

VM9M Block Diagram Intel UMA

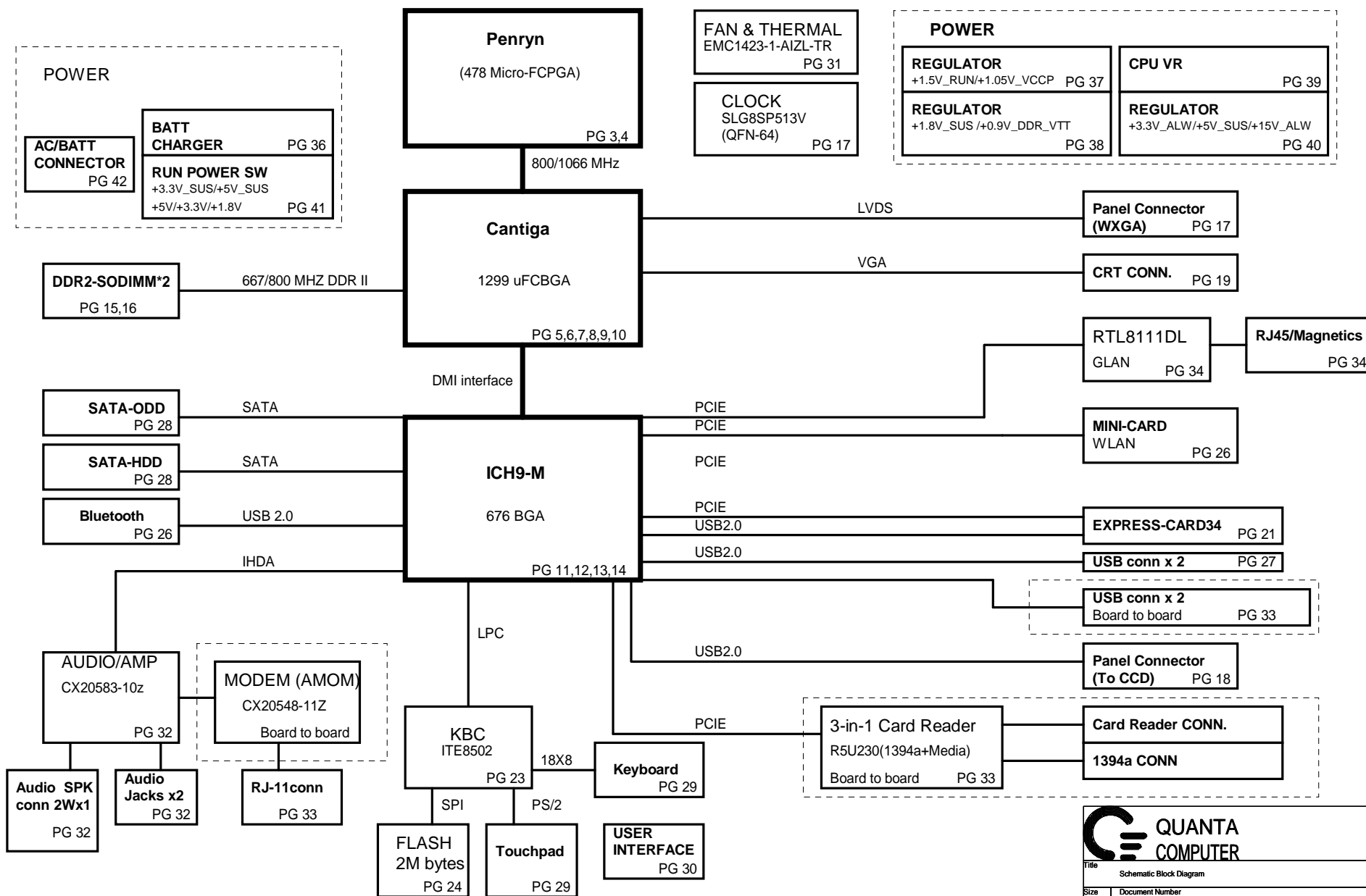



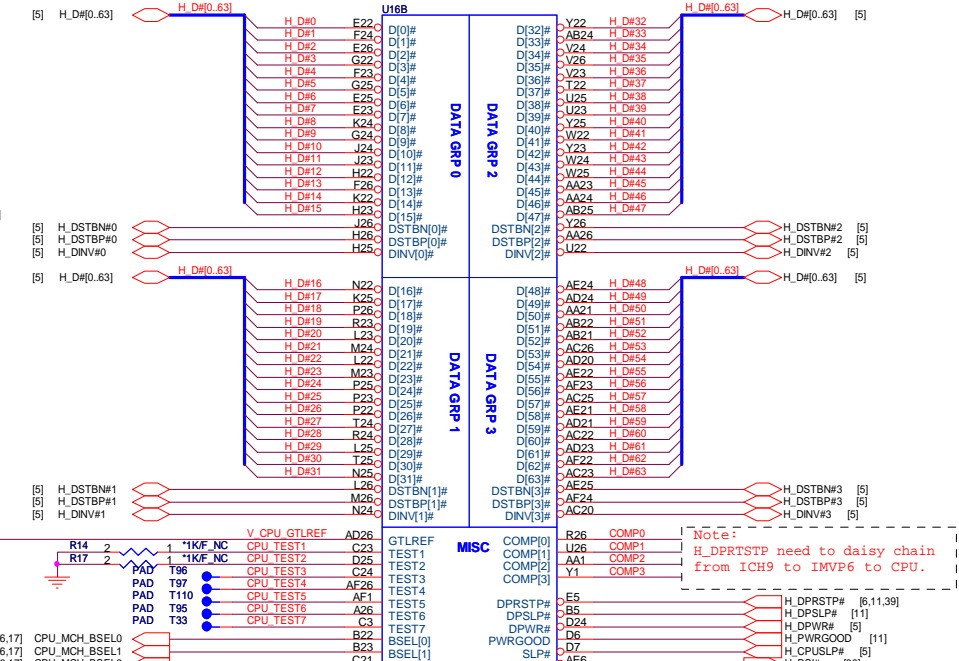
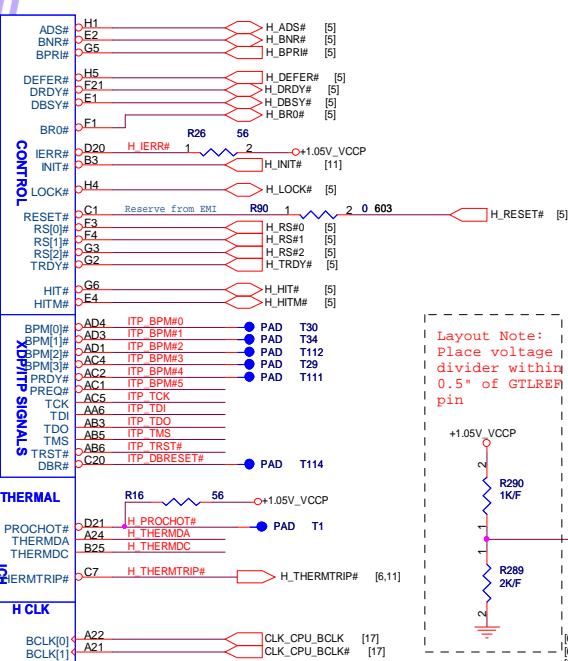
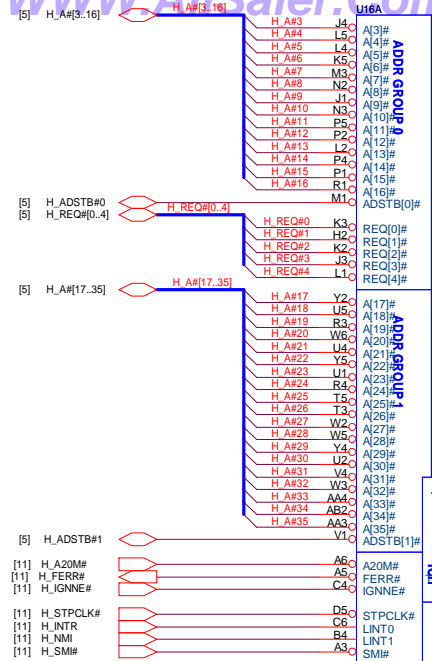
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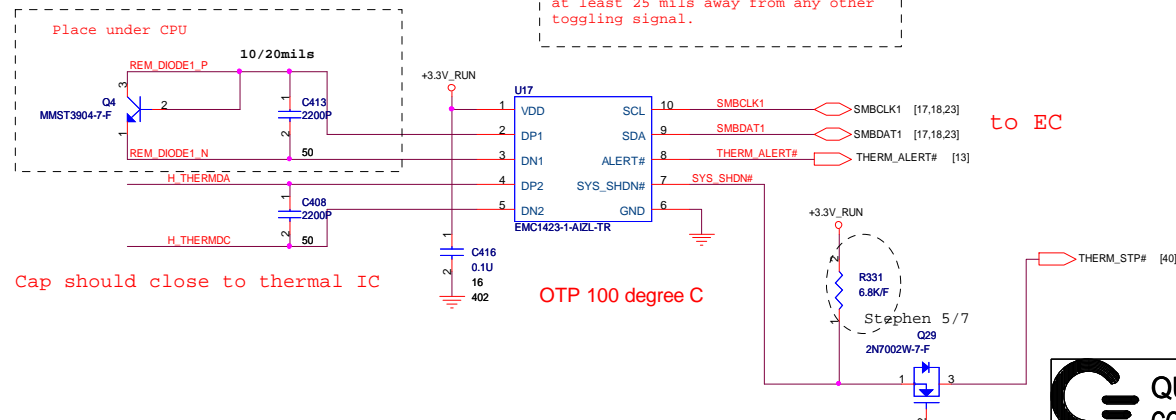
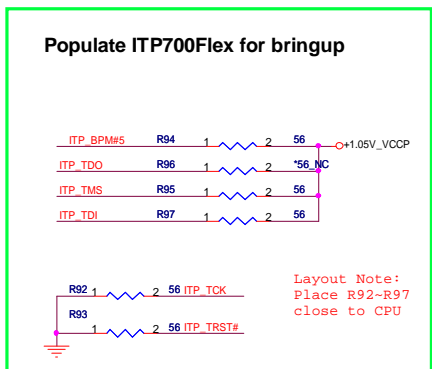
Power States

POWER PLANE	VOLTAGE	PAGE	DESCRIPTION	CONTROL SIGNAL	ACTIVE IN
+PWR_SRC	10V~+19V	4,18,24,36,37,3,8,39,40,44	MAIN POWER		S0~S5
+RTC_CELL	+3.0V~+3.3V	11,14,23,24	RTC		S0~S5
+3.3V_ALW	+3.3V	3,23,24,30,35,36,38,40,41,42,45	8051 POWER	ALWON	S0~S5
+5V_ALW2	+5V	37,38,40,41,42	LCD/CHARGE POWER	ALWON	S0~S5
+15V_ALW	+15V	11,18,40,41	LARGE POWER	+5V_ALW	S0~S5
+3.3V_LAN	+3.3V	34	LAN POWER		
+5V_SUS	+5V	14,27,30,39,40,41,44	SLP_S5# CTRLD POWER	SUS_ON	
+3.3V_SUS	+3.3V	3,11,12,13,14,18,25,30,37,39,41,45	SLP_S5# CTRLD POWER	3.3V_SUS_ON	
+1.8V_SUS	+1.8V	6,8,9,15,37,38,41	SODIMM POWER	DDR_ON	
+0.9V_DDR_VTT	+0.9V	16,38,41	SODIMM POWER	0.9V_DDR_VTT_ON	
+5V_RUN	+5V	14,18,19,21,25,28,29,30,31,32,41,44	SLP_S3# CTRLD POWER	RUN_ON	
+3.3V_RUN	+3.3V	3,6,8,9,11,12,13,14,15,17,30,31,32,34,18,19,20,21,23,25,26,28,41,44,45	SLP_S3# CTRLD POWER	3.3V_RUN_ON	
+1.5V_RUN	+1.5V	4,9,14,26,37,41,44	CALISTOGA/ICH8 POWER	1.5V_RUN_ON	
+1.05V_VCCP	+1.05V	3,4,6,8,9,11,14,37,44	CPU/CALISTOGA/ICH8 POWER	1.05V_RUN_ON	
+VCC_CORE	+0.7V~+1.77V	4,39	CPU CORE POWER	IMVP_VR_ON	
+LCDVCC	+3.3V	18	LCD Power	LCDVCC_TST_EN & ENVDD	
+5V_MOD	+5V	28	Module Power		
+5V_HDD	+5V	28	HDD Power		
+PBATT	+10V~+17V	42	MAIN BATTERY	CHG_PBATT	

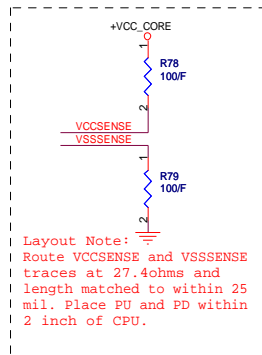
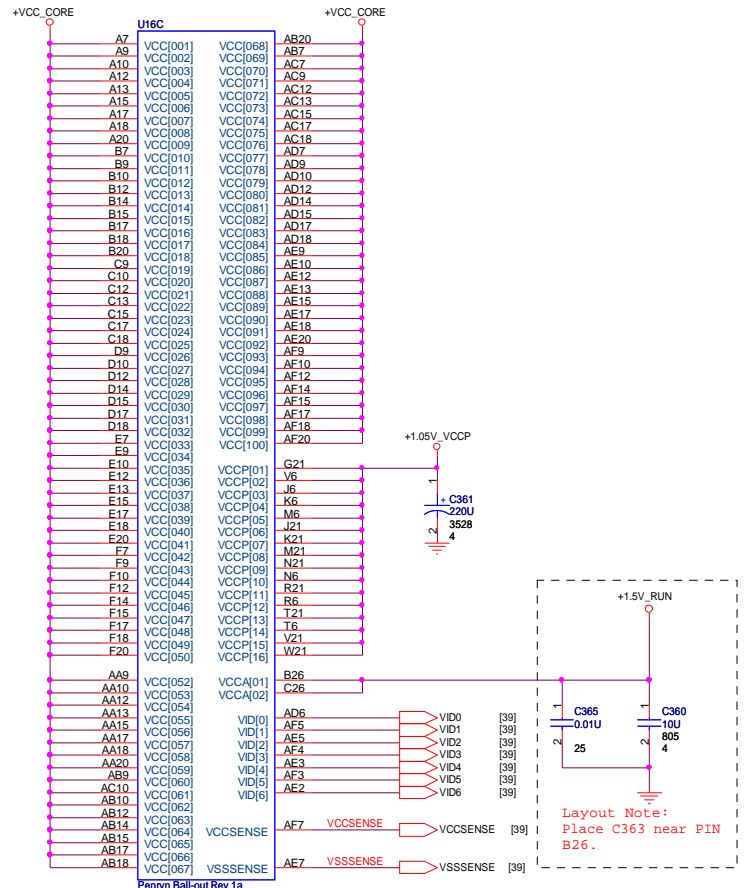
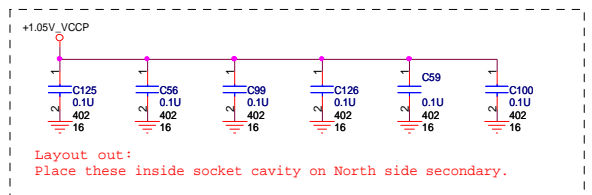
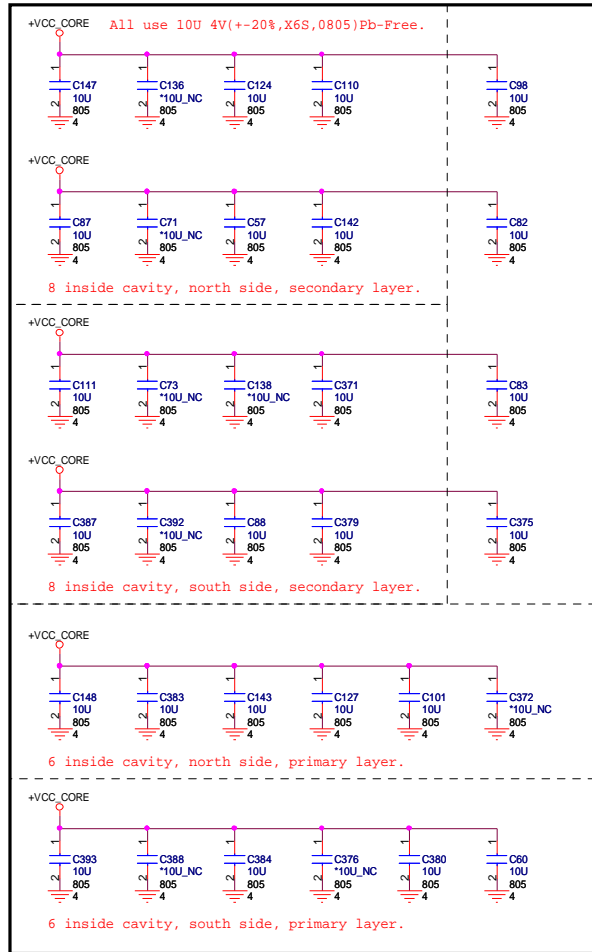
GND PLANE	PAGE	DESCRIPTION
 GND	ALL	

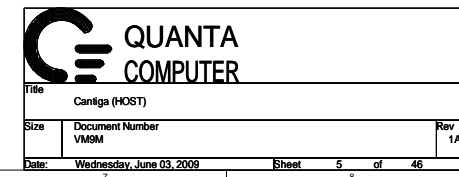


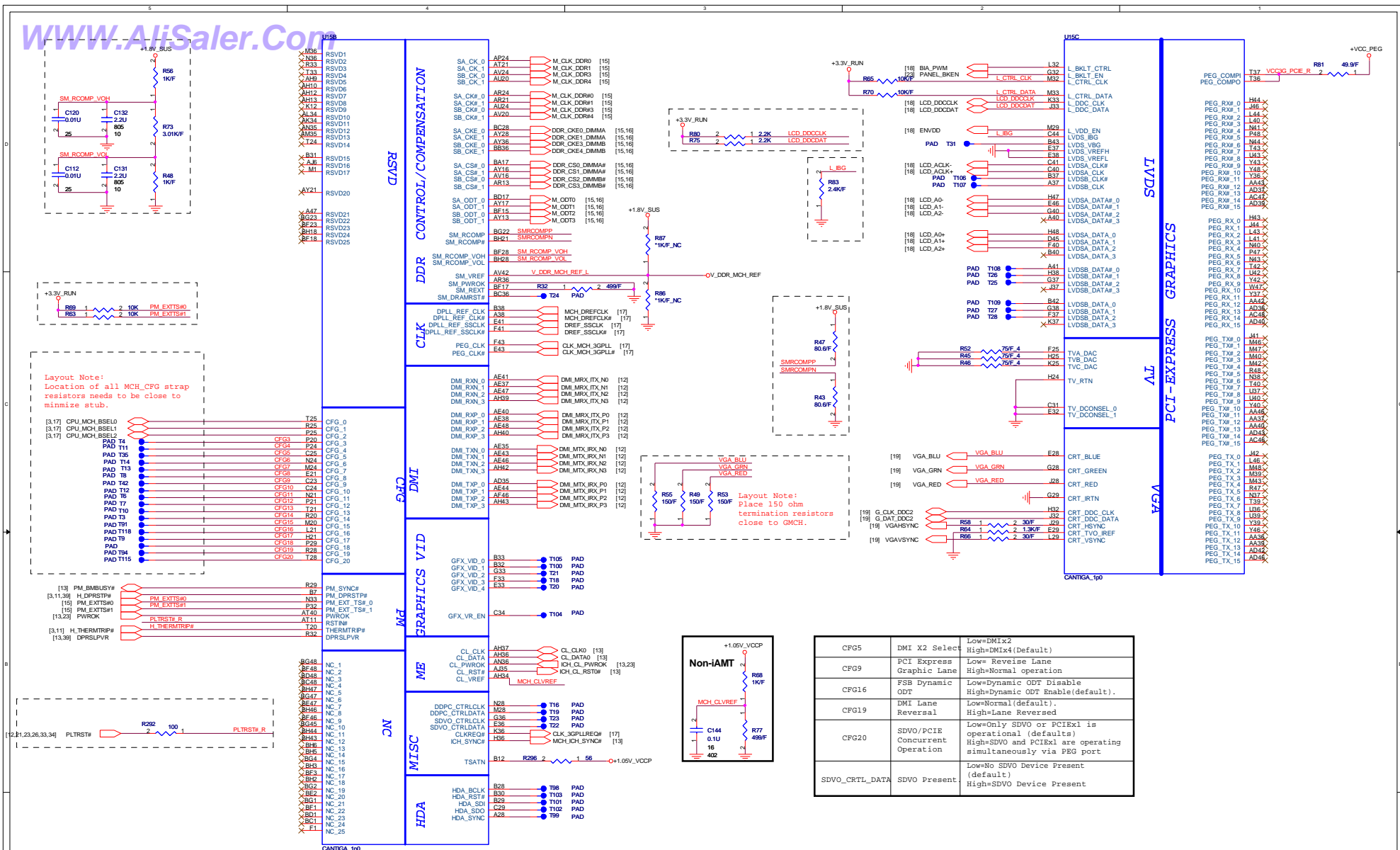
FSB	BCLK	BSEL2	BSEL1	BSEL
533	133	0	0	1
667	166	0	1	1
800	200	0	1	0
1066	266	0	0	0

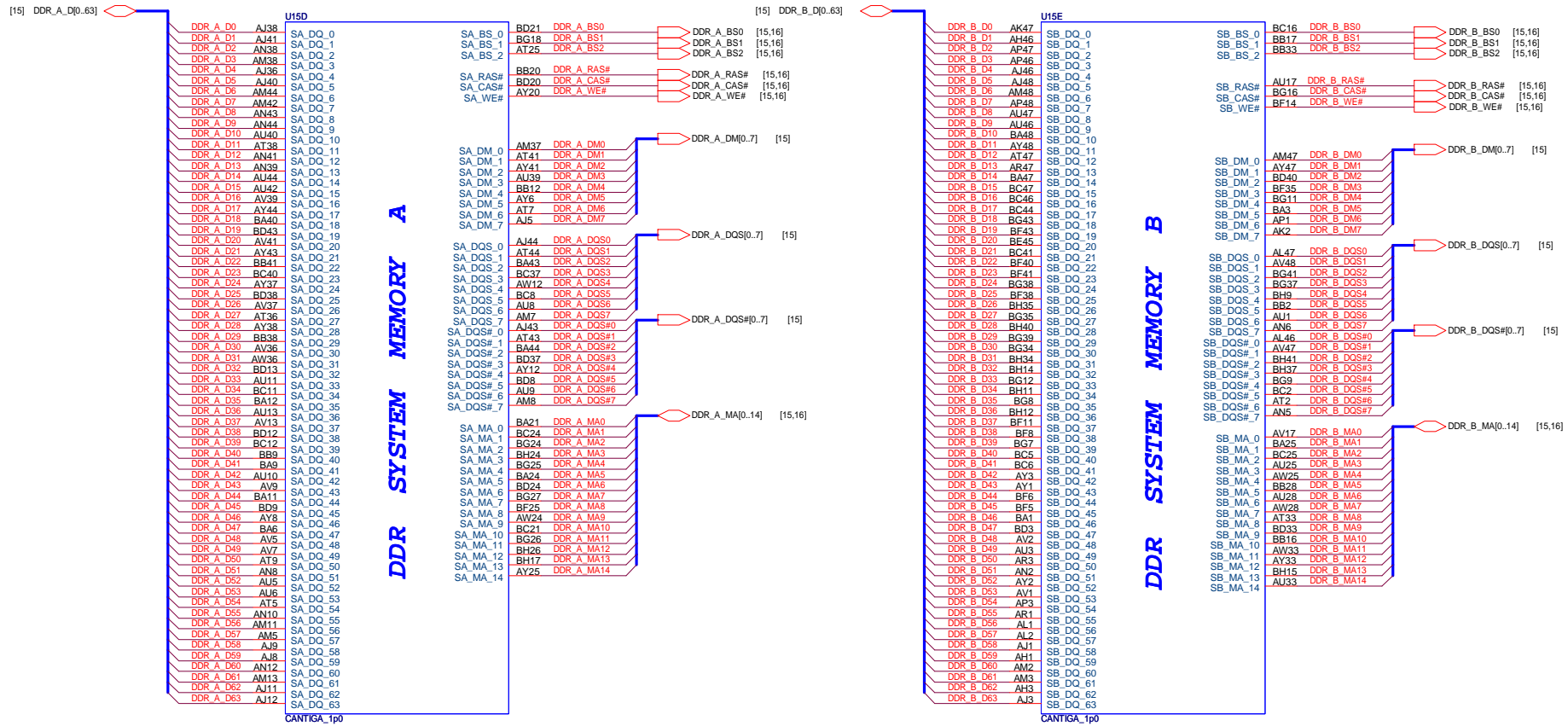


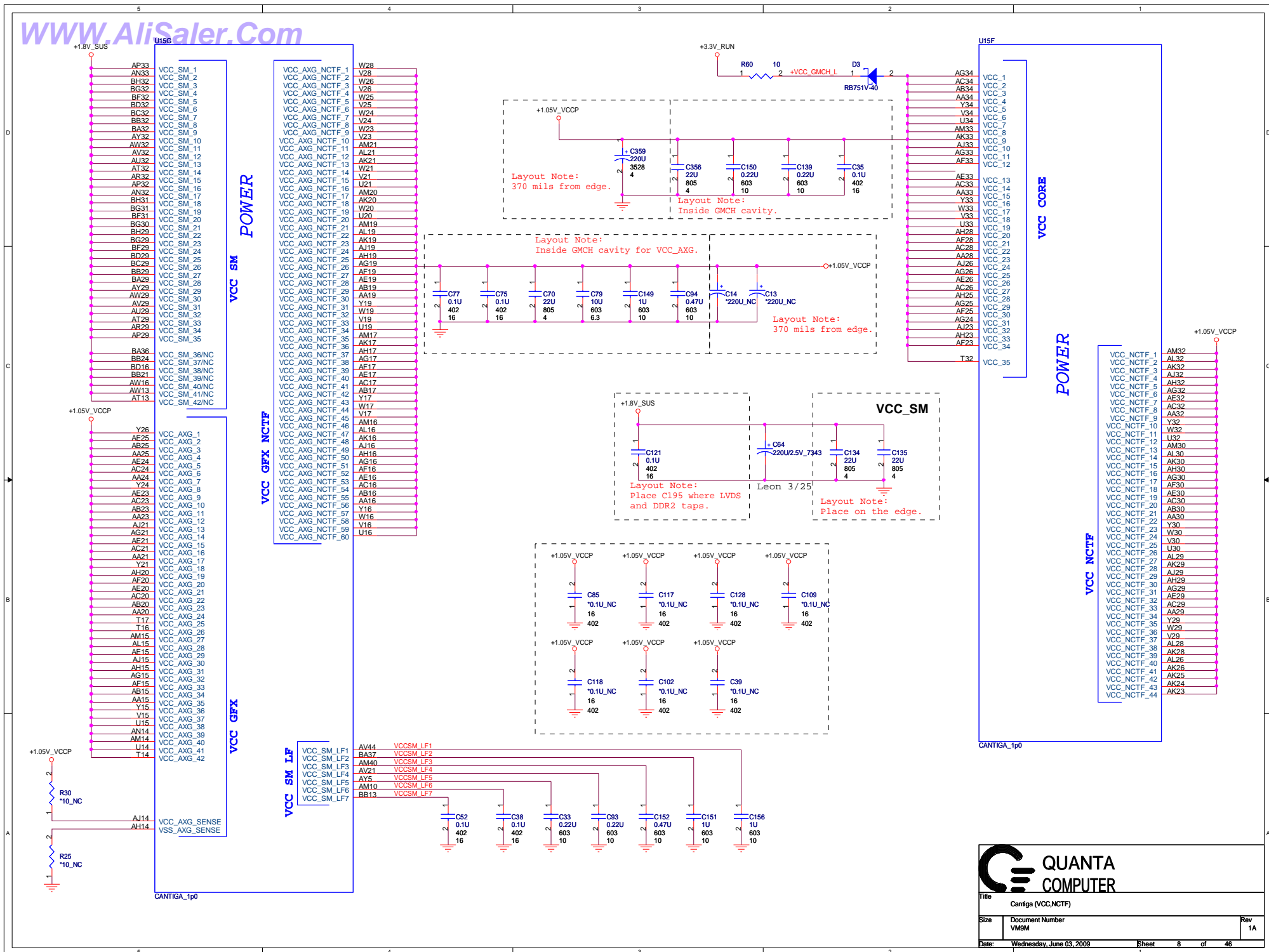
Title			
Penryn Processor (HOST BUS)			
Size	Document Number	Rev	
	VM9M	1A	
Date:	Saturday, June 06, 2009	Sheet	3 of 46

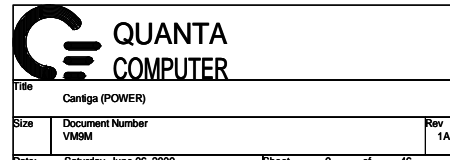


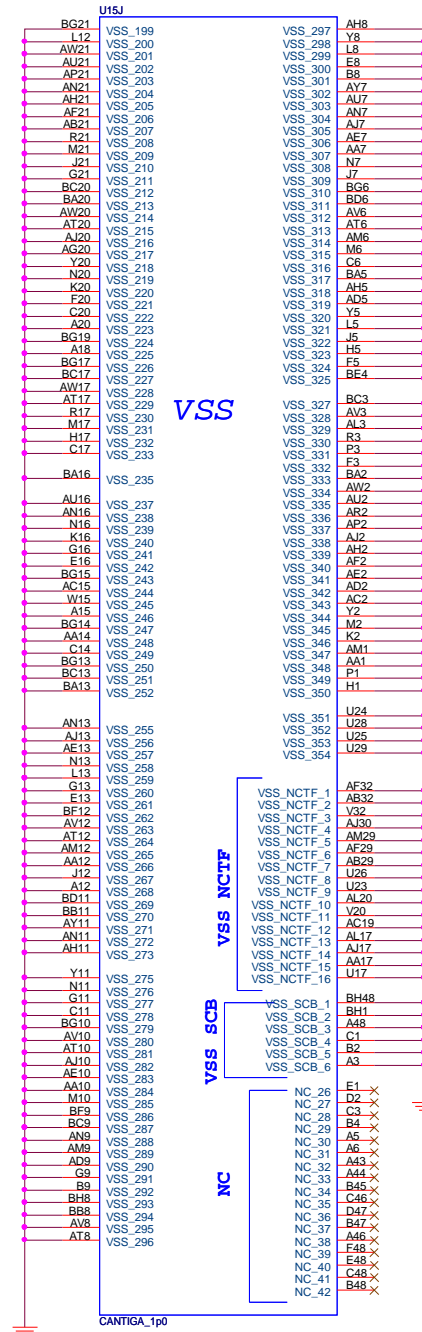
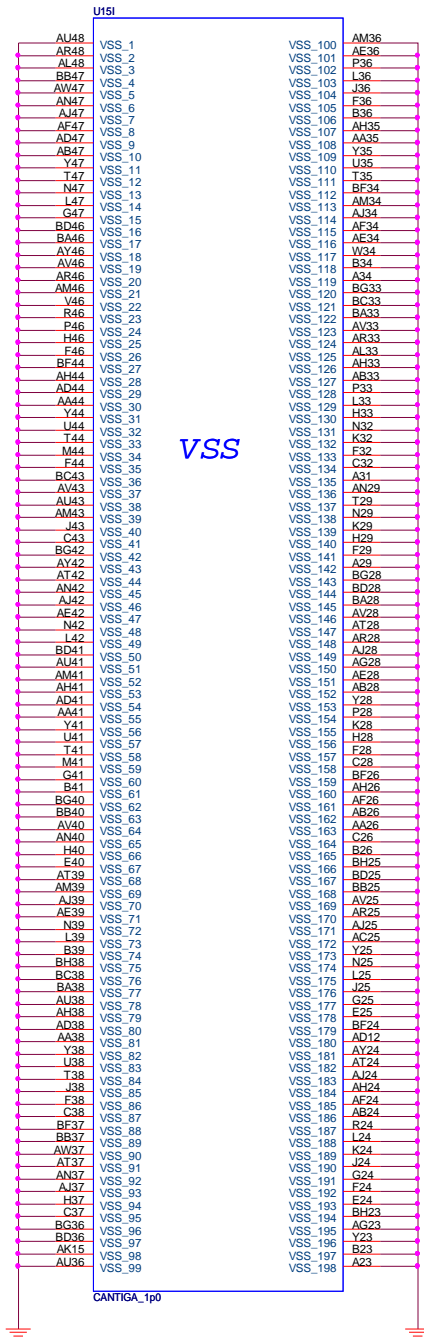


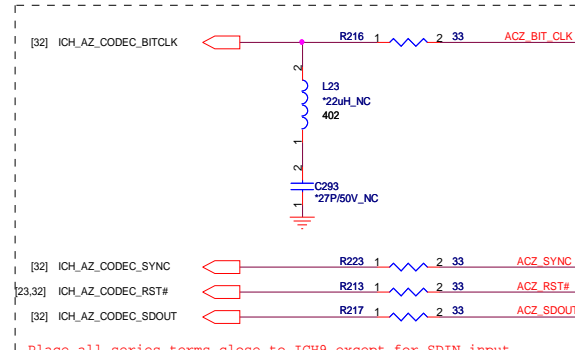
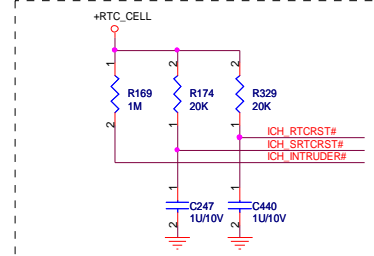
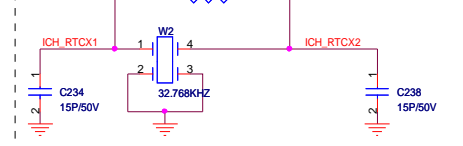




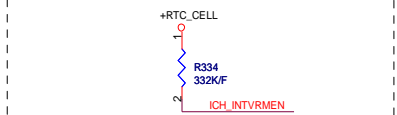
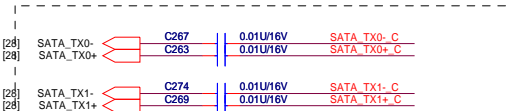






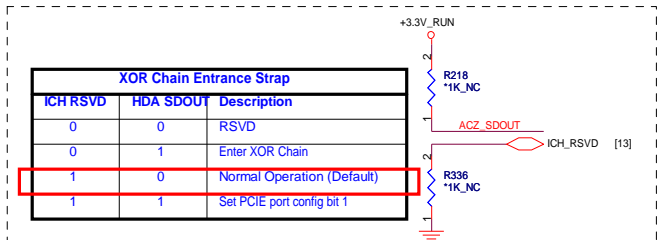
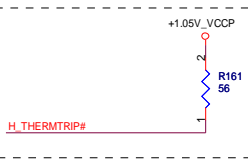
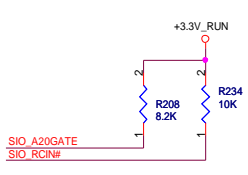
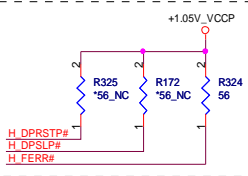
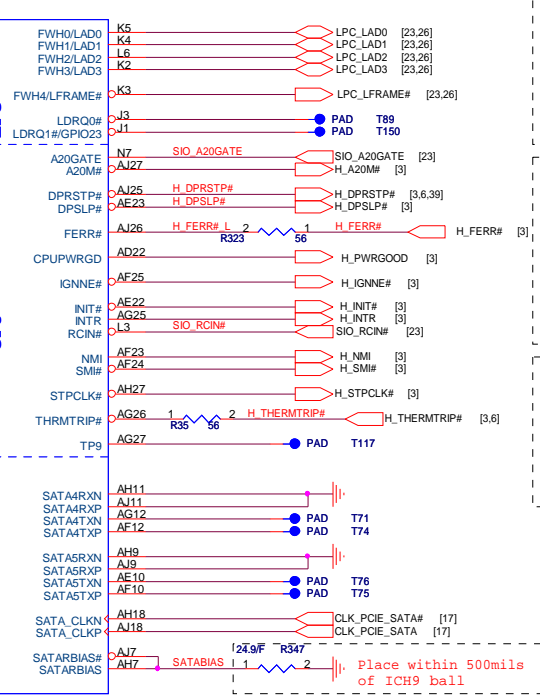
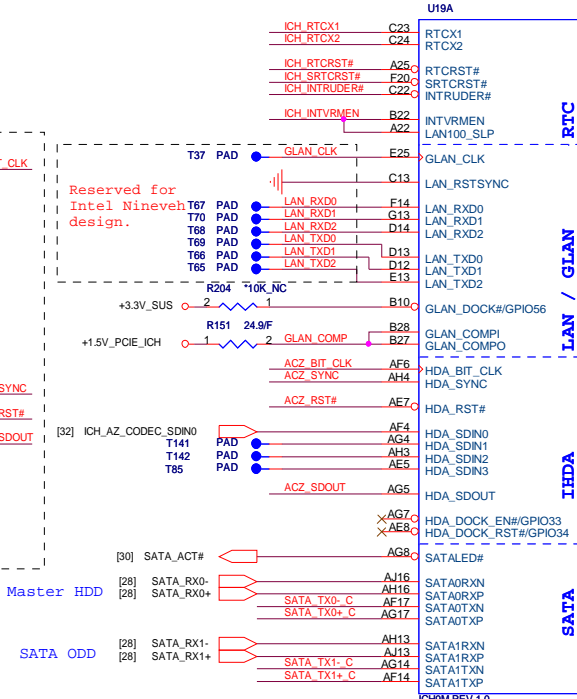


Place all series terms close to ICH9 except for SDIN input lines, which should be close to source.



ICH9M Internal VR Enable Strap
(Internal VR for VccSus1.05, VccSus1.5, VccCL1.5)
Low = Internal VR Disabled
High = Internal VR Enabled(Default)

ICH9M LAN100 SLP Strap
(Internal VR for VccLAN1.05 and VccCL1.05)
Low = Internal VR Disabled
High = Internal VR Enabled(Default)



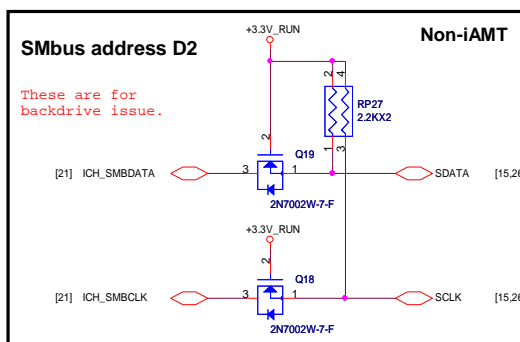
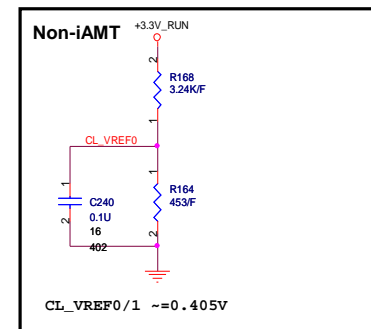
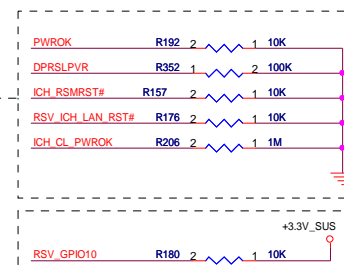
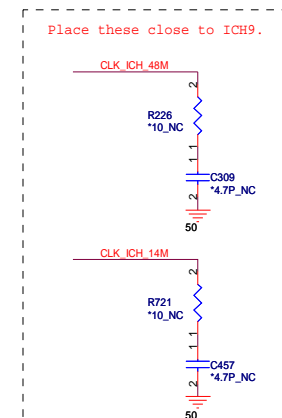
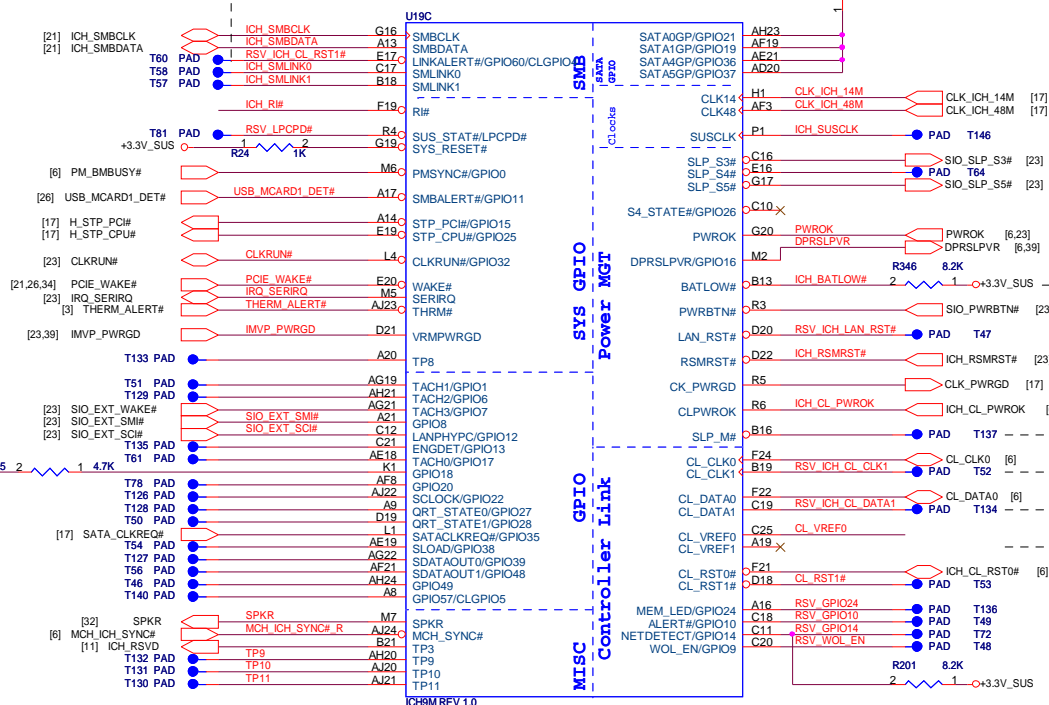
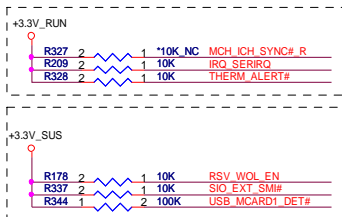
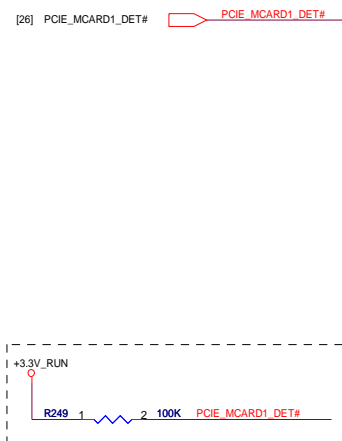
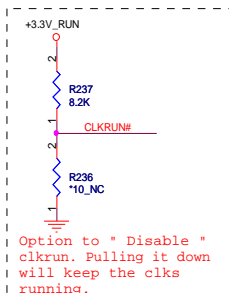
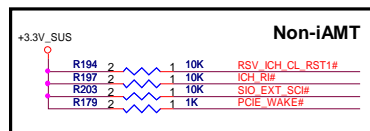
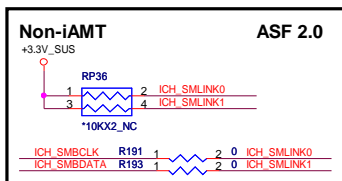
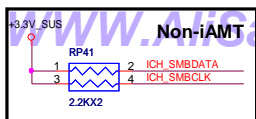
XOR Chain Entrance Strap		
ICH RSVD	HDA SDOUT	Description
0	0	RSVD
0	1	Enter XOR Chain
1	0	Normal Operation (Default)
1	1	Set PCIE port config bit 1

QUANTA COMPUTER

Title: ICH9-M (CPU,SATA,LPC,LAN,CODEC)

Size: Document Number: VMSM Rev 1A

Date: Saturday, June 06, 2009 Sheet 11 of 46

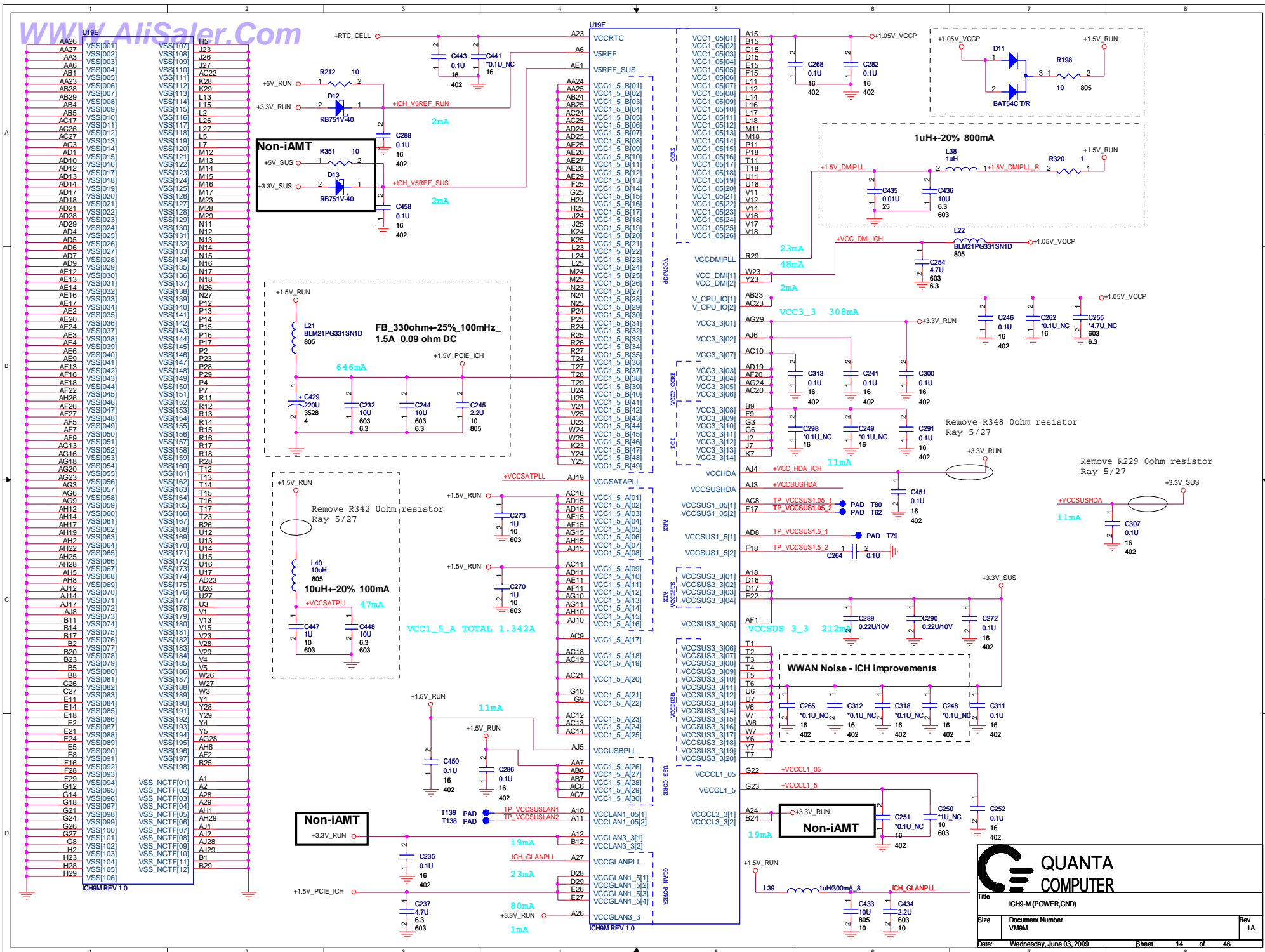


QUANTA COMPUTER

Title: ICH9-M (PM,GPIO,SMB,CL)

Size: Document Number: Rev 1A

Date: Saturday, June 06, 2009 Sheet 13 of 46



A is required to route to Top SoDIMM for AMT to function.
Ch.A SODIMM needs to be populated for Intel AMT support.

+1.8V_SUS

V_DDR_MCH_REF

+1.8V_SUS

V_DDR_MCH_REF

+1.8V_SUS

V_DDR_MCH_REF

+1.8V_SUS

V_DDR_MCH_REF

CN3

VREF

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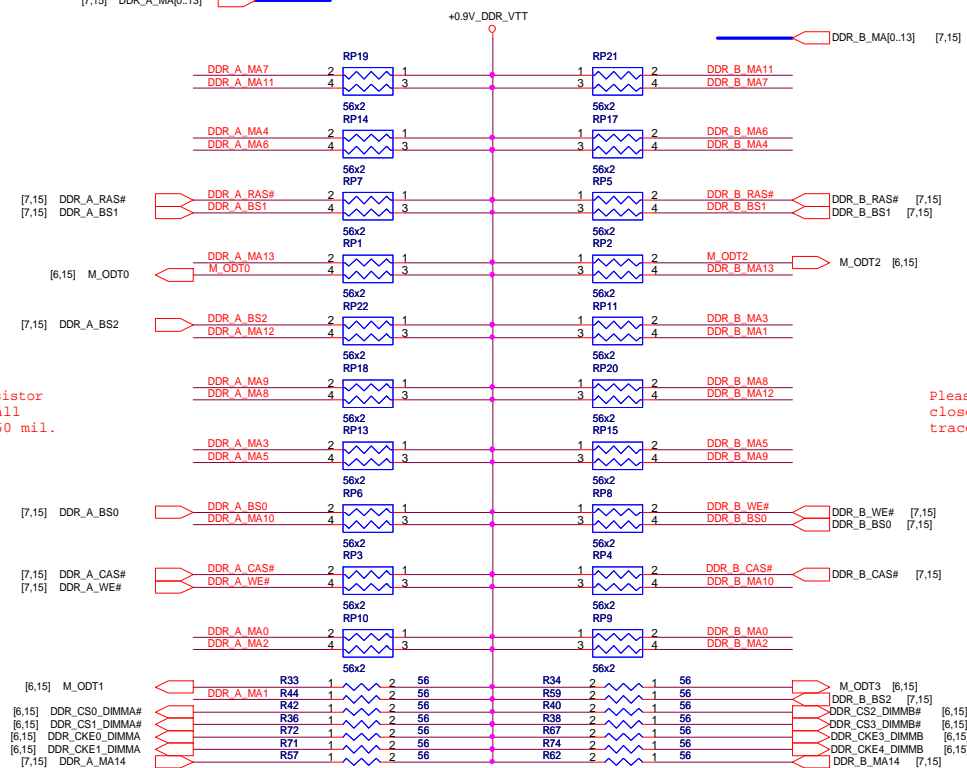
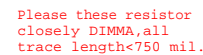
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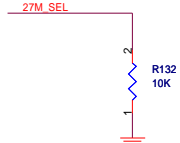
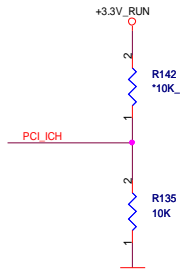
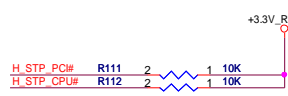
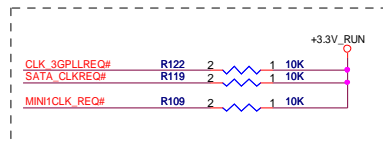
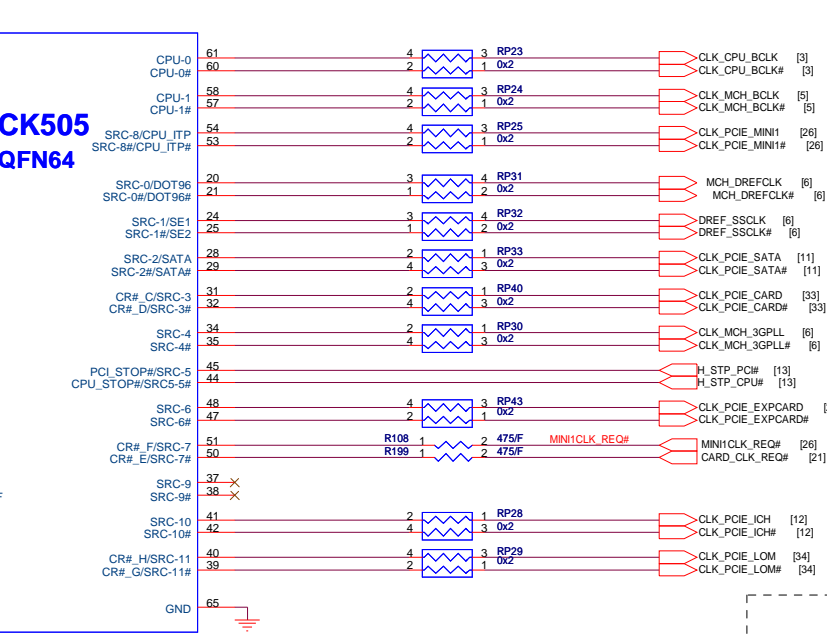
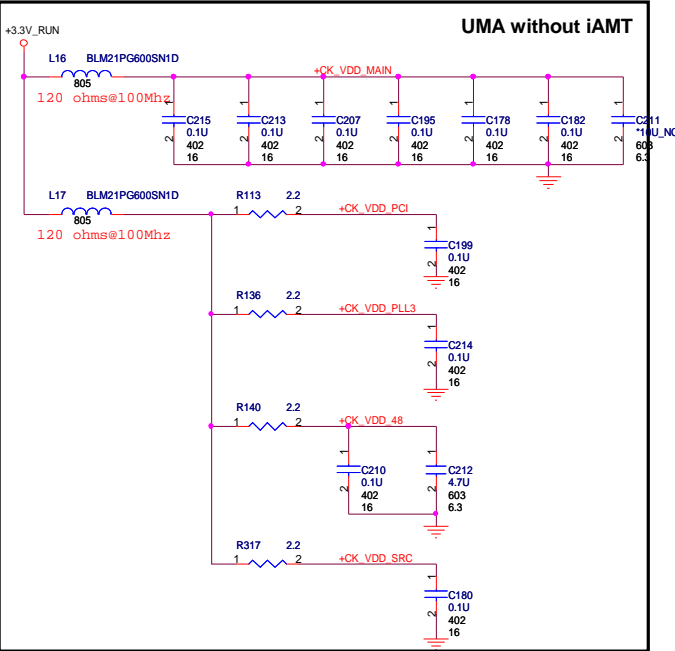
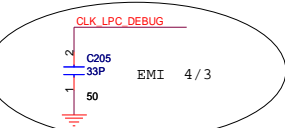
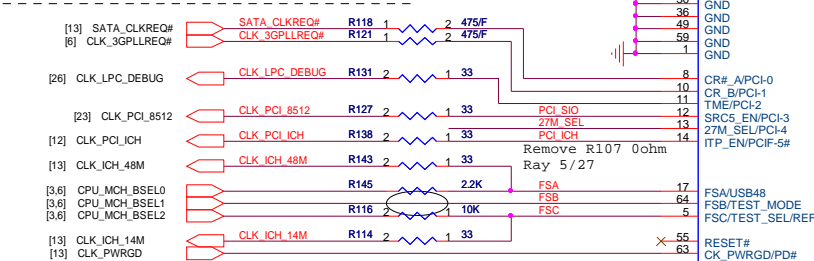
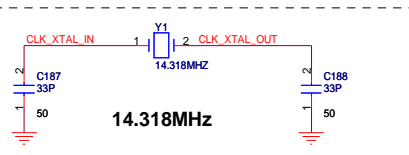
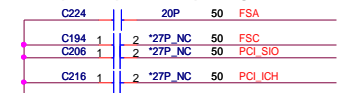
DQ311

DQ312

DQ313



Add capacitor pads for improving WWAN.



FSC	FSB	FSA	CPU	SRC	PCI
1	0	1	100	100	33
0	0	1	133	100	33
0	1	1	166	100	33
0	1	0	200	100	33
0	0	0	266	100	33
1	0	0	333	100	33
1	1	0	400	100	33
1	1	1	RSVD	100	33

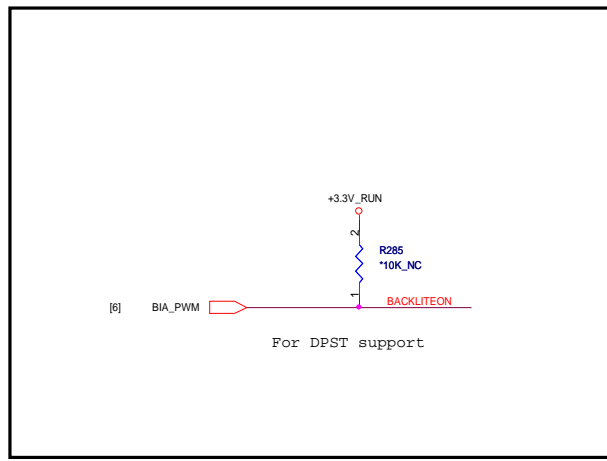
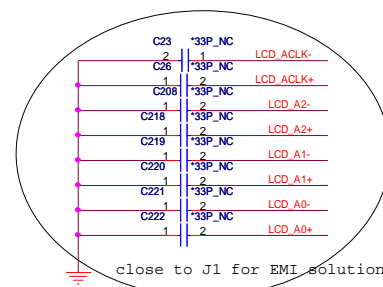
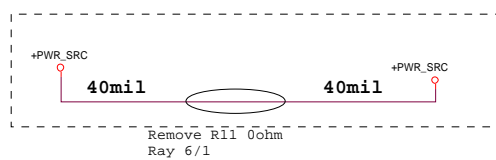
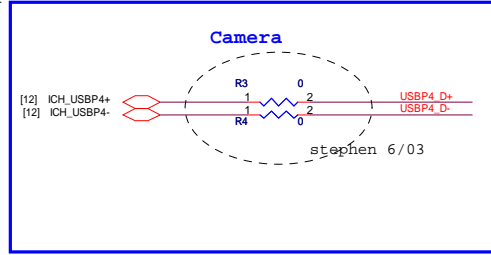
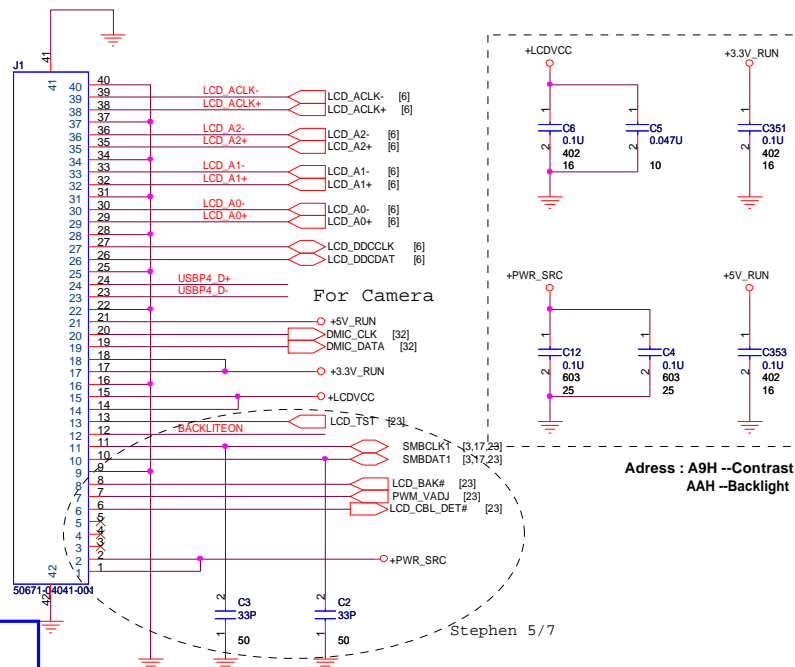
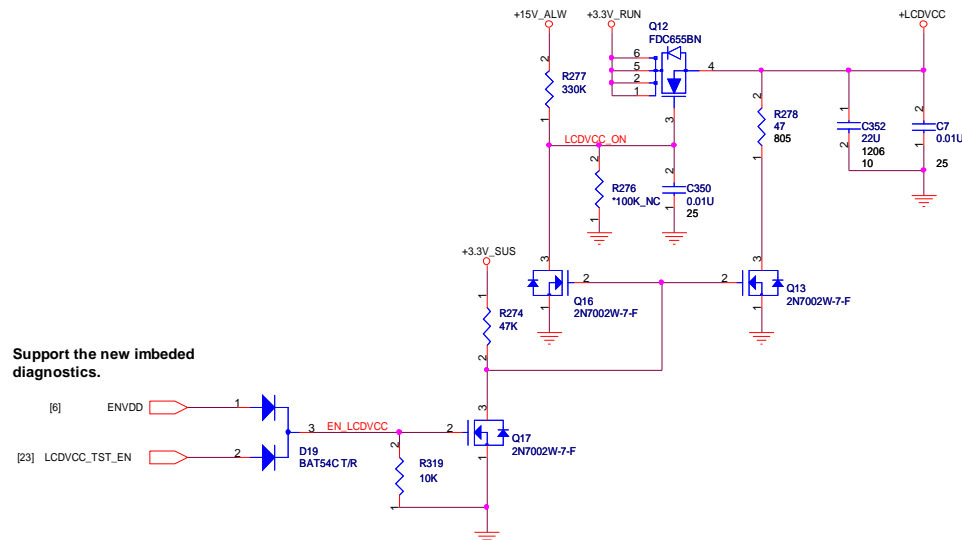
27M_SEL (PIN13)	PIN20	PIN21	PIN24	PIN25
0=UMA	DOT96T	DOT96C	96/100M_T	96/100M_C
1 = Disc. GRFX down	SRCT0	SRCC0	27Mout	27MSSout

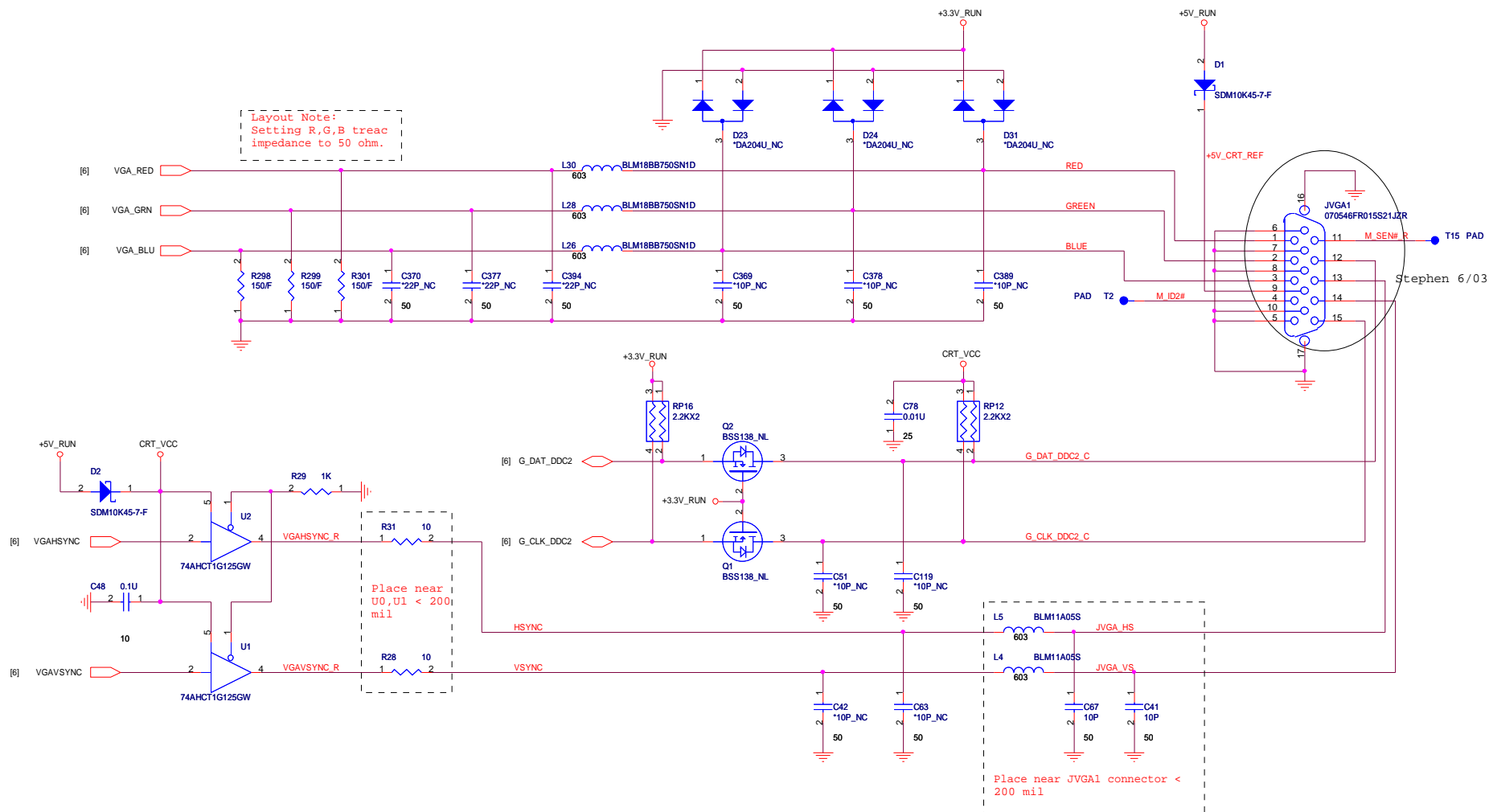
QUANTA COMPUTER

Title: CLOCK GENERATOR


Size: Document Number: VMSM Rev 1A

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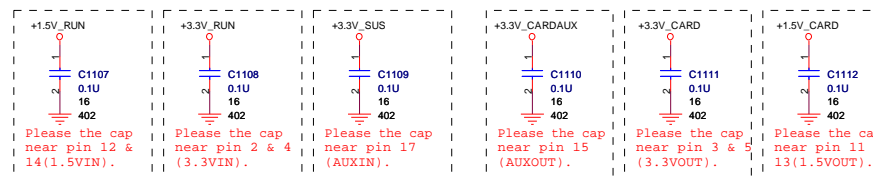
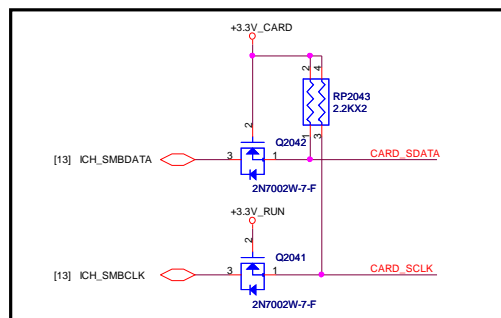
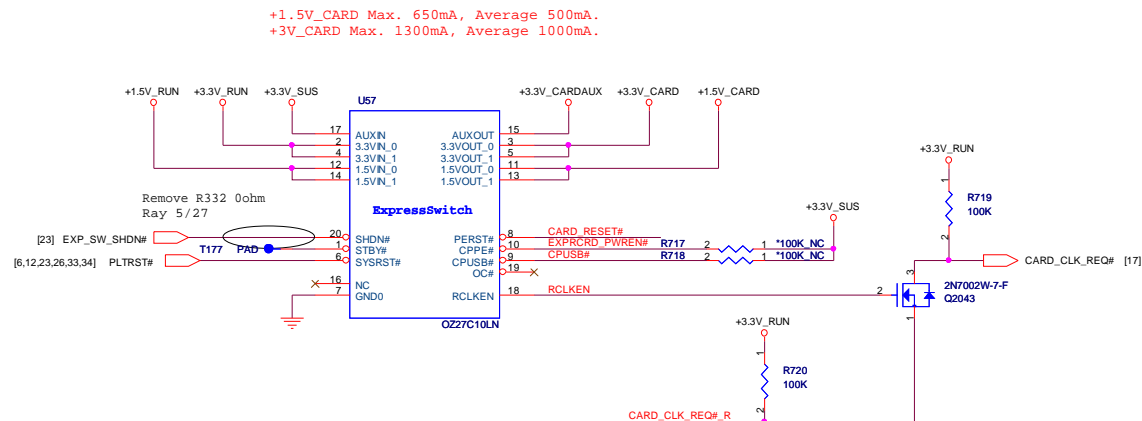
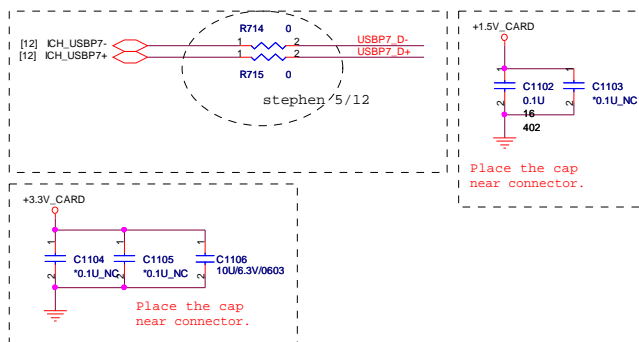


Stephen 6/03

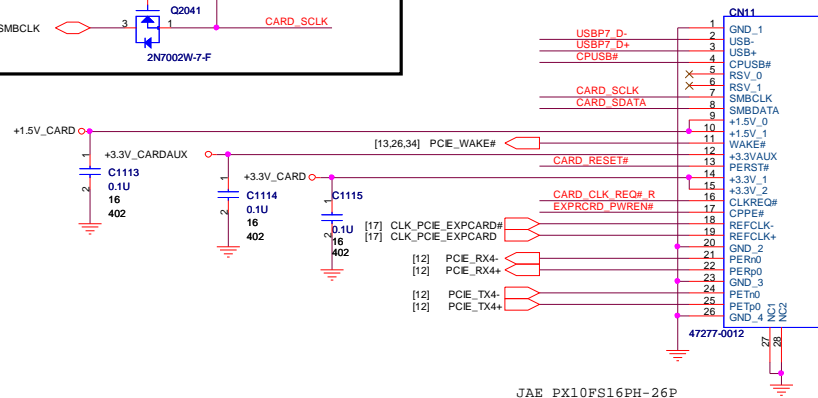



QUANTA
COMPUTER

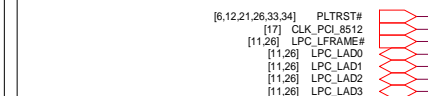
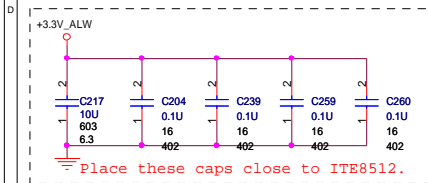
Title		
Card Reader-RTS5158E		
Size	Document Number	Rev
	VM9M	1A
Date:	Wednesday, June 03, 2009	Sheet 20 of 46



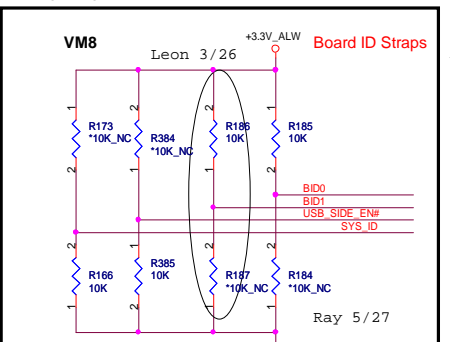
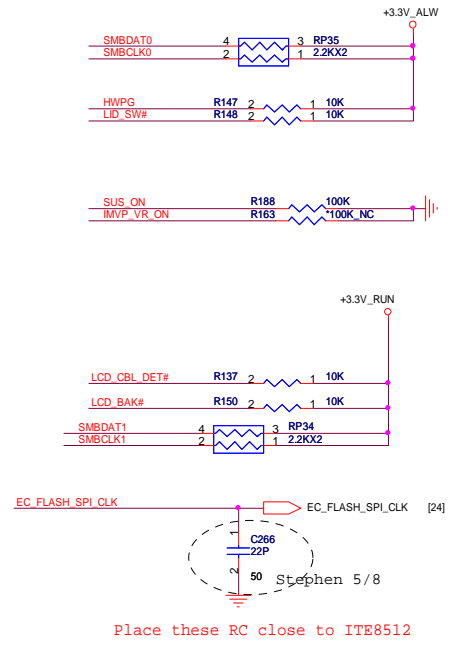
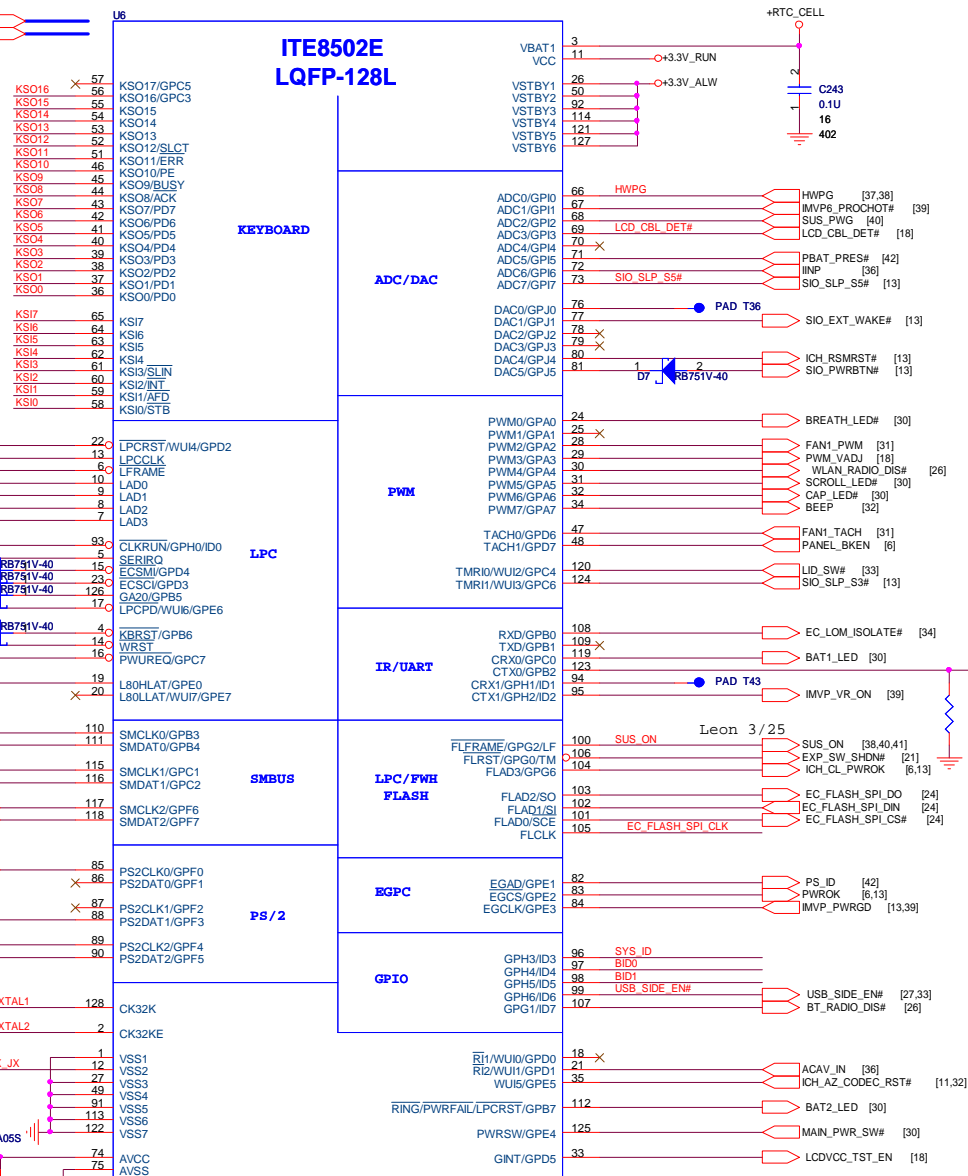
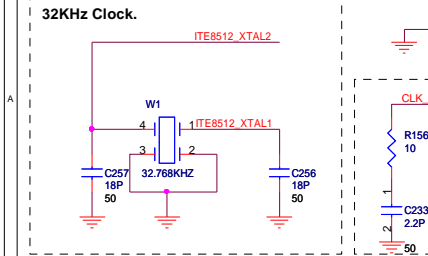
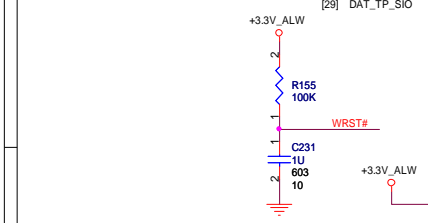
Express Card



		QUANTA COMPUTER	
Title		black	
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Date:	Wednesday, June 03, 2009		Sheet 22 of 46



Charge and BAT
CLK, LCD and Thermal
G_Thermal



BOM

SYS_ID

VM8 = R173

VM9 = R166

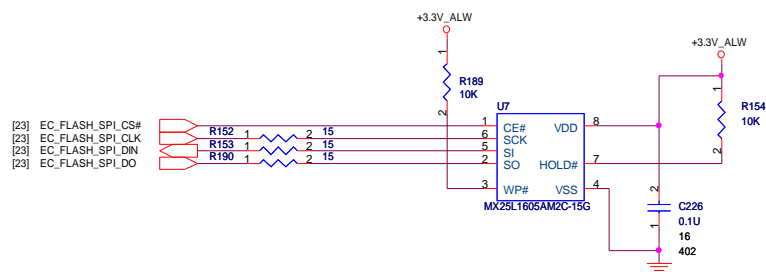
USB_SIDE_EN#

1 = Discrete Gfx.

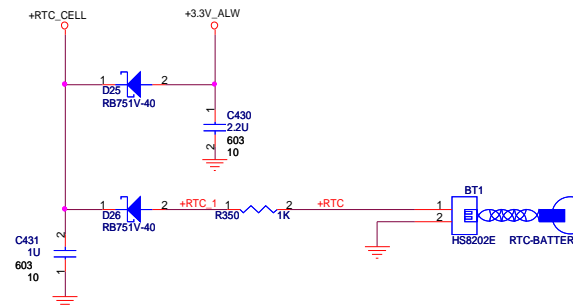
0 = UMA.


BID0	BID1	VM8x/VM9x
0	0	SSI (X00)
0	1	PT (X01)
1	0	ST (X02)
1	1	DT (A00)
0	0	(A01)

16Mbit (2M Byte), SPI

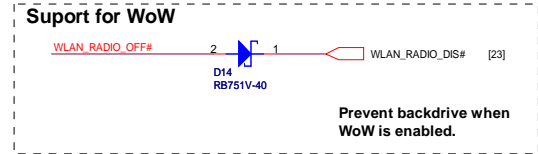
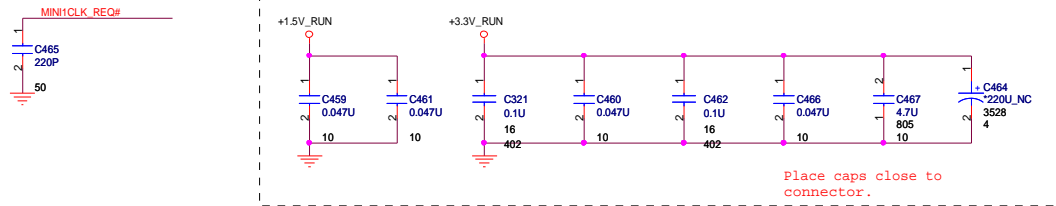
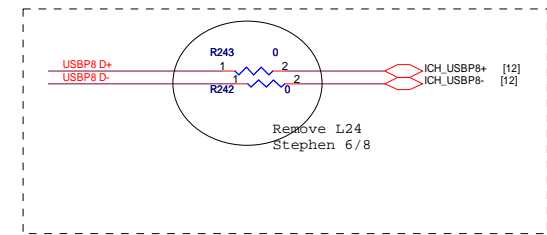
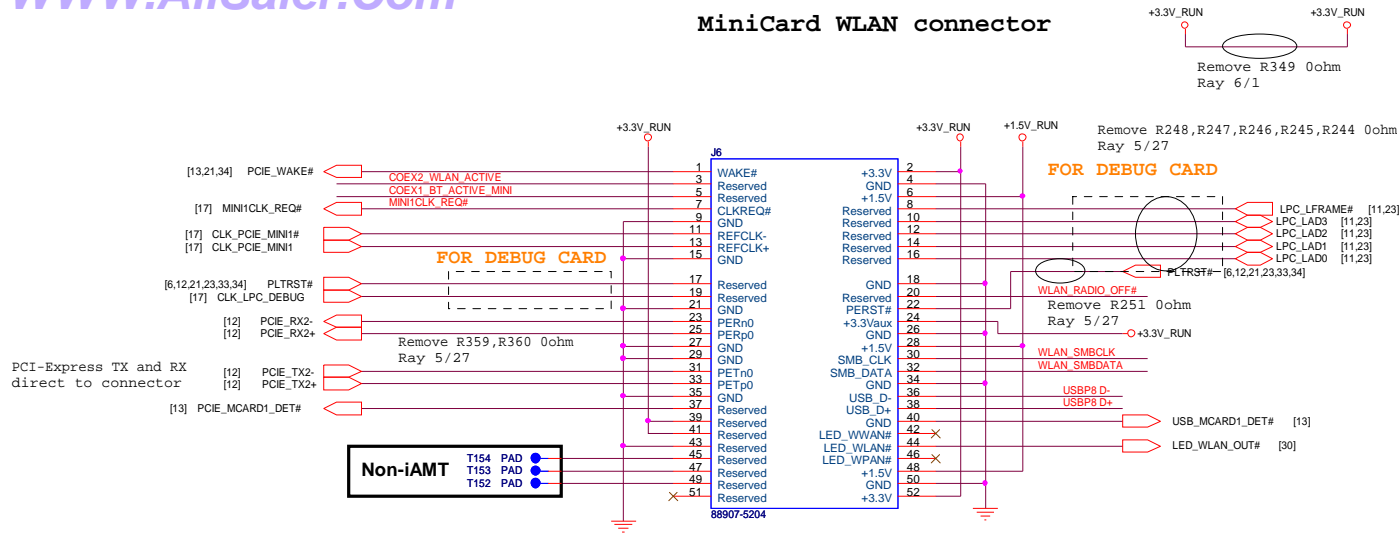


RTC BATTERY

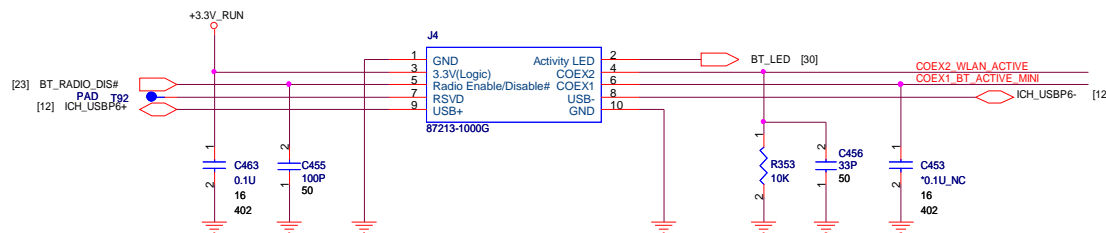


		QUANTA COMPUTER	
Title		Black	
Size	Document Number		Rev
	VM9M		1A
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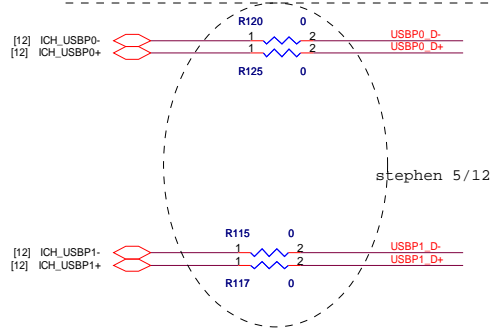
MiniCard WLAN connector



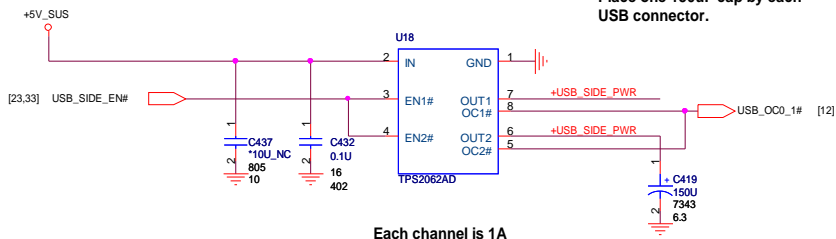
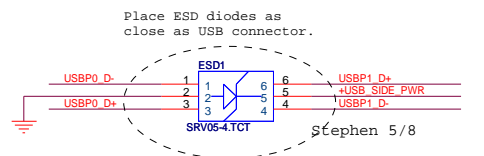
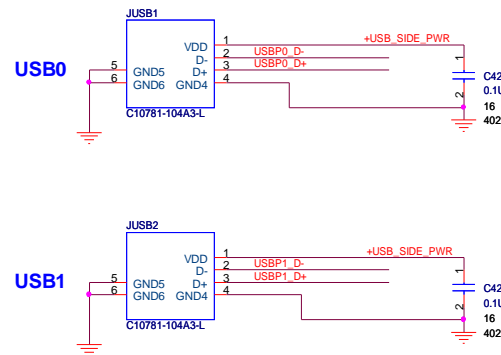
Bluetooth



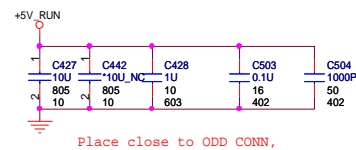
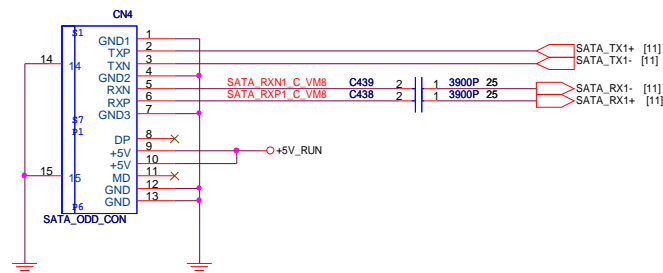
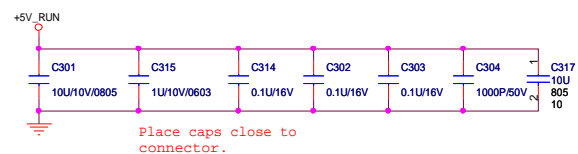
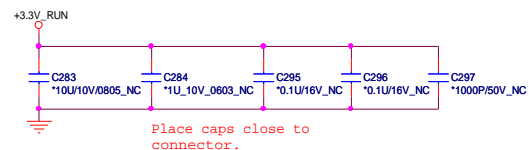
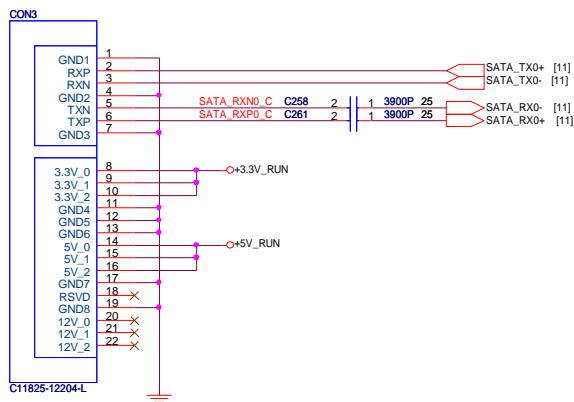
External USB PORT hookup reference. Your design may need more or less external ports and may be mapped differently



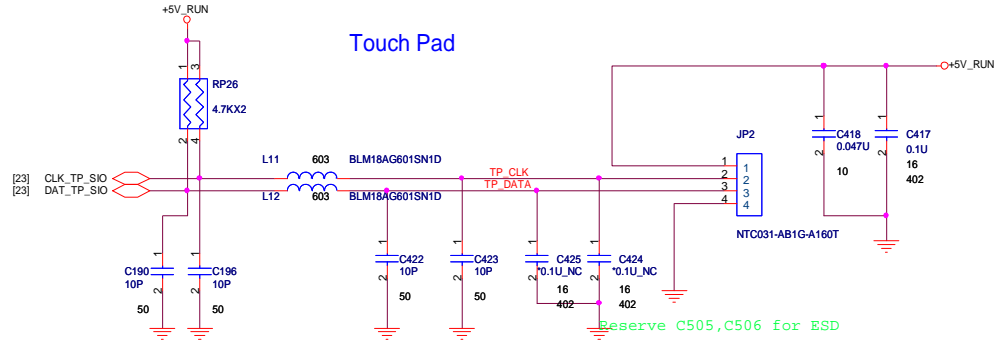
Platforms should put in PADS for the USB chokes if they have the room. Chokes should be NOPOP.



SATA HDD Connector.

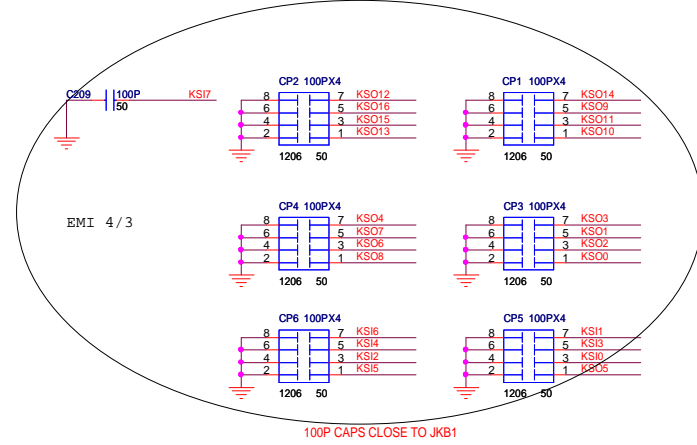
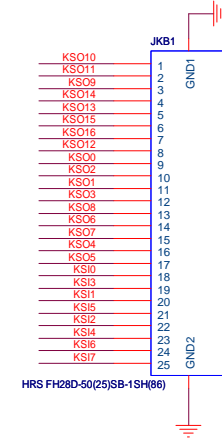


Touch Pad

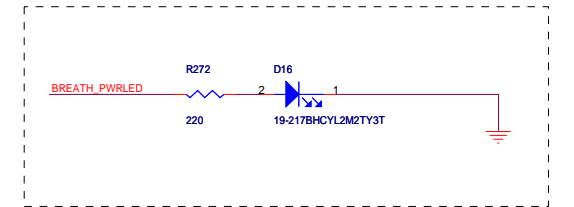
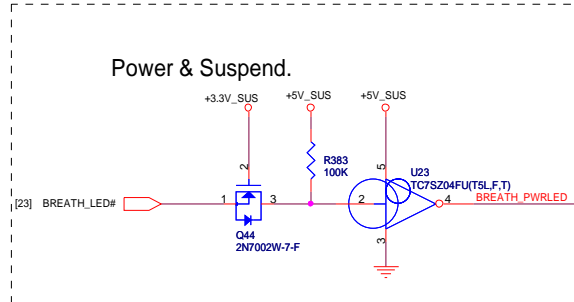
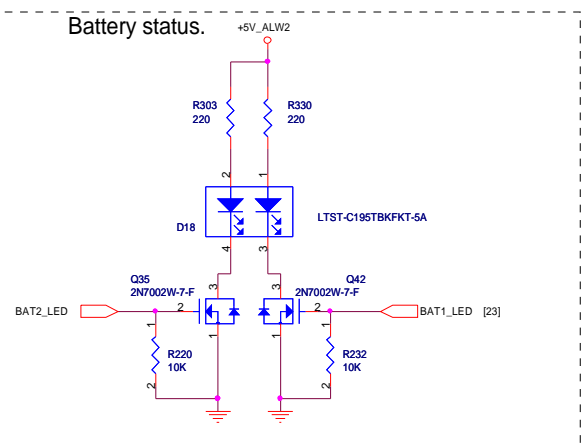
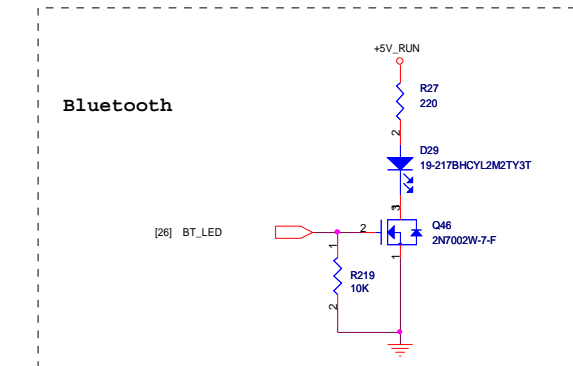
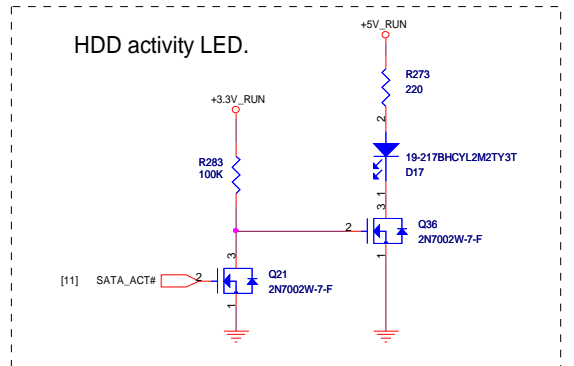
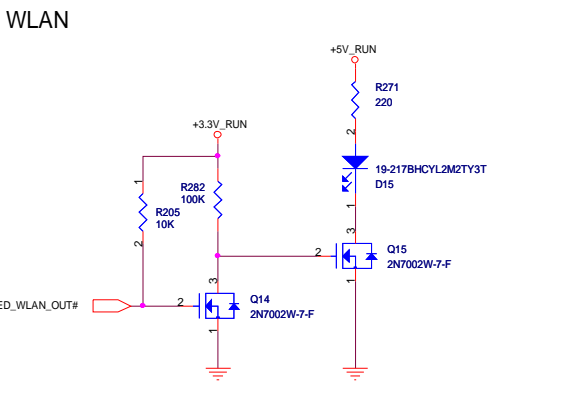
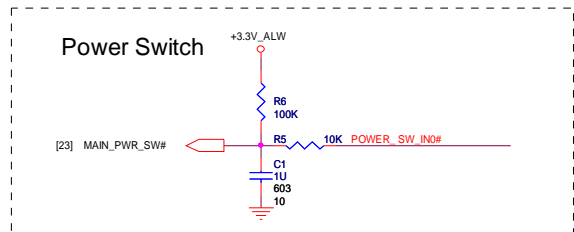
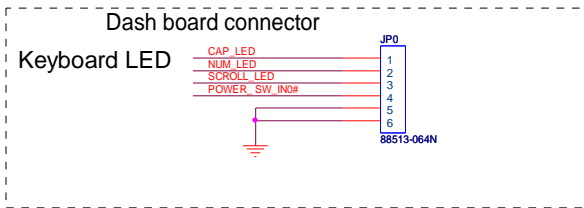
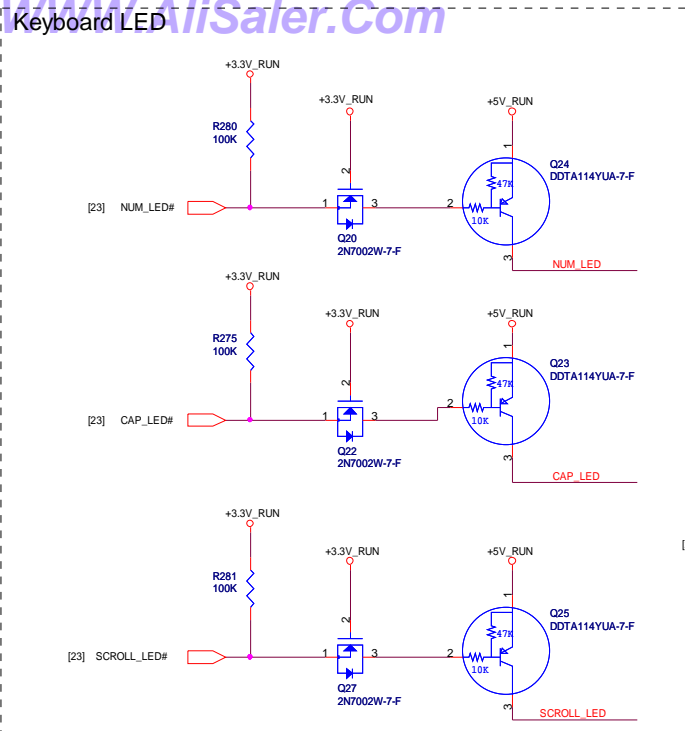


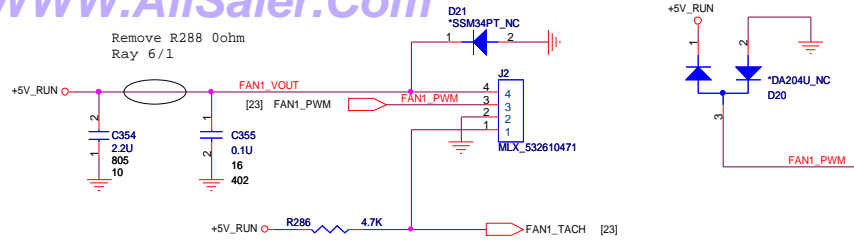
KEYBOARD CONNECTOR

[23] KSO[0..16]
[23] KSI[0..7]



EMI 4/3





add PC beep for system error circuit No9 10.14
del PC beep No9 10.15

PC BEEP

Close to U5

Add 5.1ohm resistor for EOS issue

HP JACKN

PAGE

MIC_JD

CN9

A circuit diagram showing a 5V supply connected to a 4V source and a 5V source.

JAS233L-B10H9-
MIC.JAC

QUANTA

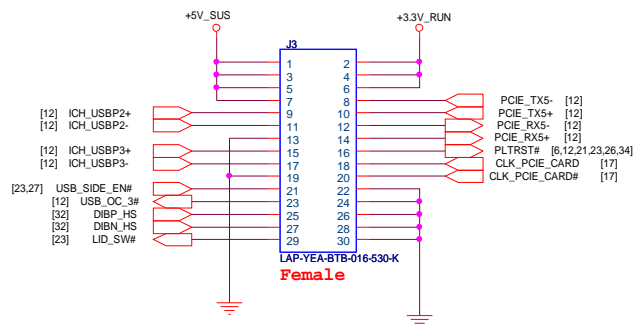
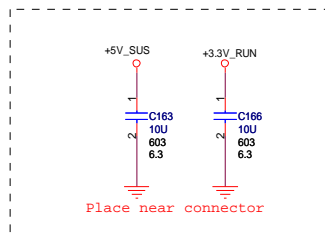
COMPLITER

CONCLUSIONS

Number

June 08, 2000

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Board to board connector (Modem Card + Cardreader+1394a+ 2 USB Port)

A

B

C

D

E

4

4

3

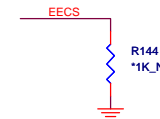
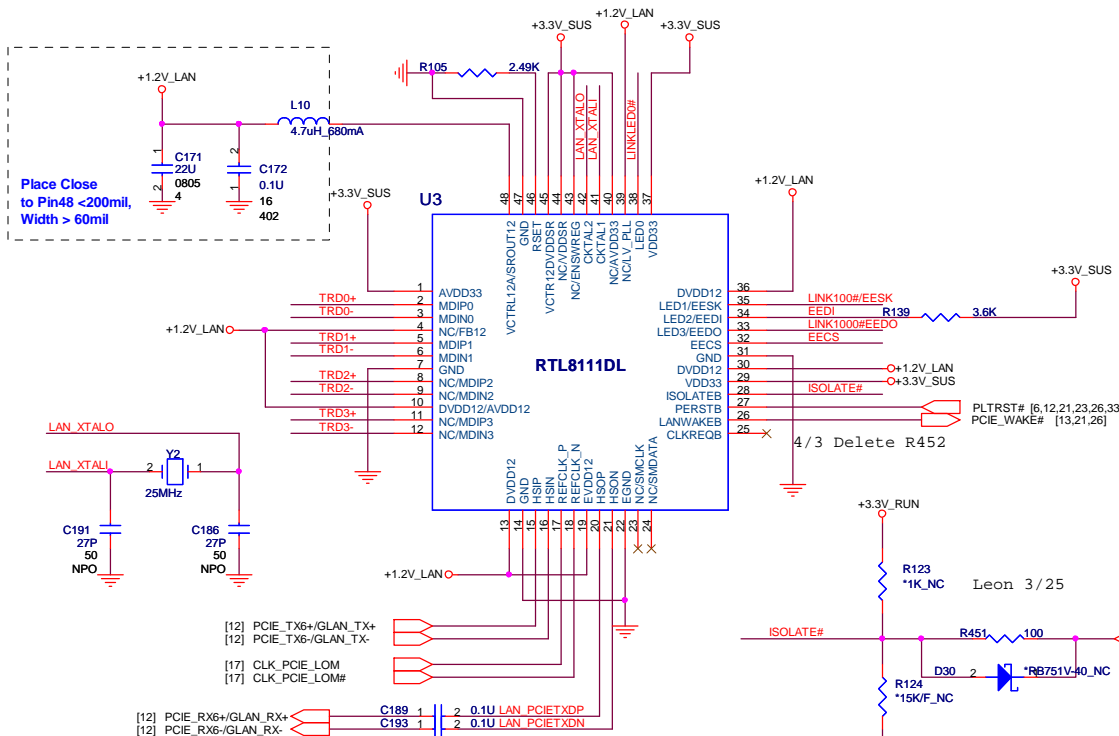
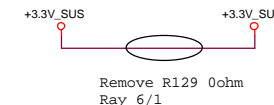
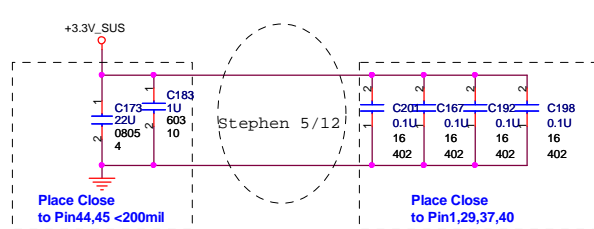
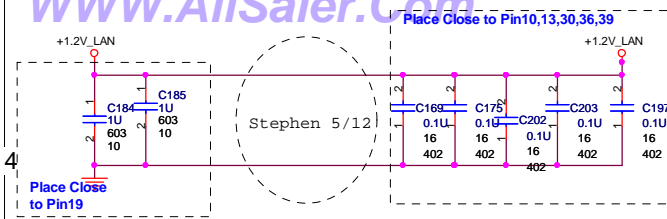
3

2

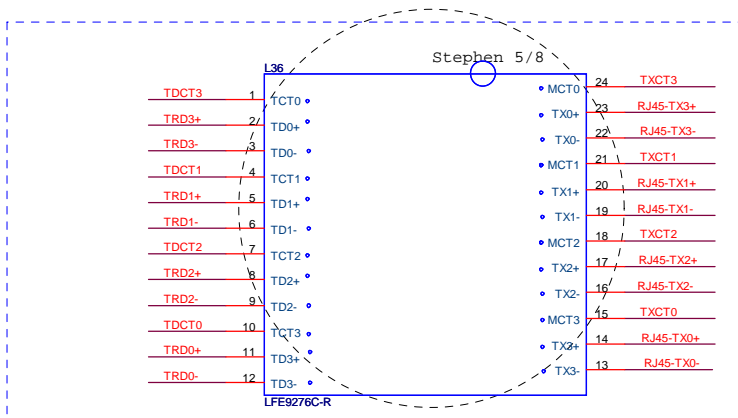
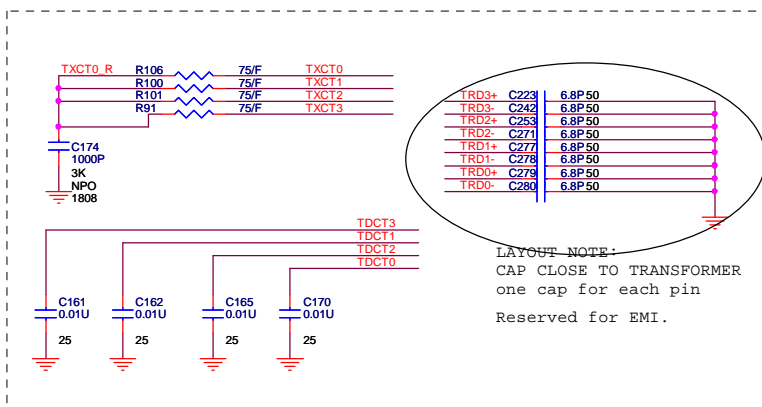
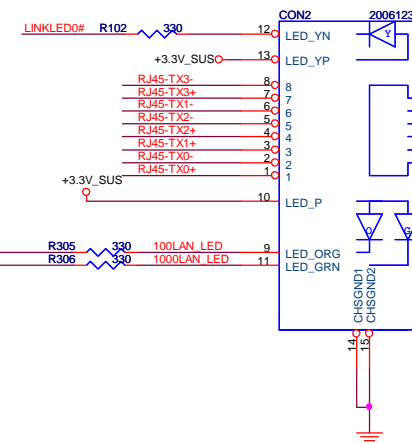
2


1

1



RJ-45 Connector



 QUANTA COMPUTER		
Title System Reset Circuit		
Size	Document Number VM9M	Rev 1A
Date: Wednesday, June 03, 2009	Sheet 35 of 46	

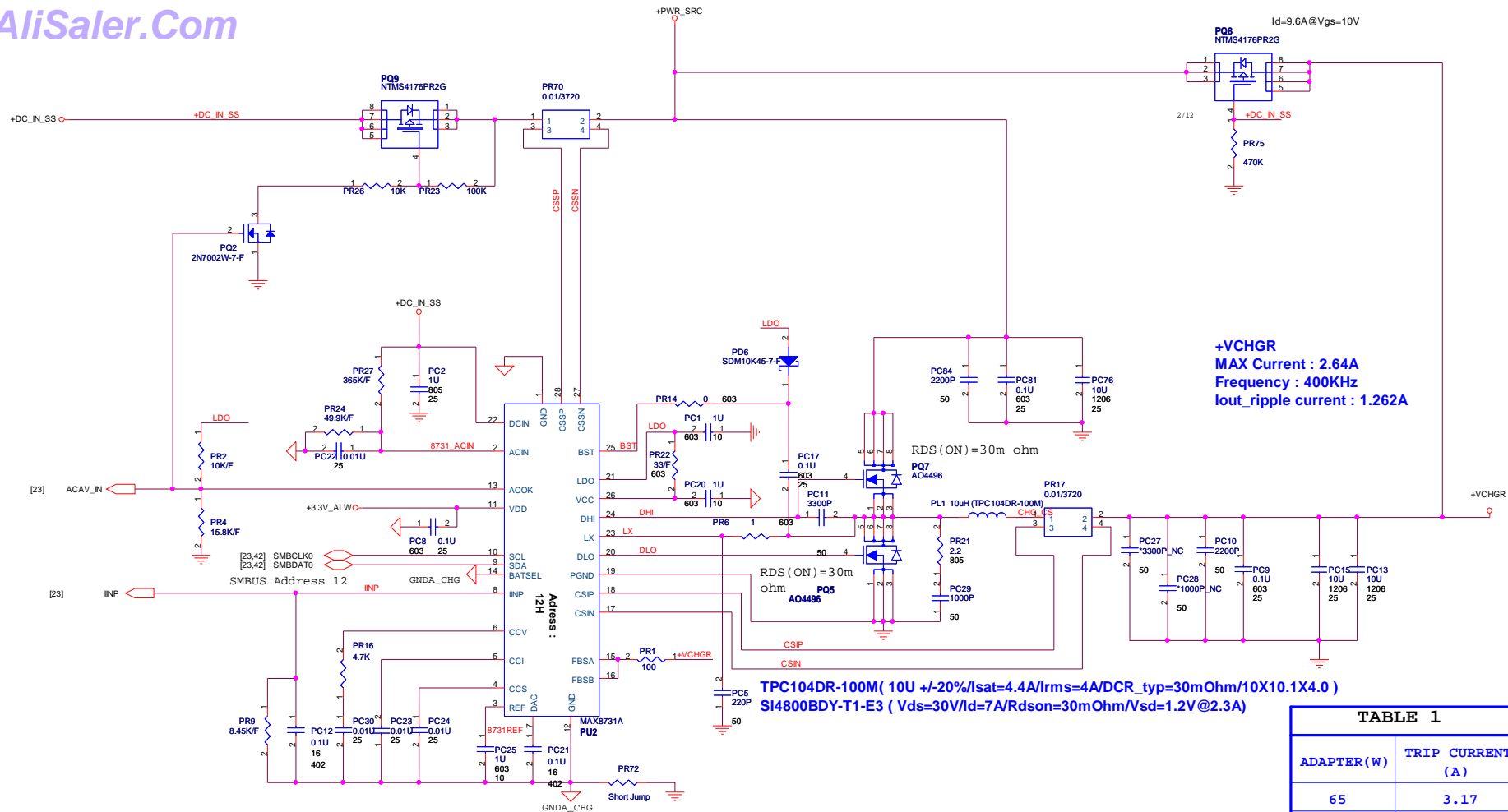
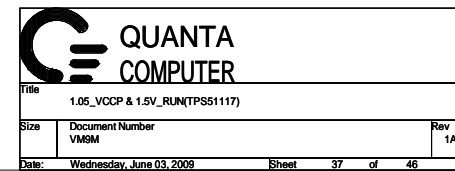
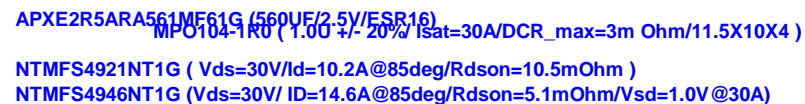
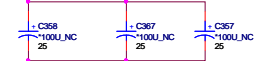


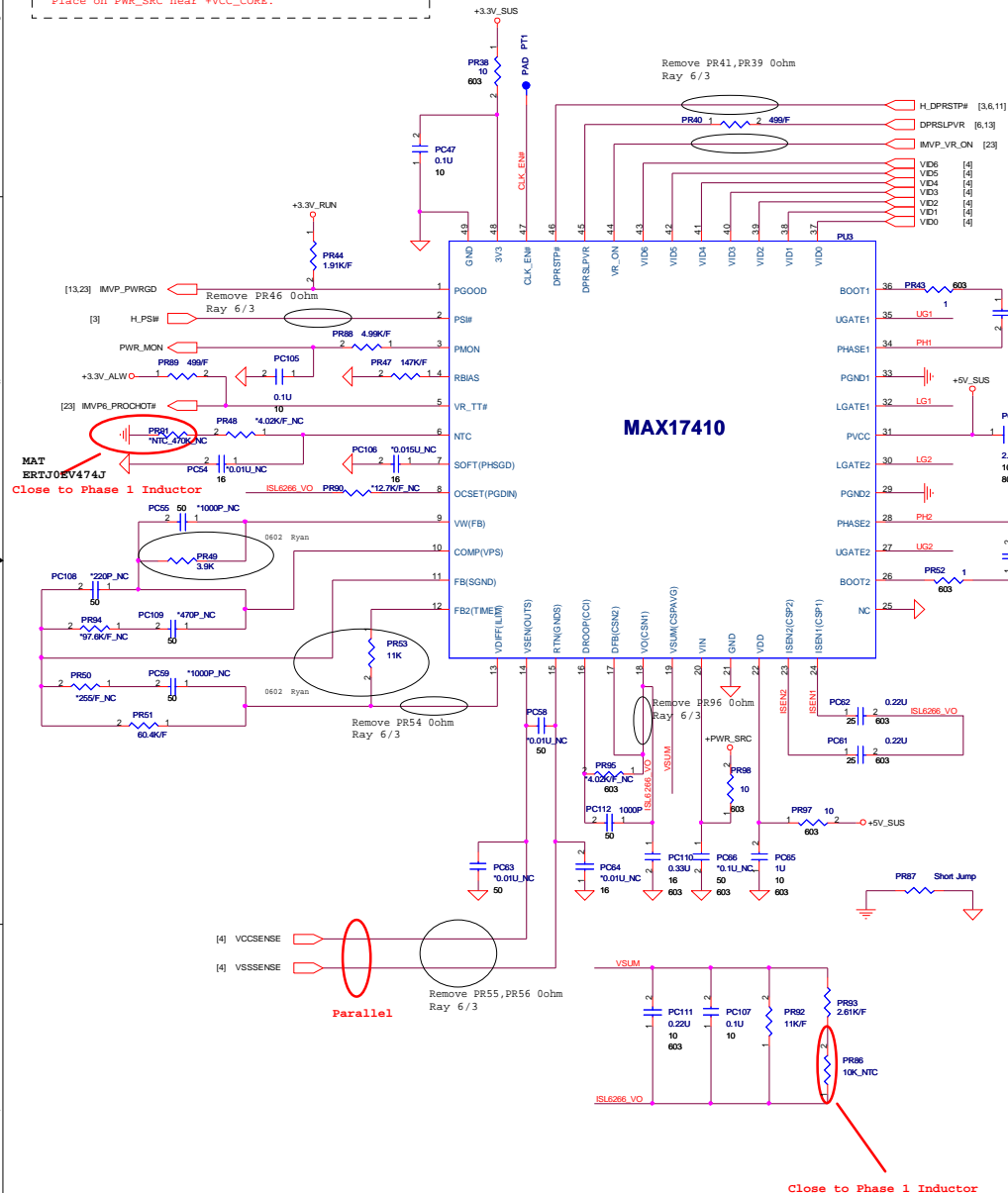
TABLE 1

ADAPTER(W)	TRIP CURRENT (A)
65	3.17
90	4.43
130	6.43
150	7.43
200	9.75
230	11.28





Layout Note:
Need to add 100uF cap on PWR_SRC for cap singing.
Place on PWR_SRC near +VCC_CORE.

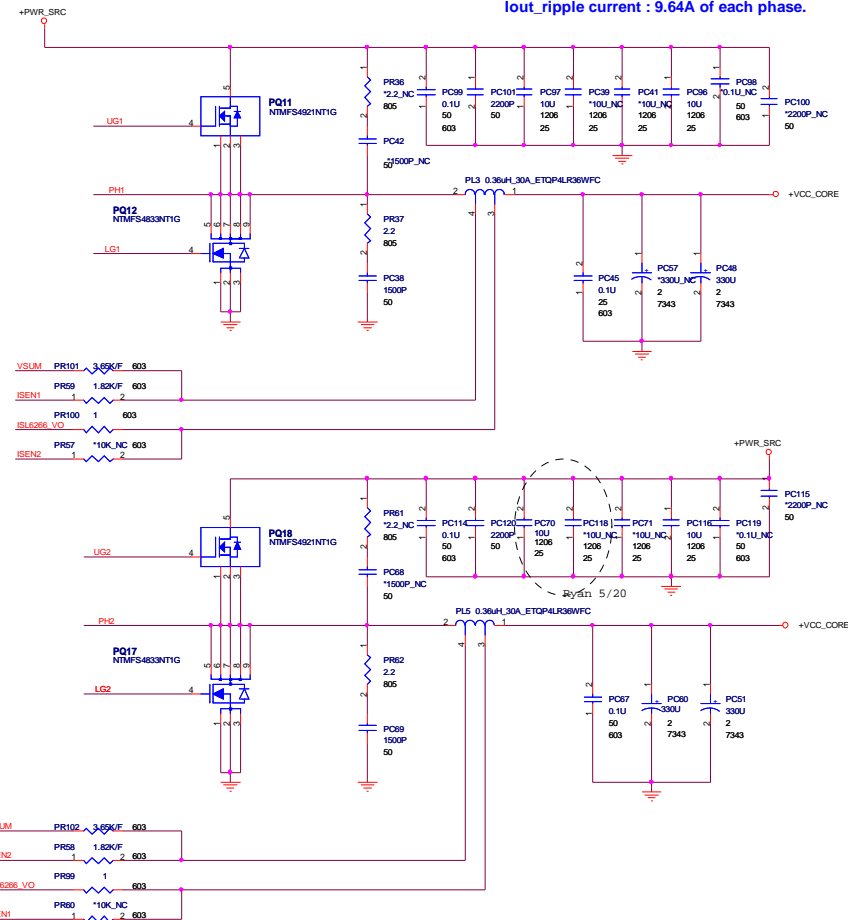


MAX17410

Parallel

Close to Phase 1 Inductor

+VCC_CORE
TDC : 35A
MAX:47A
Frequency : 300KHz
Iout_ripple current : 9.64A of each phase.

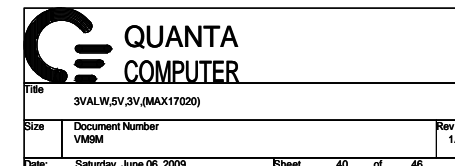


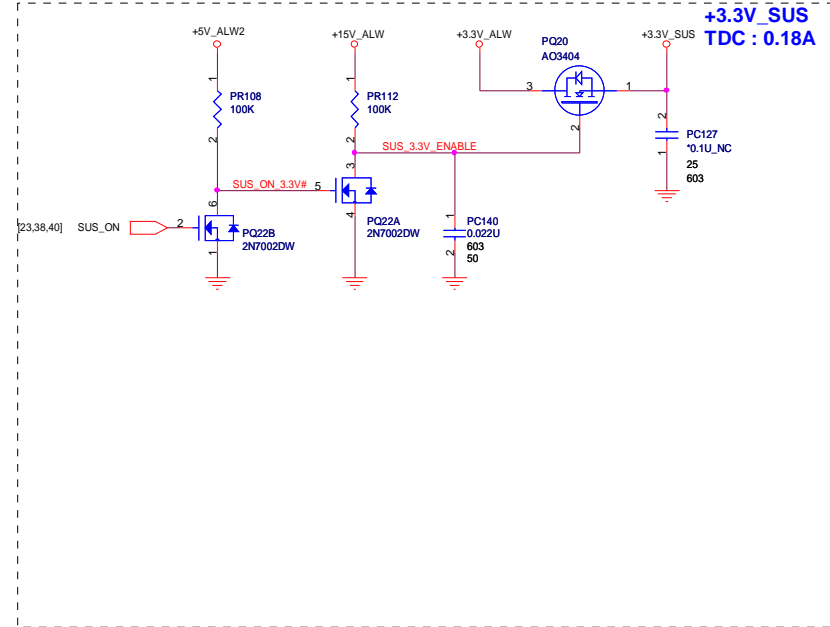
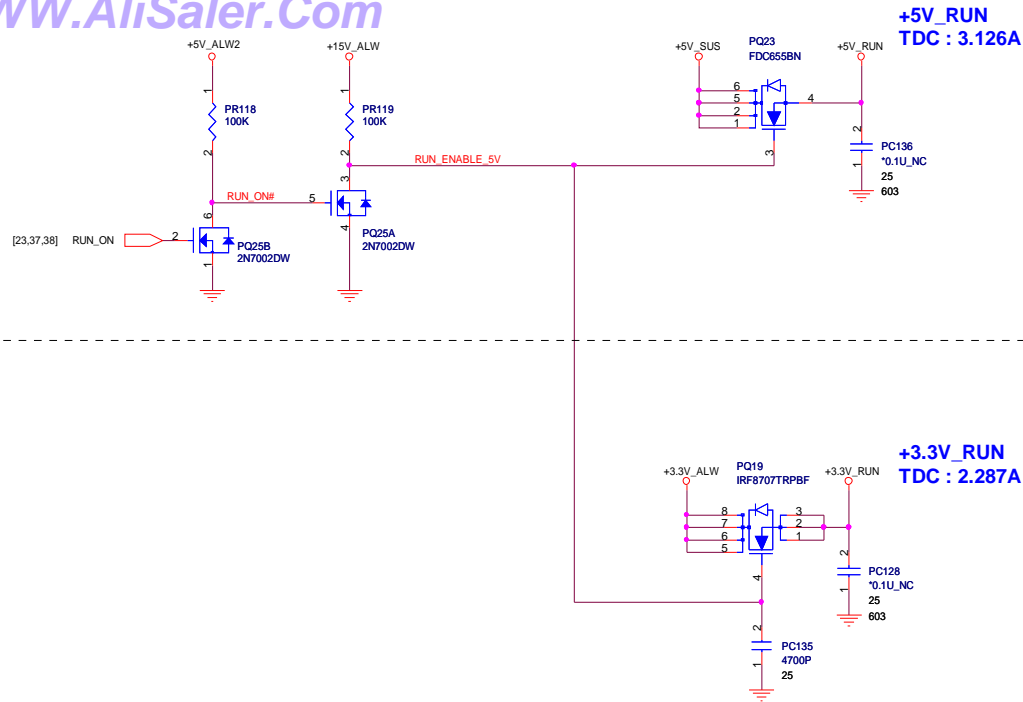
ETQP4LR36WFC (0.36u +/- 20% Isat=24A/DCR_max=1.1m Ohm/11.5X10X4)
NTMFS4921NT1G (Vds=30V/Id=10.2A@85deg/Rdson=10.5mOhm)
NTMFS4946NT1G (Vds=30V/ Id=14.6A@85deg/Rdson=5.1mOhm/Vsd=1.0V@30A)
EEFSX0D331YR (330UF/2V/ESR9)

D6	D5	D4	D3	D2	D1	D0	Output
0	0	0	0	0	0	0	1.500V
0	0	0	0	0	0	1	1.4875
0	0	0	0	0	1	0	1.4375
0	0	0	0	1	0	0	1.4125
0	0	0	1	0	0	0	1.4000
0	0	1	0	0	0	0	1.2875
0	0	1	0	0	0	1	1.2000
0	0	1	1	0	0	0	1.1500
0	1	0	0	0	0	0	1.0000
0	1	0	0	0	1	0	0.9625
0	1	1	0	0	0	0	0.7500
1	0	0	0	0	0	0	0.6500
1	0	1	0	0	0	0	0.5000
1	1	0	0	0	0	0	0.3000

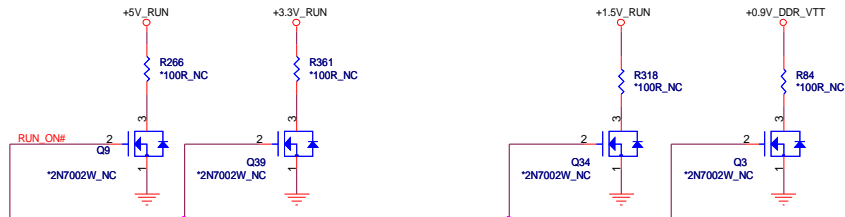


Title			CPU_Core_2Phase (MAX17410)
Size	Document Number	Rev	
1A	1A	1A	
Date	Saturday, June 06, 2009	Sheet	30 of 46

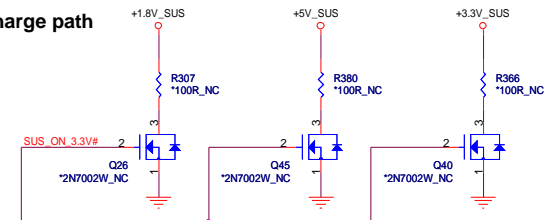




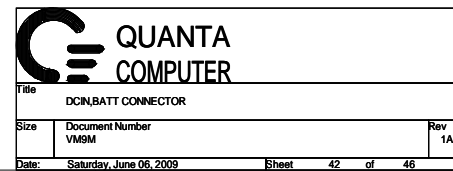
Reserve discharge path

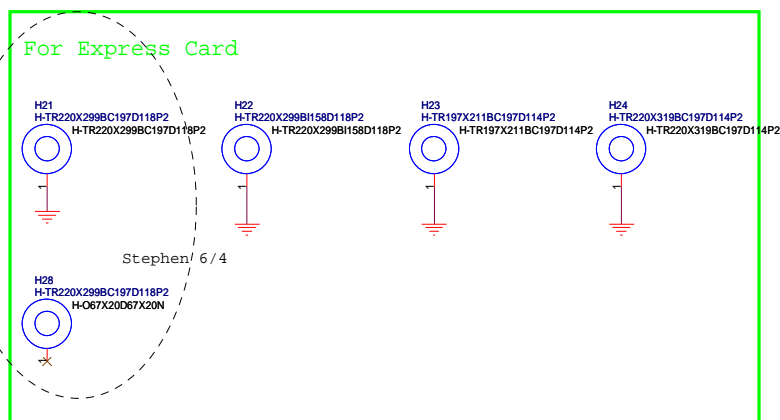
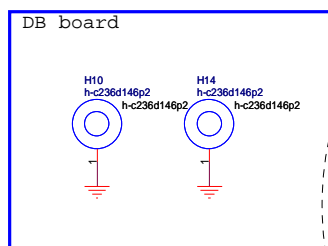
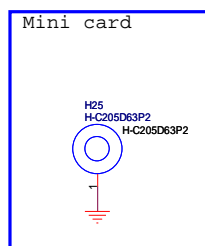
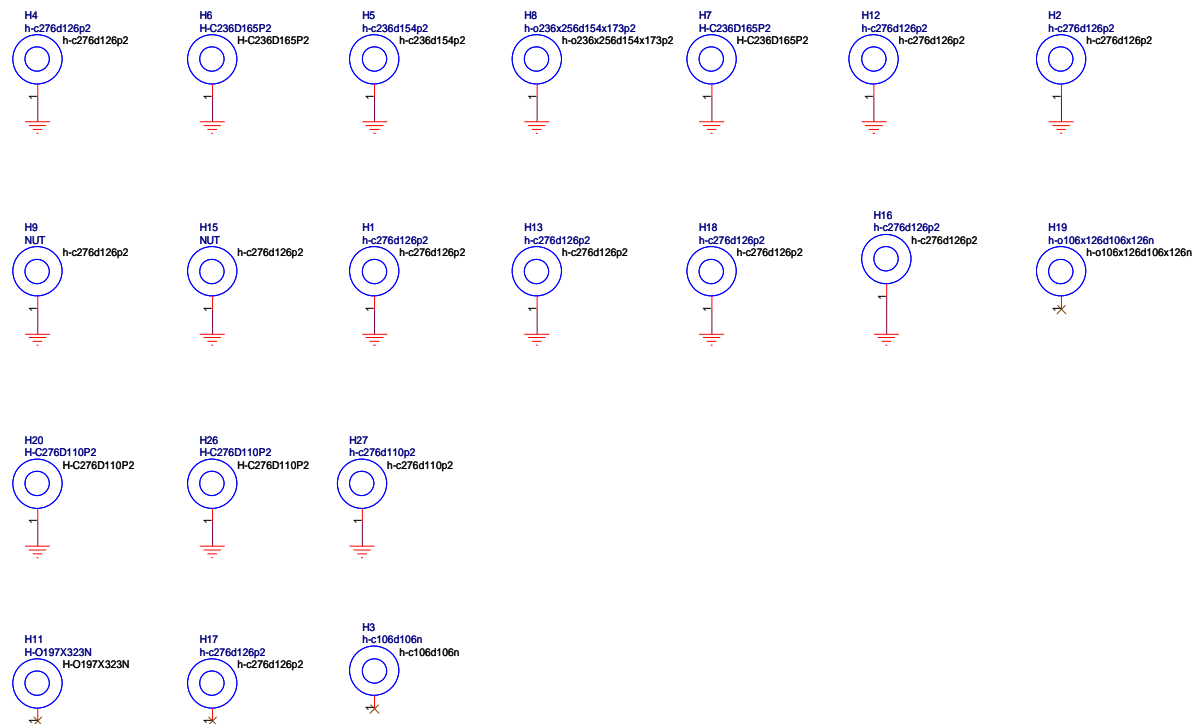


Reserve discharge path



Title		
RUN POWER SW		
Size	Document Number	Rev
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QUANTA COMPUTER		
Title: SCREW PAD		
Size: VMSM	Document Number: VM9M	Rev: 1A
Date: Monday, June 08, 2009	Sheet: 43 of 46	

