

VM8M Block Diagram Intel UMA

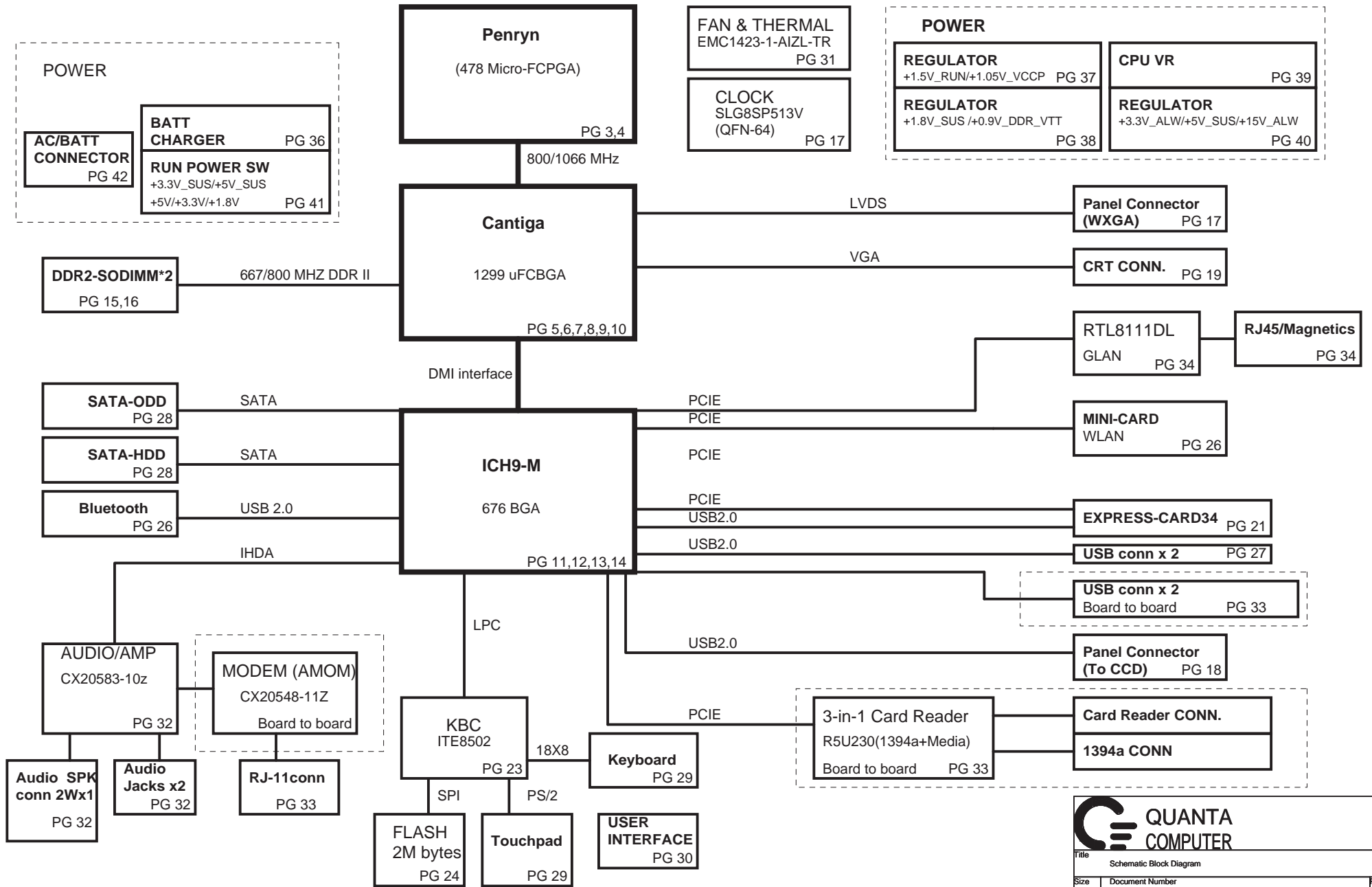




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Power States

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	


**QUANTA
COMPUTER**

File

Index & Power Status

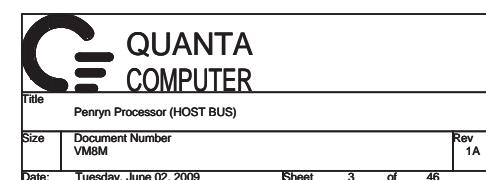
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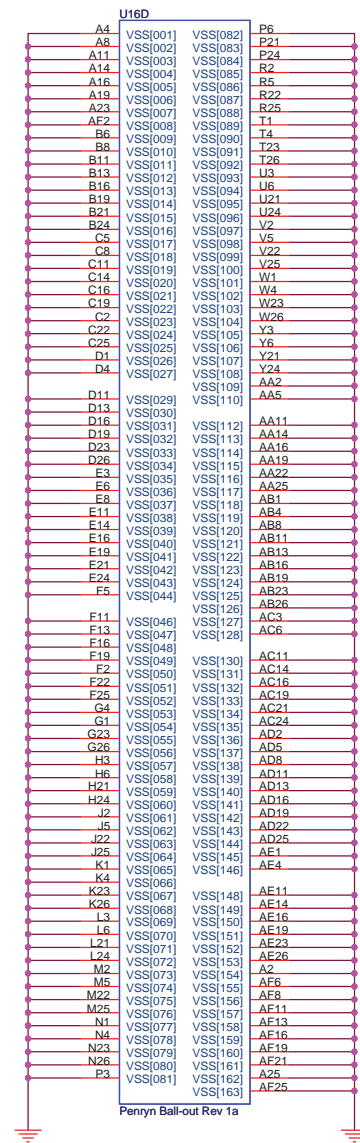
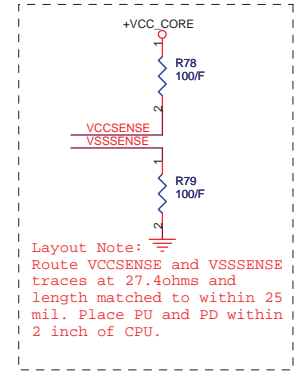
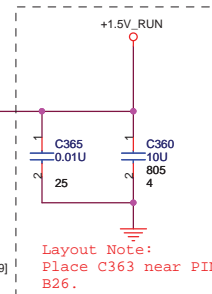
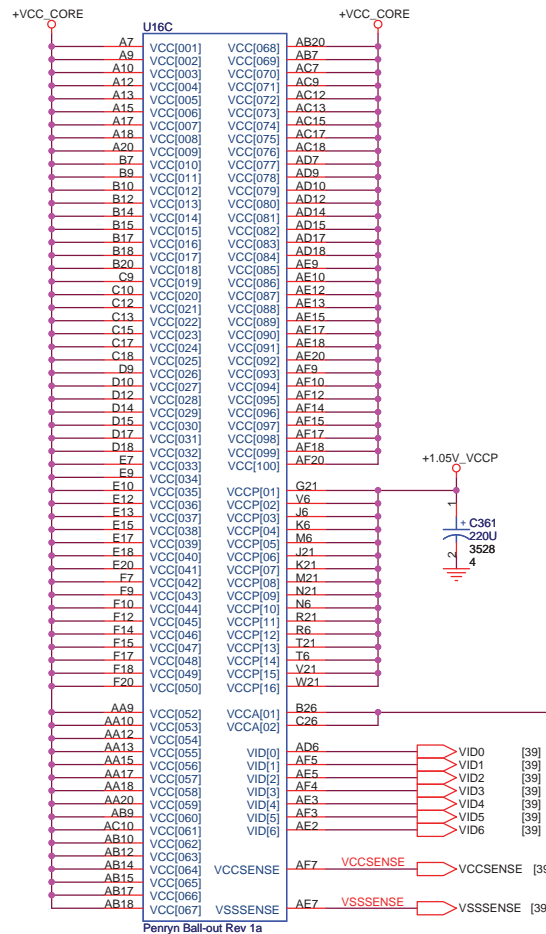
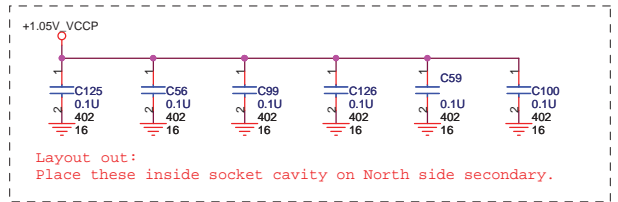
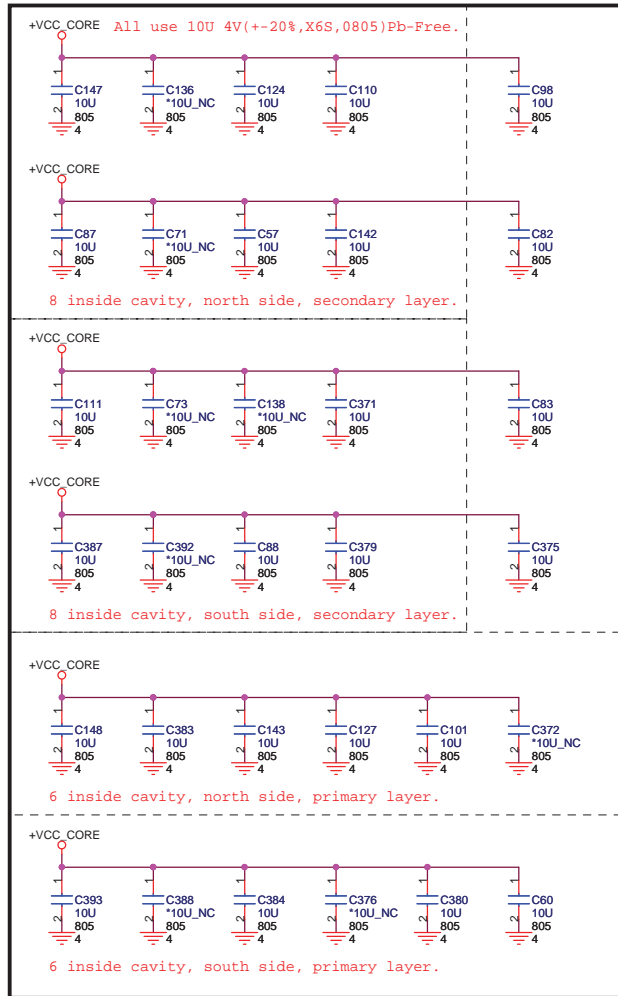
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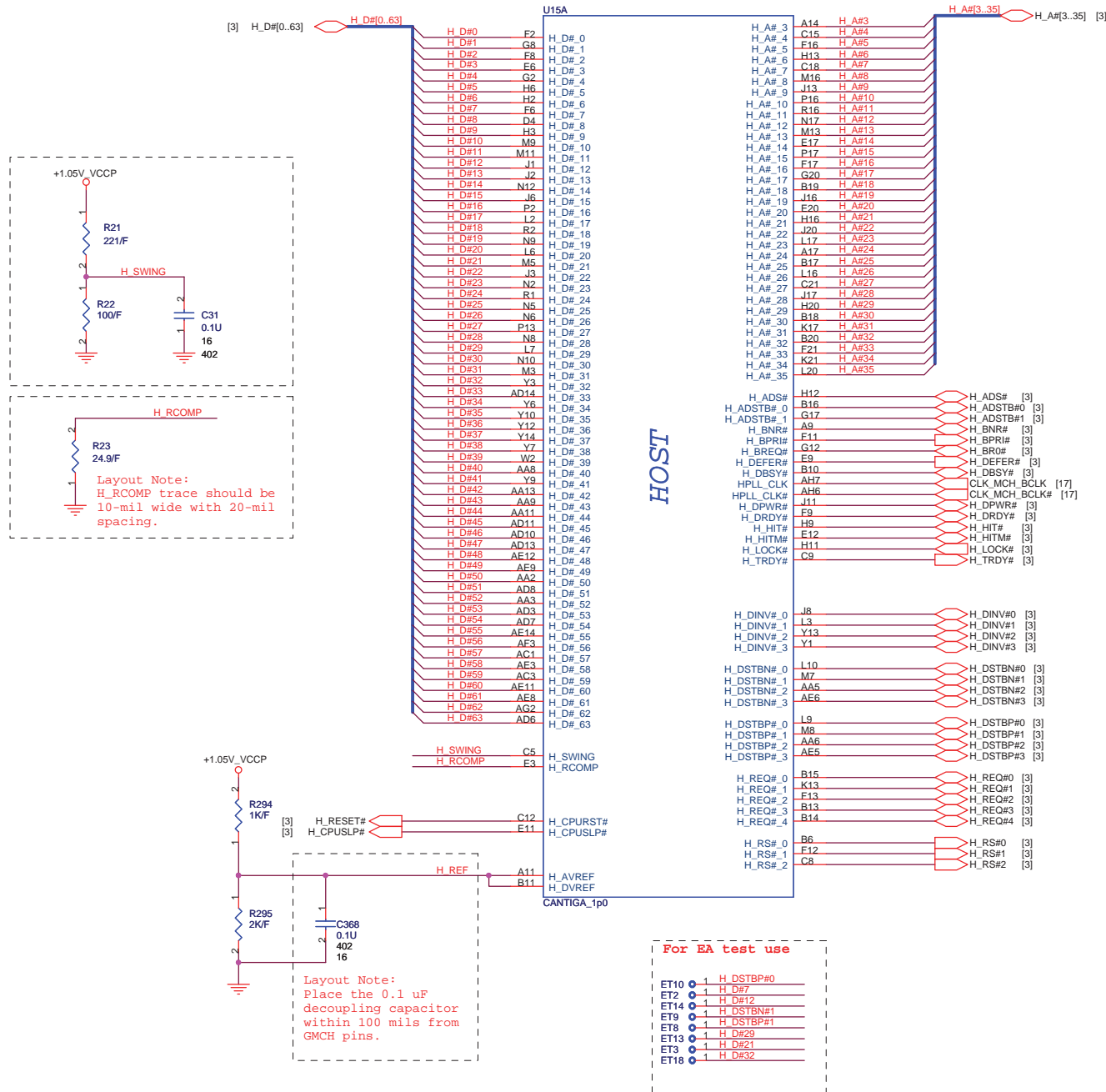
Rev
1A

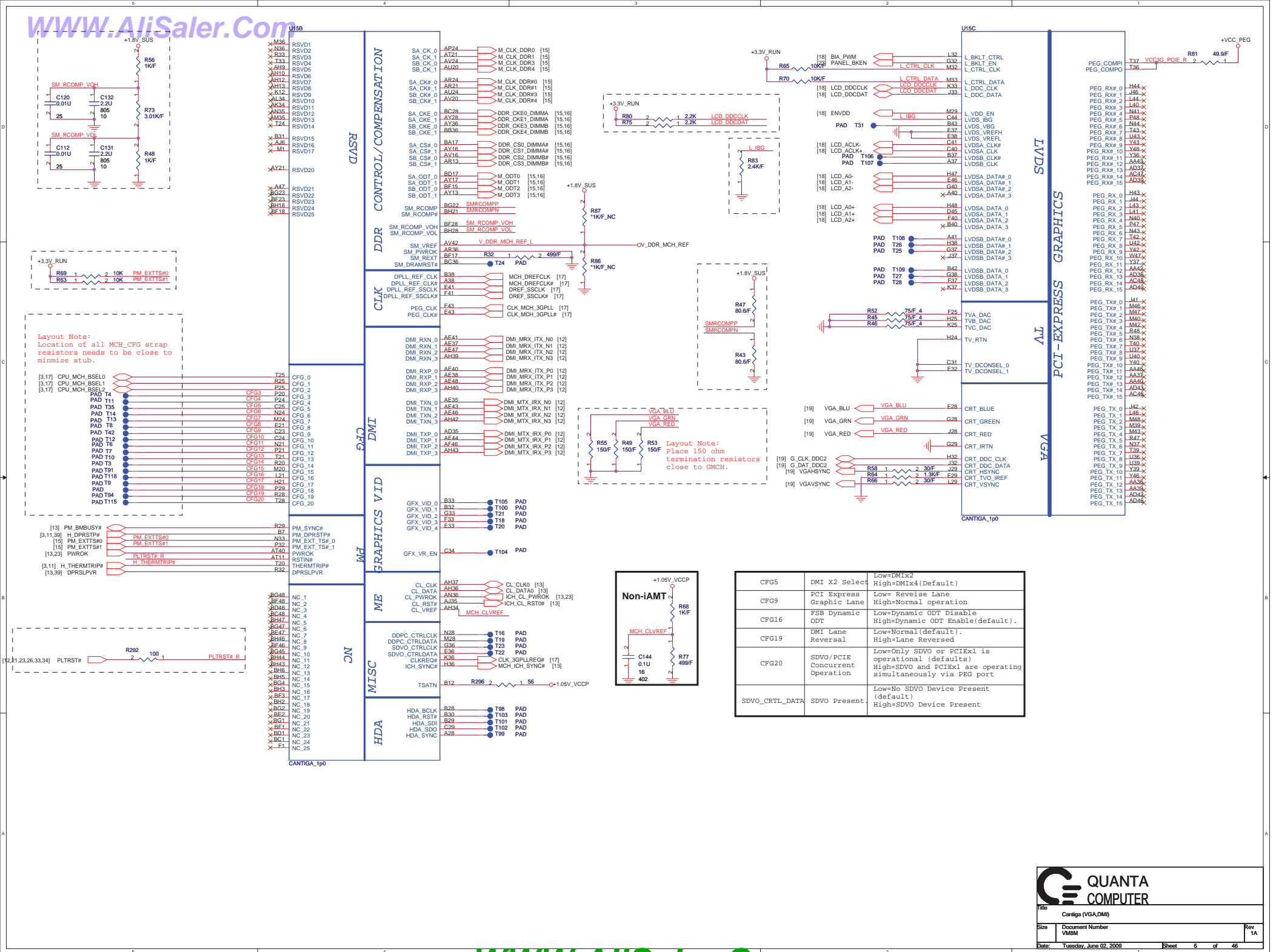
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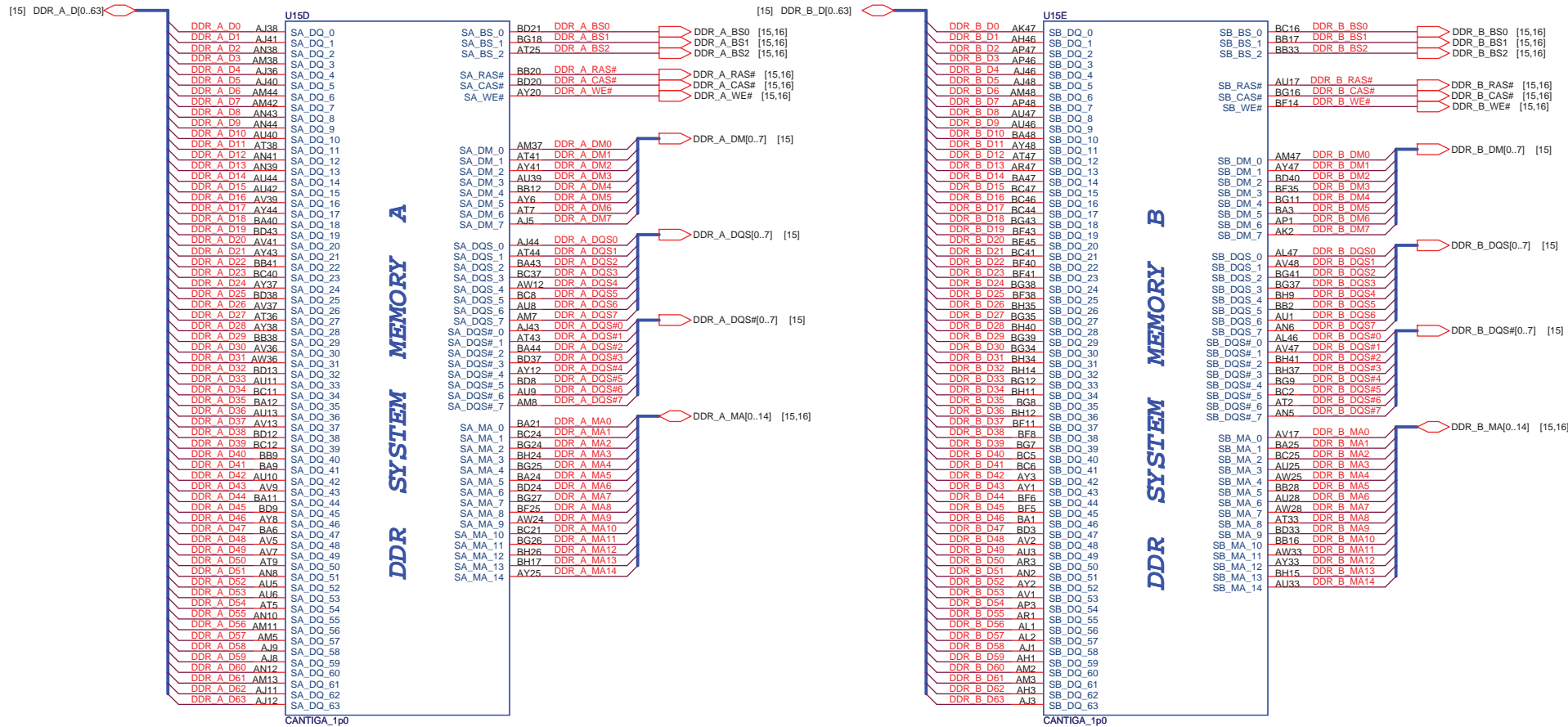
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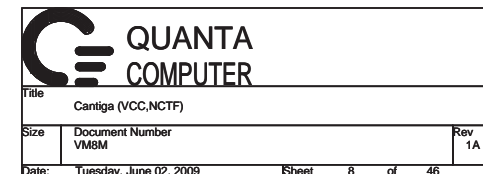


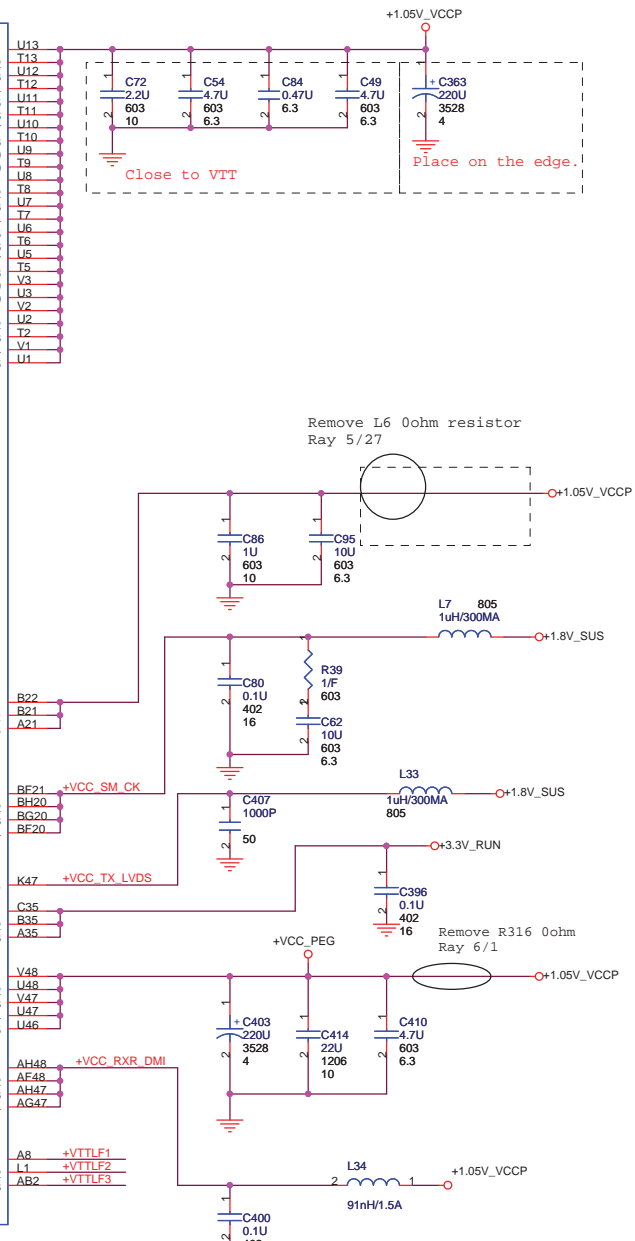
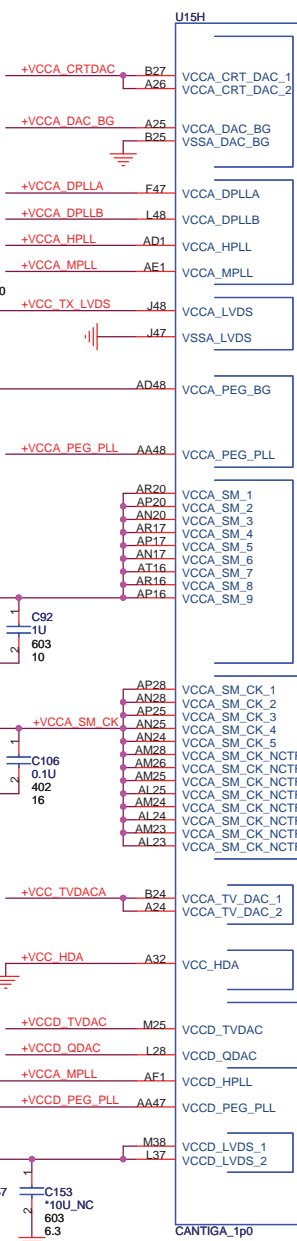
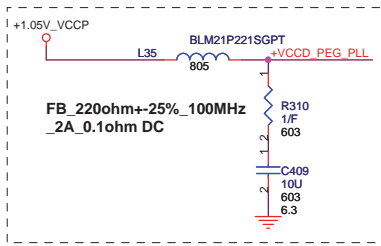
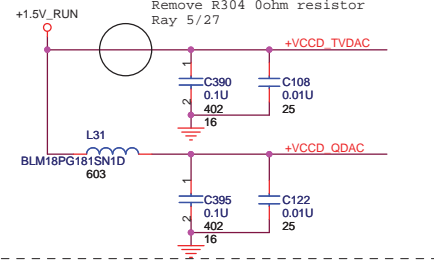
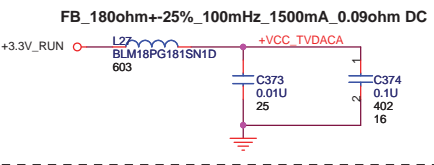
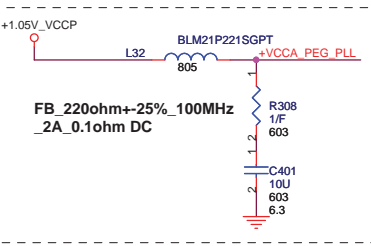
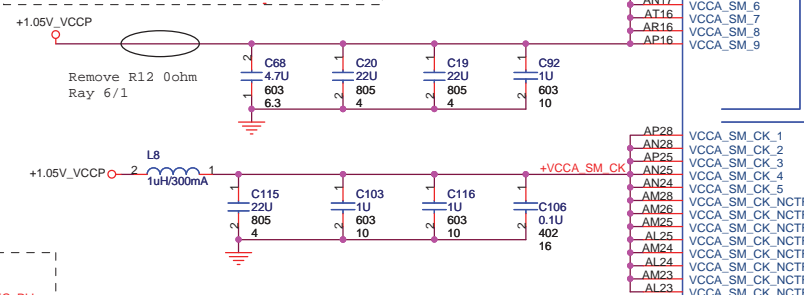
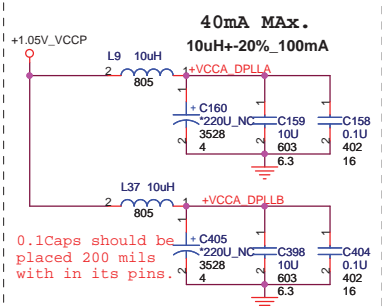
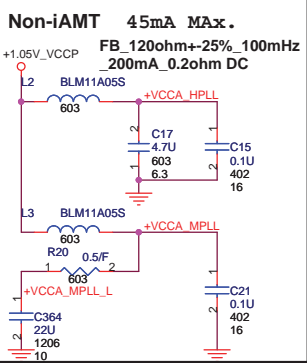
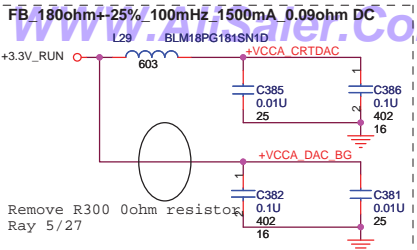


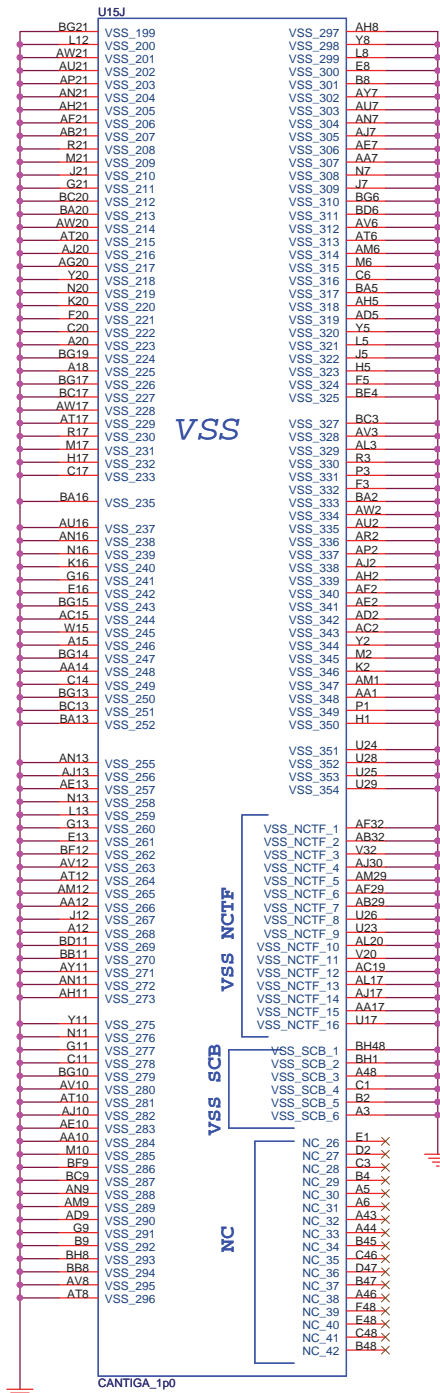
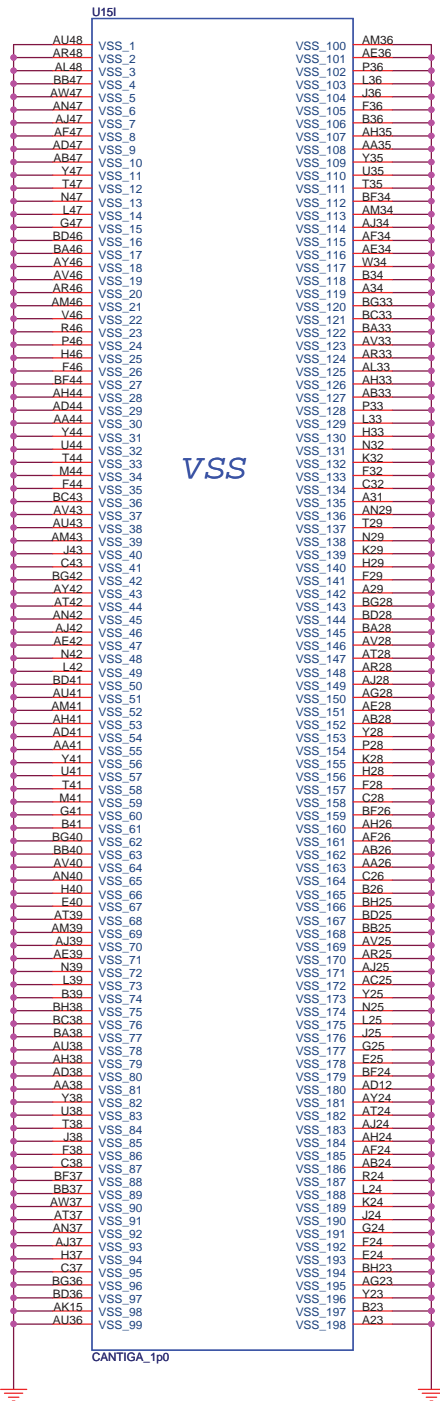




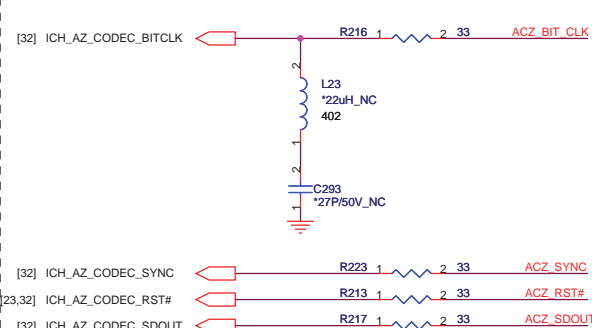
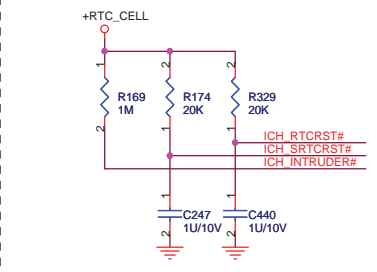
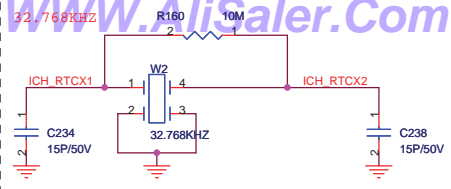




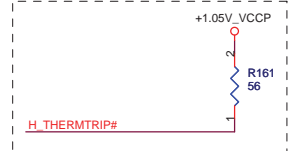
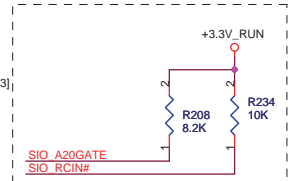
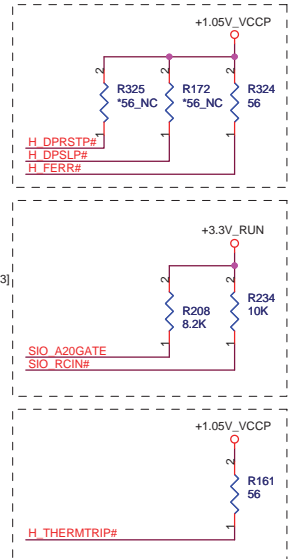
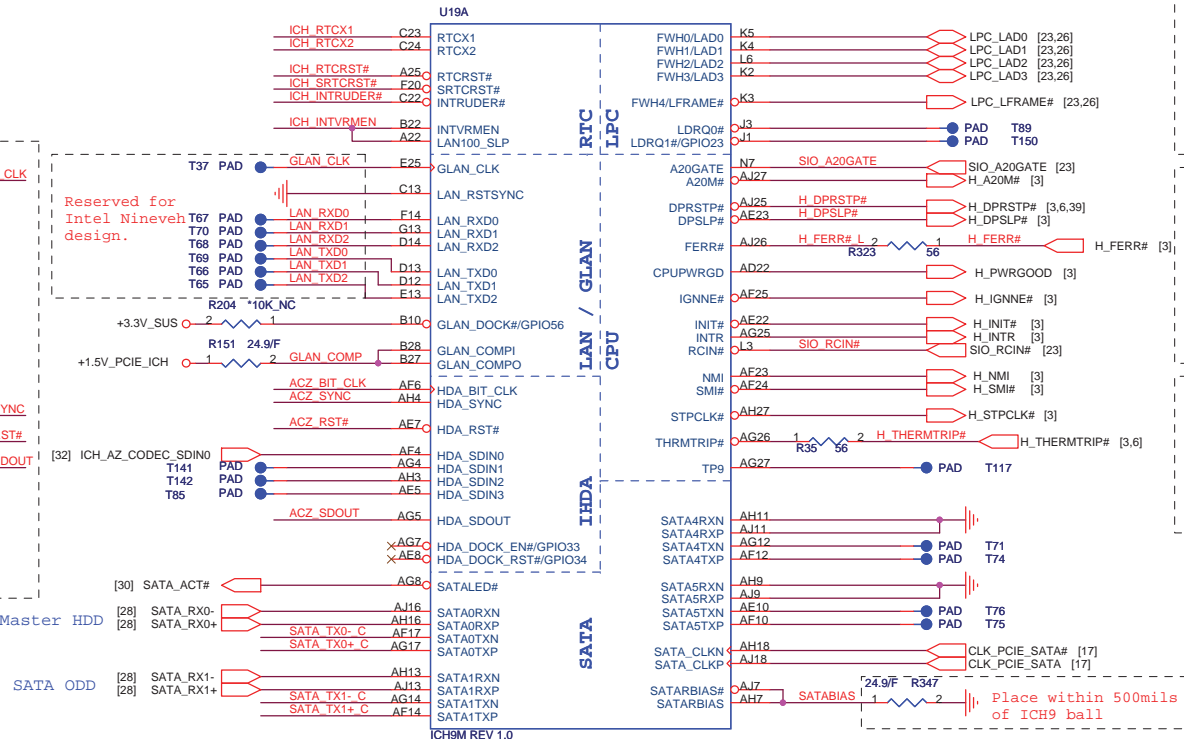
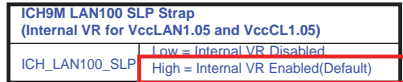
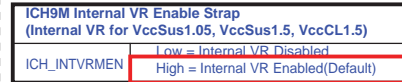
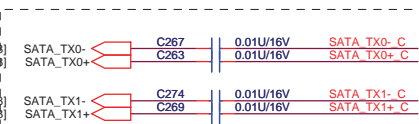




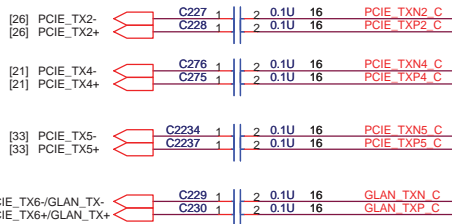
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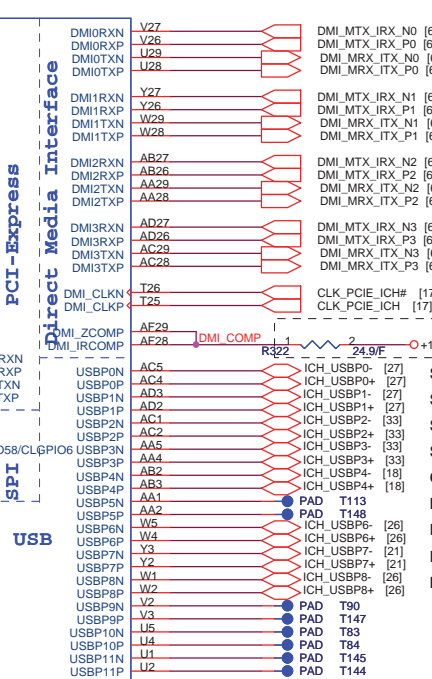
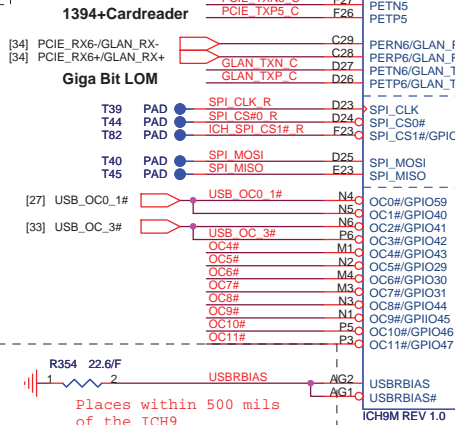
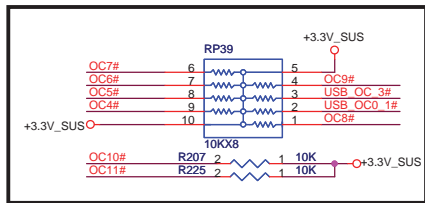
Place all series terms close to ICH9 except for SDIN input lines, which should be close to source.



Place TX DC blocking caps close ICH9.

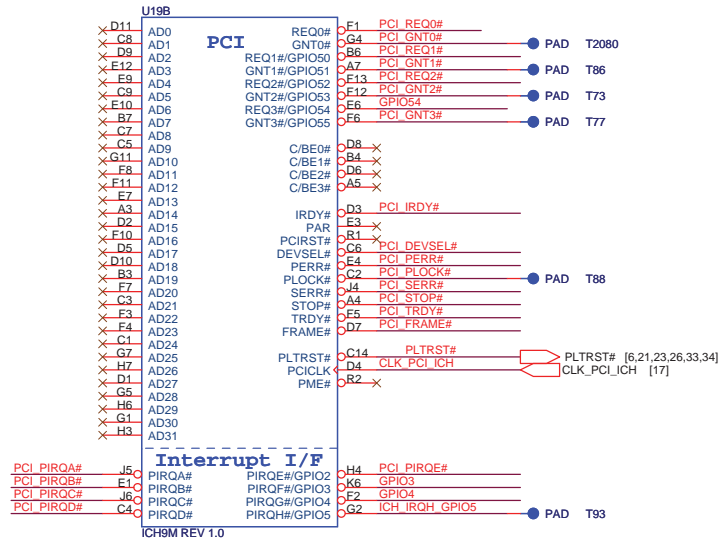
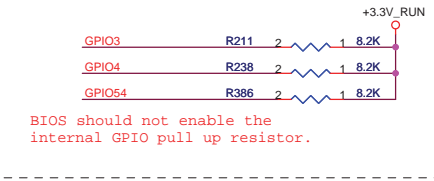
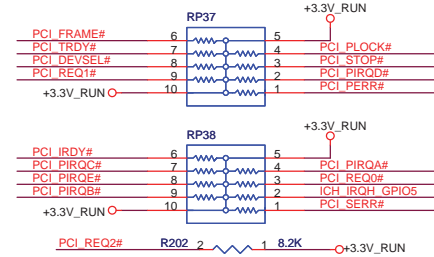


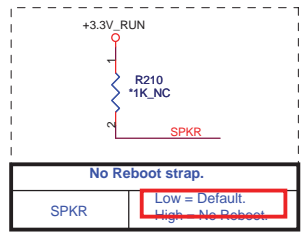
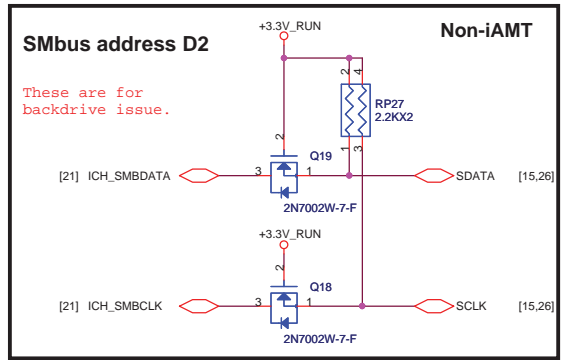
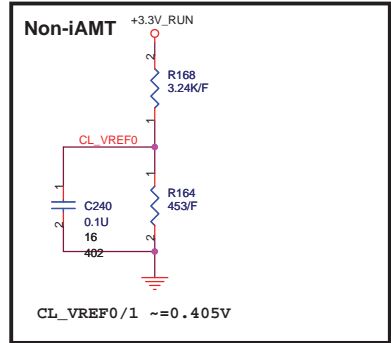
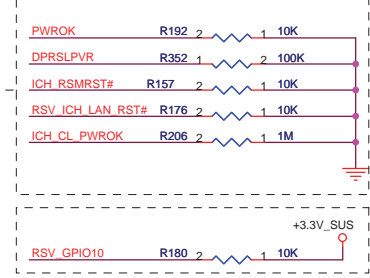
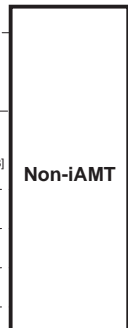
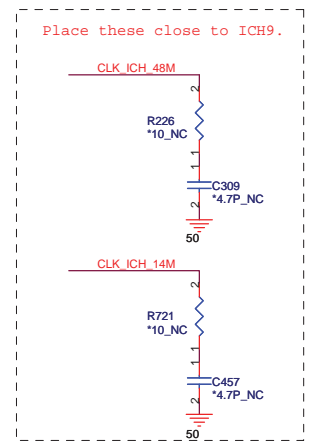
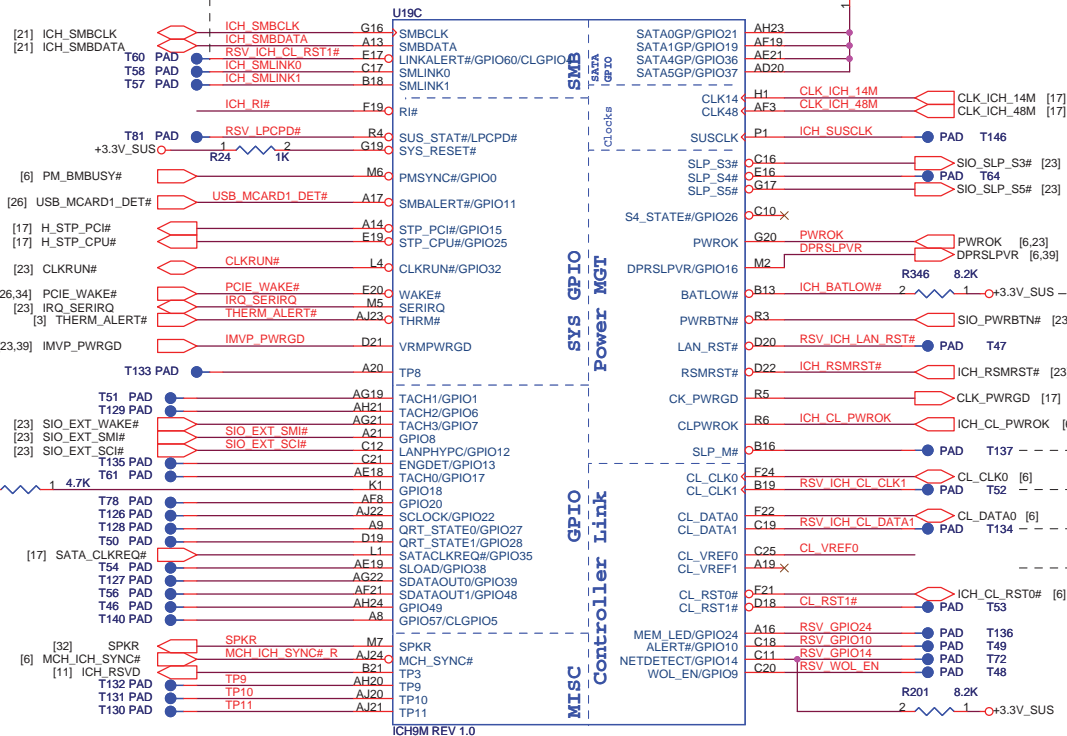
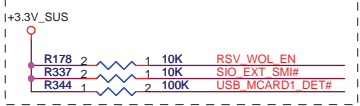
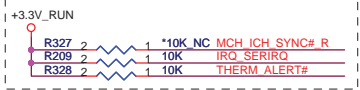
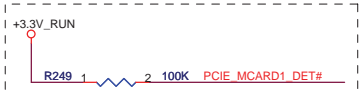
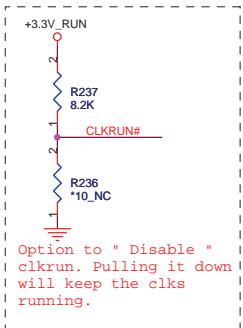
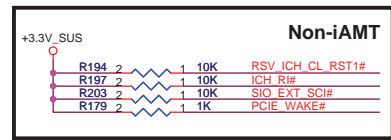
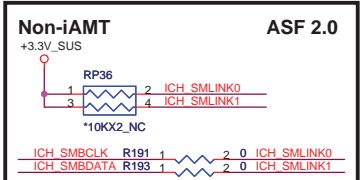
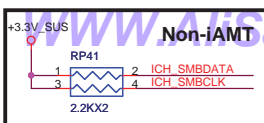
Boot BIOS Strap			
	GNT0#	SPI_CS1#	
LPC	11	No stuff	No stuff
PCI	10	No stuff	Stuff
SPI	01	Stuff	No stuff

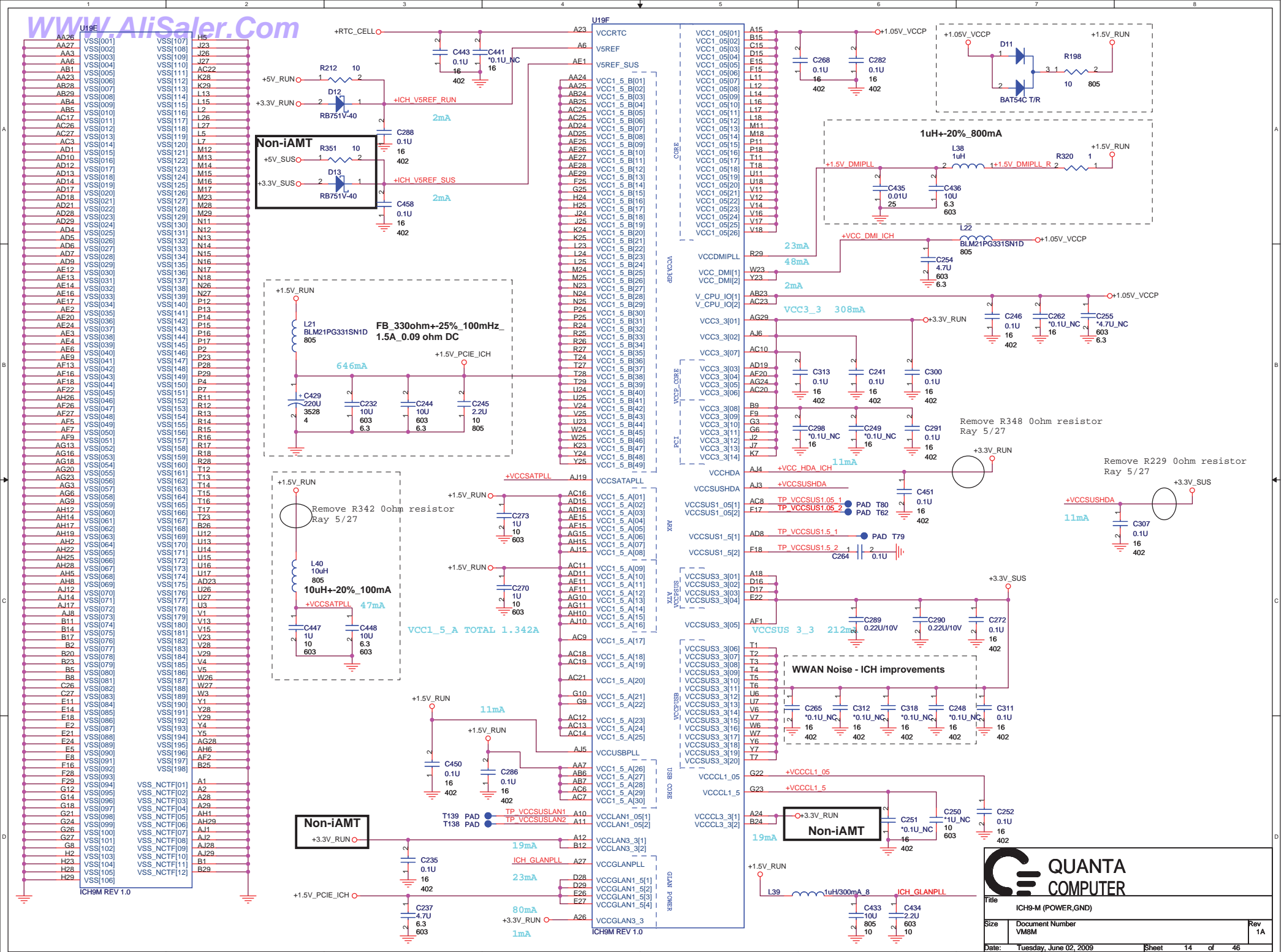


Side Pair Left
Side Pair Left
Side Pair Right
Side Pair Right
Camera
Mini Card (WWAN)
Bluetooth
Express Card
Mini Card (WLAN)

PCI Pullups







QUANTA COMPUTER

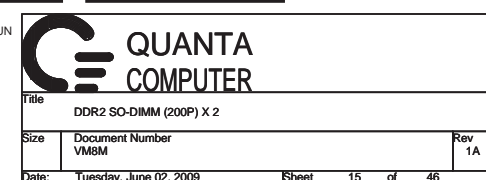
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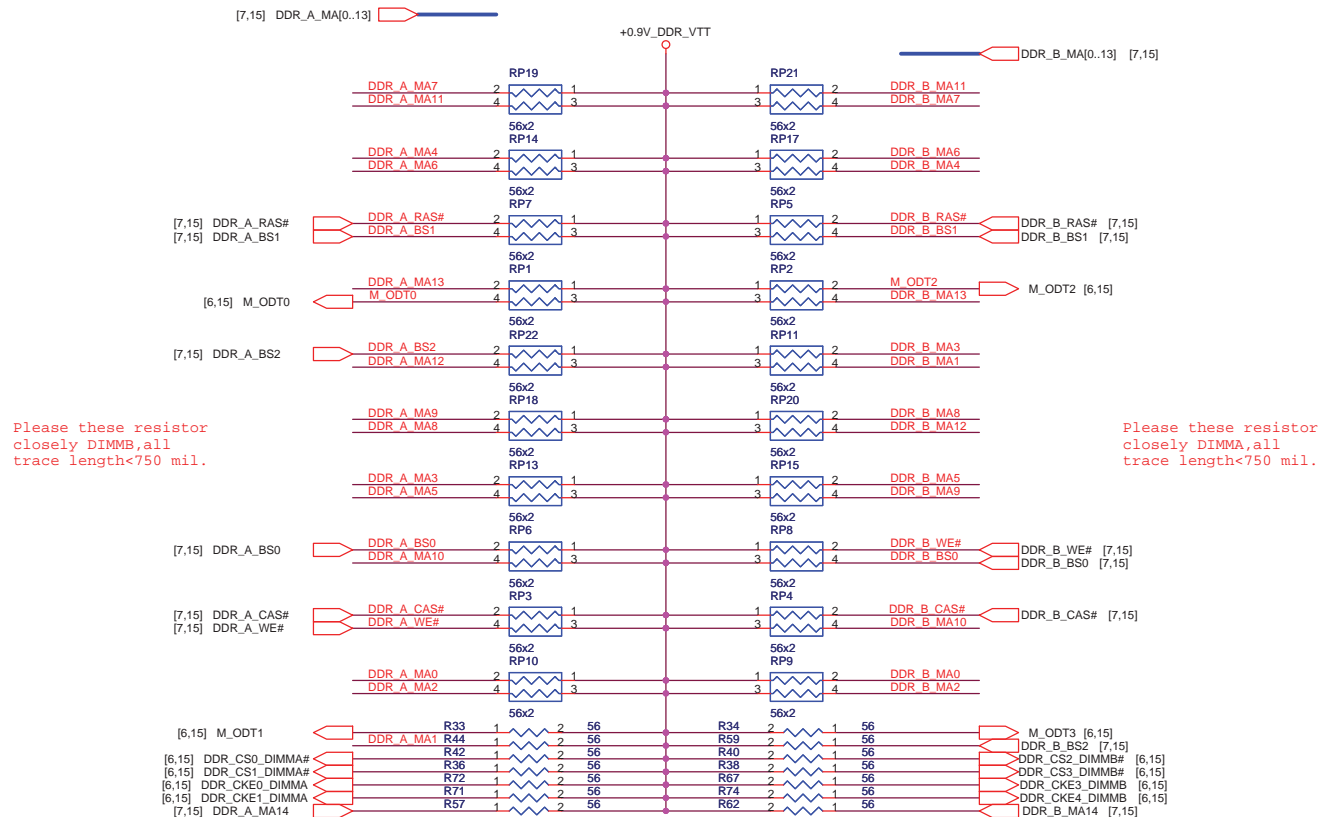
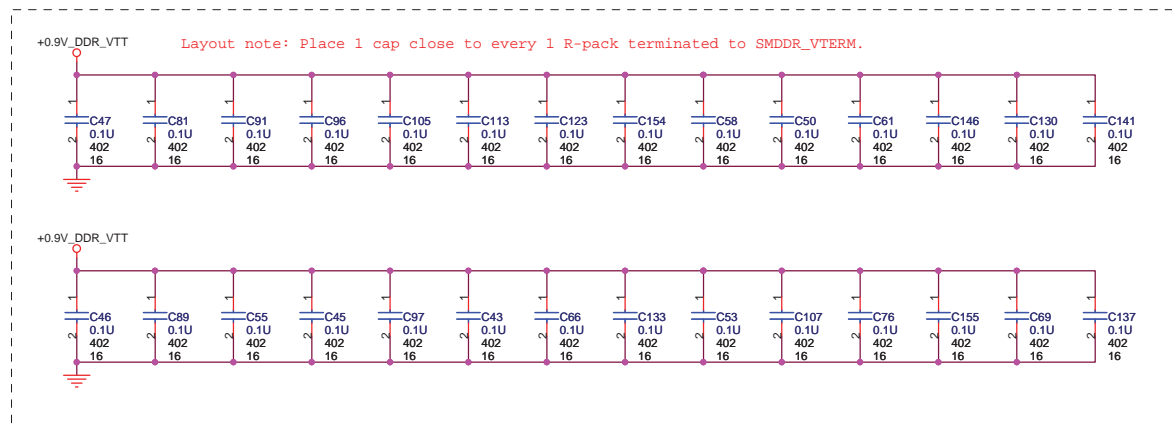
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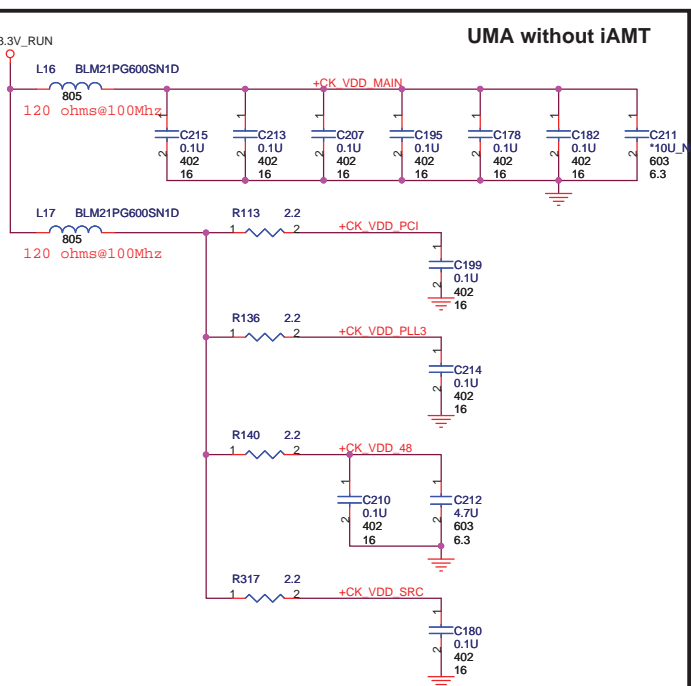
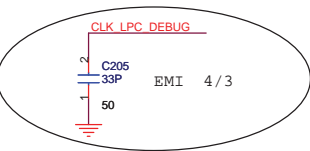
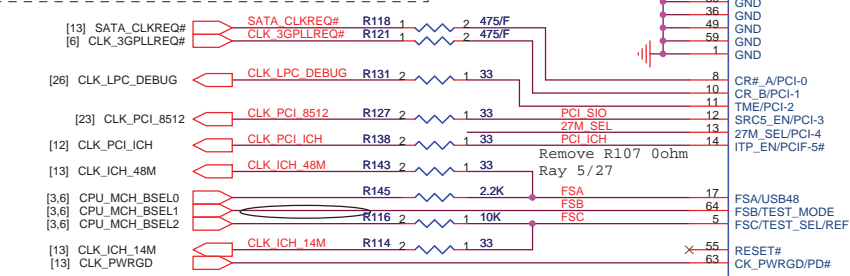
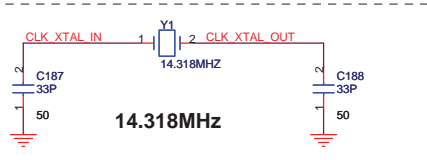
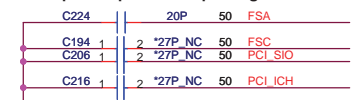




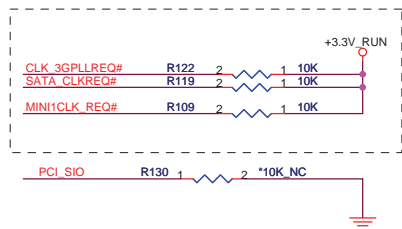
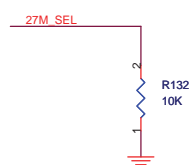
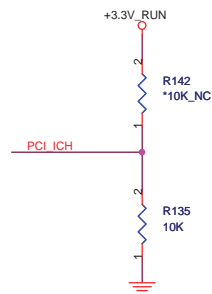
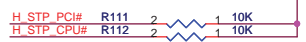
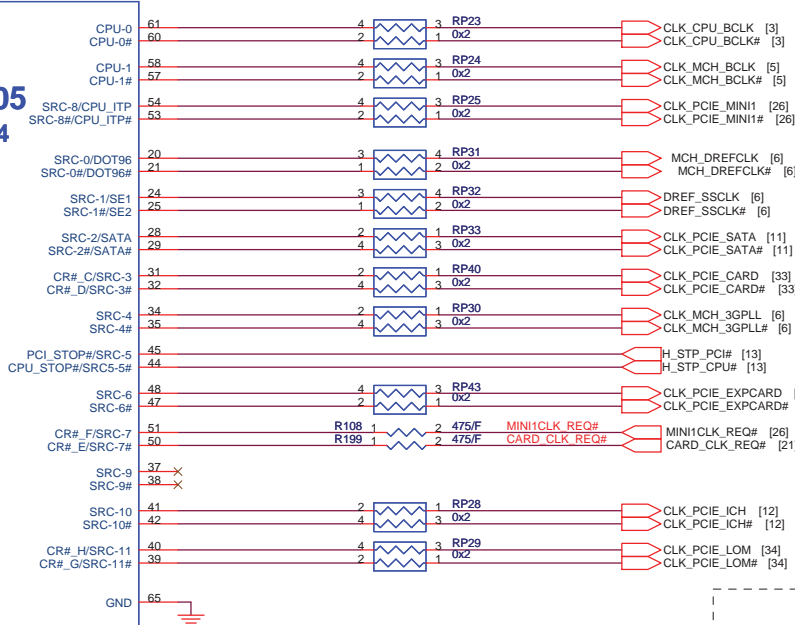
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Title: DDR2 RES ARRAY		Rev 1A
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Add capacitor pads for improving WWAN.



CK505
QFN64



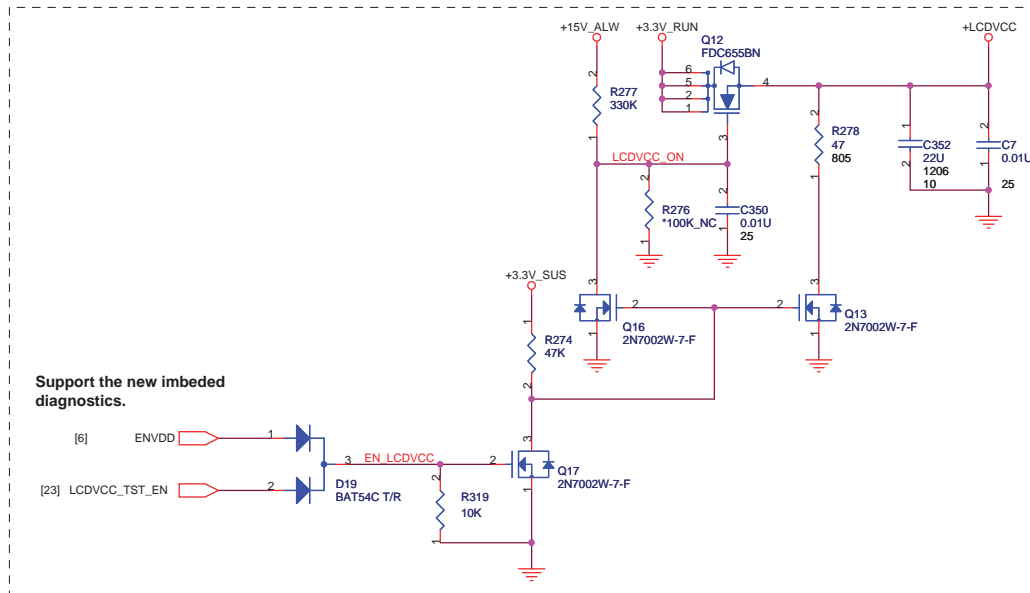
FSC	FSB	FSA	CPU	SRC	PCI
1	0	1	100	100	33
0	0	1	133	100	33
0	1	1	166	100	33
0	1	0	200	100	33
0	0	0	266	100	33
1	0	0	333	100	33
1	1	0	400	100	33
1	1	1	RSVD	100	33

27M_SEL

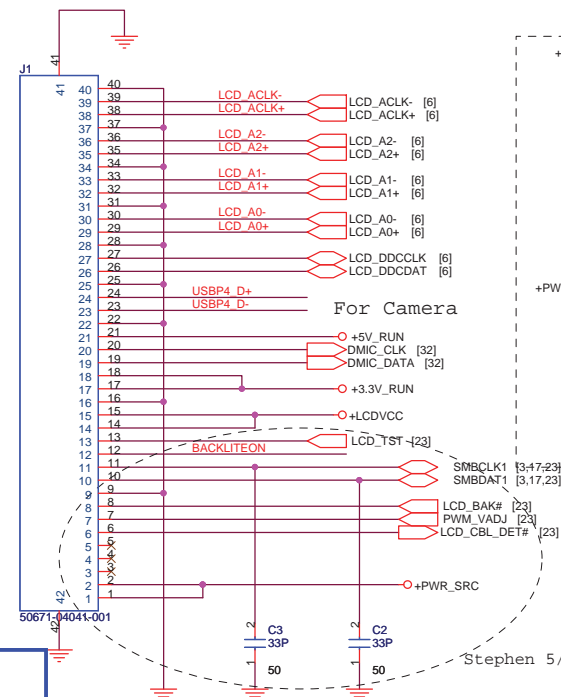
27M_SEL (PIN13)	PIN20	PIN21	PIN24	PIN25
0=UMA	DOT96T	DOT96C	96/100M_T	96/100M_C
1 = Disc. GRFX down	SRCT0	SRCC0	27Mout	27MSSout



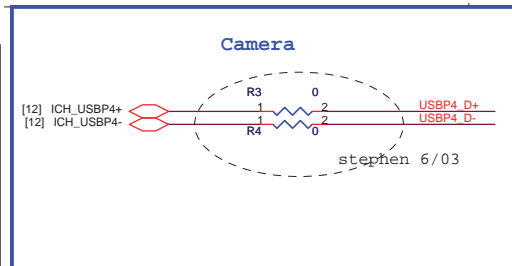
File	CLOCK GENERATOR
Size	Document Number VM8M
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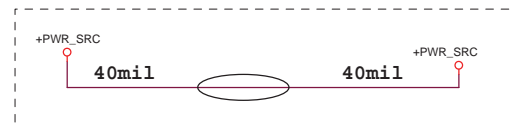
Support the new imbedded diagnostics.



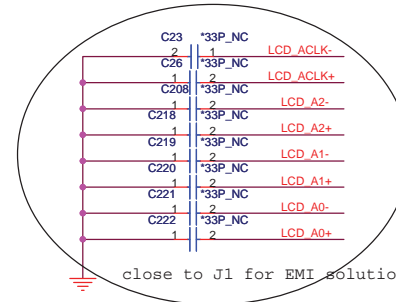
Address : A9H --Contrast
AAH --Backlight



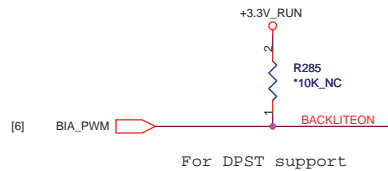
stephen 6/03



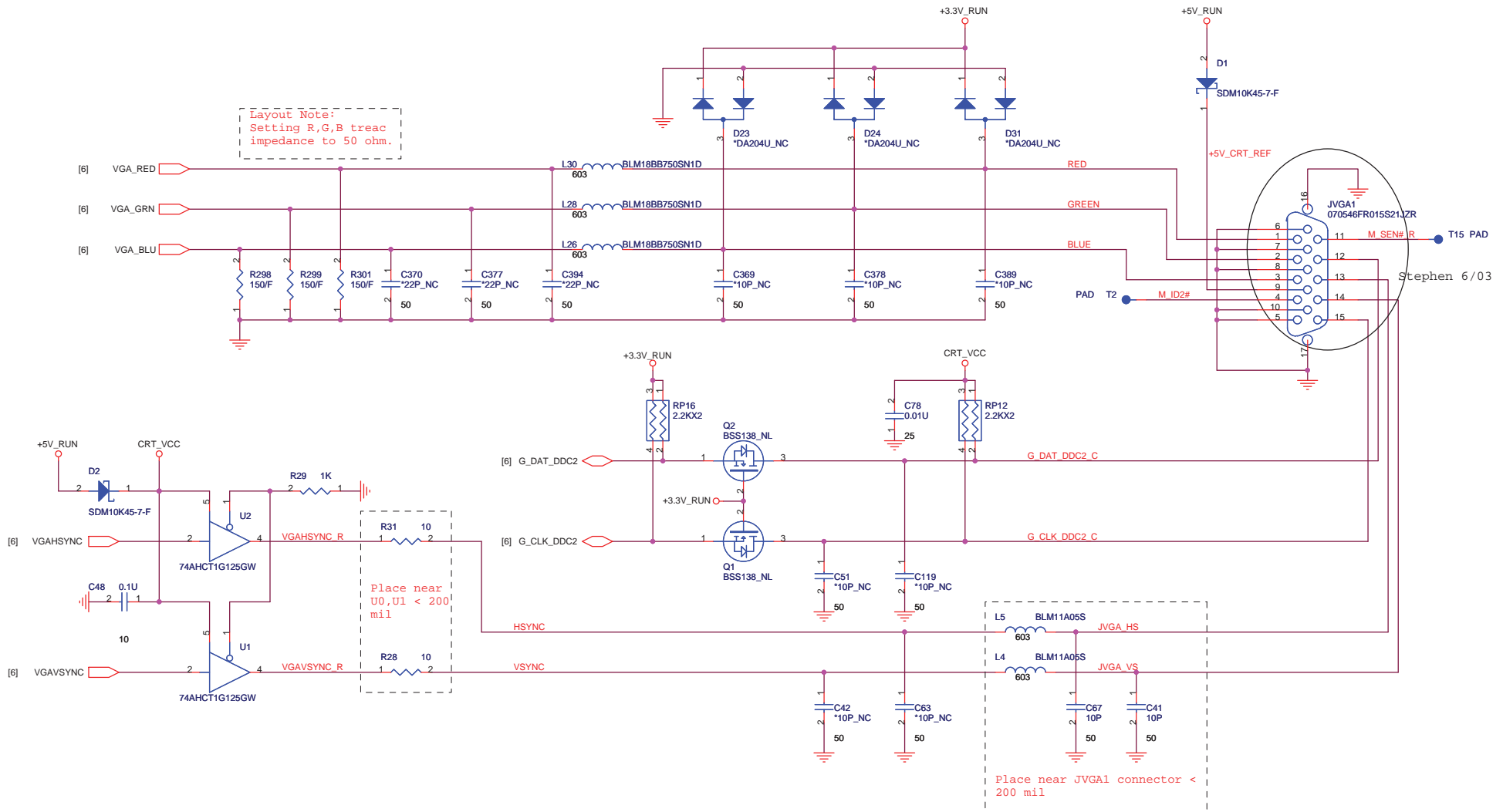
Remove R11 0ohm
Ray 6/1




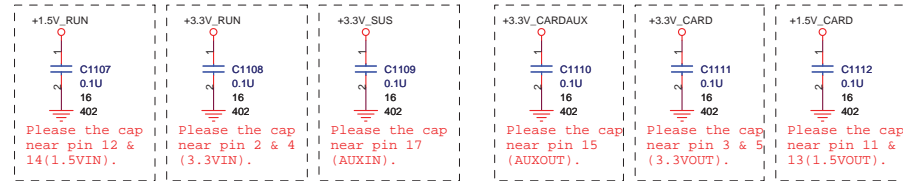
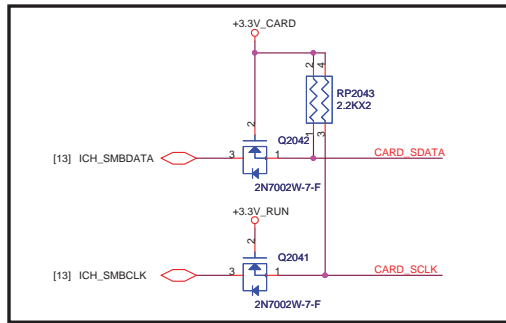
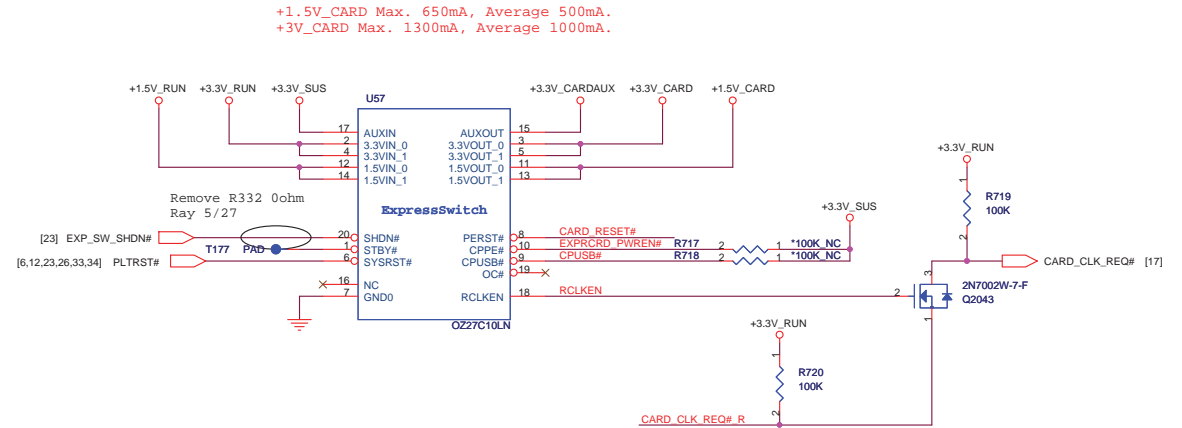
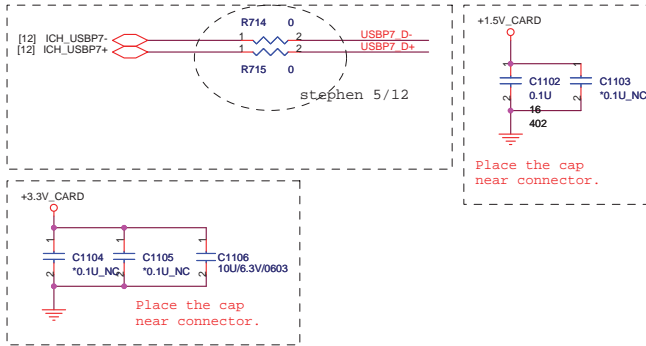
close to J1 for EMI solution



For DPST support



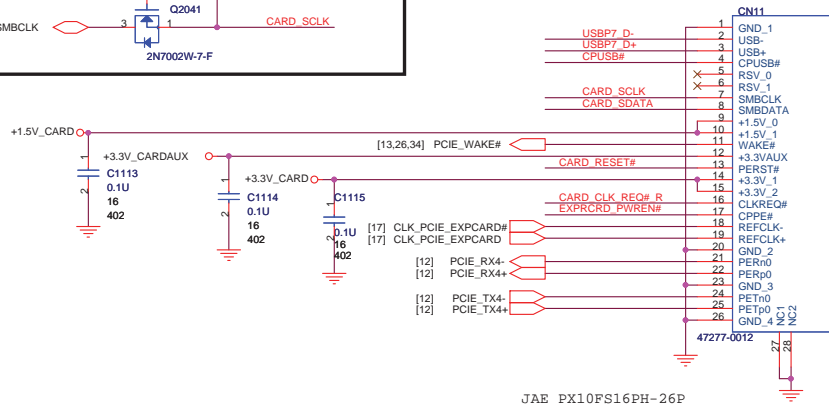
			QUANTA COMPUTER		
Title Card Reader-RTSS158E					
Size	Document Number VM8M				Rev 1A
Date:	Tuesday, June 02, 2009		Sheet	20	of 46




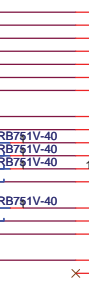
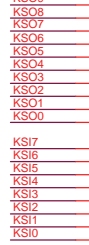
Express Card



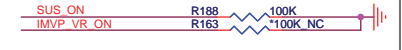
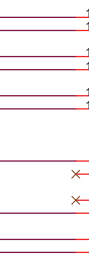
Express Card cage



		QUANTA COMPUTER	
Title		black	
Size	Document Number		Rev
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CLK, LCD and Thermal
G_Thermal



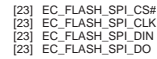
Place these RC close to ITE8512



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




Size	Document Number VM&M	Rev 1A
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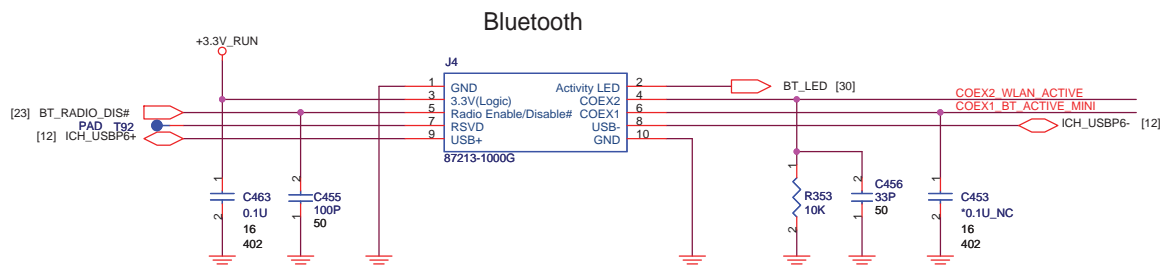
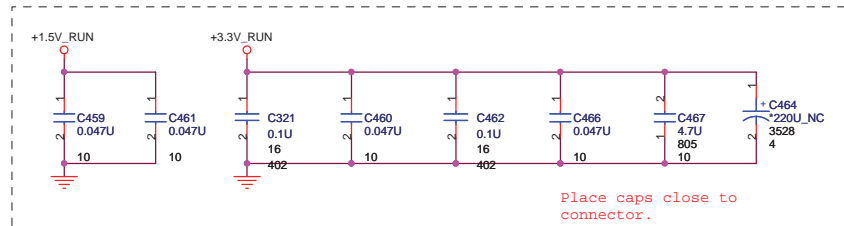
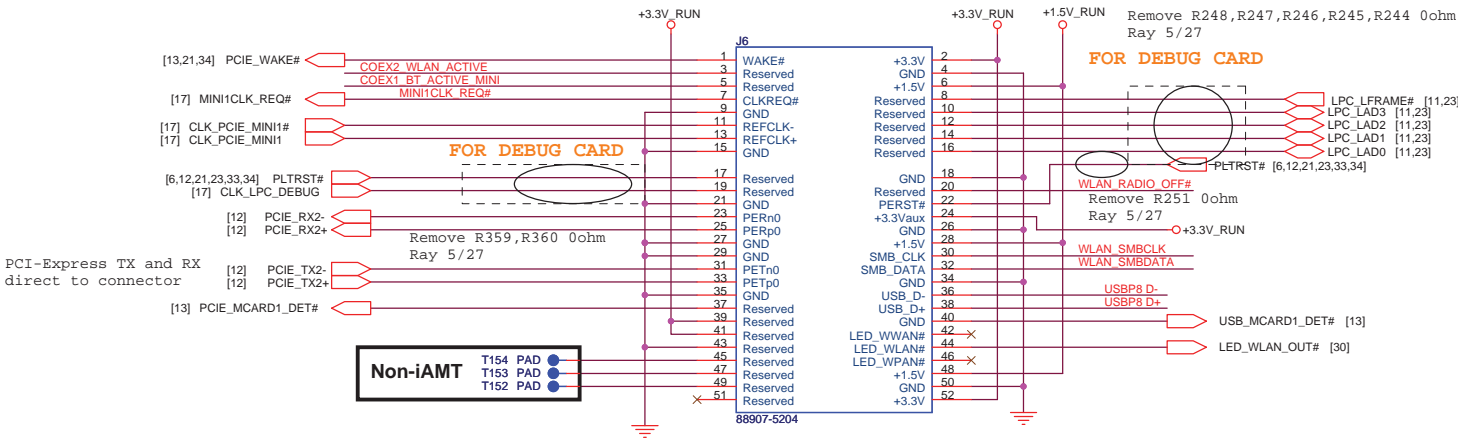
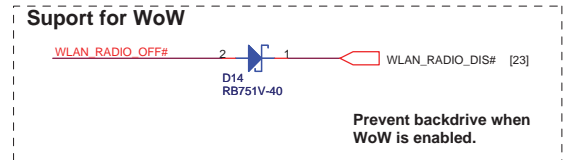
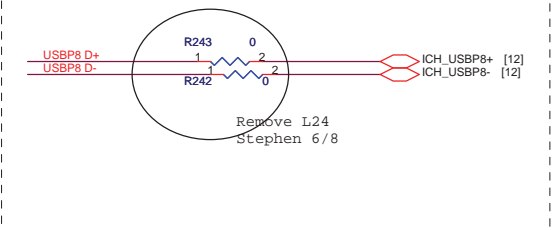
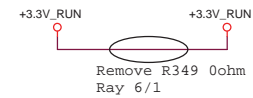


RTC BATTERY

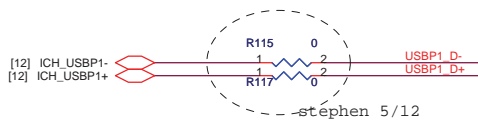
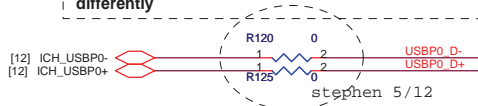


		QUANTA COMPUTER	
Title		Black	
Size	Document Number		Rev
	VMBM		1A
Date:	Tuesday, June 02, 2009	Sheet	25 of 46

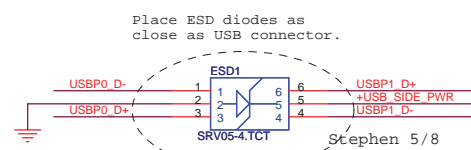
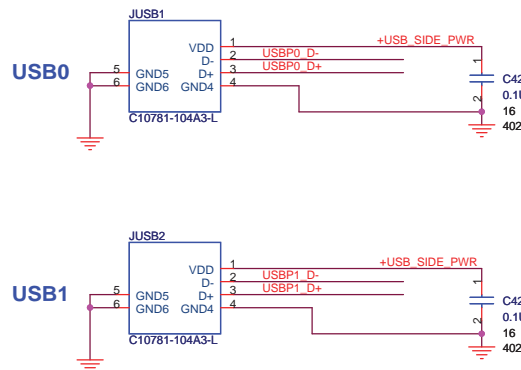
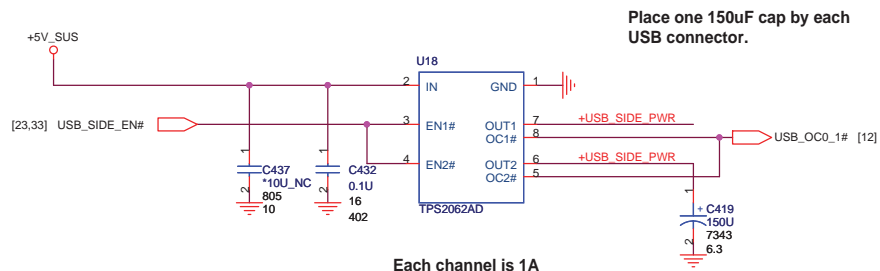
MiniCard WLAN connector



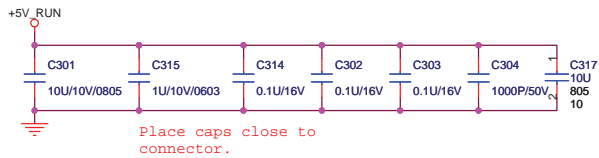
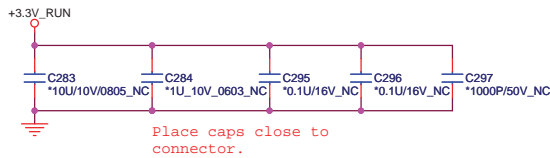
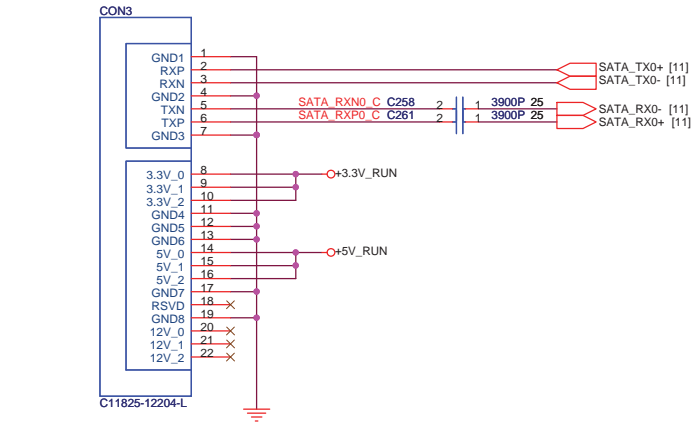
External USB PORT hookup reference. Your design may need more or less external ports and may be mapped differently



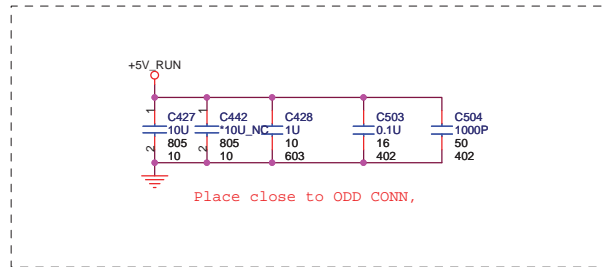
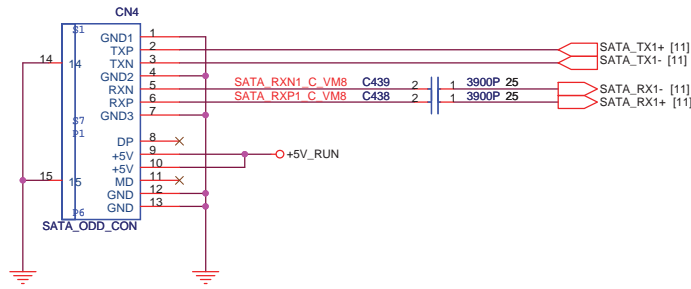
Platforms should put in PADS for the USB chokes if they have the room. Chokes should be NOPOP.

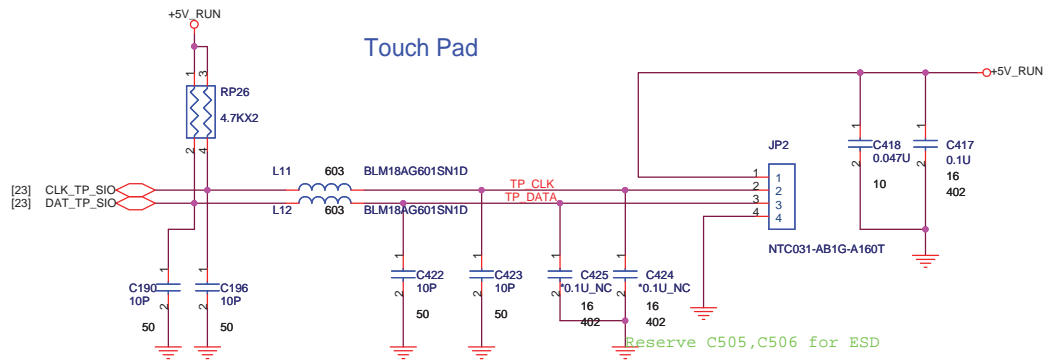


SATA HDD Connector.



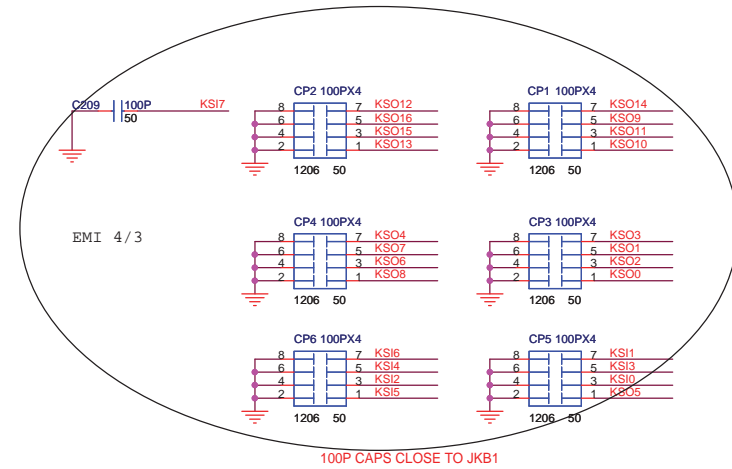
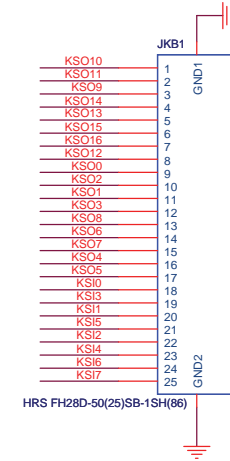
SATA ODD Connector.



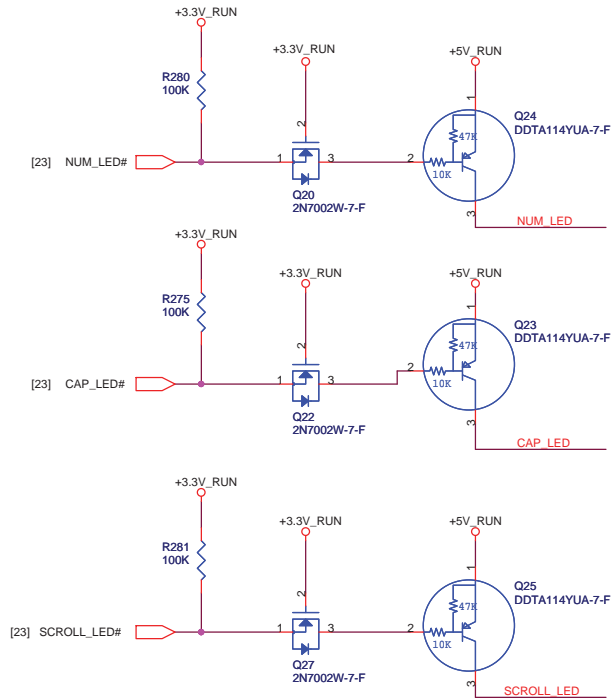


KEYBOARD CONNECTOR

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

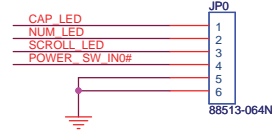


Keyboard LED

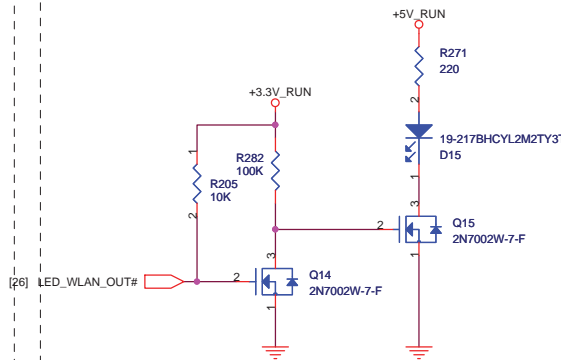


Dash board connector

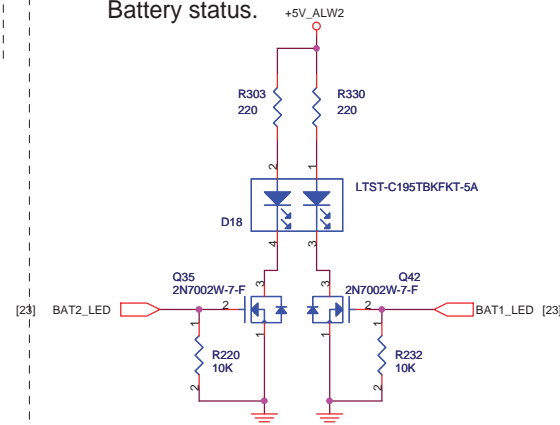
Keyboard LED



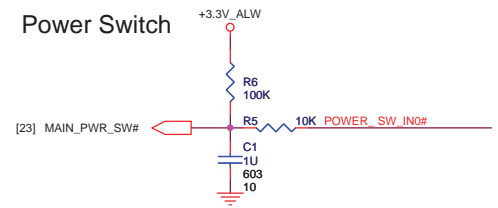
WLAN



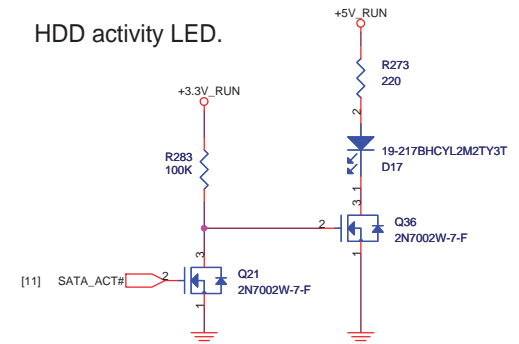
Battery status.



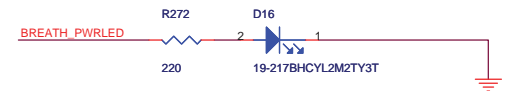
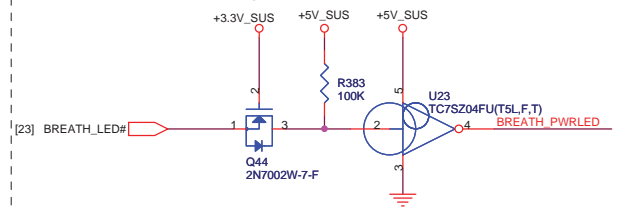
Power Switch



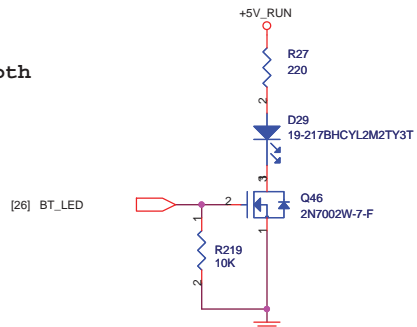
HDD activity LED.



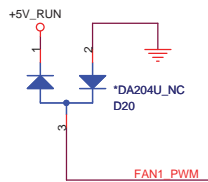
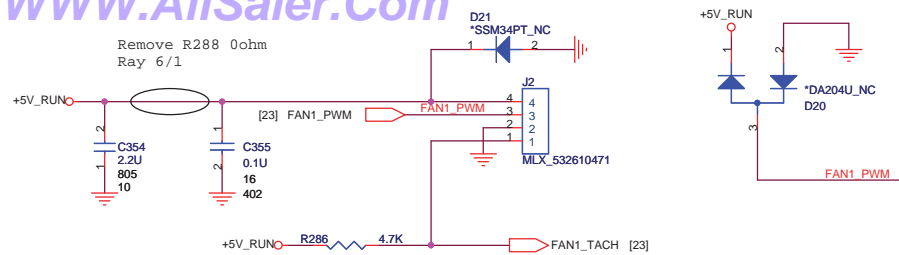
Power & Suspend.



Bluetooth



File			
SWITCH, KEYBOARD & LED			
Size	Document Number		Rev
VMMB			1A
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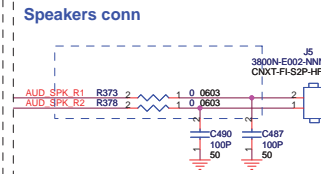


Put the RC close to
U23 pin 6, reserve for EMI

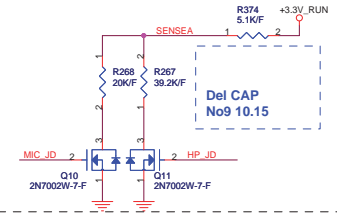


Add PC beep for system error circuit No9 10.14
Del PC beep No9 10.15

AUDIO CODEC



Jack
Sense



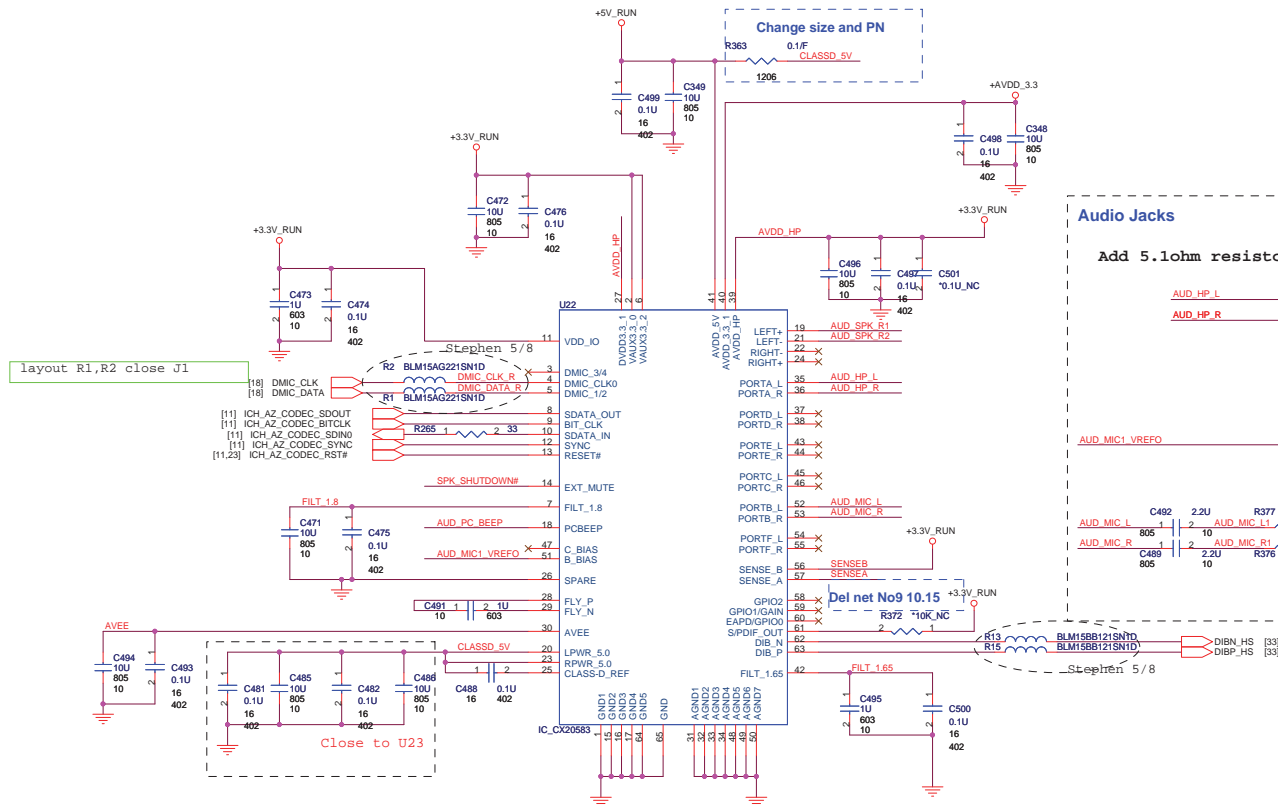
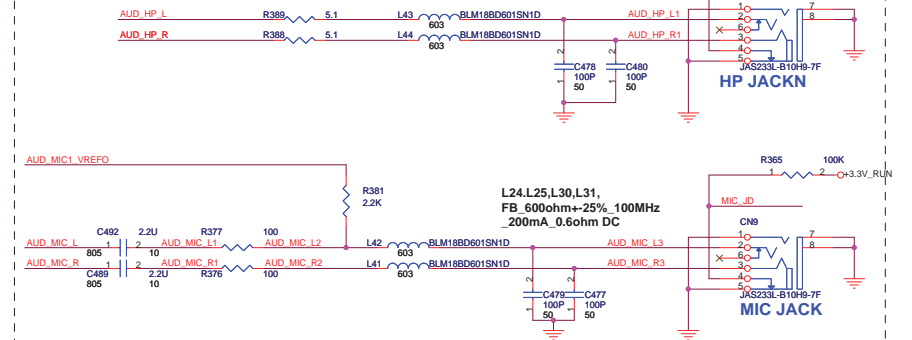
PC BEEP

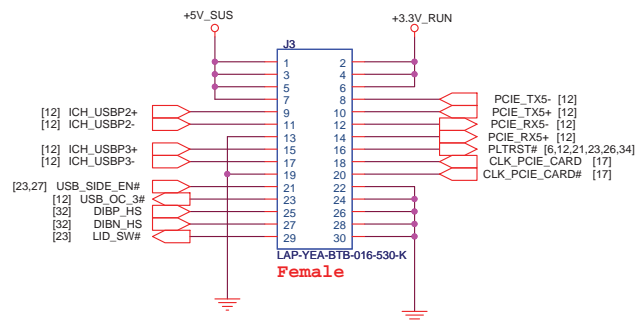
Close to U5



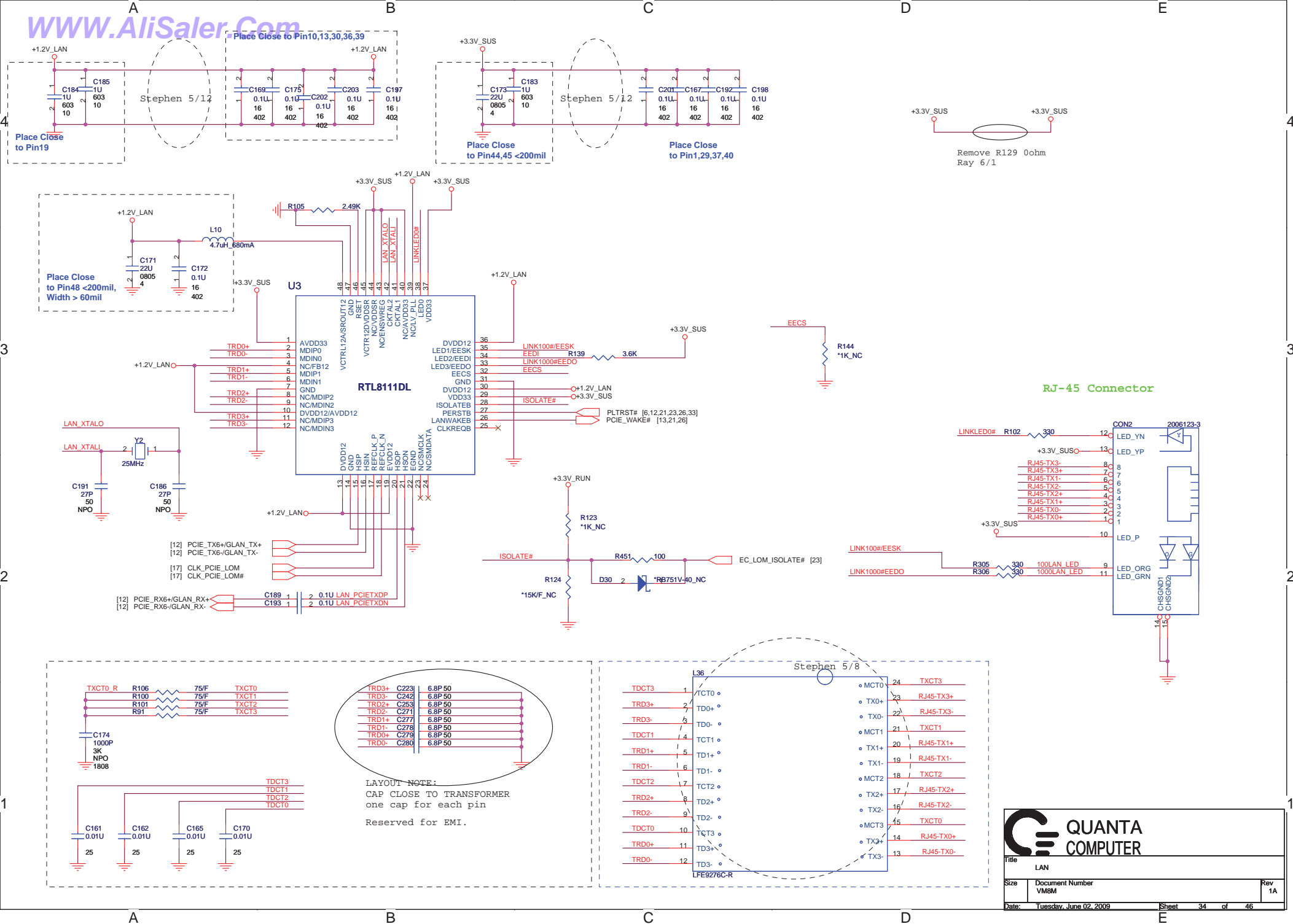
Audio Jacks


Add 5.1ohm resistor for EOS issue





A vertical bar divided into four segments labeled A, B, C, and D from top to bottom. Segment B contains a right-pointing arrow.



		QUANTA COMPUTER	
Title System Reset Circuit			
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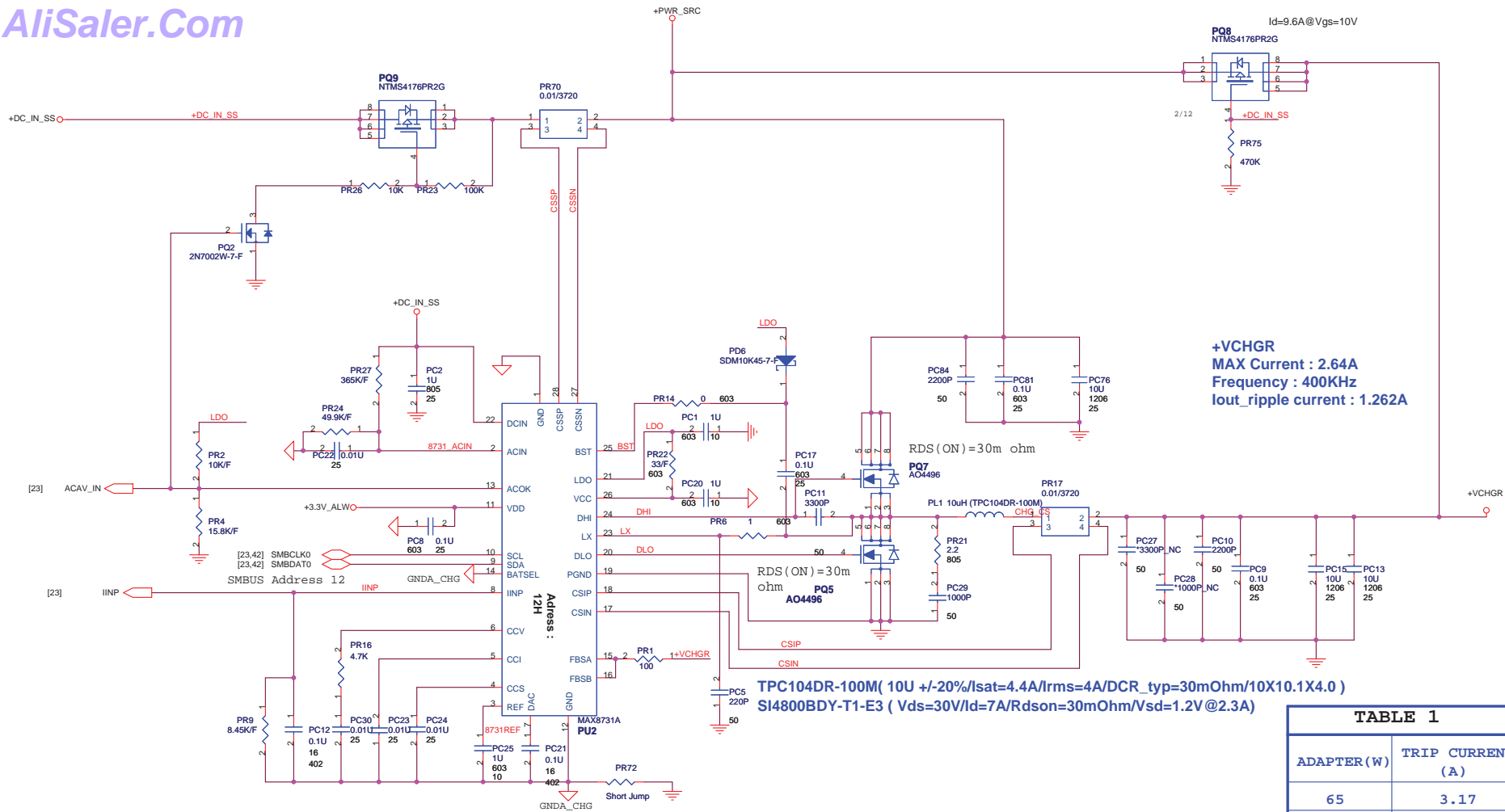


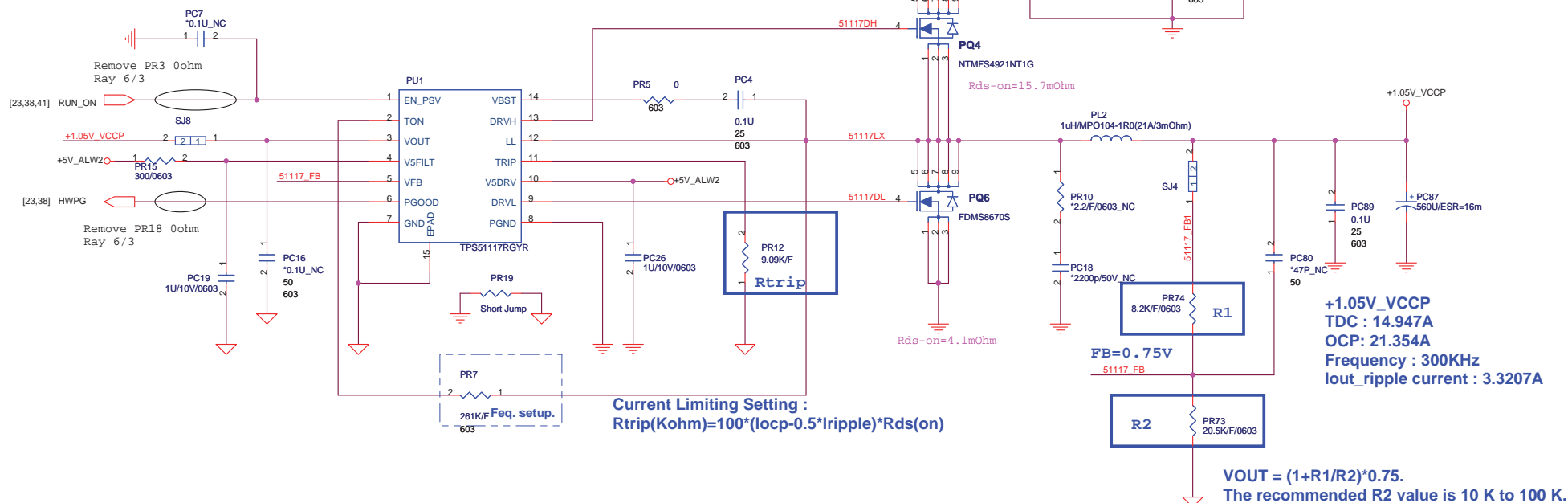
TABLE 1	
ADAPTER(W)	TRIP CURRENT (A)
65	3.17
90	4.43
130	6.43
150	7.43
200	9.75
230	11.28

QUANTA
COMPUTER

File: Charger (MAX8731A)

Size: Document Number VM8M Rev 1A

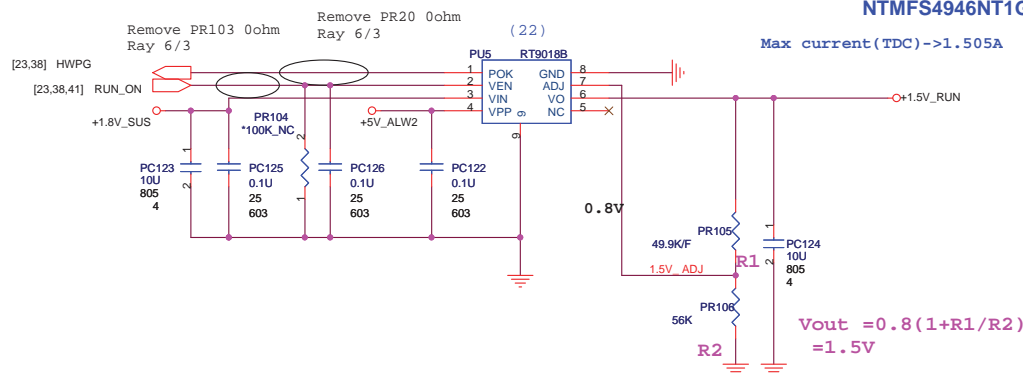
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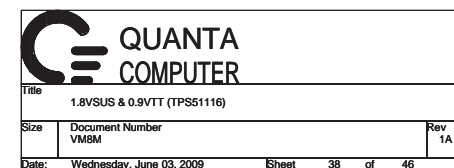
APXE2R5ARA561MF61G (560uF/2.5V/ESR16)
 MPO104-1R0 (1.0u +/- 20% Isat=30A/DCR_max=3m Ohm/11.5X10X4)

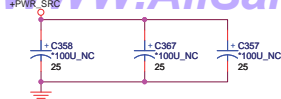
NTMFS4921NT1G (Vds=30V/Id=10.2A @85deg/Rdson=10.5mOhm)
 NTMFS4946NT1G (Vds=30V/ ID=14.6A @85deg/Rdson=5.1mOhm/Vsd=1.0V @30A)

Max current(TDC)->1.505A



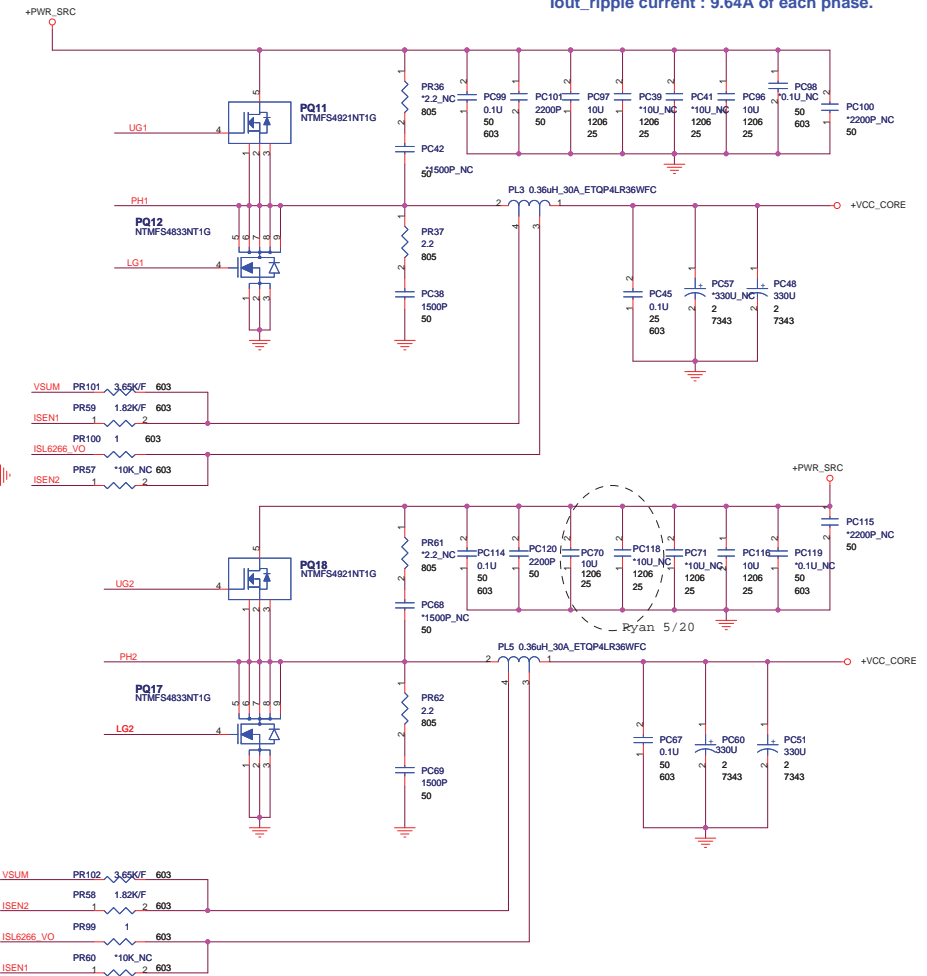
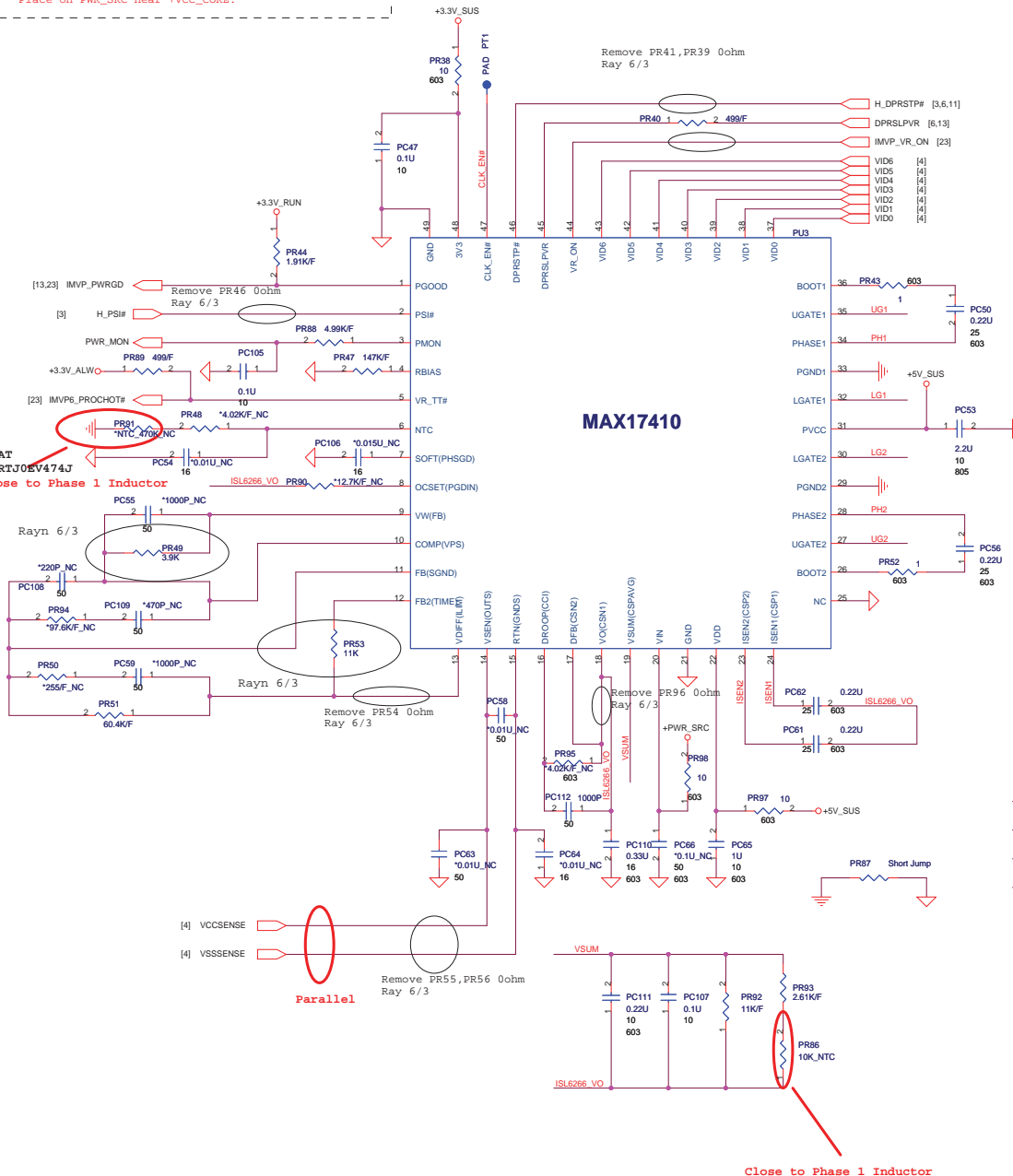
Title 1.05_VCCP & 1.5V_RUN(TPS5117)			
Size	Document Number VM8M	Rev 1A	
Date: Wednesday, June 03, 2009	Sheet 37	of 46	





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

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

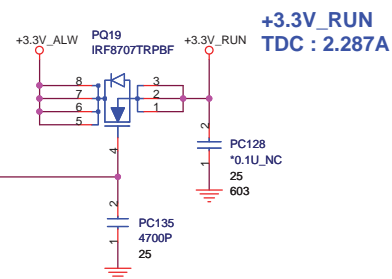
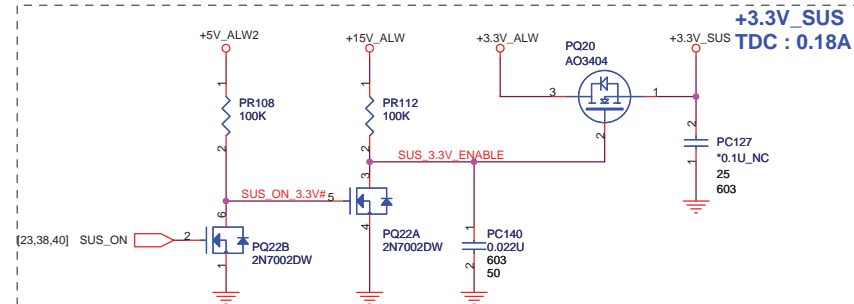
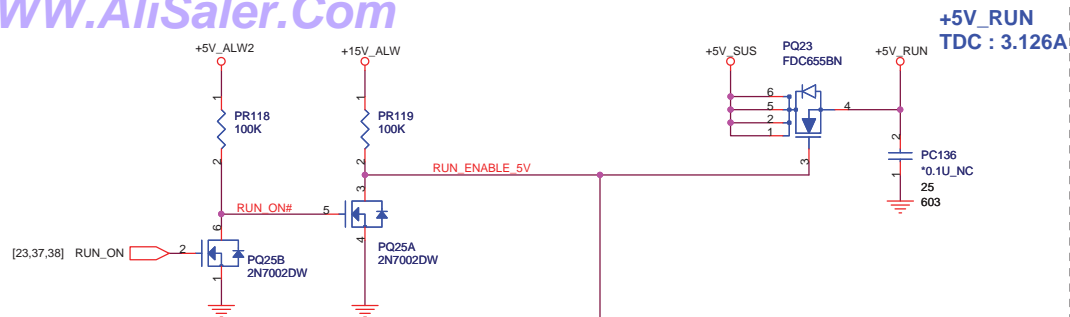


D6	D5	D4	D3	D2	D1	D0	Output
0	0	0	0	0	0	0	1.500V
0	0	0	0	0	0	1	1.4875V
0	0	0	0	1	0	1	1.4375V
0	0	0	0	1	1	1	1.4125V
0	0	0	1	0	0	0	1.4000V
0	0	1	0	0	0	1	1.2875V
0	0	1	1	0	0	0	1.2000V
0	0	1	1	1	0	0	1.1500V
0	1	0	1	0	0	0	1.0000V
0	1	0	1	0	1	1	0.9625V
0	1	1	1	1	0	0	0.7500V
1	0	0	0	1	0	0	0.6500V
1	0	1	0	0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

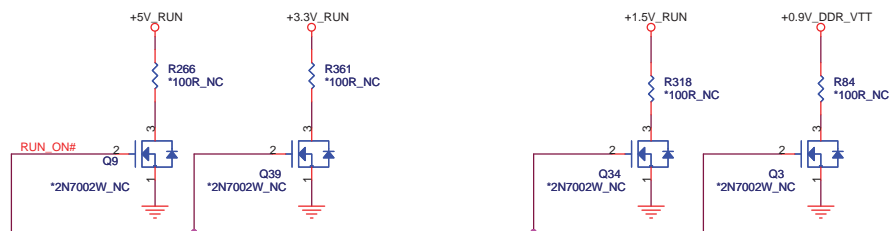
ETQP4LR36WFC (0.36U +/- 20%/ Isat=24A/DCR_max=1.1m Ohm/11.5X10X4)
NTMFS4921NT1G (Vds=30V/Id=10.2A @85deg/Rdson=10.5mOhm)
NTMFS4946NT1G (Vds=30V/ ID=14.6A @85deg/Rdson=5.1mOhm/Vsd=1.0V @30A)
EEFS40D331YR (330UF/2V/ESR9)



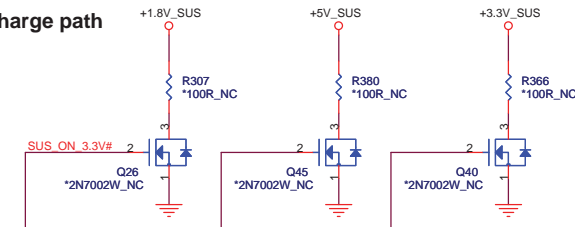
3
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Reserve discharge path

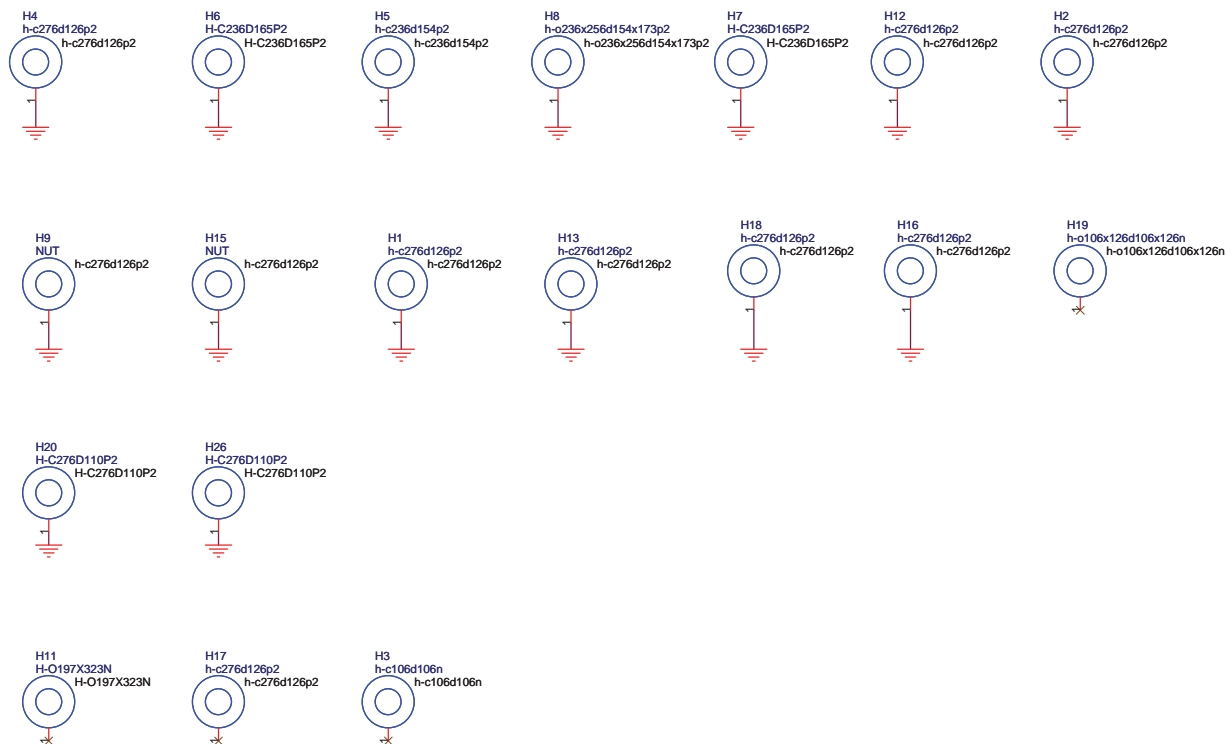


Reserve discharge path

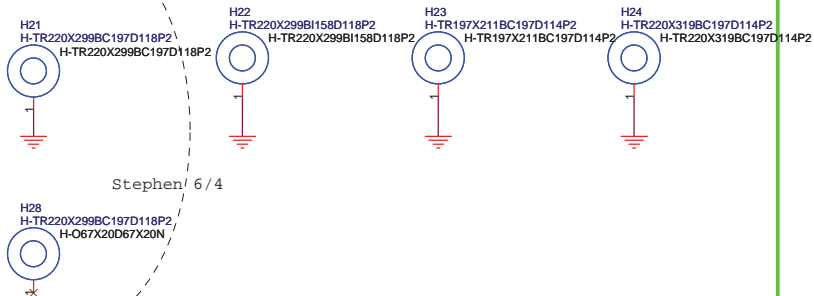


File	RUN POWER SW		
Size	Document Number	Rev	
	VMBM	1A	
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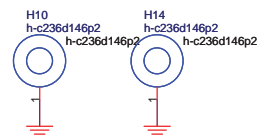


For Express Card



Stephen/ 6 / 4

DB board



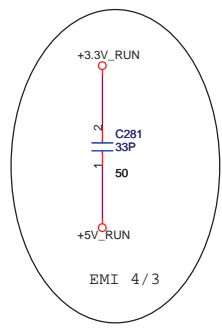
Mini card




QUANTA
COMPUTER

Title			SCREW PAD
Size	Document Number	Rev	
	VMBM	1A	
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 QUANTA COMPUTER			
Title EMI CAP			
Size	Document Number VMBM		Rev 1A
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