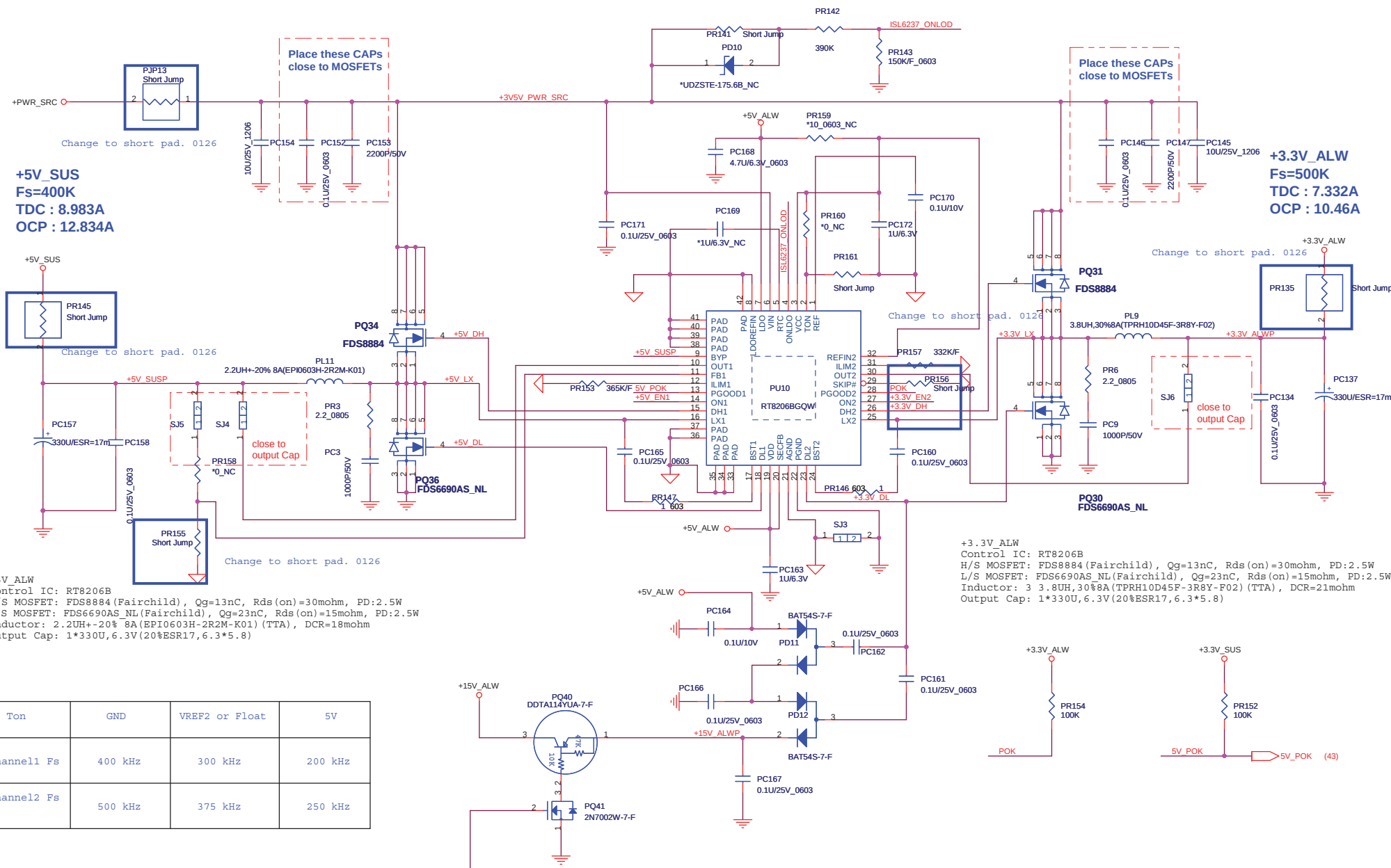
Size	Document Number			Rev
	LAN(AR8152/RJ-45)			3A
Date:	Wednesday, January 27, 2010	Sheet	38 of	51







+VCHGR
Control IC: ISL88731A
H/S MOSFET: FDS8884(Fairchild), Qg=13nC, Rds(on)=30mohm, PD:2.5W
L/S MOSFET: FDS8884(Fairchild), Qg=13nC, Rds(on)=30mohm, PD:2.5W
Inductor: 5.8UH +/-30% 5.5A SDSL10D40F-5R8Y(TTA), DCR=21mohm
Output Cap: 2*10U 25V(+/-10%,X6S,1206)



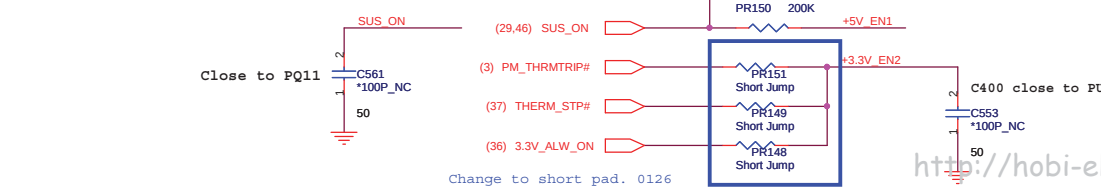
+5V_SUS
Fs=400K
TDC : 8.983A
OCP : 12.834A

+3.3V_ALW
Fs=500K
TDC : 7.332A
OCP : 10.46A

+5V_ALW
Control IC: RT8206B
H/S MOSFET: FDS8884 (Fairchild), Qg=13nC, Rds(on)=30mohm, PD:2.5W
L/S MOSFET: FDS6690AS NL (Fairchild), Qg=23nC, Rds(on)=15mohm, PD:2.5W
Inductor: 2.2UH+-20% 8A (EPI0603H-2R2M-K01) (TTA), DCR=18mohm
Output Cap: 1*330U, 6.3V (20%ESR17, 6.3*5.8)

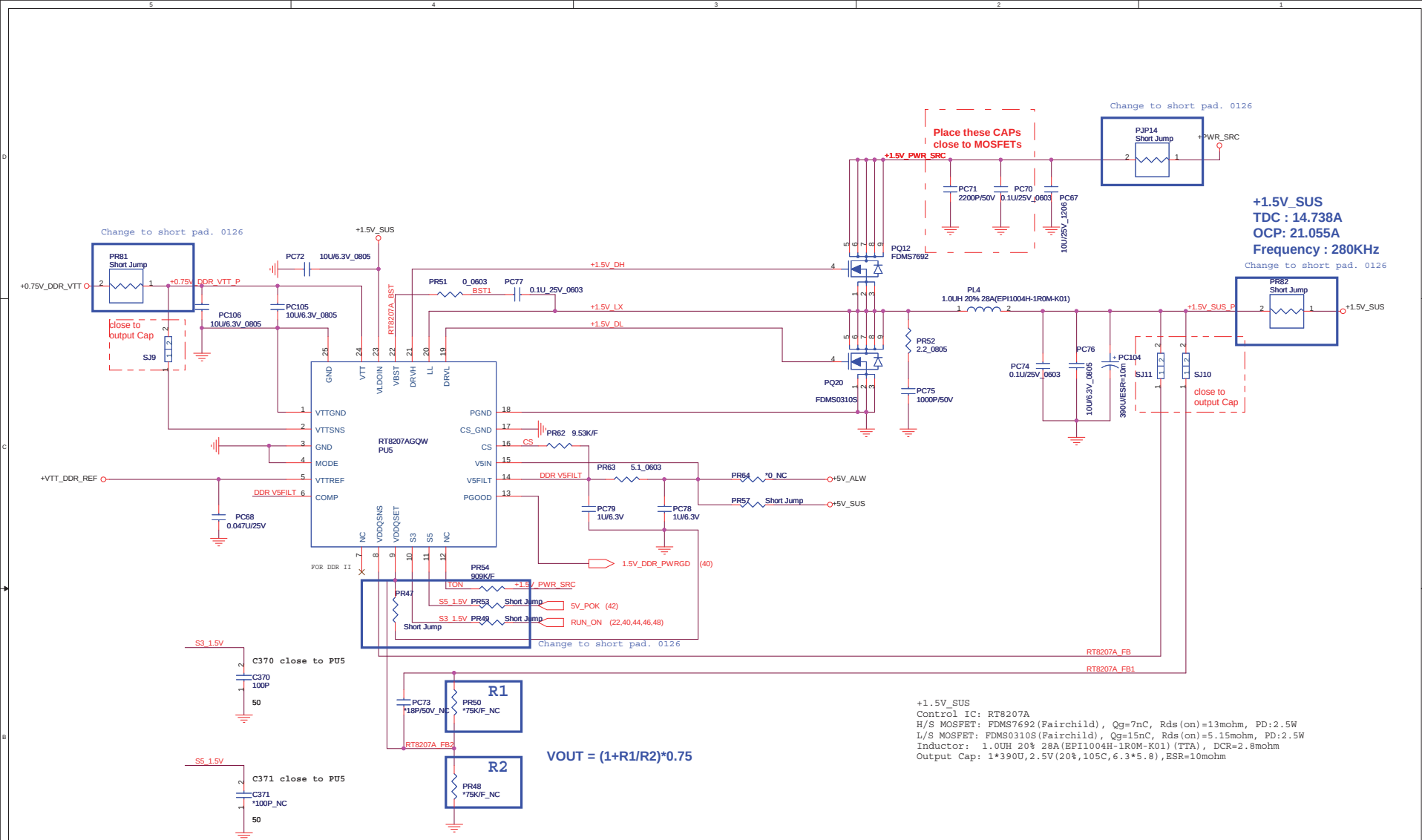
+3.3V_ALW
Control IC: RT8206B
H/S MOSFET: FDS8884 (Fairchild), Qg=13nC, Rds(on)=30mohm, PD:2.5W
L/S MOSFET: FDS6690AS NL (Fairchild), Qg=23nC, Rds(on)=15mohm, PD:2.5W
Inductor: 3.8UH, 30%8A (TPRH10D45F-3R8Y-F02) (TTA), DCR=21mohm
Output Cap: 1*330U, 6.3V (20%ESR17, 6.3*5.8)

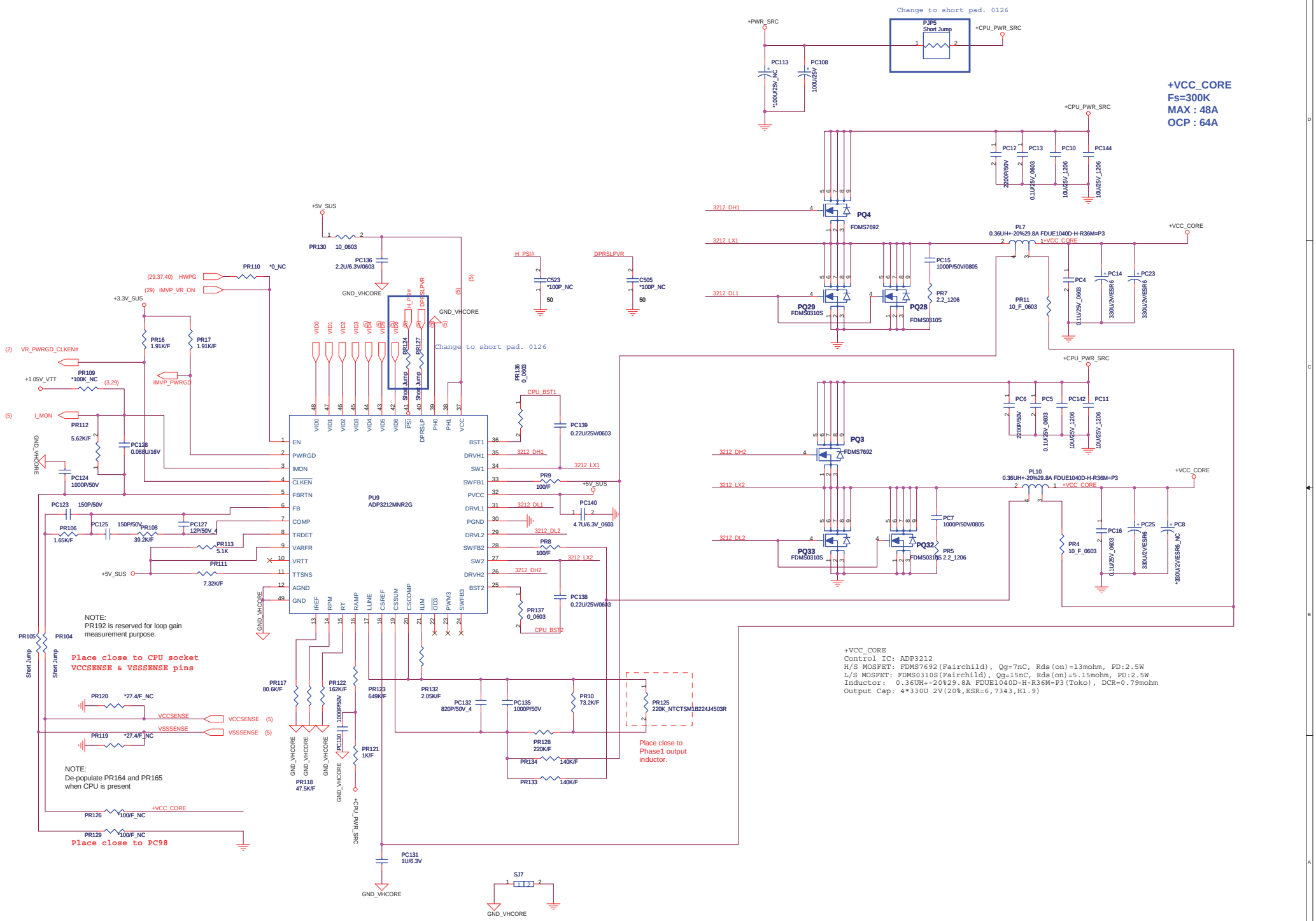
Ton	GND	VREF2 or Float	5V
Channel1 Fs	400 kHz	300 kHz	200 kHz
Channel2 Fs	500 kHz	375 kHz	250 kHz



Title 3.3V_ALW / 5V_ALW (RT8206B)		
Size	Document Number UM9 Dis	Rev 3A
Date	Monday, February 01, 2010	Sheet 42 of 51

<http://hobi-elektronika.net>

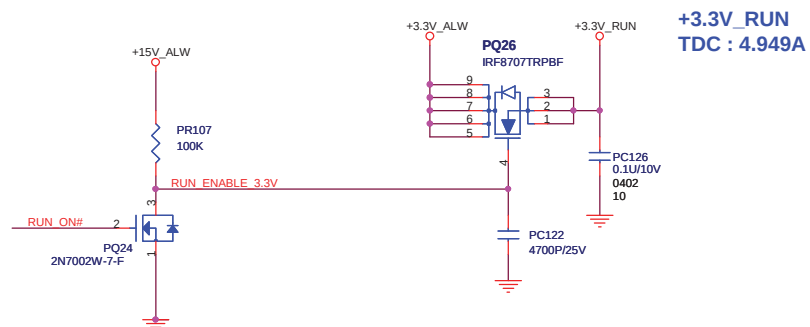
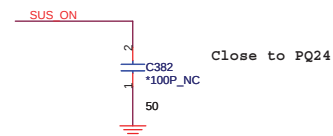
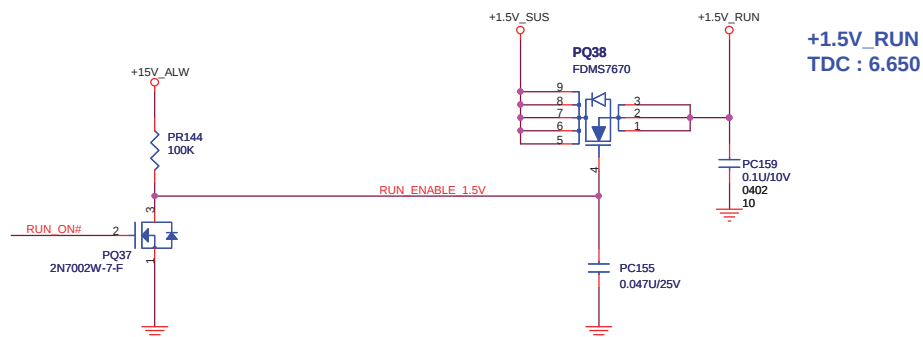
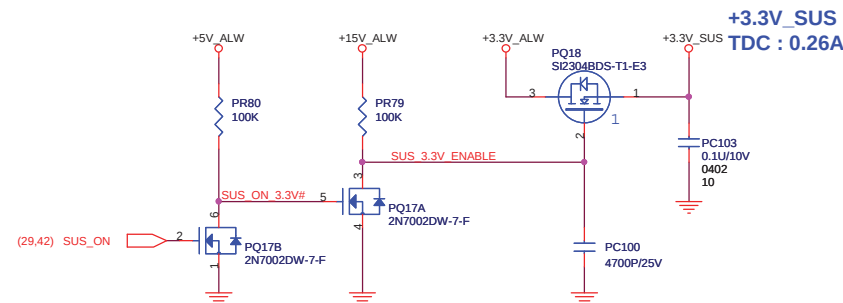
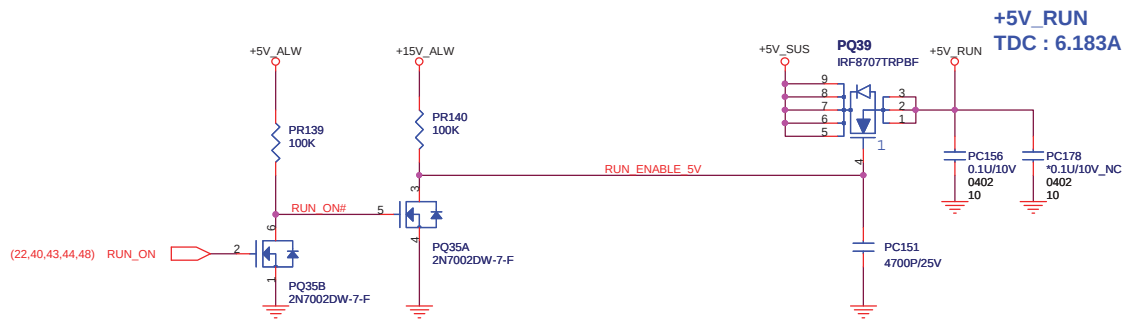




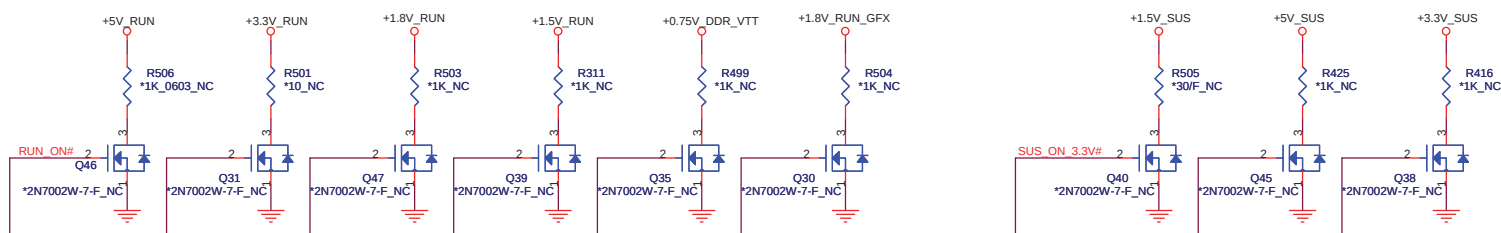
+VCC_CORE
Fs=300K
MAX : 48A
OCP : 64A

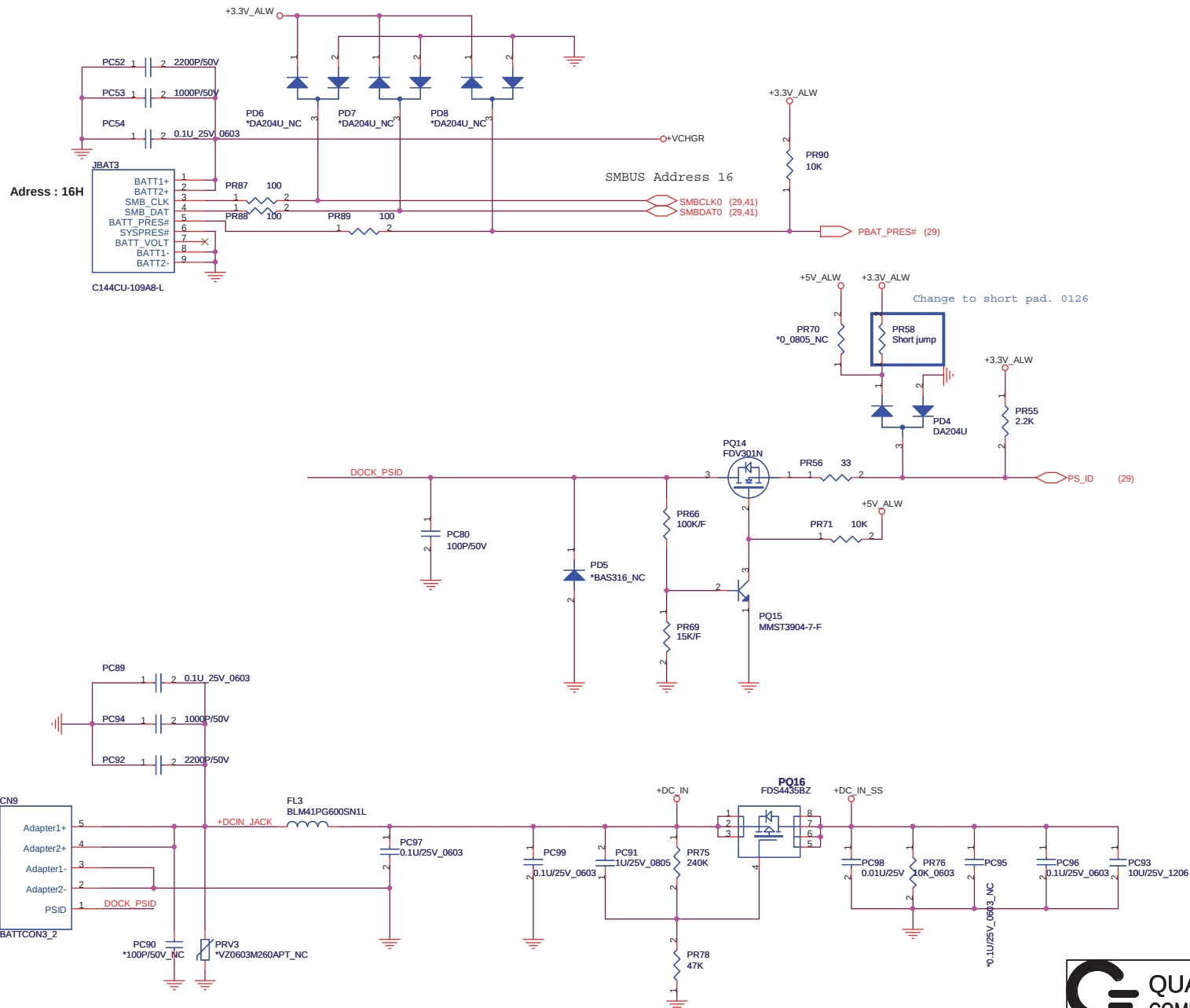
+VCC_CORE
Control IC: ADP3212
H/S MOSFET: FDM57692 (Fairchild), Qg=7nC, Rds(on)=13mohm, PD:2.5W
L/S MOSFET: FDM50310S (Fairchild), Qg=15nC, Rds(on)=5.15mohm, PD:2.5W
Inductor: 0.36uH+20%±29.8A FDUE1040D-H-R36M=P3 (Tokio), DCR=0.79mohm
Output Cap: 4*330U 2V(20%, ESR=6, 7343, H1.9)

Title			
CPU core (ADP3212MNR2G)			
Size	Document Number UM9 Dis		Rev 3A
Date:	Monday, February 01, 2010	Sheet	45 of 51



Reserve discharge path

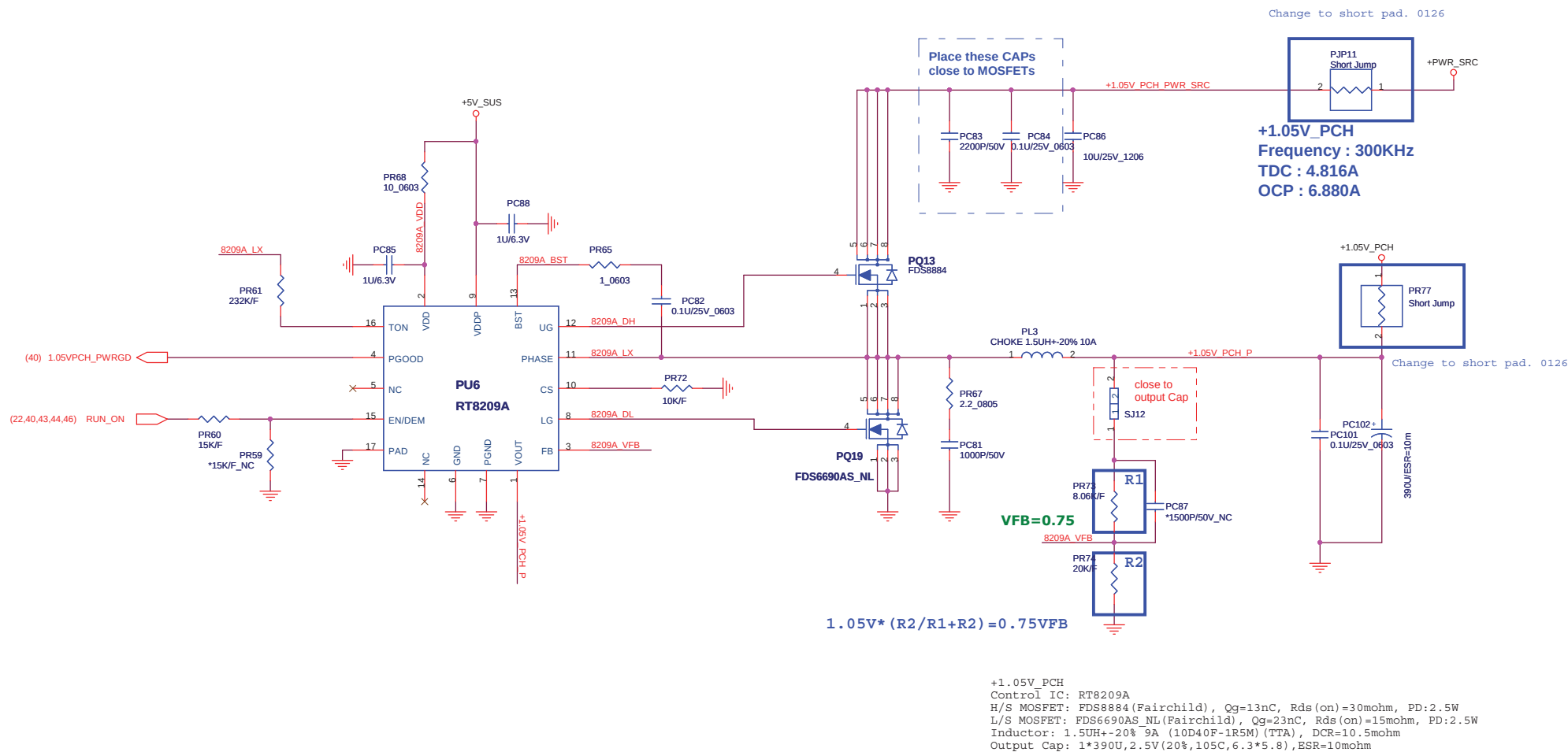




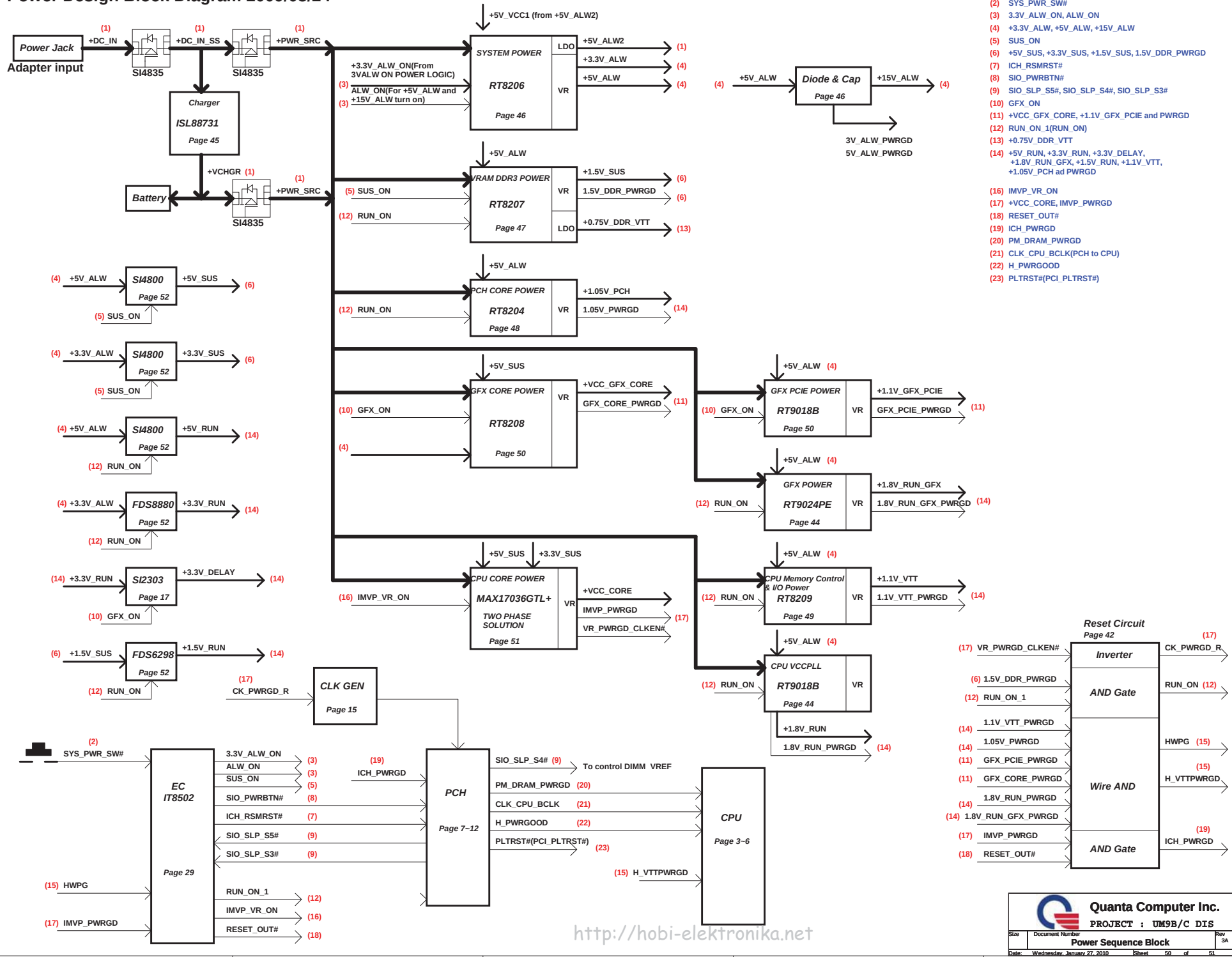
<http://hobi-elektronika.net>



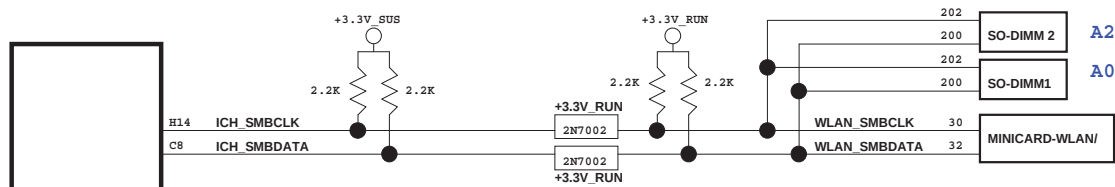
Title		
DCIN, BATT CONNECTOR		
Size	Document Number	Rev
UM9 Dis		3A
Date:	Monday, February 01, 2010	Sheet 47 of 51



Power Design Block Diagram 2009/08/24



<http://hobi-elektronika.net>



Function	IC	SMBus Address
Clock GEN	SLG8SP585VTR RTM875N-632	11010010 (D2h) D2h
DDR3	DIMM0 DIMM1	A0 A2
VGA	Madison, Park	0x41
Thermal IC	EMC1422	0100 1100b (4Ch)
VGA Thermal	ADM1032-2	4D
Charge IC	ISL88731A	0b0001001 (0x12)
Battery	Battery	16h
WLAN	WLAN Module	X

