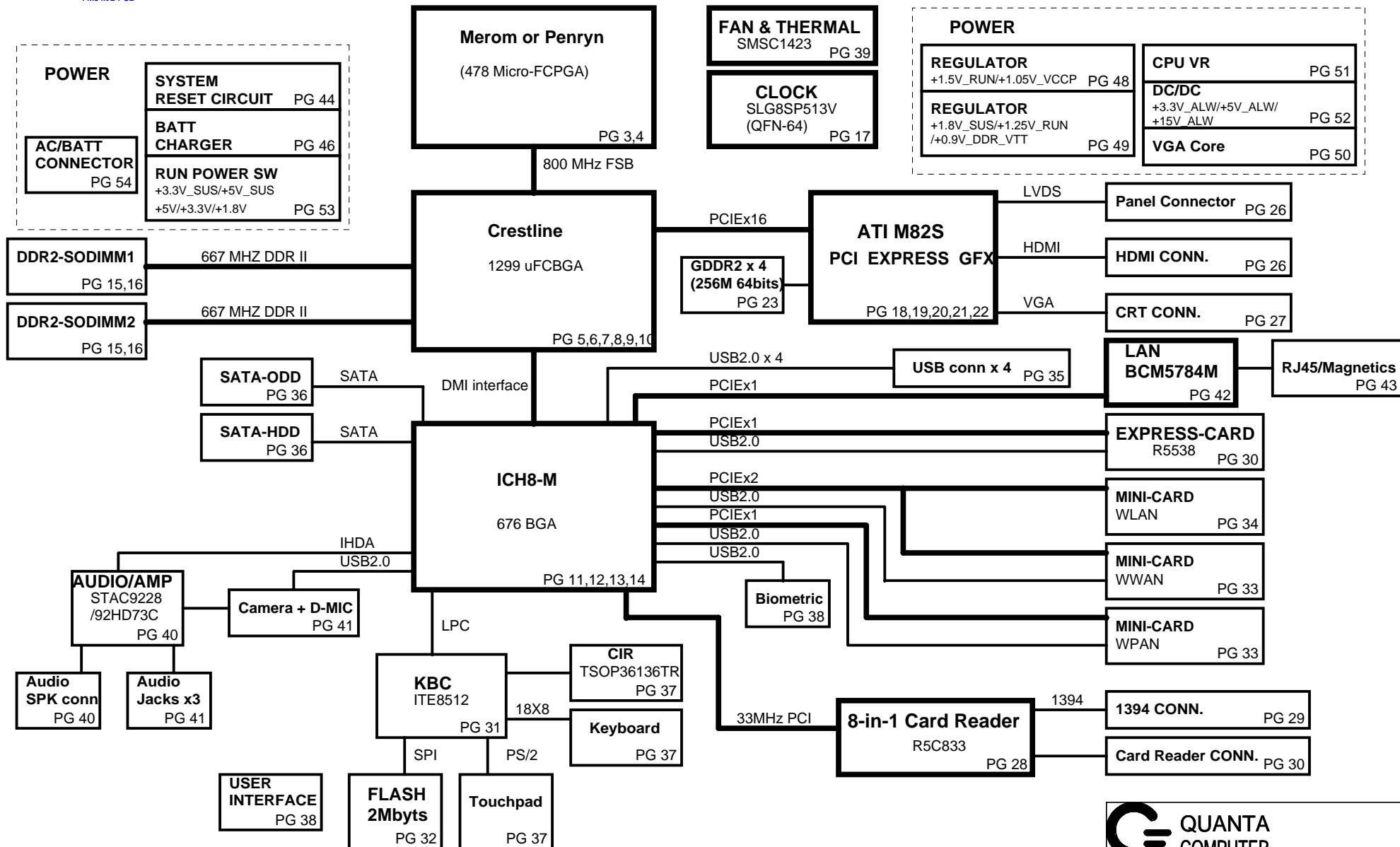
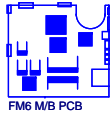


FM6 Hepburn Intel Discrete GFX

VER : 3A











Title		
Schematic Block Diagram1		
Size	Document Number	Rev
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Date:	Thursday, January 03, 2008	Sheet 1 of 64

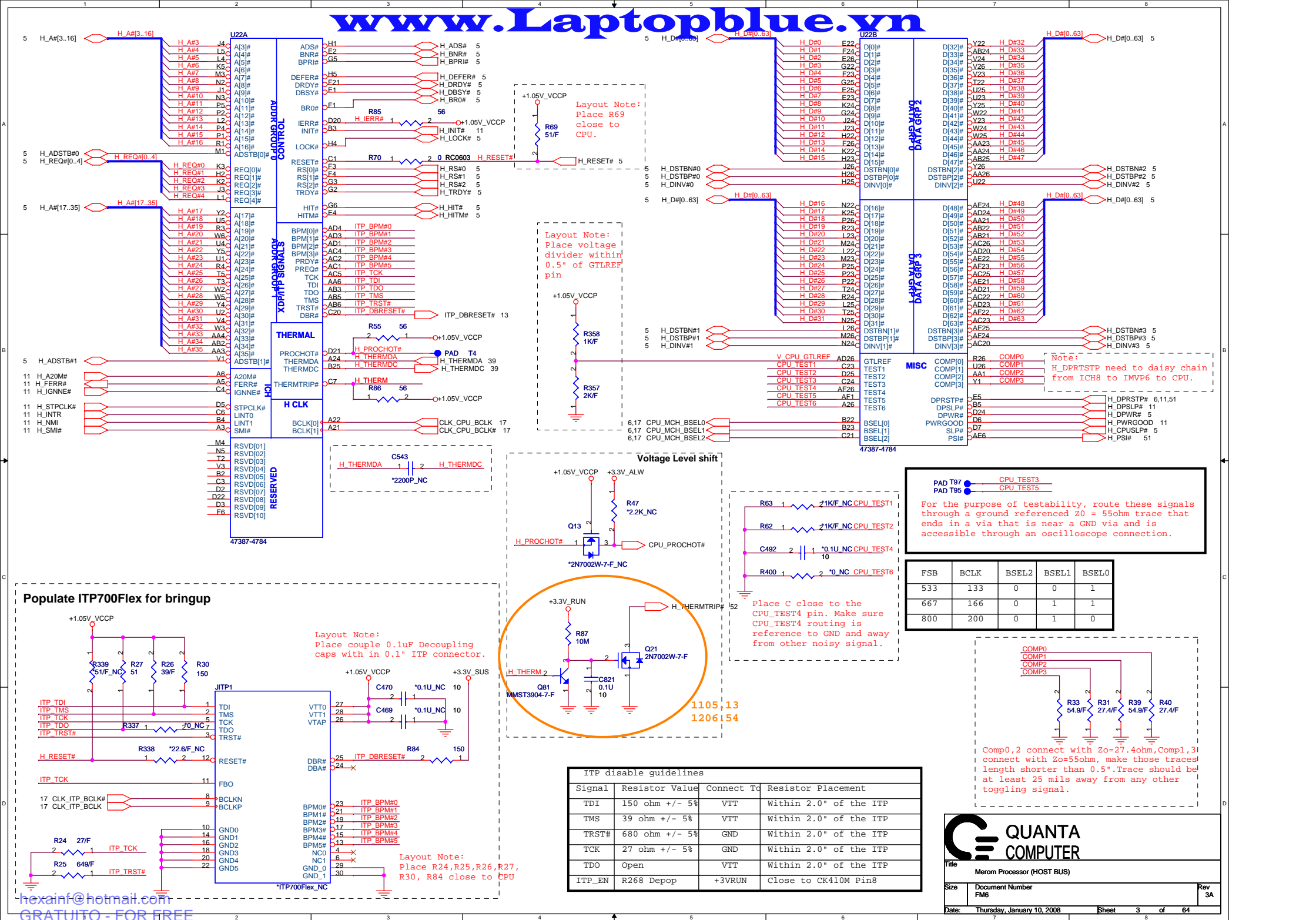
Table of Contents

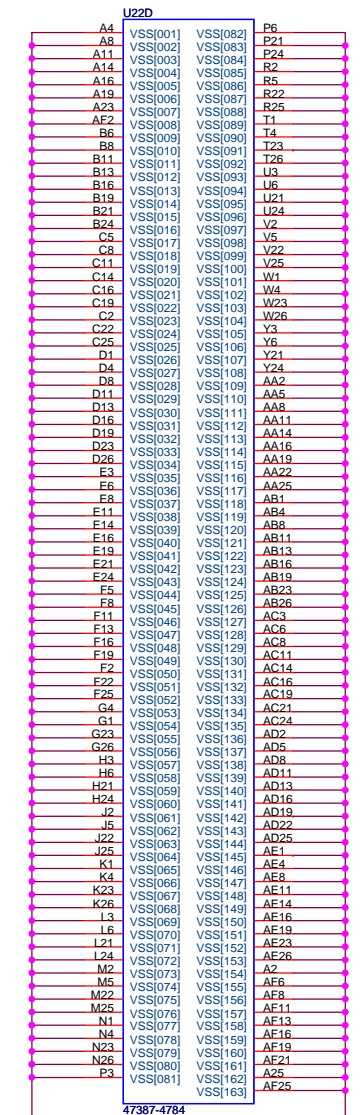
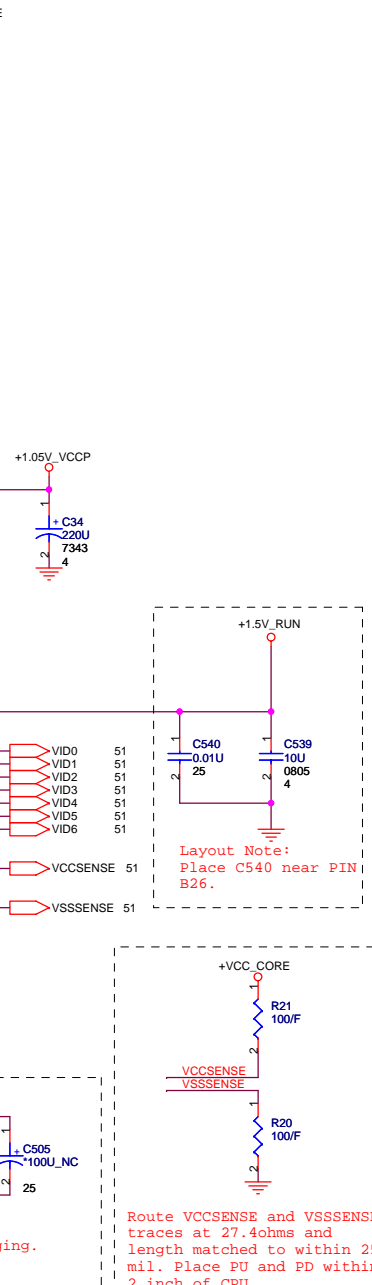
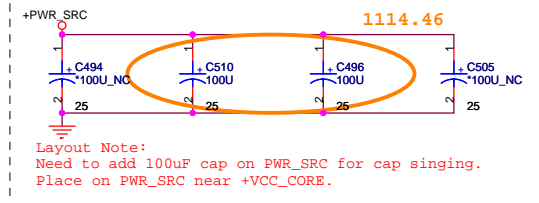
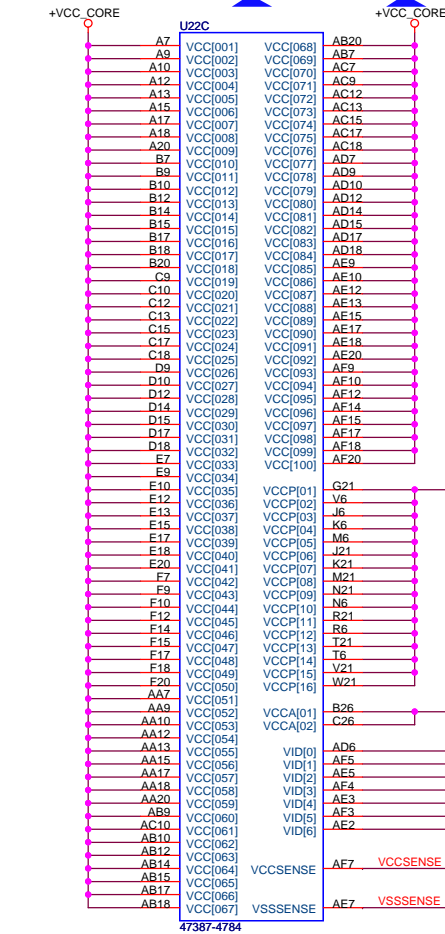
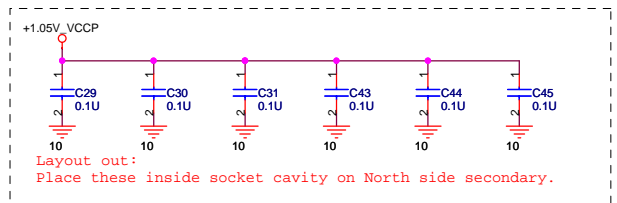
PAGE	DESCRIPTION
1	Schematic Block Diagram
2	Front Page
3-4	Merom
5-10	Crestline
11-14	ICH8M
15-16	DDRII SO-DIMM(200P)
17	Clock Generator
18-23	M82S
24	BLANK PAGE
25	BLANK PAGE
26	LCD CONN / HDMI CONN
27	CRT CONN
28	5C833/PCI
29	IEEE1394
30	Express/Card Reader
31	SIO (ITE8512)
32	FLASH / RTC
33	MINI-Card (WPAN, WWAN)
34	MINI-Card (WLAN)
35	USB
36	SATA (HDD & CD_ROM)
37	TP / KEYBOARD
38	SWITCH / LED
39	FAN / THERMAL
40	Azelia CODEC
41	AUDIO CONN
42	LAN (RTL8111B/8111C)
43	LAN RJ-45 / TRANSFORM
44	System Reset Circuit
45	Blank Page
46	Changer (MAX8731A)
47	Blank Page
48	1.05VCCP & 1.5VRUN
49	1.8VSUS & 0.9VTT
50	VGA_M82
51	CPU_ISL6266 (2PHASE)
52	MAX8744 (+5V,3.3V)
53	Run Power Switch
54	DCin & Batt
55	PAD & SCREW
56	EMI CAP
57	SMBUS BLOCK
58	Power Block Diagram

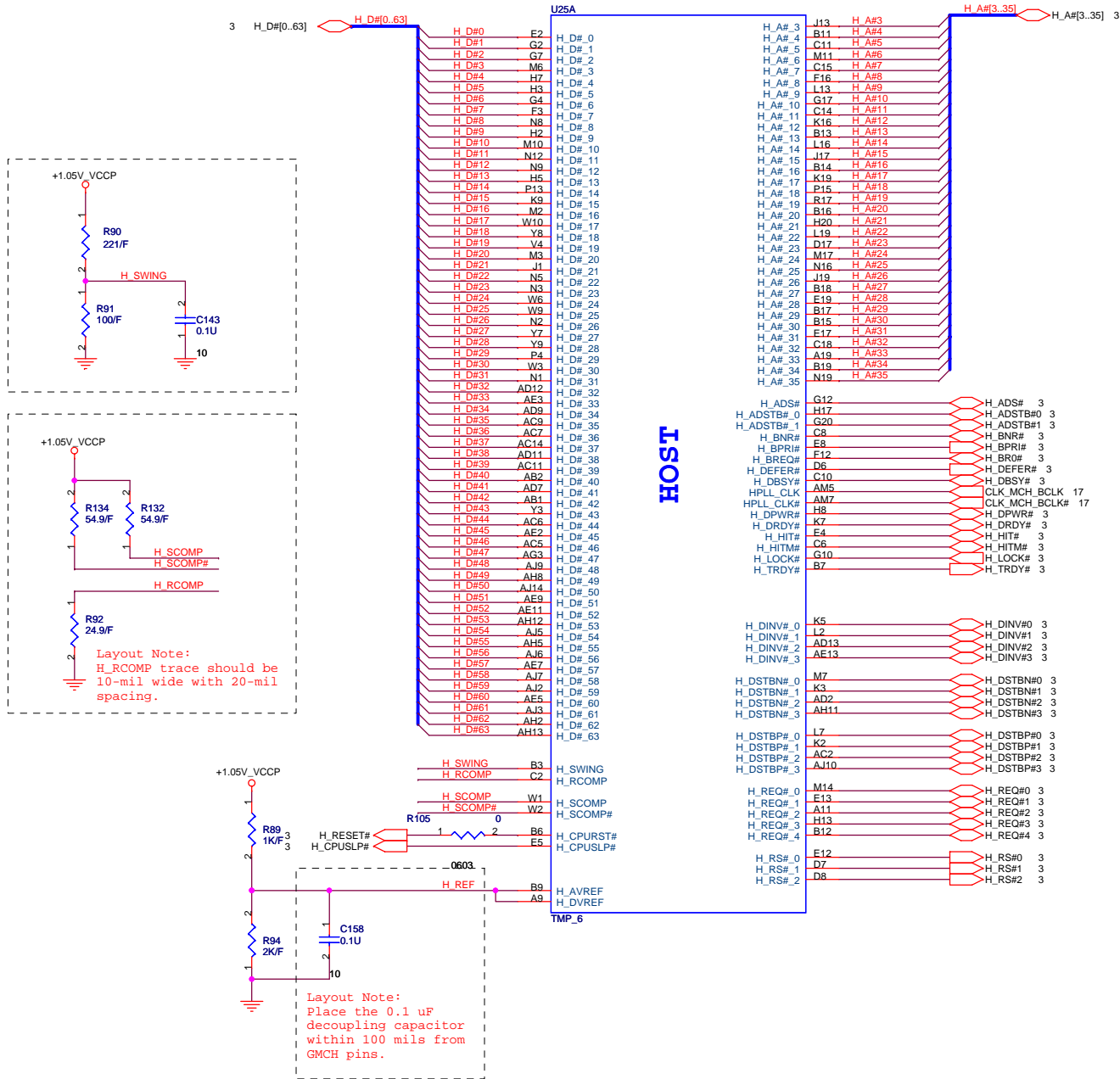
POWER PLANE	VOLTAGE	PAGE	DESCRIPTION	CONTROL SIGNAL	ACTIVE IN
+PWR_SRC	10V~+19V	4,26,32,34,46,48,49,50,51,52,56	MAIN POWER		S0~S5
+RTC_CELL	+3.0V~+3.3V	11,14,31,32	RTC		S0~S5
+3.3V_ALW	+3.3V	3,13,31,32,34,36,37,38,44,46,49,52,53,54	8051 POWER	ALWON	S0~S5
+5V_ALW	+5V	35,36,46,48,49,52,53,54	LCD/CHARGE POWER	ALWON	S0~S5
+5V_ALW2	+5V	37,38,52,53	LARGE POWER	+5V_ALW	S0~S5
+3.3V_LAN	+3.3V	42,43	LAN POWER	AUX_ON	
+5V_SUS	+5V	14,38,50,51,53	SLP_S5# CTRLD POWER	SUS_ON	
+3.3V_SUS	+3.3V	3,11,12,13,14,20,26,30,37,38,43,48,49,50,51,53	SLP_S5# CTRLD POWER	3.3V_SUS_ON	
+1.8V_SUS	+1.8V	6,8,9,15,48,49,50,53	SODIMM POWER	DDR_ON	
+0.9V_DDR_VTT	+0.9V	16,49,53	SODIMM POWER	0.9V_DDR_VTT_ON	
+5V_RUN	+5V	14,20,26,27,36,37,38,40,41,53	SLP_S3# CTRLD POWER	RUN_ON	
+3.3V_RUN	+3.3V	6,8,9,11,12,13,14,15,17,19,20,22,26,27,28,30,31,33,34,36,38,39,40,41,42,53,56	SLP_S3# CTRLD POWER	3.3V_RUN_ON	
+1.8V_RUN	+1.8V	19,20,21,22,23,38,53	SDVO POWER	RUN_ON	
+1.5V_RUN	+1.5V	4,9,14,30,33,34,48,53,56	CALISTOGA/ICH8 POWER	1.5V_RUN_ON	
+1.2V_LOM	+1.25V	42	CALISTOGA/ICH8 POWER	1.25V_RUN_ON	
+1.1V_GFX_PCIE	+1.1V	21,50	VGA POWER	RUN_ON	
+1.05V_VCCP	+1.05V	3,4,5,6,8,9,11,14,48,56	CPU/CALISTOGA/ICH8 POWER	1.05V_RUN_ON	
+VCC_CORE	+0.7V~+1.77V	4,51,56	CPU CORE POWER	IMVP_VR_ON	
+LCDVCC	+3.3V	26	LCD Power	LCDVCC_TST_EN & ENVDD	
+5V_MOD	+5V	36	Module Power	MODC_EN#	
+5V_HDD	+5V	36	HDD Power	HDDC_EN#	

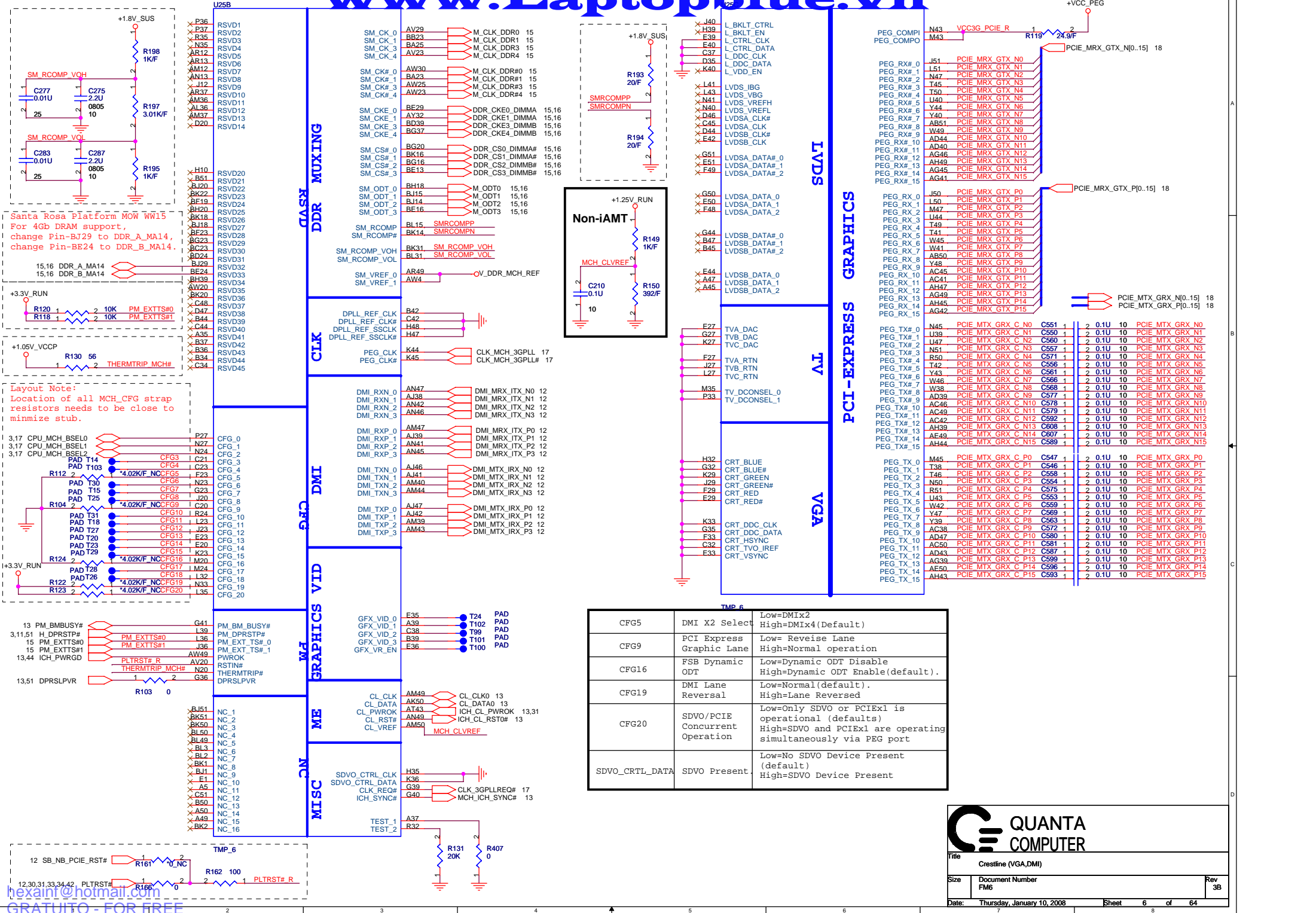
GND PLANE	PAGE	DESCRIPTION
 8731AGND	46	
 AGND_0.9V	49	
 AGND_DC/DC	52	
 AGND_DC2	48	
 AGND_DDR	49	
 AGND_ISL6260	51	
 GND	ALL	

 QUANTA COMPUTER		
Title Index & Power Status		
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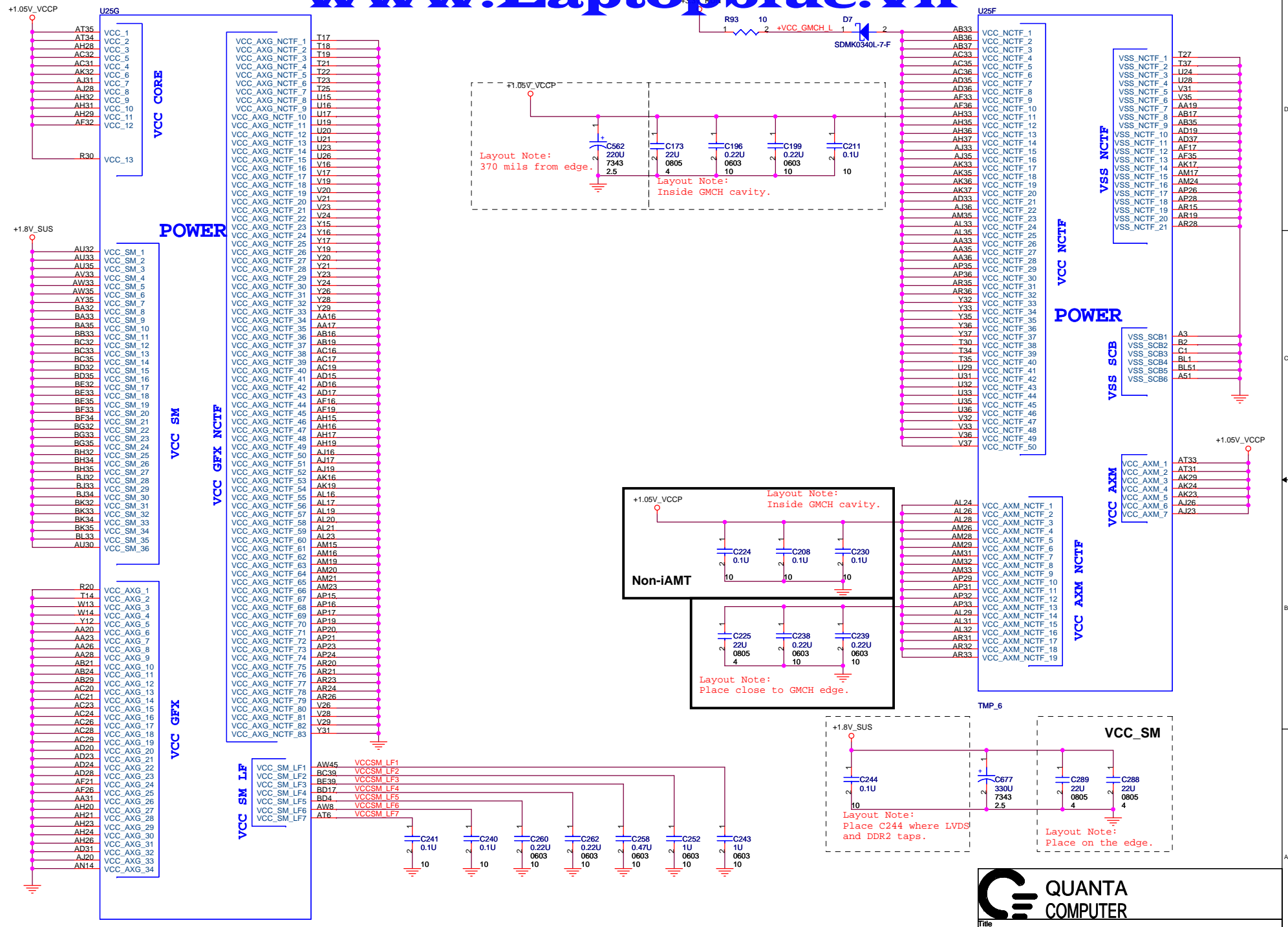


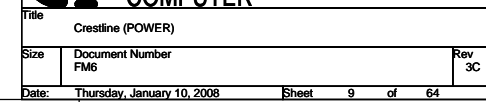
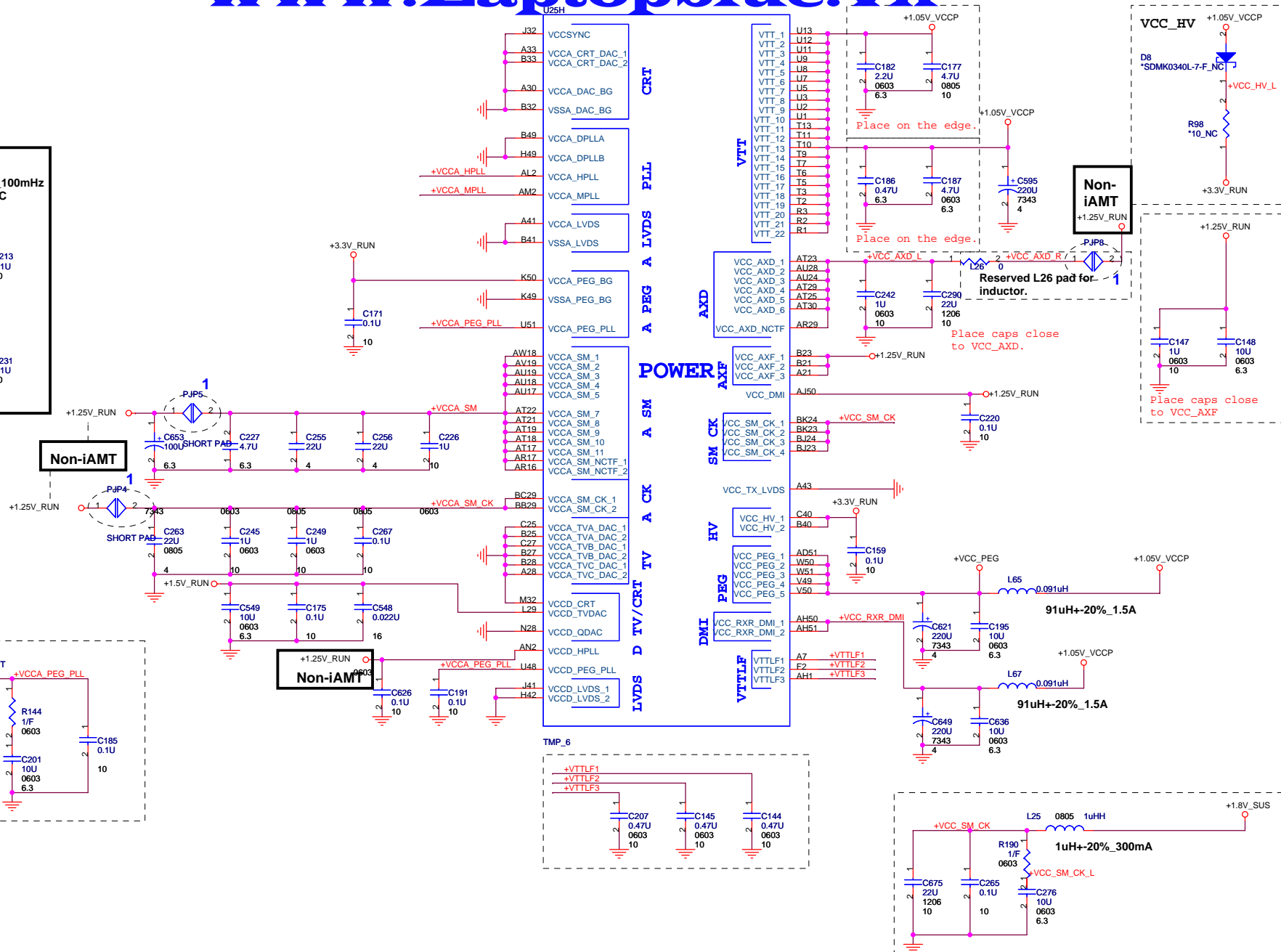
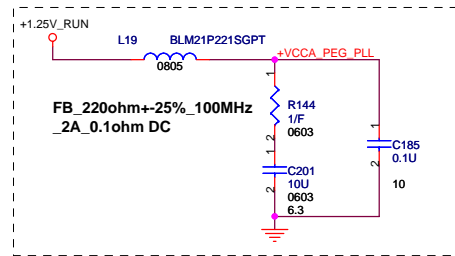


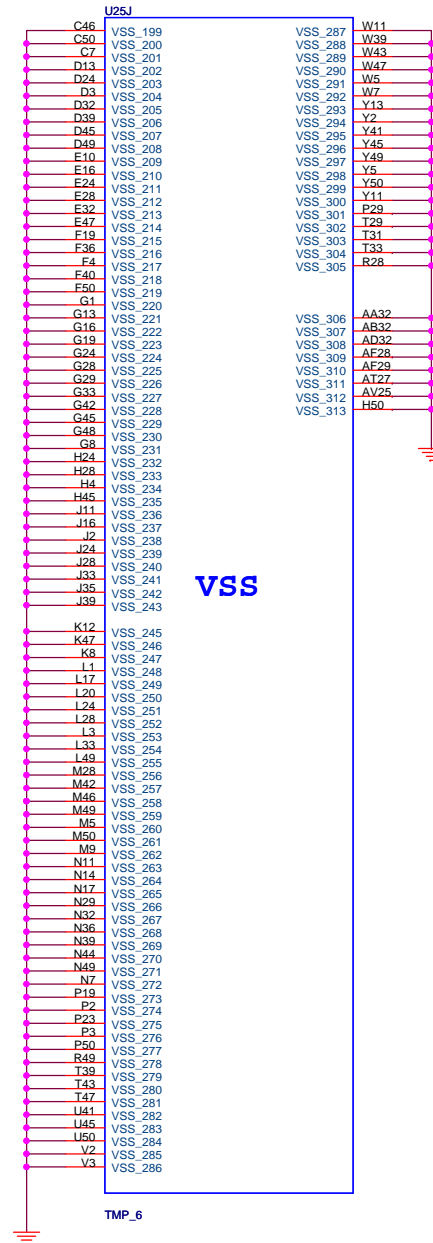
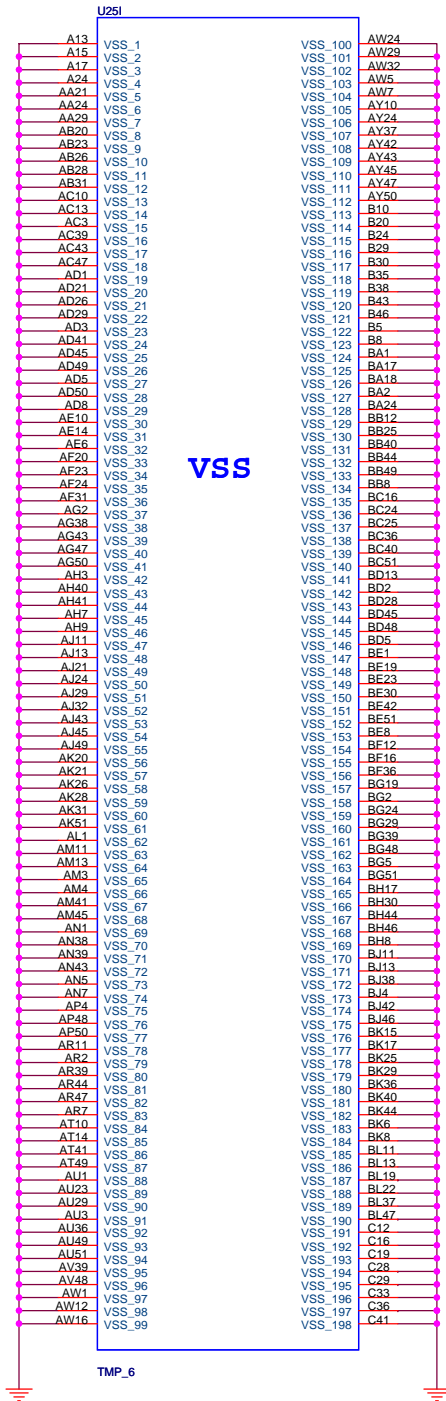


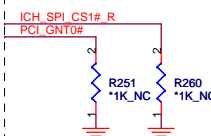
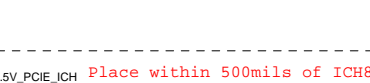
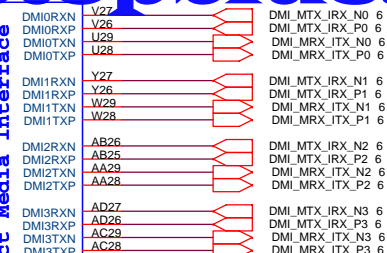
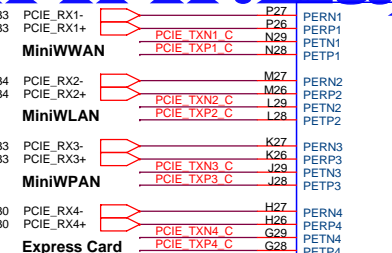
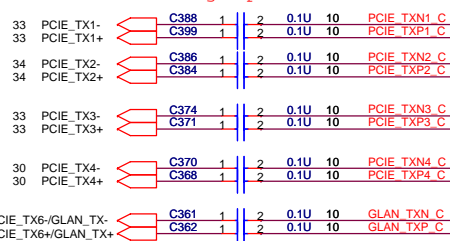
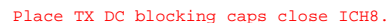




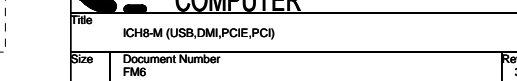
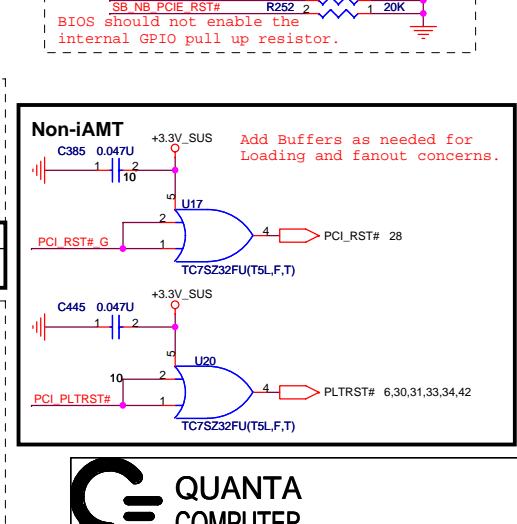
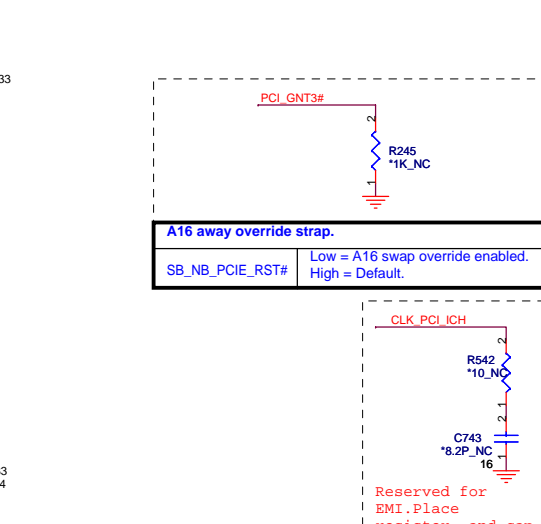
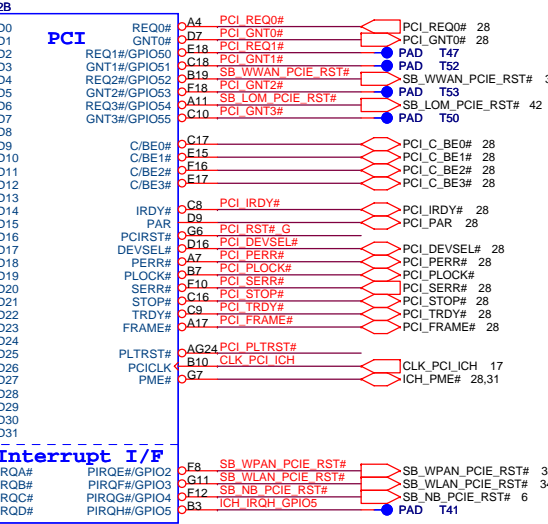
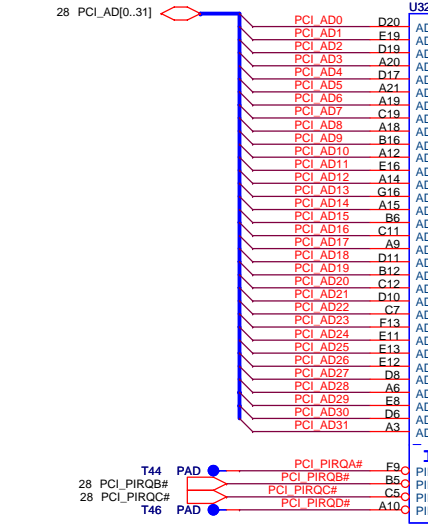
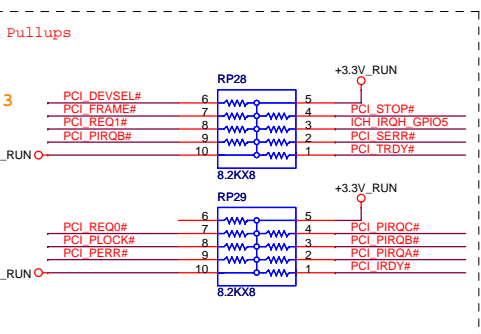
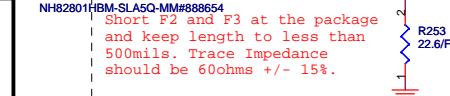
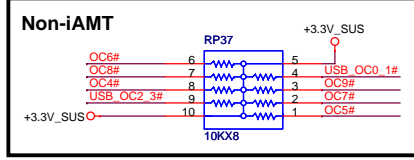
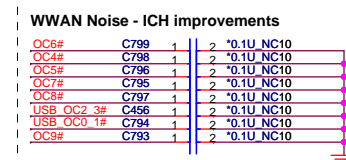
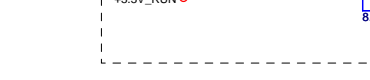
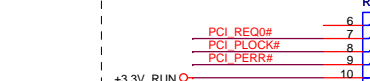
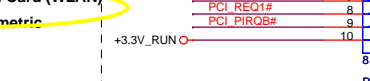
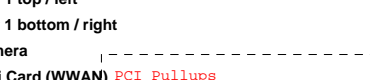
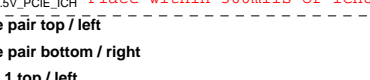
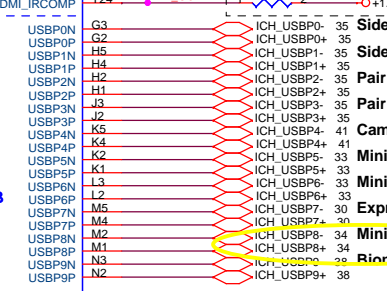
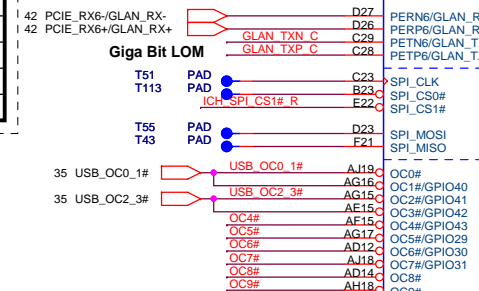


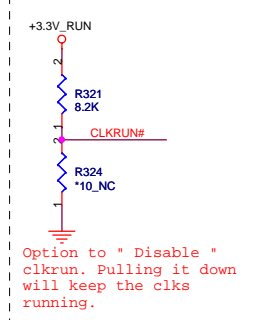
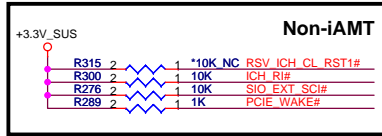
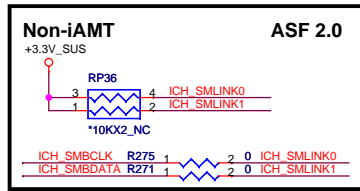
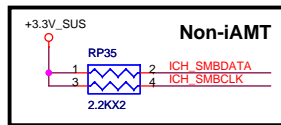




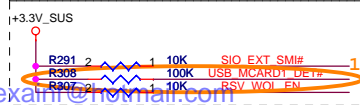
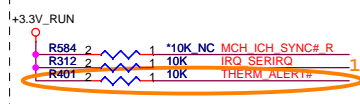
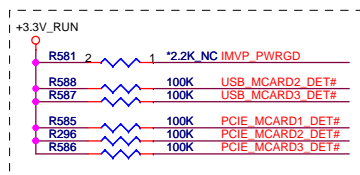
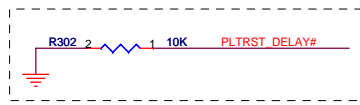


Boot BIOS Strap			
		GNT0#	SPI_CS1#
LPC	11	No stuff	No stuff
PCI	10	No stuff	Stuff
SPI	01	Stuff	No stuff

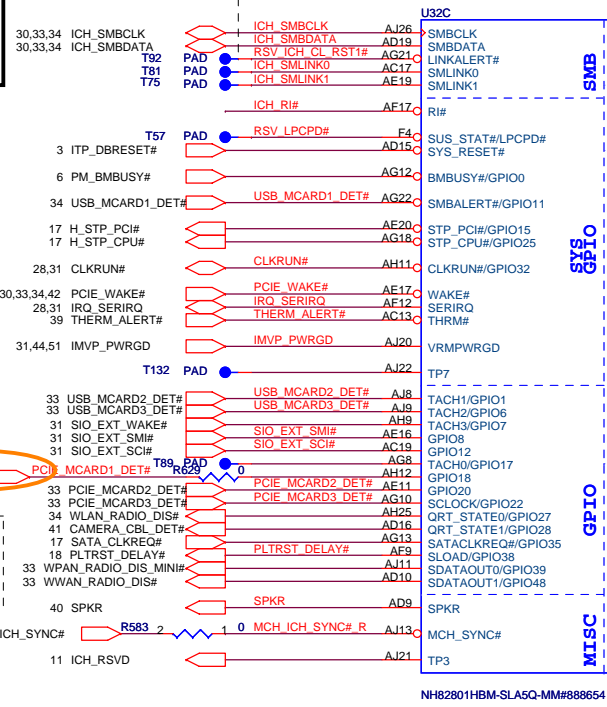




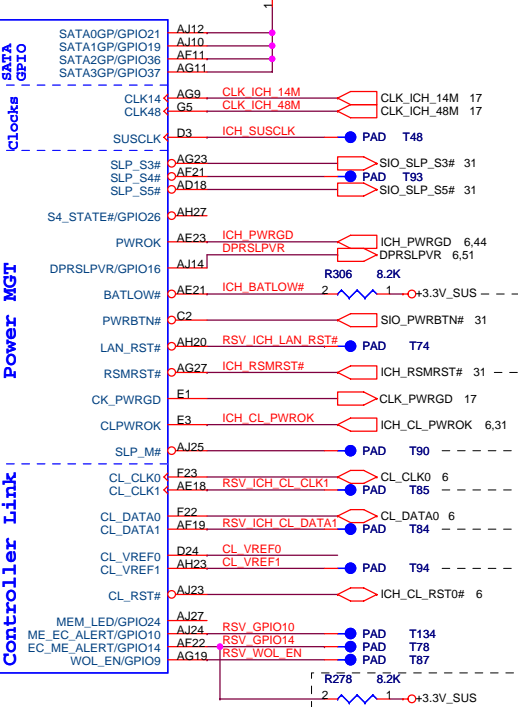
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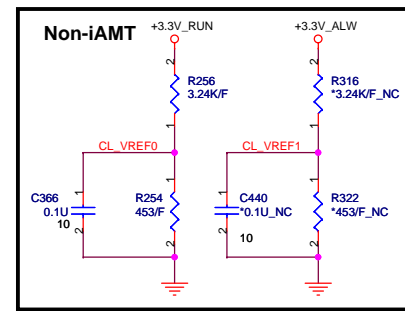
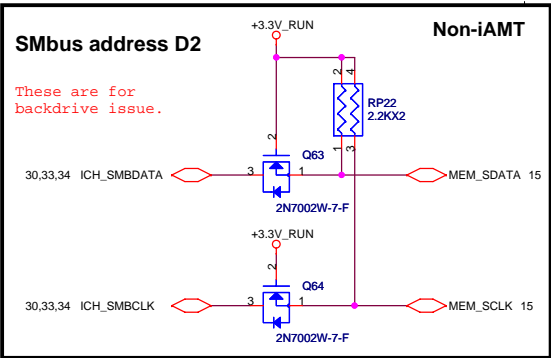
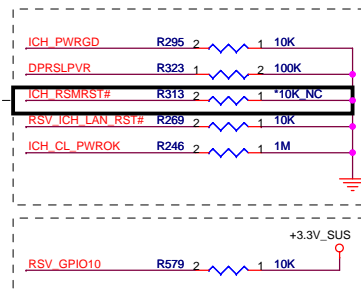
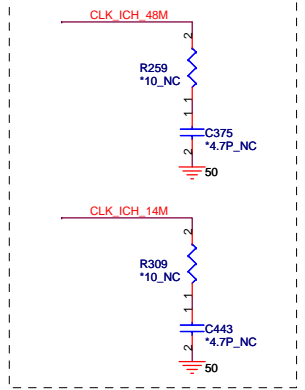


NH82801HBM-SLA5Q-MM#88654



Non-iAMT

Place these close to ICH8.

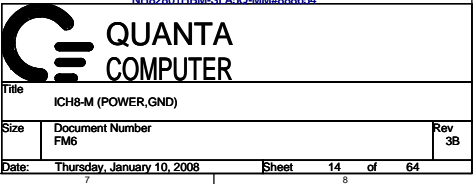


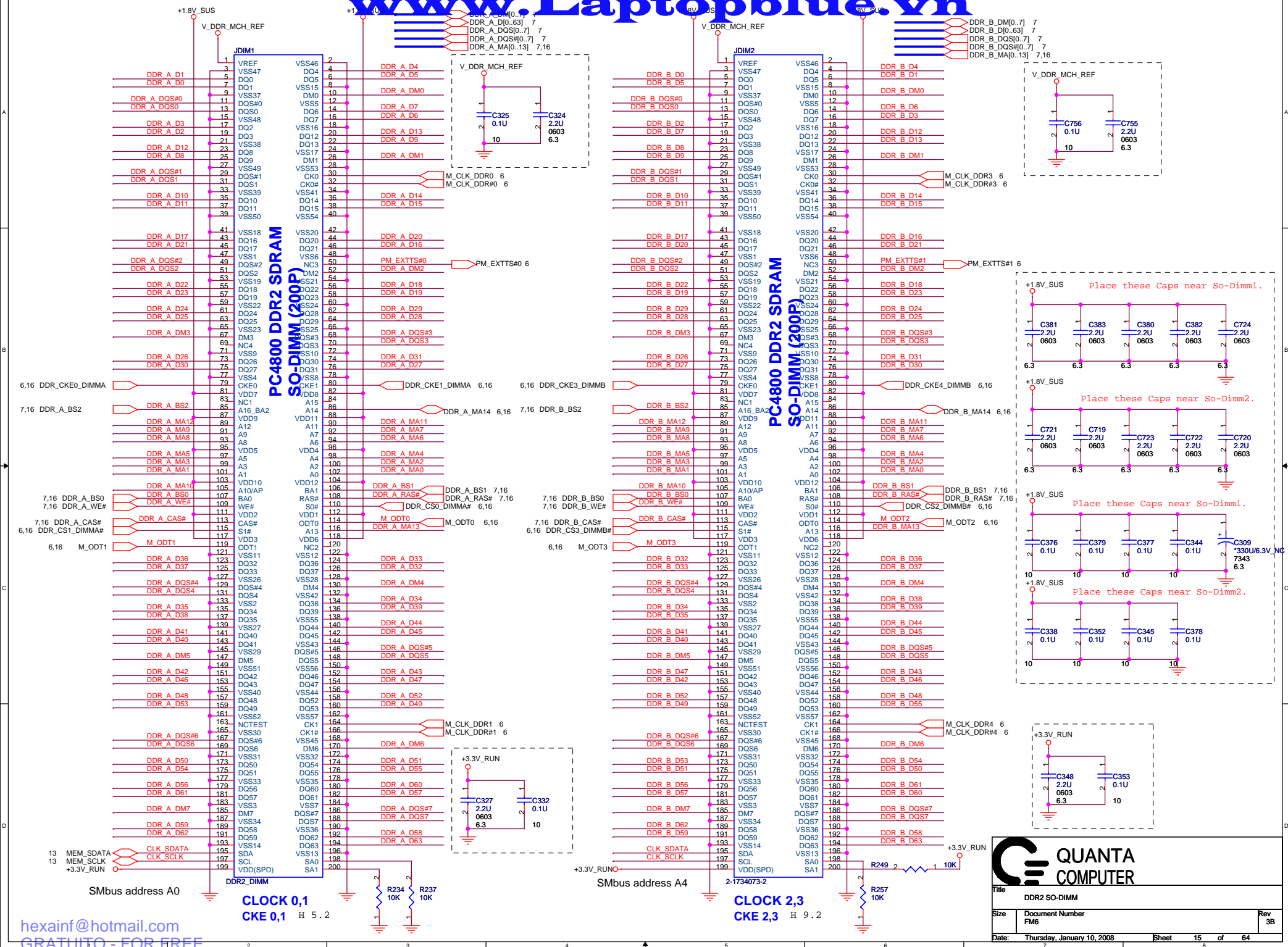
QUANTA COMPUTER

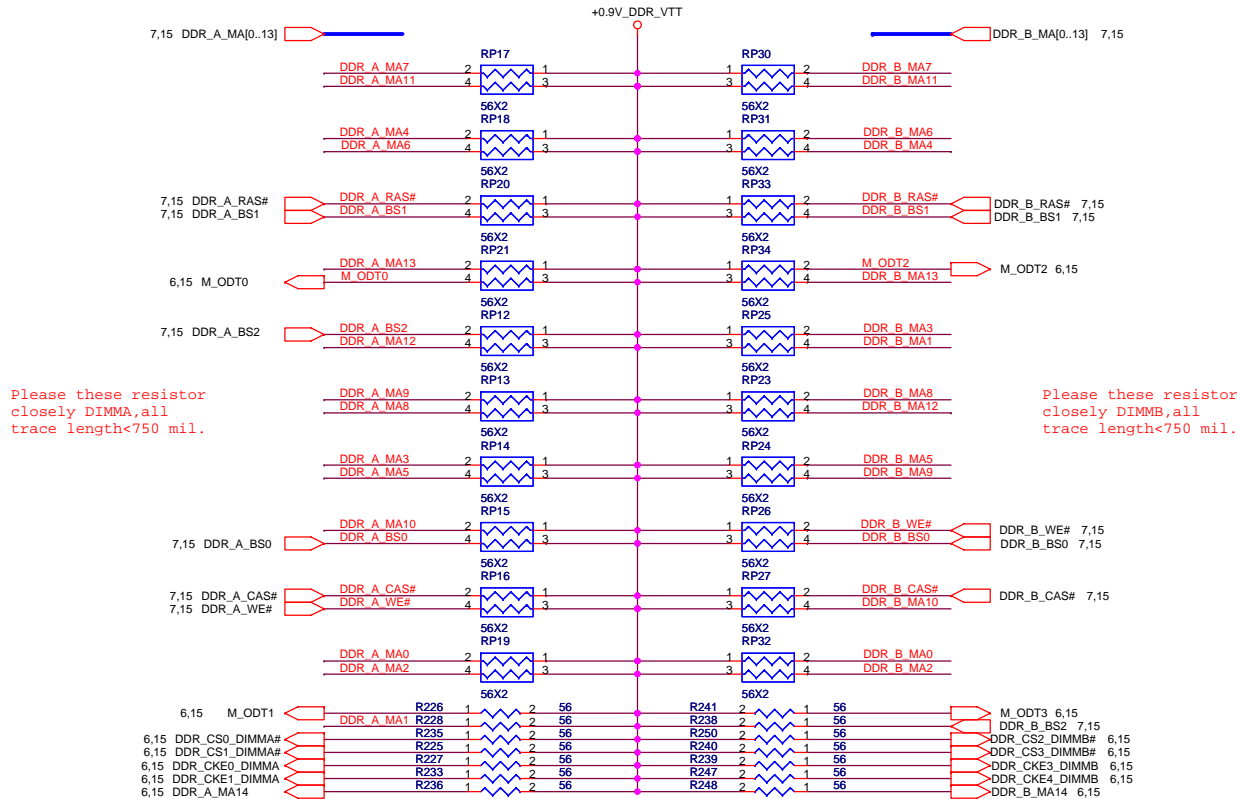
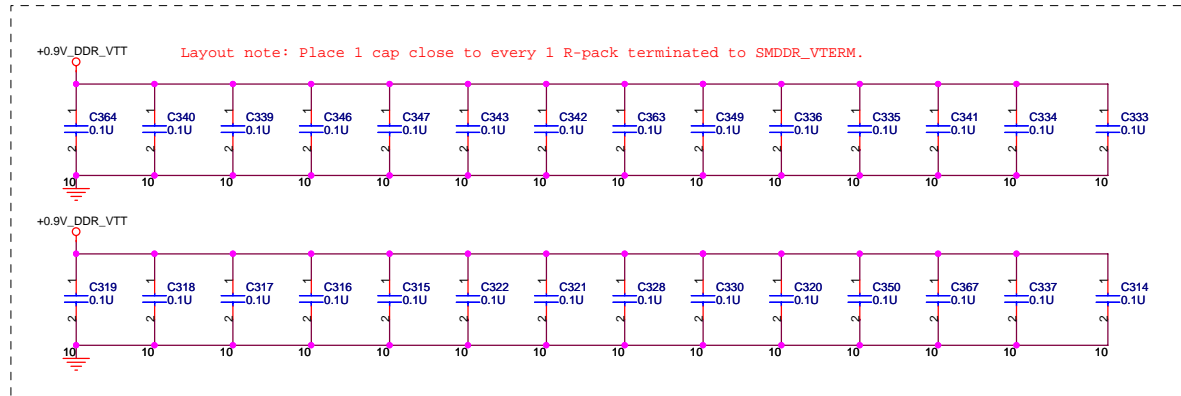
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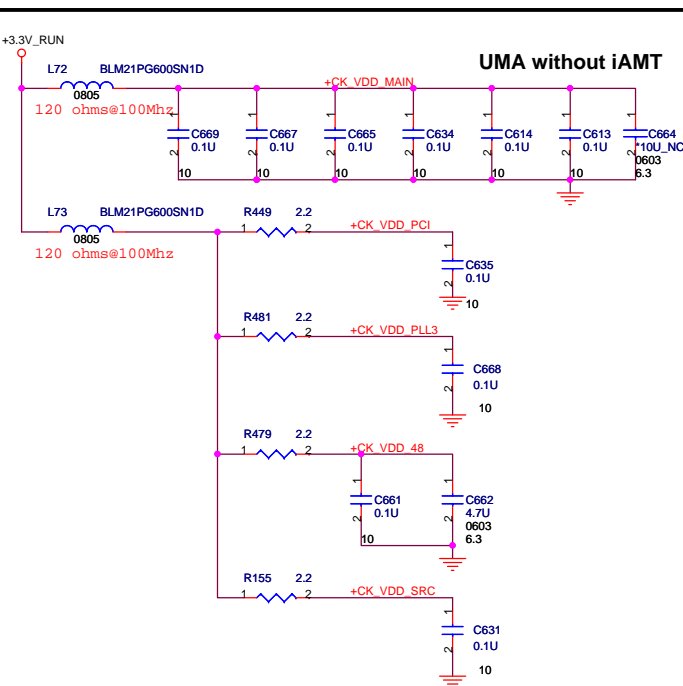
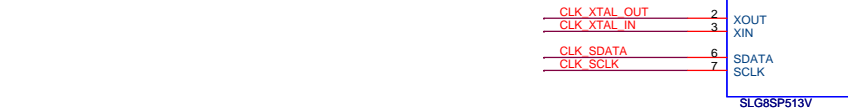
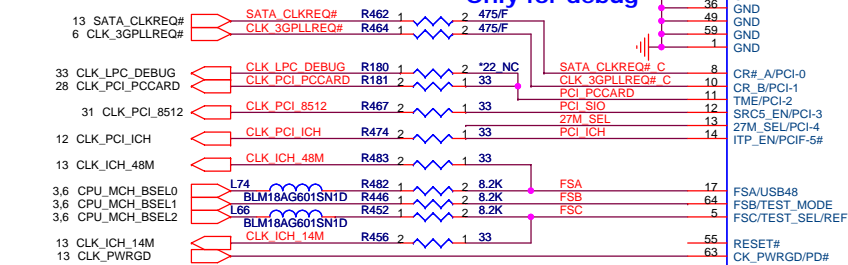
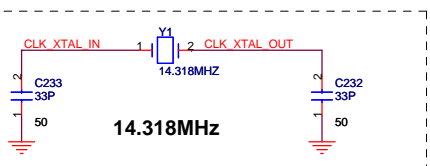
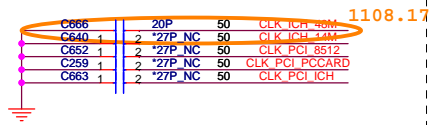




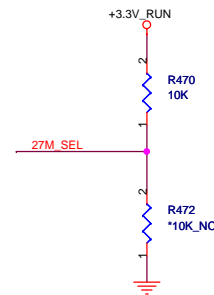
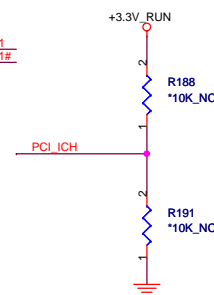
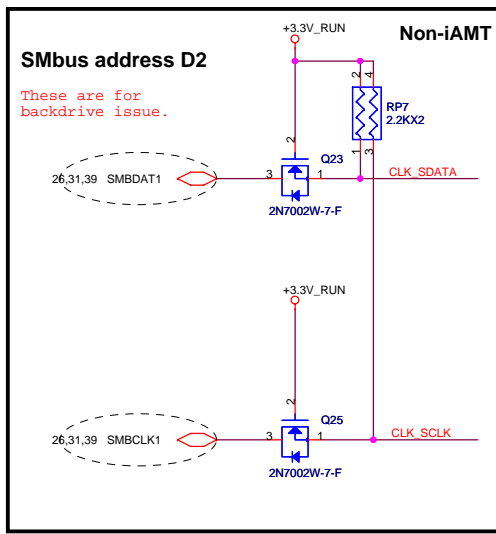
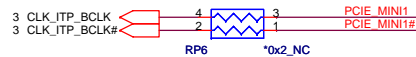
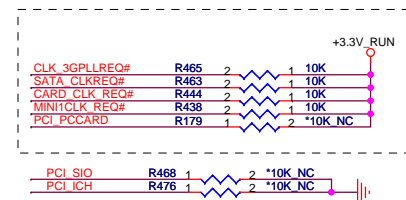
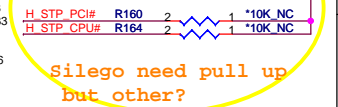
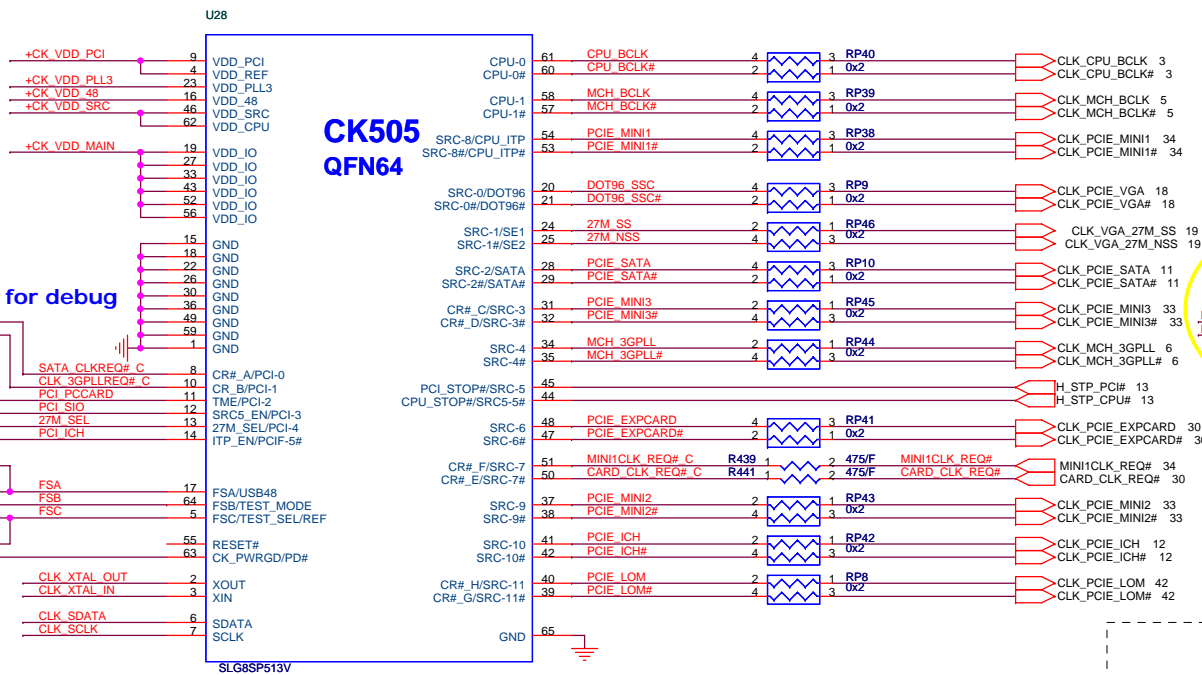


Title DDR2 RES. ARRAY	
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Add capacitor pads for improving WWAN.

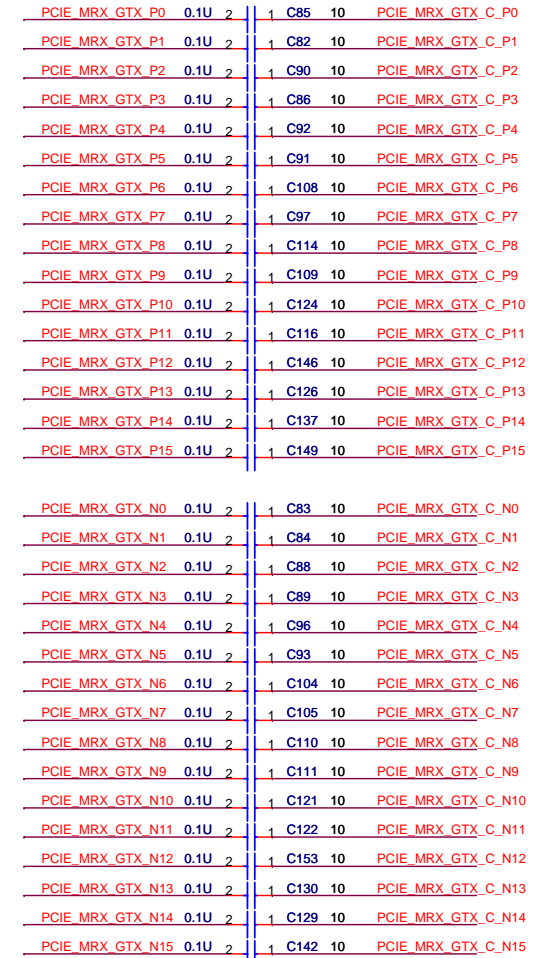


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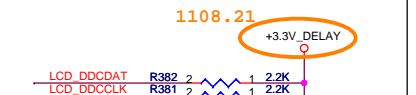
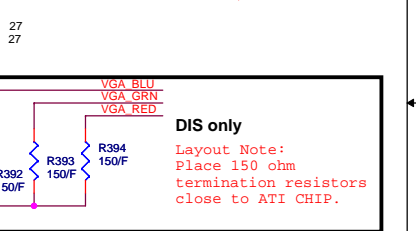
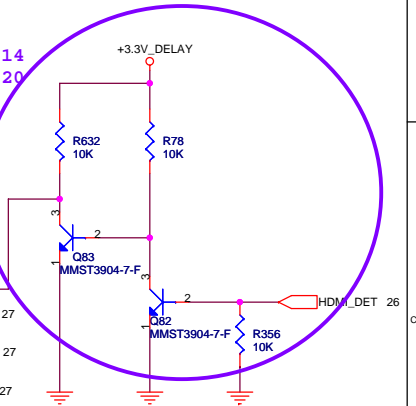
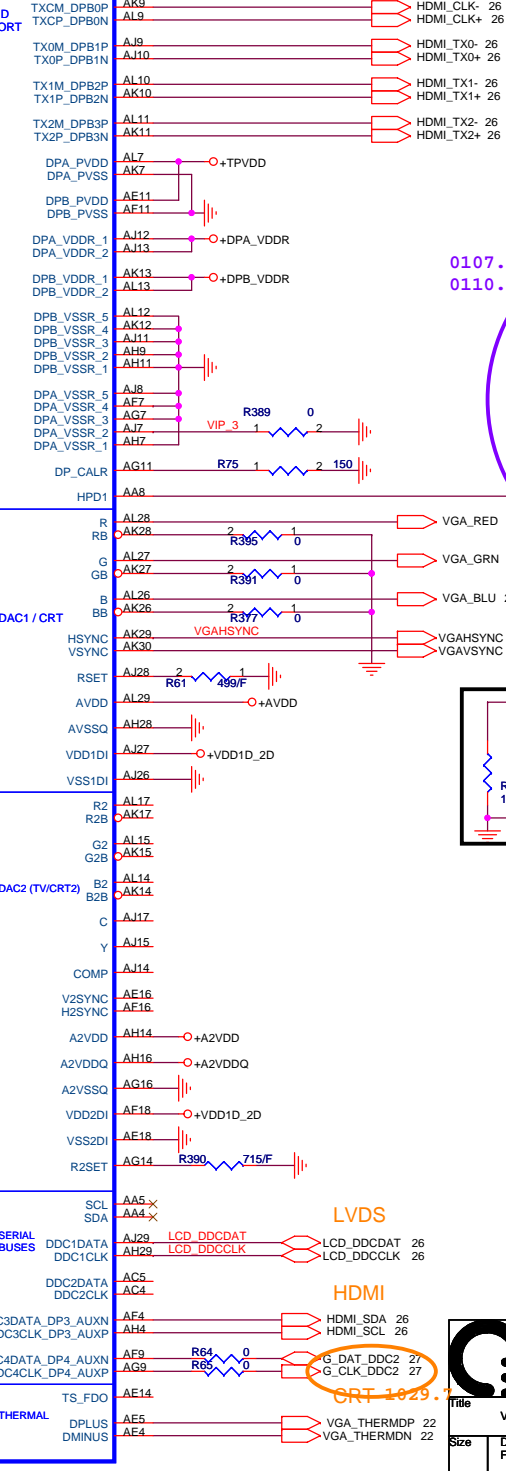
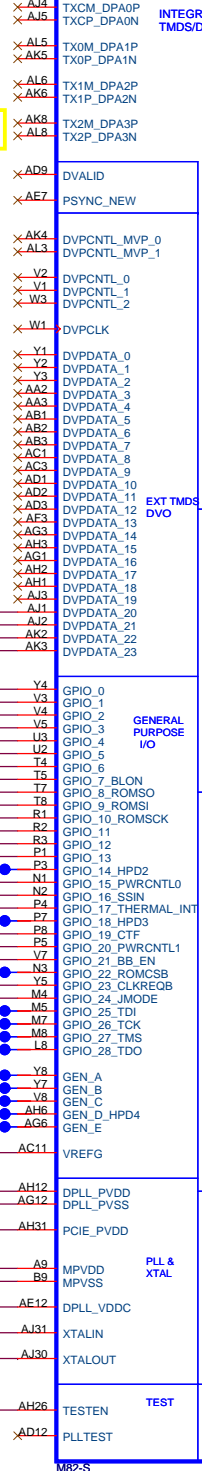
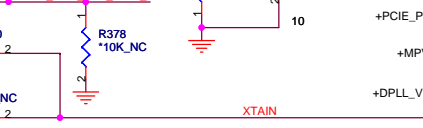
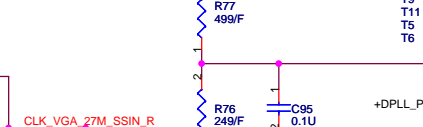
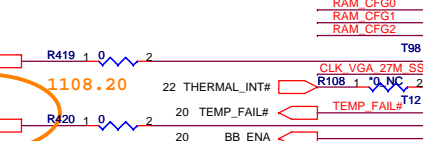
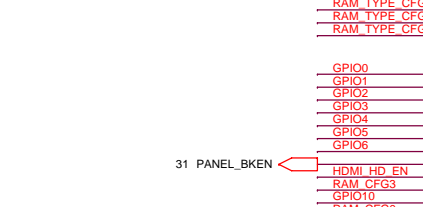
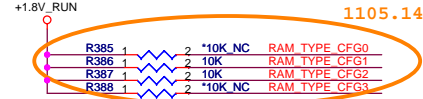


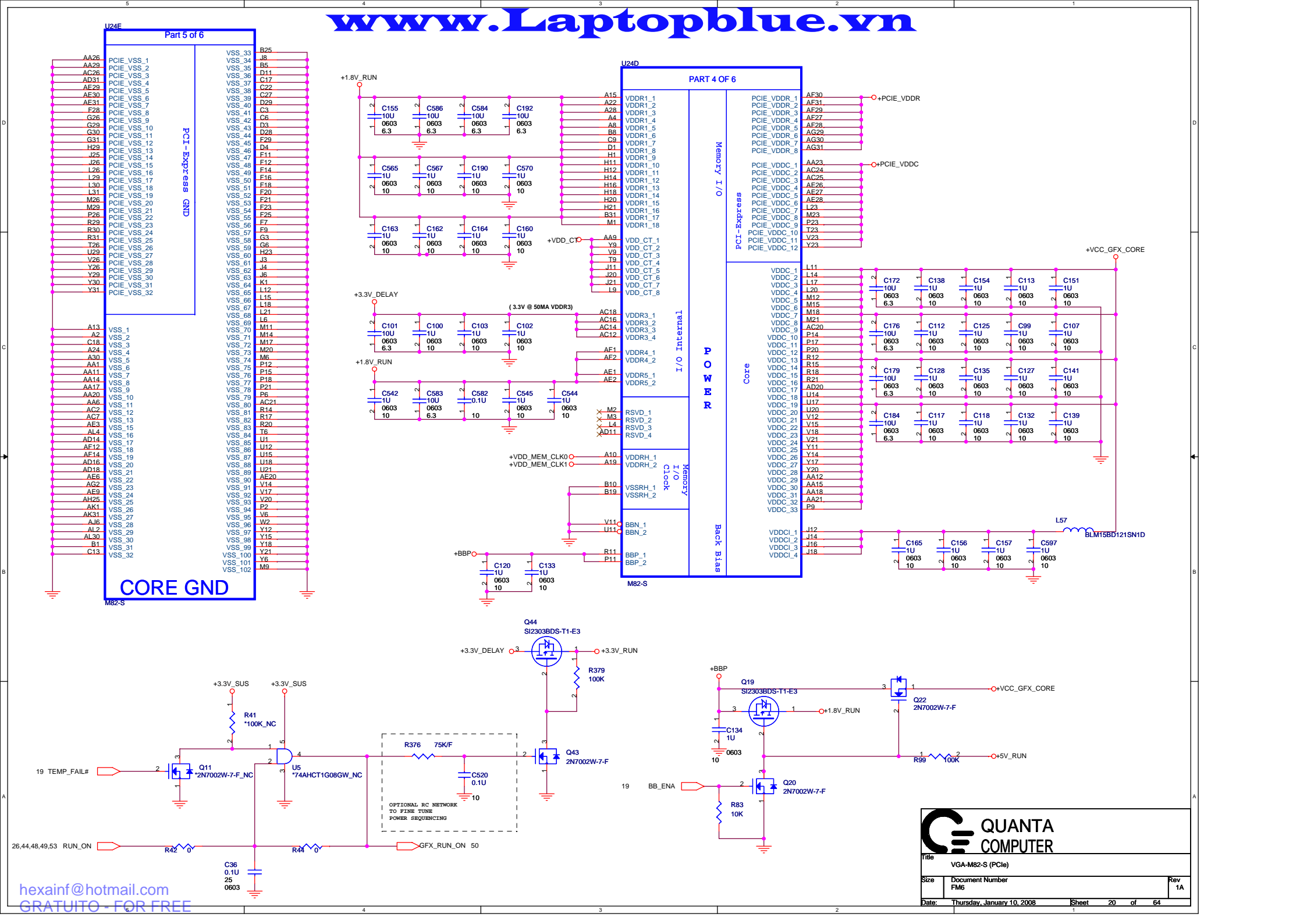
FSC	FSB	FSA	CPU	SRC	PCI
1	0	1	100	100	33
0	0	1	133	100	33
0	1	1	166	100	33
0	1	0	200	100	33
0	0	0	266	100	33
1	0	0	333	100	33
1	1	0	400	100	33
1	1	1	RSVD	100	33

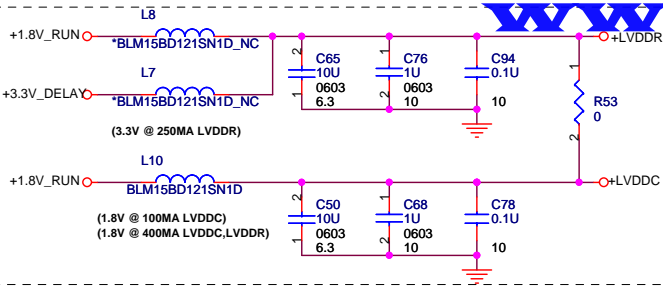
27M_SEL	PIN20	PIN21	PIN24	PIN25
27M_SEL (PIN13)				
0=UMA	DOT96T	DOT96C	96/ 100M_T	96/ 100M_C
1 = Disc. GRFX down	SRCT0	SRCC0	27Mout	27MSSout



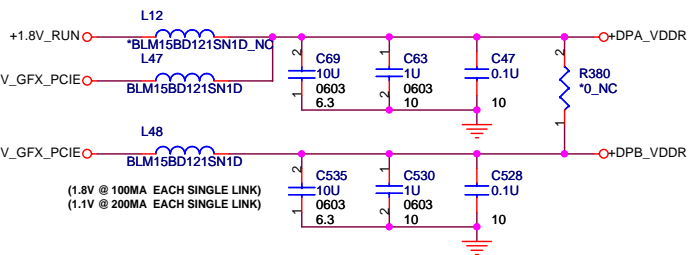
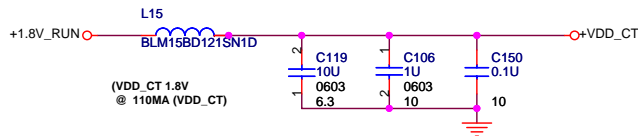
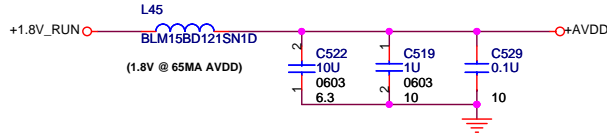
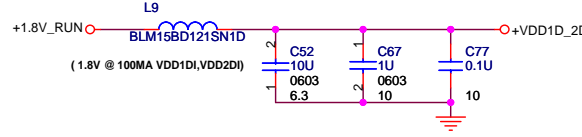
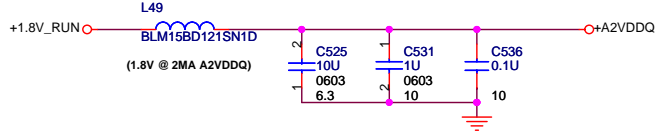
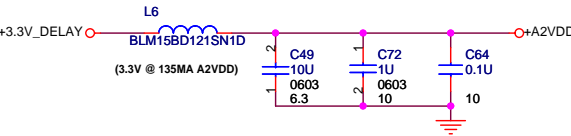
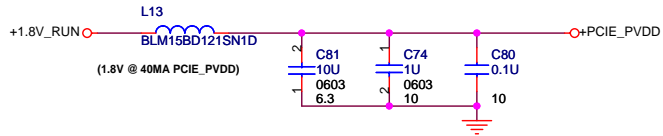
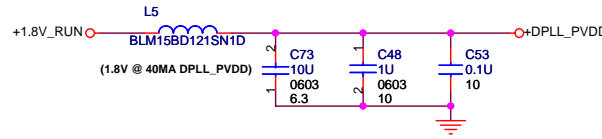
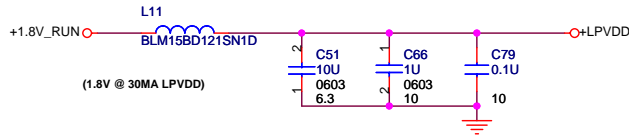
Memory Straps	RAMC1T1P CFG2	RAMC1T2P CFG2	RAMC1T3P CFG1	RAMC1T4P CFG0
400MHz 256MB(32M*16) Samsung	0	0	1	0
400MHz 256MB(32M*16) Hynix	0	0	1	1
500MHz 256MB(32M*16) Samsung	0	1	1	0
500MHz 256MB(32M*16) Qimonda	0	1	0	0



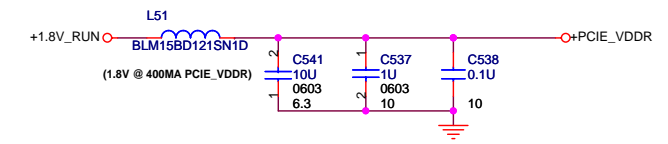
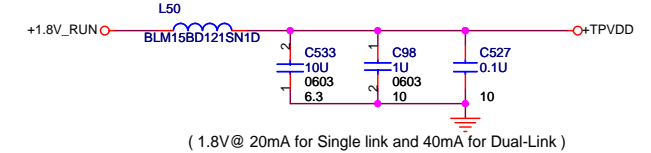
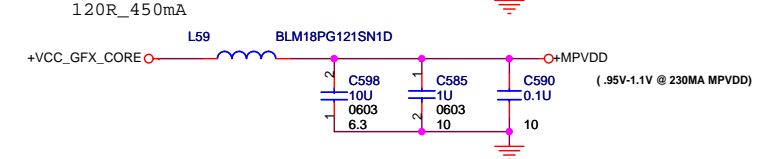
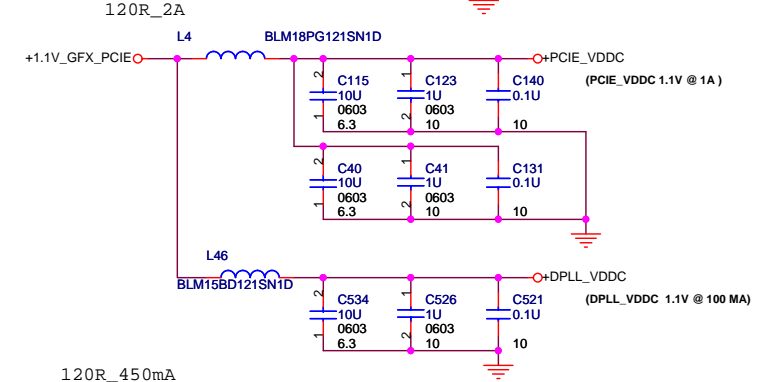
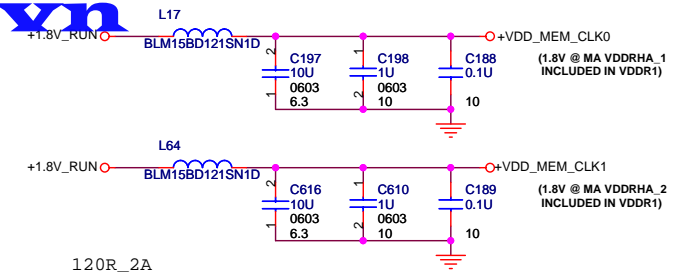




FOR M7x
INSTALL LVDDR TO +3.3V AND
LVDDC TO 1.8V
WITH SEPARATE FILTERS
DO NOT INSTALL STRAP RESISTOR
FOR M8x
INSTALL LVDDR AND LVDDC TO +1.8V
WITH THE ONE LVDDC FILTER
DO NOT INSTALL LVDDR FILTER
INSTALL STRAP RESISTOR



FOR M8x
INSTALL DPA_VDDR TO +1.1V AND
DPB_VDDR TO +1.1V
WITH SEPARATE FILTERS
DO NOT INSTALL STRAP RESISTOR
FOR M7x
INSTALL DPA_VDDR AND DPB_VDDR TO +1.8V
WITH THE ONE DPA_VDDR FILTER
DO NOT INSTALL DPB_VDDR FILTER
INSTALL STRAP RESISTOR

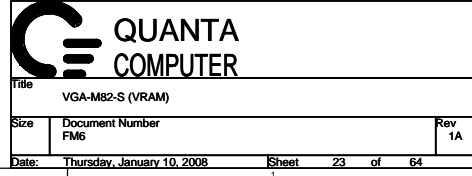


PLACE ALL DECOUPLING AS CLOSE TO ASIC AS POSSIBLE



Title VGA-M82-S (PCIe)		
Size FM6	Document Number FM6	Rev 1A
Date Thursday, January 10, 2008	Sheet 21	of 64





GPIO Straps table	DESCRIPTION OF DEFAULT SETTINGS	ATI Usage	FM6 Usage
GPIO0	PCIE FULL TX OUTPUT SWING	X	1
GPIO1	PCIE TRANSMITTER DE-EMPHASIS ENABLED	X	1
GPIO2	ATI reserved configuration straps.	RSVD	0
GPIO3	ATI reserved configuration straps.	RSVD	0
GPIO4	DEBUG SIGNALS MUXED OUT	0	0
GPIO5	Allows either PCIe 2.5GT/s or 5.0GT/s operation	X	0
GPIO6	ATI Internal use only	0	0
GPIO10	Serial ROM clock to ROM.		0
ATI Usage recommended settings		0= DO NOT INSTALL RESISTOR, X = DESIGN DEPENDANT, RSVD = ATI RESERVED (DO NOT INSTALL)	

D

D

C


C

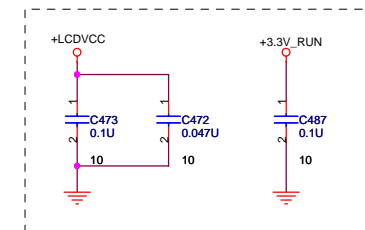
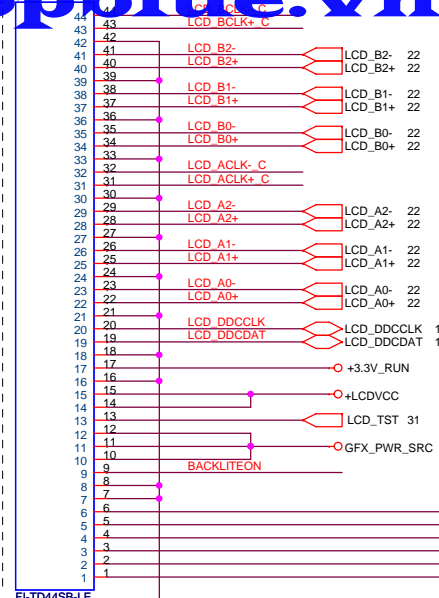
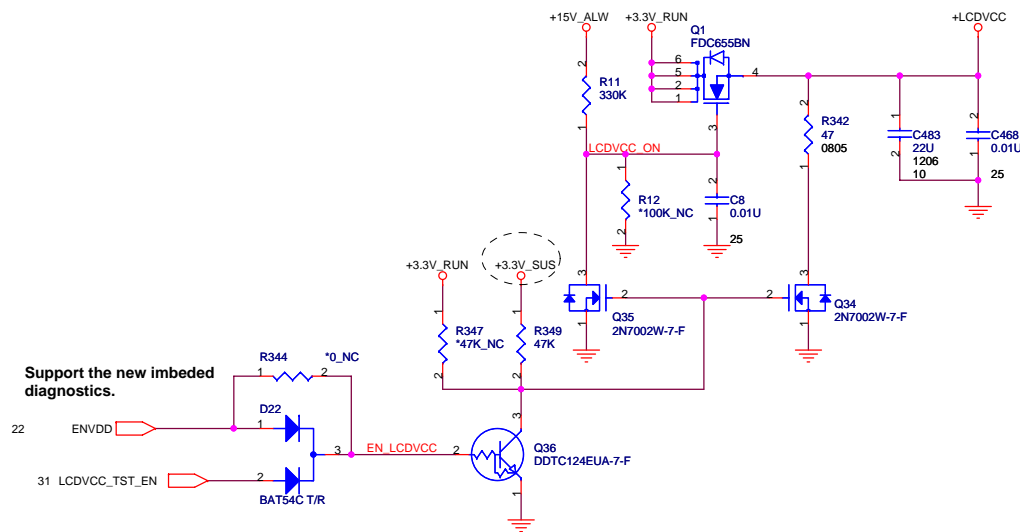
B

B

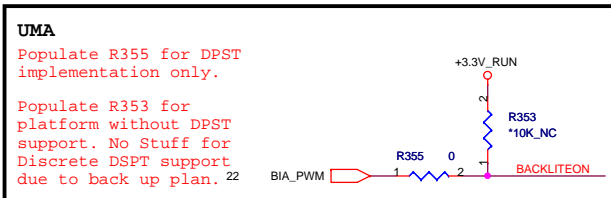
A

A

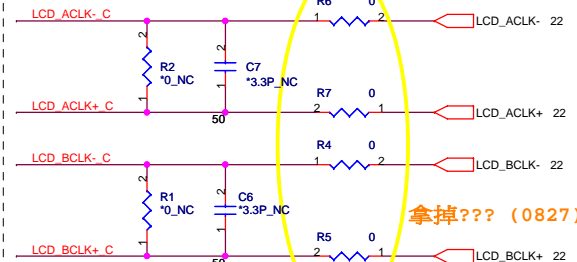
		QUANTA COMPUTER	
Title		VGA-M82-S (PCIe)	
Size	Document Number FM6		Rev 1A
Date:	Monday, December 31, 2007	Sheet	25 of 64



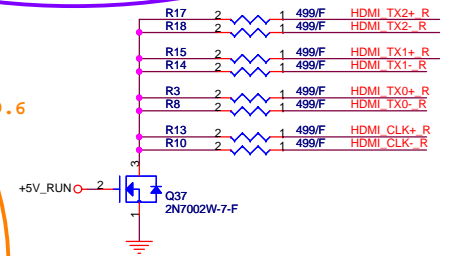
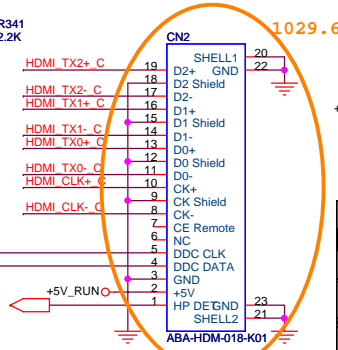
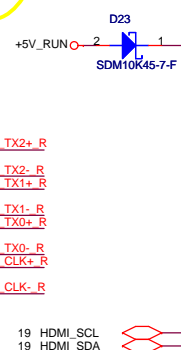
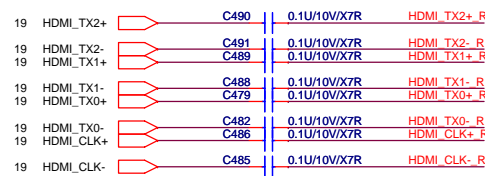
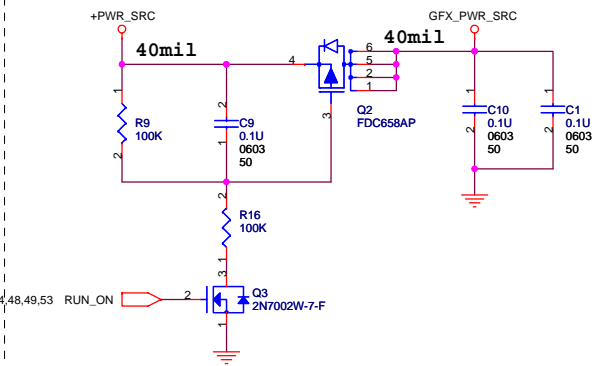
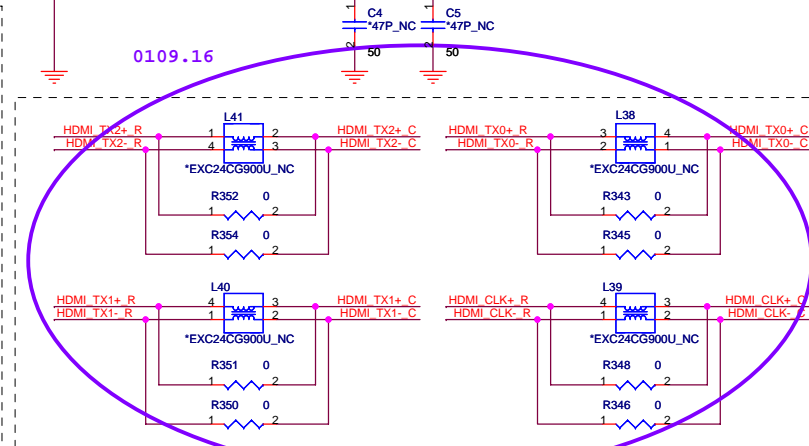
Adress : A9H --Contrast
AAH --Backlight



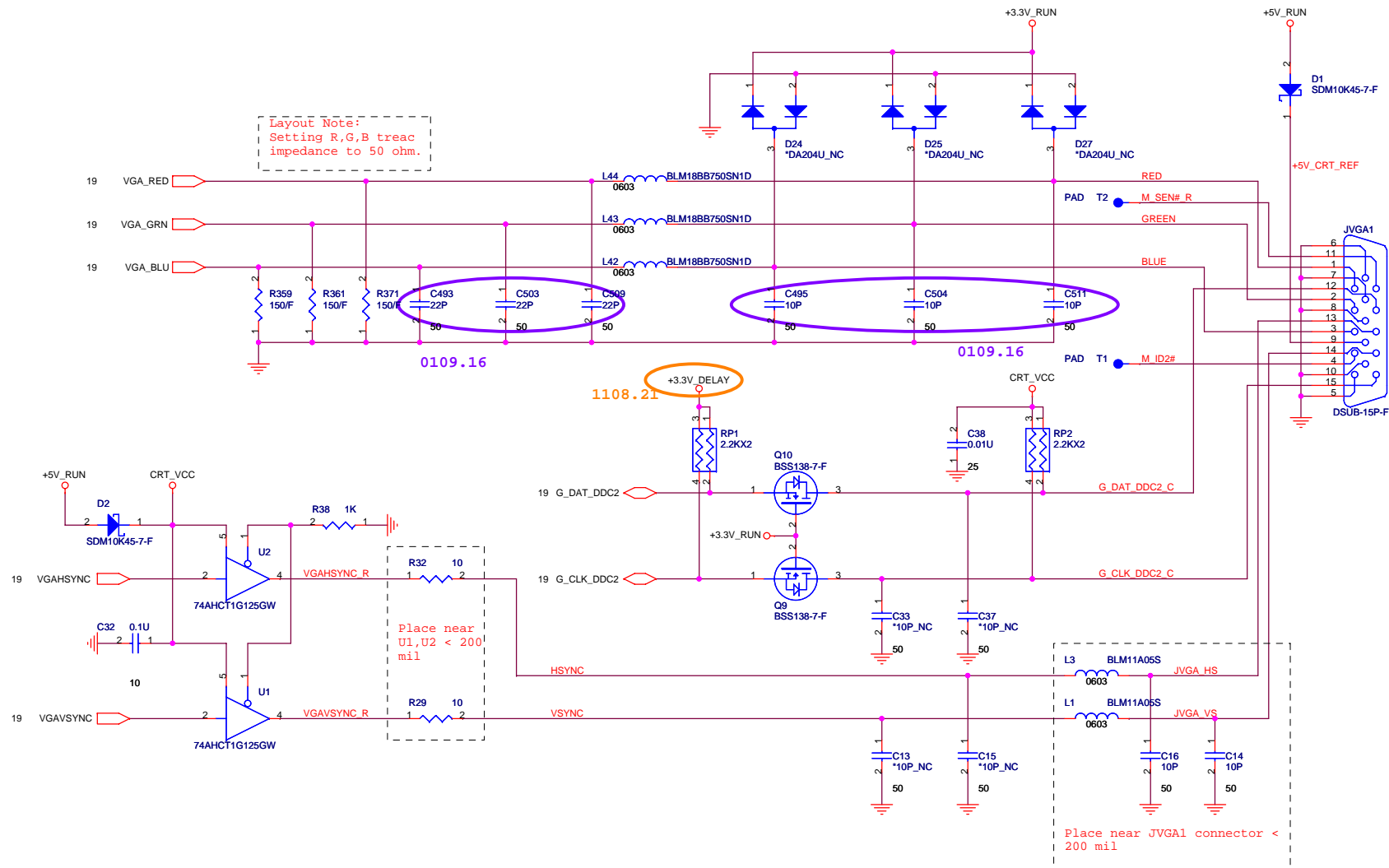
LCD B0-	C477	1	2	*3.3P NC	50	LCD B0+
LCD B1-	C481	1	2	*3.3P NC	50	LCD B1+
LCD B2-	C476	1	2	*3.3P NC	50	LCD B2+
LCD A0-	C3	1	2	*3.3P NC	50	LCD A0+
LCD A1-	C471	1	2	*3.3P NC	50	LCD A1+
LCD A2-	C2	1	2	*3.3P NC	50	LCD A2+

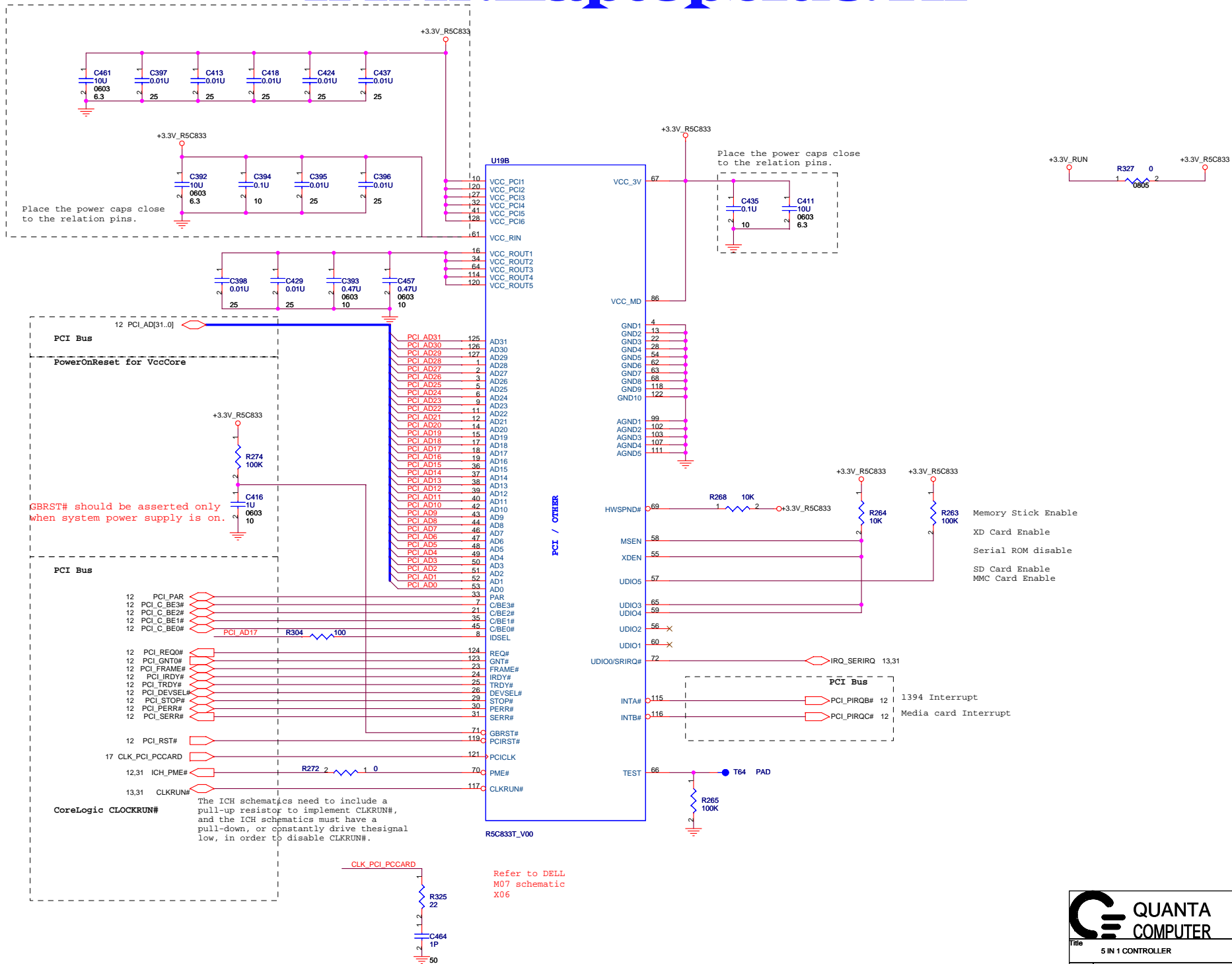


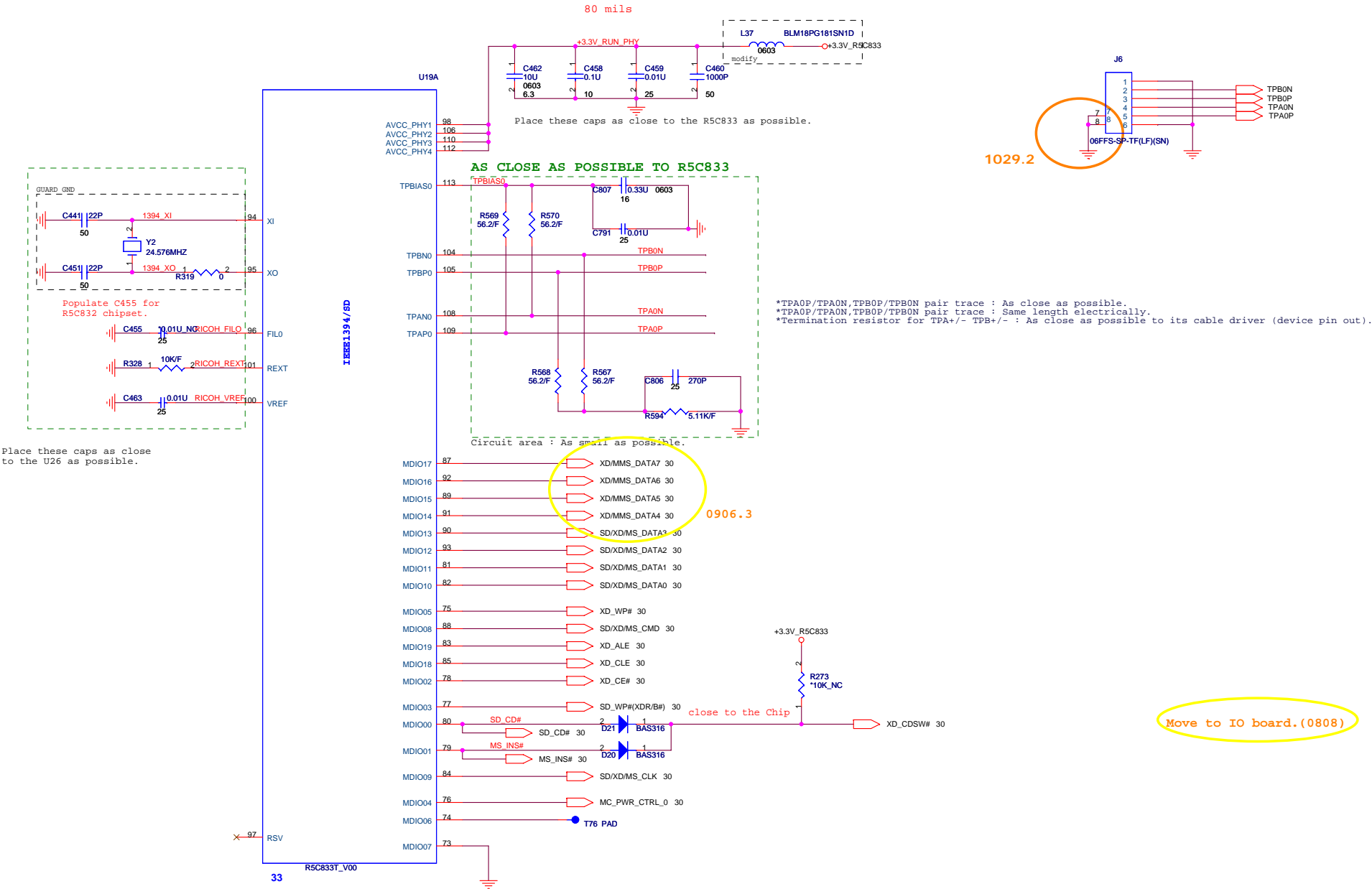
拿掉??? (0827)



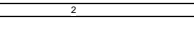
Title			
LCD CONN & CK-SSCD			
Size	Document Number		Rev
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Date:	Friday, January 11, 2008	Sheet	26 of 64
		1	







+1.5V_CARD Max. 650mA, Average 500mA.
+3V_CARD Max. 1300mA, Average 1000mA.



Please the cap
near connector.

JAE PX10FS16PH-26P

PCI-Express TX and RX direct to connector.

+1.5V_RUN
C402
0.1U
10

Please the cap near pin 12 & 14(1.5VIN).

+3.3V_RUN


C400
0.1U

10

Please the cap
near pin 2 & 4
(3.3VIN).

+3.3V_SUS
C412
0.1U
10
Please the cap near pin 17 (AUXIN).

+3.3V_CARDAUX




C404
0.1U

10

Please the cap
near pin 15
(AUXOUT).

+3.3V_CARD



C389
0.1U

10

Please the cap
near pin 3 & 5
(3.3VOUT).

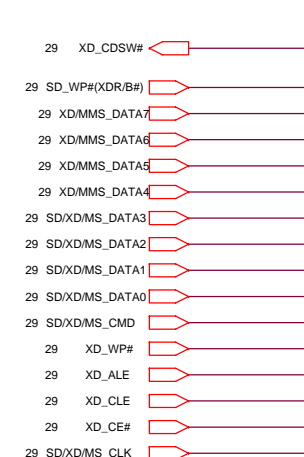
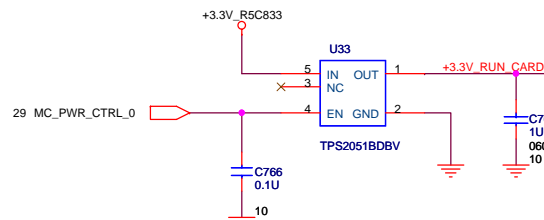
+1.5V_CARD

C401
0.1U

10

Please the cap near pin 11 & 13(1.5VOUT).

8 IN1 CARD READER



QUANTA
COMPUTER

Title	ExpressCard/SmartCard
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Size	Document Number
------	-----------------

	FMB
Date:	Friday, January 11, 2008

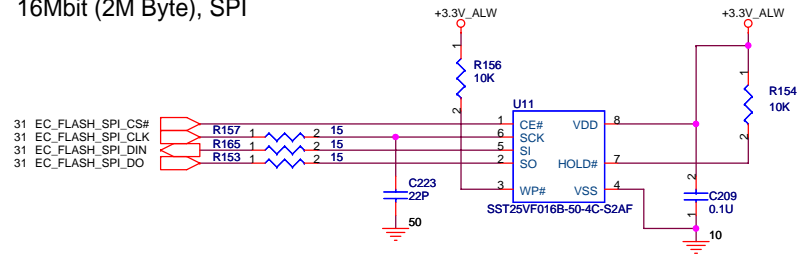
7	
---	--

Rev 4

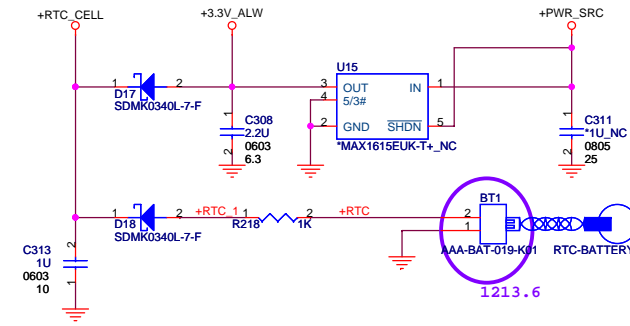
Sheet 30 of 64

8

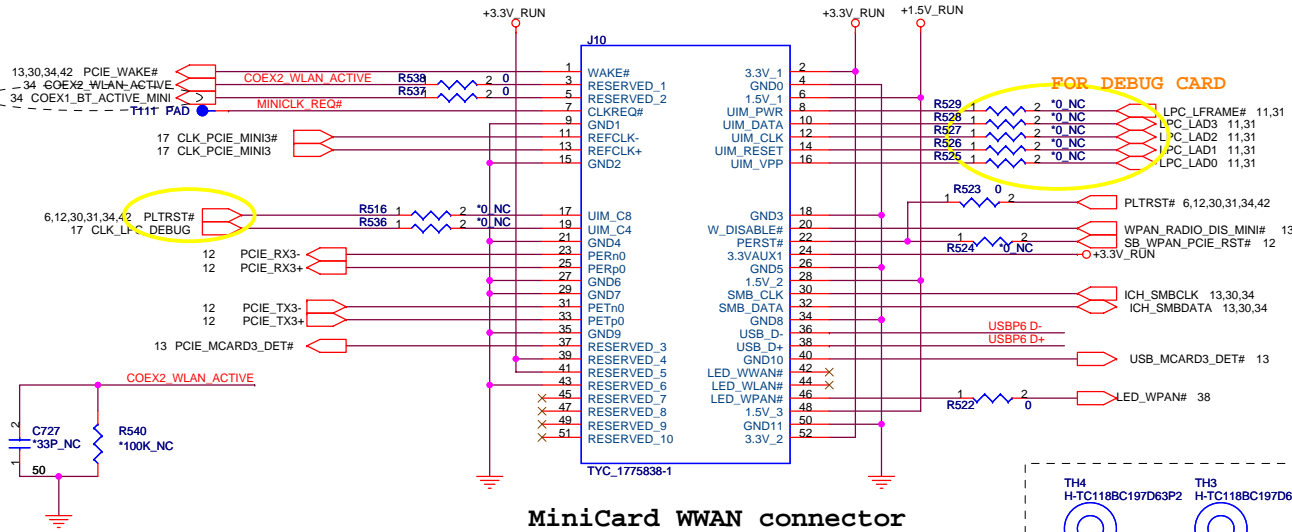
16Mbit (2M Byte), SPI



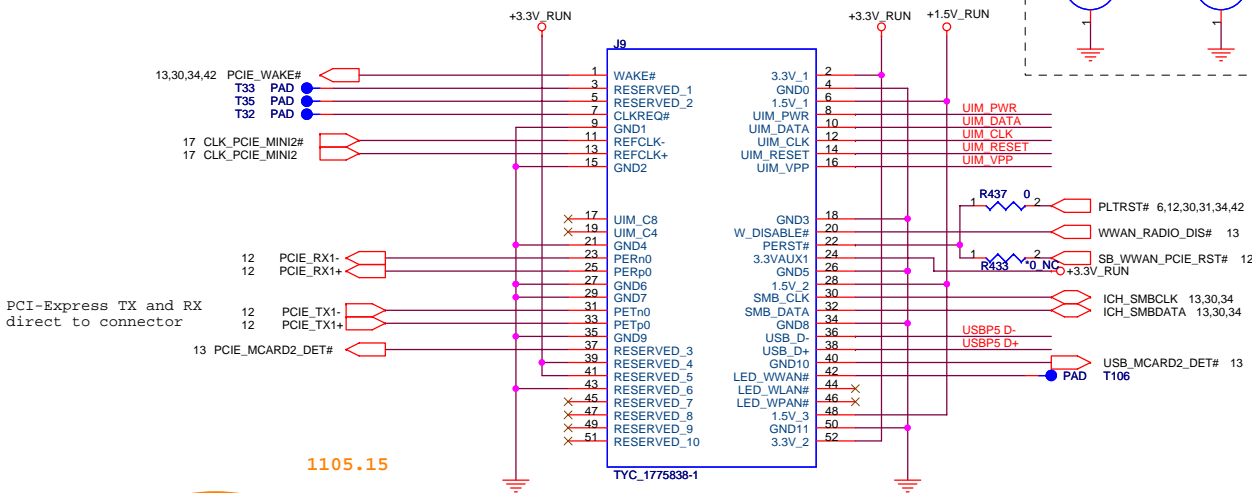
RTC BATTERY



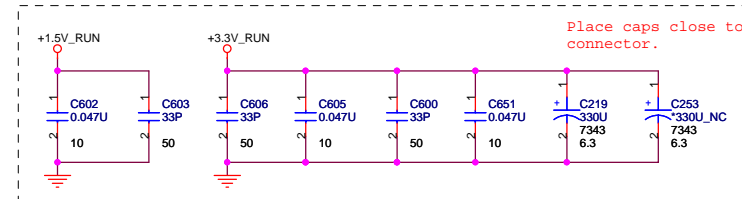
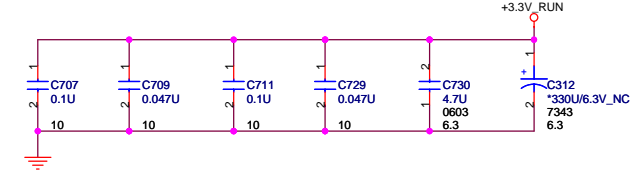
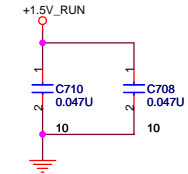
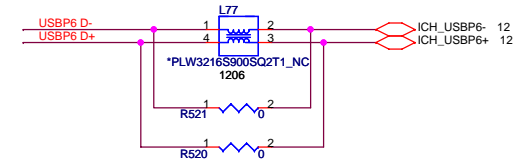
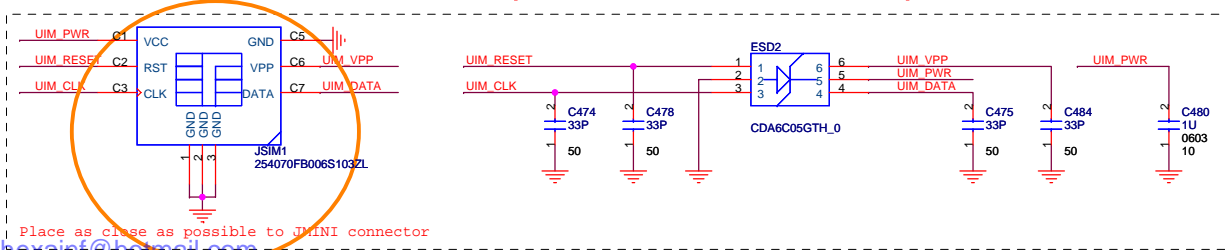
MiniCard Robson, BT. UWB connector



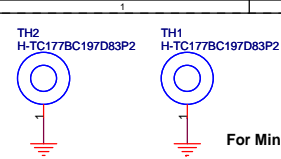
MiniCard WWAN connector



1105.15

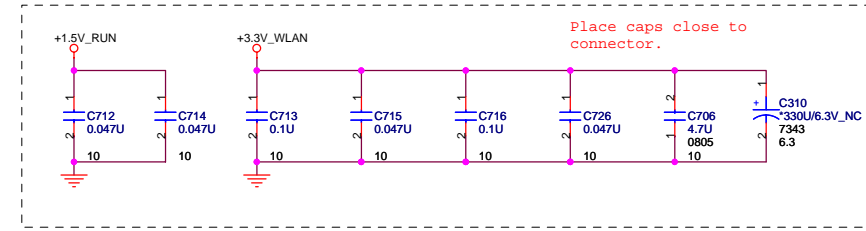
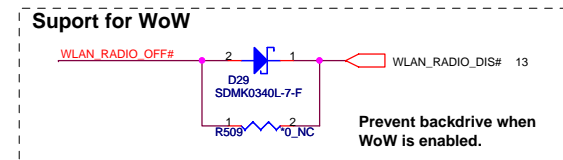
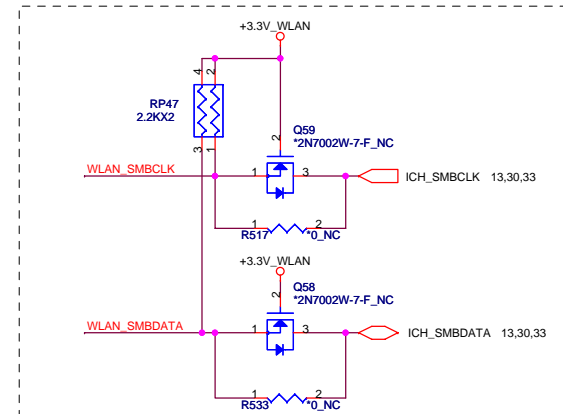
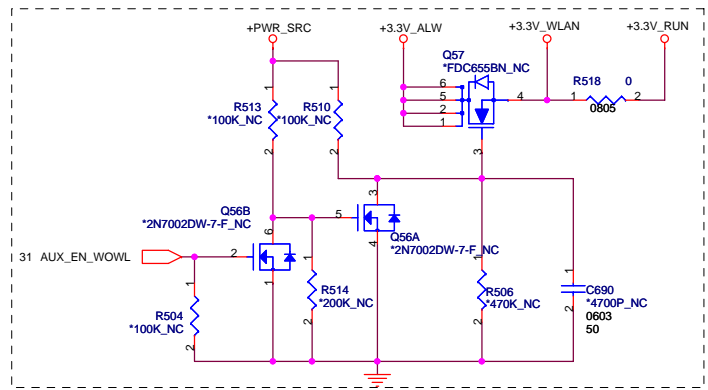
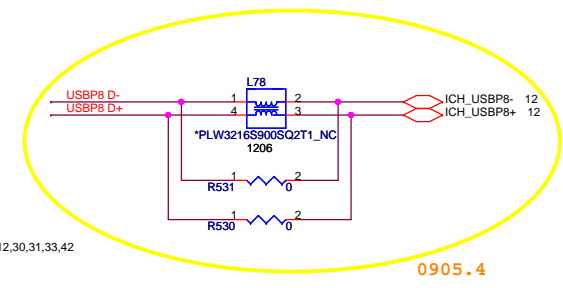
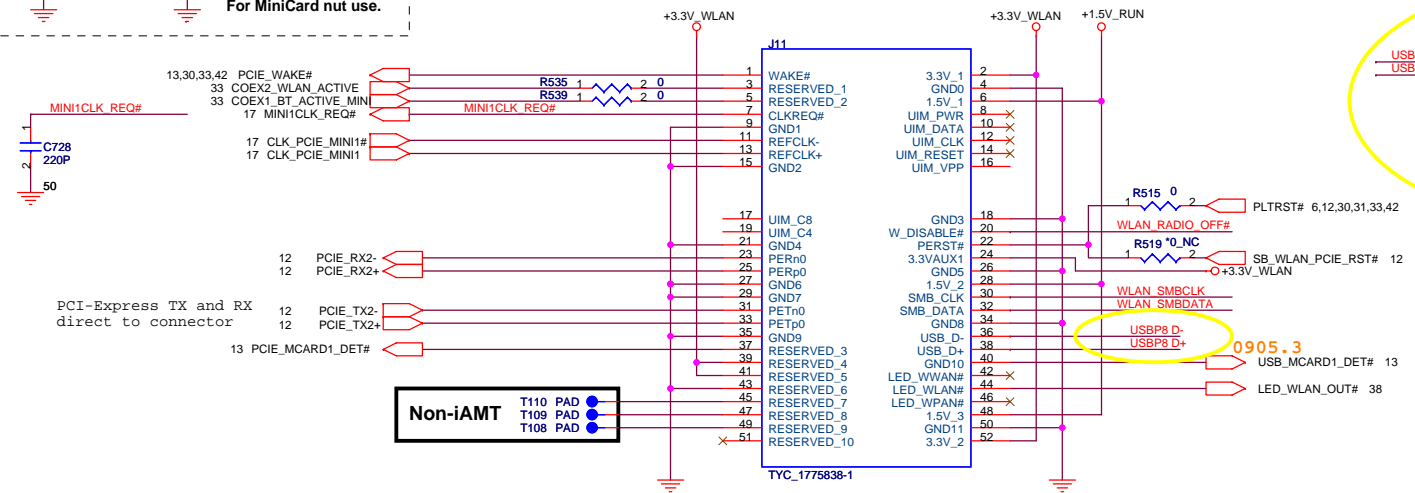


Title MINI-PCI		
Size FM6	Document Number	Rev 1A
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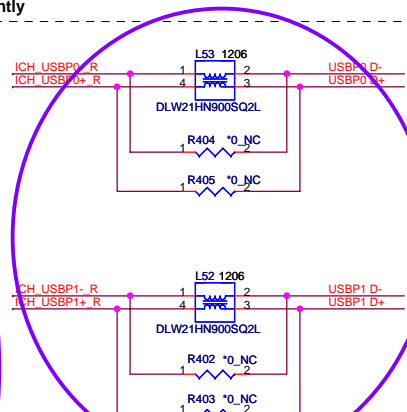


www.Laptopblue.vn

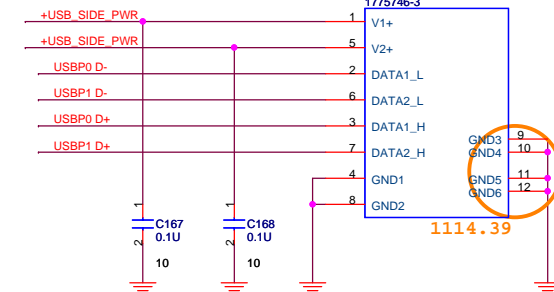
MiniCard WLAN connector



0109.16

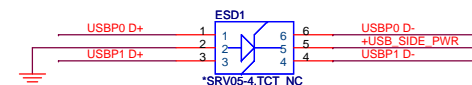


! Side pair Top / left



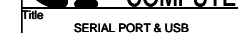
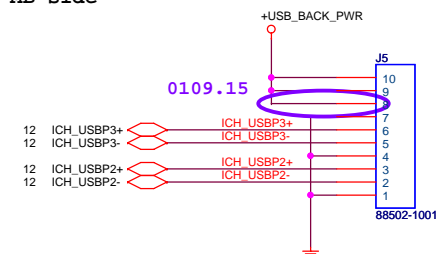
1114.39

Place ESD diodes as close as USB connector.



Place one 150uF cap by each USB connector.

MB side



Size

Size	Document Number
	5146

1

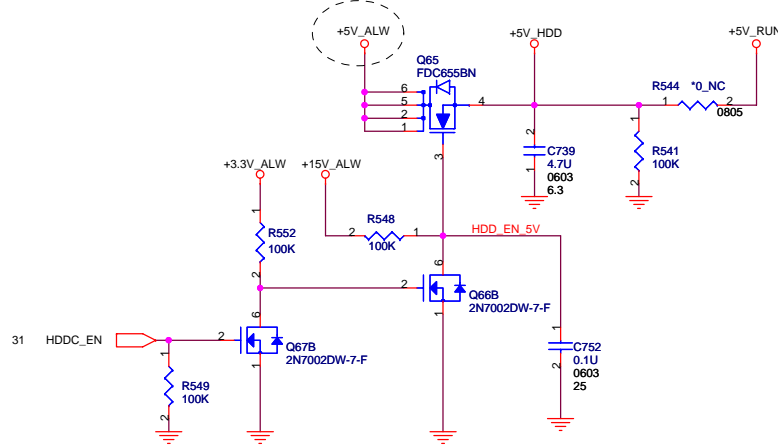
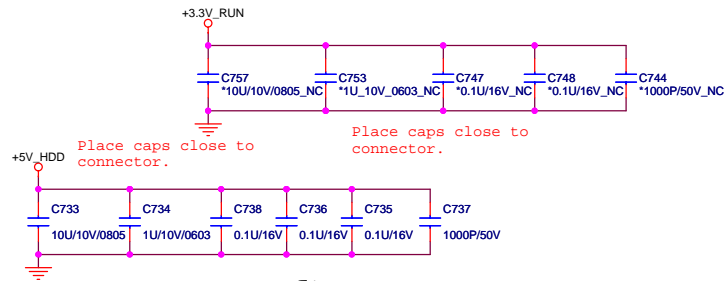
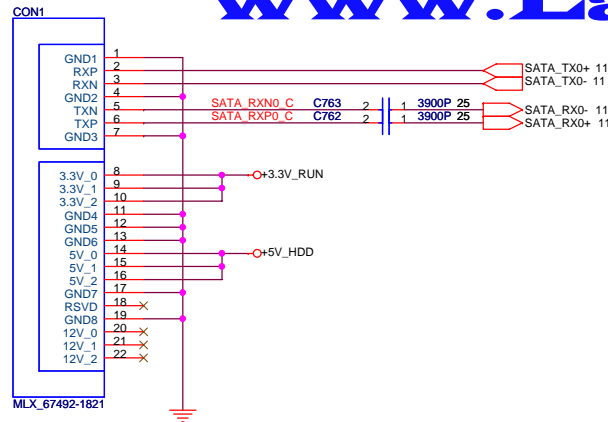
FM6

Date: Thursday, January 10, 2008

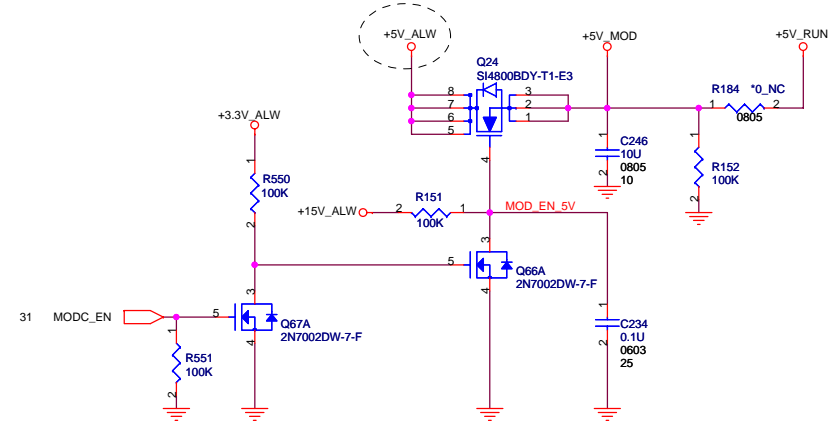
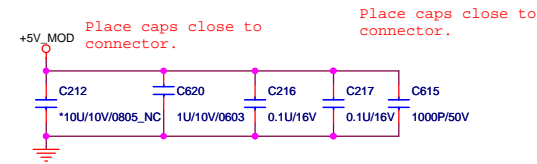
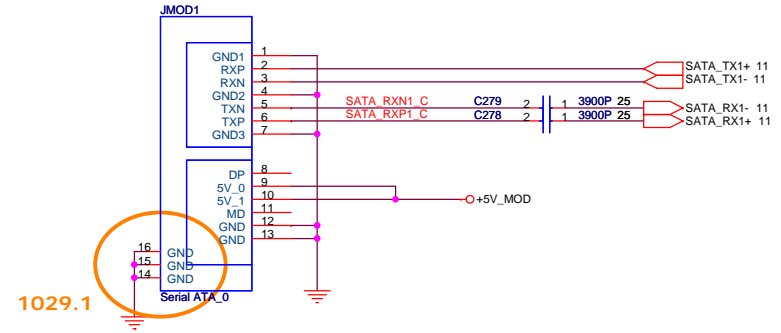
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Rev
1A

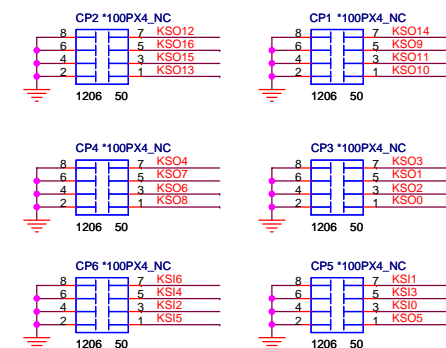
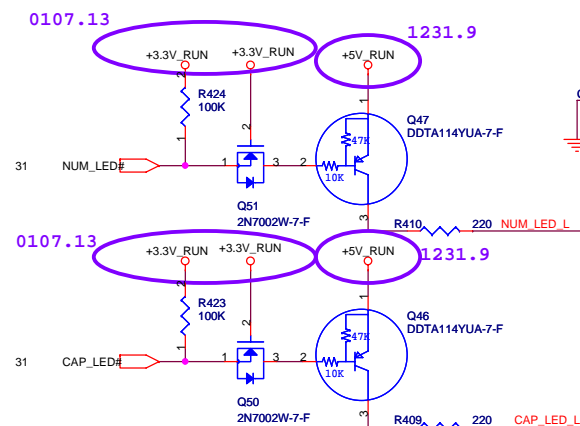
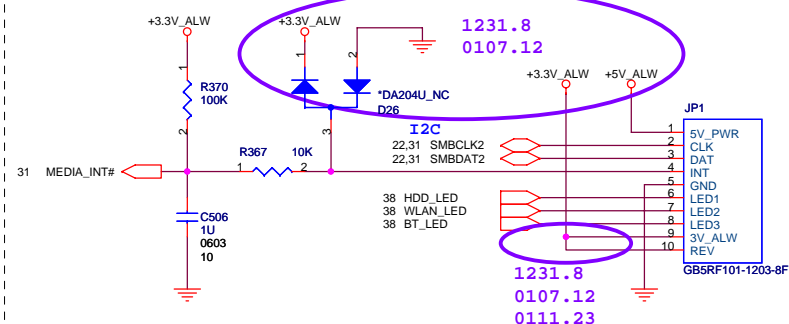
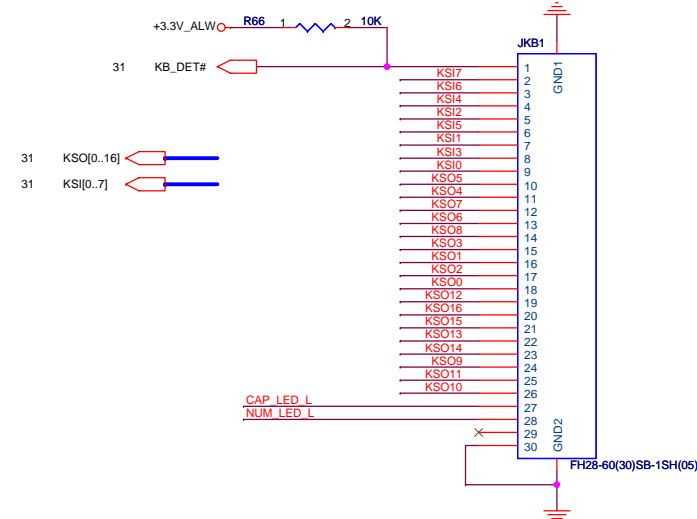
SATA Connector.



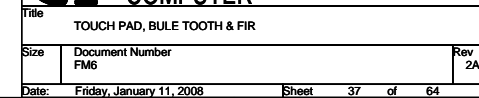
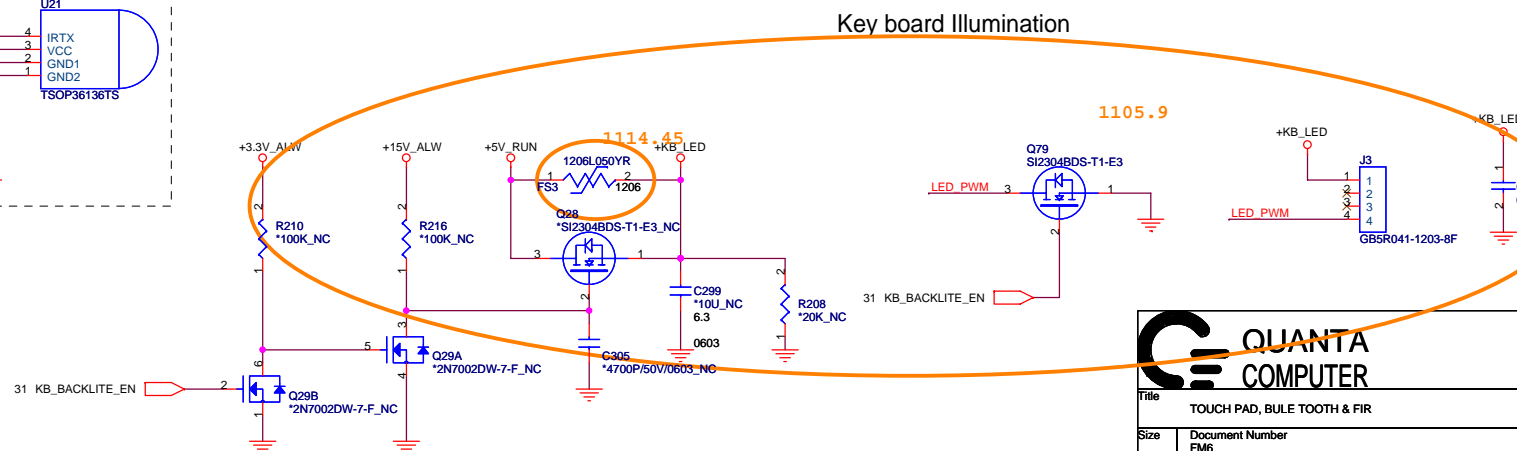
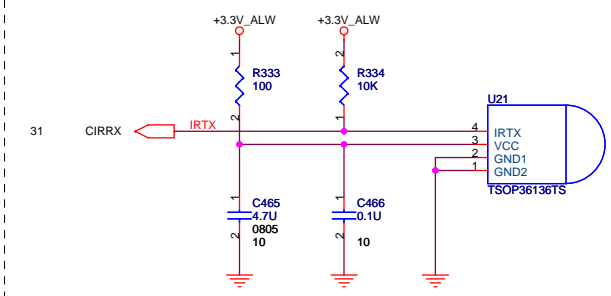
ODD Connector



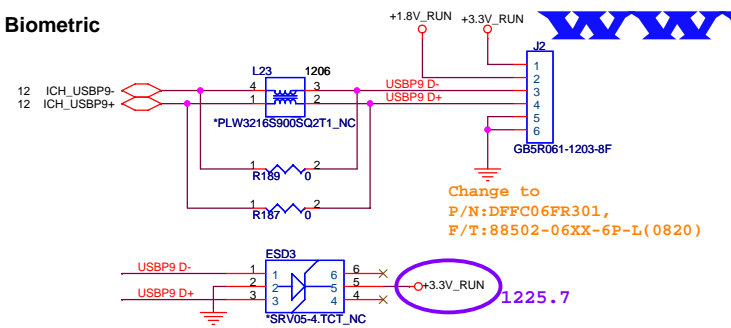
Title			SATA (HDD&CD_ROM)
Size	Document Number	Rev	
	FM6	1A	
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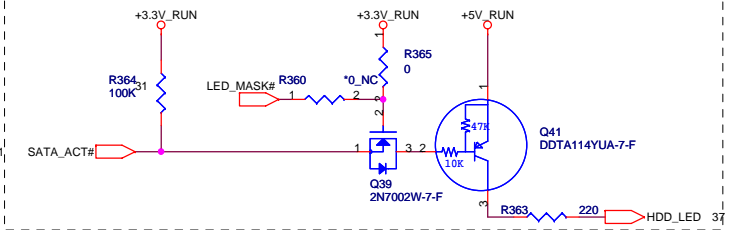
100P CAPS CLOSE TO JKB1



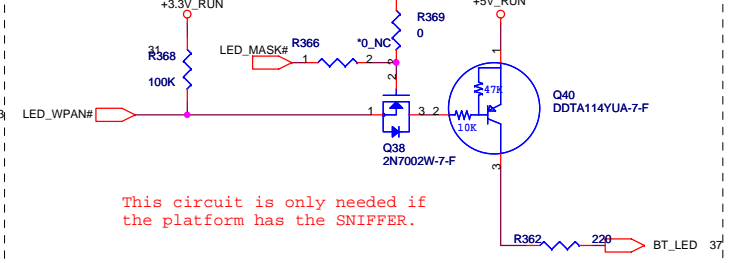
Biometric



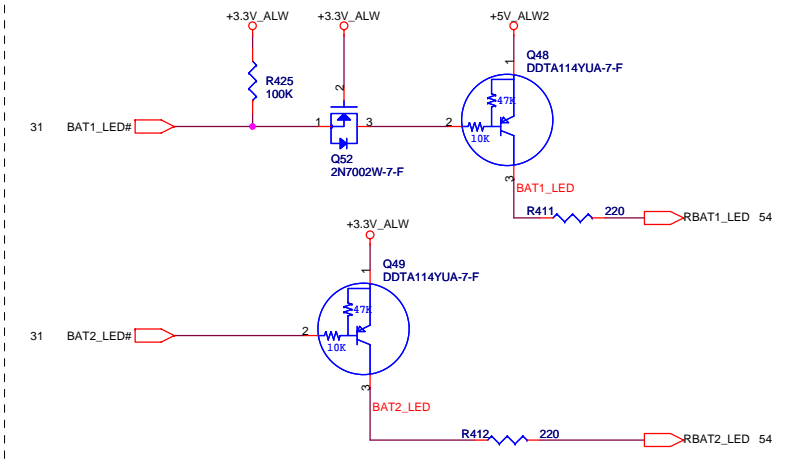
HDD activity LED.



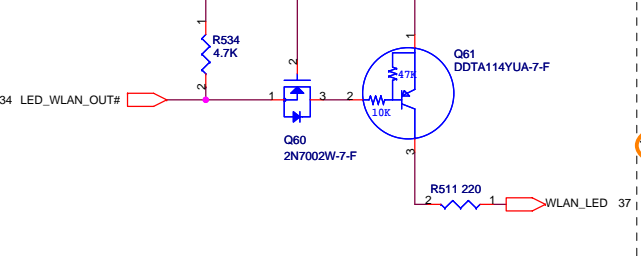
BT / UWB LED



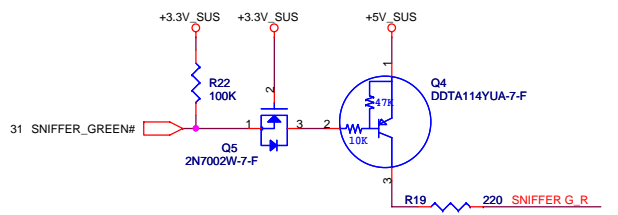
Battery status.



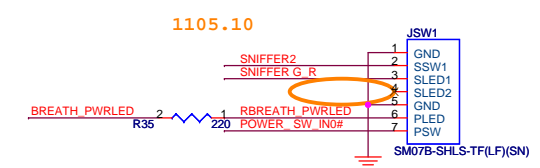
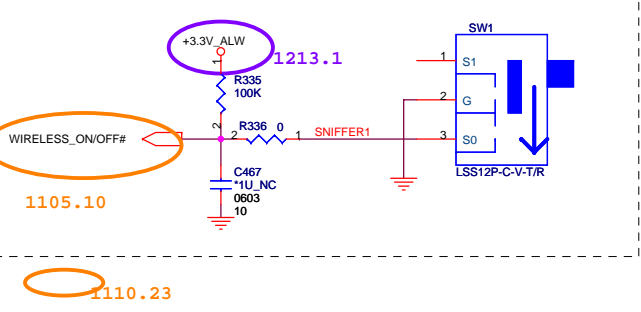
WLAN



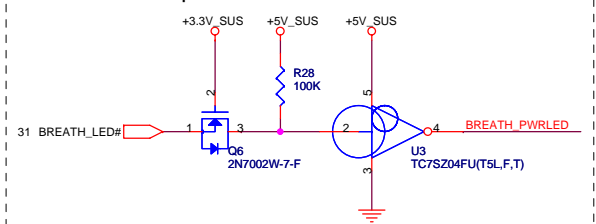
Sniffer Bottom



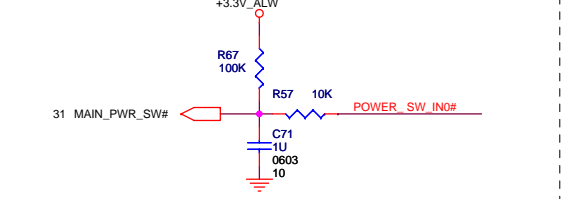
Sniffer Switch ON/OFF Sniffer Switch

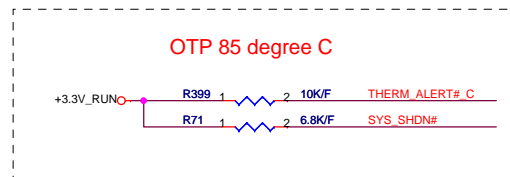


Power & Suspend.

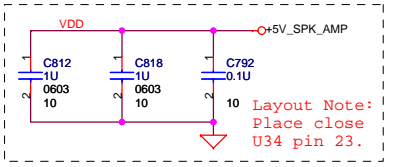
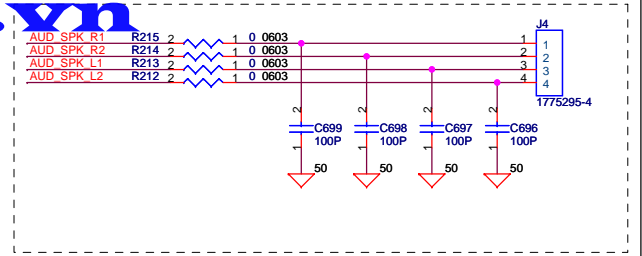
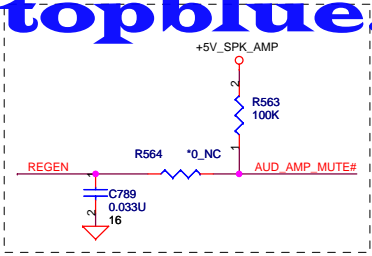
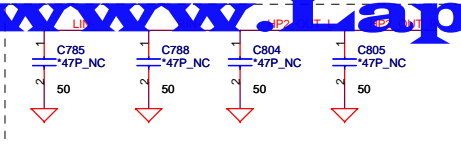
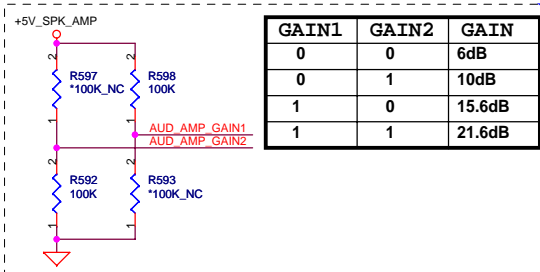


Power Switch

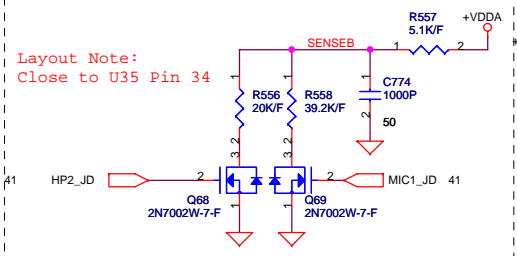
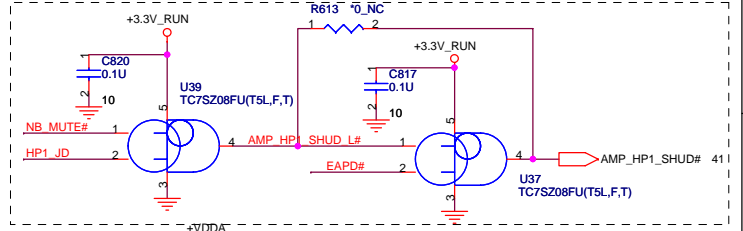
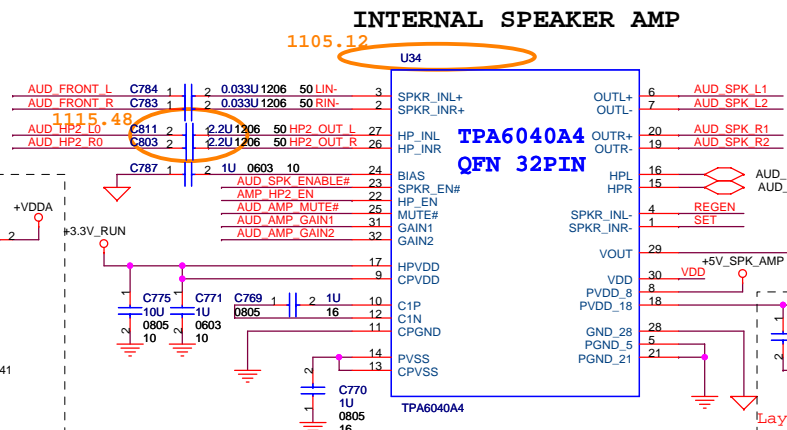




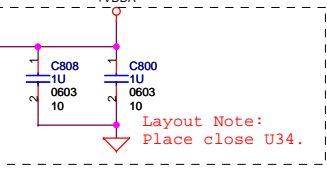
GAIN1	GAIN2	GAIN
0	0	6dB
0	1	10dB
1	0	15.6dB
1	1	21.6dB



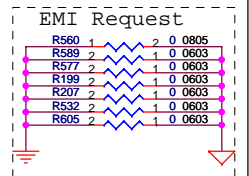
Layout Note:
Place close
U34 pin 23.



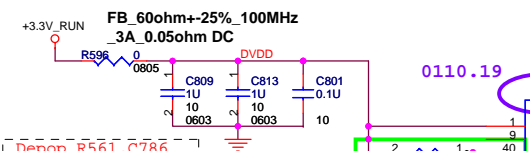
Layout Note:
Close to U35 Pin 34



Layout Note:
Place close U34.



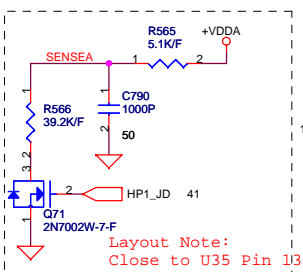
EMI Request



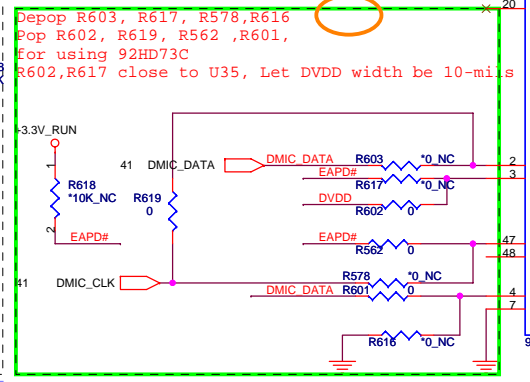
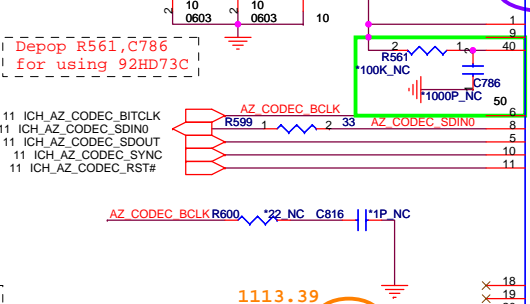
Depop R561, C786
for using 92HD73C

AZALIA (HD) CODEC

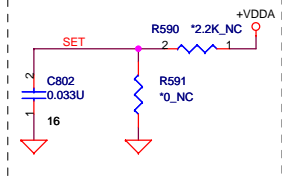
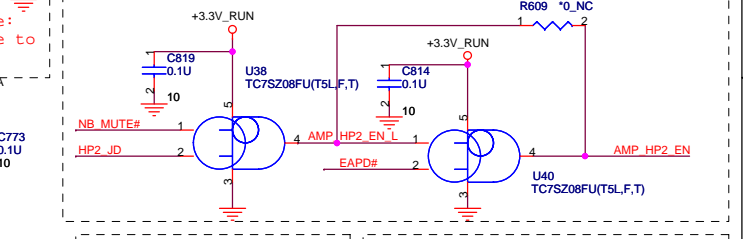
0110.19



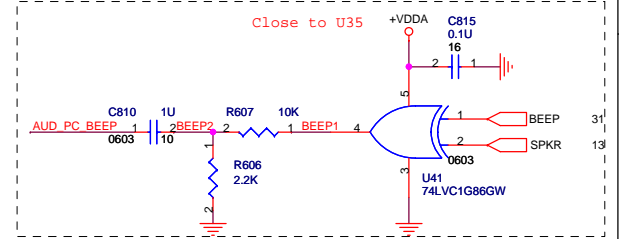
Layout Note:
Close to U35 Pin U3



Depop R603, R617, R578, R616
Pop R602, R619, R562, R601,
for using 92HD73C
R602, R617 close to U35, Let DVDD width be 10-mils



Layout Note:
Place close to
pin 8.



Close to U35

Title: Azalia CODEC

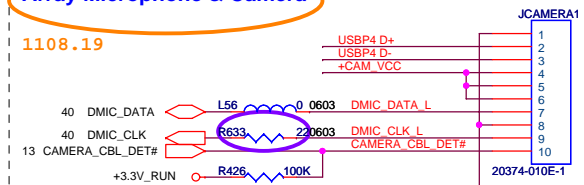
Size: Document Number FM6

Date: Thursday, January 10, 2008

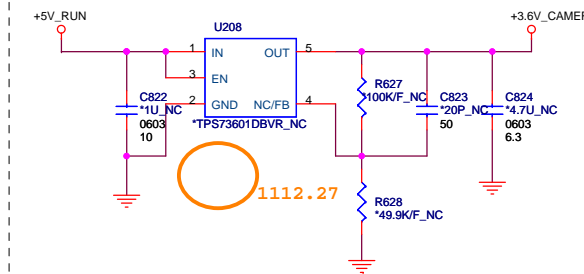
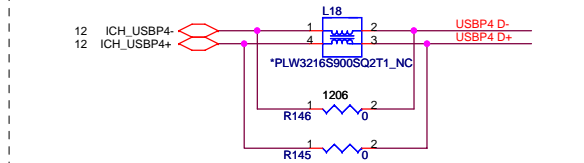
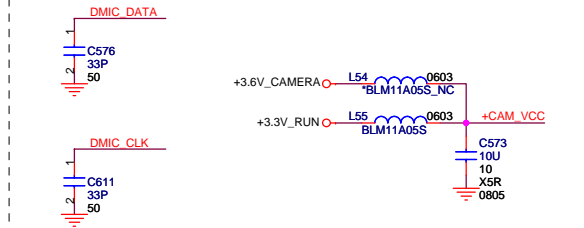
Sheet: 40 of 64

Rev: 1A

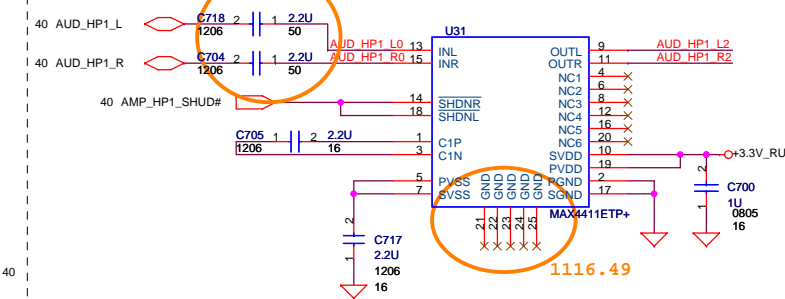
1108.19



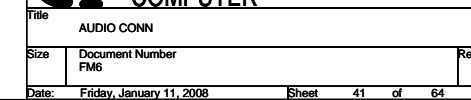
0111.21

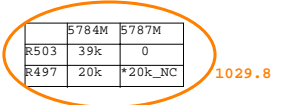


1115.48



1116.49

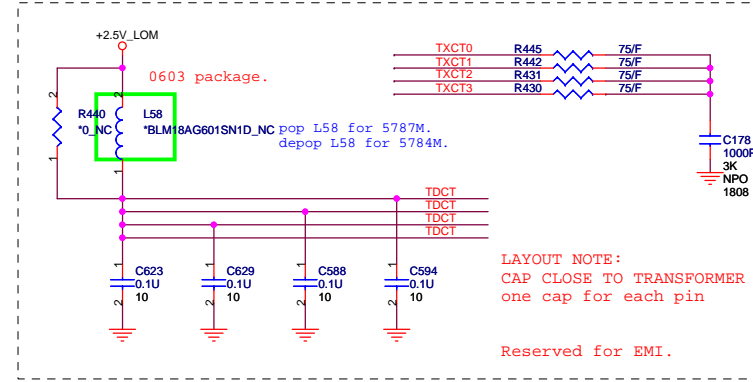
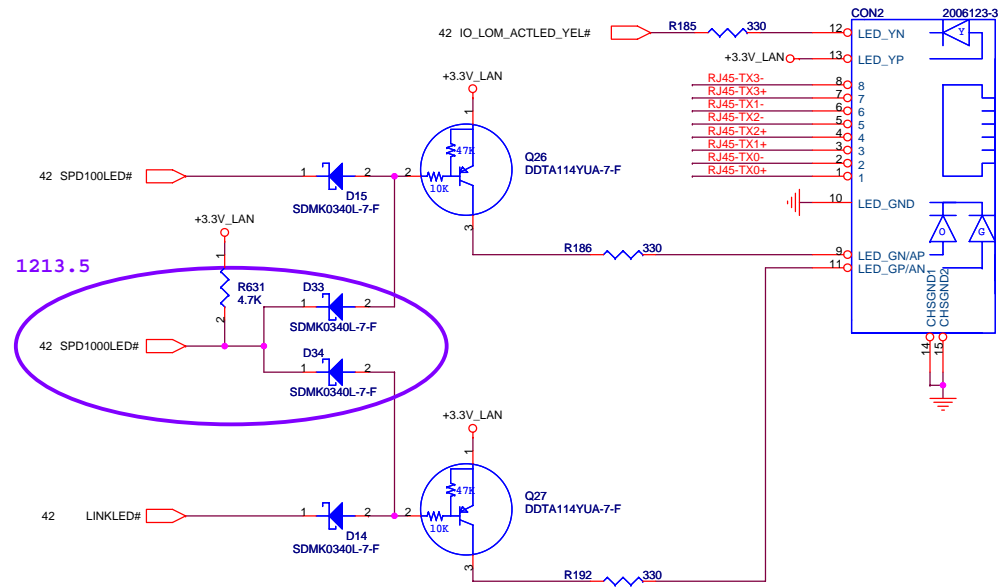
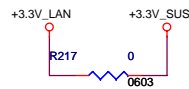
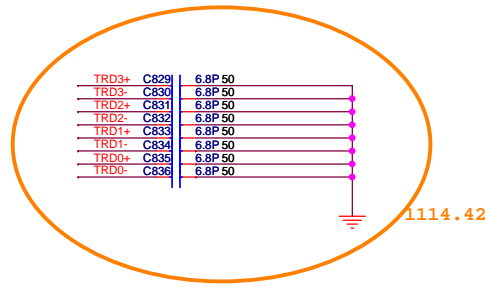
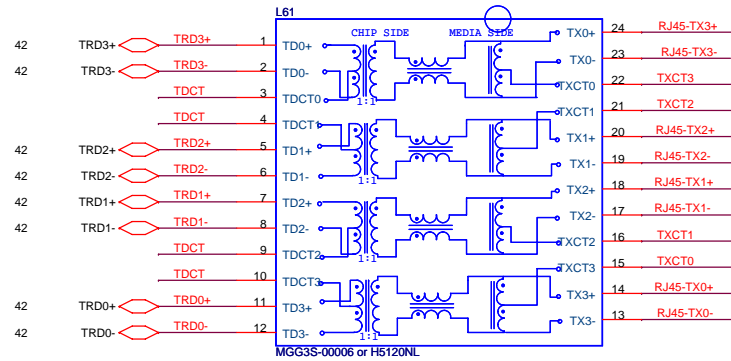


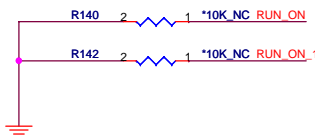
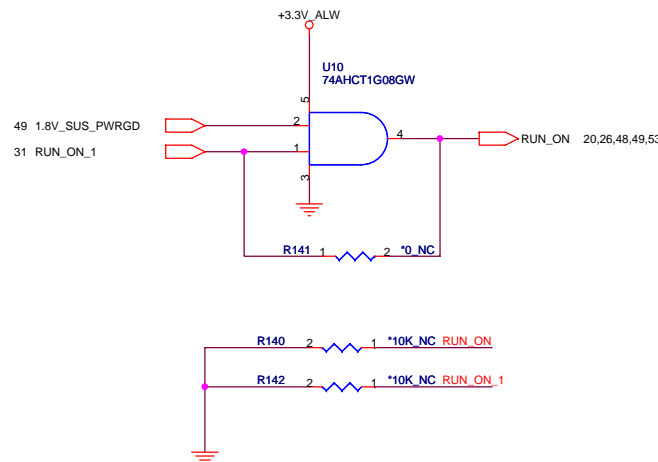
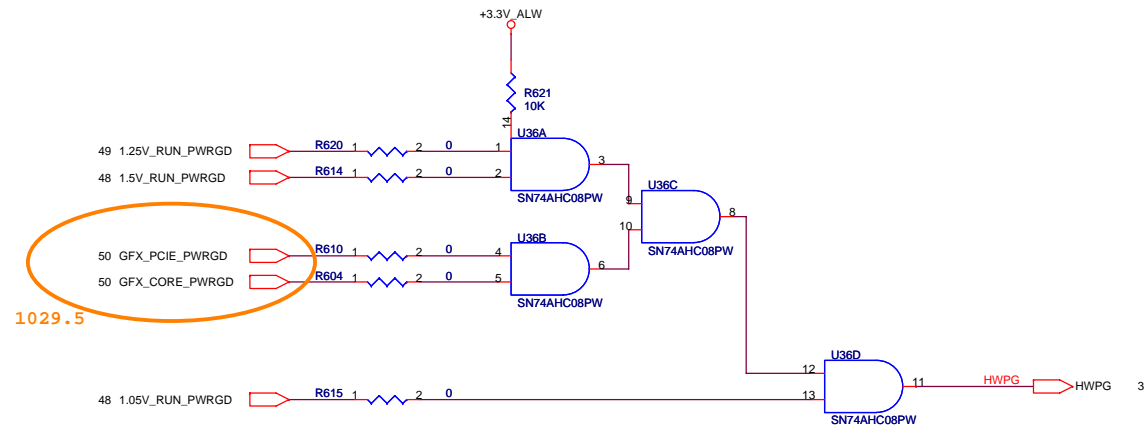
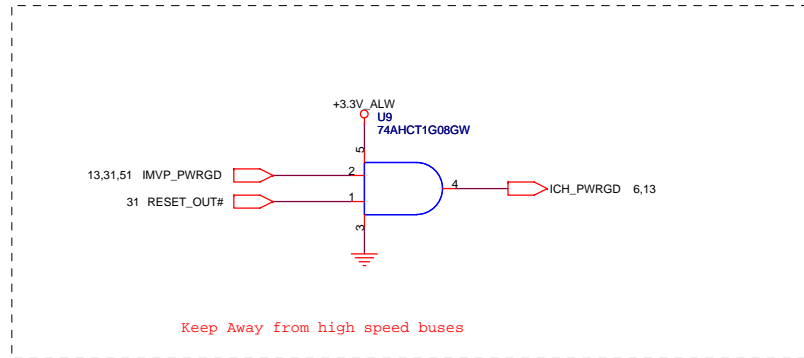



1029.8

TRANSFORM

TRANSFORM





 QUANTA COMPUTER	
Title: System Reset Circuit	
Size: FM6	Document Number: Rev 1A
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A

A

B


B

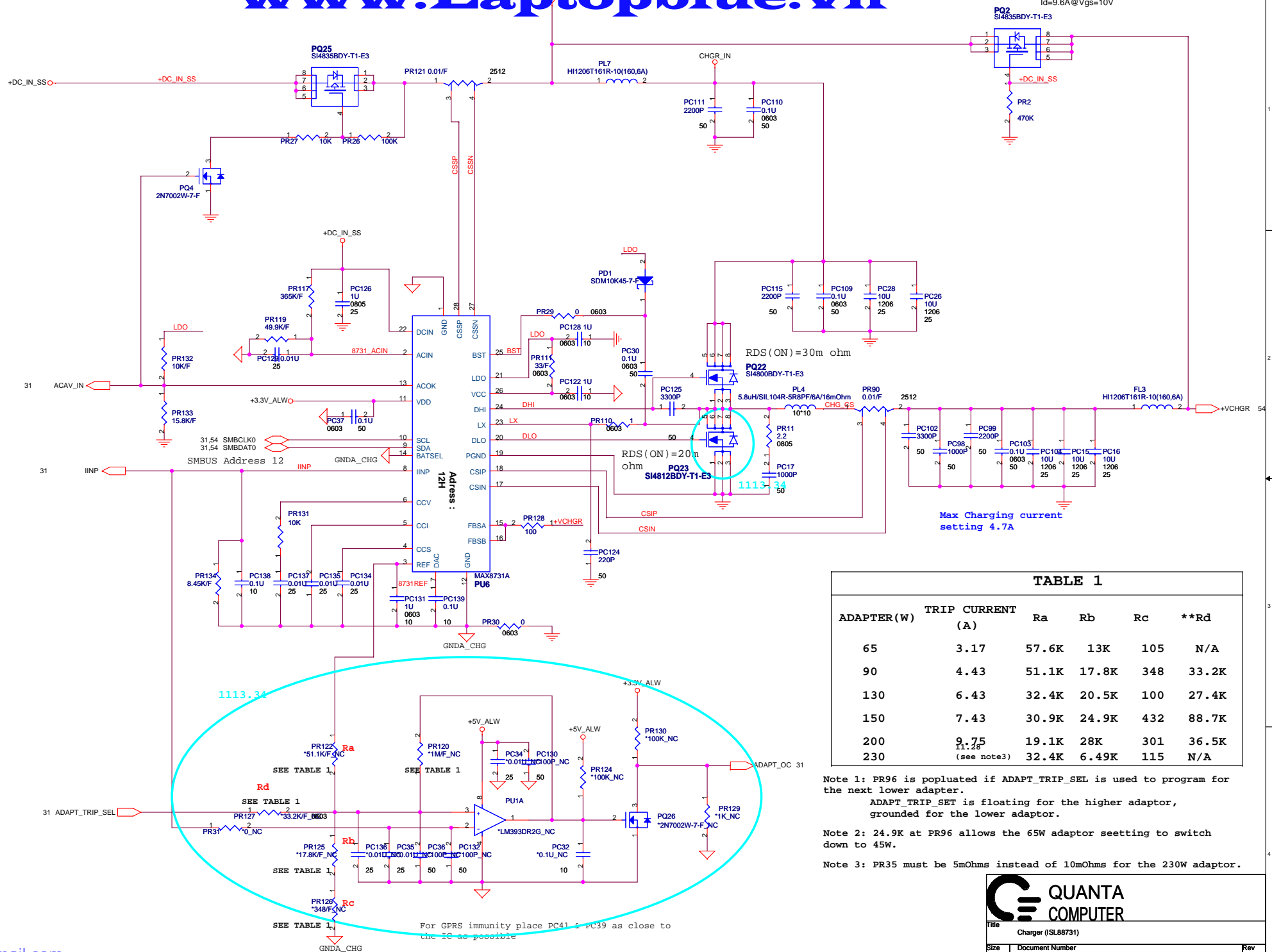
C

C


D

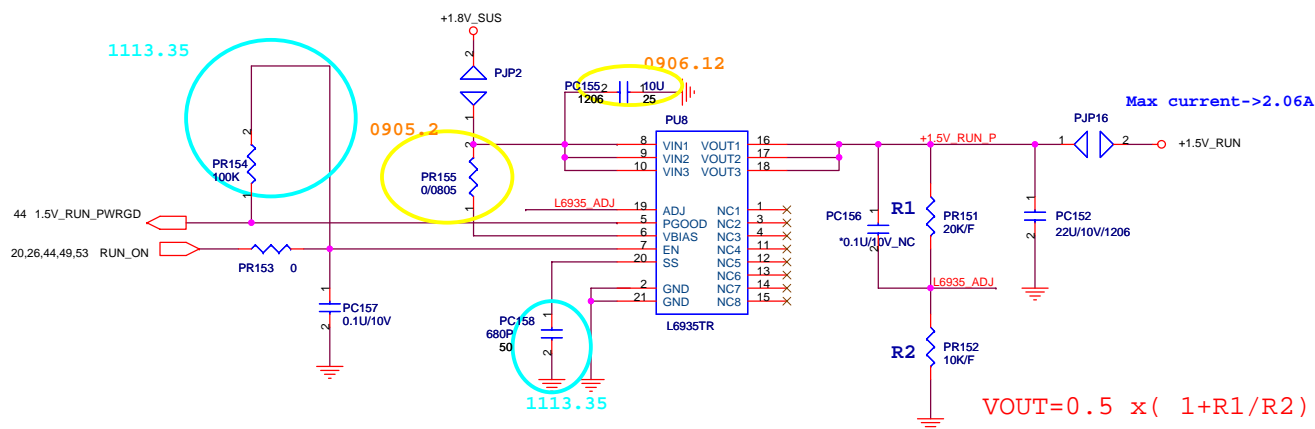
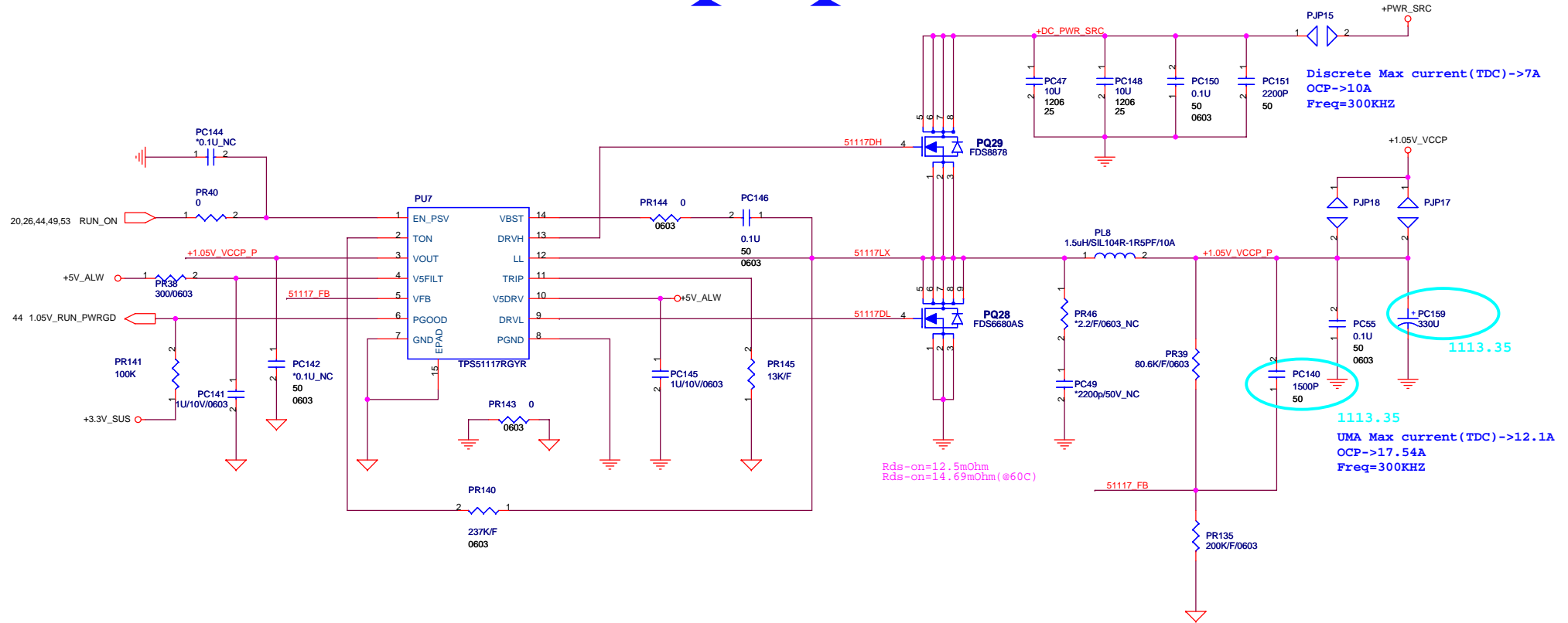
D

 QUANTA COMPUTER		
Title Battery Selector		
Size	Document Number FM6	Rev 1A
Date: Monday, December 31, 2007	Sheet 45 of 64	5



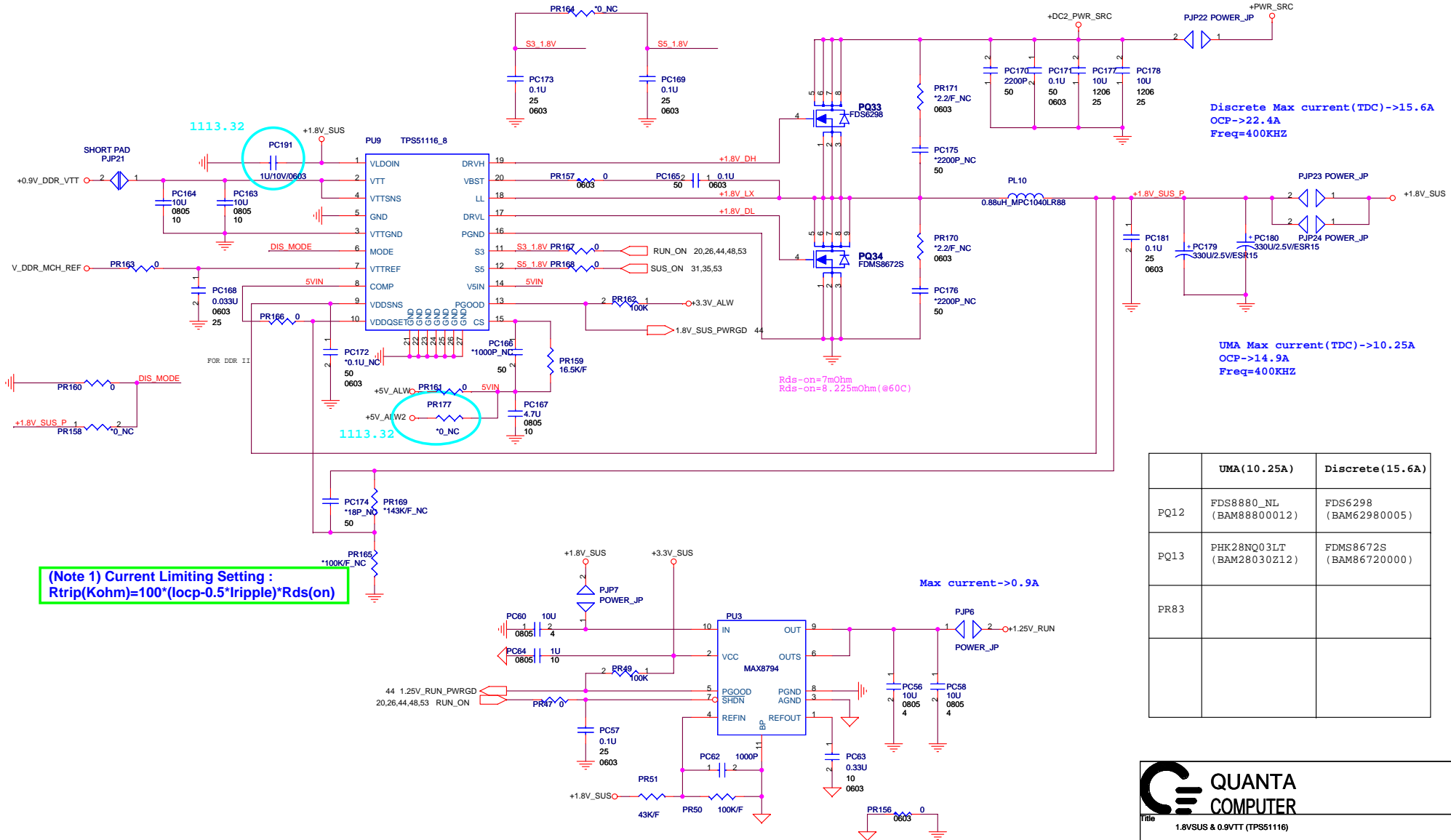
BLANK PAGE FOR PAGE
NUMBER SAME AS DISCRETE

 QUANTA COMPUTER		
Title		
Size	Document Number	Rev
	FM6	1A
Date:	Monday, December 31, 2007	Sheet 47 of 64

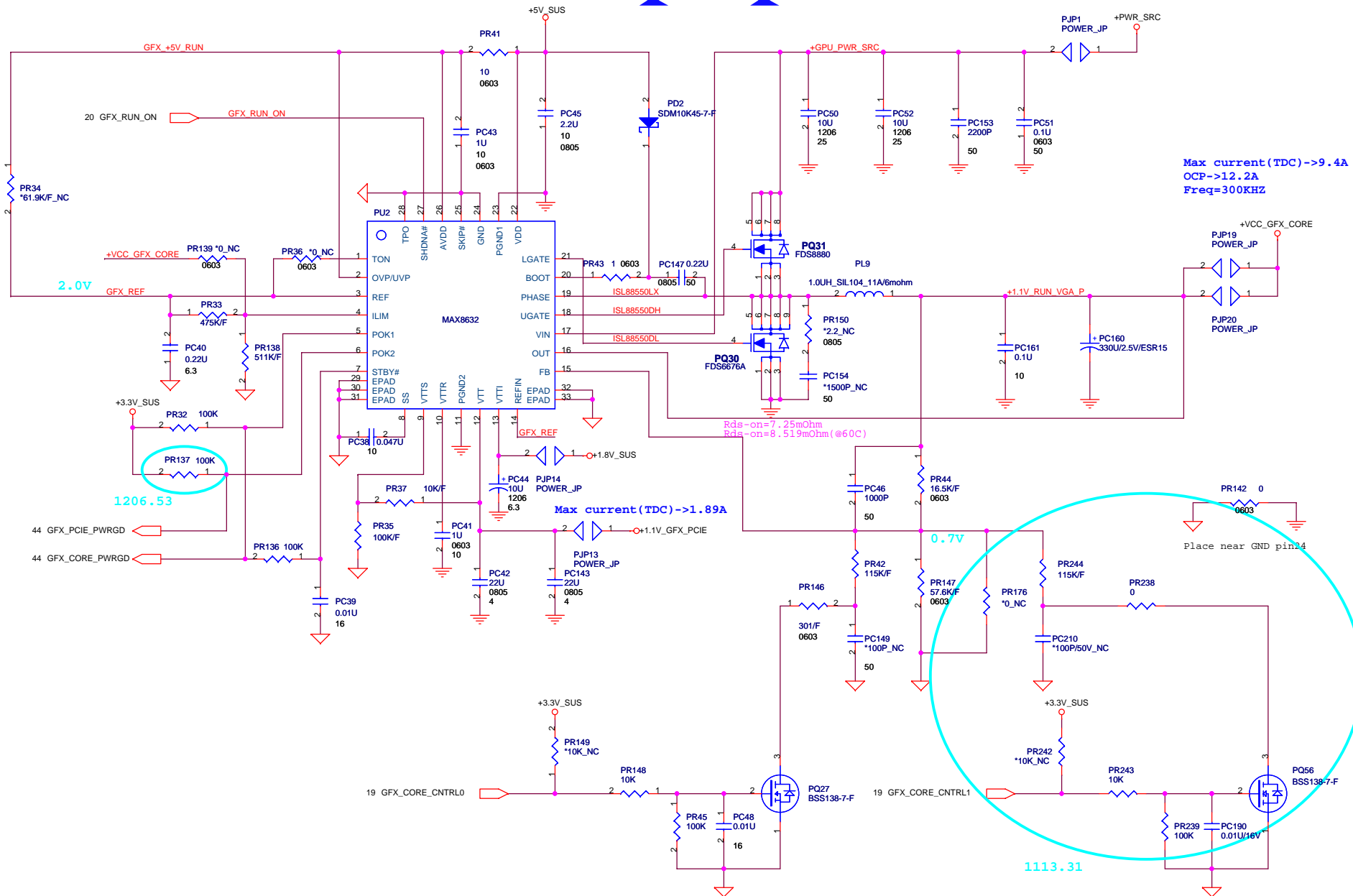


	UMA (12.1A)	Discrete (7A)
PQ22	FDS8880_NL (BAM88800012)	FDS8878 (BAM88780020)
PQ25	FDS6676AS_NL (BAM66760026)	FDS6680AS (BAM66800061)
PL25	SIL105RA-1R5-R (CV-15F0MZ08)	SIL104R-1R5PF (DC-15A00010)
PR452	9.09K/F (CS29092FB27)	10K/F (CS31002FB26)

Title: 1.05_VCCP & 1.5V_RUN		
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	UMA (10.25A)	Discrete (15.6A)
PQ12	FDS8880_NL (BAM88800012)	FDS6298 (BAM62980005)
PQ13	PHK28NQ03LT (BAM28030212)	FDMS8672S (BAM86720000)
PR83		



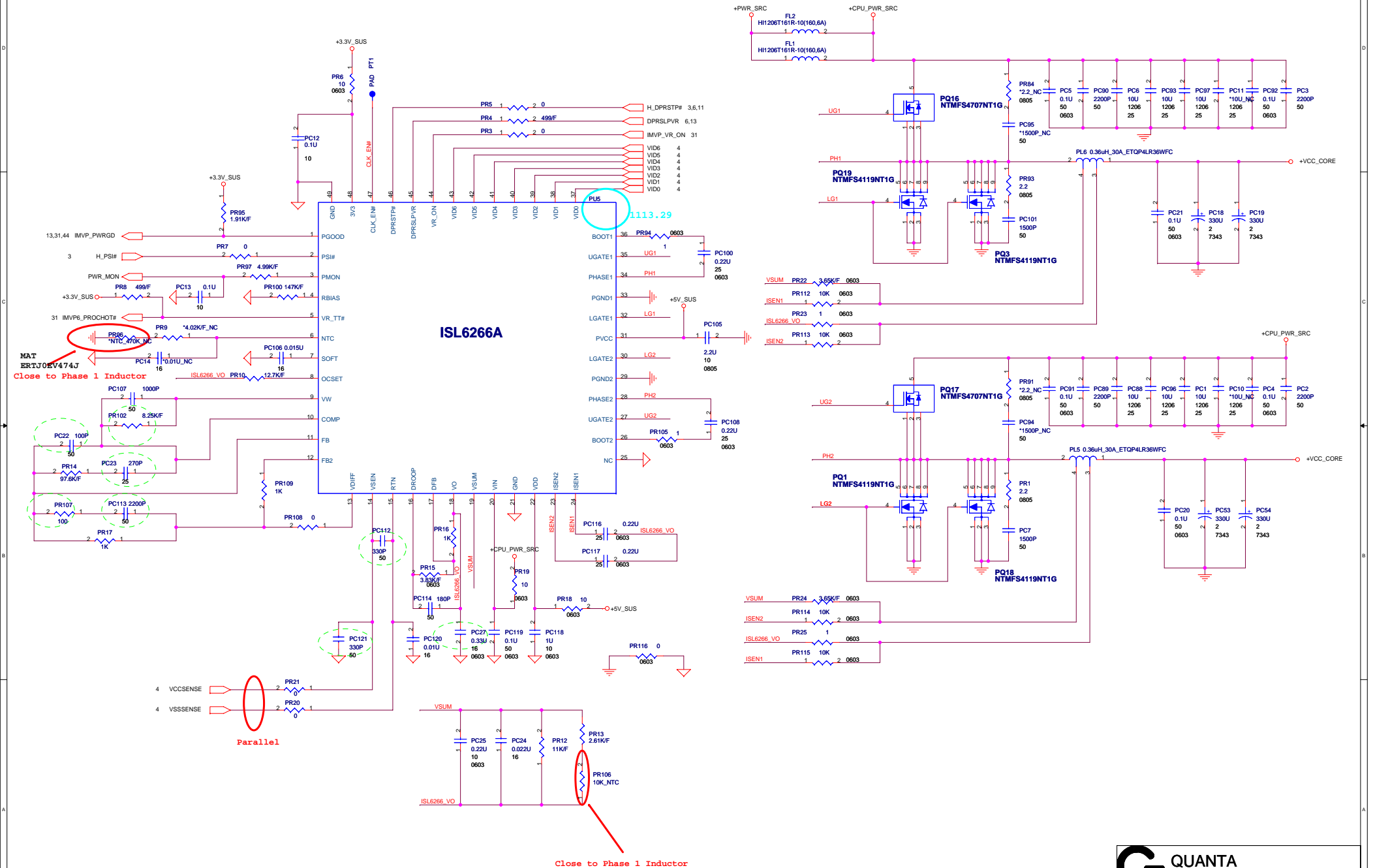
GFX_CORE_CNTRL0	GFX_CORE_CNTRL1	+VCC_GFX_CORE
LOW	LOW	0.9
HIGH	LOW	1.0V
HIGH	HIGH	1.1V

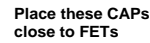
QUANTA COMPUTER

Title: VGA DC/DC

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Max current->6A
OCP->8.3A
Freq=400KHZ

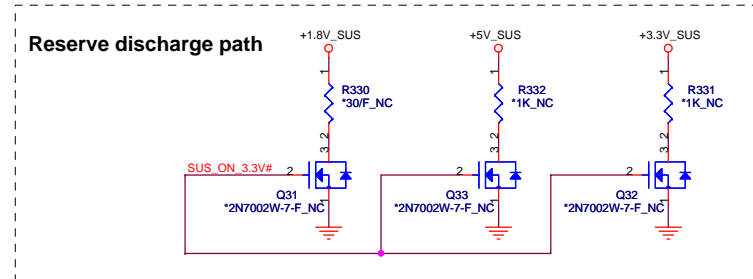
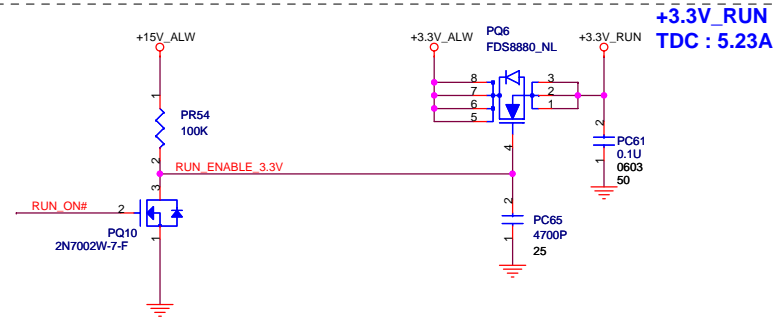
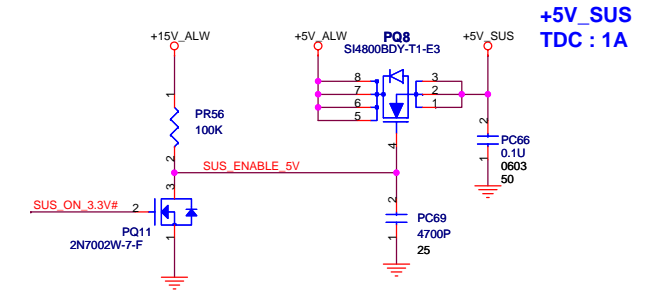
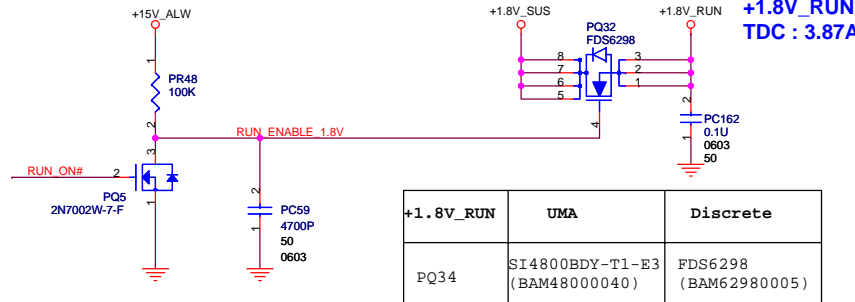
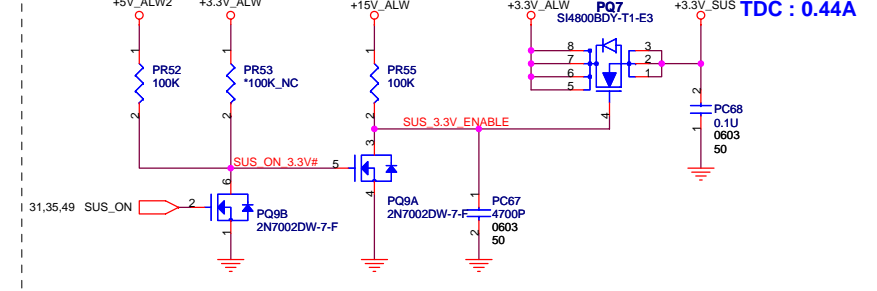
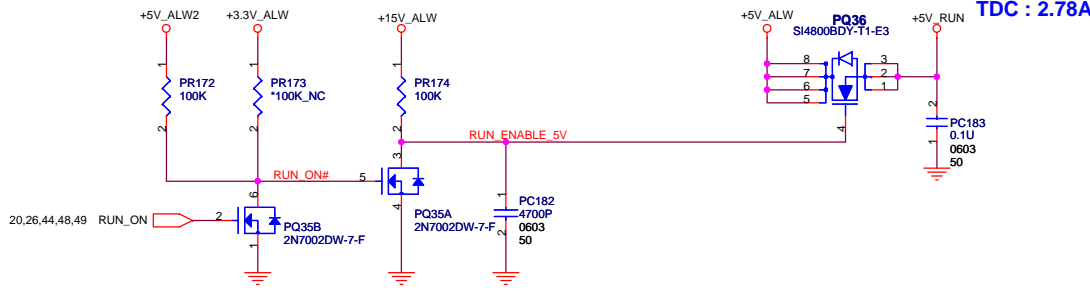
**Place these CAPs
close to FETs**

Max current->6.2A
OCP->8.63A
Freq=300KHZ

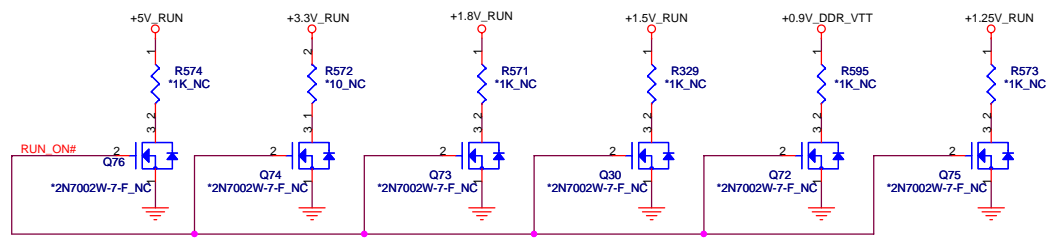
Rds-on=20mOhm
Rds-on=23.5mOhm (@60C)

Rds-on=20mOhm
Rds-on=23.5mOhm (@60C)

Pop for MAX8778

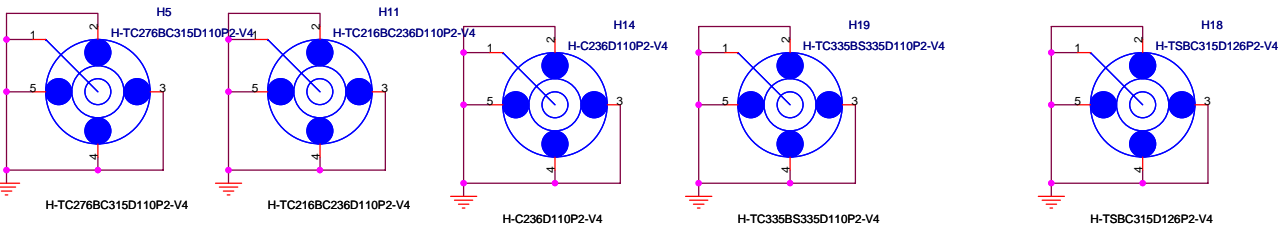
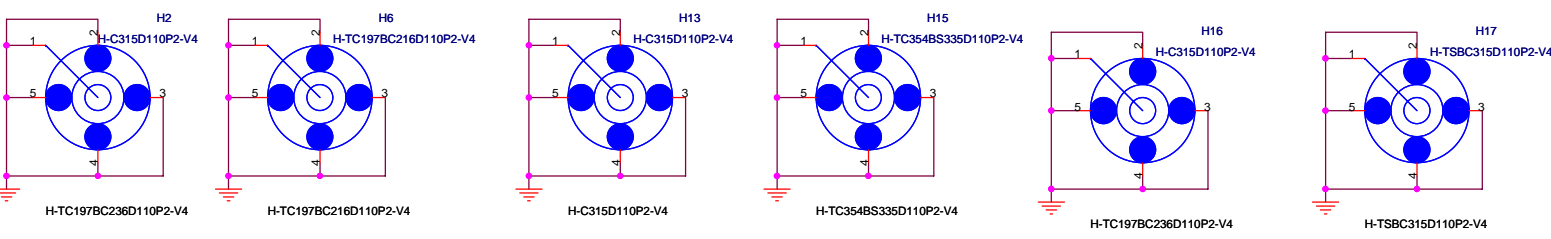
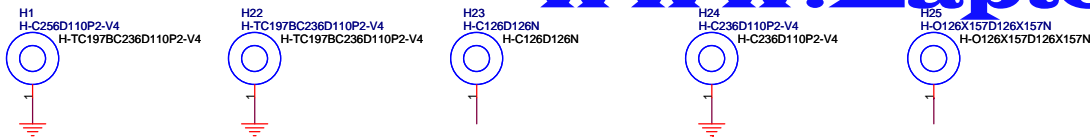


Reserve discharge path

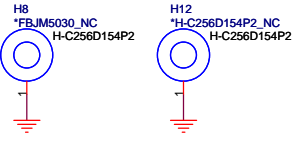


Title			RUN POWER SW
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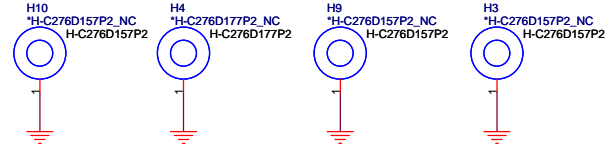





FOR GPU use

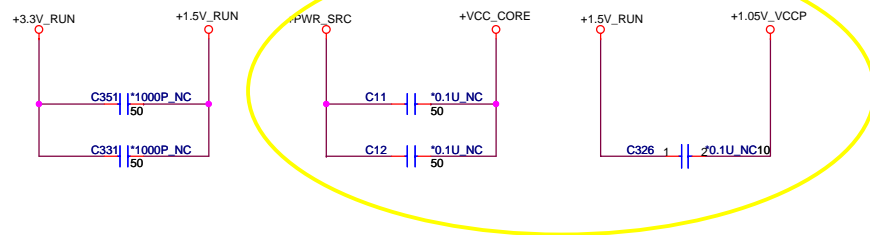


FOR CPU use



 QUANTA COMPUTER		
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Reserved for EMI.



ICH8-M

SIO
ITE8512

