

VM9/VM8 Block Diagram

VER : 1A

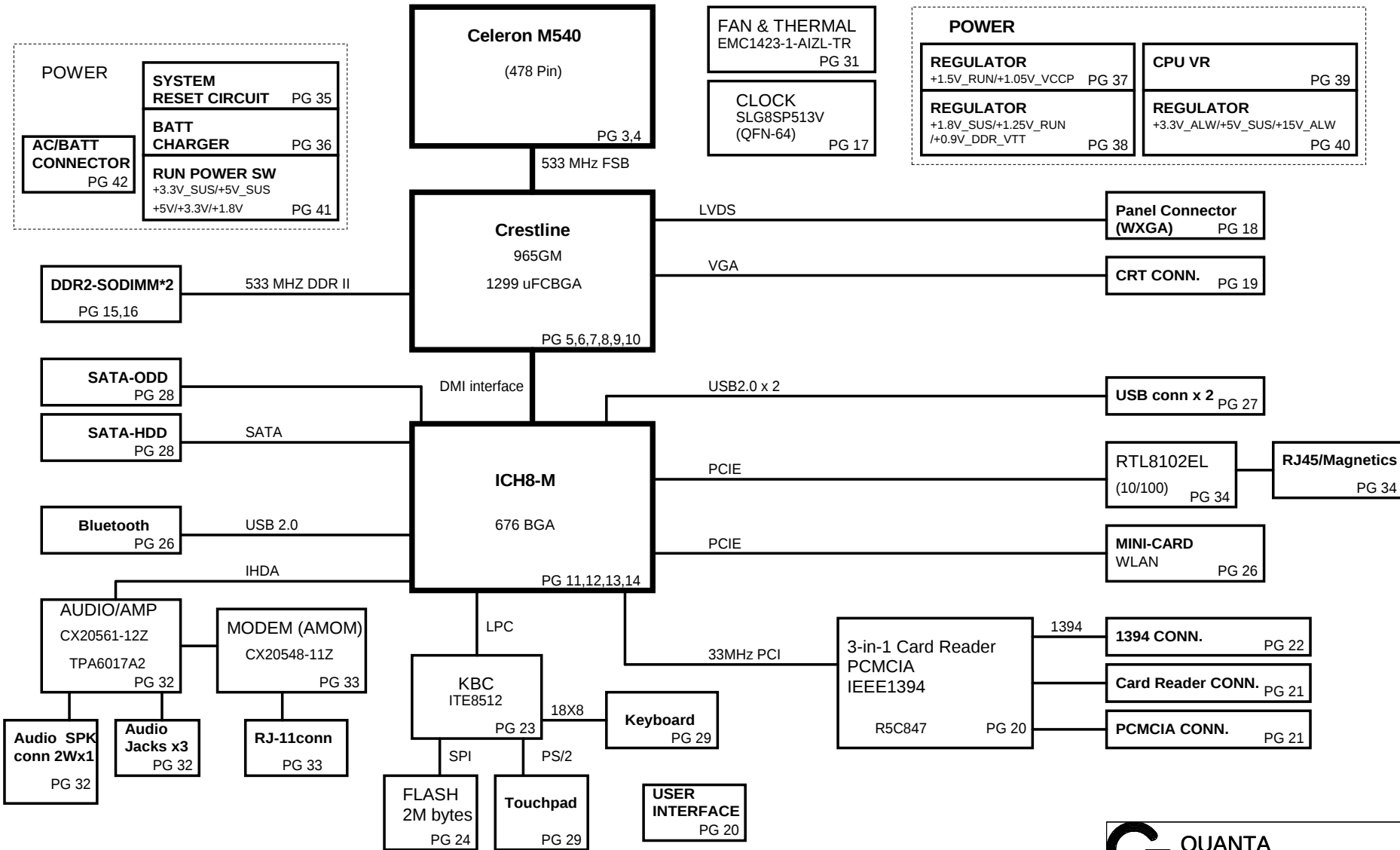


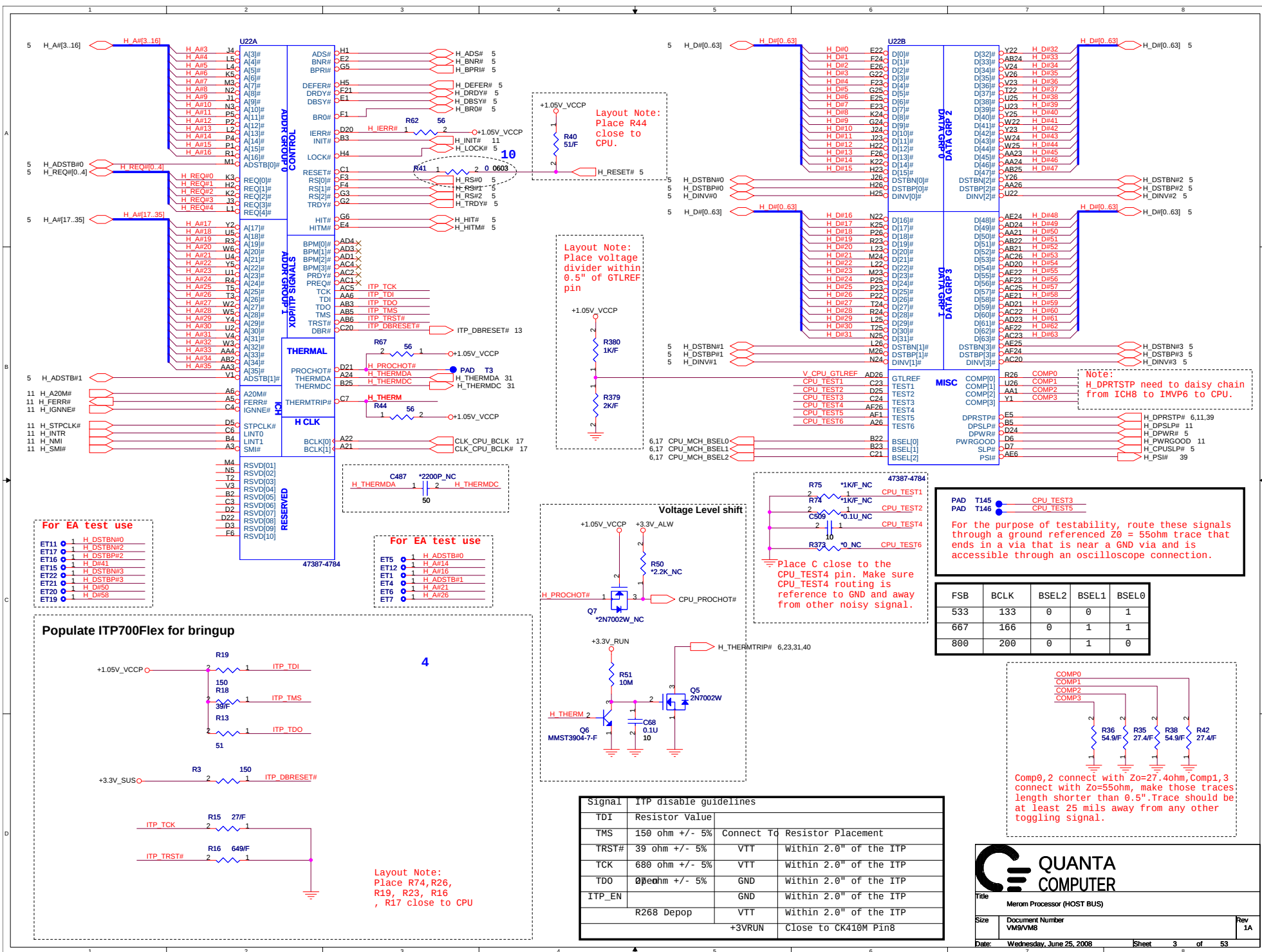
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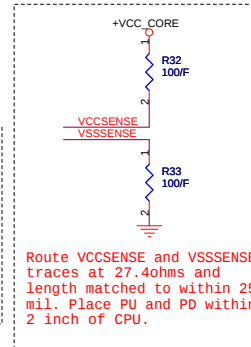
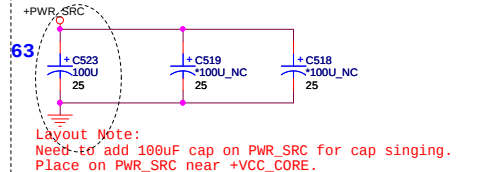
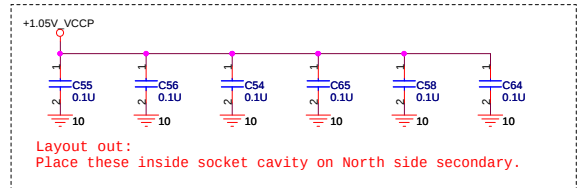
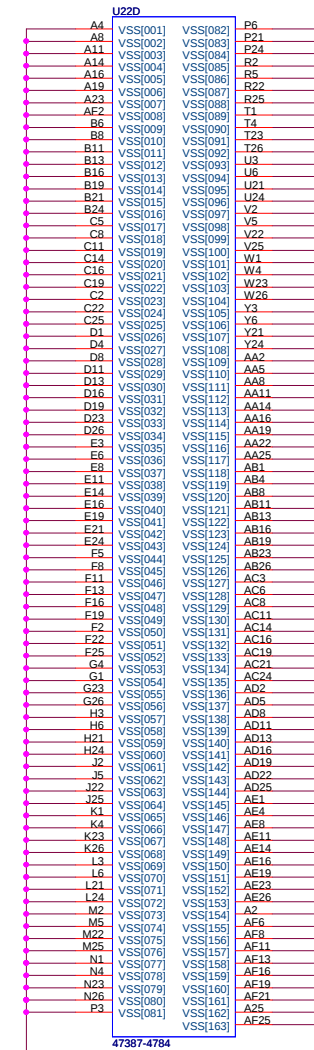
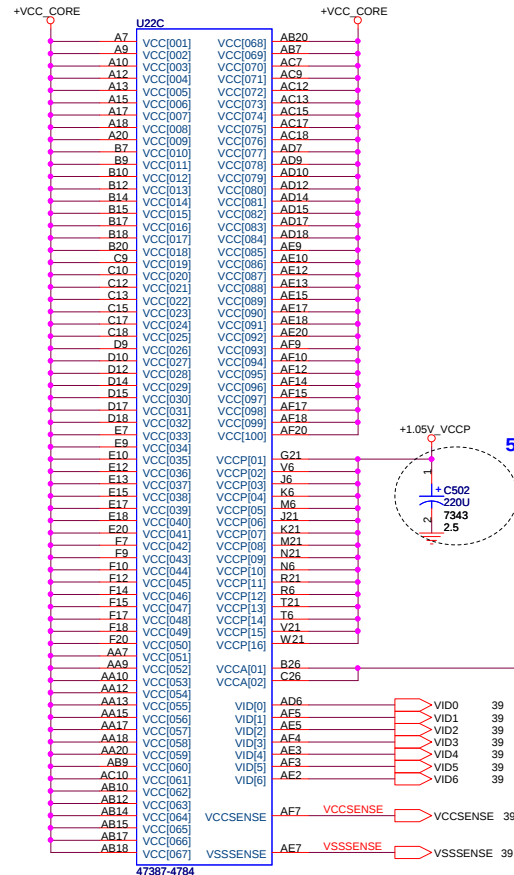
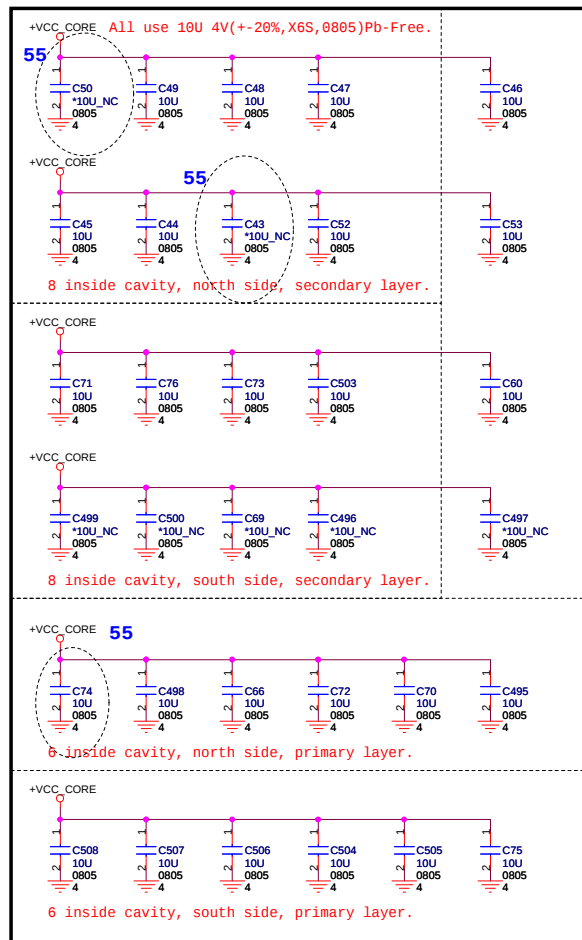
PAGE	DESCRIPTION
1	Schematic Block Diagram
2	Front Page
3-4	Merom
5-10	Crestline
11-14	ICH8M
15-16	DDRII SO-DIMM(200P)
17	Clock Generator
23	LCD Conn. & SSP
24	CRT Conn
25	SATA Conn
26-27	CARD READER/Conn & 1394
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31	SIO (ITE8512)
32	FLASH/RTC
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35	TP / KEYBOARD
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37	
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44	System Reset Circuit
46	Battery Selector & Charger
48	
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51	CPU_ISL6266(2phase)
	RUN Power Switch
	DCIN,Batt
	PAD& SCREW
	EMI CAP
	SMBUS BLOCK

Power States

POWER PLANE	VOLTAGE	PAGE	DESCRIPTION	CONTROL SIGNAL	ACTIVE IN
+PWR_SRC	10V~+19V	4,26,32,34,46,48,49,51,52,56	MAIN POWER		S0~S5
+RTC_CELL	+3.0V~+3.3V	11,14,31,32	RTC		S0~S5
+3.3V_ALW	+3.3V	3,31,32,34,36,37,38,44,46,49,52,53,54	8051 POWER	ALWON	S0~S5
+5V_ALW	+5V	35,36,46,48,49,52,53,54,56	LCD/CHARGE POWER	ALWON	S0~S5
+15V_ALW	+15V	26,36,37,52,53	LARGE POWER	+5V_ALW	S0~S5
+3.3V_LAN	+3.3V	42,43	LAN POWER	AUX_ON	
+5V_SUS	+5V	14,38,51,53	SLP_S5# CTRLD POWER	SUS_ON	
+3.3V_SUS	+3.3V	3,11,12,13,14,26,30,37,38,43,48,49,51,53	SLP_S5# CTRLD POWER	3.3V_SUS_ON	
+1.8V_SUS	+1.8V	6,8,9,15,48,49,53	SODIMM POWER	DDR_ON	
+0.9V_DDR_VTT	+0.9V	16,49,53	SODIMM POWER	0.9V_DDR_VTT_ON	
+5V_RUN	+5V	14,18,27,36,37,38,39,40,41,53	SLP_S3# CTRLD POWER	RUN_ON	
+3.3V_RUN	+3.3V	14,18,27,36,37,38,39,40,41,53	SLP_S3# CTRLD POWER	3.3V_RUN_ON	
+1.8V_RUN	+1.8V		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	
+1.25V_RUN	+1.25V	6,9,14,49,53	CALISTOGA/ICH8 POWER	1.25V_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		HDD Power	HDDC_EN#	
+PBATT	+10V~+17V		MAIN BATTERY	CHG_PBATT	
+SBATT	+10V~+17V		SECOND BATTERY	CHG_SBATT	

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	





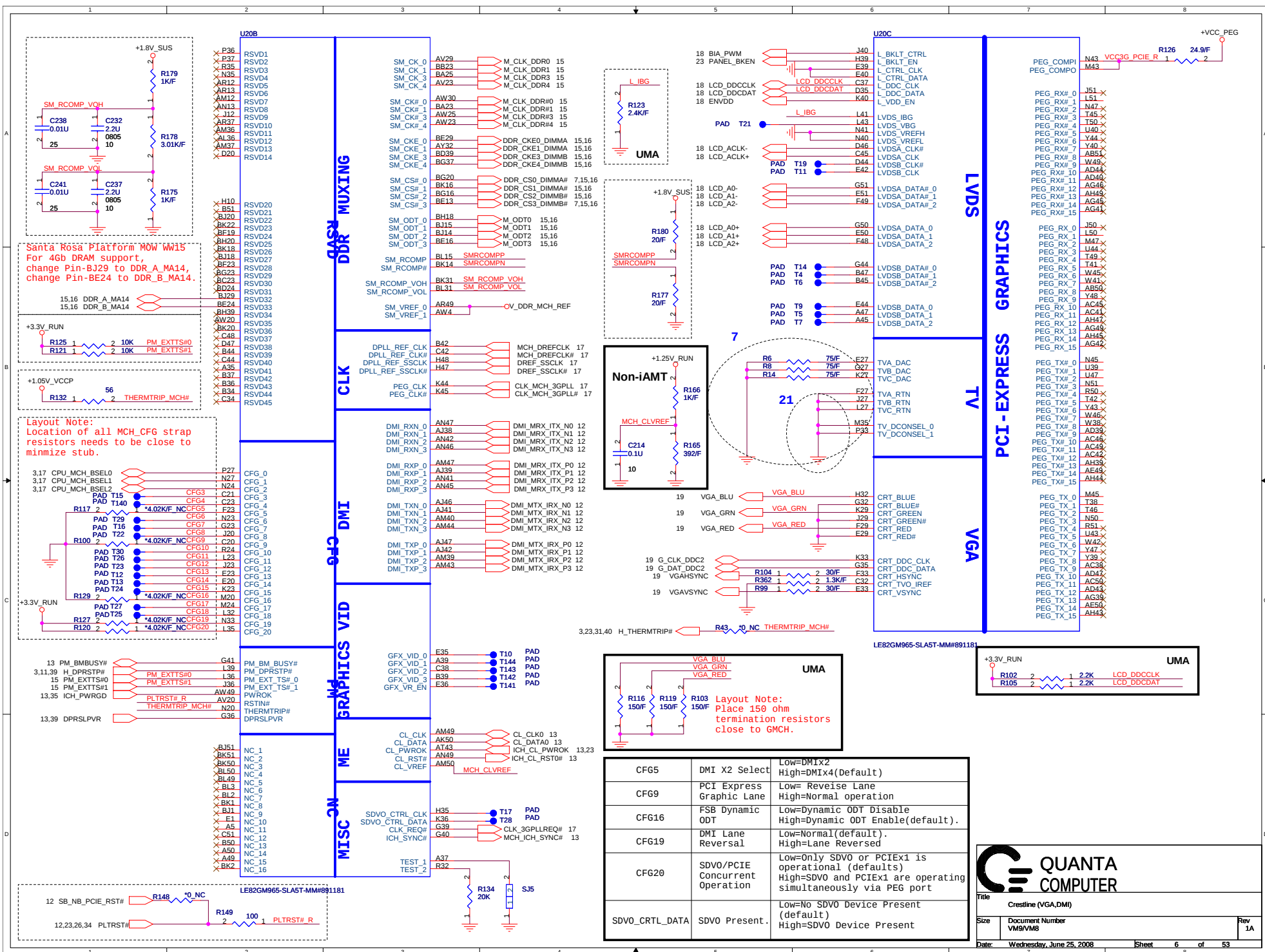
Title Merom Processor (POWER)

Size Document Number VM9/VM8

Date: Wednesday, June 25, 2008

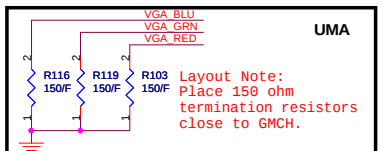
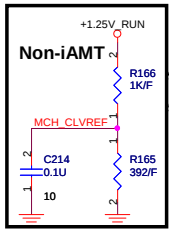
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Rev 1A



Santa Rosa Platform M0W W15
For 4Gb DRAM support,
change Pin-BJ29 to DDR_A_MA14,
change Pin-BE24 to DDR_B_MA14.

Layout Note:
Location of all MCH_CFG strap
resistors needs to be close to
minimize stub.

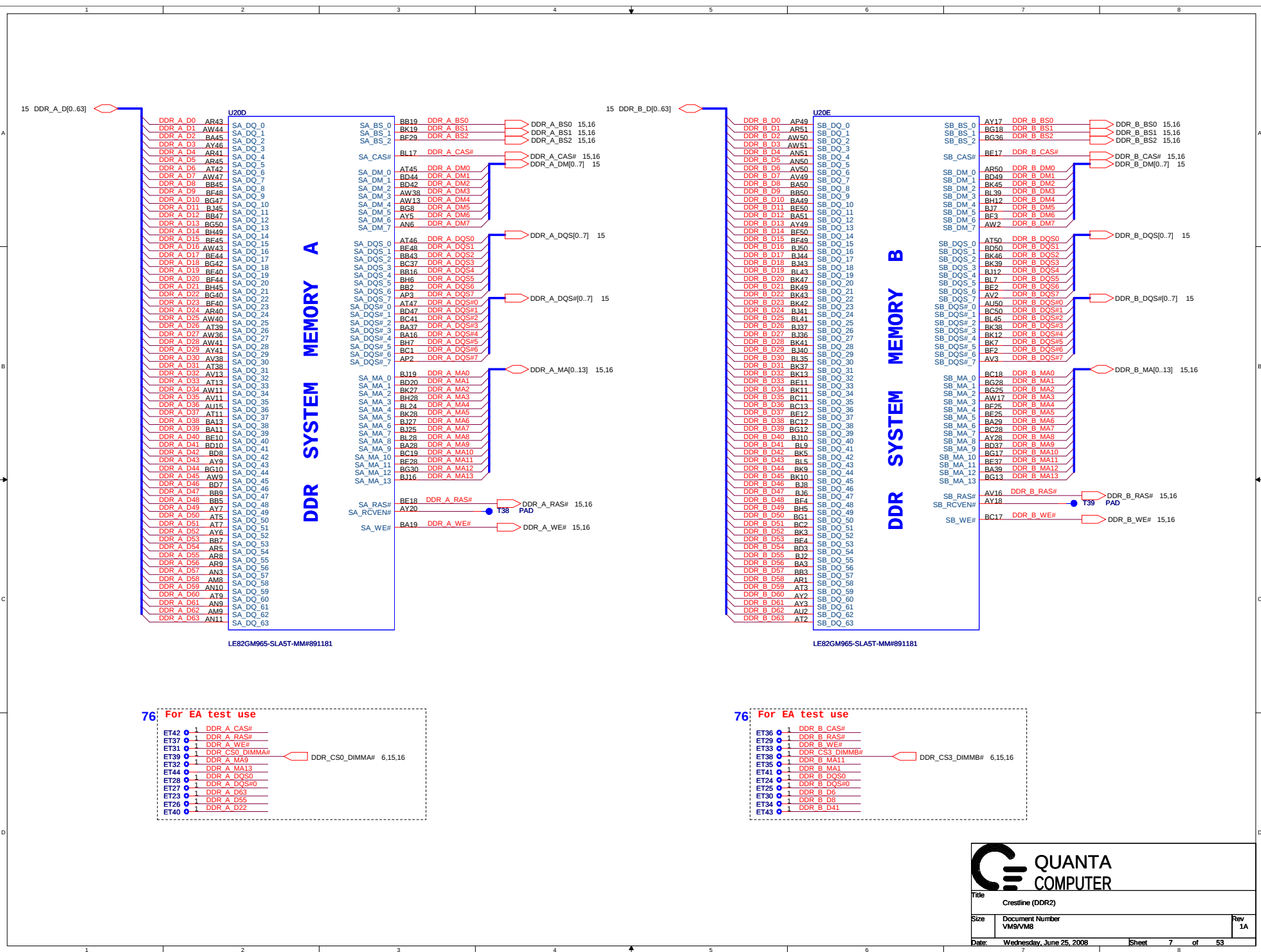


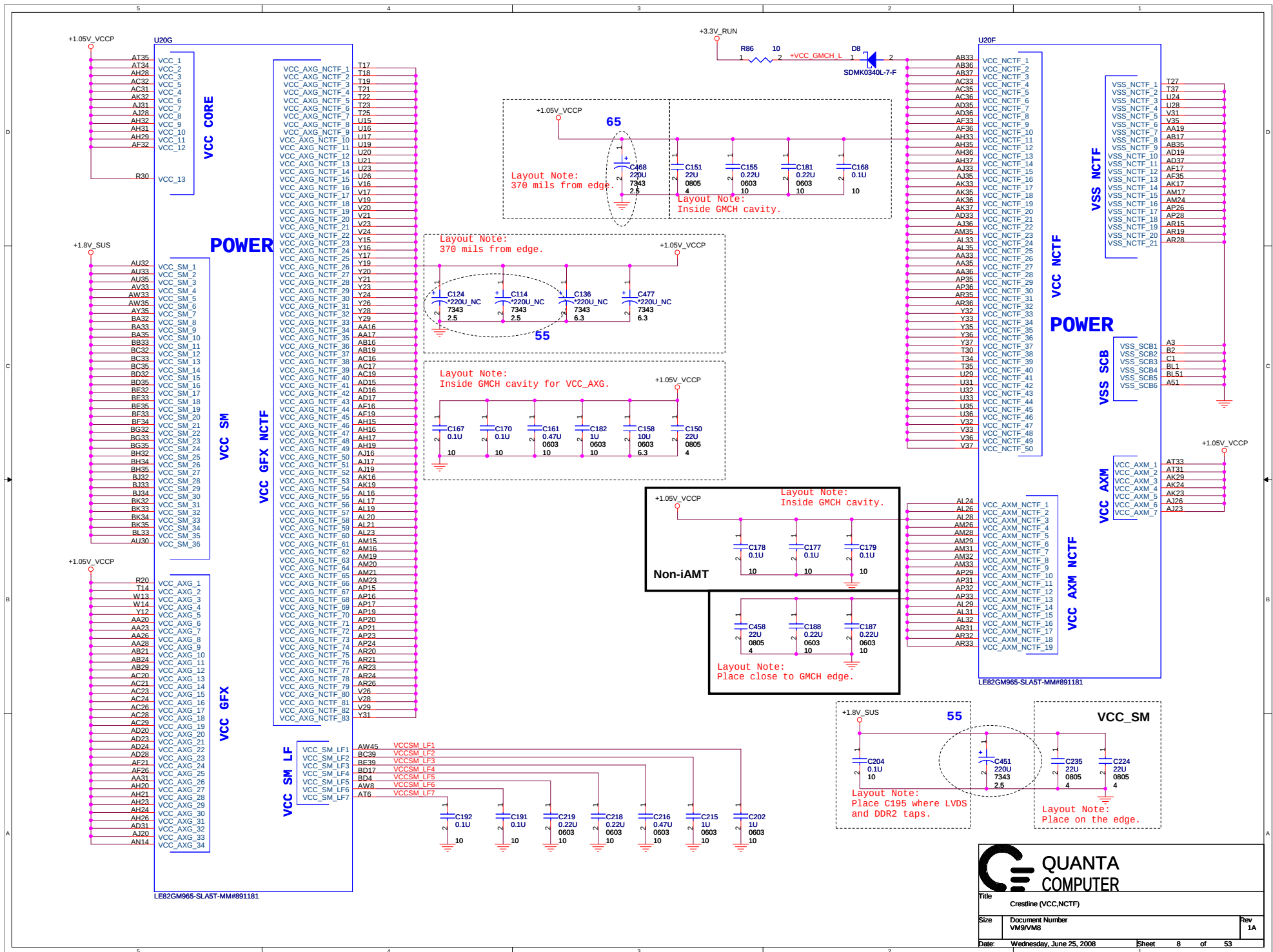
CFG5	DMI X2 Select	Low=DMIx2 High=DMIx4(Default)
CFG9	PCI Express Graphic Lane	Low= Reverse Lane High=Normal operation
CFG16	FSB Dynamic ODT	Low=Dynamic ODT Disable High=Dynamic ODT Enable(default).
CFG19	DMI Lane Reversal	Low=Normal(default). High=Lane Reversed
CFG20	SDVO/PCIE Concurrent Operation	Low=Only SDVO or PCIEx1 is operational (defaults) High=SDVO and PCIEx1 are operating simultaneously via PEG port
SDVO_CTRL_DATA	SDVO Present..	Low=No SDVO Device Present (default) High=SDVO Device Present

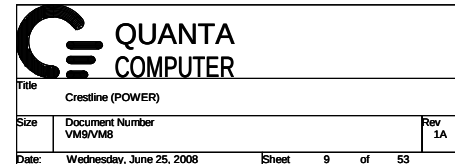


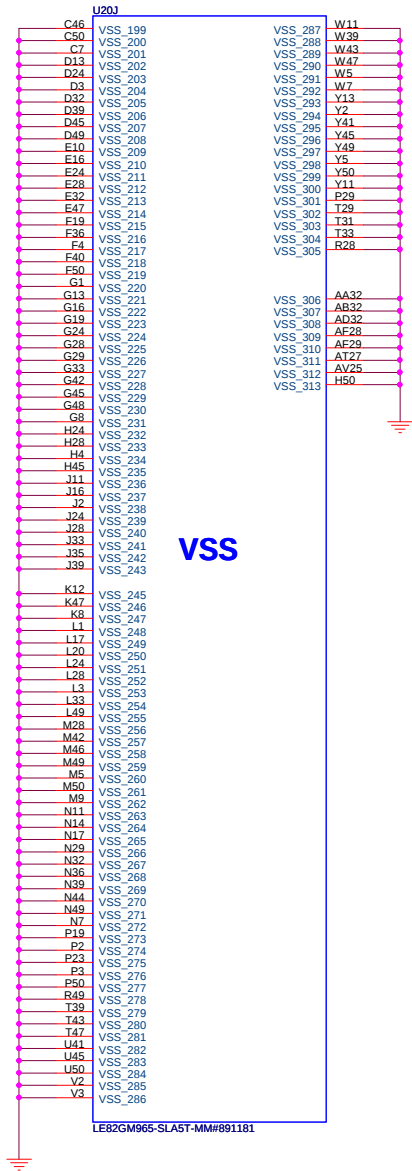
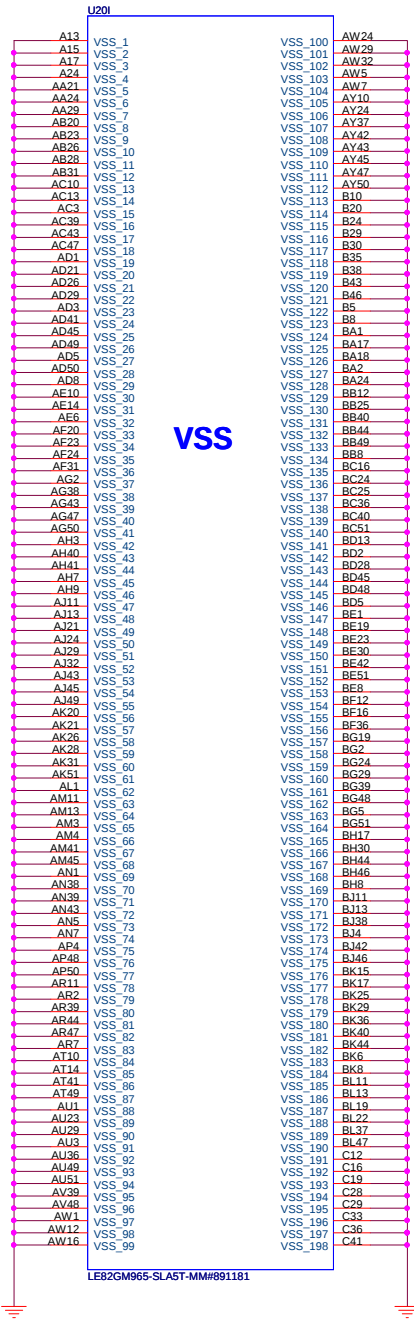
QUANTA
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Title		Crestline (VGA,DMI)	
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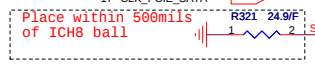
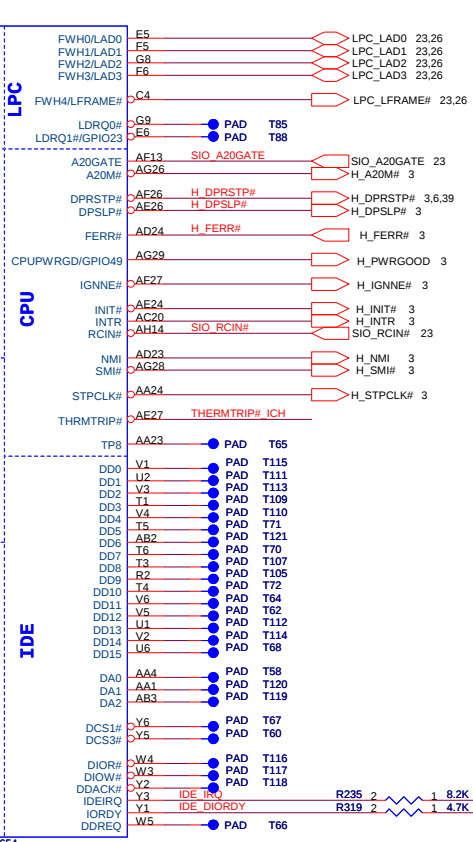
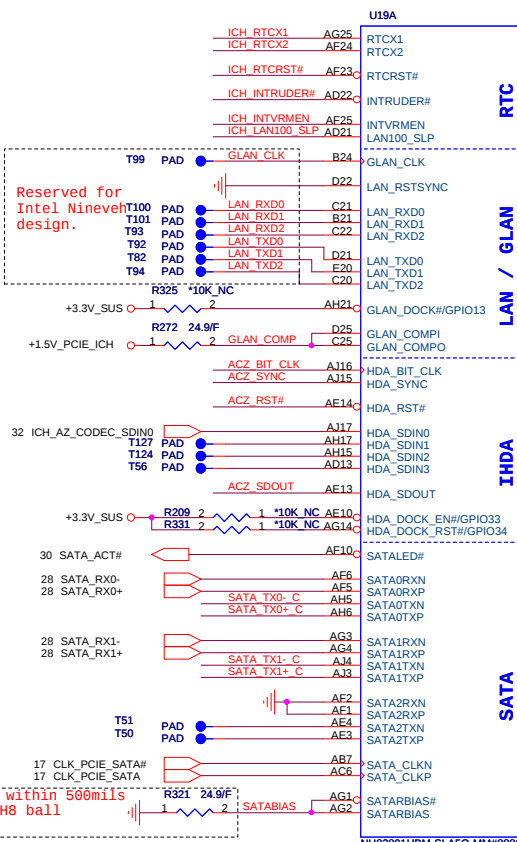
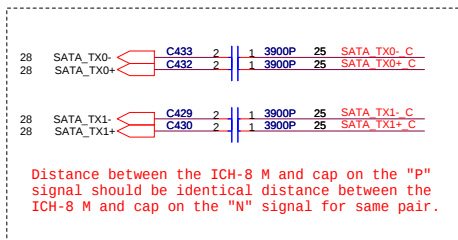
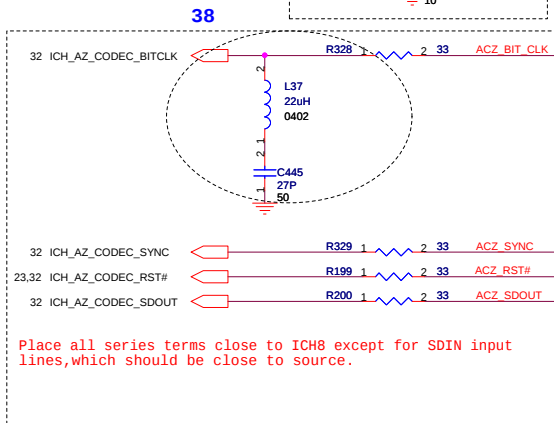
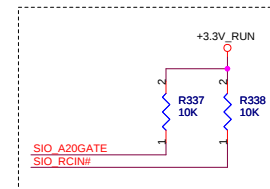
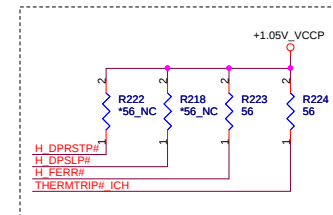
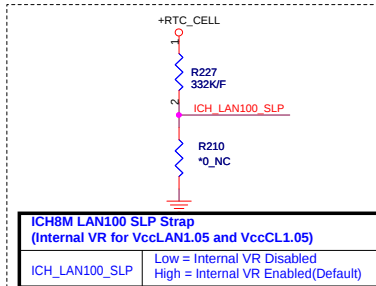
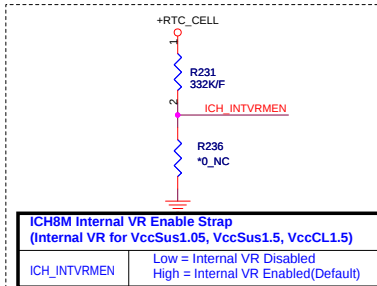
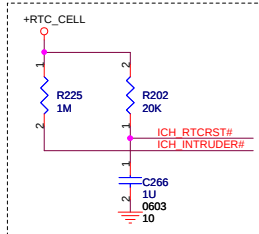
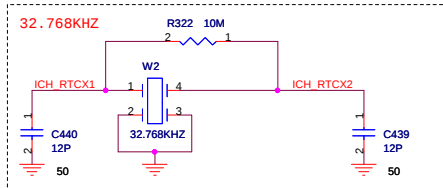








Title			Crestline (VSS)
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XOR Chain Entrance Strap		
ICH RSVD	HDA SDOUT	Description
0	0	RSVD
0	1	Enter XOR Chain
1	0	Normal Operation (Default)
1	1	Set PCIE port config bit 1

QUANTA COMPUTER

Title: ICH8-M (CPU,IDE,SATA,LPC,AC97,LAN)

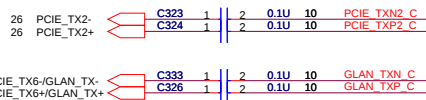
Size: Document Number VM9/VM8

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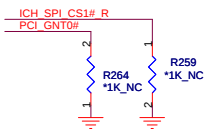
Rev 1A

Place TX DC blocking caps close ICH8.



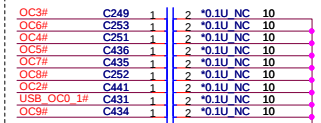
For EA test use

ET45 0 1 PCIE_RX2+
ET51 0 1 PCIE_RX6+/GLAN_RX-
ET50 0 1 PCIE_RX6+/GLAN_RX+

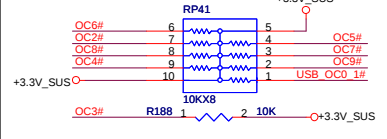


		GNT0#	SPI_CS1#
LPC	11	No stuff	No stuff
PCI	10	No stuff	Stuff
SPI	01	Stuff	No stuff

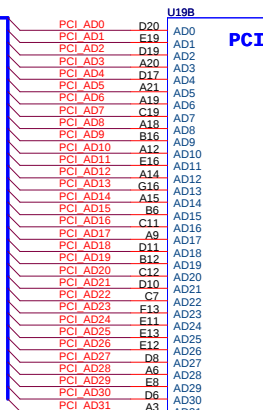
WWAN Noise - ICH improvements



Non-iAMT



20,25 PCI_AD[0..31]



Interrupt I/F



NH82801HBM-SLA5Q-MM#888654

MiniWWAN



MiniWLAN



MiniWPAN



Express Card



10/100 LOM



ICH_SPI_CS1#_R



USB_OC0_1#



U19D



PCI-Express
Direct Media Interface

SPI

USB

USB

USB

USB

USB

USB

USB

USB

USB

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USB

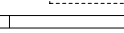
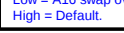
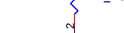
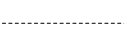
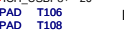
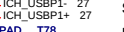
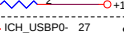
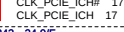
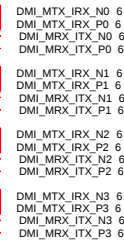
USB

USB

USB

USB

Short F2 and F3 at the package
and keep length to less than
500mils. Trace Impedance
should be 60ohms +/- 15%.



Place within 500mils of ICH8

Side pair Top / left

Side pair bottom / right

Pair 1 top / left

Pair 1 bottom / right

Camera

Mini Card (WWAN)

Bluetooth

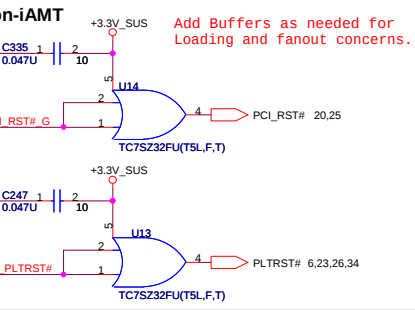
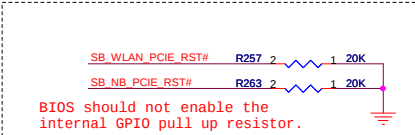
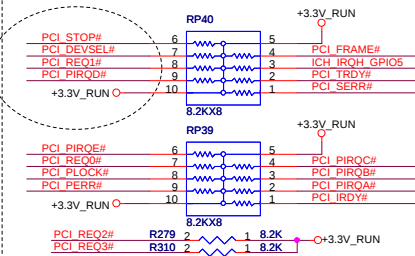
Express Card

Mini Card (WLAN)

Biometric

PCI Pullups

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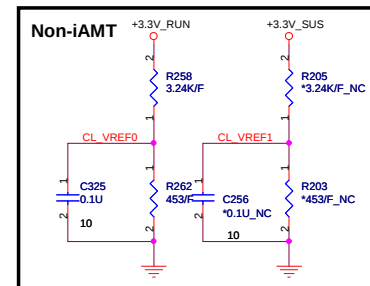
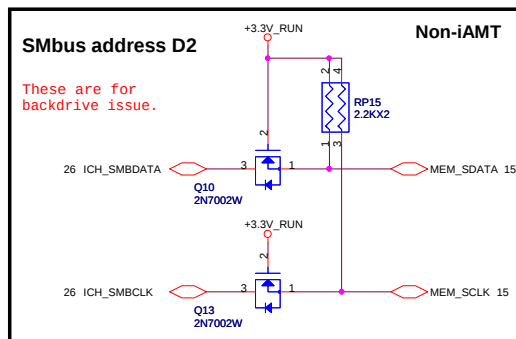
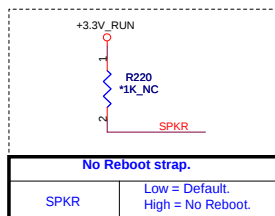
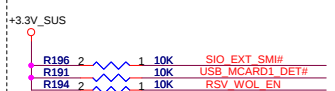
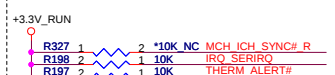
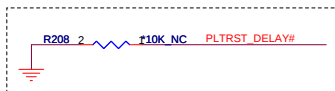
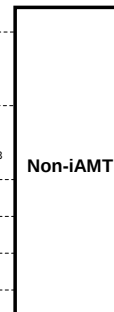
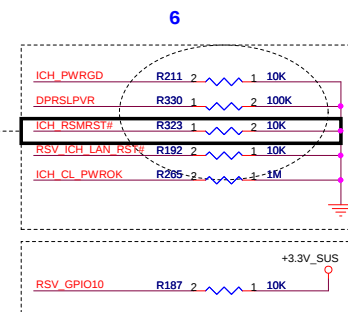
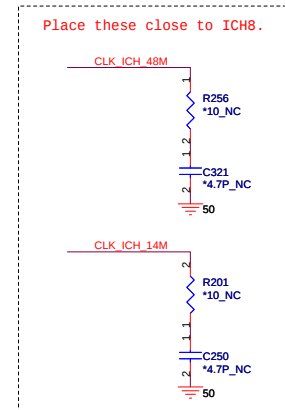
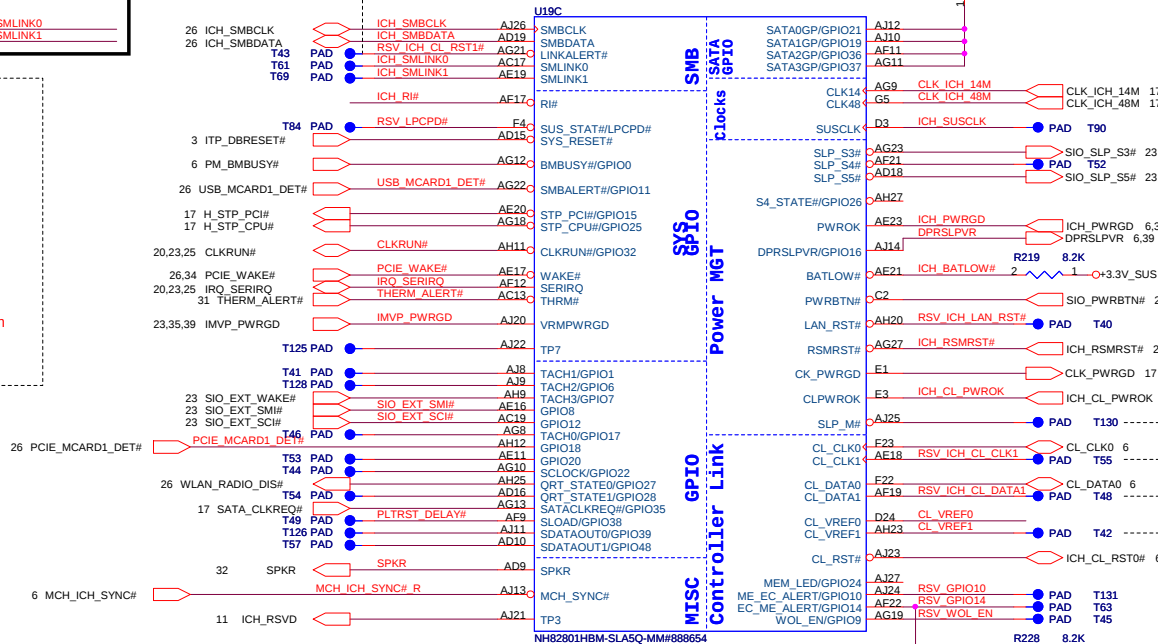
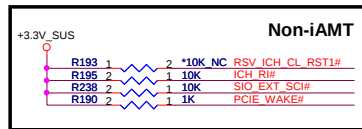
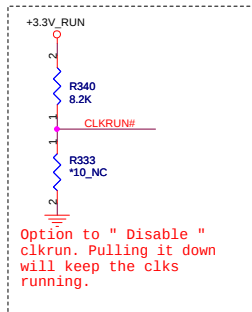
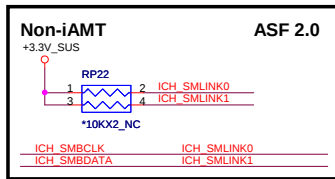
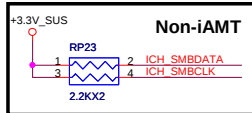
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Size Document Number VM9/VM8

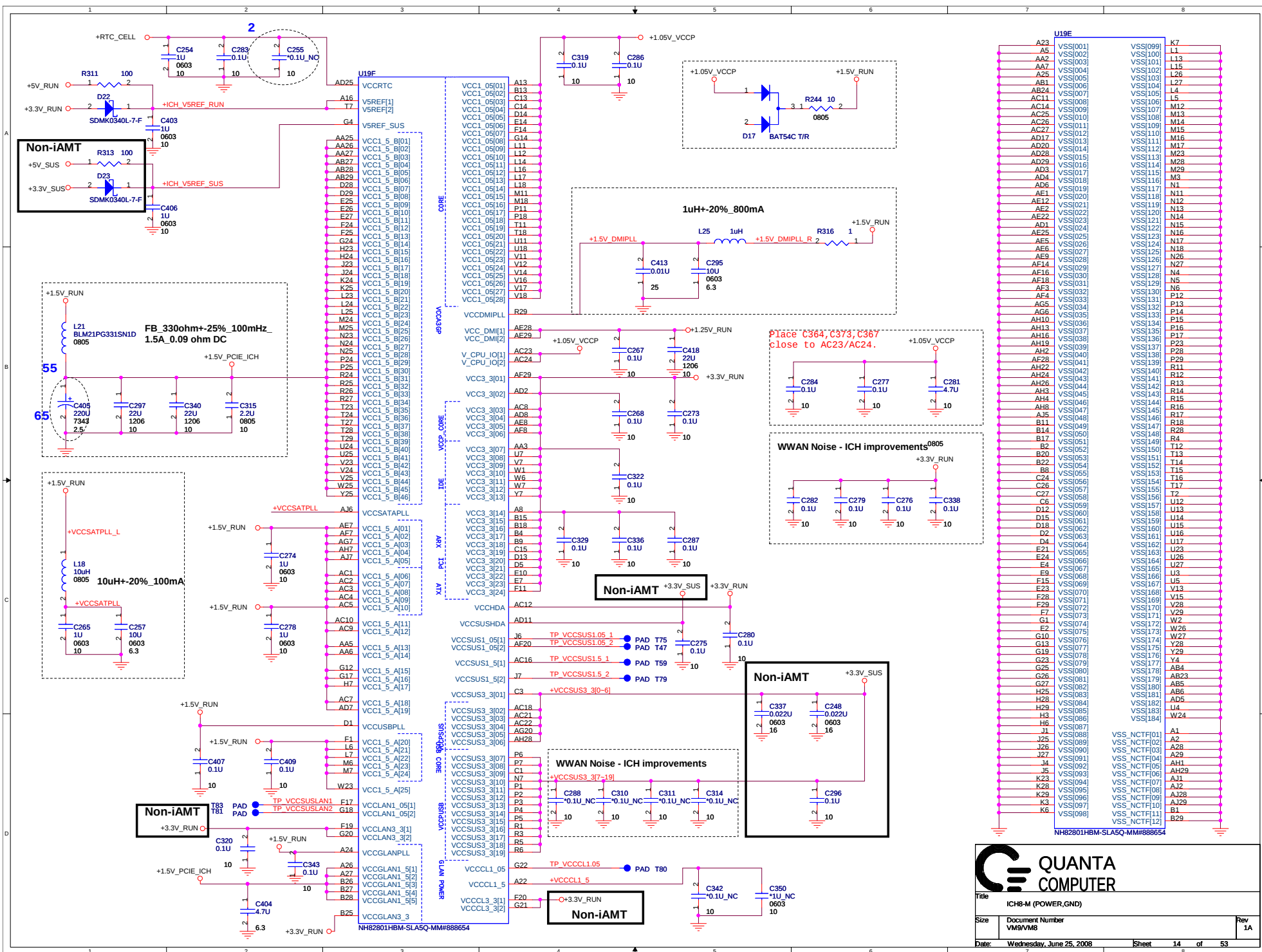
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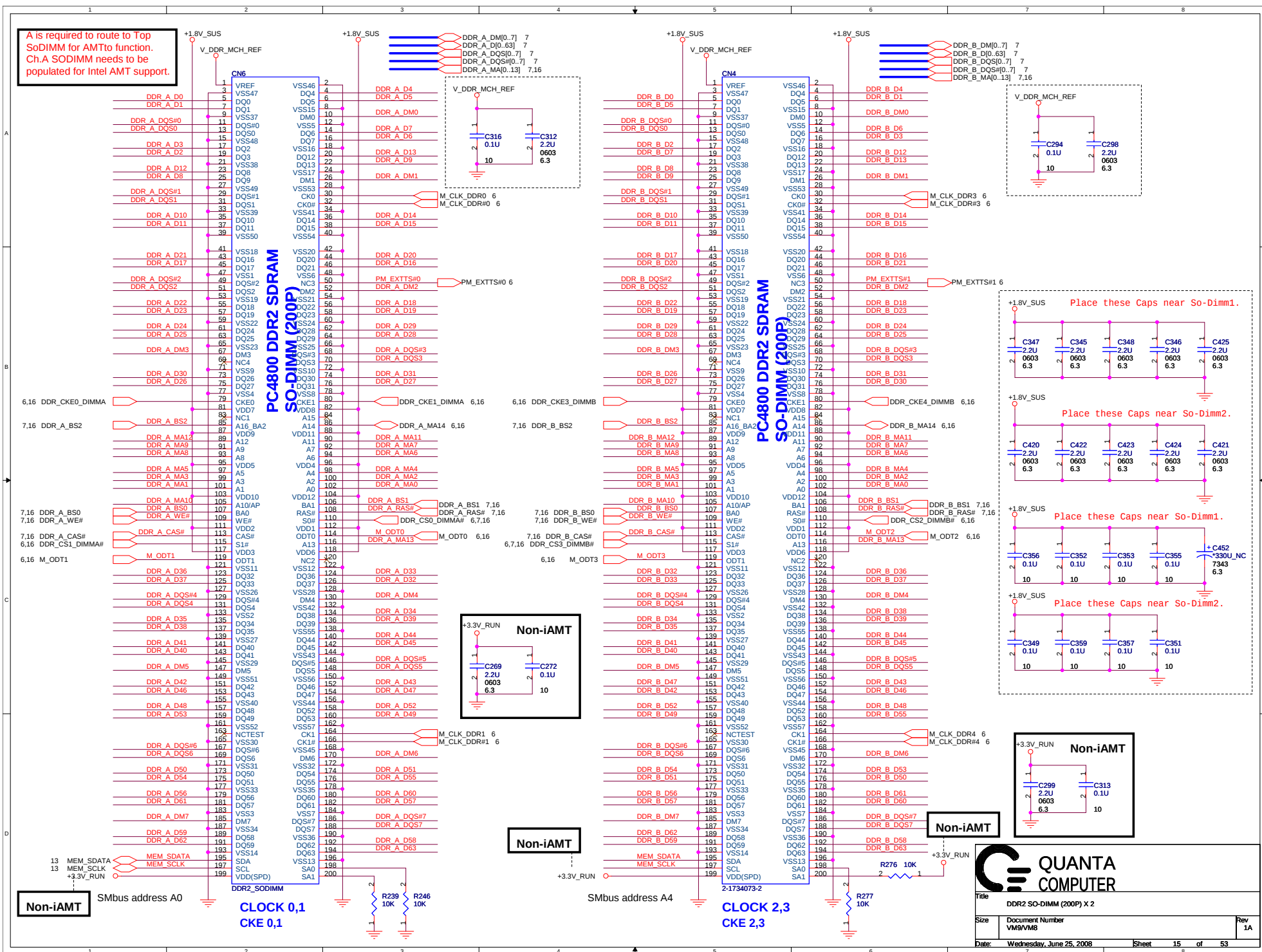
Sheet 12 of 53

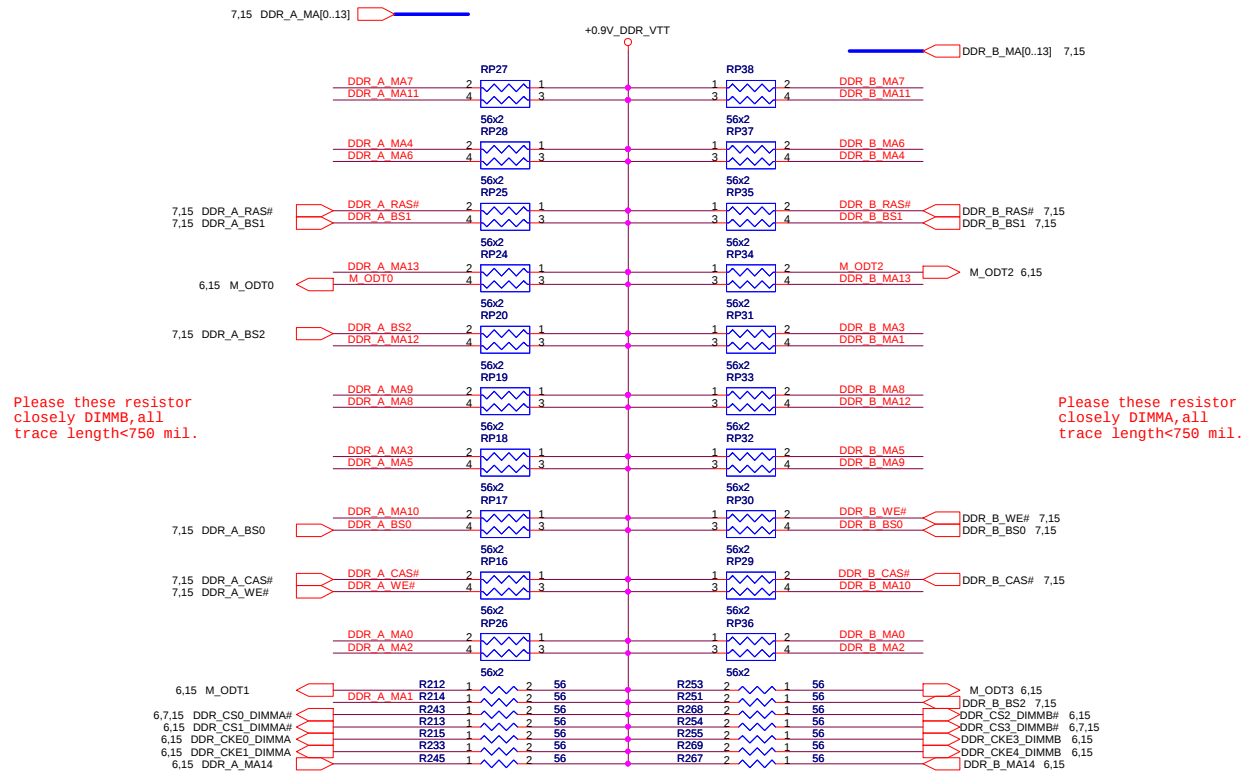
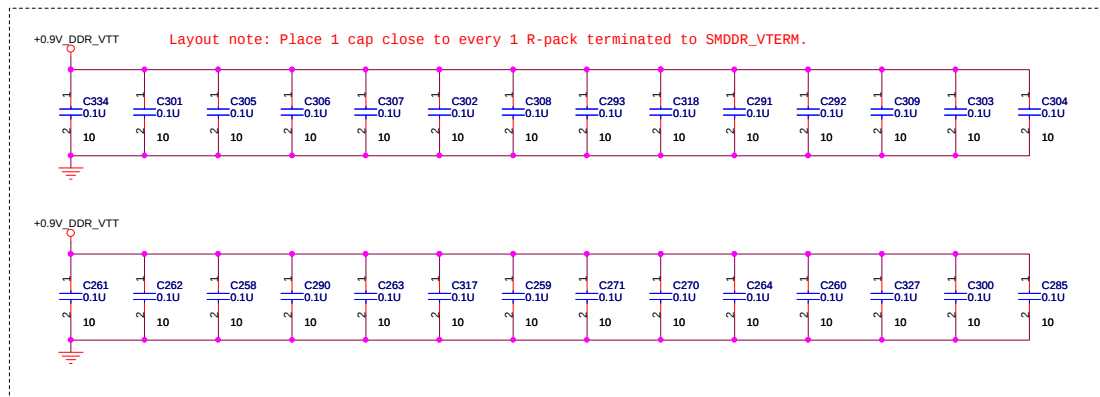
Rev 1A



Title			ICH8-M (PM,GPIO,SMB,CL)
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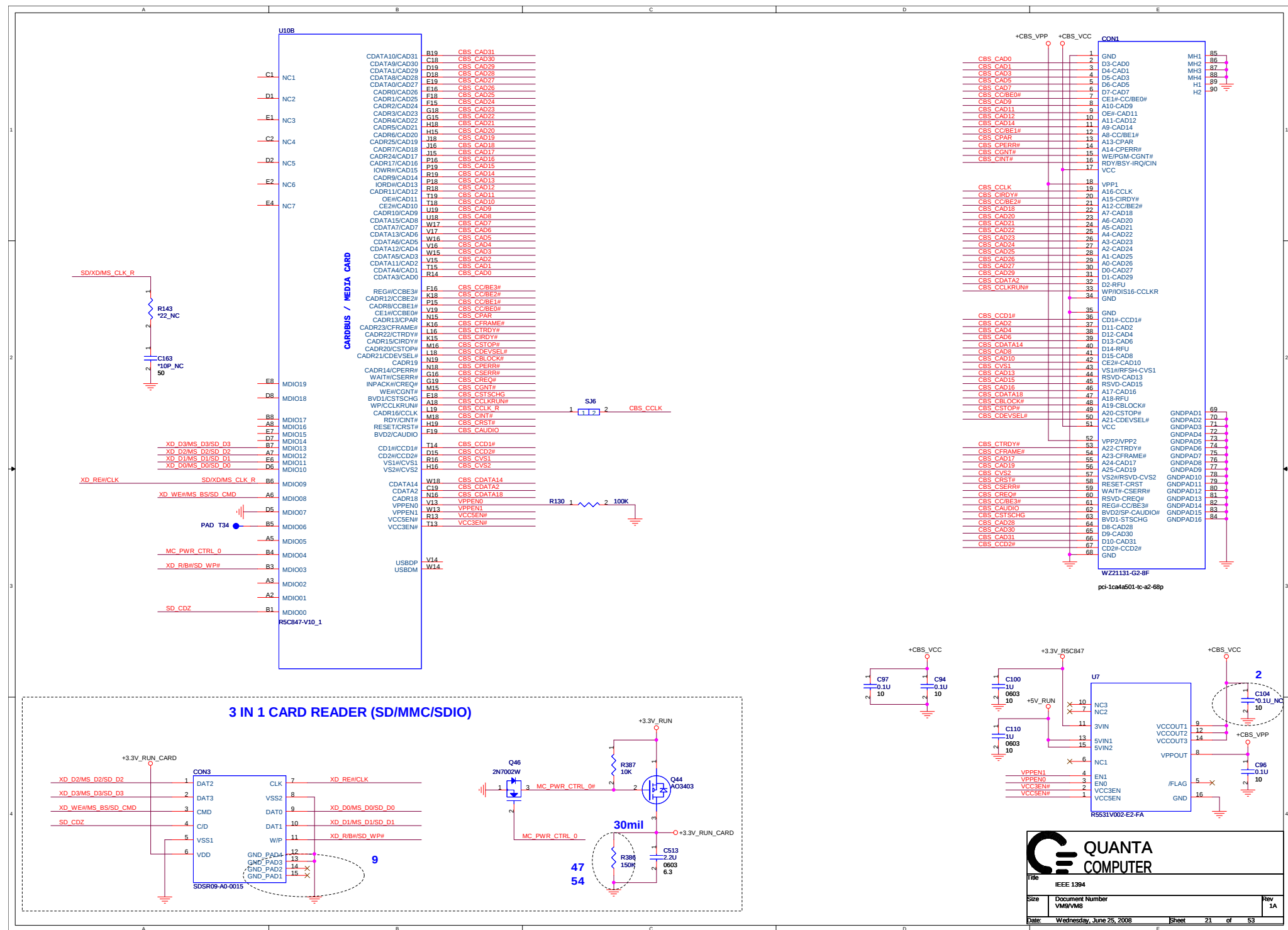


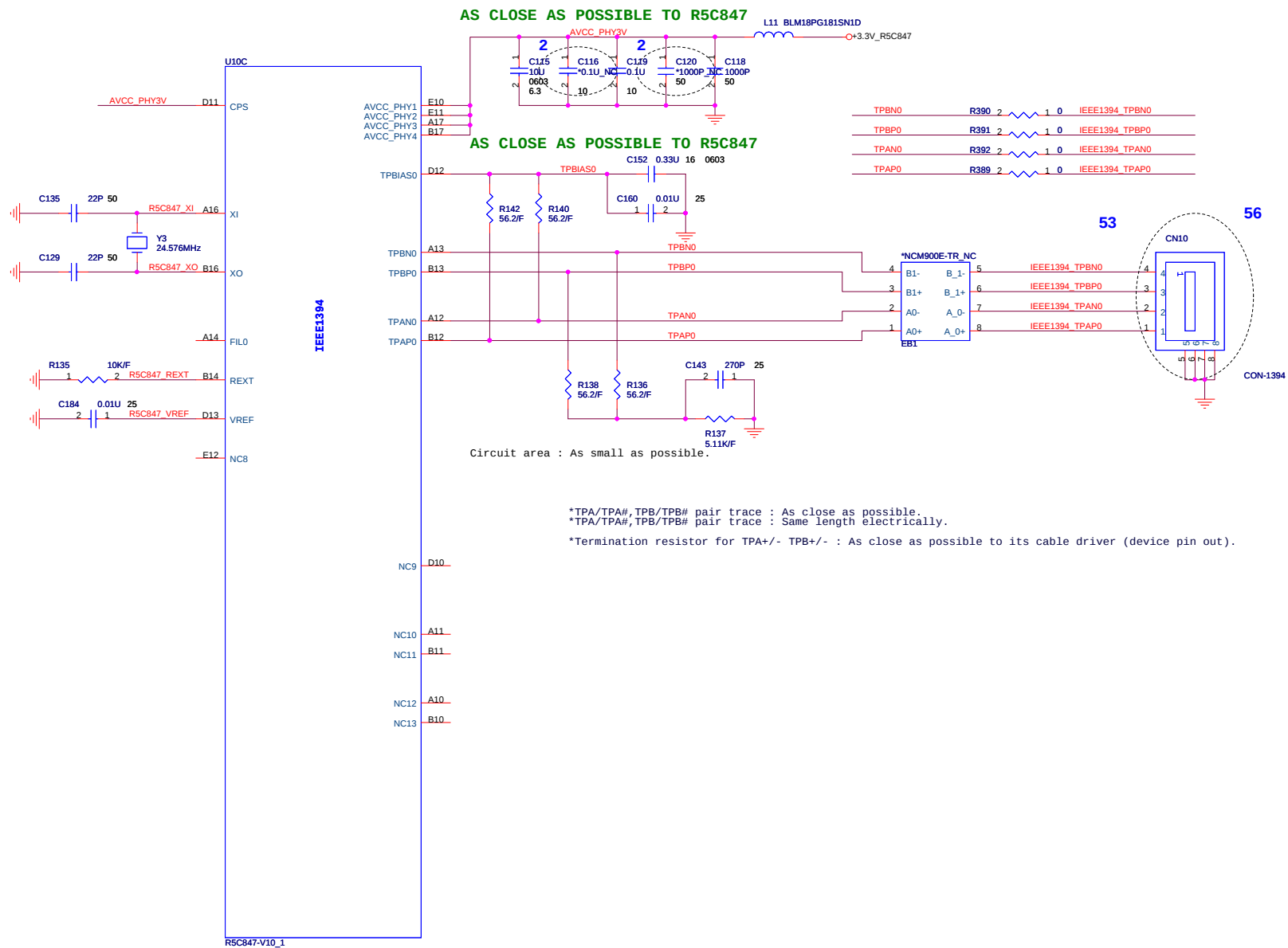


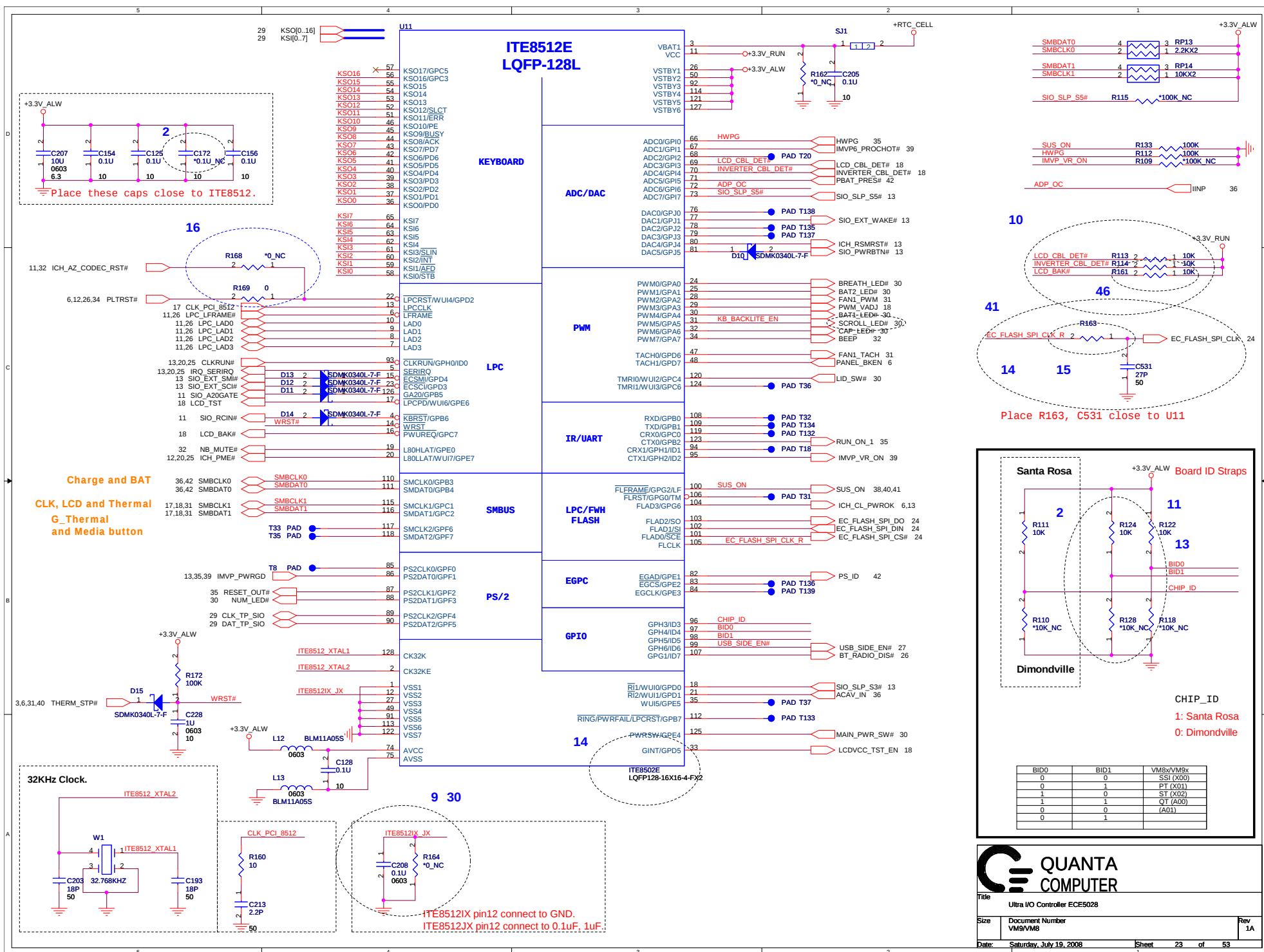
QUANTA

COMPUTER

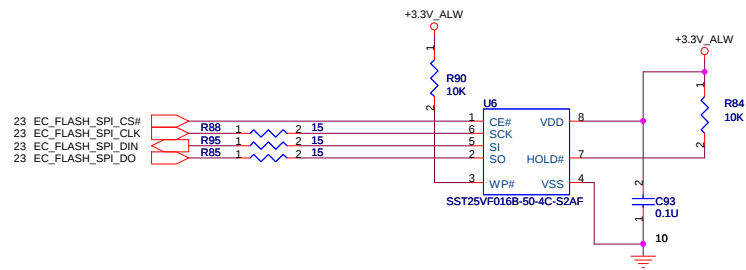
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Size	Document Number VM9/VM8	Rev 1A
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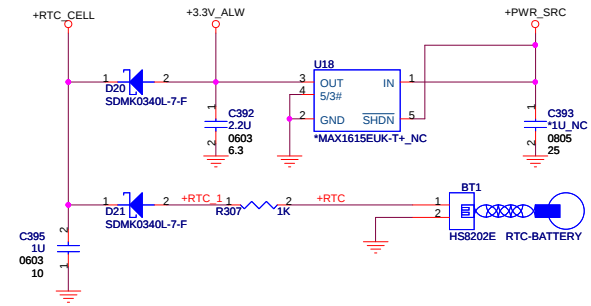


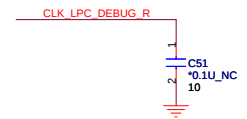
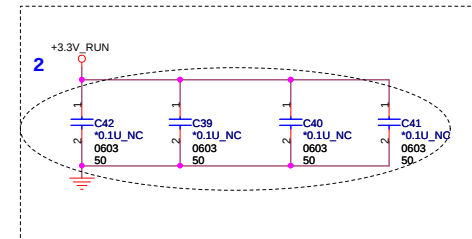
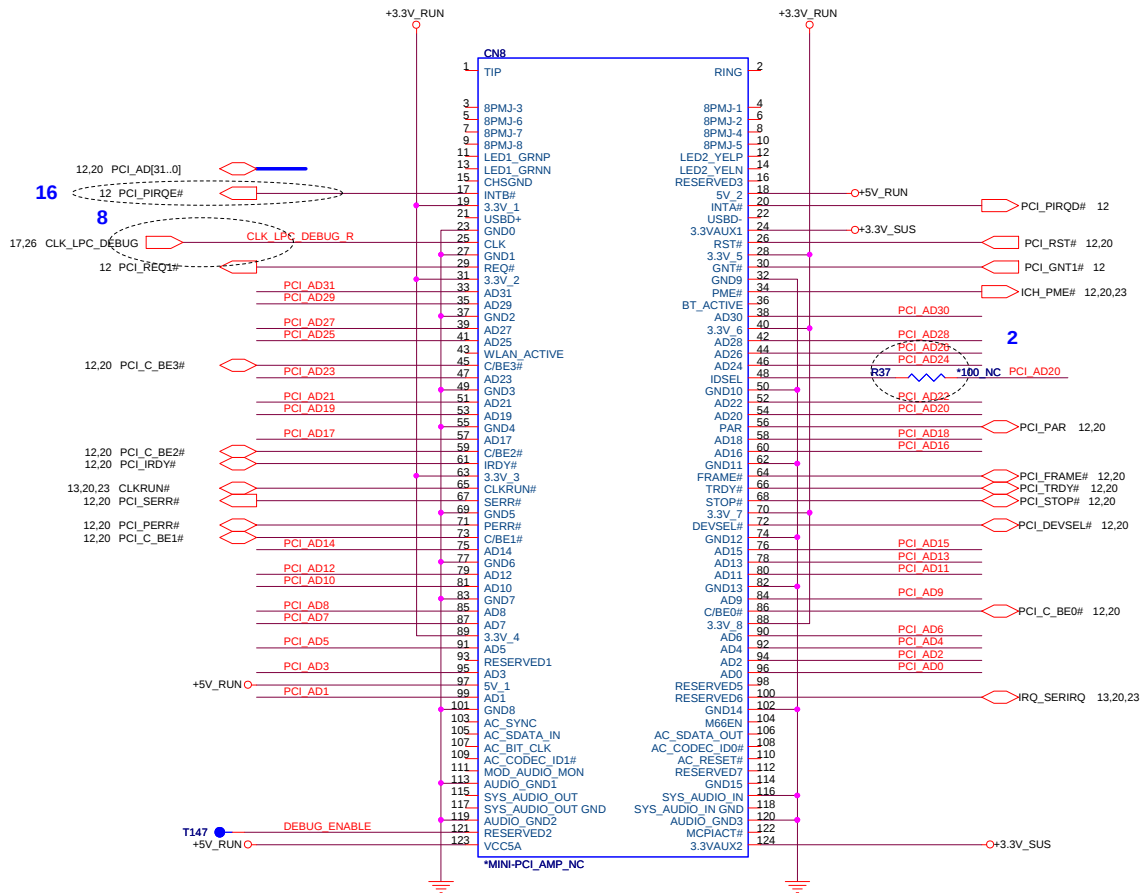


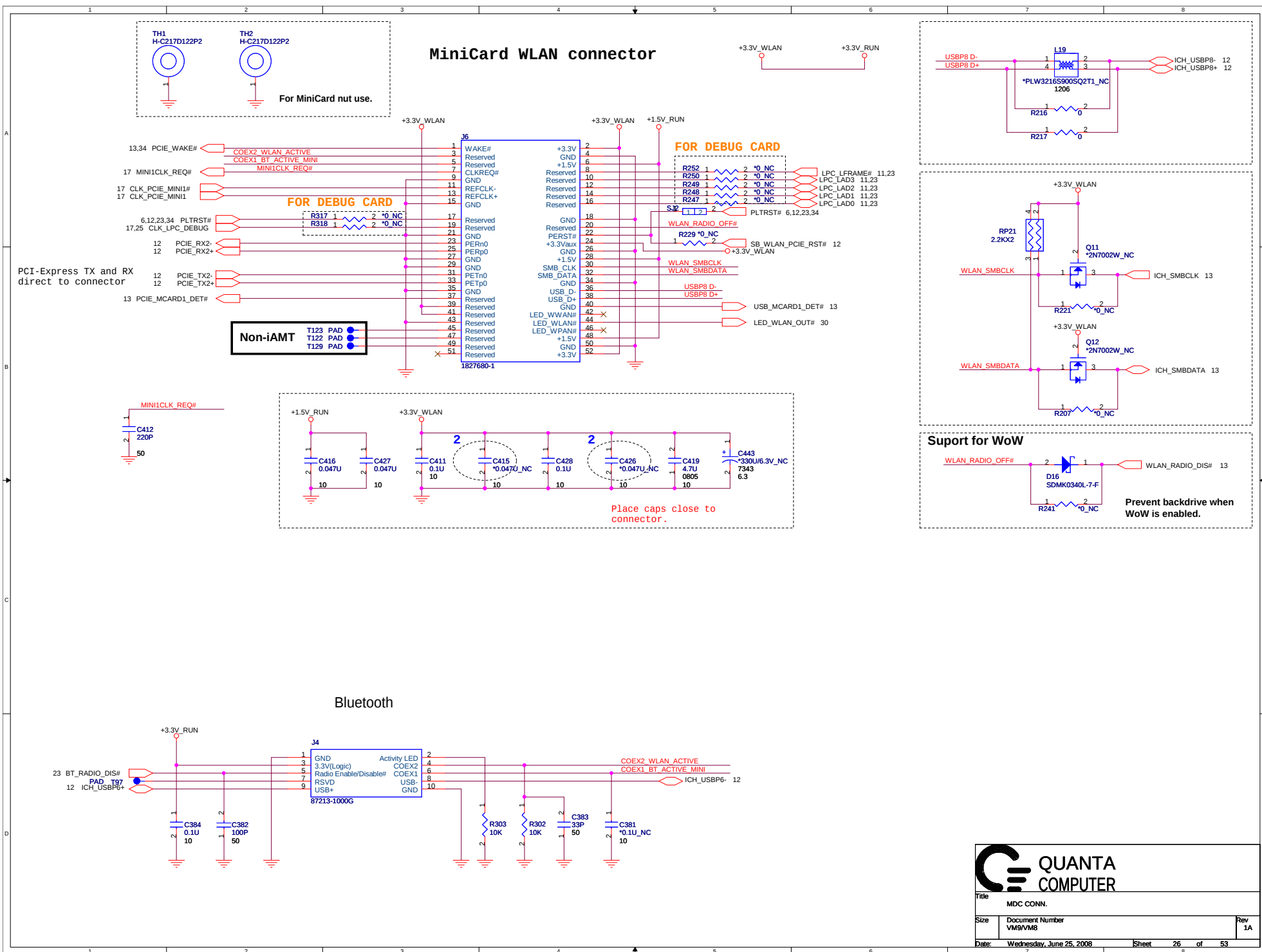
16Mbit (2M Byte), SPI



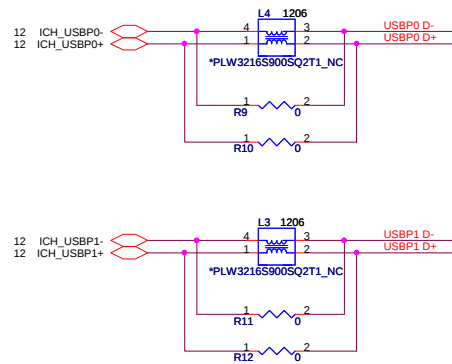
RTC BATTERY



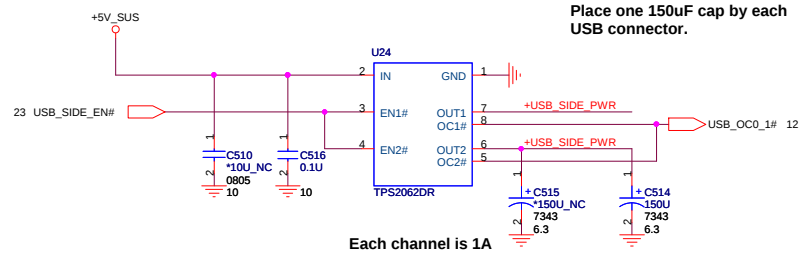
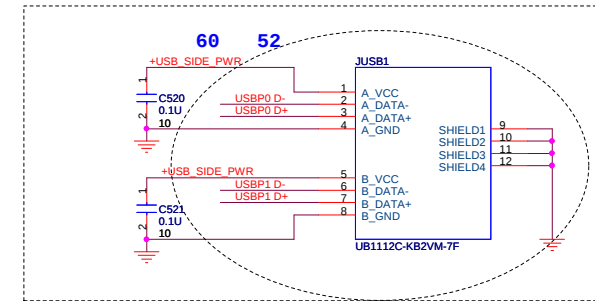




External USB PORT hookup reference. Your design may need more or less external ports and may be mapped differently

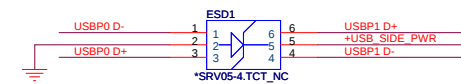


Platforms should put in PADS for the USB chokes if they have the room. Chokes should be NOPOP.



Place one 150uF cap by each USB connector.

Place ESD diodes as close as USB connector.



Serial Port & USB

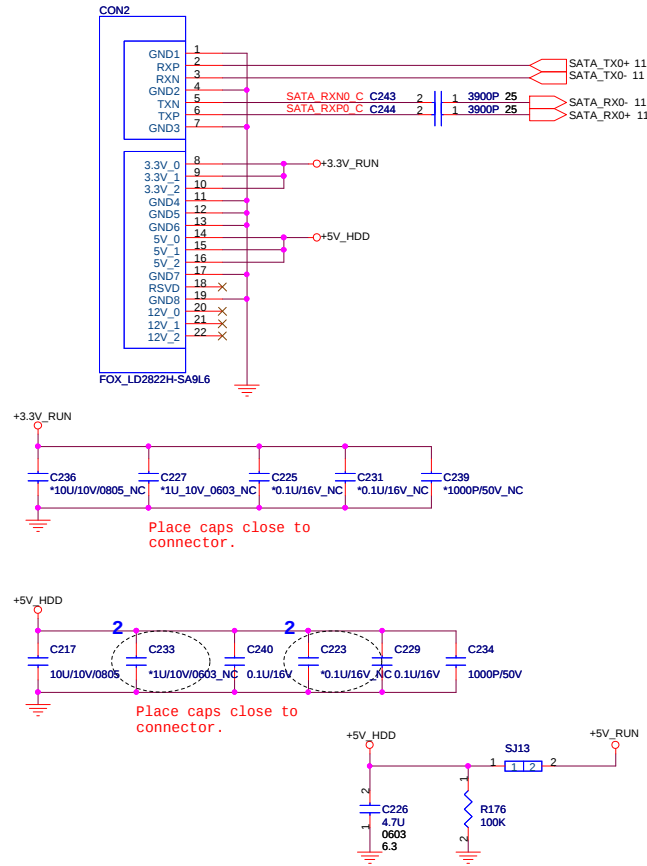
Document Number VM9/VM8

Date: Wednesday, June 25, 2008

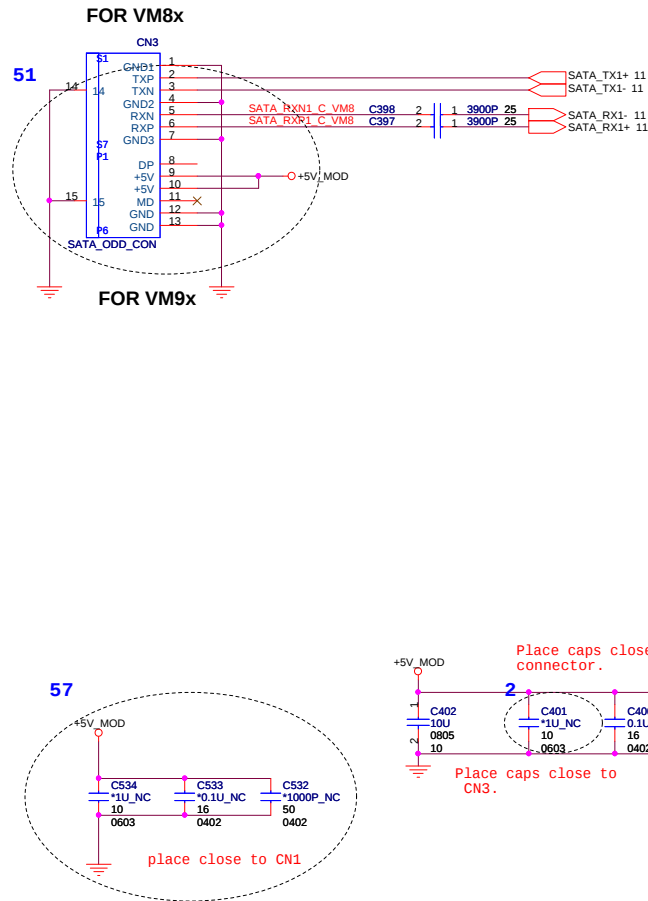
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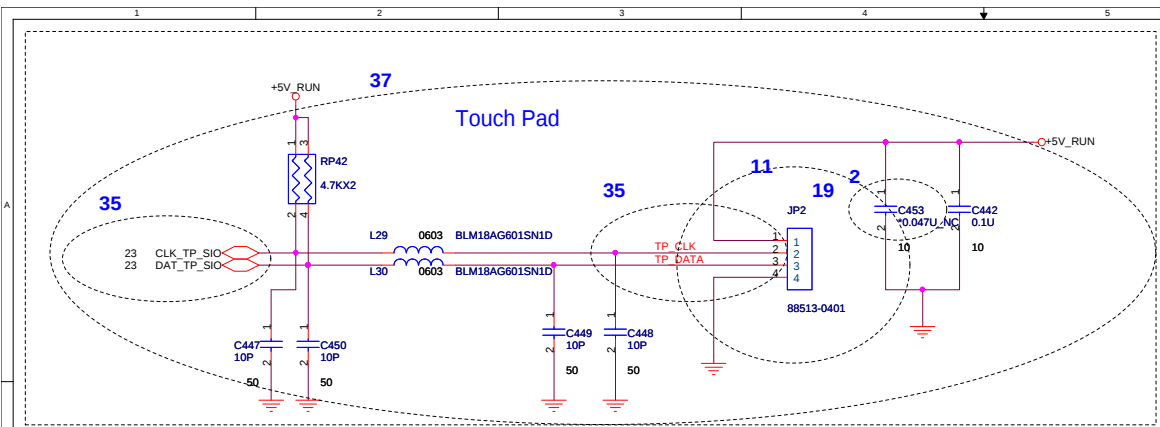
SATA HDD Connector.



SATA ODD Connector.

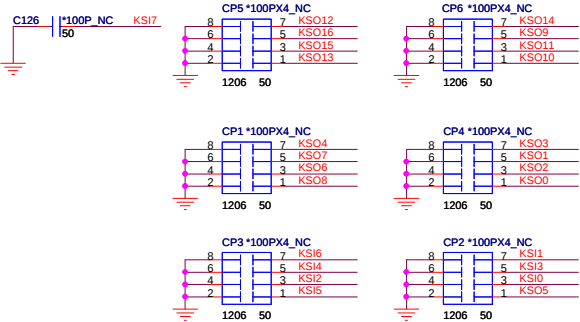
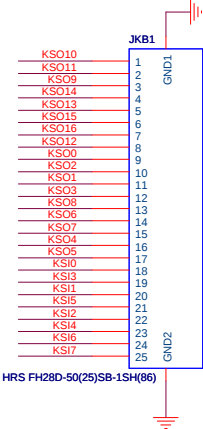


Title			SATA (HDD&CD_ROM)
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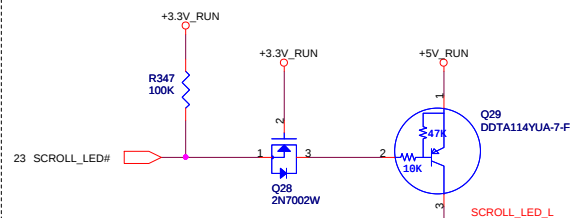
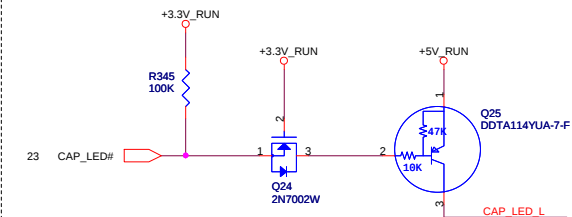
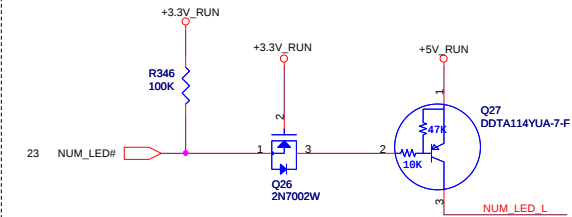
KEYBOARD CONNECTOR

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

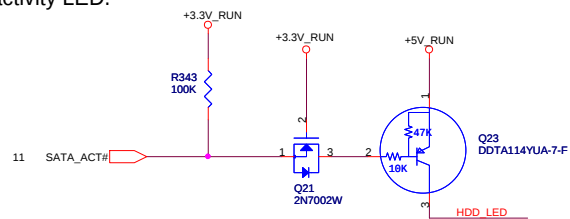


100P CAPS CLOSE TO JKB1

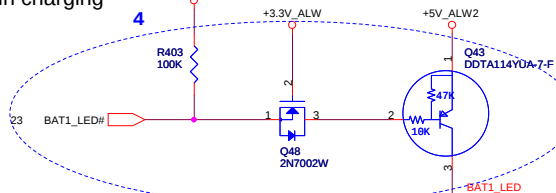
Keyboard LED



HDD activity LED.

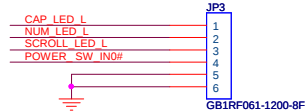


Battery in charging

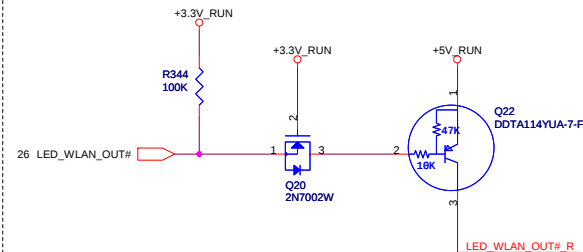


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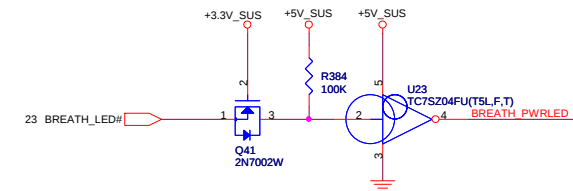
Dash board connector



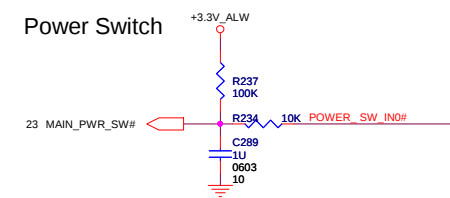
WLAN



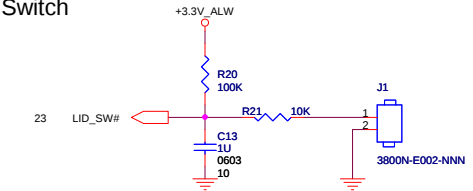
Power & Suspend.



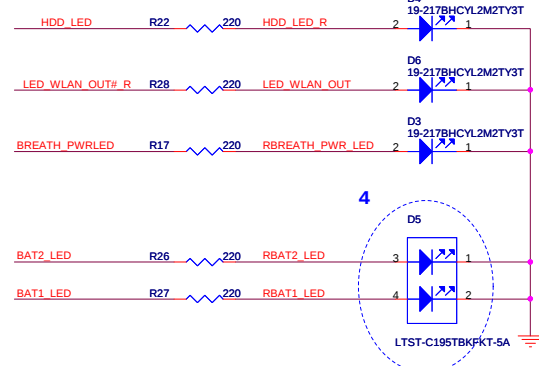
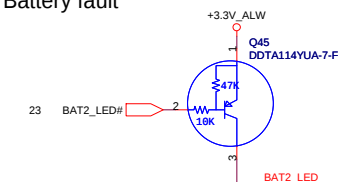
Power Switch



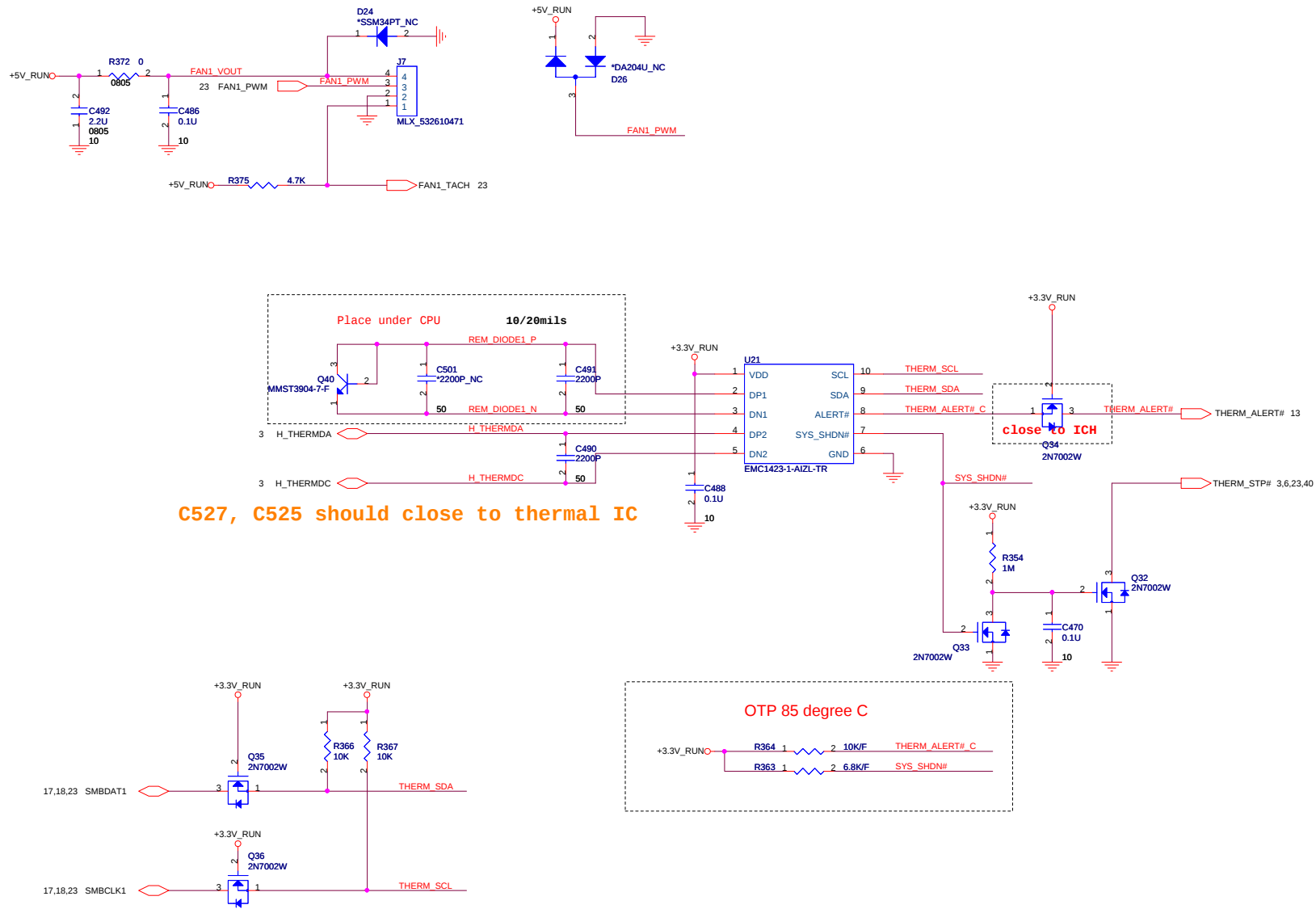
LID Switch



Battery fault



Title			SWITCH, KEYBOARD & LED
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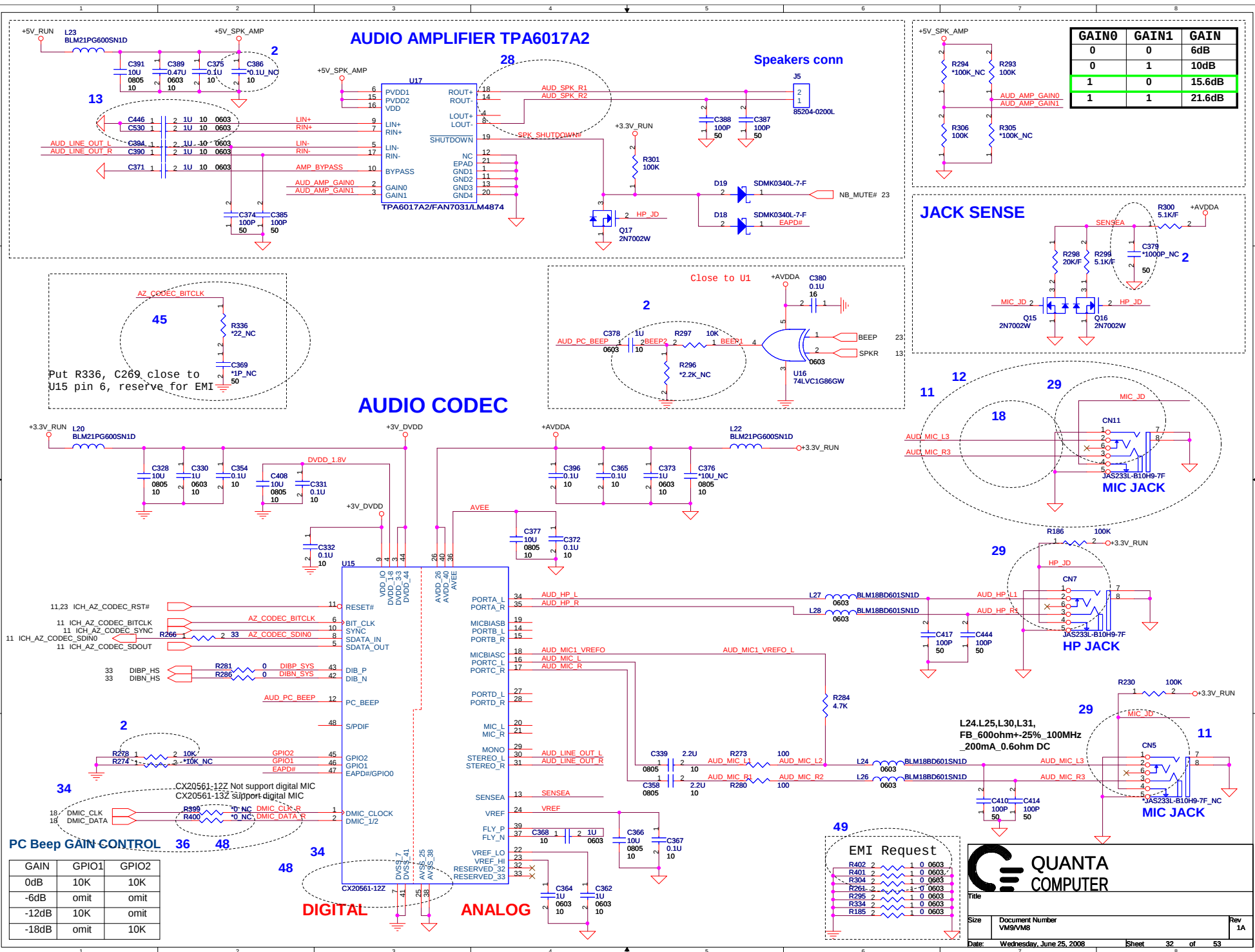
Title FAN & THERMAL

Size Document Number VM9/VM8

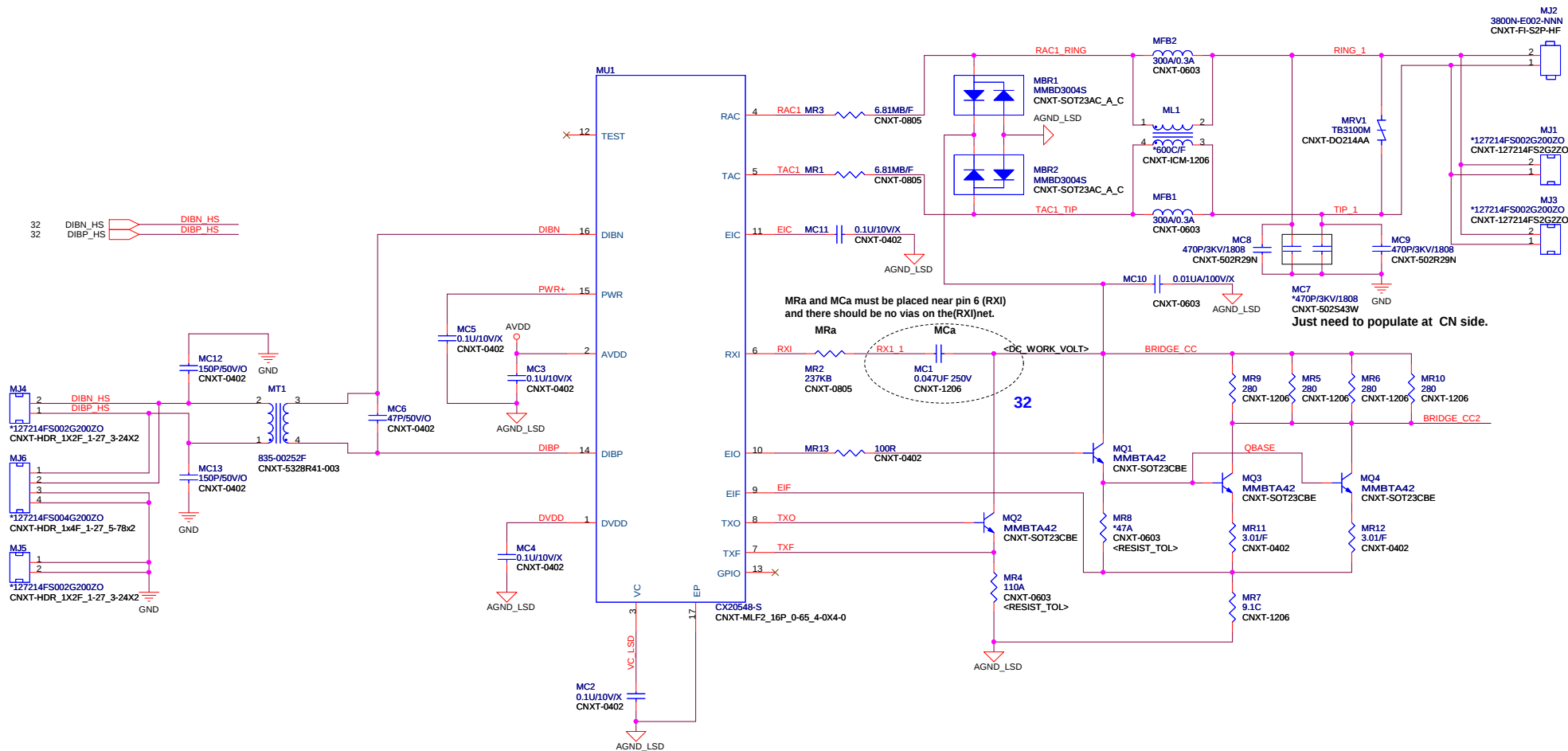
Date: Wednesday, June 25, 2008

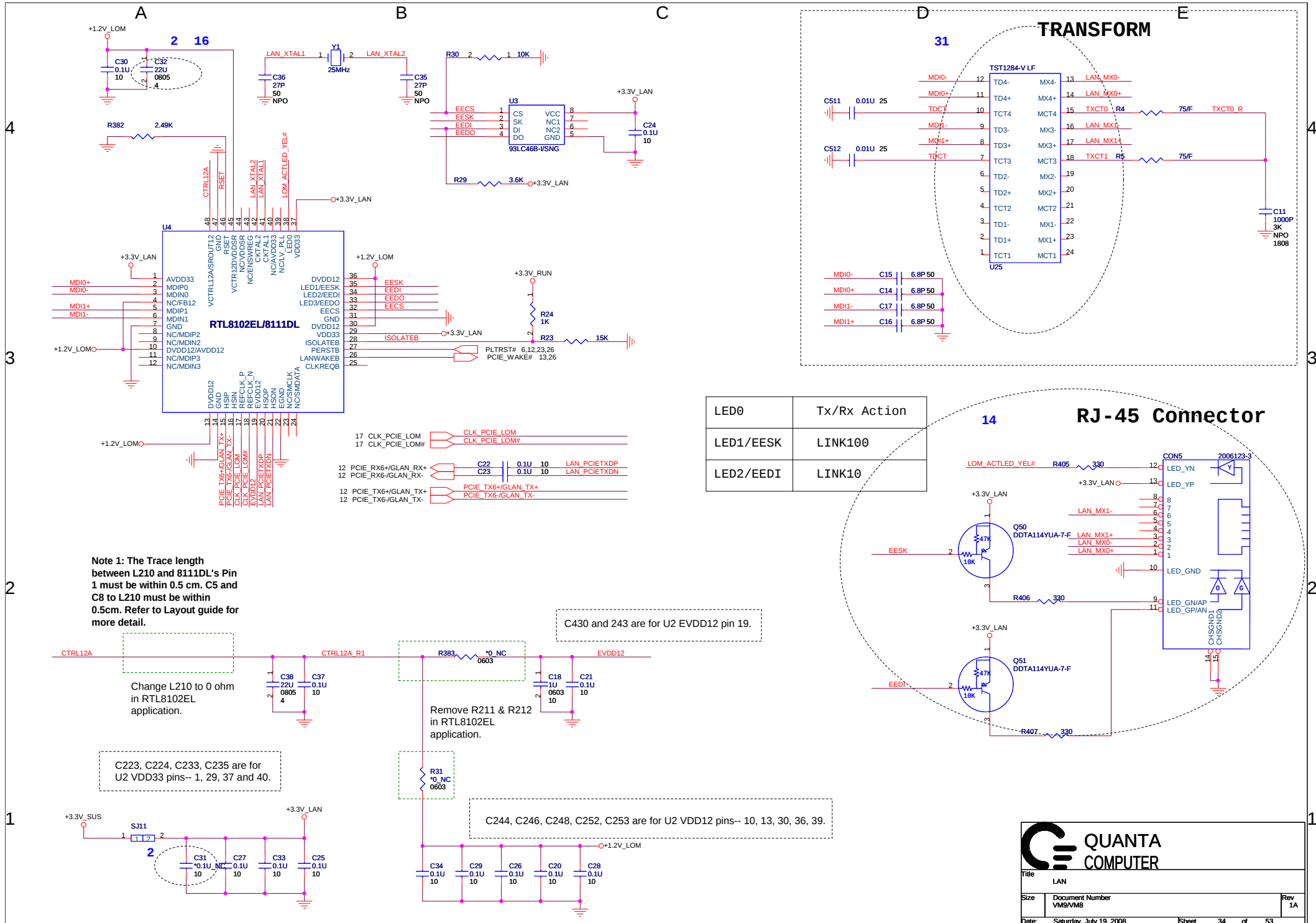
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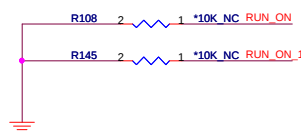
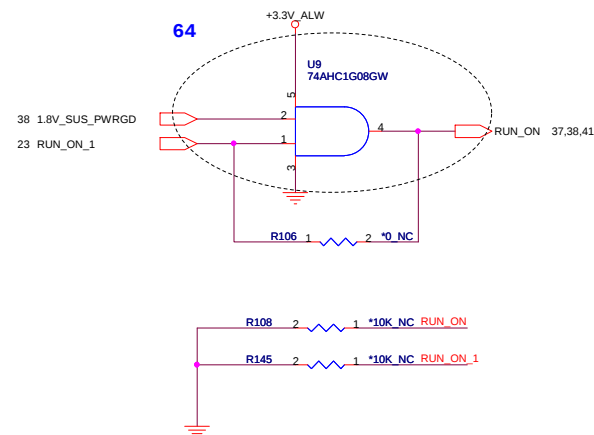
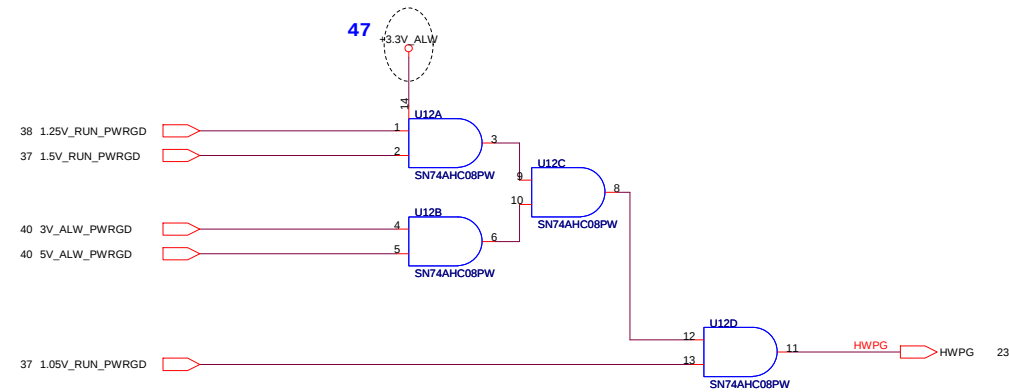
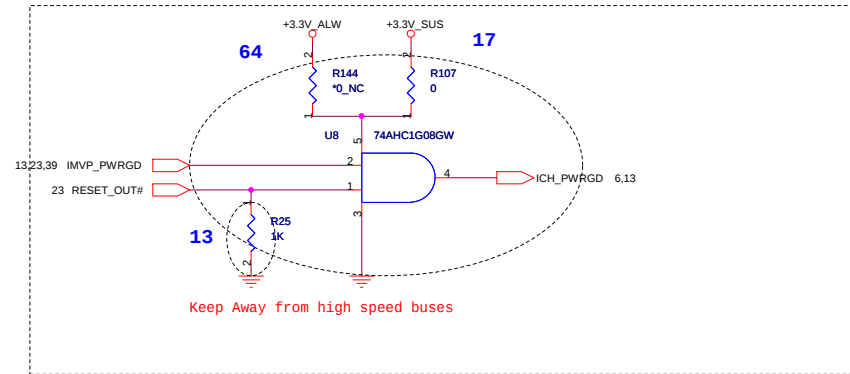
Rev 1A



Revision History		
REV	Description	Date
0	Initial Release	April 26, 2005
4		







Title			System Reset Circuit
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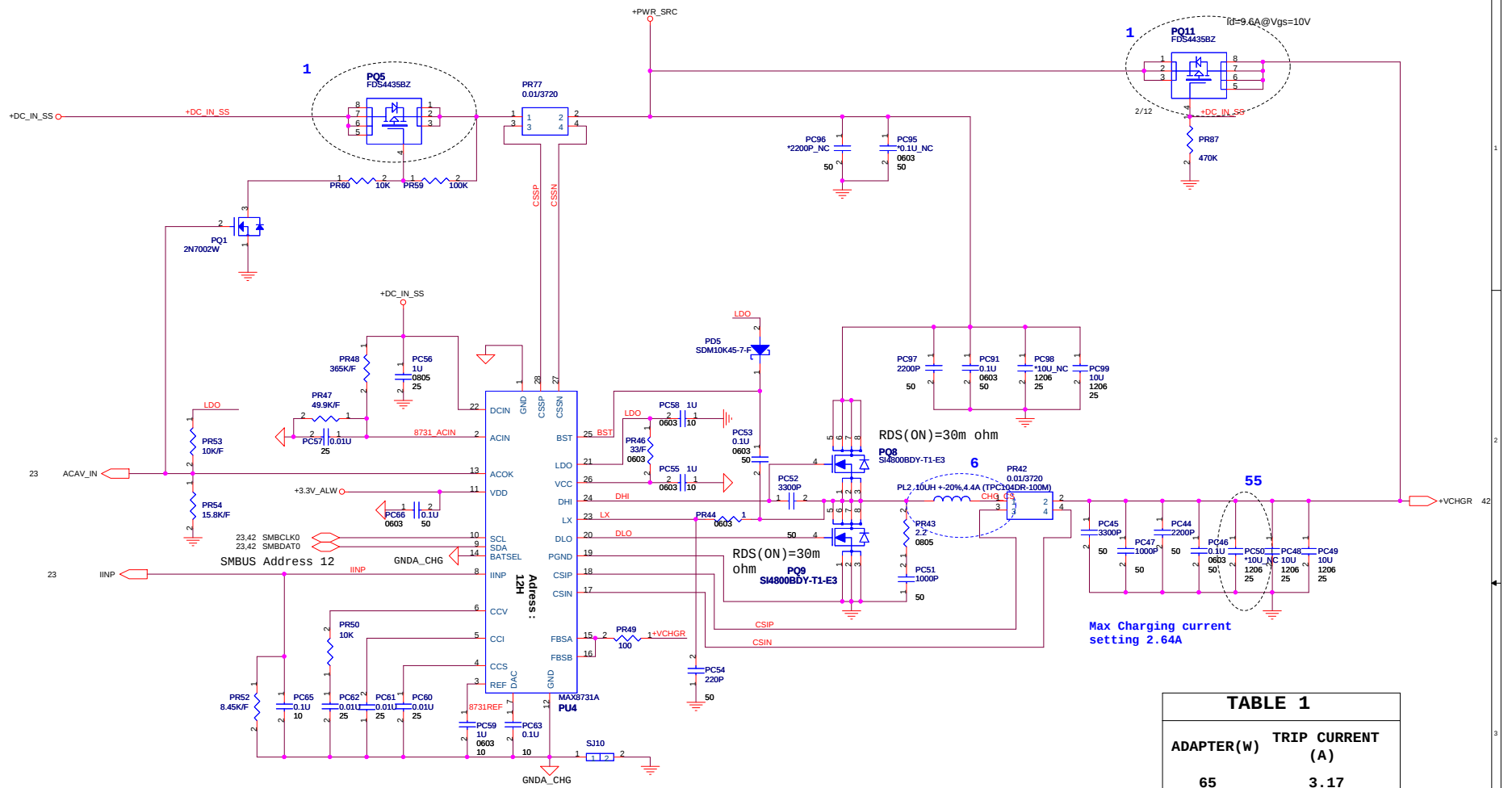
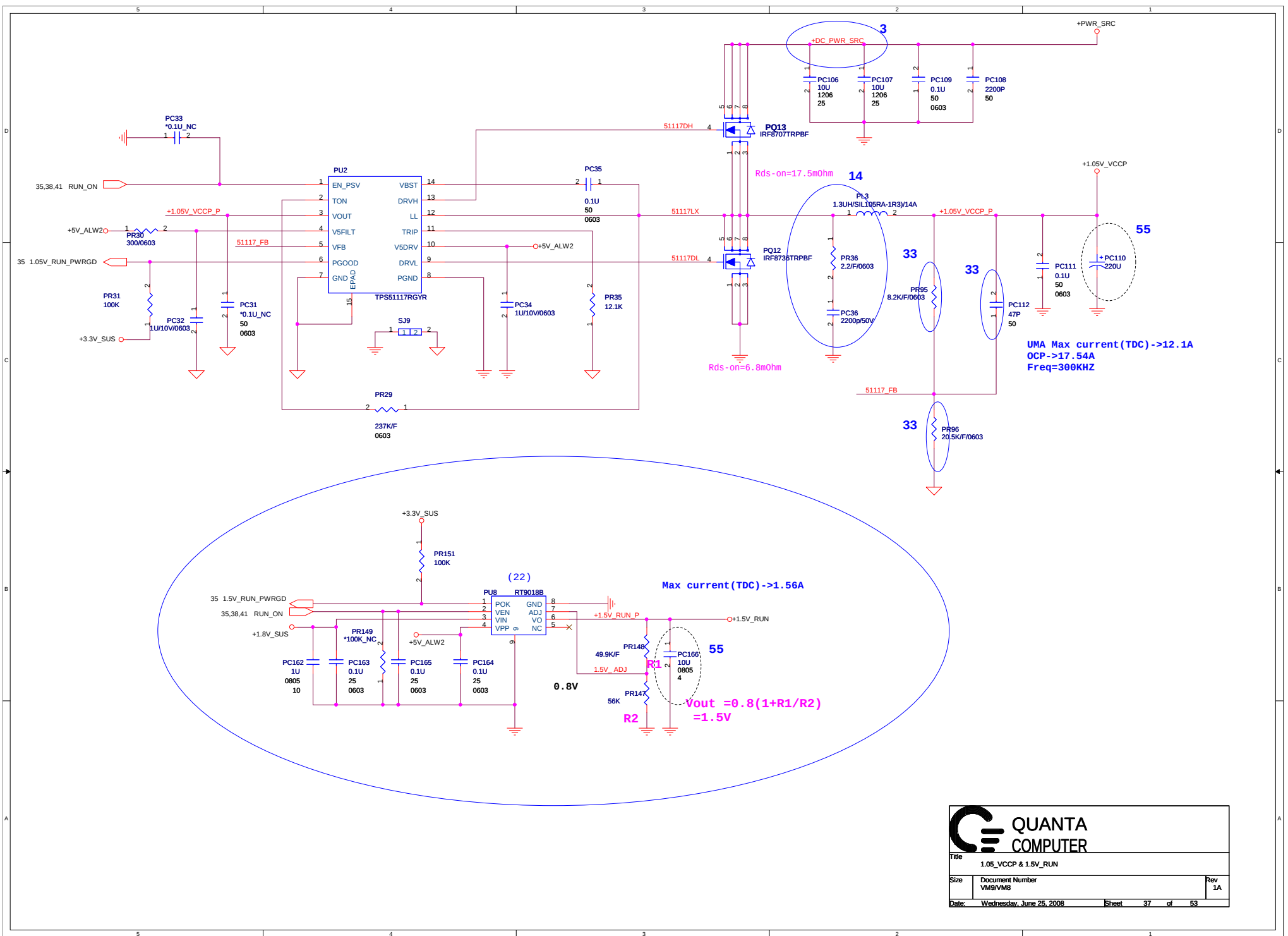
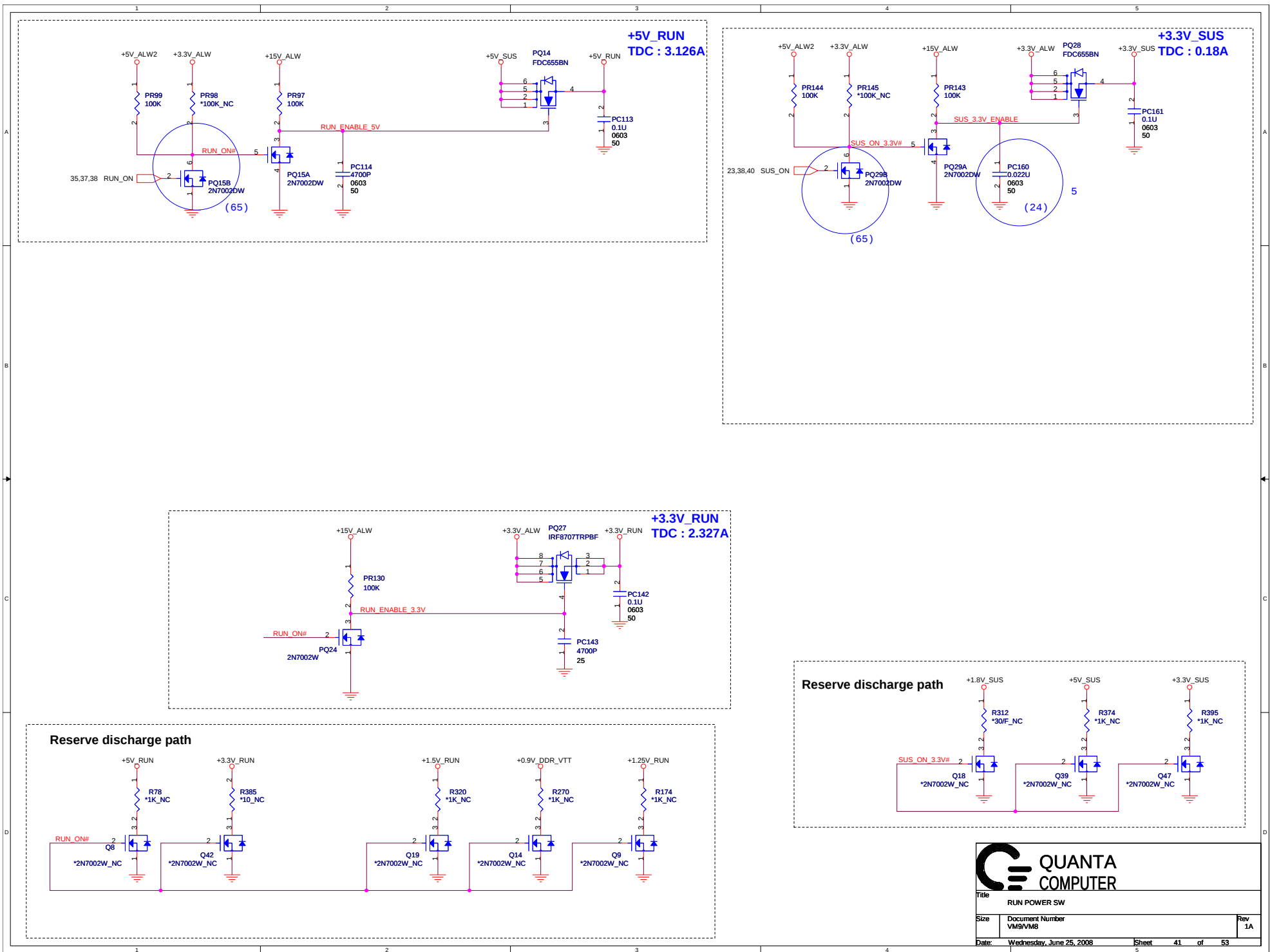


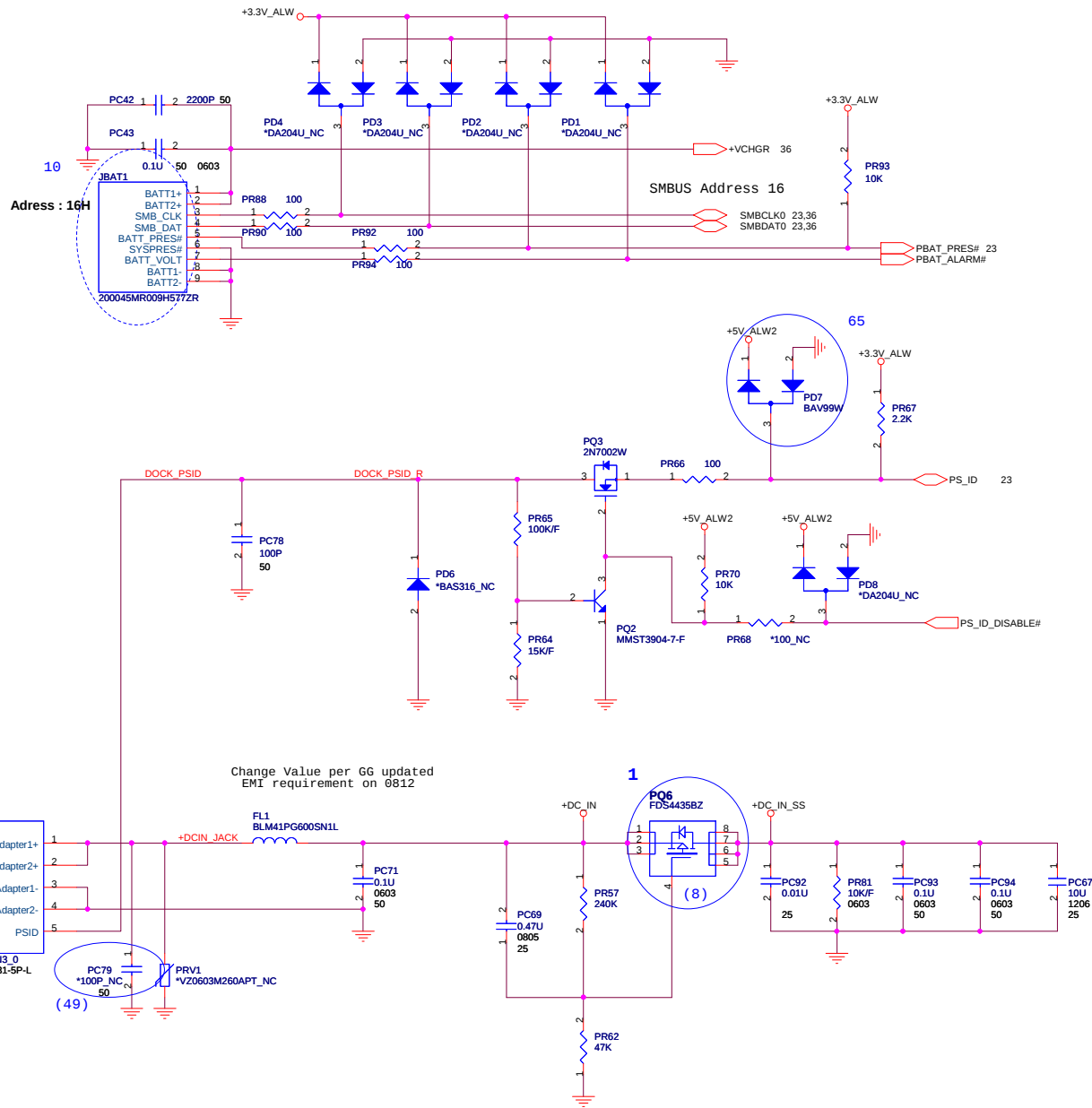
TABLE 1

ADAPTER(W)	TRIP CURRENT (A)
65	3.17
90	4.43
130	6.43
150	7.43
200	9.75
230	11.26 (see note3)







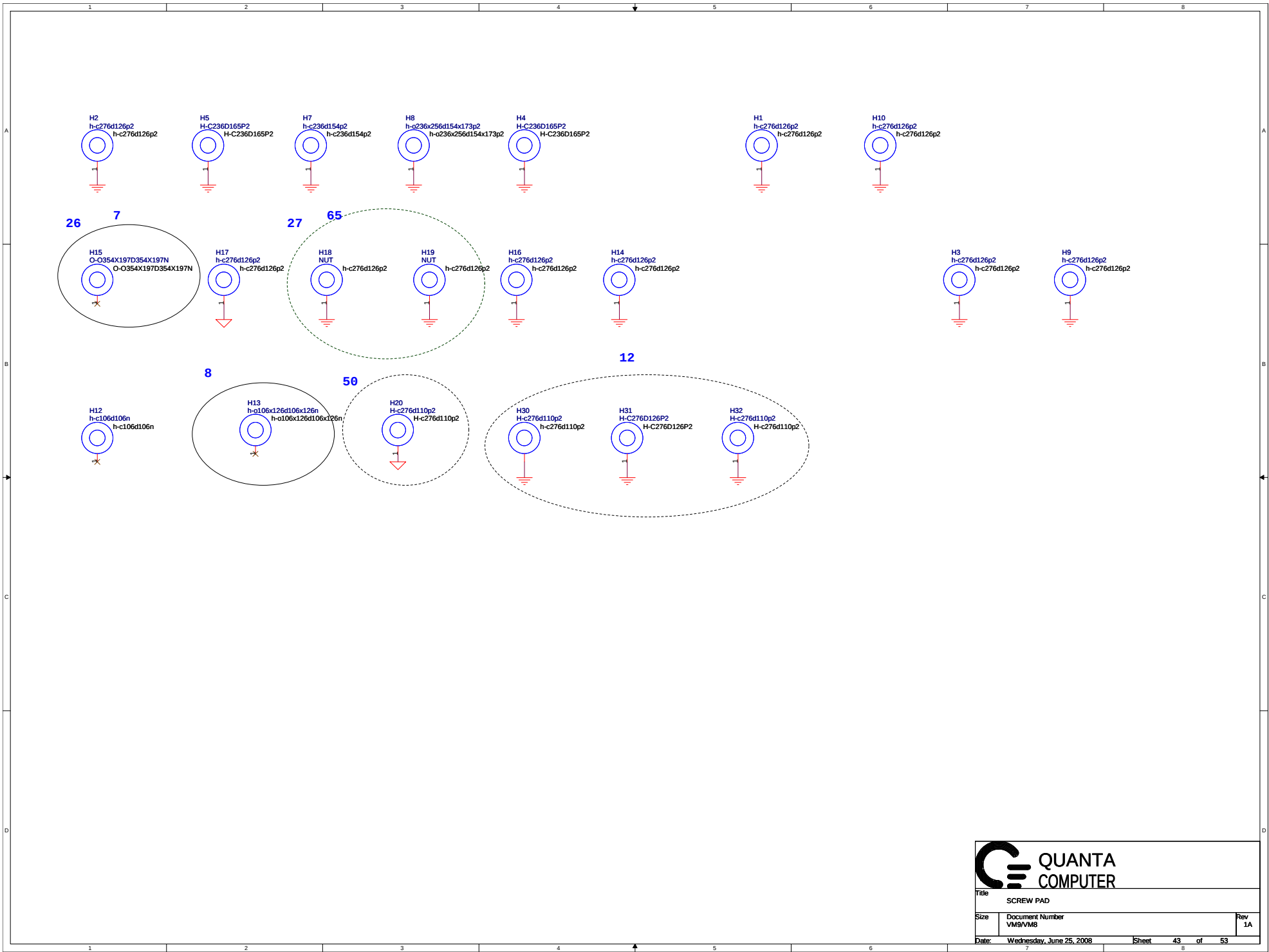


Title DCIN,BATT CONNECTOR

Size Document Number VM9/VM8

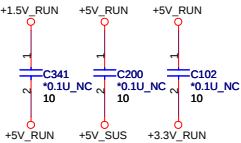
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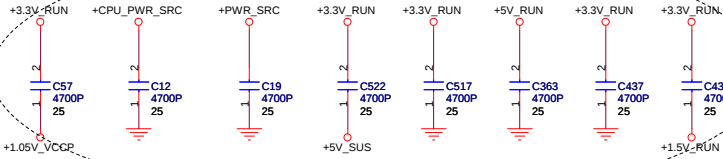


Reserved for EMI.

Stitching caps for PCI bus.

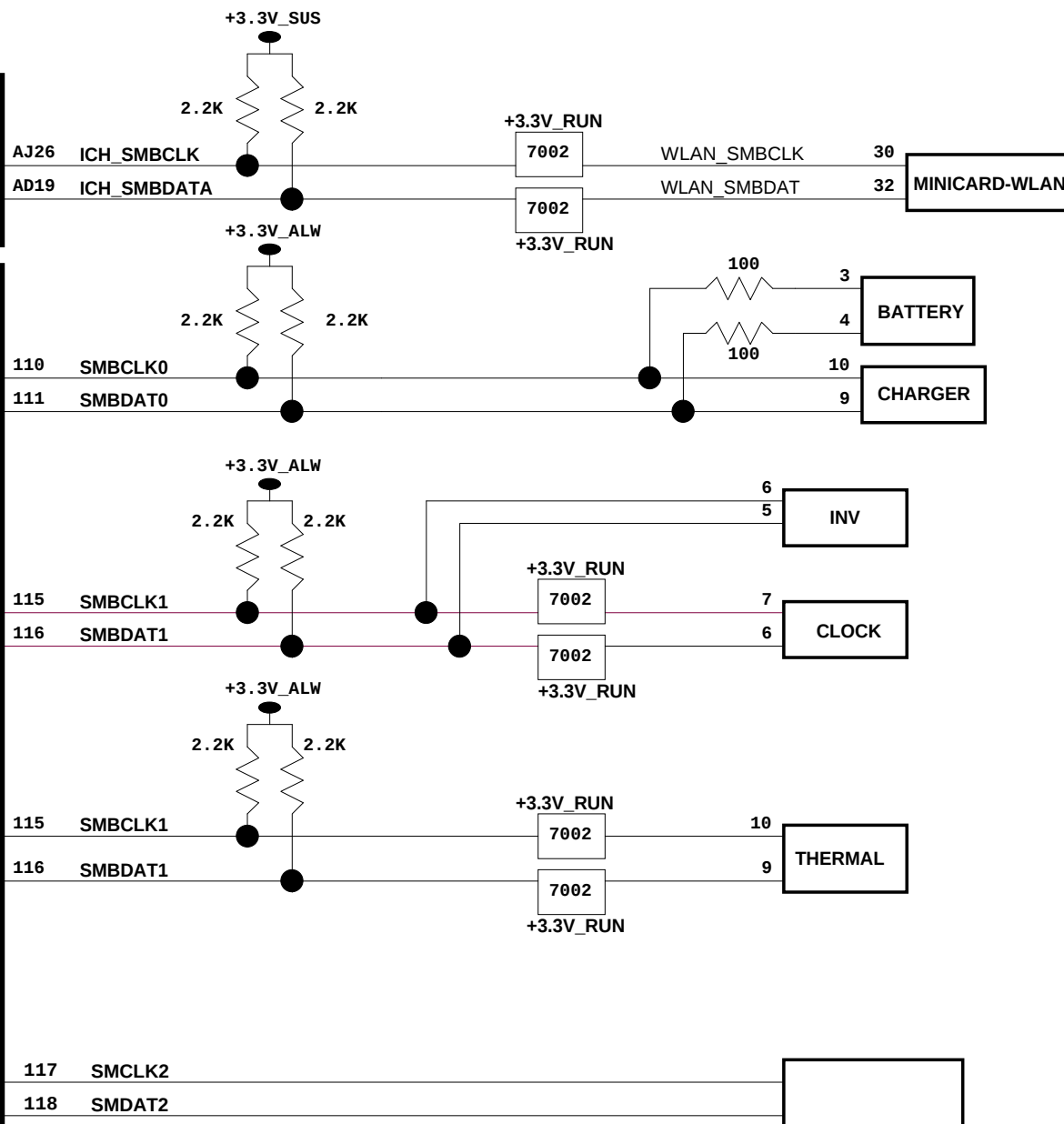


40
Stitching caps for PCI EMC.



ICH8-M

SIO
ITE8512



VER : 1A

