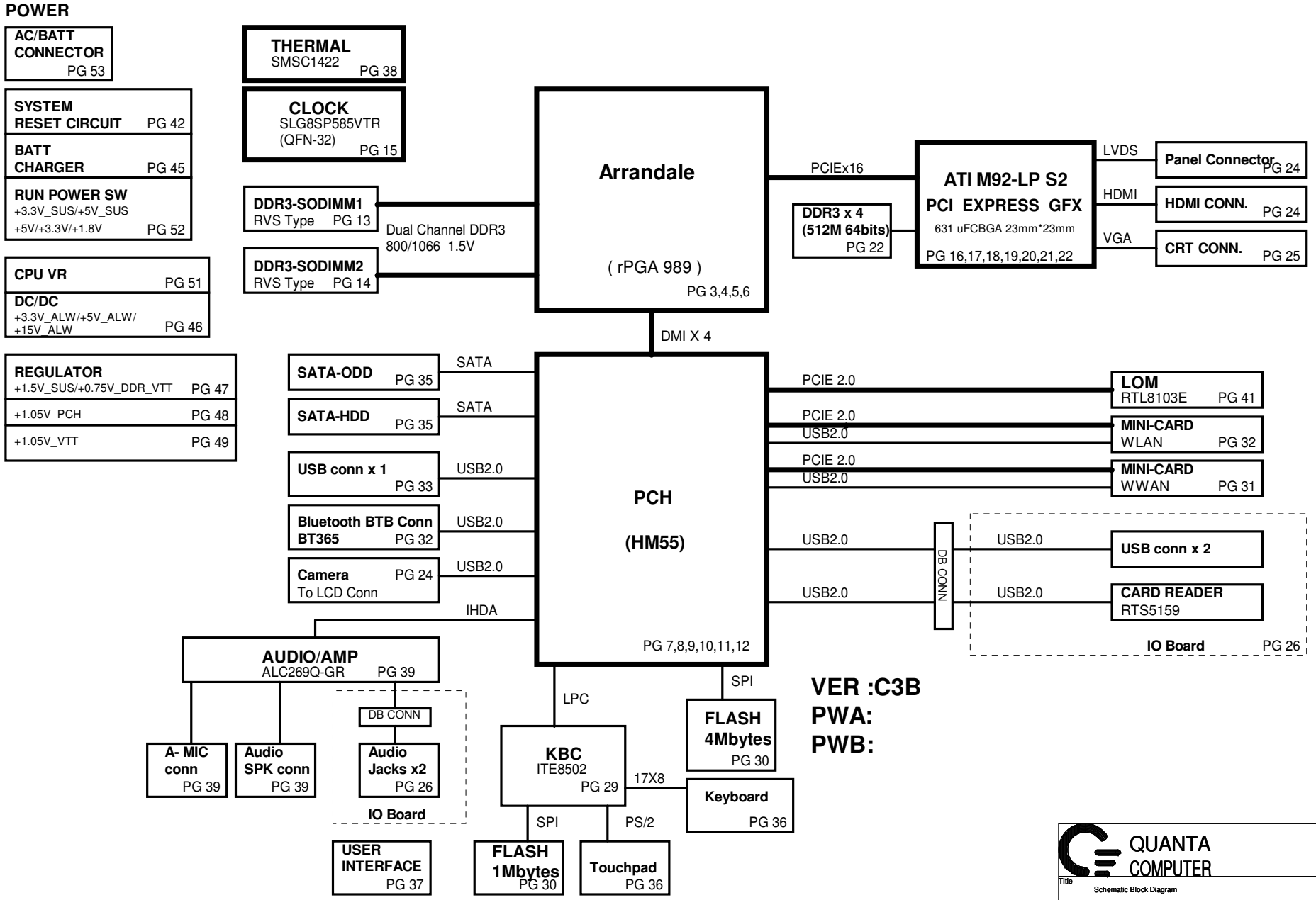
UM3/UM6 SYSTEM BLOCK DIAGRAM



QUANTA COMPUTER

Title	Schematic Block Diagram	
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Table of Contents

Power States

POWER PLANE	VOLTAGE	PAGE	DESCRIPTION	CONTROL SIGNAL	ACTIVE IN
+PWR_SRC	10V~+19V	24,45,46,47,48,49,50,51	MAIN POWER		S0~S5
+RTC_CELL	+3.0V~+3.3V	08,11,29,30	RTC		S0~S5
+5V_ALW	+5V	37,44,46,47,49,50,53	LARGE POWER	ALW_ON	S0~S5
+3.3V_ALW	+3.3V	29,30,37,44,45,46,51,52,53	8051 POWER	3.3V_ALW_ON	S0~S5
+5V_SUS	+5V	11,26,33,37,46,48,51,52	SLP_S5# CTRLD POWER	SUS_ON	
+3.3V_SUS	+3.3V	07,08,09,10,11,,24,36,37,41,42,44,47,50,52	SLP_S5# CTRLD POWER	SUS_ON	
+1.5V_SUS	+1.5V	03,05,13,14,47,50,52	SODIMM POWER	SUS_ON	
+0.75V_DDR_VTT	+0.75V	13,14,47	SODIMM POWER	RUN_ON	
+5V_RUN	+5V	11,18,24,25,35,36,37,38,39,51,52	SLP_S3# CTRLD POWER	RUN_ON	
+3.3V_RUN	+3.3V	3,7,8,9,10,11,13,14,15,17,19,24,25,26,29,30 ,31,32,35,38,39,41,42,51,52	SLP_S3# CTRLD POWER	RUN_ON	
+1.8V_RUN	+1.8V	05,11,44	SDVO POWER	RUN_ON	
+1.5V_RUN	+1.5V	11,18,19,20,31,32,52	VGA POWER	RUN_ON	
+VCC_GFX_CORE	+0.9V~+1.2V	18,21,50	VGA POWER	GFX_ON	
+1.1V_GFX_PCIE	+1.1V	18,50	VGA POWER	GFX_+1.1_EN	
+1.8V_RUN_GFX	+1.8V	17,18,21,22,44	VGA POWER	GFX_+1.8_EN	
+1.05V_PCH	+1.05V	07,08,09,11,15,48	PCH POWER	RUN_ON	
+VCC_CORE	+0.7V~+1.77V	05,51	CPU CORE POWER	IMVP_VR_ON	
+LCDVCC	+3.3V	24	LCD Power	LCDVCC_TST_EN & ENVDD	
+1.05V_VTT	+1.1V	03,05,10,11,49	CPU POWER	RUN_ON	

GND PLANE	PAGE	DESCRIPTION
GND	ALL	

QUANTA COMPUTER

Title	Index & Power Status	
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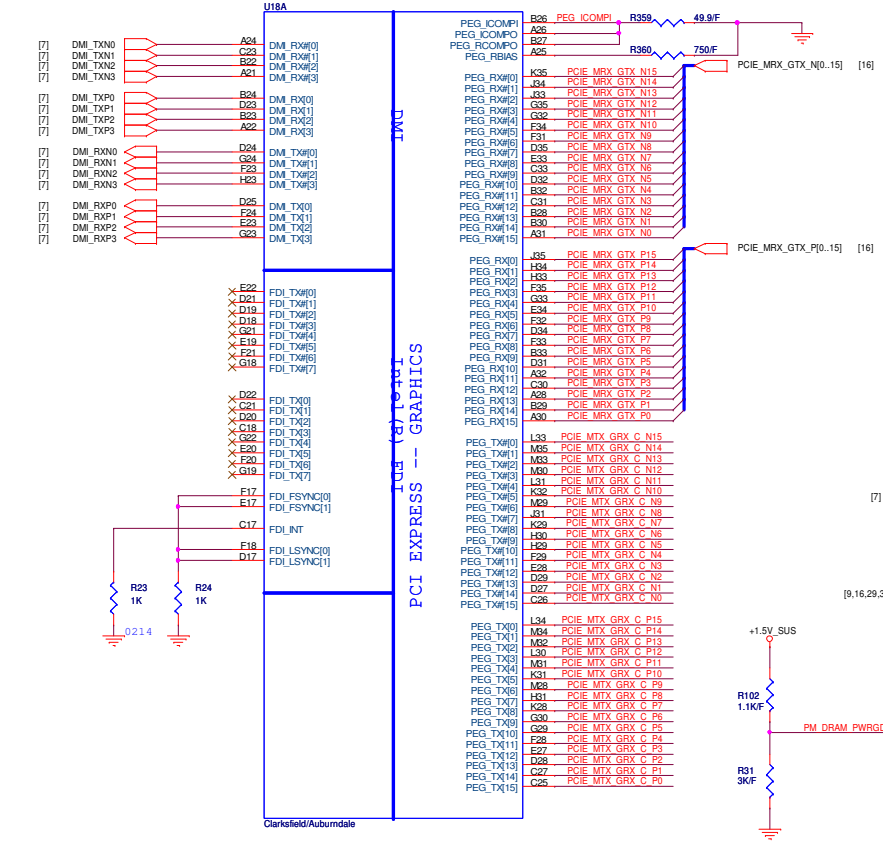
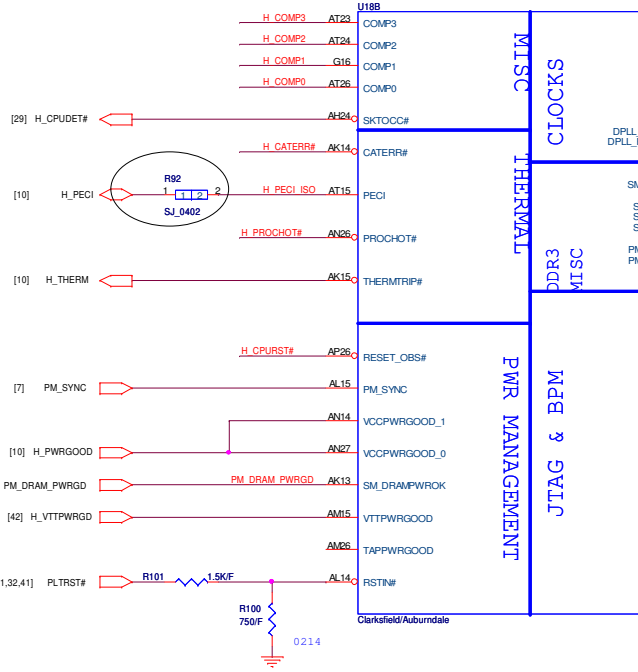
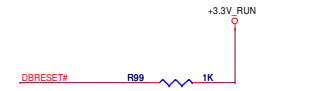
AUBURNDALE/CLARKSFIELD PROCESSOR (DMI,PEG,FDI)



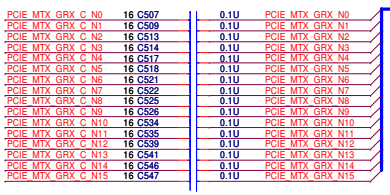


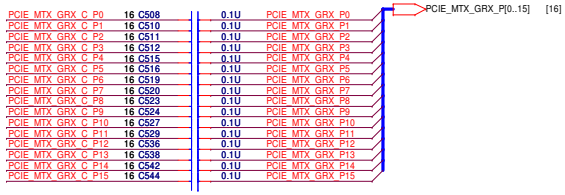
Intel Suggest to reserve 0 ohm below for CPU AP29 and AR29 pins.

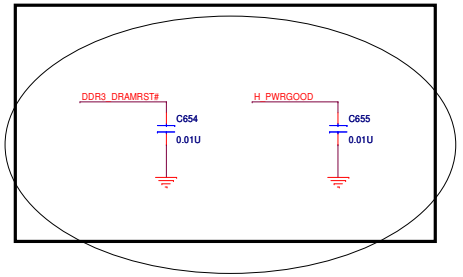
Add Test Point For XDP



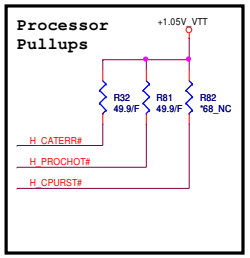
CRB use a 1k pull-up to 3.3V_S for DBR# TRST# use a 51ohm pull down.

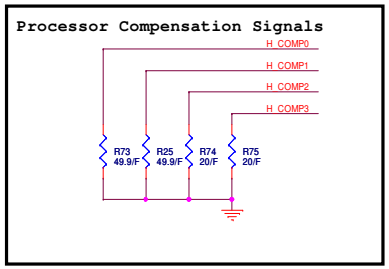


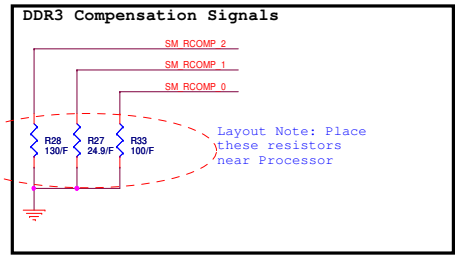




Remove XDP Function







AUBURNDALE/CLARKSFIELD PROCESSOR (CLK,MISC,JTAG)

QUANTA COMPUTER

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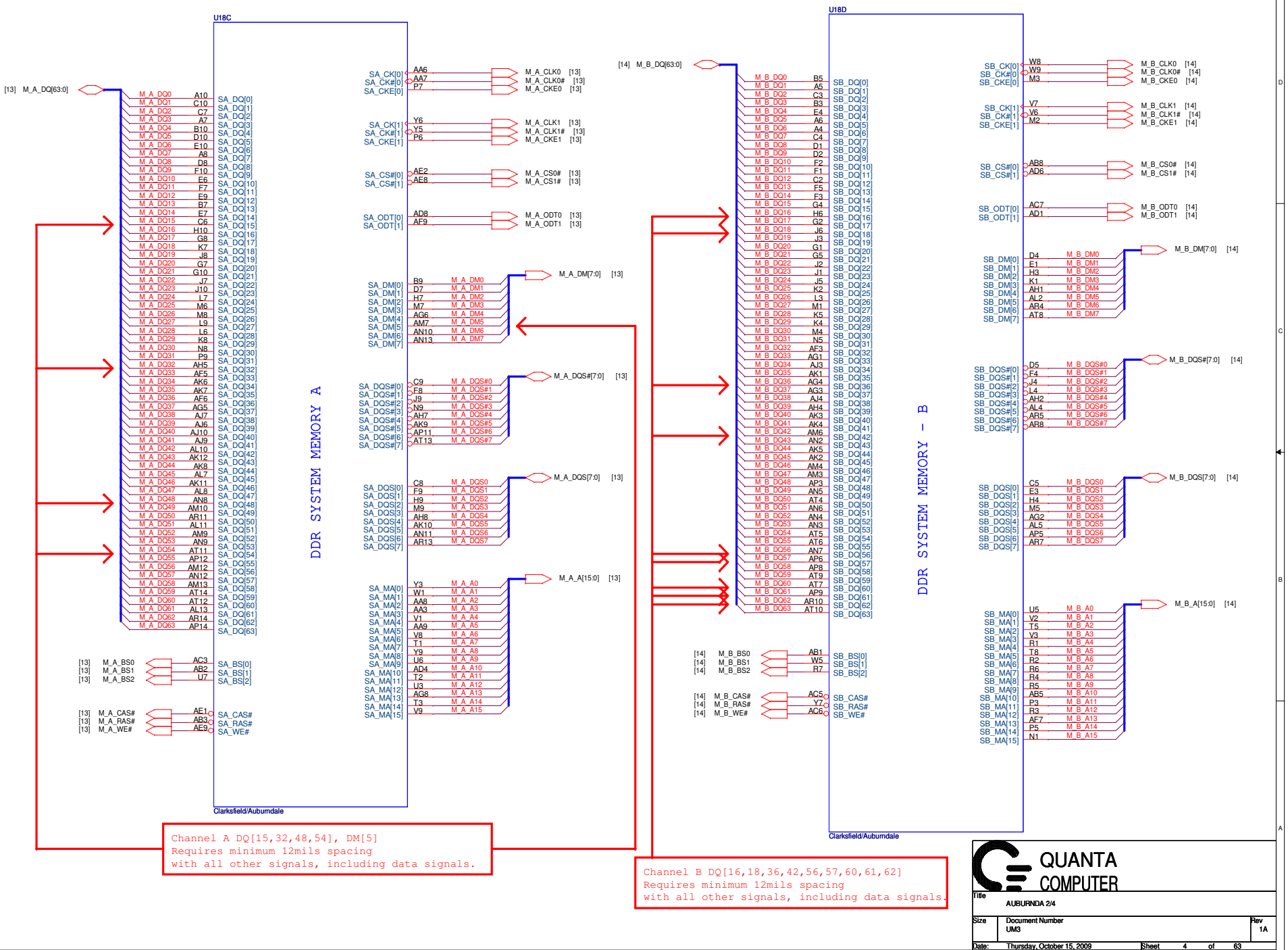
AUBURNDALE/CLARKSFIELD PROCESSOR (DDR3)



QUANTA COMPUTER		
Title	AUBURNDA 2/4	
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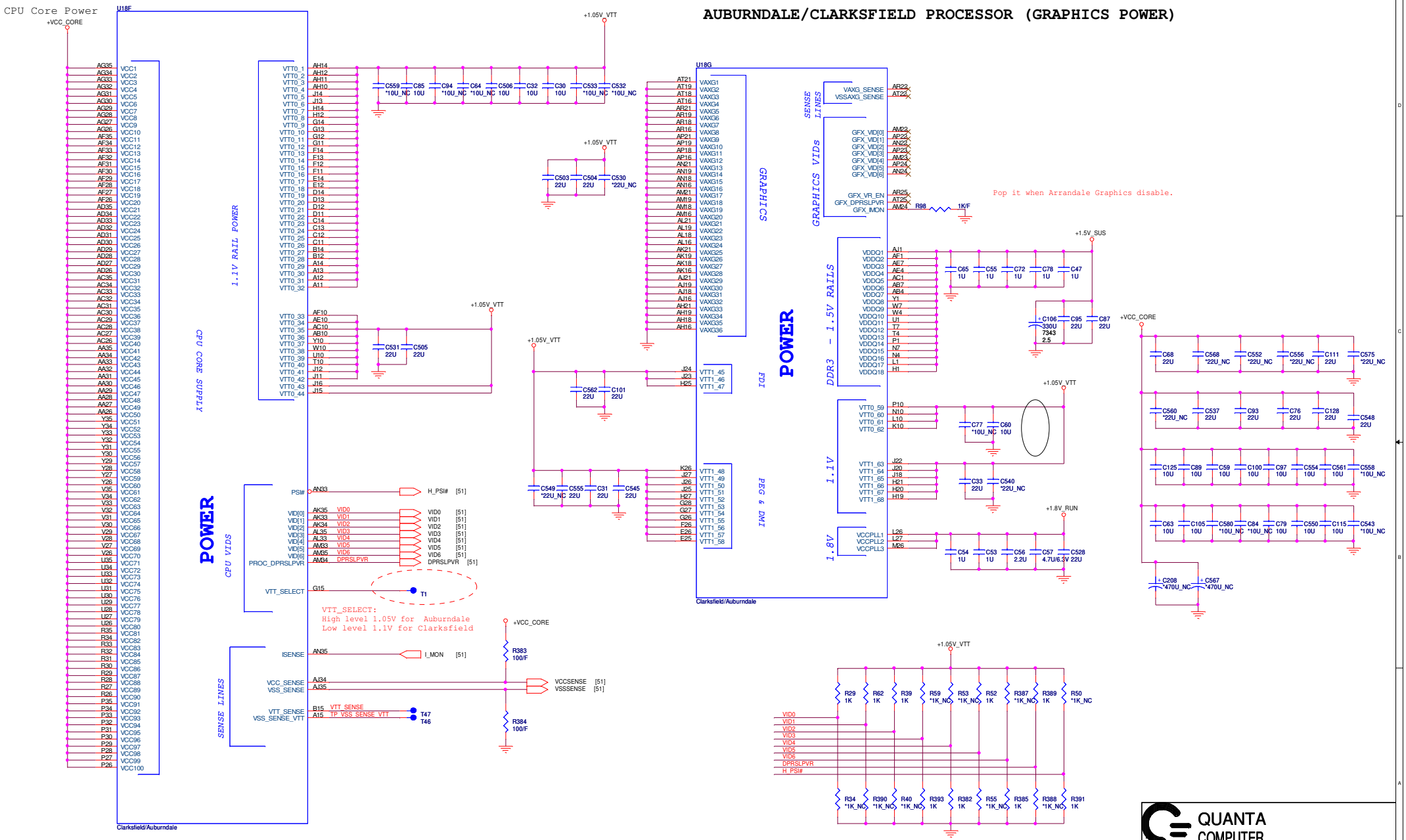
AUBURNDALE/CLARKSFIELD PROCESSOR (GRAPHICS POWER)



AUBURNDALE/CLARKSFIELD PROCESSOR (POWER)

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AUBURNDALE/CLARKSFIELD PROCESSOR (GND)

U18H

VSS

Clarksfield/Auburndale

U18I

VSS

NCTF

Clarksfield/Auburndale

AUBURNDALE/CLARKSFIELD PROCESSOR(RESERVED, CFG)

U18E

RESERVED

+M_VREF_DQ_DIMM0
+M_VREF_DQ_DIMM1

T3 CFG0
T2 CFG3 CFG4
T5 CFG7

No need to pull down RSVD17, 18, 64, & 65,
these resistors are for intel internal test only.

No need to pull down RSVD17, 18, 64, & 65,
these resistors are for intel internal test only.

VSS

R394
SJ_0402

Can be left NC is Intel CRM implementation; ESD/DG recommendation to GND

Clarksfield/Auburndale

The Clarkfield processor's PCI Express interface may not meet PCI Express 2.0 jitter specifications. Intel recommends placing a 3.01K +/- 5% pull down resistor to VSS on CFG[7] pin for both rPGA and BGA components. This pull down resistor should be removed when this issue is fixed.

CFG3 R37 3.01K/F

	1	0
CFG4 (Display Port Presence)	Disabled; No Physical Display Port attached to Embedded Diplay Port	Enabled; An external Display port device is connected to the Embedded Display port
CFG0 (PCI-Epress Configuration Select)	Single PEG	Bifurcation enabled
CFG3 (PCI-Epress Static Lane Reversal)	Normal Operation	Lane Numbers Reversed

QUANTA COMPUTER

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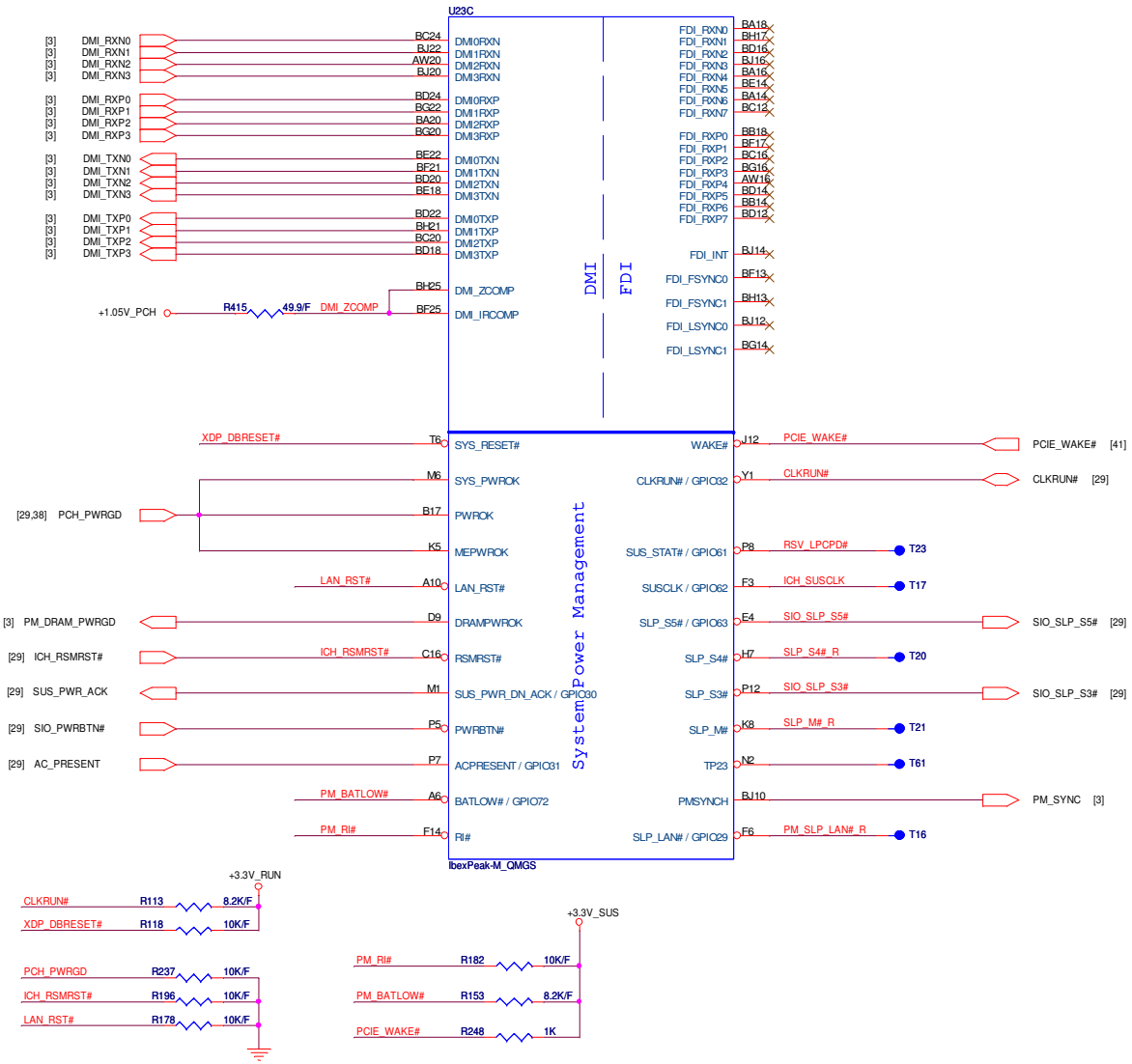
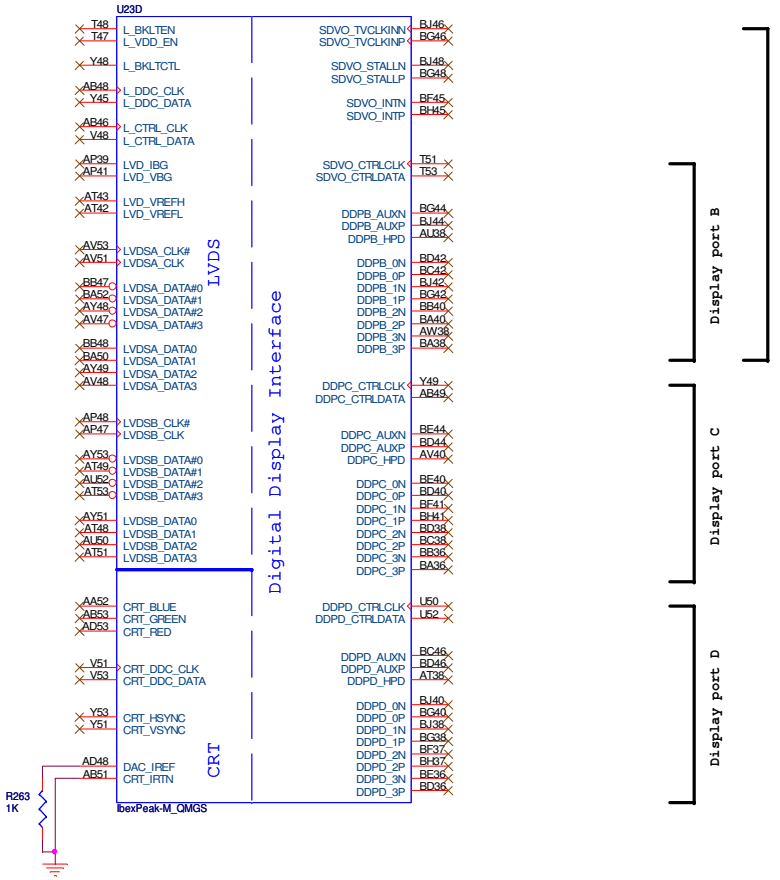
IBEX PEAK-M (DMI,FDI,GPIO)



IBEX PEAK-M (LVDS,DDI)



QUANTA COMPUTER

Title	IBEX PEAK-M 1/6		
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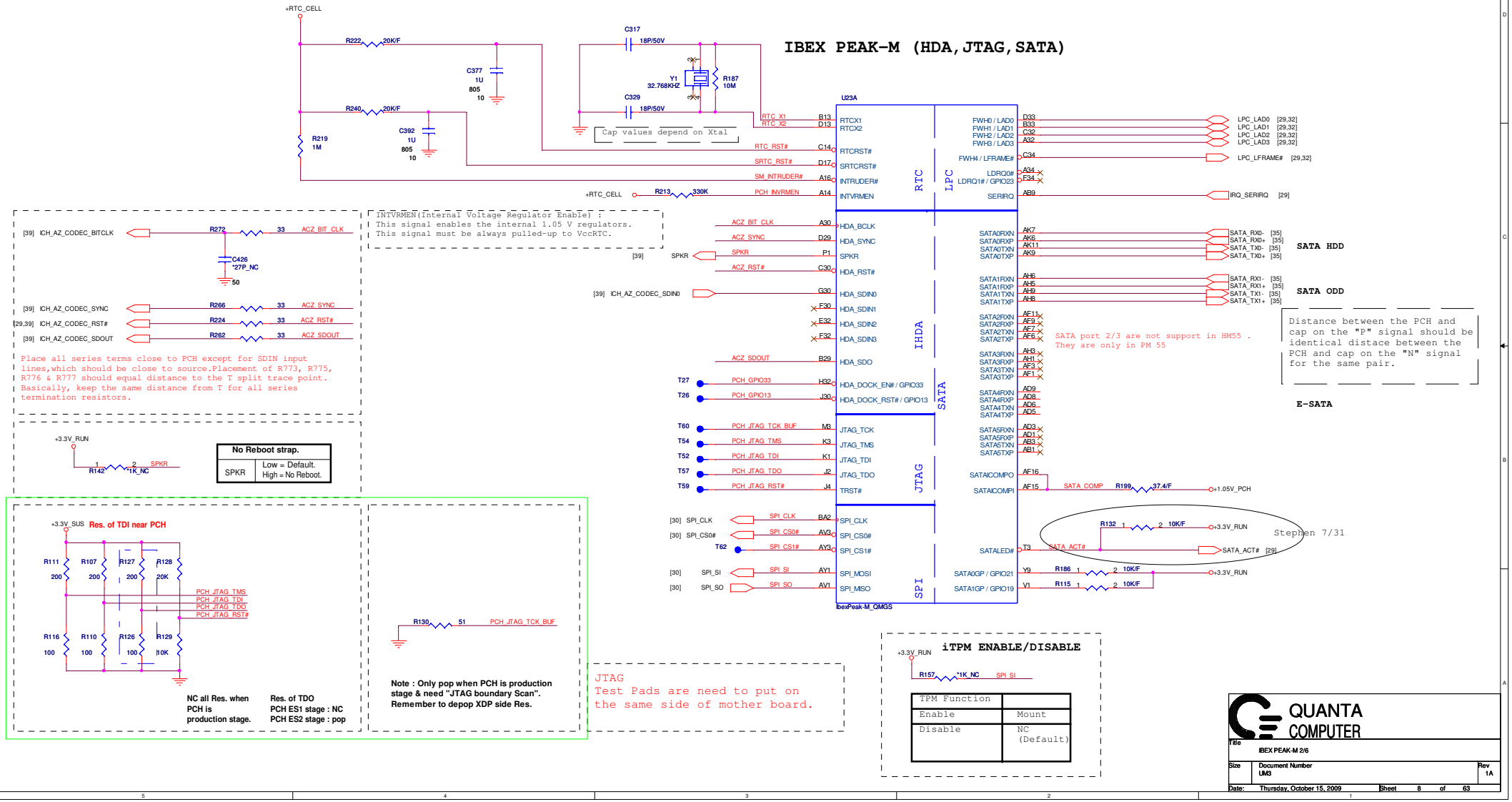
IBEX PEAK-M (HDA, JTAG, SATA)



Title	IBEX PEAK-M 2/6
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QUANTA COMPUTER

IBEX PEAK-M (PCI,USB,NVRAM)

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

Place TX DC blocking caps close PCH.

U23E

U23B

PCI-E port 7/8 are not support in HM55 . They are only in PM 55

USB port 6/7 are not support in HM55 . They are only in PM 55

Note : place these resistors near to PCIe Slots

PCIRST#: DG(V1.0) P277 Can be left unconnected.

PAR: SC(V1.0) P36 Can be left unconnected if not using PCI.

PME: DG(V1.0) P277 Can be left unconnected.

CLKOUT_PCI[0..4]: 22 ohm series resistor is recommend (single & double load) on PDG v1.1

CLKOUT_PEG_A_P/N,CLKOUT_PEG_B_P/N, CLKOUT_DMI_P/N,support GEN-1 and GEN-2

CLKOUTFLEX3: EDS(V1.0) :support 48MHz 33MHz and 14.31818MHz.

CLKOUTFLEX[0..3]: PDG v1.1: 22 ohm series resistor is recommend (PCI & non PCI routing, single & double load)

CLKIN_PCILOOPBACK: PDG (V1.1): 22 ohm series resistor is recommend

SMLOCLK/SMLODATA: DG(V1.1) P255: The 82577 SMBus signals (SMB_DATA and SMB_CLK) cannot be connected to any other devices other than the PCH. Connect the SMB_DATA and SMB_CLK pins to the PCH SMLODATA and SMLOCLK pins, respectively.

Reserve capacitor pads for improving WWAN.

Non-iAMT

Add Buffers as needed for Loading and fanout concerns.

PCIE Clock Request

PCIECLKRQ{0,3,4,5,6,7}# should have a 10K pull-up to +V3.3A.PCIECLKRQ{1,2} should have a 10K pull-up to +3.3S

Boot BIOS Strap

PCI_GNT0#	PCI_GNT1#	Boot BIOS Location
0	0	LPC
0	1	PCI
1	0	Reserved (NAND)
1	1	SPI

A16 swap override Strap/Top-Block Swap Override jumper

PCI_GNT3#	Low = A16 swap override/Top-Block Swap Override enabled High = Default

DMI Termination Voltage

NV_CLE	Set to Vcc when LOW Set to Vcc/2 when HIGH

Danbury Technology Enabled

NV_ALE	High = Enable Low = Disable

Title	IBEX PEAK-M 3/6
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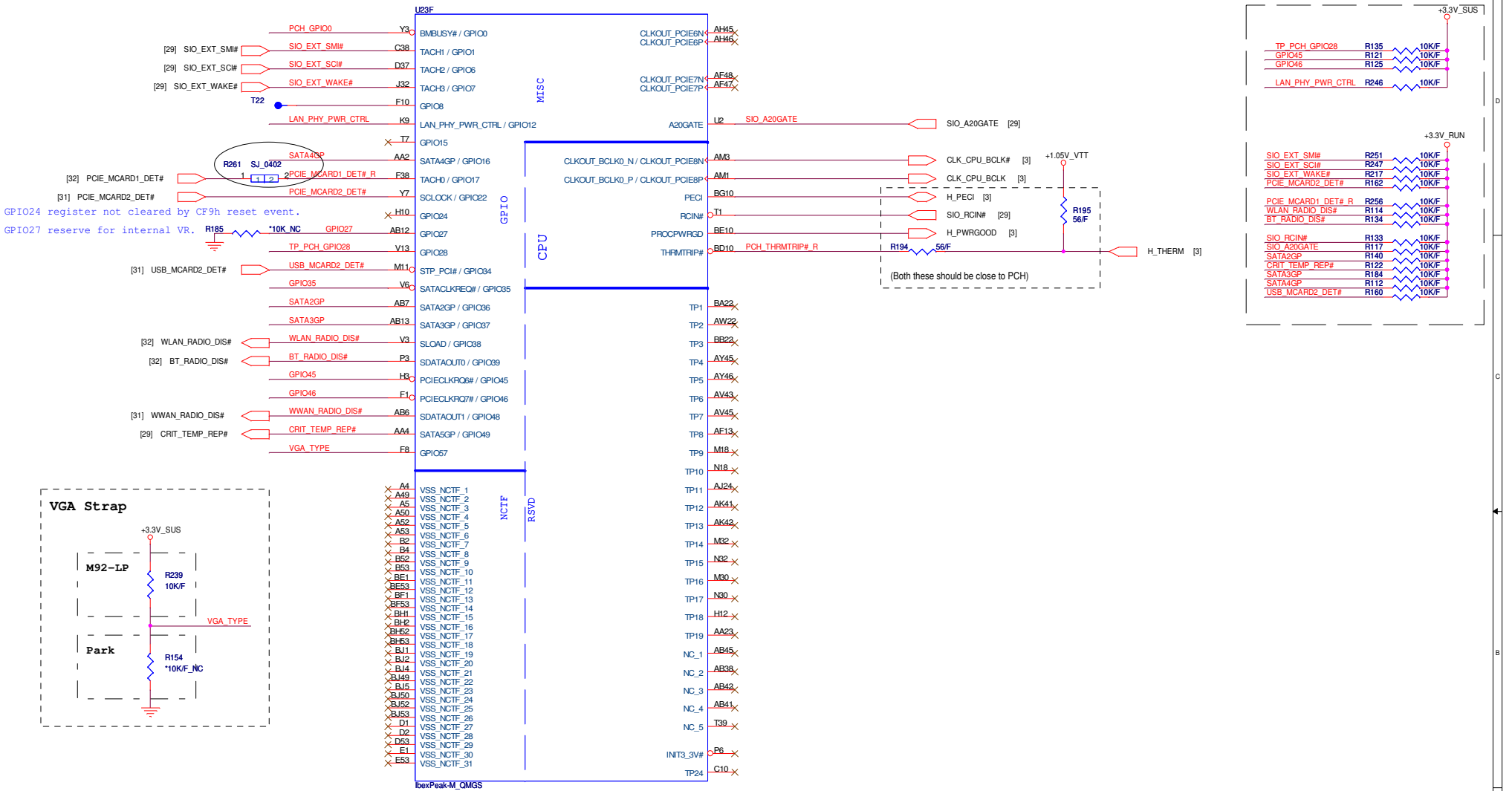
QUANTA COMPUTER

IBEX PEAK-M (GPIO,VSS_NCTF,RSVD)



R159 10K/F GPIO35

+3.3V_RUN

PCH_GPIO0 R145 10K/F

WWAN_RADIO_DIS# R146 10K/F

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

BMBUSY#:
If not used, require a weak pull-up
(8.2~ KΩ to 10 kΩ) to Vcc3_3.
CRB(V1.0)P28: it has 1K PU and
100 ohm on this net for validation purpose.

WWAN_RADIO_DIS#	1-X High = Strong (Default)

QUANTA COMPUTER

Title	IBEX PEAK-M 4/6		
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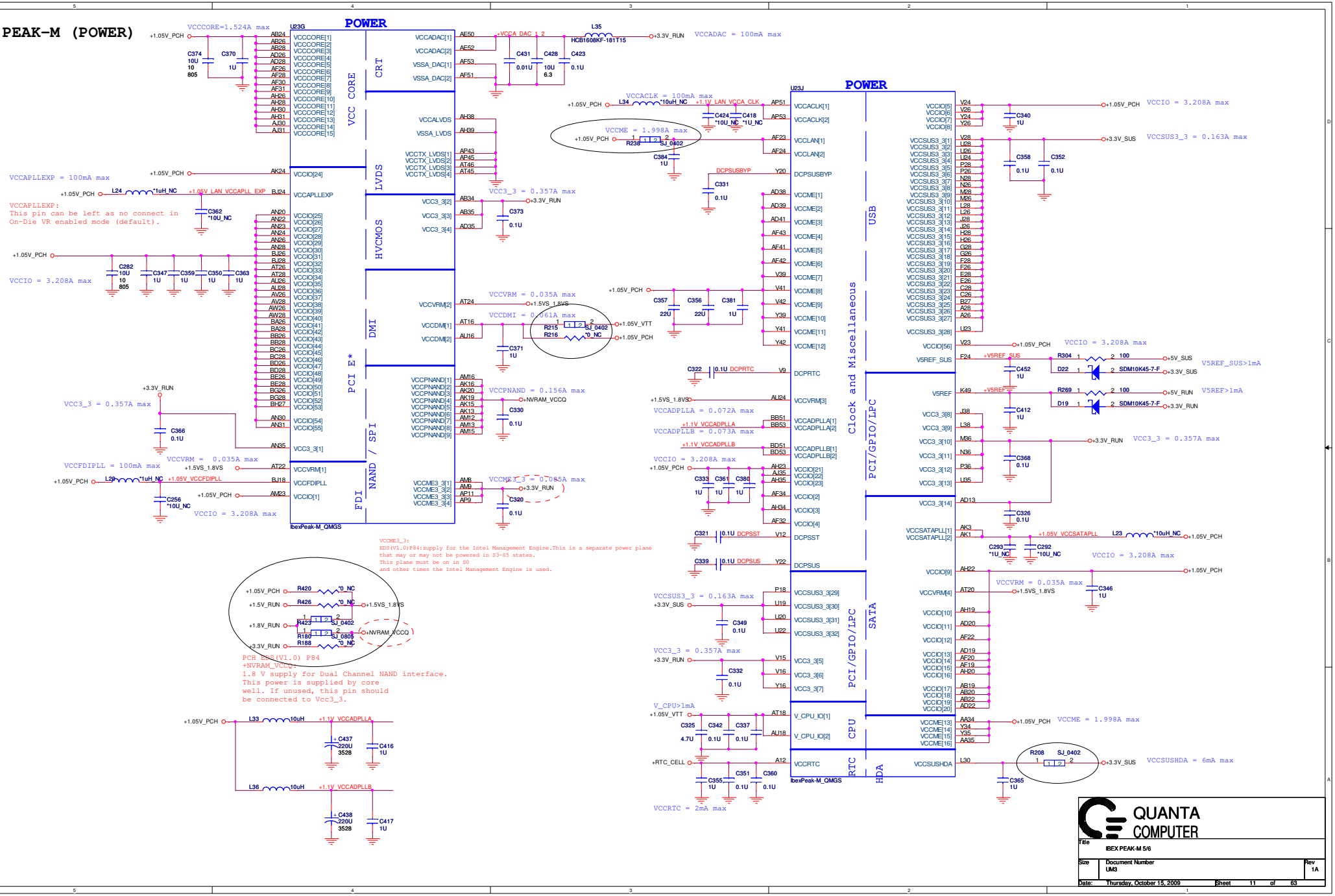
IBEX PEAK-M (POWER)



Title	IBEX PEAK-M 5/6		
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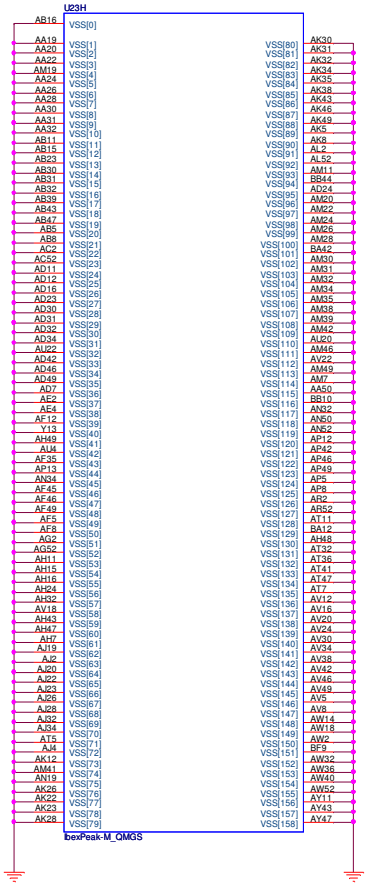
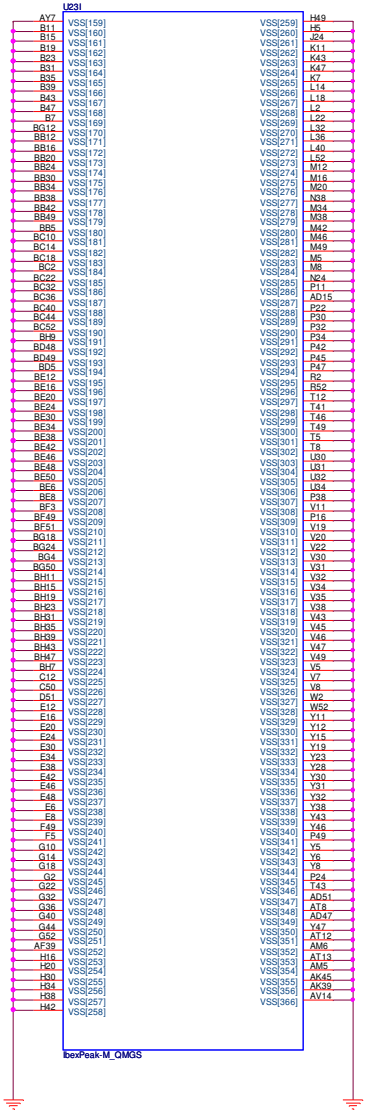
IBEX PEAK-M (GND)





QUANTA COMPUTER

Title	IBEX PEAK-M 6/6	
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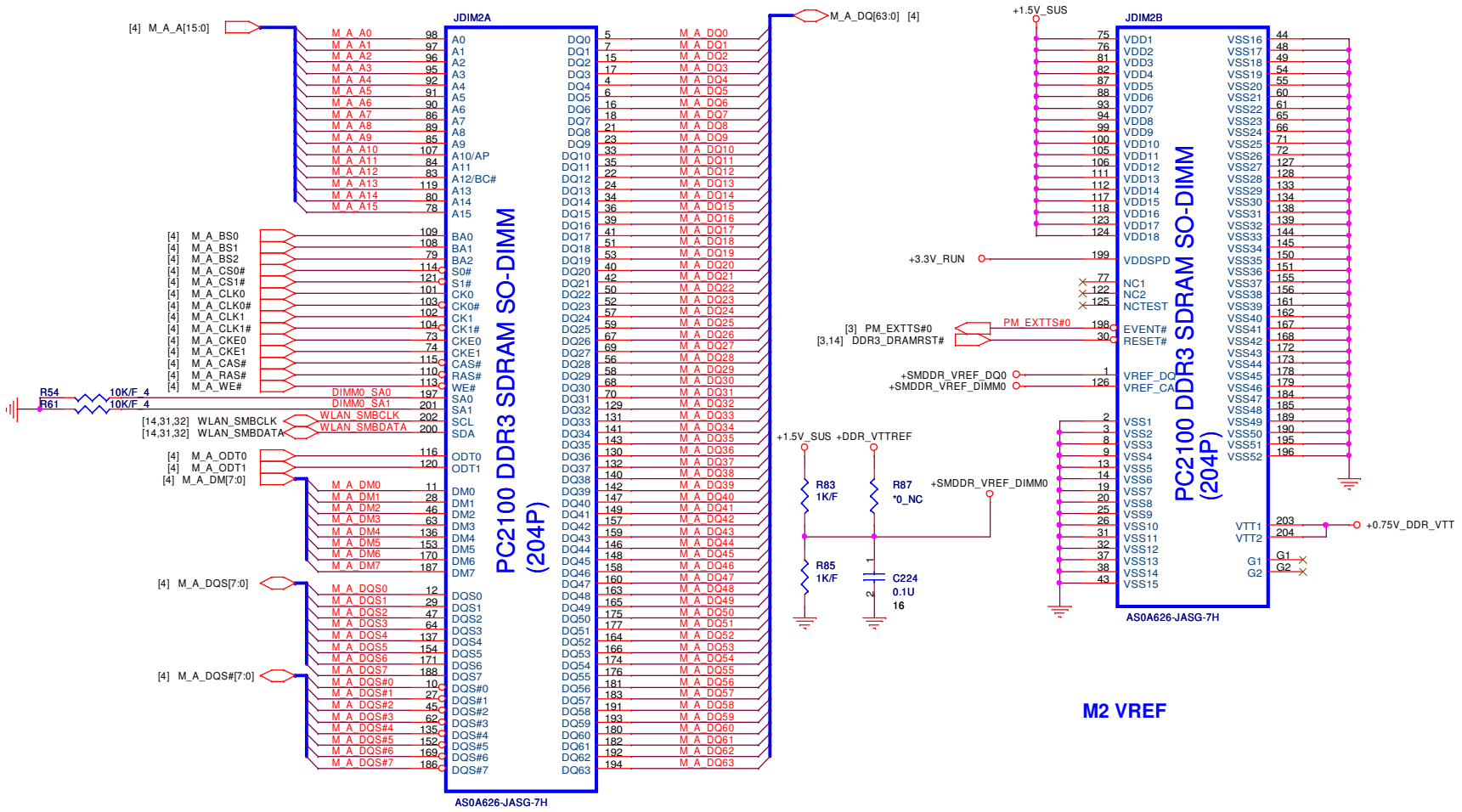

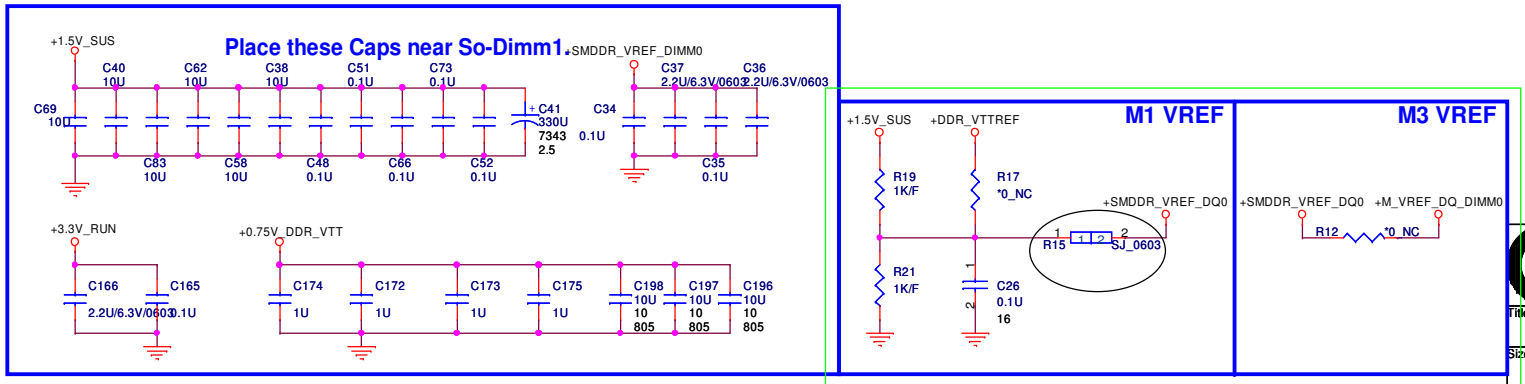

QUANTA COMPUTER

Title	DDR3 DIMM-0		
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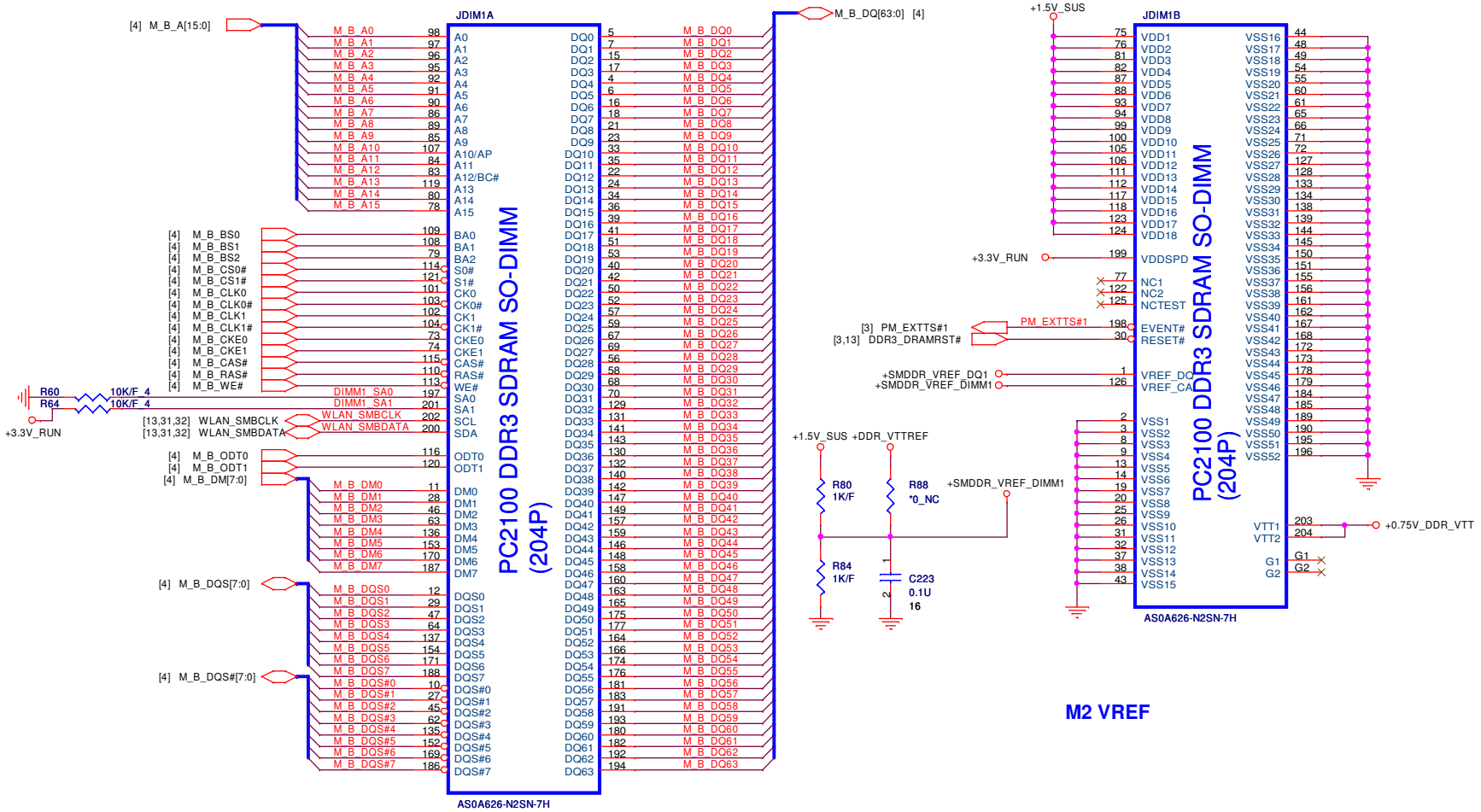

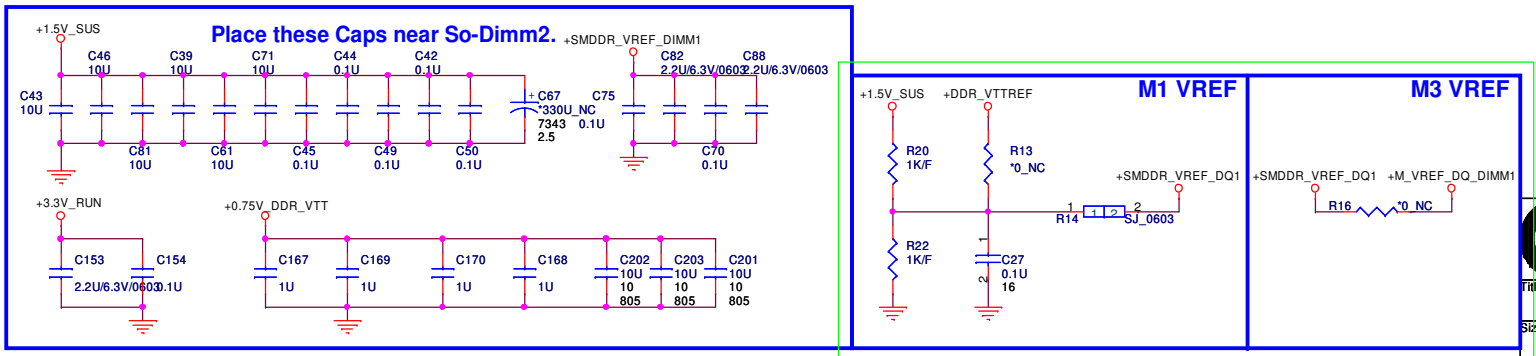

QUANTA COMPUTER

Title	DDR3 DIMM-1		
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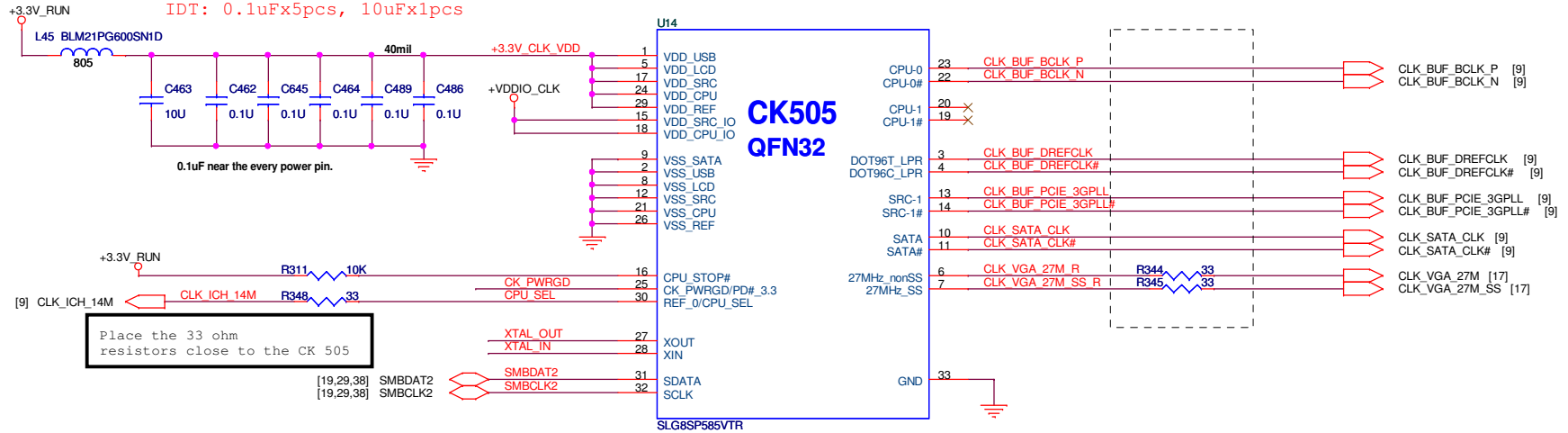
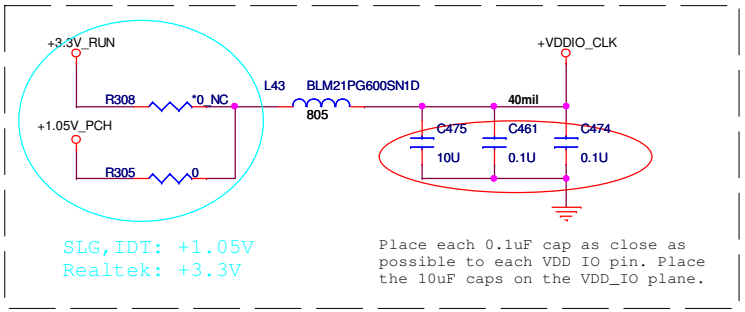
Realtek: 0.1uFx6pcs, 22uFx1pcs
IDT: 0.1uFx5pcs, 10uFx1pcs

Place within 0.5" of CLKGEN

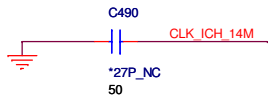


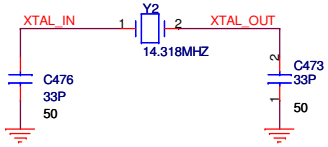
Realtek: 0.1uFx3pcs, 22uFx1pcs
IDT: 0.1uFx2pcs, 10uFx1pcs

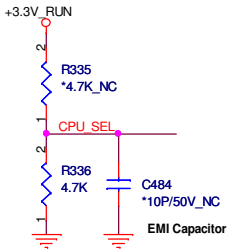


+VDDIO_CLK:
SLG date sheet (V0.2) P15: Min 1.05V,Max3.465V.
Realtek date sheet(V1.2) P11: Min 1.05V,Max 3.3V.
IDT date sheet(V0.7) P10: Min 0.9975V,Max 3.465V.

Add capacitor pads for improving WWAN.

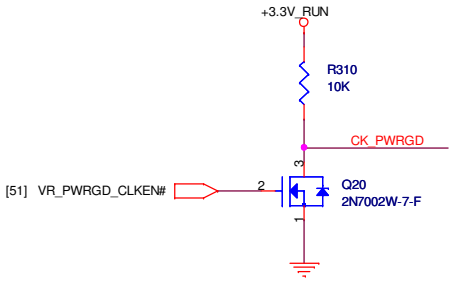






PIN 30	CPU_0	CPU_1
0(default)	133MHz	133MHz
1(0.7V~1.5V)	100MHz	100MHz

CPU_SEL:
SLG date sheet (V0.2) P15:
High Voltage: Min 0.7V, Max 1.5V.
Low Voltage: Min Vss-0.3V, Max 0.35V.
Realtek date sheet(V1.2) P11:
High Voltage: Min 0.7V, Max 1.5V.
Low Voltage: Min Vss-0.3V, Max 0.35V.
IDT date sheet(V0.7) P10:
High Voltage: Min 0.7V, Max 1.5V.
Low Voltage: Min Vss-0.3V, Max 0.35V.



QUANTA COMPUTER

Title	Clock Generator	
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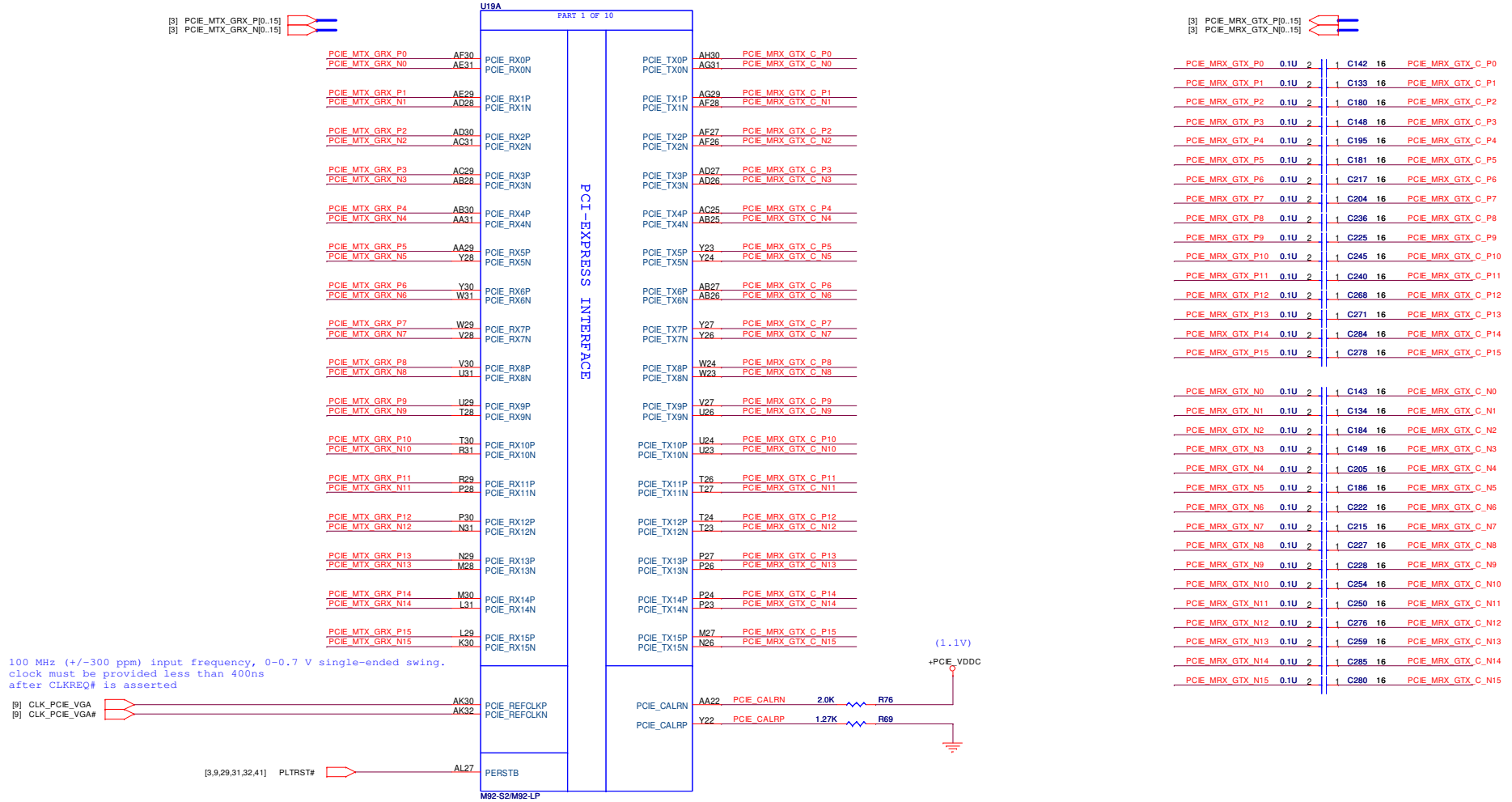

M92-S2 XT AJ072800T04 100-CG1675(216-0728004)
M92-S2 AJ072800T03 100-CG1643(216-0728003)

QUANTA COMPUTER

Title	VGA-M92-XT PCIE	
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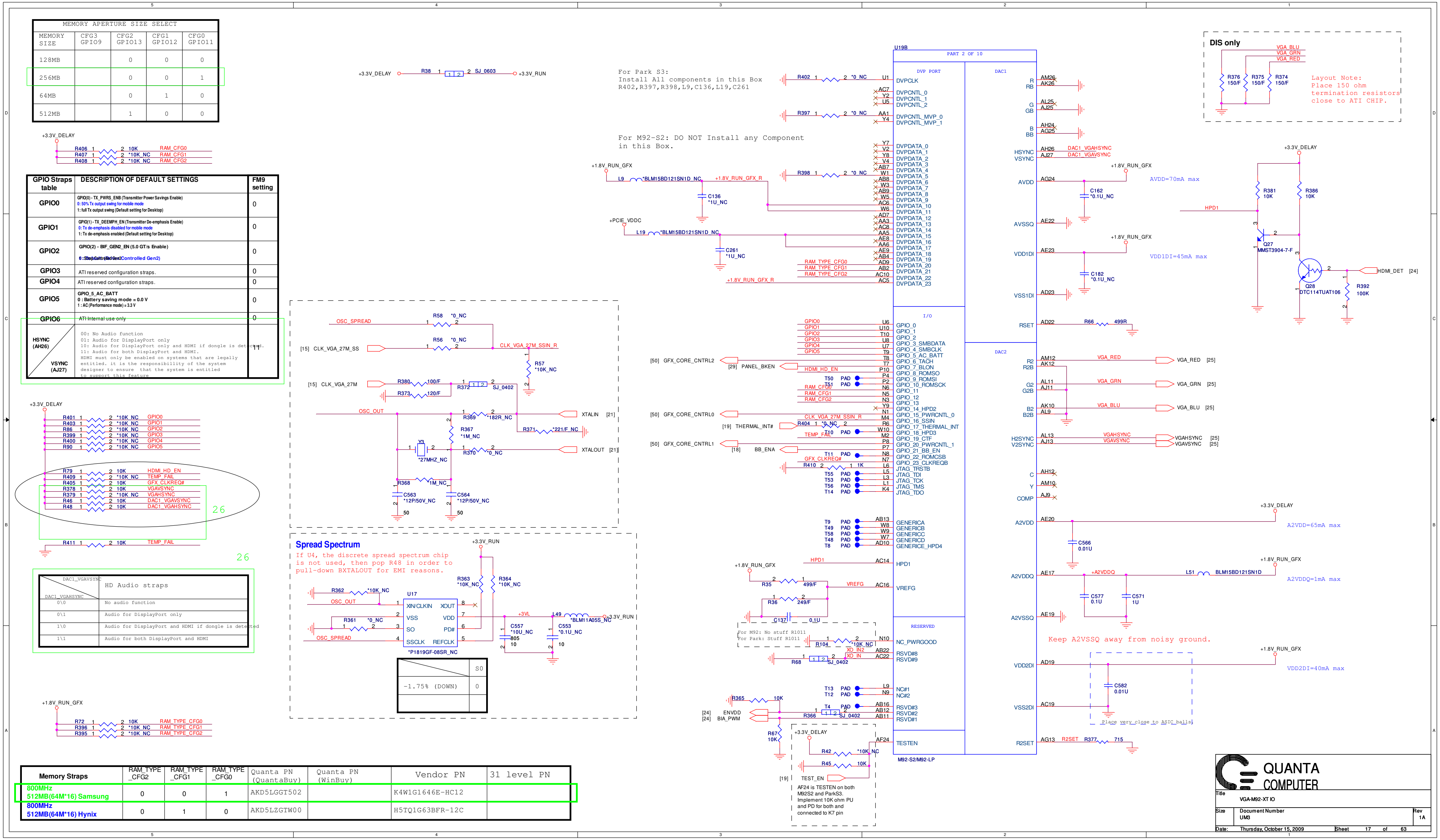

MEMORY APERTURE SIZE SELECT

MEMORY SIZE	CFG3 GPIO9	CFG2 GPIO13	CFG1 GPIO12	CFG0 GPIO11
128MB		0	0	0
256MB		0	0	1
64MB		0	1	0
512MB		1	0	0

GPIO Straps table	DESCRIPTION OF DEFAULT SETTINGS	FM9 setting
GPIO0	GPIO(0) - TX_PWRS_ENB (Transmitter Power Savings Enable) 0: 50% Tx output swing for mobile mode 1: full Tx output swing (Default setting for Desktop)	0
GPIO1	GPIO(1) - TX_DEEMPH_EN (Transmitter De-emphasis Enable) 0: Tx de-emphasis disabled for mobile mode 1: Tx de-emphasis enabled (Default setting for Desktop)	0
GPIO2	GPIO(2) - BIF_GEN2_EN (5.0 GT/s Enable) 0: Software Controlled Gen2	0
GPIO3	ATI reserved configuration straps.	0
GPIO4	ATI reserved configuration straps.	0
GPIO5	GPIO_5_AC_BATT 0 : Battery saving mode = 0.0 V 1 : AC (Performance mode) = 3.3 V	0
GPIO6	ATI Internal use only	0
HSYNC (AH26) VSYNC (AJ27)	00: No Audio function 01: Audio for DisplayPort only 10: Audio for DisplayPort only and HDMI if dongle is detected. 11: Audio for both DisplayPort and HDMI. HDMI must only be enabled on systems that are legally entitled. it is the responsibility of the system designer to ensure that the system is entitled to support this feature	11

DAC1_VGAVSYNC \ DAC1_VGAHSYNC	HD Audio straps
0\0	No audio function
0\1	Audio for DisplayPort only
1\0	Audio for DisplayPort and HDMI if dongle is detected
1\1	Audio for both DisplayPort and HDMI

	S0
-1.75% (DOWN)	0

Memory Straps	RAM_TYPE _CFG2	RAM_TYPE _CFG1	RAM_TYPE _CFG0	Quanta PN (QuantaBuy)	Quanta PN (WinBuy)	Vendor PN	31 level PN
800MHz 512MB(64M*16) Samsung	0	0	1	AKD5LGGT502		K4W1G1646E-HC12	
800MHz 512MB(64M*16) Hynix	0	1	0	AKD5LZGTW00		H5TQ1G63BFR-12C	

QUANTA COMPUTER

Title	VGA-M92-XT IO	
Size	Document Number UM3	Rev 1A
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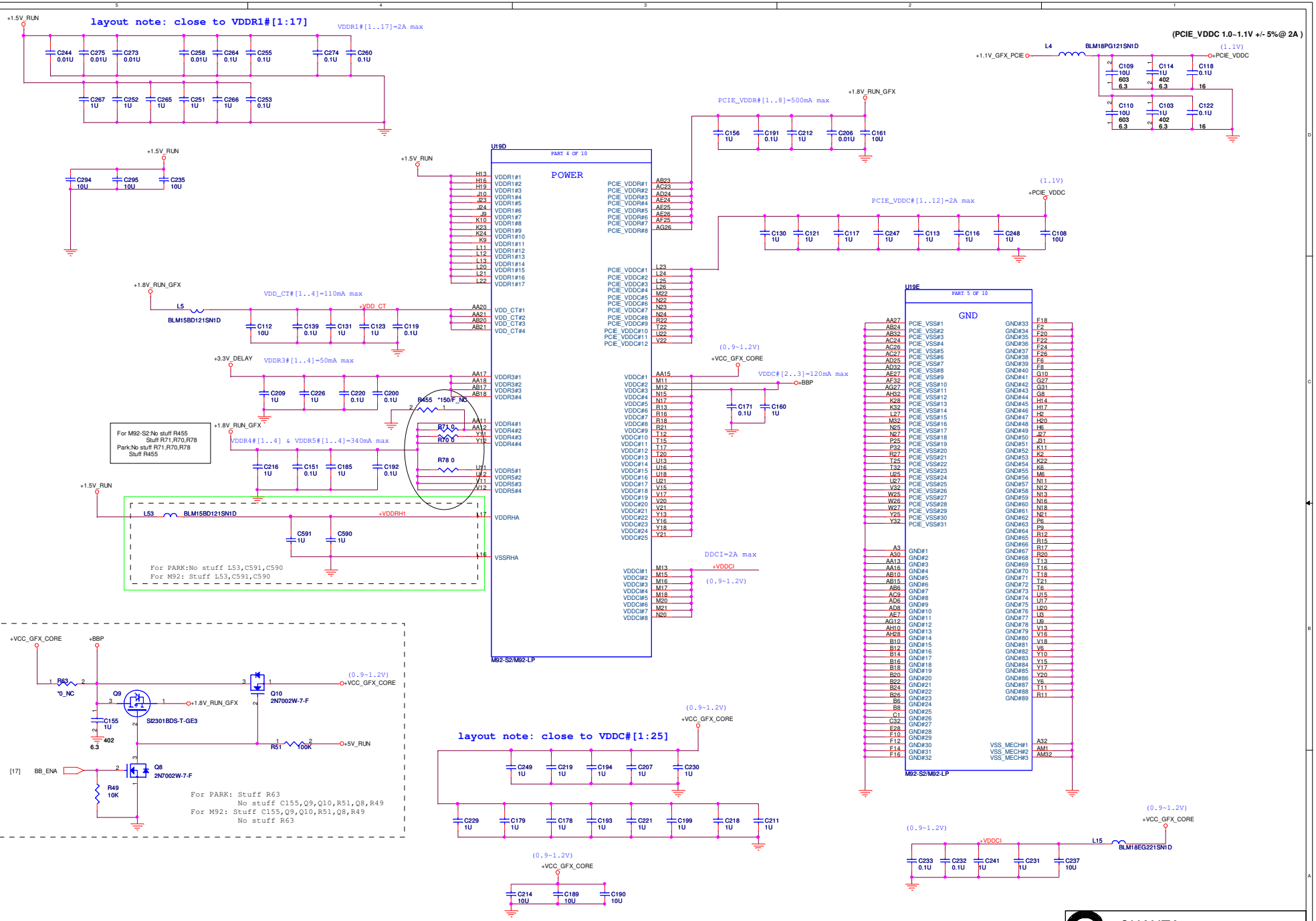

QUANTA COMPUTER		
Title	VGA-M92-XT POWER/GND	
Size	Document Number UM3	Rev 1A
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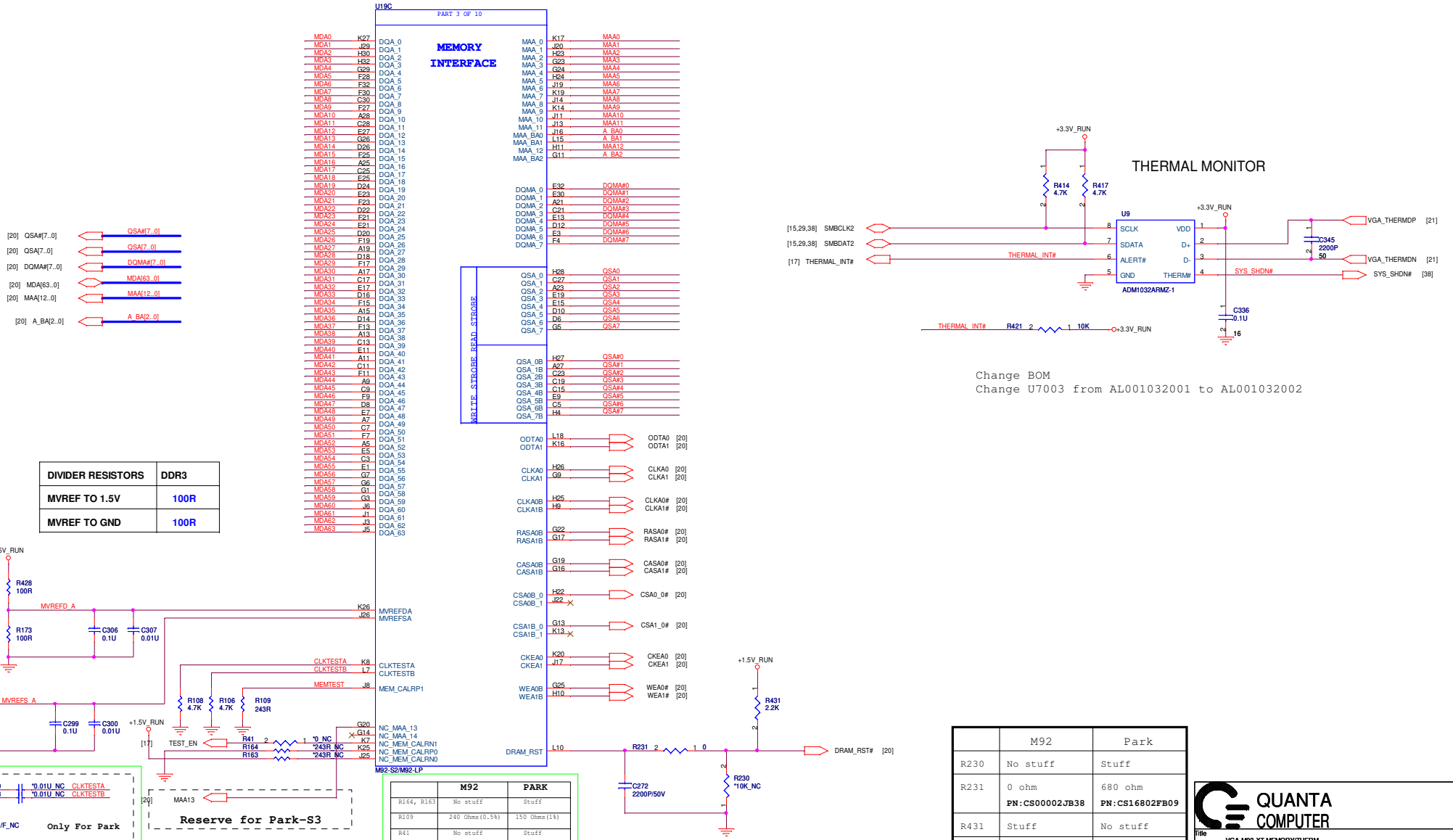
MEMORY INTERFACE



	M92	Park
R230	No stuff	Stuff
R231	0 ohm PN:CS00002JB38	680 ohm PN:CS16802FB09
R431	Stuff	No stuff
C272	2200pF PN:CH2226K9B00	68pF PN:CH06806JB01

QUANTA COMPUTER

Title	VGA-M92-XT MEMORY/THERM	
Size	Document Number: UM3	Rev: 1A
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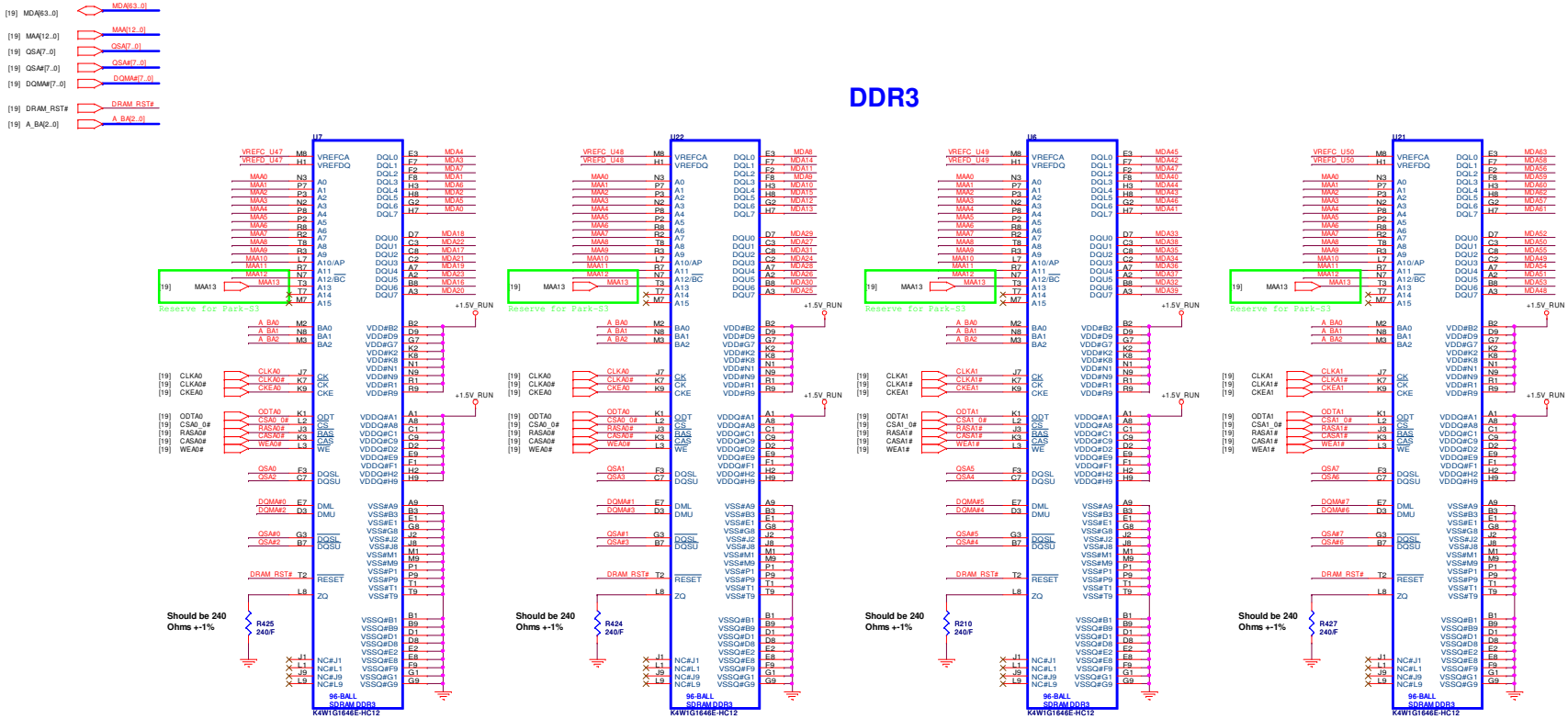
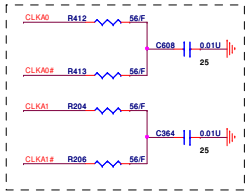
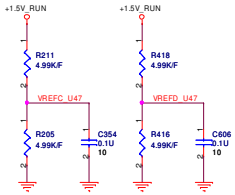
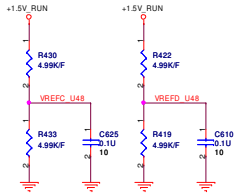
DDR3

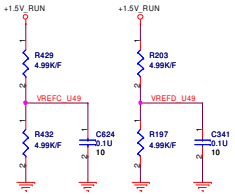


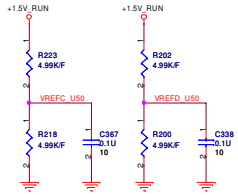
Placement has to be close to VRAM



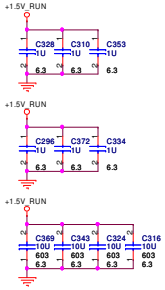




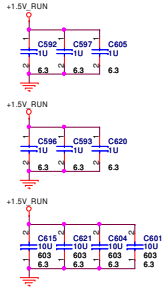




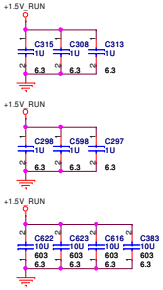
close to U47



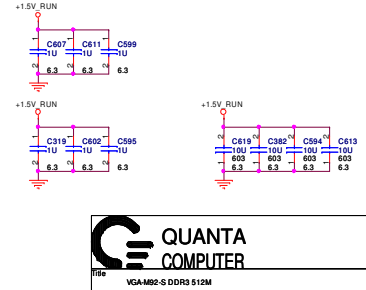
close to U48



close to U49



close to U50



QUANTA COMPUTER

Title	VGA-M92-S DDR3 512M	
Size	Document Number: LM3	Rev: 1A
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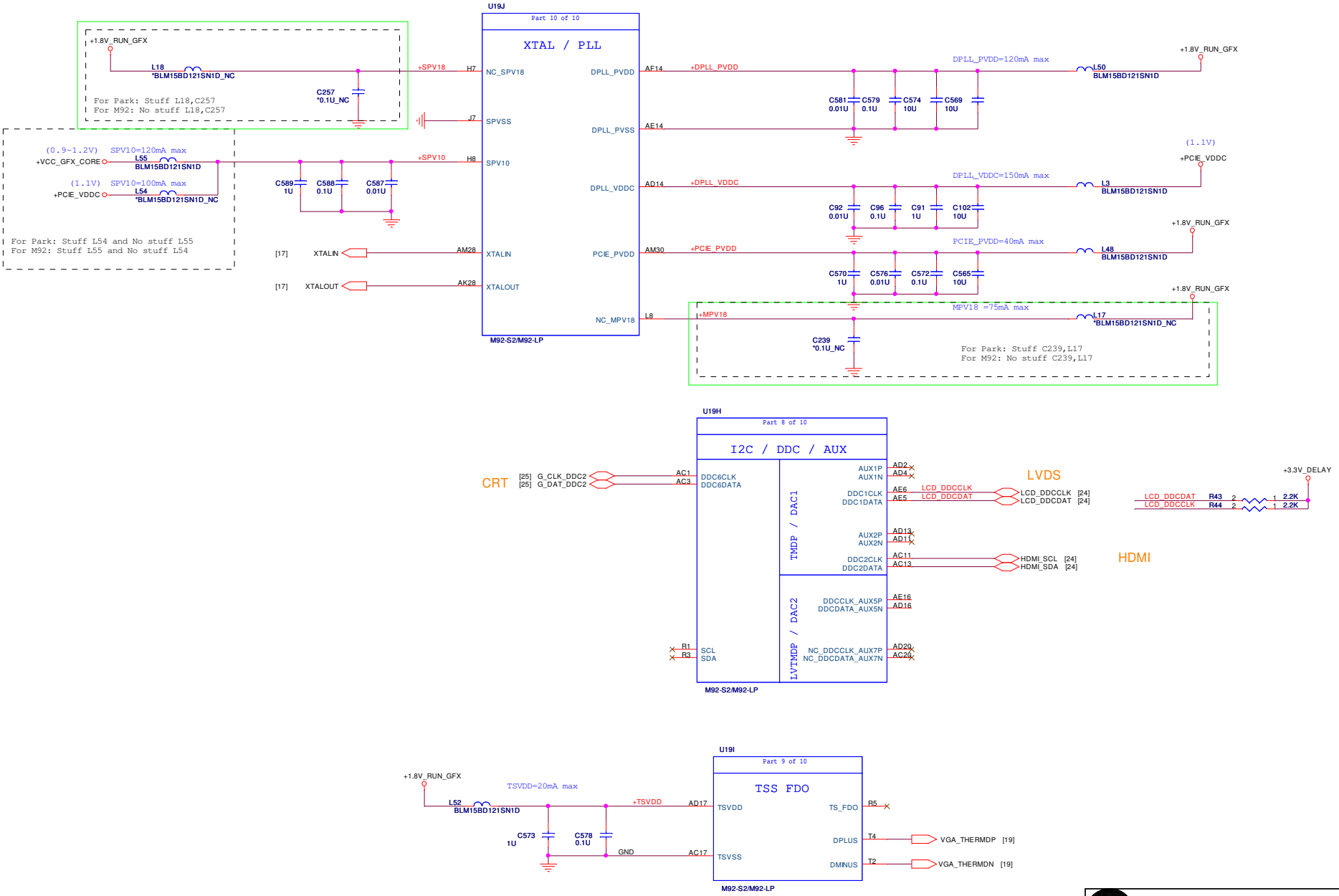

QUANTA COMPUTER

Title	VGA-M92-XT XTAL/PLL/I2C	
Size	Document Number UM3	Rev 1A
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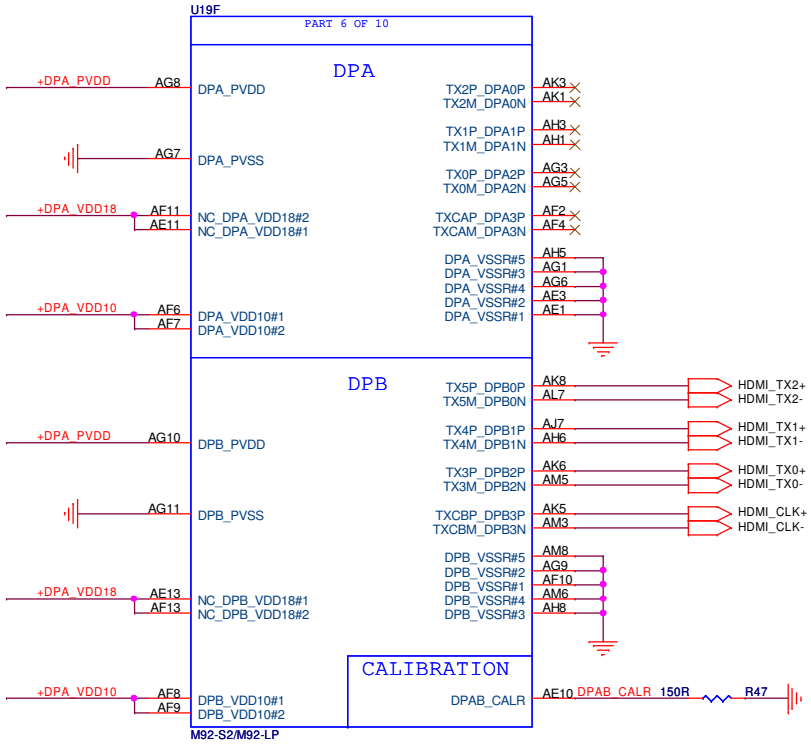
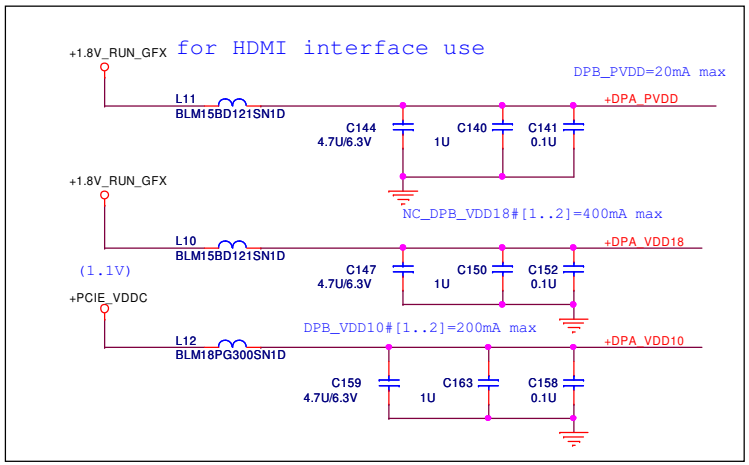
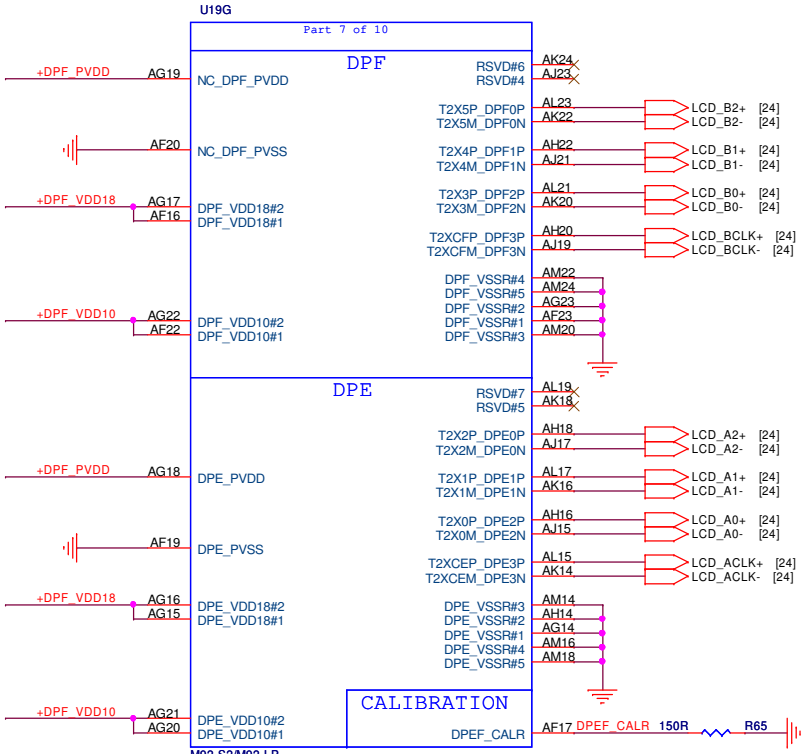
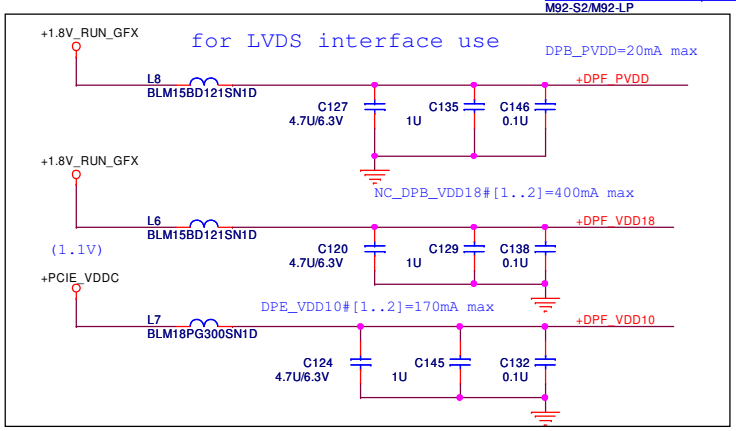
TMDP(HDMI) INTERFACE





LVDS INTERFACE





QUANTA COMPUTER

Title	VGA-M92-XT TMDP I/F	
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QUANTA COMPUTER

Title	Blank Page	
Size	Document Number UM3	Rev 1A
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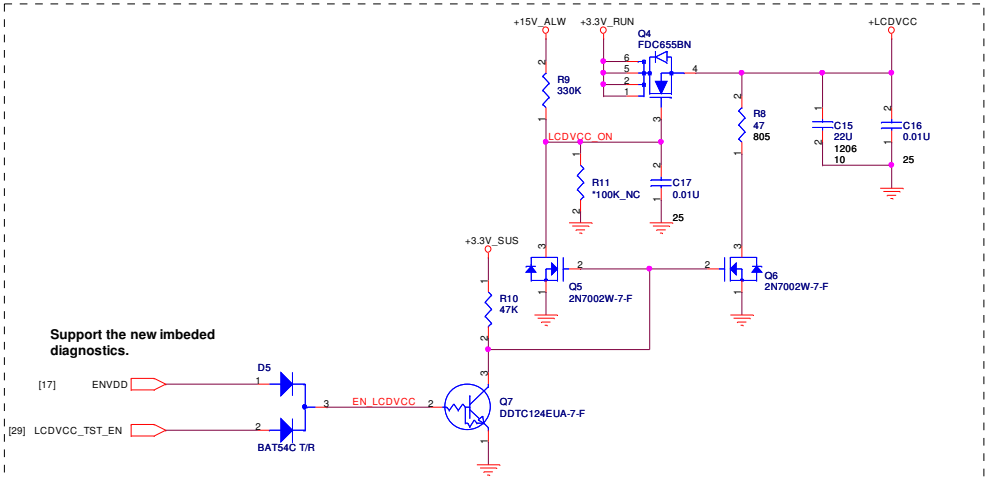
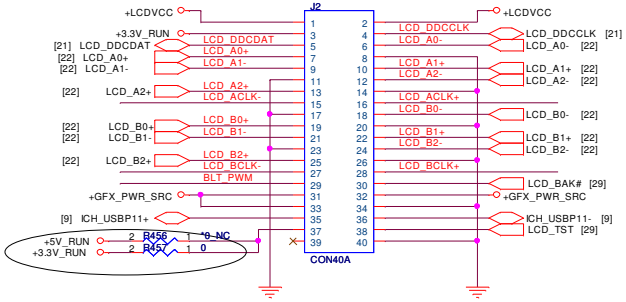
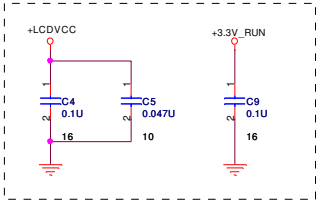
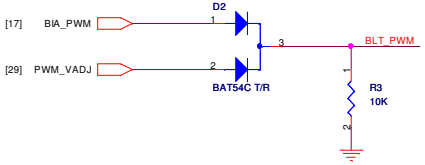
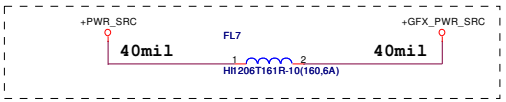


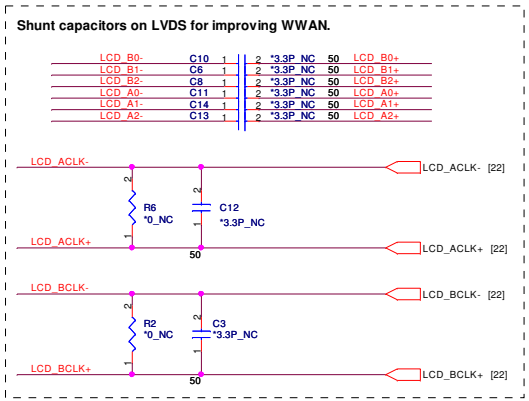


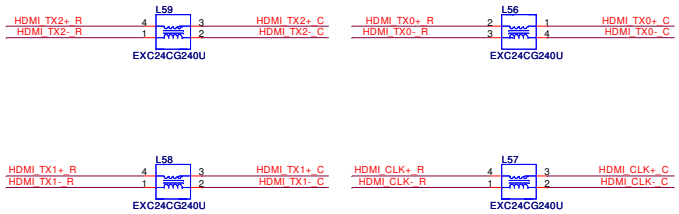


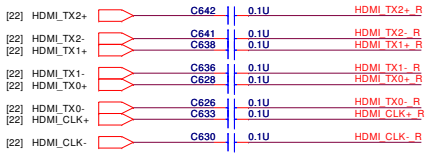
Need to check
DFWF40MR000

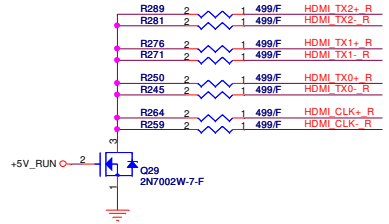


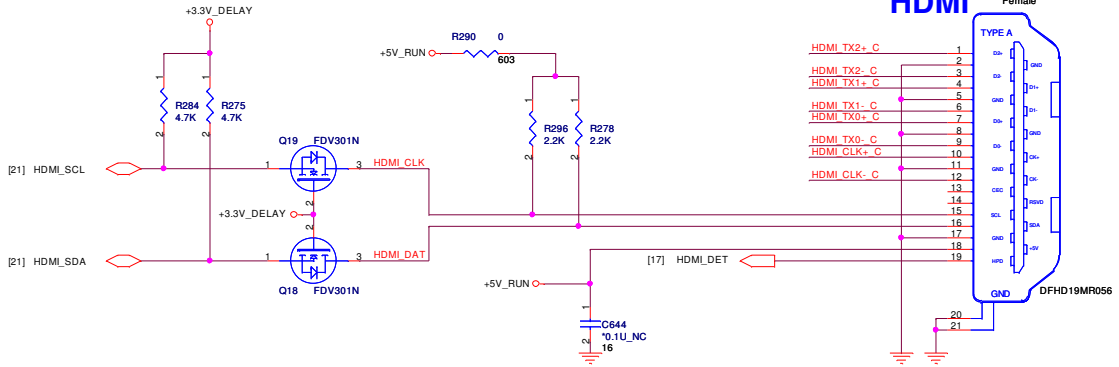












DFHD19MR056

QUANTA COMPUTER		
Title	LCD CONN / HDMI CONN	
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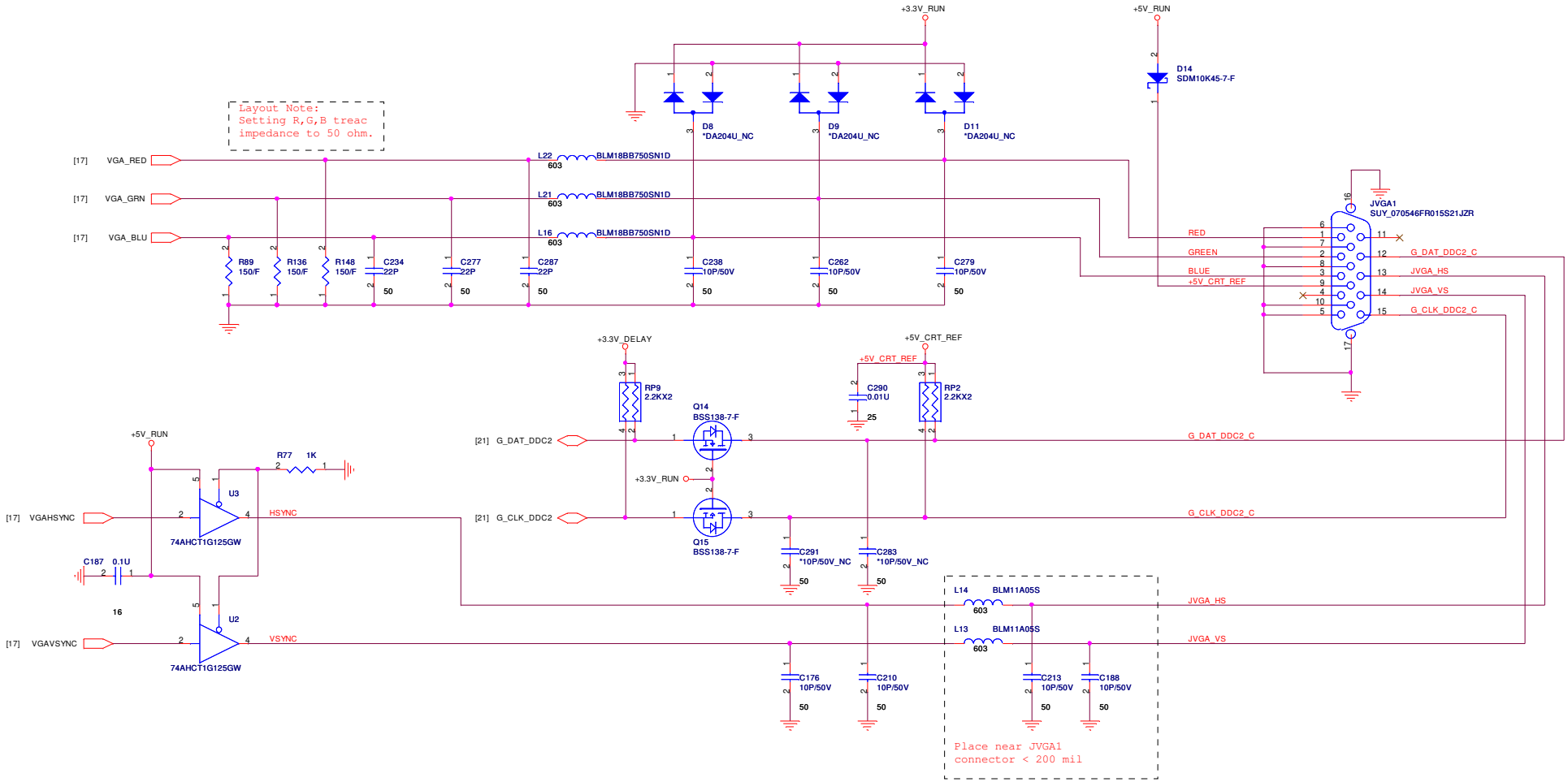

QUANTA COMPUTER

Title	CRT CONN	
Size	Document Number UM3	Rev 1A
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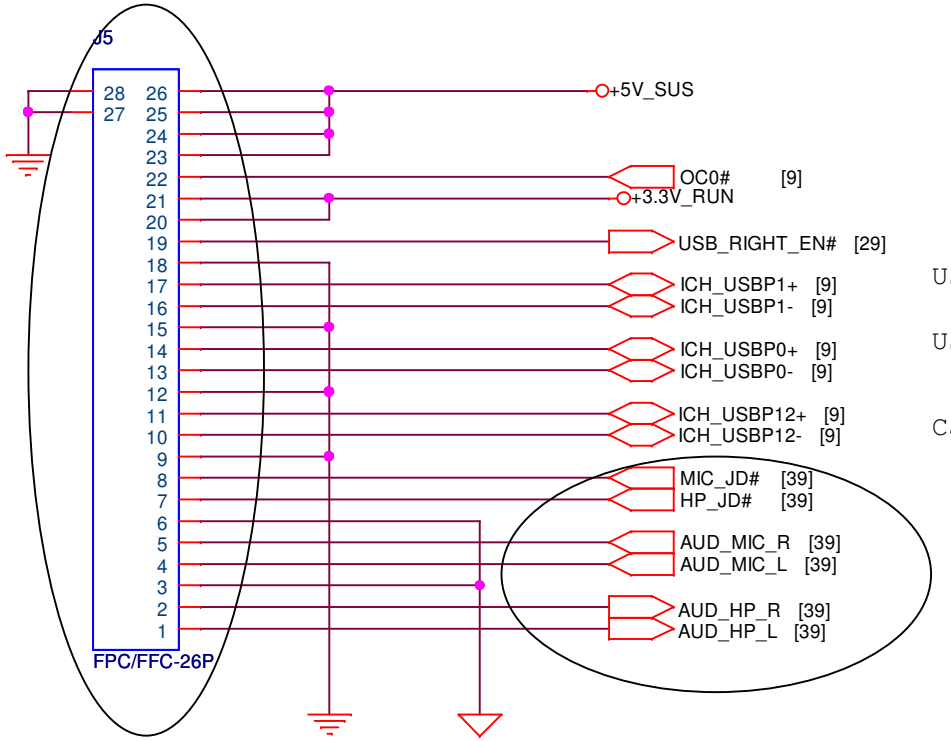
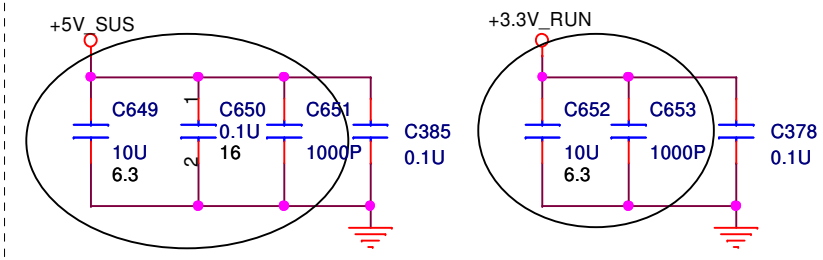


USB RIHGT2

USB RIHGT1

Card reader



close to connector

QUANTA COMPUTER

Title	DB CONN	
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QUANTA COMPUTER

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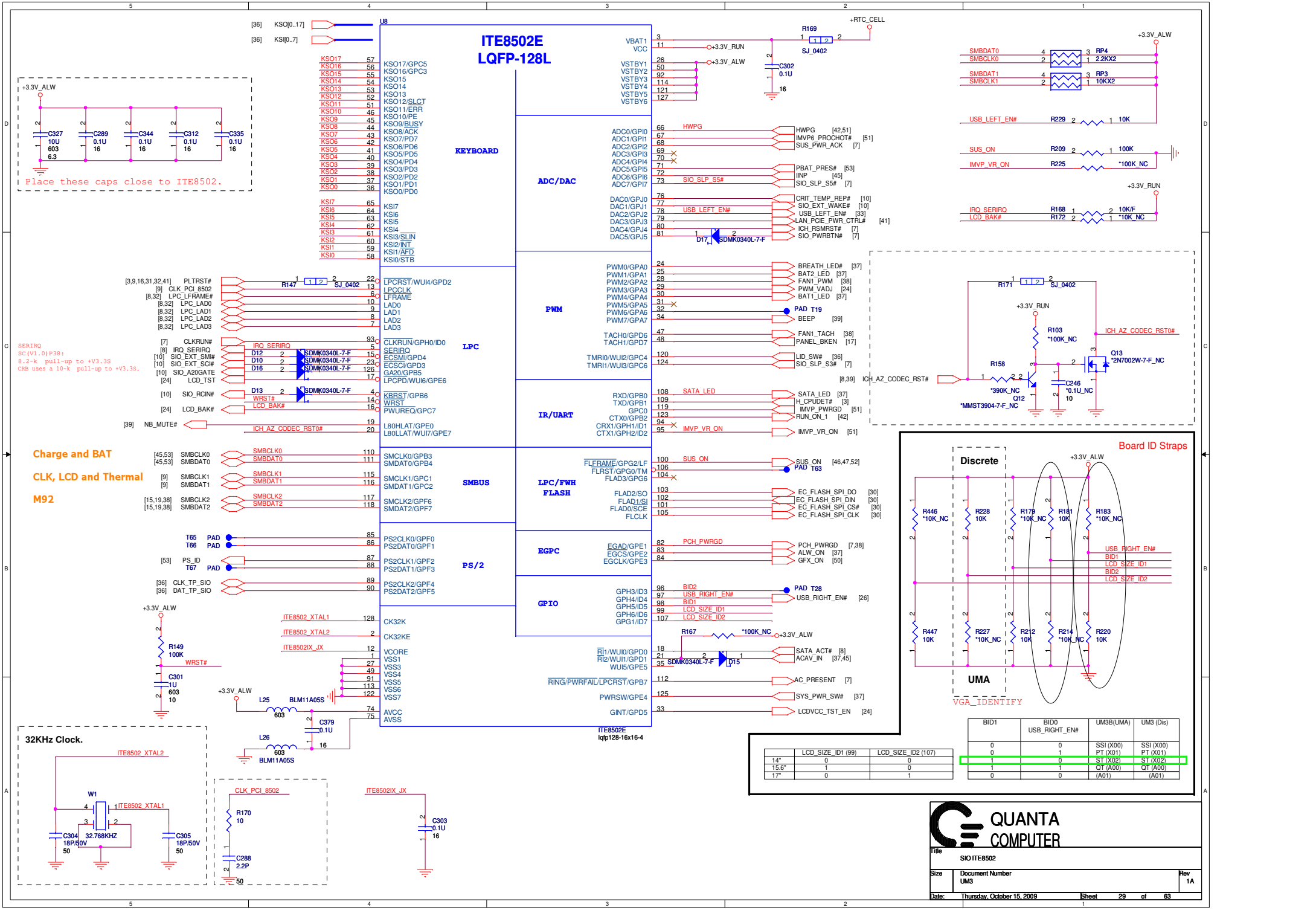
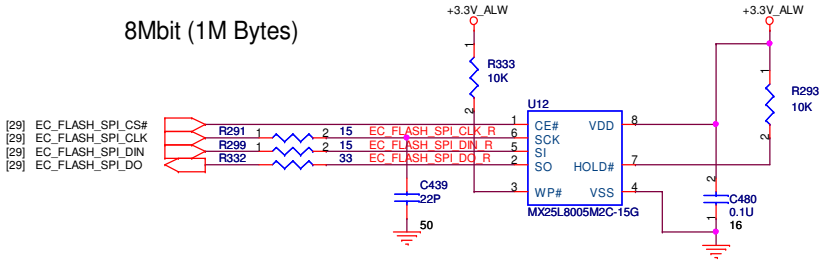

ITE8502E
LQFP-128L
U8
KEYBOARD
ADC/DAC
PWM
LPC
IR/UART
SMBUS
LPC/FWH
FLASH
EGPC
PS/2
GPIO
Charge and BAT
CLK, LCD and Thermal
M92
Place these caps close to ITE8502.
32KHz Clock.
Board ID Straps
Discrete
UMA
VGA_IDENTIFY
QUANTA
COMPUTER
SIO ITE8502
Thursday, October 15, 2009

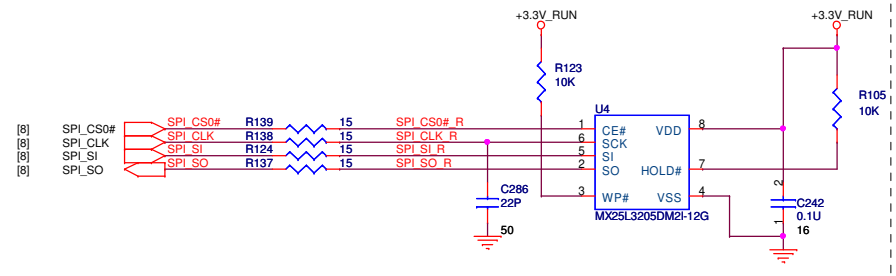
For EC

8Mbit (1M Bytes)

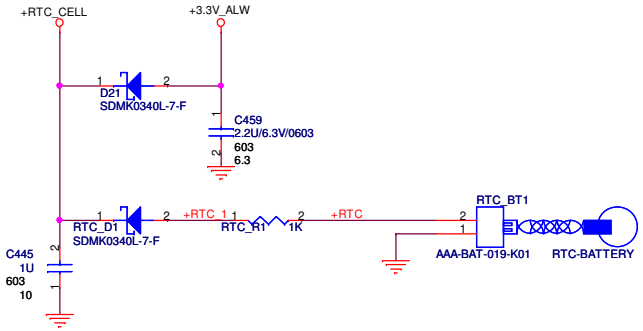


For PCH

32Mbit (4M Bytes)



RTC BATTERY



QUANTA COMPUTER

Title	FLASH/RTC	
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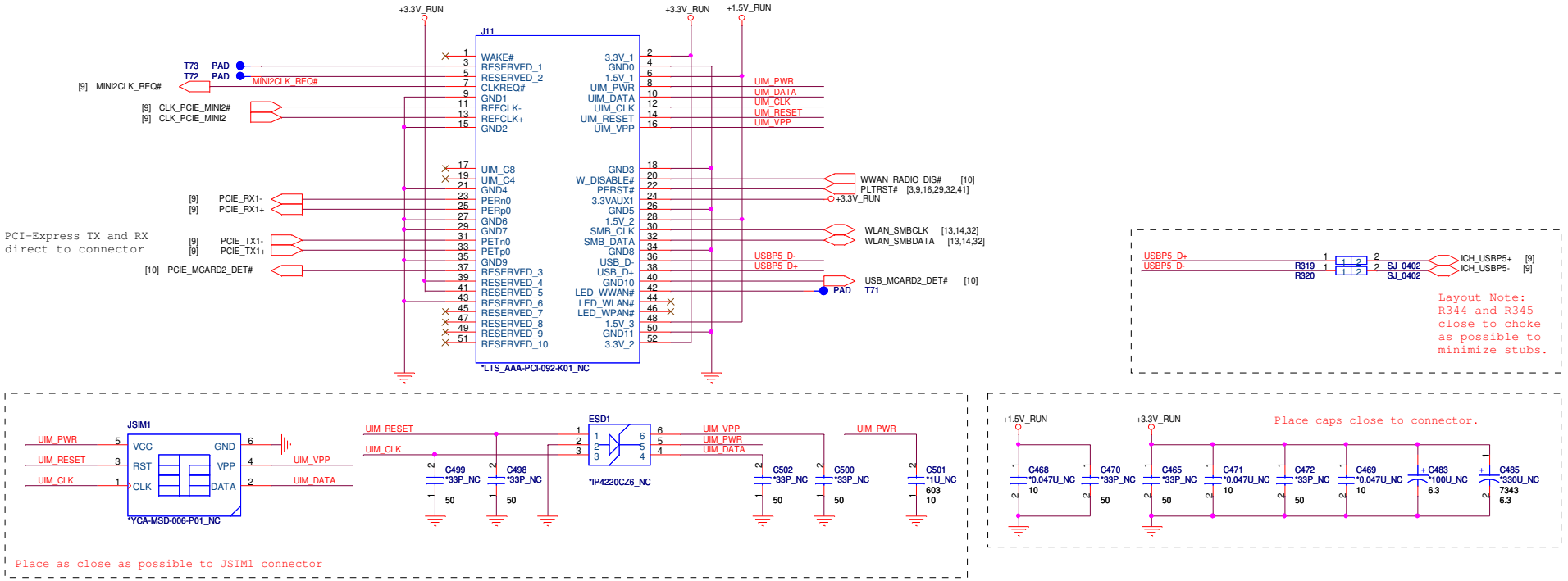
MiniCard WWAN connector



DFHS06FR043

QUANTA COMPUTER

Title	MINI-Card WWAN	
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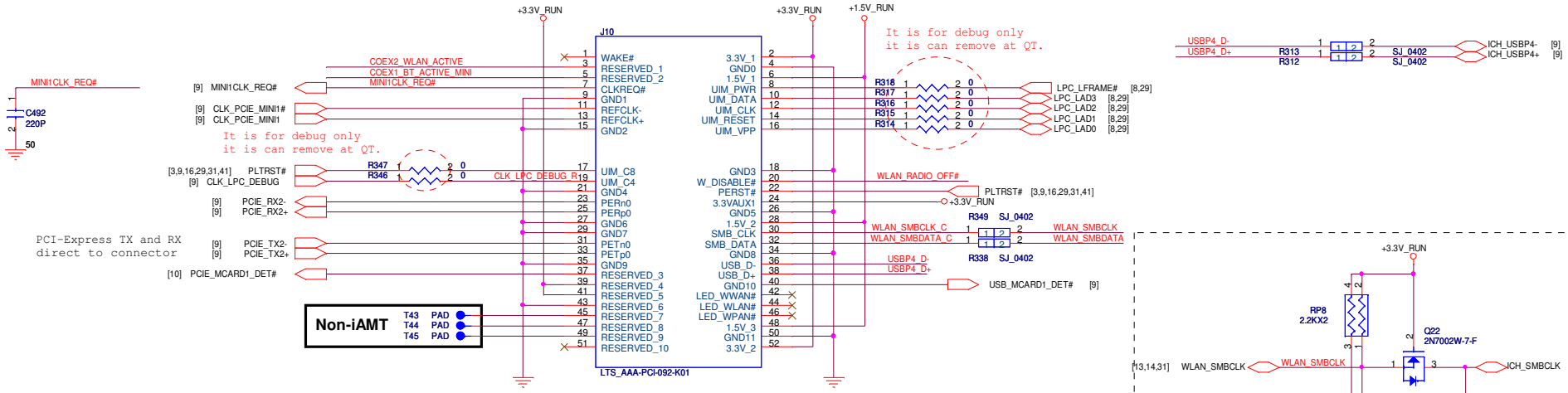
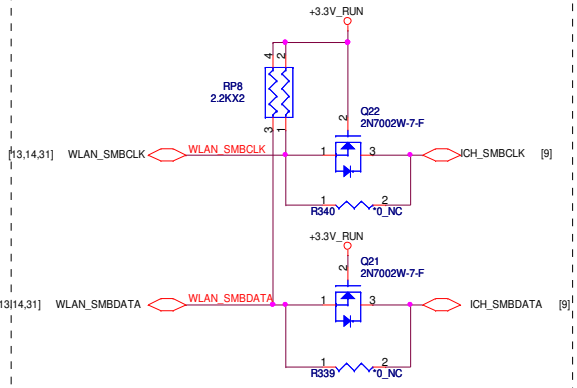
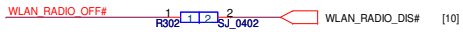
MiniCard WLAN connector

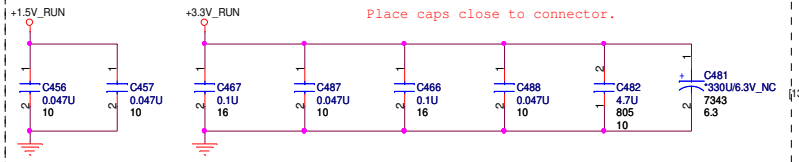




Suport for WoW

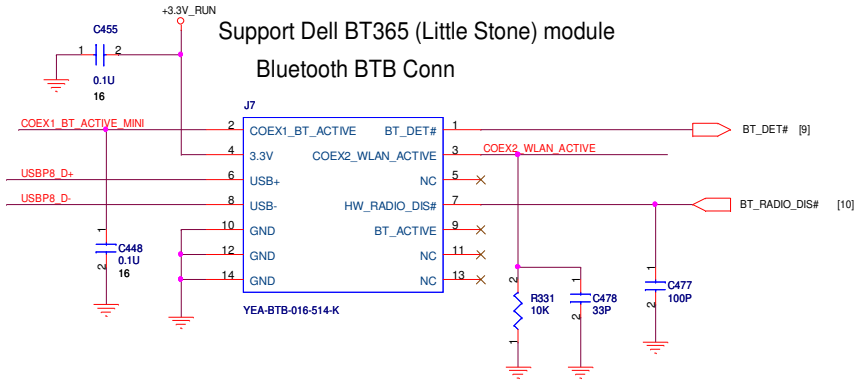


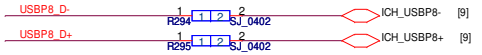
Prevent backdrive when WoW is enabled.



Support Dell BT365 (Little Stone) module

Bluetooth BTB Conn





QUANTA COMPUTER

Title	MINI-Card WLAN / WPAN	
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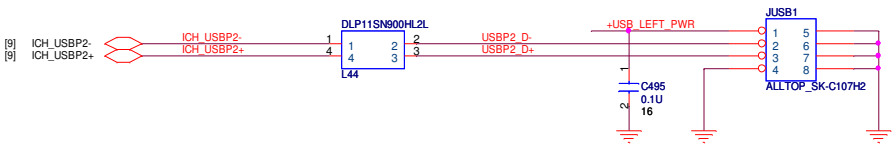
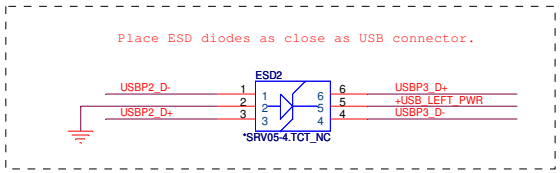
External USB PORT hookup reference. Your design may need more or less external ports and may be mapped differently

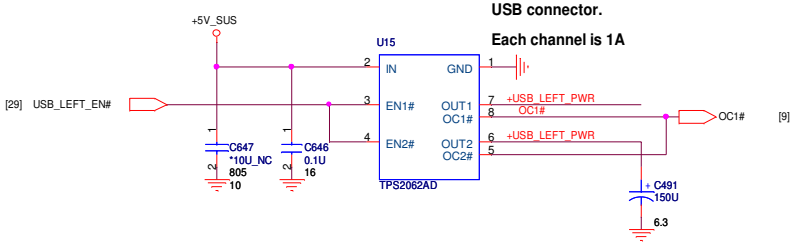


Platforms should put in PADS for the USB chokes if they have the room. Chokes should be NOPOP.



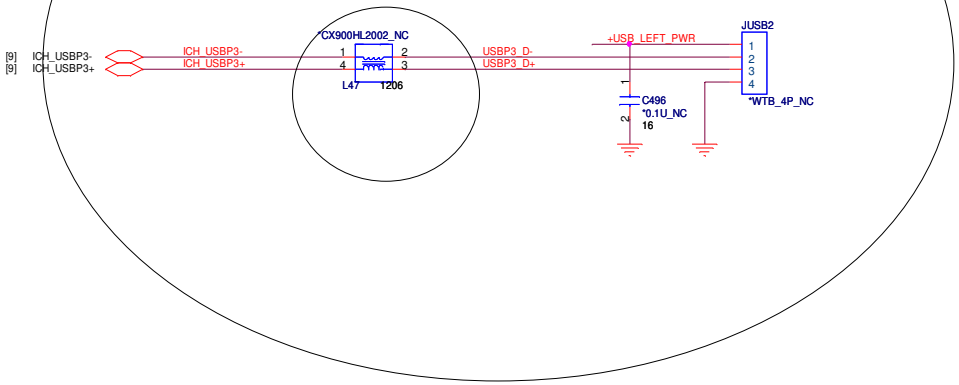
Place one 150uF cap by each USB connector.

Each channel is 1A



REV FOR 17"

Add L47 ,C496 , JUSB2 for UM5



QUANTA COMPUTER

Title	USB	
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QUANTA COMPUTER

Title	Blank Page	
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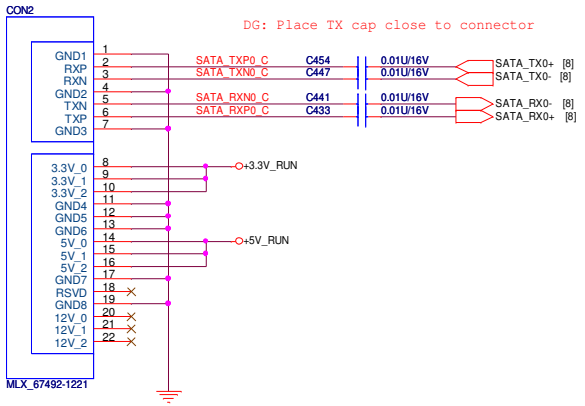
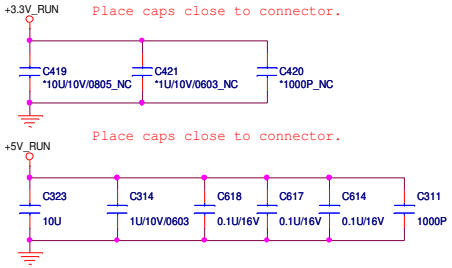
SATA Connector.



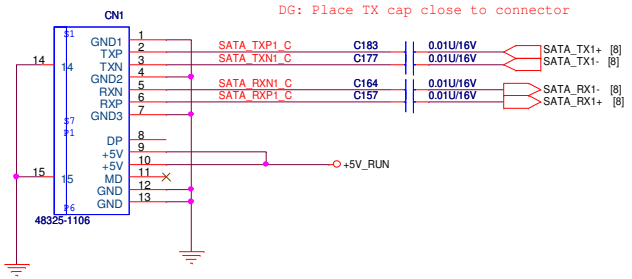
UM5與UM3/6不同，只差在高度，footprint沒變

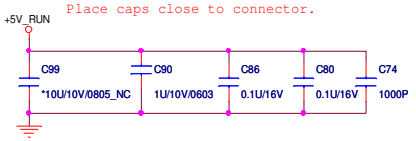
UM5/UM5B
PN:DFHS22FR137
Mfr:67492-1224

UM3/UM3B/UM6/UM6B
PN:DFHS22FR0B2
Mfr:67492-1921

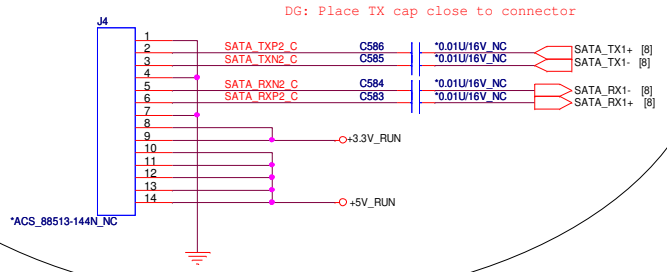


ODD Connector





REV FOR 15.6"



QUANTA COMPUTER

Title	SATA (HDD&CD_ROM)	
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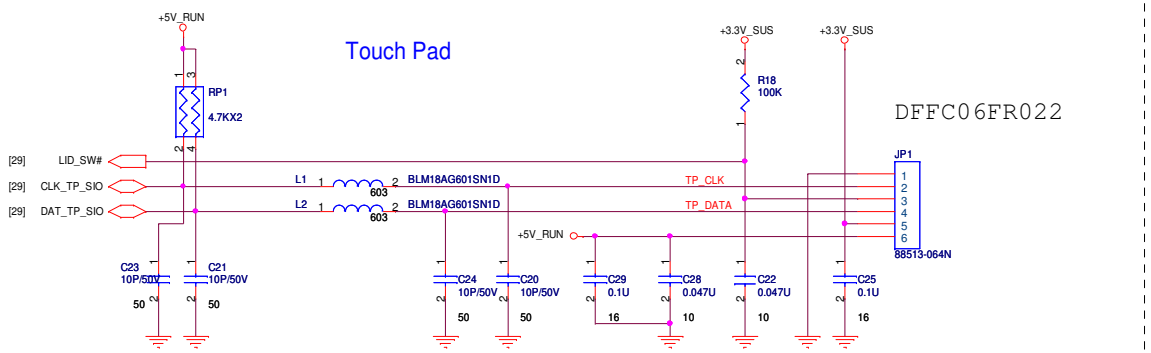
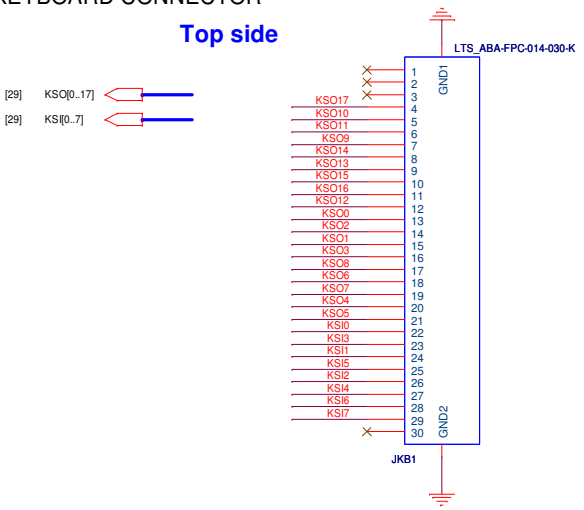
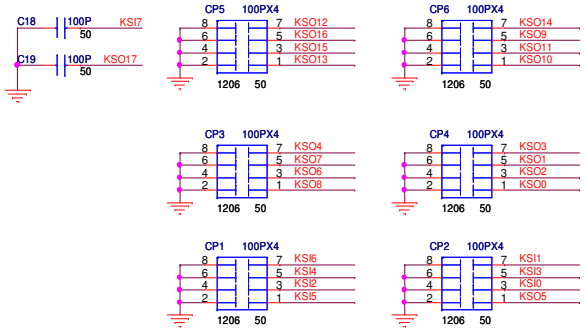
Touch Pad



KEYBOARD CONNECTOR

Top side



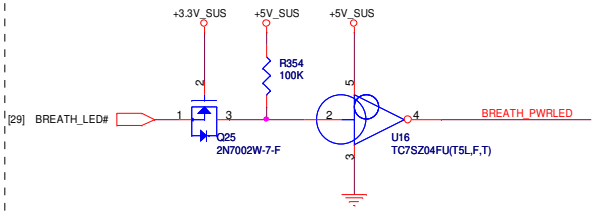


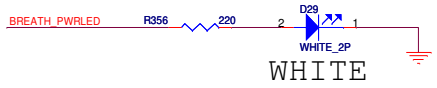
100P CAPS CLOSE TO JKB1

QUANTA COMPUTER

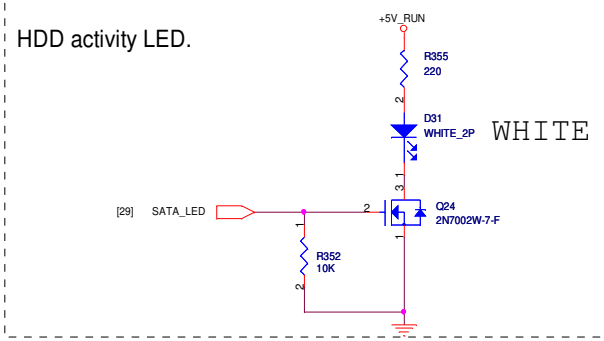
Title	TOUCH PAD, KB		
Size	Document Number UM3		Rev 1A
Date:	Thursday, October 15, 2009	Sheet 36 of 63	

Power

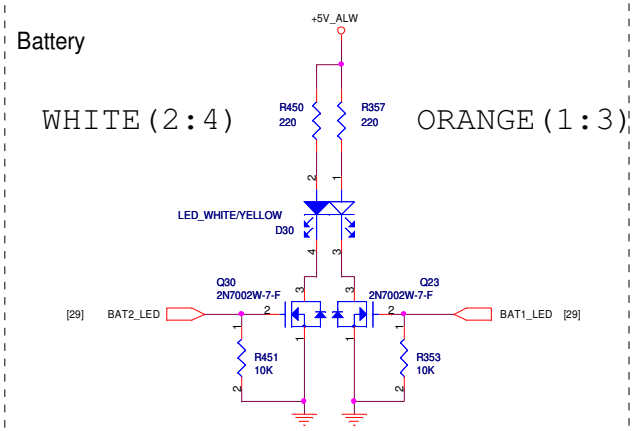




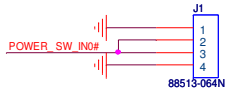
HDD activity LED.



Battery



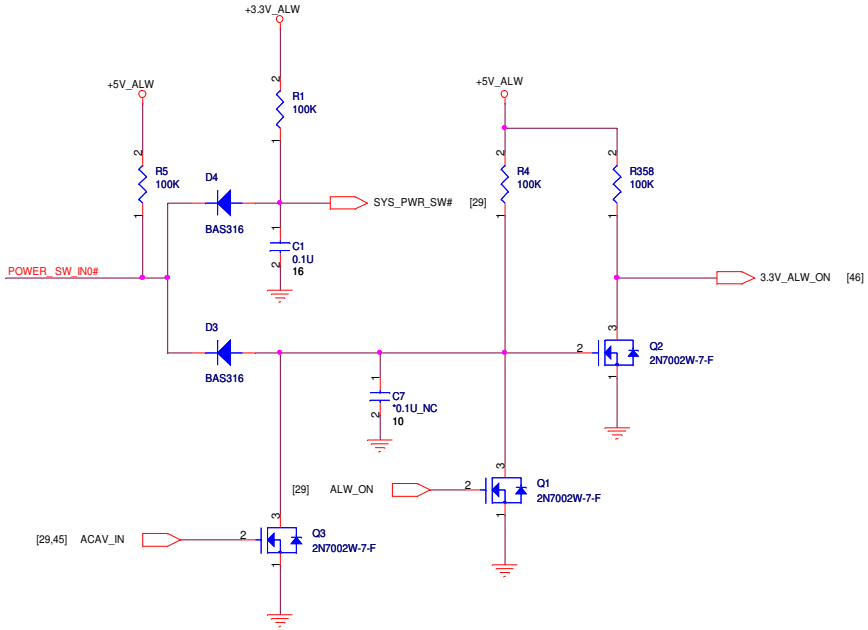
Power button Cable

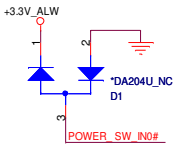


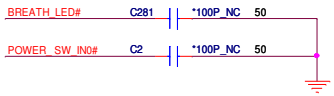
Stephen 7/31

DFFC04FR014

3VALW ON POWER LOGIC





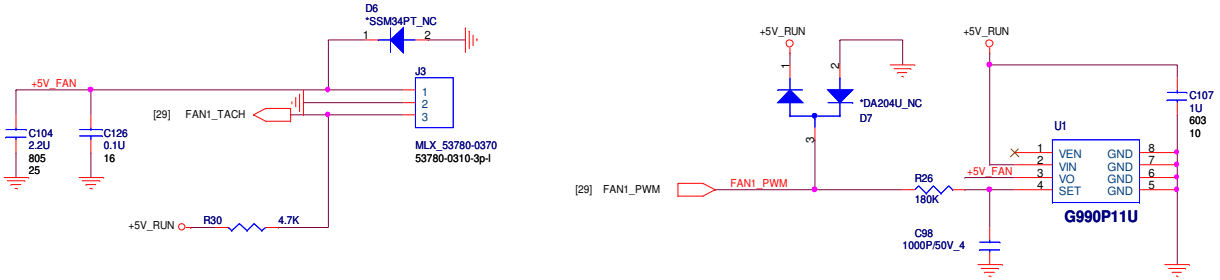


QUANTA COMPUTER

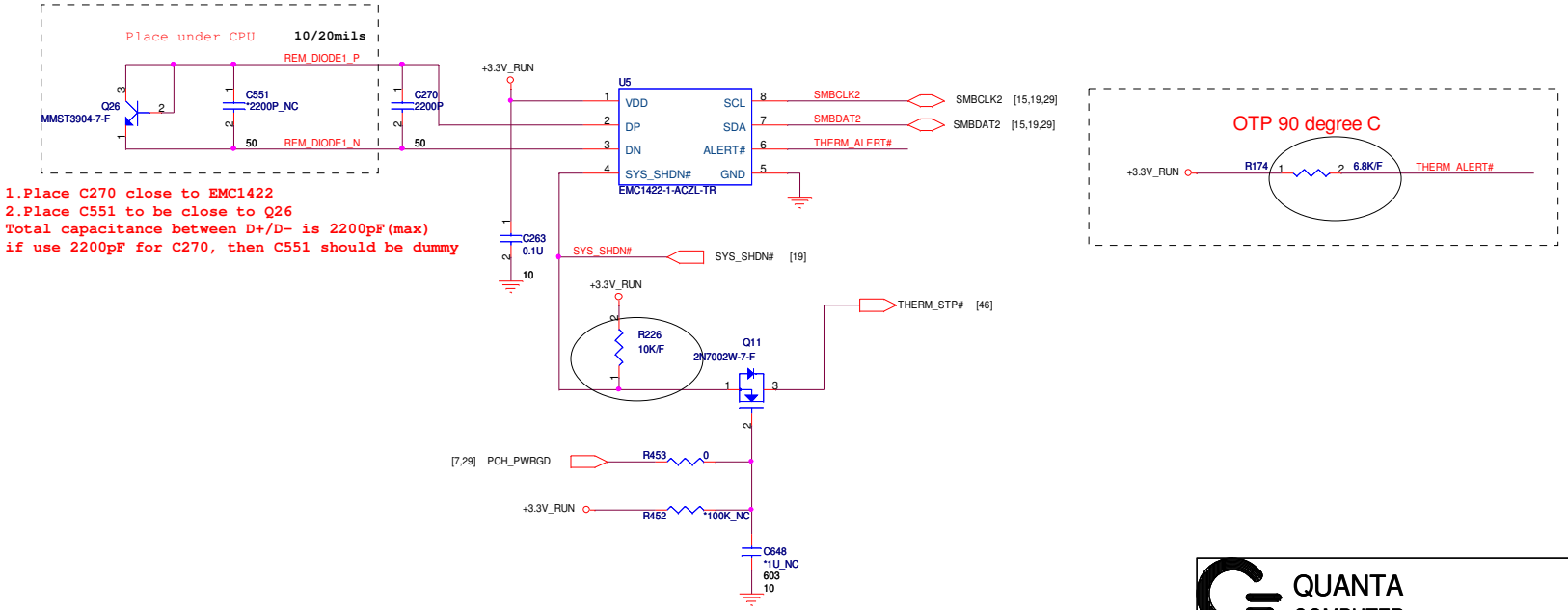
Title	SWITCH, LED	
Size	Document Number UM3	Rev 1A
Date: Thursday, October 15, 2009	Sheet 37 of 63	

FAN CONTROL

6/23 COPY FROM RM6



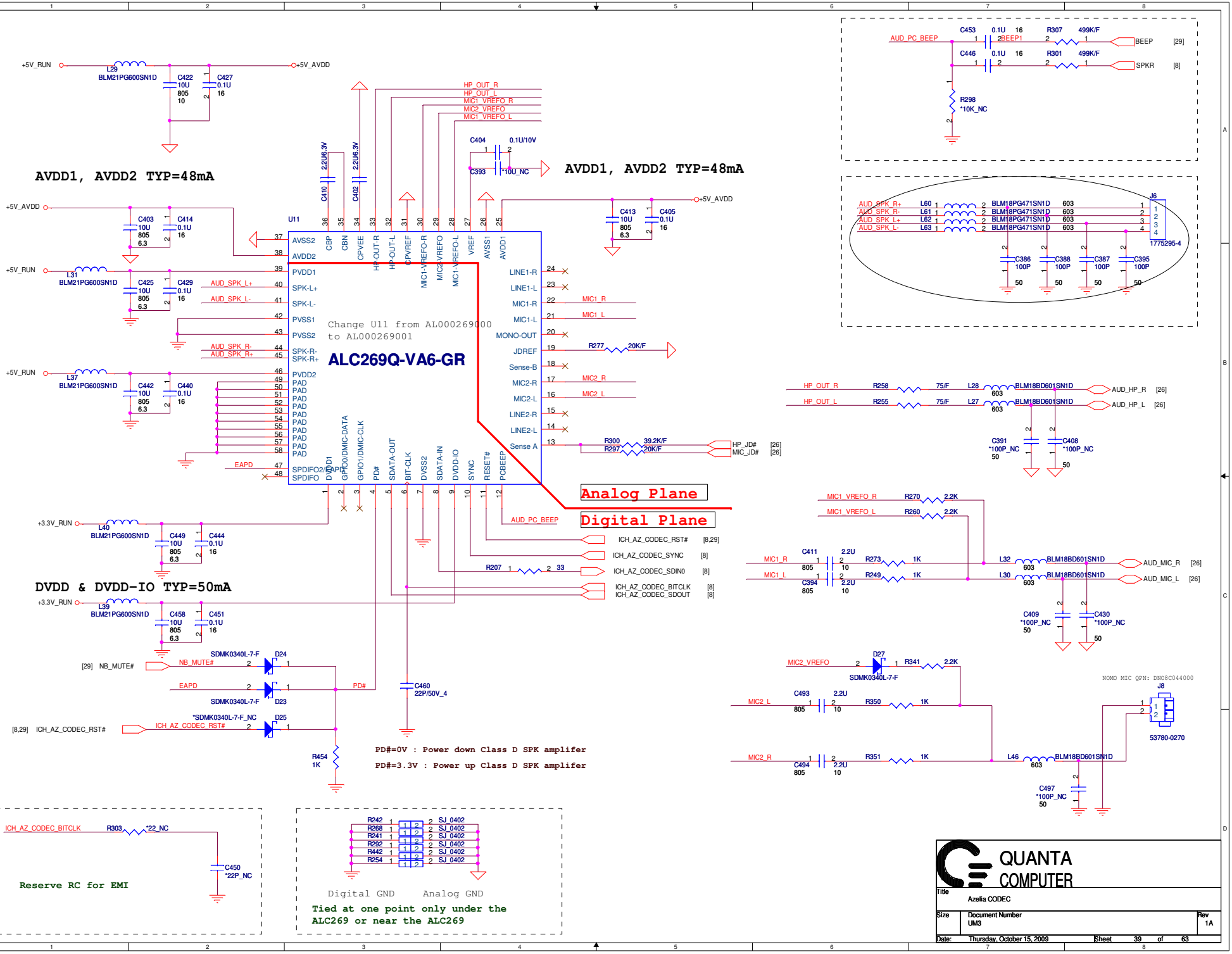
Thermal sensor



1.Place C270 close to EMC1422
2.Place C551 to be close to Q26
Total capacitance between D+/D- is 2200pF(max)
if use 2200pF for C270, then C551 should be dummy

QUANTA COMPUTER

Title	FAN & THERMAL	
Size	Document Number UM3	Rev 1A
Date: Thursday, October 15, 2009	Sheet 38 of 63	


AVDD1, AVDD2 TYP=48mA
AVDD1, AVDD2 TYP=48mA
ALC269Q-VA6-GR
Change U11 from AL000269000 to AL000269001
Analog Plane
Digital Plane
DVDD & DVDD-IO TYP=50mA
PD#=0V : Power down Class D SPK amplifer
PD#=3.3V : Power up Class D SPK amplifer
Reserve RC for EMI
Digital GND
Analog GND
Tied at one point only under the ALC269 or near the ALC269
NOMO MIC QPN: DNO8C044000
QUANTA COMPUTER
Azelia CODEC
Document Number UM3
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QUANTA COMPUTER

Title	Blank Page	
Size	Document Number: UM3	Rev: 1A
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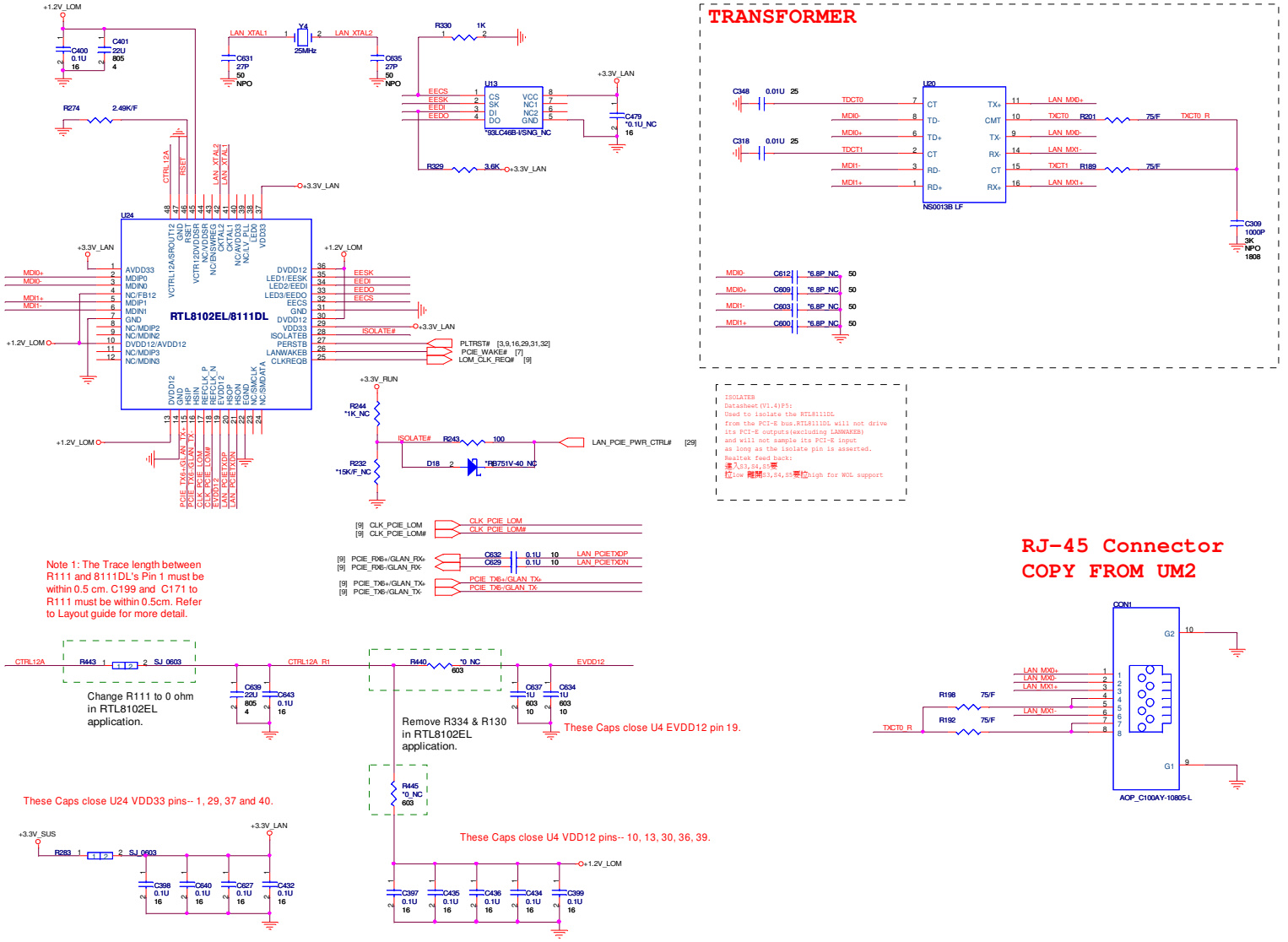
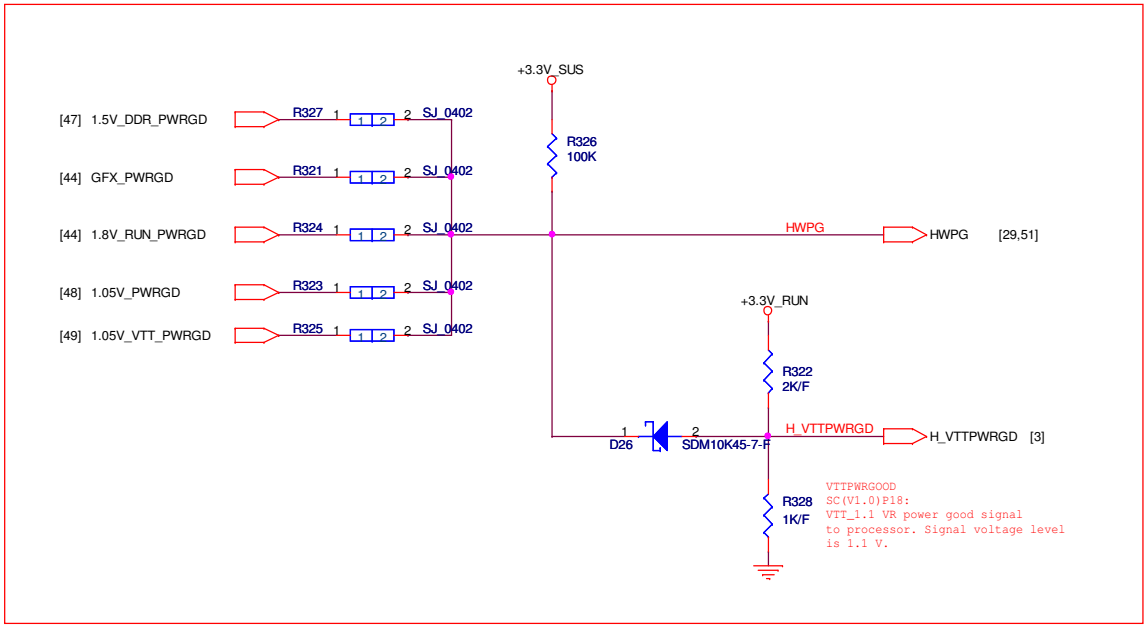


Title	LAN RTL8103E/RJ-45		
Size	Document Number UM3		Rev 1A
Date:	Thursday, October 15, 2009	Sheet 41 of 63	



QUANTA COMPUTER

Title	System Reset Circuit	
Size	Document Number UM3	Rev 1A
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QUANTA COMPUTER

Title	Blank Page	
Size	Document Number UM3	Rev 1A
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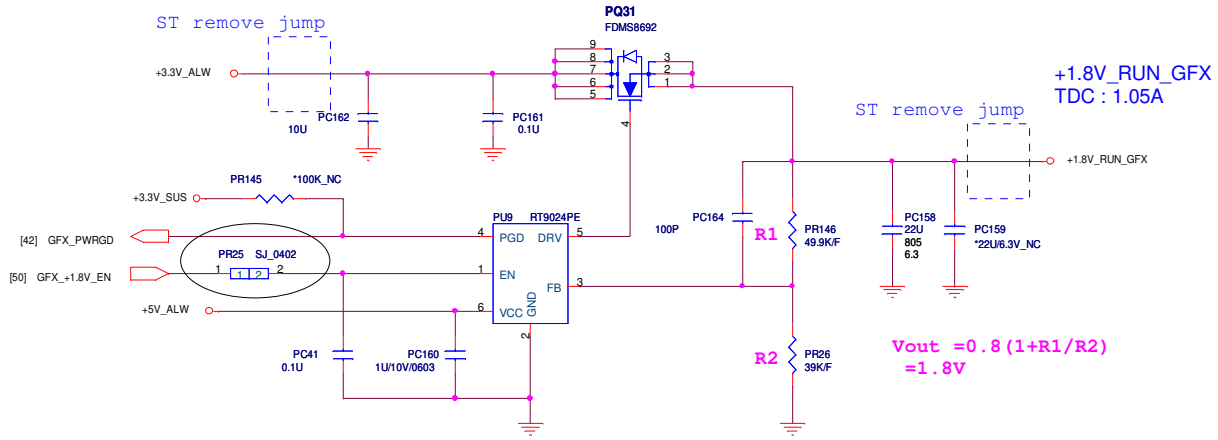
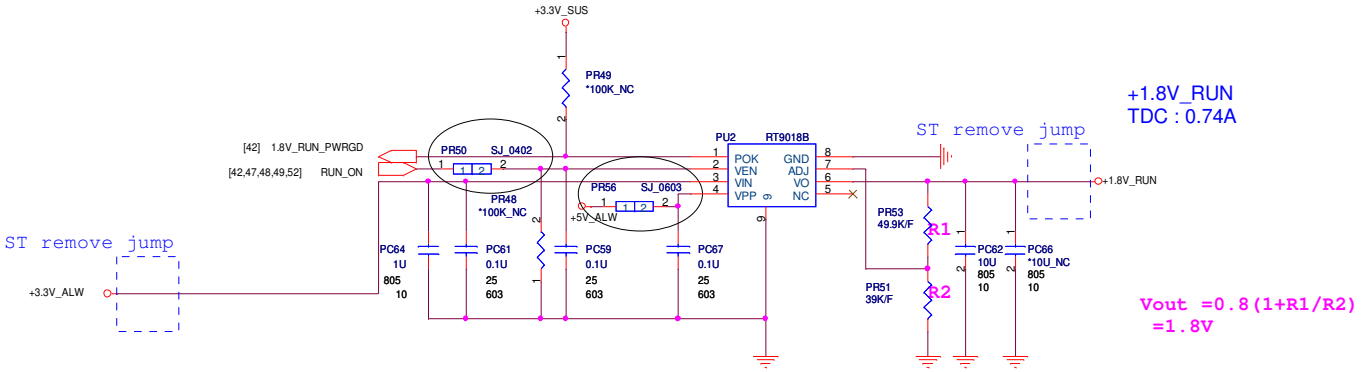
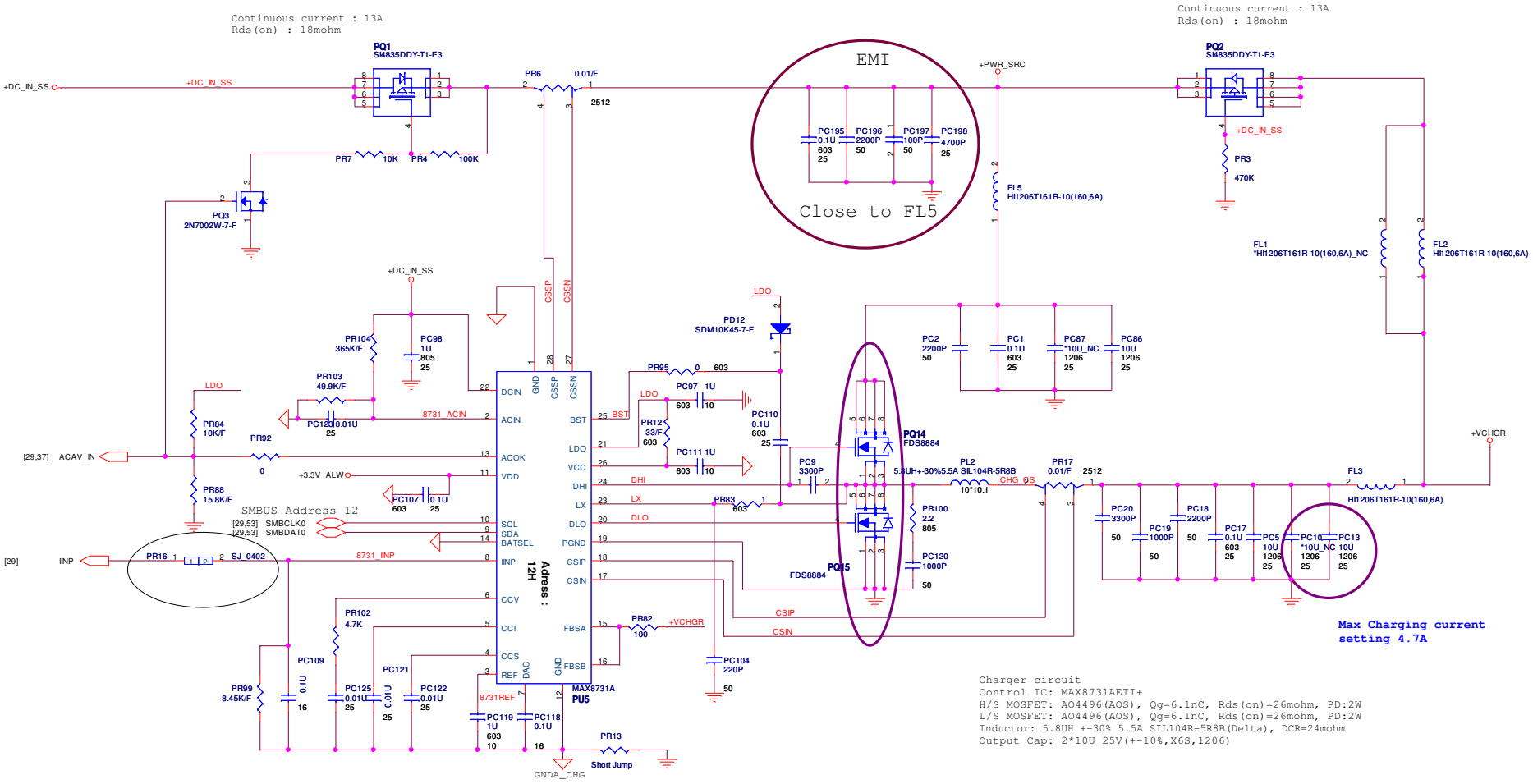


+1.8V_RUN_GFX for VGA 1.8V
+1.8V_RUN for CPU and PCH 1.8V



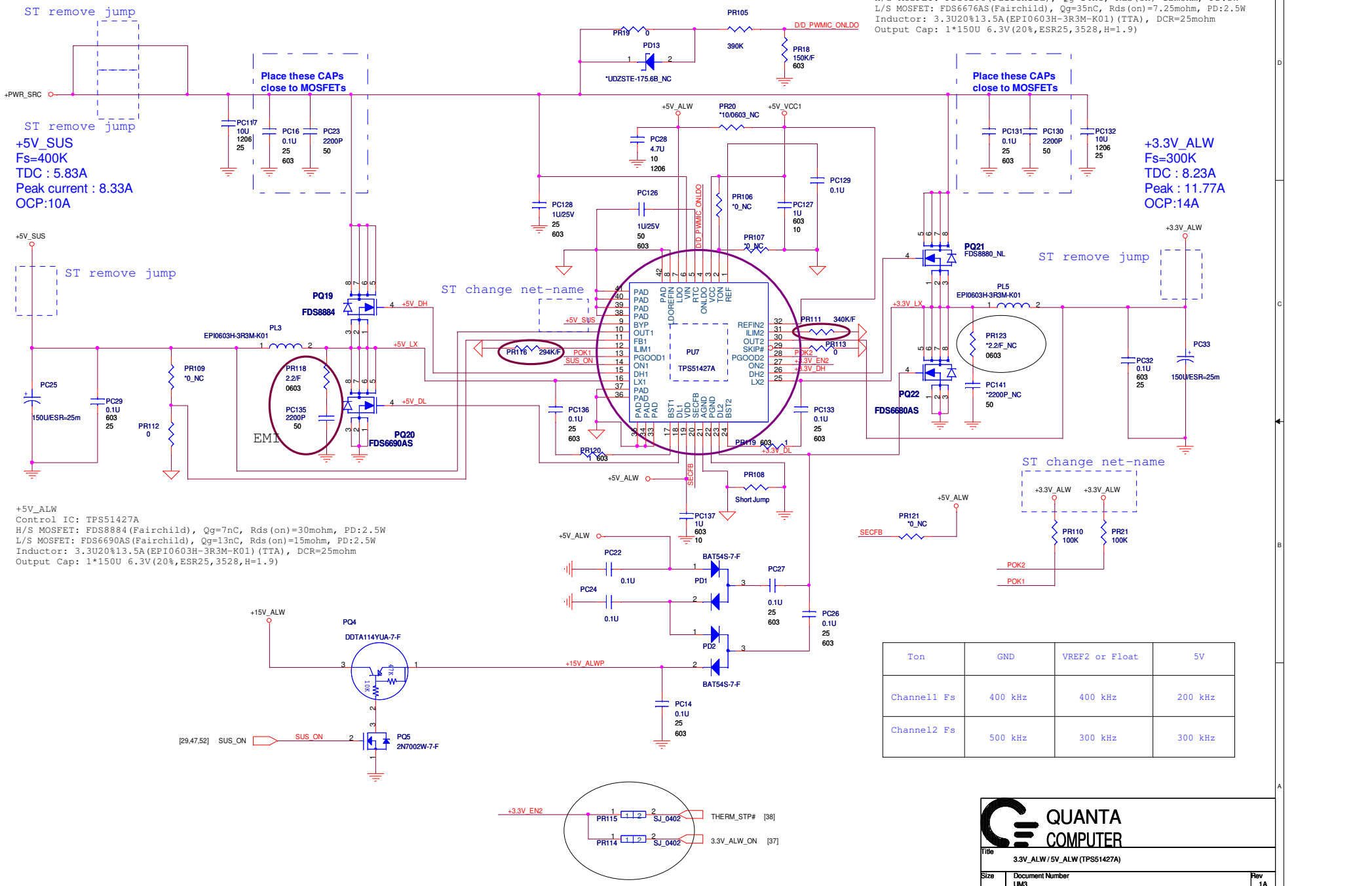
QUANTA COMPUTER

Title	+1.8V_RUN (RT9018/RT9024)	
Size	Document Number UM3	Rev 1A
Date: Thursday, October 15, 2009	Sheet 44 of 63	



QUANTA COMPUTER

Title	Charger (MAX8731)	
Size	Document Number UM3	Rev 1A
Date: Thursday, October 15, 2009	Sheet 45 of 63	



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

QUANTA COMPUTER

Title	3.3V_ALW / 5V_ALW (TPS51427A)	
Size	Document Number: UM3	Rev: 1A
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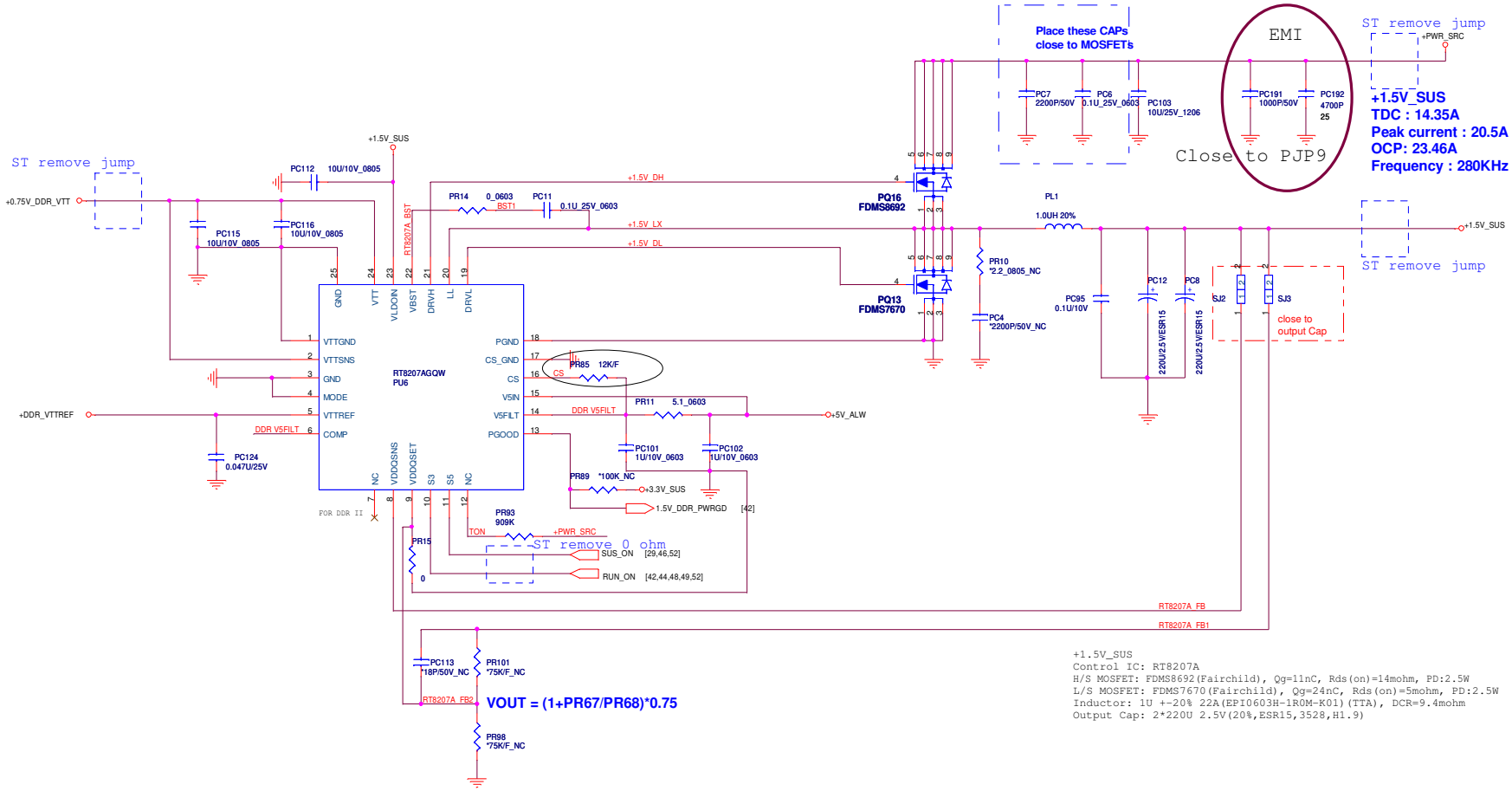

+1.5V_SUS
Control IC: RT8207A
H/S MOSFET: FDMS8692(Fairchild), Qg=11nC, Rds(on)=14mohm, PD:2.5W
L/S MOSFET: FDMS7670(Fairchild), Qg=24nC, Rds(on)=5mohm, PD:2.5W
Inductor: 1U +-20% 22A(EPI0603H-1R0M-K01)(TTA), DCR=9.4mohm
Output Cap: 2*220U 2.5V(20%,ESR15,3528,H1.9)

VDDQ and VTT discharge control

MODE pin	Discharge mode
V5IN	No discharge
VDDQ	Tracking discharge
S4/GND	Non-tracking discharge

VDDQ output voltage selection

VDDQSET	VDDQ(V)	VTTREF and VTT	NOTE
GND	1.5V	VDDQSNS/2	DDR3
V5IN	1.8V	VDDQSNS/2	DDR2
FB Resistors	Adjusting	VDDQSNS/2	1.5V < VVDDQ < 3V

Outputs Management by S3, S5 control

State	S3	S5	VDDQ	VTTREF	VTT
S0	HI	HI	On	On	On
S3	LO	HI	On	On	Off (Hi-Z)
S4/S5	LO	LO	On (discharge)	Off (discharge)	Off (discharge)

QUANTA COMPUTER

Title	+1.5_DDR/0.75 (RT8207A)	
Size	Document Number UM3	Rev 1A
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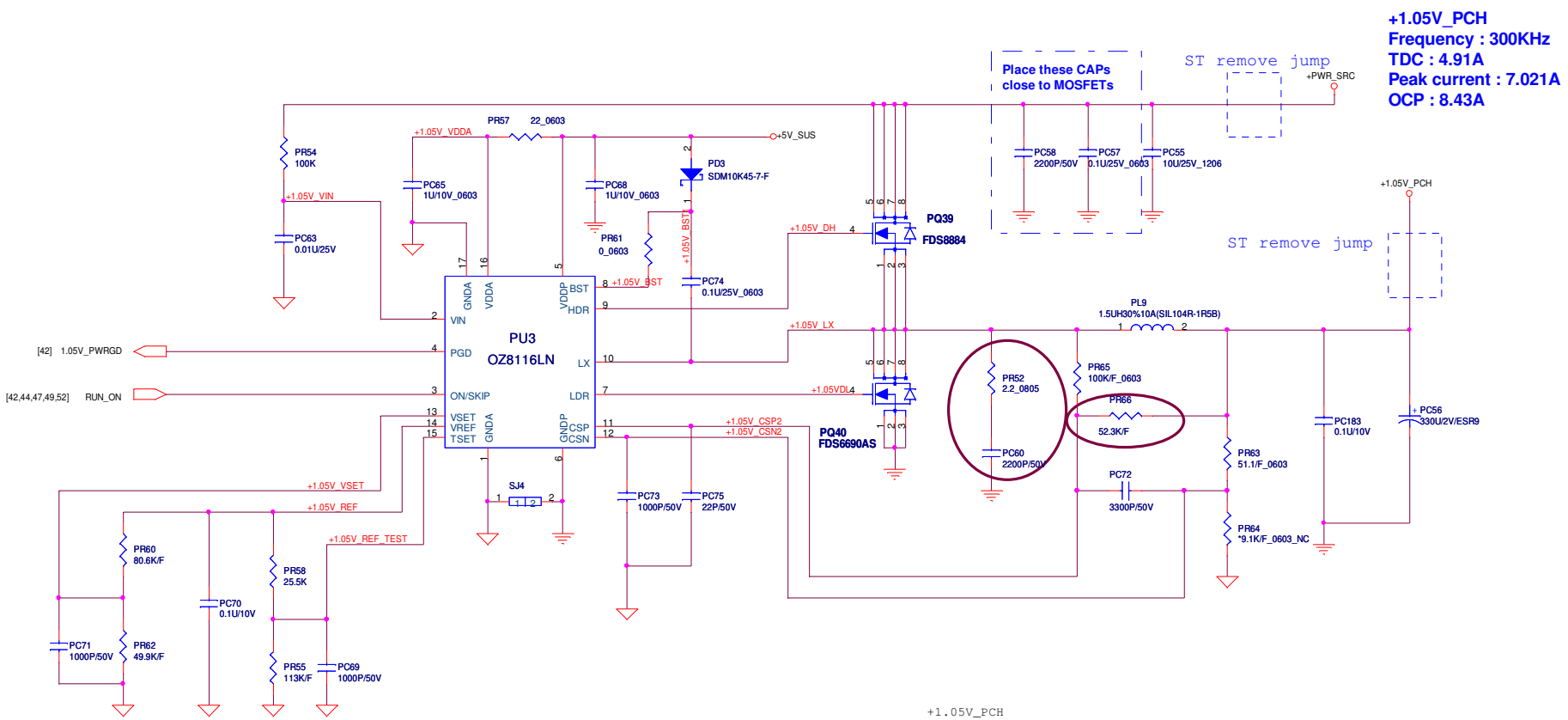

+1.05V_PCH
Control IC: RT8209A
H/S MOSFET: FDS8884(Fairchild), Qg=7nC, Rds(on)=30mohm, PD:2.5W
L/S MOSFET: FDS6690AS(Fairchild), Qg=13nC, Rds(on)=15mohm, PD:2.5W
Inductor: 1.5UH +-30% 10A SIL104R-1R5B(Delta), DCR=8.1mohm
Output Cap: 1*330U 2V(20%,ESR9,7343,H1.9)

QUANTA COMPUTER

Title	+1.05 PCH (OZ8116LN)	
Size	Document Number UM3	Rev 1A
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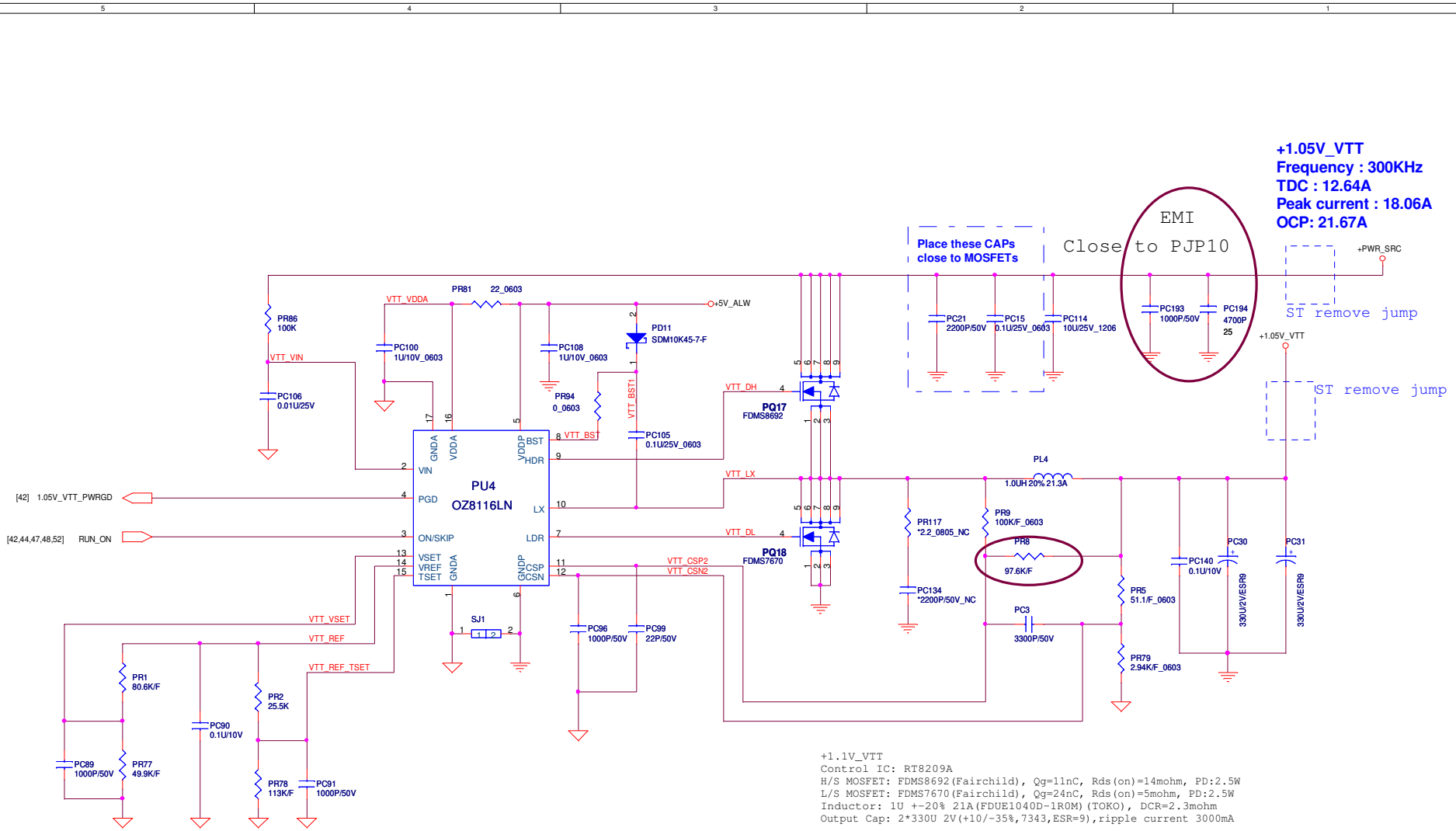
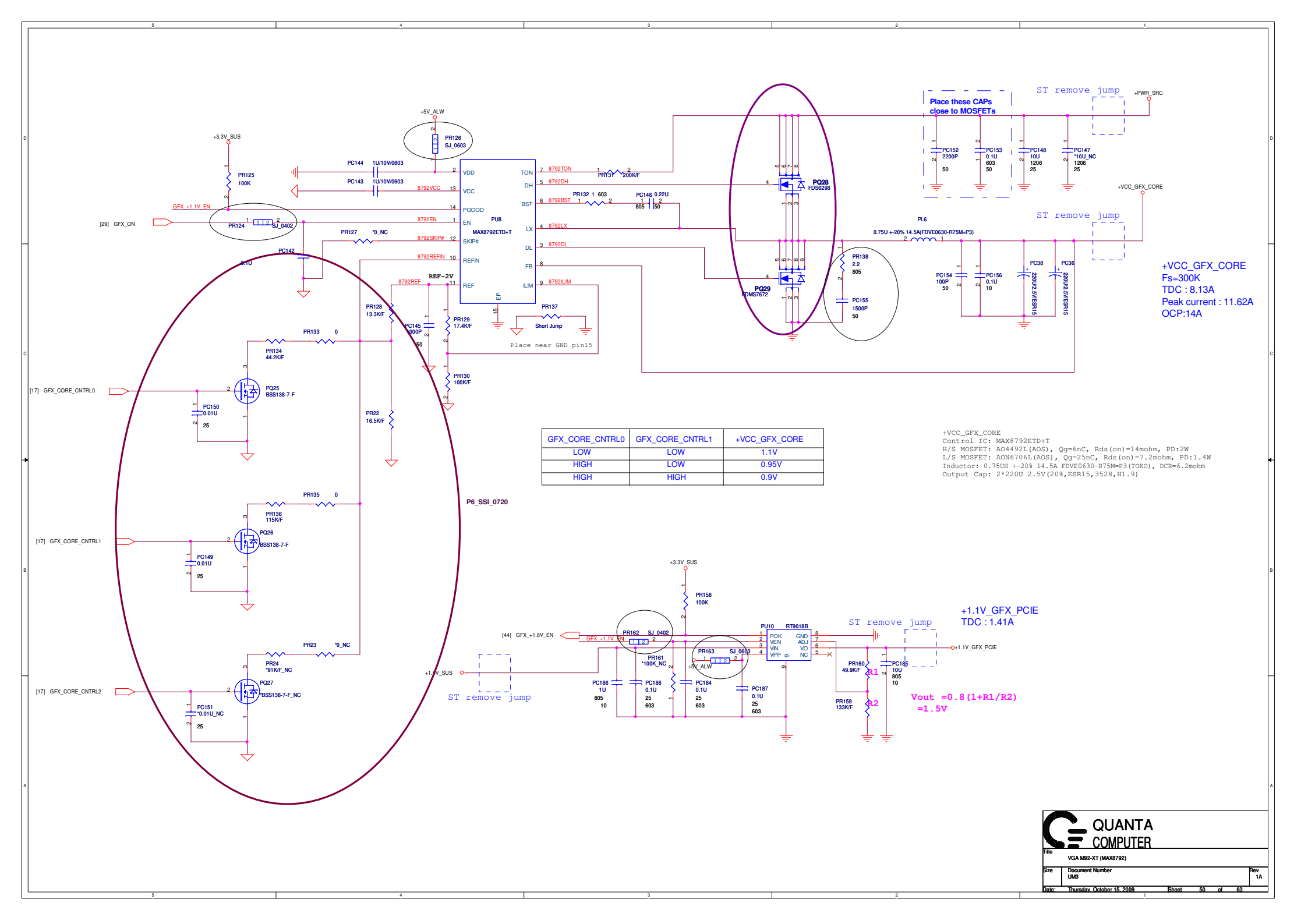


+1.1V_VTT
Control IC: RT8209A
H/S MOSFET: FDMS8692(Fairchild), Qg=11nC, Rds(on)=14mohm, PD:2.5W
L/S MOSFET: FDMS7670(Fairchild), Qg=24nC, Rds(on)=5mohm, PD:2.5W
Inductor: 1U +-20% 21A(FDUE1040D-1R0M)(TOKO), DCR=2.3mohm
Output Cap: 2*330U 2V(+10/-35%,7343,ESR=9),ripple current 3000mA

QUANTA COMPUTER

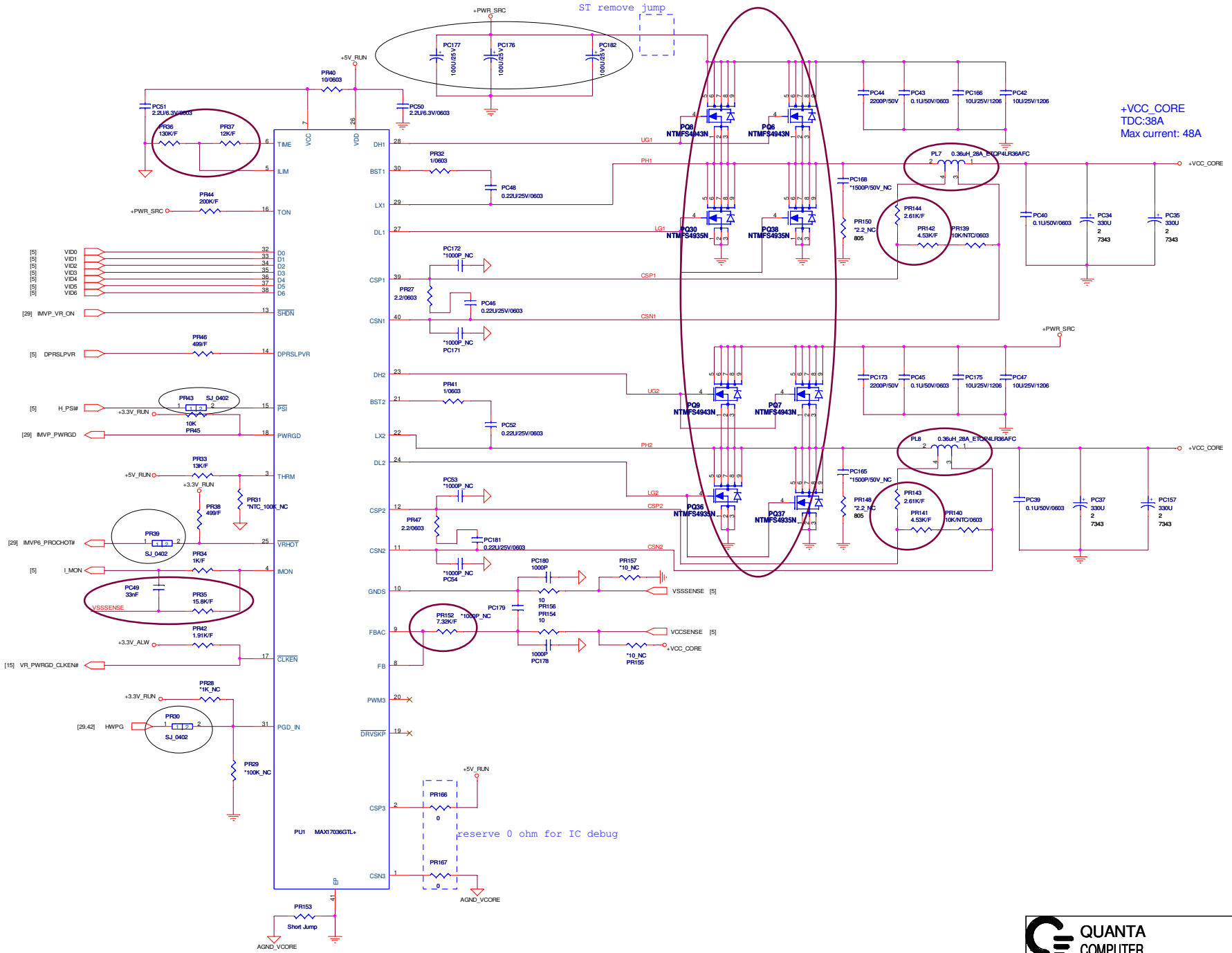
Title	+1.1 VTT (OZ8116LN)	
Size	Document Number UM3	Rev 1A
Date: Thursday, October 15, 2009	Sheet 49 of 63	



GFX_CORE_CNTRL0	GFX_CORE_CNTRL1	+VCC_GFX_CORE
LOW	LOW	1.1V
HIGH	LOW	0.95V
HIGH	HIGH	0.9V

QUANTA COMPUTER

Title	VGA M92-XT (MAX8792)	
Size	Document Number UM3	Rev 1A
Date: Thursday, October 15, 2009	Sheet 50 of 63	


ST remove jump
+PWR_SRC
+5V_RUN
PC177 100U/25V
PC176 100U/25V
PC182 100U/25V
PR40 10/0603
PC51 2.2U/6.3V/0603
PR36 130K/F
PR37 12K/F
PC50 2.2U/6.3V/0603
PR44 200K/F
PR46 499/F
PR43 SJ_0402
10K PR45
PR33 13K/F
PR38 499/F
PR31 *NTC_100K_NC
PR39 SJ_0402
PR34 1K/F
PC49 33nF
PR35 15.8K/F
PR42 1.91K/F
PR28 *1K_NC
PR30 SJ_0402
PR29 *100K_NC
PR153 Short Jump
AGND_VCORE
PU1 MAX17036GTL+
TIME
ILIM
TON
D0
D1
D2
D3
D4
D5
D6
SHDN
DPRSLPVR
PSI
PWRGD
THRM
VRHOT
IMON
CLKEN
PGD_IN
VCC
VDD
DH1
BST1
LX1
DL1
CSP1
CSN1
DH2
BST2
LX2
DL2
CSP2
CSN2
GNDS
FBAC
FB
PWM3
DRVSKP
CSP3
CSN3
PR32 1/0603
PC48 0.22U/25V/0603
PC172 *1000P_NC
PR27 2.2/0603
PC46 0.22U/25V/0603
*1000P_NC PC171
PR41 1/0603
PC52 0.22U/25V/0603
PC53 *1000P_NC
PR47 2.2/0603
PC181 0.22U/25V/0603
*1000P_NC PC54
PC180 1000P
PR157 *10_NC
PC179
10 PR156
PR154 10
1000P PC178
*10_NC PR155
PR152 7.32K/F
*1000P_NC
PR166 0
PR167 0
reserve 0 ohm for IC debug
UG1
PH1
LG1
UG2
PH2
LG2
PQ8 NTMFS4943N
PQ6 NTMFS4943N
PQ30 NTMFS4935N
PQ38 NTMFS4935N
PQ9 NTMFS4943N
PQ7 NTMFS4943N
PQ36 NTMFS4935N
PQ37 NTMFS4935N
PC44 2200P/50V
PC43 0.1U/50V/0603
PC166 10U/25V/1206
PC42 10U/25V/1206
PL7 0.36uH_28A_ETQP4LR36AFC
PC168 *1500P/50V_NC
PR150 *2.2_NC 805
PR144 2.61K/F
PR142 4.53K/F
PR139 10K/NTC/0603
PC40 0.1U/50V/0603
PC34 330U 2 7343
PC35 330U 2 7343
PC173 2200P/50V
PC45 0.1U/50V/0603
PC175 10U/25V/1206
PC47 10U/25V/1206
PL8 0.36uH_28A_ETQP4LR36AFC
PC165 *1500P/50V_NC
PR148 *2.2_NC 805
PR143 2.61K/F
PR141 4.53K/F
PR140 10K/NTC/0603
PC39 0.1U/50V/0603
PC37 330U 2 7343
PC157 330U 2 7343
+VCC_CORE
TDC:38A
Max current: 48A
VSSSENSE [5]
VCCSENSE [5]
[5] VID0
[5] VID1
[5] VID2
[5] VID3
[5] VID4
[5] VID5
[5] VID6
[29] IMVP_VR_ON
[5] DPRSLPVR
[5] H_PSI#
[29] IMVP_PWRGD
[29] IMVP6_PROCHOT#
[5] I_MON
[15] VR_PWRGD_CLKEN#
[29,42] HWPG
+3.3V_RUN
+3.3V_ALW
QUANTA COMPUTER
Title CPU CORE (MAX17036)
Size Document Number UM3 Rev 1A
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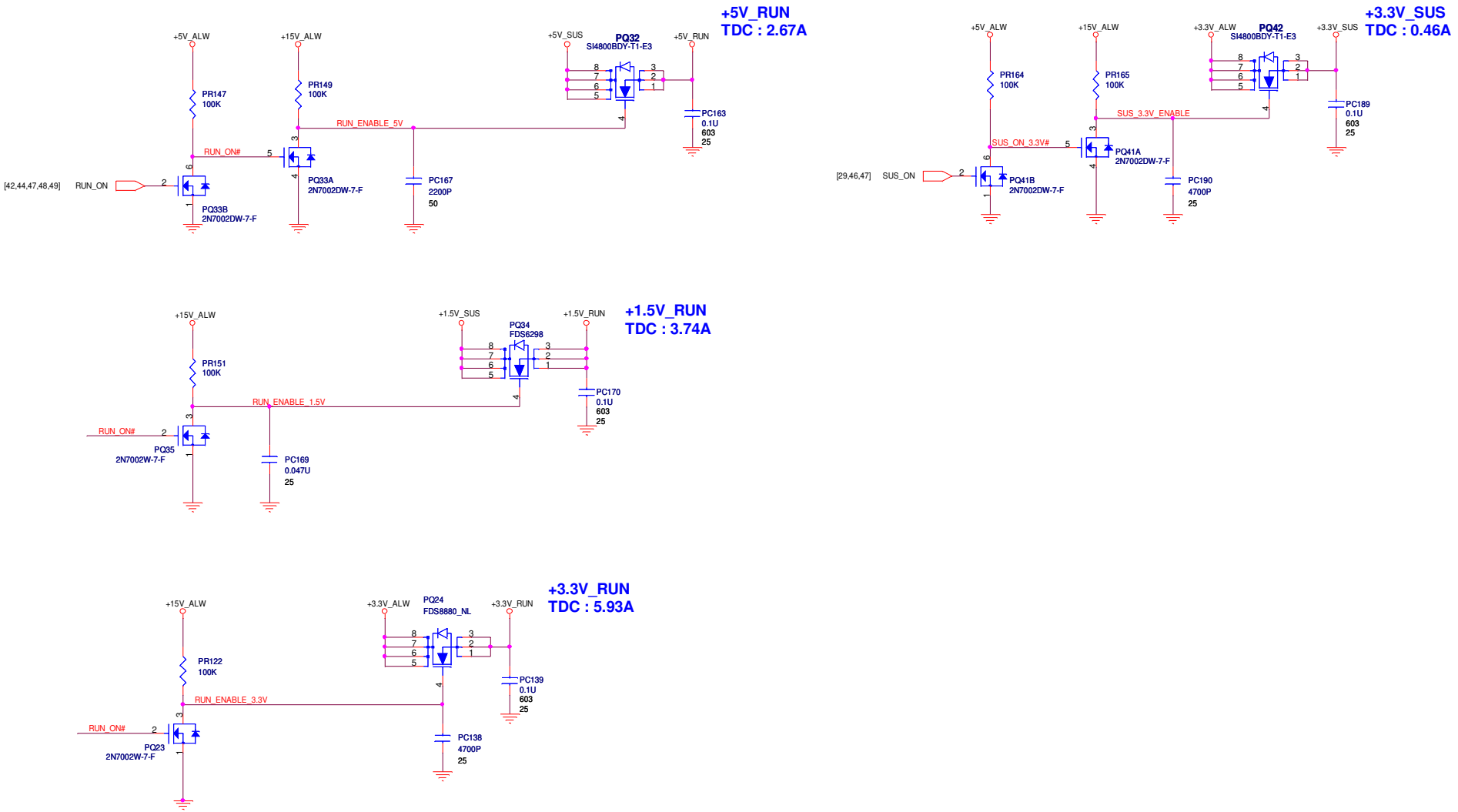
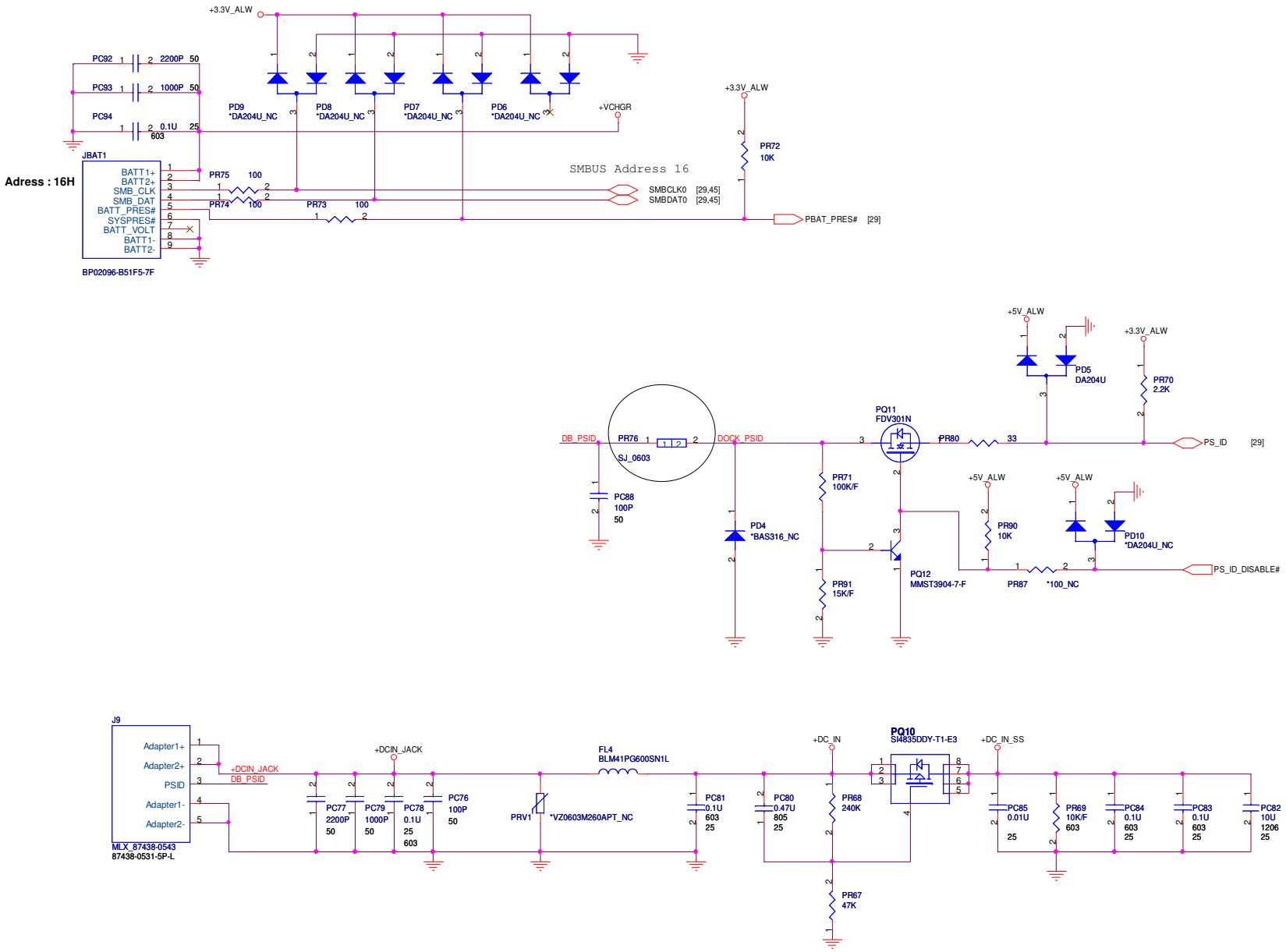


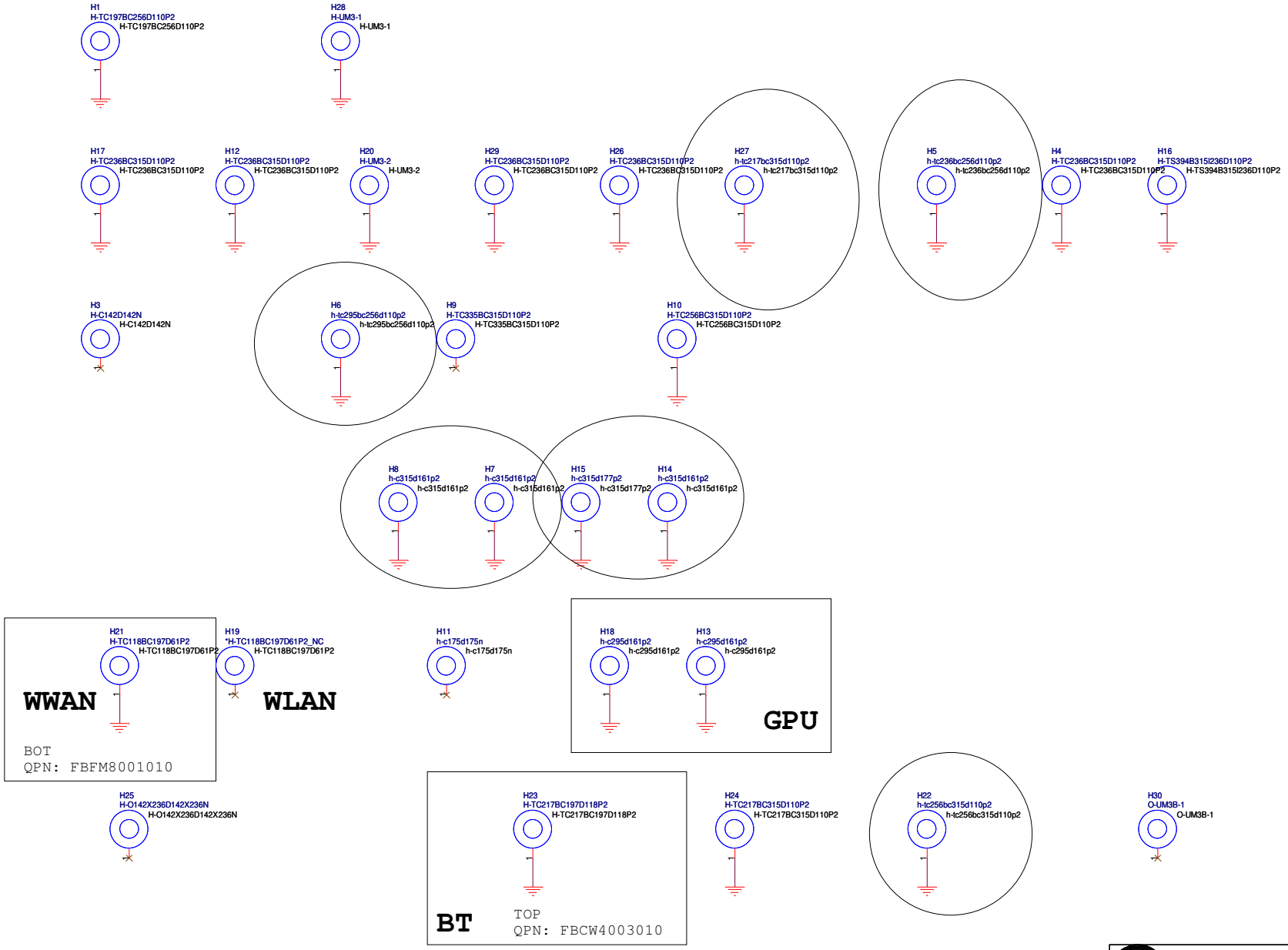
QUANTA COMPUTER

Title	RUN / SUS POWER SW	
Size	Document Number: UM3	Rev: 1A
Date: Thursday, October 15, 2009	Sheet 52 of 63	



QUANTA COMPUTER

Title	DCIN,BATT CONNECTOR	
Size	Document Number UM3	Rev 1A
Date: Thursday, October 15, 2009	Sheet 53 of 63	



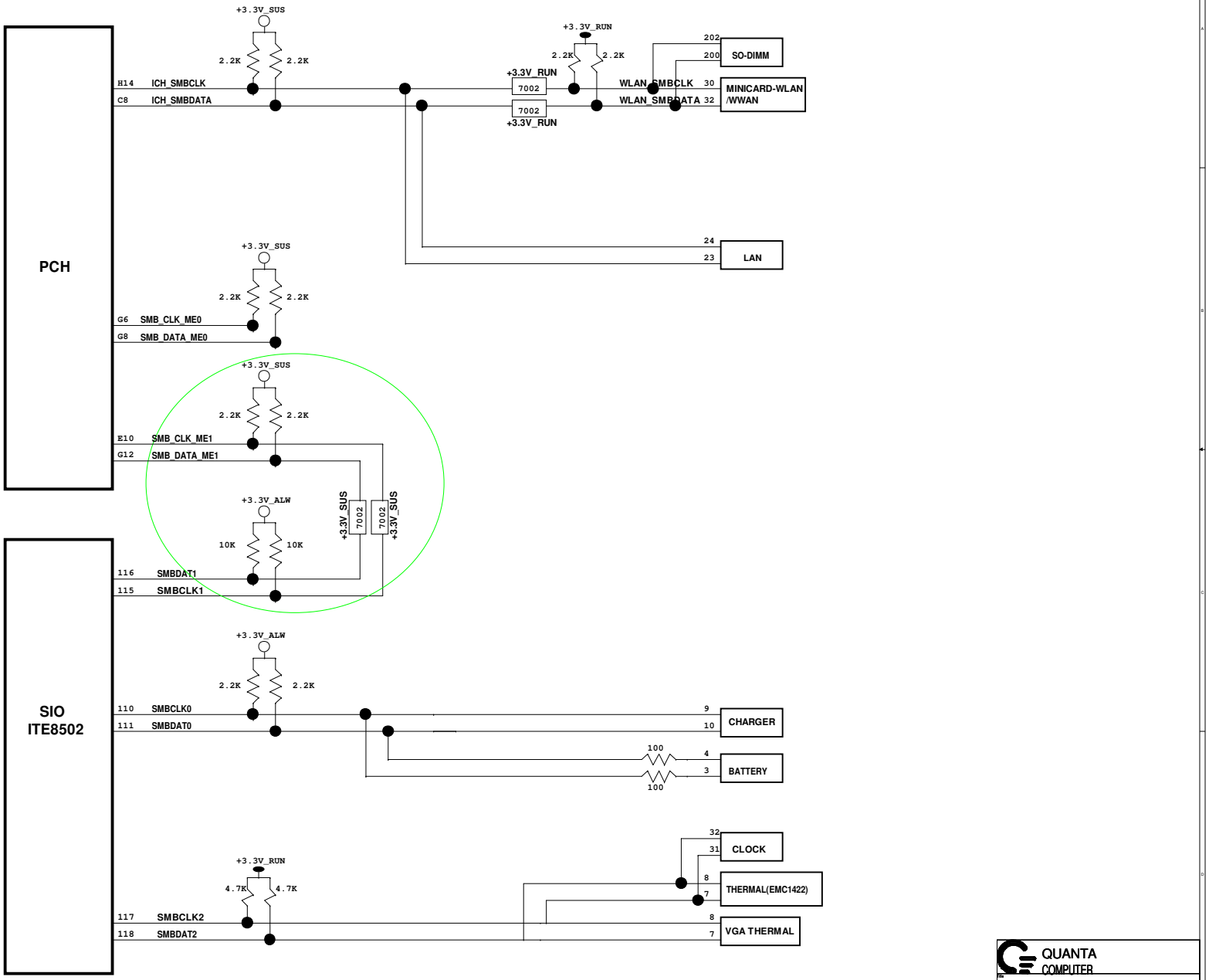
QUANTA COMPUTER

Title	SCREW PAD	
Size	Document Number UM3	Rev 1A
Date: Thursday, October 15, 2009	Sheet 54 of 63	

Reserved for EMI.

QUANTA COMPUTER

Title	EMI CAP	
Size	Document Number UM3	Rev 1A
Date: Thursday, October 15, 2009	Sheet 55 of 63	



QUANTA COMPUTER

SMBUS BLOCK

Document Number: UM3

Rev: 1A

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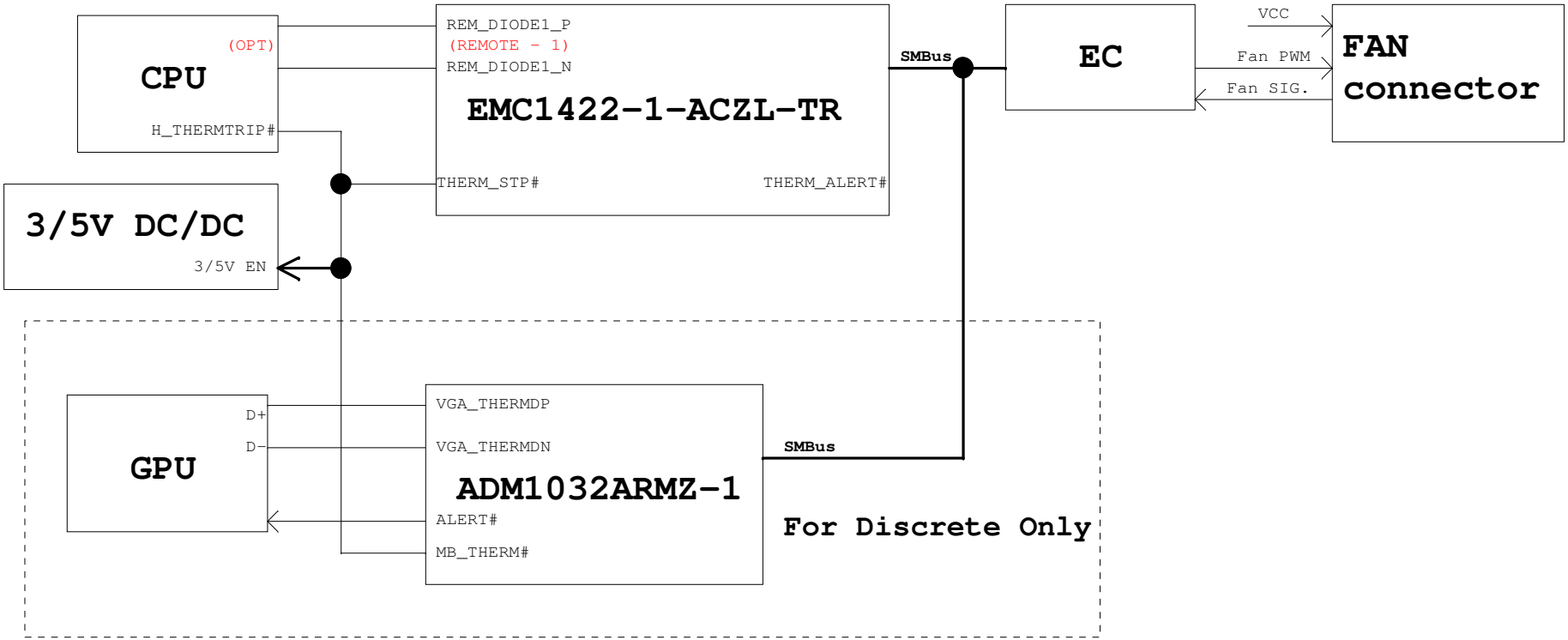
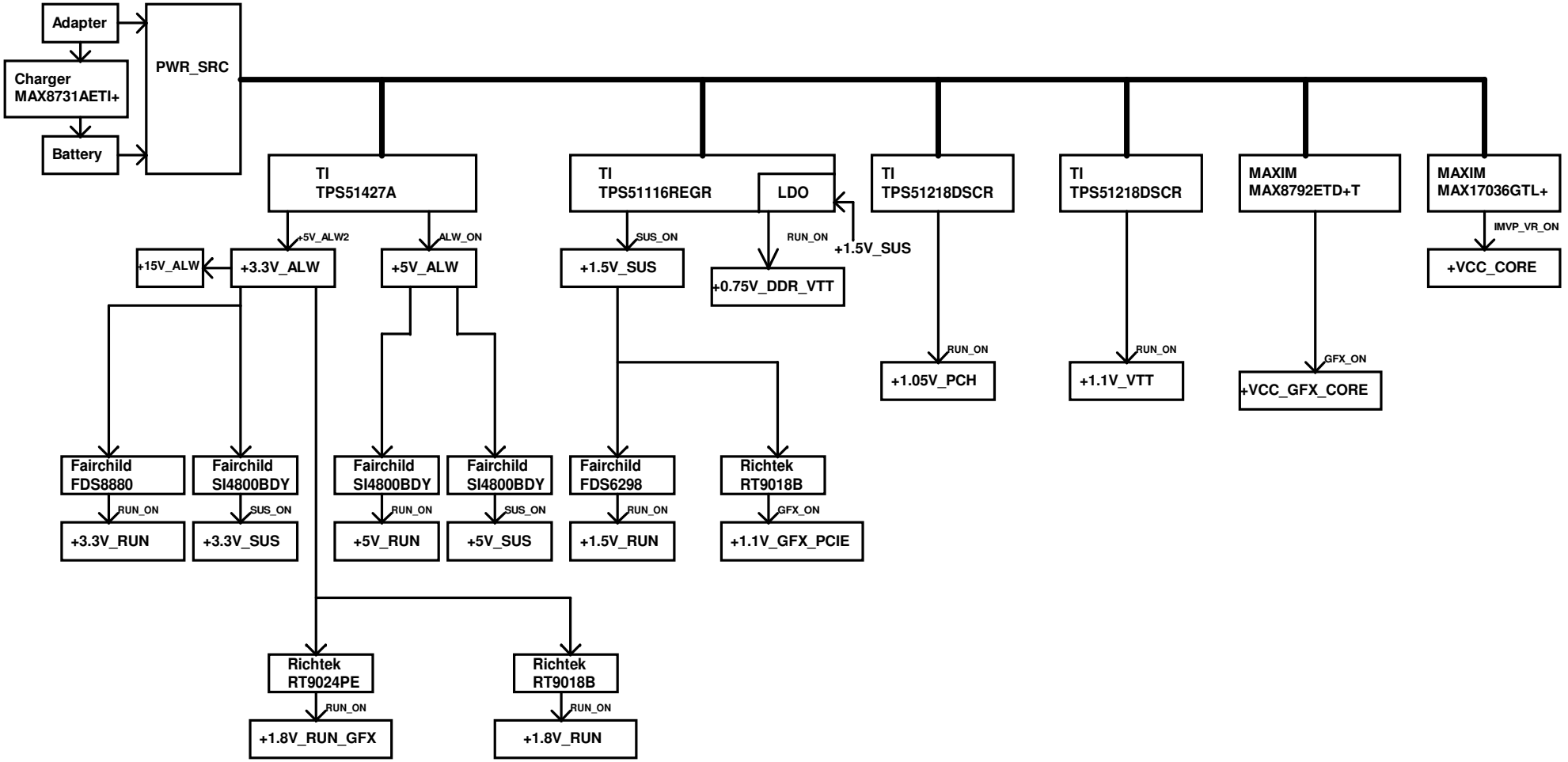


QUANTA COMPUTER

Title	Thermal Map	
Size	Document Number UM3	Rev 1A
Date: Thursday, October 15, 2009	Sheet 57 of 63	

VER : 1A



QUANTA COMPUTER

Title	Power Block Diagram	
Size	Document Number UM3	Rev 1A
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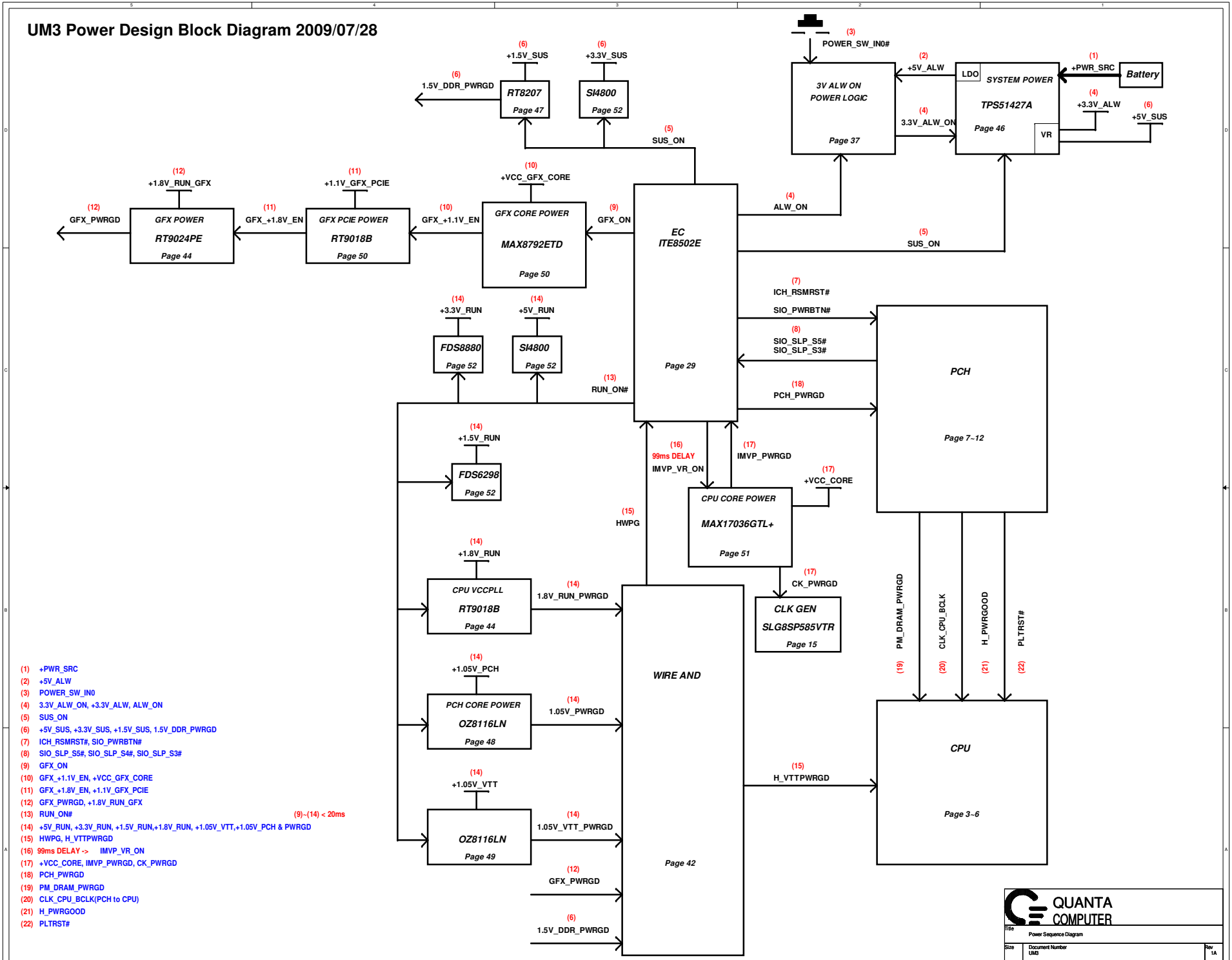
UM3 Power Design Block Diagram 2009/07/28



(1) +PWR_SRC
(2) +5V_ALW
(3) POWER_SW_IN0
(4) 3.3V_ALW_ON, +3.3V_ALW, ALW_ON
(5) SUS_ON
(6) +5V_SUS, +3.3V_SUS, +1.5V_SUS, 1.5V_DDR_PWRGD
(7) ICH_RSMRST#, SIO_PWRBTN#
(8) SIO_SLP_S5#, SIO_SLP_S4#, SIO_SLP_S3#
(9) GFX_ON
(10) GFX_+1.1V_EN, +VCC_GFX_CORE
(11) GFX_+1.8V_EN, +1.1V_GFX_PCIE
(12) GFX_PWRGD, +1.8V_RUN_GFX
(13) RUN_ON# (9)~(14) < 20ms
(14) +5V_RUN, +3.3V_RUN, +1.5V_RUN,+1.8V_RUN, +1.05V_VTT,+1.05V_PCH & PWRGD
(15) HWPG, H_VTTPWRGD
(16) 99ms DELAY -> IMVP_VR_ON
(17) +VCC_CORE, IMVP_PWRGD, CK_PWRGD
(18) PCH_PWRGD
(19) PM_DRAM_PWRGD
(20) CLK_CPU_BCLK(PCH to CPU)
(21) H_PWRGOOD
(22) PLTRST#

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